

March 11, 2022

**Vista Work Order No. 2202058**

Mr. Darwin Thomas  
Apex Laboratories  
6700 SW Sandburg Street  
Tigard, OR 97223

Dear Mr. Thomas,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on February 03, 2022 under your Project Name 'A2A1041'.

Vista Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-673-1520 or by email at [jfox@vista-analytical.com](mailto:jfox@vista-analytical.com).

Thank you for choosing Vista as part of your analytical support team.

Sincerely,

Jamie Fox  
Laboratory Director



*Vista Analytical Laboratory certifies that the report herein meets all the requirements set forth by NELAP for those applicable test methods. Results relate only to the samples as received by the laboratory. This report should not be reproduced except in full without the written approval of Vista.*

## Vista Work Order No. 2202058

### Case Narrative

#### Sample Condition on Receipt:

Eight sediment samples were received and stored securely in accordance with Vista standard operating procedures and EPA methodology. The samples were received in good condition and within the method temperature requirements. A relinquishing signature was not included on page 4 of 4 of the Chain-of-Custody (CoC). A sample ID discrepancy was noted for all of the samples between the container label and the CoC. The sample IDs have been reported as listed on the CoC. The samples were received past the method holding times. Permission was received to proceed with the analysis.

#### Analytical Notes:

##### EPA Method 1613B

These samples were extracted and analyzed for tetra-through-octa chlorinated dioxins and furans by EPA Method 1613B using a ZB-DIOXIN GC column.

##### Holding Times

The samples were extracted and analyzed outside of the method hold times.

##### Quality Control

The Initial Calibration and Continuing Calibration Verifications met the method acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. No analytes were detected in the Method Blank. The OPR recoveries were within the method acceptance criteria.

The labeled standard recoveries outside the method acceptance criteria are listed in the table below:

#### QC Anomalies

LabNumber	SampleName	Analysis	Analyte	Flag	%Rec
2202058-08	USMPDI-004SC-A-09-10-201111	EPA Method 1613B	13C-1,2,3,6,7,8-HxCDD	H	136
2202058-08	USMPDI-004SC-A-09-10-201111	EPA Method 1613B	13C-1,2,3,6,7,8-HxCDF	H	130

H = Recovery was outside laboratory acceptance criteria.

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# Sample Inventory Report



<b>Vista Sample ID</b>	<b>Client Sample ID</b>	<b>Sampled</b>	<b>Received</b>	<b>Components/Containers</b>
2202058-01	USMPDI-040SC-A-10-11-201103	03-Nov-20 16:30	03-Feb-22 09:38	Clear Glass Jar, 120mL
2202058-02	USMPDI-040SC-A-11-12-201103	03-Nov-20 16:30	03-Feb-22 09:38	Clear Glass Jar, 120mL
2202058-03	USMPDI-040SC-A-12-13-201103	03-Nov-20 16:30	03-Feb-22 09:38	Clear Glass Jar, 120mL
2202058-04	USMPDI-056SC-A-07-08-201107	07-Nov-20 13:30	03-Feb-22 09:38	Clear Glass Jar, 120mL
2202058-05	USMPDI-056SC-A-08-09-201107	07-Nov-20 13:30	03-Feb-22 09:38	Clear Glass Jar, 120mL
2202058-06	USMPDI-004SC-A-07-08-201111	11-Nov-20 08:35	03-Feb-22 09:38	Clear Glass Jar, 120mL
2202058-07	USMPDI-004SC-A-08-09-201111	11-Nov-20 08:35	03-Feb-22 09:38	Clear Glass Jar, 120mL
2202058-08	USMPDI-004SC-A-09-10-201111	11-Nov-20 08:35	03-Feb-22 09:38	Clear Glass Jar, 120mL



## **ANALYTICAL RESULTS**

**Sample ID: Method Blank**
**EPA Method 1613B**

Client Data		Laboratory Data			
Name:	Apex Laboratories	Lab Sample:	B22B179-BLK1		
Project:	A2A1041	QC Batch:	B22B179	Date Extracted:	17-Feb-22
Matrix:	Solid	Sample Size:	10.0 g	Column:	ZB-DIOXIN

Analyte	Conc. (pg/g)	EDL	EMPC	Qualifiers	Analyzed	Dilution
2,3,7,8-TCDD	ND	0.0363			24-Feb-22 19:01	1
1,2,3,7,8-PeCDD	ND	0.0914			24-Feb-22 19:01	1
1,2,3,4,7,8-HxCDD	ND	0.0744			24-Feb-22 19:01	1
1,2,3,6,7,8-HxCDD	ND	0.0731			24-Feb-22 19:01	1
1,2,3,7,8,9-HxCDD	ND	0.0781			24-Feb-22 19:01	1
1,2,3,4,6,7,8-HpCDD	ND	0.0901			24-Feb-22 19:01	1
OCDD	ND	0.573			24-Feb-22 19:01	1
2,3,7,8-TCDF	ND	0.0278			24-Feb-22 19:01	1
1,2,3,7,8-PeCDF	ND	0.0393			24-Feb-22 19:01	1
2,3,4,7,8-PeCDF	ND	0.0383			24-Feb-22 19:01	1
1,2,3,4,7,8-HxCDF	ND	0.0284			24-Feb-22 19:01	1
1,2,3,6,7,8-HxCDF	ND	0.0268			24-Feb-22 19:01	1
2,3,4,6,7,8-HxCDF	ND	0.0312			24-Feb-22 19:01	1
1,2,3,7,8,9-HxCDF	ND	0.104			24-Feb-22 19:01	1
1,2,3,4,6,7,8-HpCDF	ND	0.0211			24-Feb-22 19:01	1
1,2,3,4,7,8,9-HpCDF	ND	0.0300			24-Feb-22 19:01	1
OCDF	ND	0.102			24-Feb-22 19:01	1

Toxic Equivalent	
TEQMinWHO2005Dioxin	0.00

Totals		
Total TCDD	ND	0.0363
Total PeCDD	ND	0.0914
Total HxCDD	ND	0.0781
Total HpCDD	ND	0.0901
Total TCDF	ND	0.0278
Total PeCDF	ND	0.0393
Total HxCDF	ND	0.104
Total HpCDF	ND	0.0300

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Analyzed	Dilution
13C-2,3,7,8-TCDD	IS	100	25 - 164		24-Feb-22 19:01	1
13C-1,2,3,7,8-PeCDD	IS	93.4	25 - 181		24-Feb-22 19:01	1
13C-1,2,3,4,7,8-HxCDD	IS	89.8	32 - 141		24-Feb-22 19:01	1
13C-1,2,3,6,7,8-HxCDD	IS	95.0	28 - 130		24-Feb-22 19:01	1
13C-1,2,3,7,8,9-HxCDD	IS	86.5	32 - 141		24-Feb-22 19:01	1
13C-1,2,3,4,6,7,8-HpCDD	IS	84.9	23 - 140		24-Feb-22 19:01	1
13C-OCDD	IS	74.9	17 - 157		24-Feb-22 19:01	1
13C-2,3,7,8-TCDF	IS	87.3	24 - 169		24-Feb-22 19:01	1
13C-1,2,3,7,8-PeCDF	IS	94.6	24 - 185		24-Feb-22 19:01	1
13C-2,3,4,7,8-PeCDF	IS	95.2	21 - 178		24-Feb-22 19:01	1
13C-1,2,3,4,7,8-HxCDF	IS	96.0	26 - 152		24-Feb-22 19:01	1
13C-1,2,3,6,7,8-HxCDF	IS	94.8	26 - 123		24-Feb-22 19:01	1
13C-2,3,4,6,7,8-HxCDF	IS	95.0	28 - 136		24-Feb-22 19:01	1
13C-1,2,3,7,8,9-HxCDF	IS	105	29 - 147		24-Feb-22 19:01	1
13C-1,2,3,4,6,7,8-HpCDF	IS	96.8	28 - 143		24-Feb-22 19:01	1
13C-1,2,3,4,7,8,9-HpCDF	IS	86.3	26 - 138		24-Feb-22 19:01	1
13C-OCDF	IS	99.2	17 - 157		24-Feb-22 19:01	1
37Cl-2,3,7,8-TCDD	CRS	96.2	35 - 197		24-Feb-22 19:01	1

EDL - Sample specific estimated detection limit  
 EMPC - Estimated maximum possible concentration

The results are reported in dry weight.  
 The sample size is reported in wet weight.

**Sample ID: OPR**
**EPA Method 1613B**

Client Data		Laboratory Data			
Name:	Apex Laboratories	Lab Sample:	B22B179-BS1	Date Extracted:	17-Feb-22 09:34
Project:	A2A1041	QC Batch:	B22B179	Column:	ZB-DIOXIN
Matrix:	Solid	Sample Size:	10.0 g		

Analyte	Amt Found (pg/g)	Spike Amt	% Recovery	Limits	Qualifiers	Analyzed	Dilution
2,3,7,8-TCDD	17.8	20.0	89.0	67-158		24-Feb-22 16:46	1
1,2,3,7,8-PeCDD	97.7	100	97.7	70-142		24-Feb-22 16:46	1
1,2,3,4,7,8-HxCDD	101	100	101	70-164		24-Feb-22 16:46	1
1,2,3,6,7,8-HxCDD	98.6	100	98.6	76-134		24-Feb-22 16:46	1
1,2,3,7,8,9-HxCDD	100	100	100	64-162		24-Feb-22 16:46	1
1,2,3,4,6,7,8-HpCDD	97.6	100	97.6	70-140		24-Feb-22 16:46	1
OCDD	195	200	97.5	78-144		24-Feb-22 16:46	1
2,3,7,8-TCDF	19.2	20.0	95.8	75-158		24-Feb-22 16:46	1
1,2,3,7,8-PeCDF	103	100	103	80-134		24-Feb-22 16:46	1
2,3,4,7,8-PeCDF	99.8	100	99.8	68-160		24-Feb-22 16:46	1
1,2,3,4,7,8-HxCDF	104	100	104	72-134		24-Feb-22 16:46	1
1,2,3,6,7,8-HxCDF	104	100	104	84-130		24-Feb-22 16:46	1
2,3,4,6,7,8-HxCDF	97.6	100	97.6	70-156		24-Feb-22 16:46	1
1,2,3,7,8,9-HxCDF	94.3	100	94.3	78-130		24-Feb-22 16:46	1
1,2,3,4,6,7,8-HpCDF	90.9	100	90.9	82-122		24-Feb-22 16:46	1
1,2,3,4,7,8,9-HpCDF	102	100	102	78-138		24-Feb-22 16:46	1
OCDF	200	200	100	63-170		24-Feb-22 16:46	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Analyzed	Dilution
13C-2,3,7,8-TCDD	IS	82.8	20-175		24-Feb-22 16:46	1
13C-1,2,3,7,8-PeCDD	IS	78.6	21-227		24-Feb-22 16:46	1
13C-1,2,3,4,7,8-HxCDD	IS	85.4	21-193		24-Feb-22 16:46	1
13C-1,2,3,6,7,8-HxCDD	IS	89.3	25-163		24-Feb-22 16:46	1
13C-1,2,3,7,8,9-HxCDD	IS	85.2	21-193		24-Feb-22 16:46	1
13C-1,2,3,4,6,7,8-HpCDD	IS	81.9	26-166		24-Feb-22 16:46	1
13C-OCDD	IS	75.5	13-199		24-Feb-22 16:46	1
13C-2,3,7,8-TCDF	IS	72.9	22-152		24-Feb-22 16:46	1
13C-1,2,3,7,8-PeCDF	IS	81.9	21-192		24-Feb-22 16:46	1
13C-2,3,4,7,8-PeCDF	IS	86.3	13-328		24-Feb-22 16:46	1
13C-1,2,3,4,7,8-HxCDF	IS	83.6	19-202		24-Feb-22 16:46	1
13C-1,2,3,6,7,8-HxCDF	IS	83.0	21-159		24-Feb-22 16:46	1
13C-2,3,4,6,7,8-HxCDF	IS	90.8	22-176		24-Feb-22 16:46	1
13C-1,2,3,7,8,9-HxCDF	IS	94.6	17-205		24-Feb-22 16:46	1
13C-1,2,3,4,6,7,8-HpCDF	IS	92.3	21-158		24-Feb-22 16:46	1
13C-1,2,3,4,7,8,9-HpCDF	IS	81.9	20-186		24-Feb-22 16:46	1
13C-OCDF	IS	93.8	13-199		24-Feb-22 16:46	1
37Cl-2,3,7,8-TCDD	CRS	78.9	31-191		24-Feb-22 16:46	1

**Sample ID: USMPDI-040SC-A-10-11-201103**
**EPA Method 1613B**

Client Data		Laboratory Data			
Name:	Apex Laboratories	Lab Sample:	2202058-01	Date Received:	03-Feb-22 09:38
Project:	A2A1041	QC Batch:	B22B179	Date Extracted:	17-Feb-22
Matrix:	Sediment	Sample Size:	13.2 g	Column:	ZB-DIOXIN
Date Collected:	03-Nov-20 16:30	% Solids:	75.8		

Analyte	Conc. (pg/g)	EDL	EMPC	Qualifiers	Analyzed	Dilution
2,3,7,8-TCDD	ND	0.0407			24-Feb-22 23:30	1
1,2,3,7,8-PeCDD	ND	0.140			24-Feb-22 23:30	1
1,2,3,4,7,8-HxCDD	ND	0.175			24-Feb-22 23:30	1
1,2,3,6,7,8-HxCDD	ND	0.183			24-Feb-22 23:30	1
1,2,3,7,8,9-HxCDD	ND	0.182			24-Feb-22 23:30	1
1,2,3,4,6,7,8-HpCDD	0.945			J	24-Feb-22 23:30	1
OCDD	9.31				24-Feb-22 23:30	1
2,3,7,8-TCDF	ND	0.0460			24-Feb-22 23:30	1
1,2,3,7,8-PeCDF	ND	0.0534			24-Feb-22 23:30	1
2,3,4,7,8-PeCDF	ND	0.0459			24-Feb-22 23:30	1
1,2,3,4,7,8-HxCDF	ND	0.0528			24-Feb-22 23:30	1
1,2,3,6,7,8-HxCDF	ND	0.0515			24-Feb-22 23:30	1
2,3,4,6,7,8-HxCDF	ND	0.0574			24-Feb-22 23:30	1
1,2,3,7,8,9-HxCDF	ND	0.0725			24-Feb-22 23:30	1
1,2,3,4,6,7,8-HpCDF	ND	0.338			24-Feb-22 23:30	1
1,2,3,4,7,8,9-HpCDF	ND	0.468			24-Feb-22 23:30	1
OCDF	ND	0.251			24-Feb-22 23:30	1

Toxic Equivalent	
TEQMinWHO2005Dioxin	0.0122

Totals		
Total TCDD	0.0725	
Total PeCDD	ND	0.140
Total HxCDD	0.512	
Total HpCDD	2.35	
Total TCDF	ND	0.0460
Total PeCDF	ND	0.0534
Total HxCDF	ND	0.0725
Total HpCDF	ND	0.468

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Analyzed	Dilution
13C-2,3,7,8-TCDD	IS	84.7	25 - 164		24-Feb-22 23:30	1
13C-1,2,3,7,8-PeCDD	IS	95.2	25 - 181		24-Feb-22 23:30	1
13C-1,2,3,4,7,8-HxCDD	IS	95.5	32 - 141		24-Feb-22 23:30	1
13C-1,2,3,6,7,8-HxCDD	IS	101	28 - 130		24-Feb-22 23:30	1
13C-1,2,3,7,8,9-HxCDD	IS	96.9	32 - 141		24-Feb-22 23:30	1
13C-1,2,3,4,6,7,8-HpCDD	IS	108	23 - 140		24-Feb-22 23:30	1
13C-OCDD	IS	103	17 - 157		24-Feb-22 23:30	1
13C-2,3,7,8-TCDF	IS	75.1	24 - 169		24-Feb-22 23:30	1
13C-1,2,3,7,8-PeCDF	IS	98.7	24 - 185		24-Feb-22 23:30	1
13C-2,3,4,7,8-PeCDF	IS	99.7	21 - 178		24-Feb-22 23:30	1
13C-1,2,3,4,7,8-HxCDF	IS	92.1	26 - 152		24-Feb-22 23:30	1
13C-1,2,3,6,7,8-HxCDF	IS	92.7	26 - 123		24-Feb-22 23:30	1
13C-2,3,4,6,7,8-HxCDF	IS	94.8	28 - 136		24-Feb-22 23:30	1
13C-1,2,3,7,8,9-HxCDF	IS	95.2	29 - 147		24-Feb-22 23:30	1
13C-1,2,3,4,6,7,8-HpCDF	IS	105	28 - 143		24-Feb-22 23:30	1
13C-1,2,3,4,7,8,9-HpCDF	IS	97.2	26 - 138		24-Feb-22 23:30	1
13C-OCDF	IS	104	17 - 157		24-Feb-22 23:30	1
37Cl-2,3,7,8-TCDD	CRS	83.5	35 - 197		24-Feb-22 23:30	1

 EDL - Sample specific estimated detection limit  
 EMPC - Estimated maximum possible concentration

 The results are reported in dry weight.  
 The sample size is reported in wet weight.

**Sample ID: USMPDI-040SC-A-11-12-201103**

**EPA Method 1613B**

Client Data		Laboratory Data			
Name:	Apex Laboratories	Lab Sample:	2202058-02	Date Received:	03-Feb-22 09:38
Project:	A2A1041	QC Batch:	B22B179	Date Extracted:	17-Feb-22
Matrix:	Sediment	Sample Size:	13.5 g	Column:	ZB-DIOXIN
Date Collected:	03-Nov-20 16:30	% Solids:	75.7		

Analyte	Conc. (pg/g)	EDL	EMPC	Qualifiers	Analyzed	Dilution
2,3,7,8-TCDD	ND	0.0405			25-Feb-22 00:14	1
1,2,3,7,8-PeCDD	ND	0.116			25-Feb-22 00:14	1
1,2,3,4,7,8-HxCDD	ND	0.125			25-Feb-22 00:14	1
1,2,3,6,7,8-HxCDD	ND	0.129			25-Feb-22 00:14	1
1,2,3,7,8,9-HxCDD	ND	0.129			25-Feb-22 00:14	1
1,2,3,4,6,7,8-HpCDD	0.813			J	25-Feb-22 00:14	1
OCDD	9.55				25-Feb-22 00:14	1
2,3,7,8-TCDF	ND	0.0331			25-Feb-22 00:14	1
1,2,3,7,8-PeCDF	ND	0.0308			25-Feb-22 00:14	1
2,3,4,7,8-PeCDF	ND	0.0254			25-Feb-22 00:14	1
1,2,3,4,7,8-HxCDF	ND	0.0414			25-Feb-22 00:14	1
1,2,3,6,7,8-HxCDF	ND	0.0402			25-Feb-22 00:14	1
2,3,4,6,7,8-HxCDF	ND	0.0467			25-Feb-22 00:14	1
1,2,3,7,8,9-HxCDF	ND	0.0536			25-Feb-22 00:14	1
1,2,3,4,6,7,8-HpCDF	ND	0.284			25-Feb-22 00:14	1
1,2,3,4,7,8,9-HpCDF	ND	0.385			25-Feb-22 00:14	1
OCDF	ND	0.203			25-Feb-22 00:14	1

Toxic Equivalent	
TEQMinWHO2005Dioxin	0.0110

Totals	
Total TCDD	ND
Total PeCDD	0.116
Total HxCDD	0.498
Total HpCDD	2.25
Total TCDF	ND
Total PeCDF	0.0331
Total HxCDF	0.0308
Total HxCDF	0.0536
Total HpCDF	0.385

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Analyzed	Dilution
13C-2,3,7,8-TCDD	IS	90.3	25 - 164		25-Feb-22 00:14	1
13C-1,2,3,7,8-PeCDD	IS	96.2	25 - 181		25-Feb-22 00:14	1
13C-1,2,3,4,7,8-HxCDD	IS	98.2	32 - 141		25-Feb-22 00:14	1
13C-1,2,3,6,7,8-HxCDD	IS	101	28 - 130		25-Feb-22 00:14	1
13C-1,2,3,7,8,9-HxCDD	IS	97.1	32 - 141		25-Feb-22 00:14	1
13C-1,2,3,4,6,7,8-HpCDD	IS	110	23 - 140		25-Feb-22 00:14	1
13C-OCDD	IS	110	17 - 157		25-Feb-22 00:14	1
13C-2,3,7,8-TCDF	IS	80.6	24 - 169		25-Feb-22 00:14	1
13C-1,2,3,7,8-PeCDF	IS	91.1	24 - 185		25-Feb-22 00:14	1
13C-2,3,4,7,8-PeCDF	IS	99.1	21 - 178		25-Feb-22 00:14	1
13C-1,2,3,4,7,8-HxCDF	IS	93.1	26 - 152		25-Feb-22 00:14	1
13C-1,2,3,6,7,8-HxCDF	IS	94.1	26 - 123		25-Feb-22 00:14	1
13C-2,3,4,6,7,8-HxCDF	IS	99.0	28 - 136		25-Feb-22 00:14	1
13C-1,2,3,7,8,9-HxCDF	IS	98.8	29 - 147		25-Feb-22 00:14	1
13C-1,2,3,4,6,7,8-HpCDF	IS	111	28 - 143		25-Feb-22 00:14	1
13C-1,2,3,4,7,8,9-HpCDF	IS	101	26 - 138		25-Feb-22 00:14	1
13C-OCDF	IS	112	17 - 157		25-Feb-22 00:14	1
37Cl-2,3,7,8-TCDD	CRS	89.4	35 - 197		25-Feb-22 00:14	1

EDL - Sample specific estimated detection limit  
 EMPC - Estimated maximum possible concentration

The results are reported in dry weight.  
 The sample size is reported in wet weight.

**Sample ID: USMPDI-040SC-A-12-13-201103**
**EPA Method 1613B**

Client Data		Laboratory Data			
Name:	Apex Laboratories	Lab Sample:	2202058-03	Date Received:	03-Feb-22 09:38
Project:	A2A1041	QC Batch:	B22B179	Date Extracted:	17-Feb-22
Matrix:	Sediment	Sample Size:	12.2 g	Column:	ZB-DIOXIN
Date Collected:	03-Nov-20 16:30	% Solids:	85.0		

Analyte	Conc. (pg/g)	EDL	EMPC	Qualifiers	Analyzed	Dilution
2,3,7,8-TCDD	ND	0.0426			25-Feb-22 00:59	1
1,2,3,7,8-PeCDD	ND	0.0771			25-Feb-22 00:59	1
1,2,3,4,7,8-HxCDD	ND	0.131			25-Feb-22 00:59	1
1,2,3,6,7,8-HxCDD	ND	0.130			25-Feb-22 00:59	1
1,2,3,7,8,9-HxCDD	ND	0.133			25-Feb-22 00:59	1
1,2,3,4,6,7,8-HpCDD	0.756			J	25-Feb-22 00:59	1
OCDD	6.57				25-Feb-22 00:59	1
2,3,7,8-TCDF	ND	0.0263			25-Feb-22 00:59	1
1,2,3,7,8-PeCDF	ND	0.0298			25-Feb-22 00:59	1
2,3,4,7,8-PeCDF	ND	0.0215			25-Feb-22 00:59	1
1,2,3,4,7,8-HxCDF	ND	0.0165			25-Feb-22 00:59	1
1,2,3,6,7,8-HxCDF	ND	0.0173			25-Feb-22 00:59	1
2,3,4,6,7,8-HxCDF	ND	0.0176			25-Feb-22 00:59	1
1,2,3,7,8,9-HxCDF	ND		0.0270		25-Feb-22 00:59	1
1,2,3,4,6,7,8-HpCDF	ND	0.310			25-Feb-22 00:59	1
1,2,3,4,7,8,9-HpCDF	ND	0.398			25-Feb-22 00:59	1
OCDF	ND	0.120			25-Feb-22 00:59	1

Toxic Equivalent	
TEQMinWHO2005Dioxin	0.00953

Totals	
Total TCDD	0.117
Total PeCDD	ND 0.0771
Total HxCDD	0.612
Total HpCDD	2.19
Total TCDF	ND 0.0263
Total PeCDF	ND 0.0298
Total HxCDF	ND 0.0270
Total HpCDF	ND 0.398

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Analyzed	Dilution
13C-2,3,7,8-TCDD	IS	103	25 - 164		25-Feb-22 00:59	1
13C-1,2,3,7,8-PeCDD	IS	94.4	25 - 181		25-Feb-22 00:59	1
13C-1,2,3,4,7,8-HxCDD	IS	96.5	32 - 141		25-Feb-22 00:59	1
13C-1,2,3,6,7,8-HxCDD	IS	100	28 - 130		25-Feb-22 00:59	1
13C-1,2,3,7,8,9-HxCDD	IS	94.0	32 - 141		25-Feb-22 00:59	1
13C-1,2,3,4,6,7,8-HpCDD	IS	99.2	23 - 140		25-Feb-22 00:59	1
13C-OCDD	IS	97.7	17 - 157		25-Feb-22 00:59	1
13C-2,3,7,8-TCDF	IS	90.9	24 - 169		25-Feb-22 00:59	1
13C-1,2,3,7,8-PeCDF	IS	93.0	24 - 185		25-Feb-22 00:59	1
13C-2,3,4,7,8-PeCDF	IS	101	21 - 178		25-Feb-22 00:59	1
13C-1,2,3,4,7,8-HxCDF	IS	95.4	26 - 152		25-Feb-22 00:59	1
13C-1,2,3,6,7,8-HxCDF	IS	93.8	26 - 123		25-Feb-22 00:59	1
13C-2,3,4,6,7,8-HxCDF	IS	98.8	28 - 136		25-Feb-22 00:59	1
13C-1,2,3,7,8,9-HxCDF	IS	104	29 - 147		25-Feb-22 00:59	1
13C-1,2,3,4,6,7,8-HpCDF	IS	103	28 - 143		25-Feb-22 00:59	1
13C-1,2,3,4,7,8,9-HpCDF	IS	95.3	26 - 138		25-Feb-22 00:59	1
13C-OCDF	IS	106	17 - 157		25-Feb-22 00:59	1
37Cl-2,3,7,8-TCDD	CRS	100	35 - 197		25-Feb-22 00:59	1

 EDL - Sample specific estimated detection limit  
 EMPC - Estimated maximum possible concentration

 The results are reported in dry weight.  
 The sample size is reported in wet weight.

**Sample ID: USMPDI-056SC-A-07-08-201107**

**EPA Method 1613B**

Client Data		Laboratory Data			
Name:	Apex Laboratories	Lab Sample:	2202058-04	Date Received:	03-Feb-22 09:38
Project:	A2A1041	QC Batch:	B22B179	Date Extracted:	17-Feb-22
Matrix:	Sediment	Sample Size:	16.1 g	Column:	ZB-DIOXIN
Date Collected:	07-Nov-20 13:30	% Solids:	68.6		

Analyte	Conc. (pg/g)	EDL	EMPC	Qualifiers	Analyzed	Dilution
2,3,7,8-TCDD	ND	0.0381			25-Feb-22 01:44	1
1,2,3,7,8-PeCDD	ND	0.0827			25-Feb-22 01:44	1
1,2,3,4,7,8-HxCDD	ND	0.0513			25-Feb-22 01:44	1
1,2,3,6,7,8-HxCDD	0.132			J	25-Feb-22 01:44	1
1,2,3,7,8,9-HxCDD	0.0725			J	25-Feb-22 01:44	1
1,2,3,4,6,7,8-HpCDD	1.96			J	25-Feb-22 01:44	1
OCDD	20.2				25-Feb-22 01:44	1
2,3,7,8-TCDF	ND		0.162		25-Feb-22 01:44	1
1,2,3,7,8-PeCDF	ND		0.205		25-Feb-22 01:44	1
2,3,4,7,8-PeCDF	0.129			J	25-Feb-22 01:44	1
1,2,3,4,7,8-HxCDF	0.429			J	25-Feb-22 01:44	1
1,2,3,6,7,8-HxCDF	ND		0.100		25-Feb-22 01:44	1
2,3,4,6,7,8-HxCDF	ND	0.0408			25-Feb-22 01:44	1
1,2,3,7,8,9-HxCDF	ND	0.0469			25-Feb-22 01:44	1
1,2,3,4,6,7,8-HpCDF	ND		0.478		25-Feb-22 01:44	1
1,2,3,4,7,8,9-HpCDF	ND	0.297			25-Feb-22 01:44	1
OCDF	0.918			J	25-Feb-22 01:44	1

Toxic Equivalent	
TEQMinWHO2005Dioxin	0.128

Totals	
Total TCDD	0.0669
Total PeCDD	ND
Total HxCDD	0.621
Total HpCDD	4.51
Total TCDF	ND
Total PeCDF	0.303
Total HxCDF	0.848
Total HpCDF	0.687

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Analyzed	Dilution
13C-2,3,7,8-TCDD	IS	101	25 - 164		25-Feb-22 01:44	1
13C-1,2,3,7,8-PeCDD	IS	88.4	25 - 181		25-Feb-22 01:44	1
13C-1,2,3,4,7,8-HxCDD	IS	96.0	32 - 141		25-Feb-22 01:44	1
13C-1,2,3,6,7,8-HxCDD	IS	98.8	28 - 130		25-Feb-22 01:44	1
13C-1,2,3,7,8,9-HxCDD	IS	94.5	32 - 141		25-Feb-22 01:44	1
13C-1,2,3,4,6,7,8-HpCDD	IS	93.4	23 - 140		25-Feb-22 01:44	1
13C-OCDD	IS	89.6	17 - 157		25-Feb-22 01:44	1
13C-2,3,7,8-TCDF	IS	89.7	24 - 169		25-Feb-22 01:44	1
13C-1,2,3,7,8-PeCDF	IS	92.2	24 - 185		25-Feb-22 01:44	1
13C-2,3,4,7,8-PeCDF	IS	100	21 - 178		25-Feb-22 01:44	1
13C-1,2,3,4,7,8-HxCDF	IS	97.3	26 - 152		25-Feb-22 01:44	1
13C-1,2,3,6,7,8-HxCDF	IS	96.4	26 - 123		25-Feb-22 01:44	1
13C-2,3,4,6,7,8-HxCDF	IS	97.3	28 - 136		25-Feb-22 01:44	1
13C-1,2,3,7,8,9-HxCDF	IS	102	29 - 147		25-Feb-22 01:44	1
13C-1,2,3,4,6,7,8-HpCDF	IS	101	28 - 143		25-Feb-22 01:44	1
13C-1,2,3,4,7,8,9-HpCDF	IS	89.9	26 - 138		25-Feb-22 01:44	1
13C-OCDF	IS	99.3	17 - 157		25-Feb-22 01:44	1
37Cl-2,3,7,8-TCDD	CRS	94.5	35 - 197		25-Feb-22 01:44	1

EDL - Sample specific estimated detection limit  
 EMPC - Estimated maximum possible concentration

The results are reported in dry weight.  
 The sample size is reported in wet weight.

**Sample ID: USMPDI-056SC-A-08-09-201107**

**EPA Method 1613B**

Client Data		Laboratory Data			
Name:	Apex Laboratories	Lab Sample:	2202058-05	Date Received:	03-Feb-22 09:38
Project:	A2A1041	QC Batch:	B22B179	Date Extracted:	17-Feb-22
Matrix:	Sediment	Sample Size:	13.0 g	Column:	ZB-DIOXIN
Date Collected:	07-Nov-20 13:30	% Solids:	81.0		

Analyte	Conc. (pg/g)	EDL	EMPC	Qualifiers	Analyzed	Dilution
2,3,7,8-TCDD	ND	0.0347			25-Feb-22 02:29	1
1,2,3,7,8-PeCDD	ND	0.119			25-Feb-22 02:29	1
1,2,3,4,7,8-HxCDD	ND	0.0981			25-Feb-22 02:29	1
1,2,3,6,7,8-HxCDD	0.144			J	25-Feb-22 02:29	1
1,2,3,7,8,9-HxCDD	ND	0.106			25-Feb-22 02:29	1
1,2,3,4,6,7,8-HpCDD	2.77				25-Feb-22 02:29	1
OCDD	36.7				25-Feb-22 02:29	1
2,3,7,8-TCDF	0.356			J	25-Feb-22 02:29	1
1,2,3,7,8-PeCDF	0.279			J	25-Feb-22 02:29	1
2,3,4,7,8-PeCDF	ND		0.174		25-Feb-22 02:29	1
1,2,3,4,7,8-HxCDF	0.296			J	25-Feb-22 02:29	1
1,2,3,6,7,8-HxCDF	0.107			J	25-Feb-22 02:29	1
2,3,4,6,7,8-HxCDF	ND		0.0730		25-Feb-22 02:29	1
1,2,3,7,8,9-HxCDF	ND	0.0651			25-Feb-22 02:29	1
1,2,3,4,6,7,8-HpCDF	0.592			J	25-Feb-22 02:29	1
1,2,3,4,7,8,9-HpCDF	ND	0.327			25-Feb-22 02:29	1
OCDF	ND		0.739		25-Feb-22 02:29	1

Toxic Equivalent	
TEQMinWHO2005Dioxin	0.143

Totals	
Total TCDD	ND 0.0347
Total PeCDD	ND 0.119
Total HxCDD	0.800
Total HpCDD	7.00
Total TCDF	1.06
Total PeCDF	1.08 1.57
Total HxCDF	0.869 1.22
Total HpCDF	1.39

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Analyzed	Dilution
13C-2,3,7,8-TCDD	IS	104	25 - 164		25-Feb-22 02:29	1
13C-1,2,3,7,8-PeCDD	IS	98.2	25 - 181		25-Feb-22 02:29	1
13C-1,2,3,4,7,8-HxCDD	IS	98.9	32 - 141		25-Feb-22 02:29	1
13C-1,2,3,6,7,8-HxCDD	IS	100	28 - 130		25-Feb-22 02:29	1
13C-1,2,3,7,8,9-HxCDD	IS	95.1	32 - 141		25-Feb-22 02:29	1
13C-1,2,3,4,6,7,8-HpCDD	IS	96.9	23 - 140		25-Feb-22 02:29	1
13C-OCDD	IS	95.3	17 - 157		25-Feb-22 02:29	1
13C-2,3,7,8-TCDF	IS	93.1	24 - 169		25-Feb-22 02:29	1
13C-1,2,3,7,8-PeCDF	IS	98.6	24 - 185		25-Feb-22 02:29	1
13C-2,3,4,7,8-PeCDF	IS	103	21 - 178		25-Feb-22 02:29	1
13C-1,2,3,4,7,8-HxCDF	IS	97.8	26 - 152		25-Feb-22 02:29	1
13C-1,2,3,6,7,8-HxCDF	IS	96.5	26 - 123		25-Feb-22 02:29	1
13C-2,3,4,6,7,8-HxCDF	IS	98.8	28 - 136		25-Feb-22 02:29	1
13C-1,2,3,7,8,9-HxCDF	IS	103	29 - 147		25-Feb-22 02:29	1
13C-1,2,3,4,6,7,8-HpCDF	IS	103	28 - 143		25-Feb-22 02:29	1
13C-1,2,3,4,7,8,9-HpCDF	IS	92.6	26 - 138		25-Feb-22 02:29	1
13C-OCDF	IS	100	17 - 157		25-Feb-22 02:29	1
37Cl-2,3,7,8-TCDD	CRS	103	35 - 197		25-Feb-22 02:29	1

EDL - Sample specific estimated detection limit  
 EMPC - Estimated maximum possible concentration

The results are reported in dry weight.  
 The sample size is reported in wet weight.



**Sample ID: USMPDI-004SC-A-07-08-201111**
**EPA Method 1613B**

Client Data		Laboratory Data			
Name:	Apex Laboratories	Lab Sample:	2202058-06	Date Received:	03-Feb-22 09:38
Project:	A2A1041	QC Batch:	B22B179	Date Extracted:	17-Feb-22
Matrix:	Sediment	Sample Size:	17.9 g	Column:	ZB-DIOXIN
Date Collected:	11-Nov-20 08:35	% Solids:	59.6		

Analyte	Conc. (pg/g)	EDL	EMPC	Qualifiers	Analyzed	Dilution
2,3,7,8-TCDD	ND	0.0492			28-Feb-22 12:23	1
1,2,3,7,8-PeCDD	ND	0.0747			28-Feb-22 12:23	1
1,2,3,4,7,8-HxCDD	ND	0.0729			28-Feb-22 12:23	1
1,2,3,6,7,8-HxCDD	ND	0.0716			28-Feb-22 12:23	1
1,2,3,7,8,9-HxCDD	ND	0.0842			28-Feb-22 12:23	1
1,2,3,4,6,7,8-HpCDD	ND	0.223			28-Feb-22 12:23	1
OCDD	ND	0.224			28-Feb-22 12:23	1
2,3,7,8-TCDF	ND	0.0658			28-Feb-22 12:23	1
1,2,3,7,8-PeCDF	ND	0.0403			28-Feb-22 12:23	1
2,3,4,7,8-PeCDF	ND	0.0307			28-Feb-22 12:23	1
1,2,3,4,7,8-HxCDF	ND	0.0256			28-Feb-22 12:23	1
1,2,3,6,7,8-HxCDF	ND	0.0270			28-Feb-22 12:23	1
2,3,4,6,7,8-HxCDF	ND	0.0295			28-Feb-22 12:23	1
1,2,3,7,8,9-HxCDF	ND	0.0392			28-Feb-22 12:23	1
1,2,3,4,6,7,8-HpCDF	ND	0.0559			28-Feb-22 12:23	1
1,2,3,4,7,8,9-HpCDF	ND	0.0691			28-Feb-22 12:23	1
OCDF	ND	0.105			28-Feb-22 12:23	1

**Toxic Equivalent**

TEQMinWHO2005Dioxin	0.00
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**Totals**

Total TCDD	ND	0.0492
Total PeCDD	ND	0.0747
Total HxCDD	ND	0.0842
Total HpCDD	ND	0.223
Total TCDF	ND	0.0658
Total PeCDF	ND	0.0403
Total HxCDF	ND	0.0392
Total HpCDF	ND	0.0691

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Analyzed	Dilution
13C-2,3,7,8-TCDD	IS	101	25 - 164		28-Feb-22 12:23	1
13C-1,2,3,7,8-PeCDD	IS	92.4	25 - 181		28-Feb-22 12:23	1
13C-1,2,3,4,7,8-HxCDD	IS	90.2	32 - 141		28-Feb-22 12:23	1
13C-1,2,3,6,7,8-HxCDD	IS	96.1	28 - 130		28-Feb-22 12:23	1
13C-1,2,3,7,8,9-HxCDD	IS	85.4	32 - 141		28-Feb-22 12:23	1
13C-1,2,3,4,6,7,8-HpCDD	IS	83.0	23 - 140		28-Feb-22 12:23	1
13C-OCDD	IS	78.2	17 - 157		28-Feb-22 12:23	1
13C-2,3,7,8-TCDF	IS	87.9	24 - 169		28-Feb-22 12:23	1
13C-1,2,3,7,8-PeCDF	IS	97.5	24 - 185		28-Feb-22 12:23	1
13C-2,3,4,7,8-PeCDF	IS	103	21 - 178		28-Feb-22 12:23	1
13C-1,2,3,4,7,8-HxCDF	IS	96.0	26 - 152		28-Feb-22 12:23	1
13C-1,2,3,6,7,8-HxCDF	IS	97.7	26 - 123		28-Feb-22 12:23	1
13C-2,3,4,6,7,8-HxCDF	IS	94.8	28 - 136		28-Feb-22 12:23	1
13C-1,2,3,7,8,9-HxCDF	IS	94.6	29 - 147		28-Feb-22 12:23	1
13C-1,2,3,4,6,7,8-HpCDF	IS	95.3	28 - 143		28-Feb-22 12:23	1
13C-1,2,3,4,7,8,9-HpCDF	IS	86.8	26 - 138		28-Feb-22 12:23	1
13C-OCDF	IS	91.1	17 - 157		28-Feb-22 12:23	1
37Cl-2,3,7,8-TCDD	CRS	99.6	35 - 197		28-Feb-22 12:23	1

 EDL - Sample specific estimated detection limit  
 EMPC - Estimated maximum possible concentration

 The results are reported in dry weight.  
 The sample size is reported in wet weight.

**Sample ID: USMPDI-004SC-A-08-09-201111**
**EPA Method 1613B**

Client Data		Laboratory Data			
Name:	Apex Laboratories	Lab Sample:	2202058-07	Date Received:	03-Feb-22 09:38
Project:	A2A1041	QC Batch:	B22B179	Date Extracted:	17-Feb-22
Matrix:	Sediment	Sample Size:	16.6 g	Column:	ZB-DIOXIN
Date Collected:	11-Nov-20 08:35	% Solids:	62.6		

Analyte	Conc. (pg/g)	EDL	EMPC	Qualifiers	Analyzed	Dilution
2,3,7,8-TCDD	ND	0.0742			28-Feb-22 13:07	1
1,2,3,7,8-PeCDD	ND	0.126			28-Feb-22 13:07	1
1,2,3,4,7,8-HxCDD	ND	0.195			28-Feb-22 13:07	1
1,2,3,6,7,8-HxCDD	ND	0.202			28-Feb-22 13:07	1
1,2,3,7,8,9-HxCDD	ND	0.218			28-Feb-22 13:07	1
1,2,3,4,6,7,8-HpCDD	1.59			J	28-Feb-22 13:07	1
OCDD	12.6				28-Feb-22 13:07	1
2,3,7,8-TCDF	ND		0.208		28-Feb-22 13:07	1
1,2,3,7,8-PeCDF	0.130			J	28-Feb-22 13:07	1
2,3,4,7,8-PeCDF	ND		0.0810		28-Feb-22 13:07	1
1,2,3,4,7,8-HxCDF	ND		0.0740		28-Feb-22 13:07	1
1,2,3,6,7,8-HxCDF	ND	0.0508			28-Feb-22 13:07	1
2,3,4,6,7,8-HxCDF	ND	0.0599			28-Feb-22 13:07	1
1,2,3,7,8,9-HxCDF	ND	0.0728			28-Feb-22 13:07	1
1,2,3,4,6,7,8-HpCDF	0.143			J	28-Feb-22 13:07	1
1,2,3,4,7,8,9-HpCDF	ND	0.0988			28-Feb-22 13:07	1
OCDF	ND	0.153			28-Feb-22 13:07	1

Toxic Equivalent	
TEQMinWHO2005Dioxin	0.0250

Totals	
Total TCDD	0.375
Total PeCDD	0.307
Total HxCDD	1.35
Total HpCDD	3.72
Total TCDF	0.745
Total PeCDF	0.130
Total HxCDF	0.108
Total HpCDF	0.143

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Analyzed	Dilution
13C-2,3,7,8-TCDD	IS	93.6	25 - 164		28-Feb-22 13:07	1
13C-1,2,3,7,8-PeCDD	IS	87.3	25 - 181		28-Feb-22 13:07	1
13C-1,2,3,4,7,8-HxCDD	IS	90.4	32 - 141		28-Feb-22 13:07	1
13C-1,2,3,6,7,8-HxCDD	IS	101	28 - 130		28-Feb-22 13:07	1
13C-1,2,3,7,8,9-HxCDD	IS	90.4	32 - 141		28-Feb-22 13:07	1
13C-1,2,3,4,6,7,8-HpCDD	IS	93.2	23 - 140		28-Feb-22 13:07	1
13C-OCDD	IS	87.7	17 - 157		28-Feb-22 13:07	1
13C-2,3,7,8-TCDF	IS	82.7	24 - 169		28-Feb-22 13:07	1
13C-1,2,3,7,8-PeCDF	IS	88.3	24 - 185		28-Feb-22 13:07	1
13C-2,3,4,7,8-PeCDF	IS	90.7	21 - 178		28-Feb-22 13:07	1
13C-1,2,3,4,7,8-HxCDF	IS	92.5	26 - 152		28-Feb-22 13:07	1
13C-1,2,3,6,7,8-HxCDF	IS	95.1	26 - 123		28-Feb-22 13:07	1
13C-2,3,4,6,7,8-HxCDF	IS	95.6	28 - 136		28-Feb-22 13:07	1
13C-1,2,3,7,8,9-HxCDF	IS	98.9	29 - 147		28-Feb-22 13:07	1
13C-1,2,3,4,6,7,8-HpCDF	IS	102	28 - 143		28-Feb-22 13:07	1
13C-1,2,3,4,7,8,9-HpCDF	IS	96.7	26 - 138		28-Feb-22 13:07	1
13C-OCDF	IS	99.8	17 - 157		28-Feb-22 13:07	1
37Cl-2,3,7,8-TCDD	CRS	92.0	35 - 197		28-Feb-22 13:07	1

 EDL - Sample specific estimated detection limit  
 EMPC - Estimated maximum possible concentration

 The results are reported in dry weight.  
 The sample size is reported in wet weight.

**Sample ID: USMPDI-004SC-A-09-10-201111**

**EPA Method 1613B**

Client Data		Laboratory Data			
Name:	Apex Laboratories	Lab Sample:	2202058-08	Date Received:	03-Feb-22 09:38
Project:	A2A1041	QC Batch:	B22B179	Date Extracted:	17-Feb-22
Matrix:	Sediment	Sample Size:	16.1 g	Column:	ZB-DIOXIN
Date Collected:	11-Nov-20 08:35	% Solids:	62.6		

Analyte	Conc. (pg/g)	EDL	EMPC	Qualifiers	Analyzed	Dilution
2,3,7,8-TCDD	ND		0.0480		28-Feb-22 13:52	1
1,2,3,7,8-PeCDD	ND	0.0954			28-Feb-22 13:52	1
1,2,3,4,7,8-HxCDD	ND	0.0969			28-Feb-22 13:52	1
1,2,3,6,7,8-HxCDD	ND	0.0903			28-Feb-22 13:52	1
1,2,3,7,8,9-HxCDD	ND	0.0972			28-Feb-22 13:52	1
1,2,3,4,6,7,8-HpCDD	0.941			J	28-Feb-22 13:52	1
OCDD	6.46				28-Feb-22 13:52	1
2,3,7,8-TCDF	0.244			J	28-Feb-22 13:52	1
1,2,3,7,8-PeCDF	ND	0.0953			28-Feb-22 13:52	1
2,3,4,7,8-PeCDF	ND		0.0470		28-Feb-22 13:52	1
1,2,3,4,7,8-HxCDF	ND	0.0389			28-Feb-22 13:52	1
1,2,3,6,7,8-HxCDF	ND	0.0410			28-Feb-22 13:52	1
2,3,4,6,7,8-HxCDF	ND	0.0419			28-Feb-22 13:52	1
1,2,3,7,8,9-HxCDF	ND	0.0525			28-Feb-22 13:52	1
1,2,3,4,6,7,8-HpCDF	ND	0.0741			28-Feb-22 13:52	1
1,2,3,4,7,8,9-HpCDF	ND	0.0940			28-Feb-22 13:52	1
OCDF	ND	0.113			28-Feb-22 13:52	1

**Toxic Equivalent**

TEQMinWHO2005Dioxin	0.0357
---------------------	--------

**Totals**

Total TCDD	0.180		0.511
Total PeCDD	ND		0.0910
Total HxCDD	0.654		
Total HpCDD	2.35		
Total TCDF	1.13		
Total PeCDF	ND		0.0470
Total HxCDF	ND	0.0525	
Total HpCDF	ND	0.0940	

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Analyzed	Dilution
13C-2,3,7,8-TCDD	IS	125	25 - 164		28-Feb-22 13:52	1
13C-1,2,3,7,8-PeCDD	IS	118	25 - 181		28-Feb-22 13:52	1
13C-1,2,3,4,7,8-HxCDD	IS	123	32 - 141		28-Feb-22 13:52	1
13C-1,2,3,6,7,8-HxCDD	IS	136	28 - 130	H	28-Feb-22 13:52	1
13C-1,2,3,7,8,9-HxCDD	IS	123	32 - 141		28-Feb-22 13:52	1
13C-1,2,3,4,6,7,8-HpCDD	IS	130	23 - 140		28-Feb-22 13:52	1
13C-OCDD	IS	124	17 - 157		28-Feb-22 13:52	1
13C-2,3,7,8-TCDF	IS	111	24 - 169		28-Feb-22 13:52	1
13C-1,2,3,7,8-PeCDF	IS	129	24 - 185		28-Feb-22 13:52	1
13C-2,3,4,7,8-PeCDF	IS	130	21 - 178		28-Feb-22 13:52	1
13C-1,2,3,4,7,8-HxCDF	IS	127	26 - 152		28-Feb-22 13:52	1
13C-1,2,3,6,7,8-HxCDF	IS	130	26 - 123	H	28-Feb-22 13:52	1
13C-2,3,4,6,7,8-HxCDF	IS	133	28 - 136		28-Feb-22 13:52	1
13C-1,2,3,7,8,9-HxCDF	IS	129	29 - 147		28-Feb-22 13:52	1
13C-1,2,3,4,6,7,8-HpCDF	IS	142	28 - 143		28-Feb-22 13:52	1
13C-1,2,3,4,7,8,9-HpCDF	IS	129	26 - 138		28-Feb-22 13:52	1
13C-OCDF	IS	138	17 - 157		28-Feb-22 13:52	1
37Cl-2,3,7,8-TCDD	CRS	121	35 - 197		28-Feb-22 13:52	1

EDL - Sample specific estimated detection limit  
 EMPC - Estimated maximum possible concentration

The results are reported in dry weight.  
 The sample size is reported in wet weight.

## DATA QUALIFIERS & ABBREVIATIONS

B	This compound was also detected in the method blank
Conc.	Concentration
CRS	Cleanup Recovery Standard
D	Dilution
DL	Detection Limit
E	The associated compound concentration exceeded the calibration range of the instrument
H	Recovery and/or RPD was outside laboratory acceptance limits
I	Chemical Interference
IS	Internal Standard
J	The amount detected is below the Reporting Limit/LOQ
LOD	Limit of Detection
LOQ	Limit of Quantitation
M	Estimated Maximum Possible Concentration (CA Region 2 projects only)
MDL	Method Detection Limit
NA	Not applicable
ND	Not Detected
OPR	Ongoing Precision and Recovery sample
P	The reported concentration may include contribution from chlorinated diphenyl ether(s).
Q	The ion transition ratio is outside of the acceptance criteria.
RL	Reporting Limit
RL	For 537.1, the reported RLs are the MRLs.
TEQ	Toxic Equivalency, sum of the toxic equivalency factors (TEF) multiplied by the sample concentrations.
TEQMax	TEQ calculation that uses the detection limit as the concentration for non-detects
TEQMin	TEQ calculation that uses zero as the concentration for non-detects
TEQRisk	TEQ calculation that uses ½ the detection limit as the concentration for non-detects
U	Not Detected (specific projects only)
*	See Cover Letter

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

### Vista Analytical Laboratory Certifications

Accrediting Authority	Certificate Number
Alaska Department of Environmental Conservation	17-013
Arkansas Department of Environmental Quality	21-023-0
California Department of Health – ELAP	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777-26
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2020018
Massachusetts Department of Environmental Protection	M-CA413
Michigan Department of Environmental Quality	9932
Minnesota Department of Health	1980678
New Hampshire Environmental Accreditation Program	207720
New Jersey Department of Environmental Protection	CA003
New York Department of Health	11411
Ohio Environmental Protection Agency	87778
Oregon Laboratory Accreditation Program	4042-016
Pennsylvania Department of Environmental Protection	017
Texas Commission on Environmental Quality	T104704189-21-12
Vermont Department of Health	VT-4042
Virginia Department of General Services	10769
Washington Department of Ecology	C584
Wisconsin Department of Natural Resources	998036160

*Current certificates and lists of licensed parameters are located in the Quality Assurance office and are available upon request.*

## NELAP Accredited Test Methods

MATRIX: Air	
Description of Test	Method
Determination of Polychlorinated p- Dioxins & Polychlorinated Dibenzofurans	EPA 23
Polychlorinated Dibenzodioxins in Ambient Air by GC/HRMS	EPA TO-9A

MATRIX: Biological Tissue	
Description of Test	Method
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

MATRIX: Drinking Water	
Description of Test	Method
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613/1613B
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537.1
Determination of Per- and Polyfluoroalkyl Substances in Drinking Water by Isotope Dilution Anion Exchange Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry	EPA 533
Perfluorooctanesulfonate (PFOS) and Perfluorooctanoate (PFOA) - Method for Unfiltered Samples Using Solid Phase Extraction and Liquid Chromatography/Mass Spectrometry	ISO 25101 2009

MATRIX: Non-Potable Water	
Description of Test	Method
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Dioxin by GC/HRMS	EPA 613
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

MATRIX: Solids	
Description of Test	Method
Tetra-Octa Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

SUBCONTRACT ORDER

Apex Laboratories

EA

CB 2/2/22 A2A1041

2202058 22C

SENDING LABORATORY:

Apex Laboratories  
6700 S.W. Sandburg Street  
Tigard, OR 97223  
Phone: (503) 718-2323  
Fax: (503) 336-0745  
Project Manager: Darwin Thomas

RECEIVING LABORATORY:

Vista Analytical Laboratory  
1104 Windfield Way  
El Dorado Hills, CA 95762  
Phone : (916) 673-1520  
Fax: -

Relogged-->A0K0164-26

Sample Name: USMPDI-040SC-A-10-11-201103 SE Sampled: 11/03/20 16:30 (A2A1041-03)

Analysis	Due	Expires	Comments
1613B Dioxins and Furans (SUB) Containers Supplied: (C)2 oz Glass Jar	02/11/22 17:00	11/03/21 16:30	Frozen 11/3/20 Thawed 2/2/22

Relogged-->A0K0164-27

Sample Name: USMPDI-040SC-A-11-12-201103 SE Sampled: 11/03/20 16:30 (A2A1041-04)

Analysis	Due	Expires	Comments
1613B Dioxins and Furans (SUB) Containers Supplied: (C)2 oz Glass Jar	02/11/22 17:00	11/03/21 16:30	Frozen 11/3/20 Thawed 2/2/22

Relogged--> A0K0164-28

Sample Name: USMPDI-040SC-A-12-13-201103 SE Sampled: 11/03/20 16:30 (A2A1041-05)

Analysis	Due	Expires	Comments
1613B Dioxins and Furans (SUB) Containers Supplied: (C)2 oz Glass Jar	02/11/22 17:00	11/03/21 16:30	Frozen 11/3/20 Thawed 2/2/22

Relogged--> A0K0320-41

Sample Name: USMPDI-056SC-A-07-08-201107 SE Sampled: 11/07/20 13:30 (A2A1041-10)

Analysis	Due	Expires	Comments
1613B Dioxins and Furans (SUB) Containers Supplied: (C)2 oz Glass Jar	02/11/22 17:00	11/07/21 13:30	Frozen 11/9/20 Thawed 2/2/22

Standard TAT

Released By: WAD 2/2/22 Date: \_\_\_\_\_  
 Received By: Kelia Wadsworth Date: 02/10/2022 09:38

Released By: Fed Ex (Shipper) Date: \_\_\_\_\_  
 Received By: Fed Ex (Shipper) Date: \_\_\_\_\_



SUBCONTRACT ORDER

Apex Laboratories

OB 2/2/22

A2A1041

2202058 2.2°C

Relogged--> A0K0320-42

Sample Name: USMPDI-056SC-A-08-09-201107 SE Sampled: 11/07/20 13:30 (A2A1041-11)

Analysis	Due	Expires	Comments
1613B Dioxins and Furans (SUB) Containers Supplied: (C)2 oz Glass Jar	02/11/22 17:00	11/07/21 13:30	Frozen 11/12/20 Thawed 2/2/22

Relogged--> A0K0538-24

Sample Name: USMPDI-004SC-A-07-08-201111 SE Sampled: 11/11/20 08:35 (A2A1041-16)

Analysis	Due	Expires	Comments
1613B Dioxins and Furans (SUB) Containers Supplied: (C)2 oz Glass Jar	02/11/22 17:00	11/11/21 08:35	Limited Volume-4oz Jar. Frozen 11/13/20 Thawed 2/2/22

Relogged--> A0K0538-25

Sample Name: USMPDI-004SC-A-08-09-201111 SE Sampled: 11/11/20 08:35 (A2A1041-17)

Analysis	Due	Expires	Comments
1613B Dioxins and Furans (SUB) Containers Supplied: (C)2 oz Glass Jar	02/11/22 17:00	11/11/21 08:35	Frozen 11/13/20 Thawed 2/2/22

Relogged--> A0K0538-26

Sample Name: USMPDI-004SC-A-09-10-201111 SE Sampled: 11/11/20 08:35 (A2A1041-18)

Analysis	Due	Expires	Comments
1613B Dioxins and Furans (SUB) Containers Supplied: (C)2 oz Glass Jar	02/11/22 17:00	11/11/21 08:35	Frozen 11/13/20 Thawed 2/2/22

Standard TAT

Fed Ex (Shipper)

Released By	Date	Received By	Date
Fed Ex (Shipper)		Kelia Wadsworth	02/03/2022 09:38
Released By	Date	Received By	Date

# Sample Log-In Checklist

Page # 1 of 1

Vista Work Order #: 2202058 TAT Std.

Samples Arrival:	Date/Time <u>02/03/2022 09:38</u>		Initials: <u>KW</u>		Location: <u>WR-2</u>		
	Shelf/Rack: <u>NA</u>						
Delivered By:	<input checked="" type="checkbox"/> FedEx	<input type="checkbox"/> UPS	<input type="checkbox"/> On Trac	<input type="checkbox"/> GLS	<input type="checkbox"/> DHL	<input type="checkbox"/> Hand Delivered	<input type="checkbox"/> Other
Preservation:	<input checked="" type="checkbox"/> Ice		<input type="checkbox"/> Blue Ice		<input type="checkbox"/> Techni Ice	<input type="checkbox"/> Dry Ice	<input type="checkbox"/> None
Temp °C: <u>2.4</u> (uncorrected)	Probe used: Y / <input checked="" type="checkbox"/> N			Thermometer ID: <u>IR-4</u>			
Temp °C: <u>2.2</u> (corrected)							

	YES	NO	NA
Shipping Container(s) Intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shipping Custody Seals Intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Airbill	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Trk # <u>7759 4451 8728</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shipping Documentation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shipping Container	<input type="checkbox"/> Vista	<input checked="" type="checkbox"/> Client	<input type="checkbox"/> Retain
	<input type="checkbox"/> Return	<input type="checkbox"/> Dispose	
Chain of Custody / Sample Documentation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chain of Custody / Sample Documentation Complete?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Holding Time Acceptable?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> X	<input type="checkbox"/>
Logged In:	Date/Time <u>02/05/22 1051</u>		Initials: <u>KW</u>
	Location: <u>WR-2</u>		Shelf/Rack: <u>G-4</u>
COC Anomaly/Sample Acceptance Form completed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

*KW*  
*02/04/2022*  
*10:12*

Comments:

# CoC/Label Reconciliation Report WO# 2202058

LabNumber	CoC Sample ID	SampleAlias	Sample Date/Time	Container	BaseMatrix	Sample Comments
2202058-01	A <u>USMPDI-040SC-A-10-11-20110</u> 3	A2A1041-03	03-Nov-20 16:30	Clear Glass Jar, 120mL	Solid	<input checked="" type="checkbox"/>
2202058-02	A <u>USMPDI-040SC-A-11-12-20110</u> 3	A2A1041-04	03-Nov-20 16:30	Clear Glass Jar, 120mL	Solid	<input checked="" type="checkbox"/>
2202058-03	A <u>USMPDI-040SC-A-12-13-2011</u> 03	A2A1041-05	03-Nov-20 16:30	Clear Glass Jar, 120mL	Solid	<input checked="" type="checkbox"/>
2202058-04	A <u>USMPDI-056SC-A-07-08-2011</u> 07	A2A1041-10	07-Nov-20 13:30	Clear Glass Jar, 120mL	Solid	<input checked="" type="checkbox"/>
2202058-05	A <u>USMPDI-056SC-A-08-09-2011</u> 07	A2A1041-11	07-Nov-20 13:30	Clear Glass Jar, 120mL	Solid	<input checked="" type="checkbox"/>
2202058-06	A <u>USMPDI-004SC-A-07-08-2011</u> 1	A2A1041-16	11-Nov-20 08:35	Clear Glass Jar, 120mL	Solid	<input checked="" type="checkbox"/>
2202058-07	A <u>USMPDI-004SC-A-08-09-2011</u> 1	A2A1041-17	11-Nov-20 08:35	Clear Glass Jar, 120mL	Solid	<input checked="" type="checkbox"/>
2202058-08	A <u>USMPDI-004SC-A-09-10-2011</u> 1	A2A1041-18	11-Nov-20 08:35	Clear Glass Jar, 120mL	Solid	<input checked="" type="checkbox"/>

Checkmarks indicate that information on the COC reconciled with the sample label.  
Any discrepancies are noted in the following columns.

	Yes	No	NA
Sample Container Intact?	✓		
Sample Custody Seals Intact?		✓	✓
Adequate Sample Volume?	✓		
Container Type Appropriate for Analysis(es)	✓		

Comments:

A: Underlined segment is not present on sample ID.

Preservation Documented: Na2S2O3    Trizma    NH4CH3CO2    None    Other

Verified by/Date: CB 02/05/22



# ANOMALY FORM

Vista Work Order 2202058

Initial/Date The following checked issues were noted during sample receipt and login:

- 1. The samples were received out of temperature at (WI-PHT): \_\_\_\_\_  
Was Ice present: Yes No Melted Blue Ice
- WUS 02/09/22  2. The Chain-of-Custody (CoC) was not relinquished properly. \* page 4 of 4 coc only
- 3. The CoC did not include collection time(s). 00:00 will be used unless notified otherwise.
- 4. The sample(s) did not include a sample collection time. All or Sample Name: \_\_\_\_\_
- 02/05/22  5. A sample ID discrepancy was found. See the Reconciliation report.  
The CoC Sample ID will be used unless notified otherwise.
- 6. A sample date and/or time discrepancy was found. See the Reconciliation report.  
The CoC Sample date/time will be used unless notified otherwise.
- 7. The CoC did not include a sample matrix. The following sample matrix will be used: \_\_\_\_\_
- 8. Insufficient volume received for analysis. All or Sample Name: \_\_\_\_\_
- 9. The backup bottle was received broken. Sample Name: \_\_\_\_\_
- 10. CoC not received, illegible or destroyed.
- 02/8/22  11. The sample(s) were received out of holding time. All or Sample Name: All
- 12. The CoC did not include an analysis. All or Sample Name: \_\_\_\_\_
- 13. Sample(s) received without collection date. All or Sample Name: \_\_\_\_\_
- 14. Sample(s) not received. All or Sample Name: \_\_\_\_\_
- 15. Sample(s) received broken. All or Sample Name: \_\_\_\_\_
- 16. An incorrect container-type was used. All or Sample Name: \_\_\_\_\_
- 17. The Field Reagent Blank (FRB) preservative was from a different lot than the field samples.  
Will proceed with analysis and narrate unless notified otherwise.
- 18. Other:

Bolded items require sign-off

Client Contacted: Derwin Thomas

Date of Contact: 2/8/22

Vista Client Manager: Jamie Fox

Resolution:

Permission to proceed with analysis outside of HT  
02/8/22

## **EXTRACTION INFORMATION**

Process Sheet

Workorder: **2202058**

Prep Expiration: 2021-11-03  
Client: Apex Laboratories

Workorder Due: 10-Mar-22 00:00

TAT: 35

Method: **1613 Full List**  
Matrix: **Solid**  
Client Matrix: Sediment  
Also run: **Percent Solids**

Prep Batch: B22B179

Prep Data Entered: TJ 02/23/22  
Date and Initials

Initial Sequence: S22B076

LabSampleID	A/B	Prep Rec	Spike Rec	ClientSampleID	Date Received	Location	Comments
2202058-01	A	<input checked="" type="checkbox"/>	<input type="checkbox"/>	USMPDI-040SC-A-10-11-201103	03-Feb-22 09:38	WR-2 G-4	
2202058-02	↓	<input checked="" type="checkbox"/>	<input type="checkbox"/>	USMPDI-040SC-A-11-12-201103	03-Feb-22 09:38	WR-2 G-4	
2202058-03		<input checked="" type="checkbox"/>	<input type="checkbox"/>	USMPDI-040SC-A-12-13-201103	03-Feb-22 09:38	WR-2 G-4	
2202058-04		<input checked="" type="checkbox"/>	<input type="checkbox"/>	USMPDI-056SC-A-07-08-201107	03-Feb-22 09:38	WR-2 G-4	
2202058-05		<input checked="" type="checkbox"/>	<input type="checkbox"/>	USMPDI-056SC-A-08-09-201107	03-Feb-22 09:38	WR-2 G-4	
2202058-06		<input checked="" type="checkbox"/>	<input type="checkbox"/>	USMPDI-004SC-A-07-08-201111	03-Feb-22 09:38	WR-2 G-4	
2202058-07		<input checked="" type="checkbox"/>	<input type="checkbox"/>	USMPDI-004SC-A-08-09-201111	03-Feb-22 09:38	WR-2 G-4	
2202058-08		<input checked="" type="checkbox"/>	<input type="checkbox"/>	USMPDI-004SC-A-09-10-201111	03-Feb-22 09:38	WR-2 G-4	

Pre-Prep Check Out: ML 02/08/22  
Pre-Prep Check In: ML 02/08/22

Prep Check Out: ML 02/17/22  
Prep Check In: ML 02/17/22

Prep Reconciled Initials/Date: ML 02/08/22  
Spike Reconciled Initials/Date: AP 02/17/22  
VialBoxID: Shark



PREPARATION BENCH SHEET

Matrix: Solid

B22B179

Chemist: MLL

Method: 1613 Full List

Prepared using: HRMS - Soxhlet

Prep Date/Time: 17-Feb-22 09:34

Method: 1613 2.3.7.8-TCDD Only

Sox	VISTA Sample ID	G Eqv	Sample Amt. (g)	IS/NS CHEM/WIT DATE	CRS/PS CHEM/WIT DATE	AP CHEM/ DATE	ABSG CHEM/ DATE	AA CHEM/ DATE	Florisil CHEM/ DATE	RS CHEM/WIT DATE
	B22B179-BLK1	N/A	(10.00)	ML OF 02/17/22	TZ OF 02/22/22	TZ 02/22/22	TZ 02/23/22	TZ 02/23/22	TZ 02/23/22	TZ 02/23/22
	B22B179-BS1	↓	(10.00)							
	2202015-01 (1)(X)	15.40	16.49			↓	(A)			N/A
	2202058-01	13.20	13.23			N/A	(C)		TZ 02/23/22	
	2202058-02	13.20	13.53				↓			
	2202058-03	11.76	12.10				(D)			
	2202058-04	14.58	16.08				(B)			
	2202058-05	12.34	13.03				(B)			
	2202058-06	16.77	17.00				↓			
	2202058-07	15.96	16.60				(A)			
	2202058-08	15.98	16.13	↓	↓	↓	↓	↓	↓	↓

(1) TZ 02/23/22

(X) Sample spilled during FV TZ 02/23/22

(A) Really dirty, dark rings. TZ 02/23/22

(B) Somewhat dirty. TZ 02/23/22

(C) Yellow in Acid (44%) TZ 02/23/22

(D) Some color rings. TZ 02/23/22

IS: 21K0102, 10ML (V7)	Cycle Time	APP: SEFUN (SOX) SDS	Check Out: Chemist/Date: MLO2/17/22	Soxhlet Siphoned Chemist/Date:	Notes:
NS: 21G0801, 10ML (V6)	Start Date/Time	SOLV: Toluene	Check In: Chemist/Date: MLO2/17/22	Vial Transfer Chemist/Date:	
PS/CRS: 21E1801, 10µl (V1)	02/17/22 14:10	Other: n/a	Balance ID: HRMS - 8		
RS: 22A1327, 10µl (V8)	Stop Date/Time 02/18/22	Final Volume(s) 20ML CM			

Comments:

- 1 = Sample approached dryness on rotovap
- 2 = Sample bumped on rotovap; lost < 5%
- 3 = Sample poured through Na2SO4 to remove water
- 4 = Precipitate present at Final Volume
- 5 = Sample homogenized in secondary container
- 6 = Sample clogged during extraction; pipcted and used Nitrogen to assist
- 7 = Soxhlet approached dryness

Batch: B22B179

Matrix: Solid

LabNumber	WetWeight Initial (g)	% Solids (Extraction Solids)	DryWeight Initial (g)	Final (uL)	Extracted	Ext By	Spike	SpikeAmount (uL)	ClientMatrix	Analysis
2202015-01	16.49 ✓	64.93507	10.7078 ✓	20 ✓	17-Feb-22 09:34 ✓	RR			Sludge	1613 2,3,7,8-TCDD Only
2202058-01	13.23	75.7764	10.0252 ✓	20	17-Feb-22 09:34	RR			Sediment	1613 Full List
2202058-02	13.53	75.73529	10.2470 ✓	20	17-Feb-22 09:34	RR			Sediment	1613 Full List
2202058-03	12.16	85.04672	10.3417 ✓	20	17-Feb-22 09:34	RR			Sediment	1613 Full List
2202058-04	16.08	68.59504	11.0301 ✓	20	17-Feb-22 09:34	RR			Sediment	1613 Full List
2202058-05	13.03	81.03448	10.5588 ✓	20	17-Feb-22 09:34	RR			Sediment	1613 Full List
2202058-06	17.88	59.61538	10.6592 ✓	20	17-Feb-22 09:34	RR			Sediment	1613 Full List
2202058-07	16.6	62.63736	10.3978 ✓	20	17-Feb-22 09:34	RR			Sediment	1613 Full List
2202058-08	16.13	62.57669	10.0936 ✓	20	17-Feb-22 09:34	RR			Sediment	1613 Full List
<b>B22B179-BLK1</b>	<b>10</b>			<b>20</b>	<b>17-Feb-22 09:34</b>	<b>RR</b>				<b>QC</b>
<b>B22B179-BS1</b>	<b>10</b>			<b>20</b>	<b>17-Feb-22 09:34</b>	<b>RR</b>	<b>21G0801 ✓</b>	<b>10 ✓</b>		<b>QC</b>

All bolded data on report verified against written benchsheet by (initial/date) JZ 02/23/22



Percent Moisture/ Percent Solids

D2216-90

BATCH ID B22B089

Analyst: MLL ✓ Analyte: Oven ID: 01 <u>02</u> ✓	Test Code: %Moist/%Solids Units: % Dried at 110°C +/-5°C	Data Entry Verified by: (Initial and Date) _____
---	--	---

Inst HRMS-10 ✓  
 Date/Time IN: 02/08/22 1610 Date/Time OUT: 02/09/22 0550

B		C	D	E		F	G	H	I	K L M N O				P	
Particle Size	SampID	SampType	Initial and Date:		02/08/22 ML ✓		02/09/22 ML ✓		%Solids RawVal	Visual Inspection	Cl-	pH Before	pH After	Acid Added	Sample Homogenized*
			Pan Tare Wt. (gms)	Wet Pan and Sample Weight (g)	Dry Pan and Sample Weight (g)	Dry Sample Weight (g)									
	2202058-01	A	Sample	1.2600 ✓	4.4800 ✓	3.7000 ✓	2.4400	75.78	DIRT ✓	N/A	N/A	N/A	N/A	X	
	2202058-02	A	Sample	1.2600 ✓	3.9800 ✓	3.3200 ✓	2.0600	75.74	DIRT ✓	N/A	N/A	N/A	N/A	X	
	2202058-03	A	Sample	1.2600 ✓	3.4000 ✓	3.0800 ✓	1.8200	85.05	DIRT ✓	N/A	N/A	N/A	N/A	X	
	2202058-04	A	Sample	1.2600 ✓	3.6800 ✓	2.9200 ✓	1.6600	68.60	DIRT ✓	N/A	N/A	N/A	N/A	X	
	2202058-05	A	Sample	1.2600 ✓	4.7400 ✓	4.0800 ✓	2.8200	81.03	DIRT ✓	N/A	N/A	N/A	N/A	X	
	2202058-06	A	Sample	1.2600 ✓	4.3800 ✓	3.1200 ✓	1.8600	59.62	MUD ✓	N/A	N/A	N/A	N/A	X	
	2202058-07	A	Sample	1.2600 ✓	4.9000 ✓	3.5400 ✓	2.2800	62.64	MUD ✓	N/A	N/A	N/A	N/A	X	
	2202058-08	A	Sample	1.2600 ✓	4.5200 ✓	3.3000 ✓	2.0400	62.58	MUD ✓	N/A	N/A	N/A	N/A	X	

\*Sample homogenized in sample container unless otherwise noted.

Percent Moisture/ Percent Solids

D2216-90

BATCH ID B22B089

Analyst: <u>MLL</u>	Test Code: %Moist/%Solids	Data Entry Verified by: (Initial and Date) <u>ML N/A</u>
Analyte: Dried at <u>110°C</u> +/- 5°C	Units: %	
Oven ID: 01 <u>02</u>		

Inst HRMS-10  
 Date/Time IN: 02/08/22 1610 Date/Time OUT: 02/09/22 0550

B	C	D	E	F	G	H	I	K	L	M	N	O	P
Particle Size	SampleID	SampType	Initial and Date:	02/08/22 ML	02/09/22 ML			02/08/22 ML	N/A			ML 02/08/22	
			Pan Tare Wt. (gms)	Wet Pan and Sample Weight (g)	Dry Pan and Sample Weight (g)	Dry Sample Weight (g)	%Solids RawVal	Visual Inspection	Cl-	pH Before	pH After	Acid Added	Sample Homogenized*
	2202058-01	A	1.26	4.48	3.70			DIRT	N/A	N/A	N/A	N/A	<
	2202058-02		1.26	3.98	3.32								<
	2202058-03		1.24	3.40	<del>3.31</del> 3.08								<
	2202058-04		1.26	3.68	<del>3.08</del> 2.92								<
	2202058-05		1.26	4.74	4.08								<
	2202058-06		1.24	4.30	3.12			MUD					<
	2202058-07		1.24	4.90	3.54								<
	2202058-08		1.26	4.52	3.30								<

\*Sample homogenized in sample container unless otherwise noted.

**SAMPLE DATA – EPA METHOD 1613B**

Dataset: I:\VG12.PRO\Results\220224R3\220224R3\_6.qld

Last Altered: Friday, February 25, 2022 19:03:42 Pacific Standard Time

Printed: Friday, February 25, 2022 19:20:12 Pacific Standard Time

*DF 01/25/22*

Method: I:\VG12.PRO\MethDB\1613rrt-2-17-22.mdb 17 Feb 2022 13:16:14

Calibration: I:\VG12.PRO\CurveDB\dbDIOXIN\_1613vg12-07-30-21.cdb 02 Aug 2021 09:55:11

*C702/25/2022*

Name: 220224R3\_6, Date: 24-Feb-2022, Time: 19:01:10, ID: B22B179-BLK1 Method Blank 10, Description: Method Blank, Task: ST220224R3\_1

	Name	Resp	RA	n/y	RRF	wt/vol	RT	RRT	Conc.	%Rec	DL	EMPC
1	2,3,7,8-TCDD			NO	0.952	10.000					0.0363	
2	1,2,3,7,8-PeCDD			NO	0.781	10.000					0.0914	
3	1,2,3,4,7,8-HxCDD			NO	0.904	10.000					0.0744	
4	1,2,3,6,7,8-HxCDD			NO	0.806	10.000					0.0731	
5	1,2,3,7,8,9-HxCDD			NO	0.814	10.000					0.0781	
6	1,2,3,4,6,7,8-HpCDD			NO	0.836	10.000					0.0901	
7	OCDD			NO	0.798	10.000					0.573	
8	2,3,7,8-TCDF			NO	0.720	10.000					0.0278	
9	1,2,3,7,8-PeCDF			NO	0.813	10.000					0.0393	
10	2,3,4,7,8-PeCDF			NO	0.892	10.000					0.0383	
11	1,2,3,4,7,8-HxCDF			NO	0.893	10.000					0.0284	
12	1,2,3,6,7,8-HxCDF			NO	0.867	10.000					0.0268	
13	2,3,4,6,7,8-HxCDF			NO	0.896	10.000					0.0312	
14	1,2,3,7,8,9-HxCDF			NO	0.874	10.000					0.0353	<i>0.104</i>
15	1,2,3,4,6,7,8-HpCDF			NO	0.986	10.000					0.0211	
16	1,2,3,4,7,8,9-HpCDF			NO	0.966	10.000					0.0300	
17	OCDF			NO	0.722	10.000					0.102	
18	13C-2,3,7,8-TCDD	3.52e5	0.76	NO	1.11	10.000	25.80	1.030	200.62	100	0.194	
19	13C-1,2,3,7,8-PeCDD	2.65e5	0.60	NO	0.893	10.000	30.38	1.213	186.82	93.4	0.195	
20	13C-1,2,3,4,7,8-HxCDD	1.80e5	1.26	NO	0.784	10.000	33.67	1.014	179.62	89.8	0.449	
21	13C-1,2,3,6,7,8-HxCDD	2.10e5	1.29	NO	0.863	10.000	33.80	1.018	189.96	95.0	0.408	
22	13C-1,2,3,7,8,9-HxCDD	2.01e5	1.26	NO	0.905	10.000	34.07	1.026	173.04	86.5	0.389	
23	13C-1,2,3,4,6,7,8-HpCDD	1.40e5	1.02	NO	0.644	10.000	37.64	1.133	169.75	84.9	0.535	
24	13C-OCDD	2.03e5	0.87	NO	0.528	10.000	40.98	1.234	299.69	74.9	0.765	
25	13C-2,3,7,8-TCDF	4.30e5	0.76	NO	1.15	10.000	25.12	1.003	174.67	87.3	0.241	
26	13C-1,2,3,7,8-PeCDF	3.66e5	1.59	NO	0.905	10.000	29.16	1.164	189.15	94.6	0.512	
27	13C-2,3,4,7,8-PeCDF	3.66e5	1.60	NO	0.899	10.000	30.20	1.206	190.36	95.2	0.515	
28	13C-1,2,3,4,7,8-HxCDF	2.46e5	0.50	NO	1.00	10.000	32.75	0.986	191.93	96.0	0.553	
29	13C-1,2,3,6,7,8-HxCDF	2.53e5	0.50	NO	1.04	10.000	32.89	0.990	189.59	94.8	0.532	
30	13C-2,3,4,6,7,8-HxCDF	2.23e5	0.49	NO	0.916	10.000	33.56	1.011	189.95	95.0	0.605	
31	13C-1,2,3,7,8,9-HxCDF	2.30e5	0.49	NO	0.859	10.000	34.58	1.041	209.33	105	0.645	

Dataset: I:\VG12.PRO\Results\220224R3\220224R3\_6.qld

Last Altered: Friday, February 25, 2022 19:03:42 Pacific Standard Time

Printed: Friday, February 25, 2022 19:20:12 Pacific Standard Time

Name: 220224R3\_6, Date: 24-Feb-2022, Time: 19:01:10, ID: B22B179-BLK1 Method Blank 10, Description: Method Blank, Task: ST220224R3\_1

	Name	Resp	RA	n/y	RRF	wt/vol	RT	RRT	Conc.	%Rec	DL	EMPC
32	13C-1,2,3,4,6,7,8-HpCDF	1.57e5	0.40	NO	0.632	10.000	36.17	1.089	193.54	96.8	0.843	
33	13C-1,2,3,4,7,8,9-HpCDF	1.22e5	0.43	NO	0.552	10.000	38.32	1.154	172.50	86.3	0.965	
34	13C-OCDF	3.08e5	0.88	NO	0.606	10.000	41.31	1.244	396.68	99.2	0.520	
35	37Cl-2,3,7,8-TCDD	1.23e5			1.01	10.000	25.83	1.031	76.938	96.2	0.123	
36	13C-1,2,3,4-TCDD	3.17e5	0.76	NO	1.00	10.000	25.04	1.000	200.00	100	0.215	
37	13C-1,2,3,4-TCDF	4.28e5	0.76	NO	1.00	10.000	23.58	1.000	200.00	100	0.277	
38	13C-1,2,3,4,6,9-HxCDF	2.56e5	0.49	NO	1.00	10.000	33.20	1.000	200.00	100	0.554	
39	Total Tetra-Dioxins				0.952	10.000					0.0269	
40	Total Penta-Dioxins				0.781	10.000					0.0451	
41	Total Hexa-Dioxins				0.806	10.000					0.0334	
42	Total Hepta-Dioxins				0.836	10.000					0.0473	
43	Total Tetra-Furans				0.720	10.000					0.0148	
44	1st Func. Penta-Furans				0.813	10.000					0.00460	
45	Total Penta-Furans				0.813	10.000					0.0231	
46	Total Hexa-Furans				0.896	10.000					0.0176	
47	Total Hepta-Furans				0.986	10.000					0.00935	

Vista Analytical Laboratory VG-11

Dataset: I:\VG12.PRO\Results\220224R3\220224R3\_6.qld

Last Altered: Friday, February 25, 2022 19:03:42 Pacific Standard Time

Printed: Friday, February 25, 2022 19:20:12 Pacific Standard Time

Method: I:\VG12.PRO\MethDB\1613rrt-2-17-22.mdb 17 Feb 2022 13:16:14

Calibration: I:\VG12.PRO\CurveDB\dbDIOXIN\_1613vg12-07-30-21.cdb 02 Aug 2021 09:55:11

Name: 220224R3\_6, Date: 24-Feb-2022, Time: 19:01:10, ID: B22B179-BLK1 Method Blank 10, Description: Method Blank, Task: ST220224R3\_1

**Tetra-Dioxins**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1												

**Penta-Dioxins**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1												

**Hexa-Dioxins**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1												

**Hepta-Dioxins**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1												

**Tetra-Furans**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1												

**Penta-Furans function 1**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1												

Vista Analytical Laboratory VG-11

Dataset: I:\VG12.PRO\Results\220224R3\220224R3\_6.qld

Last Altered: Friday, February 25, 2022 19:03:42 Pacific Standard Time

Printed: Friday, February 25, 2022 19:20:12 Pacific Standard Time

Name: 220224R3\_6, Date: 24-Feb-2022, Time: 19:01:10, ID: B22B179-BLK1 Method Blank 10, Description: Method Blank, Task: ST220224R3\_1

Penta-Furans

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1												

Hexa-Furans

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1												

Hepta-Furans

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1												

Dataset: Untitled

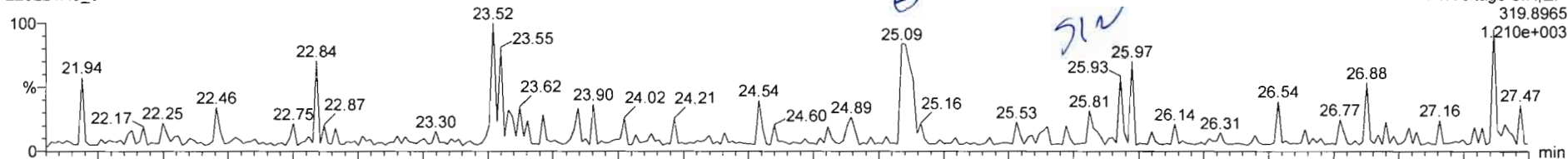
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Printed: Friday, February 25, 2022 18:51:32 Pacific Standard Time

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Calibration: I:\VG12.PRO\CurveDB\db\DIOXIN\_1613vg12-07-30-21.cdb 02 Aug 2021 09:55:11

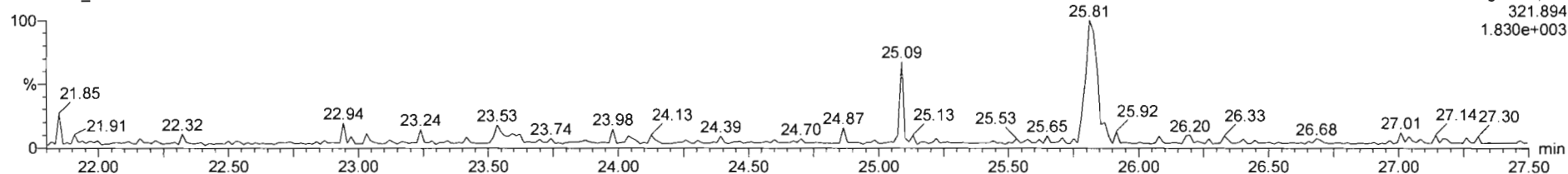
Name: 220224R3\_6, Date: 24-Feb-2022, Time: 19:01:10, ID: B22B179-BLK1 Method Blank 10, Description: Method Blank

**2,3,7,8-TCDD**

220224R3\_6

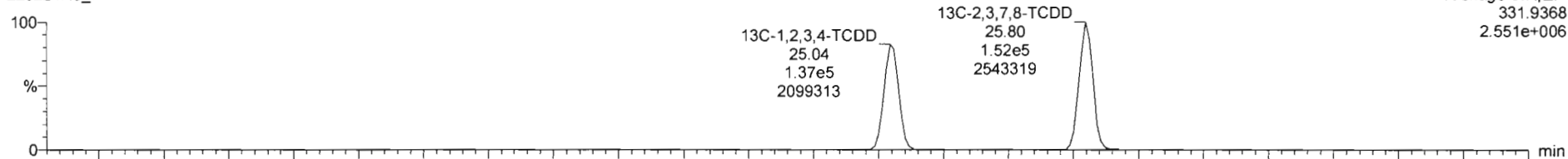


220224R3\_6

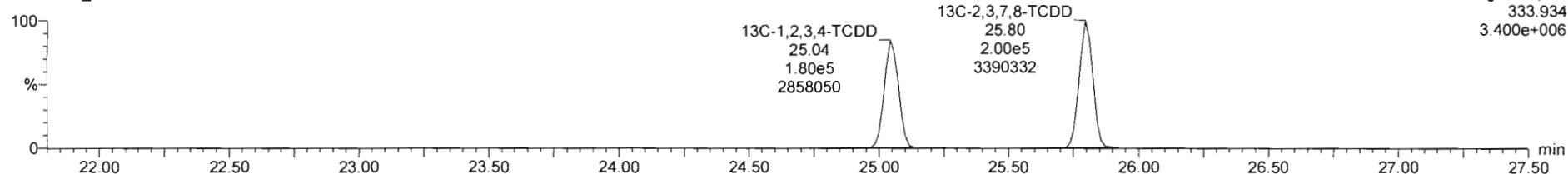


**13C-2,3,7,8-TCDD**

220224R3\_6



220224R3\_6





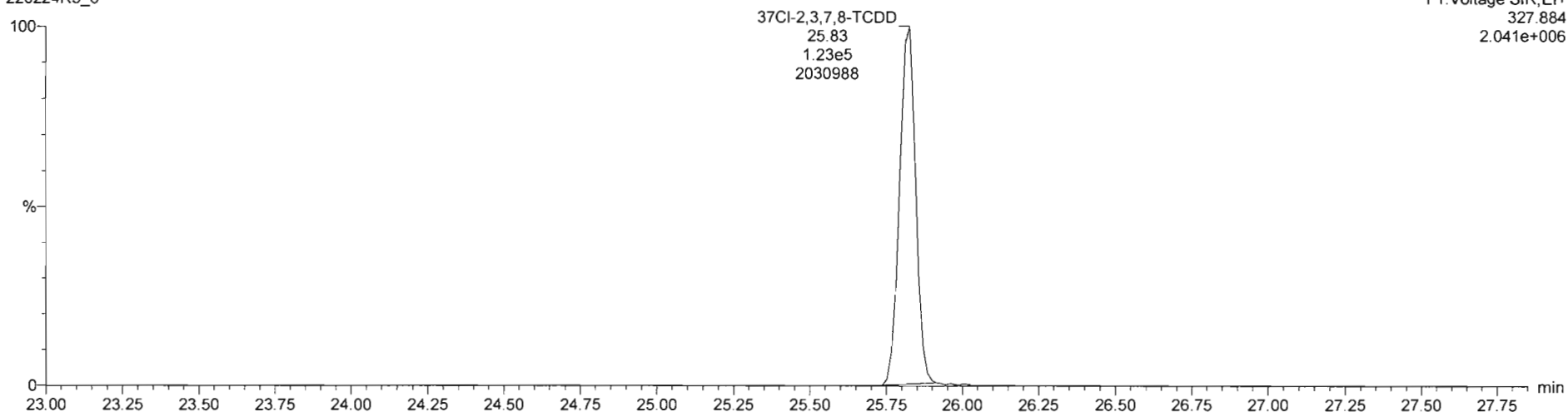
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Printed: Friday, February 25, 2022 18:51:32 Pacific Standard Time

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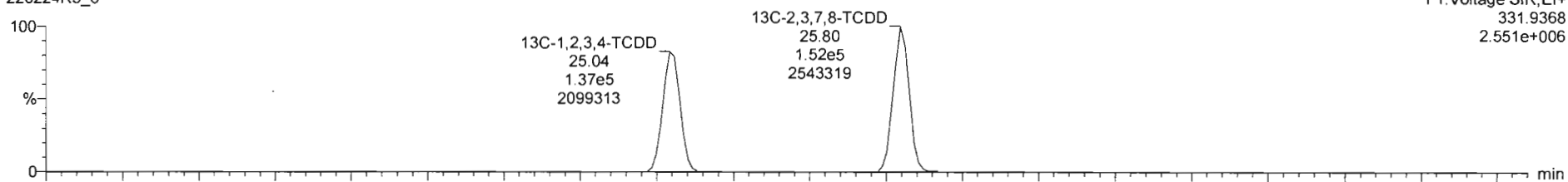
**37Cl-2,3,7,8-TCDD**

220224R3\_6

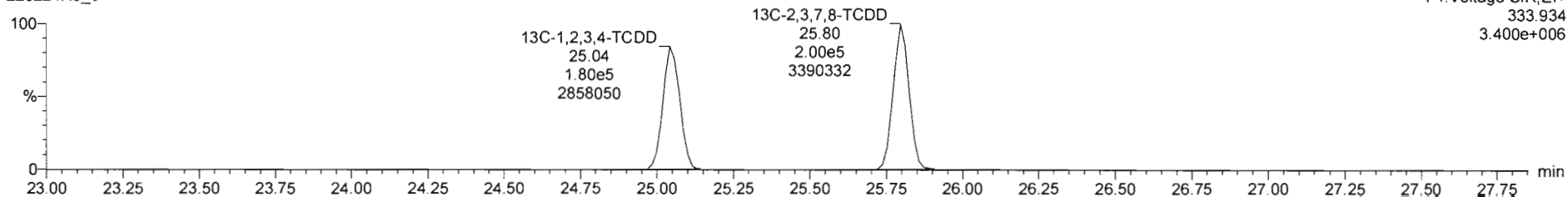


**13C-1,2,3,4-TCDD**

220224R3\_6



220224R3\_6



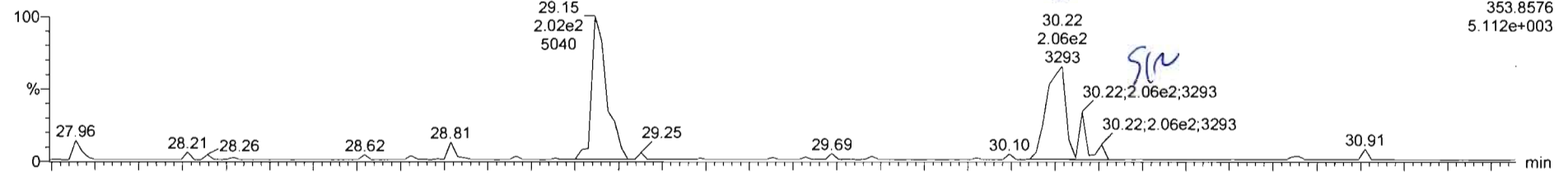
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Last Altered: Friday, February 25, 2022 18:51:25 Pacific Standard Time  
Printed: Friday, February 25, 2022 18:51:32 Pacific Standard Time

Name: 220224R3\_6, Date: 24-Feb-2022, Time: 19:01:10, ID: B22B179-BLK1 Method Blank 10, Description: Method Blank

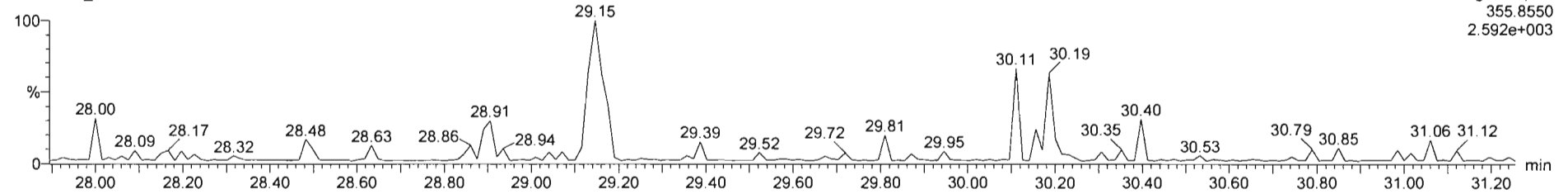
1,2,3,7,8-PeCDD

220224R3\_6



F2: Voltage SIR, EI+  
353.8576  
5.112e+003

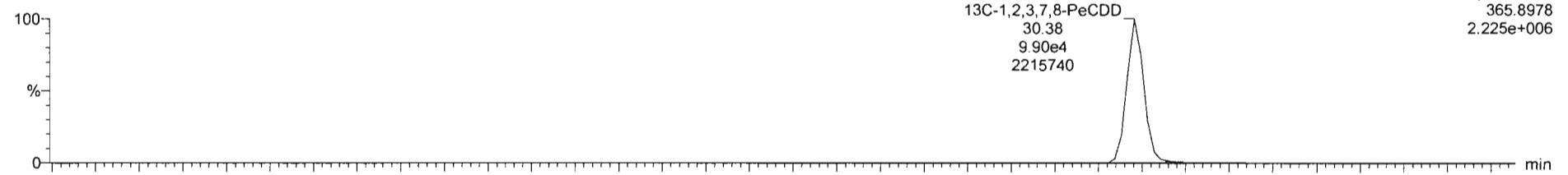
220224R3\_6



F2: Voltage SIR, EI+  
355.8550  
2.592e+003

13C-1,2,3,7,8-PeCDD

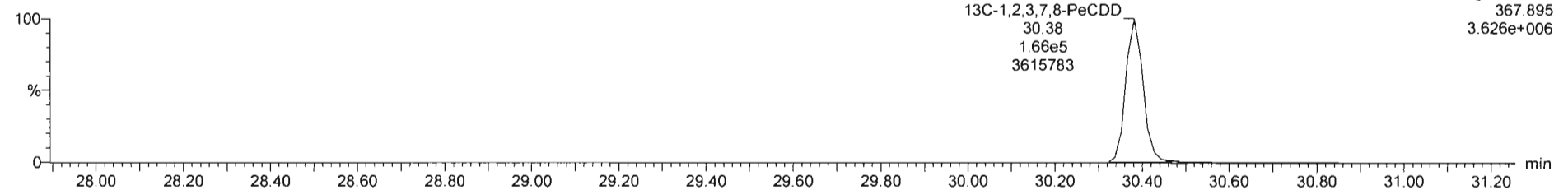
220224R3\_6



13C-1,2,3,7,8-PeCDD  
30.38  
9.90e4  
2215740

F2: Voltage SIR, EI+  
365.8978  
2.225e+006

220224R3\_6



13C-1,2,3,7,8-PeCDD  
30.38  
1.66e5  
3615783

F2: Voltage SIR, EI+  
367.895  
3.626e+006

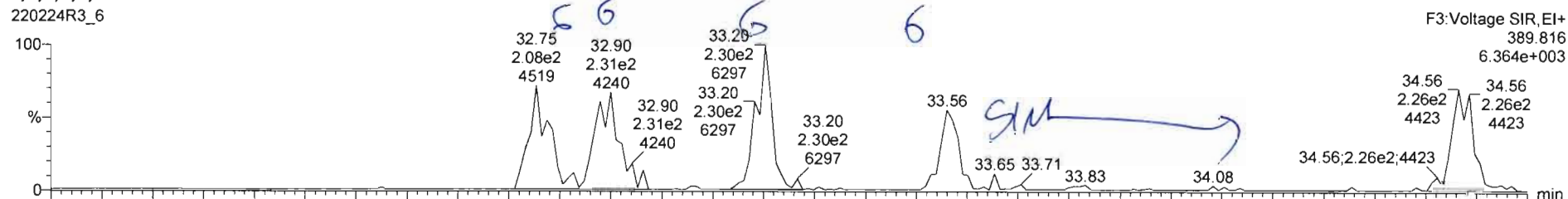
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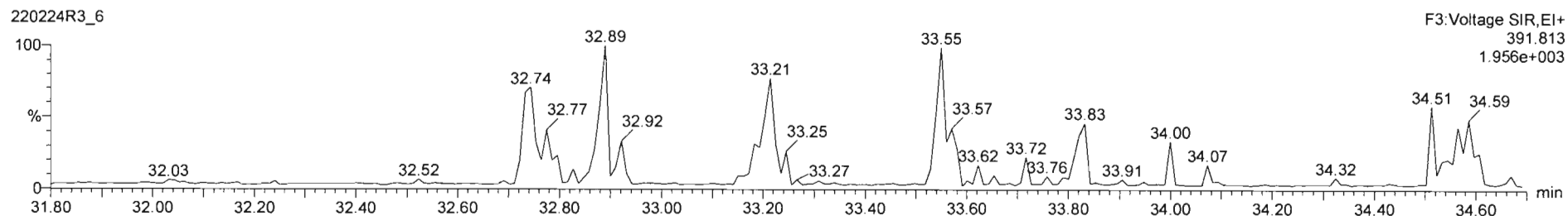
Name: 220224R3\_6, Date: 24-Feb-2022, Time: 19:01:10, ID: B22B179-BLK1 Method Blank 10, Description: Method Blank

1,2,3,4,7,8-HxCDD

220224R3\_6

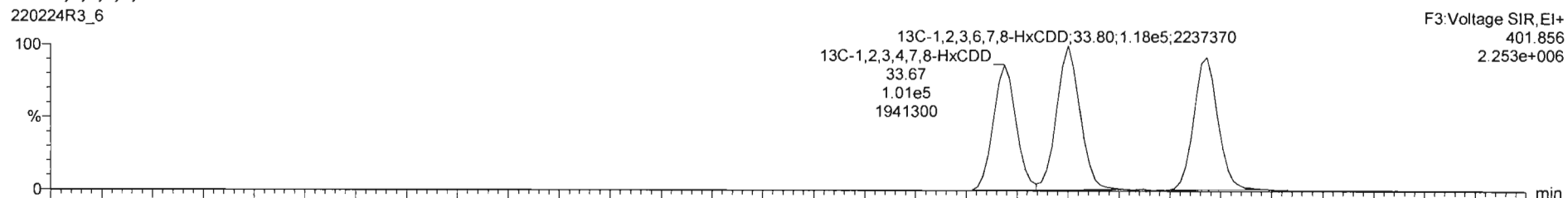


220224R3\_6

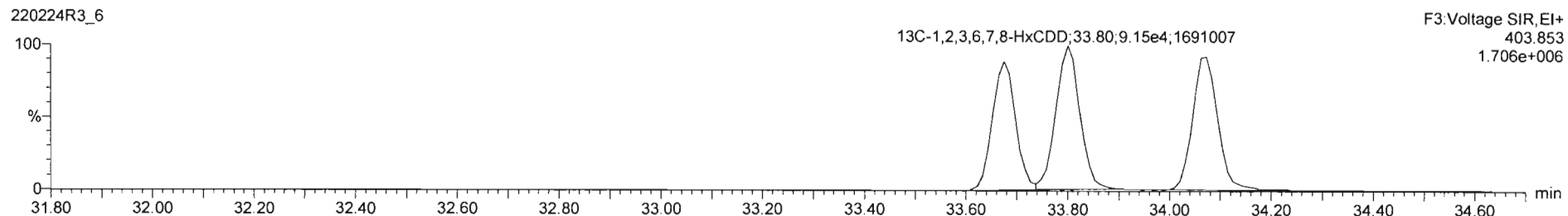


13C-1,2,3,4,7,8-HxCDD

220224R3\_6



220224R3\_6



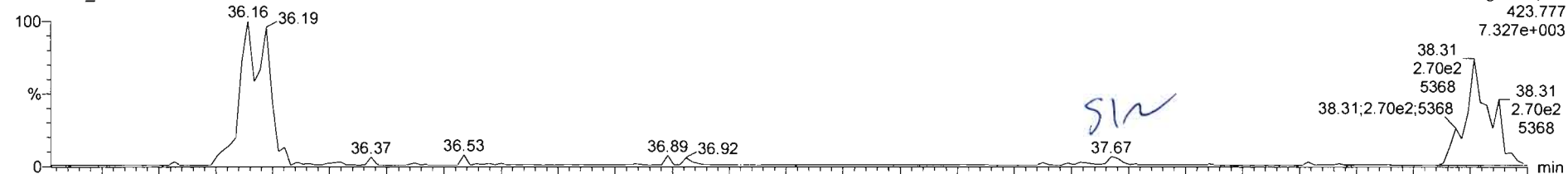
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Last Altered: Friday, February 25, 2022 18:51:25 Pacific Standard Time  
Printed: Friday, February 25, 2022 18:51:32 Pacific Standard Time

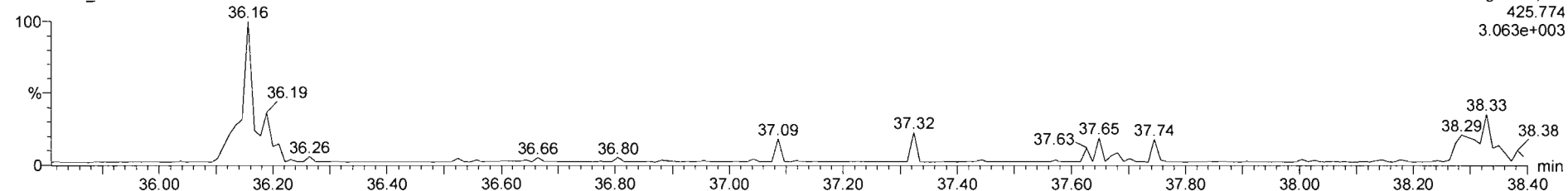
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1,2,3,4,6,7,8-HpCDD

220224R3\_6

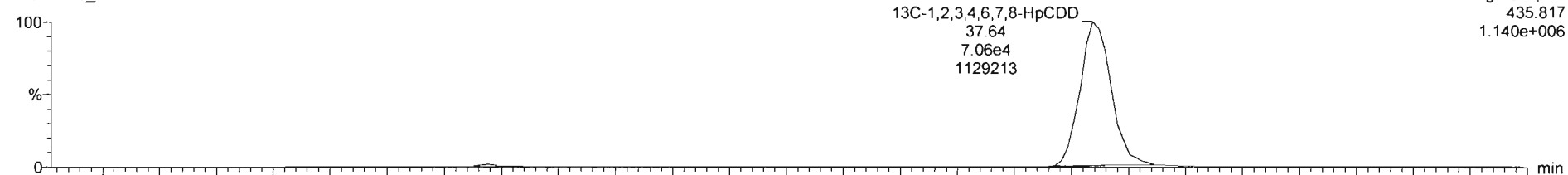


220224R3\_6

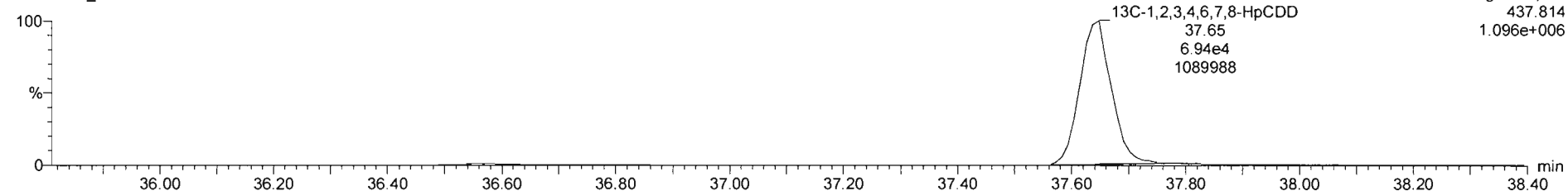


13C-1,2,3,4,6,7,8-HpCDD

220224R3\_6



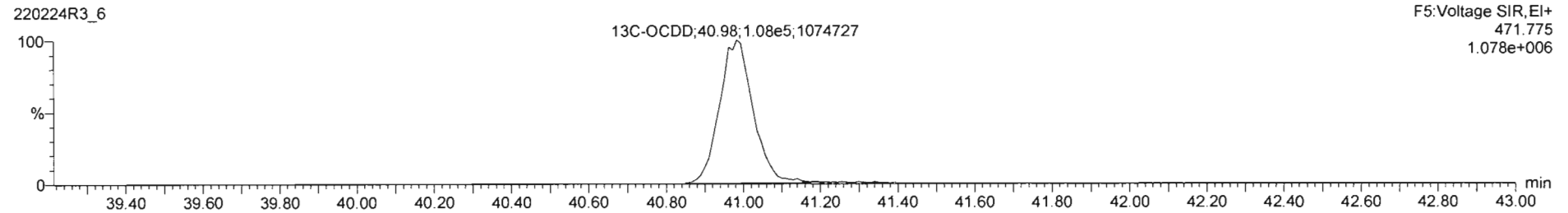
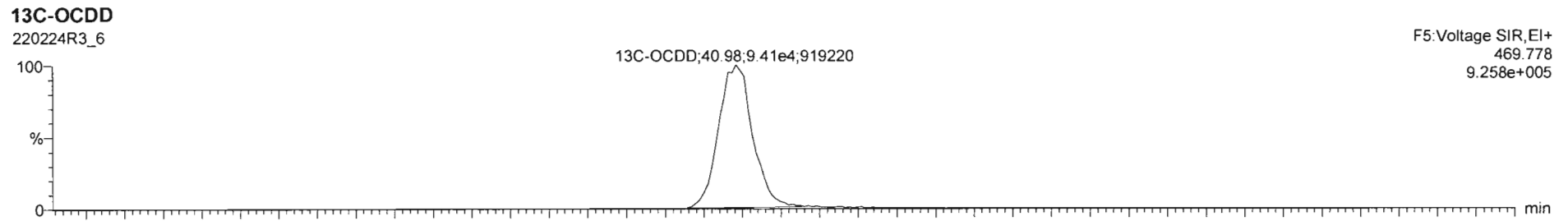
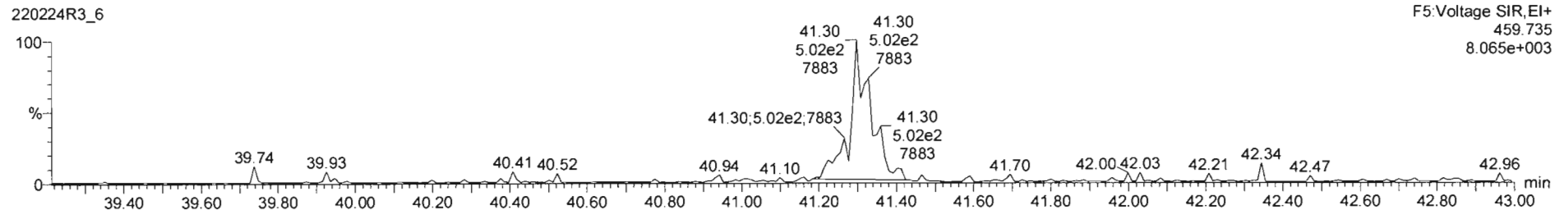
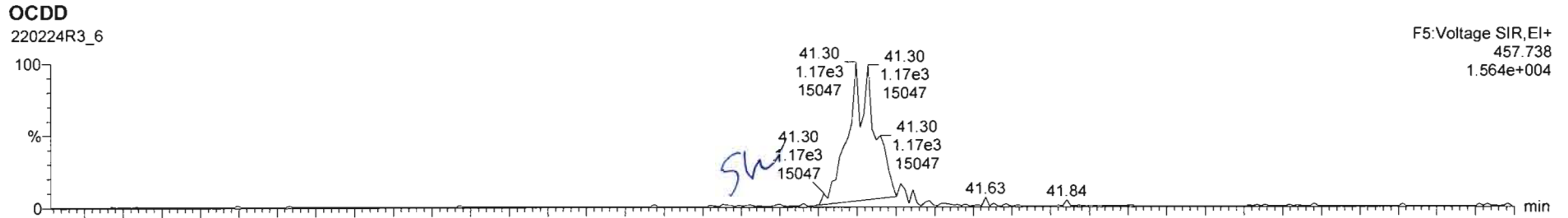
220224R3\_6



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Last Altered: Friday, February 25, 2022 18:51:25 Pacific Standard Time  
Printed: Friday, February 25, 2022 18:51:32 Pacific Standard Time

Name: 220224R3\_6, Date: 24-Feb-2022, Time: 19:01:10, ID: B22B179-BLK1 Method Blank 10, Description: Method Blank



Dataset: Untitled

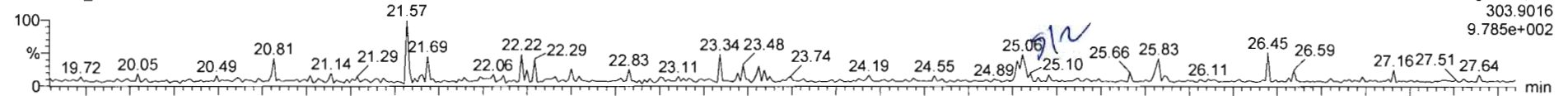
Last Altered: Friday, February 25, 2022 18:51:25 Pacific Standard Time

Printed: Friday, February 25, 2022 18:51:32 Pacific Standard Time

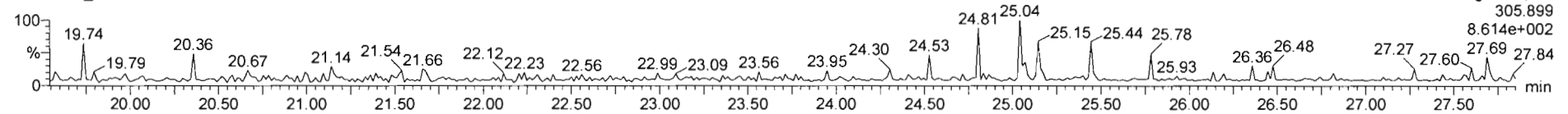
Name: 220224R3\_6, Date: 24-Feb-2022, Time: 19:01:10, ID: B22B179-BLK1 Method Blank 10, Description: Method Blank

2,3,7,8-TCDF

220224R3\_6

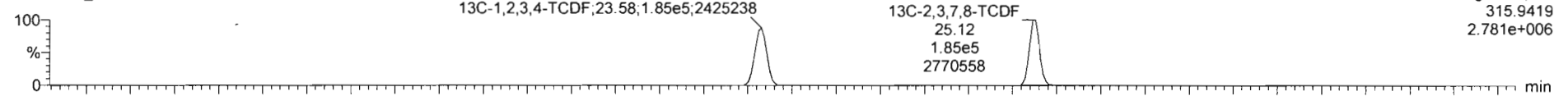


220224R3\_6

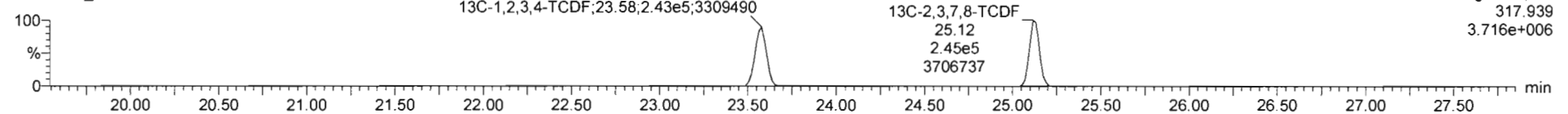


13C-2,3,7,8-TCDF

220224R3\_6

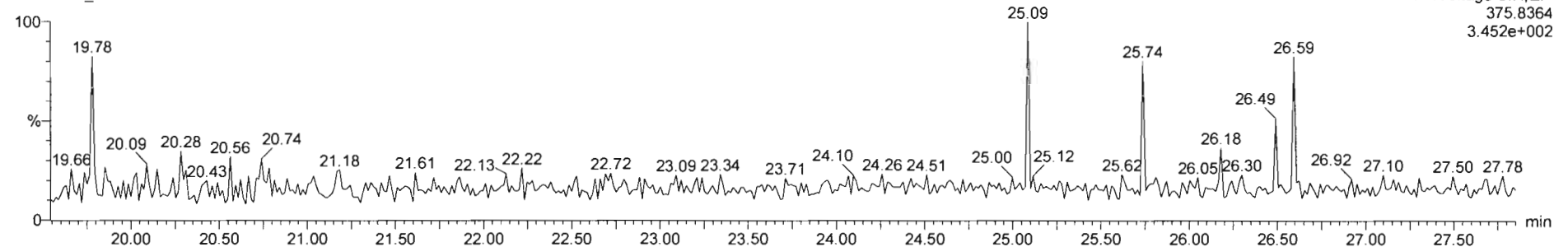


220224R3\_6



DPE1

220224R3\_6



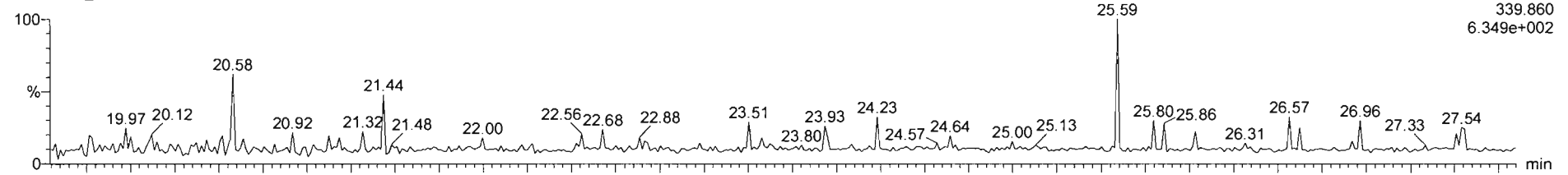
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Printed: Friday, February 25, 2022 18:51:32 Pacific Standard Time

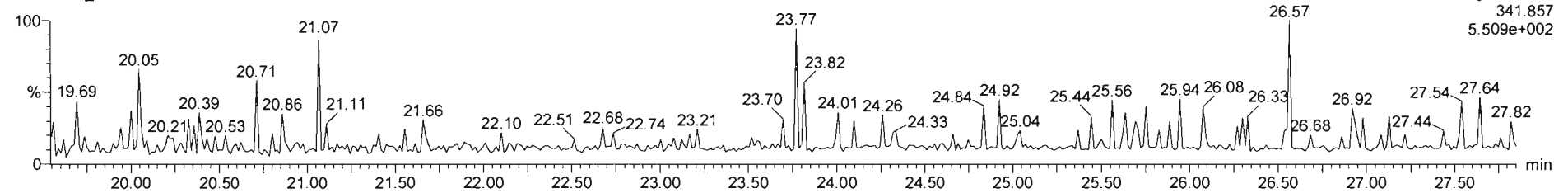
Name: 220224R3\_6, Date: 24-Feb-2022, Time: 19:01:10, ID: B22B179-BLK1 Method Blank 10, Description: Method Blank

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220224R3\_6

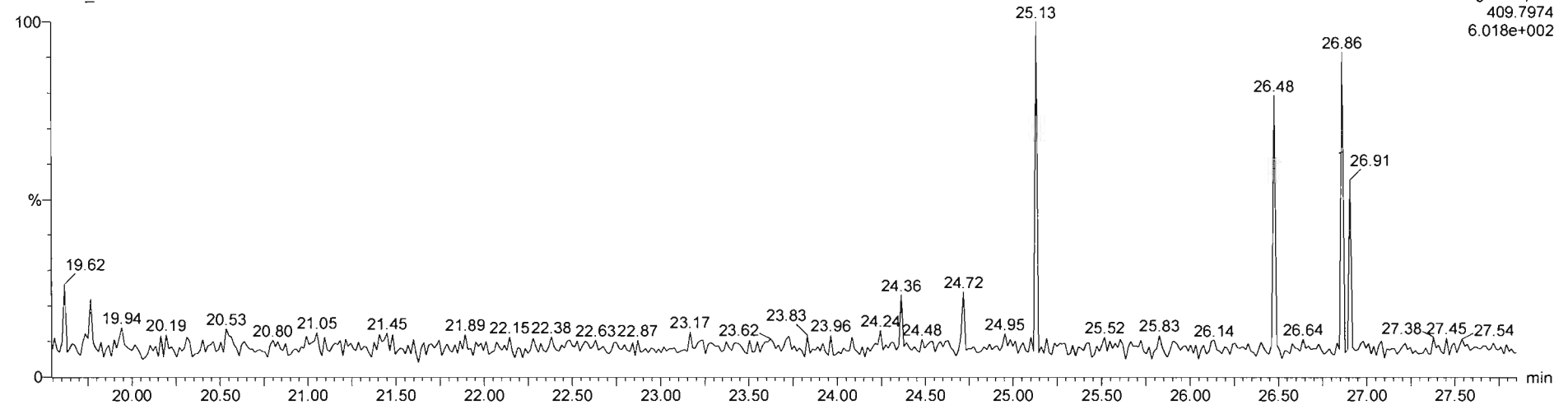


220224R3\_6



DPE6

220224R3\_6

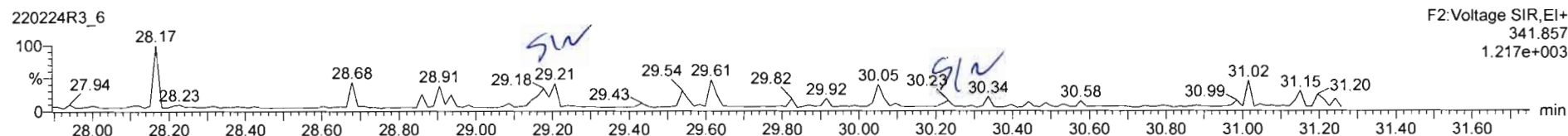
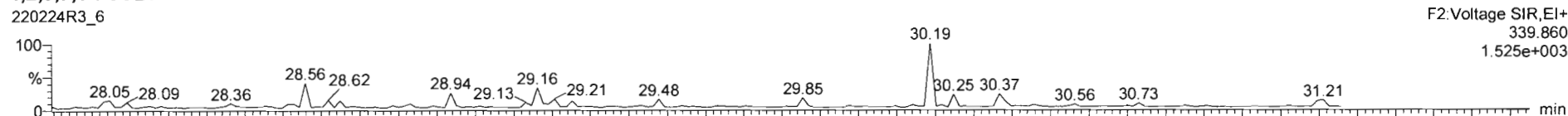


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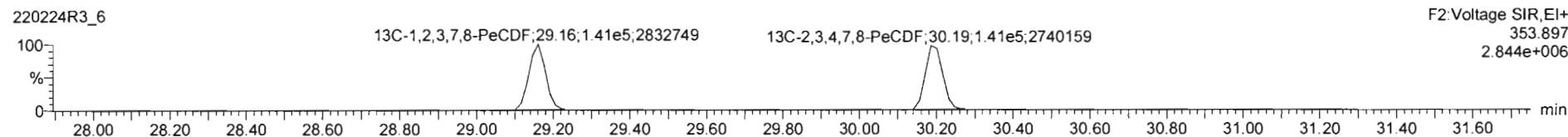
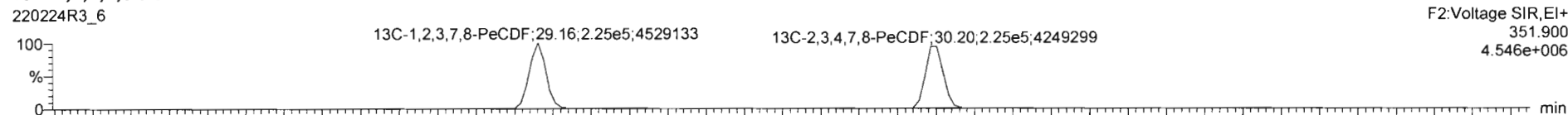
Last Altered: Friday, February 25, 2022 18:51:25 Pacific Standard Time  
Printed: Friday, February 25, 2022 18:51:32 Pacific Standard Time

Name: 220224R3\_6, Date: 24-Feb-2022, Time: 19:01:10, ID: B22B179-BLK1 Method Blank 10, Description: Method Blank

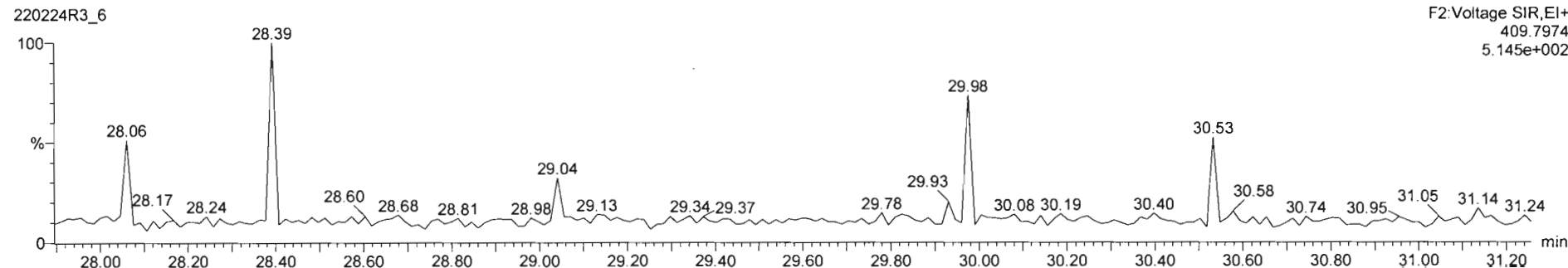
1,2,3,7,8-PeCDF



13C-1,2,3,7,8-PeCDF



DPE2



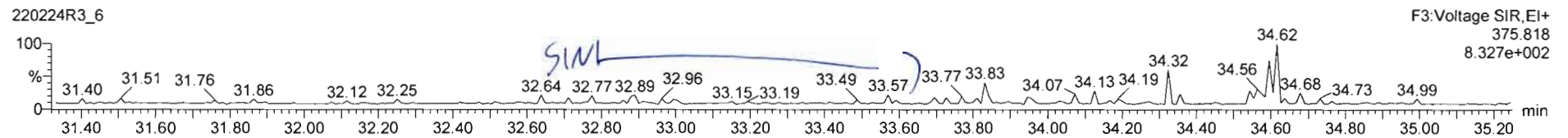
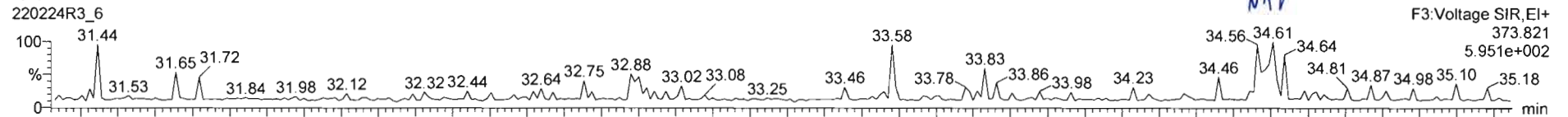


Dataset: Untitled

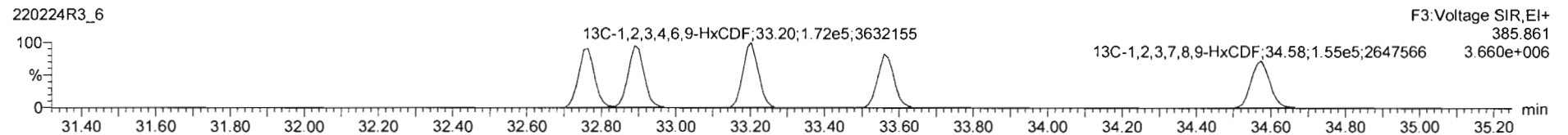
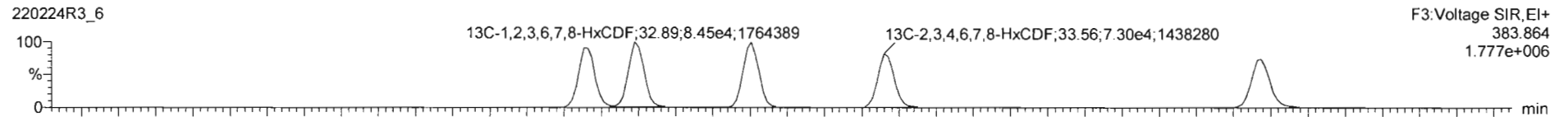
Last Altered: Friday, February 25, 2022 18:51:25 Pacific Standard Time  
Printed: Friday, February 25, 2022 18:51:32 Pacific Standard Time

Name: 220224R3\_6, Date: 24-Feb-2022, Time: 19:01:10, ID: B22B179-BLK1 Method Blank 10, Description: Method Blank

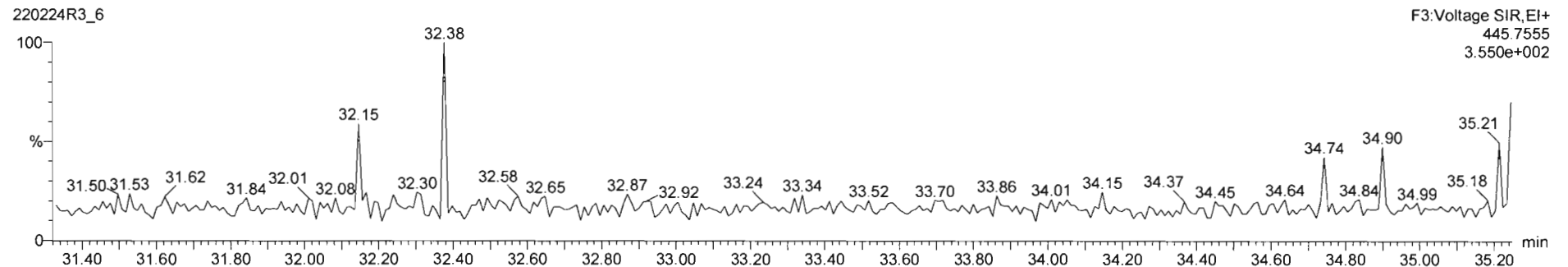
1,2,3,4,7,8-HxCDF



13C-1,2,3,4,7,8-HxCDF



DPE3

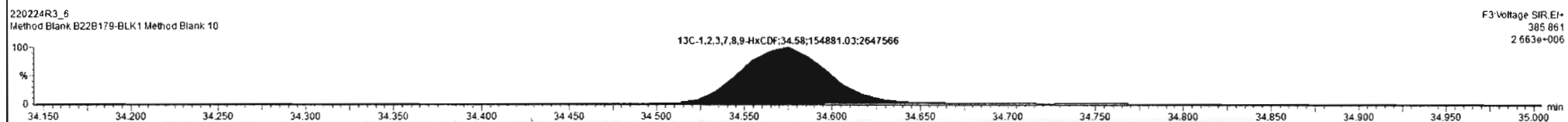
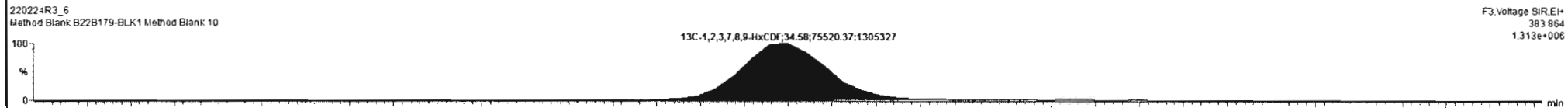
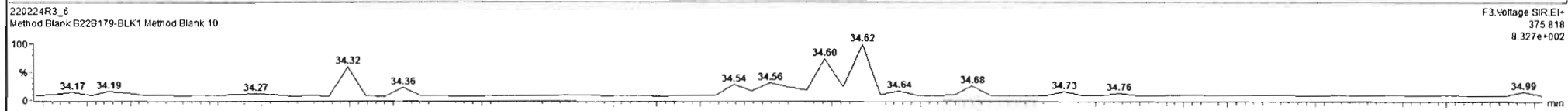
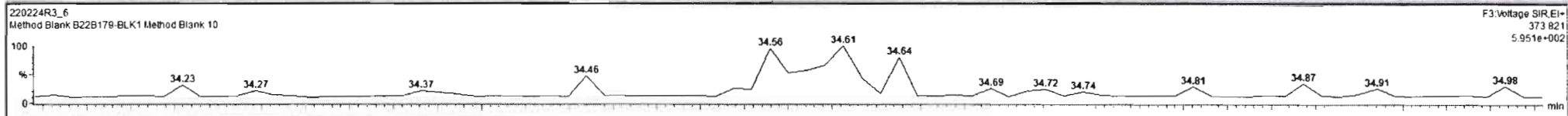


TargetLynx - 220224R3\_6.qld - (Chromatogram)

220224R3\_6 - B22B179-BLK1 Method Blank 10 - Method Blank

Name	Resp	RA	nly	RRF	wt/vol	RT	RRT	Conc.	%Rec	DL	EMPC
1	2,3,7,8-TCDD		NO	0.95	10.000					0.0363	
2	1,2,3,7,8-PeCDD		NO	0.78	10.000					0.0914	
3	1,2,3,4,7,8-HxCDD		NO	0.80	10.000					0.0744	
4	1,2,3,6,7,8-HxCDD		NO	0.81	10.000					0.0731	
5	1,2,3,7,8,9-HxCDD		NO	0.81	10.000					0.0761	
6	1,2,3,4,5,7,8-HpCDD		NO	0.84	10.000					0.0901	
7	OCDD		NO	0.80	10.000					0.573	
8	2,3,7,8-TCDF		NO	0.72	10.000					0.0278	
9	1,2,3,7,8-PeCDF		NO	0.81	10.000					0.0393	
10	2,3,4,7,8-PeCDF		NO	0.89	10.000					0.0383	
11	1,2,3,4,7,8-HxCDF		NO	0.89	10.000					0.0284	
12	1,2,3,6,7,8-HxCDF		NO	0.87	10.000					0.0268	
13	2,3,4,6,7,8-HxCDF		NO	0.90	10.000					0.0312	
14	1,2,3,7,8,9-HxCDF		NO	0.87	10.000					0.0353	
15	1,2,3,4,6,7,8-HpCDF		NO	0.99	10.000					0.0211	
16	1,2,3,4,7,8,9-HpCDF		NO	0.97	10.000					0.0300	
17	OCDF		NO	0.72	10.000					0.102	
18	13C-2,3,7,8-TCDD	3.52e5	0.76	NO	1.11	10.000	25.60	1.030	201	100	0.194
19	13C-1,2,3,7,8-PeCDD	2.65e5	0.60	NO	0.89	10.000	30.38	1.213	187	93.4	0.195

NAP

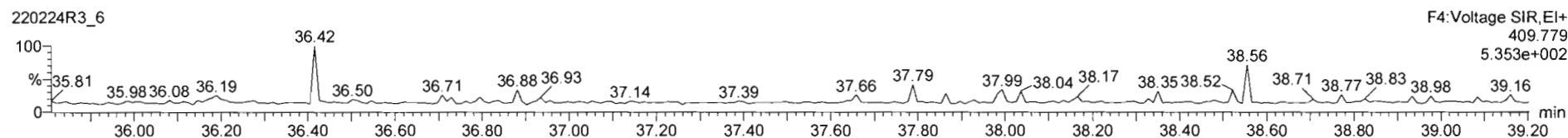
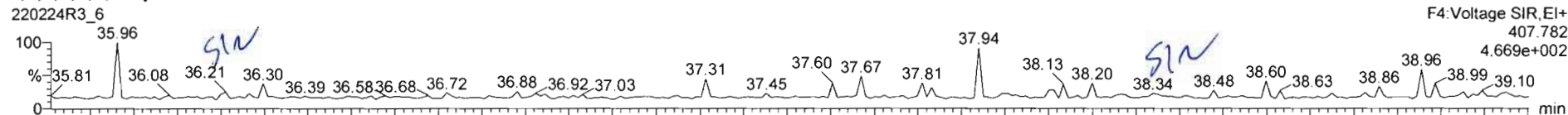


Dataset: Untitled

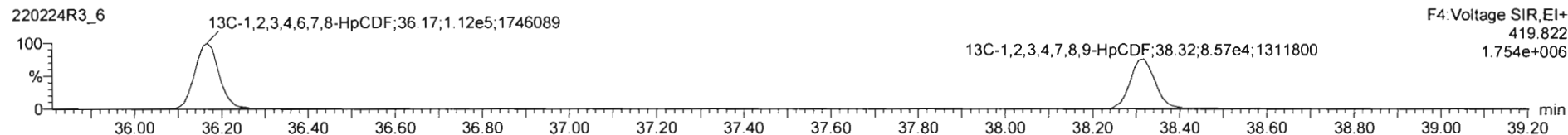
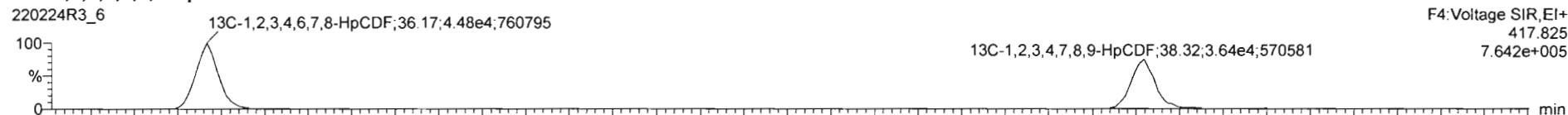
Last Altered: Friday, February 25, 2022 18:51:25 Pacific Standard Time  
Printed: Friday, February 25, 2022 18:51:32 Pacific Standard Time

Name: 220224R3\_6, Date: 24-Feb-2022, Time: 19:01:10, ID: B22B179-BLK1 Method Blank 10, Description: Method Blank

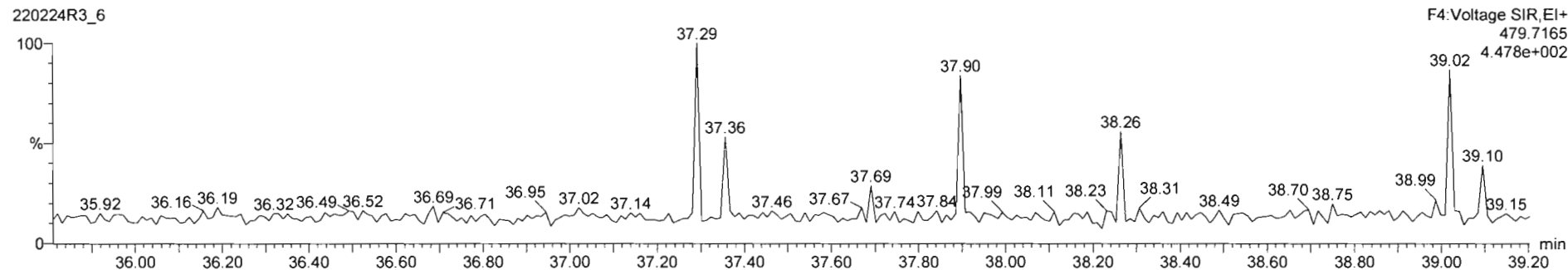
**1,2,3,4,6,7,8-HpCDF**



**13C-1,2,3,4,6,7,8-HpCDF**



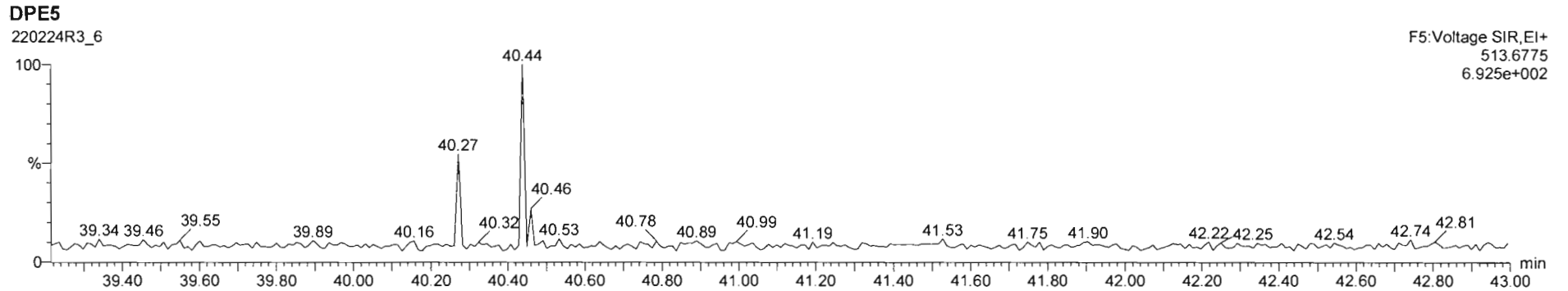
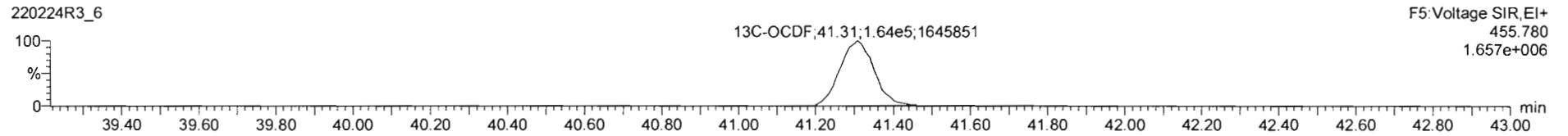
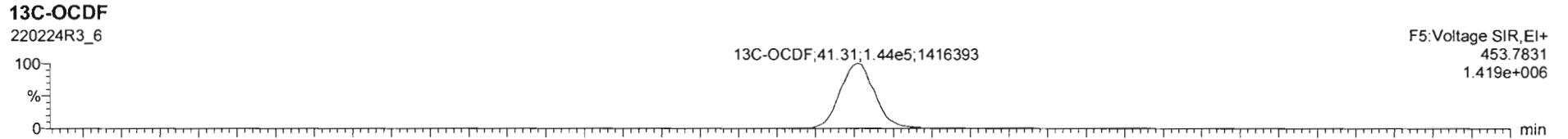
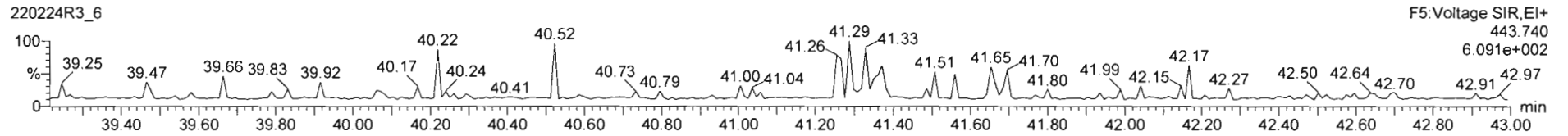
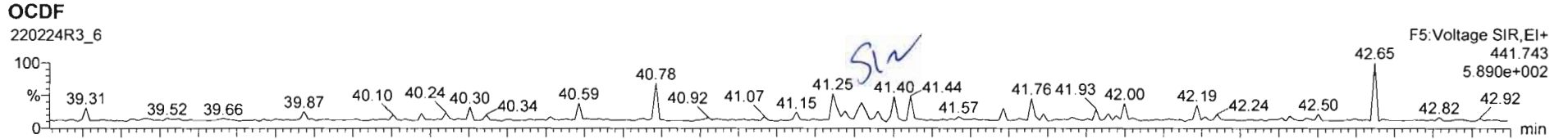
**DPE4**



Dataset: Untitled

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Printed: Friday, February 25, 2022 18:51:32 Pacific Standard Time

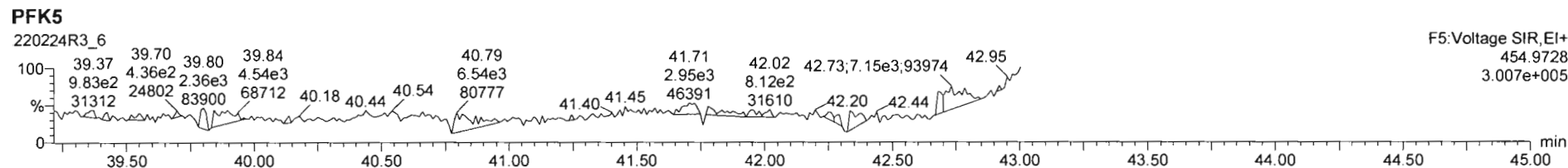
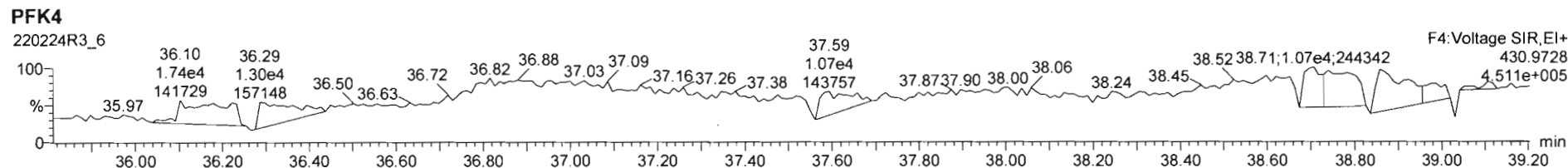
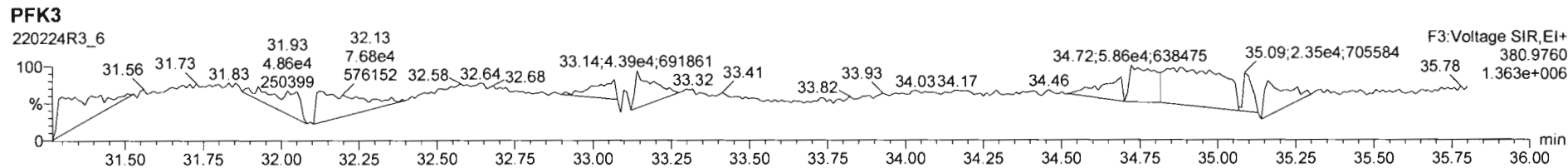
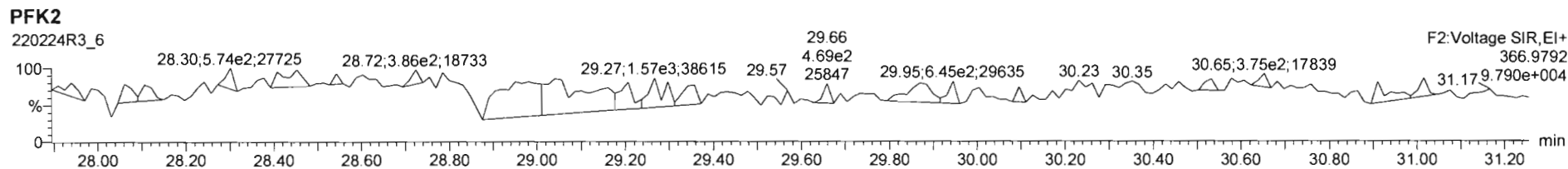
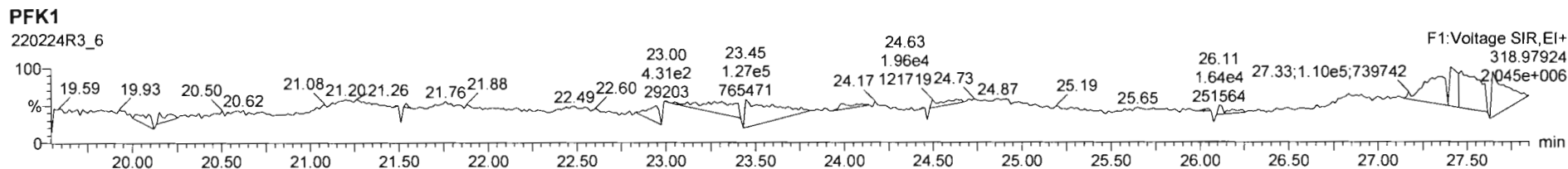
Name: 220224R3\_6, Date: 24-Feb-2022, Time: 19:01:10, ID: B22B179-BLK1 Method Blank 10, Description: Method Blank



Dataset: Untitled

Last Altered: Friday, February 25, 2022 18:51:25 Pacific Standard Time  
Printed: Friday, February 25, 2022 18:51:32 Pacific Standard Time

Name: 220224R3\_6, Date: 24-Feb-2022, Time: 19:01:10, ID: B22B179-BLK1 Method Blank 10, Description: Method Blank





Dataset: I:\VG12.PRO\Results\220224R3\220224R3\_3.qld

Last Altered: Friday, February 25, 2022 19:03:15 Pacific Standard Time

Printed: Friday, February 25, 2022 19:16:53 Pacific Standard Time

*JF02/25/22*

*C102/25/2022*

Method: I:\VG12.PRO\MethDB\1613rrt-2-17-22.mdb 17 Feb 2022 13:16:14  
 Calibration: I:\VG12.PRO\CurveDB\dbDIOXIN\_1613vg12-07-30-21.cdb 02 Aug 2021 09:55:11

Name: 220224R3\_3, Date: 24-Feb-2022, Time: 16:46:44, ID: B22B179-BS1 OPR 10, Description: OPR, Task: ST220224R3\_1

	Name	Resp	RA	n/y	RRF	wt/vol	RT	RRT	Conc.	%Rec	DL	EMPC
1	2,3,7,8-TCDD	2.42e4	0.76	NO	0.952	10.000	25.81	1.001	17.798		0.0540	17.8
2	1,2,3,7,8-PeCDD	8.34e4	0.61	NO	0.781	10.000	30.40	1.001	97.659		0.143	97.7
3	1,2,3,4,7,8-HxCDD	7.13e4	1.28	NO	0.904	10.000	33.66	1.001	101.50		0.326	101
4	1,2,3,6,7,8-HxCDD	7.11e4	1.26	NO	0.806	10.000	33.78	1.000	98.618		0.320	98.6
5	1,2,3,7,8,9-HxCDD	7.30e4	1.25	NO	0.814	10.000	34.06	1.000	100.06		0.337	100
6	1,2,3,4,6,7,8-HpCDD	5.00e4	1.01	NO	0.836	10.000	37.62	1.001	97.559		0.584	97.6
7	OCDD	7.20e4	0.88	NO	0.798	10.000	40.91	1.001	195.02		1.27	195
8	2,3,7,8-TCDF	2.37e4	0.71	NO	0.720	10.000	25.15	1.001	19.157		0.0637	19.2
9	1,2,3,7,8-PeCDF	1.27e5	1.60	NO	0.813	10.000	29.18	1.000	102.78		0.224	103
10	2,3,4,7,8-PeCDF	1.42e5	1.56	NO	0.892	10.000	30.20	1.000	99.787		0.182	99.8
11	1,2,3,4,7,8-HxCDF	9.07e4	1.24	NO	0.893	10.000	32.75	1.000	104.43		0.373	104
12	1,2,3,6,7,8-HxCDF	9.05e4	1.24	NO	0.867	10.000	32.89	1.001	103.94		0.364	104
13	2,3,4,6,7,8-HxCDF	8.45e4	1.26	NO	0.896	10.000	33.55	1.001	97.557		0.406	97.6
14	1,2,3,7,8,9-HxCDF	7.78e4	1.24	NO	0.874	10.000	34.56	1.000	94.297		0.484	94.3
15	1,2,3,4,6,7,8-HpCDF	6.07e4	1.00	NO	0.986	10.000	36.15	1.000	90.889		0.491	90.9
16	1,2,3,4,7,8,9-HpCDF	5.17e4	1.02	NO	0.966	10.000	38.28	1.000	101.86		0.662	102
17	OCDF	9.53e4	0.87	NO	0.722	10.000	41.24	1.000	200.21		0.606	200
18	13C-2,3,7,8-TCDD	2.85e5	0.75	NO	1.11	10.000	25.80	1.030	165.67	82.8	0.252	
19	13C-1,2,3,7,8-PeCDD	2.19e5	0.61	NO	0.893	10.000	30.37	1.213	157.28	78.6	0.333	
20	13C-1,2,3,4,7,8-HxCDD	1.55e5	1.27	NO	0.784	10.000	33.64	1.014	170.83	85.4	0.491	
21	13C-1,2,3,6,7,8-HxCDD	1.79e5	1.27	NO	0.863	10.000	33.77	1.018	178.64	89.3	0.446	
22	13C-1,2,3,7,8,9-HxCDD	1.79e5	1.24	NO	0.905	10.000	34.05	1.026	170.50	85.2	0.425	
23	13C-1,2,3,4,6,7,8-HpCDD	1.22e5	1.02	NO	0.644	10.000	37.59	1.133	163.85	81.9	0.846	
24	13C-OCDD	1.85e5	0.88	NO	0.528	10.000	40.88	1.232	301.94	75.5	0.615	
25	13C-2,3,7,8-TCDF	3.44e5	0.76	NO	1.15	10.000	25.12	1.003	145.89	72.9	0.229	
26	13C-1,2,3,7,8-PeCDF	3.04e5	1.59	NO	0.905	10.000	29.16	1.164	163.79	81.9	0.617	
27	13C-2,3,4,7,8-PeCDF	3.18e5	1.60	NO	0.899	10.000	30.19	1.205	172.51	86.3	0.621	
28	13C-1,2,3,4,7,8-HxCDF	1.94e5	0.49	NO	1.00	10.000	32.74	0.987	167.15	83.6	0.551	
29	13C-1,2,3,6,7,8-HxCDF	2.01e5	0.50	NO	1.04	10.000	32.87	0.990	165.90	83.0	0.530	
30	13C-2,3,4,6,7,8-HxCDF	1.93e5	0.49	NO	0.916	10.000	33.53	1.010	181.69	90.8	0.603	
31	13C-1,2,3,7,8,9-HxCDF	1.89e5	0.48	NO	0.859	10.000	34.55	1.041	189.19	94.6	0.643	

Dataset: I:\VG12.PRO\Results\220224R3\220224R3\_3.qld

Last Altered: Friday, February 25, 2022 19:03:15 Pacific Standard Time

Printed: Friday, February 25, 2022 19:16:53 Pacific Standard Time

Name: 220224R3\_3, Date: 24-Feb-2022, Time: 16:46:44, ID: B22B179-BS1 OPR 10, Description: OPR, Task: ST220224R3\_1

	Name	Resp	RA	n/y	RRF	wt/vol	RT	RRT	Conc.	%Rec	DL	EMPC
32	13C-1,2,3,4,6,7,8-HpCDF	1.35e5	0.41	NO	0.632	10.000	36.13	1.089	184.54	92.3	0.697	
33	13C-1,2,3,4,7,8,9-HpCDF	1.05e5	0.40	NO	0.552	10.000	38.27	1.153	163.73	81.9	0.798	
34	13C-OCDF	2.64e5	0.89	NO	0.606	10.000	41.22	1.242	375.12	93.8	0.582	
35	37Cl-2,3,7,8-TCDD	9.93e4			1.01	10.000	25.81	1.031	63.120	78.9	0.0373	
36	13C-1,2,3,4-TCDD	3.11e5	0.75	NO	1.00	10.000	25.04	1.000	200.00	100	0.279	
37	13C-1,2,3,4-TCDF	4.10e5	0.77	NO	1.00	10.000	23.56	1.000	200.00	100	0.263	
38	13C-1,2,3,4,6,9-HxCDF	2.32e5	0.50	NO	1.00	10.000	33.18	1.000	200.00	100	0.552	

Dataset: Untitled

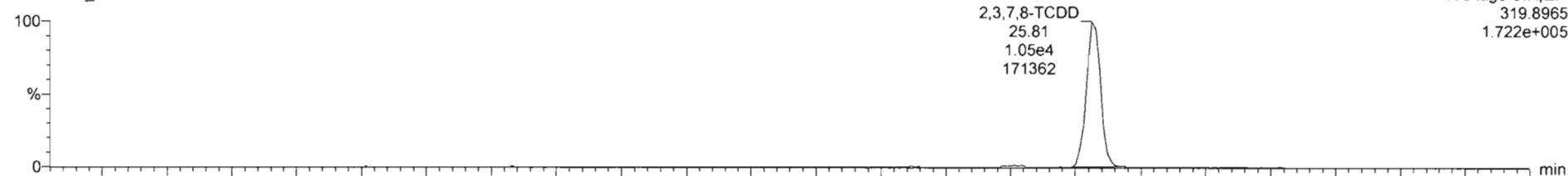
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Printed: Friday, February 25, 2022 18:51:51 Pacific Standard Time

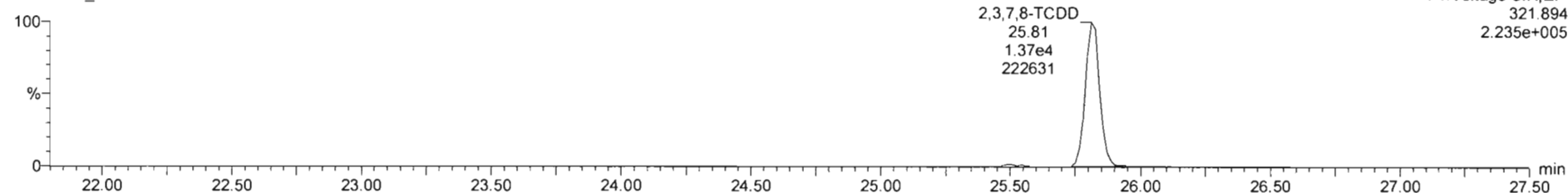
Name: 220224R3\_3, Date: 24-Feb-2022, Time: 16:46:44, ID: B22B179-BS1 OPR 10, Description: OPR

**2,3,7,8-TCDD**

220224R3\_3

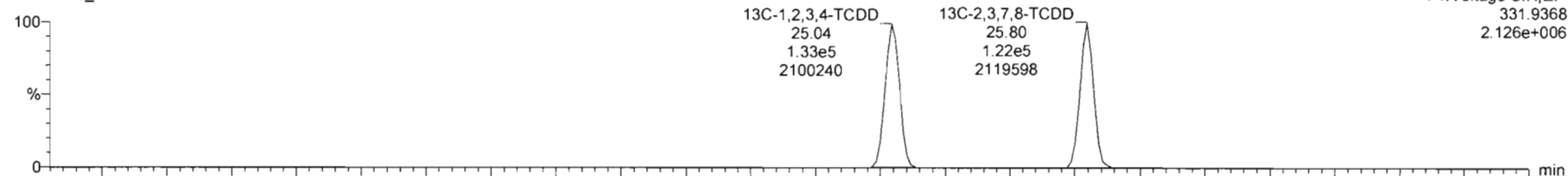


220224R3\_3

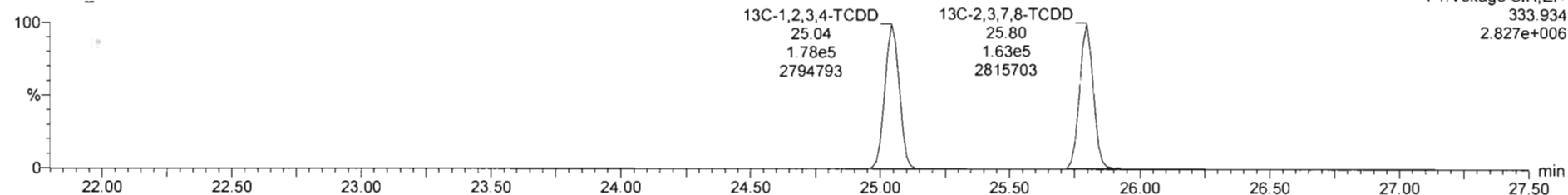


**13C-2,3,7,8-TCDD**

220224R3\_3



220224R3\_3





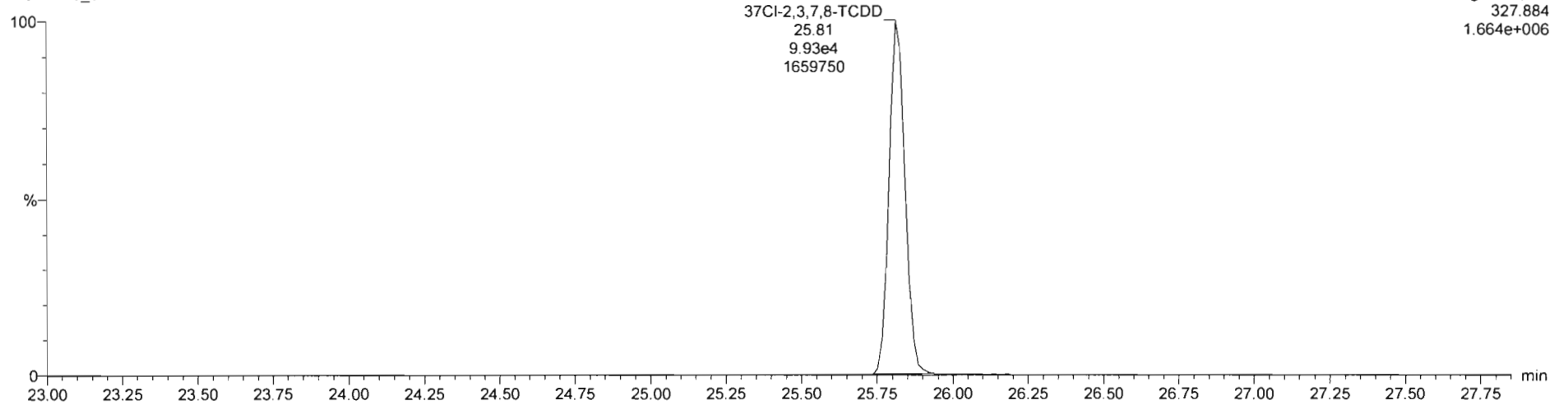
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Printed: Friday, February 25, 2022 18:51:51 Pacific Standard Time

Name: 220224R3\_3, Date: 24-Feb-2022, Time: 16:46:44, ID: B22B179-BS1 OPR 10, Description: OPR

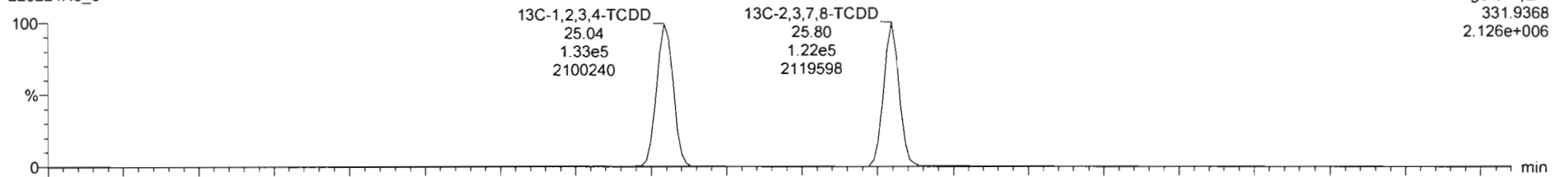
37Cl-2,3,7,8-TCDD

220224R3\_3

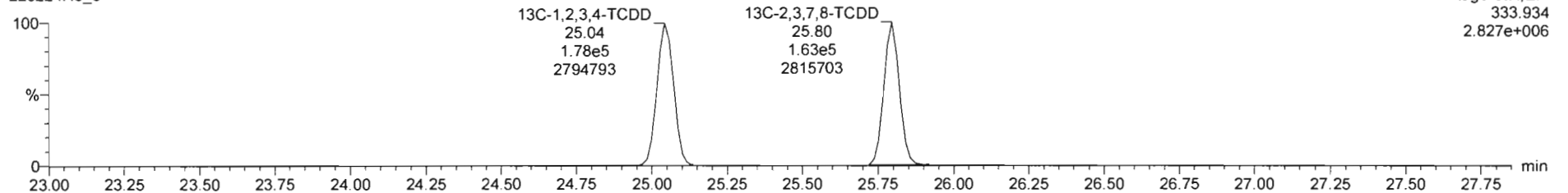


13C-1,2,3,4-TCDD

220224R3\_3



220224R3\_3



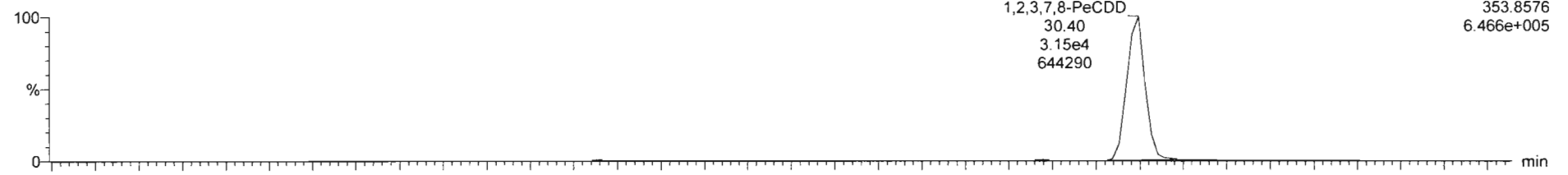
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Printed: Friday, February 25, 2022 18:51:51 Pacific Standard Time

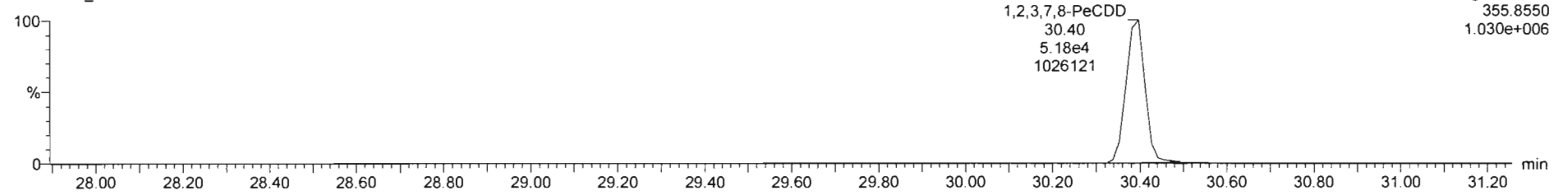
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**1,2,3,7,8-PeCDD**

220224R3\_3

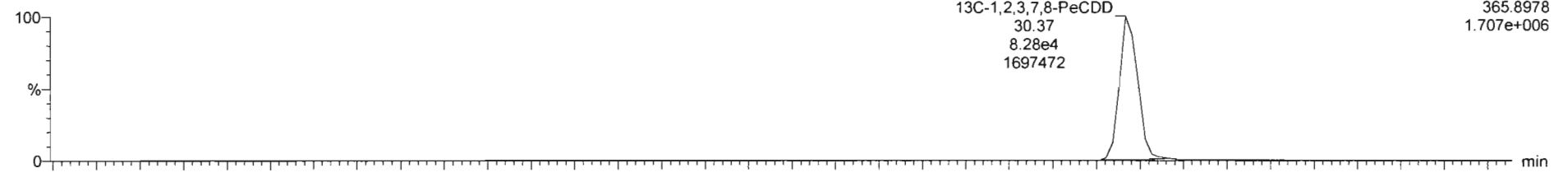


220224R3\_3

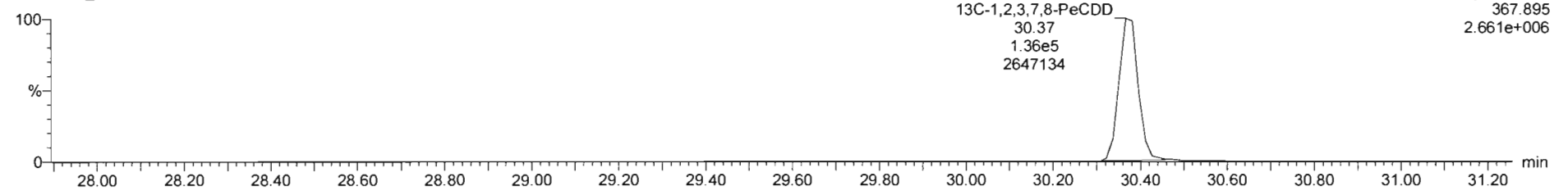


**13C-1,2,3,7,8-PeCDD**

220224R3\_3



220224R3\_3



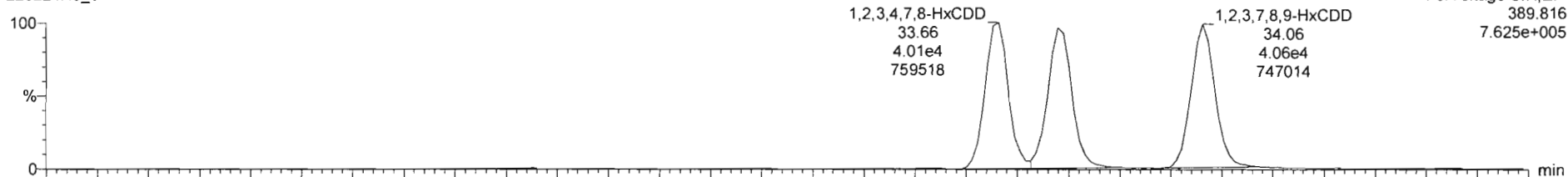
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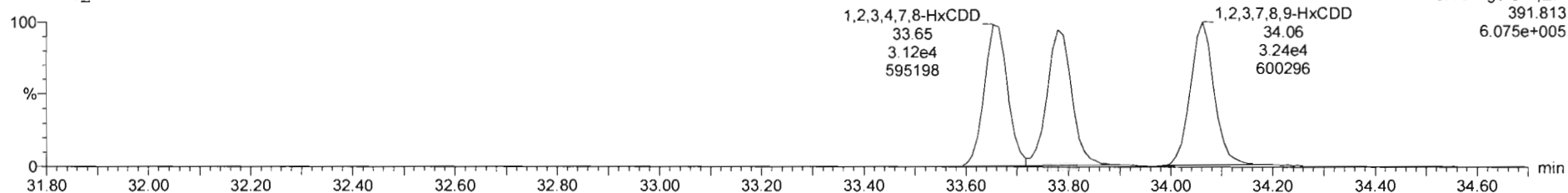
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**1,2,3,4,7,8-HxCDD**

220224R3\_3

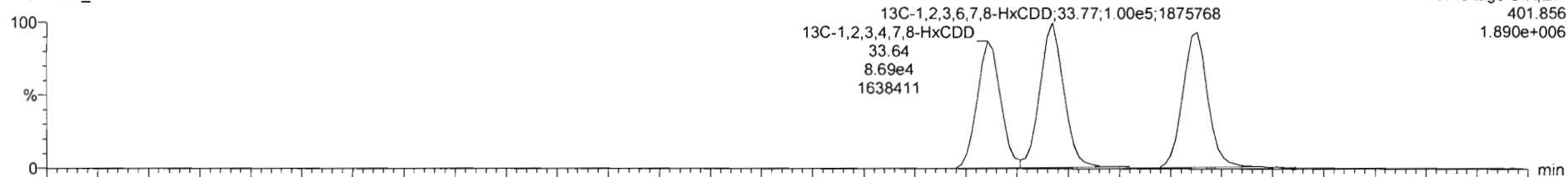


220224R3\_3

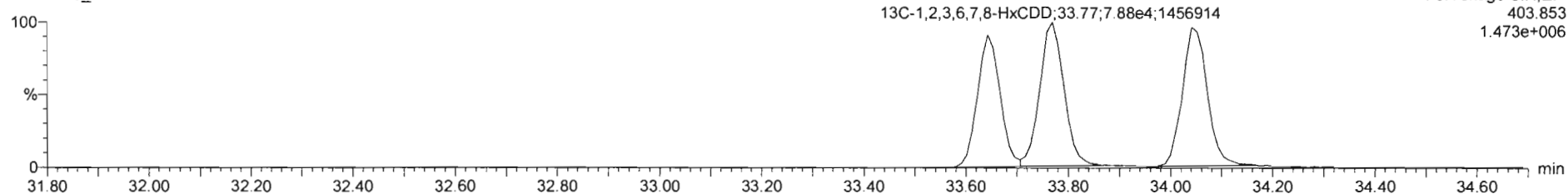


**13C-1,2,3,4,7,8-HxCDD**

220224R3\_3



220224R3\_3



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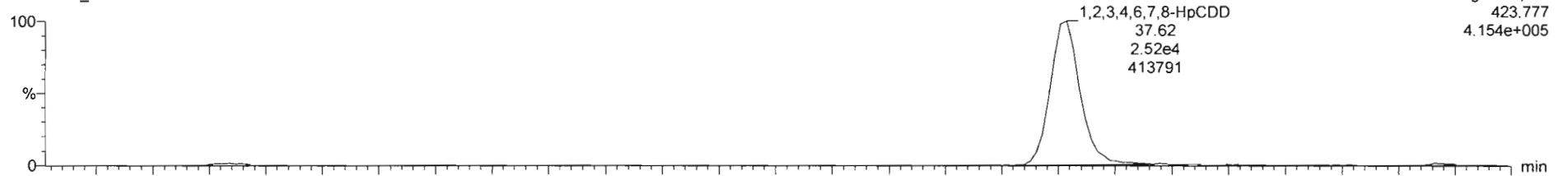
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Printed: Friday, February 25, 2022 18:51:51 Pacific Standard Time

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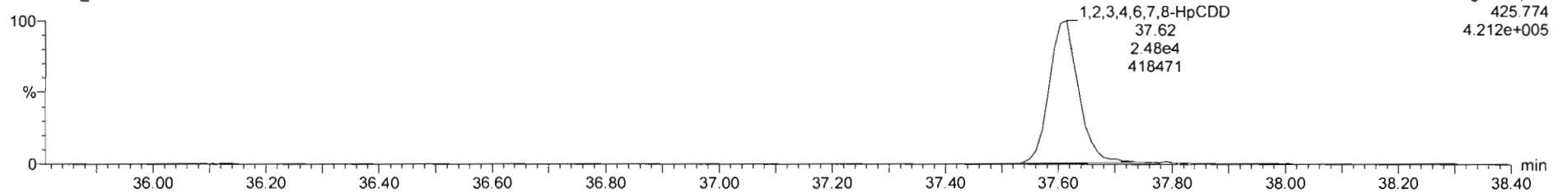
**1,2,3,4,6,7,8-HpCDD**

220224R3\_3



F4: Voltage SIR, EI+  
423.777  
4.154e+005

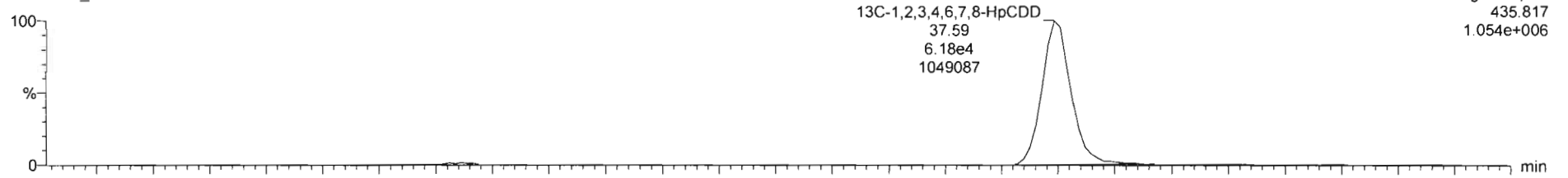
220224R3\_3



F4: Voltage SIR, EI+  
425.774  
4.212e+005

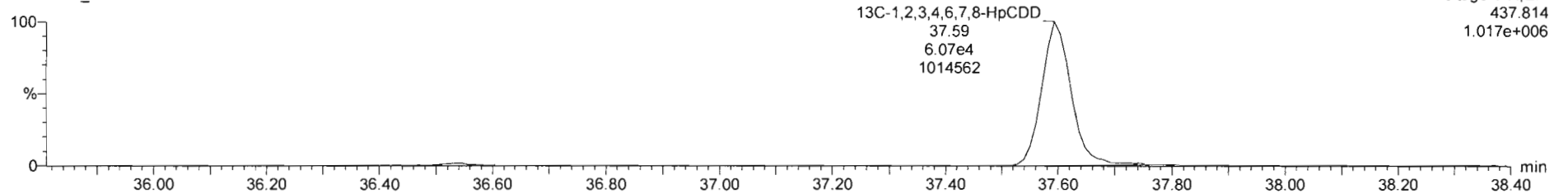
**13C-1,2,3,4,6,7,8-HpCDD**

220224R3\_3



F4: Voltage SIR, EI+  
435.817  
1.054e+006

220224R3\_3

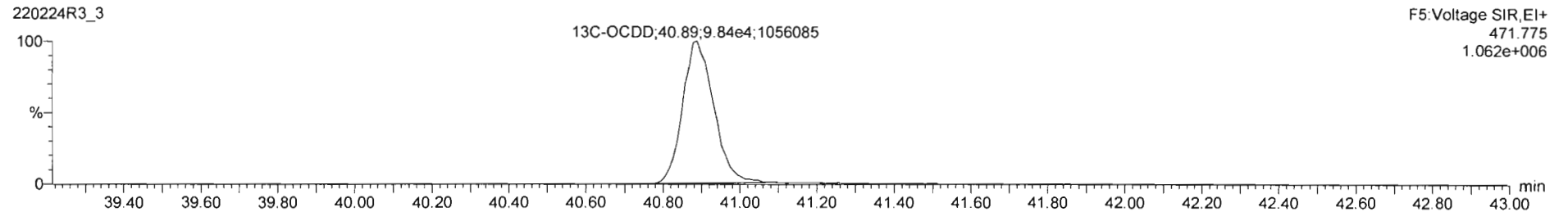
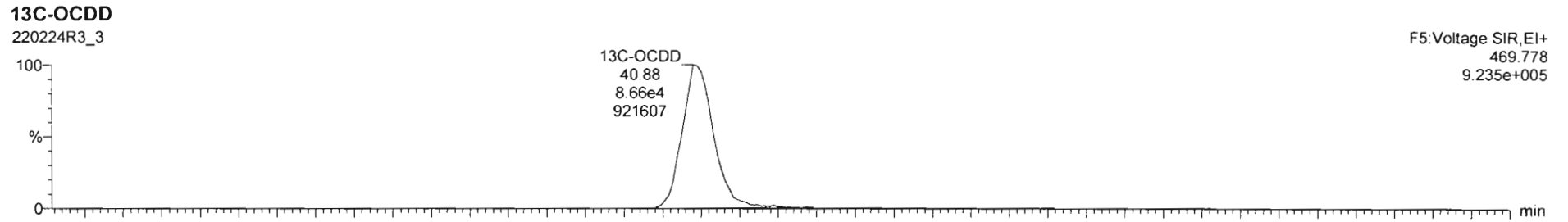
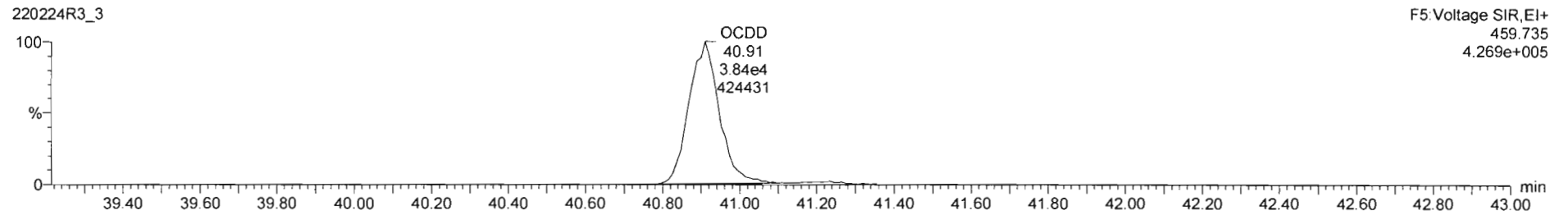
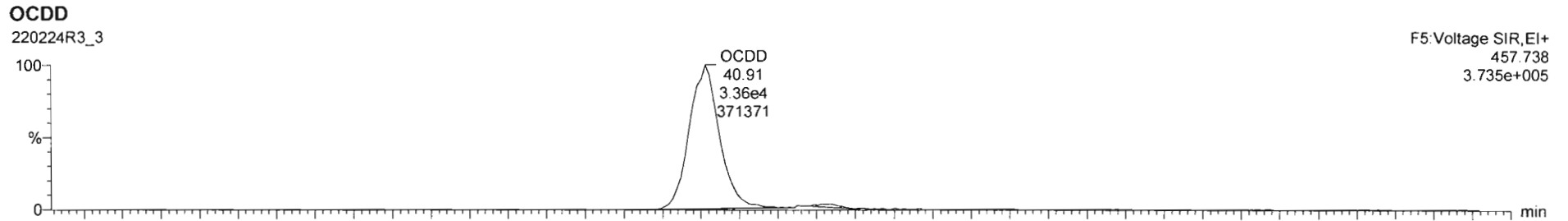


F4: Voltage SIR, EI+  
437.814  
1.017e+006

Dataset: Untitled

Last Altered: Friday, February 25, 2022 18:51:41 Pacific Standard Time  
Printed: Friday, February 25, 2022 18:51:51 Pacific Standard Time

Name: 220224R3\_3, Date: 24-Feb-2022, Time: 16:46:44, ID: B22B179-BS1 OPR 10, Description: OPR

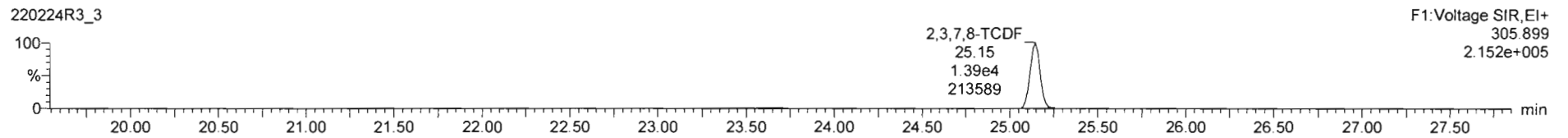
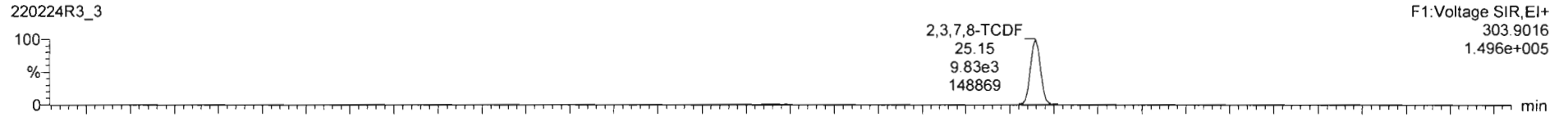


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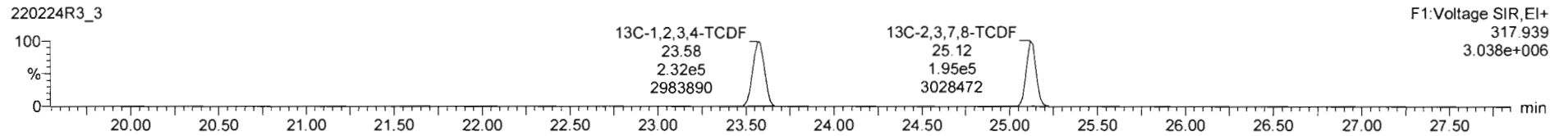
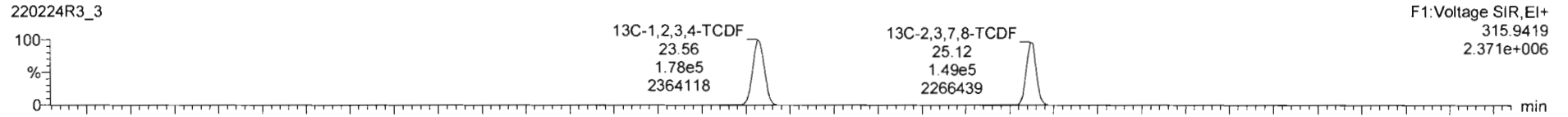
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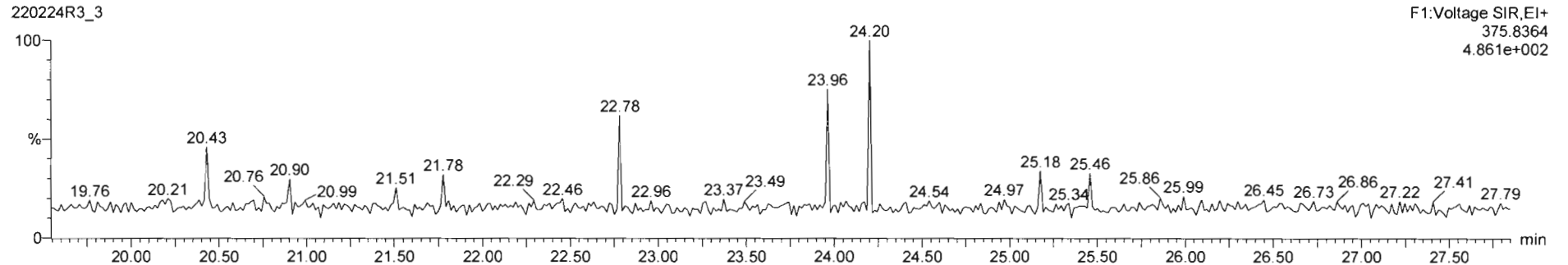
**2,3,7,8-TCDF**



**13C-2,3,7,8-TCDF**



**DPE1**



Dataset: Untitled

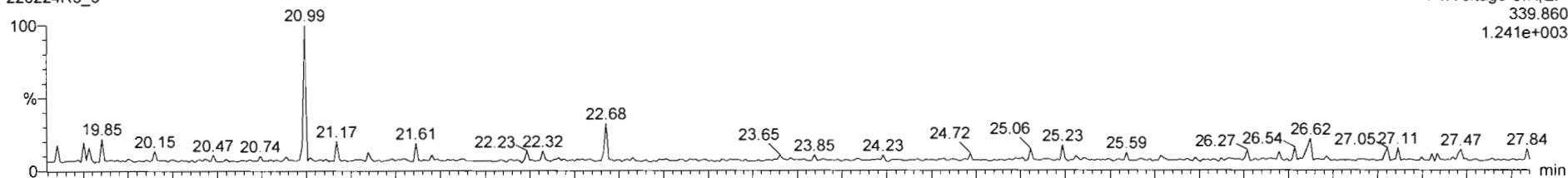
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Printed: Friday, February 25, 2022 18:51:51 Pacific Standard Time

Name: 220224R3\_3, Date: 24-Feb-2022, Time: 16:46:44, ID: B22B179-BS1 OPR 10, Description: OPR

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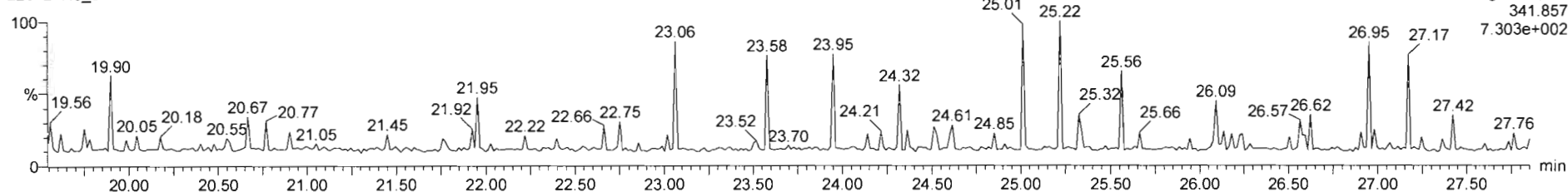
220224R3\_3

F1: Voltage SIR, EI+  
339.860  
1.241e+003



220224R3\_3

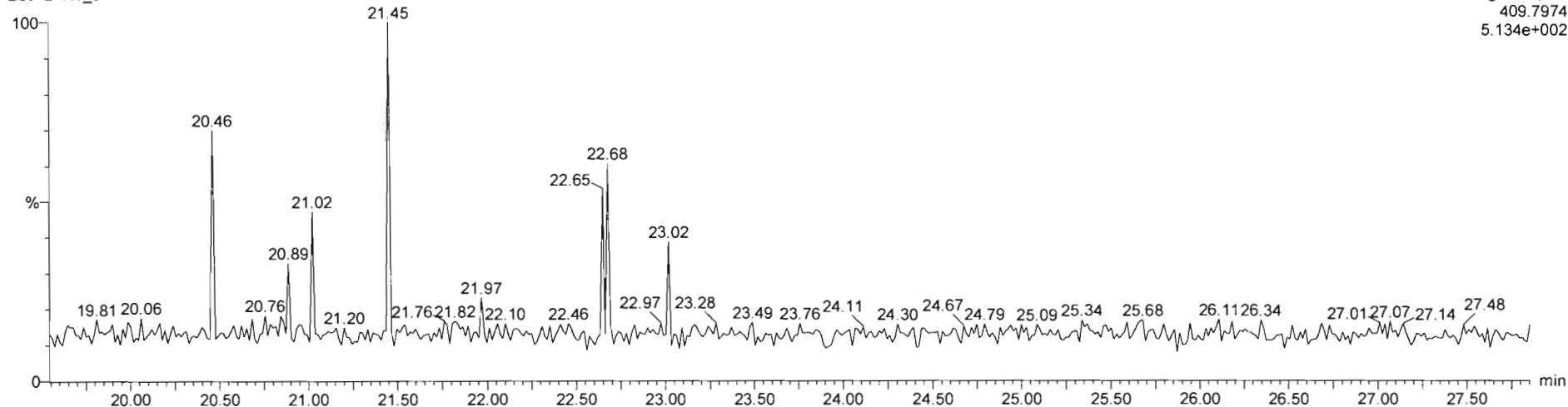
F1: Voltage SIR, EI+  
341.857  
7.303e+002



DPE6

220224R3\_3

F1: Voltage SIR, EI+  
409.7974  
5.134e+002



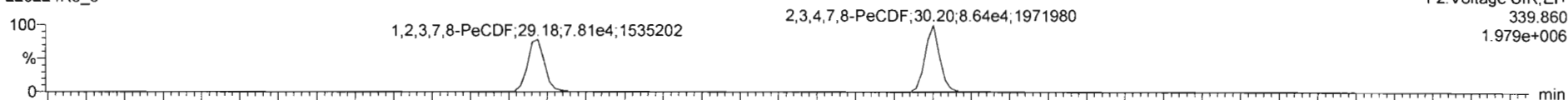
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Last Altered: Friday, February 25, 2022 18:51:41 Pacific Standard Time  
Printed: Friday, February 25, 2022 18:51:51 Pacific Standard Time

Name: 220224R3\_3, Date: 24-Feb-2022, Time: 16:46:44, ID: B22B179-BS1 OPR 10, Description: OPR

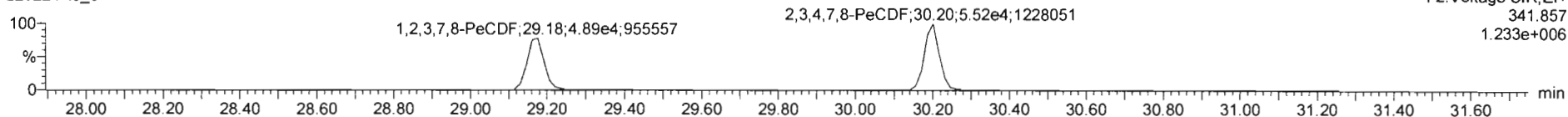
**1,2,3,7,8-PeCDF**

220224R3\_3



F2: Voltage SIR, EI+  
339.860  
1.979e+006

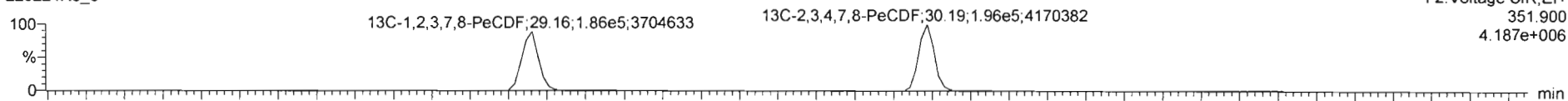
220224R3\_3



F2: Voltage SIR, EI+  
341.857  
1.233e+006

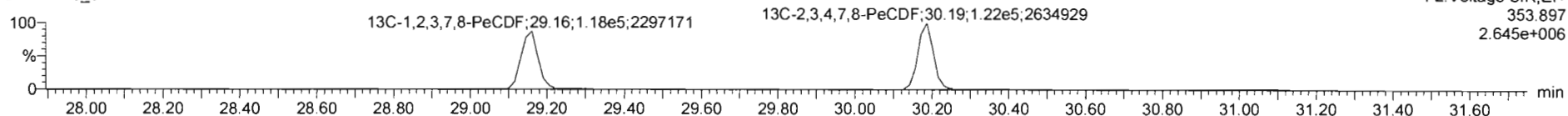
**13C-1,2,3,7,8-PeCDF**

220224R3\_3



F2: Voltage SIR, EI+  
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4.187e+006

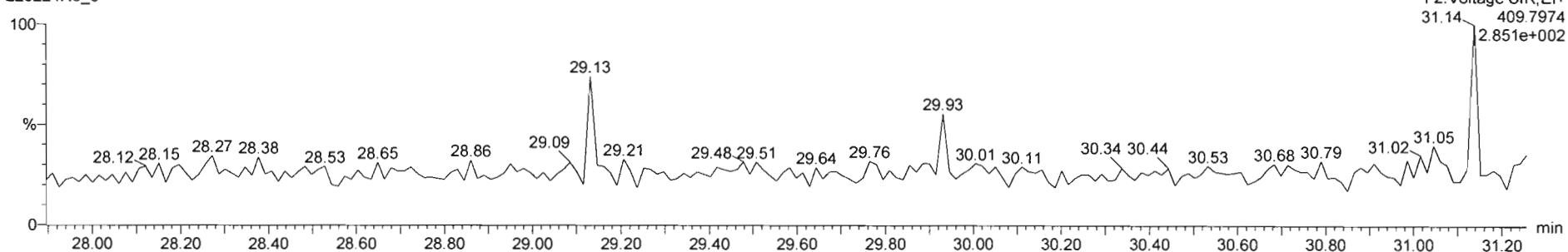
220224R3\_3



F2: Voltage SIR, EI+  
353.897  
2.645e+006

**DPE2**

220224R3\_3



F2: Voltage SIR, EI+  
31.14 409.7974  
2.851e+002

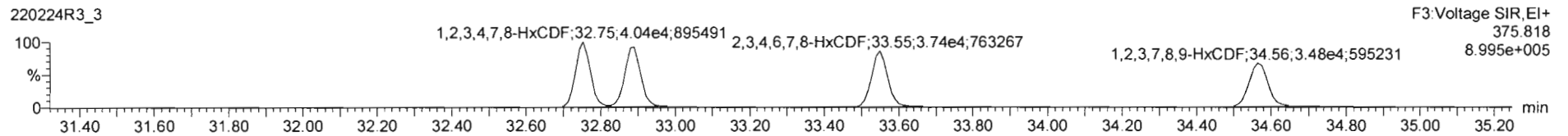
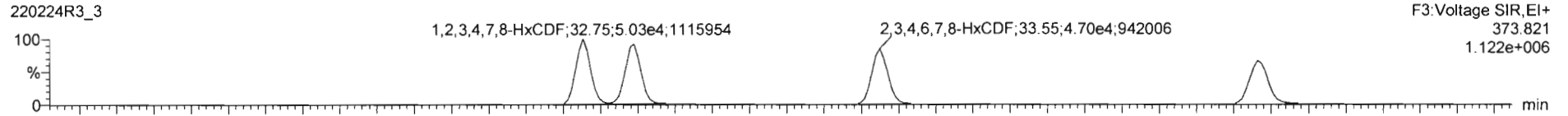


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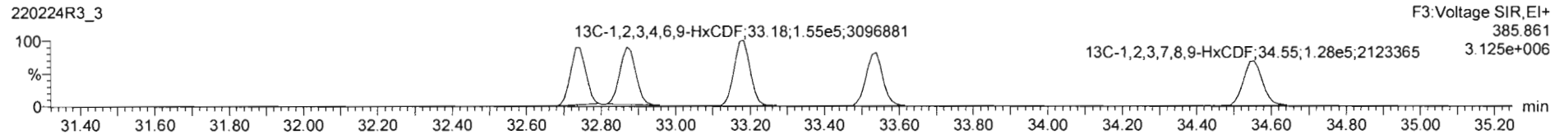
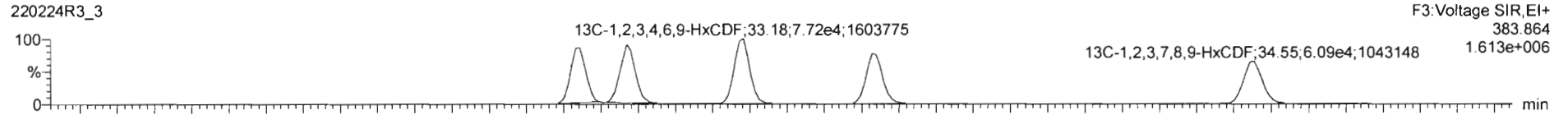
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Name: 220224R3\_3, Date: 24-Feb-2022, Time: 16:46:44, ID: B22B179-BS1 OPR 10, Description: OPR

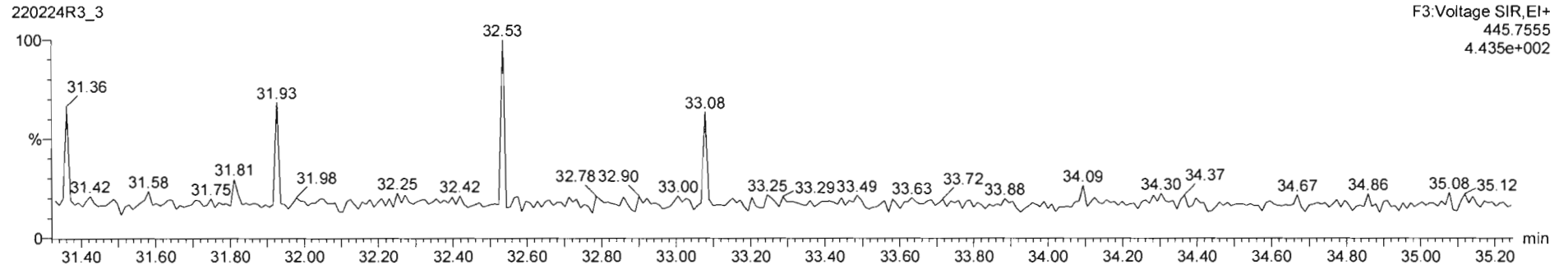
**1,2,3,4,7,8-HxCDF**



**13C-1,2,3,4,7,8-HxCDF**



**DPE3**

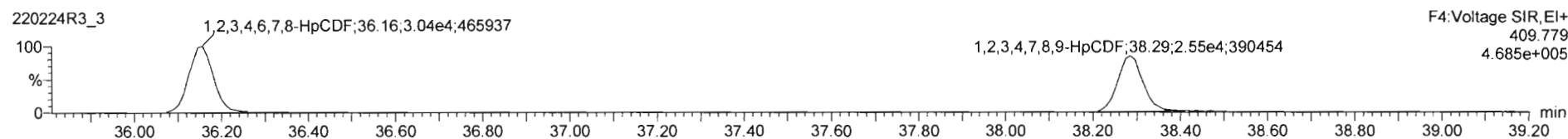
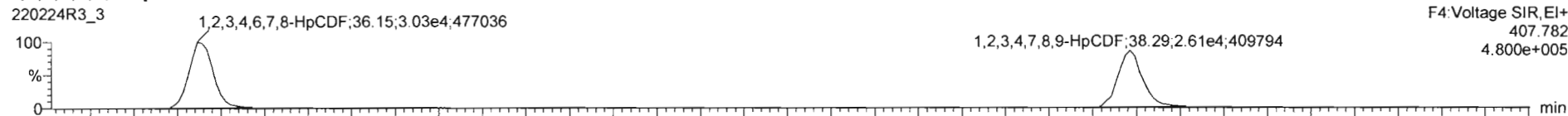


Dataset: Untitled

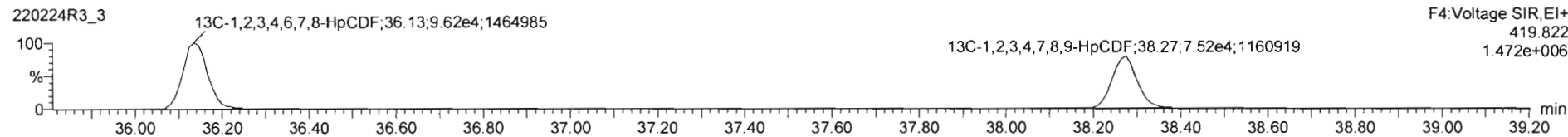
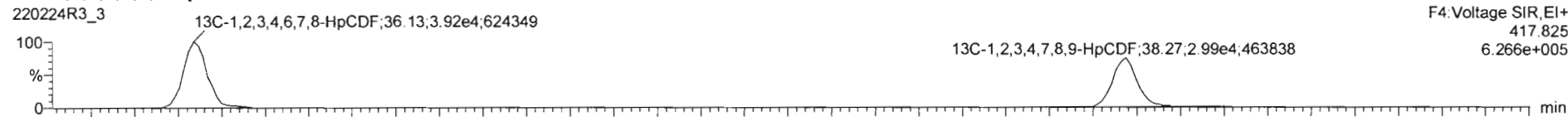
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Printed: Friday, February 25, 2022 18:51:51 Pacific Standard Time

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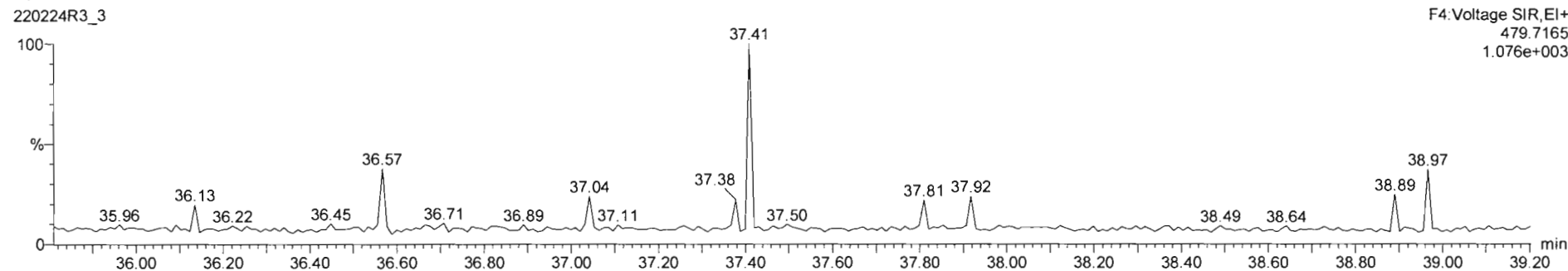
**1,2,3,4,6,7,8-HpCDF**



**13C-1,2,3,4,6,7,8-HpCDF**



**DPE4**



Dataset: Untitled

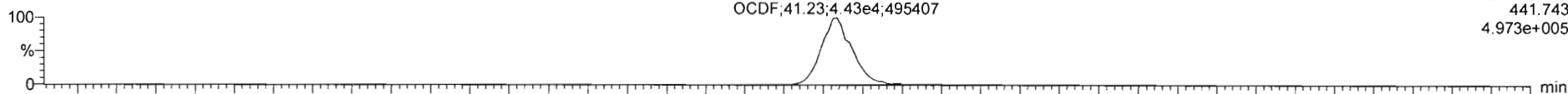
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Printed: Friday, February 25, 2022 18:51:51 Pacific Standard Time

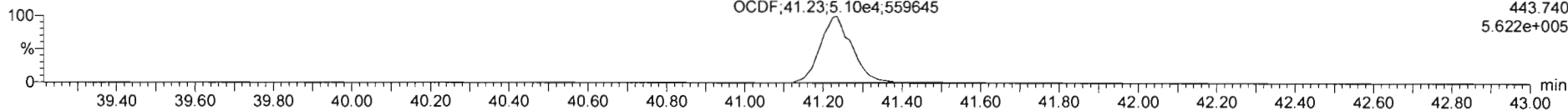
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**OCDF**

220224R3\_3

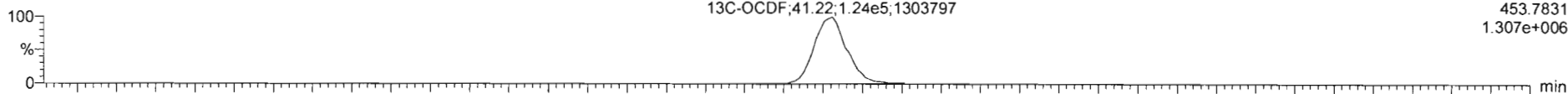


220224R3\_3

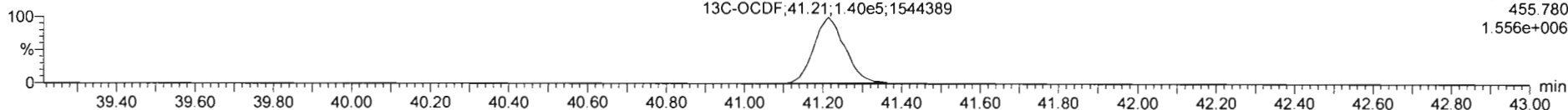


**13C-OCDF**

220224R3\_3

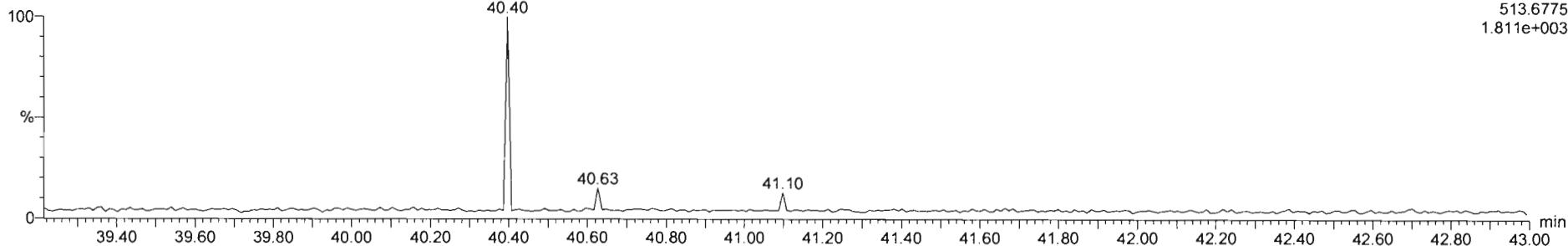


220224R3\_3



**DPE5**

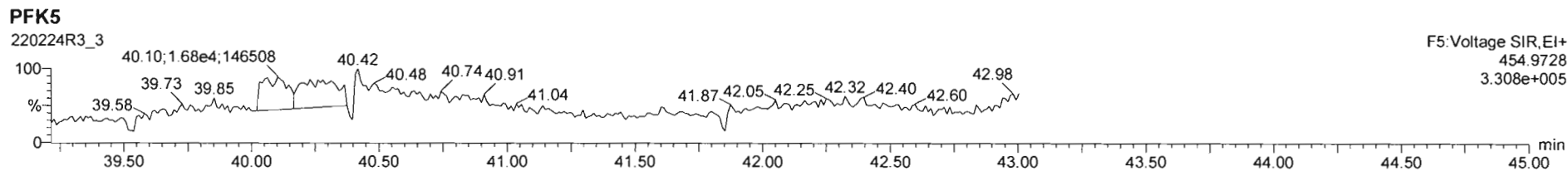
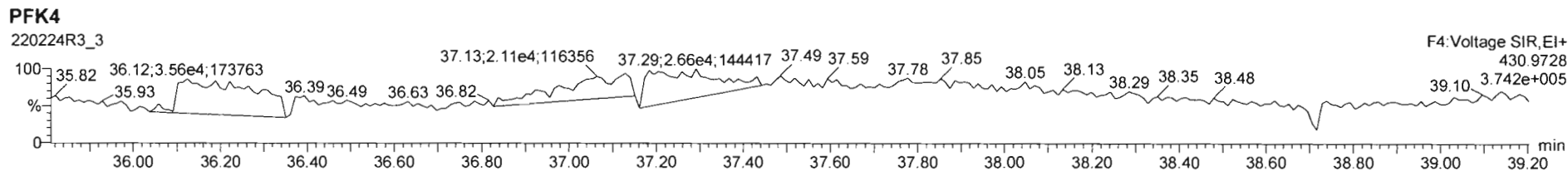
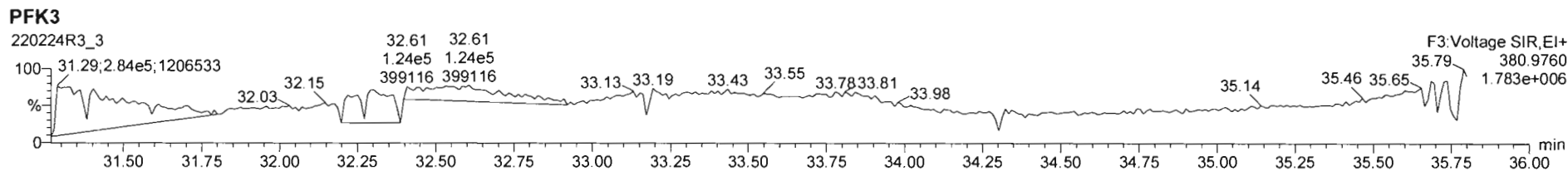
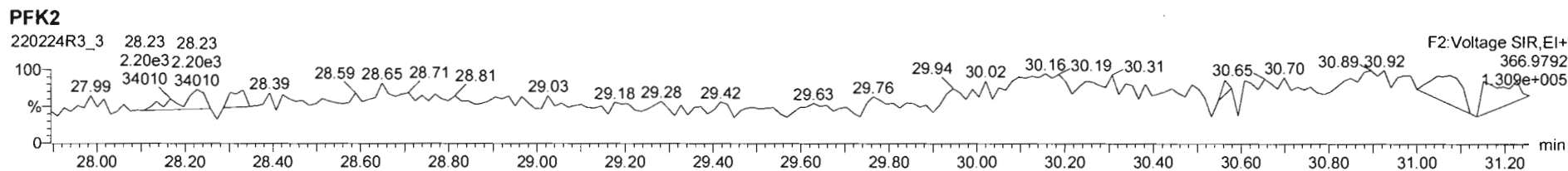
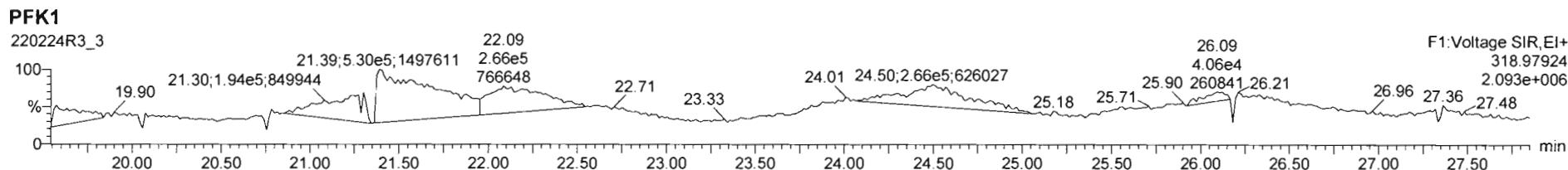
220224R3\_3



Dataset: Untitled

Last Altered: Friday, February 25, 2022 18:51:41 Pacific Standard Time  
Printed: Friday, February 25, 2022 18:51:51 Pacific Standard Time

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Dataset: I:\VG12.PRO\Results\220224R3\220224R3\_12.qld

Last Altered: Thursday, March 10, 2022 14:36:56 Pacific Standard Time  
Printed: Thursday, March 10, 2022 14:39:49 Pacific Standard Time

*dy 03/10/2022*

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*03/11/2022*

Name: 220224R3\_12, Date: 24-Feb-2022, Time: 23:30:08, ID: 2202058-01 USMPDI-040SC-A-10-11-201103 13.23, Description: USMPDI-040SC-A-10-11-201103

#	Name	Resp	RA	n/y	RRF	wt/vol	Pred.RT	RT	Pred.RRT	RRT	Conc.	%Rec	DL	EMPC
1	1 2,3,7,8-TCDD			NO	0.952	10.025	25.828		1.001				0.0407	
2	2 1,2,3,7,8-PeCDD			NO	0.781	10.025	30.412		1.001				0.140	
3	3 1,2,3,4,7,8-HxCDD			NO	0.904	10.025	33.705		1.001				0.175	
4	4 1,2,3,6,7,8-HxCDD			NO	0.806	10.025	33.831		1.001				0.183	
5	5 1,2,3,7,8,9-HxCDD			NO	0.814	10.025	34.093		1.000				0.182	
6	6 1,2,3,4,6,7,8-HpCDD	1.10e3	0.91	NO	0.836	10.025	37.691	37.68	1.000	1.000	0.94471		0.230	0.945
7	7 OCDD	8.11e3	0.90	NO	0.798	10.025	41.033	41.05	1.000	1.001	9.3106		0.426	9.31
8	8 2,3,7,8-TCDF			NO	0.720	10.025	25.134		1.000				0.0460	
9	9 1,2,3,7,8-PeCDF			NO	0.813	10.025	29.164		1.000				0.0534	
10	10 2,3,4,7,8-PeCDF			NO	0.892	10.025	30.222		1.001				0.0459	
11	11 1,2,3,4,7,8-HxCDF			NO	0.893	10.025	32.785		1.000				0.0528	
12	12 1,2,3,6,7,8-HxCDF			NO	0.867	10.025	32.930		1.001				0.0515	
13	13 2,3,4,6,7,8-HxCDF			NO	0.896	10.025	33.601		1.001				0.0574	
14	14 1,2,3,7,8,9-HxCDF			NO	0.874	10.025	34.596		1.000				0.0725	
15	15 1,2,3,4,6,7,8-HpCDF			NO	0.986	10.025	36.196		1.000				0.338	
16	16 1,2,3,4,7,8,9-HpCDF			NO	0.966	10.025	38.373		1.000				0.468	
17	17 OCDF			NO	0.722	10.025	41.368		1.000				0.251	
18	18 13C-2,3,7,8-TCDD	4.14e5	0.76	NO	1.11	10.025	25.742	25.80	1.028	1.030	169.06	84.7	0.181	
19	19 13C-1,2,3,7,8-PeCDD	3.76e5	0.63	NO	0.893	10.025	30.087	30.38	1.201	1.213	189.84	95.2	0.303	
20	20 13C-1,2,3,4,7,8-HxCDD	3.00e5	1.28	NO	0.784	10.025	33.672	33.69	1.014	1.014	190.51	95.5	0.504	
21	21 13C-1,2,3,6,7,8-HxCDD	3.48e5	1.25	NO	0.863	10.025	33.792	33.81	1.017	1.018	200.67	101	0.458	
22	22 13C-1,2,3,7,8,9-HxCDD	3.51e5	1.24	NO	0.905	10.025	34.081	34.08	1.026	1.026	193.26	96.9	0.437	
23	23 13C-1,2,3,4,6,7,8-HpCDD	2.78e5	1.03	NO	0.644	10.025	37.499	37.68	1.129	1.134	214.76	108	0.656	
24	24 13C-OCDD	4.35e5	0.87	NO	0.528	10.025	40.767	41.03	1.227	1.235	410.44	103	0.935	
25	25 13C-2,3,7,8-TCDF	4.78e5	0.77	NO	1.15	10.025	25.121	25.13	1.003	1.004	149.82	75.1	0.173	
26	26 13C-1,2,3,7,8-PeCDF	4.94e5	1.59	NO	0.905	10.025	28.917	29.16	1.155	1.164	196.83	98.7	0.470	
27	27 13C-2,3,4,7,8-PeCDF	4.96e5	1.58	NO	0.899	10.025	30.142	30.20	1.204	1.206	198.93	99.7	0.474	
28	28 13C-1,2,3,4,7,8-HxCDF	3.70e5	0.49	NO	1.00	10.025	32.762	32.78	0.986	0.987	183.82	92.1	0.411	
29	29 13C-1,2,3,6,7,8-HxCDF	3.87e5	0.49	NO	1.04	10.025	32.892	32.91	0.990	0.991	185.00	92.7	0.395	
30	30 13C-2,3,4,6,7,8-HxCDF	3.48e5	0.50	NO	0.916	10.025	33.563	33.58	1.010	1.011	189.03	94.8	0.450	
31	31 13C-1,2,3,7,8,9-HxCDF	3.28e5	0.50	NO	0.859	10.025	34.589	34.59	1.041	1.041	189.92	95.2	0.480	

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Printed: Thursday, March 10, 2022 14:39:49 Pacific Standard Time

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#	Name	Resp	RA	n/y	RRF	wt/vol	Pred.RT	RT	Pred.RRT	RRT	Conc.	%Rec	DL	EMPC
32	13C-1,2,3,4,6,7,8-HpCDF	2.65e5	0.39	NO	0.632	10.025	36.193	36.18	1.090	1.089	208.98	105	0.705	
33	13C-1,2,3,4,7,8,9-HpCDF	2.15e5	0.42	NO	0.552	10.025	38.176	38.36	1.149	1.155	193.98	97.2	0.806	
34	13C-OCDF	5.04e5	0.86	NO	0.606	10.025	41.096	41.36	1.237	1.245	414.48	104	0.487	
35	37Cl-2,3,7,8-TCDD	1.49e5			1.01	10.025	25.762	25.81	1.029	1.031	66.634	83.5	0.123	
36	13C-1,2,3,4-TCDD	4.42e5	0.76	NO	1.00	10.025	25.010	25.04	1.000	1.000	199.50	100	0.200	
37	13C-1,2,3,4-TCDF	5.53e5	0.77	NO	1.00	10.025	23.580	23.56	1.000	1.000	199.50	100	0.199	
38	13C-1,2,3,4,6,9-HxCDF	4.01e5	0.49	NO	1.00	10.025	33.170	33.21	1.000	1.000	199.50	100	0.412	
39	Total Tetra-Dioxins				0.952	10.025	24.620		0.000		0.072497		0.0165	0.0725
40	Total Penta-Dioxins				0.781	10.025	29.960		0.000				0.0392	
41	Total Hexa-Dioxins				0.806	10.025	33.635		0.000		0.51226		0.188	0.512
42	Total Hepta-Dioxins				0.836	10.025	37.640		0.000		2.3487		0.230	2.35
43	Total Tetra-Furans				0.720	10.025	23.610		0.000				0.0219	
44	1st Func. Penta-Furans				0.813	10.025	26.930		0.000				0.00928	
45	Total Penta-Furans				0.813	10.025	29.275		0.000				0.0261	
46	Total Hexa-Furans				0.896	10.025	33.555		0.000				0.0284	
47	Total Hepta-Furans				0.986	10.025	37.835		0.000				0.331	

**Quantify Totals Report MassLynx 4.1 SCN815**

Vista Analytical Laboratory

Dataset: I:\VG12.PRO\Results\220224R3\220224R3\_12.qld

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Name: 220224R3\_12, Date: 24-Feb-2022, Time: 23:30:08, ID: 2202058-01 USMPDI-040SC-A-10-11-201103 13.23, Description: USMPDI-040SC-A-10-11-201103

**Tetra-Dioxins**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1	Total Tetra-Dioxins	23.77	8.800e2	1.797e3	6.016e1	8.321e1	0.72	NO	1.434e2	0.072497	0.072497	0.0165

**Penta-Dioxins**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1												

**Hexa-Dioxins**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1	Total Hexa-Dioxins	32.05	1.016e4	6.784e3	3.851e2	3.045e2	1.26	NO	6.896e2	0.51226	0.51226	0.188

**Hepta-Dioxins**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1	Total Hepta-Dioxins	36.61	1.079e4	1.077e4	8.563e2	7.793e2	1.10	NO	1.636e3	1.4040	1.4040	0.230
2	1,2,3,4,6,7,8-HpCDD	37.68	6.784e3	9.372e3	5.233e2	5.772e2	0.91	NO	1.101e3	0.94471	0.94471	0.230

**Tetra-Furans**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1												

**Penta-Furans function 1**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1												

Vista Analytical Laboratory

Dataset: I:\VG12.PRO\Results\220224R3\220224R3\_12.qld

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**Penta-Furans**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1												

**Hexa-Furans**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1												

**Hepta-Furans**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1												



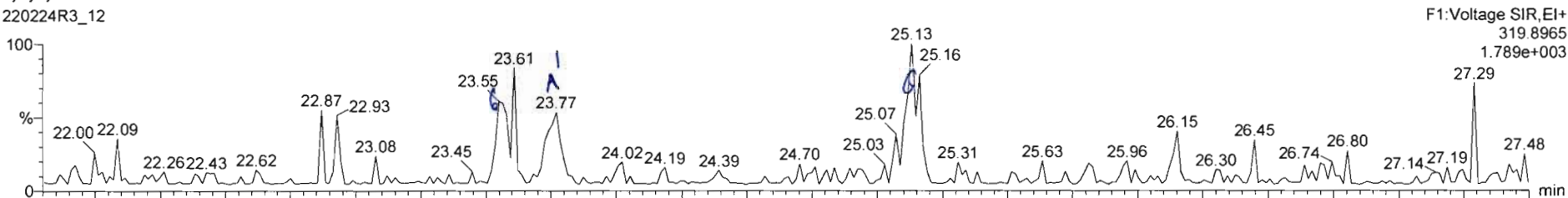
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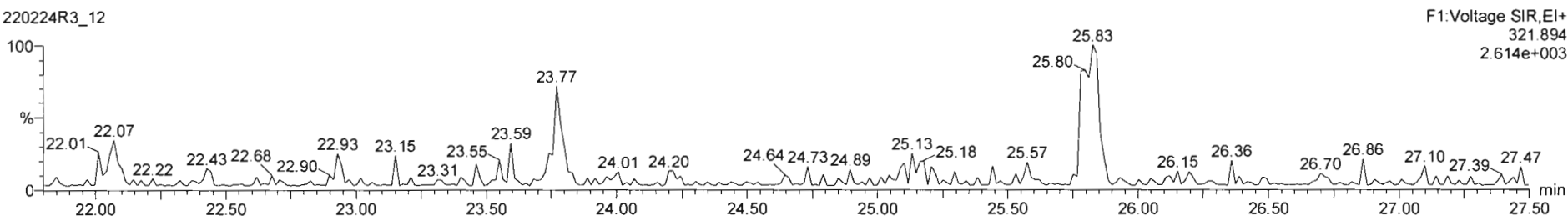
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**2,3,7,8-TCDD**

220224R3\_12

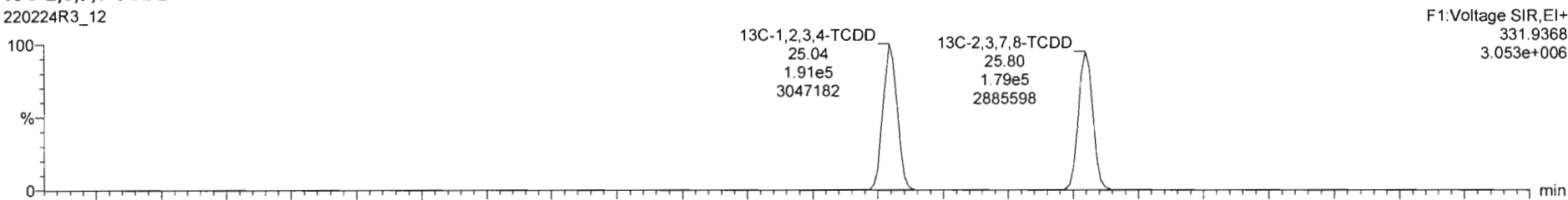


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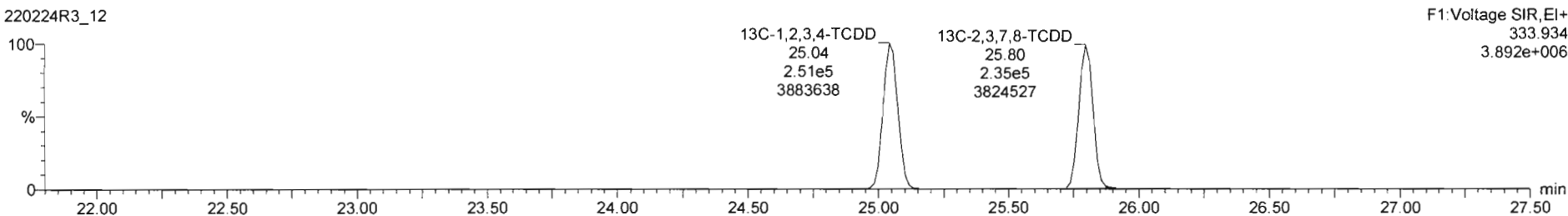


