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NAVFAC
Naval Facilities Engineering Command

Groundwater Sample Results, Level 2 Laboratory Report, Level 4 Laboratory Report, Electronic Data Deliverable, Data Validation Report, Sample Location Report, SDG 2001436

MCAS
Tustin, CA
April 2021

APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED

July 22, 2020

Vista Work Order No. 2001436

Ms. Kimberly Shiroodi
KMEA
2423 Hoover Avenue
National City, CA 91950

Dear Ms. Shiroodi,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on July 09, 2020 under your Project Name 'MCAS El Toro and Tustin, PFAS'.

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 mmaier@vista-analytical.com.

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

Sincerely,

Martha Maier
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. 2001436
Case Narrative

Sample Condition on Receipt:

Two blank water samples and six groundwater samples were received in good condition and within the method temperature requirements. The samples were received and stored securely in accordance with Vista standard operating procedures and EPA methodology.

Analytical Notes:

PFAS Isotope Dilution/LC-MSMS Method Compliant with Table B-15 of QSM 5.3 (Aqueous)

The following samples contained particulate and were centrifuged prior to extraction:

Laboratory ID	Sample Name
2001436-02	TW21D-20200707
2001436-03	TW09D-20200707
2001436-04	TW22D-20200707
2001436-06	TW23D-20200708
2001436-07	TW24D-20200708
2001436-08	TW17D-20200708

Sample "TW17D-20200708" was very high in particulates: the solids made up approximately one-half of the sample. Following standard procedure, the solids were rinsed in methanol and the rinses were included in the extraction.

The samples were extracted and analyzed for a selected list of PFAS using Isotope Dilution and LC-MS/MS compliant with Table B-15 of QSM 5.3. The results for PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Results for all other analytes include the linear isomers only.

Holding Times

The samples were extracted and analyzed within the hold times.

Quality Control

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

A Method Blank and Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD) were extracted and analyzed with the preparation batch. No analytes were detected in the Method Blank above 1/2 of the LOQ concentrations. The LCS/LCSD recoveries were within the acceptance criteria.

The labeled standard recoveries outside the acceptance criteria are flagged with an "H" qualifier.

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Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
2001436-01	EB05-20200707	07-Jul-20 14:00	09-Jul-20 08:57	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
2001436-02	TW21D-20200707	07-Jul-20 08:30	09-Jul-20 08:57	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
2001436-03	TW09D-20200707	07-Jul-20 10:40	09-Jul-20 08:57	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
2001436-04	TW22D-20200707	07-Jul-20 15:15	09-Jul-20 08:57	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
2001436-05	EB06-20200708	08-Jul-20 14:00	09-Jul-20 08:57	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
2001436-06	TW23D-20200708	08-Jul-20 09:30	09-Jul-20 08:57	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
2001436-07	TW24D-20200708	08-Jul-20 11:20	09-Jul-20 08:57	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
2001436-08	TW17D-20200708	08-Jul-20 13:40	09-Jul-20 08:57	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL

ANALYTICAL RESULTS

Sample ID: Method Blank

PFAS Isotope Dilution Table B-15

Client Data

Name: KMEA
Project: MCAS El Toro and Tustin, PFAS
Matrix: Aqueous

Laboratory Data

Lab Sample: B0G0058-BLK1
Column: BEH C18

Analyte	CAS Number	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	0.00137	0.00200	0.00400		B0G0058	12-Jul-20	0.250 L	14-Jul-20 18:20	1
PFHxA	307-24-4	ND	0.00137	0.00200	0.00400		B0G0058	12-Jul-20	0.250 L	14-Jul-20 18:20	1
HFPO-DA	13252-13-6	ND	0.00241	0.00300	0.00400		B0G0058	12-Jul-20	0.250 L	14-Jul-20 18:20	1
PFHpA	375-85-9	ND	0.00137	0.00200	0.00400		B0G0058	12-Jul-20	0.250 L	14-Jul-20 18:20	1
ADONA	919005-14-4	ND	0.00137	0.00200	0.00400		B0G0058	12-Jul-20	0.250 L	14-Jul-20 18:20	1
PFHxS	355-46-4	ND	0.00137	0.00200	0.00400		B0G0058	12-Jul-20	0.250 L	14-Jul-20 18:20	1
PFOA	335-67-1	ND	0.00137	0.00200	0.00400		B0G0058	12-Jul-20	0.250 L	14-Jul-20 18:20	1
PFNA	375-95-1	ND	0.00137	0.00200	0.00400		B0G0058	12-Jul-20	0.250 L	14-Jul-20 18:20	1
PFOS	1763-23-1	ND	0.00137	0.00200	0.00400		B0G0058	12-Jul-20	0.250 L	14-Jul-20 18:20	1
9Cl-PF3ONS	756426-58-1	ND	0.00137	0.00200	0.00400		B0G0058	12-Jul-20	0.250 L	14-Jul-20 18:20	1
PFDA	335-76-2	ND	0.00137	0.00200	0.00400		B0G0058	12-Jul-20	0.250 L	14-Jul-20 18:20	1
MeFOSAA	2355-31-9	ND	0.00137	0.00200	0.00400		B0G0058	12-Jul-20	0.250 L	14-Jul-20 18:20	1
EtFOSAA	2991-50-6	ND	0.00137	0.00200	0.00400		B0G0058	12-Jul-20	0.250 L	14-Jul-20 18:20	1
PFUnA	2058-94-8	ND	0.00137	0.00200	0.00400		B0G0058	12-Jul-20	0.250 L	14-Jul-20 18:20	1
11Cl-PF3OUdS	763051-92-9	ND	0.00137	0.00200	0.00400		B0G0058	12-Jul-20	0.250 L	14-Jul-20 18:20	1
PFDoA	307-55-1	ND	0.00137	0.00200	0.00400		B0G0058	12-Jul-20	0.250 L	14-Jul-20 18:20	1
PFTrDA	72629-94-8	ND	0.00137	0.00200	0.00400		B0G0058	12-Jul-20	0.250 L	14-Jul-20 18:20	1
PFTeDA	376-06-7	ND	0.00137	0.00200	0.00400		B0G0058	12-Jul-20	0.250 L	14-Jul-20 18:20	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	69.5	50 - 150		B0G0058	12-Jul-20	0.250 L	14-Jul-20 18:20	1
13C3-HFPO-DA	IS	65.4	50 - 150		B0G0058	12-Jul-20	0.250 L	14-Jul-20 18:20	1
13C2-PFHxA	IS	67.9	50 - 150		B0G0058	12-Jul-20	0.250 L	14-Jul-20 18:20	1
13C4-PFHpA	IS	66.1	50 - 150		B0G0058	12-Jul-20	0.250 L	14-Jul-20 18:20	1
13C3-PFHxS	IS	74.9	50 - 150		B0G0058	12-Jul-20	0.250 L	14-Jul-20 18:20	1
13C5-PFNA	IS	64.3	50 - 150		B0G0058	12-Jul-20	0.250 L	14-Jul-20 18:20	1
13C2-PFOA	IS	72.0	50 - 150		B0G0058	12-Jul-20	0.250 L	14-Jul-20 18:20	1
13C8-PFOS	IS	63.4	50 - 150		B0G0058	12-Jul-20	0.250 L	14-Jul-20 18:20	1
13C2-PFDA	IS	60.3	50 - 150		B0G0058	12-Jul-20	0.250 L	14-Jul-20 18:20	1
d3-MeFOSAA	IS	56.5	50 - 150		B0G0058	12-Jul-20	0.250 L	14-Jul-20 18:20	1
13C2-PFUnA	IS	57.4	50 - 150		B0G0058	12-Jul-20	0.250 L	14-Jul-20 18:20	1
d5-EtFOSAA	IS	54.6	50 - 150		B0G0058	12-Jul-20	0.250 L	14-Jul-20 18:20	1
13C2-PFDoA	IS	55.5	50 - 150		B0G0058	12-Jul-20	0.250 L	14-Jul-20 18:20	1
13C2-PFTeDA	IS	59.0	50 - 150		B0G0058	12-Jul-20	0.250 L	14-Jul-20 18:20	1

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: LCSD **PFAS Isotope Dilution Table B-15**

Name:	KMEA	Lab Sample:	B0G0058-BS1/B0G0058-BSD1
Project:	MCAS El Toro and Tustin, PFAS	QC Batch:	B0G0058
Matrix:	Aqueous	Samp Size:	0.250/0.250 L
		Date Extracted:	12-Jul-20
		Column:	BEH C18

Analyte	CAS Number	LCS (ug/L)	LCS Spike	LCS % Rec	LCS Quals	LCSD (ug/L)	LCSD Spike	LCSD % Rec	RPD	LCSD Quals	%Rec Limits	RPD Limits	LCS Analyzed	LCS Dil	LCSD Analyzed	LCSD Dil
PFBS	375-73-5	0.0413	0.0400	103		0.0425	0.0400	106	2.83		72-130	30	14-Jul-20 18:31	1	14-Jul-20 18:41	1
PFHxA	307-24-4	0.0434	0.0400	108		0.0441	0.0400	110	1.64		72-129	30	14-Jul-20 18:31	1	14-Jul-20 18:41	1
HFPO-DA	13252-13-6	0.0413	0.0400	103		0.0437	0.0400	109	5.60		70-130	30	14-Jul-20 18:31	1	14-Jul-20 18:41	1
PFHpA	375-85-9	0.0406	0.0400	101		0.0399	0.0400	99.6	1.77		72-130	30	14-Jul-20 18:31	1	14-Jul-20 18:41	1
ADONA	919005-14-4	0.0397	0.0400	99.3		0.0423	0.0400	106	6.30		70-130	30	14-Jul-20 18:31	1	14-Jul-20 18:41	1
PFHxS	355-46-4	0.0397	0.0400	99.1		0.0430	0.0400	107	8.07		68-131	30	14-Jul-20 18:31	1	14-Jul-20 18:41	1
PFOA	335-67-1	0.0380	0.0400	95.1		0.0422	0.0400	105	10.4		71-133	30	14-Jul-20 18:31	1	14-Jul-20 18:41	1
PFNA	375-95-1	0.0410	0.0400	103		0.0446	0.0400	111	8.27		69-130	30	14-Jul-20 18:31	1	14-Jul-20 18:41	1
PFOS	1763-23-1	0.0365	0.0400	91.2		0.0485	0.0400	121	28.4		65-140	30	14-Jul-20 18:31	1	14-Jul-20 18:41	1
9Cl-PF3ONS	756426-58-1	0.0338	0.0400	84.5		0.0456	0.0400	114	29.7		70-130	30	14-Jul-20 18:31	1	14-Jul-20 18:41	1
PFDA	335-76-2	0.0413	0.0400	103		0.0432	0.0400	108	4.51		71-129	30	14-Jul-20 18:31	1	14-Jul-20 18:41	1
MeFOSAA	2355-31-9	0.0428	0.0400	107		0.0368	0.0400	91.9	15.1		65-136	30	14-Jul-20 18:31	1	14-Jul-20 18:41	1
EtFOSAA	2991-50-6	0.0422	0.0400	106		0.0412	0.0400	103	2.39		61-135	30	14-Jul-20 18:31	1	14-Jul-20 18:41	1
PFUnA	2058-94-8	0.0396	0.0400	99.1		0.0405	0.0400	101	2.23		69-133	30	14-Jul-20 18:31	1	14-Jul-20 18:41	1
11Cl-PF3OUdS	763051-92-9	0.0393	0.0400	98.1		0.0432	0.0400	108	9.63		70-130	30	14-Jul-20 18:31	1	14-Jul-20 18:41	1
PFDoA	307-55-1	0.0431	0.0400	108		0.0401	0.0400	100	7.17		72-134	30	14-Jul-20 18:31	1	14-Jul-20 18:41	1
PFTrDA	72629-94-8	0.0382	0.0400	95.6		0.0402	0.0400	100	4.93		65-144	30	14-Jul-20 18:31	1	14-Jul-20 18:41	1
PFTeDA	376-06-7	0.0406	0.0400	102		0.0425	0.0400	106	4.62		71-132	30	14-Jul-20 18:31	1	14-Jul-20 18:41	1

Labeled Standards	Type	LCS % Rec	LCS Quals	LCSD % Rec	LCSD Quals	Limits	LCS Analyzed	LCS Dil	LCSD Analyzed	LCSD Dil
13C3-PFBS	IS	66.5		74.2		50-150	14-Jul-20 18:31	1	14-Jul-20 18:41	1
13C3-HFPO-DA	IS	59.5		72.0		50-150	14-Jul-20 18:31	1	14-Jul-20 18:41	1
13C2-PFHxA	IS	59.7		72.8		50-150	14-Jul-20 18:31	1	14-Jul-20 18:41	1
13C4-PFHpA	IS	60.0		74.0		50-150	14-Jul-20 18:31	1	14-Jul-20 18:41	1
13C3-PFHxS	IS	71.1		77.4		50-150	14-Jul-20 18:31	1	14-Jul-20 18:41	1
13C5-PFNA	IS	57.9		67.2		50-150	14-Jul-20 18:31	1	14-Jul-20 18:41	1
13C2-PFOA	IS	66.0		75.3		50-150	14-Jul-20 18:31	1	14-Jul-20 18:41	1
13C8-PFOS	IS	69.6		63.6		50-150	14-Jul-20 18:31	1	14-Jul-20 18:41	1
13C2-PFDA	IS	57.2		64.5		50-150	14-Jul-20 18:31	1	14-Jul-20 18:41	1
d3-MeFOSAA	IS	47.0	H	63.0		50-150	14-Jul-20 18:31	1	14-Jul-20 18:41	1
13C2-PFUnA	IS	55.9		62.0		50-150	14-Jul-20 18:31	1	14-Jul-20 18:41	1
d5-EtFOSAA	IS	44.2	H	57.3		50-150	14-Jul-20 18:31	1	14-Jul-20 18:41	1
13C2-PFDoA	IS	46.9	H	56.6		50-150	14-Jul-20 18:31	1	14-Jul-20 18:41	1

Sample ID: LCSD **PFAS Isotope Dilution Table B-15**

Name:	KMEA	Lab Sample:	B0G0058-BS1/B0G0058-BSD1	Date Extracted:	12-Jul-20
Project:	MCAS El Toro and Tustin, PFAS	QC Batch:	B0G0058	Column:	BEH C18
Matrix:	Aqueous	Samp Size:	0.250/0.250 L		

Labeled Standards	Type	LCS % Rec	LCS Quals	LCSD % Rec	LCSD Quals	Limits	LCS Analyzed	LCS Dil	LCSD Analyzed	LCSD Dil
13C2-PFTeDA	IS	51.5		63.7		50-150	14-Jul-20 18:31	1	14-Jul-20 18:41	1

Sample ID: EB05-20200707

PFAS Isotope Dilution Table B-15

Client Data

Name: KMEA
Project: MCAS El Toro and Tustin, PFAS
Matrix: Blank Water
Date Collected: 07-Jul-20 14:00

Laboratory Data

Lab Sample: 2001436-01
Date Received: 09-Jul-20 08:57
Column: BEH C18

Analyte	CAS Number	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	0.00136	0.00198	0.00397		B0G0058	12-Jul-20	0.252 L	14-Jul-20 18:52	1
PFHxA	307-24-4	ND	0.00136	0.00198	0.00397		B0G0058	12-Jul-20	0.252 L	14-Jul-20 18:52	1
HFPO-DA	13252-13-6	ND	0.00239	0.00298	0.00397		B0G0058	12-Jul-20	0.252 L	14-Jul-20 18:52	1
PFHpA	375-85-9	ND	0.00136	0.00198	0.00397		B0G0058	12-Jul-20	0.252 L	14-Jul-20 18:52	1
ADONA	919005-14-4	ND	0.00136	0.00198	0.00397		B0G0058	12-Jul-20	0.252 L	14-Jul-20 18:52	1
PFHxS	355-46-4	ND	0.00136	0.00198	0.00397		B0G0058	12-Jul-20	0.252 L	14-Jul-20 18:52	1
PFOA	335-67-1	ND	0.00136	0.00198	0.00397		B0G0058	12-Jul-20	0.252 L	14-Jul-20 18:52	1
PFNA	375-95-1	ND	0.00136	0.00198	0.00397		B0G0058	12-Jul-20	0.252 L	14-Jul-20 18:52	1
PFOS	1763-23-1	ND	0.00136	0.00198	0.00397		B0G0058	12-Jul-20	0.252 L	14-Jul-20 18:52	1
9Cl-PF3ONS	756426-58-1	ND	0.00136	0.00198	0.00397		B0G0058	12-Jul-20	0.252 L	14-Jul-20 18:52	1
PFDA	335-76-2	ND	0.00136	0.00198	0.00397		B0G0058	12-Jul-20	0.252 L	14-Jul-20 18:52	1
MeFOSAA	2355-31-9	ND	0.00136	0.00198	0.00397		B0G0058	12-Jul-20	0.252 L	14-Jul-20 18:52	1
EtFOSAA	2991-50-6	ND	0.00136	0.00198	0.00397		B0G0058	12-Jul-20	0.252 L	14-Jul-20 18:52	1
PFUnA	2058-94-8	ND	0.00136	0.00198	0.00397		B0G0058	12-Jul-20	0.252 L	14-Jul-20 18:52	1
11Cl-PF3OUdS	763051-92-9	ND	0.00136	0.00198	0.00397		B0G0058	12-Jul-20	0.252 L	14-Jul-20 18:52	1
PFDoA	307-55-1	ND	0.00136	0.00198	0.00397		B0G0058	12-Jul-20	0.252 L	14-Jul-20 18:52	1
PFTrDA	72629-94-8	ND	0.00136	0.00198	0.00397		B0G0058	12-Jul-20	0.252 L	14-Jul-20 18:52	1
PFTeDA	376-06-7	ND	0.00136	0.00198	0.00397		B0G0058	12-Jul-20	0.252 L	14-Jul-20 18:52	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	67.2	50 - 150		B0G0058	12-Jul-20	0.252 L	14-Jul-20 18:52	1
13C3-HFPO-DA	IS	57.9	50 - 150		B0G0058	12-Jul-20	0.252 L	14-Jul-20 18:52	1
13C2-PFHxA	IS	63.0	50 - 150		B0G0058	12-Jul-20	0.252 L	14-Jul-20 18:52	1
13C4-PFHpA	IS	63.0	50 - 150		B0G0058	12-Jul-20	0.252 L	14-Jul-20 18:52	1
13C3-PFHxS	IS	72.2	50 - 150		B0G0058	12-Jul-20	0.252 L	14-Jul-20 18:52	1
13C5-PFNA	IS	61.8	50 - 150		B0G0058	12-Jul-20	0.252 L	14-Jul-20 18:52	1
13C2-PFOA	IS	68.2	50 - 150		B0G0058	12-Jul-20	0.252 L	14-Jul-20 18:52	1
13C8-PFOS	IS	66.9	50 - 150		B0G0058	12-Jul-20	0.252 L	14-Jul-20 18:52	1
13C2-PFDA	IS	63.4	50 - 150		B0G0058	12-Jul-20	0.252 L	14-Jul-20 18:52	1
d3-MeFOSAA	IS	53.2	50 - 150		B0G0058	12-Jul-20	0.252 L	14-Jul-20 18:52	1
13C2-PFUnA	IS	63.7	50 - 150		B0G0058	12-Jul-20	0.252 L	14-Jul-20 18:52	1
d5-EtFOSAA	IS	56.3	50 - 150		B0G0058	12-Jul-20	0.252 L	14-Jul-20 18:52	1
13C2-PFDoA	IS	59.1	50 - 150		B0G0058	12-Jul-20	0.252 L	14-Jul-20 18:52	1
13C2-PFTeDA	IS	57.5	50 - 150		B0G0058	12-Jul-20	0.252 L	14-Jul-20 18:52	1

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: TW21D-20200707 **PFAS Isotope Dilution Table B-15**

Client Data

Name: KMEA
Project: MCAS El Toro and Tustin, PFAS
Matrix: Groundwater
Date Collected: 07-Jul-20 08:30

Laboratory Data

Lab Sample: 2001436-02
Date Received: 09-Jul-20 08:57
Column: BEH C18

Analyte	CAS Number	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	0.00455	0.00139	0.00202	0.00405		B0G0058	12-Jul-20	0.247 L	14-Jul-20 19:02	1
PFHxA	307-24-4	0.00920	0.00139	0.00202	0.00405		B0G0058	12-Jul-20	0.247 L	14-Jul-20 19:02	1
HFPO-DA	13252-13-6	ND	0.00244	0.00304	0.00405		B0G0058	12-Jul-20	0.247 L	14-Jul-20 19:02	1
PFHpA	375-85-9	0.00212	0.00139	0.00202	0.00405	J	B0G0058	12-Jul-20	0.247 L	14-Jul-20 19:02	1
ADONA	919005-14-4	ND	0.00139	0.00202	0.00405		B0G0058	12-Jul-20	0.247 L	14-Jul-20 19:02	1
PFHxS	355-46-4	0.00969	0.00139	0.00202	0.00405		B0G0058	12-Jul-20	0.247 L	14-Jul-20 19:02	1
PFOA	335-67-1	0.0157	0.00139	0.00202	0.00405		B0G0058	12-Jul-20	0.247 L	14-Jul-20 19:02	1
PFNA	375-95-1	ND	0.00139	0.00202	0.00405		B0G0058	12-Jul-20	0.247 L	14-Jul-20 19:02	1
PFOS	1763-23-1	0.00245	0.00139	0.00202	0.00405	J	B0G0058	12-Jul-20	0.247 L	14-Jul-20 19:02	1
9Cl-PF3ONS	756426-58-1	ND	0.00139	0.00202	0.00405		B0G0058	12-Jul-20	0.247 L	14-Jul-20 19:02	1
PFDA	335-76-2	ND	0.00139	0.00202	0.00405		B0G0058	12-Jul-20	0.247 L	14-Jul-20 19:02	1
MeFOSAA	2355-31-9	ND	0.00139	0.00202	0.00405		B0G0058	12-Jul-20	0.247 L	14-Jul-20 19:02	1
EtFOSAA	2991-50-6	ND	0.00139	0.00202	0.00405		B0G0058	12-Jul-20	0.247 L	14-Jul-20 19:02	1
PFUnA	2058-94-8	ND	0.00139	0.00202	0.00405		B0G0058	12-Jul-20	0.247 L	14-Jul-20 19:02	1
11Cl-PF3OUdS	763051-92-9	ND	0.00139	0.00202	0.00405		B0G0058	12-Jul-20	0.247 L	14-Jul-20 19:02	1
PFDoA	307-55-1	ND	0.00139	0.00202	0.00405		B0G0058	12-Jul-20	0.247 L	14-Jul-20 19:02	1
PFTrDA	72629-94-8	ND	0.00139	0.00202	0.00405		B0G0058	12-Jul-20	0.247 L	14-Jul-20 19:02	1
PFTeDA	376-06-7	ND	0.00139	0.00202	0.00405		B0G0058	12-Jul-20	0.247 L	14-Jul-20 19:02	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	73.1	50 - 150		B0G0058	12-Jul-20	0.247 L	14-Jul-20 19:02	1
13C3-HFPO-DA	IS	73.1	50 - 150		B0G0058	12-Jul-20	0.247 L	14-Jul-20 19:02	1
13C2-PFHxA	IS	69.3	50 - 150		B0G0058	12-Jul-20	0.247 L	14-Jul-20 19:02	1
13C4-PFHpA	IS	69.5	50 - 150		B0G0058	12-Jul-20	0.247 L	14-Jul-20 19:02	1
13C3-PFHxS	IS	76.8	50 - 150		B0G0058	12-Jul-20	0.247 L	14-Jul-20 19:02	1
13C5-PFNA	IS	68.1	50 - 150		B0G0058	12-Jul-20	0.247 L	14-Jul-20 19:02	1
13C2-PFOA	IS	73.6	50 - 150		B0G0058	12-Jul-20	0.247 L	14-Jul-20 19:02	1
13C8-PFOS	IS	67.1	50 - 150		B0G0058	12-Jul-20	0.247 L	14-Jul-20 19:02	1
13C2-PFDA	IS	63.9	50 - 150		B0G0058	12-Jul-20	0.247 L	14-Jul-20 19:02	1
d3-MeFOSAA	IS	59.8	50 - 150		B0G0058	12-Jul-20	0.247 L	14-Jul-20 19:02	1
13C2-PFUnA	IS	59.3	50 - 150		B0G0058	12-Jul-20	0.247 L	14-Jul-20 19:02	1
d5-EtFOSAA	IS	56.1	50 - 150		B0G0058	12-Jul-20	0.247 L	14-Jul-20 19:02	1
13C2-PFDoA	IS	51.9	50 - 150		B0G0058	12-Jul-20	0.247 L	14-Jul-20 19:02	1
13C2-PFTeDA	IS	32.1	50 - 150	H	B0G0058	12-Jul-20	0.247 L	14-Jul-20 19:02	1

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: TW09D-20200707

PFAS Isotope Dilution Table B-15

Client Data

Name: KMEA
Project: MCAS El Toro and Tustin, PFAS
Matrix: Groundwater
Date Collected: 07-Jul-20 10:40

Laboratory Data

Lab Sample: 2001436-03
Date Received: 09-Jul-20 08:57
Column: BEH C18

Analyte	CAS Number	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	0.0693	0.00131	0.00191	0.00382		B0G0058	12-Jul-20	0.262 L	14-Jul-20 19:13	1
PFHxA	307-24-4	0.192	0.00131	0.00191	0.00382		B0G0058	12-Jul-20	0.262 L	14-Jul-20 19:13	1
HFPO-DA	13252-13-6	ND	0.00230	0.00286	0.00382		B0G0058	12-Jul-20	0.262 L	14-Jul-20 19:13	1
PFHpA	375-85-9	0.0511	0.00131	0.00191	0.00382		B0G0058	12-Jul-20	0.262 L	14-Jul-20 19:13	1
ADONA	919005-14-4	ND	0.00131	0.00191	0.00382		B0G0058	12-Jul-20	0.262 L	14-Jul-20 19:13	1
PFHxS	355-46-4	0.387	0.00131	0.00191	0.00382		B0G0058	12-Jul-20	0.262 L	14-Jul-20 19:13	1
PFOA	335-67-1	0.463	0.00131	0.00191	0.00382		B0G0058	12-Jul-20	0.262 L	14-Jul-20 19:13	1
PFNA	375-95-1	0.00524	0.00131	0.00191	0.00382		B0G0058	12-Jul-20	0.262 L	14-Jul-20 19:13	1
PFOS	1763-23-1	0.349	0.00131	0.00191	0.00382		B0G0058	12-Jul-20	0.262 L	14-Jul-20 19:13	1
9Cl-PF3ONS	756426-58-1	ND	0.00131	0.00191	0.00382		B0G0058	12-Jul-20	0.262 L	14-Jul-20 19:13	1
PFDA	335-76-2	0.00377	0.00131	0.00191	0.00382	J	B0G0058	12-Jul-20	0.262 L	14-Jul-20 19:13	1
MeFOSAA	2355-31-9	ND	0.00131	0.00191	0.00382		B0G0058	12-Jul-20	0.262 L	14-Jul-20 19:13	1
EtFOSAA	2991-50-6	ND	0.00131	0.00191	0.00382		B0G0058	12-Jul-20	0.262 L	14-Jul-20 19:13	1
PFUnA	2058-94-8	ND	0.00131	0.00191	0.00382		B0G0058	12-Jul-20	0.262 L	14-Jul-20 19:13	1
11Cl-PF3OUdS	763051-92-9	ND	0.00131	0.00191	0.00382		B0G0058	12-Jul-20	0.262 L	14-Jul-20 19:13	1
PFDoA	307-55-1	ND	0.00131	0.00191	0.00382		B0G0058	12-Jul-20	0.262 L	14-Jul-20 19:13	1
PFTrDA	72629-94-8	ND	0.00131	0.00191	0.00382		B0G0058	12-Jul-20	0.262 L	14-Jul-20 19:13	1
PFTeDA	376-06-7	ND	0.00131	0.00191	0.00382		B0G0058	12-Jul-20	0.262 L	14-Jul-20 19:13	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	75.0	50 - 150		B0G0058	12-Jul-20	0.262 L	14-Jul-20 19:13	1
13C3-HFPO-DA	IS	64.6	50 - 150		B0G0058	12-Jul-20	0.262 L	14-Jul-20 19:13	1
13C2-PFHxA	IS	69.8	50 - 150		B0G0058	12-Jul-20	0.262 L	14-Jul-20 19:13	1
13C4-PFHpA	IS	69.1	50 - 150		B0G0058	12-Jul-20	0.262 L	14-Jul-20 19:13	1
13C3-PFHxS	IS	75.4	50 - 150		B0G0058	12-Jul-20	0.262 L	14-Jul-20 19:13	1
13C5-PFNA	IS	62.9	50 - 150		B0G0058	12-Jul-20	0.262 L	14-Jul-20 19:13	1
13C2-PFOA	IS	69.9	50 - 150		B0G0058	12-Jul-20	0.262 L	14-Jul-20 19:13	1
13C8-PFOS	IS	68.1	50 - 150		B0G0058	12-Jul-20	0.262 L	14-Jul-20 19:13	1
13C2-PFDA	IS	64.8	50 - 150		B0G0058	12-Jul-20	0.262 L	14-Jul-20 19:13	1
d3-MeFOSAA	IS	53.8	50 - 150		B0G0058	12-Jul-20	0.262 L	14-Jul-20 19:13	1
13C2-PFUnA	IS	56.6	50 - 150		B0G0058	12-Jul-20	0.262 L	14-Jul-20 19:13	1
d5-EtFOSAA	IS	42.0	50 - 150	H	B0G0058	12-Jul-20	0.262 L	14-Jul-20 19:13	1
13C2-PFDoA	IS	38.5	50 - 150	H	B0G0058	12-Jul-20	0.262 L	14-Jul-20 19:13	1
13C2-PFTeDA	IS	11.4	50 - 150	H	B0G0058	12-Jul-20	0.262 L	14-Jul-20 19:13	1

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: TW22D-20200707

PFAS Isotope Dilution Table B-15

Client Data

Name: KMEA
Project: MCAS El Toro and Tustin, PFAS
Matrix: Groundwater
Date Collected: 07-Jul-20 15:15

Laboratory Data

Lab Sample: 2001436-04
Date Received: 09-Jul-20 08:57
Column: BEH C18

Analyte	CAS Number	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	0.209	0.00127	0.00186	0.00372		B0G0058	12-Jul-20	0.269 L	14-Jul-20 19:23	1
PFHxA	307-24-4	1.00	0.00127	0.00186	0.00372		B0G0058	12-Jul-20	0.269 L	14-Jul-20 19:23	1
HFPO-DA	13252-13-6	ND	0.00224	0.00279	0.00372		B0G0058	12-Jul-20	0.269 L	14-Jul-20 19:23	1
PFHpA	375-85-9	0.363	0.00127	0.00186	0.00372		B0G0058	12-Jul-20	0.269 L	14-Jul-20 19:23	1
ADONA	919005-14-4	ND	0.00127	0.00186	0.00372		B0G0058	12-Jul-20	0.269 L	14-Jul-20 19:23	1
PFHxS	355-46-4	0.886	0.00127	0.00186	0.00372		B0G0058	12-Jul-20	0.269 L	14-Jul-20 19:23	1
PFOA	335-67-1	0.961	0.00127	0.00186	0.00372		B0G0058	12-Jul-20	0.269 L	14-Jul-20 19:23	1
PFNA	375-95-1	0.00496	0.00127	0.00186	0.00372		B0G0058	12-Jul-20	0.269 L	14-Jul-20 19:23	1
PFOS	1763-23-1	0.444	0.00127	0.00186	0.00372		B0G0058	12-Jul-20	0.269 L	14-Jul-20 19:23	1
9Cl-PF3ONS	756426-58-1	ND	0.00127	0.00186	0.00372		B0G0058	12-Jul-20	0.269 L	14-Jul-20 19:23	1
PFDA	335-76-2	0.00303	0.00127	0.00186	0.00372	J	B0G0058	12-Jul-20	0.269 L	14-Jul-20 19:23	1
MeFOSAA	2355-31-9	ND	0.00127	0.00186	0.00372		B0G0058	12-Jul-20	0.269 L	14-Jul-20 19:23	1
EtFOSAA	2991-50-6	ND	0.00127	0.00186	0.00372		B0G0058	12-Jul-20	0.269 L	14-Jul-20 19:23	1
PFUnA	2058-94-8	ND	0.00127	0.00186	0.00372		B0G0058	12-Jul-20	0.269 L	14-Jul-20 19:23	1
11Cl-PF3OUdS	763051-92-9	ND	0.00127	0.00186	0.00372		B0G0058	12-Jul-20	0.269 L	14-Jul-20 19:23	1
PFDoA	307-55-1	ND	0.00127	0.00186	0.00372		B0G0058	12-Jul-20	0.269 L	14-Jul-20 19:23	1
PFTrDA	72629-94-8	ND	0.00127	0.00186	0.00372		B0G0058	12-Jul-20	0.269 L	14-Jul-20 19:23	1
PFTeDA	376-06-7	ND	0.00127	0.00186	0.00372		B0G0058	12-Jul-20	0.269 L	14-Jul-20 19:23	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	72.4	50 - 150		B0G0058	12-Jul-20	0.269 L	14-Jul-20 19:23	1
13C3-HFPO-DA	IS	65.4	50 - 150		B0G0058	12-Jul-20	0.269 L	14-Jul-20 19:23	1
13C2-PFHxA	IS	68.6	50 - 150		B0G0058	12-Jul-20	0.269 L	14-Jul-20 19:23	1
13C4-PFHpA	IS	70.2	50 - 150		B0G0058	12-Jul-20	0.269 L	14-Jul-20 19:23	1
13C3-PFHxS	IS	70.5	50 - 150		B0G0058	12-Jul-20	0.269 L	14-Jul-20 19:23	1
13C5-PFNA	IS	64.5	50 - 150		B0G0058	12-Jul-20	0.269 L	14-Jul-20 19:23	1
13C2-PFOA	IS	70.7	50 - 150		B0G0058	12-Jul-20	0.269 L	14-Jul-20 19:23	1
13C8-PFOS	IS	64.2	50 - 150		B0G0058	12-Jul-20	0.269 L	14-Jul-20 19:23	1
13C2-PFDA	IS	57.3	50 - 150		B0G0058	12-Jul-20	0.269 L	14-Jul-20 19:23	1
d3-MeFOSAA	IS	30.9	50 - 150	H	B0G0058	12-Jul-20	0.269 L	14-Jul-20 19:23	1
13C2-PFUnA	IS	35.7	50 - 150	H	B0G0058	12-Jul-20	0.269 L	14-Jul-20 19:23	1
d5-EtFOSAA	IS	23.3	50 - 150	H	B0G0058	12-Jul-20	0.269 L	14-Jul-20 19:23	1
13C2-PFDoA	IS	13.5	50 - 150	H	B0G0058	12-Jul-20	0.269 L	14-Jul-20 19:23	1
13C2-PFTeDA	IS	6.30	50 - 150	H	B0G0058	12-Jul-20	0.269 L	14-Jul-20 19:23	1

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: EB06-20200708

PFAS Isotope Dilution Table B-15

Client Data

Name: KMEA
Project: MCAS El Toro and Tustin, PFAS
Matrix: Blank Water
Date Collected: 08-Jul-20 14:00

Laboratory Data

Lab Sample: 2001436-05
Date Received: 09-Jul-20 08:57
Column: BEH C18

Analyte	CAS Number	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	0.00134	0.00196	0.00392		B0G0058	12-Jul-20	0.255 L	14-Jul-20 19:45	1
PFHxA	307-24-4	ND	0.00134	0.00196	0.00392		B0G0058	12-Jul-20	0.255 L	14-Jul-20 19:45	1
HFPO-DA	13252-13-6	ND	0.00236	0.00294	0.00392		B0G0058	12-Jul-20	0.255 L	14-Jul-20 19:45	1
PFHpA	375-85-9	ND	0.00134	0.00196	0.00392		B0G0058	12-Jul-20	0.255 L	14-Jul-20 19:45	1
ADONA	919005-14-4	ND	0.00134	0.00196	0.00392		B0G0058	12-Jul-20	0.255 L	14-Jul-20 19:45	1
PFHxS	355-46-4	ND	0.00134	0.00196	0.00392		B0G0058	12-Jul-20	0.255 L	14-Jul-20 19:45	1
PFOA	335-67-1	ND	0.00134	0.00196	0.00392		B0G0058	12-Jul-20	0.255 L	14-Jul-20 19:45	1
PFNA	375-95-1	ND	0.00134	0.00196	0.00392		B0G0058	12-Jul-20	0.255 L	14-Jul-20 19:45	1
PFOS	1763-23-1	ND	0.00134	0.00196	0.00392		B0G0058	12-Jul-20	0.255 L	14-Jul-20 19:45	1
9Cl-PF3ONS	756426-58-1	ND	0.00134	0.00196	0.00392		B0G0058	12-Jul-20	0.255 L	14-Jul-20 19:45	1
PFDA	335-76-2	ND	0.00134	0.00196	0.00392		B0G0058	12-Jul-20	0.255 L	14-Jul-20 19:45	1
MeFOSAA	2355-31-9	ND	0.00134	0.00196	0.00392		B0G0058	12-Jul-20	0.255 L	14-Jul-20 19:45	1
EtFOSAA	2991-50-6	ND	0.00134	0.00196	0.00392		B0G0058	12-Jul-20	0.255 L	14-Jul-20 19:45	1
PFUnA	2058-94-8	ND	0.00134	0.00196	0.00392		B0G0058	12-Jul-20	0.255 L	14-Jul-20 19:45	1
11Cl-PF3OUdS	763051-92-9	ND	0.00134	0.00196	0.00392		B0G0058	12-Jul-20	0.255 L	14-Jul-20 19:45	1
PFDoA	307-55-1	ND	0.00134	0.00196	0.00392		B0G0058	12-Jul-20	0.255 L	14-Jul-20 19:45	1
PFTrDA	72629-94-8	ND	0.00134	0.00196	0.00392		B0G0058	12-Jul-20	0.255 L	14-Jul-20 19:45	1
PFTeDA	376-06-7	ND	0.00134	0.00196	0.00392		B0G0058	12-Jul-20	0.255 L	14-Jul-20 19:45	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	71.2	50 - 150		B0G0058	12-Jul-20	0.255 L	14-Jul-20 19:45	1
13C3-HFPO-DA	IS	70.4	50 - 150		B0G0058	12-Jul-20	0.255 L	14-Jul-20 19:45	1
13C2-PFHxA	IS	66.5	50 - 150		B0G0058	12-Jul-20	0.255 L	14-Jul-20 19:45	1
13C4-PFHpA	IS	68.8	50 - 150		B0G0058	12-Jul-20	0.255 L	14-Jul-20 19:45	1
13C3-PFHxS	IS	74.1	50 - 150		B0G0058	12-Jul-20	0.255 L	14-Jul-20 19:45	1
13C5-PFNA	IS	65.3	50 - 150		B0G0058	12-Jul-20	0.255 L	14-Jul-20 19:45	1
13C2-PFOA	IS	71.3	50 - 150		B0G0058	12-Jul-20	0.255 L	14-Jul-20 19:45	1
13C8-PFOS	IS	72.0	50 - 150		B0G0058	12-Jul-20	0.255 L	14-Jul-20 19:45	1
13C2-PFDA	IS	65.4	50 - 150		B0G0058	12-Jul-20	0.255 L	14-Jul-20 19:45	1
d3-MeFOSAA	IS	58.9	50 - 150		B0G0058	12-Jul-20	0.255 L	14-Jul-20 19:45	1
13C2-PFUnA	IS	66.2	50 - 150		B0G0058	12-Jul-20	0.255 L	14-Jul-20 19:45	1
d5-EtFOSAA	IS	51.8	50 - 150		B0G0058	12-Jul-20	0.255 L	14-Jul-20 19:45	1
13C2-PFDoA	IS	59.4	50 - 150		B0G0058	12-Jul-20	0.255 L	14-Jul-20 19:45	1
13C2-PFTeDA	IS	59.6	50 - 150		B0G0058	12-Jul-20	0.255 L	14-Jul-20 19:45	1

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: TW23D-20200708

PFAS Isotope Dilution Table B-15

Client Data

Name: KMEA
Project: MCAS El Toro and Tustin, PFAS
Matrix: Groundwater
Date Collected: 08-Jul-20 09:30

Laboratory Data

Lab Sample: 2001436-06
Date Received: 09-Jul-20 08:57
Column: BEH C18

Analyte	CAS Number	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	0.711	0.00123	0.00180	0.00360		B0G0058	12-Jul-20	0.278 L	14-Jul-20 19:55	1
PFHxA	307-24-4	2.98	0.0123	0.0180	0.0360	D	B0G0058	12-Jul-20	0.278 L	15-Jul-20 15:20	10
HFPO-DA	13252-13-6	ND	0.00217	0.00270	0.00360		B0G0058	12-Jul-20	0.278 L	14-Jul-20 19:55	1
PFHpA	375-85-9	0.772	0.00123	0.00180	0.00360		B0G0058	12-Jul-20	0.278 L	14-Jul-20 19:55	1
ADONA	919005-14-4	ND	0.00123	0.00180	0.00360		B0G0058	12-Jul-20	0.278 L	14-Jul-20 19:55	1
PFHxS	355-46-4	3.87	0.0123	0.0180	0.0360	D	B0G0058	12-Jul-20	0.278 L	15-Jul-20 15:20	10
PFOA	335-67-1	10.8	0.0123	0.0180	0.0360	D	B0G0058	12-Jul-20	0.278 L	15-Jul-20 15:20	10
PFNA	375-95-1	0.00760	0.00123	0.00180	0.00360		B0G0058	12-Jul-20	0.278 L	14-Jul-20 19:55	1
PFOS	1763-23-1	1.32	0.00123	0.00180	0.00360		B0G0058	12-Jul-20	0.278 L	14-Jul-20 19:55	1
9Cl-PF3ONS	756426-58-1	ND	0.00123	0.00180	0.00360		B0G0058	12-Jul-20	0.278 L	14-Jul-20 19:55	1
PFDA	335-76-2	ND	0.00123	0.00180	0.00360		B0G0058	12-Jul-20	0.278 L	14-Jul-20 19:55	1
MeFOSAA	2355-31-9	ND	0.00123	0.00180	0.00360		B0G0058	12-Jul-20	0.278 L	14-Jul-20 19:55	1
EtFOSAA	2991-50-6	ND	0.00123	0.00180	0.00360		B0G0058	12-Jul-20	0.278 L	14-Jul-20 19:55	1
PFUnA	2058-94-8	ND	0.00123	0.00180	0.00360		B0G0058	12-Jul-20	0.278 L	14-Jul-20 19:55	1
11Cl-PF3OUdS	763051-92-9	ND	0.00123	0.00180	0.00360		B0G0058	12-Jul-20	0.278 L	14-Jul-20 19:55	1
PFDoA	307-55-1	ND	0.00123	0.00180	0.00360		B0G0058	12-Jul-20	0.278 L	14-Jul-20 19:55	1
PFTrDA	72629-94-8	ND	0.00123	0.00180	0.00360		B0G0058	12-Jul-20	0.278 L	14-Jul-20 19:55	1
PFTeDA	376-06-7	ND	0.00123	0.00180	0.00360		B0G0058	12-Jul-20	0.278 L	14-Jul-20 19:55	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	62.6	50 - 150		B0G0058	12-Jul-20	0.278 L	14-Jul-20 19:55	1
13C3-HFPO-DA	IS	64.7	50 - 150		B0G0058	12-Jul-20	0.278 L	14-Jul-20 19:55	1
13C2-PFHxA	IS	71.5	50 - 150	D	B0G0058	12-Jul-20	0.278 L	15-Jul-20 15:20	10
13C4-PFHpA	IS	60.8	50 - 150		B0G0058	12-Jul-20	0.278 L	14-Jul-20 19:55	1
13C3-PFHxS	IS	66.8	50 - 150	D	B0G0058	12-Jul-20	0.278 L	15-Jul-20 15:20	10
13C5-PFNA	IS	61.0	50 - 150		B0G0058	12-Jul-20	0.278 L	14-Jul-20 19:55	1
13C2-PFOA	IS	77.0	50 - 150	D	B0G0058	12-Jul-20	0.278 L	15-Jul-20 15:20	10
13C8-PFOS	IS	64.0	50 - 150		B0G0058	12-Jul-20	0.278 L	14-Jul-20 19:55	1
13C2-PFDA	IS	59.5	50 - 150		B0G0058	12-Jul-20	0.278 L	14-Jul-20 19:55	1
d3-MeFOSAA	IS	53.2	50 - 150		B0G0058	12-Jul-20	0.278 L	14-Jul-20 19:55	1
13C2-PFUnA	IS	50.7	50 - 150		B0G0058	12-Jul-20	0.278 L	14-Jul-20 19:55	1
d5-EtFOSAA	IS	48.0	50 - 150	H	B0G0058	12-Jul-20	0.278 L	14-Jul-20 19:55	1
13C2-PFDoA	IS	35.0	50 - 150	H	B0G0058	12-Jul-20	0.278 L	14-Jul-20 19:55	1
13C2-PFTeDA	IS	5.40	50 - 150	H	B0G0058	12-Jul-20	0.278 L	14-Jul-20 19:55	1

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: TW24D-20200708

PFAS Isotope Dilution Table B-15

Client Data

Name: KMEA
Project: MCAS El Toro and Tustin, PFAS
Matrix: Groundwater
Date Collected: 08-Jul-20 11:20

Laboratory Data

Lab Sample: 2001436-07
Date Received: 09-Jul-20 08:57
Column: BEH C18

Analyte	CAS Number	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	0.0448	0.00122	0.00177	0.00355		B0G0058	12-Jul-20	0.282 L	15-Jul-20 15:41	1
PFHxA	307-24-4	0.332	0.00122	0.00177	0.00355		B0G0058	12-Jul-20	0.282 L	15-Jul-20 15:41	1
HFPO-DA	13252-13-6	ND	0.00214	0.00266	0.00355		B0G0058	12-Jul-20	0.282 L	15-Jul-20 15:41	1
PFHpA	375-85-9	0.0561	0.00122	0.00177	0.00355		B0G0058	12-Jul-20	0.282 L	15-Jul-20 15:41	1
ADONA	919005-14-4	ND	0.00122	0.00177	0.00355		B0G0058	12-Jul-20	0.282 L	15-Jul-20 15:41	1
PFHxS	355-46-4	0.248	0.00122	0.00177	0.00355		B0G0058	12-Jul-20	0.282 L	15-Jul-20 15:41	1
PFOA	335-67-1	1.55	0.00122	0.00177	0.00355		B0G0058	12-Jul-20	0.282 L	15-Jul-20 15:41	1
PFNA	375-95-1	ND	0.00122	0.00177	0.00355		B0G0058	12-Jul-20	0.282 L	15-Jul-20 15:41	1
PFOS	1763-23-1	0.0326	0.00122	0.00177	0.00355		B0G0058	12-Jul-20	0.282 L	15-Jul-20 15:41	1
9Cl-PF3ONS	756426-58-1	ND	0.00122	0.00177	0.00355		B0G0058	12-Jul-20	0.282 L	15-Jul-20 15:41	1
PFDA	335-76-2	ND	0.00122	0.00177	0.00355		B0G0058	12-Jul-20	0.282 L	15-Jul-20 15:41	1
MeFOSAA	2355-31-9	ND	0.00122	0.00177	0.00355		B0G0058	12-Jul-20	0.282 L	15-Jul-20 15:41	1
EtFOSAA	2991-50-6	ND	0.00122	0.00177	0.00355		B0G0058	12-Jul-20	0.282 L	15-Jul-20 15:41	1
PFUnA	2058-94-8	ND	0.00122	0.00177	0.00355		B0G0058	12-Jul-20	0.282 L	15-Jul-20 15:41	1
11Cl-PF3OUdS	763051-92-9	ND	0.00122	0.00177	0.00355		B0G0058	12-Jul-20	0.282 L	15-Jul-20 15:41	1
PFDoA	307-55-1	ND	0.00122	0.00177	0.00355		B0G0058	12-Jul-20	0.282 L	15-Jul-20 15:41	1
PFTrDA	72629-94-8	ND	0.00122	0.00177	0.00355		B0G0058	12-Jul-20	0.282 L	15-Jul-20 15:41	1
PFTeDA	376-06-7	ND	0.00122	0.00177	0.00355		B0G0058	12-Jul-20	0.282 L	15-Jul-20 15:41	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	70.5	50 - 150		B0G0058	12-Jul-20	0.282 L	15-Jul-20 15:41	1
13C3-HFPO-DA	IS	66.9	50 - 150		B0G0058	12-Jul-20	0.282 L	15-Jul-20 15:41	1
13C2-PFHxA	IS	66.7	50 - 150		B0G0058	12-Jul-20	0.282 L	15-Jul-20 15:41	1
13C4-PFHpA	IS	63.0	50 - 150		B0G0058	12-Jul-20	0.282 L	15-Jul-20 15:41	1
13C3-PFHxS	IS	73.2	50 - 150		B0G0058	12-Jul-20	0.282 L	15-Jul-20 15:41	1
13C5-PFNA	IS	65.5	50 - 150		B0G0058	12-Jul-20	0.282 L	15-Jul-20 15:41	1
13C2-PFOA	IS	64.6	50 - 150		B0G0058	12-Jul-20	0.282 L	15-Jul-20 15:41	1
13C8-PFOS	IS	70.8	50 - 150		B0G0058	12-Jul-20	0.282 L	15-Jul-20 15:41	1
13C2-PFDA	IS	67.3	50 - 150		B0G0058	12-Jul-20	0.282 L	15-Jul-20 15:41	1
d3-MeFOSAA	IS	63.6	50 - 150		B0G0058	12-Jul-20	0.282 L	15-Jul-20 15:41	1
13C2-PFUnA	IS	59.3	50 - 150		B0G0058	12-Jul-20	0.282 L	15-Jul-20 15:41	1
d5-EtFOSAA	IS	50.2	50 - 150		B0G0058	12-Jul-20	0.282 L	15-Jul-20 15:41	1
13C2-PFDoA	IS	45.9	50 - 150	H	B0G0058	12-Jul-20	0.282 L	15-Jul-20 15:41	1
13C2-PFTeDA	IS	7.80	50 - 150	H	B0G0058	12-Jul-20	0.282 L	15-Jul-20 15:41	1

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: TW17D-20200708

PFAS Isotope Dilution Table B-15

Client Data

Name: KMEA
Project: MCAS El Toro and Tustin, PFAS
Matrix: Groundwater
Date Collected: 08-Jul-20 13:40

Laboratory Data

Lab Sample: 2001436-08
Date Received: 09-Jul-20 08:57
Column: BEH C18

Analyte	CAS Number	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	0.169	0.000844	0.00123	0.00246		B0G0058	12-Jul-20	0.406 L	14-Jul-20 20:16	1
PFHxA	307-24-4	0.987	0.000844	0.00123	0.00246		B0G0058	12-Jul-20	0.406 L	14-Jul-20 20:16	1
HFPO-DA	13252-13-6	ND	0.00148	0.00185	0.00246		B0G0058	12-Jul-20	0.406 L	14-Jul-20 20:16	1
PFHpA	375-85-9	0.196	0.000844	0.00123	0.00246		B0G0058	12-Jul-20	0.406 L	14-Jul-20 20:16	1
ADONA	919005-14-4	ND	0.000844	0.00123	0.00246		B0G0058	12-Jul-20	0.406 L	14-Jul-20 20:16	1
PFHxS	355-46-4	0.990	0.000844	0.00123	0.00246		B0G0058	12-Jul-20	0.406 L	14-Jul-20 20:16	1
PFOA	335-67-1	3.87	0.00422	0.00616	0.0123	D	B0G0058	12-Jul-20	0.406 L	15-Jul-20 15:51	5
PFNA	375-95-1	0.00194	0.000844	0.00123	0.00246	J	B0G0058	12-Jul-20	0.406 L	14-Jul-20 20:16	1
PFOS	1763-23-1	0.334	0.000844	0.00123	0.00246		B0G0058	12-Jul-20	0.406 L	14-Jul-20 20:16	1
9Cl-PF3ONS	756426-58-1	ND	0.000844	0.00123	0.00246		B0G0058	12-Jul-20	0.406 L	14-Jul-20 20:16	1
PFDA	335-76-2	ND	0.000844	0.00123	0.00246		B0G0058	12-Jul-20	0.406 L	14-Jul-20 20:16	1
MeFOSAA	2355-31-9	ND	0.000844	0.00123	0.00246		B0G0058	12-Jul-20	0.406 L	14-Jul-20 20:16	1
EtFOSAA	2991-50-6	ND	0.000844	0.00123	0.00246		B0G0058	12-Jul-20	0.406 L	14-Jul-20 20:16	1
PFUnA	2058-94-8	ND	0.000844	0.00123	0.00246		B0G0058	12-Jul-20	0.406 L	14-Jul-20 20:16	1
11Cl-PF3OUdS	763051-92-9	ND	0.000844	0.00123	0.00246		B0G0058	12-Jul-20	0.406 L	14-Jul-20 20:16	1
PFDoA	307-55-1	ND	0.000844	0.00123	0.00246		B0G0058	12-Jul-20	0.406 L	14-Jul-20 20:16	1
PFTrDA	72629-94-8	ND	0.000844	0.00123	0.00246		B0G0058	12-Jul-20	0.406 L	14-Jul-20 20:16	1
PFTeDA	376-06-7	ND	0.000844	0.00123	0.00246		B0G0058	12-Jul-20	0.406 L	14-Jul-20 20:16	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	44.4	50 - 150	H	B0G0058	12-Jul-20	0.406 L	14-Jul-20 20:16	1
13C3-HFPO-DA	IS	39.6	50 - 150	H	B0G0058	12-Jul-20	0.406 L	14-Jul-20 20:16	1
13C2-PFHxA	IS	42.2	50 - 150	H	B0G0058	12-Jul-20	0.406 L	14-Jul-20 20:16	1
13C4-PFHpA	IS	45.2	50 - 150	H	B0G0058	12-Jul-20	0.406 L	14-Jul-20 20:16	1
13C3-PFHxS	IS	44.2	50 - 150	H	B0G0058	12-Jul-20	0.406 L	14-Jul-20 20:16	1
13C5-PFNA	IS	41.9	50 - 150	H	B0G0058	12-Jul-20	0.406 L	14-Jul-20 20:16	1
13C2-PFOA	IS	47.8	50 - 150	D, H	B0G0058	12-Jul-20	0.406 L	15-Jul-20 15:51	5
13C8-PFOS	IS	45.5	50 - 150	H	B0G0058	12-Jul-20	0.406 L	14-Jul-20 20:16	1
13C2-PFDA	IS	39.0	50 - 150	H	B0G0058	12-Jul-20	0.406 L	14-Jul-20 20:16	1
d3-MeFOSAA	IS	27.8	50 - 150	H	B0G0058	12-Jul-20	0.406 L	14-Jul-20 20:16	1
13C2-PFUnA	IS	28.3	50 - 150	H	B0G0058	12-Jul-20	0.406 L	14-Jul-20 20:16	1
d5-EtFOSAA	IS	22.3	50 - 150	H	B0G0058	12-Jul-20	0.406 L	14-Jul-20 20:16	1
13C2-PFDoA	IS	15.3	50 - 150	H	B0G0058	12-Jul-20	0.406 L	14-Jul-20 20:16	1
13C2-PFTeDA	IS	3.30	50 - 150	H	B0G0058	12-Jul-20	0.406 L	14-Jul-20 20:16	1

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

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)
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
TEQ	Toxic Equivalency
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	19-013-0
California Department of Health – ELAP	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777-23
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2018017
Massachusetts Department of Environmental Protection	N/A
Michigan Department of Environmental Quality	9932
Minnesota Department of Health	1521520
New Hampshire Environmental Accreditation Program	207718-B
New Jersey Department of Environmental Protection	190001
New York Department of Health	11411
Oregon Laboratory Accreditation Program	4042-010
Pennsylvania Department of Environmental Protection	016
Texas Commission on Environmental Quality	T104704189-19-10
Vermont Department of Health	VT-4042
Virginia Department of General Services	10272
Washington Department of Ecology	C584-19
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
Determination of Polychlorinated p-Dioxins & Polychlorinated Dibenzofurans	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**
2,3,7,8-Tetrachlorodibenzo- p-dioxin (2,3,7,8-TCDD) GC/HRMS	EPA 1613/1613B
1,4-Dioxane (1,4-Diethyleneoxide) analysis by GC/HRMS	EPA 522
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	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

Vista Analytical

1104 Windfield Way
El Dorado Hills, CA 95762
TEL: 916-673-1520

2001436 3.1°C

Vista PM: Jade White-Dobbs

CHAIN OF CUSTODY RECORD

DATE: 7/7/20

PAGE: 1 OF 1

LABORATORY CLIENT: KMEA

ADDRESS: 9210 Sky Park Court, Suite 220

CITY: San Diego, CA 92123

TEL: (619) 399-5900 | E-Mail: kimberly.shiroodi@woodplc.com | E-MAIL: brian.johnson@woodplc.com

CLIENT PROJECT NAME / NUMBER: MCAS El Toro and Tustin, PFAS

PROJECT CONTACT: Kimberly Shiroodi / Brian Johnson

SAMPLER(S): (SIGNATURE) Lily Rutte

P.O. NO.: TO 008 Mod 4

CONTRACT NO.: N62473-16-D-2405

LAB USE ONLY

TURNAROUND TIME

☐ SAME DAY ☐ 24 HR ☐ 48HR ☐ 72 HR ☐ 10 DAYS ☒ Standard

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)

☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ____/____/____

SPECIAL INSTRUCTIONS

GW samples potentially contain elevated levels of PFAS.
* filter as needed

REQUESTED ANALYSIS

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	Matrix	#Cont	QC Level	PFAS by LC/MS-MS
	EB05-20200707	7/7/20	14:00	BW	2		X
	TW21D-20200707		8:30	GW	4*	IV	X
	TW09D-20200707		10:40	"	4*	IV	X
	TW22D-20200707		15:15	"	4*	IV	X
	EB06-20200708	7/8/20	14:00	BW	2		X
	TW23D-20200708		9:30	GW	4*	IV	X
	TW24D-20200708		11:20	"	4*	IV	X
	TW17D-20200708		13:40	"	4*	IV	X

LR 7-8-20

Relinquished by: (Signature)	Received by: (Signature) / Carrier Tracking Number	Date:	Time:
Lily Rutte	FedEx	7/8/20	15:00
FEDEX 07/09/20 08:57	[signature]	07/09/20	08:57

Vista Analytical Laboratory

Sample Log-In Checklist

Page # 1 of 1

Vista Work Order #: 2001436 TAT std

Samples Arrival:	**Date/Time** 07/09/20 08:57		**Initials:** CMR			**Location:** WR-2 **Shelf/Rack:** NA	
Delivered By:	FedEx	UPS	On Trac	GLS	DHL	Hand Delivered	Other
Preservation:	Ice		Blue Ice		Dry Ice		None
Temp °C: 3.1 (uncorrected) **Temp °C:** 3.1 (corrected)			**Probe used: Y / N**			**Thermometer ID:** IR-3	

	YES	NO	NA
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?	✓		
Airbill — Trk # 3946 3936 9812	✓		
Shipping Documentation Present?	✓		
Shipping Container: Vista / Client / Retain / Return / Dispose	✓		
Chain of Custody / Sample Documentation Present?	✓		
Chain of Custody / Sample Documentation Complete?	✓		
Holding Time Acceptable?	✓		

Logged In:	**Date/Time** 07/09/20 0937	**Initials:** MWS	**Location:** R-13, WR-2 **Shelf/Rack:** B-2, E-2
COC Anomaly/Sample Acceptance Form completed?		✓	✓

Comments:

CoC/Label Reconciliation Report WO# 2001436

LabNumber	CoC Sample ID	SampleAlias	Sample Date/Time	Container	BaseMatrix	Sample Comments
2001436-01	A EB05-20200707		07-Jul-20 14:00	HDPE Bottle, 250 mL	Aqueous	
2001436-01	B EB05-20200707		07-Jul-20 14:00	HDPE Bottle, 250 mL	Aqueous	
2001436-02	A TW21D-20200707		07-Jul-20 08:30	HDPE Bottle, 250 mL	Aqueous	
2001436-02	B TW21D-20200707		07-Jul-20 08:30	HDPE Bottle, 250 mL	Aqueous	
2001436-02	C TW21D-20200707		07-Jul-20 08:30	HDPE Bottle, 250 mL	Aqueous	
2001436-02	D TW21D-20200707		07-Jul-20 08:30	HDPE Bottle, 250 mL	Aqueous	
2001436-03	A TW09D-20200707		07-Jul-20 10:40	HDPE Bottle, 250 mL	Aqueous	
2001436-03	B TW09D-20200707		07-Jul-20 10:40	HDPE Bottle, 250 mL	Aqueous	
2001436-03	C TW09D-20200707		07-Jul-20 10:40	HDPE Bottle, 250 mL	Aqueous	
2001436-03	D TW09D-20200707		07-Jul-20 10:40	HDPE Bottle, 250 mL	Aqueous	
2001436-04	A TW22D-20200707		07-Jul-20 15:15	HDPE Bottle, 250 mL	Aqueous	
2001436-04	B TW22D-20200707		07-Jul-20 15:15	HDPE Bottle, 250 mL	Aqueous	
2001436-04	C TW22D-20200707		07-Jul-20 15:15	HDPE Bottle, 250 mL	Aqueous	
2001436-04	D TW22D-20200707		07-Jul-20 15:15	HDPE Bottle, 250 mL	Aqueous	
2001436-05	A EB06-20200708		08-Jul-20 14:00	HDPE Bottle, 250 mL	Aqueous	
2001436-05	B EB06-20200708		08-Jul-20 14:00	HDPE Bottle, 250 mL	Aqueous	
2001436-06	A TW23D-20200708		08-Jul-20 09:30	HDPE Bottle, 250 mL	Aqueous	
2001436-06	B TW23D-20200708		08-Jul-20 09:30	HDPE Bottle, 250 mL	Aqueous	
2001436-06	C TW23D-20200708		08-Jul-20 09:30	HDPE Bottle, 250 mL	Aqueous	
2001436-06	D TW23D-20200708		08-Jul-20 09:30	HDPE Bottle, 250 mL	Aqueous	
2001436-07	A TW24D-20200708		08-Jul-20 11:20	HDPE Bottle, 250 mL	Aqueous	
2001436-07	B TW24D-20200708		08-Jul-20 11:20	HDPE Bottle, 250 mL	Aqueous	
2001436-07	C TW24D-20200708		08-Jul-20 11:20	HDPE Bottle, 250 mL	Aqueous	
2001436-07	D TW24D-20200708		08-Jul-20 11:20	HDPE Bottle, 250 mL	Aqueous	
2001436-08	A TW17D-20200708		08-Jul-20 13:40	HDPE Bottle, 250 mL	Aqueous	
2001436-08	B TW17D-20200708		08-Jul-20 13:40	HDPE Bottle, 250 mL	Aqueous	
2001436-08	C TW17D-20200708		08-Jul-20 13:40	HDPE Bottle, 250 mL	Aqueous	
2001436-08	D TW17D-20200708		08-Jul-20 13:40	HDPE Bottle, 250 mL	Aqueous	

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

	Yes	No	NA	Comments:
Sample Container Intact?	✓			
Sample Custody Seals Intact?			✓	
Adequate Sample Volume?	✓			
Container Type Appropriate for Analysis(es)	✓			
Preservation Documented: Na2S2O3 Trizma (None) Other		✓	✓	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓	

Verifed by/Date: KA 07/09/20

July 22, 2020

Vista Work Order No. 2001436

Ms. Kimberly Shiroodi
KMEA
2423 Hoover Avenue
National City, CA 91950

Dear Ms. Shiroodi,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on July 09, 2020 under your Project Name 'MCAS El Toro and Tustin, PFAS'.

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 mmaier@vista-analytical.com.

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

Sincerely,

Martha Maier
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. 2001436
Case Narrative

Sample Condition on Receipt:

Two blank water samples and six groundwater samples were received in good condition and within the method temperature requirements. The samples were received and stored securely in accordance with Vista standard operating procedures and EPA methodology.

Analytical Notes:

PFAS Isotope Dilution/LC-MSMS Method Compliant with Table B-15 of QSM 5.3 (Aqueous)

The following samples contained particulate and were centrifuged prior to extraction:

Laboratory ID	Sample Name
2001436-02	TW21D-20200707
2001436-03	TW09D-20200707
2001436-04	TW22D-20200707
2001436-06	TW23D-20200708
2001436-07	TW24D-20200708
2001436-08	TW17D-20200708

Sample "TW17D-20200708" was very high in particulates: the solids made up approximately one-half of the sample. Following standard procedure, the solids were rinsed in methanol and the rinses were included in the extraction.

The samples were extracted and analyzed for a selected list of PFAS using Isotope Dilution and LC-MS/MS compliant with Table B-15 of QSM 5.3. The results for PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Results for all other analytes include the linear isomers only.

Holding Times

The samples were extracted and analyzed within the hold times.

Quality Control

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

A Method Blank and Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD) were extracted and analyzed with the preparation batch. No analytes were detected in the Method Blank above 1/2 of the LOQ concentrations. The LCS/LCSD recoveries were within the acceptance criteria.

The labeled standard recoveries outside the acceptance criteria are flagged with an "H" qualifier.

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Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
2001436-01	EB05-20200707	07-Jul-20 14:00	09-Jul-20 08:57	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
2001436-02	TW21D-20200707	07-Jul-20 08:30	09-Jul-20 08:57	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
2001436-03	TW09D-20200707	07-Jul-20 10:40	09-Jul-20 08:57	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
2001436-04	TW22D-20200707	07-Jul-20 15:15	09-Jul-20 08:57	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
2001436-05	EB06-20200708	08-Jul-20 14:00	09-Jul-20 08:57	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
2001436-06	TW23D-20200708	08-Jul-20 09:30	09-Jul-20 08:57	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
2001436-07	TW24D-20200708	08-Jul-20 11:20	09-Jul-20 08:57	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
2001436-08	TW17D-20200708	08-Jul-20 13:40	09-Jul-20 08:57	HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL
				HDPE Bottle, 250 mL

ANALYTICAL RESULTS

Sample ID: Method Blank

PFAS Isotope Dilution Table B-15

Client Data

Name: KMEA
Project: MCAS El Toro and Tustin, PFAS
Matrix: Aqueous

Laboratory Data

Lab Sample: B0G0058-BLK1
Column: BEH C18

Analyte	CAS Number	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	0.00137	0.00200	0.00400		B0G0058	12-Jul-20	0.250 L	14-Jul-20 18:20	1
PFHxA	307-24-4	ND	0.00137	0.00200	0.00400		B0G0058	12-Jul-20	0.250 L	14-Jul-20 18:20	1
HFPO-DA	13252-13-6	ND	0.00241	0.00300	0.00400		B0G0058	12-Jul-20	0.250 L	14-Jul-20 18:20	1
PFHpA	375-85-9	ND	0.00137	0.00200	0.00400		B0G0058	12-Jul-20	0.250 L	14-Jul-20 18:20	1
ADONA	919005-14-4	ND	0.00137	0.00200	0.00400		B0G0058	12-Jul-20	0.250 L	14-Jul-20 18:20	1
PFHxS	355-46-4	ND	0.00137	0.00200	0.00400		B0G0058	12-Jul-20	0.250 L	14-Jul-20 18:20	1
PFOA	335-67-1	ND	0.00137	0.00200	0.00400		B0G0058	12-Jul-20	0.250 L	14-Jul-20 18:20	1
PFNA	375-95-1	ND	0.00137	0.00200	0.00400		B0G0058	12-Jul-20	0.250 L	14-Jul-20 18:20	1
PFOS	1763-23-1	ND	0.00137	0.00200	0.00400		B0G0058	12-Jul-20	0.250 L	14-Jul-20 18:20	1
9Cl-PF3ONS	756426-58-1	ND	0.00137	0.00200	0.00400		B0G0058	12-Jul-20	0.250 L	14-Jul-20 18:20	1
PFDA	335-76-2	ND	0.00137	0.00200	0.00400		B0G0058	12-Jul-20	0.250 L	14-Jul-20 18:20	1
MeFOSAA	2355-31-9	ND	0.00137	0.00200	0.00400		B0G0058	12-Jul-20	0.250 L	14-Jul-20 18:20	1
EtFOSAA	2991-50-6	ND	0.00137	0.00200	0.00400		B0G0058	12-Jul-20	0.250 L	14-Jul-20 18:20	1
PFUnA	2058-94-8	ND	0.00137	0.00200	0.00400		B0G0058	12-Jul-20	0.250 L	14-Jul-20 18:20	1
11Cl-PF3OUdS	763051-92-9	ND	0.00137	0.00200	0.00400		B0G0058	12-Jul-20	0.250 L	14-Jul-20 18:20	1
PFDoA	307-55-1	ND	0.00137	0.00200	0.00400		B0G0058	12-Jul-20	0.250 L	14-Jul-20 18:20	1
PFTrDA	72629-94-8	ND	0.00137	0.00200	0.00400		B0G0058	12-Jul-20	0.250 L	14-Jul-20 18:20	1
PFTeDA	376-06-7	ND	0.00137	0.00200	0.00400		B0G0058	12-Jul-20	0.250 L	14-Jul-20 18:20	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	69.5	50 - 150		B0G0058	12-Jul-20	0.250 L	14-Jul-20 18:20	1
13C3-HFPO-DA	IS	65.4	50 - 150		B0G0058	12-Jul-20	0.250 L	14-Jul-20 18:20	1
13C2-PFHxA	IS	67.9	50 - 150		B0G0058	12-Jul-20	0.250 L	14-Jul-20 18:20	1
13C4-PFHpA	IS	66.1	50 - 150		B0G0058	12-Jul-20	0.250 L	14-Jul-20 18:20	1
13C3-PFHxS	IS	74.9	50 - 150		B0G0058	12-Jul-20	0.250 L	14-Jul-20 18:20	1
13C5-PFNA	IS	64.3	50 - 150		B0G0058	12-Jul-20	0.250 L	14-Jul-20 18:20	1
13C2-PFOA	IS	72.0	50 - 150		B0G0058	12-Jul-20	0.250 L	14-Jul-20 18:20	1
13C8-PFOS	IS	63.4	50 - 150		B0G0058	12-Jul-20	0.250 L	14-Jul-20 18:20	1
13C2-PFDA	IS	60.3	50 - 150		B0G0058	12-Jul-20	0.250 L	14-Jul-20 18:20	1
d3-MeFOSAA	IS	56.5	50 - 150		B0G0058	12-Jul-20	0.250 L	14-Jul-20 18:20	1
13C2-PFUnA	IS	57.4	50 - 150		B0G0058	12-Jul-20	0.250 L	14-Jul-20 18:20	1
d5-EtFOSAA	IS	54.6	50 - 150		B0G0058	12-Jul-20	0.250 L	14-Jul-20 18:20	1
13C2-PFDoA	IS	55.5	50 - 150		B0G0058	12-Jul-20	0.250 L	14-Jul-20 18:20	1
13C2-PFTeDA	IS	59.0	50 - 150		B0G0058	12-Jul-20	0.250 L	14-Jul-20 18:20	1

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: LCSD **PFAS Isotope Dilution Table B-15**

Name:	KMEA	Lab Sample:	B0G0058-BS1/B0G0058-BSD1
Project:	MCAS El Toro and Tustin, PFAS	QC Batch:	B0G0058
Matrix:	Aqueous	Samp Size:	0.250/0.250 L
		Date Extracted:	12-Jul-20
		Column:	BEH C18

Analyte	CAS Number	LCS (ug/L)	LCS Spike	LCS % Rec	LCS Quals	LCSD (ug/L)	LCSD Spike	LCSD % Rec	RPD	LCSD Quals	%Rec Limits	RPD Limits	LCS Analyzed	LCS Dil	LCSD Analyzed	LCSD Dil
PFBS	375-73-5	0.0413	0.0400	103		0.0425	0.0400	106	2.83		72-130	30	14-Jul-20 18:31	1	14-Jul-20 18:41	1
PFHxA	307-24-4	0.0434	0.0400	108		0.0441	0.0400	110	1.64		72-129	30	14-Jul-20 18:31	1	14-Jul-20 18:41	1
HFPO-DA	13252-13-6	0.0413	0.0400	103		0.0437	0.0400	109	5.60		70-130	30	14-Jul-20 18:31	1	14-Jul-20 18:41	1
PFHpA	375-85-9	0.0406	0.0400	101		0.0399	0.0400	99.6	1.77		72-130	30	14-Jul-20 18:31	1	14-Jul-20 18:41	1
ADONA	919005-14-4	0.0397	0.0400	99.3		0.0423	0.0400	106	6.30		70-130	30	14-Jul-20 18:31	1	14-Jul-20 18:41	1
PFHxS	355-46-4	0.0397	0.0400	99.1		0.0430	0.0400	107	8.07		68-131	30	14-Jul-20 18:31	1	14-Jul-20 18:41	1
PFOA	335-67-1	0.0380	0.0400	95.1		0.0422	0.0400	105	10.4		71-133	30	14-Jul-20 18:31	1	14-Jul-20 18:41	1
PFNA	375-95-1	0.0410	0.0400	103		0.0446	0.0400	111	8.27		69-130	30	14-Jul-20 18:31	1	14-Jul-20 18:41	1
PFOS	1763-23-1	0.0365	0.0400	91.2		0.0485	0.0400	121	28.4		65-140	30	14-Jul-20 18:31	1	14-Jul-20 18:41	1
9Cl-PF3ONS	756426-58-1	0.0338	0.0400	84.5		0.0456	0.0400	114	29.7		70-130	30	14-Jul-20 18:31	1	14-Jul-20 18:41	1
PFDA	335-76-2	0.0413	0.0400	103		0.0432	0.0400	108	4.51		71-129	30	14-Jul-20 18:31	1	14-Jul-20 18:41	1
MeFOSAA	2355-31-9	0.0428	0.0400	107		0.0368	0.0400	91.9	15.1		65-136	30	14-Jul-20 18:31	1	14-Jul-20 18:41	1
EtFOSAA	2991-50-6	0.0422	0.0400	106		0.0412	0.0400	103	2.39		61-135	30	14-Jul-20 18:31	1	14-Jul-20 18:41	1
PFUnA	2058-94-8	0.0396	0.0400	99.1		0.0405	0.0400	101	2.23		69-133	30	14-Jul-20 18:31	1	14-Jul-20 18:41	1
11Cl-PF3OUdS	763051-92-9	0.0393	0.0400	98.1		0.0432	0.0400	108	9.63		70-130	30	14-Jul-20 18:31	1	14-Jul-20 18:41	1
PFDoA	307-55-1	0.0431	0.0400	108		0.0401	0.0400	100	7.17		72-134	30	14-Jul-20 18:31	1	14-Jul-20 18:41	1
PFTrDA	72629-94-8	0.0382	0.0400	95.6		0.0402	0.0400	100	4.93		65-144	30	14-Jul-20 18:31	1	14-Jul-20 18:41	1
PFTeDA	376-06-7	0.0406	0.0400	102		0.0425	0.0400	106	4.62		71-132	30	14-Jul-20 18:31	1	14-Jul-20 18:41	1

Labeled Standards	Type	LCS % Rec	LCS Quals	LCSD % Rec	LCSD Quals	Limits	LCS Analyzed	LCS Dil	LCSD Analyzed	LCSD Dil
13C3-PFBS	IS	66.5		74.2		50-150	14-Jul-20 18:31	1	14-Jul-20 18:41	1
13C3-HFPO-DA	IS	59.5		72.0		50-150	14-Jul-20 18:31	1	14-Jul-20 18:41	1
13C2-PFHxA	IS	59.7		72.8		50-150	14-Jul-20 18:31	1	14-Jul-20 18:41	1
13C4-PFHpA	IS	60.0		74.0		50-150	14-Jul-20 18:31	1	14-Jul-20 18:41	1
13C3-PFHxS	IS	71.1		77.4		50-150	14-Jul-20 18:31	1	14-Jul-20 18:41	1
13C5-PFNA	IS	57.9		67.2		50-150	14-Jul-20 18:31	1	14-Jul-20 18:41	1
13C2-PFOA	IS	66.0		75.3		50-150	14-Jul-20 18:31	1	14-Jul-20 18:41	1
13C8-PFOS	IS	69.6		63.6		50-150	14-Jul-20 18:31	1	14-Jul-20 18:41	1
13C2-PFDA	IS	57.2		64.5		50-150	14-Jul-20 18:31	1	14-Jul-20 18:41	1
d3-MeFOSAA	IS	47.0	H	63.0		50-150	14-Jul-20 18:31	1	14-Jul-20 18:41	1
13C2-PFUnA	IS	55.9		62.0		50-150	14-Jul-20 18:31	1	14-Jul-20 18:41	1
d5-EtFOSAA	IS	44.2	H	57.3		50-150	14-Jul-20 18:31	1	14-Jul-20 18:41	1
13C2-PFDoA	IS	46.9	H	56.6		50-150	14-Jul-20 18:31	1	14-Jul-20 18:41	1

Sample ID: LCSD **PFAS Isotope Dilution Table B-15**

Name:	KMEA	Lab Sample:	B0G0058-BS1/B0G0058-BSD1	Date Extracted:	12-Jul-20
Project:	MCAS El Toro and Tustin, PFAS	QC Batch:	B0G0058	Column:	BEH C18
Matrix:	Aqueous	Samp Size:	0.250/0.250 L		

Labeled Standards	Type	LCS % Rec	LCS Quals	LCSD % Rec	LCSD Quals	Limits	LCS Analyzed	LCS Dil	LCSD Analyzed	LCSD Dil
13C2-PFTeDA	IS	51.5		63.7		50-150	14-Jul-20 18:31	1	14-Jul-20 18:41	1

Sample ID: EB05-20200707

PFAS Isotope Dilution Table B-15

Client Data

Name: KMEA
Project: MCAS El Toro and Tustin, PFAS
Matrix: Blank Water
Date Collected: 07-Jul-20 14:00

Laboratory Data

Lab Sample: 2001436-01
Date Received: 09-Jul-20 08:57
Column: BEH C18

Analyte	CAS Number	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	0.00136	0.00198	0.00397		B0G0058	12-Jul-20	0.252 L	14-Jul-20 18:52	1
PFHxA	307-24-4	ND	0.00136	0.00198	0.00397		B0G0058	12-Jul-20	0.252 L	14-Jul-20 18:52	1
HFPO-DA	13252-13-6	ND	0.00239	0.00298	0.00397		B0G0058	12-Jul-20	0.252 L	14-Jul-20 18:52	1
PFHpA	375-85-9	ND	0.00136	0.00198	0.00397		B0G0058	12-Jul-20	0.252 L	14-Jul-20 18:52	1
ADONA	919005-14-4	ND	0.00136	0.00198	0.00397		B0G0058	12-Jul-20	0.252 L	14-Jul-20 18:52	1
PFHxS	355-46-4	ND	0.00136	0.00198	0.00397		B0G0058	12-Jul-20	0.252 L	14-Jul-20 18:52	1
PFOA	335-67-1	ND	0.00136	0.00198	0.00397		B0G0058	12-Jul-20	0.252 L	14-Jul-20 18:52	1
PFNA	375-95-1	ND	0.00136	0.00198	0.00397		B0G0058	12-Jul-20	0.252 L	14-Jul-20 18:52	1
PFOS	1763-23-1	ND	0.00136	0.00198	0.00397		B0G0058	12-Jul-20	0.252 L	14-Jul-20 18:52	1
9Cl-PF3ONS	756426-58-1	ND	0.00136	0.00198	0.00397		B0G0058	12-Jul-20	0.252 L	14-Jul-20 18:52	1
PFDA	335-76-2	ND	0.00136	0.00198	0.00397		B0G0058	12-Jul-20	0.252 L	14-Jul-20 18:52	1
MeFOSAA	2355-31-9	ND	0.00136	0.00198	0.00397		B0G0058	12-Jul-20	0.252 L	14-Jul-20 18:52	1
EtFOSAA	2991-50-6	ND	0.00136	0.00198	0.00397		B0G0058	12-Jul-20	0.252 L	14-Jul-20 18:52	1
PFUnA	2058-94-8	ND	0.00136	0.00198	0.00397		B0G0058	12-Jul-20	0.252 L	14-Jul-20 18:52	1
11Cl-PF3OUdS	763051-92-9	ND	0.00136	0.00198	0.00397		B0G0058	12-Jul-20	0.252 L	14-Jul-20 18:52	1
PFDoA	307-55-1	ND	0.00136	0.00198	0.00397		B0G0058	12-Jul-20	0.252 L	14-Jul-20 18:52	1
PFTrDA	72629-94-8	ND	0.00136	0.00198	0.00397		B0G0058	12-Jul-20	0.252 L	14-Jul-20 18:52	1
PFTeDA	376-06-7	ND	0.00136	0.00198	0.00397		B0G0058	12-Jul-20	0.252 L	14-Jul-20 18:52	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	67.2	50 - 150		B0G0058	12-Jul-20	0.252 L	14-Jul-20 18:52	1
13C3-HFPO-DA	IS	57.9	50 - 150		B0G0058	12-Jul-20	0.252 L	14-Jul-20 18:52	1
13C2-PFHxA	IS	63.0	50 - 150		B0G0058	12-Jul-20	0.252 L	14-Jul-20 18:52	1
13C4-PFHpA	IS	63.0	50 - 150		B0G0058	12-Jul-20	0.252 L	14-Jul-20 18:52	1
13C3-PFHxS	IS	72.2	50 - 150		B0G0058	12-Jul-20	0.252 L	14-Jul-20 18:52	1
13C5-PFNA	IS	61.8	50 - 150		B0G0058	12-Jul-20	0.252 L	14-Jul-20 18:52	1
13C2-PFOA	IS	68.2	50 - 150		B0G0058	12-Jul-20	0.252 L	14-Jul-20 18:52	1
13C8-PFOS	IS	66.9	50 - 150		B0G0058	12-Jul-20	0.252 L	14-Jul-20 18:52	1
13C2-PFDA	IS	63.4	50 - 150		B0G0058	12-Jul-20	0.252 L	14-Jul-20 18:52	1
d3-MeFOSAA	IS	53.2	50 - 150		B0G0058	12-Jul-20	0.252 L	14-Jul-20 18:52	1
13C2-PFUnA	IS	63.7	50 - 150		B0G0058	12-Jul-20	0.252 L	14-Jul-20 18:52	1
d5-EtFOSAA	IS	56.3	50 - 150		B0G0058	12-Jul-20	0.252 L	14-Jul-20 18:52	1
13C2-PFDoA	IS	59.1	50 - 150		B0G0058	12-Jul-20	0.252 L	14-Jul-20 18:52	1
13C2-PFTeDA	IS	57.5	50 - 150		B0G0058	12-Jul-20	0.252 L	14-Jul-20 18:52	1

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: TW21D-20200707 **PFAS Isotope Dilution Table B-15**

Client Data

Name: KMEA
Project: MCAS El Toro and Tustin, PFAS
Matrix: Groundwater
Date Collected: 07-Jul-20 08:30

Laboratory Data

Lab Sample: 2001436-02
Date Received: 09-Jul-20 08:57
Column: BEH C18

Analyte	CAS Number	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	0.00455	0.00139	0.00202	0.00405		B0G0058	12-Jul-20	0.247 L	14-Jul-20 19:02	1
PFHxA	307-24-4	0.00920	0.00139	0.00202	0.00405		B0G0058	12-Jul-20	0.247 L	14-Jul-20 19:02	1
HFPO-DA	13252-13-6	ND	0.00244	0.00304	0.00405		B0G0058	12-Jul-20	0.247 L	14-Jul-20 19:02	1
PFHpA	375-85-9	0.00212	0.00139	0.00202	0.00405	J	B0G0058	12-Jul-20	0.247 L	14-Jul-20 19:02	1
ADONA	919005-14-4	ND	0.00139	0.00202	0.00405		B0G0058	12-Jul-20	0.247 L	14-Jul-20 19:02	1
PFHxS	355-46-4	0.00969	0.00139	0.00202	0.00405		B0G0058	12-Jul-20	0.247 L	14-Jul-20 19:02	1
PFOA	335-67-1	0.0157	0.00139	0.00202	0.00405		B0G0058	12-Jul-20	0.247 L	14-Jul-20 19:02	1
PFNA	375-95-1	ND	0.00139	0.00202	0.00405		B0G0058	12-Jul-20	0.247 L	14-Jul-20 19:02	1
PFOS	1763-23-1	0.00245	0.00139	0.00202	0.00405	J	B0G0058	12-Jul-20	0.247 L	14-Jul-20 19:02	1
9Cl-PF3ONS	756426-58-1	ND	0.00139	0.00202	0.00405		B0G0058	12-Jul-20	0.247 L	14-Jul-20 19:02	1
PFDA	335-76-2	ND	0.00139	0.00202	0.00405		B0G0058	12-Jul-20	0.247 L	14-Jul-20 19:02	1
MeFOSAA	2355-31-9	ND	0.00139	0.00202	0.00405		B0G0058	12-Jul-20	0.247 L	14-Jul-20 19:02	1
EtFOSAA	2991-50-6	ND	0.00139	0.00202	0.00405		B0G0058	12-Jul-20	0.247 L	14-Jul-20 19:02	1
PFUnA	2058-94-8	ND	0.00139	0.00202	0.00405		B0G0058	12-Jul-20	0.247 L	14-Jul-20 19:02	1
11Cl-PF3OUdS	763051-92-9	ND	0.00139	0.00202	0.00405		B0G0058	12-Jul-20	0.247 L	14-Jul-20 19:02	1
PFDoA	307-55-1	ND	0.00139	0.00202	0.00405		B0G0058	12-Jul-20	0.247 L	14-Jul-20 19:02	1
PFTrDA	72629-94-8	ND	0.00139	0.00202	0.00405		B0G0058	12-Jul-20	0.247 L	14-Jul-20 19:02	1
PFTeDA	376-06-7	ND	0.00139	0.00202	0.00405		B0G0058	12-Jul-20	0.247 L	14-Jul-20 19:02	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	73.1	50 - 150		B0G0058	12-Jul-20	0.247 L	14-Jul-20 19:02	1
13C3-HFPO-DA	IS	73.1	50 - 150		B0G0058	12-Jul-20	0.247 L	14-Jul-20 19:02	1
13C2-PFHxA	IS	69.3	50 - 150		B0G0058	12-Jul-20	0.247 L	14-Jul-20 19:02	1
13C4-PFHpA	IS	69.5	50 - 150		B0G0058	12-Jul-20	0.247 L	14-Jul-20 19:02	1
13C3-PFHxS	IS	76.8	50 - 150		B0G0058	12-Jul-20	0.247 L	14-Jul-20 19:02	1
13C5-PFNA	IS	68.1	50 - 150		B0G0058	12-Jul-20	0.247 L	14-Jul-20 19:02	1
13C2-PFOA	IS	73.6	50 - 150		B0G0058	12-Jul-20	0.247 L	14-Jul-20 19:02	1
13C8-PFOS	IS	67.1	50 - 150		B0G0058	12-Jul-20	0.247 L	14-Jul-20 19:02	1
13C2-PFDA	IS	63.9	50 - 150		B0G0058	12-Jul-20	0.247 L	14-Jul-20 19:02	1
d3-MeFOSAA	IS	59.8	50 - 150		B0G0058	12-Jul-20	0.247 L	14-Jul-20 19:02	1
13C2-PFUnA	IS	59.3	50 - 150		B0G0058	12-Jul-20	0.247 L	14-Jul-20 19:02	1
d5-EtFOSAA	IS	56.1	50 - 150		B0G0058	12-Jul-20	0.247 L	14-Jul-20 19:02	1
13C2-PFDoA	IS	51.9	50 - 150		B0G0058	12-Jul-20	0.247 L	14-Jul-20 19:02	1
13C2-PFTeDA	IS	32.1	50 - 150	H	B0G0058	12-Jul-20	0.247 L	14-Jul-20 19:02	1

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: TW09D-20200707

PFAS Isotope Dilution Table B-15

Client Data

Name: KMEA
Project: MCAS El Toro and Tustin, PFAS
Matrix: Groundwater
Date Collected: 07-Jul-20 10:40

Laboratory Data

Lab Sample: 2001436-03
Date Received: 09-Jul-20 08:57
Column: BEH C18

Analyte	CAS Number	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	0.0693	0.00131	0.00191	0.00382		B0G0058	12-Jul-20	0.262 L	14-Jul-20 19:13	1
PFHxA	307-24-4	0.192	0.00131	0.00191	0.00382		B0G0058	12-Jul-20	0.262 L	14-Jul-20 19:13	1
HFPO-DA	13252-13-6	ND	0.00230	0.00286	0.00382		B0G0058	12-Jul-20	0.262 L	14-Jul-20 19:13	1
PFHpA	375-85-9	0.0511	0.00131	0.00191	0.00382		B0G0058	12-Jul-20	0.262 L	14-Jul-20 19:13	1
ADONA	919005-14-4	ND	0.00131	0.00191	0.00382		B0G0058	12-Jul-20	0.262 L	14-Jul-20 19:13	1
PFHxS	355-46-4	0.387	0.00131	0.00191	0.00382		B0G0058	12-Jul-20	0.262 L	14-Jul-20 19:13	1
PFOA	335-67-1	0.463	0.00131	0.00191	0.00382		B0G0058	12-Jul-20	0.262 L	14-Jul-20 19:13	1
PFNA	375-95-1	0.00524	0.00131	0.00191	0.00382		B0G0058	12-Jul-20	0.262 L	14-Jul-20 19:13	1
PFOS	1763-23-1	0.349	0.00131	0.00191	0.00382		B0G0058	12-Jul-20	0.262 L	14-Jul-20 19:13	1
9Cl-PF3ONS	756426-58-1	ND	0.00131	0.00191	0.00382		B0G0058	12-Jul-20	0.262 L	14-Jul-20 19:13	1
PFDA	335-76-2	0.00377	0.00131	0.00191	0.00382	J	B0G0058	12-Jul-20	0.262 L	14-Jul-20 19:13	1
MeFOSAA	2355-31-9	ND	0.00131	0.00191	0.00382		B0G0058	12-Jul-20	0.262 L	14-Jul-20 19:13	1
EtFOSAA	2991-50-6	ND	0.00131	0.00191	0.00382		B0G0058	12-Jul-20	0.262 L	14-Jul-20 19:13	1
PFUnA	2058-94-8	ND	0.00131	0.00191	0.00382		B0G0058	12-Jul-20	0.262 L	14-Jul-20 19:13	1
11Cl-PF3OUdS	763051-92-9	ND	0.00131	0.00191	0.00382		B0G0058	12-Jul-20	0.262 L	14-Jul-20 19:13	1
PFDoA	307-55-1	ND	0.00131	0.00191	0.00382		B0G0058	12-Jul-20	0.262 L	14-Jul-20 19:13	1
PFTrDA	72629-94-8	ND	0.00131	0.00191	0.00382		B0G0058	12-Jul-20	0.262 L	14-Jul-20 19:13	1
PFTeDA	376-06-7	ND	0.00131	0.00191	0.00382		B0G0058	12-Jul-20	0.262 L	14-Jul-20 19:13	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	75.0	50 - 150		B0G0058	12-Jul-20	0.262 L	14-Jul-20 19:13	1
13C3-HFPO-DA	IS	64.6	50 - 150		B0G0058	12-Jul-20	0.262 L	14-Jul-20 19:13	1
13C2-PFHxA	IS	69.8	50 - 150		B0G0058	12-Jul-20	0.262 L	14-Jul-20 19:13	1
13C4-PFHpA	IS	69.1	50 - 150		B0G0058	12-Jul-20	0.262 L	14-Jul-20 19:13	1
13C3-PFHxS	IS	75.4	50 - 150		B0G0058	12-Jul-20	0.262 L	14-Jul-20 19:13	1
13C5-PFNA	IS	62.9	50 - 150		B0G0058	12-Jul-20	0.262 L	14-Jul-20 19:13	1
13C2-PFOA	IS	69.9	50 - 150		B0G0058	12-Jul-20	0.262 L	14-Jul-20 19:13	1
13C8-PFOS	IS	68.1	50 - 150		B0G0058	12-Jul-20	0.262 L	14-Jul-20 19:13	1
13C2-PFDA	IS	64.8	50 - 150		B0G0058	12-Jul-20	0.262 L	14-Jul-20 19:13	1
d3-MeFOSAA	IS	53.8	50 - 150		B0G0058	12-Jul-20	0.262 L	14-Jul-20 19:13	1
13C2-PFUnA	IS	56.6	50 - 150		B0G0058	12-Jul-20	0.262 L	14-Jul-20 19:13	1
d5-EtFOSAA	IS	42.0	50 - 150	H	B0G0058	12-Jul-20	0.262 L	14-Jul-20 19:13	1
13C2-PFDoA	IS	38.5	50 - 150	H	B0G0058	12-Jul-20	0.262 L	14-Jul-20 19:13	1
13C2-PFTeDA	IS	11.4	50 - 150	H	B0G0058	12-Jul-20	0.262 L	14-Jul-20 19:13	1

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: TW22D-20200707

PFAS Isotope Dilution Table B-15

Client Data

Name: KMEA
Project: MCAS El Toro and Tustin, PFAS
Matrix: Groundwater
Date Collected: 07-Jul-20 15:15

Laboratory Data

Lab Sample: 2001436-04
Date Received: 09-Jul-20 08:57
Column: BEH C18

Analyte	CAS Number	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	0.209	0.00127	0.00186	0.00372		B0G0058	12-Jul-20	0.269 L	14-Jul-20 19:23	1
PFHxA	307-24-4	1.00	0.00127	0.00186	0.00372		B0G0058	12-Jul-20	0.269 L	14-Jul-20 19:23	1
HFPO-DA	13252-13-6	ND	0.00224	0.00279	0.00372		B0G0058	12-Jul-20	0.269 L	14-Jul-20 19:23	1
PFHpA	375-85-9	0.363	0.00127	0.00186	0.00372		B0G0058	12-Jul-20	0.269 L	14-Jul-20 19:23	1
ADONA	919005-14-4	ND	0.00127	0.00186	0.00372		B0G0058	12-Jul-20	0.269 L	14-Jul-20 19:23	1
PFHxS	355-46-4	0.886	0.00127	0.00186	0.00372		B0G0058	12-Jul-20	0.269 L	14-Jul-20 19:23	1
PFOA	335-67-1	0.961	0.00127	0.00186	0.00372		B0G0058	12-Jul-20	0.269 L	14-Jul-20 19:23	1
PFNA	375-95-1	0.00496	0.00127	0.00186	0.00372		B0G0058	12-Jul-20	0.269 L	14-Jul-20 19:23	1
PFOS	1763-23-1	0.444	0.00127	0.00186	0.00372		B0G0058	12-Jul-20	0.269 L	14-Jul-20 19:23	1
9Cl-PF3ONS	756426-58-1	ND	0.00127	0.00186	0.00372		B0G0058	12-Jul-20	0.269 L	14-Jul-20 19:23	1
PFDA	335-76-2	0.00303	0.00127	0.00186	0.00372	J	B0G0058	12-Jul-20	0.269 L	14-Jul-20 19:23	1
MeFOSAA	2355-31-9	ND	0.00127	0.00186	0.00372		B0G0058	12-Jul-20	0.269 L	14-Jul-20 19:23	1
EtFOSAA	2991-50-6	ND	0.00127	0.00186	0.00372		B0G0058	12-Jul-20	0.269 L	14-Jul-20 19:23	1
PFUnA	2058-94-8	ND	0.00127	0.00186	0.00372		B0G0058	12-Jul-20	0.269 L	14-Jul-20 19:23	1
11Cl-PF3OUdS	763051-92-9	ND	0.00127	0.00186	0.00372		B0G0058	12-Jul-20	0.269 L	14-Jul-20 19:23	1
PFDoA	307-55-1	ND	0.00127	0.00186	0.00372		B0G0058	12-Jul-20	0.269 L	14-Jul-20 19:23	1
PFTrDA	72629-94-8	ND	0.00127	0.00186	0.00372		B0G0058	12-Jul-20	0.269 L	14-Jul-20 19:23	1
PFTeDA	376-06-7	ND	0.00127	0.00186	0.00372		B0G0058	12-Jul-20	0.269 L	14-Jul-20 19:23	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	72.4	50 - 150		B0G0058	12-Jul-20	0.269 L	14-Jul-20 19:23	1
13C3-HFPO-DA	IS	65.4	50 - 150		B0G0058	12-Jul-20	0.269 L	14-Jul-20 19:23	1
13C2-PFHxA	IS	68.6	50 - 150		B0G0058	12-Jul-20	0.269 L	14-Jul-20 19:23	1
13C4-PFHpA	IS	70.2	50 - 150		B0G0058	12-Jul-20	0.269 L	14-Jul-20 19:23	1
13C3-PFHxS	IS	70.5	50 - 150		B0G0058	12-Jul-20	0.269 L	14-Jul-20 19:23	1
13C5-PFNA	IS	64.5	50 - 150		B0G0058	12-Jul-20	0.269 L	14-Jul-20 19:23	1
13C2-PFOA	IS	70.7	50 - 150		B0G0058	12-Jul-20	0.269 L	14-Jul-20 19:23	1
13C8-PFOS	IS	64.2	50 - 150		B0G0058	12-Jul-20	0.269 L	14-Jul-20 19:23	1
13C2-PFDA	IS	57.3	50 - 150		B0G0058	12-Jul-20	0.269 L	14-Jul-20 19:23	1
d3-MeFOSAA	IS	30.9	50 - 150	H	B0G0058	12-Jul-20	0.269 L	14-Jul-20 19:23	1
13C2-PFUnA	IS	35.7	50 - 150	H	B0G0058	12-Jul-20	0.269 L	14-Jul-20 19:23	1
d5-EtFOSAA	IS	23.3	50 - 150	H	B0G0058	12-Jul-20	0.269 L	14-Jul-20 19:23	1
13C2-PFDoA	IS	13.5	50 - 150	H	B0G0058	12-Jul-20	0.269 L	14-Jul-20 19:23	1
13C2-PFTeDA	IS	6.30	50 - 150	H	B0G0058	12-Jul-20	0.269 L	14-Jul-20 19:23	1

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: EB06-20200708

PFAS Isotope Dilution Table B-15

Client Data

Name: KMEA
Project: MCAS El Toro and Tustin, PFAS
Matrix: Blank Water
Date Collected: 08-Jul-20 14:00

Laboratory Data

Lab Sample: 2001436-05
Date Received: 09-Jul-20 08:57
Column: BEH C18

Analyte	CAS Number	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	ND	0.00134	0.00196	0.00392		B0G0058	12-Jul-20	0.255 L	14-Jul-20 19:45	1
PFHxA	307-24-4	ND	0.00134	0.00196	0.00392		B0G0058	12-Jul-20	0.255 L	14-Jul-20 19:45	1
HFPO-DA	13252-13-6	ND	0.00236	0.00294	0.00392		B0G0058	12-Jul-20	0.255 L	14-Jul-20 19:45	1
PFHpA	375-85-9	ND	0.00134	0.00196	0.00392		B0G0058	12-Jul-20	0.255 L	14-Jul-20 19:45	1
ADONA	919005-14-4	ND	0.00134	0.00196	0.00392		B0G0058	12-Jul-20	0.255 L	14-Jul-20 19:45	1
PFHxS	355-46-4	ND	0.00134	0.00196	0.00392		B0G0058	12-Jul-20	0.255 L	14-Jul-20 19:45	1
PFOA	335-67-1	ND	0.00134	0.00196	0.00392		B0G0058	12-Jul-20	0.255 L	14-Jul-20 19:45	1
PFNA	375-95-1	ND	0.00134	0.00196	0.00392		B0G0058	12-Jul-20	0.255 L	14-Jul-20 19:45	1
PFOS	1763-23-1	ND	0.00134	0.00196	0.00392		B0G0058	12-Jul-20	0.255 L	14-Jul-20 19:45	1
9Cl-PF3ONS	756426-58-1	ND	0.00134	0.00196	0.00392		B0G0058	12-Jul-20	0.255 L	14-Jul-20 19:45	1
PFDA	335-76-2	ND	0.00134	0.00196	0.00392		B0G0058	12-Jul-20	0.255 L	14-Jul-20 19:45	1
MeFOSAA	2355-31-9	ND	0.00134	0.00196	0.00392		B0G0058	12-Jul-20	0.255 L	14-Jul-20 19:45	1
EtFOSAA	2991-50-6	ND	0.00134	0.00196	0.00392		B0G0058	12-Jul-20	0.255 L	14-Jul-20 19:45	1
PFUnA	2058-94-8	ND	0.00134	0.00196	0.00392		B0G0058	12-Jul-20	0.255 L	14-Jul-20 19:45	1
11Cl-PF3OUdS	763051-92-9	ND	0.00134	0.00196	0.00392		B0G0058	12-Jul-20	0.255 L	14-Jul-20 19:45	1
PFDoA	307-55-1	ND	0.00134	0.00196	0.00392		B0G0058	12-Jul-20	0.255 L	14-Jul-20 19:45	1
PFTrDA	72629-94-8	ND	0.00134	0.00196	0.00392		B0G0058	12-Jul-20	0.255 L	14-Jul-20 19:45	1
PFTeDA	376-06-7	ND	0.00134	0.00196	0.00392		B0G0058	12-Jul-20	0.255 L	14-Jul-20 19:45	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	71.2	50 - 150		B0G0058	12-Jul-20	0.255 L	14-Jul-20 19:45	1
13C3-HFPO-DA	IS	70.4	50 - 150		B0G0058	12-Jul-20	0.255 L	14-Jul-20 19:45	1
13C2-PFHxA	IS	66.5	50 - 150		B0G0058	12-Jul-20	0.255 L	14-Jul-20 19:45	1
13C4-PFHpA	IS	68.8	50 - 150		B0G0058	12-Jul-20	0.255 L	14-Jul-20 19:45	1
13C3-PFHxS	IS	74.1	50 - 150		B0G0058	12-Jul-20	0.255 L	14-Jul-20 19:45	1
13C5-PFNA	IS	65.3	50 - 150		B0G0058	12-Jul-20	0.255 L	14-Jul-20 19:45	1
13C2-PFOA	IS	71.3	50 - 150		B0G0058	12-Jul-20	0.255 L	14-Jul-20 19:45	1
13C8-PFOS	IS	72.0	50 - 150		B0G0058	12-Jul-20	0.255 L	14-Jul-20 19:45	1
13C2-PFDA	IS	65.4	50 - 150		B0G0058	12-Jul-20	0.255 L	14-Jul-20 19:45	1
d3-MeFOSAA	IS	58.9	50 - 150		B0G0058	12-Jul-20	0.255 L	14-Jul-20 19:45	1
13C2-PFUnA	IS	66.2	50 - 150		B0G0058	12-Jul-20	0.255 L	14-Jul-20 19:45	1
d5-EtFOSAA	IS	51.8	50 - 150		B0G0058	12-Jul-20	0.255 L	14-Jul-20 19:45	1
13C2-PFDoA	IS	59.4	50 - 150		B0G0058	12-Jul-20	0.255 L	14-Jul-20 19:45	1
13C2-PFTeDA	IS	59.6	50 - 150		B0G0058	12-Jul-20	0.255 L	14-Jul-20 19:45	1

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: TW23D-20200708

PFAS Isotope Dilution Table B-15

Client Data

Name: KMEA
Project: MCAS El Toro and Tustin, PFAS
Matrix: Groundwater
Date Collected: 08-Jul-20 09:30

Laboratory Data

Lab Sample: 2001436-06
Date Received: 09-Jul-20 08:57
Column: BEH C18

Analyte	CAS Number	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	0.711	0.00123	0.00180	0.00360		B0G0058	12-Jul-20	0.278 L	14-Jul-20 19:55	1
PFHxA	307-24-4	2.98	0.0123	0.0180	0.0360	D	B0G0058	12-Jul-20	0.278 L	15-Jul-20 15:20	10
HFPO-DA	13252-13-6	ND	0.00217	0.00270	0.00360		B0G0058	12-Jul-20	0.278 L	14-Jul-20 19:55	1
PFHpA	375-85-9	0.772	0.00123	0.00180	0.00360		B0G0058	12-Jul-20	0.278 L	14-Jul-20 19:55	1
ADONA	919005-14-4	ND	0.00123	0.00180	0.00360		B0G0058	12-Jul-20	0.278 L	14-Jul-20 19:55	1
PFHxS	355-46-4	3.87	0.0123	0.0180	0.0360	D	B0G0058	12-Jul-20	0.278 L	15-Jul-20 15:20	10
PFOA	335-67-1	10.8	0.0123	0.0180	0.0360	D	B0G0058	12-Jul-20	0.278 L	15-Jul-20 15:20	10
PFNA	375-95-1	0.00760	0.00123	0.00180	0.00360		B0G0058	12-Jul-20	0.278 L	14-Jul-20 19:55	1
PFOS	1763-23-1	1.32	0.00123	0.00180	0.00360		B0G0058	12-Jul-20	0.278 L	14-Jul-20 19:55	1
9Cl-PF3ONS	756426-58-1	ND	0.00123	0.00180	0.00360		B0G0058	12-Jul-20	0.278 L	14-Jul-20 19:55	1
PFDA	335-76-2	ND	0.00123	0.00180	0.00360		B0G0058	12-Jul-20	0.278 L	14-Jul-20 19:55	1
MeFOSAA	2355-31-9	ND	0.00123	0.00180	0.00360		B0G0058	12-Jul-20	0.278 L	14-Jul-20 19:55	1
EtFOSAA	2991-50-6	ND	0.00123	0.00180	0.00360		B0G0058	12-Jul-20	0.278 L	14-Jul-20 19:55	1
PFUnA	2058-94-8	ND	0.00123	0.00180	0.00360		B0G0058	12-Jul-20	0.278 L	14-Jul-20 19:55	1
11Cl-PF3OUdS	763051-92-9	ND	0.00123	0.00180	0.00360		B0G0058	12-Jul-20	0.278 L	14-Jul-20 19:55	1
PFDoA	307-55-1	ND	0.00123	0.00180	0.00360		B0G0058	12-Jul-20	0.278 L	14-Jul-20 19:55	1
PFTrDA	72629-94-8	ND	0.00123	0.00180	0.00360		B0G0058	12-Jul-20	0.278 L	14-Jul-20 19:55	1
PFTeDA	376-06-7	ND	0.00123	0.00180	0.00360		B0G0058	12-Jul-20	0.278 L	14-Jul-20 19:55	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	62.6	50 - 150		B0G0058	12-Jul-20	0.278 L	14-Jul-20 19:55	1
13C3-HFPO-DA	IS	64.7	50 - 150		B0G0058	12-Jul-20	0.278 L	14-Jul-20 19:55	1
13C2-PFHxA	IS	71.5	50 - 150	D	B0G0058	12-Jul-20	0.278 L	15-Jul-20 15:20	10
13C4-PFHpA	IS	60.8	50 - 150		B0G0058	12-Jul-20	0.278 L	14-Jul-20 19:55	1
13C3-PFHxS	IS	66.8	50 - 150	D	B0G0058	12-Jul-20	0.278 L	15-Jul-20 15:20	10
13C5-PFNA	IS	61.0	50 - 150		B0G0058	12-Jul-20	0.278 L	14-Jul-20 19:55	1
13C2-PFOA	IS	77.0	50 - 150	D	B0G0058	12-Jul-20	0.278 L	15-Jul-20 15:20	10
13C8-PFOS	IS	64.0	50 - 150		B0G0058	12-Jul-20	0.278 L	14-Jul-20 19:55	1
13C2-PFDA	IS	59.5	50 - 150		B0G0058	12-Jul-20	0.278 L	14-Jul-20 19:55	1
d3-MeFOSAA	IS	53.2	50 - 150		B0G0058	12-Jul-20	0.278 L	14-Jul-20 19:55	1
13C2-PFUnA	IS	50.7	50 - 150		B0G0058	12-Jul-20	0.278 L	14-Jul-20 19:55	1
d5-EtFOSAA	IS	48.0	50 - 150	H	B0G0058	12-Jul-20	0.278 L	14-Jul-20 19:55	1
13C2-PFDoA	IS	35.0	50 - 150	H	B0G0058	12-Jul-20	0.278 L	14-Jul-20 19:55	1
13C2-PFTeDA	IS	5.40	50 - 150	H	B0G0058	12-Jul-20	0.278 L	14-Jul-20 19:55	1

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: TW24D-20200708

PFAS Isotope Dilution Table B-15

Client Data

Name: KMEA
Project: MCAS El Toro and Tustin, PFAS
Matrix: Groundwater
Date Collected: 08-Jul-20 11:20

Laboratory Data

Lab Sample: 2001436-07
Date Received: 09-Jul-20 08:57
Column: BEH C18

Analyte	CAS Number	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	0.0448	0.00122	0.00177	0.00355		B0G0058	12-Jul-20	0.282 L	15-Jul-20 15:41	1
PFHxA	307-24-4	0.332	0.00122	0.00177	0.00355		B0G0058	12-Jul-20	0.282 L	15-Jul-20 15:41	1
HFPO-DA	13252-13-6	ND	0.00214	0.00266	0.00355		B0G0058	12-Jul-20	0.282 L	15-Jul-20 15:41	1
PFHpA	375-85-9	0.0561	0.00122	0.00177	0.00355		B0G0058	12-Jul-20	0.282 L	15-Jul-20 15:41	1
ADONA	919005-14-4	ND	0.00122	0.00177	0.00355		B0G0058	12-Jul-20	0.282 L	15-Jul-20 15:41	1
PFHxS	355-46-4	0.248	0.00122	0.00177	0.00355		B0G0058	12-Jul-20	0.282 L	15-Jul-20 15:41	1
PFOA	335-67-1	1.55	0.00122	0.00177	0.00355		B0G0058	12-Jul-20	0.282 L	15-Jul-20 15:41	1
PFNA	375-95-1	ND	0.00122	0.00177	0.00355		B0G0058	12-Jul-20	0.282 L	15-Jul-20 15:41	1
PFOS	1763-23-1	0.0326	0.00122	0.00177	0.00355		B0G0058	12-Jul-20	0.282 L	15-Jul-20 15:41	1
9Cl-PF3ONS	756426-58-1	ND	0.00122	0.00177	0.00355		B0G0058	12-Jul-20	0.282 L	15-Jul-20 15:41	1
PFDA	335-76-2	ND	0.00122	0.00177	0.00355		B0G0058	12-Jul-20	0.282 L	15-Jul-20 15:41	1
MeFOSAA	2355-31-9	ND	0.00122	0.00177	0.00355		B0G0058	12-Jul-20	0.282 L	15-Jul-20 15:41	1
EtFOSAA	2991-50-6	ND	0.00122	0.00177	0.00355		B0G0058	12-Jul-20	0.282 L	15-Jul-20 15:41	1
PFUnA	2058-94-8	ND	0.00122	0.00177	0.00355		B0G0058	12-Jul-20	0.282 L	15-Jul-20 15:41	1
11Cl-PF3OUdS	763051-92-9	ND	0.00122	0.00177	0.00355		B0G0058	12-Jul-20	0.282 L	15-Jul-20 15:41	1
PFDoA	307-55-1	ND	0.00122	0.00177	0.00355		B0G0058	12-Jul-20	0.282 L	15-Jul-20 15:41	1
PFTrDA	72629-94-8	ND	0.00122	0.00177	0.00355		B0G0058	12-Jul-20	0.282 L	15-Jul-20 15:41	1
PFTeDA	376-06-7	ND	0.00122	0.00177	0.00355		B0G0058	12-Jul-20	0.282 L	15-Jul-20 15:41	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	70.5	50 - 150		B0G0058	12-Jul-20	0.282 L	15-Jul-20 15:41	1
13C3-HFPO-DA	IS	66.9	50 - 150		B0G0058	12-Jul-20	0.282 L	15-Jul-20 15:41	1
13C2-PFHxA	IS	66.7	50 - 150		B0G0058	12-Jul-20	0.282 L	15-Jul-20 15:41	1
13C4-PFHpA	IS	63.0	50 - 150		B0G0058	12-Jul-20	0.282 L	15-Jul-20 15:41	1
13C3-PFHxS	IS	73.2	50 - 150		B0G0058	12-Jul-20	0.282 L	15-Jul-20 15:41	1
13C5-PFNA	IS	65.5	50 - 150		B0G0058	12-Jul-20	0.282 L	15-Jul-20 15:41	1
13C2-PFOA	IS	64.6	50 - 150		B0G0058	12-Jul-20	0.282 L	15-Jul-20 15:41	1
13C8-PFOS	IS	70.8	50 - 150		B0G0058	12-Jul-20	0.282 L	15-Jul-20 15:41	1
13C2-PFDA	IS	67.3	50 - 150		B0G0058	12-Jul-20	0.282 L	15-Jul-20 15:41	1
d3-MeFOSAA	IS	63.6	50 - 150		B0G0058	12-Jul-20	0.282 L	15-Jul-20 15:41	1
13C2-PFUnA	IS	59.3	50 - 150		B0G0058	12-Jul-20	0.282 L	15-Jul-20 15:41	1
d5-EtFOSAA	IS	50.2	50 - 150		B0G0058	12-Jul-20	0.282 L	15-Jul-20 15:41	1
13C2-PFDoA	IS	45.9	50 - 150	H	B0G0058	12-Jul-20	0.282 L	15-Jul-20 15:41	1
13C2-PFTeDA	IS	7.80	50 - 150	H	B0G0058	12-Jul-20	0.282 L	15-Jul-20 15:41	1

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: TW17D-20200708

PFAS Isotope Dilution Table B-15

Client Data

Name: KMEA
Project: MCAS El Toro and Tustin, PFAS
Matrix: Groundwater
Date Collected: 08-Jul-20 13:40

Laboratory Data

Lab Sample: 2001436-08
Date Received: 09-Jul-20 08:57
Column: BEH C18

Analyte	CAS Number	Conc. (ug/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBS	375-73-5	0.169	0.000844	0.00123	0.00246		B0G0058	12-Jul-20	0.406 L	14-Jul-20 20:16	1
PFHxA	307-24-4	0.987	0.000844	0.00123	0.00246		B0G0058	12-Jul-20	0.406 L	14-Jul-20 20:16	1
HFPO-DA	13252-13-6	ND	0.00148	0.00185	0.00246		B0G0058	12-Jul-20	0.406 L	14-Jul-20 20:16	1
PFHpA	375-85-9	0.196	0.000844	0.00123	0.00246		B0G0058	12-Jul-20	0.406 L	14-Jul-20 20:16	1
ADONA	919005-14-4	ND	0.000844	0.00123	0.00246		B0G0058	12-Jul-20	0.406 L	14-Jul-20 20:16	1
PFHxS	355-46-4	0.990	0.000844	0.00123	0.00246		B0G0058	12-Jul-20	0.406 L	14-Jul-20 20:16	1
PFOA	335-67-1	3.87	0.00422	0.00616	0.0123	D	B0G0058	12-Jul-20	0.406 L	15-Jul-20 15:51	5
PFNA	375-95-1	0.00194	0.000844	0.00123	0.00246	J	B0G0058	12-Jul-20	0.406 L	14-Jul-20 20:16	1
PFOS	1763-23-1	0.334	0.000844	0.00123	0.00246		B0G0058	12-Jul-20	0.406 L	14-Jul-20 20:16	1
9Cl-PF3ONS	756426-58-1	ND	0.000844	0.00123	0.00246		B0G0058	12-Jul-20	0.406 L	14-Jul-20 20:16	1
PFDA	335-76-2	ND	0.000844	0.00123	0.00246		B0G0058	12-Jul-20	0.406 L	14-Jul-20 20:16	1
MeFOSAA	2355-31-9	ND	0.000844	0.00123	0.00246		B0G0058	12-Jul-20	0.406 L	14-Jul-20 20:16	1
EtFOSAA	2991-50-6	ND	0.000844	0.00123	0.00246		B0G0058	12-Jul-20	0.406 L	14-Jul-20 20:16	1
PFUnA	2058-94-8	ND	0.000844	0.00123	0.00246		B0G0058	12-Jul-20	0.406 L	14-Jul-20 20:16	1
11Cl-PF3OUdS	763051-92-9	ND	0.000844	0.00123	0.00246		B0G0058	12-Jul-20	0.406 L	14-Jul-20 20:16	1
PFDoA	307-55-1	ND	0.000844	0.00123	0.00246		B0G0058	12-Jul-20	0.406 L	14-Jul-20 20:16	1
PFTrDA	72629-94-8	ND	0.000844	0.00123	0.00246		B0G0058	12-Jul-20	0.406 L	14-Jul-20 20:16	1
PFTeDA	376-06-7	ND	0.000844	0.00123	0.00246		B0G0058	12-Jul-20	0.406 L	14-Jul-20 20:16	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBS	IS	44.4	50 - 150	H	B0G0058	12-Jul-20	0.406 L	14-Jul-20 20:16	1
13C3-HFPO-DA	IS	39.6	50 - 150	H	B0G0058	12-Jul-20	0.406 L	14-Jul-20 20:16	1
13C2-PFHxA	IS	42.2	50 - 150	H	B0G0058	12-Jul-20	0.406 L	14-Jul-20 20:16	1
13C4-PFHpA	IS	45.2	50 - 150	H	B0G0058	12-Jul-20	0.406 L	14-Jul-20 20:16	1
13C3-PFHxS	IS	44.2	50 - 150	H	B0G0058	12-Jul-20	0.406 L	14-Jul-20 20:16	1
13C5-PFNA	IS	41.9	50 - 150	H	B0G0058	12-Jul-20	0.406 L	14-Jul-20 20:16	1
13C2-PFOA	IS	47.8	50 - 150	D, H	B0G0058	12-Jul-20	0.406 L	15-Jul-20 15:51	5
13C8-PFOS	IS	45.5	50 - 150	H	B0G0058	12-Jul-20	0.406 L	14-Jul-20 20:16	1
13C2-PFDA	IS	39.0	50 - 150	H	B0G0058	12-Jul-20	0.406 L	14-Jul-20 20:16	1
d3-MeFOSAA	IS	27.8	50 - 150	H	B0G0058	12-Jul-20	0.406 L	14-Jul-20 20:16	1
13C2-PFUnA	IS	28.3	50 - 150	H	B0G0058	12-Jul-20	0.406 L	14-Jul-20 20:16	1
d5-EtFOSAA	IS	22.3	50 - 150	H	B0G0058	12-Jul-20	0.406 L	14-Jul-20 20:16	1
13C2-PFDoA	IS	15.3	50 - 150	H	B0G0058	12-Jul-20	0.406 L	14-Jul-20 20:16	1
13C2-PFTeDA	IS	3.30	50 - 150	H	B0G0058	12-Jul-20	0.406 L	14-Jul-20 20:16	1

DL - Detection Limit
LOD - Limit of Detection
LOQ - Limit of quantitation

Results reported to the DL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

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)
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
TEQ	Toxic Equivalency
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	19-013-0
California Department of Health – ELAP	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777-23
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2018017
Massachusetts Department of Environmental Protection	N/A
Michigan Department of Environmental Quality	9932
Minnesota Department of Health	1521520
New Hampshire Environmental Accreditation Program	207718-B
New Jersey Department of Environmental Protection	190001
New York Department of Health	11411
Oregon Laboratory Accreditation Program	4042-010
Pennsylvania Department of Environmental Protection	016
Texas Commission on Environmental Quality	T104704189-19-10
Vermont Department of Health	VT-4042
Virginia Department of General Services	10272
Washington Department of Ecology	C584-19
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
Determination of Polychlorinated p-Dioxins & Polychlorinated Dibenzofurans	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**
2,3,7,8-Tetrachlorodibenzo- p-dioxin (2,3,7,8-TCDD) GC/HRMS	EPA 1613/1613B
1,4-Dioxane (1,4-Diethyleneoxide) analysis by GC/HRMS	EPA 522
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	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

Vista Analytical

1104 Windfield Way
El Dorado Hills, CA 95762
TEL: 916-673-1520

2001436 3.1°C

Vista PM: Jade White-Dobbs

CHAIN OF CUSTODY RECORD

DATE: 7/7/20

PAGE: 1 OF 1

LABORATORY CLIENT: KMEA
ADDRESS: 9210 Sky Park Court, Suite 220
CITY: San Diego, CA 92123
TEL: (619) 399-5900
E-Mail: kimberly.shiroodi@woodplc.com
E-MAIL: brian.johnson@woodplc.com

CLIENT PROJECT NAME / NUMBER: MCAS El Toro and Tustin, PFAS
PROJECT CONTACT: Kimberly Shiroodi / Brian Johnson
SAMPLER(S): (SIGNATURE)

P.O. NO.: TO 008 Mod 4
CONTRACT NO.: N62473-16-D-2405
LAB USE ONLY

TURNAROUND TIME
☐ SAME DAY ☐ 24 HR ☐ 48HR ☐ 72 HR ☐ 10 DAYS ☒ Standard

SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)
☐ RWQCB REPORTING ☐ ARCHIVE SAMPLES UNTIL ____/____/____

SPECIAL INSTRUCTIONS
GW samples potentially contain elevated levels of PFAS.
* filter as needed

REQUESTED ANALYSIS

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	Matrix	#Cont	QC Level	PFAS by LC/MS-MS
	EB05-20200707	7/7/20	14:00	BW	2		X
	TW21D-20200707		8:30	GW	4*	IV	X
	TW09D-20200707		10:40	"	4*	IV	X
	TW22D-20200707		15:15	"	4*	IV	X
	EB06-20200708	7/8/20	14:00	BW	2		X
	TW23D-20200708		9:30	GW	4*	IV	X
	TW24D-20200708		11:20	"	4*	IV	X
	TW17D-20200708		13:40	"	4*	IV	X

LR 7-8-20

Relinquished by: (Signature)	Received by: (Signature) / Carrier Tracking Number	Date:	Time:
	FedEx	7/8/20	15:00
FEDEX 07/09/20 08:57		07/09/20	08:57

Vista Analytical Laboratory

Sample Log-In Checklist

Page # 1 of 1

Vista Work Order #: 2001436 TAT std

Samples Arrival:	**Date/Time** 07/09/20 08:57		**Initials:** CMR			**Location:** WR-2 **Shelf/Rack:** NA	
Delivered By:	FedEx	UPS	On Trac	GLS	DHL	Hand Delivered	Other
Preservation:	Ice		Blue Ice		Dry Ice		None
Temp °C: 3.1 (uncorrected) **Temp °C:** 3.1 (corrected)			**Probe used: Y / N**			**Thermometer ID:** IR-3	

	YES	NO	NA
Shipping Container(s) Intact?	✓		
Shipping Custody Seals Intact?	✓		
Airbill — Trk # 3946 3936 9812	✓		
Shipping Documentation Present?	✓		
Shipping Container: Vista / Client / Retain / Return / Dispose	✓		
Chain of Custody / Sample Documentation Present?	✓		
Chain of Custody / Sample Documentation Complete?	✓		
Holding Time Acceptable?	✓		

Logged In:	**Date/Time** 07/09/20 0937	**Initials:** MWS	**Location:** R-13, WR-2 **Shelf/Rack:** B-2, E-2
COC Anomaly/Sample Acceptance Form completed?		✓	✓

Comments:

CoC/Label Reconciliation Report WO# 2001436

LabNumber	CoC Sample ID		SampleAlias	Sample Date/Time		Container	BaseMatrix	Sample Comments
2001436-01	A EB05-20200707	☑		07-Jul-20 14:00	☑	HDPE Bottle, 250 mL	Aqueous	
2001436-01	B EB05-20200707	☑		07-Jul-20 14:00	☑	HDPE Bottle, 250 mL	Aqueous	
2001436-02	A TW21D-20200707	☑		07-Jul-20 08:30	☑	HDPE Bottle, 250 mL	Aqueous	
2001436-02	B TW21D-20200707	☑		07-Jul-20 08:30	☑	HDPE Bottle, 250 mL	Aqueous	
2001436-02	C TW21D-20200707	☑		07-Jul-20 08:30	☑	HDPE Bottle, 250 mL	Aqueous	
2001436-02	D TW21D-20200707	☑		07-Jul-20 08:30	☑	HDPE Bottle, 250 mL	Aqueous	
2001436-03	A TW09D-20200707	☑		07-Jul-20 10:40	☑	HDPE Bottle, 250 mL	Aqueous	
2001436-03	B TW09D-20200707	☑		07-Jul-20 10:40	☑	HDPE Bottle, 250 mL	Aqueous	
2001436-03	C TW09D-20200707	☑		07-Jul-20 10:40	☑	HDPE Bottle, 250 mL	Aqueous	
2001436-03	D TW09D-20200707	☑		07-Jul-20 10:40	☑	HDPE Bottle, 250 mL	Aqueous	
2001436-04	A TW22D-20200707	☑		07-Jul-20 15:15	☑	HDPE Bottle, 250 mL	Aqueous	
2001436-04	B TW22D-20200707	☑		07-Jul-20 15:15	☑	HDPE Bottle, 250 mL	Aqueous	
2001436-04	C TW22D-20200707	☑		07-Jul-20 15:15	☑	HDPE Bottle, 250 mL	Aqueous	
2001436-04	D TW22D-20200707	☑		07-Jul-20 15:15	☑	HDPE Bottle, 250 mL	Aqueous	
2001436-05	A EB06-20200708	☑		08-Jul-20 14:00	☑	HDPE Bottle, 250 mL	Aqueous	
2001436-05	B EB06-20200708	☑		08-Jul-20 14:00	☑	HDPE Bottle, 250 mL	Aqueous	
2001436-06	A TW23D-20200708	☑		08-Jul-20 09:30	☑	HDPE Bottle, 250 mL	Aqueous	
2001436-06	B TW23D-20200708	☑		08-Jul-20 09:30	☑	HDPE Bottle, 250 mL	Aqueous	
2001436-06	C TW23D-20200708	☑		08-Jul-20 09:30	☑	HDPE Bottle, 250 mL	Aqueous	
2001436-06	D TW23D-20200708	☑		08-Jul-20 09:30	☑	HDPE Bottle, 250 mL	Aqueous	
2001436-07	A TW24D-20200708	☑		08-Jul-20 11:20	☑	HDPE Bottle, 250 mL	Aqueous	
2001436-07	B TW24D-20200708	☑		08-Jul-20 11:20	☑	HDPE Bottle, 250 mL	Aqueous	
2001436-07	C TW24D-20200708	☑		08-Jul-20 11:20	☑	HDPE Bottle, 250 mL	Aqueous	
2001436-07	D TW24D-20200708	☑		08-Jul-20 11:20	☑	HDPE Bottle, 250 mL	Aqueous	
2001436-08	A TW17D-20200708	☑		08-Jul-20 13:40	☑	HDPE Bottle, 250 mL	Aqueous	
2001436-08	B TW17D-20200708	☑		08-Jul-20 13:40	☑	HDPE Bottle, 250 mL	Aqueous	
2001436-08	C TW17D-20200708	☑		08-Jul-20 13:40	☑	HDPE Bottle, 250 mL	Aqueous	
2001436-08	D TW17D-20200708	☑		08-Jul-20 13:40	☑	HDPE Bottle, 250 mL	Aqueous	

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

	Yes	No	NA	Comments:
Sample Container Intact?	✓			
Sample Custody Seals Intact?			✓	
Adequate Sample Volume?	✓			
Container Type Appropriate for Analysis(es)	✓			
Preservation Documented: Na2S2O3 Trizma (None) Other		✓	✓	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓	

Verifed by/Date: KA 07/09/20

EXTRACTION INFORMATION

Process Sheet

Workorder: 2001436

Prep Expiration: 2020-07-21
Client: KMEA

Workorder Due: 30-Jul-20 00:00
TAT: 21

Method: **537M PFAS DOD QSM 5.3 (LOQ as mRL)**
Matrix: **Aqueous**

Prep Batch: BOG0058

Prep Data Entered: AM 07/13/20
Date and Initials

Version: 537.1 List of 18-EIS
DoD: DoD QSM 5.3

Initial Sequence: SOG0074

LabSampID	A/B	Prep Rec	Spike Rec	ClientSampleID	Comments	Location	Container
2001436-01	A	☑	☑	EB05-20200707		R-13 A-2	HDPE Bottle, 250 mL
2001436-02		☑	☑	TW21D-20200707		R-13 A-2	HDPE Bottle, 250 mL
2001436-03		☑	☑	TW09D-20200707		R-13 A-2	HDPE Bottle, 250 mL
2001436-04		☑	☑	TW22D-20200707		R-13 A-2	HDPE Bottle, 250 mL
2001436-05		☑	☑	EB06-20200708		R-13 A-2	HDPE Bottle, 250 mL
✓2001436-06		☑	☑	TW23D-20200708		R-13 A-2	HDPE Bottle, 250 mL
✓2001436-07		☑	☑	TW24D-20200708		R-13 A-2	HDPE Bottle, 250 mL
✓2001436-08	↓	☑	☑	TW17D-20200708		R-13 A-2	HDPE Bottle, 250 mL

WO Comments: **May have elevated PFAS levels - isolate samples.** HR 07/12/20
Instrument - begin w/ dils.
Report to DL
Use SOP HT

Pre-Prep Check Out: CHT 07/10/20
Pre-Prep Check In: CHT 07/10/20

Prep Check Out: HR 07/12/20
Prep Check In: N/A

Prep Reconciled Initals/Date: CHT 07/10/20
Spike Reconciled Initals/Date: HR 07/12/20
VialBoxID: Fried Rice

Matrix: Aqueous

Method: 537M PFAS DOD QSM 5.3 (LOQ as mRL)

Vista Internal Chain-of-Custody

B0G0058

Vista Analytical Laboratory

	Location		L2	R13	L2	R12	L2	R12			
	Reason		Prep	R9	R4	R2	R6	R9			
	Initials		CHT	CHT	HR	TC	HR	TC			
	Date/Time		07/10/2008:20	07/10/2008:45	07/12/2007:43	07/12/20 13:40	07/13/20 0646	07/13/20 10:16			
Initial Storage	LabNumber	Cont									
R-13 A-2	2001436-01	A	O	O	O	E	E	E			
R-13 A-2	2001436-02										
R-13 A-2	2001436-03										
R-13 A-2	2001436-04										
R-13 A-2	2001436-05										
R-13 A-2	2001436-06										
R-13 A-2	2001436-07										
R-13 A-2	2001436-08										

Location Key:
L1 = Prep Lab 1
L2 = Prep Lab 2
L3 = HRMS Diox
L4 = Instrument
Other = _____

Reason Key:
R1 = Percent Solids
R2 = Eluate Preservation
R3 = Sub-Sample
R4 = Extraction
R6 = Concentration
R7 = Filtering
R8 = Analysis
R9 = Storage
Other = _____

Type Key:
O = Original Sample
E = Extract of Sample

Matrix: Aqueous

Method: 537M PFAS DOD QSM 5.3 (LOQ as mRL)

PREPARATION BENCH SHEET

B0G0058

Chemist: HR

Prep Date: 07/12/20

Prep Time: 0811

Hood#: 5

Prepared using: ☐ Sonication Shaker ☑ SPE Extraction ☑ Centrifuge ID: C3/5

Rec Date/Initals:

Date/Initals: CHR 07/10/20

BalanceID: HRNS-9

Cen	VISTA Sample ID	Rec Vial1	Rec Vial2	pH	Chlorine (Cl)	Bottle + Sample (g)	Bottle Only (g)	Sample Amt. (L)	IS/NS CHEM/WIT DATE	SPE and Reconciliation	ENVI-Carb and Reconciliation
☑	B0G0058-BLK1	☐	☐	5	0	NA	NA	(0.250)	HR CHR 07/12/20	HR 07/12/20	HR 07/12/20
☑	B0G0058-BS1	☐	☐	5	0	↓	↓	(0.250)	↓	↓	↓
☑	B0G0058-BSD1	☐	☐	5	0	↓	↓	(0.250)	↓	↓	↓
☐	2001436-01	☐	☐	5	0	277.79	26.11	0.25168	↓	↓	↓
☑	2001436-02 (3)	☐	☐	6	0	272.76	25.91	0.24685	↓	↓	↓
☑	2001436-03	☐	☐	6	0	287.92	25.89	0.26203	↓	↓	↓
☑	2001436-04 (A)	☐	☐	6	0	294.94	26.24	0.26870	↓	↓	↓
☐	2001436-05	☐	☐	5	0	281.48	26.18	0.25530	↓	↓	↓
☑	2001436-06 (A) (3)	☐	☐	6	0	303.97	26.23	0.27774	↓	↓	↓
☑	2001436-07	☐	☐	6	0	307.94	26.20	0.28174	↓	↓	↓
☑	2001436-08 (B)	☐	☐	6	0	431.88	25.91	0.40597	↓	↓	↓

IS: 20E1201, 10mL (10)

IS SUP: N/A

NS: 20E1202, 10mL (10)

NS SUP: N/A

SPE Chem: Strata XL-AW 100mg 200mg/6mL

SPE Lot#: S18-006863

ENVI-Carb Lot#: B02483

Ele SOLV: MeOH/0.5%NH4OH in MeOH

Final Volume(s): 1 mL

Notes: (A) approximately 50 mls of volume lost after centrifuging. HR 07/12/20
(B) over half of sample volume lost after centrifuging due to high particulate. weight of bottle + sample after centrifuging: 148.03 g. HR 07/12/20
(3) HR 07/12/20

Comments: Assume 1 g = 1 mL
Cen = Centrifuged
Rec = Reconcile final vial transfer

1 = Sample centrifuged twice
2 = Sample deeply colored after centrifuge
3 = Cartridge sorbent discolored after SPE
4 = Sample clogged cartridge, additional cartridge(s) used
5 = Sample recombined at final volume
6 = Sample took longer to SPE, required stronger vacuum
7 = Required Nitrogen line to finish SPE
8 = Required Nitrogen line to finish elution
9 = Sample arrived with low volume
10 = Trizma added to QC (5g/L)

Batch: B0G0058

Matrix: Aqueous

LabNumber	WetWeight (Initial)	% Solids (Extraction Solids)	DryWeight	Final	Extracted	Ext By	Spike	SpikeAmount	ClientMatrix	Analysis
2001436-01	0.25168	NA	NA	1000	12-Jul-20 08:11	HNR			Blank Water	537M PFAS DOD QSM 5.3
2001436-02	0.24685			1000	12-Jul-20 08:11	HNR			Groundwater	537M PFAS DOD QSM 5.3
2001436-03	0.26203			1000	12-Jul-20 08:11	HNR			Groundwater	537M PFAS DOD QSM 5.3
2001436-04	0.2687			1000	12-Jul-20 08:11	HNR			Groundwater	537M PFAS DOD QSM 5.3
2001436-05	0.2553			1000	12-Jul-20 08:11	HNR			Blank Water	537M PFAS DOD QSM 5.3
2001436-06	0.27774			1000	12-Jul-20 08:11	HNR			Groundwater	537M PFAS DOD QSM 5.3
2001436-07	0.28174			1000	12-Jul-20 08:11	HNR			Groundwater	537M PFAS DOD QSM 5.3
2001436-08	0.40597			1000	12-Jul-20 08:11	HNR			Groundwater	537M PFAS DOD QSM 5.3
B0G0058-BLK1	0.25			1000	12-Jul-20 08:11	HNR				QC
B0G0058-BS1	0.25			1000	12-Jul-20 08:11	HNR	20E1202	10		QC
B0G0058-BSD1	0.25			1000	12-Jul-20 08:11	HNR	20E1202	10		QC

All bolded data on report verified against written benchsheet by (initial/date) AM 07/13/20

Printed: 7/13/2020 7:57:16AM
Page 1 of 1

Sample Data – PFAS Isotope Dilution Table B-15

Review: AMR 7/21/2020

Dataset: P:\PFAS5.PRO\RESULTS\200714P1\200714P1-50-56.qld

Last Altered: Thursday, July 16, 2020 15:59:13 Pacific Daylight Time
Printed: Thursday, July 16, 2020 16:00:03 Pacific Daylight Time

Name: 200714P1-50, Date: 14-Jul-2020, Time: 18:20:36, ID: B0G0058-BLK1 Method Blank 0.25, Description: Method Blank

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
1	5	PFBS	299.0 > 80		1.372e3	0.250		2.67						YES
2	7	PFHxA	313.0 > 269.0		1.143e4	0.250		3.20						YES
3	9	HFPO-DA	285.1 > 168.9		2.134e3	0.250		3.42						YES
4	11	PFHpA	363.0 > 319		1.063e4	0.250		3.80						YES
5	12	ADONA	376.8 > 250.9		1.063e4	0.250		3.89						YES
6	51	13C3-PFBS-EIS	302.0 > 98.9	1.372e3		0.250	157.875	2.67	2.67	1370	34.754	69.5		
7	57	13C2-PFHxA-EIS	315.0 > 270.0	1.143e4		0.250	1345.825	3.19	3.20	11400	33.962	67.9		
8	53	13C3-HFPO-DA-EIS	287.0 > 168.9	2.134e3		0.250	261.275	3.41	3.42	2130	32.677	65.4		
9	59	13C4-PFHpA-EIS	367.2 > 321.8	1.063e4		0.250	1285.879	3.79	3.80	10600	33.070	66.1		
10	59	13C4-PFHpA-EIS	367.2 > 321.8	1.063e4		0.250	1285.879	3.79	3.80	10600	33.070	66.1		
11	-1													
12	13	L-PFHxS	399 > 79.9		2.856e3	0.250		3.94						YES
13	1...	Total PFHxS	399 > 79.9	0.000e0	2.856e3	0.250		3.93		0.000				
14	16	L-PFOA	413 > 369		1.559e4	0.250		4.31						YES
15	1...	Total PFOA	413 > 369	0.000e0	1.559e4	0.250		4.60		0.000				
16	21	PFNA	463.0 > 418.8		1.343e4	0.250		4.75						YES
17	61	13C3-PFHxS-EIS	402 > 80	2.856e3		0.250	305.184	3.93	3.94	2860	37.431	74.9		
18	61	13C3-PFHxS-EIS	402 > 80	2.856e3		0.250	305.184	3.93	3.94	2860	37.431	74.9		
19	69	13C2-PFOA-EIS	414.9 > 369.7	1.559e4		0.250	1733.544	4.47	4.31	15600	35.976	72.0		
20	69	13C2-PFOA-EIS	414.9 > 369.7	1.559e4		0.250	1733.544	4.47	4.31	15600	35.976	72.0		
21	65	13C5-PFNA-EIS	468.2 > 422.9	1.343e4		0.250	1672.506	4.96	4.75	13400	32.127	64.3		
22	-1													
23	23	L-PFOS	499 > 80		2.369e3	0.250		4.84						YES
24	1...	Total PFOS	499> 80	0.000e0	2.369e3	0.250		4.60		0.000				
25	25	9Cl-PF30NS	531 > 351		2.369e3	0.250		5.05						YES
26	26	PFDA	513 > 469		1.505e4	0.250		5.13						YES
27	33	PFUdA	563.0 > 519		1.375e4	0.250		5.45						YES
28	71	13C8-PFOS-EIS	507.1 > 80	2.369e3		0.250	299.078	4.83	4.84	2370	31.690	63.4		
29	71	13C8-PFOS-EIS	507.1 > 80	2.369e3		0.250	299.078	4.83	4.84	2370	31.690	63.4		
30	71	13C8-PFOS-EIS	507.1 > 80	2.369e3		0.250	299.078	4.83	4.84	2370	31.690	63.4		
31	73	13C2-PFDA-EIS	515.1 > 469.9	1.505e4		0.250	1995.916	5.12	5.13	15100	30.167	60.3		
32	79	13C2-PFUdA-EIS	565 > 519.8	1.375e4		0.250	1917.639	5.36	5.45	13700	28.680	57.4		
33	-1													
34	29	L-MeFOSAA	570 > 419		2.764e3	0.250		5.28						YES
35	1...	Total N-MeFOSAA	570. > 419	0.000e0	2.764e3	0.250		5.19		0.000				
36	31	L-EtFOSAA	583.9 > 419		2.336e3	0.250		5.43						YES

VY 7/16/2020

Vista Analytical Laboratory L18

Review: AMR 7/21/2020

Dataset: P:\PFAS5.PRO\RESULTS\200714P1\200714P1-50-56.qld

Last Altered: Thursday, July 16, 2020 15:59:13 Pacific Daylight Time
Printed: Thursday, July 16, 2020 16:00:03 Pacific Daylight Time

Name: 200714P1-50, Date: 14-Jul-2020, Time: 18:20:36, ID: B0G0058-BLK1 Method Blank 0.25, Description: Method Blank

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
37	1...	Total N-EtFOSAA	583.9 > 419	0.000e0	2.336e3	0.250		5.37		0.000				
38	35	11Cl-PF30UdS	631 > 451		1.597e4	0.250		5.67						YES
39	77	d3-N-MeFOSAA-EIS	573.1 > 419	2.764e3		0.250	391.230	5.27	5.28	2760	28.257	56.5		
40	77	d3-N-MeFOSAA-EIS	573.1 > 419	2.764e3		0.250	391.230	5.27	5.28	2760	28.257	56.5		
41	81	d5-N-EtFOSAA-EIS	589.3 > 419	2.336e3		0.250	342.385	5.42	5.43	2340	27.289	54.6		
42	81	d5-N-EtFOSAA-EIS	589.3 > 419	2.336e3		0.250	342.385	5.42	5.43	2340	27.289	54.6		
43	83	13C2-PFDoA-EIS	614.9 > 569.9	1.597e4		0.250	2303.973	5.87	5.73	16000	27.728	55.5		
44	-1													
45	37	PFDoA	612.9 > 569.0		1.597e4	0.250		5.73						YES
46	39	PFTrDA	662.9 > 618.9		1.597e4	0.250		5.97						YES
47	41	PFTeDA	713.0 > 669.0		1.655e4	0.250		6.18						YES
48	1...	TDCA	498.3>106.9			0.250		4.47						YES
49	71	13C8-PFOS-EIS	507.1 > 80	2.369e3		0.250	299.078	4.83	4.84	2370	31.690	63.4		
50	83	13C2-PFDoA-EIS	614.9 > 569.9	1.597e4		0.250	2303.973	5.87	5.73	16000	27.728	55.5		
51	83	13C2-PFDoA-EIS	614.9 > 569.9	1.597e4		0.250	2303.973	5.87	5.73	16000	27.728	55.5		
52	89	13C2-PFTeDA-EIS	715.1 > 669.7	1.655e4		0.250	2242.342	6.18	6.18	16500	29.514	59.0		

VY 7/16/2020

Dataset: P:\PFAS5.PRO\RESULTS\200714P1\200714P1-50-56.qld

Last Altered: Thursday, July 16, 2020 15:59:13 Pacific Daylight Time
Printed: Thursday, July 16, 2020 16:00:03 Pacific Daylight Time

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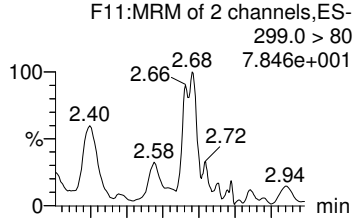
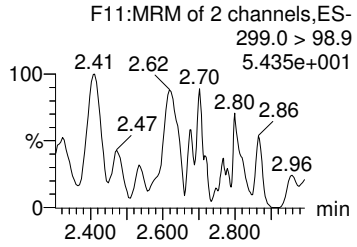
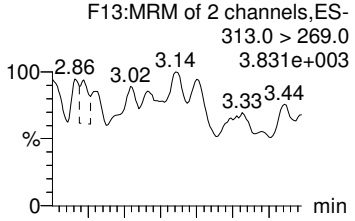
Name: 200714P1-50, Date: 14-Jul-2020, Time: 18:20:36, ID: B0G0058-BLK1 Method Blank 0.25, Description: Method Blank

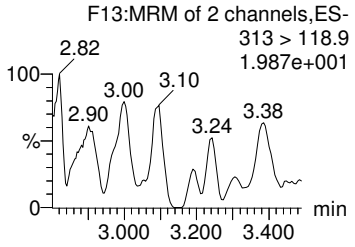
PFBS



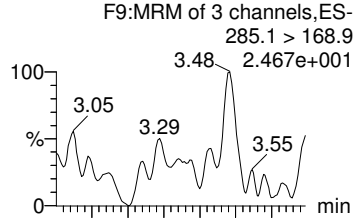


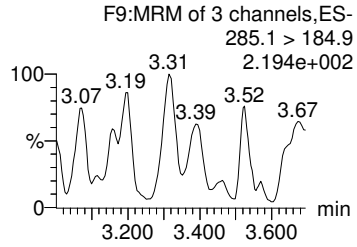
PFHxA





HFPO-DA





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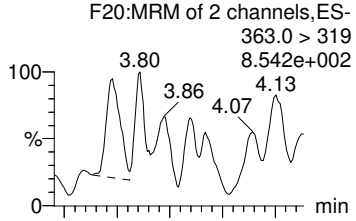

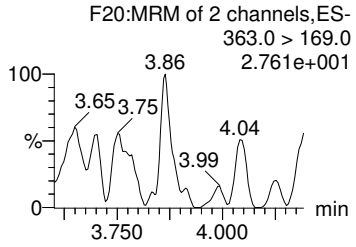

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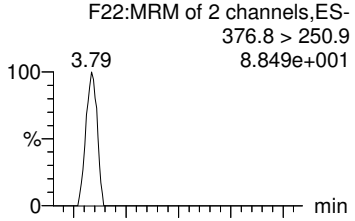

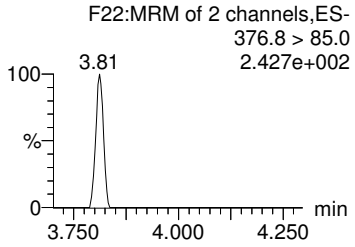

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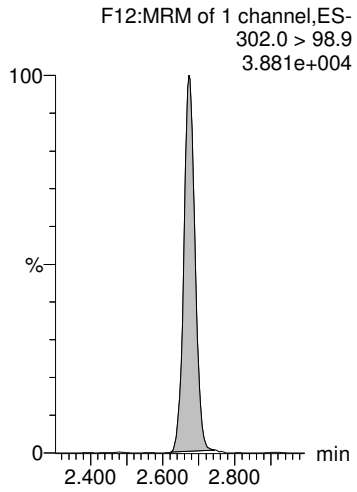
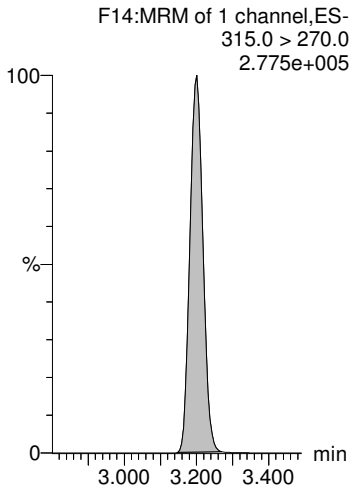


13C2-PFHxA-EIS



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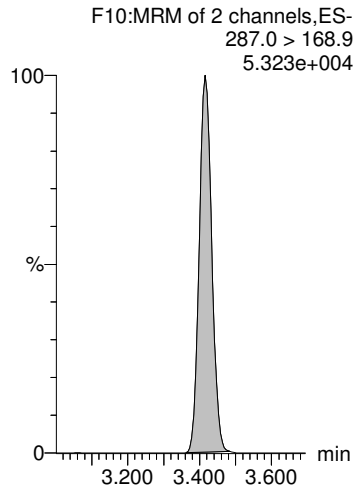

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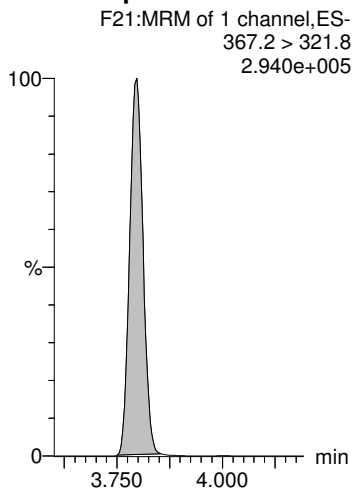

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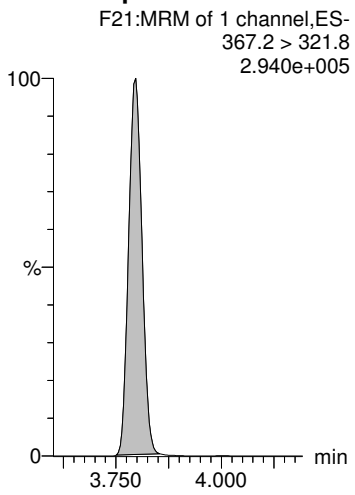

VY 7/16/2020

Dataset: P:\PFAS5.PRO\RESULTS\200714P1\200714P1-50-56.qld

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Printed: Thursday, July 16, 2020 16:00:03 Pacific Daylight Time

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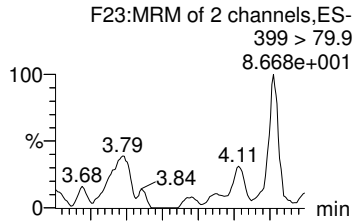

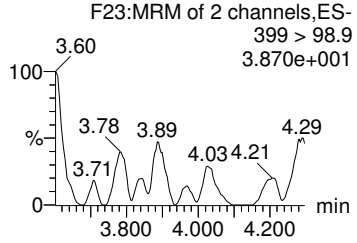

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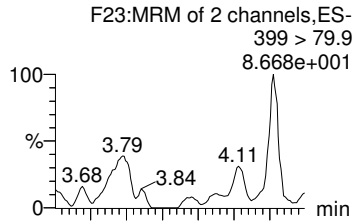
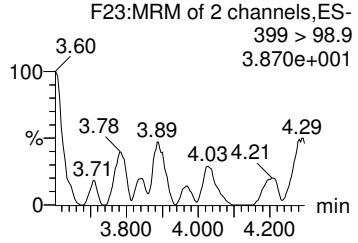
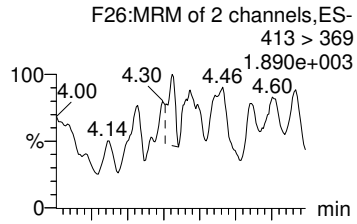
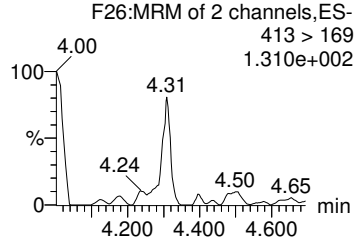




L-PFOA





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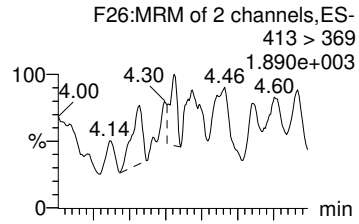

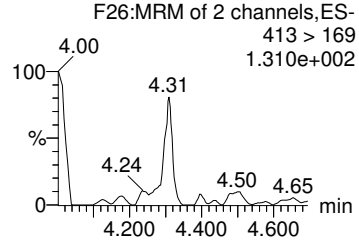

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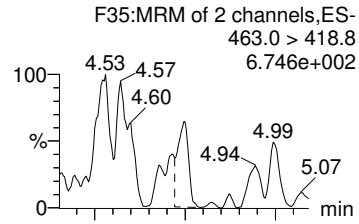

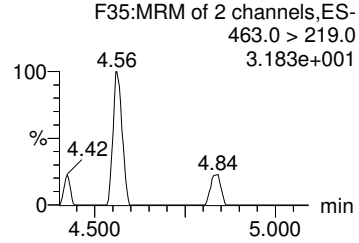

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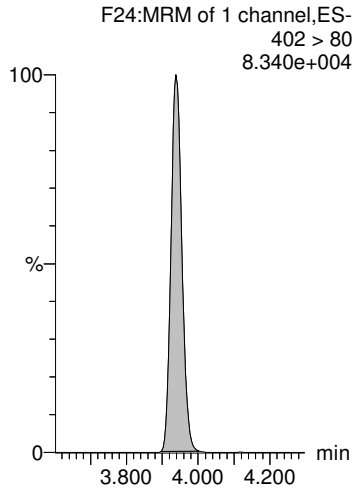

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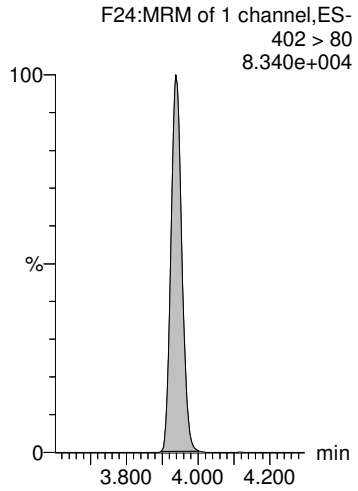

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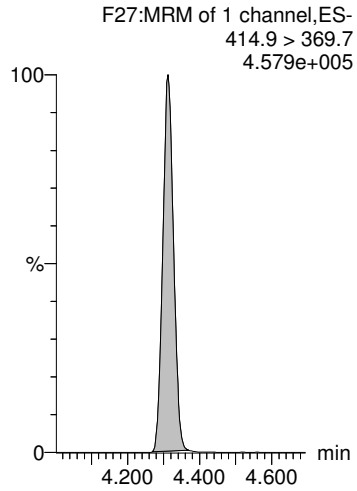

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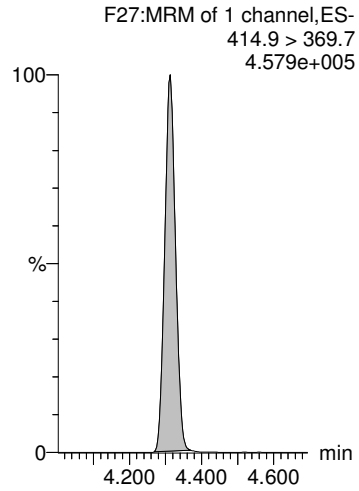

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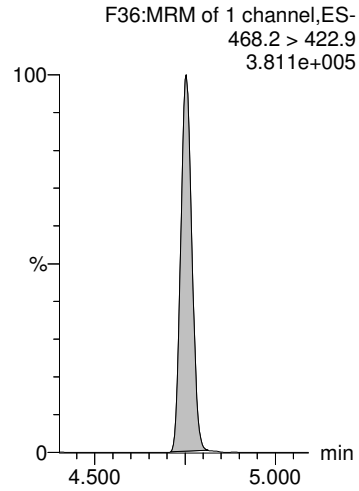

VY 7/16/2020

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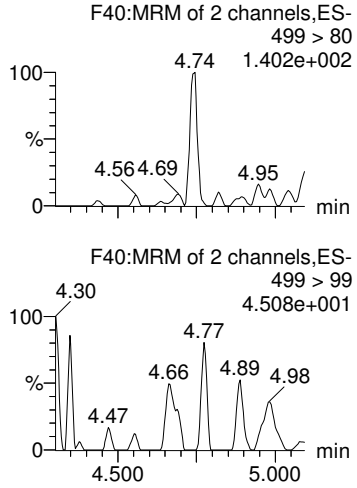
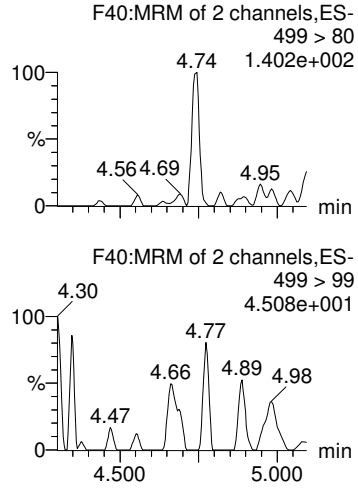


Total PFOS



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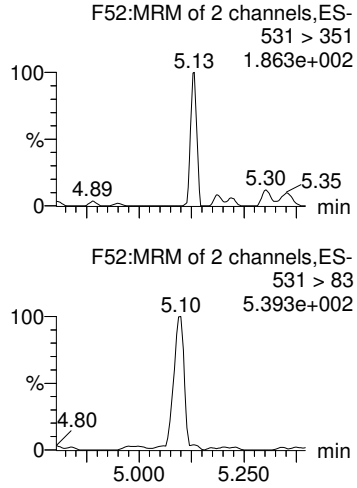

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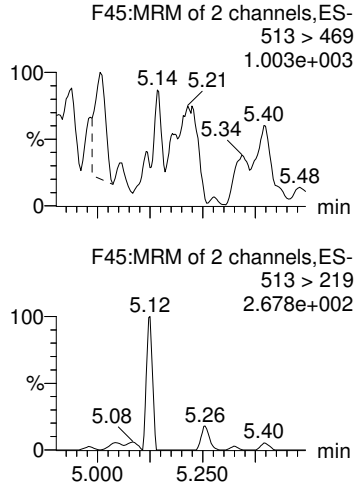

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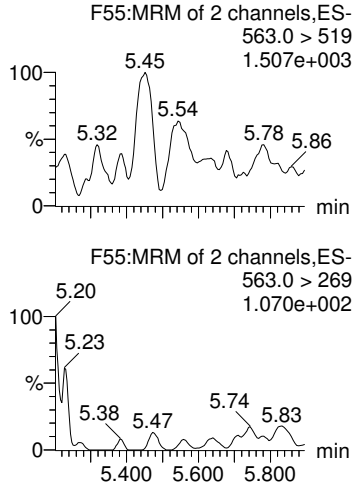

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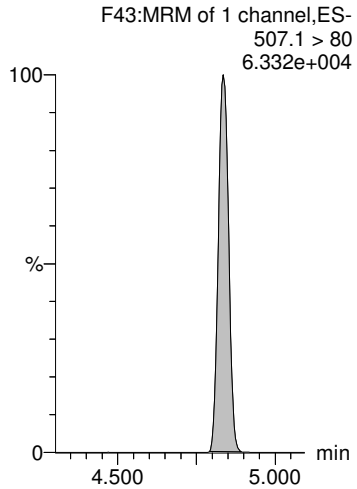

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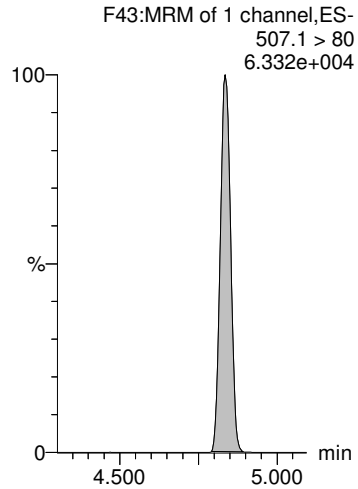

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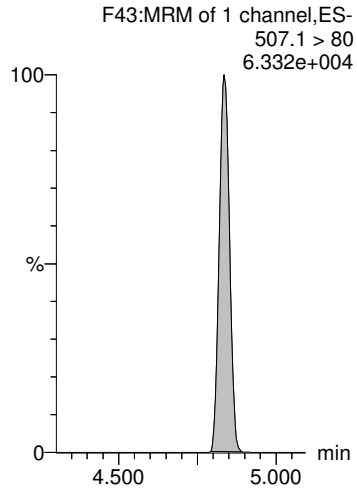

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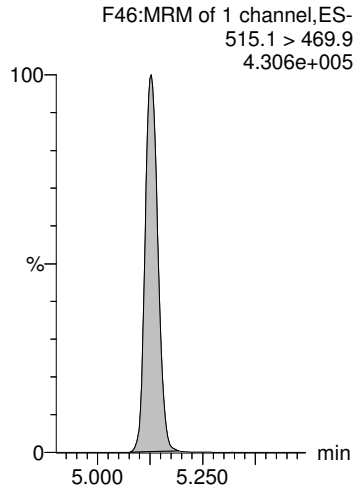

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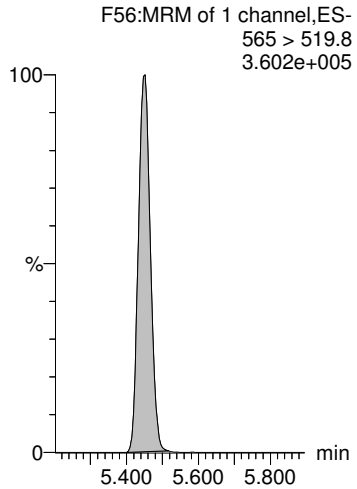

VY 7/16/2020

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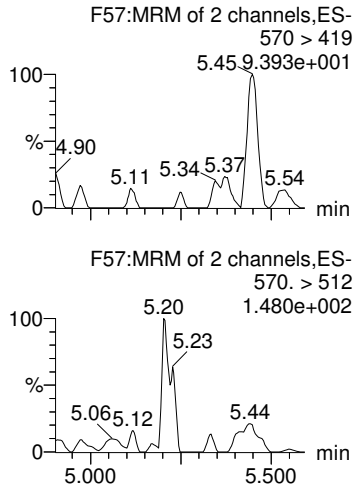

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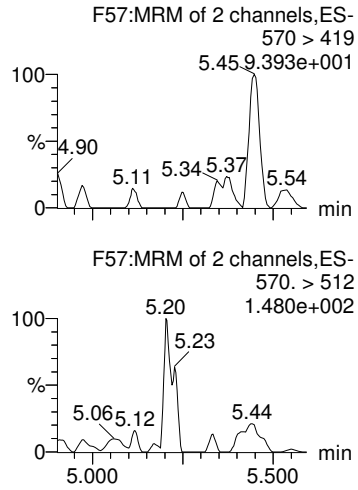

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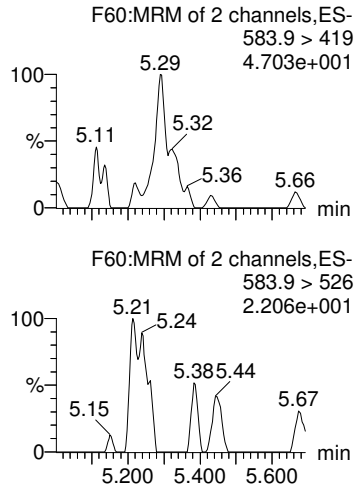

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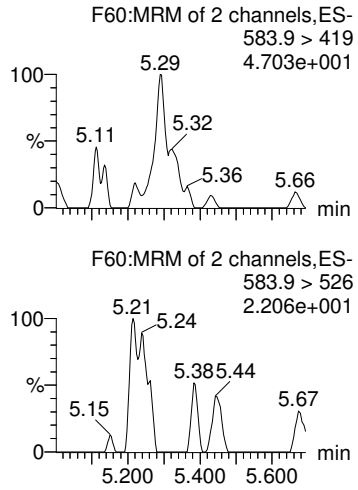

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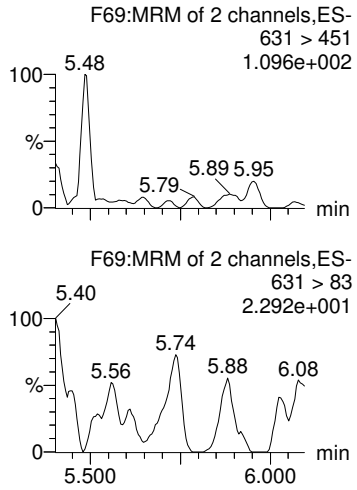
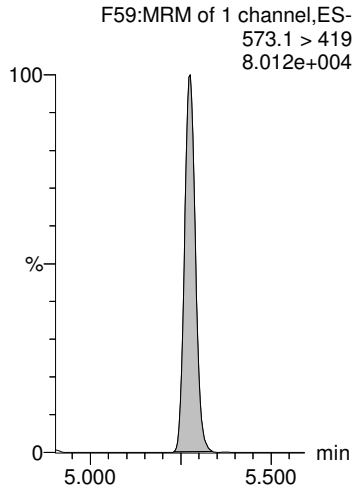


d3-N-MeFOSAA-EIS



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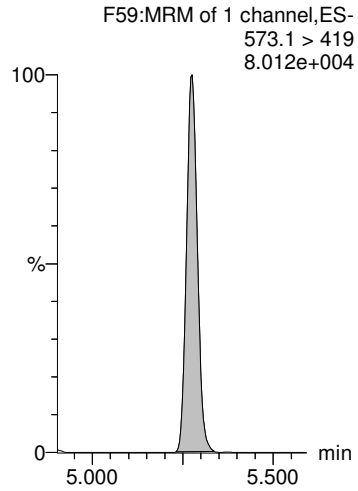

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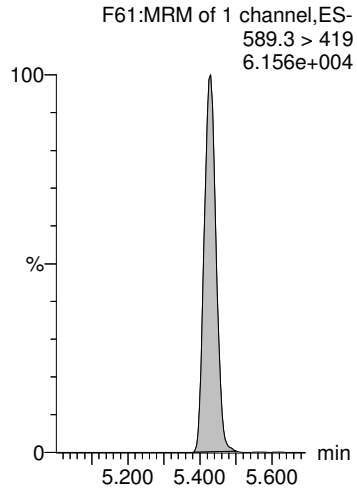
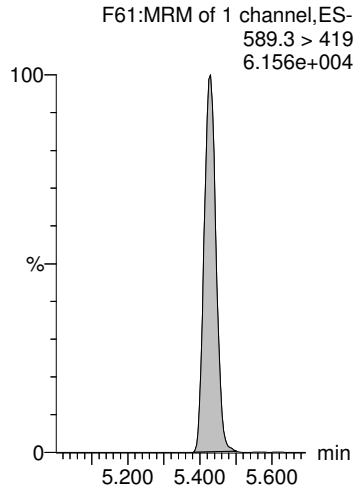
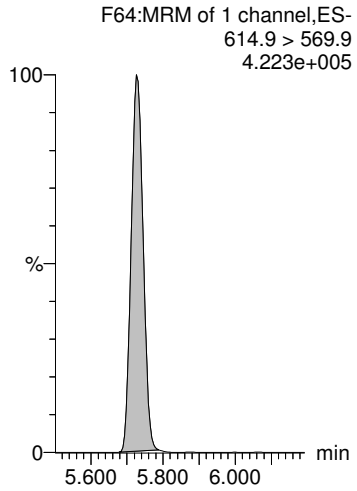


d5-N-EtFOSAA-EIS



13C2-PFDoA-EIS



VY 7/16/2020

Dataset: P:\PFAS5.PRO\RESULTS\200714P1\200714P1-50-56.qld

Last Altered: Thursday, July 16, 2020 15:59:13 Pacific Daylight Time
Printed: Thursday, July 16, 2020 16:00:03 Pacific Daylight Time

Name: 200714P1-50, Date: 14-Jul-2020, Time: 18:20:36, ID: B0G0058-BLK1 Method Blank 0.25, Description: Method Blank

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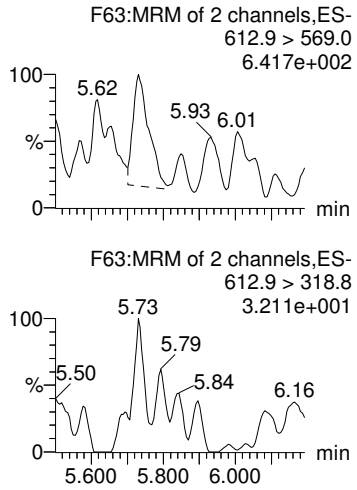
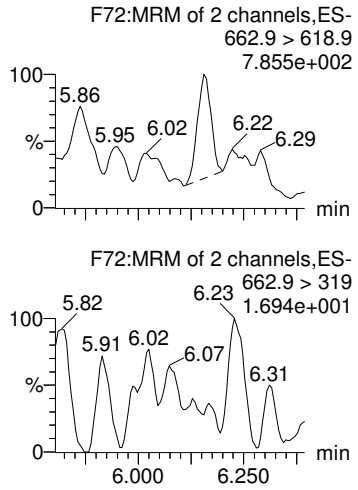
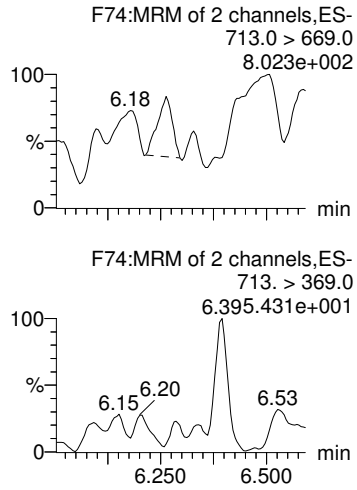


PFTrDA



PFTeDA



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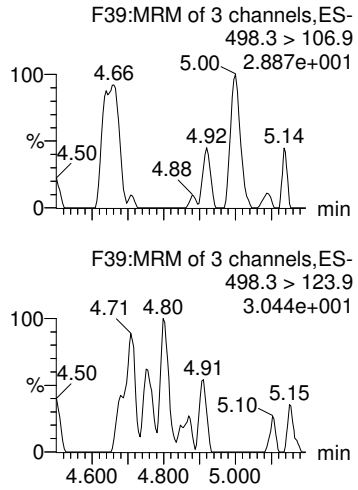

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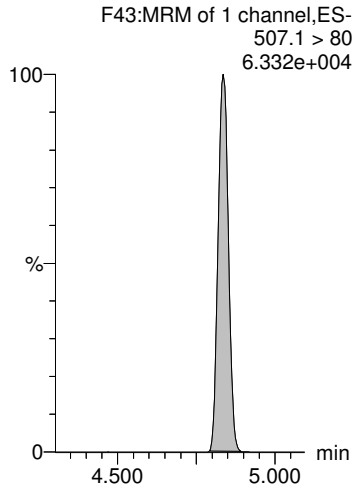

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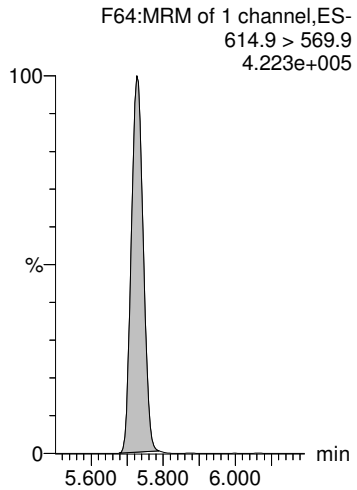

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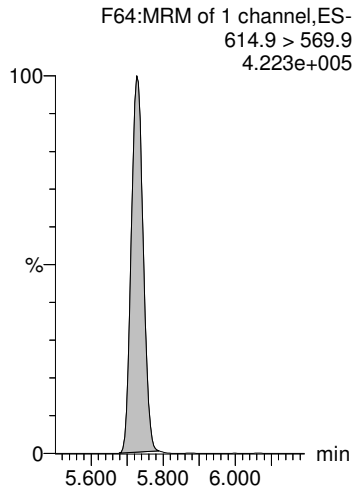

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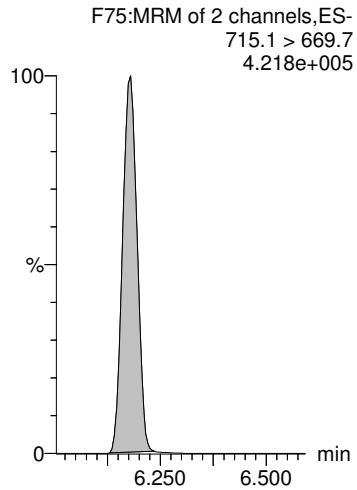

VY 7/16/2020

Review: AMR 7/21/2020

Dataset: P:\PFAS5.PRO\RESULTS\200714P1\200714P1-50-56.qld

Last Altered: Thursday, July 16, 2020 16:04:18 Pacific Daylight Time
Printed: Thursday, July 16, 2020 16:05:03 Pacific Daylight Time

Name: 200714P1-51, Date: 14-Jul-2020, Time: 18:31:12, ID: B0G0058-BS1 OPR 0.25, Description: OPR

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
1	5	PFBS	299.0 > 80	2.712e3	1.312e3	0.250		2.67	2.67	25.8	41.344	103.4	2.519	NO
2	7	PFHxA	313.0 > 269.0	9.065e3	1.005e4	0.250		3.20	3.20	11.3	43.360	108.4	16.003	NO
3	9	HFPO-DA	285.1 > 168.9	1.545e3	1.942e3	0.250		3.42	3.41	9.95	41.304	103.3	2.123	NO
4	11	PFHpA	363.0 > 319	9.592e3	9.648e3	0.250		3.80	3.80	12.4	40.572	101.4	59.766	NO
5	12	ADONA	376.8 > 250.9	1.644e4	9.648e3	0.250		3.89	3.90	21.3	39.724	99.3	3.581	NO
6	51	13C3-PFBS-EIS	302.0 > 98.9	1.312e3		0.250	157.875	2.67	2.67	1310	33.232	66.5		
7	57	13C2-PFHxA-EIS	315.0 > 270.0	1.005e4		0.250	1345.825	3.19	3.20	10000	29.857	59.7		
8	53	13C3-HFPO-DA-EIS	287.0 > 168.9	1.942e3		0.250	261.275	3.41	3.42	1940	29.736	59.5		
9	59	13C4-PFHpA-EIS	367.2 > 321.8	9.648e3		0.250	1285.879	3.79	3.80	9650	30.013	60.0		
10	59	13C4-PFHpA-EIS	367.2 > 321.8	9.648e3		0.250	1285.879	3.79	3.80	9650	30.013	60.0		
11	-1													
12	13	L-PFHxS	399 > 79.9	2.441e3	2.710e3	0.250		3.93	3.94	11.3	39.651	99.1	4.152	NO
13	1...	Total PFHxS	399 > 79.9	2.441e3	2.710e3	0.250		3.93		11.3	39.651			
14	16	L-PFOA	413 > 369	1.017e4	1.430e4	0.250		4.31	4.31	8.89	38.034	95.1	2.827	NO
15	1...	Total PFOA	413 > 369	1.017e4	1.430e4	0.250		4.60		8.89	38.034			
16	21	PFNA	463.0 > 418.8	1.176e4	1.211e4	0.250		4.75	4.75	12.1	41.023	102.6	13.367	NO
17	61	13C3-PFHxS-EIS	402 > 80	2.710e3		0.250	305.184	3.93	3.93	2710	35.525	71.1		
18	61	13C3-PFHxS-EIS	402 > 80	2.710e3		0.250	305.184	3.93	3.93	2710	35.525	71.1		
19	69	13C2-PFOA-EIS	414.9 > 369.7	1.430e4		0.250	1733.544	4.47	4.31	14300	32.990	66.0		
20	69	13C2-PFOA-EIS	414.9 > 369.7	1.430e4		0.250	1733.544	4.47	4.31	14300	32.990	66.0		
21	65	13C5-PFNA-EIS	468.2 > 422.9	1.211e4		0.250	1672.506	4.96	4.75	12100	28.966	57.9		
22	-1													
23	23	L-PFOS	499 > 80	2.254e3	2.602e3	0.250		4.83	4.83	10.8	36.479	91.2	2.295	NO
24	1...	Total PFOS	499> 80	2.254e3	2.602e3	0.250		4.60		10.8	36.479			
25	25	9Cl-PF30NS	531 > 351	4.391e3	2.602e3	0.250		5.04	5.05	21.1	33.806	84.5	31.182	NO
26	26	PFDA	513 > 469	9.371e3	1.427e4	0.250		5.13	5.12	8.21	41.333	103.3	4.816	NO
27	33	PFUdA	563.0 > 519	1.005e4	1.341e4	0.250		5.45	5.45	9.37	39.642	99.1	17.512	NO
28	71	13C8-PFOS-EIS	507.1 > 80	2.602e3		0.250	299.078	4.83	4.83	2600	34.796	69.6		
29	71	13C8-PFOS-EIS	507.1 > 80	2.602e3		0.250	299.078	4.83	4.83	2600	34.796	69.6		
30	71	13C8-PFOS-EIS	507.1 > 80	2.602e3		0.250	299.078	4.83	4.83	2600	34.796	69.6		
31	73	13C2-PFDA-EIS	515.1 > 469.9	1.427e4		0.250	1995.916	5.12	5.13	14300	28.600	57.2		
32	79	13C2-PFUdA-EIS	565 > 519.8	1.341e4		0.250	1917.639	5.36	5.45	13400	27.973	55.9		
33	-1													
34	29	L-MeFOSAA	570 > 419	2.363e3	2.298e3	0.250		5.27	5.28	12.9	42.788	107.0	1.571	NO
35	1...	Total N-MeFOSAA	570. > 419	2.363e3	2.298e3	0.250		5.19		12.9	42.788			
36	31	L-EtFOSAA	583.9 > 419	2.594e3	1.892e3	0.250		5.42	5.43	17.1	42.205	105.5	1.422	NO

VY 7/16/2020

Review: AMR 7/21/2020

Dataset: P:\PFAS5.PRO\RESULTS\200714P1\200714P1-50-56.qld

Last Altered: Thursday, July 16, 2020 16:04:18 Pacific Daylight Time
Printed: Thursday, July 16, 2020 16:05:03 Pacific Daylight Time

Name: 200714P1-51, Date: 14-Jul-2020, Time: 18:31:12, ID: B0G0058-BS1 OPR 0.25, Description: OPR

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
37	1...	Total N-EtFOSAA	583.9 > 419	2.594e3	1.892e3	0.250		5.37		17.1	42.205			
38	35	11Cl-PF30UdS	631 > 451	2.769e3	1.352e4	0.250		5.67	5.65	2.56	39.252	98.1	13.802	NO
39	77	d3-N-MeFOSAA-EIS	573.1 > 419	2.298e3		0.250	391.230	5.27	5.27	2300	23.495	47.0		
40	77	d3-N-MeFOSAA-EIS	573.1 > 419	2.298e3		0.250	391.230	5.27	5.27	2300	23.495	47.0		
41	81	d5-N-EtFOSAA-EIS	589.3 > 419	1.892e3		0.250	342.385	5.42	5.42	1890	22.107	44.2		
42	81	d5-N-EtFOSAA-EIS	589.3 > 419	1.892e3		0.250	342.385	5.42	5.42	1890	22.107	44.2		
43	83	13C2-PFDoA-EIS	614.9 > 569.9	1.352e4		0.250	2303.973	5.87	5.73	13500	23.469	46.9		
44	-1													
45	37	PFDoA	612.9 > 569.0	1.036e4	1.352e4	0.250		5.73	5.73	9.58	43.052	107.6	11.315	NO
46	39	PFTrDA	662.9 > 618.9	1.104e4	1.352e4	0.250		5.97	5.97	10.2	38.229	95.6	112.572	NO
47	41	PFTeDA	713.0 > 669.0	6.641e3	1.444e4	0.250		6.17	6.18	5.75	40.625	101.6	14.215	NO
48	1...	TDCA	498.3>106.9			0.250		4.47						YES
49	71	13C8-PFOS-EIS	507.1 > 80	2.602e3		0.250	299.078	4.83	4.83	2600	34.796	69.6		
50	83	13C2-PFDoA-EIS	614.9 > 569.9	1.352e4		0.250	2303.973	5.87	5.73	13500	23.469	46.9		
51	83	13C2-PFDoA-EIS	614.9 > 569.9	1.352e4		0.250	2303.973	5.87	5.73	13500	23.469	46.9		
52	89	13C2-PFTeDA-EIS	715.1 > 669.7	1.444e4		0.250	2242.342	6.18	6.17	14400	25.750	51.5		

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Dataset: P:\PFAS5.PRO\RESULTS\200714P1\200714P1-50-56.qld

Last Altered: Thursday, July 16, 2020 16:04:18 Pacific Daylight Time
Printed: Thursday, July 16, 2020 16:05:03 Pacific Daylight Time

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Calibration: P:\PFAS5.PRO\CurveDB\C18_VAL-PFAS_Q5_07-14-20.cdb 15 Jul 2020 08:25:12

Name: 200714P1-51, Date: 14-Jul-2020, Time: 18:31:12, ID: B0G0058-BS1 OPR 0.25, Description: OPR

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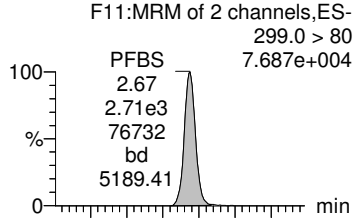

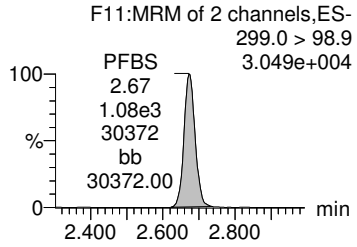

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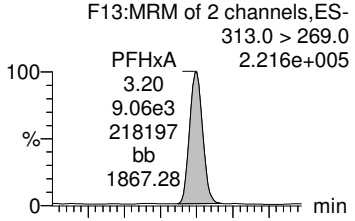
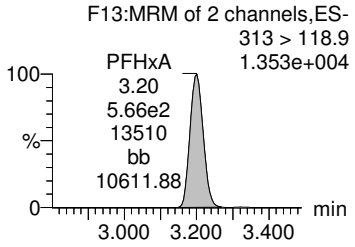
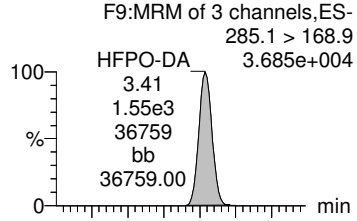
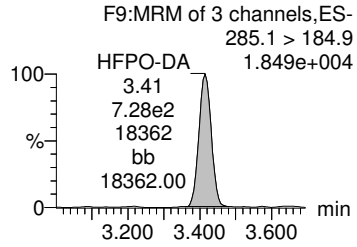


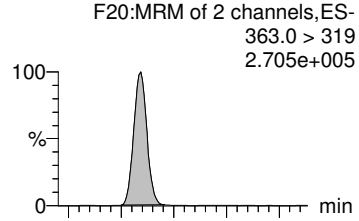


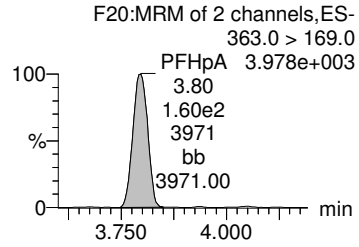
HFPO-DA



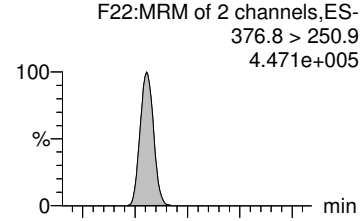


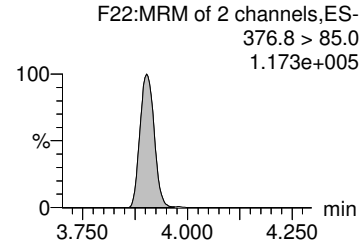
PFHpA



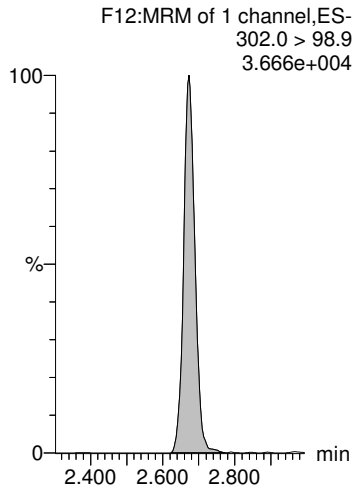


ADONA





13C3-PFBS-EIS



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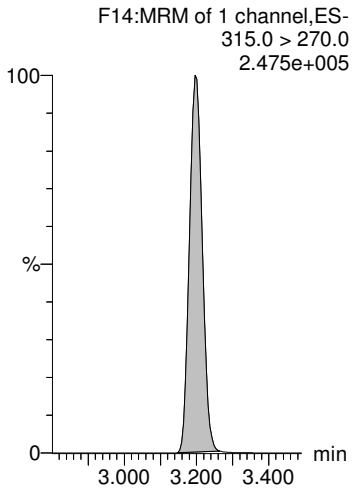
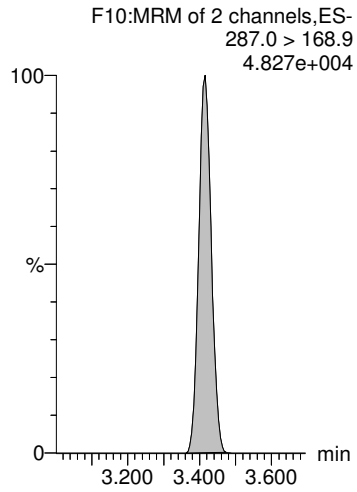
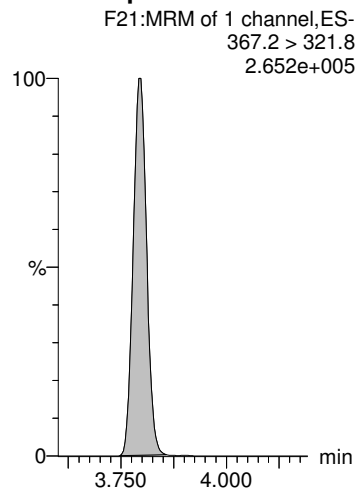


13C3-HFPO-DA-EIS



13C4-PFHpA-EIS



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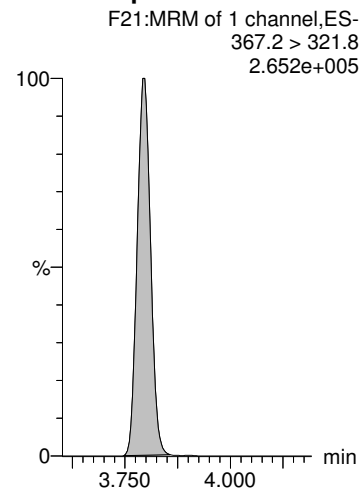

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Dataset: P:\PFAS5.PRO\RESULTS\200714P1\200714P1-50-56.qld

Last Altered: Thursday, July 16, 2020 16:04:18 Pacific Daylight Time
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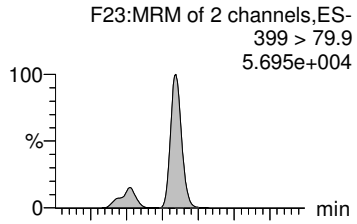
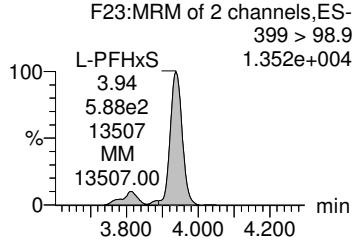
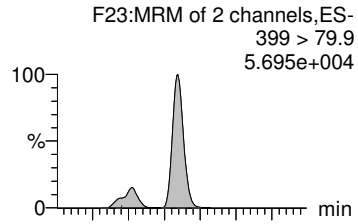
Name: 200714P1-51, Date: 14-Jul-2020, Time: 18:31:12, ID: B0G0058-BS1 OPR 0.25, Description: OPR

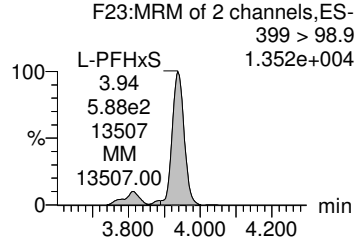
L-PFHxS



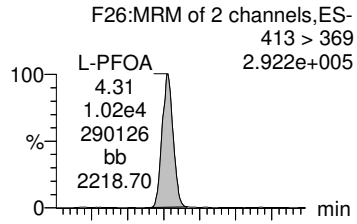


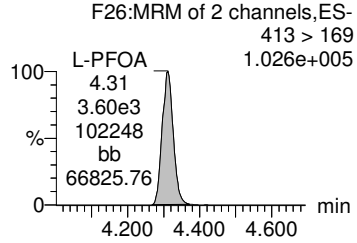
Total PFHxS



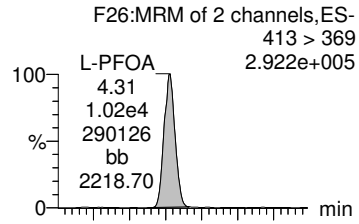


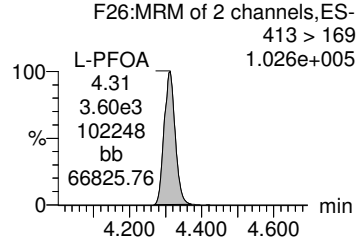
L-PFOA



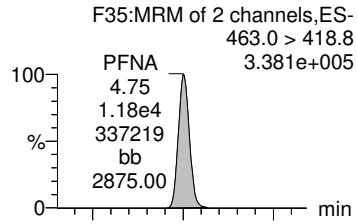


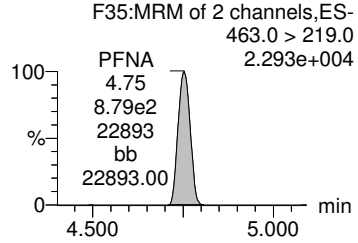
Total PFOA



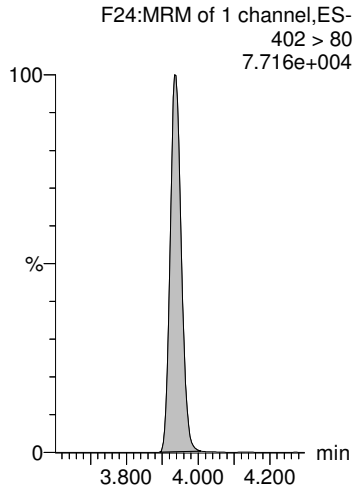


PFNA

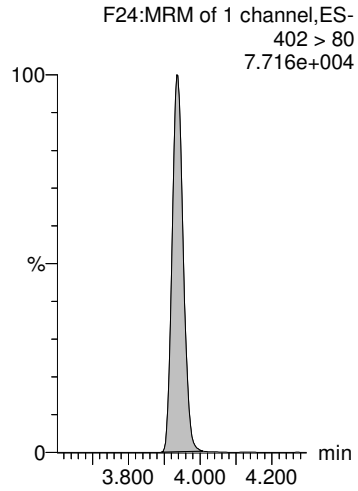




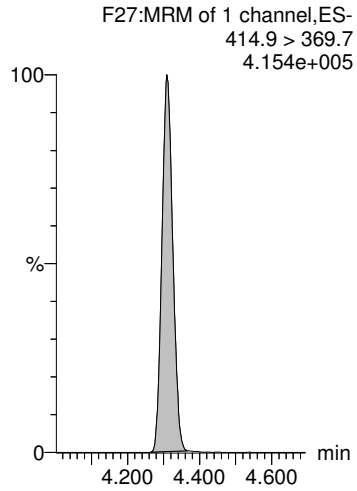
13C3-PFHxS-EIS



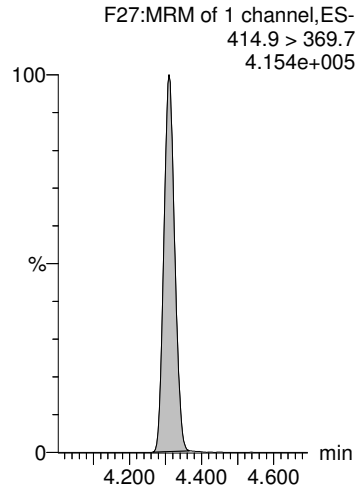
13C3-PFHxS-EIS



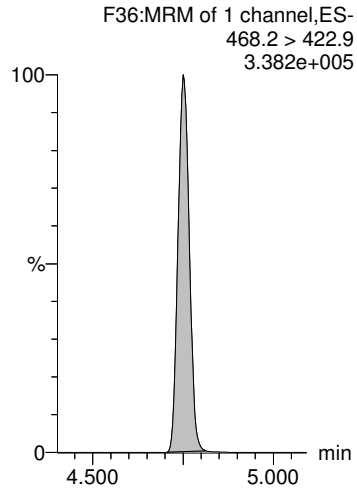
13C2-PFOA-EIS



13C2-PFOA-EIS



13C5-PFNA-EIS



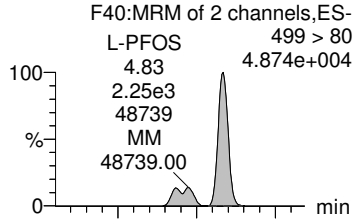
VY 7/16/2020

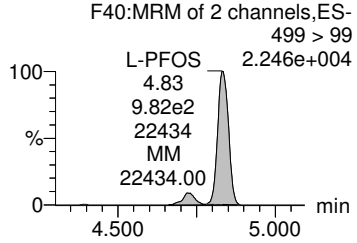
Dataset: P:\PFAS5.PRO\RESULTS\200714P1\200714P1-50-56.qld

Last Altered: Thursday, July 16, 2020 16:04:18 Pacific Daylight Time
Printed: Thursday, July 16, 2020 16:05:03 Pacific Daylight Time

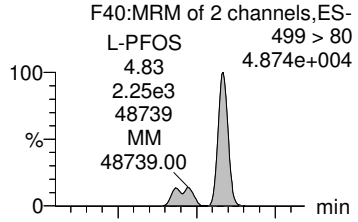
Name: 200714P1-51, Date: 14-Jul-2020, Time: 18:31:12, ID: B0G0058-BS1 OPR 0.25, Description: OPR

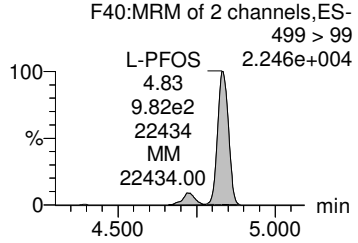
L-PFOS



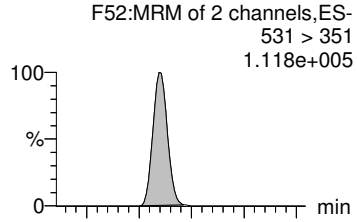


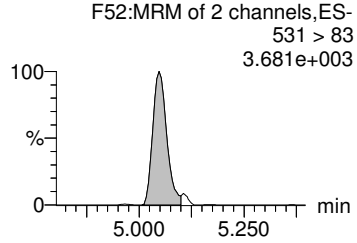
Total PFOS



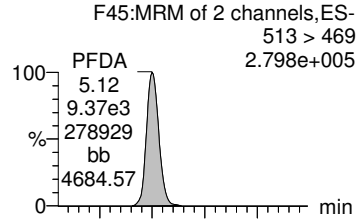


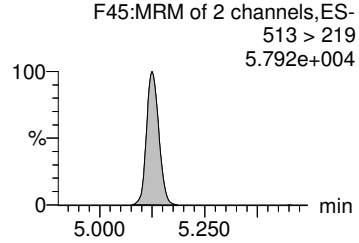
9Cl-PF30NS



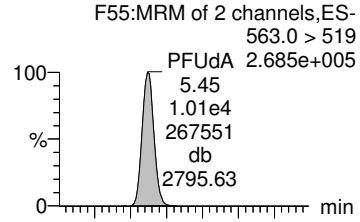


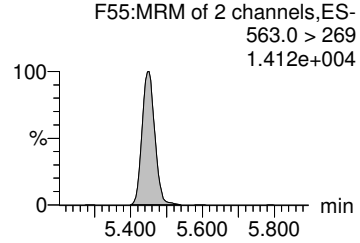
PFDA



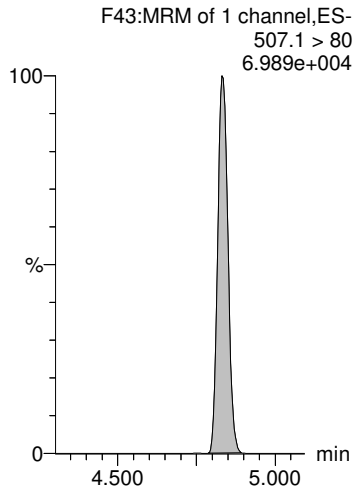


PFUdA

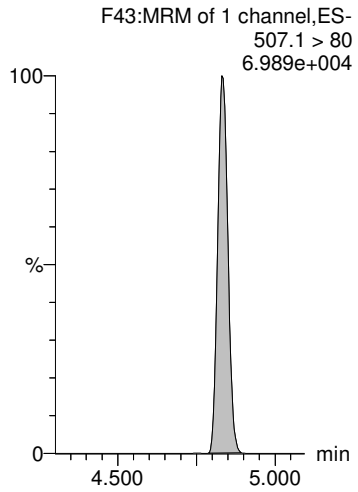




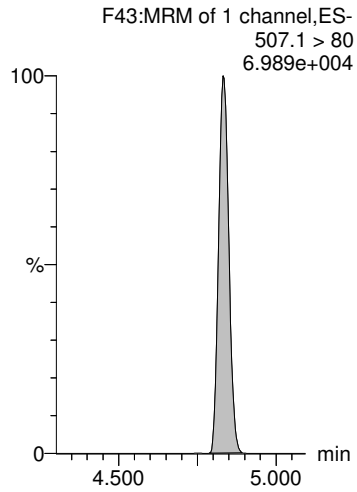
13C8-PFOS-EIS



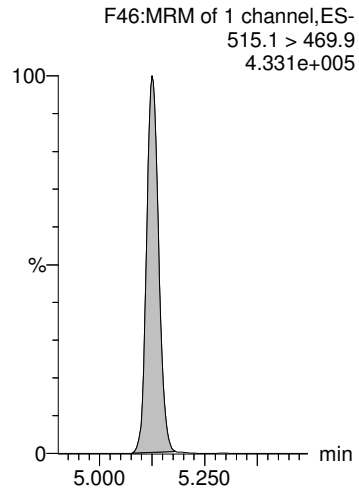
13C8-PFOS-EIS



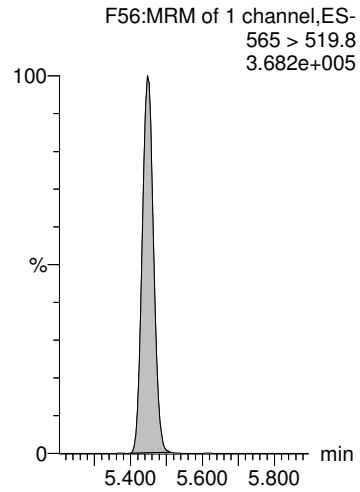
13C8-PFOS-EIS



13C2-PFDA-EIS



13C2-PFUdA-EIS



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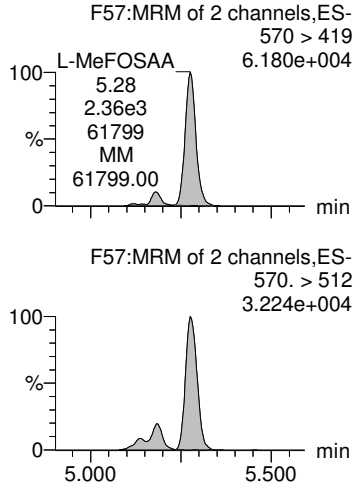
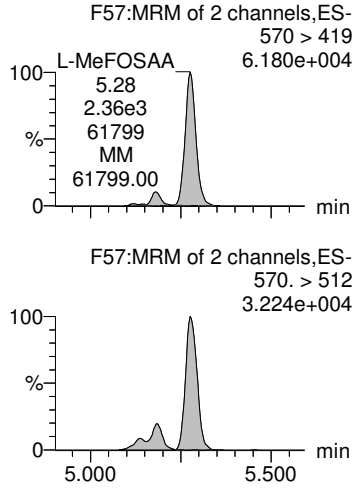
Last Altered: Thursday, July 16, 2020 16:04:18 Pacific Daylight Time
Printed: Thursday, July 16, 2020 16:05:03 Pacific Daylight Time

Name: 200714P1-51, Date: 14-Jul-2020, Time: 18:31:12, ID: B0G0058-BS1 OPR 0.25, Description: OPR

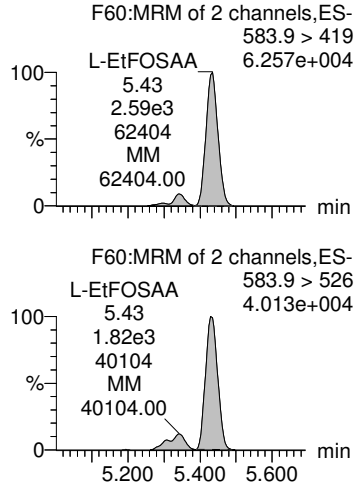
L-MeFOSAA



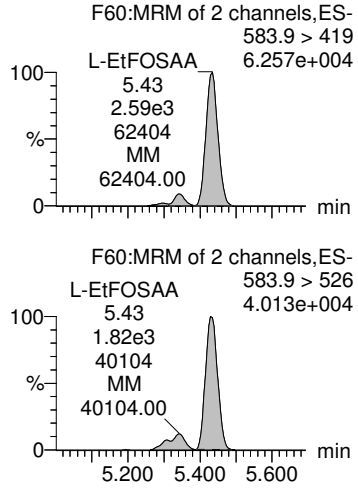
Total N-MeFOSAA



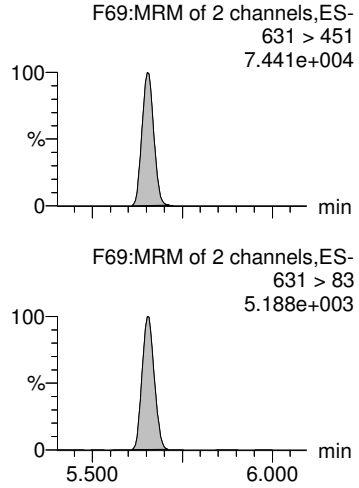
L-EtFOSAA



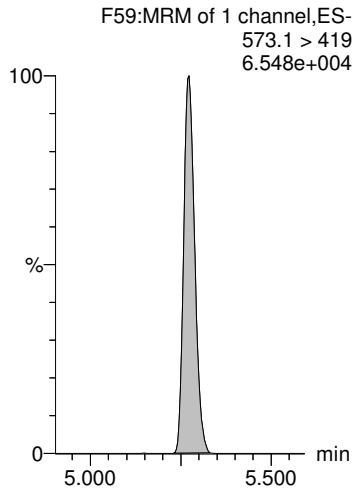
Total N-EtFOSAA



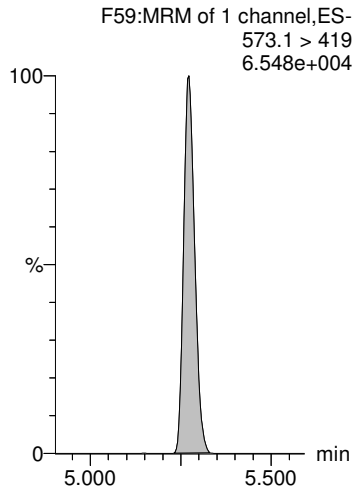
11Cl-PF30UdS



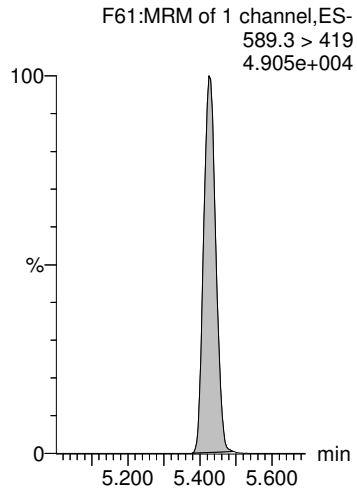
d3-N-MeFOSAA-EIS



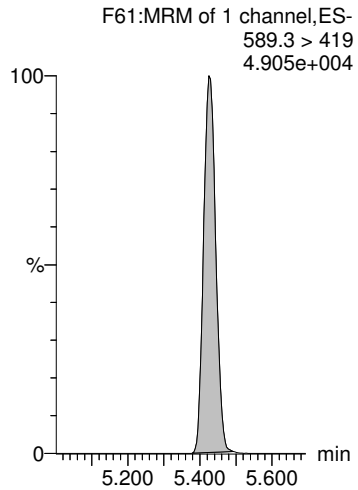
d3-N-MeFOSAA-EIS



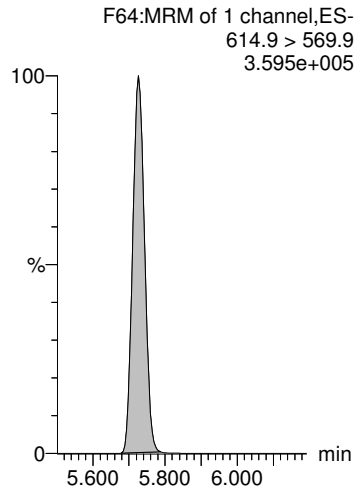
d5-N-EtFOSAA-EIS



d5-N-EtFOSAA-EIS



13C2-PFDoA-EIS



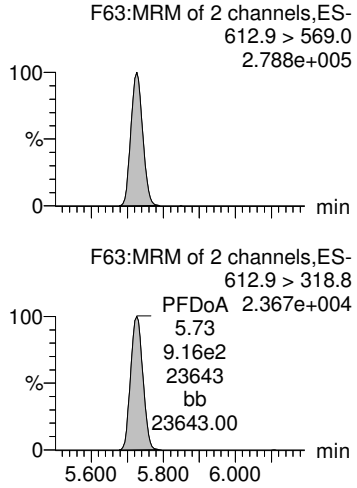
VY 7/16/2020

Dataset: P:\PFAS5.PRO\RESULTS\200714P1\200714P1-50-56.qld

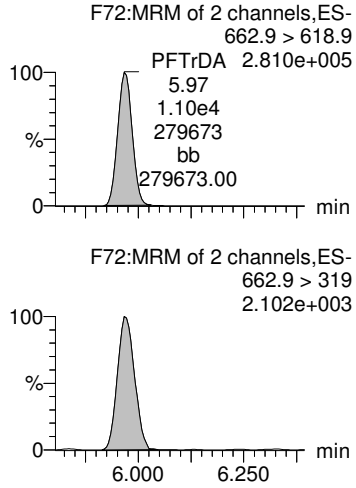
Last Altered: Thursday, July 16, 2020 16:04:18 Pacific Daylight Time
Printed: Thursday, July 16, 2020 16:05:03 Pacific Daylight Time

Name: 200714P1-51, Date: 14-Jul-2020, Time: 18:31:12, ID: B0G0058-BS1 OPR 0.25, Description: OPR

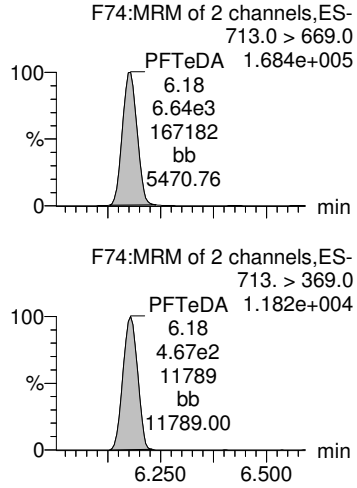
PFDoA



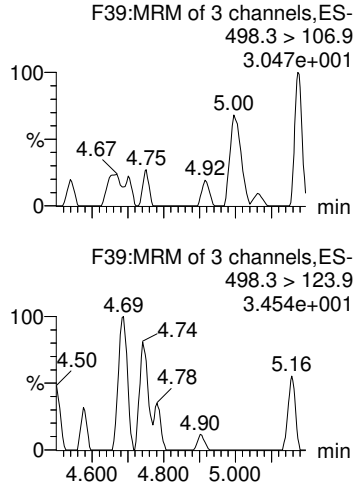
PFTrDA



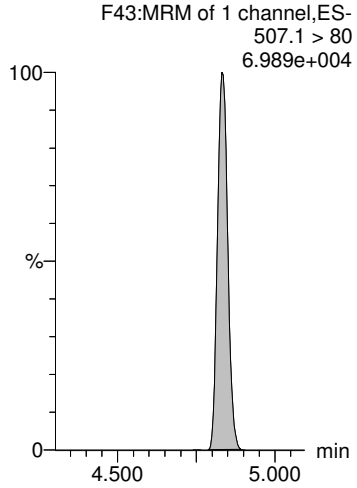
PFTeDA



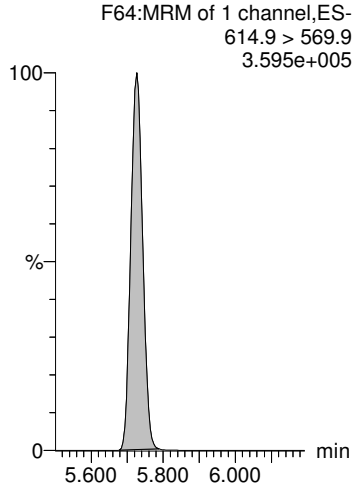
TDCA



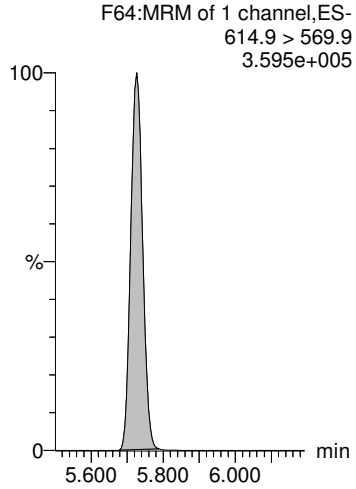
13C8-PFOS-EIS



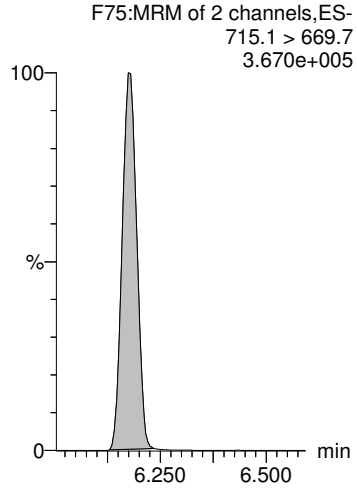
13C2-PFDoA-EIS



13C2-PFDoA-EIS



13C2-PFTeDA-EIS



VY 7/16/2020

Review: AMR 7/21/2020

Dataset: P:\PFAS5.PRO\RESULTS\200714P1\200714P1-50-56.qld

Last Altered: Thursday, July 16, 2020 16:08:51 Pacific Daylight Time
Printed: Thursday, July 16, 2020 16:09:32 Pacific Daylight Time

Name: 200714P1-52, Date: 14-Jul-2020, Time: 18:41:38, ID: B0G0058-BSD1 LCSD 0.25, Description: LCSD

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
1	5	PFBS	299.0 > 80	3.112e3	1.463e3	0.250		2.67	2.67	26.6	42.531	106.3	2.397	NO
2	7	PFHxA	313.0 > 269.0	1.123e4	1.225e4	0.250		3.20	3.20	11.5	44.075	110.2	15.413	NO
3	9	HFPO-DA	285.1 > 168.9	1.978e3	2.351e3	0.250		3.42	3.41	10.5	43.683	109.2	2.152	NO
4	11	PFHpA	363.0 > 319	1.162e4	1.190e4	0.250		3.80	3.80	12.2	39.859	99.6	43.719	NO
5	12	ADONA	376.8 > 250.9	2.158e4	1.190e4	0.250		3.89	3.90	22.7	42.308	105.8	3.850	NO
6	51	13C3-PFBS-EIS	302.0 > 98.9	1.463e3		0.250	157.875	2.67	2.67	1460	37.075	74.2		
7	57	13C2-PFHxA-EIS	315.0 > 270.0	1.225e4		0.250	1345.825	3.19	3.20	12200	36.394	72.8		
8	53	13C3-HFPO-DA-EIS	287.0 > 168.9	2.351e3		0.250	261.275	3.41	3.42	2350	35.998	72.0		
9	59	13C4-PFHpA-EIS	367.2 > 321.8	1.190e4		0.250	1285.879	3.79	3.80	11900	37.005	74.0		
10	59	13C4-PFHpA-EIS	367.2 > 321.8	1.190e4		0.250	1285.879	3.79	3.80	11900	37.005	74.0		
11	-1													
12	13	L-PFHxS	399 > 79.9	2.881e3	2.951e3	0.250		3.94	3.94	12.2	42.987	107.5	4.418	NO
13	1...	Total PFHxS	399 > 79.9	2.881e3	2.951e3	0.250		3.93		12.2	42.987			
14	16	L-PFOA	413 > 369	1.286e4	1.631e4	0.250		4.31	4.31	9.86	42.187	105.5	2.983	NO
15	1...	Total PFOA	413 > 369	1.286e4	1.631e4	0.250		4.60		9.86	42.187			
16	21	PFNA	463.0 > 418.8	1.482e4	1.406e4	0.250		4.75	4.75	13.2	44.561	111.4	13.386	NO
17	61	13C3-PFHxS-EIS	402 > 80	2.951e3		0.250	305.184	3.93	3.94	2950	38.682	77.4		
18	61	13C3-PFHxS-EIS	402 > 80	2.951e3		0.250	305.184	3.93	3.94	2950	38.682	77.4		
19	69	13C2-PFOA-EIS	414.9 > 369.7	1.631e4		0.250	1733.544	4.47	4.31	16300	37.630	75.3		
20	69	13C2-PFOA-EIS	414.9 > 369.7	1.631e4		0.250	1733.544	4.47	4.31	16300	37.630	75.3		
21	65	13C5-PFNA-EIS	468.2 > 422.9	1.406e4		0.250	1672.506	4.96	4.75	14100	33.620	67.2		
22	-1													
23	23	L-PFOS	499 > 80	2.743e3	2.377e3	0.250		4.84	4.83	14.4	48.538	121.3	2.562	NO
24	1...	Total PFOS	499> 80	2.743e3	2.377e3	0.250		4.60		14.4	48.538			
25	25	9Cl-PF30NS	531 > 351	5.408e3	2.377e3	0.250		5.05	5.05	28.4	45.619	114.0	32.261	NO
26	26	PFDA	513 > 469	1.105e4	1.609e4	0.250		5.13	5.12	8.58	43.240	108.1	4.847	NO
27	33	PFUdA	563.0 > 519	1.138e4	1.486e4	0.250		5.45	5.45	9.58	40.538	101.3	16.177	NO
28	71	13C8-PFOS-EIS	507.1 > 80	2.377e3		0.250	299.078	4.83	4.84	2380	31.798	63.6		
29	71	13C8-PFOS-EIS	507.1 > 80	2.377e3		0.250	299.078	4.83	4.84	2380	31.798	63.6		
30	71	13C8-PFOS-EIS	507.1 > 80	2.377e3		0.250	299.078	4.83	4.84	2380	31.798	63.6		
31	73	13C2-PFDA-EIS	515.1 > 469.9	1.609e4		0.250	1995.916	5.12	5.13	16100	32.237	64.5		
32	79	13C2-PFUdA-EIS	565 > 519.8	1.486e4		0.250	1917.639	5.36	5.45	14900	30.988	62.0		
33	-1													
34	29	L-MeFOSAA	570 > 419	2.722e3	3.079e3	0.250		5.27	5.28	11.1	36.778	91.9	1.568	NO
35	1...	Total N-MeFOSAA	570. > 419	2.722e3	3.079e3	0.250		5.19		11.1	36.778			
36	31	L-EtFOSAA	583.9 > 419	3.281e3	2.452e3	0.250		5.43	5.43	16.7	41.208	103.0	1.269	NO