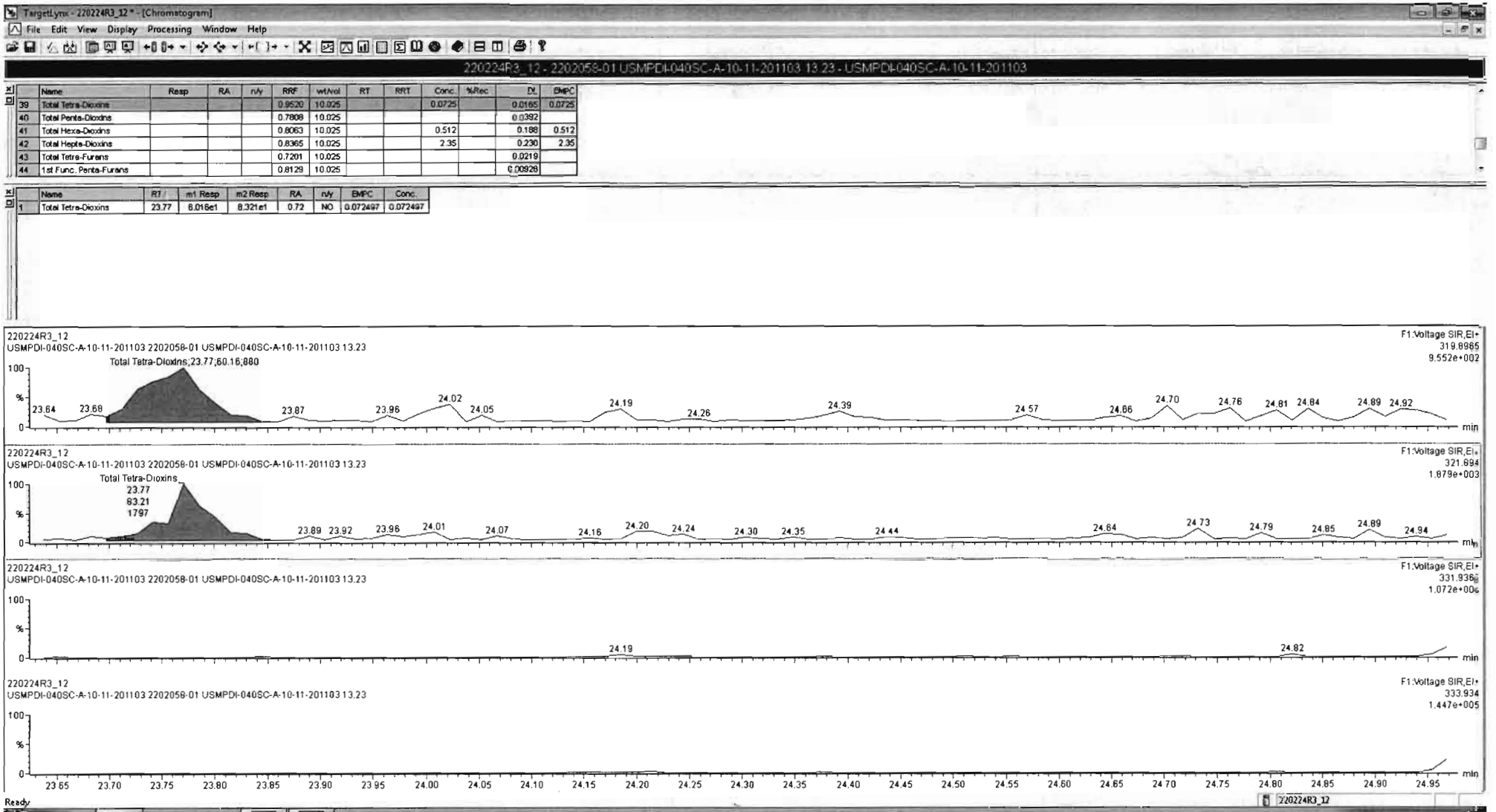
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220224R3\_12



220224R3\_12





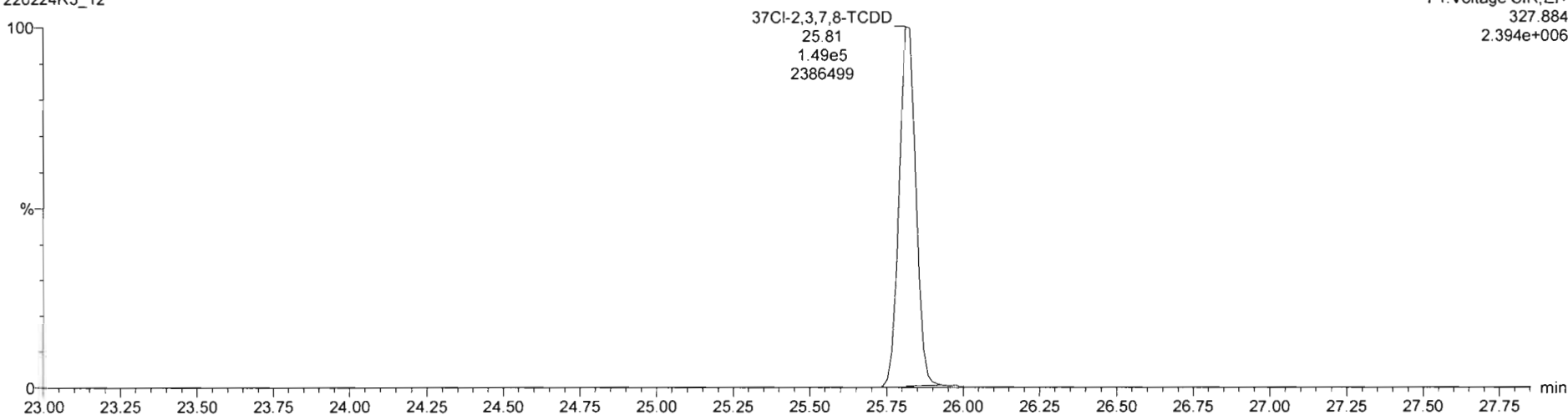
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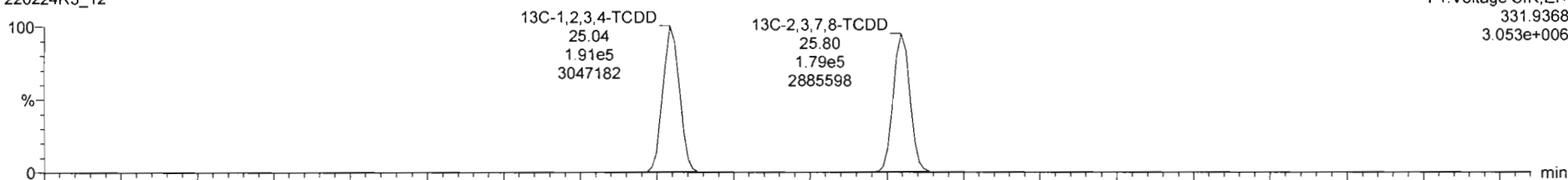
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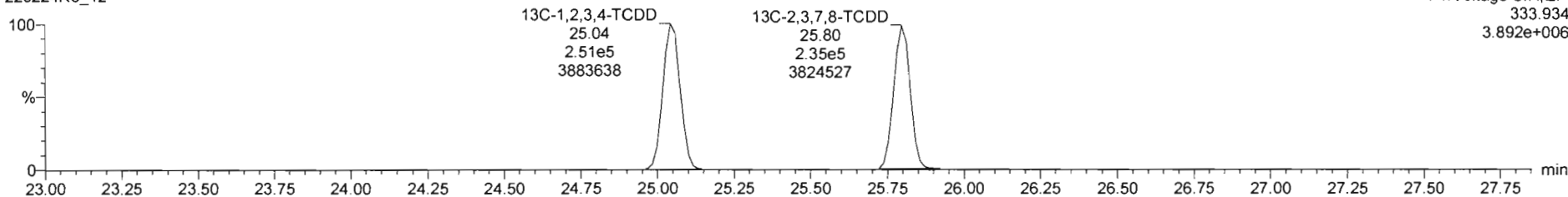


**13C-1,2,3,4-TCDD**

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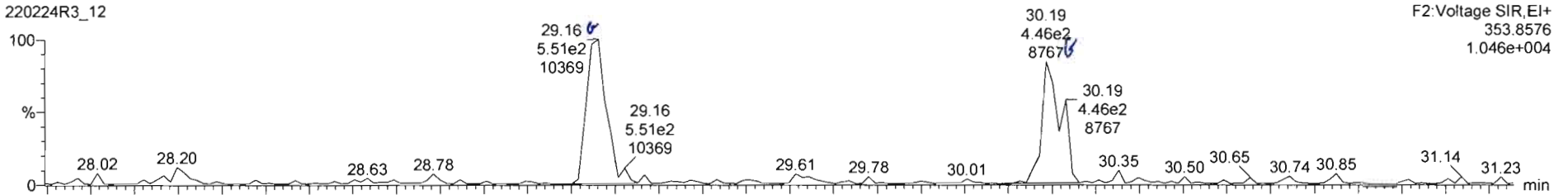
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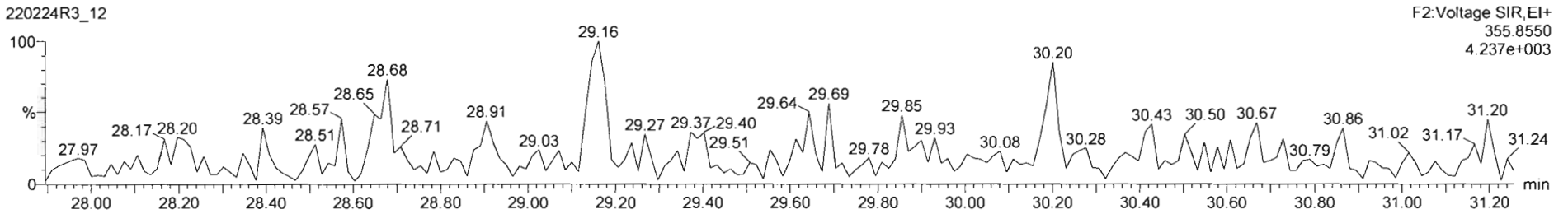
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**1,2,3,7,8-PeCDD**

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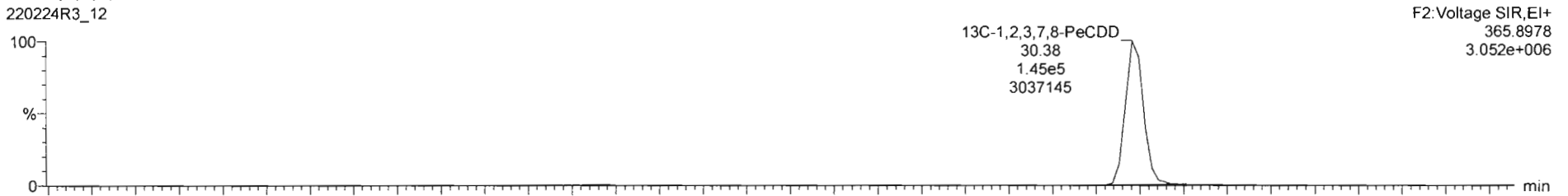


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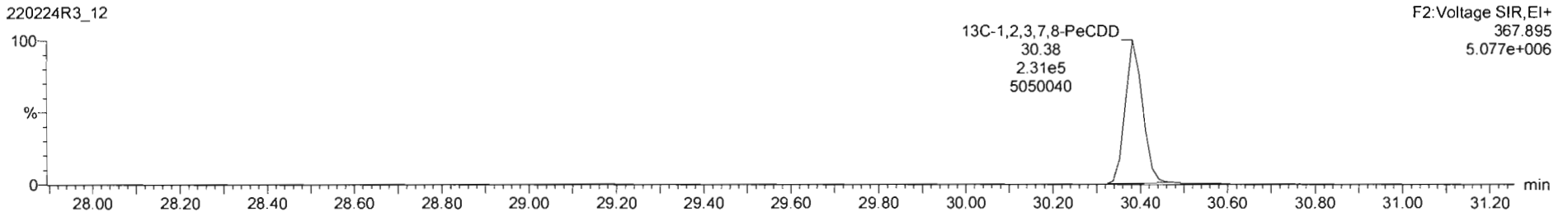


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220224R3\_12

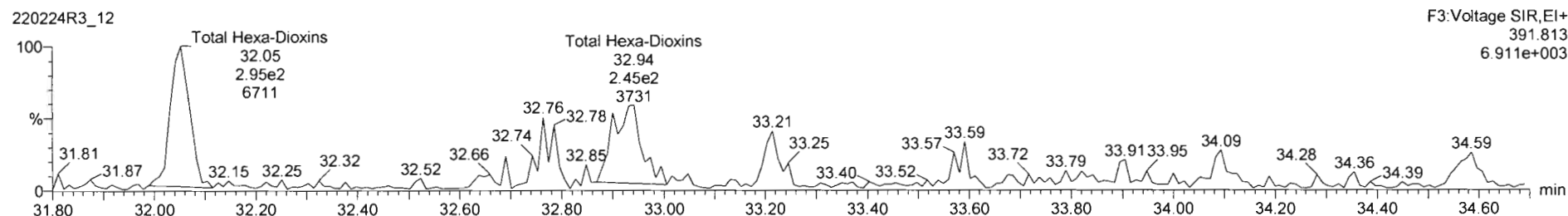
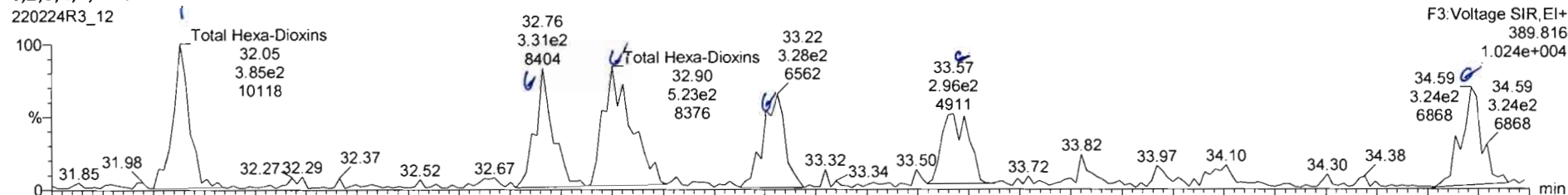


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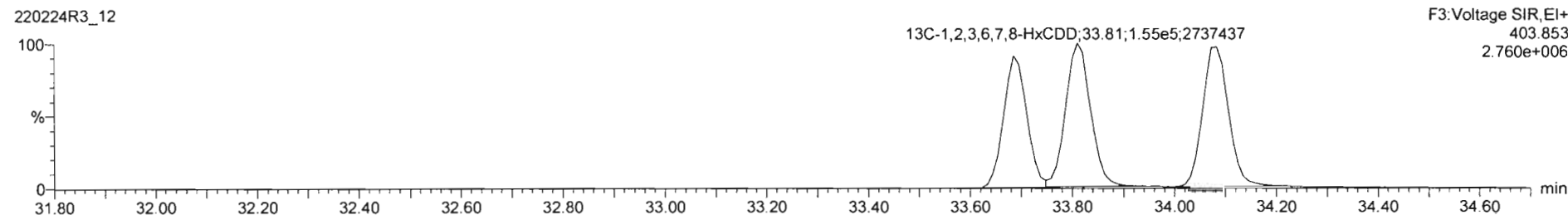
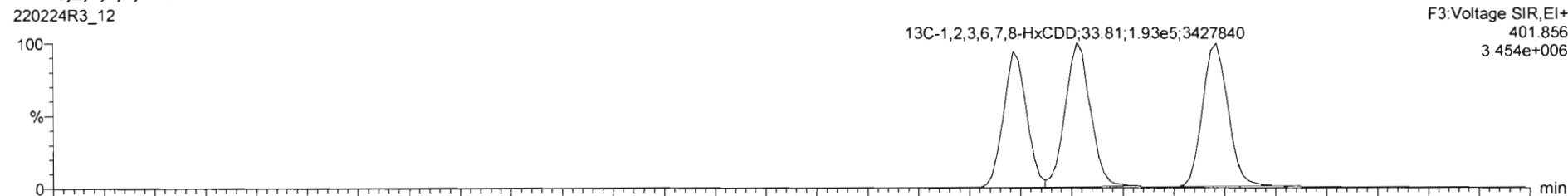
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1,2,3,4,7,8-HxCDD

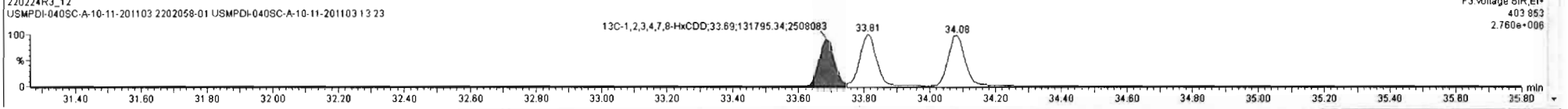
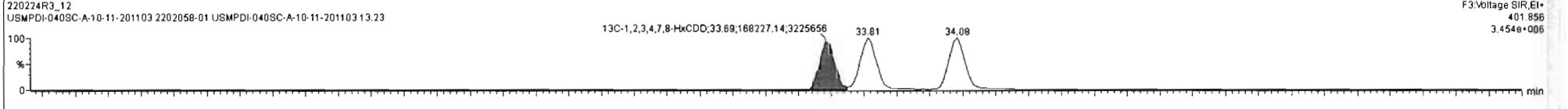
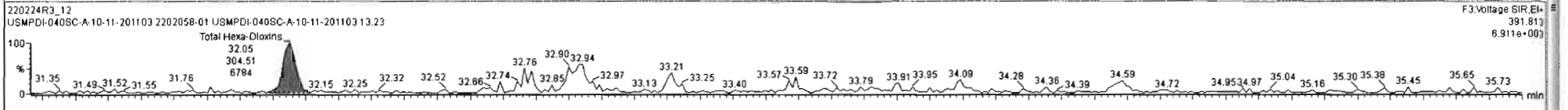
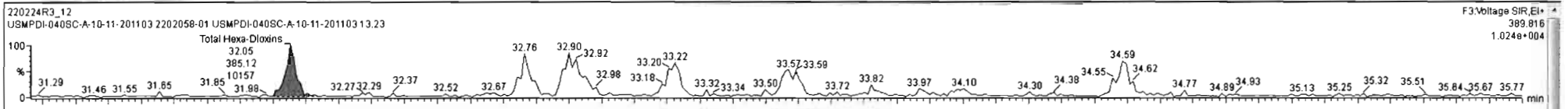


13C-1,2,3,4,7,8-HxCDD



Name	Resp	RA	n/y	RRF	wt/vol	RT	RRT	Conc	%Rec	DL	EMPC
39 Total Tetra-Dioxins				0.9520	10.025					0.0185	
40 Total Penta-Dioxins				0.7808	10.025					0.0392	
41 Total Hexa-Dioxins				0.8063	10.025			0.512		0.188	0.512
42 Total Hepta-Dioxins				0.8365	10.025			2.26		0.230	2.82
43 Total Tetra-Furans				0.7201	10.025					0.0219	
44 1st Func. Penta-Furans				0.8129	10.025					0.00826	
45 Total Hexa-Furans				0.8129	10.025					0.0261	
46 Total Hexa-Furans				0.8963	10.025					0.0284	
47 Total Hepta-Furans				0.8859	10.025					0.331	
48 PFK1											

Name	RT	m1 Resp	m2 Resp	RA	n/y	EMPC	Conc
Total Hexa-Dioxins	32.05	3.851e2	3.045e2	1.26	NO	0.51226	0.51226

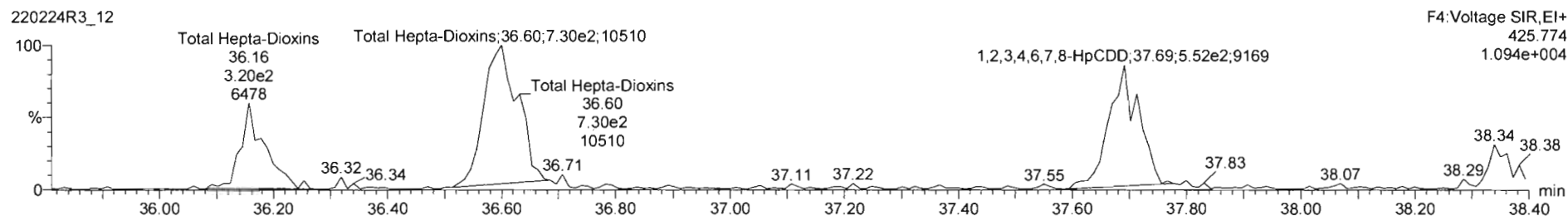
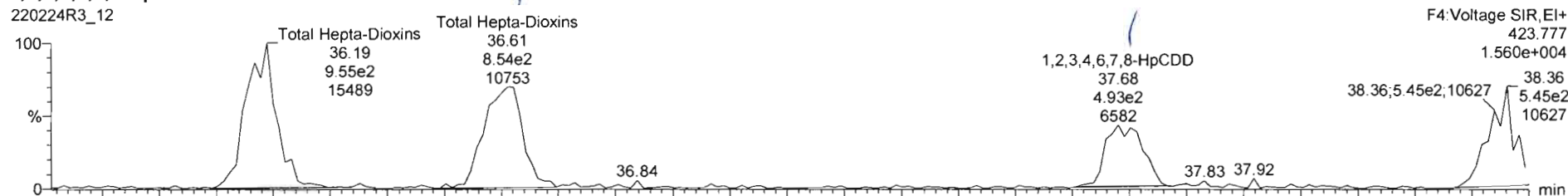


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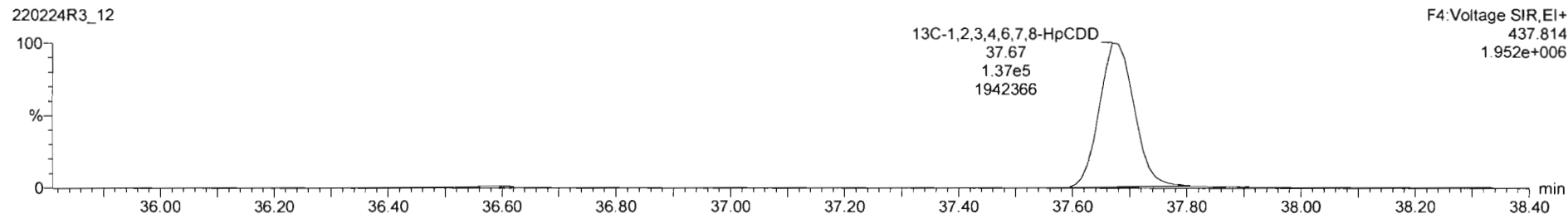
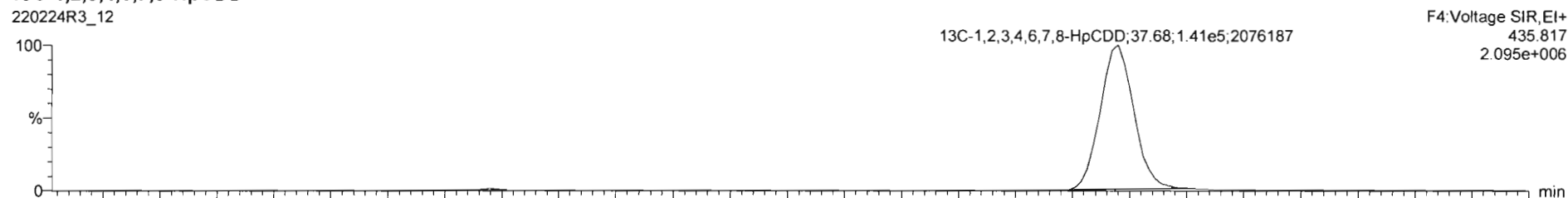
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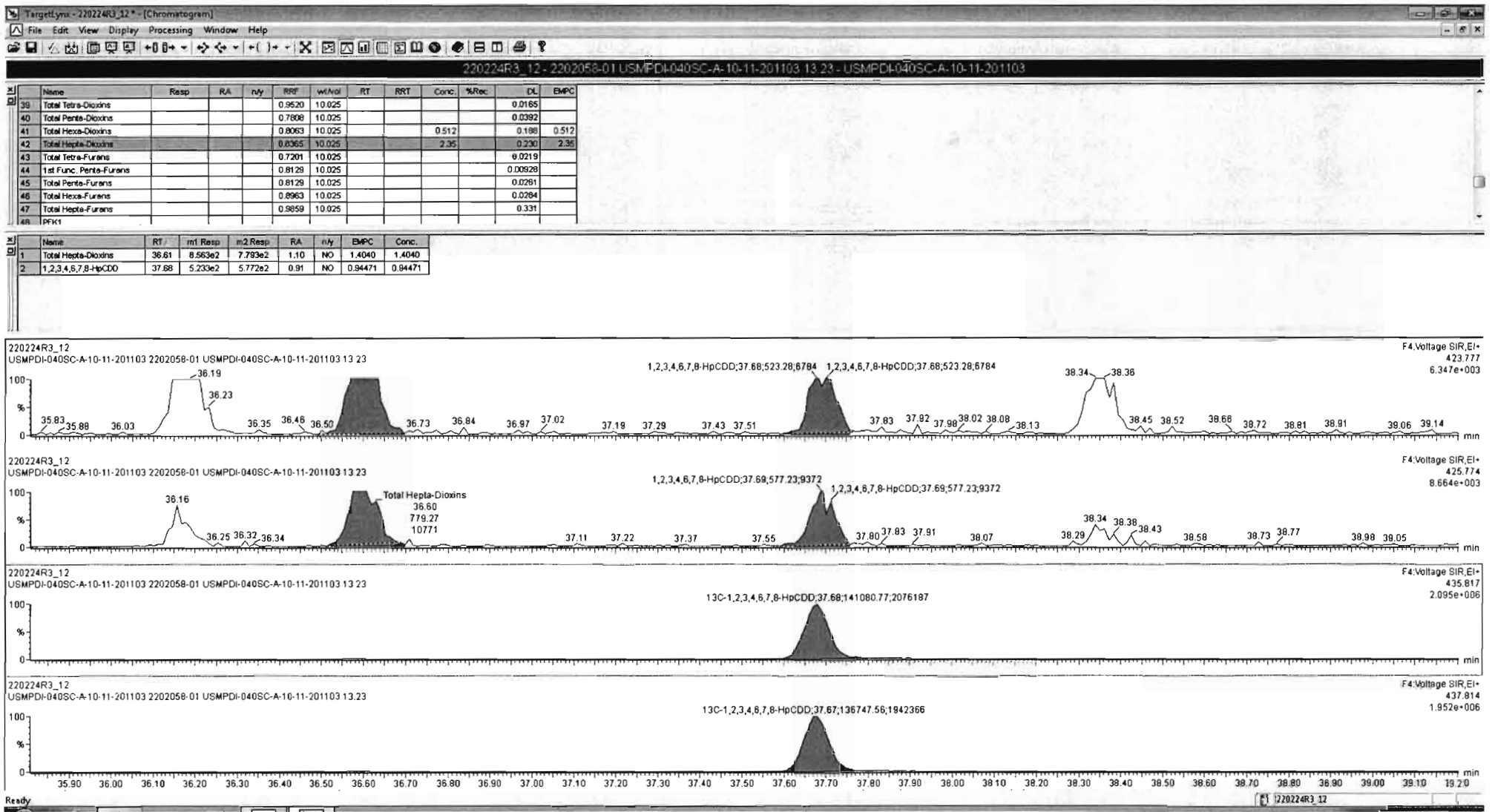
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**13C-1,2,3,4,6,7,8-HpCDD**





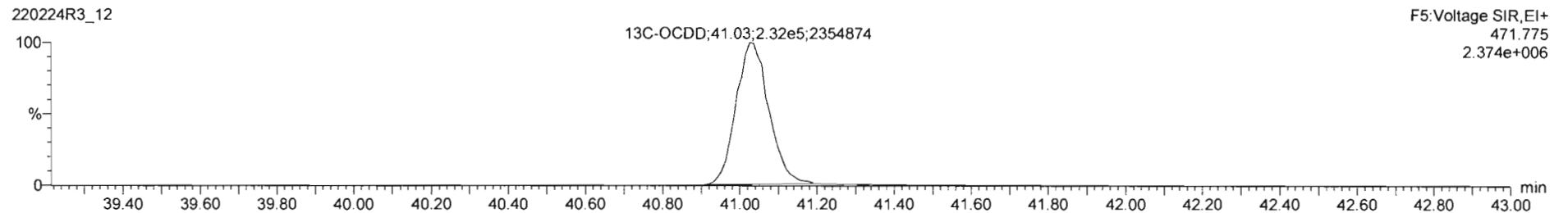
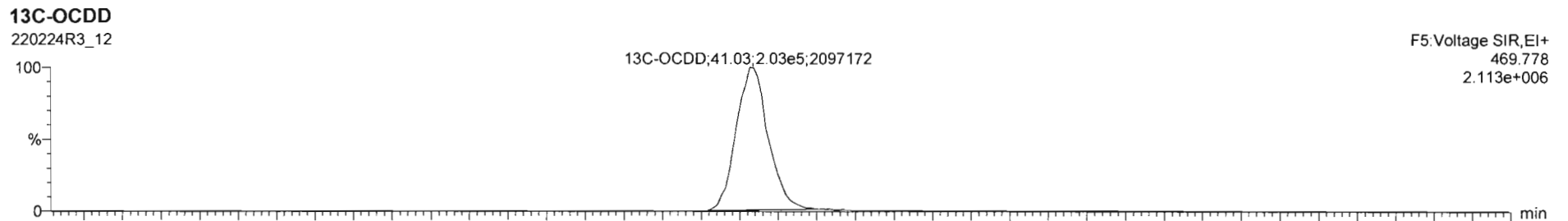
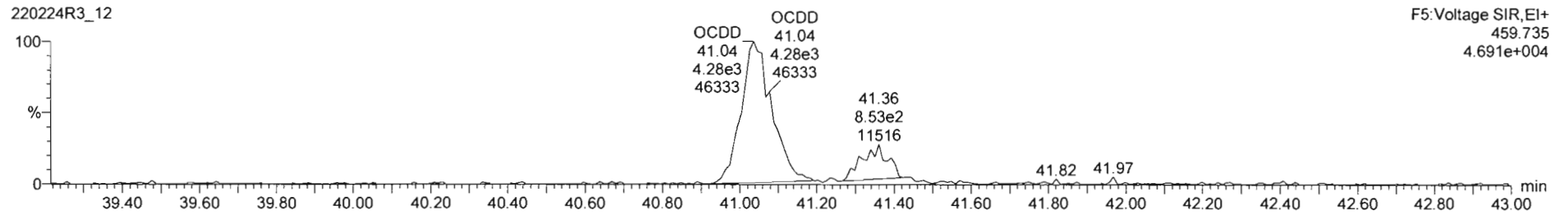
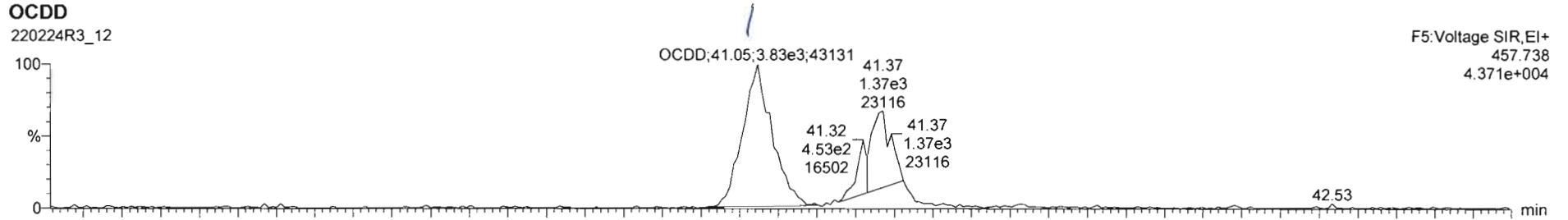




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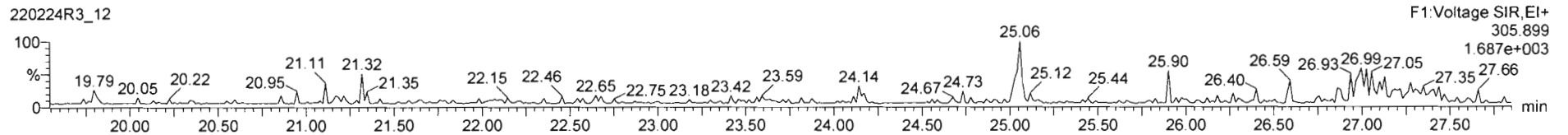
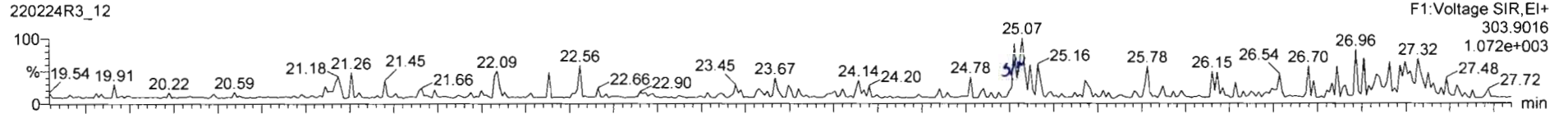


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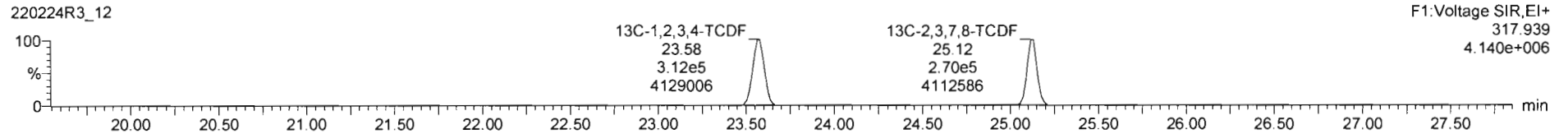
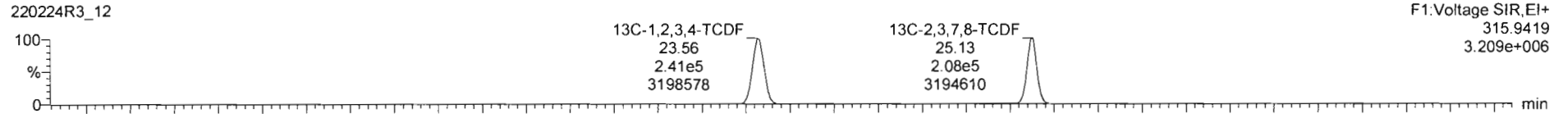
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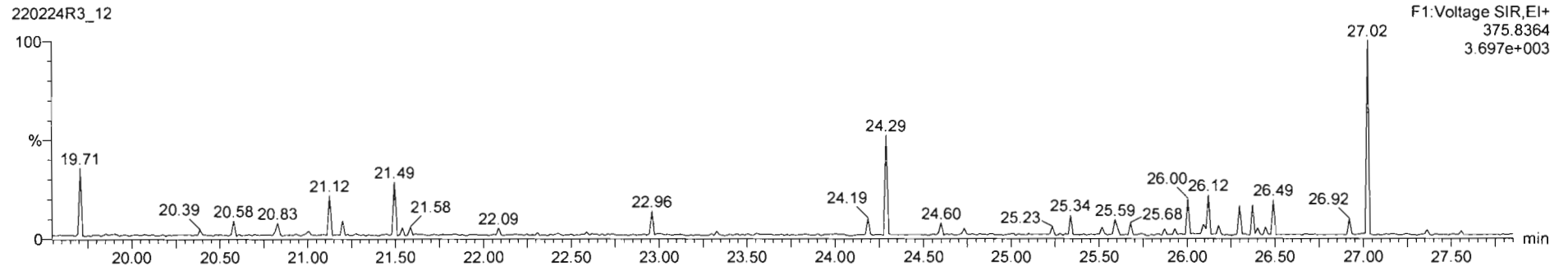
**2,3,7,8-TCDF**

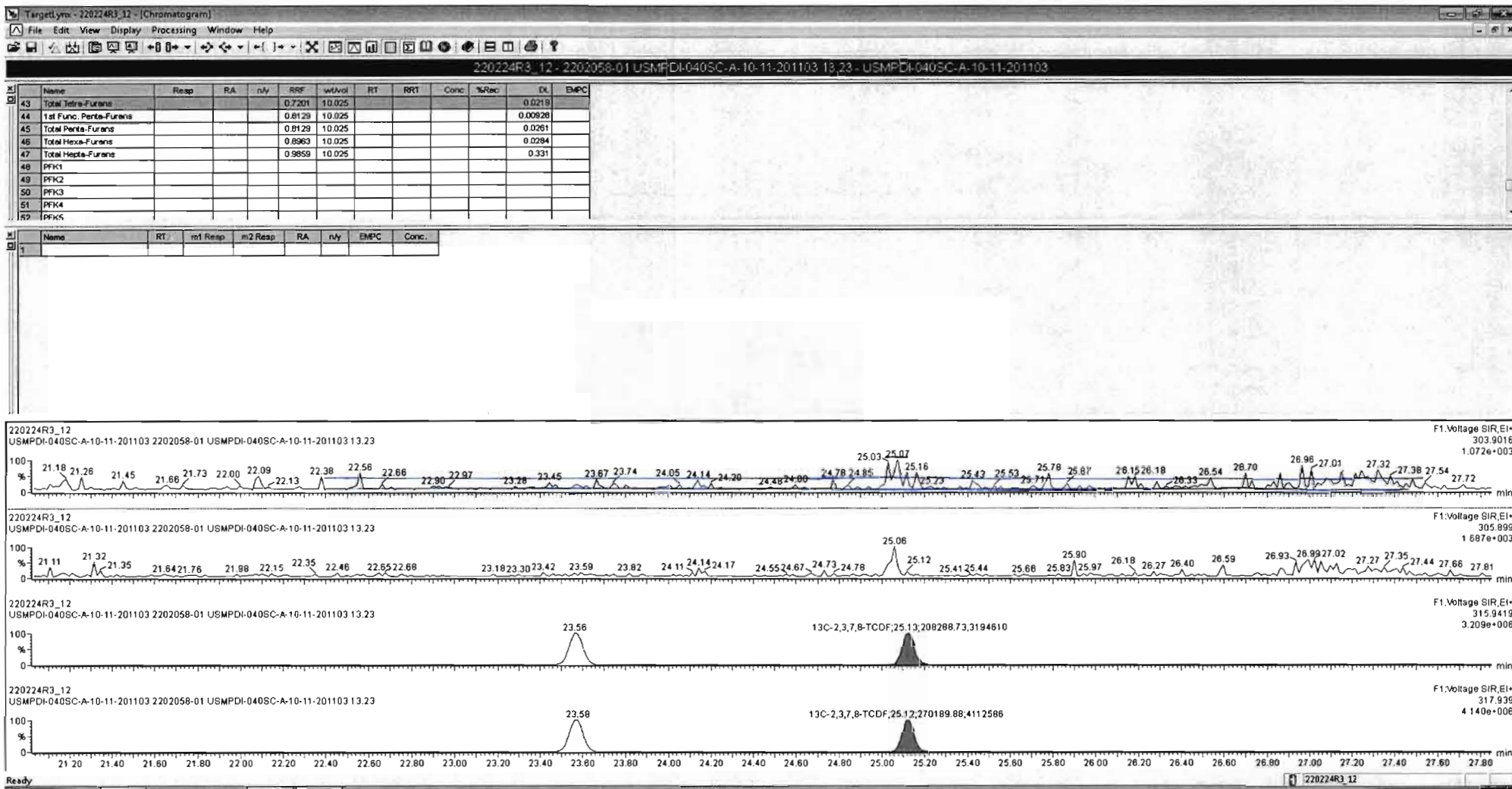


**13C-2,3,7,8-TCDF**



**DPE1**





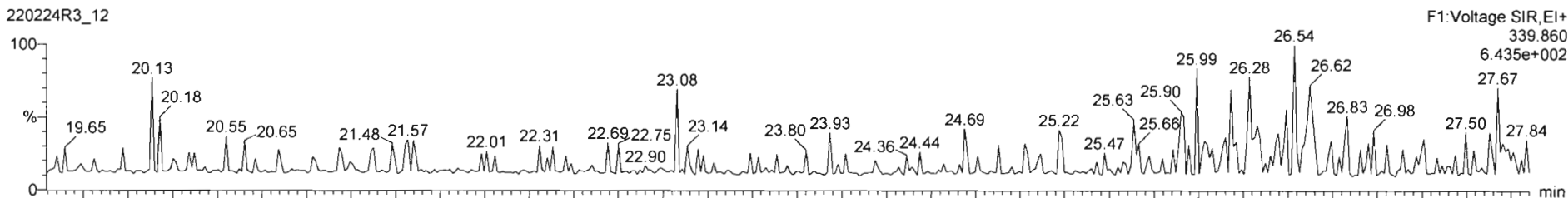
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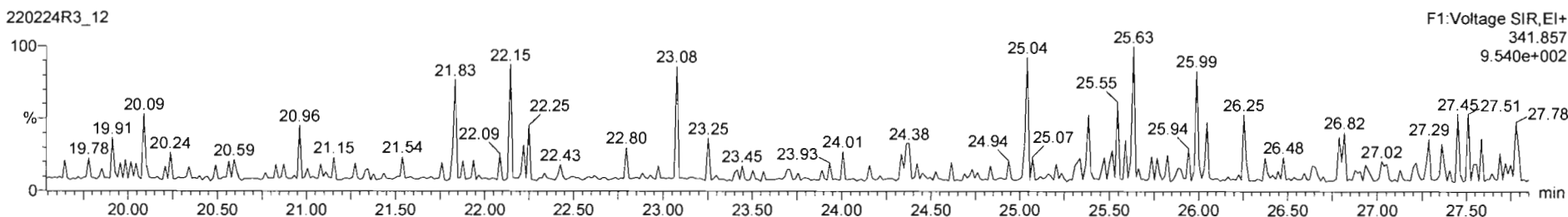
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1st Func. Penta-Furans

220224R3\_12

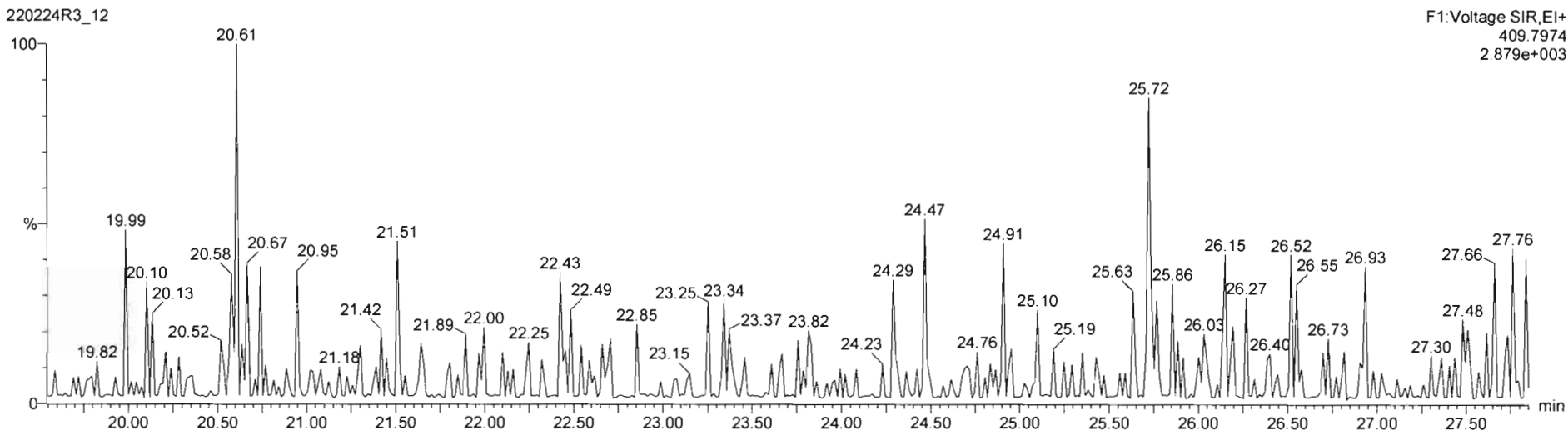


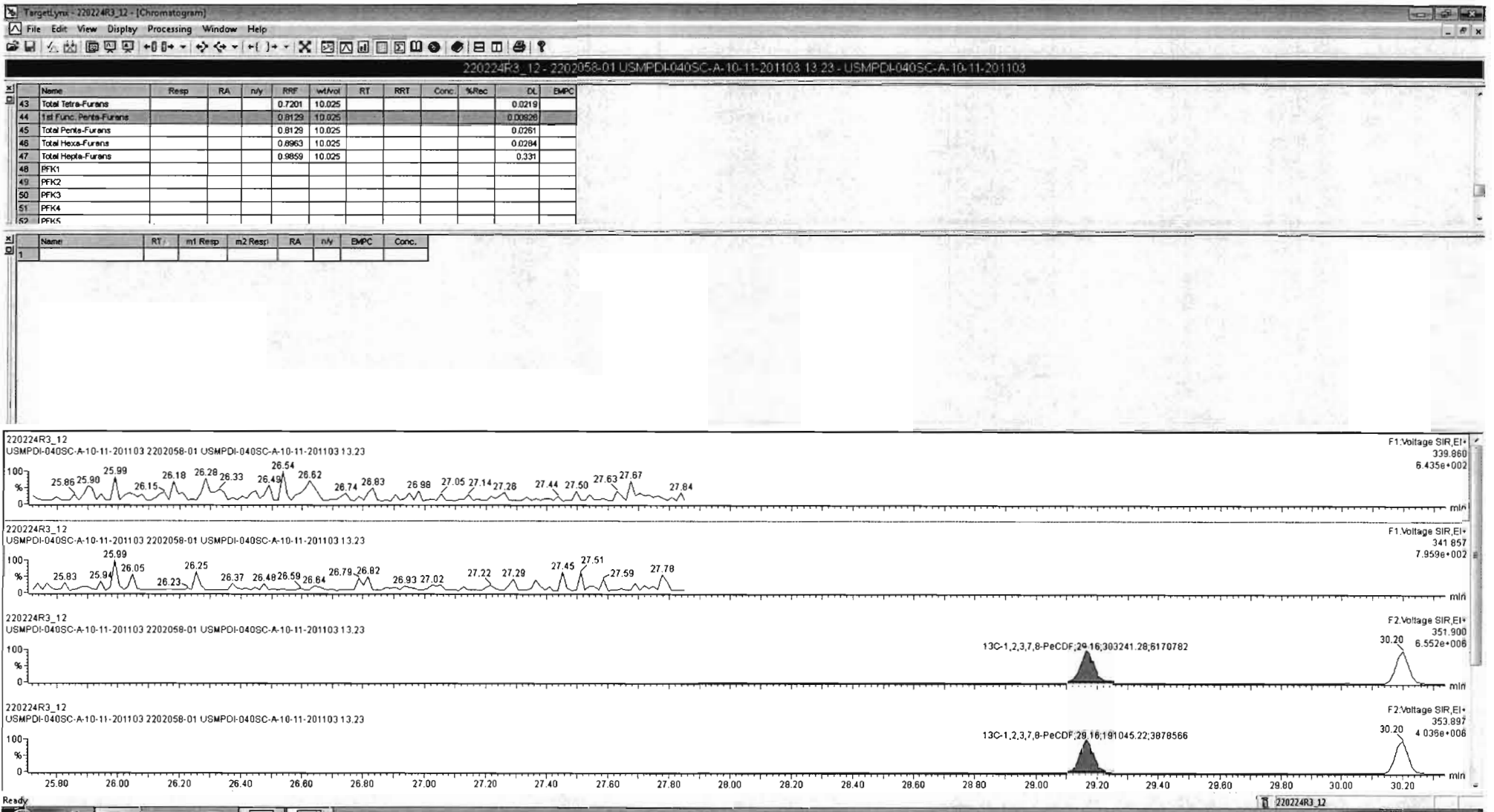
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DPE6

220224R3\_12





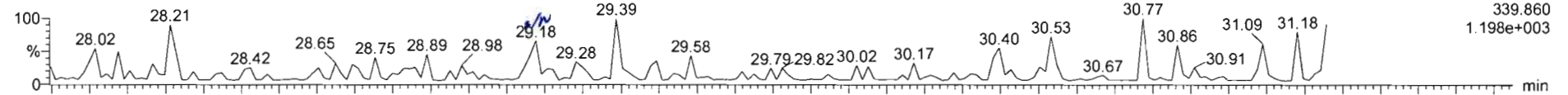
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Printed: Friday, February 25, 2022 18:41:50 Pacific Standard Time

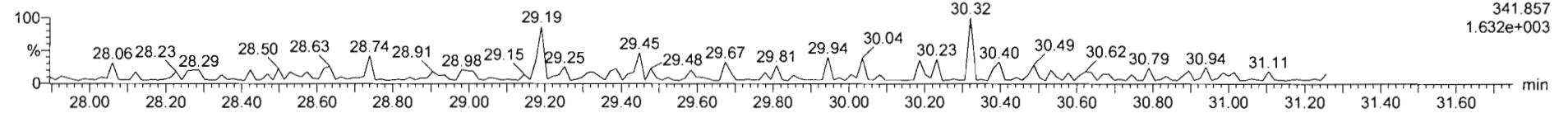
Name: 220224R3\_12, Date: 24-Feb-2022, Time: 23:30:08, ID: 2202058-01 USMPDI-040SC-A-10-11-201103 13.23, Description: USMPDI-040SC-A-10-11-201103

**1,2,3,7,8-PeCDF**

220224R3\_12

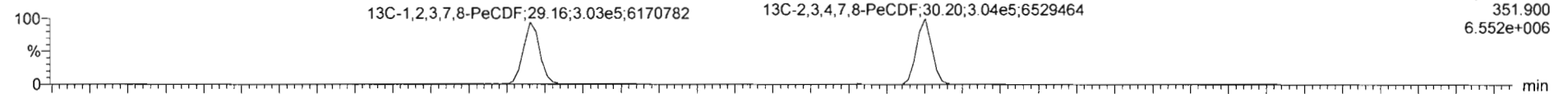


220224R3\_12

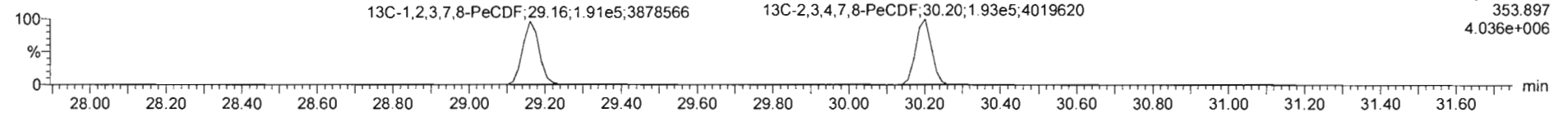


**13C-1,2,3,7,8-PeCDF**

220224R3\_12

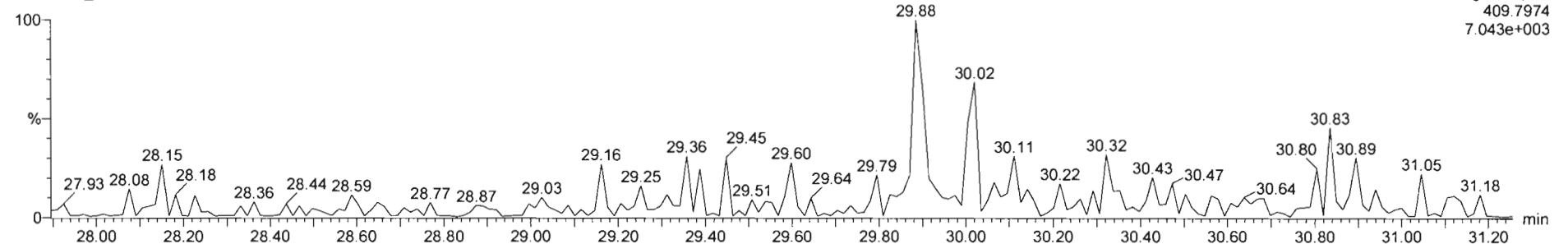


220224R3\_12



**DPE2**

220224R3\_12

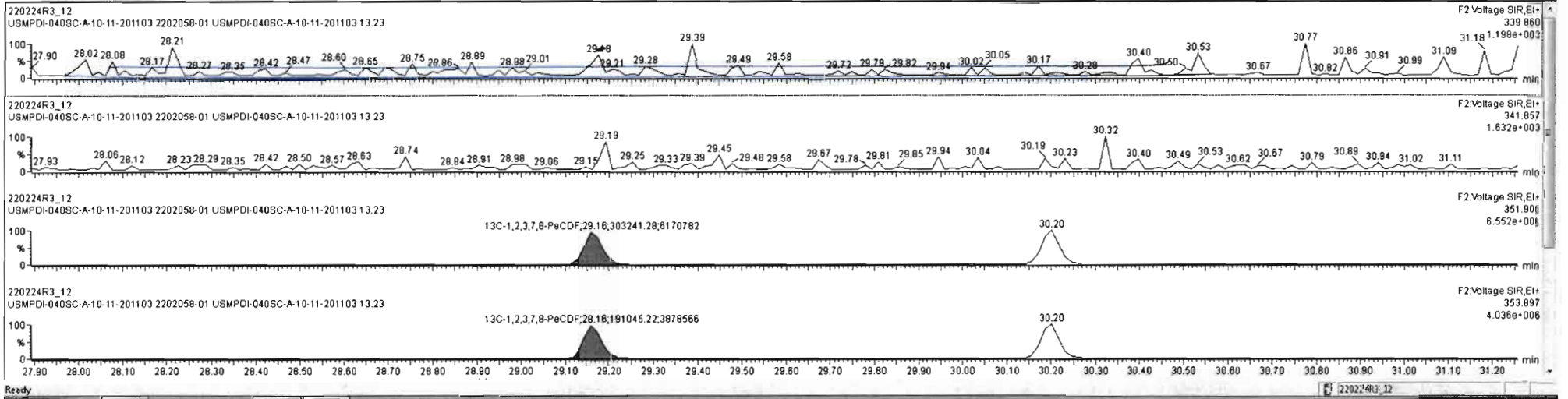




220224R3\_12 - 2202058-01 USMPDI-040SC-A-10-11-201103 13.23 - USMPDI-040SC-A-10-11-201103

#	Name	Resp	RA	n/y	RRF	wf/vol	RT	RRT	Conc.	%Rec	DL	EMPC
43	Total Tetra-Furans				0.7201	10.025					0.0219	
44	1st Func. Penta-Furans				0.8129	10.025					0.00928	
45	Total Penta-Furans				0.8129	10.025					0.0261	
46	Total Hexa-Furans				0.8963	10.025					0.0284	
47	Total Hepta-Furans				0.9859	10.025					0.331	
48	PFK1											
49	PFK2											
50	PFK3											
51	PFK4											
52	PFK5											

#	Name	RT	m1 Resp	m2 Resp	RA	n/y	EMPC	Conc.
1								



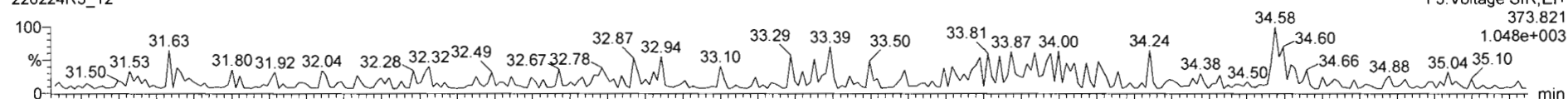
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Printed: Friday, February 25, 2022 18:41:50 Pacific Standard Time

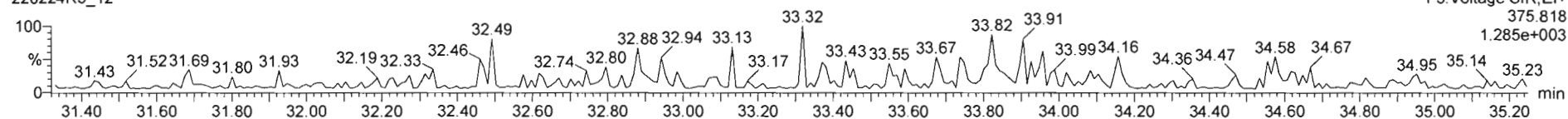
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**1,2,3,4,7,8-HxCDF**

220224R3\_12

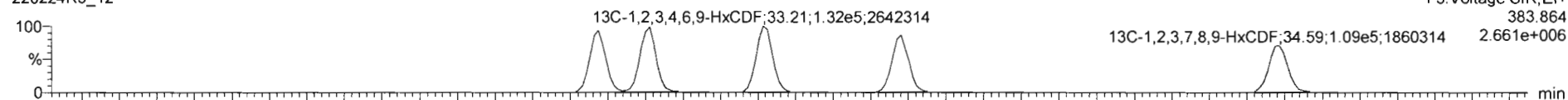


220224R3\_12

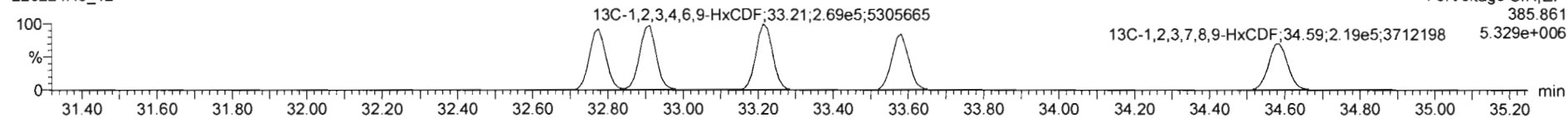


**13C-1,2,3,4,7,8-HxCDF**

220224R3\_12

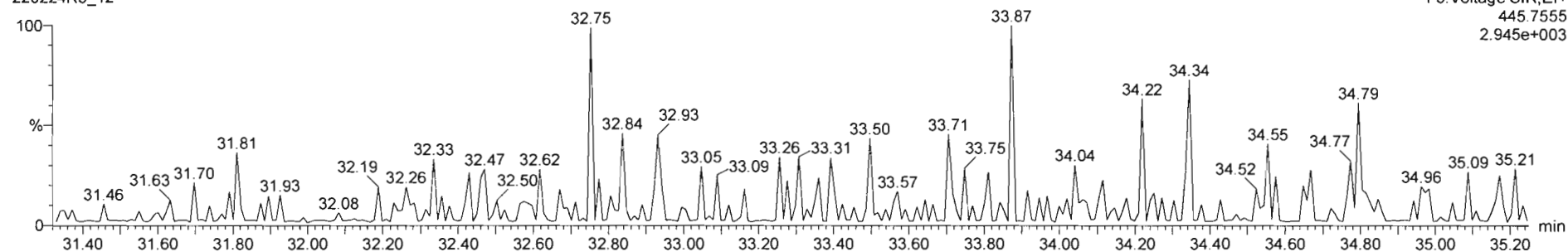


220224R3\_12



**DPE3**

220224R3\_12





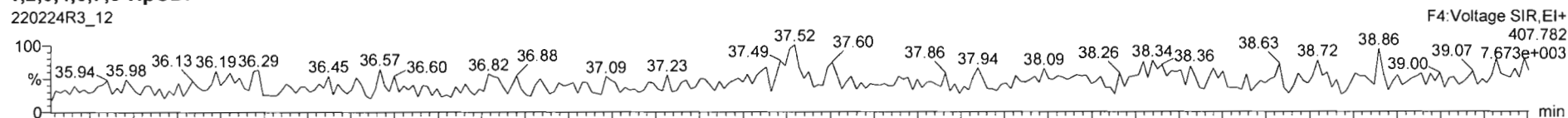
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Last Altered: Friday, February 25, 2022 18:41:45 Pacific Standard Time  
Printed: Friday, February 25, 2022 18:41:50 Pacific Standard Time

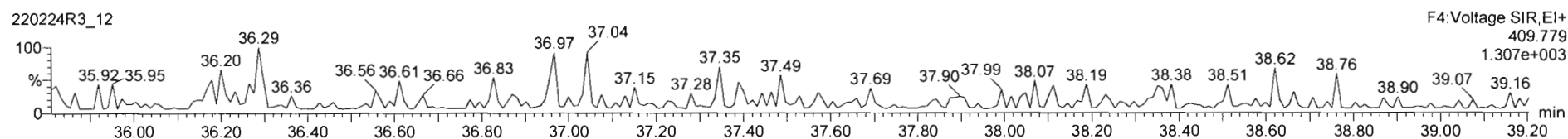
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**1,2,3,4,6,7,8-HpCDF**

220224R3\_12

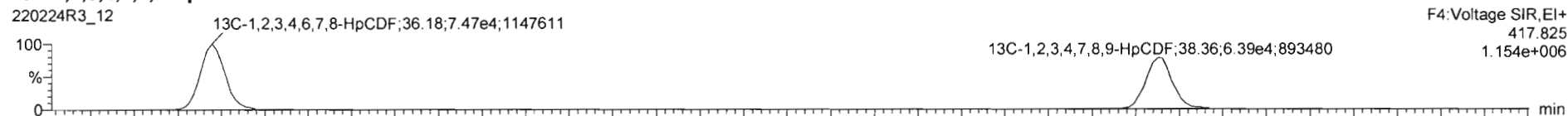


220224R3\_12

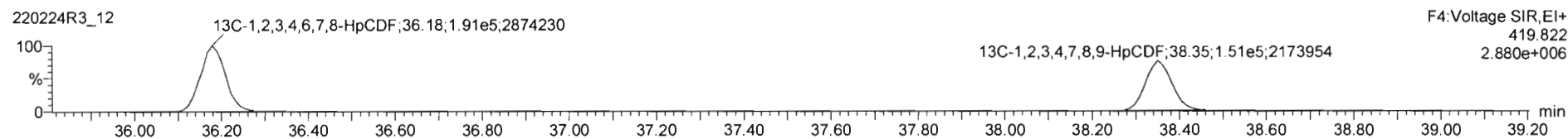


**13C-1,2,3,4,6,7,8-HpCDF**

220224R3\_12

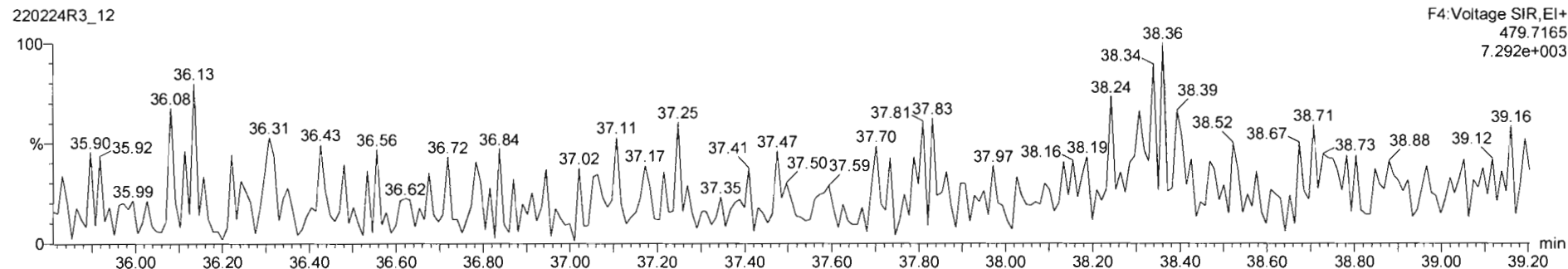


220224R3\_12



**DPE4**

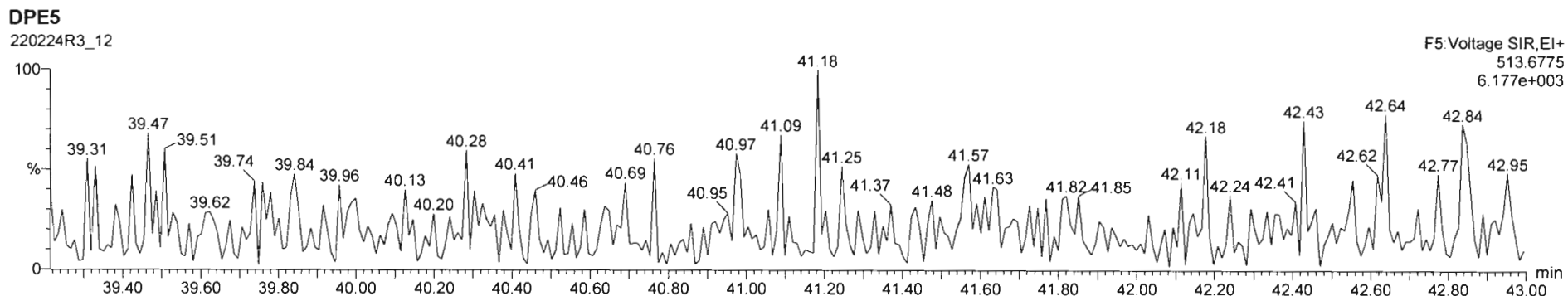
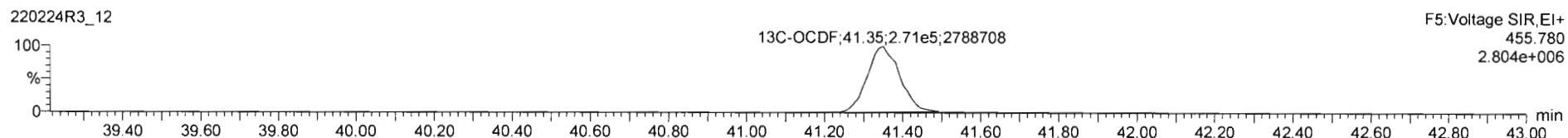
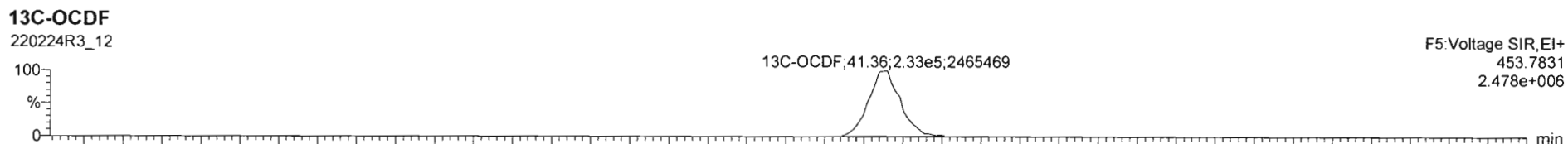
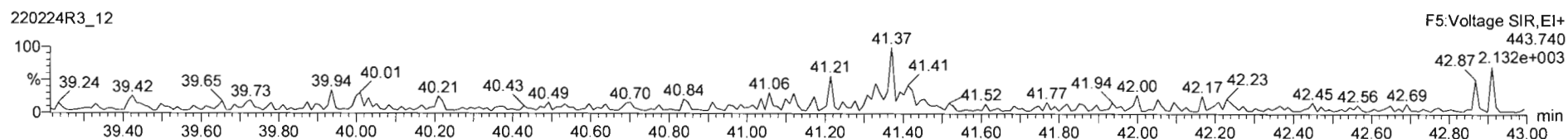
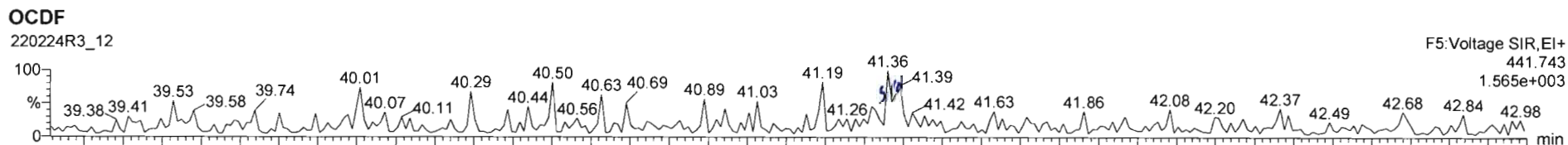
220224R3\_12



Dataset: Untitled

Last Altered: Friday, February 25, 2022 18:41:45 Pacific Standard Time  
Printed: Friday, February 25, 2022 18:41:50 Pacific Standard Time

Name: 220224R3\_12, Date: 24-Feb-2022, Time: 23:30:08, ID: 2202058-01 USMPDI-040SC-A-10-11-201103 13.23, Description: USMPDI-040SC-A-10-11-201103

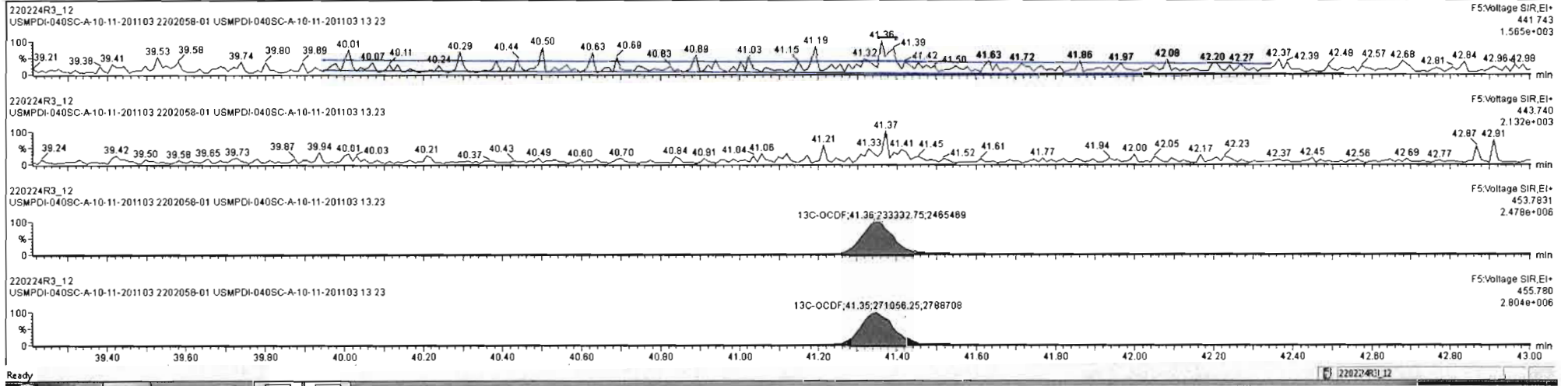


TargetLynx - 220224R3\_12 - [Chromatogram]

220224R3\_12 - 2202058-01 USMPDI-040SC-A-10-11-201103 13.23 - USMPDI-040SC-A-10-11-201103

Name	Resp	RA	n/y	RRF	wtAveI	RT	RRT	Conc	%Rec	DL	EMPC
17	OCDF		NO	0.7218	10.025					0.251	
18	13C-2,3,7,8-TCDD	4.14e5	0.76	NO	1.1063	10.025	25.80	1.030	168	84.7	0.161
19	13C-1,2,3,7,8-PeCDD	3.76e5	0.83	NO	0.8931	10.025	30.38	1.213	190	95.2	0.303
20	13C-1,2,3,4,7,8-HxCDD	3.00e5	1.28	NO	0.7837	10.025	33.89	1.014	191	95.5	0.504
21	13C-1,2,3,6,7,8-HxCDD	3.48e5	1.25	NO	0.8627	10.025	33.81	1.018	201	101	0.458
22	13C-1,2,3,7,8,9-HxCDD	3.51e5	1.24	NO	0.9048	10.025	34.08	1.026	193	96.9	0.437
23	13C-1,2,3,4,6,7,8-HpCDD	2.78e5	1.03	NO	0.8438	10.025	37.88	1.134	215	108	0.656
24	13C-OCDF	4.35e5	0.87	NO	0.5276	10.025	41.03	1.235	410	103	0.935
25	13C-2,3,7,8-TCDF	4.78e5	0.77	NO	1.1513	10.025	25.13	1.004	150	75.1	0.173
26	13C-1,2,3,7,8-PeCDF	4.94e5	1.58	NO	0.8153	10.025	29.16	1.164	187	98.7	0.470

Name	RT	m1 Resp	m2 Resp	RA	n/y	EMPC	Conc.
1							

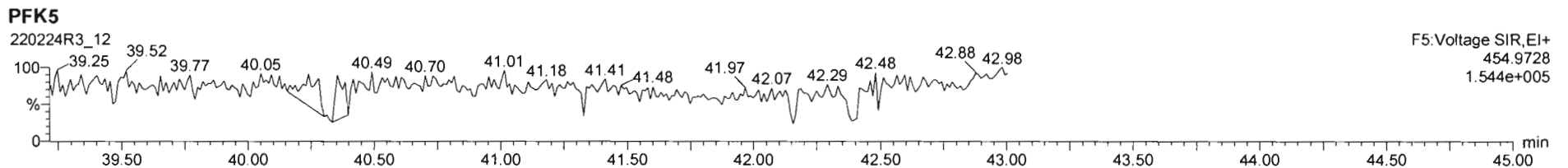
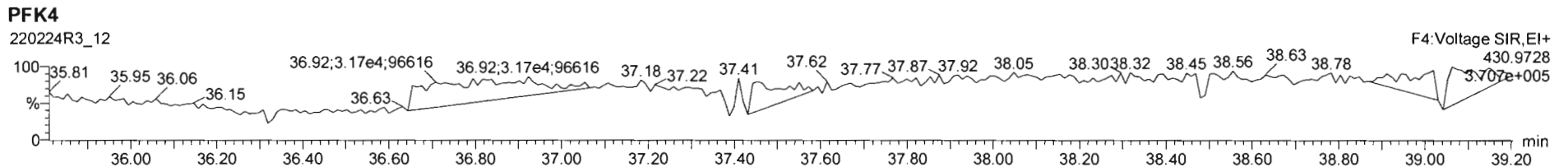
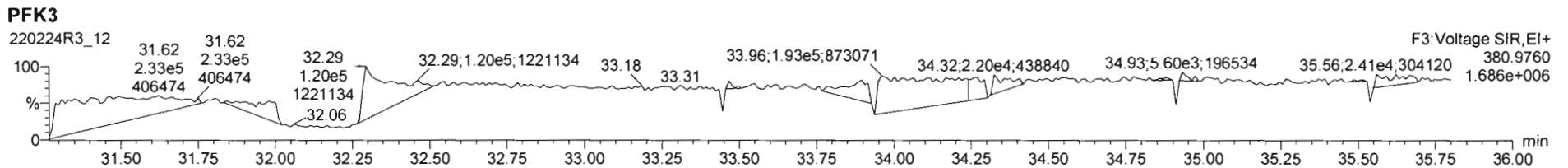
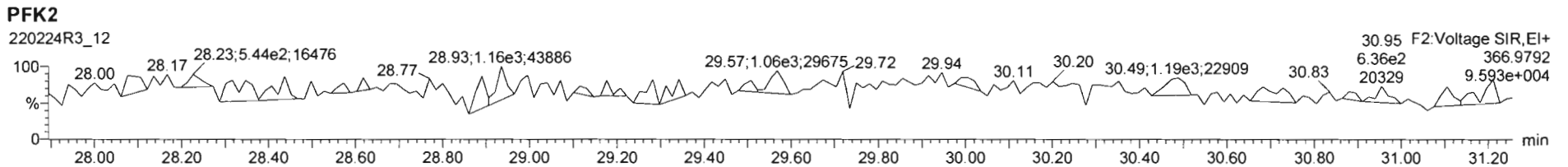
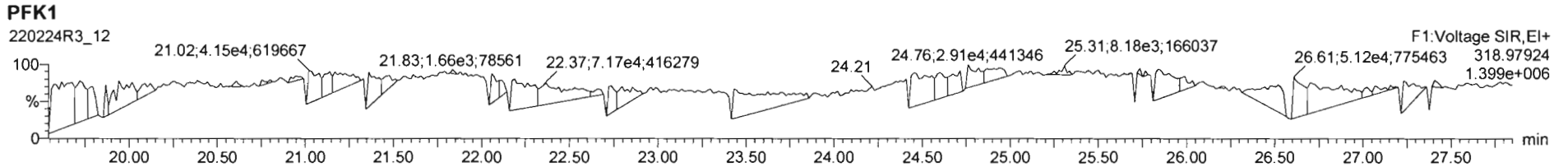


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Last Altered: Friday, February 25, 2022 18:41:45 Pacific Standard Time

Printed: Friday, February 25, 2022 18:41:50 Pacific Standard Time

Name: 220224R3\_12, Date: 24-Feb-2022, Time: 23:30:08, ID: 2202058-01 USMPDI-040SC-A-10-11-201103 13.23, Description: USMPDI-040SC-A-10-11-201103



Dataset: I:\VG12.PRO\Results\220224R3\220224R3\_13.qld

Last Altered: Thursday, March 10, 2022 14:43:10 Pacific Standard Time

Printed: Thursday, March 10, 2022 14:46:52 Pacific Standard Time

*gly 03102022*

Method: I:\VG12.PRO\MethDB\1613rrt-2-17-22.mdb 17 Feb 2022 13:16:14

Calibration: I:\VG12.PRO\CurveDB\dbDIOXIN\_1613vg12-07-30-21.cdb 02 Aug 2021 09:55:11

*C103/11/2022*

Name: 220224R3\_13, Date: 25-Feb-2022, Time: 00:14:59, ID: 2202058-02 USMPDI-040SC-A-11-12-201103 13.53, Description: USMPDI-040SC-A-11-12-201103

#	Name	Resp	RA	n/y	RRF	wt/vol	Pred.RT	RT	Pred.RRT	RRT	Conc.	%Rec	DL	EMPC
1	1 2,3,7,8-TCDD			NO	0.952	10.247	25.828		1.001				0.0405	
2	2 1,2,3,7,8-PeCDD			NO	0.781	10.247	30.412		1.001				0.116	
3	3 1,2,3,4,7,8-HxCDD			NO	0.904	10.247	33.705		1.001				0.125	
4	4 1,2,3,6,7,8-HxCDD			NO	0.806	10.247	33.820		1.001				0.129	
5	5 1,2,3,7,8,9-HxCDD			NO	0.814	10.247	34.083		1.000				0.129	
6	6 1,2,3,4,6,7,8-HpCDD	8.33e2	1.04	NO	0.836	10.247	37.670	37.67	1.000	1.000	0.81327		0.0905	0.813
7	7 OCDD	7.67e3	0.83	NO	0.798	10.247	41.044	41.06	1.000	1.001	9.5496		0.656	9.55
8	8 2,3,7,8-TCDF			NO	0.720	10.247	25.120		1.000				0.0331	
9	9 1,2,3,7,8-PeCDF			NO	0.813	10.247	29.164		1.000				0.0308	
10	10 2,3,4,7,8-PeCDF			NO	0.892	10.247	30.222		1.001				0.0254	
11	11 1,2,3,4,7,8-HxCDF			NO	0.893	10.247	32.774		1.000				0.0414	
12	12 1,2,3,6,7,8-HxCDF			NO	0.867	10.247	32.920		1.001				0.0402	
13	13 2,3,4,6,7,8-HxCDF			NO	0.896	10.247	33.590		1.001				0.0467	
14	14 1,2,3,7,8,9-HxCDF			NO	0.874	10.247	34.575		1.000				0.0536	
15	15 1,2,3,4,6,7,8-HpCDF			NO	0.986	10.247	36.185		1.000				0.284	
16	16 1,2,3,4,7,8,9-HpCDF			NO	0.966	10.247	38.351		1.000				0.385	
17	17 OCDF			NO	0.722	10.247	41.368		1.000				0.203	
18	18 13C-2,3,7,8-TCDD	3.77e5	0.76	NO	1.11	10.247	25.742	25.80	1.028	1.030	176.25	90.3	0.181	
19	19 13C-1,2,3,7,8-PeCDD	3.25e5	0.61	NO	0.893	10.247	30.087	30.38	1.201	1.213	187.72	96.2	0.240	
20	20 13C-1,2,3,4,7,8-HxCDD	2.61e5	1.27	NO	0.784	10.247	33.662	33.69	1.014	1.014	191.63	98.2	0.431	
21	21 13C-1,2,3,6,7,8-HxCDD	2.94e5	1.26	NO	0.863	10.247	33.782	33.80	1.017	1.018	196.60	101	0.392	
22	22 13C-1,2,3,7,8,9-HxCDD	2.98e5	1.24	NO	0.905	10.247	34.071	34.07	1.026	1.026	189.46	97.1	0.373	
23	23 13C-1,2,3,4,6,7,8-HpCDD	2.39e5	1.01	NO	0.644	10.247	37.487	37.66	1.129	1.134	213.88	110	0.552	
24	24 13C-OCDD	3.93e5	0.86	NO	0.528	10.247	40.755	41.04	1.227	1.236	428.93	110	0.739	
25	25 13C-2,3,7,8-TCDF	4.61e5	0.75	NO	1.15	10.247	25.121	25.12	1.003	1.003	157.22	80.6	0.187	
26	26 13C-1,2,3,7,8-PeCDF	4.10e5	1.58	NO	0.905	10.247	28.917	29.16	1.155	1.164	177.81	91.1	0.667	
27	27 13C-2,3,4,7,8-PeCDF	4.43e5	1.57	NO	0.899	10.247	30.142	30.20	1.204	1.206	193.52	99.1	0.671	
28	28 13C-1,2,3,4,7,8-HxCDF	3.16e5	0.49	NO	1.00	10.247	32.752	32.76	0.986	0.987	181.74	93.1	0.487	
29	29 13C-1,2,3,6,7,8-HxCDF	3.32e5	0.49	NO	1.04	10.247	32.882	32.90	0.990	0.991	183.57	94.1	0.468	
30	30 13C-2,3,4,6,7,8-HxCDF	3.07e5	0.49	NO	0.916	10.247	33.553	33.57	1.010	1.011	193.25	99.0	0.532	
31	31 13C-1,2,3,7,8,9-HxCDF	2.88e5	0.49	NO	0.859	10.247	34.579	34.56	1.041	1.041	192.82	98.8	0.567	

Dataset: I:\VG12.PRO\Results\220224R3\220224R3\_13.qld

Last Altered: Thursday, March 10, 2022 14:43:10 Pacific Standard Time  
 Printed: Thursday, March 10, 2022 14:46:52 Pacific Standard Time

Name: 220224R3\_13, Date: 25-Feb-2022, Time: 00:14:59, ID: 2202058-02 USMPDI-040SC-A-11-12-201103 13.53, Description: USMPDI-040SC-A-11-12-201103

	# Name	Resp	RA	n/y	RRF	wt/vol	Pred.RT	RT	Pred.RRT	RRT	Conc.	%Rec	DL	EMPC
32	32 13C-1,2,3,4,6,7,8-HpCDF	2.38e5	0.41	NO	0.632	10.247	36.182	36.17	1.090	1.089	216.62	111	0.818	
33	33 13C-1,2,3,4,7,8,9-HpCDF	1.88e5	0.41	NO	0.552	10.247	38.165	38.34	1.149	1.155	196.53	101	0.936	
34	34 13C-OCDF	4.58e5	0.86	NO	0.606	10.247	41.083	41.36	1.237	1.246	435.41	112	0.482	
35	35 37Cl-2,3,7,8-TCDD	1.37e5			1.01	10.247	25.762	25.81	1.029	1.031	69.776	89.4	0.0744	
36	36 13C-1,2,3,4-TCDD	3.78e5	0.77	NO	1.00	10.247	25.010	25.04	1.000	1.000	195.18	100	0.201	
37	37 13C-1,2,3,4-TCDF	4.97e5	0.77	NO	1.00	10.247	23.580	23.56	1.000	1.000	195.18	100	0.216	
38	38 13C-1,2,3,4,6,9-HxCDF	3.39e5	0.50	NO	1.00	10.247	33.170	33.20	1.000	1.000	195.18	100	0.488	
39	39 Total Tetra-Dioxins				0.952	10.247	24.620		0.000		0.00000		0.0248	0.0621
40	40 Total Penta-Dioxins				0.781	10.247	29.960		0.000				0.0401	
41	41 Total Hexa-Dioxins				0.806	10.247	33.635		0.000		0.49813		0.133	0.498
42	42 Total Hepta-Dioxins				0.836	10.247	37.640		0.000		2.2547		0.0905	2.25
43	43 Total Tetra-Furans				0.720	10.247	23.610		0.000				0.0110	
44	44 1st Func. Penta-Furans				0.813	10.247	26.930		0.000				0.00843	
45	45 Total Penta-Furans				0.813	10.247	29.275		0.000				0.0120	
46	46 Total Hexa-Furans				0.896	10.247	33.555		0.000				0.0233	
47	47 Total Hepta-Furans				0.986	10.247	37.835		0.000				0.286	



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Dataset: I:\VG12.PRO\Results\220224R3\220224R3\_13.qld

Last Altered: Thursday, March 10, 2022 14:43:10 Pacific Standard Time

Printed: Thursday, March 10, 2022 14:46:52 Pacific Standard Time

Method: I:\VG12.PRO\MethDB\1613rrt-2-17-22.mdb 17 Feb 2022 13:16:14

Calibration: I:\VG12.PRO\CurveDB\dbDIOXIN\_1613vg12-07-30-21.cdb 02 Aug 2021 09:55:11

Name: 220224R3\_13, Date: 25-Feb-2022, Time: 00:14:59, ID: 2202058-02 USMPDI-040SC-A-11-12-201103 13.53, Description: USMPDI-040SC-A-11-12-201103

**Tetra-Dioxins**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1	Total Tetra-Dioxins	23.74	1.330e3	1.722e3	4.977e1	8.518e1	0.58	YES	0.000e0	0.00000	0.062143	0.0248

**Penta-Dioxins**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1												

**Hexa-Dioxins**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1	Total Hexa-Dioxins	32.04	6.973e3	6.256e3	3.170e2	2.678e2	1.18	NO	5.848e2	0.49813	0.49813	0.133

**Hepta-Dioxins**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1	Total Hepta-Dioxins	36.59	9.904e3	1.048e4	7.464e2	7.300e2	1.02	NO	1.476e3	1.4414	1.4414	0.0905
2	1,2,3,4,6,7,8-HpCDD	37.67	7.465e3	5.971e3	4.239e2	4.091e2	1.04	NO	8.330e2	0.81327	0.81327	0.0905

**Tetra-Furans**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1												

**Penta-Furans function 1**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1												

Vista Analytical Laboratory

Dataset: I:\VG12.PRO\Results\220224R3\220224R3\_13.qld

Last Altered: Thursday, March 10, 2022 14:43:10 Pacific Standard Time

Printed: Thursday, March 10, 2022 14:46:52 Pacific Standard Time

Name: 220224R3\_13, Date: 25-Feb-2022, Time: 00:14:59, ID: 2202058-02 USMPDI-040SC-A-11-12-201103 13.53, Description: USMPDI-040SC-A-11-12-201103

**Penta-Furans**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1												

**Hexa-Furans**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1												

**Hepta-Furans**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1												



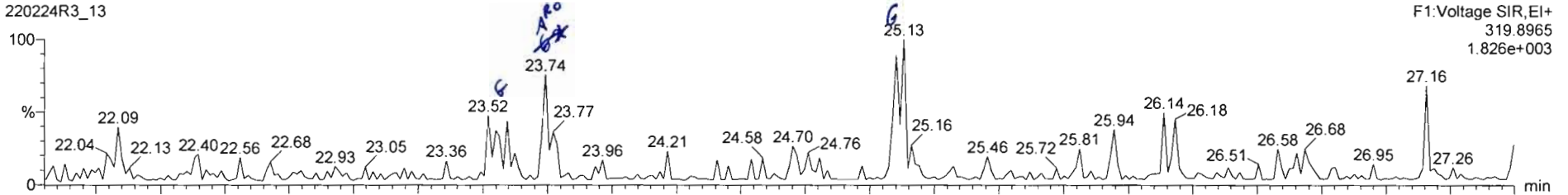
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Printed: Friday, February 25, 2022 18:41:50 Pacific Standard Time

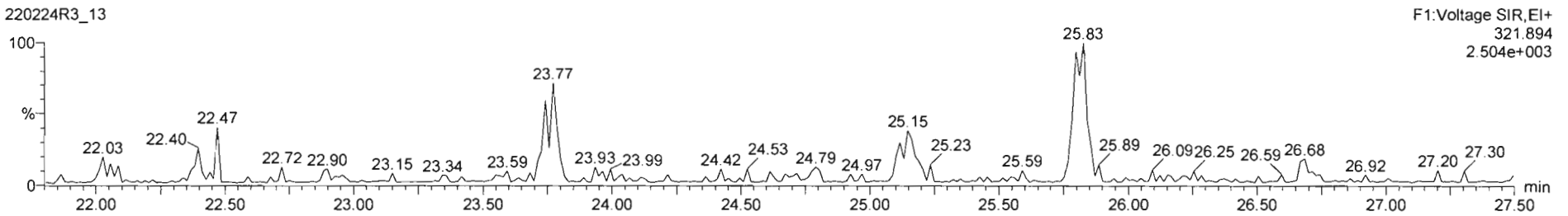
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2,3,7,8-TCDD

220224R3\_13

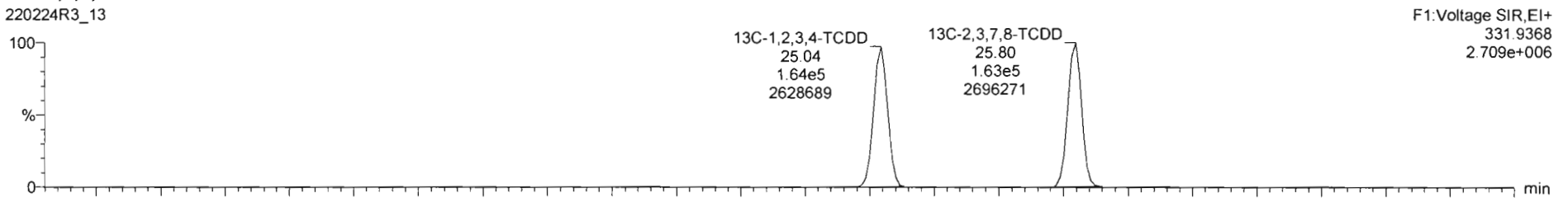


220224R3\_13

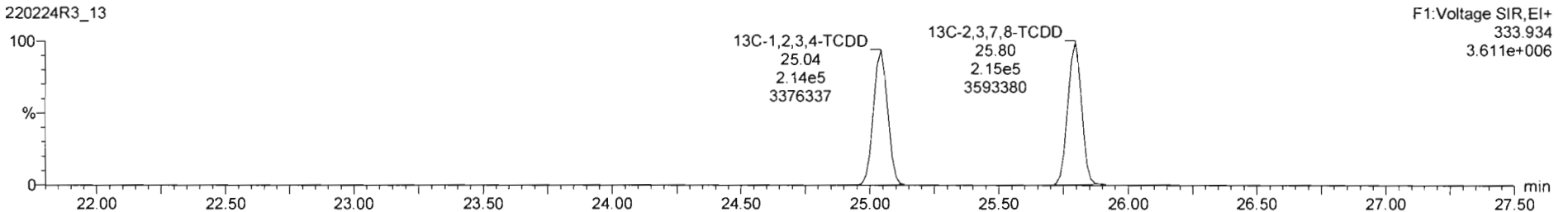


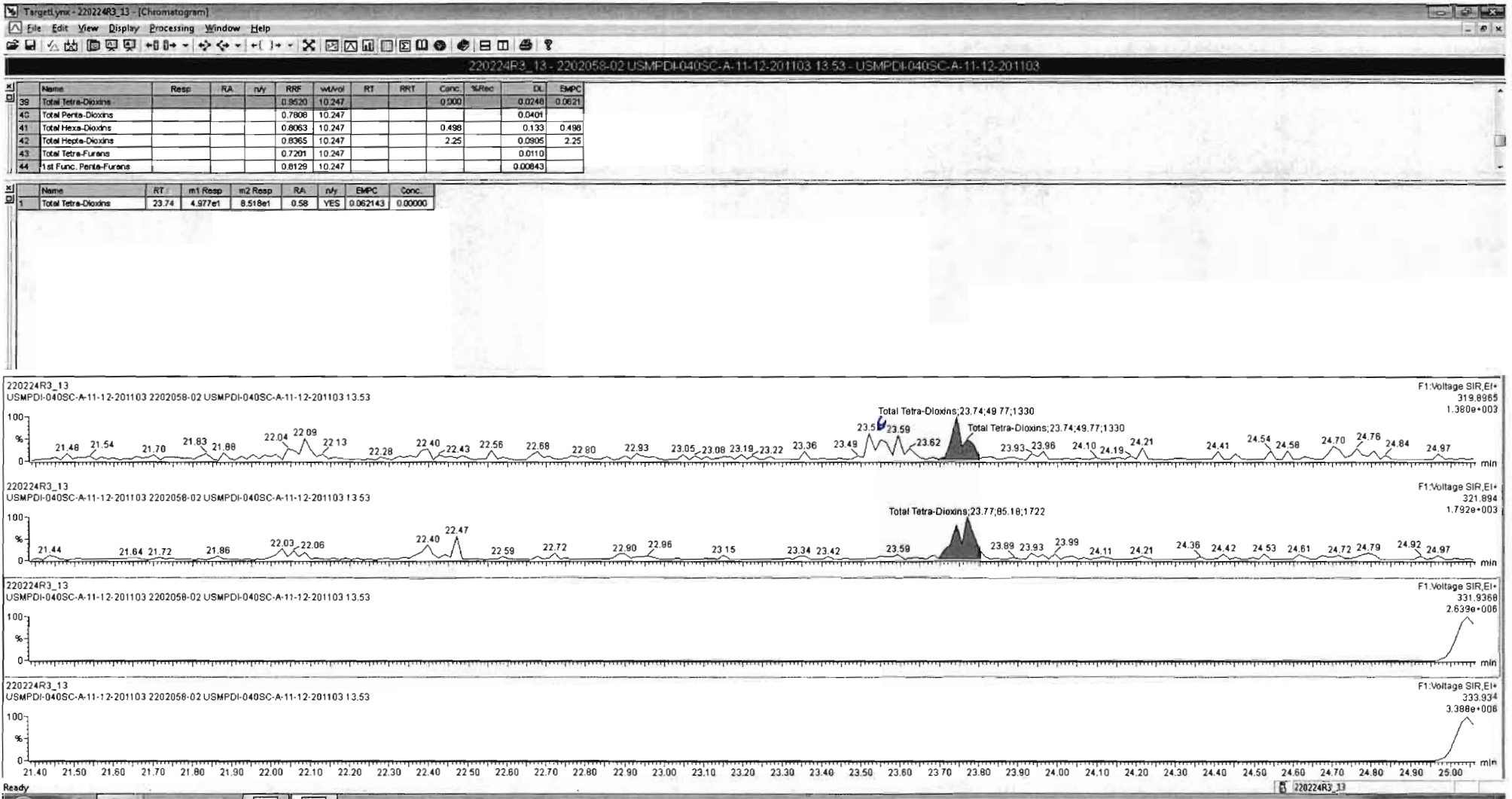
13C-2,3,7,8-TCDD

220224R3\_13



220224R3\_13





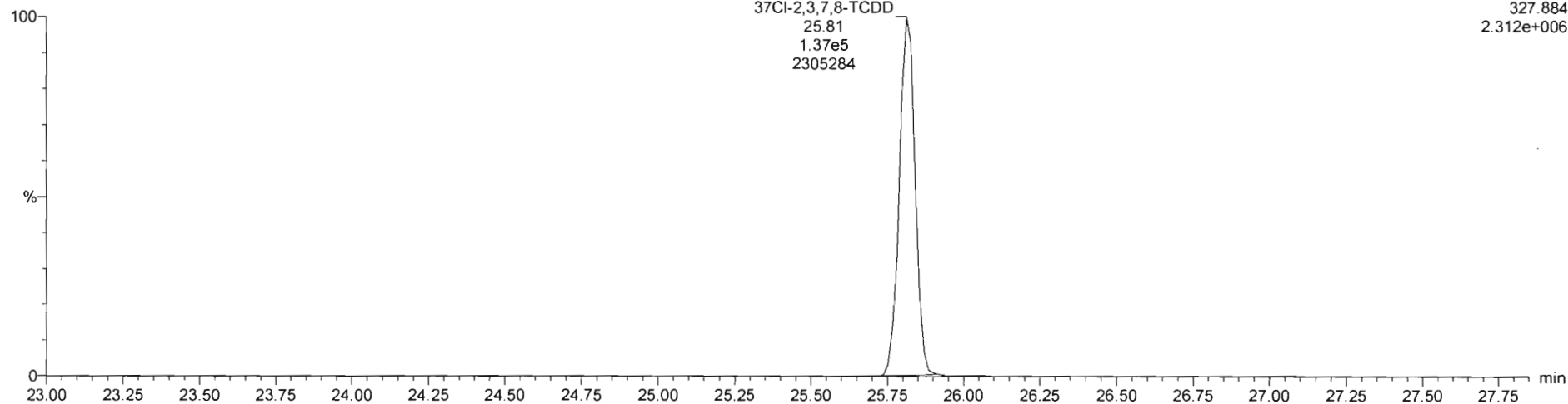
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Name: 220224R3\_13, Date: 25-Feb-2022, Time: 00:14:59, ID: 2202058-02 USMPDI-040SC-A-11-12-201103 13.53, Description: USMPDI-040SC-A-11-12-201103

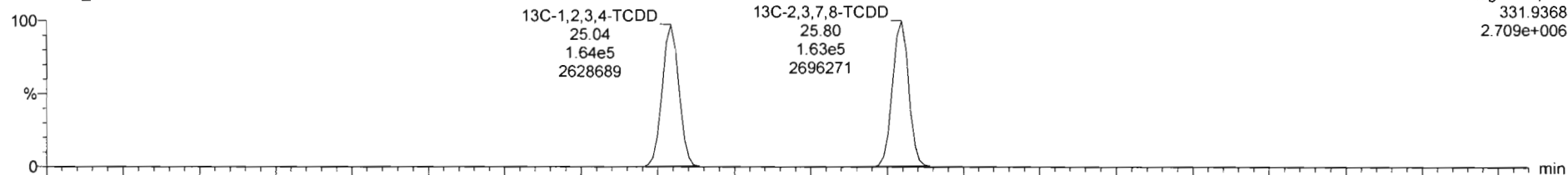
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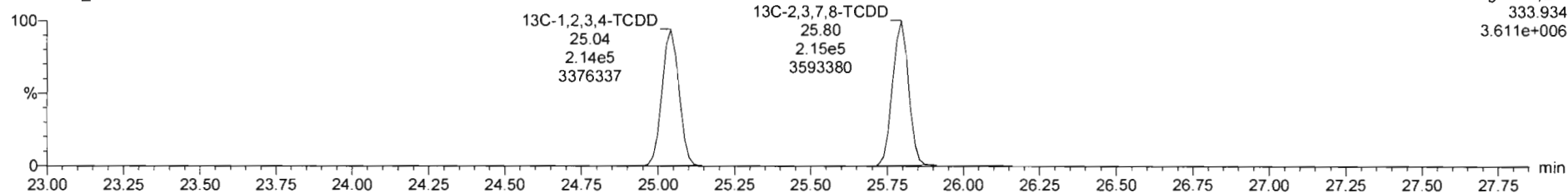


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220224R3\_13



220224R3\_13



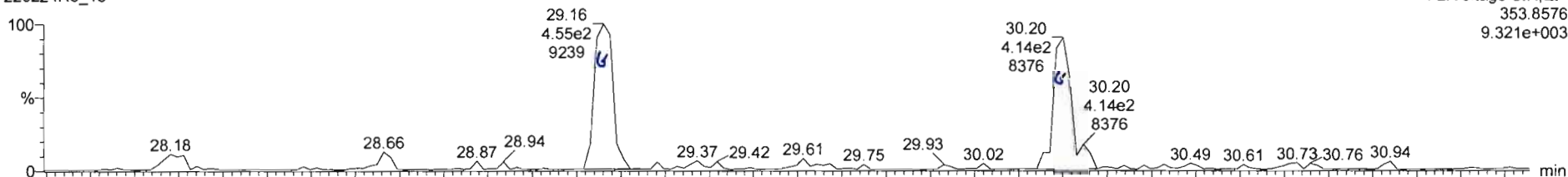
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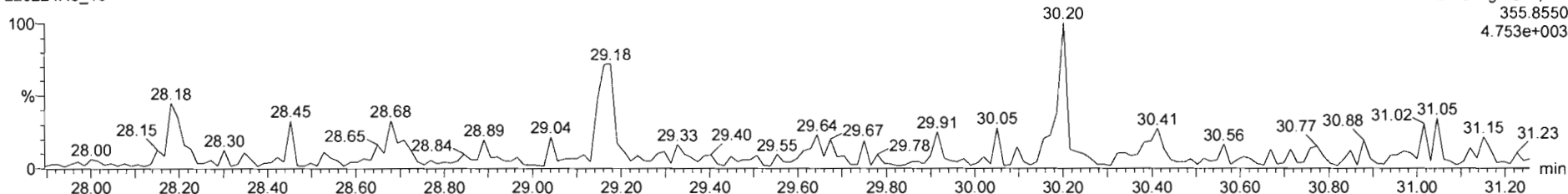
1,2,3,7,8-PeCDD

220224R3\_13



F2: Voltage SIR, EI+  
353.8576  
9.321e+003

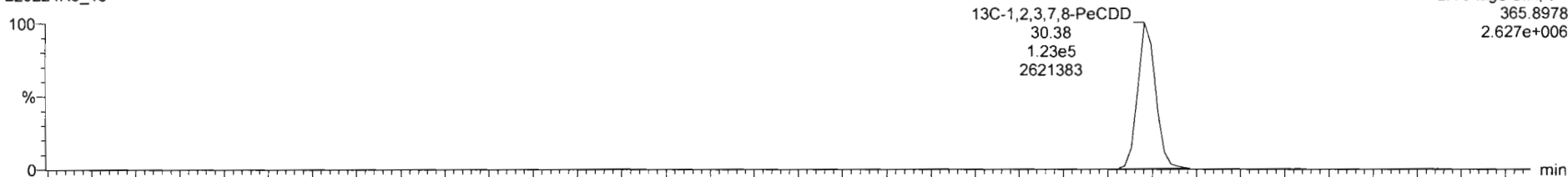
220224R3\_13



F2: Voltage SIR, EI+  
355.8550  
4.753e+003

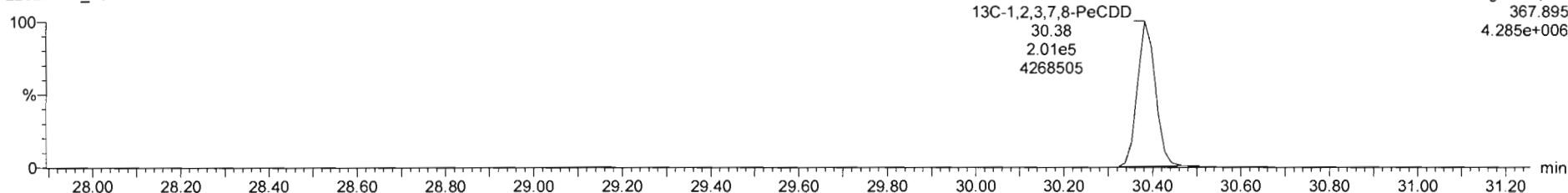
13C-1,2,3,7,8-PeCDD

220224R3\_13



F2: Voltage SIR, EI+  
365.8978  
2.627e+006

220224R3\_13



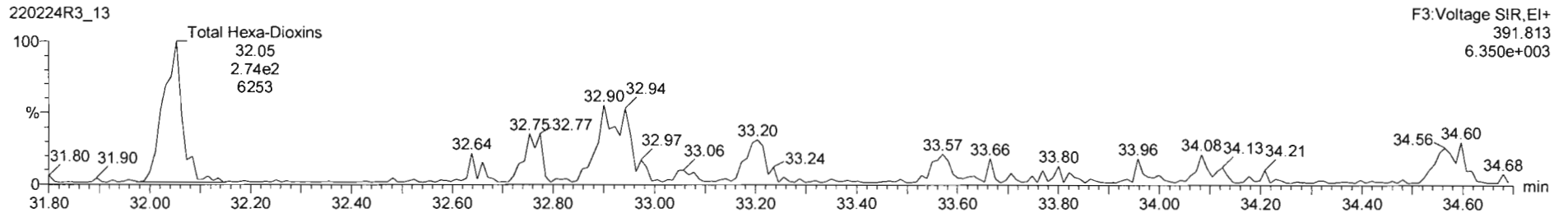
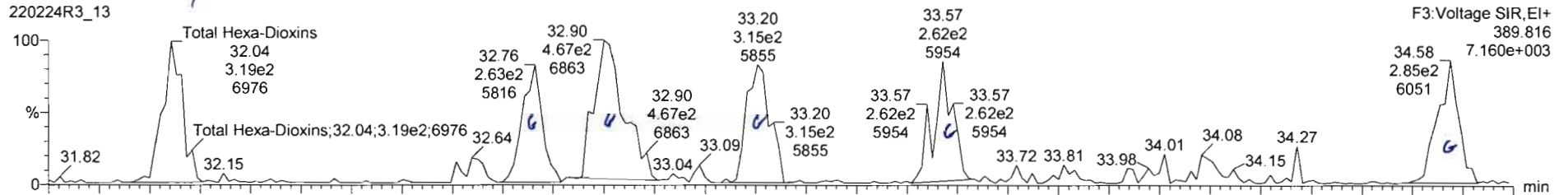
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367.895  
4.285e+006

Dataset: Untitled

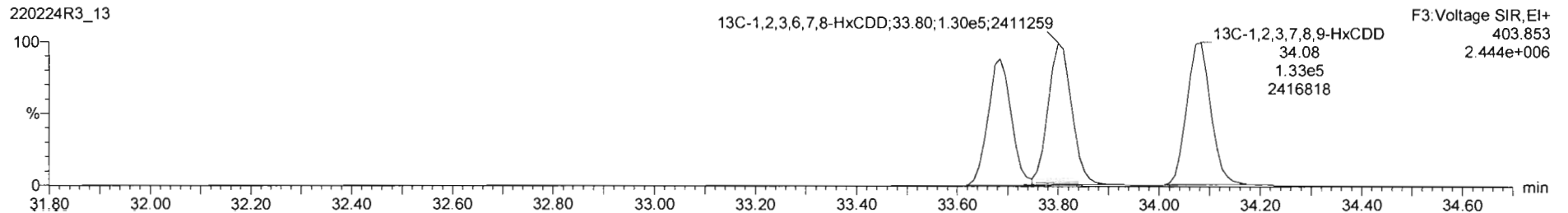
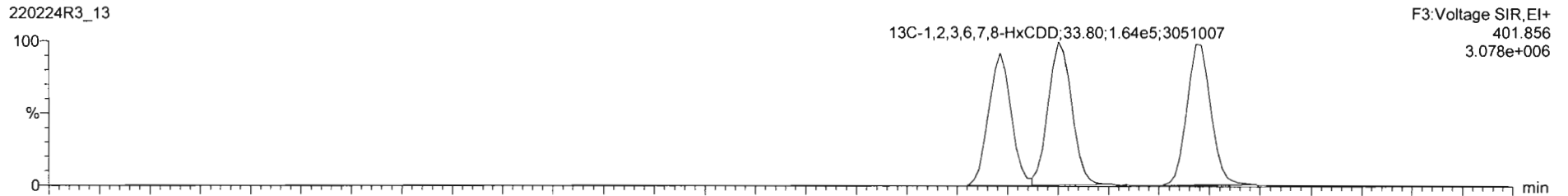
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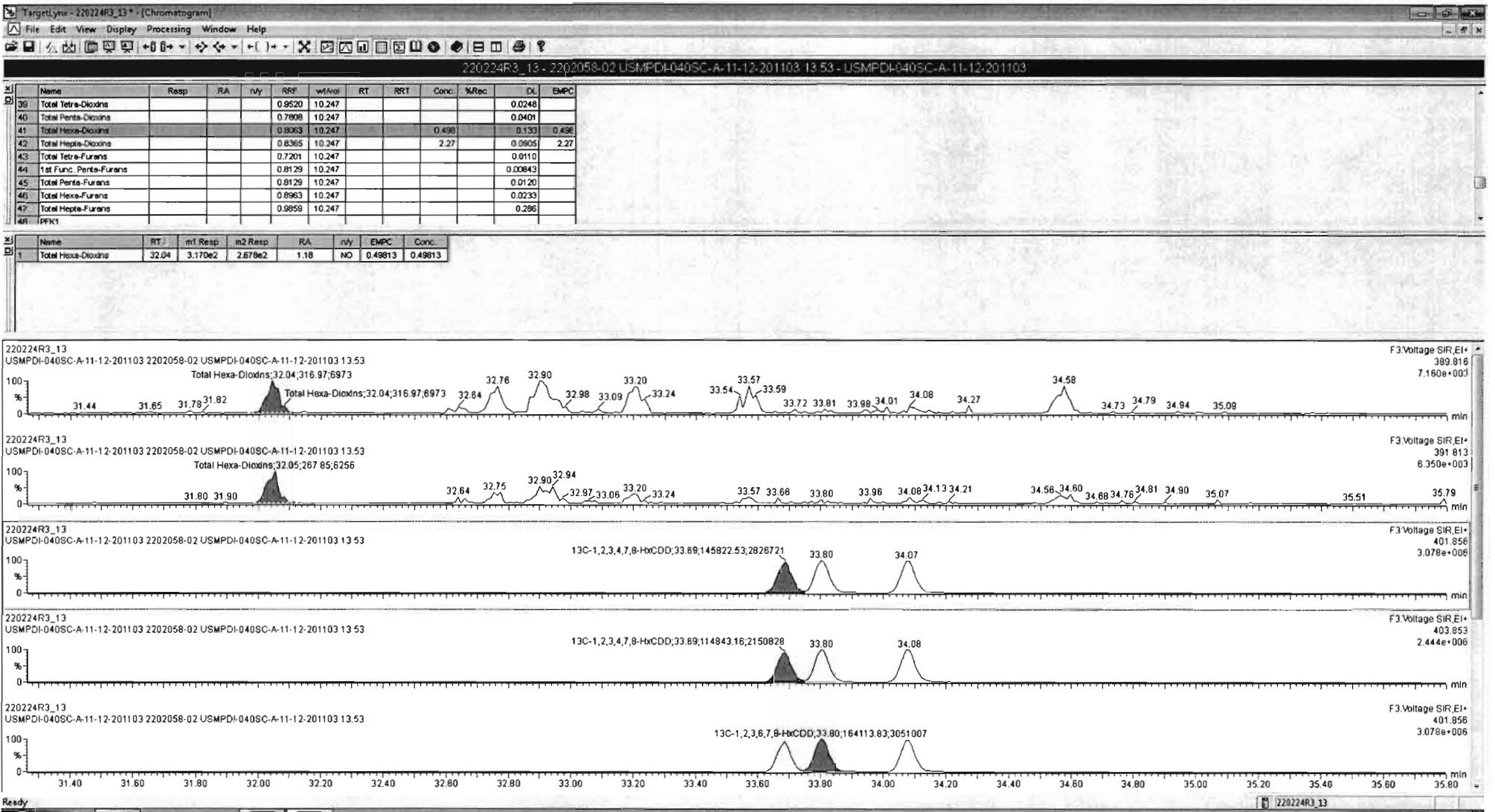
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**1,2,3,4,7,8-HxCDD**



**13C-1,2,3,4,7,8-HxCDD**





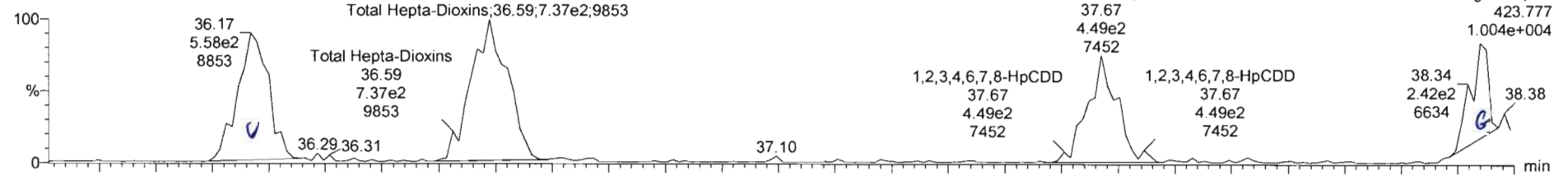
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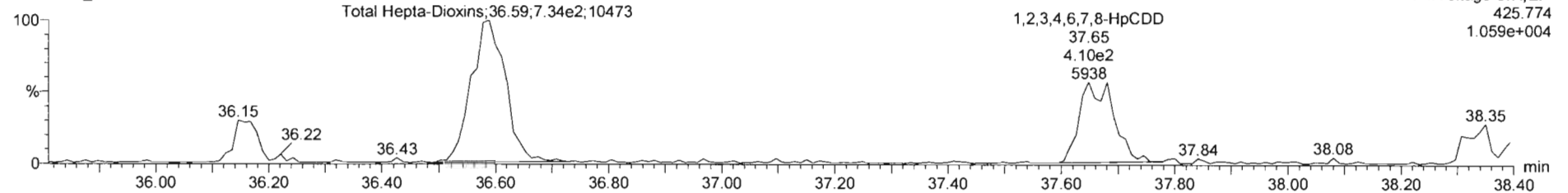
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1,2,3,4,6,7,8-HpCDD

220224R3\_13

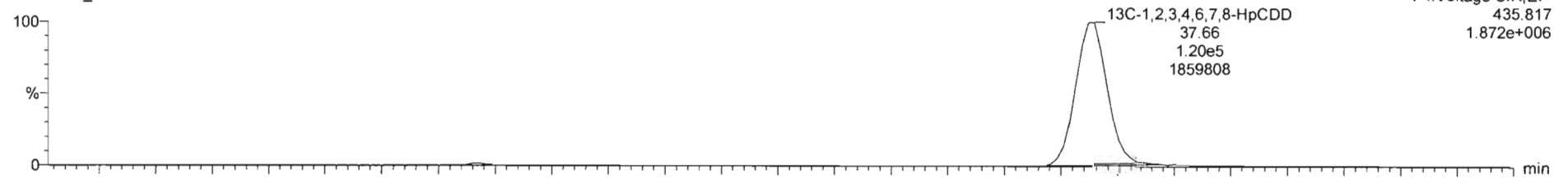


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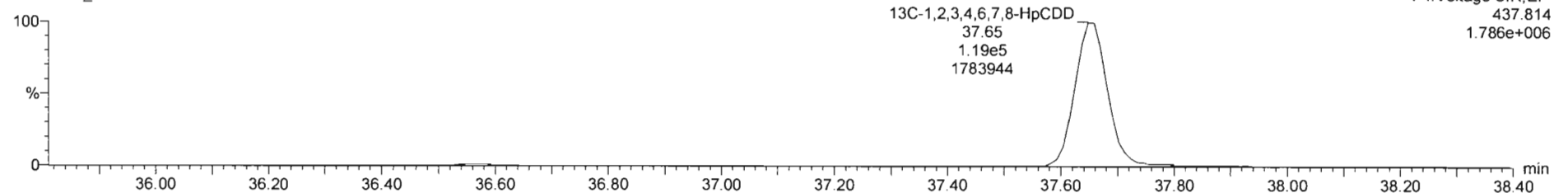


13C-1,2,3,4,6,7,8-HpCDD

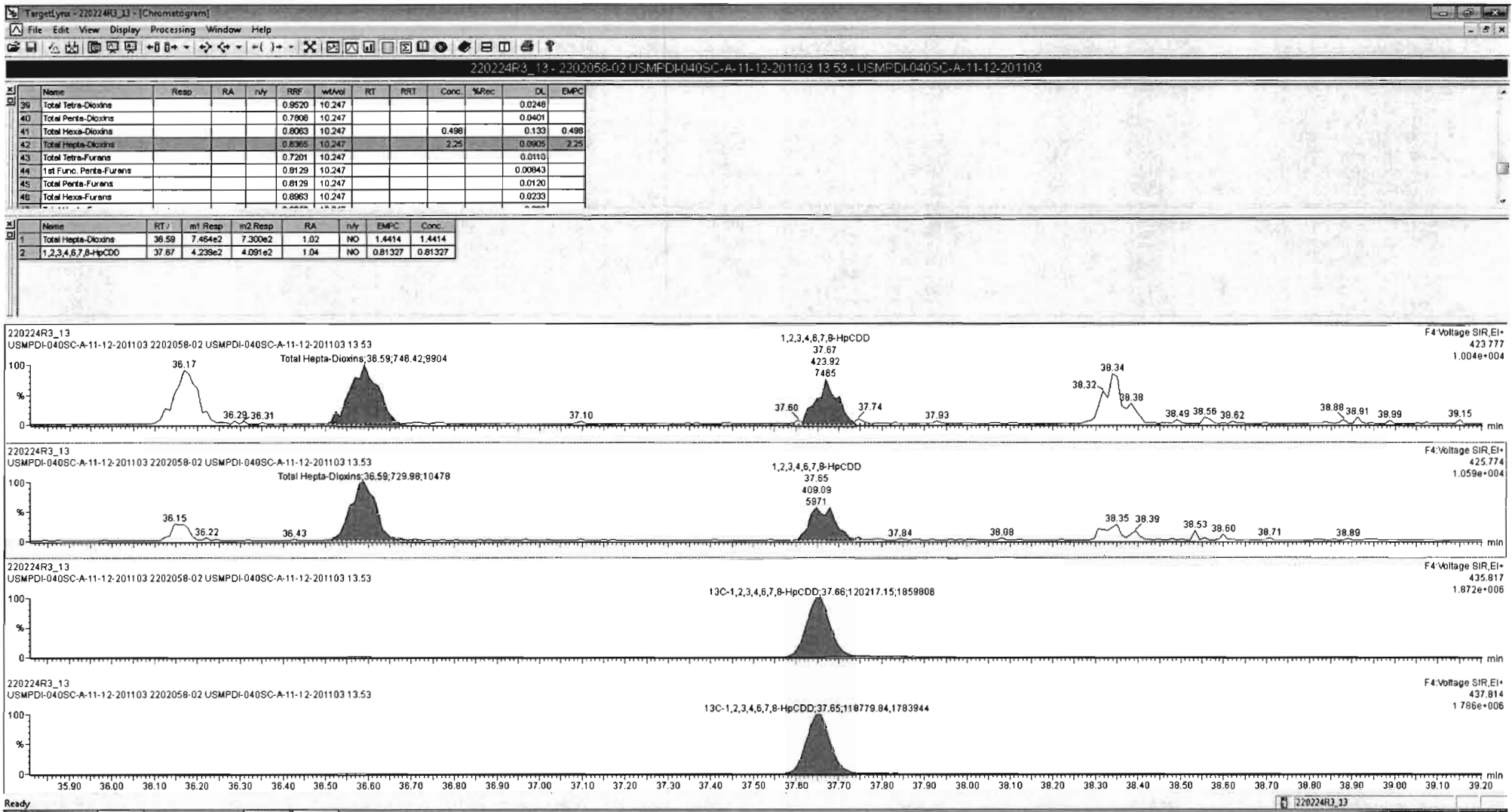
220224R3\_13



220224R3\_13





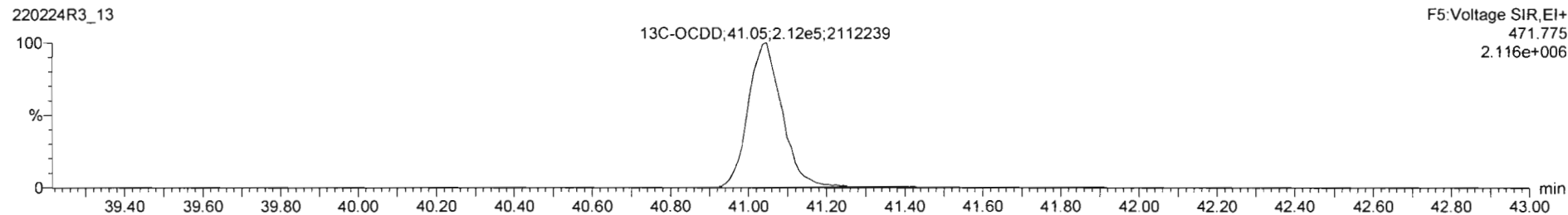
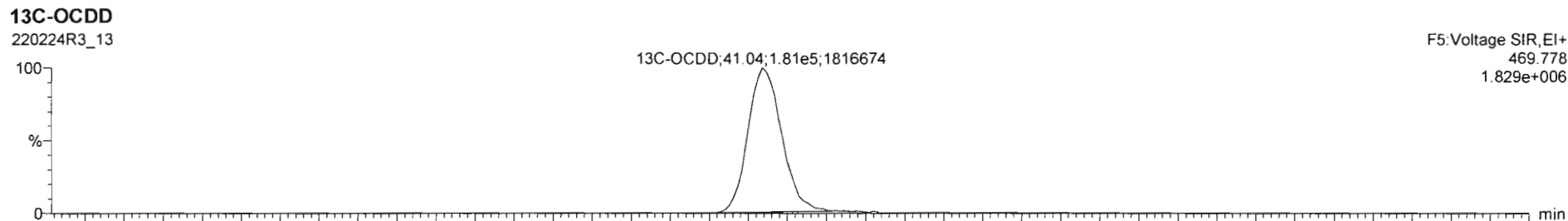
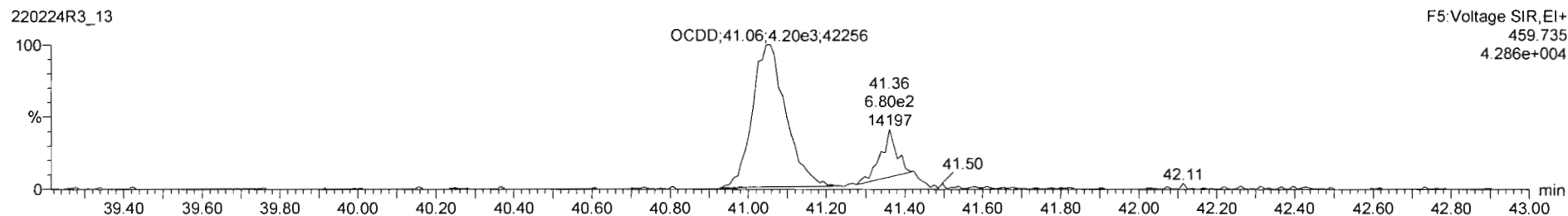
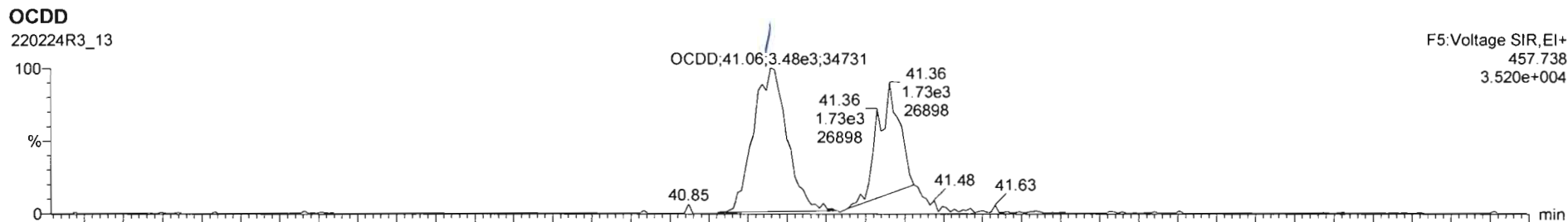




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Name: 220224R3\_13, Date: 25-Feb-2022, Time: 00:14:59, ID: 2202058-02 USMPDI-040SC-A-11-12-201103 13.53, Description: USMPDI-040SC-A-11-12-201103



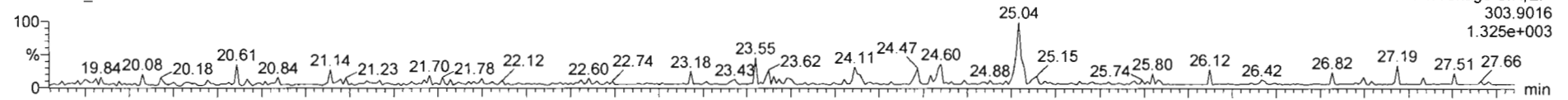
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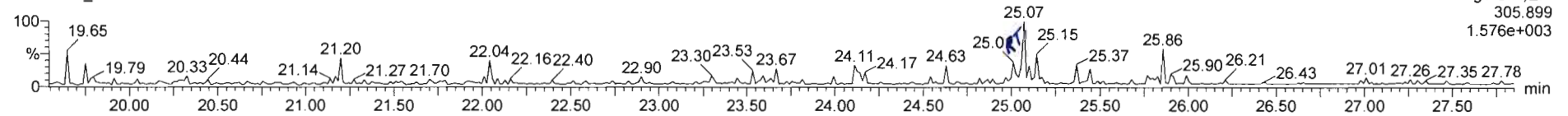
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**2,3,7,8-TCDF**

220224R3\_13

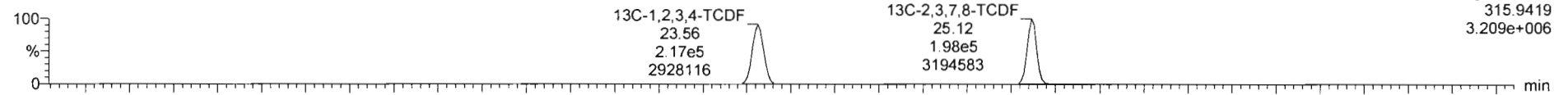


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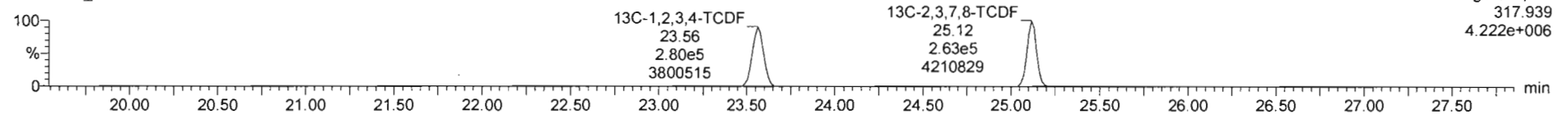


**13C-2,3,7,8-TCDF**

220224R3\_13

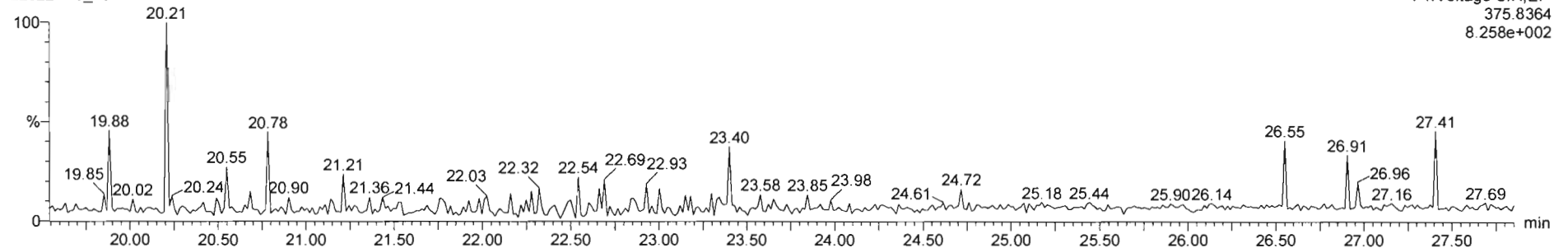


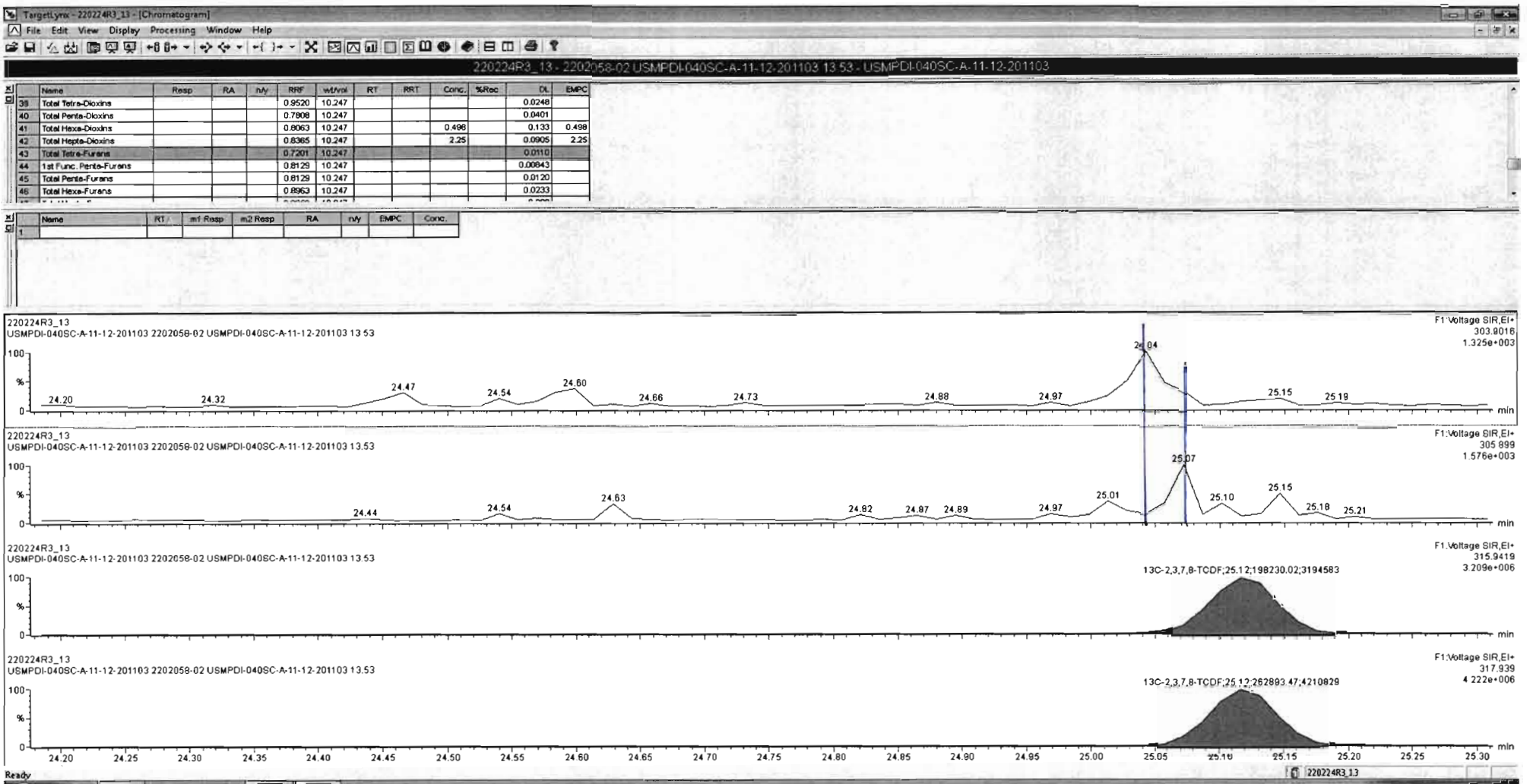
220224R3\_13



**DPE1**

220224R3\_13





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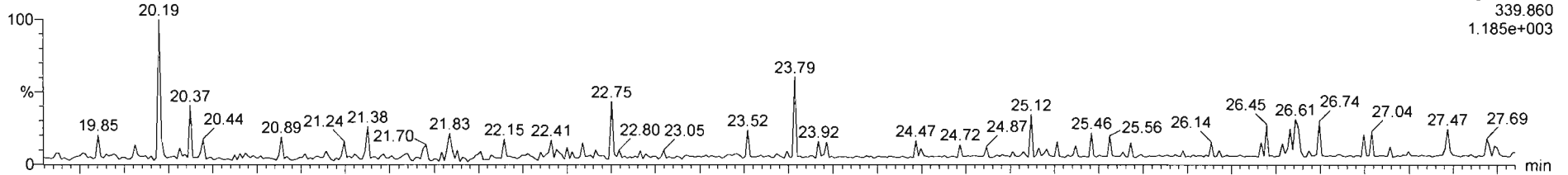
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1st Func. Penta-Furans

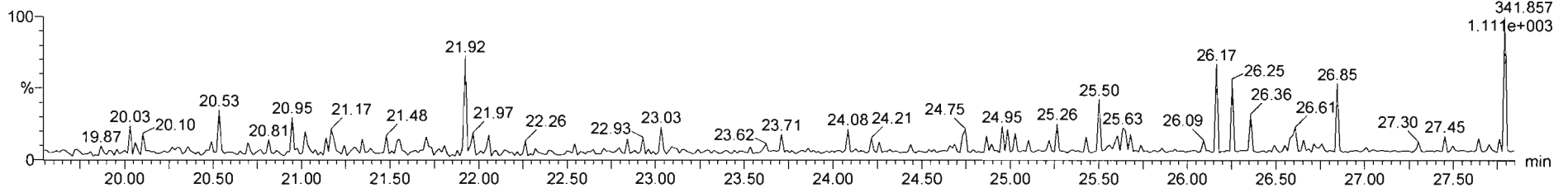
220224R3\_13

F1:Voltage SIR,EI+  
339.860  
1.185e+003



220224R3\_13

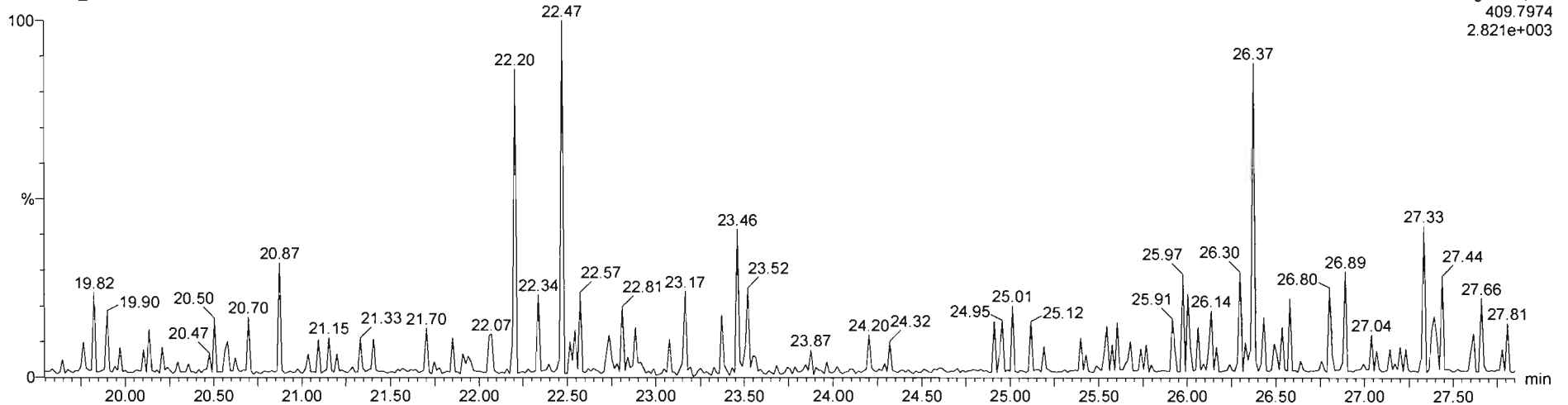
F1:Voltage SIR,EI+  
341.857  
1.111e+003

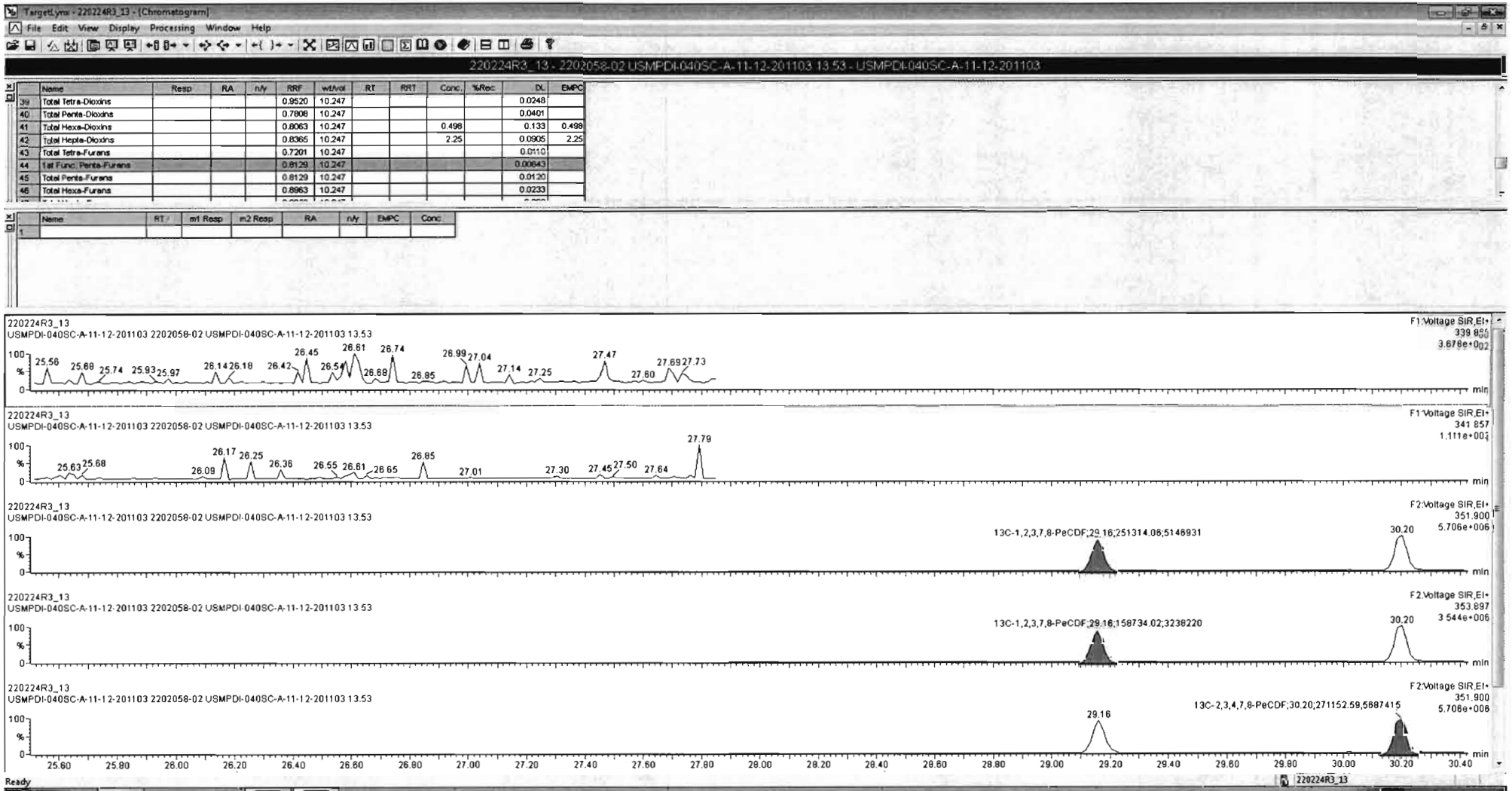


DPE6

220224R3\_13

F1:Voltage SIR,EI+  
409.7974  
2.821e+003





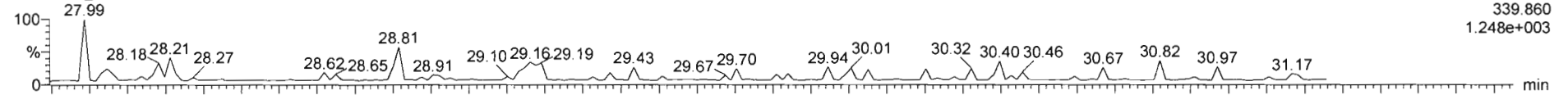
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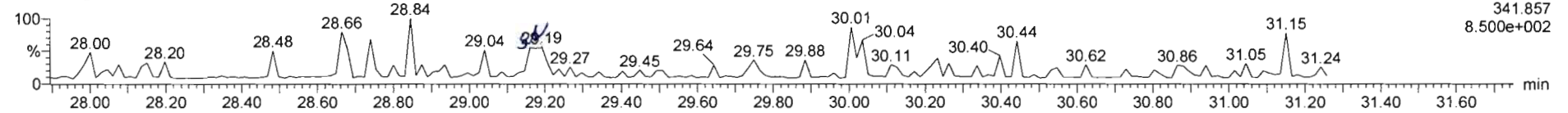
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**1,2,3,7,8-PeCDF**

220224R3\_13

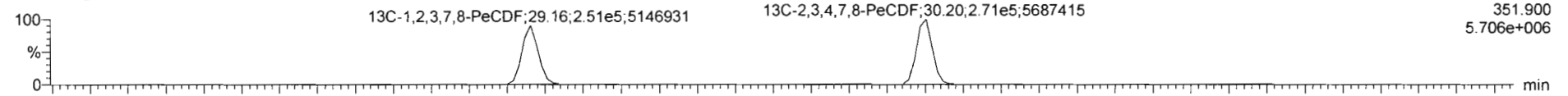


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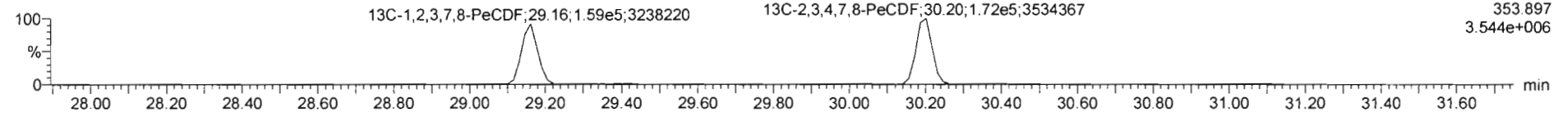


**13C-1,2,3,7,8-PeCDF**

220224R3\_13

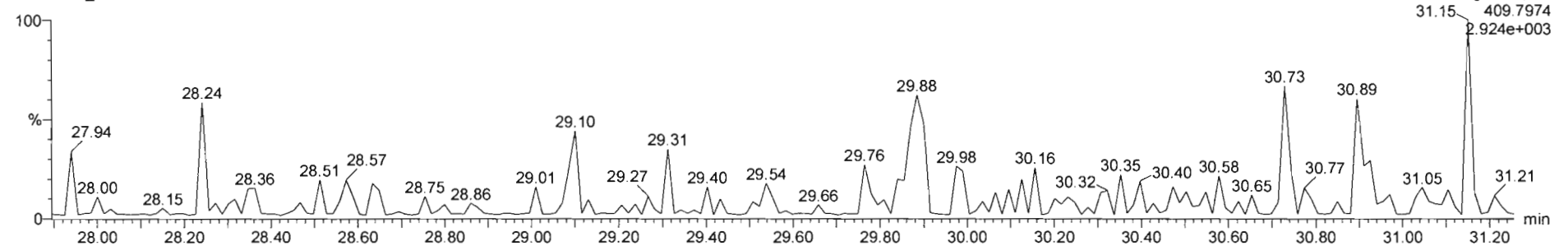


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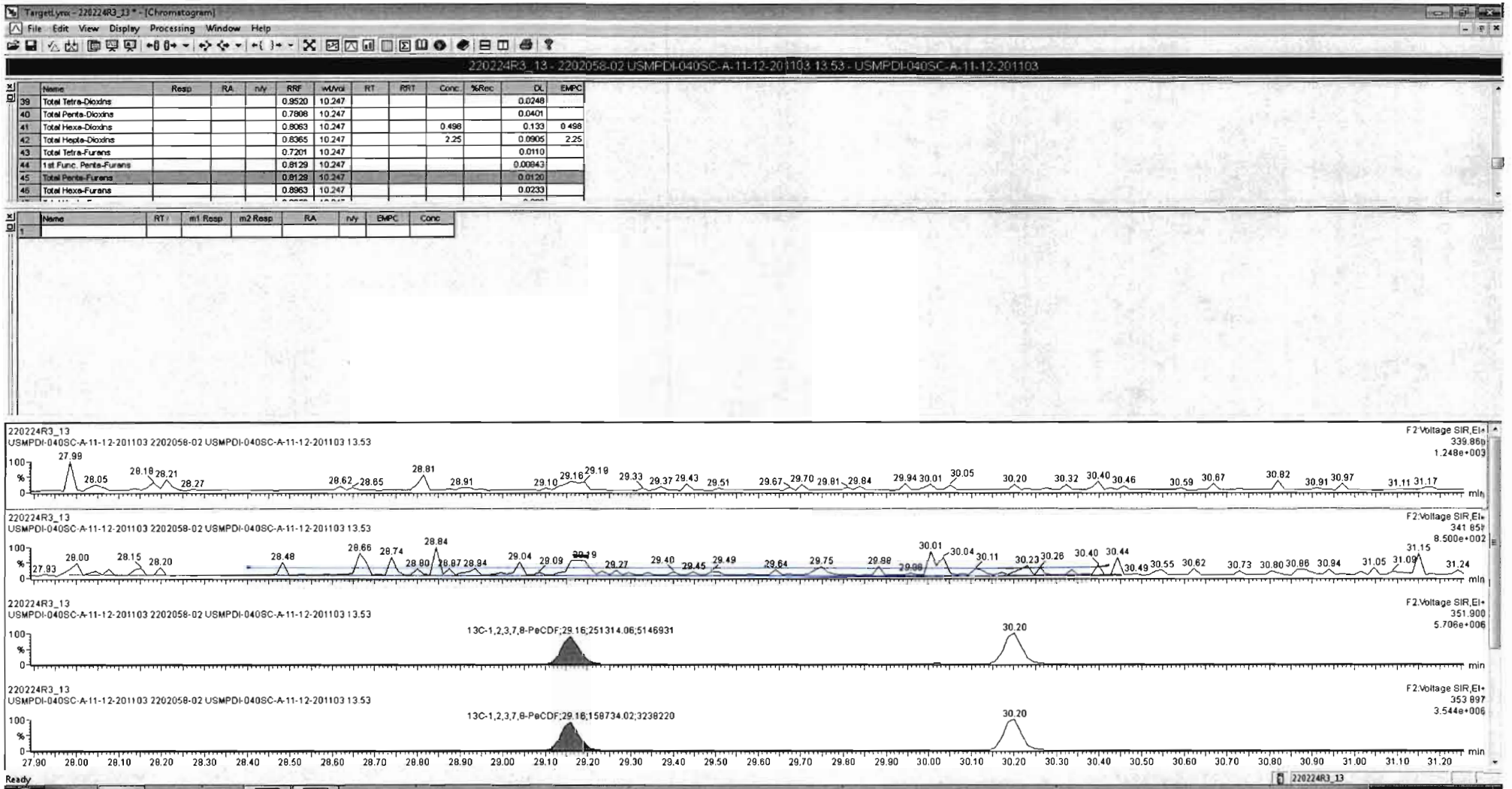


**DPE2**

220224R3\_13





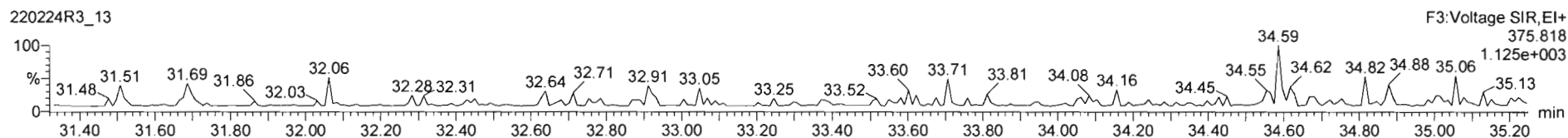
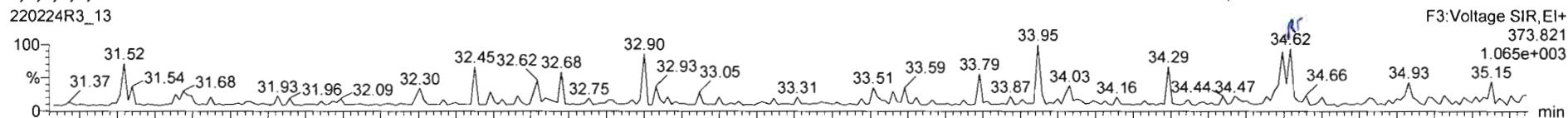


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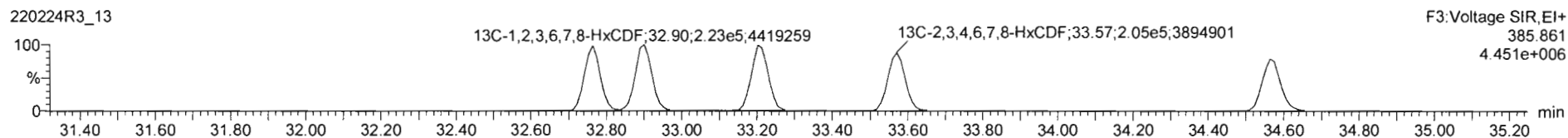
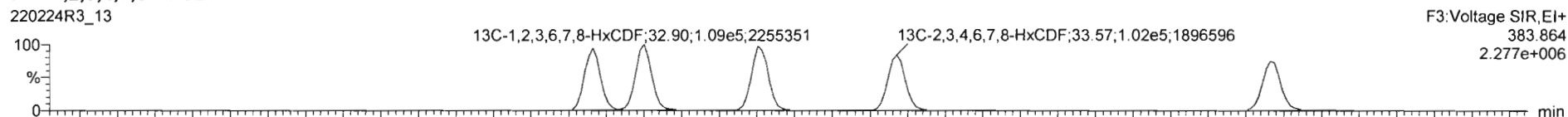
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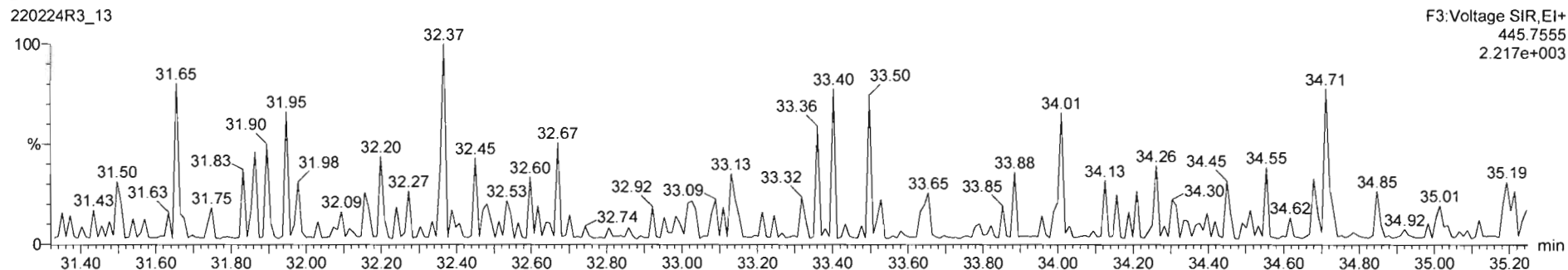
1,2,3,4,7,8-HxCDF



13C-1,2,3,4,7,8-HxCDF



DPE3





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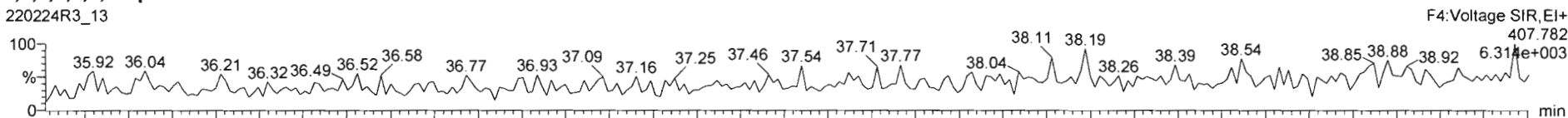
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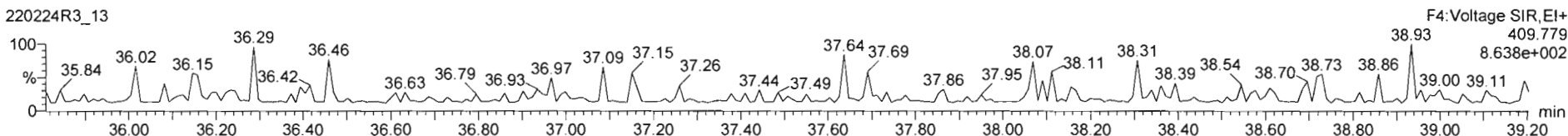
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1,2,3,4,6,7,8-HpCDF

220224R3\_13

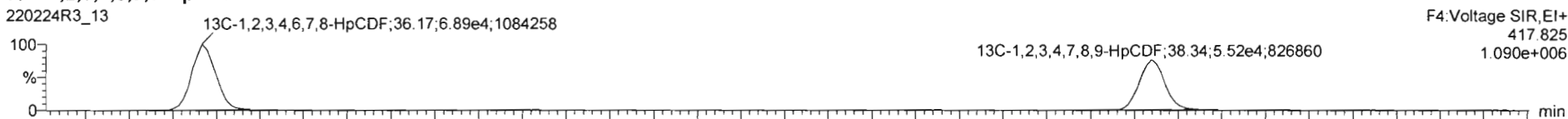


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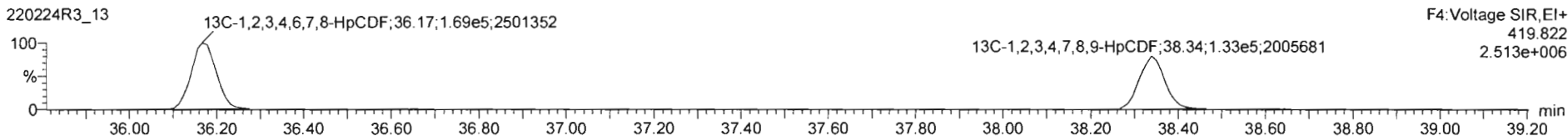


13C-1,2,3,4,6,7,8-HpCDF

220224R3\_13

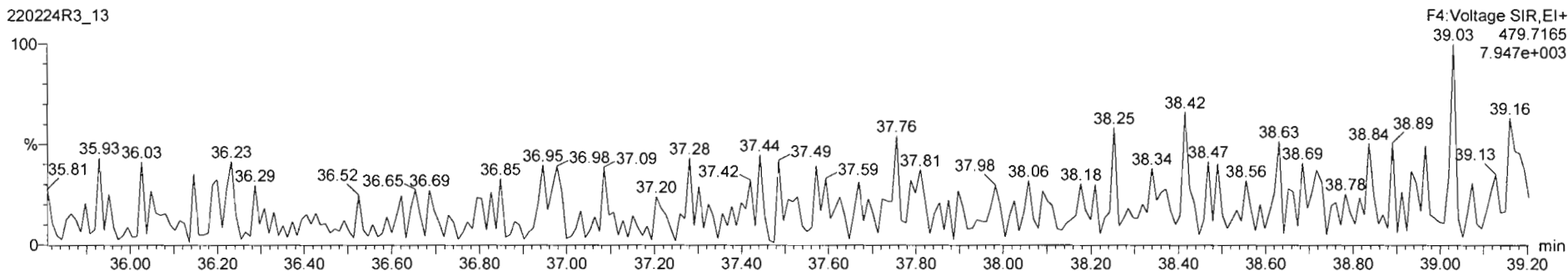


220224R3\_13



DPE4

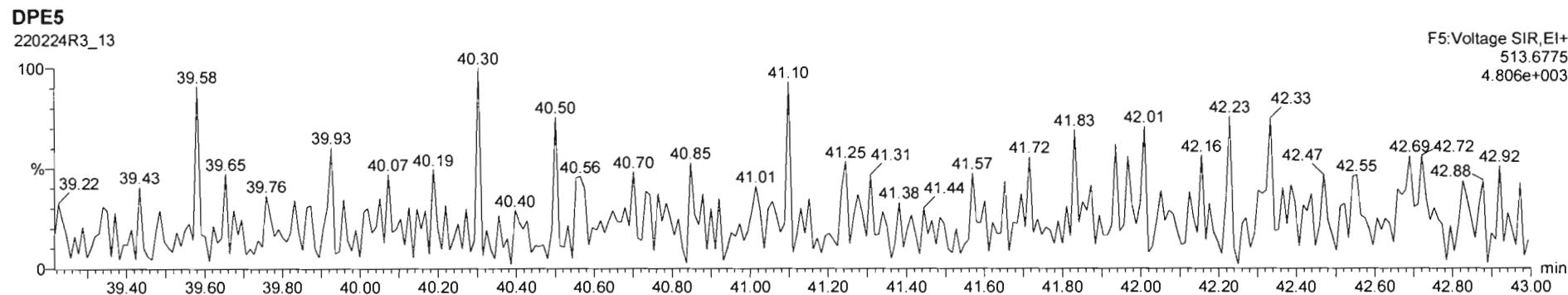
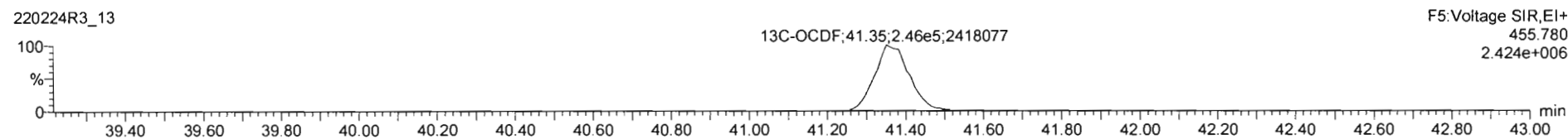
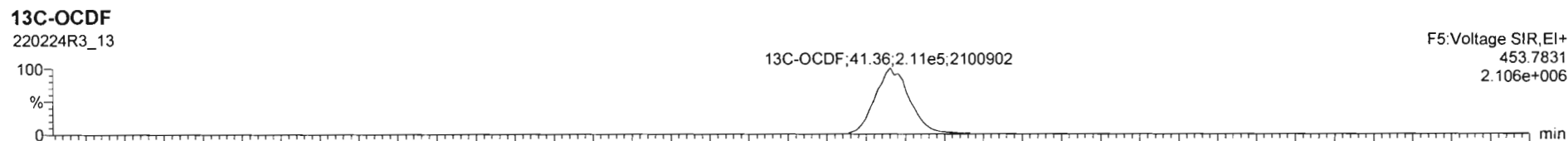
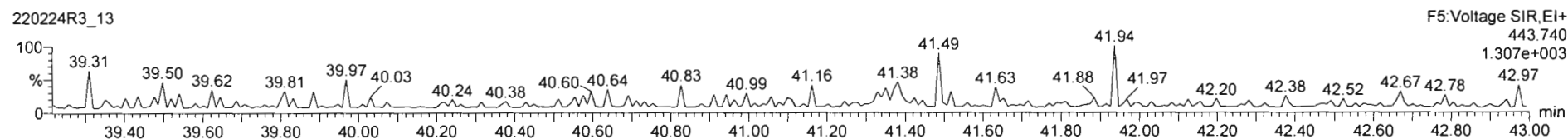
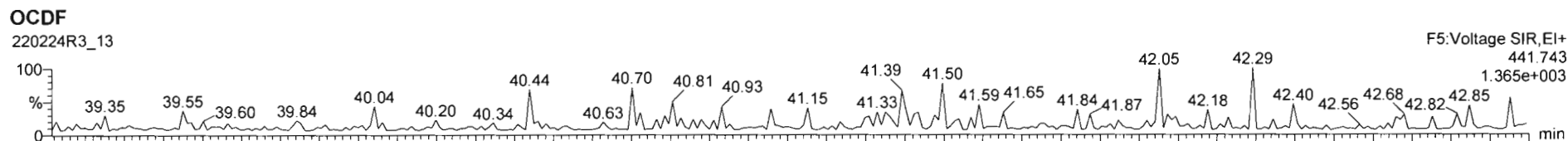
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Printed: Friday, February 25, 2022 18:41:50 Pacific Standard Time

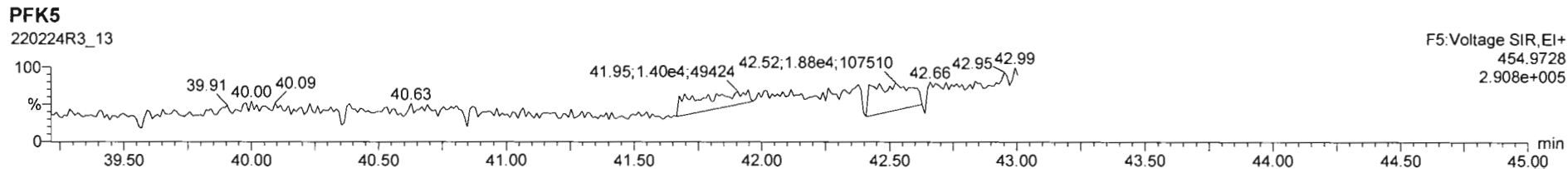
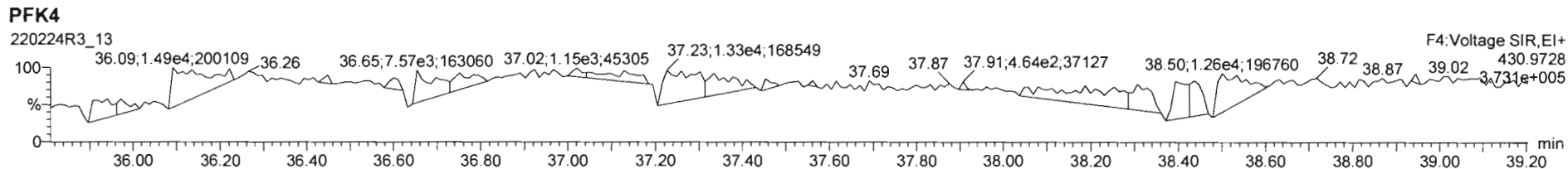
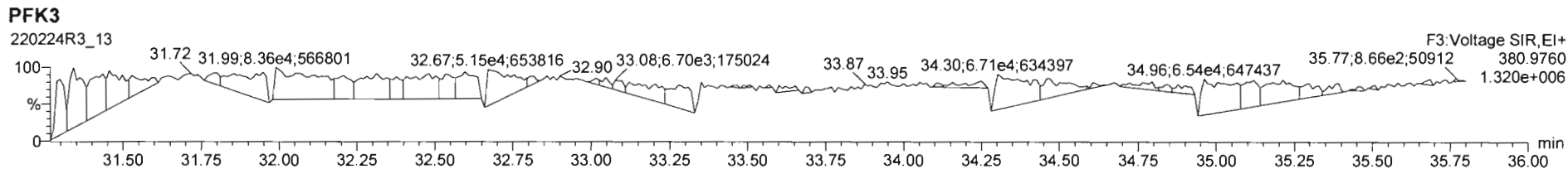
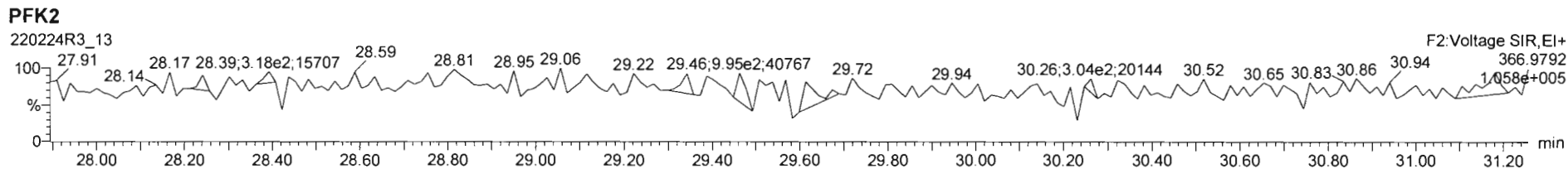
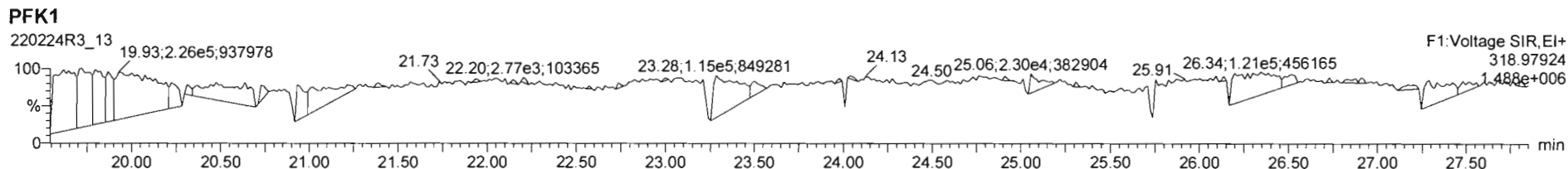
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Last Altered: Friday, February 25, 2022 18:41:45 Pacific Standard Time  
Printed: Friday, February 25, 2022 18:41:50 Pacific Standard Time

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*Dg 03/04/2022*  
*CT 03/10/2022*

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#	Name	Resp	RA	n/y	RRF	wt/vol	Pred.RT	RT	Pred.RRT	RRT	Conc.	%Rec	DL	EMPC
1	1 2,3,7,8-TCDD			NO	0.952	10.342	25.842		1.001				0.0426	
2	2 1,2,3,7,8-PeCDD			NO	0.781	10.342	30.427		1.001				0.0771	
3	3 1,2,3,4,7,8-HxCDD			NO	0.904	10.342	33.705		1.001				0.131	
4	4 1,2,3,6,7,8-HxCDD			NO	0.806	10.342	33.831		1.001				0.130	
5	5 1,2,3,7,8,9-HxCDD			NO	0.814	10.342	34.093		1.000				0.133	
6	6 1,2,3,4,6,7,8-HpCDD	7.34e2	1.15	NO	0.836	10.342	37.680	37.69	1.000	1.001	0.75628		0.192	0.756
7	7 OCDD	4.91e3	0.91	NO	0.798	10.342	41.065	41.09	1.000	1.001	6.5744		0.484	6.57
8	8 2,3,7,8-TCDF			NO	0.720	10.342	25.134		1.000				0.0263	
9	9 1,2,3,7,8-PeCDF			NO	0.813	10.342	29.164		1.000				0.0298	
10	10 2,3,4,7,8-PeCDF			NO	0.892	10.342	30.222		1.001				0.0215	
11	11 1,2,3,4,7,8-HxCDF			NO	0.893	10.342	32.774		1.000				0.0165	
12	12 1,2,3,6,7,8-HxCDF			NO	0.867	10.342	32.931		1.001				0.0173	
13	13 2,3,4,6,7,8-HxCDF			NO	0.896	10.342	33.590		1.001				0.0176	
14	14 1,2,3,7,8,9-HxCDF	4.71e1	1.72	YES	0.874	10.342	34.596	34.59	1.000	1.000	0.033236		0.0112	0.0274
15	15 1,2,3,4,6,7,8-HpCDF			NO	0.986	10.342	36.196		1.000				0.310	
16	16 1,2,3,4,7,8,9-HpCDF			NO	0.966	10.342	38.351		1.000				0.398	
17	17 OCDF			NO	0.722	10.342	41.389		1.000				0.120	
18	18 13C-2,3,7,8-TCDD	5.05e5	0.76	NO	1.11	10.342	25.757	25.81	1.028	1.030	200.05	103	0.120	
19	19 13C-1,2,3,7,8-PeCDD	3.72e5	0.60	NO	0.893	10.342	30.105	30.40	1.201	1.213	182.56	94.4	0.225	
20	20 13C-1,2,3,4,7,8-HxCDD	2.66e5	1.26	NO	0.784	10.342	33.672	33.69	1.014	1.014	186.59	96.5	0.505	
21	21 13C-1,2,3,6,7,8-HxCDD	3.03e5	1.26	NO	0.863	10.342	33.792	33.81	1.017	1.018	193.42	100	0.458	
22	22 13C-1,2,3,7,8,9-HxCDD	2.99e5	1.23	NO	0.905	10.342	34.081	34.08	1.026	1.026	181.82	94.0	0.437	
23	23 13C-1,2,3,4,6,7,8-HpCDD	2.24e5	1.01	NO	0.644	10.342	37.499	37.67	1.129	1.134	191.76	99.2	0.631	
24	24 13C-OCDD	3.62e5	0.87	NO	0.528	10.342	40.767	41.06	1.227	1.236	377.88	97.7	0.645	
25	25 13C-2,3,7,8-TCDF	6.06e5	0.77	NO	1.15	10.342	25.136	25.13	1.003	1.003	175.74	90.9	0.180	
26	26 13C-1,2,3,7,8-PeCDF	4.88e5	1.60	NO	0.905	10.342	28.934	29.16	1.155	1.164	179.88	93.0	0.471	
27	27 13C-2,3,4,7,8-PeCDF	5.28e5	1.56	NO	0.899	10.342	30.160	30.20	1.204	1.205	195.95	101	0.474	
28	28 13C-1,2,3,4,7,8-HxCDF	3.36e5	0.51	NO	1.00	10.342	32.762	32.76	0.986	0.986	184.40	95.4	0.370	
29	29 13C-1,2,3,6,7,8-HxCDF	3.44e5	0.51	NO	1.04	10.342	32.892	32.91	0.990	0.991	181.49	93.8	0.356	
30	30 13C-2,3,4,6,7,8-HxCDF	3.18e5	0.49	NO	0.916	10.342	33.563	33.57	1.010	1.011	191.09	98.8	0.405	
31	31 13C-1,2,3,7,8,9-HxCDF	3.13e5	0.49	NO	0.859	10.342	34.589	34.59	1.041	1.041	200.63	104	0.431	

Dataset: I:\VG12.PRO\Results\220224R3\220224R3\_14.qld

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Printed: Friday, March 04, 2022 12:51:44 PM Pacific Standard Time

Name: 220224R3\_14, Date: 25-Feb-2022, Time: 00:59:58, ID: 2202058-03 USMPDI-040SC-A-12-13-201103 12.16, Description: USMPDI-040SC-A-12-13-201103

	# Name	Resp	RA	n/y	RRF	wt/vol	Pred.RT	RT	Pred.RRT	RRT	Conc.	%Rec	DL	EMPC
32	32 13C-1,2,3,4,6,7,8-HpCDF	2.28e5	0.40	NO	0.632	10.342	36.193	36.18	1.090	1.089	198.78	103	0.569	
33	33 13C-1,2,3,4,7,8,9-HpCDF	1.85e5	0.42	NO	0.552	10.342	38.176	38.34	1.149	1.154	184.25	95.3	0.652	
34	34 13C-OCDF	4.51e5	0.87	NO	0.606	10.342	41.096	41.38	1.237	1.246	410.08	106	0.434	
35	35 37Cl-2,3,7,8-TCDD	1.79e5			1.01	10.342	25.777	25.83	1.029	1.031	77.621	100	0.0966	
36	36 13C-1,2,3,4-TCDD	4.41e5	0.77	NO	1.00	10.342	25.010	25.06	1.000	1.000	193.39	100	0.133	
37	37 13C-1,2,3,4-TCDF	5.79e5	0.77	NO	1.00	10.342	23.580	23.58	1.000	1.000	193.39	100	0.207	
38	38 13C-1,2,3,4,6,9-HxCDF	3.51e5	0.50	NO	1.00	10.342	33.170	33.21	1.000	1.000	193.39	100	0.371	
39	39 Total Tetra-Dioxins				0.952	10.342	24.620		0.000		0.11718		0.0216	0.117
40	40 Total Penta-Dioxins				0.781	10.342	29.960		0.000				0.0235	
41	41 Total Hexa-Dioxins				0.806	10.342	33.635		0.000		0.61191		0.137	0.612
42	42 Total Hepta-Dioxins				0.836	10.342	37.640		0.000		2.1912		0.192	2.19
43	43 Total Tetra-Furans				0.720	10.342	23.610		0.000				0.0129	
44	44 1st Func. Penta-Furans				0.813	10.342	26.930		0.000				0.00689	
45	45 Total Penta-Furans				0.813	10.342	29.275		0.000				0.0120	
46	46 Total Hexa-Furans				0.896	10.342	33.555		0.000		0.00000		0.00960	0.0274
47	47 Total Hepta-Furans				0.986	10.342	37.835		0.000				0.314	

Vista Analytical Laboratory

Dataset: I:\VG12.PRO\Results\220224R3\220224R3\_14.qld

Last Altered: Friday, March 04, 2022 12:48:41 PM Pacific Standard Time

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Name: 220224R3\_14, Date: 25-Feb-2022, Time: 00:59:58, ID: 2202058-03 USMPDI-040SC-A-12-13-201103 12.16, Description: USMPDI-040SC-A-12-13-201103

**Tetra-Dioxins**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1	Total Tetra-Dioxins	23.77	1.935e3	2.836e3	1.154e2	1.760e2	0.66	NO	2.914e2	0.11718	0.11718	0.0216

**Penta-Dioxins**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1												

**Hexa-Dioxins**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1	Total Hexa-Dioxins	32.05	8.044e3	6.333e3	3.827e2	3.551e2	1.08	NO	7.378e2	0.61191	0.61191	0.137

**Hepta-Dioxins**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1	Total Hepta-Dioxins	36.61	1.266e4	9.647e3	7.070e2	6.847e2	1.03	NO	1.392e3	1.4349	1.4349	0.192
2	1,2,3,4,6,7,8-HpCDD	37.69	6.097e3	4.840e3	3.916e2	3.420e2	1.15	NO	7.335e2	0.75628	0.75628	0.192

**Tetra-Furans**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1												

**Penta-Furans function 1**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1												

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**Penta-Furans**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1												

**Hexa-Furans**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1	1,2,3,7,8,9-HxCDF	34.59	6.980e2	4.030e2	2.974e1	1.731e1	1.72	YES	4.705e1	0.00000	0.027390	0.0112

**Hepta-Furans**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1												

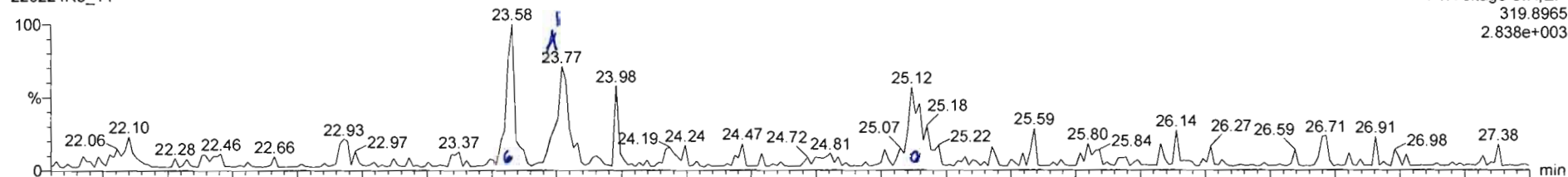
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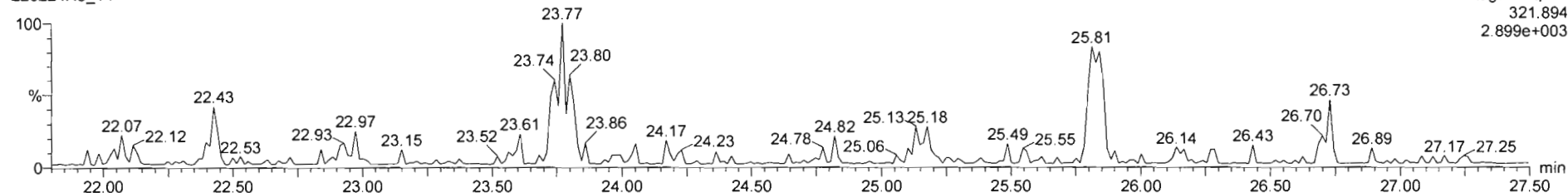
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2,3,7,8-TCDD

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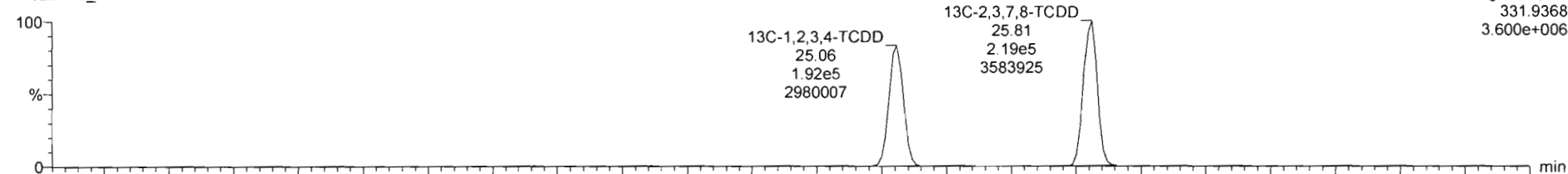


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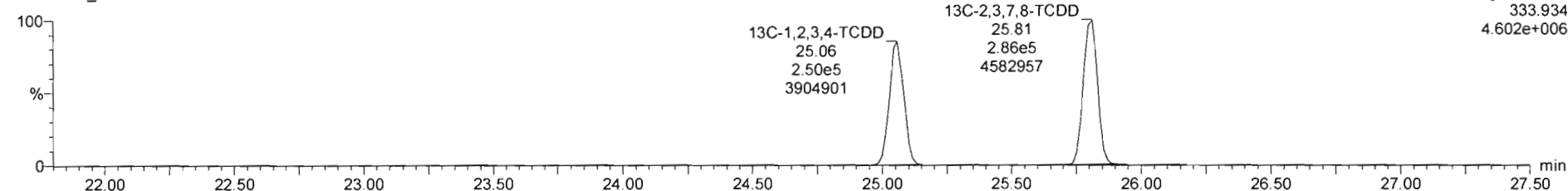


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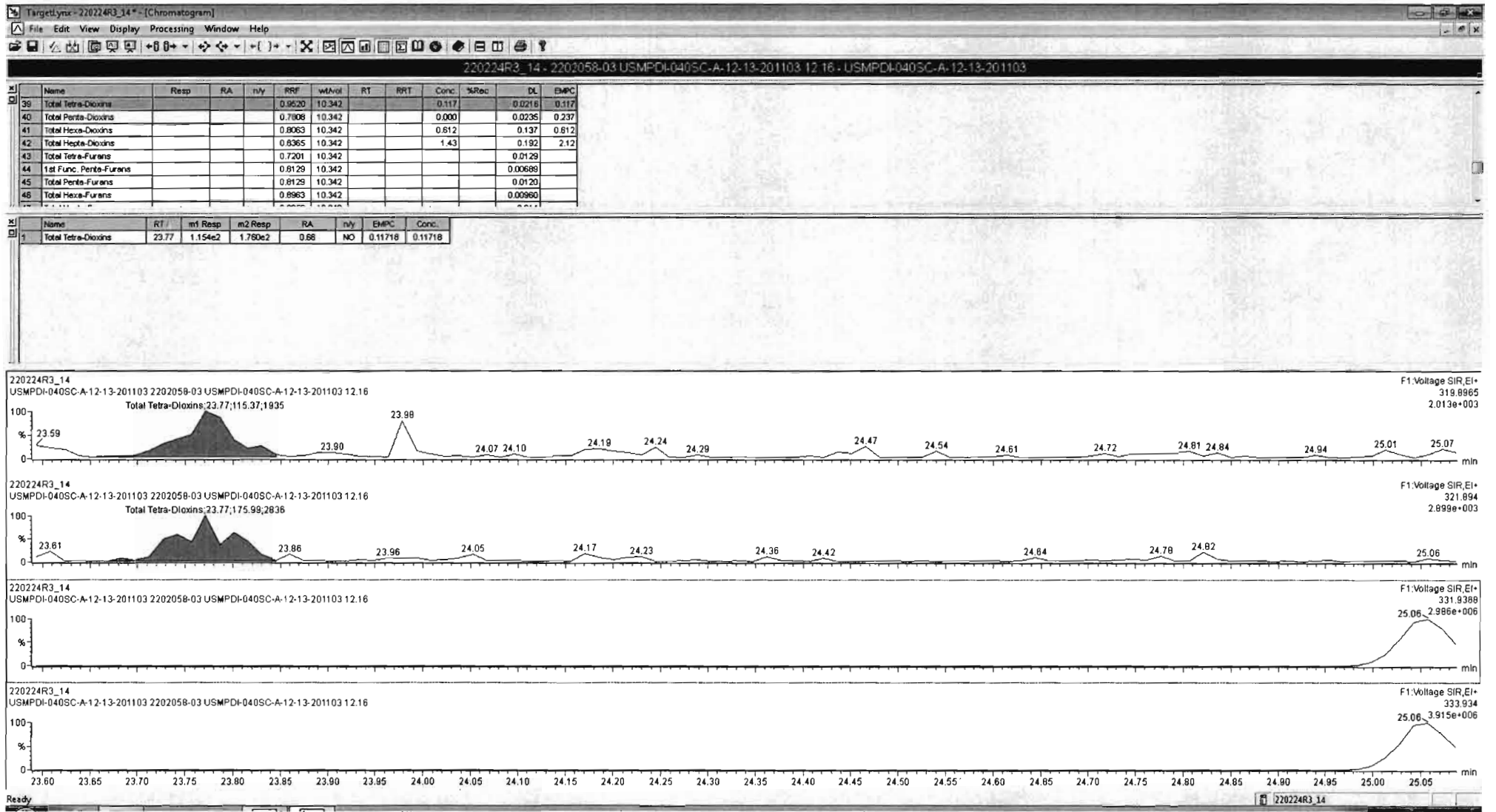
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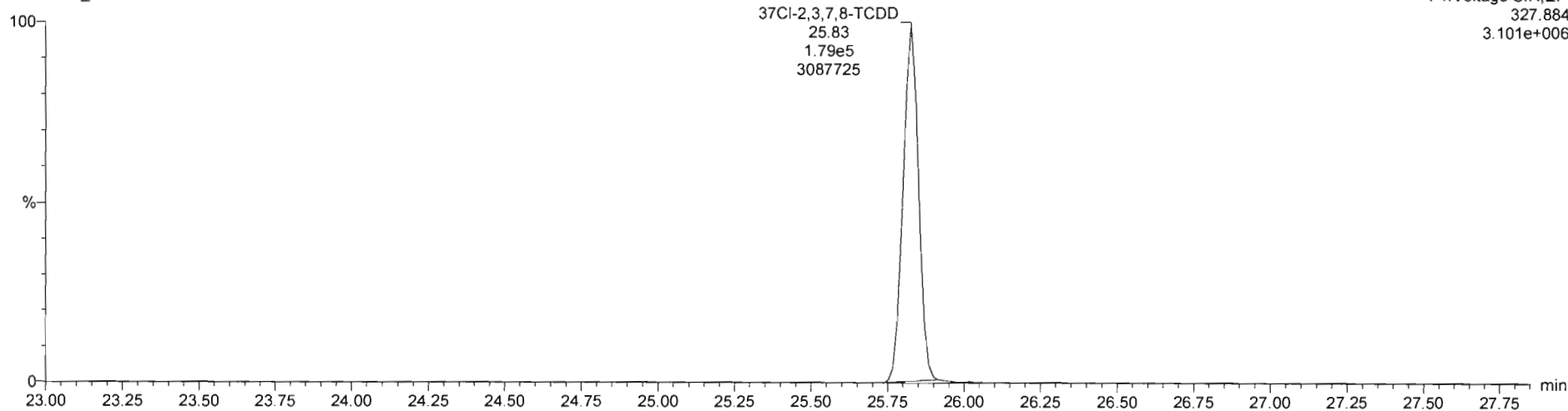
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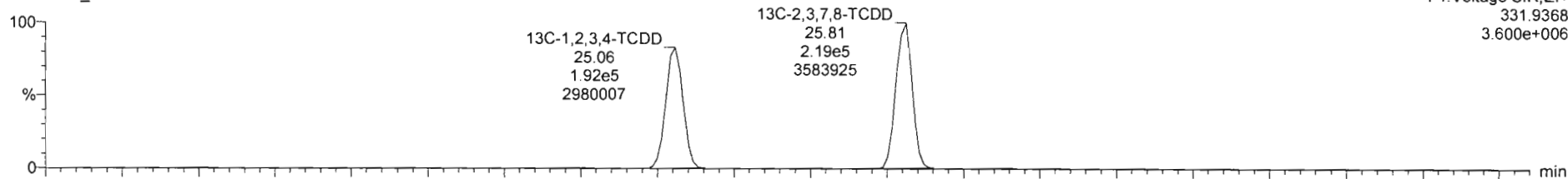
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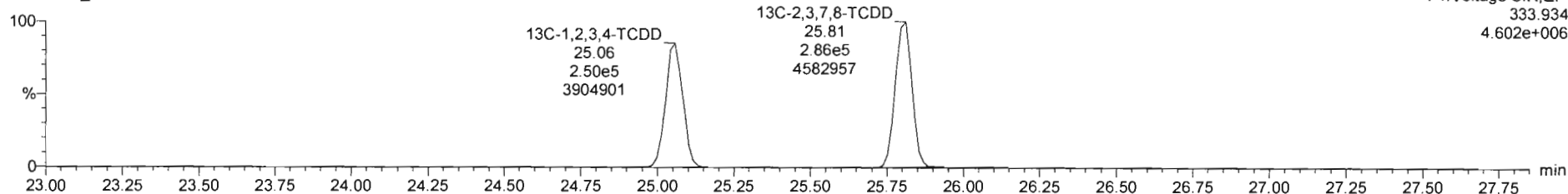


**13C-1,2,3,4-TCDD**

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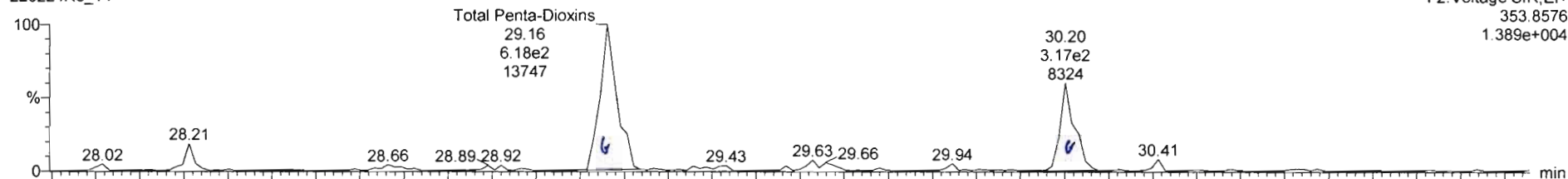
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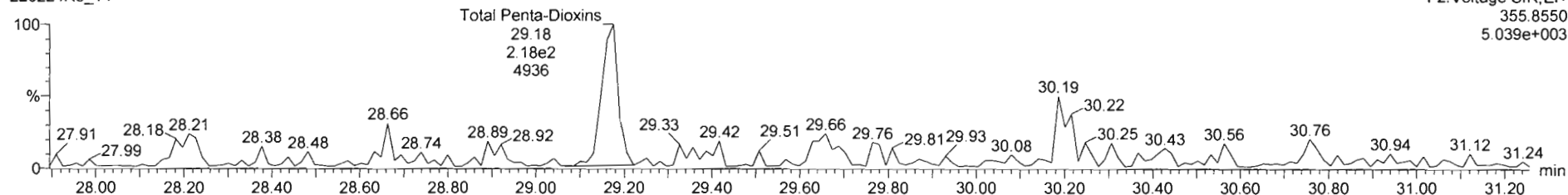
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1,2,3,7,8-PeCDD

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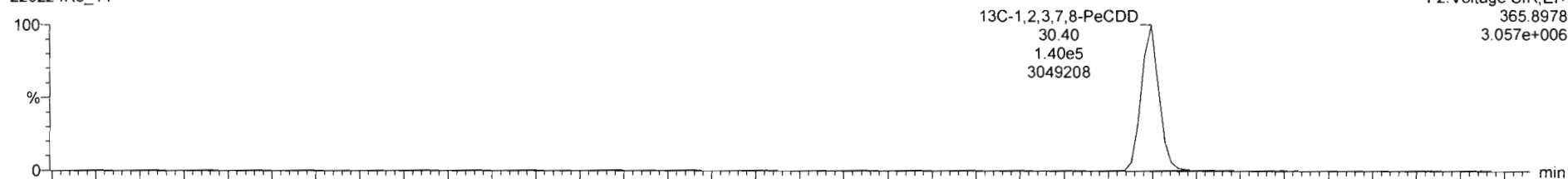


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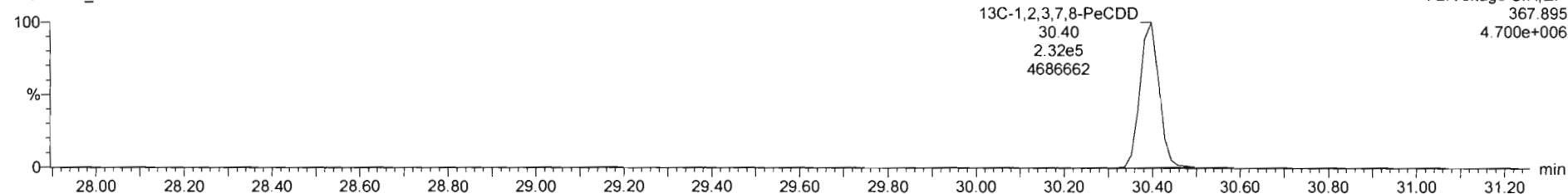


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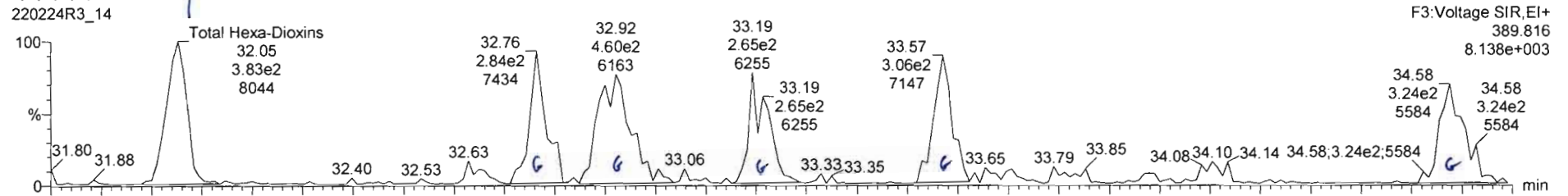
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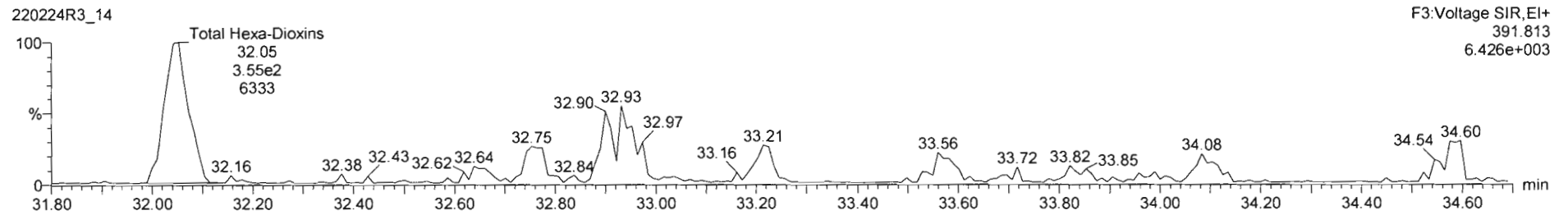
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**1,2,3,4,7,8-HxCDD**

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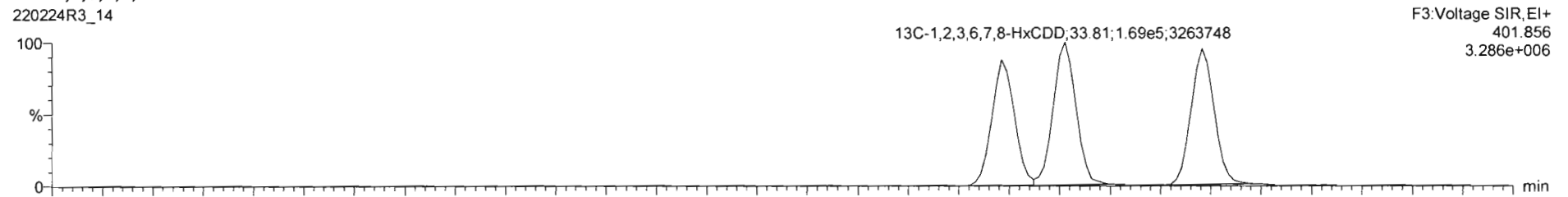


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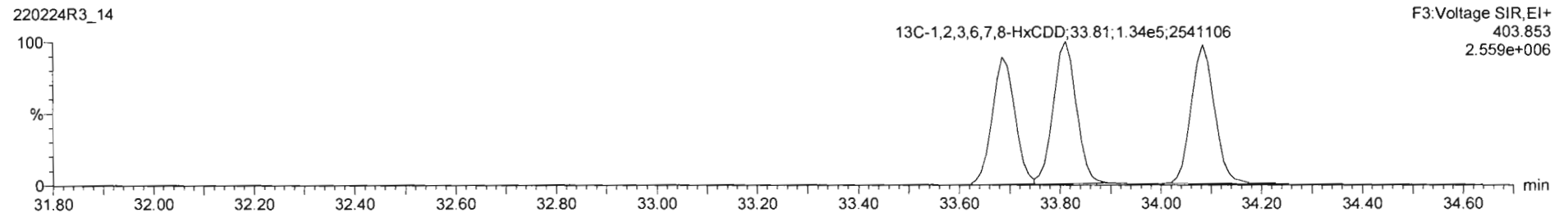


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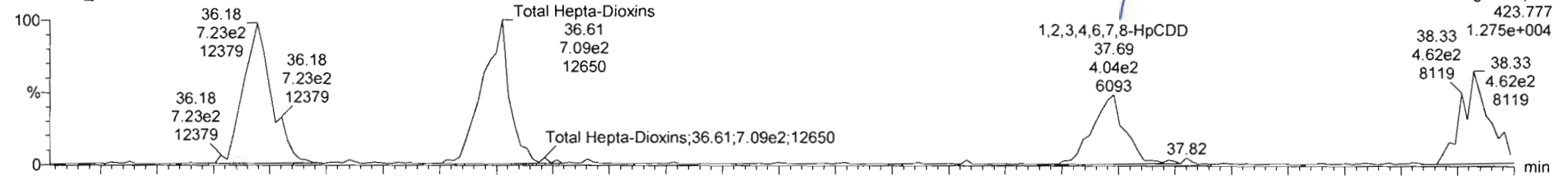
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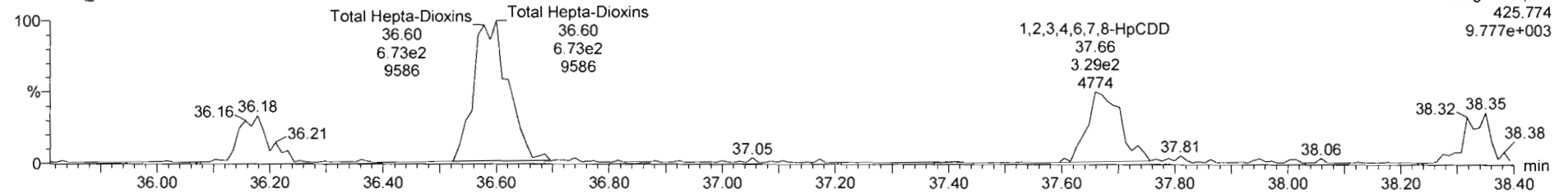
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1,2,3,4,6,7,8-HpCDD

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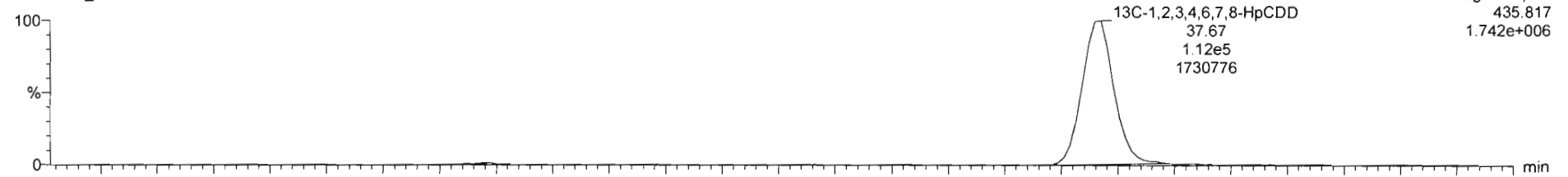


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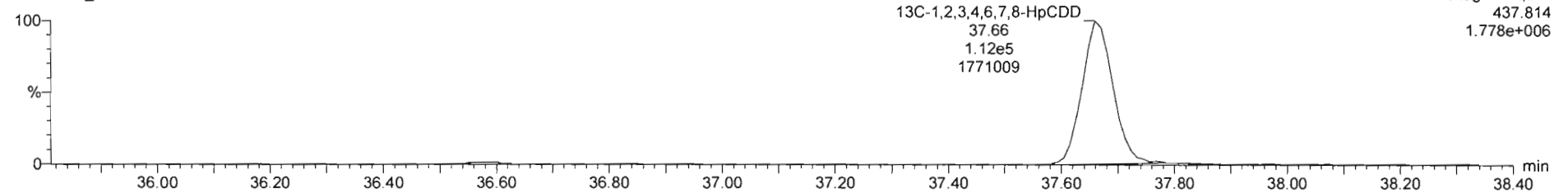


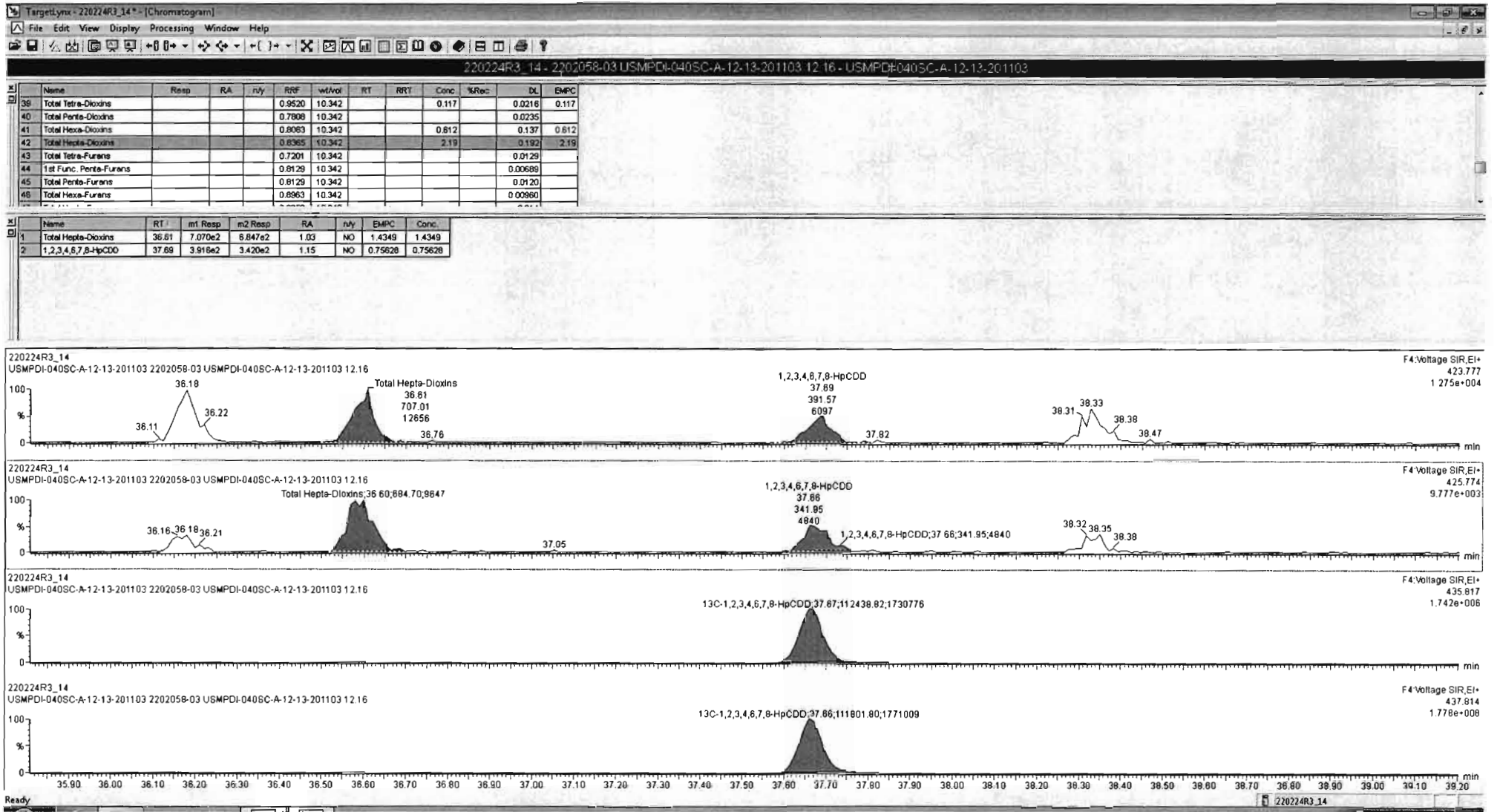
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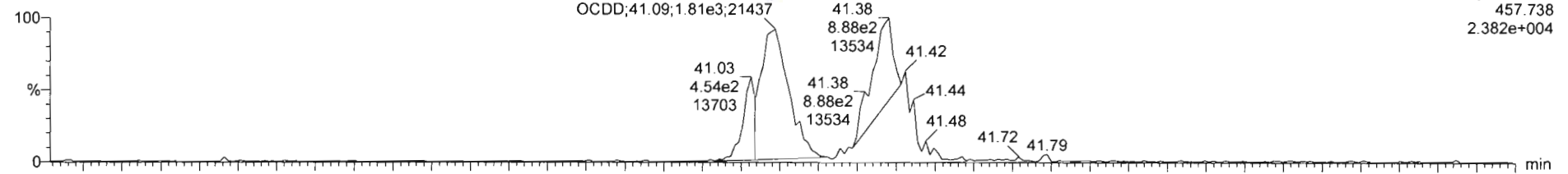
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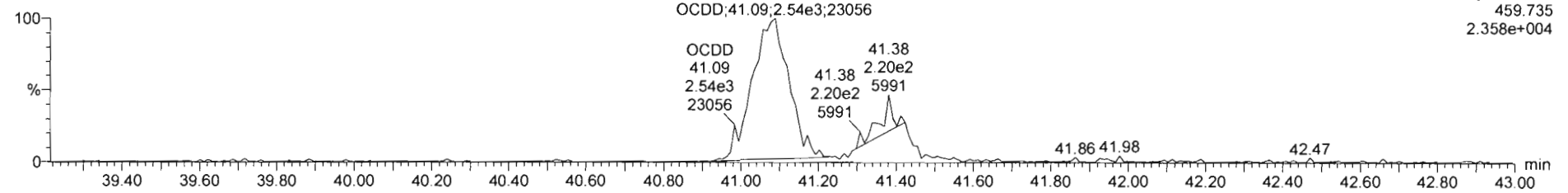
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OCDD

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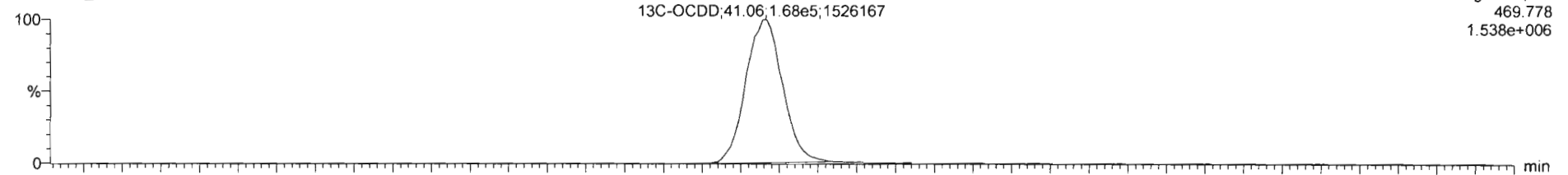


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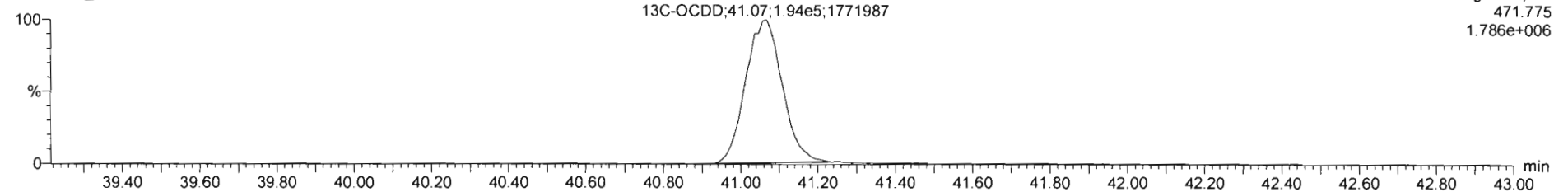


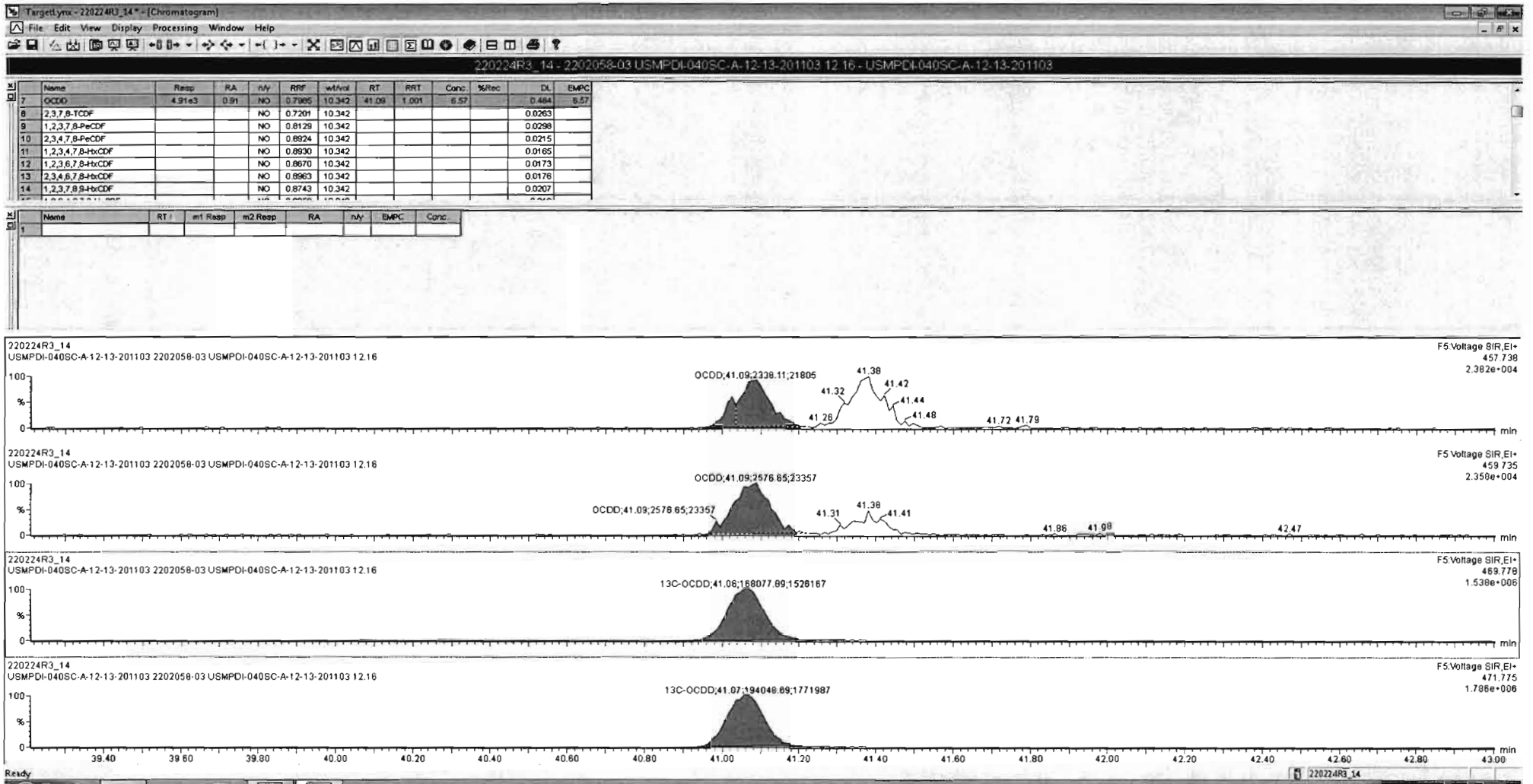
13C-OCDD

220224R3\_14



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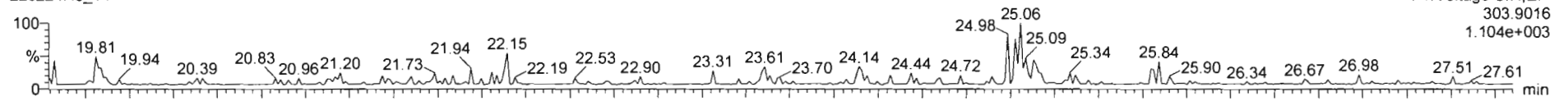
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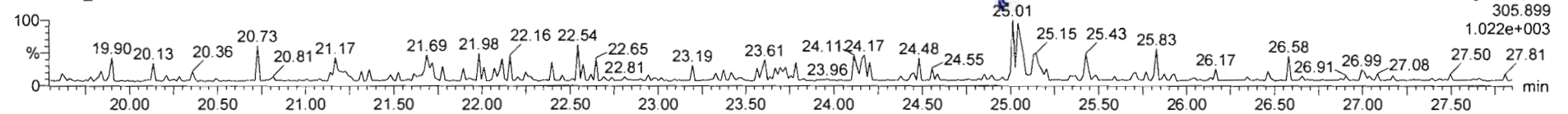
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**2,3,7,8-TCDF**

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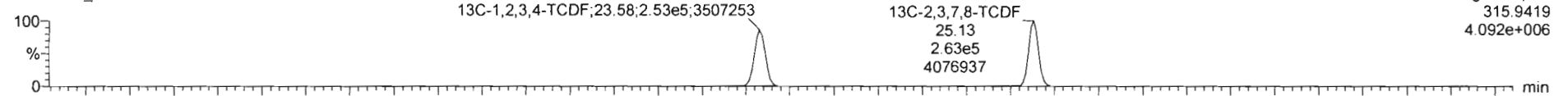


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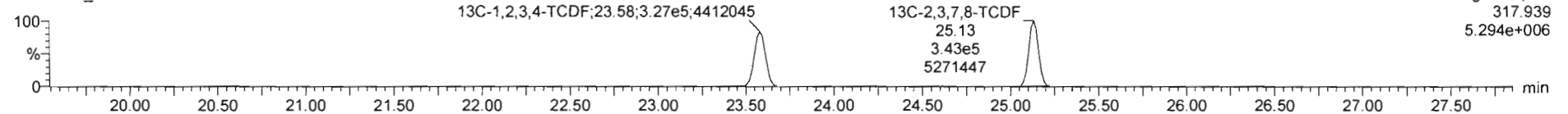


**13C-2,3,7,8-TCDF**

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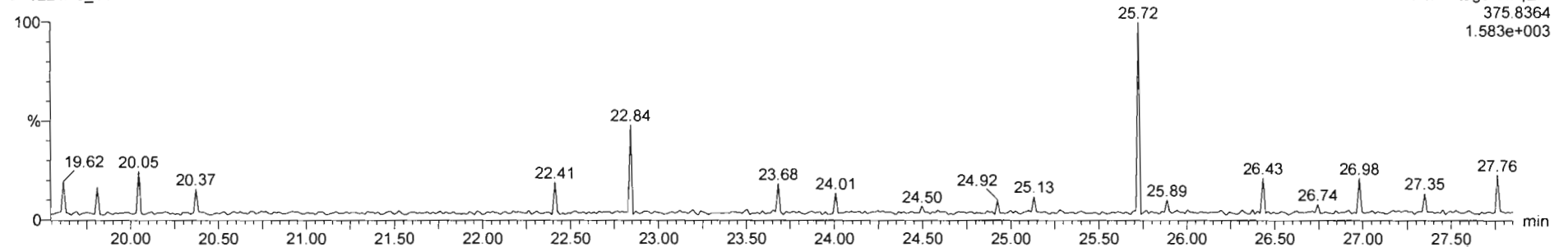


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**DPE1**

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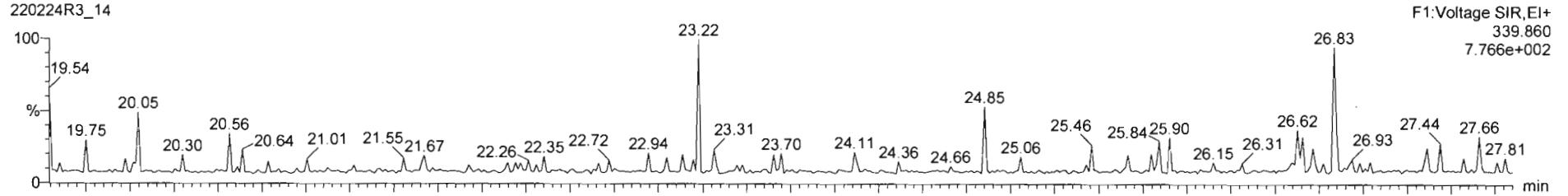
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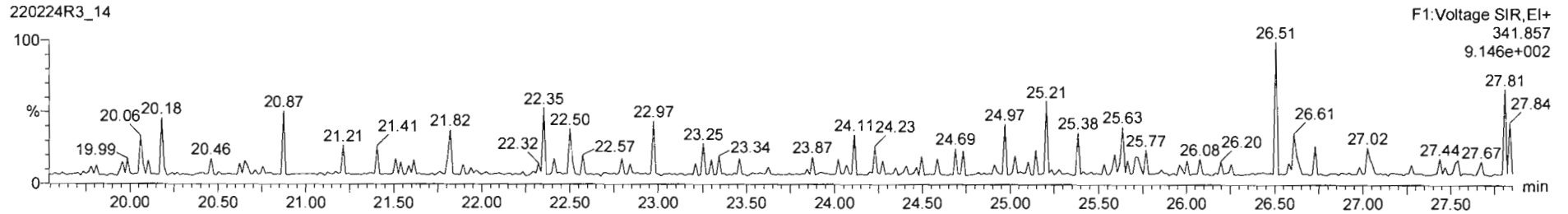
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1st Func. Penta-Furans

220224R3\_14

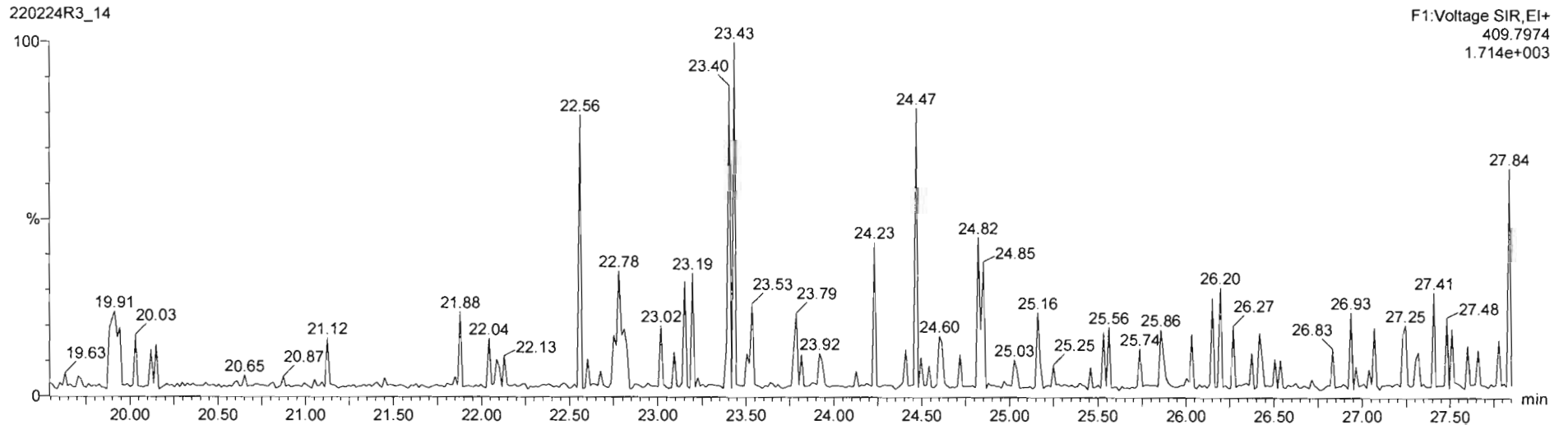


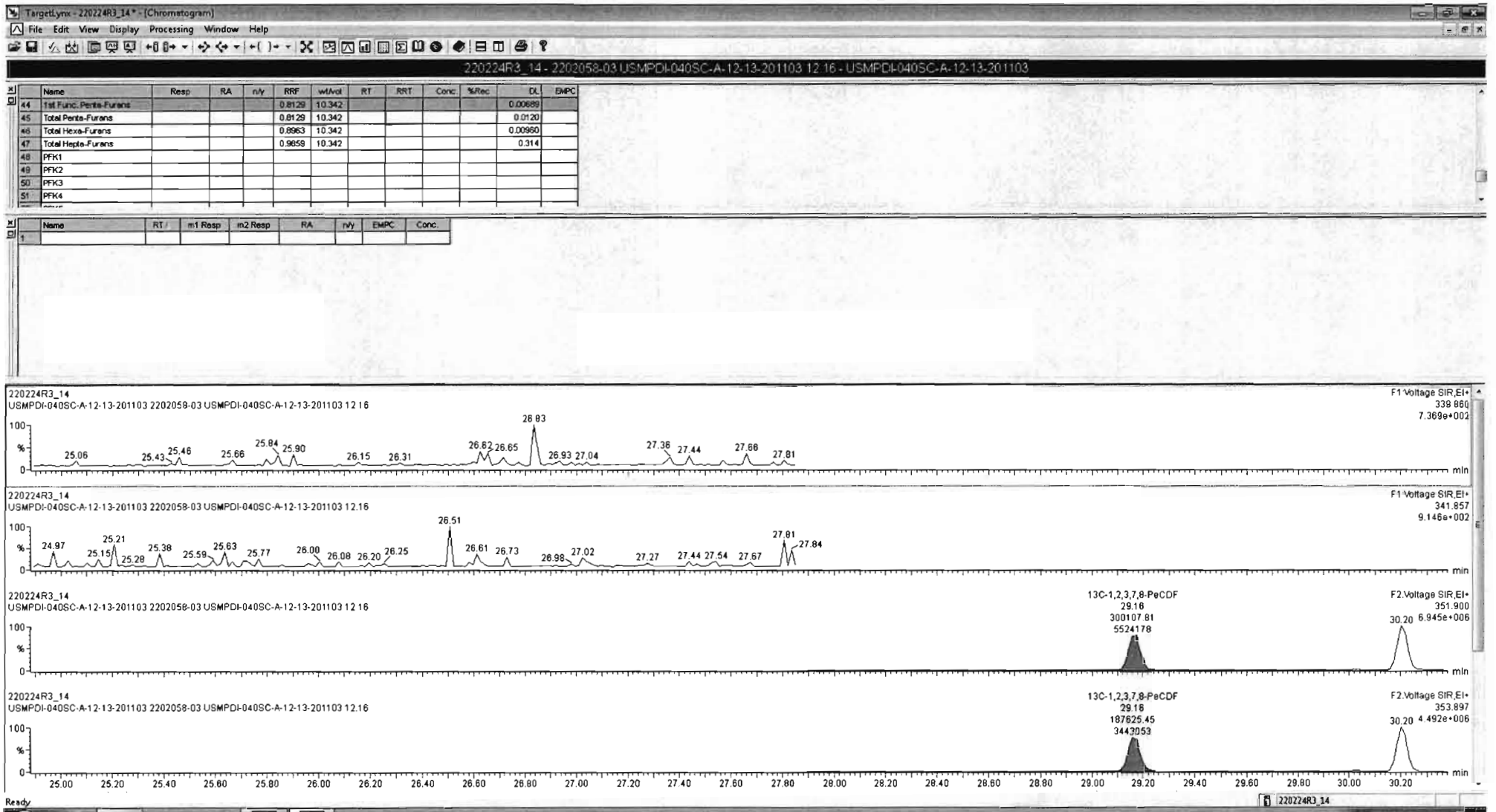
220224R3\_14



DPE6

220224R3\_14





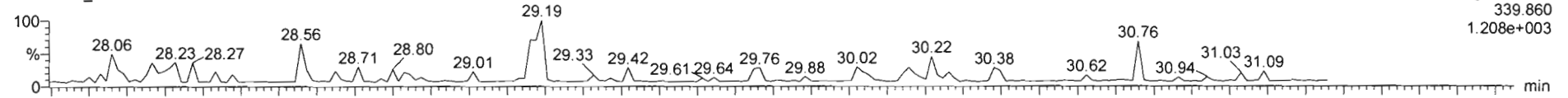
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Printed: Friday, February 25, 2022 18:41:50 Pacific Standard Time

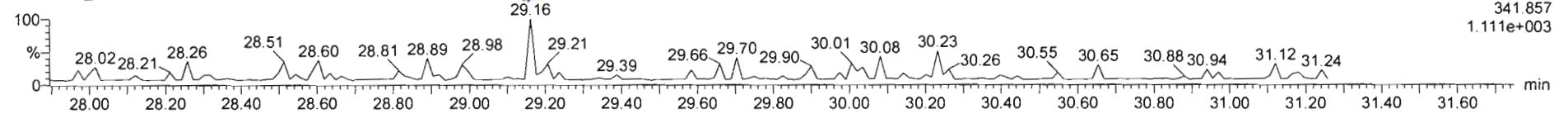
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**1,2,3,7,8-PeCDF**