VY 7/16/2020

Review: AMR 7/21/2020

Dataset: P:\PFAS5.PRO\RESULTS\200714P1\200714P1-50-56.qld

Last Altered: Thursday, July 16, 2020 16:08:51 Pacific Daylight Time
Printed: Thursday, July 16, 2020 16:09:32 Pacific Daylight Time

Name: 200714P1-52, Date: 14-Jul-2020, Time: 18:41:38, ID: B0G0058-BSD1 LCSD 0.25, Description: LCSD

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
37	1...	Total N-EtFOSAA	583.9 > 419	3.281e3	2.452e3	0.250		5.37		16.7	41.208			
38	35	11Cl-PF30UdS	631 > 451	3.674e3	1.629e4	0.250		5.67	5.65	2.82	43.223	108.1	16.835	NO
39	77	d3-N-MeFOSAA-EIS	573.1 > 419	3.079e3		0.250	391.230	5.27	5.27	3080	31.477	63.0		
40	77	d3-N-MeFOSAA-EIS	573.1 > 419	3.079e3		0.250	391.230	5.27	5.27	3080	31.477	63.0		
41	81	d5-N-EtFOSAA-EIS	589.3 > 419	2.452e3		0.250	342.385	5.42	5.43	2450	28.643	57.3		
42	81	d5-N-EtFOSAA-EIS	589.3 > 419	2.452e3		0.250	342.385	5.42	5.43	2450	28.643	57.3		
43	83	13C2-PFDoA-EIS	614.9 > 569.9	1.629e4		0.250	2303.973	5.87	5.73	16300	28.285	56.6		
44	-1													
45	37	PFDoA	612.9 > 569.0	1.164e4	1.629e4	0.250		5.73	5.73	8.93	40.074	100.2	10.467	NO
46	39	PFTrDA	662.9 > 618.9	1.397e4	1.629e4	0.250		5.97	5.97	10.7	40.163	100.4	134.430	NO
47	41	PFTeDA	713.0 > 669.0	8.598e3	1.785e4	0.250		6.18	6.18	6.02	42.544	106.4	13.256	NO
48	1...	TDCA	498.3>106.9			0.250		4.47						YES
49	71	13C8-PFOS-EIS	507.1 > 80	2.377e3		0.250	299.078	4.83	4.84	2380	31.798	63.6		
50	83	13C2-PFDoA-EIS	614.9 > 569.9	1.629e4		0.250	2303.973	5.87	5.73	16300	28.285	56.6		
51	83	13C2-PFDoA-EIS	614.9 > 569.9	1.629e4		0.250	2303.973	5.87	5.73	16300	28.285	56.6		
52	89	13C2-PFTeDA-EIS	715.1 > 669.7	1.785e4		0.250	2242.342	6.18	6.18	17900	31.843	63.7		

VY 7/16/2020

Vista Analytical Laboratory L18

Review: AMR 7/21/2020

Dataset: P:\PFAS5.PRO\RESULTS\200714P1\200714P1-50-56.qld

Last Altered: Thursday, July 16, 2020 16:08:51 Pacific Daylight Time
Printed: Thursday, July 16, 2020 16:09:32 Pacific Daylight Time

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Calibration: P:\PFAS5.PRO\CurveDB\C18_VAL-PFAS_Q5_07-14-20.cdb 15 Jul 2020 08:25:12

Name: 200714P1-52, Date: 14-Jul-2020, Time: 18:41:38, ID: B0G0058-BSD1 LCSD 0.25, Description: LCSD

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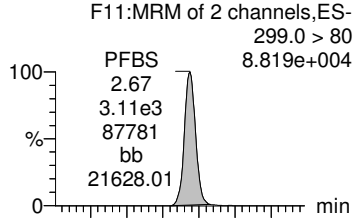

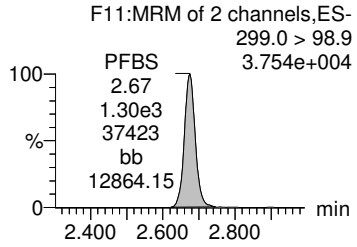

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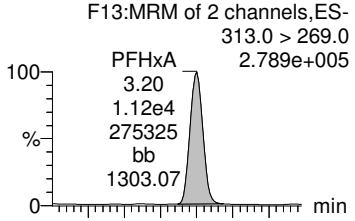

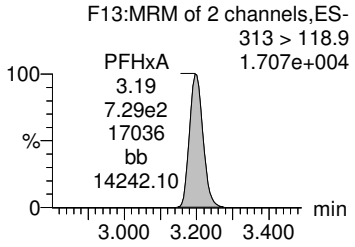

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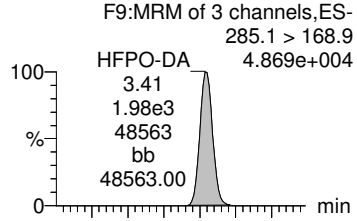

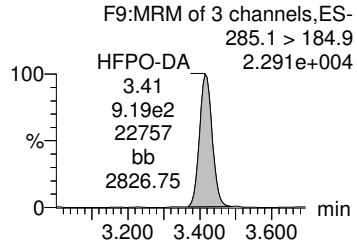

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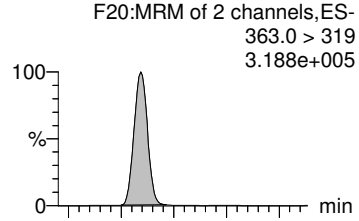
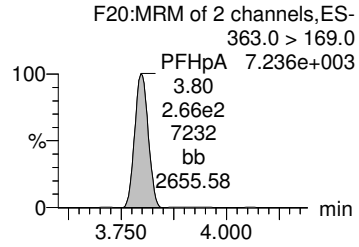
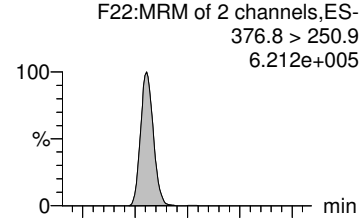
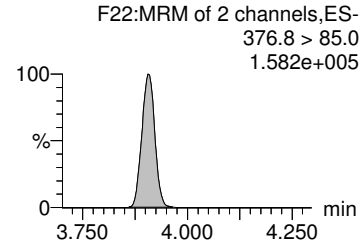




ADONA





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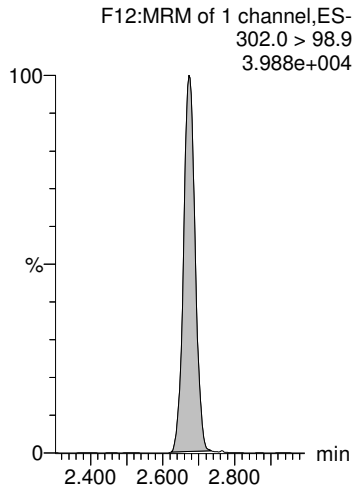

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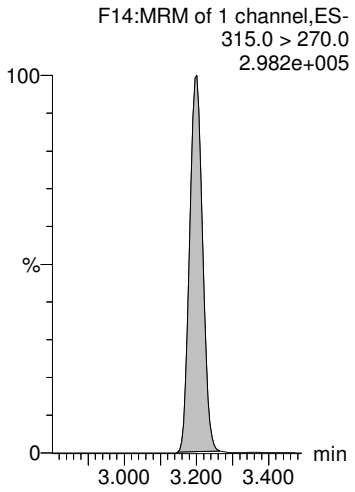

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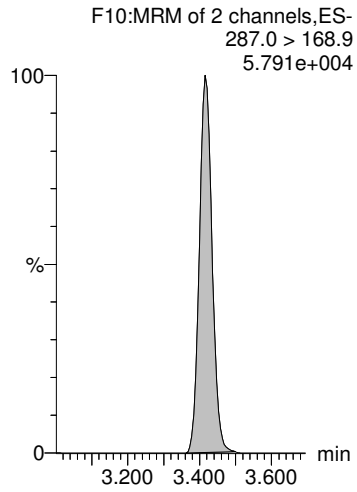

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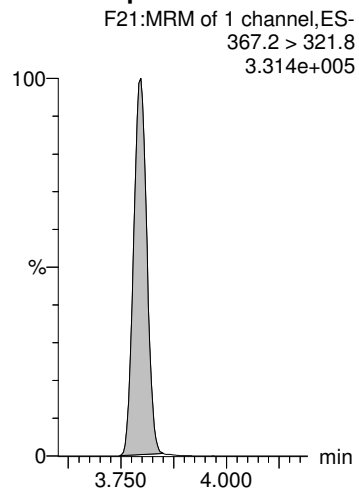

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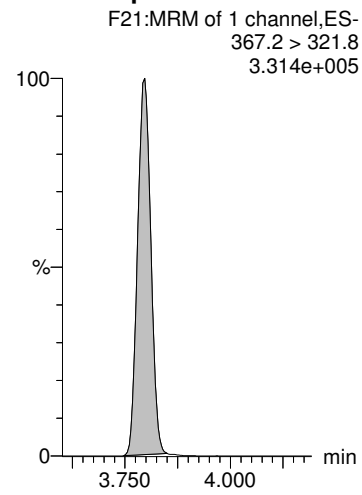

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Dataset: P:\PFAS5.PRO\RESULTS\200714P1\200714P1-50-56.qld

Last Altered: Thursday, July 16, 2020 16:08:51 Pacific Daylight Time
Printed: Thursday, July 16, 2020 16:09:32 Pacific Daylight Time

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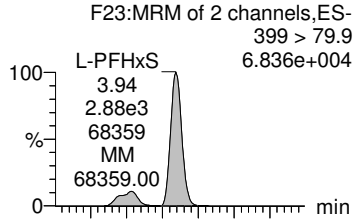
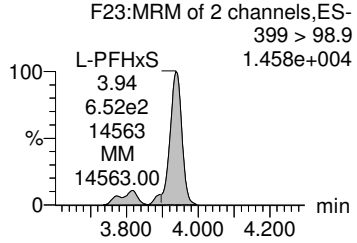
L-PFHxS





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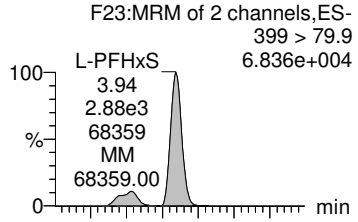
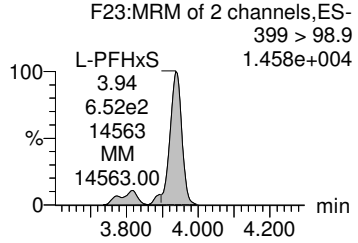
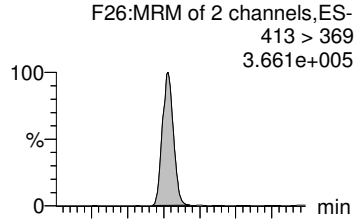
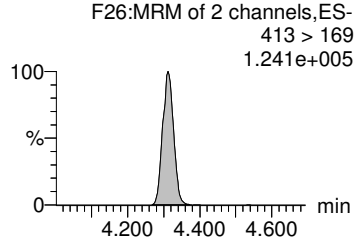




L-PFOA





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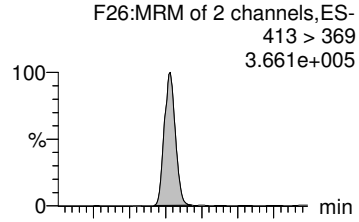

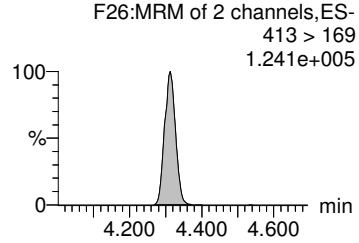

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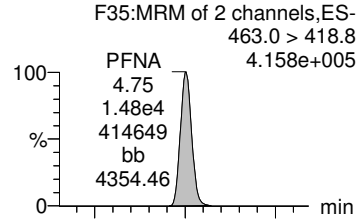

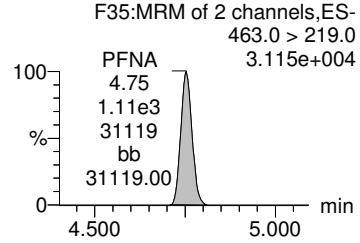

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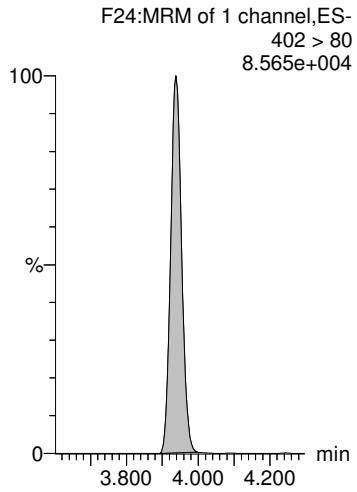

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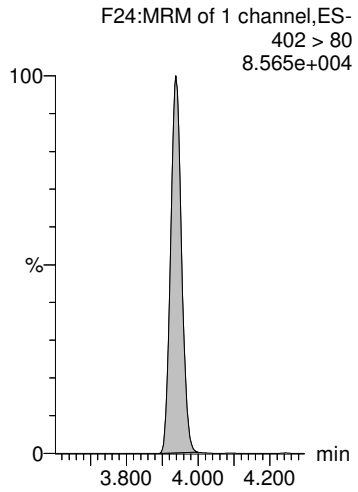

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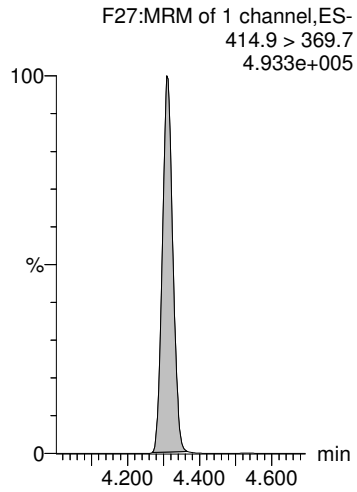

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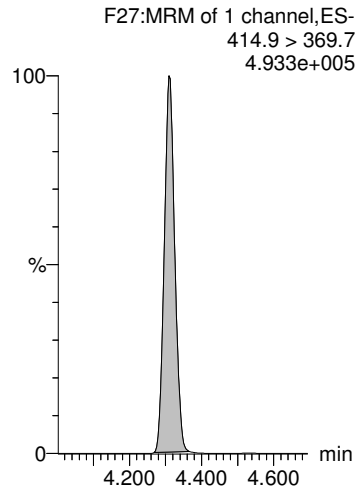

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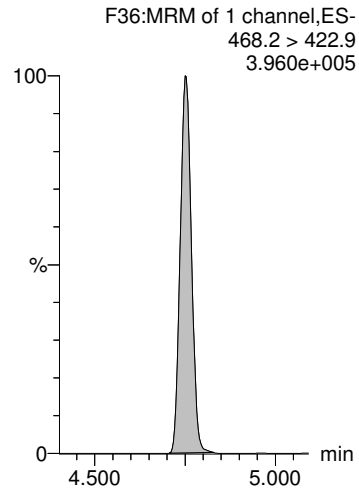

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Last Altered: Thursday, July 16, 2020 16:08:51 Pacific Daylight Time
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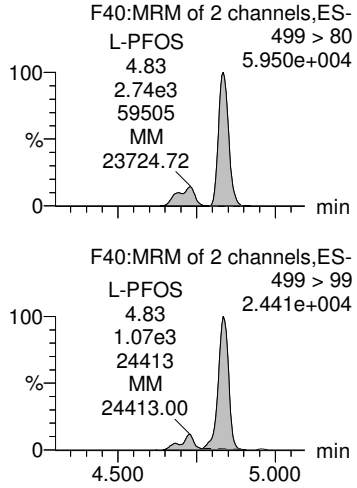
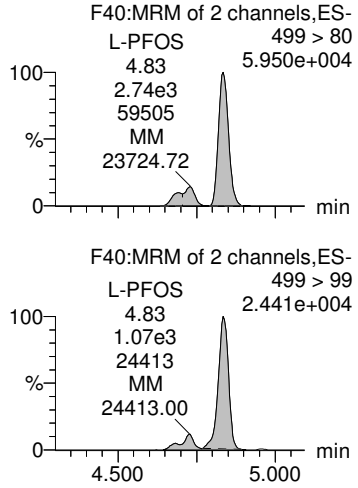
Name: 200714P1-52, Date: 14-Jul-2020, Time: 18:41:38, ID: B0G0058-BSD1 LCSD 0.25, Description: LCSD

L-PFOS



Total PFOS



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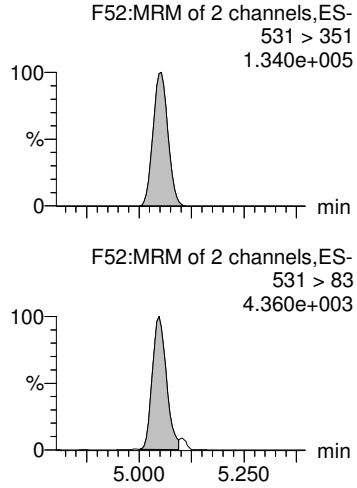

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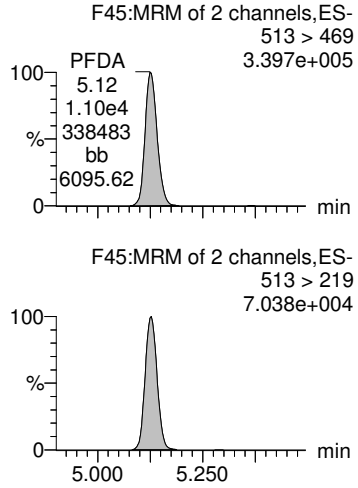

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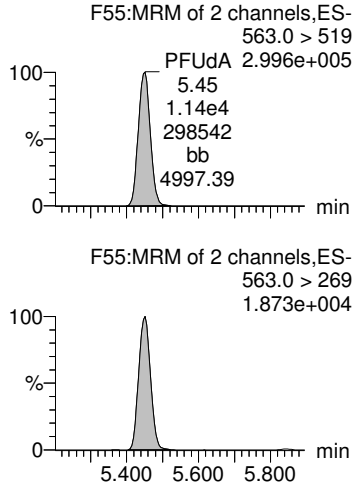

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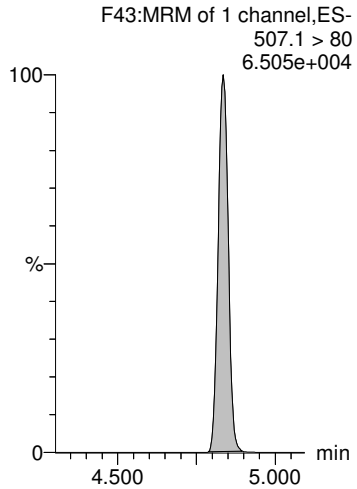

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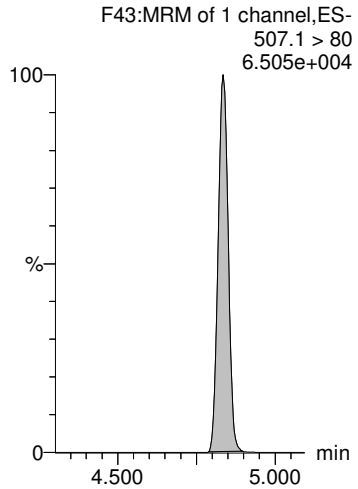

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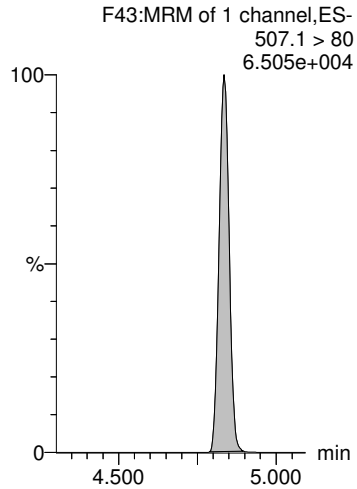

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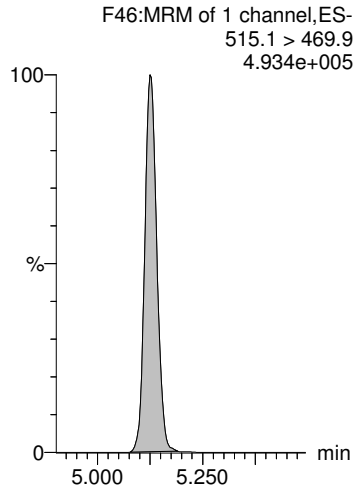

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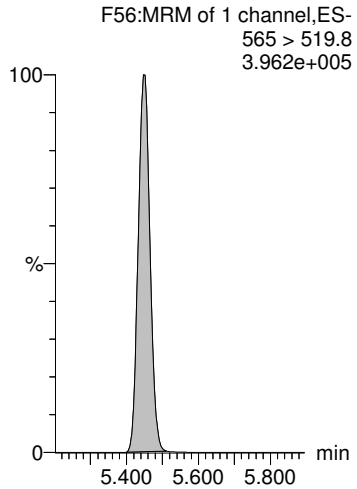

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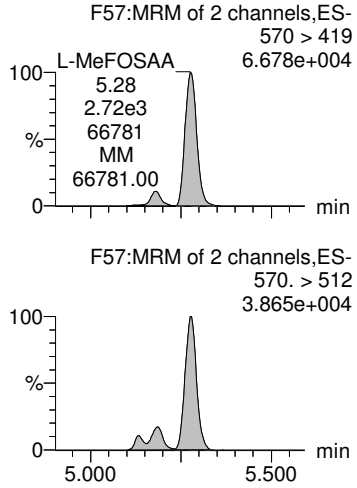
Last Altered: Thursday, July 16, 2020 16:08:51 Pacific Daylight Time
Printed: Thursday, July 16, 2020 16:09:32 Pacific Daylight Time

Name: 200714P1-52, Date: 14-Jul-2020, Time: 18:41:38, ID: B0G0058-BSD1 LCSD 0.25, Description: LCSD

L-MeFOSAA



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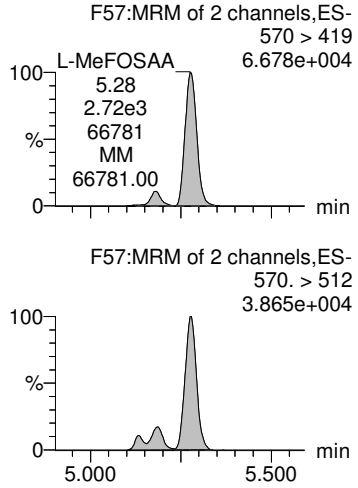

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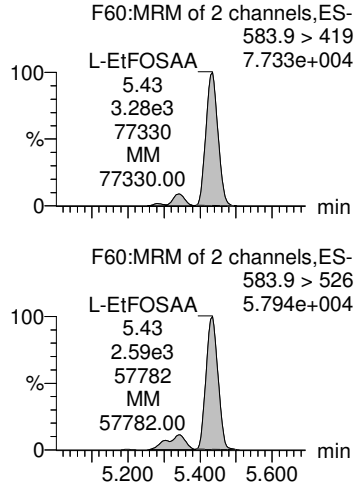

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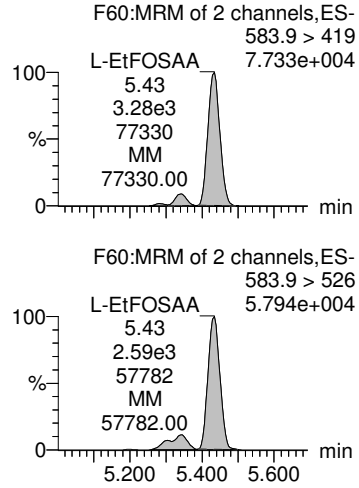
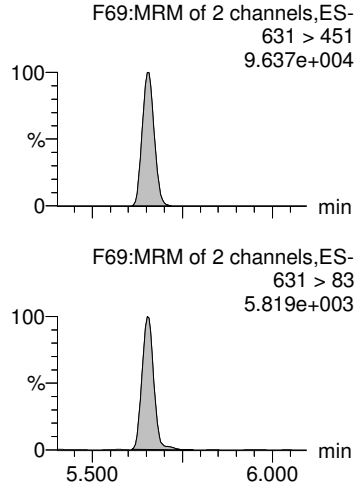


11Cl-PF30UdS



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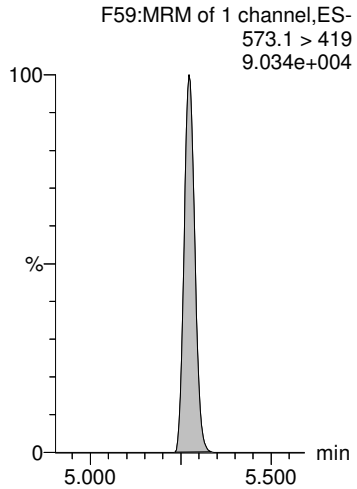

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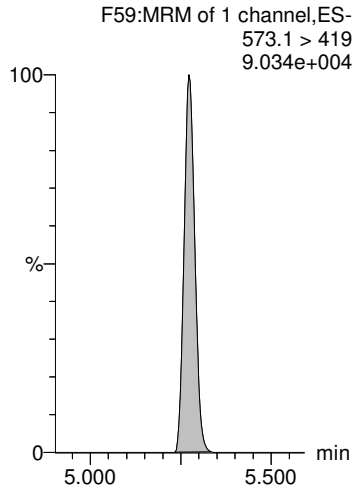

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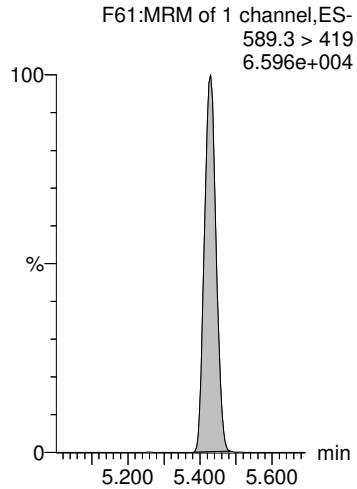

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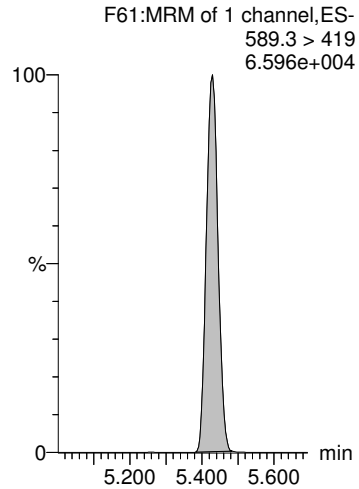
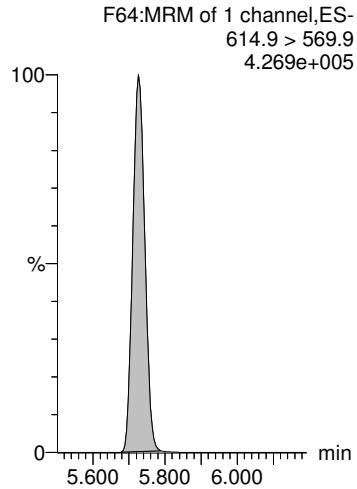


13C2-PFDoA-EIS



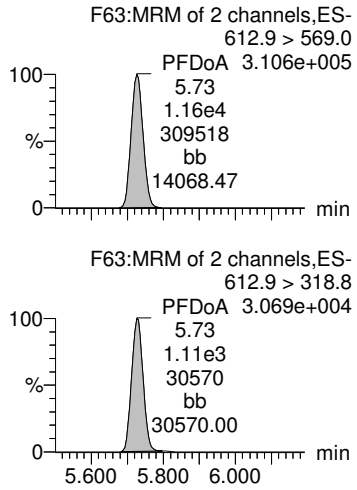
VY 7/16/2020

Dataset: P:\PFAS5.PRO\RESULTS\200714P1\200714P1-50-56.qld

Last Altered: Thursday, July 16, 2020 16:08:51 Pacific Daylight Time
Printed: Thursday, July 16, 2020 16:09:32 Pacific Daylight Time

Name: 200714P1-52, Date: 14-Jul-2020, Time: 18:41:38, ID: B0G0058-BSD1 LCSD 0.25, Description: LCSD

PFDoA



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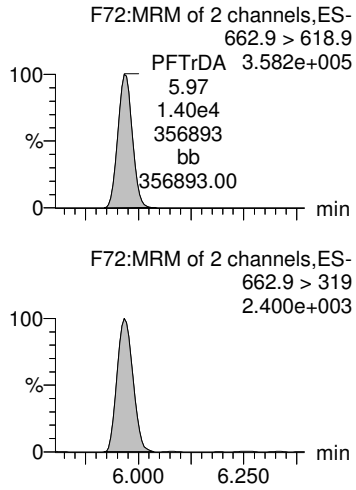

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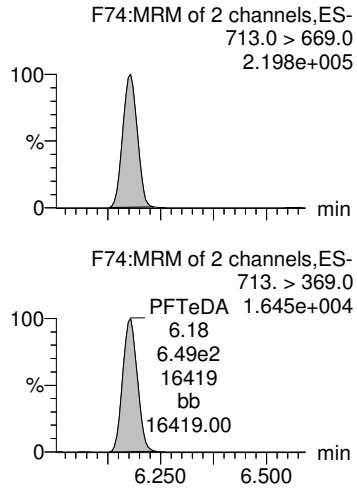

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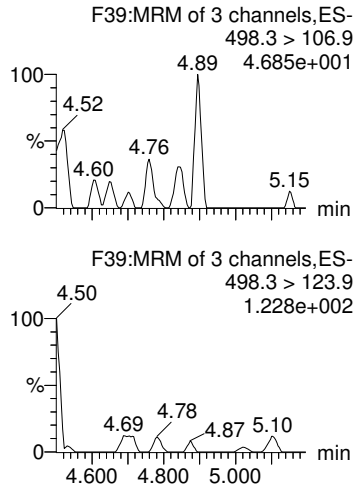

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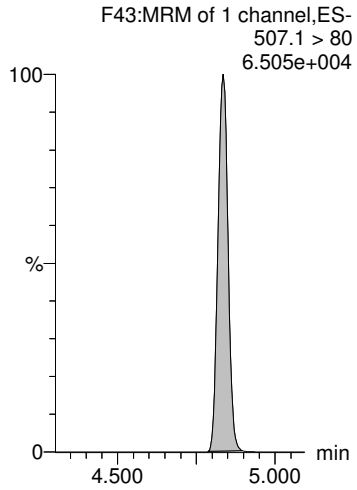
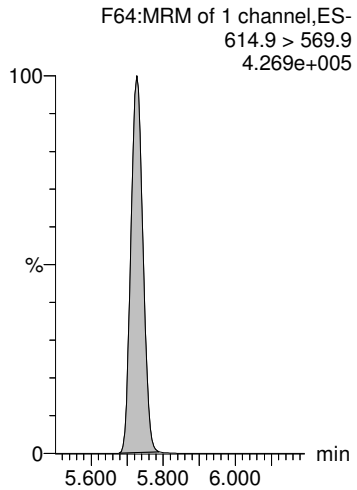


13C2-PFDoA-EIS



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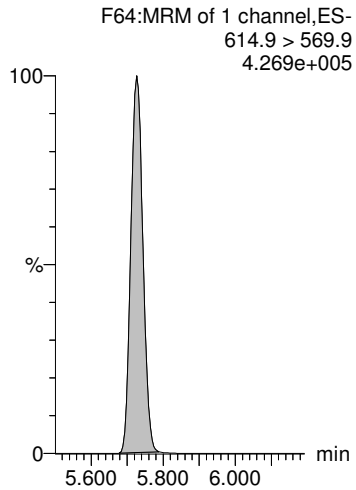
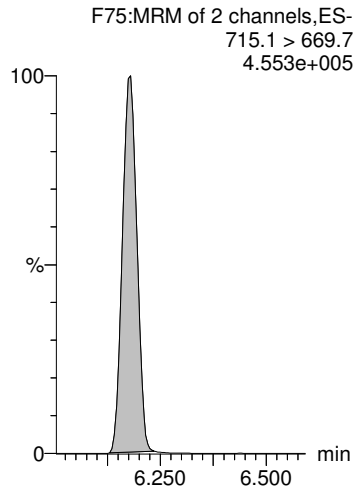


13C2-PFTeDA-EIS



VY 7/16/2020

Review: AMR 7/21/2020

Dataset: P:\PFAS5.PRO\RESULTS\200714P1\200714P1-50-56.qld

Last Altered: Thursday, July 16, 2020 16:12:59 Pacific Daylight Time
Printed: Thursday, July 16, 2020 16:13:25 Pacific Daylight Time

Name: 200714P1-53, Date: 14-Jul-2020, Time: 18:52:15, ID: 2001436-01 EB05-20200707 0.25168, Description: EB05-20200707

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
1	5	PFBS	299.0 > 80		1.326e3	0.252		2.67						YES
2	7	PFHxA	313.0 > 269.0		1.059e4	0.252		3.20						YES
3	9	HFPO-DA	285.1 > 168.9		1.891e3	0.252		3.42						YES
4	11	PFHpA	363.0 > 319		1.012e4	0.252		3.80						YES
5	12	ADONA	376.8 > 250.9		1.012e4	0.252		3.89						YES
6	51	13C3-PFBS-EIS	302.0 > 98.9	1.326e3		0.252	157.875	2.67	2.67	1330	33.362	67.2		
7	57	13C2-PFHxA-EIS	315.0 > 270.0	1.059e4		0.252	1345.825	3.19	3.20	10600	31.273	63.0		
8	53	13C3-HFPO-DA-EIS	287.0 > 168.9	1.891e3		0.252	261.275	3.41	3.42	1890	28.760	57.9		
9	59	13C4-PFHpA-EIS	367.2 > 321.8	1.012e4		0.252	1285.879	3.79	3.80	10100	31.271	63.0		
10	59	13C4-PFHpA-EIS	367.2 > 321.8	1.012e4		0.252	1285.879	3.79	3.80	10100	31.271	63.0		
11	-1													
12	13	L-PFHxS	399 > 79.9		2.756e3	0.252		3.94						YES
13	1...	Total PFHxS	399 > 79.9	0.000e0	2.756e3	0.252		3.93		0.000				
14	16	L-PFOA	413 > 369		1.479e4	0.252		4.31						YES
15	1...	Total PFOA	413 > 369	0.000e0	1.479e4	0.252		4.60		0.000				
16	21	PFNA	463.0 > 418.8		1.292e4	0.252		4.75						YES
17	61	13C3-PFHxS-EIS	402 > 80	2.756e3		0.252	305.184	3.93	3.94	2760	35.875	72.2		
18	61	13C3-PFHxS-EIS	402 > 80	2.756e3		0.252	305.184	3.93	3.94	2760	35.875	72.2		
19	69	13C2-PFOA-EIS	414.9 > 369.7	1.479e4		0.252	1733.544	4.47	4.31	14800	33.887	68.2		
20	69	13C2-PFOA-EIS	414.9 > 369.7	1.479e4		0.252	1733.544	4.47	4.31	14800	33.887	68.2		
21	65	13C5-PFNA-EIS	468.2 > 422.9	1.292e4		0.252	1672.506	4.96	4.75	12900	30.692	61.8		
22	-1													
23	23	L-PFOS	499 > 80		2.499e3	0.252		4.83						YES
24	1...	Total PFOS	499> 80	0.000e0	2.499e3	0.252		4.60		0.000				
25	25	9Cl-PF30NS	531 > 351		2.499e3	0.252		5.05						YES
26	26	PFDA	513 > 469		1.581e4	0.252		5.13						YES
27	33	PFUdA	563.0 > 519		1.527e4	0.252		5.45						YES
28	71	13C8-PFOS-EIS	507.1 > 80	2.499e3		0.252	299.078	4.83	4.83	2500	33.203	66.9		
29	71	13C8-PFOS-EIS	507.1 > 80	2.499e3		0.252	299.078	4.83	4.83	2500	33.203	66.9		
30	71	13C8-PFOS-EIS	507.1 > 80	2.499e3		0.252	299.078	4.83	4.83	2500	33.203	66.9		
31	73	13C2-PFDA-EIS	515.1 > 469.9	1.581e4		0.252	1995.916	5.12	5.13	15800	31.476	63.4		
32	79	13C2-PFUdA-EIS	565 > 519.8	1.527e4		0.252	1917.639	5.36	5.45	15300	31.649	63.7		
33	-1													
34	29	L-MeFOSAA	570 > 419		2.600e3	0.252		5.27						YES
35	1...	Total N-MeFOSAA	570. > 419	0.000e0	2.600e3	0.252		5.19		0.000				
36	31	L-EtFOSAA	583.9 > 419		2.412e3	0.252		5.43						YES

VY 7/16/2020

Vista Analytical Laboratory L18

Review: AMR 7/21/2020

Dataset: P:\PFAS5.PRO\RESULTS\200714P1\200714P1-50-56.qld

Last Altered: Thursday, July 16, 2020 16:12:59 Pacific Daylight Time
Printed: Thursday, July 16, 2020 16:13:25 Pacific Daylight Time

Name: 200714P1-53, Date: 14-Jul-2020, Time: 18:52:15, ID: 2001436-01 EB05-20200707 0.25168, Description: EB05-20200707

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
37	1...	Total N-EtFOSAA	583.9 > 419	0.000e0	2.412e3	0.252		5.37		0.000				
38	35	11Cl-PF30UdS	631 > 451		1.703e4	0.252		5.66						YES
39	77	d3-N-MeFOSAA-EIS	573.1 > 419	2.600e3		0.252	391.230	5.27	5.27	2600	26.405	53.2		
40	77	d3-N-MeFOSAA-EIS	573.1 > 419	2.600e3		0.252	391.230	5.27	5.27	2600	26.405	53.2		
41	81	d5-N-EtFOSAA-EIS	589.3 > 419	2.412e3		0.252	342.385	5.42	5.43	2410	27.986	56.3		
42	81	d5-N-EtFOSAA-EIS	589.3 > 419	2.412e3		0.252	342.385	5.42	5.43	2410	27.986	56.3		
43	83	13C2-PFDoA-EIS	614.9 > 569.9	1.703e4		0.252	2303.973	5.87	5.72	17000	29.365	59.1		
44	-1													
45	37	PFDoA	612.9 > 569.0		1.703e4	0.252		5.72						YES
46	39	PFTrDA	662.9 > 618.9		1.703e4	0.252		5.96						YES
47	41	PFTeDA	713.0 > 669.0		1.610e4	0.252		6.18						YES
48	1...	TDCA	498.3>106.9			0.252		4.47						YES
49	71	13C8-PFOS-EIS	507.1 > 80	2.499e3		0.252	299.078	4.83	4.83	2500	33.203	66.9		
50	83	13C2-PFDoA-EIS	614.9 > 569.9	1.703e4		0.252	2303.973	5.87	5.72	17000	29.365	59.1		
51	83	13C2-PFDoA-EIS	614.9 > 569.9	1.703e4		0.252	2303.973	5.87	5.72	17000	29.365	59.1		
52	89	13C2-PFTeDA-EIS	715.1 > 669.7	1.610e4		0.252	2242.342	6.18	6.18	16100	28.537	57.5		

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Vista Analytical Laboratory L18

Review: AMR 7/21/2020

Dataset: P:\PFAS5.PRO\RESULTS\200714P1\200714P1-50-56.qld

Last Altered: Thursday, July 16, 2020 16:12:59 Pacific Daylight Time
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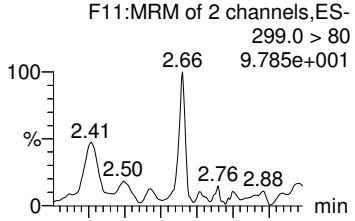
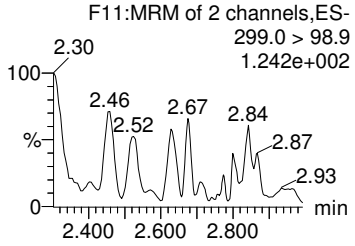
Calibration: P:\PFAS5.PRO\CurveDB\C18_VAL-PFAS_Q5_07-14-20.cdb 15 Jul 2020 08:25:12

Name: 200714P1-53, Date: 14-Jul-2020, Time: 18:52:15, ID: 2001436-01 EB05-20200707 0.25168, Description: EB05-20200707

PFBS





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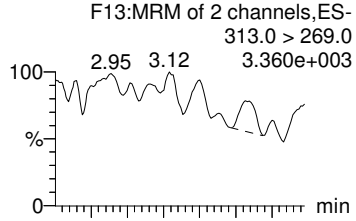
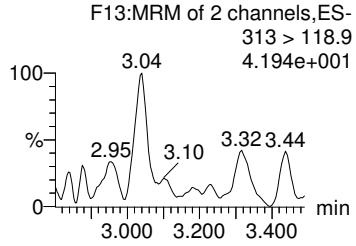
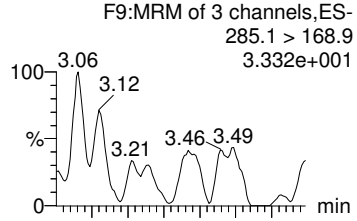
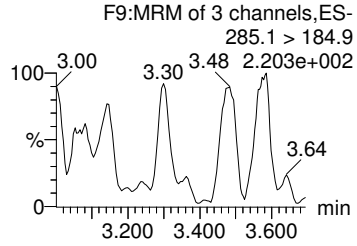




HFPO-DA





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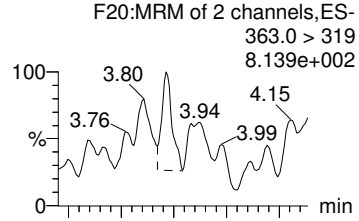

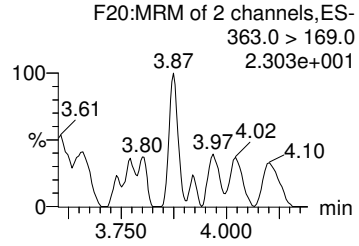

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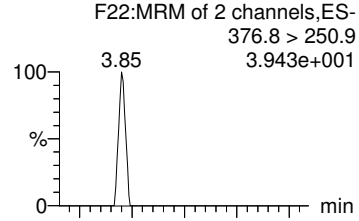

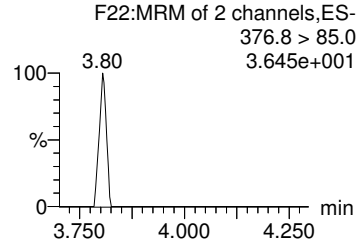

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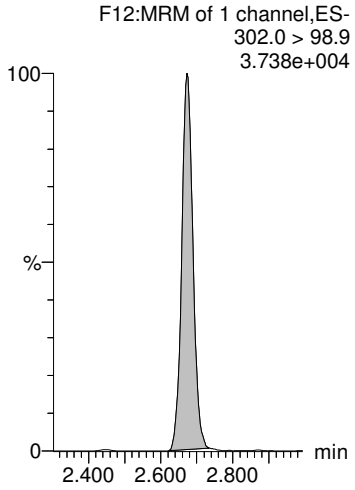

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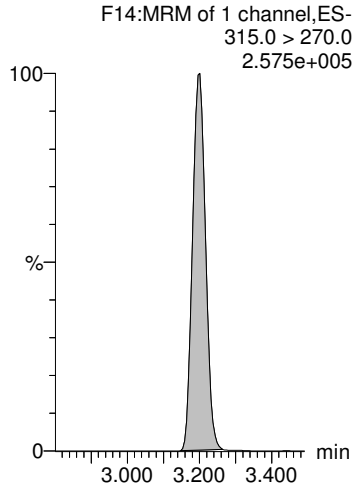

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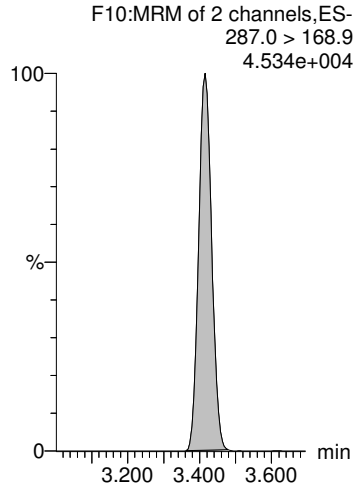

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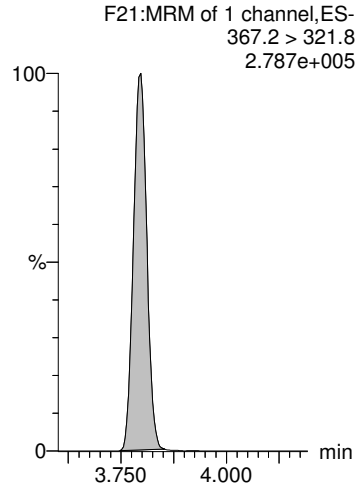
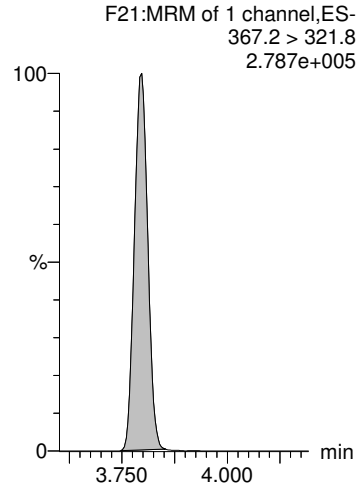


13C4-PFHpA-EIS



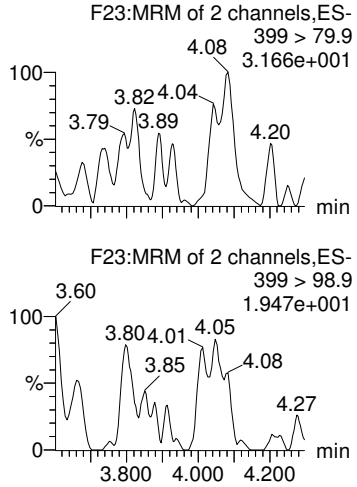
VY 7/16/2020

Dataset: P:\PFAS5.PRO\RESULTS\200714P1\200714P1-50-56.qld

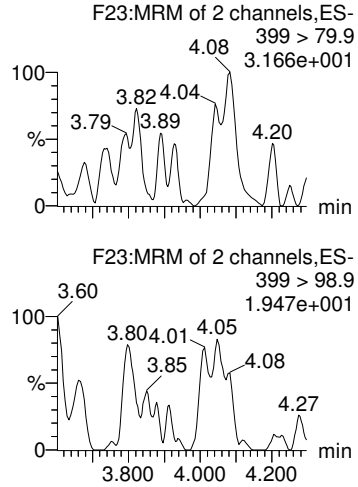
Last Altered: Thursday, July 16, 2020 16:12:59 Pacific Daylight Time
Printed: Thursday, July 16, 2020 16:13:25 Pacific Daylight Time

Name: 200714P1-53, Date: 14-Jul-2020, Time: 18:52:15, ID: 2001436-01 EB05-20200707 0.25168, Description: EB05-20200707

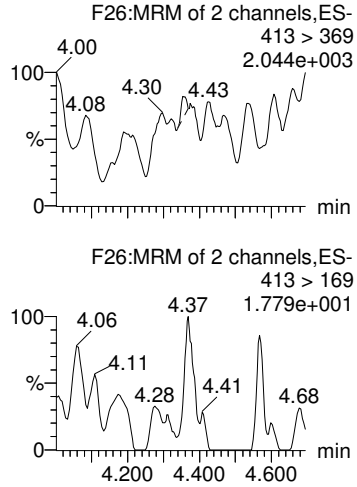
L-PFHxS



Total PFHxS



L-PFOA



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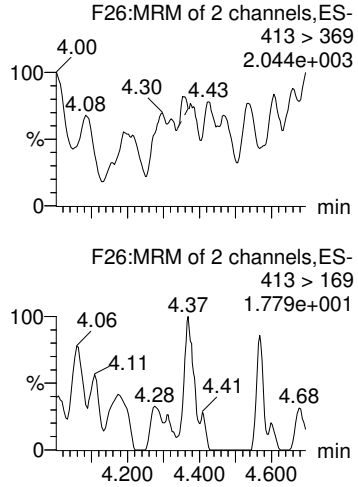

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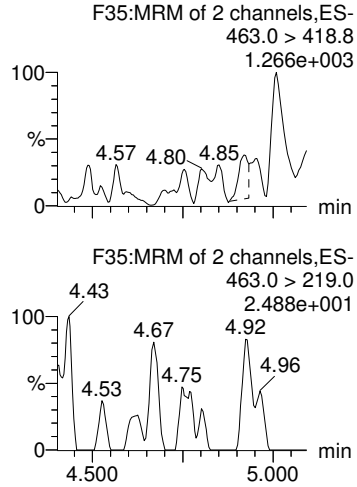
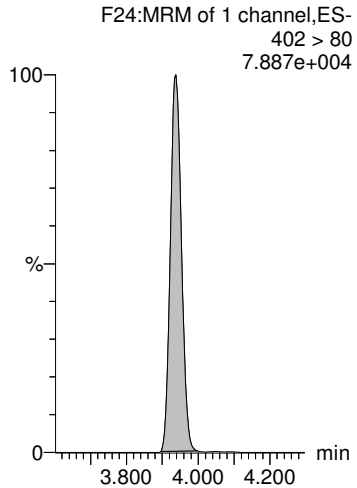
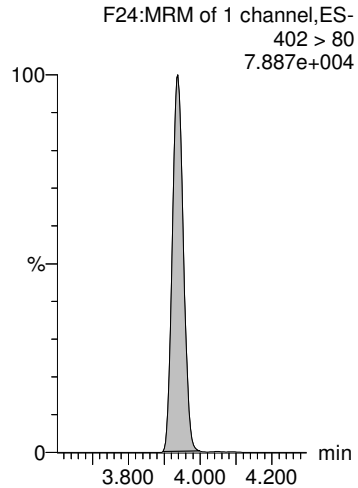


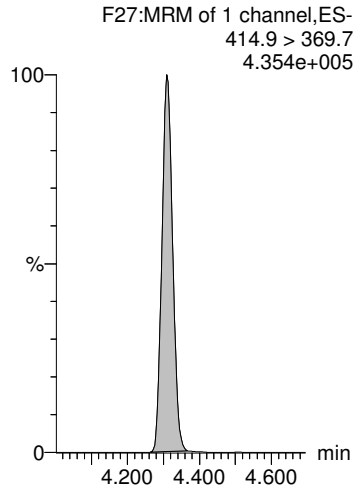
13C3-PFHxS-EIS



13C3-PFHxS-EIS



13C2-PFOA-EIS



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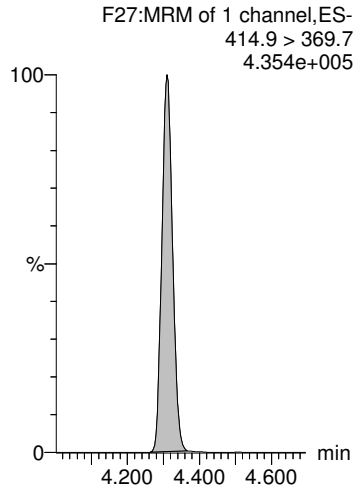
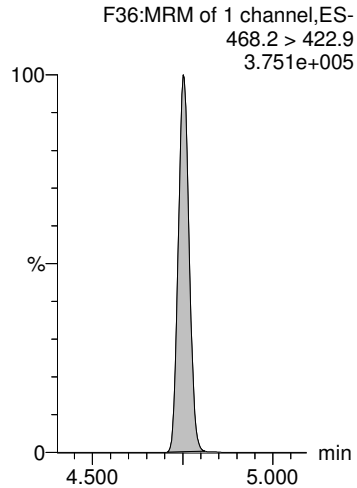


13C5-PFNA-EIS



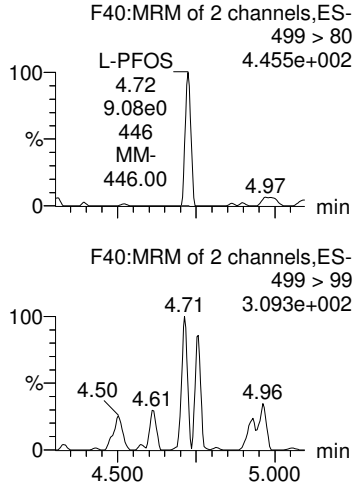
VY 7/16/2020

Dataset: P:\PFAS5.PRO\RESULTS\200714P1\200714P1-50-56.qld

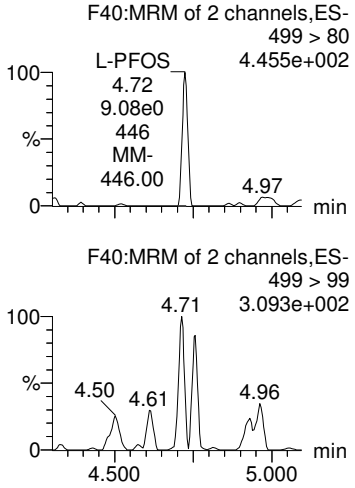
Last Altered: Thursday, July 16, 2020 16:12:59 Pacific Daylight Time
Printed: Thursday, July 16, 2020 16:13:25 Pacific Daylight Time

Name: 200714P1-53, Date: 14-Jul-2020, Time: 18:52:15, ID: 2001436-01 EB05-20200707 0.25168, Description: EB05-20200707

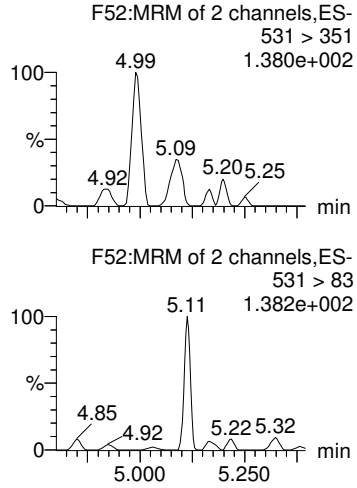
L-PFOS



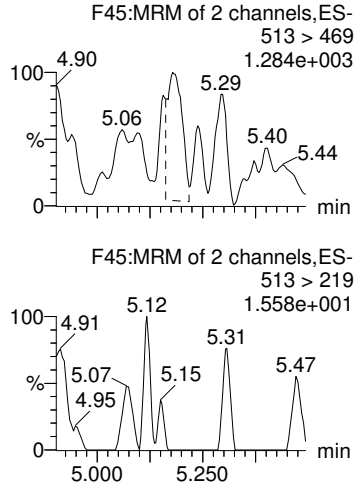
Total PFOS



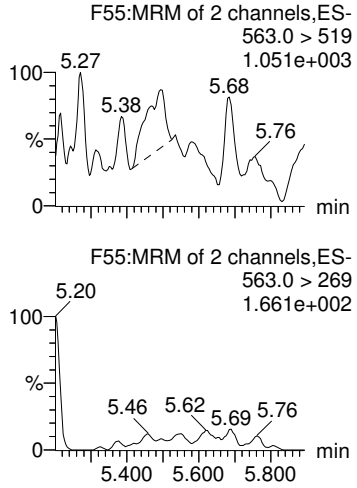
9Cl-PF30NS



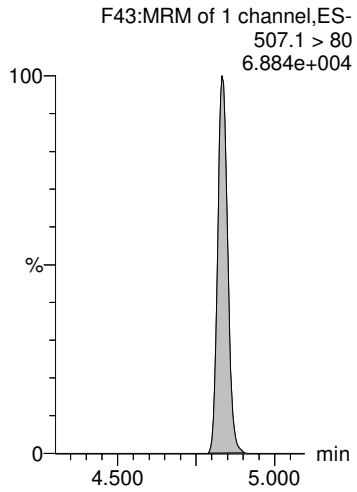
PFDA



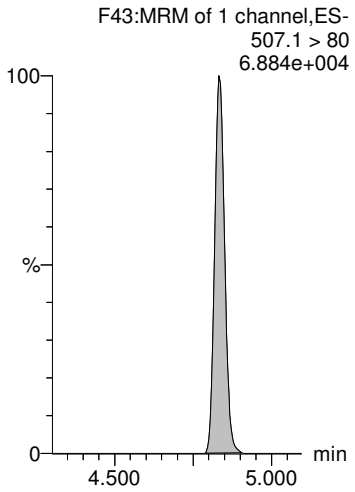
PFUdA



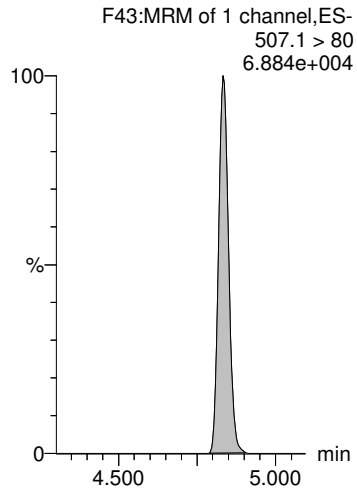
13C8-PFOS-EIS



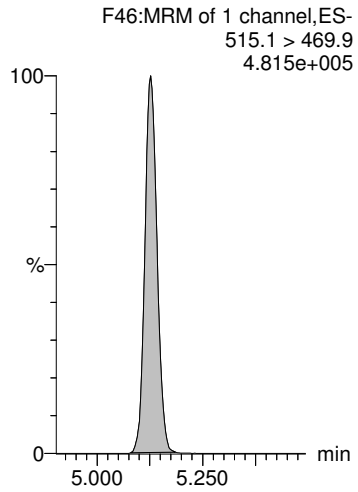
13C8-PFOS-EIS



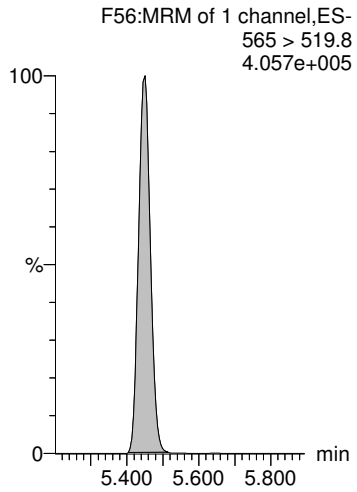
13C8-PFOS-EIS



13C2-PFDA-EIS



13C2-PFUdA-EIS



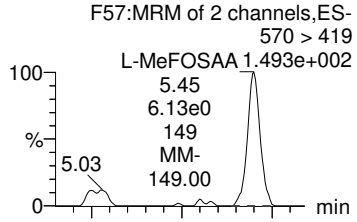
VY 7/16/2020

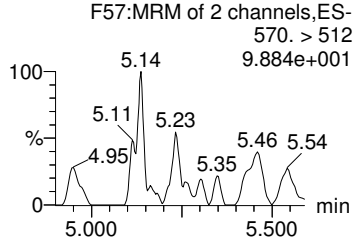
Dataset: P:\PFAS5.PRO\RESULTS\200714P1\200714P1-50-56.qld

Last Altered: Thursday, July 16, 2020 16:12:59 Pacific Daylight Time
Printed: Thursday, July 16, 2020 16:13:25 Pacific Daylight Time

Name: 200714P1-53, Date: 14-Jul-2020, Time: 18:52:15, ID: 2001436-01 EB05-20200707 0.25168, Description: EB05-20200707

L-MeFOSAA





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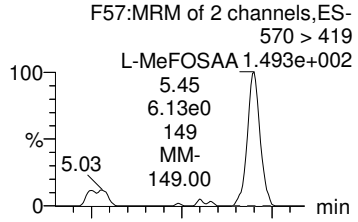
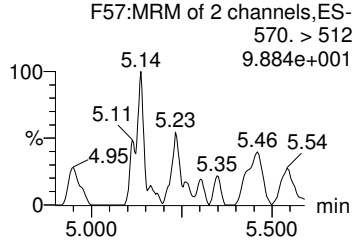
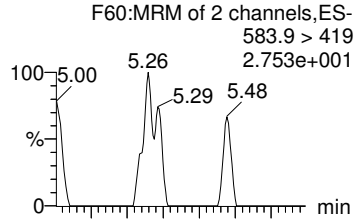
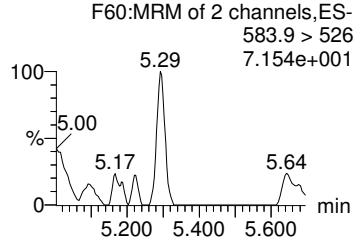




L-EtFOSAA





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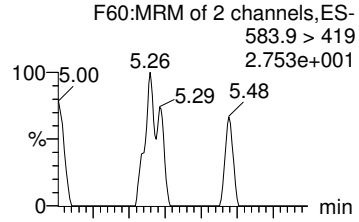
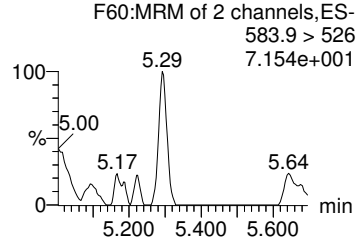
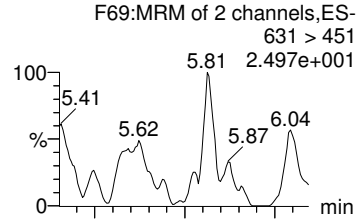
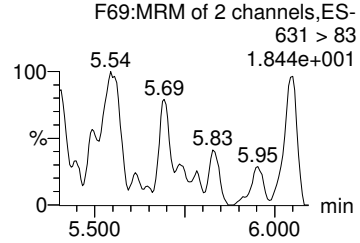


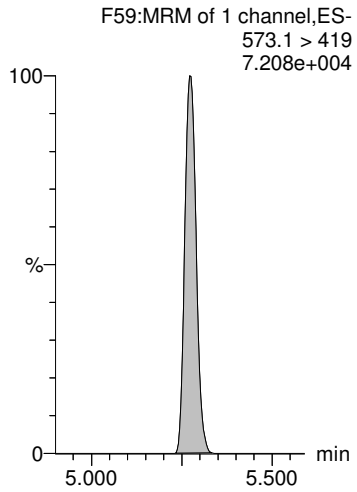


11Cl-PF30UdS

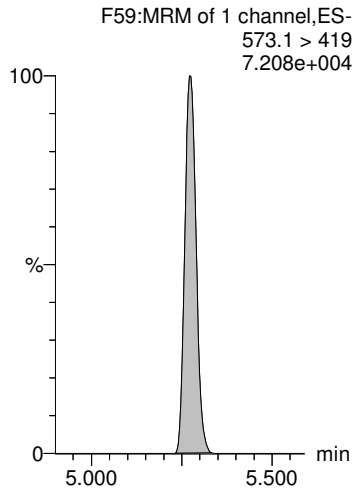




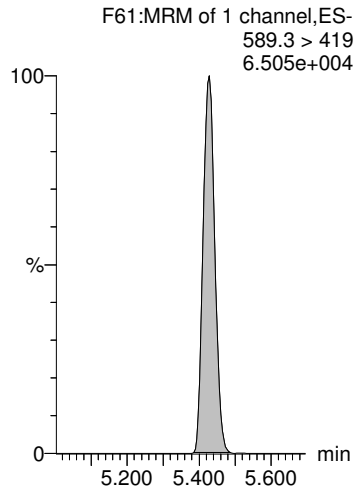
d3-N-MeFOSAA-EIS



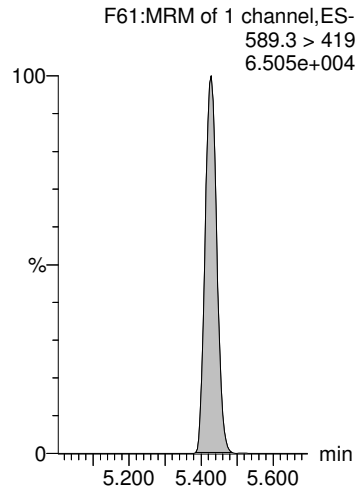
d3-N-MeFOSAA-EIS



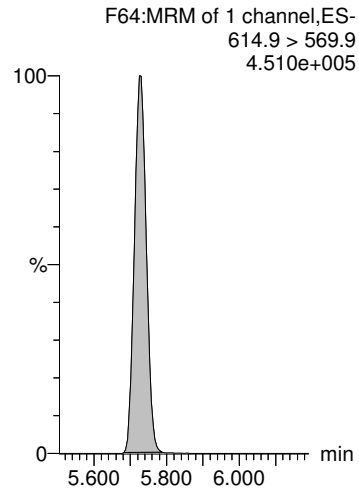
d5-N-EtFOSAA-EIS



d5-N-EtFOSAA-EIS



13C2-PFDoA-EIS



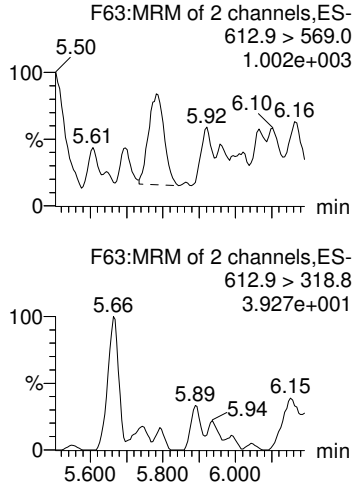
VY 7/16/2020

Dataset: P:\PFAS5.PRO\RESULTS\200714P1\200714P1-50-56.qld

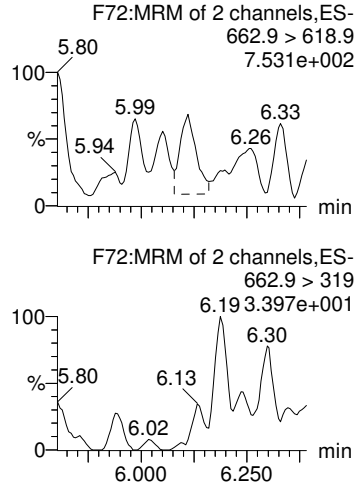
Last Altered: Thursday, July 16, 2020 16:12:59 Pacific Daylight Time
Printed: Thursday, July 16, 2020 16:13:25 Pacific Daylight Time

Name: 200714P1-53, Date: 14-Jul-2020, Time: 18:52:15, ID: 2001436-01 EB05-20200707 0.25168, Description: EB05-20200707

PFDoA



PFTrDA



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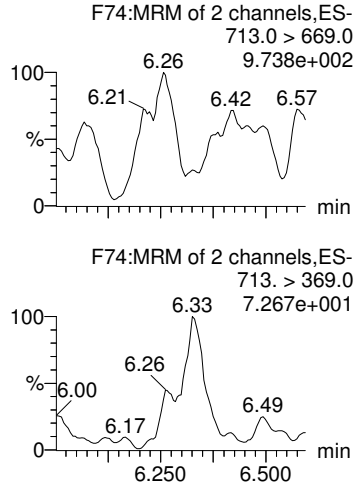
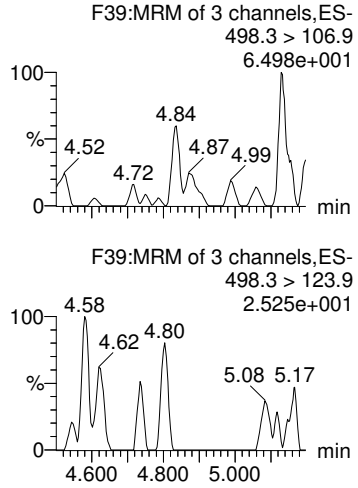
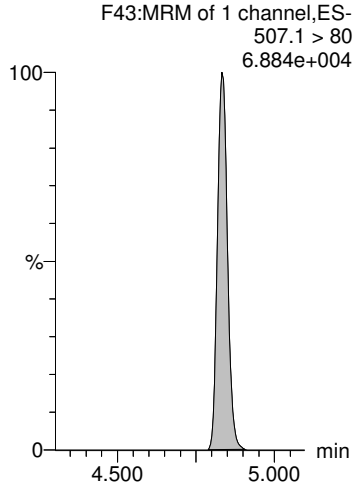


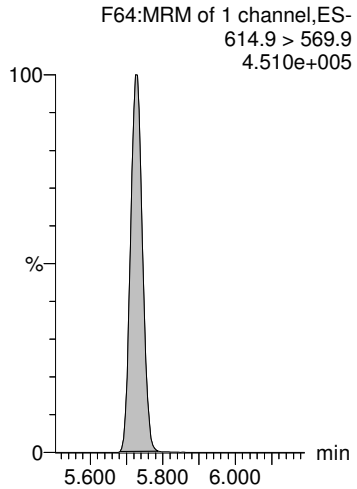
TDCA



13C8-PFOS-EIS



13C2-PFDoA-EIS



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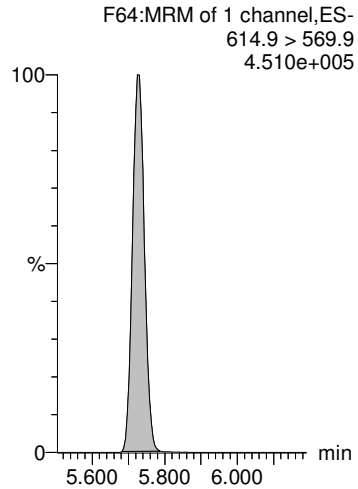
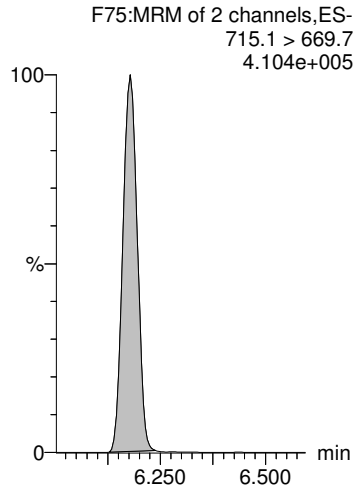


13C2-PFTeDA-EIS



VY 7/16/2020

Dataset: P:\PFAS5.PRO\RESULTS\200714P1\200714P1-50-56.qld

Last Altered: Tuesday, July 21, 2020 13:43:17 Pacific Daylight Time
Printed: Tuesday, July 21, 2020 13:43:36 Pacific Daylight Time

Name: 200714P1-54, Date: 14-Jul-2020, Time: 19:02:50, ID: 2001436-02 TW21D-20200707 0.24685, Description: TW21D-20200707

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
1	5	PFBS	299.0 > 80	3.248e2	1.443e3	0.247		2.67	2.67	2.81	4.545		2.849	NO
2	7	PFHxA	313.0 > 269.0	2.264e3	1.166e4	0.247		3.20	3.20	2.43	9.196		16.283	NO
3	9	HFPO-DA	285.1 > 168.9		2.388e3	0.247		3.42						YES
4	11	PFHpA	363.0 > 319	5.891e2	1.117e4	0.247		3.80	3.80	0.659	2.120		35.588	NO
5	12	ADONA	376.8 > 250.9		1.117e4	0.247		3.89						YES
6	51	13C3-PFBS-EIS	302.0 > 98.9	1.443e3		0.247	157.875	2.67	2.67	1440	37.026	73.1		
7	57	13C2-PFHxA-EIS	315.0 > 270.0	1.166e4		0.247	1345.825	3.19	3.20	11700	35.091	69.3		
8	53	13C3-HFPO-DA-EIS	287.0 > 168.9	2.388e3		0.247	261.275	3.41	3.42	2390	37.020	73.1		
9	59	13C4-PFHpA-EIS	367.2 > 321.8	1.117e4		0.247	1285.879	3.79	3.80	11200	35.186	69.5		
10	59	13C4-PFHpA-EIS	367.2 > 321.8	1.117e4		0.247	1285.879	3.79	3.80	11200	35.186	69.5		
11	-1													
12	13	L-PFHxS	399 > 79.9	6.405e2	2.928e3	0.247		3.94	3.94	2.73	9.691		4.860	NO
13	1...	Total PFHxS	399 > 79.9	6.405e2	2.928e3	0.247		3.93		2.73	9.691			
14	16	L-PFOA	413 > 369	4.611e3	1.596e4	0.247		4.31	4.31	3.61	15.658		2.705	NO
15	1...	Total PFOA	413 > 369	4.611e3	1.596e4	0.247		4.60		3.61	15.658			
16	21	PFNA	463.0 > 418.8		1.424e4	0.247		4.75						YES
17	61	13C3-PFHxS-EIS	402 > 80	2.928e3		0.247	305.184	3.93	3.94	2930	38.871	76.8		
18	61	13C3-PFHxS-EIS	402 > 80	2.928e3		0.247	305.184	3.93	3.94	2930	38.871	76.8		
19	69	13C2-PFOA-EIS	414.9 > 369.7	1.596e4		0.247	1733.544	4.47	4.31	16000	37.292	73.6		
20	69	13C2-PFOA-EIS	414.9 > 369.7	1.596e4		0.247	1733.544	4.47	4.31	16000	37.292	73.6		
21	65	13C5-PFNA-EIS	468.2 > 422.9	1.424e4		0.247	1672.506	4.96	4.75	14200	34.481	68.1		
22	-1													
23	23	L-PFOS	499 > 80	1.431e2	2.510e3	0.247		4.84	4.73	0.713	2.454		2.265	NO
24	1...	Total PFOS	499> 80	1.431e2	2.510e3	0.247		4.60		0.713	2.454			
25	25	9Cl-PF30NS	531 > 351		2.510e3	0.247		5.05						YES
26	26	PFDA	513 > 469	2.759e2	1.593e4	0.247		5.13	5.13	0.216	0.956		3.589	NO
27	33	PFUdA	563.0 > 519		1.420e4	0.247		5.45						YES
28	71	13C8-PFOS-EIS	507.1 > 80	2.510e3		0.247	299.078	4.83	4.84	2510	34.003	67.1		
29	71	13C8-PFOS-EIS	507.1 > 80	2.510e3		0.247	299.078	4.83	4.84	2510	34.003	67.1		
30	71	13C8-PFOS-EIS	507.1 > 80	2.510e3		0.247	299.078	4.83	4.84	2510	34.003	67.1		
31	73	13C2-PFDA-EIS	515.1 > 469.9	1.593e4		0.247	1995.916	5.12	5.13	15900	32.339	63.9		
32	79	13C2-PFUdA-EIS	565 > 519.8	1.420e4		0.247	1917.639	5.36	5.45	14200	30.004	59.3		
33	-1													
34	29	L-MeFOSAA	570 > 419		2.923e3	0.247		5.27						YES
35	1...	Total N-MeFOSAA	570. > 419	0.000e0	2.923e3	0.247		5.19		0.000				
36	31	L-EtFOSAA	583.9 > 419		2.401e3	0.247		5.43						YES

VY 7/21/2020

Review: AMR 7/21/2020

Dataset: P:\PFAS5.PRO\RESULTS\200714P1\200714P1-50-56.qld

Last Altered: Tuesday, July 21, 2020 13:43:17 Pacific Daylight Time
Printed: Tuesday, July 21, 2020 13:43:36 Pacific Daylight Time

Name: 200714P1-54, Date: 14-Jul-2020, Time: 19:02:50, ID: 2001436-02 TW21D-20200707 0.24685, Description: TW21D-20200707

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
37	1...	Total N-EtFOSAA	583.9 > 419	0.000e0	2.401e3	0.247		5.37		0.000				
38	35	11Cl-PF30UdS	631 > 451		1.495e4	0.247		5.67						YES
39	77	d3-N-MeFOSAA-EIS	573.1 > 419	2.923e3		0.247	391.230	5.27	5.27	2920	30.262	59.8		
40	77	d3-N-MeFOSAA-EIS	573.1 > 419	2.923e3		0.247	391.230	5.27	5.27	2920	30.262	59.8		
41	81	d5-N-EtFOSAA-EIS	589.3 > 419	2.401e3		0.247	342.385	5.42	5.43	2400	28.405	56.1		
42	81	d5-N-EtFOSAA-EIS	589.3 > 419	2.401e3		0.247	342.385	5.42	5.43	2400	28.405	56.1		
43	83	13C2-PFDoA-EIS	614.9 > 569.9	1.495e4		0.247	2303.973	5.87	5.73	15000	26.294	51.9		
44	-1													
45	37	PFDoA	612.9 > 569.0		1.495e4	0.247		5.73						YES
46	39	PFTrDA	662.9 > 618.9		1.495e4	0.247		5.97						YES
47	41	PFTeDA	713.0 > 669.0		8.997e3	0.247		6.18						YES
48	1...	TDCA	498.3>106.9			0.247		4.47						YES
49	71	13C8-PFOS-EIS	507.1 > 80	2.510e3		0.247	299.078	4.83	4.84	2510	34.003	67.1		
50	83	13C2-PFDoA-EIS	614.9 > 569.9	1.495e4		0.247	2303.973	5.87	5.73	15000	26.294	51.9		
51	83	13C2-PFDoA-EIS	614.9 > 569.9	1.495e4		0.247	2303.973	5.87	5.73	15000	26.294	51.9		
52	89	13C2-PFTeDA-EIS	715.1 > 669.7	8.997e3		0.247	2242.342	6.18	6.18	9000	16.255	32.1		

VY 7/21/2020

Dataset: P:\PFAS5.PRO\RESULTS\200714P1\200714P1-50-56.qld

Last Altered: Tuesday, July 21, 2020 13:43:17 Pacific Daylight Time
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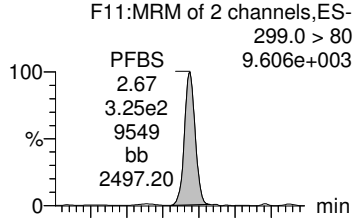
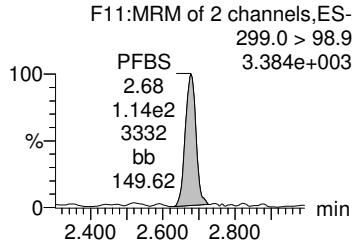
Calibration: P:\PFAS5.PRO\CurveDB\C18_VAL-PFAS_Q5_07-14-20.cdb 15 Jul 2020 08:25:12

Name: 200714P1-54, Date: 14-Jul-2020, Time: 19:02:50, ID: 2001436-02 TW21D-20200707 0.24685, Description: TW21D-20200707

PFBS





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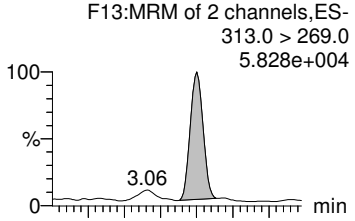
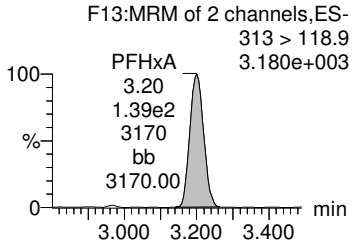
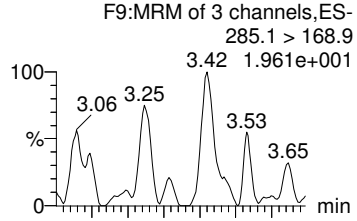
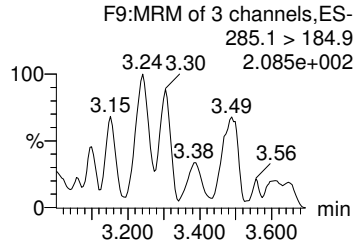




HFPO-DA





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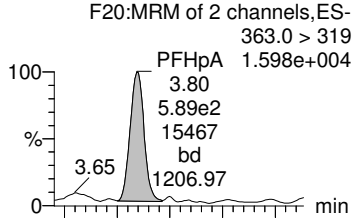
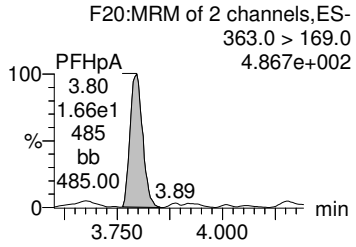
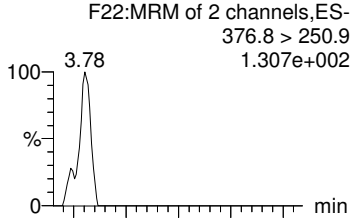
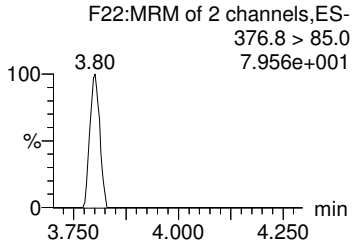




ADONA





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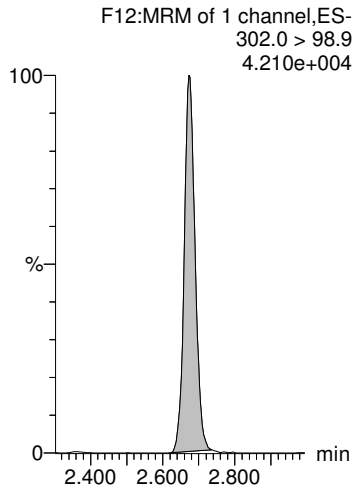

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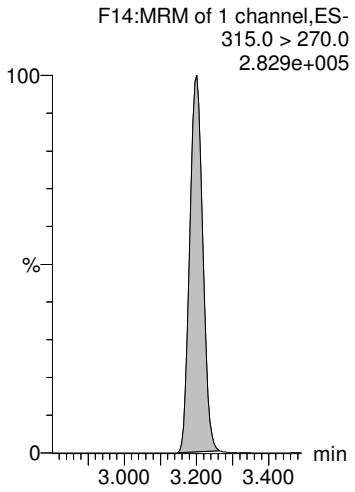

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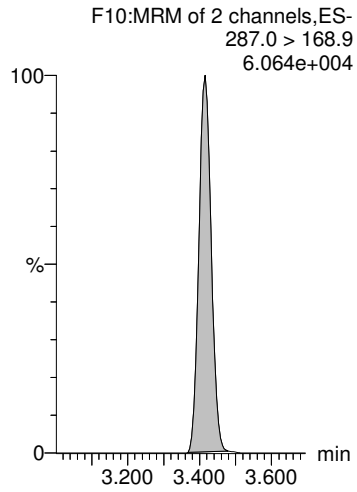

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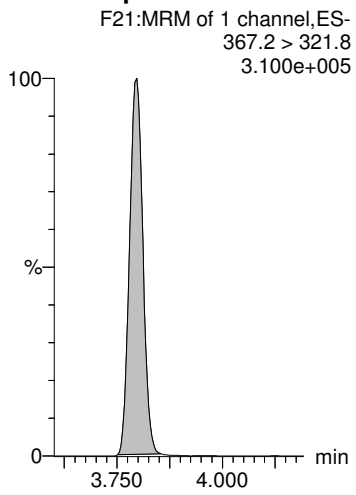

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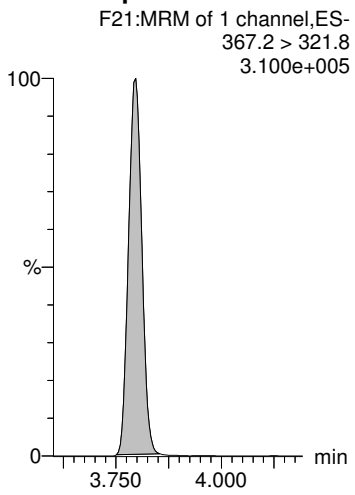

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Dataset: P:\PFAS5.PRO\RESULTS\200714P1\200714P1-50-56.qld

Last Altered: Tuesday, July 21, 2020 13:43:17 Pacific Daylight Time
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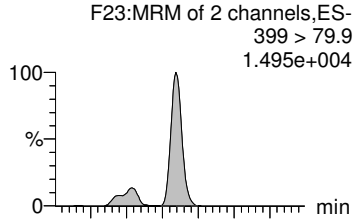
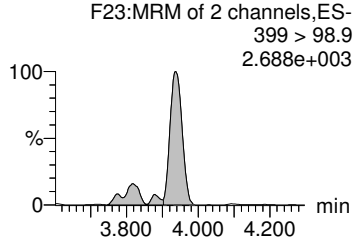
Name: 200714P1-54, Date: 14-Jul-2020, Time: 19:02:50, ID: 2001436-02 TW21D-20200707 0.24685, Description: TW21D-20200707

L-PFHxS





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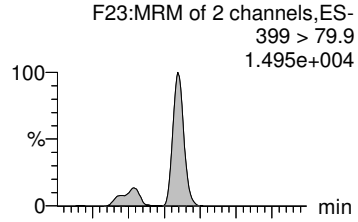
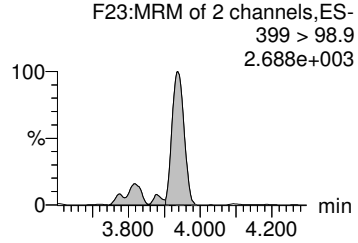
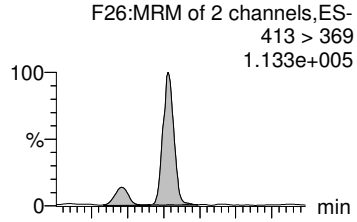
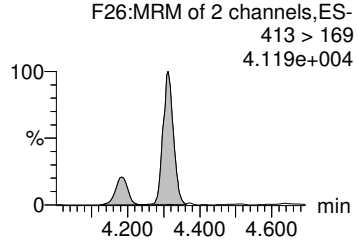




L-PFOA





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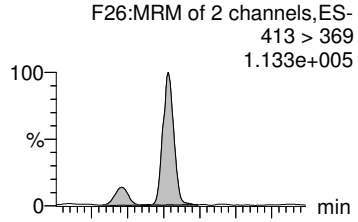

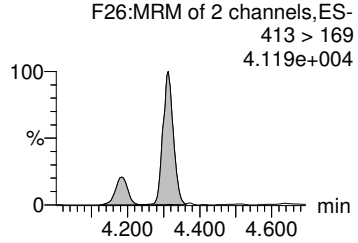

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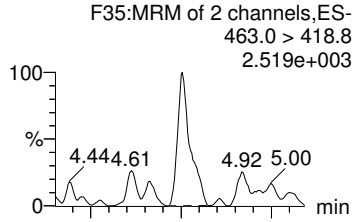

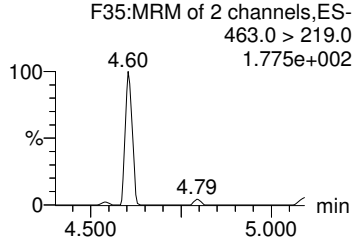

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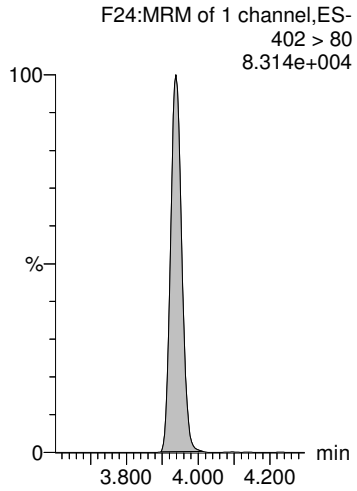

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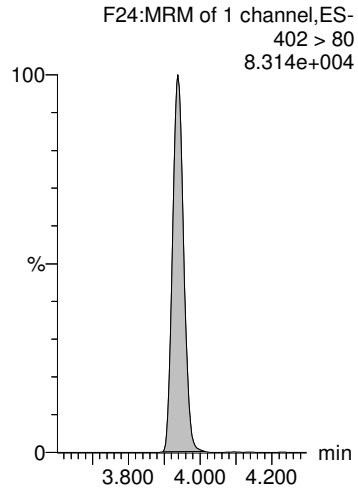

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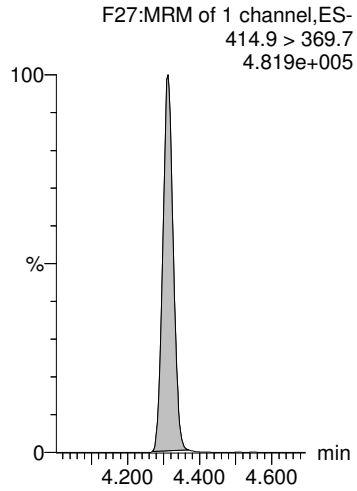

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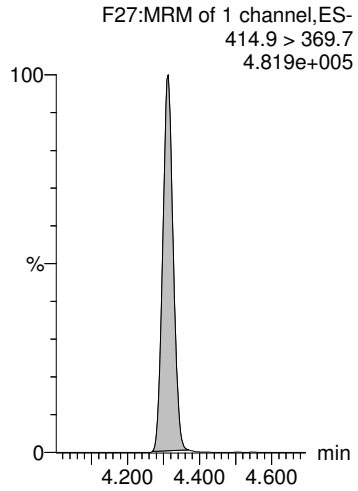

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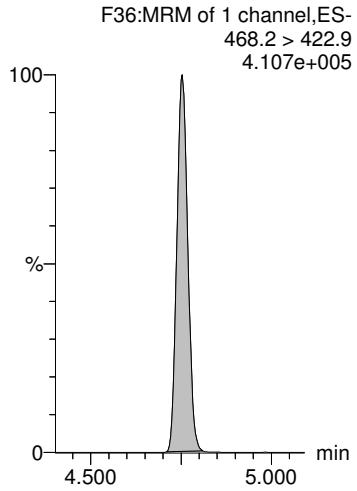

Dataset: P:\PFAS5.PRO\RESULTS\200714P1\200714P1-50-56.qld

Last Altered: Tuesday, July 21, 2020 13:43:17 Pacific Daylight Time
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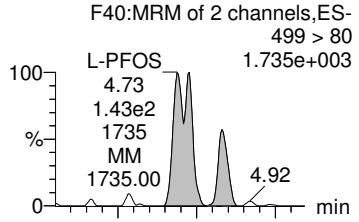
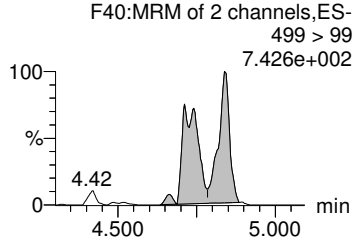
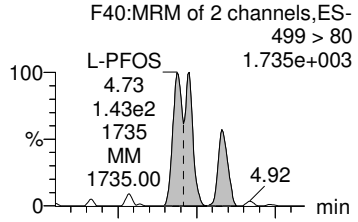
Name: 200714P1-54, Date: 14-Jul-2020, Time: 19:02:50, ID: 2001436-02 TW21D-20200707 0.24685, Description: TW21D-20200707

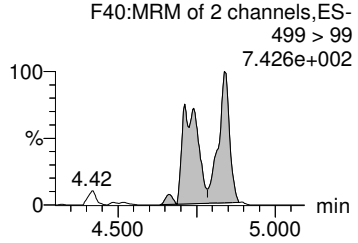
L-PFOS





Total PFOS





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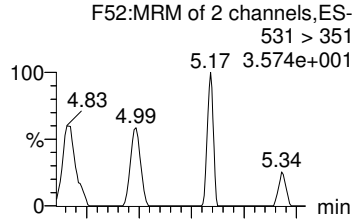

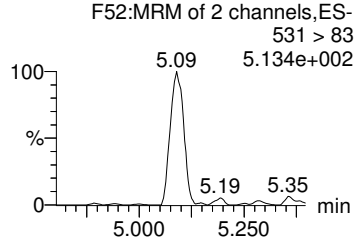

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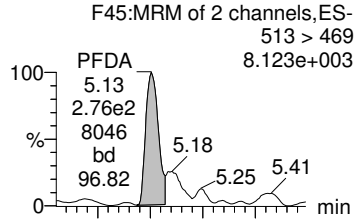
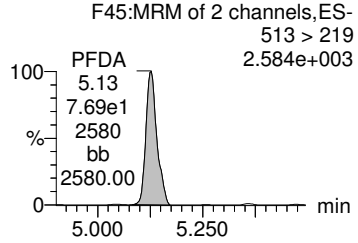
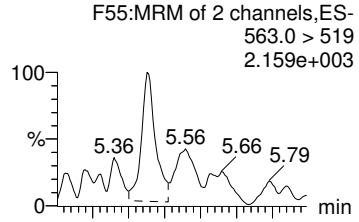
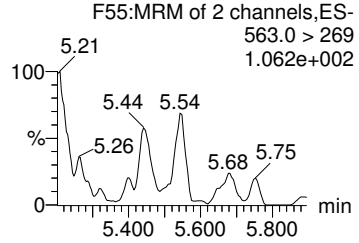


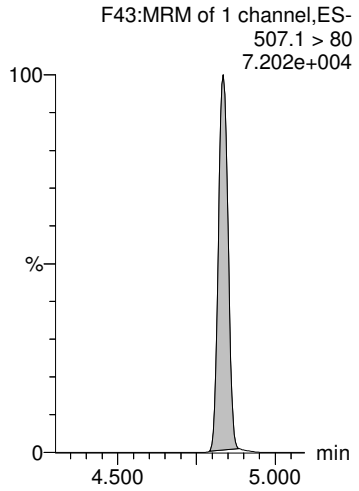


PFUdA





13C8-PFOS-EIS



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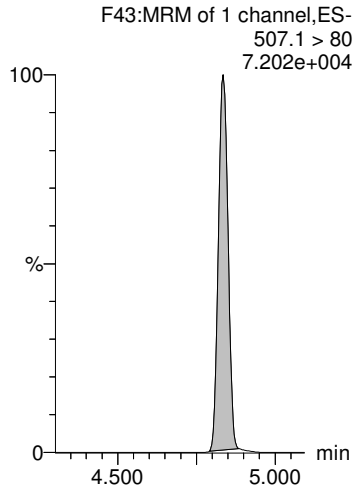

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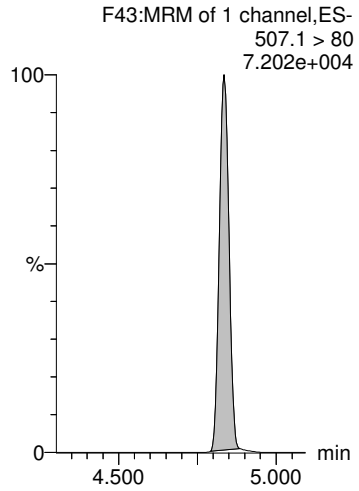

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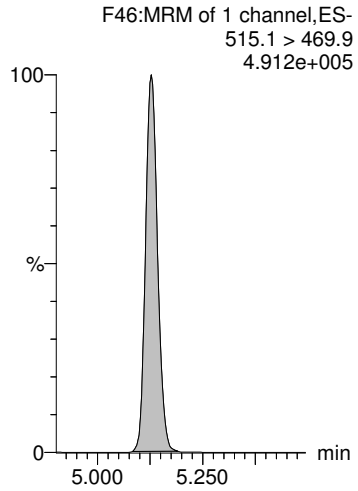

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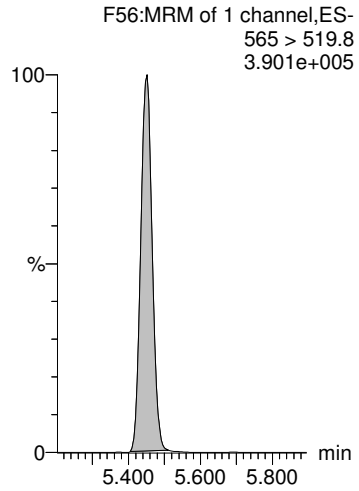


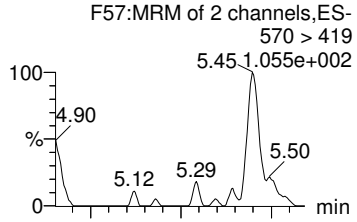
VY 7/21/2020

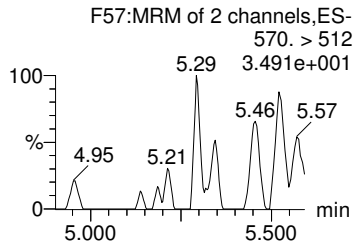
Dataset: P:\PFAS5.PRO\RESULTS\200714P1\200714P1-50-56.qld

Last Altered: Tuesday, July 21, 2020 13:43:17 Pacific Daylight Time
Printed: Tuesday, July 21, 2020 13:43:36 Pacific Daylight Time

Name: 200714P1-54, Date: 14-Jul-2020, Time: 19:02:50, ID: 2001436-02 TW21D-20200707 0.24685, Description: TW21D-20200707

L-MeFOSAA





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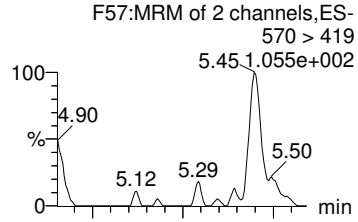

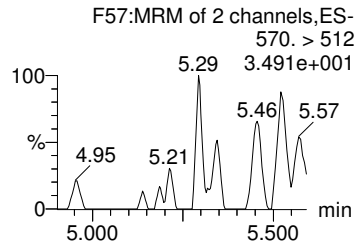

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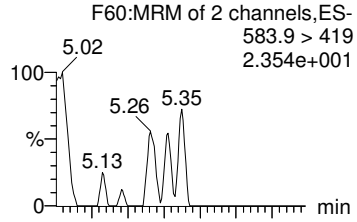

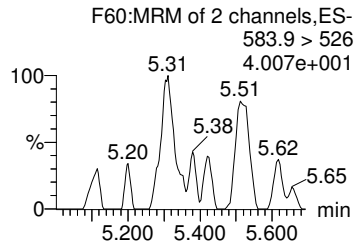

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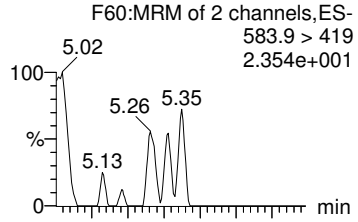
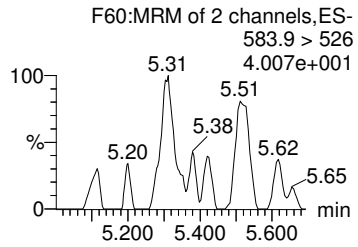
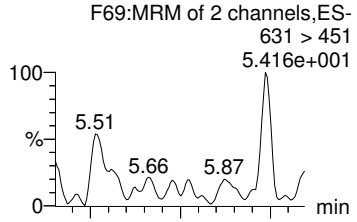
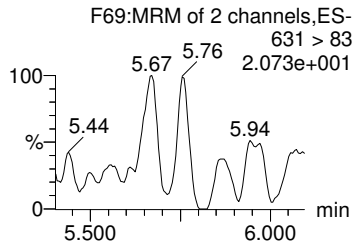




11Cl-PF30UdS





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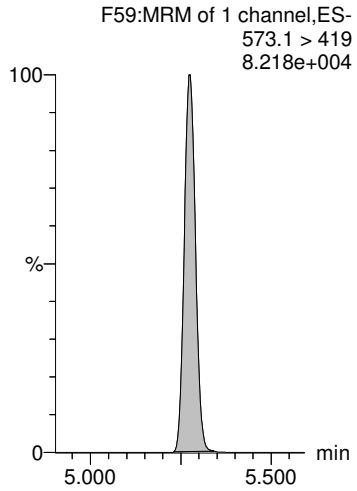

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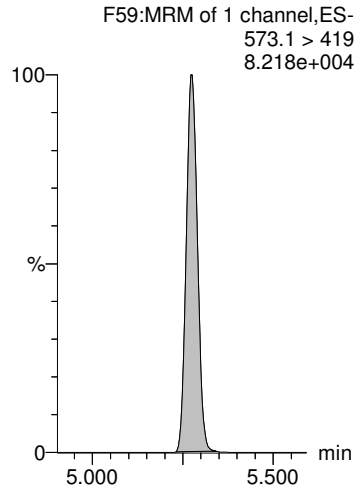

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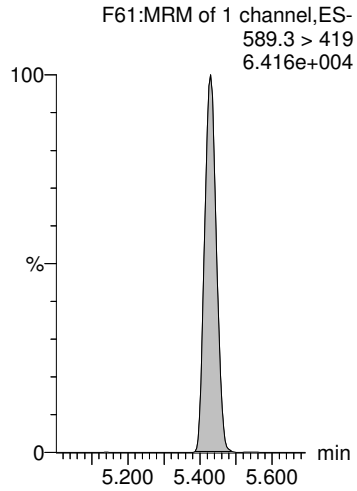

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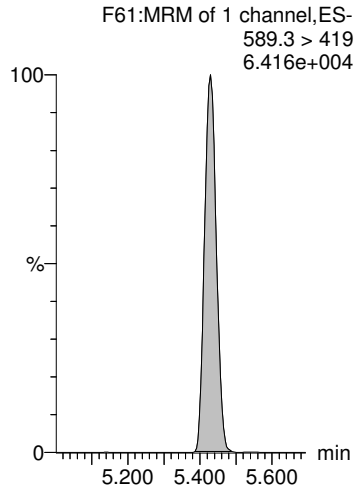
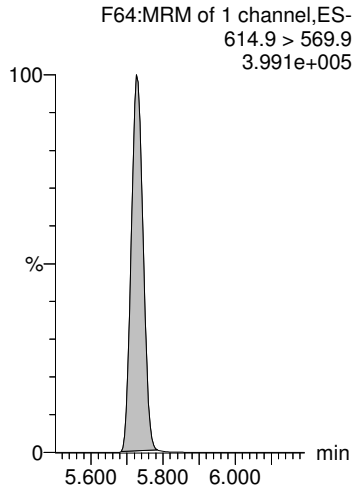


13C2-PFDoA-EIS

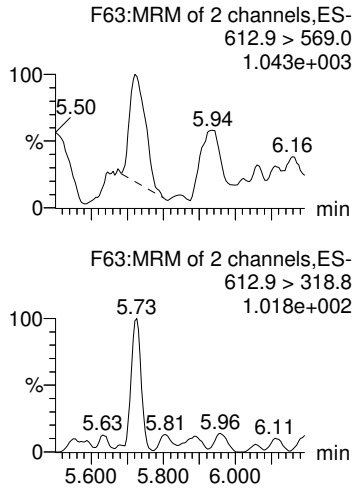


Dataset: P:\PFAS5.PRO\RESULTS\200714P1\200714P1-50-56.qld

Last Altered: Tuesday, July 21, 2020 13:43:17 Pacific Daylight Time
Printed: Tuesday, July 21, 2020 13:43:36 Pacific Daylight Time

Name: 200714P1-54, Date: 14-Jul-2020, Time: 19:02:50, ID: 2001436-02 TW21D-20200707 0.24685, Description: TW21D-20200707

PFDoA



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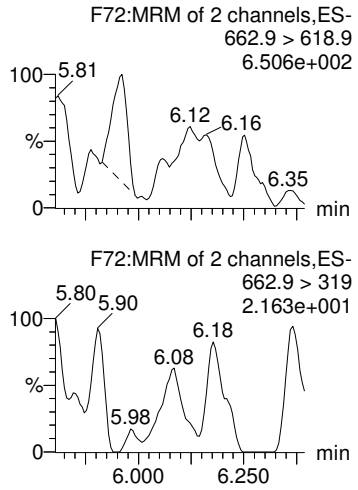

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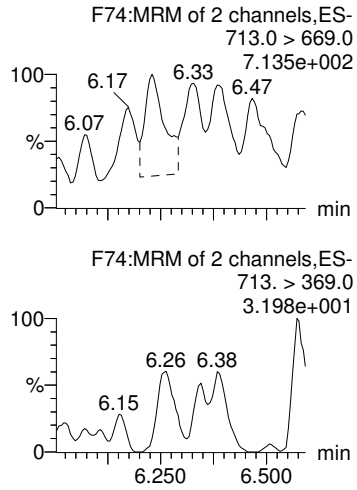

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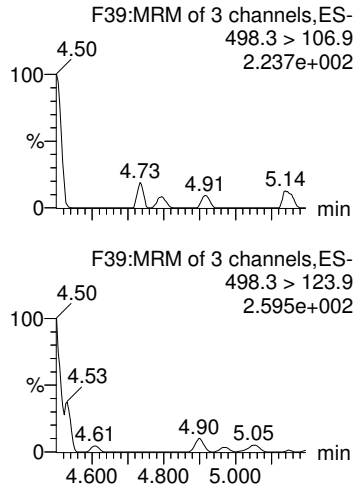

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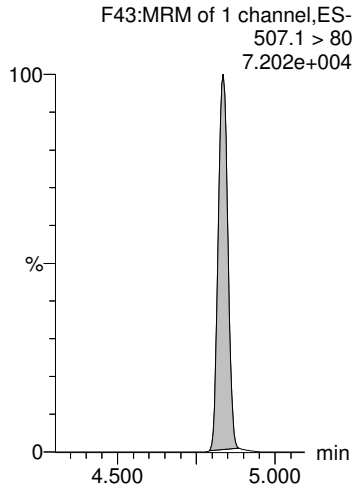

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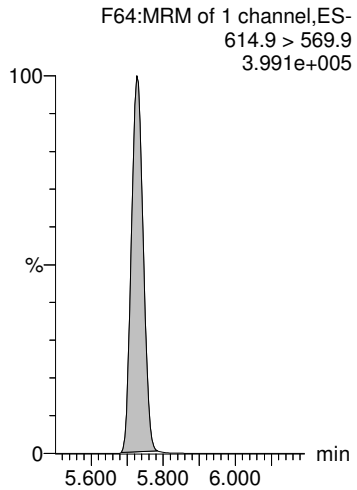

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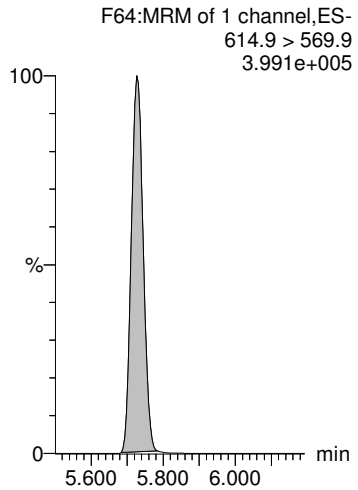

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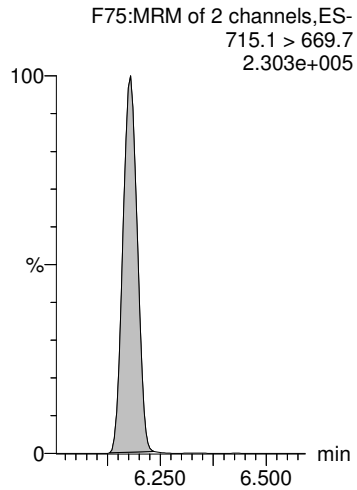

VY 7/21/2020

Review: AMR 7/21/2020

Dataset: P:\PFAS5.PRO\RESULTS\200714P1\200714P1-50-56.qld

Last Altered: Tuesday, July 21, 2020 13:45:40 Pacific Daylight Time
Printed: Tuesday, July 21, 2020 13:46:34 Pacific Daylight Time

Name: 200714P1-55, Date: 14-Jul-2020, Time: 19:13:17, ID: 2001436-03 TW09D-20200707 0.26203, Description: TW09D-20200707

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
1	5	PFBS	299.0 > 80	5.375e3	1.480e3	0.262		2.67	2.67	45.4	69.301		2.464	NO
2	7	PFHxA	313.0 > 269.0	4.884e4	1.174e4	0.262		3.20	3.19	52.0	191.811		14.152	NO
3	9	HFPO-DA	285.1 > 168.9		2.109e3	0.262		3.42						YES
4	11	PFHpA	363.0 > 319	1.456e4	1.111e4	0.262		3.79	3.80	16.4	51.085		43.219	NO
5	12	ADONA	376.8 > 250.9		1.111e4	0.262		3.89						YES
6	51	13C3-PFBS-EIS	302.0 > 98.9	1.480e3		0.262	157.875	2.67	2.67	1480	35.778	75.0		
7	57	13C2-PFHxA-EIS	315.0 > 270.0	1.174e4		0.262	1345.825	3.19	3.20	11700	33.295	69.8		
8	53	13C3-HFPO-DA-EIS	287.0 > 168.9	2.109e3		0.262	261.275	3.41	3.42	2110	30.800	64.6		
9	59	13C4-PFHpA-EIS	367.2 > 321.8	1.111e4		0.262	1285.879	3.79	3.79	11100	32.966	69.1		
10	59	13C4-PFHpA-EIS	367.2 > 321.8	1.111e4		0.262	1285.879	3.79	3.79	11100	32.966	69.1		
11	-1													
12	13	L-PFHxS	399 > 79.9	2.655e4	2.876e3	0.262		3.93	3.94	115	386.816		4.061	NO
13	1...	Total PFHxS	399 > 79.9	2.655e4	2.876e3	0.262		3.93		115	386.816			
14	16	L-PFOA	413 > 369	1.354e5	1.515e4	0.262		4.31	4.31	112	462.528		2.766	NO
15	1...	Total PFOA	413 > 369	1.354e5	1.515e4	0.262		4.60		112	462.528			
16	21	PFNA	463.0 > 418.8	1.754e3	1.314e4	0.262		4.75	4.75	1.67	5.239		14.734	NO
17	61	13C3-PFHxS-EIS	402 > 80	2.876e3		0.262	305.184	3.93	3.93	2880	35.969	75.4		
18	61	13C3-PFHxS-EIS	402 > 80	2.876e3		0.262	305.184	3.93	3.93	2880	35.969	75.4		
19	69	13C2-PFOA-EIS	414.9 > 369.7	1.515e4		0.262	1733.544	4.47	4.31	15200	33.355	69.9		
20	69	13C2-PFOA-EIS	414.9 > 369.7	1.515e4		0.262	1733.544	4.47	4.31	15200	33.355	69.9		
21	65	13C5-PFNA-EIS	468.2 > 422.9	1.314e4		0.262	1672.506	4.96	4.75	13100	29.994	62.9		
22	-1													
23	23	L-PFOS	499 > 80	2.251e4	2.547e3	0.262		4.83	4.83	111	349.420		2.471	NO
24	1...	Total PFOS	499> 80	2.251e4	2.547e3	0.262		4.60		111	349.420			
25	25	9Cl-PF30NS	531 > 351		2.547e3	0.262		5.05						YES
26	26	PFDA	513 > 469	1.050e3	1.616e4	0.262		5.13	5.13	0.812	3.769		3.877	NO
27	33	PFUdA	563.0 > 519		1.357e4	0.262		5.45						YES
28	71	13C8-PFOS-EIS	507.1 > 80	2.547e3		0.262	299.078	4.83	4.83	2550	32.495	68.1		
29	71	13C8-PFOS-EIS	507.1 > 80	2.547e3		0.262	299.078	4.83	4.83	2550	32.495	68.1		
30	71	13C8-PFOS-EIS	507.1 > 80	2.547e3		0.262	299.078	4.83	4.83	2550	32.495	68.1		
31	73	13C2-PFDA-EIS	515.1 > 469.9	1.616e4		0.262	1995.916	5.12	5.13	16200	30.907	64.8		
32	79	13C2-PFUdA-EIS	565 > 519.8	1.357e4		0.262	1917.639	5.36	5.45	13600	26.997	56.6		
33	-1													
34	29	L-MeFOSAA	570 > 419		2.629e3	0.262		5.27						YES
35	1...	Total N-MeFOSAA	570. > 419	0.000e0	2.629e3	0.262		5.19		0.000				
36	31	L-EtFOSAA	583.9 > 419		1.797e3	0.262		5.43						YES

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Review: AMR 7/21/2020

Dataset: P:\PFAS5.PRO\RESULTS\200714P1\200714P1-50-56.qld

Last Altered: Tuesday, July 21, 2020 13:45:40 Pacific Daylight Time
Printed: Tuesday, July 21, 2020 13:46:34 Pacific Daylight Time

Name: 200714P1-55, Date: 14-Jul-2020, Time: 19:13:17, ID: 2001436-03 TW09D-20200707 0.26203, Description: TW09D-20200707

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
37	1...	Total N-EtFOSAA	583.9 > 419	0.000e0	1.797e3	0.262		5.37		0.000				
38	35	11Cl-PF30UdS	631 > 451		1.110e4	0.262		5.66						YES
39	77	d3-N-MeFOSAA-EIS	573.1 > 419	2.629e3		0.262	391.230	5.27	5.27	2630	25.643	53.8		
40	77	d3-N-MeFOSAA-EIS	573.1 > 419	2.629e3		0.262	391.230	5.27	5.27	2630	25.643	53.8		
41	81	d5-N-EtFOSAA-EIS	589.3 > 419	1.797e3		0.262	342.385	5.42	5.43	1800	20.029	42.0		
42	81	d5-N-EtFOSAA-EIS	589.3 > 419	1.797e3		0.262	342.385	5.42	5.43	1800	20.029	42.0		
43	83	13C2-PFDoA-EIS	614.9 > 569.9	1.110e4		0.262	2303.973	5.87	5.72	11100	18.384	38.5		
44	-1													
45	37	PFDoA	612.9 > 569.0		1.110e4	0.262		5.72						YES
46	39	PFTrDA	662.9 > 618.9		1.110e4	0.262		5.96						YES
47	41	PFTeDA	713.0 > 669.0		3.200e3	0.262		6.18						YES
48	1...	TDCA	498.3>106.9			0.262		4.47						YES
49	71	13C8-PFOS-EIS	507.1 > 80	2.547e3		0.262	299.078	4.83	4.83	2550	32.495	68.1		
50	83	13C2-PFDoA-EIS	614.9 > 569.9	1.110e4		0.262	2303.973	5.87	5.72	11100	18.384	38.5		
51	83	13C2-PFDoA-EIS	614.9 > 569.9	1.110e4		0.262	2303.973	5.87	5.72	11100	18.384	38.5		
52	89	13C2-PFTeDA-EIS	715.1 > 669.7	3.200e3		0.262	2242.342	6.18	6.18	3200	5.446	11.4		

VY 7/21/2020

Vista Analytical Laboratory L18

Review: AMR 7/21/2020

Dataset: P:\PFAS5.PRO\RESULTS\200714P1\200714P1-50-56.qld

Last Altered: Tuesday, July 21, 2020 13:45:40 Pacific Daylight Time
Printed: Tuesday, July 21, 2020 13:46:34 Pacific Daylight Time

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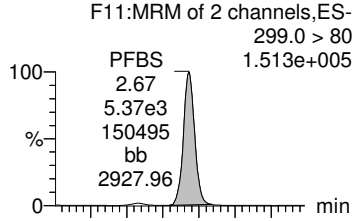
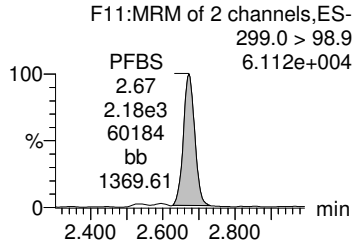
Calibration: P:\PFAS5.PRO\CurveDB\C18_VAL-PFAS_Q5_07-14-20.cdb 15 Jul 2020 08:25:12

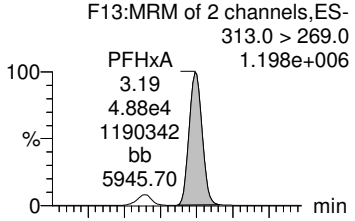
Name: 200714P1-55, Date: 14-Jul-2020, Time: 19:13:17, ID: 2001436-03 TW09D-20200707 0.26203, Description: TW09D-20200707

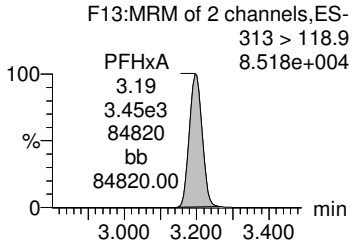
PFBS





PFHxA





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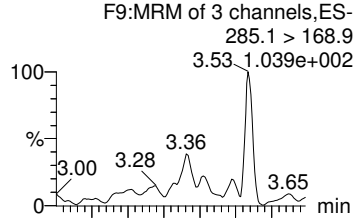

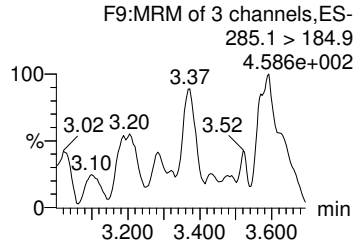

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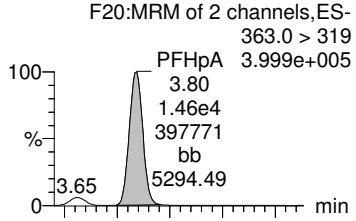

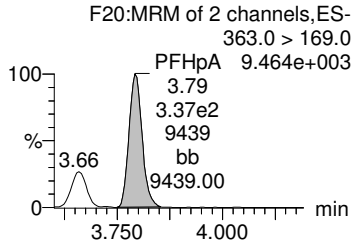

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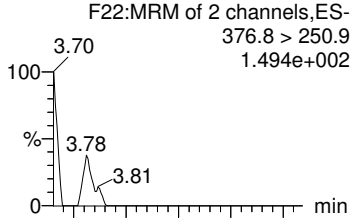

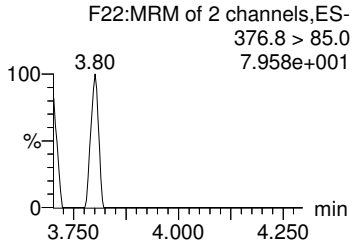

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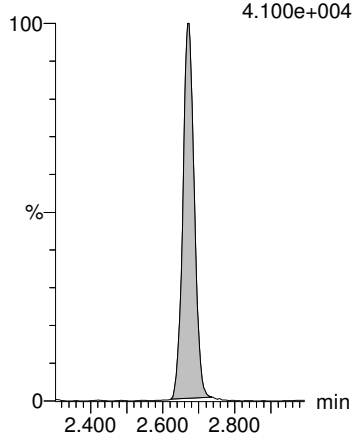

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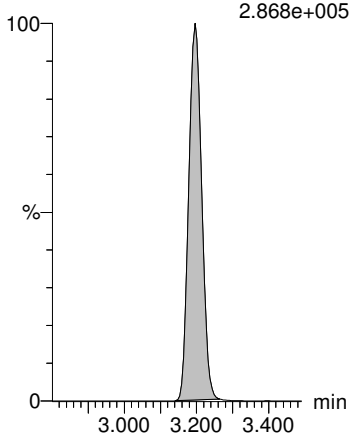

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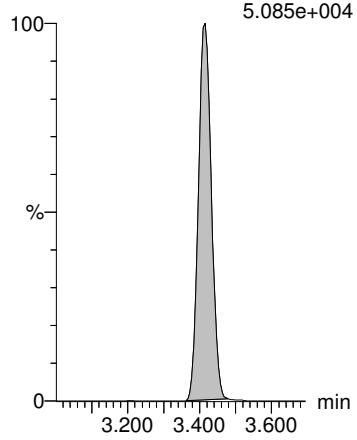

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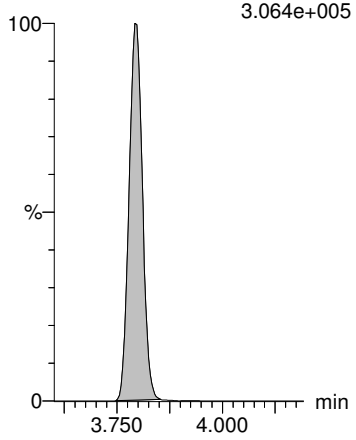

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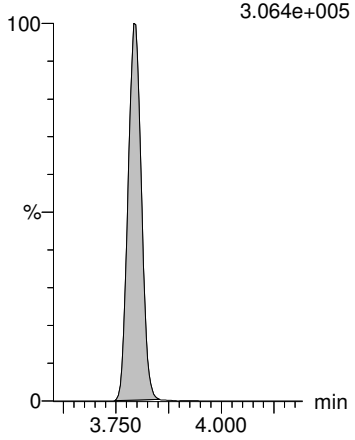

VY 7/21/2020

Dataset: P:\PFAS5.PRO\RESULTS\200714P1\200714P1-50-56.qld

Last Altered: Tuesday, July 21, 2020 13:45:40 Pacific Daylight Time
Printed: Tuesday, July 21, 2020 13:46:34 Pacific Daylight Time

Name: 200714P1-55, Date: 14-Jul-2020, Time: 19:13:17, ID: 2001436-03 TW09D-20200707 0.26203, Description: TW09D-20200707

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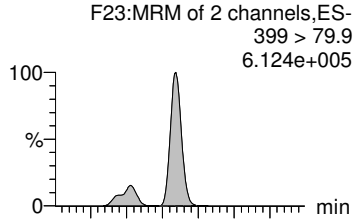

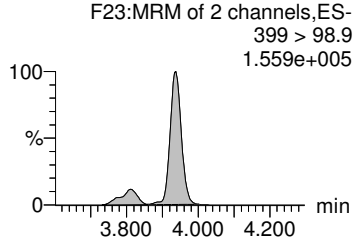

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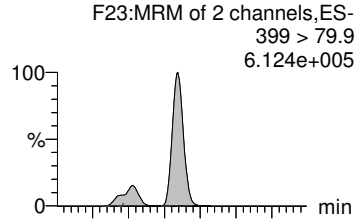
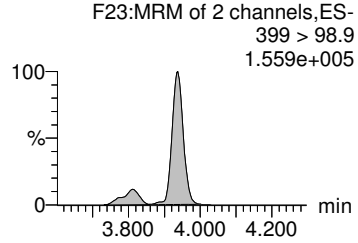
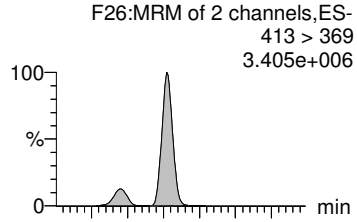
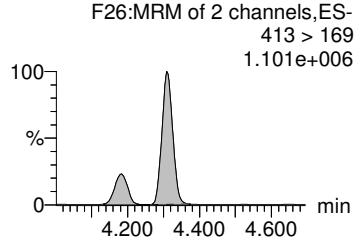




L-PFOA





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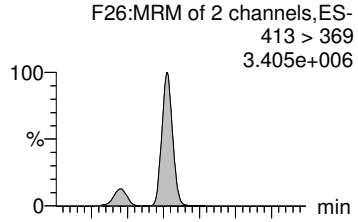

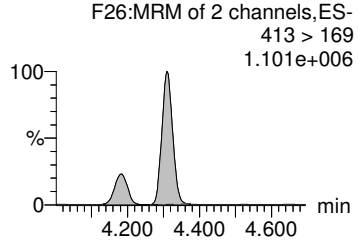

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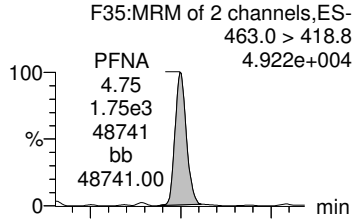

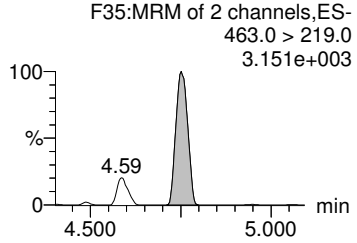

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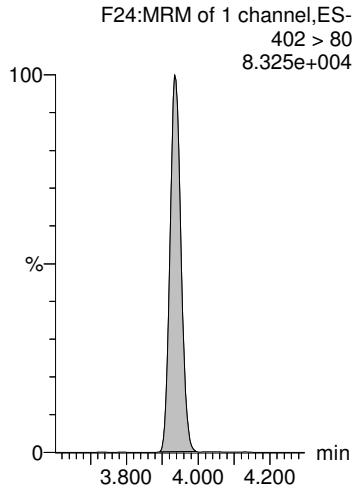

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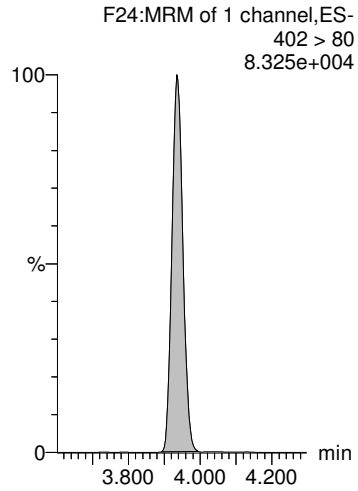

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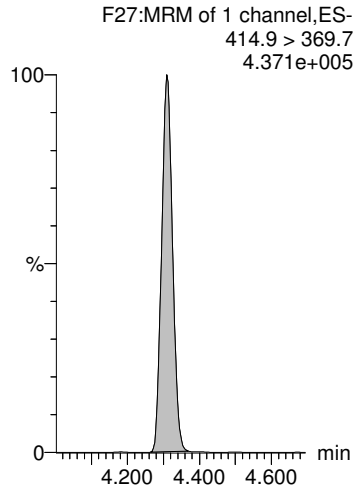

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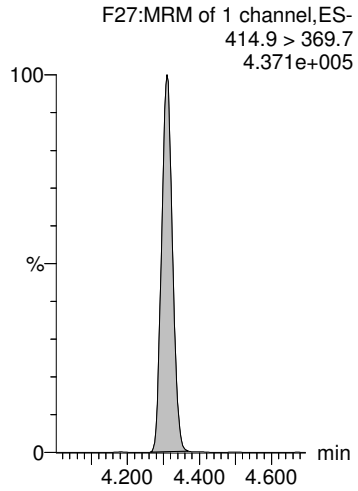

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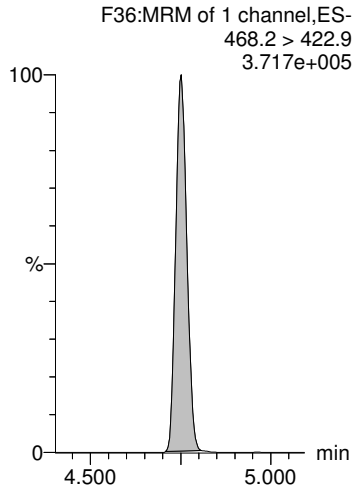

VY 7/21/2020

Dataset: P:\PFAS5.PRO\RESULTS\200714P1\200714P1-50-56.qld

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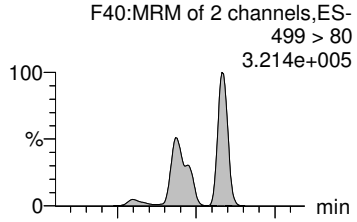
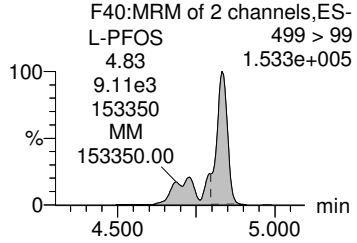
Printed: Tuesday, July 21, 2020 13:46:34 Pacific Daylight Time

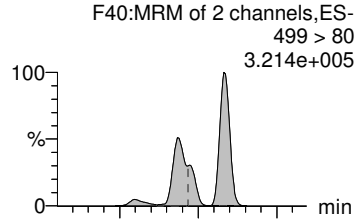
Name: 200714P1-55, Date: 14-Jul-2020, Time: 19:13:17, ID: 2001436-03 TW09D-20200707 0.26203, Description: TW09D-20200707

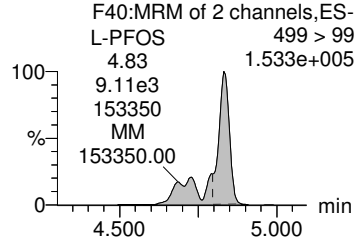
L-PFOS





Total PFOS





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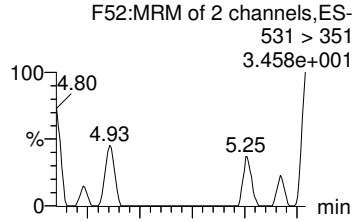

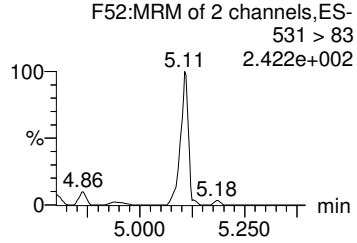

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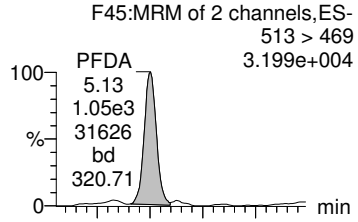
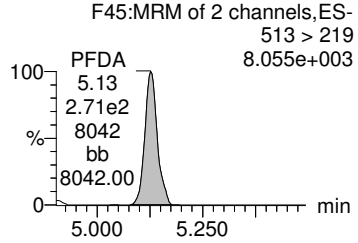
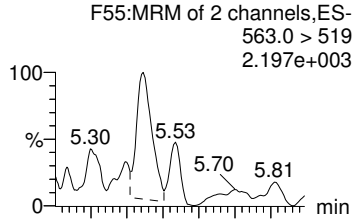
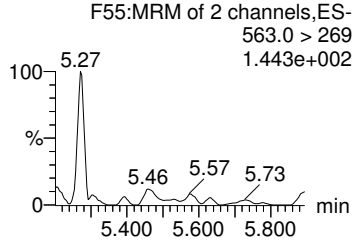




PFUdA





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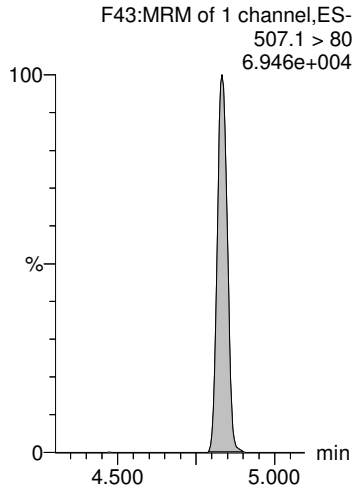

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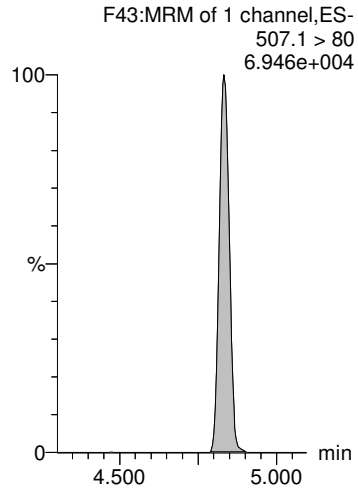

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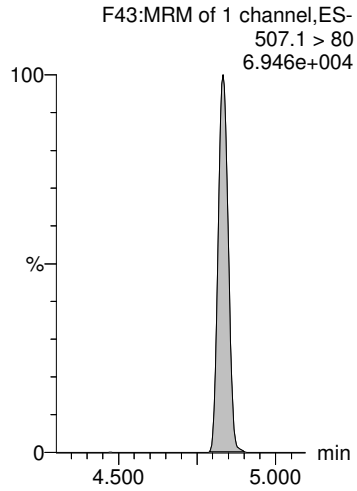

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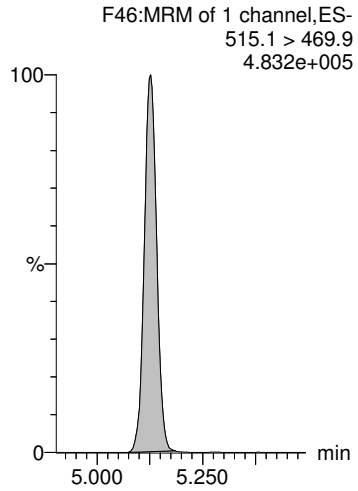

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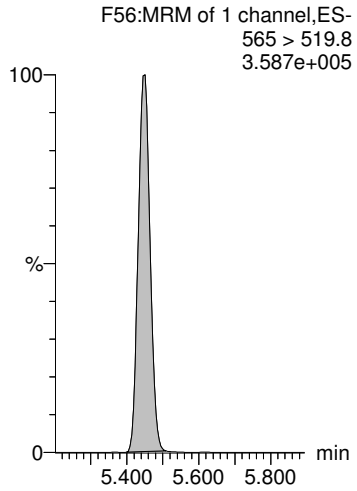

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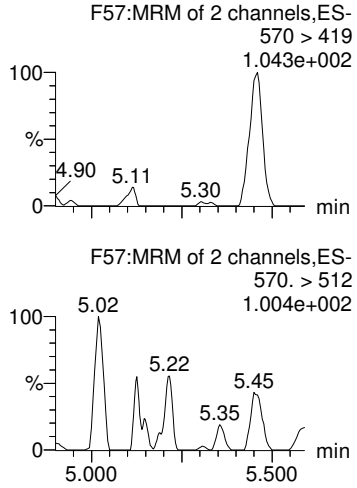
Last Altered: Tuesday, July 21, 2020 13:45:40 Pacific Daylight Time
Printed: Tuesday, July 21, 2020 13:46:34 Pacific Daylight Time

Name: 200714P1-55, Date: 14-Jul-2020, Time: 19:13:17, ID: 2001436-03 TW09D-20200707 0.26203, Description: TW09D-20200707

L-MeFOSAA



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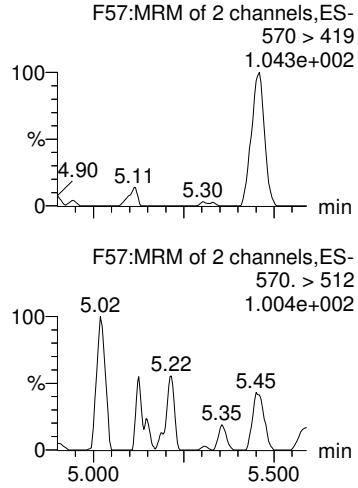

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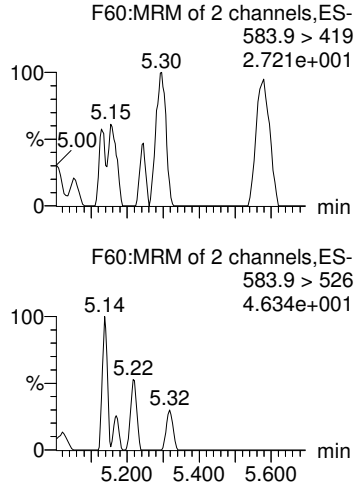

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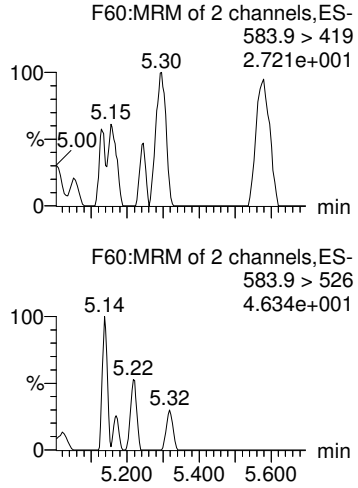

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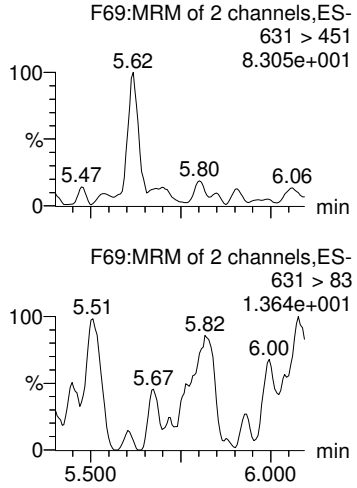

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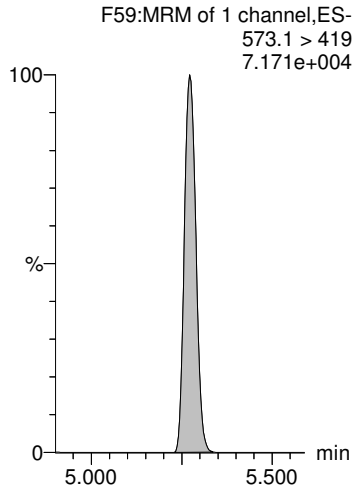

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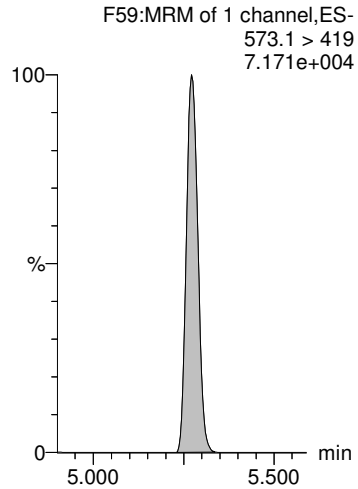

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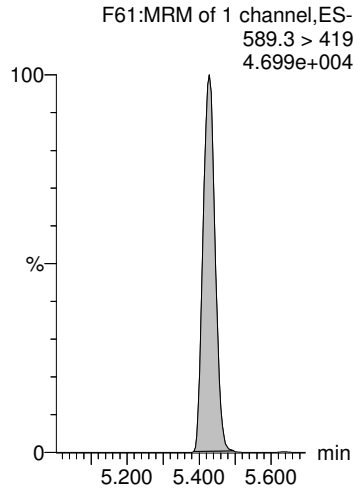
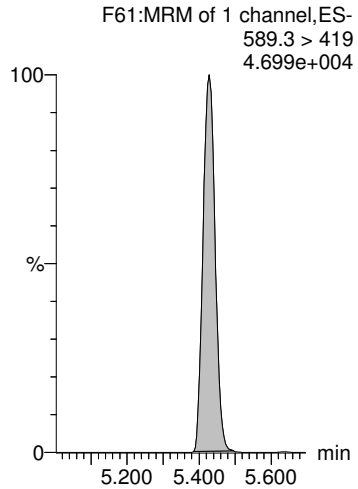
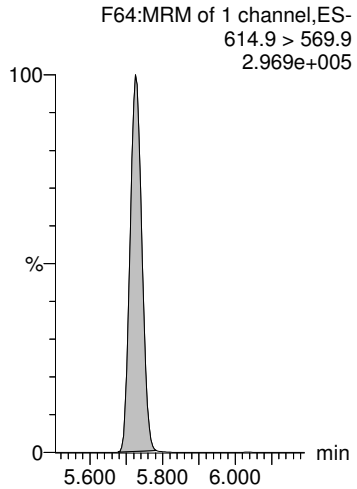


d5-N-EtFOSAA-EIS



13C2-PFDoA-EIS



VY 7/21/2020

Vista Analytical Laboratory L18

Review: AMR 7/21/2020

Dataset: P:\PFAS5.PRO\RESULTS\200714P1\200714P1-50-56.qld

Last Altered: Tuesday, July 21, 2020 13:45:40 Pacific Daylight Time
Printed: Tuesday, July 21, 2020 13:46:34 Pacific Daylight Time

Name: 200714P1-55, Date: 14-Jul-2020, Time: 19:13:17, ID: 2001436-03 TW09D-20200707 0.26203, Description: TW09D-20200707

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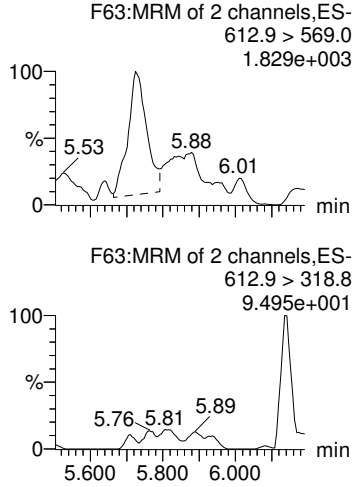

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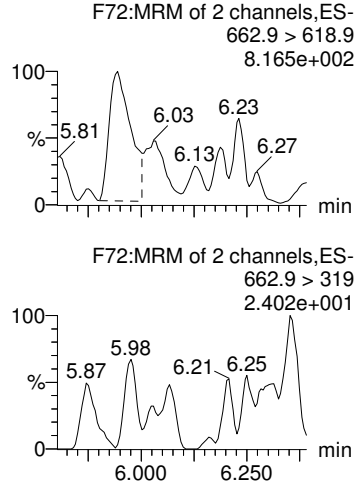

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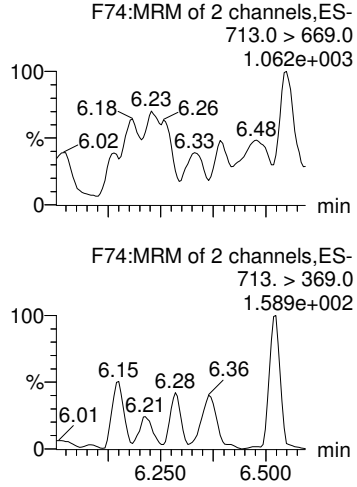

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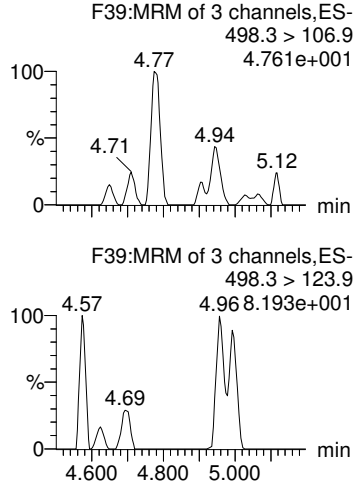
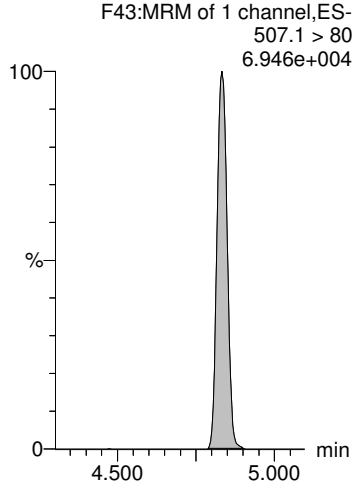
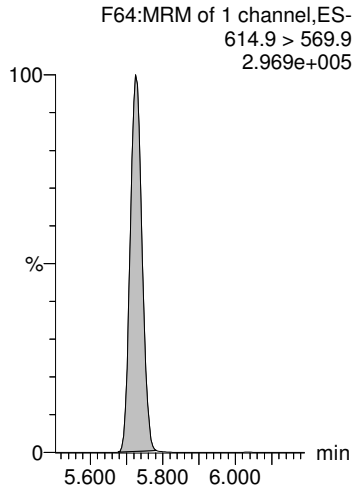


13C8-PFOS-EIS



13C2-PFDoA-EIS



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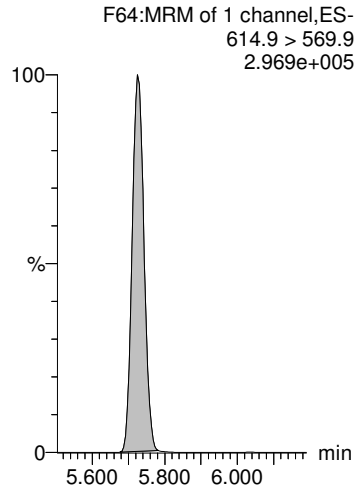

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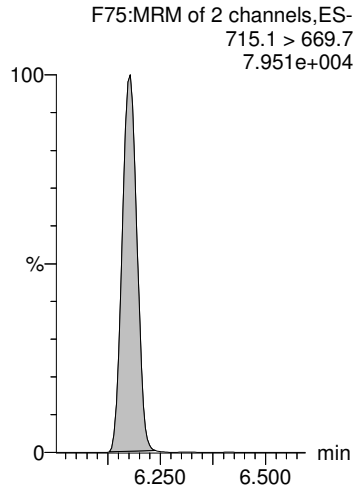

VY 7/21/2020

Dataset: P:\PFAS5.PRO\RESULTS\200714P1\200714P1-50-56.qld

Last Altered: Tuesday, July 21, 2020 13:48:45 Pacific Daylight Time
Printed: Tuesday, July 21, 2020 13:49:24 Pacific Daylight Time

Name: 200714P1-56, Date: 14-Jul-2020, Time: 19:23:53, ID: 2001436-04 TW22D-20200707 0.2687, Description: TW22D-20200707

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
1	5	PFBS	299.0 > 80	1.599e4	1.428e3	0.269		2.67	2.67	140	208.645		2.427	NO
2	7	PFHxA	313.0 > 269.0	2.566e5	1.153e4	0.269		3.20	3.20	278	1001.936		14.620	NO
3	9	HFPO-DA	285.1 > 168.9		2.137e3	0.269		3.42						YES
4	11	PFHpA	363.0 > 319	1.067e5	1.129e4	0.269		3.79	3.80	118	363.370		45.160	NO
5	12	ADONA	376.8 > 250.9		1.129e4	0.269		3.89						YES
6	51	13C3-PFBS-EIS	302.0 > 98.9	1.428e3		0.269	157.875	2.67	2.67	1430	33.658	72.4		
7	57	13C2-PFHxA-EIS	315.0 > 270.0	1.153e4		0.269	1345.825	3.19	3.20	11500	31.892	68.6		
8	53	13C3-HFPO-DA-EIS	287.0 > 168.9	2.137e3		0.269	261.275	3.41	3.42	2140	30.439	65.4		
9	59	13C4-PFHpA-EIS	367.2 > 321.8	1.129e4		0.269	1285.879	3.79	3.79	11300	32.672	70.2		
10	59	13C4-PFHpA-EIS	367.2 > 321.8	1.129e4		0.269	1285.879	3.79	3.79	11300	32.672	70.2		
11	-1													
12	13	L-PFHxS	399 > 79.9	5.865e4	2.689e3	0.269		3.94	3.94	273	885.872		4.126	NO
13	1...	Total PFHxS	399 > 79.9	5.865e4	2.689e3	0.269		3.93		273	885.872			
14	16	L-PFOA	413 > 369	2.864e5	1.532e4	0.269		4.31	4.31	234	960.559		2.654	NO
15	1...	Total PFOA	413 > 369	2.864e5	1.532e4	0.269		4.60		234	960.559			
16	21	PFNA	463.0 > 418.8	1.749e3	1.349e4	0.269		4.75	4.75	1.62	4.960		13.197	NO
17	61	13C3-PFHxS-EIS	402 > 80	2.689e3		0.269	305.184	3.93	3.94	2690	32.798	70.5		
18	61	13C3-PFHxS-EIS	402 > 80	2.689e3		0.269	305.184	3.93	3.94	2690	32.798	70.5		
19	69	13C2-PFOA-EIS	414.9 > 369.7	1.532e4		0.269	1733.544	4.47	4.31	15300	32.887	70.7		
20	69	13C2-PFOA-EIS	414.9 > 369.7	1.532e4		0.269	1733.544	4.47	4.31	15300	32.887	70.7		
21	65	13C5-PFNA-EIS	468.2 > 422.9	1.349e4		0.269	1672.506	4.96	4.75	13500	30.022	64.5		
22	-1													
23	23	L-PFOS	499 > 80	2.777e4	2.398e3	0.269		4.84	4.83	145	443.928		2.528	NO
24	1...	Total PFOS	499> 80	2.777e4	2.398e3	0.269		4.60		145	443.928			
25	25	9Cl-PF30NS	531 > 351		2.398e3	0.269		5.05						YES
26	26	PFDA	513 > 469	7.729e2	1.430e4	0.269		5.13	5.13	0.675	3.034		5.354	NO
27	33	PFUdA	563.0 > 519		8.558e3	0.269		5.45						YES
28	71	13C8-PFOS-EIS	507.1 > 80	2.398e3		0.269	299.078	4.83	4.84	2400	29.843	64.2		
29	71	13C8-PFOS-EIS	507.1 > 80	2.398e3		0.269	299.078	4.83	4.84	2400	29.843	64.2		
30	71	13C8-PFOS-EIS	507.1 > 80	2.398e3		0.269	299.078	4.83	4.84	2400	29.843	64.2		
31	73	13C2-PFDA-EIS	515.1 > 469.9	1.430e4		0.269	1995.916	5.12	5.13	14300	26.668	57.3		
32	79	13C2-PFUdA-EIS	565 > 519.8	8.558e3		0.269	1917.639	5.36	5.45	8560	16.608	35.7		
33	-1													
34	29	L-MeFOSAA	570 > 419		1.510e3	0.269		5.27						YES
35	1...	Total N-MeFOSAA	570. > 419	0.000e0	1.510e3	0.269		5.19		0.000				
36	31	L-EtFOSAA	583.9 > 419		9.985e2	0.269		5.43						YES

Review: AMR 7/21/2020

Dataset: P:\PFAS5.PRO\RESULTS\200714P1\200714P1-50-56.qld

Last Altered: Tuesday, July 21, 2020 13:48:45 Pacific Daylight Time
Printed: Tuesday, July 21, 2020 13:49:24 Pacific Daylight Time

Name: 200714P1-56, Date: 14-Jul-2020, Time: 19:23:53, ID: 2001436-04 TW22D-20200707 0.2687, Description: TW22D-20200707

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
37	1...	Total N-EtFOSAA	583.9 > 419	0.000e0	9.985e2	0.269		5.37		0.000				
38	35	11Cl-PF30UdS	631 > 451		3.900e3	0.269		5.67						YES
39	77	d3-N-MeFOSAA-EIS	573.1 > 419	1.510e3		0.269	391.230	5.27	5.27	1510	14.362	30.9		
40	77	d3-N-MeFOSAA-EIS	573.1 > 419	1.510e3		0.269	391.230	5.27	5.27	1510	14.362	30.9		
41	81	d5-N-EtFOSAA-EIS	589.3 > 419	9.985e2		0.269	342.385	5.42	5.43	998	10.853	23.3		
42	81	d5-N-EtFOSAA-EIS	589.3 > 419	9.985e2		0.269	342.385	5.42	5.43	998	10.853	23.3		
43	83	13C2-PFDoA-EIS	614.9 > 569.9	3.900e3		0.269	2303.973	5.87	5.73	3900	6.300	13.5		
44	-1													
45	37	PFDoA	612.9 > 569.0		3.900e3	0.269		5.73						YES
46	39	PFTrDA	662.9 > 618.9		3.900e3	0.269		5.97						YES
47	41	PFTeDA	713.0 > 669.0		1.763e3	0.269		6.17						YES
48	1...	TDCA	498.3>106.9			0.269		4.47						YES
49	71	13C8-PFOS-EIS	507.1 > 80	2.398e3		0.269	299.078	4.83	4.84	2400	29.843	64.2		
50	83	13C2-PFDoA-EIS	614.9 > 569.9	3.900e3		0.269	2303.973	5.87	5.73	3900	6.300	13.5		
51	83	13C2-PFDoA-EIS	614.9 > 569.9	3.900e3		0.269	2303.973	5.87	5.73	3900	6.300	13.5		
52	89	13C2-PFTeDA-EIS	715.1 > 669.7	1.763e3		0.269	2242.342	6.18	6.17	1760	2.927	6.3		

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Dataset: P:\PFAS5.PRO\RESULTS\200714P1\200714P1-50-56.qld

Last Altered: Tuesday, July 21, 2020 13:48:45 Pacific Daylight Time
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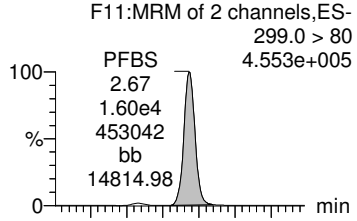
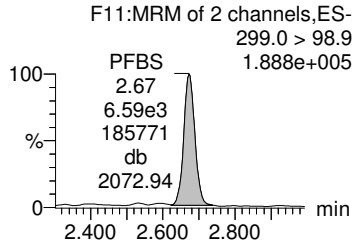
Calibration: P:\PFAS5.PRO\CurveDB\C18_VAL-PFAS_Q5_07-14-20.cdb 15 Jul 2020 08:25:12

Name: 200714P1-56, Date: 14-Jul-2020, Time: 19:23:53, ID: 2001436-04 TW22D-20200707 0.2687, Description: TW22D-20200707

PFBS





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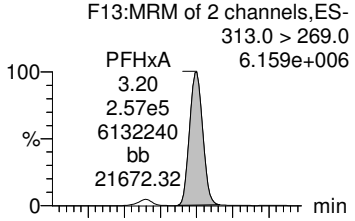

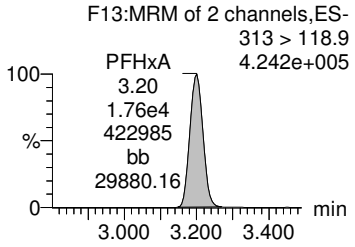

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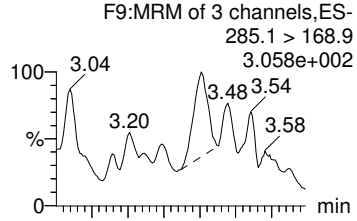

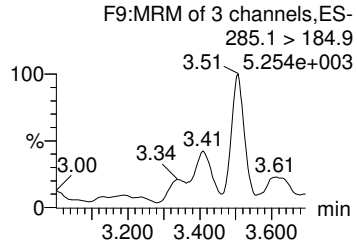

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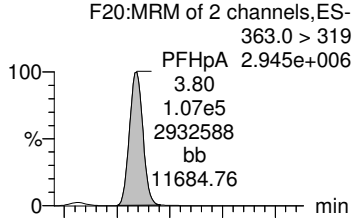

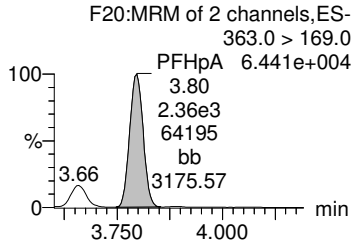

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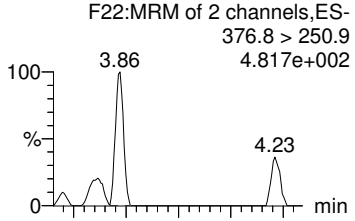

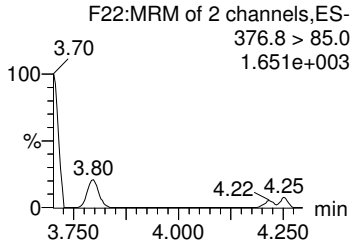

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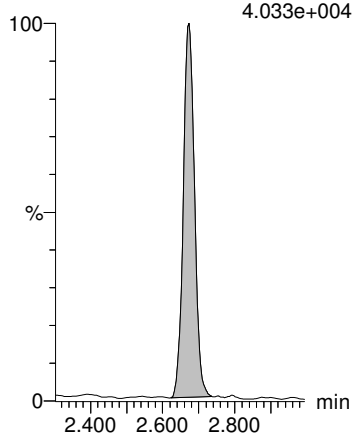
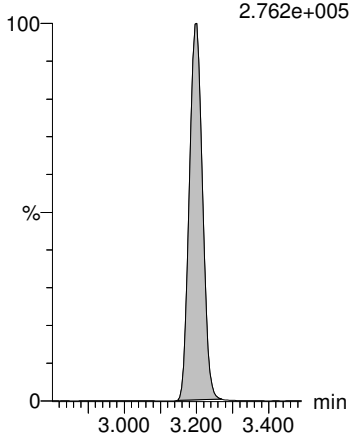
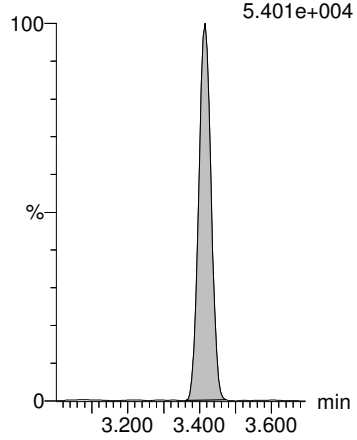


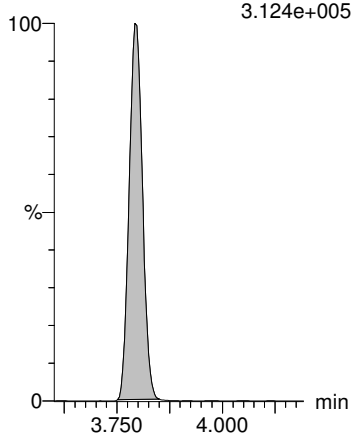
13C2-PFHxA-EIS



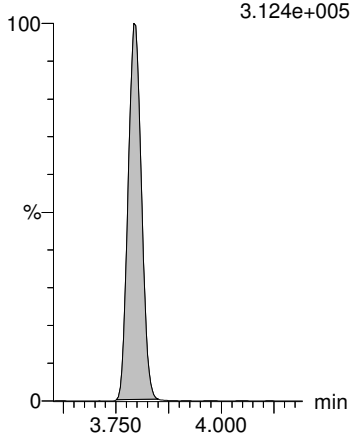
13C3-HFPO-DA-EIS



13C4-PFHpA-EIS



13C4-PFHpA-EIS



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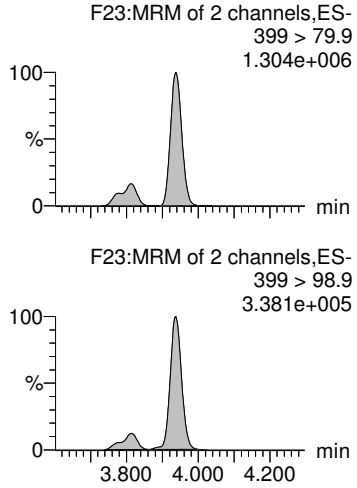
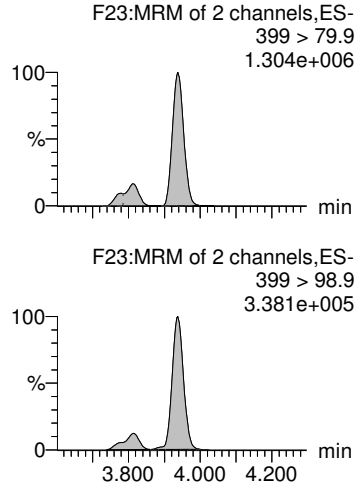
Printed: Tuesday, July 21, 2020 13:49:24 Pacific Daylight Time

Name: 200714P1-56, Date: 14-Jul-2020, Time: 19:23:53, ID: 2001436-04 TW22D-20200707 0.2687, Description: TW22D-20200707

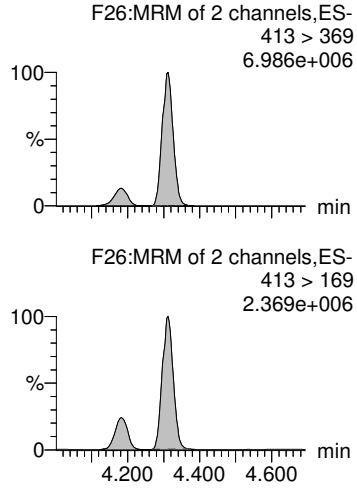
L-PFHxS



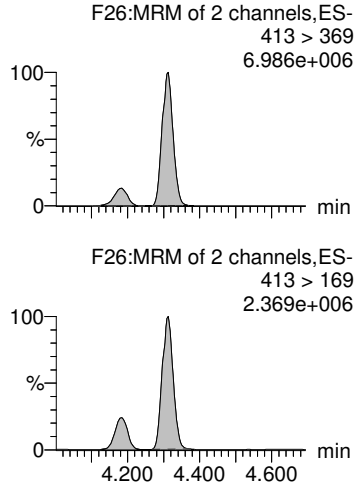
Total PFHxS



L-PFOA



Total PFOA



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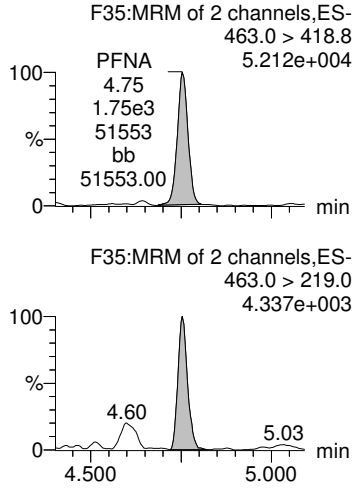
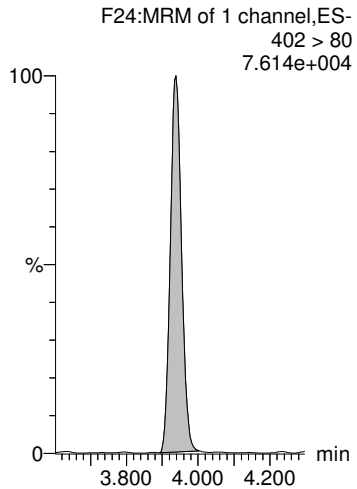
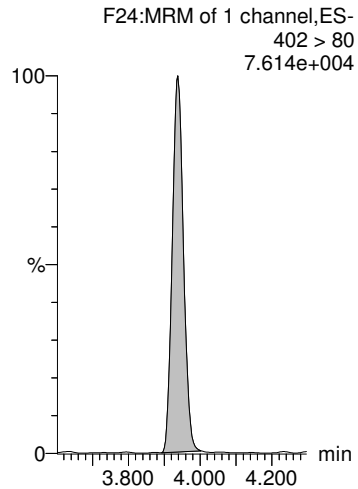


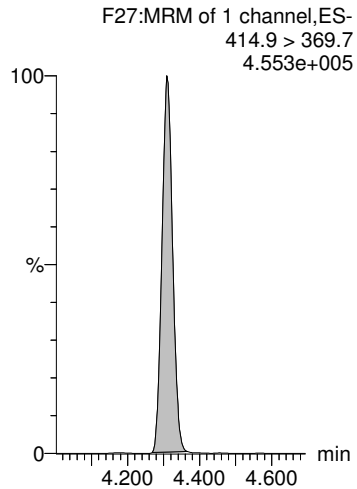
13C3-PFHxS-EIS



13C3-PFHxS-EIS



13C2-PFOA-EIS



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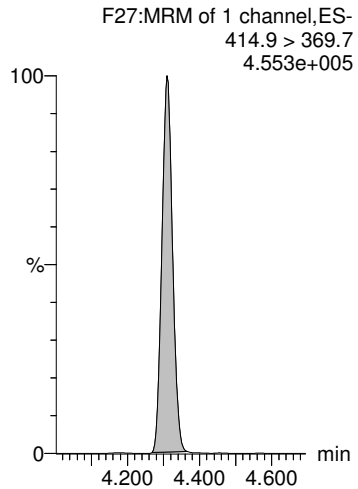
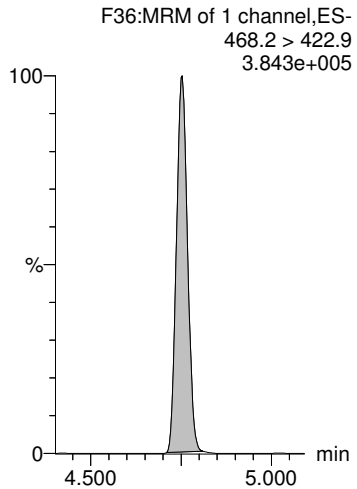


13C5-PFNA-EIS



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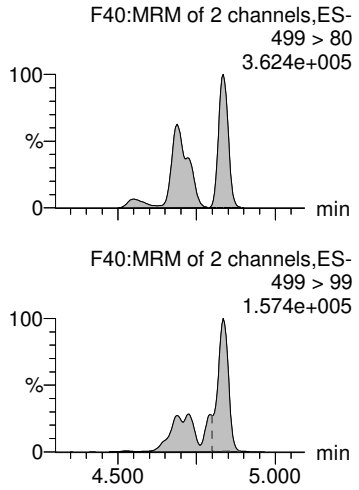
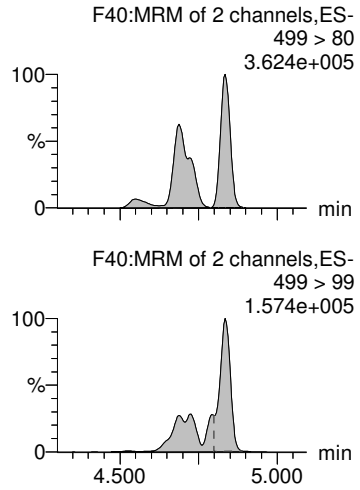
Last Altered: Tuesday, July 21, 2020 13:48:45 Pacific Daylight Time
Printed: Tuesday, July 21, 2020 13:49:24 Pacific Daylight Time

Name: 200714P1-56, Date: 14-Jul-2020, Time: 19:23:53, ID: 2001436-04 TW22D-20200707 0.2687, Description: TW22D-20200707

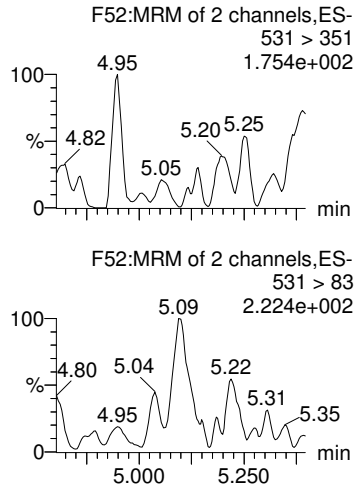
L-PFOS



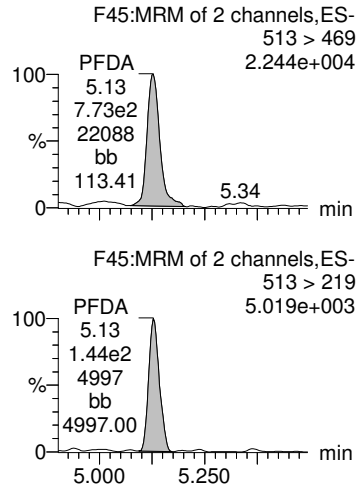
Total PFOS



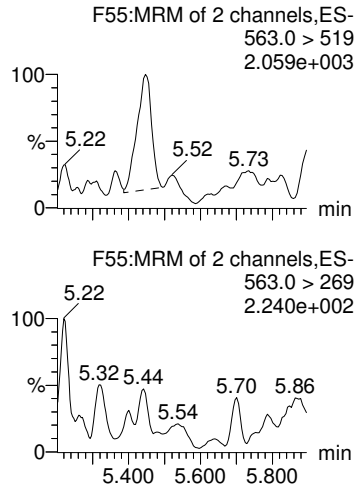
9Cl-PF30NS



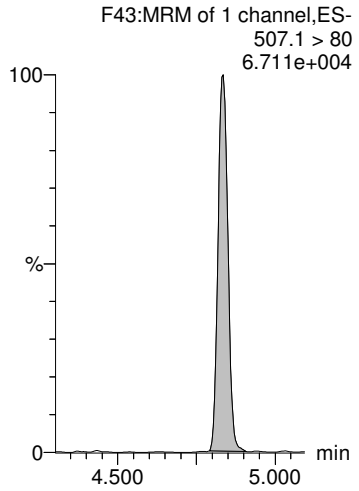
PFDA



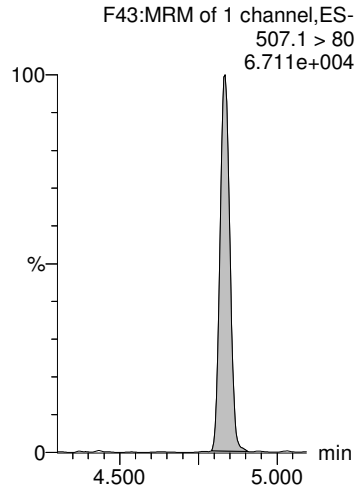
PFUdA



13C8-PFOS-EIS



13C8-PFOS-EIS



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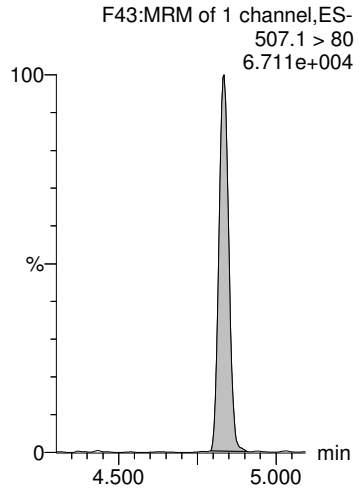

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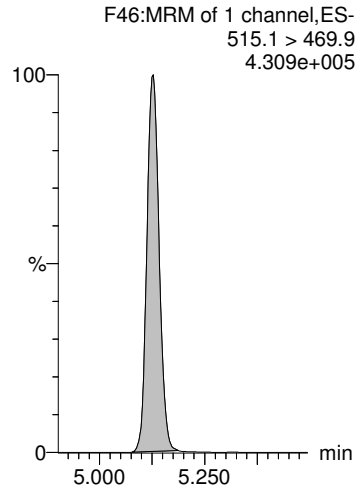
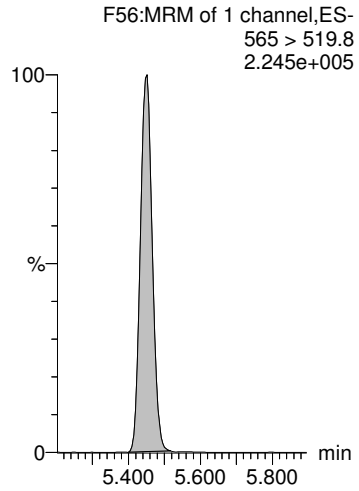


13C2-PFUdA-EIS



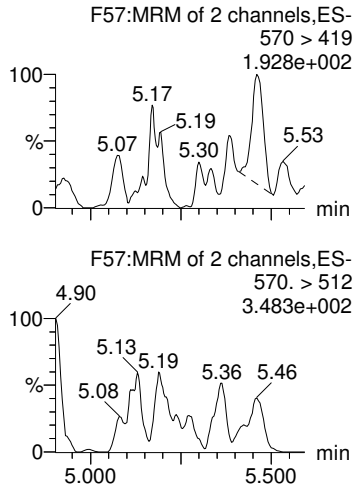
VY 7/21/2020

Dataset: P:\PFAS5.PRO\RESULTS\200714P1\200714P1-50-56.qld

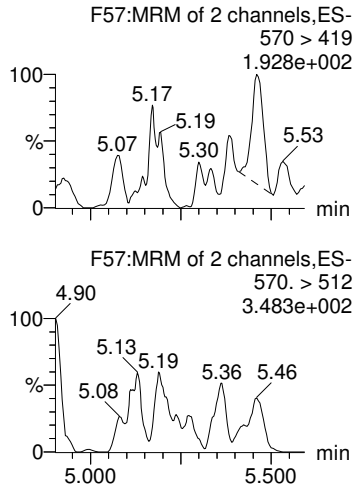
Last Altered: Tuesday, July 21, 2020 13:48:45 Pacific Daylight Time
Printed: Tuesday, July 21, 2020 13:49:24 Pacific Daylight Time

Name: 200714P1-56, Date: 14-Jul-2020, Time: 19:23:53, ID: 2001436-04 TW22D-20200707 0.2687, Description: TW22D-20200707

L-MeFOSAA



Total N-MeFOSAA



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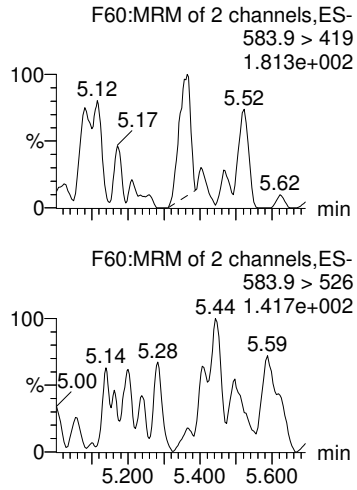
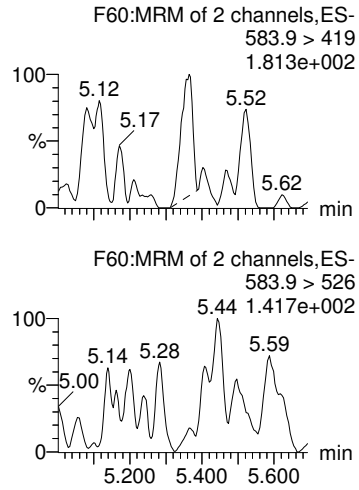
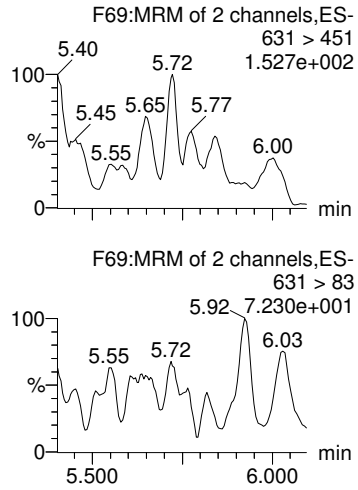


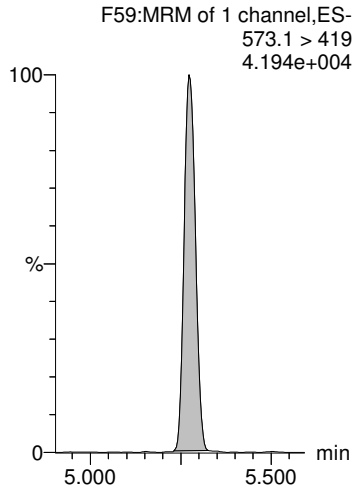
Total N-EtFOSAA



11Cl-PF30UdS



d3-N-MeFOSAA-EIS



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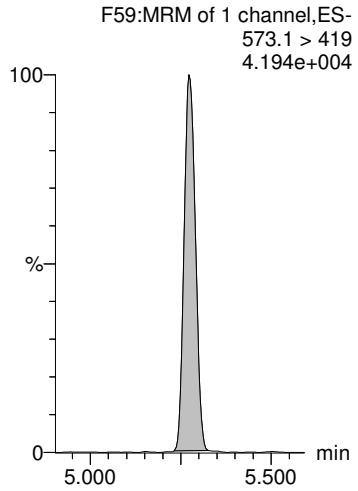
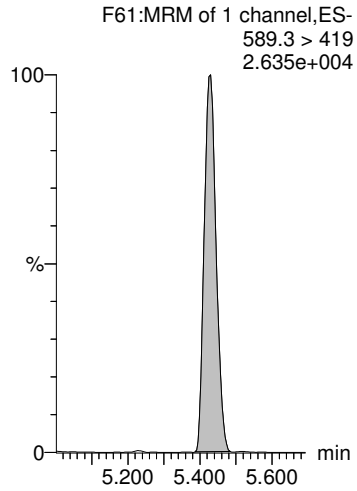


d5-N-EtFOSAA-EIS



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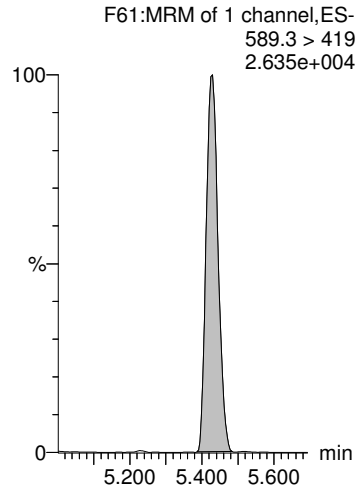
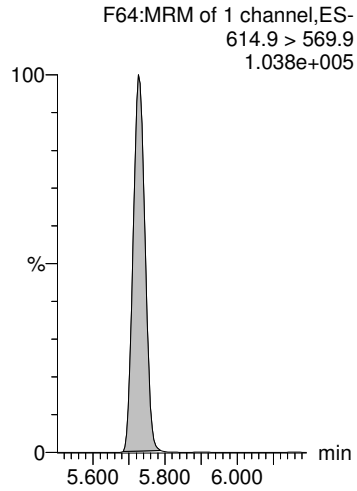


13C2-PFDoA-EIS



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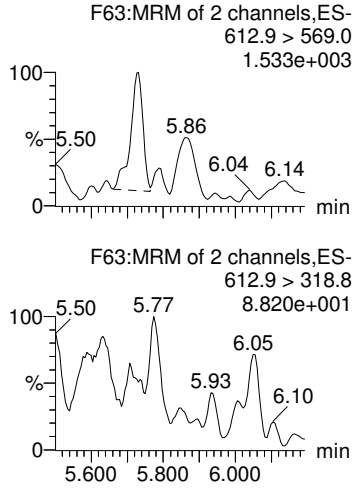
Last Altered: Tuesday, July 21, 2020 13:48:45 Pacific Daylight Time
Printed: Tuesday, July 21, 2020 13:49:24 Pacific Daylight Time

Name: 200714P1-56, Date: 14-Jul-2020, Time: 19:23:53, ID: 2001436-04 TW22D-20200707 0.2687, Description: TW22D-20200707

PFDoA



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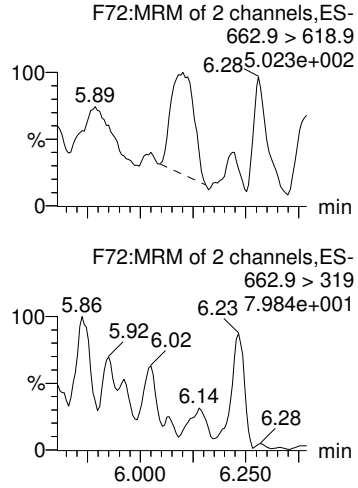

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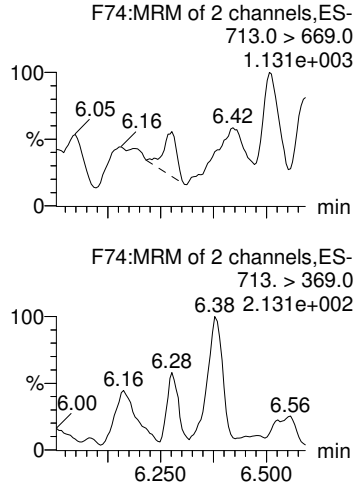
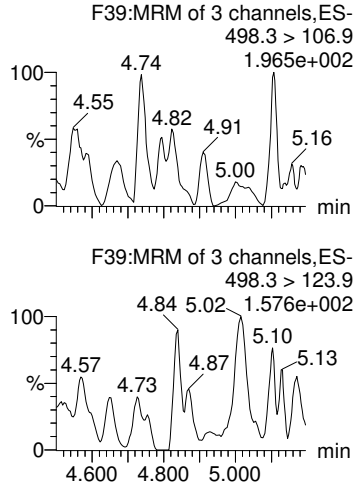
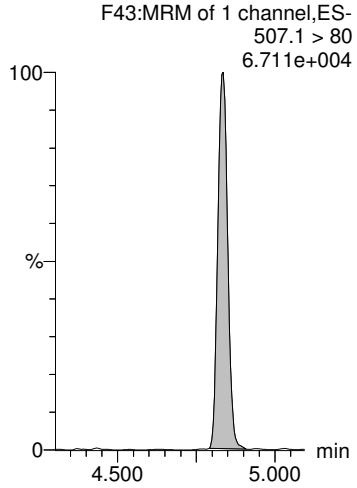


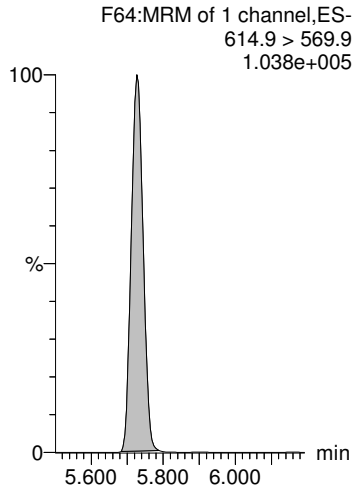
TDCA



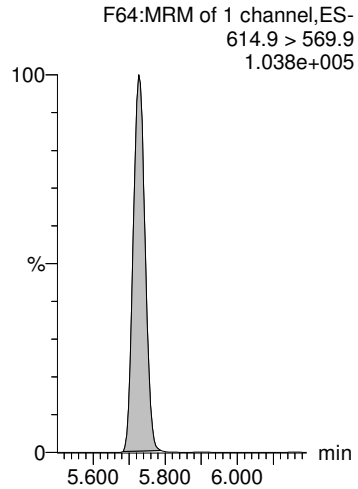
13C8-PFOS-EIS



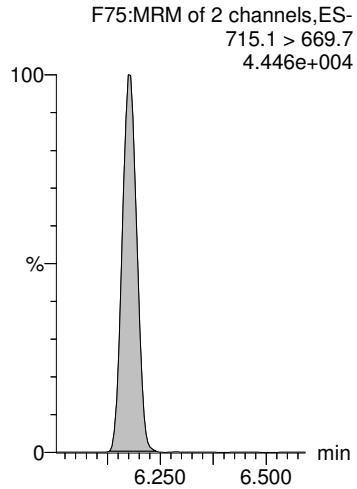
13C2-PFDoA-EIS



13C2-PFDoA-EIS



13C2-PFTeDA-EIS



Dataset: P:\PFAS5.PRO\RESULTS\200714P1\200714P1-58.qld

Last Altered: Thursday, July 16, 2020 16:34:03 Pacific Daylight Time
Printed: Thursday, July 16, 2020 16:36:51 Pacific Daylight Time

Name: 200714P1-58, Date: 14-Jul-2020, Time: 19:45:05, ID: 2001436-05 EB06-20200708 0.2553, Description: EB06-20200708

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
1	5	PFBS	299.0 > 80		1.404e3	0.255		2.67						YES
2	7	PFHxA	313.0 > 269.0		1.119e4	0.255		3.20						YES
3	9	HFPO-DA	285.1 > 168.9		2.300e3	0.255		3.42						YES
4	11	PFHpA	363.0 > 319		1.105e4	0.255		3.80						YES
5	12	ADONA	376.8 > 250.9		1.105e4	0.255		3.89						YES
6	51	13C3-PFBS-EIS	302.0 > 98.9	1.404e3		0.255	157.875	2.67	2.67	1400	34.845	71.2		
7	57	13C2-PFHxA-EIS	315.0 > 270.0	1.119e4		0.255	1345.825	3.19	3.20	11200	32.574	66.5		
8	53	13C3-HFPO-DA-EIS	287.0 > 168.9	2.300e3		0.255	261.275	3.41	3.42	2300	34.474	70.4		
9	59	13C4-PFHpA-EIS	367.2 > 321.8	1.105e4		0.255	1285.879	3.79	3.80	11100	33.666	68.8		
10	59	13C4-PFHpA-EIS	367.2 > 321.8	1.105e4		0.255	1285.879	3.79	3.80	11100	33.666	68.8		
11	-1													
12	13	L-PFHxS	399 > 79.9		2.825e3	0.255		3.94						YES
13	1...	Total PFHxS	399 > 79.9	0.000e0	2.825e3	0.255		3.93		0.000				
14	16	L-PFOA	413 > 369		1.545e4	0.255		4.31						YES
15	1...	Total PFOA	413 > 369	0.000e0	1.545e4	0.255		4.60		0.000				
16	21	PFNA	463.0 > 418.8		1.365e4	0.255		4.75						YES
17	61	13C3-PFHxS-EIS	402 > 80	2.825e3		0.255	305.184	3.93	3.94	2830	36.262	74.1		
18	61	13C3-PFHxS-EIS	402 > 80	2.825e3		0.255	305.184	3.93	3.94	2830	36.262	74.1		
19	69	13C2-PFOA-EIS	414.9 > 369.7	1.545e4		0.255	1733.544	4.47	4.31	15400	34.902	71.3		
20	69	13C2-PFOA-EIS	414.9 > 369.7	1.545e4		0.255	1733.544	4.47	4.31	15400	34.902	71.3		
21	65	13C5-PFNA-EIS	468.2 > 422.9	1.365e4		0.255	1672.506	4.96	4.75	13700	31.972	65.3		
22	-1													
23	23	L-PFOS	499 > 80		2.692e3	0.255		4.84						YES
24	1...	Total PFOS	499> 80	0.000e0	2.692e3	0.255		4.60		0.000				
25	25	9Cl-PF30NS	531 > 351		2.692e3	0.255		5.05						YES
26	26	PFDA	513 > 469		1.633e4	0.255		5.13						YES
27	33	PFUdA	563.0 > 519		1.587e4	0.255		5.45						YES
28	71	13C8-PFOS-EIS	507.1 > 80	2.692e3		0.255	299.078	4.83	4.84	2690	35.251	72.0		
29	71	13C8-PFOS-EIS	507.1 > 80	2.692e3		0.255	299.078	4.83	4.84	2690	35.251	72.0		
30	71	13C8-PFOS-EIS	507.1 > 80	2.692e3		0.255	299.078	4.83	4.84	2690	35.251	72.0		
31	73	13C2-PFDA-EIS	515.1 > 469.9	1.633e4		0.255	1995.916	5.12	5.13	16300	32.038	65.4		
32	79	13C2-PFUdA-EIS	565 > 519.8	1.587e4		0.255	1917.639	5.36	5.45	15900	32.412	66.2		
33	-1													
34	29	L-MeFOSAA	570 > 419		2.880e3	0.255		5.28						YES
35	1...	Total N-MeFOSAA	570. > 419	0.000e0	2.880e3	0.255		5.19		0.000				
36	31	L-EtFOSAA	583.9 > 419		2.215e3	0.255		5.43						YES

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Review: AMR 7/21/2020

Dataset: P:\PFAS5.PRO\RESULTS\200714P1\200714P1-58.qld

Last Altered: Thursday, July 16, 2020 16:34:03 Pacific Daylight Time
Printed: Thursday, July 16, 2020 16:36:51 Pacific Daylight Time

Name: 200714P1-58, Date: 14-Jul-2020, Time: 19:45:05, ID: 2001436-05 EB06-20200708 0.2553, Description: EB06-20200708

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
37	1...	Total N-EtFOSAA	583.9 > 419	0.000e0	2.215e3	0.255		5.37		0.000				
38	35	11Cl-PF30UdS	631 > 451		1.711e4	0.255		5.67						YES
39	77	d3-N-MeFOSAA-EIS	573.1 > 419	2.880e3		0.255	391.230	5.27	5.28	2880	28.838	58.9		
40	77	d3-N-MeFOSAA-EIS	573.1 > 419	2.880e3		0.255	391.230	5.27	5.28	2880	28.838	58.9		
41	81	d5-N-EtFOSAA-EIS	589.3 > 419	2.215e3		0.255	342.385	5.42	5.43	2220	25.340	51.8		
42	81	d5-N-EtFOSAA-EIS	589.3 > 419	2.215e3		0.255	342.385	5.42	5.43	2220	25.340	51.8		
43	83	13C2-PFDoA-EIS	614.9 > 569.9	1.711e4		0.255	2303.973	5.87	5.73	17100	29.091	59.4		
44	-1													
45	37	PFDoA	612.9 > 569.0		1.711e4	0.255		5.73						YES
46	39	PFTrDA	662.9 > 618.9		1.711e4	0.255		5.97						YES
47	41	PFTeDA	713.0 > 669.0		1.669e4	0.255		6.18						YES
48	1...	TDCA	498.3>106.9			0.255		4.47						YES
49	71	13C8-PFOS-EIS	507.1 > 80	2.692e3		0.255	299.078	4.83	4.84	2690	35.251	72.0		
50	83	13C2-PFDoA-EIS	614.9 > 569.9	1.711e4		0.255	2303.973	5.87	5.73	17100	29.091	59.4		
51	83	13C2-PFDoA-EIS	614.9 > 569.9	1.711e4		0.255	2303.973	5.87	5.73	17100	29.091	59.4		
52	89	13C2-PFTeDA-EIS	715.1 > 669.7	1.669e4		0.255	2242.342	6.18	6.18	16700	29.158	59.6		

VY 7/16/2020

Vista Analytical Laboratory L18

Review: AMR 7/21/2020

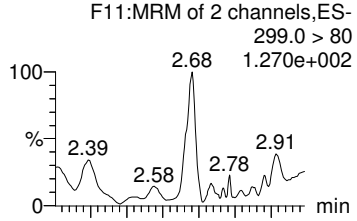
Dataset: P:\PFAS5.PRO\RESULTS\200714P1\200714P1-58.qld

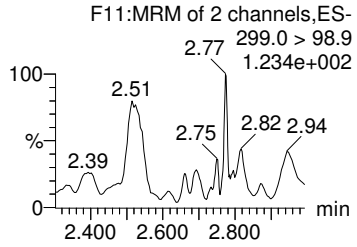
Last Altered: Thursday, July 16, 2020 16:34:03 Pacific Daylight Time
Printed: Thursday, July 16, 2020 16:36:51 Pacific Daylight Time

Method: P:\PFAS5.PRO\MethDB\NEW_PFAS_80C_071420.mdb 14 Jul 2020 15:40:52
Calibration: P:\PFAS5.PRO\CurveDB\C18_VAL-PFAS_Q5_07-14-20.cdb 15 Jul 2020 08:25:12

Name: 200714P1-58, Date: 14-Jul-2020, Time: 19:45:05, ID: 2001436-05 EB06-20200708 0.2553, Description: EB06-20200708

PFBS





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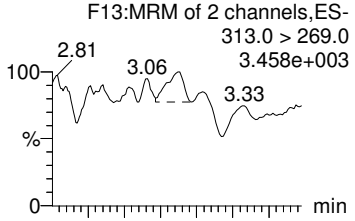

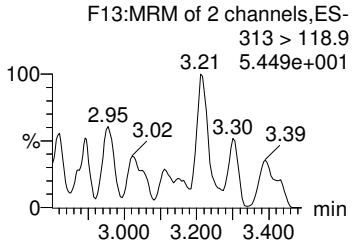

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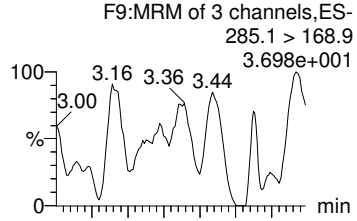

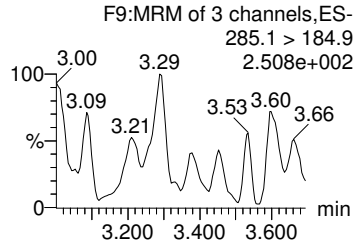

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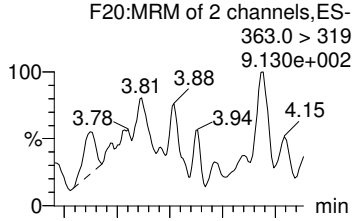

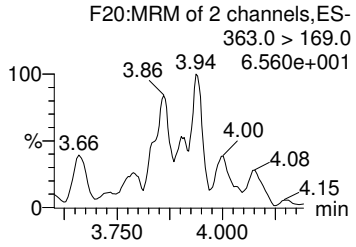

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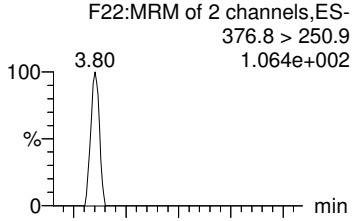

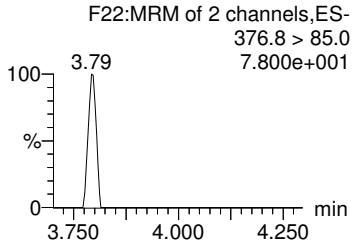

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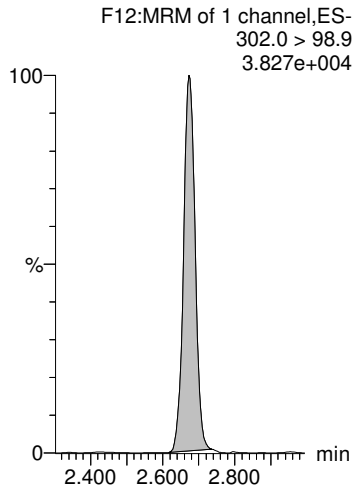

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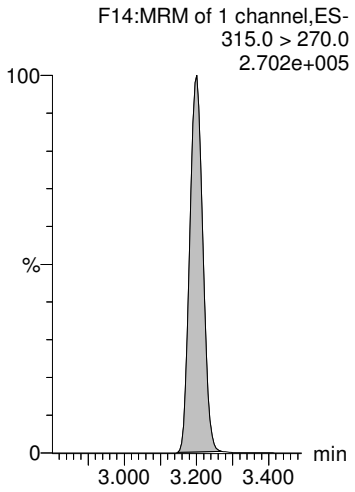

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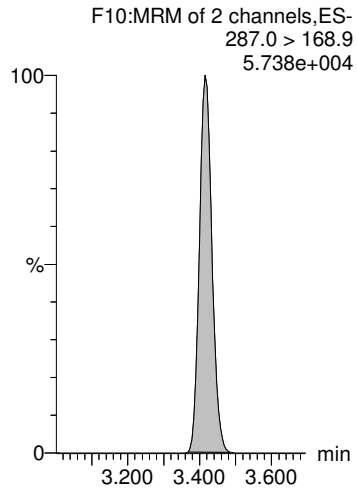

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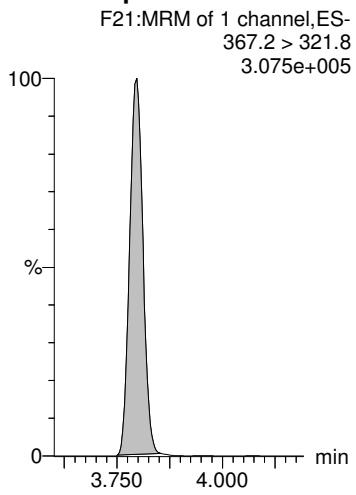

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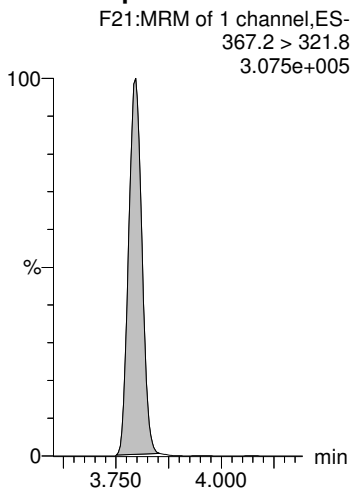

VY 7/16/2020

Dataset: P:\PFAS5.PRO\RESULTS\200714P1\200714P1-58.qld

Last Altered: Thursday, July 16, 2020 16:34:03 Pacific Daylight Time
Printed: Thursday, July 16, 2020 16:36:51 Pacific Daylight Time

Name: 200714P1-58, Date: 14-Jul-2020, Time: 19:45:05, ID: 2001436-05 EB06-20200708 0.2553, Description: EB06-20200708

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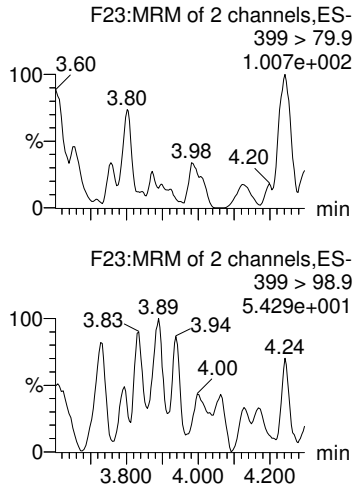

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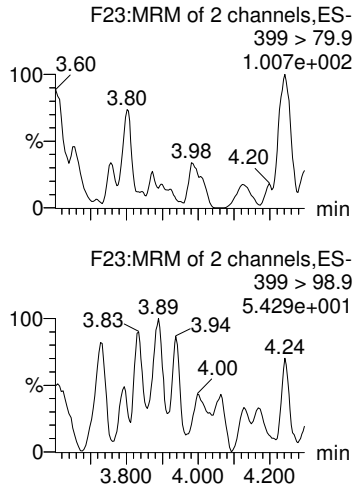
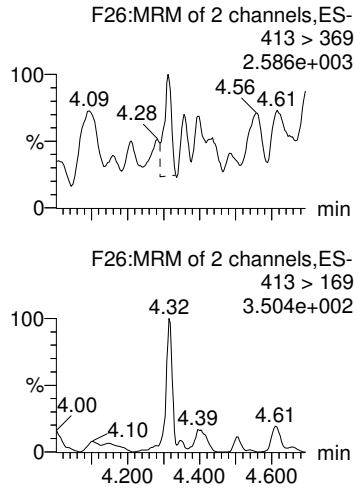


L-PFOA



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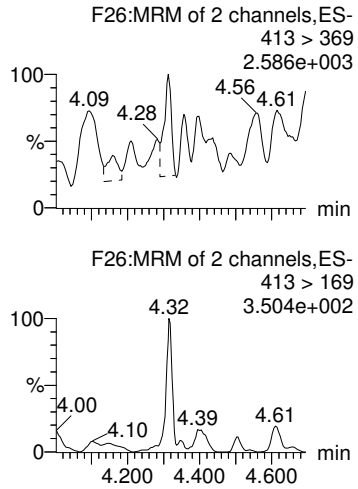

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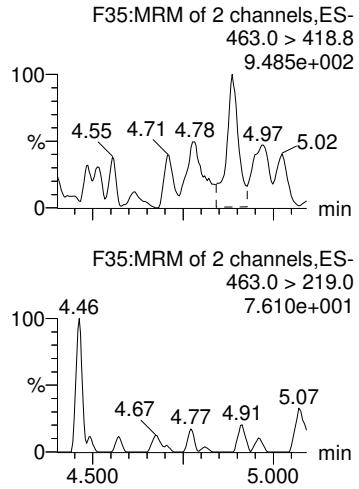

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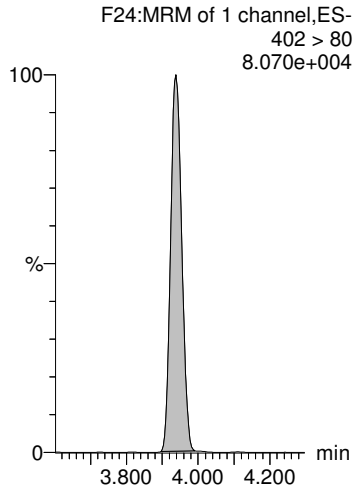

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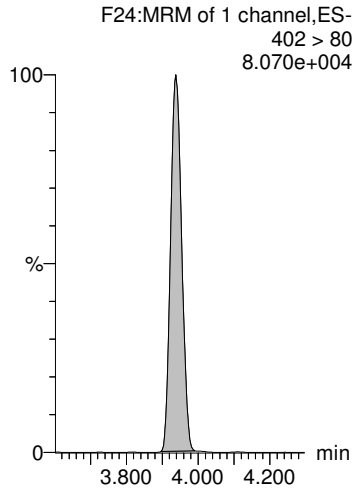

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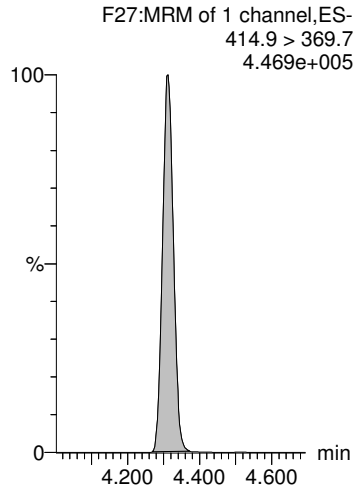

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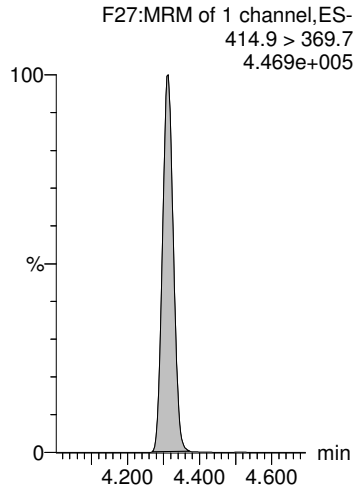

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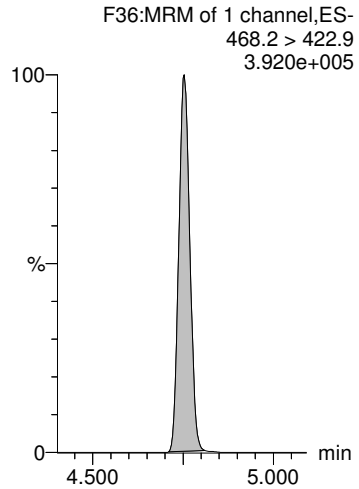


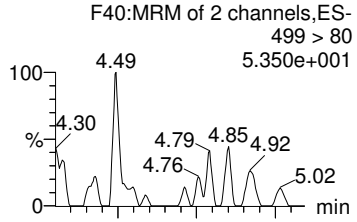
VY 7/16/2020

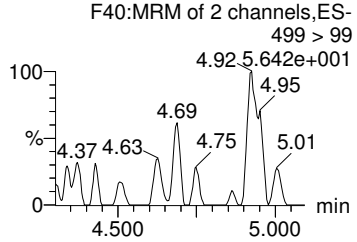
Dataset: P:\PFAS5.PRO\RESULTS\200714P1\200714P1-58.qld

Last Altered: Thursday, July 16, 2020 16:34:03 Pacific Daylight Time
Printed: Thursday, July 16, 2020 16:36:51 Pacific Daylight Time

Name: 200714P1-58, Date: 14-Jul-2020, Time: 19:45:05, ID: 2001436-05 EB06-20200708 0.2553, Description: EB06-20200708

L-PFOS





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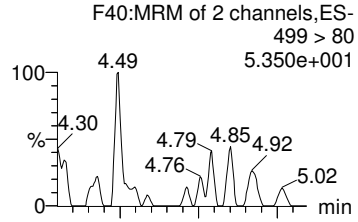

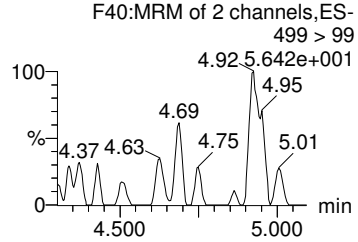

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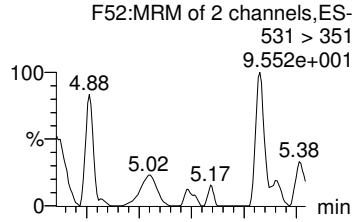

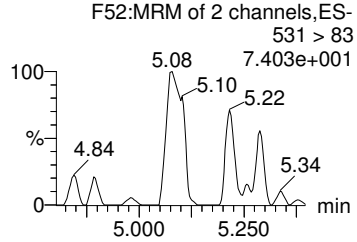

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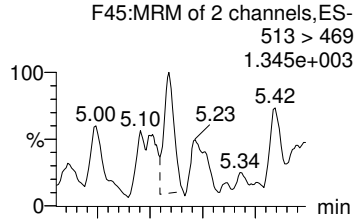

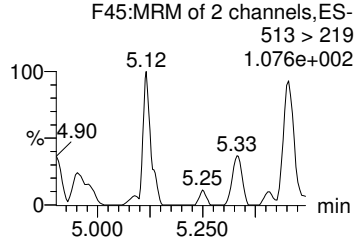

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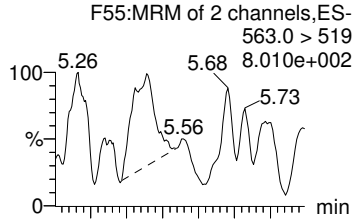

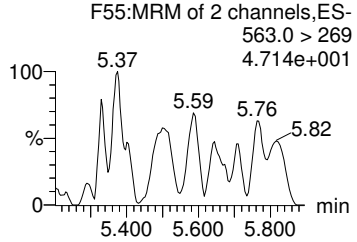

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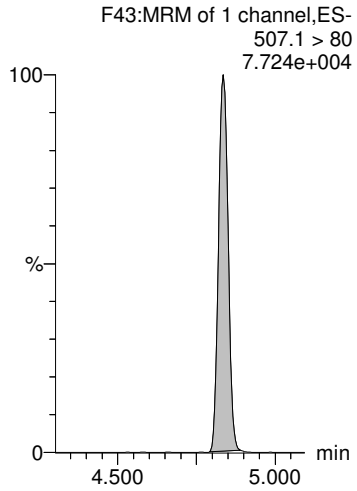

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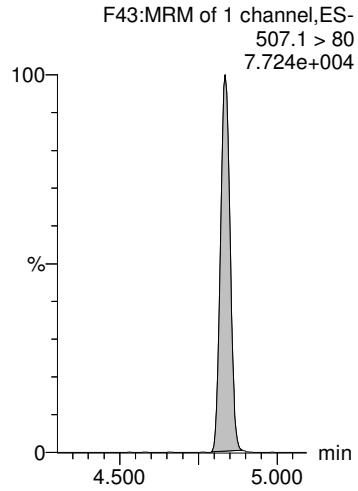

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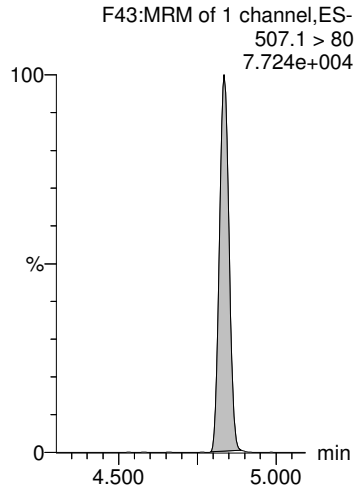

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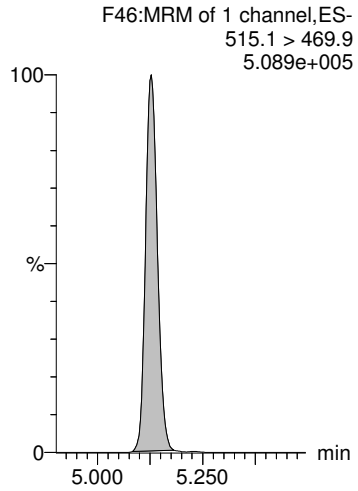

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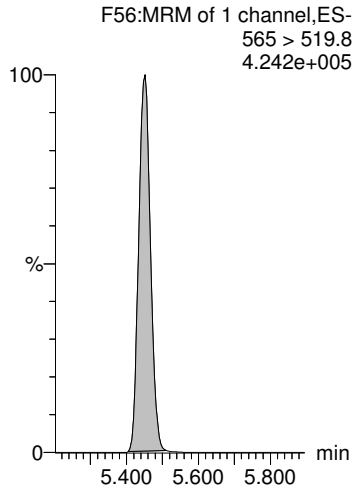


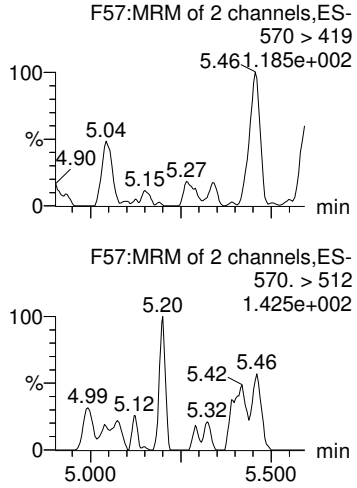
VY 7/16/2020

Dataset: P:\PFAS5.PRO\RESULTS\200714P1\200714P1-58.qld

Last Altered: Thursday, July 16, 2020 16:34:03 Pacific Daylight Time
Printed: Thursday, July 16, 2020 16:36:51 Pacific Daylight Time

Name: 200714P1-58, Date: 14-Jul-2020, Time: 19:45:05, ID: 2001436-05 EB06-20200708 0.2553, Description: EB06-20200708

L-MeFOSAA



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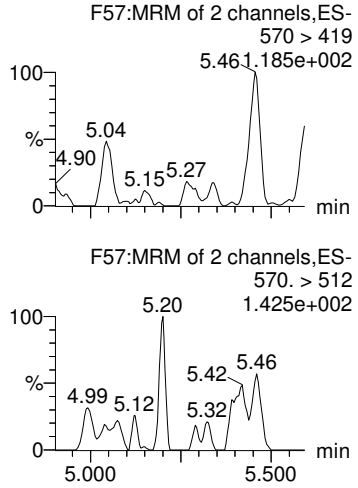

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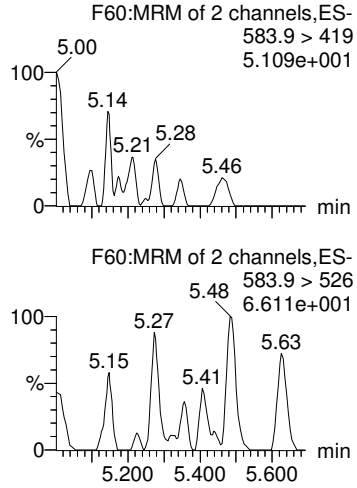

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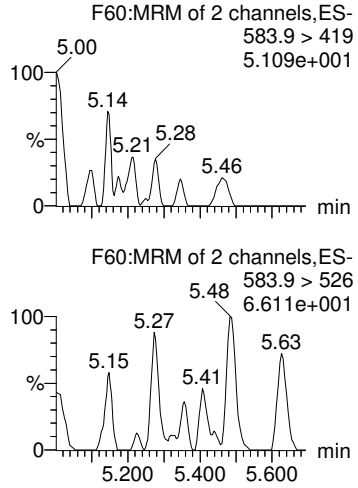

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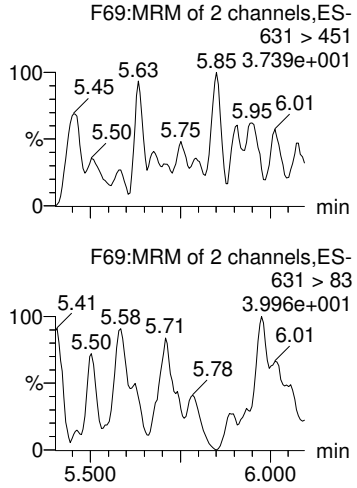

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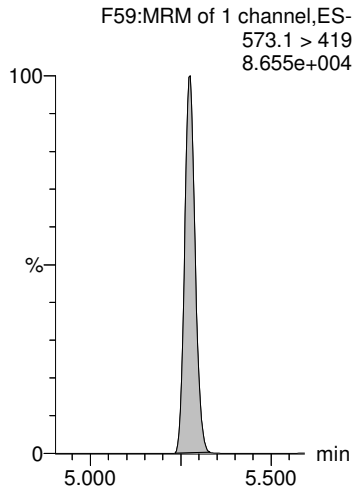

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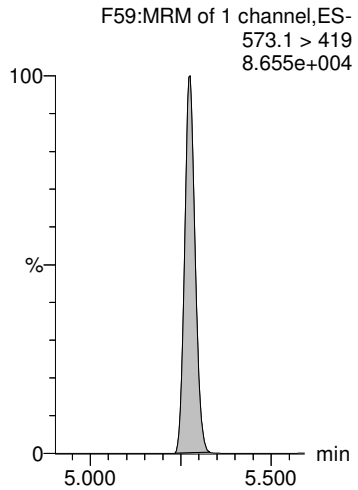

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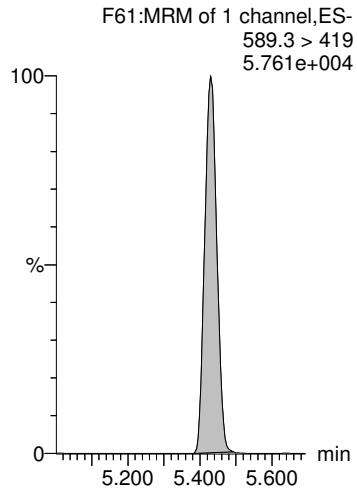

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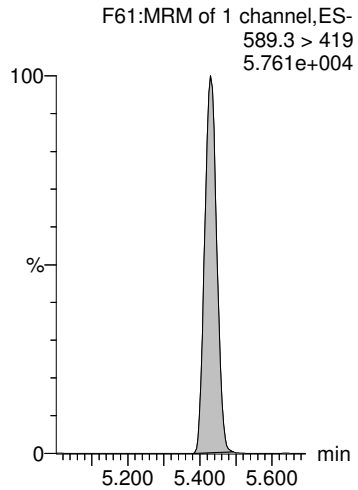

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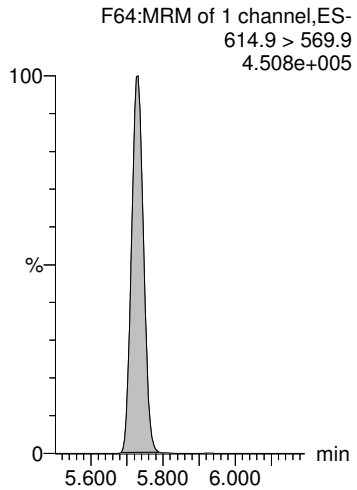


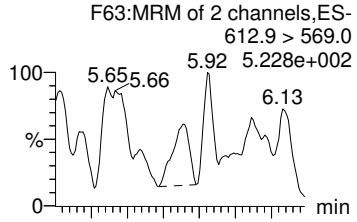
VY 7/16/2020

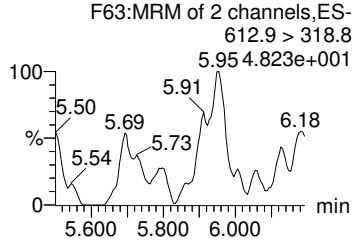
Dataset: P:\PFAS5.PRO\RESULTS\200714P1\200714P1-58.qld

Last Altered: Thursday, July 16, 2020 16:34:03 Pacific Daylight Time
Printed: Thursday, July 16, 2020 16:36:51 Pacific Daylight Time

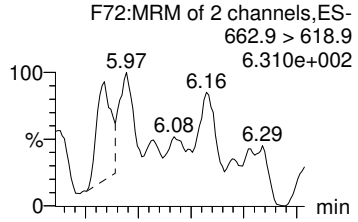
Name: 200714P1-58, Date: 14-Jul-2020, Time: 19:45:05, ID: 2001436-05 EB06-20200708 0.2553, Description: EB06-20200708