220224R3\_14

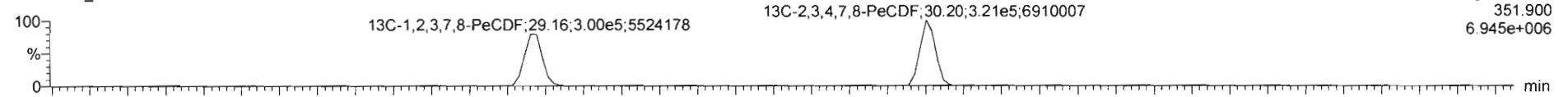


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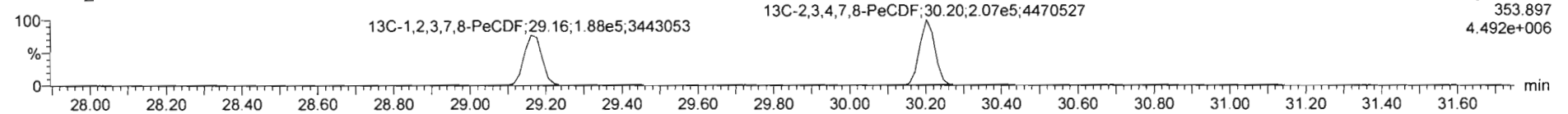


**13C-1,2,3,7,8-PeCDF**

220224R3\_14

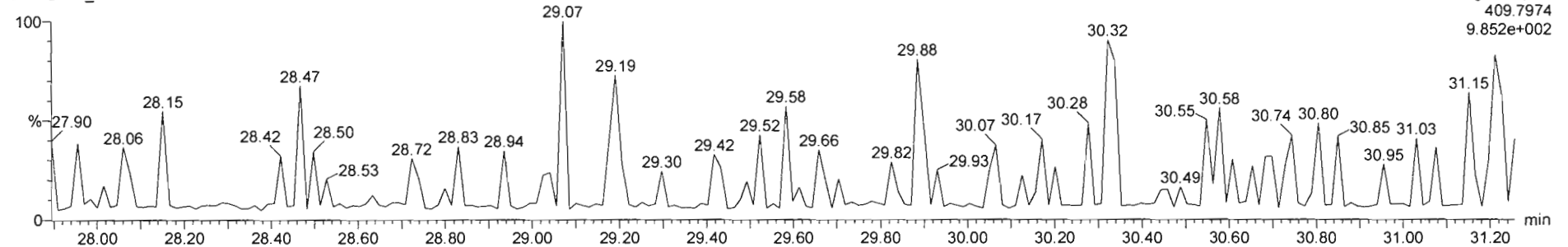


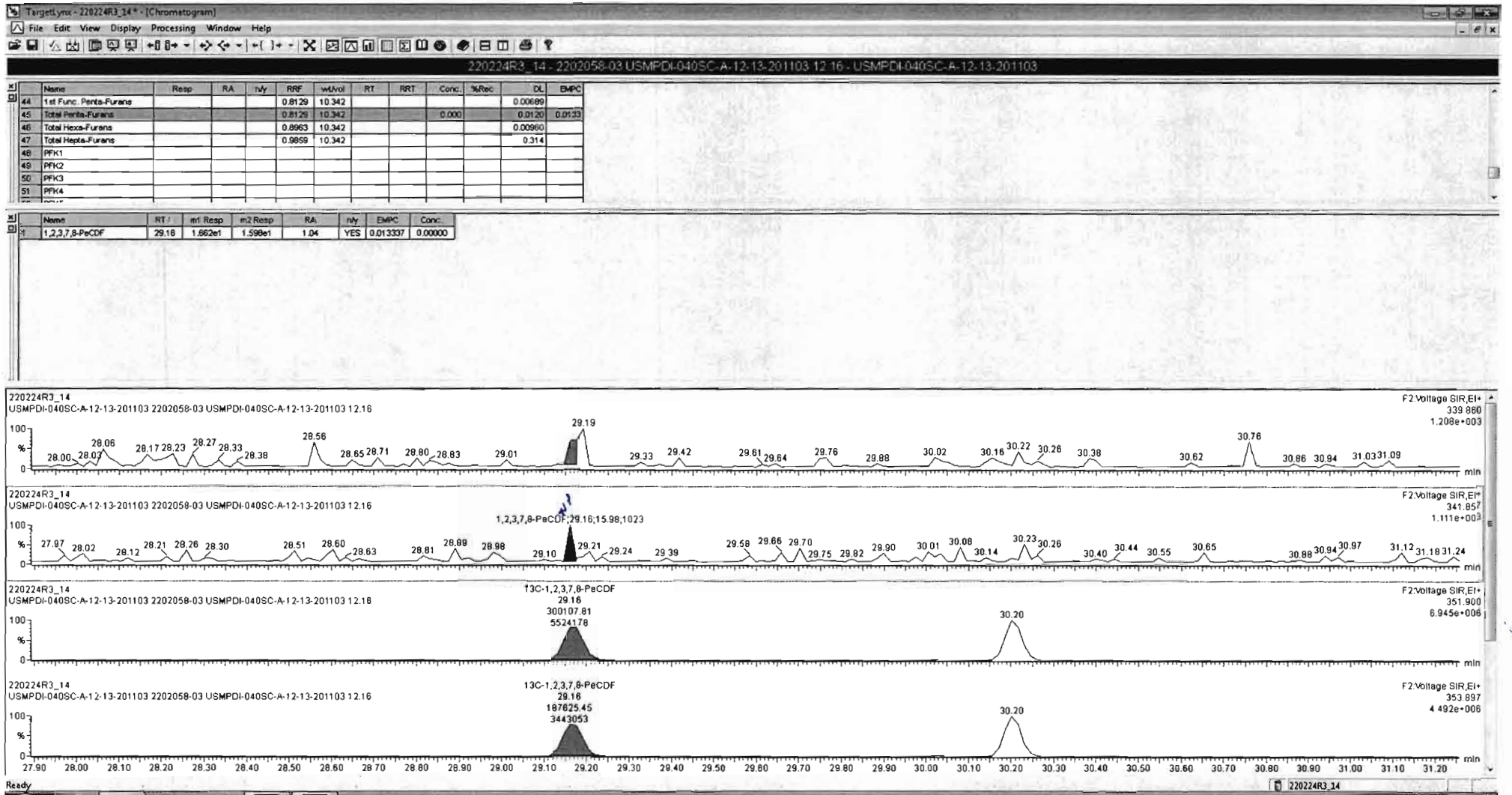
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**DPE2**

220224R3\_14



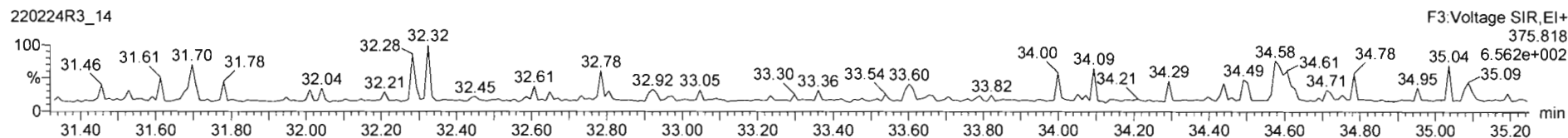
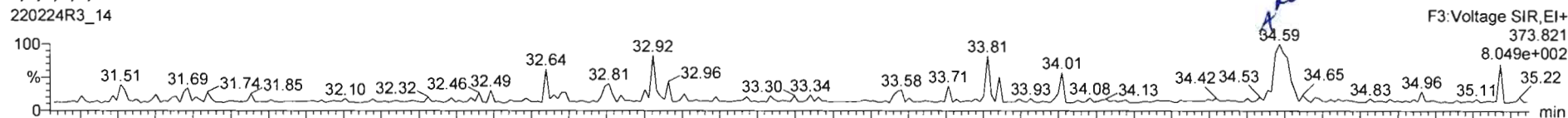


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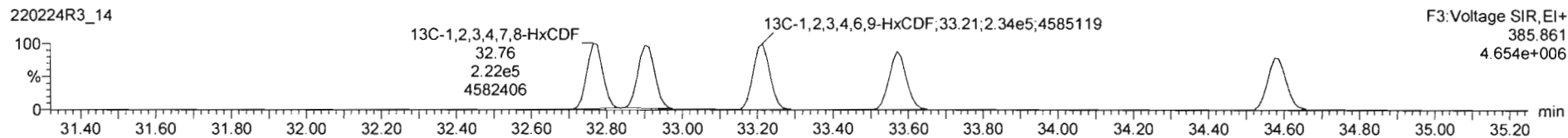
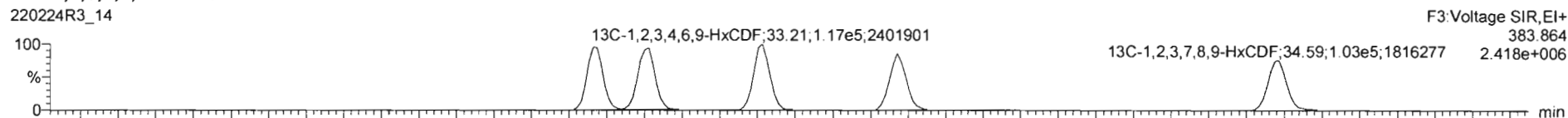
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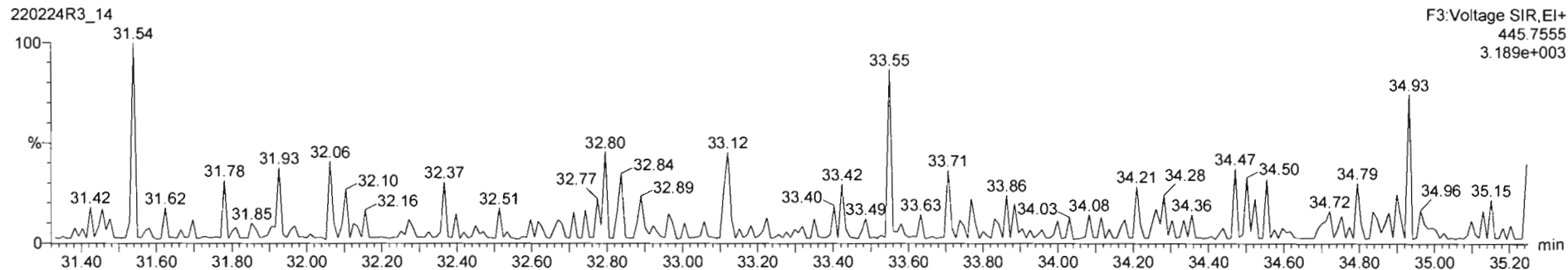
**1,2,3,4,7,8-HxCDF**



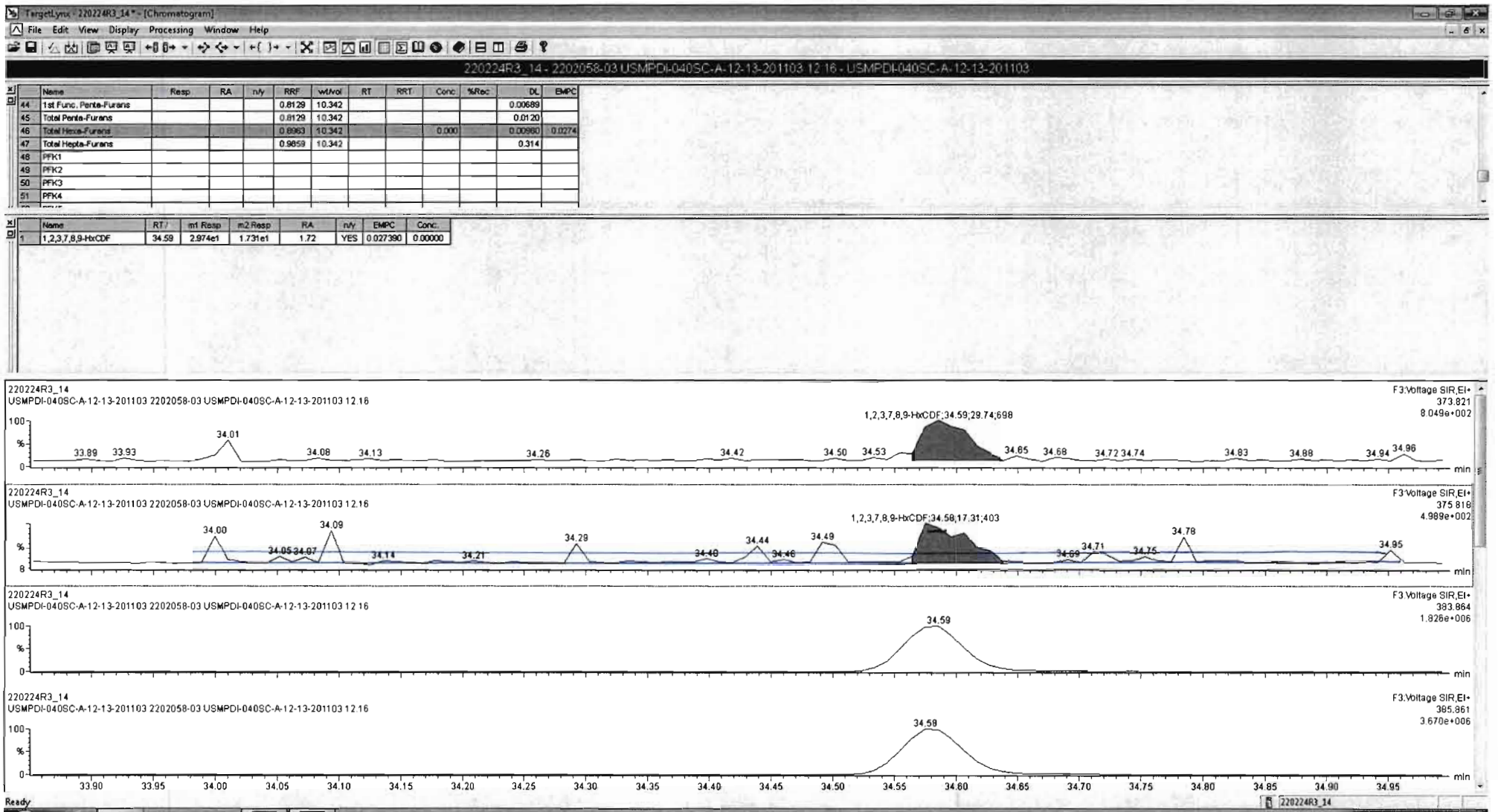
**13C-1,2,3,4,7,8-HxCDF**



**DPE3**







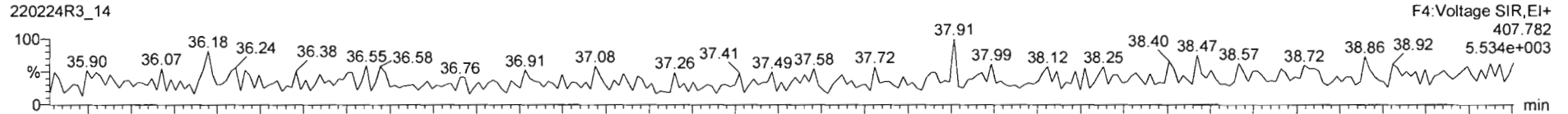
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Printed: Friday, February 25, 2022 18:41:50 Pacific Standard Time

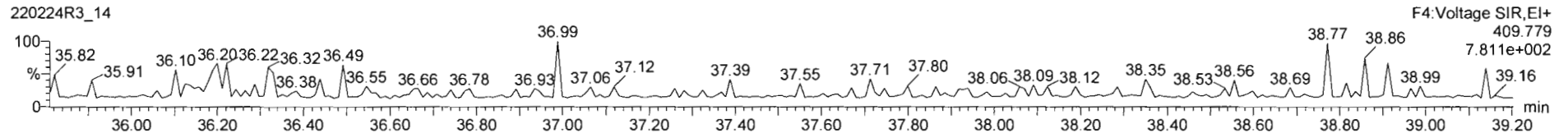
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1,2,3,4,6,7,8-HpCDF

220224R3\_14

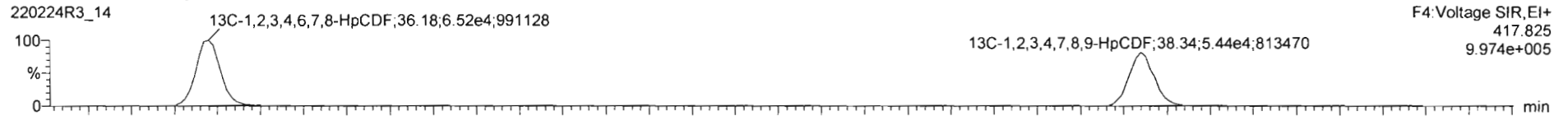


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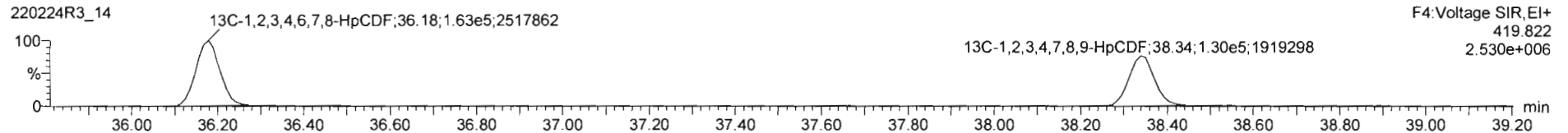


13C-1,2,3,4,6,7,8-HpCDF

220224R3\_14

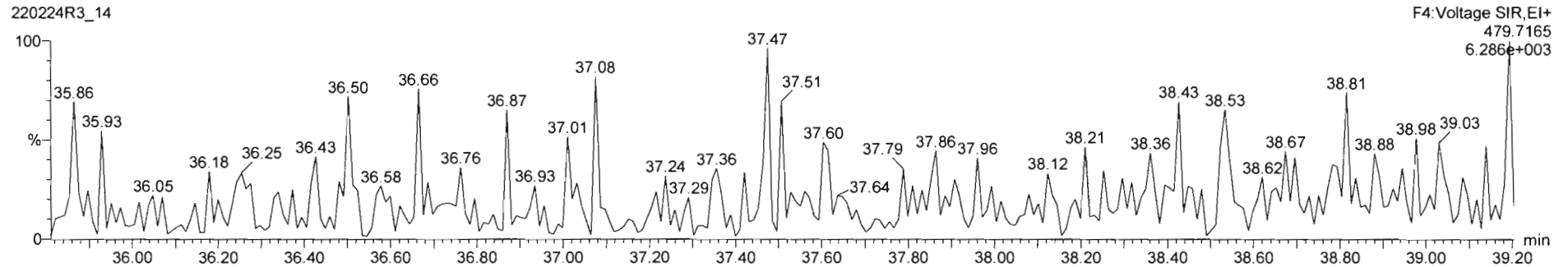


220224R3\_14



DPE4

220224R3\_14





Vista Analytical Laboratory VG-12

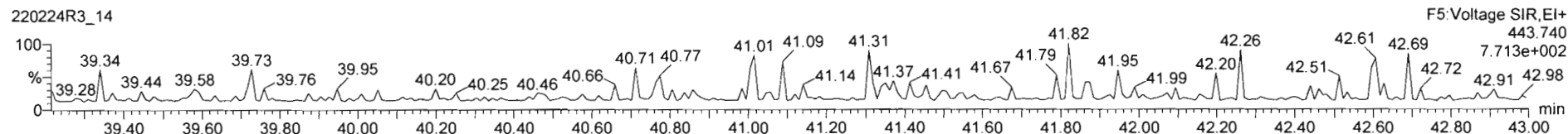
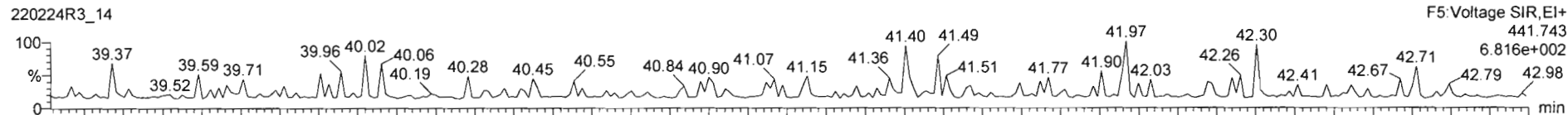
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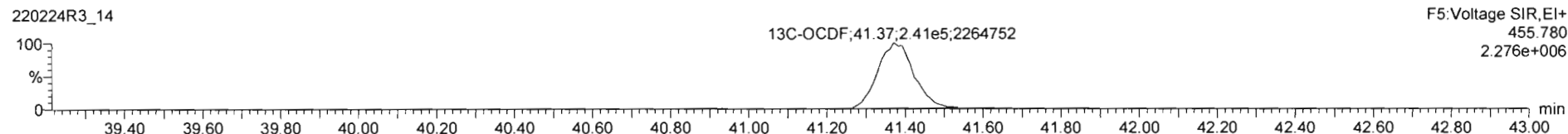
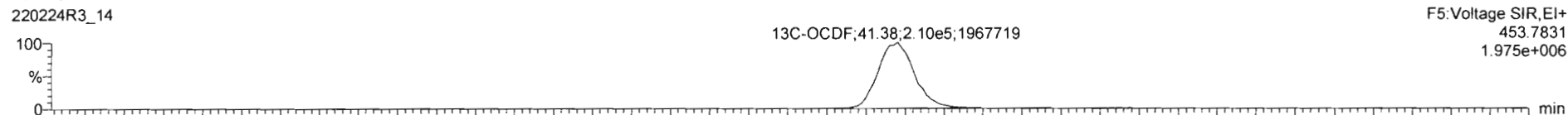
Printed: Friday, February 25, 2022 18:41:50 Pacific Standard Time

Name: 220224R3\_14, Date: 25-Feb-2022, Time: 00:59:58, ID: 2202058-03 USMPDI-040SC-A-12-13-201103 12.16, Description: USMPDI-040SC-A-12-13-201103

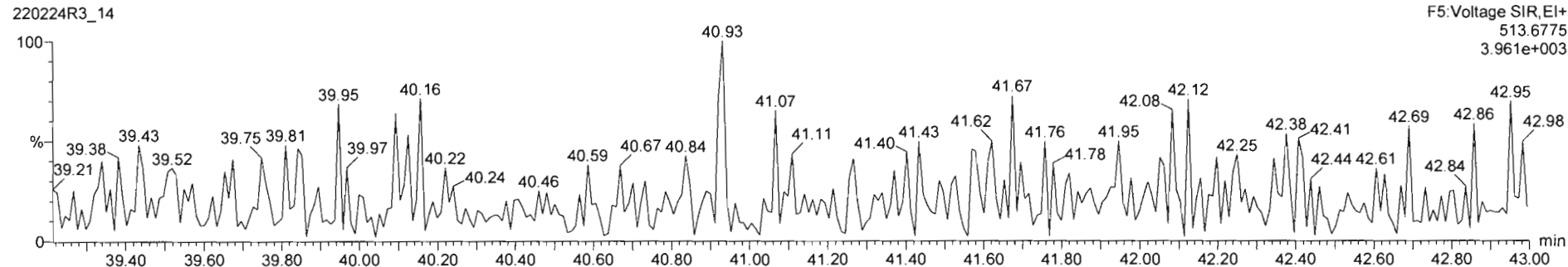
OCDF



13C-OCDF



DPE5



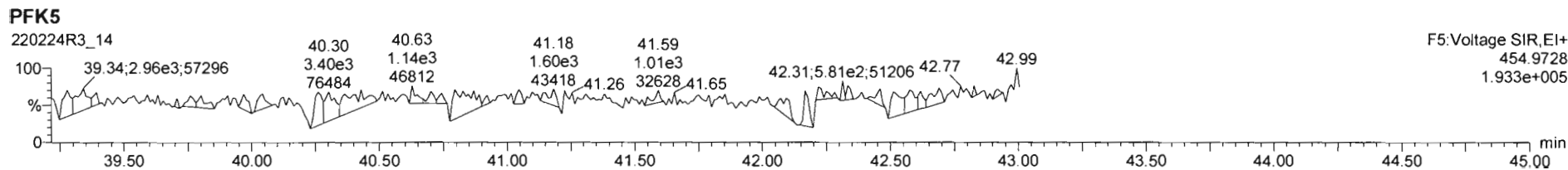
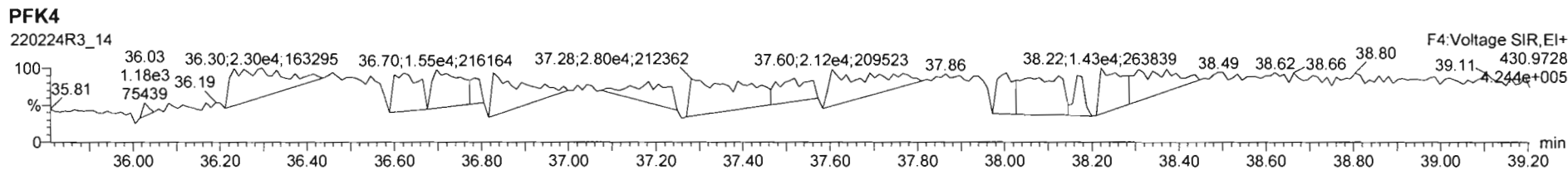
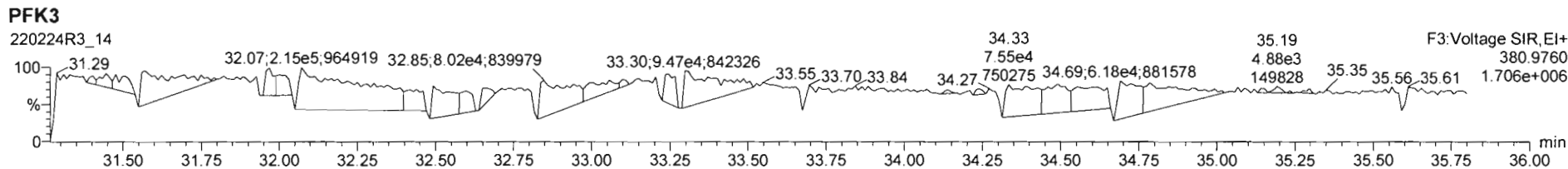
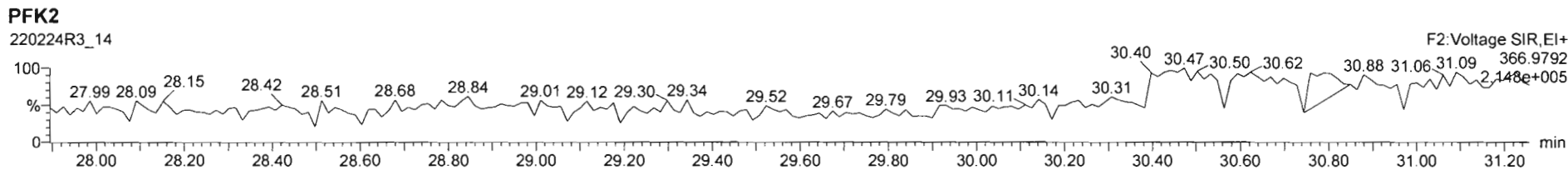
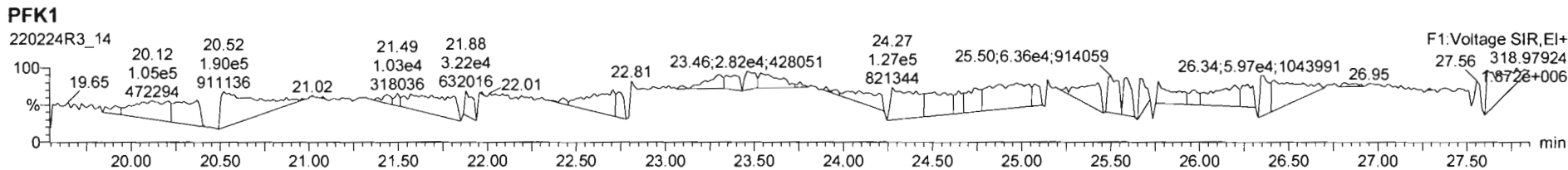
Vista Analytical Laboratory VG-12

Dataset: Untitled

Last Altered: Friday, February 25, 2022 18:41:45 Pacific Standard Time

Printed: Friday, February 25, 2022 18:41:50 Pacific Standard Time

Name: 220224R3\_14, Date: 25-Feb-2022, Time: 00:59:58, ID: 2202058-03 USMPDI-040SC-A-12-13-201103 12.16, Description: USMPDI-040SC-A-12-13-201103



Dataset: I:\VG12.PRO\Results\220224R3\220224R3\_15.qld

Last Altered: Friday, March 04, 2022 1:46:12 PM Pacific Standard Time  
Printed: Friday, March 04, 2022 1:47:31 PM Pacific Standard Time

*dy 03/04/2022*

*C103/10/2022*

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Calibration: I:\VG12.PRO\CurveDB\dbDIOXIN\_1613vg12-07-30-21.cdb 02 Aug 2021 09:55:11

Name: 220224R3\_15, Date: 25-Feb-2022, Time: 01:44:47, ID: 2202058-04 USMPDI-056SC-A-07-08-201107 16.08, Description: USMPDI-056SC-A-07-08-201107

#	Name	Resp	RA	n/y	RRF	wt/vol	Pred.RT	RT	Pred.RRT	RRT	Conc.	%Rec	DL	EMPC
1	1 2,3,7,8-TCDD			NO	0.952	11.030	25.842		1.001				0.0381	
2	2 1,2,3,7,8-PeCDD			NO	0.781	11.030	30.442		1.001				0.0827	
3	3 1,2,3,4,7,8-HxCDD			NO	0.904	11.030	33.705		1.001				0.0513	
4	4 1,2,3,6,7,8-HxCDD	1.65e2	1.34	NO	0.806	11.030	33.831	33.83	1.001	1.001	0.13223		0.0530	0.132
5	5 1,2,3,7,8,9-HxCDD	9.20e1	1.08	NO	0.814	11.030	34.083	34.08	1.000	1.000	0.072549		0.0565	0.0725
6	6 1,2,3,4,6,7,8-HpCDD	1.79e3	0.88	NO	0.836	11.030	37.670	37.66	1.000	1.000	1.9588		0.178	1.96
7	7 OCDD	1.39e4	0.88	NO	0.798	11.030	41.012	41.00	1.000	1.000	20.176		0.481	20.2
8	8 2,3,7,8-TCDF	4.38e2	0.59	YES	0.720	11.030	25.134	25.15	1.000	1.001	0.19014		0.0494	0.162
9	9 1,2,3,7,8-PeCDF	5.20e2	2.07	YES	0.813	11.030	29.179	29.21	1.000	1.001	0.24720		0.0223	0.205
10	10 2,3,4,7,8-PeCDF	3.20e2	1.42	NO	0.892	11.030	30.237	30.23	1.001	1.001	0.12883		0.0175	0.129
11	11 1,2,3,4,7,8-HxCDF	6.80e2	1.25	NO	0.893	11.030	32.785	32.80	1.000	1.001	0.42918		0.0351	0.429
12	12 1,2,3,6,7,8-HxCDF	1.82e2	1.56	YES	0.867	11.030	32.930	32.93	1.001	1.001	0.11409		0.0385	0.100
13	13 2,3,4,6,7,8-HxCDF			NO	0.896	11.030	33.590		1.001				0.0408	
14	14 1,2,3,7,8,9-HxCDF			NO	0.874	11.030	34.596		1.000				0.0469	
15	15 1,2,3,4,6,7,8-HpCDF	6.51e2	1.41	YES	0.986	11.030	36.207	36.21	1.000	1.001	0.56594		0.230	0.478
16	16 1,2,3,4,7,8,9-HpCDF			NO	0.966	11.030	38.351		1.000				0.297	
17	17 OCDF	7.25e2	0.86	NO	0.722	11.030	41.327	41.35	1.000	1.001	0.91778		0.295	0.918
18	18 13C-2,3,7,8-TCDD	4.93e5	0.75	NO	1.11	11.030	25.756	25.81	1.028	1.030	183.33	101	0.143	
19	19 13C-1,2,3,7,8-PeCDD	3.48e5	0.62	NO	0.893	11.030	30.103	30.41	1.201	1.214	160.35	88.4	0.203	
20	20 13C-1,2,3,4,7,8-HxCDD	2.48e5	1.28	NO	0.784	11.030	33.672	33.69	1.014	1.014	174.00	96.0	0.351	
21	21 13C-1,2,3,6,7,8-HxCDD	2.81e5	1.26	NO	0.863	11.030	33.792	33.81	1.017	1.018	179.08	98.8	0.319	
22	22 13C-1,2,3,7,8,9-HxCDD	2.82e5	1.27	NO	0.905	11.030	34.081	34.07	1.026	1.026	171.43	94.5	0.304	
23	23 13C-1,2,3,4,6,7,8-HpCDD	1.98e5	1.05	NO	0.644	11.030	37.499	37.66	1.129	1.134	169.28	93.4	0.434	
24	24 13C-OCDD	3.12e5	0.89	NO	0.528	11.030	40.767	41.00	1.227	1.235	324.98	89.6	0.351	
25	25 13C-2,3,7,8-TCDF	5.80e5	0.76	NO	1.15	11.030	25.135	25.13	1.003	1.003	162.57	89.7	0.188	
26	26 13C-1,2,3,7,8-PeCDF	4.69e5	1.59	NO	0.905	11.030	28.933	29.18	1.155	1.164	167.12	92.2	0.388	
27	27 13C-2,3,4,7,8-PeCDF	5.05e5	1.59	NO	0.899	11.030	30.159	30.22	1.204	1.206	181.25	100	0.391	
28	28 13C-1,2,3,4,7,8-HxCDF	3.22e5	0.49	NO	1.00	11.030	32.762	32.78	0.986	0.987	176.42	97.3	0.430	
29	29 13C-1,2,3,6,7,8-HxCDF	3.32e5	0.49	NO	1.04	11.030	32.892	32.91	0.990	0.991	174.74	96.4	0.413	
30	30 13C-2,3,4,6,7,8-HxCDF	2.94e5	0.50	NO	0.916	11.030	33.563	33.57	1.010	1.011	176.35	97.3	0.470	
31	31 13C-1,2,3,7,8,9-HxCDF	2.89e5	0.48	NO	0.859	11.030	34.589	34.59	1.041	1.041	184.92	102	0.501	

Dataset: I:\VG12.PRO\Results\220224R3\220224R3\_15.qld

Last Altered: Friday, March 04, 2022 1:46:12 PM Pacific Standard Time

Printed: Friday, March 04, 2022 1:47:31 PM Pacific Standard Time

Name: 220224R3\_15, Date: 25-Feb-2022, Time: 01:44:47, ID: 2202058-04 USMPDI-056SC-A-07-08-201107 16.08, Description: USMPDI-056SC-A-07-08-201107

	# Name	Resp	RA	n/y	RRF	wt/vol	Pred.RT	RT	Pred.RRT	RRT	Conc.	%Rec	DL	EMPC
32	32 13C-1,2,3,4,6,7,8-HpCDF	2.12e5	0.40	NO	0.632	11.030	36.193	36.19	1.090	1.090	183.76	101	0.437	
33	33 13C-1,2,3,4,7,8,9-HpCDF	1.64e5	0.41	NO	0.552	11.030	38.176	38.34	1.149	1.154	163.00	89.9	0.500	
34	34 13C-OCDF	3.97e5	0.86	NO	0.606	11.030	41.096	41.32	1.237	1.244	359.98	99.3	0.517	
35	35 37Cl-2,3,7,8-TCDD	1.69e5			1.01	11.030	25.776	25.83	1.029	1.031	68.557	94.5	0.0631	
36	36 13C-1,2,3,4-TCDD	4.41e5	0.76	NO	1.00	11.030	25.010	25.06	1.000	1.000	181.32	100	0.159	
37	37 13C-1,2,3,4-TCDF	5.62e5	0.77	NO	1.00	11.030	23.580	23.59	1.000	1.000	181.32	100	0.216	
38	38 13C-1,2,3,4,6,9-HxCDF	3.30e5	0.49	NO	1.00	11.030	33.170	33.21	1.000	1.000	181.32	100	0.431	
39	39 Total Tetra-Dioxins				0.952	11.030	24.620		0.000		0.066891		0.0156	0.0669
40	40 Total Penta-Dioxins				0.781	11.030	29.960		0.000				0.0394	
41	41 Total Hexa-Dioxins				0.806	11.030	33.635		0.000		0.62115		0.0558	0.621
42	42 Total Hepta-Dioxins				0.836	11.030	37.640		0.000		4.5106		0.178	4.51
43	43 Total Tetra-Furans				0.720	11.030	23.610		0.000		0.00000		0.0231	0.327
44	44 1st Func. Penta-Furans				0.813	11.030	26.930		0.000		0.00000		0.00682	0.206
45	45 Total Penta-Furans				0.813	11.030	29.275		0.000		0.30322		0.0212	0.566
46	46 Total Hexa-Furans				0.896	11.030	33.555		0.000		0.84764		0.0387	1.01
47	47 Total Hepta-Furans				0.986	11.030	37.835		0.000		0.68700		0.257	1.17

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Dataset: I:\VG12.PRO\Results\220224R3\220224R3\_15.qld

Last Altered: Friday, March 04, 2022 1:46:12 PM Pacific Standard Time

Printed: Friday, March 04, 2022 1:47:31 PM Pacific Standard Time

Method: I:\VG12.PRO\MethDB\1613rrt-2-17-22.mdb 17 Feb 2022 13:16:14

Calibration: I:\VG12.PRO\CurveDB\1613vg12-07-30-21.cdb 02 Aug 2021 09:55:11

Name: 220224R3\_15, Date: 25-Feb-2022, Time: 01:44:47, ID: 2202058-04 USMPDI-056SC-A-07-08-201107 16.08, Description: USMPDI-056SC-A-07-08-201107

**Tetra-Dioxins**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1	Total Tetra-Dioxins	23.74	1.628e3	2.340e3	7.908e1	9.422e1	0.84	NO	1.733e2	0.066891	0.066891	0.0156

**Penta-Dioxins**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1												

**Hexa-Dioxins**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1	Total Hexa-Dioxins	32.05	7.090e3	5.807e3	2.706e2	2.306e2	1.17	NO	5.012e2	0.41637	0.41637	0.0558
2	1,2,3,6,7,8-HxCDD	33.83	1.866e3	1.663e3	9.482e1	7.059e1	1.34	NO	1.654e2	0.13223	0.13223	0.0530
3	1,2,3,7,8,9-HxCDD	34.08	7.790e2	7.440e2	4.779e1	4.423e1	1.08	NO	9.202e1	0.072549	0.072549	0.0565

**Hepta-Dioxins**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1	Total Hepta-Dioxins	36.59	1.637e4	1.694e4	1.220e3	1.116e3	1.09	NO	2.336e3	2.5518	2.5518	0.178
2	1,2,3,4,6,7,8-HpCDD	37.66	1.199e4	1.584e4	8.417e2	9.515e2	0.88	NO	1.793e3	1.9588	1.9588	0.178

**Tetra-Furans**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1	Total Tetra-Furans	24.17	3.068e3	3.854e3	1.656e2	2.540e2	0.65	YES	0.000e0	0.00000	0.16519	0.0494
2	2,3,7,8-TCDF	25.15	2.627e3	4.931e3	1.625e2	2.757e2	0.59	YES	4.382e2	0.00000	0.16211	0.0494

**Penta-Furans function 1**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1	1st Func. Penta-Furans	26.64	4.072e3	4.426e3	2.735e2	2.394e2	1.14	YES	0.000e0	0.00000	0.20595	0.0181

Dataset: I:\VG12.PRO\Results\220224R3\220224R3\_15.qld

Last Altered: Friday, March 04, 2022 1:46:12 PM Pacific Standard Time  
 Printed: Friday, March 04, 2022 1:47:31 PM Pacific Standard Time

Name: 220224R3\_15, Date: 25-Feb-2022, Time: 01:44:47, ID: 2202058-04 USMPDI-056SC-A-07-08-201107 16.08, Description: USMPDI-056SC-A-07-08-201107

**Penta-Furans**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1	Total Penta-Furans	28.23	3.432e3	2.247e3	2.438e2	1.371e2	1.78	NO	3.810e2	0.17439	0.17439	0.0212
2	1,2,3,7,8-PeCDF	29.21	6.438e3	5.469e3	3.507e2	1.692e2	2.07	YES	5.199e2	0.00000	0.20519	0.0233
3	Total Penta-Furans	29.45	2.570e3	1.187e3	8.939e1	4.923e1	1.82	YES	0.000e0	0.00000	0.057463	0.0212
4	2,3,4,7,8-PeCDF	30.23	3.581e3	3.108e3	1.883e2	1.321e2	1.42	NO	3.205e2	0.12883	0.12883	0.0175

**Hexa-Furans**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1	Total Hexa-Furans	31.52	1.741e3	1.106e3	6.002e1	4.008e1	1.50	YES	0.000e0	0.00000	0.058743	0.0387
2	Total Hexa-Furans	31.71	2.884e3	3.336e3	1.575e2	1.162e2	1.35	NO	2.737e2	0.17904	0.17904	0.0387
3	Total Hexa-Furans	32.31	4.896e3	4.326e3	1.927e2	1.733e2	1.11	NO	3.659e2	0.23942	0.23942	0.0387
4	1,2,3,4,7,8-HxCDF	32.80	8.153e3	6.368e3	3.775e2	3.029e2	1.25	NO	6.804e2	0.42918	0.42918	0.0351
5	1,2,3,6,7,8-HxCDF	32.93	3.242e3	1.531e3	1.112e2	7.111e1	1.56	YES	1.823e2	0.00000	0.10046	0.0355

**Hepta-Furans**

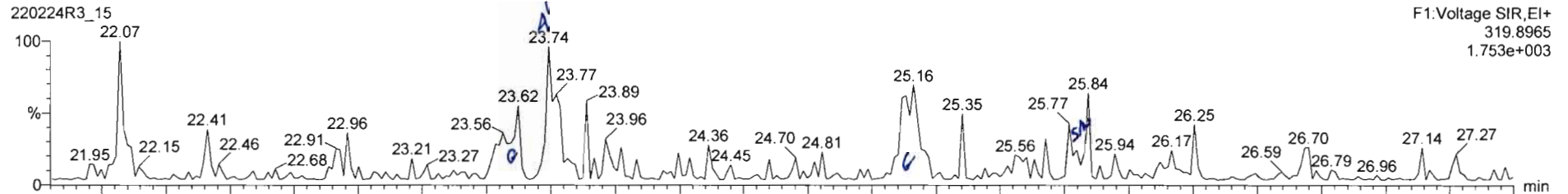
	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1	1,2,3,4,6,7,8-HpCDF	36.21	6.198e3	5.723e3	3.812e2	2.696e2	1.41	YES	6.508e2	0.00000	0.47823	0.230
2	Total Hepta-Furans	36.93	4.168e3	6.208e3	3.591e2	3.421e2	1.05	NO	7.012e2	0.68700	0.68700	0.257

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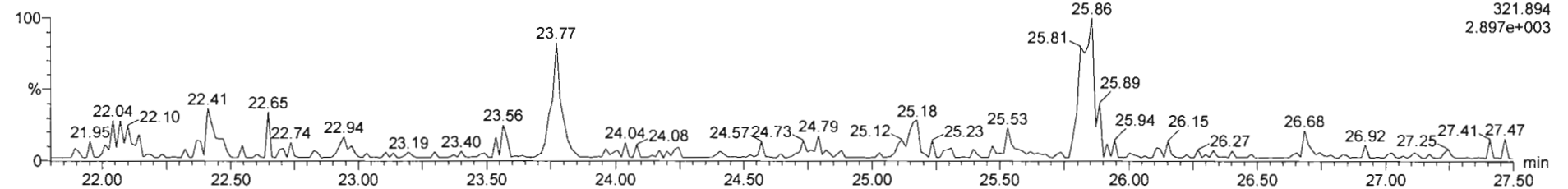
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Name: 220224R3\_15, Date: 25-Feb-2022, Time: 01:44:47, ID: 2202058-04 USMPDI-056SC-A-07-08-201107 16.08, Description: USMPDI-056SC-A-07-08-201107

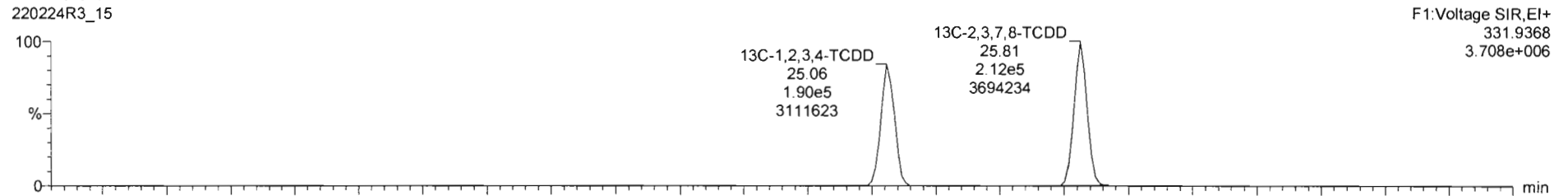
2,3,7,8-TCDD



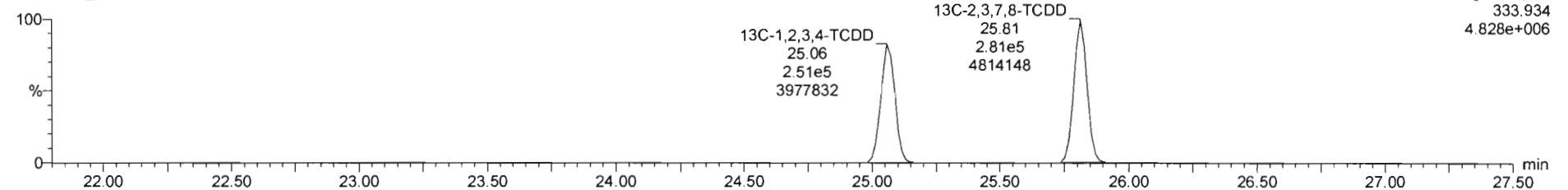
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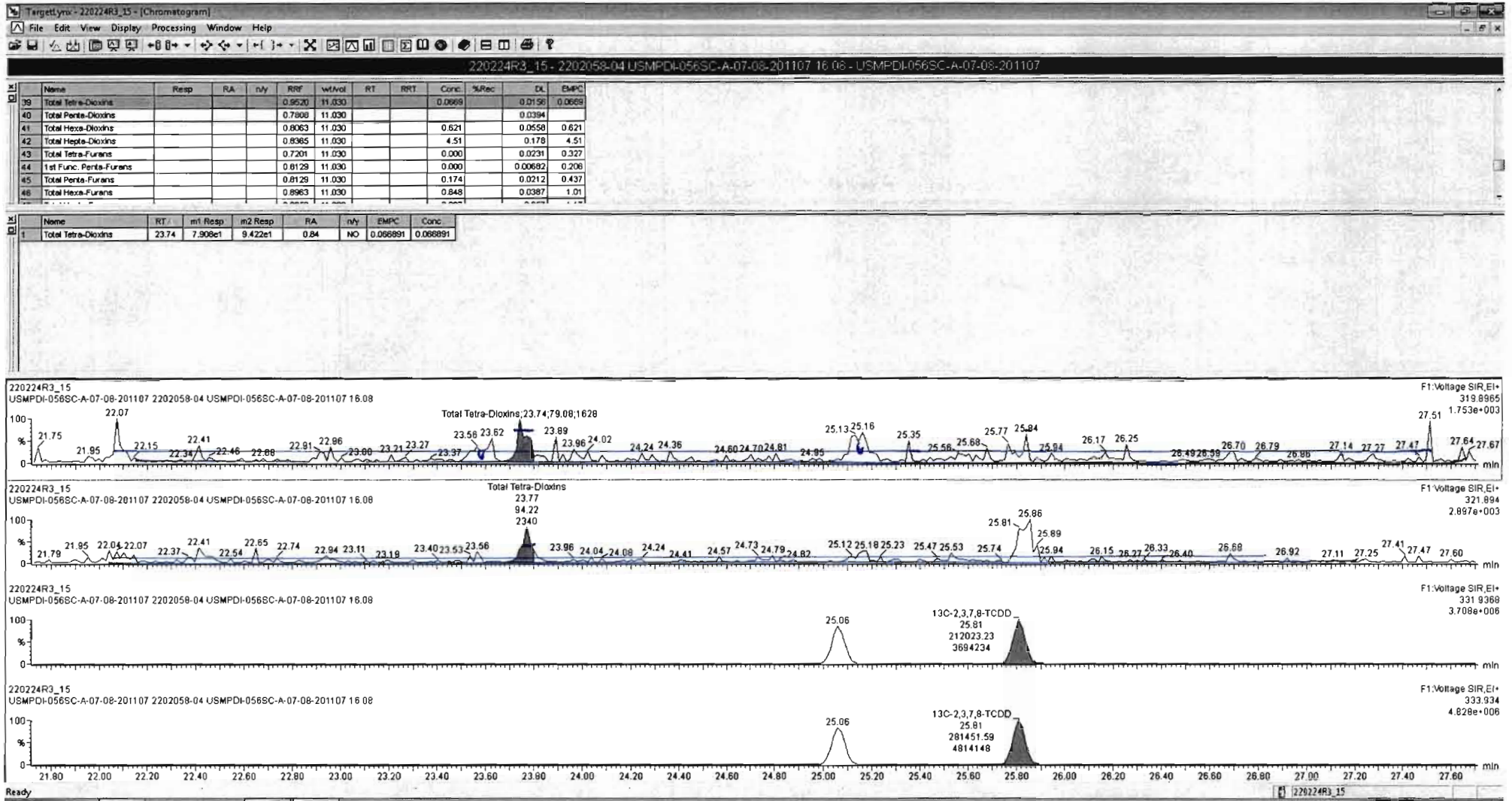
13C-2,3,7,8-TCDD



220224R3\_15









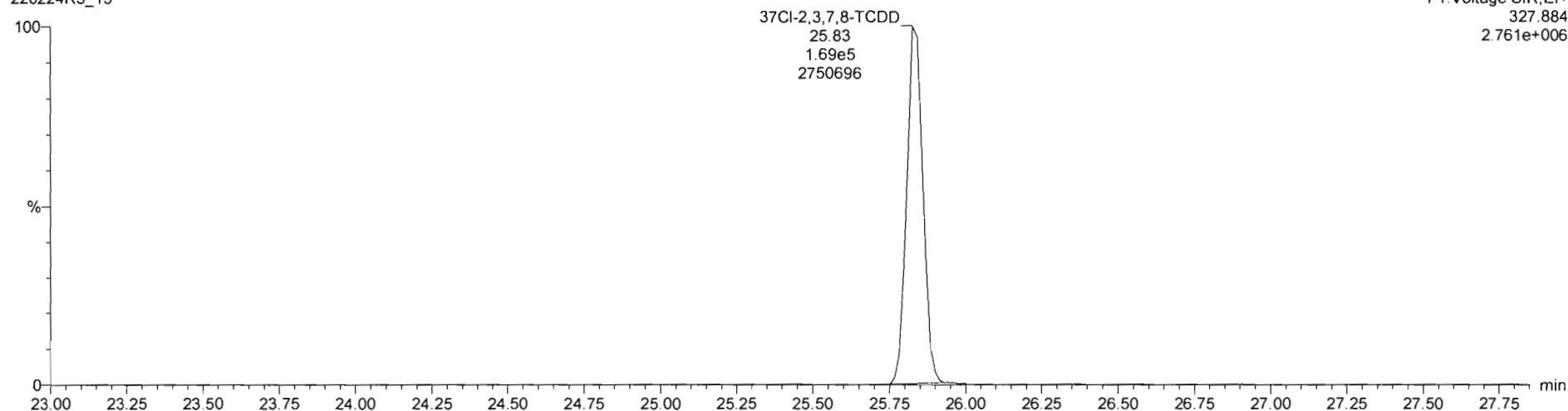
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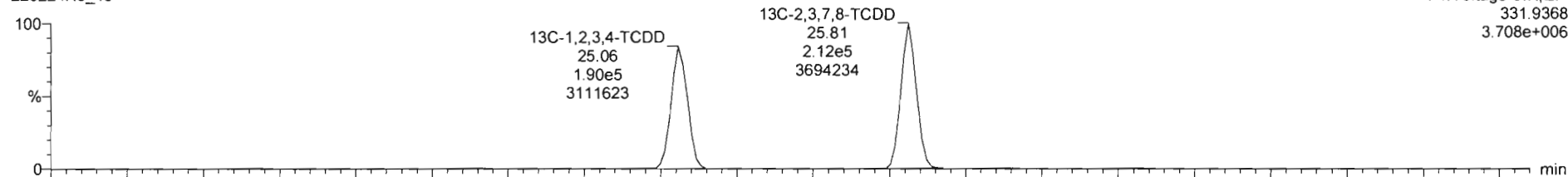
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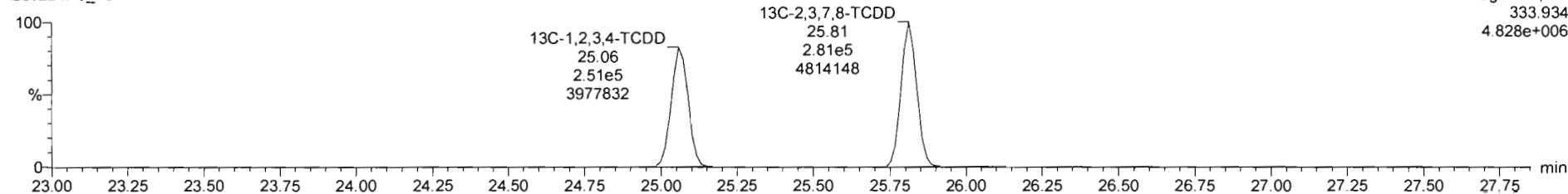


**13C-1,2,3,4-TCDD**

220224R3\_15



220224R3\_15



Vista Analytical Laboratory VG-12

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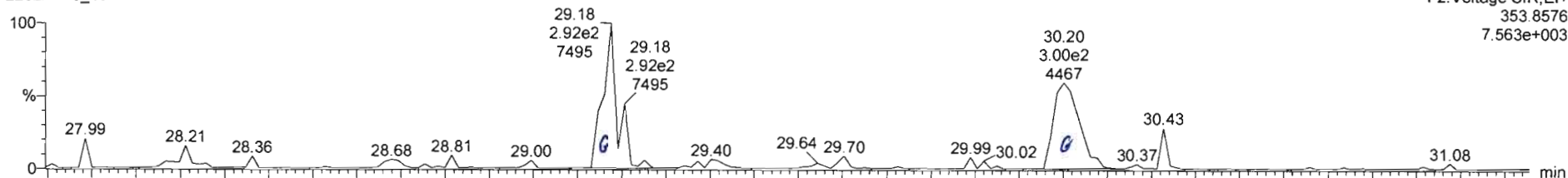
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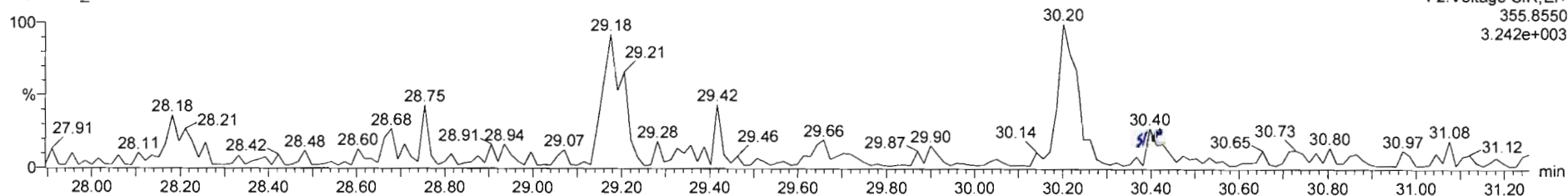
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1,2,3,7,8-PeCDD

220224R3\_15

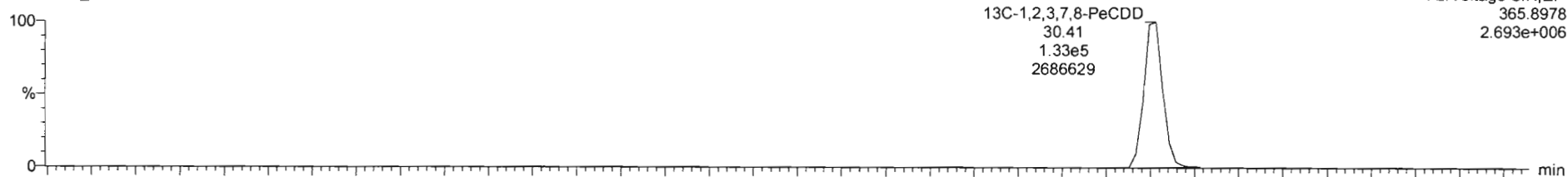


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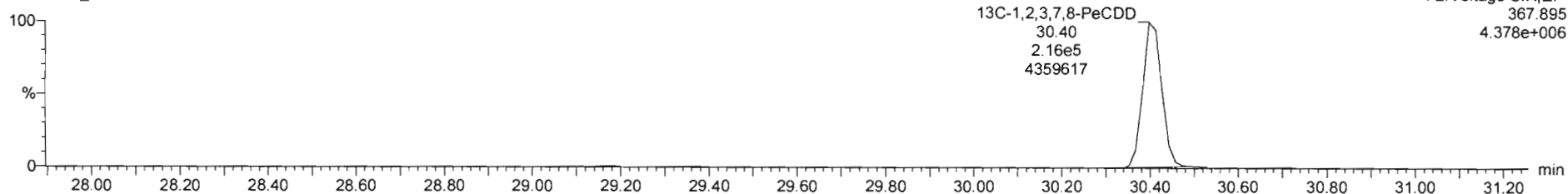


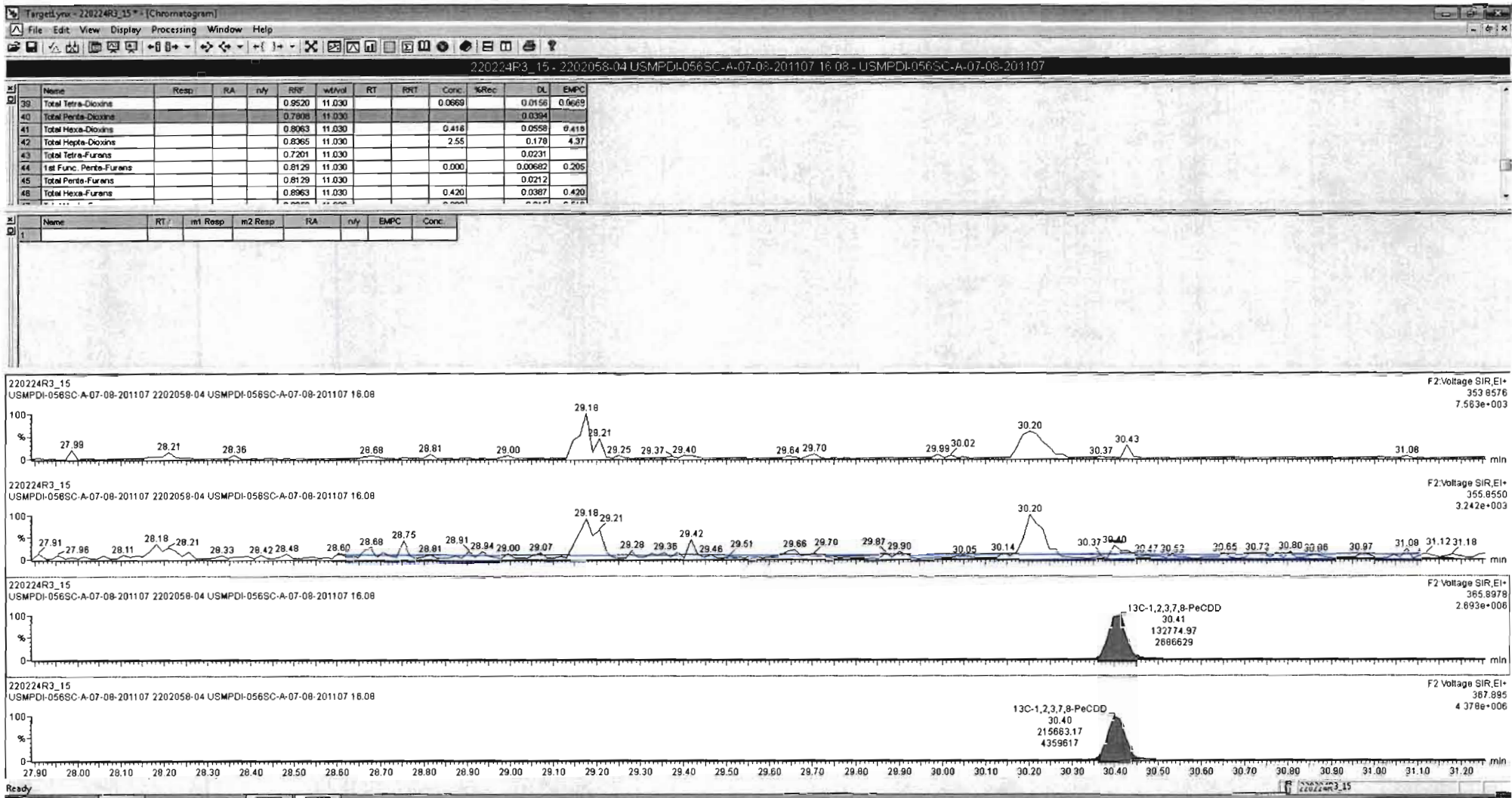
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220224R3\_15



220224R3\_15



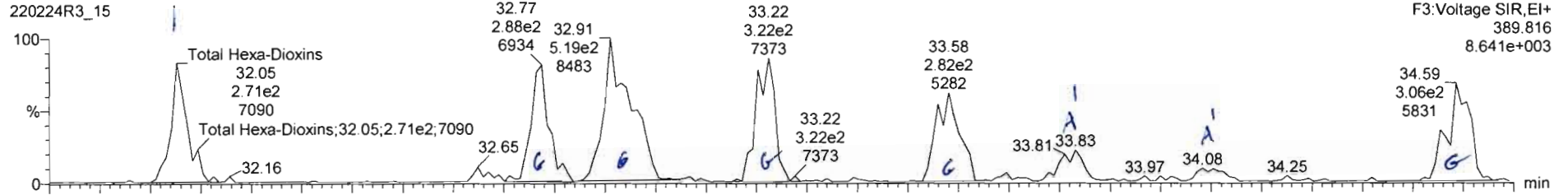


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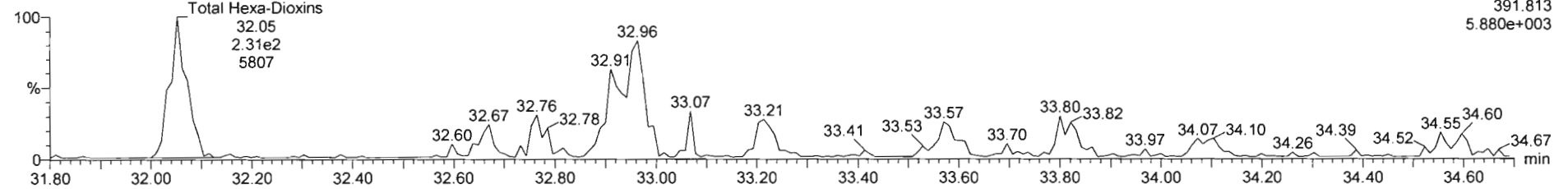
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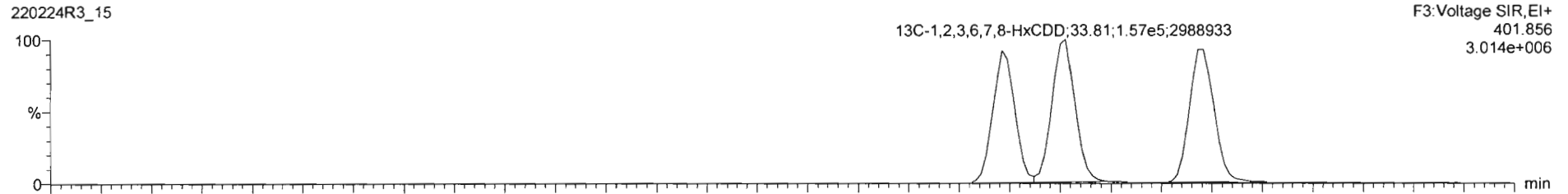
1,2,3,4,7,8-HxCDD



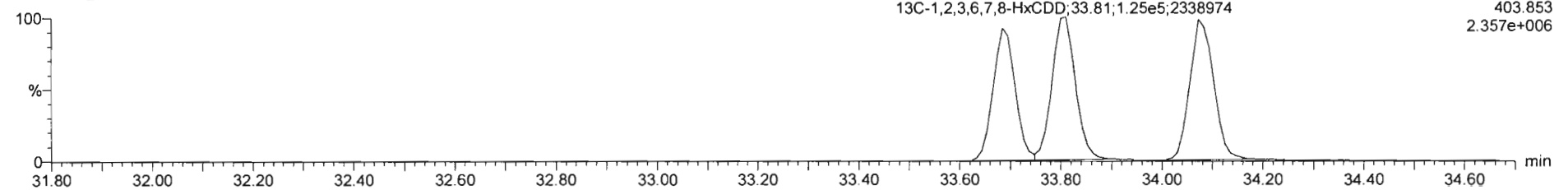
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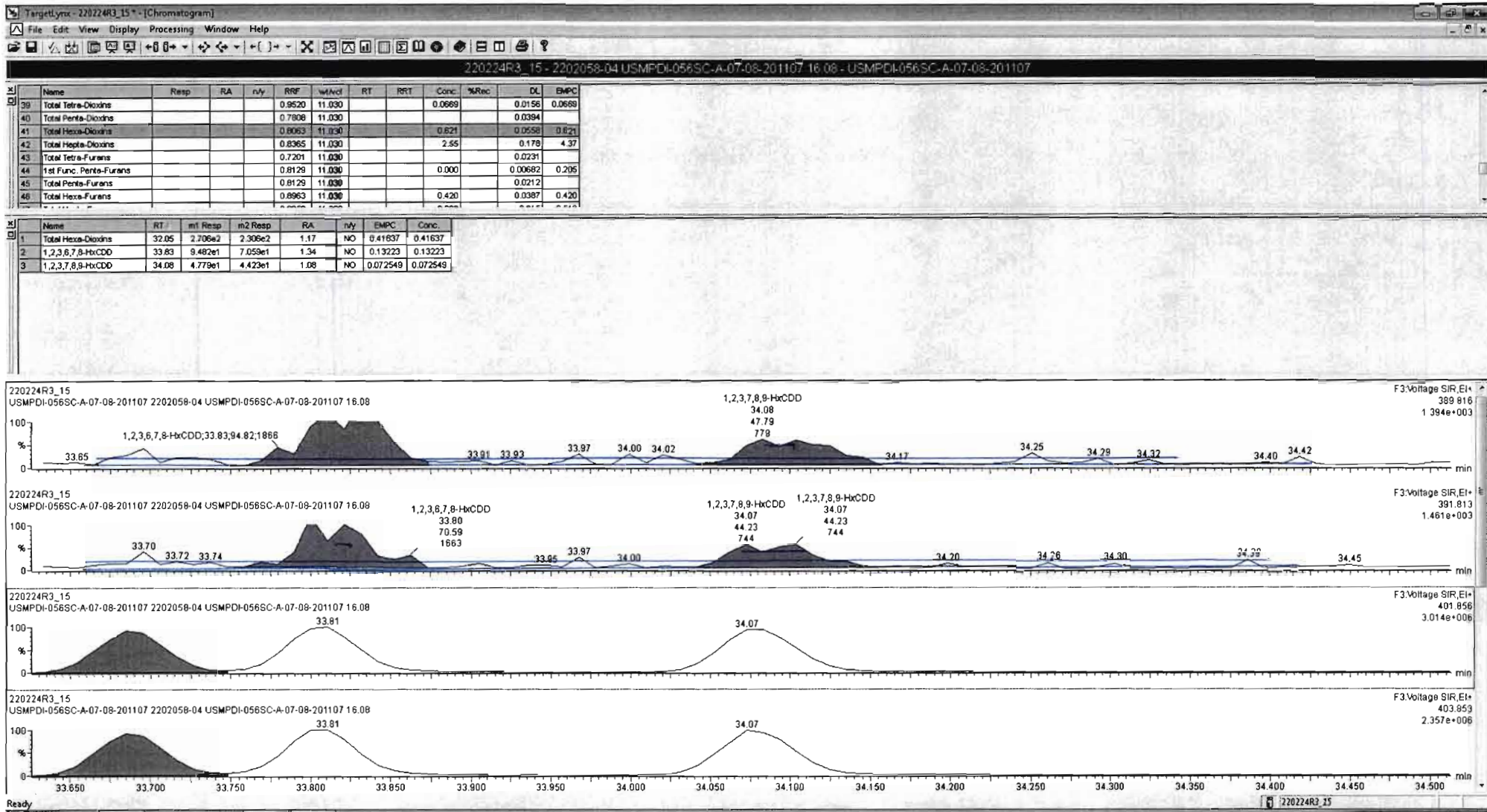


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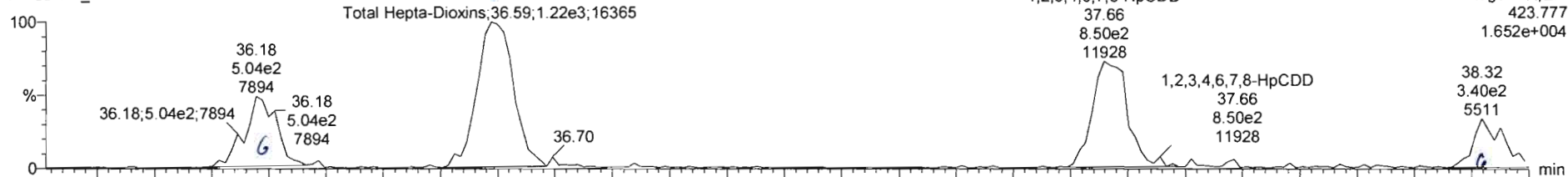
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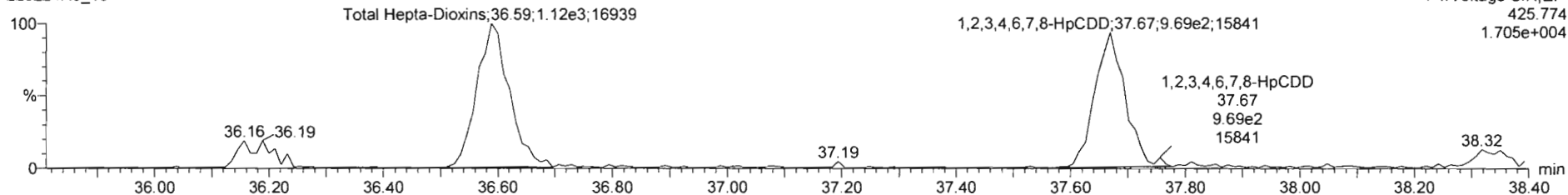
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**1,2,3,4,6,7,8-HpCDD**

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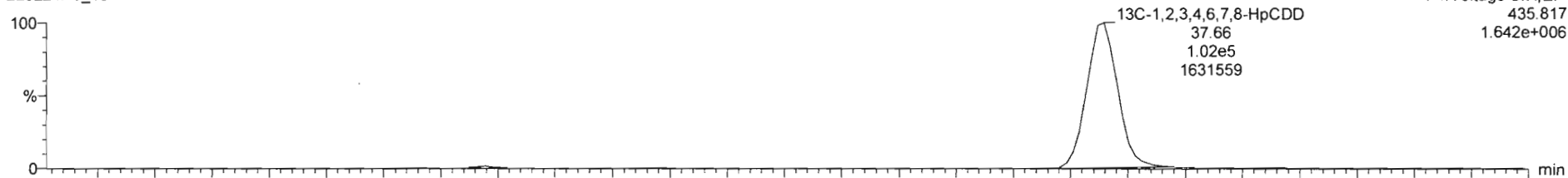


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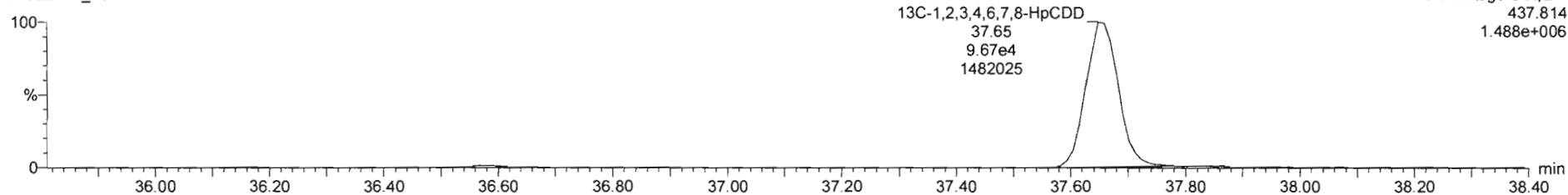


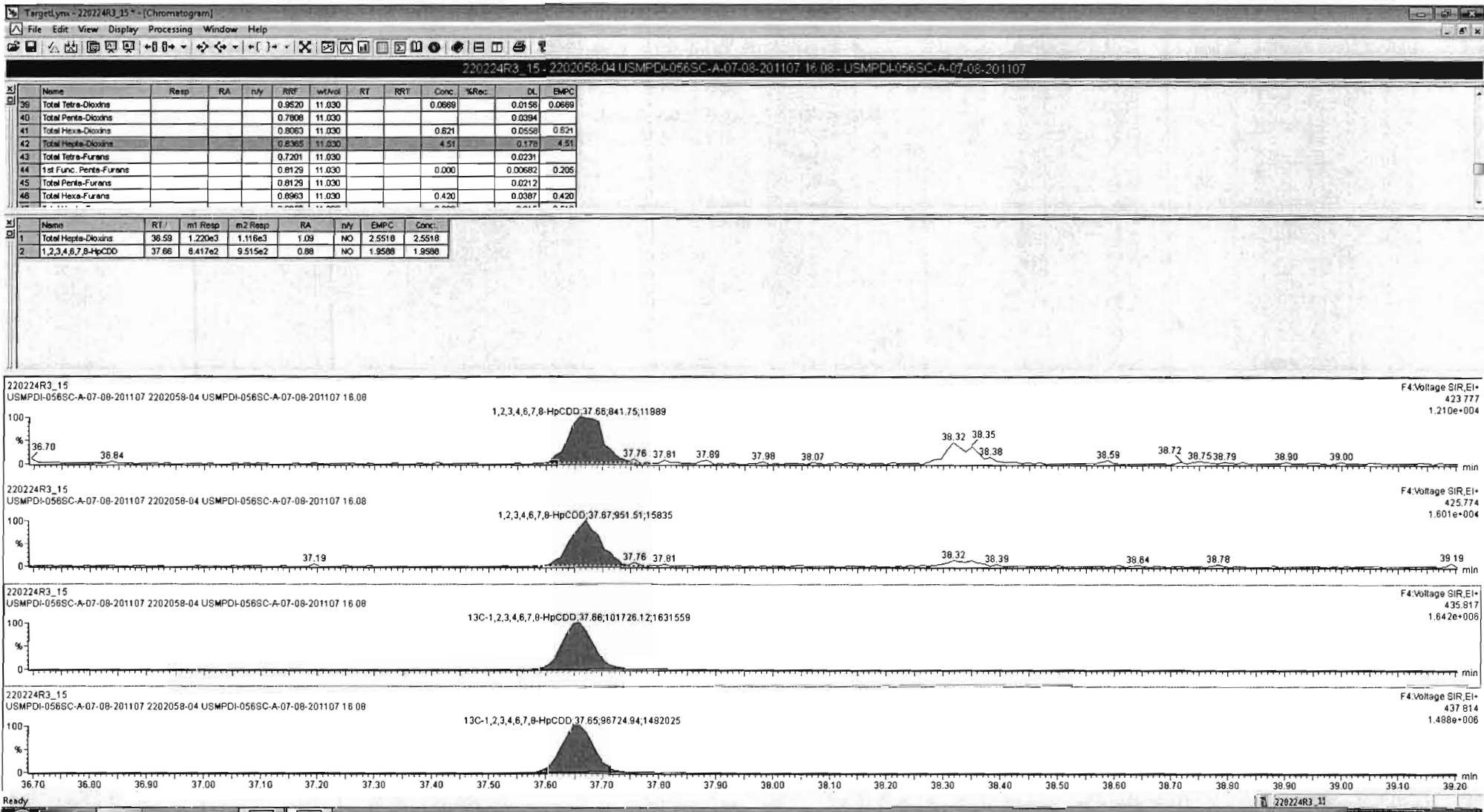
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220224R3\_15



220224R3\_15







Vista Analytical Laboratory VG-12

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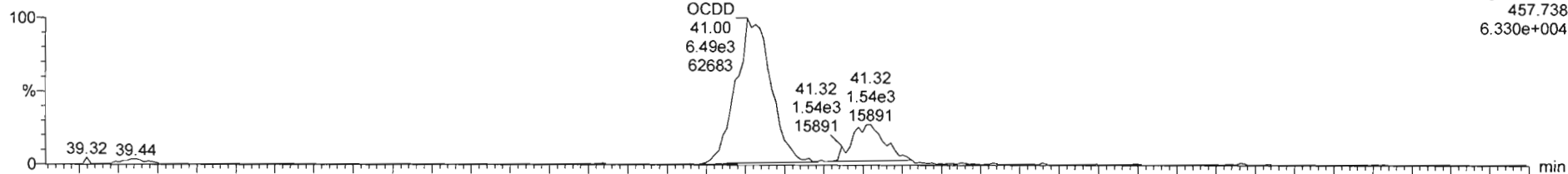
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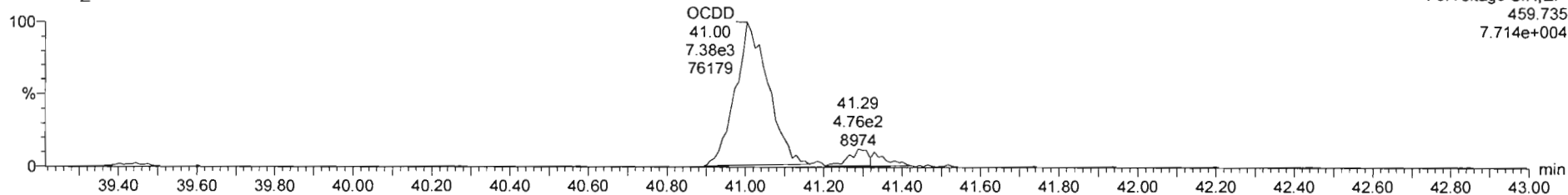
OCDD

220224R3\_15



F5:Voltage SIR,EI+  
457.738  
6.330e+004

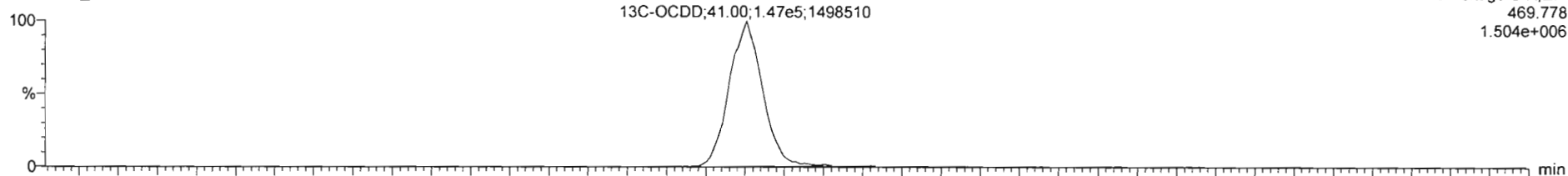
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F5:Voltage SIR,EI+  
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7.714e+004

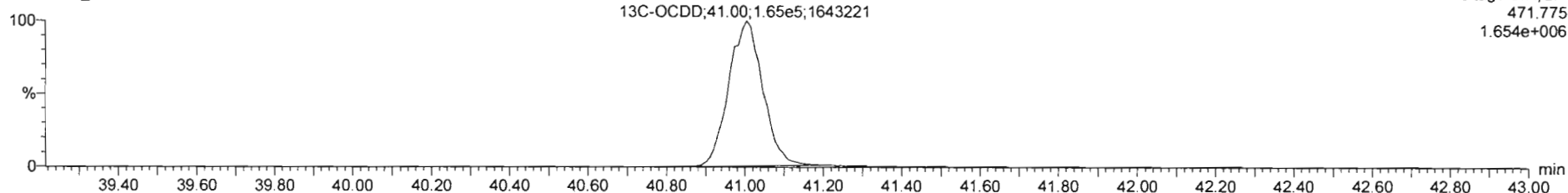
13C-OCDD

220224R3\_15



F5:Voltage SIR,EI+  
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1.504e+006

220224R3\_15



F5:Voltage SIR,EI+  
471.775  
1.654e+006

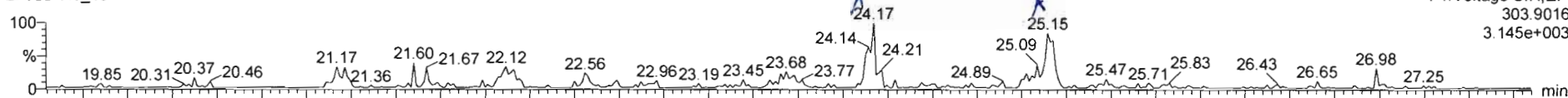
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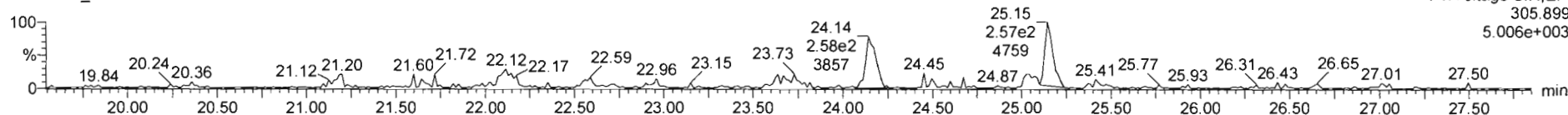
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**2,3,7,8-TCDF**

220224R3\_15

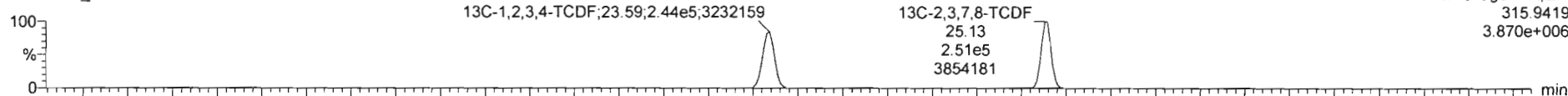


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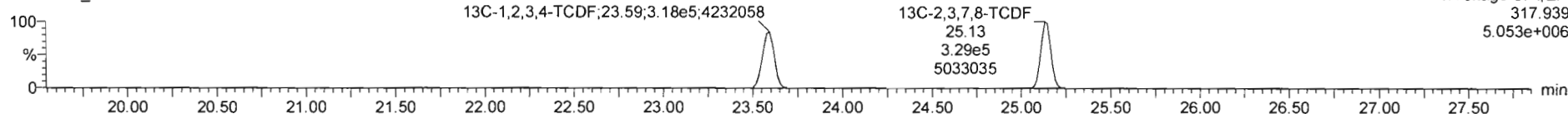


**13C-2,3,7,8-TCDF**

220224R3\_15

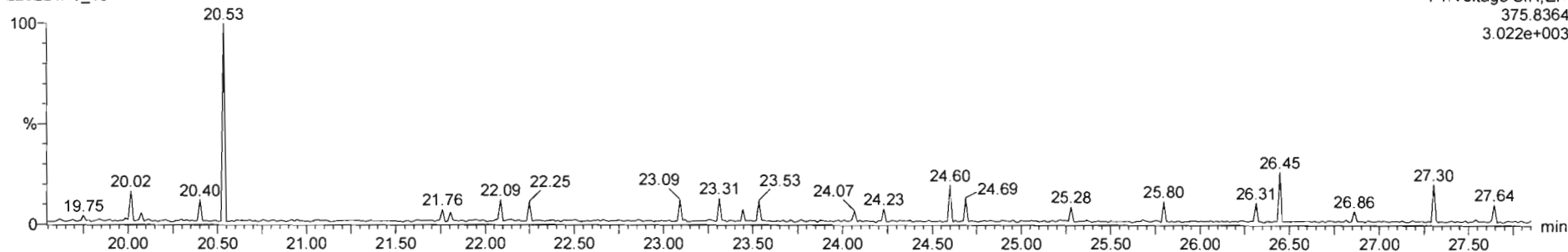


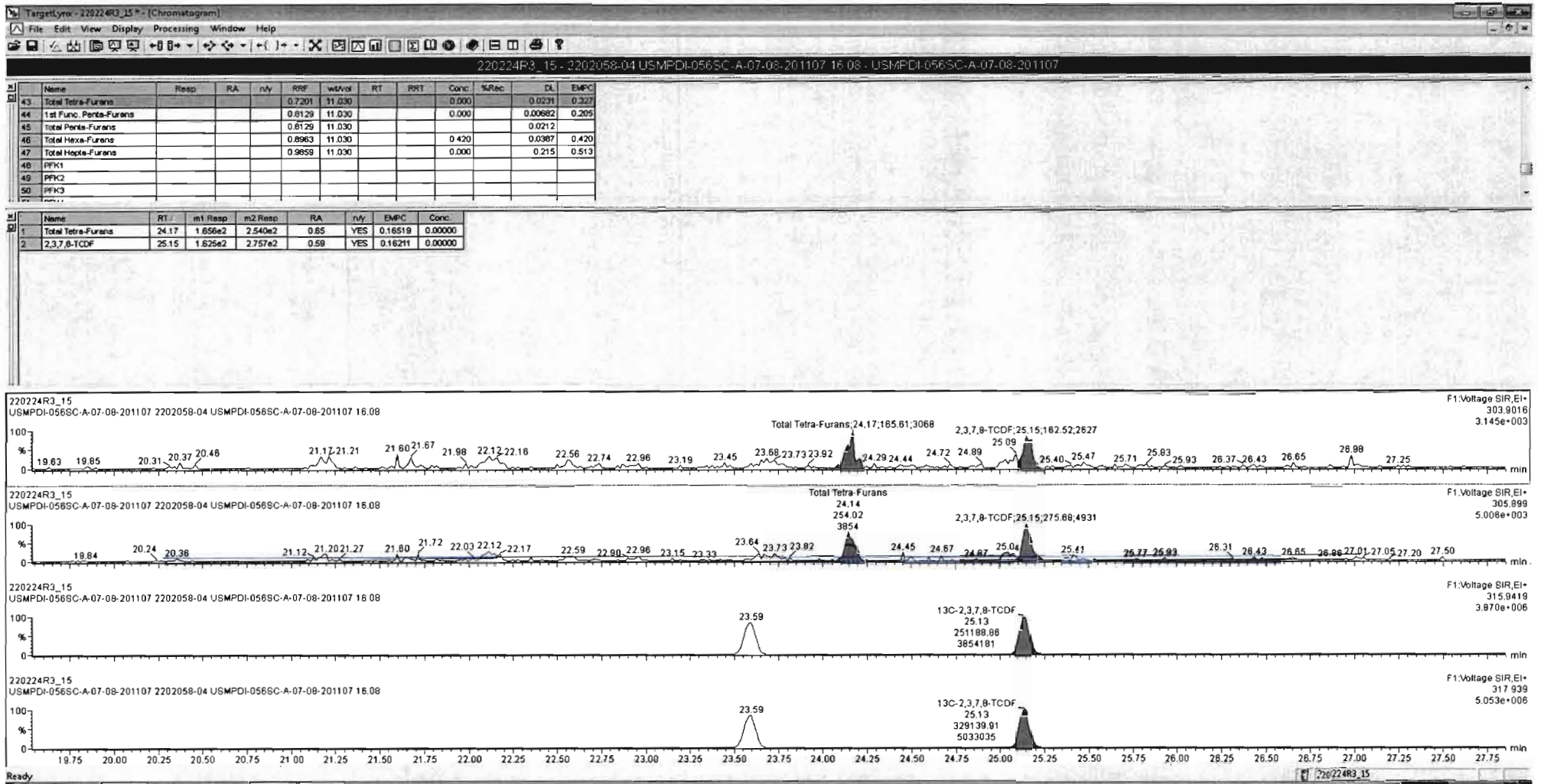
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**DPE1**

220224R3\_15





Vista Analytical Laboratory VG-12

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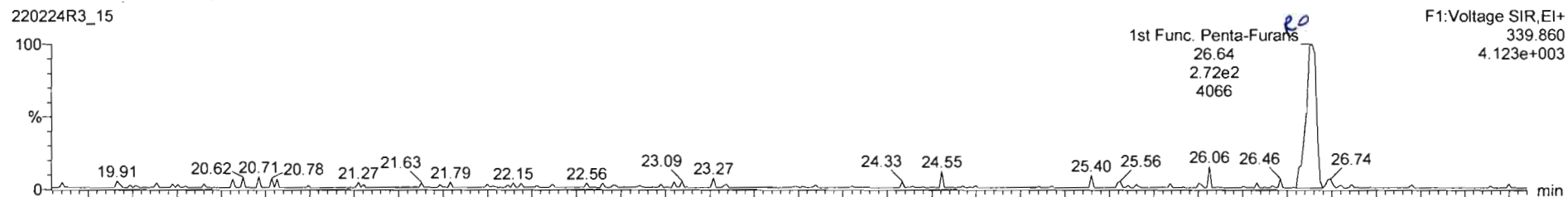
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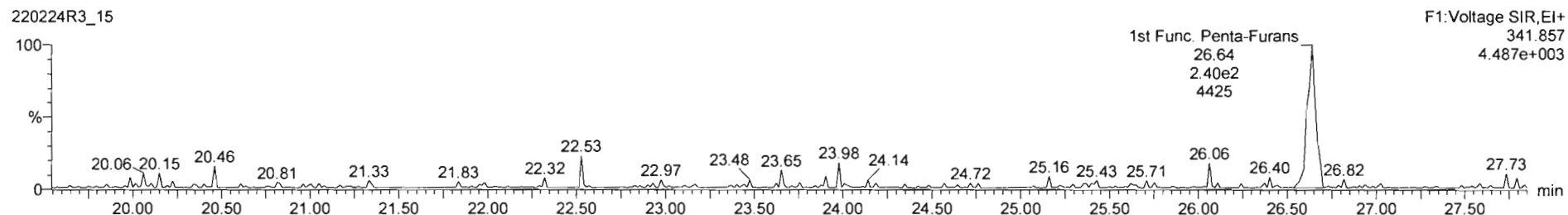
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1st Func. Penta-Furans

220224R3\_15

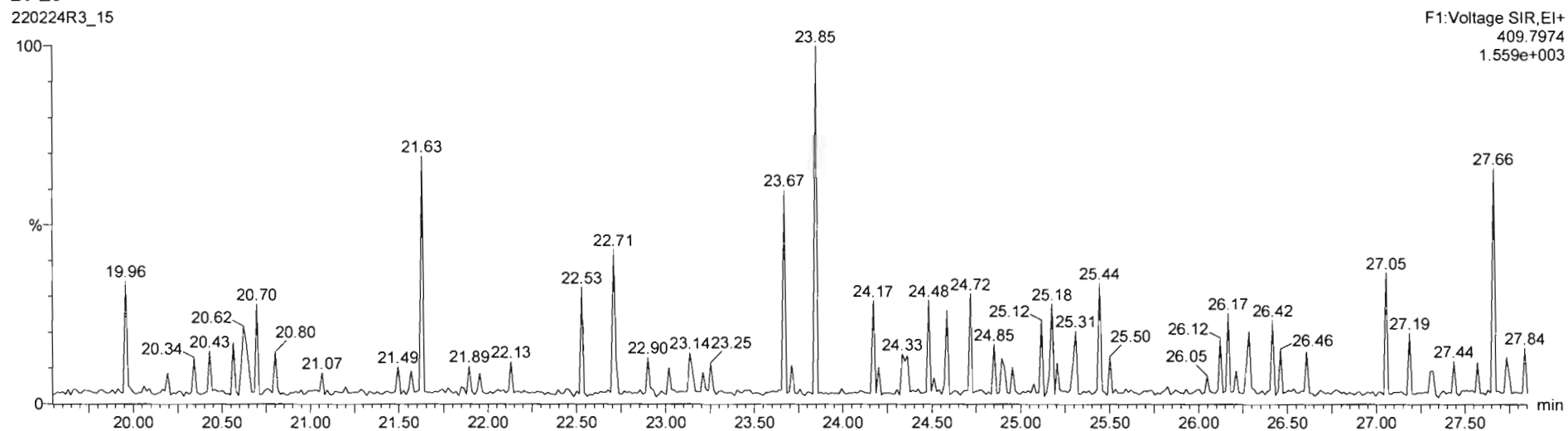


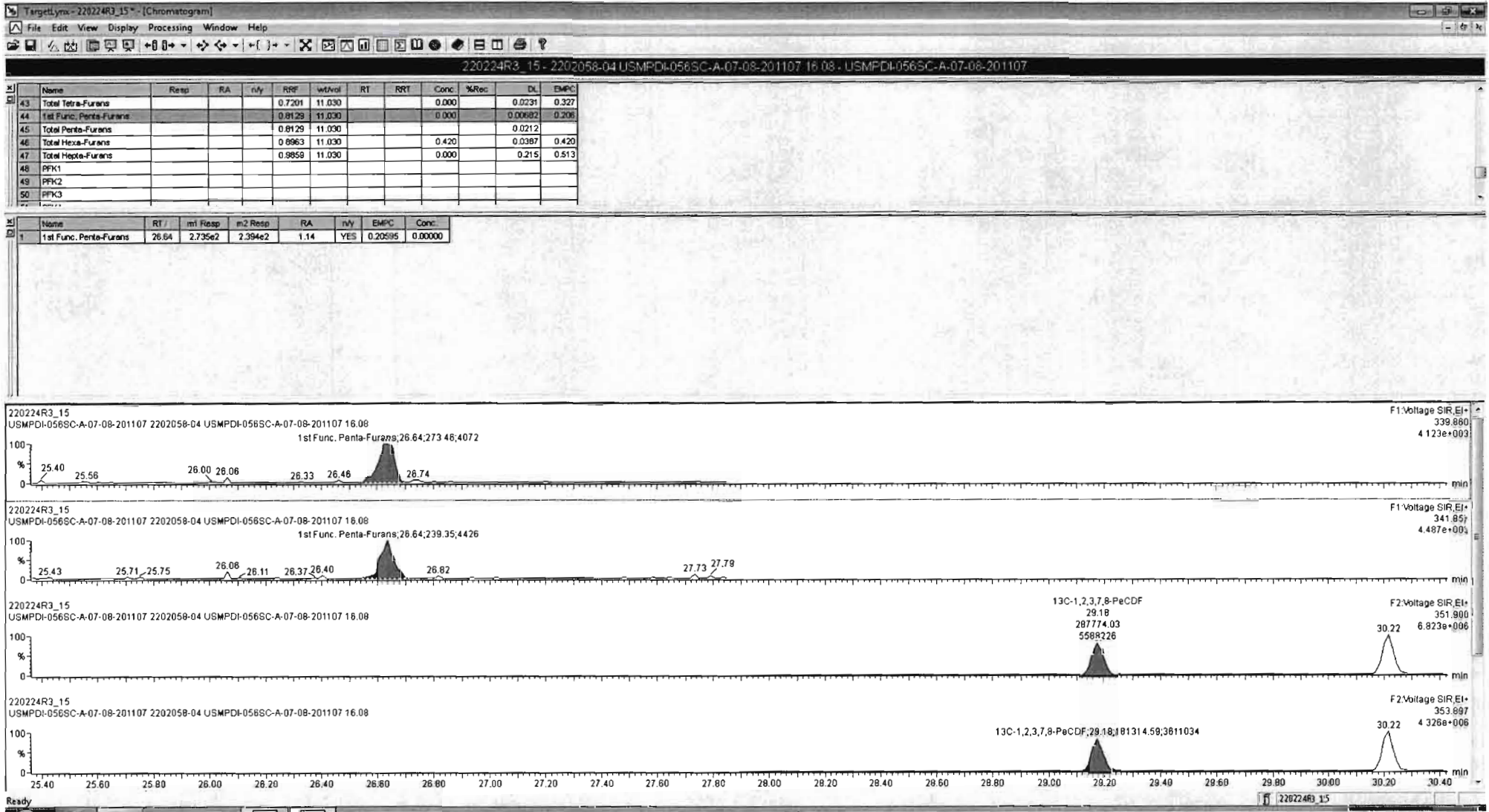
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DPE6

220224R3\_15





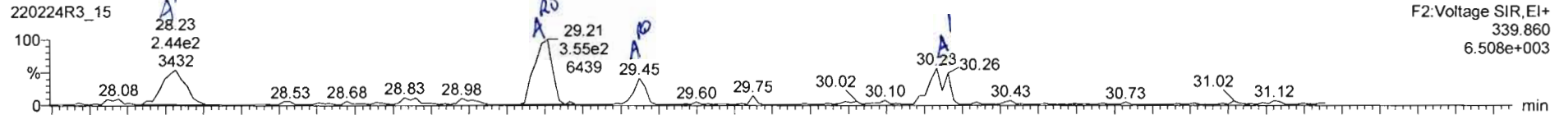


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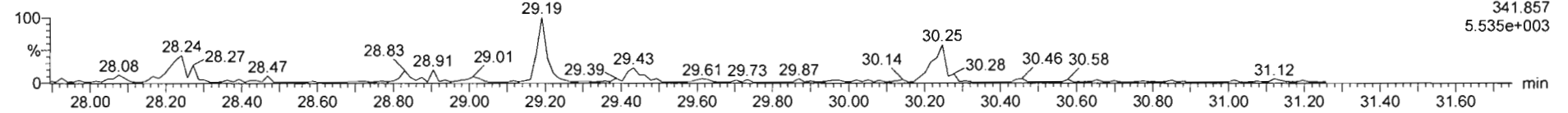
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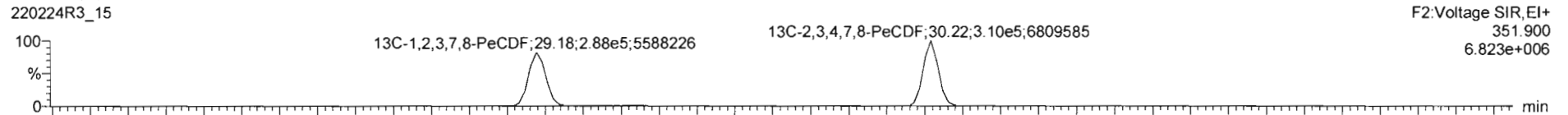
**1,2,3,7,8-PeCDF**



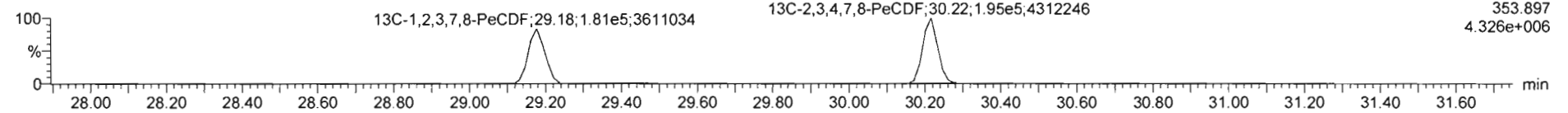
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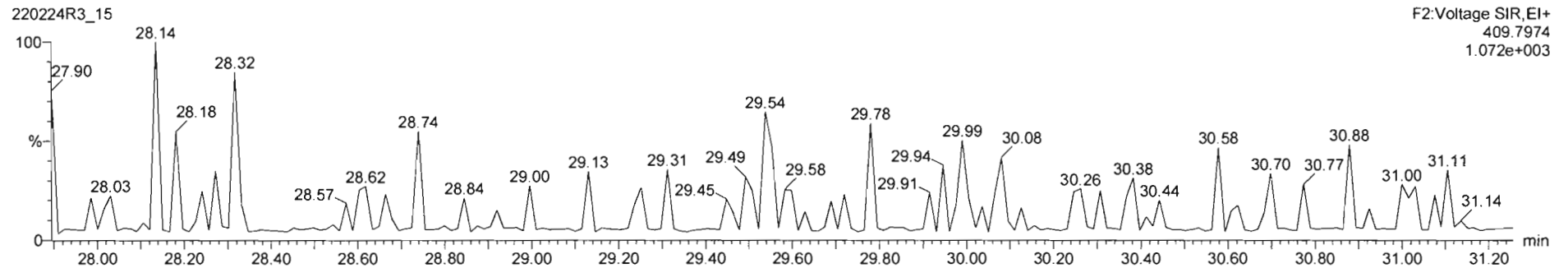
**13C-1,2,3,7,8-PeCDF**

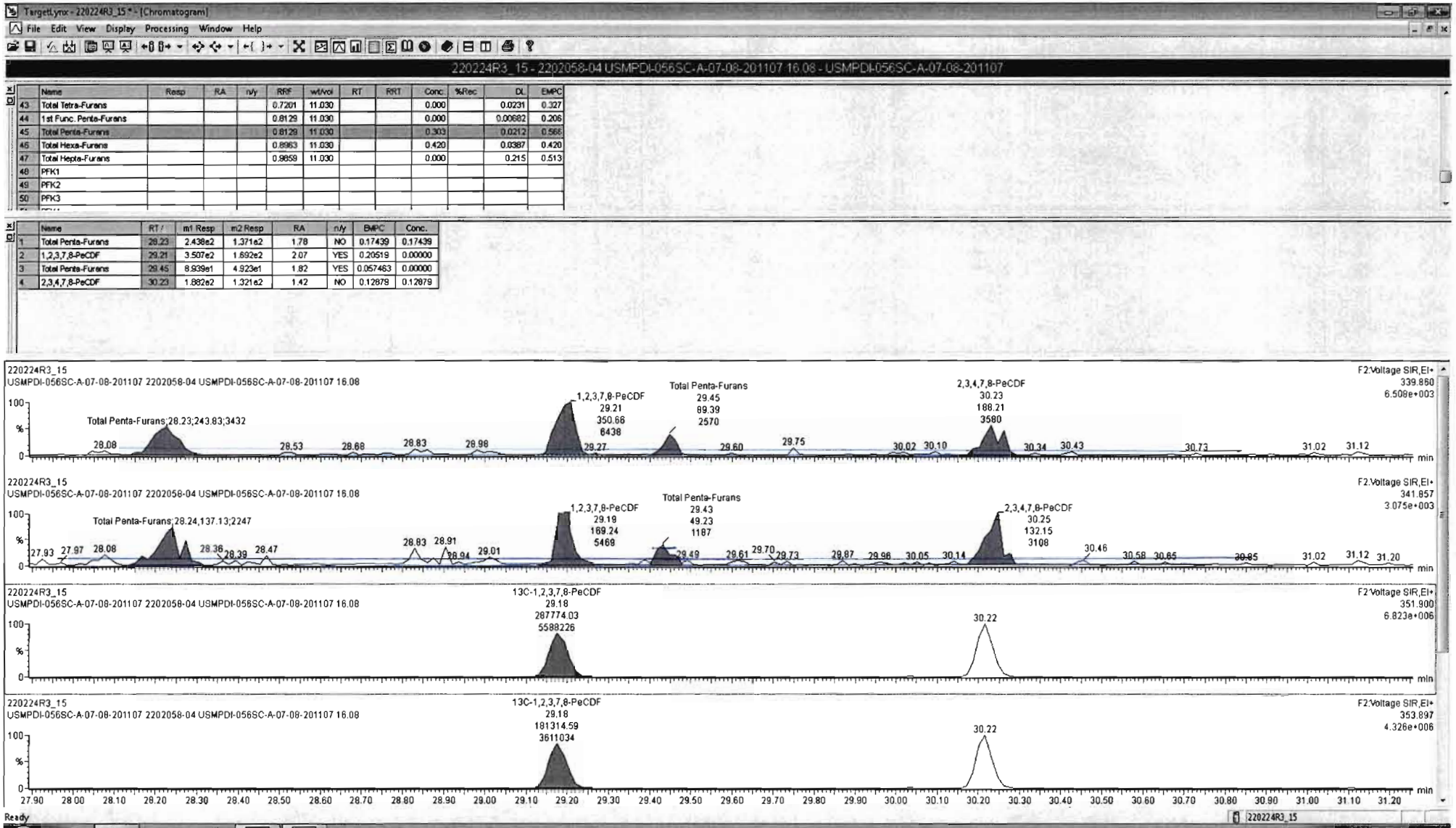


220224R3\_15



**DPE2**





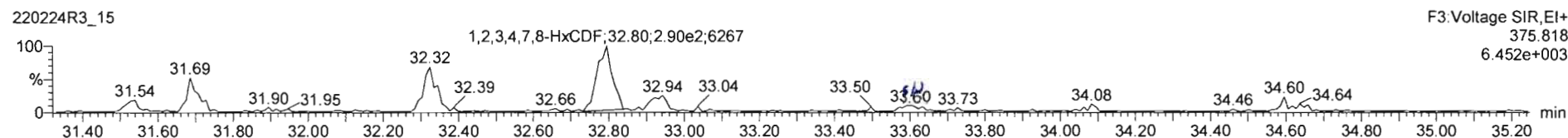
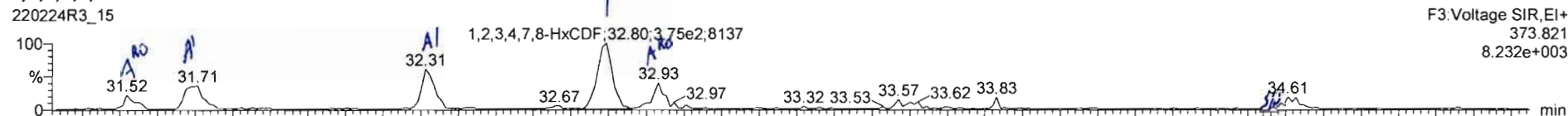


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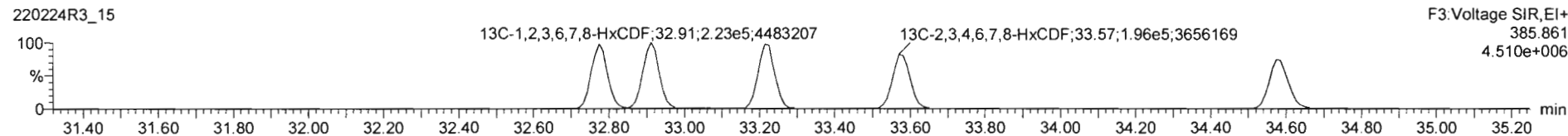
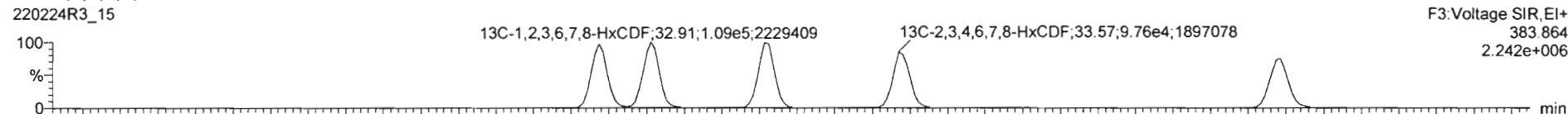
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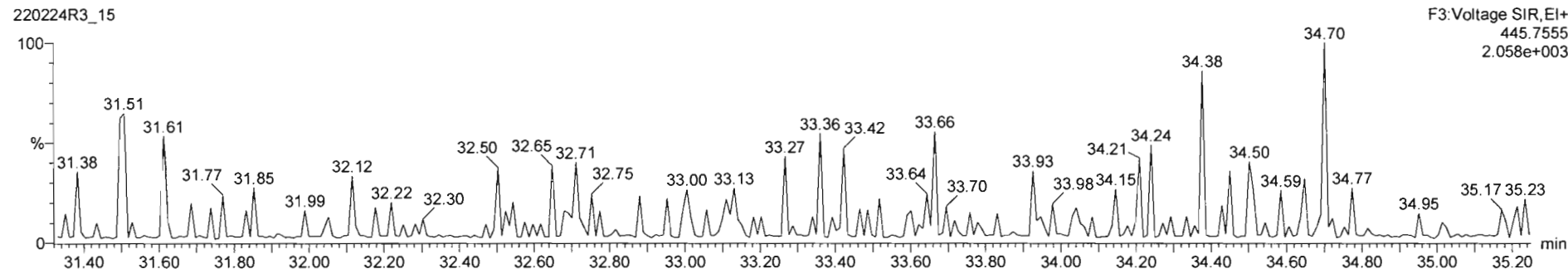
1,2,3,4,7,8-HxCDF

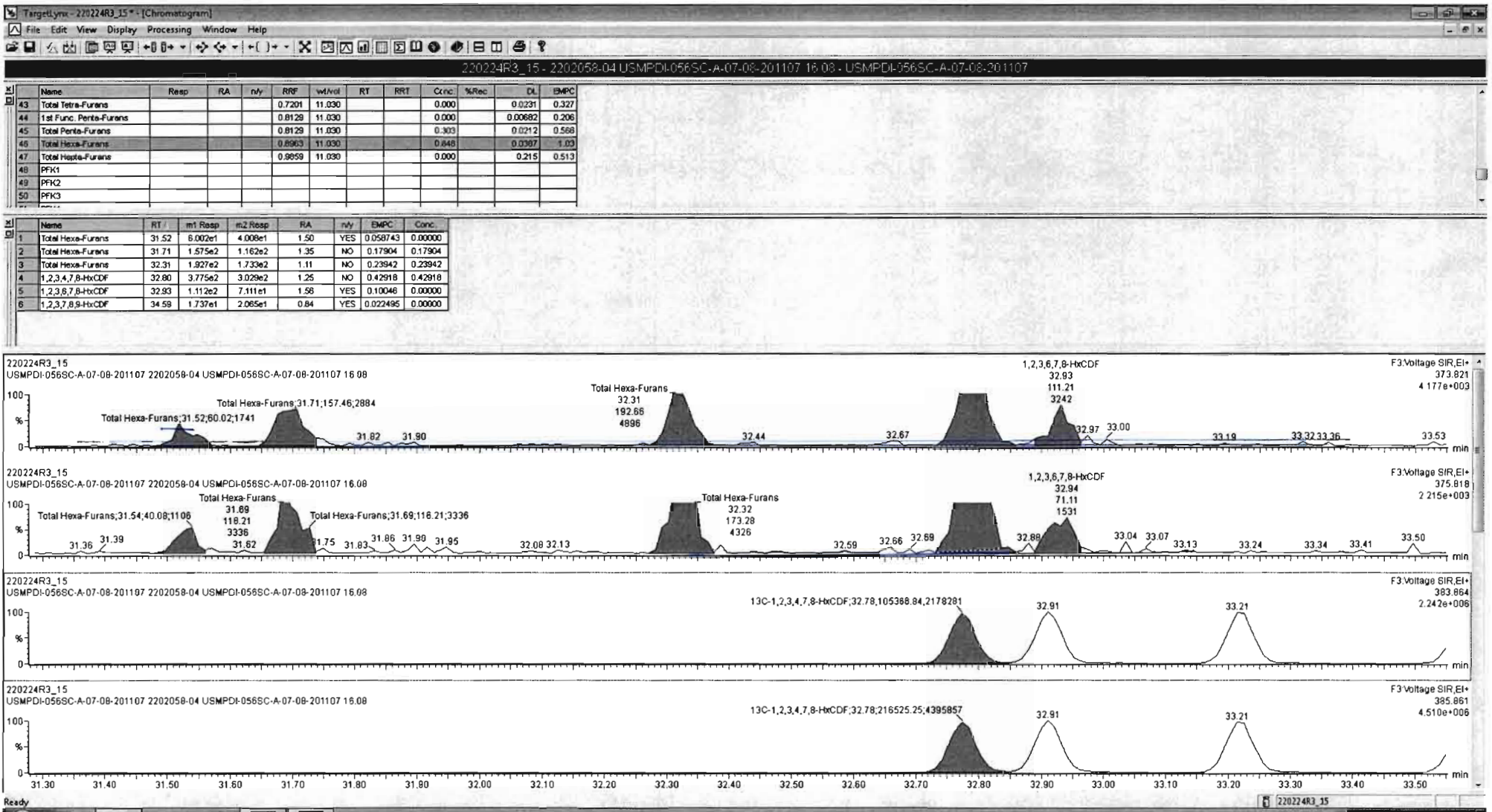


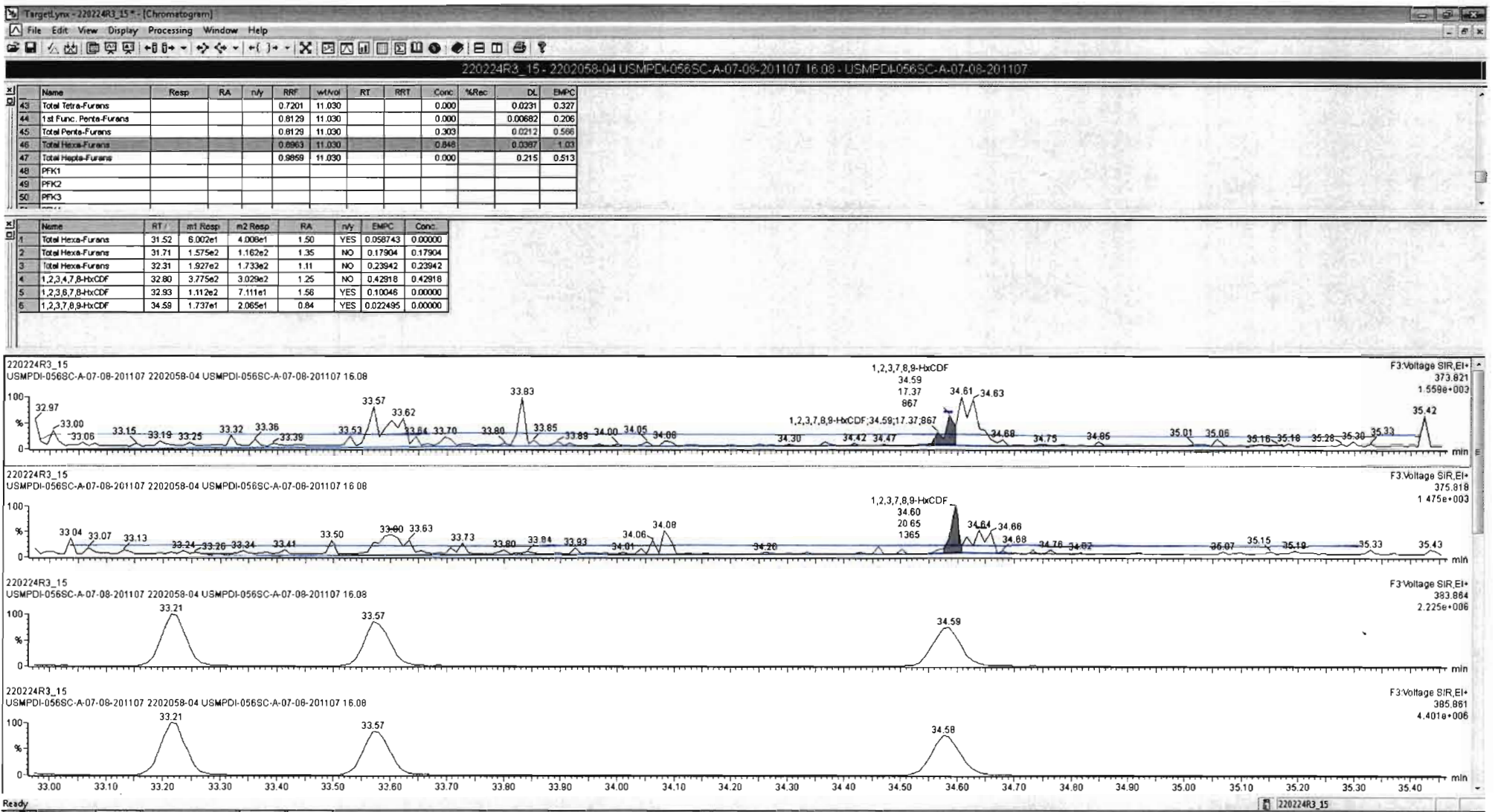
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DPE3





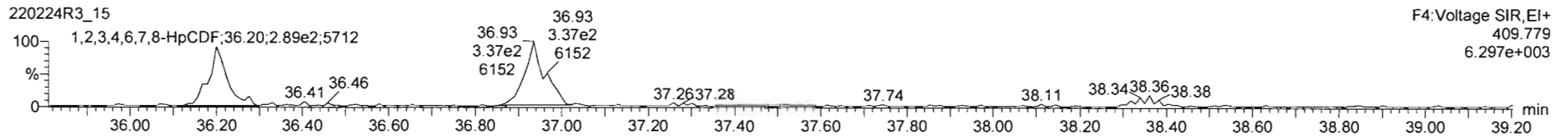
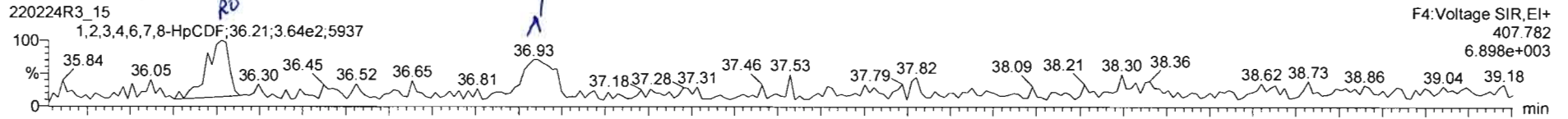


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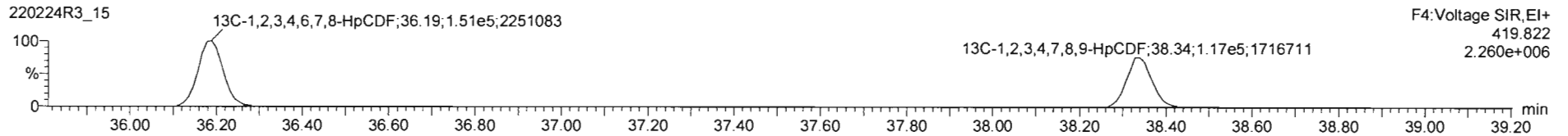
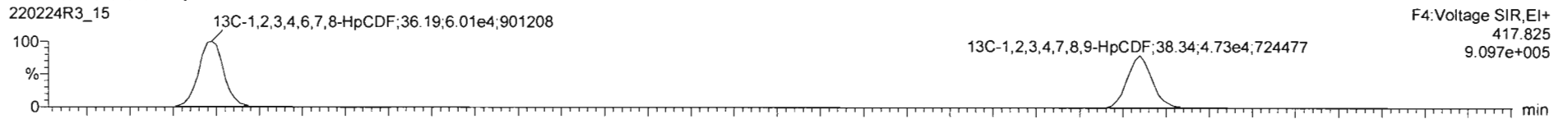
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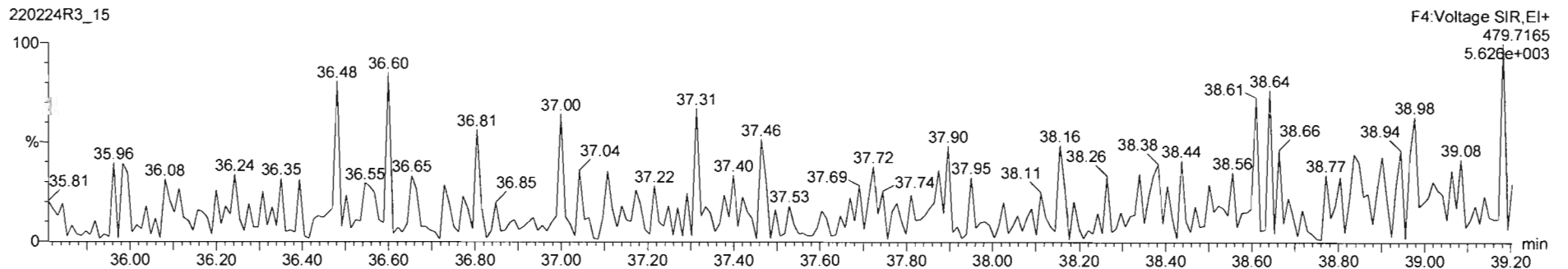
**1,2,3,4,6,7,8-HpCDF**



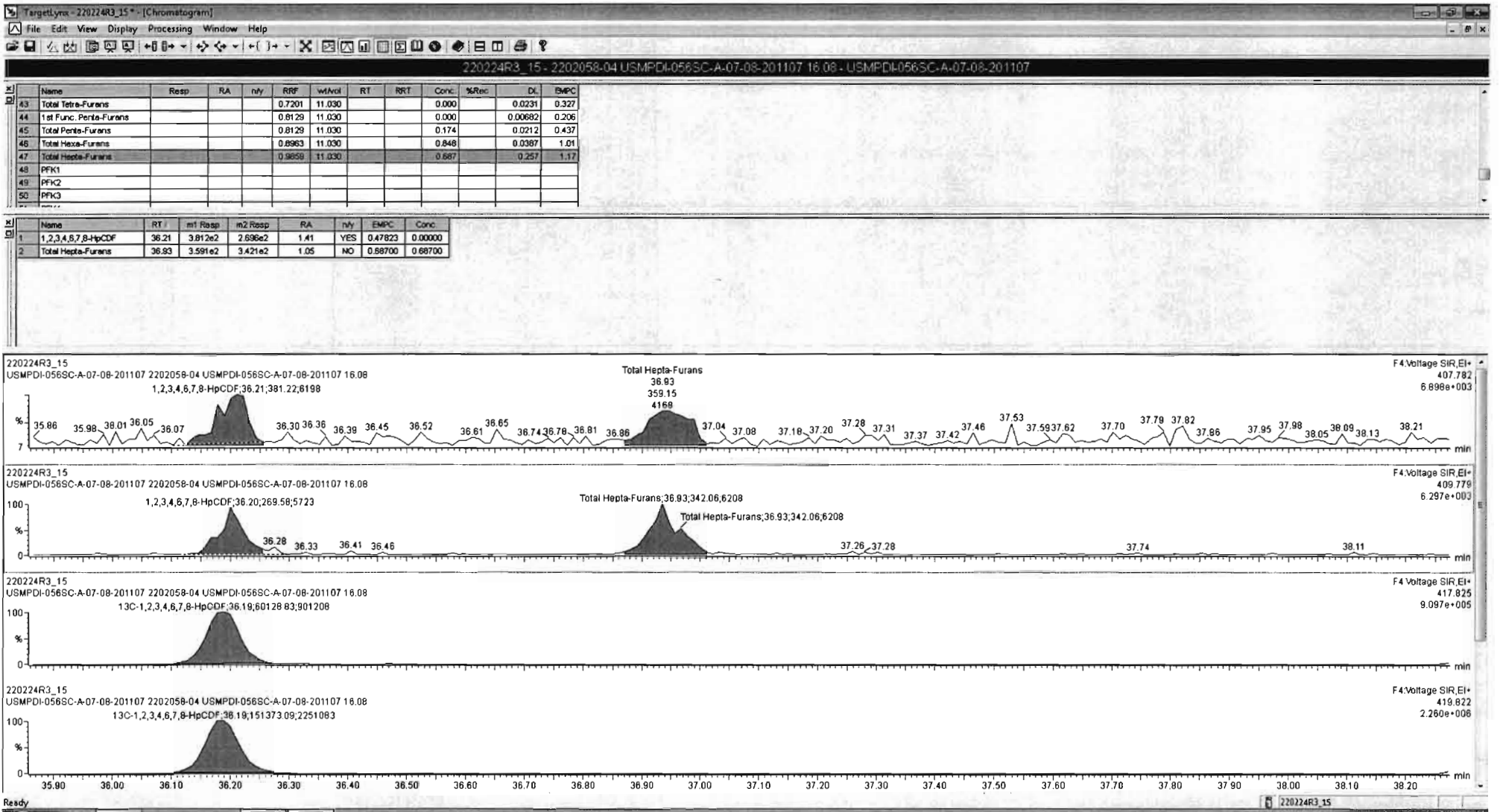
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**DPE4**



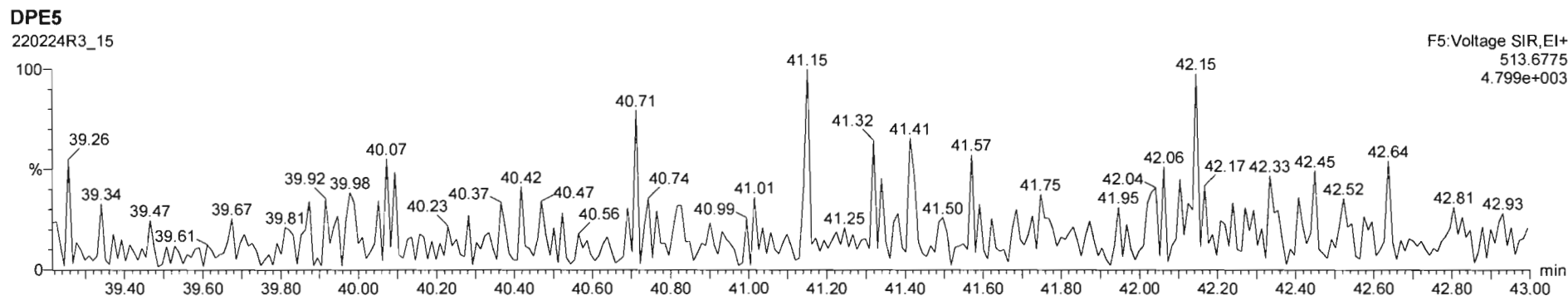
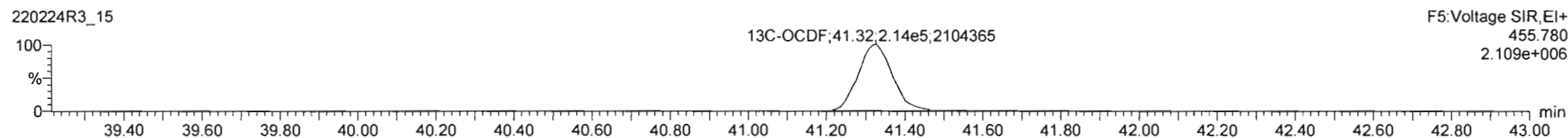
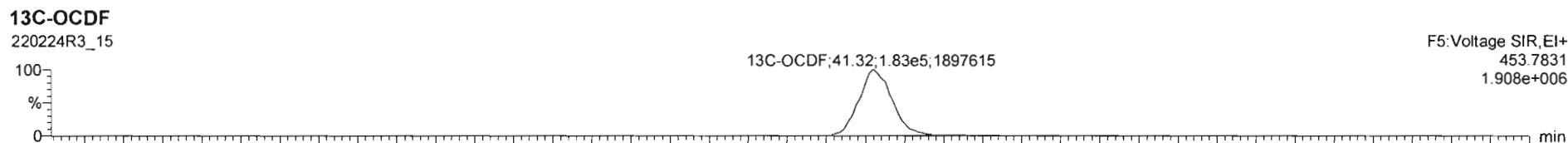
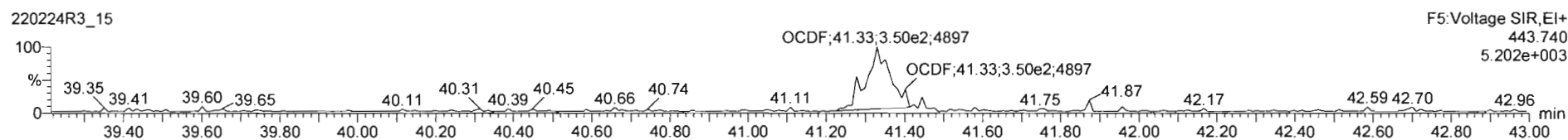
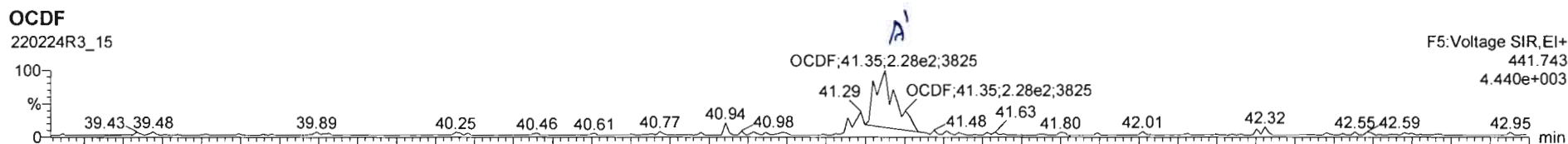


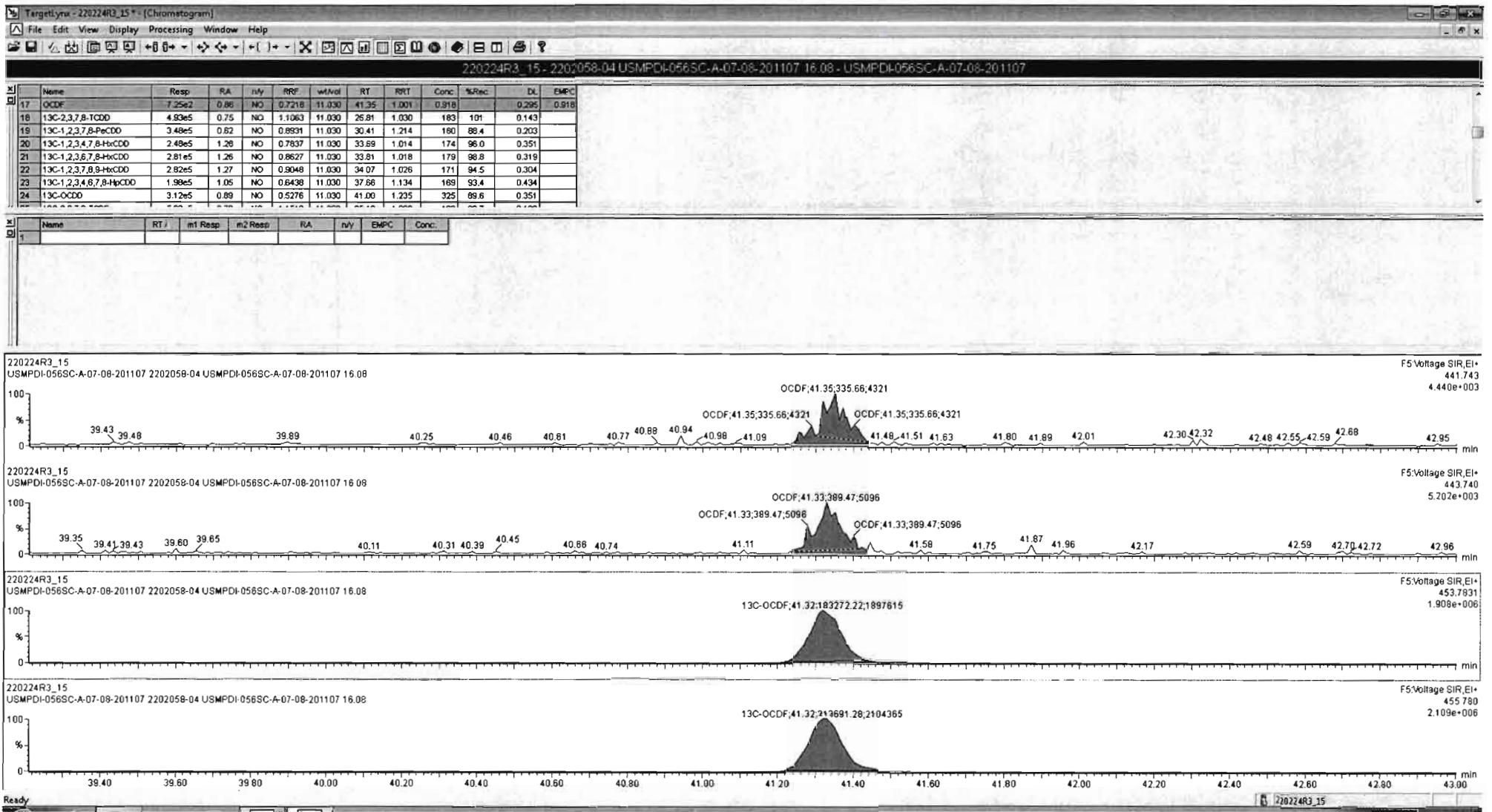


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Printed: Friday, February 25, 2022 18:41:50 Pacific Standard Time

Name: 220224R3\_15, Date: 25-Feb-2022, Time: 01:44:47, ID: 2202058-04 USMPDI-056SC-A-07-08-201107 16.08, Description: USMPDI-056SC-A-07-08-201107



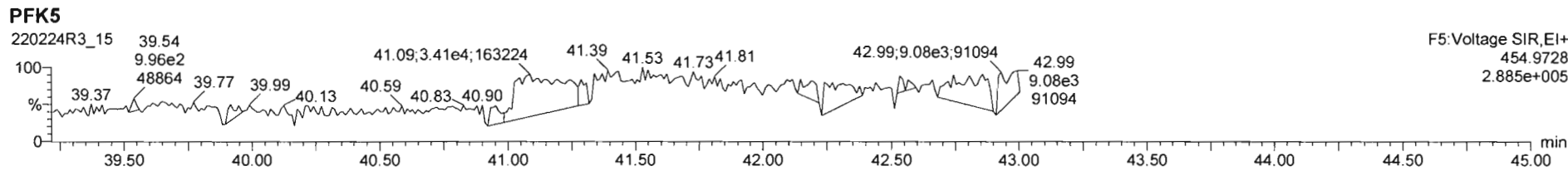
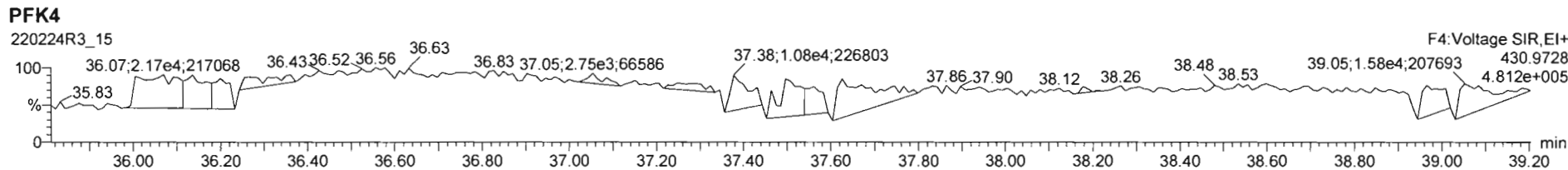
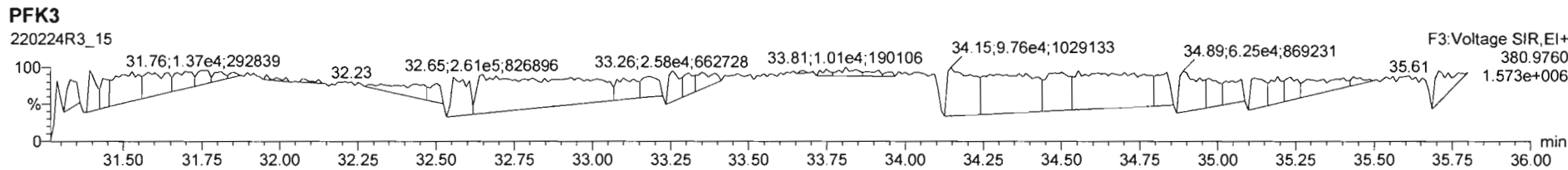
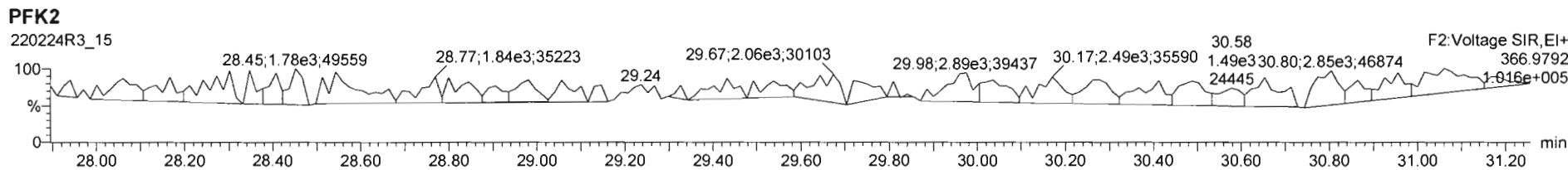
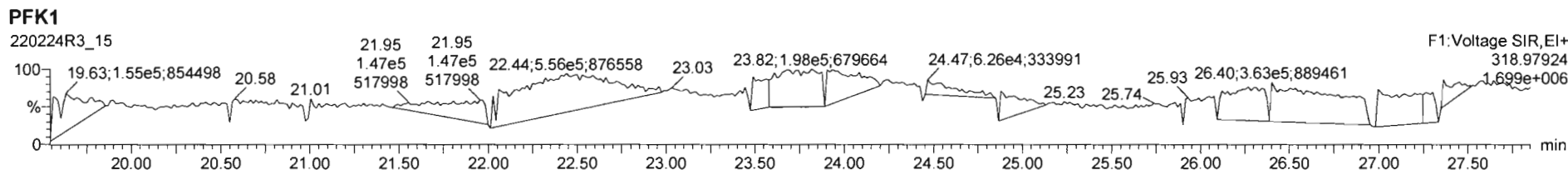




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Last Altered: Friday, February 25, 2022 18:41:45 Pacific Standard Time  
Printed: Friday, February 25, 2022 18:41:50 Pacific Standard Time

Name: 220224R3\_15, Date: 25-Feb-2022, Time: 01:44:47, ID: 2202058-04 USMPDI-056SC-A-07-08-201107 16.08, Description: USMPDI-056SC-A-07-08-201107



Dataset: I:\VG12.PRO\Results\220224R3\220224R3\_16.qld

Last Altered: Friday, March 04, 2022 3:00:03 PM Pacific Standard Time  
Printed: Friday, March 04, 2022 3:02:57 PM Pacific Standard Time

*Jay 03-04-2022*

*C103/10/2022*

Method: Untitled 17 Feb 2022 13:16:14

Calibration: I:\VG12.PRO\CurveDB\dbDIOXIN\_1613vg12-07-30-21.cdb 02 Aug 2021 09:55:11

Name: 220224R3\_16, Date: 25-Feb-2022, Time: 02:29:36, ID: 2202058-05 USMPDI-056SC-A-08-09-201107 13.03, Description: USMPDI-056SC-A-08-09-201107

#	Name	Resp	RA	n/y	RRF	wt/vol	Pred.RT	RT	Pred.RRT	RRT	Conc.	%Rec	DL	EMPC
1	1 2,3,7,8-TCDD			NO	0.952	10.559	25.843		1.001				0.0347	
2	2 1,2,3,7,8-PeCDD			NO	0.781	10.559	30.427		1.001				0.119	
3	3 1,2,3,4,7,8-HxCDD			NO	0.904	10.559	33.705		1.001				0.0981	
4	4 1,2,3,6,7,8-HxCDD	1.92e2	1.41	NO	0.806	10.559	33.831	33.81	1.001	1.000	0.14419		0.103	0.144
5	5 1,2,3,7,8,9-HxCDD			NO	0.814	10.559	34.083		1.000				0.106	
6	6 1,2,3,4,6,7,8-HpCDD	2.75e3	1.08	NO	0.836	10.559	37.670	37.66	1.000	1.000	2.7673		0.167	2.77
7	7 OCDD	2.81e4	0.87	NO	0.798	10.559	41.044	41.07	1.000	1.001	36.705		0.303	36.7
8	8 2,3,7,8-TCDF	8.20e2	0.88	NO	0.720	10.559	25.134	25.15	1.000	1.001	0.35608		0.0576	0.356
9	9 1,2,3,7,8-PeCDF	6.03e2	1.66	NO	0.813	10.559	29.164	29.18	1.000	1.001	0.27884		0.0426	0.279
10	10 2,3,4,7,8-PeCDF	4.72e2	1.24	YES	0.892	10.559	30.222	30.22	1.001	1.001	0.19066		0.0317	0.174
11	11 1,2,3,4,7,8-HxCDF	4.95e2	1.05	NO	0.893	10.559	32.774	32.80	1.000	1.001	0.29638		0.0470	0.296
12	12 1,2,3,6,7,8-HxCDF	1.77e2	1.34	NO	0.867	10.559	32.920	32.92	1.001	1.001	0.10669		0.0464	0.107
13	13 2,3,4,6,7,8-HxCDF	1.27e2	0.97	YES	0.896	10.559	33.590	33.59	1.001	1.001	0.081659		0.0555	0.0730
14	14 1,2,3,7,8,9-HxCDF			NO	0.874	10.559	34.585		1.000				0.0651	
15	15 1,2,3,4,6,7,8-HpCDF	7.25e2	1.20	NO	0.986	10.559	36.207	36.19	1.000	1.000	0.59217		0.242	0.592
16	16 1,2,3,4,7,8,9-HpCDF			NO	0.966	10.559	38.340		1.000				0.327	
17	17 OCDF	6.77e2	0.75	YES	0.722	10.559	41.368	41.39	1.000	1.001	0.80980		0.121	0.739
18	18 13C-2,3,7,8-TCDD	5.06e5	0.76	NO	1.11	10.559	25.757	25.81	1.028	1.030	197.08	104	0.150	
19	19 13C-1,2,3,7,8-PeCDD	3.86e5	0.61	NO	0.893	10.559	30.105	30.40	1.201	1.213	186.01	98.2	0.300	
20	20 13C-1,2,3,4,7,8-HxCDD	2.80e5	1.29	NO	0.784	10.559	33.672	33.69	1.014	1.014	187.35	98.9	0.337	
21	21 13C-1,2,3,6,7,8-HxCDD	3.12e5	1.29	NO	0.863	10.559	33.792	33.81	1.017	1.018	189.76	100	0.306	
22	22 13C-1,2,3,7,8,9-HxCDD	3.11e5	1.24	NO	0.905	10.559	34.081	34.07	1.026	1.026	180.04	95.1	0.292	
23	23 13C-1,2,3,4,6,7,8-HpCDD	2.25e5	1.04	NO	0.644	10.559	37.499	37.66	1.129	1.134	183.58	96.9	0.512	
24	24 13C-OCDD	3.63e5	0.88	NO	0.528	10.559	40.767	41.04	1.227	1.236	360.85	95.3	0.403	
25	25 13C-2,3,7,8-TCDF	6.06e5	0.76	NO	1.15	10.559	25.136	25.13	1.003	1.003	176.41	93.1	0.150	
26	26 13C-1,2,3,7,8-PeCDF	5.04e5	1.57	NO	0.905	10.559	28.934	29.16	1.155	1.164	186.70	98.6	0.494	
27	27 13C-2,3,4,7,8-PeCDF	5.25e5	1.57	NO	0.899	10.559	30.160	30.20	1.204	1.205	195.91	103	0.498	
28	28 13C-1,2,3,4,7,8-HxCDF	3.54e5	0.50	NO	1.00	10.559	32.762	32.76	0.986	0.986	185.24	97.8	0.360	
29	29 13C-1,2,3,6,7,8-HxCDF	3.63e5	0.49	NO	1.04	10.559	32.892	32.90	0.990	0.991	182.80	96.5	0.346	
30	30 13C-2,3,4,6,7,8-HxCDF	3.27e5	0.50	NO	0.916	10.559	33.563	33.57	1.010	1.011	187.05	98.8	0.394	
31	31 13C-1,2,3,7,8,9-HxCDF	3.19e5	0.49	NO	0.859	10.559	34.589	34.58	1.041	1.041	194.38	103	0.419	

Dataset: I:\VG12.PRO\Results\220224R3\220224R3\_16.qld

Last Altered: Friday, March 04, 2022 3:00:03 PM Pacific Standard Time

Printed: Friday, March 04, 2022 3:02:57 PM Pacific Standard Time

Name: 220224R3\_16, Date: 25-Feb-2022, Time: 02:29:36, ID: 2202058-05 USMPDI-056SC-A-08-09-201107 13.03, Description: USMPDI-056SC-A-08-09-201107

	# Name	Resp	RA	n/y	RRF	wt/vol	Pred.RT	RT	Pred.RRT	RRT	Conc.	%Rec	DL	EMPC
32	32 13C-1,2,3,4,6,7,8-HpCDF	2.35e5	0.42	NO	0.632	10.559	36.193	36.19	1.090	1.090	195.27	103	0.626	
33	33 13C-1,2,3,4,7,8,9-HpCDF	1.85e5	0.40	NO	0.552	10.559	38.176	38.33	1.149	1.154	175.32	92.6	0.716	
34	34 13C-OCDF	4.39e5	0.87	NO	0.606	10.559	41.096	41.36	1.237	1.245	379.73	100	0.453	
35	35 37Cl-2,3,7,8-TCDD	1.84e5			1.01	10.559	25.777	25.83	1.029	1.031	78.350	103	0.0449	
36	36 13C-1,2,3,4-TCDD	4.40e5	0.76	NO	1.00	10.559	25.010	25.06	1.000	1.000	189.42	100	0.165	
37	37 13C-1,2,3,4-TCDF	5.65e5	0.78	NO	1.00	10.559	23.580	23.59	1.000	1.000	189.42	100	0.173	
38	38 13C-1,2,3,4,6,9-HxCDF	3.61e5	0.49	NO	1.00	10.559	33.170	33.21	1.000	1.000	189.42	100	0.360	
39	39 Total Tetra-Dioxins				0.952	10.559	24.620		0.000				0.0181	
40	40 Total Penta-Dioxins				0.781	10.559	29.960		0.000				0.0357	
41	41 Total Hexa-Dioxins				0.806	10.559	33.635		0.000		0.79978		0.107	0.800
42	42 Total Hepta-Dioxins				0.836	10.559	37.640		0.000		7.0020		0.167	7.00
43	43 Total Tetra-Furans				0.720	10.559	23.610		0.000		1.0585		0.0576	1.06
44	44 1st Func. Penta-Furans				0.813	10.559	26.640		0.000		0.72216		0.00796	0.722
45	45 Total Penta-Furans				0.813	10.559	29.275		0.000		0.35307		0.0386	0.852
46	46 Total Hexa-Furans				0.896	10.559	33.555		0.000		0.86897		0.0518	1.22
47	47 Total Hepta-Furans				0.986	10.559	37.835		0.000		1.3861		0.276	1.39

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Dataset: I:\VG12.PRO\Results\220224R3\220224R3\_16.qld

Last Altered: Friday, March 04, 2022 3:00:03 PM Pacific Standard Time

Printed: Friday, March 04, 2022 3:02:57 PM Pacific Standard Time

Method: Untitled 17 Feb 2022 13:16:14

Calibration: I:\VG12.PRO\CurveDB\dbDIOXIN\_1613vg12-07-30-21.cdb 02 Aug 2021 09:55:11

Name: 220224R3\_16, Date: 25-Feb-2022, Time: 02:29:36, ID: 2202058-05 USMPDI-056SC-A-08-09-201107 13.03, Description: USMPDI-056SC-A-08-09-201107

**Tetra-Dioxins**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1												

**Penta-Dioxins**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1												

**Hexa-Dioxins**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1	Total Hexa-Dioxins	32.05	7.944e3	7.587e3	4.490e2	3.909e2	1.15	NO	8.399e2	0.65559	0.65559	0.107
2	1,2,3,6,7,8-HxCDD	33.81	2.199e3	1.957e3	1.121e2	7.947e1	1.41	NO	1.916e2	0.14419	0.14419	0.103

**Hepta-Dioxins**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1	Total Hepta-Dioxins	36.60	3.021e4	2.861e4	2.169e3	2.047e3	1.06	NO	4.215e3	4.2348	4.2348	0.167
2	1,2,3,4,6,7,8-HpCDD	37.66	2.152e4	1.993e4	1.433e3	1.321e3	1.08	NO	2.755e3	2.7673	2.7673	0.167

**Tetra-Furans**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1	Total Tetra-Furans	21.20	1.968e3	2.270e3	1.483e2	2.136e2	0.69	NO	3.618e2	0.15714	0.15714	0.0576
2	Total Tetra-Furans	22.59	2.373e3	2.548e3	1.138e2	1.582e2	0.72	NO	2.719e2	0.11810	0.11810	0.0576
3	Total Tetra-Furans	24.17	5.982e3	7.562e3	3.999e2	5.838e2	0.69	NO	9.837e2	0.42722	0.42722	0.0576
4	2,3,7,8-TCDF	25.15	4.596e3	7.058e3	3.830e2	4.370e2	0.88	NO	8.199e2	0.35608	0.35608	0.0576

Vista Analytical Laboratory

Dataset: I:\VG12.PRO\Results\220224R3\220224R3\_16.qld

Last Altered: Friday, March 04, 2022 3:00:03 PM Pacific Standard Time

Printed: Friday, March 04, 2022 3:02:57 PM Pacific Standard Time

Name: 220224R3\_16, Date: 25-Feb-2022, Time: 02:29:36, ID: 2202058-05 USMPDI-056SC-A-08-09-201107 13.03, Description: USMPDI-056SC-A-08-09-201107

**Penta-Furans function 1**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1	1st Func. Penta-Furans	26.61	1.651e4	1.011e4	9.254e2	6.700e2	1.38	NO	1.595e3	0.72216	0.72216	0.00796

**Penta-Furans**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1	Total Penta-Furans	28.23	4.182e3	3.825e3	3.246e2	2.849e2	1.14	YES	0.000e0	0.00000	0.24171	0.0386
2	Total Penta-Furans	28.83	2.775e3	1.601e3	1.561e2	7.280e1	2.14	YES	0.000e0	0.00000	0.084032	0.0386
3	1,2,3,4,7,8-PeCDF	29.18	7.685e3	4.467e3	3.763e2	2.270e2	1.66	NO	6.032e2	0.27884	0.27884	0.0426
4	Total Penta-Furans	29.43	2.284e3	1.266e3	1.004e2	6.360e1	1.58	NO	1.640e2	0.074235	0.074235	0.0386
5	2,3,4,7,8-PeCDF	30.22	4.537e3	5.198e3	2.612e2	2.108e2	1.24	YES	4.720e2	0.00000	0.17358	0.0317

**Hexa-Furans**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1	Total Hexa-Furans	31.51	2.283e3	1.665e3	7.993e1	6.427e1	1.24	NO	1.442e2	0.089468	0.089468	0.0518
2	Total Hexa-Furans	31.70	5.908e3	4.063e3	3.029e2	2.028e2	1.49	YES	0.000e0	0.00000	0.28179	0.0518
3	Total Hexa-Furans	32.31	6.883e3	5.712e3	3.534e2	2.533e2	1.40	NO	6.067e2	0.37643	0.37643	0.0518
4	1,2,3,4,7,8-HxCDF	32.80	4.736e3	5.053e3	2.539e2	2.407e2	1.05	NO	4.946e2	0.29638	0.29638	0.0470
5	1,2,3,6,7,8-HxCDF	32.92	2.134e3	1.919e3	1.017e2	7.574e1	1.34	NO	1.774e2	0.10669	0.10669	0.0464
6	2,3,4,6,7,8-HxCDF	33.59	1.519e3	1.066e3	6.244e1	6.409e1	0.97	YES	1.265e2	0.00000	0.072973	0.0535

**Hepta-Furans**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1	1,2,3,4,6,7,8-HpCDF	36.19	5.692e3	5.688e3	3.951e2	3.304e2	1.20	NO	7.255e2	0.59217	0.59217	0.242
2	Total Hepta-Furans	36.92	6.296e3	8.311e3	4.373e2	4.306e2	1.02	NO	8.679e2	0.79390	0.79390	0.276

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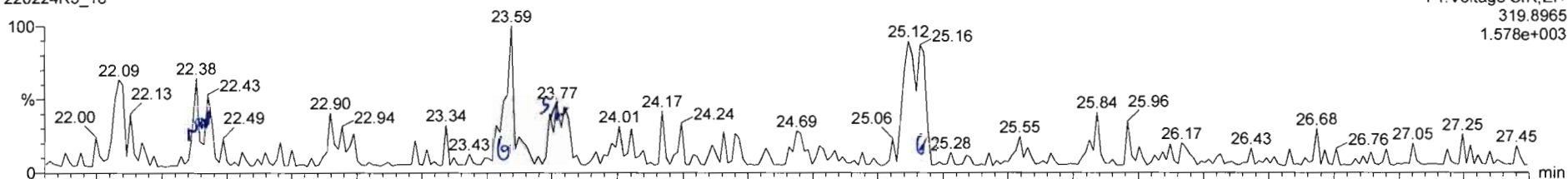
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Printed: Friday, February 25, 2022 18:41:50 Pacific Standard Time

Name: 220224R3\_16, Date: 25-Feb-2022, Time: 02:29:36, ID: 2202058-05 USMPDI-056SC-A-08-09-201107 13.03, Description: USMPDI-056SC-A-08-09-201107

**2,3,7,8-TCDD**

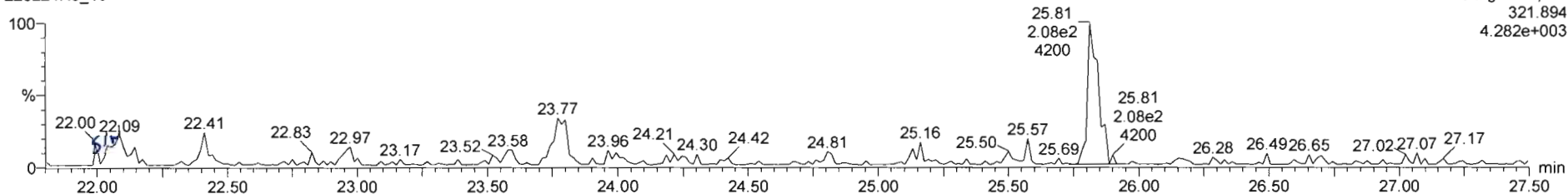
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1.578e+003



220224R3\_16

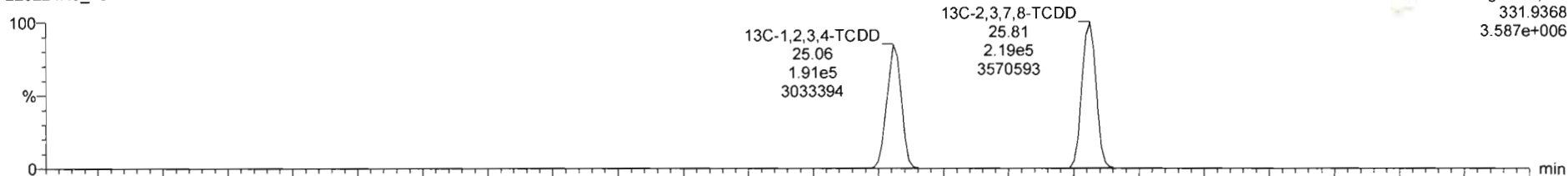
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4.282e+003



**13C-2,3,7,8-TCDD**

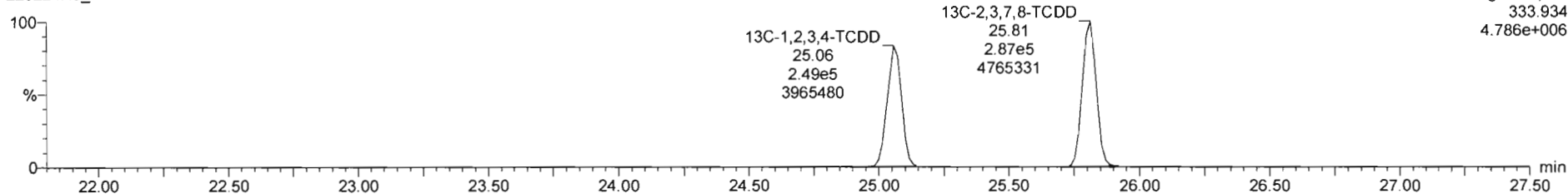
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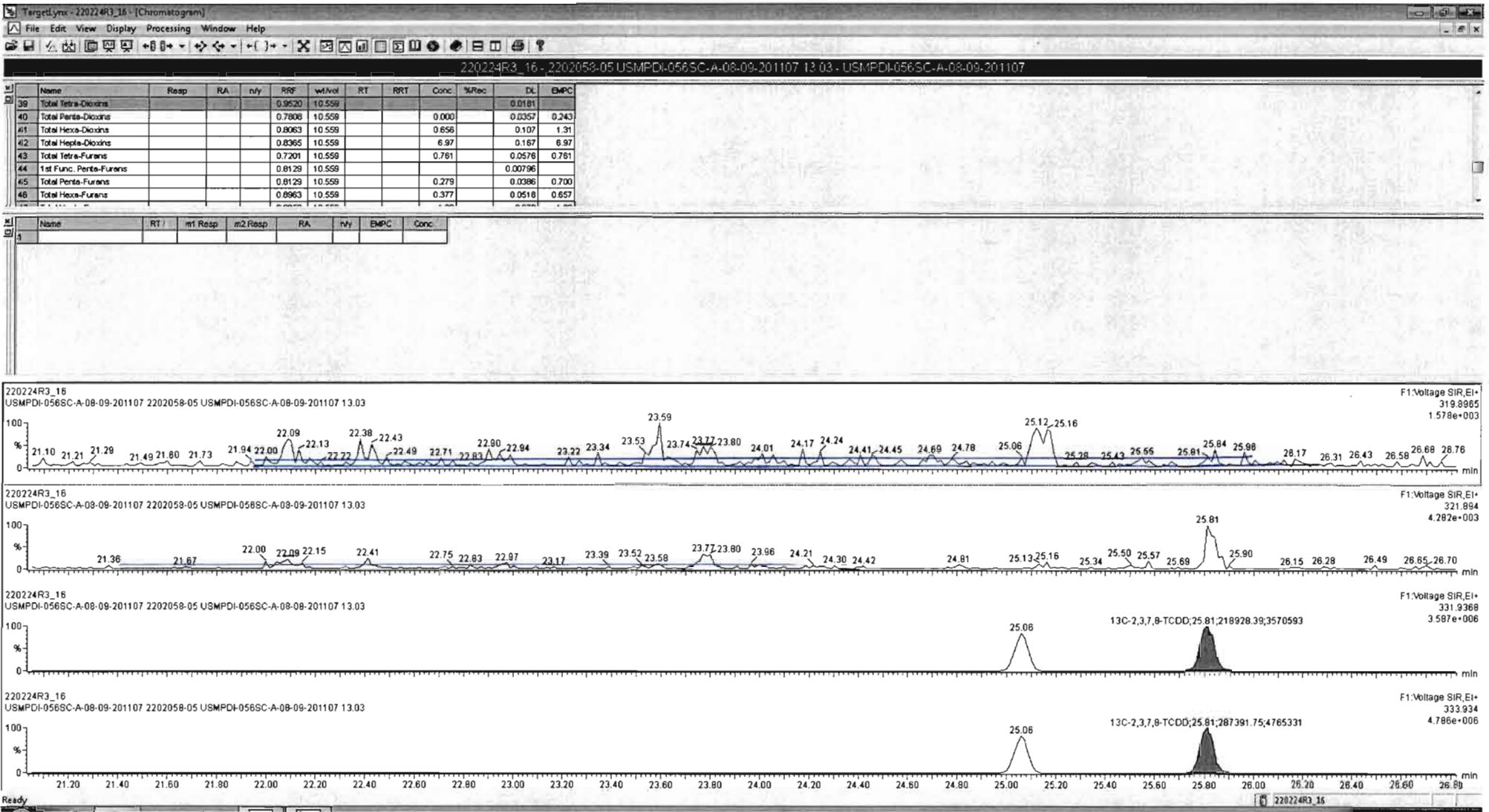


220224R3\_16

F1:Voltage SIR,EI+  
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4.786e+006









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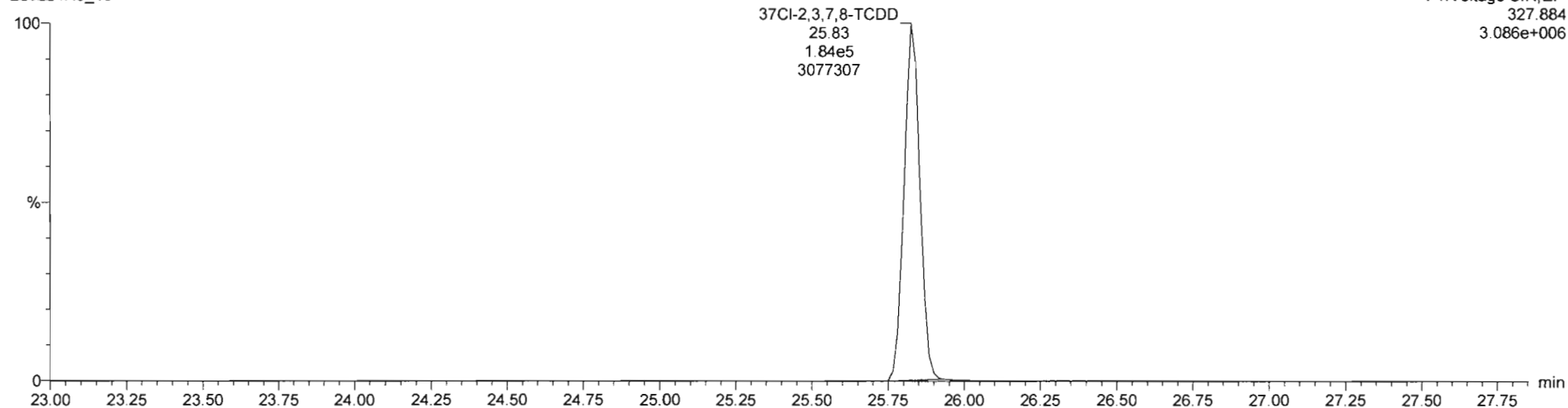
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Name: 220224R3\_16, Date: 25-Feb-2022, Time: 02:29:36, ID: 2202058-05 USMPDI-056SC-A-08-09-201107 13.03, Description: USMPDI-056SC-A-08-09-201107

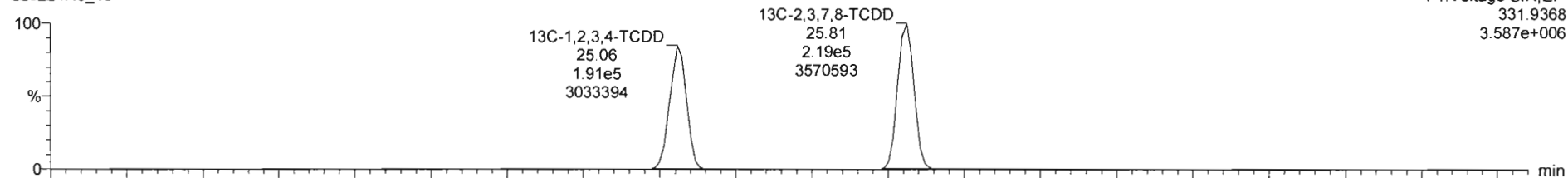
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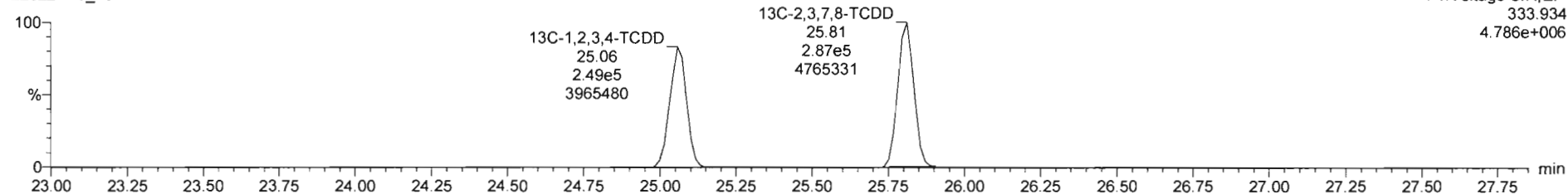


13C-1,2,3,4-TCDD

220224R3\_16



220224R3\_16



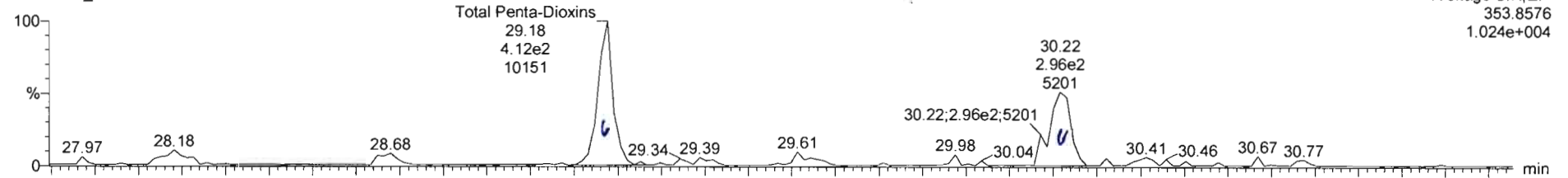
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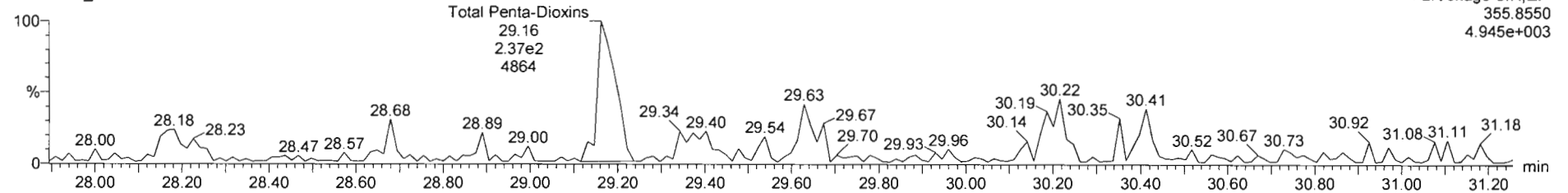
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**1,2,3,7,8-PeCDD**

220224R3\_16

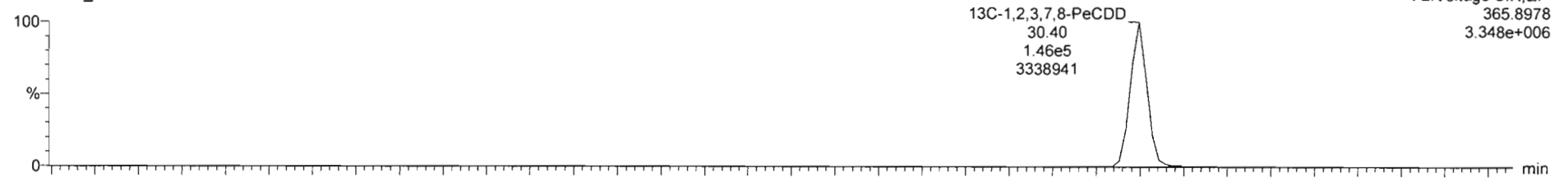


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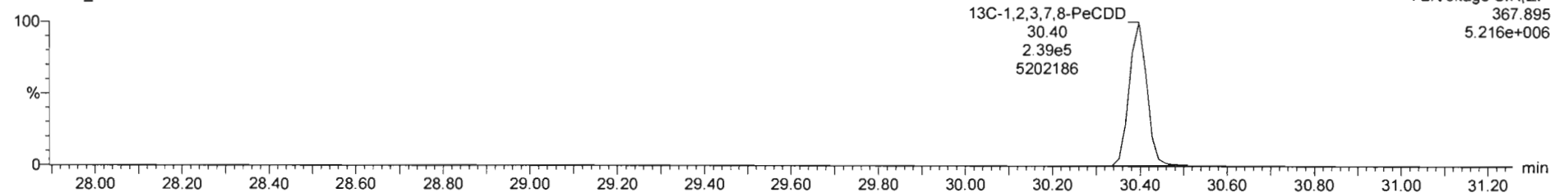


**13C-1,2,3,7,8-PeCDD**

220224R3\_16



220224R3\_16



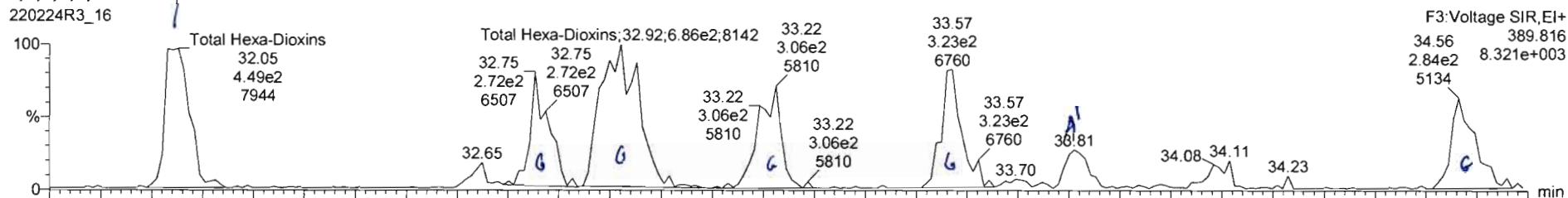
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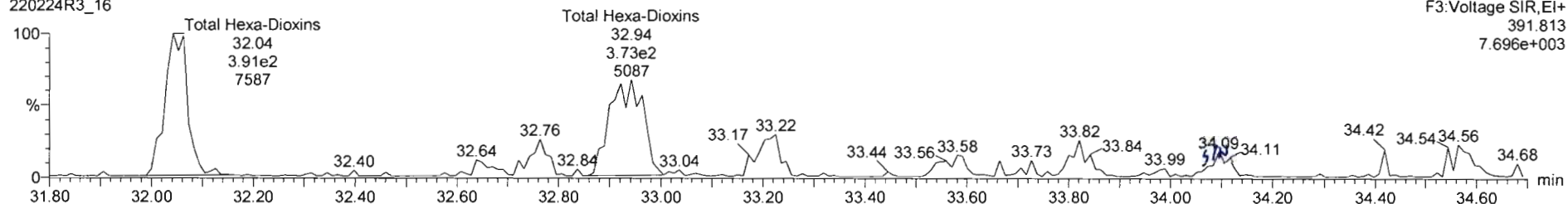
Name: 220224R3\_16, Date: 25-Feb-2022, Time: 02:29:36, ID: 2202058-05 USMPDI-056SC-A-08-09-201107 13.03, Description: USMPDI-056SC-A-08-09-201107

1,2,3,4,7,8-HxCDD

220224R3\_16

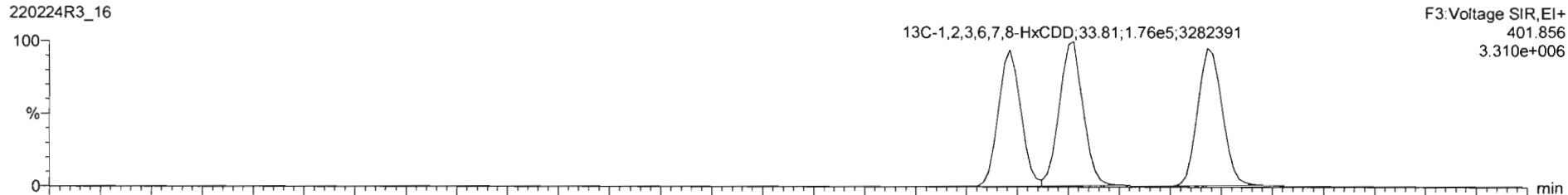


220224R3\_16

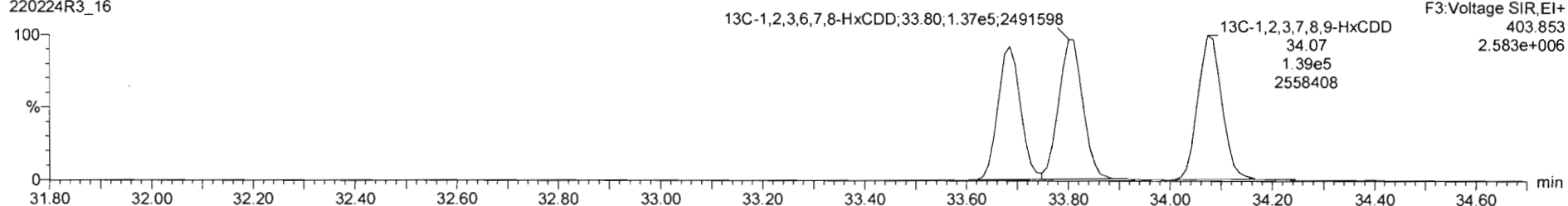


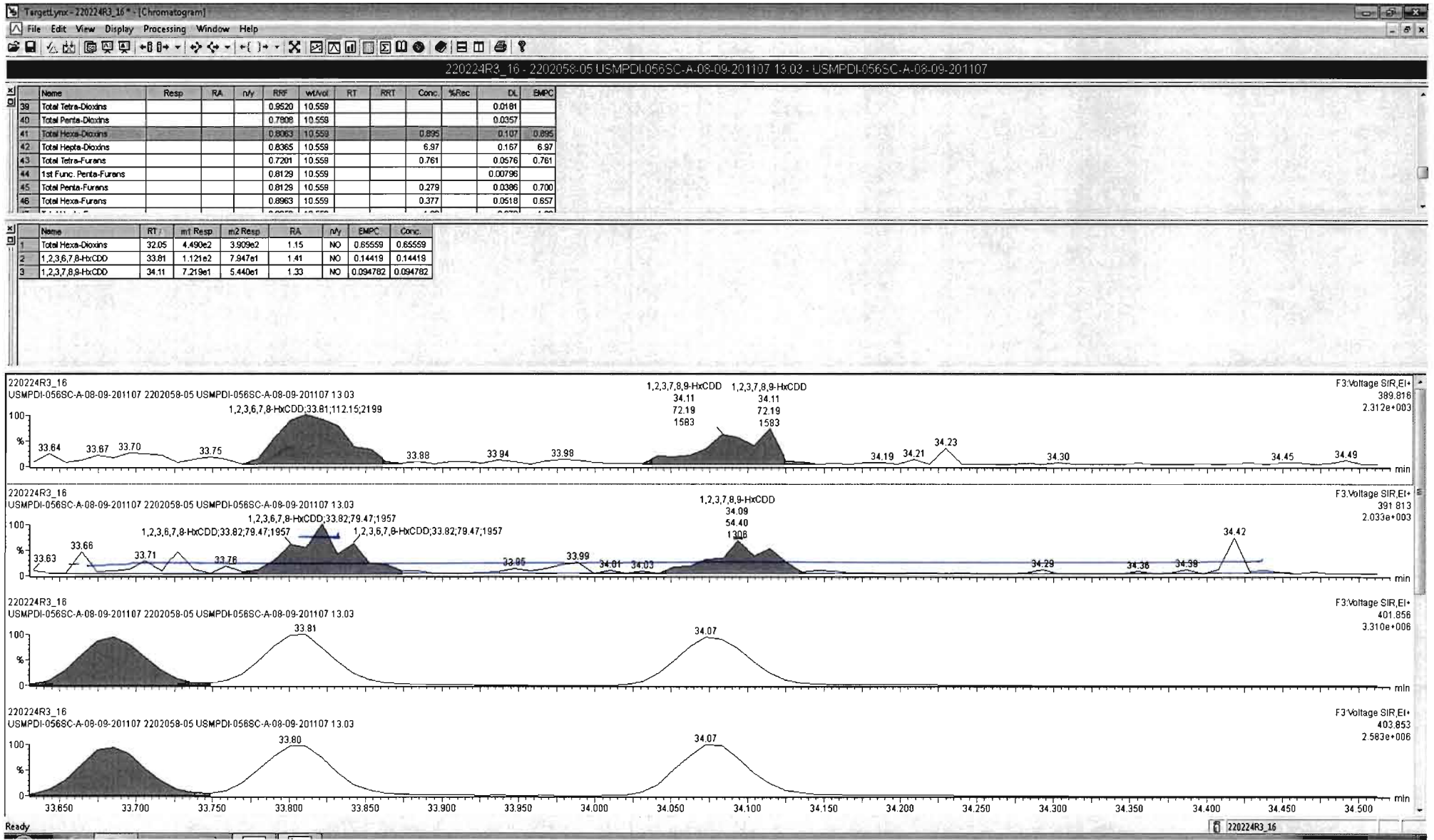
13C-1,2,3,4,7,8-HxCDD

220224R3\_16



220224R3\_16





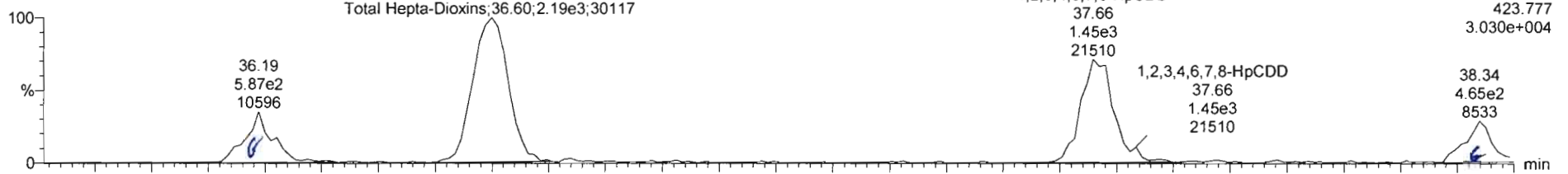
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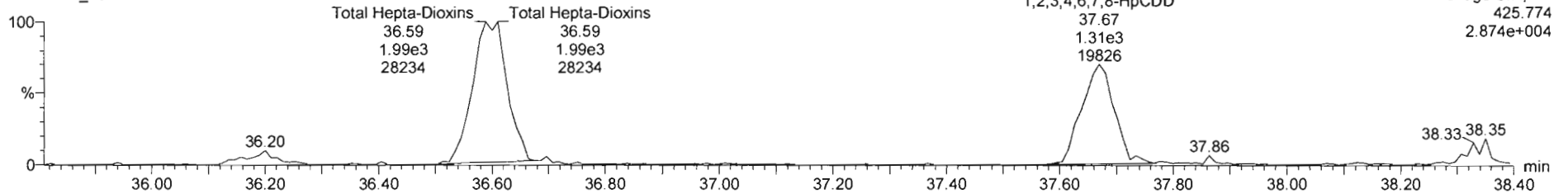
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1,2,3,4,6,7,8-HpCDD

220224R3\_16

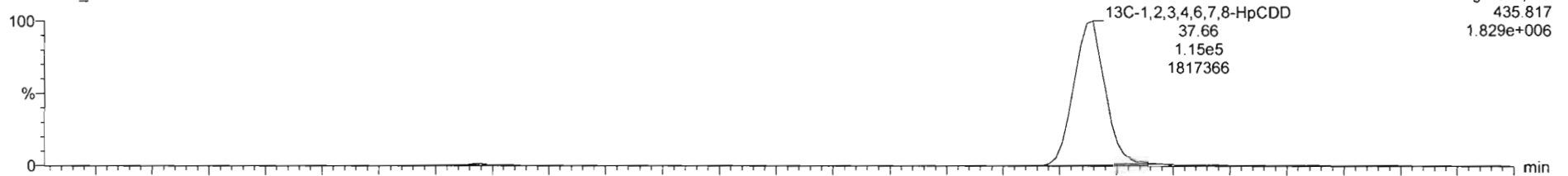


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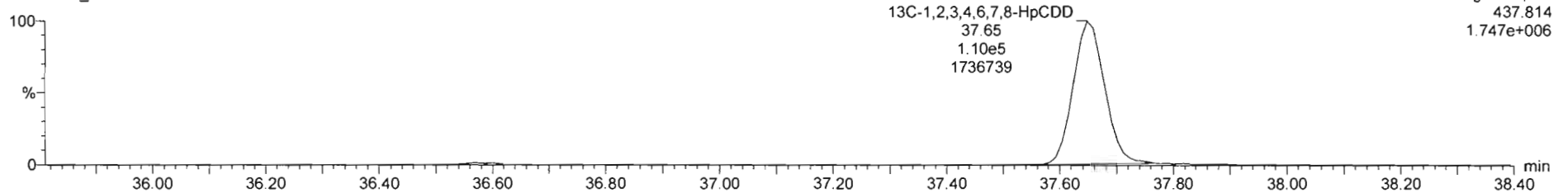


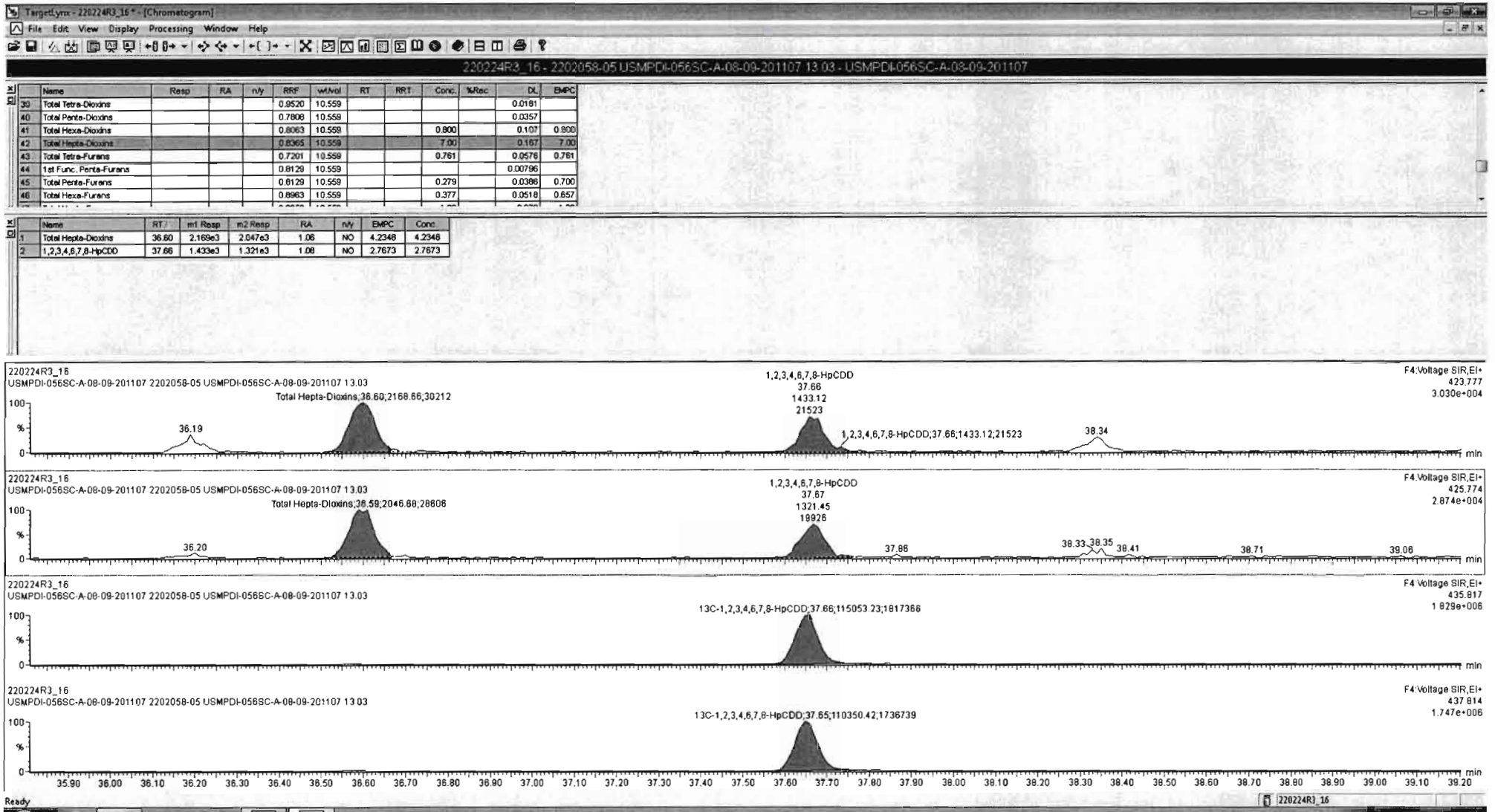
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220224R3\_16



220224R3\_16





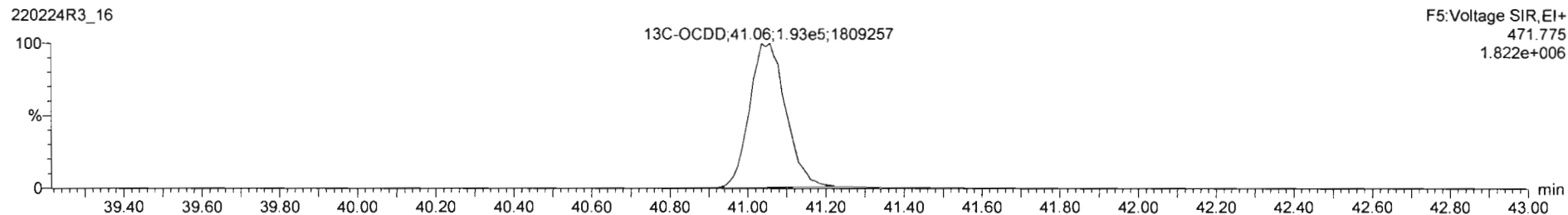
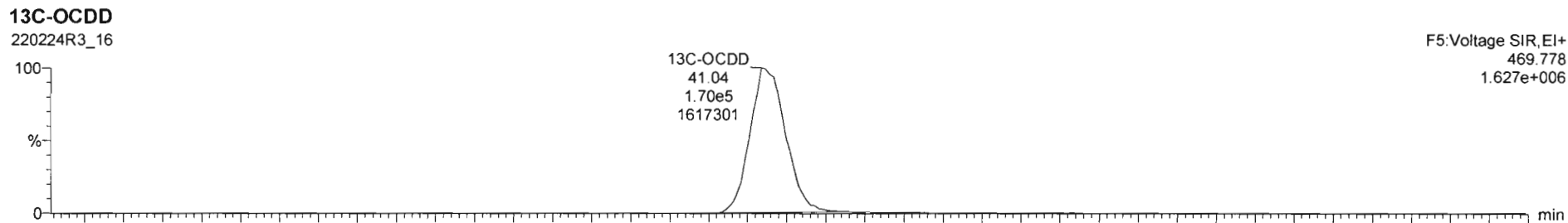
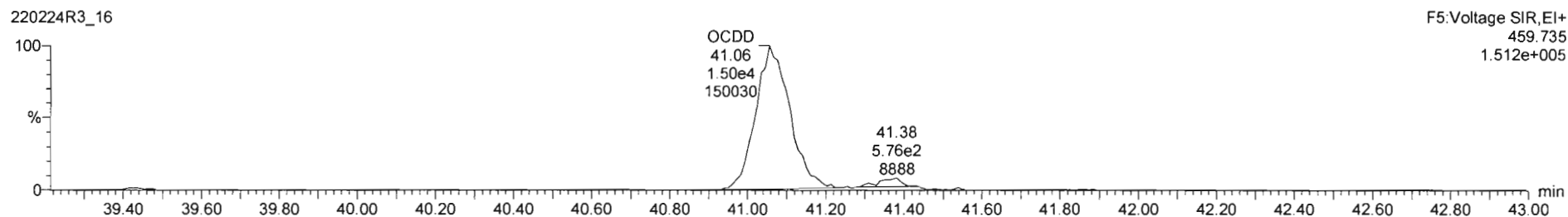
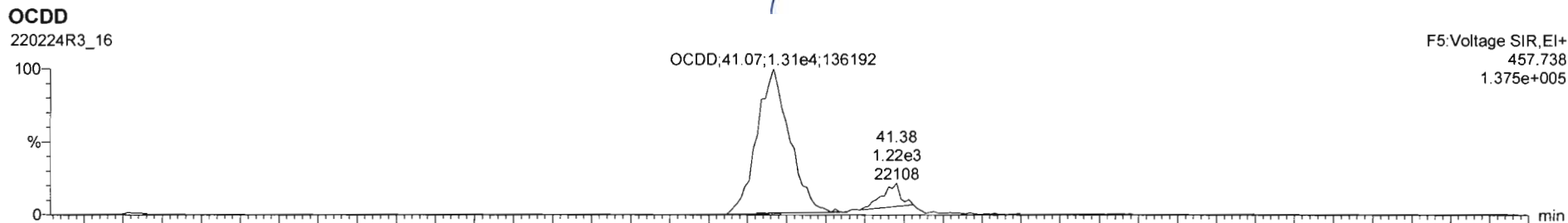


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Printed: Friday, February 25, 2022 18:41:50 Pacific Standard Time

Name: 220224R3\_16, Date: 25-Feb-2022, Time: 02:29:36, ID: 2202058-05 USMPDI-056SC-A-08-09-201107 13.03, Description: USMPDI-056SC-A-08-09-201107





Vista Analytical Laboratory VG-12

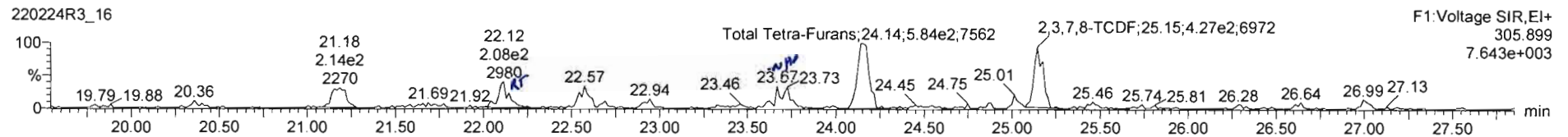
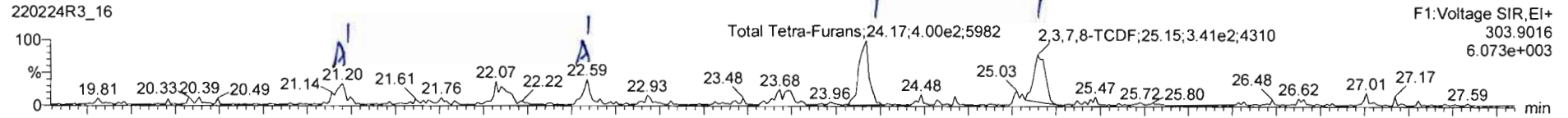
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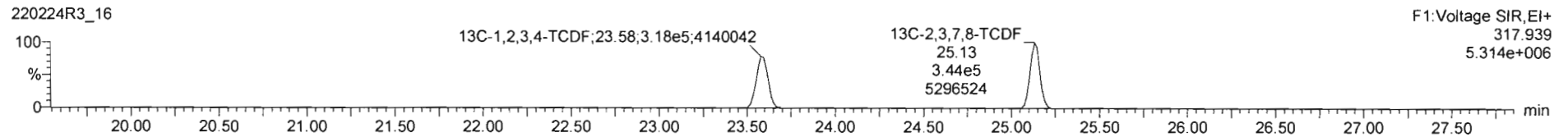
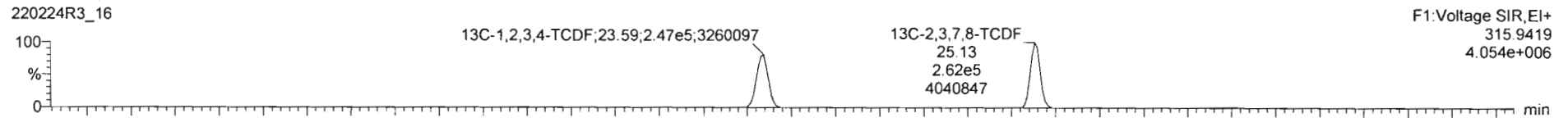
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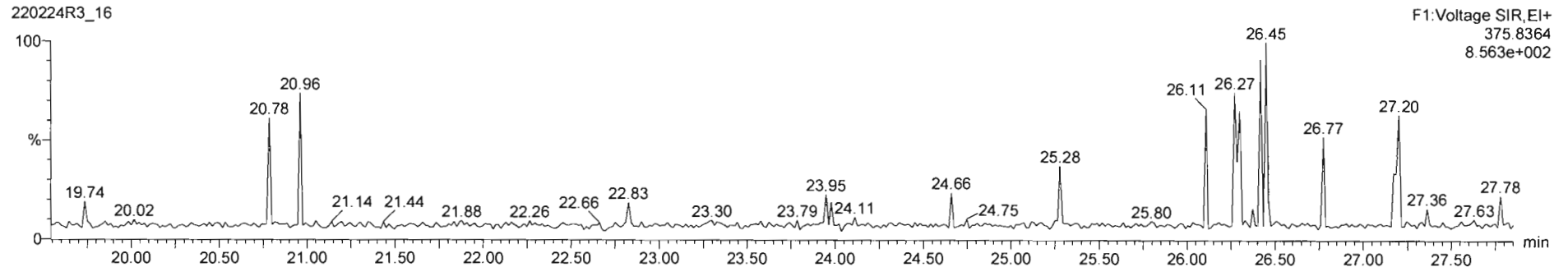
2,3,7,8-TCDF

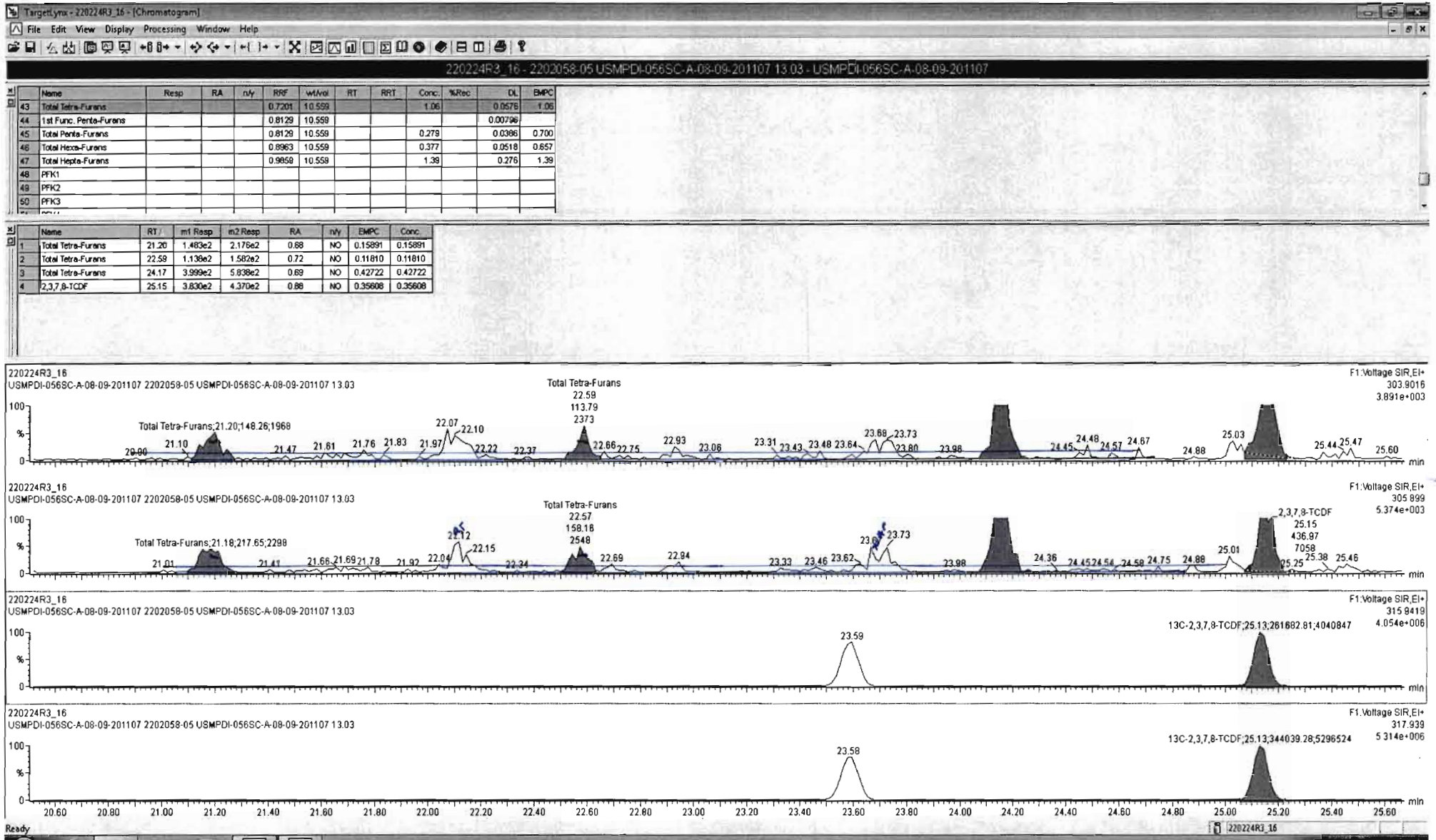


13C-2,3,7,8-TCDF



DPE1





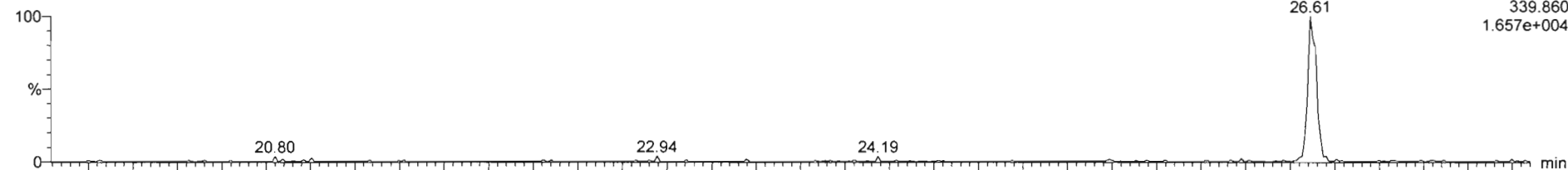
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Printed: Friday, February 25, 2022 18:41:50 Pacific Standard Time

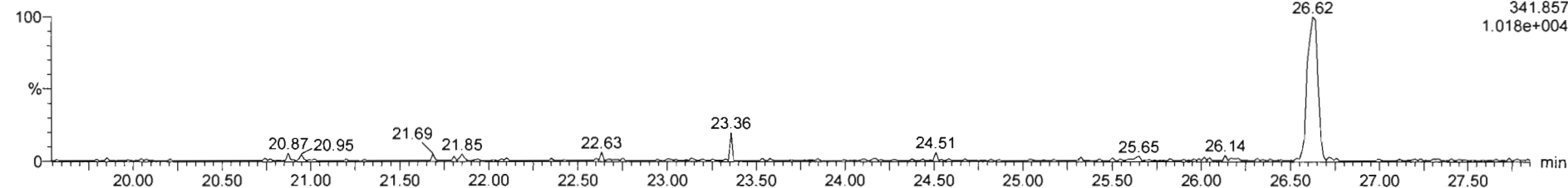
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1st Func. Penta-Furans

220224R3\_16

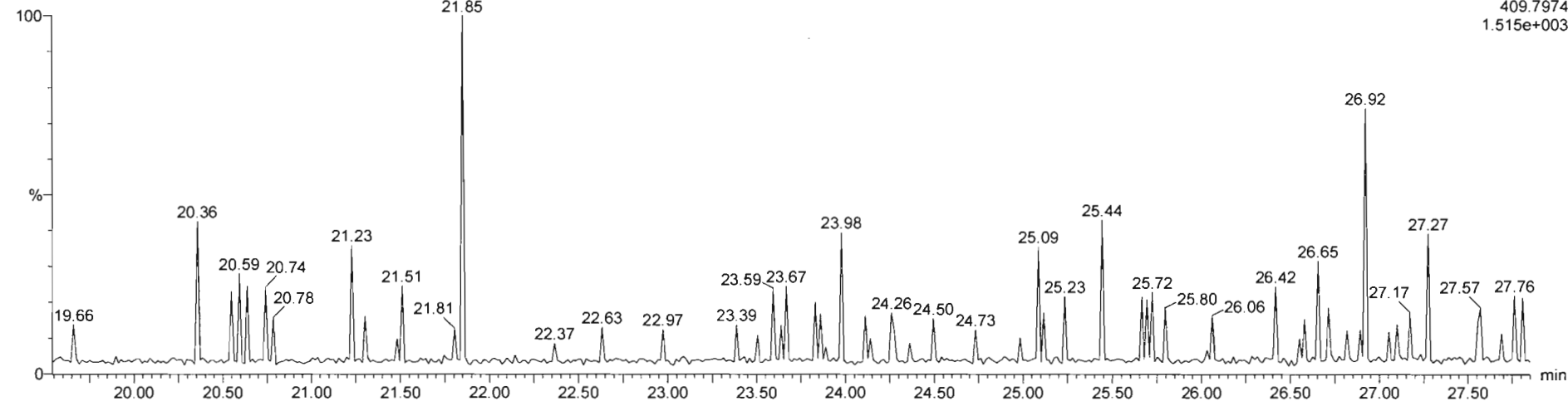


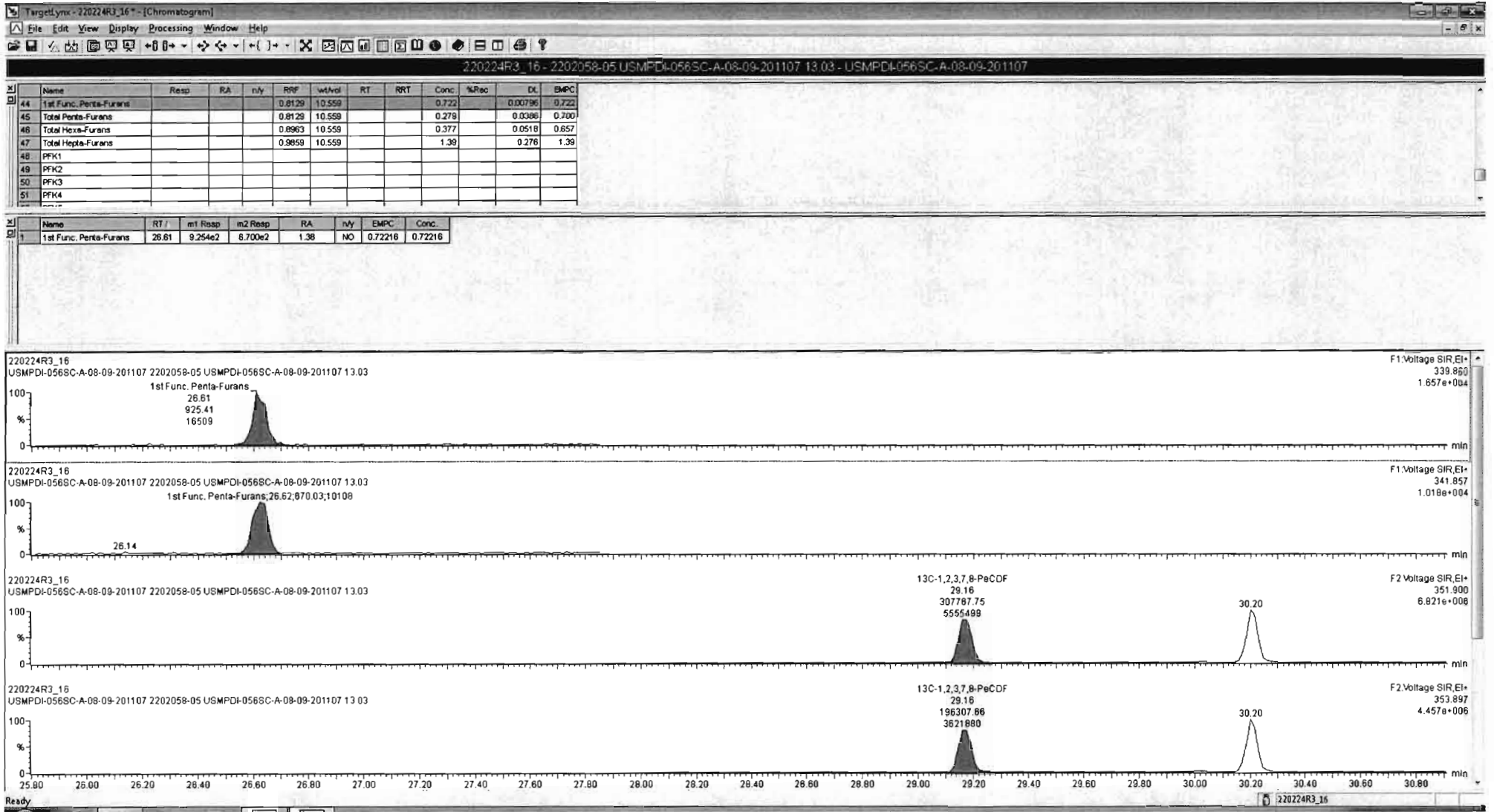
220224R3\_16



DPE6

220224R3\_16



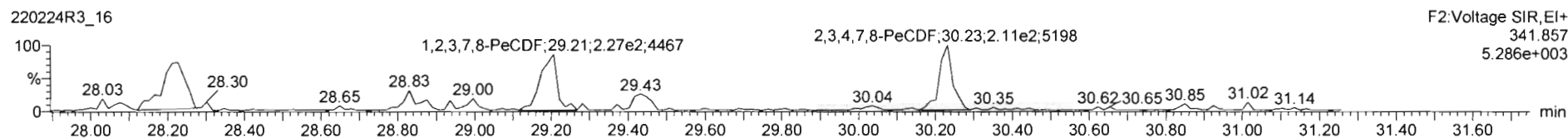
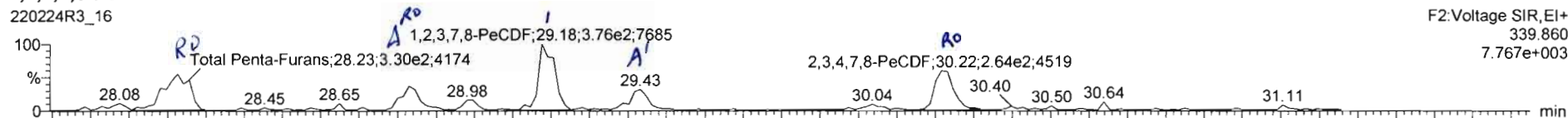


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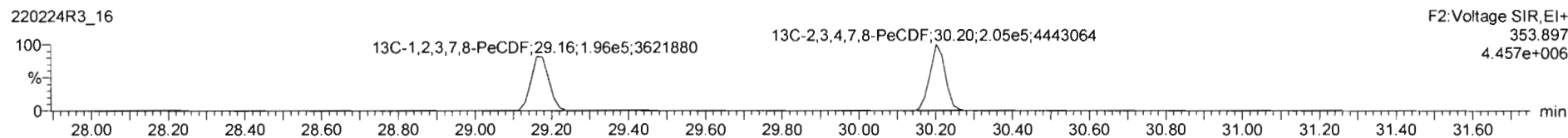
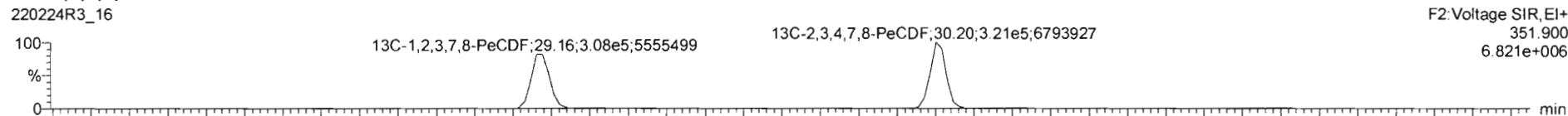
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Name: 220224R3\_16, Date: 25-Feb-2022, Time: 02:29:36, ID: 2202058-05 USMPDI-056SC-A-08-09-201107 13.03, Description: USMPDI-056SC-A-08-09-201107

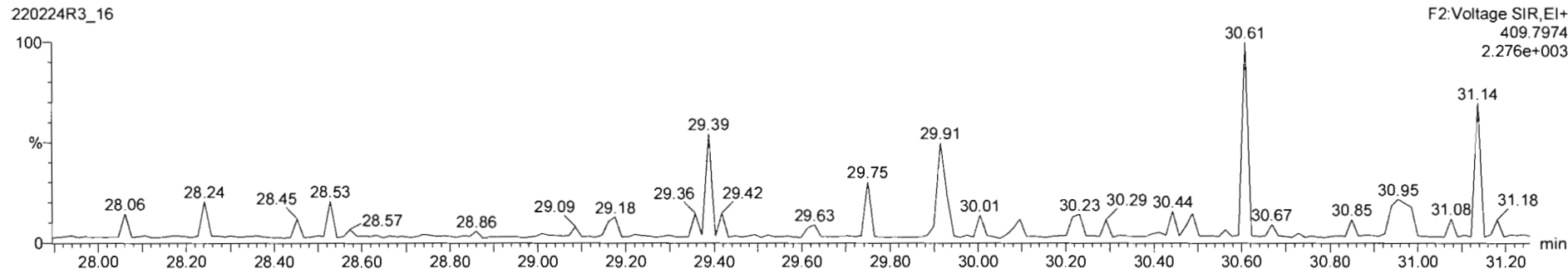
**1,2,3,7,8-PeCDF**



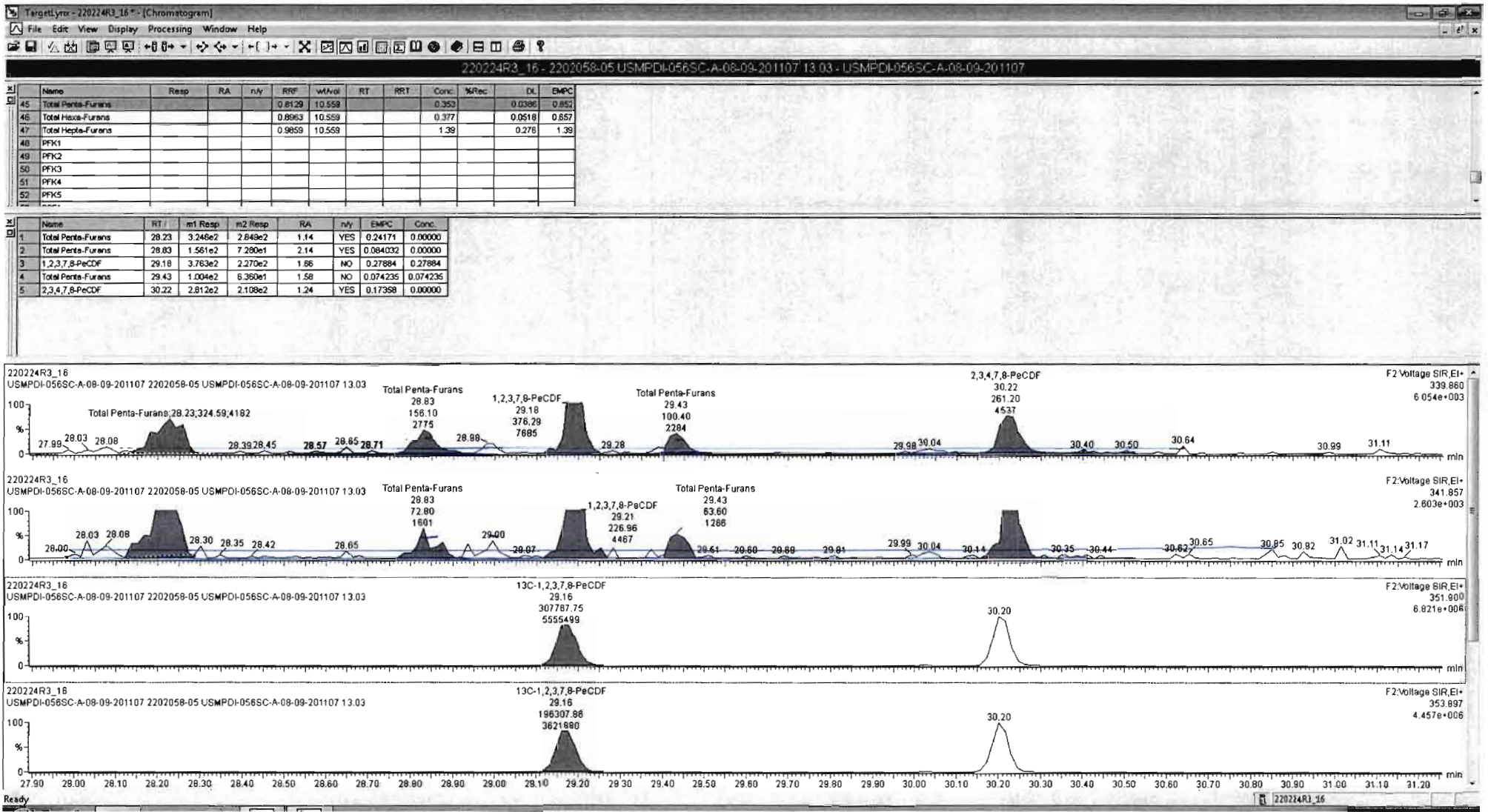
**13C-1,2,3,7,8-PeCDF**



**DPE2**







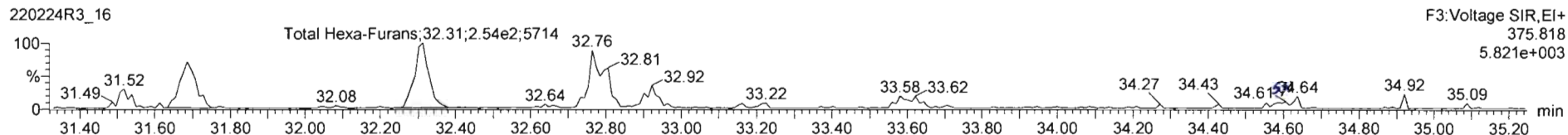
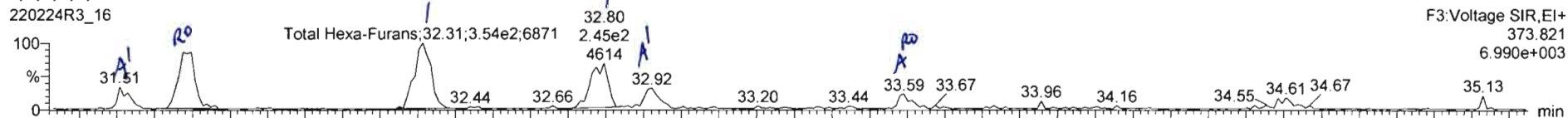
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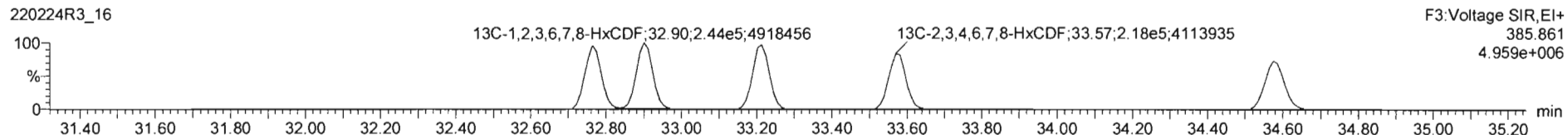
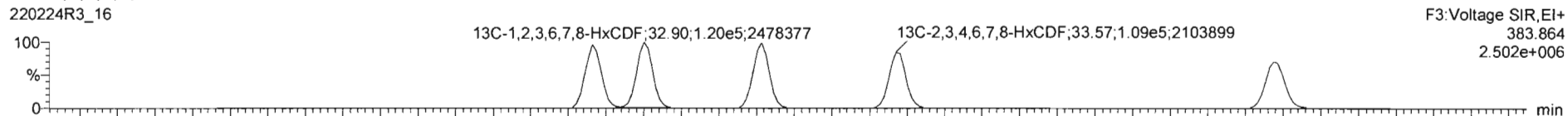
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Name: 220224R3\_16, Date: 25-Feb-2022, Time: 02:29:36, ID: 2202058-05 USMPDI-056SC-A-08-09-201107 13.03, Description: USMPDI-056SC-A-08-09-201107

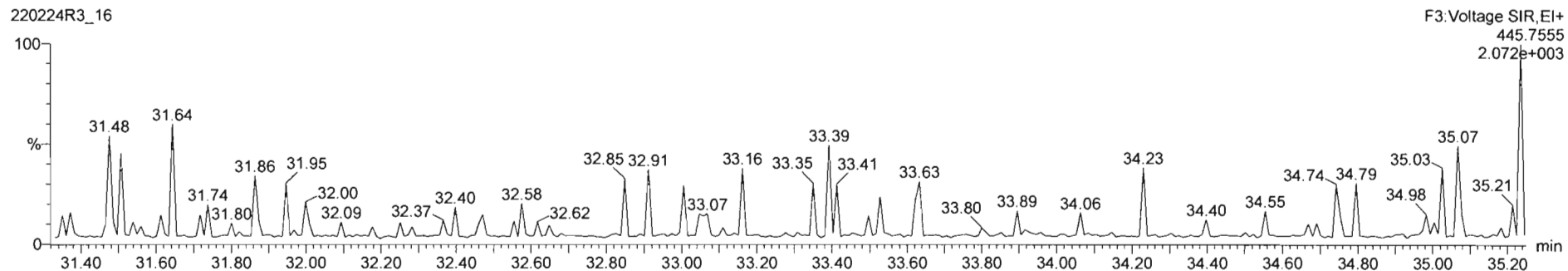
**1,2,3,4,7,8-HxCDF**



**13C-1,2,3,4,7,8-HxCDF**



**DPE3**

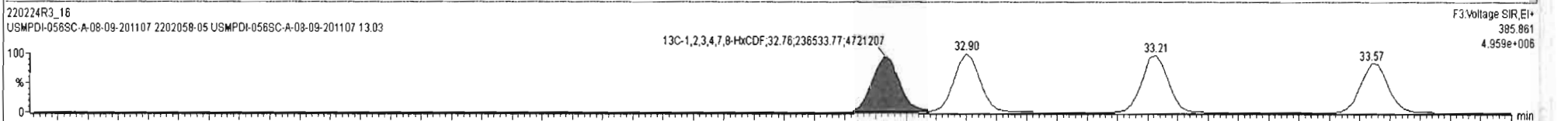
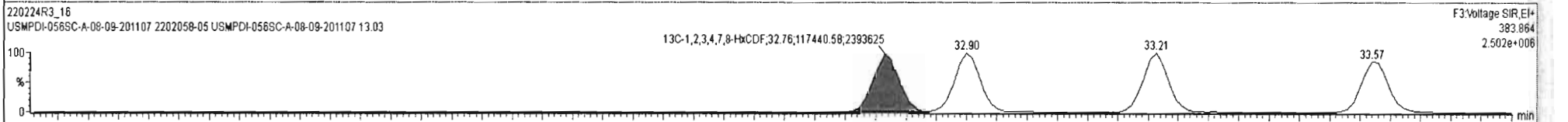
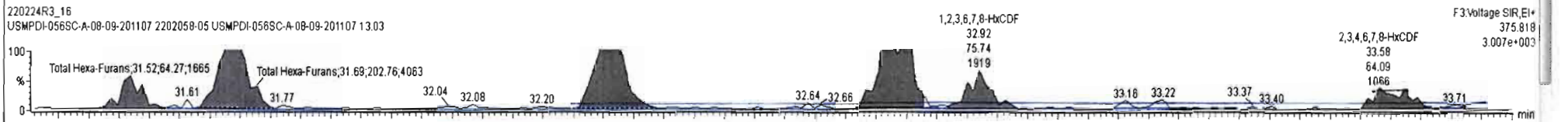
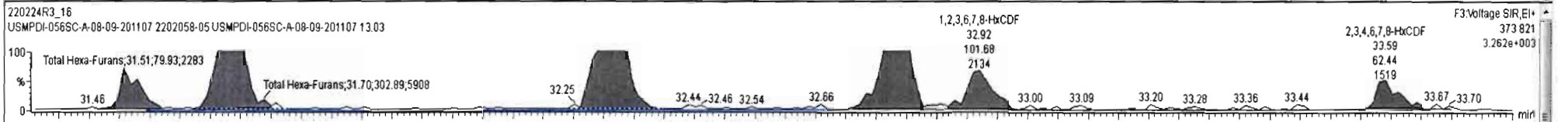