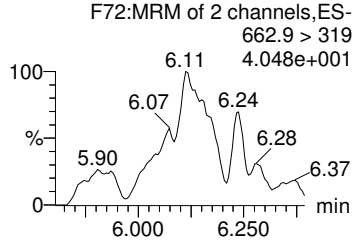
PFDoA



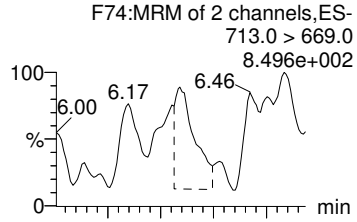


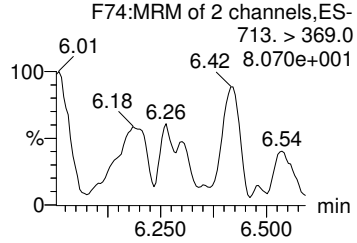
PFTrDA





PFTeDA





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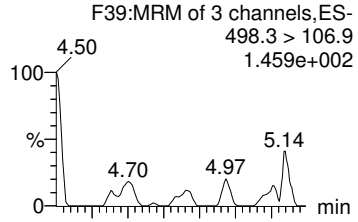
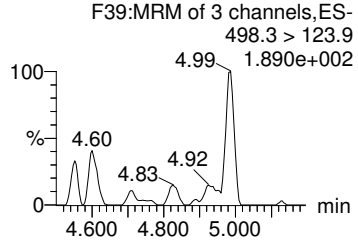
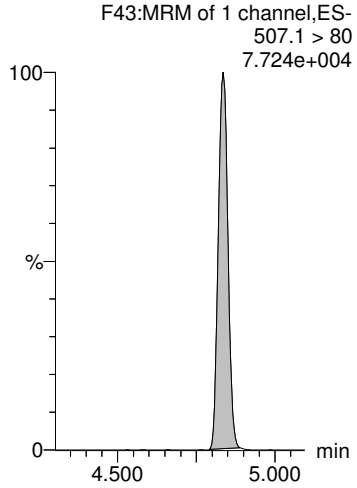
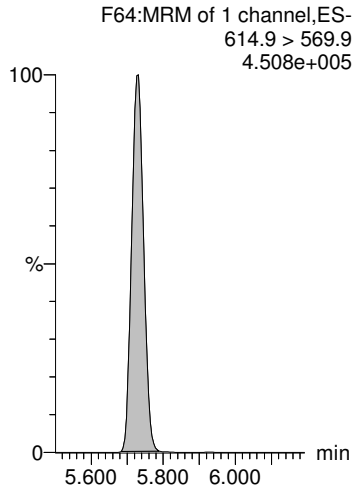




13C8-PFOS-EIS



13C2-PFDoA-EIS



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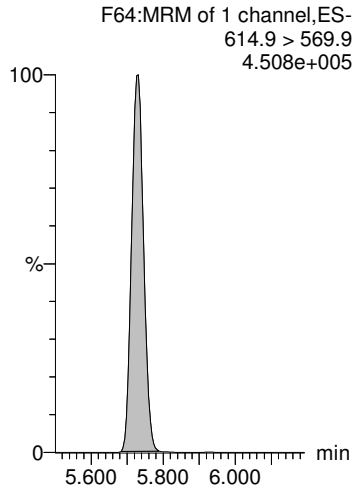
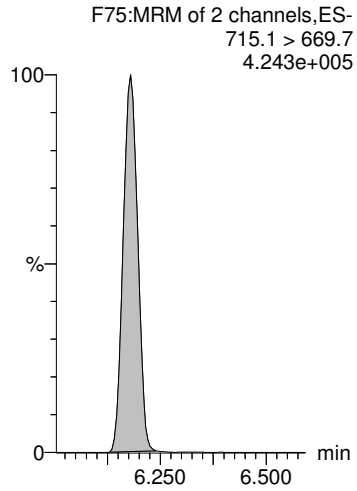


13C2-PFTeDA-EIS



VY 7/16/2020

Dataset: P:\PFAS5.PRO\RESULTS\200714P1\200714P1-59.qld

Last Altered: Tuesday, July 21, 2020 14:25:37 Pacific Daylight Time
Printed: Tuesday, July 21, 2020 14:27:25 Pacific Daylight Time

*See Dilution

Name: 200714P1-59, Date: 14-Jul-2020, Time: 19:55:41, ID: 2001436-06 TW23D-20200708 0.27774, Description: TW23D-20200708

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.		%Rec	Ion Ratio	Ratio Out?
1	5	PFBS	299.0 > 80	4.865e4	1.236e3	0.278		2.67	2.67	492	711.069			2.380	NO
2	7	PFHxA	313.0 > 269.0	7.531e5	9.598e3	0.278		3.20	3.19	981	3418.495	E*		14.464	NO
3	9	HFPO-DA	285.1 > 168.9		2.113e3	0.278		3.42							YES
4	11	PFHpA	363.0 > 319	1.999e5	9.765e3	0.278		3.79	3.79	256	772.075			44.429	NO
5	12	ADONA	376.8 > 250.9		9.765e3	0.278		3.89							YES
6	51	13C3-PFBS-EIS	302.0 > 98.9	1.236e3		0.278	157.875	2.67	2.67	1240	28.193		62.6		
7	57	13C2-PFHxA-EIS	315.0 > 270.0	9.598e3		0.278	1345.825	3.19	3.20	9600	25.678		57.1		
8	53	13C3-HFPO-DA-EIS	287.0 > 168.9	2.113e3		0.278	261.275	3.41	3.42	2110	29.118		64.7		
9	59	13C4-PFHpA-EIS	367.2 > 321.8	9.765e3		0.278	1285.879	3.79	3.79	9770	27.343		60.8		
10	59	13C4-PFHpA-EIS	367.2 > 321.8	9.765e3		0.278	1285.879	3.79	3.79	9770	27.343		60.8		
11	-1														
12	13	L-PFHxS	399 > 79.9	2.080e5	1.994e3	0.278		3.93	3.93	1300	3947.960	E*		4.000	NO
13	1...	Total PFHxS	399 > 79.9	2.080e5	1.994e3	0.278		3.93		1300	3947.960				
14	16	L-PFOA	413 > 369	2.514e6	1.036e4	0.278		4.31	4.31	3030		E*		2.651	NO
15	1...	Total PFOA	413 > 369	2.514e6	1.036e4	0.278		4.60		0.000					
16	21	PFNA	463.0 > 418.8	2.589e3	1.276e4	0.278		4.75	4.75	2.54	7.596			13.643	NO
17	61	13C3-PFHxS-EIS	402 > 80	1.994e3		0.278	305.184	3.93	3.93	1990	23.527		52.3		
18	61	13C3-PFHxS-EIS	402 > 80	1.994e3		0.278	305.184	3.93	3.93	1990	23.527		52.3		
19	69	13C2-PFOA-EIS	414.9 > 369.7	1.036e4		0.278	1733.544	4.47	4.31	10400	21.524		47.8		
20	69	13C2-PFOA-EIS	414.9 > 369.7	1.036e4		0.278	1733.544	4.47	4.31	10400	21.524		47.8		
21	65	13C5-PFNA-EIS	468.2 > 422.9	1.276e4		0.278	1672.506	4.96	4.75	12800	27.463		61.0		
22	-1														
23	23	L-PFOS	499 > 80	8.925e4	2.393e3	0.278		4.83	4.69	466	1322.114			2.561	NO
24	1...	Total PFOS	499> 80	8.925e4	2.393e3	0.278		4.60		466	1322.114				
25	25	9Cl-PF30NS	531 > 351		2.393e3	0.278		5.04							YES
26	26	PFDA	513 > 469	1.409e2	1.484e4	0.278		5.13	5.12	0.119	0.406			5.257	NO
27	33	PFUdA	563.0 > 519		1.215e4	0.278		5.45							YES
28	71	13C8-PFOS-EIS	507.1 > 80	2.393e3		0.278	299.078	4.83	4.83	2390	28.810		64.0		
29	71	13C8-PFOS-EIS	507.1 > 80	2.393e3		0.278	299.078	4.83	4.83	2390	28.810		64.0		
30	71	13C8-PFOS-EIS	507.1 > 80	2.393e3		0.278	299.078	4.83	4.83	2390	28.810		64.0		
31	73	13C2-PFDA-EIS	515.1 > 469.9	1.484e4		0.278	1995.916	5.12	5.13	14800	26.779		59.5		
32	79	13C2-PFUdA-EIS	565 > 519.8	1.215e4		0.278	1917.639	5.36	5.45	12200	22.813		50.7		
33	-1														
34	29	L-MeFOSAA	570 > 419		2.601e3	0.278		5.27							YES
35	1...	Total N-MeFOSAA	570. > 419	0.000e0	2.601e3	0.278		5.19		0.000					
36	31	L-EtFOSAA	583.9 > 419		2.055e3	0.278		5.43							YES

VY 7/21/2020

Vista Analytical Laboratory L18

Review: AMR 7/21/2020

Dataset: P:\PFAS5.PRO\RESULTS\200714P1\200714P1-59.qld

Last Altered: Tuesday, July 21, 2020 14:25:37 Pacific Daylight Time
Printed: Tuesday, July 21, 2020 14:27:25 Pacific Daylight Time

Name: 200714P1-59, Date: 14-Jul-2020, Time: 19:55:41, ID: 2001436-06 TW23D-20200708 0.27774, Description: TW23D-20200708

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
37	1...	Total N-EtFOSAA	583.9 > 419	0.000e0	2.055e3	0.278		5.37		0.000				
38	35	11Cl-PF30UdS	631 > 451		1.007e4	0.278		5.67						YES
39	77	d3-N-MeFOSAA-EIS	573.1 > 419	2.601e3		0.278	391.230	5.27	5.27	2600	23.933	53.2		
40	77	d3-N-MeFOSAA-EIS	573.1 > 419	2.601e3		0.278	391.230	5.27	5.27	2600	23.933	53.2		
41	81	d5-N-EtFOSAA-EIS	589.3 > 419	2.055e3		0.278	342.385	5.42	5.43	2060	21.612	48.0		
42	81	d5-N-EtFOSAA-EIS	589.3 > 419	2.055e3		0.278	342.385	5.42	5.43	2060	21.612	48.0		
43	83	13C2-PFDoA-EIS	614.9 > 569.9	1.007e4		0.278	2303.973	5.87	5.73	10100	15.743	35.0		
44	-1													
45	37	PFDoA	612.9 > 569.0		1.007e4	0.278		5.73						YES
46	39	PFTrDA	662.9 > 618.9		1.007e4	0.278		5.97						YES
47	41	PFTeDA	713.0 > 669.0		1.521e3	0.278		6.17						YES
48	1...	TDCA	498.3>106.9			0.278		4.47						YES
49	71	13C8-PFOS-EIS	507.1 > 80	2.393e3		0.278	299.078	4.83	4.83	2390	28.810	64.0		
50	83	13C2-PFDoA-EIS	614.9 > 569.9	1.007e4		0.278	2303.973	5.87	5.73	10100	15.743	35.0		
51	83	13C2-PFDoA-EIS	614.9 > 569.9	1.007e4		0.278	2303.973	5.87	5.73	10100	15.743	35.0		
52	89	13C2-PFTeDA-EIS	715.1 > 669.7	1.521e3		0.278	2242.342	6.18	6.17	1520	2.442	5.4		

VY 7/21/2020

Dataset: P:\PFAS5.PRO\RESULTS\200714P1\200714P1-59.qld

Last Altered: Tuesday, July 21, 2020 14:25:37 Pacific Daylight Time
Printed: Tuesday, July 21, 2020 14:27:25 Pacific Daylight Time

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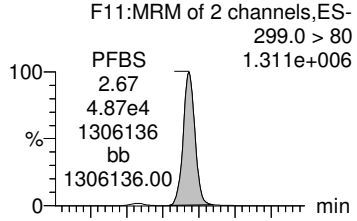
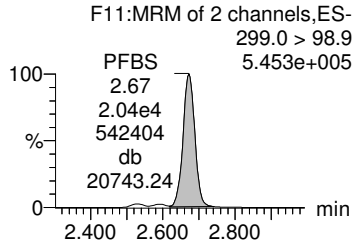
Calibration: P:\PFAS5.PRO\CurveDB\C18_VAL-PFAS_Q5_07-14-20.cdb 15 Jul 2020 08:25:12

Name: 200714P1-59, Date: 14-Jul-2020, Time: 19:55:41, ID: 2001436-06 TW23D-20200708 0.27774, Description: TW23D-20200708

PFBS





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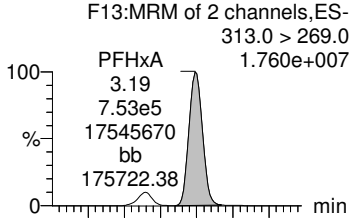

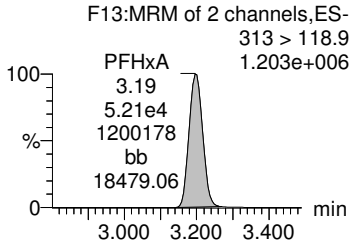

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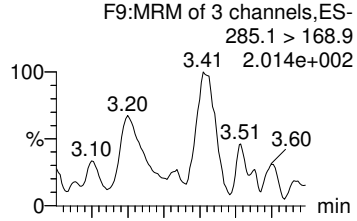
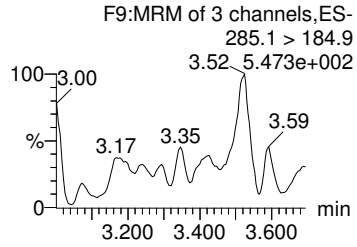
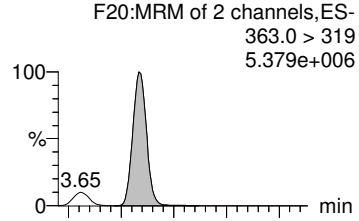
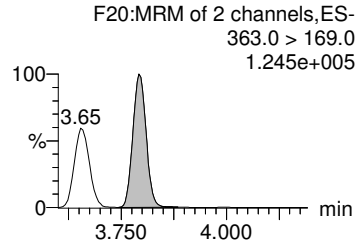


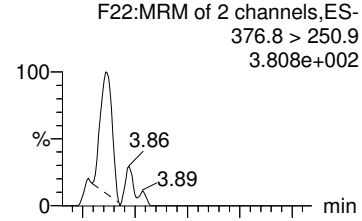


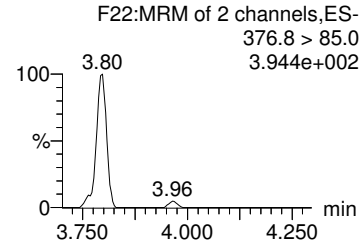
PFHpA





ADONA





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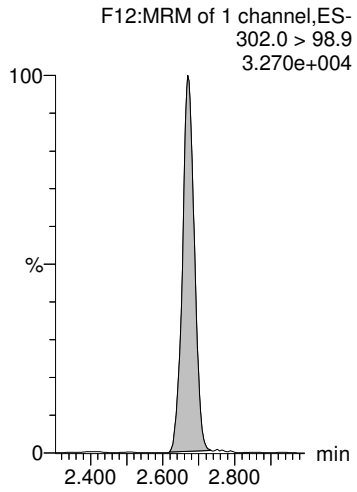

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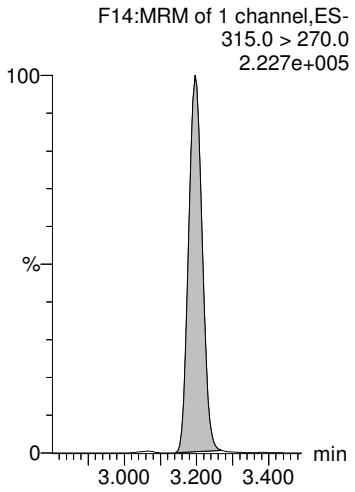

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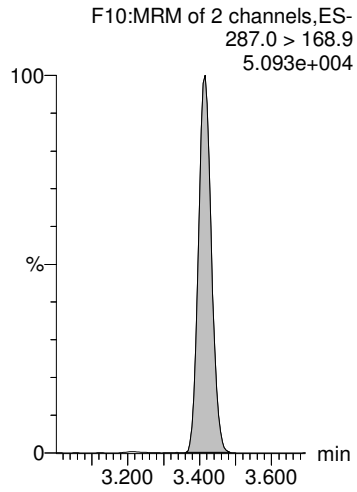

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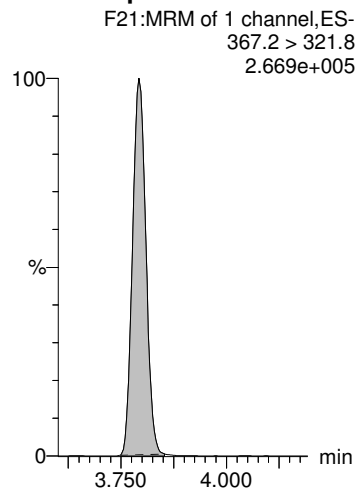
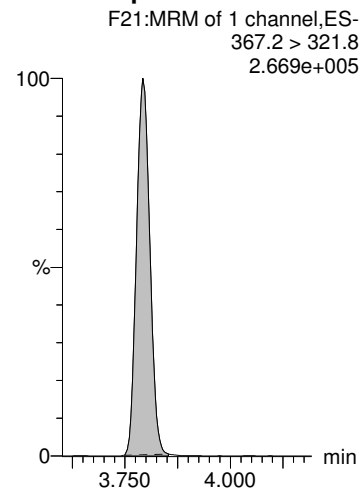


13C4-PFHpA-EIS



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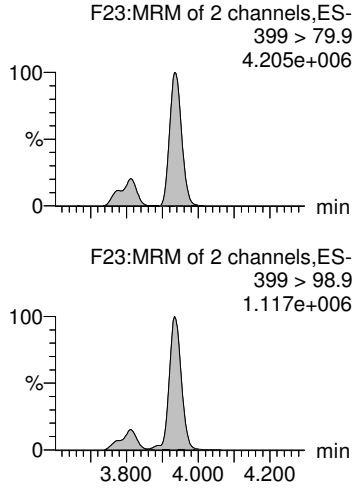
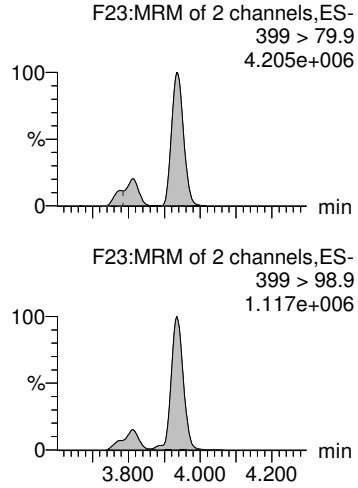
Name: 200714P1-59, Date: 14-Jul-2020, Time: 19:55:41, ID: 2001436-06 TW23D-20200708 0.27774, Description: TW23D-20200708

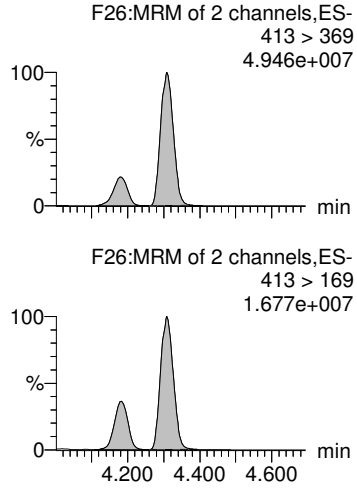
L-PFHxS



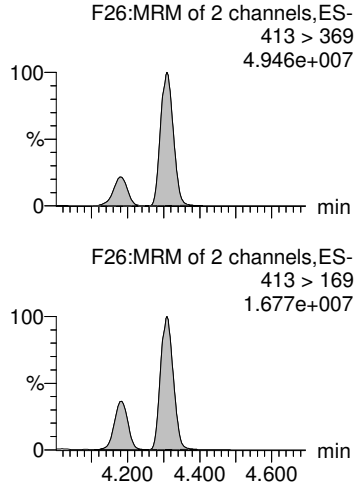
Total PFHxS



L-PFOA



Total PFOA



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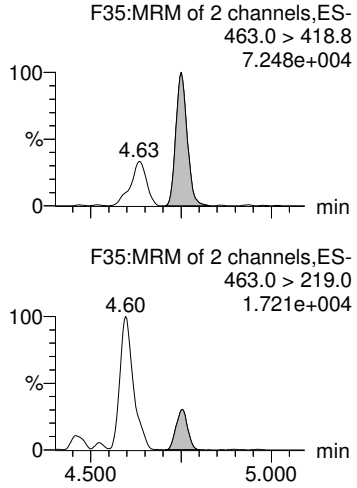
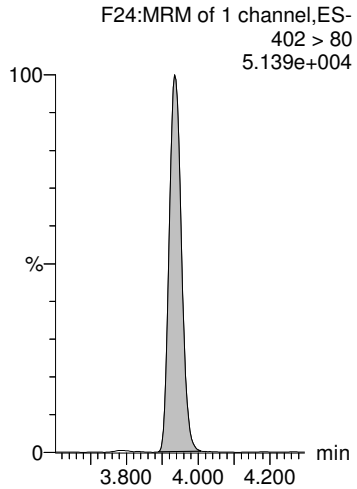
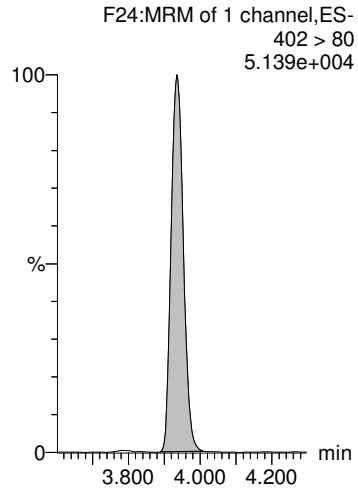


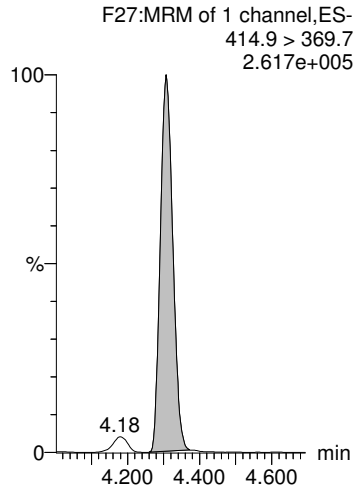
13C3-PFHxS-EIS



13C3-PFHxS-EIS



13C2-PFOA-EIS



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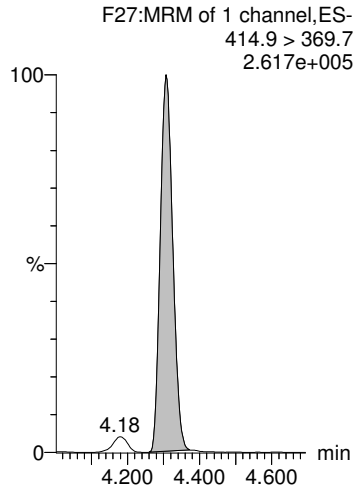
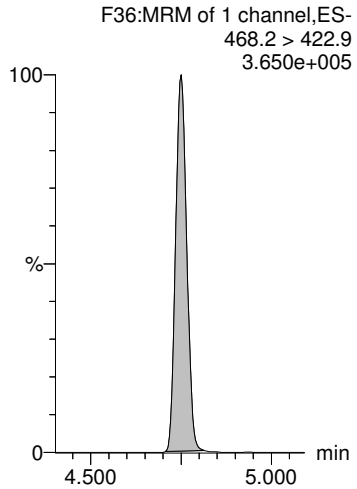


13C5-PFNA-EIS



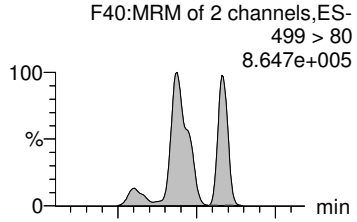
VY 7/21/2020

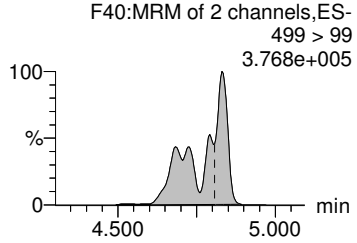
Dataset: P:\PFAS5.PRO\RESULTS\200714P1\200714P1-59.qld

Last Altered: Tuesday, July 21, 2020 14:25:37 Pacific Daylight Time
Printed: Tuesday, July 21, 2020 14:27:25 Pacific Daylight Time

Name: 200714P1-59, Date: 14-Jul-2020, Time: 19:55:41, ID: 2001436-06 TW23D-20200708 0.27774, Description: TW23D-20200708

L-PFOS





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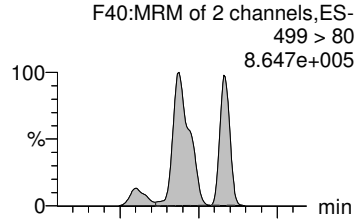
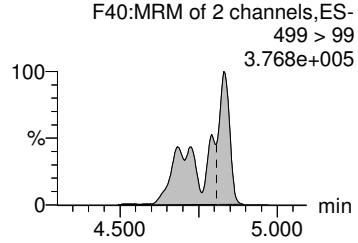
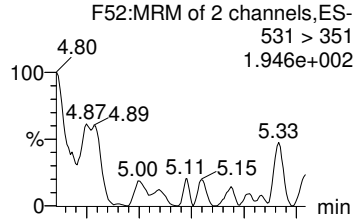
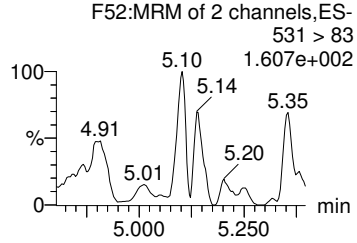




9Cl-PF30NS





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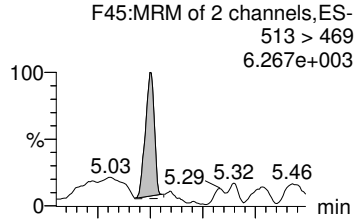

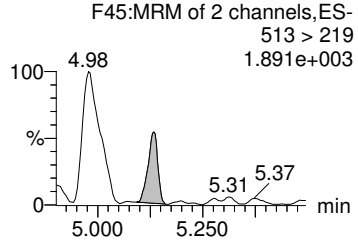

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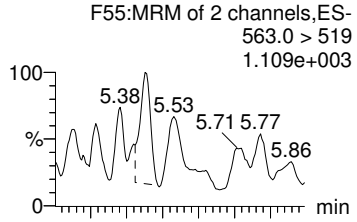
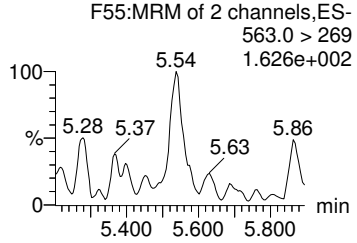
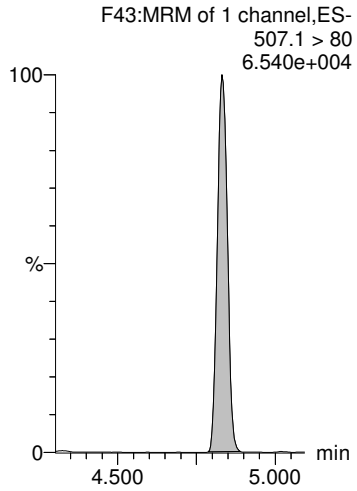




13C8-PFOS-EIS



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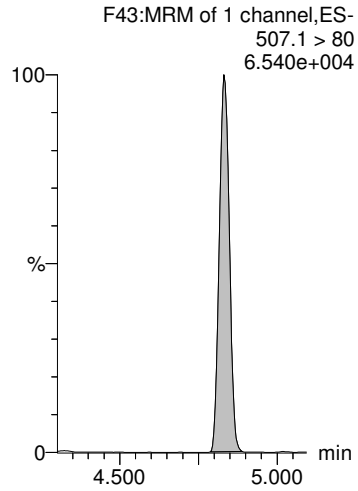

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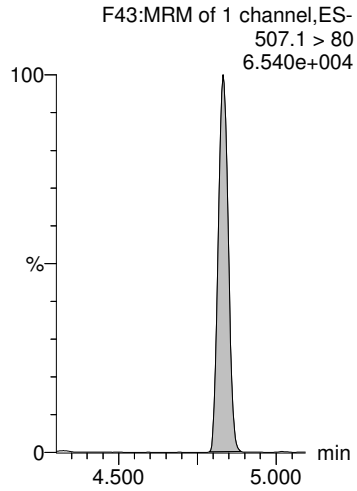

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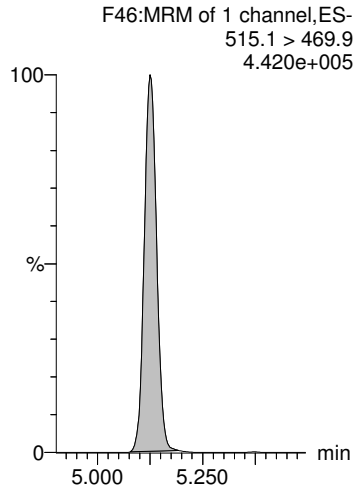
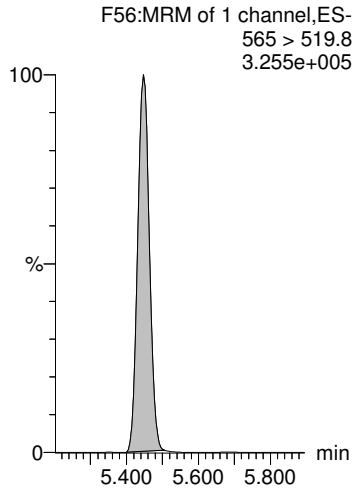


13C2-PFUdA-EIS



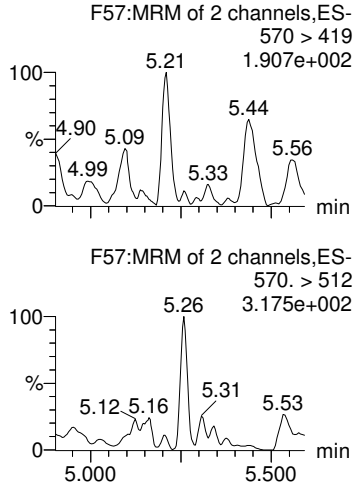
VY 7/21/2020

Dataset: P:\PFAS5.PRO\RESULTS\200714P1\200714P1-59.qld

Last Altered: Tuesday, July 21, 2020 14:25:37 Pacific Daylight Time
Printed: Tuesday, July 21, 2020 14:27:25 Pacific Daylight Time

Name: 200714P1-59, Date: 14-Jul-2020, Time: 19:55:41, ID: 2001436-06 TW23D-20200708 0.27774, Description: TW23D-20200708

L-MeFOSAA



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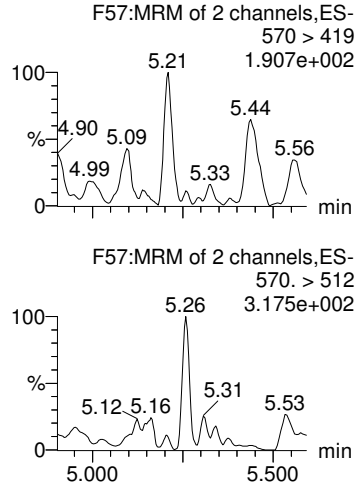

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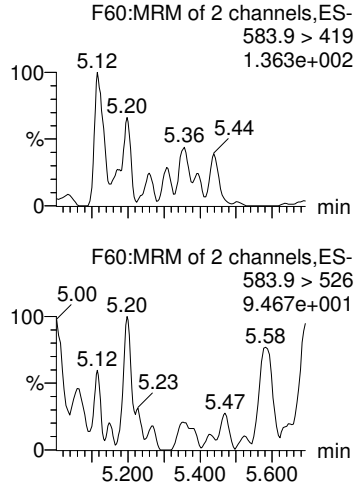

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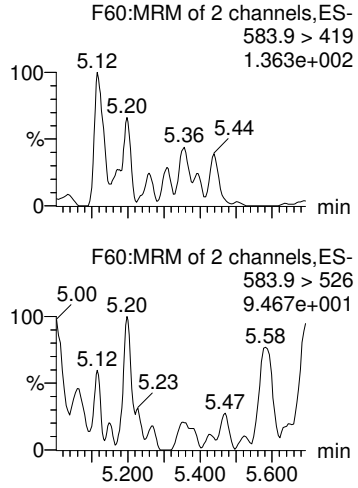
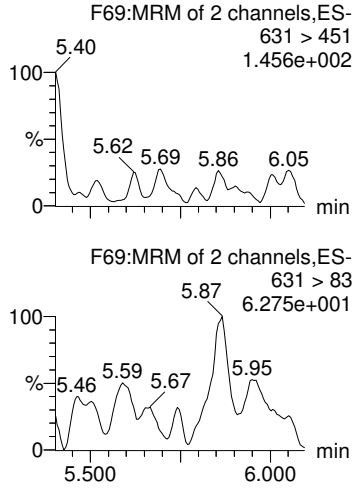
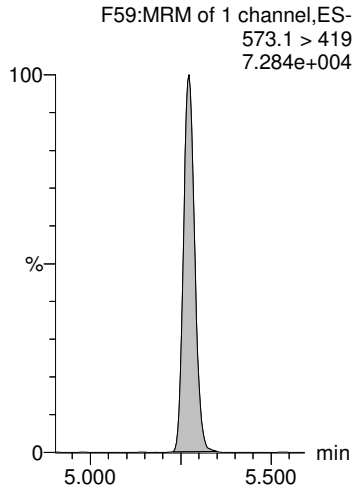


11Cl-PF30UdS



d3-N-MeFOSAA-EIS



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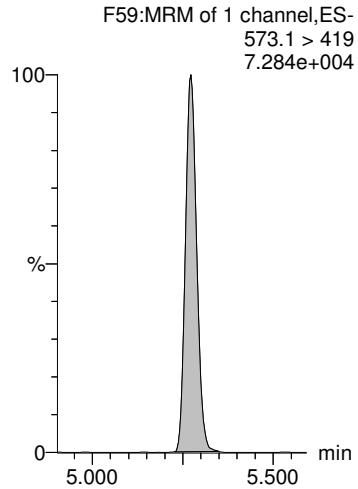

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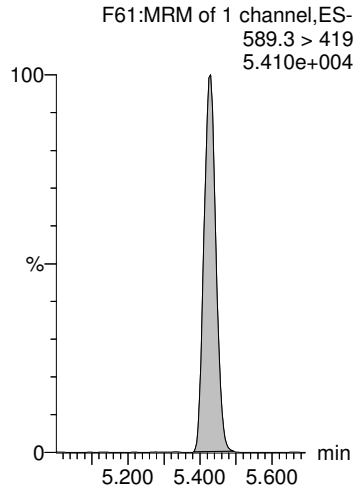

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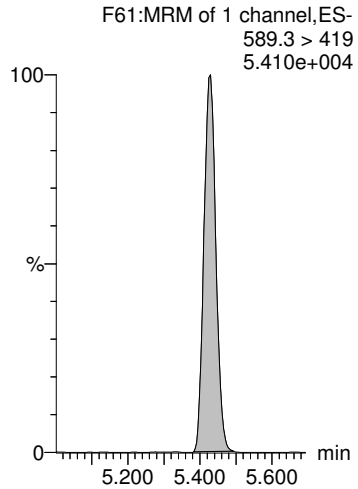
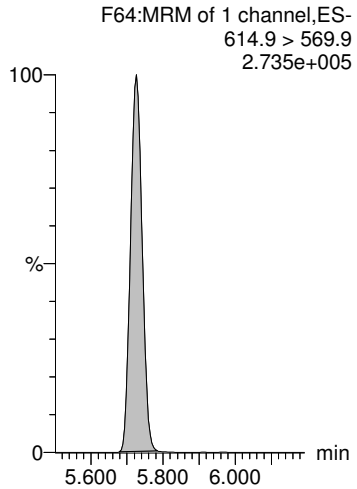


13C2-PFDoA-EIS



VY 7/21/2020

Dataset: P:\PFAS5.PRO\RESULTS\200714P1\200714P1-59.qld

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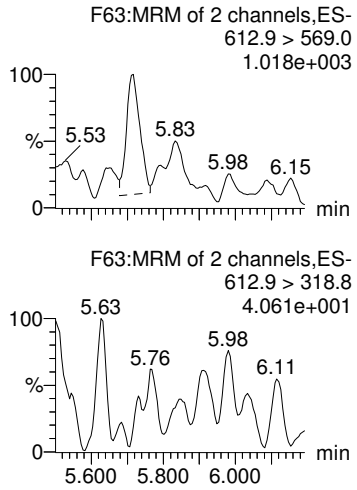
Printed: Tuesday, July 21, 2020 14:27:25 Pacific Daylight Time

Name: 200714P1-59, Date: 14-Jul-2020, Time: 19:55:41, ID: 2001436-06 TW23D-20200708 0.27774, Description: TW23D-20200708

PFDoA



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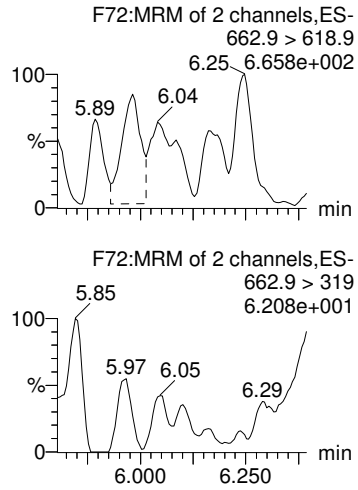

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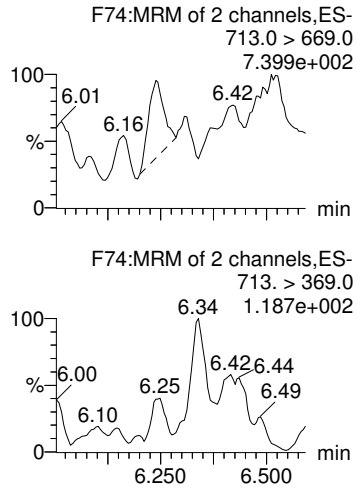
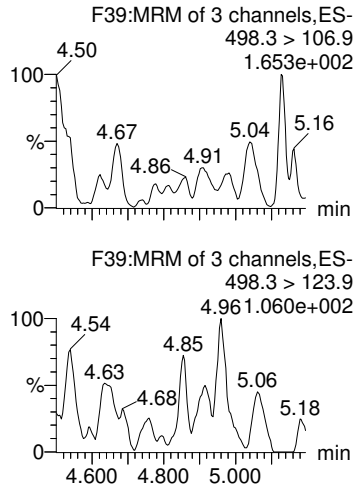
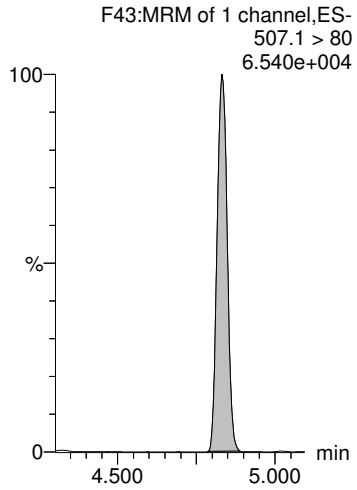


TDCA



13C8-PFOS-EIS



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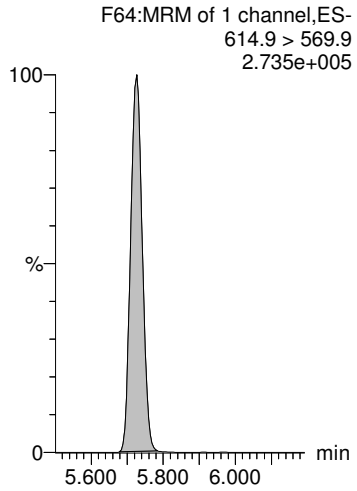

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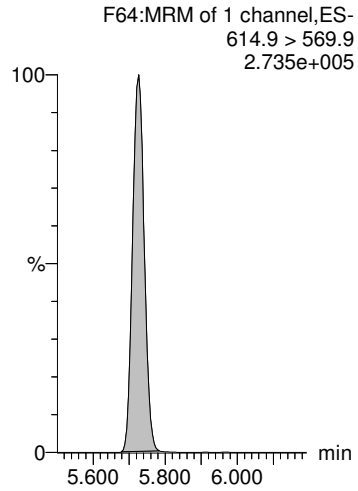

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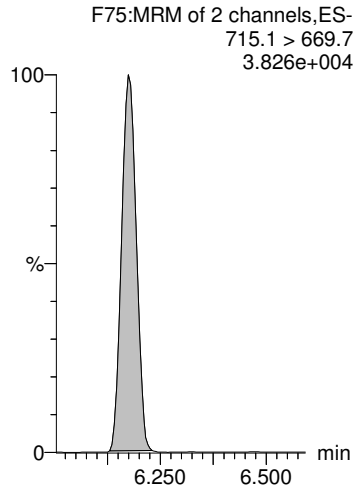

Vista Analytical Laboratory

Review: AMR 7/21/2020

Dataset: P:\PFAS5.PRO\RESULTS\200715P1\200715P1-22.qld

Last Altered: Thursday, July 16, 2020 15:28:34 Pacific Daylight Time
Printed: Thursday, July 16, 2020 15:41:31 Pacific Daylight Time

*ug/L

Name: 200715P1-22, Date: 15-Jul-2020, Time: 15:20:02, ID: 2001436-06@10X TW23D-20200708 0.27774, Description: TW23D-20200708

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	RT	Response	Conc. *	%Rec	Ion Ratio	Ratio Out?
1	7	PFHxA	313.0 > 269.0	7.998e4	1.097e3	0.278		3.16	0.911	2.976		14.761	NO
2	13	L-PFHxS	399 > 79.9	2.278e4	2.242e2	0.278		3.90	1.270	3.867		4.118	NO
3	1...	Total PFHxS	399 > 79.9	2.415e4	2.242e2	0.278			1.346	4.036			
4	16	L-PFOA	413 > 369	3.461e5	1.463e3	0.278		4.28	2.957	10.795		2.700	NO
5	1...	Total PFOA	413 > 369	3.461e5	1.463e3	0.278			2.957	10.795			
6	69	13C2-PFOA-EIS	414.9 > 369.7	1.463e3		0.278	1519.812	4.28	1462.830	3.465	~~7700.1~~	77	
7	57	13C2-PFHxA-EIS	315.0 > 270.0	1.097e3		0.278	1226.714	3.16	1097.019	3.220	~~7154.2~~	71.54	
8	61	13C3-PFHxS-EIS	402 > 80	2.242e2		0.278	268.614	3.90	224.184	3.005	~~6676.8~~	66.77	
9	61	13C3-PFHxS-EIS	402 > 80	2.242e2		0.278	268.614	3.90	224.184	3.005	6676.8		
10	69	13C2-PFOA-EIS	414.9 > 369.7	1.463e3		0.278	1519.812	4.28	1462.830	3.465	7700.1		
11	69	13C2-PFOA-EIS	414.9 > 369.7	1.463e3		0.278	1519.812	4.28	1462.830	3.465	7700.1		
12	-1												

VY 7/16/2020

Vista Analytical Laboratory

Review: AMR 7/21/2020

Dataset: P:\PFAS5.PRO\RESULTS\200715P1\200715P1-22.qld

Last Altered: Thursday, July 16, 2020 15:28:34 Pacific Daylight Time
Printed: Thursday, July 16, 2020 15:41:31 Pacific Daylight Time

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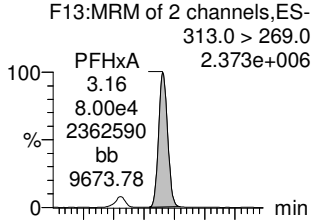
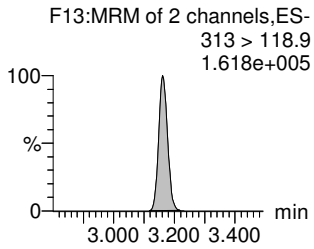
Calibration: P:\PFAS5.PRO\CurveDB\C18_VAL-PFAS_Q5_07-15-20.cdb 16 Jul 2020 10:32:09

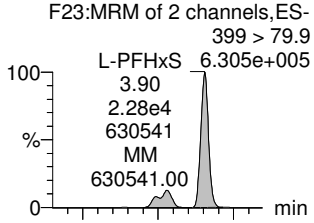
Name: 200715P1-22, Date: 15-Jul-2020, Time: 15:20:02, ID: 2001436-06@10X TW23D-20200708 0.27774, Description: TW23D-20200708

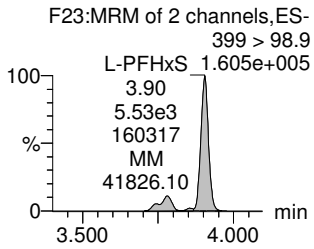
PFHxA



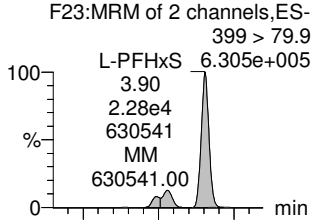


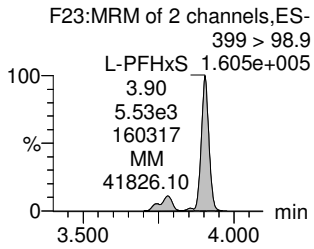
L-PFHxS



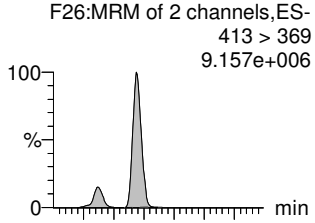


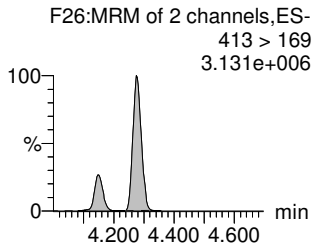
Total PFHxS



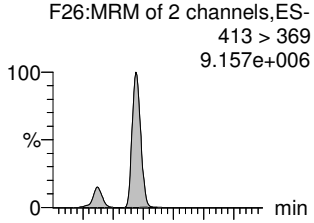


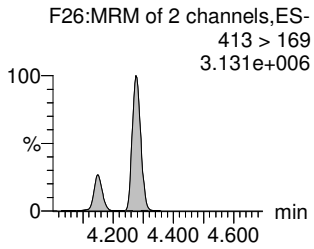
L-PFOA



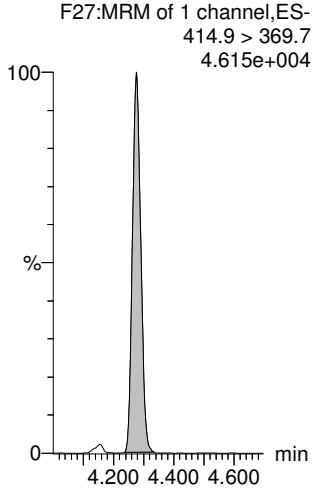


Total PFOA

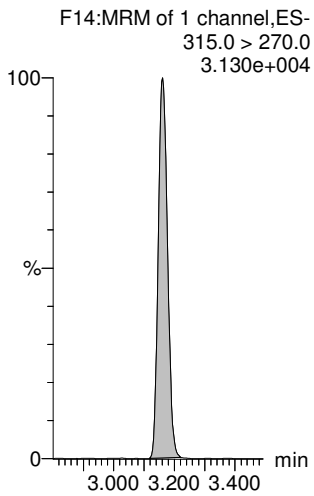




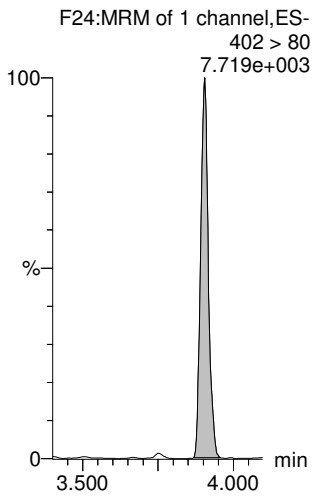
13C2-PFOA-EIS



13C2-PFHxA-EIS



13C3-PFHxS-EIS



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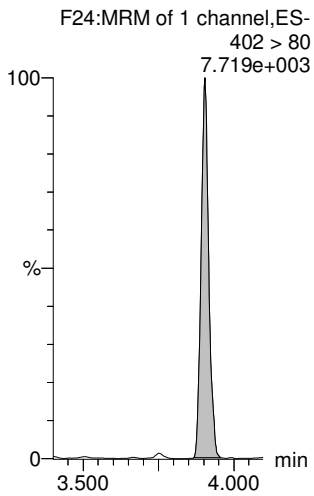

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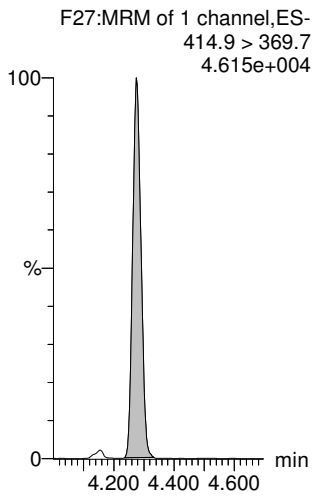

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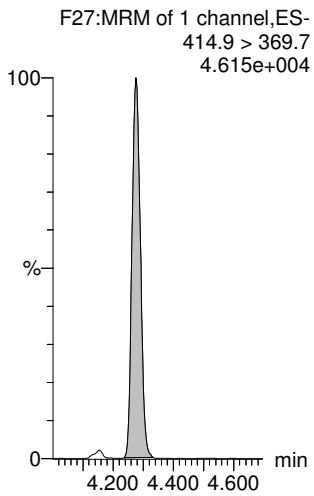

VY 7/16/2020

Review: AMR 7/21/2020

Dataset: P:\PFAS5.PRO\RESULTS\200715P1\200715P1-24.qld

Last Altered: Tuesday, July 21, 2020 13:56:42 Pacific Daylight Time
Printed: Tuesday, July 21, 2020 13:57:09 Pacific Daylight Time

Name: 200715P1-24, Date: 15-Jul-2020, Time: 15:41:13, ID: 2001436-07 TW24D-20200708 0.28174, Description: TW24D-20200708

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
1	5	PFBS	299.0 > 80	3.260e3	1.281e3	0.282		2.64	2.64	31.8	44.805		2.613	NO
2	7	PFHxA	313.0 > 269.0	7.573e4	1.022e4	0.282		3.16	3.16	92.6	331.895		14.229	NO
3	9	HFPO-DA	285.1 > 168.9		2.163e3	0.282		3.38						YES
4	11	PFHpA	363.0 > 319	1.630e4	1.001e4	0.282		3.76	3.76	20.4	56.133		48.196	NO
5	12	ADONA	376.8 > 250.9		1.001e4	0.282		3.86						YES
6	51	13C3-PFBS-EIS	302.0 > 98.9	1.281e3		0.282	145.309	2.64	2.64	1280	31.301	70.5		
7	57	13C2-PFHxA-EIS	315.0 > 270.0	1.022e4		0.282	1226.714	3.16	3.16	10200	29.584	66.7		
8	53	13C3-HFPO-DA-EIS	287.0 > 168.9	2.163e3		0.282	258.676	3.36	3.38	2160	29.681	66.9		
9	59	13C4-PFHpA-EIS	367.2 > 321.8	1.001e4		0.282	1270.326	3.75	3.76	10000	27.963	63.0		
10	59	13C4-PFHpA-EIS	367.2 > 321.8	1.001e4		0.282	1270.326	3.75	3.76	10000	27.963	63.0		
11	-1													
12	13	L-PFHxS	399 > 79.9	1.581e4	2.458e3	0.282		3.91	3.91	80.4	247.971		4.113	NO
13	1...	Total PFHxS	399 > 79.9	1.581e4	2.458e3	0.282		3.93		80.4	247.971			
14	16	L-PFOA	413 > 369	3.693e5	1.228e4	0.282		4.28	4.28	376	1545.248		2.703	NO
15	1...	Total PFOA	413 > 369	3.693e5	1.228e4	0.282		4.60		376	1545.248			
16	21	PFNA	463.0 > 418.8		1.219e4	0.282		4.72						YES
17	61	13C3-PFHxS-EIS	402 > 80	2.458e3		0.282	268.614	3.90	3.91	2460	32.473	73.2		
18	61	13C3-PFHxS-EIS	402 > 80	2.458e3		0.282	268.614	3.90	3.91	2460	32.473	73.2		
19	69	13C2-PFOA-EIS	414.9 > 369.7	1.228e4		0.282	1519.812	4.47	4.28	12300	28.669	64.6		
20	69	13C2-PFOA-EIS	414.9 > 369.7	1.228e4		0.282	1519.812	4.47	4.28	12300	28.669	64.6		
21	65	13C5-PFNA-EIS	468.2 > 422.9	1.219e4		0.282	1488.463	4.90	4.72	12200	29.071	65.5		
22	-1													
23	23	L-PFOS	499 > 80	2.208e3	2.469e3	0.282		4.80	4.65	11.2	32.635		2.511	NO
24	1...	Total PFOS	499> 80	2.208e3	2.469e3	0.282		4.60		11.2	32.635			
25	25	9Cl-PF30NS	531 > 351		2.469e3	0.282		5.01						YES
26	26	PFDA	513 > 469		1.412e4	0.282		5.09						YES
27	33	PFUdA	563.0 > 519		1.276e4	0.282		5.42						YES
28	71	13C8-PFOS-EIS	507.1 > 80	2.469e3		0.282	278.862	4.80	4.80	2470	31.427	70.8		
29	71	13C8-PFOS-EIS	507.1 > 80	2.469e3		0.282	278.862	4.80	4.80	2470	31.427	70.8		
30	71	13C8-PFOS-EIS	507.1 > 80	2.469e3		0.282	278.862	4.80	4.80	2470	31.427	70.8		
31	73	13C2-PFDA-EIS	515.1 > 469.9	1.412e4		0.282	1677.890	5.09	5.09	14100	29.874	67.3		
32	79	13C2-PFUdA-EIS	565 > 519.8	1.276e4		0.282	1719.985	5.33	5.42	12800	26.322	59.3		
33	-1													
34	29	L-MeFOSAA	570 > 419		2.958e3	0.282		5.24						YES
35	1...	Total N-MeFOSAA	570. > 419	0.000e0	2.958e3	0.282		5.19		0.000				
36	31	L-EtFOSAA	583.9 > 419		2.258e3	0.282		5.40						YES

VY 7/21/2020

Review: AMR 7/21/2020

Dataset: P:\PFAS5.PRO\RESULTS\200715P1\200715P1-24.qld

Last Altered: Tuesday, July 21, 2020 13:56:42 Pacific Daylight Time
Printed: Tuesday, July 21, 2020 13:57:09 Pacific Daylight Time

Name: 200715P1-24, Date: 15-Jul-2020, Time: 15:41:13, ID: 2001436-07 TW24D-20200708 0.28174, Description: TW24D-20200708

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
37	1...	Total N-EtFOSAA	583.9 > 419	0.000e0	2.258e3	0.282		5.37		0.000				
38	35	11Cl-PF30UdS	631 > 451		1.082e4	0.282		5.63						YES
39	77	d3-N-MeFOSAA-EIS	573.1 > 419	2.958e3		0.282	371.929	5.23	5.24	2960	28.233	63.6		
40	77	d3-N-MeFOSAA-EIS	573.1 > 419	2.958e3		0.282	371.929	5.23	5.24	2960	28.233	63.6		
41	81	d5-N-EtFOSAA-EIS	589.3 > 419	2.258e3		0.282	359.971	5.39	5.40	2260	22.267	50.2		
42	81	d5-N-EtFOSAA-EIS	589.3 > 419	2.258e3		0.282	359.971	5.39	5.40	2260	22.267	50.2		
43	83	13C2-PFDoA-EIS	614.9 > 569.9	1.082e4		0.282	1888.181	5.92	5.69	10800	20.347	45.9		
44	-1													
45	37	PFDoA	612.9 > 569.0		1.082e4	0.282		5.69						YES
46	39	PFTrDA	662.9 > 618.9		1.082e4	0.282		5.93						YES
47	41	PFTeDA	713.0 > 669.0		1.848e3	0.282		6.14						YES
48	1...	TDCA	498.3>106.9			0.282		4.47						YES
49	71	13C8-PFOS-EIS	507.1 > 80	2.469e3		0.282	278.862	4.80	4.80	2470	31.427	70.8		
50	83	13C2-PFDoA-EIS	614.9 > 569.9	1.082e4		0.282	1888.181	5.92	5.69	10800	20.347	45.9		
51	83	13C2-PFDoA-EIS	614.9 > 569.9	1.082e4		0.282	1888.181	5.92	5.69	10800	20.347	45.9		
52	89	13C2-PFTeDA-EIS	715.1 > 669.7	1.848e3		0.282	1893.854	6.14	6.14	1850	3.464	7.8		

VY 7/21/2020

Dataset: P:\PFAS5.PRO\RESULTS\200715P1\200715P1-24.qld

Last Altered: Tuesday, July 21, 2020 13:56:42 Pacific Daylight Time
Printed: Tuesday, July 21, 2020 13:57:09 Pacific Daylight Time

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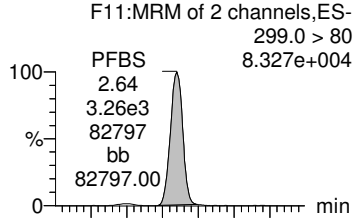
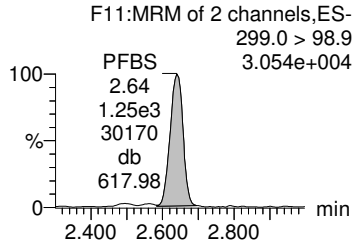
Calibration: P:\PFAS5.PRO\CurveDB\C18_VAL-PFAS_Q5_07-15-20.cdb 16 Jul 2020 10:32:09

Name: 200715P1-24, Date: 15-Jul-2020, Time: 15:41:13, ID: 2001436-07 TW24D-20200708 0.28174, Description: TW24D-20200708

PFBS





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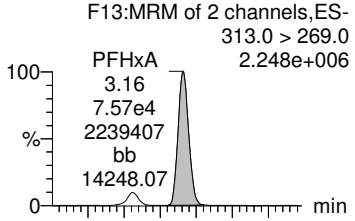
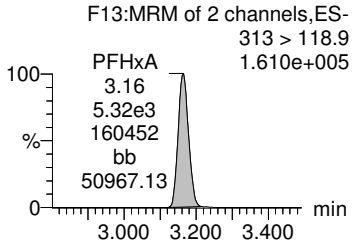
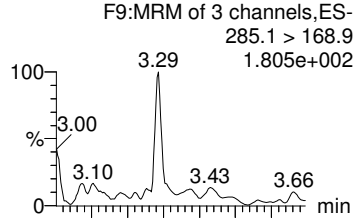
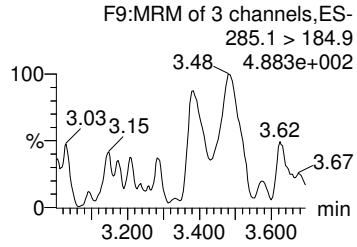




HFPO-DA





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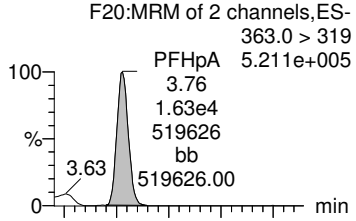

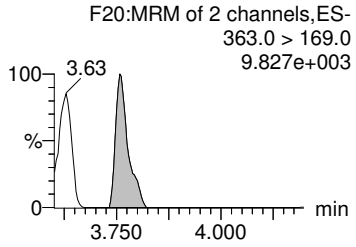

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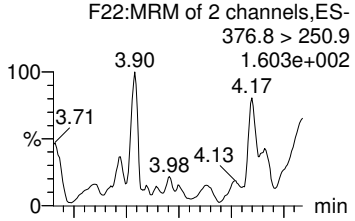

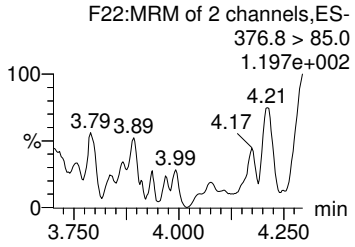

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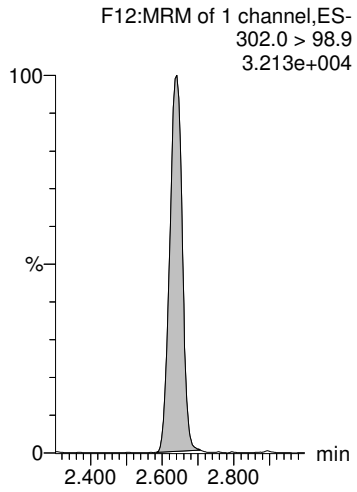

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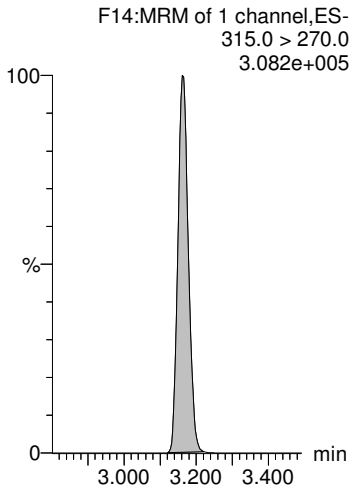
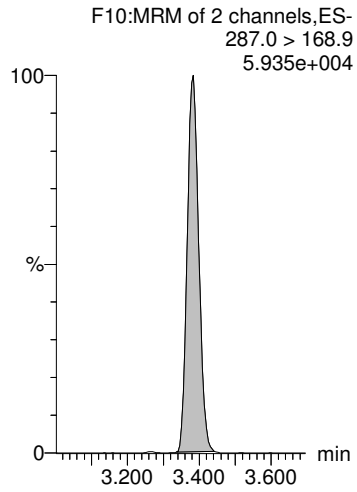


13C3-HFPO-DA-EIS



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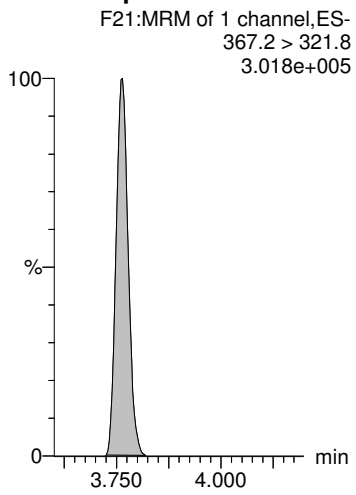

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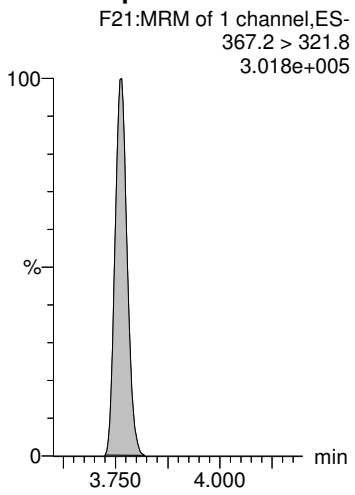


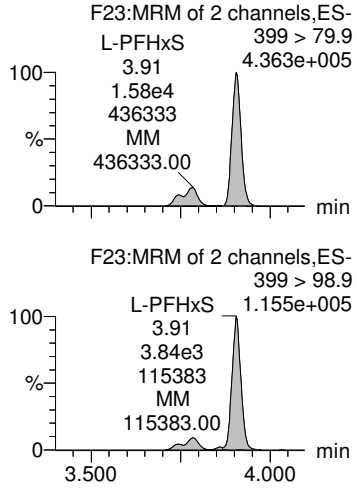
VY 7/21/2020

Dataset: P:\PFAS5.PRO\RESULTS\200715P1\200715P1-24.qld

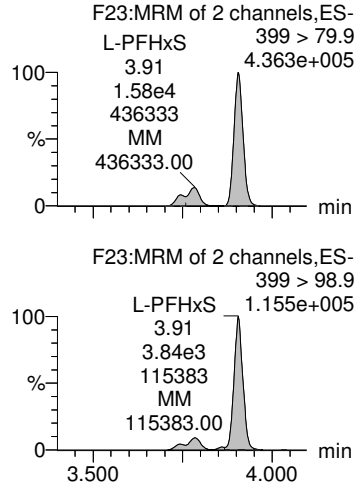
Last Altered: Tuesday, July 21, 2020 13:56:42 Pacific Daylight Time
Printed: Tuesday, July 21, 2020 13:57:09 Pacific Daylight Time

Name: 200715P1-24, Date: 15-Jul-2020, Time: 15:41:13, ID: 2001436-07 TW24D-20200708 0.28174, Description: TW24D-20200708

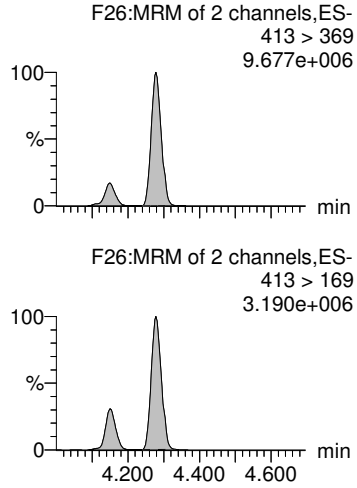
L-PFHxS



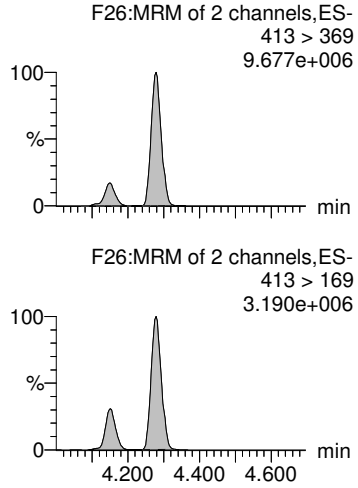
Total PFHxS



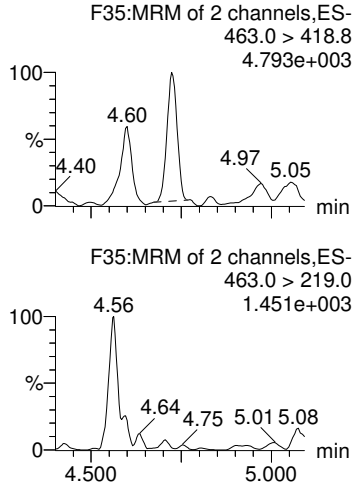
L-PFOA



Total PFOA



PFNA



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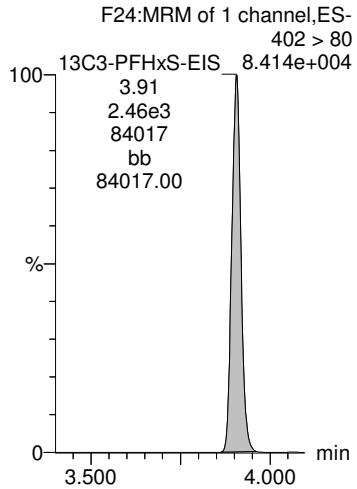

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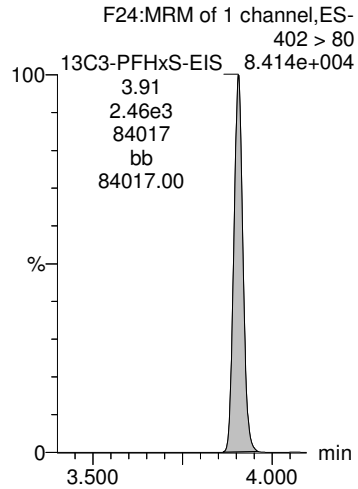
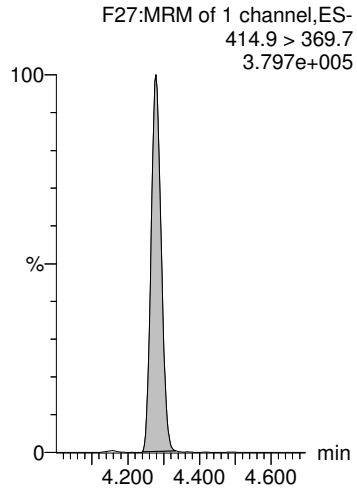
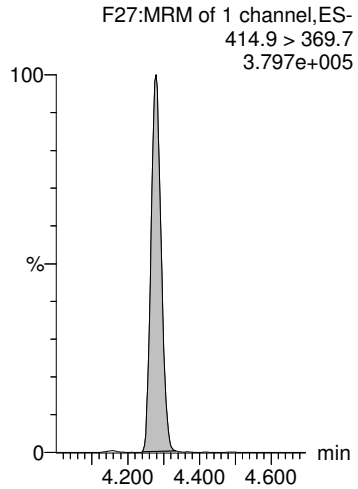


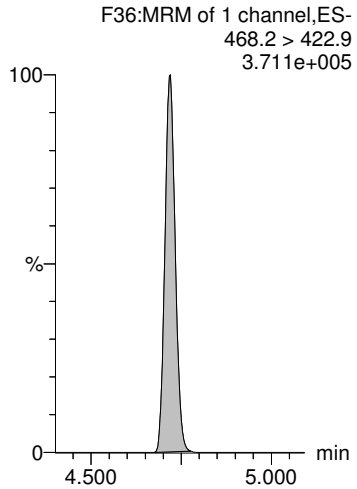
13C2-PFOA-EIS



13C2-PFOA-EIS



13C5-PFNA-EIS



VY 7/21/2020

Vista Analytical Laboratory L18

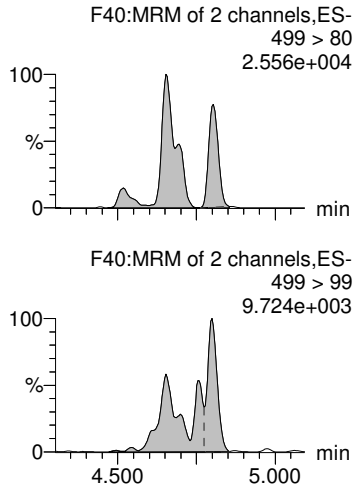
Review: AMR 7/21/2020

Dataset: P:\PFAS5.PRO\RESULTS\200715P1\200715P1-24.qld

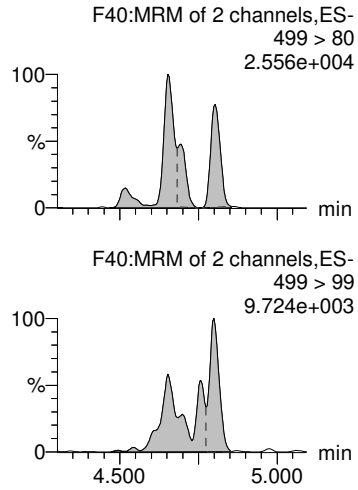
Last Altered: Tuesday, July 21, 2020 13:56:42 Pacific Daylight Time
Printed: Tuesday, July 21, 2020 13:57:09 Pacific Daylight Time

Name: 200715P1-24, Date: 15-Jul-2020, Time: 15:41:13, ID: 2001436-07 TW24D-20200708 0.28174, Description: TW24D-20200708

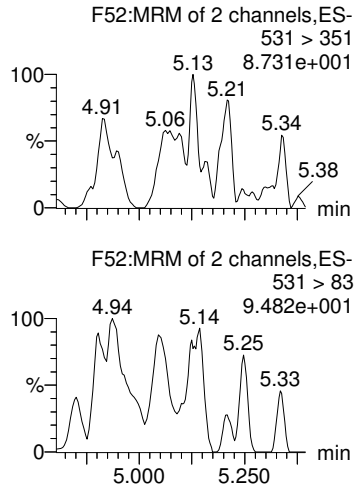
L-PFOS



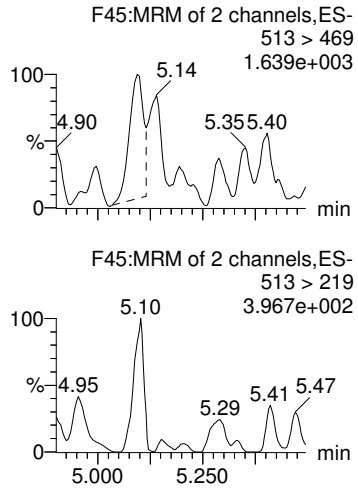
Total PFOS



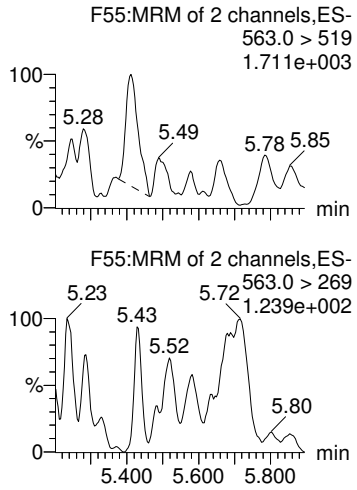
9Cl-PF30NS



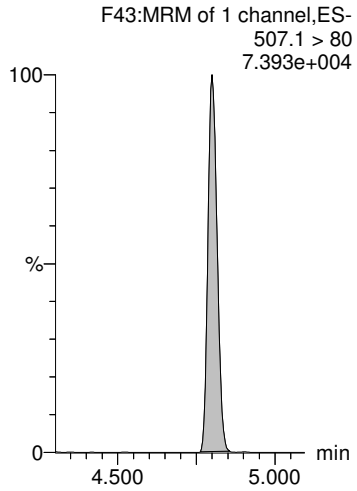
PFDA



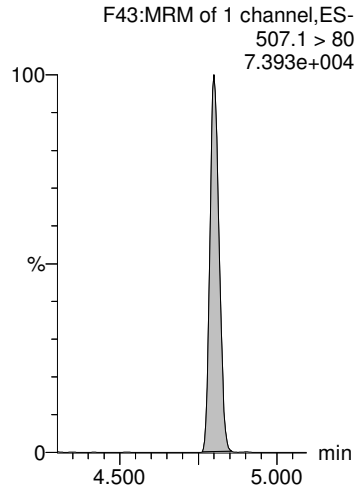
PFUdA



13C8-PFOS-EIS



13C8-PFOS-EIS



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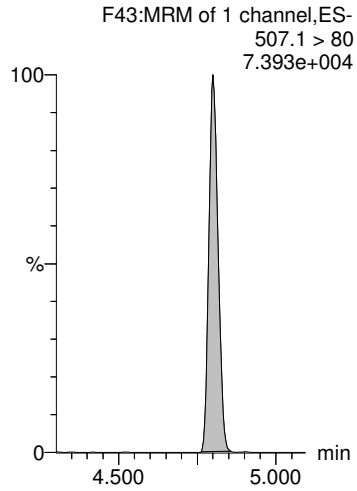
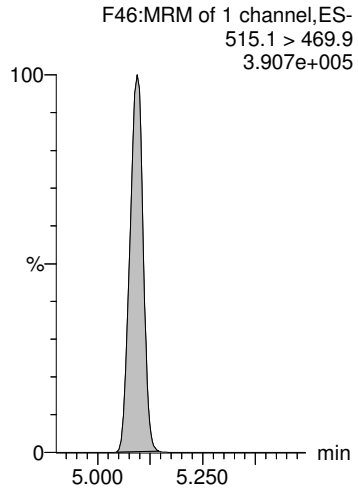
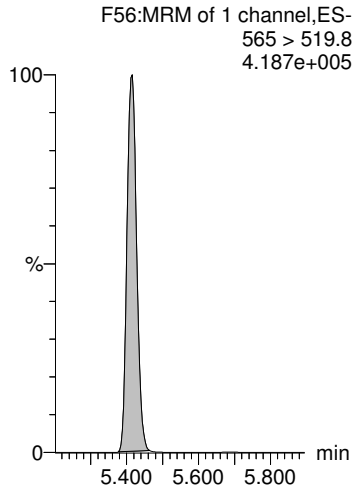


13C2-PFDA-EIS



13C2-PFUdA-EIS



VY 7/21/2020

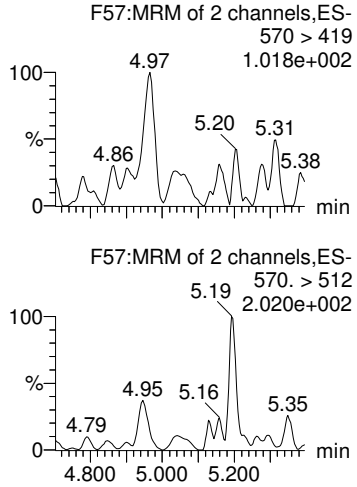
Review: AMR 7/21/2020

Dataset: P:\PFAS5.PRO\RESULTS\200715P1\200715P1-24.qld

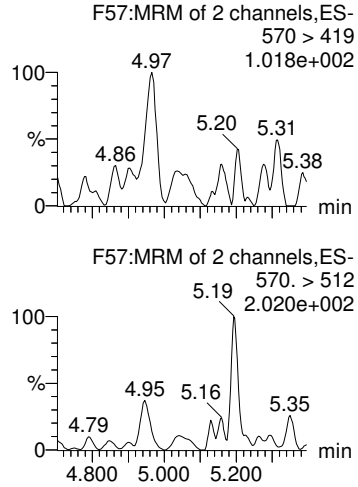
Last Altered: Tuesday, July 21, 2020 13:56:42 Pacific Daylight Time
Printed: Tuesday, July 21, 2020 13:57:09 Pacific Daylight Time

Name: 200715P1-24, Date: 15-Jul-2020, Time: 15:41:13, ID: 2001436-07 TW24D-20200708 0.28174, Description: TW24D-20200708

L-MeFOSAA



Total N-MeFOSAA



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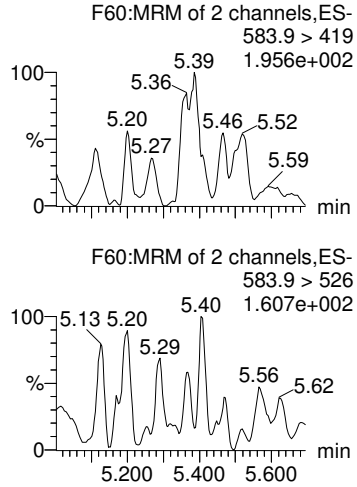
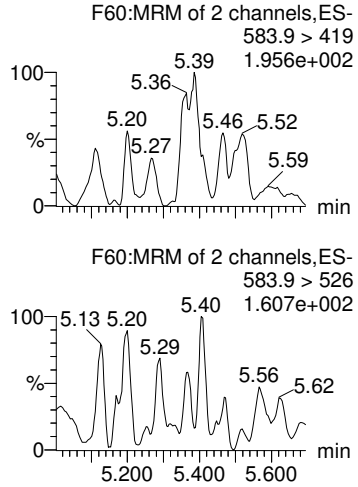
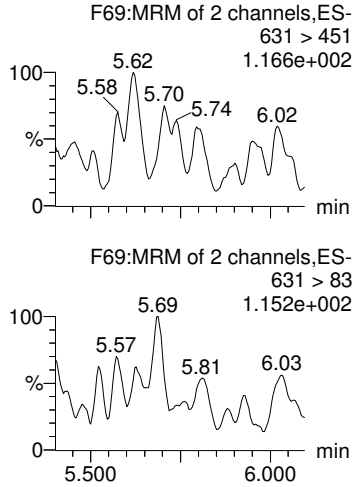


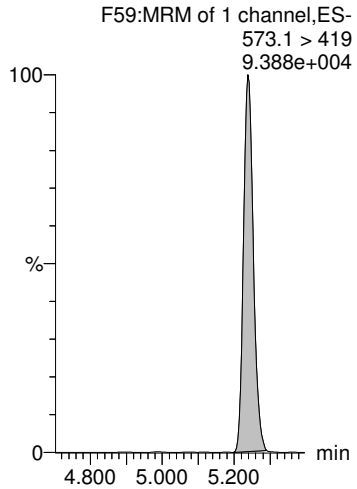
Total N-EtFOSAA



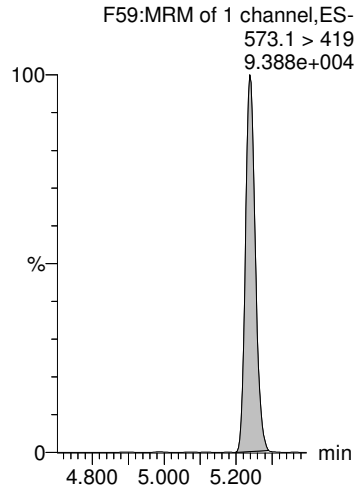
11Cl-PF30UdS



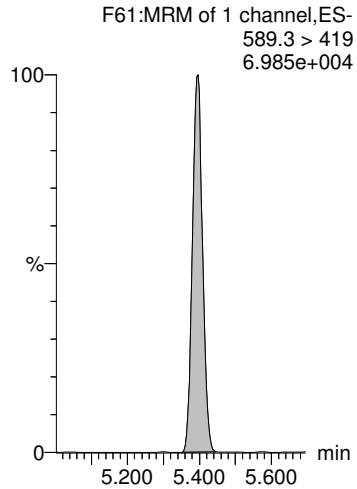
d3-N-MeFOSAA-EIS



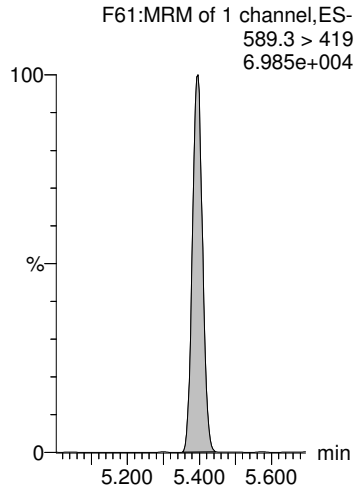
d3-N-MeFOSAA-EIS



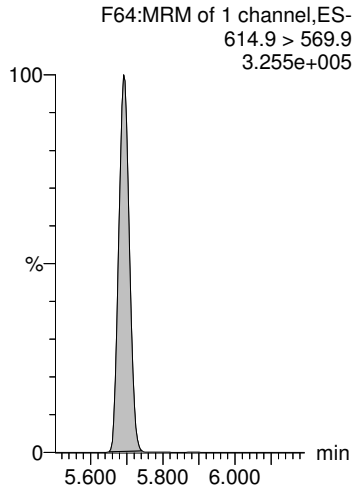
d5-N-EtFOSAA-EIS



d5-N-EtFOSAA-EIS



13C2-PFDoA-EIS



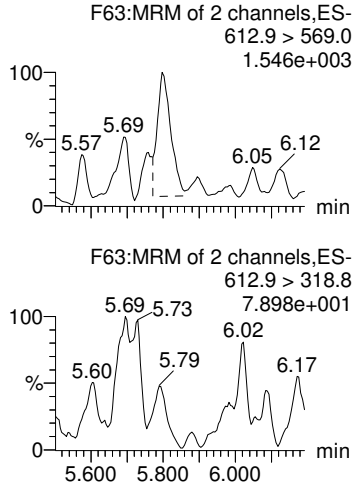
VY 7/21/2020

Dataset: P:\PFAS5.PRO\RESULTS\200715P1\200715P1-24.qld

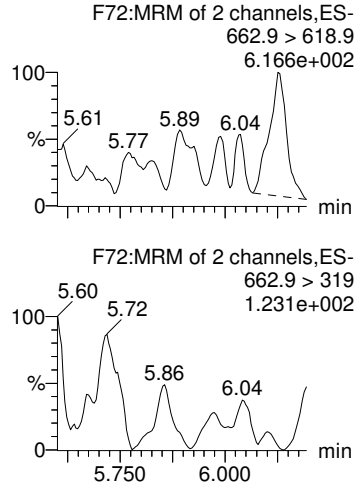
Last Altered: Tuesday, July 21, 2020 13:56:42 Pacific Daylight Time
Printed: Tuesday, July 21, 2020 13:57:09 Pacific Daylight Time

Name: 200715P1-24, Date: 15-Jul-2020, Time: 15:41:13, ID: 2001436-07 TW24D-20200708 0.28174, Description: TW24D-20200708

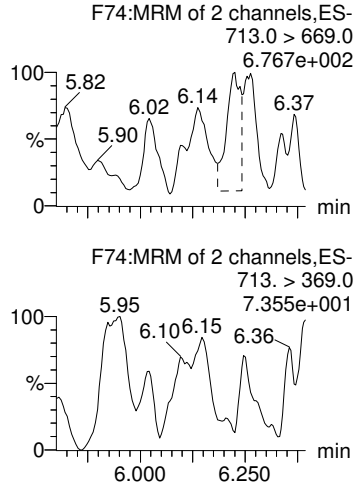
PFDoA



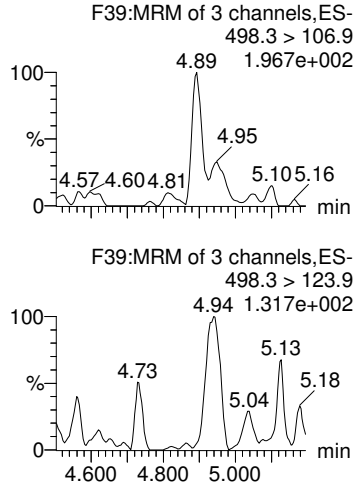
PFTrDA



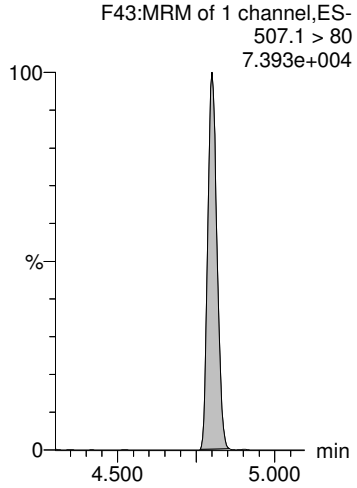
PFTeDA



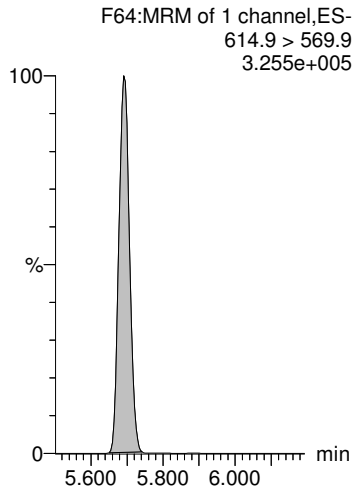
TDCA



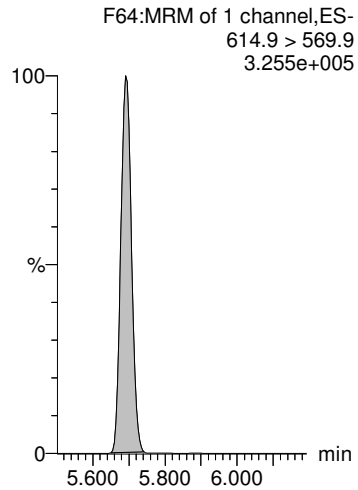
13C8-PFOS-EIS



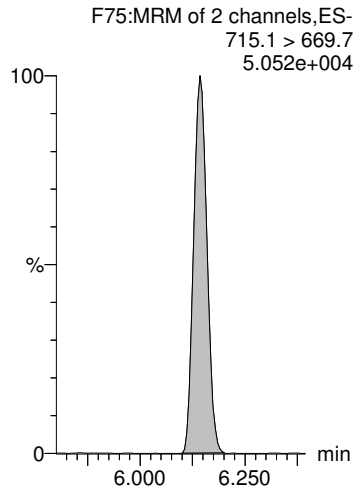
13C2-PFDoA-EIS



13C2-PFDoA-EIS



13C2-PFTeDA-EIS



VY 7/21/2020

Dataset: P:\PFAS5.PRO\RESULTS\200714P1\200714P1-61.qld

Last Altered: Tuesday, July 21, 2020 13:52:34 Pacific Daylight Time *See Dilution
Printed: Tuesday, July 21, 2020 13:52:57 Pacific Daylight Time

Name: 200714P1-61, Date: 14-Jul-2020, Time: 20:16:53, ID: 2001436-08 TW17D-20200708 0.40597, Description: TW17D-20200708

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
1	5	PFBS	299.0 > 80	1.198e4	8.756e2	0.406		2.67	2.67	171	168.719		2.434	NO
2	7	PFHxA	313.0 > 269.0	2.354e5	7.104e3	0.406		3.20	3.19	414	987.371		14.503	NO
3	9	HFPO-DA	285.1 > 168.9		1.292e3	0.406		3.42						YES
4	11	PFHpA	363.0 > 319	5.618e4	7.260e3	0.406		3.79	3.80	96.7	196.397		44.950	NO
5	12	ADONA	376.8 > 250.9		7.260e3	0.406		3.89						YES
6	51	13C3-PFBS-EIS	302.0 > 98.9	8.756e2		0.406	157.875	2.67	2.67	876	13.662	44.4		
7	57	13C2-PFHxA-EIS	315.0 > 270.0	7.104e3		0.406	1345.825	3.19	3.20	7100	13.003	42.2		
8	53	13C3-HFPO-DA-EIS	287.0 > 168.9	1.292e3		0.406	261.275	3.41	3.42	1290	12.185	39.6		
9	59	13C4-PFHpA-EIS	367.2 > 321.8	7.260e3		0.406	1285.879	3.79	3.79	7260	13.907	45.2		
10	59	13C4-PFHpA-EIS	367.2 > 321.8	7.260e3		0.406	1285.879	3.79	3.79	7260	13.907	45.2		
11	-1													
12	13	L-PFHxS	399 > 79.9	6.254e4	1.687e3	0.406		3.93	3.94	464	989.837		4.053	NO
13	1...	Total PFHxS	399 > 79.9	6.254e4	1.687e3	0.406		3.93		464	989.837			
14	16	L-PFOA	413 > 369	1.077e6	8.791e3	0.406		4.31	4.31	1530	5760.014	E*	2.660	NO
15	1...	Total PFOA	413 > 369	1.077e6	8.791e3	0.406		4.60		1530	5760.014			
16	21	PFNA	463.0 > 418.8	6.860e2	8.770e3	0.406		4.75	4.75	0.978	1.940		12.845	NO
17	61	13C3-PFHxS-EIS	402 > 80	1.687e3		0.406	305.184	3.93	3.93	1690	13.613	44.2		
18	61	13C3-PFHxS-EIS	402 > 80	1.687e3		0.406	305.184	3.93	3.93	1690	13.613	44.2		
19	69	13C2-PFOA-EIS	414.9 > 369.7	8.791e3		0.406	1733.544	4.47	4.31	8790	12.492	40.6		
20	69	13C2-PFOA-EIS	414.9 > 369.7	8.791e3		0.406	1733.544	4.47	4.31	8790	12.492	40.6		
21	65	13C5-PFNA-EIS	468.2 > 422.9	8.770e3		0.406	1672.506	4.96	4.75	8770	12.916	41.9		
22	-1													
23	23	L-PFOS	499 > 80	2.247e4	1.702e3	0.406		4.83	4.83	165	334.157		2.456	NO
24	1...	Total PFOS	499> 80	2.247e4	1.702e3	0.406		4.60		165	334.157			
25	25	9Cl-PF30NS	531 > 351		1.702e3	0.406		5.04						YES
26	26	PFDA	513 > 469	1.772e2	9.739e3	0.406		5.13	5.12	0.227	0.616		11.272	YES
27	33	PFUdA	563.0 > 519		6.790e3	0.406		5.45						YES
28	71	13C8-PFOS-EIS	507.1 > 80	1.702e3		0.406	299.078	4.83	4.83	1700	14.015	45.5		
29	71	13C8-PFOS-EIS	507.1 > 80	1.702e3		0.406	299.078	4.83	4.83	1700	14.015	45.5		
30	71	13C8-PFOS-EIS	507.1 > 80	1.702e3		0.406	299.078	4.83	4.83	1700	14.015	45.5		
31	73	13C2-PFDA-EIS	515.1 > 469.9	9.739e3		0.406	1995.916	5.12	5.13	9740	12.020	39.0		
32	79	13C2-PFUdA-EIS	565 > 519.8	6.790e3		0.406	1917.639	5.36	5.45	6790	8.721	28.3		
33	-1													
34	29	L-MeFOSAA	570 > 419		1.357e3	0.406		5.27						YES
35	1...	Total N-MeFOSAA	570. > 419	0.000e0	1.357e3	0.406		5.19		0.000				
36	31	L-EtFOSAA	583.9 > 419		9.541e2	0.406		5.42						YES

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Review: AMR 7/21/2020

Dataset: P:\PFAS5.PRO\RESULTS\200714P1\200714P1-61.qld

Last Altered: Tuesday, July 21, 2020 13:52:34 Pacific Daylight Time
Printed: Tuesday, July 21, 2020 13:52:57 Pacific Daylight Time

Name: 200714P1-61, Date: 14-Jul-2020, Time: 20:16:53, ID: 2001436-08 TW17D-20200708 0.40597, Description: TW17D-20200708

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	Pred.RT	RT	Response	Conc.	%Rec	Ion Ratio	Ratio Out?
37	1...	Total N-EtFOSAA	583.9 > 419	0.000e0	9.541e2	0.406		5.37		0.000				
38	35	11Cl-PF30UdS	631 > 451		4.403e3	0.406		5.67						YES
39	77	d3-N-MeFOSAA-EIS	573.1 > 419	1.357e3		0.406	391.230	5.27	5.27	1360	8.547	27.8		
40	77	d3-N-MeFOSAA-EIS	573.1 > 419	1.357e3		0.406	391.230	5.27	5.27	1360	8.547	27.8		
41	81	d5-N-EtFOSAA-EIS	589.3 > 419	9.541e2		0.406	342.385	5.42	5.42	954	6.864	22.3		
42	81	d5-N-EtFOSAA-EIS	589.3 > 419	9.541e2		0.406	342.385	5.42	5.42	954	6.864	22.3		
43	83	13C2-PFDoA-EIS	614.9 > 569.9	4.403e3		0.406	2303.973	5.87	5.73	4400	4.708	15.3		
44	-1													
45	37	PFDoA	612.9 > 569.0		4.403e3	0.406		5.73						YES
46	39	PFTrDA	662.9 > 618.9		4.403e3	0.406		5.97						YES
47	41	PFTeDA	713.0 > 669.0		9.235e2	0.406		6.17						YES
48	1...	TDCA	498.3>106.9			0.406		4.47						YES
49	71	13C8-PFOS-EIS	507.1 > 80	1.702e3		0.406	299.078	4.83	4.83	1700	14.015	45.5		
50	83	13C2-PFDoA-EIS	614.9 > 569.9	4.403e3		0.406	2303.973	5.87	5.73	4400	4.708	15.3		
51	83	13C2-PFDoA-EIS	614.9 > 569.9	4.403e3		0.406	2303.973	5.87	5.73	4400	4.708	15.3		
52	89	13C2-PFTeDA-EIS	715.1 > 669.7	9.235e2		0.406	2242.342	6.18	6.17	923	1.014	3.3		

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Dataset: P:\PFAS5.PRO\RESULTS\200714P1\200714P1-61.qld

Last Altered: Tuesday, July 21, 2020 13:52:34 Pacific Daylight Time
Printed: Tuesday, July 21, 2020 13:52:57 Pacific Daylight Time

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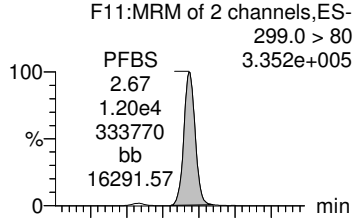
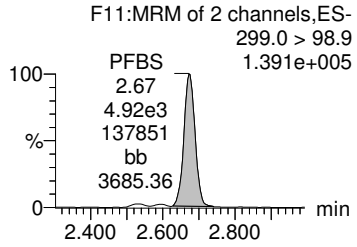
Calibration: P:\PFAS5.PRO\CurveDB\C18_VAL-PFAS_Q5_07-14-20.cdb 15 Jul 2020 08:25:12

Name: 200714P1-61, Date: 14-Jul-2020, Time: 20:16:53, ID: 2001436-08 TW17D-20200708 0.40597, Description: TW17D-20200708

PFBS





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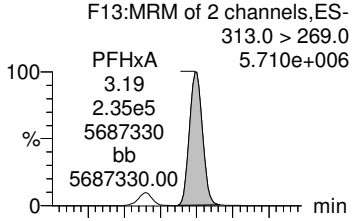

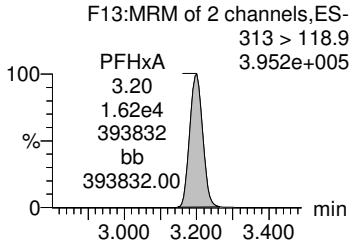

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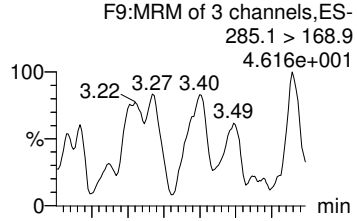

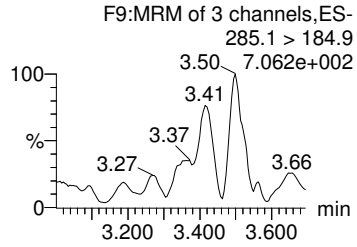

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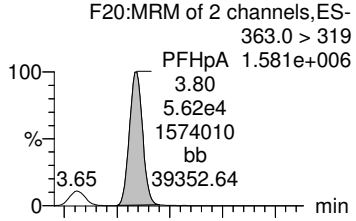

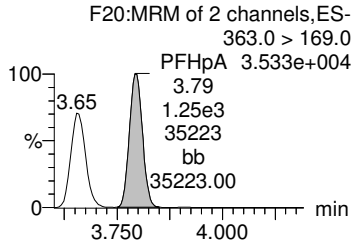

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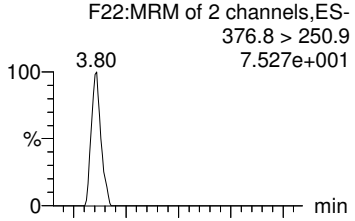

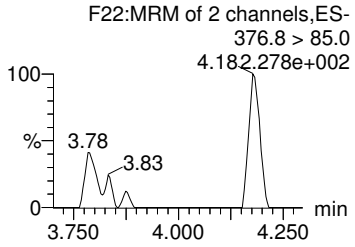

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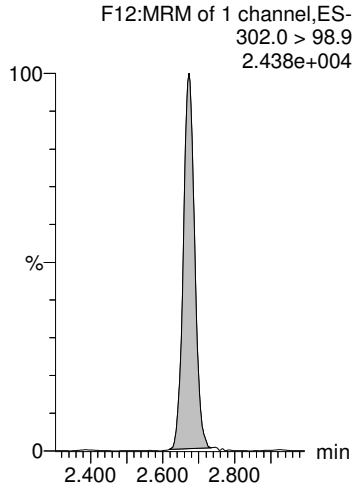

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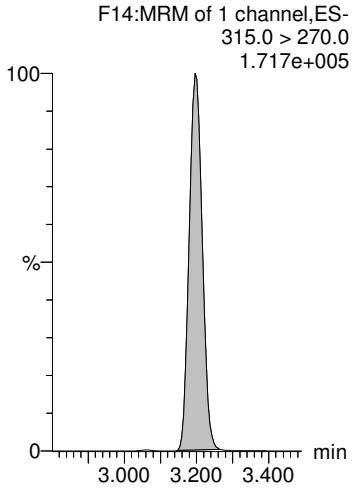

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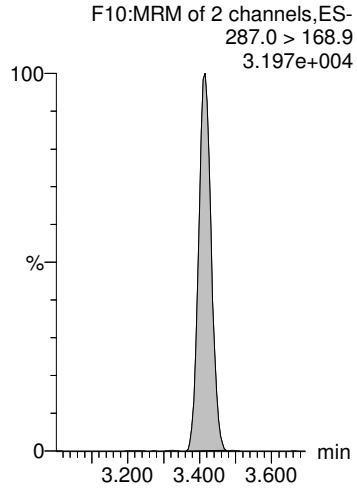

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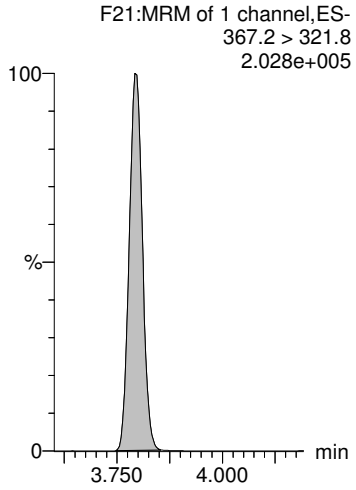

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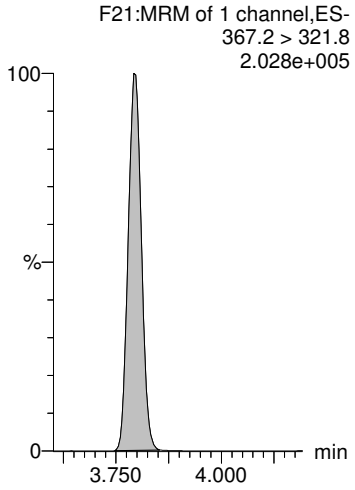

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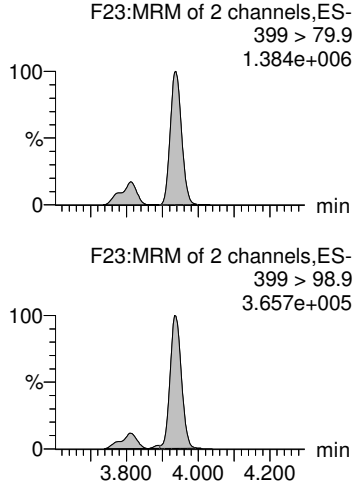
Printed: Tuesday, July 21, 2020 13:52:57 Pacific Daylight Time

Name: 200714P1-61, Date: 14-Jul-2020, Time: 20:16:53, ID: 2001436-08 TW17D-20200708 0.40597, Description: TW17D-20200708

L-PFHxS



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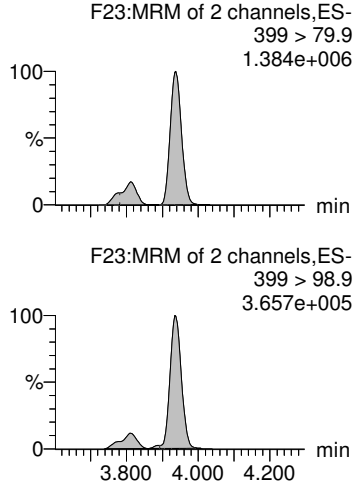
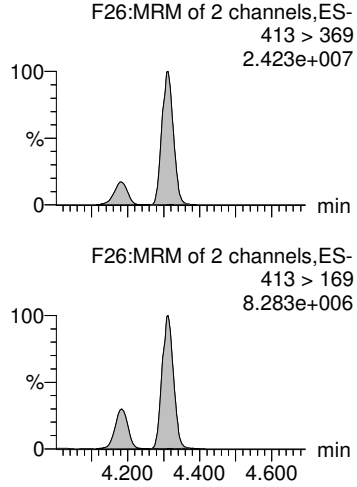


L-PFOA



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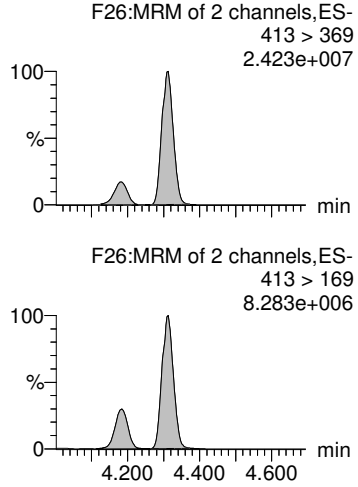

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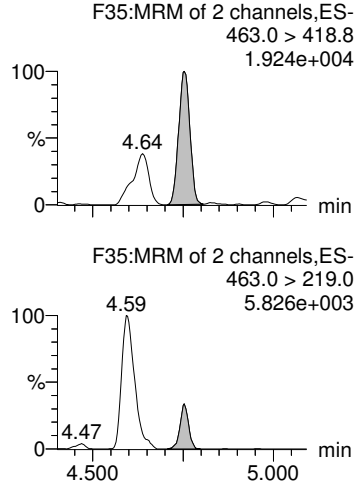

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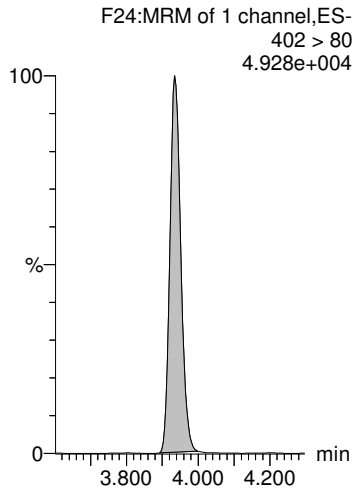

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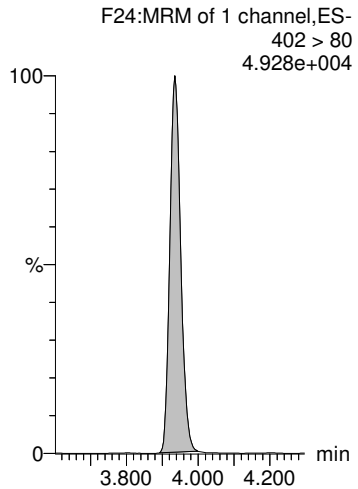

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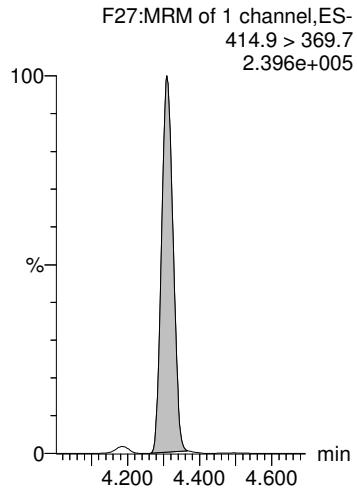

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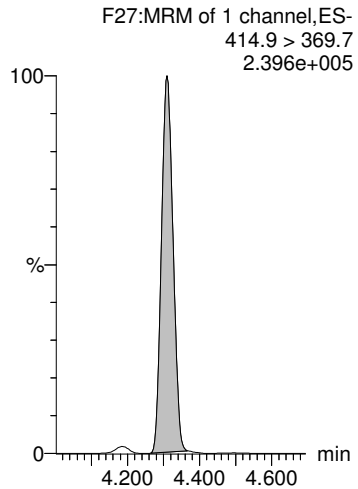

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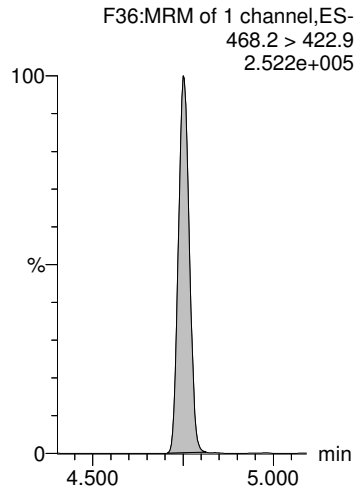

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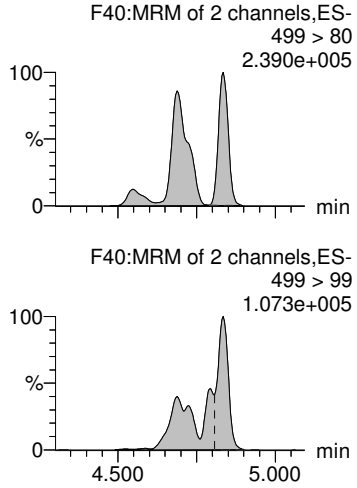
Name: 200714P1-61, Date: 14-Jul-2020, Time: 20:16:53, ID: 2001436-08 TW17D-20200708 0.40597, Description: TW17D-20200708