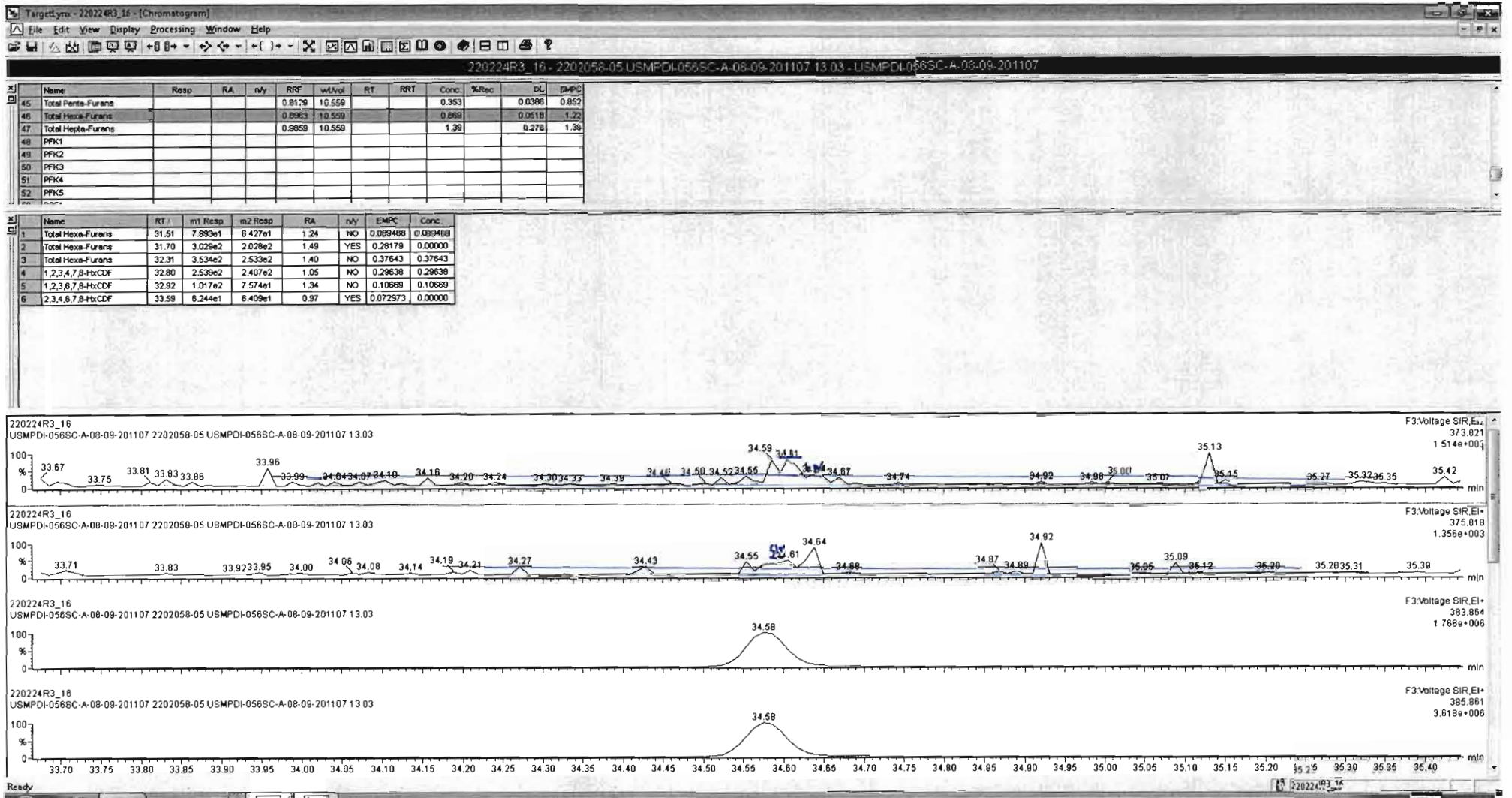


220224R3\_16 - 2202058-05 USMPDI-056SC-A-08-09-201107 13.03 - USMPDI-056SC-A-08-09-201107

Name	Resp	RA	n/y	RRF	wtVol	RT	RRT	Conc.	%Rec	DL	EMPC
45 Total Penta-Furans				0.8129	10.559			0.353	0.0386	0.852	
46 Total Hexa-Furans				0.8963	10.559			0.869	0.0518	1.22	
47 Total Hexa-Furans				0.9859	10.559			1.39	0.278	1.39	
48 PFK1											
49 PFK2											
50 PFK3											
51 PFK4											
52 PFK5											

Name	RT	m1 Resp	m2 Resp	RA	n/y	EMPC	Conc.
1 Total Hexa-Furans	31.51	7.983e1	6.427e1	1.24	NO	0.089468	0.089468
2 Total Hexa-Furans	31.70	3.029e2	2.029e2	1.49	YES	0.28179	0.00000
3 Total Hexa-Furans	32.31	3.534e2	2.533e2	1.40	NO	0.37643	0.37643
4 1,2,3,4,7,8-HxCDF	32.80	2.539e2	2.407e2	1.05	NO	0.29638	0.29638
5 1,2,3,6,7,8-HxCDF	32.92	1.017e2	7.574e1	1.34	NO	0.10669	0.10669
6 2,3,4,6,7,8-HxCDF	33.59	6.244e1	6.409e1	0.97	YES	0.072973	0.00000



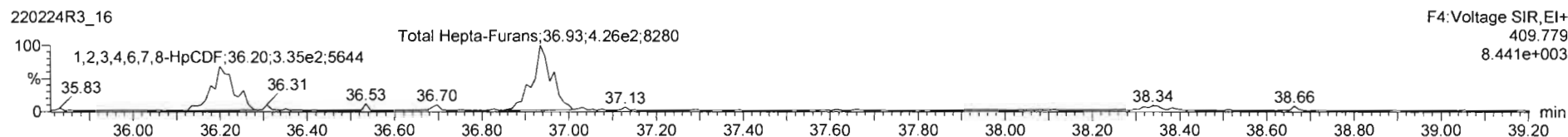
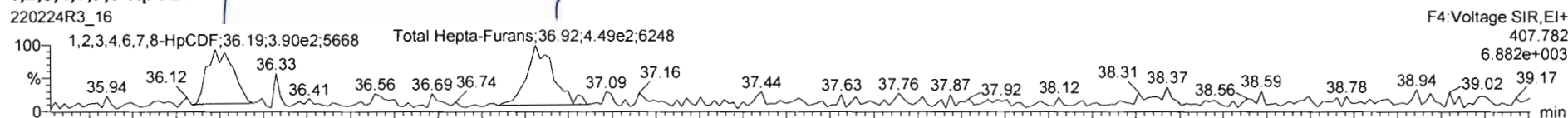


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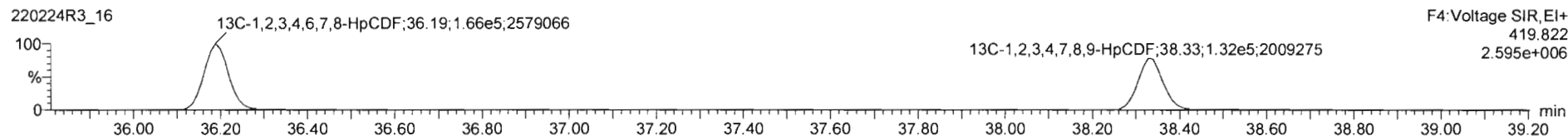
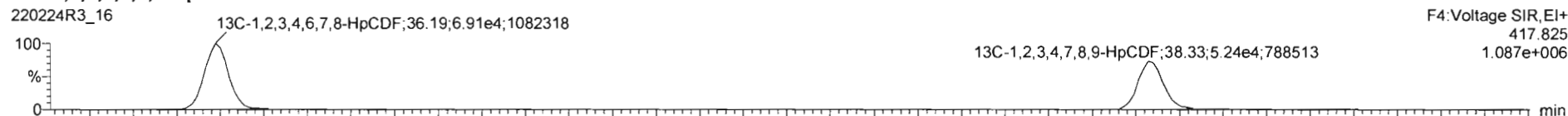
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Printed: Friday, February 25, 2022 18:41:50 Pacific Standard Time

Name: 220224R3\_16, Date: 25-Feb-2022, Time: 02:29:36, ID: 2202058-05 USMPDI-056SC-A-08-09-201107 13.03, Description: USMPDI-056SC-A-08-09-201107

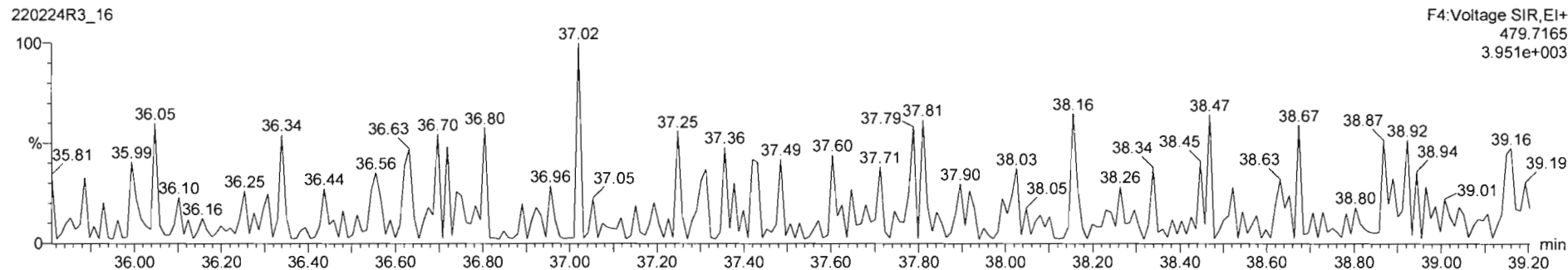
### 1,2,3,4,6,7,8-HpCDF



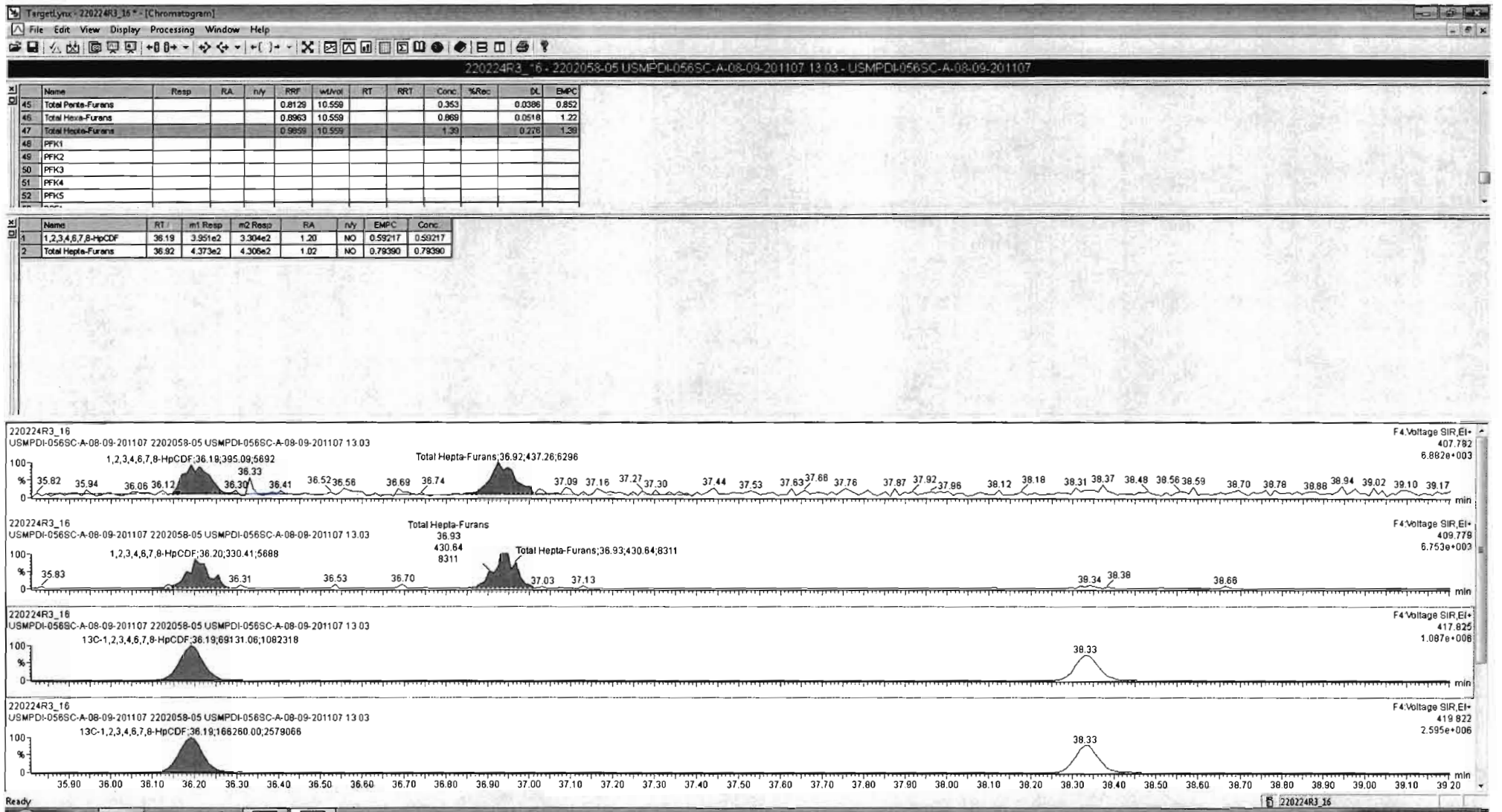
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### DPE4







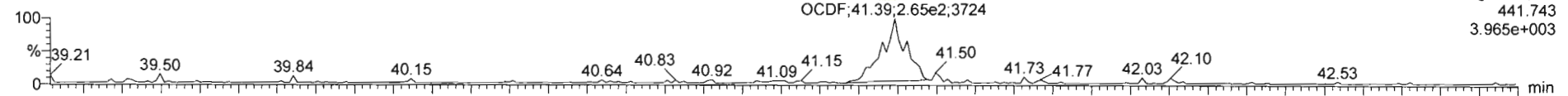
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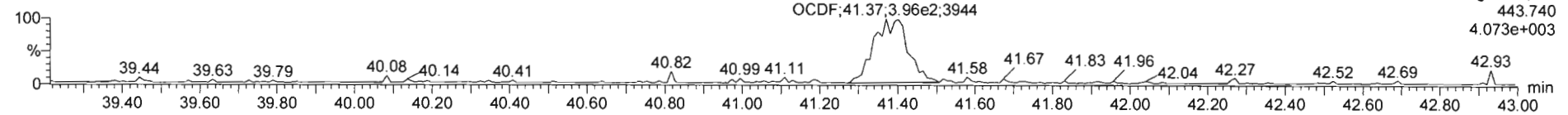
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OCDF

220224R3\_16

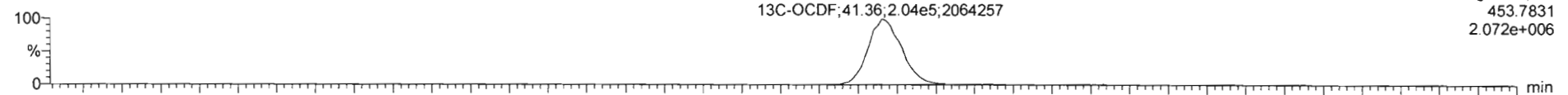


220224R3\_16

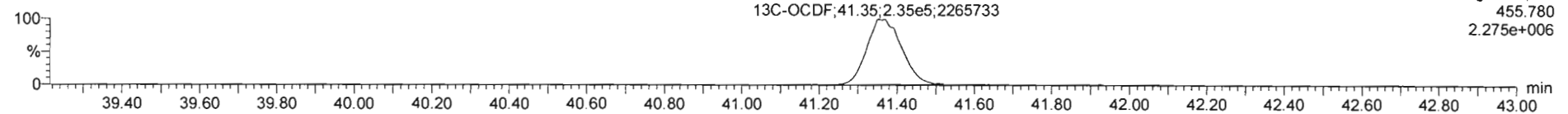


13C-OCDF

220224R3\_16

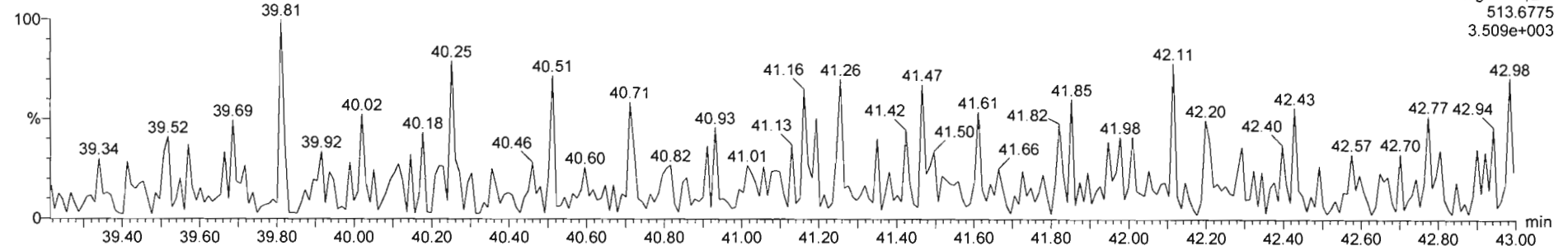


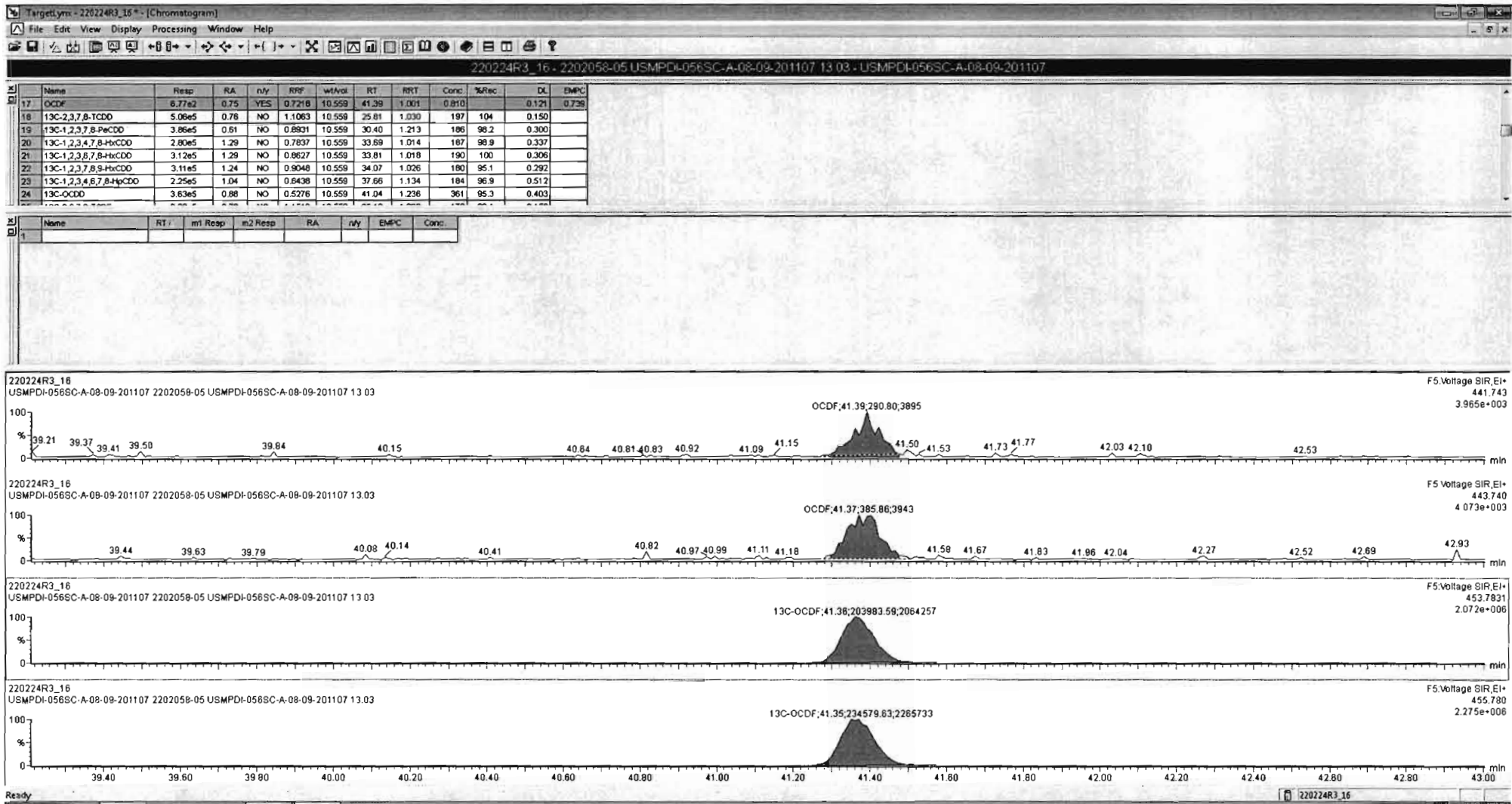
220224R3\_16



DPE5

220224R3\_16



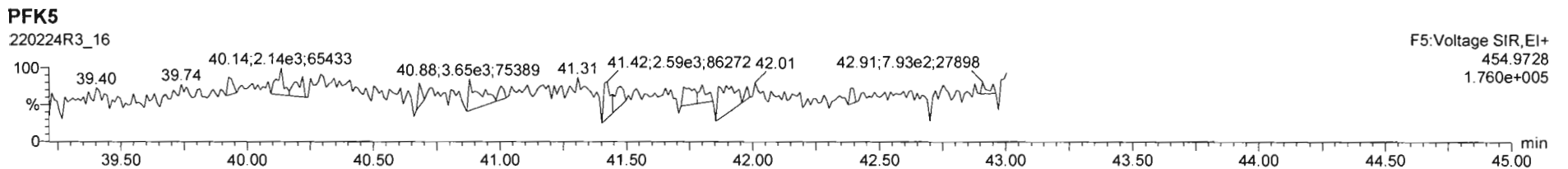
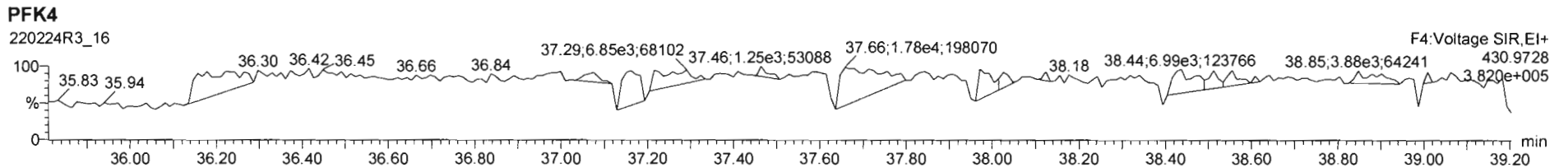
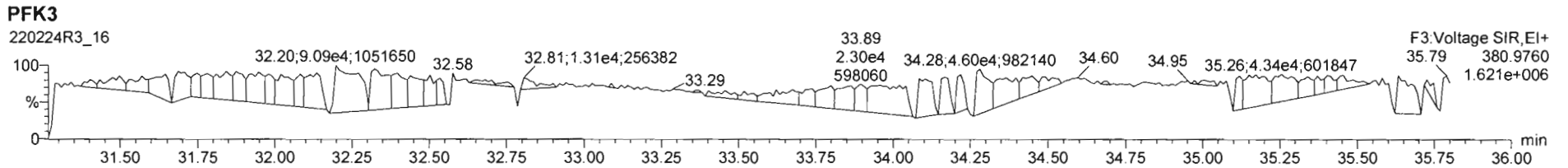
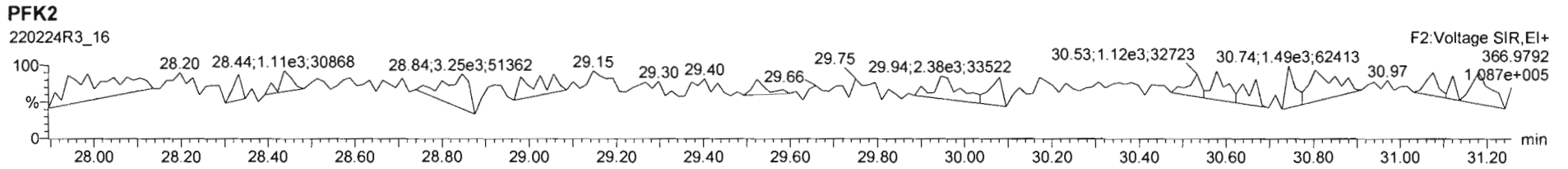
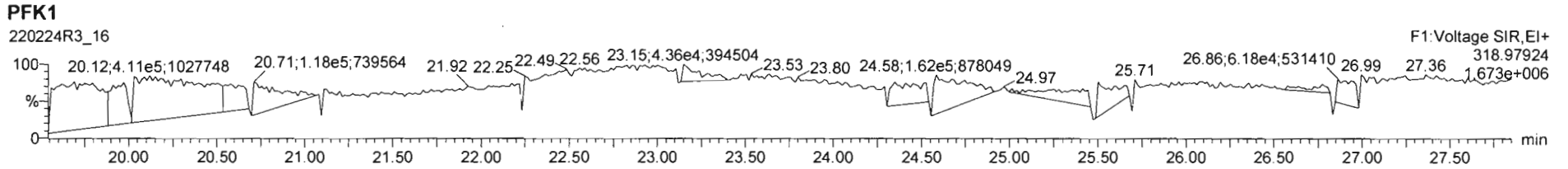


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Printed: Friday, February 25, 2022 18:41:50 Pacific Standard Time

Name: 220224R3\_16, Date: 25-Feb-2022, Time: 02:29:36, ID: 2202058-05 USMPDI-056SC-A-08-09-201107 13.03, Description: USMPDI-056SC-A-08-09-201107





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*dy 03/04/2022*

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*CT 03/10/2022*

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1	1 2,3,7,8-TCDD			NO	0.952	10.659	25.827		1.001				0.0492	
2	2 1,2,3,7,8-PeCDD			NO	0.781	10.659	30.412		1.001				0.0747	
3	3 1,2,3,4,7,8-HxCDD			NO	0.904	10.659	33.653		1.001				0.0729	
4	4 1,2,3,6,7,8-HxCDD			NO	0.806	10.659	33.768		1.001				0.0716	
5	5 1,2,3,7,8,9-HxCDD			NO	0.814	10.659	34.040		1.000				0.0842	
6	6 1,2,3,4,6,7,8-HpCDD			NO	0.836	10.659	37.551		1.000				0.223	
7	7 OCDD			NO	0.798	10.659	40.782		1.000				0.224	
8	8 2,3,7,8-TCDF			NO	0.720	10.659	25.134		1.000				0.0658	
9	9 1,2,3,7,8-PeCDF			NO	0.813	10.659	29.149		1.000				0.0403	
10	10 2,3,4,7,8-PeCDF			NO	0.892	10.659	30.207		1.001				0.0307	
11	11 1,2,3,4,7,8-HxCDF			NO	0.893	10.659	32.732		1.000				0.0256	
12	12 1,2,3,6,7,8-HxCDF			NO	0.867	10.659	32.888		1.001				0.0270	
13	13 2,3,4,6,7,8-HxCDF			NO	0.896	10.659	33.548		1.001				0.0295	
14	14 1,2,3,7,8,9-HxCDF			NO	0.874	10.659	34.543		1.000				0.0392	
15	15 1,2,3,4,6,7,8-HpCDF			NO	0.986	10.659	36.110		1.000				0.0559	
16	16 1,2,3,4,7,8,9-HpCDF			NO	0.966	10.659	38.220		1.000				0.0691	
17	17 OCDF			NO	0.722	10.659	41.106		1.000				0.105	
18	18 13C-2,3,7,8-TCDD	2.26e5	0.76	NO	1.11	10.659	25.756	25.80	1.028	1.029	189.53	101	0.280	
19	19 13C-1,2,3,7,8-PeCDD	1.67e5	0.61	NO	0.893	10.659	30.103	30.38	1.201	1.213	173.38	92.4	0.736	
20	20 13C-1,2,3,4,7,8-HxCDD	1.15e5	1.30	NO	0.784	10.659	33.630	33.63	1.014	1.014	169.18	90.2	0.663	
21	21 13C-1,2,3,6,7,8-HxCDD	1.35e5	1.21	NO	0.863	10.659	33.749	33.75	1.017	1.017	180.37	96.1	0.602	
22	22 13C-1,2,3,7,8,9-HxCDD	1.25e5	1.20	NO	0.905	10.659	34.038	34.03	1.026	1.026	160.22	85.4	0.574	
23	23 13C-1,2,3,4,6,7,8-HpCDD	8.67e4	1.06	NO	0.644	10.659	37.451	37.54	1.129	1.132	155.78	83.0	1.03	
24	24 13C-OCDD	1.34e5	0.90	NO	0.528	10.659	40.715	40.77	1.227	1.229	293.56	78.2	0.923	
25	25 13C-2,3,7,8-TCDF	2.75e5	0.76	NO	1.15	10.659	25.135	25.13	1.003	1.003	164.89	87.9	0.490	
26	26 13C-1,2,3,7,8-PeCDF	2.40e5	1.58	NO	0.905	10.659	28.933	29.15	1.155	1.163	183.00	97.5	1.43	
27	27 13C-2,3,4,7,8-PeCDF	2.51e5	1.56	NO	0.899	10.659	30.159	30.19	1.204	1.205	192.42	103	1.44	
28	28 13C-1,2,3,4,7,8-HxCDF	1.56e5	0.49	NO	1.00	10.659	32.721	32.72	0.986	0.986	180.07	96.0	1.00	
29	29 13C-1,2,3,6,7,8-HxCDF	1.65e5	0.49	NO	1.04	10.659	32.850	32.87	0.990	0.991	183.29	97.7	0.966	
30	30 13C-2,3,4,6,7,8-HxCDF	1.41e5	0.49	NO	0.916	10.659	33.520	33.53	1.010	1.011	177.92	94.8	1.10	
31	31 13C-1,2,3,7,8,9-HxCDF	1.32e5	0.51	NO	0.859	10.659	34.545	34.53	1.041	1.041	177.42	94.6	1.17	

Dataset: I:\VG12.PRO\Results\220228R1\220228R1-3.qld

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Printed: Friday, March 04, 2022 15:30:20 Pacific Standard Time

Name: 220228R1\_3, Date: 28-Feb-2022, Time: 12:23:01, ID: 2202058-06 USMPDI-004SC-A-07-08-201111 17.88, Description: USMPDI-004SC-A-07-08-201111

#	Name	Resp	RA	n/y	RRF	wt/vol	Pred.RT	RT	Pred.RRT	RRT	Conc.	%Rec	DL	EMPC
32	32 13C-1,2,3,4,6,7,8-HpCDF	9.77e4	0.39	NO	0.632	10.659	36.148	36.09	1.090	1.088	178.75	95.3	1.30	
33	33 13C-1,2,3,4,7,8,9-HpCDF	7.78e4	0.41	NO	0.552	10.659	38.128	38.21	1.149	1.152	162.84	86.8	1.49	
34	34 13C-OCDF	1.79e5	0.89	NO	0.606	10.659	41.044	41.10	1.237	1.239	341.98	91.1	0.927	
35	35 37Cl-2,3,7,8-TCDD	8.13e4			1.01	10.659	25.776	25.83	1.029	1.031	74.753	99.6	0.0850	
36	36 13C-1,2,3,4-TCDD	2.02e5	0.78	NO	1.00	10.659	25.010	25.06	1.000	1.000	187.63	100	0.310	
37	37 13C-1,2,3,4-TCDF	2.72e5	0.78	NO	1.00	10.659	23.580	23.58	1.000	1.000	187.63	100	0.565	
38	38 13C-1,2,3,4,6,9-HxCDF	1.62e5	0.47	NO	1.00	10.659	33.170	33.17	1.000	1.000	187.63	100	1.01	
39	39 Total Tetra-Dioxins				0.952	10.659	24.620		0.000				0.0265	
40	40 Total Penta-Dioxins				0.781	10.659	29.960		0.000				0.0271	
41	41 Total Hexa-Dioxins				0.806	10.659	33.635		0.000				0.0395	
42	42 Total Hepta-Dioxins				0.836	10.659	37.640		0.000				0.146	
43	43 Total Tetra-Furans				0.720	10.659	23.610		0.000				0.0224	
44	44 1st Func. Penta-Furans				0.813	10.659	26.930		0.000				0.00751	
45	45 Total Penta-Furans				0.813	10.659	29.275		0.000				0.0180	
46	46 Total Hexa-Furans				0.896	10.659	33.555		0.000				0.0160	
47	47 Total Hepta-Furans				0.986	10.659	37.835		0.000				0.0308	

Vista Analytical Laboratory

Dataset: I:\VG12.PRO\Results\220228R1\220228R1-3.qld

Last Altered: Friday, March 04, 2022 15:28:10 Pacific Standard Time

Printed: Friday, March 04, 2022 15:30:20 Pacific Standard Time

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Calibration: I:\VG12.PRO\CurveDB\dbDIOXIN\_1613vg12-07-30-21.cdb 02 Aug 2021 09:55:11

Name: 220228R1\_3, Date: 28-Feb-2022, Time: 12:23:01, ID: 2202058-06 USMPDI-004SC-A-07-08-201111 17.88, Description: USMPDI-004SC-A-07-08-201111

Tetra-Dioxins

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1												

Penta-Dioxins

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1												

Hexa-Dioxins

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1												

Hepta-Dioxins

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1												

Tetra-Furans

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1												

Penta-Furans function 1

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1												

Dataset: I:\VG12.PRO\Results\220228R1\220228R1-3.qld

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**Penta-Furans**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1												

**Hexa-Furans**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1												

**Hepta-Furans**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1												

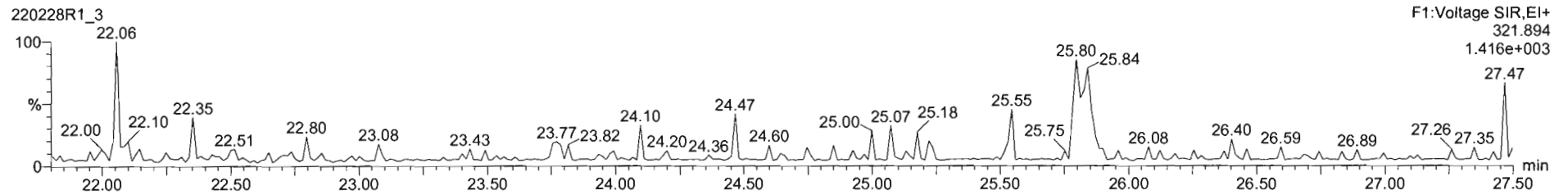
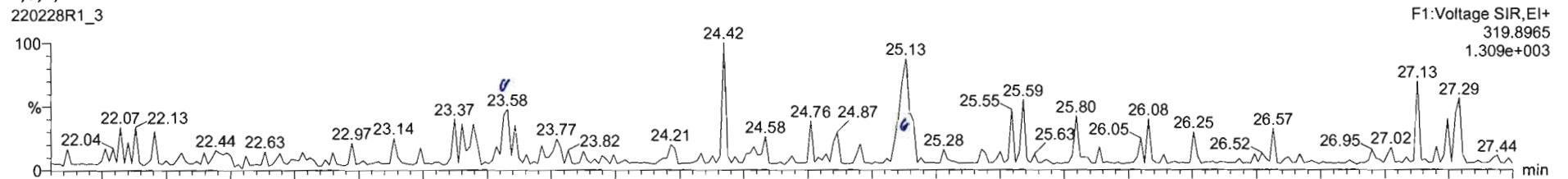
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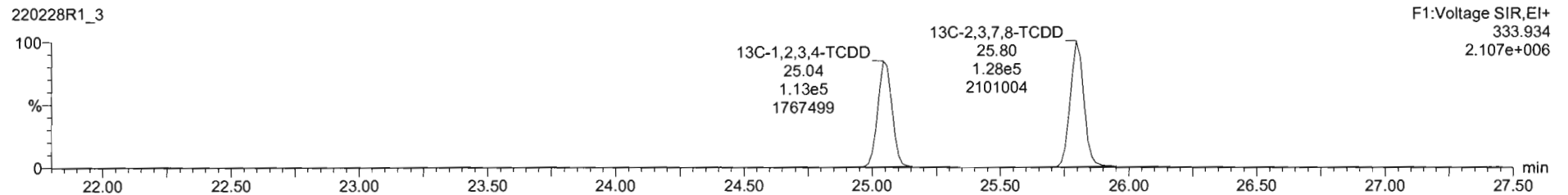
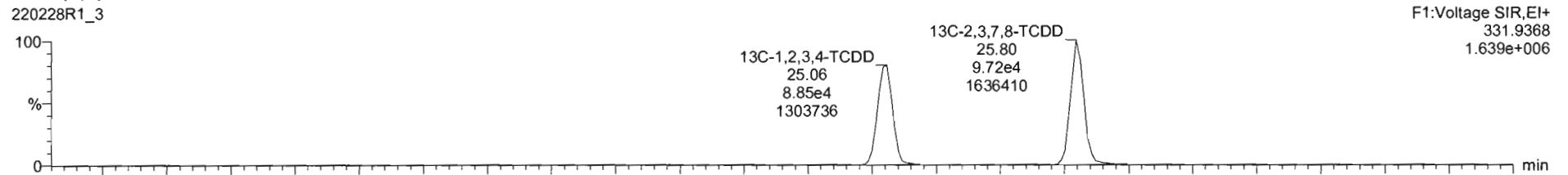
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**2,3,7,8-TCDD**



**13C-2,3,7,8-TCDD**



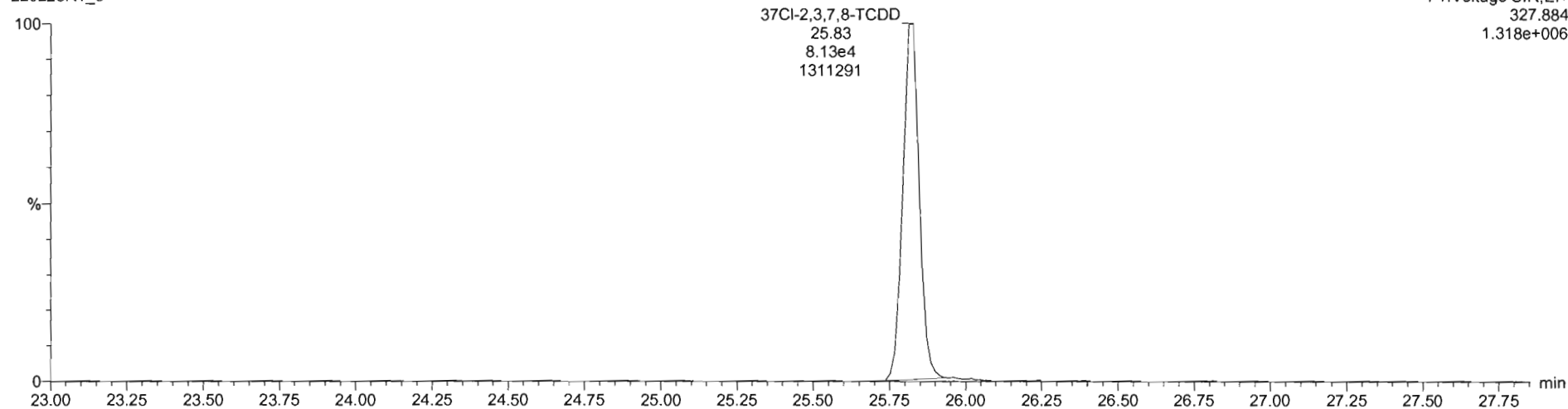
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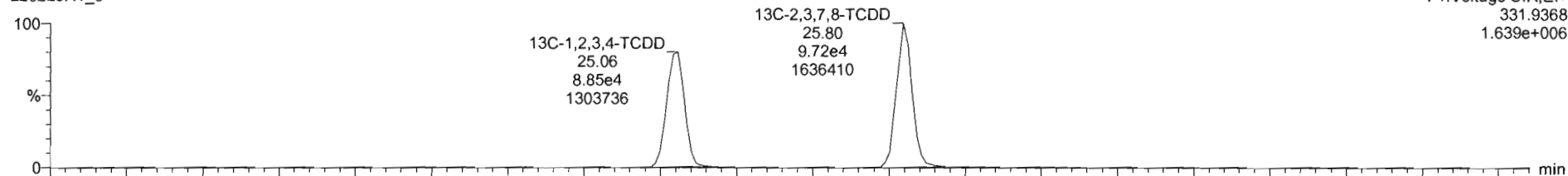
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220228R1\_3

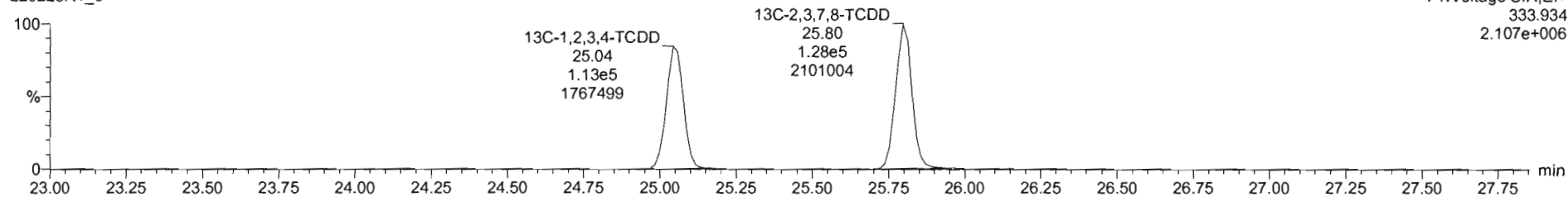


13C-1,2,3,4-TCDD

220228R1\_3



220228R1\_3





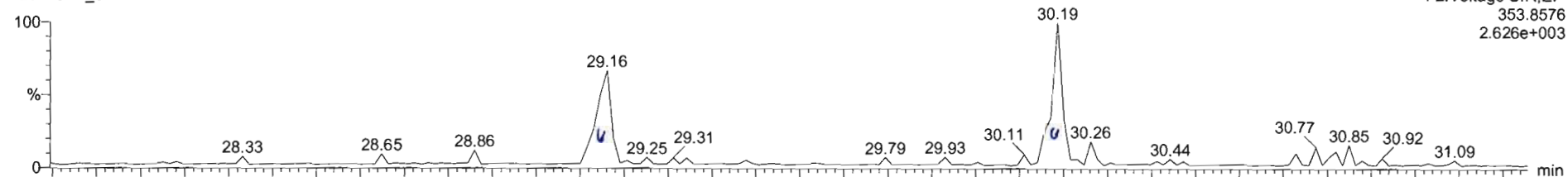
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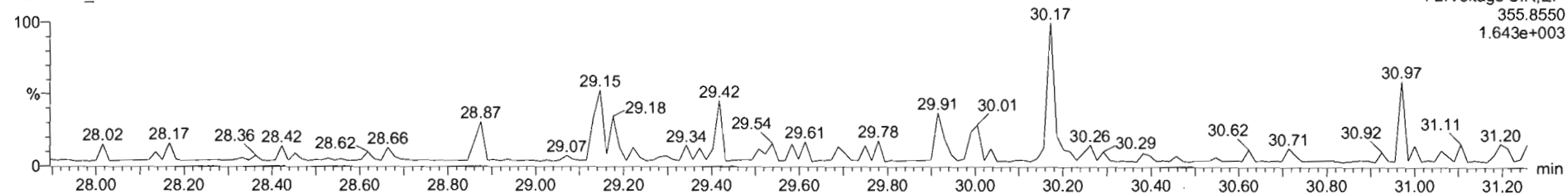
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1,2,3,7,8-PeCDD

220228R1\_3

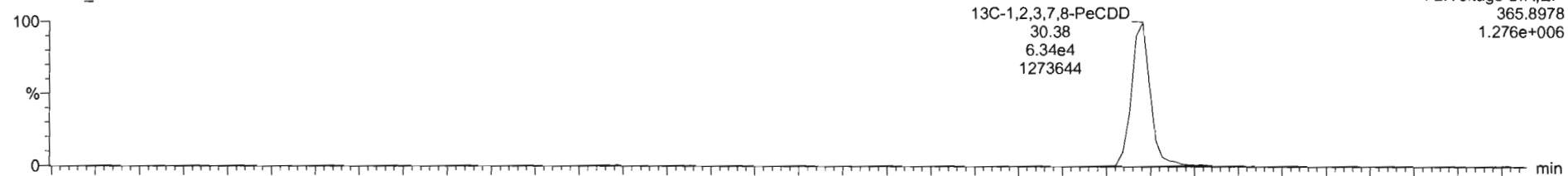


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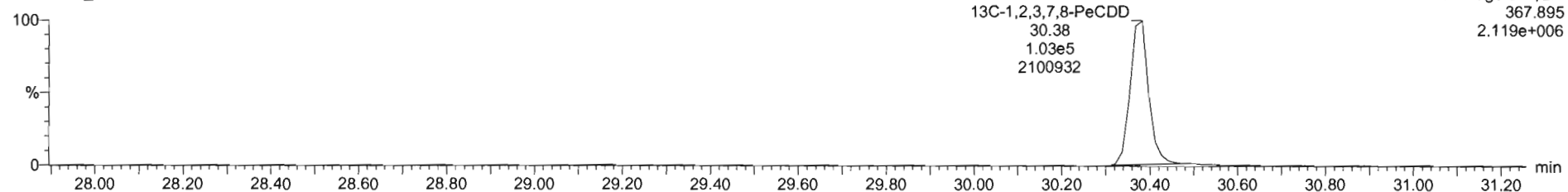


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220228R1\_3



220228R1\_3





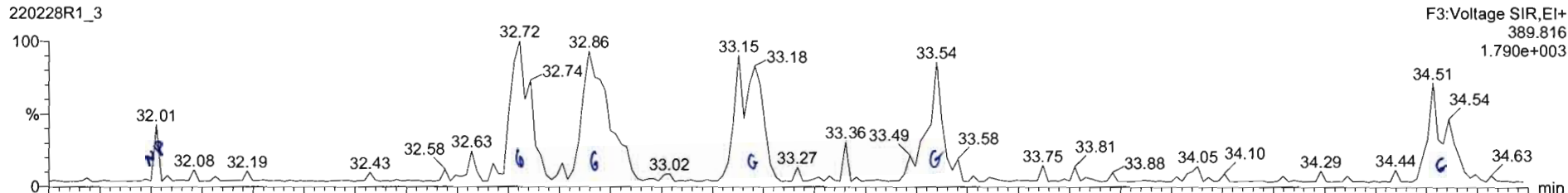
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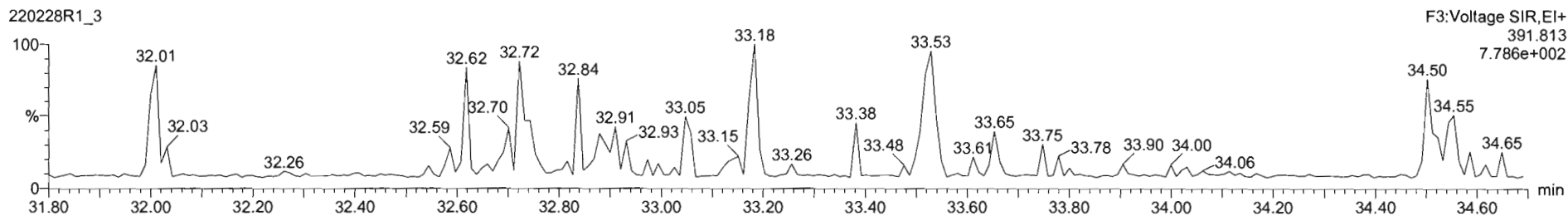
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1,2,3,4,7,8-HxCDD

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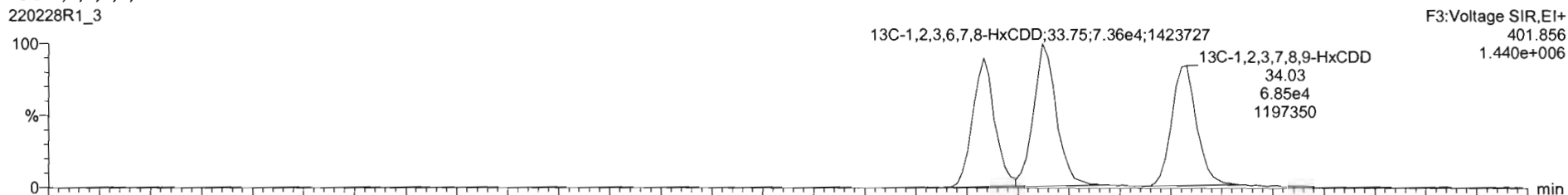


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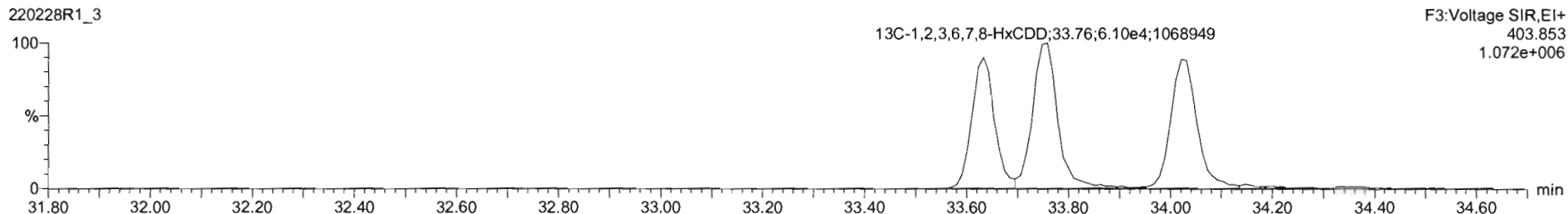


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220228R1\_3



220228R1\_3



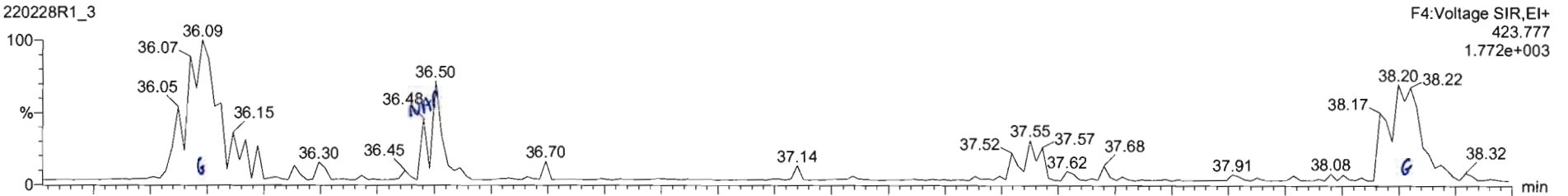
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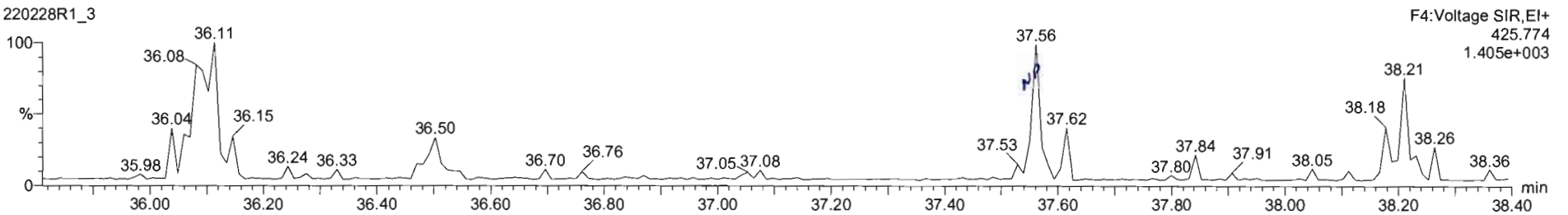
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**1,2,3,4,6,7,8-HpCDD**

220228R1\_3

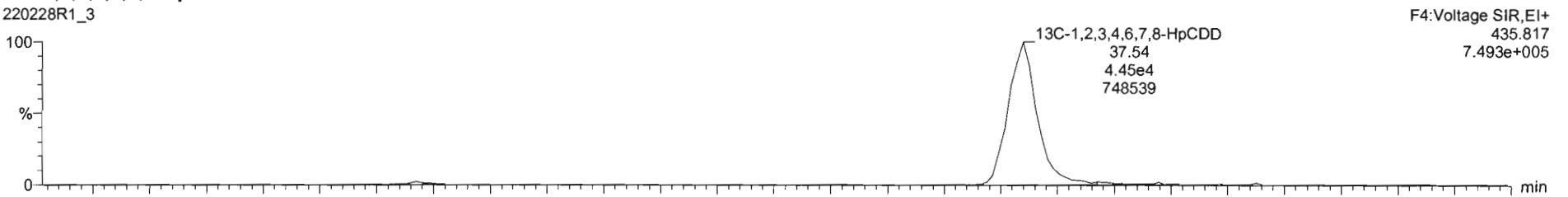


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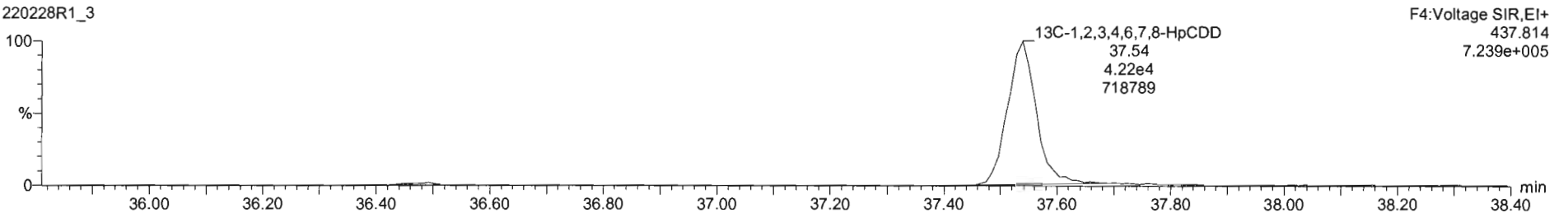


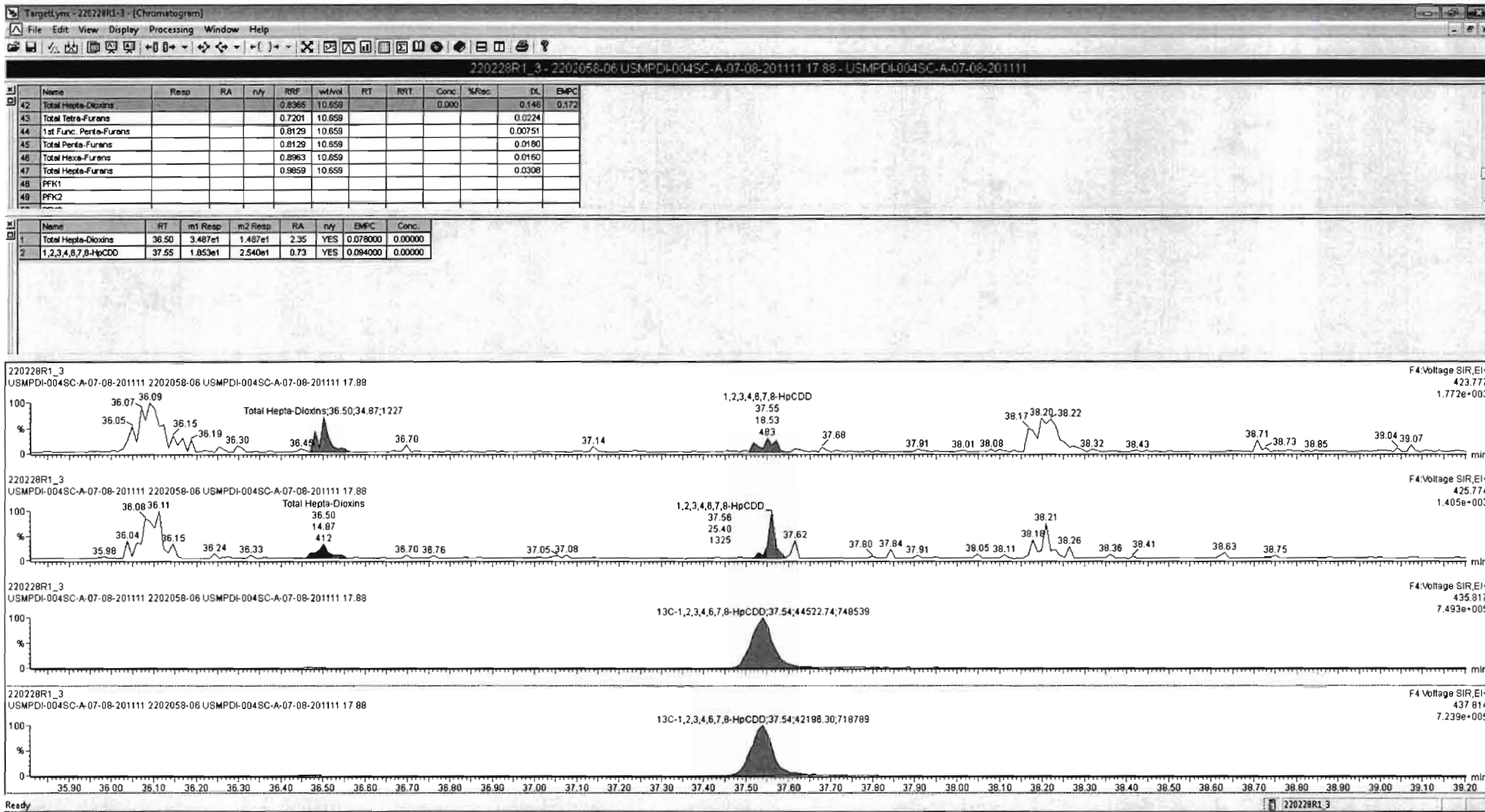
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220228R1\_3



220228R1\_3



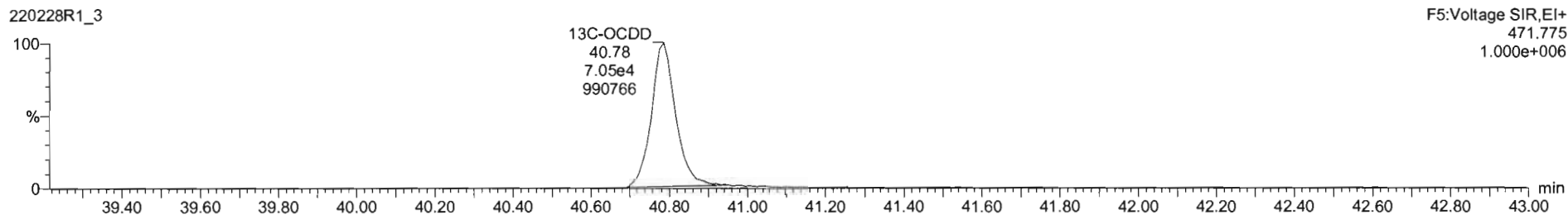
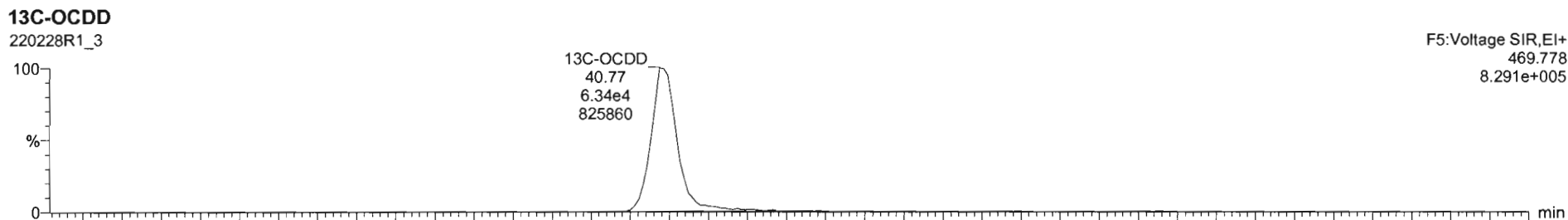
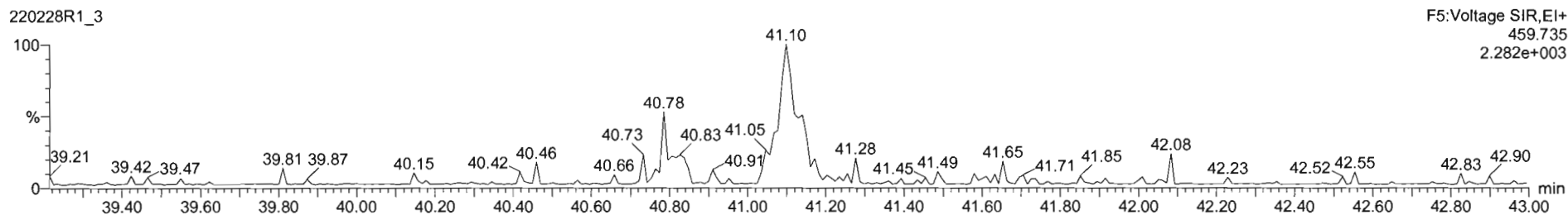
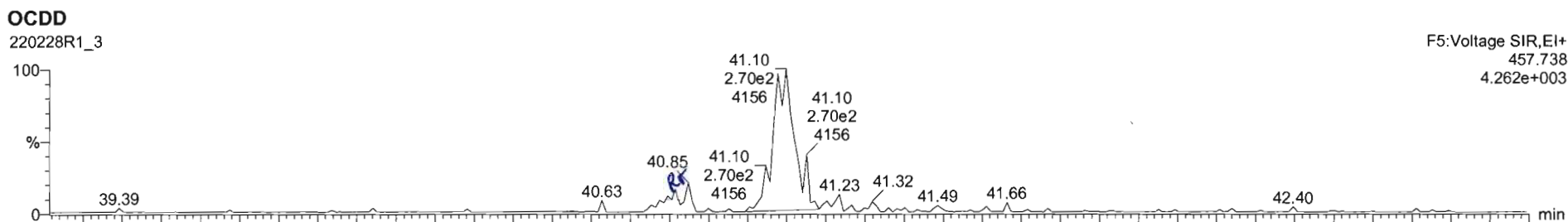


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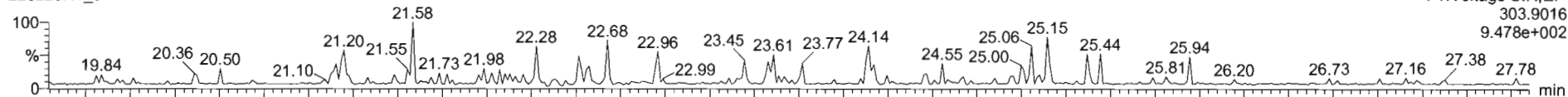
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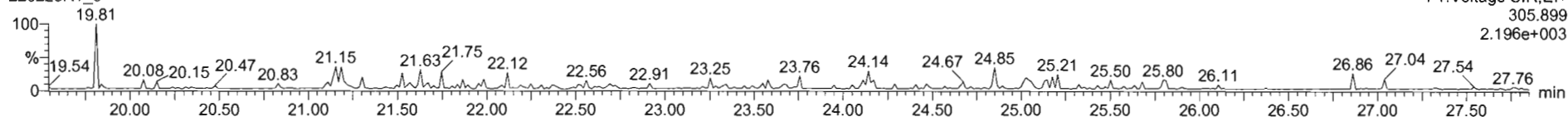
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**2,3,7,8-TCDF**

220228R1\_3

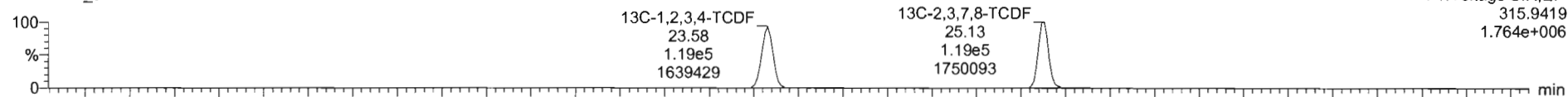


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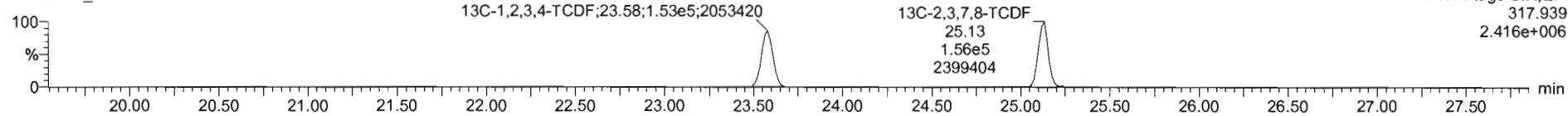


**13C-2,3,7,8-TCDF**

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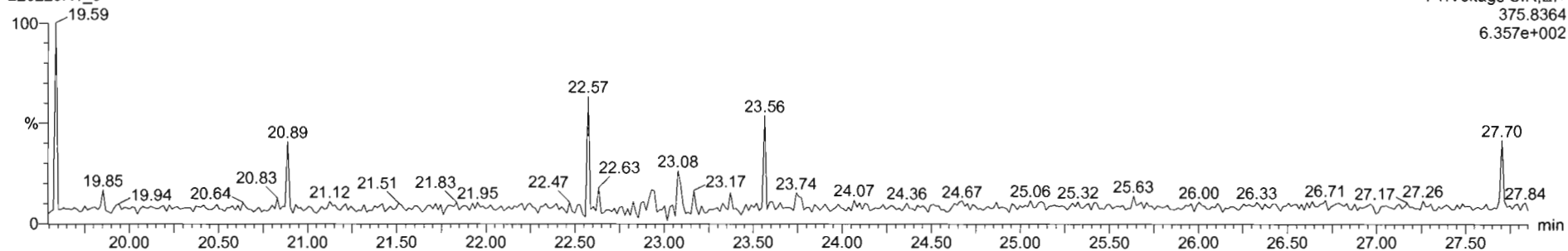


220228R1\_3



**DPE1**

220228R1\_3



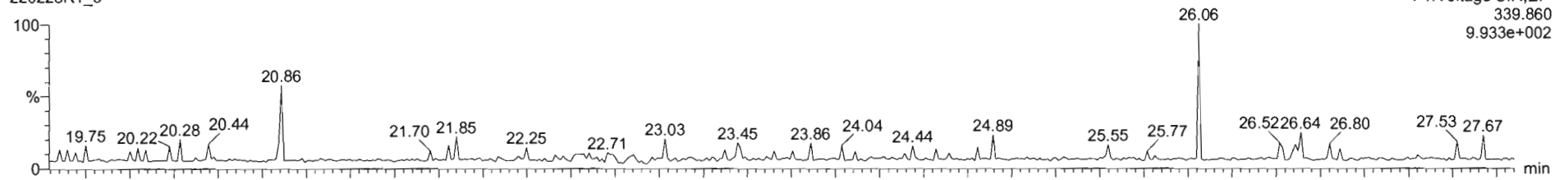
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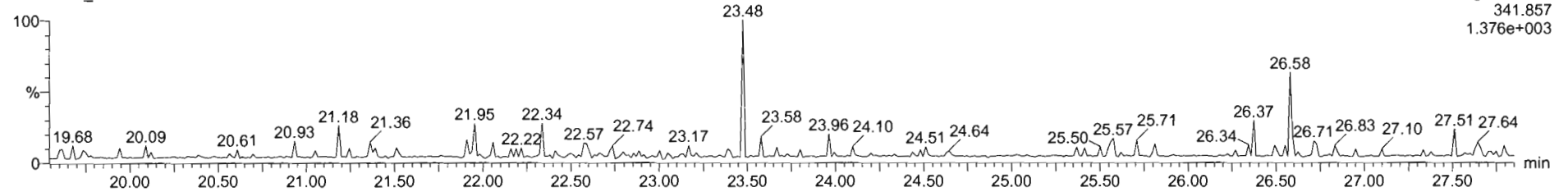
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1st Func. Penta-Furans

220228R1\_3

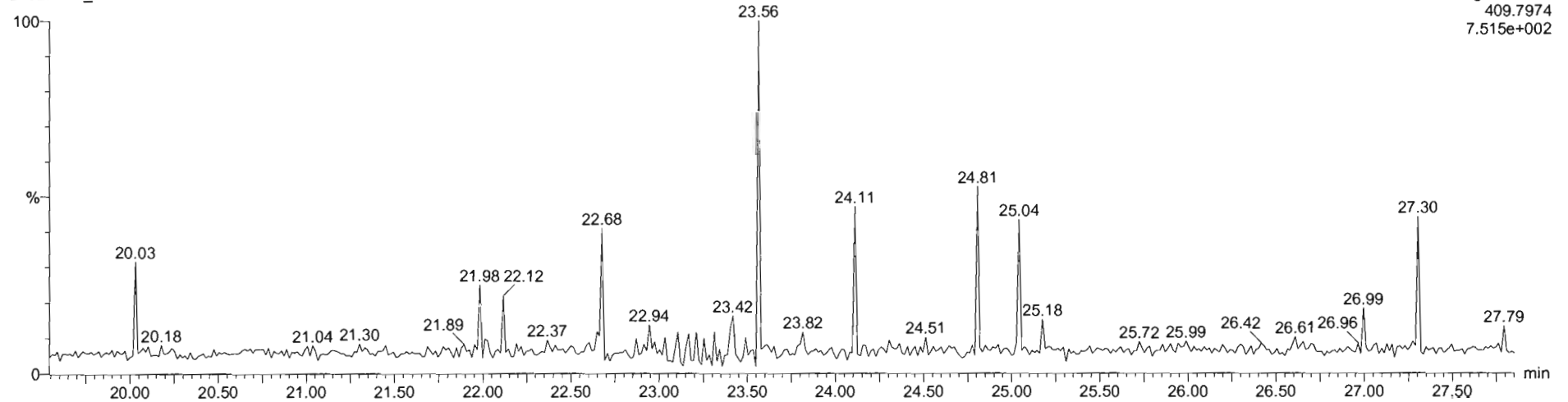


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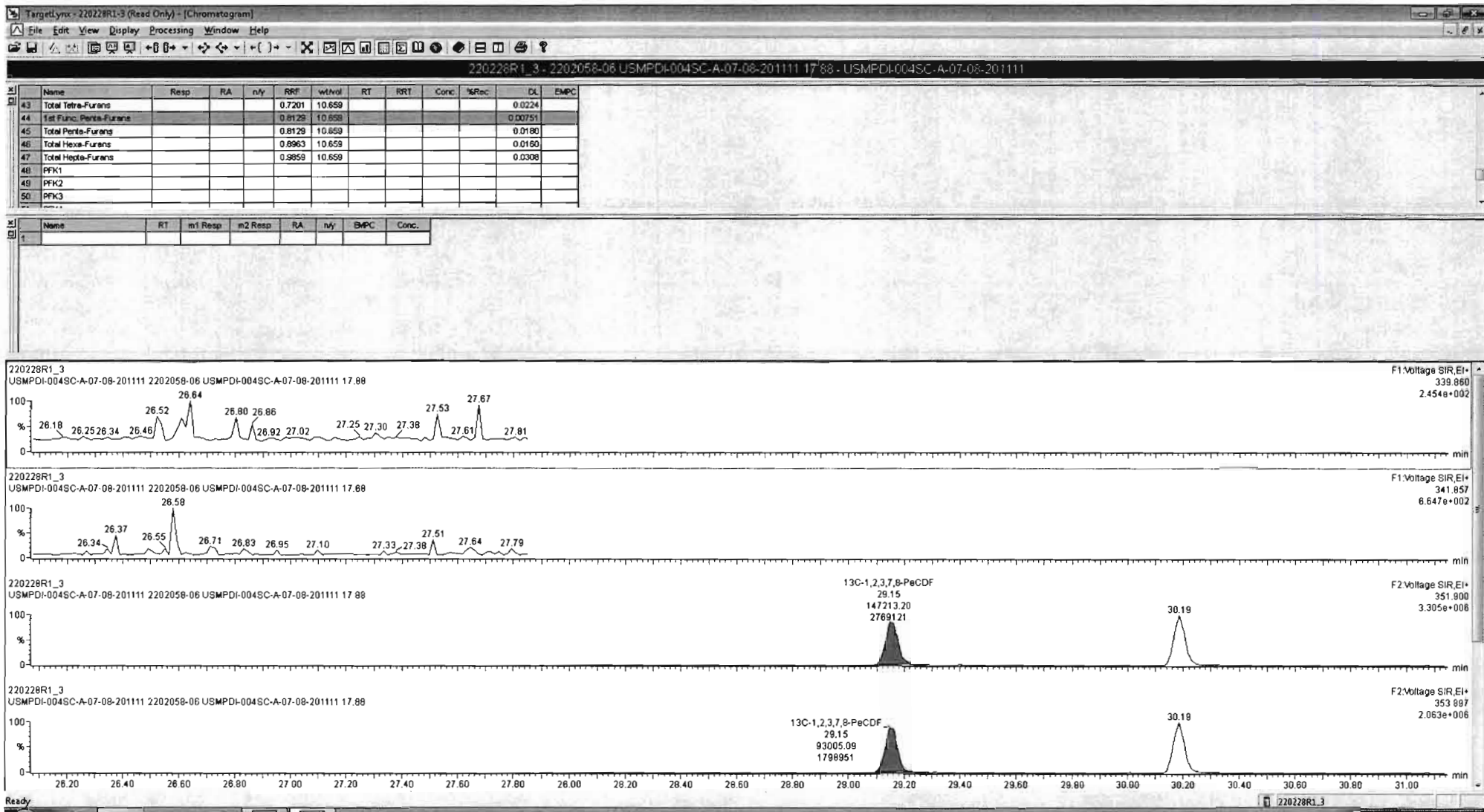


DPE6

220228R1\_3









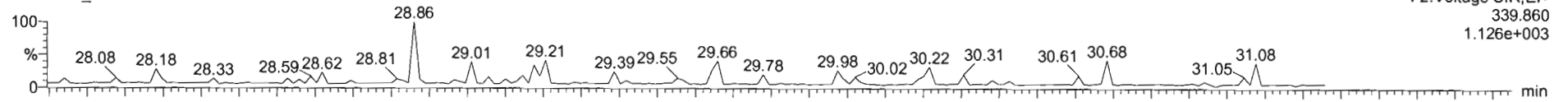
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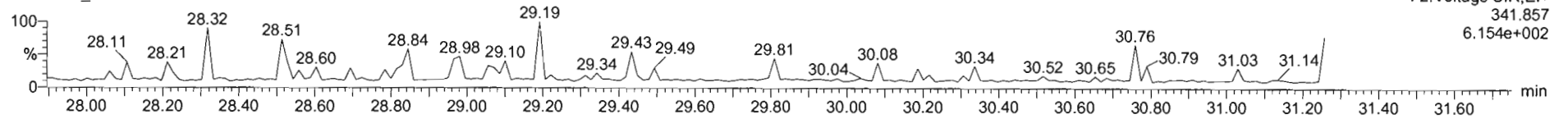
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**1,2,3,7,8-PeCDF**

220228R1\_3

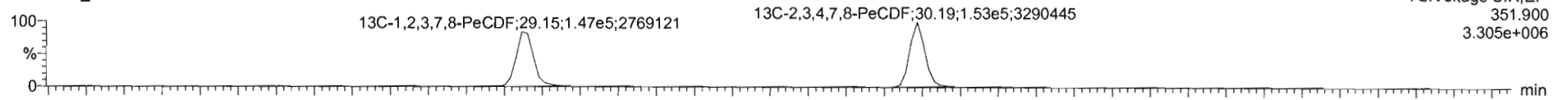


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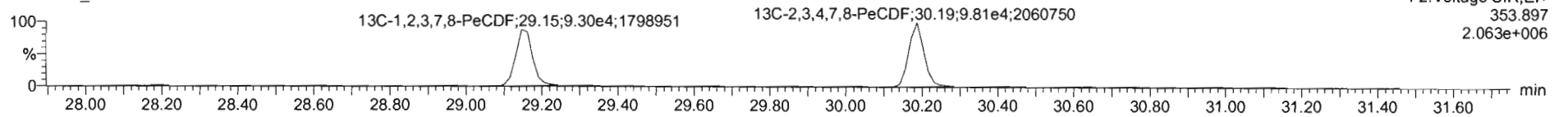


**13C-1,2,3,7,8-PeCDF**

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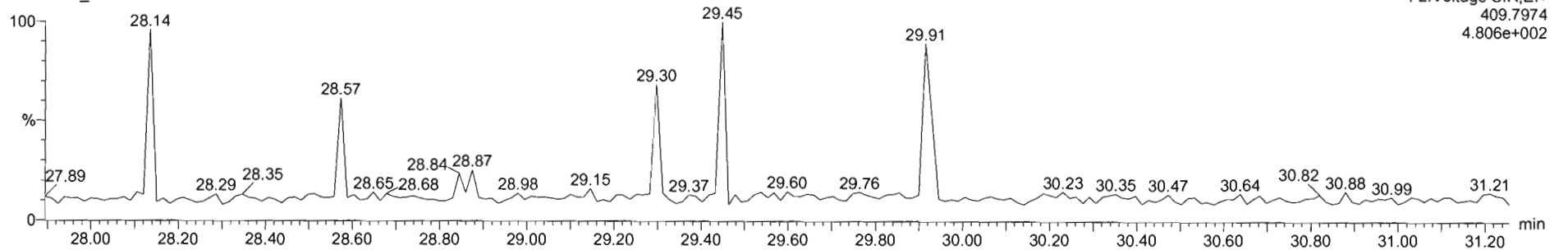


220228R1\_3



**DPE2**

220228R1\_3

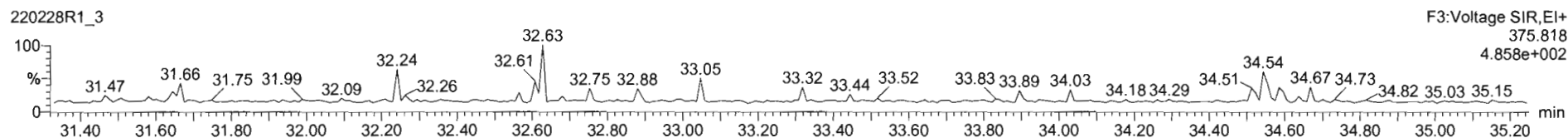
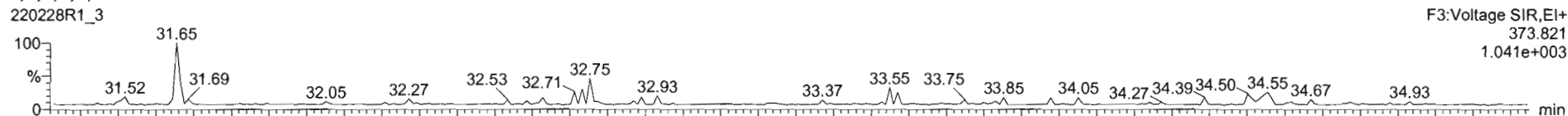


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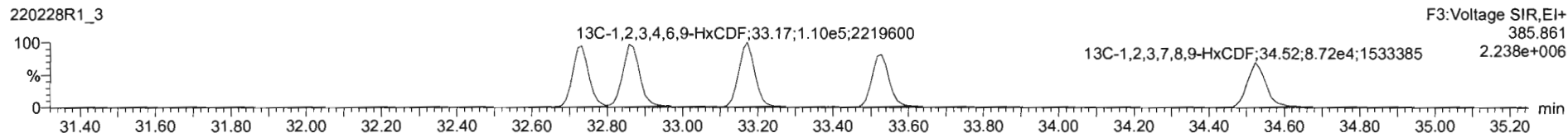
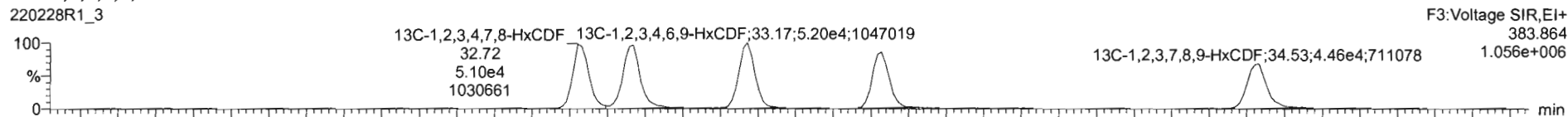
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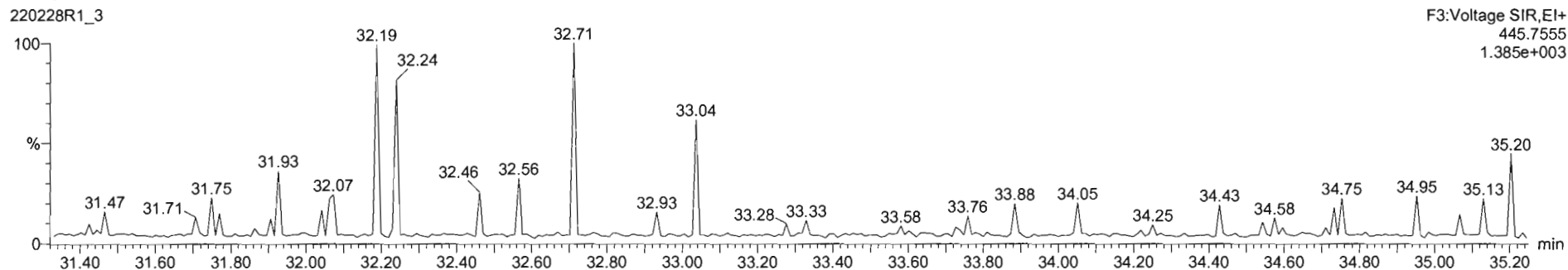
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### 13C-1,2,3,4,7,8-HxCDF



### DPE3

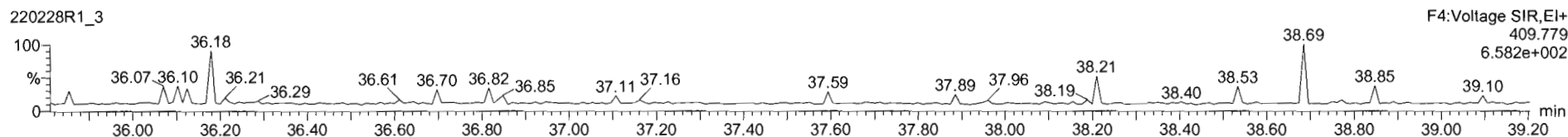
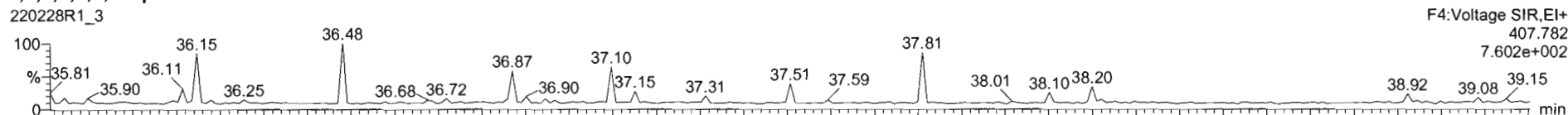


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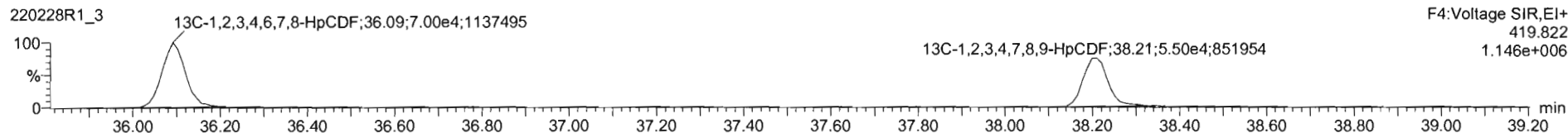
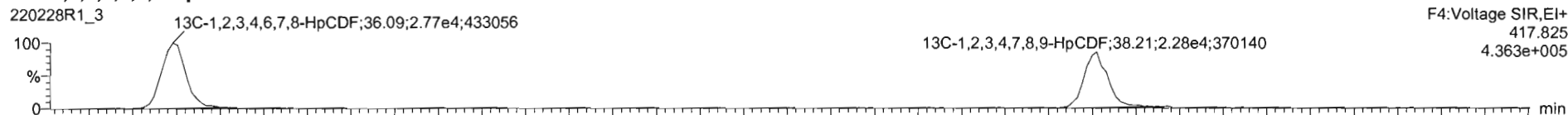
Last Altered: Tuesday, March 01, 2022 12:39:30 Pacific Standard Time  
Printed: Tuesday, March 01, 2022 12:39:56 Pacific Standard Time

Name: 220228R1\_3, Date: 28-Feb-2022, Time: 12:23:01, ID: 2202058-06 USMPDI-004SC-A-07-08-201111 17.88, Description: USMPDI-004SC-A-07-08-201111

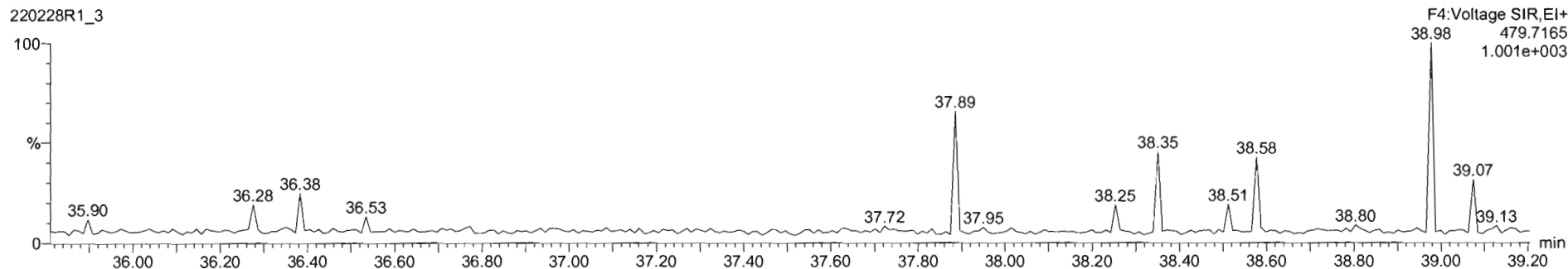
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13C-1,2,3,4,6,7,8-HpCDF



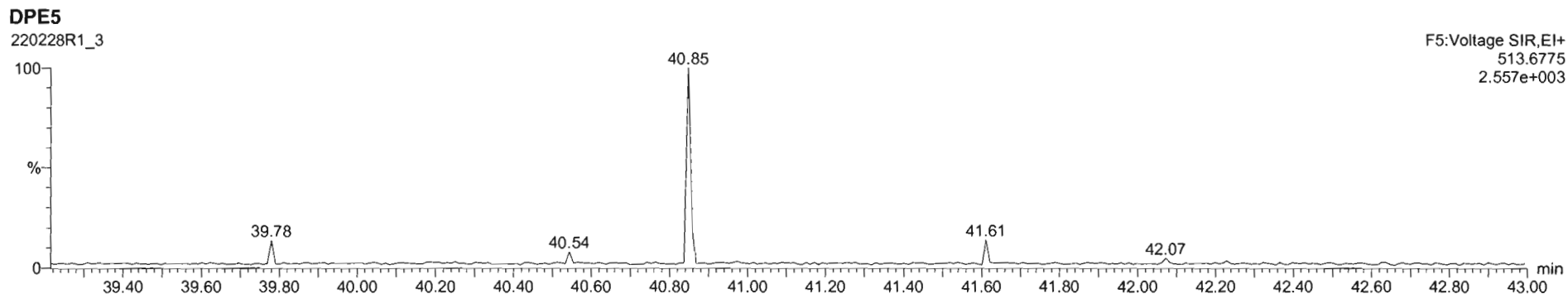
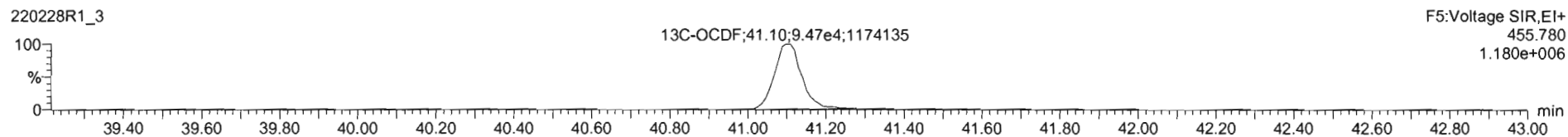
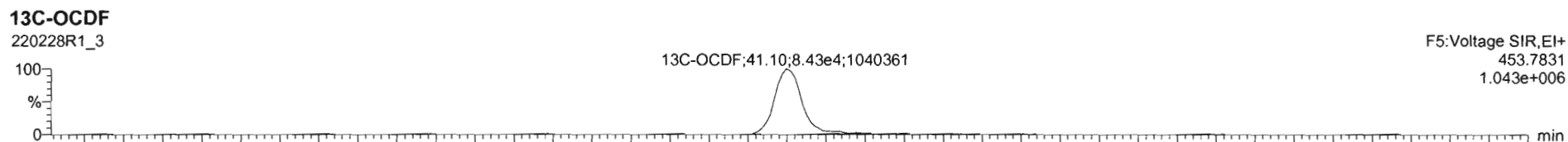
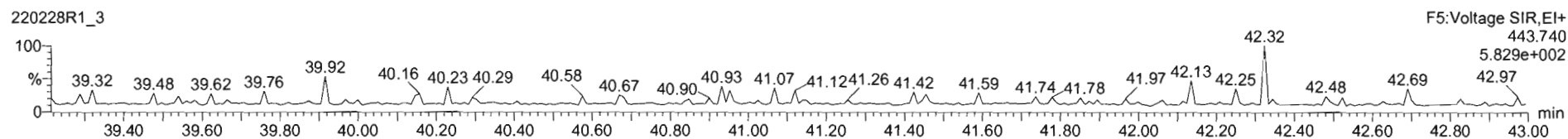
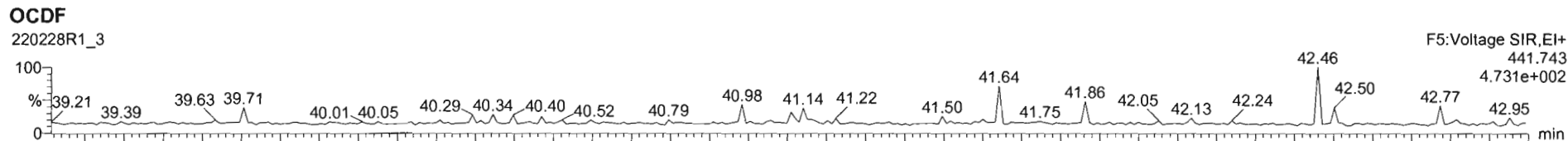
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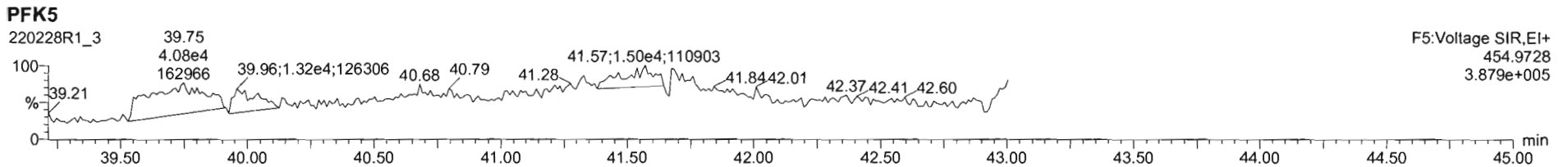
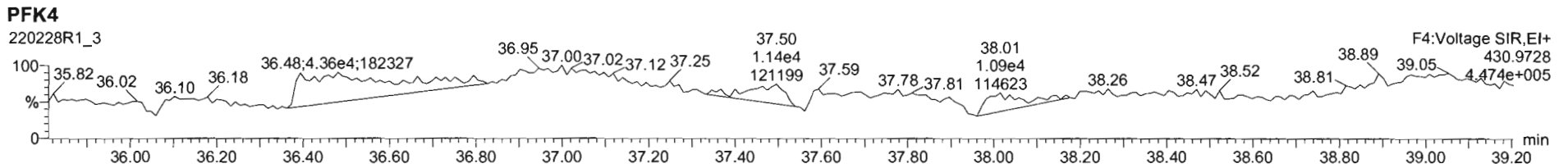
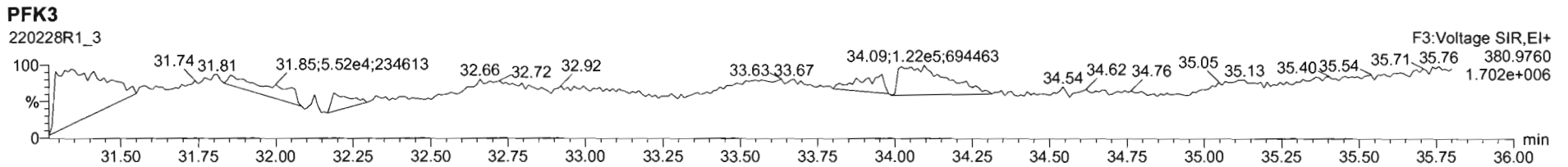
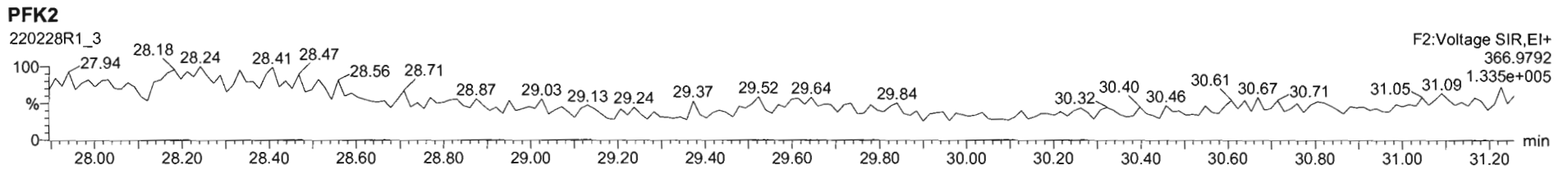
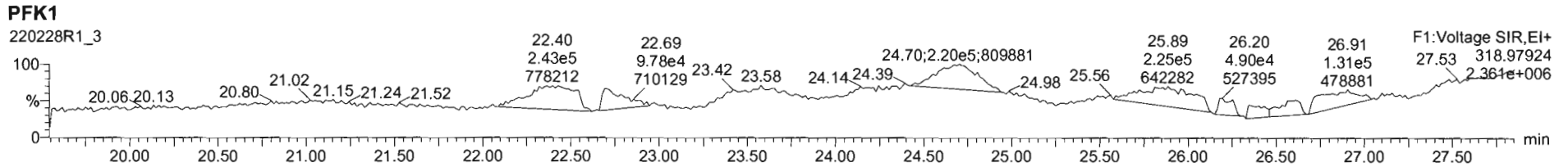
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Last Altered: Tuesday, March 01, 2022 12:39:30 Pacific Standard Time  
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Dataset: I:\VG12.PRO\Results\220228R1\220228R1-4.qld

Last Altered: Thursday, March 10, 2022 14:24:15 Pacific Standard Time  
Printed: Thursday, March 10, 2022 14:26:01 Pacific Standard Time

*dy 03/10/2022*

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*C103/11/2022*

Name: 220228R1\_4, Date: 28-Feb-2022, Time: 13:07:58, ID: 2202058-07 USMPDI-004SC-A-08-09-201111 16.6, Description: USMPDI-004SC-A-08-09-201111

#	Name	Resp	RA	n/y	RRF	wt/vol	Pred.RT	RT	Pred.RRT	RRT	Conc.	%Rec	DL	EMPC
1	1 2,3,7,8-TCDD												0.0742	
2	2 1,2,3,7,8-PeCDD			NO	0.781	10.398	30.397		1.001				0.126	
3	3 1,2,3,4,7,8-HxCDD			NO	0.904	10.398	33.695		1.001				0.195	
4	4 1,2,3,6,7,8-HxCDD			NO	0.806	10.398	33.820		1.001				0.202	
5	5 1,2,3,7,8,9-HxCDD			NO	0.814	10.398	34.083		1.000				0.218	
6	6 1,2,3,4,6,7,8-HpCDD	9.53e2	1.09	NO	0.836	10.398	37.605	37.62	1.000	1.001	1.5866		0.243	1.59
7	7 OCDD	5.56e3	0.87	NO	0.798	10.398	40.855	40.87	1.000	1.001	12.566		0.448	12.6
8	8 2,3,7,8-TCDF	3.55e2	0.58	YES	0.720	10.398	25.120	25.15	1.000	1.001	0.24759		0.117	0.208
9	9 1,2,3,7,8-PeCDF	1.77e2	1.36	NO	0.813	10.398	29.149	29.16	1.000	1.001	0.13027		0.0393	0.130
10	10 2,3,4,7,8-PeCDF	1.51e2	0.99	YES	0.892	10.398	30.192	30.19	1.001	1.000	0.099133		0.0342	0.0810
11	11 1,2,3,4,7,8-HxCDF	8.91e1	0.83	YES	0.893	10.398	32.764	32.78	1.000	1.001	0.089829		0.0265	0.0737
12	12 1,2,3,6,7,8-HxCDF			NO	0.867	10.398	32.910		1.001				0.0508	
13	13 2,3,4,6,7,8-HxCDF			NO	0.896	10.398	33.590		1.001				0.0599	
14	14 1,2,3,7,8,9-HxCDF			NO	0.874	10.398	34.575		1.000				0.0728	
15	15 1,2,3,4,6,7,8-HpCDF	1.08e2	1.12	NO	0.986	10.398	36.185	36.16	1.000	1.000	0.14273		0.0285	0.143
16	16 1,2,3,4,7,8,9-HpCDF			NO	0.966	10.398	38.275		1.000				0.0988	
17	17 OCDF			NO	0.722	10.398	41.190		1.000				0.153	
18	18 13C-2,3,7,8-TCDD	3.04e5	0.76	NO	1.11	10.398	25.742	25.80	1.028	1.030	180.07	93.6	0.405	
19	19 13C-1,2,3,7,8-PeCDD	2.29e5	0.59	NO	0.893	10.398	30.087	30.37	1.201	1.213	167.87	87.3	0.265	
20	20 13C-1,2,3,4,7,8-HxCDD	1.63e5	1.27	NO	0.784	10.398	33.662	33.67	1.014	1.014	173.87	90.4	0.919	
21	21 13C-1,2,3,6,7,8-HxCDD	2.00e5	1.23	NO	0.863	10.398	33.782	33.80	1.017	1.018	193.44	101	0.835	
22	22 13C-1,2,3,7,8,9-HxCDD	1.88e5	1.27	NO	0.905	10.398	34.071	34.07	1.026	1.026	173.81	90.4	0.796	
23	23 13C-1,2,3,4,6,7,8-HpCDD	1.38e5	1.03	NO	0.644	10.398	37.487	37.59	1.129	1.132	179.17	93.2	1.03	
24	24 13C-OCDD	2.13e5	0.90	NO	0.528	10.398	40.755	40.85	1.227	1.230	337.45	87.7	0.874	
25	25 13C-2,3,7,8-TCDF	3.83e5	0.77	NO	1.15	10.398	25.121	25.12	1.003	1.003	158.98	82.7	0.297	
26	26 13C-1,2,3,7,8-PeCDF	3.22e5	1.59	NO	0.905	10.398	28.917	29.15	1.155	1.164	169.93	88.3	0.804	
27	27 13C-2,3,4,7,8-PeCDF	3.29e5	1.60	NO	0.899	10.398	30.142	30.17	1.204	1.205	174.55	90.7	0.810	
28	28 13C-1,2,3,4,7,8-HxCDF	2.14e5	0.48	NO	1.00	10.398	32.752	32.75	0.986	0.986	177.97	92.5	1.02	
29	29 13C-1,2,3,6,7,8-HxCDF	2.28e5	0.50	NO	1.04	10.398	32.882	32.89	0.990	0.991	182.96	95.1	0.981	
30	30 13C-2,3,4,6,7,8-HxCDF	2.02e5	0.52	NO	0.916	10.398	33.553	33.57	1.010	1.011	183.88	95.6	1.12	
31	31 13C-1,2,3,7,8,9-HxCDF	1.96e5	0.47	NO	0.859	10.398	34.579	34.56	1.041	1.041	190.19	98.9	1.19	



Dataset: I:\VG12.PRO\Results\220228R1\220228R1-4.qld

Last Altered: Thursday, March 10, 2022 14:24:15 Pacific Standard Time

Printed: Thursday, March 10, 2022 14:26:01 Pacific Standard Time

Name: 220228R1\_4, Date: 28-Feb-2022, Time: 13:07:58, ID: 2202058-07 USMPDI-004SC-A-08-09-201111 16.6, Description: USMPDI-004SC-A-08-09-201111

	# Name	Resp	RA	n/y	RRF	wt/vol	Pred.RT	RT	Pred.RRT	RRT	Conc.	%Rec	DL	EMPC
32	32 13C-1,2,3,4,6,7,8-HpCDF	1.48e5	0.39	NO	0.632	10.398	36.182	36.17	1.090	1.089	195.24	102	1.25	
33	33 13C-1,2,3,4,7,8,9-HpCDF	1.23e5	0.39	NO	0.552	10.398	38.165	38.26	1.149	1.152	186.10	96.7	1.43	
34	34 13C-OCDF	2.78e5	0.88	NO	0.606	10.398	41.083	41.18	1.237	1.240	383.91	99.8	0.936	
35	35 37Cl-2,3,7,8-TCDD	1.09e5			1.01	10.398	25.762	25.81	1.029	1.031	70.753	92.0	0.0723	
36	36 13C-1,2,3,4-TCDD	2.94e5	0.76	NO	1.00	10.398	25.010	25.04	1.000	1.000	192.35	100	0.448	
37	37 13C-1,2,3,4-TCDF	4.03e5	0.79	NO	1.00	10.398	23.580	23.56	1.000	1.000	192.35	100	0.342	
38	38 13C-1,2,3,4,6,9-HxCDF	2.30e5	0.50	NO	1.00	10.398	33.170	33.20	1.000	1.000	192.35	100	1.02	
39	39 Total Tetra-Dioxins				0.952	10.398	24.620		0.000		0.37543		0.0742	0.375
40	40 Total Penta-Dioxins				0.781	10.398	29.960		0.000		0.30731		0.0469	0.307
41	41 Total Hexa-Dioxins				0.806	10.398	33.635		0.000		1.3479		0.213	1.35
42	42 Total Hepta-Dioxins				0.836	10.398	37.640		0.000		3.7246		0.243	3.72
43	43 Total Tetra-Furans				0.720	10.398	23.610		0.000		0.74533		0.0562	1.27
44	44 1st Func. Penta-Furans				0.813	10.398	26.930		0.000				0.00819	
45	45 Total Penta-Furans				0.813	10.398	29.275		0.000		0.13027		0.0384	0.211
46	46 Total Hexa-Furans				0.896	10.398	33.555		0.000		0.10770		0.0272	0.181
47	47 Total Hepta-Furans				0.986	10.398	37.835		0.000		0.14273		0.0303	0.143

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**Tetra-Dioxins**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1	Total Tetra-Dioxins	22.41	2.181e3	3.240e3	1.191e2	1.726e2	0.69	NO	2.917e2	0.19382	0.19382	0.0742
2	Total Tetra-Dioxins	23.77	1.693e3	3.124e3	1.156e2	1.577e2	0.73	NO	2.733e2	0.18160	0.18160	0.0742

**Penta-Dioxins**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1	Total Penta-Dioxins	28.20	2.239e3	2.793e3	1.122e2	1.733e2	0.65	NO	2.855e2	0.30731	0.30731	0.0469

**Hexa-Dioxins**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1	Total Hexa-Dioxins	32.03	7.605e3	6.315e3	3.728e2	3.151e2	1.18	NO	6.879e2	0.89286	0.89286	0.213
2	Total Hexa-Dioxins	32.65	5.016e3	3.820e3	1.932e2	1.574e2	1.23	NO	3.506e2	0.45500	0.45500	0.213

**Hepta-Dioxins**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1	Total Hepta-Dioxins	36.58	8.883e3	1.025e4	6.496e2	6.349e2	1.02	NO	1.284e3	2.1380	2.1380	0.243
2	1,2,3,4,6,7,8-HpCDD	37.62	9.677e3	6.207e3	4.972e2	4.560e2	1.09	NO	9.532e2	1.5866	1.5866	0.243

**Tetra-Furans**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1	Total Tetra-Furans	19.78	1.302e3	1.267e3	9.515e1	9.333e1	1.02	YES	0.000e0	0.00000	0.11520	0.0562
2	Total Tetra-Furans	21.15	3.430e3	5.391e3	3.170e2	4.449e2	0.71	NO	7.619e2	0.53130	0.53130	0.0562
3	Total Tetra-Furans	21.67	2.003e3	2.279e3	1.262e2	1.808e2	0.70	NO	3.069e2	0.21403	0.21403	0.0562
4	Total Tetra-Furans	24.14	1.912e3	3.349e3	1.260e2	2.143e2	0.59	YES	0.000e0	0.00000	0.20190	0.0562
5	2,3,7,8-TCDF	25.15	2.047e3	3.368e3	1.299e2	2.251e2	0.58	YES	3.550e2	0.00000	0.20823	0.117

Dataset: I:\VG12.PRO\Results\220228R1\220228R1-4.qld

Last Altered: Thursday, March 10, 2022 14:24:15 Pacific Standard Time  
 Printed: Thursday, March 10, 2022 14:26:01 Pacific Standard Time

Name: 220228R1\_4, Date: 28-Feb-2022, Time: 13:07:58, ID: 2202058-07 USMPDI-004SC-A-08-09-201111 16.6, Description: USMPDI-004SC-A-08-09-201111

**Penta-Furans function 1**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1												

**Penta-Furans**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1	1,2,3,7,8-PeCDF	29.16	2.972e3	2.634e3	1.022e2	7.505e1	1.36	NO	1.773e2	0.13027	0.13027	0.0393
2	2,3,4,7,8-PeCDF	30.19	3.313e3	1.815e3	7.506e1	7.604e1	0.99	YES	1.511e2	0.00000	0.081017	0.0342

**Hexa-Furans**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1	Total Hexa-Furans	31.67	1.839e3	1.581e3	6.023e1	4.507e1	1.34	NO	1.053e2	0.10770	0.10770	0.0272
2	1,2,3,4,7,8-HxCDF	32.78	9.330e2	1.251e3	4.043e1	4.864e1	0.83	YES	8.907e1	0.00000	0.073660	0.0265

**Hepta-Furans**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1	1,2,3,4,6,7,8-HpCDF	36.16	1.153e3	9.030e2	5.713e1	5.099e1	1.12	NO	1.081e2	0.14273	0.14273	0.0285

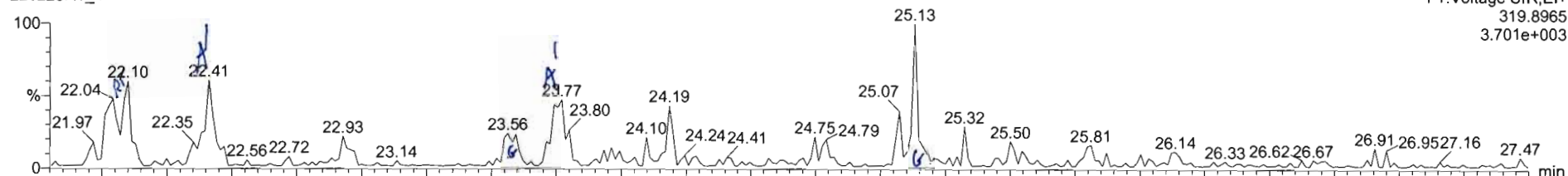
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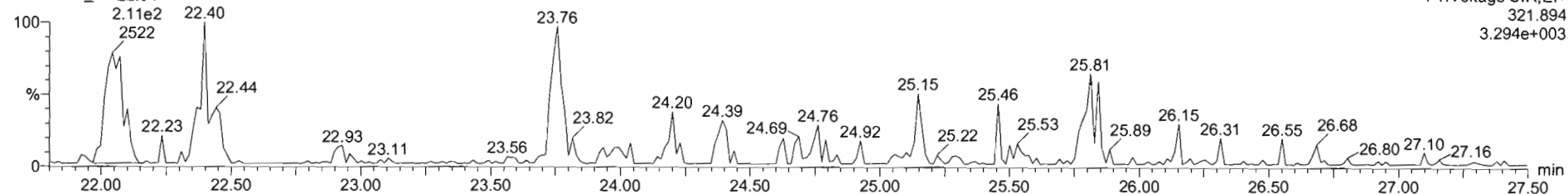
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2,3,7,8-TCDD

220228R1\_4

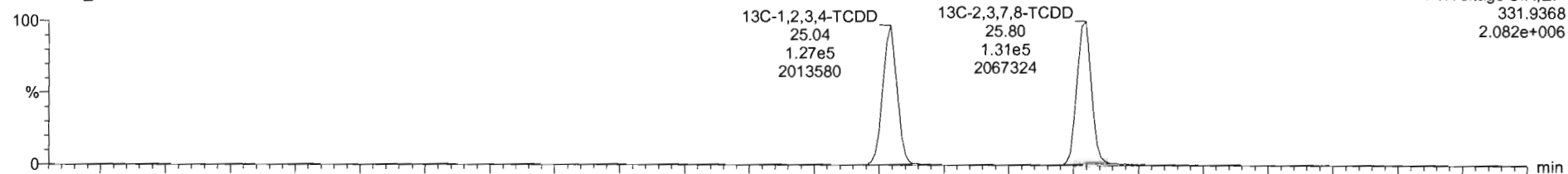


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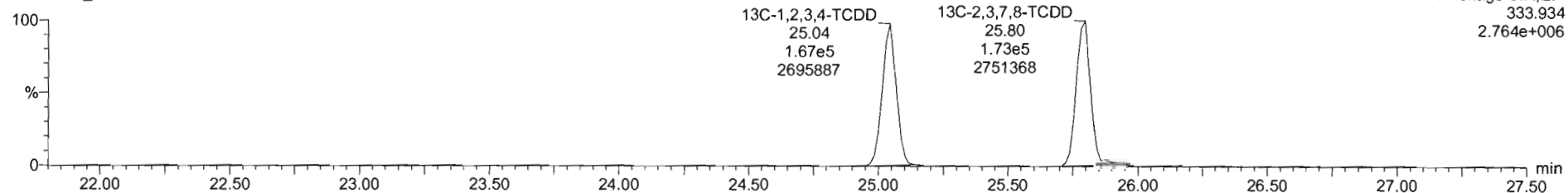


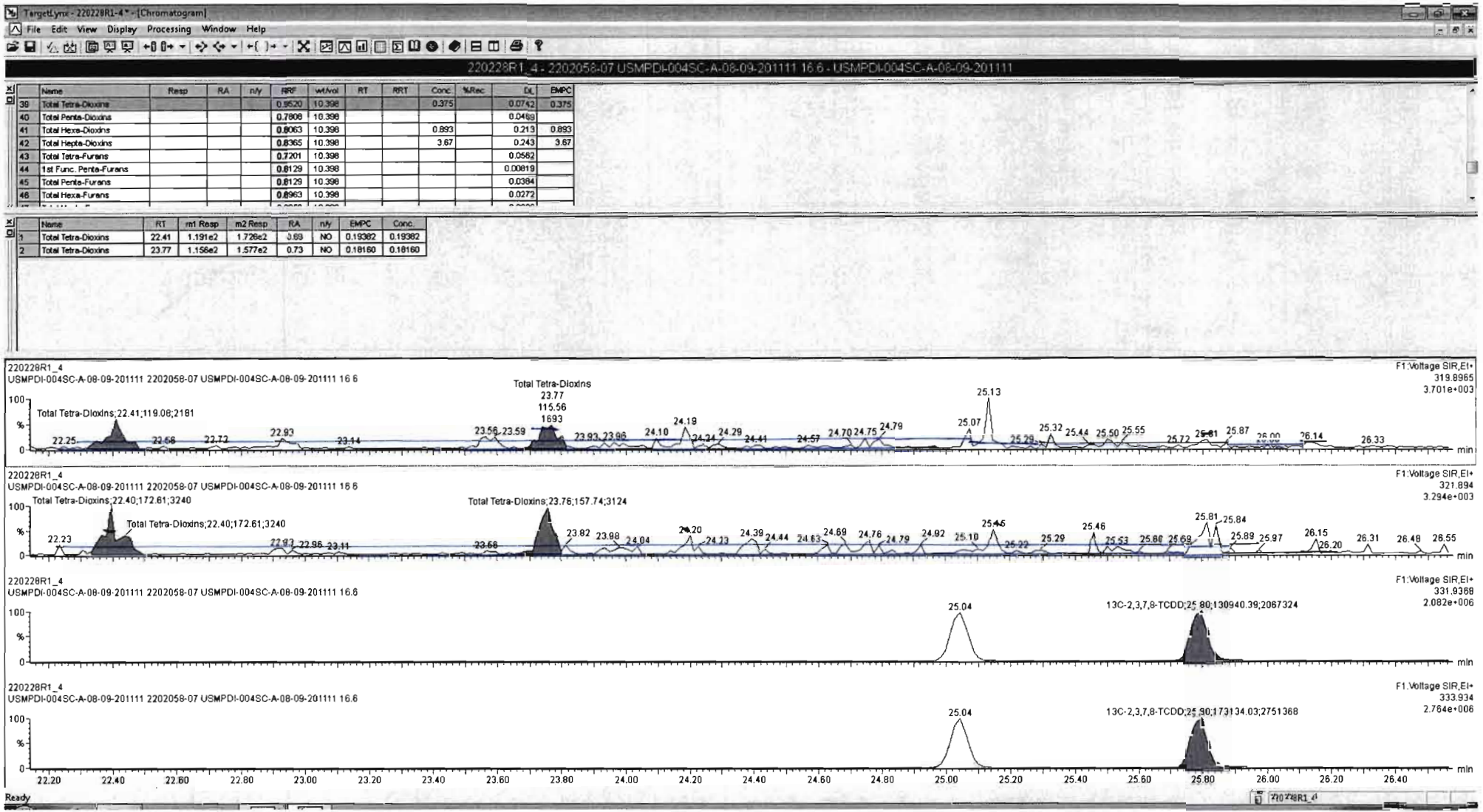
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220228R1\_4





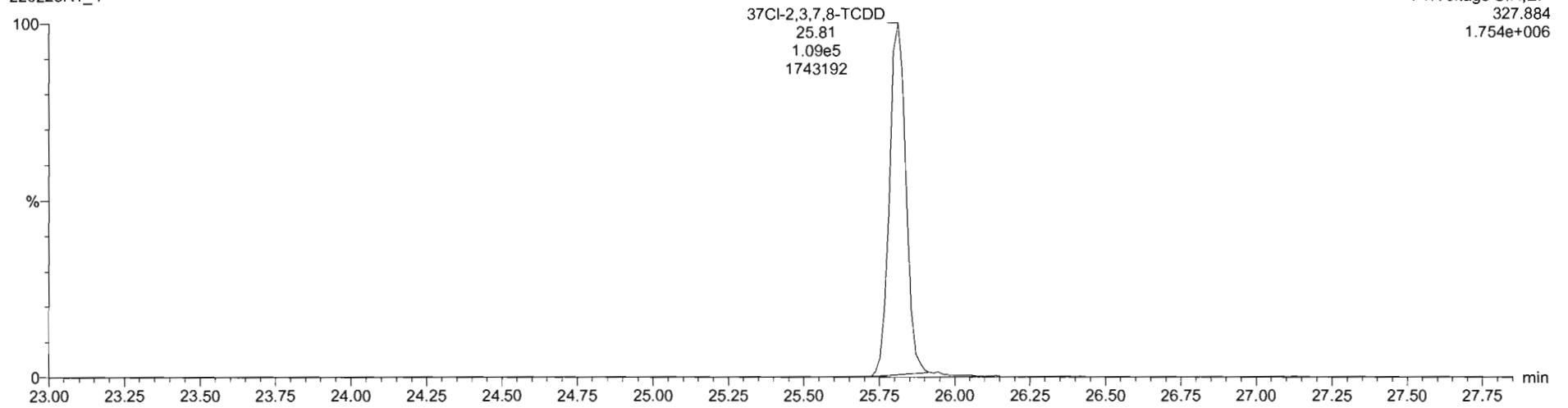
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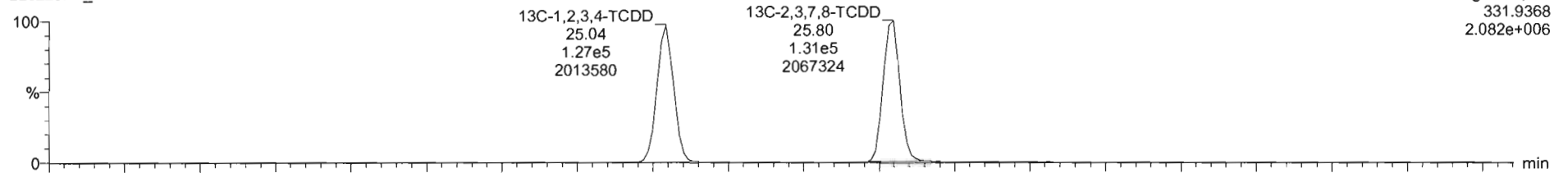
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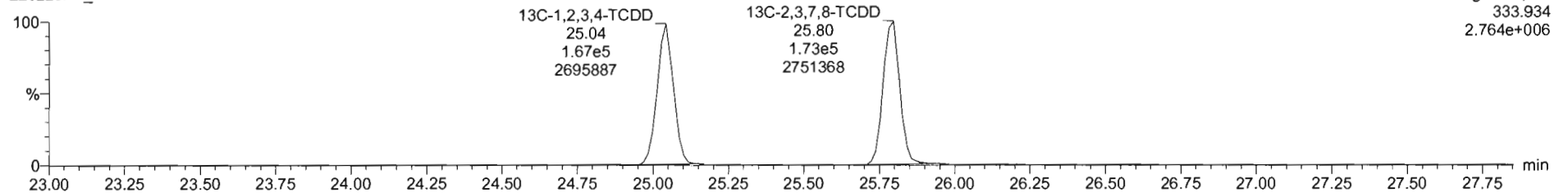


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220228R1\_4



220228R1\_4





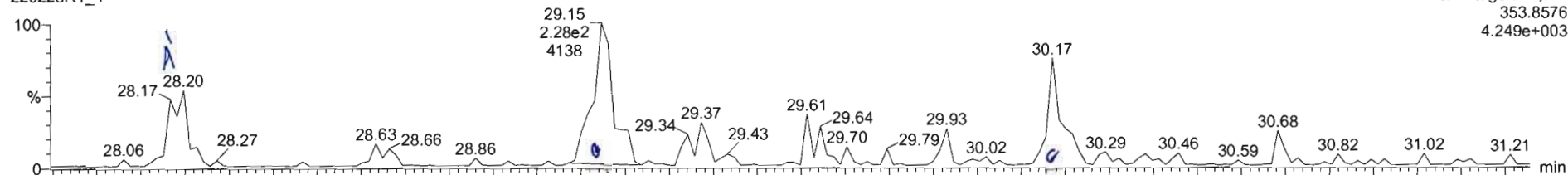
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Printed: Tuesday, March 01, 2022 12:39:56 Pacific Standard Time

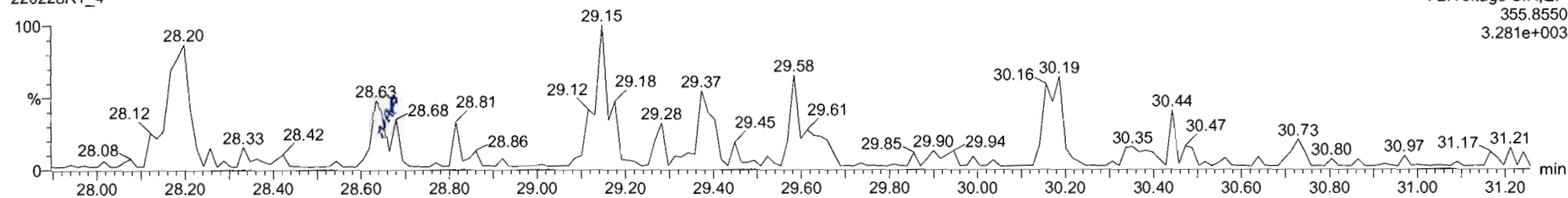
Name: 220228R1\_4, Date: 28-Feb-2022, Time: 13:07:58, ID: 2202058-07 USMPDI-004SC-A-08-09-201111 16.6, Description: USMPDI-004SC-A-08-09-201111

1,2,3,7,8-PeCDD

220228R1\_4

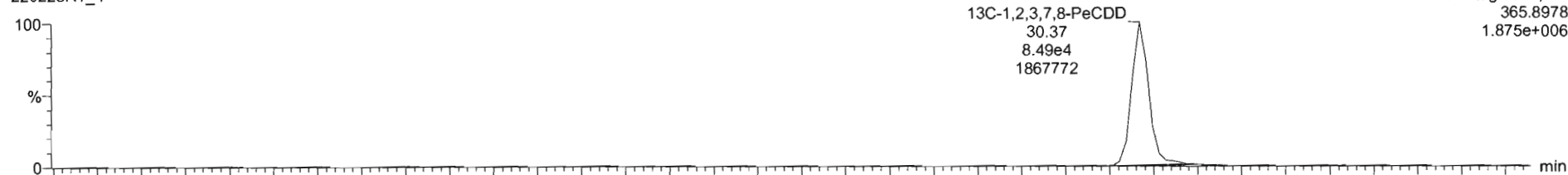


220228R1\_4

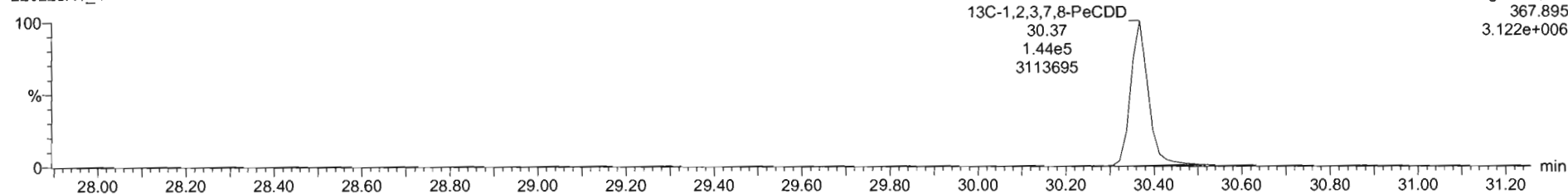


13C-1,2,3,7,8-PeCDD

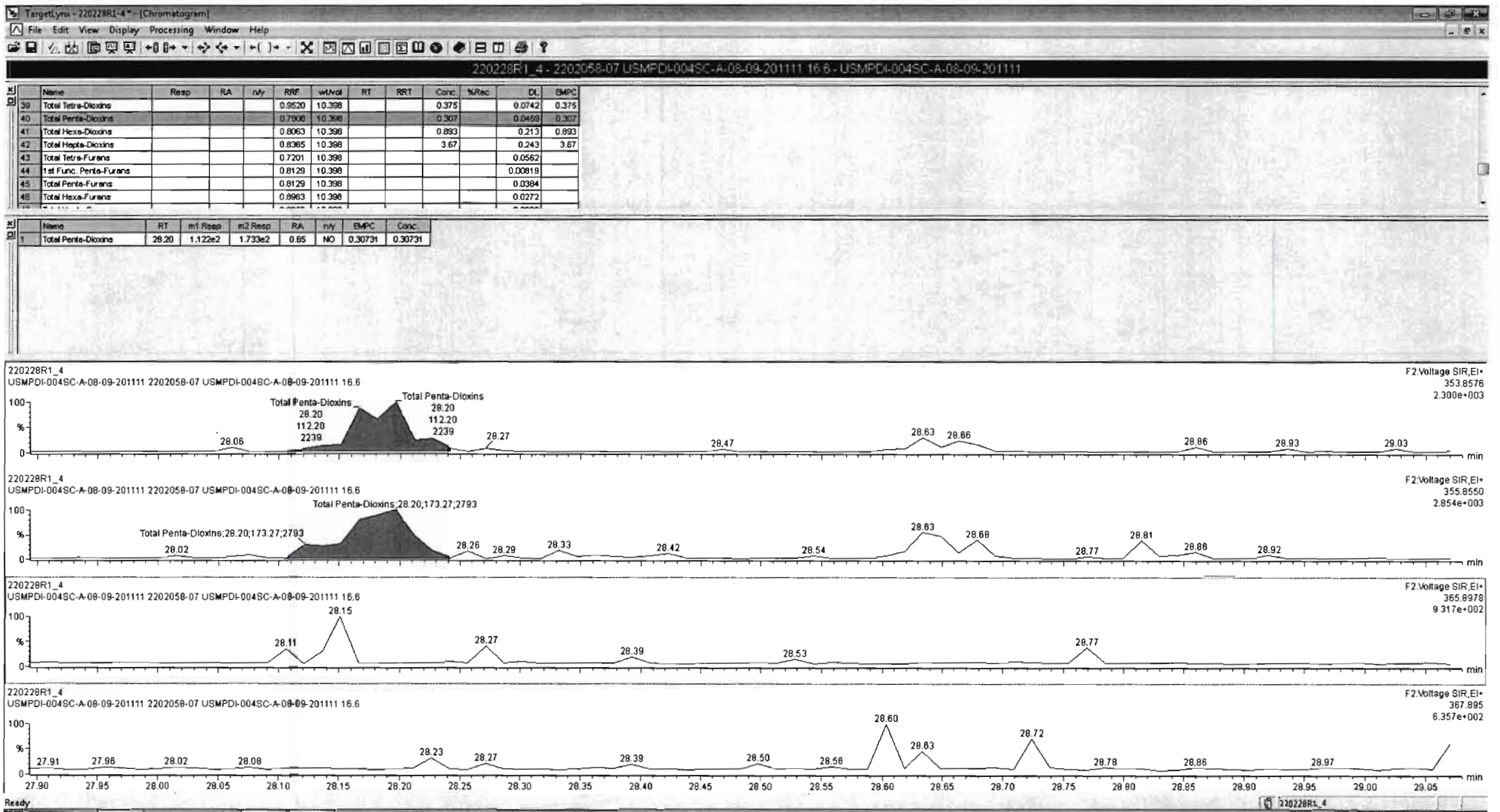
220228R1\_4



220228R1\_4





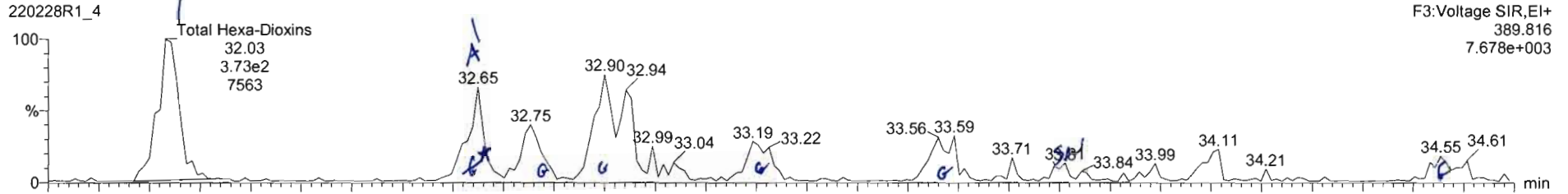


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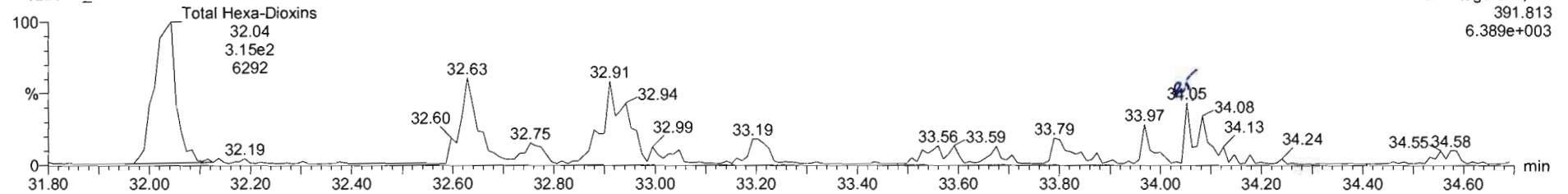
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*8/6/03-04-2022*  
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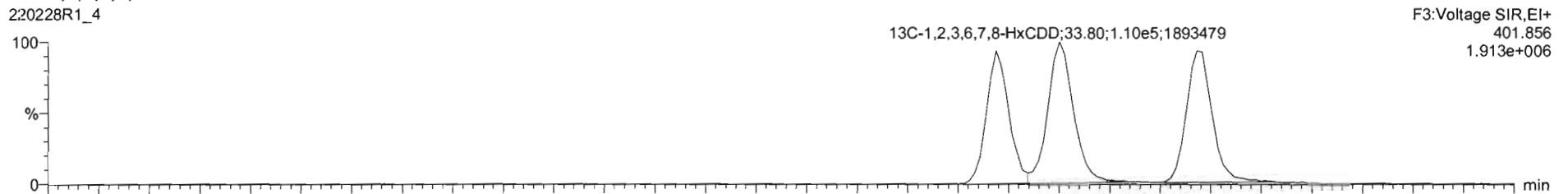
1,2,3,4,7,8-HxCDD



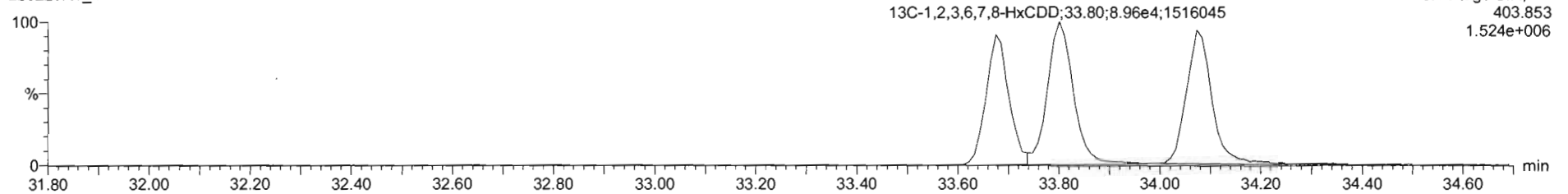
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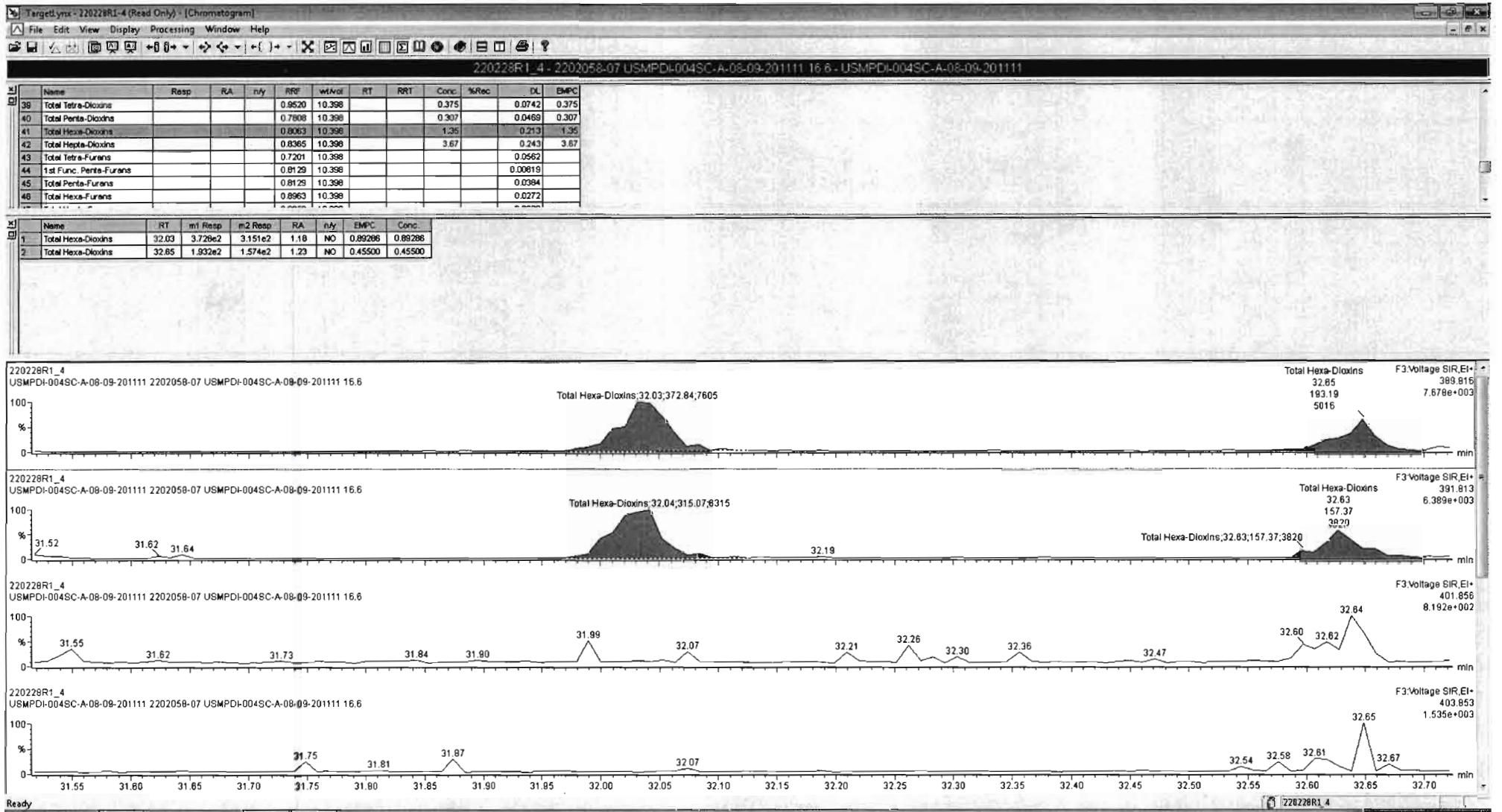


13C-1,2,3,4,7,8-HxCDD



220228R1\_4





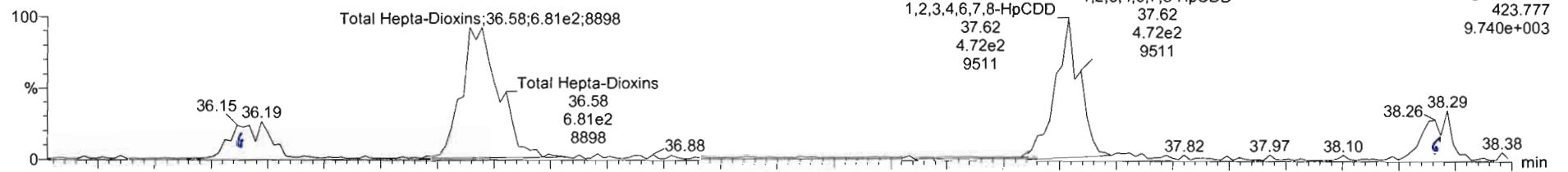
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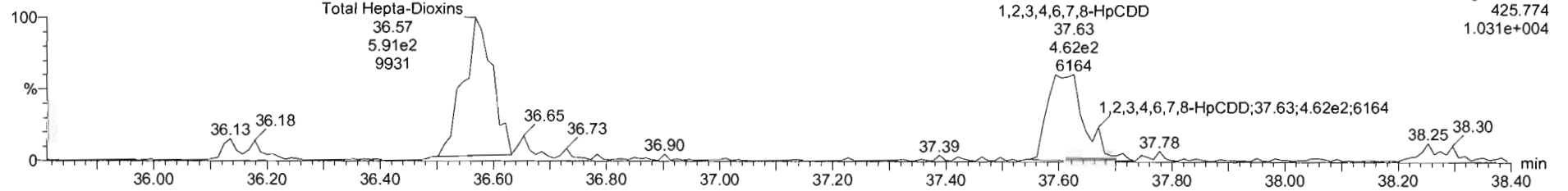
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1,2,3,4,6,7,8-HpCDD

220228R1\_4

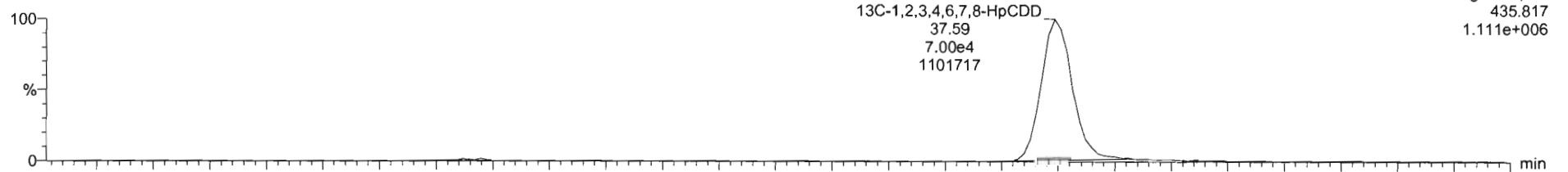


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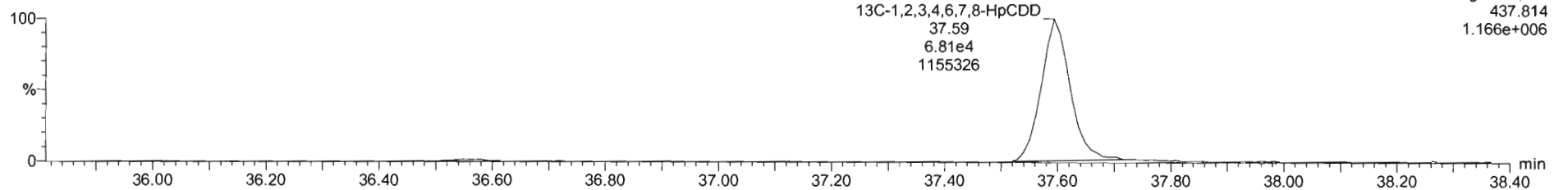


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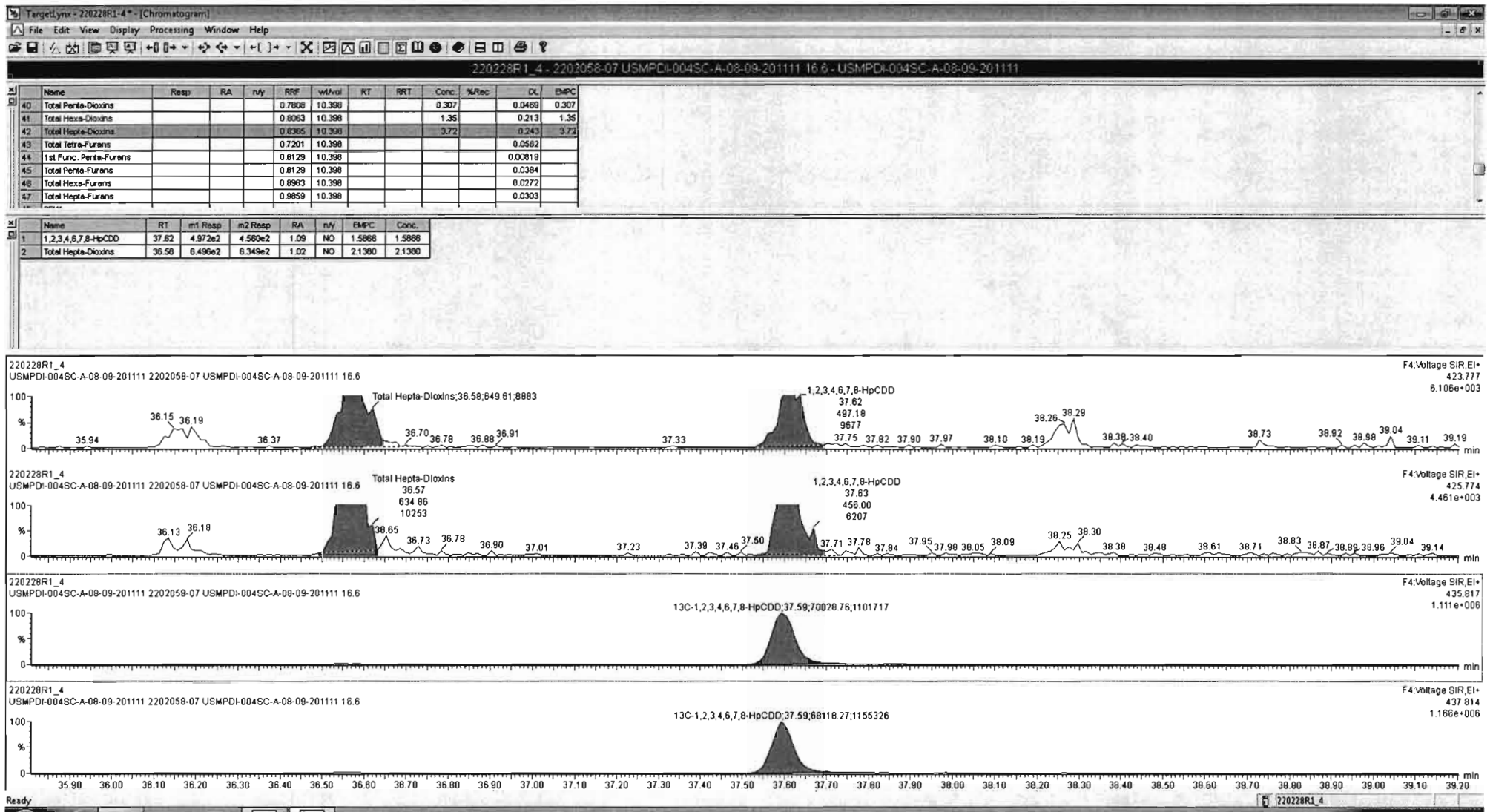
220228R1\_4



220228R1\_4



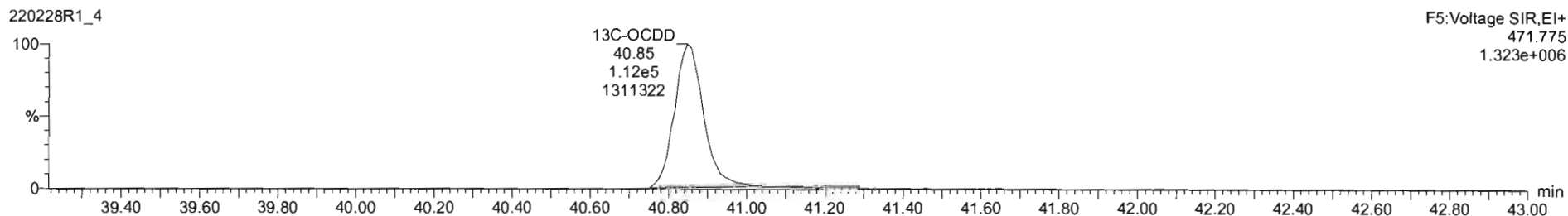
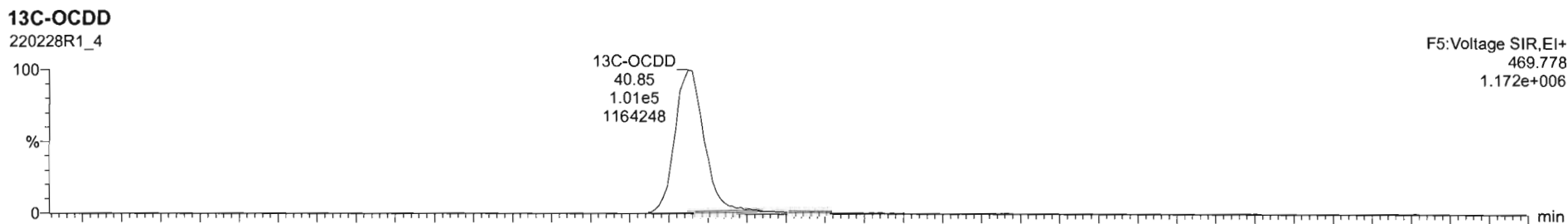
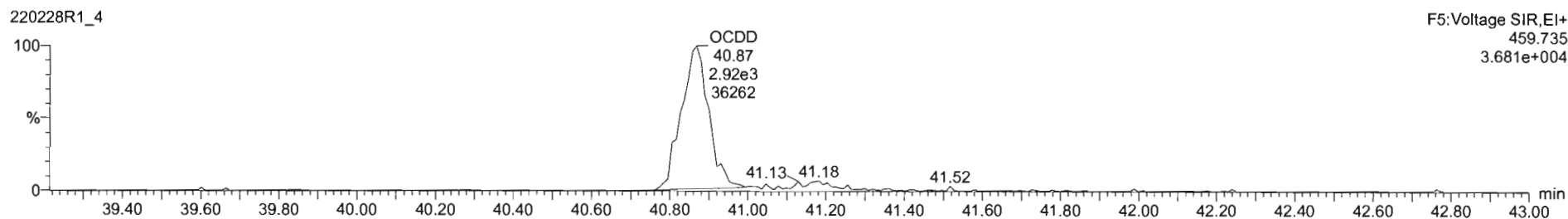
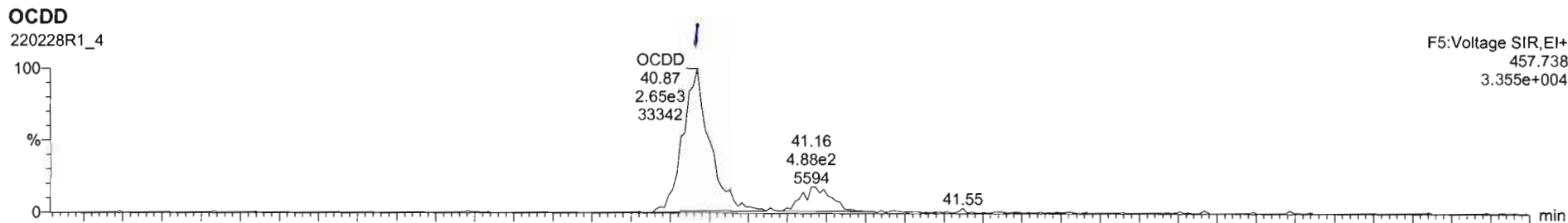


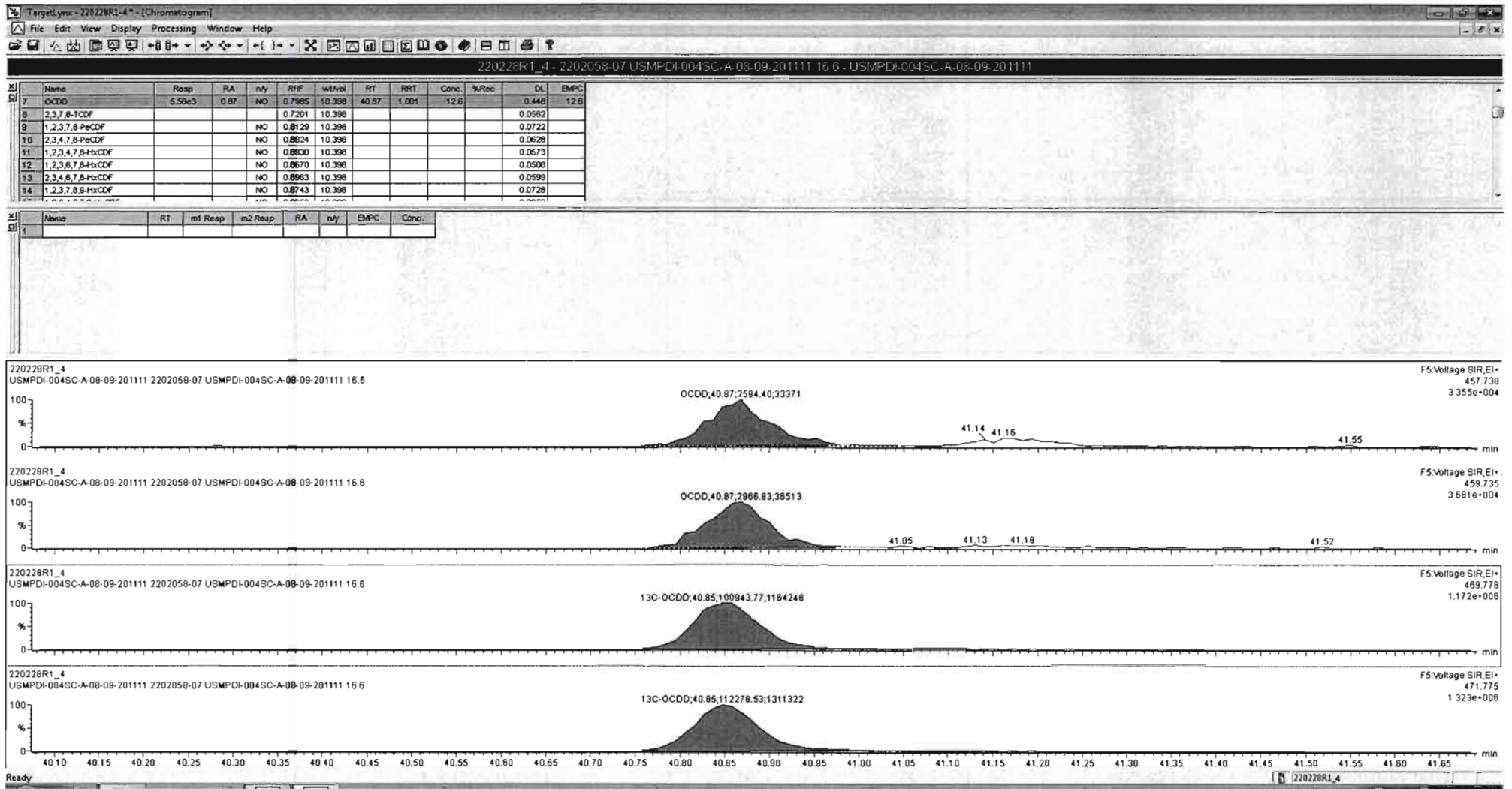


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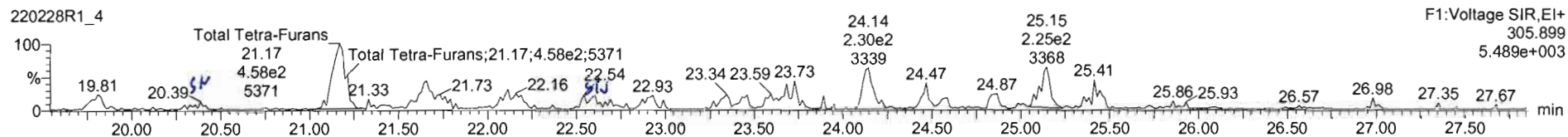
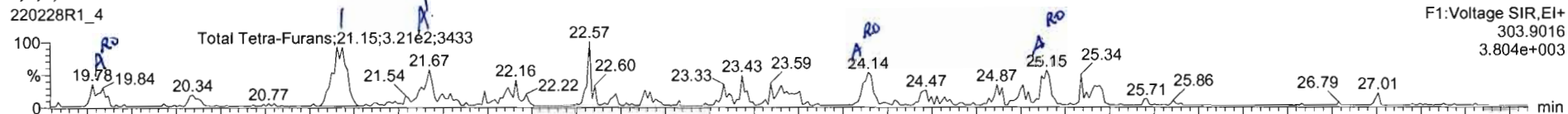


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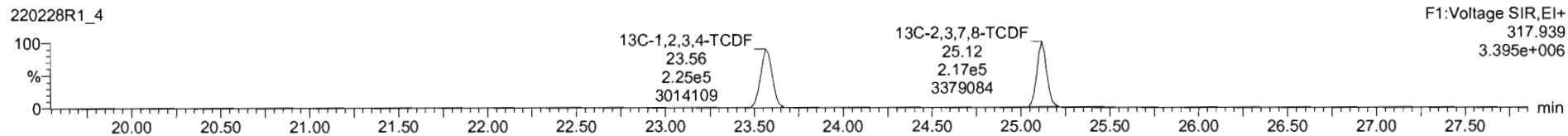
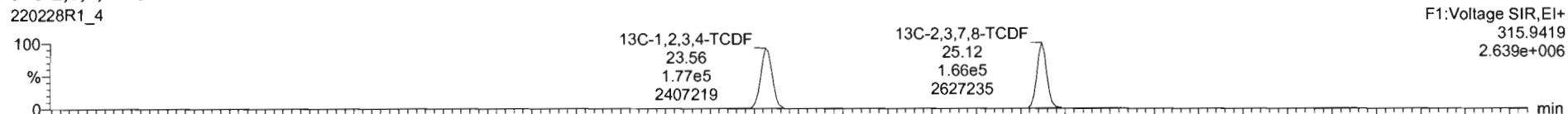
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Printed: Tuesday, March 01, 2022 12:39:56 Pacific Standard Time

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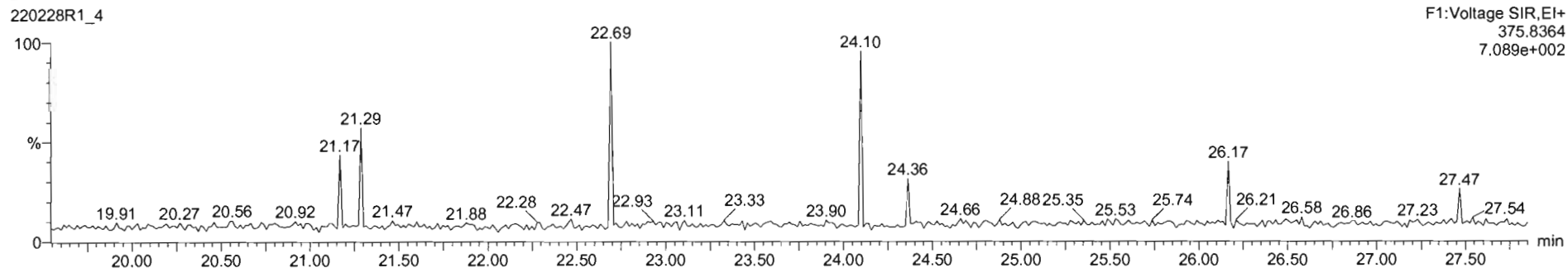
2,3,7,8-TCDF

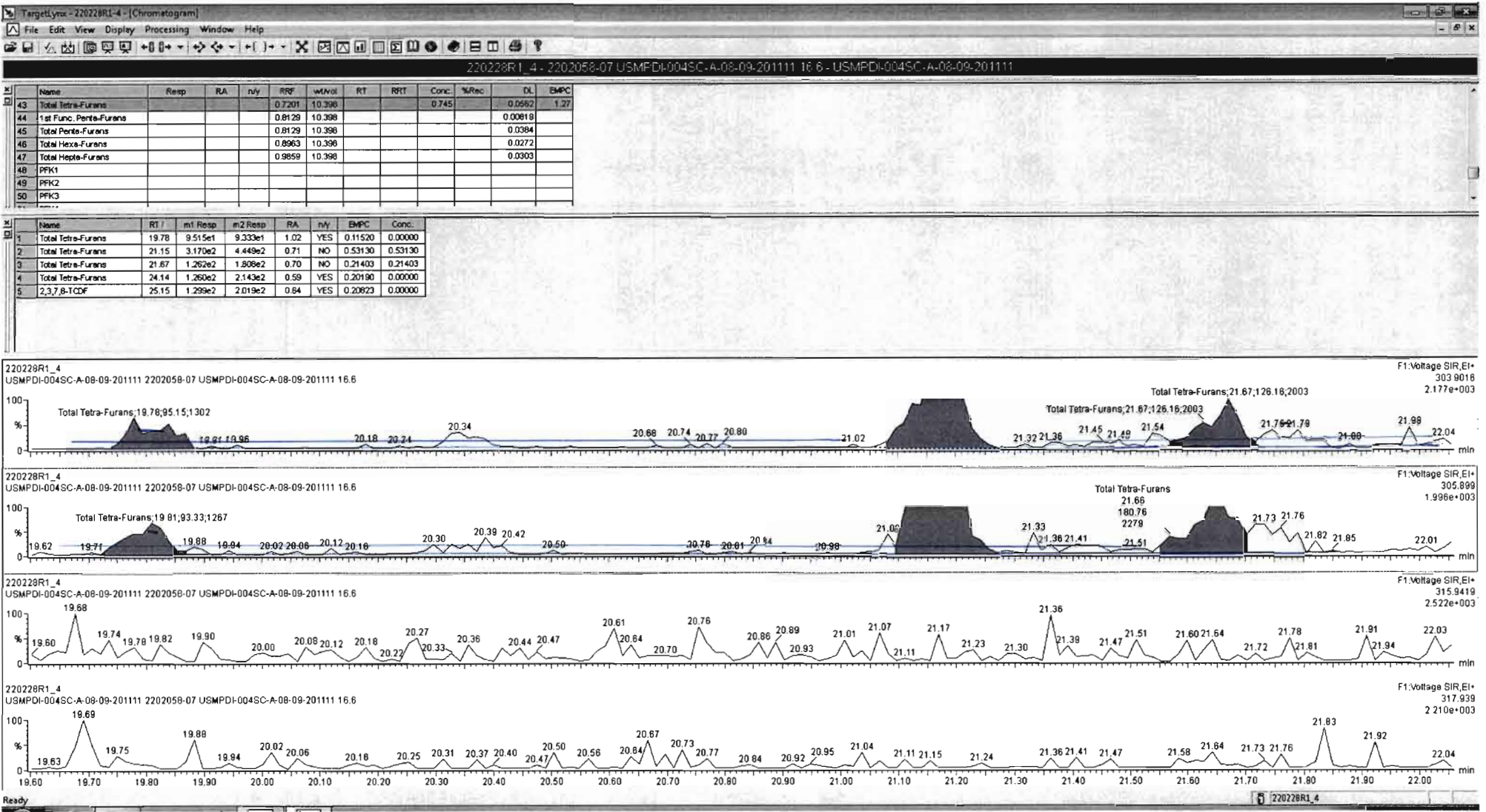


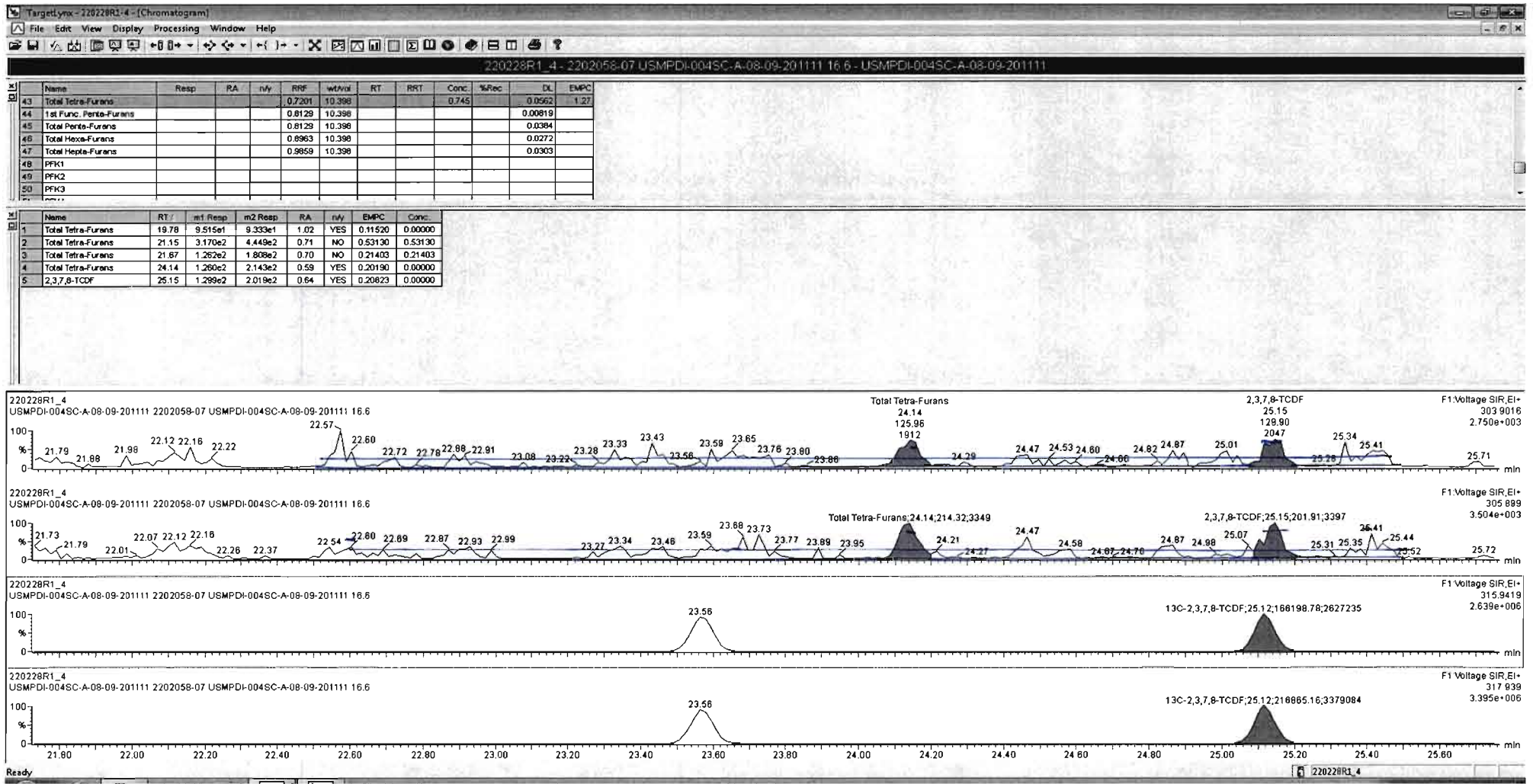
13C-2,3,7,8-TCDF



DPE1







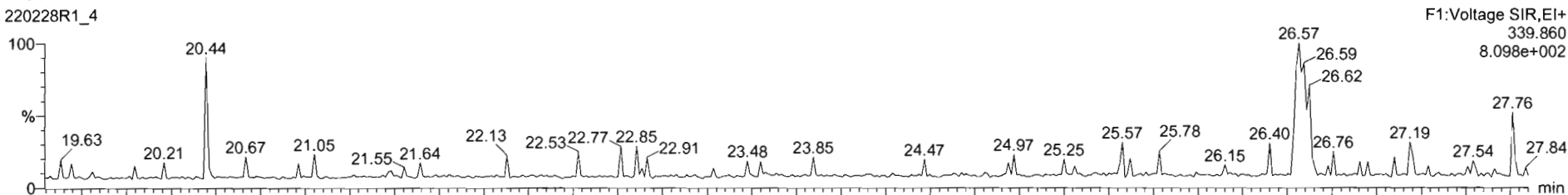
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Printed: Tuesday, March 01, 2022 12:39:56 Pacific Standard Time

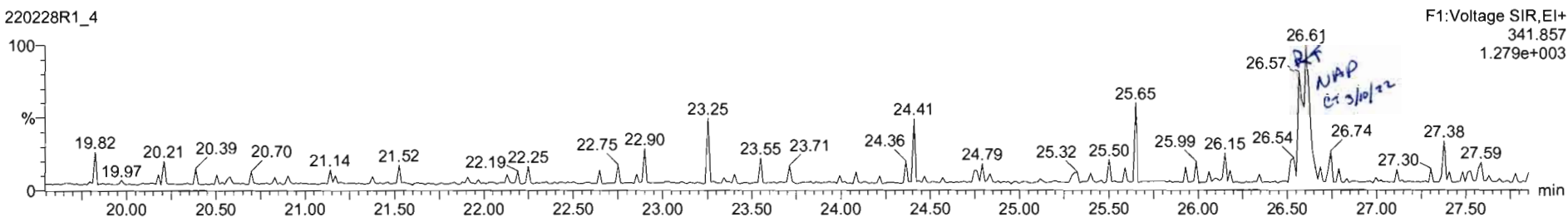
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220228R1\_4

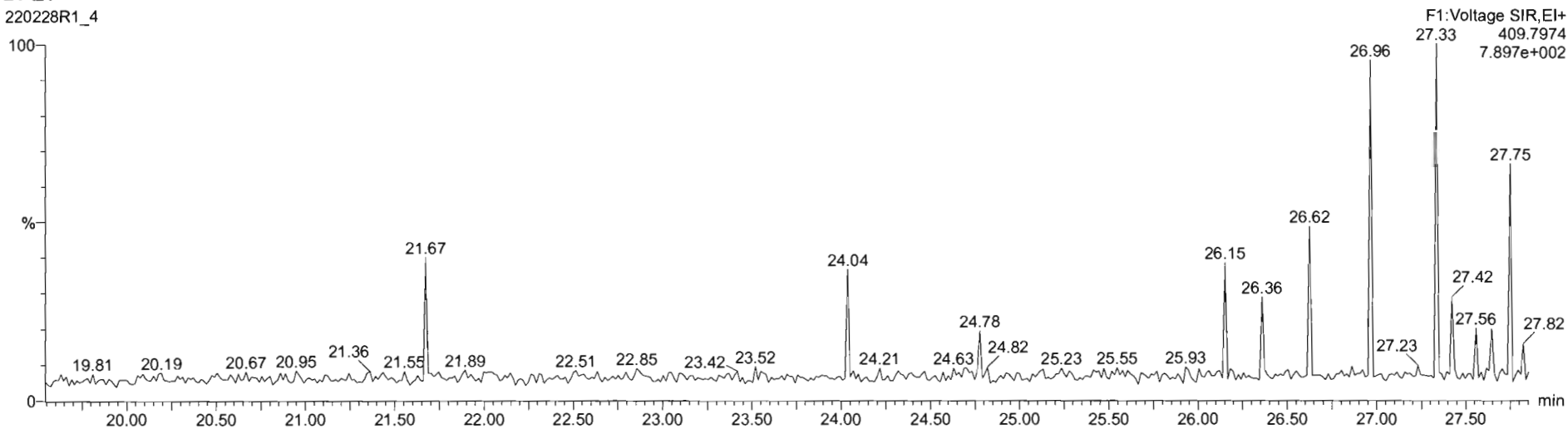


220228R1\_4



DPE6

220228R1\_4





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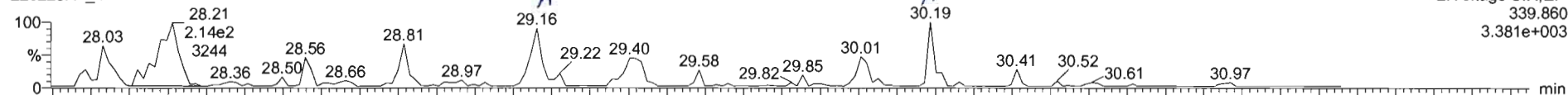
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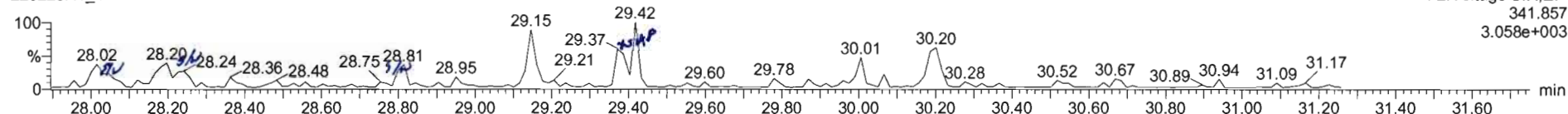
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**1,2,3,7,8-PeCDF**

220228R1\_4

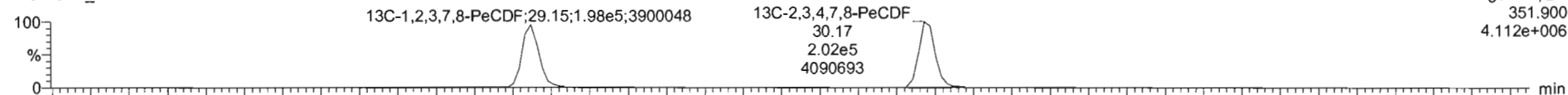


220228R1\_4

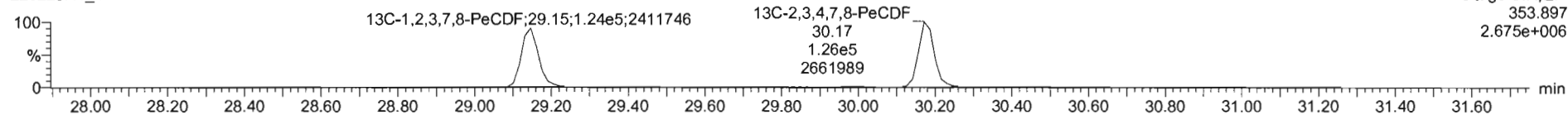


**13C-1,2,3,7,8-PeCDF**

220228R1\_4

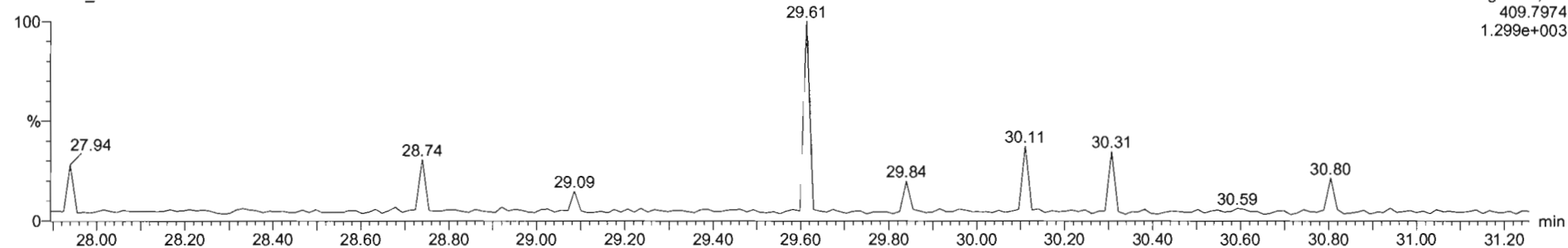


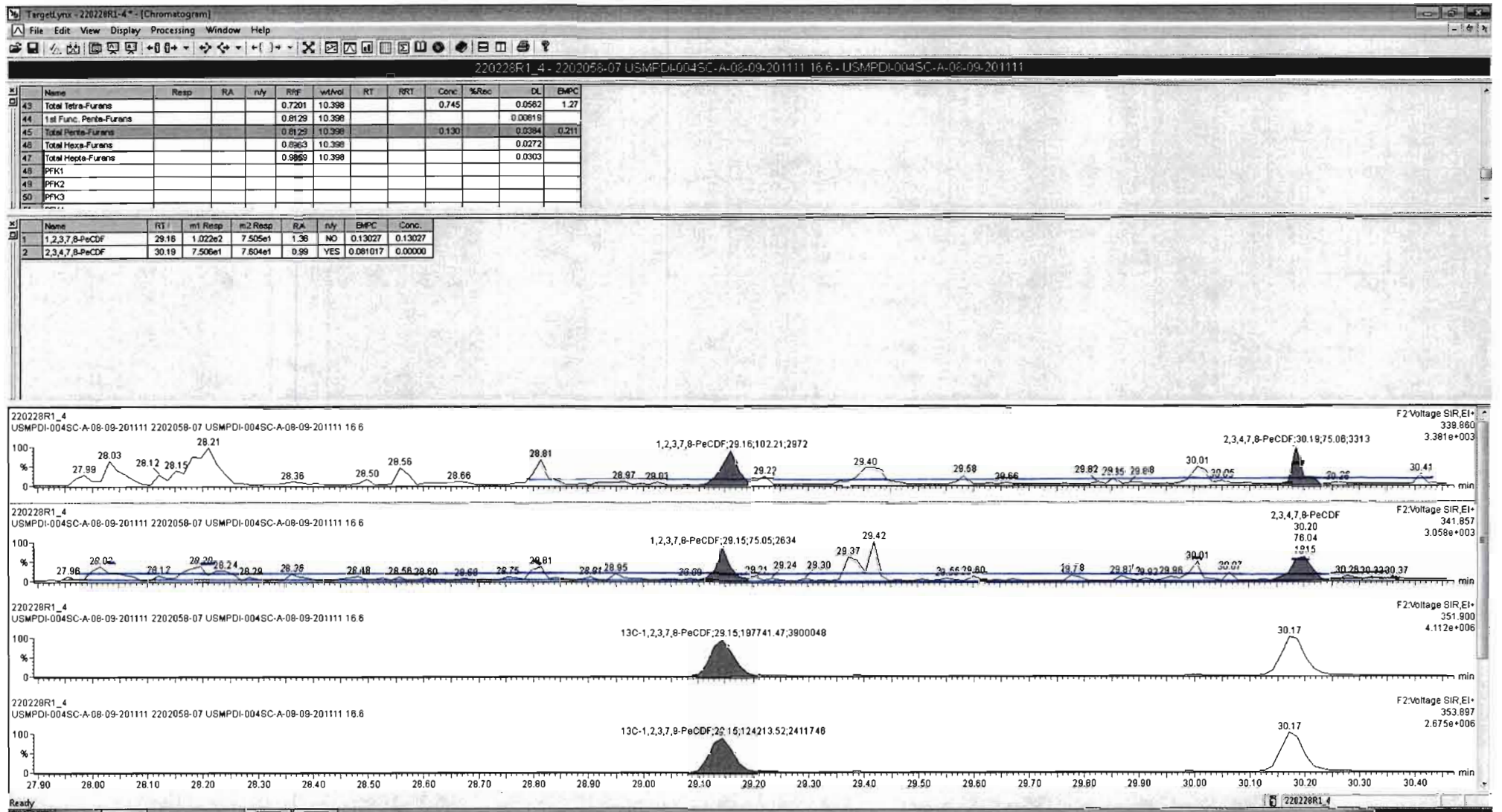
220228R1\_4



**DPE2**

220228R1\_4





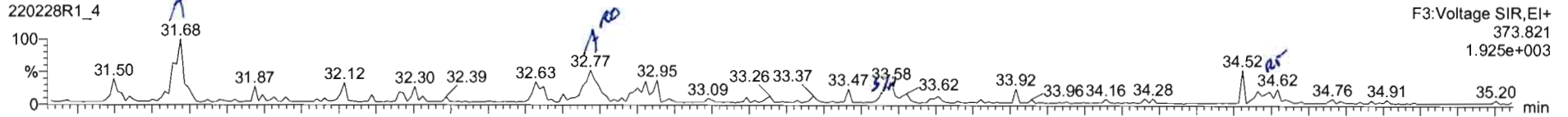


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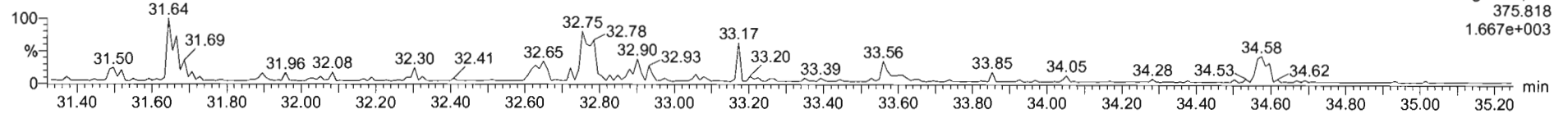
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Printed: Tuesday, March 01, 2022 12:39:56 Pacific Standard Time

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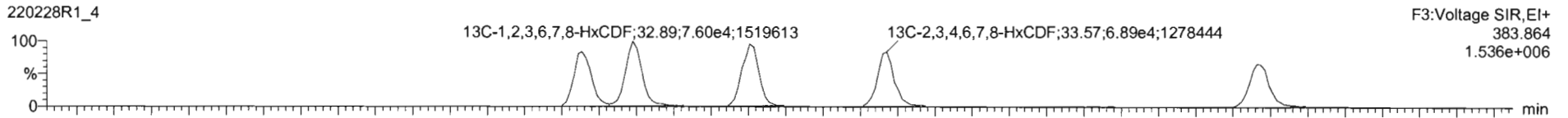
1,2,3,4,7,8-HxCDF



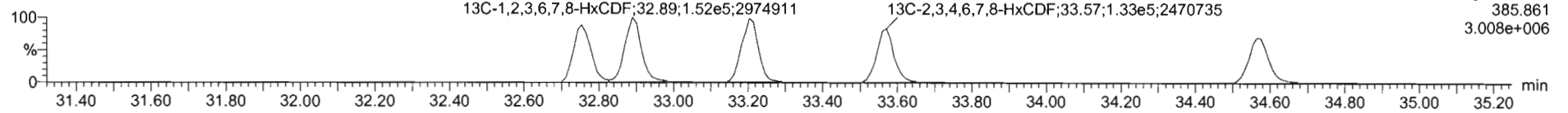
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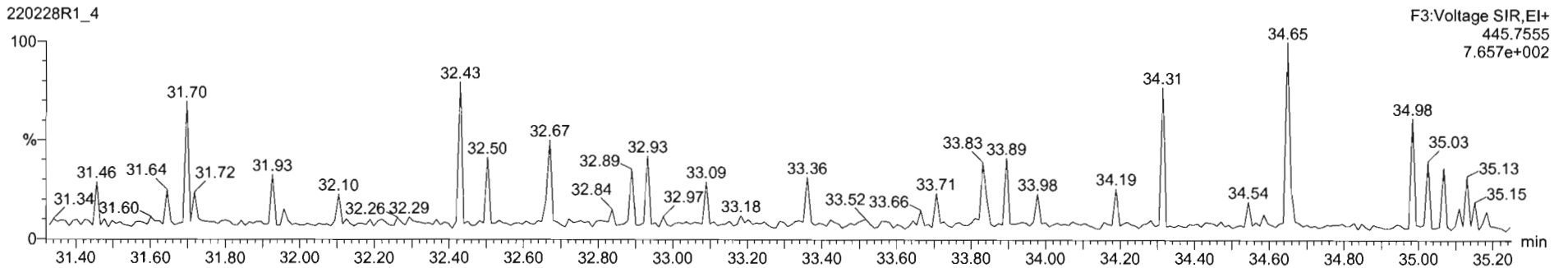
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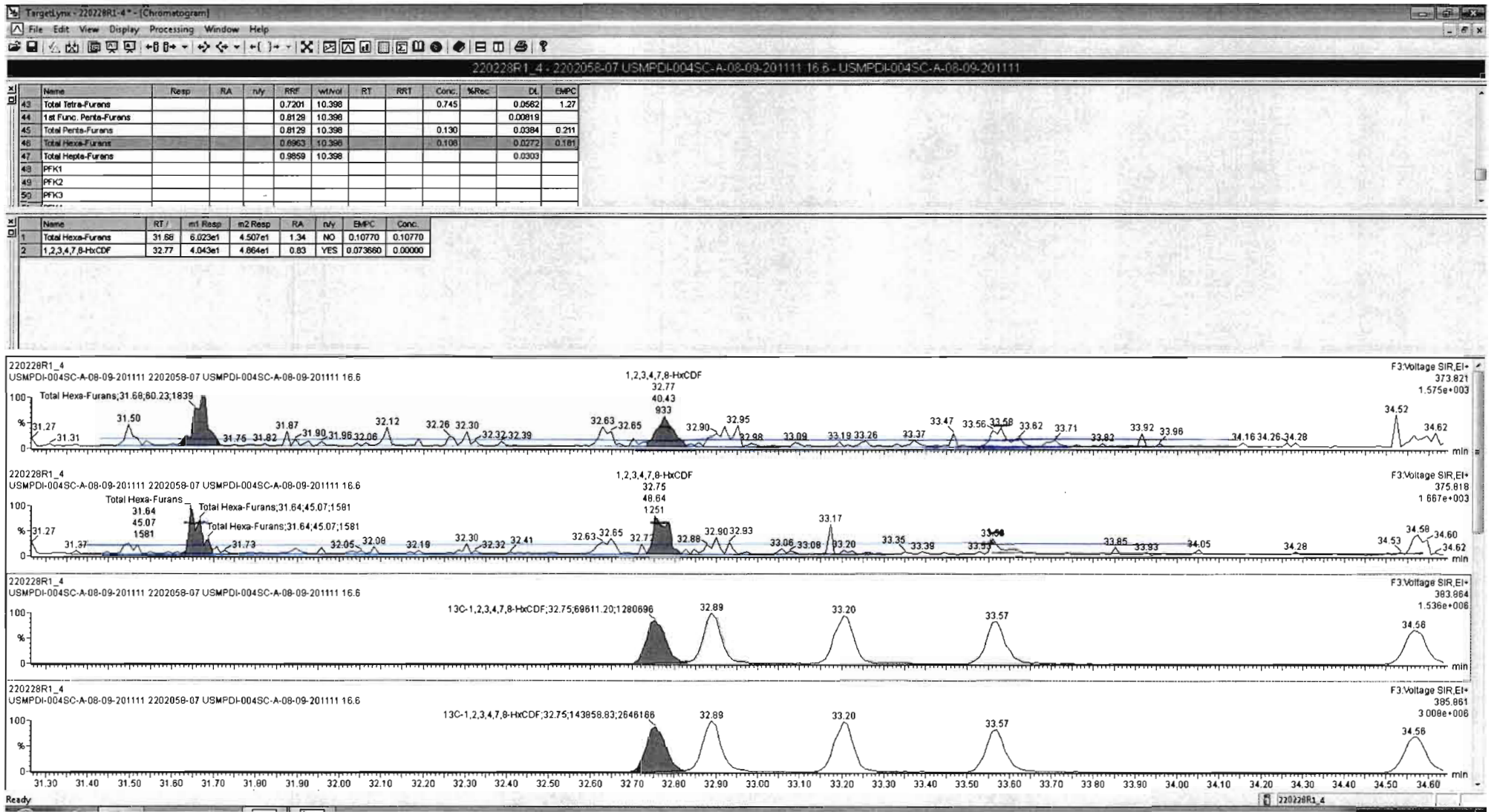


220228R1\_4



DPE3





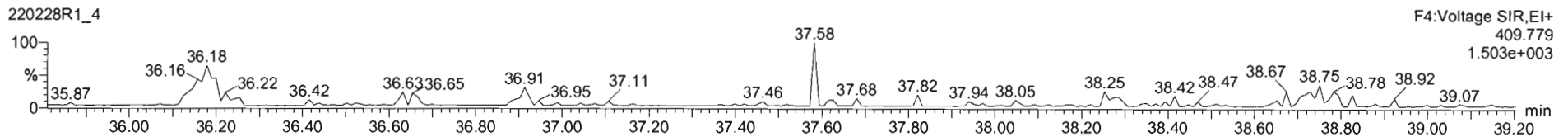
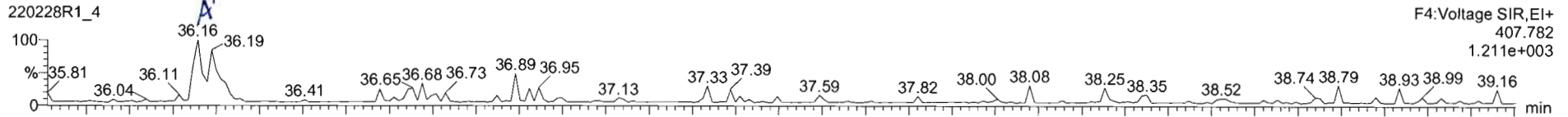
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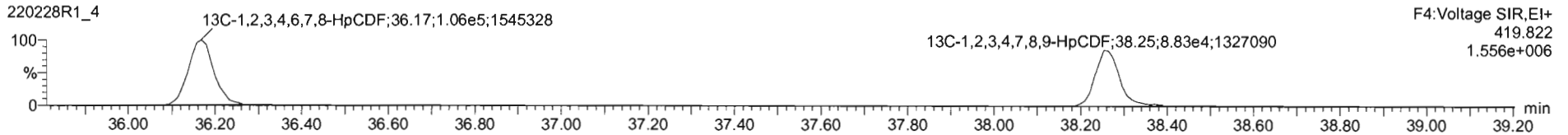
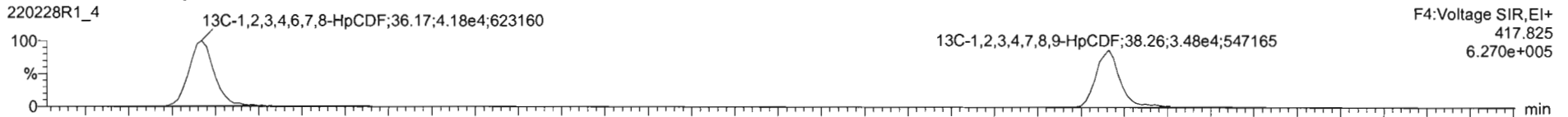
Printed: Tuesday, March 01, 2022 12:39:56 Pacific Standard Time

Name: 220228R1\_4, Date: 28-Feb-2022, Time: 13:07:58, ID: 2202058-07 USMPDI-004SC-A-08-09-201111 16.6, Description: USMPDI-004SC-A-08-09-201111

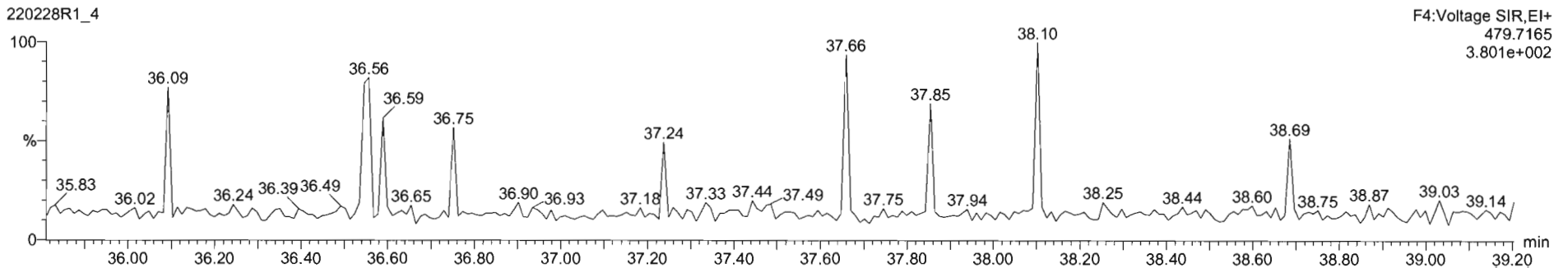
1,2,3,4,6,7,8-HpCDF

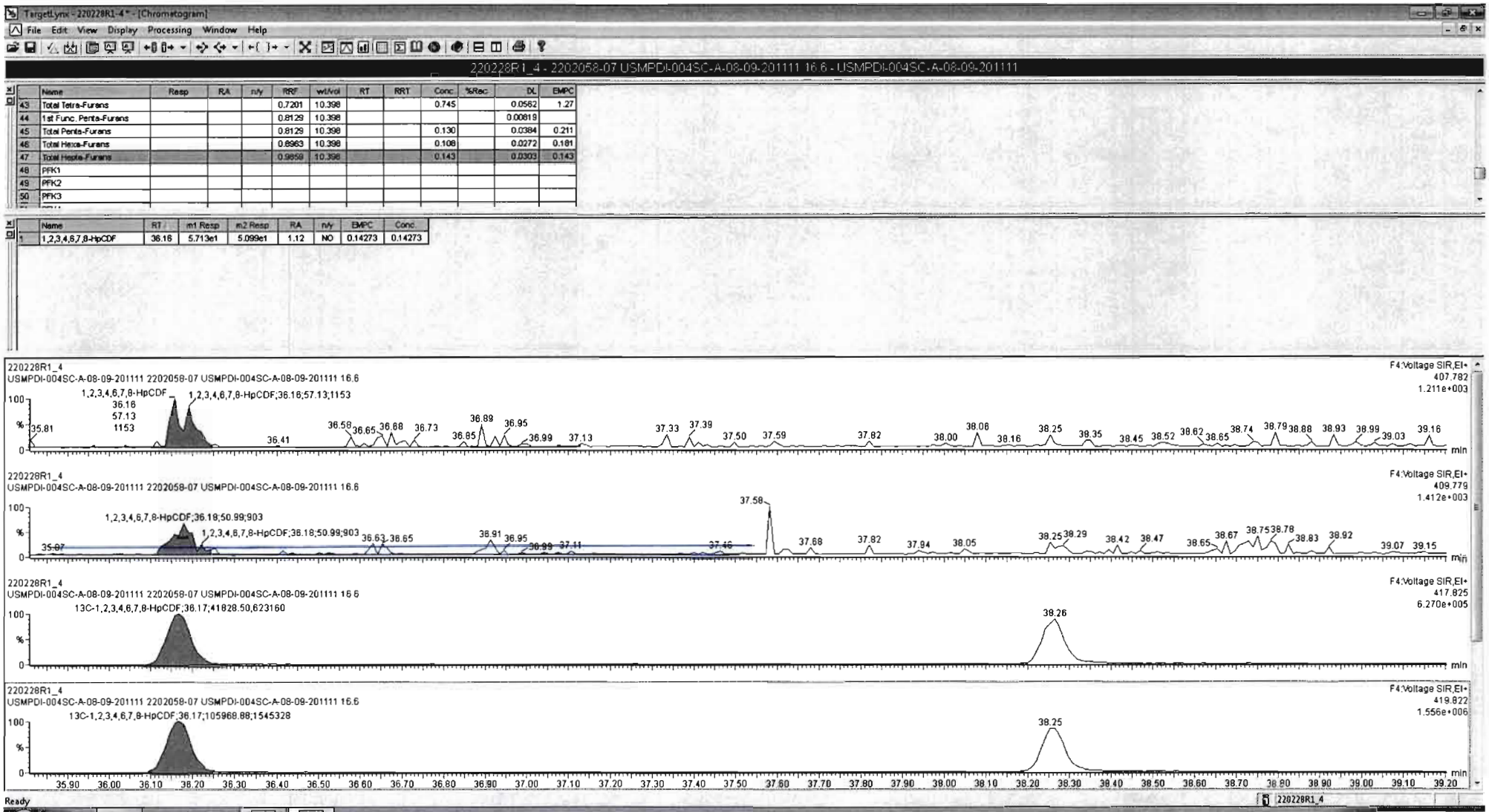


13C-1,2,3,4,6,7,8-HpCDF



DPE4



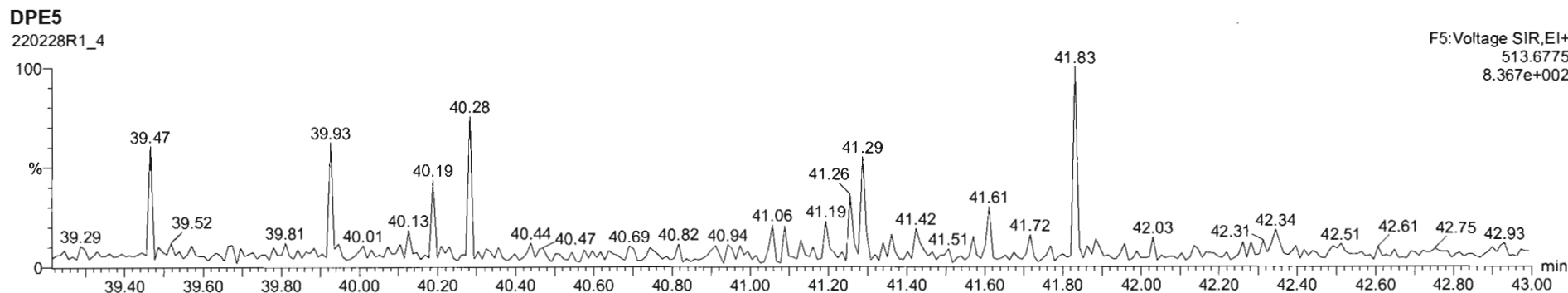
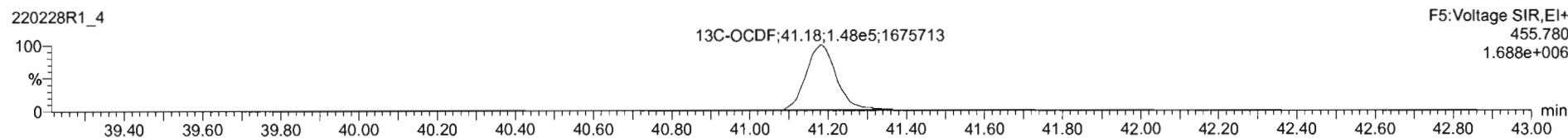
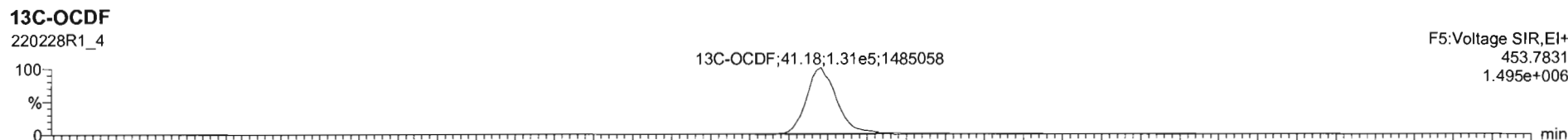
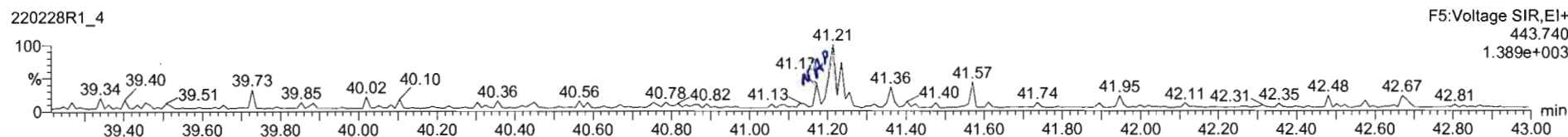
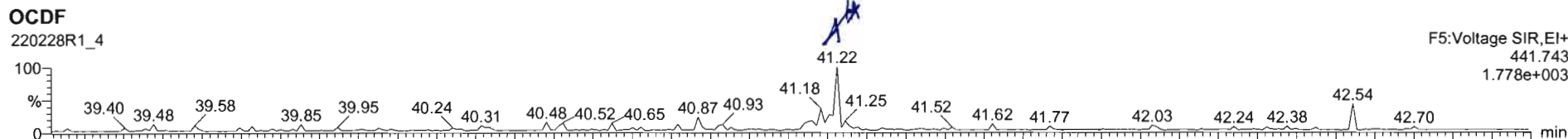


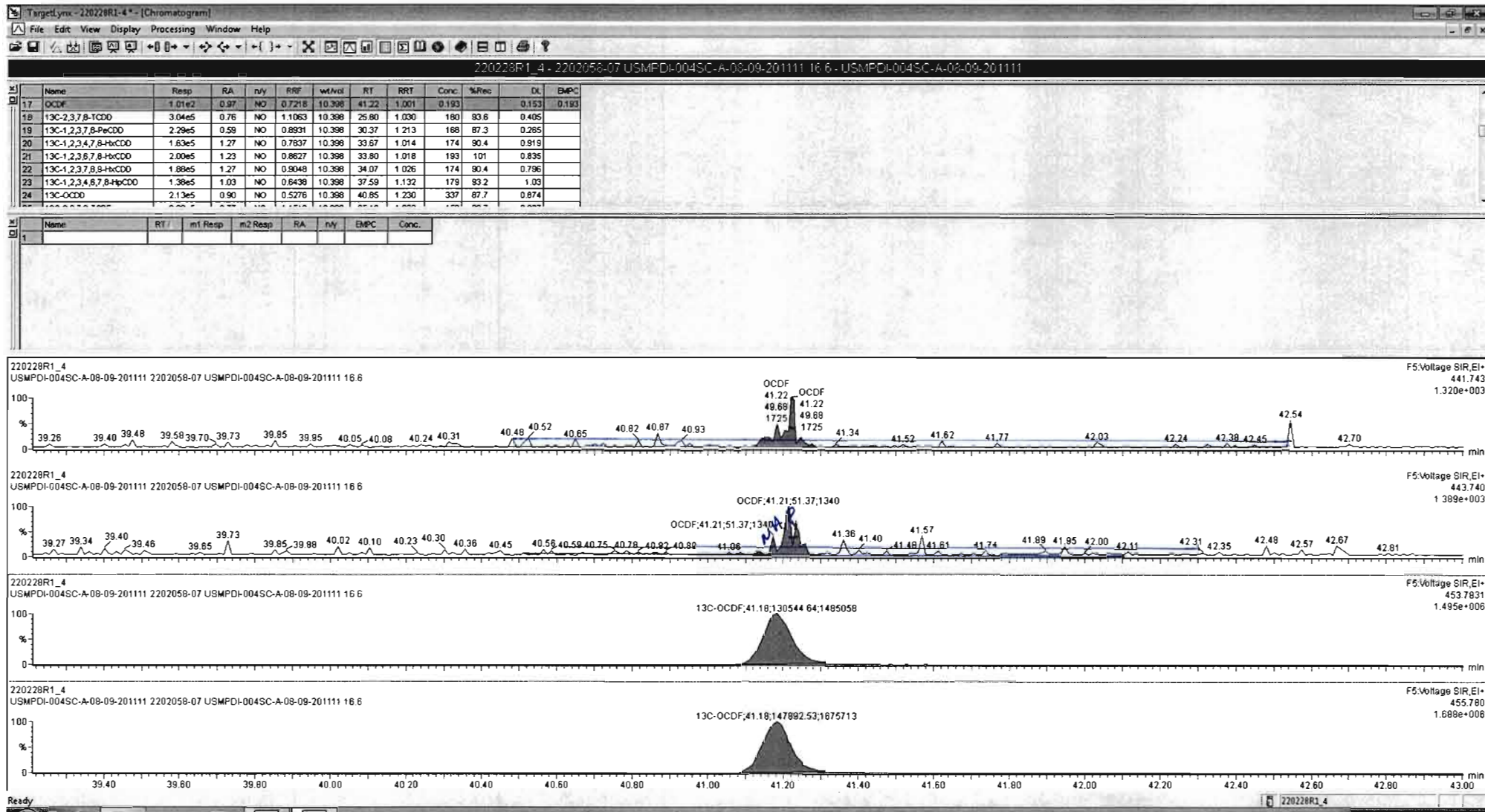


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*by 03/02/2022*  
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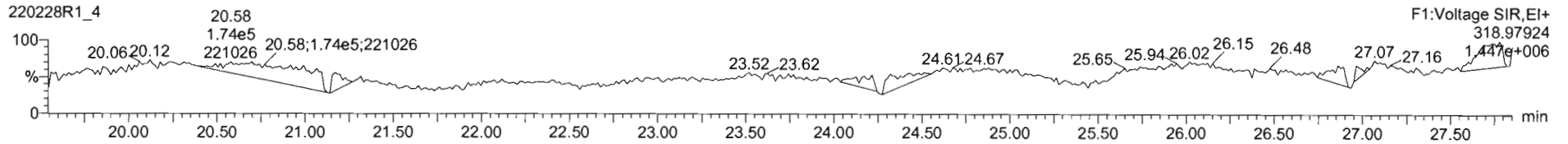
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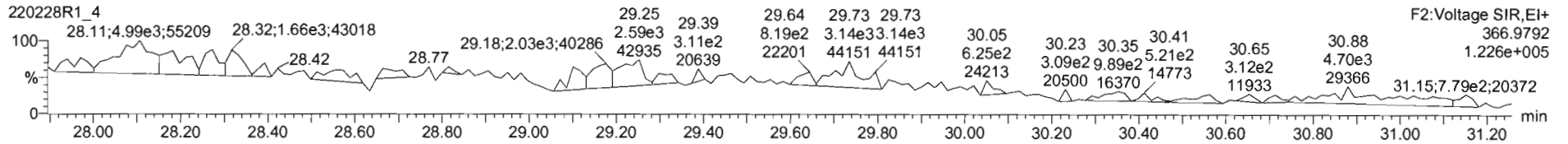
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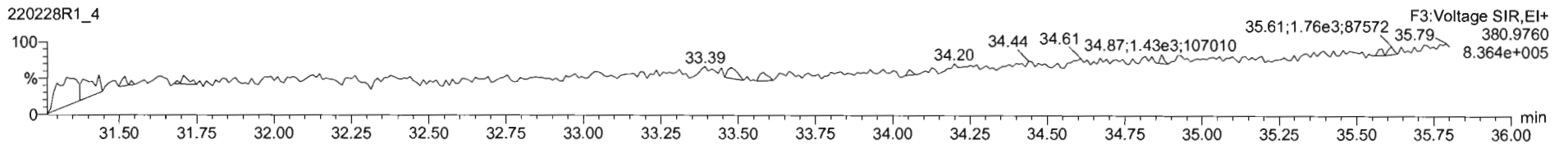
PFK1



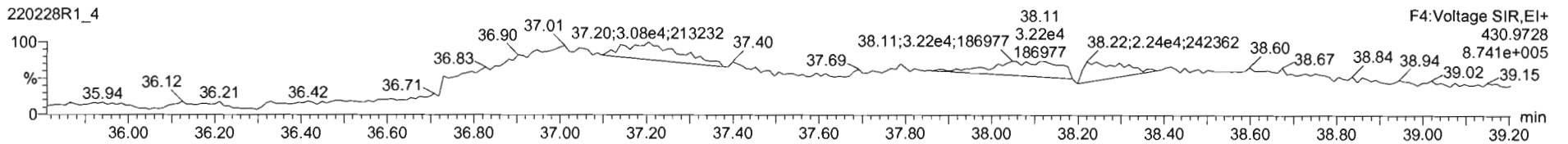
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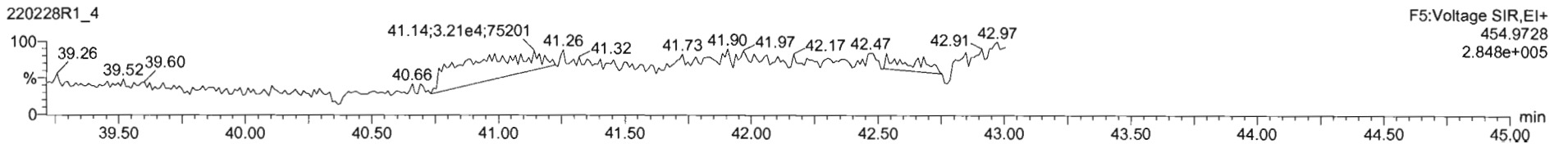
PFK3



PFK4



PFK5



Dataset: I:\VG12.PRO\Results\220228R1\220228R1-5.qld

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*dy 03-10-2022*  
*C103/11/2022*

Method: Untitled 17 Feb 2022 13:16:14

Calibration: I:\VG12.PRO\CurveDB\dbDIOXIN\_1613vg12-07-30-21.cdb 02 Aug 2021 09:55:11

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#	Name	Resp	RA	n/y	RRF	wt/vol	Pred.RT	RT	Pred.RRT	RRT	Conc.	%Rec	DL	EMPC
1	1 2,3,7,8-TCDD	1.99e2	0.23	YES	0.952	10.094	25.827	25.83	1.001	1.001	0.11220		0.0220	0.0476
2	2 1,2,3,7,8-PeCDD			NO	0.781	10.094	30.427		1.001				0.0954	
3	3 1,2,3,4,7,8-HxCDD			NO	0.904	10.094	33.716		1.001				0.0969	
4	4 1,2,3,6,7,8-HxCDD			NO	0.806	10.094	33.841		1.001				0.0903	
5	5 1,2,3,7,8,9-HxCDD			NO	0.814	10.094	34.093		1.000				0.0972	
6	6 1,2,3,4,6,7,8-HpCDD	7.22e2	0.89	NO	0.836	10.094	37.615	37.62	1.000	1.000	0.94080		0.258	0.941
7	7 OCDD	3.70e3	0.95	NO	0.798	10.094	40.845	40.86	1.000	1.001	6.4564		0.816	6.46
8	8 2,3,7,8-TCDF	3.97e2	0.82	NO	0.720	10.094	25.134	25.16	1.000	1.001	0.24418		0.106	0.244
9	9 1,2,3,7,8-PeCDF			NO	0.813	10.094	29.179		1.000				0.0953	
10	10 2,3,4,7,8-PeCDF	1.28e2	2.76	YES	0.892	10.094	30.237	30.22	1.001	1.000	0.069537		0.0421	0.0472
11	11 1,2,3,4,7,8-HxCDF			NO	0.893	10.094	32.784		1.000				0.0389	
12	12 1,2,3,6,7,8-HxCDF			NO	0.867	10.094	32.930		1.001				0.0410	
13	13 2,3,4,6,7,8-HxCDF			NO	0.896	10.094	33.601		1.001				0.0419	
14	14 1,2,3,7,8,9-HxCDF			NO	0.874	10.094	34.585		1.000				0.0525	
15	15 1,2,3,4,6,7,8-HpCDF			NO	0.986	10.094	36.164		1.000				0.0741	
16	16 1,2,3,4,7,8,9-HpCDF			NO	0.966	10.094	38.285		1.000				0.0940	
17	17 OCDF			NO	0.722	10.094	41.159		1.000				0.113	
18	18 13C-2,3,7,8-TCDD	3.70e5	0.78	NO	1.11	10.094	25.756	25.80	1.028	1.029	248.40	125	0.465	
19	19 13C-1,2,3,7,8-PeCDD	2.81e5	0.63	NO	0.893	10.094	30.103	30.40	1.201	1.213	233.56	118	0.812	
20	20 13C-1,2,3,4,7,8-HxCDD	2.10e5	1.30	NO	0.784	10.094	33.672	33.70	1.014	1.015	243.93	123	1.01	
21	21 13C-1,2,3,6,7,8-HxCDD	2.56e5	1.29	NO	0.863	10.094	33.792	33.82	1.017	1.018	270.17	136	0.915	
22	22 13C-1,2,3,7,8,9-HxCDD	2.43e5	1.27	NO	0.905	10.094	34.081	34.08	1.026	1.026	243.84	123	0.873	
23	23 13C-1,2,3,4,6,7,8-HpCDD	1.82e5	1.05	NO	0.644	10.094	37.499	37.60	1.129	1.132	257.04	130	1.07	
24	24 13C-OCDD	2.84e5	0.88	NO	0.528	10.094	40.767	40.84	1.227	1.230	490.34	124	1.07	
25	25 13C-2,3,7,8-TCDF	4.47e5	0.78	NO	1.15	10.094	25.135	25.13	1.003	1.003	219.96	111	0.331	
26	26 13C-1,2,3,7,8-PeCDF	4.07e5	1.63	NO	0.905	10.094	28.933	29.18	1.155	1.164	255.01	129	1.42	
27	27 13C-2,3,4,7,8-PeCDF	4.08e5	1.64	NO	0.899	10.094	30.159	30.22	1.204	1.206	256.95	130	1.43	
28	28 13C-1,2,3,4,7,8-HxCDF	2.77e5	0.49	NO	1.00	10.094	32.762	32.77	0.986	0.987	251.72	127	0.909	
29	29 13C-1,2,3,6,7,8-HxCDF	2.96e5	0.49	NO	1.04	10.094	32.892	32.91	0.990	0.991	258.07	130	0.874	
30	30 13C-2,3,4,6,7,8-HxCDF	2.66e5	0.49	NO	0.916	10.094	33.563	33.58	1.010	1.011	264.17	133	0.994	
31	31 13C-1,2,3,7,8,9-HxCDF	2.42e5	0.48	NO	0.859	10.094	34.589	34.58	1.041	1.041	255.72	129	1.06	

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Last Altered: Thursday, March 10, 2022 13:48:12 Pacific Standard Time

Printed: Thursday, March 10, 2022 13:53:48 Pacific Standard Time

Name: 220228R1\_5, Date: 28-Feb-2022, Time: 13:52:47, ID: 2202058-08 USMPDI-004SC-A-09-10-201111 16.13, Description: USMPDI-004SC-A-09-10-201111

#	Name	Resp	RA	n/y	RRF	wt/vol	Pred.RT	RT	Pred.RRT	RRT	Conc.	%Rec	DL	EMPC
32	32 13C-1,2,3,4,6,7,8-HpCDF	1.96e5	0.43	NO	0.632	10.094	36.193	36.15	1.090	1.088	281.89	142	1.19	
33	33 13C-1,2,3,4,7,8,9-HpCDF	1.55e5	0.41	NO	0.552	10.094	38.176	38.27	1.149	1.152	255.66	129	1.36	
34	34 13C-OCDF	3.63e5	0.90	NO	0.606	10.094	41.096	41.15	1.237	1.239	545.51	138	0.915	
35	35 37Cl-2,3,7,8-TCDD	1.30e5			1.01	10.094	25.776	25.83	1.029	1.031	95.628	121	0.106	
36	36 13C-1,2,3,4-TCDD	2.67e5	0.76	NO	1.00	10.094	25.010	25.06	1.000	1.000	198.14	100	0.515	
37	37 13C-1,2,3,4-TCDF	3.50e5	0.79	NO	1.00	10.094	23.580	23.58	1.000	1.000	198.14	100	0.381	
38	38 13C-1,2,3,4,6,9-HxCDF	2.18e5	0.48	NO	1.00	10.094	33.170	33.21	1.000	1.000	198.14	100	0.911	
39	39 Total Tetra-Dioxins				0.952	10.094	24.620		0.000		0.18030		0.0220	0.511
40	40 Total Penta-Dioxins				0.781	10.094	29.960		0.000		0.00000		0.0390	0.0909
41	41 Total Hexa-Dioxins				0.806	10.094	33.635		0.000		0.65352		0.0984	0.654
42	42 Total Hepta-Dioxins				0.836	10.094	37.640		0.000		2.3533		0.258	2.35
43	43 Total Tetra-Furans				0.720	10.094	23.610		0.000		1.1328		0.106	1.13
44	44 1st Func. Penta-Furans				0.813	10.094	26.640		0.000				0.0126	
45	45 Total Penta-Furans				0.813	10.094	29.275		0.000		0.00000		0.0461	0.0472
46	46 Total Hexa-Furans				0.896	10.094	33.555		0.000				0.0257	
47	47 Total Hepta-Furans				0.986	10.094	37.835		0.000				0.0484	

Vista Analytical Laboratory

Dataset: I:\VG12.PRO\Results\220228R1\220228R1-5.qld

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**Tetra-Dioxins**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1	Total Tetra-Dioxins	22.07	1.532e3	1.641e3	1.470e2	1.444e2	1.02	YES	0.000e0	0.00000	0.14386	0.0220
2	Total Tetra-Dioxins	22.40	1.604e3	2.835e3	1.074e2	1.803e2	0.60	YES	0.000e0	0.00000	0.13903	0.0220
3	Total Tetra-Dioxins	23.77	2.498e3	2.372e3	1.479e2	1.723e2	0.86	NO	3.202e2	0.18030	0.18030	0.0220
4	2,3,7,8-TCDD	25.83	1.037e3	3.461e3	3.679e1	1.625e2	0.23	YES	1.993e2	0.00000	0.047613	0.0220

**Penta-Dioxins**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1	Total Penta-Dioxins	28.20	1.035e3	1.752e3	3.885e1	8.157e1	0.48	YES	0.000e0	0.00000	0.090896	0.0390

**Hexa-Dioxins**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1	Total Hexa-Dioxins	32.06	8.039e3	6.398e3	3.392e2	2.892e2	1.17	NO	6.284e2	0.65352	0.65352	0.0984

**Hepta-Dioxins**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1	Total Hepta-Dioxins	36.56	9.672e3	6.602e3	5.522e2	5.325e2	1.04	NO	1.085e3	1.4125	1.4125	0.258
2	1,2,3,4,6,7,8-HpCDD	37.62	5.634e3	5.743e3	3.406e2	3.819e2	0.89	NO	7.225e2	0.94080	0.94080	0.258

**Tetra-Furans**

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1	Total Tetra-Furans	21.20	6.302e3	6.688e3	4.649e2	5.774e2	0.81	NO	1.042e3	0.64183	0.64183	0.106
2	Total Tetra-Furans	24.14	3.228e3	3.392e3	1.811e2	2.197e2	0.82	NO	4.008e2	0.24679	0.24679	0.106
3	2,3,7,8-TCDF	25.16	2.864e3	4.222e3	1.787e2	2.178e2	0.82	NO	3.965e2	0.24418	0.24418	0.106

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Dataset: I:\VG12.PRO\Results\220228R1\220228R1-5.qld

Last Altered: Thursday, March 10, 2022 13:48:12 Pacific Standard Time

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Penta-Furans function 1

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1												

Penta-Furans

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1	2,3,4,7,8-PeCDF	30.22	1.483e3	1.146e3	9.373e1	3.397e1	2.76	YES	1.277e2	0.00000	0.047170	0.0421

Hexa-Furans

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1												

Hepta-Furans

	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC	DL
1												

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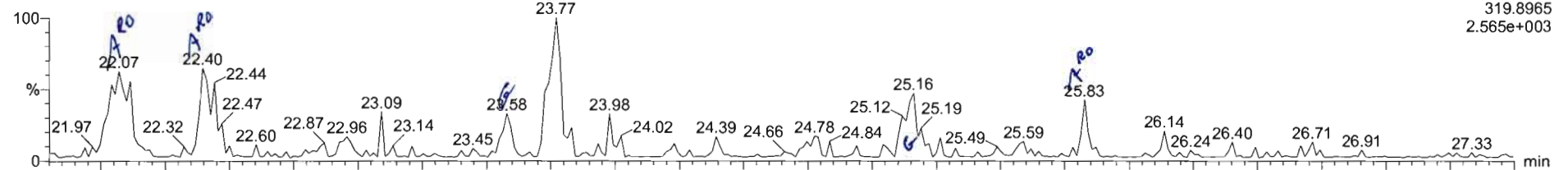
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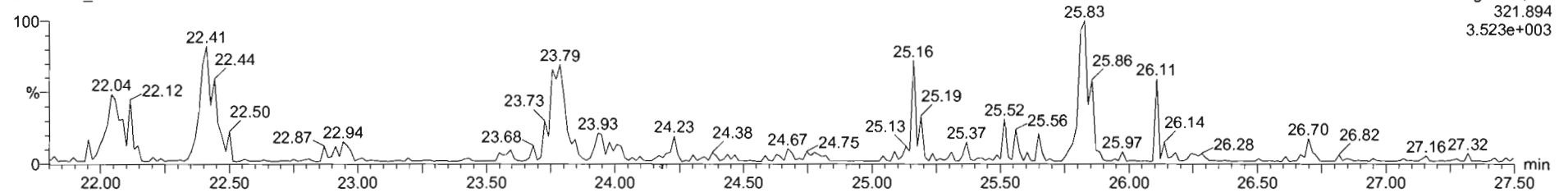
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**2,3,7,8-TCDD**

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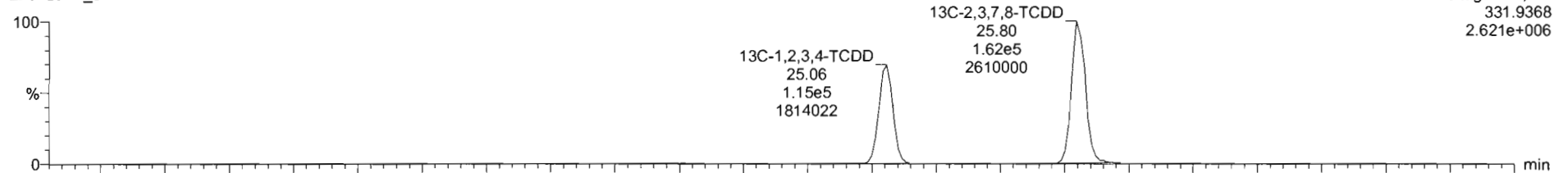


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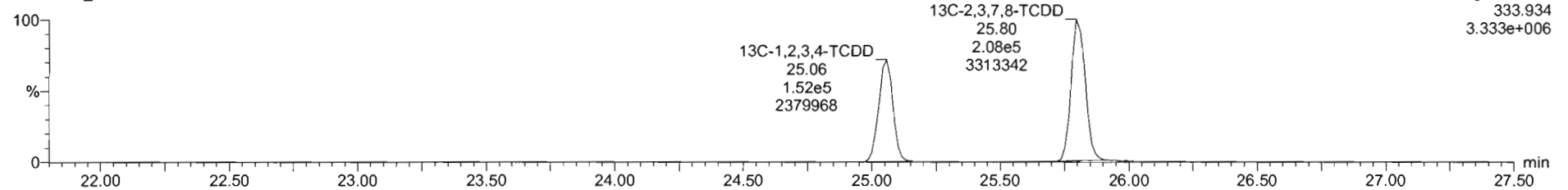


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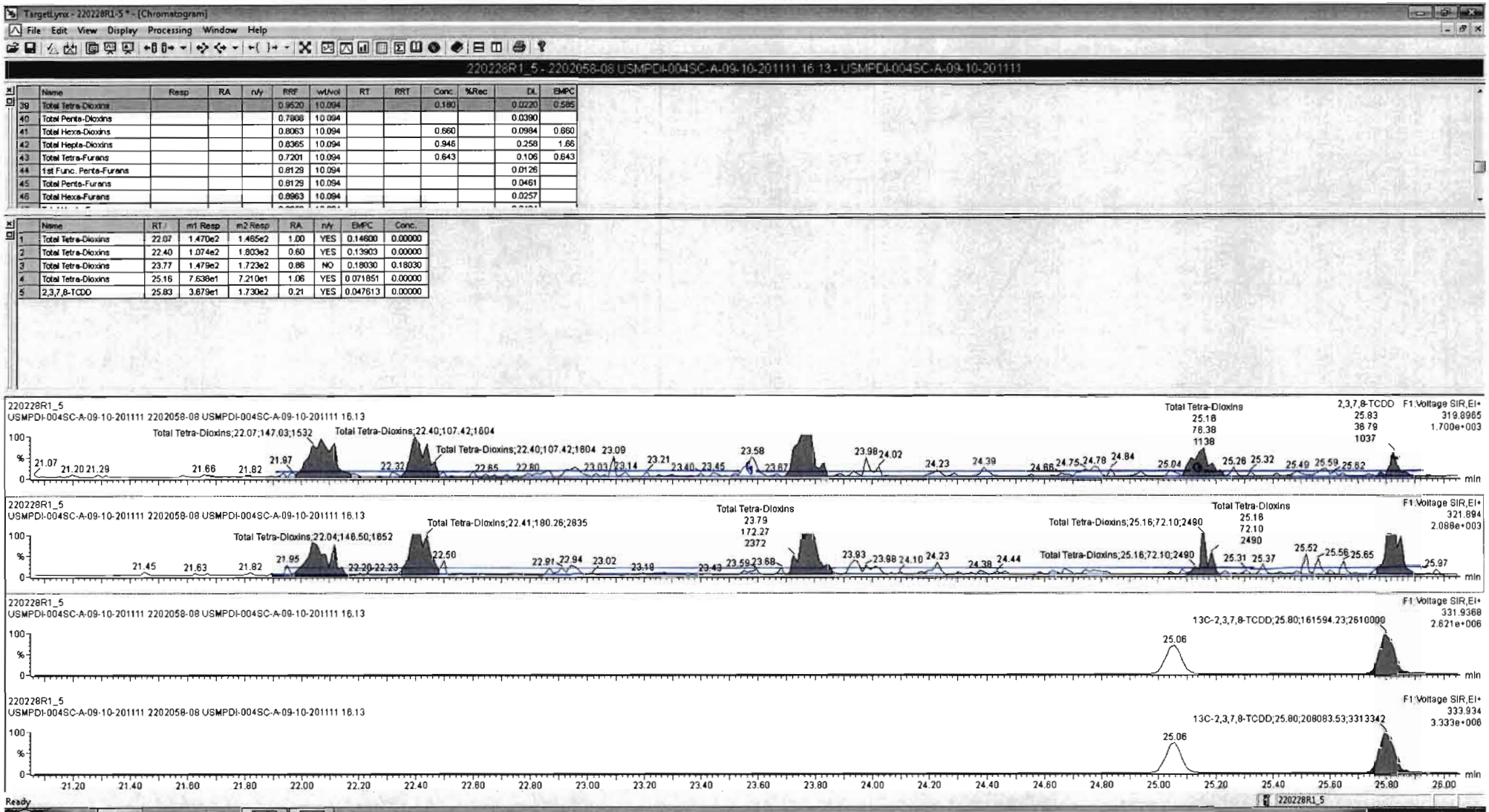
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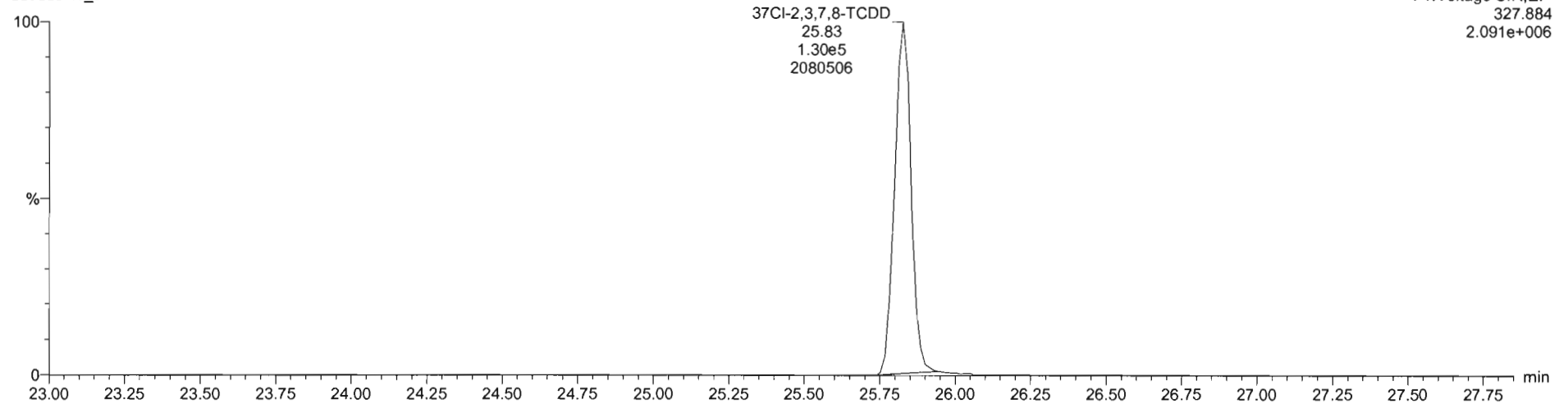
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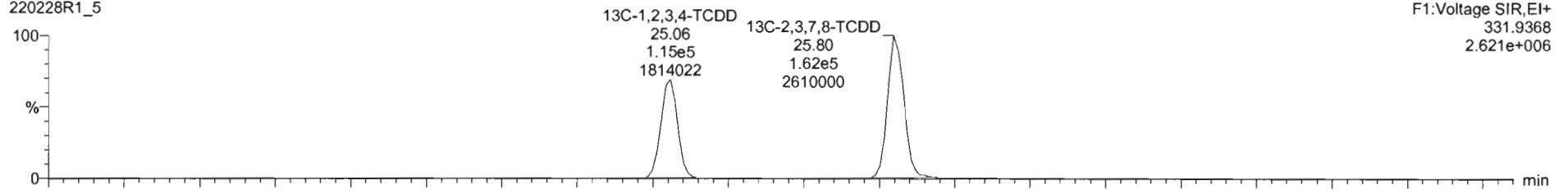
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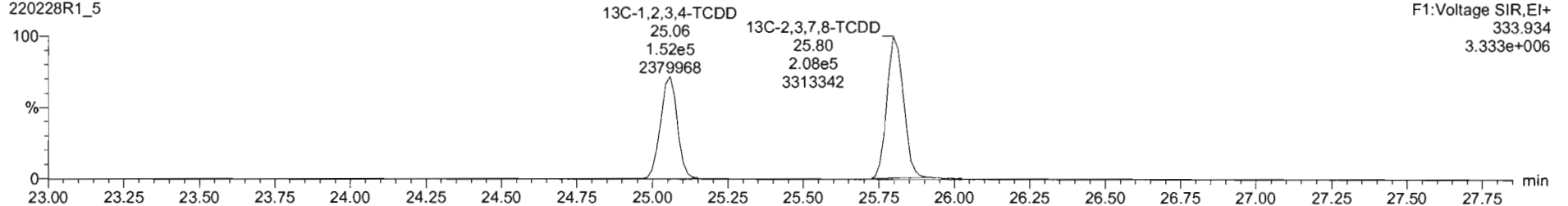


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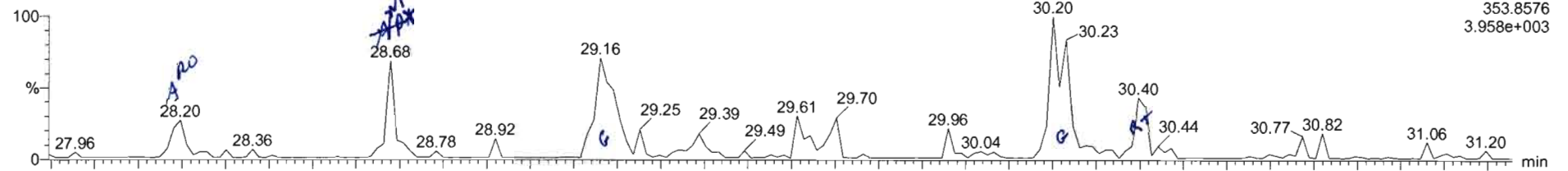
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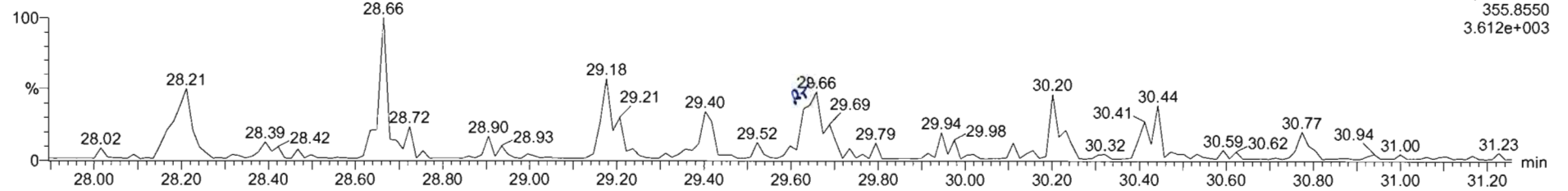
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**1,2,3,7,8-PeCDD**

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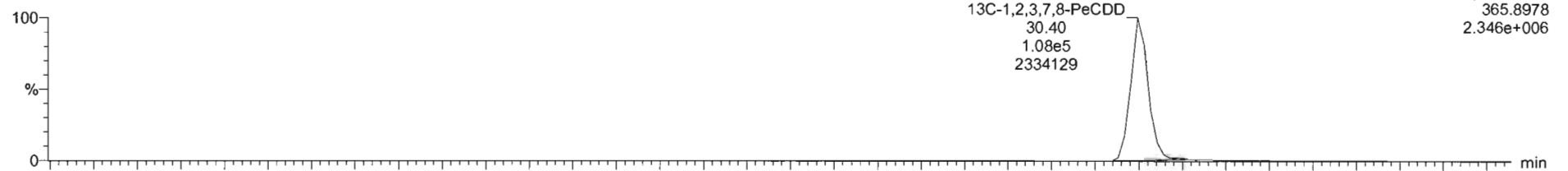


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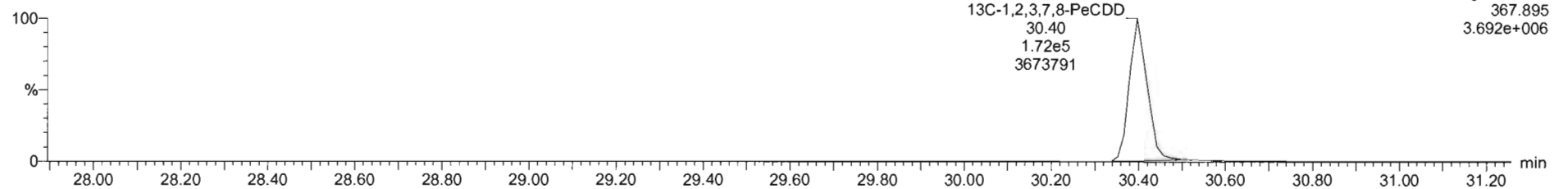


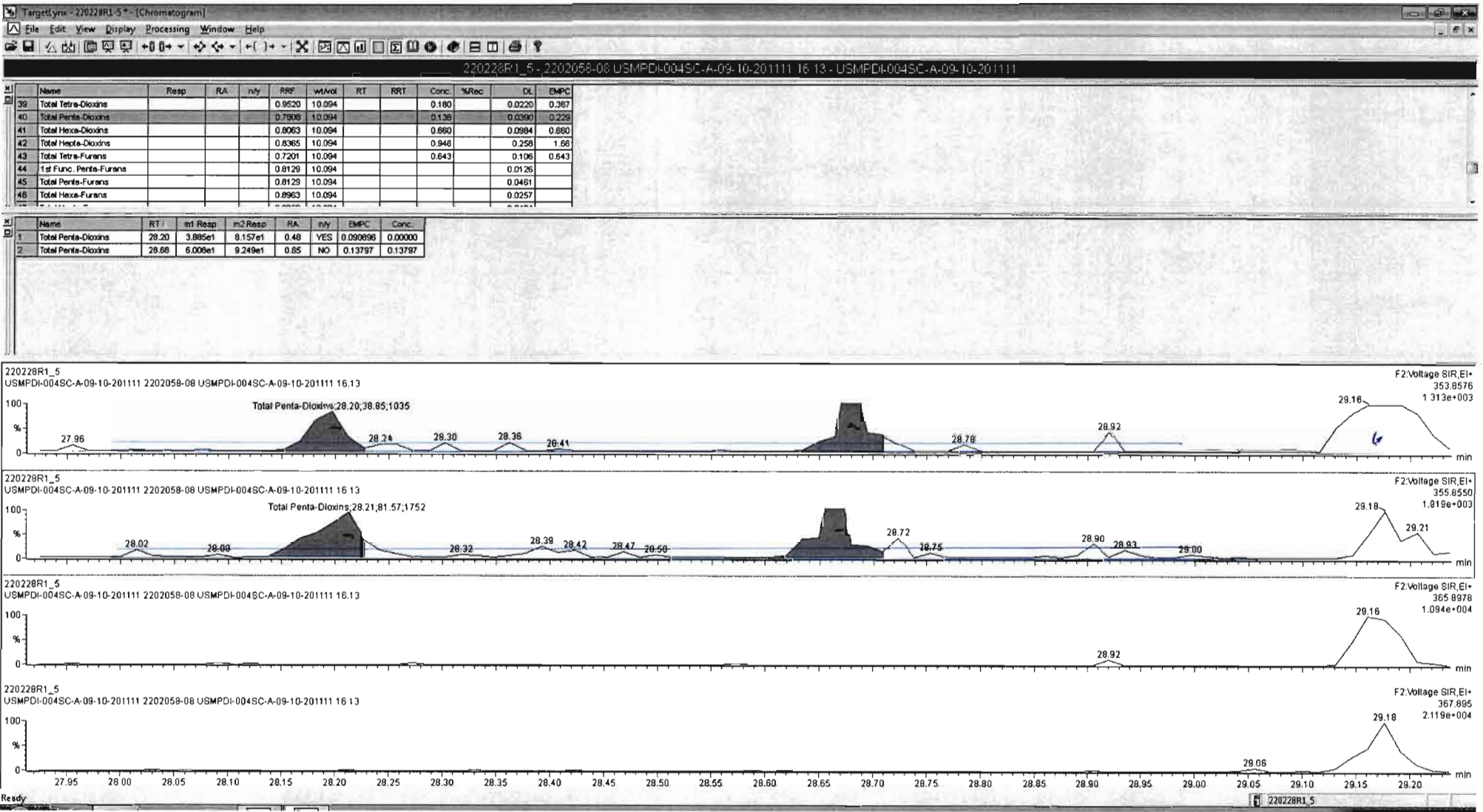
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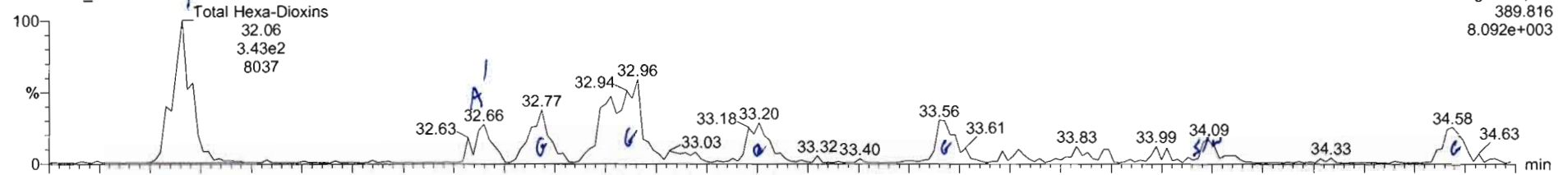
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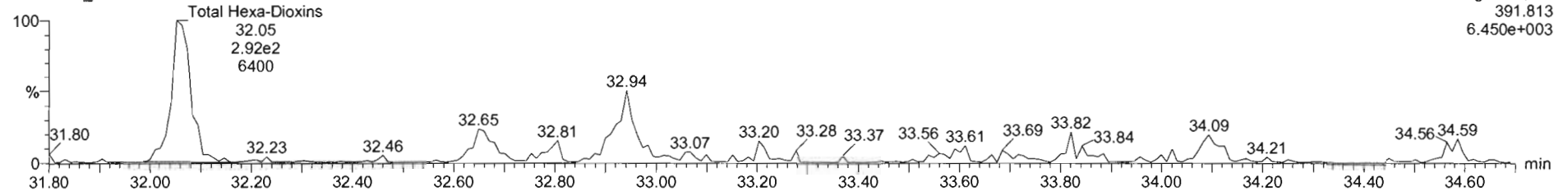
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**1,2,3,4,7,8-HxCDD**

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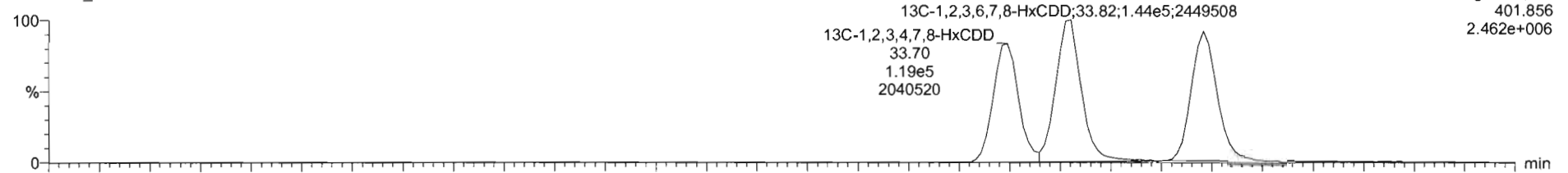


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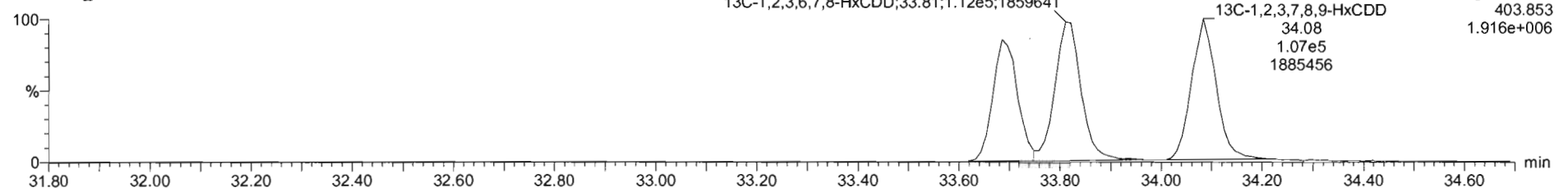


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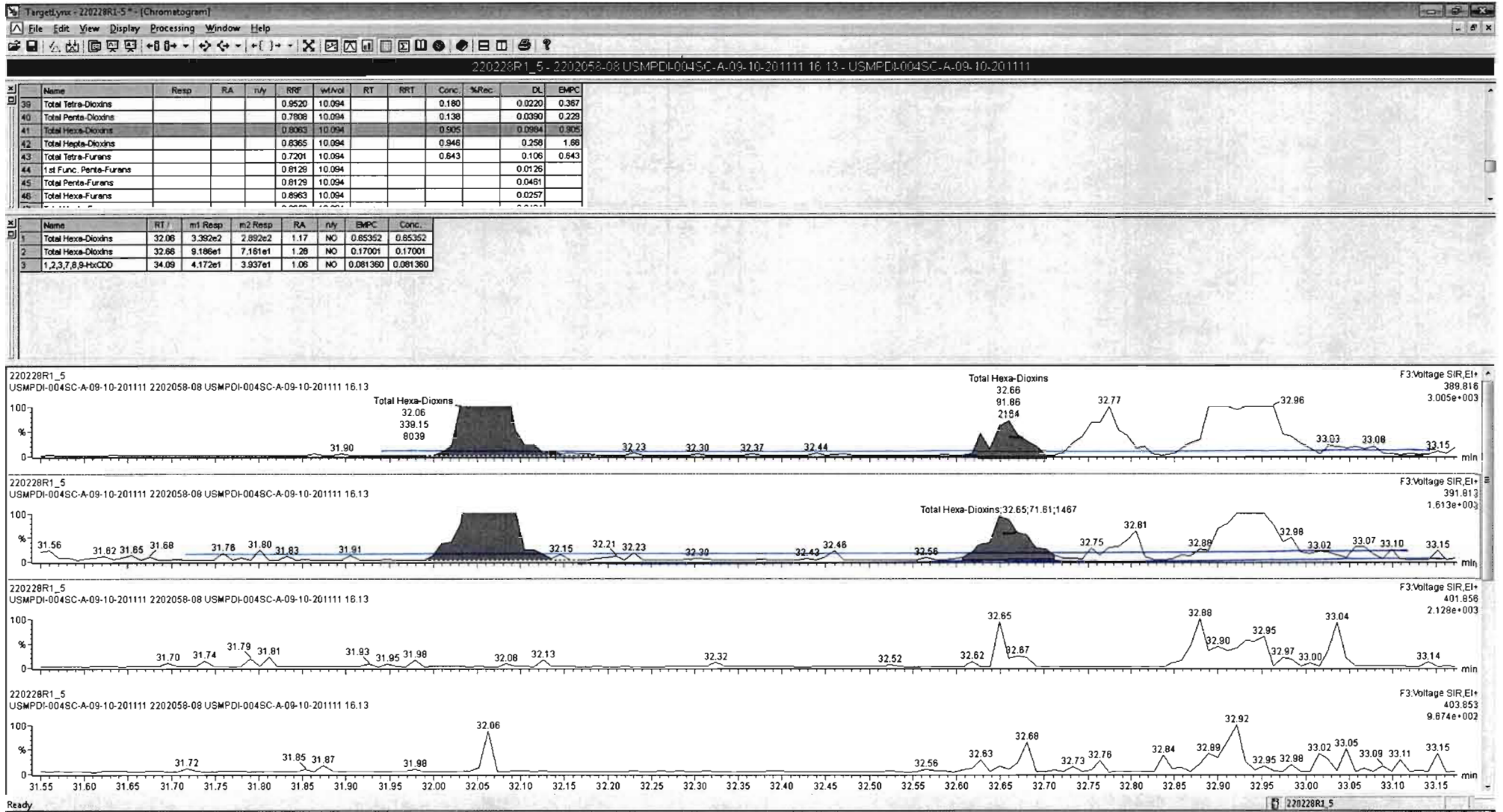
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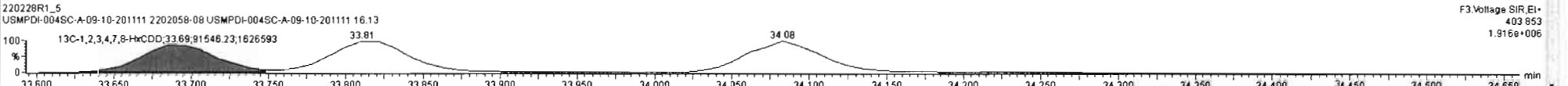
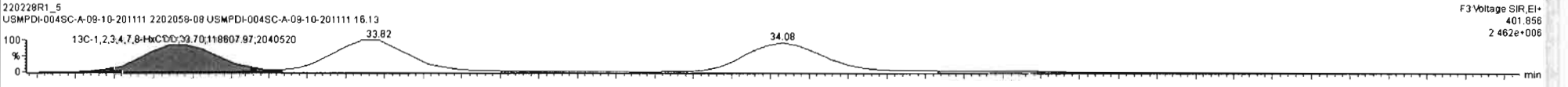
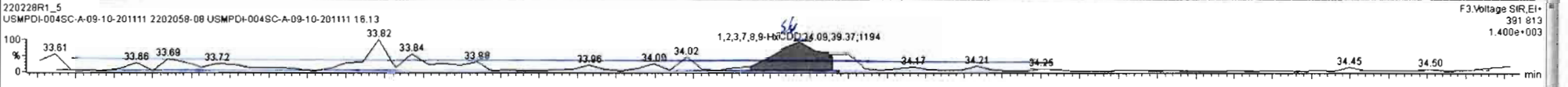
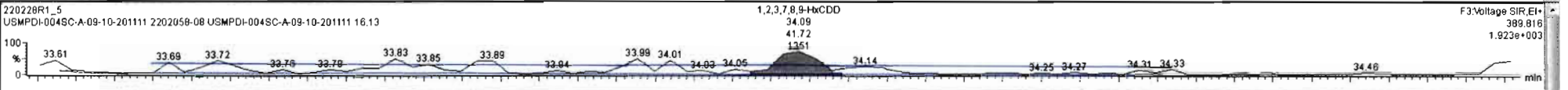




220228R1\_5 - 2202058-08 USMPDI-004SC-A-09-10-201111 16.13 - USMPDI-004SC-A-09-10-201111

Name	Resp	RA	n/y	RRF	w/wol	RT	RRT	Conc	%Rec	DL	EMPC
39 Total Tetra-Dioxins				0.9520	10.094			0.180		0.0220	0.367
40 Total Penta-Dioxins				0.7808	10.094			0.138		0.0390	0.229
41 Total Hexa-Dioxins				0.8063	10.094			0.905		0.0994	0.905
42 Total Hepta-Dioxins				0.8365	10.094			0.946		0.218	1.86
43 Total Tetra-Furans				0.7201	10.094			0.643		0.106	0.643
44 1st Func. Penta-Furans				0.8129	10.094					0.0126	
45 Total Penta-Furans				0.8129	10.094					0.0461	
46 Total Hexa-Furans				0.8963	10.094					0.0257	

Name	RT	m1 Resp	m2 Resp	RA	n/y	EMPC	Conc.
1 Total Hexa-Dioxins	32.06	3.392e2	2.892e2	1.17	NO	0.65352	0.65352
2 Total Hexa-Dioxins	32.68	9.186e1	7.161e1	1.28	NO	0.17001	0.17001
3 1,2,3,7,8,9-HxCDD	34.08	4.172e1	3.937e1	1.06	NO	0.081360	0.081360



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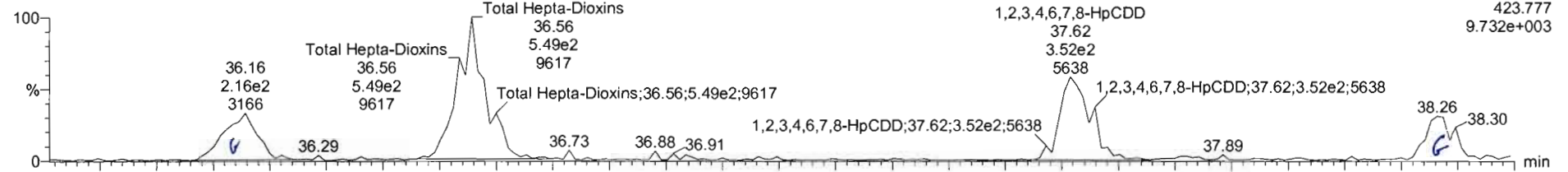
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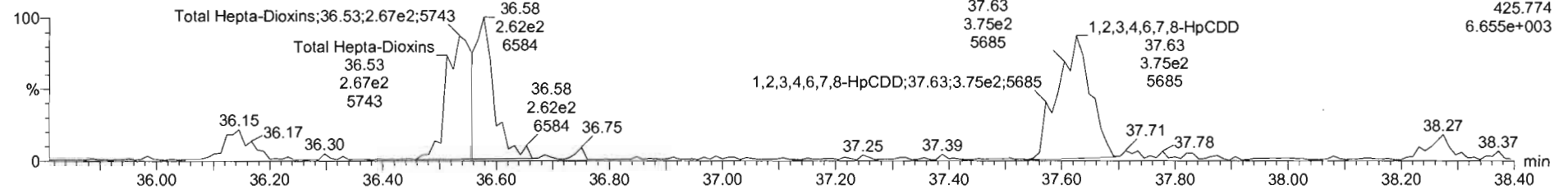
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1,2,3,4,6,7,8-HpCDD

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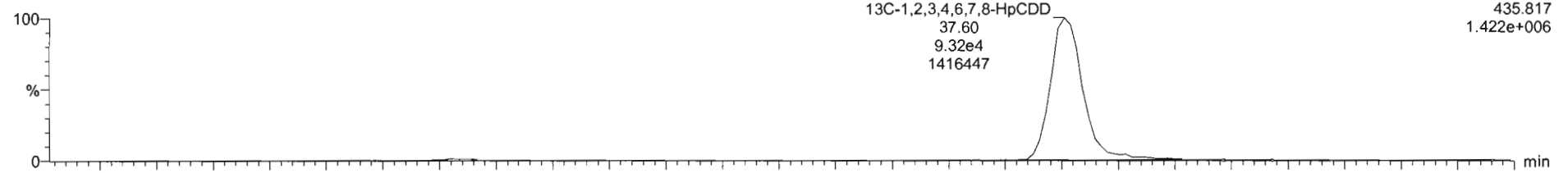


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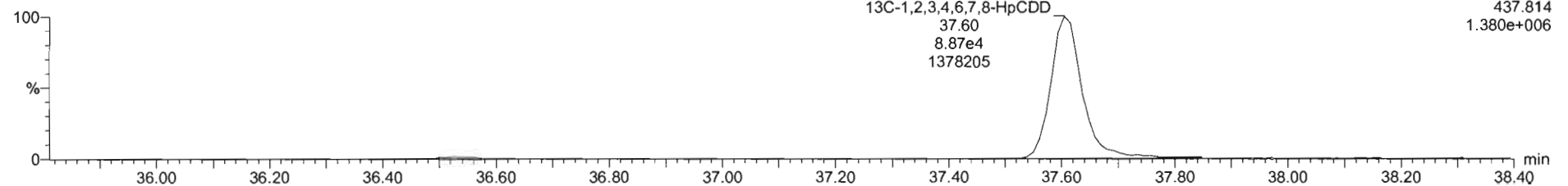


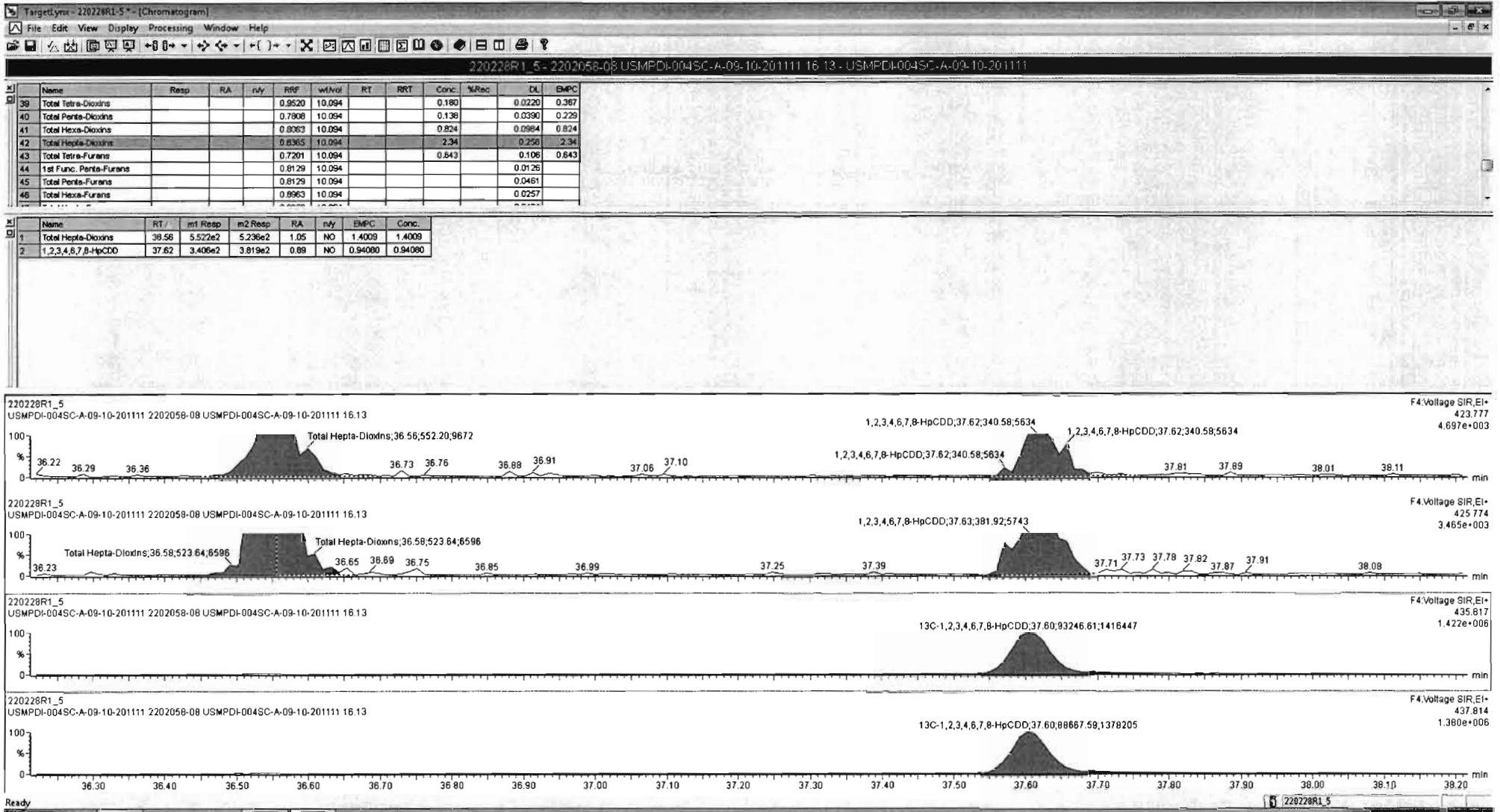
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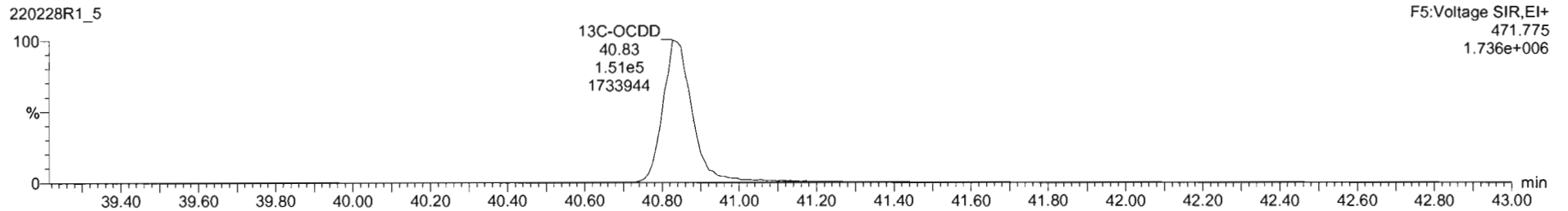
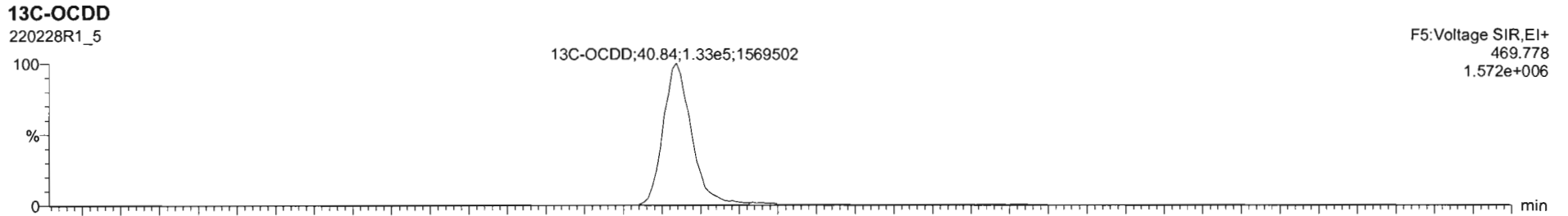
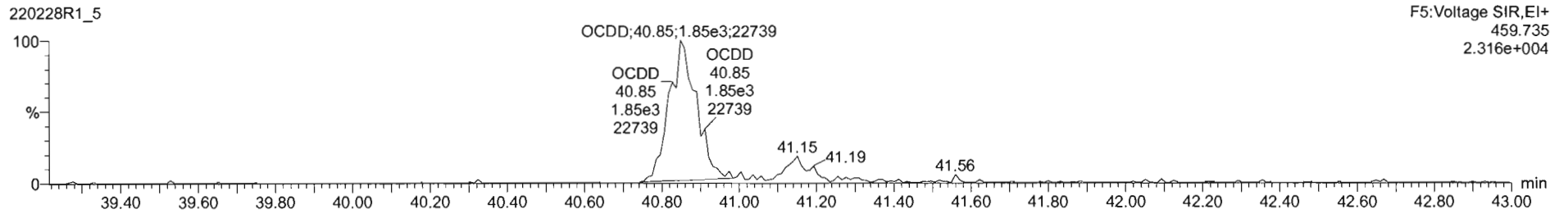
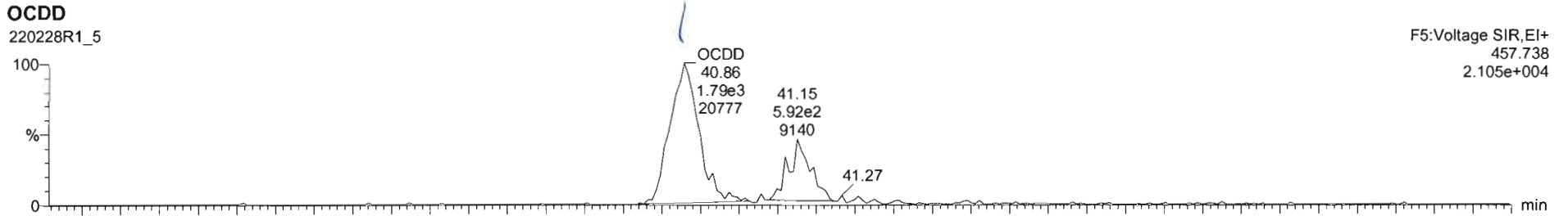


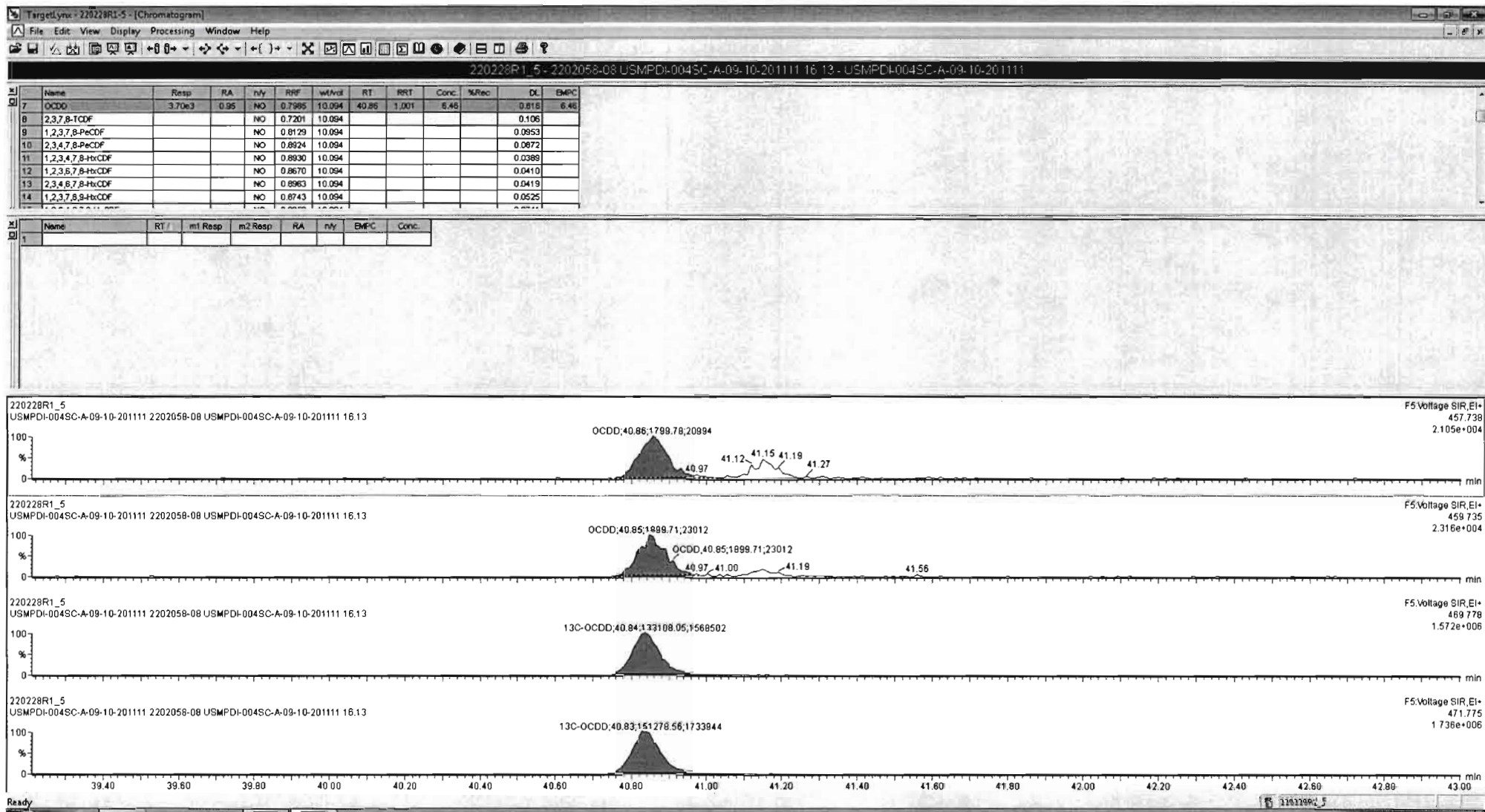


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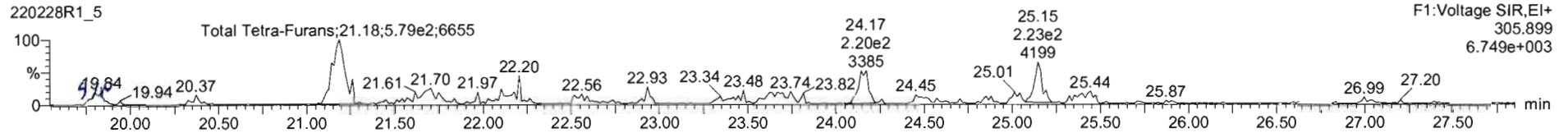
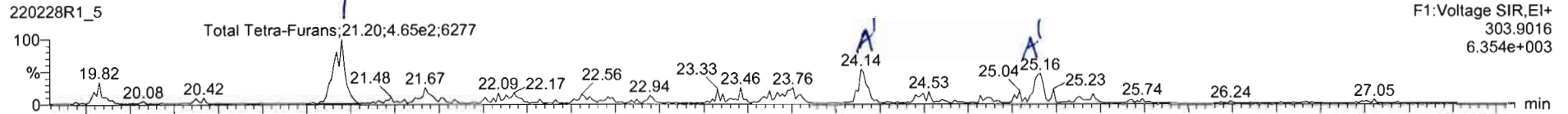


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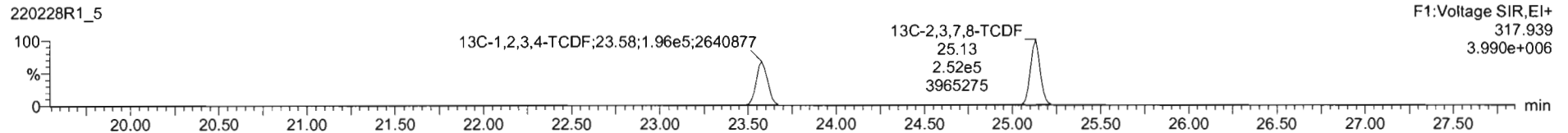
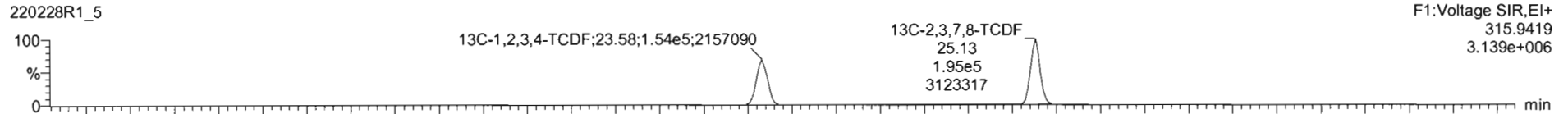
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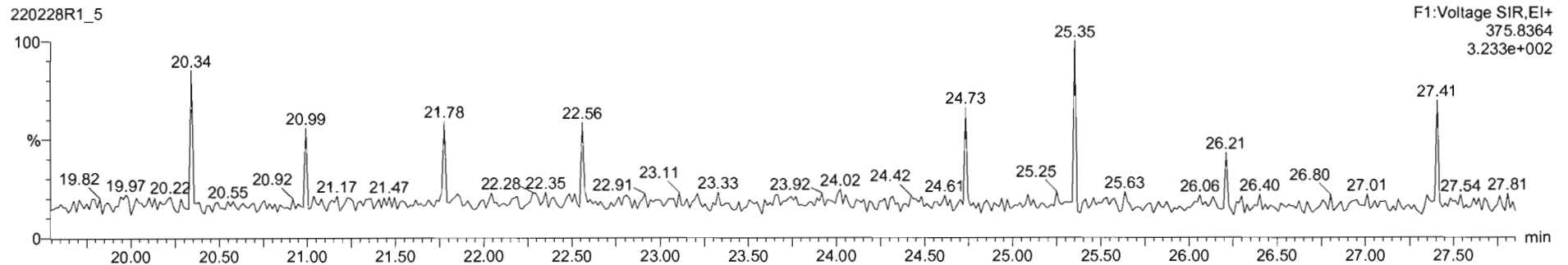
2,3,7,8-TCDF



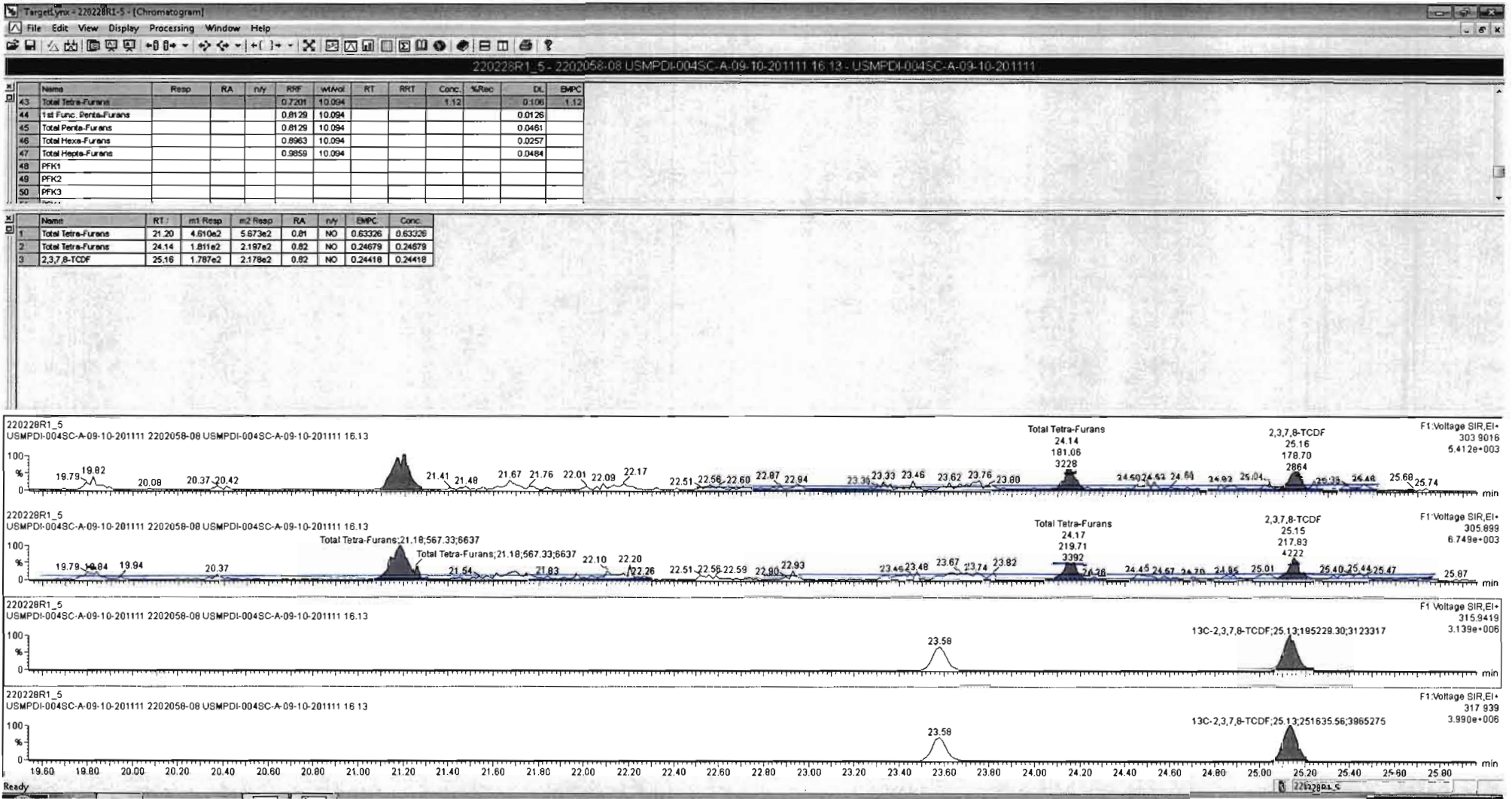
13C-2,3,7,8-TCDF



DPE1







Dataset: Untitled

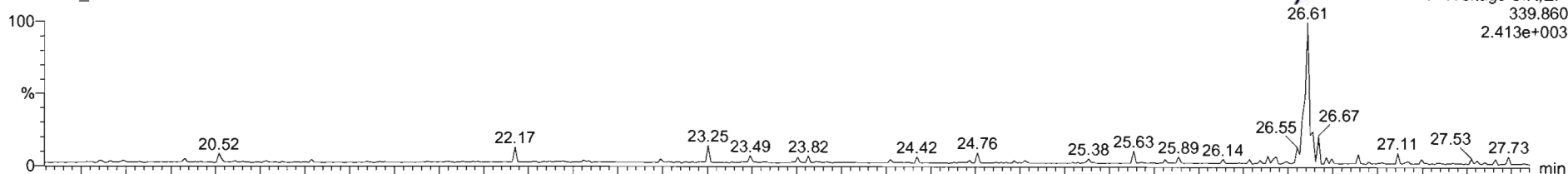
Last Altered: Tuesday, March 01, 2022 12:39:30 Pacific Standard Time

Printed: Tuesday, March 01, 2022 12:39:56 Pacific Standard Time

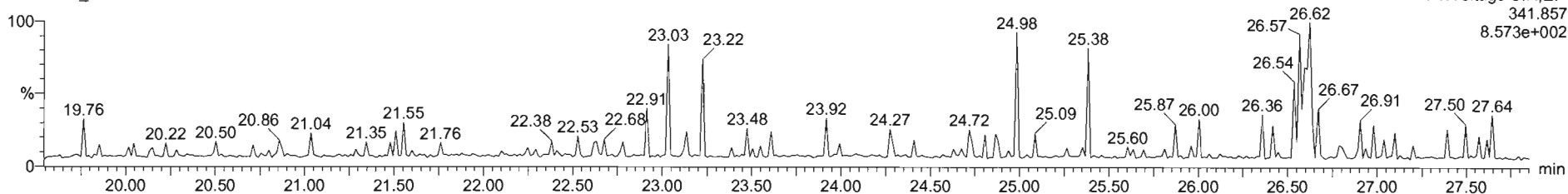
*★ only 02/10-2022*  
Name: 220228R1\_5, Date: 28-Feb-2022, Time: 13:52:47, ID: 2202058-08 USMPDI-004SC-A-09-10-201111 16.13, Description: USMPDI-004SC-A-09-10-201111

1st Func. Penta-Furans

220228R1\_5

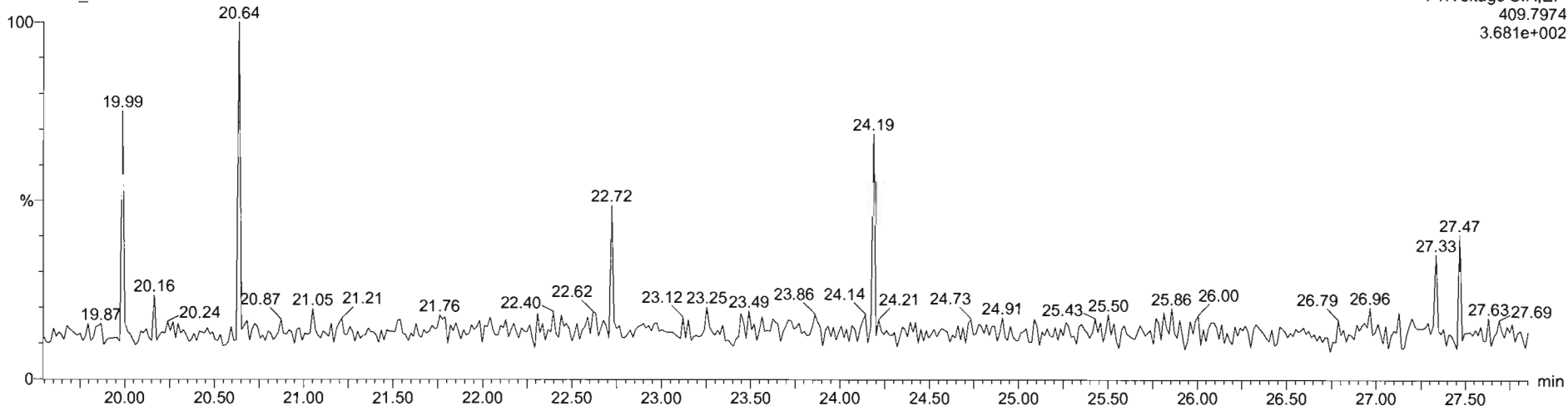


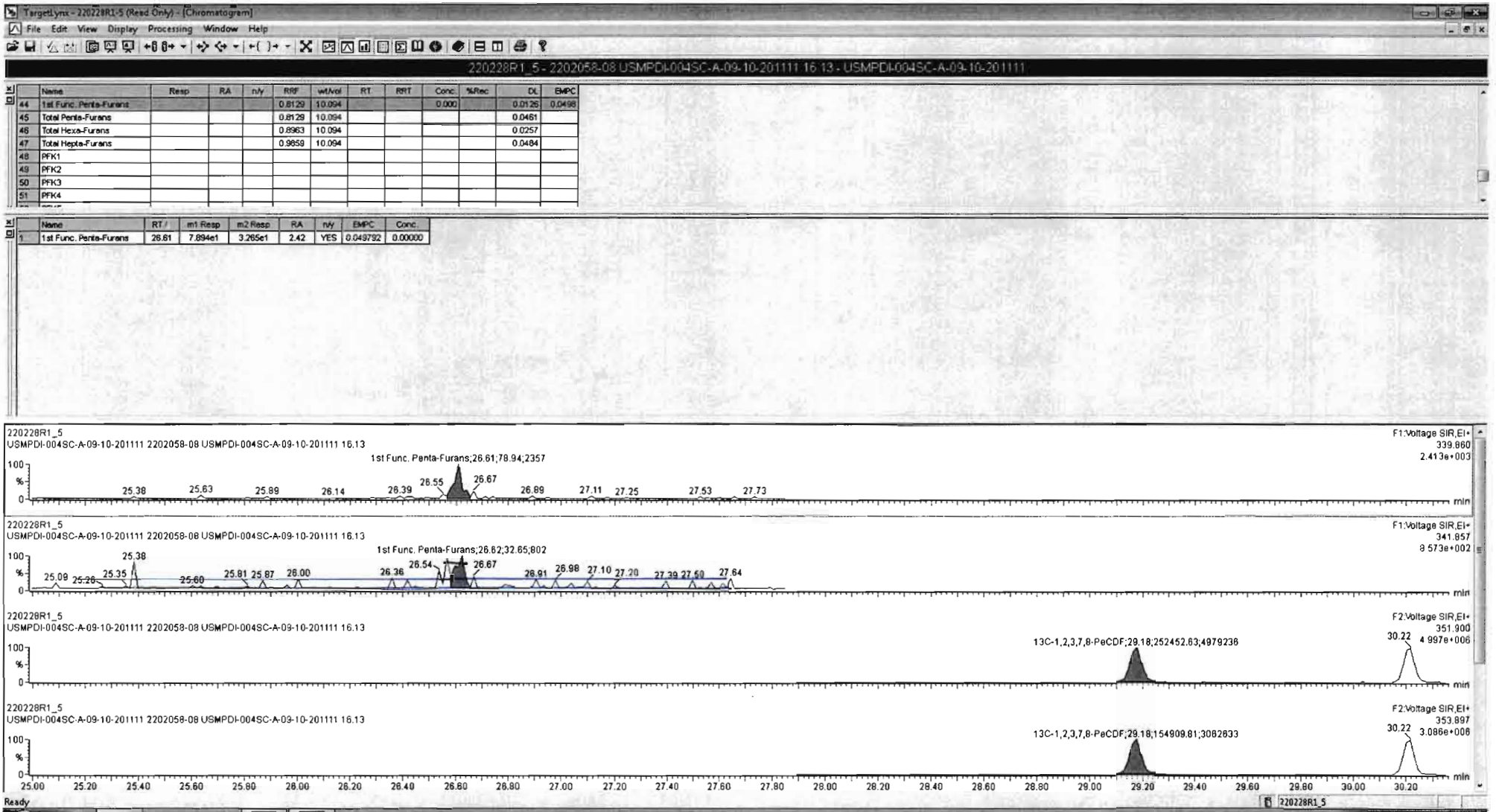
220228R1\_5



DPE6

220228R1\_5





Dataset: Untitled

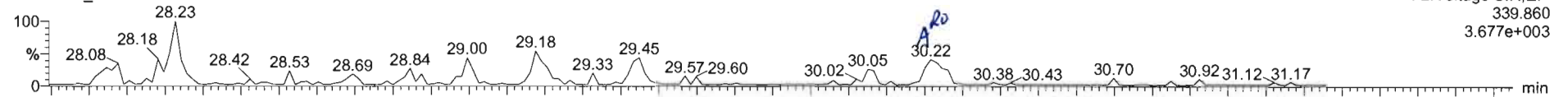
Last Altered: Tuesday, March 01, 2022 12:39:30 Pacific Standard Time

Printed: Tuesday, March 01, 2022 12:39:56 Pacific Standard Time

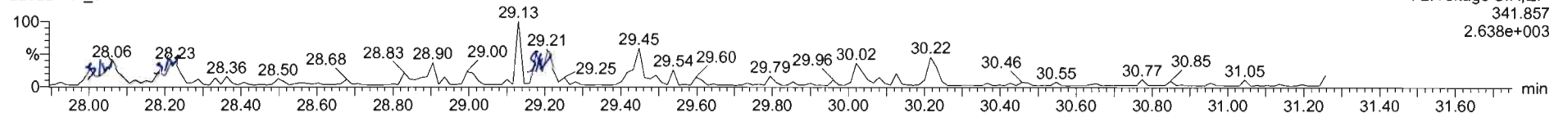
Name: 220228R1\_5, Date: 28-Feb-2022, Time: 13:52:47, ID: 2202058-08 USMPDI-004SC-A-09-10-201111 16.13, Description: USMPDI-004SC-A-09-10-201111

1,2,3,7,8-PeCDF

220228R1\_5

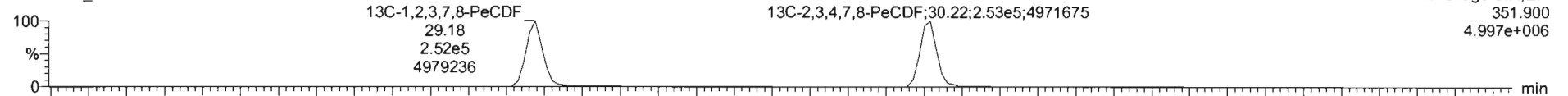


220228R1\_5

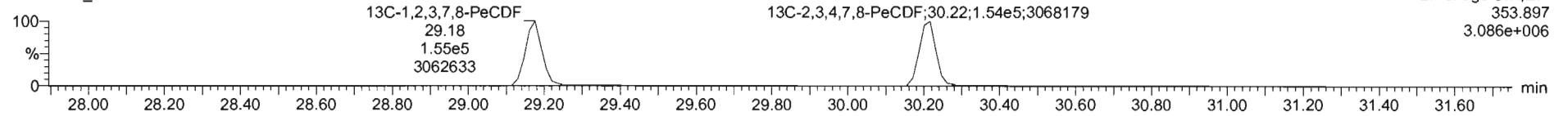


13C-1,2,3,7,8-PeCDF

220228R1\_5

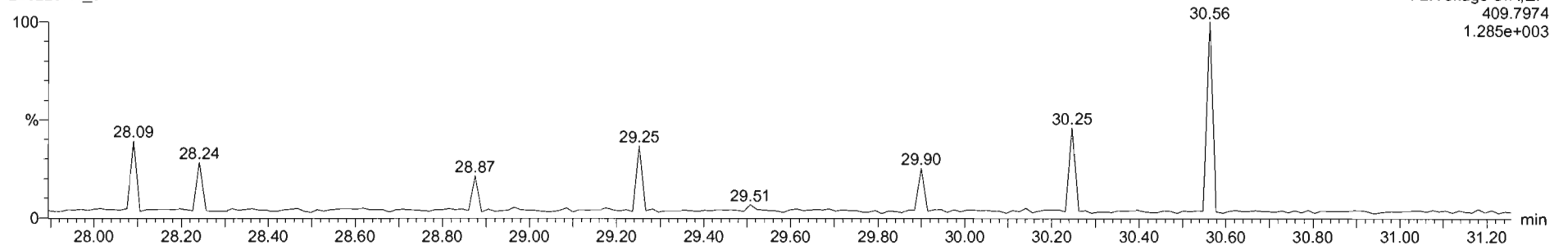


220228R1\_5

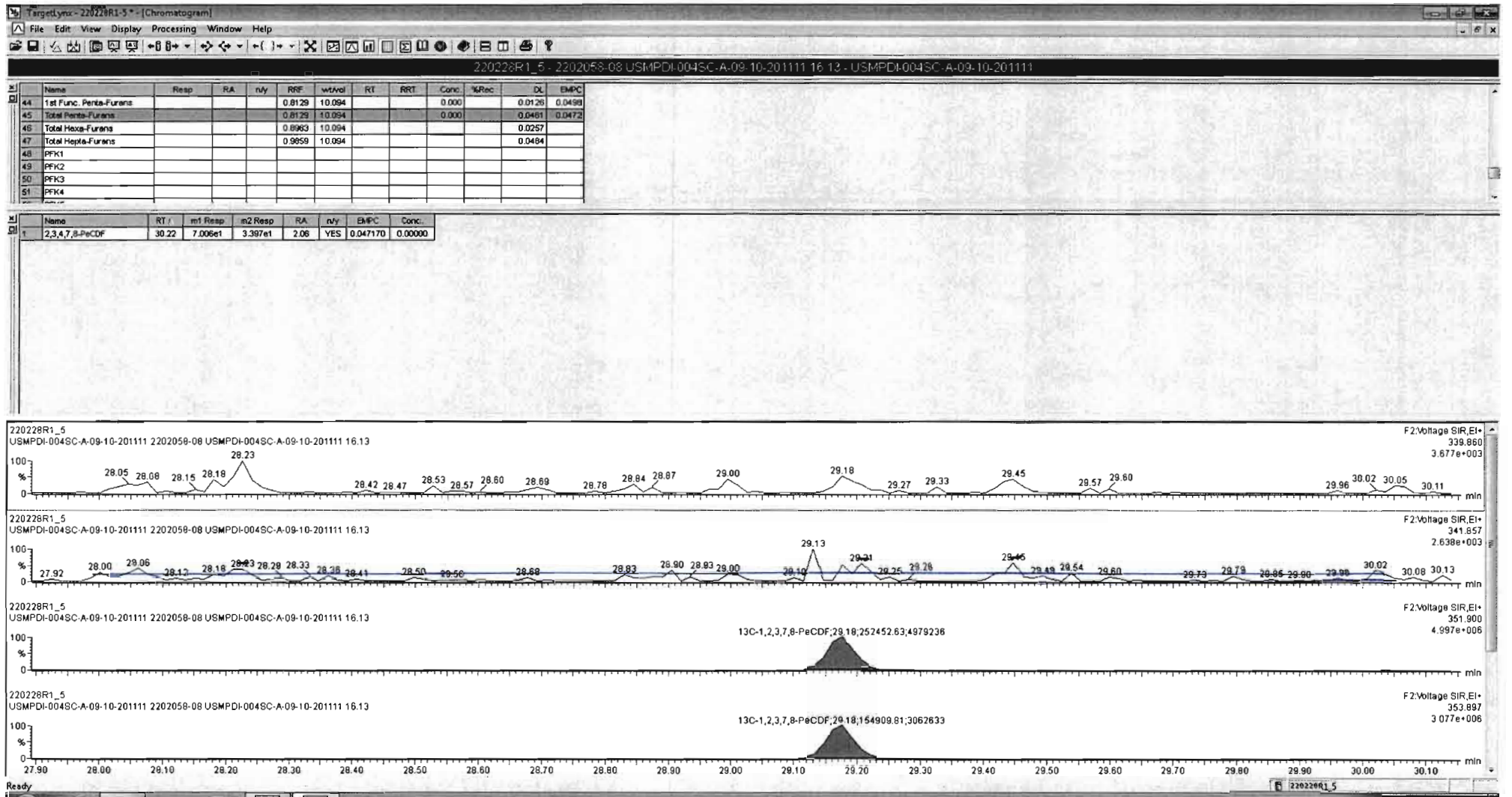


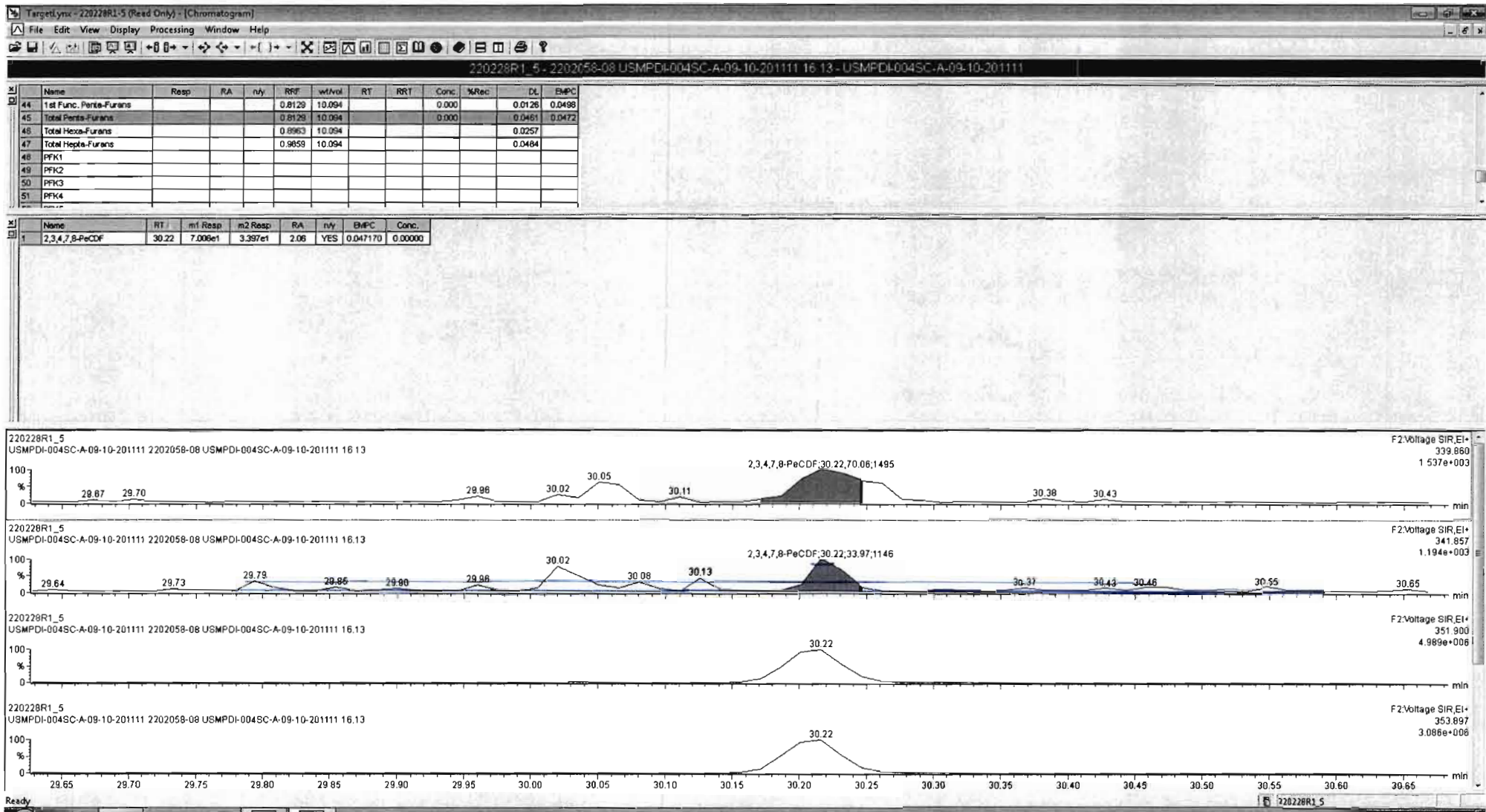
DPE2

220228R1\_5











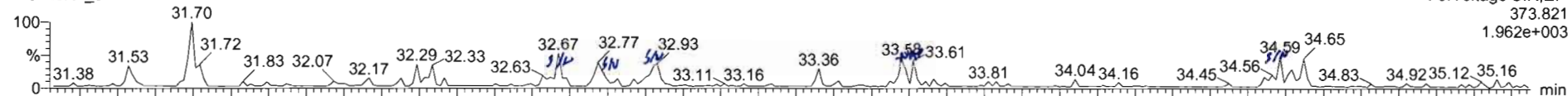
Dataset: Untitled

Last Altered: Tuesday, March 01, 2022 12:39:30 Pacific Standard Time  
Printed: Tuesday, March 01, 2022 12:39:56 Pacific Standard Time

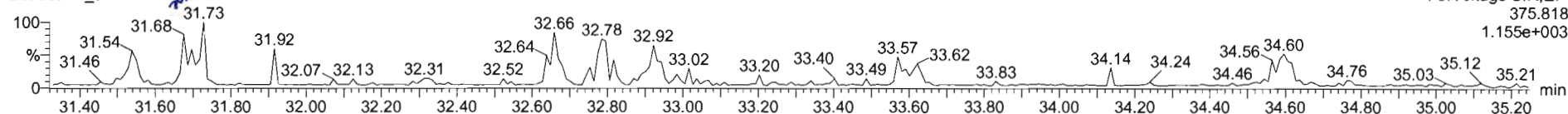
Name: 220228R1\_5, Date: 28-Feb-2022, Time: 13:52:47, ID: 2202058-08 USMPDI-004SC-A-09-10-201111 16.13, Description: USMPDI-004SC-A-09-10-201111

1,2,3,4,7,8-HxCDF

220228R1\_5

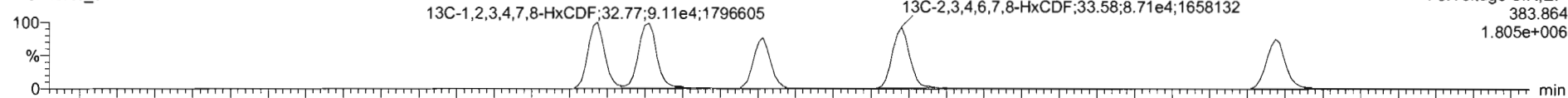


220228R1\_5

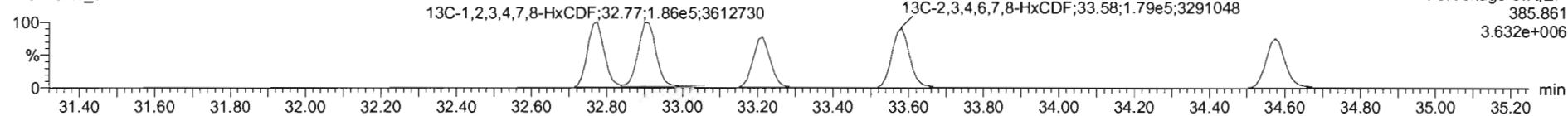


13C-1,2,3,4,7,8-HxCDF

220228R1\_5

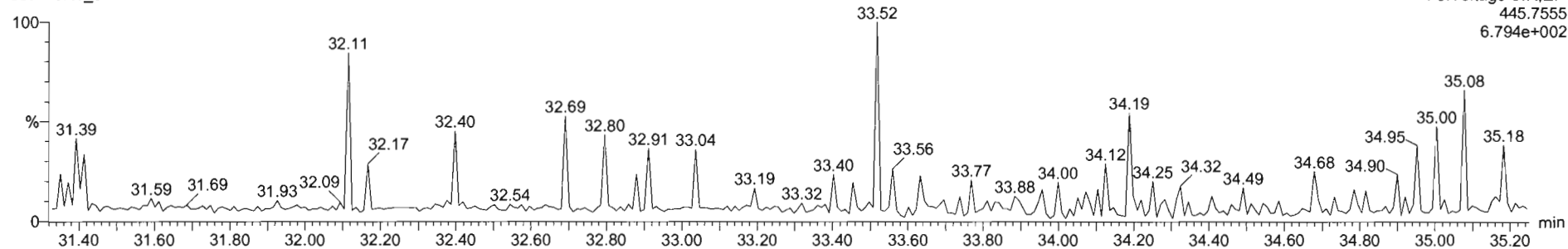


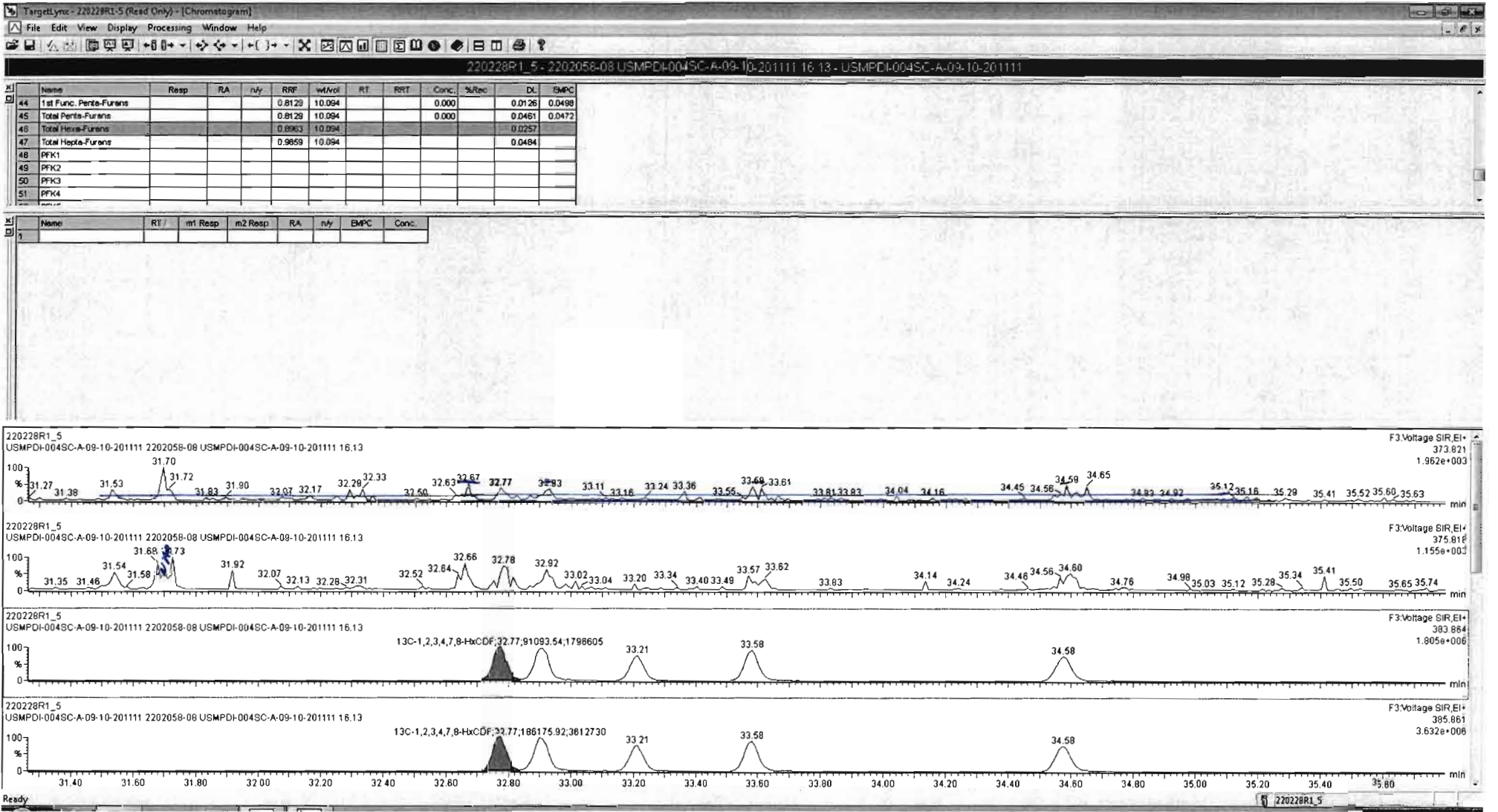
220228R1\_5



DPE3

220228R1\_5





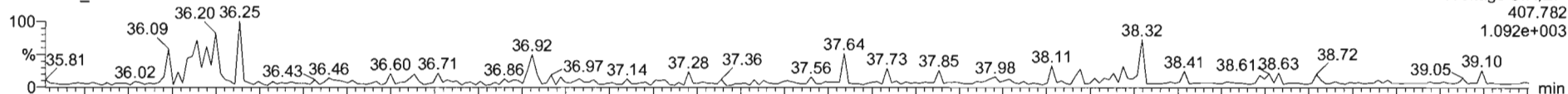
Dataset: Untitled

Last Altered: Tuesday, March 01, 2022 12:39:30 Pacific Standard Time  
Printed: Tuesday, March 01, 2022 12:39:56 Pacific Standard Time

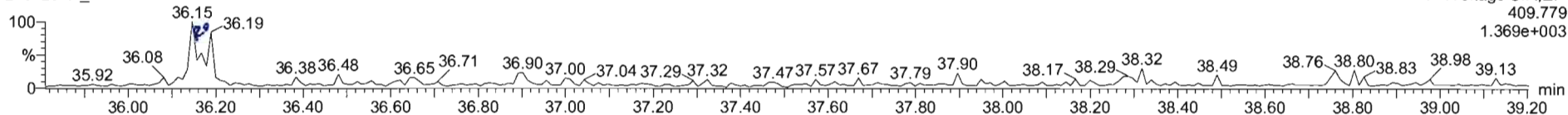
Name: 220228R1\_5, Date: 28-Feb-2022, Time: 13:52:47, ID: 2202058-08 USMPDI-004SC-A-09-10-201111 16.13, Description: USMPDI-004SC-A-09-10-201111

1,2,3,4,6,7,8-HpCDF

220228R1\_5

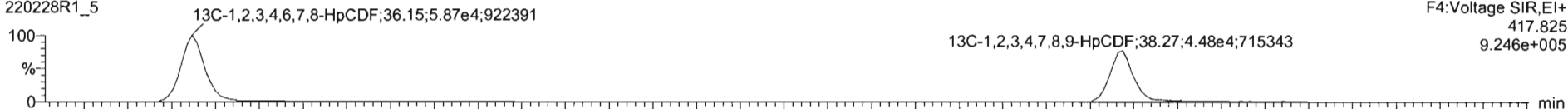


220228R1\_5

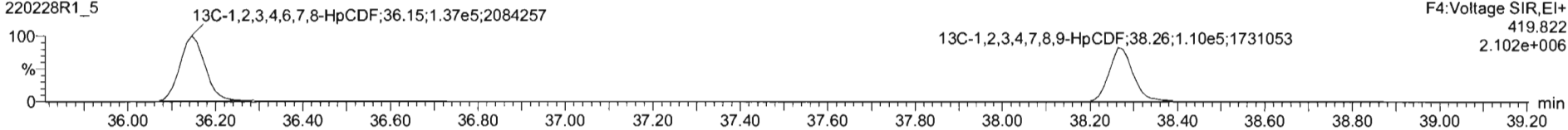


13C-1,2,3,4,6,7,8-HpCDF

220228R1\_5

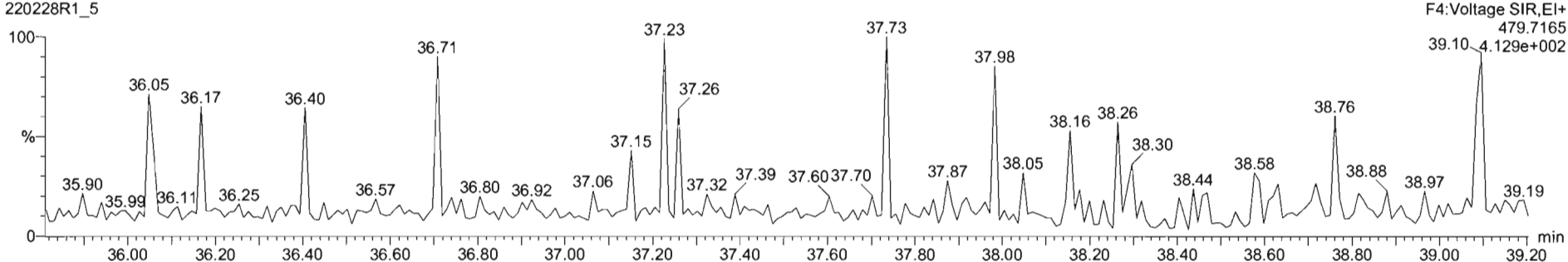


220228R1\_5



DPE4

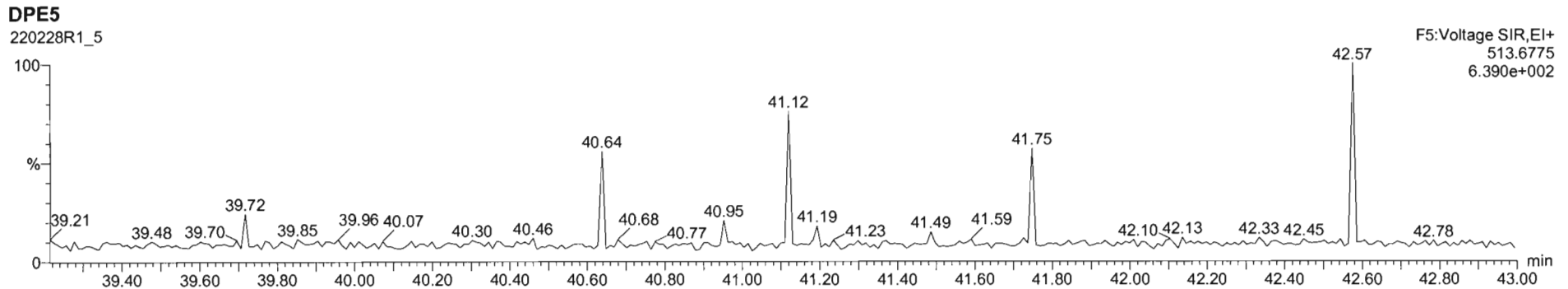
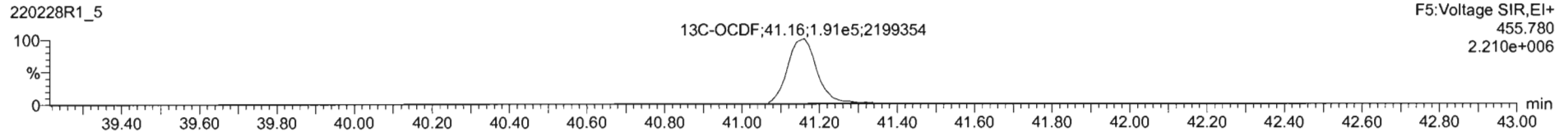
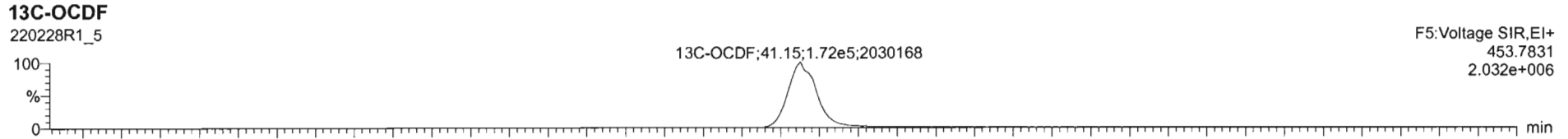
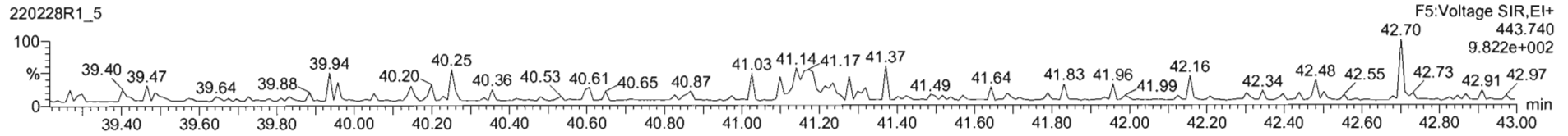
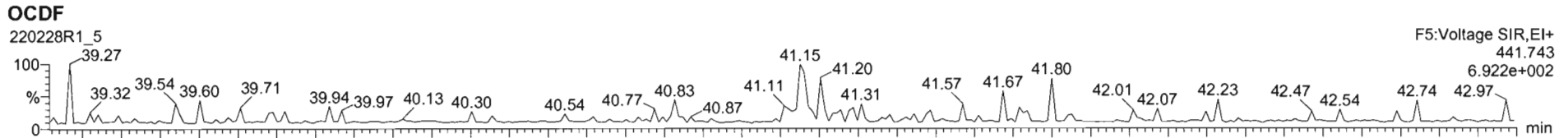
220228R1\_5



Dataset: Untitled

Last Altered: Tuesday, March 01, 2022 12:39:30 Pacific Standard Time  
Printed: Tuesday, March 01, 2022 12:39:56 Pacific Standard Time

Name: 220228R1\_5, Date: 28-Feb-2022, Time: 13:52:47, ID: 2202058-08 USMPDI-004SC-A-09-10-201111 16.13, Description: USMPDI-004SC-A-09-10-201111



Dataset: Untitled

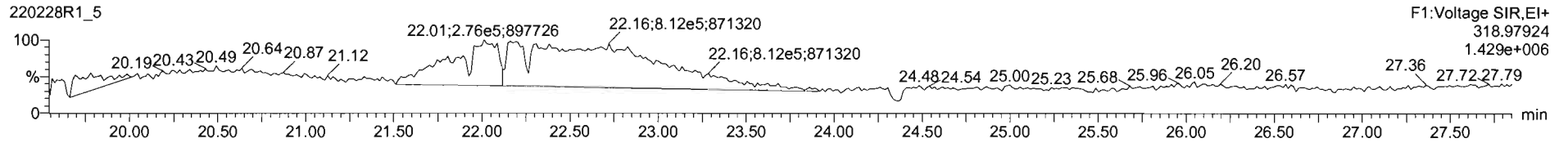
Last Altered: Tuesday, March 01, 2022 12:39:30 Pacific Standard Time

Printed: Tuesday, March 01, 2022 12:39:56 Pacific Standard Time

Name: 220228R1\_5, Date: 28-Feb-2022, Time: 13:52:47, ID: 2202058-08 USMPDI-004SC-A-09-10-201111 16.13, Description: USMPDI-004SC-A-09-10-201111

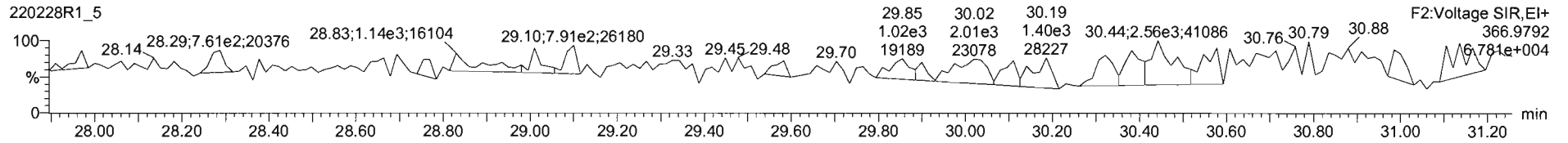
PFK1

220228R1\_5



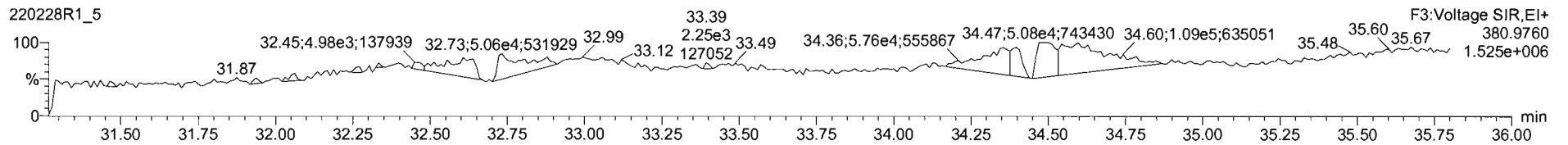
PFK2

220228R1\_5



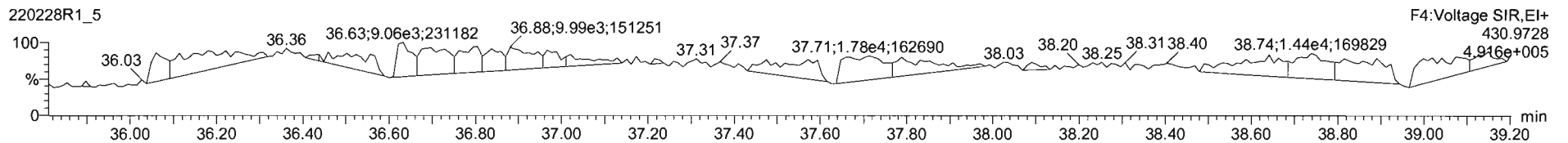
PFK3

220228R1\_5



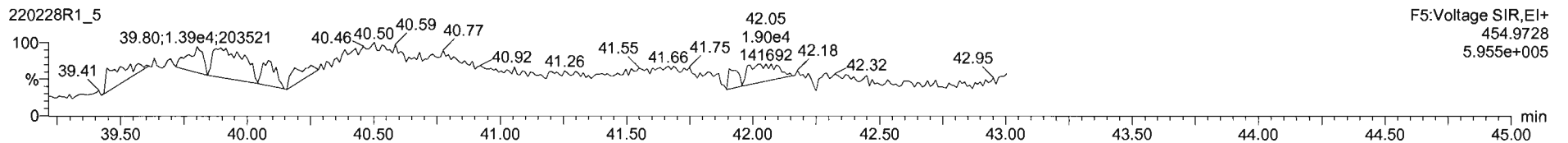
PFK4

220228R1\_5



PFK5

220228R1\_5



**CONTINUING CALIBRATION**



**HRMS CALIBRATION STANDARDS REVIEW CHECKLIST**

**Beg. Calibration ID:** ST22024R3-1 ①

**Reviewed By:** \_\_\_\_\_ H. 3.1.2022  
*Initials & Date*

**End Calibration ID:** ST22024R4-1 ④

	<u>Beg.</u>	<u>End</u>
<b>Ion abundance within QC limits?</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Concentrations within criteria?</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>TCDD/TCDF Valleys &lt;25%</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>First and last eluters present?</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Retention Times within criteria?</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Verification Std. named correctly?</b> (ST-Year-Month-Day-VG ID)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Forms signed and dated?</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Correct ICAL referenced?</b>	<u>DP</u>	<u>DP</u>
<b><u>Run Log:</u></b>		
- Correct instrument listed?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
- Samples within 12 hour clock?	<u>(Y)</u>	N
- Bottle position verified?	<u>DP</u>	

**Mass resolution >**

5k    6-8K    8K    10K  
 1614   1699   429   1613/1668/8280

**Intergrated peaks display correctly?**

**GC Break <20%**   NA

**8280 CS1 End Standard:**

- Ratios within limits, S/N <2.5:1, CS1 within 12 hours

**Comments:**

① used as end standard

② Some masses under 10 k for end resolution check.

Dataset: I:\VG12.PRO\Results\220224R3\220224R3\_1.qld

Last Altered: Friday, February 25, 2022 16:49:19 Pacific Standard Time  
Printed: Friday, February 25, 2022 16:50:50 Pacific Standard Time

*JF 02/28/22*  
*02/25/22*

Method: I:\VG12.PRO\MethDB\1613rrt-2-17-22.mdb 17 Feb 2022 13:16:14  
Calibration: I:\VG12.PRO\CurveDB\dbDIOXIN\_1613vg12-07-30-21.cdb 02 Aug 2021 09:55:11

*HC 2-26-2022*

Name: 220224R3\_1, Date: 24-Feb-2022, Time: 15:16:32, ID: ST220224R3\_1 1613 CS3 21G0805, Description: 1613 CS3 21G0805

#	Name	Resp	IS Resp	RA	n/y	RRF	Pred.RT	RT	RT Flag	Pred.RRT	RRT	Conc.	%Rec	STD out
1	1 2,3,7,8-TCDD	1.60e4	1.76e5	0.75	NO	0.952	25.84	25.83	NO	1.001	1.001	9.5223	95.2	NO
2	2 1,2,3,7,8-PeCDD	5.40e4	1.40e5	0.60	NO	0.781	30.41	30.40	NO	1.001	1.000	49.264	98.5	NO
3	3 1,2,3,4,7,8-HxCDD	4.37e4	9.43e4	1.26	NO	0.904	33.68	33.69	NO	1.001	1.001	51.216	102	NO
4	4 1,2,3,6,7,8-HxCDD	4.22e4	1.09e5	1.25	NO	0.806	33.81	33.81	NO	1.001	1.001	48.029	96.1	NO
5	5 1,2,3,7,8,9-HxCDD	4.25e4	1.06e5	1.24	NO	0.814	34.07	34.07	NO	1.000	1.000	49.444	98.9	NO
6	6 1,2,3,4,6,7,8-HpCDD	3.18e4	7.81e4	0.99	NO	0.836	37.62	37.62	NO	1.000	1.000	48.712	97.4	NO
7	7 OCDD	5.56e4	1.45e5	0.89	NO	0.798	40.89	40.88	NO	1.000	1.000	96.016	96.0	NO
8	8 2,3,7,8-TCDF	1.60e4	2.52e5	0.80	NO	0.720	25.15	25.16	NO	1.000	1.001	8.8201	88.2	NO
9	9 1,2,3,7,8-PeCDF	7.48e4	1.92e5	1.56	NO	0.813	29.18	29.19	NO	1.000	1.001	47.990	96.0	NO
10	10 2,3,4,7,8-PeCDF	8.66e4	1.90e5	1.59	NO	0.892	30.22	30.22	NO	1.001	1.000	51.054	102	NO
11	11 1,2,3,4,7,8-HxCDF	5.53e4	1.25e5	1.22	NO	0.893	32.77	32.77	NO	1.000	1.000	49.366	98.7	NO
12	12 1,2,3,6,7,8-HxCDF	5.54e4	1.29e5	1.24	NO	0.867	32.91	32.91	NO	1.001	1.001	49.478	99.0	NO
13	13 2,3,4,6,7,8-HxCDF	5.06e4	1.13e5	1.29	NO	0.896	33.58	33.57	NO	1.001	1.000	49.910	99.8	NO
14	14 1,2,3,7,8,9-HxCDF	4.62e4	1.08e5	1.21	NO	0.874	34.58	34.58	NO	1.000	1.000	48.836	97.7	NO
15	15 1,2,3,4,6,7,8-HpCDF	3.61e4	7.51e4	1.04	NO	0.986	36.17	36.18	NO	1.000	1.001	48.729	97.5	NO
16	16 1,2,3,4,7,8,9-HpCDF	3.22e4	6.67e4	1.02	NO	0.966	38.29	38.29	NO	1.000	1.000	49.954	99.9	NO
17	17 OCDF	5.99e4	1.71e5	0.83	NO	0.722	41.20	41.20	NO	1.000	1.000	97.104	97.1	NO
18	18 13C-2,3,7,8-TCDD	1.76e5	1.72e5	0.75	NO	1.11	25.76	25.81	NO	1.028	1.030	92.527	92.5	NO
19	19 13C-1,2,3,7,8-PeCDD	1.40e5	1.72e5	0.61	NO	0.893	30.10	30.38	NO	1.201	1.212	91.419	91.4	NO
20	20 13C-1,2,3,4,7,8-HxCDD	9.43e4	1.35e5	1.30	NO	0.784	33.66	33.66	NO	1.014	1.014	89.079	89.1	NO
21	21 13C-1,2,3,6,7,8-HxCDD	1.09e5	1.35e5	1.18	NO	0.863	33.78	33.79	NO	1.017	1.018	93.518	93.5	NO
22	22 13C-1,2,3,7,8,9-HxCDD	1.06e5	1.35e5	1.21	NO	0.905	34.07	34.06	NO	1.026	1.026	86.344	86.3	NO
23	23 13C-1,2,3,4,6,7,8-HpCDD	7.81e4	1.35e5	1.03	NO	0.644	37.49	37.60	NO	1.129	1.133	89.816	89.8	NO
24	24 13C-OCDD	1.45e5	1.35e5	0.87	NO	0.528	40.75	40.88	NO	1.227	1.231	203.46	102	NO
25	25 13C-2,3,7,8-TCDF	2.52e5	2.34e5	0.75	NO	1.15	25.14	25.15	NO	1.003	1.004	93.471	93.5	NO
26	26 13C-1,2,3,7,8-PeCDF	1.92e5	2.34e5	1.59	NO	0.905	28.93	29.18	NO	1.155	1.164	90.385	90.4	NO
27	27 13C-2,3,4,7,8-PeCDF	1.90e5	2.34e5	1.58	NO	0.899	30.16	30.20	NO	1.204	1.205	90.224	90.2	NO
28	28 13C-1,2,3,4,7,8-HxCDF	1.25e5	1.35e5	0.48	NO	1.00	32.75	32.76	NO	0.986	0.987	92.585	92.6	NO
29	29 13C-1,2,3,6,7,8-HxCDF	1.29e5	1.35e5	0.48	NO	1.04	32.88	32.89	NO	0.990	0.991	91.642	91.6	NO
30	30 13C-2,3,4,6,7,8-HxCDF	1.13e5	1.35e5	0.47	NO	0.916	33.55	33.56	NO	1.010	1.011	91.504	91.5	NO
31	31 13C-1,2,3,7,8,9-HxCDF	1.08e5	1.35e5	0.47	NO	0.859	34.58	34.56	NO	1.041	1.041	93.101	93.1	NO

Dataset: I:\VG12.PRO\Results\220224R3\220224R3\_1.qld

Last Altered: Friday, February 25, 2022 16:49:19 Pacific Standard Time

Printed: Friday, February 25, 2022 16:50:50 Pacific Standard Time

Name: 220224R3\_1, Date: 24-Feb-2022, Time: 15:16:32, ID: ST220224R3\_1 1613 CS3 21G0805, Description: 1613 CS3 21G0805

#	Name	Resp	IS Resp	RA	n/y	RRF	Pred.RT	RT	RT Flag	Pred.RRT	RRT	Conc.	%Rec	STD out
32	32 13C-1,2,3,4,6,7,8-HpCDF	7.51e4	1.35e5	0.39	NO	0.632	36.18	36.16	NO	1.090	1.089	87.908	87.9	NO
33	33 13C-1,2,3,4,7,8,9-HpCDF	6.67e4	1.35e5	0.39	NO	0.552	38.16	38.27	NO	1.149	1.153	89.345	89.3	NO
34	34 13C-OCDF	1.71e5	1.35e5	0.84	NO	0.606	41.08	41.19	NO	1.237	1.241	208.98	104	NO
35	35 37Cl-2,3,7,8-TCDD	1.59e4	1.72e5			1.01	25.78	25.83	NO	1.029	1.031	9.1289	91.3	NO
36	36 13C-1,2,3,4-TCDD	1.72e5	1.72e5	0.74	NO	1.00	25.01	25.06	NO	1.000	1.000	100.00	100	NO
37	37 13C-1,2,3,4-TCDF	2.34e5	2.34e5	0.77	NO	1.00	23.58	23.59	NO	1.000	1.000	100.00	100	NO
38	38 13C-1,2,3,4,6,9-HxCDF	1.35e5	1.35e5	0.47	NO	1.00	33.17	33.20	NO	1.000	1.000	100.00	100	YES <i>ok</i>

Dataset: Untitled

Last Altered: Friday, February 25, 2022 16:55:49 Pacific Standard Time

Printed: Friday, February 25, 2022 16:55:59 Pacific Standard Time

Method: I:\VG12.PRO\MethDB\1613rrt-2-17-22.mdb 17 Feb 2022 13:16:14

Calibration: I:\VG12.PRO\CurveDB\dbDIOXIN\_1613vg12-07-30-21.cdb 02 Aug 2021 09:55:11

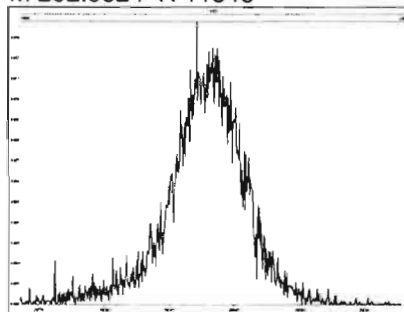
Compound name: 2,3,7,8-TCDD

	Name	ID	Acq.Date	Acq.Time
1	220224R3_1	ST220224R3_1 1613 CS3 21G0805	24-Feb-22	15:16:32
2	220224R3_2	B22B194-BS1 OPR 1	24-Feb-22	16:02:25
3	220224R3_3	B22B179-BS1 OPR 10	24-Feb-22	16:46:44
4	220224R3_4	B22B225-BS1 OPR 1	24-Feb-22	17:31:32
5	220224R3_5	SOLVENT BLANK	24-Feb-22	18:16:23
6	220224R3_6	B22B179-BLK1 Method Blank 10	24-Feb-22	19:01:10
7	220224R3_7	B22B225-BLK1 Method Blank 1	24-Feb-22	19:46:09
8	220224R3_8	2202180-01 LAO Intake-000A-24C 0.9587	24-Feb-22	20:30:58
9	220224R3_9	2202180-02 LAO Return-001A-24C 0.96802	24-Feb-22	21:15:46
10	220224R3_10	2110059-03RE2 C-21dy-SP1 0.96646	24-Feb-22	22:00:29
11	220224R3_11	2202015-01 C2A1306-01 16.49	24-Feb-22	22:45:19
12	220224R3_12	2202058-01 USMPDI-040SC-A-10-11-201103 ...	24-Feb-22	23:30:08
13	220224R3_13	2202058-02 USMPDI-040SC-A-11-12-201103 ...	25-Feb-22	00:14:59
14	220224R3_14	2202058-03 USMPDI-040SC-A-12-13-201103 ...	25-Feb-22	00:59:58
15	220224R3_15	2202058-04 USMPDI-056SC-A-07-08-201107 ...	25-Feb-22	01:44:47
16	220224R3_16	2202058-05 USMPDI-056SC-A-08-09-201107 ...	25-Feb-22	02:29:36
17	220224R4_1	SOLVENT BLANK	25-Feb-22	03:23:29
18	220224R4_2	ST220224R4_1 1613 CS3 21G0805	25-Feb-22	04:07:49

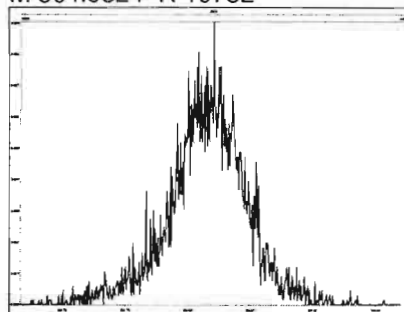
File: Experiment: OCDD\_DIOXIN.exp Reference: Pfk.ref Function: 1 @ 200 (ppm)

Printed: Thursday, February 24, 2022 15:13:38 Pacific Standard Time

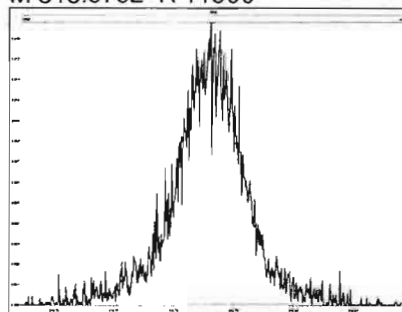
M 292.9824 R 11848



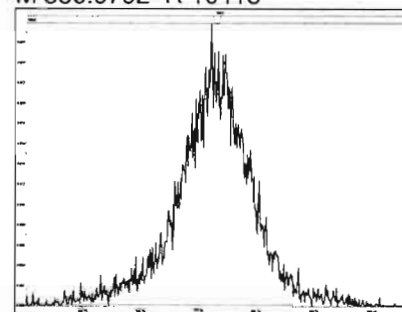
M 304.9824 R 10732



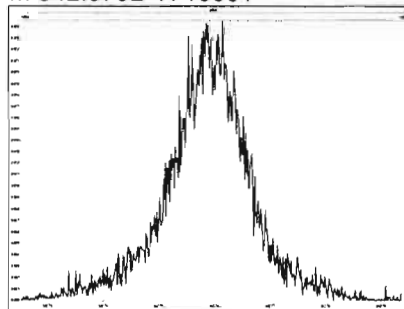
M 318.9792 R 11900



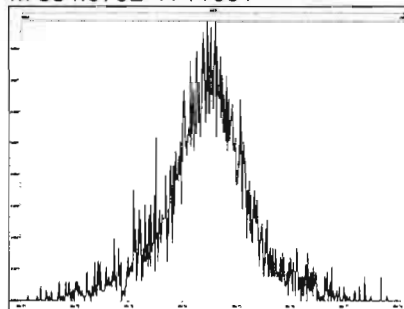
M 330.9792 R 10415



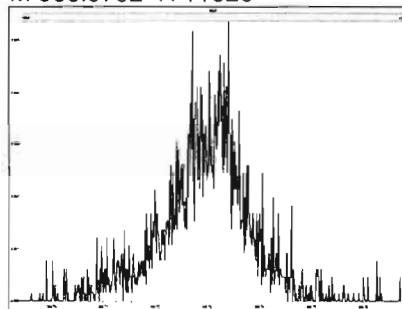
M 342.9792 R 10001



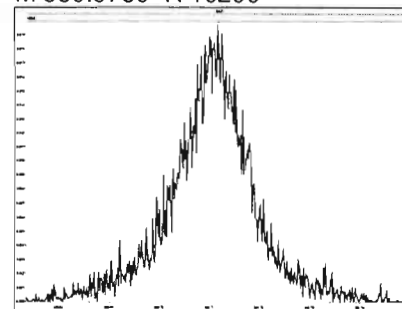
M 354.9792 R 11681



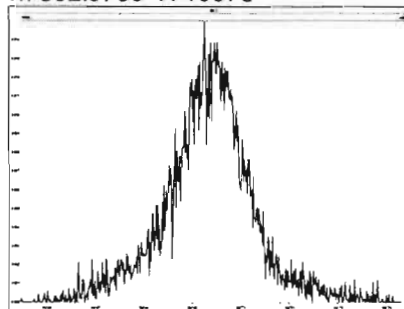
M 366.9792 R 11629



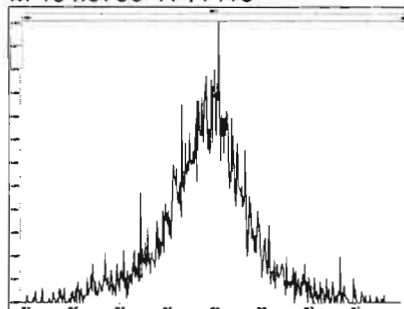
M 380.9760 R 10200



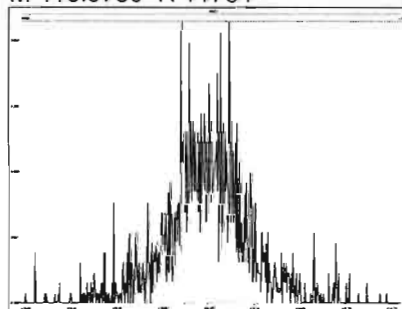
M 392.9760 R 10078



M 404.9760 R 11415



M 416.9760 R 11791



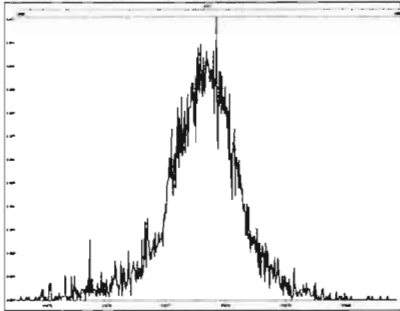
Experiment Calibration Report

MassLynx 4.1 SCN815

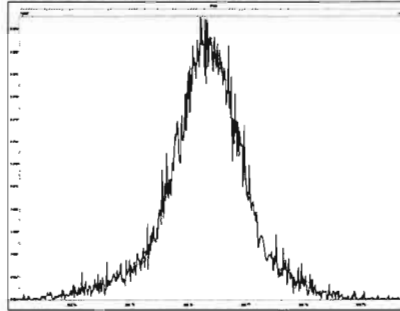
File: Experiment: OCDD\_DIOXIN.exp Reference: Pfk.ref Function: 2 @ 200 (ppm)

Printed: Thursday, February 24, 2022 15:14:16 Pacific Standard Time

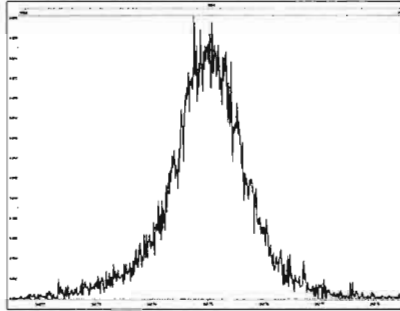
M 318.9792 R 12563



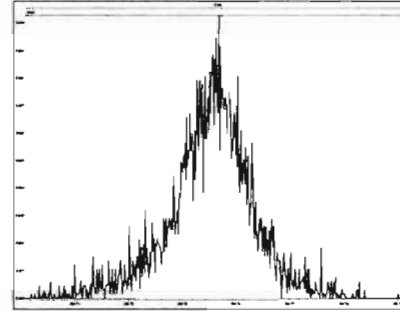
M 330.9792 R 10371



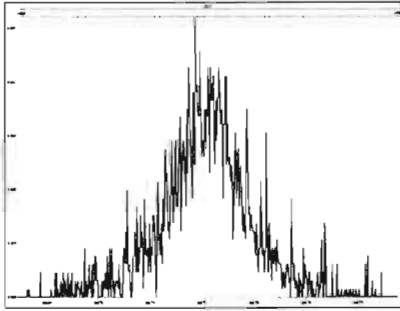
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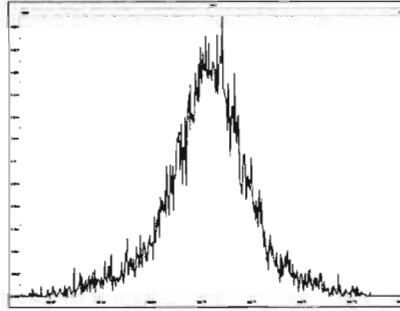
M 354.9792 R 11960



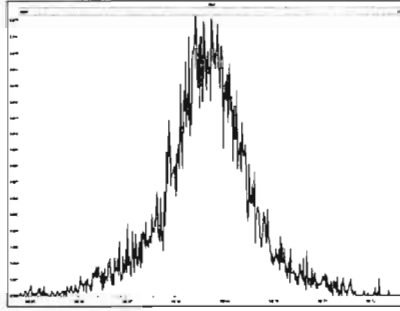
M 366.9792 R 14287



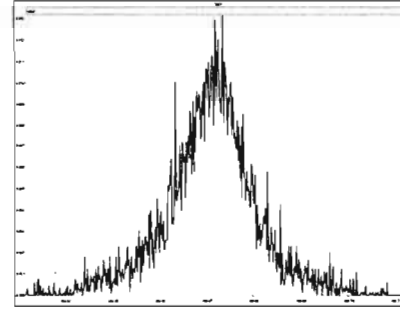
M 380.9760 R 10593



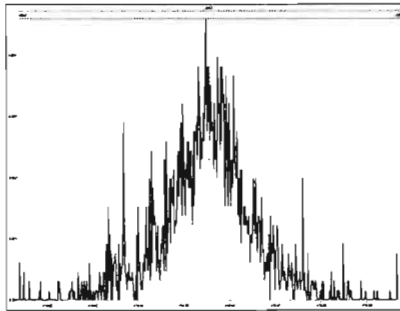
M 392.9760 R 10458



M 404.9760 R 12376



M 416.9760 R 14790

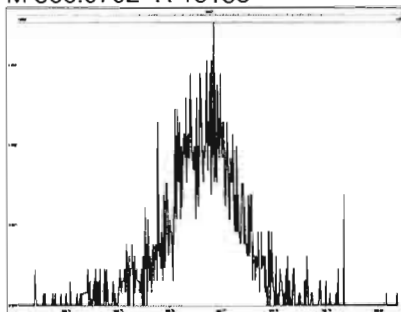




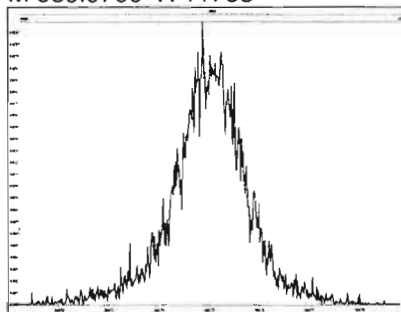
File: Experiment: OCDD\_DIOXIN.exp Reference: Pfk.ref Function: 3 @ 200 (ppm)

Printed: Thursday, February 24, 2022 15:14:43 Pacific Standard Time

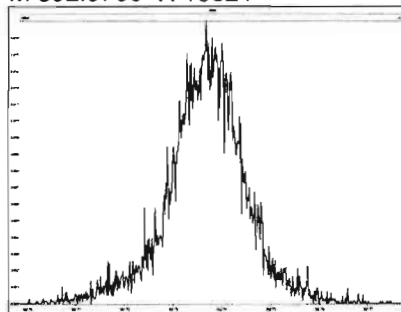
M 366.9792 R 15155



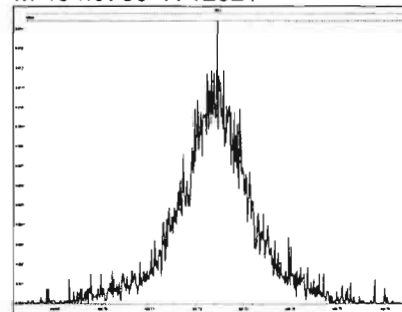
M 380.9760 R 11738



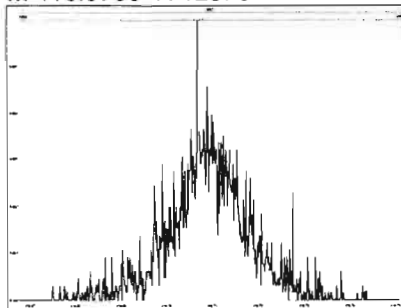
M 392.9760 R 10821



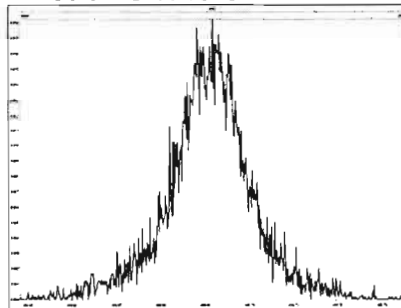
M 404.9760 R 12021



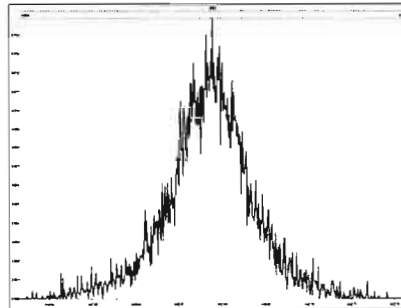
M 416.9760 R 12376



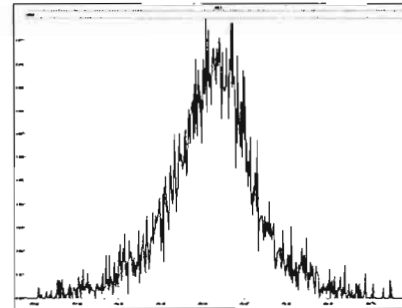
M 430.9728 R 10731



M 442.9728 R 11161



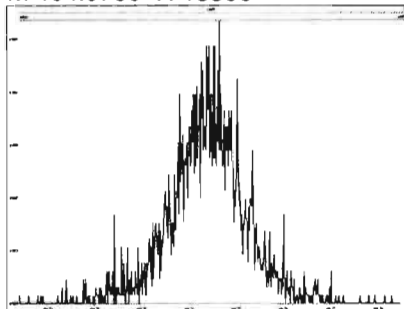
M 454.9728 R 11366



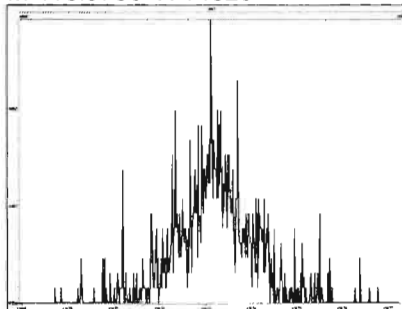
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Printed: Thursday, February 24, 2022 15:15:14 Pacific Standard Time

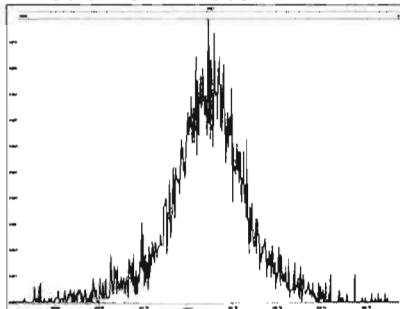
M 404.9760 R 13366



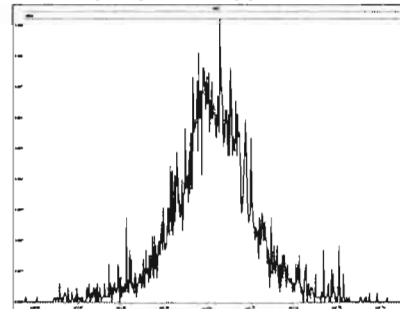
M 416.9760 R 14620



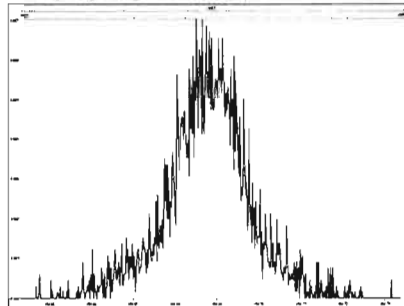
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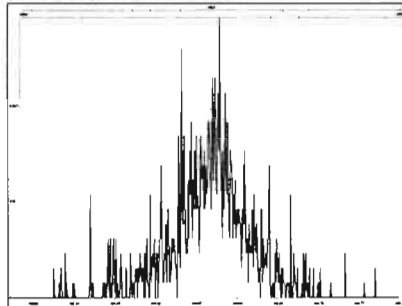
M 442.9728 R 11465



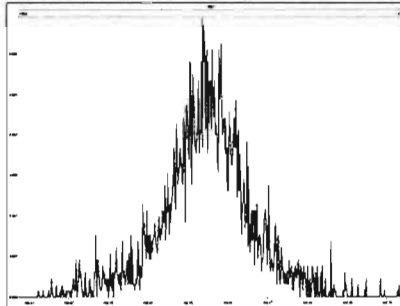
M 454.9728 R 11961



M 466.9728 R 20327



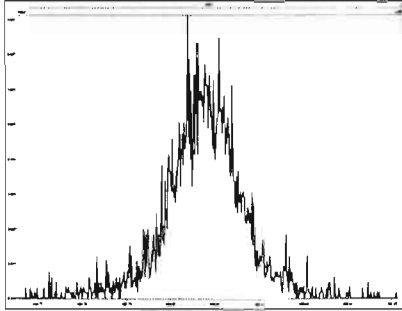
M 480.9696 R 10288



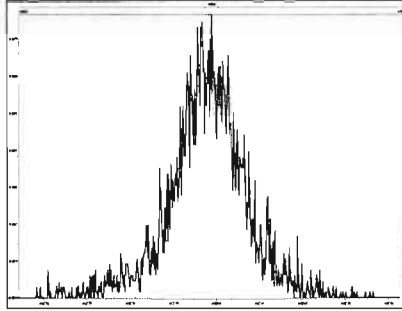
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Printed: Thursday, February 24, 2022 15:15:45 Pacific Standard Time

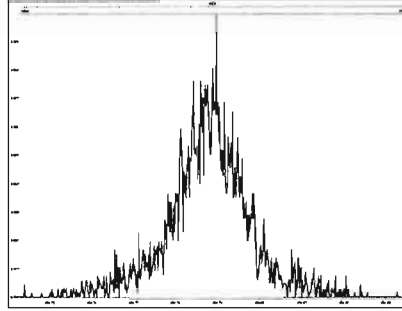
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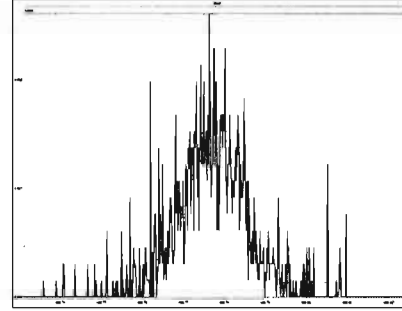
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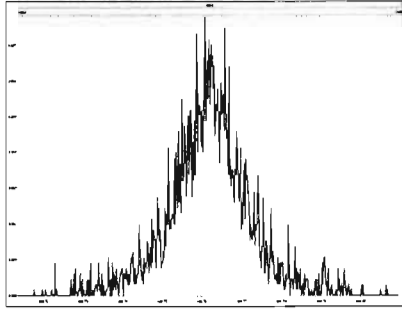
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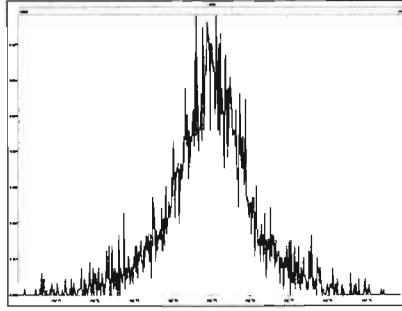
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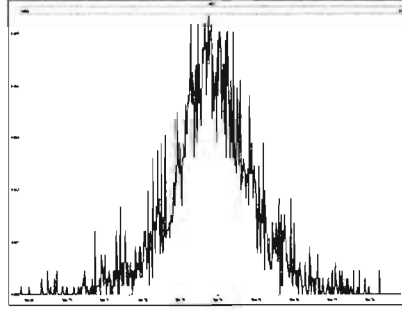
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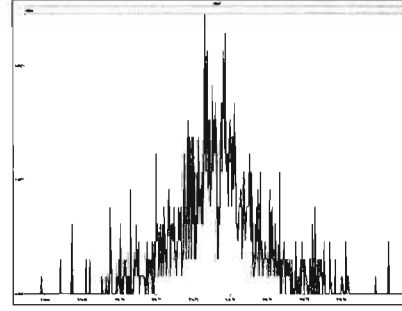
M 492.9696 R 11521



M 504.9696 R 14705



M 516.9697 R 14874



Dataset: Untitled

Last Altered: Friday, February 25, 2022 16:51:06 Pacific Standard Time

Printed: Friday, February 25, 2022 16:51:43 Pacific Standard Time

Method: I:\VG12.PRO\MethDB\CPSM.mdb 17 Feb 2022 13:18:32

Calibration: I:\VG12.PRO\CurveDB\dbDIOXIN\_1613vg12-07-30-21.cdb 02 Aug 2021 09:55:11

Name: 220224R3\_1, Date: 24-Feb-2022, Time: 15:16:32, ID: ST220224R3\_1 1613 CS3 21G0805, Description: 1613 CS3 21G0805

#	Name	RT
1	1 1,3,6,8-TCDD (First)	22.07
2	2 1,2,8,9-TCDD (Last)	26.70
3	3 1,2,4,7,9-PeCDD (First)	28.21
4	4 1,2,3,8,9-PeCDD (Last)	30.74
5	5 1,2,4,6,7,9-HxCDD (First)	32.04
6	6 1,2,3,7,8,9-HxCDD (Last)	34.07
7	7 1,2,3,4,6,7,9-HpCDD (First)	36.57
8	8 1,2,3,4,6,7,8-HpCDD (Last)	37.62
9	9 1,3,6,8-TCDF (First)	19.81
10	10 1,2,8,9-TCDF (Last)	27.01
11	11 1,3,4,6,8-PeCDF (First)	26.59
12	12 1,2,3,8,9-PeCDF (Last)	31.09
13	13 1,2,3,4,6,8-HxCDF (First)	31.50
14	14 1,2,3,7,8,9-HxCDF (Last)	34.58
15	15 1,2,3,4,6,7,8-HpCDF (First)	36.18
16	16 1,2,3,4,7,8,9-HpCDF (Last)	38.29

Dataset: Untitled

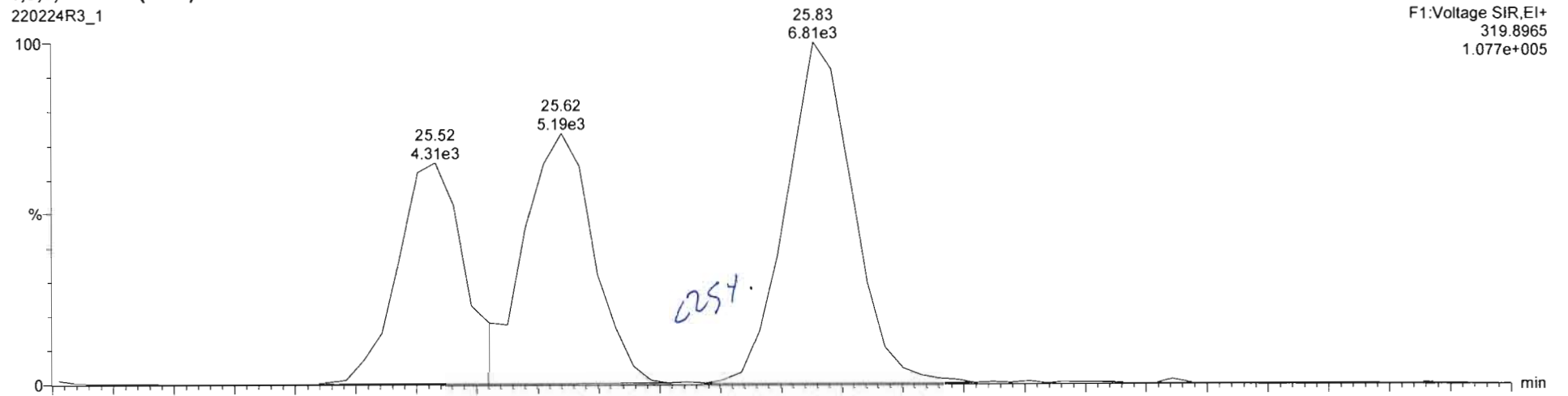
Last Altered: Friday, February 25, 2022 16:51:06 Pacific Standard Time  
Printed: Friday, February 25, 2022 16:51:43 Pacific Standard Time

Method: I:\VG12.PRO\MethDB\CPSM.mdb 17 Feb 2022 13:18:32  
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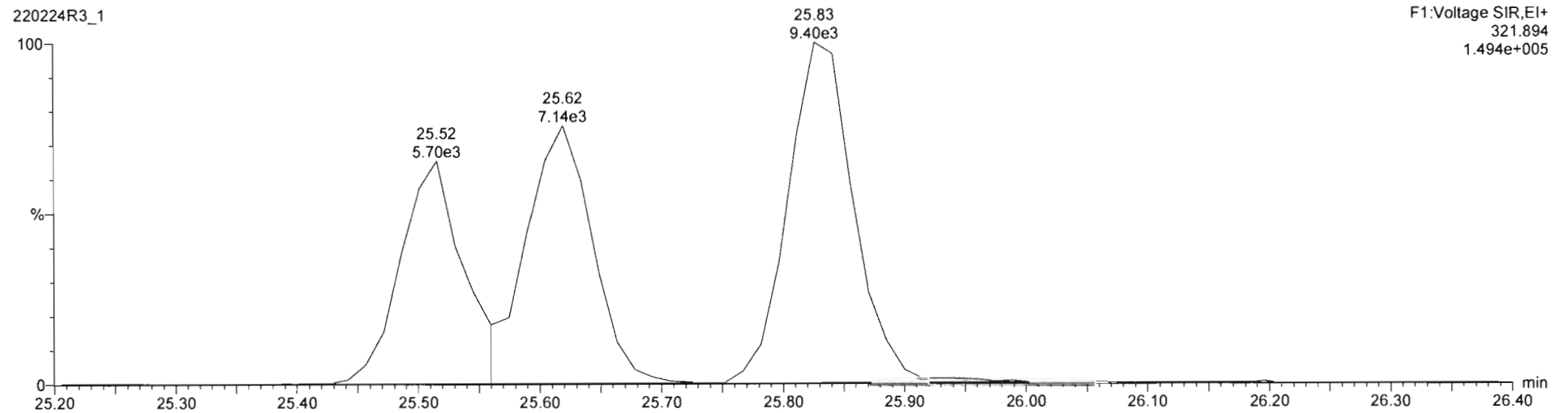
Name: 220224R3\_1, Date: 24-Feb-2022, Time: 15:16:32, ID: ST220224R3\_1 1613 CS3 21G0805, Description: 1613 CS3 21G0805

1,3,6,8-TCDD (First)

220224R3\_1



220224R3\_1



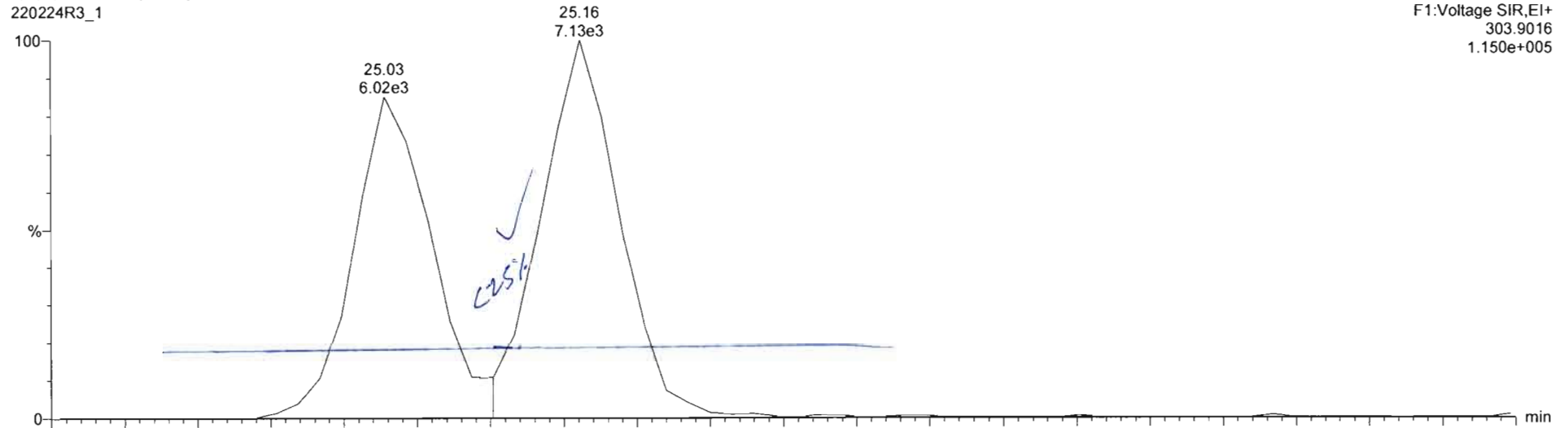
Dataset: Untitled

Last Altered: Friday, February 25, 2022 16:51:06 Pacific Standard Time  
Printed: Friday, February 25, 2022 16:51:43 Pacific Standard Time

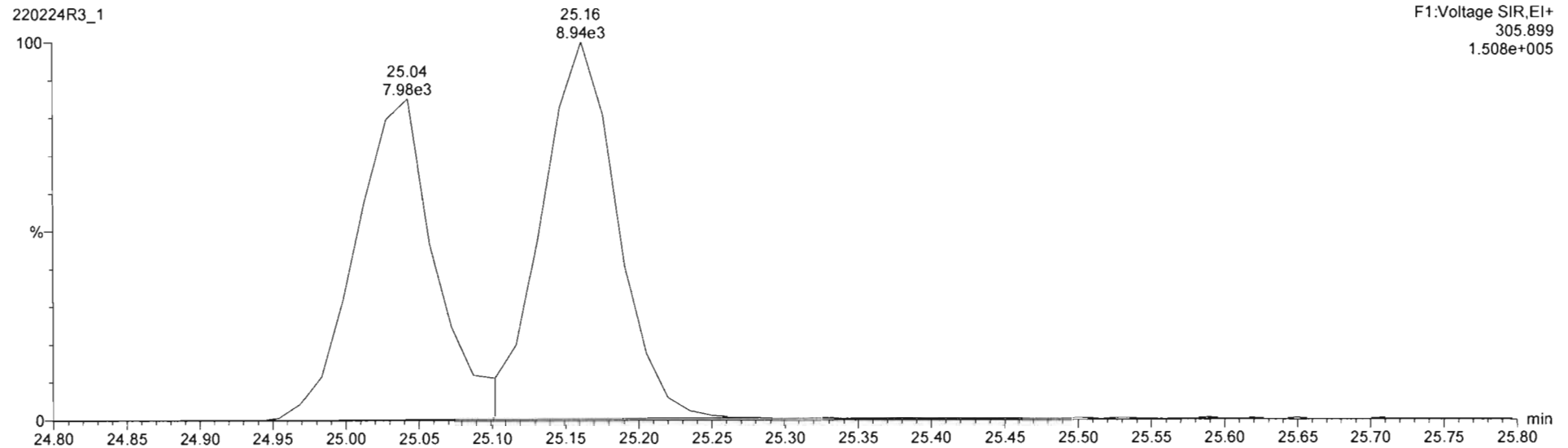
Name: 220224R3\_1, Date: 24-Feb-2022, Time: 15:16:32, ID: ST220224R3\_1 1613 CS3 21G0805, Description: 1613 CS3 21G0805

1,3,6,8-TCDF (First)

220224R3\_1



220224R3\_1





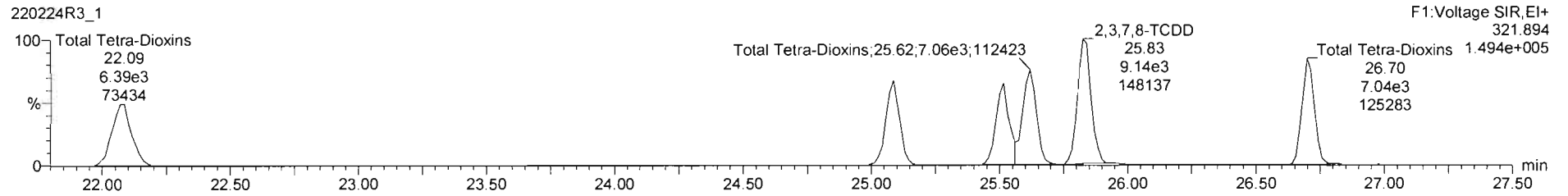
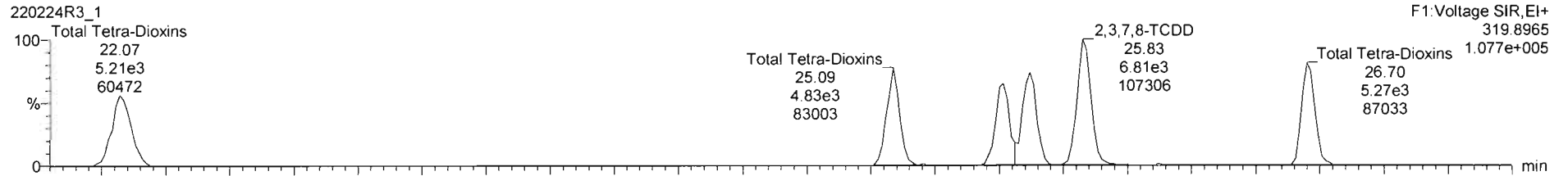
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Last Altered: Friday, February 25, 2022 16:49:19 Pacific Standard Time  
Printed: Friday, February 25, 2022 16:50:59 Pacific Standard Time

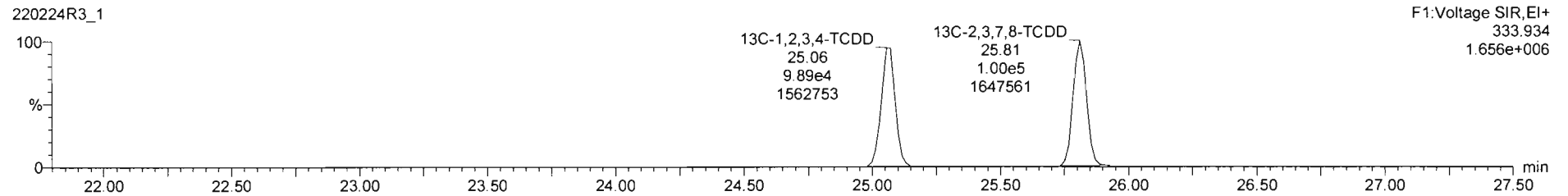
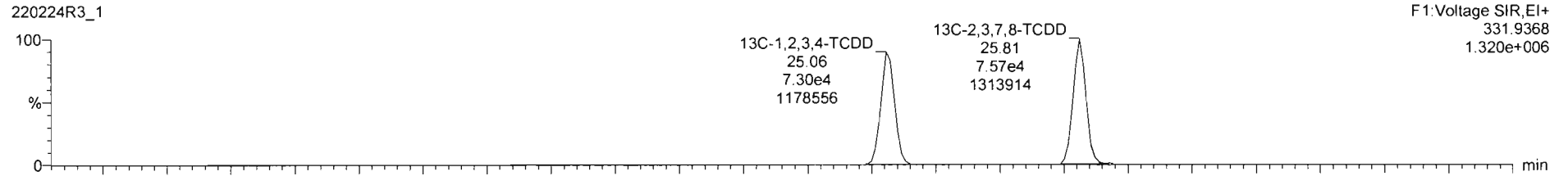
Method: I:\VG12.PRO\MethDB\1613rrt-2-17-22.mdb 17 Feb 2022 13:16:14  
Calibration: I:\VG12.PRO\CurveDB\1613vg12-07-30-21.cdb 02 Aug 2021 09:55:11

Name: 220224R3\_1, Date: 24-Feb-2022, Time: 15:16:32, ID: ST220224R3\_1 1613 CS3 21G0805, Description: 1613 CS3 21G0805

2,3,7,8-TCDD



13C-2,3,7,8-TCDD



Dataset: I:\VG12.PRO\Results\220224R3\220224R3\_1.qld

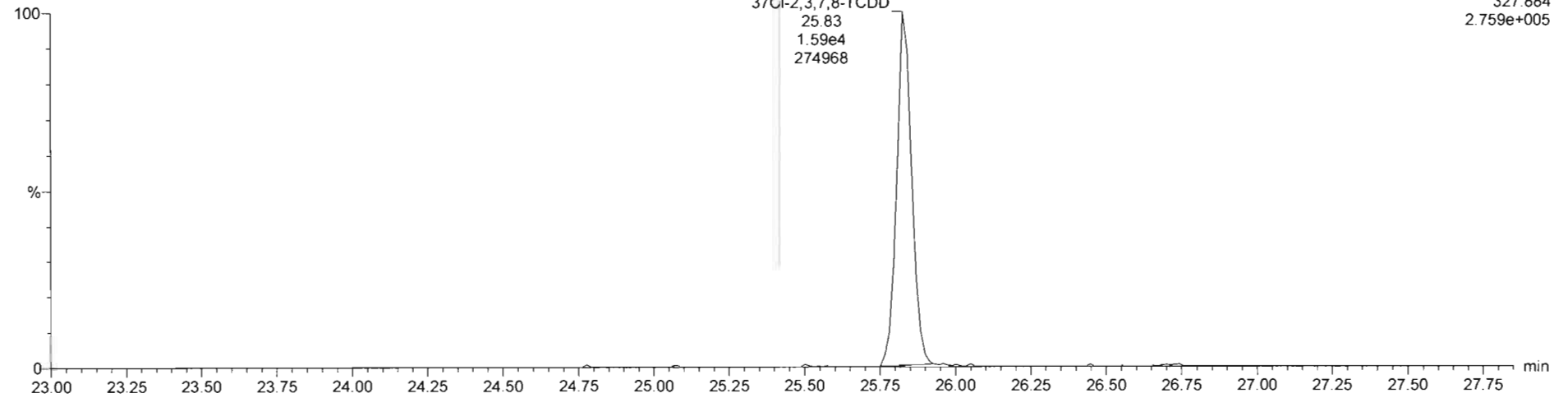
Last Altered: Friday, February 25, 2022 16:49:19 Pacific Standard Time

Printed: Friday, February 25, 2022 16:50:59 Pacific Standard Time

Name: 220224R3\_1, Date: 24-Feb-2022, Time: 15:16:32, ID: ST220224R3\_1 1613 CS3 21G0805, Description: 1613 CS3 21G0805

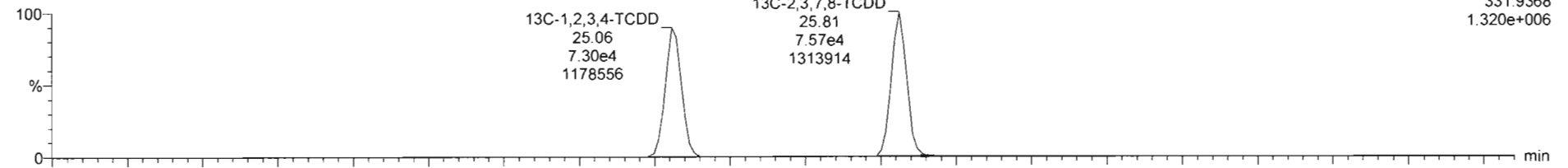
37Cl-2,3,7,8-TCDD

220224R3\_1

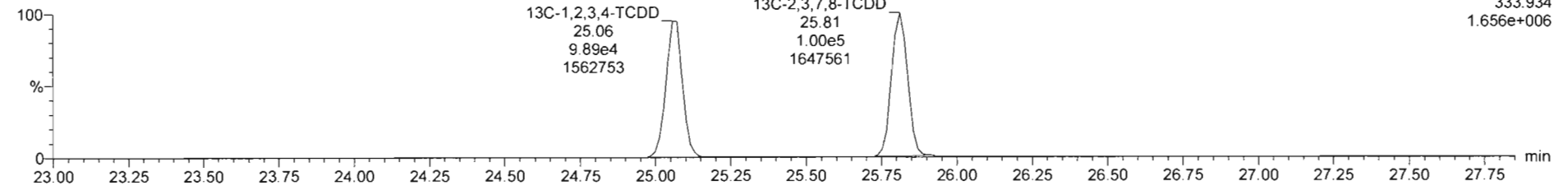


13C-1,2,3,4-TCDD

220224R3\_1



220224R3\_1



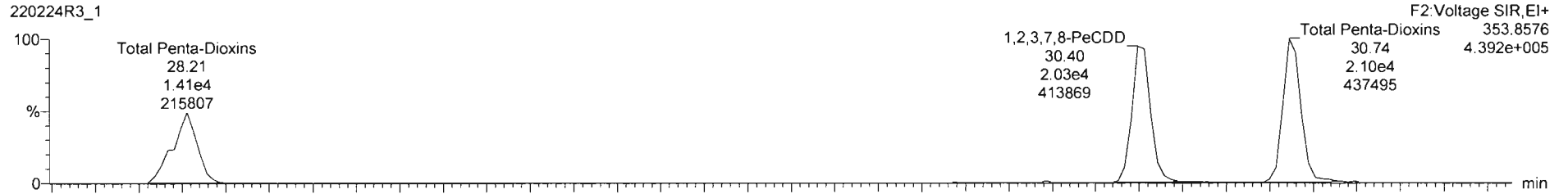
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Last Altered: Friday, February 25, 2022 16:49:19 Pacific Standard Time  
Printed: Friday, February 25, 2022 16:50:59 Pacific Standard Time

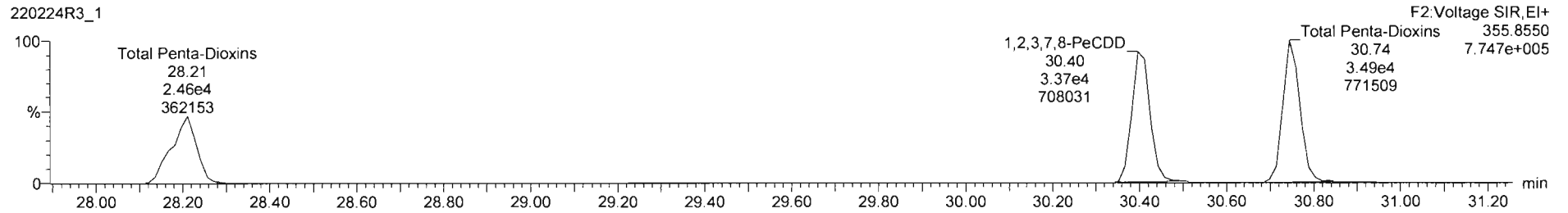
Name: 220224R3\_1, Date: 24-Feb-2022, Time: 15:16:32, ID: ST220224R3\_1 1613 CS3 21G0805, Description: 1613 CS3 21G0805

1,2,3,7,8-PeCDD

220224R3\_1

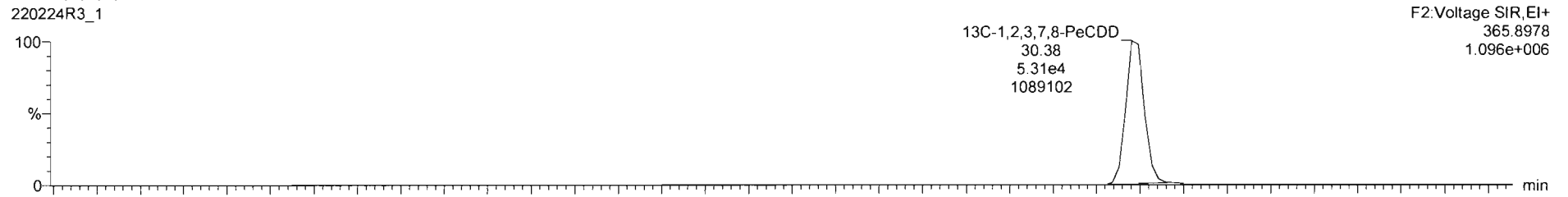


220224R3\_1

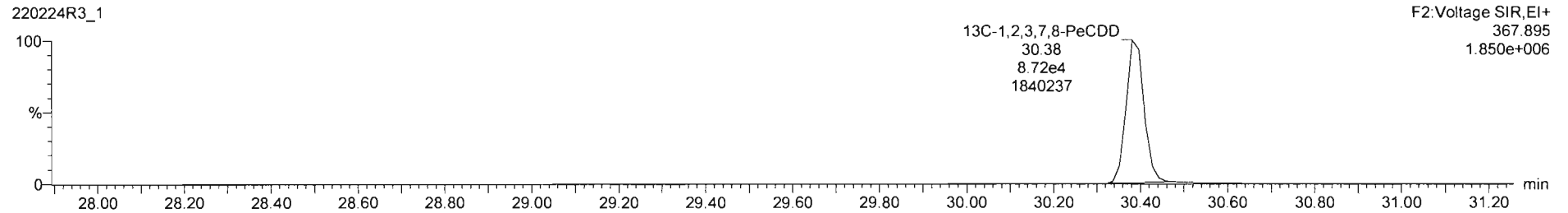


13C-1,2,3,7,8-PeCDD

220224R3\_1



220224R3\_1



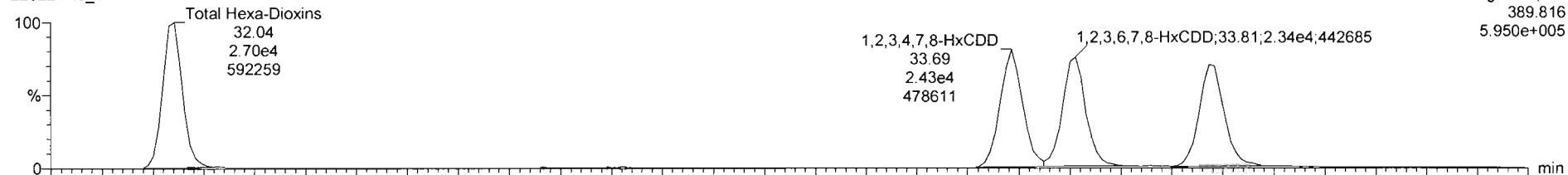
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Last Altered: Friday, February 25, 2022 16:49:19 Pacific Standard Time  
Printed: Friday, February 25, 2022 16:50:59 Pacific Standard Time

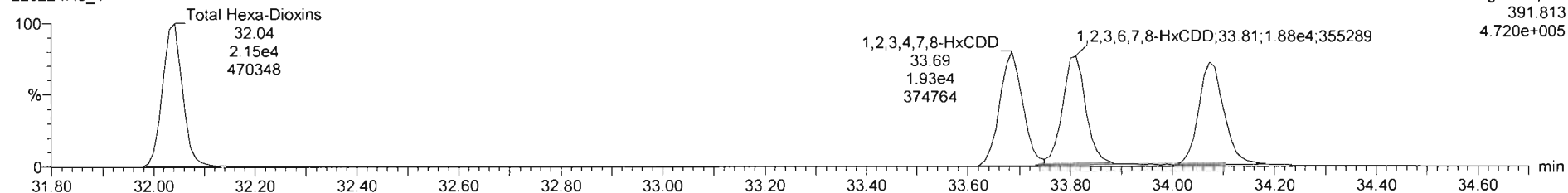
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1,2,3,4,7,8-HxCDD

220224R3\_1



220224R3\_1

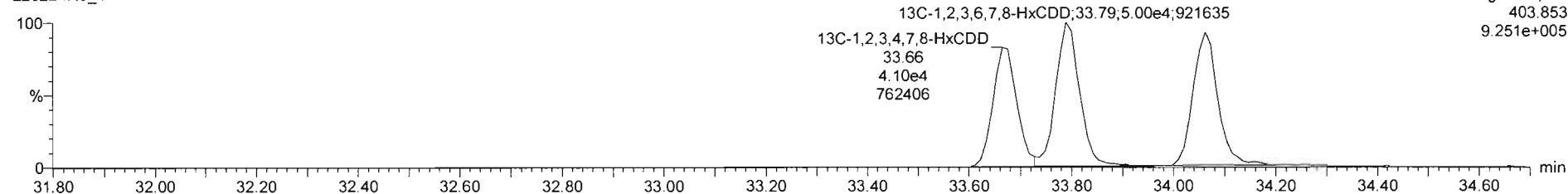


13C-1,2,3,4,7,8-HxCDD

220224R3\_1



220224R3\_1



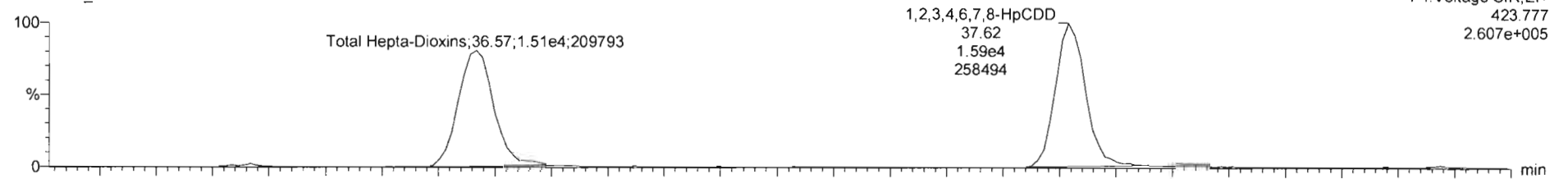
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Last Altered: Friday, February 25, 2022 16:49:19 Pacific Standard Time  
Printed: Friday, February 25, 2022 16:50:59 Pacific Standard Time

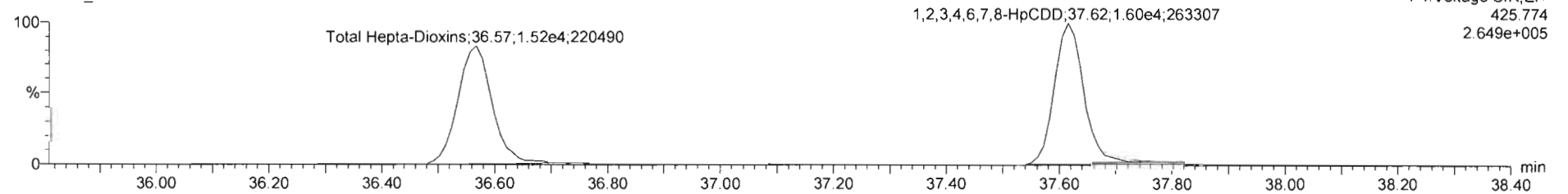
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1,2,3,4,6,7,8-HpCDD

220224R3\_1

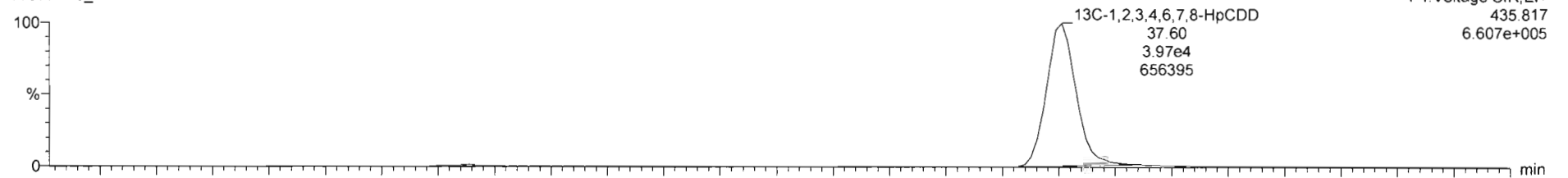


220224R3\_1

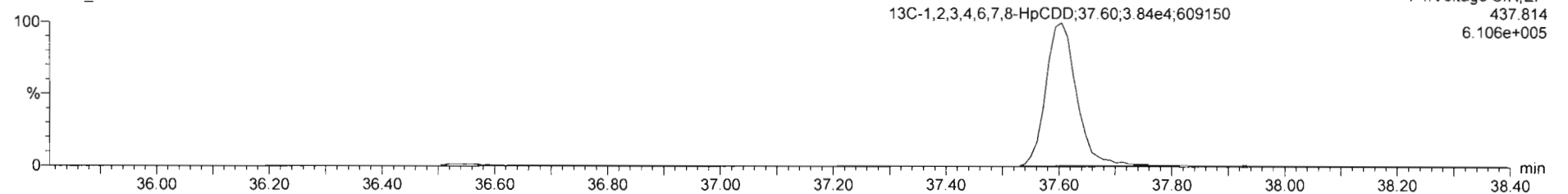


13C-1,2,3,4,6,7,8-HpCDD

220224R3\_1



220224R3\_1

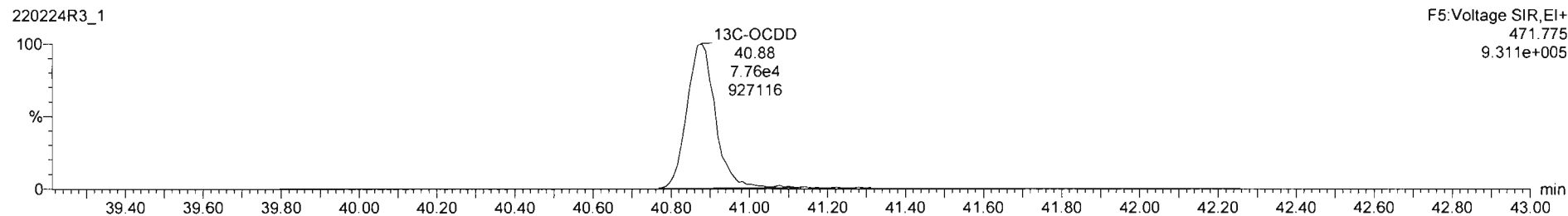
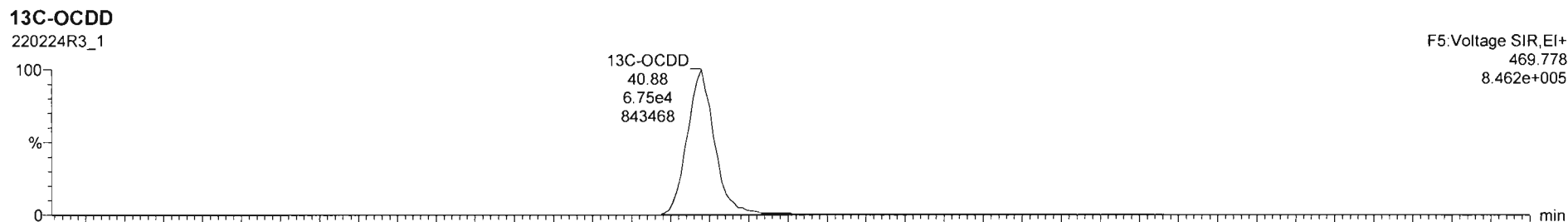
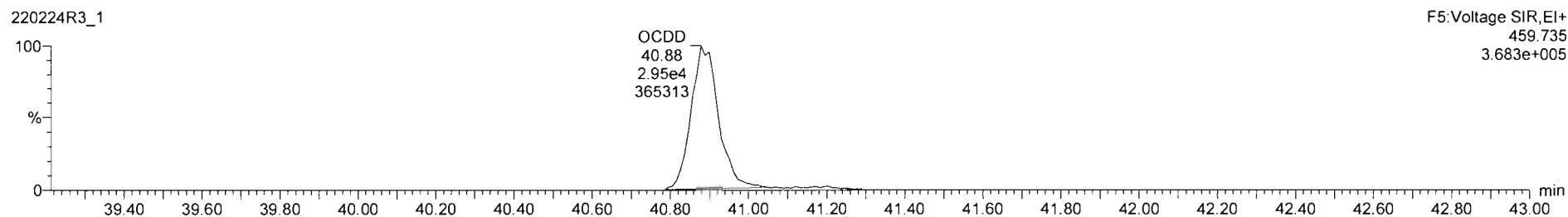
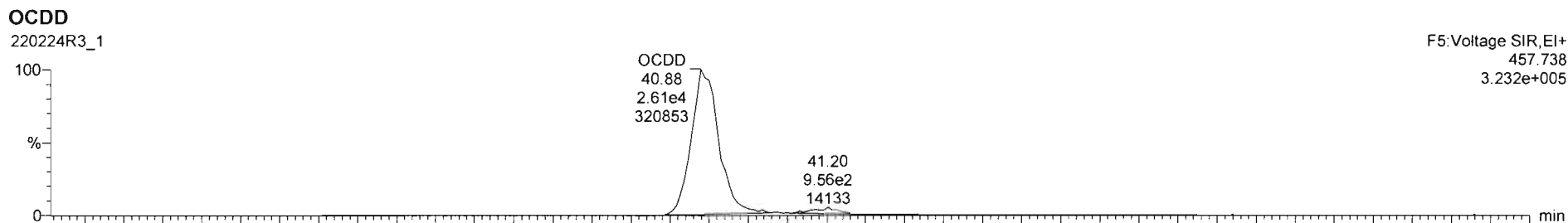


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Last Altered: Friday, February 25, 2022 16:49:19 Pacific Standard Time

Printed: Friday, February 25, 2022 16:50:59 Pacific Standard Time

Name: 220224R3\_1, Date: 24-Feb-2022, Time: 15:16:32, ID: ST220224R3\_1 1613 CS3 21G0805, Description: 1613 CS3 21G0805



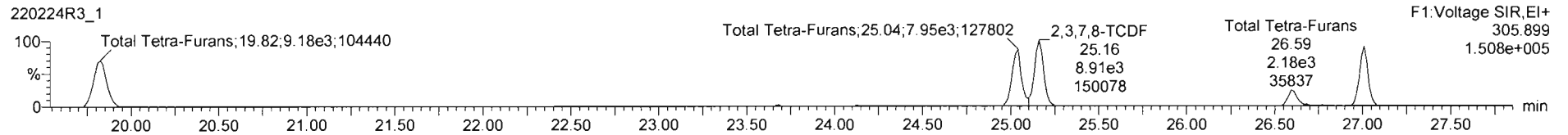
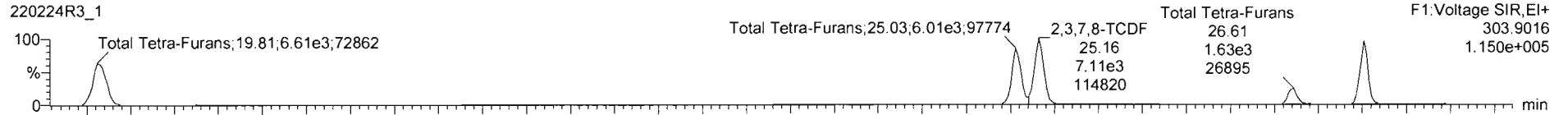


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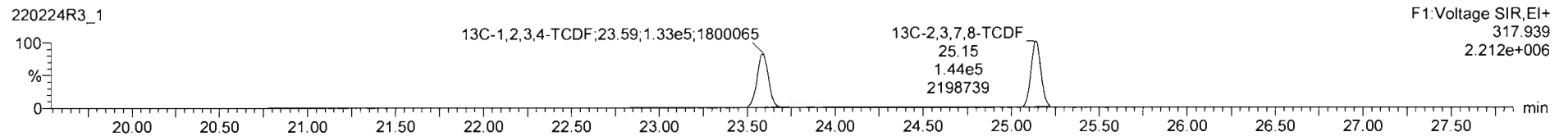
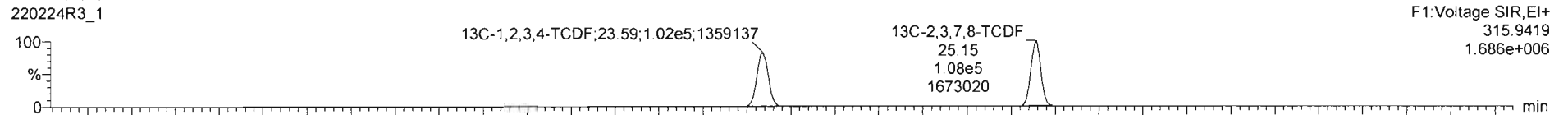
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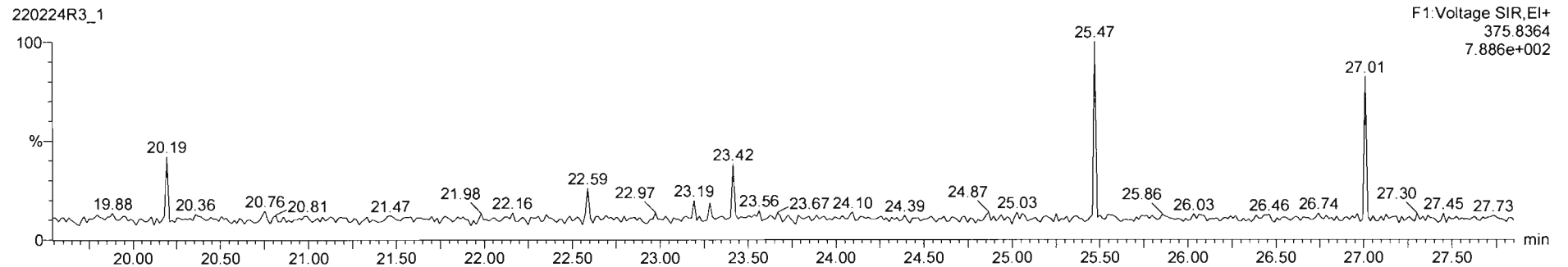
**2,3,7,8-TCDF**



**13C-2,3,7,8-TCDF**



**DPE1**



Dataset: I:\VG12.PRO\Results\220224R3\220224R3\_1.qld

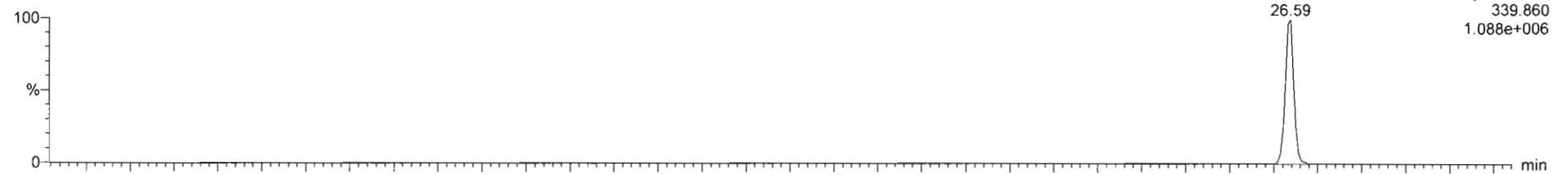
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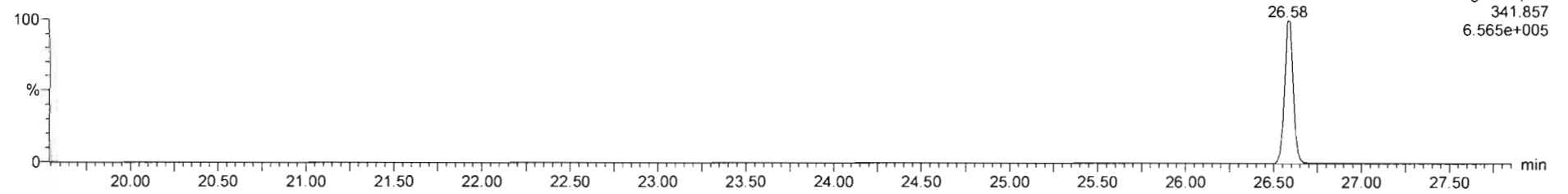
Name: 220224R3\_1, Date: 24-Feb-2022, Time: 15:16:32, ID: ST220224R3\_1 1613 CS3 21G0805, Description: 1613 CS3 21G0805

1st Func. Penta-Furans

220224R3\_1

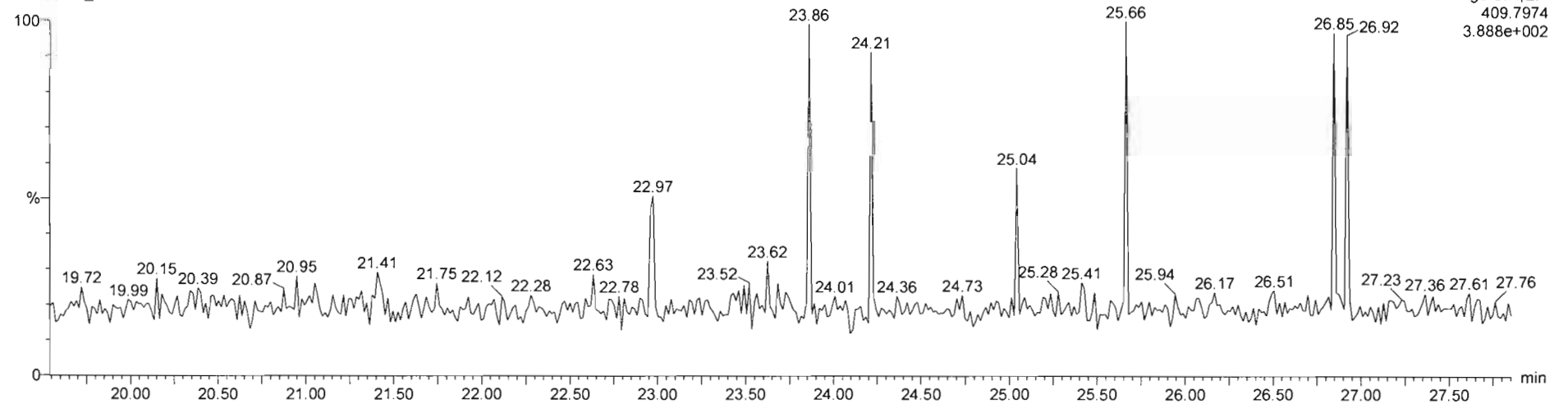


220224R3\_1



DPE6

220224R3\_1

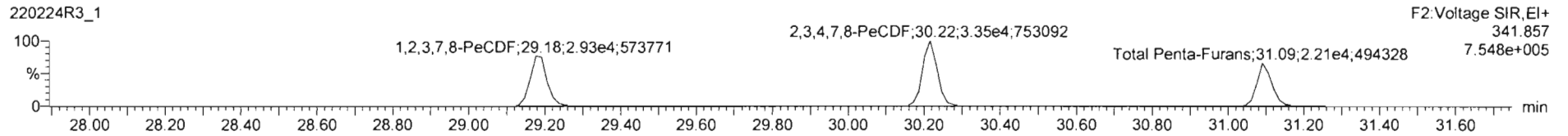
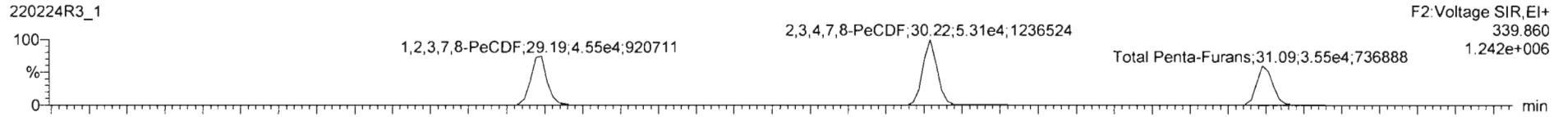


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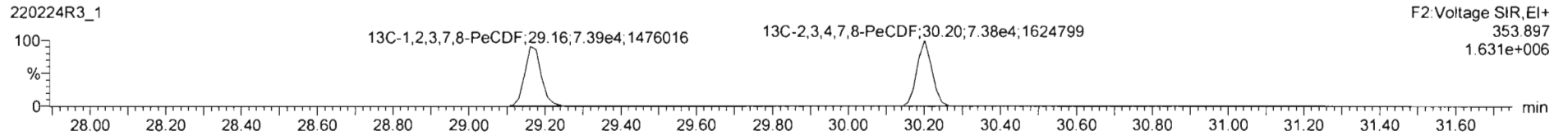
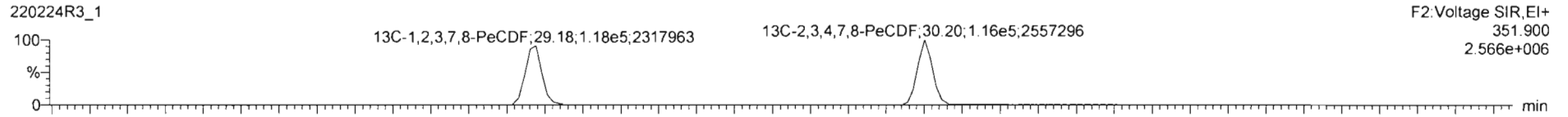
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Printed: Friday, February 25, 2022 16:50:59 Pacific Standard Time

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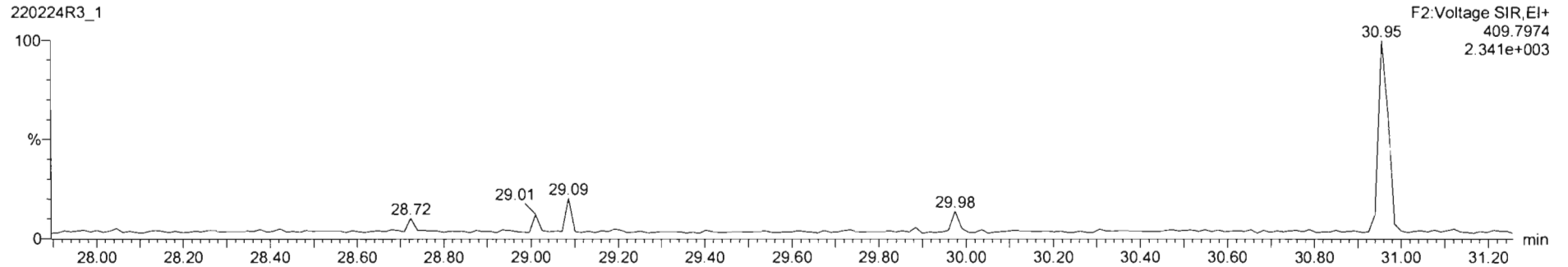
**1,2,3,7,8-PeCDF**



**13C-1,2,3,7,8-PeCDF**



**DPE2**

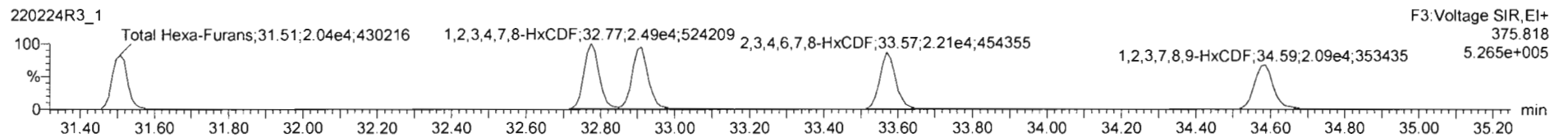
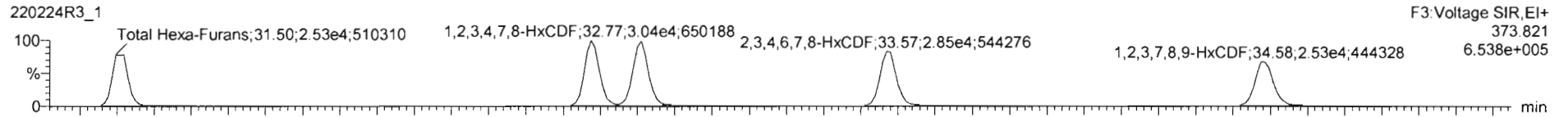


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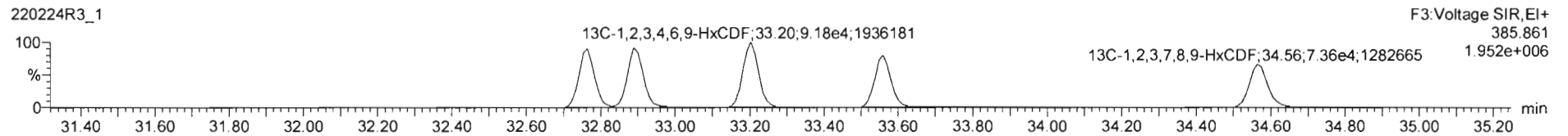
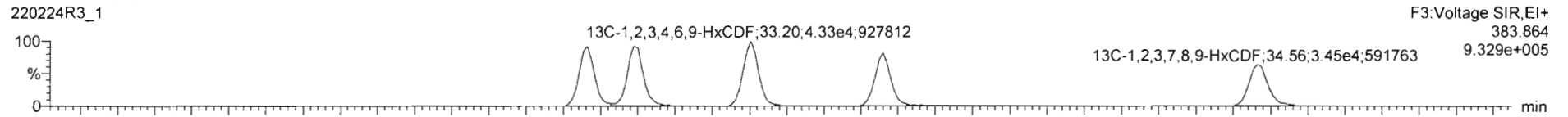
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Printed: Friday, February 25, 2022 16:50:59 Pacific Standard Time

Name: 220224R3\_1, Date: 24-Feb-2022, Time: 15:16:32, ID: ST220224R3\_1 1613 CS3 21G0805, Description: 1613 CS3 21G0805

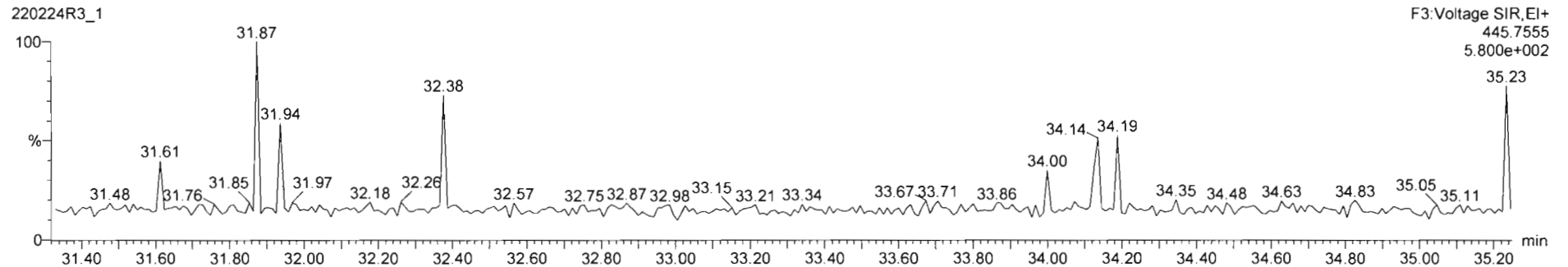
**1,2,3,4,7,8-HxCDF**



**13C-1,2,3,4,7,8-HxCDF**



**DPE3**

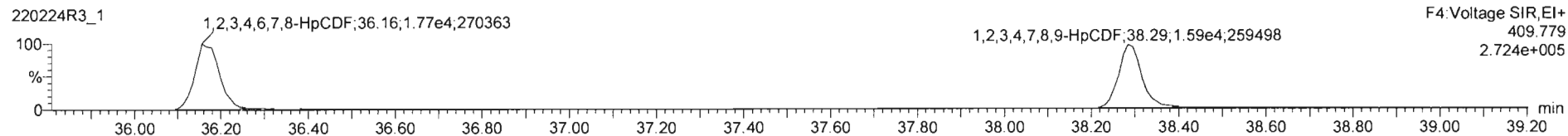
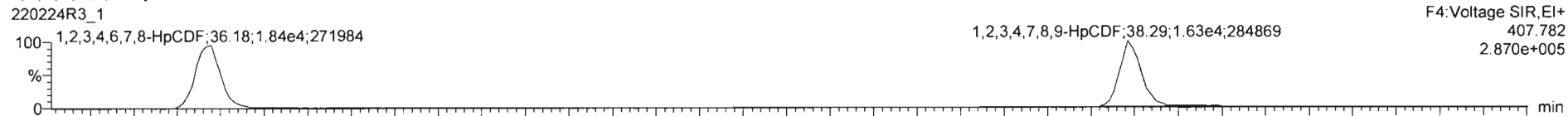


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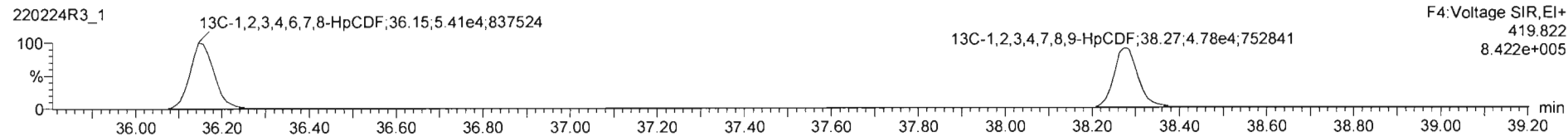
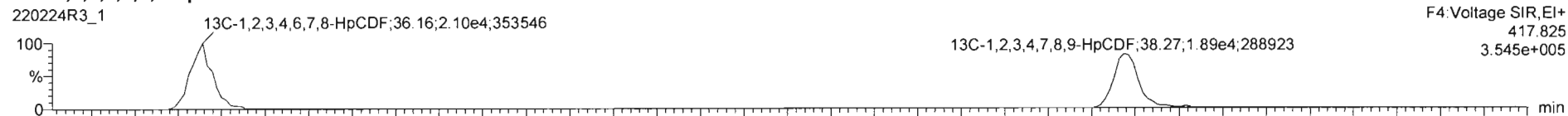
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Name: 220224R3\_1, Date: 24-Feb-2022, Time: 15:16:32, ID: ST220224R3\_1 1613 CS3 21G0805, Description: 1613 CS3 21G0805

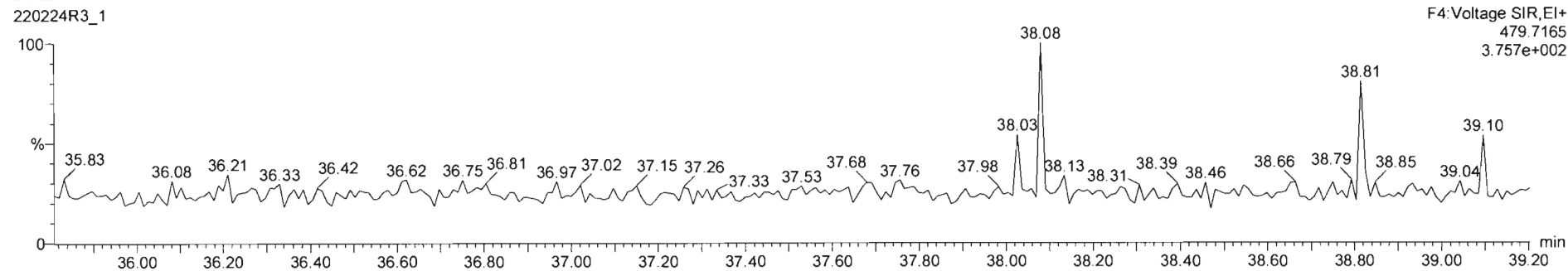
1,2,3,4,6,7,8-HpCDF



13C-1,2,3,4,6,7,8-HpCDF



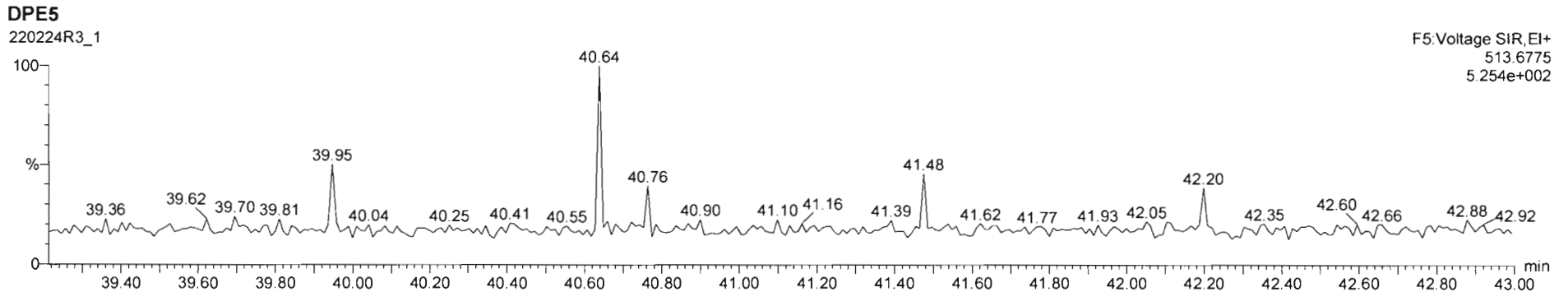
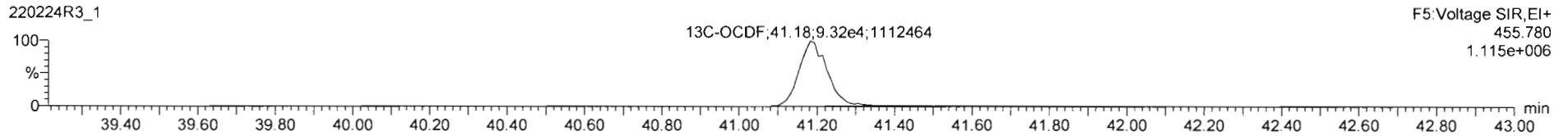
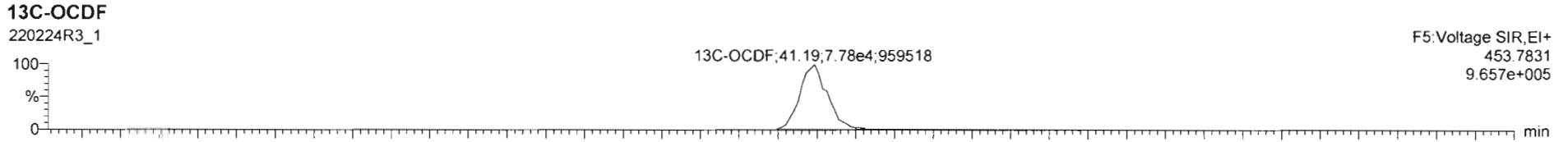
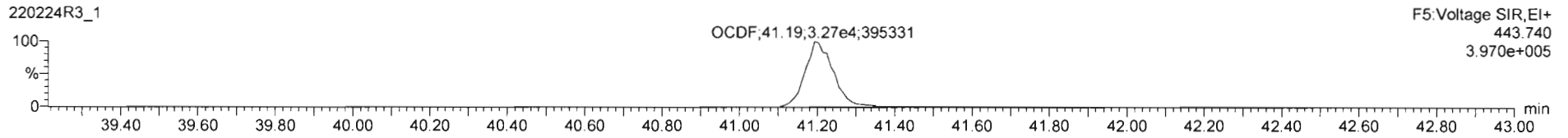
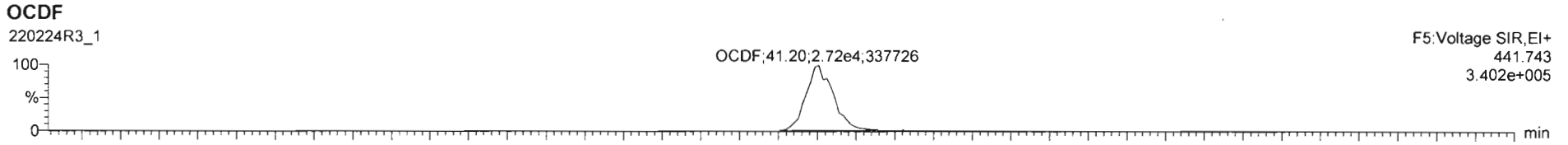
DPE4



Dataset: I:\VG12.PRO\Results\220224R3\220224R3\_1.qld

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Printed: Friday, February 25, 2022 16:50:59 Pacific Standard Time

Name: 220224R3\_1, Date: 24-Feb-2022, Time: 15:16:32, ID: ST220224R3\_1 1613 CS3 21G0805, Description: 1613 CS3 21G0805

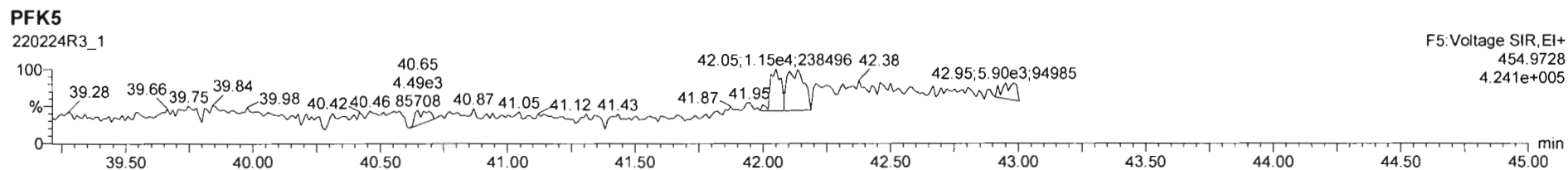
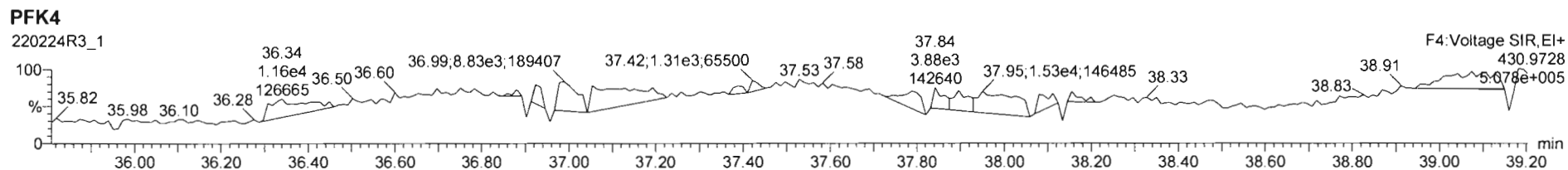
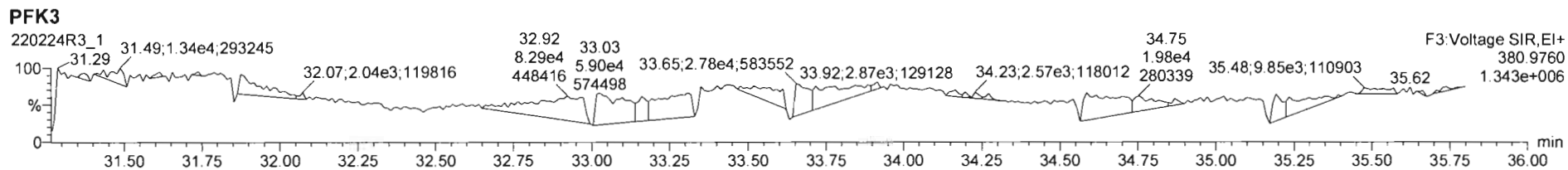
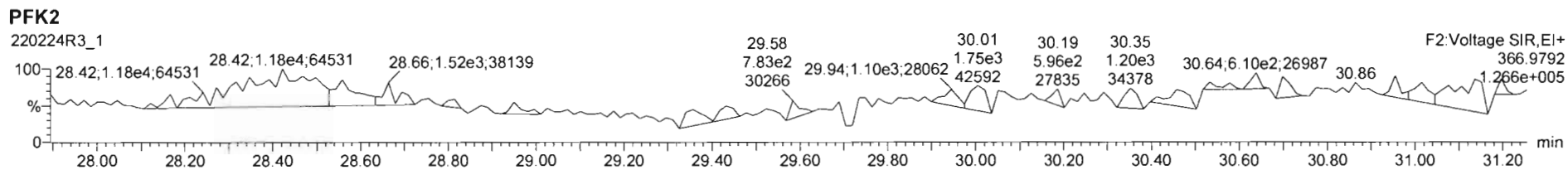
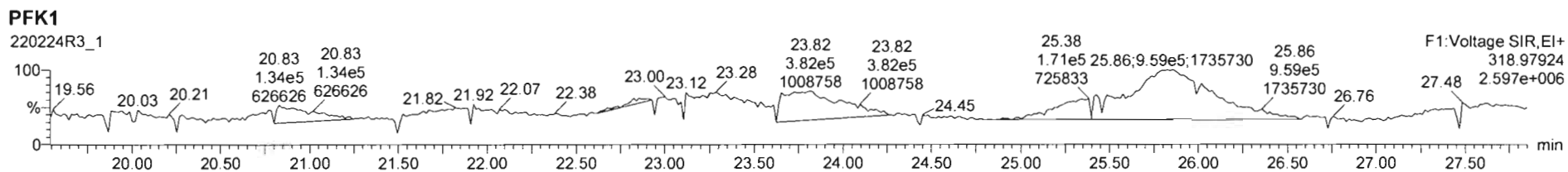




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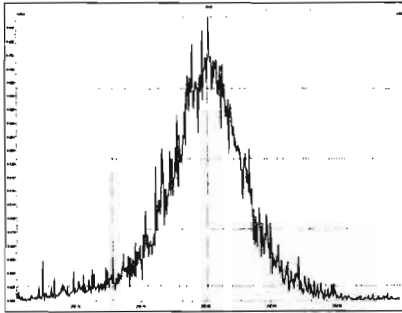
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Name: 220224R3\_1, Date: 24-Feb-2022, Time: 15:16:32, ID: ST220224R3\_1 1613 CS3 21G0805, Description: 1613 CS3 21G0805

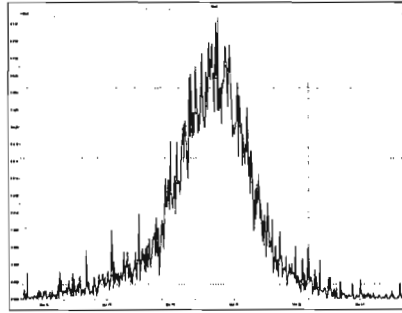


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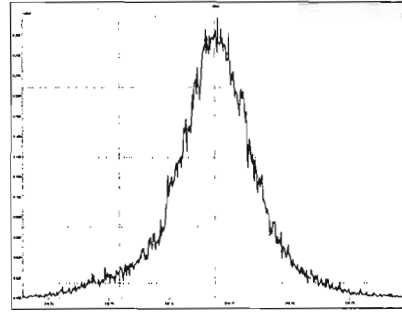
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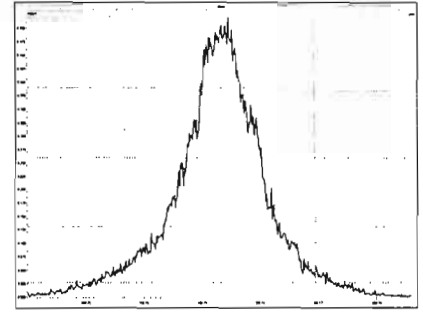
M 304.9824 R 10925



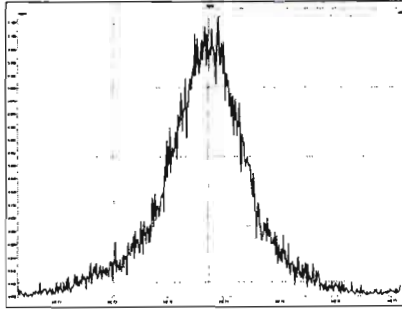
M 318.9792 R 8979 *OK*



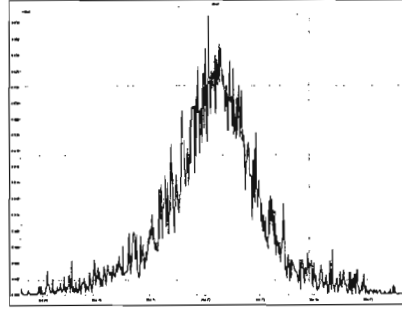
M 330.9792 R 8240 *OK*



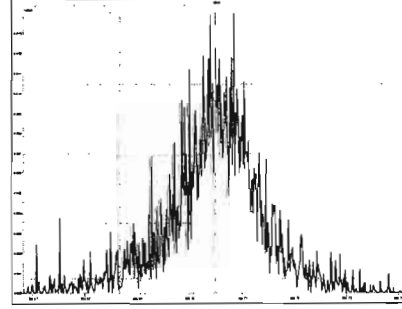
M 342.9792 R 9416 *OK*



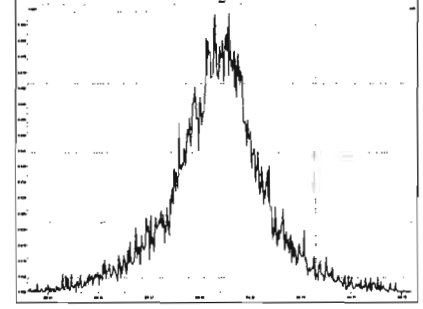
M 354.9792 R 10142



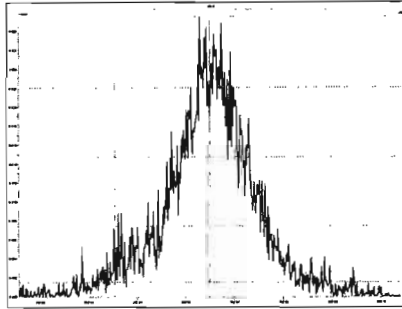
M 366.9792 R 11190



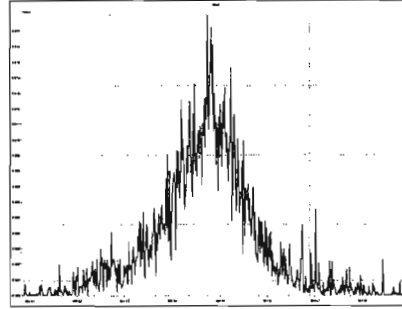
M 380.9760 R 9096 *OK*



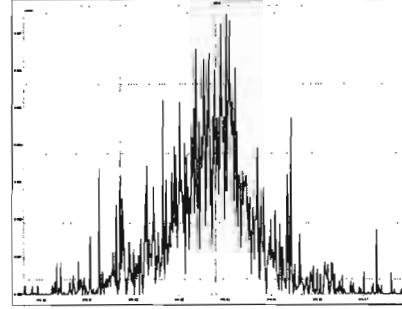
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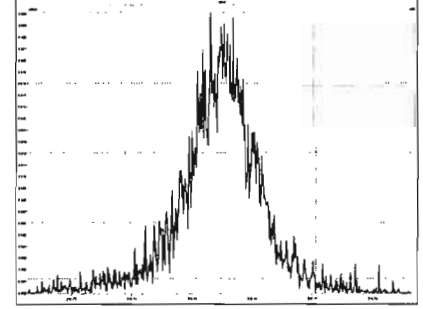
M 404.9760 R 12536



M 416.9760 R 15342

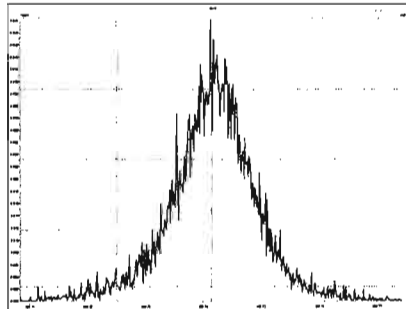


M 318.9792 R 12889

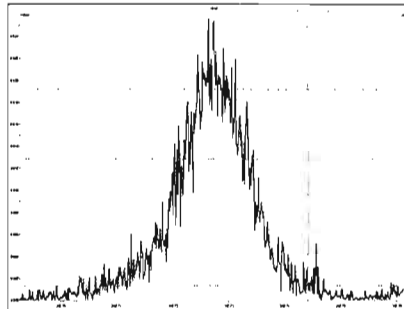


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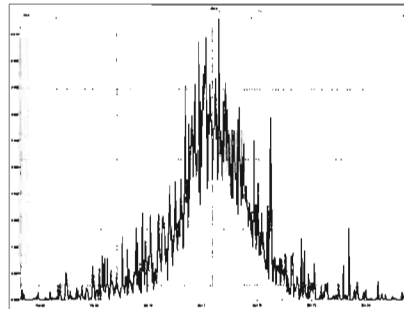
M 330.9792 R 11063



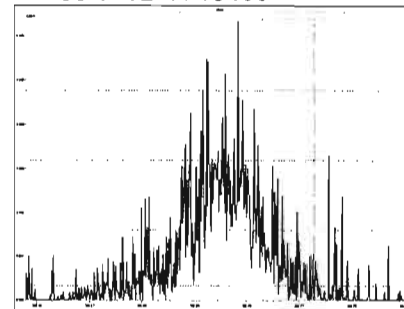
M 342.9792 R 11823



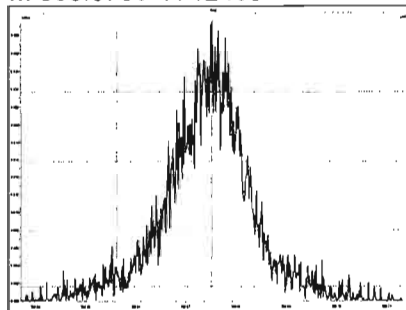
M 354.9792 R 14296



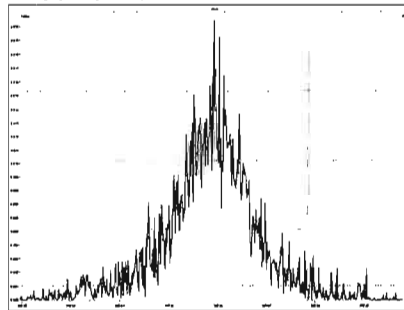
M 366.9792 R 15409



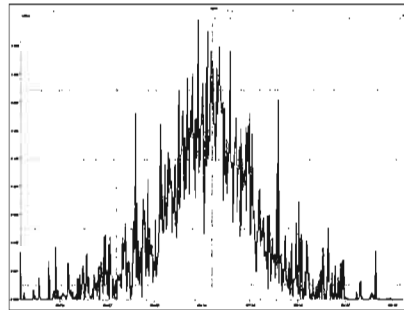
M 380.9760 R 12406



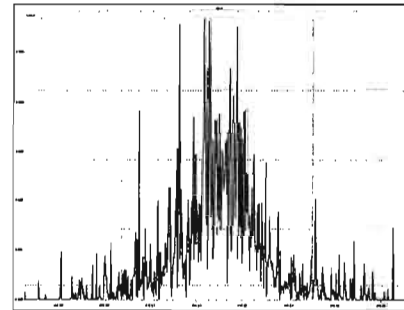
M 392.9760 R 14127



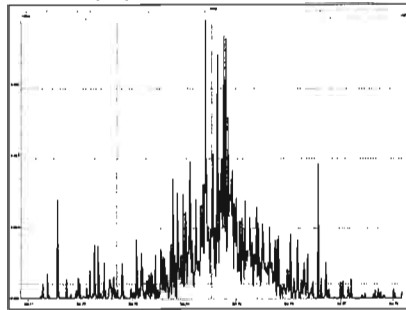
M 404.9760 R 14455



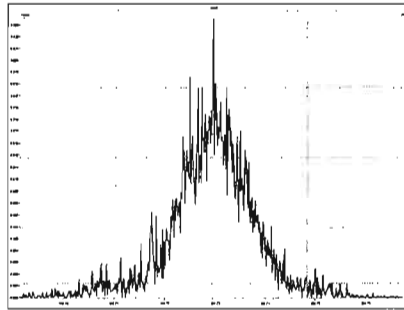
M 416.9760 R 20293



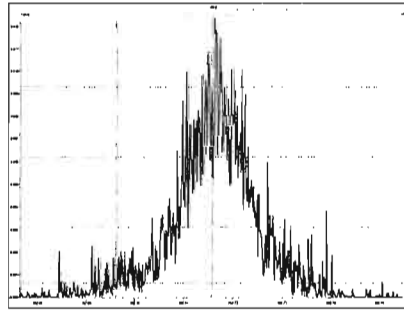
M 366.9792 R 22635



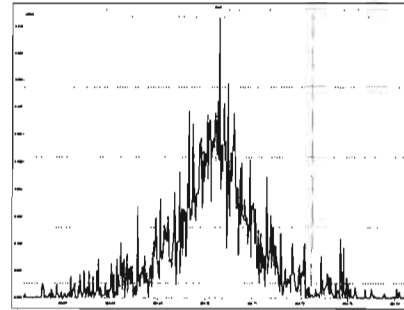
M 380.9760 R 13802



M 392.9760 R 12732

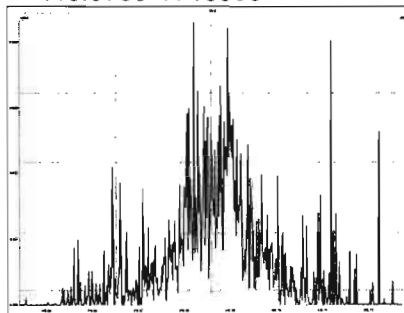


M 404.9760 R 15271

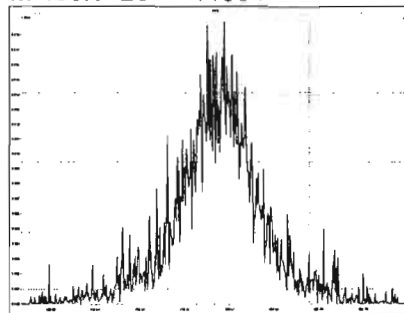


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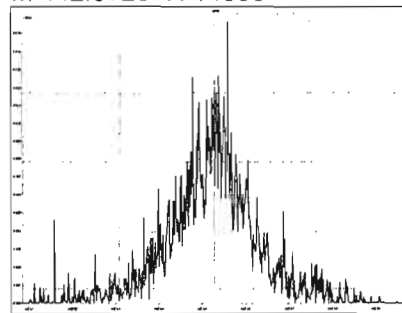
M 416.9760 R 16906



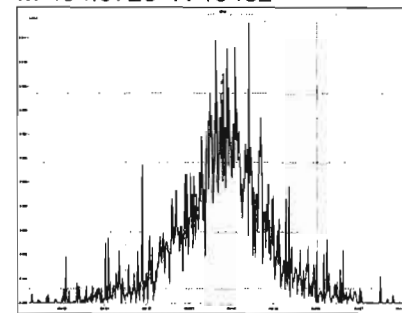
M 430.9728 R 11684



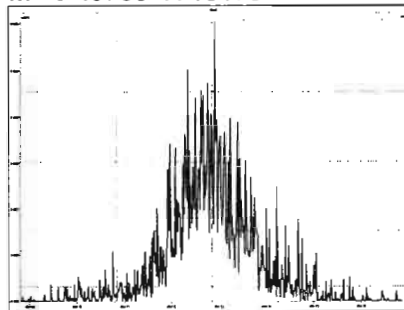
M 442.9728 R 14858



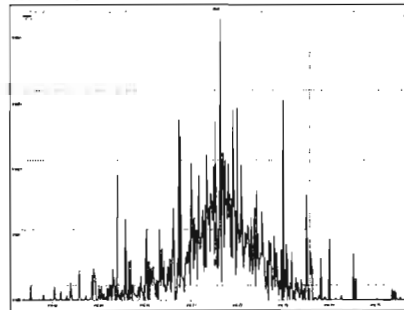
M 454.9728 R 13432



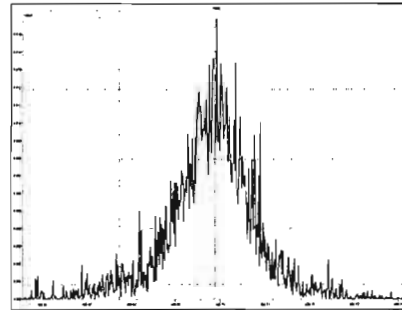
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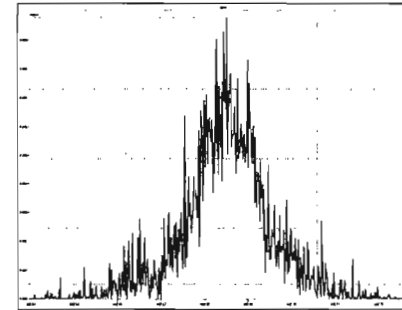
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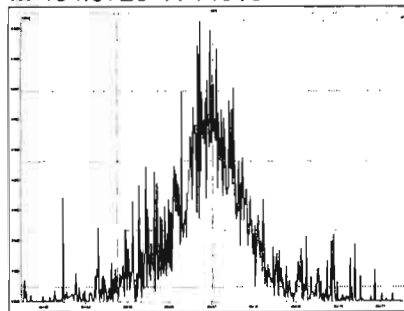
M 430.9728 R 13851



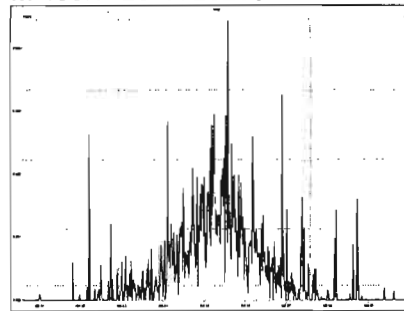
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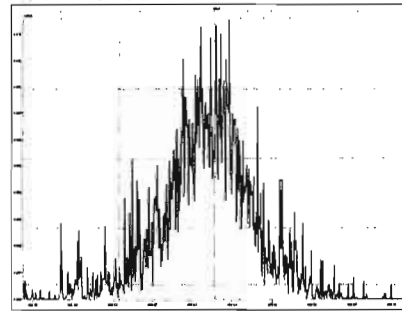
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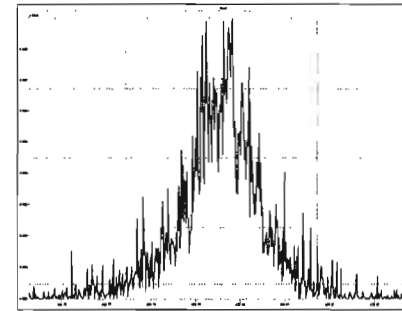
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M 480.9696 R 13557

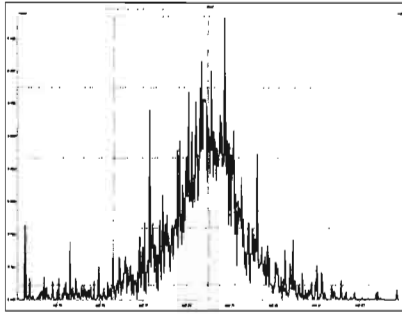


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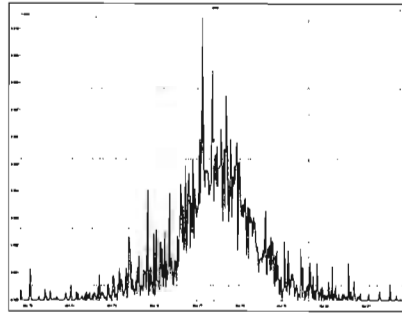


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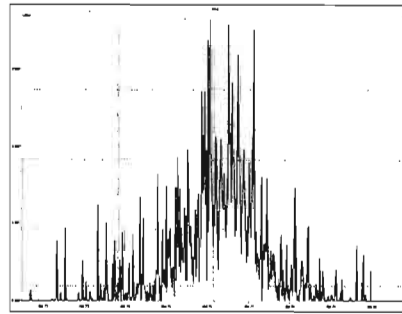
M 442.9728 R 14377



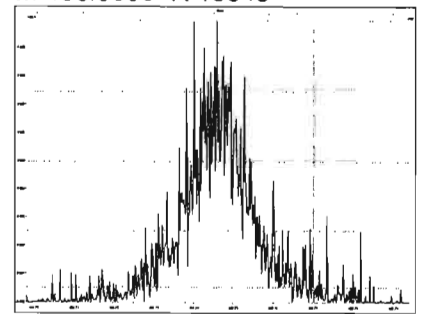
M 454.9728 R 15479



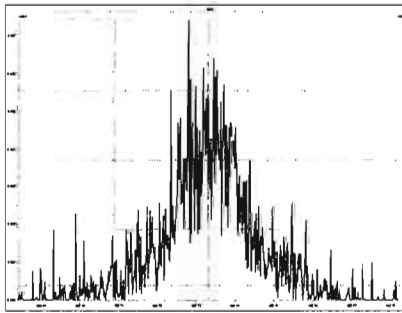
M 466.9728 R 18732



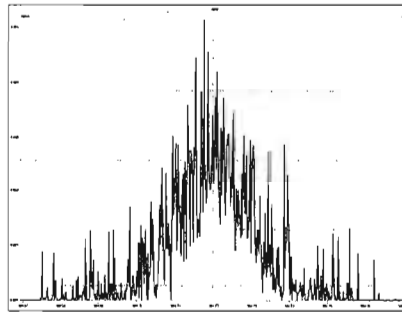
M 480.9696 R 16048



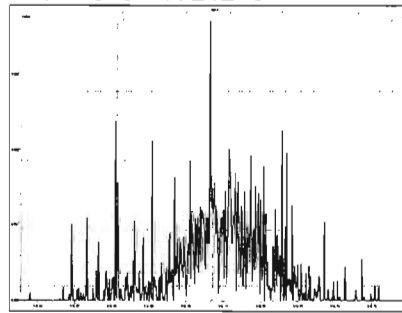
M 492.9696 R 17070



M 504.9696 R 19832



M 516.9697 R 21276



**HRMS CALIBRATION STANDARDS REVIEW CHECKLIST**

**Beg. Calibration ID:** ST202204-1

**Reviewed By:** \_\_\_\_\_ *HC 3.1.2022*

**End Calibration ID:** ST2022042-1

*Initials & Date*

	<u>Beg.</u>	<u>End</u>
<b>Ion abundance within QC limits?</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Concentrations within criteria?</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>TCDD/TCDF Valleys &lt;25%</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>First and last eluters present?</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Retention Times within criteria?</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Verification Std. named correctly?</b> (ST-Year-Month-Day-VG ID)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Forms signed and dated?</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Correct ICAL referenced?</b>	<u>JA</u>	<u>JA</u>
<b><u>Run Log:</u></b>		
- Correct instrument listed?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
- Samples within 12 hour clock?	<u>(Y)</u>	N
- Bottle position verified?	<u>JE</u>	

**Mass resolution ≥**

5k    6-8K    8K    10K

1614   1699   429   1613/1668/8280

**Intergrated peaks display correctly?**     

**GC Break <20%**  

**8280 CS1 End Standard:**

- Ratios within limits, S/N <2.5:1, CS1 within 12 hours  

**Comments:**



Dataset: I:\VG12.PRO\Results\220228R1\220228R1-1.qld

Last Altered: Tuesday, March 01, 2022 11:18:13 Pacific Standard Time  
Printed: Tuesday, March 01, 2022 11:31:43 Pacific Standard Time

*Handwritten:* Det 03/01/22  
Hc 3-1-2022

Method: I:\VG12.PRO\MethDB\1613rrt-2-17-22.mdb 17 Feb 2022 13:16:14  
Calibration: I:\VG12.PRO\CurveDB\dbDIOXIN\_1613vg12-07-30-21.cdb 02 Aug 2021 09:55:11

Name: 220228R1\_1, Date: 28-Feb-2022, Time: 10:51:01, ID: ST220228R1\_1 1613 CS3 21G0805, Description: 1613 CS3 21G0805

#	Name	Resp	IS Resp	RA	n/y	RRF	Pred.RT	RT	RT Flag	Pred.RRT	RRT	Conc.	%Rec	STD out
1	1 2,3,7,8-TCDD	2.02e4	2.22e5	0.71	NO	0.952	25.83	25.81	NO	1.001	1.001	9.5643	95.6	NO
2	2 1,2,3,7,8-PeCDD	8.31e4	2.09e5	0.59	NO	0.781	30.40	30.38	NO	1.001	1.000	50.980	102	NO
3	3 1,2,3,4,7,8-HxCDD	6.17e4	1.31e5	1.27	NO	0.904	33.64	33.63	NO	1.001	1.000	52.011	104	NO
4	4 1,2,3,6,7,8-HxCDD	7.38e4	1.66e5	1.17	NO	0.806	33.76	33.75	NO	1.001	1.000	54.955	110	NO
5	5 1,2,3,7,8,9-HxCDD	6.93e4	1.65e5	1.20	NO	0.814	34.02	34.02	NO	1.000	1.000	51.463	103	NO
6	6 1,2,3,4,6,7,8-HpCDD	4.73e4	1.06e5	1.01	NO	0.836	37.52	37.53	NO	1.000	1.001	53.347	107	NO
7	7 OCDD	7.15e4	1.75e5	0.84	NO	0.798	40.73	40.75	NO	1.000	1.001	102.44	102	NO
8	8 2,3,7,8-TCDF	2.24e4	3.24e5	0.76	NO	0.720	25.12	25.15	NO	1.000	1.001	9.6312	96.3	NO
9	9 1,2,3,7,8-PeCDF	1.04e5	2.48e5	1.64	NO	0.813	29.15	29.16	NO	1.000	1.001	51.623	103	NO
10	10 2,3,4,7,8-PeCDF	1.29e5	2.75e5	1.52	NO	0.892	30.19	30.19	NO	1.001	1.000	52.663	105	NO
11	11 1,2,3,4,7,8-HxCDF	8.42e4	1.78e5	1.24	NO	0.893	32.73	32.73	NO	1.000	1.000	52.913	106	NO
12	12 1,2,3,6,7,8-HxCDF	8.97e4	2.01e5	1.26	NO	0.867	32.87	32.87	NO	1.001	1.001	51.627	103	NO
13	13 2,3,4,6,7,8-HxCDF	8.00e4	1.69e5	1.27	NO	0.896	33.53	33.52	NO	1.001	1.000	52.852	106	NO
14	14 1,2,3,7,8,9-HxCDF	6.75e4	1.48e5	1.23	NO	0.874	34.51	34.52	NO	1.000	1.001	52.083	104	NO
15	15 1,2,3,4,6,7,8-HpCDF	6.10e4	1.22e5	0.95	NO	0.986	36.09	36.09	NO	1.000	1.001	50.809	102	NO
16	16 1,2,3,4,7,8,9-HpCDF	5.01e4	1.03e5	0.96	NO	0.966	38.18	38.19	NO	1.000	1.001	50.561	101	NO
17	17 OCDF	8.55e4	2.27e5	0.90	NO	0.722	41.05	41.07	NO	1.000	1.001	104.24	104	NO
18	18 13C-2,3,7,8-TCDD	2.22e5	2.15e5	0.75	NO	1.11	25.74	25.80	NO	1.028	1.030	93.027	93.0	NO
19	19 13C-1,2,3,7,8-PeCDD	2.09e5	2.15e5	0.62	NO	0.893	30.09	30.37	NO	1.201	1.213	108.48	108	NO
20	20 13C-1,2,3,4,7,8-HxCDD	1.31e5	1.97e5	1.27	NO	0.784	33.61	33.62	NO	1.014	1.014	85.164	85.2	NO
21	21 13C-1,2,3,6,7,8-HxCDD	1.66e5	1.97e5	1.28	NO	0.863	33.73	33.74	NO	1.017	1.018	98.056	98.1	NO
22	22 13C-1,2,3,7,8,9-HxCDD	1.65e5	1.97e5	1.21	NO	0.905	34.02	34.01	NO	1.026	1.026	92.892	92.9	NO
23	23 13C-1,2,3,4,6,7,8-HpCDD	1.06e5	1.97e5	1.07	NO	0.644	37.43	37.51	NO	1.129	1.131	83.761	83.8	NO
24	24 13C-OCDD	1.75e5	1.97e5	0.89	NO	0.528	40.69	40.72	NO	1.227	1.228	168.47	84.2	NO
25	25 13C-2,3,7,8-TCDF	3.24e5	3.18e5	0.75	NO	1.15	25.12	25.12	NO	1.003	1.003	88.346	88.3	NO
26	26 13C-1,2,3,7,8-PeCDF	2.48e5	3.18e5	1.64	NO	0.905	28.92	29.15	NO	1.155	1.164	86.029	86.0	NO
27	27 13C-2,3,4,7,8-PeCDF	2.75e5	3.18e5	1.61	NO	0.899	30.14	30.17	NO	1.204	1.205	96.071	96.1	NO
28	28 13C-1,2,3,4,7,8-HxCDF	1.78e5	1.97e5	0.49	NO	1.00	32.70	32.72	NO	0.986	0.987	90.424	90.4	NO
29	29 13C-1,2,3,6,7,8-HxCDF	2.01e5	1.97e5	0.51	NO	1.04	32.83	32.85	NO	0.990	0.991	97.780	97.8	NO
30	30 13C-2,3,4,6,7,8-HxCDF	1.69e5	1.97e5	0.49	NO	0.916	33.50	33.51	NO	1.010	1.011	93.780	93.8	NO
31	31 13C-1,2,3,7,8,9-HxCDF	1.48e5	1.97e5	0.50	NO	0.859	34.52	34.50	NO	1.041	1.041	87.696	87.7	NO

Dataset: I:\VG12.PRO\Results\220228R1\220228R1-1.qld

Last Altered: Tuesday, March 01, 2022 11:18:13 Pacific Standard Time

Printed: Tuesday, March 01, 2022 11:31:43 Pacific Standard Time

Name: 220228R1\_1, Date: 28-Feb-2022, Time: 10:51:01, ID: ST220228R1\_1 1613 CS3 21G0805, Description: 1613 CS3 21G0805

#	Name	Resp	IS Resp	RA	n/y	RRF	Pred.RT	RT	RT Flag	Pred.RRT	RRT	Conc.	%Rec	STD out
32	32 13C-1,2,3,4,6,7,8-HpCDF	1.22e5	1.97e5	0.42	NO	0.632	36.12	36.07	NO	1.090	1.088	97.890	97.9	NO
33	33 13C-1,2,3,4,7,8,9-HpCDF	1.03e5	1.97e5	0.38	NO	0.552	38.10	38.17	NO	1.149	1.151	94.487	94.5	NO
34	34 13C-OCDF	2.27e5	1.97e5	0.86	NO	0.606	41.02	41.05	NO	1.237	1.238	190.73	95.4	NO
35	35 37Cl-2,3,7,8-TCDD	2.07e4	2.15e5			1.01	25.76	25.81	NO	1.029	1.031	9.4940	94.9	NO
36	36 13C-1,2,3,4-TCDD	2.15e5	2.15e5	0.76	NO	1.00	25.01	25.04	NO	1.000	1.000	100.00	100	NO
37	37 13C-1,2,3,4-TCDF	3.18e5	3.18e5	0.77	NO	1.00	23.58	23.58	NO	1.000	1.000	100.00	100	NO
38	38 13C-1,2,3,4,6,9-HxCDF	1.97e5	1.97e5	0.51	NO	1.00	33.17	33.15	NO	1.000	1.000	100.00	100	YES <i>ok</i>

Dataset: Untitled

Last Altered: Tuesday, March 01, 2022 11:34:40 Pacific Standard Time  
Printed: Tuesday, March 01, 2022 11:35:17 Pacific Standard Time

Method: I:\VG12.PRO\MethDB\1613rrt-2-17-22.mdb 17 Feb 2022 13:16:14  
Calibration: I:\VG12.PRO\CurveDB\dbDIOXIN\_1613vg12-07-30-21.cdb 02 Aug 2021 09:55:11

Compound name: 2,3,7,8-TCDD

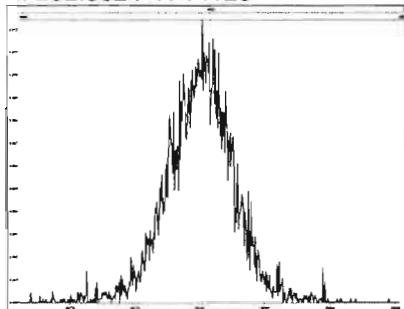
	Name	ID	Acq.Date	Acq.Time
1	220228R1_1	ST220228R1_1 1613 CS3 21G0805	28-Feb-22	10:51:01
2	220228R1_2	SOLVENT BLANK	28-Feb-22	11:38:30
3	220228R1_3	2202058-06 USMPDI-004SC-A-07-08-201111 ...	28-Feb-22	12:23:01
4	220228R1_4	2202058-07 USMPDI-004SC-A-08-09-201111 ...	28-Feb-22	13:07:58
5	220228R1_5	2202058-08 USMPDI-004SC-A-09-10-201111 ...	28-Feb-22	13:52:47
6	220228R1_6	B22B248-BS2 OPR 1	28-Feb-22	14:43:26
7	220228R1_7	B22B260-BS1 OPR 1	28-Feb-22	15:27:43
8	220228R1_8	SOLVENT BLANK	28-Feb-22	16:12:38
9	220228R1_9	B22B260-BLK1 Method Blank 1	28-Feb-22	16:57:28
10	220228R1_10	2202121-01 GWEF2202021415AB 0.93271	28-Feb-22	17:42:24
11	220228R1_11	2202120-01 GWEF2202021435AB 0.93596	28-Feb-22	18:27:23
12	220228R1_12	2202124-01 GWIN2202040910AB 0.93242	28-Feb-22	19:12:20
13	220228R1_13	2202123-01 GWIN2202040940AB 0.90533	28-Feb-22	19:57:10
14	220228R1_14	2202122-01 GWEF2202031340AB 0.90645	28-Feb-22	20:41:58
15	220228R1_15	2202122-02 GWEF2202031355AB 0.94162	28-Feb-22	21:26:49
16	220228R1_16	2202122-03 GWEF2202031405AB 0.9708	28-Feb-22	22:11:46
17	220228R1_17	2202122-04 GWEF2202031415AB 0.96201	28-Feb-22	22:56:38
18	220228R2_1	SOLVENT BLANK	28-Feb-22	23:50:21
19	220228R2_2	ST220228R2_1 1613 CS3 21G0805	01-Mar-22	00:34:41

Ⓢ Sample reanalyzed 2/28/22 ✓

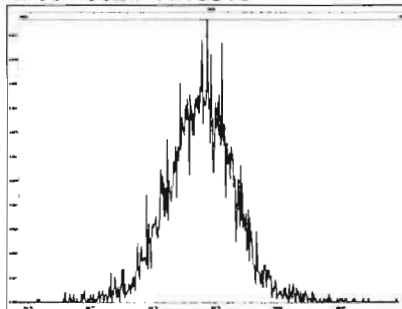
File: Experiment: OCDD\_DIOXIN.exp Reference: Pfk.ref Function: 1 @ 200 (ppm)