L-PFOS



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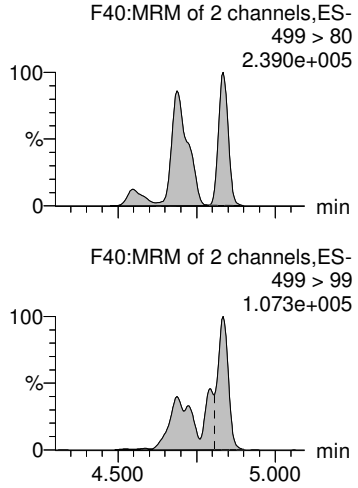

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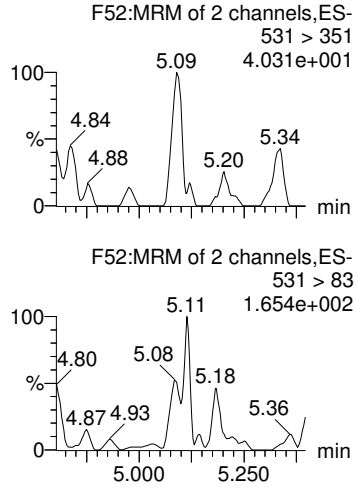

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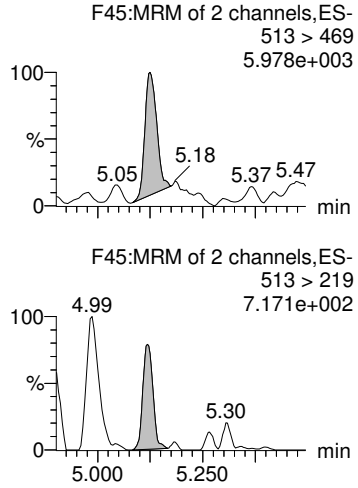

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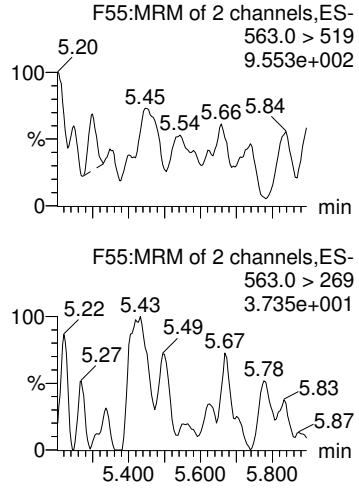

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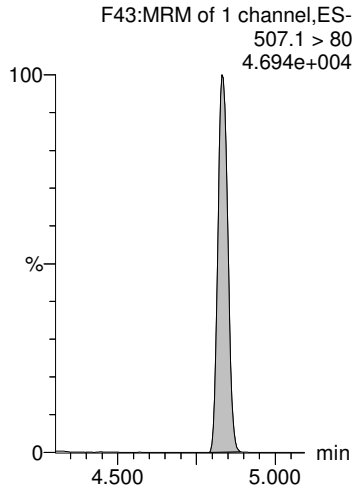

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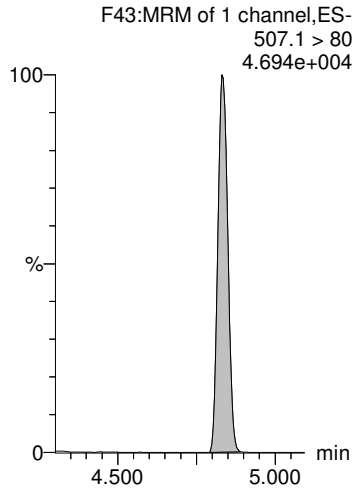

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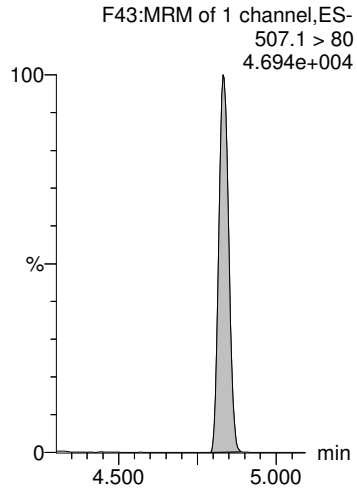

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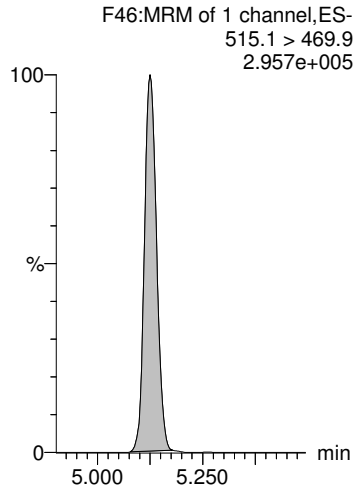

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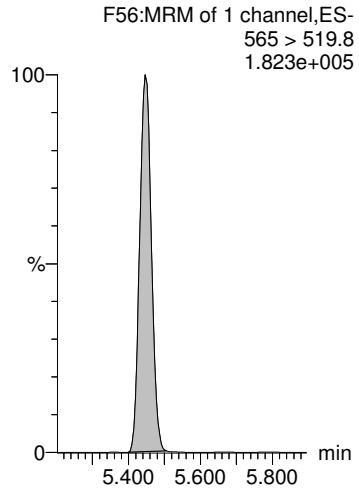

VY 7/21/2020

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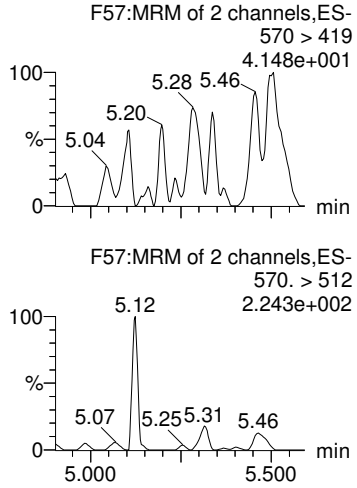
Name: 200714P1-61, Date: 14-Jul-2020, Time: 20:16:53, ID: 2001436-08 TW17D-20200708 0.40597, Description: TW17D-20200708

L-MeFOSAA



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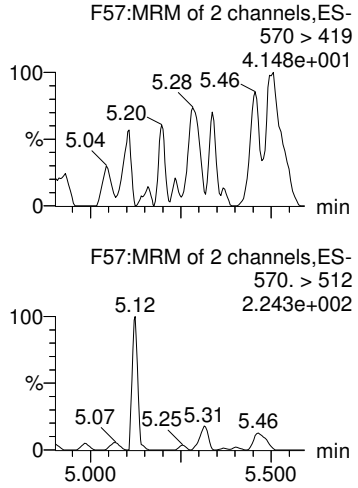

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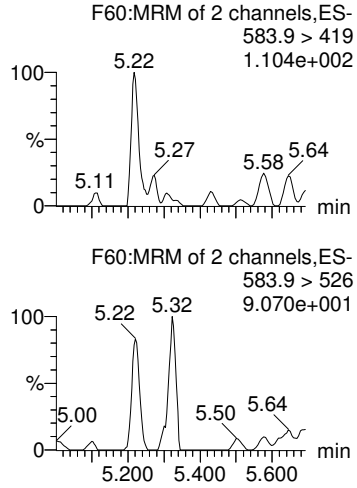

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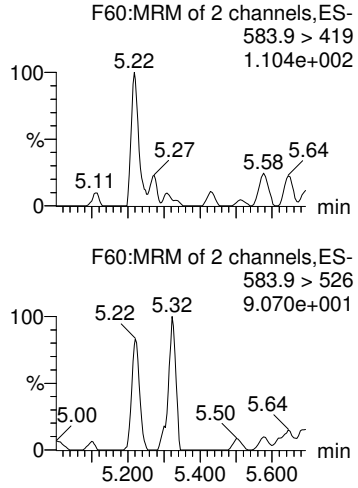
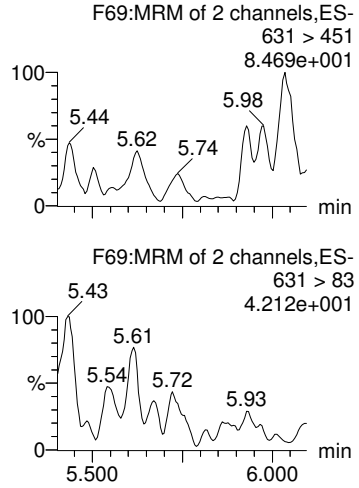


11Cl-PF30UdS



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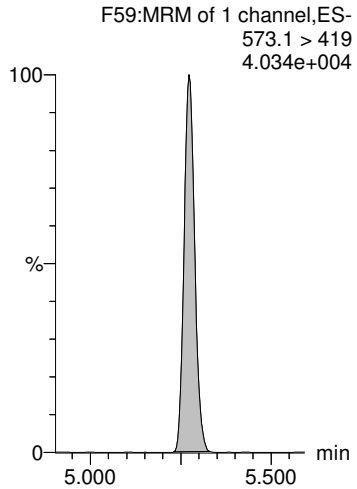

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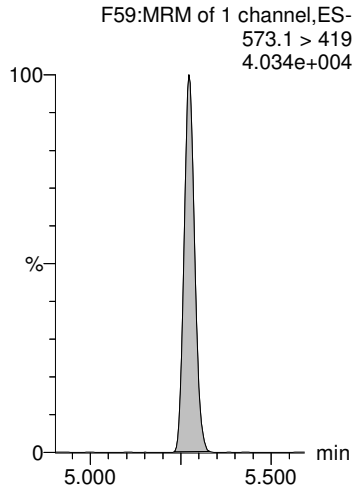

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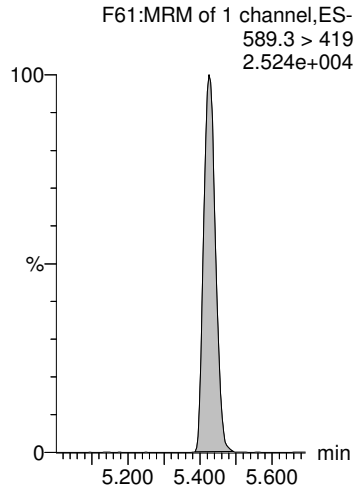

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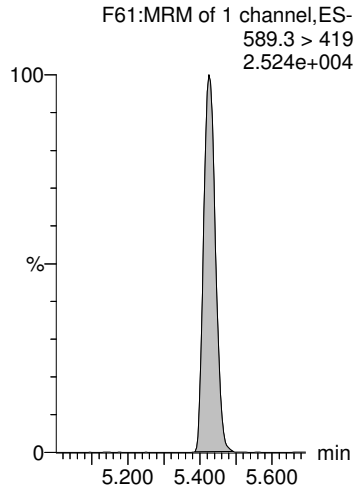
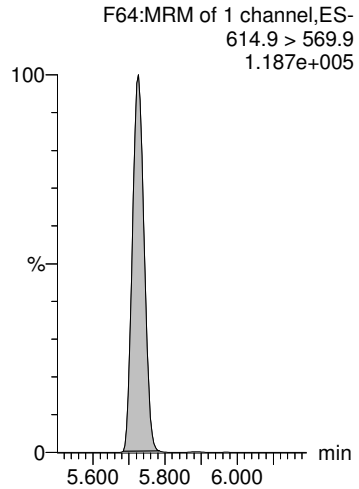


13C2-PFDoA-EIS



VY 7/21/2020

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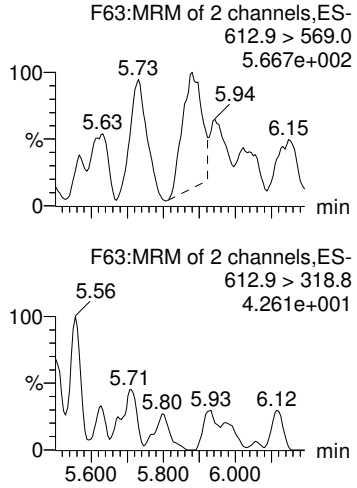
Name: 200714P1-61, Date: 14-Jul-2020, Time: 20:16:53, ID: 2001436-08 TW17D-20200708 0.40597, Description: TW17D-20200708

PFDoA



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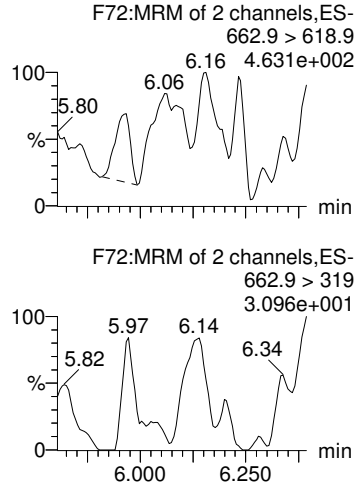

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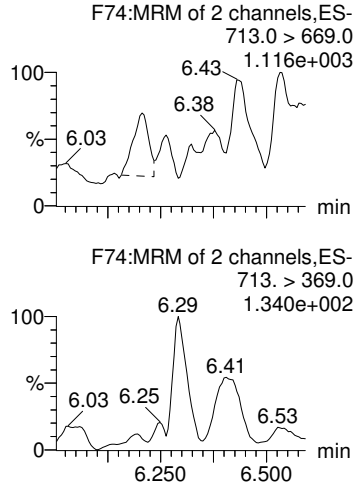

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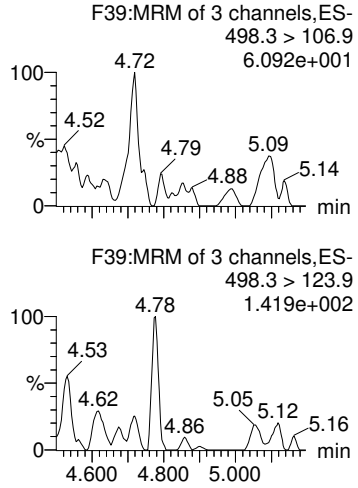

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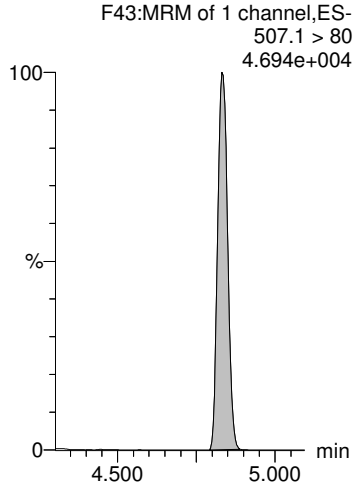

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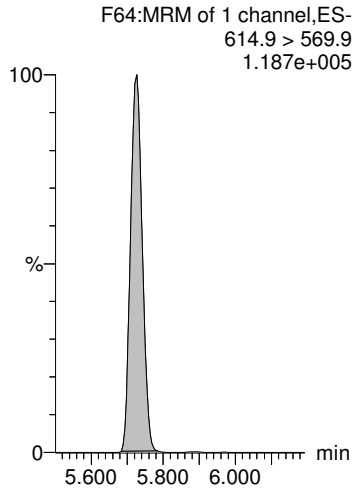
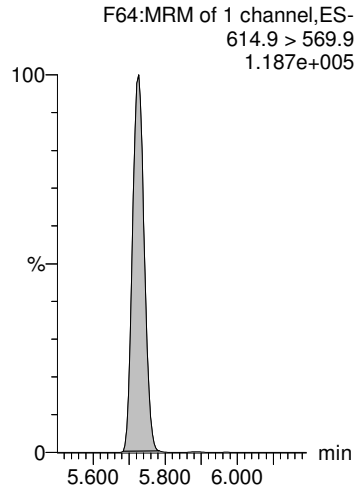


13C2-PFDoA-EIS



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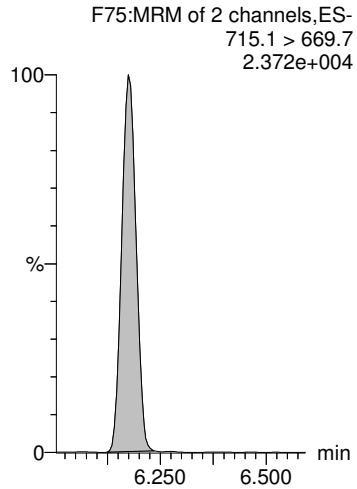


Vista Analytical Laboratory

Review: AMR 7/21/2020

Dataset: P:\PFAS5.PRO\RESULTS\200715P1\200715P1-25.qld

*ug/L

Last Altered: Thursday, July 16, 2020 15:44:46 Pacific Daylight Time
Printed: Monday, July 20, 2020 09:39:30 Pacific Daylight Time

Name: 200715P1-25, Date: 15-Jul-2020, Time: 15:51:49, ID: 2001436-08@5X TW17D-20200708 0.40597, Description: TW17D-20200708

	#	Name	Trace	Area	IS Area	wt/vol	RRF Mean	RT	Response	Conc.	*	%Rec	Ion Ratio	Ratio Out?
1	16	L-PFOA	413 > 369	2.258e5	1.815e3	0.406		4.28	1.555	3.875			2.678	NO
2	1...	Total PFOA	413 > 369	2.258e5	1.815e3	0.406			1.555	3.875				
3	69	13C2-PFOA-EIS	414.9 > 369.7	1.815e3		0.406	1519.812	4.28	1815.006	2.942		9553.8	47.77	
4	69	13C2-PFOA-EIS	414.9 > 369.7	1.815e3		0.406	1519.812	4.28	1815.006	2.942		9553.8		
5	-1													

VY 7/20/2020

Vista Analytical Laboratory

Review: AMR 7/21/2020

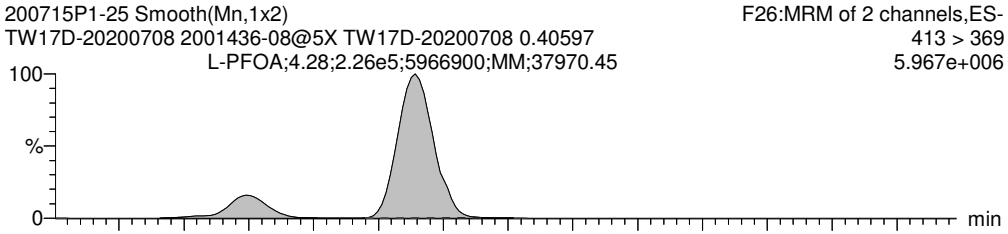
Dataset: P:\PFAS5.PRO\RESULTS\200715P1\200715P1-25.qld

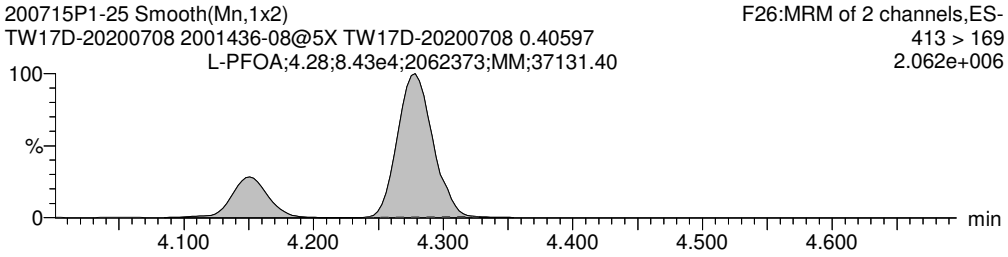
Last Altered: Thursday, July 16, 2020 15:44:46 Pacific Daylight Time
Printed: Monday, July 20, 2020 09:39:30 Pacific Daylight Time

Method: P:\PFAS5.PRO\MethDB\NEW_PFAS_80C_071520.mdb 15 Jul 2020 14:50:21
Calibration: P:\PFAS5.PRO\CurveDB\C18_VAL-PFAS_Q5_07-15-20.cdb 16 Jul 2020 10:32:09

Name: 200715P1-25, Date: 15-Jul-2020, Time: 15:51:49, ID: 2001436-08@5X TW17D-20200708 0.40597, Description: TW17D-20200708

L-PFOA





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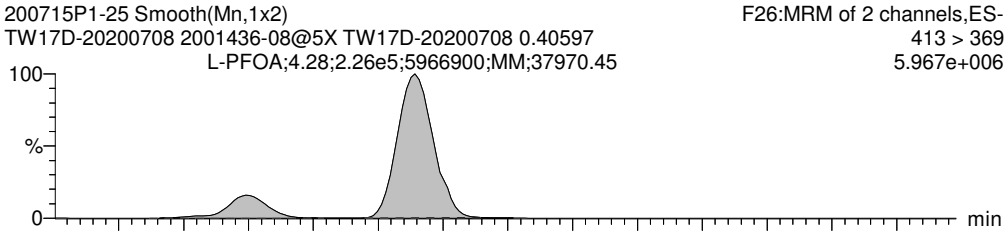
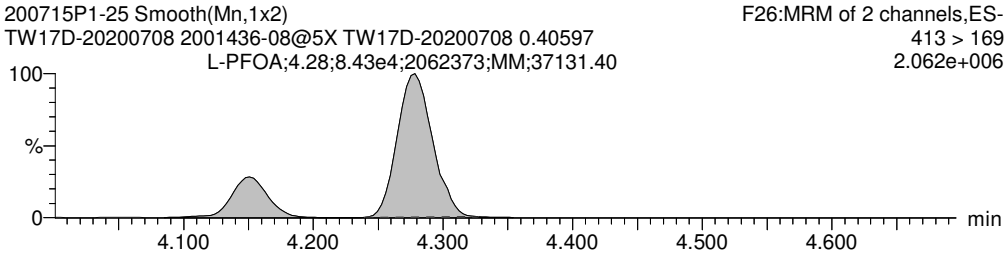
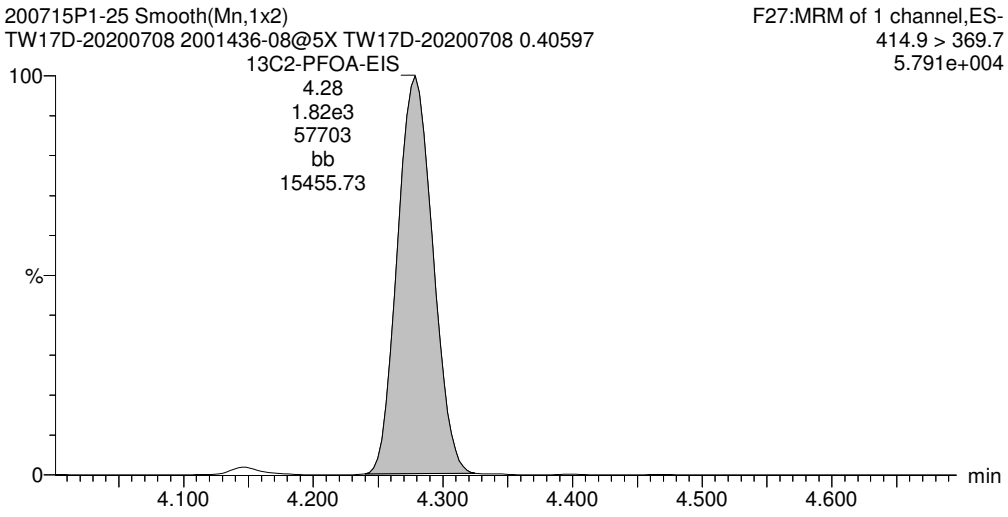
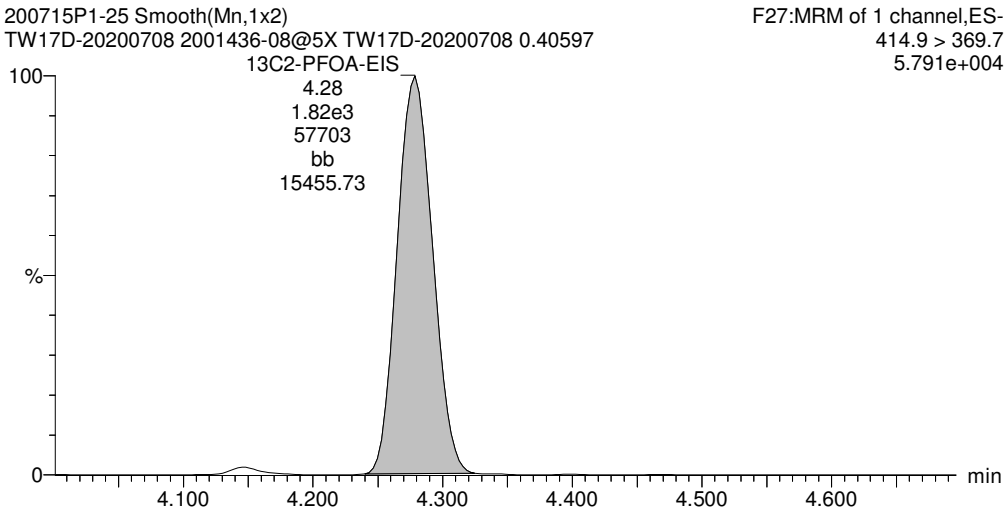




13C2-PFOA-EIS



13C2-PFOA-EIS



VY 7/20/2020

INSTRUMENT BLANKS (IB)

AND

CONTINUTING CALIBRATION VERIFICATIONS (CCV)

Vista Analytical Laboratory

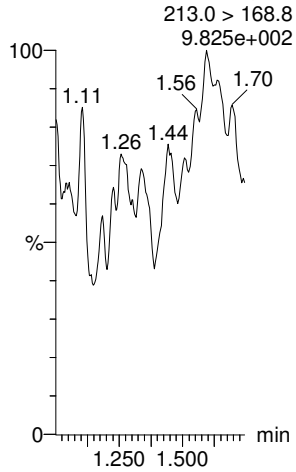
Dataset: Untitled

Last Altered: Wednesday, July 15, 2020 08:45:05 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 08:45:14 Pacific Daylight Time

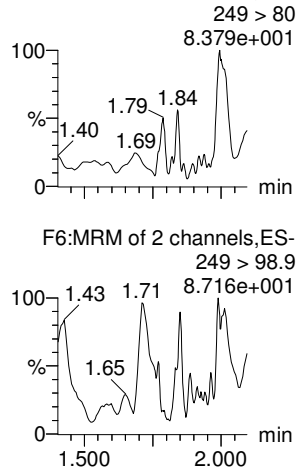
Method: D:\PFAS5.PRO\MethDB\NEW_PFAS_80C_071420.mdb 14 Jul 2020 15:40:52
Calibration: D:\PFAS5.PRO\CurveDB\C18_VAL-PFAS_Q5_07-14-20.cdb 15 Jul 2020 08:25:12

Name: 200714P1-15, Date: 14-Jul-2020, Time: 12:10:00, ID: IB, Description: IB

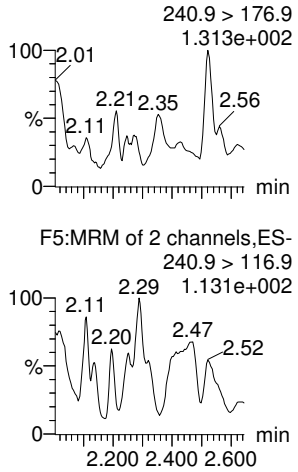
PFBA



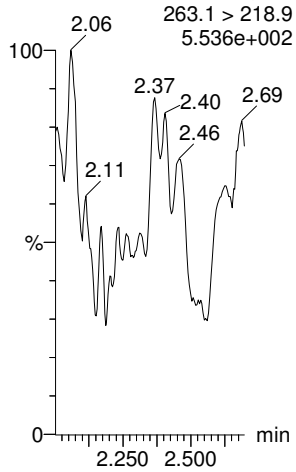
PFPrS



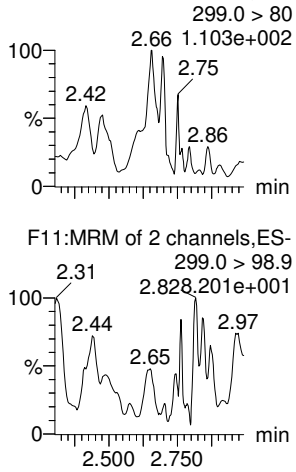
3:3 FTCA



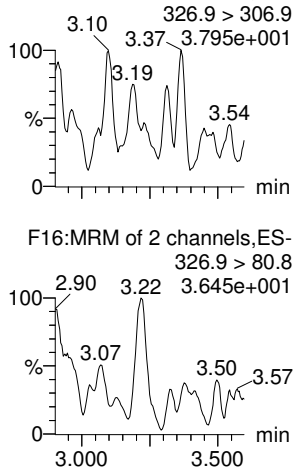
PFPeA



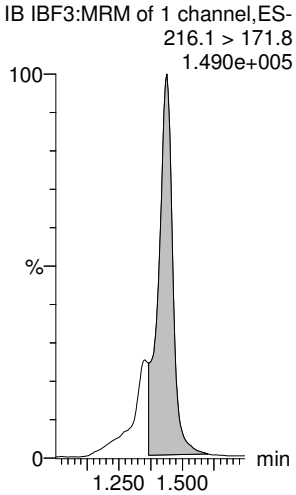
PFBS



4:2 FTS



13C3-PFBA-EIS



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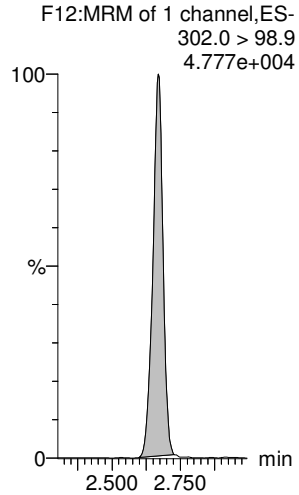

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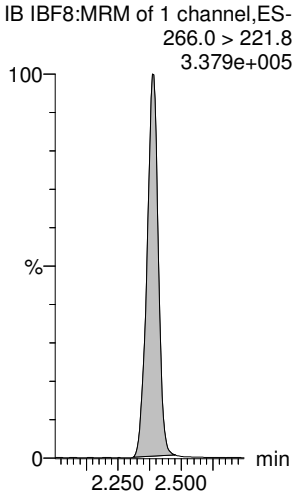

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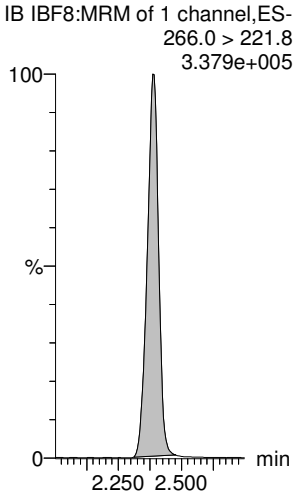

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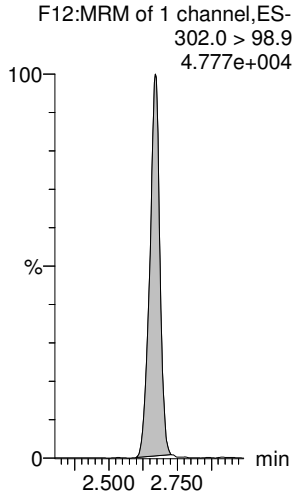
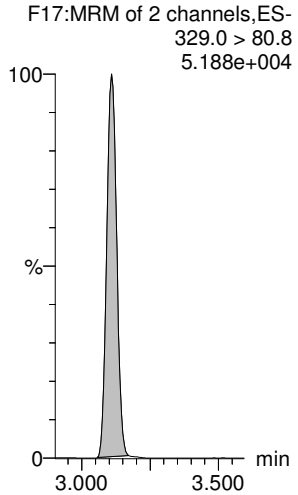


13C2-4:2 FTS-EIS



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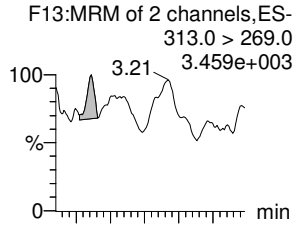
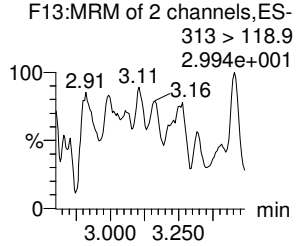
Last Altered: Wednesday, July 15, 2020 08:45:05 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 08:45:14 Pacific Daylight Time

Name: 200714P1-15, Date: 14-Jul-2020, Time: 12:10:00, ID: IB, Description: IB

PFHxA





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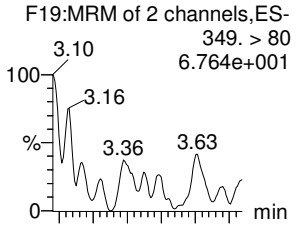
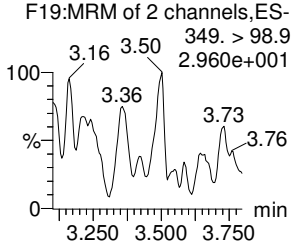
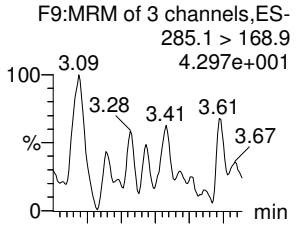
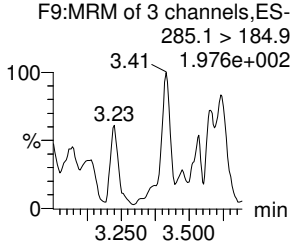


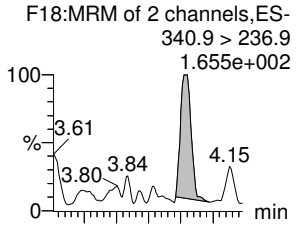


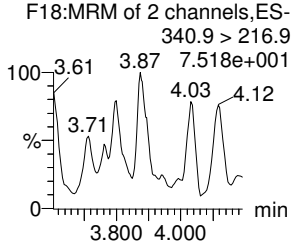
HFPO-DA



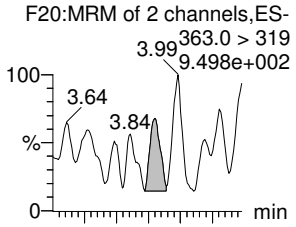


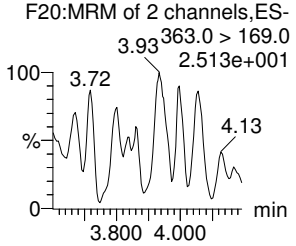
5:3 FTCA



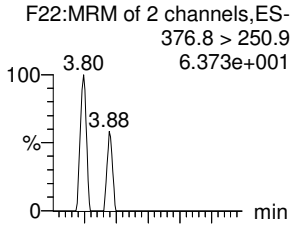


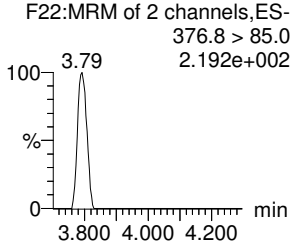
PFHpA



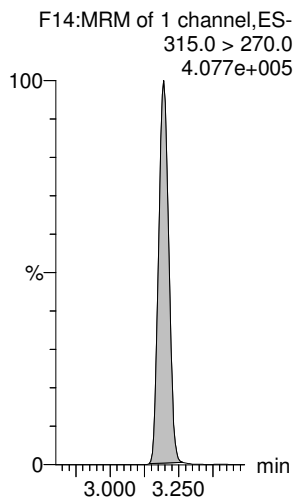


ADONA

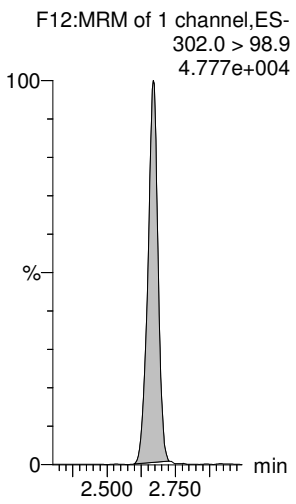




13C2-PFHxA-EIS



13C3-PFBS-EIS



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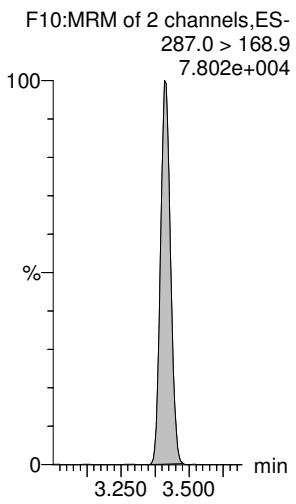
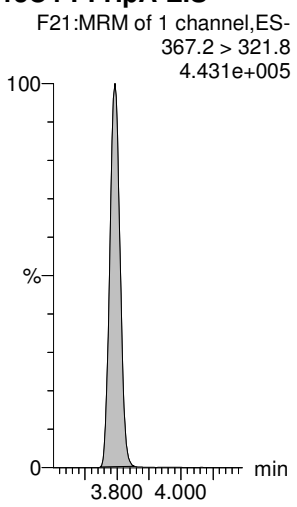


13C4-PFHpA-EIS



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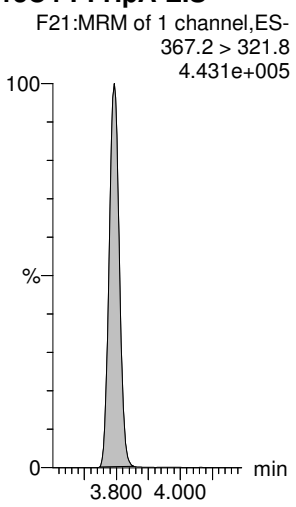

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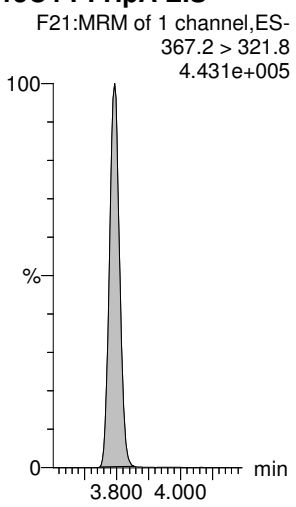

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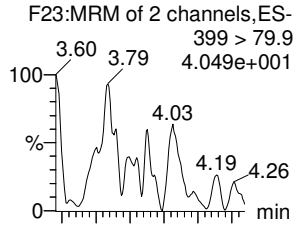
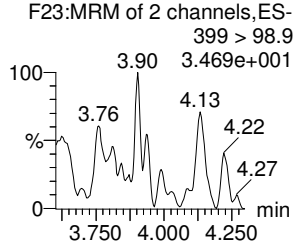
Last Altered: Wednesday, July 15, 2020 08:45:05 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 08:45:14 Pacific Daylight Time

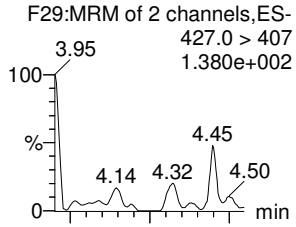
Name: 200714P1-15, Date: 14-Jul-2020, Time: 12:10:00, ID: IB, Description: IB

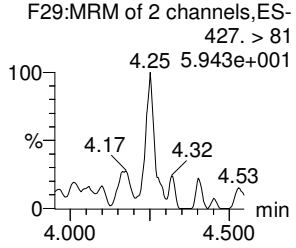
L-PFHxS



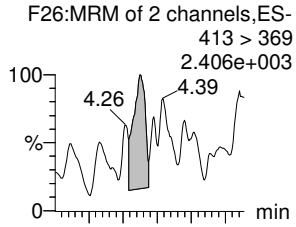


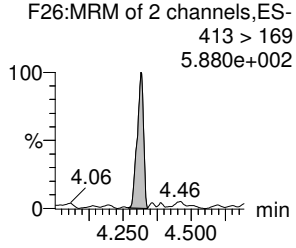
6:2 FTS



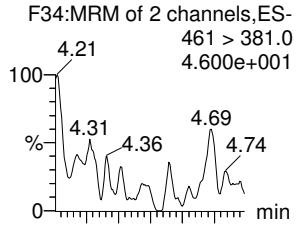


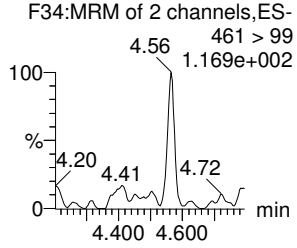
L-PFOA





PFEChS





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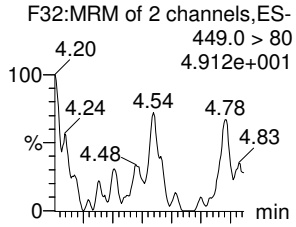
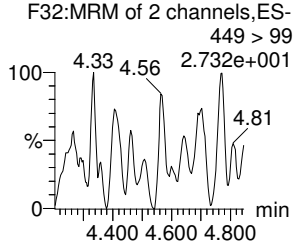
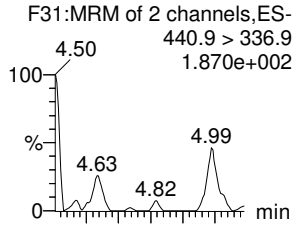
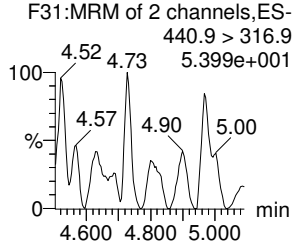


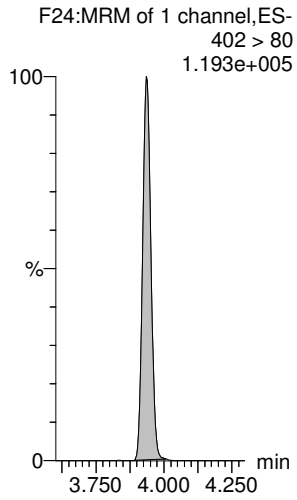


7:3 FTCA

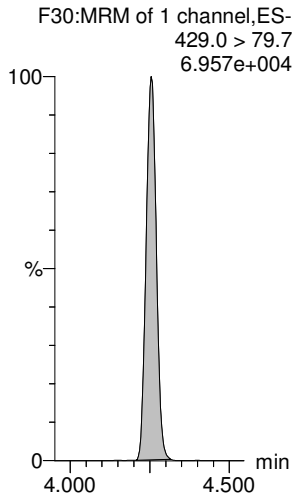




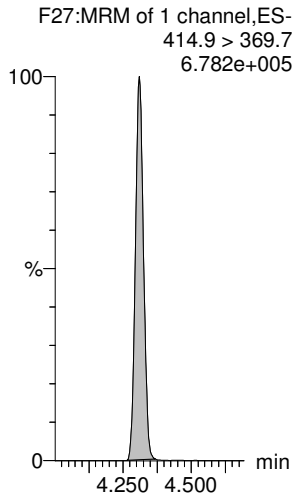
13C3-PFHxS-EIS



13C2-6:2 FTS-EIS



13C2-PFOA-EIS



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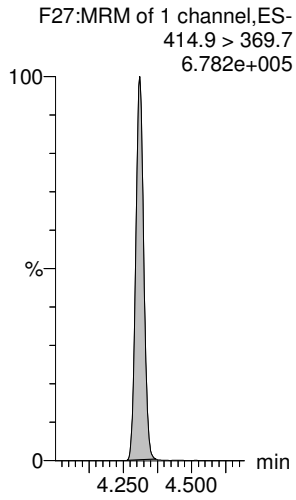
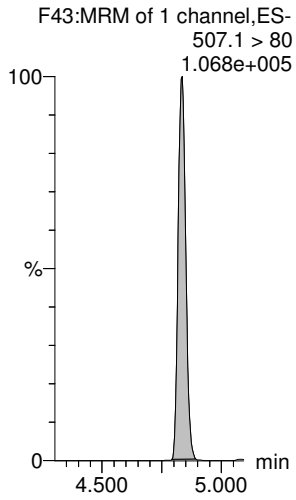
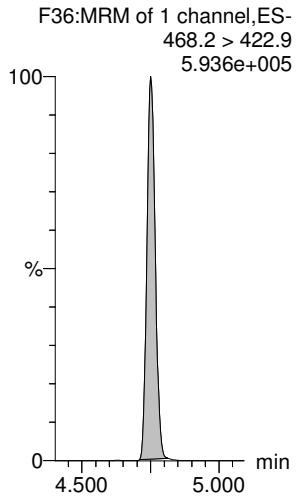


13C8-PFOS-EIS



13C5-PFNA-EIS



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Printed: Wednesday, July 15, 2020 08:45:14 Pacific Daylight Time

Name: 200714P1-15, Date: 14-Jul-2020, Time: 12:10:00, ID: IB, Description: IB

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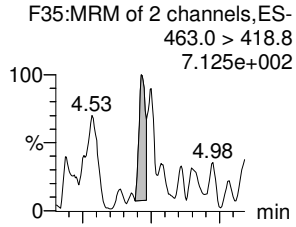

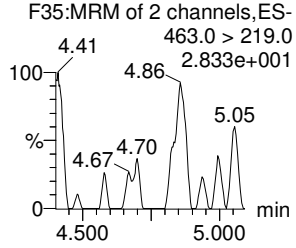

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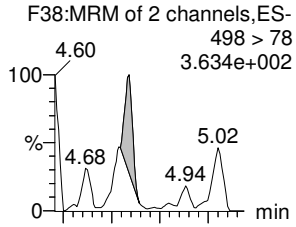
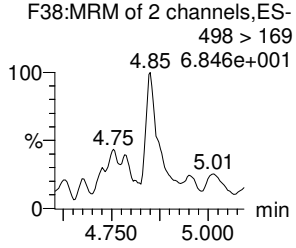
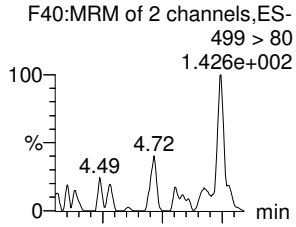
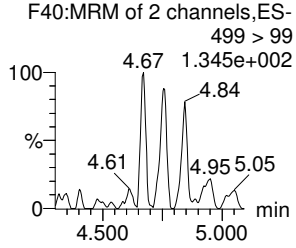


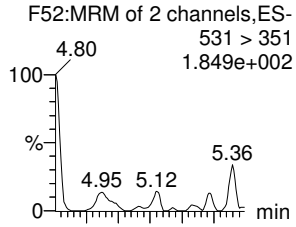


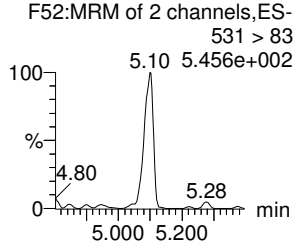
L-PFOS





9Cl-PF30NS





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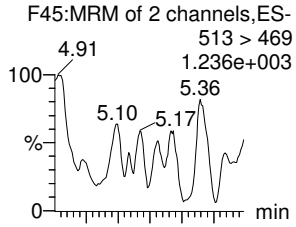
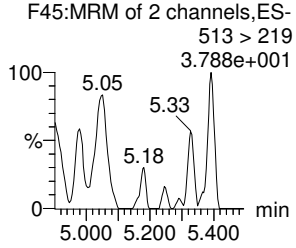
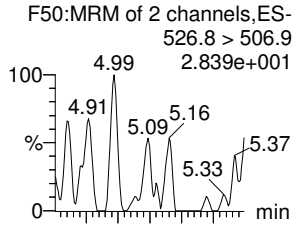
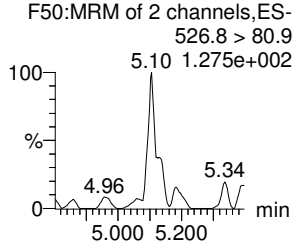


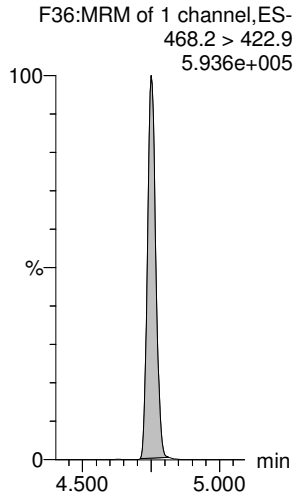


8:2 FTS

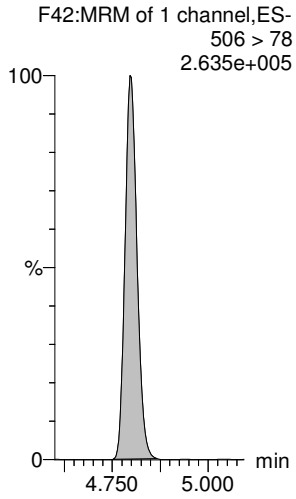




13C5-PFNA-EIS



13C8-PFOSA-EIS



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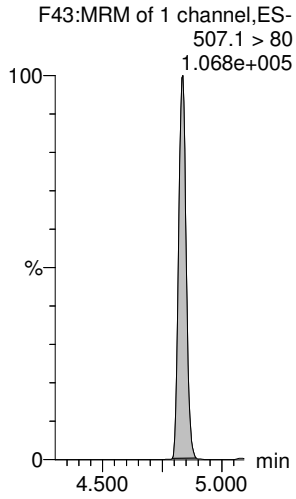

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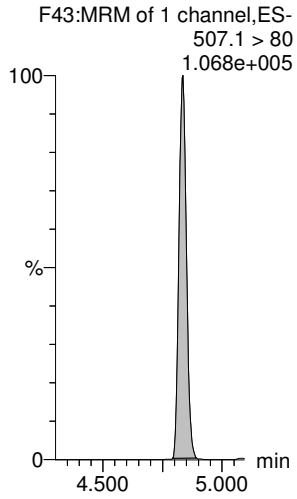
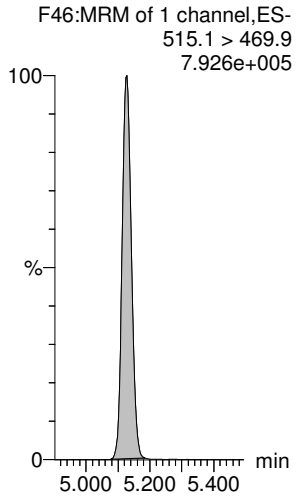
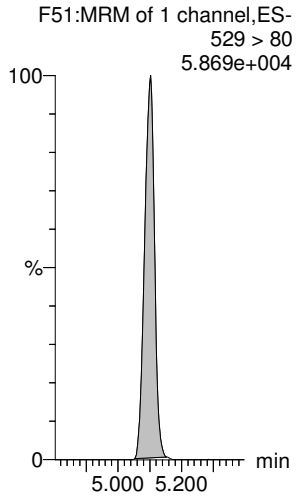


13C2-PFDA-EIS



13C2-8:2 FTS-EIS



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Last Altered: Wednesday, July 15, 2020 08:45:05 Pacific Daylight Time
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Name: 200714P1-15, Date: 14-Jul-2020, Time: 12:10:00, ID: IB, Description: IB

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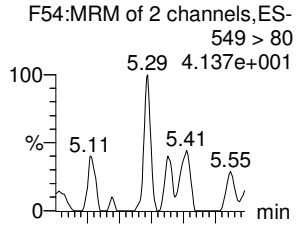

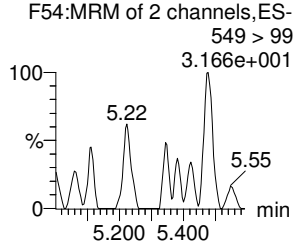

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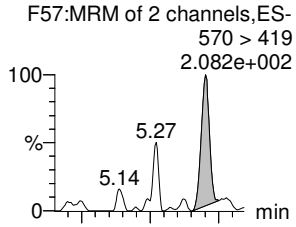

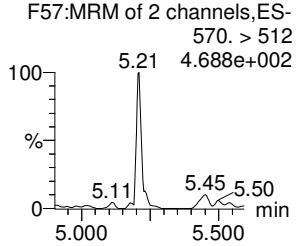

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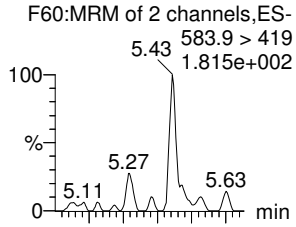
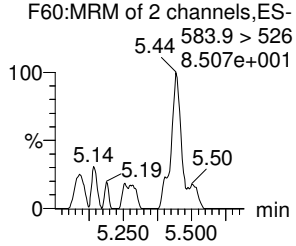
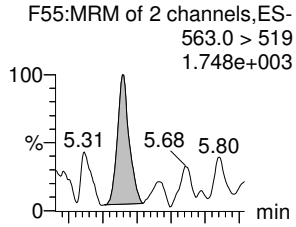
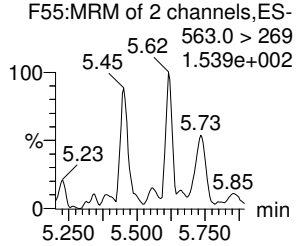




PFUdA





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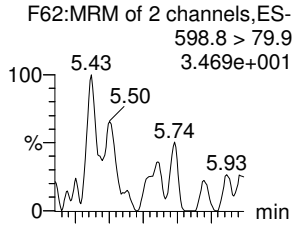

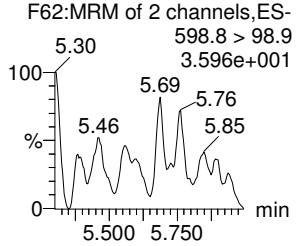

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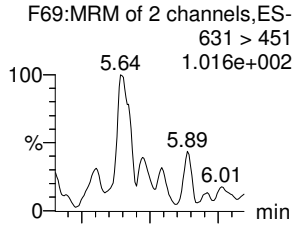
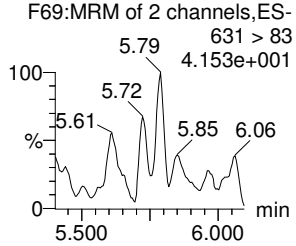
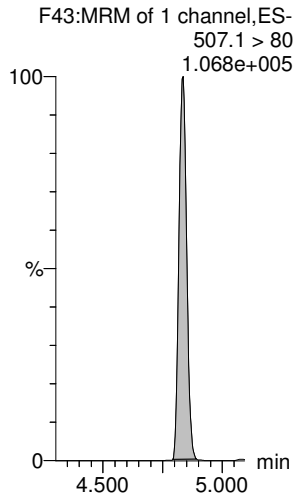




13C8-PFOS-EIS



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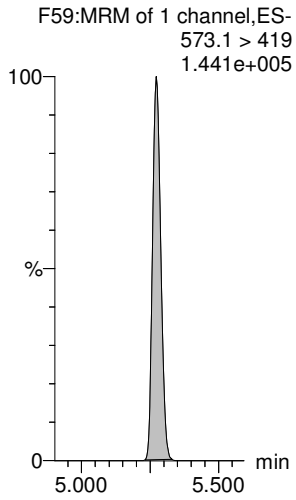

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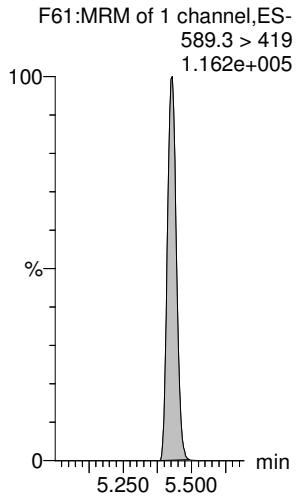

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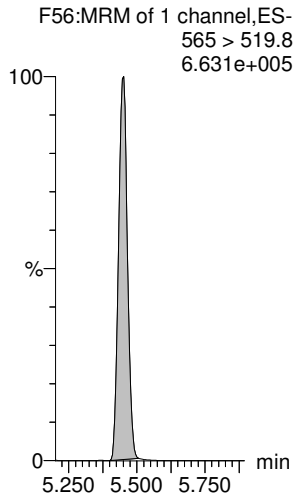

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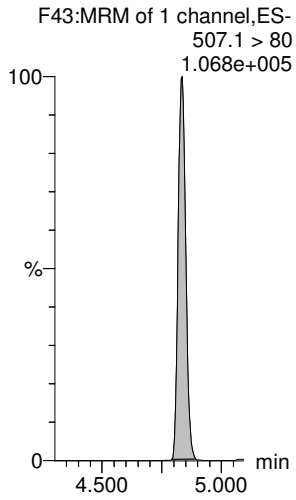

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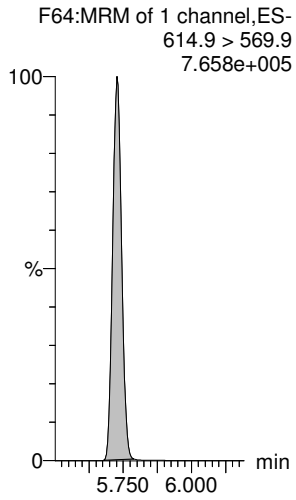

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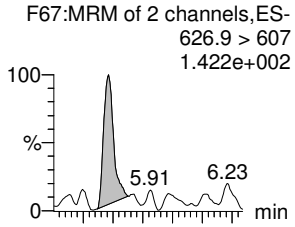
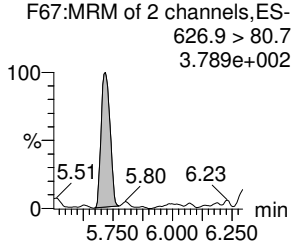
10:2 FTS





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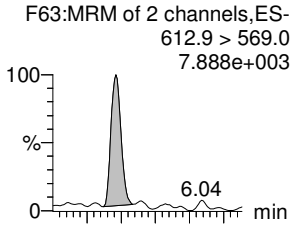
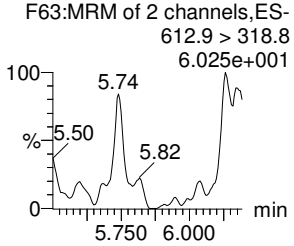
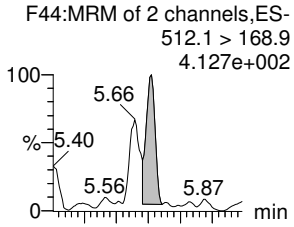
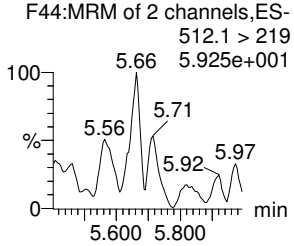




N-MeFOSA





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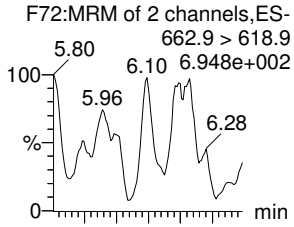
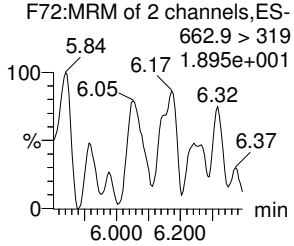
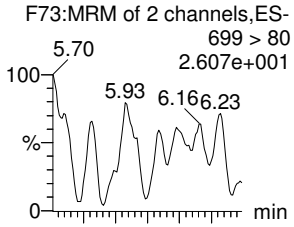
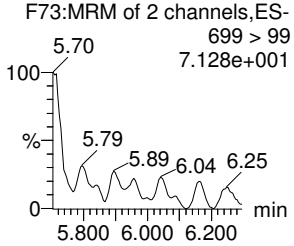




PFDoS





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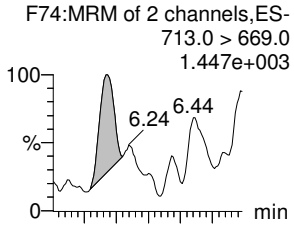
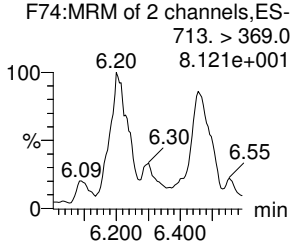
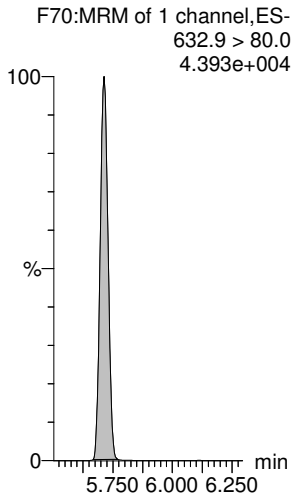




13C2-10:2 FTS-EIS



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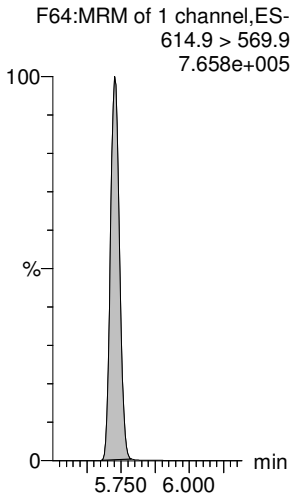
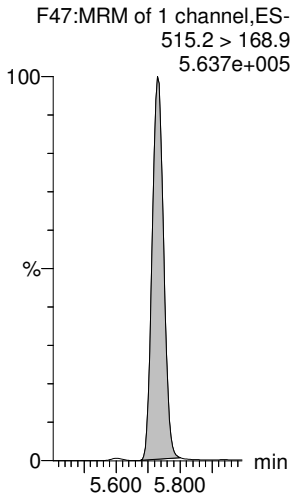


d3-N-MeFOSA-EIS



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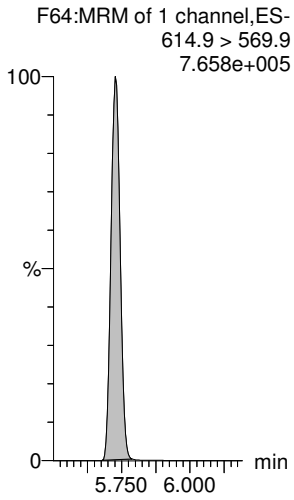

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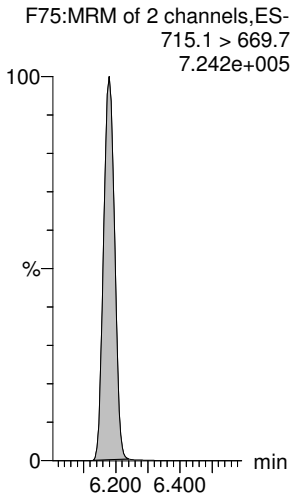

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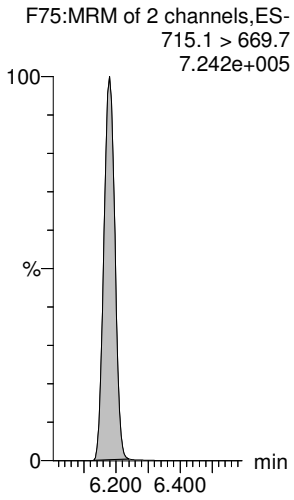

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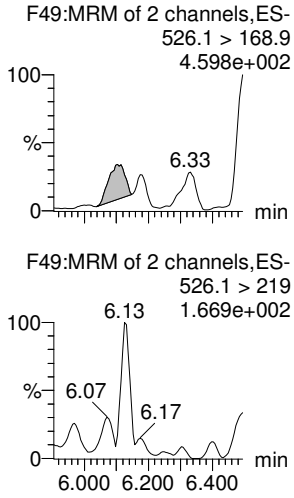
Printed: Wednesday, July 15, 2020 08:45:14 Pacific Daylight Time

Name: 200714P1-15, Date: 14-Jul-2020, Time: 12:10:00, ID: IB, Description: IB

N-EtFOSA



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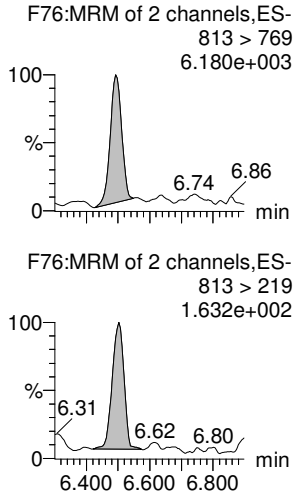

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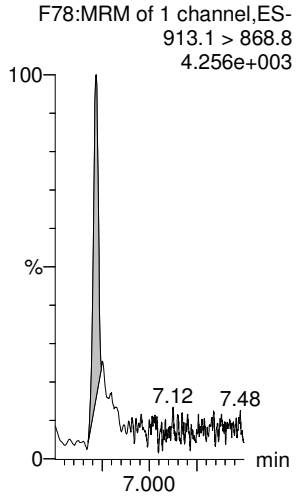

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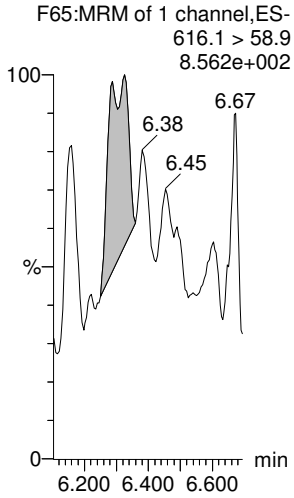

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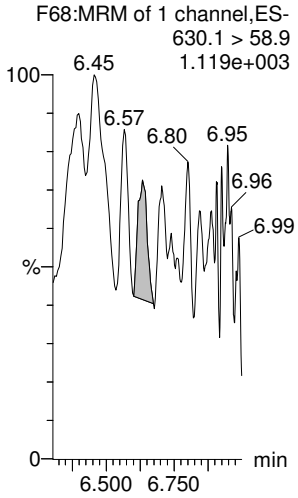

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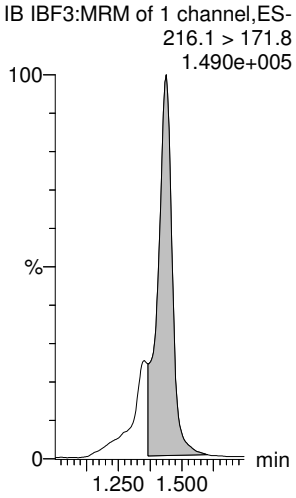
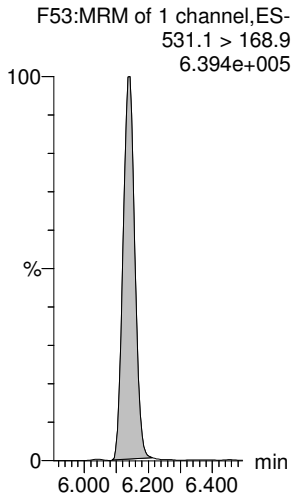


d5-N-ETFOSA-EIS



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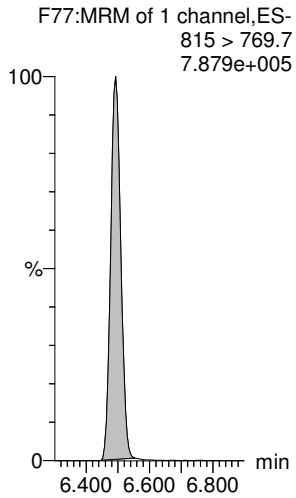

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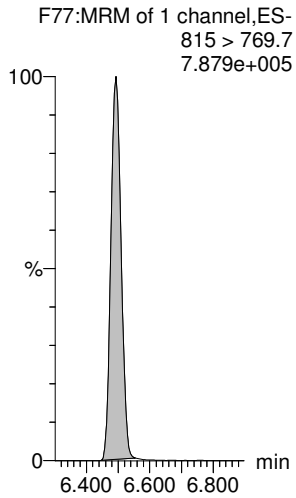
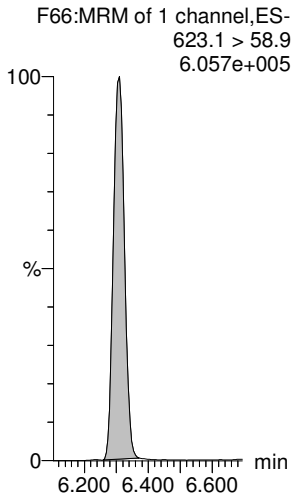


d7-N-MeFOSE-EIS



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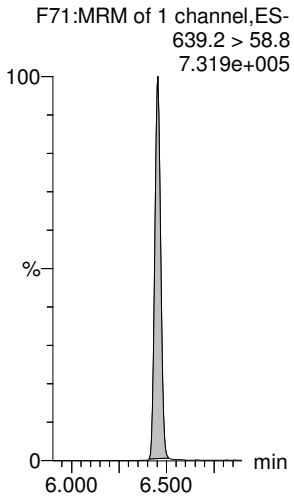

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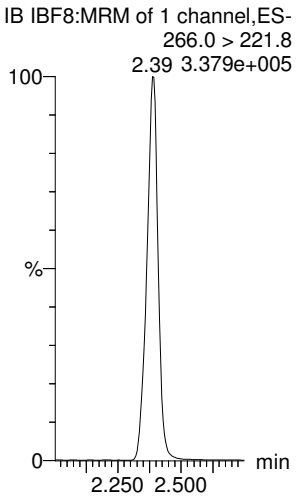

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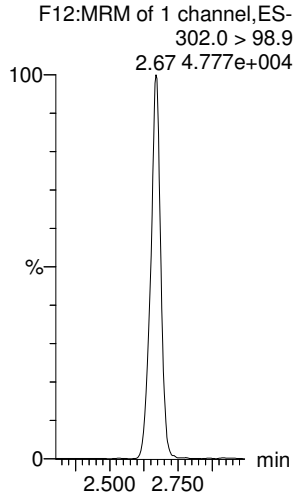
Name: 200714P1-15, Date: 14-Jul-2020, Time: 12:10:00, ID: IB, Description: IB

13C3-PFBS-RSD



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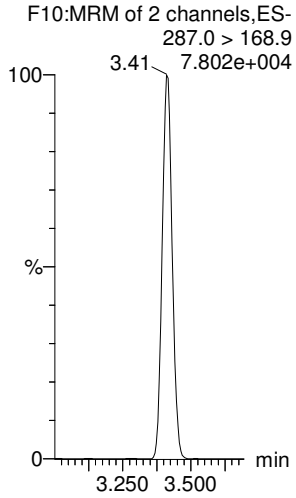
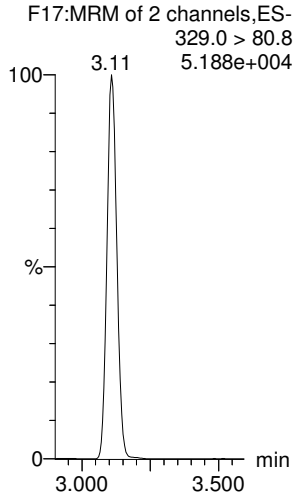


13C2-4:2 FTS-RSD



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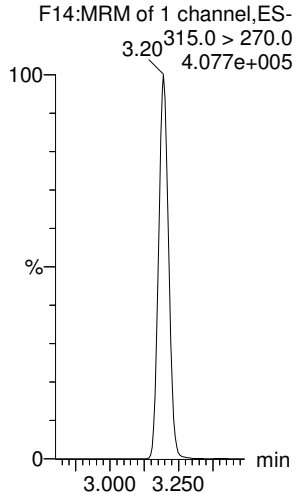

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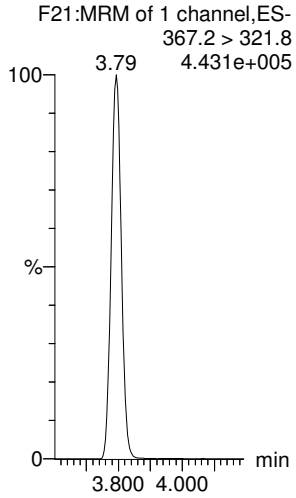

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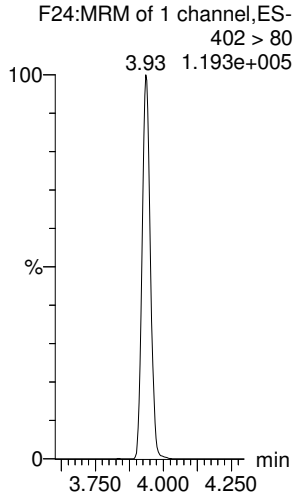

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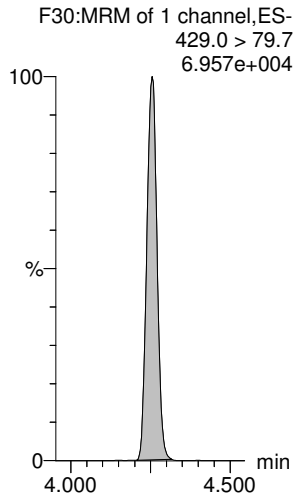

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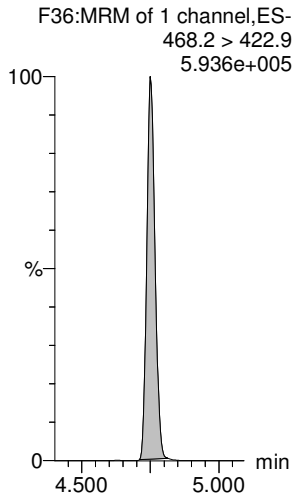
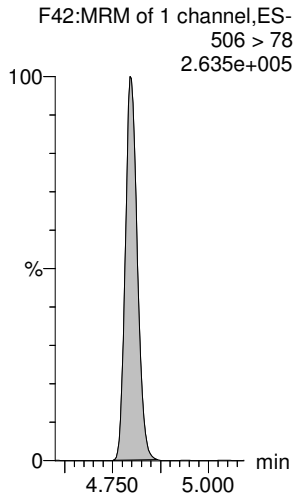


13C8-PFOSA-RSD



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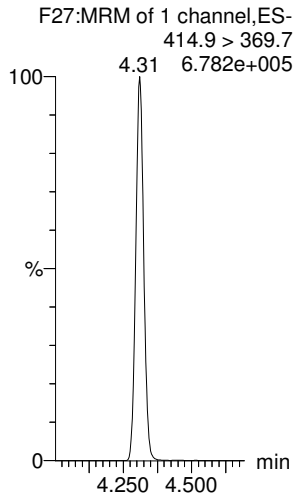

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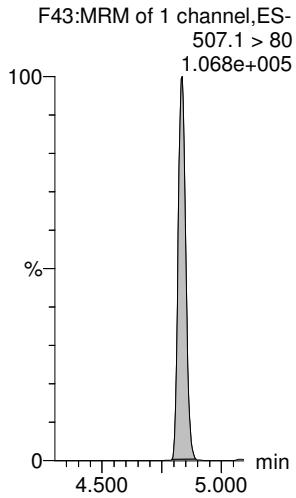

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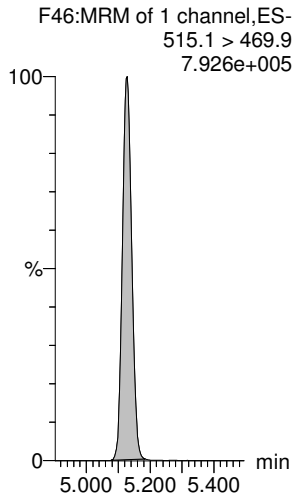

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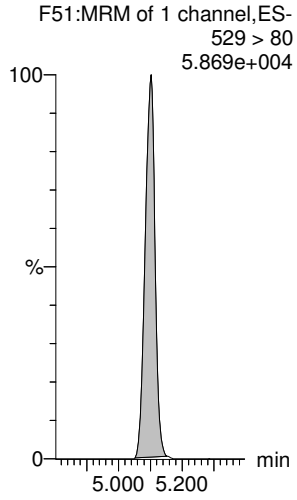
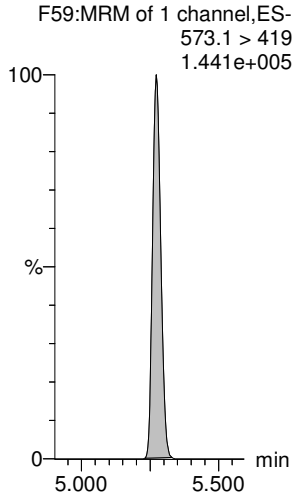
Name: 200714P1-15, Date: 14-Jul-2020, Time: 12:10:00, ID: IB, Description: IB

13C2-8:2 FTS-RSD



d3-N-MeFOSAA-RSD



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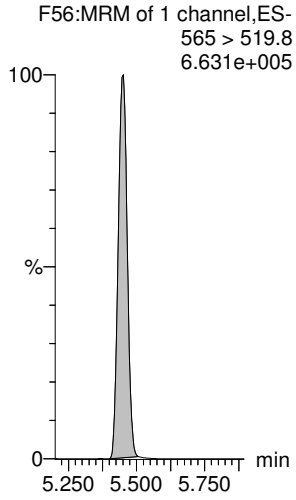

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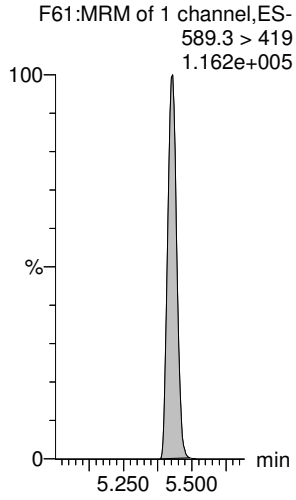

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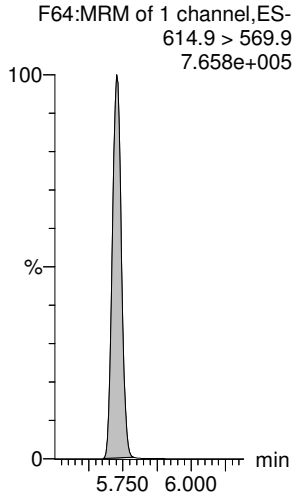

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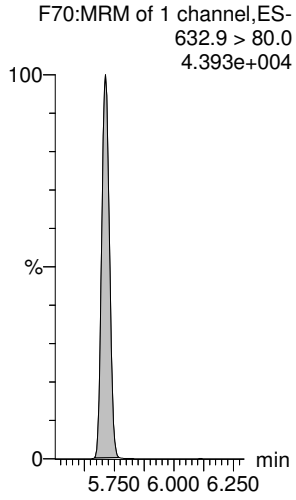

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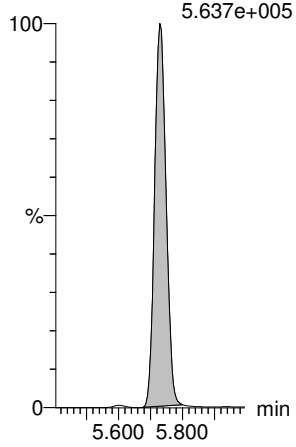
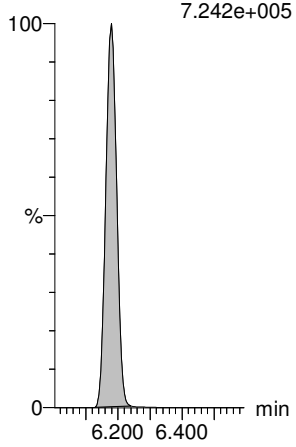


13C2-PFTeDA-RSD



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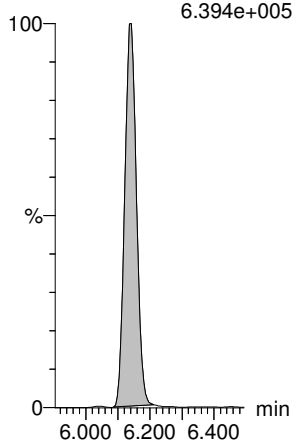

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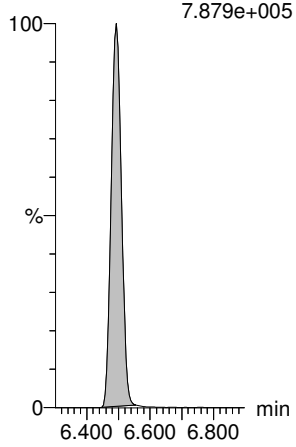
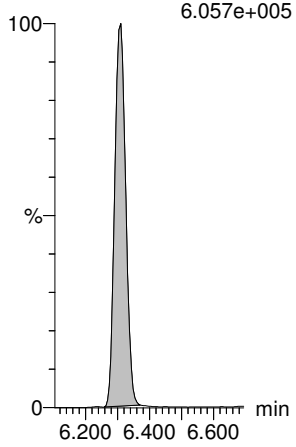


d7-N-MeFOSE-RSD



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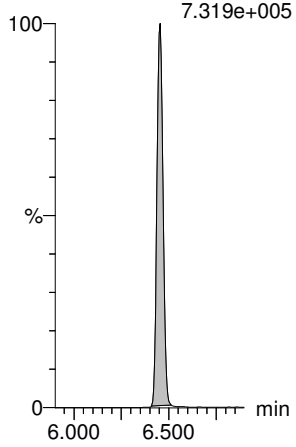

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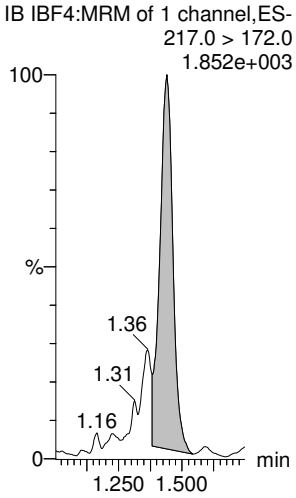
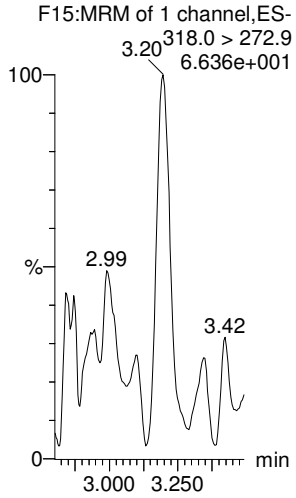
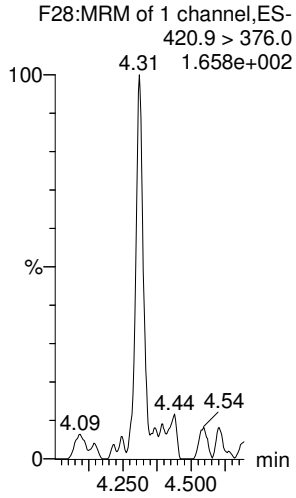
13C4-PFBA



13C5-PFHxA



13C8-PFOA



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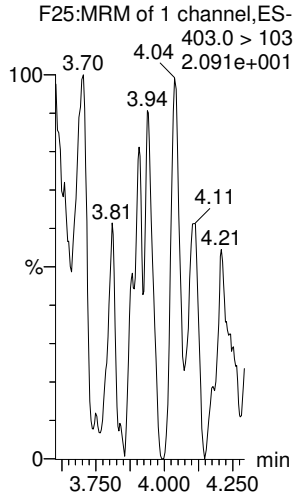
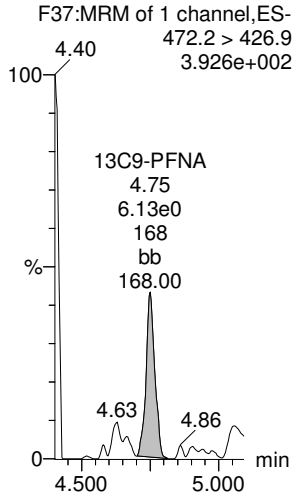
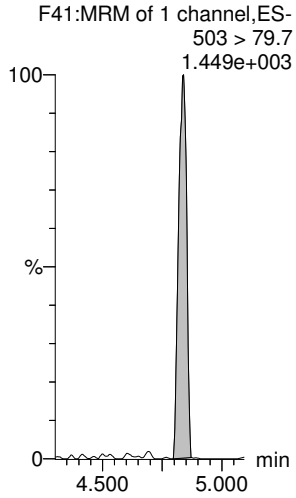


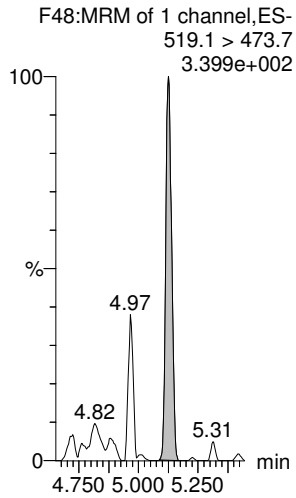
13C9-PFNA



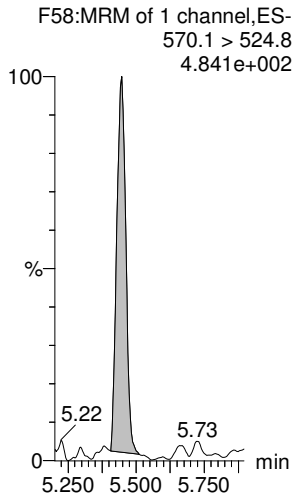
13C4-PFOS



13C6-PFDA



13C7-PFUdA



Dataset: Untitled

Last Altered: Wednesday, July 15, 2020 08:45:05 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 08:45:14 Pacific Daylight Time

Name: 200714P1-15, Date: 14-Jul-2020, Time: 12:10:00, ID: IB, Description: IB

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Std. Conc	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
1	1	PFBA	213.0 > 168.8		9513.212	1.00						NO		
2	2	PFPrS	249 > 80		1992.017	1.00						NO		YES
3	3	3:3 FTCA	240.9 > 176.9		17131.500	1.00						NO		YES
4	4	PFPeA	263.1 > 218.9		17131.500	1.00						NO		
5	5	PFBS	299.0 > 80		1992.017	1.00						NO		YES
6	6	4:2 FTS	326.9 > 306.9		2153.246	1.00						NO		YES
7	47	13C3-PFBA-EIS	216.1 > 171.8	9513.212		1.00	1.44	9513.212	12.500	14.5	116.1	NO		
8	51	13C3-PFBS-EIS	302.0 > 98.9	1992.017		1.00	2.67	1992.017	12.500	12.6	100.9	NO		
9	49	13C3-PFPeA-EIS	266.0 > 221.8	17131.500		1.00	2.39	17131.500	12.500	12.9	103.2	NO		
10	49	13C3-PFPeA-EIS	266.0 > 221.8	17131.500		1.00	2.39	17131.500	12.500	12.9	103.2	NO		
11	51	13C3-PFBS-EIS	302.0 > 98.9	1992.017		1.00	2.67	1992.017	12.500	12.6	100.9	NO		
12	55	13C2-4:2 FTS-EIS	329.0 >80.8	2153.246		1.00	3.11	2153.246	12.500	14.0	111.8	NO		
13	-1													
14	7	PFHxA	313.0 > 269.0	34.478	17163.252	1.00	2.93	0.025				NO		YES
15	8	PFPeS	349.>80		1992.017	1.00						NO		YES
16	9	HFPO-DA	285.1 > 168.9		3305.184	1.00						NO		YES
17	10	5:3 FTCA	340.9 > 236.9	5.703	16015.530	1.00	4.02	0.004		0.0648		NO		YES
18	11	PFHpA	363.0 > 319	18.997	16015.530	1.00	3.92	0.015				NO		YES
19	12	ADONA	376.8 > 250.9		16015.530	1.00						NO		YES
20	57	13C2-PFHxA-EIS	315.0 > 270.0	17163.252		1.00	3.20	17163.252	12.500	12.8	102.0	NO		
21	51	13C3-PFBS-EIS	302.0 > 98.9	1992.017		1.00	2.67	1992.017	12.500	12.6	100.9	NO		
22	53	13C3-HFPO-DA-EIS	287.0 > 168.9	3305.184		1.00	3.41	3305.184	12.500	12.7	101.2	NO		
23	59	13C4-PFHpA-EIS	367.2 > 321.8	16015.530		1.00	3.79	16015.530	12.500	12.5	99.6	NO		
24	59	13C4-PFHpA-EIS	367.2 > 321.8	16015.530		1.00	3.79	16015.530	12.500	12.5	99.6	NO		
25	59	13C4-PFHpA-EIS	367.2 > 321.8	16015.530		1.00	3.79	16015.530	12.500	12.5	99.6	NO		
26	-1													
27	13	L-PFHxS	399 > 79.9		4131.388	1.00						NO		YES
28	15	6:2 FTS	427.0 > 407		2575.395	1.00						NO		YES
29	16	L-PFOA	413 > 369	101.135	22652.164	1.00	4.31	0.056		0.0658		NO	6.534	YES
30	18	PFecHS	461 > 381.0		22652.164	1.00						NO		YES
31	19	PFHpS	449.0 > 80		3845.086	1.00						NO		YES
32	20	7:3 FTCA	440.9 > 336.9		20484.012	1.00						NO		YES
33	61	13C3-PFHxS-EIS	402 > 80	4131.388		1.00	3.93	4131.388	12.500	13.5	108.3	NO		
34	63	13C2-6:2 FTS-EIS	429.0 >79.7	2575.395		1.00	4.25	2575.395	12.500	13.0	103.6	NO		
35	69	13C2-PFOA-EIS	414.9 > 369.7	22652.164		1.00	4.31	22652.164	12.500	13.1	104.5	NO		
36	69	13C2-PFOA-EIS	414.9 > 369.7	22652.164		1.00	4.31	22652.164	12.500	13.1	104.5	NO		

Dataset: Untitled

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Name: 200714P1-15, Date: 14-Jul-2020, Time: 12:10:00, ID: IB, Description: IB

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Std. Conc	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
37	71	13C8-PFOS-EIS	507.1 > 80	3845.086		1.00	4.84	3845.086	12.500	12.9	102.9	NO		
38	65	13C5-PFNA-EIS	468.2 > 422.9	20484.012		1.00	4.75	20484.012	12.500	12.2	98.0	NO		
39	-1													
40	21	PFNA	463.0 > 418.8	16.722	20484.012	1.00	4.71	0.010				NO		YES
41	22	PFOSA	498 > 78	5.786	9497.403	1.00	4.79	0.008		0.0200		NO		YES
42	23	L-PFOS	499 > 80		3845.086	1.00						NO		YES
43	25	9Cl-PF30NS	531 > 351		3845.086	1.00						NO		YES
44	26	PFDA	513 > 469		25875.230	1.00						NO		YES
45	27	8:2 FTS	526.8 > 506.9		2048.711	1.00						NO		YES
46	65	13C5-PFNA-EIS	468.2 > 422.9	20484.012		1.00	4.75	20484.012	12.500	12.2	98.0	NO		
47	67	13C8-PFOSA-EIS	506 > 78	9497.403		1.00	4.80	9497.403	12.500	13.3	106.2	NO		
48	71	13C8-PFOS-EIS	507.1 > 80	3845.086		1.00	4.84	3845.086	12.500	12.9	102.9	NO		
49	71	13C8-PFOS-EIS	507.1 > 80	3845.086		1.00	4.84	3845.086	12.500	12.9	102.9	NO		
50	73	13C2-PFDA-EIS	515.1 > 469.9	25875.230		1.00	5.13	25875.230	12.500	13.0	103.7	NO		
51	75	13C2-8:2 FTS-EIS	529 > 80	2048.711		1.00	5.10	2048.711	12.500	11.7	93.6	NO		
52	-1													
53	28	PFNS	549 > 80		3845.086	1.00						NO		YES
54	29	L-MeFOSAA	570 > 419	7.000	4908.206	1.00	5.45	0.018		0.0207		NO		YES
55	31	L-EtFOSAA	583.9 > 419		4413.458	1.00						NO		YES
56	33	PFUdA	563.0 > 519	82.139	24818.340	1.00	5.45	0.041				NO		YES
57	34	PFDS	598.8 >79.9		3845.086	1.00						NO		YES
58	35	11Cl-PF30UdS	631 > 451		28920.432	1.00						NO		YES
59	71	13C8-PFOS-EIS	507.1 > 80	3845.086		1.00	4.84	3845.086	12.500	12.9	102.9	NO		
60	77	d3-N-MeFOSAA-EIS	573.1 > 419	4908.206		1.00	5.27	4908.206	12.500	12.5	100.4	NO		
61	81	d5-N-EtFOSAA-EIS	589.3 > 419	4413.458		1.00	5.43	4413.458	12.500	12.9	103.1	NO		
62	79	13C2-PFUdA-EIS	565 > 519.8	24818.340		1.00	5.45	24818.340	12.500	12.9	103.5	NO		
63	71	13C8-PFOS-EIS	507.1 > 80	3845.086		1.00	4.84	3845.086	12.500	12.9	102.9	NO		
64	83	13C2-PFDoA-EIS	614.9 > 569.9	28920.432		1.00	5.73	28920.432	12.500	12.6	100.4	NO		
65	-1													
66	36	10:2 FTS	626.9 > 607	6.495	1627.563	1.00	5.73	0.050		0.117		NO	0.408	NO
67	37	PFDoA	612.9 > 569.0	318.598	28920.432	1.00	5.73	0.138		0.0426		NO		YES
68	38	N-MeFOSA	512.1 > 168.9	12.792	23015.049	1.00	5.71	0.083				NO		YES
69	39	PFTrDA	662.9 > 618.9		28920.432	1.00						NO		YES
70	40	PFDoS	699 > 80		28326.213	1.00						NO		YES
71	41	PFTeDA	713.0 > 669.0	53.048	28326.213	1.00	6.17	0.023				NO		YES
72	85	13C2-10:2 FTS-EIS	632.9 > 80.0	1627.563		1.00	5.71	1627.563	12.500	13.6	109.1	NO		

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Name: 200714P1-15, Date: 14-Jul-2020, Time: 12:10:00, ID: IB, Description: IB

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Std. Conc	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
73	83	13C2-PFDoA-EIS	614.9 > 569.9	28920.432		1.00	5.73	28920.432	12.500	12.6	100.4	NO		
74	87	d3-N-MeFOSA-EIS	515.2 > 168.9	23015.049		1.00	5.73	23015.049	149.200	129	86.3	NO		
75	83	13C2-PFDoA-EIS	614.9 > 569.9	28920.432		1.00	5.73	28920.432	12.500	12.6	100.4	NO		
76	89	13C2-PFTeDA-EIS	715.1 > 669.7	28326.213		1.00	6.18	28326.213	12.500	12.6	101.1	NO		
77	89	13C2-PFTeDA-EIS	715.1 > 669.7	28326.213		1.00	6.18	28326.213	12.500	12.6	101.1	NO		
78	-1													
79	42	N-EtFOSA	526.1 > 168.9	7.015	26932.115	1.00	6.10	0.039				NO		YES
80	43	PFHxDA	813 > 769	241.693	29006.180	1.00	6.49	0.104				NO	37.414	NO
81	44	PFODA	913.1 > 868.8	103.514	29006.180	1.00	6.72	0.045		0.0364		NO		
82	45	N-MeFOSE	616.1 > 58.9	28.298	23923.449	1.00	6.33	0.176				NO		
83	46	N-EtFOSE	630.1 > 58.9	13.771	27124.117	1.00	6.63	0.076				NO		
84	48	13C3-PFBA-RSD	216.1 > 171.8	9513.212	107.341	1.00	1.44	1107.826	12.500	1190	9495.5	YES		
85	91	d5-N-ETFOSA-EIS	531.1 > 168.9	26932.115		1.00	6.14	26932.115	149.200	132	88.2	NO		
86	93	13C2-PFHxDA-EIS	815 > 769.7	29006.180		1.00	6.49	29006.180	12.500	11.8	94.5	NO		
87	93	13C2-PFHxDA-EIS	815 > 769.7	29006.180		1.00	6.49	29006.180	12.500	11.8	94.5	NO		
88	95	d7-N-MeFOSE-EIS	623.1 > 58.9	23923.449		1.00	6.31	23923.449	149.200	134	90.1	NO		
89	97	d9-N-EtFOSE-EIS	639.2 > 58.8	27124.117		1.00	6.45	27124.117	149.200	132	88.5	NO		
90	50	13C3-PFPeA-RSD	266.0 > 221.8			1.00			12.500			NO		
91	-1													
92	52	13C3-PFBS-RSD	302.0 > 98.9			1.00			12.500			NO		
93	54	13C3-HFPO-DA-RSD	287.0 > 168.9			1.00			12.500			NO		
94	56	13C2-4:2 FTS-RSD	329.0 >80.8			1.00			12.500			NO		
95	58	13C2-PFHxA-RSD	315.0 > 270.0			1.00			12.500			NO		
96	60	13C4-PFHpA-RSD	367.2 > 321.8			1.00			12.500			NO		
97	62	13C3-PFHxS-RSD	402 > 80			1.00			12.500			NO		
98	64	13C2-6:2 FTS-RSD	429.0 >79.7	2575.395	55.125	1.00	4.25	583.990	12.500	1080	8614.1	YES		
99	66	13C5-PFNA-RSD	468.2 > 422.9	20484.012	6.128	1.00	4.75	41783.641	12.500	44400	35505...	YES		
100	68	13C8-PFOSA-RSD	506 > 78	9497.403	17.706	1.00	4.80	6704.933	12.500	13600	10897...	YES		
101	70	13C2-PFOA-RSD	414.9 > 369.7			1.00			12.500			NO		
102	72	13C8-PFOS-RSD	507.1 > 80	3845.086	55.125	1.00	4.84	871.902	12.500	1100	8839.4	YES		
103	74	13C2-PFDA-RSD	515.1 > 469.9	25875.230	9.614	1.00	5.13	33642.644	12.500	30000	24015...	YES		
104	-1													
105	76	13C2-8:2 FTS-RSD	529 > 80	2048.711	55.125	1.00	5.10	464.560	12.500	1030	8237.2	YES		
106	78	d3-N-MeFOSAA-RSD	573.1 > 419	4908.206	17.706	1.00	5.27	3465.073	12.500	13200	10564...	YES		
107	80	13C2-PFUdA-RSD	565 > 519.8	24818.340	17.706	1.00	5.45	17521.137	12.500	13700	10959...	YES		
108	82	d5-N-EtFOSAA-RSD	589.3 > 419	4413.458	17.706	1.00	5.43	3115.793	12.500	14300	11406...	YES		

Dataset: Untitled

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Name: 200714P1-15, Date: 14-Jul-2020, Time: 12:10:00, ID: IB, Description: IB

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Std. Conc	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
109	84	13C2-PFDoA-RSD	614.9 > 569.9	28920.432	9.614	1.00	5.73	37601.976	12.500	29300	23413...	YES		
110	86	13C2-10:2 FTS-RSD	632.9 > 80.0	1627.563	55.125	1.00	5.71	369.062	12.500	1180	9414.1	YES		
111	88	d3-N-MeFOSA-RSD	515.2 > 168.9	23015.049	17.706	1.00	5.73	16248.058	149.200	140000	93738.9	YES		
112	90	13C2-PFTeDA-RSD	715.1 > 669.7	28326.213	17.706	1.00	6.18	19997.609	12.500	13200	10541...	YES		
113	92	d5-N-ETFOSA-RSD	531.1 > 168.9	26932.115	17.706	1.00	6.14	19013.410	149.200	139000	93447.5	YES		
114	94	13C2-PFHxDA-RSD	815 > 769.7	29006.180	17.706	1.00	6.49	20477.649	12.500	12200	97590.7	YES		
115	96	d7-N-MeFOSE-RSD	623.1 > 58.9	23923.449	17.706	1.00	6.31	16889.366	149.200	137000	92057.3	YES		
116	98	d9-N-EtFOSE-RSD	639.2 > 58.8	27124.117	17.706	1.00	6.45	19148.959	149.200	137000	91562.8	YES		
117	-1													
118	99	13C4-PFBA	217.0 > 172.0	107.341	107.341	1.00	1.44	12.500	12.500	12.5	100.0	NO		
119	1...	13C5-PFHxA	318.0 > 272.9			1.00			12.500			NO		
120	1...	13C8-PFOA	420.9 > 376.0			1.00			12.500			NO		
121	1...	18O2-PFHxS	403.0 > 103			1.00			12.500			NO		
122	1...	13C9-PFNA	472.2 > 426.9	6.128	6.128	1.00	4.75	12.500	12.500	12.5	100.0	NO		
123	1...	13C4-PFOS	503 > 79.7	55.125	55.125	1.00	4.84	12.500	12.500	12.5	100.0	NO		
124	1...	13C6-PFDA	519.1 > 473.7	9.614	9.614	1.00	5.13	12.500	12.500	12.5	100.0	NO		
125	1...	13C7-PFUdA	570.1 > 524.8	17.706	17.706	1.00	5.45	12.500	12.500	12.5	100.0	NO		

Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-42.qld

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Name: 200714P1-42, Date: 14-Jul-2020, Time: 16:55:49, ID: ST200714P1-12 PFC CS3 20F1906, Description: PFC CS3 20F1906

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Std. Conc	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
1	1	PFBA	213.0 > 168.8	7663.994	9404.507	1.00	1.44	10.187	10.000	10.3	102.7	NO		
2	2	PFPrS	249 > 80	1833.874	1926.445	1.00	1.77	11.899	10.000	11.3	112.6	NO	2.819	NO
3	3	3:3 FTCA	240.9 > 176.9	1030.772	16757.367	1.00	2.24	0.769	10.000	9.65	96.5	NO	3.209	NO
4	4	PFPeA	263.1 > 218.9	12527.860	16757.367	1.00	2.39	9.345	10.000	10.5	104.8	NO		
5	5	PFBS	299.0 > 80	3976.761	1926.445	1.00	2.67	25.804	10.000	10.3	103.2	NO	2.373	NO
6	6	4:2 FTS	326.9 > 306.9	4102.014	1986.557	1.00	3.11	25.811	10.000	10.1	101.3	NO	10.963	NO
7	47	13C3-PFBA-EIS	216.1 > 171.8	9404.507		1.00	1.44	9404.507	12.500	14.3	114.7	NO		
8	51	13C3-PFBS-EIS	302.0 > 98.9	1926.445		1.00	2.67	1926.445	12.500	12.2	97.6	NO		
9	49	13C3-PFPeA-EIS	266.0 > 221.8	16757.367		1.00	2.39	16757.367	12.500	12.6	101.0	NO		
10	49	13C3-PFPeA-EIS	266.0 > 221.8	16757.367		1.00	2.39	16757.367	12.500	12.6	101.0	NO		
11	51	13C3-PFBS-EIS	302.0 > 98.9	1926.445		1.00	2.67	1926.445	12.500	12.2	97.6	NO		
12	55	13C2-4:2 FTS-EIS	329.0 >80.8	1986.557		1.00	3.11	1986.557	12.500	12.9	103.2	NO		
13	-1													
14	7	PFHxA	313.0 > 269.0	14844.608	17166.529	1.00	3.19	10.809	10.000	10.4	103.8	NO	14.778	NO
15	8	PFPeS	349.>80	3171.546	1926.445	1.00	3.39	20.579	10.000	10.4	103.7	NO	2.039	NO
16	9	HFPO-DA	285.1 > 168.9	2740.581	3352.966	1.00	3.41	10.217	10.000	10.6	106.1	NO	2.449	NO
17	10	5:3 FTCA	340.9 > 236.9	2039.724	16664.188	1.00	3.73	1.530	10.000	8.88	88.8	NO	1.571	NO
18	11	PFHpA	363.0 > 319	15978.261	16664.188	1.00	3.79	11.985	10.000	9.78	97.8	NO	46.815	NO
19	12	ADONA	376.8 > 250.9	28282.977	16664.188	1.00	3.90	21.215	10.000	9.89	98.9	NO	3.996	NO
20	57	13C2-PFHxA-EIS	315.0 > 270.0	17166.529		1.00	3.20	17166.529	12.500	12.8	102.0	NO		
21	51	13C3-PFBS-EIS	302.0 > 98.9	1926.445		1.00	2.67	1926.445	12.500	12.2	97.6	NO		
22	53	13C3-HFPO-DA-EIS	287.0 > 168.9	3352.966		1.00	3.41	3352.966	12.500	12.8	102.7	NO		
23	59	13C4-PFHpA-EIS	367.2 > 321.8	16664.188		1.00	3.79	16664.188	12.500	13.0	103.7	NO		
24	59	13C4-PFHpA-EIS	367.2 > 321.8	16664.188		1.00	3.79	16664.188	12.500	13.0	103.7	NO		
25	59	13C4-PFHpA-EIS	367.2 > 321.8	16664.188		1.00	3.79	16664.188	12.500	13.0	103.7	NO		
26	-1													
27	13	L-PFHxS	399 > 79.9	3610.133	4012.806	1.00	3.93	11.246	10.000	9.90	99.0	NO	4.033	NO
28	15	6:2 FTS	427.0 > 407	1999.044	2634.156	1.00	4.25	9.486	10.000	10.4	103.7	NO	0.680	NO
29	16	L-PFOA	413 > 369	16248.955	21746.898	1.00	4.31	9.340	10.000	9.99	99.9	NO	2.831	NO
30	18	PFecHS	461 > 381.0	2988.405	21746.898	1.00	4.32	1.718	10.000	9.92	99.2	NO	0.473	NO
31	19	PFHpS	449.0 > 80	3173.651	3746.411	1.00	4.42	10.589	10.000	10.7	107.2	NO	1.844	NO
32	20	7:3 FTCA	440.9 > 336.9	4238.699	20213.443	1.00	4.74	2.621	10.000	8.83	88.3	NO	1.262	NO
33	61	13C3-PFHxS-EIS	402 > 80	4012.806		1.00	3.93	4012.806	12.500	13.1	105.2	NO		
34	63	13C2-6:2 FTS-EIS	429.0 >79.7	2634.156		1.00	4.25	2634.156	12.500	13.2	106.0	NO		
35	69	13C2-PFOA-EIS	414.9 > 369.7	21746.898		1.00	4.31	21746.898	12.500	12.5	100.4	NO		
36	69	13C2-PFOA-EIS	414.9 > 369.7	21746.898		1.00	4.31	21746.898	12.500	12.5	100.4	NO		

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Name: 200714P1-42, Date: 14-Jul-2020, Time: 16:55:49, ID: ST200714P1-12 PFC CS3 20F1906, Description: PFC CS3 20F1906