Printed: Monday, February 28, 2022 10:49:03 Pacific Standard Time

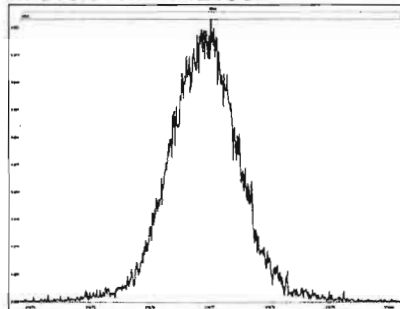
M 292.9824 R 14123



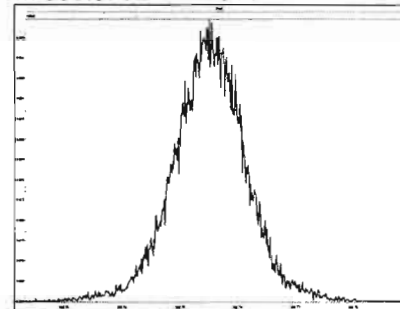
M 304.9824 R 13516



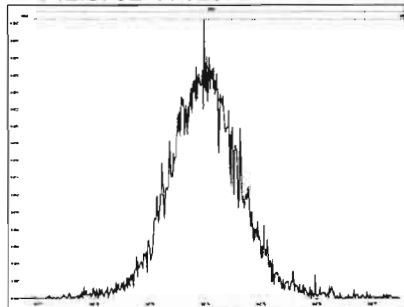
M 318.9792 R 12195



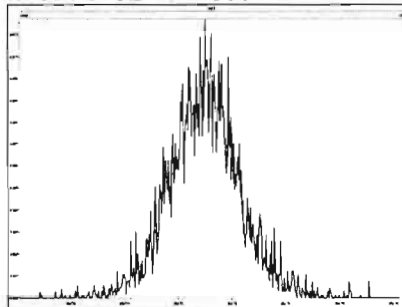
M 330.9792 R 11011



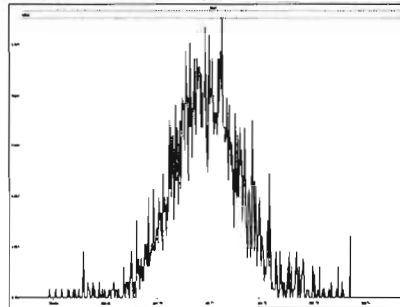
M 342.9792 R 12377



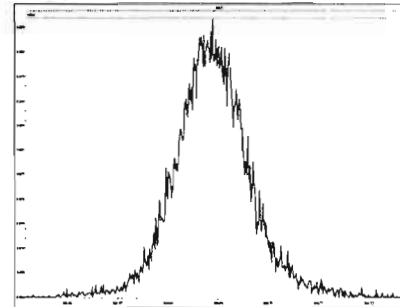
M 354.9792 R 12503



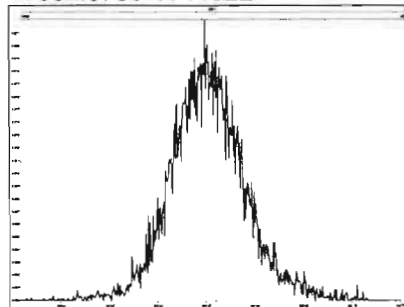
M 366.9792 R 13509



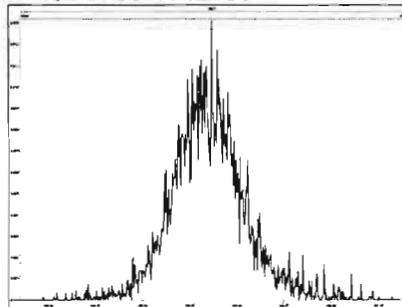
M 380.9760 R 11160



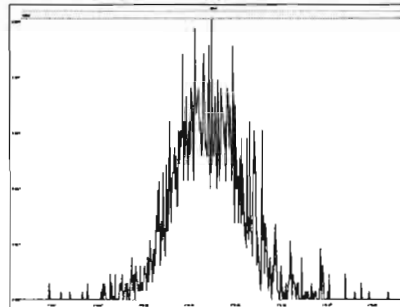
M 392.9760 R 11522



M 404.9760 R 12499



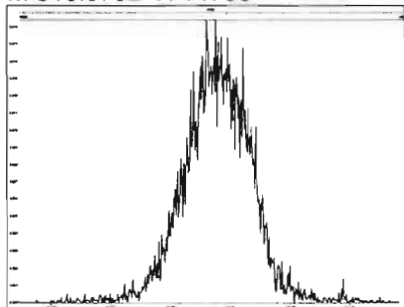
M 416.9760 R 14047



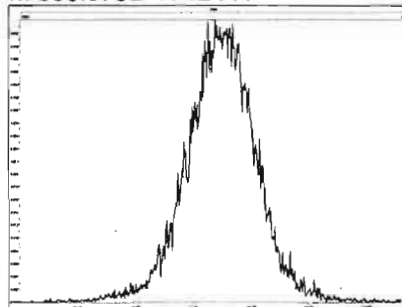
File: Experiment: OCDD\_DIOXIN.exp Reference: Pfk.ref Function: 2 @ 200 (ppm)

Printed: Monday, February 28, 2022 10:49:20 Pacific Standard Time

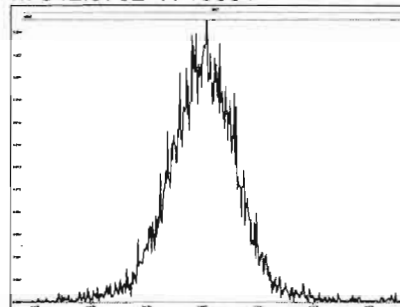
M 318.9792 R 14705



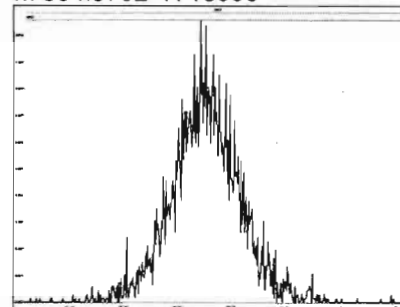
M 330.9792 R 12441



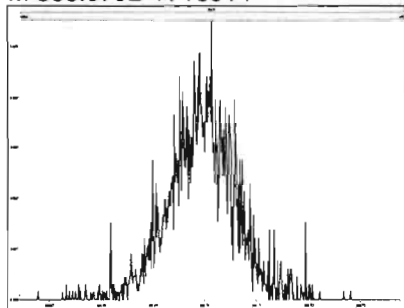
M 342.9792 R 13661



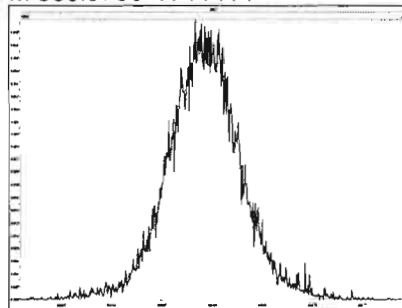
M 354.9792 R 13886



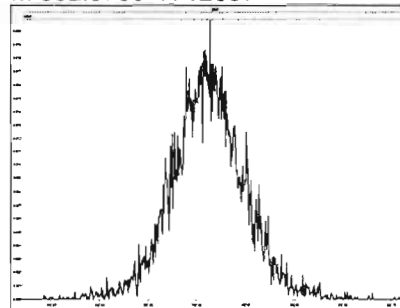
M 366.9792 R 13514



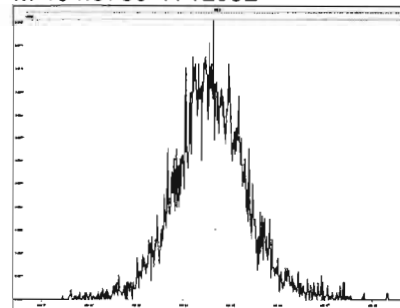
M 380.9760 R 11414



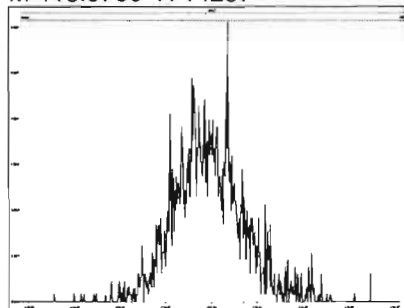
M 392.9760 R 12687



M 404.9760 R 12952



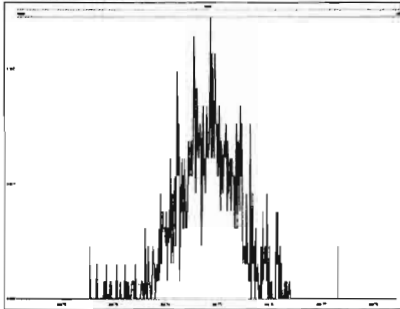
M 416.9760 R 14287



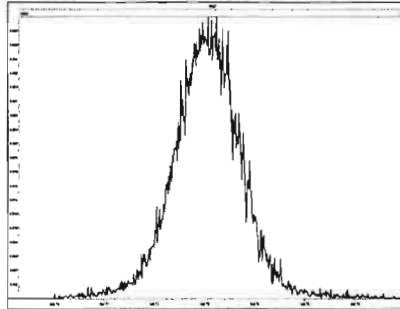
File: Experiment: OCDD\_DIOXIN.exp Reference: Pfk.ref Function: 3 @ 200 (ppm)

Printed: Monday, February 28, 2022 10:49:37 Pacific Standard Time

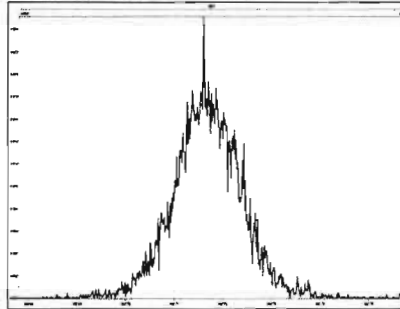
M 366.9792 R 15726



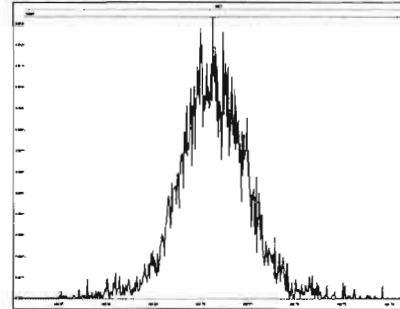
M 380.9760 R 12255



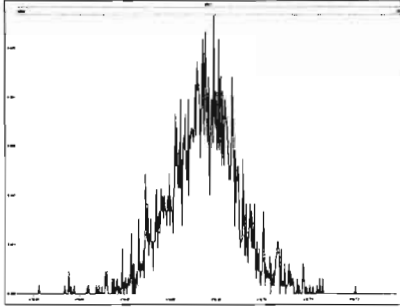
M 392.9760 R 12253



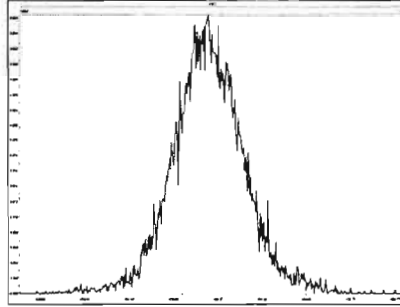
M 404.9760 R 13299



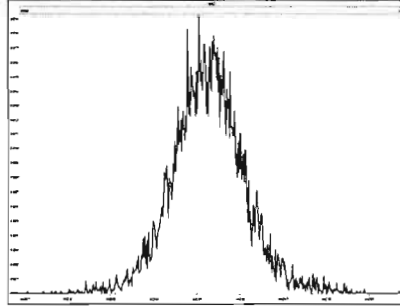
M 416.9760 R 15150



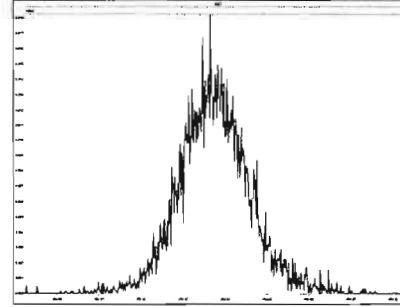
M 430.9728 R 11963



M 442.9728 R 12376



M 454.9728 R 12818

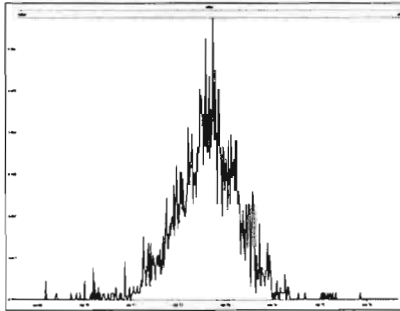




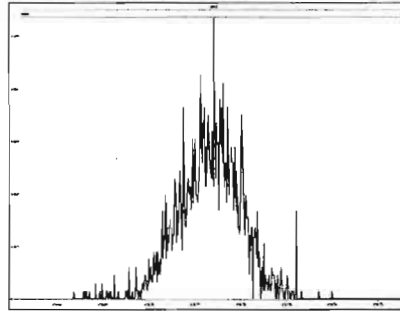
File: Experiment: OCDD\_DIOXIN.exp Reference: Pfk.ref Function: 4 @ 200 (ppm)

Printed: Monday, February 28, 2022 10:49:52 Pacific Standard Time

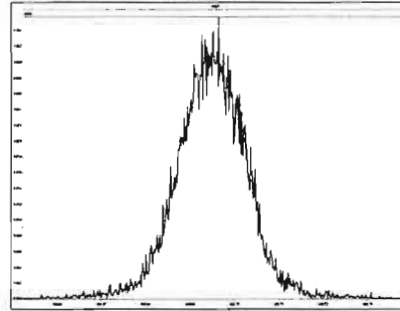
M 404.9760 R 16449



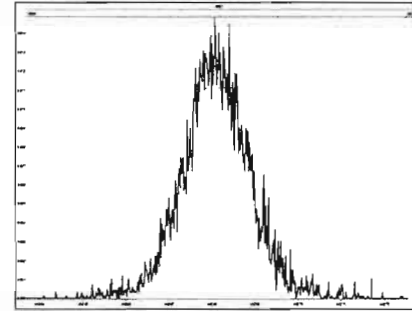
M 416.9760 R 17122



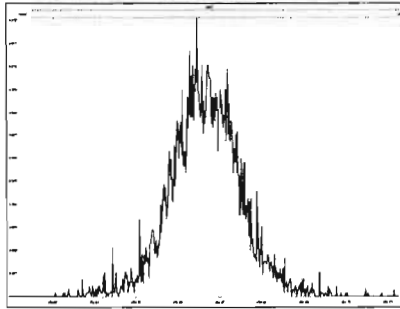
M 430.9728 R 12818



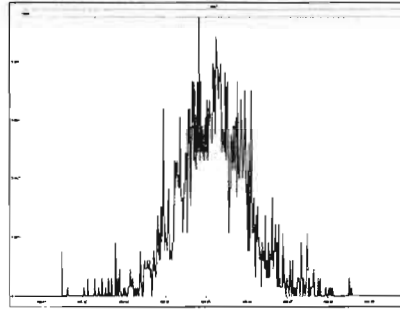
M 442.9728 R 13967



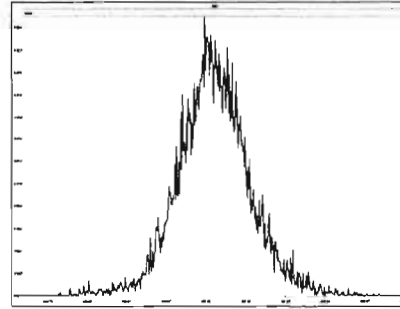
M 454.9728 R 12753



M 466.9728 R 14286



M 480.9696 R 12689



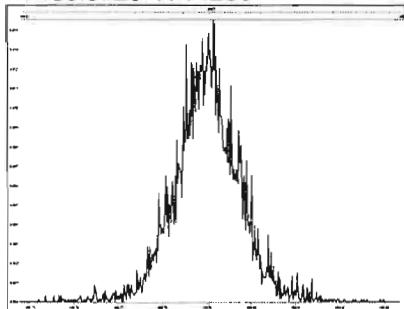
Experiment Calibration Report

MassLynx 4.1 SCN815

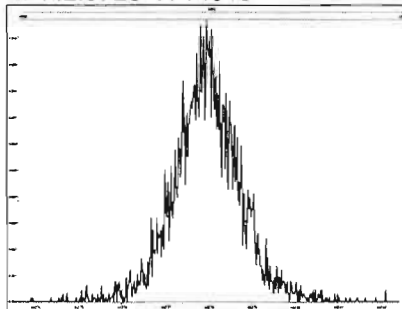
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Printed: Monday, February 28, 2022 10:50:13 Pacific Standard Time

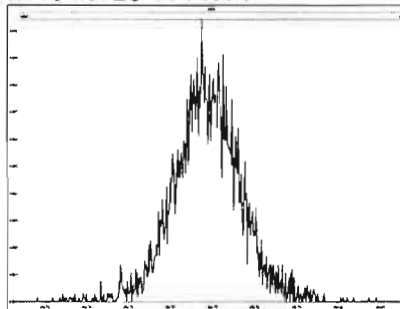
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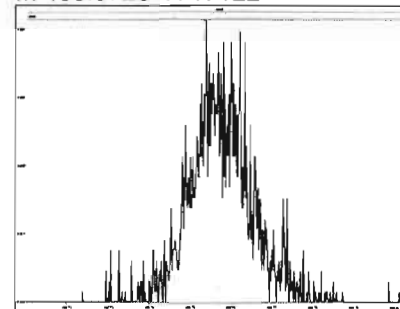
M 442.9728 R 14043



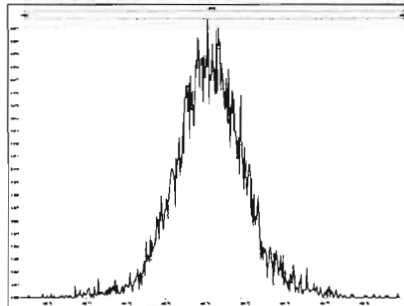
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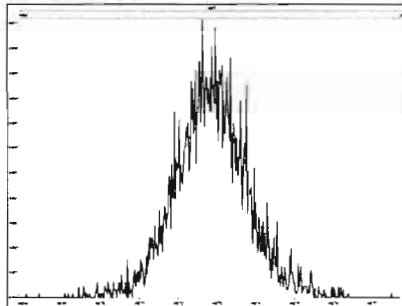
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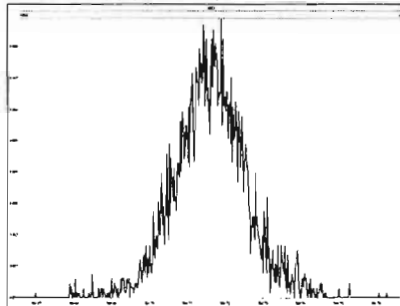
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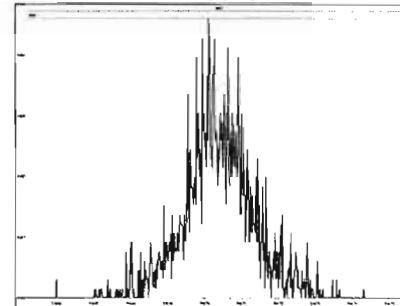
M 492.9696 R 12438



M 504.9696 R 14043



M 516.9697 R 15519



Dataset: Untitled

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Printed: Tuesday, March 01, 2022 11:13:20 Pacific Standard Time

Method: I:\VG12.PRO\MethDB\CPSM.mdb 17 Feb 2022 13:18:32

Calibration: I:\VG12.PRO\CurveDB\dbDIOXIN\_1613vg12-07-30-21.cdb 02 Aug 2021 09:55:11

Name: 220228R1\_1, Date: 28-Feb-2022, Time: 10:51:01, ID: ST220228R1\_1 1613 CS3 21G0805, Description: 1613 CS3 21G0805

#	Name	RT
1	1 1,3,6,8-TCDD (First)	22.06
2	2 1,2,8,9-TCDD (Last)	26.68
3	3 1,2,4,7,9-PeCDD (First)	28.20
4	4 1,2,3,8,9-PeCDD (Last)	30.73
5	5 1,2,4,6,7,9-HxCDD (First)	32.00
6	6 1,2,3,7,8,9-HxCDD (Last)	34.02
7	7 1,2,3,4,6,7,9-HpCDD (First)	36.47
8	8 1,2,3,4,6,7,8-HpCDD (Last)	37.53
9	9 1,3,6,8-TCDF (First)	19.81
10	10 1,2,8,9-TCDF (Last)	26.98
11	11 1,3,4,6,8-PeCDF (First)	26.57
12	12 1,2,3,8,9-PeCDF (Last)	31.08
13	13 1,2,3,4,6,8-HxCDF (First)	31.49
14	14 1,2,3,7,8,9-HxCDF (Last)	34.52
15	15 1,2,3,4,6,7,8-HpCDF (First)	36.09
16	16 1,2,3,4,7,8,9-HpCDF (Last)	38.19

Dataset: Untitled

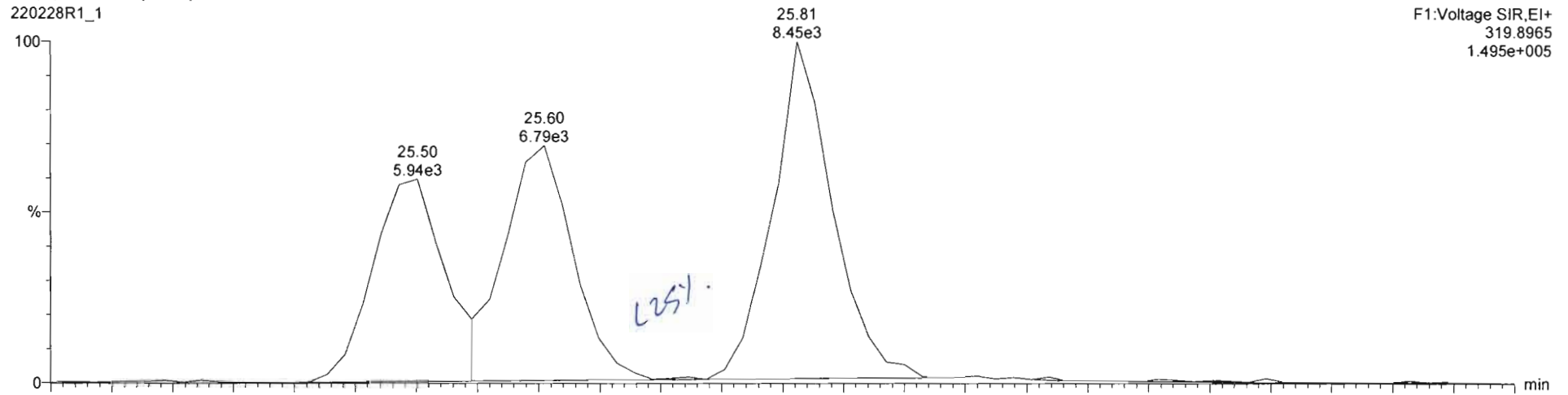
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Printed: Tuesday, March 01, 2022 11:13:20 Pacific Standard Time

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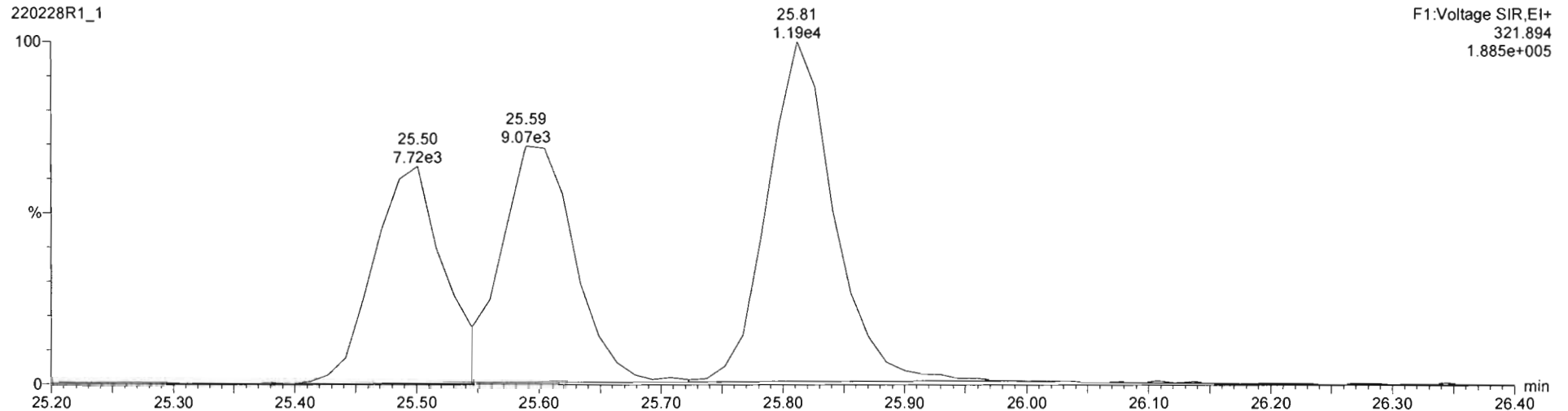
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1,3,6,8-TCDD (First)

220228R1\_1



220228R1\_1



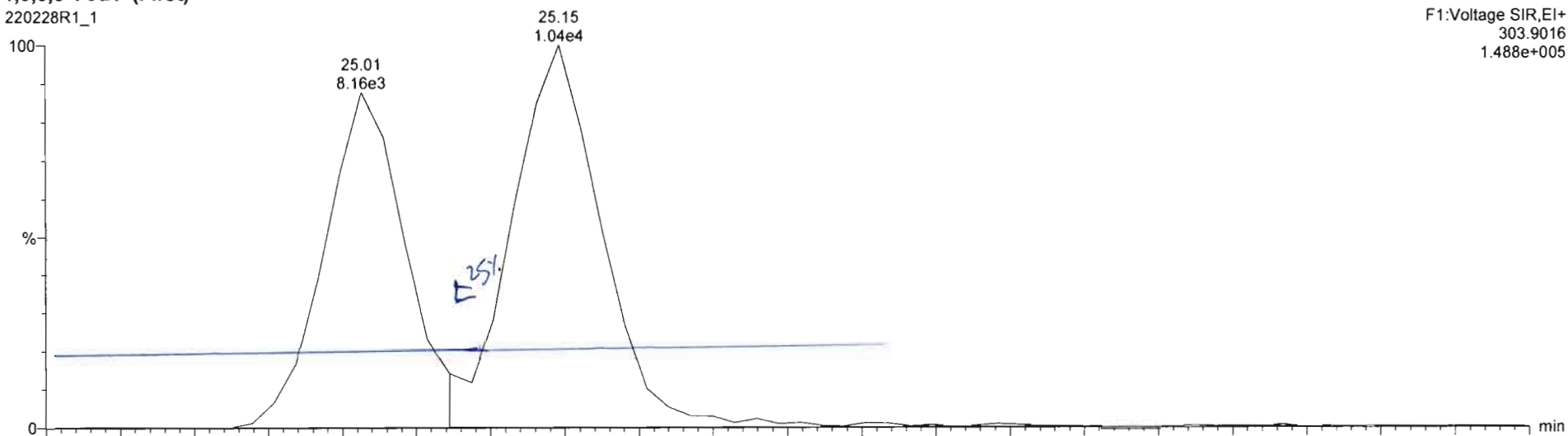
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Last Altered: Tuesday, March 01, 2022 11:12:50 Pacific Standard Time  
Printed: Tuesday, March 01, 2022 11:13:20 Pacific Standard Time

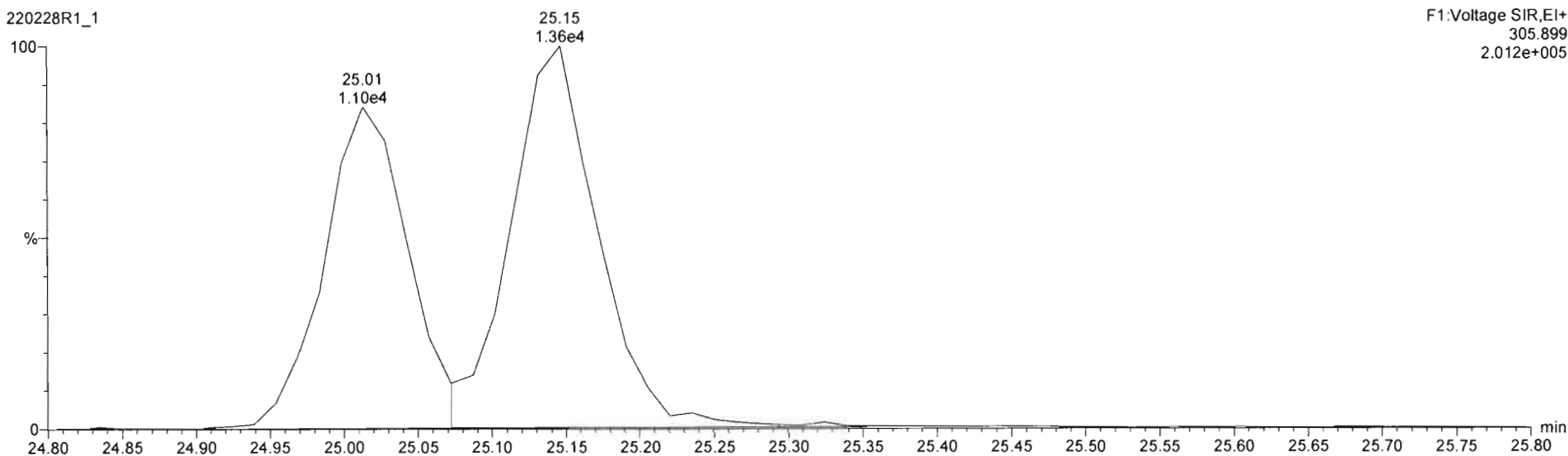
Name: 220228R1\_1, Date: 28-Feb-2022, Time: 10:51:01, ID: ST220228R1\_1 1613 CS3 21G0805, Description: 1613 CS3 21G0805

1,3,6,8-TCDF (First)

220228R1\_1



220228R1\_1



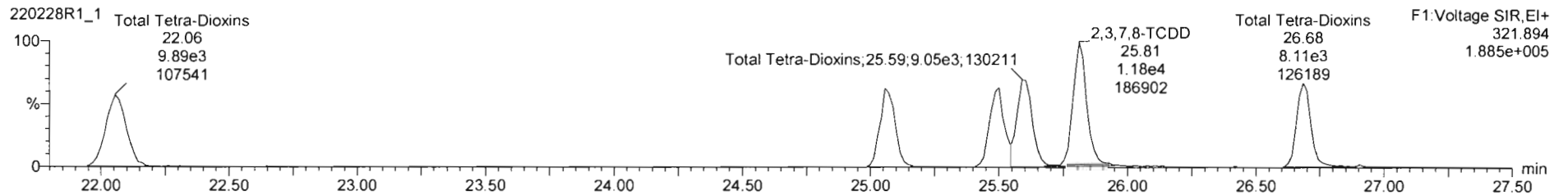
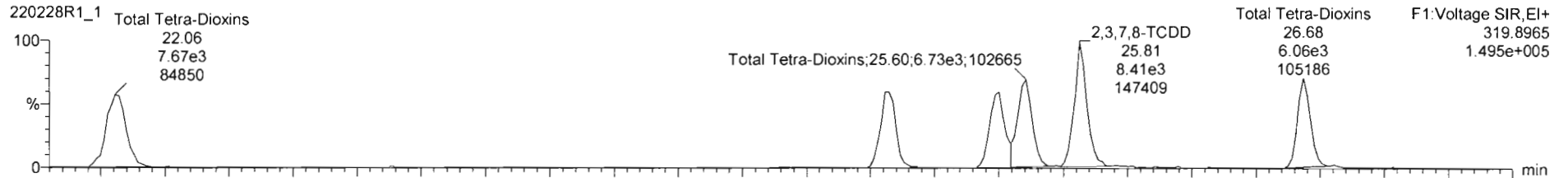
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Last Altered: Tuesday, March 01, 2022 11:32:28 Pacific Standard Time  
Printed: Tuesday, March 01, 2022 11:32:38 Pacific Standard Time

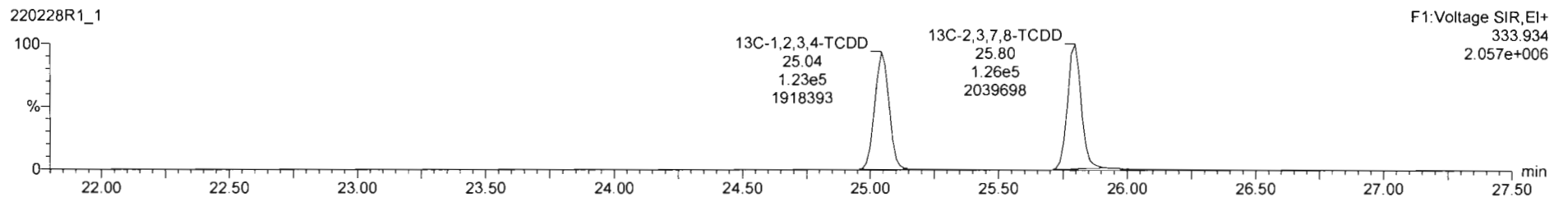
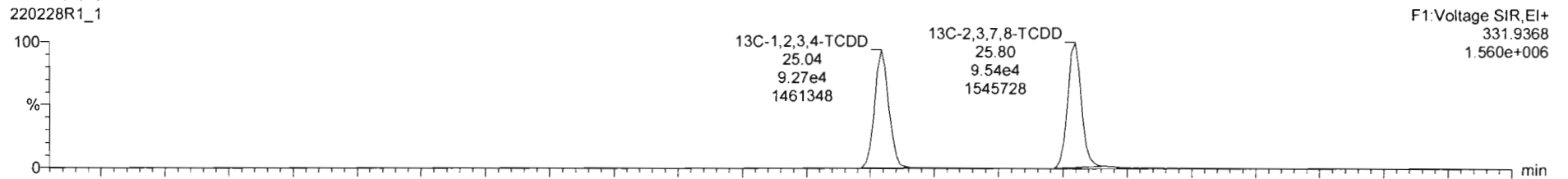
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**2,3,7,8-TCDD**



**13C-2,3,7,8-TCDD**





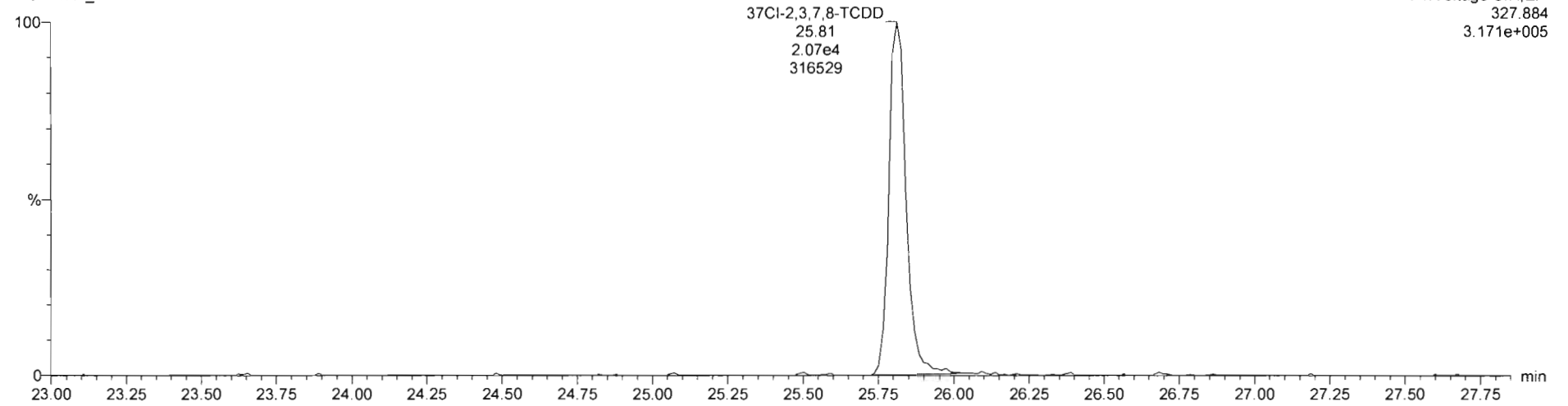
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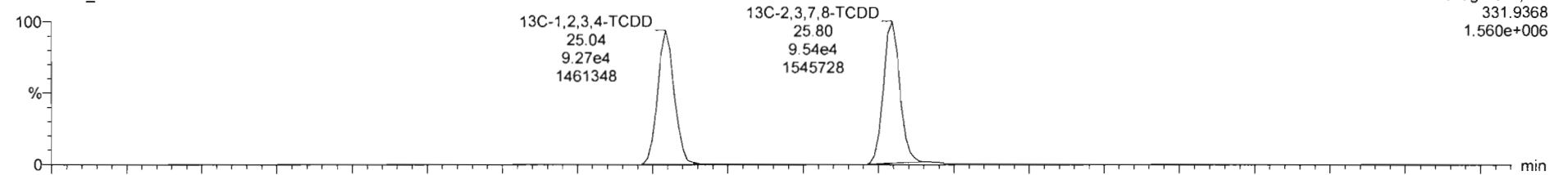
**37Cl-2,3,7,8-TCDD**

220228R1\_1

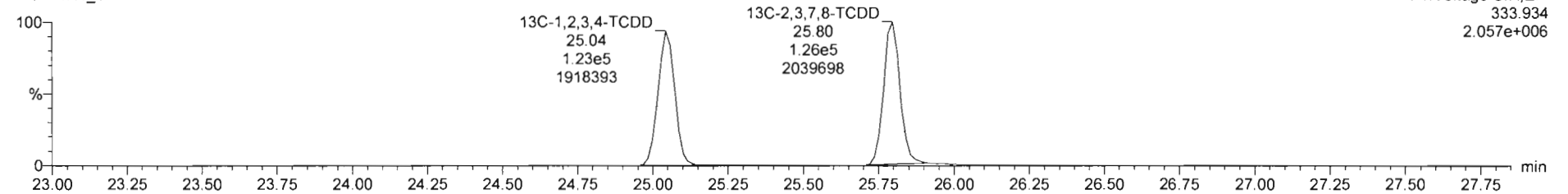


**13C-1,2,3,4-TCDD**

220228R1\_1



220228R1\_1



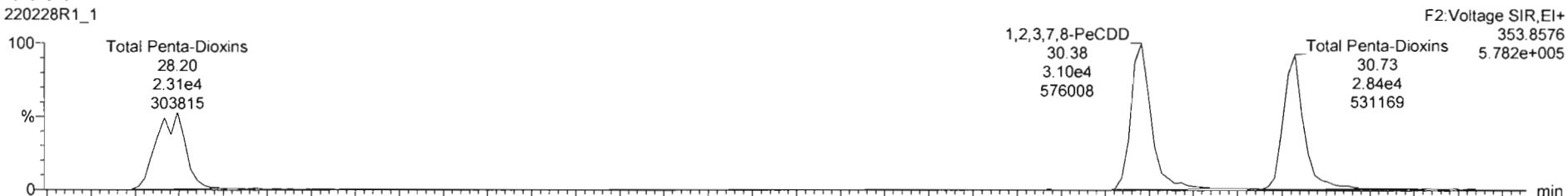
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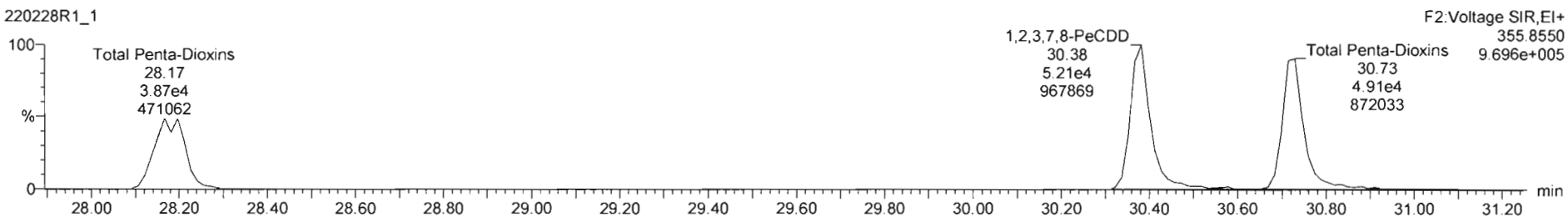
Name: 220228R1\_1, Date: 28-Feb-2022, Time: 10:51:01, ID: ST220228R1\_1 1613 CS3 21G0805, Description: 1613 CS3 21G0805

1,2,3,7,8-PeCDD

220228R1\_1



220228R1\_1

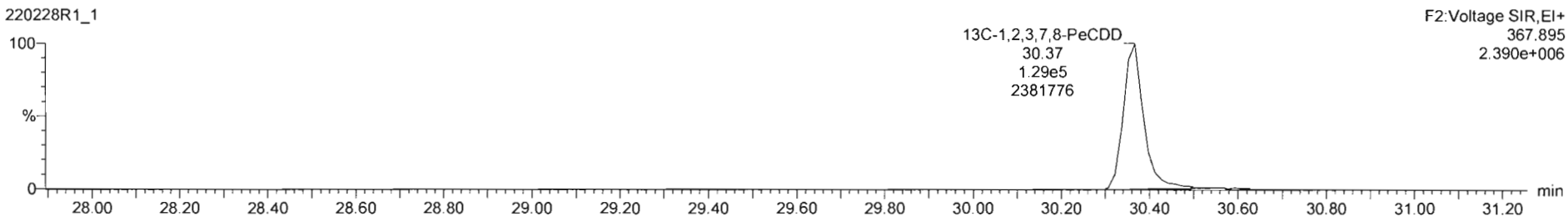


13C-1,2,3,7,8-PeCDD

220228R1\_1



220228R1\_1



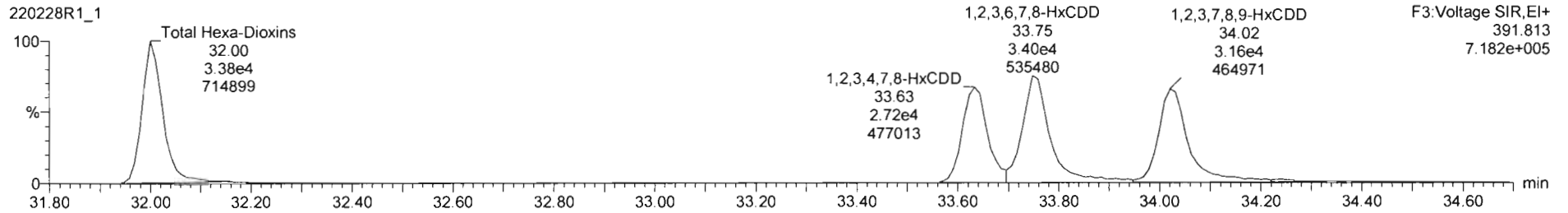
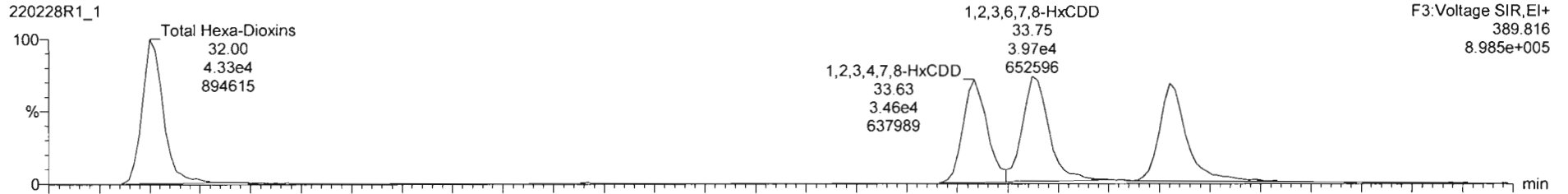
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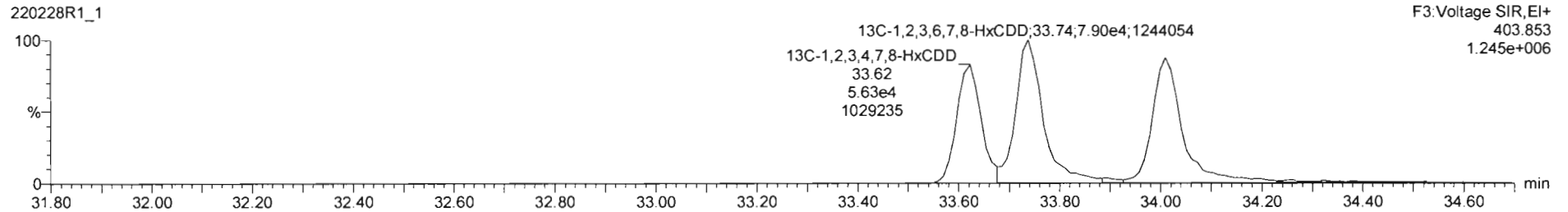
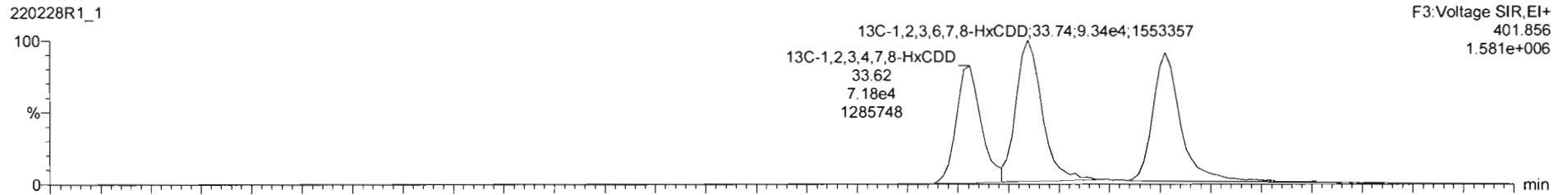
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Name: 220228R1\_1, Date: 28-Feb-2022, Time: 10:51:01, ID: ST220228R1\_1 1613 CS3 21G0805, Description: 1613 CS3 21G0805

1,2,3,4,7,8-HxCDD

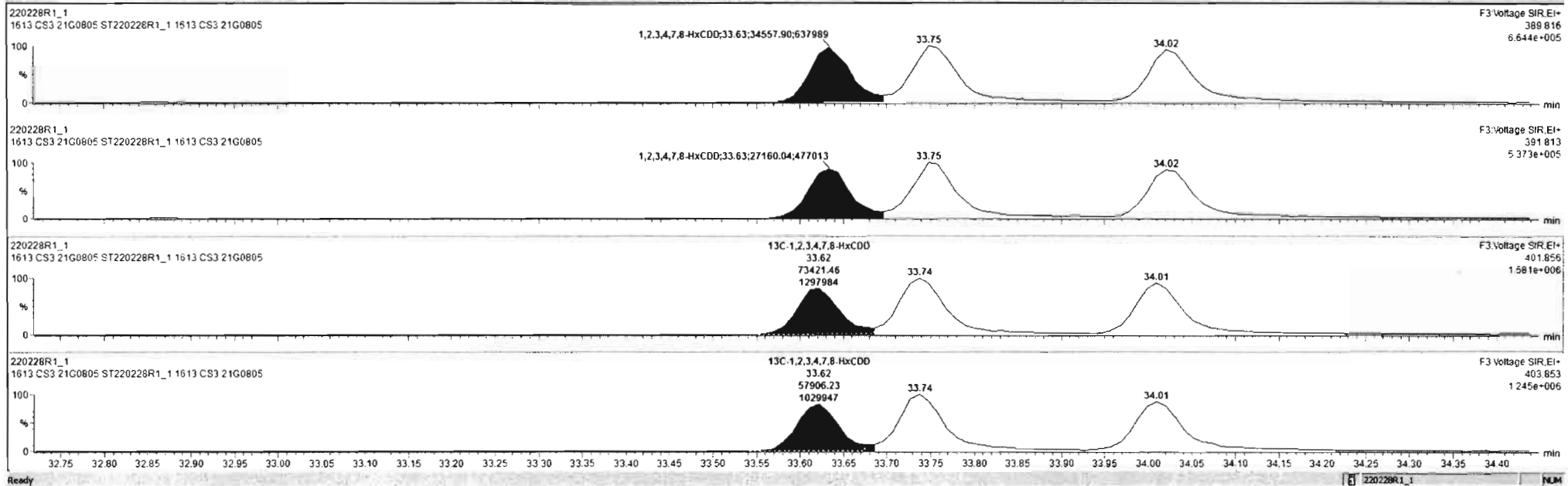


13C-1,2,3,4,7,8-HxCDD



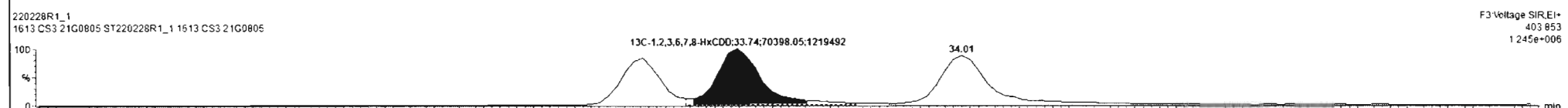
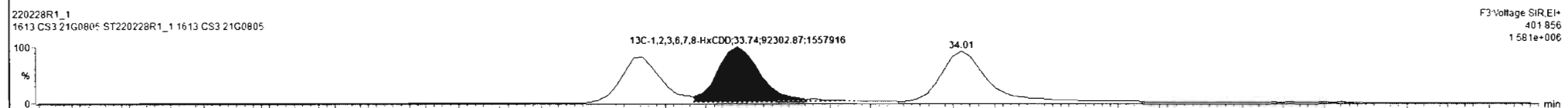
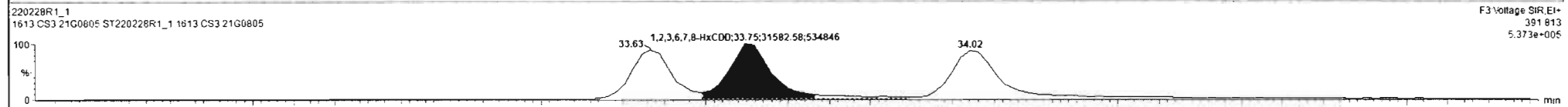
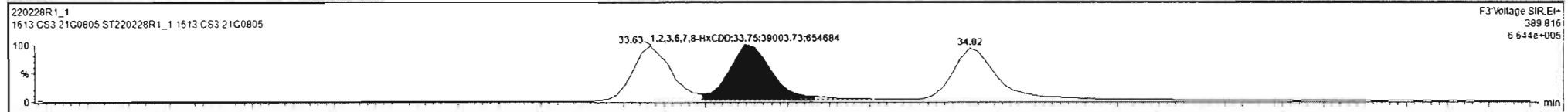
220228R1\_1 - ST220228R1\_1 1613 CS3 21G0805 - 1613 CS3 21G0805

Name	Resp	RA	n/y	RRF	wtVol	RT	RRT	Conc.	%Rec	DL	EMPC	
1	2,3,7,8-TCDD	2.02e4	0.71	NO	0.95	1.000	25.61	1.001	9.56	95.8	0.0763	9.56
2	1,2,3,7,8-PeCDD	8.31e4	0.59	NO	0.78	1.000	30.38	1.000	51.0	102	0.312	51.0
3	1,2,3,4,7,8-HxCDD	6.17e4	1.27	NO	0.90	1.000	33.63	1.000	52.0	104	0.538	52.0
4	1,2,3,6,7,8-HxCDD	7.38e4	1.17	NO	0.81	1.000	33.75	1.000	55.0	110	0.505	55.0
5	1,2,3,7,8,9-HxCDD	6.63e4	1.20	NO	0.81	1.000	34.02	1.000	51.5	103	0.536	51.5
6	1,2,3,4,6,7,8-HpCDD	4.73e4	1.01	NO	0.84	1.000	37.53	1.001	53.3	107	0.594	53.3
7	OCDD	7.15e4	0.84	NO	0.90	1.000	40.75	1.001	102	102	0.887	102
8	2,3,7,8-TCDF	2.24e4	0.76	NO	0.72	1.000	25.15	1.001	9.63	96.2	0.0678	9.63
9	1,2,3,7,8-PeCDF	1.04e5	1.64	NO	0.81	1.000	29.16	1.000	51.6	103	0.319	51.6
10	2,3,4,7,8-PeCDF	1.29e5	1.52	NO	0.89	1.000	30.19	1.000	52.7	105	0.256	52.7
11	1,2,3,4,7,8-HxCDF	8.42e4	1.24	NO	0.89	1.000	32.73	1.000	52.9	106	0.360	52.9
12	1,2,3,6,7,8-HxCDF	6.97e4	1.26	NO	0.87	1.000	32.67	1.001	51.8	103	0.375	51.6
13	2,3,4,6,7,8-HxCDF	8.00e4	1.27	NO	0.90	1.000	33.52	1.000	52.9	105	0.440	52.9
14	1,2,3,7,8,9-HxCDF	6.75e4	1.23	NO	0.87	1.000	34.52	1.001	52.1	104	0.537	52.1
15	1,2,3,4,6,7,8-HpCDF	6.10e4	0.95	NO	0.99	1.000	36.09	1.001	50.6	102	0.458	50.8
16	1,2,3,4,7,8,9-HpCDF	5.01e4	0.98	NO	0.97	1.000	38.19	1.001	50.6	101	0.519	50.6
17	OCDF	8.55e4	0.90	NO	0.72	1.000	41.07	1.000	104	104	0.573	104
18	13C-2,3,7,8-TCDD	2.27e5	0.75	NO	1.11	1.000	25.80	1.030	93.0	93.0	0.204	
19	13C-1,2,3,7,8-PeCDD	2.09e5	0.62	NO	0.89	1.000	30.37	1.213	108	108	0.227	



220228R1\_1 - ST220228R1\_1 1613 CS3 21G0805 - 1613 CS3 21G0805

#	Name	Resp	RA	n/y	RRF	wt/vol	RT	RRT	Conc.	%Rec	DL	EMPC
1	2,3,7,8-TCDD	2.02e4	0.71	NO	0.95	1.000	25.81	1.001	9.56	95.8	0.0783	9.56
2	1,2,3,7,8-PeCDD	6.31e4	0.59	NO	0.78	1.000	30.38	1.000	51.0	102	0.312	51.0
3	1,2,3,4,7,8-HxCDD	6.17e4	1.27	NO	0.80	1.000	33.63	1.000	52.0	104	0.536	52.0
4	1,2,3,6,7,8-HxCDD	7.06e4	1.23	NO	0.81	1.000	33.75	1.000	53.8	108	0.509	53.8
5	1,2,3,7,8,9-HxCDD	6.93e4	1.20	NO	0.81	1.000	34.02	1.000	51.5	103	0.536	51.5
6	1,2,3,4,5,7,8-HpCDD	4.73e4	1.01	NO	0.84	1.000	37.53	1.001	53.3	107	0.594	53.3
7	OCDD	7.15e4	0.64	NO	0.80	1.000	40.75	1.001	102	102	0.897	102
8	2,3,7,8-TCDF	2.24e4	0.78	NO	0.72	1.000	25.15	1.001	9.63	96.3	0.0678	9.63
9	1,2,3,7,8-PeCDF	1.04e5	1.64	NO	0.81	1.000	29.16	1.001	51.8	103	0.319	51.8
10	2,3,4,7,8-PeCDF	1.29e5	1.52	NO	0.89	1.000	20.19	1.000	52.7	105	0.256	52.7
11	1,2,3,4,7,8-HxCDF	8.42e4	1.24	NO	0.89	1.000	32.73	1.000	52.9	106	0.360	52.9
12	1,2,3,6,7,8-HxCDF	6.97e4	1.26	NO	0.87	1.000	32.67	1.001	51.8	103	0.375	51.8
13	2,3,4,6,7,8-HxCDF	8.00e4	1.27	NO	0.90	1.000	33.52	1.000	52.9	106	0.440	52.9
14	1,2,3,7,8,9-HxCDF	6.75e4	1.23	NO	0.87	1.000	34.52	1.001	52.1	104	0.537	52.1
15	1,2,3,4,6,7,8-HpCDF	6.10e4	0.95	NO	0.98	1.000	36.09	1.001	50.8	102	0.469	50.8
16	1,2,3,4,7,8,9-HpCDF	5.01e4	0.96	NO	0.97	1.000	38.19	1.001	50.6	101	0.519	50.6
17	OCDF	8.55e4	0.90	NO	0.72	1.000	41.07	1.001	104	104	0.573	104
18	13C-2,3,7,8-TCDD	2.22e5	0.75	NO	1.11	1.000	25.80	1.030	93.0	93.0	0.204	
19	13C-1,2,3,7,8-PeCDD	2.09e5	0.62	NO	0.89	1.000	30.37	1.213	108	108	0.227	



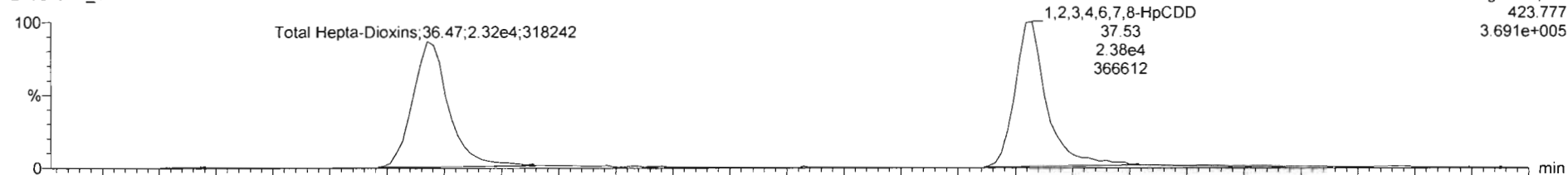
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Printed: Tuesday, March 01, 2022 11:32:38 Pacific Standard Time

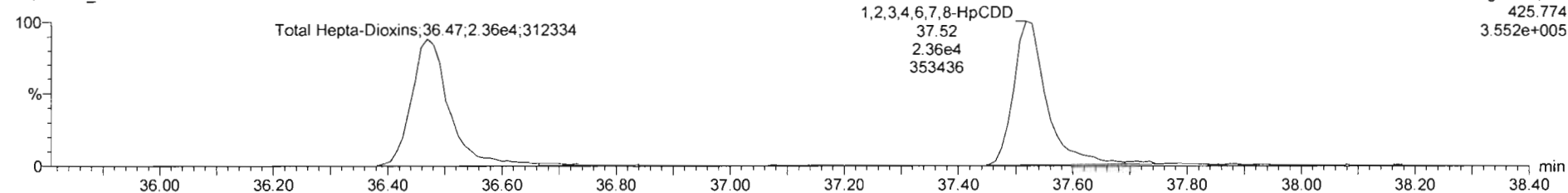
Name: 220228R1\_1, Date: 28-Feb-2022, Time: 10:51:01, ID: ST220228R1\_1 1613 CS3 21G0805, Description: 1613 CS3 21G0805

1,2,3,4,6,7,8-HpCDD

220228R1\_1

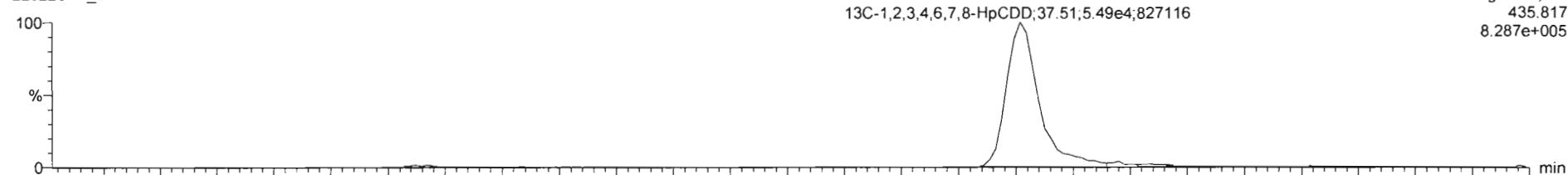


220228R1\_1

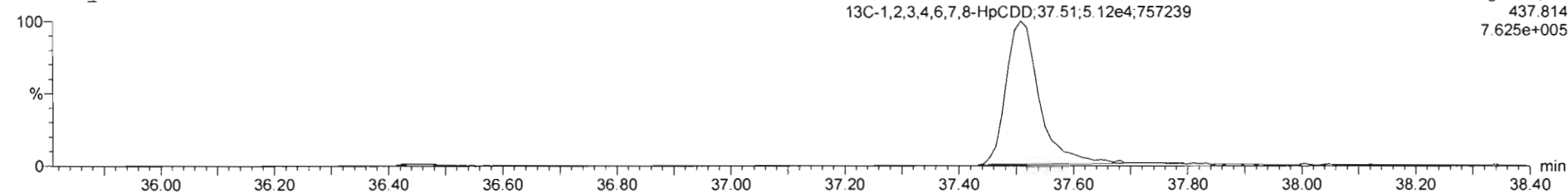


13C-1,2,3,4,6,7,8-HpCDD

220228R1\_1



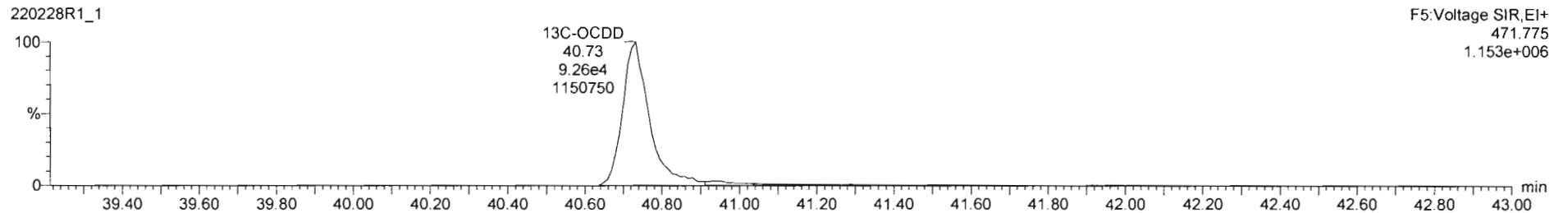
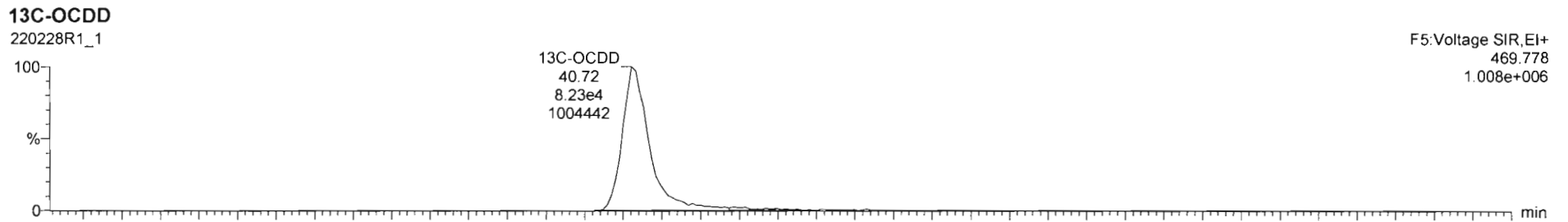
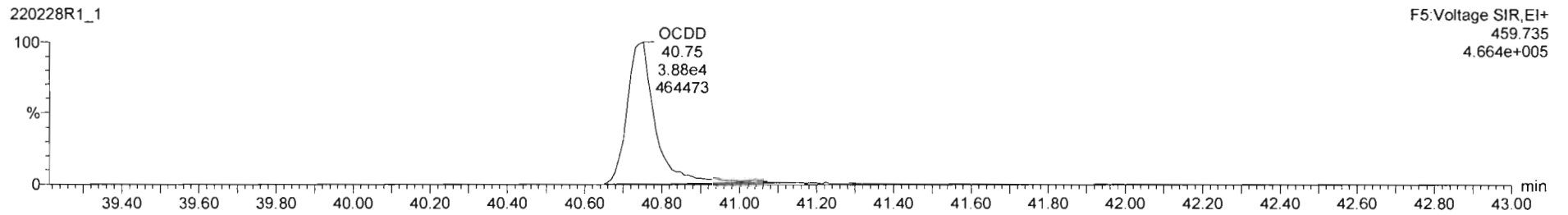
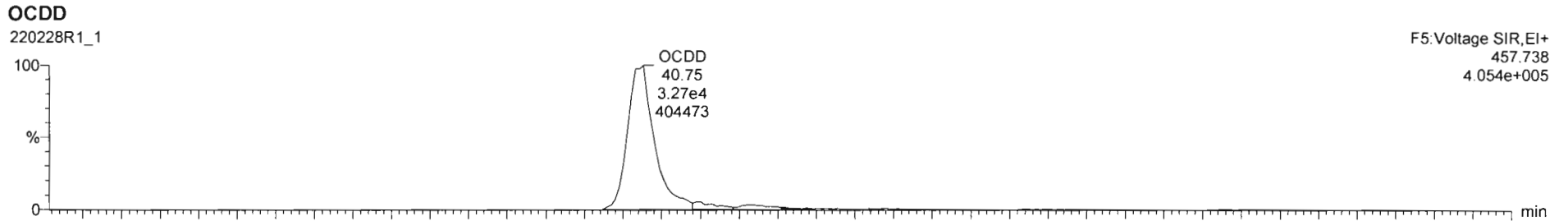
220228R1\_1



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Printed: Tuesday, March 01, 2022 11:32:38 Pacific Standard Time

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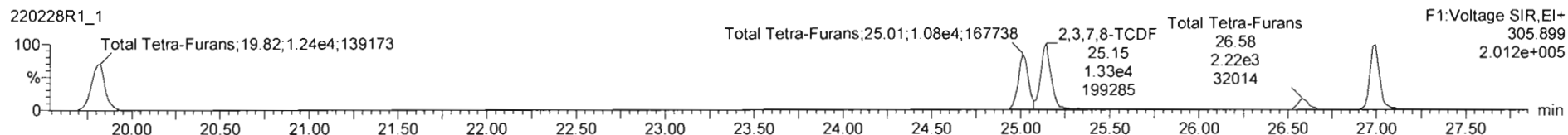
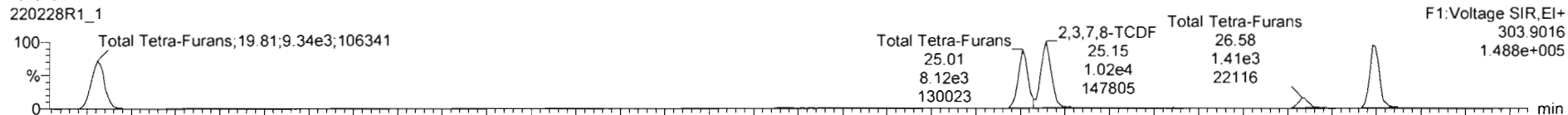


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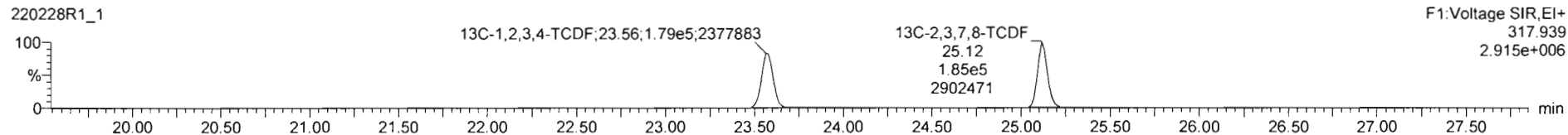
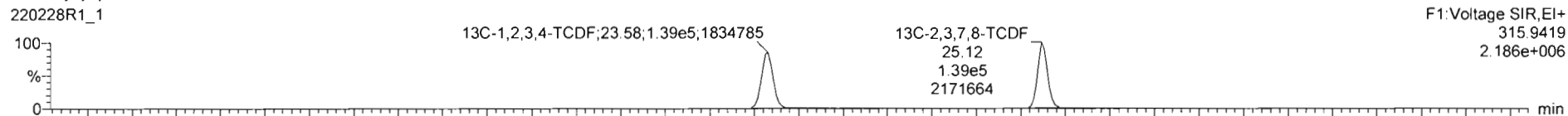
Last Altered: Tuesday, March 01, 2022 11:32:28 Pacific Standard Time  
Printed: Tuesday, March 01, 2022 11:32:38 Pacific Standard Time

Name: 220228R1\_1, Date: 28-Feb-2022, Time: 10:51:01, ID: ST220228R1\_1 1613 CS3 21G0805, Description: 1613 CS3 21G0805

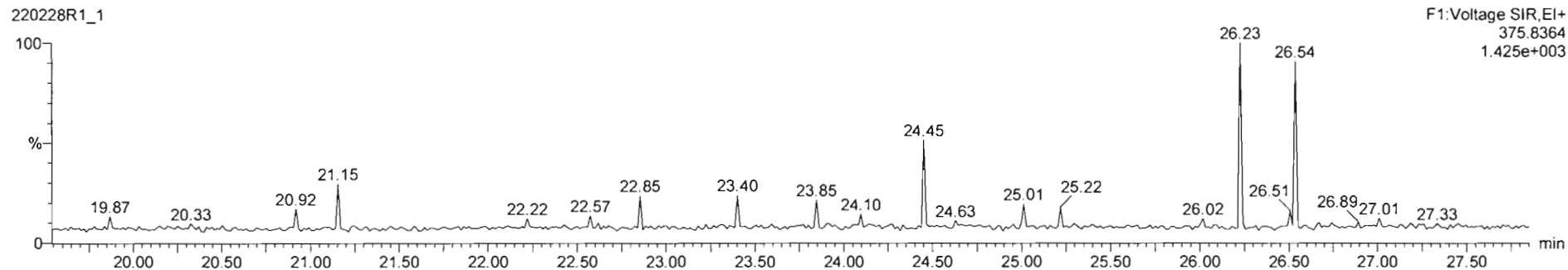
**2,3,7,8-TCDF**



**13C-2,3,7,8-TCDF**



**DPE1**



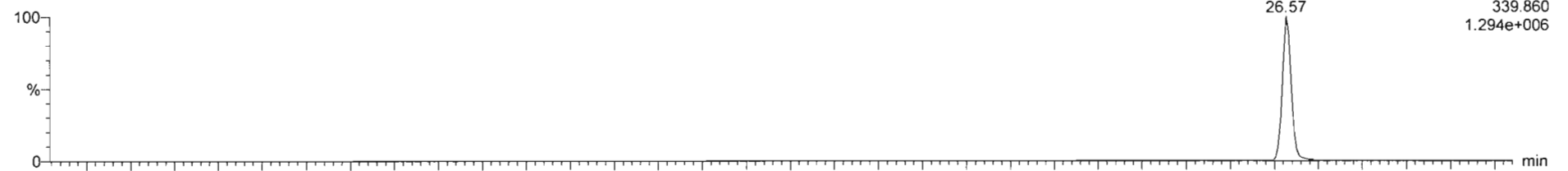
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Printed: Tuesday, March 01, 2022 11:32:38 Pacific Standard Time

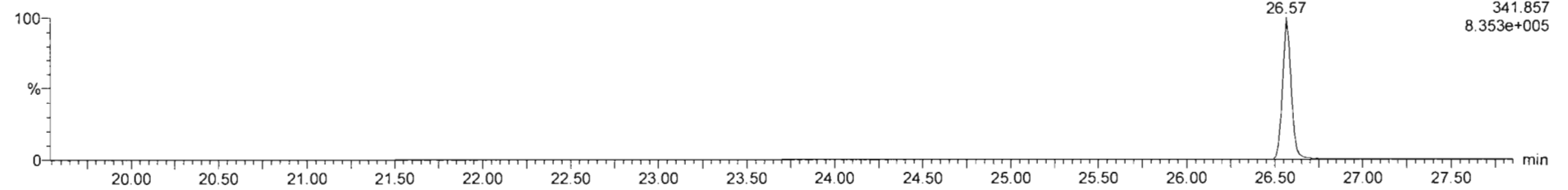
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1st Func. Penta-Furans

220228R1\_1

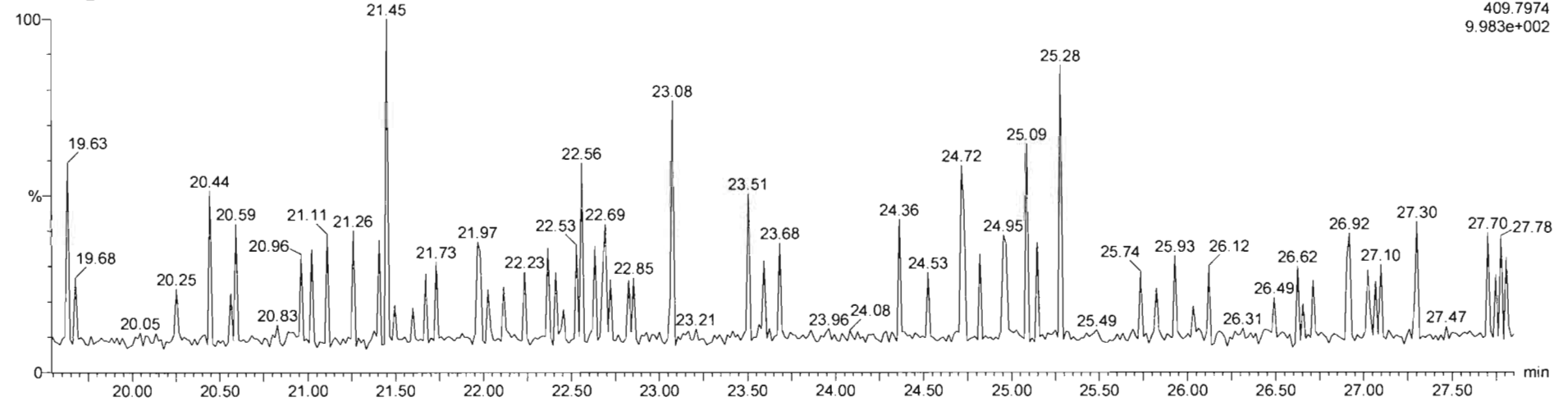


220228R1\_1



DPE6

220228R1\_1



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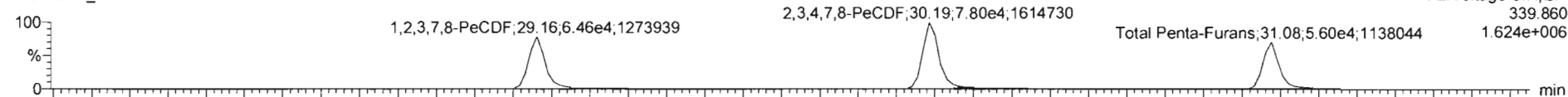
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Printed: Tuesday, March 01, 2022 11:32:38 Pacific Standard Time

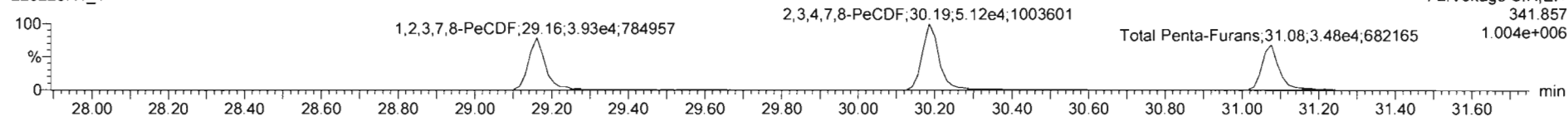
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**1,2,3,7,8-PeCDF**

220228R1\_1

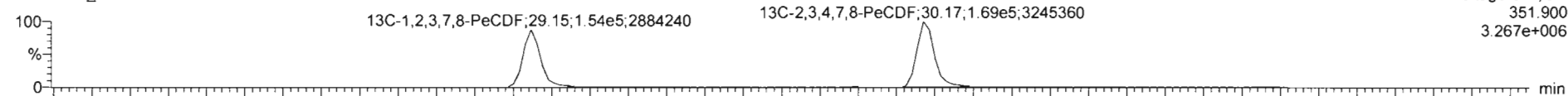


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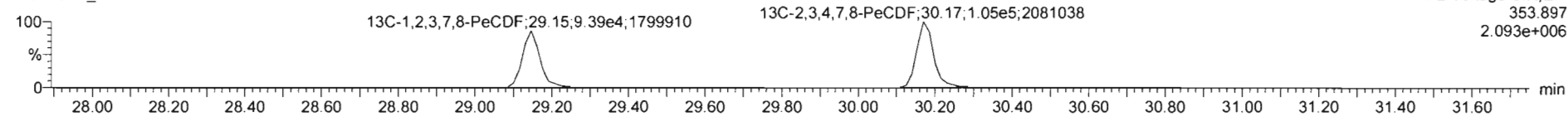


**13C-1,2,3,7,8-PeCDF**

220228R1\_1

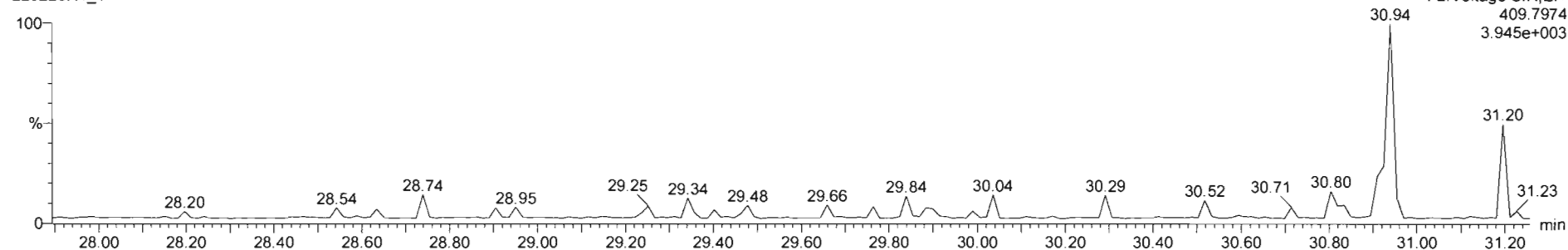


220228R1\_1



**DPE2**

220228R1\_1



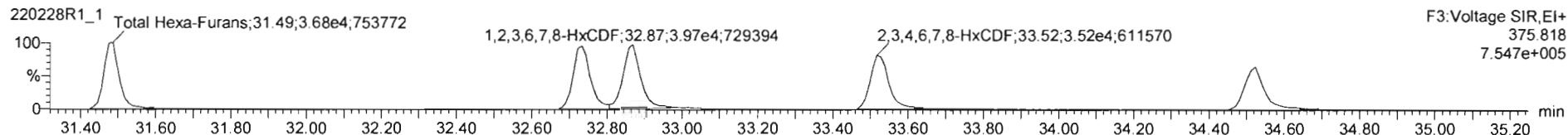
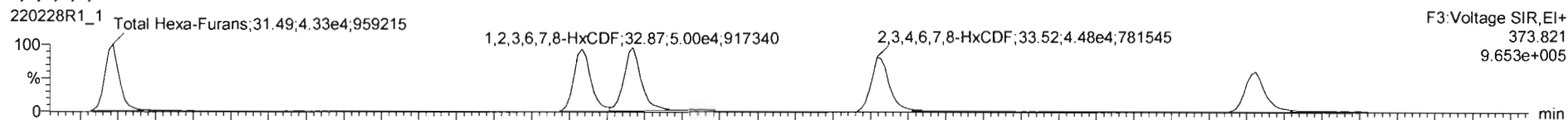
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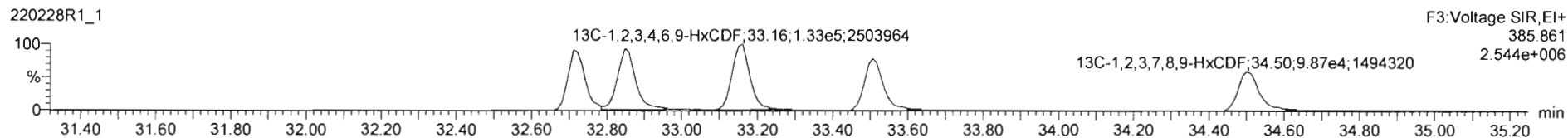
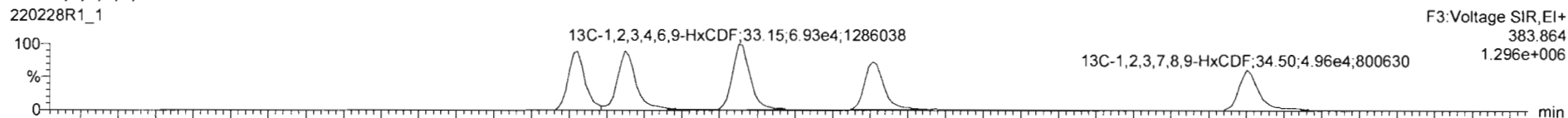
Printed: Tuesday, March 01, 2022 11:32:38 Pacific Standard Time

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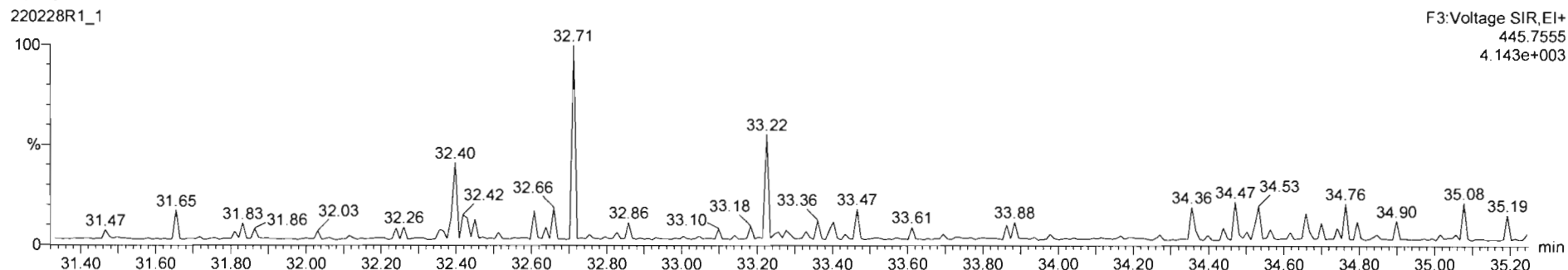
### 1,2,3,4,7,8-HxCDF



### 13C-1,2,3,4,7,8-HxCDF



### DPE3

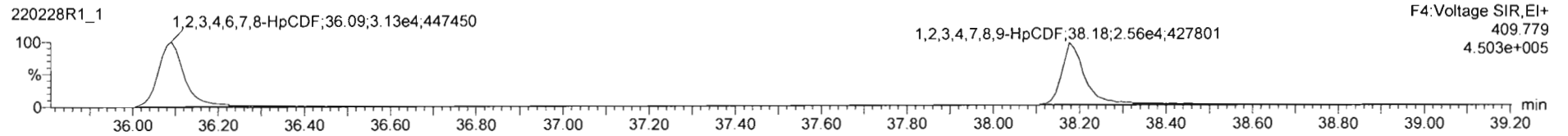
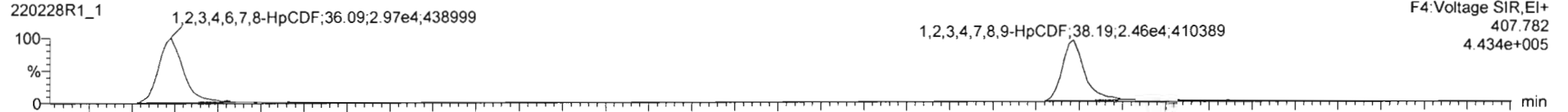


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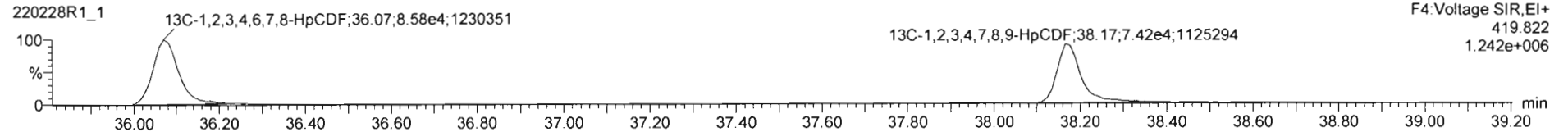
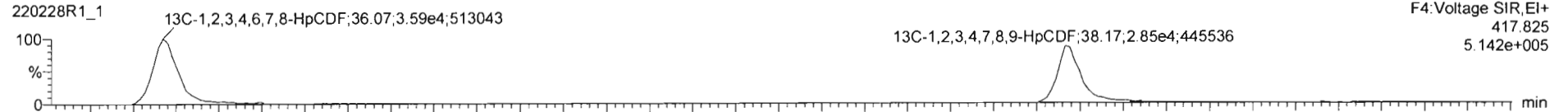
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Printed: Tuesday, March 01, 2022 11:32:38 Pacific Standard Time

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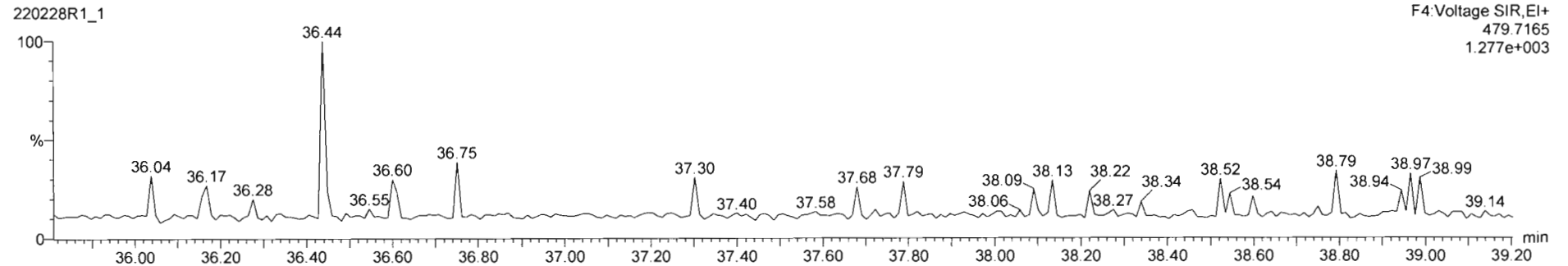
**1,2,3,4,6,7,8-HpCDF**



**13C-1,2,3,4,6,7,8-HpCDF**



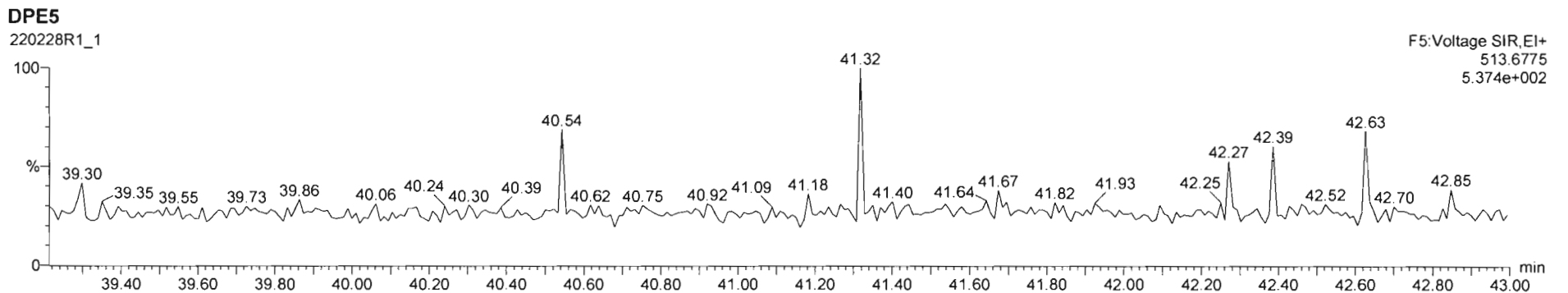
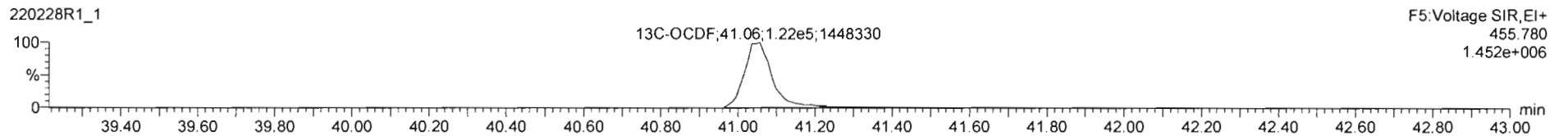
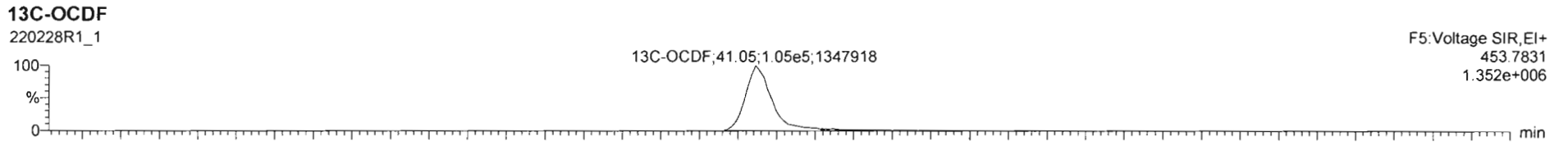
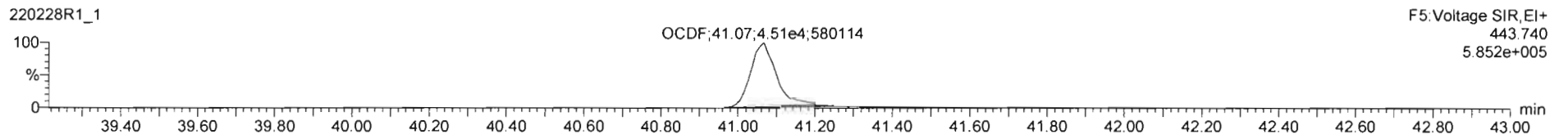
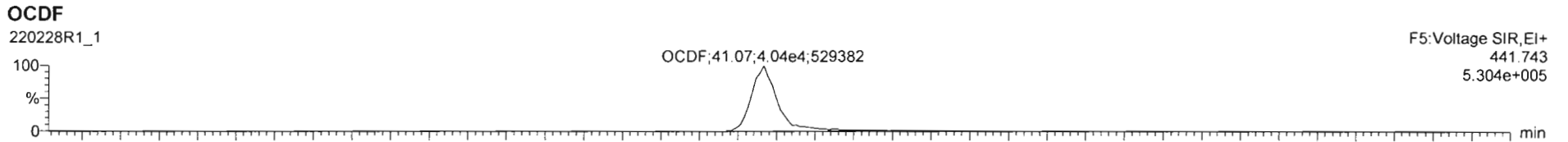
**DPE4**



Dataset: Untitled

Last Altered: Tuesday, March 01, 2022 11:32:28 Pacific Standard Time  
Printed: Tuesday, March 01, 2022 11:32:38 Pacific Standard Time

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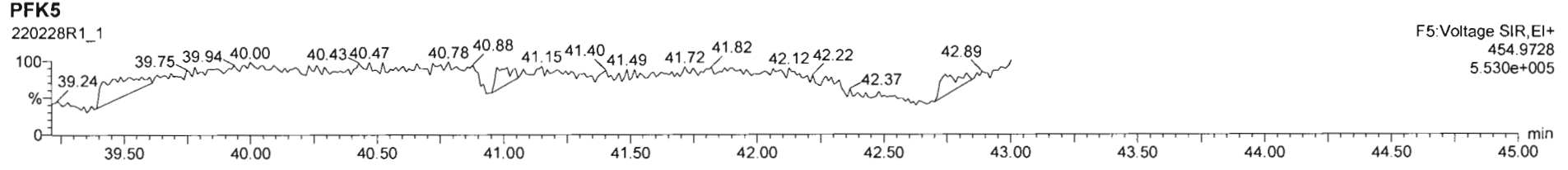
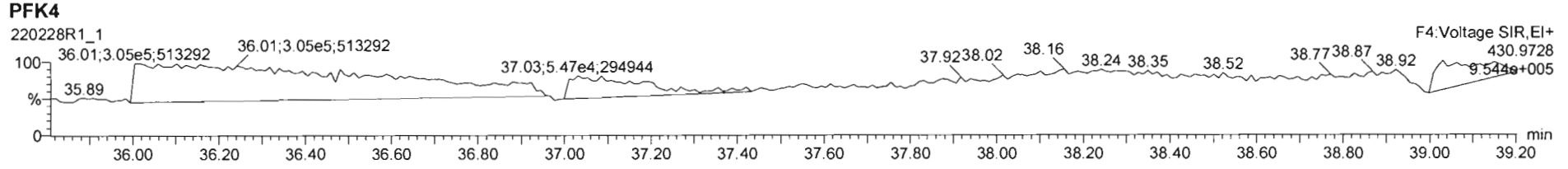
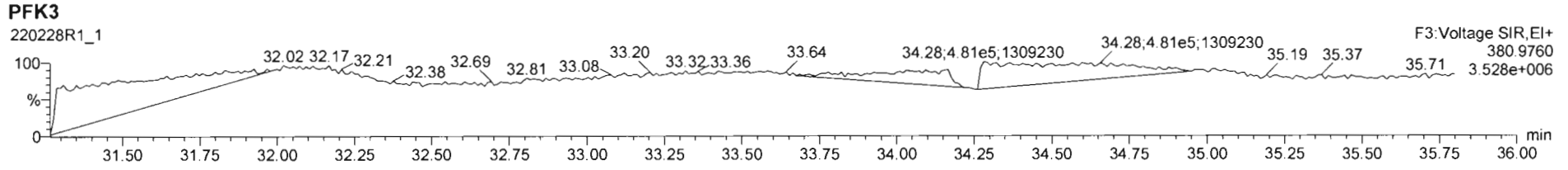
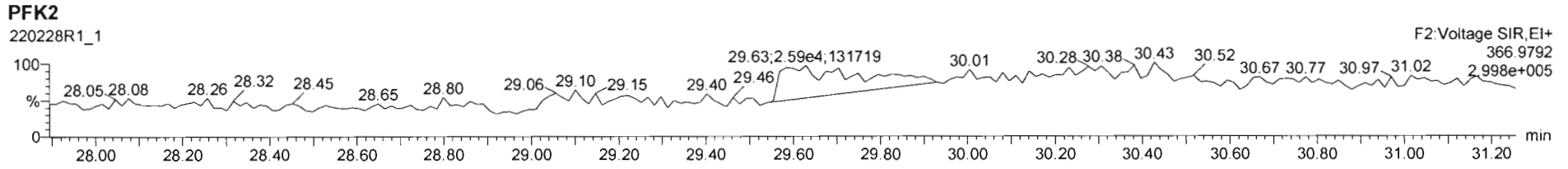
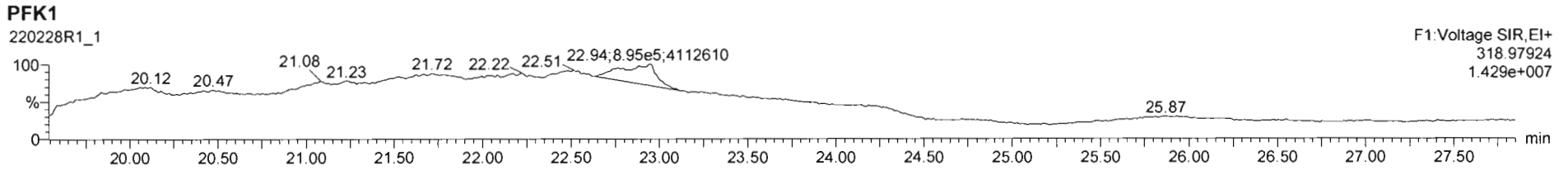


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Printed: Tuesday, March 01, 2022 11:32:38 Pacific Standard Time

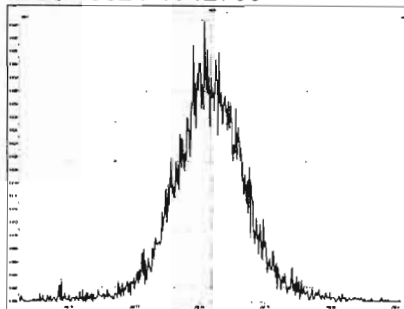
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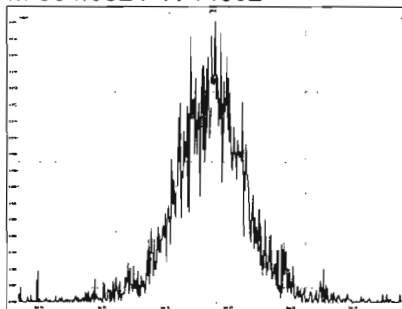


Printed: Monday, February 28, 2022 23:50:19 Pacific Standard Time

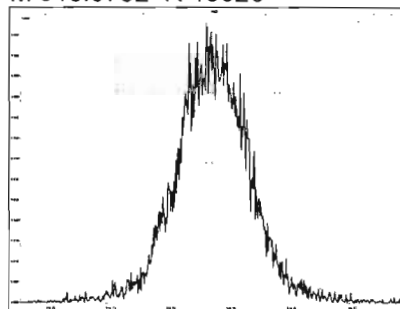
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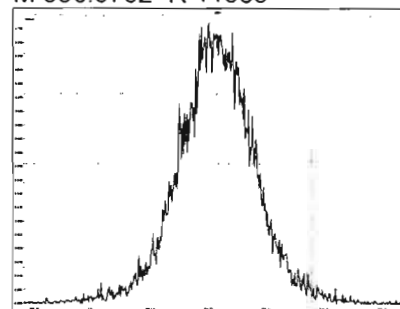
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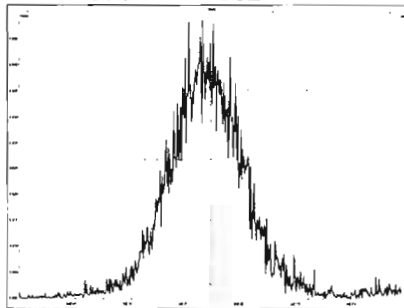
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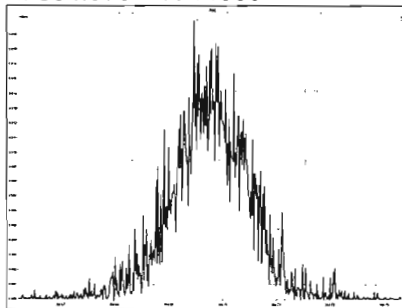
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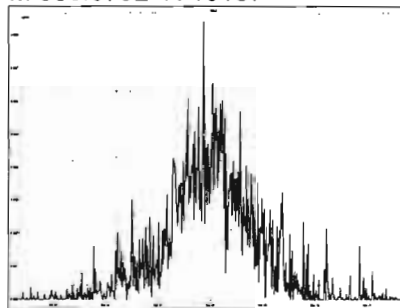
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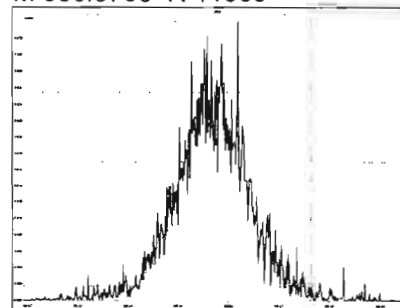
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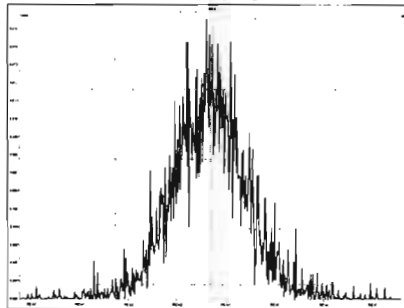
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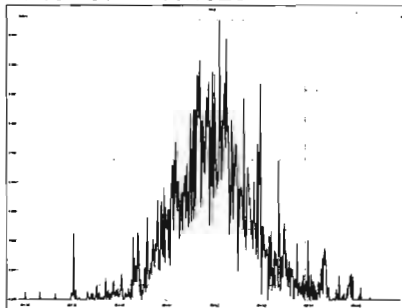
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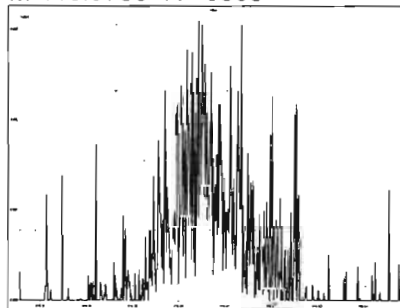
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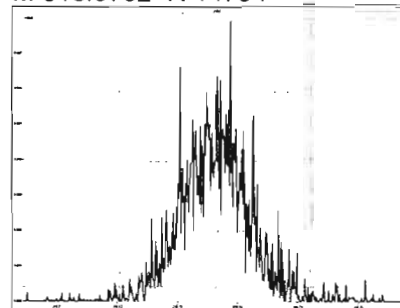
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M 416.9760 R 18506

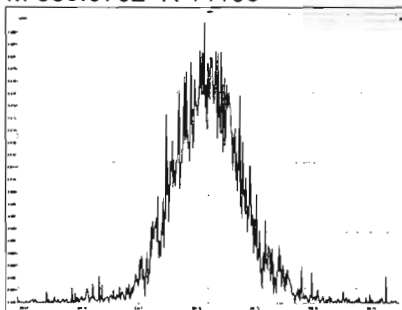


M 318.9792 R 14794

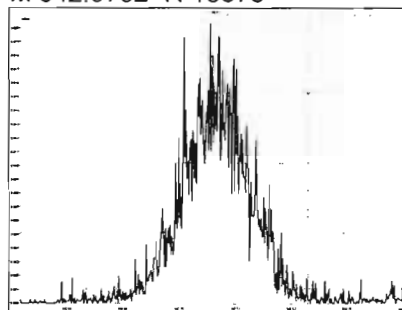


Printed: Monday, February 28, 2022 23:50:19 Pacific Standard Time

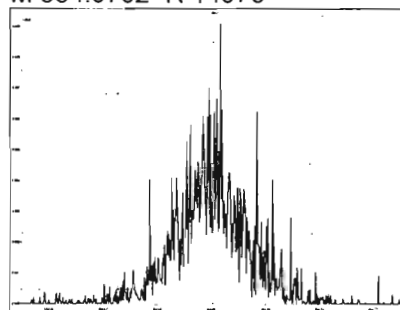
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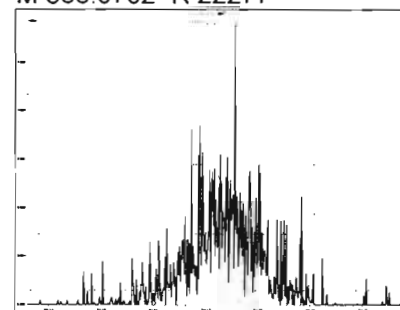
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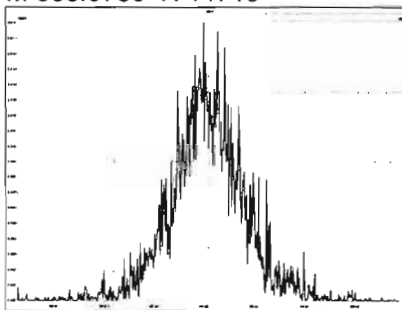
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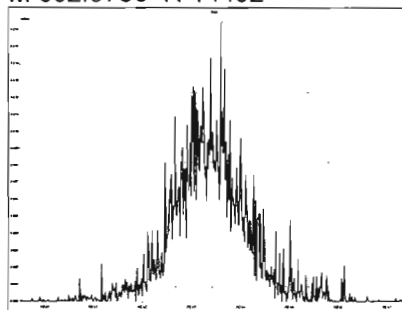
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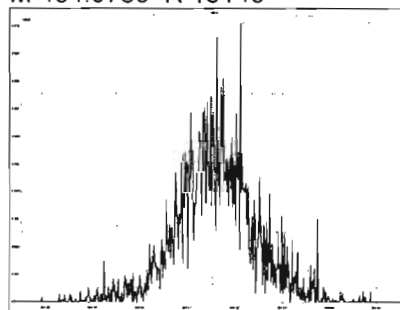
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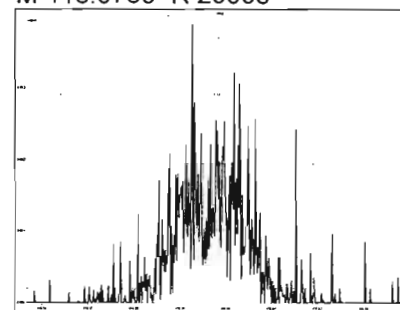
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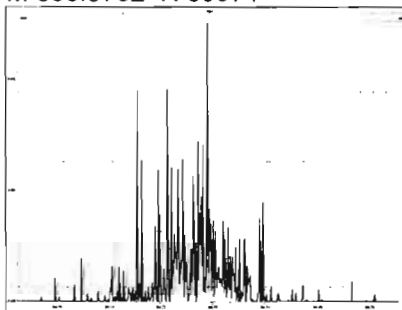
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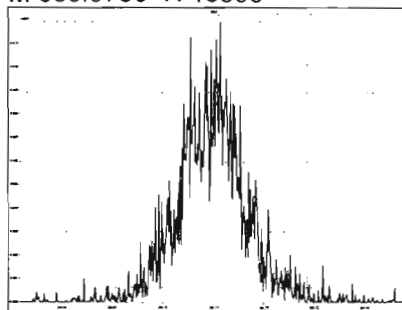
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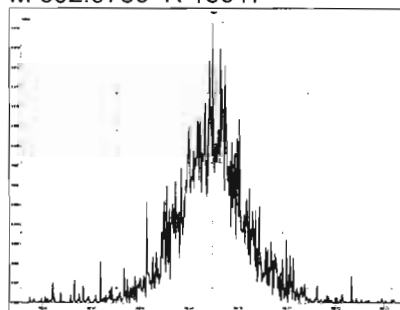
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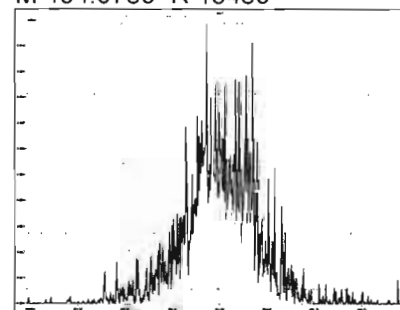
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M 392.9760 R 15017

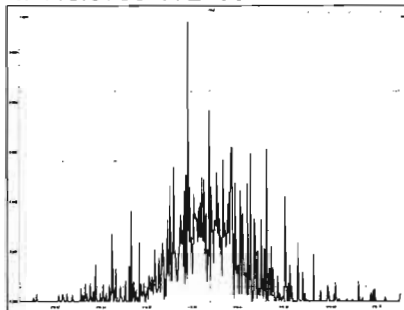


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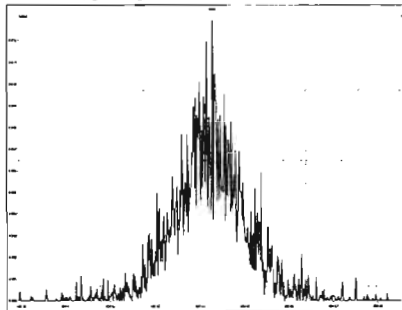


Printed: Monday, February 28, 2022 23:50:19 Pacific Standard Time

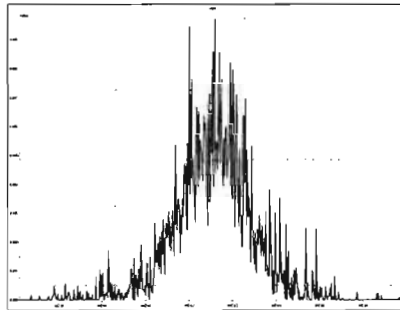
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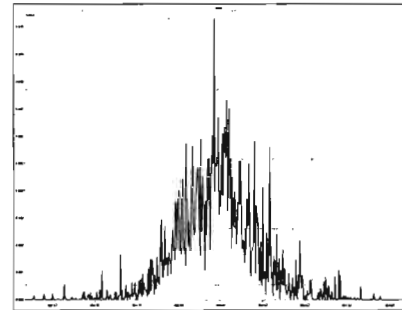
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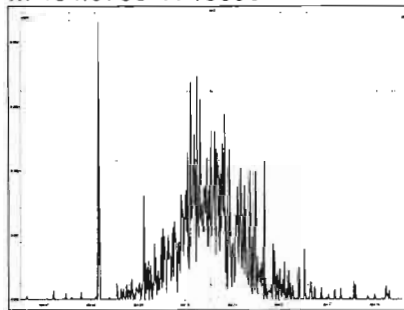
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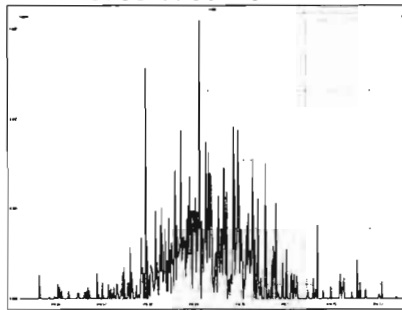
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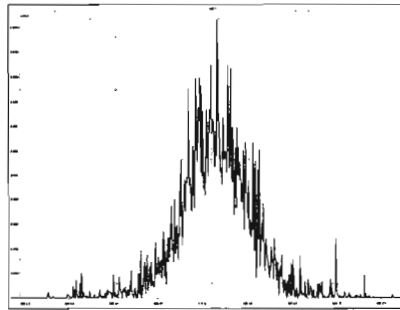
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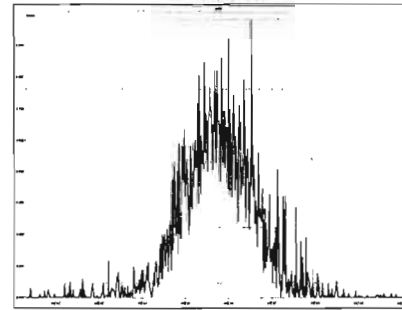
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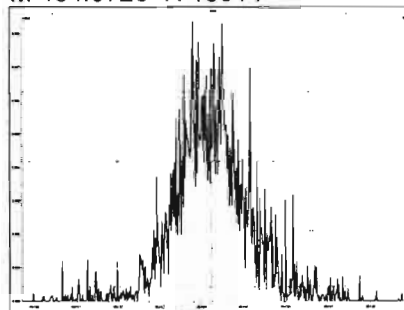
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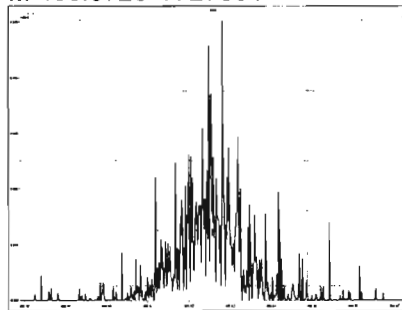
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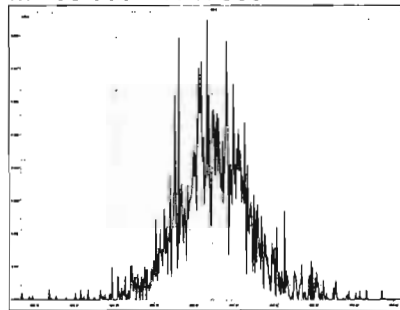
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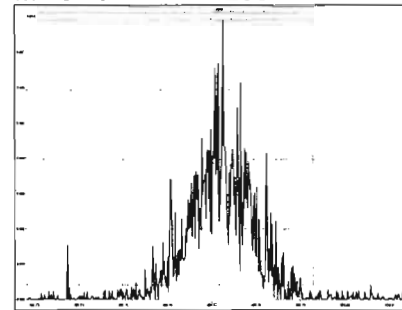
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M 480.9696 R 17359

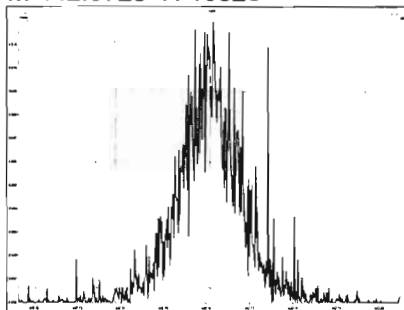


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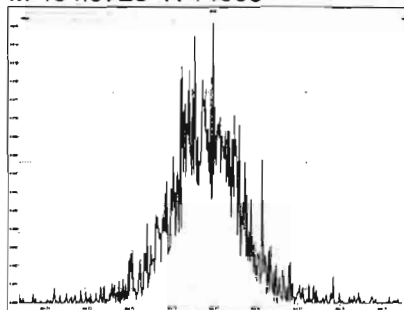


Printed: Monday, February 28, 2022 23:50:19 Pacific Standard Time

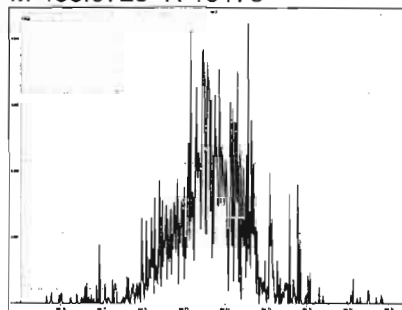
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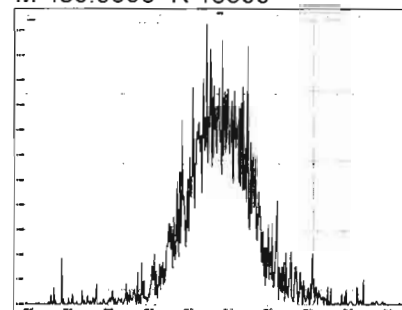
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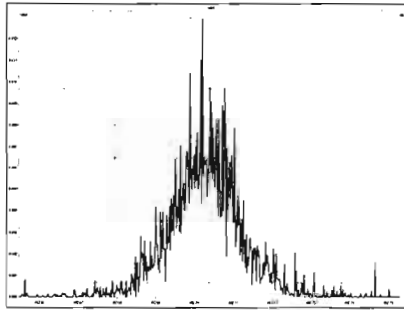
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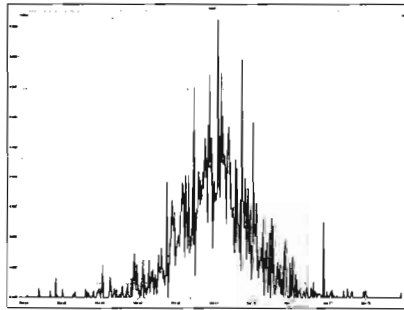
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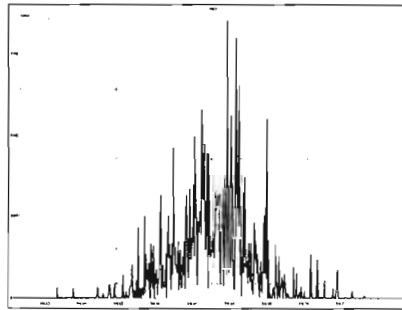
M 492.9696 R 14732



M 504.9696 R 18849



M 516.9697 R 27254



## **INITIAL CALIBRATION**

Vista Analytical Laboratory

Dataset: U:\VG12.PRO\Results\210730R2\210730R2\_CRV.qld

Last Altered: Monday, August 02, 2021 10:55:11 Pacific Daylight Time

Printed: Monday, August 02, 2021 11:03:16 Pacific Daylight Time

*HN 08/02/21*

Method: U:\VG12.PRO\MethDB\1613rrt-07-28-21.mdb 28 Jul 2021 08:55:56

Calibration: U:\VG12.PRO\CurveDB\dbDIOXIN\_1613vg12-07-30-21.cdb 02 Aug 2021 10:55:11

*HL 8.4.2021*

Compound name: 2,3,7,8-TCDD

Response Factor: 0.951951

RRF SD: 0.147526, Relative SD: 15.4973

Response type: Internal Std ( Ref 18 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	210730R2_1	0.250	0.76	NO	26.73	1.001	3.05e3	1.51e6	0.213	-15.0	0.809	MM
2	210730R2_2	0.500	0.75	NO	26.74	1.001	6.13e3	1.51e6	0.427	-14.6	0.813	bb
3	210730R2_3	2.00	0.77	NO	26.74	1.001	2.64e4	1.52e6	1.82	-8.8	0.868	bb
4	210730R2_4	10.0	0.76	NO	26.73	1.001	1.07e5	1.11e6	10.1	1.4	0.965	bb
5	210730R2_5	40.0	0.77	NO	26.74	1.001	5.76e5	1.28e6	47.2	17.9	1.12	bb
6	210730R2_6	300	0.78	NO	26.73	1.001	4.75e6	1.40e6	357	19.0	1.13	bb

Compound name: 1,2,3,7,8-PeCDD

Response Factor: 0.780811

RRF SD: 0.0967155, Relative SD: 12.3865

Response type: Internal Std ( Ref 19 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	210730R2_1	1.25	0.60	NO	31.16	1.000	1.03e4	1.21e6	1.10	-12.3	0.685	MM
2	210730R2_2	2.50	0.64	NO	31.17	1.001	2.08e4	1.21e6	2.19	-12.3	0.685	bb
3	210730R2_3	10.0	0.59	NO	31.17	1.000	8.81e4	1.23e6	9.18	-8.2	0.716	bb
4	210730R2_4	50.0	0.61	NO	31.12	1.000	3.54e5	8.54e5	53.0	6.1	0.828	bb
5	210730R2_5	200	0.62	NO	31.17	1.000	1.85e6	1.04e6	228	14.2	0.891	bb
6	210730R2_6	1500	0.62	NO	31.15	1.000	1.57e7	1.19e6	1690	12.6	0.879	bb

Dataset: U:\VG12.PRO\Results\210730R2\210730R2\_CRV.qld

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**Compound name: 1,2,3,4,7,8-HxCDD**

Response Factor: 0.903561

RRF SD: 0.141883, Relative SD: 15:7026

Response type: Internal Std ( Ref 20 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	210730R2_1	1.25	1.21	NO	34.54	1.001	7.47e3	7.99e5	1.04	-17.2	0.748	bd
2	210730R2_2	2.50	1.22	NO	34.54	1.000	1.51e4	7.97e5	2.10	-16.0	0.759	bd
3	210730R2_3	10.0	1.23	NO	34.55	1.000	6.65e4	8.01e5	9.19	-8.1	0.831	bd
4	210730R2_4	50.0	1.26	NO	34.49	1.001	3.11e5	6.37e5	54.0	8.0	0.976	bd
5	210730R2_5	200	1.24	NO	34.52	1.000	1.58e6	7.45e5	234	17.1	1.06	bd
6	210730R2_6	1500	1.24	NO	34.51	1.000	1.38e7	8.75e5	1740	16.1	1.05	bd

**Compound name: 1,2,3,6,7,8-HxCDD**

Response Factor: 0.806314

RRF SD: 0.127568, Relative SD: 15.8211

Response type: Internal Std ( Ref 21 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	210730R2_1	1.25	1.20	NO	34.66	1.000	7.26e3	8.86e5	1.02	-18.8	0.655	db
2	210730R2_2	2.50	1.25	NO	34.67	1.000	1.48e4	8.69e5	2.11	-15.7	0.679	MM
3	210730R2_3	10.0	1.25	NO	34.67	1.000	6.62e4	8.79e5	9.35	-6.5	0.754	db
4	210730R2_4	50.0	1.23	NO	34.61	1.001	3.04e5	6.96e5	54.2	8.4	0.874	db
5	210730R2_5	200	1.24	NO	34.65	1.001	1.58e6	8.30e5	236	18.0	0.952	db
6	210730R2_6	1500	1.23	NO	34.63	1.000	1.33e7	9.61e5	1720	14.6	0.924	db

**Compound name: 1,2,3,7,8,9-HxCDD**

Response Factor: 0.814289

RRF SD: 0.118176, Relative SD: 14.5128

Response type: Internal Std ( Ref 22 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	210730R2_1	1.25	1.23	NO	34.95	1.001	7.72e3	9.07e5	1.05	-16.3	0.681	bb
2	210730R2_2	2.50	1.23	NO	34.96	1.000	1.60e4	9.08e5	2.17	-13.2	0.707	bb



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**Compound name: 1,2,3,7,8,9-HxCDD**

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
3	210730R2_3	10.0	1.26	NO	34.97	1.000	7.04e4	9.44e5	9.15	-8.5	0.745	bb
4	210730R2_4	50.0	1.25	NO	34.90	1.000	3.17e5	7.30e5	53.3	6.6	0.868	bb
5	210730R2_5	200	1.22	NO	34.94	1.000	1.69e6	8.93e5	233	16.5	0.948	bb
6	210730R2_6	1500	1.23	NO	34.93	1.001	1.39e7	9.86e5	1730	15.0	0.937	bb

**Compound name: 1,2,3,4,6,7,8-HpCDD**

Response Factor: 0.836482

RRF SD: 0.118521, Relative SD: 14.1689

Response type: Internal Std ( Ref 23 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	210730R2_1	1.25	1.00	NO	38.39	1.001	5.73e3	6.33e5	1.08	-13.5	0.724	bb
2	210730R2_2	2.50	1.12	NO	38.40	1.000	1.16e4	6.49e5	2.14	-14.5	0.715	bb
3	210730R2_3	10.0	1.04	NO	38.40	1.000	5.01e4	6.59e5	9.09	-9.1	0.760	bb
4	210730R2_4	50.0	1.02	NO	38.37	1.001	2.28e5	5.16e5	52.8	5.6	0.884	bb
5	210730R2_5	200	1.02	NO	38.30	1.001	1.24e6	6.39e5	232	16.1	0.971	bb
6	210730R2_6	1500	1.02	NO	38.32	1.000	1.05e7	7.23e5	1730	15.4	0.965	bb

**Compound name: OCDD**

Response Factor: 0.798467

RRF SD: 0.116656, Relative SD: 14.61

Response type: Internal Std ( Ref 24 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	210730R2_1	2.50	0.86	NO	41.57	1.000	8.78e3	1.02e6	2.15	-14.0	0.686	bb
2	210730R2_2	5.00	0.95	NO	41.59	1.000	1.79e4	1.05e6	4.26	-14.8	0.680	bb
3	210730R2_3	20.0	0.87	NO	41.57	1.000	7.72e4	1.07e6	18.1	-9.4	0.724	bb
4	210730R2_4	100	0.87	NO	41.60	1.000	3.48e5	8.24e5	106	5.6	0.844	bb
5	210730R2_5	400	0.88	NO	41.43	1.000	1.97e6	1.05e6	469	17.4	0.937	bb
6	210730R2_6	3000	0.88	NO	41.42	1.000	1.72e7	1.25e6	3460	15.2	0.920	bb

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**Compound name: 2,3,7,8-TCDF**

Response Factor: 0.720064

RRF SD: 0.106265, Relative SD: 14.7577

Response type: Internal Std ( Ref 25 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	210730R2_1	0.250	0.76	NO	26.11	1.001	3.37e3	2.11e6	0.221	-11.5	0.637	MM
2	210730R2_2	0.500	0.77	NO	26.12	1.001	6.39e3	2.11e6	0.421	-15.9	0.606	MM
3	210730R2_3	2.00	0.75	NO	26.12	1.001	2.74e4	2.12e6	1.79	-10.3	0.646	bb
4	210730R2_4	10.0	0.75	NO	26.09	1.001	1.14e5	1.53e6	10.3	3.5	0.745	db
5	210730R2_5	40.0	0.76	NO	26.12	1.001	6.04e5	1.79e6	46.7	16.8	0.841	bb
6	210730R2_6	300	0.76	NO	26.10	1.001	4.88e6	1.92e6	352	17.5	0.846	bb

**Compound name: 1,2,3,7,8-PeCDF**

Response Factor: 0.812949

RRF SD: 0.105508, Relative SD: 12.9785

Response type: Internal Std ( Ref 26 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	210730R2_1	1.25	1.57	NO	29.96	1.001	1.35e4	1.60e6	1.04	-17.2	0.673	bb
2	210730R2_2	2.50	1.65	NO	29.96	1.001	2.97e4	1.67e6	2.19	-12.3	0.713	bb
3	210730R2_3	10.0	1.64	NO	29.98	1.000	1.31e5	1.68e6	9.64	-3.6	0.784	bb
4	210730R2_4	50.0	1.56	NO	29.93	1.000	5.32e5	1.22e6	53.7	7.4	0.873	bb
5	210730R2_5	200	1.54	NO	29.96	1.000	2.52e6	1.37e6	227	13.4	0.922	bb
6	210730R2_6	1500	1.55	NO	29.94	1.000	2.16e7	1.58e6	1680	12.2	0.912	bb

**Compound name: 2,3,4,7,8-PeCDF**

Response Factor: 0.892442

RRF SD: 0.114156, Relative SD: 12.7914

Response type: Internal Std ( Ref 27 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	210730R2_1	1.25	1.49	NO	30.97	1.000	1.51e4	1.65e6	1.02	-18.4	0.728	bb
2	210730R2_2	2.50	1.59	NO	30.97	1.000	3.29e4	1.64e6	2.25	-10.1	0.802	bb

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**Compound name: 2,3,4,7,8-PeCDF**

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
3	210730R2_3	10.0	1.57	NO	30.99	1.000	1.45e5	1.66e6	9.77	-2.3	0.872	bb
4	210730R2_4	50.0	1.56	NO	30.94	1.000	5.44e5	1.17e6	52.2	4.3	0.931	bb
5	210730R2_5	200	1.54	NO	30.97	1.000	2.78e6	1.36e6	229	14.5	1.02	bb
6	210730R2_6	1500	1.54	NO	30.95	1.000	2.36e7	1.58e6	1680	11.9	0.999	bb

**Compound name: 1,2,3,4,7,8-HxCDF**

Response Factor: 0.892992

RRF SD: 0.138619, Relative SD: 15.5229

Response type: Internal Std ( Ref 28 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	210730R2_1	1.25	1.17	NO	33.58	1.001	9.39e3	1.04e6	1.01	-18.9	0.724	bd
2	210730R2_2	2.50	1.24	NO	33.60	1.001	1.93e4	1.02e6	2.11	-15.5	0.755	bd
3	210730R2_3	10.0	1.23	NO	33.60	1.001	8.77e4	1.04e6	9.41	-5.9	0.840	bd
4	210730R2_4	50.0	1.24	NO	33.54	1.001	4.07e5	8.34e5	54.7	9.3	0.976	bd
5	210730R2_5	200	1.22	NO	33.58	1.000	1.91e6	9.16e5	233	16.7	1.04	bd
6	210730R2_6	1500	1.22	NO	33.57	1.001	1.68e7	1.10e6	1710	14.3	1.02	bd

**Compound name: 1,2,3,6,7,8-HxCDF**

Response Factor: 0.866978

RRF SD: 0.133399, Relative SD: 15.3867

Response type: Internal Std ( Ref 29 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	210730R2_1	1.25	1.17	NO	33.73	1.001	9.54e3	1.06e6	1.04	-16.9	0.721	db
2	210730R2_2	2.50	1.20	NO	33.72	1.000	1.92e4	1.06e6	2.08	-16.9	0.721	db
3	210730R2_3	10.0	1.26	NO	33.73	1.000	8.72e4	1.08e6	9.36	-6.4	0.811	db
4	210730R2_4	50.0	1.23	NO	33.68	1.000	4.10e5	8.70e5	54.3	8.7	0.942	db
5	210730R2_5	200	1.22	NO	33.72	1.001	1.94e6	9.57e5	234	16.8	1.01	db
6	210730R2_6	1500	1.22	NO	33.70	1.000	1.73e7	1.16e6	1720	14.7	0.995	db

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**Compound name: 2,3,4,6,7,8-HxCDF**

Response Factor: 0.896268

RRF SD: 0.14375, Relative SD: 16.0387

Response type: Internal Std ( Ref 30 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	210730R2_1	1.25	1.36	NO	34.42	1.001	8.57e3	9.43e5	1.01	-18.9	0.727	bb
2	210730R2_2	2.50	1.27	NO	34.42	1.000	1.76e4	9.40e5	2.09	-16.5	0.748	bb
3	210730R2_3	10.0	1.25	NO	34.44	1.000	7.94e4	9.44e5	9.38	-6.2	0.841	bb
4	210730R2_4	50.0	1.23	NO	34.37	1.000	3.67e5	7.51e5	54.4	8.9	0.976	bb
5	210730R2_5	200	1.22	NO	34.41	1.001	1.80e6	8.54e5	236	17.8	1.06	bb
6	210730R2_6	1500	1.21	NO	34.39	1.000	1.55e7	1.01e6	1720	14.9	1.03	bb

**Compound name: 1,2,3,7,8,9-HxCDF**

Response Factor: 0.874309

RRF SD: 0.132436, Relative SD: 15.1475

Response type: Internal Std ( Ref 31 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	210730R2_1	1.25	1.20	NO	35.49	1.000	7.95e3	8.49e5	1.07	-14.3	0.749	bb
2	210730R2_2	2.50	1.23	NO	35.51	1.001	1.61e4	8.88e5	2.07	-17.2	0.724	bb
3	210730R2_3	10.0	1.27	NO	35.51	1.001	7.45e4	9.28e5	9.18	-8.2	0.803	bb
4	210730R2_4	50.0	1.25	NO	35.44	1.001	3.21e5	6.82e5	53.8	7.6	0.941	bb
5	210730R2_5	200	1.24	NO	35.47	1.000	1.67e6	8.12e5	235	17.3	1.03	bb
6	210730R2_6	1500	1.23	NO	35.46	1.001	1.43e7	9.48e5	1720	14.8	1.00	bb

**Compound name: 1,2,3,4,6,7,8-HpCDF**

Response Factor: 0.985852

RRF SD: 0.157786, Relative SD: 16.005

Response type: Internal Std ( Ref 32 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	210730R2_1	1.25	1.01	NO	37.15	1.000	6.50e3	6.36e5	1.04	-17.1	0.817	bb
2	210730R2_2	2.50	0.96	NO	37.17	1.000	1.32e4	6.42e5	2.09	-16.3	0.826	bb

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**Compound name: 1,2,3,4,6,7,8-HpCDF**

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
3	210730R2_3	10.0	1.02	NO	37.18	1.001	5.90e4	6.55e5	9.13	-8.7	0.900	bb
4	210730R2_4	50.0	1.03	NO	37.11	1.000	2.68e5	5.05e5	53.9	7.8	1.06	bb
5	210730R2_5	200	1.02	NO	37.10	1.000	1.42e6	6.13e5	235	17.4	1.16	bb
6	210730R2_6	1500	1.02	NO	37.11	1.000	1.21e7	7.02e5	1750	16.9	1.15	bb

**Compound name: 1,2,3,4,7,8,9-HpCDF**

Response Factor: 0.965691

RRF SD: 0.16781, Relative SD: 17.3772

Response type: Internal Std ( Ref 33 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	210730R2_1	1.25	0.97	NO	39.04	1.000	5.23e3	5.37e5	1.01	-19.3	0.779	bb
2	210730R2_2	2.50	1.10	NO	39.05	1.000	1.08e4	5.45e5	2.06	-17.6	0.795	bb
3	210730R2_3	10.0	1.03	NO	39.05	1.000	4.96e4	5.60e5	9.18	-8.2	0.886	bb
4	210730R2_4	50.0	1.01	NO	39.03	1.000	2.26e5	4.34e5	54.0	8.1	1.04	bb
5	210730R2_5	200	1.02	NO	38.95	1.000	1.31e6	5.68e5	239	19.5	1.15	MM
6	210730R2_6	1500	1.01	NO	38.96	1.000	1.08e7	6.33e5	1760	17.6	1.14	bb

**Compound name: OCDF**

Response Factor: 0.721781

RRF SD: 0.117755, Relative SD: 16.3145

Response type: Internal Std ( Ref 34 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	210730R2_1	2.50	0.88	NO	41.88	1.001	9.00e3	1.17e6	2.13	-14.7	0.615	MM
2	210730R2_2	5.00	0.87	NO	41.91	1.001	1.77e4	1.19e6	4.10	-18.0	0.592	bb
3	210730R2_3	20.0	0.86	NO	41.88	1.000	7.94e4	1.22e6	18.0	-9.9	0.650	bb
4	210730R2_4	100	0.88	NO	41.92	1.000	3.63e5	9.44e5	107	6.6	0.769	bb
5	210730R2_5	400	0.89	NO	41.75	1.000	2.07e6	1.21e6	475	18.8	0.858	bb
6	210730R2_6	3000	0.89	NO	41.72	1.000	1.84e7	1.45e6	3520	17.2	0.846	bb

Dataset: U:\VG12.PRO\Results\210730R2\210730R2\_CRV.qld

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**Compound name: 13C-2,3,7,8-TCDD**

Response Factor: 1.10632

RRF SD: 0.0283918, Relative SD: 2.56632

Response type: Internal Std ( Ref 36 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	210730R2_1	100	0.77	NO	26.72	1.027	1.51e6	1.39e6	98.1	-1.9	1.09	bb
2	210730R2_2	100	0.78	NO	26.73	1.027	1.51e6	1.37e6	99.5	-0.5	1.10	bb
3	210730R2_3	100	0.77	NO	26.73	1.027	1.52e6	1.42e6	96.9	-3.1	1.07	bb
4	210730R2_4	100	0.77	NO	26.70	1.027	1.11e6	1.00e6	100	0.4	1.11	bb
5	210730R2_5	100	0.77	NO	26.71	1.027	1.28e6	1.15e6	101	0.7	1.11	bb
6	210730R2_6	100	0.77	NO	26.71	1.027	1.40e6	1.21e6	104	4.3	1.15	bb

**Compound name: 13C-1,2,3,7,8-PeCDD**

Response Factor: 0.893106

RRF SD: 0.0471723, Relative SD: 5.28182

Response type: Internal Std ( Ref 36 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	210730R2_1	100	0.62	NO	31.15	1.197	1.21e6	1.39e6	97.1	-2.9	0.867	bb
2	210730R2_2	100	0.63	NO	31.15	1.197	1.21e6	1.37e6	99.2	-0.8	0.886	bb
3	210730R2_3	100	0.62	NO	31.15	1.197	1.23e6	1.42e6	97.2	-2.8	0.868	bb
4	210730R2_4	100	0.63	NO	31.10	1.196	8.54e5	1.00e6	95.4	-4.6	0.852	bb
5	210730R2_5	100	0.62	NO	31.15	1.197	1.04e6	1.15e6	101	1.1	0.903	bb
6	210730R2_6	100	0.64	NO	31.14	1.197	1.19e6	1.21e6	110	10.0	0.983	bb

**Compound name: 13C-1,2,3,4,7,8-HxCDD**

Response Factor: 0.783739

RRF SD: 0.0444757, Relative SD: 5.67481

Response type: Internal Std ( Ref 38 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	210730R2_1	100	1.28	NO	34.52	1.014	7.99e5	1.06e6	96.0	-4.0	0.752	bd
2	210730R2_2	100	1.28	NO	34.53	1.014	7.97e5	1.05e6	96.9	-3.1	0.760	bd

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**Compound name: 13C-1,2,3,4,7,8-HxCDD**

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
3	210730R2_3	100	1.27	NO	34.54	1.015	8.01e5	1.06e6	96.1	-3.9	0.754	bd
4	210730R2_4	100	1.26	NO	34.47	1.014	6.37e5	8.40e5	96.7	-3.3	0.758	bd
5	210730R2_5	100	1.28	NO	34.51	1.014	7.45e5	9.04e5	105	5.1	0.824	bd
6	210730R2_6	100	1.28	NO	34.50	1.015	8.75e5	1.02e6	109	9.1	0.855	bd

**Compound name: 13C-1,2,3,6,7,8-HxCDD**

Response Factor: 0.862681

RRF SD: 0.0516772, Relative SD: 5.9903

Response type: Internal Std ( Ref 38 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	210730R2_1	100	1.26	NO	34.65	1.018	8.86e5	1.06e6	96.8	-3.2	0.835	db
2	210730R2_2	100	1.26	NO	34.65	1.018	8.69e5	1.05e6	96.1	-3.9	0.829	db
3	210730R2_3	100	1.25	NO	34.67	1.018	8.79e5	1.06e6	95.8	-4.2	0.827	db
4	210730R2_4	100	1.27	NO	34.59	1.018	6.96e5	8.40e5	96.0	-4.0	0.828	db
5	210730R2_5	100	1.27	NO	34.63	1.018	8.30e5	9.04e5	106	6.5	0.918	db
6	210730R2_6	100	1.26	NO	34.62	1.018	9.61e5	1.02e6	109	8.9	0.939	db

**Compound name: 13C-1,2,3,7,8,9-HxCDD**

Response Factor: 0.904845

RRF SD: 0.0565886, Relative SD: 6.25396

Response type: Internal Std ( Ref 38 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	210730R2_1	100	1.24	NO	34.93	1.026	9.07e5	1.06e6	94.4	-5.6	0.854	bb
2	210730R2_2	100	1.24	NO	34.95	1.027	9.08e5	1.05e6	95.7	-4.3	0.866	bb
3	210730R2_3	100	1.25	NO	34.96	1.027	9.44e5	1.06e6	98.2	-1.8	0.888	bb
4	210730R2_4	100	1.26	NO	34.88	1.026	7.30e5	8.40e5	96.0	-4.0	0.869	bb
5	210730R2_5	100	1.25	NO	34.93	1.026	8.93e5	9.04e5	109	9.2	0.988	bb
6	210730R2_6	100	1.26	NO	34.91	1.026	9.86e5	1.02e6	106	6.5	0.964	bb



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**Compound name: 13C-1,2,3,4,6,7,8-HpCDD**

Response Factor: 0.643827

RRF SD: 0.0496025, Relative SD: 7.70432

Response type: Internal Std ( Ref 38 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	210730R2_1	100	1.06	NO	38.37	1.128	6.33e5	1.06e6	92.6	-7.4	0.596	bb
2	210730R2_2	100	1.05	NO	38.39	1.128	6.49e5	1.05e6	96.2	-3.8	0.619	bb
3	210730R2_3	100	1.04	NO	38.39	1.127	6.59e5	1.06e6	96.3	-3.7	0.620	bb
4	210730R2_4	100	1.04	NO	38.34	1.128	5.16e5	8.40e5	95.3	-4.7	0.614	bb
5	210730R2_5	100	1.04	NO	38.28	1.125	6.39e5	9.04e5	110	9.8	0.707	bb
6	210730R2_6	100	1.03	NO	38.31	1.127	7.23e5	1.02e6	110	9.8	0.707	bb

**Compound name: 13C-OCDD**

Response Factor: 0.527616

RRF SD: 0.0539486, Relative SD: 10.225

Response type: Internal Std ( Ref 38 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	210730R2_1	200	0.88	NO	41.56	1.221	1.02e6	1.06e6	183	-8.7	0.482	bb
2	210730R2_2	200	0.88	NO	41.58	1.222	1.05e6	1.05e6	190	-5.1	0.501	bb
3	210730R2_3	200	0.89	NO	41.56	1.221	1.07e6	1.06e6	190	-4.9	0.502	bb
4	210730R2_4	200	0.88	NO	41.59	1.223	8.24e5	8.40e5	186	-7.1	0.490	bb
5	210730R2_5	200	0.89	NO	41.42	1.217	1.05e6	9.04e5	220	10.0	0.581	bb
6	210730R2_6	200	0.88	NO	41.41	1.218	1.25e6	1.02e6	231	15.7	0.610	bb

**Compound name: 13C-2,3,7,8-TCDF**

Response Factor: 1.15129

RRF SD: 0.0240266, Relative SD: 2.08693

Response type: Internal Std ( Ref 37 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	210730R2_1	100	0.77	NO	26.10	1.003	2.11e6	1.86e6	98.6	-1.4	1.13	bb
2	210730R2_2	100	0.77	NO	26.09	1.003	2.11e6	1.83e6	99.9	-0.1	1.15	bb

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**Compound name: 13C-2,3,7,8-TCDF**

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
3	210730R2_3	100	0.77	NO	26.10	1.003	2.12e6	1.87e6	98.6	-1.4	1.14	bb
4	210730R2_4	100	0.76	NO	26.08	1.003	1.53e6	1.35e6	97.9	-2.1	1.13	bb
5	210730R2_5	100	0.77	NO	26.09	1.003	1.79e6	1.53e6	102	1.9	1.17	bb
6	210730R2_6	100	0.78	NO	26.09	1.003	1.92e6	1.62e6	103	3.1	1.19	bb

**Compound name: 13C-1,2,3,7,8-PeCDF**

Response Factor: 0.905259

RRF SD: 0.0371267, Relative SD: 4.10122

Response type: Internal Std ( Ref 37 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	210730R2_1	100	1.57	NO	29.94	1.151	1.60e6	1.86e6	95.1	-4.9	0.861	bb
2	210730R2_2	100	1.59	NO	29.94	1.151	1.67e6	1.83e6	100	0.3	0.908	bb
3	210730R2_3	100	1.58	NO	29.96	1.151	1.68e6	1.87e6	99.0	-1.0	0.896	bb
4	210730R2_4	100	1.55	NO	29.91	1.151	1.22e6	1.35e6	99.5	-0.5	0.900	bb
5	210730R2_5	100	1.57	NO	29.94	1.151	1.37e6	1.53e6	98.6	-1.4	0.893	bb
6	210730R2_6	100	1.56	NO	29.93	1.150	1.58e6	1.62e6	108	7.5	0.973	bb

**Compound name: 13C-2,3,4,7,8-PeCDF**

Response Factor: 0.899269

RRF SD: 0.0373178, Relative SD: 4.14979

Response type: Internal Std ( Ref 37 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	210730R2_1	100	1.58	NO	30.95	1.189	1.65e6	1.86e6	98.7	-1.3	0.888	bb
2	210730R2_2	100	1.58	NO	30.95	1.190	1.64e6	1.83e6	99.4	-0.6	0.894	bb
3	210730R2_3	100	1.58	NO	30.97	1.190	1.66e6	1.87e6	98.8	-1.2	0.888	bb
4	210730R2_4	100	1.55	NO	30.92	1.189	1.17e6	1.35e6	96.0	-4.0	0.864	bb
5	210730R2_5	100	1.58	NO	30.95	1.190	1.36e6	1.53e6	98.9	-1.1	0.889	bb
6	210730R2_6	100	1.57	NO	30.94	1.189	1.58e6	1.62e6	108	8.1	0.972	bb

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**Compound name: 13C-1,2,3,4,7,8-HxCDF**

Response Factor: 1.00205

RRF SD: 0.0367224, Relative SD: 3.66474

Response type: Internal Std ( Ref 38 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	210730R2_1	100	0.50	NO	33.56	0.986	1.04e6	1.06e6	97.6	-2.4	0.978	MM
2	210730R2_2	100	0.50	NO	33.58	0.986	1.02e6	1.05e6	97.3	-2.7	0.975	bd
3	210730R2_3	100	0.50	NO	33.58	0.986	1.04e6	1.06e6	98.0	-2.0	0.982	bd
4	210730R2_4	100	0.50	NO	33.52	0.986	8.34e5	8.40e5	99.1	-0.9	0.993	bd
5	210730R2_5	100	0.51	NO	33.57	0.987	9.16e5	9.04e5	101	1.1	-1.01	bd
6	210730R2_6	100	0.51	NO	33.54	0.987	1.10e6	1.02e6	107	6.9	1.07	bd

**Compound name: 13C-1,2,3,6,7,8-HxCDF**

Response Factor: 1.04219

RRF SD: 0.0502802, Relative SD: 4.82446

Response type: Internal Std ( Ref 38 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	210730R2_1	100	0.50	NO	33.71	0.990	1.06e6	1.06e6	95.7	-4.3	0.997	MM
2	210730R2_2	100	0.51	NO	33.71	0.990	1.06e6	1.05e6	97.4	-2.6	1.02	db
3	210730R2_3	100	0.51	NO	33.72	0.990	1.08e6	1.06e6	97.0	-3.0	1.01	db
4	210730R2_4	100	0.51	NO	33.67	0.990	8.70e5	8.40e5	99.4	-0.6	1.04	db
5	210730R2_5	100	0.51	NO	33.70	0.990	9.57e5	9.04e5	102	1.6	1.06	db
6	210730R2_6	100	0.51	NO	33.69	0.991	1.16e6	1.02e6	109	8.9	1.14	db

**Compound name: 13C-2,3,4,6,7,8-HxCDF**

Response Factor: 0.915727

RRF SD: 0.0392289, Relative SD: 4.28391

Response type: Internal Std ( Ref 38 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	210730R2_1	100	0.51	NO	34.40	1.011	9.43e5	1.06e6	97.0	-3.0	0.889	bb
2	210730R2_2	100	0.50	NO	34.41	1.011	9.40e5	1.05e6	97.8	-2.2	0.896	bb

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**Compound name: 13C-2,3,4,6,7,8-HxCDF**

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
3	210730R2_3	100	0.51	NO	34.42	1.011	9.44e5	1.06e6	97.0	-3.0	0.888	bb
4	210730R2_4	100	0.50	NO	34.36	1.011	7.51e5	8.40e5	97.7	-2.3	0.894	bb
5	210730R2_5	100	0.51	NO	34.39	1.011	8.54e5	9.04e5	103	3.1	0.944	bb
6	210730R2_6	100	0.51	NO	34.38	1.011	1.01e6	1.02e6	107	7.4	0.983	bb

**Compound name: 13C-1,2,3,7,8,9-HxCDF**

Response Factor: 0.859333

RRF SD: 0.0491473, Relative SD: 5.71924

Response type: Internal Std ( Ref 38 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	210730R2_1	100	0.51	NO	35.47	1.042	8.49e5	1.06e6	93.1	-6.9	0.800	bb
2	210730R2_2	100	0.51	NO	35.48	1.042	8.88e5	1.05e6	98.5	-1.5	0.847	bb
3	210730R2_3	100	0.51	NO	35.49	1.042	9.28e5	1.06e6	102	1.6	0.873	bb
4	210730R2_4	100	0.50	NO	35.42	1.042	6.82e5	8.40e5	94.5	-5.5	0.812	bb
5	210730R2_5	100	0.50	NO	35.46	1.042	8.12e5	9.04e5	104	4.5	0.898	bb
6	210730R2_6	100	0.51	NO	35.44	1.042	9.48e5	1.02e6	108	7.8	0.926	bb

**Compound name: 13C-1,2,3,4,6,7,8-HpCDF**

Response Factor: 0.63211

RRF SD: 0.0393521, Relative SD: 6.22551

Response type: Internal Std ( Ref 38 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	210730R2_1	100	0.44	NO	37.14	1.091	6.36e5	1.06e6	94.7	-5.3	0.599	bd
2	210730R2_2	100	0.42	NO	37.15	1.092	6.42e5	1.05e6	96.8	-3.2	0.612	bb
3	210730R2_3	100	0.43	NO	37.15	1.091	6.55e5	1.06e6	97.5	-2.5	0.617	bb
4	210730R2_4	100	0.43	NO	37.10	1.091	5.05e5	8.40e5	95.1	-4.9	0.601	bb
5	210730R2_5	100	0.44	NO	37.09	1.090	6.13e5	9.04e5	107	7.4	0.679	bb
6	210730R2_6	100	0.44	NO	37.10	1.091	7.02e5	1.02e6	108	8.5	0.686	bb

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**Compound name: 13C-1,2,3,4,7,8,9-HpCDF**

Response Factor: 0.552403

RRF SD: 0.0552394, Relative SD: 9.99985

Response type: Internal Std ( Ref 38 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	210730R2_1	100	0.43	NO	39.03	1.147	5.37e5	1.06e6	91.5	-8.5	0.506	bb
2	210730R2_2	100	0.43	NO	39.03	1.147	5.45e5	1.05e6	94.1	-5.9	0.520	bb
3	210730R2_3	100	0.44	NO	39.03	1.146	5.60e5	1.06e6	95.3	-4.7	0.527	bd
4	210730R2_4	100	0.42	NO	39.02	1.148	4.34e5	8.40e5	93.5	-6.5	0.516	bb
5	210730R2_5	100	0.42	NO	38.94	1.144	5.68e5	9.04e5	114	13.7	0.628	MM
6	210730R2_6	100	0.43	NO	38.95	1.145	6.33e5	1.02e6	112	11.9	0.618	bb

**Compound name: 13C-OCDF**

Response Factor: 0.605621

RRF SD: 0.06649, Relative SD: 10.9788

Response type: Internal Std ( Ref 38 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	210730R2_1	200	0.88	NO	41.86	1.230	1.17e6	1.06e6	182	-9.0	0.551	bb
2	210730R2_2	200	0.88	NO	41.89	1.231	1.19e6	1.05e6	188	-6.1	0.568	bb
3	210730R2_3	200	0.89	NO	41.87	1.230	1.22e6	1.06e6	190	-5.2	0.574	bb
4	210730R2_4	200	0.88	NO	41.91	1.233	9.44e5	8.40e5	186	-7.2	0.562	bb
5	210730R2_5	200	0.87	NO	41.74	1.227	1.21e6	9.04e5	221	10.3	0.668	bb
6	210730R2_6	200	0.89	NO	41.72	1.227	1.45e6	1.02e6	235	17.3	0.710	bb

**Compound name: 37Cl-2,3,7,8-TCDD**

Response Factor: 1.01102

RRF SD: 0.112884, Relative SD: 11.1654

Response type: Internal Std ( Ref 36 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	210730R2_1	0.250			26.75	1.028	3.06e3	1.39e6	0.218	-12.9	0.881	bb
2	210730R2_2	0.500			26.74	1.028	6.32e3	1.37e6	0.456	-8.8	0.922	bb

Vista Analytical Laboratory

Dataset: U:\VG12.PRO\Results\210730R2\210730R2\_CRV.qld

Last Altered: Monday, August 02, 2021 10:55:11 Pacific Daylight Time

Printed: Monday, August 02, 2021 11:03:16 Pacific Daylight Time

**Compound name: 37Cl-2,3,7,8-TCDD**

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
3	210730R2_3	2.00			26.74	1.027	2.70e4	1.42e6	1.88	-5.9	0.952	bb
4	210730R2_4	10.0			26.71	1.027	1.05e5	1.00e6	10.4	4.1	1.05	bb
5	210730R2_5	40.0			26.74	1.028	4.96e5	1.15e6	42.6	6.5	1.08	bb
6	210730R2_6	200			26.73	1.027	2.86e6	1.21e6	234	17.0	1.18	bb

**Compound name: 13C-1,2,3,4-TCDD**

Response Factor: 1

RRF SD: 0, Relative SD: 0

Response type: Internal Std ( Ref 36 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	210730R2_1	100	0.78	NO	26.02	1.000	1.39e6	1.39e6	100	0.0	1.00	bb
2	210730R2_2	100	0.78	NO	26.02	1.000	1.37e6	1.37e6	100	0.0	1.00	bb
3	210730R2_3	100	0.79	NO	26.03	1.000	1.42e6	1.42e6	100	0.0	1.00	bb
4	210730R2_4	100	0.78	NO	26.00	1.000	1.00e6	1.00e6	100	0.0	1.00	bb
5	210730R2_5	100	0.78	NO	26.02	1.000	1.15e6	1.15e6	100	0.0	1.00	bb
6	210730R2_6	100	0.79	NO	26.02	1.000	1.21e6	1.21e6	100	0.0	1.00	bb

**Compound name: 13C-1,2,3,4-TCDF**

Response Factor: 1

RRF SD: 4.96507e-017, Relative SD: 4.96507e-015

Response type: Internal Std ( Ref 37 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	210730R2_1	100	0.78	NO	24.69	1.000	1.86e6	1.86e6	100	0.0	1.00	bb
2	210730R2_2	100	0.78	NO	24.68	1.000	1.83e6	1.83e6	100	-0.0	1.00	bb
3	210730R2_3	100	0.79	NO	24.70	1.000	1.87e6	1.87e6	100	0.0	1.00	bb
4	210730R2_4	100	0.78	NO	24.67	1.000	1.35e6	1.35e6	100	0.0	1.00	bb
5	210730R2_5	100	0.79	NO	24.68	1.000	1.53e6	1.53e6	100	0.0	1.00	bb
6	210730R2_6	100	0.78	NO	24.68	1.000	1.62e6	1.62e6	100	0.0	1.00	bb

Dataset: U:\VG12.PRO\Results\210730R2\210730R2\_CRV.qld

Last Altered: Monday, August 02, 2021 10:55:11 Pacific Daylight Time  
Printed: Monday, August 02, 2021 11:03:16 Pacific Daylight Time

**Compound name: 13C-1,2,3,4,6,9-HxCDF**

Response Factor: 1

RRF SD: 0, Relative SD: 0

Response type: Internal Std ( Ref 38 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	210730R2_1	100	0.51	NO	34.03	1.000	1.06e6	1.06e6	100	0.0	1.00	bb
2	210730R2_2	100	0.51	NO	34.04	1.000	1.05e6	1.05e6	100	0.0	1.00	bb
3	210730R2_3	100	0.50	NO	34.05	1.000	1.06e6	1.06e6	100	0.0	1.00	bb
4	210730R2_4	100	0.50	NO	33.99	1.000	8.40e5	8.40e5	100	0.0	1.00	bb
5	210730R2_5	100	0.50	NO	34.03	1.000	9.04e5	9.04e5	100	0.0	1.00	bb
6	210730R2_6	100	0.50	NO	34.01	1.000	1.02e6	1.02e6	100	0.0	1.00	bb



Dataset: Untitled

Last Altered: Monday, August 02, 2021 11:04:28 Pacific Daylight Time  
Printed: Monday, August 02, 2021 11:04:47 Pacific Daylight Time

Method: U:\VG12.PRO\MethDB\1613rrt-07-28-21.mdb 28 Jul 2021 08:55:56  
Calibration: U:\VG12.PRO\CurveDB\dbDIOXIN\_1613vg12-07-30-21.cdb 02 Aug 2021 10:55:11

Compound name: 2,3,7,8-TCDD

	Name	ID	Acq.Date	Acq.Time
1	210730R2_1	ST210730R2_1 1613 CS0 21G0802	30-Jul-21	18:15:00
2	210730R2_2	ST210730R2_2 1613 CS1 21G0803	30-Jul-21	19:00:19
3	210730R2_3	ST210730R2_3 1613 CS2 21G0804	30-Jul-21	19:45:50
4	210730R2_4	ST210730R2_4 1613 CS3 21G0805	30-Jul-21	20:31:22
5	210730R2_5	ST210730R2_5 1613 CS4 21G0809	30-Jul-21	21:17:03
6	210730R2_6	ST210730R2_6 1613 CS5 21G0808	30-Jul-21	22:02:36
7	210730R2_7	SS210730R2_1 1613 SSS 21G0806	30-Jul-21	22:48:08
8	210730R2_8	SOLVENT BLANK	30-Jul-21	23:42:44
9	210730R2_9	HRMS-210727-01	31-Jul-21	00:28:02
10	210730R2_10	HRMS-210727-02	31-Jul-21	01:13:44
11	210730R2_11	HRMS 210728-01	31-Jul-21	01:59:18
12	210730R2_12	SOLVENT BLANK	31-Jul-21	02:44:53
13	210730R2_13	HRMS-210726-01	31-Jul-21	03:30:33
14	210730R2_14	HRMS-210726-02	31-Jul-21	04:16:08
15	210730R2_15	HRMS-210726-03	31-Jul-21	05:01:42
16	210730R2_16	HRMS-210726-04	31-Jul-21	05:47:14
17	210730R2_17	SOLVENT BLANK	31-Jul-21	06:41:42

Ⓐ DUU, wrong vial was placed in tray. FIN 07-08/02/21

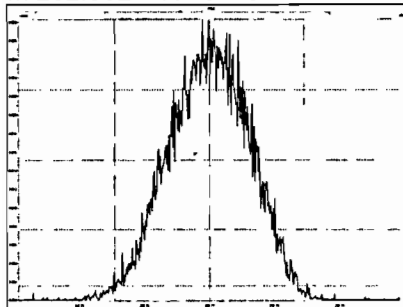
Experiment Calibration Report

MassLynx 4.1 SCN815

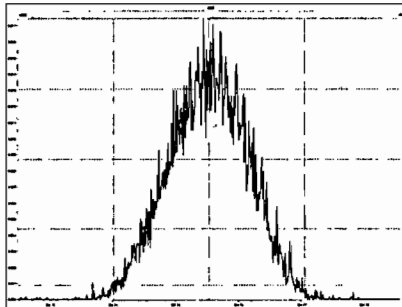
File: Experiment: OCDD\_DIOXIN.exp Reference: Pfk.ref Function: 1 @ 200 (ppm)

Printed: Friday, July 30, 2021 18:11:22 Pacific Daylight Time

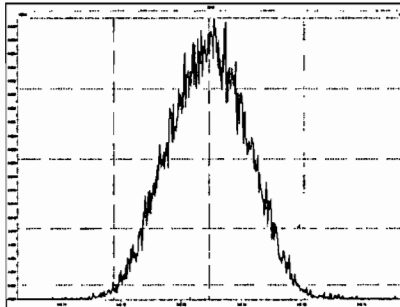
M 292.9824 R 10415



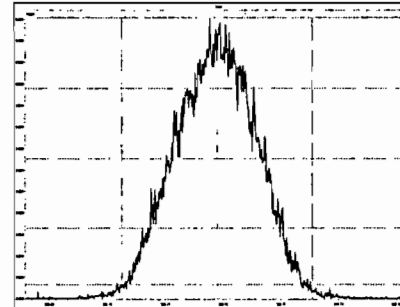
M 304.9824 R 10730



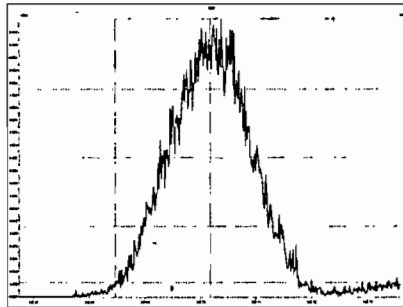
M 318.9792 R 10592



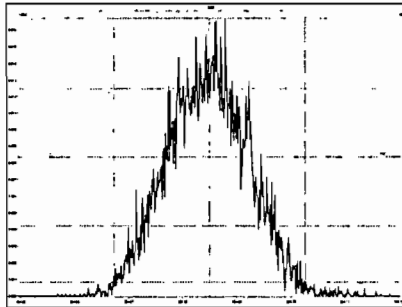
M 330.9792 R 10919



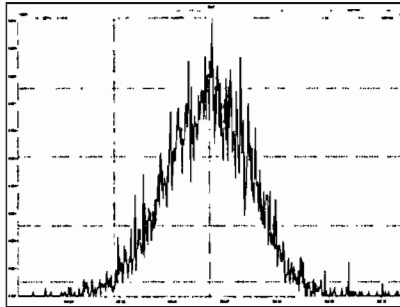
M 342.9792 R 10683



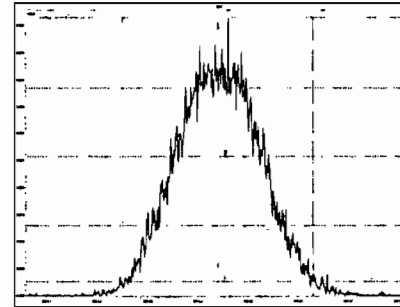
M 354.9792 R 11158



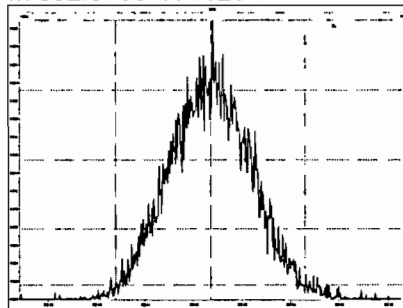
M 366.9792 R 10330



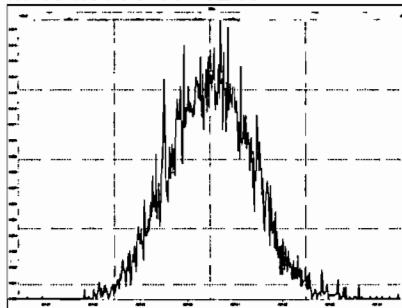
M 380.9760 R 10286



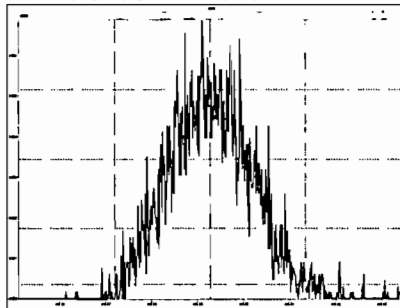
M 392.9760 R 10204



M 404.9760 R 10248



M 416.9760 R 11628



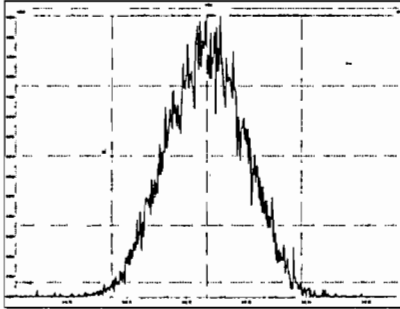
Experiment Calibration Report

MassLynx 4.1 SCN815

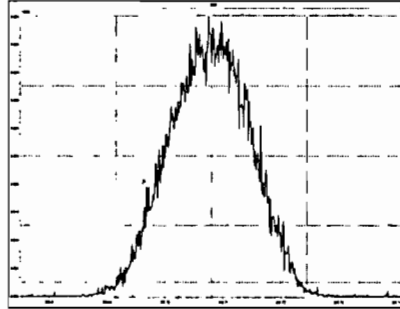
File: Experiment: OCDD\_DIOXIN.exp Reference: Pfk.ref Function: 2 @ 200 (ppm)

Printed: Friday, July 30, 2021 18:12:10 Pacific Daylight Time

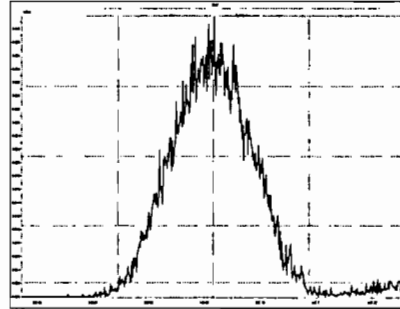
M 318.9792 R 10963



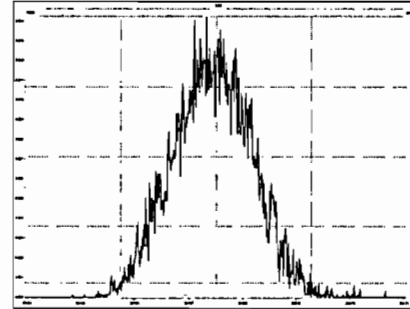
M 330.9792 R 11014



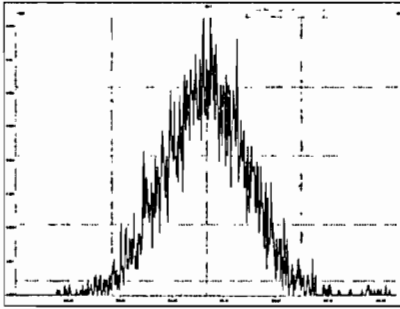
M 342.9792 R 10592



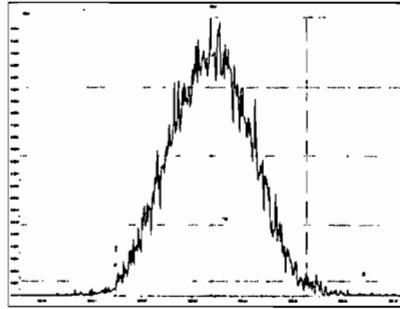
M 354.9792 R 11417



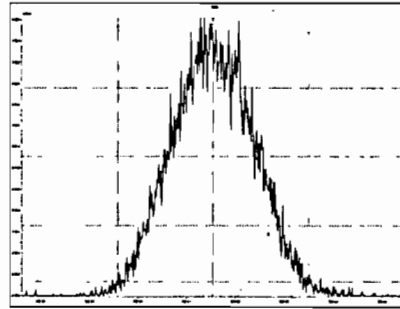
M 366.9792 R 11681



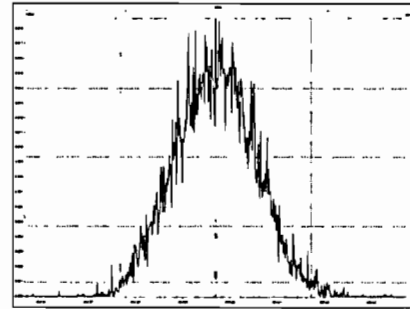
M 380.9760 R 10914



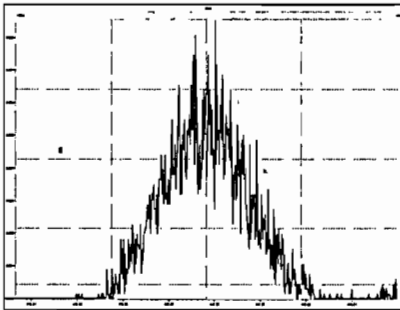
M 392.9760 R 10729



M 404.9760 R 10078



M 416.9760 R 11905



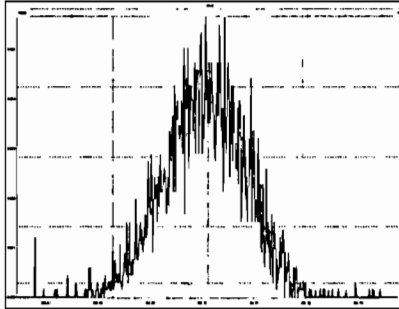
Experiment Calibration Report

MassLynx 4.1 SCN815

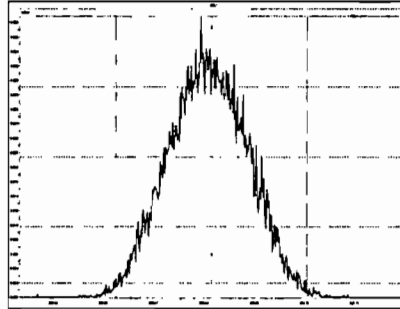
File: Experiment: OCDD\_DIOXIN.exp Reference: Pfk.ref Function: 3 @ 200 (ppm)

Printed: Friday, July 30, 2021 18:12:54 Pacific Daylight Time

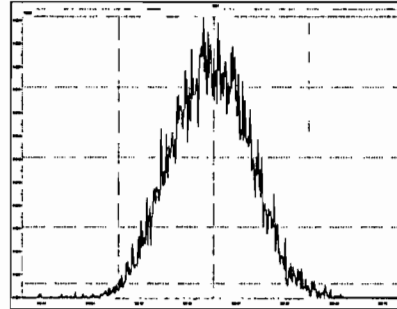
M 366.9792 R 11738



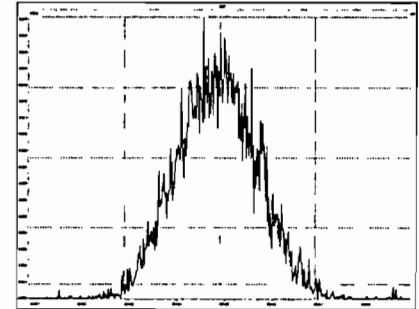
M 380.9760 R 10916



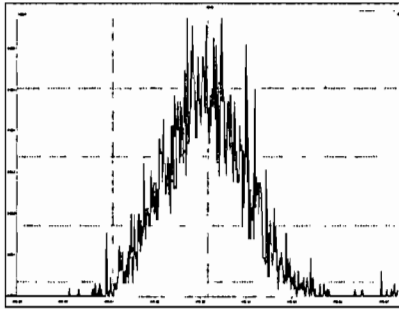
M 392.9760 R 10773



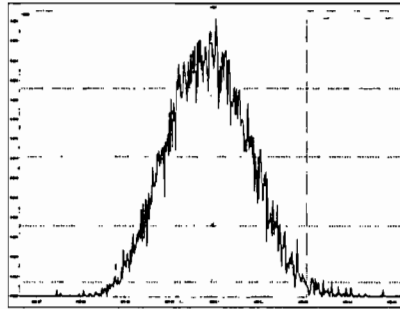
M 404.9760 R 10822



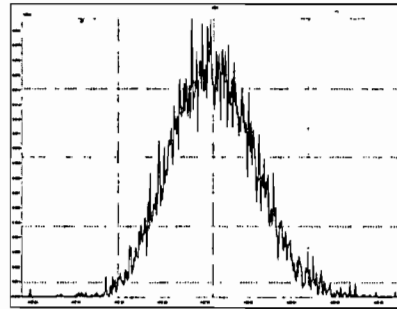
M 416.9760 R 10461



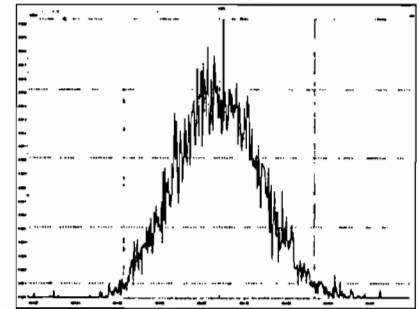
M 430.9728 R 10593



M 442.9728 R 10682



M 454.9728 R 10162



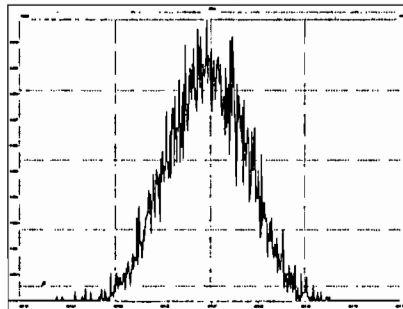
Experiment Calibration Report

MassLynx 4.1 SCN815

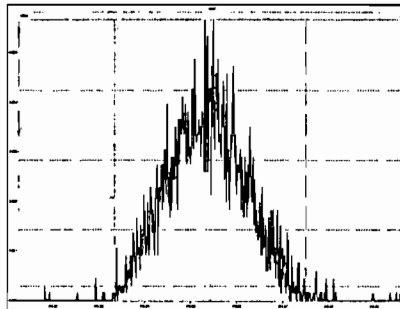
File: Experiment: OCDD\_DIOXIN.exp Reference: Pfk.ref Function: 4 @ 200 (ppm)

Printed: Friday, July 30, 2021 18:13:13 Pacific Daylight Time

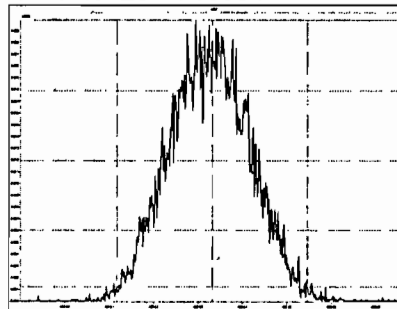
M 404.9760 R 11957



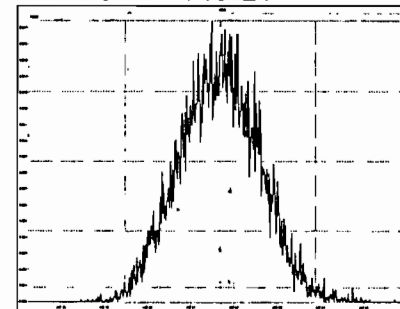
M 416.9760 R 11209



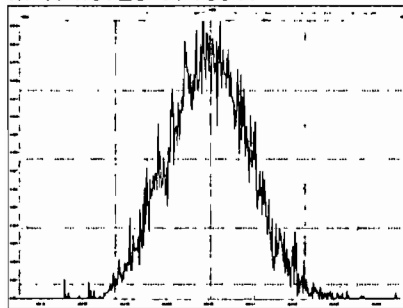
M 430.9728 R 10684



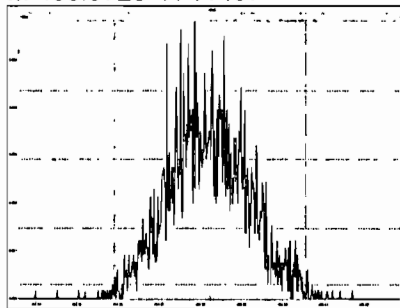
M 442.9728 R 10821



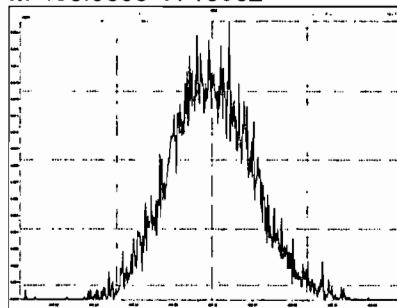
M 454.9728 R 10917



M 466.9728 R 11467



M 480.9696 R 10502



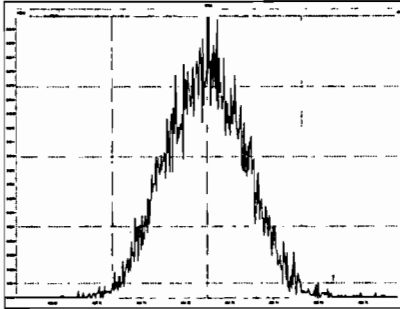
Experiment Calibration Report

MassLynx 4.1 SCN815

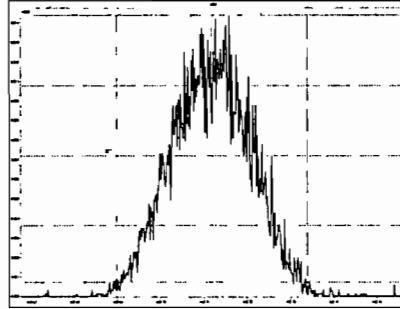
File: Experiment: OCDD\_DIOXIN.exp Reference: Pfk.ref Function: 5 @ 200 (ppm)

Printed: Friday, July 30, 2021 18:13:48 Pacific Daylight Time

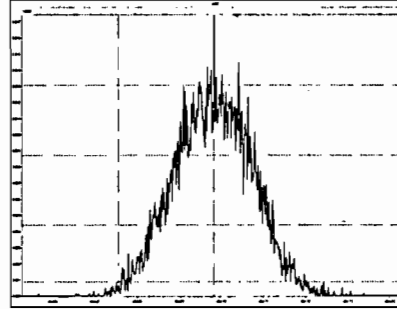
M 430.9728 R 11110



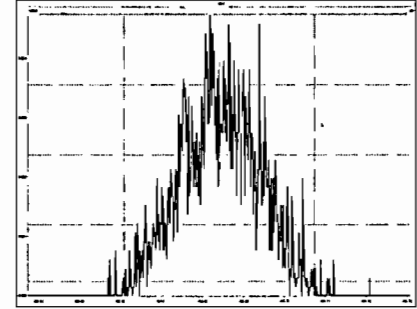
M 442.9728 R 10549



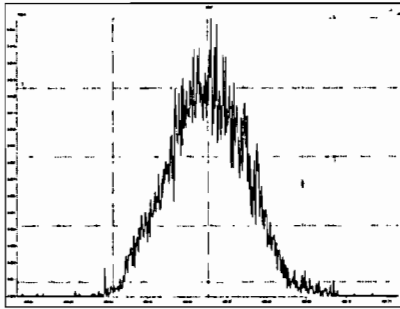
M 454.9728 R 11012



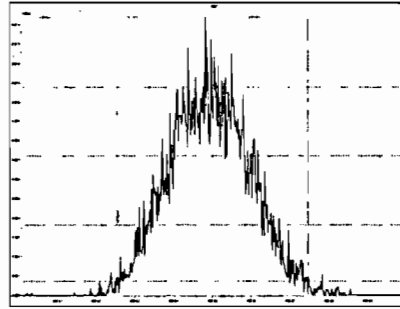
M 466.9728 R 12756



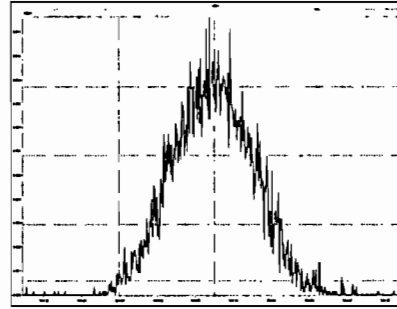
M 480.9696 R 11574



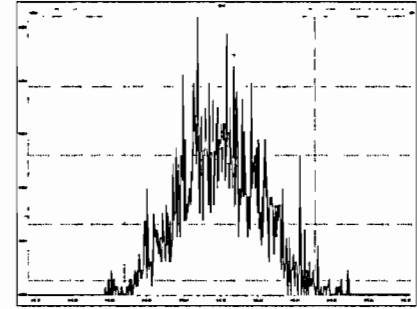
M 492.9696 R 10372



M 504.9696 R 10870



M 516.9697 R 12253



Dataset: Untitled

Last Altered: Monday, August 02, 2021 09:59:48 Pacific Daylight Time  
Printed: Monday, August 02, 2021 10:01:54 Pacific Daylight Time

Method: U:\VG12.PRO\MethDB\CPSM.mdb 23 Jun 2021 12:22:51  
Calibration: U:\VG12.PRO\CurveDB\dbDIOXIN\_1613vg12-07-30-21.cdb 02 Aug 2021 09:53:38

Name: 210730R2\_4, Date: 30-Jul-2021, Time: 20:31:22, ID: ST210730R2\_4 1613 CS3 21G0805, Description: 1613 CS3 21G0805

#	Name	RT
1	1,3,6,8-TCDD (First)	23.34
2	1,2,8,9-TCDD (Last)	27.54
3	1,2,4,7,9-PeCDD (First)	28.96
4	1,2,3,8,9-PeCDD (Last)	31.47
5	1,2,4,6,7,9-HxCDD (First)	32.77
6	1,2,3,7,8,9-HxCDD (Last)	34.90
7	1,2,3,4,6,7,9-HpCDD (First)	37.46
8	1,2,3,4,6,7,8-HpCDD (Last)	38.37
9	1,3,6,8-TCDF (First)	21.24
10	1,2,8,9-TCDF (Last)	27.83
11	1,3,4,6,8-PeCDF (First)	27.42
12	1,2,3,8,9-PeCDF (Last)	31.83
13	1,2,3,4,6,8-HxCDF (First)	32.23
14	1,2,3,7,8,9-HxCDF (Last)	35.44
15	1,2,3,4,6,7,8-HpCDF (First)	37.11
16	1,2,3,4,7,8,9-HpCDF (Last)	39.03



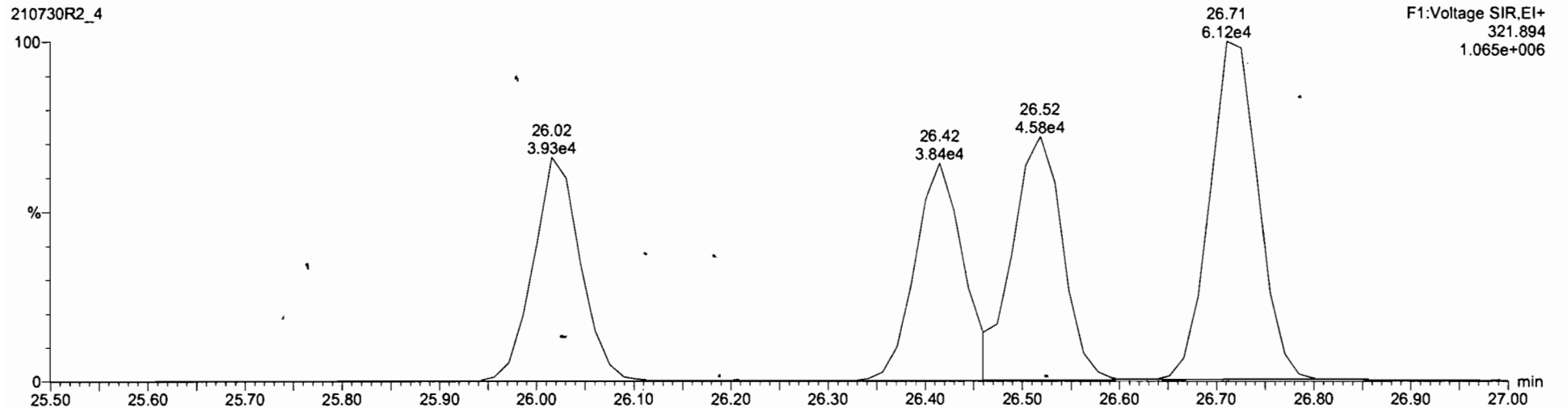
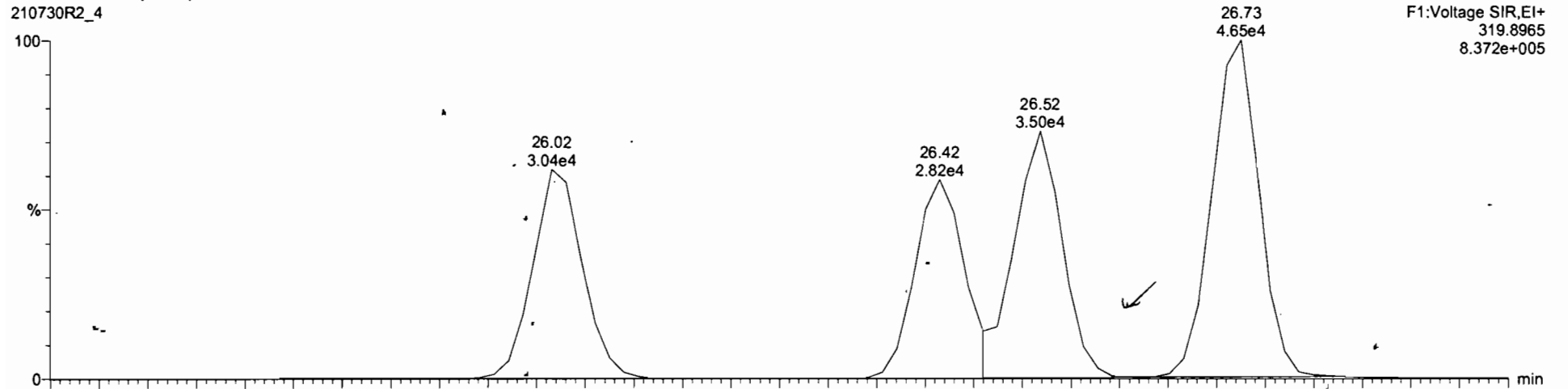
Dataset: Untitled

Last Altered: Monday, August 02, 2021 09:59:48 Pacific Daylight Time  
Printed: Monday, August 02, 2021 10:01:54 Pacific Daylight Time

Method: U:\VG12.PRO\MethDB\CPSM.mdb 23 Jun 2021 12:22:51  
Calibration: U:\VG12.PRO\CurveDB\dbDIOXIN\_1613vg12-07-30-21.cdb 02 Aug 2021 09:53:38

Name: 210730R2\_4, Date: 30-Jul-2021, Time: 20:31:22, ID: ST210730R2\_4 1613 CS3 21G0805, Description: 1613 CS3 21G0805

1,3,6,8-TCDD (First)



Dataset: Untitled

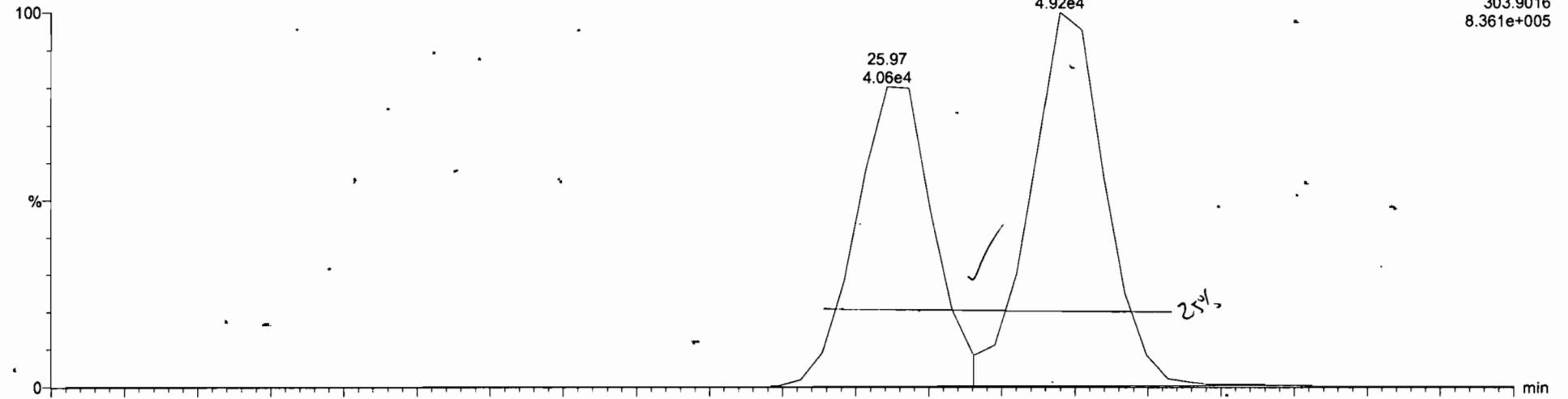
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Printed: Monday, August 02, 2021 10:01:54 Pacific Daylight Time

LIN 08/02/21

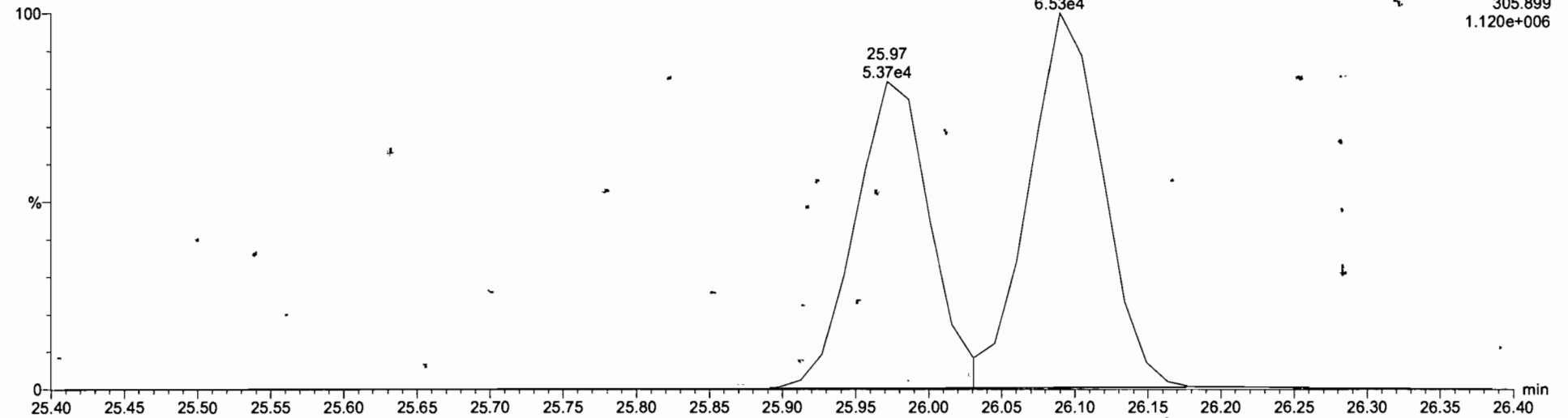
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1,3,6,8-TCDF (First)

210730R2\_4



210730R2\_4



Dataset: Untitled

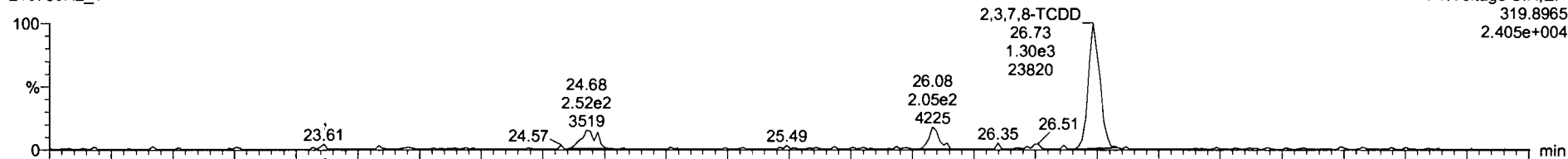
Last Altered: Monday, August 02, 2021 09:57:32 Pacific Daylight Time  
Printed: Monday, August 02, 2021 09:58:15 Pacific Daylight Time

Method: U:\VG12.PRO\MethDB\1613rrt-07-28-21.mdb 28 Jul 2021 08:55:56  
Calibration: U:\VG12.PRO\CurveDB\dbDIOXIN\_1613vg12-07-30-21.cdb 02 Aug 2021 09:53:38

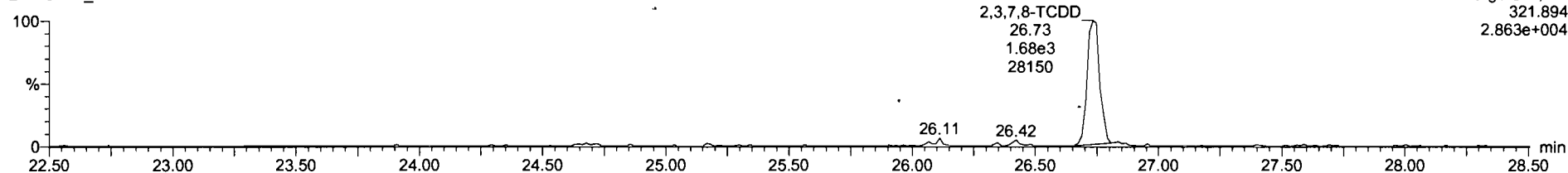
Name: 210730R2\_1, Date: 30-Jul-2021, Time: 18:15:00, ID: ST210730R2\_1 1613 CS0 21G0802, Description: 1613 CS0 21G0802

**2,3,7,8-TCDD**

210730R2\_1

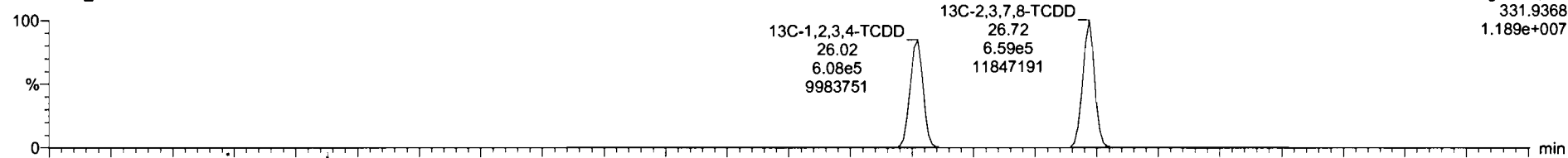


210730R2\_1

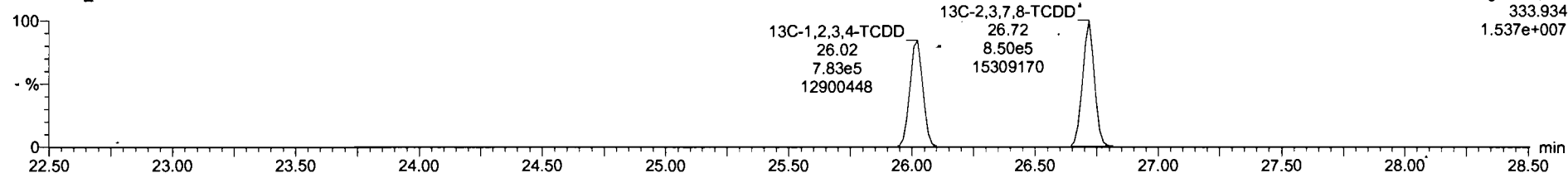


**13C-2,3,7,8-TCDD**

210730R2\_1

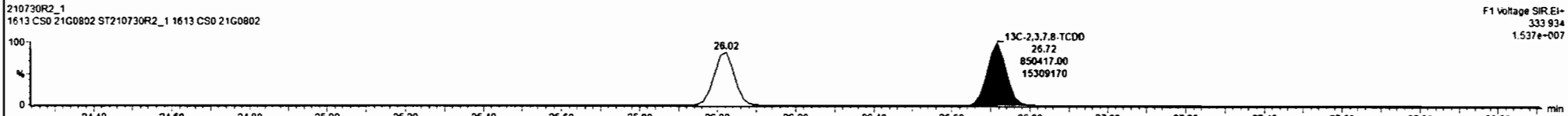
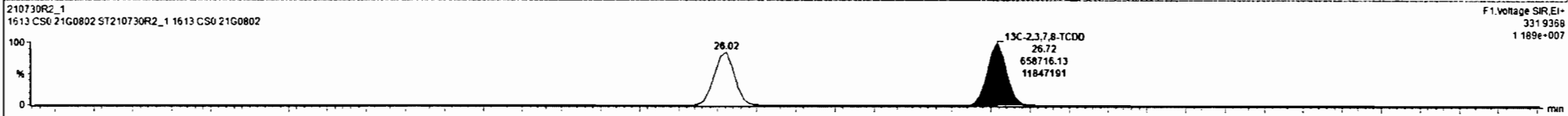
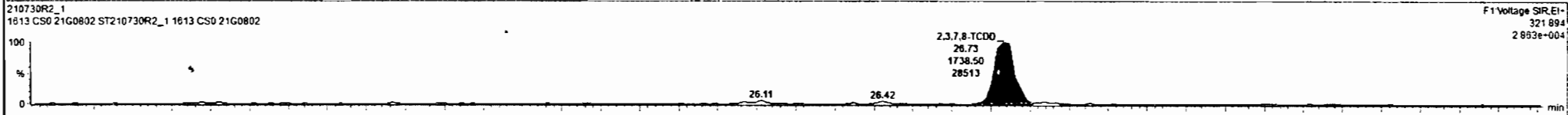
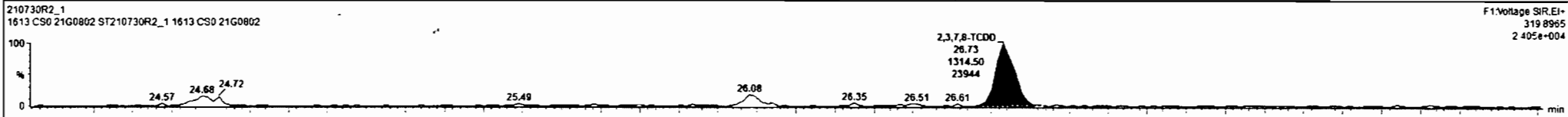


210730R2\_1.