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Std. Conc	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
37	71	13C8-PFOS-EIS	507.1 > 80	3746.411		1.00	4.83	3746.411	12.500	12.5	100.2	NO		
38	65	13C5-PFNA-EIS	468.2 > 422.9	20213.443		1.00	4.75	20213.443	12.500	12.1	96.7	NO		
39	-1													
40	21	PFNA	463.0 > 418.8	20011.354	20213.443	1.00	4.75	12.375	10.000	10.5	104.6	NO	15.007	NO
41	22	PFOSA	498 > 78	5058.499	9221.471	1.00	4.80	6.857	10.000	9.92	99.2	NO	21.229	NO
42	23	L-PFOS	499 > 80	3819.240	3746.411	1.00	4.83	12.743	10.000	10.7	107.2	NO	2.506	NO
43	25	9Cl-PF30NS	531 > 351	7569.352	3746.411	1.00	5.05	25.255	10.000	10.1	101.3	NO	30.045	NO
44	26	PFDA	513 > 469	15335.070	24049.006	1.00	5.13	7.971	10.000	10.0	100.3	NO	4.743	NO
45	27	8:2 FTS	526.8 > 506.9	2040.887	2006.211	1.00	5.10	12.716	10.000	10.5	105.3	NO	0.742	NO
46	65	13C5-PFNA-EIS	468.2 > 422.9	20213.443		1.00	4.75	20213.443	12.500	12.1	96.7	NO		
47	67	13C8-PFOSA-EIS	506 > 78	9221.471		1.00	4.80	9221.471	12.500	12.9	103.1	NO		
48	71	13C8-PFOS-EIS	507.1 > 80	3746.411		1.00	4.83	3746.411	12.500	12.5	100.2	NO		
49	71	13C8-PFOS-EIS	507.1 > 80	3746.411		1.00	4.83	3746.411	12.500	12.5	100.2	NO		
50	73	13C2-PFDA-EIS	515.1 > 469.9	24049.006		1.00	5.13	24049.006	12.500	12.0	96.4	NO		
51	75	13C2-8:2 FTS-EIS	529 > 80	2006.211		1.00	5.10	2006.211	12.500	11.5	91.6	NO		
52	-1													
53	28	PFNS	549 > 80	3646.590	3746.411	1.00	5.19	12.167	10.000	9.58	95.8	NO	2.359	NO
54	29	L-MeFOSAA	570 > 419	4710.891	5062.860	1.00	5.28	11.631	10.000	9.68	96.8	NO	1.642	NO
55	31	L-EtFOSAA	583.9 > 419	5591.316	4514.753	1.00	5.43	15.481	10.000	9.54	95.4	NO	1.457	NO
56	33	PFUdA	563.0 > 519	18223.477	24315.789	1.00	5.45	9.368	10.000	9.91	99.1	NO	17.464	NO
57	34	PFDS	598.8 >79.9	3927.310	3746.411	1.00	5.49	13.104	10.000	9.87	98.7	NO	2.273	NO
58	35	11Cl-PF30UdS	631 > 451	5709.067	27613.732	1.00	5.65	2.584	10.000	9.91	99.1	NO	13.645	NO
59	71	13C8-PFOS-EIS	507.1 > 80	3746.411		1.00	4.83	3746.411	12.500	12.5	100.2	NO		
60	77	d3-N-MeFOSAA-EIS	573.1 > 419	5062.860		1.00	5.28	5062.860	12.500	12.9	103.5	NO		
61	81	d5-N-EtFOSAA-EIS	589.3 > 419	4514.753		1.00	5.43	4514.753	12.500	13.2	105.5	NO		
62	79	13C2-PFUdA-EIS	565 > 519.8	24315.789		1.00	5.45	24315.789	12.500	12.7	101.4	NO		
63	71	13C8-PFOS-EIS	507.1 > 80	3746.411		1.00	4.83	3746.411	12.500	12.5	100.2	NO		
64	83	13C2-PFDoA-EIS	614.9 > 569.9	27613.732		1.00	5.73	27613.732	12.500	12.0	95.9	NO		
65	-1													
66	36	10:2 FTS	626.9 > 607	2246.998	1462.479	1.00	5.72	19.205	10.000	10.1	101.2	NO	0.916	NO
67	37	PFDoA	612.9 > 569.0	19736.877	27613.732	1.00	5.73	8.934	10.000	10.0	100.2	NO	10.302	NO
68	38	N-MeFOSA	512.1 > 168.9	10019.475	26494.260	1.00	5.71	56.424	50.000	50.5	101.0	NO	1.969	NO
69	39	PFTrDA	662.9 > 618.9	23114.572	27613.732	1.00	5.97	10.463	10.000	9.80	98.0	NO	105.114	NO
70	40	PFDoS	699 > 80	4257.392	27987.609	1.00	5.99	1.901	10.000	10.8	108.2	NO	2.191	NO
71	41	PFTeDA	713.0 > 669.0	13838.096	27987.609	1.00	6.18	6.180	10.000	10.9	109.2	NO	13.266	NO
72	85	13C2-10:2 FTS-EIS	632.9 > 80.0	1462.479		1.00	5.71	1462.479	12.500	12.3	98.0	NO		

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Name: 200714P1-42, Date: 14-Jul-2020, Time: 16:55:49, ID: ST200714P1-12 PFC CS3 20F1906, Description: PFC CS3 20F1906

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Std. Conc	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
73	83	13C2-PFDoA-EIS	614.9 > 569.9	27613.732		1.00	5.73	27613.732	12.500	12.0	95.9	NO		
74	87	d3-N-MeFOSA-EIS	515.2 > 168.9	26494.260		1.00	5.73	26494.260	149.200	148	99.3	NO		
75	83	13C2-PFDoA-EIS	614.9 > 569.9	27613.732		1.00	5.73	27613.732	12.500	12.0	95.9	NO		
76	89	13C2-PFTeDA-EIS	715.1 > 669.7	27987.609		1.00	6.18	27987.609	12.500	12.5	99.9	NO		
77	89	13C2-PFTeDA-EIS	715.1 > 669.7	27987.609		1.00	6.18	27987.609	12.500	12.5	99.9	NO		
78	-1													
79	42	N-EtFOSA	526.1 > 168.9	12462.681	31180.166	1.00	6.13	59.635	50.000	52.9	105.8	NO	1.965	NO
80	43	PFHxDA	813 > 769	22772.129	30439.539	1.00	6.49	9.351	10.000	10.4	104.2	NO	28.781	NO
81	44	PFODA	913.1 > 868.8	20013.197	30439.539	1.00	6.72	8.218	10.000	10.6	106.0	NO		
82	45	N-MeFOSE	616.1 > 58.9	10604.813	27100.338	1.00	6.31	58.384	50.000	52.4	104.9	NO		
83	46	N-EtFOSE	630.1 > 58.9	10908.526	31114.439	1.00	6.46	52.309	50.000	52.3	104.7	NO		
84	48	13C3-PFBA-RSD	216.1 > 171.8	9414.549	9933.421	1.00	1.44	11.847	12.500	12.7	101.5	NO		
85	91	d5-N-ETFOSA-EIS	531.1 > 168.9	31180.166		1.00	6.14	31180.166	149.200	152	102.1	NO		
86	93	13C2-PFHxDA-EIS	815 > 769.7	30439.539		1.00	6.49	30439.539	12.500	12.4	99.2	NO		
87	93	13C2-PFHxDA-EIS	815 > 769.7	30439.539		1.00	6.49	30439.539	12.500	12.4	99.2	NO		
88	95	d7-N-MeFOSE-EIS	623.1 > 58.9	27100.338		1.00	6.31	27100.338	149.200	152	102.1	NO		
89	97	d9-N-EtFOSE-EIS	639.2 > 58.8	31114.439		1.00	6.45	31114.439	149.200	151	101.5	NO		
90	50	13C3-PFPeA-RSD	266.0 > 221.8	16757.367	20130.887	1.00	2.39	10.405	12.500	12.9	103.3	NO		
91	-1													
92	52	13C3-PFBS-RSD	302.0 > 98.9	1926.445	1628.888	1.00	2.67	14.783	12.500	11.9	95.0	NO		
93	54	13C3-HFPO-DA-RSD	287.0 > 168.9	3352.966	20130.887	1.00	3.41	2.082	12.500	13.5	108.1	NO		
94	56	13C2-4:2 FTS-RSD	329.0 >80.8	1986.557	1628.888	1.00	3.11	15.245	12.500	12.0	95.7	NO		
95	58	13C2-PFHxA-RSD	315.0 > 270.0	17166.529	20130.887	1.00	3.20	10.659	12.500	13.4	106.9	NO		
96	60	13C4-PFHpA-RSD	367.2 > 321.8	16664.188	20130.887	1.00	3.79	10.347	12.500	13.7	109.6	NO		
97	62	13C3-PFHxS-RSD	402 > 80	4012.806	1628.888	1.00	3.93	30.794	12.500	12.4	99.5	NO		
98	64	13C2-6:2 FTS-RSD	429.0 >79.7	2634.156	4766.815	1.00	4.25	6.908	12.500	12.7	101.9	NO		
99	66	13C5-PFNA-RSD	468.2 > 422.9	20213.443	21485.840	1.00	4.75	11.760	12.500	12.5	99.9	NO		
100	68	13C8-PFOSA-RSD	506 > 78	9221.471	18603.139	1.00	4.80	6.196	12.500	12.6	100.7	NO		
101	70	13C2-PFOA-RSD	414.9 > 369.7	21746.898	17704.627	1.00	4.31	15.354	12.500	12.3	98.7	NO		
102	72	13C8-PFOS-RSD	507.1 > 80	3746.411	4766.815	1.00	4.83	9.824	12.500	12.4	99.6	NO		
103	74	13C2-PFDA-RSD	515.1 > 469.9	24049.006	21199.566	1.00	5.13	14.180	12.500	12.7	101.2	NO		
104	-1													
105	76	13C2-8:2 FTS-RSD	529 > 80	2006.211	4766.815	1.00	5.10	5.261	12.500	11.7	93.3	NO		
106	78	d3-N-MeFOSAA-RSD	573.1 > 419	5062.860	18603.139	1.00	5.28	3.402	12.500	13.0	103.7	NO		
107	80	13C2-PFUdA-RSD	565 > 519.8	24315.789	18603.139	1.00	5.45	16.338	12.500	12.8	102.2	NO		
108	82	d5-N-EtFOSAA-RSD	589.3 > 419	4514.753	18603.139	1.00	5.43	3.034	12.500	13.9	111.1	NO		

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Name: 200714P1-42, Date: 14-Jul-2020, Time: 16:55:49, ID: ST200714P1-12 PFC CS3 20F1906, Description: PFC CS3 20F1906

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Std. Conc	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
109	84	13C2-PFDoA-RSD	614.9 > 569.9	27613.732	21199.566	1.00	5.73	16.282	12.500	12.7	101.4	NO		
110	86	13C2-10:2 FTS-RSD	632.9 > 80.0	1462.479	4766.815	1.00	5.71	3.835	12.500	12.2	97.8	NO		
111	88	d3-N-MeFOSA-RSD	515.2 > 168.9	26494.260	18603.139	1.00	5.73	17.802	149.200	153	102.7	NO		
112	90	13C2-PFTeDA-RSD	715.1 > 669.7	27987.609	18603.139	1.00	6.18	18.806	12.500	12.4	99.1	NO		
113	92	d5-N-ETFOSA-RSD	531.1 > 168.9	31180.166	18603.139	1.00	6.14	20.951	149.200	154	103.0	NO		
114	94	13C2-PFHxDA-RSD	815 > 769.7	30439.539	18603.139	1.00	6.49	20.453	12.500	12.2	97.5	NO		
115	96	d7-N-MeFOSE-RSD	623.1 > 58.9	27100.338	18603.139	1.00	6.31	18.210	149.200	148	99.3	NO		
116	98	d9-N-EtFOSE-RSD	639.2 > 58.8	31114.439	18603.139	1.00	6.45	20.907	149.200	149	100.0	NO		
117	-1													
118	99	13C4-PFBA	217.0 > 172.0	9933.421	9933.421	1.00	1.44	12.500	12.500	12.5	100.0	NO		
119	1...	13C5-PFHxA	318.0 > 272.9	20130.887	20130.887	1.00	3.20	12.500	12.500	12.5	100.0	NO		
120	1...	13C8-PFOA	420.9 > 376.0	17704.627	17704.627	1.00	4.31	12.500	12.500	12.5	100.0	NO		
121	1...	18O2-PFHxS	403.0 > 103	1628.888	1628.888	1.00	3.94	12.500	12.500	12.5	100.0	NO		
122	1...	13C9-PFNA	472.2 > 426.9	21485.840	21485.840	1.00	4.75	12.500	12.500	12.5	100.0	NO		
123	1...	13C4-PFOS	503 > 79.7	4766.815	4766.815	1.00	4.84	12.500	12.500	12.5	100.0	NO		
124	1...	13C6-PFDA	519.1 > 473.7	21199.566	21199.566	1.00	5.13	12.500	12.500	12.5	100.0	NO		
125	1...	13C7-PFUdA	570.1 > 524.8	18603.139	18603.139	1.00	5.45	12.500	12.500	12.5	100.0	NO		

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Method: D:\PFAS5.PRO\MethDB\NEW_PFAS_80C_071420.mdb 14 Jul 2020 15:40:52
Calibration: D:\PFAS5.PRO\CurveDB\C18_VAL-PFAS_Q5_07-14-20.cdb 15 Jul 2020 08:25:12

Compound name: PFBA

	#	Name	ID	Acq.Date	Acq.Time
1	1	200714P1-01	IPA	14-Jul-20	09:41:26
2	2	200714P1-02	IPA	14-Jul-20	09:52:13
3	3	200714P1-03	TESTER	14-Jul-20	10:02:49
4	4	200714P1-04	IPA	14-Jul-20	10:13:25
5	5	200714P1-05	ST200714P1-1 PFC CS-2 20F1901	14-Jul-20	10:24:01
6	6	200714P1-06	ST200714P1-2 PFC CS-1 20F1902	14-Jul-20	10:34:37
7	7	200714P1-07	ST200714P1-3 PFC CS0 20F1903	14-Jul-20	10:45:12
8	8	200714P1-08	ST200714P1-4 PFC CS1 20F1904	14-Jul-20	10:55:49
9	9	200714P1-09	ST200714P1-5 PFC CS2 20F1905	14-Jul-20	11:06:24
10	10	200714P1-10	ST200714P1-6 PFC CS3 20F1906	14-Jul-20	11:17:00
11	11	200714P1-11	ST200714P1-7 PFC CS4 20F1907	14-Jul-20	11:27:36
12	12	200714P1-12	ST200714P1-8 PFC CS5 20F1908	14-Jul-20	11:38:12
13	13	200714P1-13	ST200714P1-9 PFC CS6 20F1909	14-Jul-20	11:48:48
14	14	200714P1-14	ST200714P1-10 PFC CS7 20F1910	14-Jul-20	11:59:24
15	15	200714P1-15	IB	14-Jul-20	12:10:00
16	16	200714P1-16	ICV200714P1-1 PFC ICV 20F1911	14-Jul-20	12:20:26
17	17	200714P1-17	IB	14-Jul-20	12:31:02
18	18	200714P1-18	2001368-02 CH48-SB01-0406 2.54	14-Jul-20	12:41:38
19	19	200714P1-19	2001368-05 CH48-SB02-0406 2.46	14-Jul-20	12:52:14
20	20	200714P1-20	2001368-08 CH48-SB03-0406 2.44	14-Jul-20	13:02:50
21	21	200714P1-21	2001368-01@5X CH48-SB01-0204 2.42	14-Jul-20	13:13:26
22	22	200714P1-22	2001368-04@5X CH48-SB02-0204 2.29	14-Jul-20	13:24:01
23	23	200714P1-23	2001368-06@5X CH48-SB02-0810 2.47	14-Jul-20	13:34:37
24	24	200714P1-24	2001368-07@5X CH48-SS03-000H 2.02	14-Jul-20	13:45:13
25	25	200714P1-25	2001379-01@5X CH48-SB05-0406 2.57	14-Jul-20	13:55:48
26	26	200714P1-26	2001379-02@5X CH48-SS05-000H 2.41	14-Jul-20	14:06:24
27	27	200714P1-27	2001379-03@5X CH48-SB05-0810 2.46	14-Jul-20	14:17:00
28	28	200714P1-28	IB	14-Jul-20	14:27:36
29	29	200714P1-29	ST200714P1-11 PFC CS3 20F1906	14-Jul-20	14:38:12
30	30	200714P1-30	IB	14-Jul-20	14:48:48
31	31	200714P1-31	2001379-05 CH48-SB06-0406 2.07	14-Jul-20	14:59:14
32	32	200714P1-32	2001379-04@10X CH48-SS06-000H 2.07	14-Jul-20	15:09:50

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Compound name: PFBA

	# Name	ID	Acq.Date	Acq.Time
33	33 200714P1-33	2001379-04@5X CH48-SS06-000H 2.07	14-Jul-20	15:20:25
34	34 200714P1-34	2001379-09@5X CH48-SB07-0810 2.47	14-Jul-20	15:31:01
35	35 200714P1-35	2001354-01@10X IN-36 0.24241	14-Jul-20	15:41:37
36	36 200714P1-36	2001354-02@10X OUT-36 0.2466	14-Jul-20	15:52:13
37	37 200714P1-37	2001354-01@5X IN-36 0.24241	14-Jul-20	16:02:48
38	38 200714P1-38	2001354-02@5X OUT-36 0.2466	14-Jul-20	16:13:25
39	39 200714P1-39	2001366-02@5X AA-MW-2 0.2333	14-Jul-20	16:24:01
40	40 200714P1-40	2001366-03@5X AA-MW-4 0.24243	14-Jul-20	16:34:36
41	41 200714P1-41	IB	14-Jul-20	16:45:12
42	42 200714P1-42	ST200714P1-12 PFC CS3 20F1906	14-Jul-20	16:55:49
43	43 200714P1-43	IB	14-Jul-20	17:06:25
44	44 200714P1-44	2001366-04@5X AA-MW-1 0.25105	14-Jul-20	17:17:01
45	45 200714P1-45	2001366-05@5X AA-MW-5 0.24827	14-Jul-20	17:27:37
46	46 200714P1-46	2001366-06@5X AA-MW-4 DUP 0.23012	14-Jul-20	17:38:13
47	47 200714P1-47	2001366-06 AA-MW-4 DUP 0.23012	14-Jul-20	17:48:48
48	48 200714P1-48	IB	14-Jul-20	17:59:24
49	49 200714P1-49	2001366-07 Field Blank 0.25496	14-Jul-20	18:10:00
50	50 200714P1-50	B0G0058-BLK1 Method Blank 0.25	14-Jul-20	18:20:36
51	51 200714P1-51	B0G0058-BS1 OPR 0.25	14-Jul-20	18:31:12
52	52 200714P1-52	B0G0058-BSD1 LCSD 0.25	14-Jul-20	18:41:38
53	53 200714P1-53	2001436-01 EB05-20200707 0.25168	14-Jul-20	18:52:15
54	54 200714P1-54	2001436-02 TW21D-20200707 0.24685	14-Jul-20	19:02:50
55	55 200714P1-55	2001436-03 TW09D-20200707 0.26203	14-Jul-20	19:13:17
56	56 200714P1-56	2001436-04 TW22D-20200707 0.2687	14-Jul-20	19:23:53
57	57 200714P1-57	IB	14-Jul-20	19:34:29
58	58 200714P1-58	2001436-05 EB06-20200708 0.2553	14-Jul-20	19:45:05
59	59 200714P1-59	2001436-06 TW23D-20200708 0.27774	14-Jul-20	19:55:41
60	60 200714P1-60	2001436-07 TW24D-20200708 0.28174	14-Jul-20	20:06:17
61	61 200714P1-61	2001436-08 TW17D-20200708 0.40597	14-Jul-20	20:16:53
62	62 200714P1-62	IB	14-Jul-20	20:27:28
63	63 200714P1-63	ST200714P1-13 PFC CS3 20F1906	14-Jul-20	20:38:04
64	64 200714P1-64	IB	14-Jul-20	20:48:39
65	65 200714P1-65	B0G0044-BLK1 Method Blank 0.25	14-Jul-20	20:59:16
66	66 200714P1-66	B0G0044-BS1 OPR 0.25	14-Jul-20	21:09:52
67	67 200714P1-67	2001430-01 IN-49 0.24168	14-Jul-20	21:20:28
68	68 200714P1-68	2001430-02 OUT-49 0.23991	14-Jul-20	21:31:04

Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Wednesday, July 15, 2020 13:03:07 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 13:03:29 Pacific Daylight Time

Compound name: PFBA

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69	69 200714P1-69	IB	14-Jul-20	21:41:39
70	70 200714P1-70	B0G0055-BS5 OPR 2	14-Jul-20	21:52:15
71	71 200714P1-71	IB	14-Jul-20	22:02:52
72	72 200714P1-72	ST200714P1-14 PFC CS3 20F1906	14-Jul-20	22:13:28
73	73 200714P1-73	IB	14-Jul-20	22:24:04

Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-42.qld

Last Altered: Wednesday, July 15, 2020 12:49:51 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 12:50:31 Pacific Daylight Time

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Calibration: D:\PFAS5.PRO\CurveDB\C18_VAL-PFAS_Q5_07-14-20.cdb 15 Jul 2020 08:25:12

Name: 200714P1-42, Date: 14-Jul-2020, Time: 16:55:49, ID: ST200714P1-12 PFC CS3 20F1906, Description: PFC CS3 20F1906

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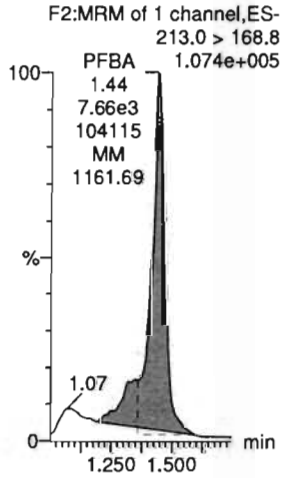
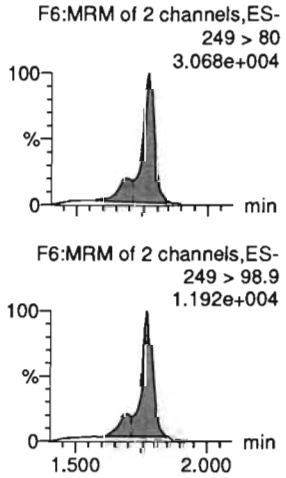
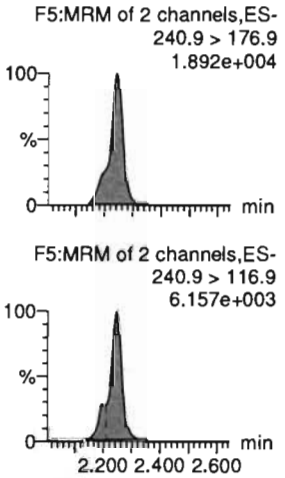


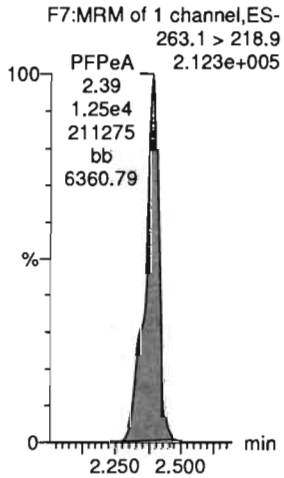
PFPrS



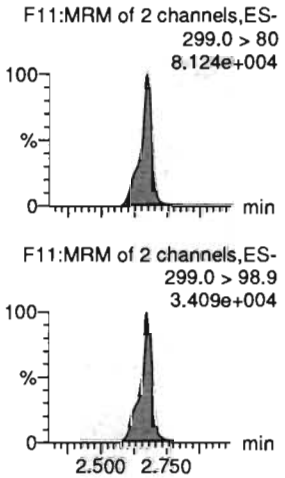
3:3 FTCA



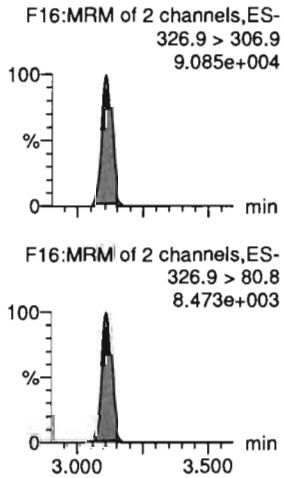
PFPeA



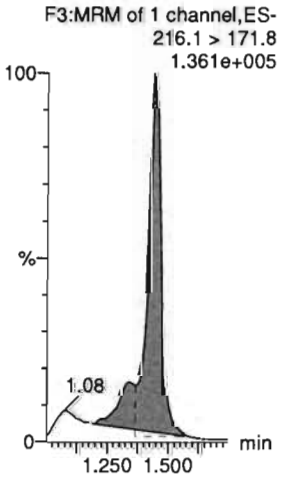
PFBS



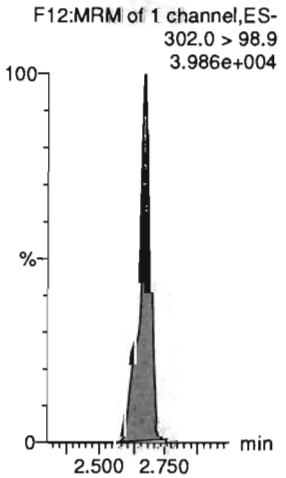
4:2 FTS



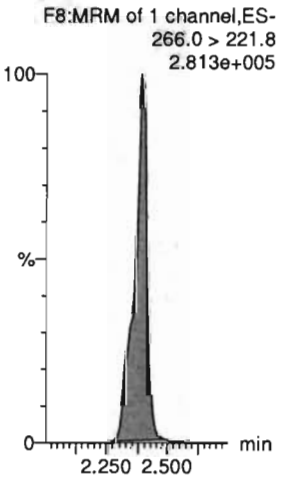
13C3-PFBA-EIS



13C3-PFBS-EIS



13C3-PFPeA-EIS



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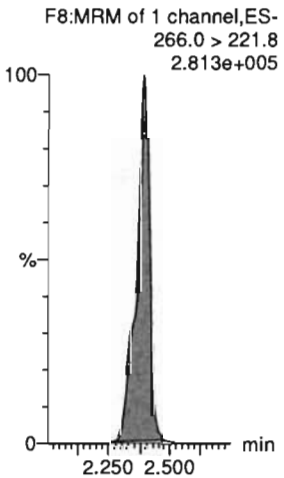

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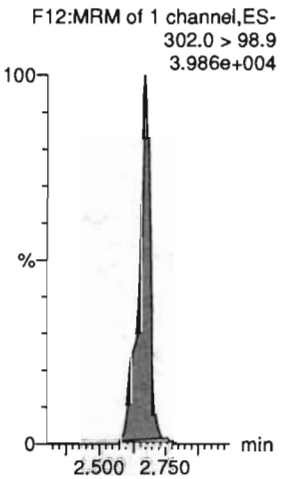
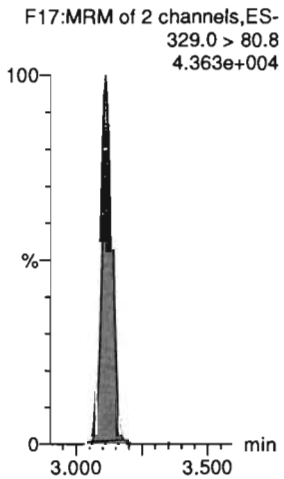


13C2-4:2 FTS-EIS



OPV 7/15/2020

Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-42.qld

Last Altered: Wednesday, July 15, 2020 12:49:51 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 12:50:31 Pacific Daylight Time

Name: 200714P1-42, Date: 14-Jul-2020, Time: 16:55:49, ID: ST200714P1-12 PFC CS3 20F1906, Description: PFC CS3 20F1906

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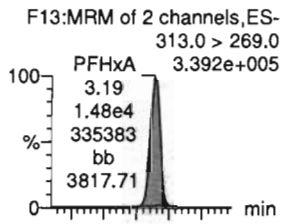

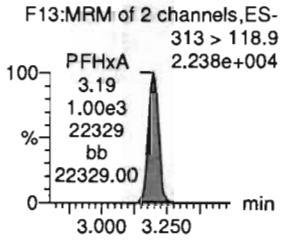

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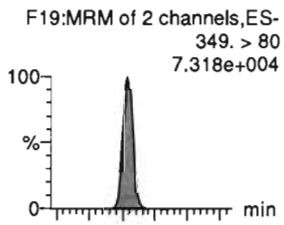
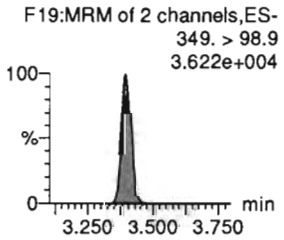
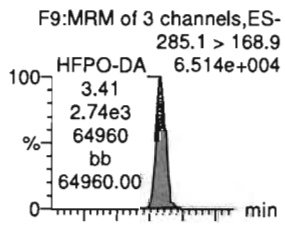
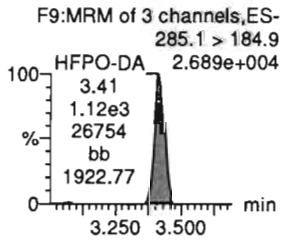


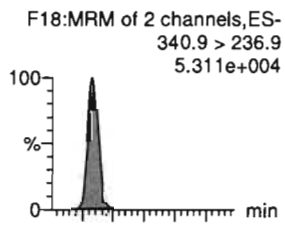


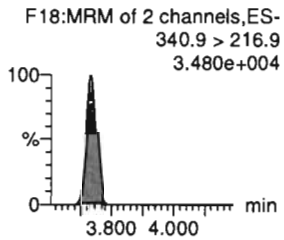
HFPO-DA



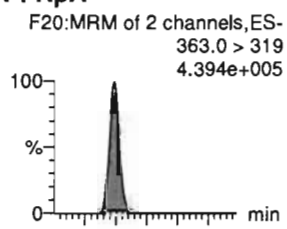


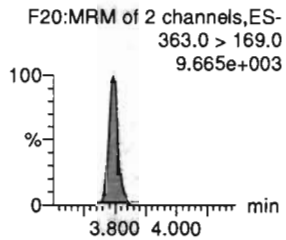
5:3 FTCA



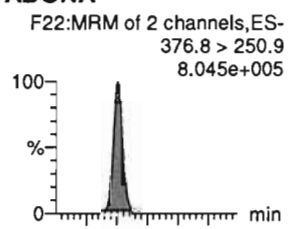


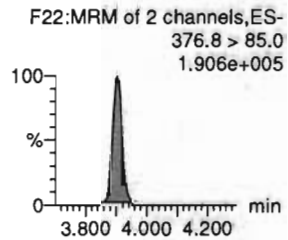
PFHpA



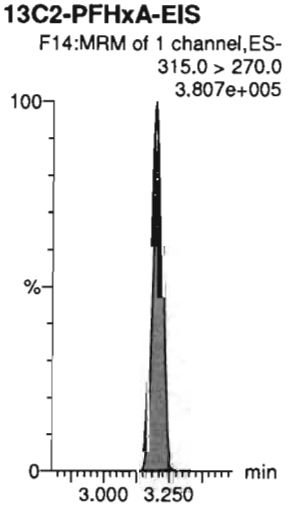


ADONA

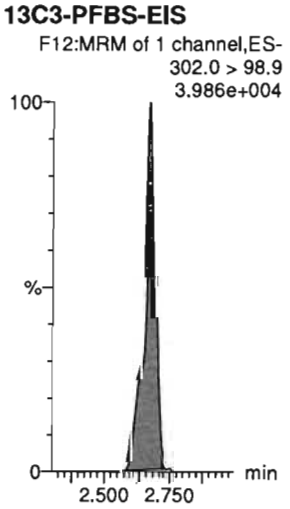




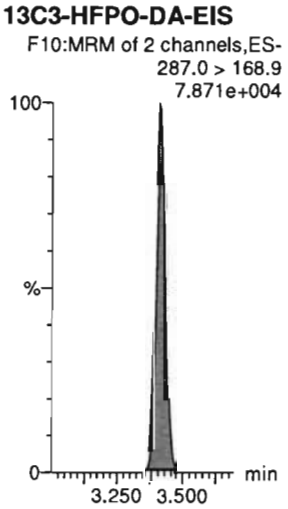
13C2-PFHxA-EIS



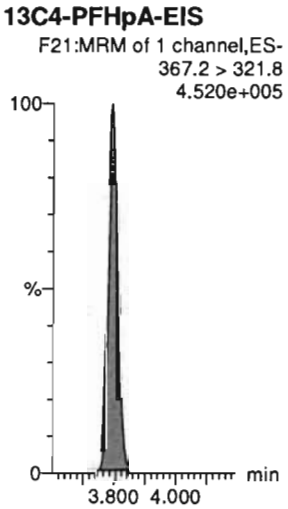
13C3-PFBS-EIS



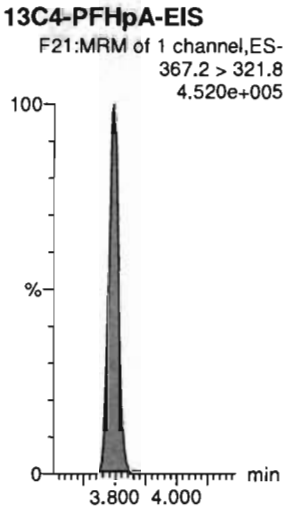
13C3-HFPO-DA-EIS



13C4-PFHpA-EIS



13C4-PFHpA-EIS



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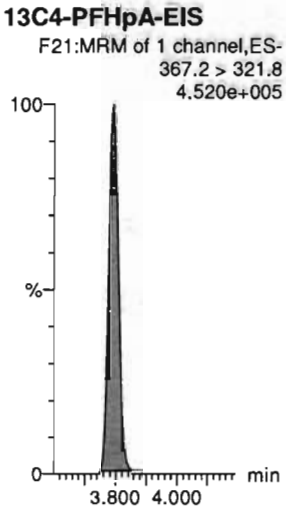

OPV 7/15/2020

Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-42.qld

Last Altered: Wednesday, July 15, 2020 12:49:51 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 12:50:31 Pacific Daylight Time

Name: 200714P1-42, Date: 14-Jul-2020, Time: 16:55:49, ID: ST200714P1-12 PFC CS3 20F1906, Description: PFC CS3 20F1906

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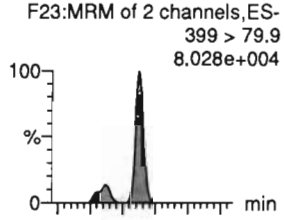
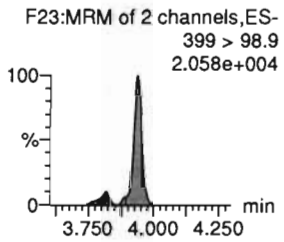
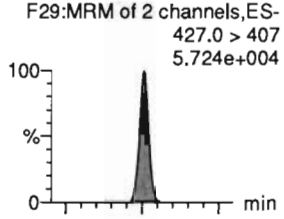
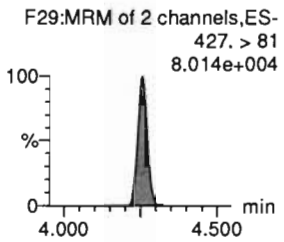


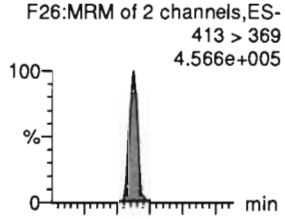


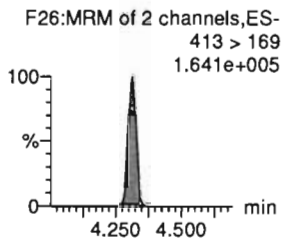
6:2 FTS



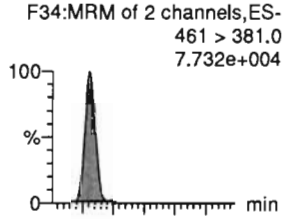


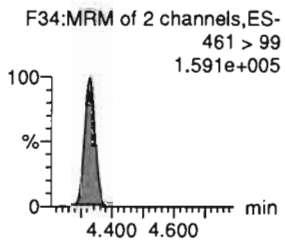
L-PFOA



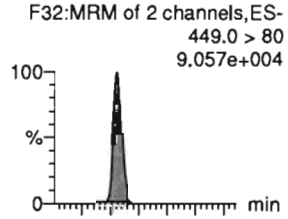


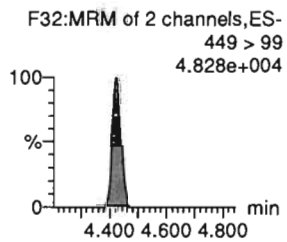
PFEChS



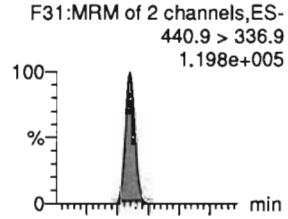


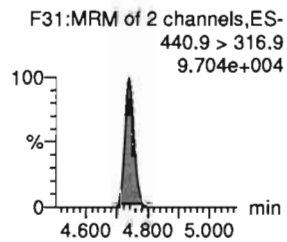
PFHpS



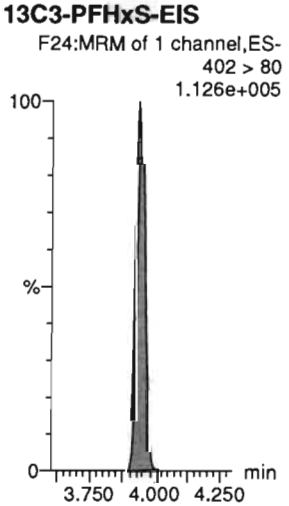


7:3 FTCA

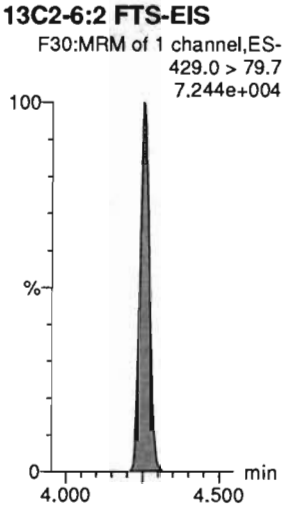




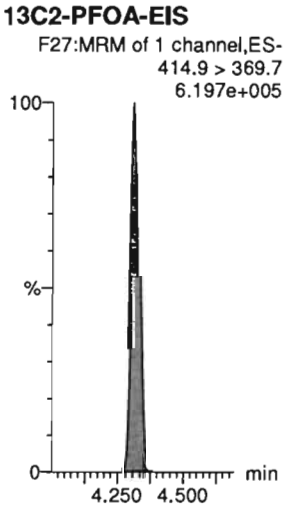
13C3-PFHxS-EIS



13C2-6:2 FTS-EIS



13C2-PFOA-EIS



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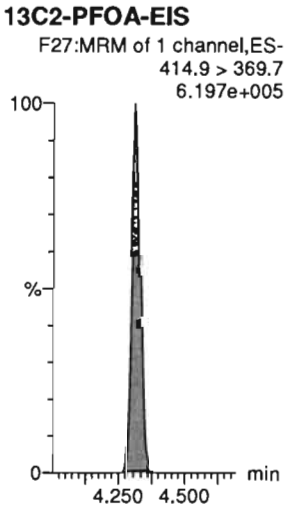
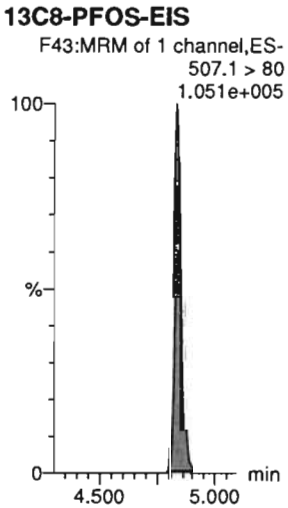
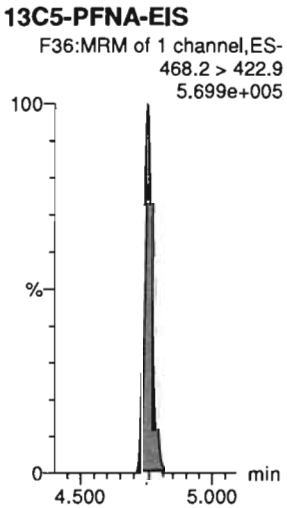


13C8-PFOS-EIS



13C5-PFNA-EIS



OPV 7/15/2020

Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-42.qld

Last Altered: Wednesday, July 15, 2020 12:49:51 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 12:50:31 Pacific Daylight Time

Name: 200714P1-42, Date: 14-Jul-2020, Time: 16:55:49, ID: ST200714P1-12 PFC CS3 20F1906, Description: PFC CS3 20F1906

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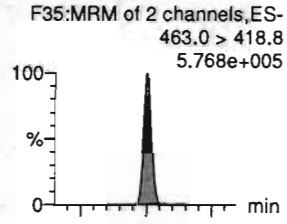

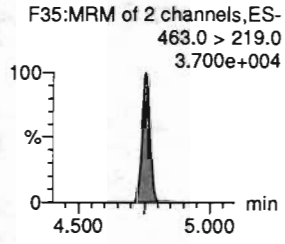

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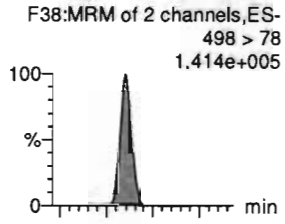
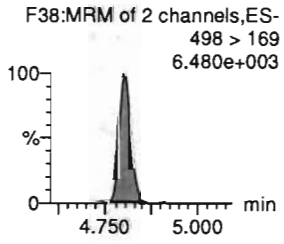
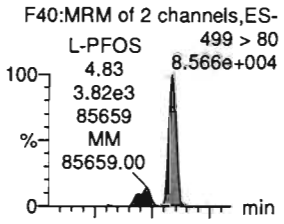
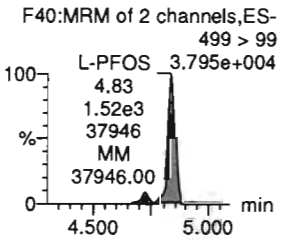


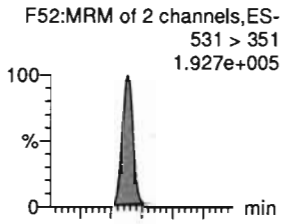


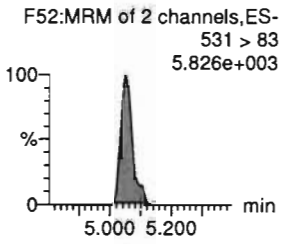
L-PFOS





9Cl-PF30NS





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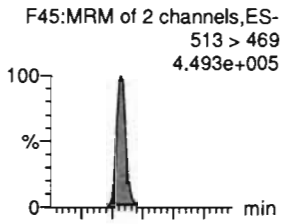
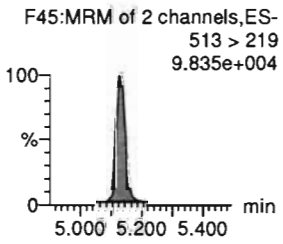
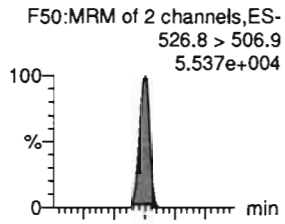
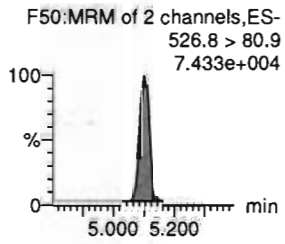


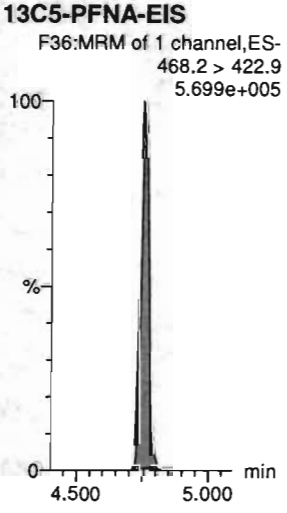


8:2 FTS

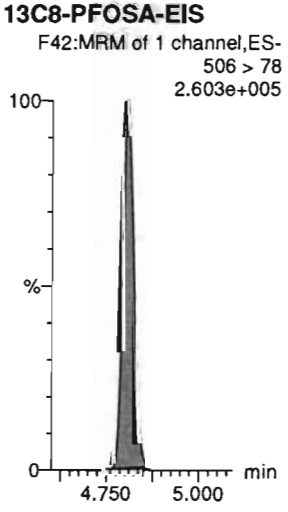




13C5-PFNA-EIS



13C8-PFOSA-EIS



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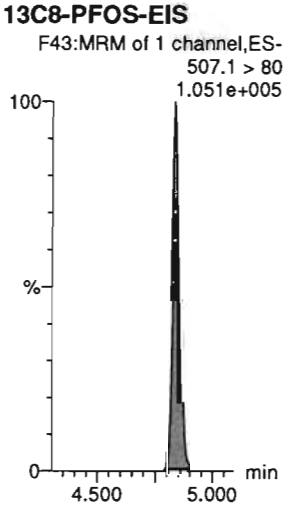
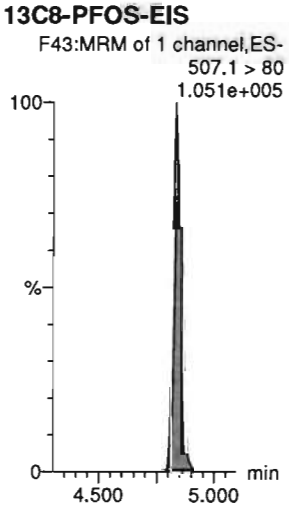
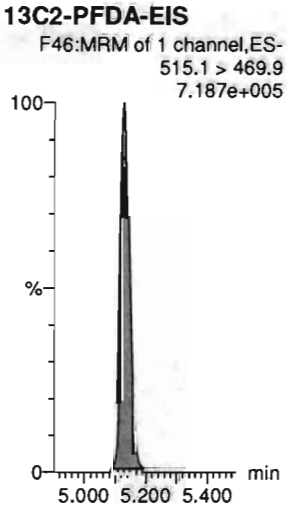


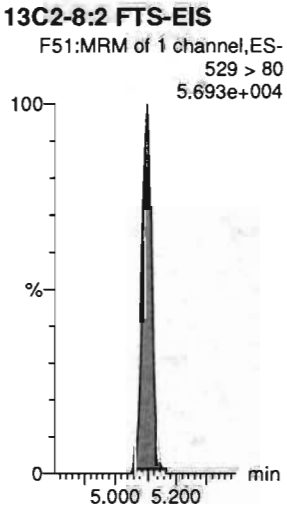
13C8-PFOS-EIS



13C2-PFDA-EIS



13C2-8:2 FTS-EIS



Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-42.qld

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Name: 200714P1-42, Date: 14-Jul-2020, Time: 16:55:49, ID: ST200714P1-12 PFC CS3 20F1906, Description: PFC CS3 20F1906

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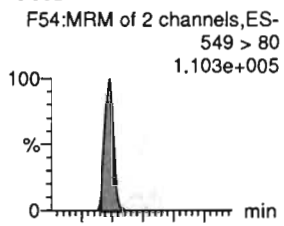

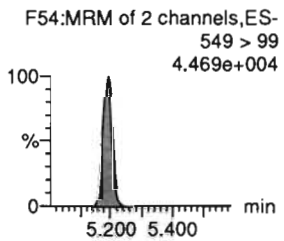

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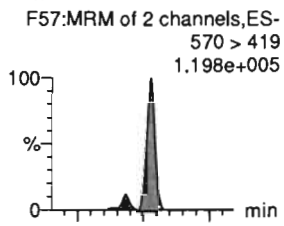

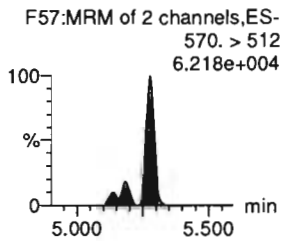

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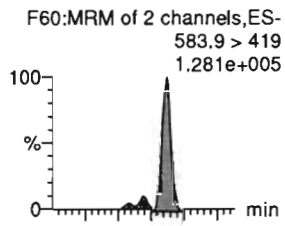

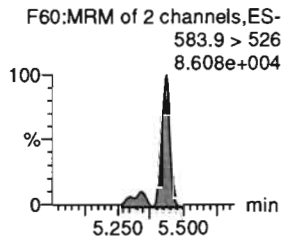

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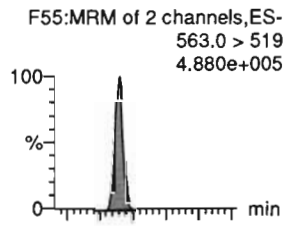
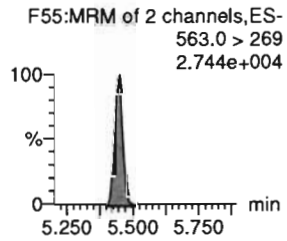
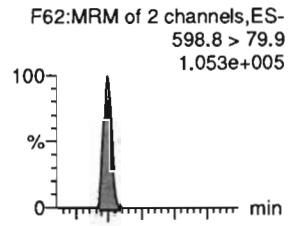
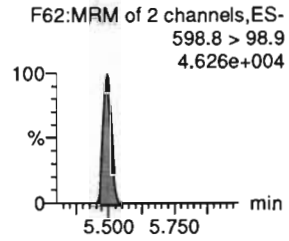




PFDS





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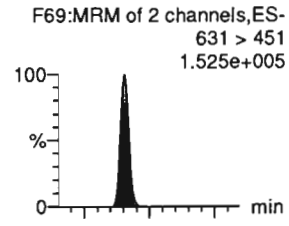
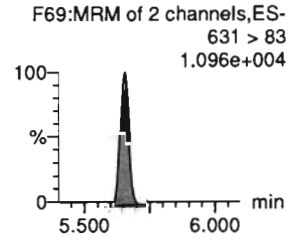
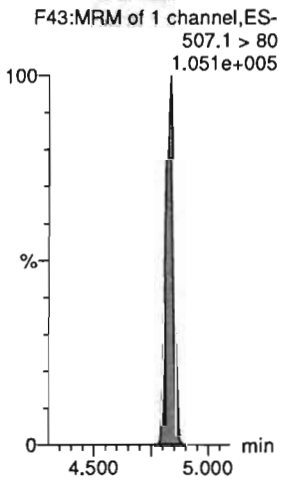
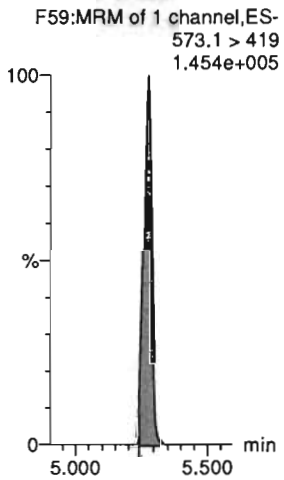




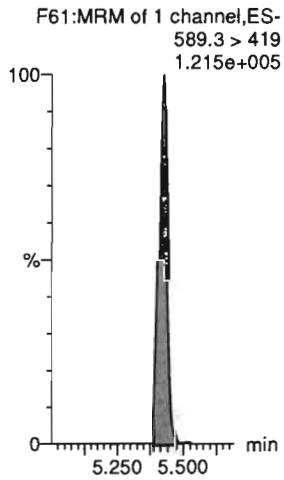
13C8-PFOS-EIS



d3-N-MeFOSAA-EIS



d5-N-EtFOSAA-EIS



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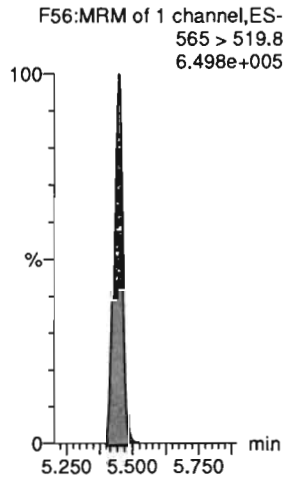

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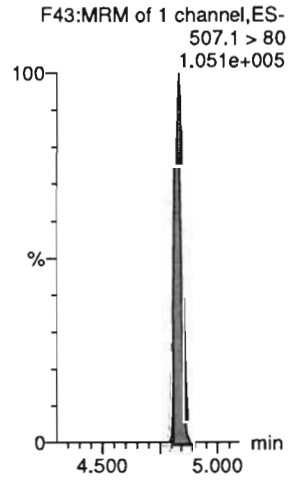

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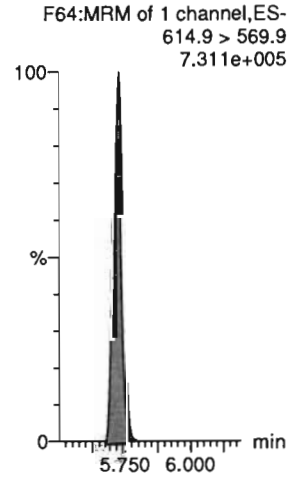


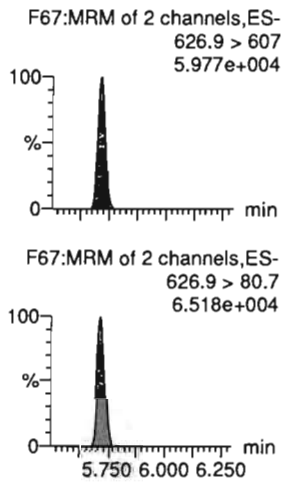
OPV 7/15/2020

Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-42.qld

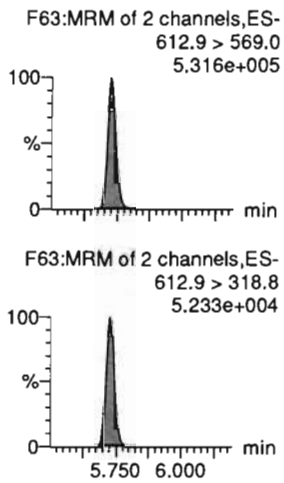
Last Altered: Wednesday, July 15, 2020 12:49:51 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 12:50:31 Pacific Daylight Time

Name: 200714P1-42, Date: 14-Jul-2020, Time: 16:55:49, ID: ST200714P1-12 PFC CS3 20F1906, Description: PFC CS3 20F1906

10:2 FTS



PFDoA



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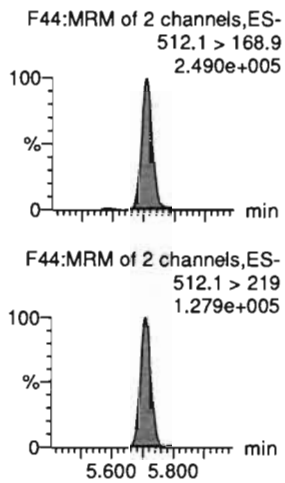

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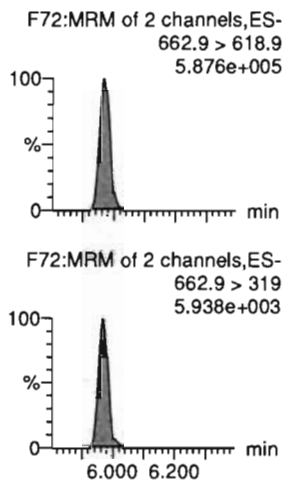

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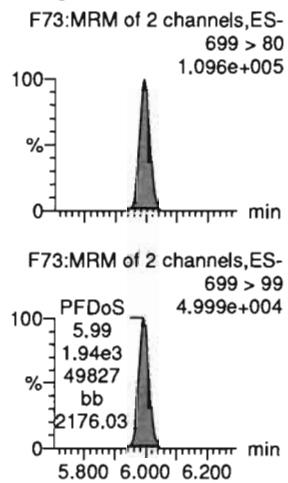
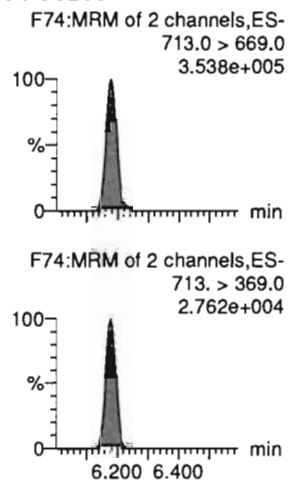
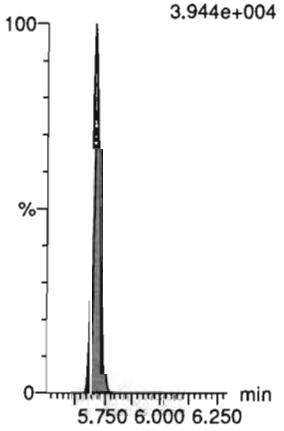


PFTeDA



13C2-10:2 FTS-EIS



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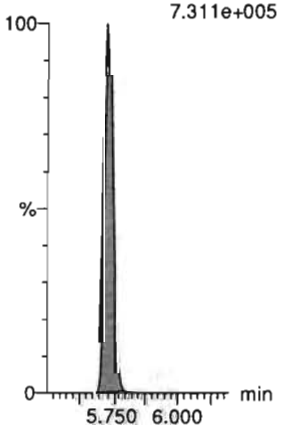
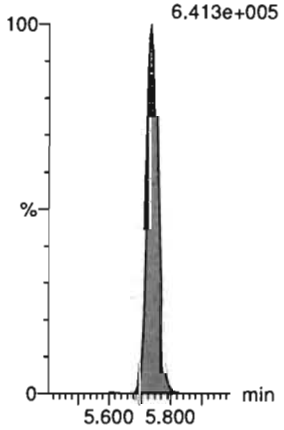


d3-N-MeFOSA-EIS



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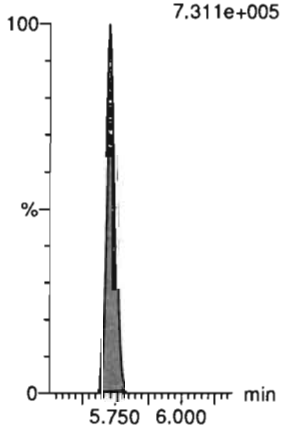

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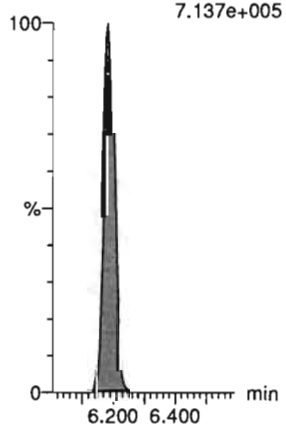
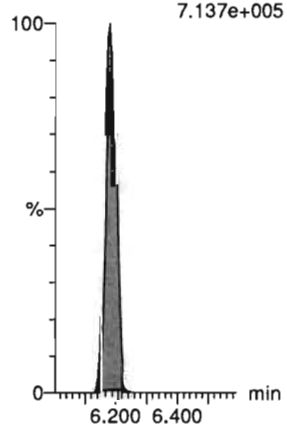


13C2-PFTeDA-EIS



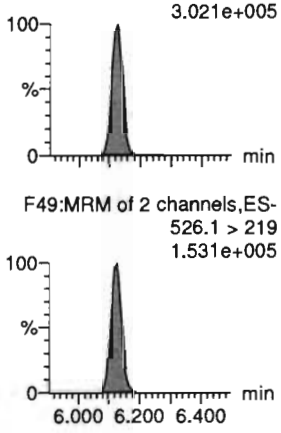
OPV 7/15/2020

Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-42.qld

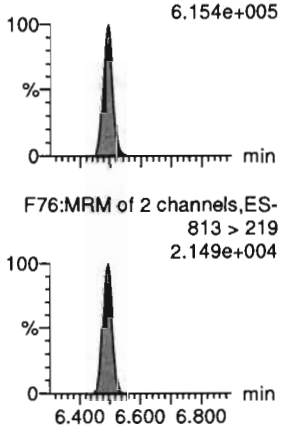
Last Altered: Wednesday, July 15, 2020 12:49:51 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 12:50:31 Pacific Daylight Time

Name: 200714P1-42, Date: 14-Jul-2020, Time: 16:55:49, ID: ST200714P1-12 PFC CS3 20F1906, Description: PFC CS3 20F1906

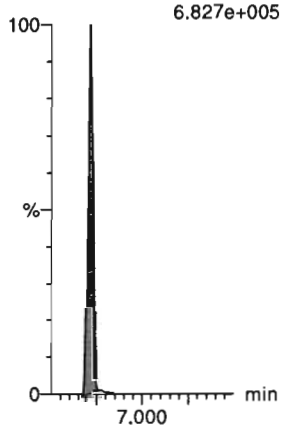
N-EtFOSA



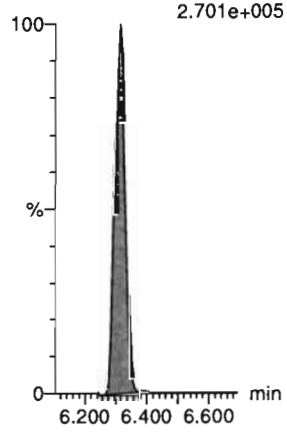
PFHxDA



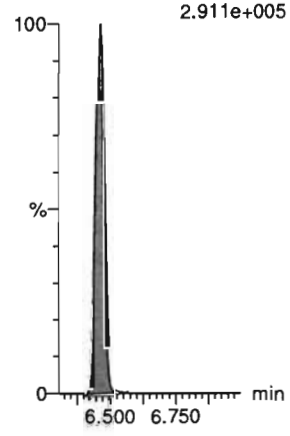
PFODA



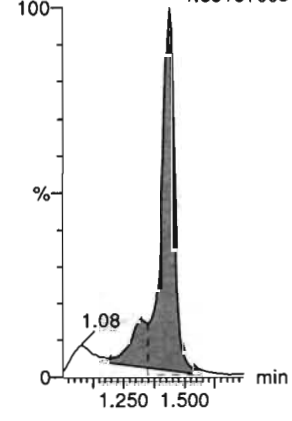
N-MeFOSE



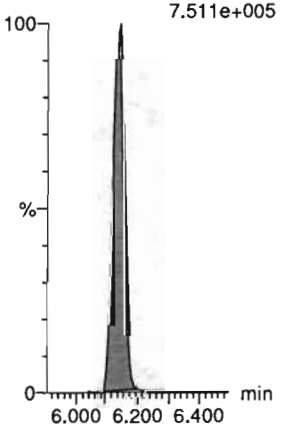
N-EtFOSE



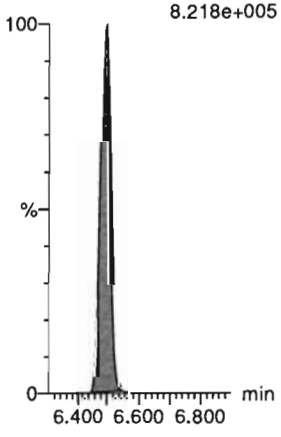
13C3-PFBA-RSD



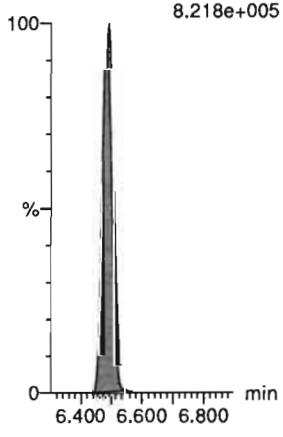
d5-N-ETFOSA-EIS



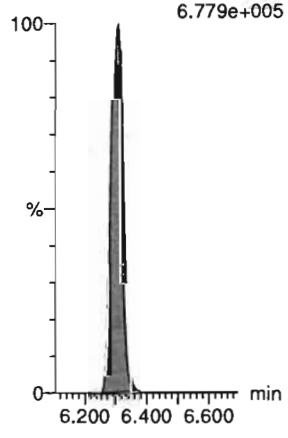
13C2-PFHxDA-EIS



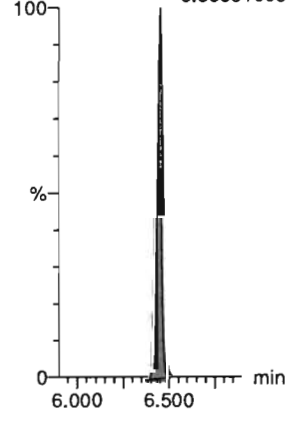
13C2-PFHxDA-EIS



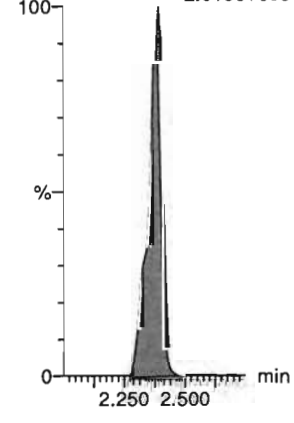
d7-N-MeFOSE-EIS



d9-N-EtFOSE-EIS



13C3-PFPeA-RSD



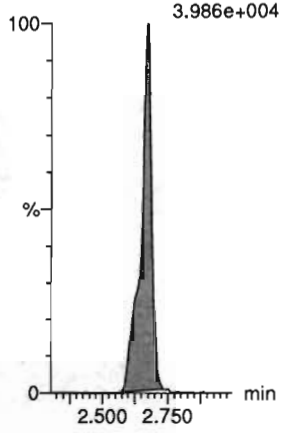
OPV 7/15/2020

Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-42.qld

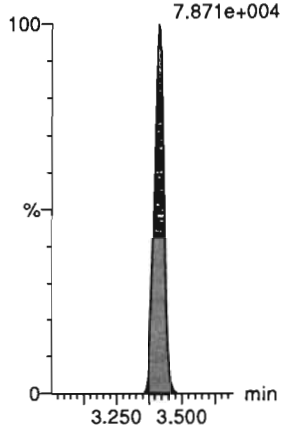
Last Altered: Wednesday, July 15, 2020 12:49:51 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 12:50:31 Pacific Daylight Time

Name: 200714P1-42, Date: 14-Jul-2020, Time: 16:55:49, ID: ST200714P1-12 PFC CS3 20F1906, Description: PFC CS3 20F1906

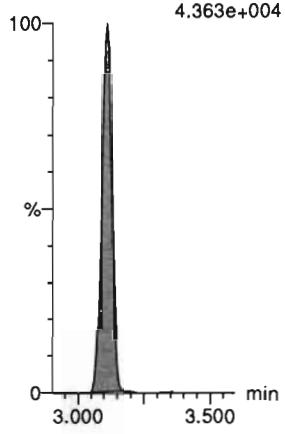
13C3-PFBS-RSD
F12:MRM of 1 channel,ES-
302.0 > 98.9
3.986e+004



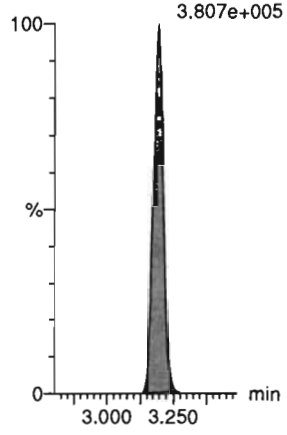
13C3-HFPO-DA-RSD
F10:MRM of 2 channels,ES-
287.0 > 168.9
7.871e+004



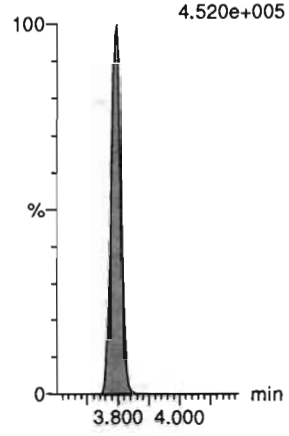
13C2-4:2 FTS-RSD
F17:MRM of 2 channels,ES-
329.0 > 80.8
4.363e+004



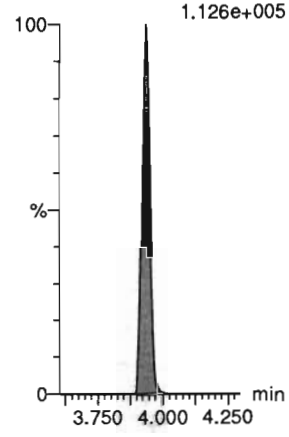
13C2-PFHxA-RSD
F14:MRM of 1 channel,ES-
315.0 > 270.0
3.807e+005



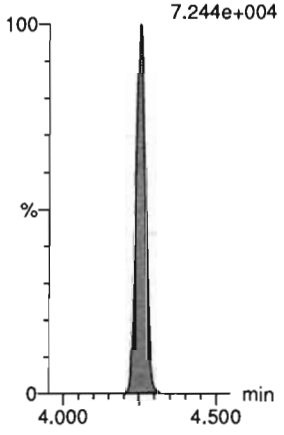
13C4-PFHpA-RSD
F21:MRM of 1 channel,ES-
367.2 > 321.8
4.520e+005



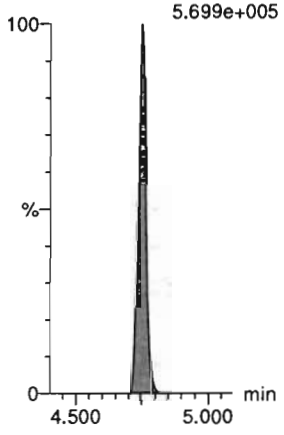
13C3-PFHxS-RSD
F24:MRM of 1 channel,ES-
402 > 80
1.126e+005



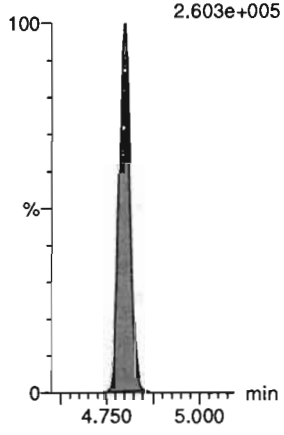
13C2-6:2 FTS-RSD
F30:MRM of 1 channel,ES-
429.0 > 79.7
7.244e+004



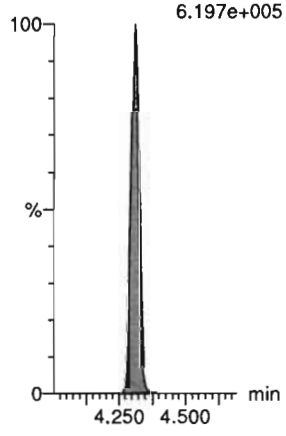
13C5-PFNA-RSD
F36:MRM of 1 channel,ES-
468.2 > 422.9
5.699e+005



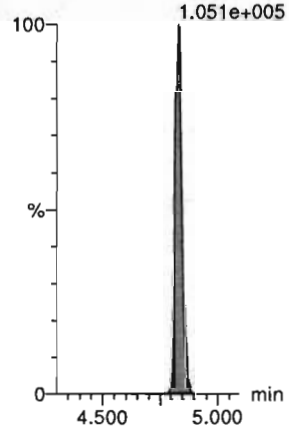
13C8-PFOSA-RSD
F42:MRM of 1 channel,ES-
506 > 78
2.603e+005



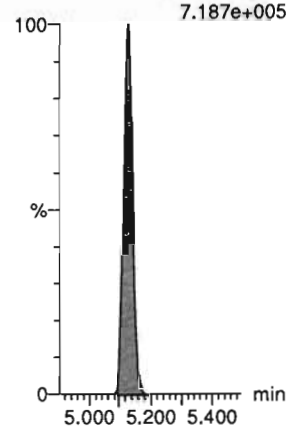
13C2-PFOA-RSD
F27:MRM of 1 channel,ES-
414.9 > 369.7
6.197e+005



13C8-PFOS-RSD
F43:MRM of 1 channel,ES-
507.1 > 80
1.051e+005



13C2-PFDA-RSD
F46:MRM of 1 channel,ES-
515.1 > 469.9
7.187e+005



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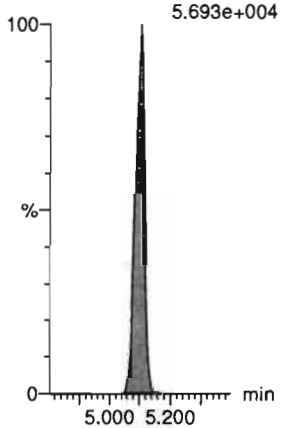
Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-42.qld

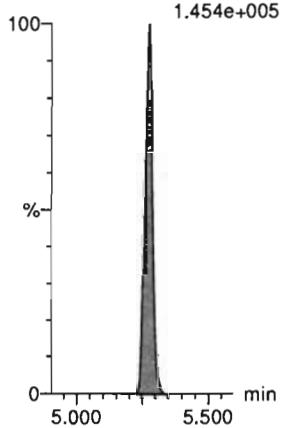
Last Altered: Wednesday, July 15, 2020 12:49:51 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 12:50:31 Pacific Daylight Time

Name: 200714P1-42, Date: 14-Jul-2020, Time: 16:55:49, ID: ST200714P1-12 PFC CS3 20F1906, Description: PFC CS3 20F1906

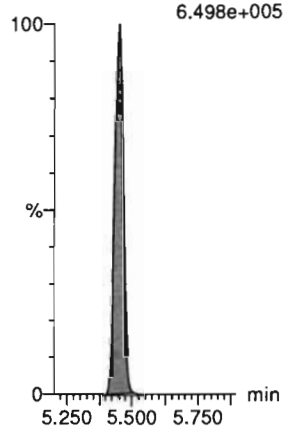
13C2-8:2 FTS-RSD
F51:MRM of 1 channel,ES-
529 > 80
5.693e+004



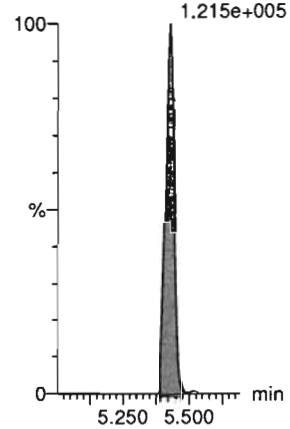
d3-N-MeFOSAA-RSD
F59:MRM of 1 channel,ES-
573.1 > 419
1.454e+005



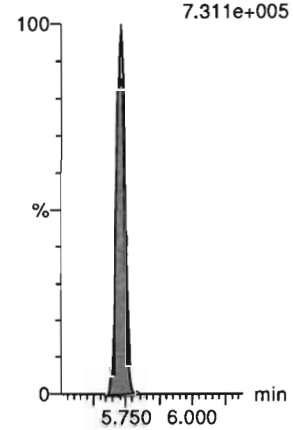
13C2-PFUdA-RSD
F56:MRM of 1 channel,ES-
565 > 519.8
6.498e+005



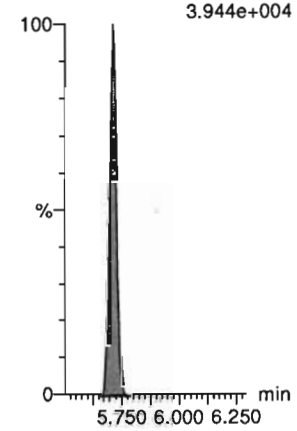
d5-N-EtFOSAA-RSD
F61:MRM of 1 channel,ES-
589.3 > 419
1.215e+005



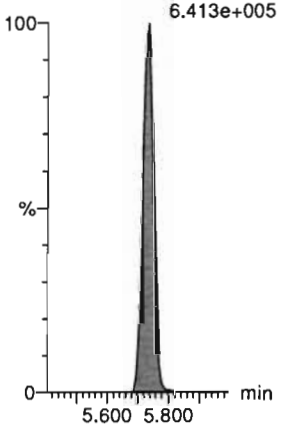
13C2-PFDoA-RSD
F64:MRM of 1 channel,ES-
614.9 > 569.9
7.311e+005



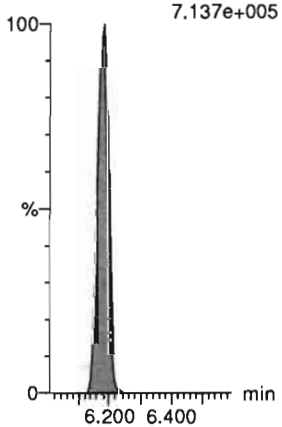
13C2-10:2 FTS-RSD
F70:MRM of 1 channel,ES-
632.9 > 80.0
3.944e+004



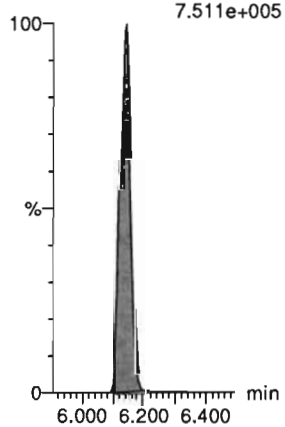
d3-N-MeFOSA-RSD
F47:MRM of 1 channel,ES-
515.2 > 168.9
6.413e+005



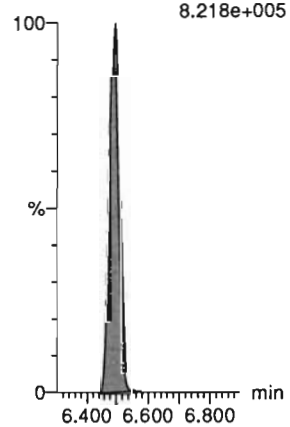
13C2-PFTeDA-RSD
F75:MRM of 2 channels,ES-
715.1 > 669.7
7.137e+005



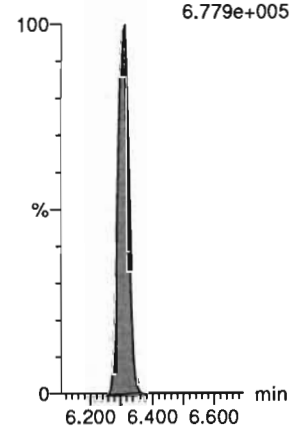
d5-N-ETFOSA-RSD
F53:MRM of 1 channel,ES-
531.1 > 168.9
7.511e+005



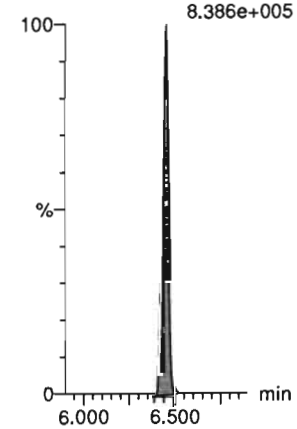
13C2-PFHxDA-RSD
F77:MRM of 1 channel,ES-
815 > 769.7
8.218e+005



d7-N-MeFOSE-RSD
F66:MRM of 1 channel,ES-
623.1 > 58.9
6.779e+005



d9-N-EtFOSE-RSD
F71:MRM of 1 channel,ES-
639.2 > 58.8
8.386e+005



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Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-42.qld

Last Altered: Wednesday, July 15, 2020 12:49:51 Pacific Daylight Time
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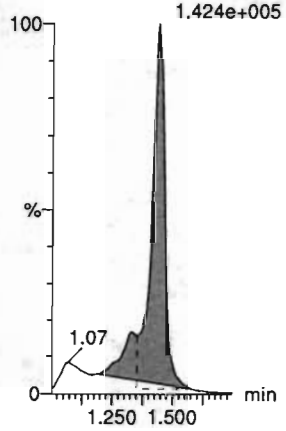
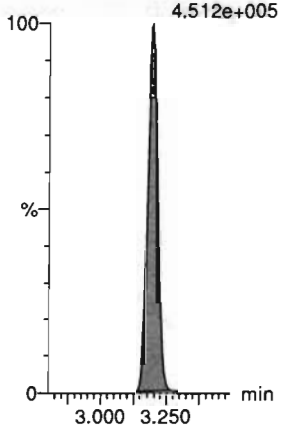
Name: 200714P1-42, Date: 14-Jul-2020, Time: 16:55:49, ID: ST200714P1-12 PFC CS3 20F1906, Description: PFC CS3 20F1906

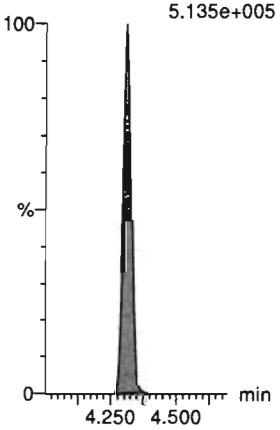
13C4-PFBA



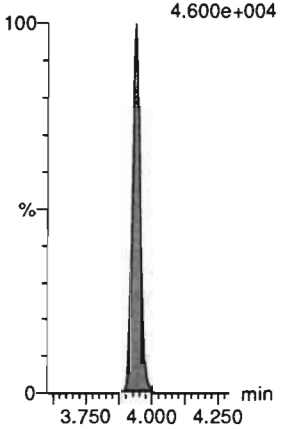
13C5-PFHxA



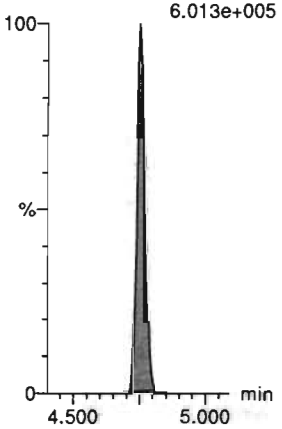
13C8-PFOA



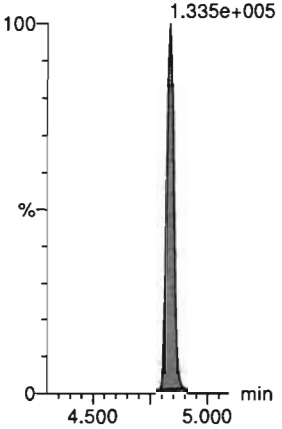
18O2-PFHxS



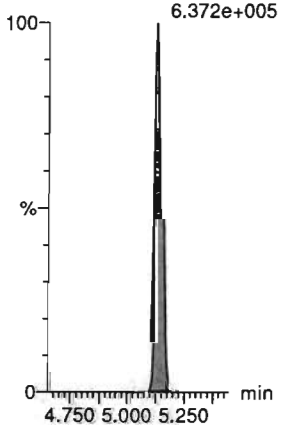
13C9-PFNA



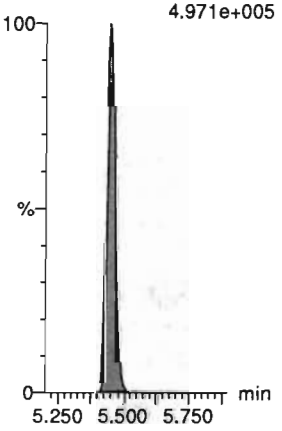
13C4-PFOS



13C6-PFDA



13C7-PFUdA



Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-63.qld

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Name: 200714P1-63, Date: 14-Jul-2020, Time: 20:38:04, ID: ST200714P1-13 PFC CS3 20F1906, Description: PFC CS3 20F1906

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Std. Conc	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
1	1	PFBA	213.0 > 168.8	7939.076	9458.469	1.00	1.44	10.492	10.000	10.6	105.8	NO		
2	2	PFPrS	249 > 80	1885.248	1926.237	1.00	1.77	12.234	10.000	11.6	115.8	NO	2.514	NO
3	3	3:3 FTCA	240.9 > 176.9	1031.640	17038.701	1.00	2.25	0.757	10.000	9.50	95.0	NO	3.217	NO
4	4	PFPeA	263.1 > 218.9	12471.147	17038.701	1.00	2.39	9.149	10.000	10.3	102.6	NO		
5	5	PFBS	299.0 > 80	4029.888	1926.237	1.00	2.67	26.151	10.000	10.5	104.6	NO	2.488	NO
6	6	4:2 FTS	326.9 > 306.9	4263.150	1919.940	1.00	3.11	27.756	10.000	10.9	109.0	NO	11.765	NO
7	47	13C3-PFBA-EIS	216.1 > 171.8	9458.469		1.00	1.44	9458.469	12.500	14.4	115.4	NO		
8	51	13C3-PFBS-EIS	302.0 > 98.9	1926.237		1.00	2.67	1926.237	12.500	12.2	97.6	NO		
9	49	13C3-PFPeA-EIS	266.0 > 221.8	17038.701		1.00	2.39	17038.701	12.500	12.8	102.7	NO		
10	49	13C3-PFPeA-EIS	266.0 > 221.8	17038.701		1.00	2.39	17038.701	12.500	12.8	102.7	NO		
11	51	13C3-PFBS-EIS	302.0 > 98.9	1926.237		1.00	2.67	1926.237	12.500	12.2	97.6	NO		
12	55	13C2-4:2 FTS-EIS	329.0 >80.8	1919.940		1.00	3.11	1919.940	12.500	12.5	99.7	NO		
13	-1													
14	7	PFHxA	313.0 > 269.0	14586.766	16378.499	1.00	3.19	11.133	10.000	10.7	107.0	NO	15.357	NO
15	8	PFPeS	349.>80	3261.883	1926.237	1.00	3.39	21.167	10.000	10.7	106.6	NO	2.134	NO
16	9	HFPO-DA	285.1 > 168.9	2597.511	3384.180	1.00	3.41	9.594	10.000	9.96	99.6	NO	2.279	NO
17	10	5:3 FTCA	340.9 > 236.9	2013.903	15850.358	1.00	3.73	1.588	10.000	9.22	92.2	NO	1.589	NO
18	11	PFHpA	363.0 > 319	15601.383	15850.358	1.00	3.79	12.304	10.000	10.0	100.4	NO	42.597	NO
19	12	ADONA	376.8 > 250.9	28754.531	15850.358	1.00	3.90	22.677	10.000	10.6	105.8	NO	4.116	NO
20	57	13C2-PFHxA-EIS	315.0 > 270.0	16378.499		1.00	3.19	16378.499	12.500	12.2	97.4	NO		
21	51	13C3-PFBS-EIS	302.0 > 98.9	1926.237		1.00	2.67	1926.237	12.500	12.2	97.6	NO		
22	53	13C3-HFPO-DA-EIS	287.0 > 168.9	3384.180		1.00	3.41	3384.180	12.500	13.0	103.6	NO		
23	59	13C4-PFHpA-EIS	367.2 > 321.8	15850.358		1.00	3.79	15850.358	12.500	12.3	98.6	NO		
24	59	13C4-PFHpA-EIS	367.2 > 321.8	15850.358		1.00	3.79	15850.358	12.500	12.3	98.6	NO		
25	59	13C4-PFHpA-EIS	367.2 > 321.8	15850.358		1.00	3.79	15850.358	12.500	12.3	98.6	NO		
26	-1													
27	13	L-PFHxS	399 > 79.9	3642.357	4072.684	1.00	3.93	11.179	10.000	9.84	98.4	NO	4.168	NO
28	15	6:2 FTS	427.0 > 407	1837.967	2453.483	1.00	4.25	9.364	10.000	10.2	102.3	NO	0.653	NO
29	16	L-PFOA	413 > 369	16433.701	22128.412	1.00	4.31	9.283	10.000	9.93	99.3	NO	2.943	NO
30	18	PFecHS	461 > 381.0	2927.803	22128.412	1.00	4.32	1.654	10.000	9.55	95.5	NO	0.463	NO
31	19	PFHpS	449.0 > 80	3078.591	3682.483	1.00	4.42	10.450	10.000	10.6	105.8	NO	1.785	NO
32	20	7:3 FTCA	440.9 > 336.9	4480.020	20431.617	1.00	4.73	2.741	10.000	9.23	92.3	NO	1.396	NO
33	61	13C3-PFHxS-EIS	402 > 80	4072.684		1.00	3.93	4072.684	12.500	13.3	106.8	NO		
34	63	13C2-6:2 FTS-EIS	429.0 >79.7	2453.483		1.00	4.25	2453.483	12.500	12.3	98.7	NO		
35	69	13C2-PFOA-EIS	414.9 > 369.7	22128.412		1.00	4.31	22128.412	12.500	12.8	102.1	NO		
36	69	13C2-PFOA-EIS	414.9 > 369.7	22128.412		1.00	4.31	22128.412	12.500	12.8	102.1	NO		

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Name: 200714P1-63, Date: 14-Jul-2020, Time: 20:38:04, ID: ST200714P1-13 PFC CS3 20F1906, Description: PFC CS3 20F1906

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Std. Conc	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
37	71	13C8-PFOS-EIS	507.1 > 80	3682.483		1.00	4.83	3682.483	12.500	12.3	98.5	NO		
38	65	13C5-PFNA-EIS	468.2 > 422.9	20431.617		1.00	4.75	20431.617	12.500	12.2	97.7	NO		
39	-1													
40	21	PFNA	463.0 > 418.8	19533.645	20431.617	1.00	4.75	11.951	10.000	10.1	101.0	NO	14.680	NO
41	22	PFOSA	498 > 78	4827.433	8835.735	1.00	4.80	6.829	10.000	9.88	98.8	NO	22.358	NO
42	23	L-PFOS	499 > 80	3710.489	3682.483	1.00	4.83	12.595	10.000	10.6	106.0	NO	2.623	NO
43	25	9Cl-PF30NS	531 > 351	7453.375	3682.483	1.00	5.05	25.300	10.000	10.1	101.4	NO	33.532	NO
44	26	PFDA	513 > 469	15348.408	23833.994	1.00	5.12	8.050	10.000	10.1	101.3	NO	5.036	NO
45	27	8:2 FTS	526.8 > 506.9	1930.158	2019.299	1.00	5.10	11.948	10.000	9.90	99.0	NO	0.644	NO
46	65	13C5-PFNA-EIS	468.2 > 422.9	20431.617		1.00	4.75	20431.617	12.500	12.2	97.7	NO		
47	67	13C8-PFOSA-EIS	506 > 78	8835.735		1.00	4.80	8835.735	12.500	12.3	98.8	NO		
48	71	13C8-PFOS-EIS	507.1 > 80	3682.483		1.00	4.83	3682.483	12.500	12.3	98.5	NO		
49	71	13C8-PFOS-EIS	507.1 > 80	3682.483		1.00	4.83	3682.483	12.500	12.3	98.5	NO		
50	73	13C2-PFDA-EIS	515.1 > 469.9	23833.994		1.00	5.13	23833.994	12.500	11.9	95.5	NO		
51	75	13C2-8:2 FTS-EIS	529 > 80	2019.299		1.00	5.10	2019.299	12.500	11.5	92.2	NO		
52	-1													
53	28	PFNS	549 > 80	3719.576	3682.483	1.00	5.18	12.626	10.000	9.94	99.4	NO	2.544	NO
54	29	L-MeFOSAA	570 > 419	4724.438	4923.770	1.00	5.27	11.994	10.000	9.98	99.8	NO	1.852	NO
55	31	L-EtFOSAA	583.9 > 419	5559.917	3959.523	1.00	5.43	17.552	10.000	10.8	108.1	NO	1.412	NO
56	33	PFUdA	563.0 > 519	17934.150	23682.273	1.00	5.45	9.466	10.000	10.0	100.2	NO	17.545	NO
57	34	PFDS	598.8 >79.9	4063.063	3682.483	1.00	5.49	13.792	10.000	10.4	103.9	NO	2.102	NO
58	35	11Cl-PF30UdS	631 > 451	5647.990	27485.732	1.00	5.65	2.569	10.000	9.85	98.5	NO	15.152	NO
59	71	13C8-PFOS-EIS	507.1 > 80	3682.483		1.00	4.83	3682.483	12.500	12.3	98.5	NO		
60	77	d3-N-MeFOSAA-EIS	573.1 > 419	4923.770		1.00	5.27	4923.770	12.500	12.6	100.7	NO		
61	81	d5-N-EtFOSAA-EIS	589.3 > 419	3959.523		1.00	5.42	3959.523	12.500	11.6	92.5	NO		
62	79	13C2-PFUdA-EIS	565 > 519.8	23682.273		1.00	5.45	23682.273	12.500	12.3	98.8	NO		
63	71	13C8-PFOS-EIS	507.1 > 80	3682.483		1.00	4.83	3682.483	12.500	12.3	98.5	NO		
64	83	13C2-PFDoA-EIS	614.9 > 569.9	27485.732		1.00	5.72	27485.732	12.500	11.9	95.4	NO		
65	-1													
66	36	10:2 FTS	626.9 > 607	2187.494	1386.305	1.00	5.71	19.724	10.000	10.4	103.9	NO	0.903	NO
67	37	PFDoA	612.9 > 569.0	18792.020	27485.732	1.00	5.73	8.546	10.000	9.58	95.8	NO	9.966	NO
68	38	N-MeFOSA	512.1 > 168.9	9961.005	25394.732	1.00	5.71	58.523	50.000	52.4	104.8	NO	2.030	NO
69	39	PFTrDA	662.9 > 618.9	24144.660	27485.732	1.00	5.97	10.981	10.000	10.3	102.9	NO	123.297	NO
70	40	PFDoS	699 > 80	3924.180	26949.268	1.00	5.99	1.820	10.000	10.4	103.5	NO	2.108	NO
71	41	PFTeDA	713.0 > 669.0	13232.048	26949.268	1.00	6.17	6.137	10.000	10.8	108.4	NO	13.162	NO
72	85	13C2-10:2 FTS-EIS	632.9 > 80.0	1386.305		1.00	5.71	1386.305	12.500	11.6	92.9	NO		

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Name: 200714P1-63, Date: 14-Jul-2020, Time: 20:38:04, ID: ST200714P1-13 PFC CS3 20F1906, Description: PFC CS3 20F1906

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Std. Conc	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
73	83	13C2-PFDoA-EIS	614.9 > 569.9	27485.732		1.00	5.72	27485.732	12.500	11.9	95.4	NO		
74	87	d3-N-MeFOSA-EIS	515.2 > 168.9	25394.732		1.00	5.73	25394.732	149.200	142	95.2	NO		
75	83	13C2-PFDoA-EIS	614.9 > 569.9	27485.732		1.00	5.72	27485.732	12.500	11.9	95.4	NO		
76	89	13C2-PFTeDA-EIS	715.1 > 669.7	26949.268		1.00	6.17	26949.268	12.500	12.0	96.1	NO		
77	89	13C2-PFTeDA-EIS	715.1 > 669.7	26949.268		1.00	6.17	26949.268	12.500	12.0	96.1	NO		
78	-1													
79	42	N-EtFOSA	526.1 > 168.9	12251.762	29683.482	1.00	6.13	61.582	50.000	54.6	109.3	NO	1.992	NO
80	43	PFHxDA	813 > 769	23368.496	30892.164	1.00	6.49	9.456	10.000	10.5	105.4	NO	30.810	NO
81	44	PFODA	913.1 > 868.8	19610.609	30892.164	1.00	6.72	7.935	10.000	10.2	102.3	NO		
82	45	N-MeFOSE	616.1 > 58.9	10035.111	26263.852	1.00	6.31	57.008	50.000	51.2	102.4	NO		
83	46	N-EtFOSE	630.1 > 58.9	10691.540	30352.836	1.00	6.46	52.554	50.000	52.6	105.2	NO		
84	48	13C3-PFBA-RSD	216.1 > 171.8	9382.488	10037.129	1.00	1.44	11.685	12.500	12.5	100.2	NO		
85	91	d5-N-ETFOSA-EIS	531.1 > 168.9	29683.482		1.00	6.14	29683.482	149.200	145	97.2	NO		
86	93	13C2-PFHxDA-EIS	815 > 769.7	30892.164		1.00	6.49	30892.164	12.500	12.6	100.7	NO		
87	93	13C2-PFHxDA-EIS	815 > 769.7	30892.164		1.00	6.49	30892.164	12.500	12.6	100.7	NO		
88	95	d7-N-MeFOSE-EIS	623.1 > 58.9	26263.852		1.00	6.30	26263.852	149.200	148	98.9	NO		
89	97	d9-N-EtFOSE-EIS	639.2 > 58.8	30352.836		1.00	6.45	30352.836	149.200	148	99.0	NO		
90	50	13C3-PFPeA-RSD	266.0 > 221.8	17038.701	20901.363	1.00	2.39	10.190	12.500	12.7	101.2	NO		
91	-1													
92	52	13C3-PFBS-RSD	302.0 > 98.9	1926.237	1526.765	1.00	2.67	15.771	12.500	12.7	101.3	NO		
93	54	13C3-HFPO-DA-RSD	287.0 > 168.9	3384.180	20901.363	1.00	3.41	2.024	12.500	13.1	105.1	NO		
94	56	13C2-4:2 FTS-RSD	329.0 >80.8	1919.940	1526.765	1.00	3.11	15.719	12.500	12.3	98.7	NO		
95	58	13C2-PFHxA-RSD	315.0 > 270.0	16378.499	20901.363	1.00	3.19	9.795	12.500	12.3	98.3	NO		
96	60	13C4-PFHpA-RSD	367.2 > 321.8	15850.358	20901.363	1.00	3.79	9.479	12.500	12.6	100.4	NO		
97	62	13C3-PFHxS-RSD	402 > 80	4072.684	1526.765	1.00	3.93	33.344	12.500	13.5	107.7	NO		
98	64	13C2-6:2 FTS-RSD	429.0 >79.7	2453.483	4776.461	1.00	4.25	6.421	12.500	11.8	94.7	NO		
99	66	13C5-PFNA-RSD	468.2 > 422.9	20431.617	21723.232	1.00	4.75	11.757	12.500	12.5	99.9	NO		
100	68	13C8-PFOSA-RSD	506 > 78	8835.735	18616.719	1.00	4.80	5.933	12.500	12.1	96.4	NO		
101	70	13C2-PFOA-RSD	414.9 > 369.7	22128.412	17742.092	1.00	4.31	15.590	12.500	12.5	100.3	NO		
102	72	13C8-PFOS-RSD	507.1 > 80	3682.483	4776.461	1.00	4.83	9.637	12.500	12.2	97.7	NO		
103	74	13C2-PFDA-RSD	515.1 > 469.9	23833.994	21965.834	1.00	5.13	13.563	12.500	12.1	96.8	NO		
104	-1													
105	76	13C2-8:2 FTS-RSD	529 > 80	2019.299	4776.461	1.00	5.10	5.285	12.500	11.7	93.7	NO		
106	78	d3-N-MeFOSAA-RSD	573.1 > 419	4923.770	18616.719	1.00	5.27	3.306	12.500	12.6	100.8	NO		
107	80	13C2-PFUdA-RSD	565 > 519.8	23682.273	18616.719	1.00	5.45	15.901	12.500	12.4	99.5	NO		
108	82	d5-N-EtFOSAA-RSD	589.3 > 419	3959.523	18616.719	1.00	5.42	2.659	12.500	12.2	97.3	NO		

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Name: 200714P1-63, Date: 14-Jul-2020, Time: 20:38:04, ID: ST200714P1-13 PFC CS3 20F1906, Description: PFC CS3 20F1906

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Std. Conc	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
109	84	13C2-PFDoA-RSD	614.9 > 569.9	27485.732	21965.834	1.00	5.72	15.641	12.500	12.2	97.4	NO		
110	86	13C2-10:2 FTS-RSD	632.9 > 80.0	1386.305	4776.461	1.00	5.71	3.628	12.500	11.6	92.5	NO		
111	88	d3-N-MeFOSA-RSD	515.2 > 168.9	25394.732	18616.719	1.00	5.73	17.051	149.200	147	98.4	NO		
112	90	13C2-PFTeDA-RSD	715.1 > 669.7	26949.268	18616.719	1.00	6.17	18.095	12.500	11.9	95.4	NO		
113	92	d5-N-ETFOSA-RSD	531.1 > 168.9	29683.482	18616.719	1.00	6.14	19.931	149.200	146	98.0	NO		
114	94	13C2-PFHxDA-RSD	815 > 769.7	30892.164	18616.719	1.00	6.49	20.742	12.500	12.4	98.9	NO		
115	96	d7-N-MeFOSE-RSD	623.1 > 58.9	26263.852	18616.719	1.00	6.30	17.635	149.200	143	96.1	NO		
116	98	d9-N-EtFOSE-RSD	639.2 > 58.8	30352.836	18616.719	1.00	6.45	20.380	149.200	145	97.4	NO		
117	-1													
118	99	13C4-PFBA	217.0 > 172.0	10037.129	10037.129	1.00	1.44	12.500	12.500	12.5	100.0	NO		
119	1...	13C5-PFHxA	318.0 > 272.9	20901.363	20901.363	1.00	3.19	12.500	12.500	12.5	100.0	NO		
120	1...	13C8-PFOA	420.9 > 376.0	17742.092	17742.092	1.00	4.31	12.500	12.500	12.5	100.0	NO		
121	1...	18O2-PFHxS	403.0 > 103	1526.765	1526.765	1.00	3.94	12.500	12.500	12.5	100.0	NO		
122	1...	13C9-PFNA	472.2 > 426.9	21723.232	21723.232	1.00	4.75	12.500	12.500	12.5	100.0	NO		
123	1...	13C4-PFOS	503 > 79.7	4776.461	4776.461	1.00	4.83	12.500	12.500	12.5	100.0	NO		
124	1...	13C6-PFDA	519.1 > 473.7	21965.834	21965.834	1.00	5.13	12.500	12.500	12.5	100.0	NO		
125	1...	13C7-PFUdA	570.1 > 524.8	18616.719	18616.719	1.00	5.45	12.500	12.500	12.5	100.0	NO		

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Dataset: Untitled

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Method: D:\PFAS5.PRO\MethDB\NEW_PFAS_80C_071420.mdb 14 Jul 2020 15:40:52
Calibration: D:\PFAS5.PRO\CurveDB\C18_VAL-PFAS_Q5_07-14-20.cdb 15 Jul 2020 08:25:12

Compound name: PFBA

	# Name	ID	Acq.Date	Acq.Time
1	1 200714P1-01	IPA	14-Jul-20	09:41:26
2	2 200714P1-02	IPA	14-Jul-20	09:52:13
3	3 200714P1-03	TESTER	14-Jul-20	10:02:49
4	4 200714P1-04	IPA	14-Jul-20	10:13:25
5	5 200714P1-05	ST200714P1-1 PFC CS-2 20F1901	14-Jul-20	10:24:01
6	6 200714P1-06	ST200714P1-2 PFC CS-1 20F1902	14-Jul-20	10:34:37
7	7 200714P1-07	ST200714P1-3 PFC CS0 20F1903	14-Jul-20	10:45:12
8	8 200714P1-08	ST200714P1-4 PFC CS1 20F1904	14-Jul-20	10:55:49
9	9 200714P1-09	ST200714P1-5 PFC CS2 20F1905	14-Jul-20	11:06:24
10	10 200714P1-10	ST200714P1-6 PFC CS3 20F1906	14-Jul-20	11:17:00
11	11 200714P1-11	ST200714P1-7 PFC CS4 20F1907	14-Jul-20	11:27:36
12	12 200714P1-12	ST200714P1-8 PFC CS5 20F1908	14-Jul-20	11:38:12
13	13 200714P1-13	ST200714P1-9 PFC CS6 20F1909	14-Jul-20	11:48:48
14	14 200714P1-14	ST200714P1-10 PFC CS7 20F1910	14-Jul-20	11:59:24
15	15 200714P1-15	IB	14-Jul-20	12:10:00
16	16 200714P1-16	ICV200714P1-1 PFC ICV 20F1911	14-Jul-20	12:20:26
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19	19 200714P1-19	2001368-05 CH48-SB02-0406 2.46	14-Jul-20	12:52:14
20	20 200714P1-20	2001368-08 CH48-SB03-0406 2.44	14-Jul-20	13:02:50
21	21 200714P1-21	2001368-01@5X CH48-SB01-0204 2.42	14-Jul-20	13:13:26
22	22 200714P1-22	2001368-04@5X CH48-SB02-0204 2.29	14-Jul-20	13:24:01
23	23 200714P1-23	2001368-06@5X CH48-SB02-0810 2.47	14-Jul-20	13:34:37
24	24 200714P1-24	2001368-07@5X CH48-SS03-000H 2.02	14-Jul-20	13:45:13
25	25 200714P1-25	2001379-01@5X CH48-SB05-0406 2.57	14-Jul-20	13:55:48
26	26 200714P1-26	2001379-02@5X CH48-SS05-000H 2.41	14-Jul-20	14:06:24
27	27 200714P1-27	2001379-03@5X CH48-SB05-0810 2.46	14-Jul-20	14:17:00
28	28 200714P1-28	IB	14-Jul-20	14:27:36
29	29 200714P1-29	ST200714P1-11 PFC CS3 20F1906	14-Jul-20	14:38:12
30	30 200714P1-30	IB	14-Jul-20	14:48:48
31	31 200714P1-31	2001379-05 CH48-SB06-0406 2.07	14-Jul-20	14:59:14
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Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Wednesday, July 15, 2020 13:03:07 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 13:03:29 Pacific Daylight Time

Compound name: PFBA

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35	35 200714P1-35	2001354-01@10X IN-36 0.24241	14-Jul-20	15:41:37
36	36 200714P1-36	2001354-02@10X OUT-36 0.2466	14-Jul-20	15:52:13
37	37 200714P1-37	2001354-01@5X IN-36 0.24241	14-Jul-20	16:02:48
38	38 200714P1-38	2001354-02@5X OUT-36 0.2466	14-Jul-20	16:13:25
39	39 200714P1-39	2001366-02@5X AA-MW-2 0.2333	14-Jul-20	16:24:01
40	40 200714P1-40	2001366-03@5X AA-MW-4 0.24243	14-Jul-20	16:34:36
41	41 200714P1-41	IB	14-Jul-20	16:45:12
42	42 200714P1-42	ST200714P1-12 PFC CS3 20F1906	14-Jul-20	16:55:49
43	43 200714P1-43	IB	14-Jul-20	17:06:25
44	44 200714P1-44	2001366-04@5X AA-MW-1 0.25105	14-Jul-20	17:17:01
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58	58 200714P1-58	2001436-05 EB06-20200708 0.2553	14-Jul-20	19:45:05
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61	61 200714P1-61	2001436-08 TW17D-20200708 0.40597	14-Jul-20	20:16:53
62	62 200714P1-62	IB	14-Jul-20	20:27:28
63	63 200714P1-63	ST200714P1-13 PFC CS3 20F1906	14-Jul-20	20:38:04
64	64 200714P1-64	IB	14-Jul-20	20:48:39
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66	66 200714P1-66	B0G0044-BS1 OPR 0.25	14-Jul-20	21:09:52
67	67 200714P1-67	2001430-01 IN-49 0.24168	14-Jul-20	21:20:28
68	68 200714P1-68	2001430-02 OUT-49 0.23991	14-Jul-20	21:31:04

Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Wednesday, July 15, 2020 13:03:07 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 13:03:29 Pacific Daylight Time

Compound name: PFBA

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70	70 200714P1-70	B0G0055-BS5 OPR 2	14-Jul-20	21:52:15
71	71 200714P1-71	IB	14-Jul-20	22:02:52
72	72 200714P1-72	ST200714P1-14 PFC CS3 20F1906	14-Jul-20	22:13:28
73	73 200714P1-73	IB	14-Jul-20	22:24:04

Vista Analytical Laboratory

Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-63.qld

Last Altered: Wednesday, July 15, 2020 12:54:20 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 12:54:57 Pacific Daylight Time

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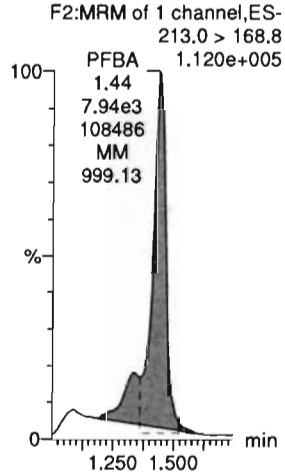
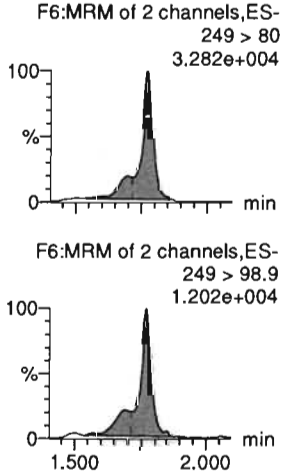
Calibration: D:\PFAS5.PRO\CurveDB\C18_VAL-PFAS_Q5_07-14-20.cdb 15 Jul 2020 08:25:12

Name: 200714P1-63, Date: 14-Jul-2020, Time: 20:38:04, ID: ST200714P1-13 PFC CS3 20F1906, Description: PFC CS3 20F1906