210730R2\_1 - ST210730R2\_1 1613 CS0 21G0802 - 1613 CS0 21G0802

#	Name	RT	RA	y/n	Area	IS Area	Std. Conc	%Dev	%RSD	RRF M.	RRF SD
1	2,3,7,8-TCDD	26.73	0.756	NO	3.0530e3	1.5091e6	0.250	-15.0	15.5	0.952	0.148
2	1,2,3,7,8-PeCDD	31.16	0.606	NO	1.0396e4	1.2052e6	1.250	-11.8	12.1	0.782	0.0950
3	1,2,3,4,7,8-HxCDD	34.54	1.206	NO	7.4717e3	7.9867e5	1.250	-17.2	15.7	0.804	0.142
4	1,2,3,6,7,8-HxCDD	34.86	1.203	NO	7.2581e3	8.0546e5	1.250	-18.8	15.8	0.807	0.127
5	1,2,3,7,8,9-HxCDD	34.95	1.227	NO	7.7245e3	9.0705e5	1.250	-16.3	14.5	0.814	0.118
6	1,2,3,4,6,7,8-HpCDD	36.39	0.997	NO	5.7268e3	6.3293e5	1.250	-13.5	14.2	0.836	0.119
7	OCDF	41.57	0.856	NO	8.7773e3	1.0270e6	2.500	-14.0	14.6	0.798	0.117
8	2,3,7,8-TCDF	26.11	0.784	NO	3.4045e3	2.1141e6	0.250	-10.7	14.6	0.721	0.105
9	1,2,3,7,8-PeCDF	29.96	1.572	NO	1.3497e4	1.6034e6	1.250	-17.2	13.0	0.813	0.106
10	2,3,4,7,8-PeCDF	30.97	1.493	NO	1.5065e4	1.6547e6	1.250	-16.4	12.8	0.892	0.114
11	1,2,3,4,7,8-HxCDF	33.58	1.171	NO	9.3822e3	1.0381e6	1.250	-18.9	15.5	0.893	0.139
12	1,2,3,6,7,8-HxCDF	33.73	1.165	NO	9.5436e3	1.0592e6	1.250	-16.9	15.4	0.867	0.133
13	1,2,3,4,6,7,8-HxCDF	34.42	1.357	NO	8.5745e3	9.4349e5	1.250	-18.9	16.0	0.896	0.144
14	1,2,3,7,8,9-HxCDF	35.49	1.200	NO	7.9525e3	8.4936e5	1.250	-14.3	15.1	0.874	0.132
15	1,2,3,4,6,7,8-HpCDF	37.15	1.009	NO	6.4961e3	6.3586e5	1.250	-17.1	16.0	0.965	0.158
16	1,2,3,4,7,8,9-HpCDF	39.04	0.974	NO	5.2261e3	5.3680e5	1.250	-19.3	17.4	0.968	0.166
17	OCDF	41.86	0.877	NO	9.0001e3	1.1701e6	2.500	-14.7	16.3	0.722	0.118



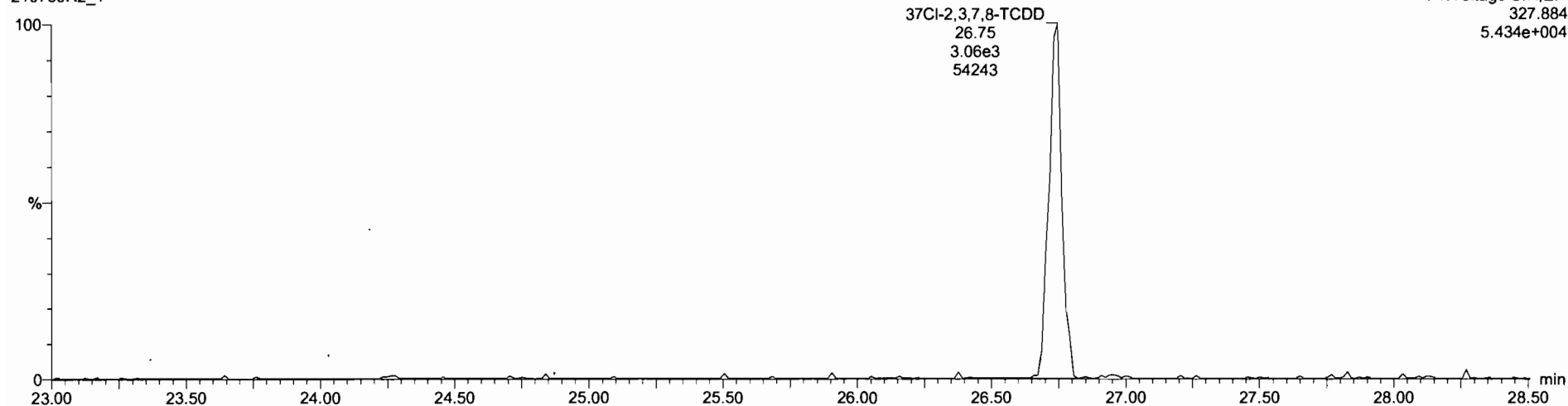
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Last Altered: Monday, August 02, 2021 09:57:32 Pacific Daylight Time  
Printed: Monday, August 02, 2021 09:58:15 Pacific Daylight Time

Name: 210730R2\_1, Date: 30-Jul-2021, Time: 18:15:00, ID: ST210730R2\_1 1613 CS0 21G0802, Description: 1613 CS0 21G0802

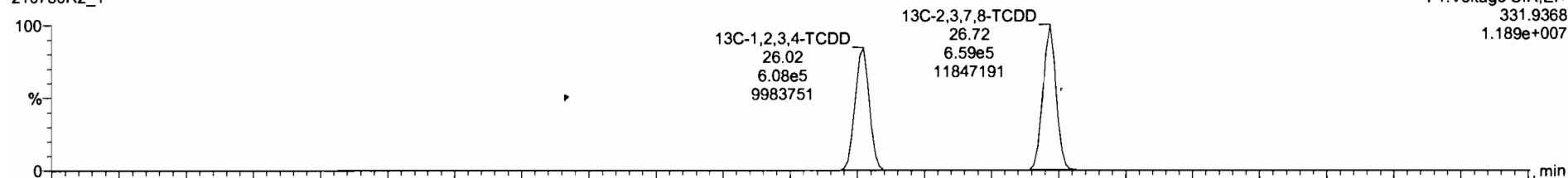
**37Cl-2,3,7,8-TCDD**

210730R2\_1

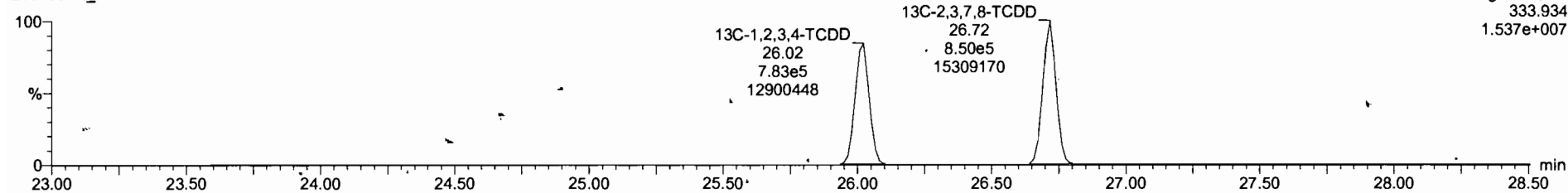


**13C-1,2,3,4-TCDD**

210730R2\_1



210730R2\_1



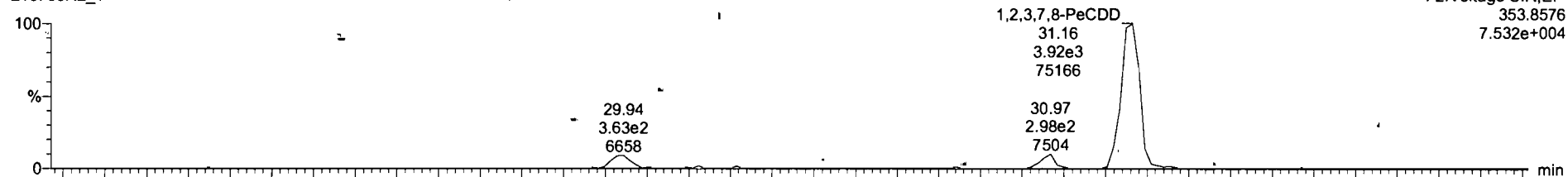
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Last Altered: Monday, August 02, 2021 09:57:32 Pacific Daylight Time  
Printed: Monday, August 02, 2021 09:58:15 Pacific Daylight Time

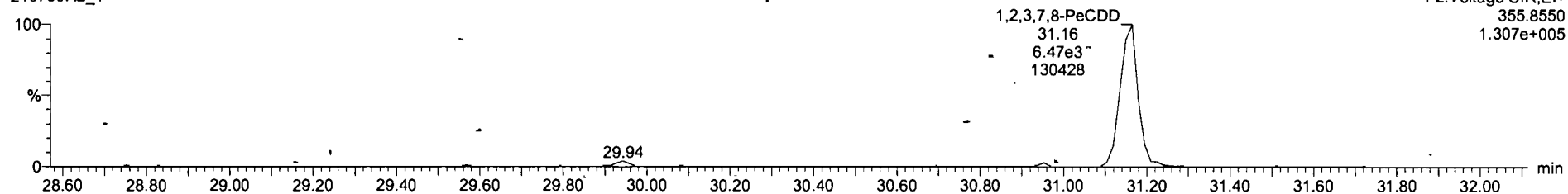
Name: 210730R2\_1, Date: 30-Jul-2021, Time: 18:15:00, ID: ST210730R2\_1 1613 CS0 21G0802, Description: 1613 CS0 21G0802

1,2,3,7,8-PeCDD

210730R2\_1



210730R2\_1

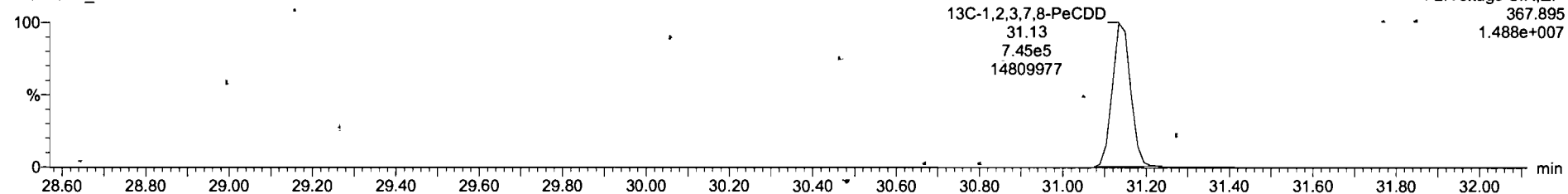


13C-1,2,3,7,8-PeCDD

210730R2\_1

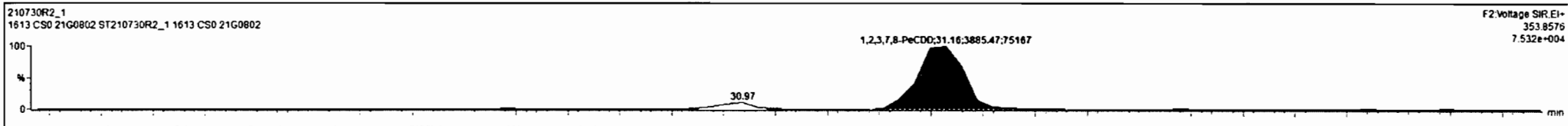


210730R2\_1

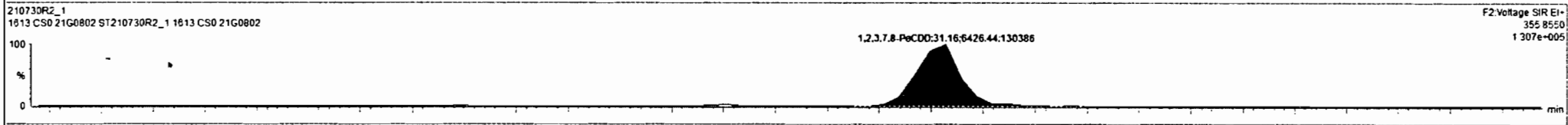


210730R2\_1 - ST210730R2\_1 1613 CS0 21G0802 - 1613 CS0 21G0802

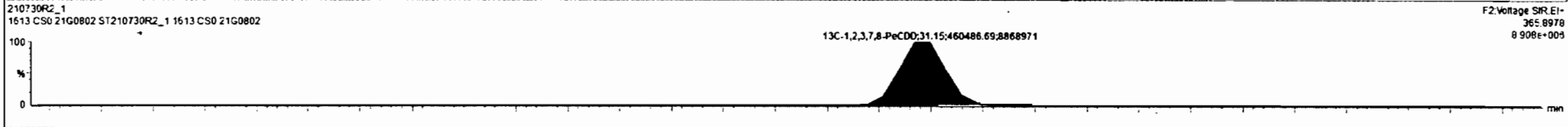
N	Name	RT	RA	Yfn	Area	IS Area	Std. Conc	%Dev	%RSD	RRF M...	RRF SD
1	1,2,3,7,8-TCDD	26.73	0.756	NO	3.9530e3	1.5091e6	0.250	-15.0	15.5	0.952	0.148
2	1,2,3,7,8-PeCDD	31.16	0.605	NO	1.0312e4	1.2052e6	1.250	-12.4	12.3	0.781	0.0961
3	1,2,3,4,7,8-HxCDD	34.54	1.206	NO	7.4717e3	7.9867e5	1.250	-17.2	15.7	0.904	0.142
4	1,2,3,6,7,8-HxCDD	34.66	1.203	NO	7.2581e3	8.8646e5	1.250	-18.8	15.8	0.807	0.127
5	1,2,3,7,8,9-HxCDD	34.95	1.227	NO	7.7245e3	9.0705e5	1.250	-16.3	14.5	0.814	0.118
6	1,2,3,4,6,7,8-HpCDD	36.39	0.997	NO	5.7268e3	6.3293e5	1.250	-13.5	14.2	0.836	0.119
7	OCDD	41.57	0.856	NO	8.7773e3	1.0230e6	2.500	-14.0	14.8	0.798	0.117
8	2,3,7,8-TCDF	26.11	0.784	NO	3.4045e3	2.1141e6	0.250	-10.7	14.6	0.721	0.105
9	1,2,3,7,8-PeCDF	29.96	1.572	NO	1.3497e4	1.6034e6	1.250	-17.2	13.0	0.813	0.106
10	2,3,4,7,8-PeCDF	30.97	1.493	NO	1.5065e4	1.6547e6	1.250	-16.4	12.8	0.892	0.114
11	1,2,3,4,7,8-HxCDF	33.58	1.171	NO	9.3820e3	1.0381e6	1.250	-18.9	15.5	0.893	0.139
12	1,2,3,6,7,8-HxCDF	33.73	1.165	NO	9.5436e3	1.0592e6	1.250	-16.9	15.4	0.867	0.133
13	2,3,4,6,7,8-HxCDF	34.42	1.357	NO	8.5745e3	9.4349e5	1.250	-18.9	16.0	0.896	0.144
14	1,2,3,7,8,9-HxCDF	36.49	1.200	NO	7.9525e3	8.4936e5	1.250	-14.3	15.1	0.874	0.132
15	1,2,3,4,6,7,8-HpCDF	37.15	1.009	NO	6.4961e3	6.7586e5	1.250	-17.1	16.0	0.966	0.158
16	1,2,3,4,7,8,9-HpCDF	39.04	0.974	NO	5.2250e3	5.3680e5	1.250	-19.3	17.4	0.966	0.166
17	OCDF	41.86	0.677	NO	9.9001e3	1.1701e6	2.500	-14.7	16.3	0.722	0.118



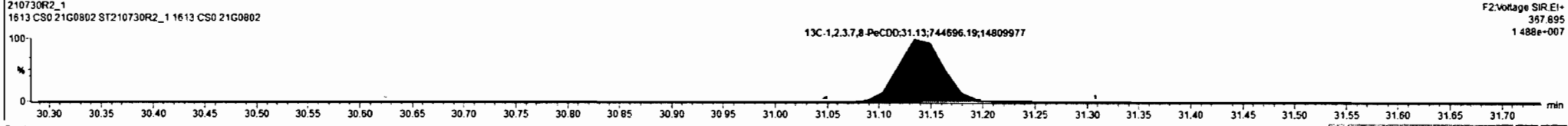
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353.8576  
7.532e+004



F2:Voltage SIR.EI+  
355.8550  
1.307e+005



F2:Voltage SIR.EI+  
365.8978  
8.908e+009



F2:Voltage SIR.EI+  
367.895  
1.488e+007



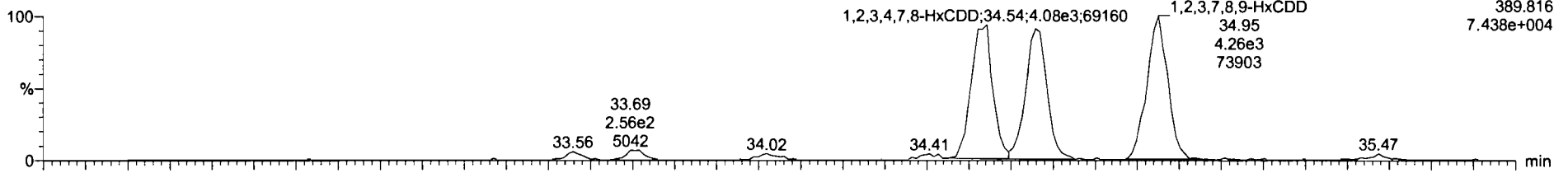
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Printed: Monday, August 02, 2021 09:58:15 Pacific Daylight Time

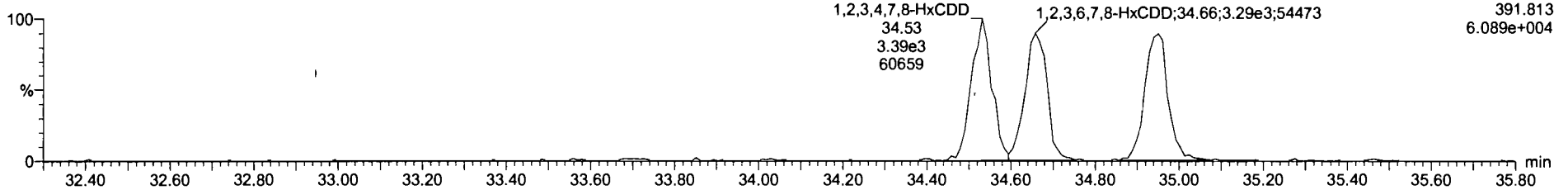
Name: 210730R2\_1, Date: 30-Jul-2021, Time: 18:15:00, ID: ST210730R2\_1 1613 CS0 21G0802, Description: 1613 CS0 21G0802

1,2,3,4,7,8-HxCDD

210730R2\_1

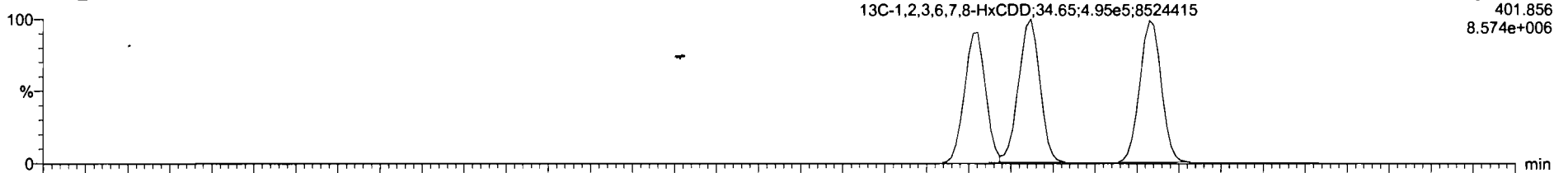


210730R2\_1

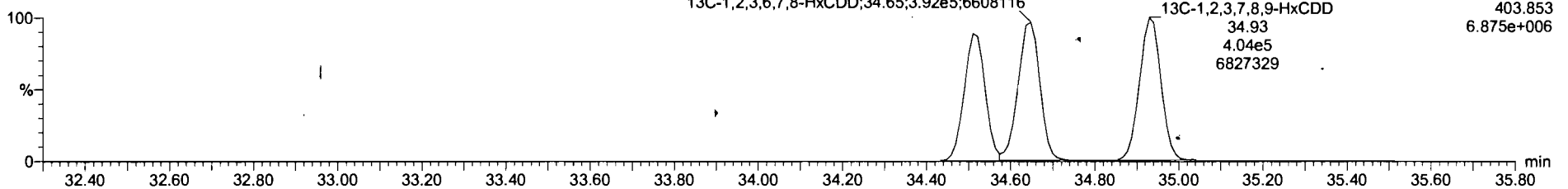


13C-1,2,3,4,7,8-HxCDD

210730R2\_1



210730R2\_1



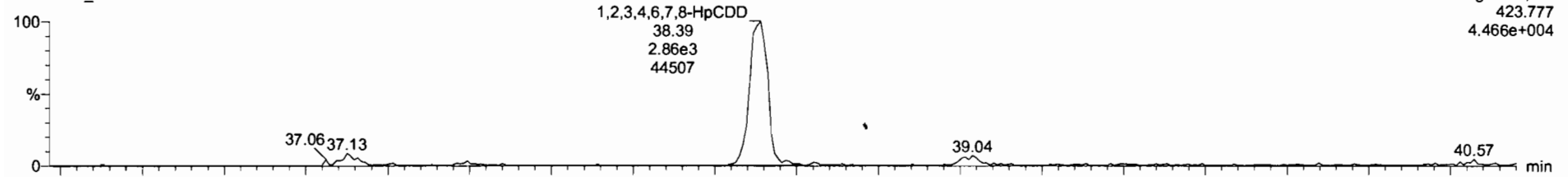
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Printed: Monday, August 02, 2021 09:58:15 Pacific Daylight Time

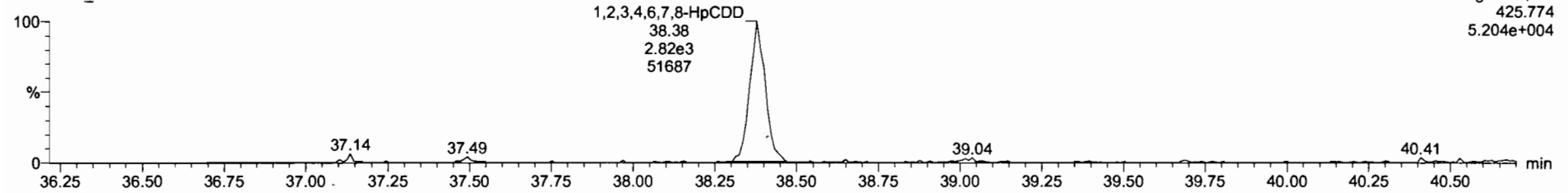
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1,2,3,4,6,7,8-HpCDD

210730R2\_1

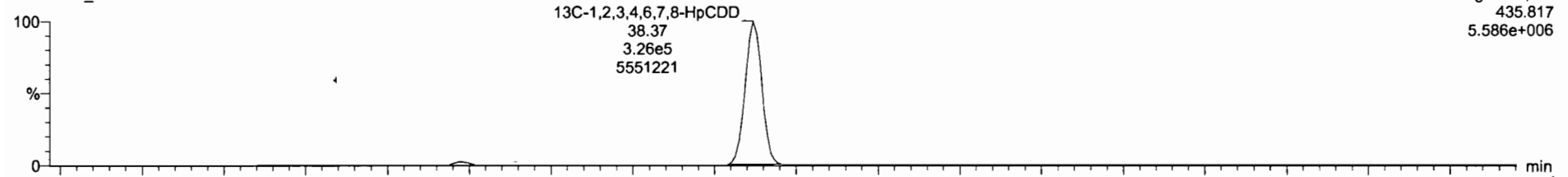


210730R2\_1

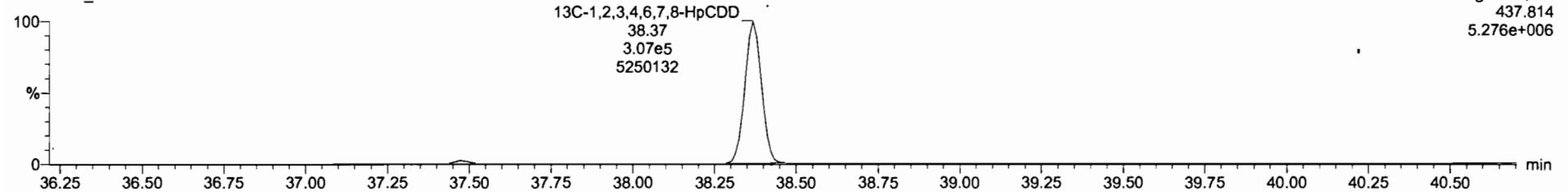


13C-1,2,3,4,6,7,8-HpCDD

210730R2\_1

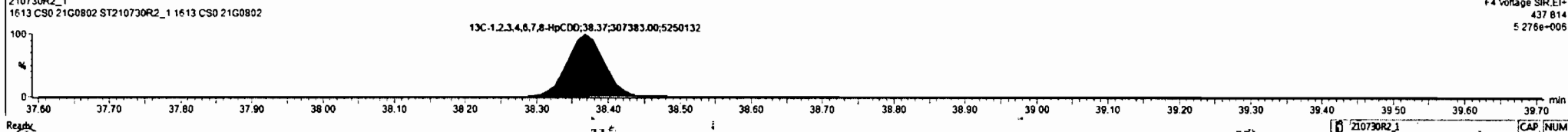
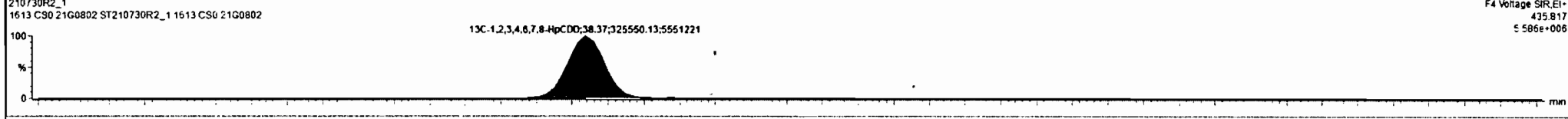
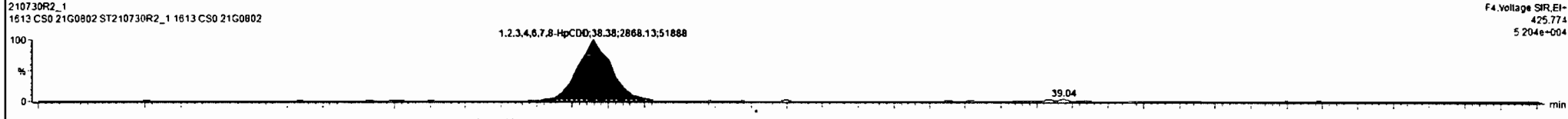
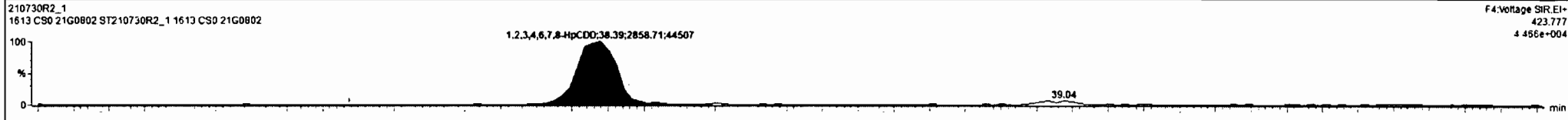


210730R2\_1



210730R2\_1 - ST210730R2\_1 1613 CS0 21G0802 - 1613 CS0 21G0302

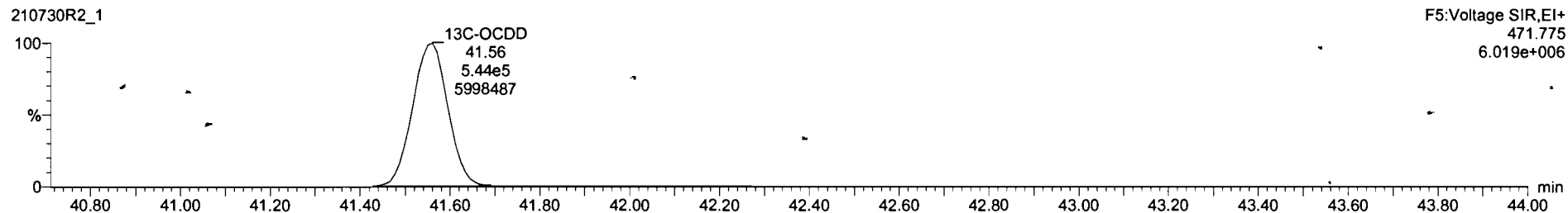
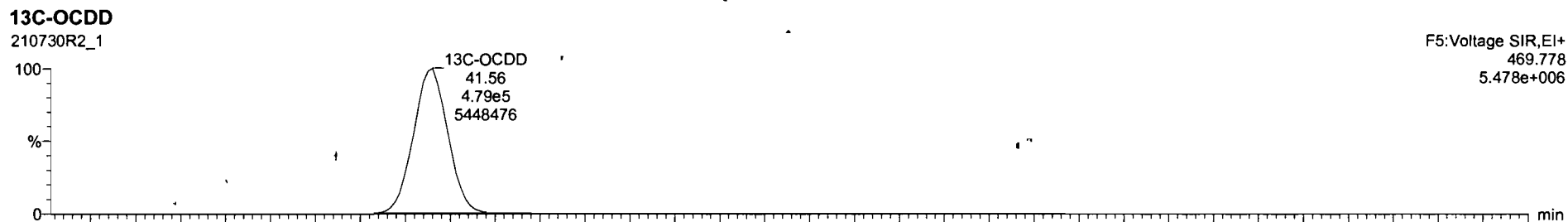
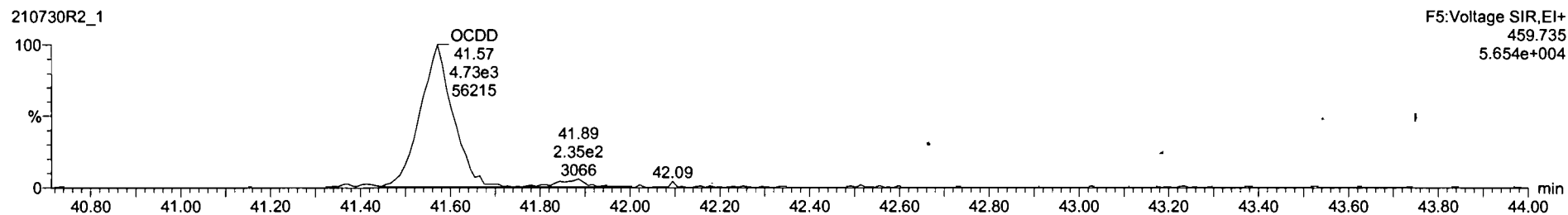
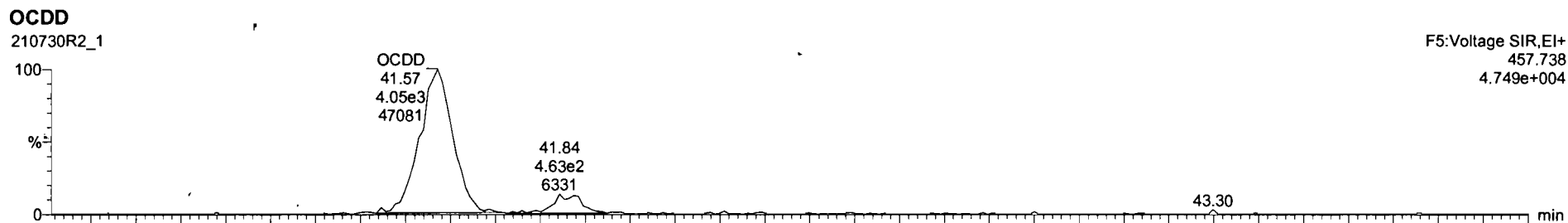
#	Name	RT	RA	Int	Area	IS Area	Sim. Conc	%Dev	%RSD	RRF M...	RRF SD
1	2,3,7,8-TCDD	26.73	0.756	NO	3.0530e3	1.5091e6	0.250	-15.0	15.5	0.952	0.148
2	1,2,3,7,8-PeCDD	31.16	0.605	NO	1.0312e4	1.2052e6	1.250	-12.4	12.3	0.781	0.0961
3	1,2,3,4,7,8-HxCDD	34.54	1.206	NO	7.4717e3	7.9667e5	1.250	-17.2	15.7	0.904	0.142
4	1,2,3,6,7,8-HxCDD	34.66	1.203	NO	7.2581e3	8.0546e5	1.250	-18.8	15.8	0.807	0.127
5	1,2,3,7,8,9-HxCDD	34.95	1.227	NO	7.7245e3	9.0705e5	1.250	-16.3	14.5	0.814	0.118
6	1,2,3,4,6,7,8-HpCDD	38.39	0.997	NO	5.7288e3	6.3283e5	1.250	-13.5	14.2	0.836	0.119
7	OCDD	41.57	0.856	NO	8.7773e3	1.0230e6	2.500	-14.0	14.6	0.798	0.117
8	2,3,7,8-TCDF	26.11	0.784	NO	3.4045e3	2.1141e6	0.250	-10.7	14.6	0.721	0.105
9	1,2,3,7,8-PeCDF	29.96	1.572	NO	1.3497e4	1.6034e6	1.250	-17.2	13.0	0.813	0.106
10	2,3,4,7,8-PeCDF	30.97	1.493	NO	1.5065e4	1.6547e6	1.250	-18.4	12.8	0.892	0.114
11	1,2,3,4,7,8-HxCDF	33.58	1.171	NO	9.3920e3	1.0381e6	1.250	-18.9	15.5	0.893	0.139
12	1,2,3,6,7,8-HxCDF	33.73	1.165	NO	9.5436e3	1.0592e6	1.250	-16.9	15.4	0.867	0.133
13	2,3,4,6,7,8-HxCDF	34.42	1.357	NO	8.5745e3	9.4349e5	1.250	-18.9	16.0	0.896	0.144
14	1,2,3,7,8,9-HxCDF	35.49	1.200	NO	7.9525e3	8.4936e5	1.250	-14.3	15.1	0.874	0.132
15	1,2,3,4,6,7,8-HpCDF	37.15	1.009	NO	6.4961e3	6.3586e5	1.250	-17.1	16.0	0.866	0.158
16	1,2,3,4,7,8,9-HpCDF	39.04	0.974	NO	5.2260e3	5.3680e5	1.250	-19.3	17.4	0.968	0.168
17	OCDF	41.86	0.877	NO	9.0001e3	1.1701e6	2.500	-14.7	16.3	0.722	0.118



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Last Altered: Monday, August 02, 2021 09:57:32 Pacific Daylight Time  
Printed: Monday, August 02, 2021 09:58:15 Pacific Daylight Time

Name: 210730R2\_1, Date: 30-Jul-2021, Time: 18:15:00, ID: ST210730R2\_1 1613 CS0 21G0802, Description: 1613 CS0 21G0802



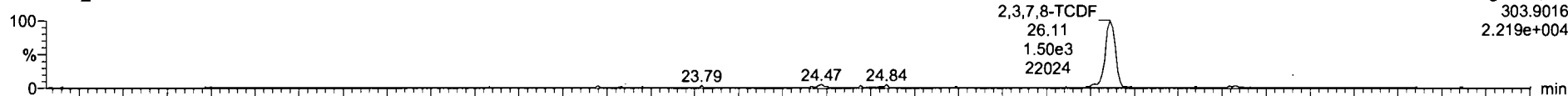
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Printed: Monday, August 02, 2021 09:58:15 Pacific Daylight Time

Name: 210730R2\_1, Date: 30-Jul-2021, Time: 18:15:00, ID: ST210730R2\_1 1613 CS0 21G0802, Description: 1613 CS0 21G0802

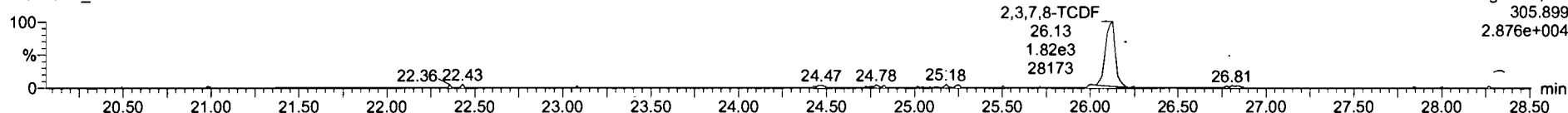
**2,3,7,8-TCDF**

210730R2\_1



F1:Voltage SIR,EI+  
303.9016  
2.219e+004

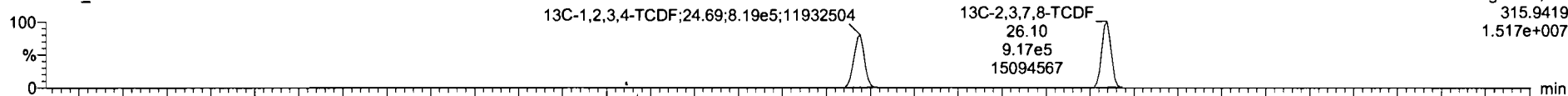
210730R2\_1



F1:Voltage SIR,EI+  
305.899  
2.876e+004

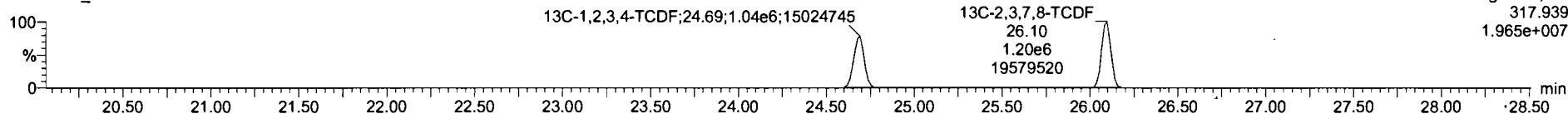
**13C-2,3,7,8-TCDF**

210730R2\_1



F1:Voltage SIR,EI+  
315.9419  
1.517e+007

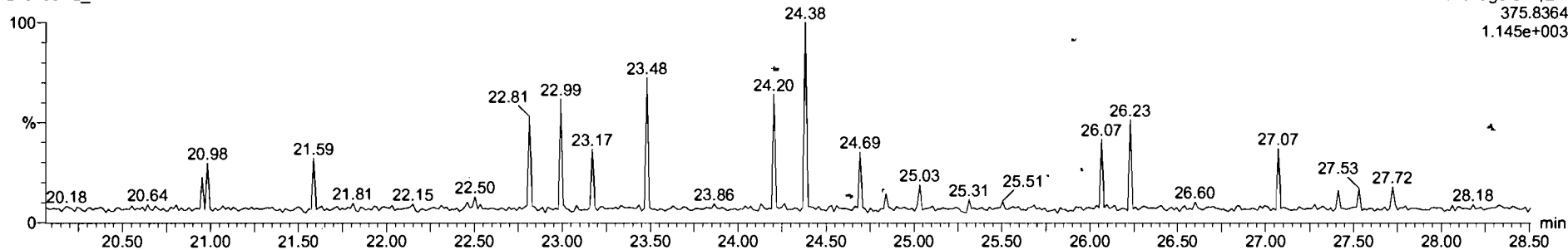
210730R2\_1



F1:Voltage SIR,EI+  
317.939  
1.965e+007

**DPE1**

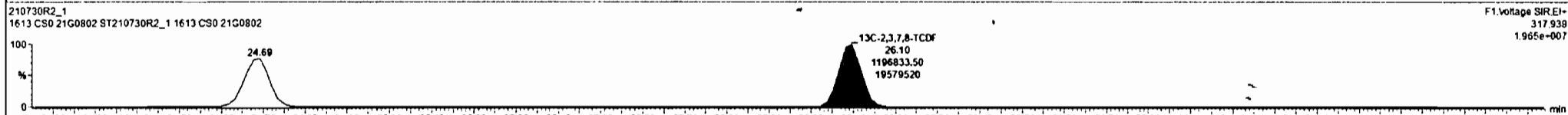
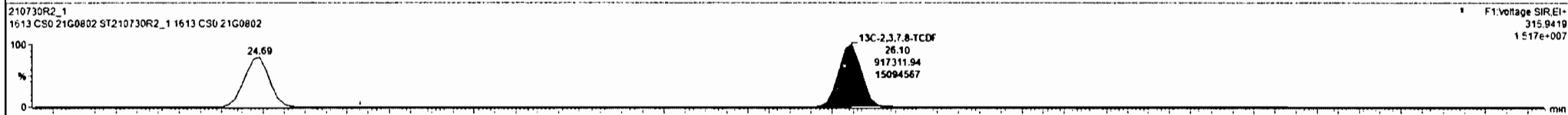
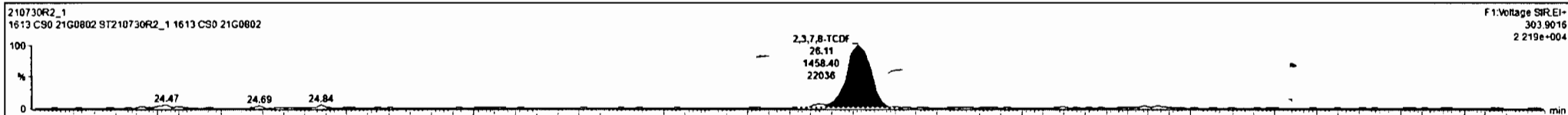
210730R2\_1



F1:Voltage SIR,EI+  
375.8364  
1.145e+003

210730R2\_1 - ST210730R2\_1 1613 CS0 21G0802 - 1613 CS0 21G0802

#	Name	RT	RA	Y/N	Area	IS Area	Std. Conc	%Dev	%RSD	RRF M...	RRF SD
1	2,3,7,8-TCDD	26.73	0.756	NO	3.0530e3	1.5091e6	0.250	-15.0	15.5	0.952	0.148
2	1,2,3,7,8-PeCDD	31.16	0.605	NO	1.0312e4	1.2052e6	1.250	-12.4	12.3	0.781	0.0961
3	1,2,3,4,7,8-HxCDD	34.54	1.206	NO	7.4717e3	7.9667e5	1.250	-17.2	15.7	0.904	0.142
4	1,2,3,6,7,8-HxCDD	34.66	1.203	NO	7.2581e3	8.0646e5	1.250	-18.8	15.8	0.807	0.127
5	1,2,3,7,8,9-HxCDD	34.95	1.227	NO	7.7245e3	9.0705e5	1.250	-16.3	14.5	0.814	0.118
6	1,2,3,4,6,7,8-HpCDD	36.39	0.997	NO	5.7268e3	6.3293e5	1.250	-13.5	14.2	0.836	0.119
7	OCDD	41.57	0.856	NO	8.7773e3	1.0230e6	2.500	-14.0	14.6	0.798	0.117
8	2,3,7,8-TCDF	26.11	0.764	NO	3.3668e3	2.1141e6	0.250	-11.6	14.7	0.720	0.106
9	1,2,3,7,8-PeCDF	29.96	1.572	NO	1.3497e4	1.6034e6	1.250	-17.2	13.0	0.813	0.106
10	2,3,4,7,8-PeCDF	30.97	1.493	NO	1.5065e4	1.6547e6	1.250	-16.4	12.8	0.892	0.114
11	1,2,3,4,7,8-HxCDF	33.58	1.171	NO	9.3820e3	1.0381e6	1.250	-18.9	15.5	0.893	0.139
12	1,2,3,6,7,8-HxCDF	33.73	1.165	NO	9.5436e3	1.0592e6	1.250	-16.9	15.4	0.867	0.133
13	2,3,4,6,7,8-HxCDF	34.42	1.357	NO	8.5745e3	9.4349e5	1.250	-18.9	16.0	0.896	0.144
14	1,2,3,7,8,9-HxCDF	35.49	1.200	NO	7.9525e3	8.4936e5	1.250	-14.3	15.1	0.874	0.132
15	1,2,3,4,6,7,8-HpCDF	37.15	1.009	NO	6.4961e3	6.3586e5	1.250	-17.1	16.0	0.966	0.158
16	1,2,3,4,7,8,9-HpCDF	39.04	0.974	NO	5.2260e3	5.3680e5	1.250	-19.3	17.4	0.968	0.166
17	OCDF	41.82	0.877	NO	9.0001e3	1.1701e6	2.500	-14.7	16.3	0.722	0.118

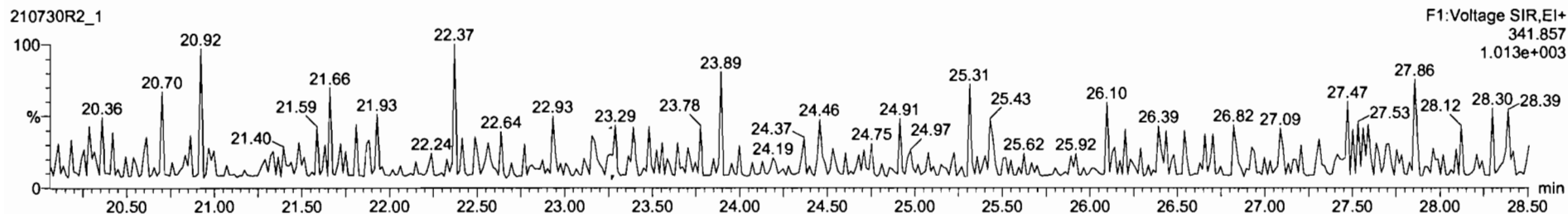
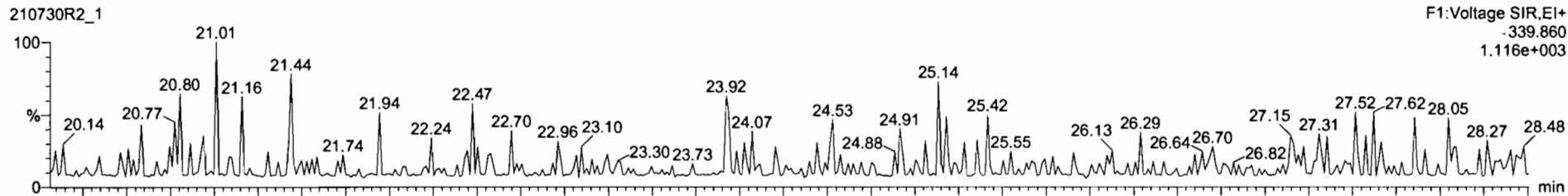


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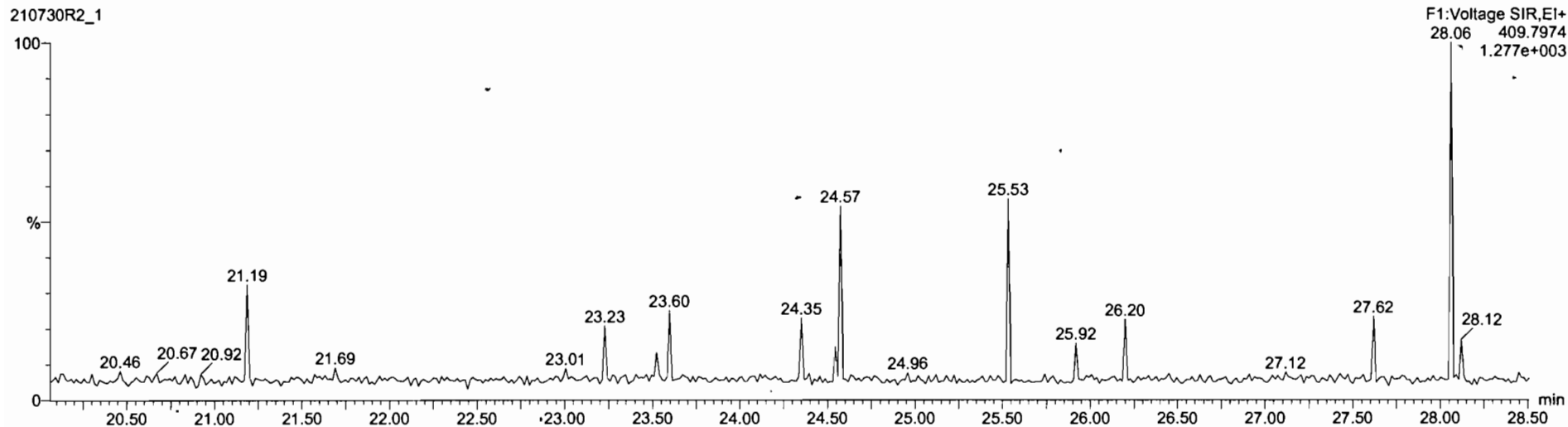
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Printed: Monday, August 02, 2021 09:58:15 Pacific Daylight Time

Name: 210730R2\_1, Date: 30-Jul-2021, Time: 18:15:00, ID: ST210730R2\_1 1613 CS0 21G0802, Description: 1613 CS0 21G0802

1st Func. Penta-Furans



DPE6





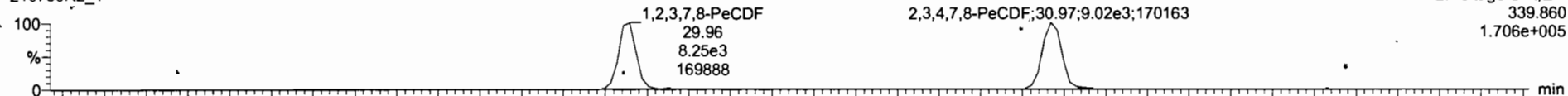
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Printed: Monday, August 02, 2021 09:58:15 Pacific Daylight Time

Name: 210730R2\_1, Date: 30-Jul-2021, Time: 18:15:00, ID: ST210730R2\_1 1613 CS0 21G0802, Description: 1613 CS0 21G0802

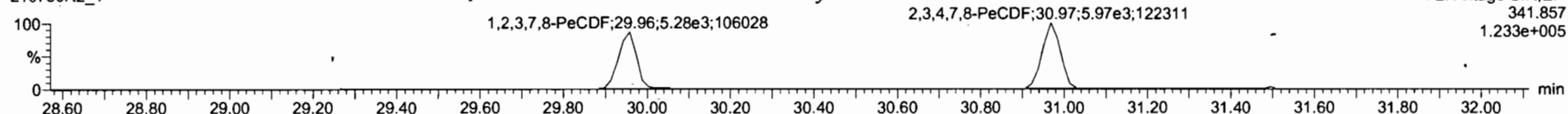
**1,2,3,7,8-PeCDF**

210730R2\_1



F2:Voltage SIR,EI+  
339.860  
1.706e+005

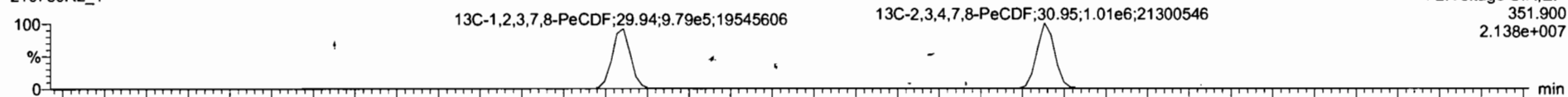
210730R2\_1



F2:Voltage SIR,EI+  
341.857  
1.233e+005

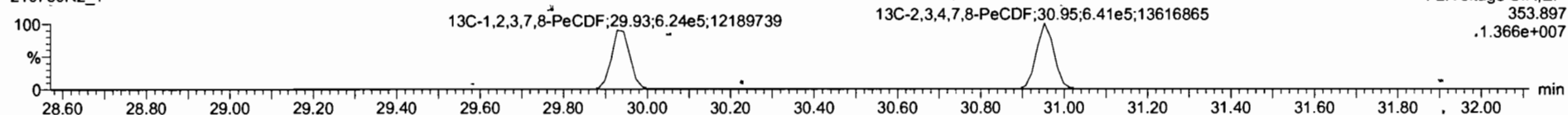
**13C-1,2,3,7,8-PeCDF**

210730R2\_1



F2:Voltage SIR,EI+  
351.900  
2.138e+007

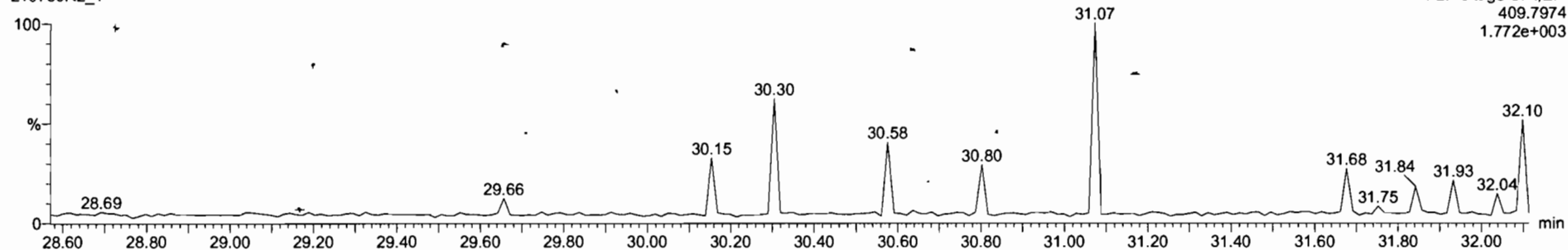
210730R2\_1



F2:Voltage SIR,EI+  
353.897  
1.366e+007

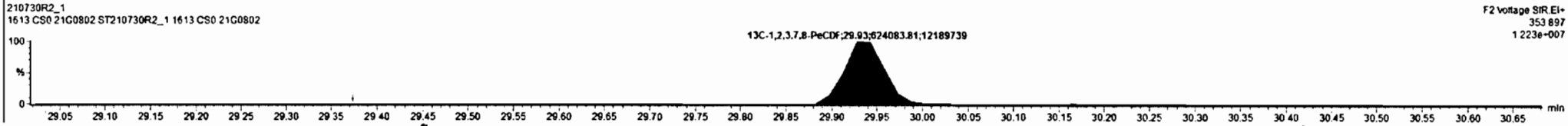
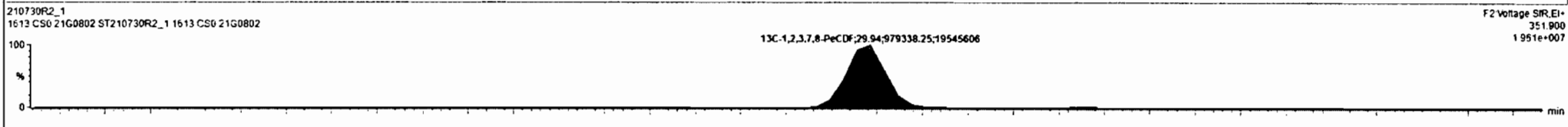
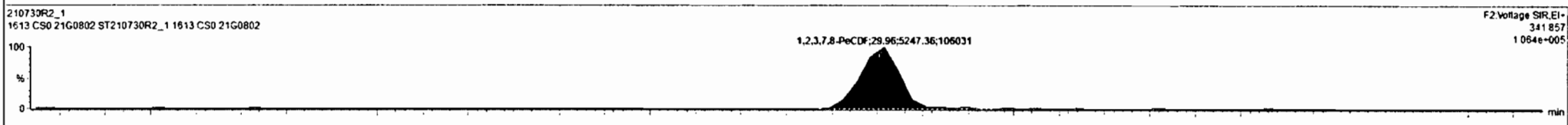
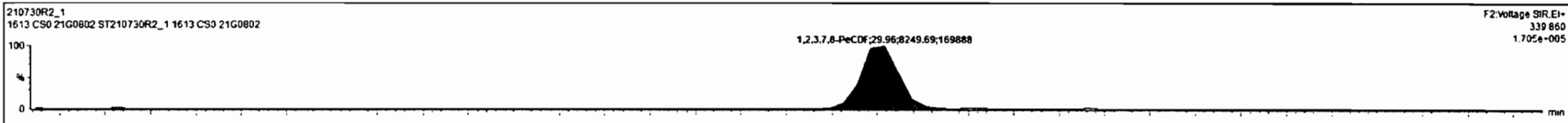
**DPE2**

210730R2\_1



F2:Voltage SIR,EI+  
409.7974  
1.772e+003

#	F	Name	RT	RA	yfm	Area	IS Area	Std. Conc	%Dev	%RSD	RRF U	RRF SD
1	1	2,3,7,8-TCDD	26.73	0.756	NO	3.0530e3	1.5091e6	0.250	-15.0	15.5	0.952	0.148
2	2	1,2,3,7,8-PeCDD	31.16	0.605	NO	1.0312e4	1.2052e6	1.250	-12.4	12.3	0.781	0.0961
3	3	1,2,3,4,7,8-HxCDD	34.54	1.206	NO	7.4717e3	7.9067e5	1.250	-17.2	15.7	0.904	0.142
4	4	1,2,3,6,7,8-HxCDD	34.66	1.203	NO	7.2581e3	8.0645e5	1.250	-18.8	15.8	0.807	0.127
5	5	1,2,3,7,8,9-HxCDD	34.95	1.227	NO	7.7245e3	9.0705e5	1.250	-16.3	14.5	0.814	0.118
6	6	1,2,3,4,6,7,8-HpCDD	38.39	0.997	NO	5.7268e3	6.3293e5	1.250	-13.5	14.2	0.836	0.119
7	7	OCDD	41.57	0.856	NO	8.7773e3	1.0230e6	2.500	-14.0	14.6	0.798	0.117
8	8	2,3,7,8-TCDF	25.11	0.754	NO	3.3668e3	2.1141e6	0.250	-11.6	14.7	0.720	0.106
9	9	1,2,3,7,8-PeCDF	29.96	1.572	NO	1.3497e4	1.6034e6	1.250	-17.2	13.0	0.813	0.108
10	10	2,3,4,7,8-PeCDF	30.97	1.493	NO	1.5065e4	1.6547e6	1.250	-16.4	12.8	0.892	0.114
11	11	1,2,3,4,7,8-HxCDF	33.58	1.171	NO	9.3020e3	1.0381e6	1.250	-18.9	15.5	0.893	0.139
12	12	1,2,3,6,7,8-HxCDF	33.73	1.165	NO	9.5436e3	1.0592e6	1.250	-16.9	15.4	0.867	0.133
13	13	2,3,4,6,7,8-HxCDF	34.42	1.357	NO	8.5745e3	9.4349e5	1.250	-18.9	16.0	0.896	0.144
14	14	1,2,3,7,8,9-HxCDF	35.49	1.200	NO	7.9525e3	8.4936e5	1.250	-14.3	15.1	0.874	0.132
15	15	1,2,3,4,6,7,8-HpCDF	37.15	1.009	NO	6.4961e3	6.3586e5	1.250	-17.1	16.0	0.966	0.158
16	16	1,2,3,4,7,8,9-HpCDF	39.04	0.974	NO	5.2250e3	5.3680e5	1.250	-19.3	17.4	0.966	0.168
17	17	OCDF	41.88	0.877	NO	9.0001e3	1.1701e6	2.500	-14.7	16.3	0.722	0.118



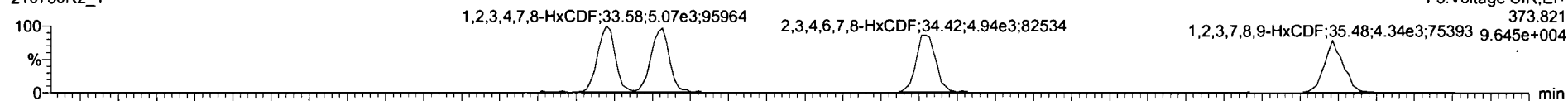
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Printed: Monday, August 02, 2021 09:58:15 Pacific Daylight Time

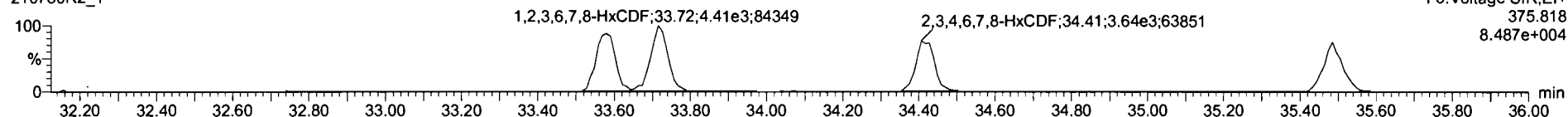
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1,2,3,4,7,8-HxCDF

210730R2\_1

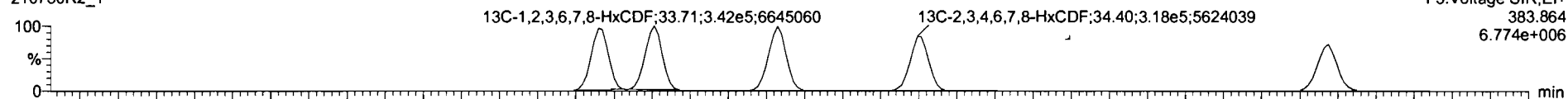


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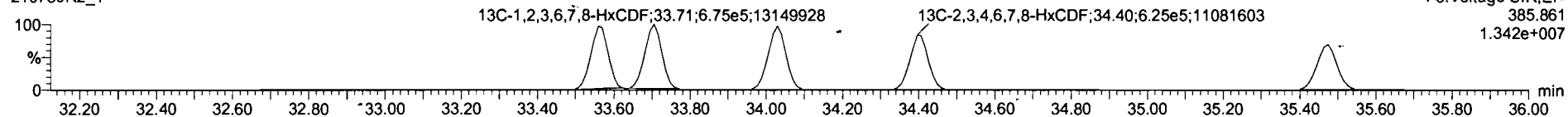


13C-1,2,3,4,7,8-HxCDF

210730R2\_1

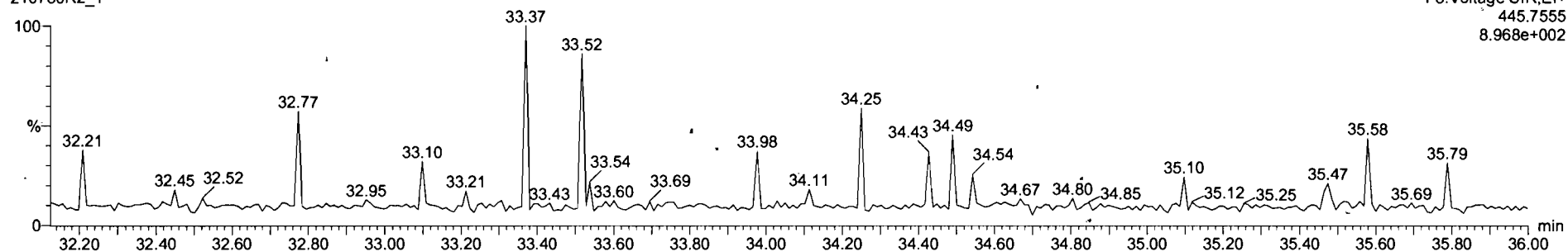


210730R2\_1



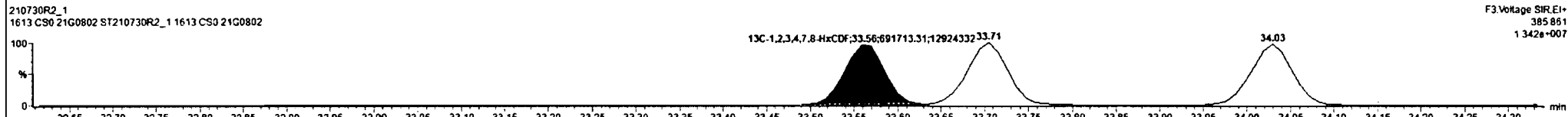
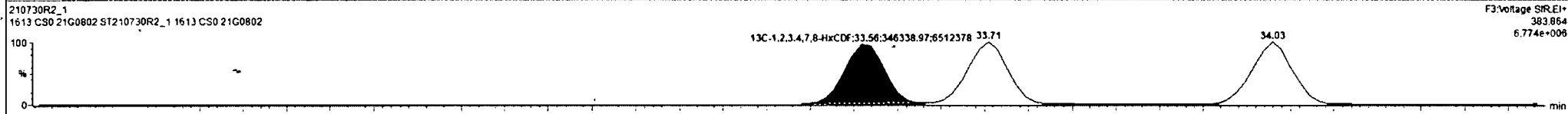
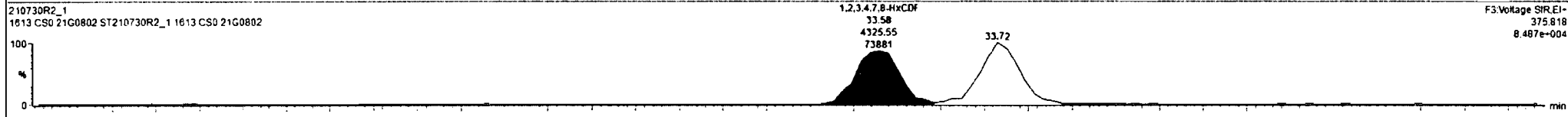
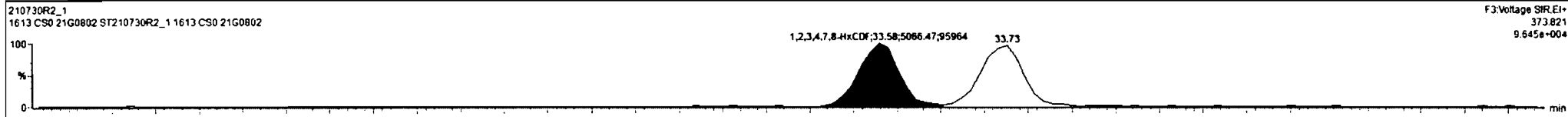
DPE3

210730R2\_1



210730R2\_1 - ST210730R2\_1 1613 CS0 21G0802 - 1613 CS0 21G0802

#	Name	RT	RA	Y/N	Area	IS Area	Std. Conc	%Dev	%RSD	RRF M...	RRF SD
1	1,2,3,7,8-TCDD	26.73	0.756	NO	3.0530e3	1.5091e6	0.250	-15.0	15.5	0.952	0.148
2	1,2,3,7,8-PeCDD	31.16	0.605	NO	1.0312e4	1.2052e6	1.250	-12.4	12.3	0.781	0.0961
3	1,2,3,4,7,8-HxCDD	34.54	1.206	NO	7.4717e3	7.9867e5	1.250	-17.2	15.7	0.904	0.142
4	1,2,3,6,7,8-HxCDD	34.66	1.203	NO	7.2581e3	6.8646e5	1.250	-18.8	15.8	0.807	0.127
5	1,2,3,7,8,9-HxCDD	34.95	1.227	NO	7.7245e3	9.0705e5	1.250	-16.3	14.5	0.814	0.118
6	1,2,3,4,6,7,8-HpCDD	38.39	0.997	NO	5.7268e3	6.3293e5	1.250	-13.5	14.2	0.836	0.119
7	OCDD	41.57	0.856	NO	8.7773e3	1.0230e6	2.500	-14.0	14.6	0.798	0.117
8	2,3,7,8-TCDF	26.11	0.764	NO	3.3668e3	2.1141e6	0.250	-11.6	14.7	0.720	0.106
9	1,2,3,7,8-PeCDF	29.96	1.572	NO	1.3497e4	1.6034e6	1.250	-17.2	13.0	0.813	0.106
10	1,2,3,4,7,8-PeCDF	30.97	1.492	NO	1.5065e4	1.6547e6	1.250	-18.4	12.8	0.892	0.114
11	1,2,3,4,7,8-HxCDF	33.58	1.171	NO	9.3920e3	1.0381e6	1.250	-18.9	15.5	0.803	0.139
12	1,2,3,6,7,8-HxCDF	33.73	1.165	NO	9.5436e3	1.0592e6	1.250	-16.9	15.4	0.867	0.133
13	1,2,3,4,6,7,8-HxCDF	34.42	1.357	NO	8.5745e3	9.4349e5	1.250	-18.9	16.0	0.886	0.144
14	1,2,3,7,8,9-HxCDF	35.49	1.200	NO	7.9525e3	8.4936e5	1.250	-14.3	15.1	0.874	0.132
15	1,2,3,4,6,7,8-HpCDF	37.15	1.009	NO	6.4961e3	6.3586e5	1.250	-17.1	16.0	0.966	0.158
16	1,2,3,4,7,8,9-HpCDF	39.04	0.974	NO	5.2290e3	5.3680e5	1.250	-19.3	17.4	0.966	0.168
17	OCDF	41.86	0.877	NO	9.0001e3	1.1701e6	2.500	-14.7	16.3	0.722	0.118

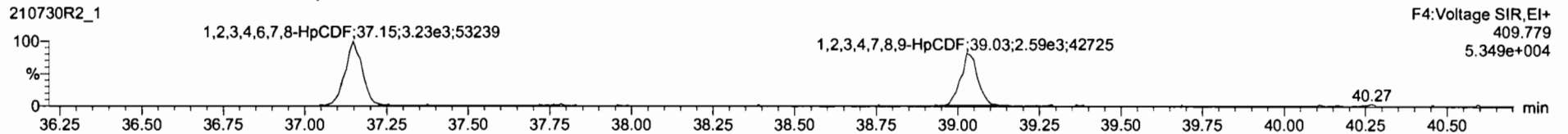
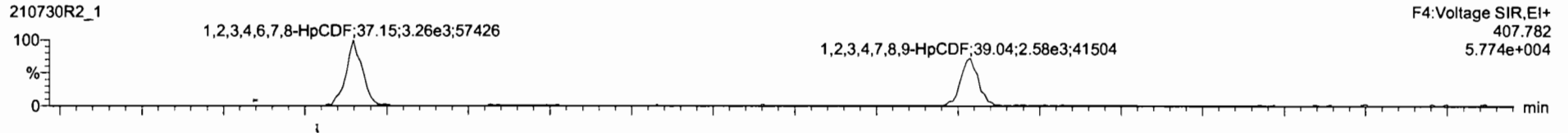


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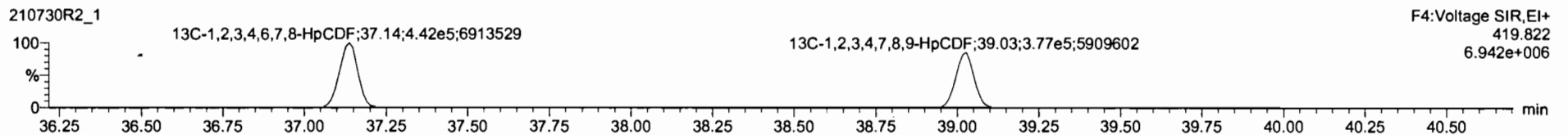
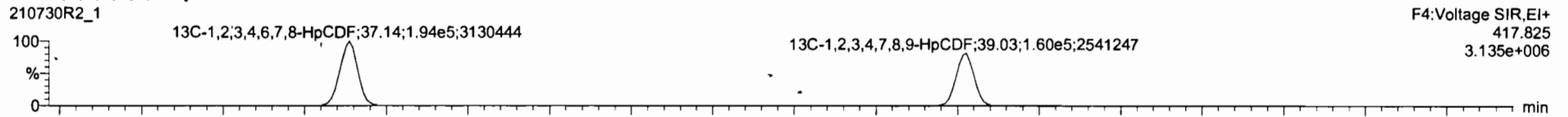
Last Altered: Monday, August 02, 2021 09:57:32 Pacific Daylight Time  
Printed: Monday, August 02, 2021 09:58:15 Pacific Daylight Time

Name: 210730R2\_1, Date: 30-Jul-2021, Time: 18:15:00, ID: ST210730R2\_1 1613 CS0 21G0802, Description: 1613 CS0 21G0802

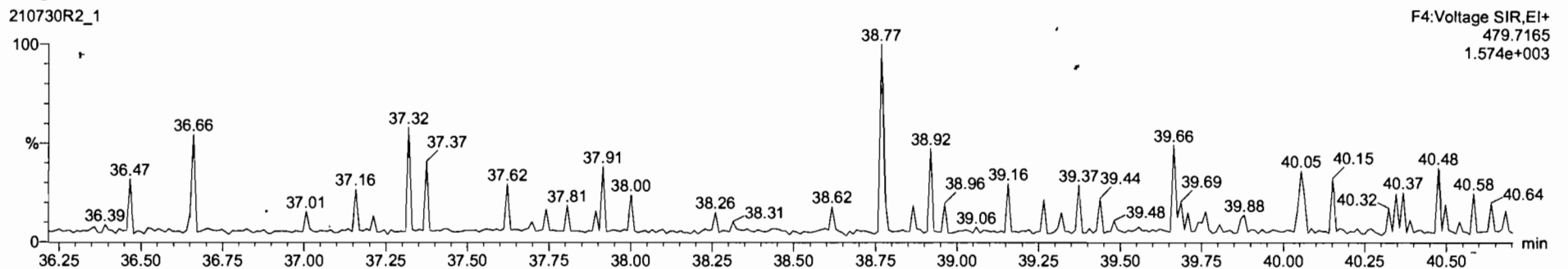
1,2,3,4,6,7,8-HpCDF



13C-1,2,3,4,6,7,8-HpCDF

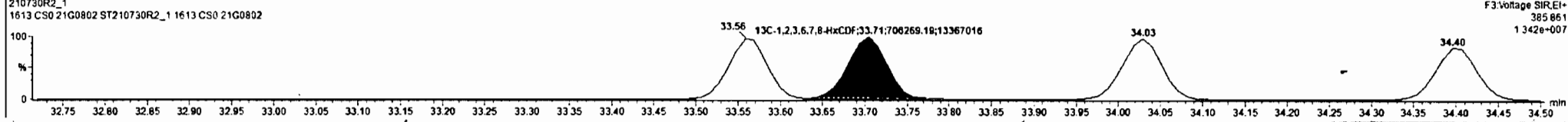
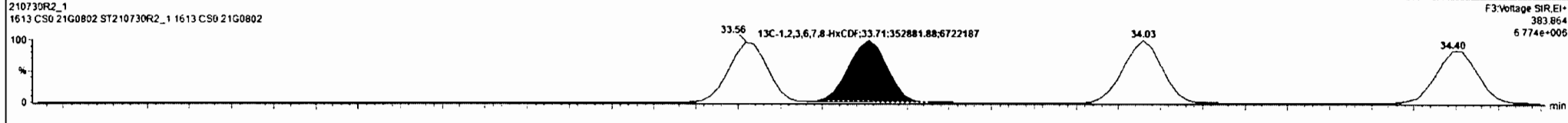
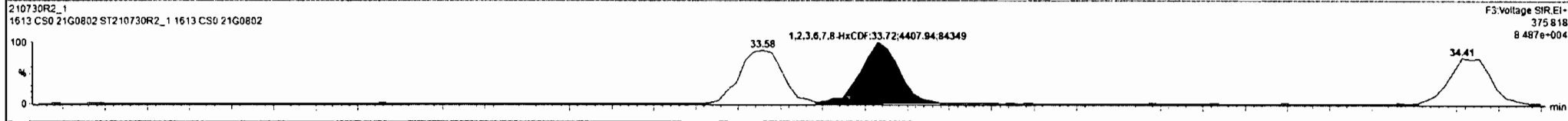
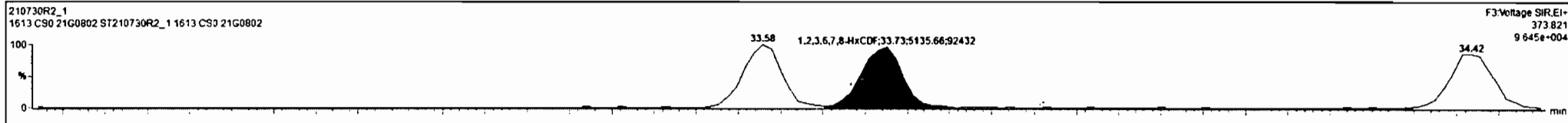


DPE4



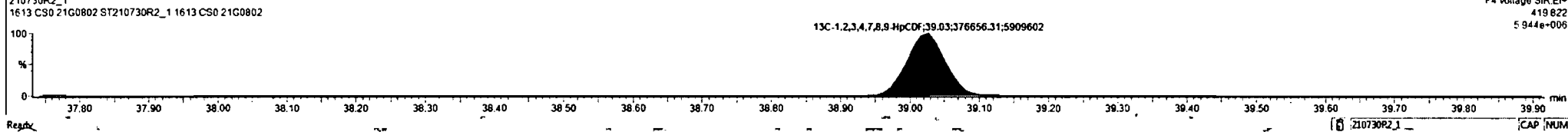
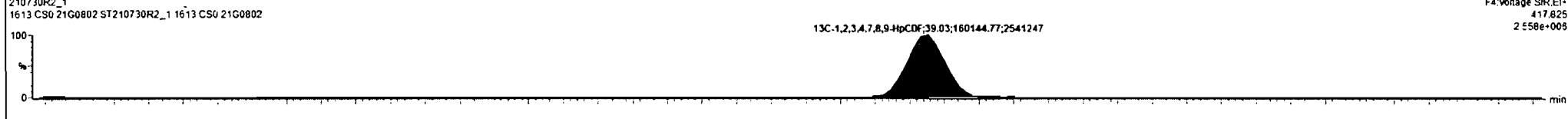
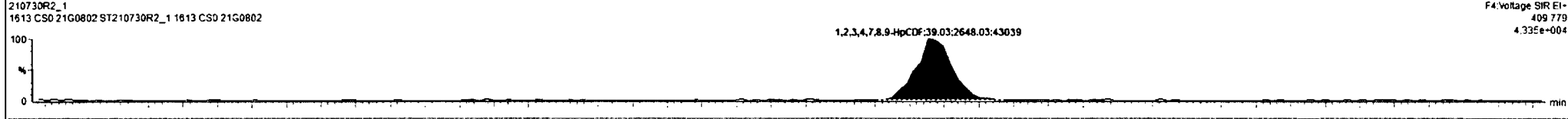
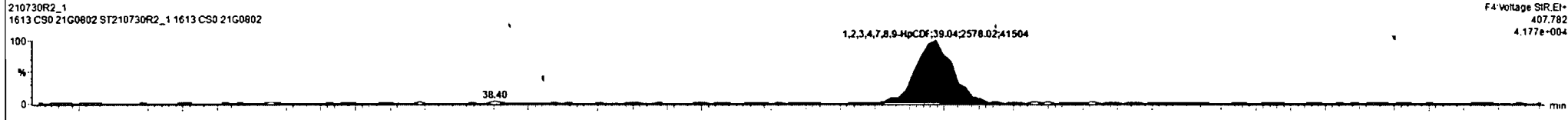
210730R2\_1 - ST210730R2\_1 1613 CS0 21G0802 - 1613 CS0 21G0802

No.	Name	RT	RA	Yth	Area	IS Area	Std. Conc	%Dev	%RSD	RRF M...	RRF SD
1	1,2,3,7,8-TCDD	26.73	0.756	NO	3.0530e3	1.5091e5	0.250	-15.0	15.5	0.952	0.148
2	1,2,3,7,8-PeCDD	31.16	0.605	NO	1.0312e4	1.2052e6	1.250	-12.4	12.3	0.781	0.0961
3	1,2,3,4,7,8-HxCDD	34.54	1.206	NO	7.4717e3	7.9867e5	1.250	-17.2	15.7	0.904	0.142
4	1,2,3,6,7,8-HxCDD	34.66	1.203	NO	7.2581e3	8.0646e5	1.250	-18.8	15.8	0.807	0.127
5	1,2,3,7,8,9-HxCDD	34.95	1.227	NO	7.7245e3	9.0705e5	1.250	-16.3	14.5	0.814	0.118
6	1,2,3,4,6,7,8-HpCDD	38.39	0.997	NO	5.7268e3	6.3293e5	1.250	-13.5	14.2	0.836	0.119
7	OCDD	41.57	0.856	NO	8.7773e3	1.0230e6	2.500	-14.0	14.6	0.798	0.117
8	1,2,3,7,8-TCDF	26.11	0.764	NO	3.3688e3	2.1141e6	0.250	-11.6	14.7	0.720	0.106
9	1,2,3,7,8-PeCDF	29.96	1.572	NO	1.3497e4	1.6034e6	1.250	-17.2	13.0	0.813	0.106
10	1,2,3,4,7,8-PeCDF	30.97	1.493	NO	1.5065e4	1.6547e6	1.250	-16.4	12.8	0.892	0.114
11	1,2,3,4,7,8-HxCDF	33.58	1.171	NO	9.3820e3	1.0381e6	1.250	-18.9	15.5	0.893	0.139
12	1,2,3,6,7,8-HxCDF	33.73	1.165	NO	9.5436e3	1.0592e6	1.250	-16.9	15.4	0.887	0.133
13	1,2,3,4,6,7,8-HxCDF	34.42	1.357	NO	8.5745e3	9.4349e5	1.250	-18.9	16.0	0.896	0.144
14	1,2,3,7,8,9-HxCDF	35.49	1.200	NO	7.9525e3	8.4936e5	1.250	-14.3	15.1	0.874	0.132
15	1,2,3,4,6,7,8-HpCDF	37.15	1.009	NO	6.4961e3	6.3586e5	1.250	-17.1	16.0	0.866	0.158
16	1,2,3,4,7,8,9-HpCDF	39.04	0.974	NO	5.2280e3	5.3680e5	1.250	-19.3	17.4	0.966	0.168
17	OCDF	41.86	0.877	NO	9.0001e3	1.1701e6	2.500	-14.7	16.3	0.722	0.118



210730R2\_1 - ST210730R2\_1 1613 CS0 21G0802 - 1613 CS0 21G0802

RT	Name	RA	y/n	Area	IS Area	Std. Conc	%Dev	%RSD	RRF M...	RPF SD
26.73	2,3,7,8-TCDD	0.756	NO	3.0530e3	1.5091e6	0.250	-15.0	15.5	0.952	0.148
31.16	1,2,3,7,8-PeCDD	0.605	NO	1.0312e4	1.2052e6	1.250	-12.4	12.3	0.781	0.3961
34.54	1,2,3,4,7,8-HxCDD	1.206	NO	7.4717e3	7.9867e5	1.250	-17.2	15.7	0.904	0.142
34.66	1,2,3,6,7,8-HxCDD	1.203	NO	7.2581e3	8.8646e5	1.250	-18.8	15.8	0.807	0.127
34.95	1,2,3,7,8,9-HxCDD	1.227	NO	7.7245e3	9.0705e5	1.250	-16.3	14.5	0.814	0.118
38.39	1,2,3,4,6,7,8-HpCDD	0.997	NO	5.7268e3	6.3293e5	1.250	-13.5	14.2	0.836	0.119
41.57	OCDD	0.858	NO	8.7773e3	1.0230e6	2.500	-14.0	14.6	0.798	0.117
26.11	2,3,7,8-TCDF	0.764	NO	3.3666e3	2.1141e6	0.250	-11.6	14.7	0.720	0.106
29.96	1,2,3,7,8-PeCDF	1.572	NO	1.3497e4	1.6034e6	1.250	-17.2	13.0	0.813	0.106
30.97	2,3,4,7,8-PeCDF	1.493	NO	1.5065e4	1.6547e6	1.250	-16.4	12.8	0.892	0.114
33.58	1,2,3,4,7,8-HxCDF	1.171	NO	9.3020e3	1.0381e6	1.250	-18.9	15.5	0.800	0.139
33.73	1,2,3,6,7,8-HxCDF	1.165	NO	9.5436e3	1.0592e6	1.250	-16.9	15.4	0.867	0.133
34.42	2,3,4,6,7,8-HxCDF	1.357	NO	8.5745e3	9.4349e5	1.250	-18.9	16.0	0.896	0.144
35.49	1,2,3,7,8,9-HxCDF	1.200	NO	7.9525e3	8.4936e5	1.250	-14.3	15.1	0.874	0.132
37.15	1,2,3,4,6,7,8-HpCDF	1.009	NO	8.4961e3	6.3586e5	1.250	-17.1	16.0	0.866	0.158
38.04	1,2,3,4,7,8,9-HpCDF	0.974	NO	5.2280e3	5.3680e5	1.250	-19.3	17.4	0.968	0.168
41.82	OCDF	0.877	NO	9.0001e3	1.1701e6	2.500	-14.7	16.3	0.722	0.118





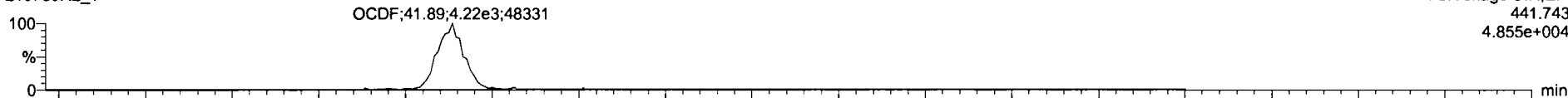
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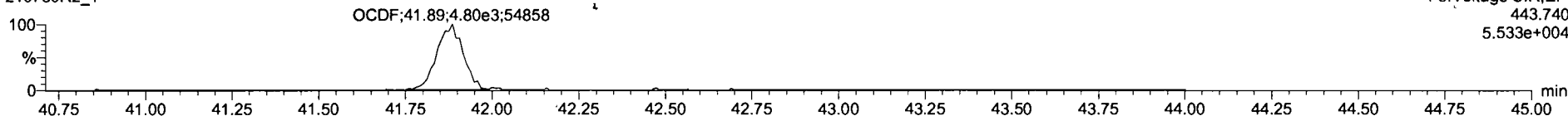
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OCDF

210730R2\_1

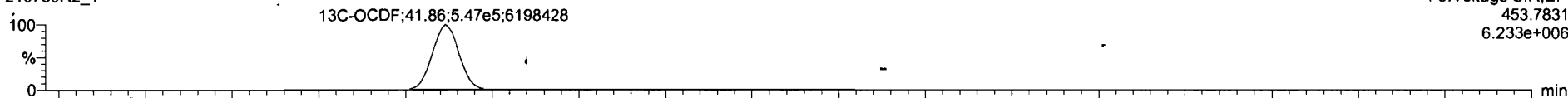


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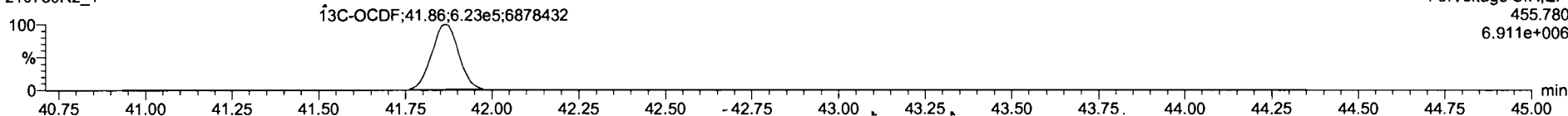


13C-OCDF

210730R2\_1

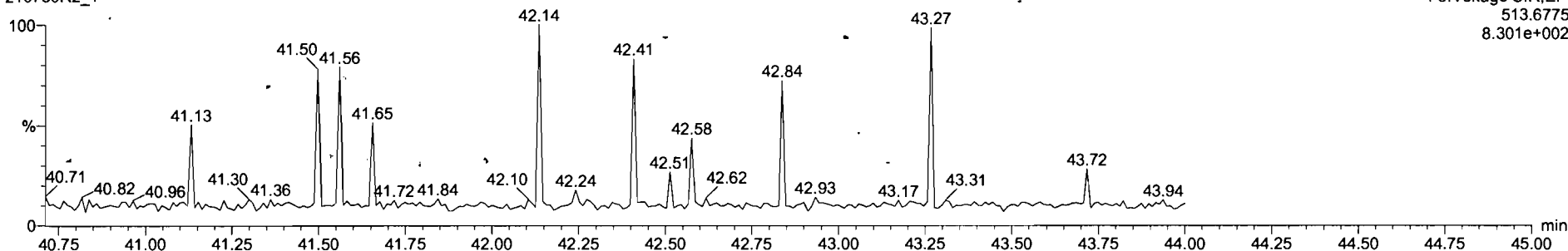


210730R2\_1



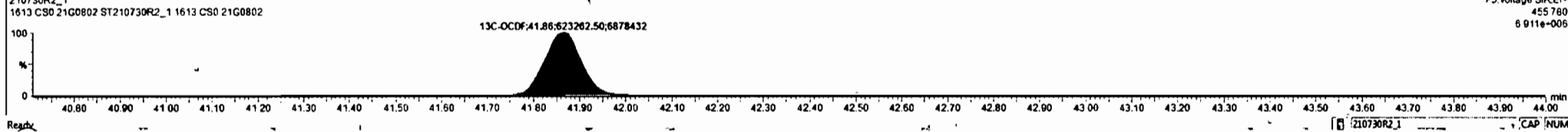
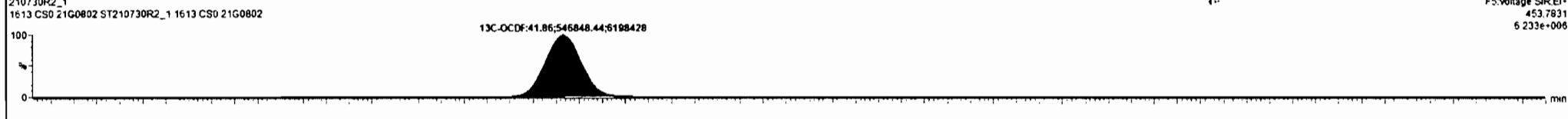
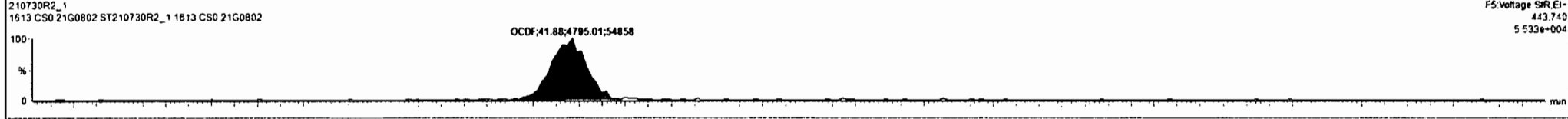
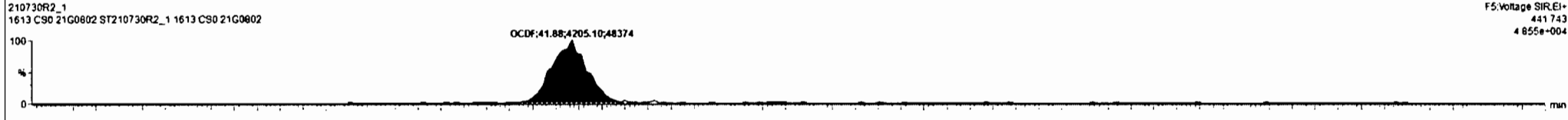
DPE5

210730R2\_1



210730R2\_1 - ST210730R2\_1 1613 CS0 21G0802 - 1613 CS0 21G0302

#	Name	RT	RA	Yn	Area	IS Area	Std. Conc	%Dev	%RSD	RRF M...	RRF SD
1	2,3,7,8-TCDD	26.73	0.756	NO	3.0530e3	1.5091e6	0.250	-15.0	15.5	0.952	0.148
2	1,2,3,7,8-PeCDD	31.16	0.605	NO	1.0312e4	1.2052e6	1.250	-12.4	12.3	0.781	0.0961
3	1,2,3,4,7,8-HxCDD	34.54	1.208	NO	7.4717e3	7.9867e5	1.250	-17.2	15.7	0.904	0.142
4	1,2,3,6,7,8-HxCDD	34.86	1.203	NO	7.2581e3	8.8646e5	1.250	-18.8	15.8	0.807	0.127
5	1,2,3,7,8,9-HxCDD	34.95	1.227	NO	7.7245e3	9.0705e5	1.250	-16.3	14.5	0.814	0.118
6	1,2,3,4,6,7,8-HpCDD	38.39	0.997	NO	5.7268e3	6.3293e5	1.250	-13.5	14.2	0.836	0.119
7	OCDF	41.57	0.856	NO	8.7773e3	1.0230e6	2.500	-14.0	14.6	0.796	0.117
8	2,3,7,8-TCDF	26.11	0.764	NO	3.3668e3	2.1141e6	0.250	-11.6	14.7	0.720	0.106
9	1,2,3,7,8-PeCDF	29.96	1.572	NO	1.3497e4	1.6034e6	1.250	-17.2	13.0	0.813	0.106
10	1,2,3,4,7,8-PeCDF	30.97	1.493	NO	1.5065e4	1.6547e6	1.250	-16.4	12.6	0.892	0.114
11	1,2,3,4,7,8-HxCDF	33.58	1.171	NO	9.3920e3	1.0381e6	1.250	-18.9	15.5	0.803	0.139
12	1,2,3,6,7,8-HxCDF	33.73	1.165	NO	9.5436e3	1.0592e6	1.250	-16.9	15.4	0.867	0.133
13	1,2,3,4,6,7,8-HxCDF	34.42	1.357	NO	6.5745e3	9.4349e5	1.250	-18.9	16.0	0.896	0.144
14	1,2,3,7,8,9-HxCDF	35.49	1.200	NO	7.9525e3	8.4936e5	1.250	-14.3	15.1	0.874	0.132
15	1,2,3,4,6,7,8-HpCDF	37.15	1.009	NO	6.4961e3	6.3586e5	1.250	-17.1	16.0	0.866	0.158
16	1,2,3,4,7,8,9-HpCDF	39.04	0.974	NO	5.2260e3	5.3680e5	1.250	-19.3	17.4	0.966	0.168
17	OCDF	41.86	0.877	NO	9.0001e3	1.1701e6	2.500	-14.7	16.3	0.722	0.118

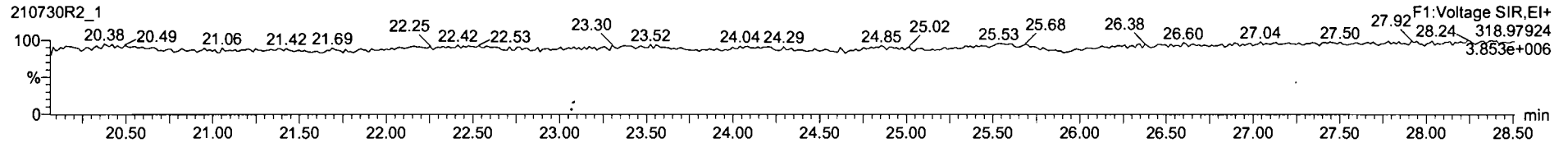


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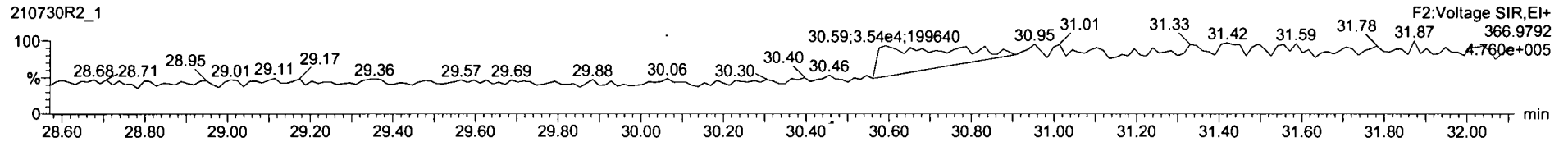
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Printed: Monday, August 02, 2021 09:58:15 Pacific Daylight Time

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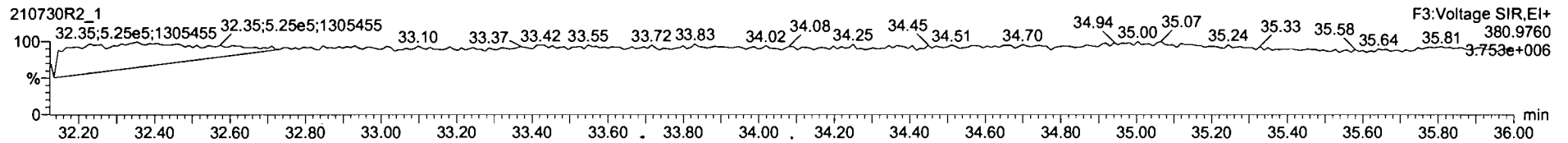
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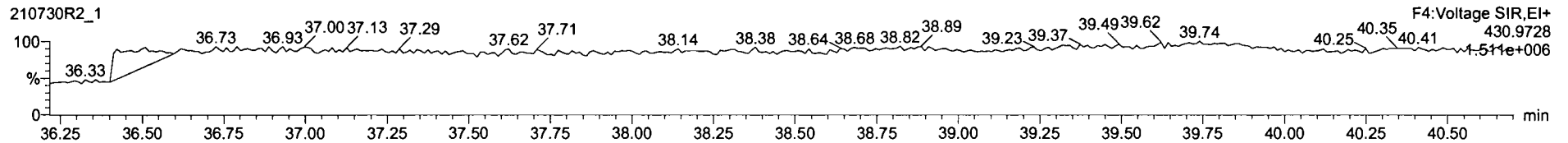
PFK2



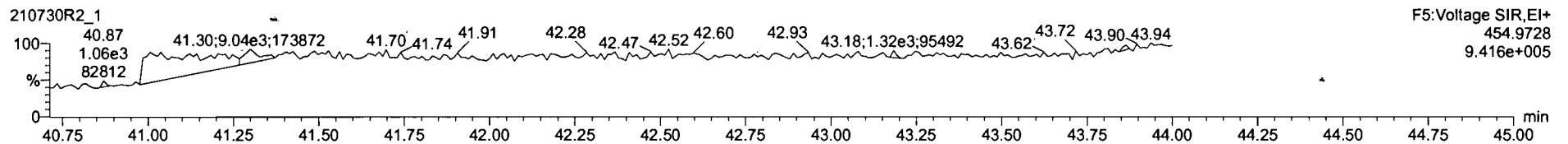
PFK3



PFK4



PFK5



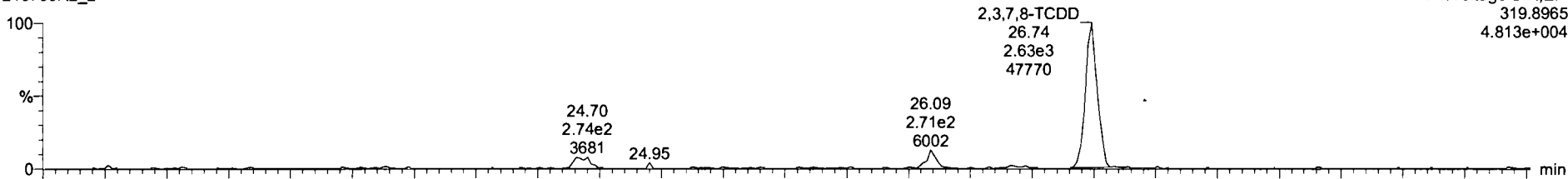
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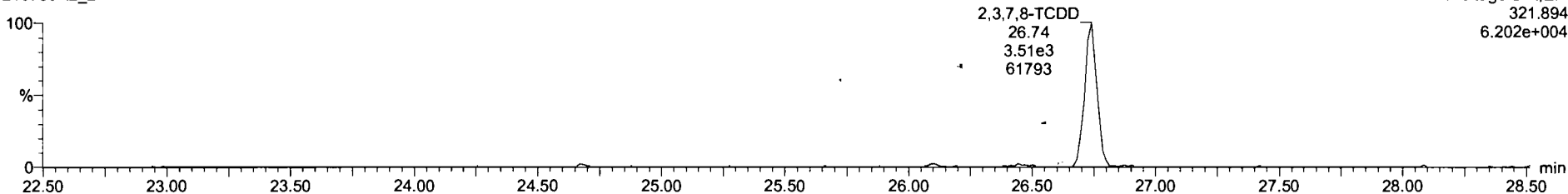
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**2,3,7,8-TCDD**

210730R2\_2

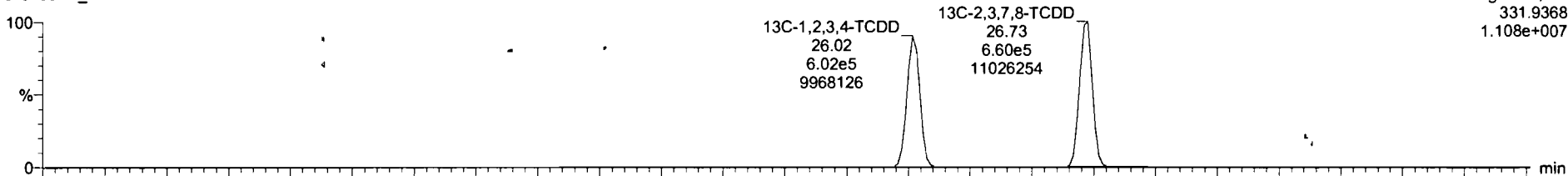


210730R2\_2

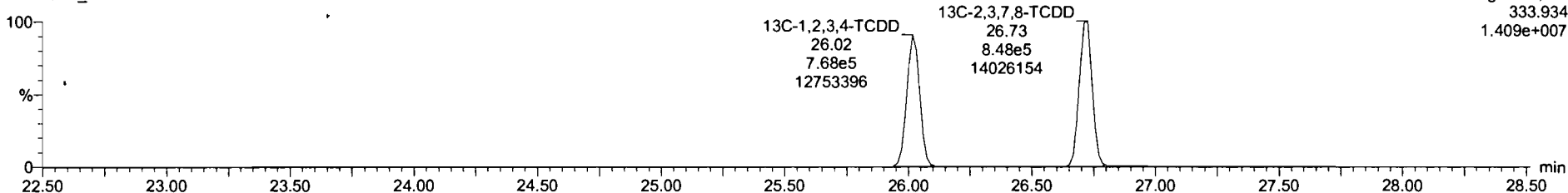


**13C-2,3,7,8-TCDD**

210730R2\_2



210730R2\_2



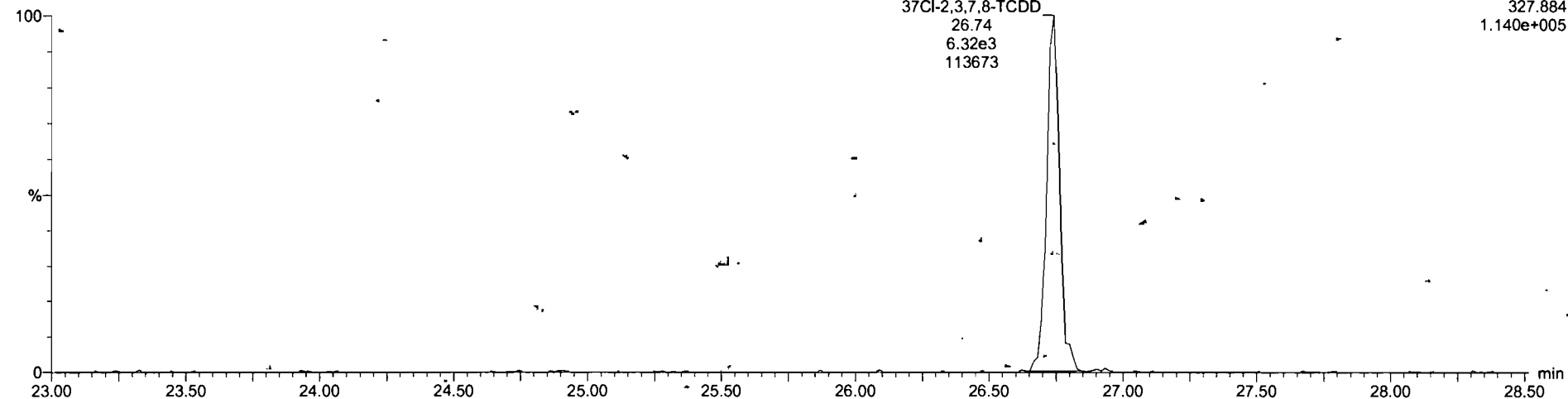
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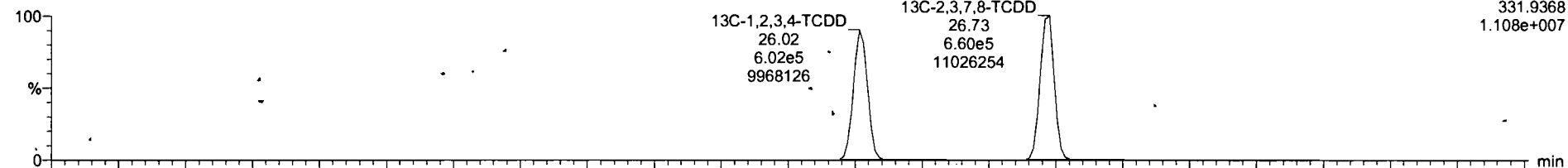
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210730R2\_2

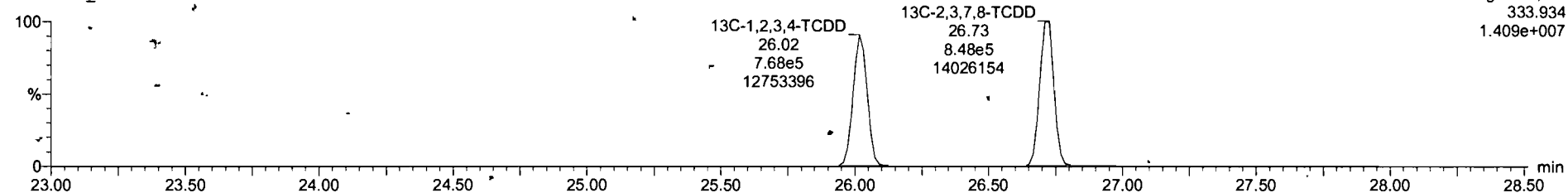


**13C-1,2,3,4-TCDD**

210730R2\_2



210730R2\_2



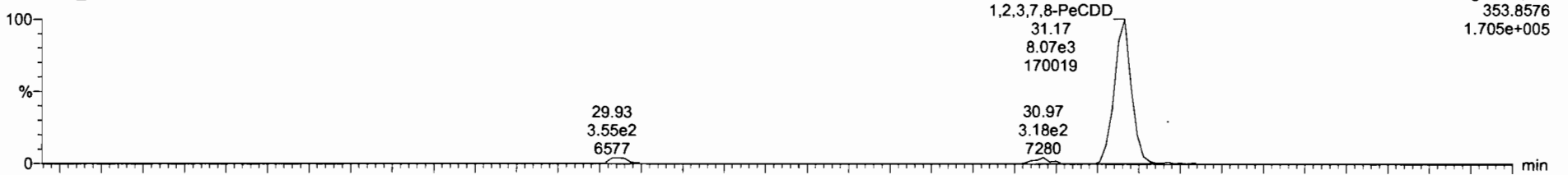
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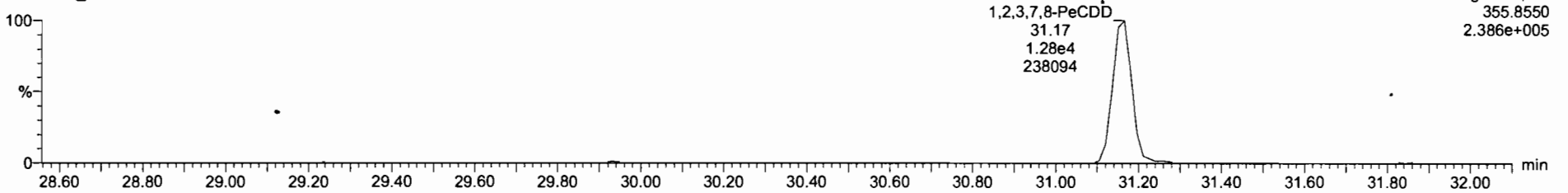
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**1,2,3,7,8-PeCDD**

210730R2\_2

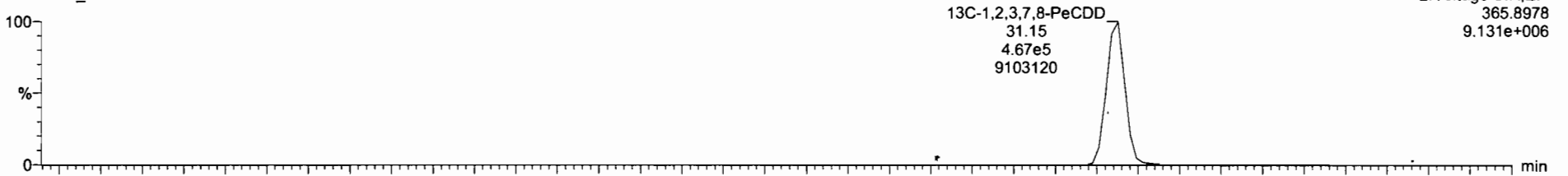


210730R2\_2

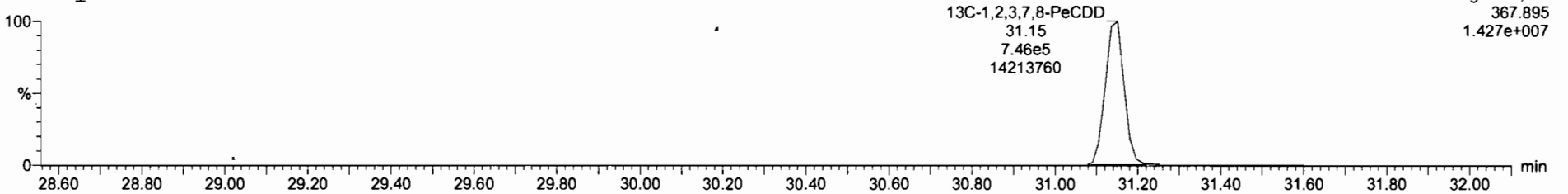


**13C-1,2,3,7,8-PeCDD**

210730R2\_2

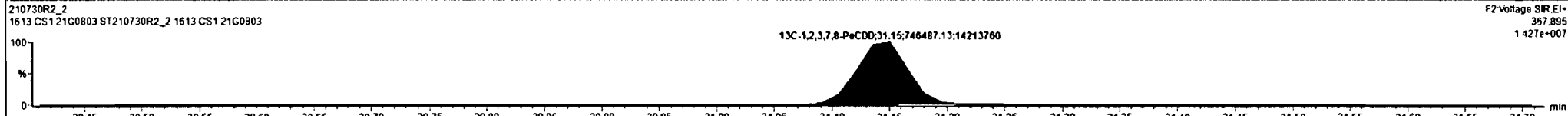
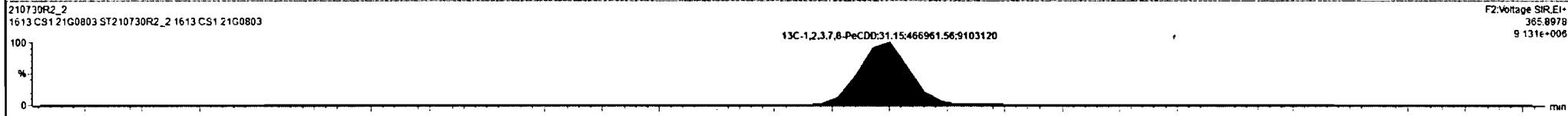
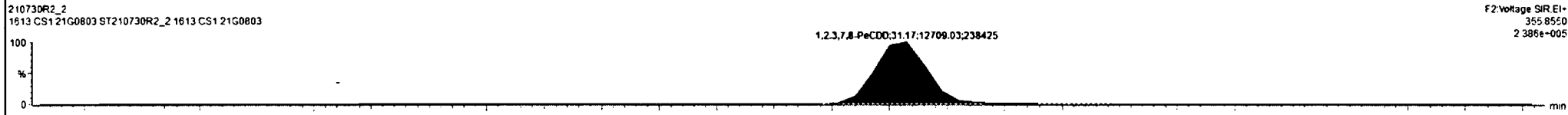
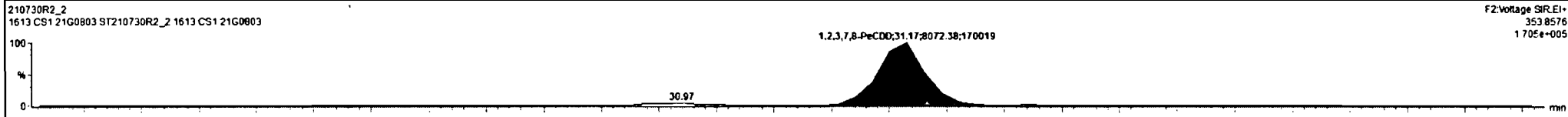


210730R2\_2



210730R2\_2 - ST210730R2\_2 1613 CS1 21G0803 - 1613 CS1 21G0803

#	Name	RT	RA	yh	Area	IS Area	Std. Conc	%Dev	%RSD	RRF M...	RRF SD
1	2,3,7,8-TCDD	26.74	0.749	NO	6.1327e3	1.5079e6	0.500	-14.6	15.5	0.952	0.148
2	1,2,3,7,8-PeCDD	31.17	0.635	NO	2.0781e4	1.2134e6	2.500	-12.3	12.4	0.781	0.0967
3	1,2,3,4,7,8-HxCDD	34.54	1.219	NO	1.5115e4	7.9682e5	2.500	-18.0	15.7	0.904	0.142
4	1,2,3,6,7,8-HxCDD	34.67	1.254	NO	1.4816e4	6.6930e5	2.500	-15.5	15.8	0.807	0.127
5	1,2,3,7,8,9-HxCDD	34.86	1.227	NO	1.6048e4	9.0836e5	2.500	-13.2	14.5	0.814	0.118
6	1,2,3,4,6,7,8-HpCDD	38.40	1.116	NO	1.1609e4	6.4941e5	2.500	-14.5	14.2	0.836	0.119
7	OCDD	41.59	0.948	NO	1.7860e4	1.0501e6	5.000	-14.8	14.6	0.798	0.117
8	2,3,7,8-TCDF	26.12	0.772	NO	6.3959e3	2.1085e6	0.500	-15.8	14.7	0.720	0.106
9	1,2,3,7,8-PeCDF	29.96	1.645	NO	2.9699e4	1.6659e6	2.500	-12.3	13.0	0.813	0.106
10	2,3,4,7,8-PeCDF	30.97	1.590	NO	3.2889e4	1.6398e6	2.500	-10.1	12.8	0.892	0.114
11	1,2,3,4,7,8-HxCDF	33.60	1.244	NO	1.9287e4	1.0224e6	2.500	-15.5	15.5	0.883	0.139
12	1,2,3,6,7,8-HxCDF	33.72	1.198	NO	1.9187e4	1.0649e6	2.500	-16.9	15.4	0.867	0.133
13	2,3,4,6,7,8-HxCDF	34.42	1.270	NO	1.7574e4	9.3984e5	2.500	-18.5	18.0	0.896	0.144
14	1,2,3,7,8,9-HxCDF	35.51	1.233	NO	1.6064e4	8.8811e5	2.500	-17.2	15.1	0.874	0.132
15	1,2,3,4,6,7,8-HpCDF	37.17	0.957	NO	1.3242e4	6.4161e5	2.500	-18.3	18.0	0.968	0.158
16	1,2,3,4,7,8,9-HpCDF	39.05	1.098	NO	1.0540e4	5.4520e5	2.500	-17.6	17.4	0.966	0.166
17	OCDF	41.91	0.670	NO	1.7555e4	1.1926e6	5.000	-18.0	18.3	0.722	0.118





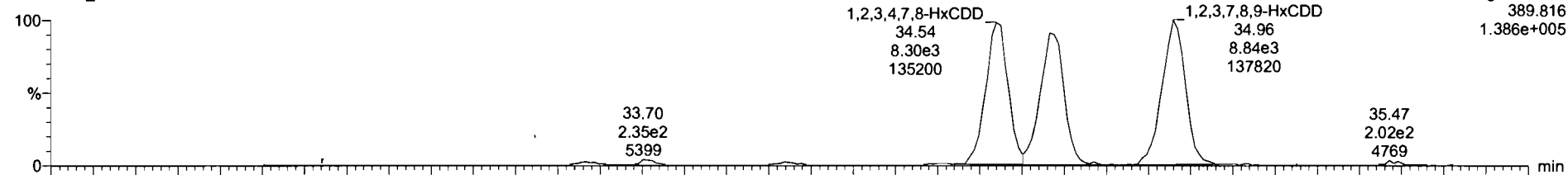
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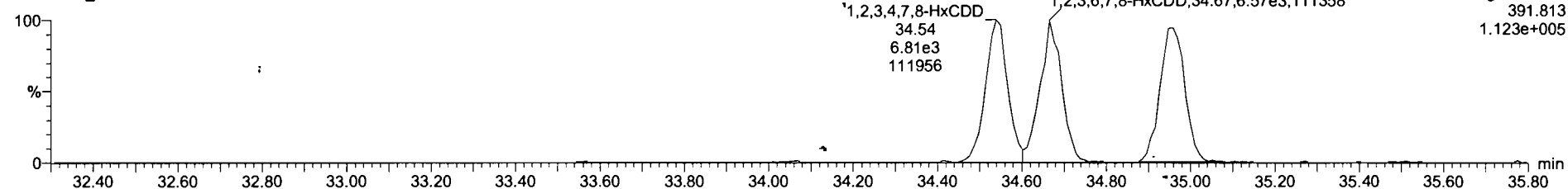
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1,2,3,4,7,8-HxCDD

210730R2\_2

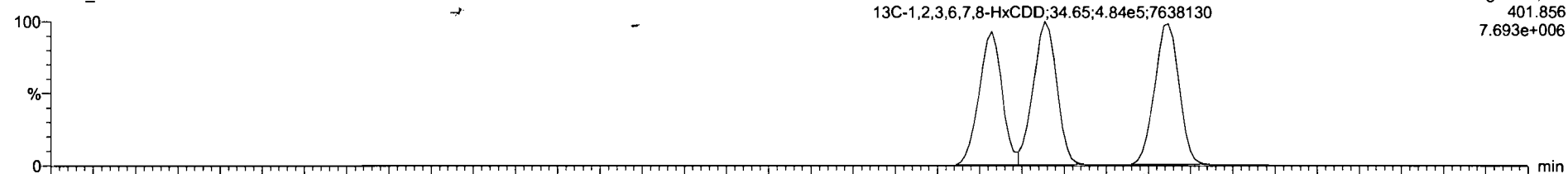


210730R2\_2

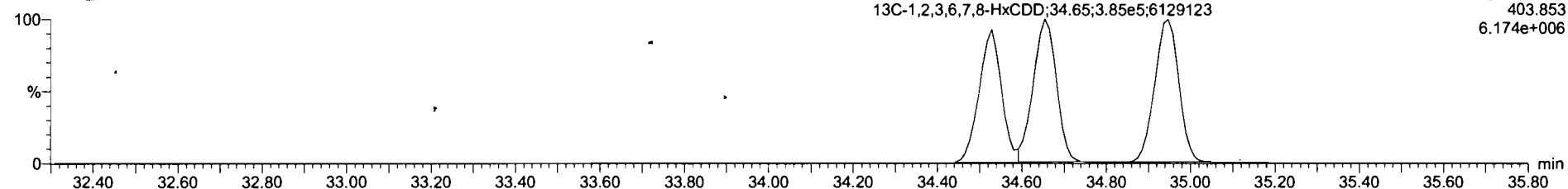


13C-1,2,3,4,7,8-HxCDD

210730R2\_2

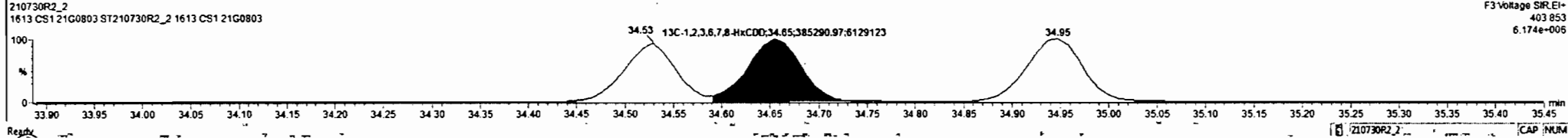
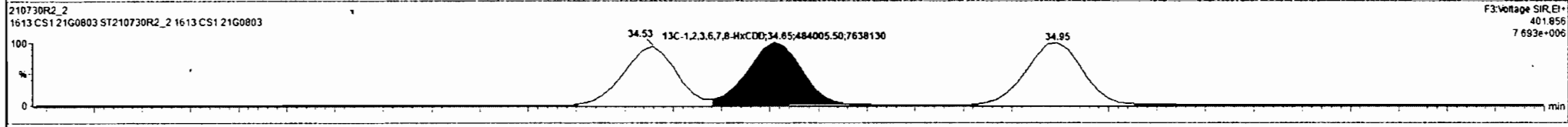
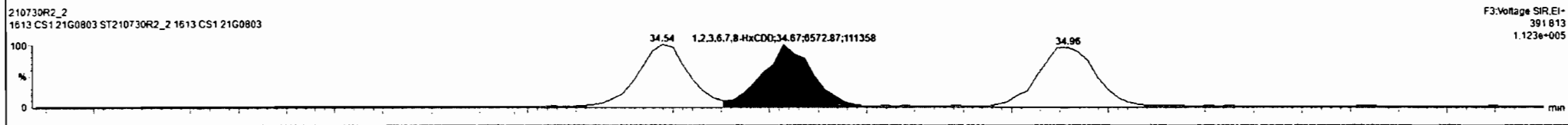
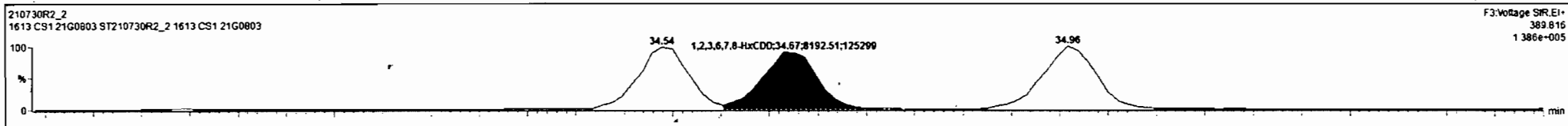


210730R2\_2



210730R2\_2 - ST210730R2\_2 1613 CS1 21G0803 - 1613 CS1 21G0803

#	Name	RT	RA	yfs	Area	IS Area	Std. Conc	%Dev	%RSD	RRF M...	RRF SD
1	1,2,3,7,8-TCDD	26.74	0.749	NO	6.1327e3	1.5076e6	0.500	-14.6	15.5	0.952	0.148
2	1,2,3,7,8-PeCDD	31.17	0.635	NO	2.0781e4	1.2134e6	2.500	-12.3	12.4	0.781	0.0967
3	1,2,3,4,7,8-HxCDD	34.54	1.219	NO	1.5115e4	7.9682e5	2.500	-16.0	15.7	0.904	0.142
4	1,2,3,6,7,8-HxCDD	34.67	1.246	NO	1.4765e4	8.6930e5	2.500	-15.7	15.8	0.806	0.128
5	1,2,3,7,8,9-HxCDD	34.96	1.227	NO	1.6048e4	9.0638e5	2.500	-13.2	14.5	0.814	0.118
6	1,2,3,4,6,7,8-HpCDD	38.40	1.116	NO	1.1609e4	6.4941e5	2.500	-14.5	14.2	0.836	0.119
7	OCDD	41.59	0.948	NO	1.7860e4	1.0501e6	5.000	-14.8	14.6	0.798	0.117
8	1,2,3,7,8-TCDF	26.12	0.772	NO	8.3959e3	2.1025e6	0.500	-15.8	14.7	0.720	0.106
9	1,2,3,7,8-PeCDF	29.96	1.645	NO	2.9696e4	1.6659e6	2.500	-12.3	13.0	0.813	0.106
10	1,2,3,4,7,8-PeCDF	30.97	1.590	NO	3.2889e4	1.6396e6	2.500	-10.1	12.8	0.892	0.114
11	1,2,3,4,7,8-HxCDF	33.60	1.244	NO	1.9287e4	1.0224e6	2.500	-15.5	15.5	0.893	0.139
12	1,2,3,6,7,8-HxCDF	33.72	1.198	NO	1.9187e4	1.0649e6	2.500	-16.9	15.4	0.867	0.133
13	1,2,3,4,6,7,8-HxCDF	34.42	1.270	NO	1.7574e4	9.3984e5	2.500	-16.5	16.0	0.896	0.144
14	1,2,3,7,8,9-HxCDF	35.51	1.233	NO	1.6064e4	8.8811e5	2.500	-17.2	15.1	0.874	0.132
15	1,2,3,4,6,7,8-HpCDF	37.17	0.957	NO	1.3242e4	6.4161e5	2.500	-16.3	16.0	0.966	0.158
16	1,2,3,4,7,8,9-HpCDF	39.05	1.098	NO	1.0840e4	5.4520e5	2.500	-17.6	17.4	0.966	0.168
17	OCDF	41.91	0.870	NO	1.7655e4	1.1926e6	5.000	-16.0	16.3	0.722	0.118



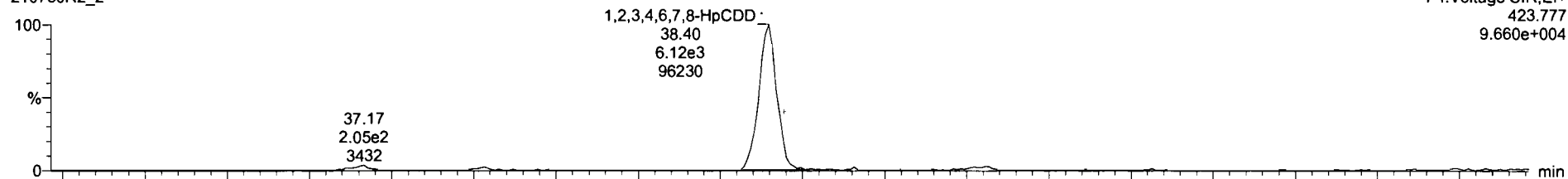
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Printed: Monday, August 02, 2021 09:58:15 Pacific Daylight Time

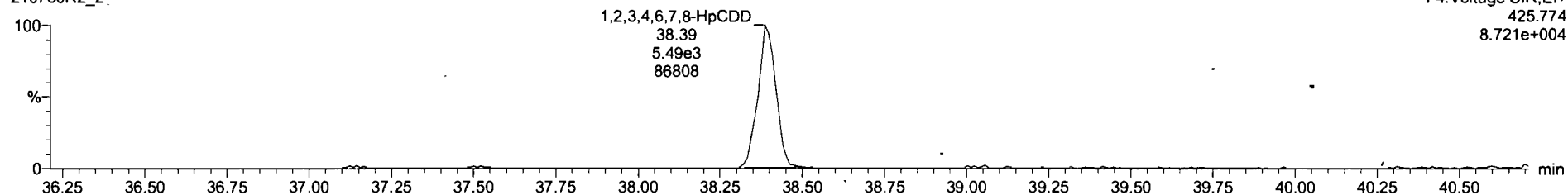
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1,2,3,4,6,7,8-HpCDD

210730R2\_2

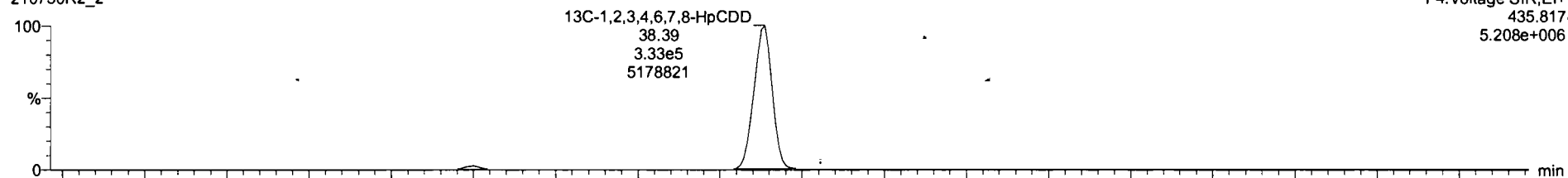


210730R2\_2

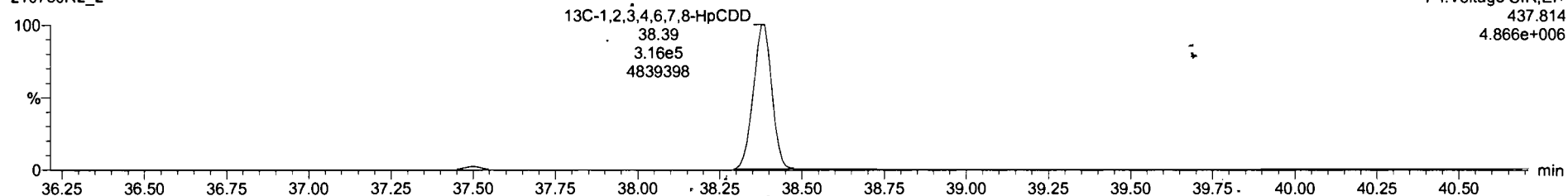


13C-1,2,3,4,6,7,8-HpCDD

210730R2\_2



210730R2\_2



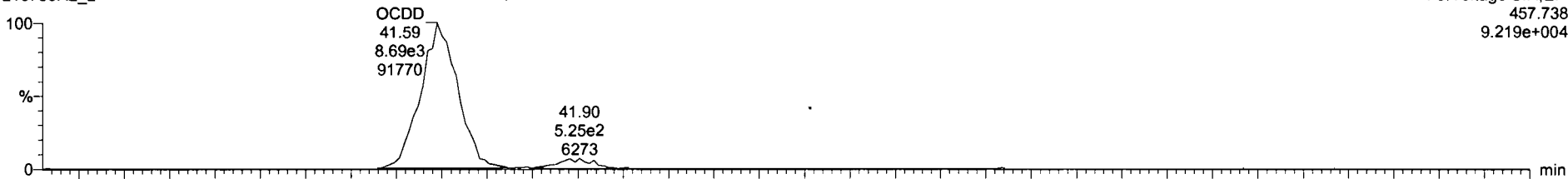
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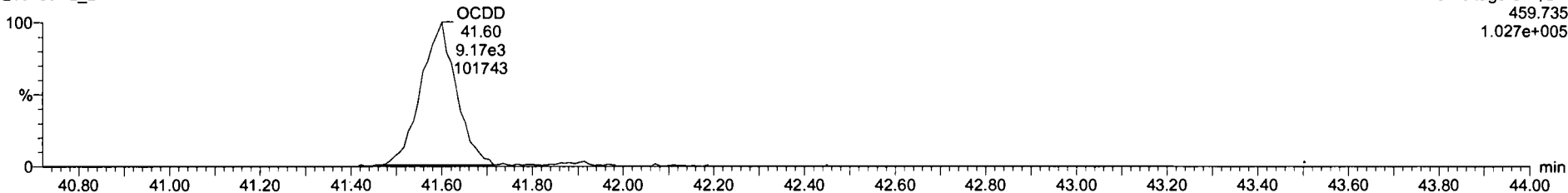
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**OCDD**

210730R2\_2

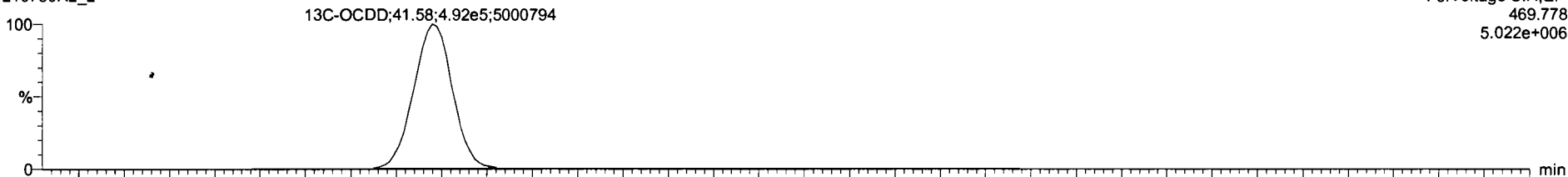


210730R2\_2

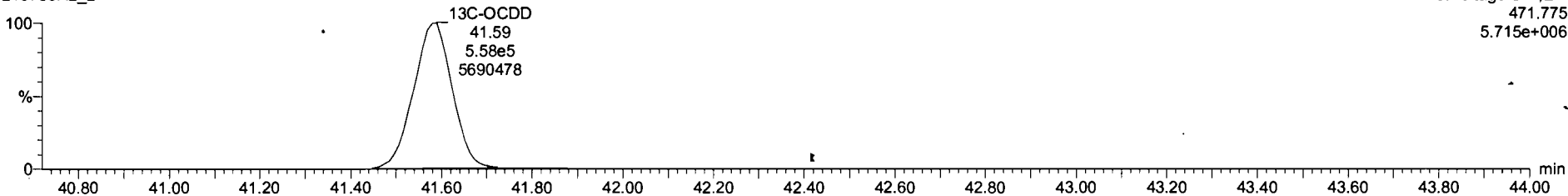


**13C-OCDD**

210730R2\_2



210730R2\_2



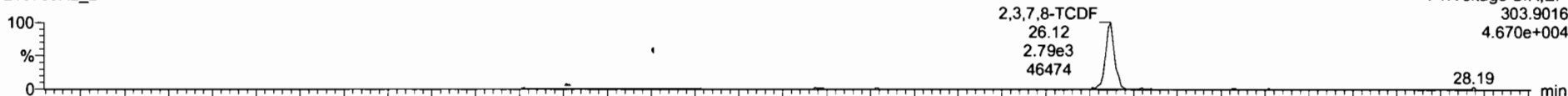
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Printed: Monday, August 02, 2021 09:58:15 Pacific Daylight Time

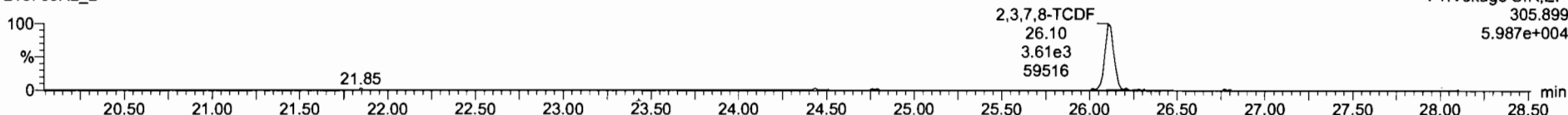
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**2,3,7,8-TCDF**

210730R2\_2

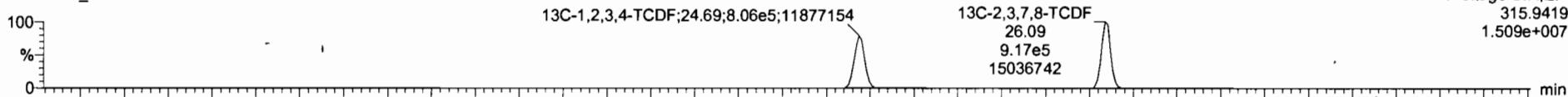


210730R2\_2

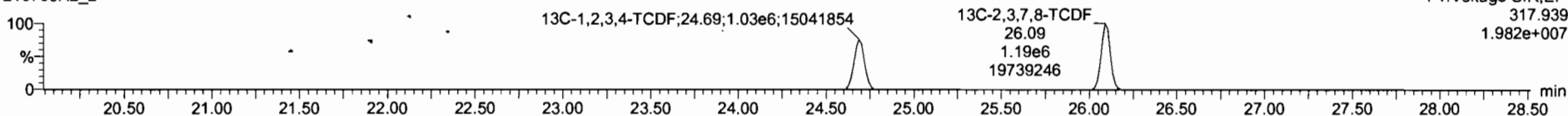


**13C-2,3,7,8-TCDF**

210730R2\_2

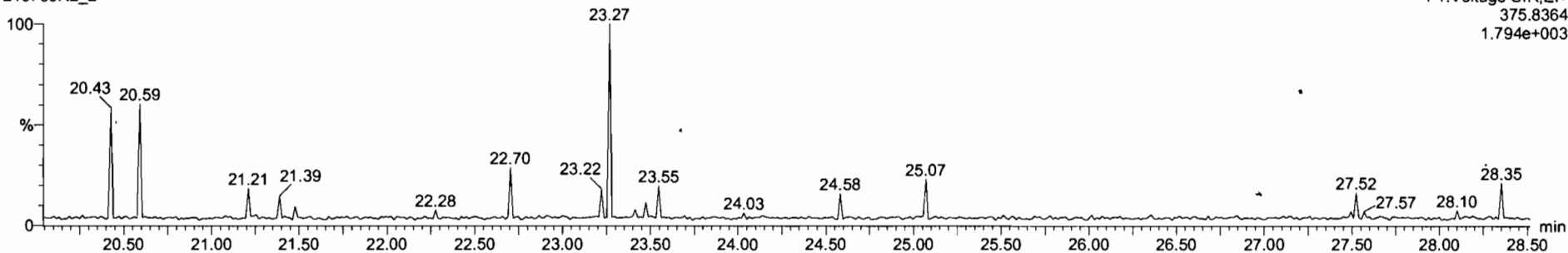


210730R2\_2



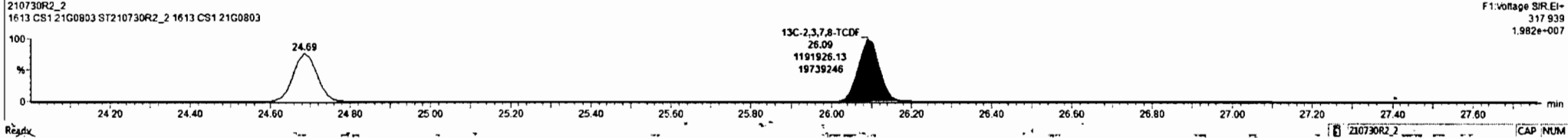
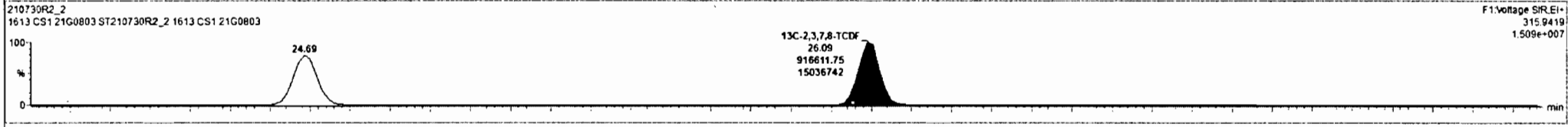
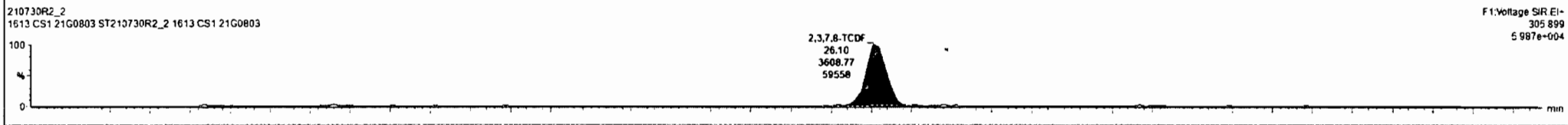
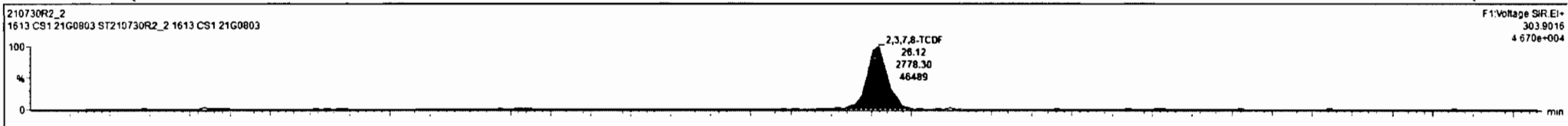
**DPE1**

210730R2\_2



210730R2\_2 - ST210730R2\_2 1613 CS1 21G0803 - 1613 CS1 21G0803

#	Name	RT	RA	Y/N	Area	IS Area	Std. Conc	%Dev	%RSD	RRF M	RRF SD
1	2,3,7,8-TCDD	26.74	0.749	NO	6.1327e3	1.5079e6	0.500	-14.6	15.5	0.952	0.148
2	1,2,3,7,8-PeCDD	31.17	0.635	NO	2.0781e4	1.2134e6	2.500	-12.3	12.4	0.781	0.0967
3	1,2,3,4,7,8-HxCDD	34.54	1.219	NO	1.5115e4	7.9682e5	2.500	-16.0	15.7	0.904	0.142
4	1,2,3,6,7,8-HxCDD	34.67	1.246	NO	1.4755e4	8.6930e5	2.500	-15.7	15.8	0.808	0.128
5	1,2,3,7,8,9-HxCDD	34.96	1.227	NO	1.6048e4	9.0838e5	2.500	-13.2	14.5	0.814	0.118
6	1,2,3,4,6,7,8-HpCDD	38.40	1.116	NO	1.1609e4	6.4941e5	2.500	-14.5	14.2	0.836	0.119
7	OCDD	41.59	0.948	NO	1.7860e4	1.0501e6	5.000	-14.8	14.6	0.798	0.117
8	2,3,7,8-TCDF	26.12	0.770	NO	6.3871e3	2.1065e6	0.500	-15.9	14.8	0.720	0.106
9	1,2,3,7,8-PeCDF	29.96	1.645	NO	2.9696e4	1.6659e6	2.500	-12.3	13.0	0.813	0.106
10	1,2,3,4,7,8-PeCDF	30.97	1.590	NO	3.2889e4	1.6398e6	2.500	-10.1	12.6	0.892	0.114
11	1,2,3,4,7,8-HxCDF	33.60	1.244	NO	1.9287e4	1.0224e6	2.500	-15.5	15.5	0.892	0.139
12	1,2,3,6,7,8-HxCDF	33.72	1.198	NO	1.9187e4	1.0649e6	2.500	-16.9	15.4	0.867	0.133
13	1,2,3,4,6,7,8-HxCDF	34.42	1.270	NO	1.7574e4	9.3984e5	2.500	-16.5	16.0	0.896	0.144
14	1,2,3,7,8,9-HxCDF	35.51	1.233	NO	1.6084e4	8.8811e5	2.500	-17.2	15.1	0.874	0.132
15	1,2,3,4,6,7,8-HpCDF	37.17	0.957	NO	1.3242e4	6.4161e5	2.500	-16.3	16.0	0.966	0.158
16	1,2,3,4,7,8,9-HpCDF	39.05	1.098	NO	1.0840e4	5.4520e5	2.500	-17.6	17.4	0.966	0.166
17	OCDF	41.91	0.870	NO	1.7655e4	1.1926e6	5.000	-16.0	16.3	0.722	0.116

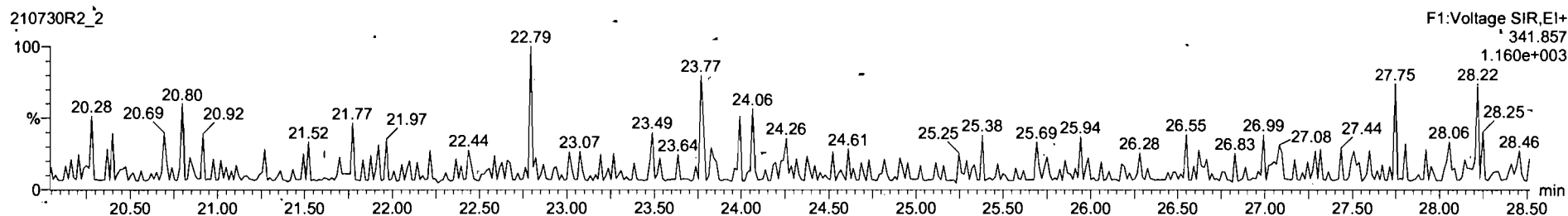
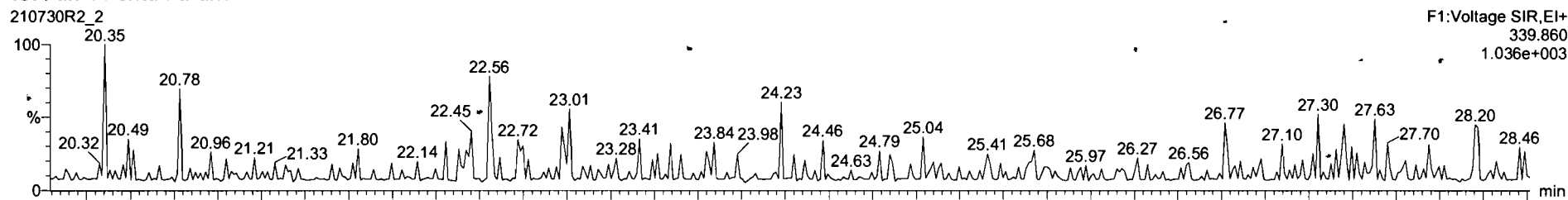


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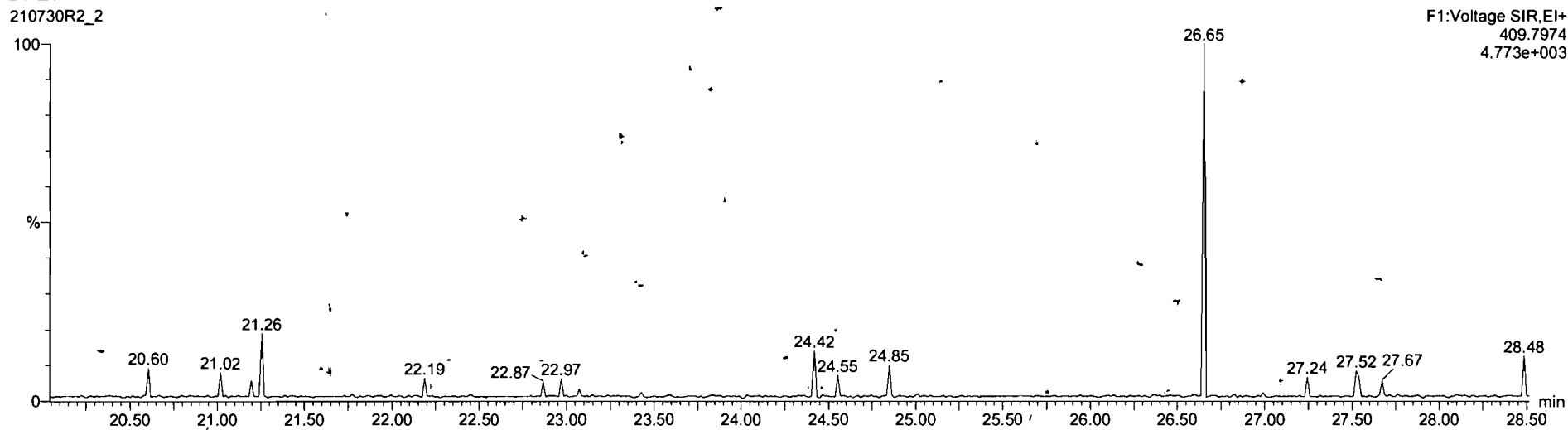
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Printed: Monday, August 02, 2021 09:58:15 Pacific Daylight Time

Name: 210730R2\_2, Date: 30-Jul-2021, Time: 19:00:19, ID: ST210730R2\_2 1613 CS1 21G0803, Description: 1613 CS1 21G0803

1st Func. Penta-Furans



DPE6





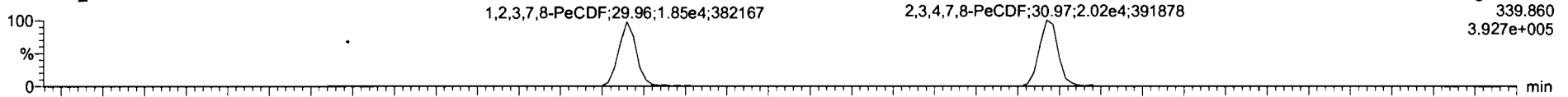
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Printed: Monday, August 02, 2021 09:58:15 Pacific Daylight Time

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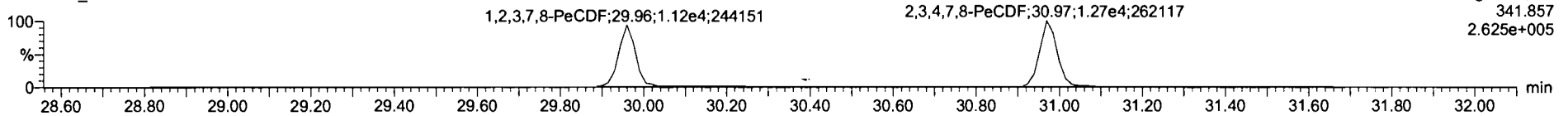
**1,2,3,7,8-PeCDF**

210730R2\_2



F2:Voltage SIR,EI+  
339.860  
3.927e+005

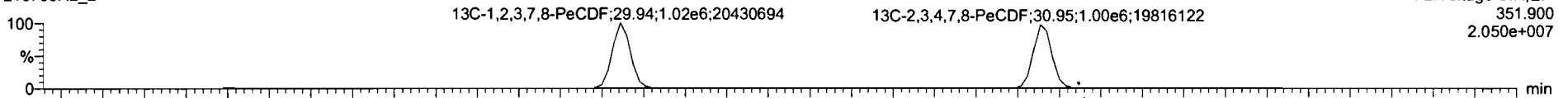
210730R2\_2



F2:Voltage SIR,EI+  
341.857  
2.625e+005

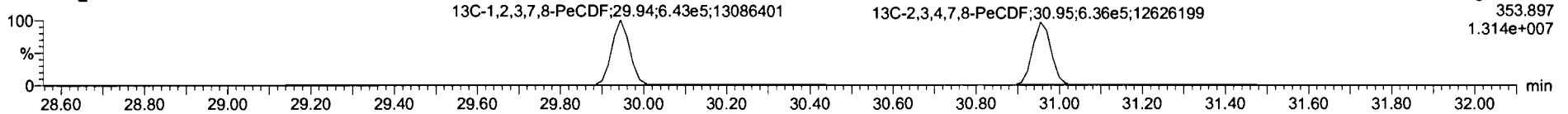
**13C-1,2,3,7,8-PeCDF**

210730R2\_2



F2:Voltage SIR,EI+  
351.900  
2.050e+007

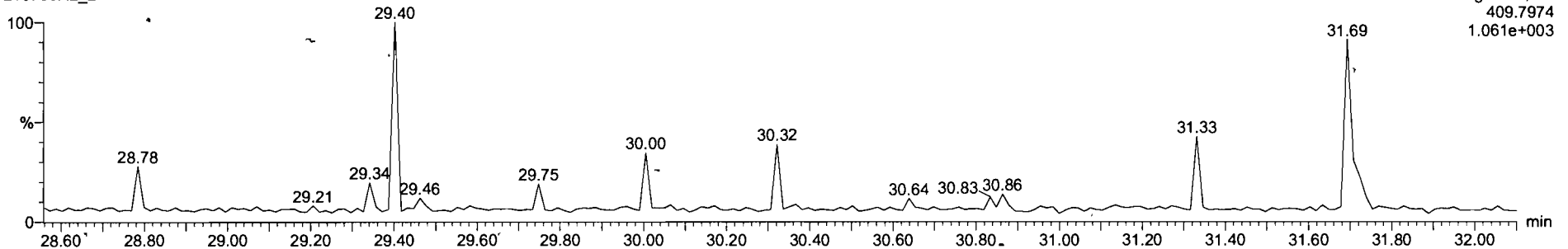
210730R2\_2



F2:Voltage SIR,EI+  
353.897  
1.314e+007

**DPE2**

210730R2\_2



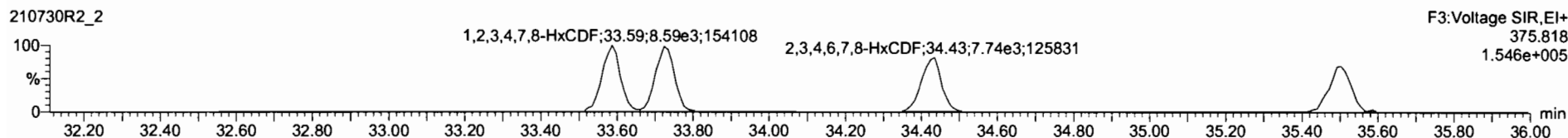
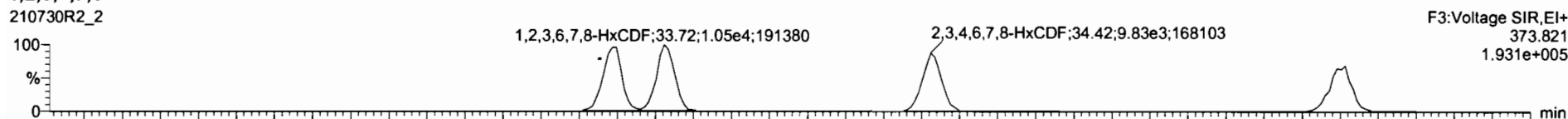
F2:Voltage SIR,EI+  
409.7974  
1.061e+003

Dataset: Untitled

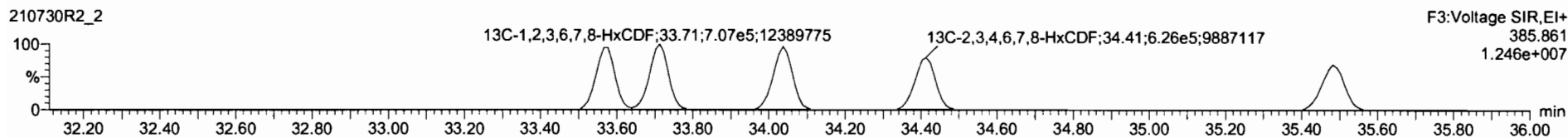
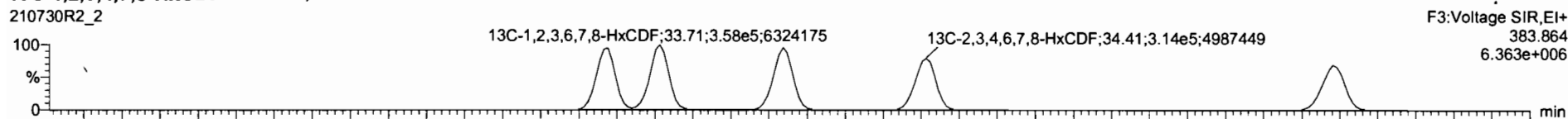
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Printed: Monday, August 02, 2021 09:58:15 Pacific Daylight Time

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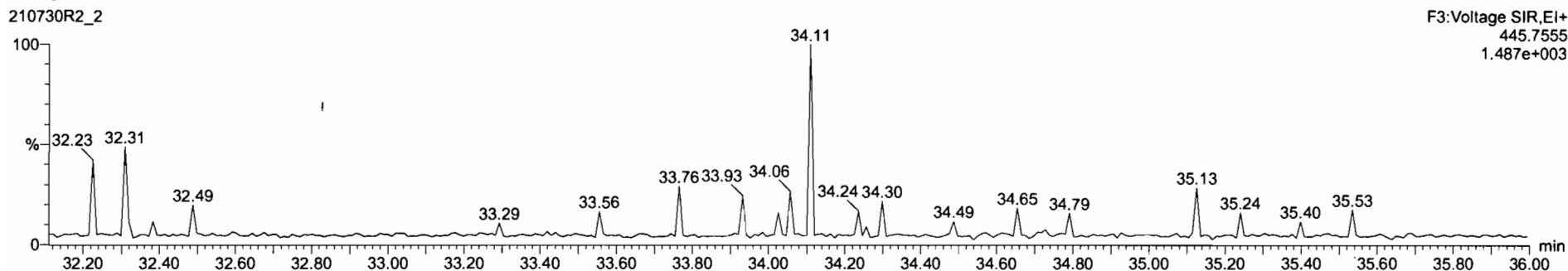
**1,2,3,4,7,8-HxCDF**



**13C-1,2,3,4,7,8-HxCDF**



**DPE3**



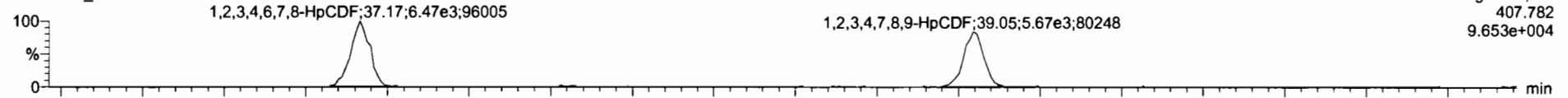
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Printed: Monday, August 02, 2021 09:58:15 Pacific Daylight Time

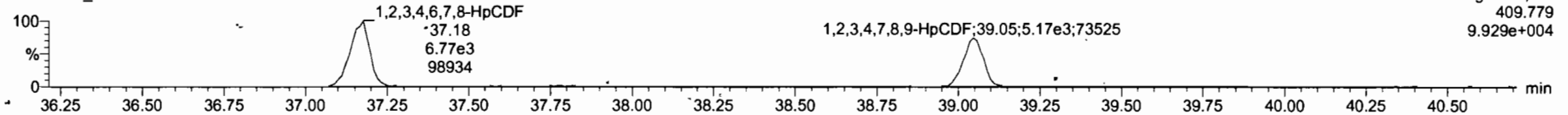
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1,2,3,4,6,7,8-HpCDF

210730R2\_2

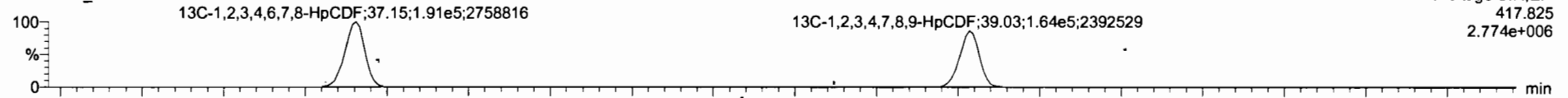


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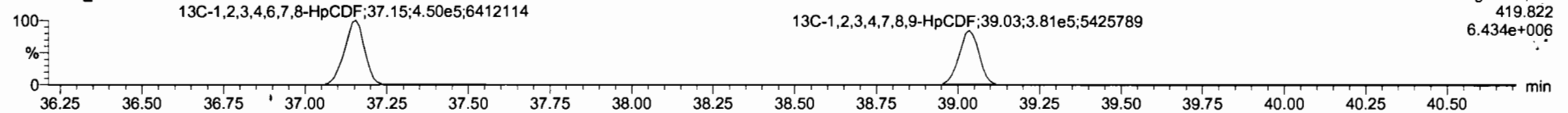


13C-1,2,3,4,6,7,8-HpCDF

210730R2\_2

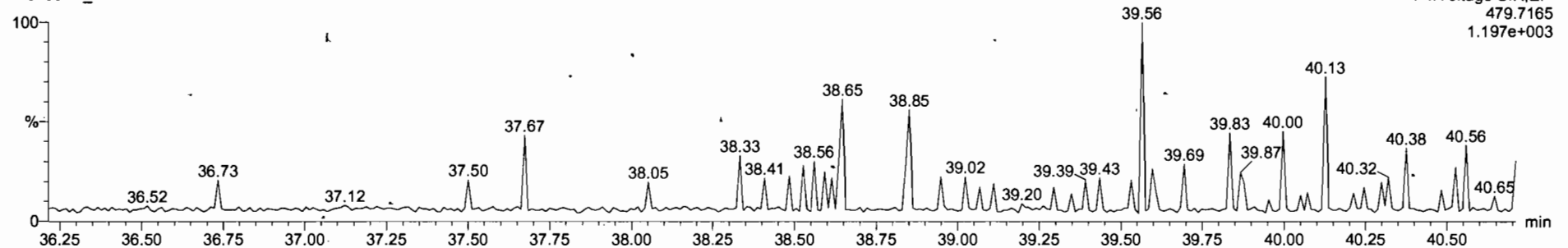


210730R2\_2



DPE4

210730R2\_2



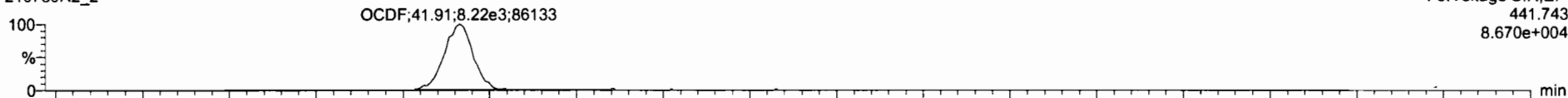
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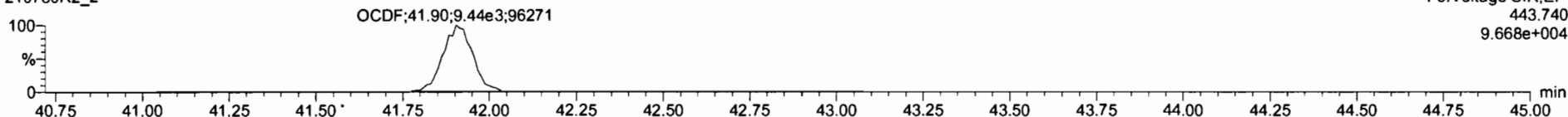
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**OCDF**

210730R2\_2

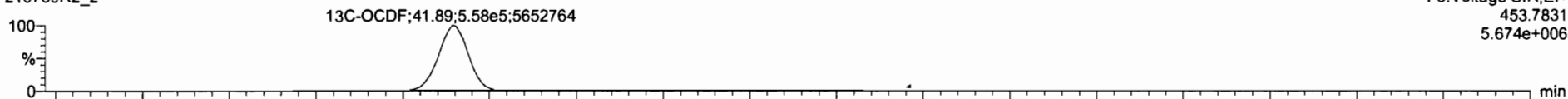


210730R2\_2

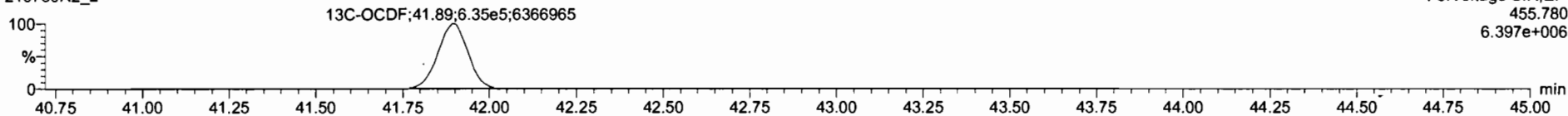


**13C-OCDF**

210730R2\_2

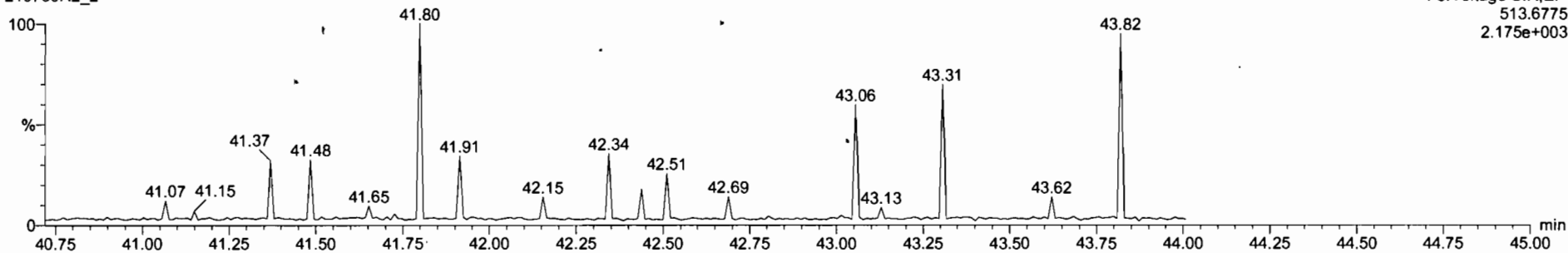


210730R2\_2



**DPE5**

210730R2\_2

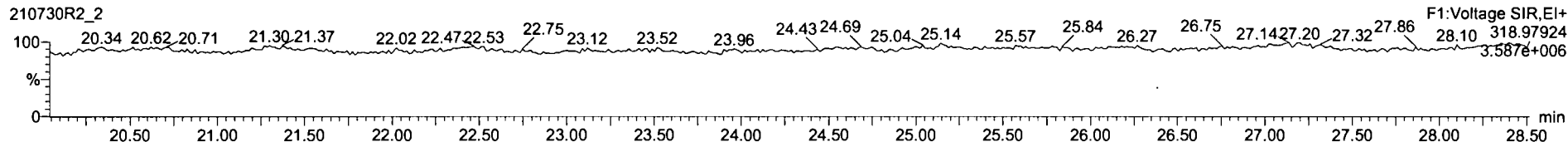


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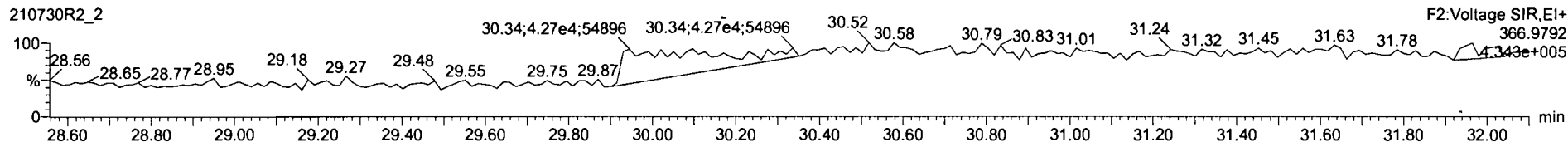
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Printed: Monday, August 02, 2021 09:58:15 Pacific Daylight Time

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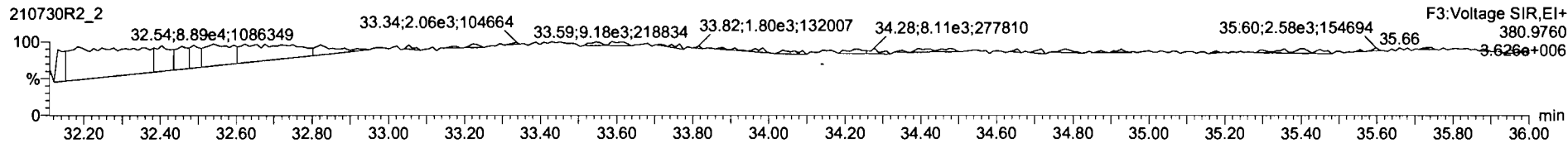
PFK1



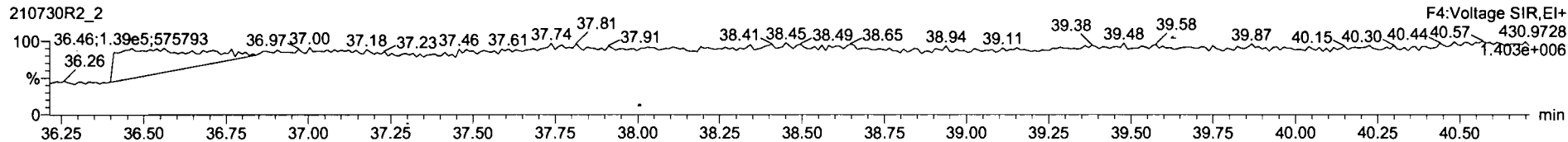
PFK2



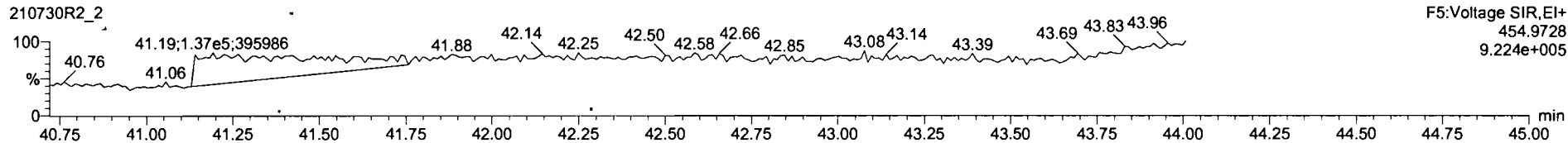
PFK3



PFK4



PFK5



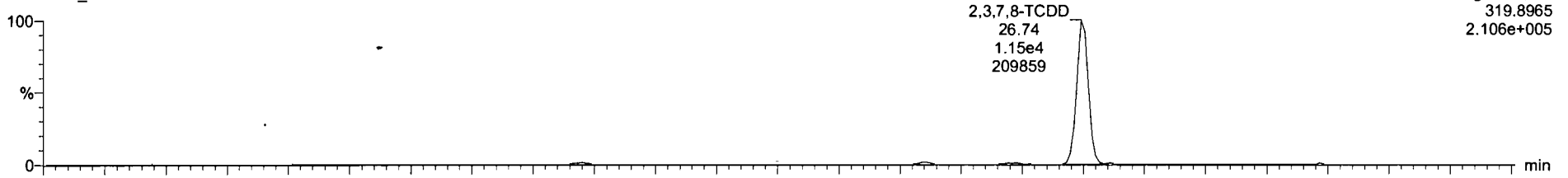
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Last Altered: Monday, August 02, 2021 09:57:32 Pacific Daylight Time  
Printed: Monday, August 02, 2021 09:58:15 Pacific Daylight Time

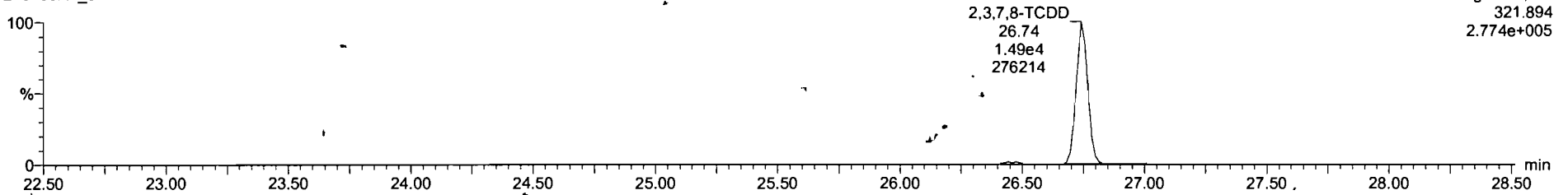
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**2,3,7,8-TCDD**

210730R2\_3

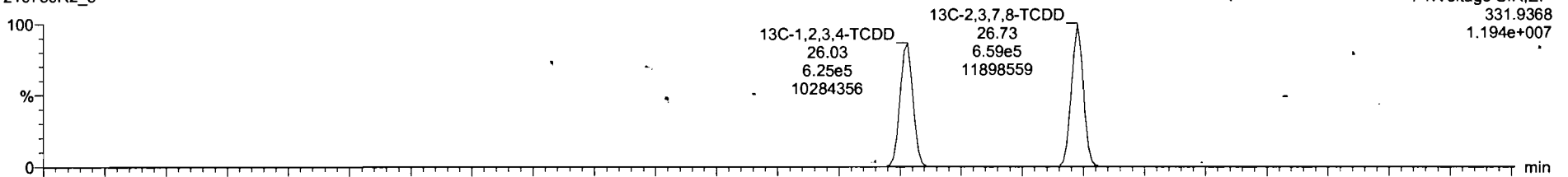


210730R2\_3

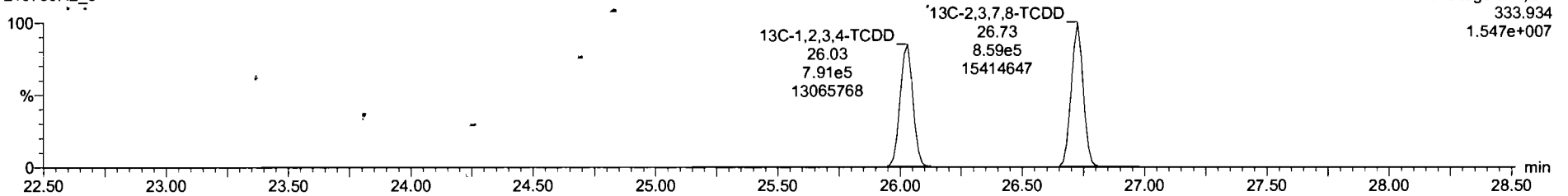


**13C-2,3,7,8-TCDD**

210730R2\_3



210730R2\_3



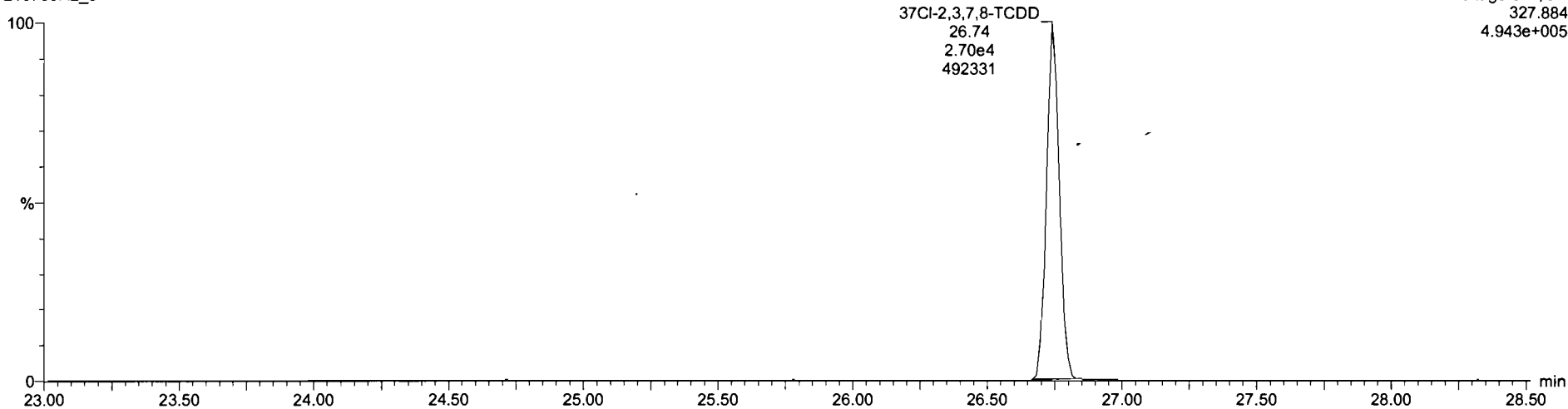
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Printed: Monday, August 02, 2021 09:58:15 Pacific Daylight Time

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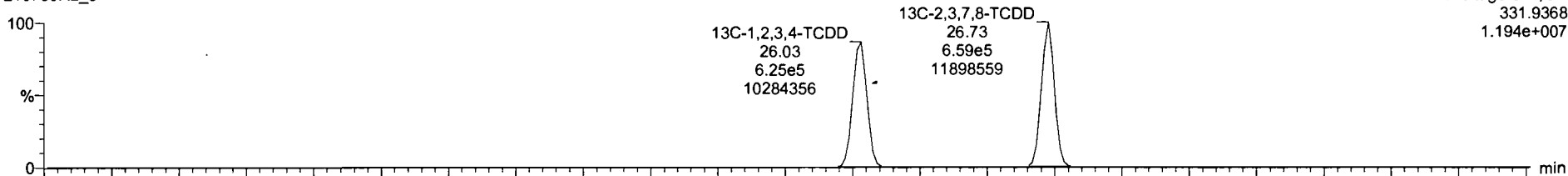
37Cl-2,3,7,8-TCDD

210730R2\_3

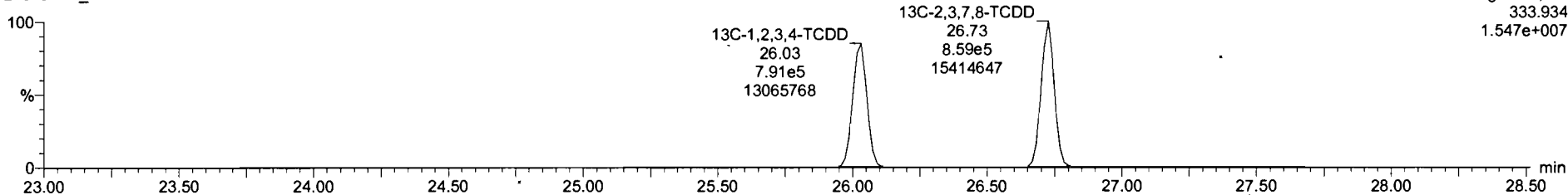


13C-1,2,3,4-TCDD

210730R2\_3



210730R2\_3





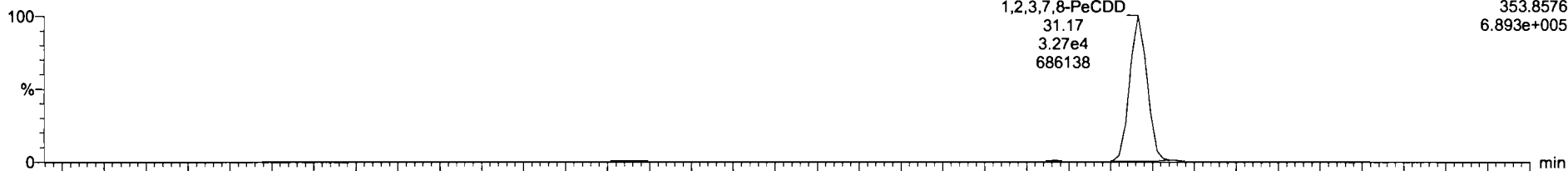
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Last Altered: Monday, August 02, 2021 09:57:32 Pacific Daylight Time  
Printed: Monday, August 02, 2021 09:58:15 Pacific Daylight Time

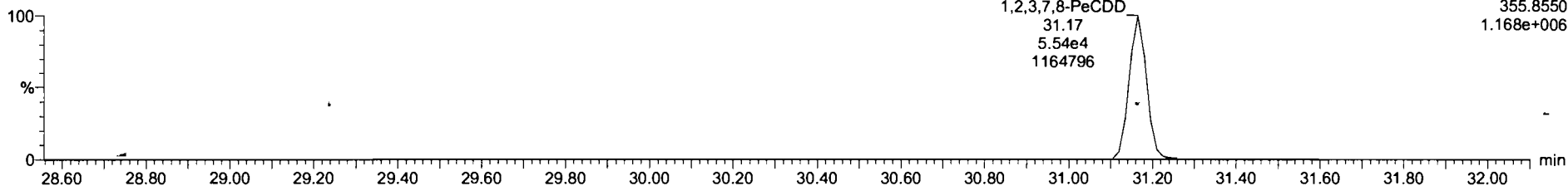
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**1,2,3,7,8-PeCDD**

210730R2\_3

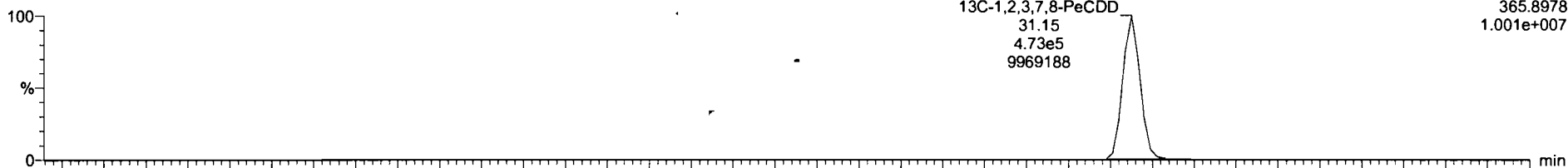


210730R2\_3

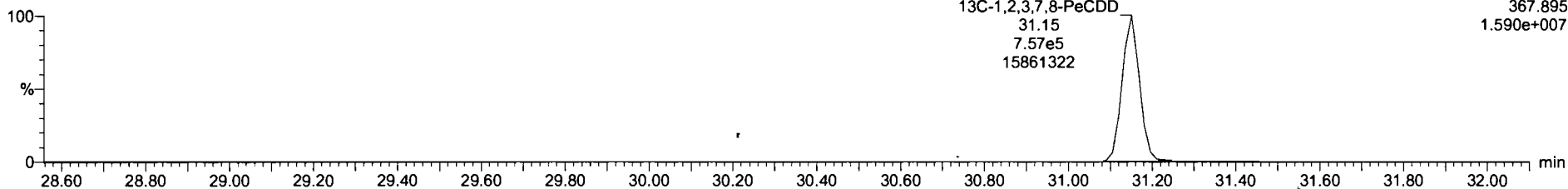


**13C-1,2,3,7,8-PeCDD**

210730R2\_3



210730R2\_3



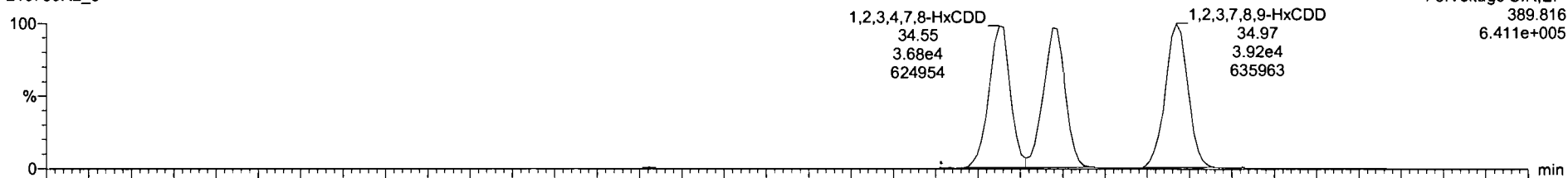
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Printed: Monday, August 02, 2021 09:58:15 Pacific Daylight Time

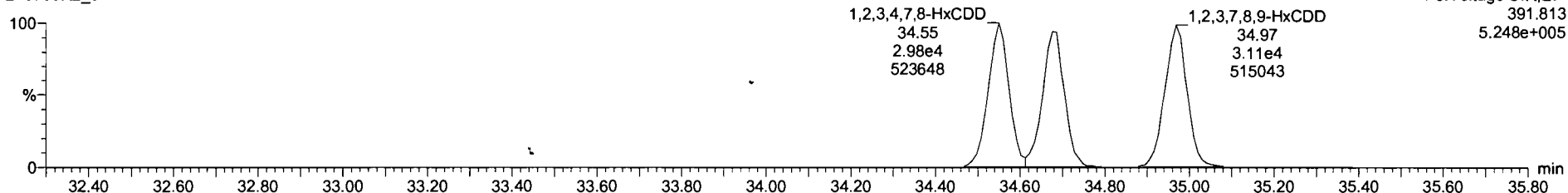
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**1,2,3,4,7,8-HxCDD**

210730R2\_3

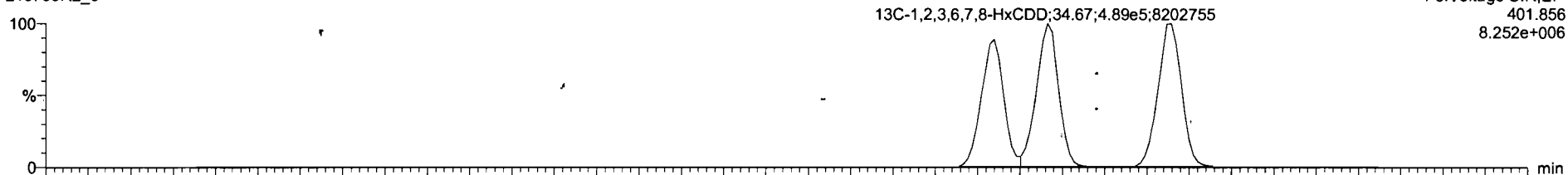


210730R2\_3

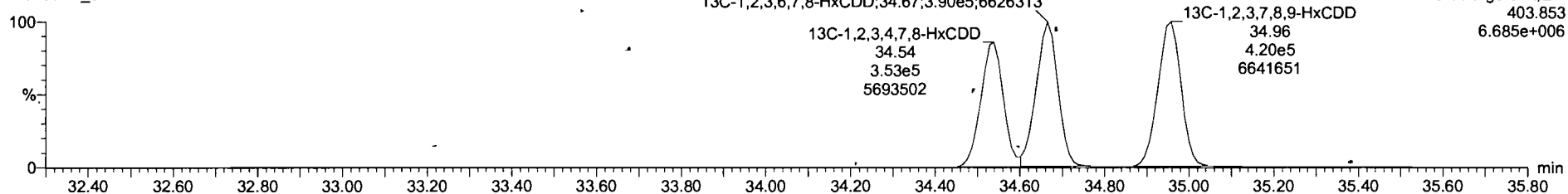


**13C-1,2,3,4,7,8-HxCDD**

210730R2\_3



210730R2\_3



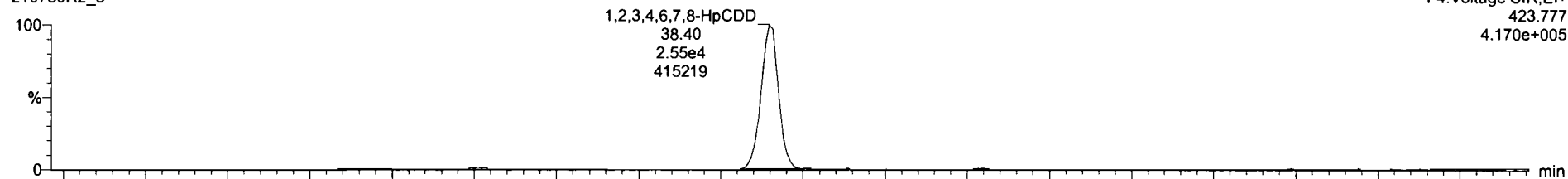
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Last Altered: Monday, August 02, 2021 09:57:32 Pacific Daylight Time  
Printed: Monday, August 02, 2021 09:58:15 Pacific Daylight Time

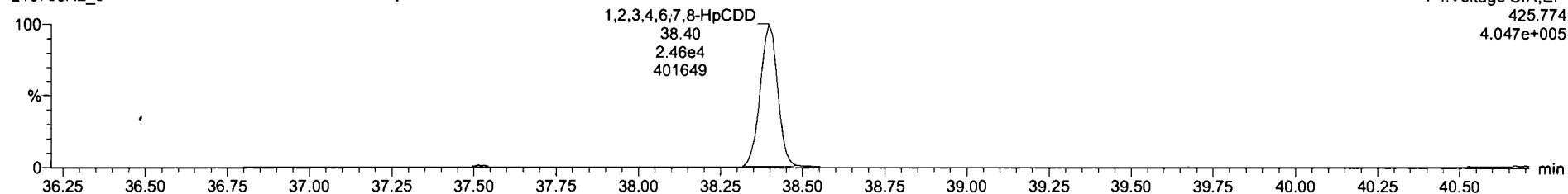
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**1,2,3,4,6,7,8-HpCDD**

210730R2\_3

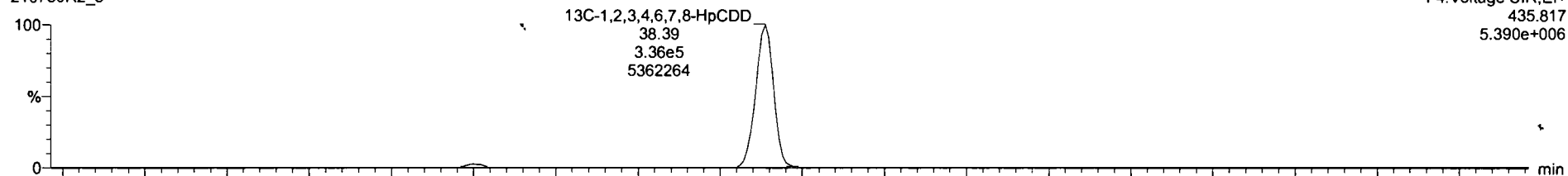


210730R2\_3

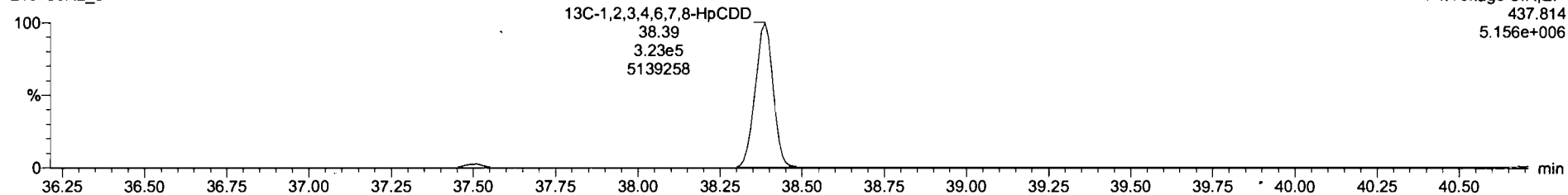


**<sup>13</sup>C-1,2,3,4,6,7,8-HpCDD**

210730R2\_3



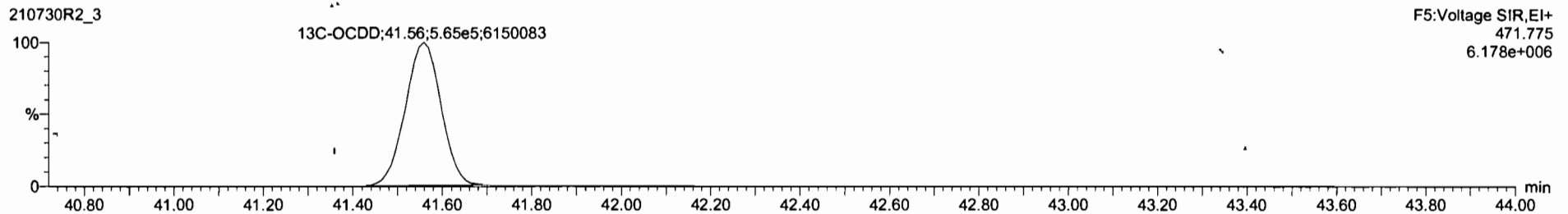
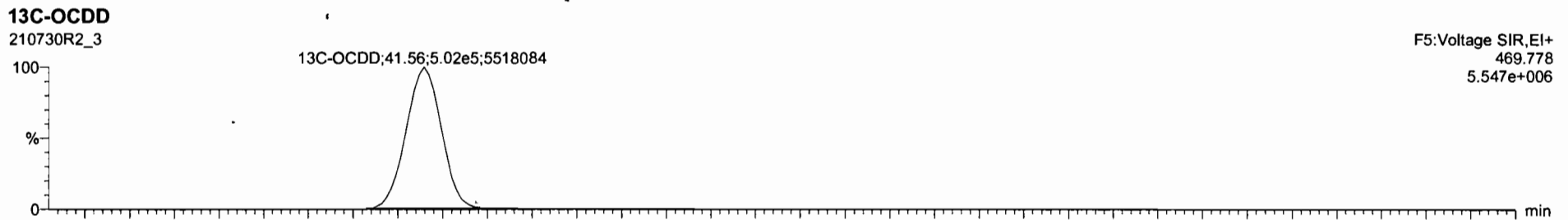
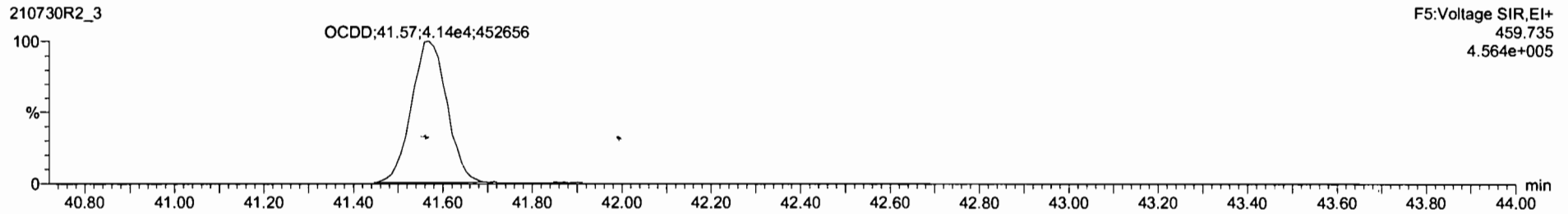
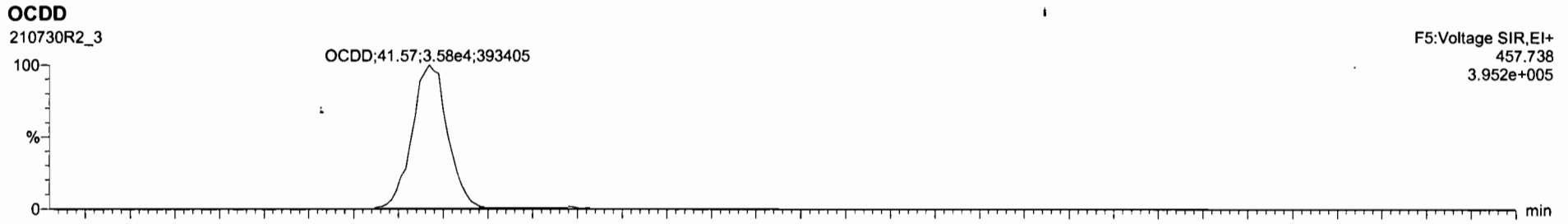
210730R2\_3



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Last Altered: Monday, August 02, 2021 09:57:32 Pacific Daylight Time  
Printed: Monday, August 02, 2021 09:58:15 Pacific Daylight Time

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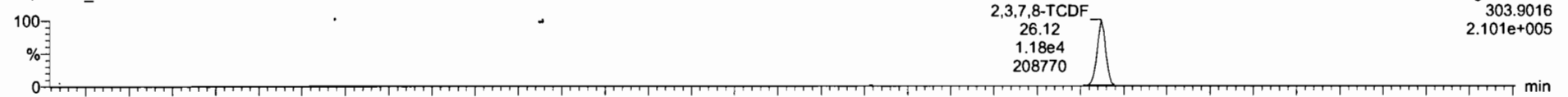
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Printed: Monday, August 02, 2021 09:58:15 Pacific Daylight Time

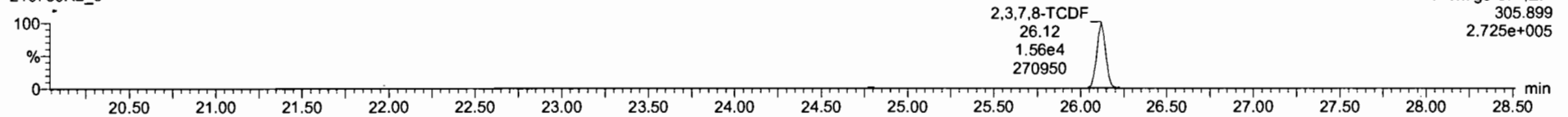
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**2,3,7,8-TCDF**

210730R2\_3

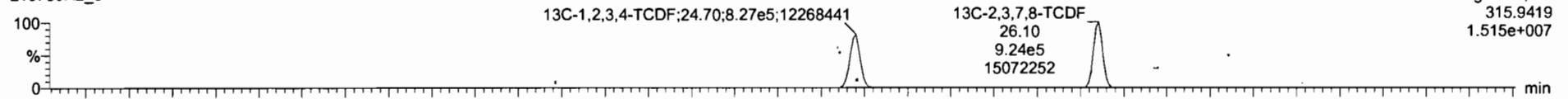


210730R2\_3

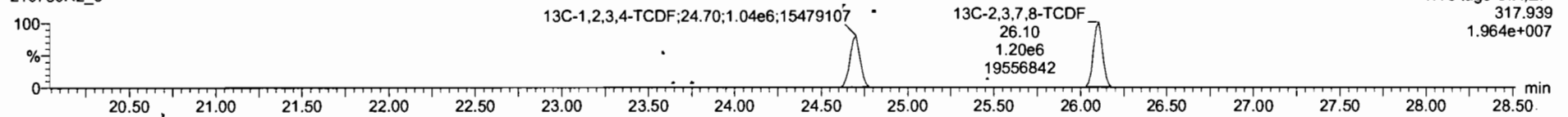


**13C-2,3,7,8-TCDF**

210730R2\_3

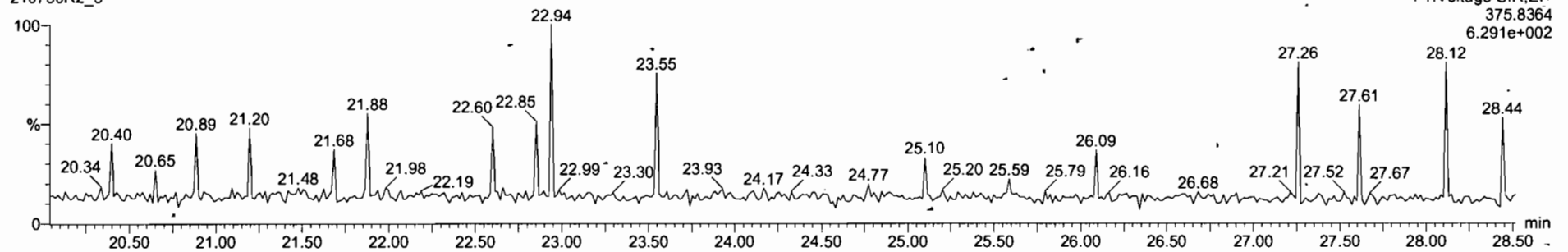


210730R2\_3



**DPE1**

210730R2\_3



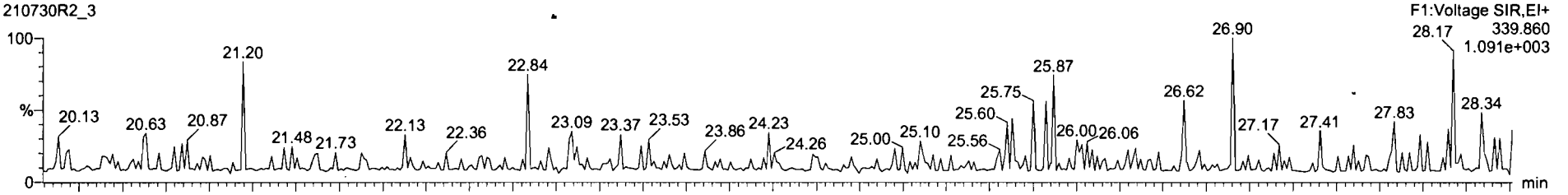
Dataset: Untitled

Last Altered: Monday, August 02, 2021 09:57:32 Pacific Daylight Time  
Printed: Monday, August 02, 2021 09:58:15 Pacific Daylight Time

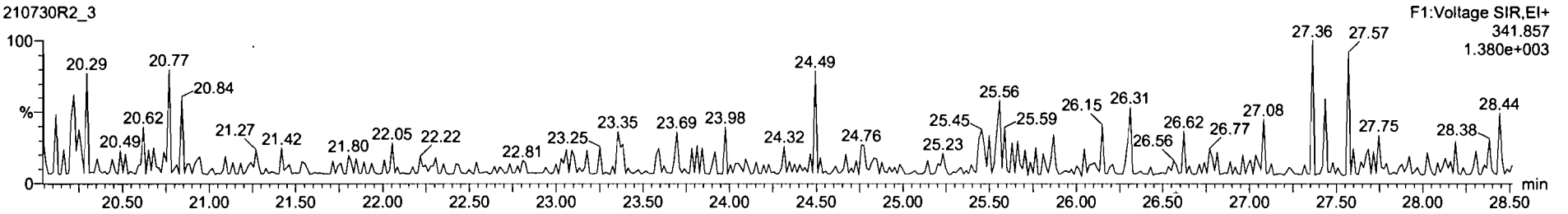
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1st Func. Penta-Furans

210730R2\_3

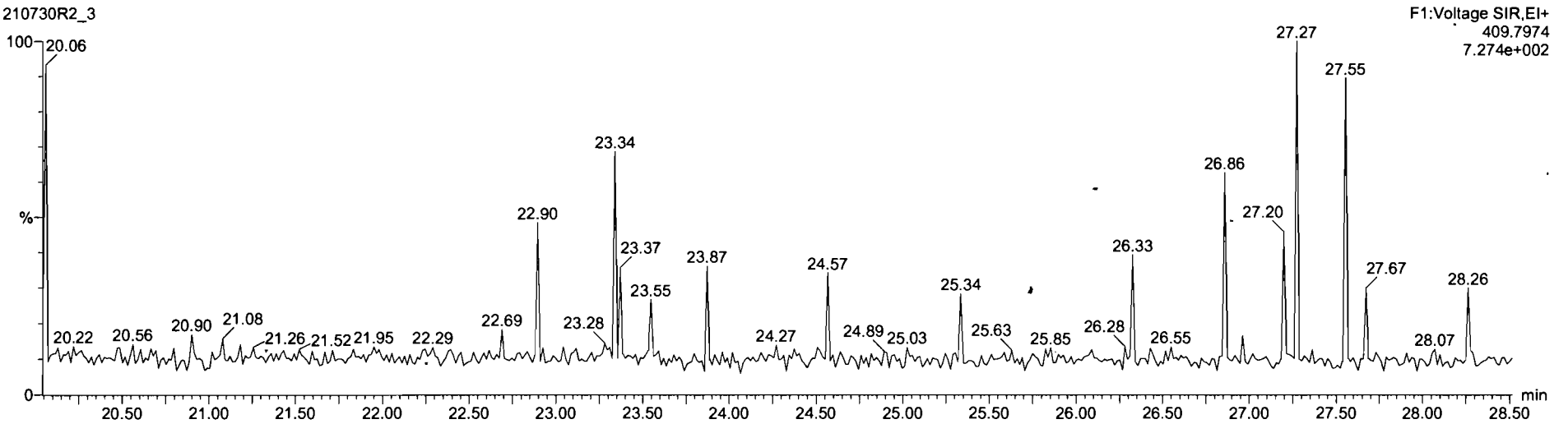


210730R2\_3



DPE6

210730R2\_3



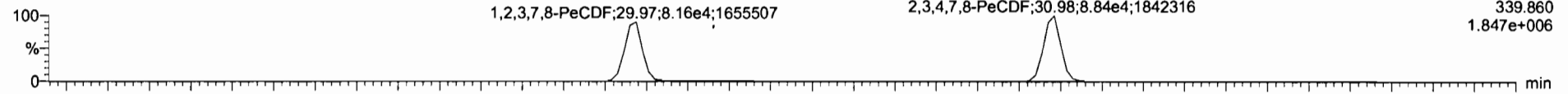
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Last Altered: Monday, August 02, 2021 09:57:32 Pacific Daylight Time  
Printed: Monday, August 02, 2021 09:58:15 Pacific Daylight Time

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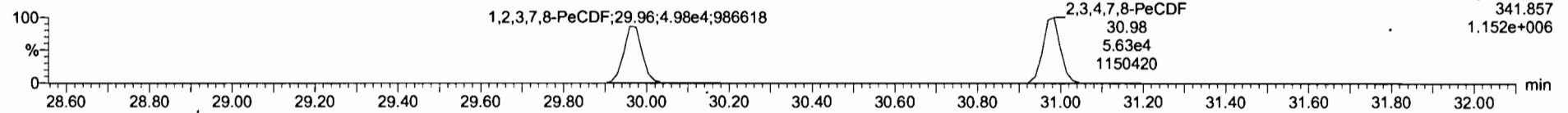
**1,2,3,7,8-PeCDF**

210730R2\_3



F2:Voltage SIR,EI+  
339.860  
1.847e+006

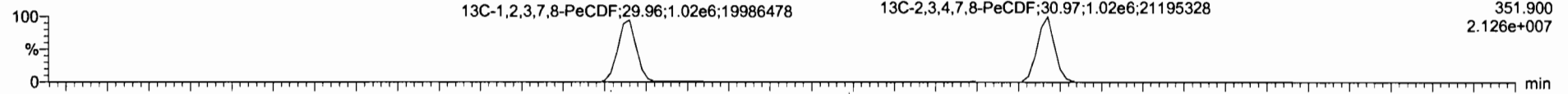
210730R2\_3



F2:Voltage SIR,EI+  
341.857  
1.152e+006

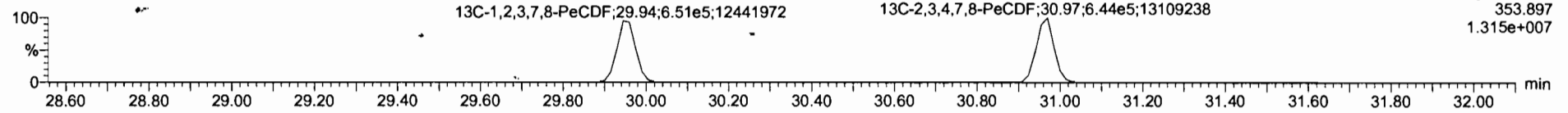
**13C-1,2,3,7,8-PeCDF**

210730R2\_3



F2:Voltage SIR,EI+  
351.900  
2.126e+007

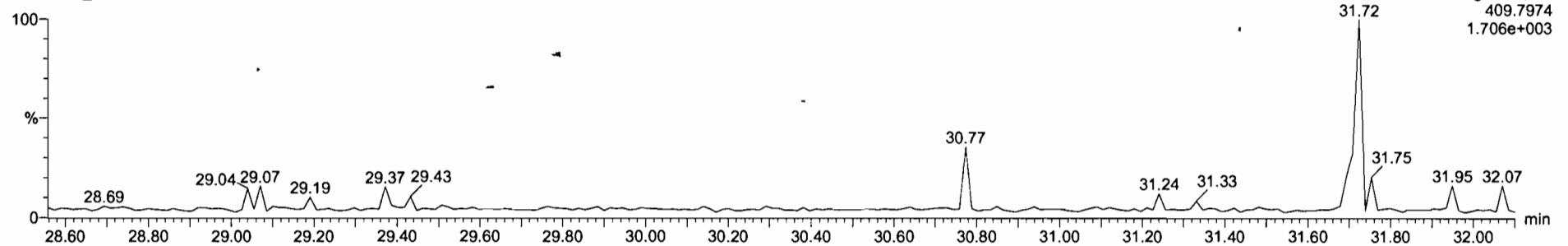
210730R2\_3



F2:Voltage SIR,EI+  
353.897  
1.315e+007

**DPE2**

210730R2\_3



F2:Voltage SIR,EI+  
409.7974  
1.706e+003

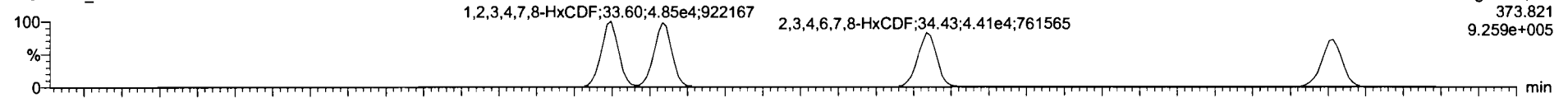
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Last Altered: Monday, August 02, 2021 09:57:32 Pacific Daylight Time  
Printed: Monday, August 02, 2021 09:58:15 Pacific Daylight Time

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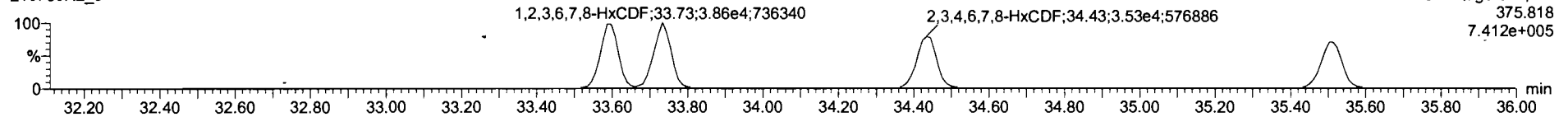
**1,2,3,4,7,8-HxCDF**

210730R2\_3



F3:Voltage SIR,EI+  
373.821  
9.259e+005

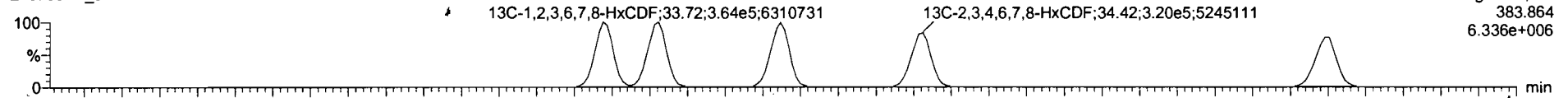
210730R2\_3



F3:Voltage SIR,EI+  
375.818  
7.412e+005

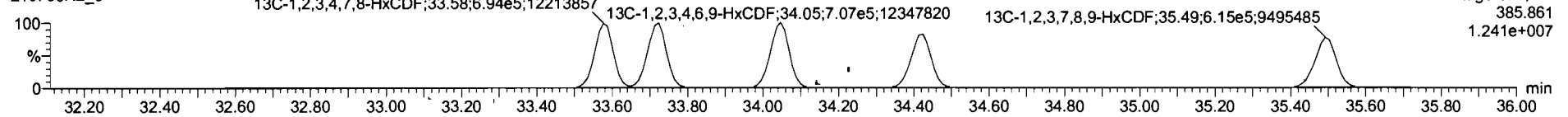
**13C-1,2,3,4,7,8-HxCDF**

210730R2\_3



F3:Voltage SIR,EI+  
383.864  
6.336e+006

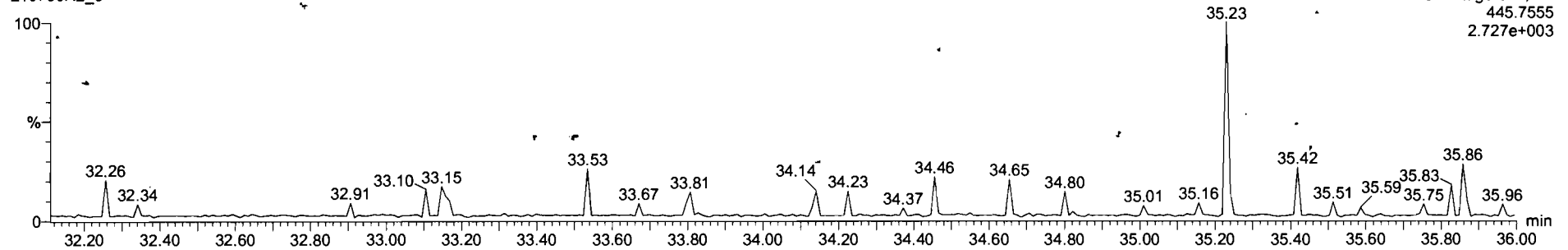
210730R2\_3



F3:Voltage SIR,EI+  
385.861  
1.241e+007

**DPE3**

210730R2\_3



F3:Voltage SIR,EI+  
445.7555  
2.727e+003

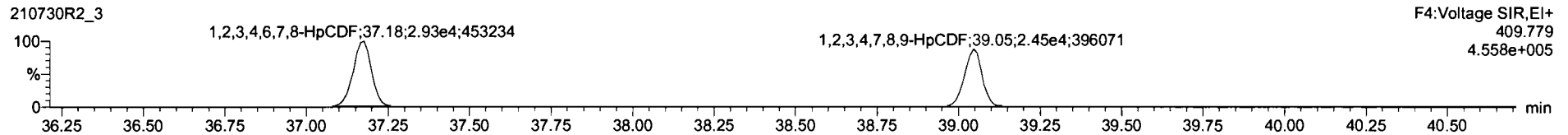
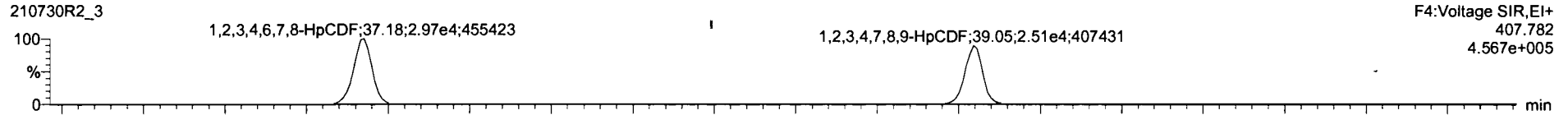


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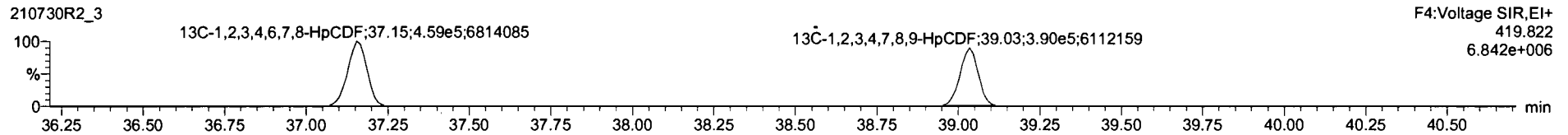
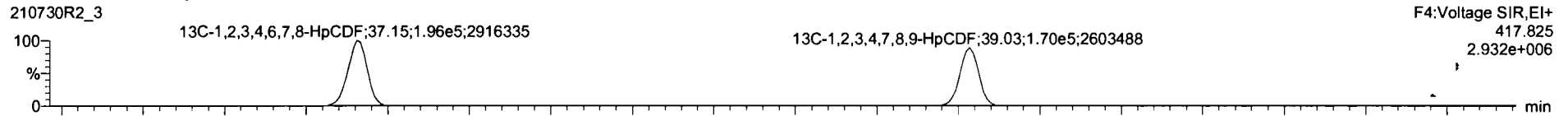
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Printed: Monday, August 02, 2021 09:58:15 Pacific Daylight Time

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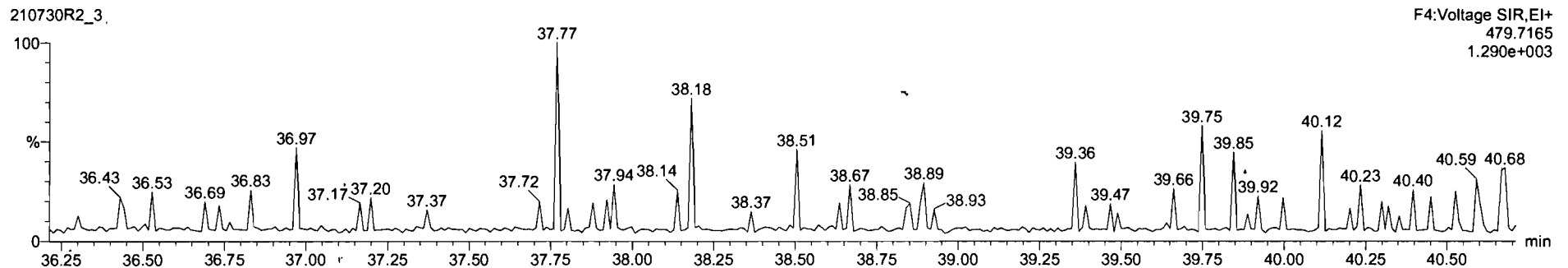
1,2,3,4,6,7,8-HpCDF



13C-1,2,3,4,6,7,8-HpCDF



DPE4



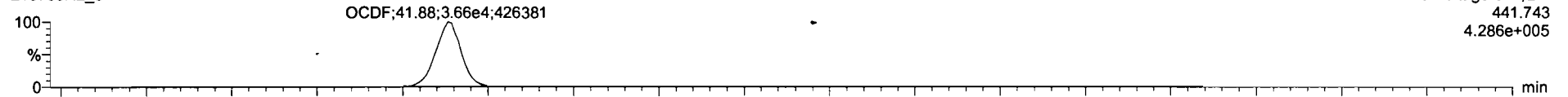
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Last Altered: Monday, August 02, 2021 09:57:32 Pacific Daylight Time  
Printed: Monday, August 02, 2021 09:58:15 Pacific Daylight Time

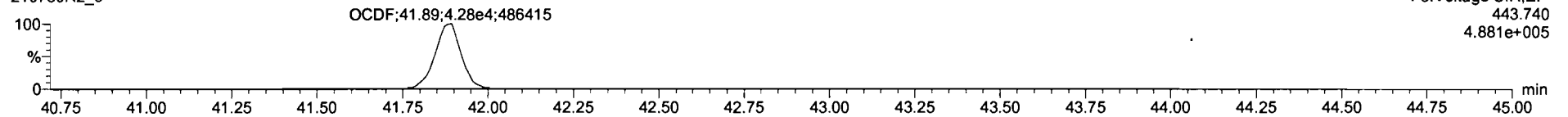
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**OCDF**

210730R2\_3

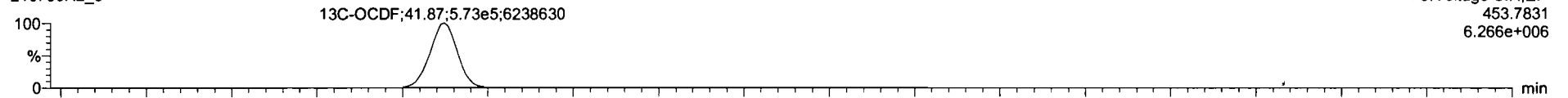


210730R2\_3

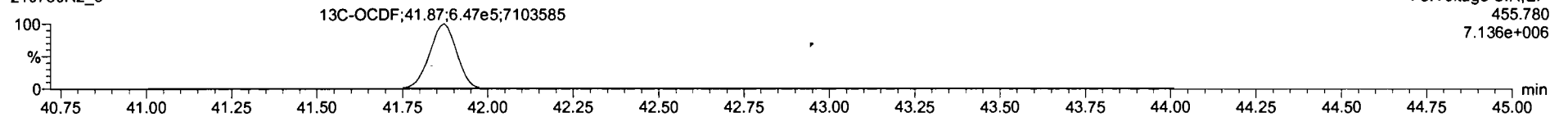


**13C-OCDF**

210730R2\_3

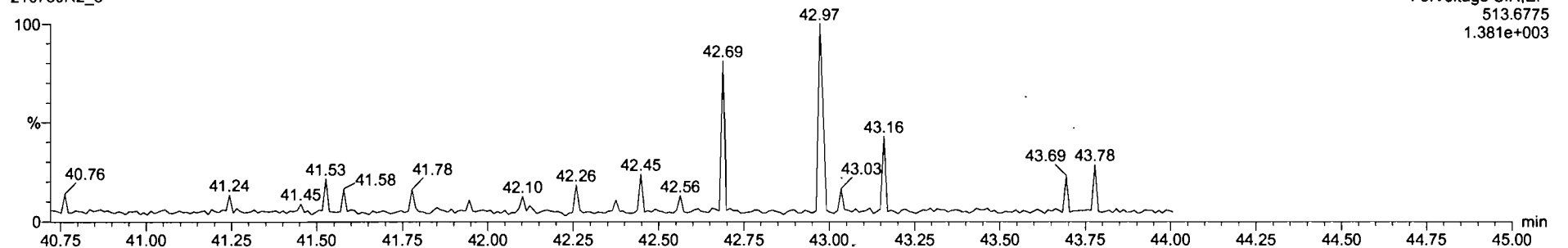


210730R2\_3



**DPE5**

210730R2\_3

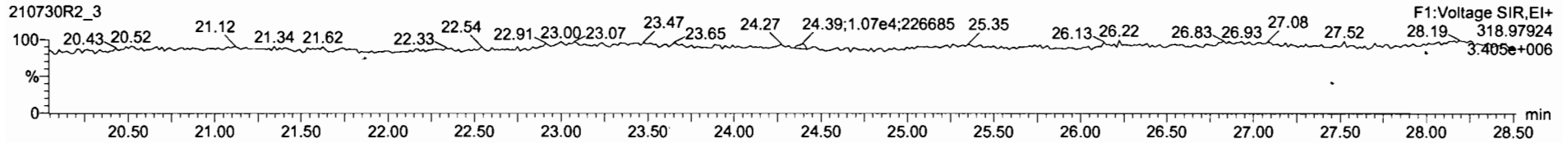


Dataset: Untitled

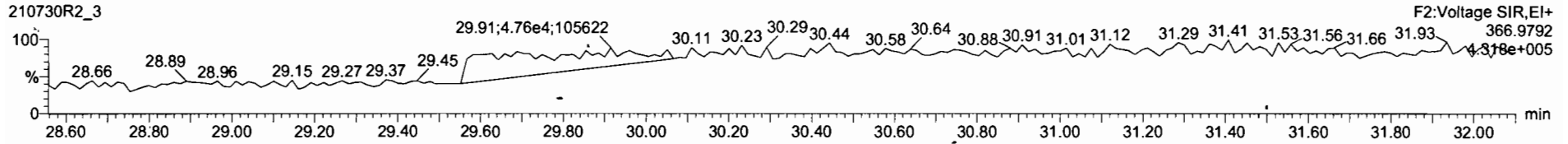
Last Altered: Monday, August 02, 2021 09:57:32 Pacific Daylight Time  
Printed: Monday, August 02, 2021 09:58:15 Pacific Daylight Time

Name: 210730R2\_3, Date: 30-Jul-2021, Time: 19:45:50, ID: ST210730R2\_3 1613 CS2 21G0804, Description: 1613 CS2 21G0804

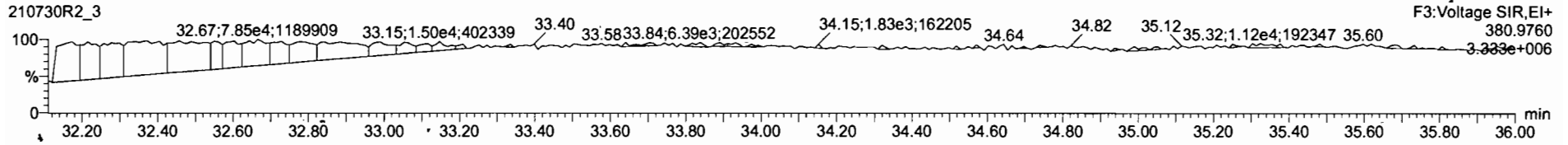
PFK1



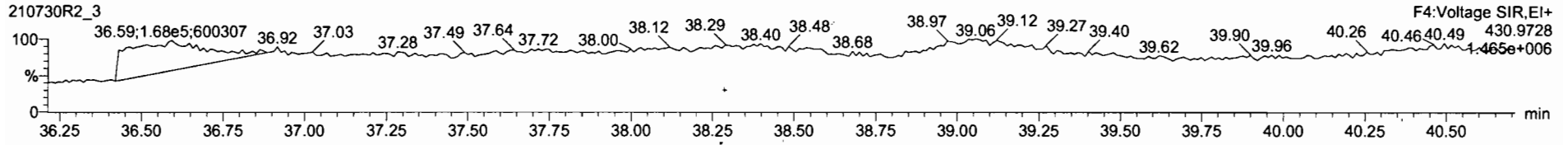
PFK2



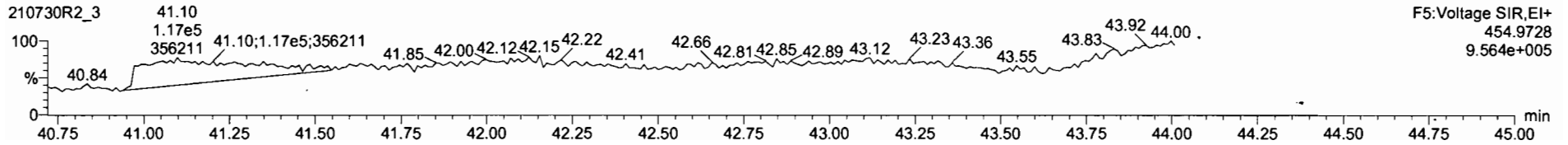
PFK3



PFK4



PFK5



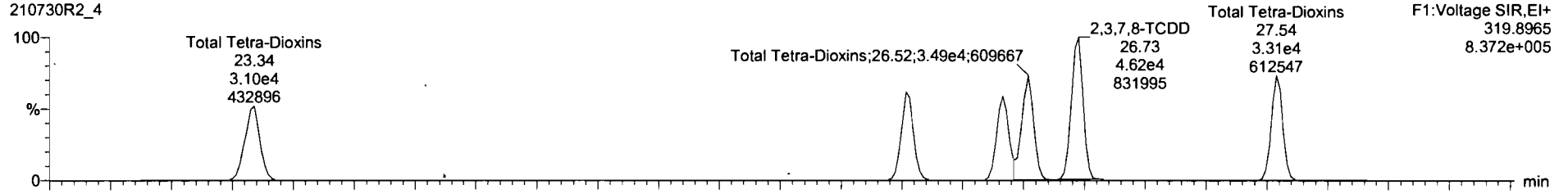
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Last Altered: Monday, August 02, 2021 09:57:32 Pacific Daylight Time  
Printed: Monday, August 02, 2021 09:58:15 Pacific Daylight Time

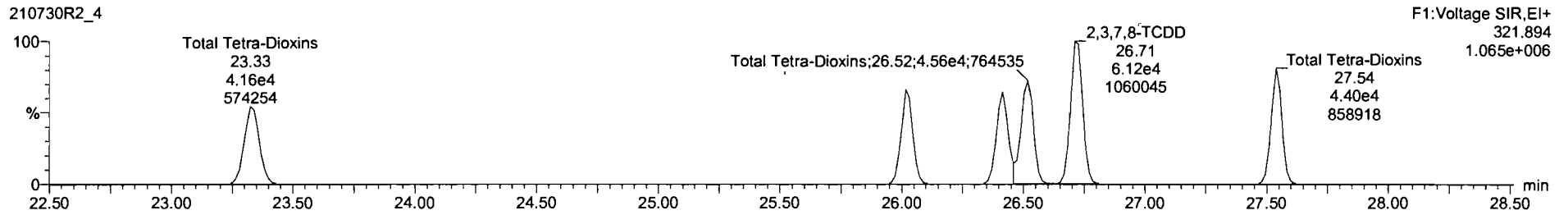
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**2,3,7,8-TCDD**

210730R2\_4

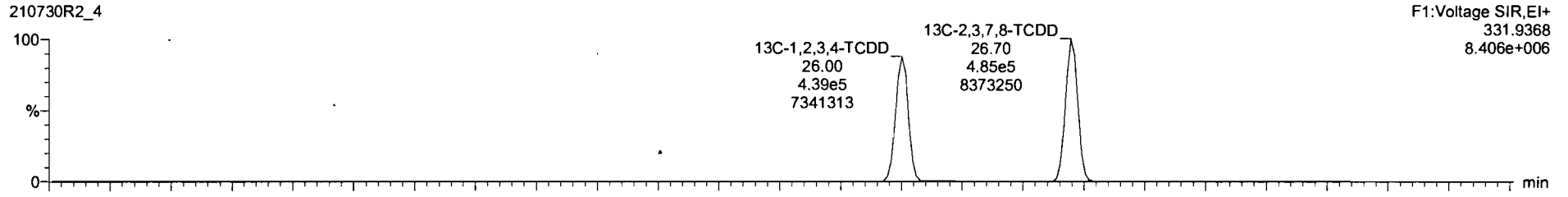


210730R2\_4

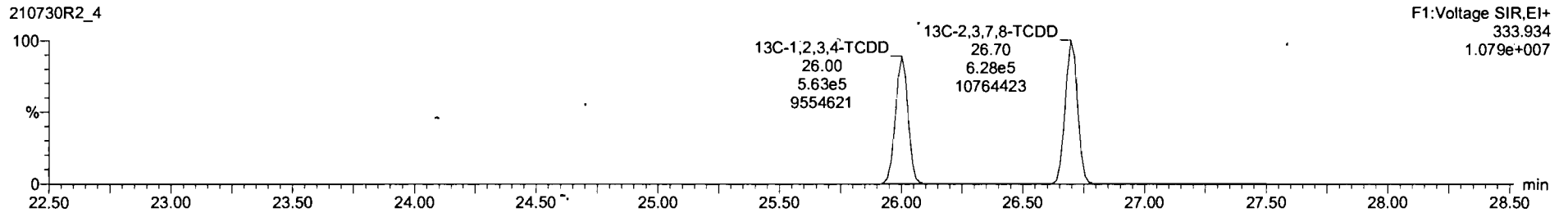


**13C-2,3,7,8-TCDD**

210730R2\_4



210730R2\_4



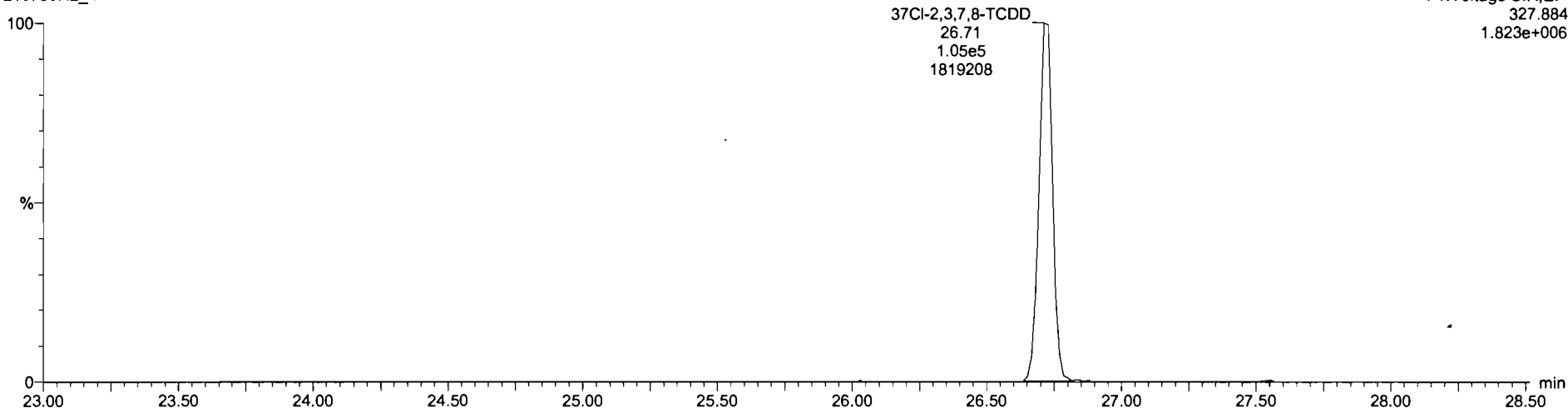
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Last Altered: Monday, August 02, 2021 09:57:32 Pacific Daylight Time  
Printed: Monday, August 02, 2021 09:58:15 Pacific Daylight Time

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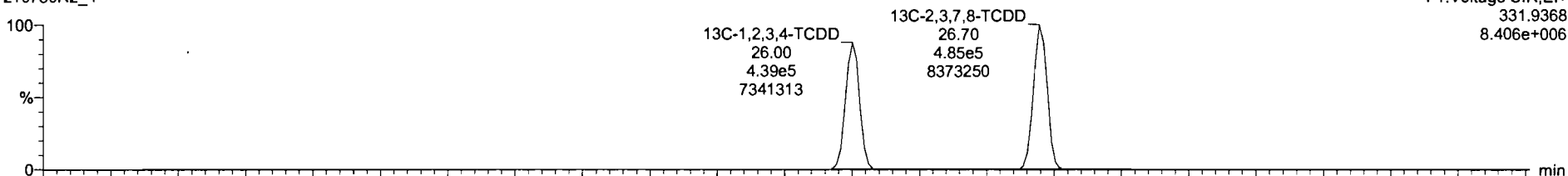
**37Cl-2,3,7,8-TCDD**

210730R2\_4

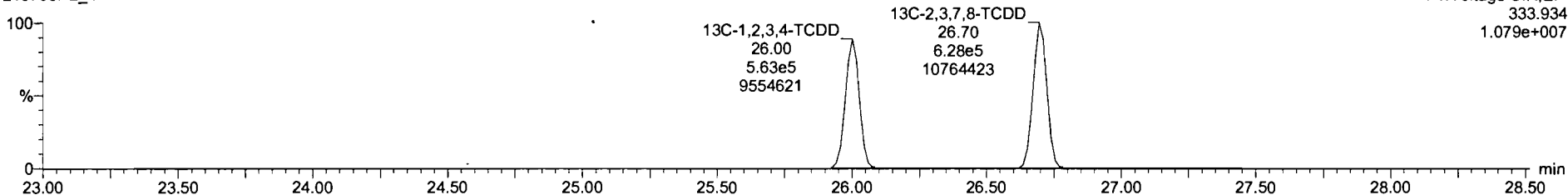


**13C-1,2,3,4-TCDD**

210730R2\_4



210730R2\_4



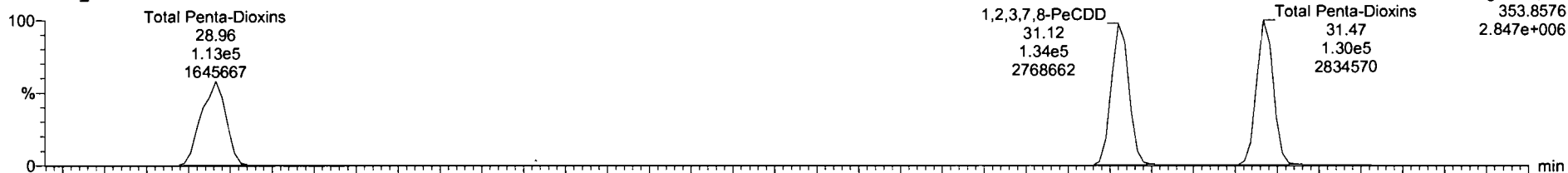
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Printed: Monday, August 02, 2021 09:58:15 Pacific Daylight Time

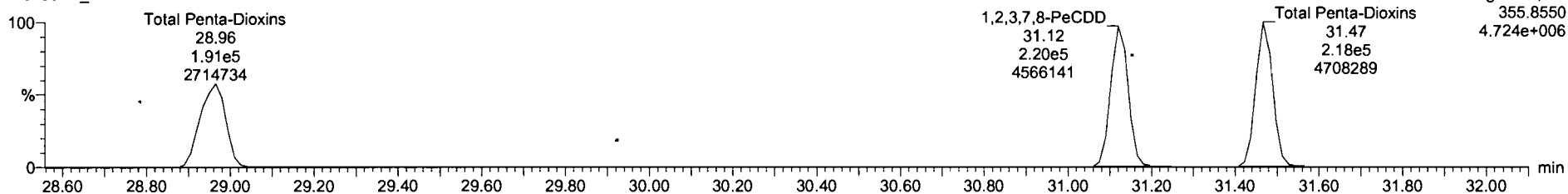
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1,2,3,7,8-PeCDD

210730R2\_4

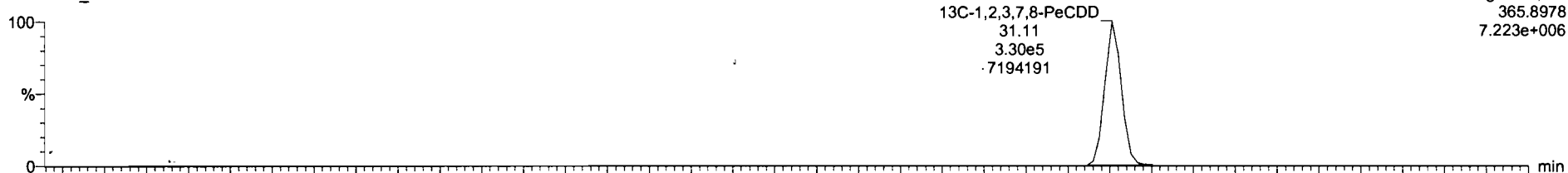


210730R2\_4

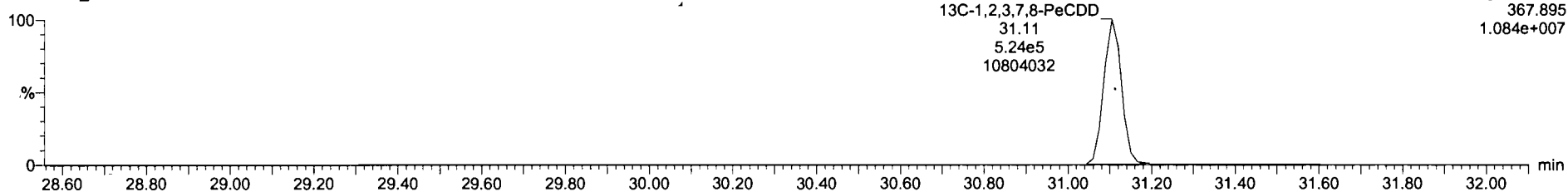


13C-1,2,3,7,8-PeCDD

210730R2\_4



210730R2\_4

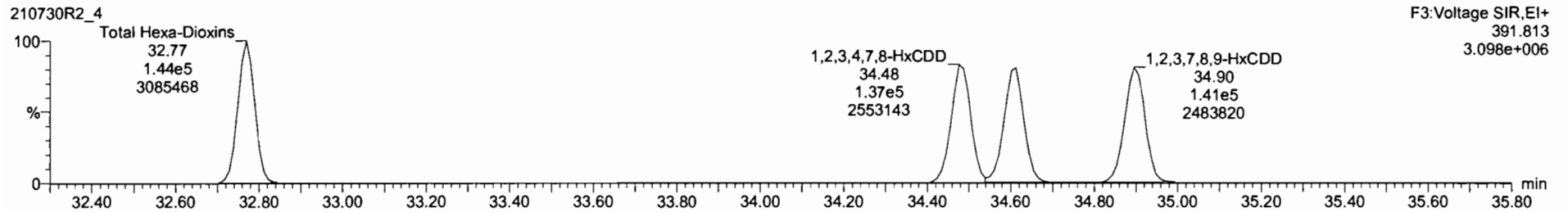
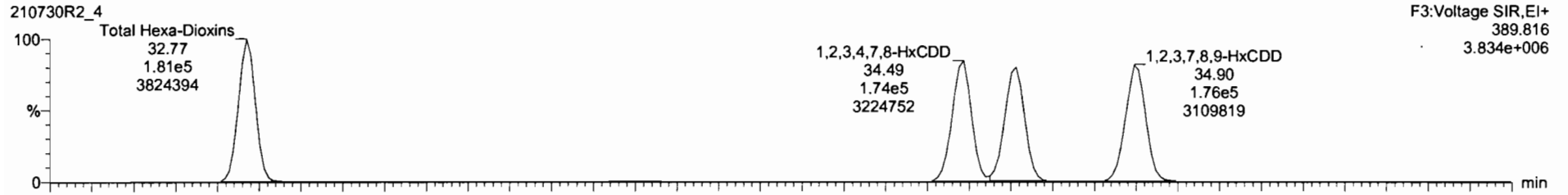


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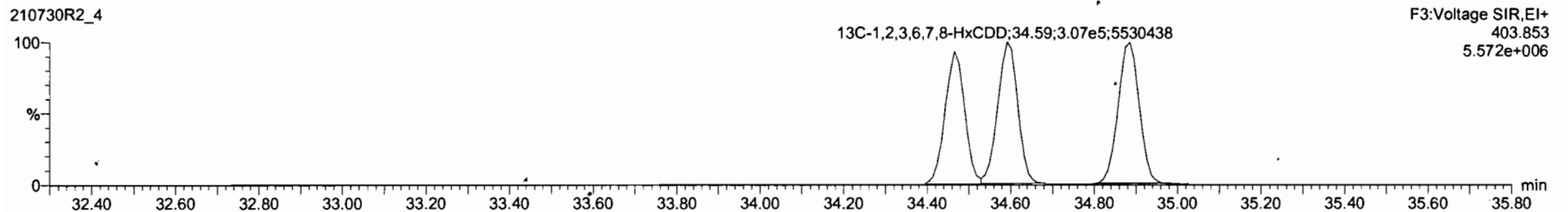
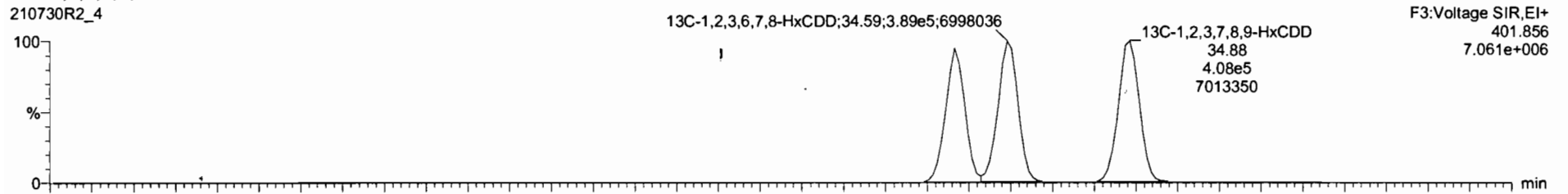
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Printed: Monday, August 02, 2021 09:58:15 Pacific Daylight Time

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1,2,3,4,7,8-HxCDD



13C-1,2,3,4,7,8-HxCDD



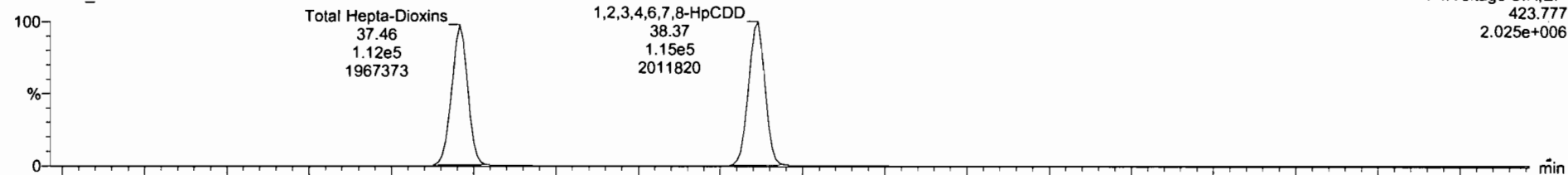
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Printed: Monday, August 02, 2021 09:58:15 Pacific Daylight Time

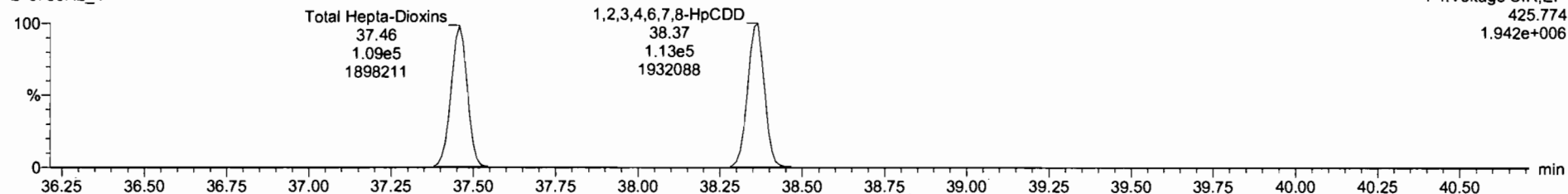
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**1,2,3,4,6,7,8-HpCDD**

210730R2\_4

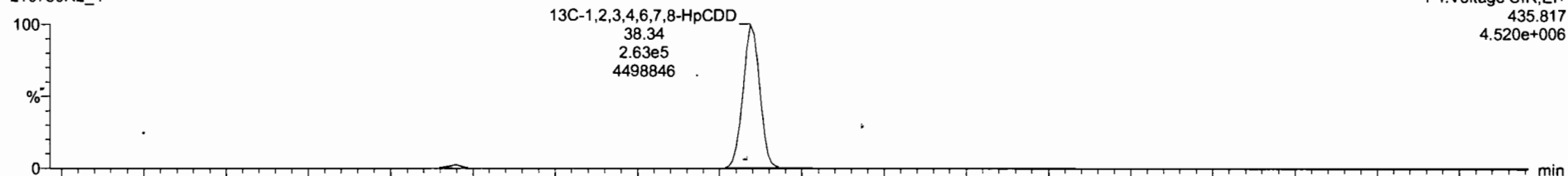


210730R2\_4

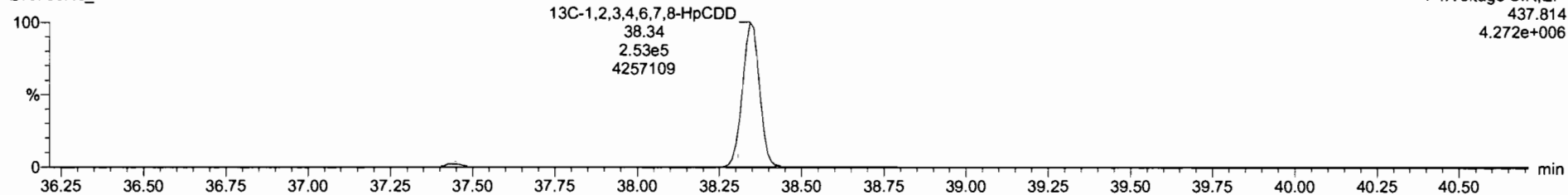


**13C-1,2,3,4,6,7,8-HpCDD**

210730R2\_4



210730R2\_4

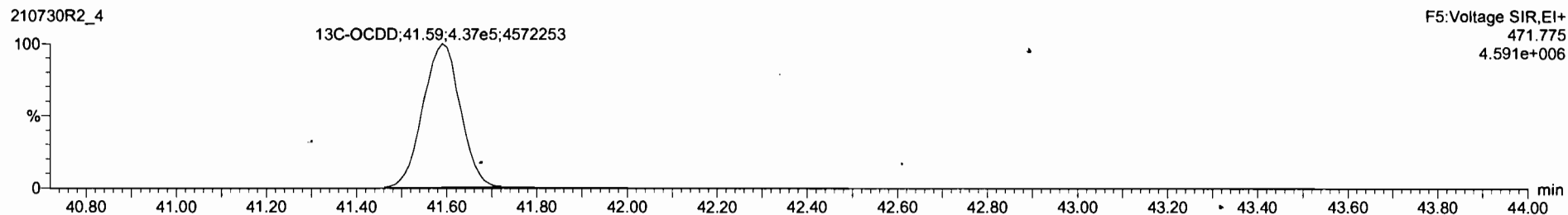
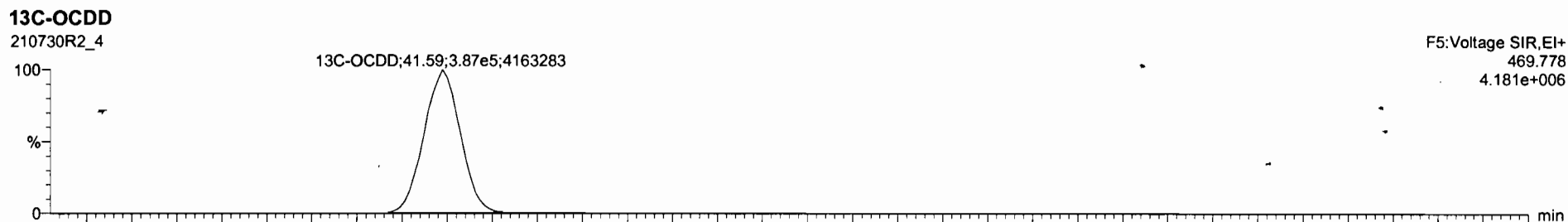
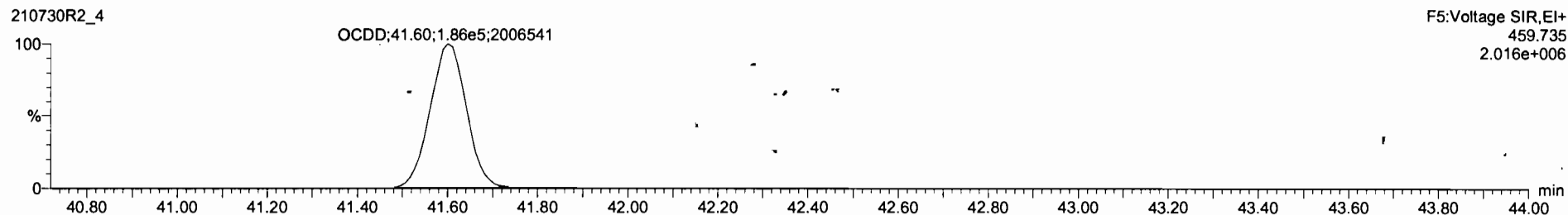
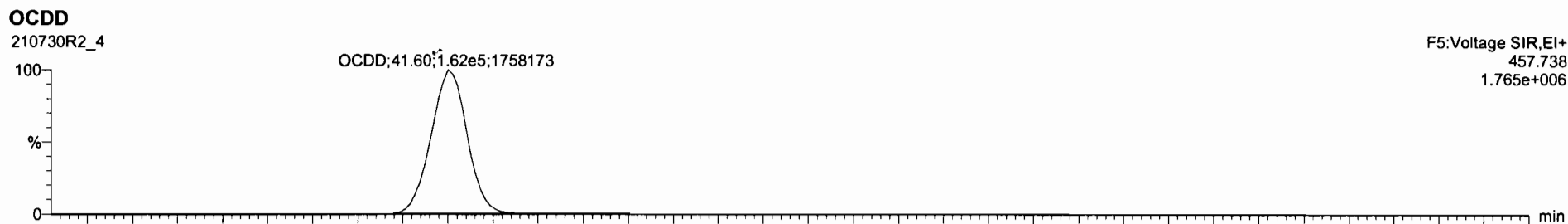




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Printed: Monday, August 02, 2021 09:58:15 Pacific Daylight Time

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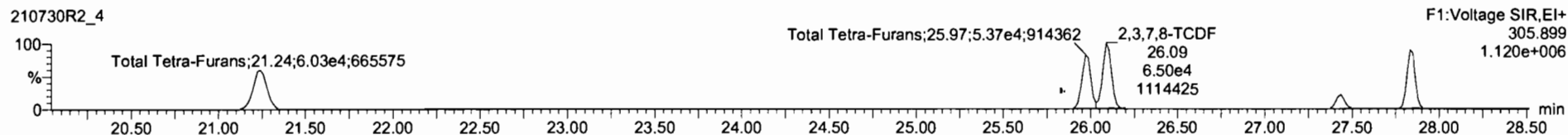
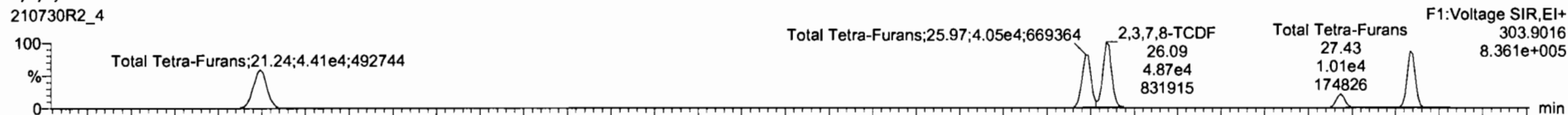


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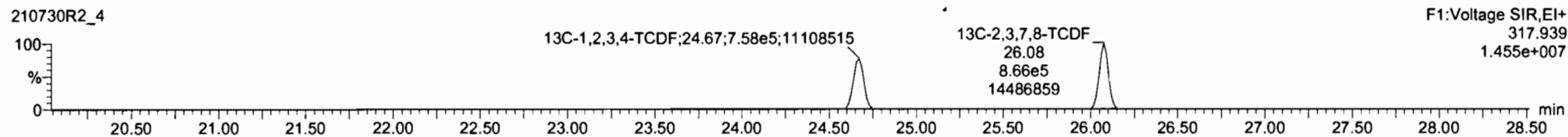
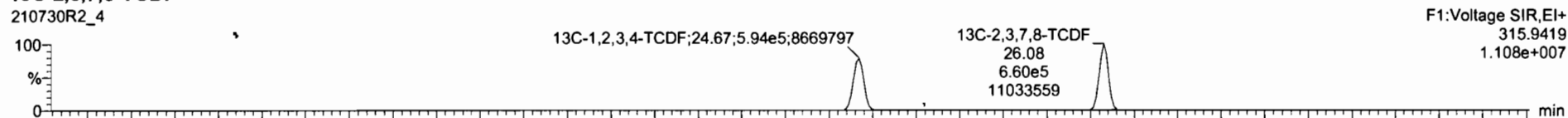
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Printed: Monday, August 02, 2021 09:58:15 Pacific Daylight Time

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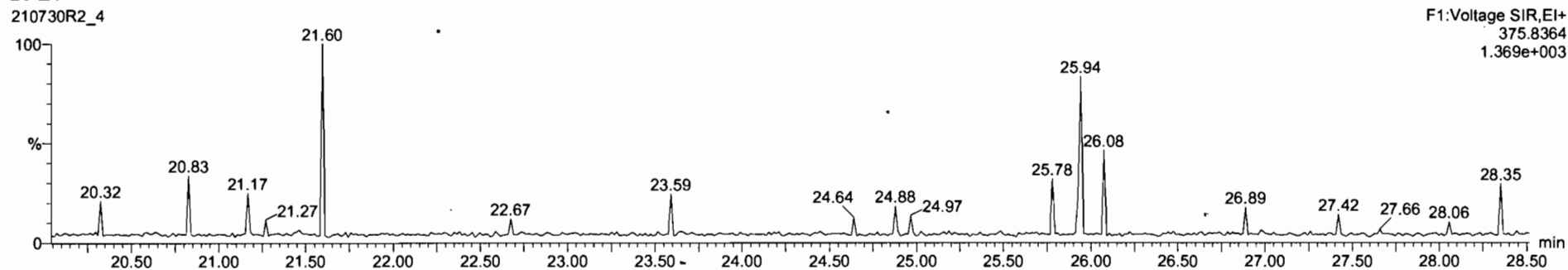
**2,3,7,8-TCDF**



**13C-2,3,7,8-TCDF**



**DPE1**



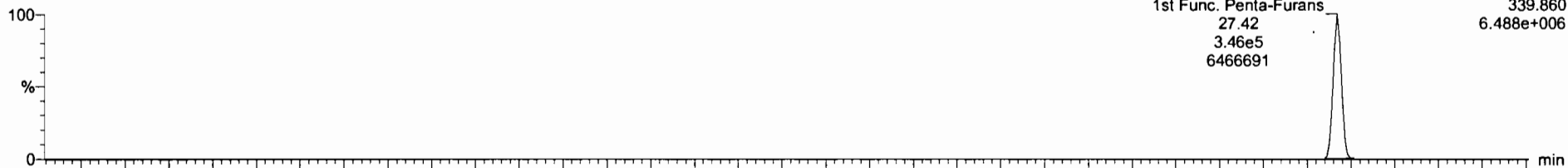
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Printed: Monday, August 02, 2021 09:58:15 Pacific Daylight Time

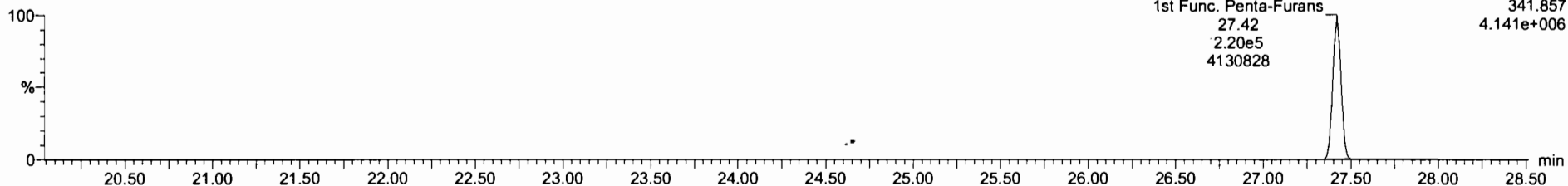
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1st Func. Penta-Furans

210730R2\_4

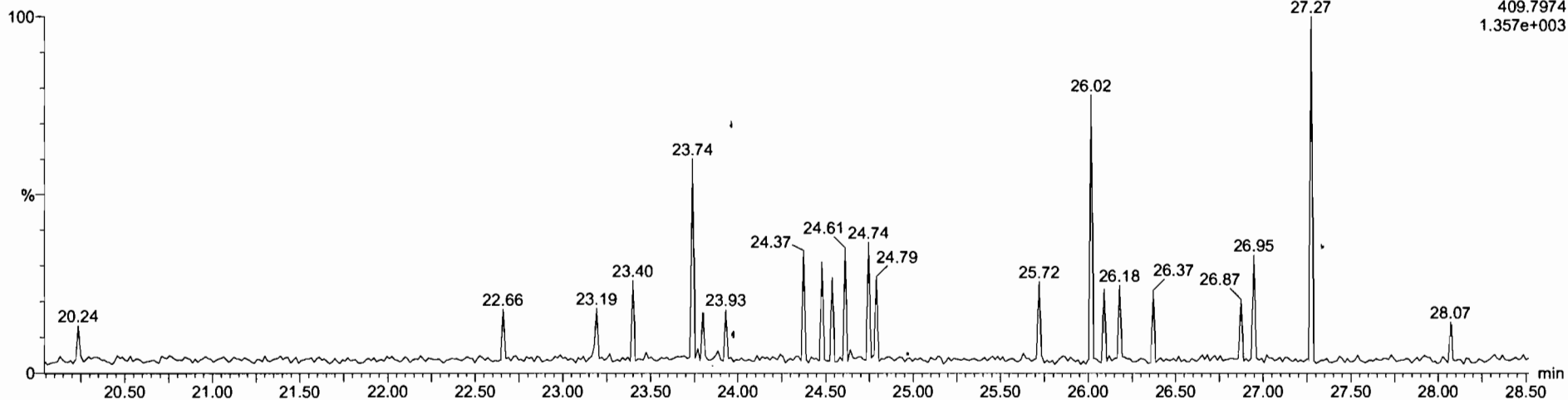


210730R2\_4



DPE6

210730R2\_4



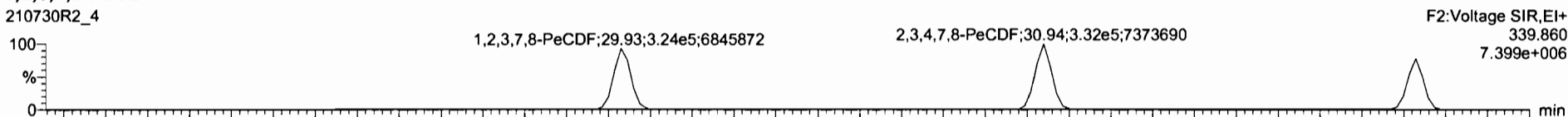
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Printed: Monday, August 02, 2021 09:58:15 Pacific Daylight Time

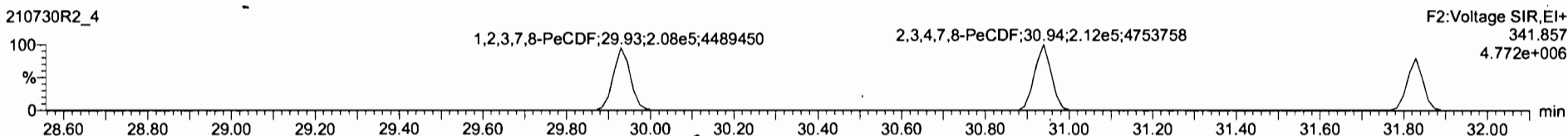
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**1,2,3,7,8-PeCDF**

210730R2\_4

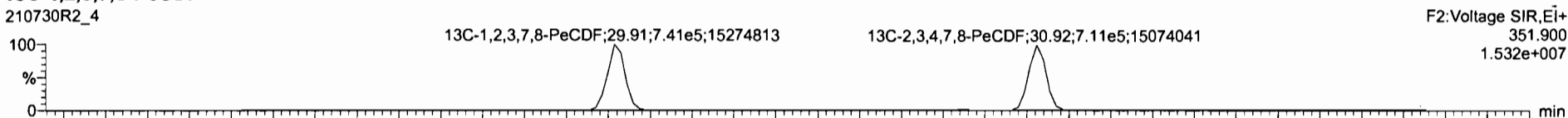


210730R2\_4

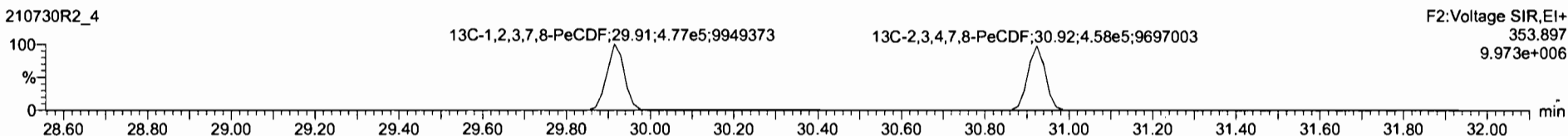


**13C-1,2,3,7,8-PeCDF**

210730R2\_4

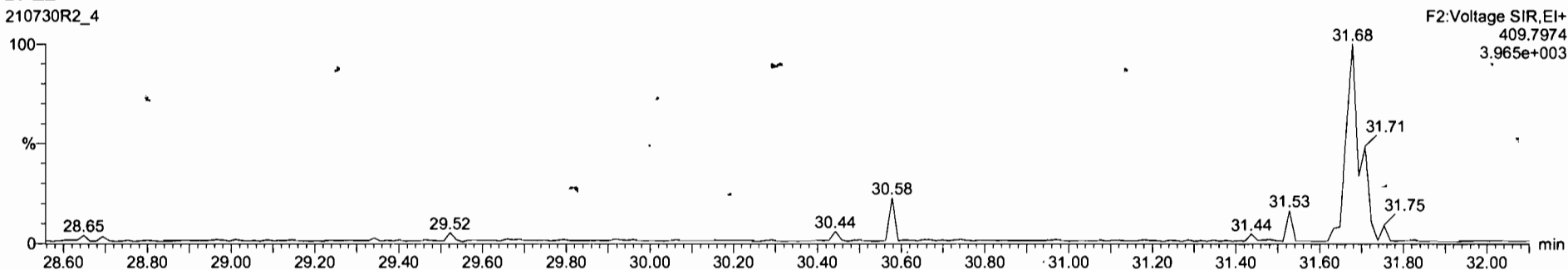


210730R2\_4



**DPE2**

210730R2\_4

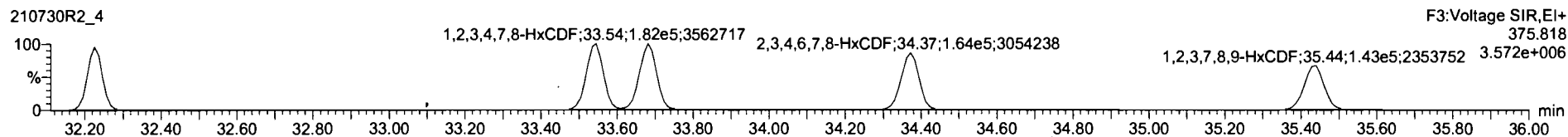
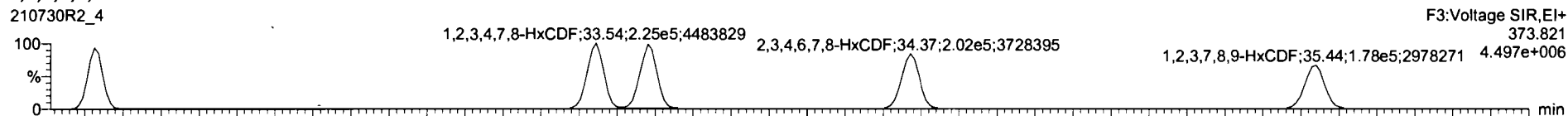


Dataset: Untitled

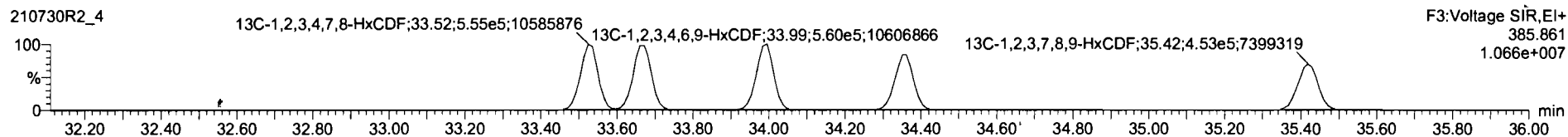
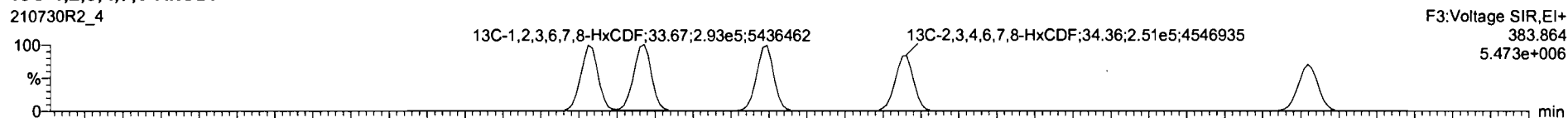
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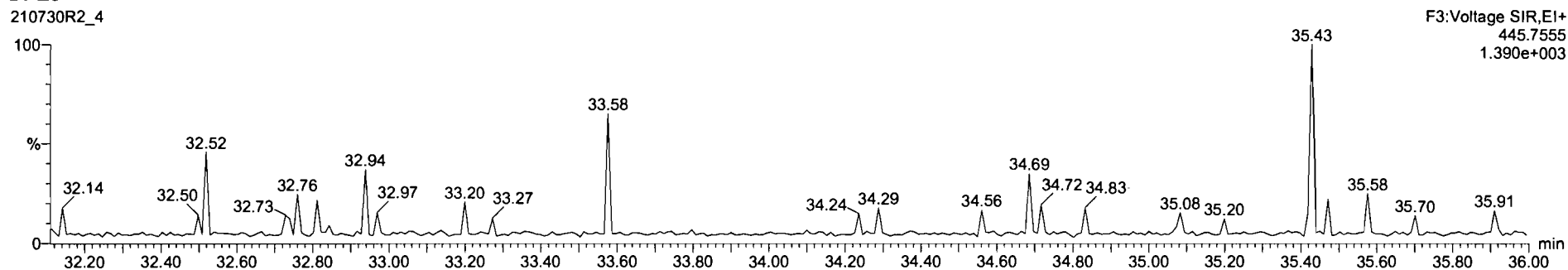
**1,2,3,4,7,8-HxCDF**



**13C-1,2,3,4,7,8-HxCDF**



**DPE3**

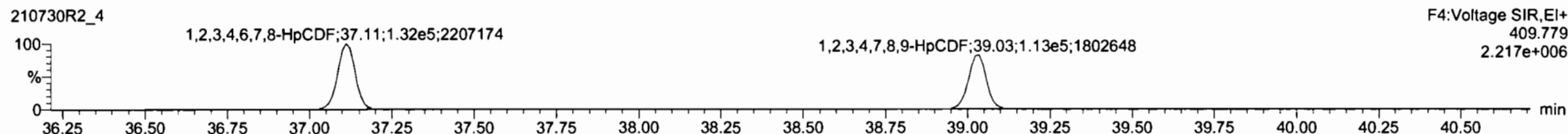
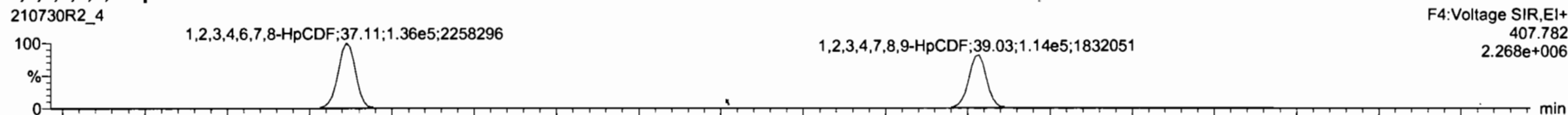


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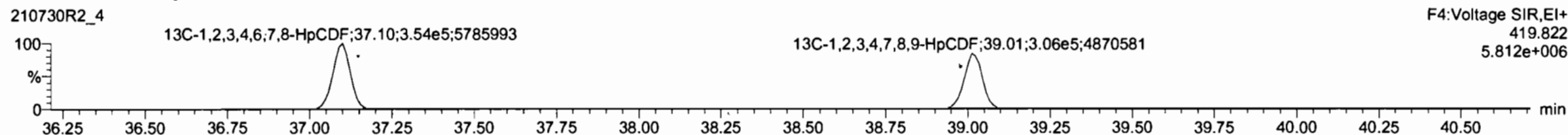
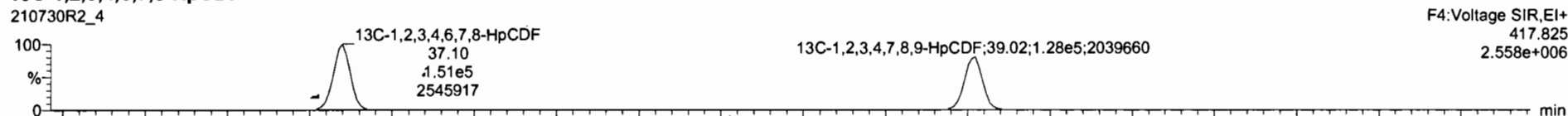
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Printed: Monday, August 02, 2021 09:58:15 Pacific Daylight Time

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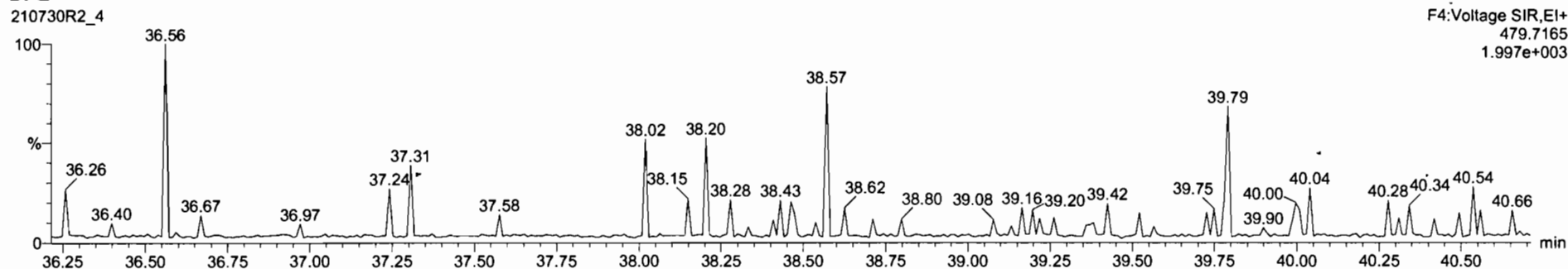
1,2,3,4,6,7,8-HpCDF



13C-1,2,3,4,6,7,8-HpCDF



DPE4



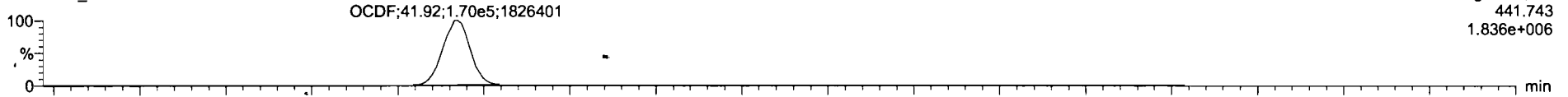
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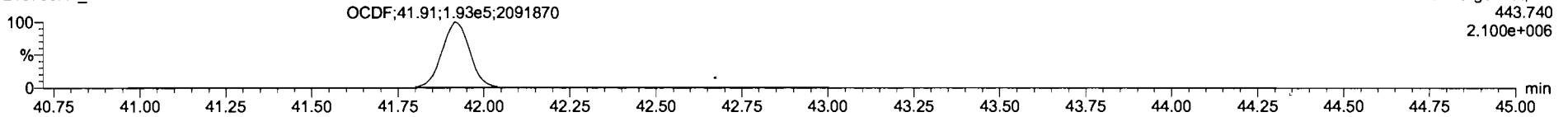
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**OCDF**

210730R2\_4

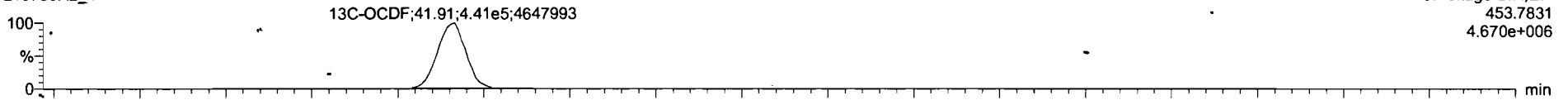


210730R2\_4

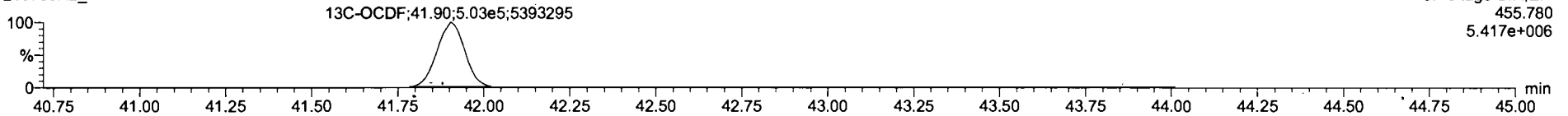


**13C-OCDF**

210730R2\_4

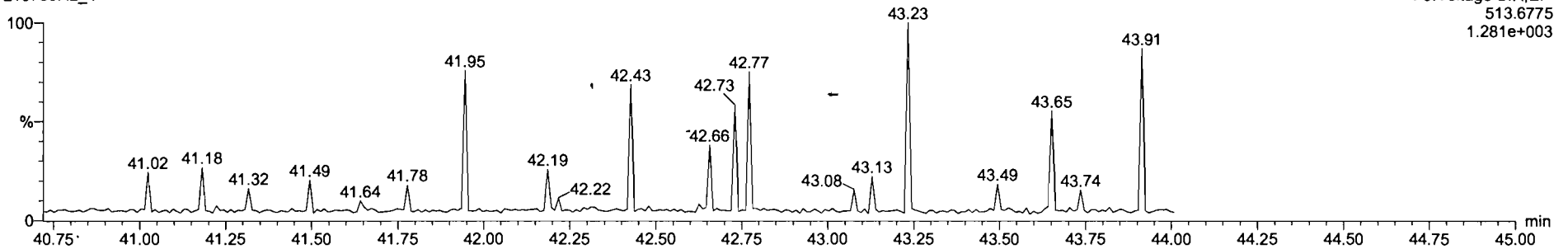


210730R2\_4



**DPE5**

210730R2\_4

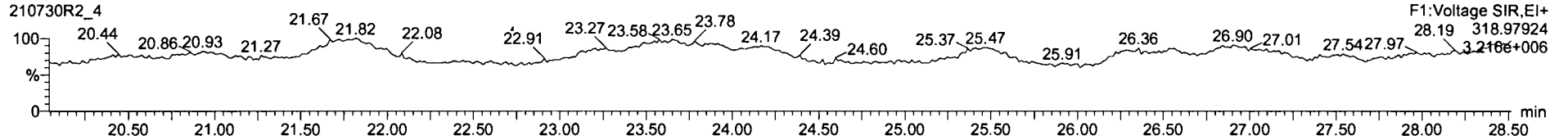


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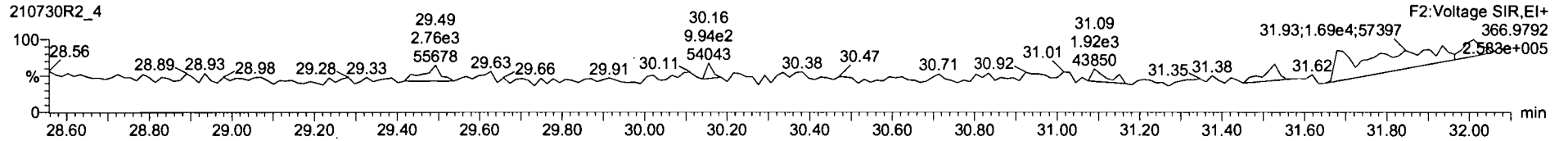
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Printed: Monday, August 02, 2021 09:58:15 Pacific Daylight Time

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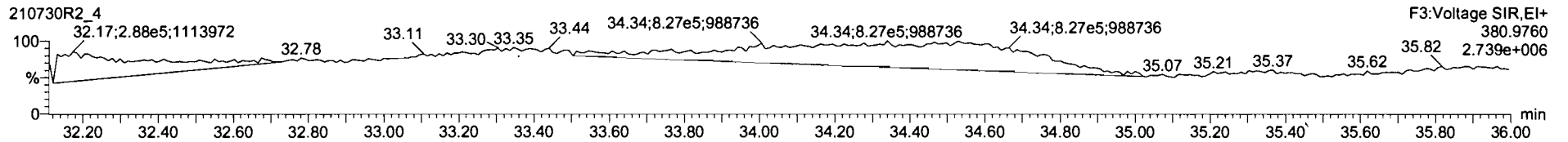
PFK1



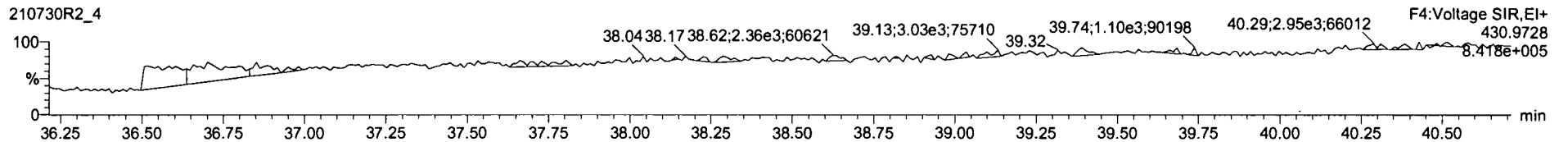
PFK2



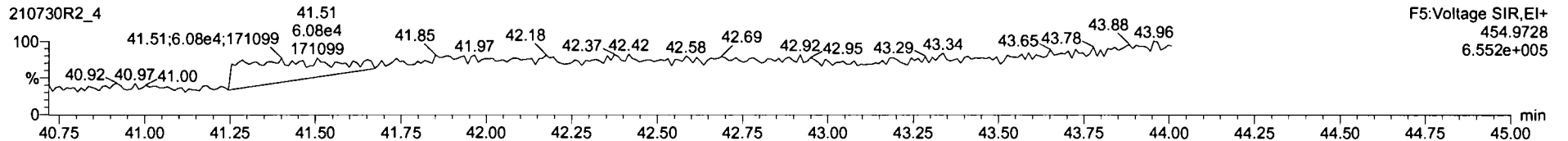
PFK3



PFK4



PFK5





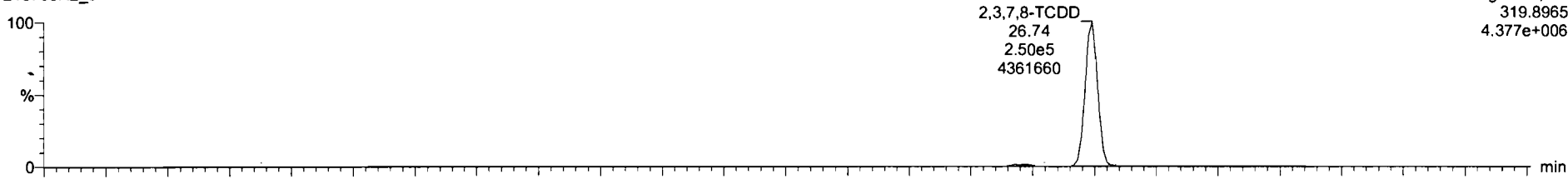
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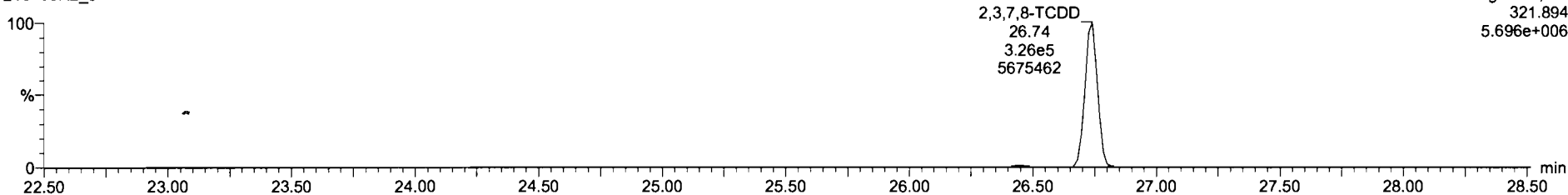
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**2,3,7,8-TCDD**

210730R2\_5

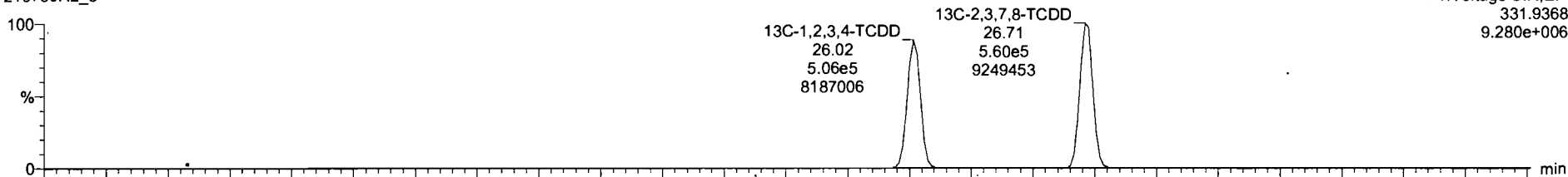


210730R2\_5

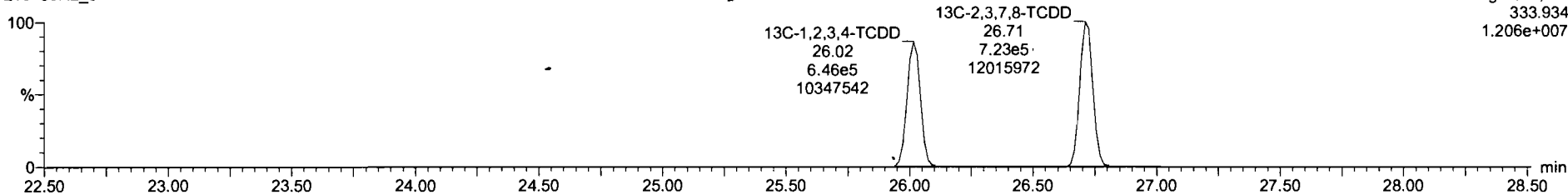


**13C-2,3,7,8-TCDD**

210730R2\_5



210730R2\_5



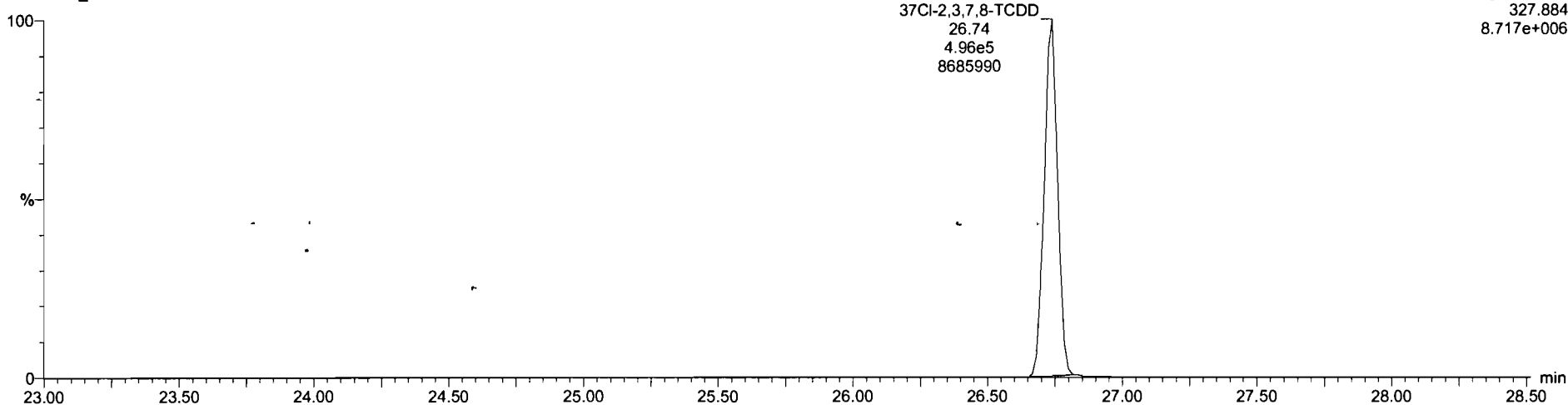
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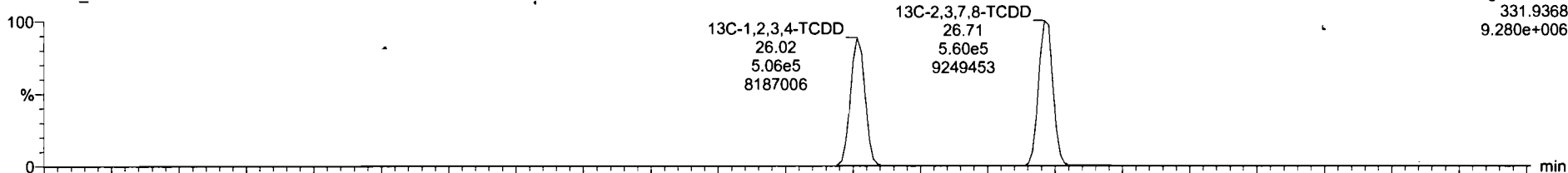
37Cl-2,3,7,8-TCDD

210730R2\_5

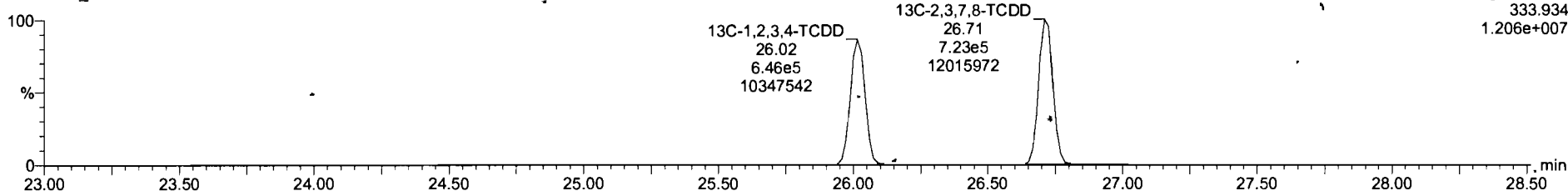


13C-1,2,3,4-TCDD

210730R2\_5



210730R2\_5



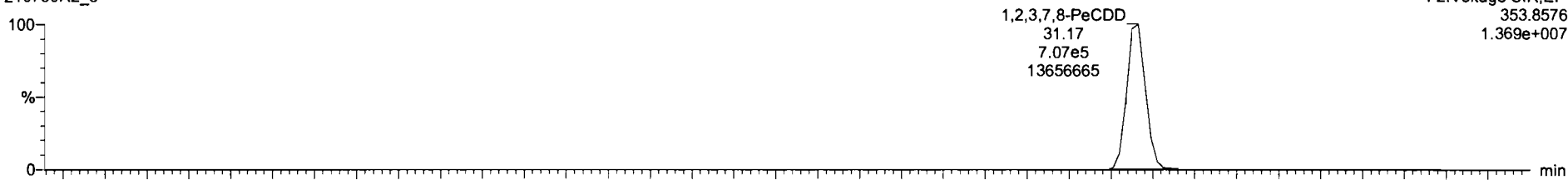
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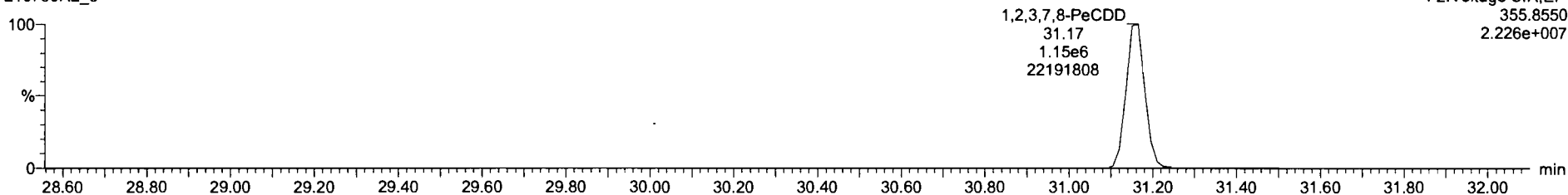
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**1,2,3,7,8-PeCDD**

210730R2\_5

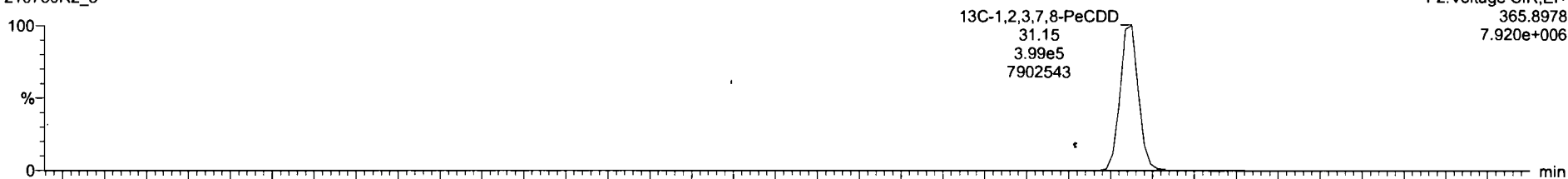


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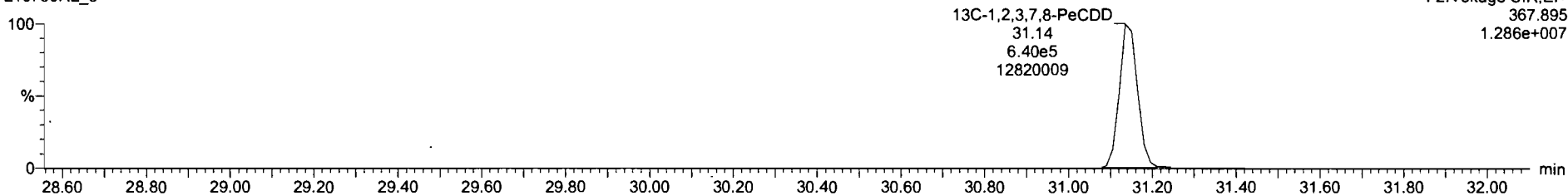


**<sup>13</sup>C-1,2,3,7,8-PeCDD**

210730R2\_5



210730R2\_5



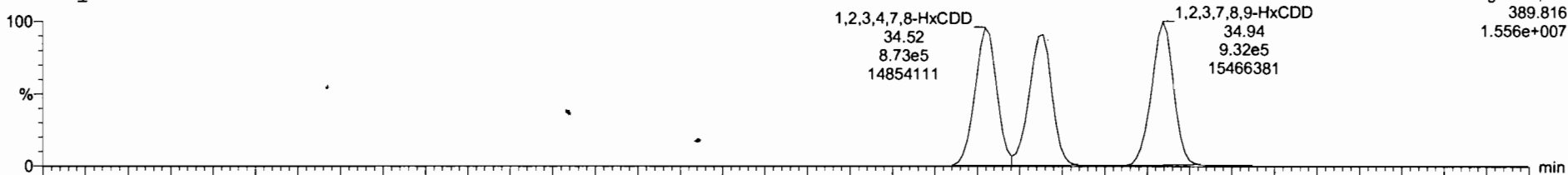
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Printed: Monday, August 02, 2021 09:58:15 Pacific Daylight Time

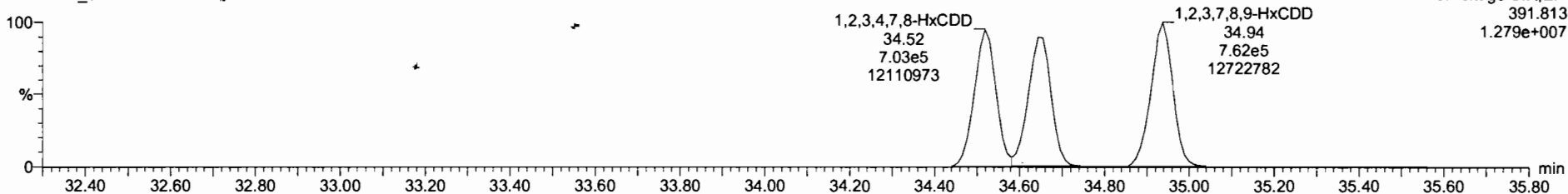
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1,2,3,4,7,8-HxCDD

210730R2\_5

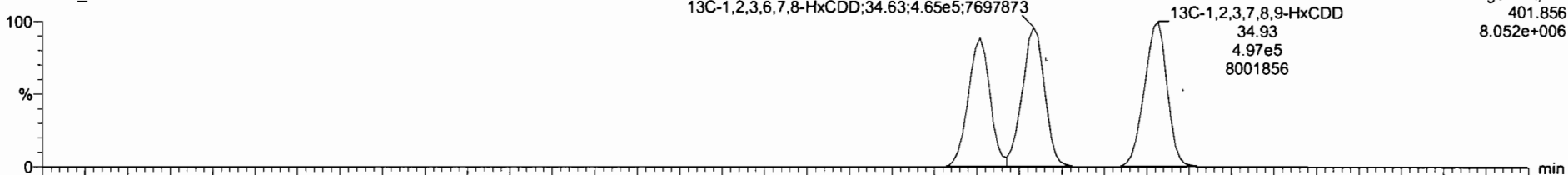


210730R2\_5

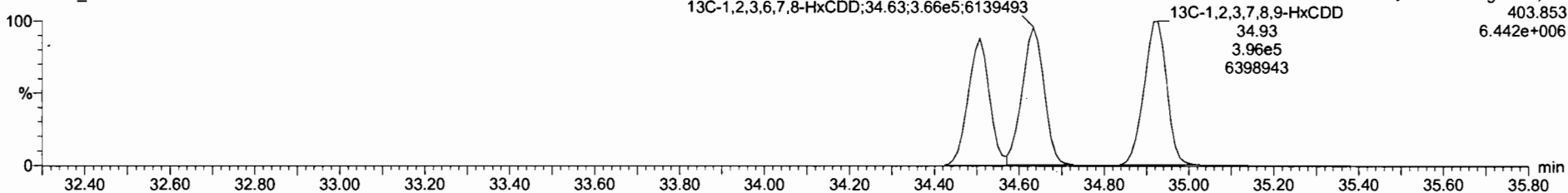


13C-1,2,3,4,7,8-HxCDD

210730R2\_5



210730R2\_5



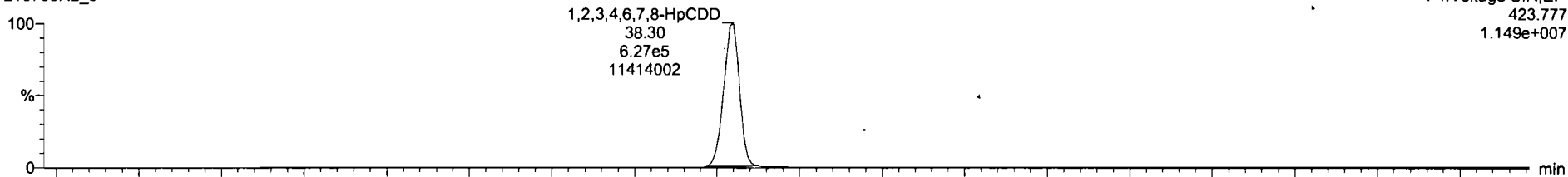
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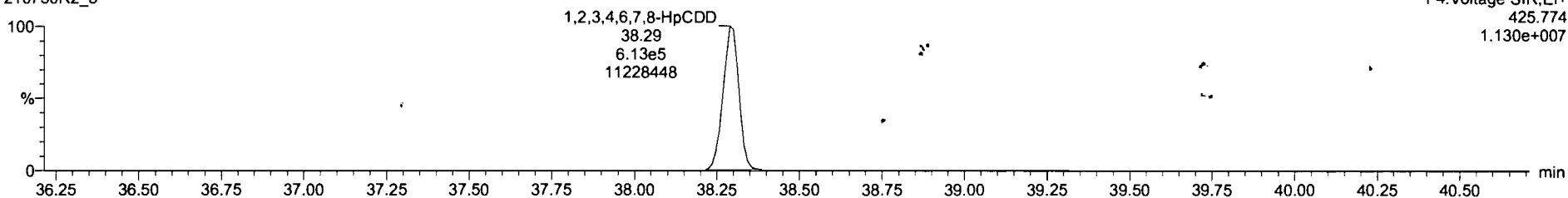
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**1,2,3,4,6,7,8-HpCDD**

210730R2\_5

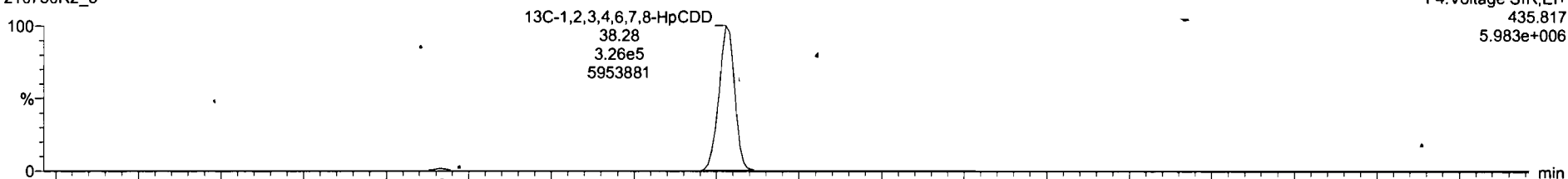


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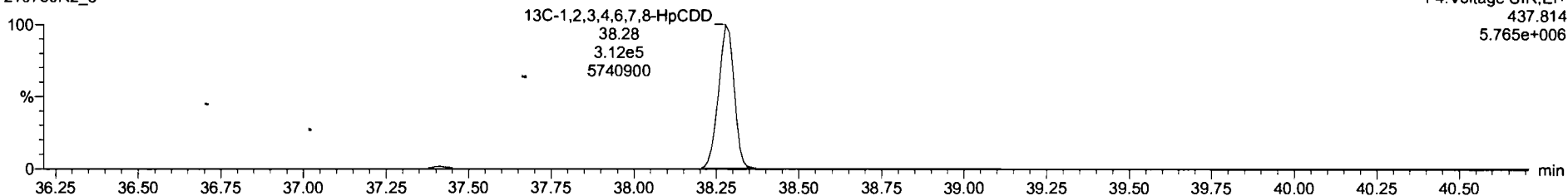


**13C-1,2,3,4,6,7,8-HpCDD**

210730R2\_5



210730R2\_5



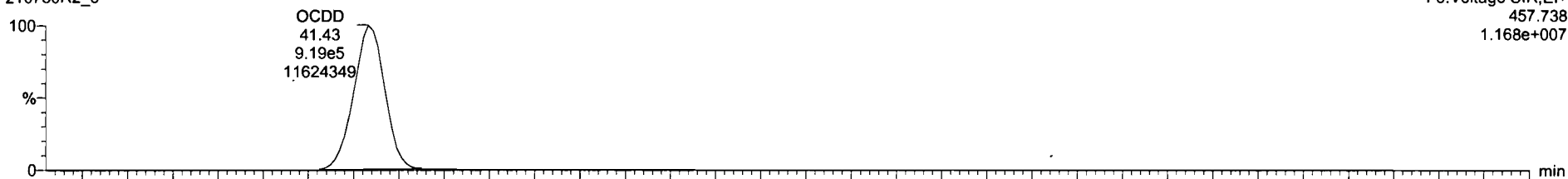
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Last Altered: Monday, August 02, 2021 09:57:32 Pacific Daylight Time  
Printed: Monday, August 02, 2021 09:58:15 Pacific Daylight Time

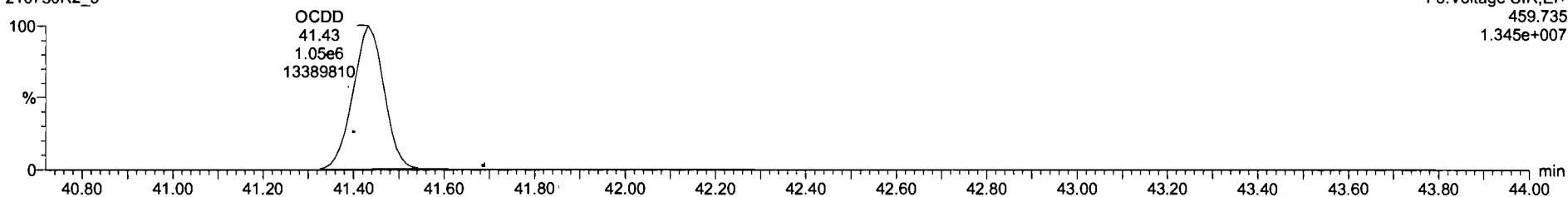
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**OCDD**

210730R2\_5

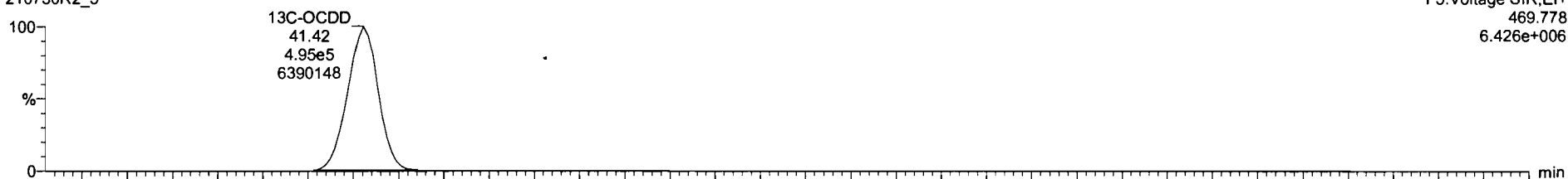


210730R2\_5

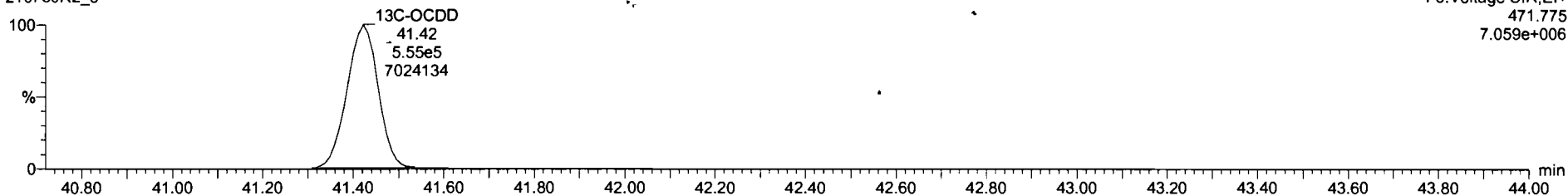


**13C-OCDD**

210730R2\_5



210730R2\_5



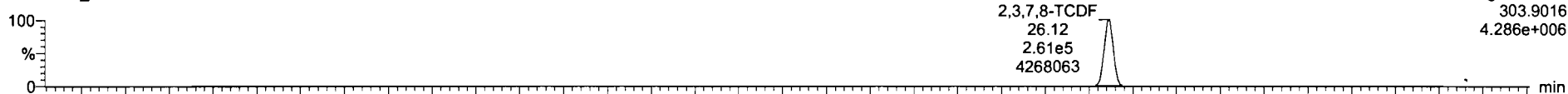
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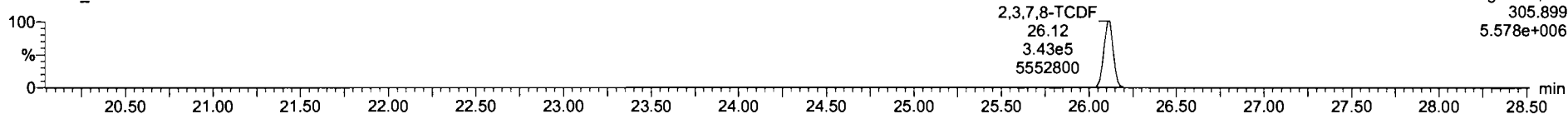
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**2,3,7,8-TCDF**

210730R2\_5

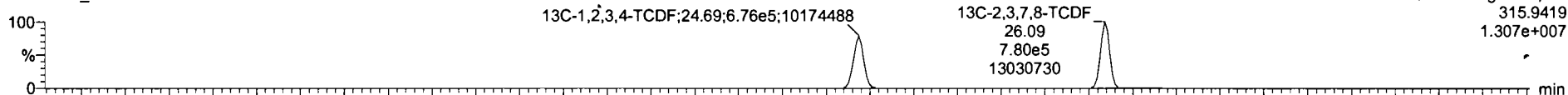


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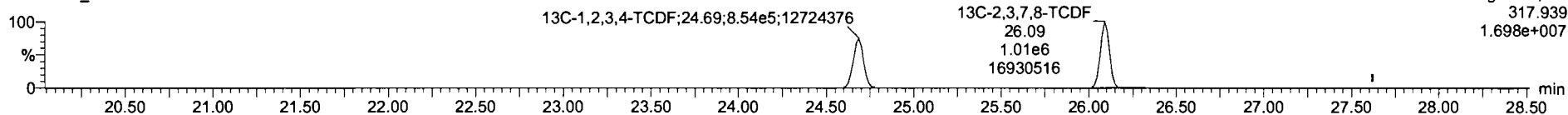


**13C-2,3,7,8-TCDF**

210730R2\_5

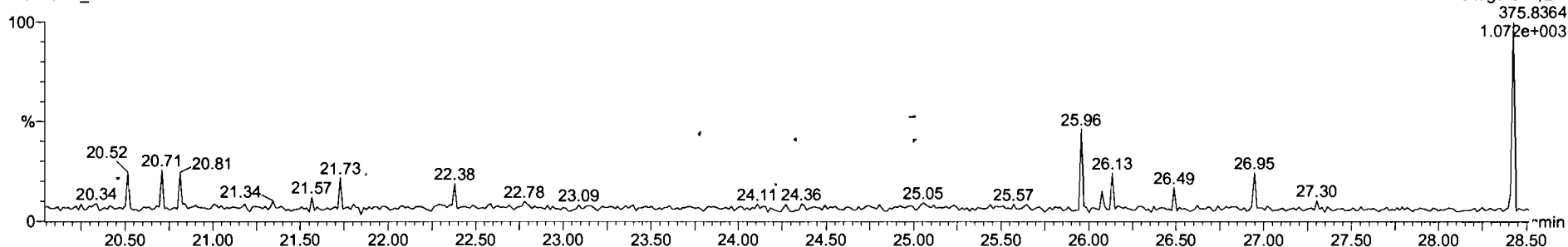


210730R2\_5



**DPE1**

210730R2\_5



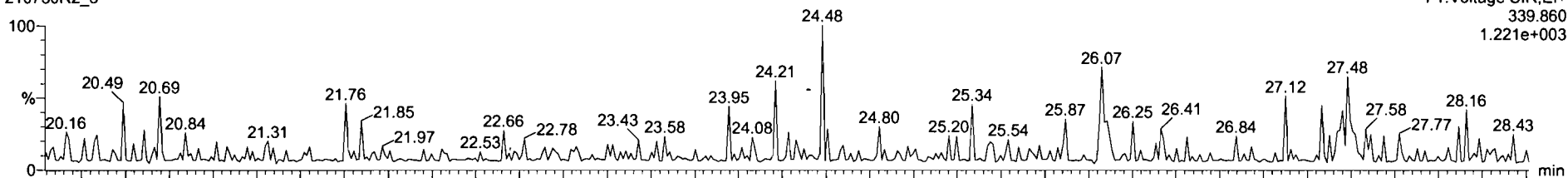
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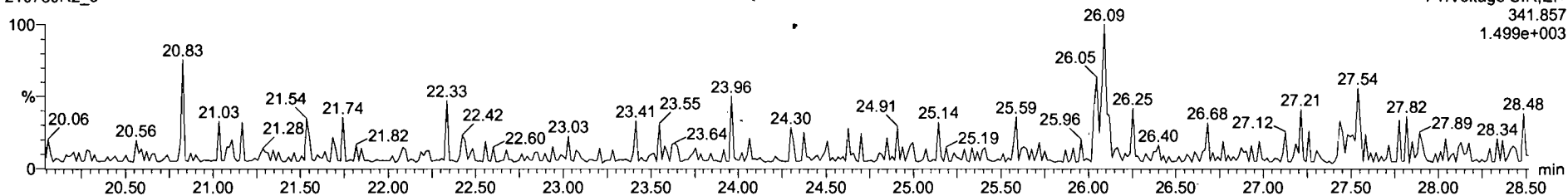
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1st Func. Penta-Furans

210730R2\_5

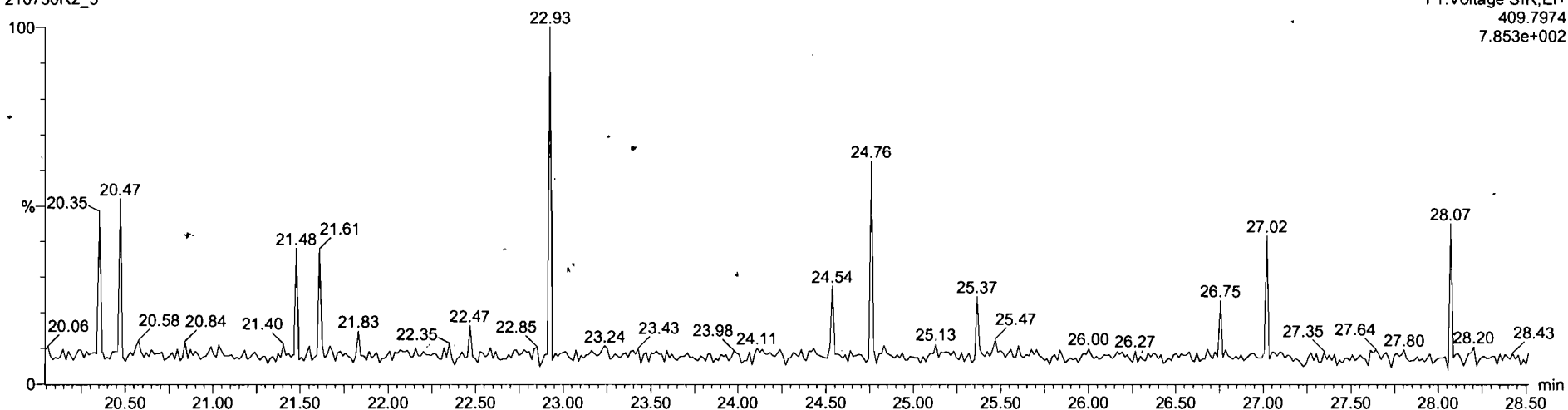


210730R2\_5



DPE6

210730R2\_5





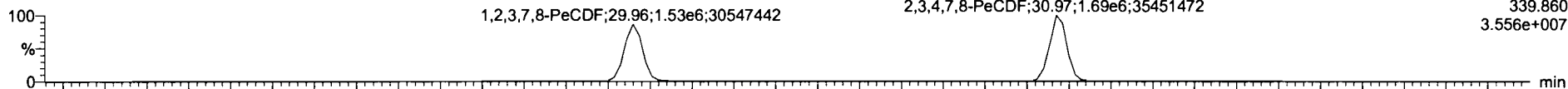
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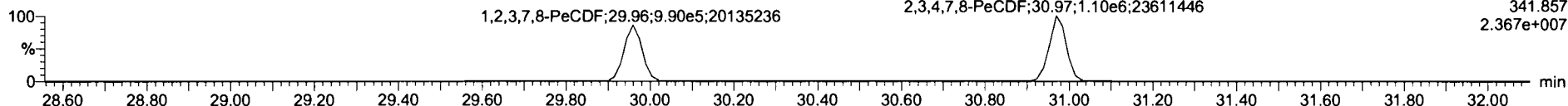
**1,2,3,7,8-PeCDF**

210730R2\_5



F2:Voltage SIR,EI+  
339.860  
3.556e+007

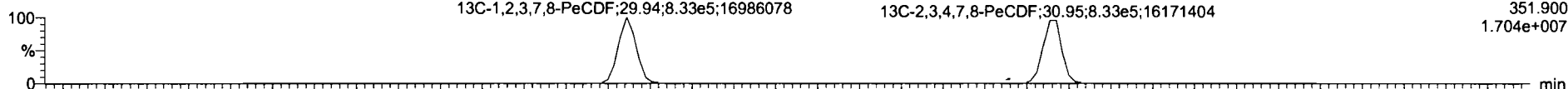
210730R2\_5



F2:Voltage SIR,EI+  
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2.367e+007

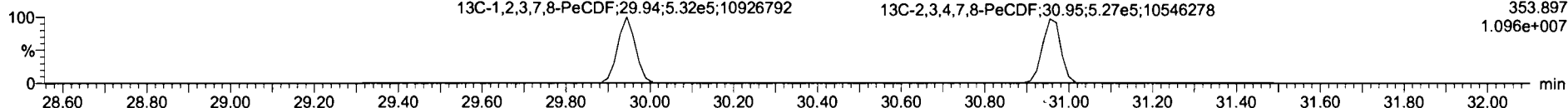
**13C-1,2,3,7,8-PeCDF**

210730R2\_5



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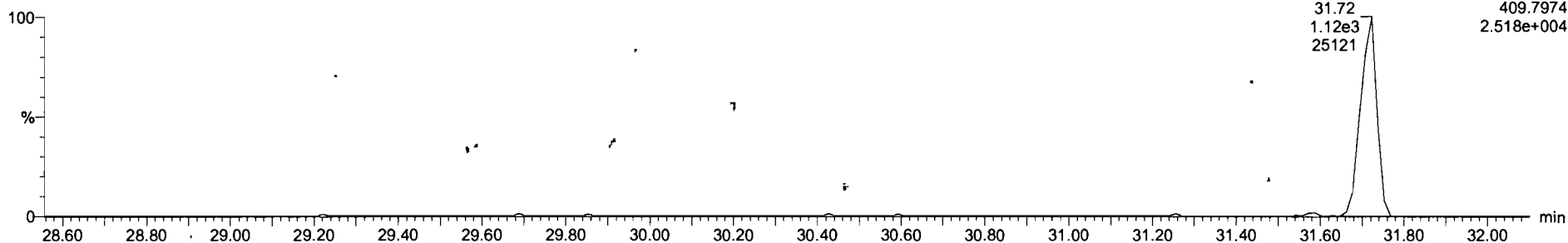
210730R2\_5



F2:Voltage SIR,EI+  
353.897  
1.096e+007

**DPE2**

210730R2\_5



F2:Voltage SIR,EI+  
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2.518e+004

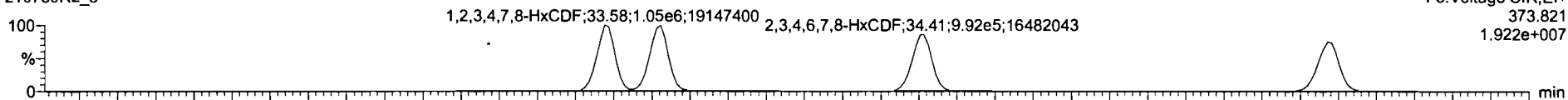
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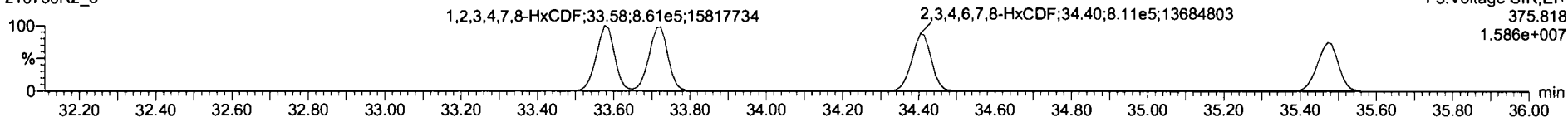
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**1,2,3,4,7,8-HxCDF**

210730R2\_5

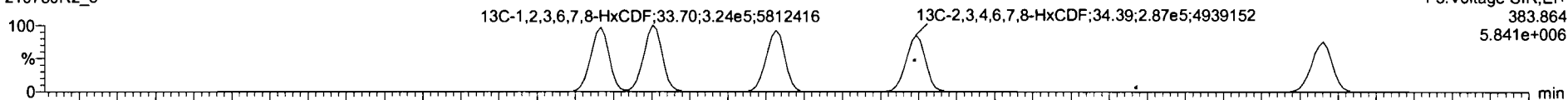


210730R2\_5

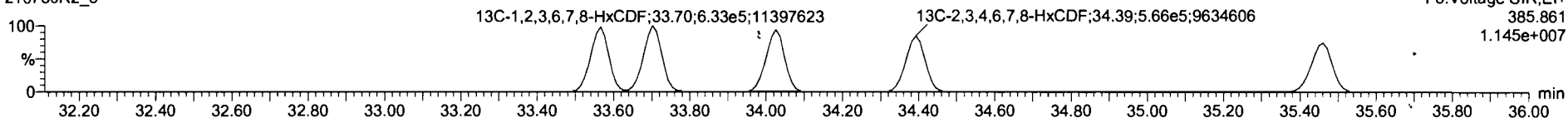


**13C-1,2,3,4,7,8-HxCDF**

210730R2\_5

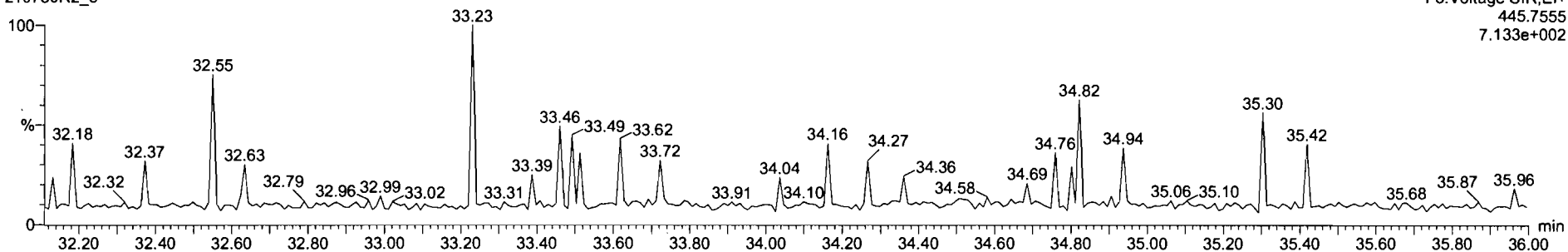


210730R2\_5



**DPE3**

210730R2\_5

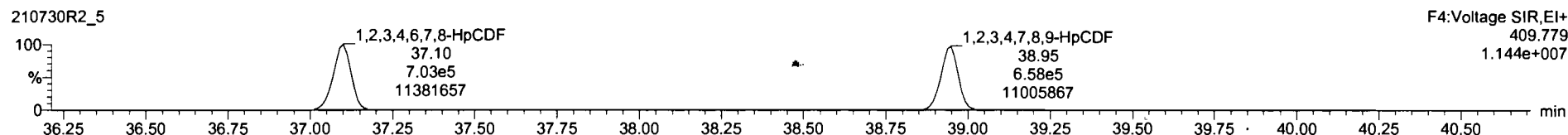
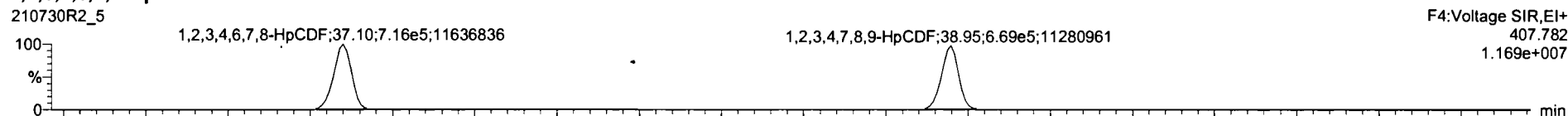


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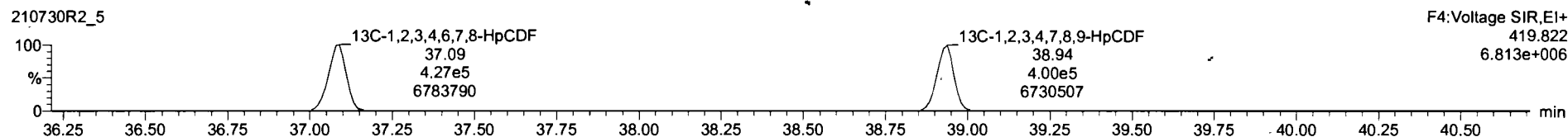
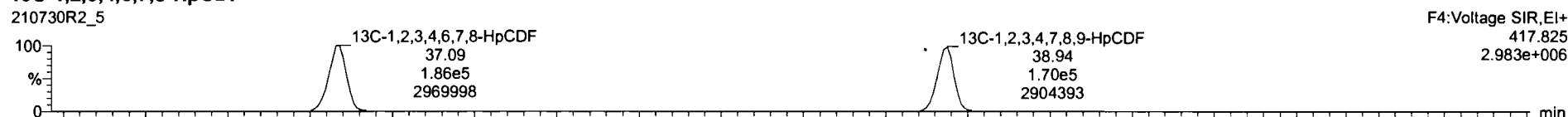
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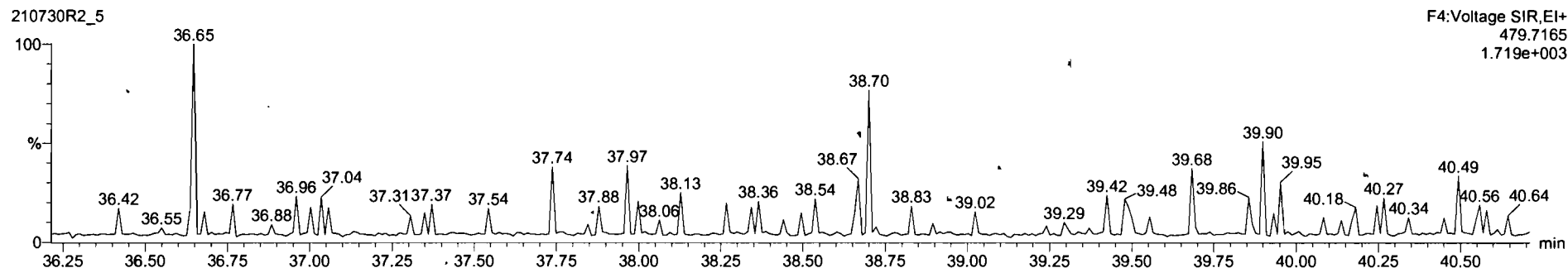
### 1,2,3,4,6,7,8-HpCDF



### 13C-1,2,3,4,6,7,8-HpCDF

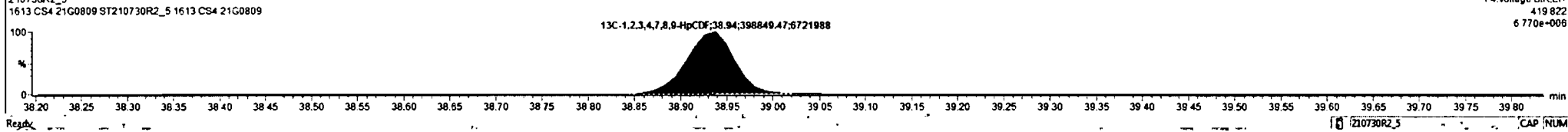
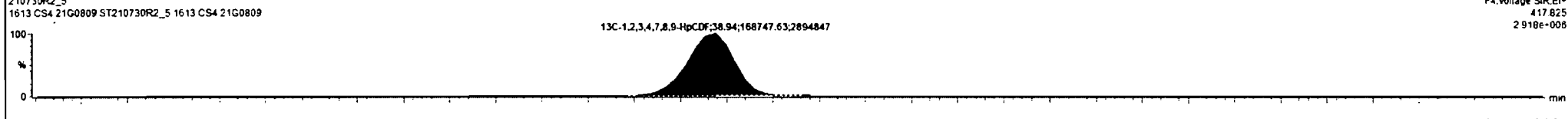
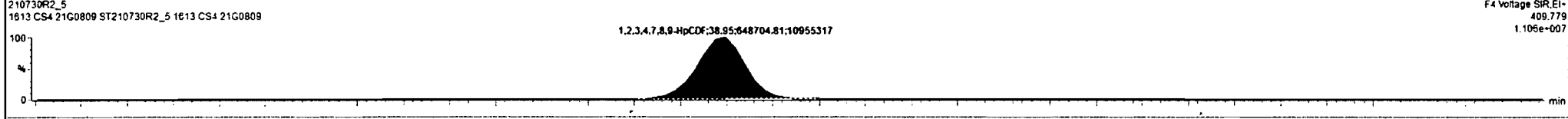
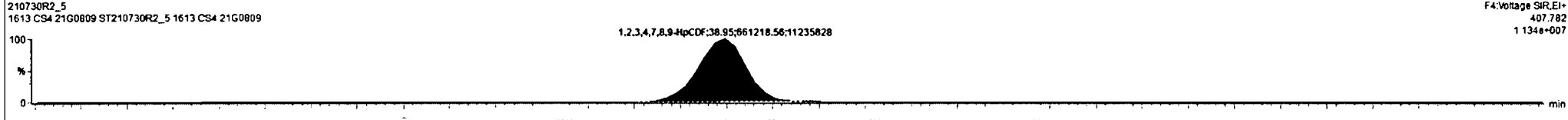


### DPE4



210730R2\_5 - ST210730R2\_5 1613 CS4 21G0809 - 1613 CS4 21G0809

#	Name	RT	RA	Y/N	Area	IS Area	Sm. Conc	%Dev	%RSD	RRF M...	RRF SD
1	2,3,7,8-TCDD	26.74	0.766	NO	5.7517e5	1.2830e6	40.000	17.9	15.5	0.952	0.148
2	1,2,3,7,8-PeCDD	31.17	0.617	NO	1.8526e6	1.0392e6	200.000	14.2	12.4	0.781	0.2967
3	1,2,3,4,7,8-HxCDD	34.52	1.242	NO	1.5763e6	7.4489e5	200.000	17.1	15.7	0.904	0.142
4	1,2,3,6,7,8-HxCDD	34.65	1.243	NO	1.5803e6	8.3029e5	200.000	18.0	15.8	0.805	0.128
5	1,2,3,7,8,9-HxCDD	34.94	1.222	NO	1.6939e6	8.9320e5	200.000	16.5	14.5	0.814	0.118
6	1,2,3,4,6,7,8-HpCDD	38.30	1.023	NO	1.2408e6	6.3880e5	200.000	16.1	14.2	0.836	0.119
7	OCDF	41.43	0.878	NO	1.9670e6	1.0496e6	400.000	17.4	14.6	0.796	0.117
8	2,3,7,8-TCDF	26.12	0.761	NO	6.0352e5	1.7944e6	40.000	16.8	14.8	0.720	0.106
9	1,2,3,7,8-PeCDF	29.96	1.544	NO	2.5179e6	1.3651e6	200.000	13.4	13.0	0.813	0.106
10	1,2,3,4,7,8-PeCDF	30.97	1.536	NO	2.7811e6	1.3604e6	200.000	14.5	12.8	0.892	0.114
11	1,2,3,4,7,8-HxCDF	33.58	1.218	NO	1.9069e6	9.1574e5	200.000	16.7	15.5	0.803	0.139
12	1,2,3,6,7,8-HxCDF	33.72	1.221	NO	1.9372e6	9.5675e5	200.000	16.8	15.4	0.867	0.133
13	1,2,3,4,6,7,8-HxCDF	34.41	1.223	NO	1.8024e6	8.5351e5	200.000	17.8	16.0	0.896	0.144
14	1,2,3,7,8,9-HxCDF	35.47	1.238	NO	1.6655e6	8.1176e5	200.000	17.3	15.1	0.874	0.132
15	1,2,3,4,6,7,8-HpCDF	37.10	1.018	NO	1.4194e6	6.1341e5	200.000	17.4	16.0	0.966	0.158
16	1,2,3,4,7,8,9-HpCDF	38.95	1.019	NO	1.3099e6	5.6760e5	200.000	19.5	17.4	0.868	0.168
17	OCDF	41.75	0.886	NO	2.0722e6	1.2080e6	400.000	16.8	16.3	0.722	0.118



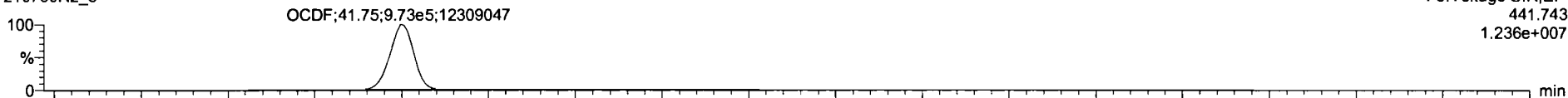
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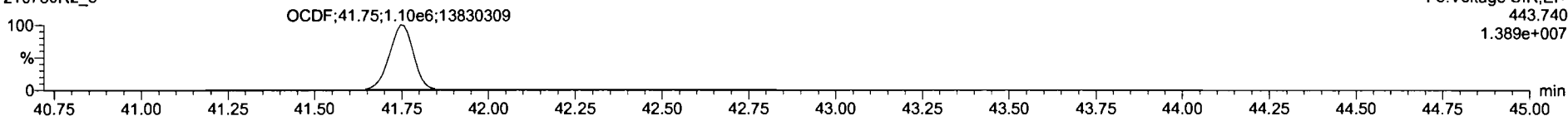
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**OCDF**

210730R2\_5

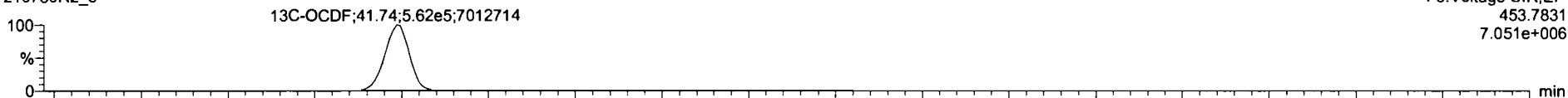


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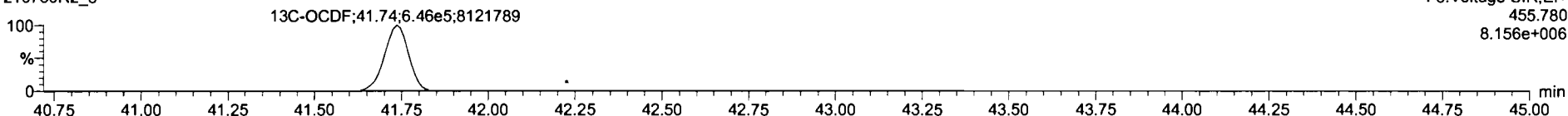


**13C-OCDF**

210730R2\_5

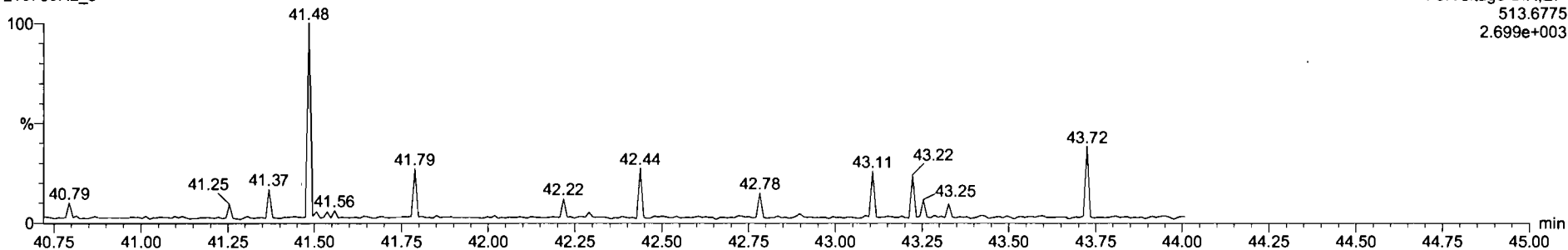


210730R2\_5



**DPE5**

210730R2\_5

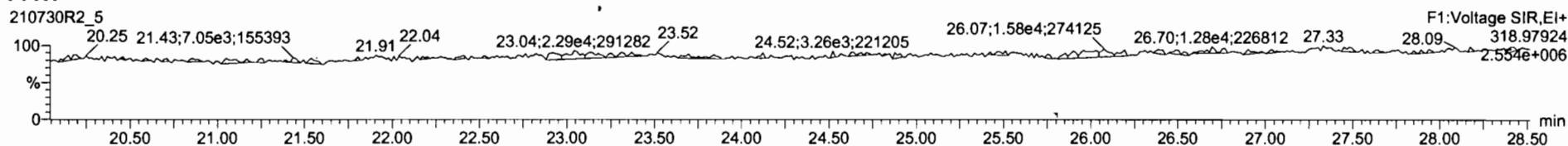


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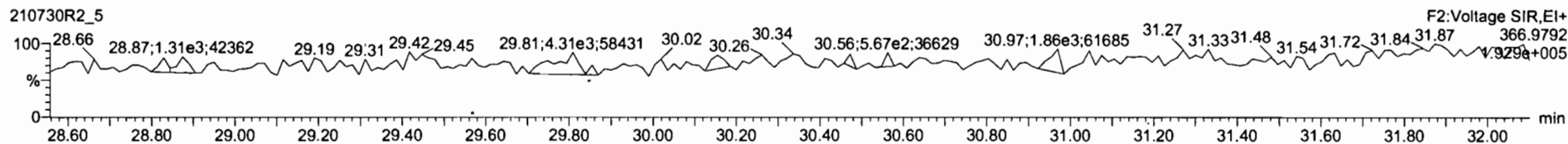
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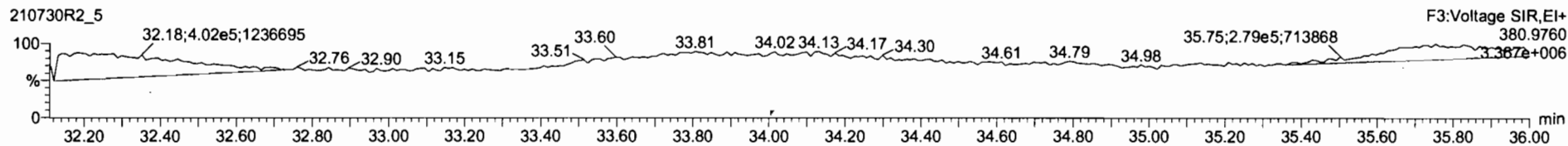
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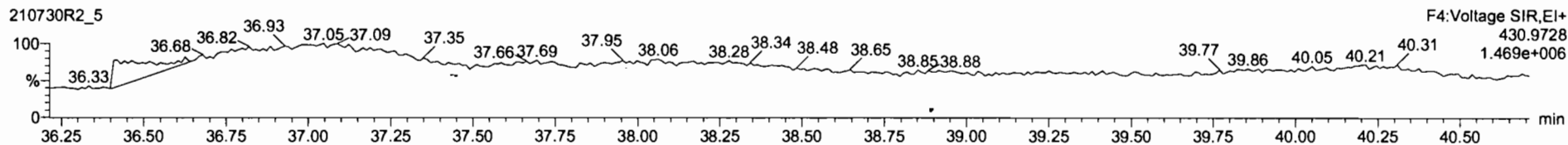
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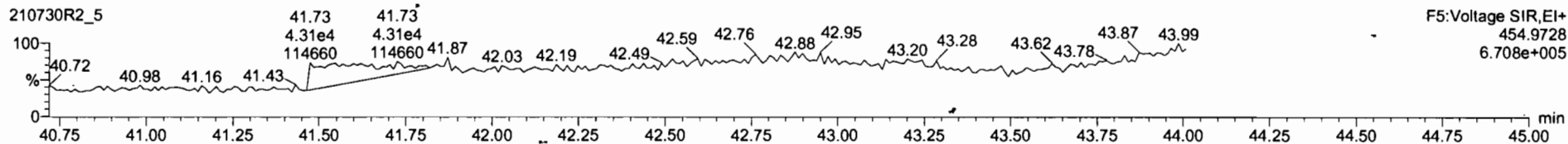
PFK3



PFK4



PFK5



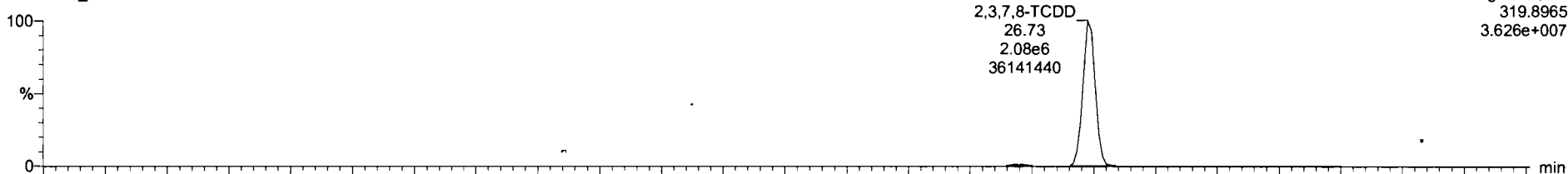
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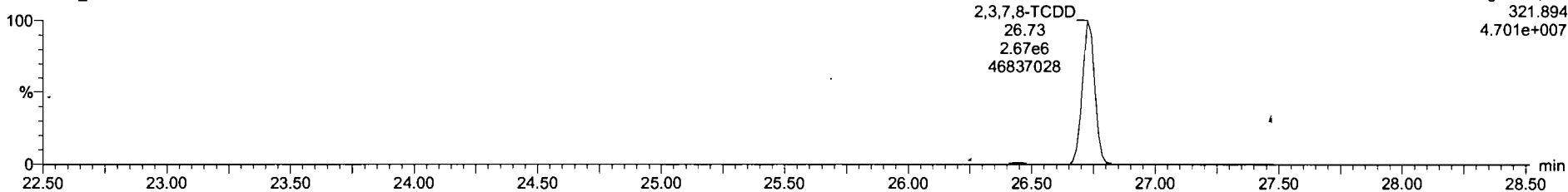
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**2,3,7,8-TCDD**

210730R2\_6

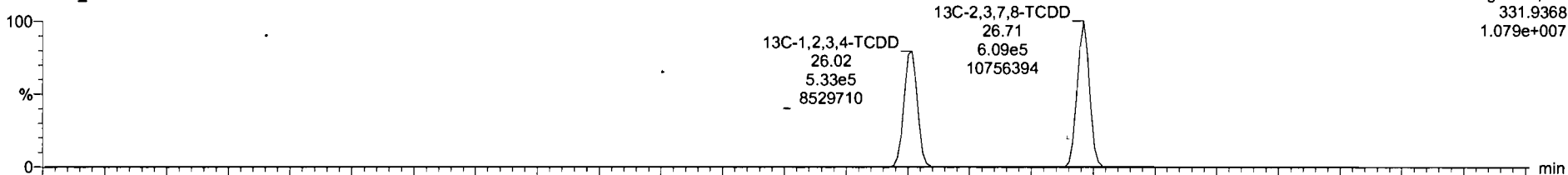


210730R2\_6

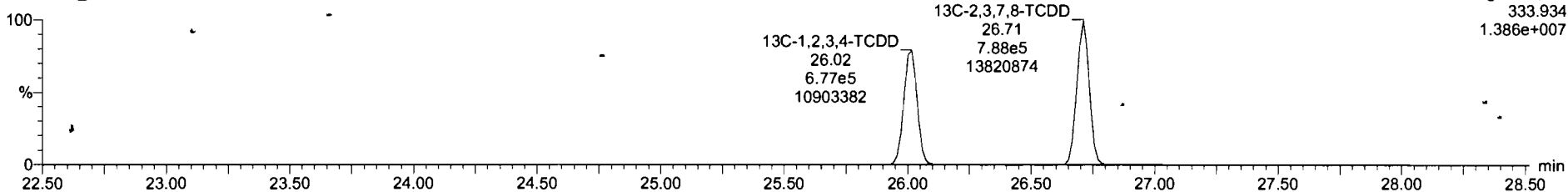


**13C-2,3,7,8-TCDD**

210730R2\_6



210730R2\_6



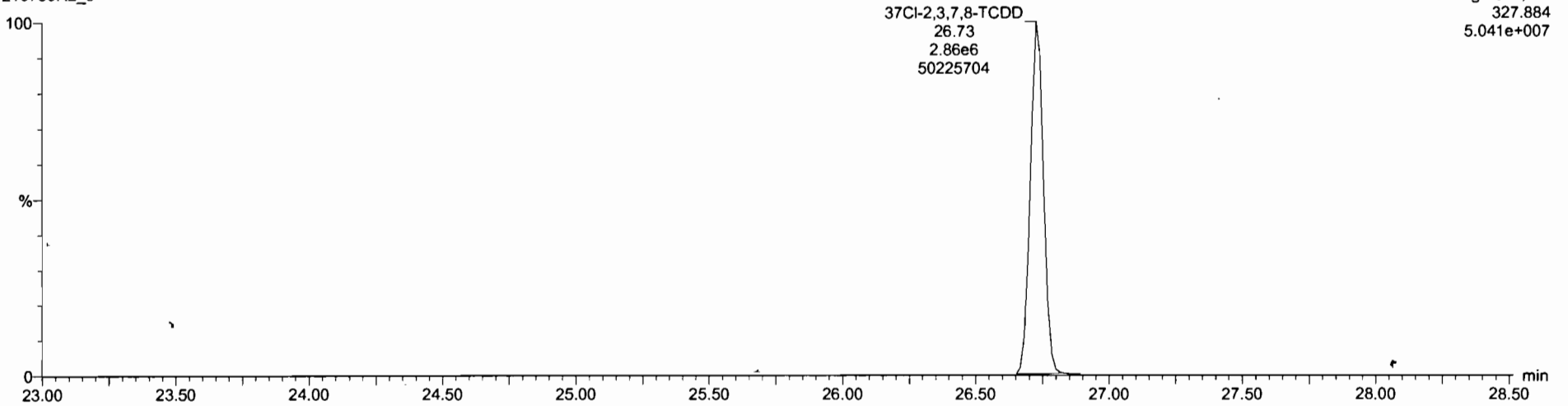
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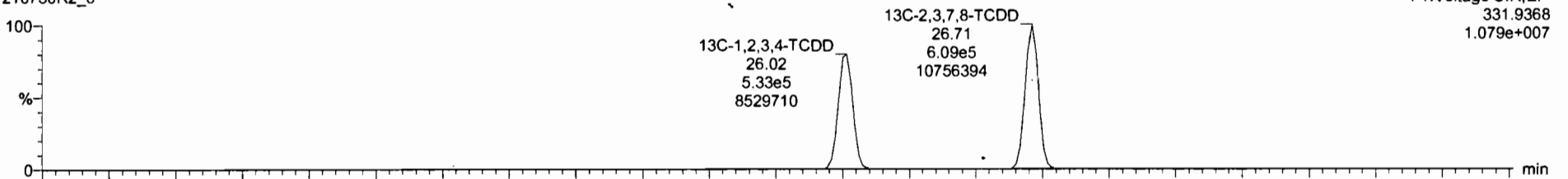
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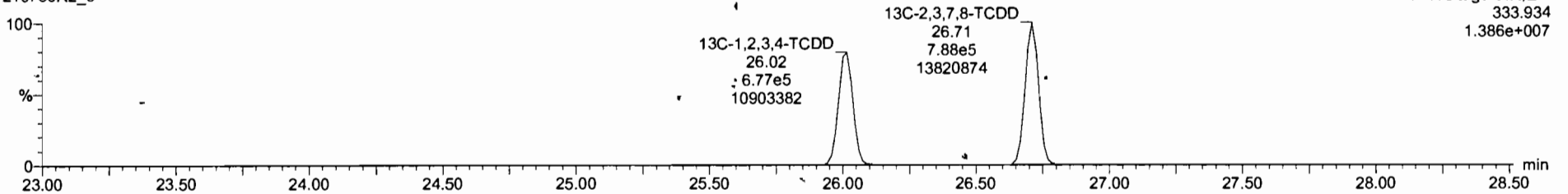


**13C-1,2,3,4-TCDD**

210730R2\_6



210730R2\_6





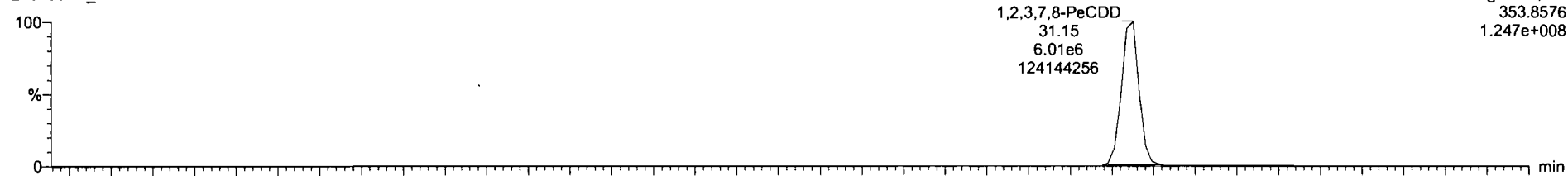
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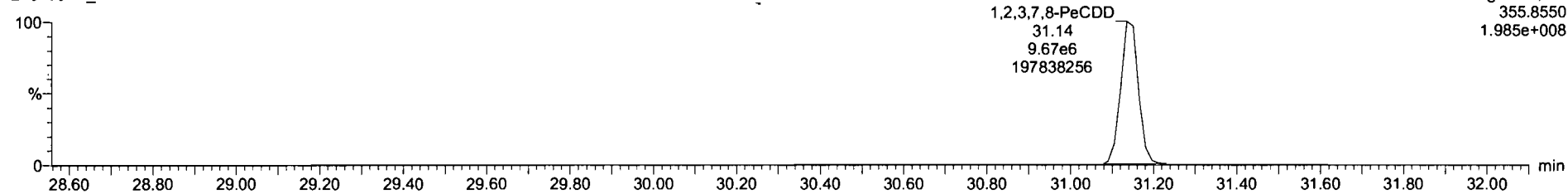
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**1,2,3,7,8-PeCDD**

210730R2\_6

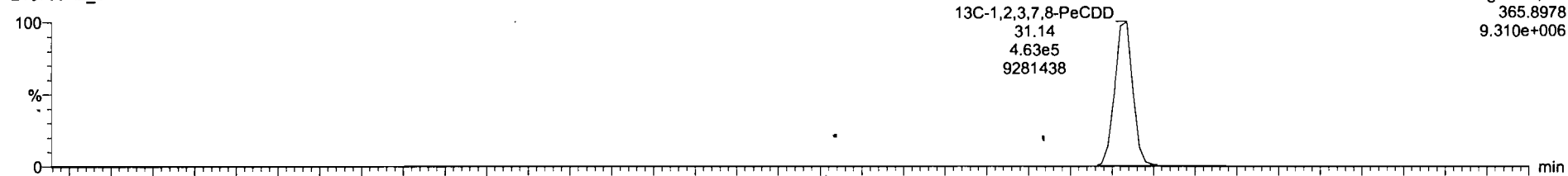


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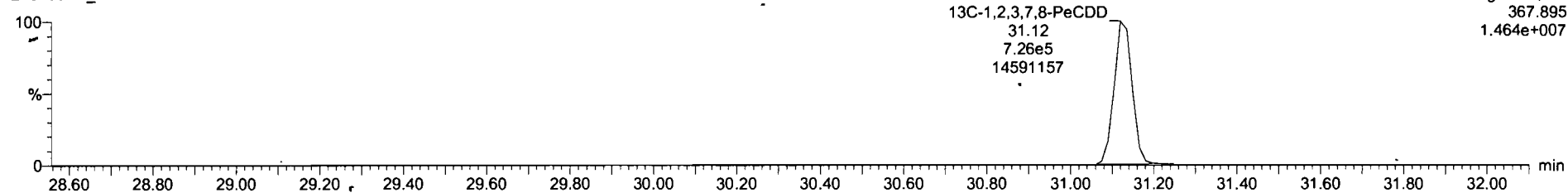


**13C-1,2,3,7,8-PeCDD**

210730R2\_6



210730R2\_6



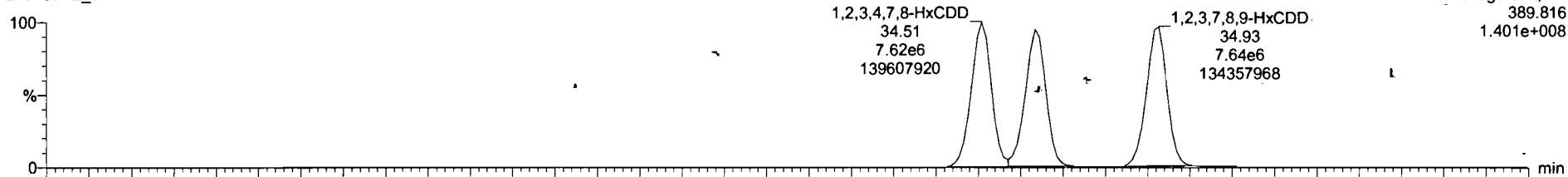
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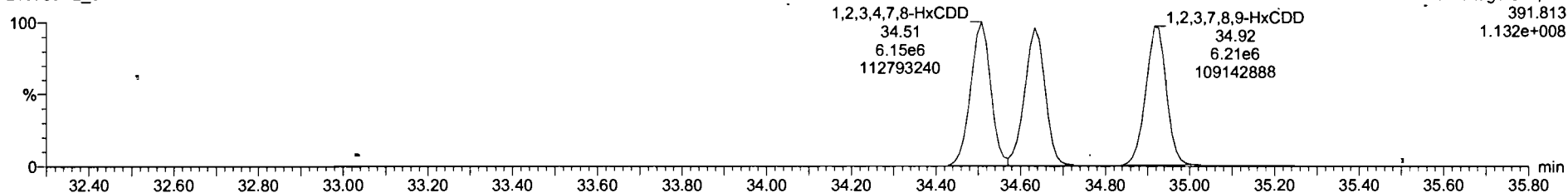
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1,2,3,4,7,8-HxCDD

210730R2\_6

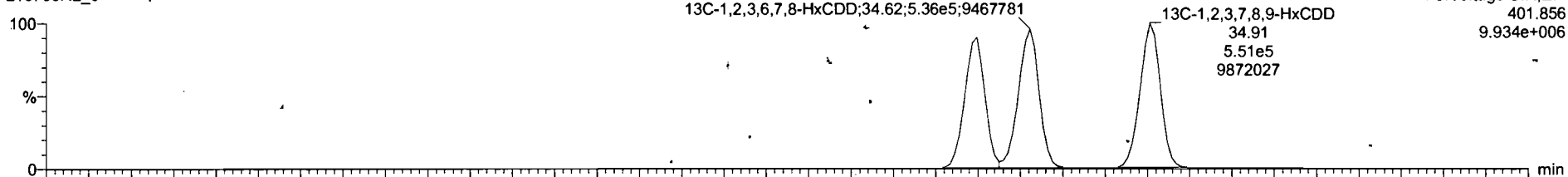


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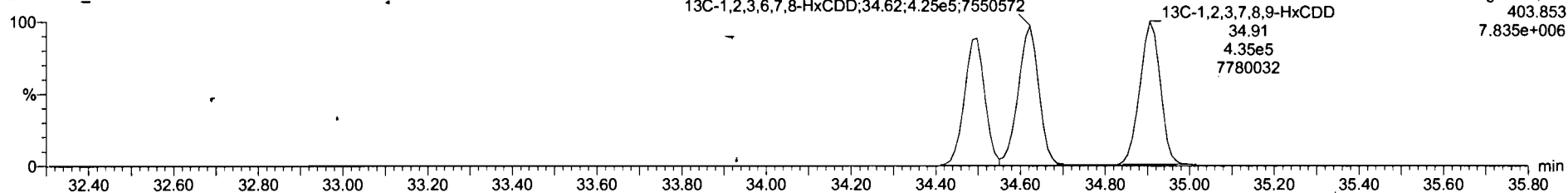


13C-1,2,3,4,7,8-HxCDD

210730R2\_6



210730R2\_6



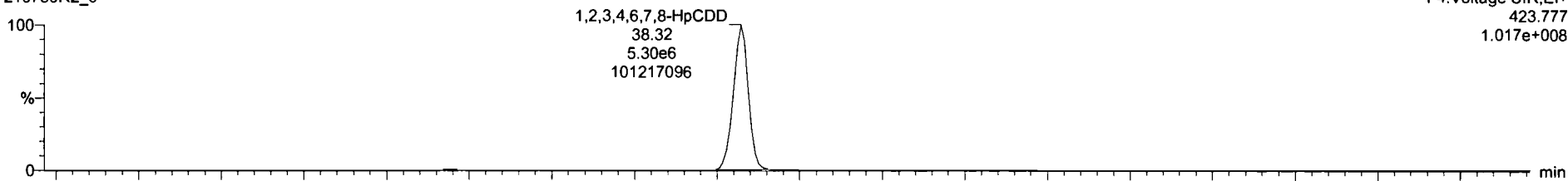
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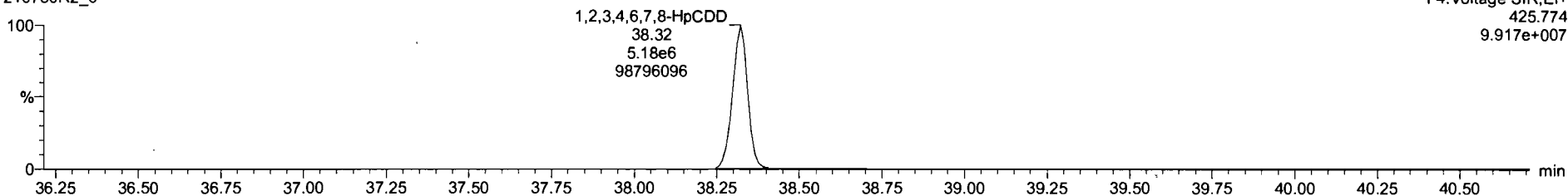
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**1,2,3,4,6,7,8-HpCDD**

210730R2\_6

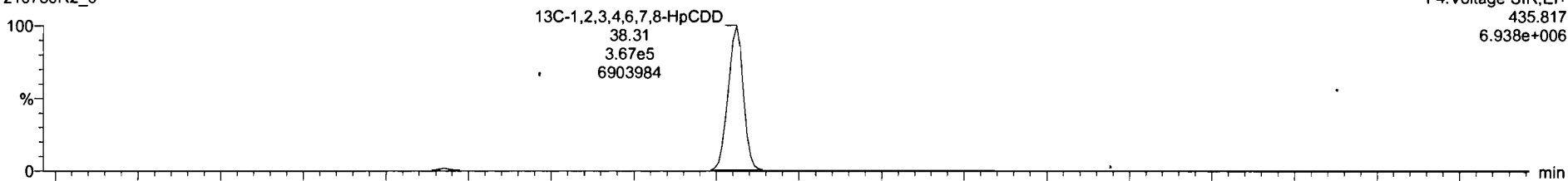


210730R2\_6

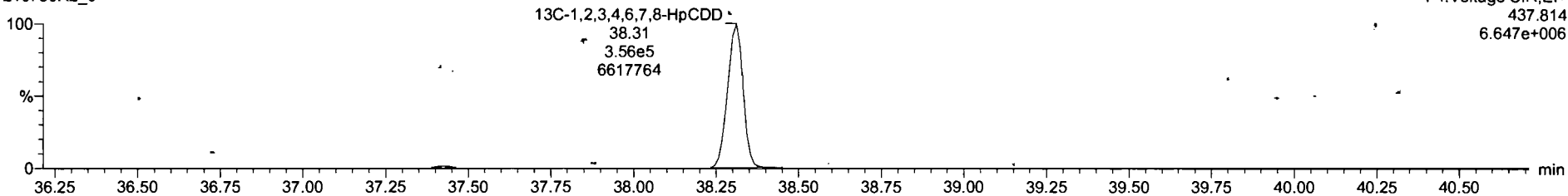


**<sup>13</sup>C-1,2,3,4,6,7,8-HpCDD**

210730R2\_6



210730R2\_6



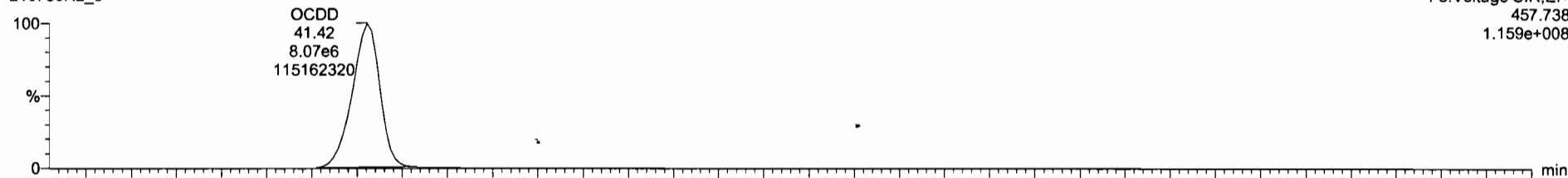
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Printed: Monday, August 02, 2021 09:58:15 Pacific Daylight Time

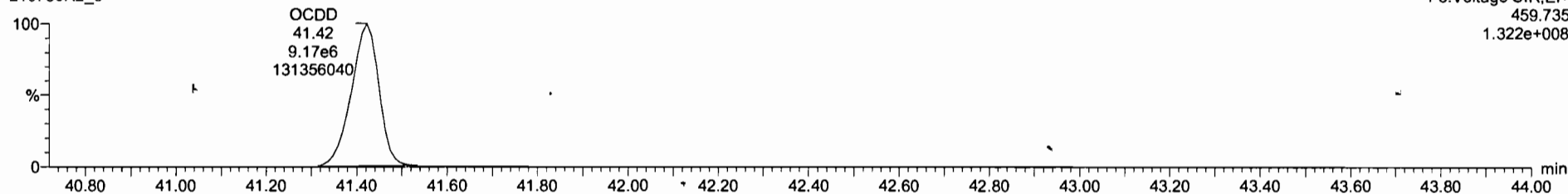
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**OCDD**

210730R2\_6

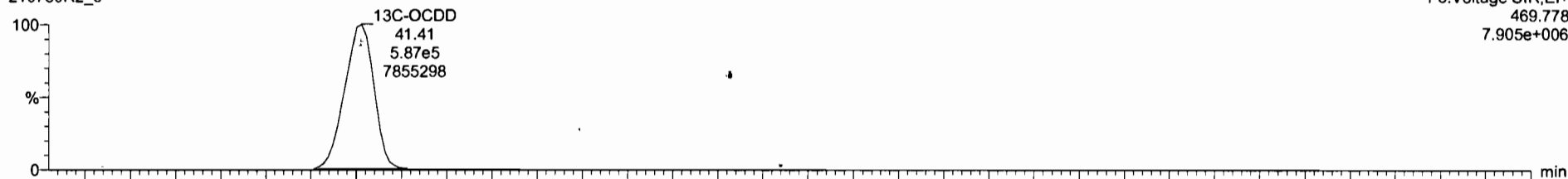


210730R2\_6

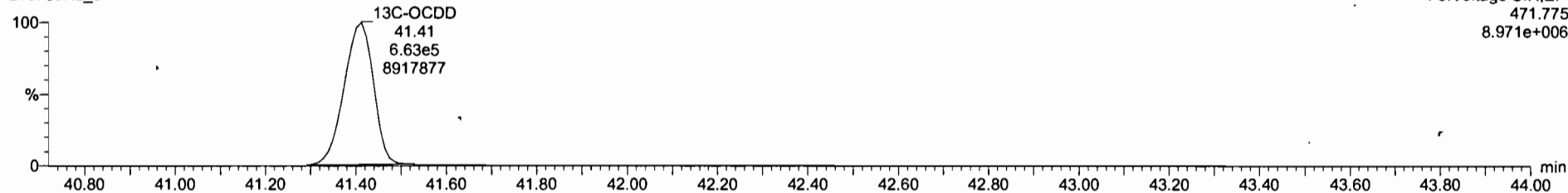


**13C-OCDD**

210730R2\_6



210730R2\_6



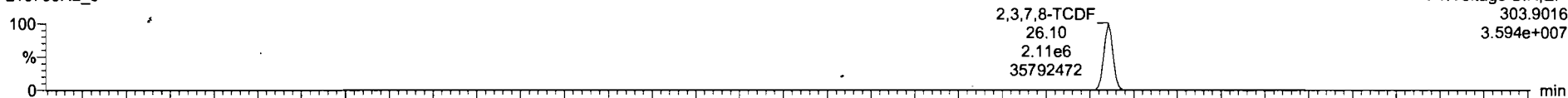
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Last Altered: Monday, August 02, 2021 09:57:32 Pacific Daylight Time  
Printed: Monday, August 02, 2021 09:58:15 Pacific Daylight Time

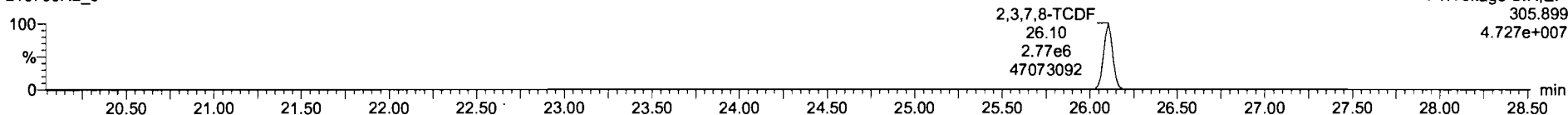
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**2,3,7,8-TCDF**

210730R2\_6

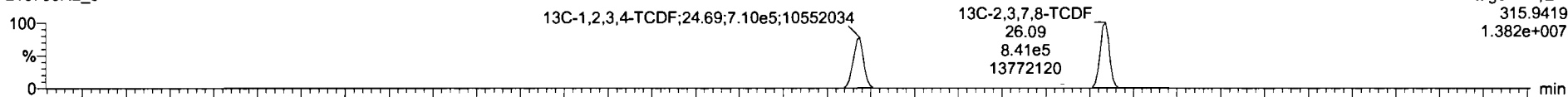


210730R2\_6

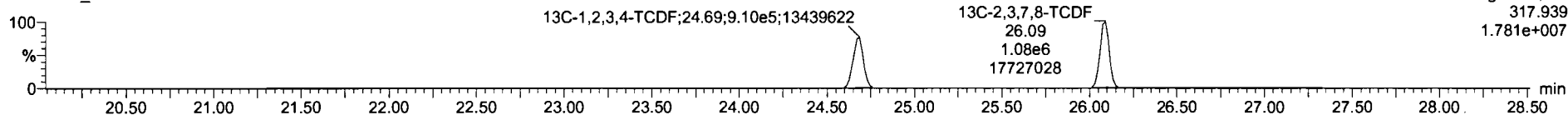


**13C-2,3,7,8-TCDF**

210730R2\_6

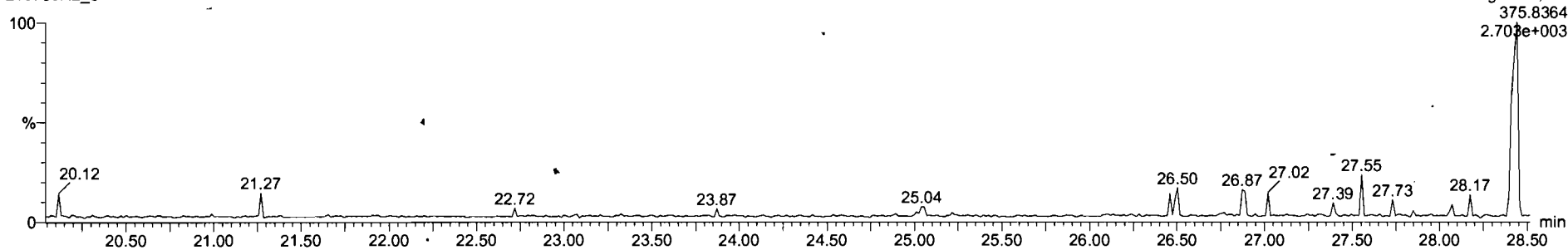


210730R2\_6



**DPE1**

210730R2\_6



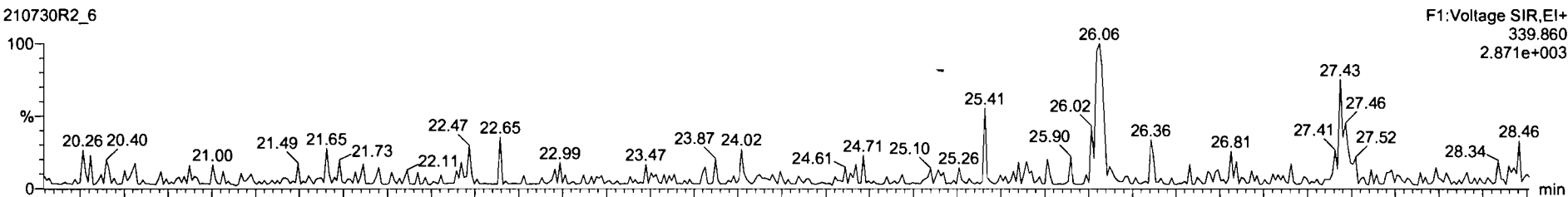
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Printed: Monday, August 02, 2021 09:58:15 Pacific Daylight Time

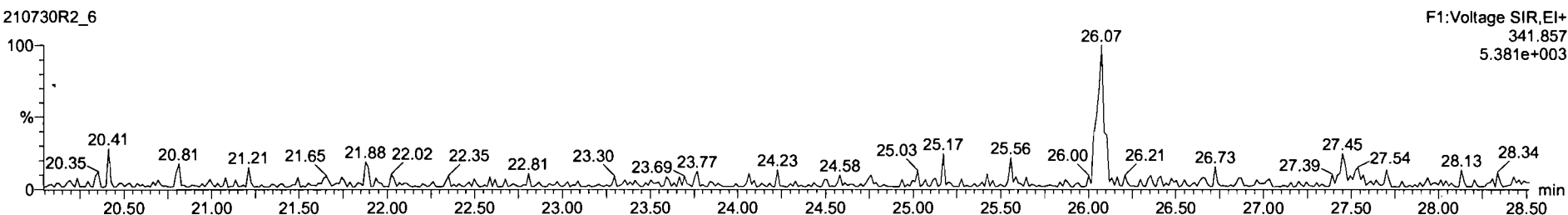
Name: 210730R2\_6, Date: 30-Jul-2021, Time: 22:02:36, ID: ST210730R2\_6 1613 CS5 21G0808, Description: 1613 CS5 21G0808

1st Func. Penta-Furans

210730R2\_6

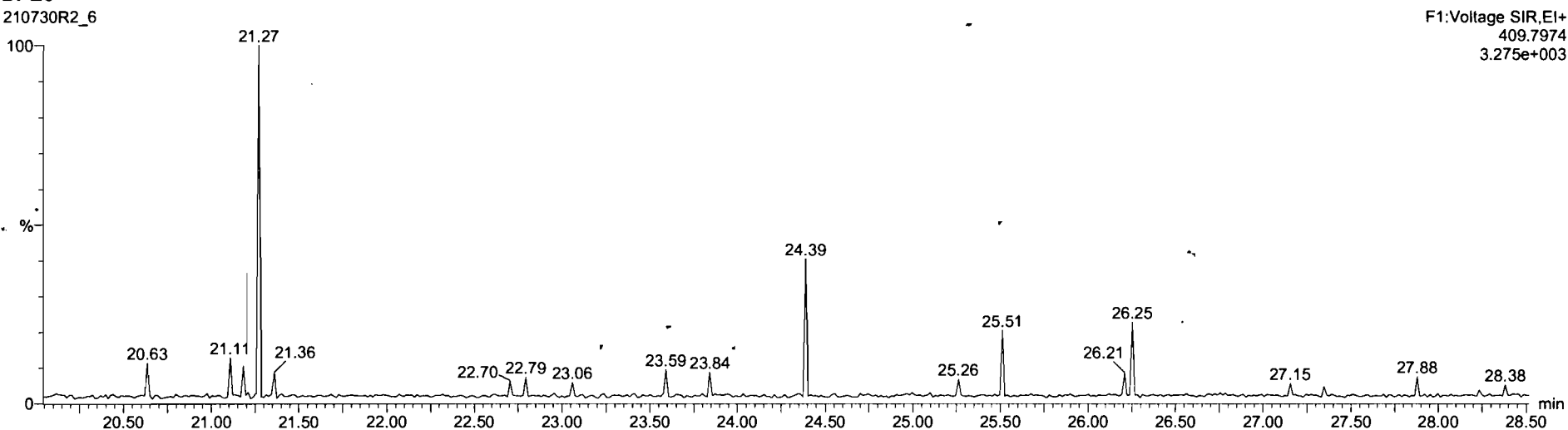


210730R2\_6



DPE6

210730R2\_6



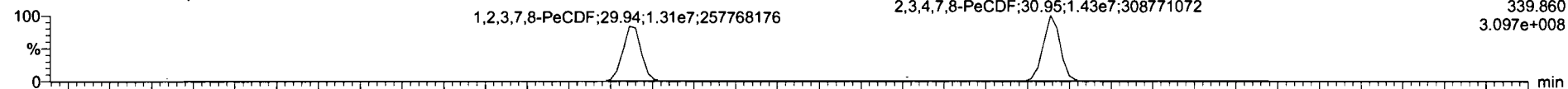
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Last Altered: Monday, August 02, 2021 09:57:32 Pacific Daylight Time  
Printed: Monday, August 02, 2021 09:58:15 Pacific Daylight Time

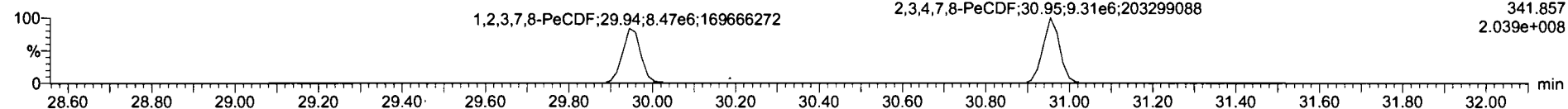
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**1,2,3,7,8-PeCDF**

210730R2\_6

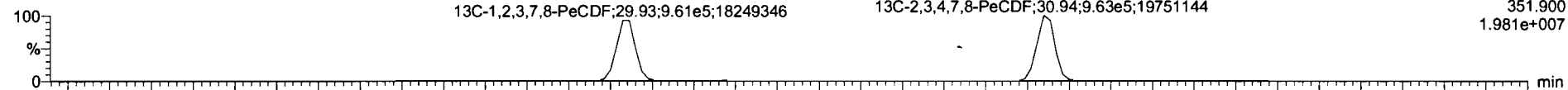


210730R2\_6

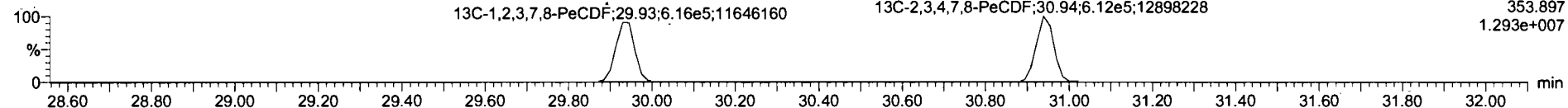


**13C-1,2,3,7,8-PeCDF**

210730R2\_6

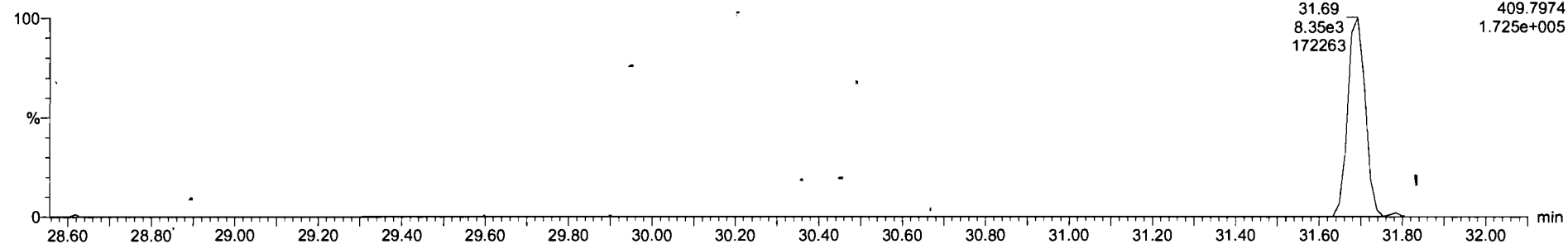


210730R2\_6



**DPE2**

210730R2\_6



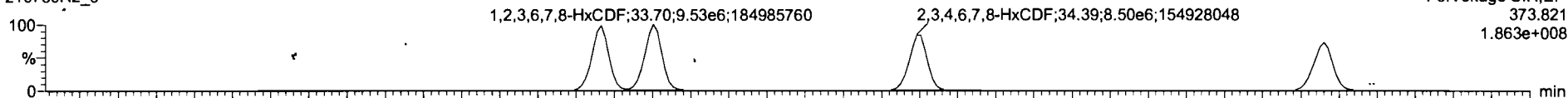
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Printed: Monday, August 02, 2021 09:58:15 Pacific Daylight Time

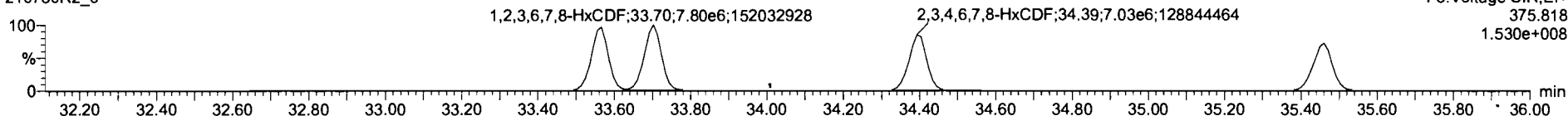
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**1,2,3,4,7,8-HxCDF**

210730R2\_6

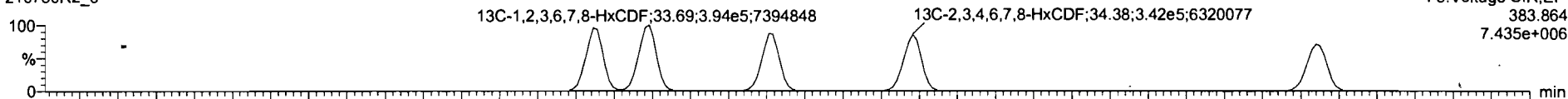


210730R2\_6

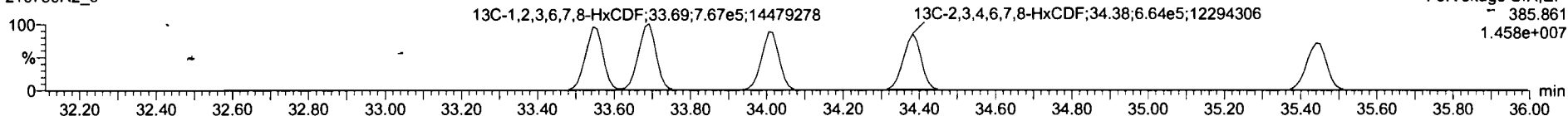


**13C-1,2,3,4,7,8-HxCDF**

210730R2\_6

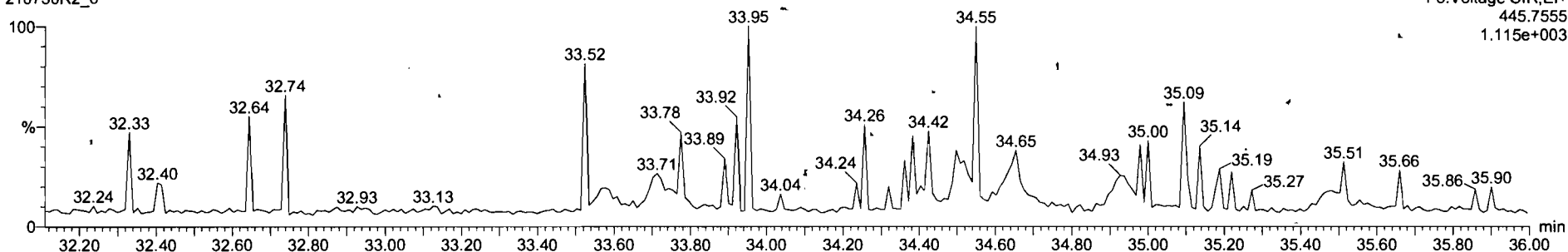


210730R2\_6



**DPE3**

210730R2\_6





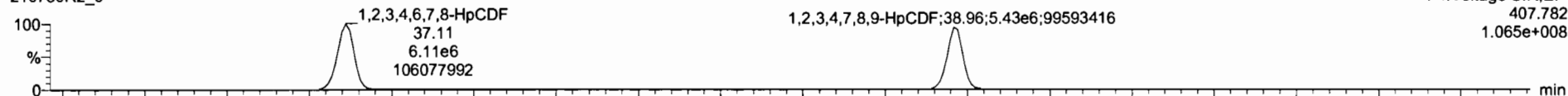
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Last Altered: Monday, August 02, 2021 09:57:32 Pacific Daylight Time  
Printed: Monday, August 02, 2021 09:58:15 Pacific Daylight Time

Name: 210730R2\_6, Date: 30-Jul-2021, Time: 22:02:36, ID: ST210730R2\_6 1613 CS5 21G0808, Description: 1613 CS5 21G0808

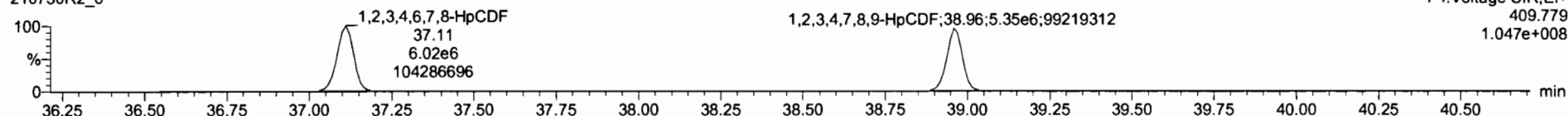
1,2,3,4,6,7,8-HpCDF

210730R2\_6



F4:Voltage SIR,EI+  
407.782  
1.065e+008

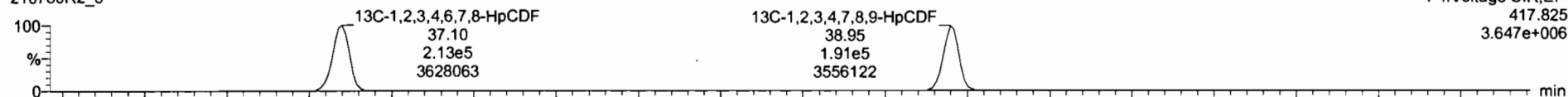
210730R2\_6



F4:Voltage SIR,EI+  
409.779  
1.047e+008

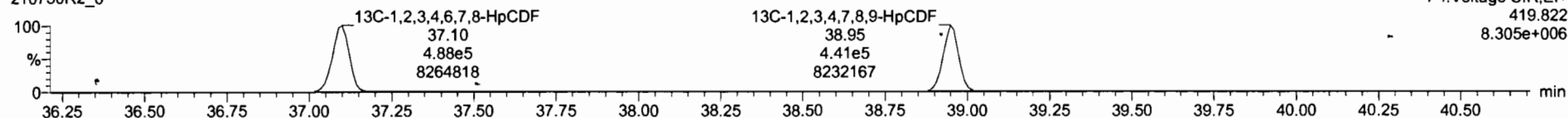
13C-1,2,3,4,6,7,8-HpCDF

210730R2\_6



F4:Voltage SIR,EI+  
417.825  
3.647e+006

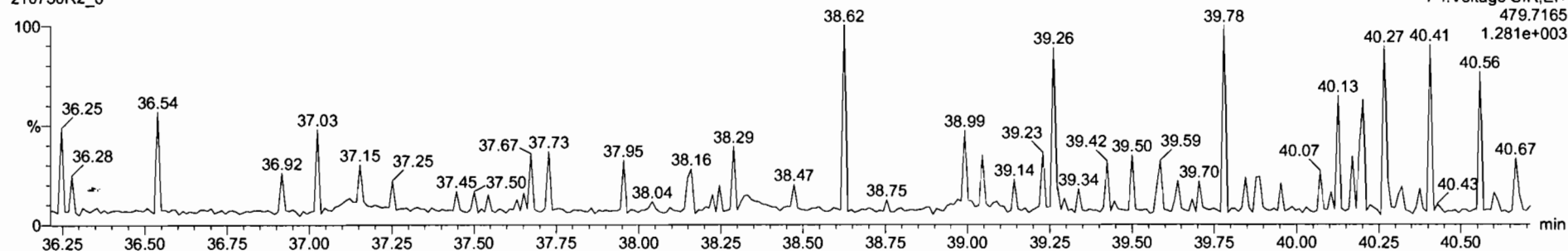
210730R2\_6



F4:Voltage SIR,EI+  
419.822  
8.305e+006

DPE4

210730R2\_6

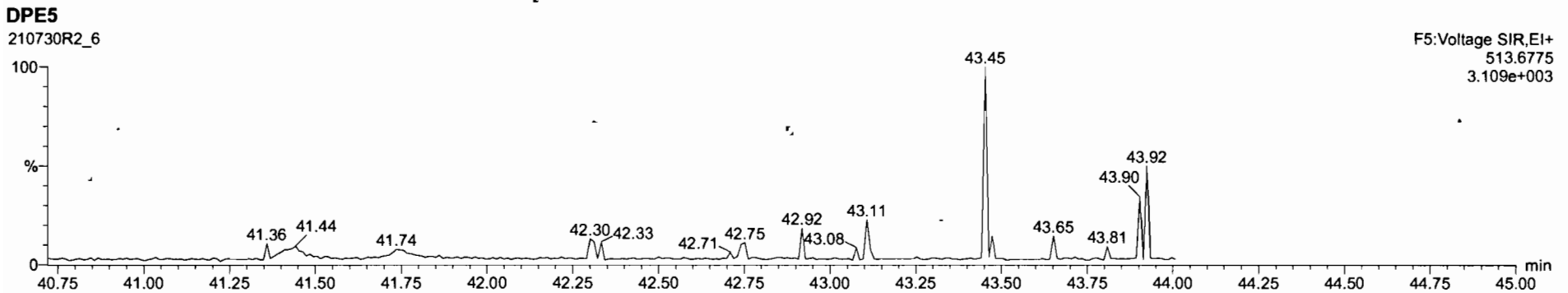
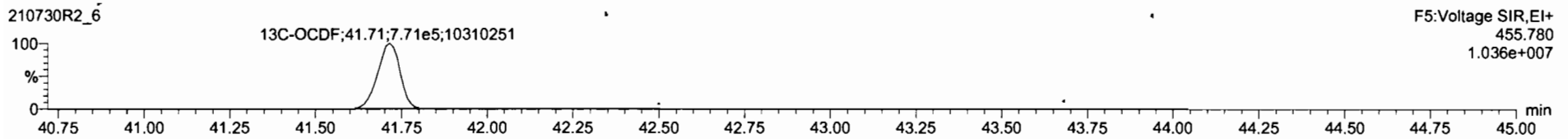
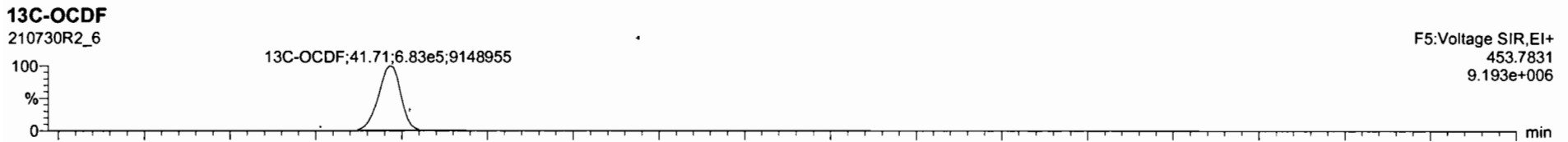
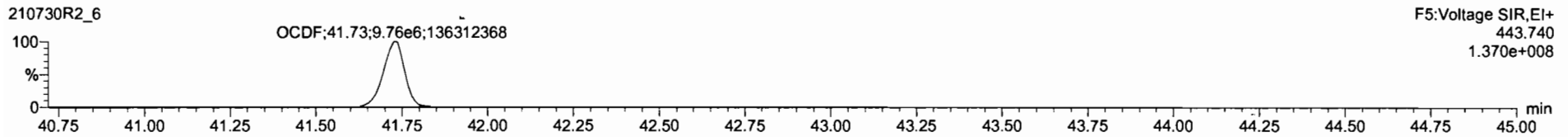
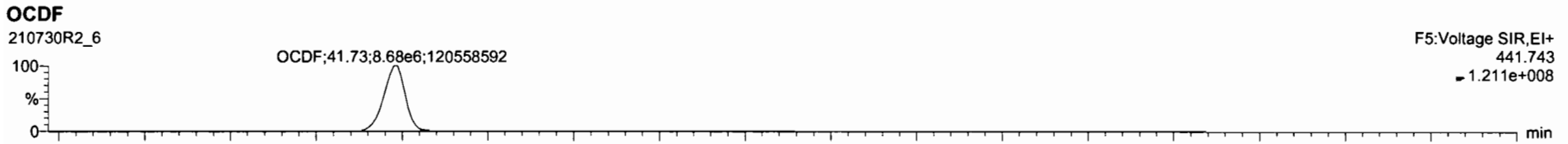


F4:Voltage SIR,EI+  
479.7165  
1.281e+003

Dataset: Untitled

Last Altered: Monday, August 02, 2021 09:57:32 Pacific Daylight Time  
Printed: Monday, August 02, 2021 09:58:15 Pacific Daylight Time

Name: 210730R2\_6, Date: 30-Jul-2021, Time: 22:02:36, ID: ST210730R2\_6 1613 CS5 21G0808, Description: 1613 CS5 21G0808



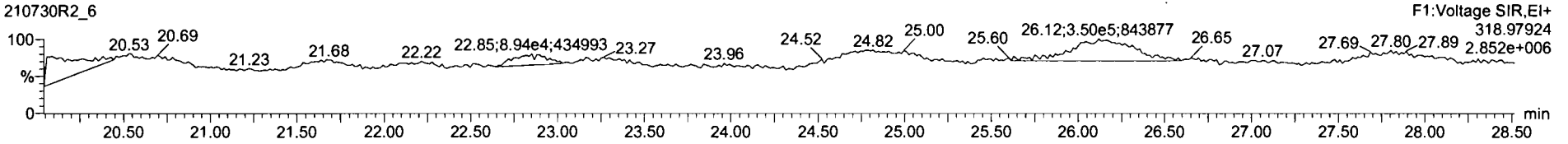
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Printed: Monday, August 02, 2021 09:58:15 Pacific Daylight Time

Name: 210730R2\_6, Date: 30-Jul-2021, Time: 22:02:36, ID: ST210730R2\_6 1613 CS5 21G0808, Description: 1613 CS5 21G0808

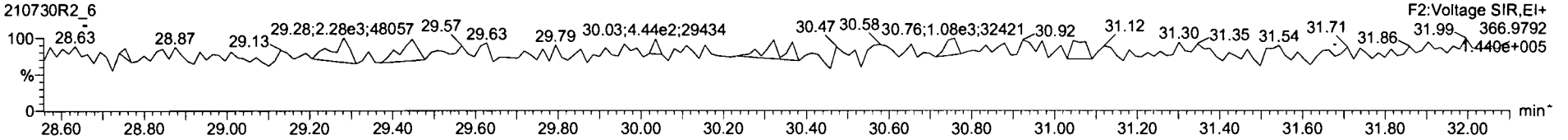
PFK1

210730R2\_6



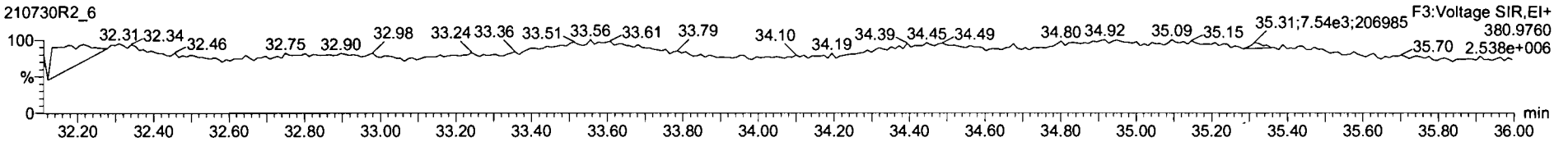
PFK2

210730R2\_6



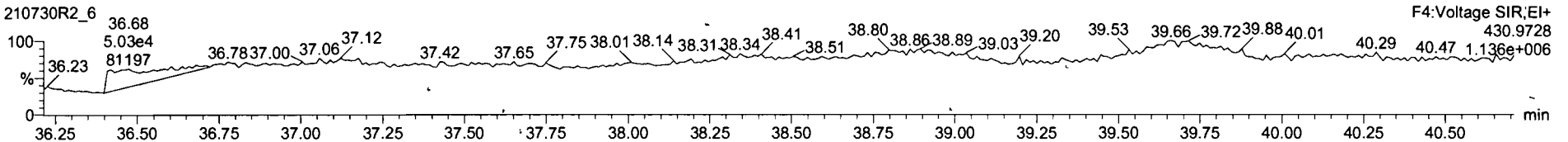
PFK3

210730R2\_6



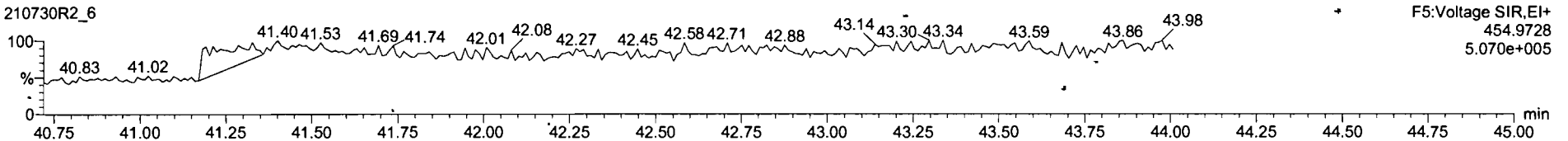
PFK4

210730R2\_6

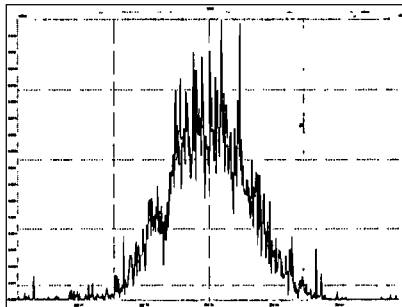


PFK5

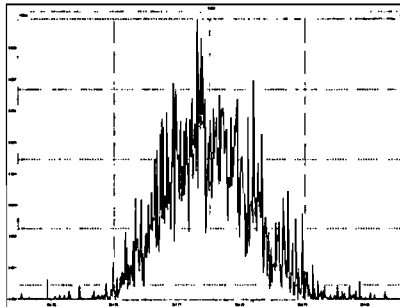
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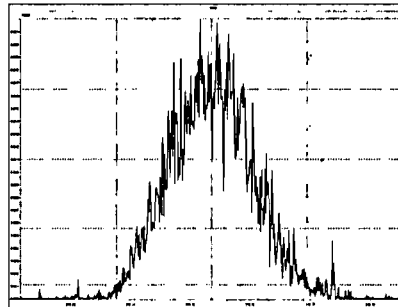
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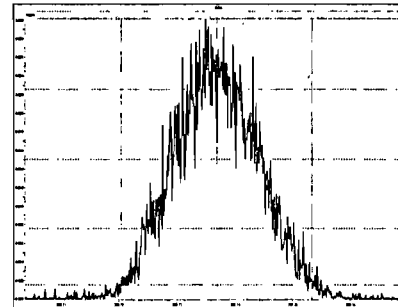
M 304.9824 R 11829



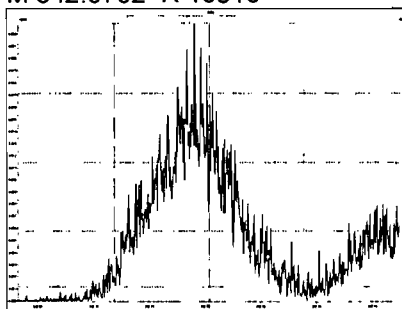
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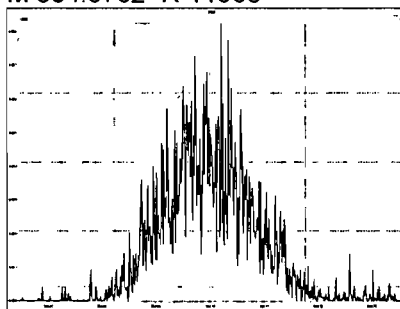
M 330.9792 R 10419



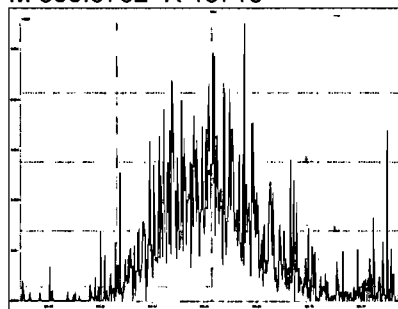
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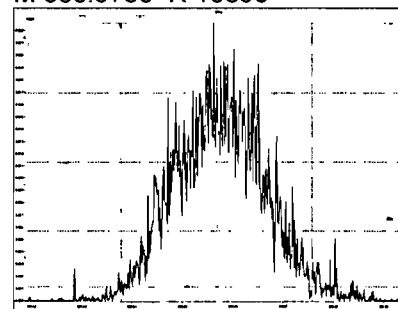
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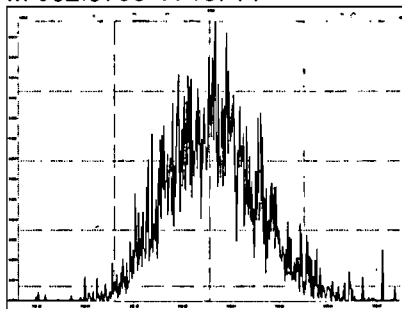
M 366.9792 R 13710



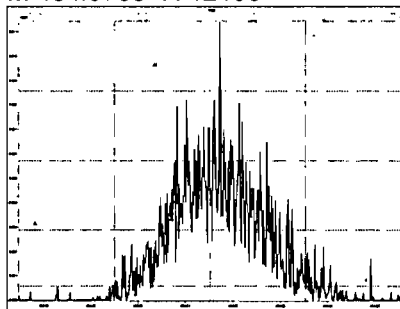
M 380.9760 R 10695



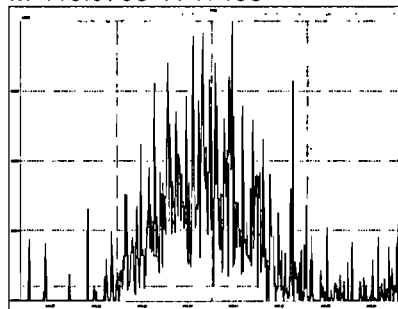
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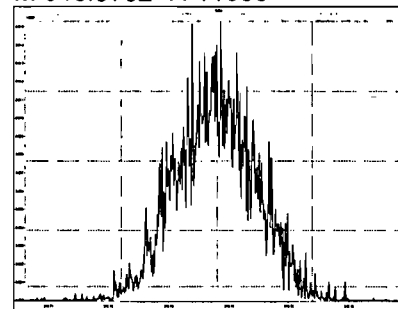
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M 416.9760 R 17160

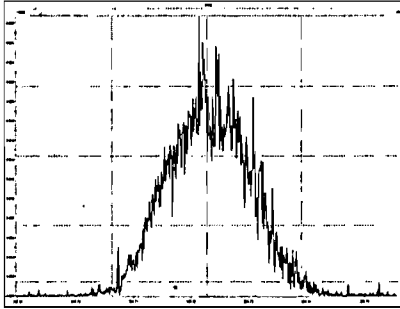


M 318.9792 R 11688

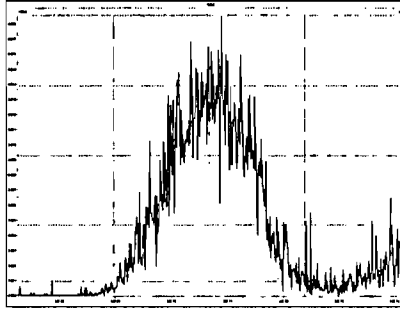


Printed: Saturday, July 31, 2021 06:41:40 Pacific Daylight Time

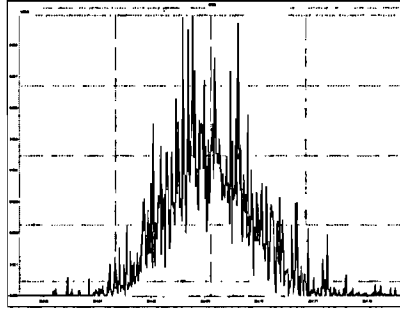
M 330.9792 R 11499



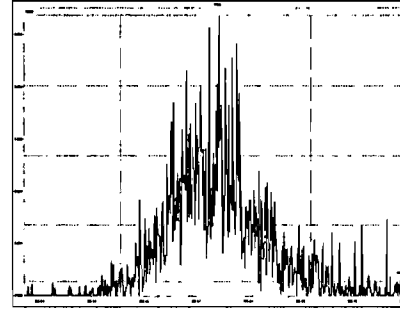
M 342.9792 R 11409



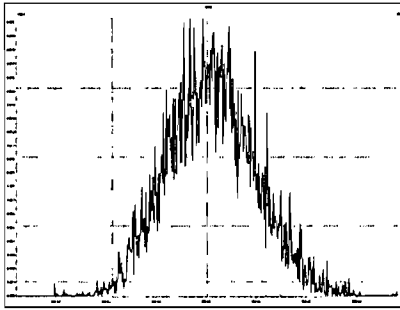
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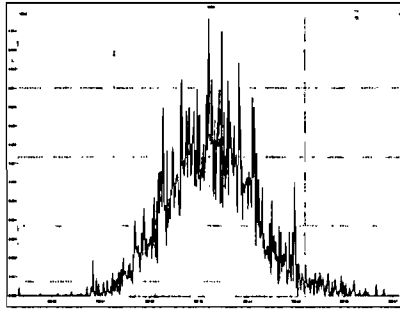
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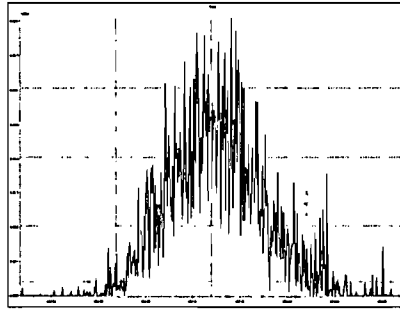
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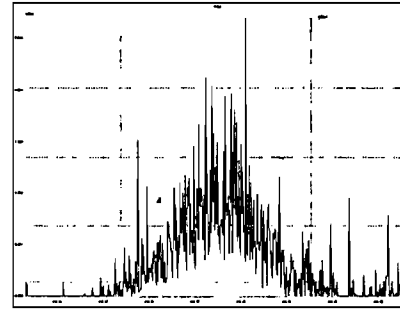
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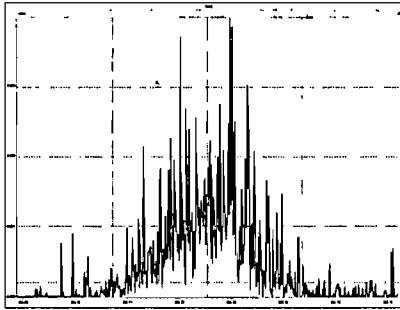
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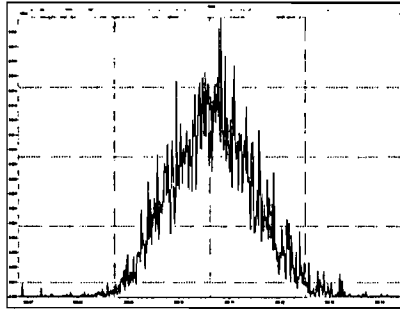
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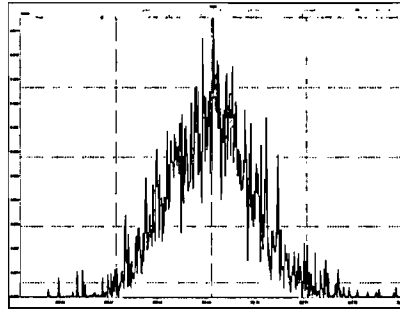
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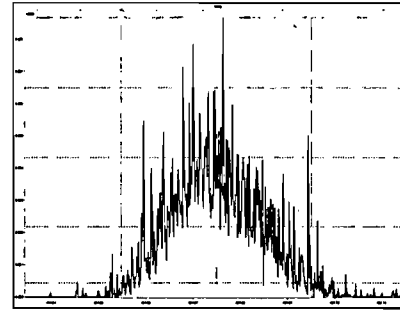
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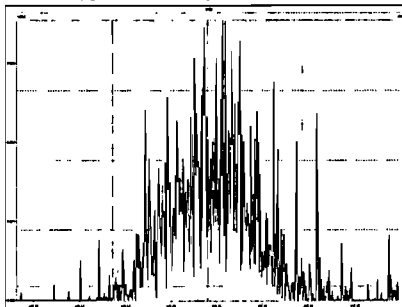
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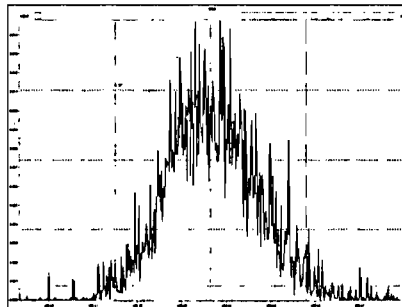
M 404.9760 R 11887



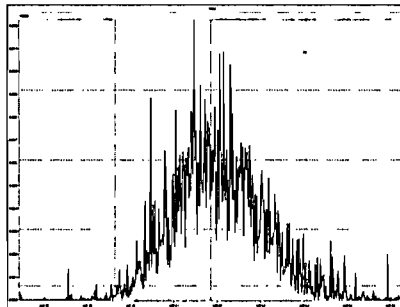
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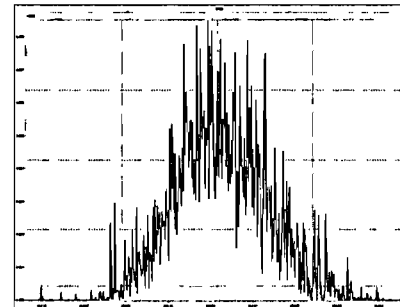
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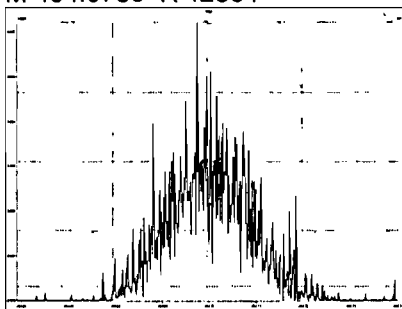
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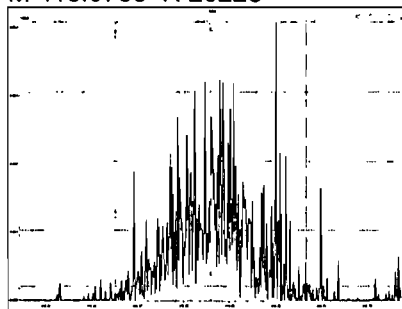
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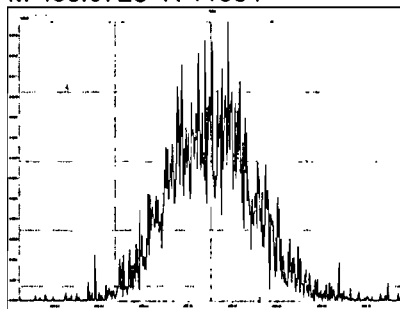
M 404.9760 R 12354



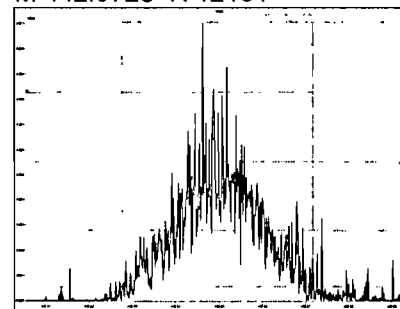
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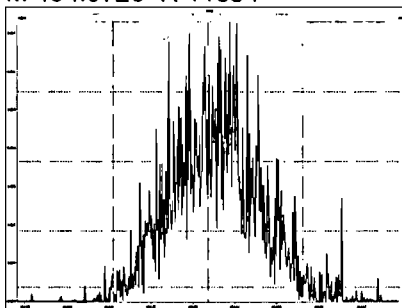
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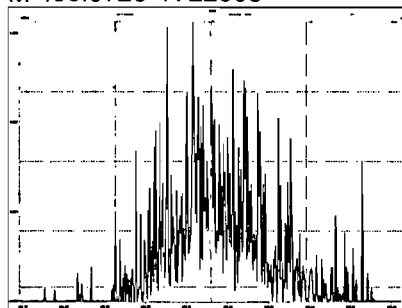
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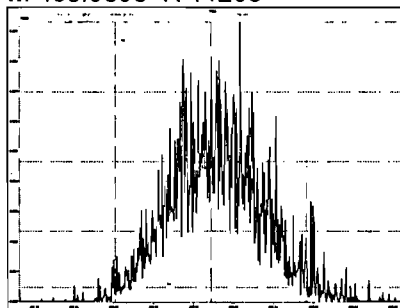
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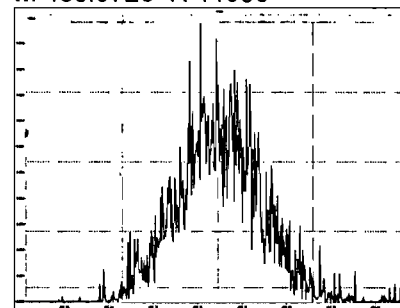
M 466.9728 R 22596



M 480.9696 R 11293

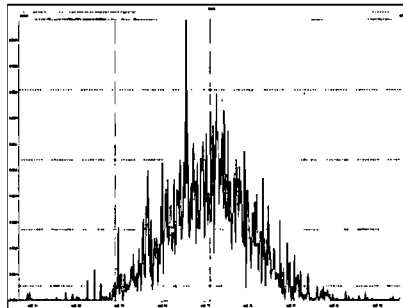


M 430.9728 R 11990

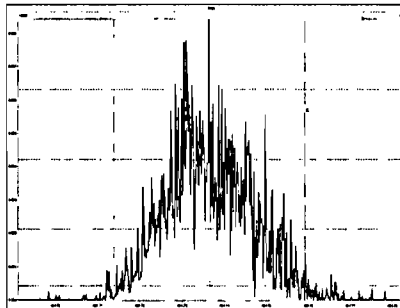


Printed: Saturday, July 31, 2021 06:41:40 Pacific Daylight Time

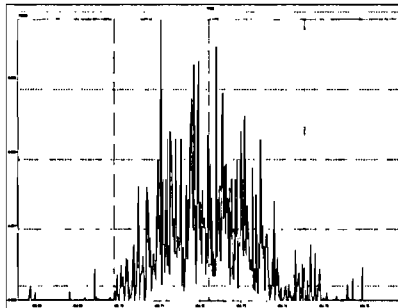
M 442.9728 R 11765



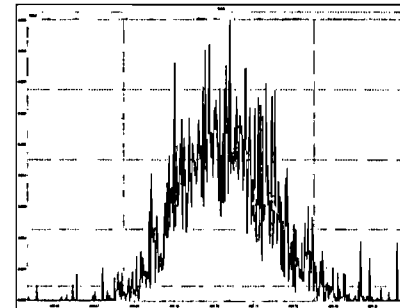
M 454.9728 R 16491



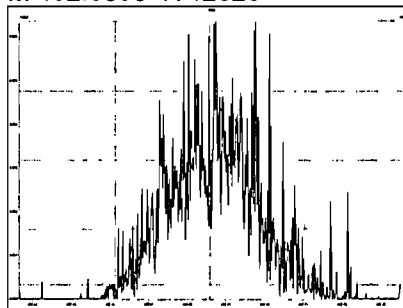
M 466.9728 R 16049



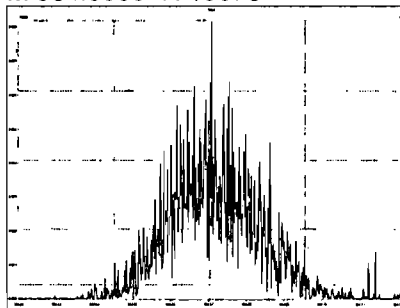
M 480.9696 R 11606



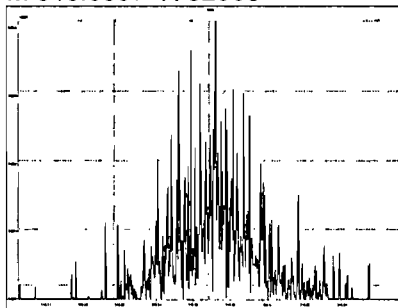
M 492.9696 R 12825



M 504.9696 R 13370



M 516.9697 R 82330



Dataset: U:\VG12.PRO\Results\210730R2\210730R2\_7.qld

Last Altered: Monday, August 02, 2021 11:07:58 Pacific Daylight Time  
Printed: Wednesday, August 04, 2021 09:34:41 Pacific Daylight Time

*HIN 08/04/21*

*Hc 8.4.2021*

Method: U:\VG12.PRO\MethDB\1613rrt-07-28-21.mdb 28 Jul 2021 08:55:56  
Calibration: U:\VG12.PRO\CurveDB\ldbDIOXIN\_1613vg12-07-30-21.cdb 02 Aug 2021 10:55:11

Name: 210730R2\_7, Date: 30-Jul-2021, Time: 22:48:08, ID: SS210730R2\_1 1613 SSS 21G0806, Description: 1613 SSS 21G0806

#	Name	Resp	RA	n/y	RRF	wt/vol	Pred.RT	RT	Pred.RRT	RRT	Conc.	%Rec	DL	EMPC
1	1 2,3,7,8-TCDD	1.13e5	0.76	NO	0.952	1.000	26.728	26.73	1.001	1.001	9.3113	93.1	0.0234	9.31
2	2 1,2,3,7,8-PeCDD	4.26e5	0.60	NO	0.781	1.000	31.151	31.14	1.001	1.000	53.259	107	0.0334	53.3
3	3 1,2,3,4,7,8-HxCDD	3.61e5	1.24	NO	0.904	1.000	34.497	34.49	1.001	1.000	54.417	109	0.0687	54.4
4	4 1,2,3,6,7,8-HxCDD	3.76e5	1.24	NO	0.806	1.000	34.623	34.61	1.001	1.000	58.191	116	0.0708	58.2
5	5 1,2,3,7,8,9-HxCDD	3.67e5	1.25	NO	0.814	1.000	34.895	34.91	1.000	1.001	53.569	107	0.0688	53.6
6	6 1,2,3,4,6,7,8-HpCDD	2.70e5	1.04	NO	0.836	1.000	38.268	38.28	1.000	1.001	53.903	108	0.141	53.9
7	7 OCDD	4.21e5	0.88	NO	0.798	1.000	41.357	41.36	1.000	1.000	111.33	111	0.173	111
8	8 2,3,7,8-TCDF	1.27e5	0.75	NO	0.720	1.000	26.077	26.10	1.000	1.001	9.6376	96.4	0.0170	9.64
9	9 1,2,3,7,8-PeCDF	6.04e5	1.58	NO	0.813	1.000	29.932	29.94	1.000	1.000	52.394	105	0.0577	52.4
10	10 2,3,4,7,8-PeCDF	6.35e5	1.54	NO	0.892	1.000	30.946	30.94	1.001	1.000	54.770	110	0.0541	54.8
11	11 1,2,3,4,7,8-HxCDF	4.64e5	1.23	NO	0.893	1.000	33.544	33.54	1.000	1.000	54.309	109	0.0962	54.3
12	12 1,2,3,6,7,8-HxCDF	4.78e5	1.23	NO	0.867	1.000	33.691	33.68	1.001	1.000	55.782	112	0.0972	55.8
13	13 2,3,4,6,7,8-HxCDF	4.46e5	1.23	NO	0.896	1.000	34.382	34.37	1.001	1.000	57.690	115	0.109	57.7
14	14 1,2,3,7,8,9-HxCDF	3.83e5	1.24	NO	0.874	1.000	35.440	35.45	1.000	1.001	54.688	109	0.137	54.7
15	15 1,2,3,4,6,7,8-HpCDF	3.32e5	1.02	NO	0.986	1.000	37.087	37.08	1.000	1.000	55.880	112	0.133	55.9
16	16 1,2,3,4,7,8,9-HpCDF	3.01e5	1.03	NO	0.966	1.000	38.928	38.93	1.000	1.000	56.033	112	0.134	56.0
17	17 OCDF	4.32e5	0.87	NO	0.722	1.000	41.671	41.67	1.000	1.000	107.46	107	0.137	107
18	18 13C-2,3,7,8-TCDD	1.28e6	0.78	NO	1.11	1.000	26.711	26.70	1.027	1.027	98.594	98.6	0.0479	
19	19 13C-1,2,3,7,8-PeCDD	1.02e6	0.64	NO	0.893	1.000	31.144	31.12	1.198	1.197	97.727	97.7	0.0647	
20	20 13C-1,2,3,4,7,8-HxCDD	7.35e5	1.28	NO	0.784	1.000	34.484	34.48	1.014	1.014	99.104	99.1	0.107	
21	21 13C-1,2,3,6,7,8-HxCDD	8.01e5	1.26	NO	0.863	1.000	34.614	34.60	1.018	1.018	98.180	98.2	0.0970	
22	22 13C-1,2,3,7,8,9-HxCDD	8.41e5	1.24	NO	0.905	1.000	34.902	34.88	1.027	1.026	98.325	98.3	0.0925	
23	23 13C-1,2,3,4,6,7,8-HpCDD	5.99e5	1.04	NO	0.644	1.000	38.254	38.26	1.125	1.125	98.440	98.4	0.262	
24	24 13C-OCDD	9.47e5	0.88	NO	0.528	1.000	41.348	41.35	1.216	1.216	189.87	94.9	0.148	
25	25 13C-2,3,7,8-TCDF	1.82e6	0.77	NO	1.15	1.000	26.089	26.08	1.003	1.003	101.38	101	0.0424	
26	26 13C-1,2,3,7,8-PeCDF	1.42e6	1.56	NO	0.905	1.000	29.956	29.93	1.152	1.151	100.22	100	0.114	
27	27 13C-2,3,4,7,8-PeCDF	1.30e6	1.56	NO	0.899	1.000	30.965	30.92	1.191	1.189	92.400	92.4	0.115	
28	28 13C-1,2,3,4,7,8-HxCDF	9.57e5	0.51	NO	1.00	1.000	33.536	33.53	0.987	0.986	100.94	101	0.143	
29	29 13C-1,2,3,6,7,8-HxCDF	9.89e5	0.51	NO	1.04	1.000	33.665	33.67	0.990	0.990	100.31	100	0.138	
30	30 13C-2,3,4,6,7,8-HxCDF	8.62e5	0.51	NO	0.916	1.000	34.376	34.36	1.011	1.011	99.511	99.5	0.157	
31	31 13C-1,2,3,7,8,9-HxCDF	8.01e5	0.50	NO	0.859	1.000	35.433	35.43	1.042	1.042	98.535	98.5	0.167	



Dataset: U:\VG12.PRO\Results\210730R2\210730R2\_7.qld

Last Altered: Monday, August 02, 2021 11:07:58 Pacific Daylight Time

Printed: Wednesday, August 04, 2021 09:34:41 Pacific Daylight Time

Name: 210730R2\_7, Date: 30-Jul-2021, Time: 22:48:08, ID: SS210730R2\_1 1613 SSS 21G0806, Description: 1613 SSS 21G0806

#	Name	Resp	RA	nly	RRF	wt/vol	Pred.RT	RT	Pred.RRT	RRT	Conc.	%Rec	DL	EMPC
32	13C-1,2,3,4,6,7,8-HpCDF	6.02e5	0.44	NO	0.632	1.000	37.068	37.07	1.090	1.090	100.73	101	0.264	
33	13C-1,2,3,4,7,8,9-HpCDF	5.56e5	0.43	NO	0.552	1.000	38.904	38.92	1.144	1.145	106.48	106	0.302	
34	13C-OCDF	1.11e6	0.88	NO	0.606	1.000	41.678	41.66	1.226	1.226	194.48	97.2	0.113	
35	37Cl-2,3,7,8-TCDD	1.25e5			1.01	1.000	26.711	26.73	1.027	1.028	10.548	105	0.0106	
36	13C-1,2,3,4-TCDD	1.17e6	0.78	NO	1.00	1.000	26.030	26.00	1.000	1.000	100.00	100	0.0530	
37	13C-1,2,3,4-TCDF	1.56e6	0.78	NO	1.00	1.000	24.690	24.67	1.000	1.000	100.00	100	0.0489	
38	13C-1,2,3,4,6,9-HxCDF	9.46e5	0.51	NO	1.00	1.000	34.070	33.99	1.000	1.000	100.00	100	0.143	

Dataset: U:\VG12.PRO\Results\210730R2\210730R2\_7.qld

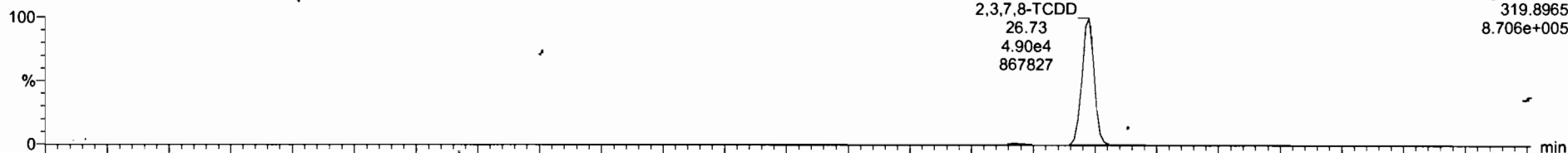
Last Altered: Monday, August 02, 2021 11:07:58 Pacific Daylight Time  
Printed: Monday, August 02, 2021 11:09:10 Pacific Daylight Time

Method: U:\VG12.PRO\MethDB\1613rrt-07-28-21.mdb 28 Jul 2021 08:55:56  
Calibration: U:\VG12.PRO\CurveDB\dbDIOXIN\_1613vg12-07-30-21.cdb 02 Aug 2021 10:55:11

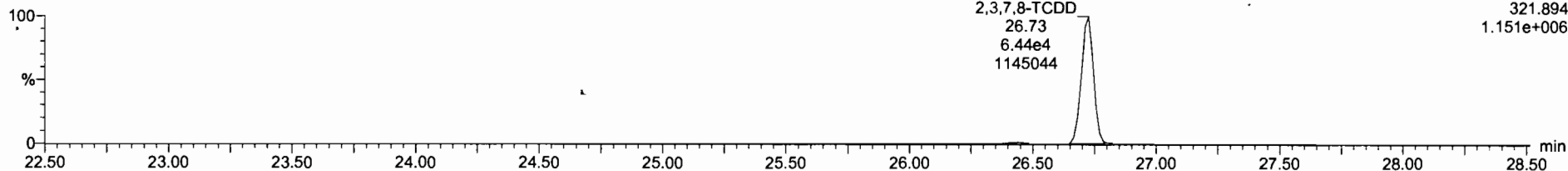
Name: 210730R2\_7, Date: 30-Jul-2021, Time: 22:48:08, ID: SS210730R2\_1 1613 SSS 21G0806, Description: 1613 SSS 21G0806

2,3,7,8-TCDD

210730R2\_7

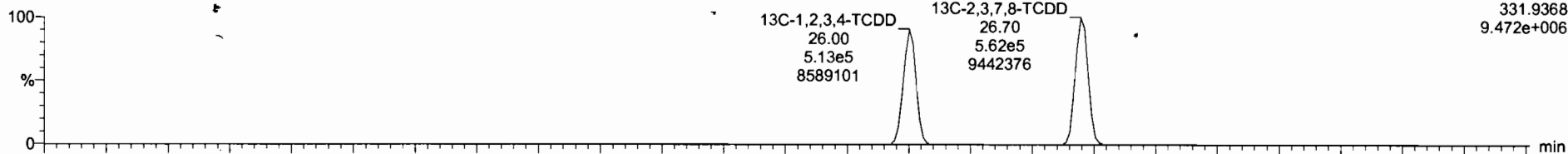


210730R2\_7

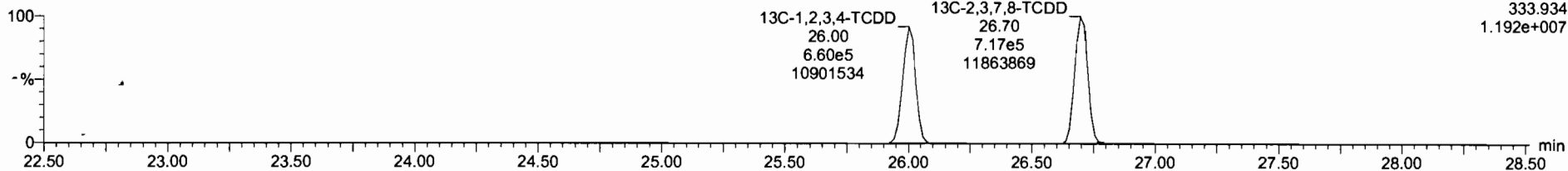


13C-2,3,7,8-TCDD

210730R2\_7



210730R2\_7



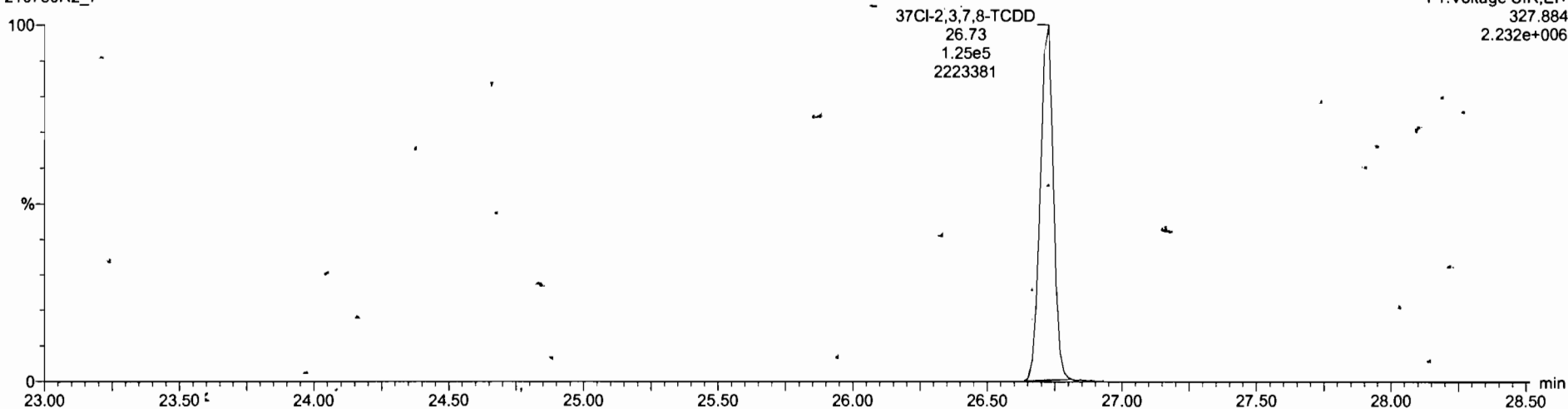
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Last Altered: Monday, August 02, 2021 11:07:58 Pacific Daylight Time  
Printed: Monday, August 02, 2021 11:09:10 Pacific Daylight Time

Name: 210730R2\_7, Date: 30-Jul-2021, Time: 22:48:08, ID: SS210730R2\_1 1613 SSS 21G0806, Description: 1613 SSS 21G0806

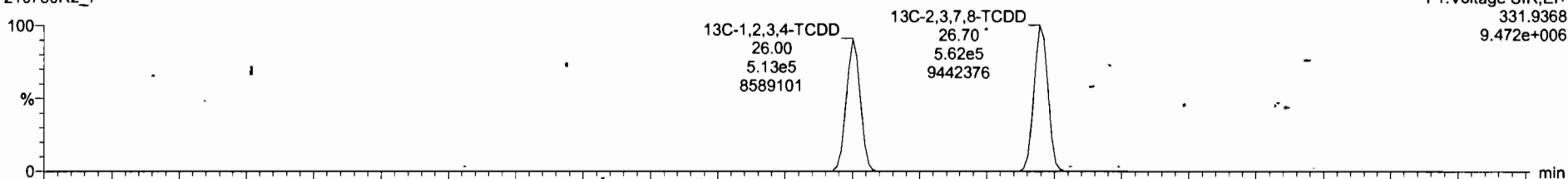
37Cl-2,3,7,8-TCDD

210730R2\_7

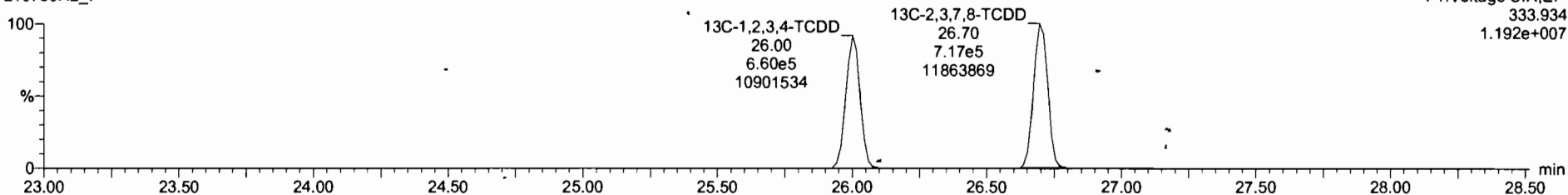


13C-1,2,3,4-TCDD

210730R2\_7



210730R2\_7



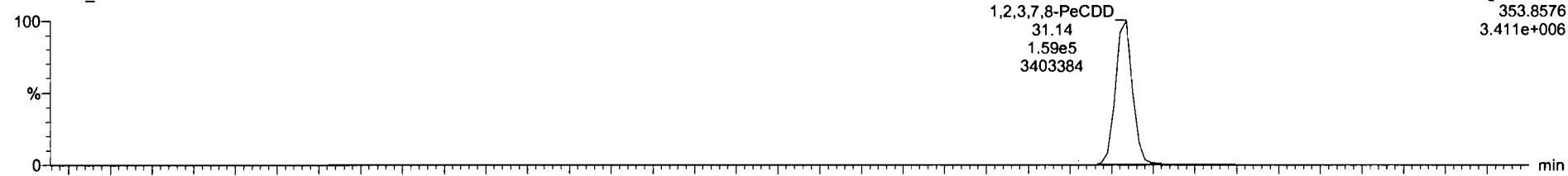
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Printed: Monday, August 02, 2021 11:09:10 Pacific Daylight Time

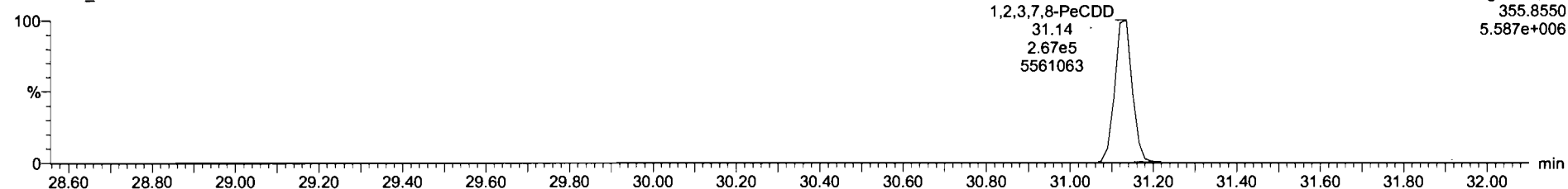
Name: 210730R2\_7, Date: 30-Jul-2021, Time: 22:48:08, ID: SS210730R2\_1 1613 SSS 21G0806, Description: 1613 SSS 21G0806

**1,2,3,7,8-PeCDD**

210730R2\_7

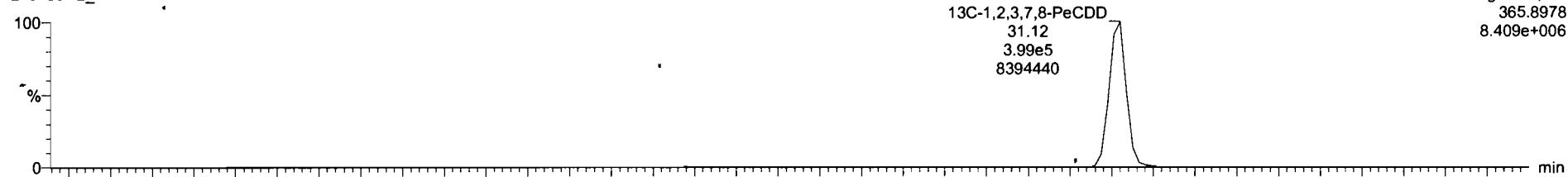


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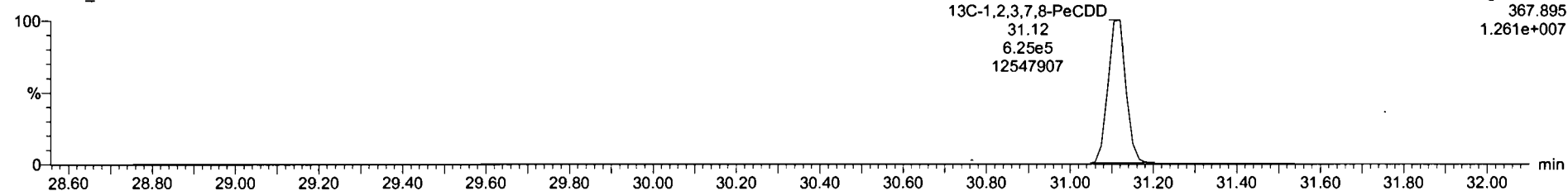


**13C-1,2,3,7,8-PeCDD**

210730R2\_7



210730R2\_7



Dataset: U:\VG12.PRO\Results\210730R2\210730R2\_7.qld

Last Altered: Monday, August 02, 2021 11:07:58 Pacific Daylight Time  
Printed: Monday, August 02, 2021 11:09:10 Pacific Daylight Time

Name: 210730R2\_7, Date: 30-Jul-2021, Time: 22:48:08, ID: SS210730R2\_1 1613 SSS 21G0806, Description: 1613 SSS 21G0806

1,2,3,4,7,8-HxCDD

210730R2\_7

1,2,3,6,7,8-HxCDD;34.61;2.08e5;3803459

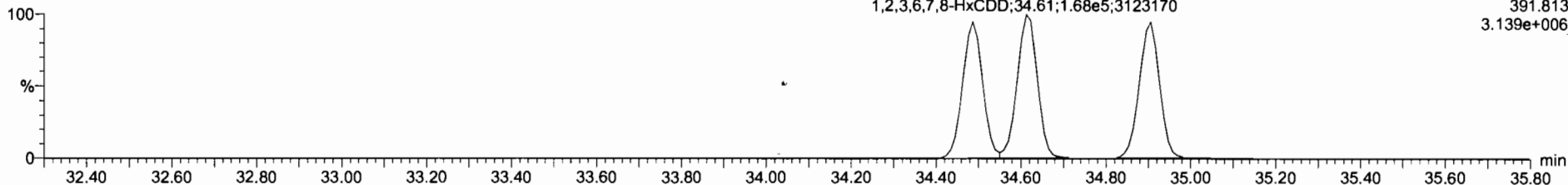
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389.816  
3.826e+006



210730R2\_7

1,2,3,6,7,8-HxCDD;34.61;1.68e5;3123170

F3:Voltage SIR,EI+  
391.813  
3.139e+006



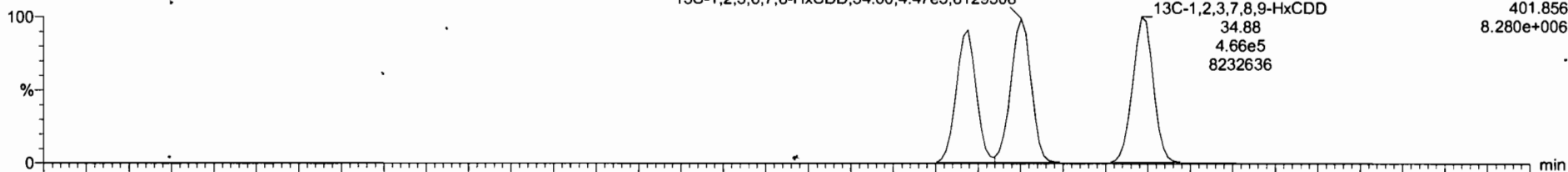
13C-1,2,3,4,7,8-HxCDD

210730R2\_7

13C-1,2,3,6,7,8-HxCDD;34.60;4.47e5;8129508

13C-1,2,3,7,8,9-HxCDD  
34.88  
4.66e5  
8232636

F3:Voltage SIR,EI+  
401.856  
8.280e+006



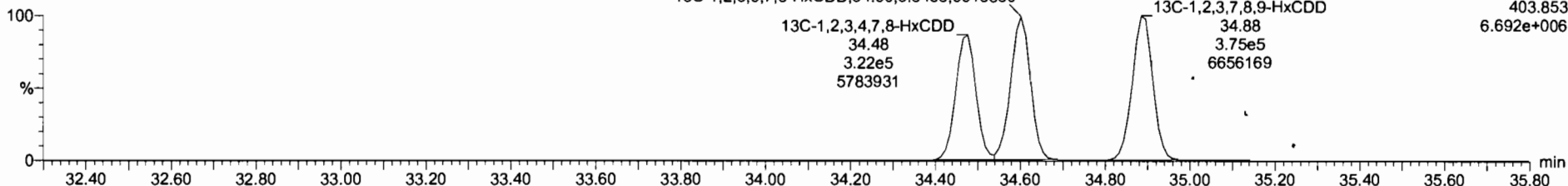
210730R2\_7

13C-1,2,3,6,7,8-HxCDD;34.60;3.54e5;6618350

13C-1,2,3,4,7,8-HxCDD  
34.48  
3.22e5  
5783931

13C-1,2,3,7,8,9-HxCDD  
34.88  
3.75e5  
6656169

F3:Voltage SIR,EI+  
403.853  
6.692e+006



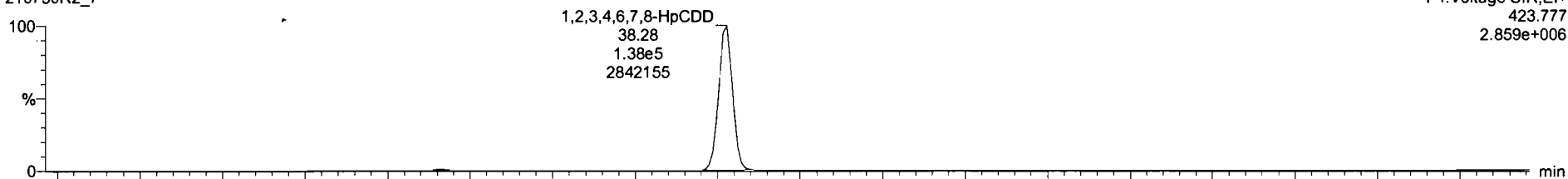
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Printed: Monday, August 02, 2021 11:09:10 Pacific Daylight Time

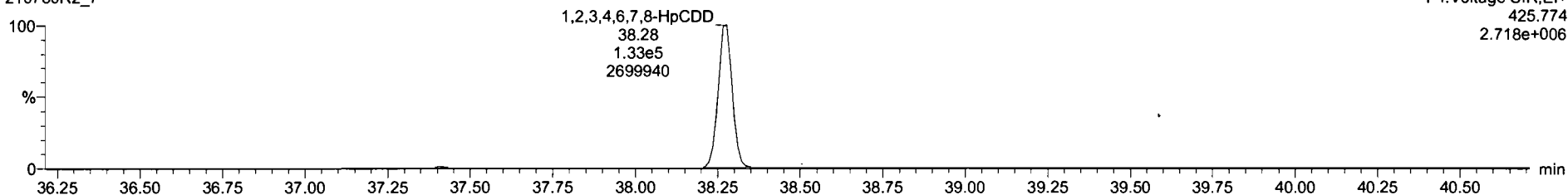
Name: 210730R2\_7, Date: 30-Jul-2021, Time: 22:48:08, ID: SS210730R2\_1 1613 SSS 21G0806, Description: 1613 SSS 21G0806

1,2,3,4,6,7,8-HpCDD

210730R2\_7

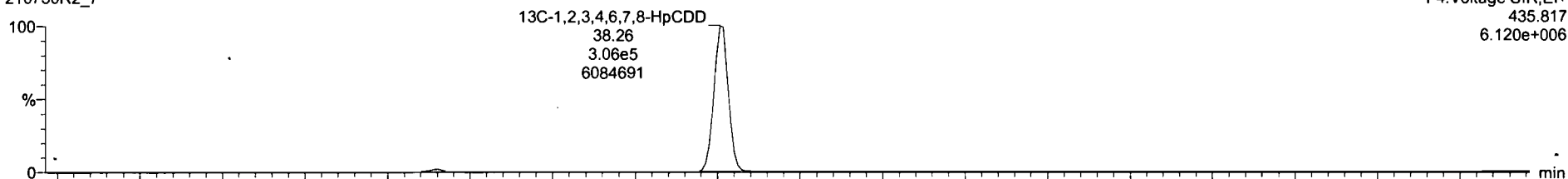


210730R2\_7

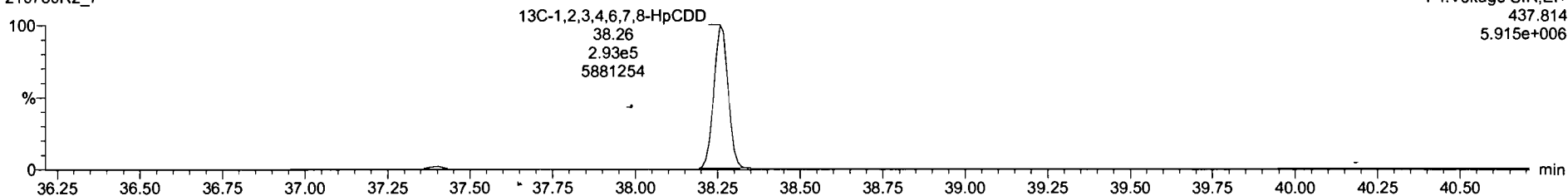


13C-1,2,3,4,6,7,8-HpCDD

210730R2\_7



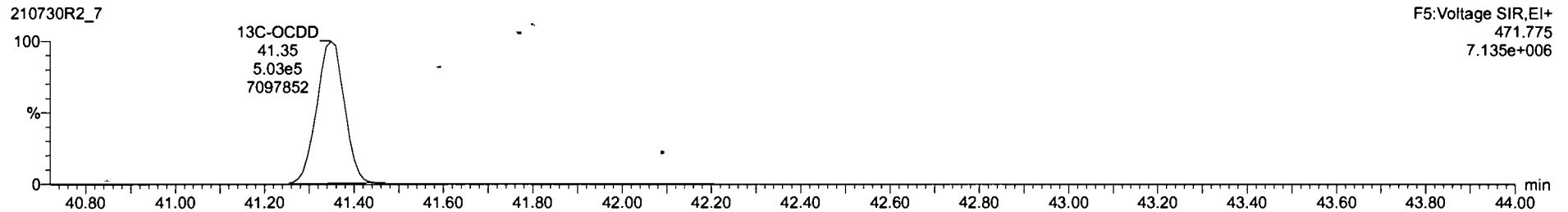
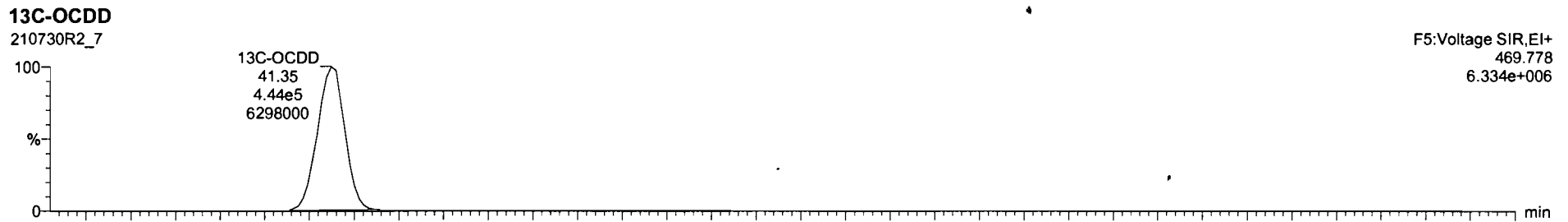
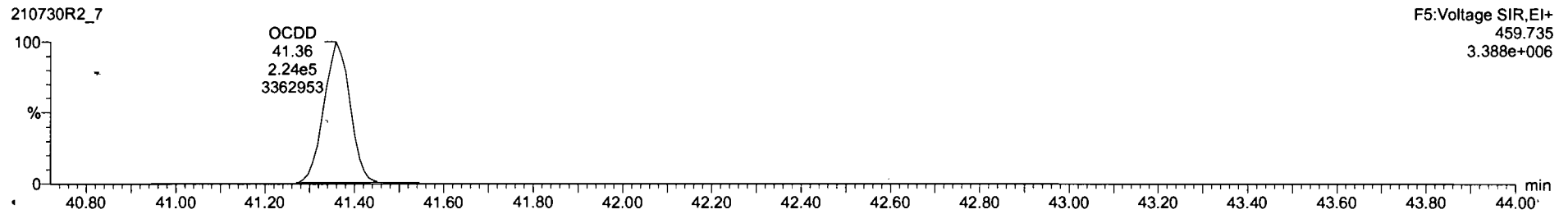
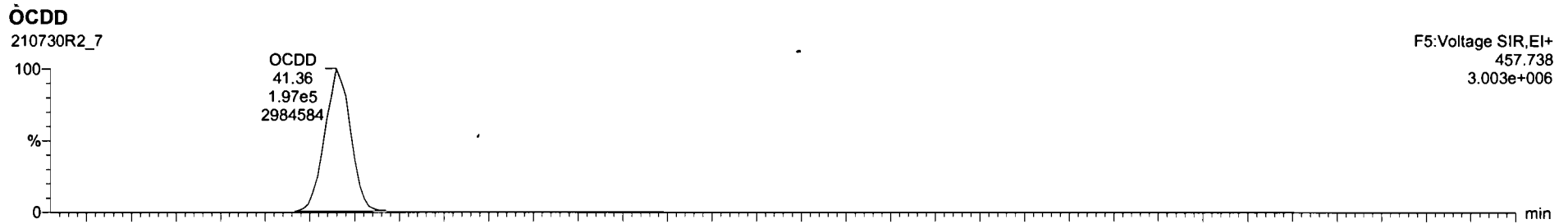
210730R2\_7



Dataset: U:\VG12.PRO\Results\210730R2\210730R2\_7.qld

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Printed: Monday, August 02, 2021 11:09:10 Pacific Daylight Time

Name: 210730R2\_7, Date: 30-Jul-2021, Time: 22:48:08, ID: SS210730R2\_1 1613 SSS 21G0806, Description: 1613 SSS 21G0806



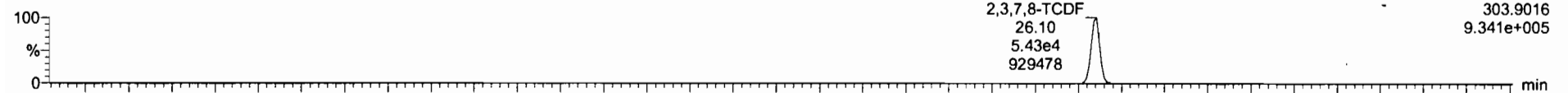
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Last Altered: Monday, August 02, 2021 11:07:58 Pacific Daylight Time  
Printed: Monday, August 02, 2021 11:09:10 Pacific Daylight Time

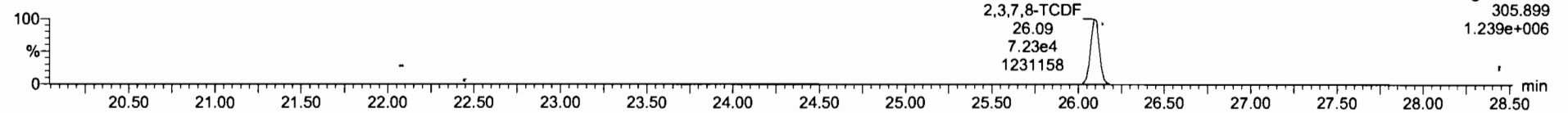
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**2,3,7,8-TCDF**

210730R2\_7

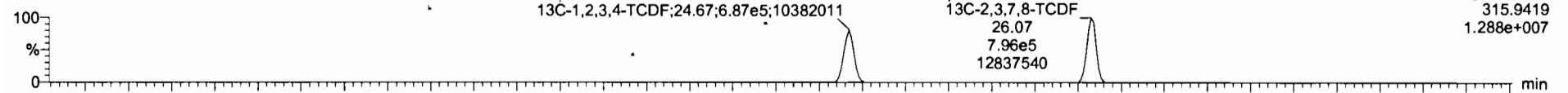


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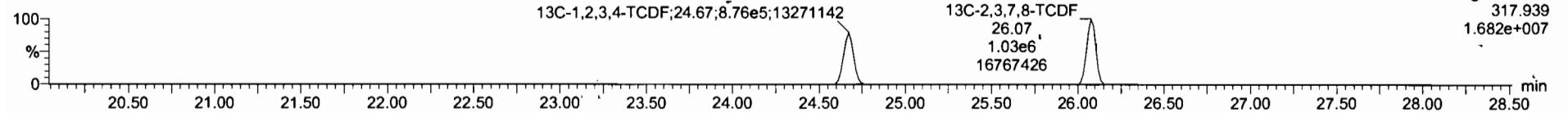


**13C-2,3,7,8-TCDF**

210730R2\_7

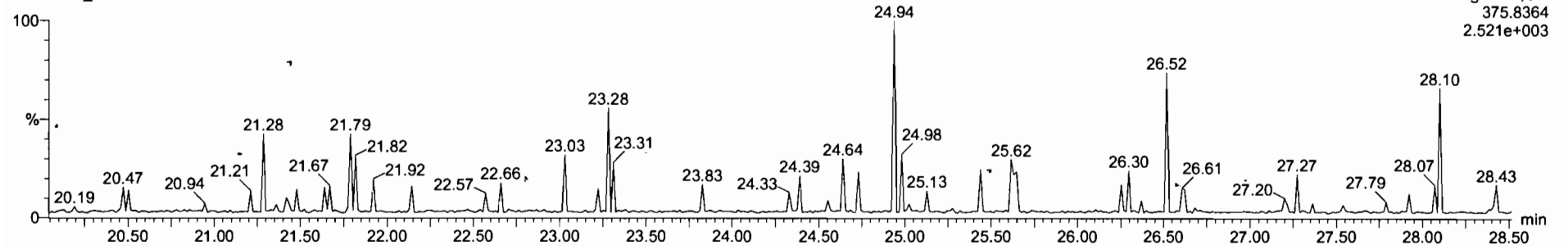


210730R2\_7



**DPE1**

210730R2\_7





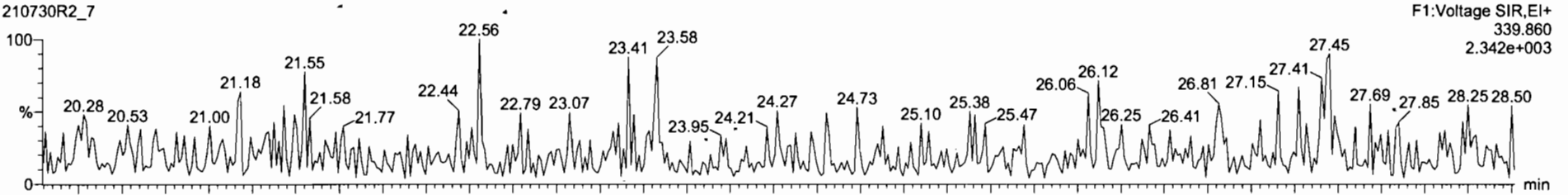
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Printed: Monday, August 02, 2021 11:09:10 Pacific Daylight Time

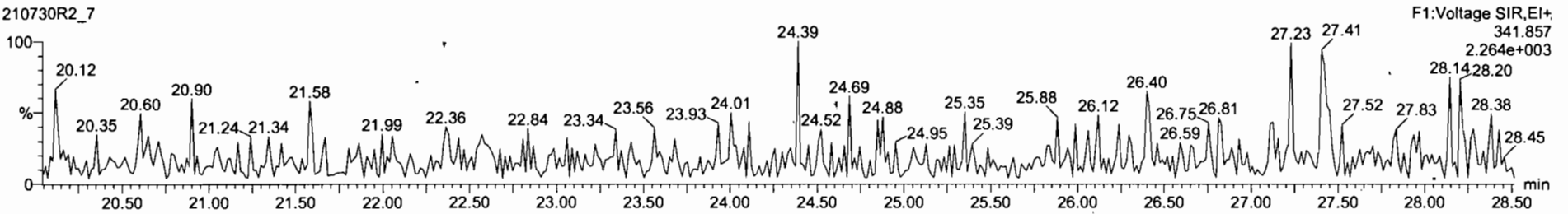
Name: 210730R2\_7, Date: 30-Jul-2021, Time: 22:48:08, ID: SS210730R2\_1 1613 SSS 21G0806, Description: 1613 SSS 21G0806

1st Func. Penta-Furans

210730R2\_7

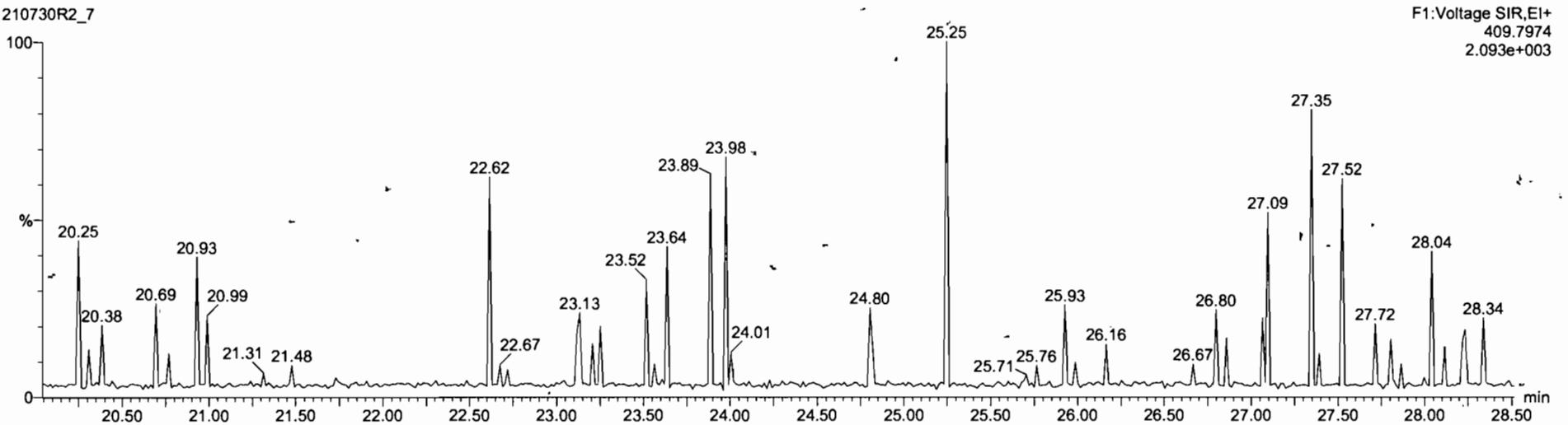


210730R2\_7



DPE6

210730R2\_7

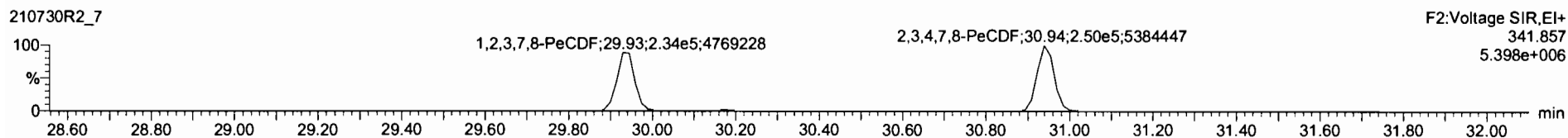
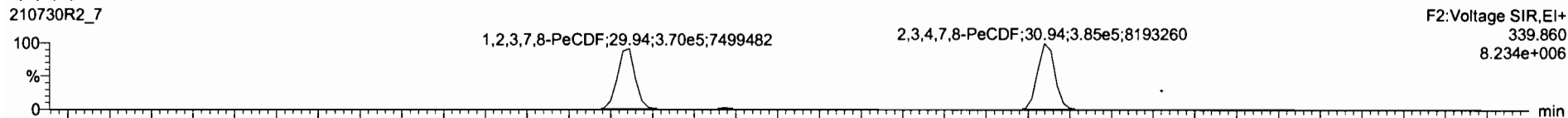


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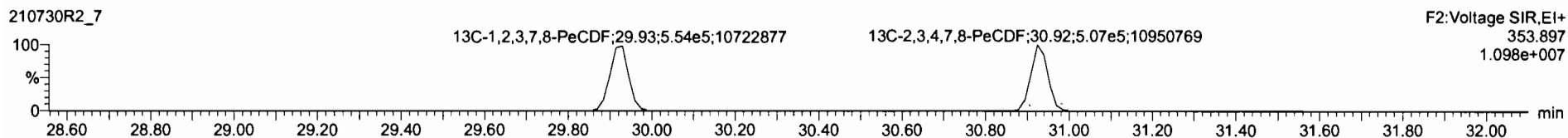
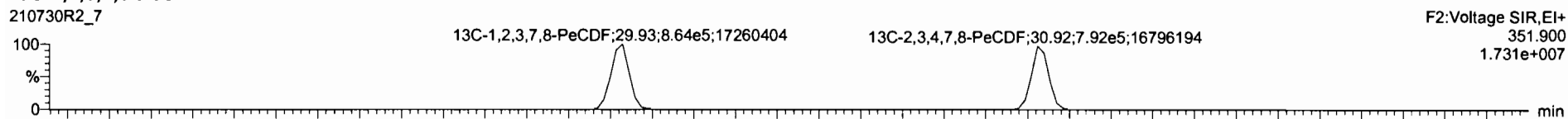
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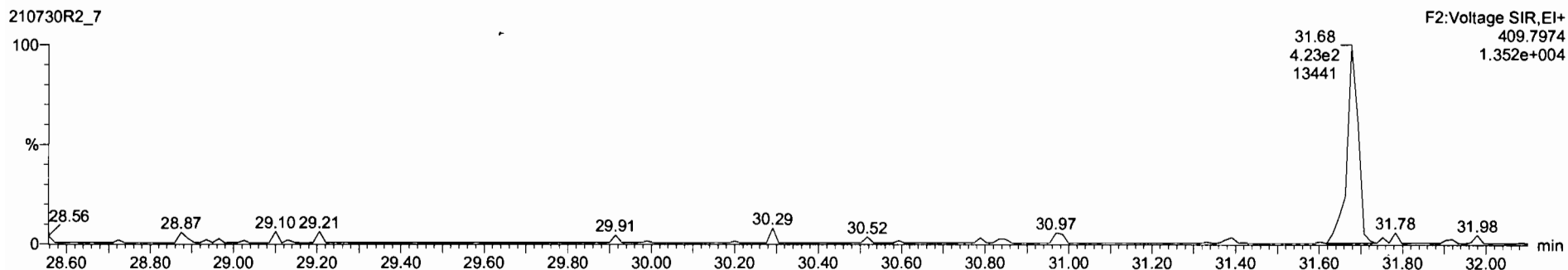
**1,2,3,7,8-PeCDF**



**13C-1,2,3,7,8-PeCDF**



**DPE2**



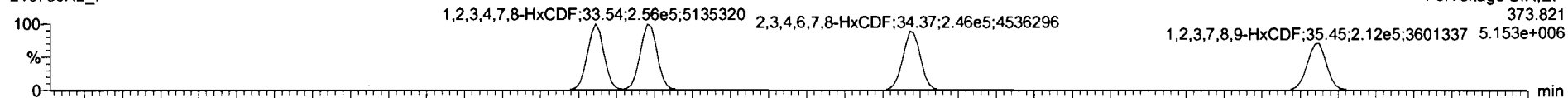
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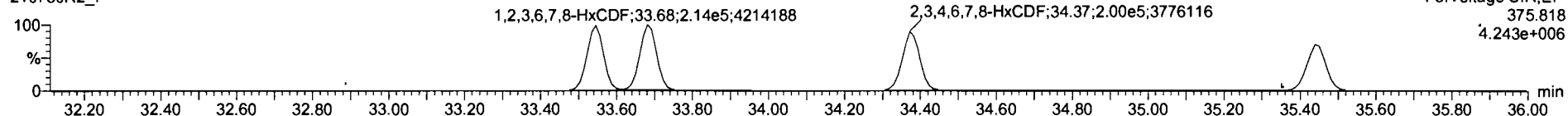
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**1,2,3,4,7,8-HxCDF**

210730R2\_7

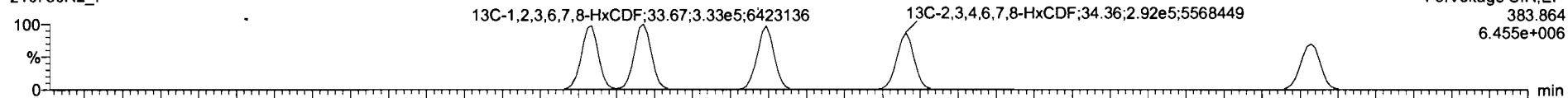


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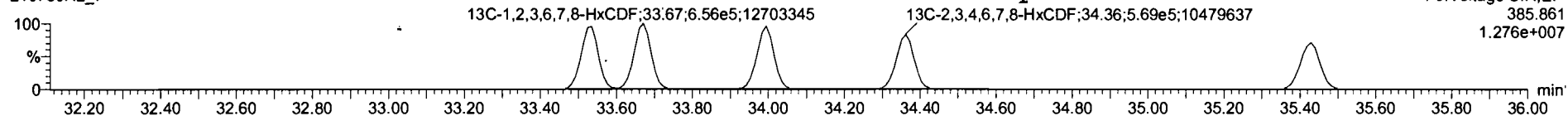


**13C-1,2,3,4,7,8-HxCDF**

210730R2\_7

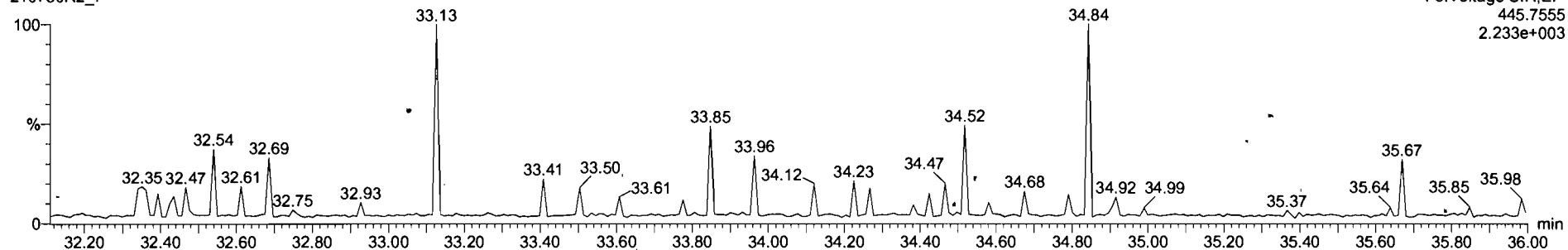


210730R2\_7



**DPE3**

210730R2\_7



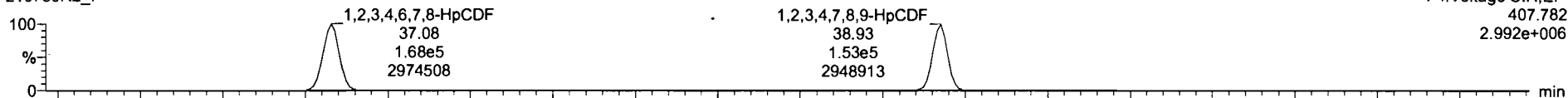
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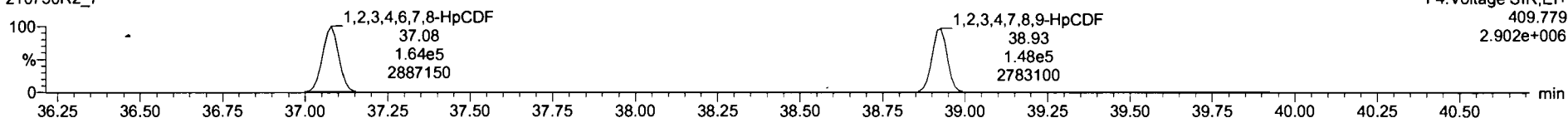
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1,2,3,4,6,7,8-HpCDF

210730R2\_7

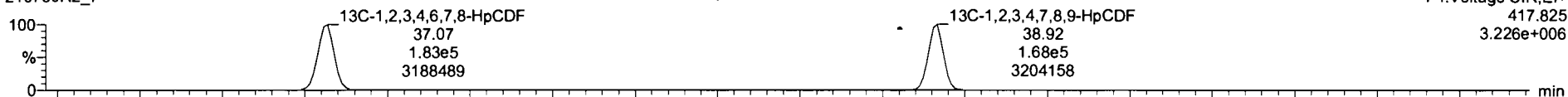


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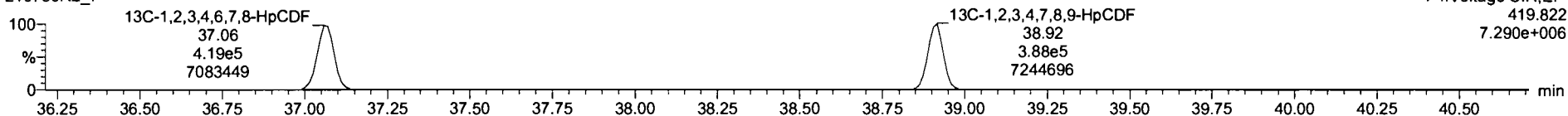


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210730R2\_7

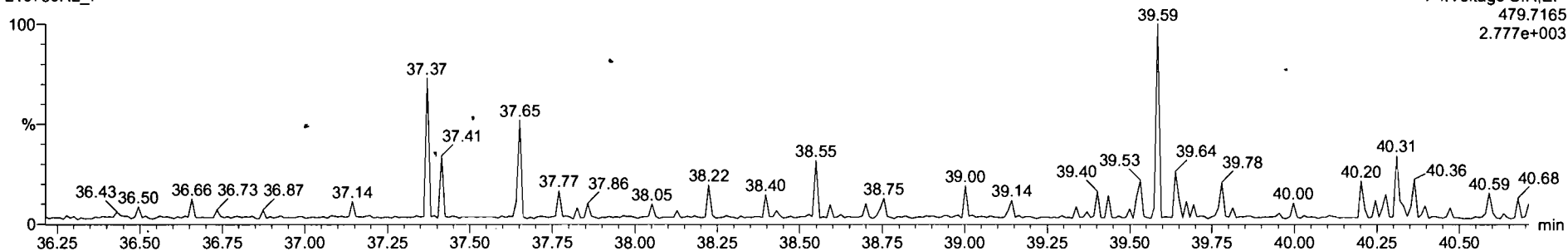


210730R2\_7



DPE4

210730R2\_7



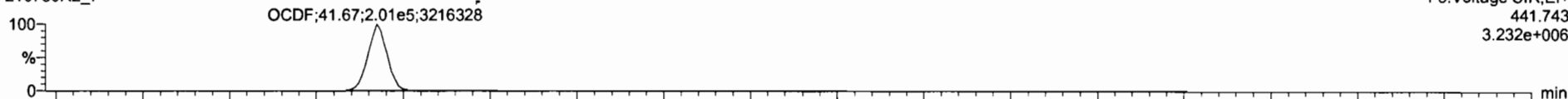
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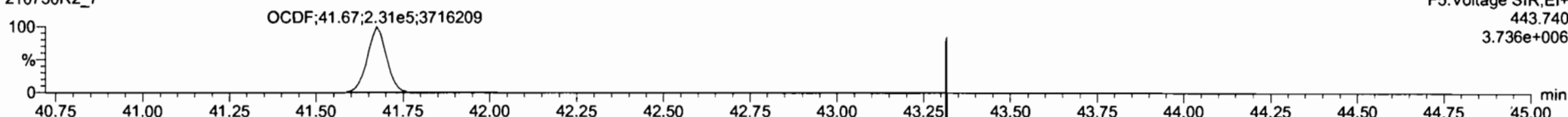
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**OCDF**

210730R2\_7

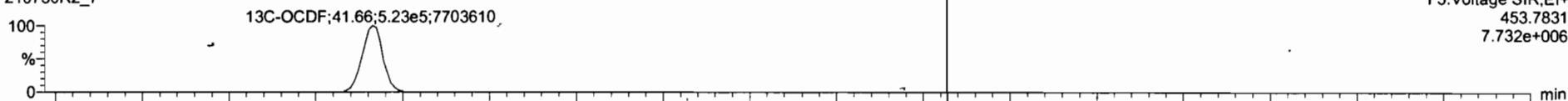


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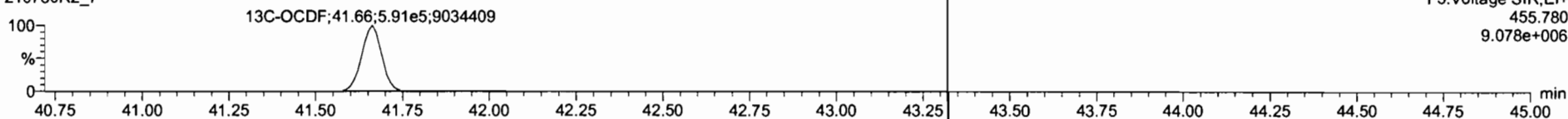


**13C-OCDF**

210730R2\_7

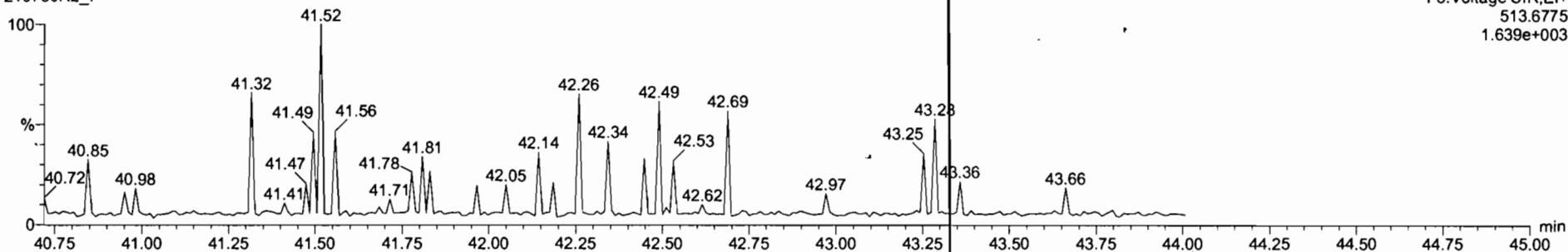


210730R2\_7



**DPE5**

210730R2\_7



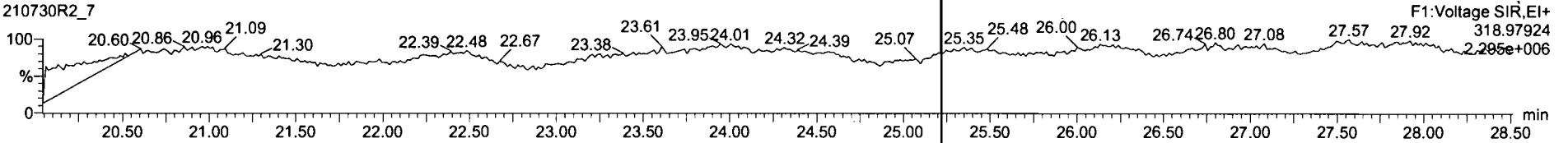
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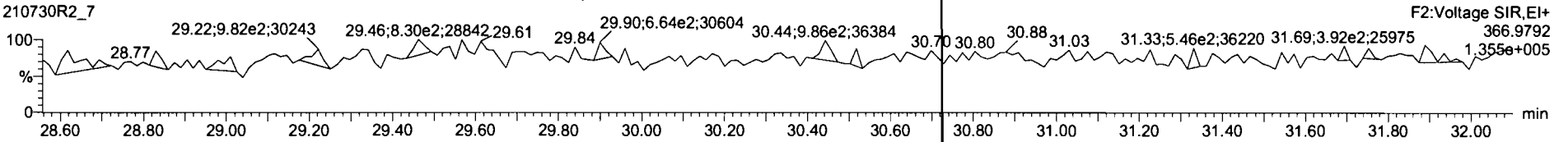
**PFK1**

210730R2\_7



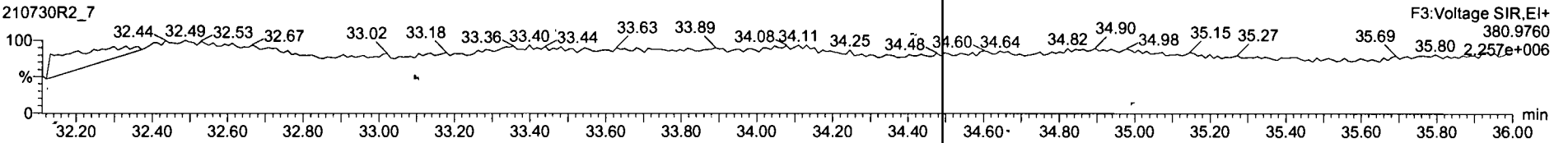
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210730R2\_7



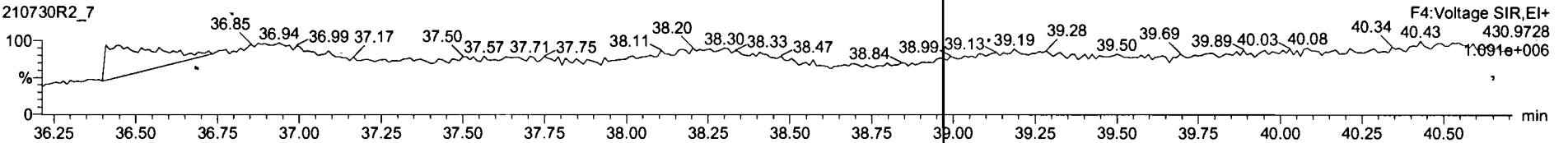
**PFK3**

210730R2\_7



**PFK4**

210730R2\_7



**PFK5**

210730R2\_7