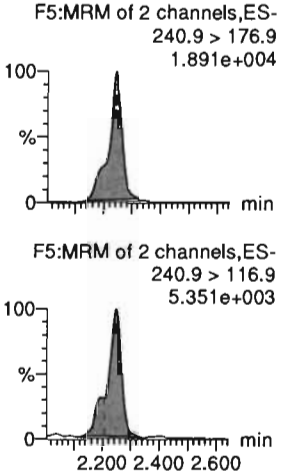
PFBA



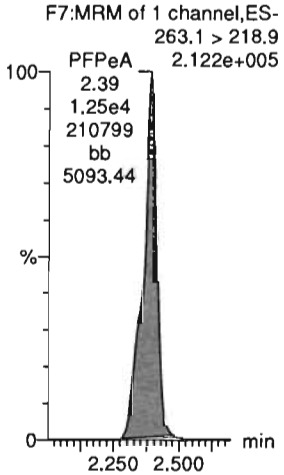
PFPrS



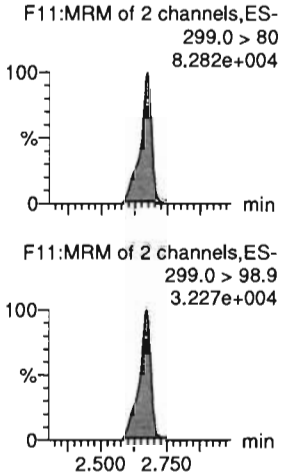
3:3 FTCA



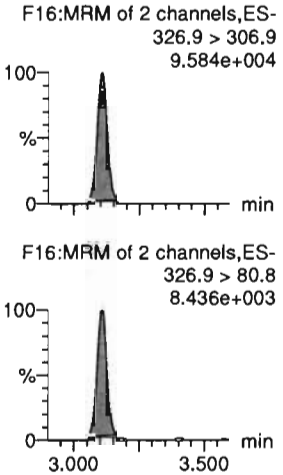
PFPeA



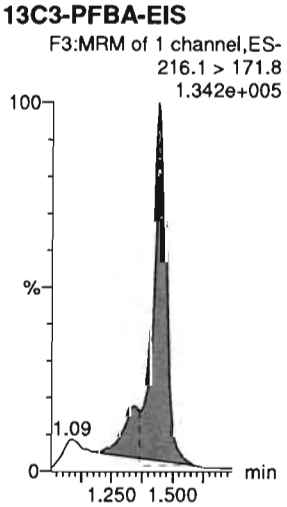
PFBS



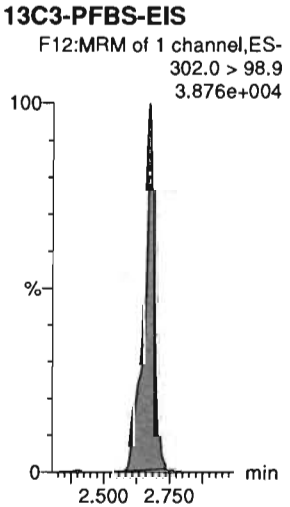
4:2 FTS



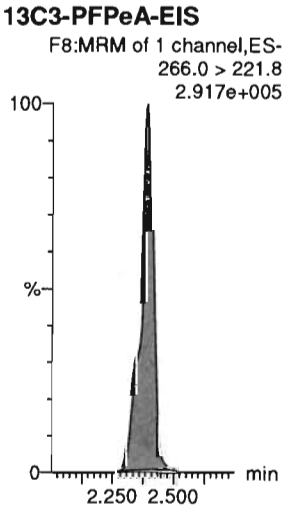
13C3-PFBA-EIS



13C3-PFBS-EIS



13C3-PFPeA-EIS



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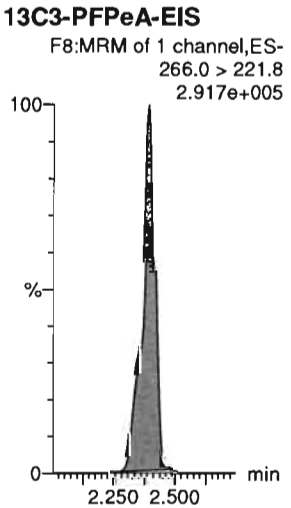
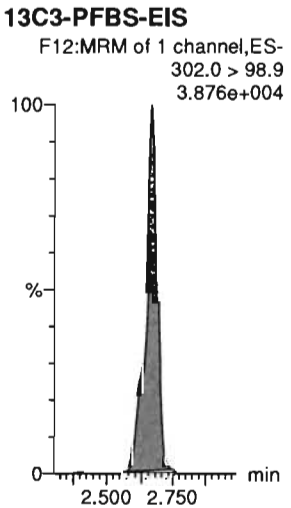
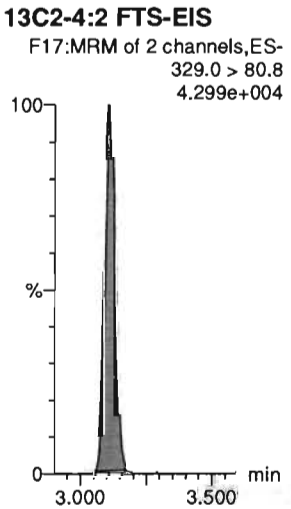


13C3-PFBS-EIS



13C2-4:2 FTS-EIS



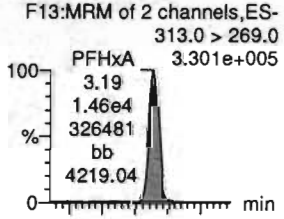
OPV 7/15/2020

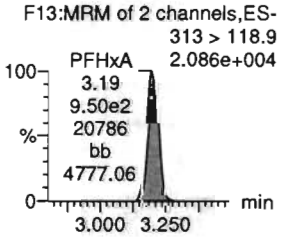
Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-63.qld

Last Altered: Wednesday, July 15, 2020 12:54:20 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 12:54:57 Pacific Daylight Time

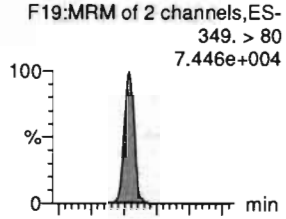
Name: 200714P1-63, Date: 14-Jul-2020, Time: 20:38:04, ID: ST200714P1-13 PFC CS3 20F1906, Description: PFC CS3 20F1906

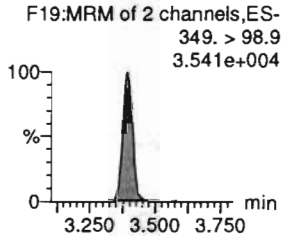
PFHxA



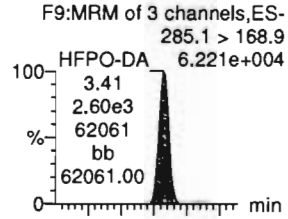


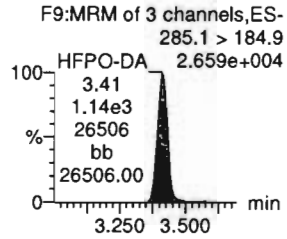
PFPeS



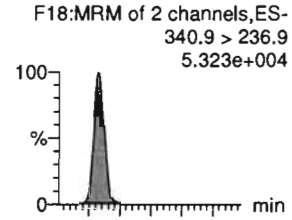


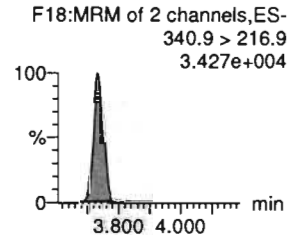
HFPO-DA



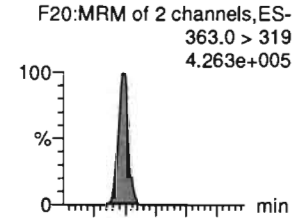


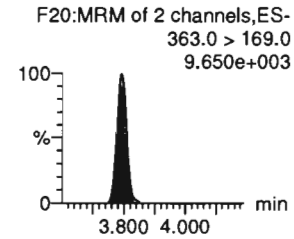
5:3 FTCA



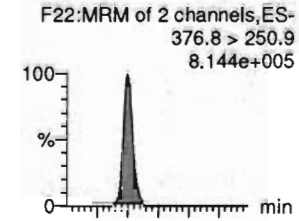


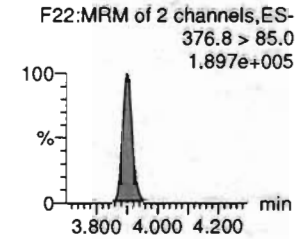
PFHpA



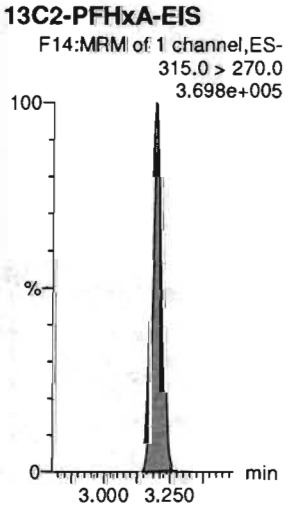


ADONA

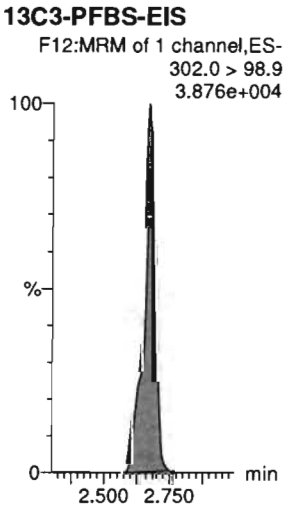




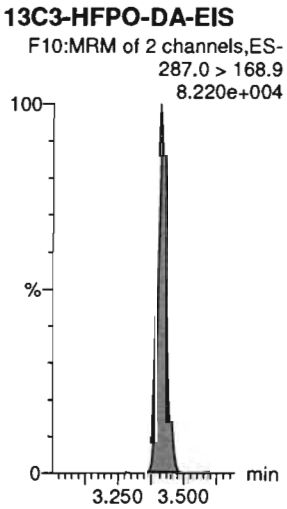
13C2-PFHxA-EIS



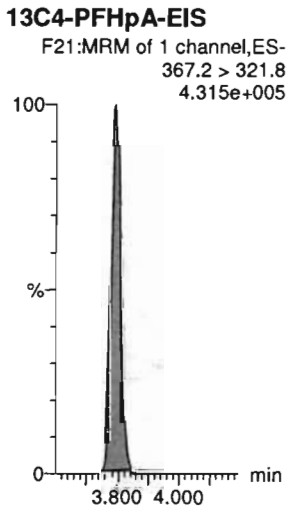
13C3-PFBS-EIS



13C3-HFPO-DA-EIS



13C4-PFHpA-EIS



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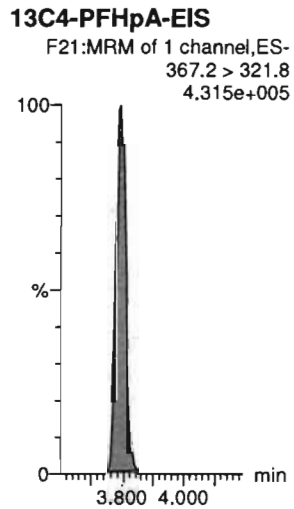

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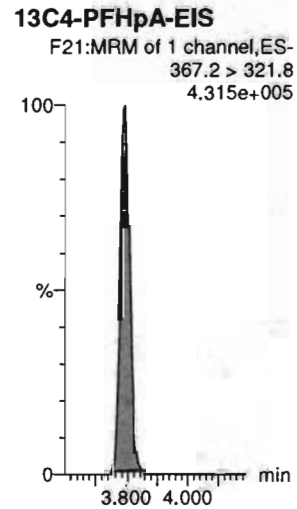


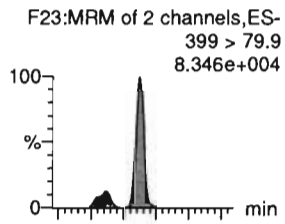
OPV 7/15/2020

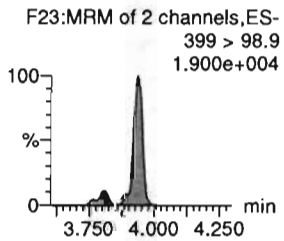
Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-63.qld

Last Altered: Wednesday, July 15, 2020 12:54:20 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 12:54:57 Pacific Daylight Time

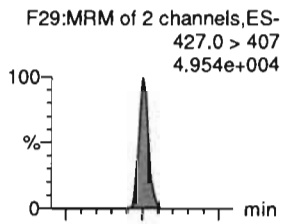
Name: 200714P1-63, Date: 14-Jul-2020, Time: 20:38:04, ID: ST200714P1-13 PFC CS3 20F1906, Description: PFC CS3 20F1906

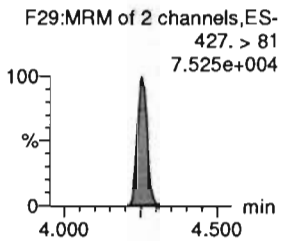
L-PFHxS



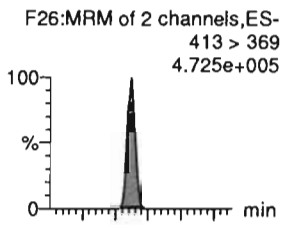


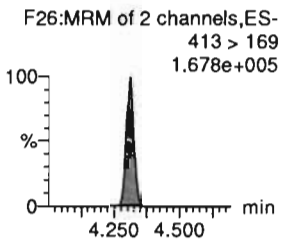
6:2 FTS





L-PFOA





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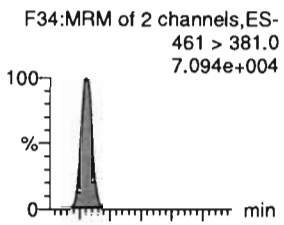
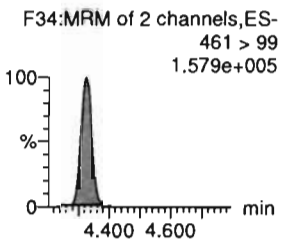
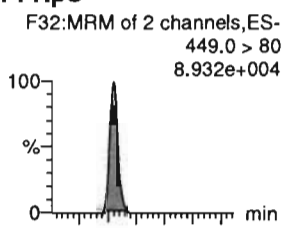
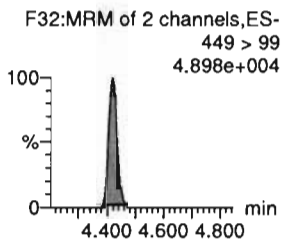


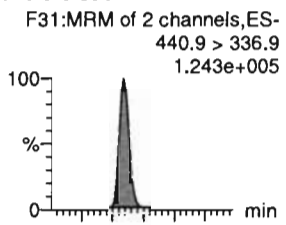


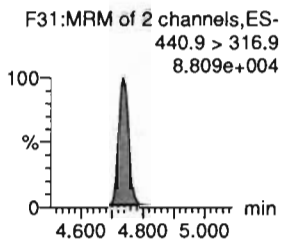
PFHpS



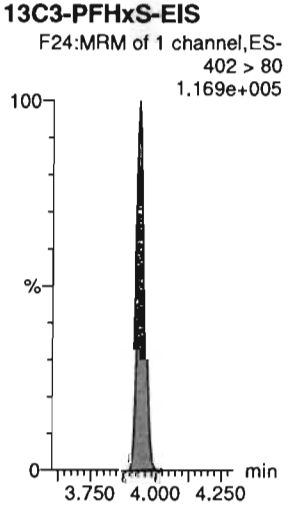


7:3 FTCA

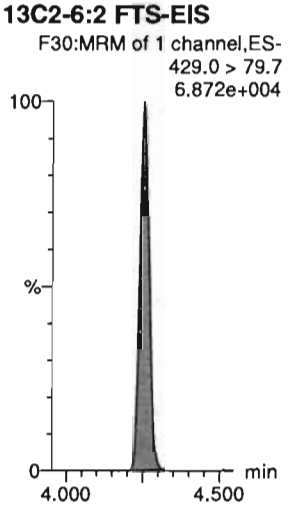




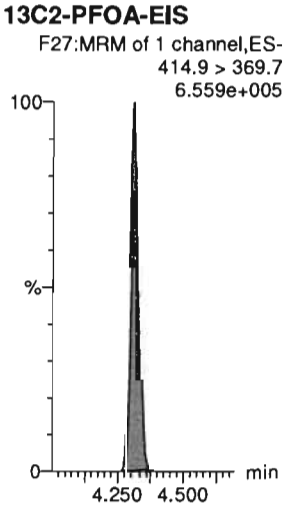
13C3-PFHxS-EIS



13C2-6:2 FTS-EIS



13C2-PFOA-EIS



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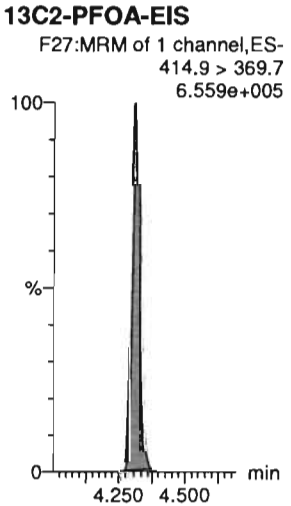
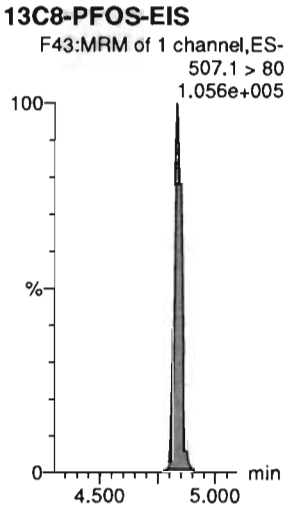
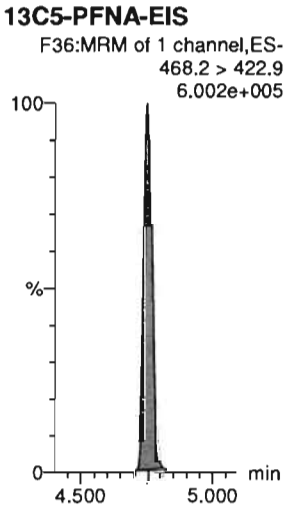


13C8-PFOS-EIS



13C5-PFNA-EIS



OPV 7/15/2020

Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-63.qld

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Printed: Wednesday, July 15, 2020 12:54:57 Pacific Daylight Time

Name: 200714P1-63, Date: 14-Jul-2020, Time: 20:38:04, ID: ST200714P1-13 PFC CS3 20F1906, Description: PFC CS3 20F1906

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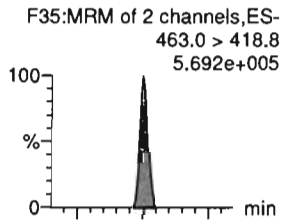

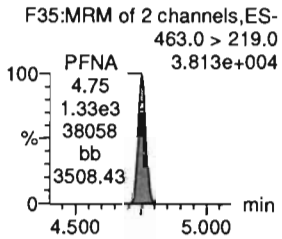

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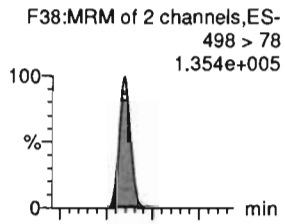

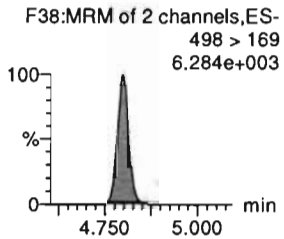

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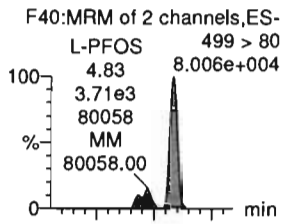

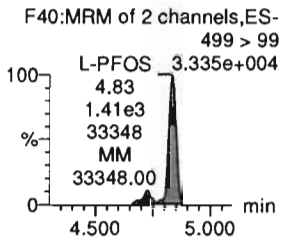

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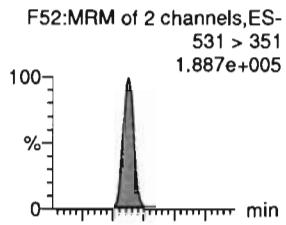

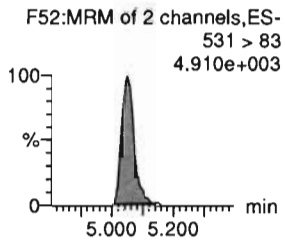

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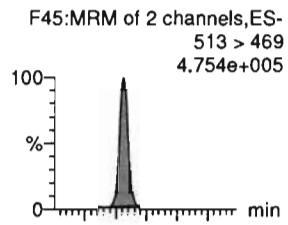
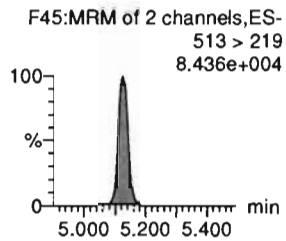
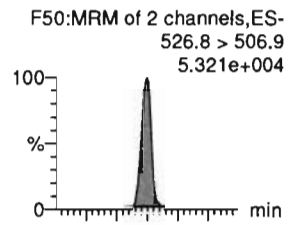
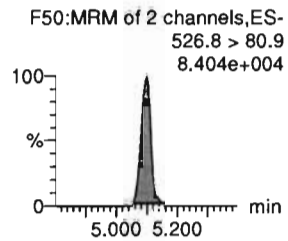


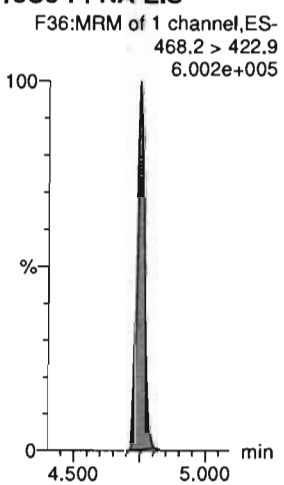


8:2 FTS

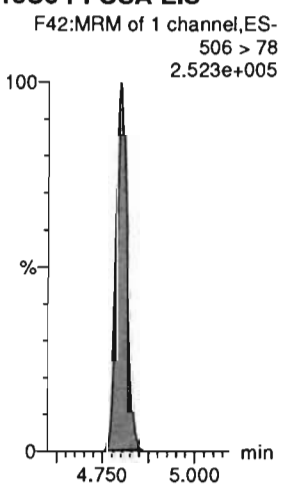




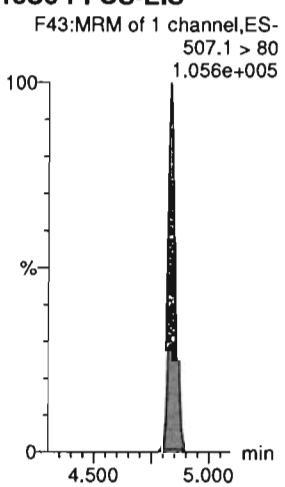
13C5-PFNA-EIS



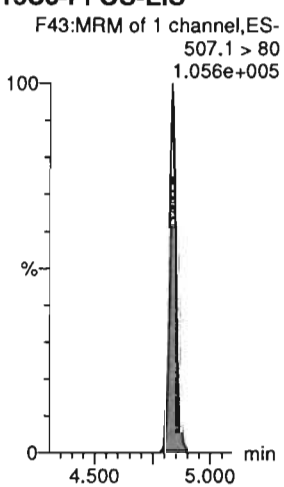
13C8-PFOSA-EIS



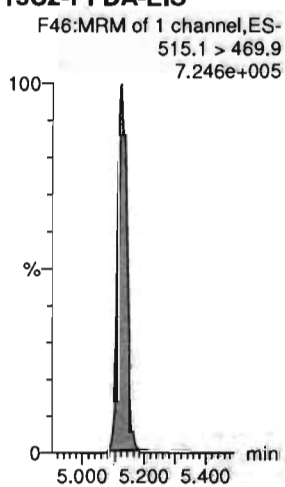
13C8-PFOS-EIS



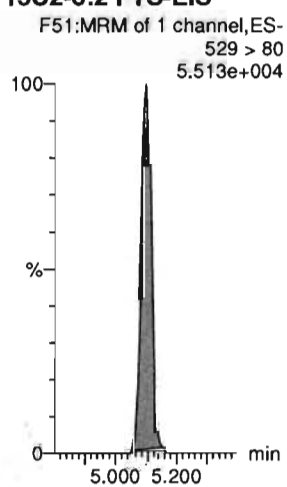
13C8-PFOS-EIS



13C2-PFDA-EIS



13C2-8:2 FTS-EIS



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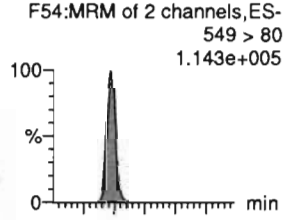
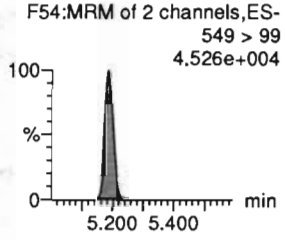
Name: 200714P1-63, Date: 14-Jul-2020, Time: 20:38:04, ID: ST200714P1-13 PFC CS3 20F1906, Description: PFC CS3 20F1906

PFNS





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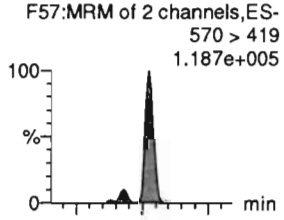
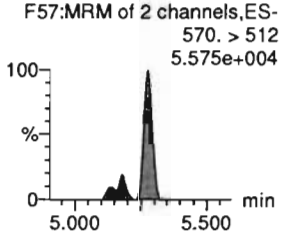
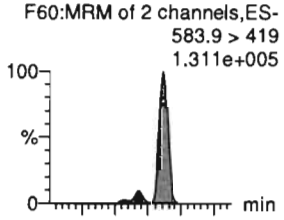
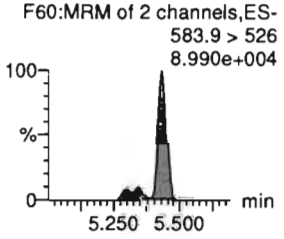


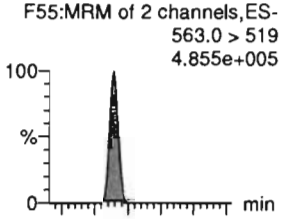


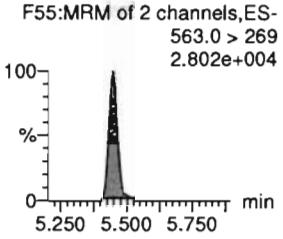
L-EtFOSAA





PFUdA





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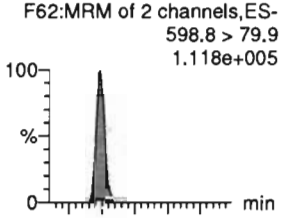
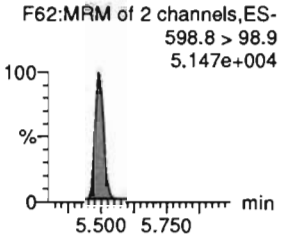
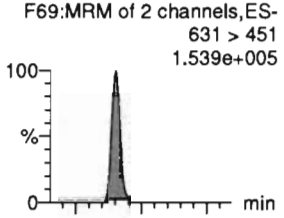
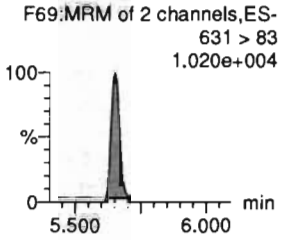


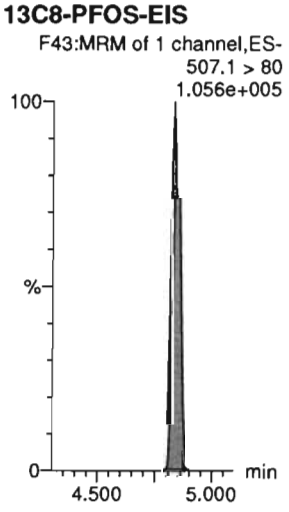


11Cl-PF30UdS





13C8-PFOS-EIS



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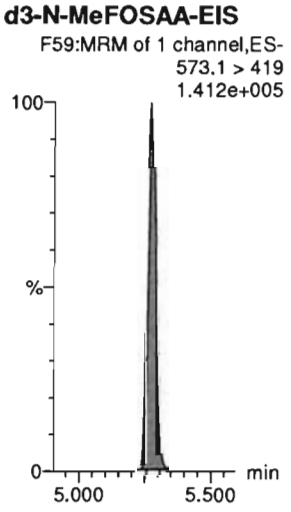

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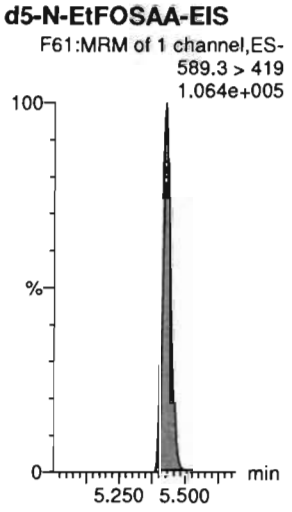

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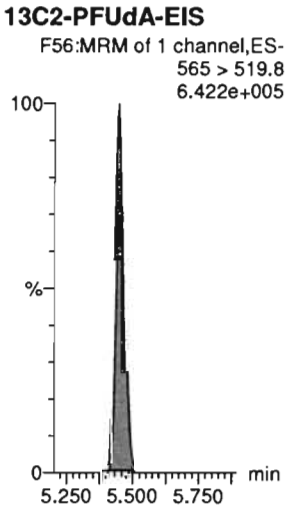

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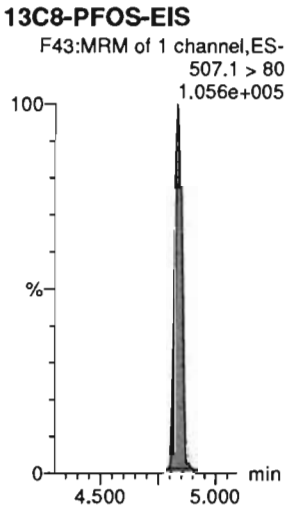

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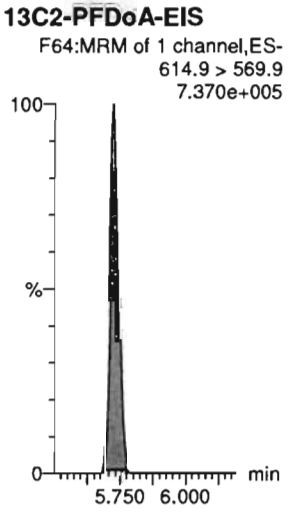

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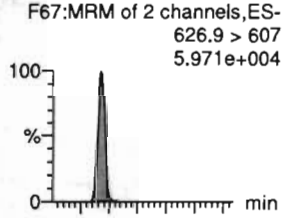
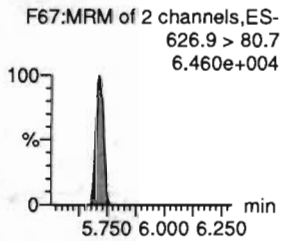
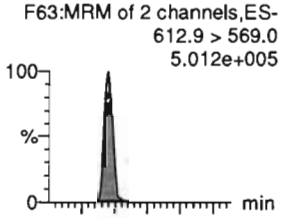
Name: 200714P1-63, Date: 14-Jul-2020, Time: 20:38:04, ID: ST200714P1-13 PFC CS3 20F1906, Description: PFC CS3 20F1906

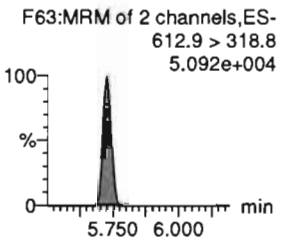
10:2 FTS



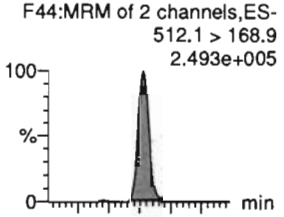


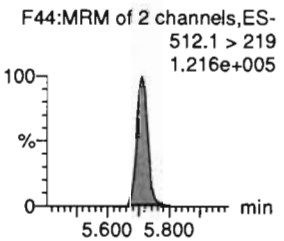
PFDoA



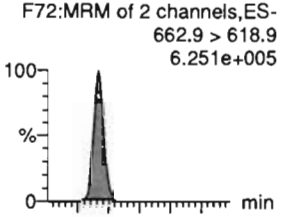


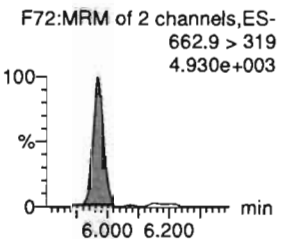
N-MeFOSA



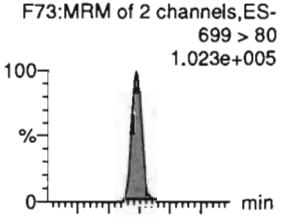


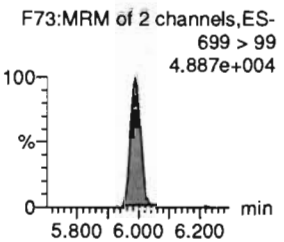
PFTrDA



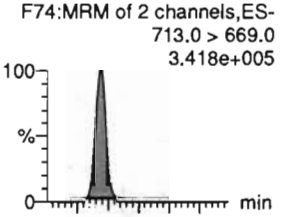


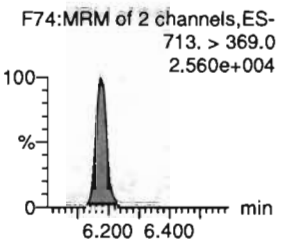
PFDoS



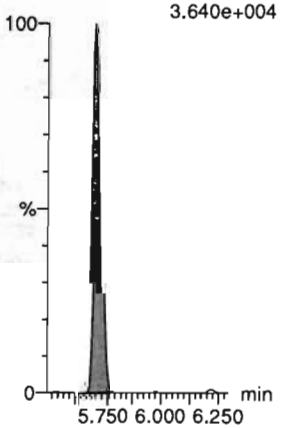


PFTeDA

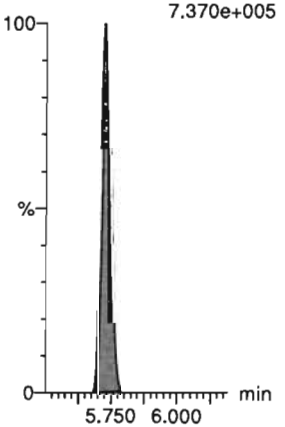




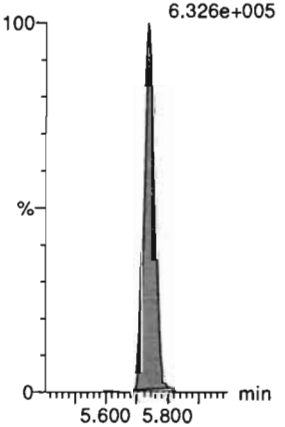
13C2-10:2 FTS-EIS



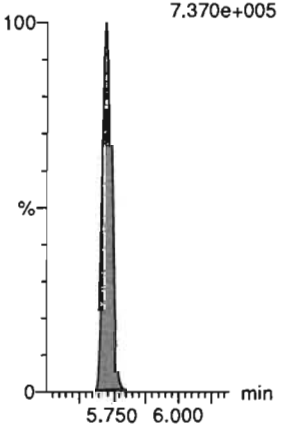
13C2-PFDoA-EIS



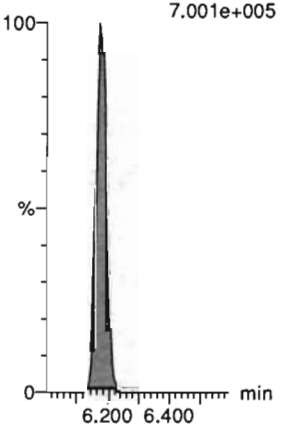
d3-N-MeFOSA-EIS



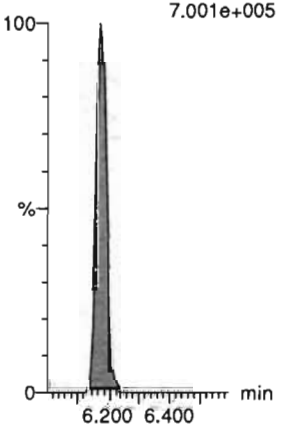
13C2-PFDoA-EIS



13C2-PFTeDA-EIS



13C2-PFTeDA-EIS

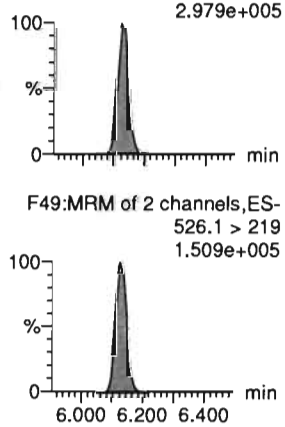


Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-63.qld

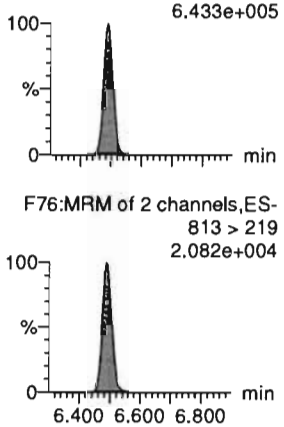
Last Altered: Wednesday, July 15, 2020 12:54:20 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 12:54:57 Pacific Daylight Time

Name: 200714P1-63, Date: 14-Jul-2020, Time: 20:38:04, ID: ST200714P1-13 PFC CS3 20F1906, Description: PFC CS3 20F1906

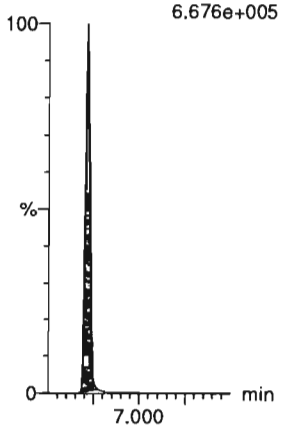
N-EtFOSA



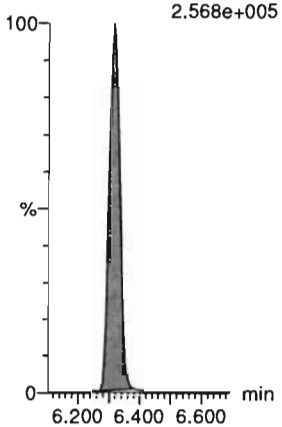
PFHxDA



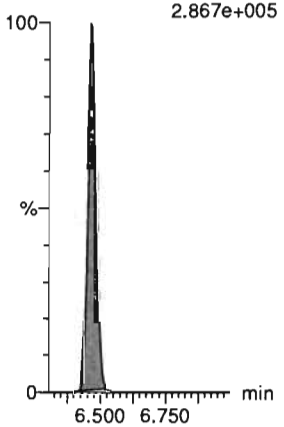
PFODA



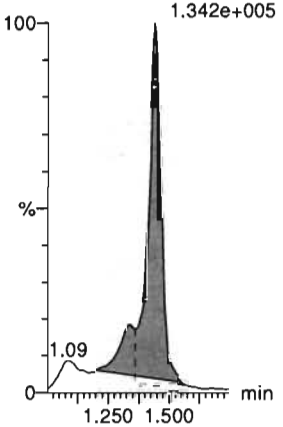
N-MeFOSE



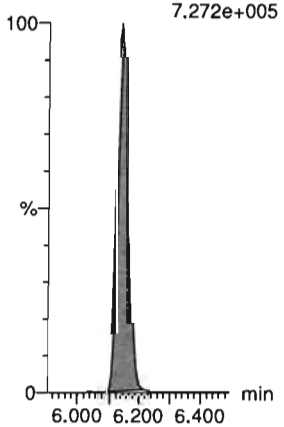
N-EtFOSE



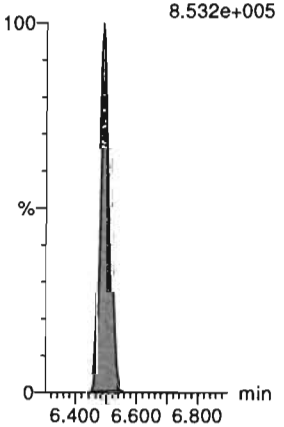
13C3-PFBA-RSD



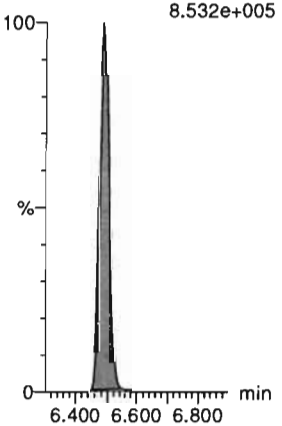
d5-N-ETFOSA-EIS



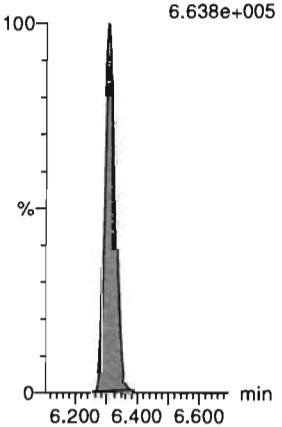
13C2-PFHxDA-EIS



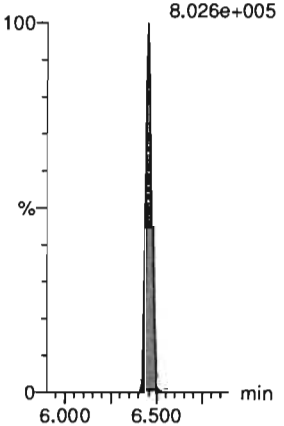
13C2-PFHxDA-EIS



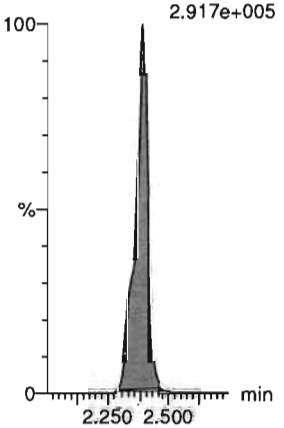
d7-N-MeFOSE-EIS



d9-N-EtFOSE-EIS



13C3-PFPeA-RSD



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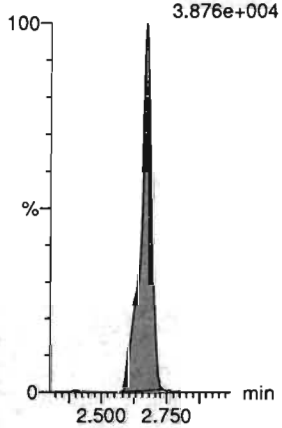
Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-63.qld

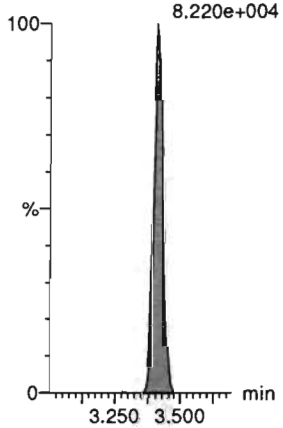
Last Altered: Wednesday, July 15, 2020 12:54:20 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 12:54:57 Pacific Daylight Time

Name: 200714P1-63, Date: 14-Jul-2020, Time: 20:38:04, ID: ST200714P1-13 PFC CS3 20F1906, Description: PFC CS3 20F1906

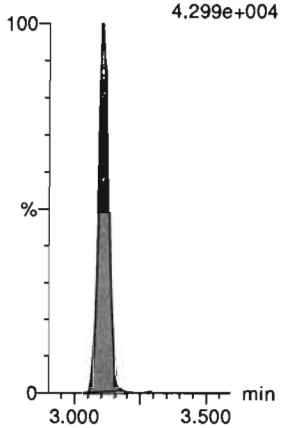
13C3-PFBS-RSD
F12:MRM of 1 channel,ES-
302.0 > 98.9
3.876e+004



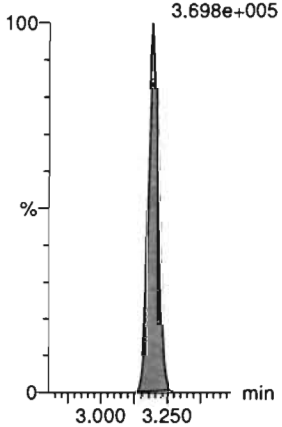
13C3-HFPO-DA-RSD
F10:MRM of 2 channels,ES-
287.0 > 168.9
8.220e+004



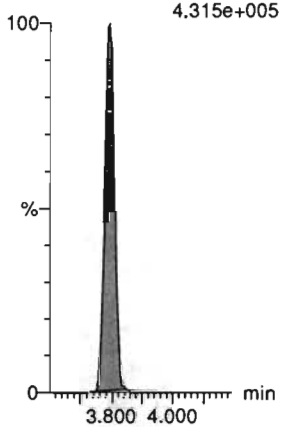
13C2-4:2 FTS-RSD
F17:MRM of 2 channels,ES-
329.0 > 80.8
4.299e+004



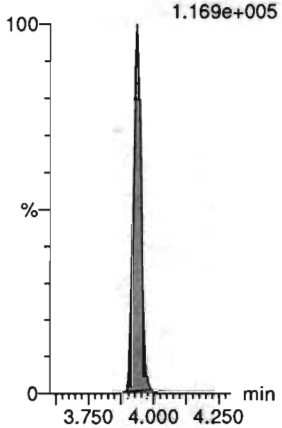
13C2-PFHxA-RSD
F14:MRM of 1 channel,ES-
315.0 > 270.0
3.698e+005



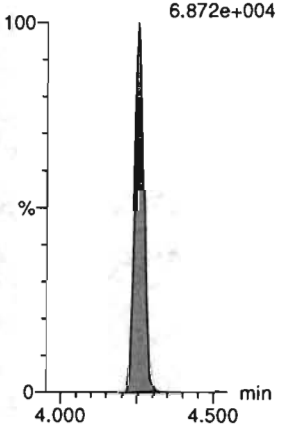
13C4-PFHpA-RSD
F21:MRM of 1 channel,ES-
367.2 > 321.8
4.315e+005



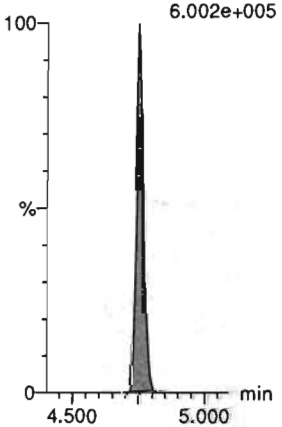
13C3-PFHxS-RSD
F24:MRM of 1 channel,ES-
402 > 80
1.169e+005



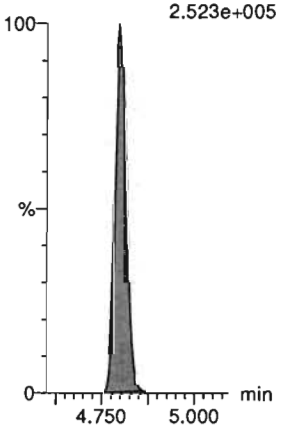
13C2-6:2 FTS-RSD
F30:MRM of 1 channel,ES-
429.0 > 79.7
6.872e+004



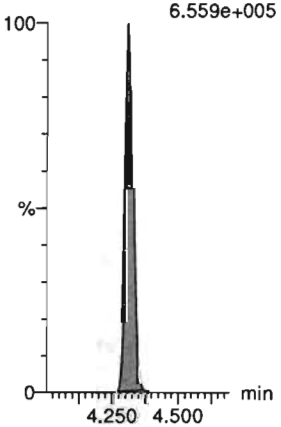
13C5-PFNA-RSD
F36:MRM of 1 channel,ES-
468.2 > 422.9
6.002e+005



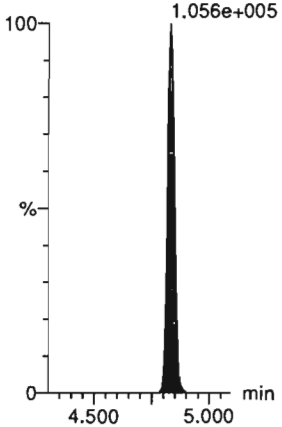
13C8-PFOSA-RSD
F42:MRM of 1 channel,ES-
506 > 78
2.523e+005



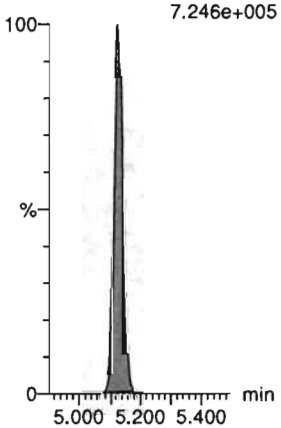
13C2-PFOA-RSD
F27:MRM of 1 channel,ES-
414.9 > 369.7
6.559e+005



13C8-PFOS-RSD
F43:MRM of 1 channel,ES-
507.1 > 80
1.056e+005



13C2-PFDA-RSD
F46:MRM of 1 channel,ES-
515.1 > 469.9
7.246e+005



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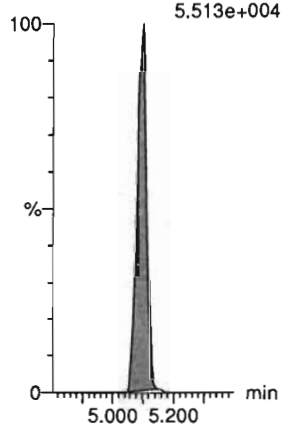
Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-63.qld

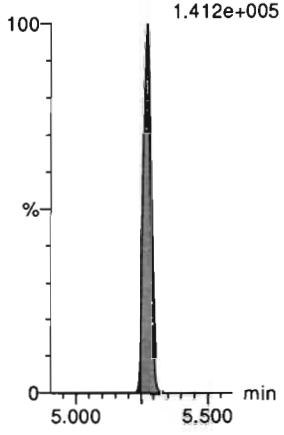
Last Altered: Wednesday, July 15, 2020 12:54:20 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 12:54:57 Pacific Daylight Time

Name: 200714P1-63, Date: 14-Jul-2020, Time: 20:38:04, ID: ST200714P1-13 PFC CS3 20F1906, Description: PFC CS3 20F1906

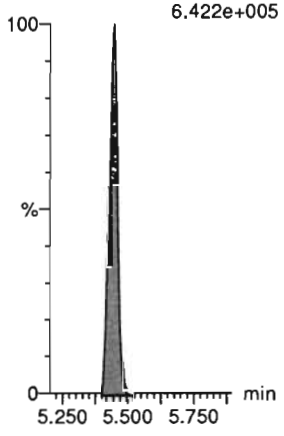
13C2-8:2 FTS-RSD
F51:MRM of 1 channel,ES-
529 > 80
5.513e+004



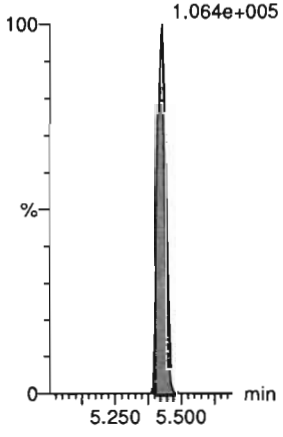
d3-N-MeFOSAA-RSD
F59:MRM of 1 channel,ES-
573.1 > 419
1.412e+005



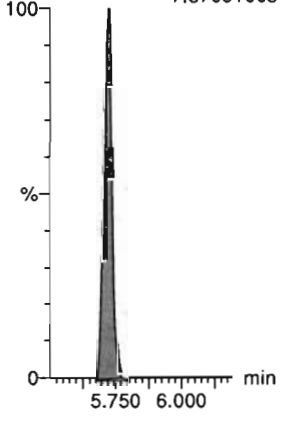
13C2-PFUdA-RSD
F56:MRM of 1 channel,ES-
565 > 519.8
6.422e+005



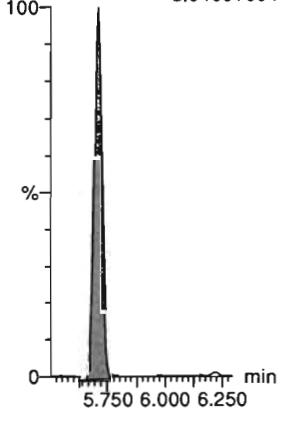
d5-N-EtFOSAA-RSD
F61:MRM of 1 channel,ES-
589.3 > 419
1.064e+005



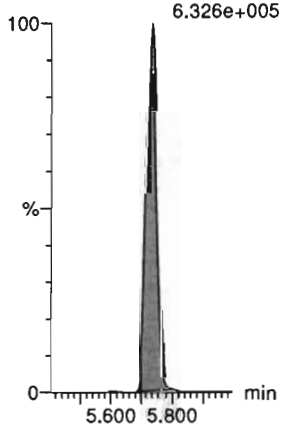
13C2-PFDoA-RSD
F64:MRM of 1 channel,ES-
614.9 > 569.9
7.370e+005



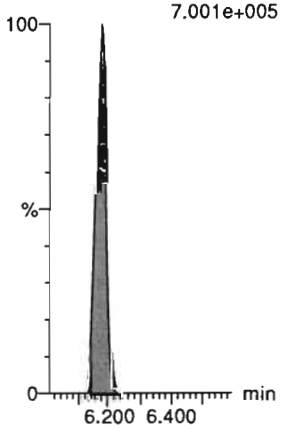
13C2-10:2 FTS-RSD
F70:MRM of 1 channel,ES-
632.9 > 80.0
3.640e+004



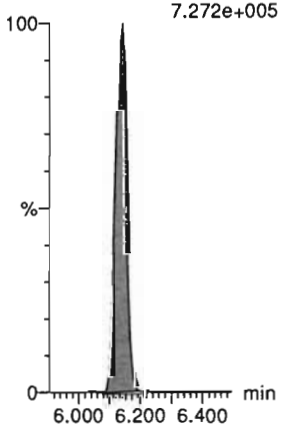
d3-N-MeFOSA-RSD
F47:MRM of 1 channel,ES-
515.2 > 168.9
6.326e+005



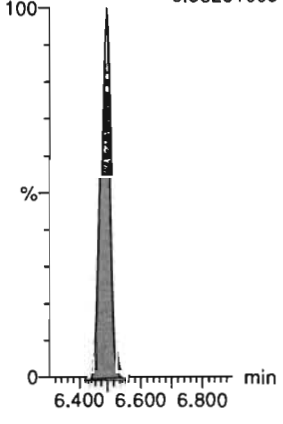
13C2-PFTeDA-RSD
F75:MRM of 2 channels,ES-
715.1 > 669.7
7.001e+005



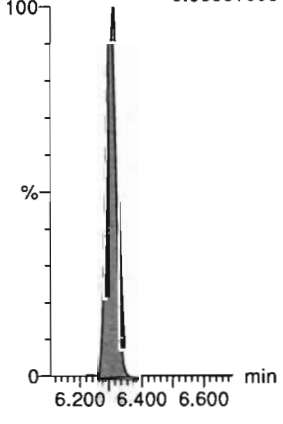
d5-N-ETFOSA-RSD
F53:MRM of 1 channel,ES-
531.1 > 168.9
7.272e+005



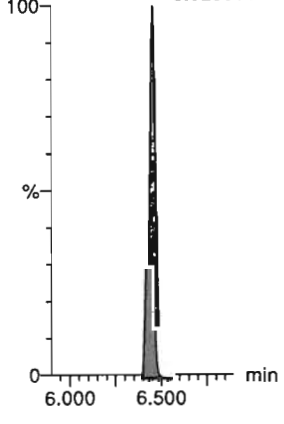
13C2-PFHxDA-RSD
F77:MRM of 1 channel,ES-
815 > 769.7
8.532e+005



d7-N-MeFOSE-RSD
F66:MRM of 1 channel,ES-
623.1 > 58.9
6.638e+005



d9-N-EtFOSE-RSD
F71:MRM of 1 channel,ES-
639.2 > 58.8
8.026e+005



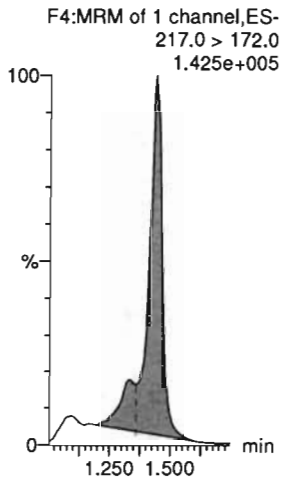
OPV 7/15/2020

Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-63.qld

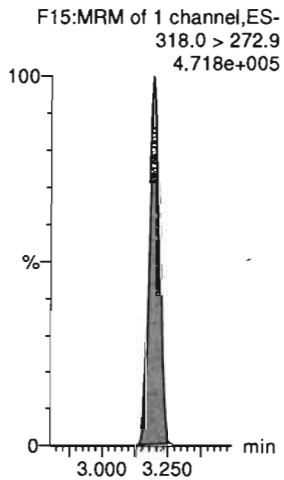
Last Altered: Wednesday, July 15, 2020 12:54:20 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 12:54:57 Pacific Daylight Time

Name: 200714P1-63, Date: 14-Jul-2020, Time: 20:38:04, ID: ST200714P1-13 PFC CS3 20F1906, Description: PFC CS3 20F1906

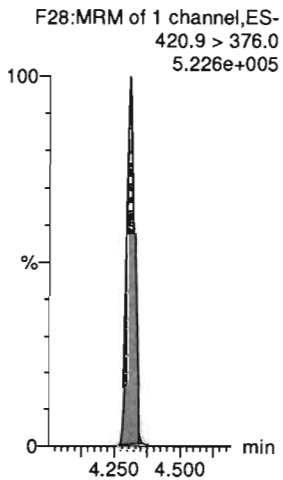
13C4-PFBA



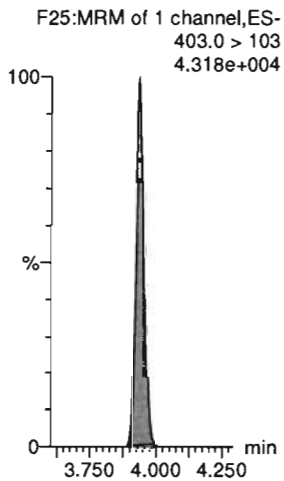
13C5-PFHxA



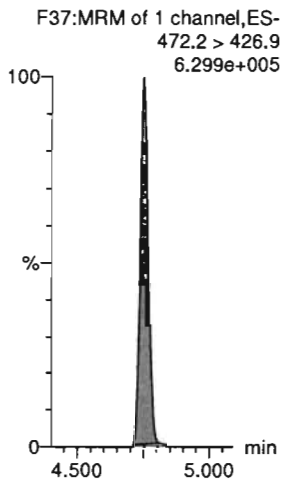
13C8-PFOA



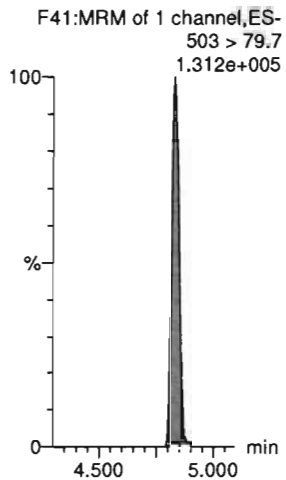
18O2-PFHxS



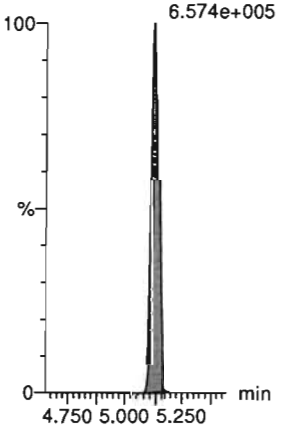
13C9-PFNA



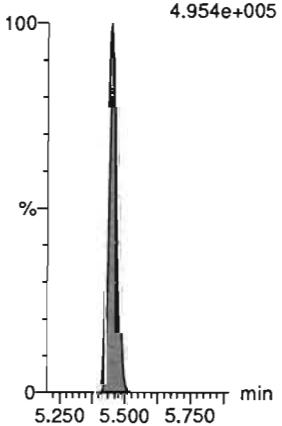
13C4-PFOS



13C6-PFDA



13C7-PFUdA



Vista Analytical Laboratory

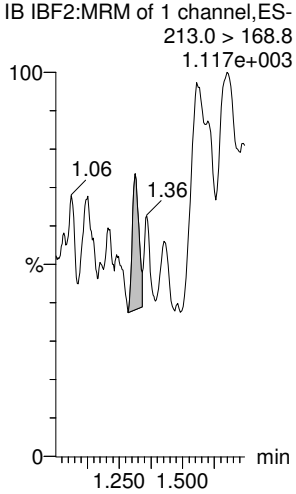
Dataset: Untitled

Last Altered: Thursday, July 16, 2020 08:33:14 Pacific Daylight Time
Printed: Thursday, July 16, 2020 08:33:20 Pacific Daylight Time

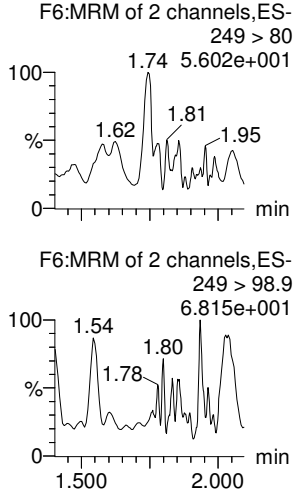
Method: D:\PFAS5.PRO\MethDB\NEW_PFAS_80C_071520.mdb 15 Jul 2020 14:50:21
Calibration: D:\PFAS5.PRO\CurveDB\C18_VAL-PFAS_Q5_07-15-20.cdb 16 Jul 2020 08:15:46

Name: 200715P1-15, Date: 15-Jul-2020, Time: 14:05:50, ID: IB, Description: IB

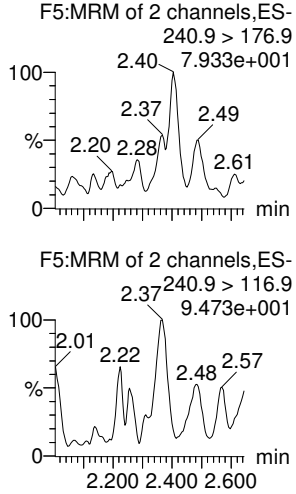
PFBA



PFPrS



3:3 FTCA



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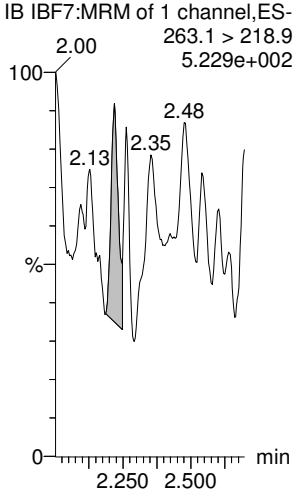
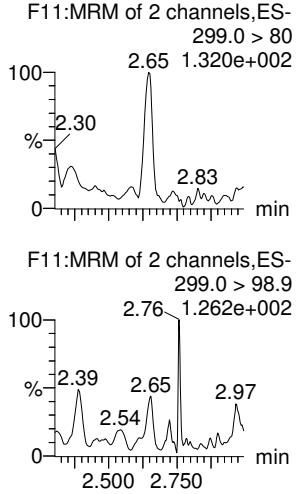
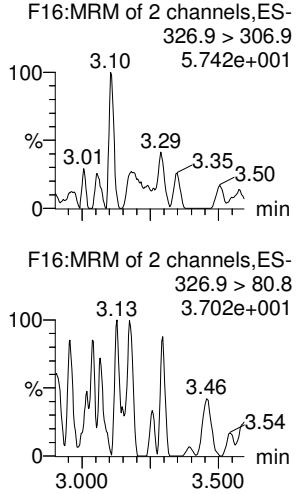


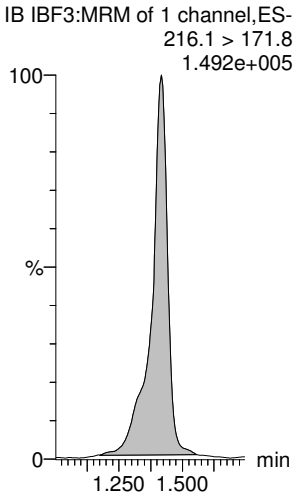
PFBS



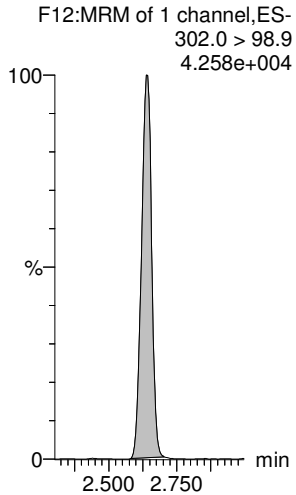
4:2 FTS



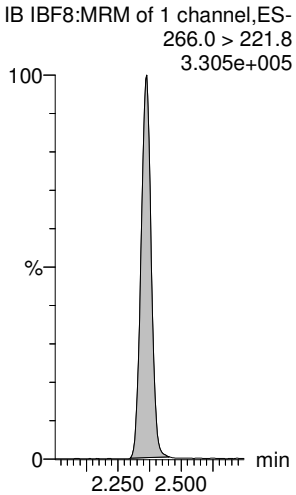
13C3-PFBA-EIS



13C3-PFBS-EIS



13C3-PFPeA-EIS



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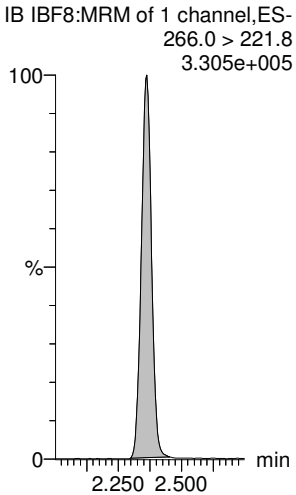

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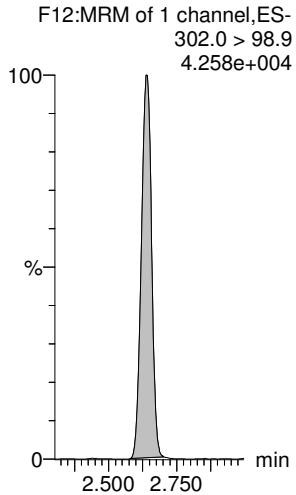
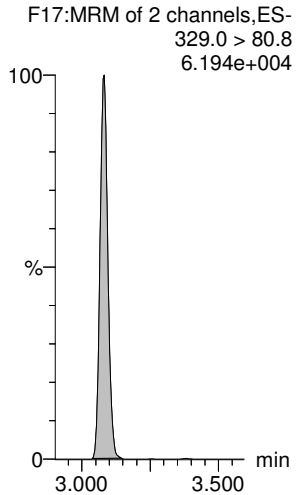


13C2-4:2 FTS-EIS



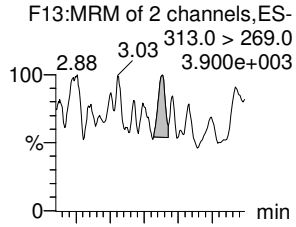
Vista Analytical Laboratory

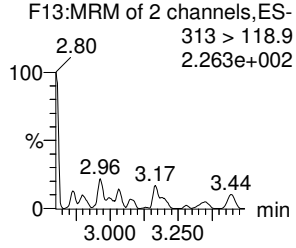
Dataset: Untitled

Last Altered: Thursday, July 16, 2020 08:33:14 Pacific Daylight Time
Printed: Thursday, July 16, 2020 08:33:20 Pacific Daylight Time

Name: 200715P1-15, Date: 15-Jul-2020, Time: 14:05:50, ID: IB, Description: IB

PFHxA





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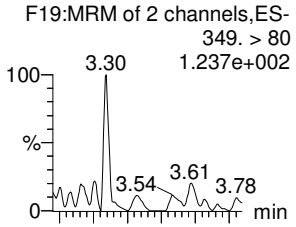
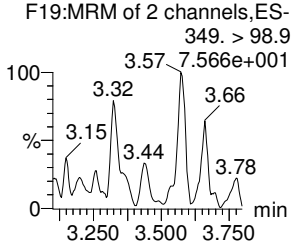
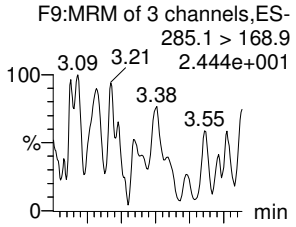
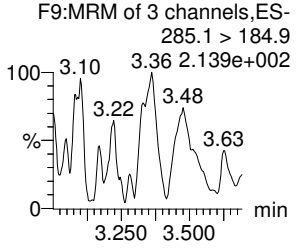


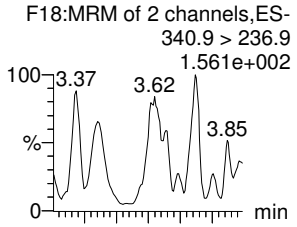


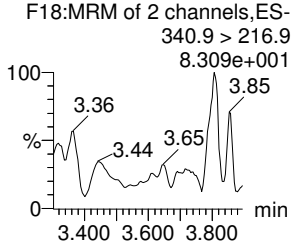
HFPO-DA



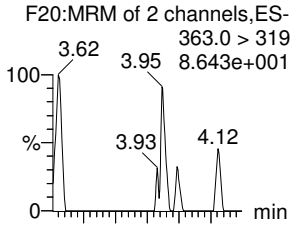


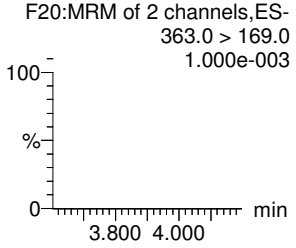
5:3 FTCA



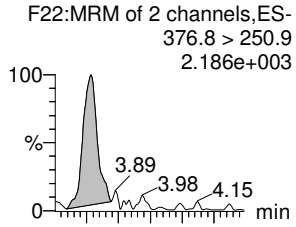


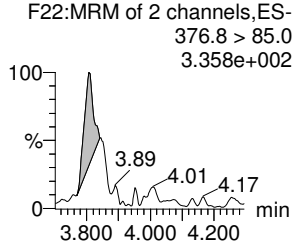
PFHpA



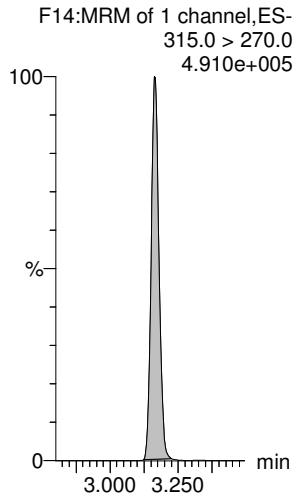


ADONA

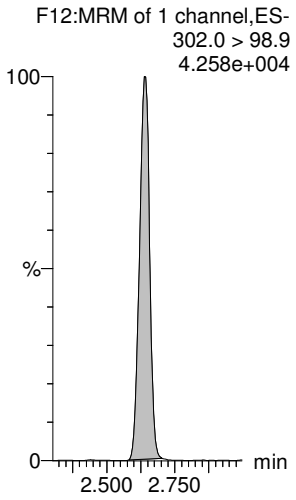




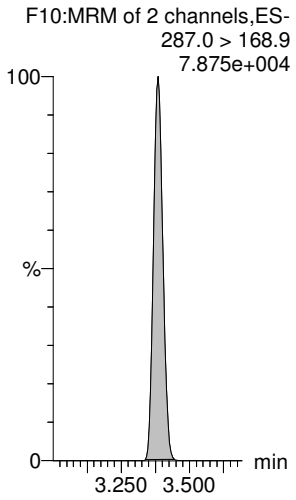
13C2-PFHxA-EIS



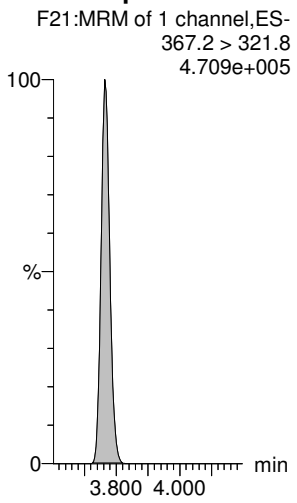
13C3-PFBS-EIS



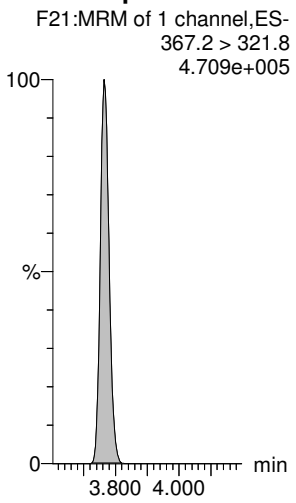
13C3-HFPO-DA-EIS



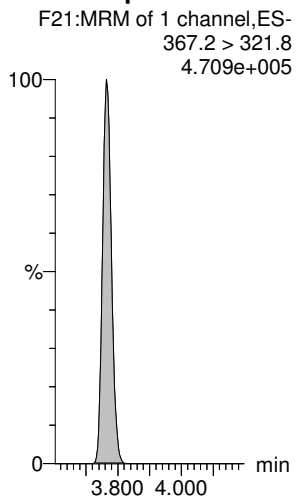
13C4-PFHpA-EIS



13C4-PFHpA-EIS



13C4-PFHpA-EIS



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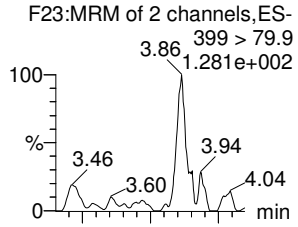
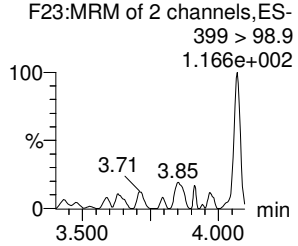
Last Altered: Thursday, July 16, 2020 08:33:14 Pacific Daylight Time
Printed: Thursday, July 16, 2020 08:33:20 Pacific Daylight Time

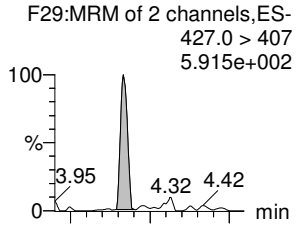
Name: 200715P1-15, Date: 15-Jul-2020, Time: 14:05:50, ID: IB, Description: IB

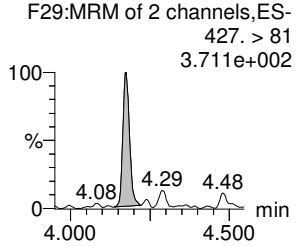
L-PFHxS



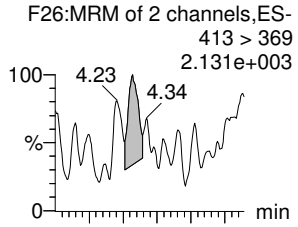


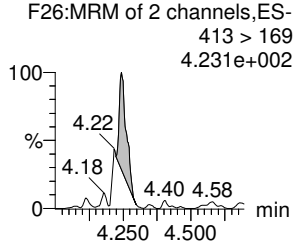
6:2 FTS



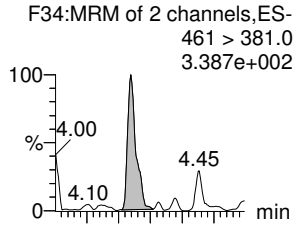


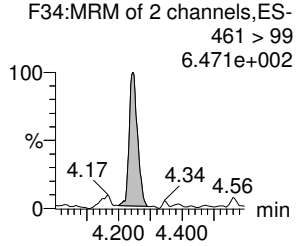
L-PFOA



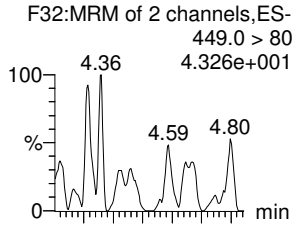


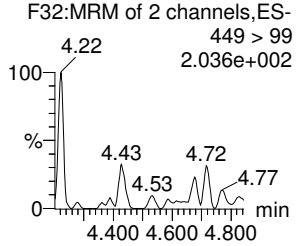
PFEChS



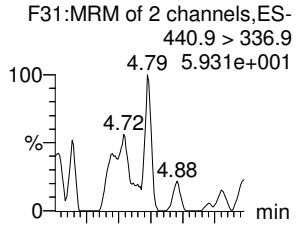


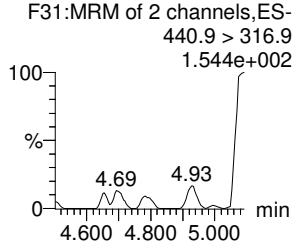
PFHpS



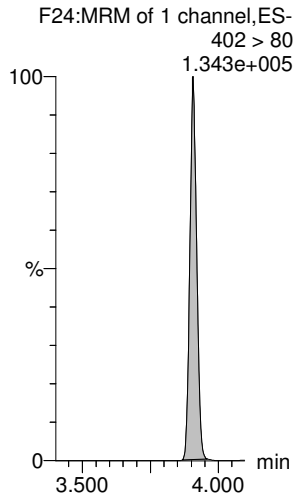


7:3 FTCA

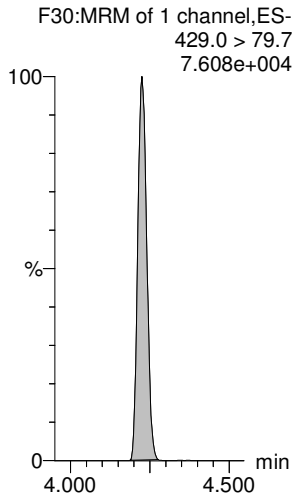




13C3-PFHxS-EIS



13C2-6:2 FTS-EIS



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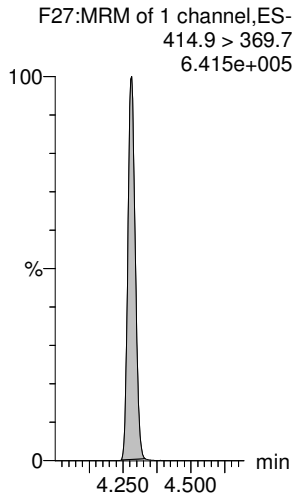

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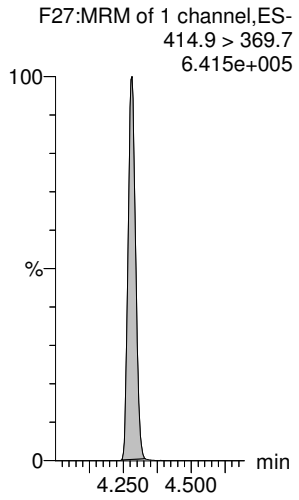
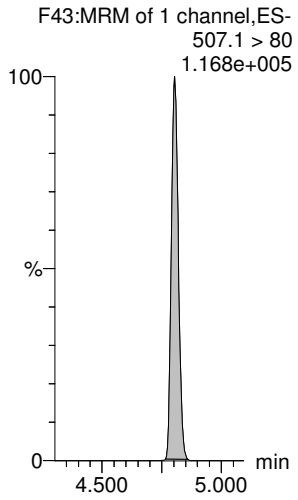
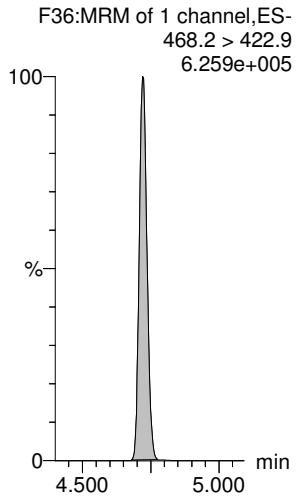


13C8-PFOS-EIS



13C5-PFNA-EIS



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Printed: Thursday, July 16, 2020 08:33:20 Pacific Daylight Time

Name: 200715P1-15, Date: 15-Jul-2020, Time: 14:05:50, ID: IB, Description: IB

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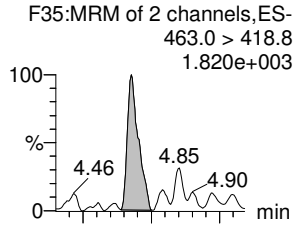

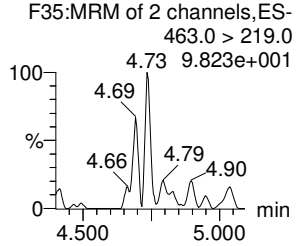

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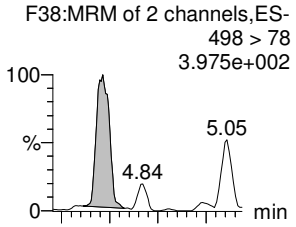
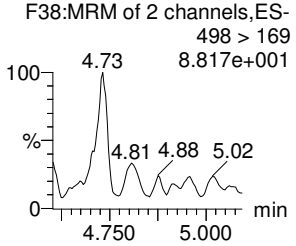
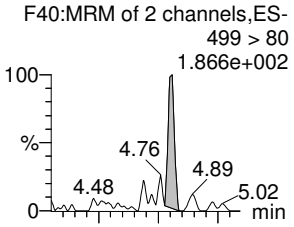
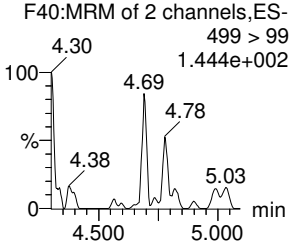




L-PFOS





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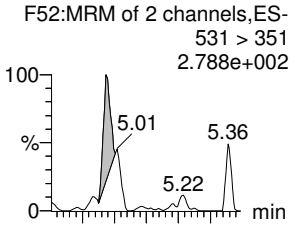

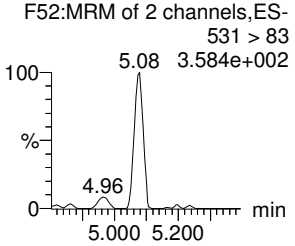

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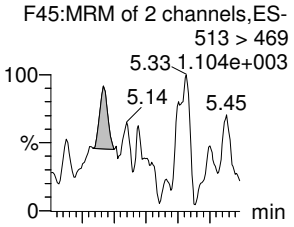
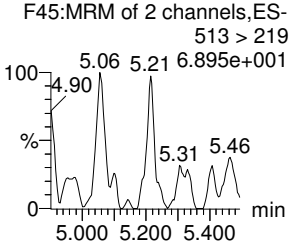
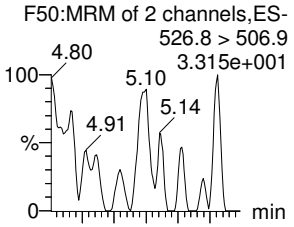
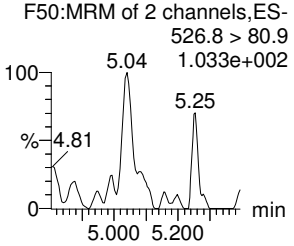


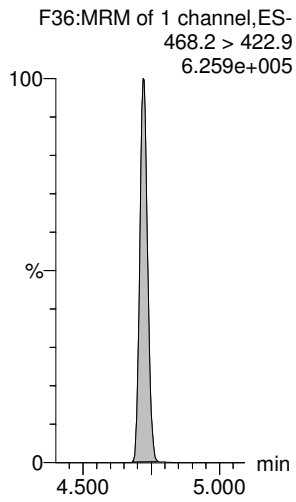


8:2 FTS

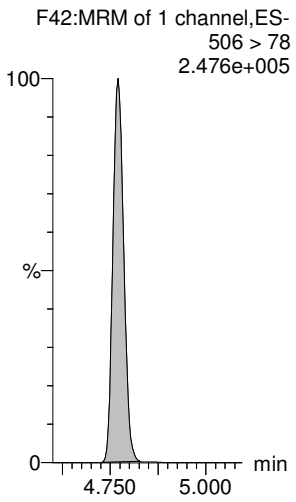




13C5-PFNA-EIS



13C8-PFOSA-EIS



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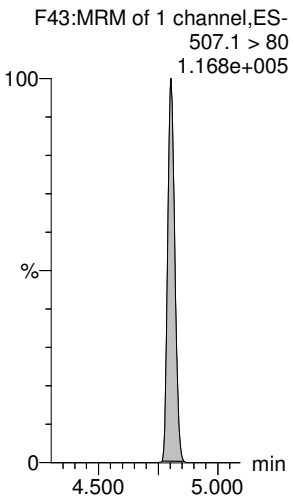
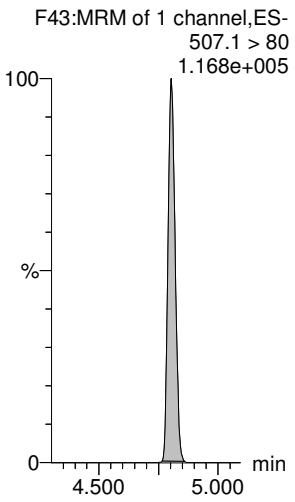


13C8-PFOS-EIS



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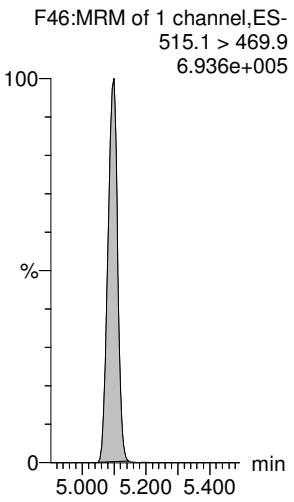

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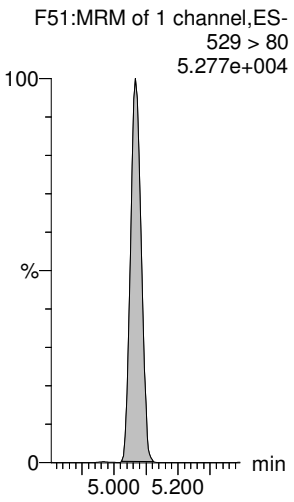

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Name: 200715P1-15, Date: 15-Jul-2020, Time: 14:05:50, ID: IB, Description: IB

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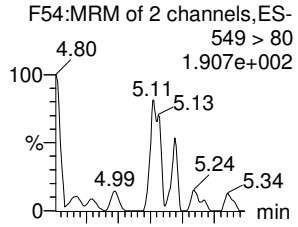

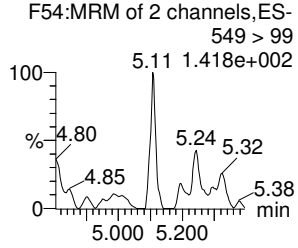

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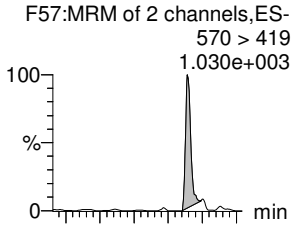
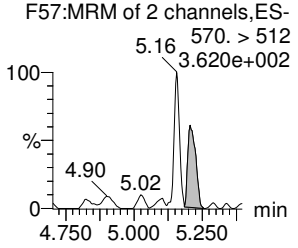
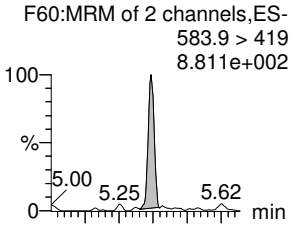
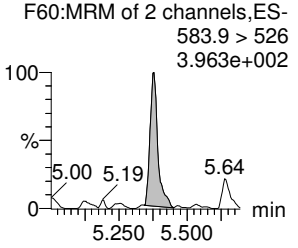




L-EtFOSAA





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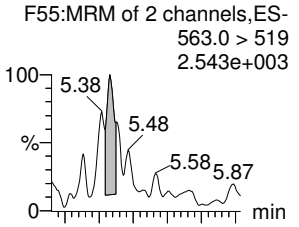

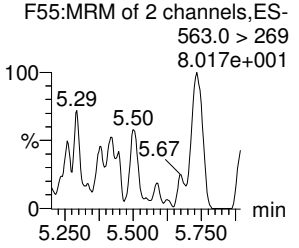

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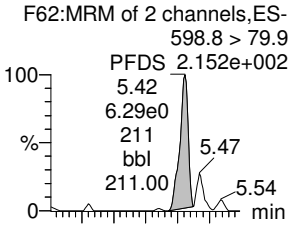

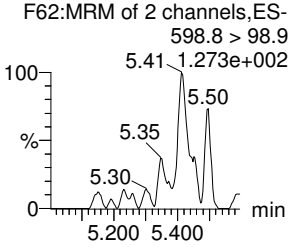

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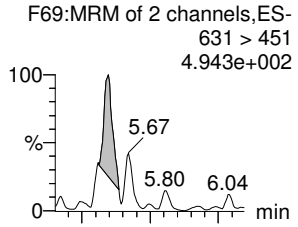
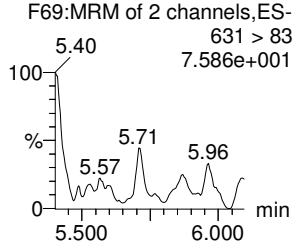
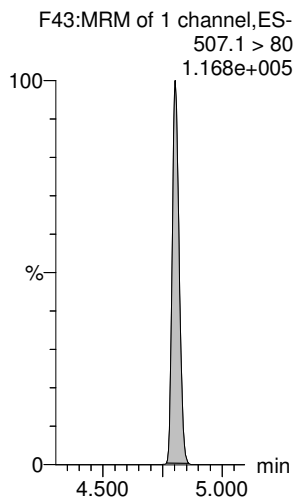




13C8-PFOS-EIS



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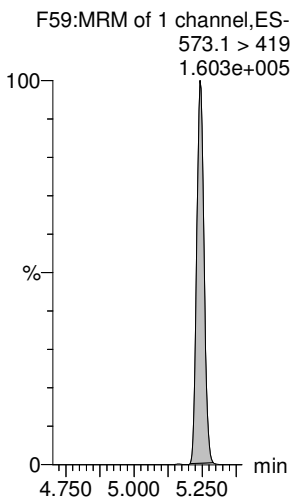

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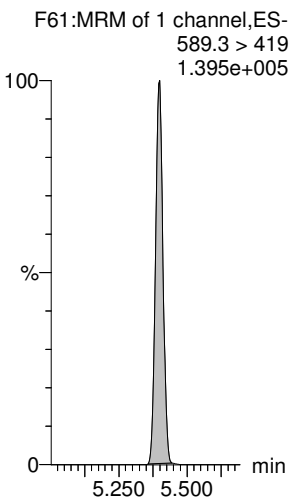

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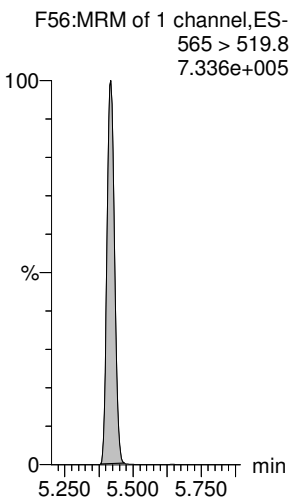

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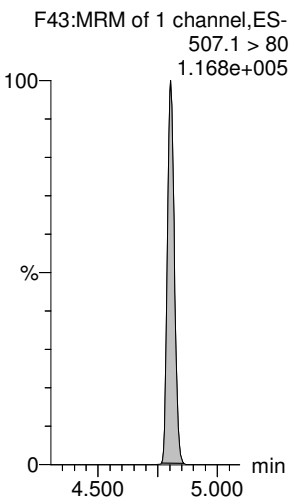

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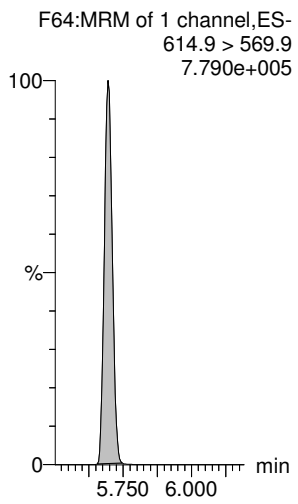

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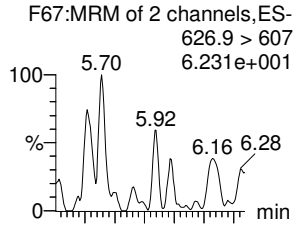
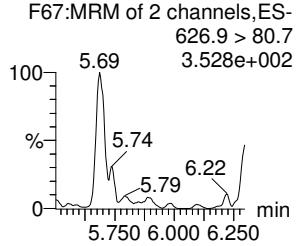
Name: 200715P1-15, Date: 15-Jul-2020, Time: 14:05:50, ID: IB, Description: IB

10:2 FTS





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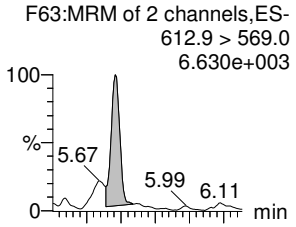

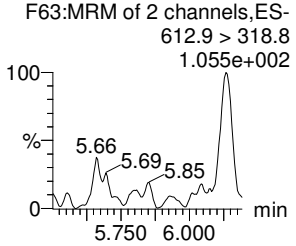

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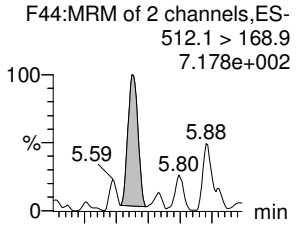

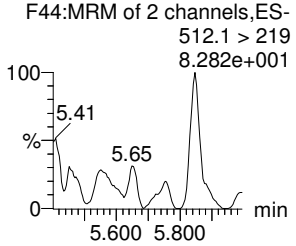

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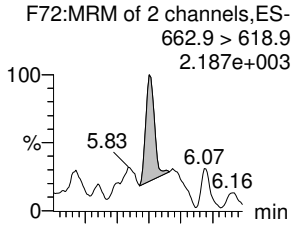
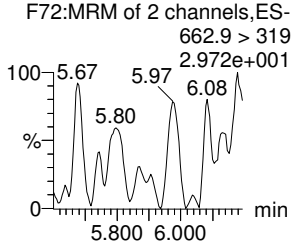
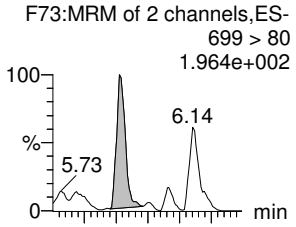
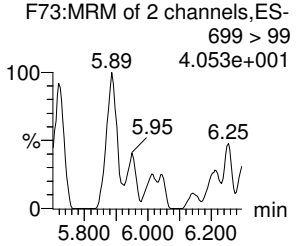




PFDoS





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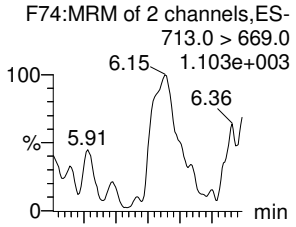
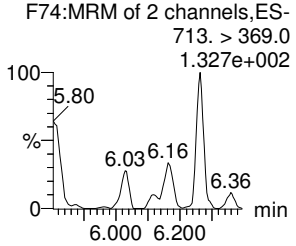
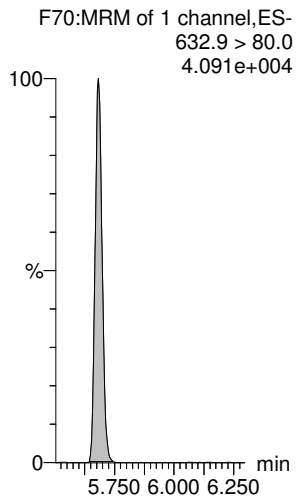




13C2-10:2 FTS-EIS



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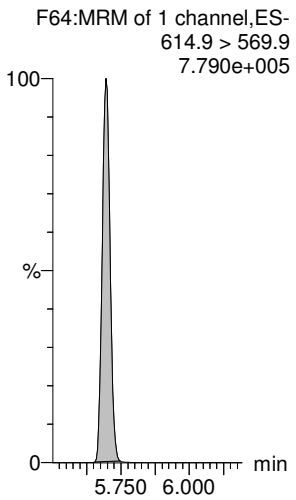
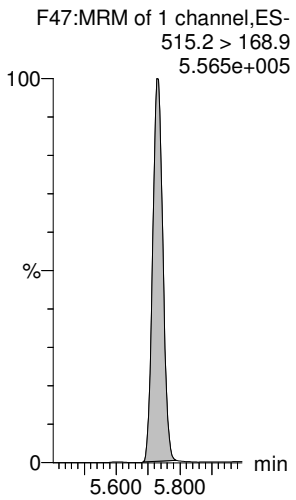


d3-N-MeFOSA-EIS



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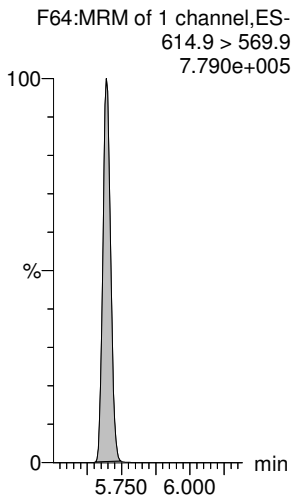

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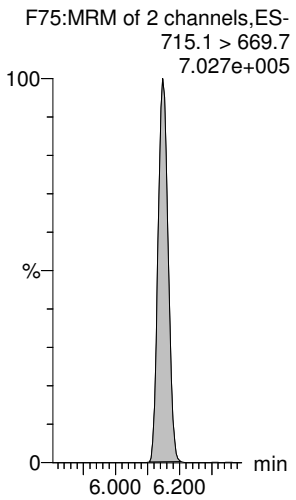

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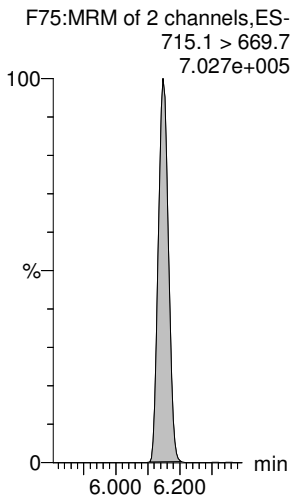

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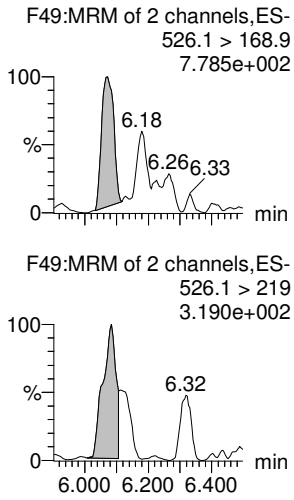
Printed: Thursday, July 16, 2020 08:33:20 Pacific Daylight Time

Name: 200715P1-15, Date: 15-Jul-2020, Time: 14:05:50, ID: IB, Description: IB

N-EtFOSA



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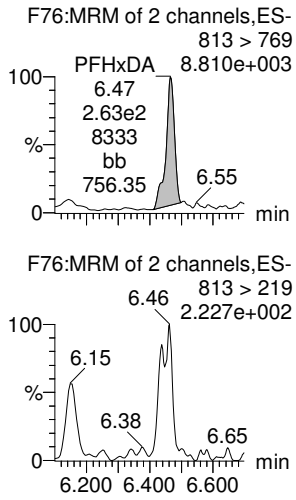

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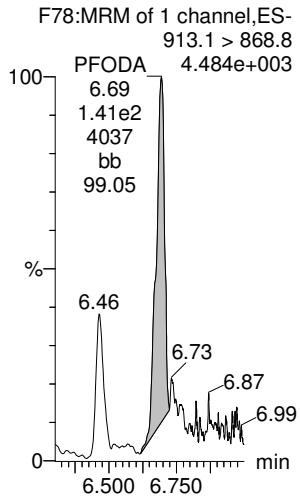

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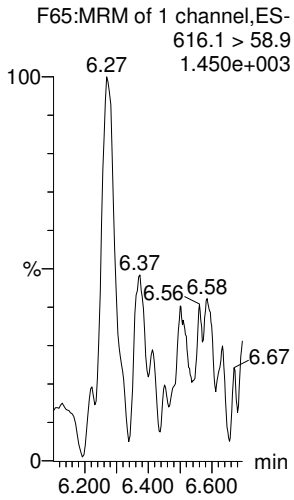

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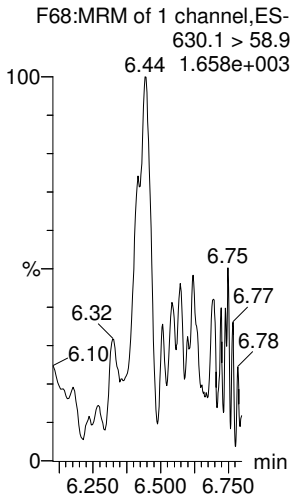

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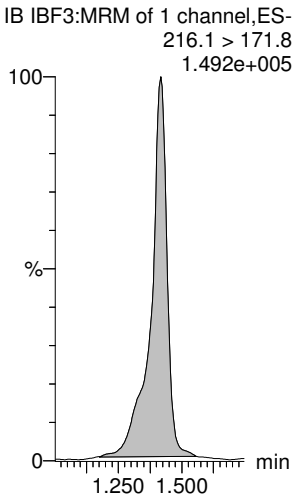

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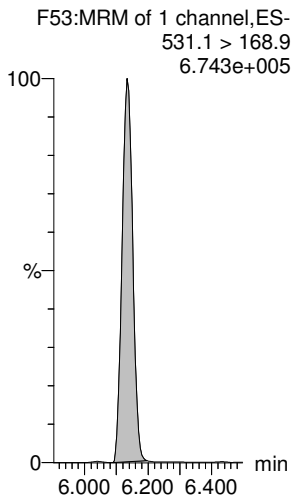

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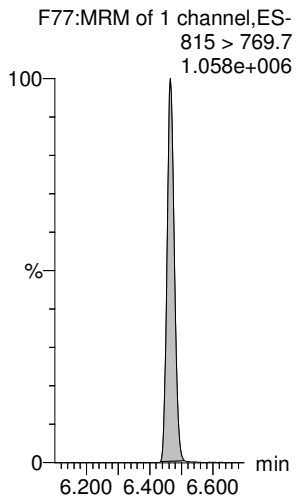

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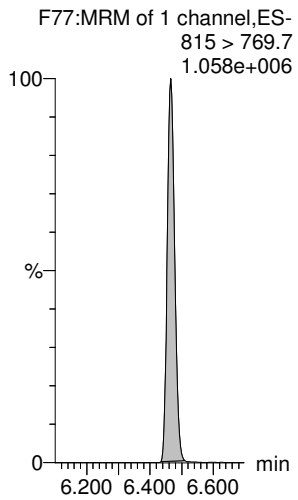
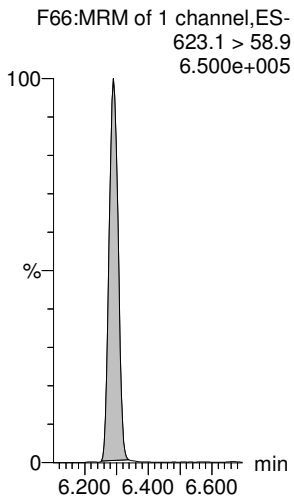


d7-N-MeFOSE-EIS



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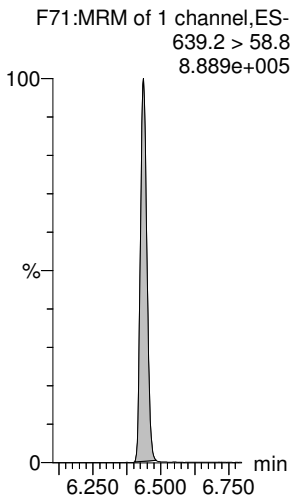

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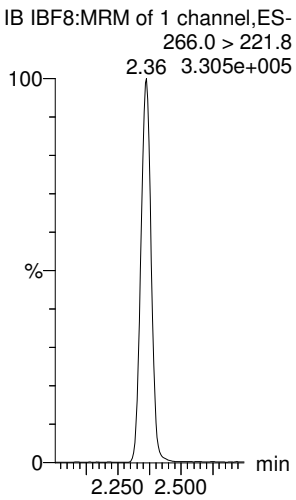

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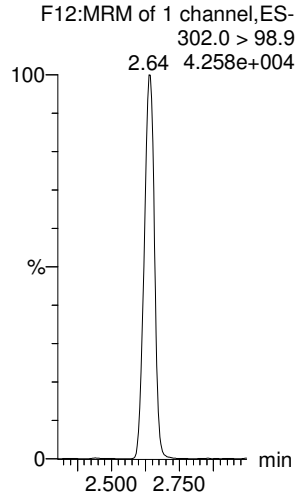
Name: 200715P1-15, Date: 15-Jul-2020, Time: 14:05:50, ID: IB, Description: IB

13C3-PFBS-RSD



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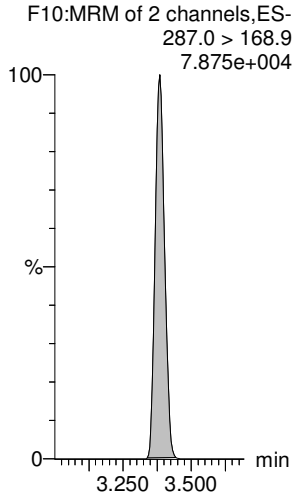
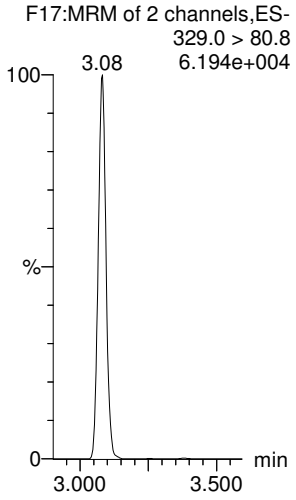


13C2-4:2 FTS-RSD



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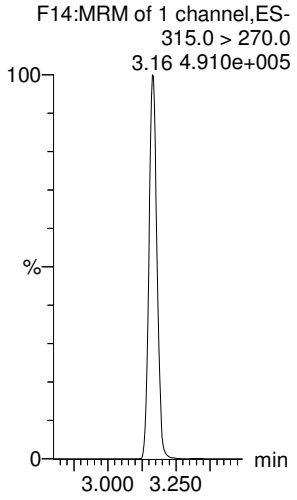

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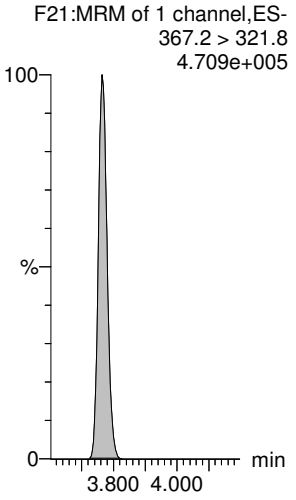

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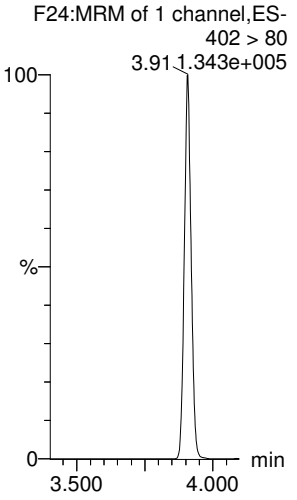

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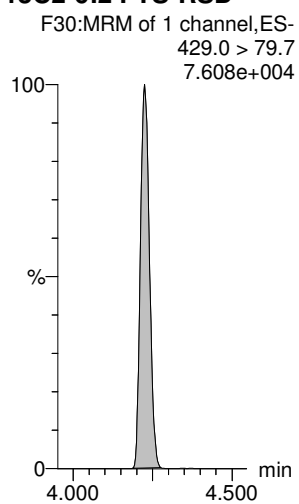
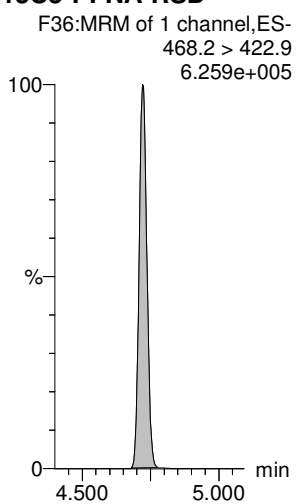


13C5-PFNA-RSD



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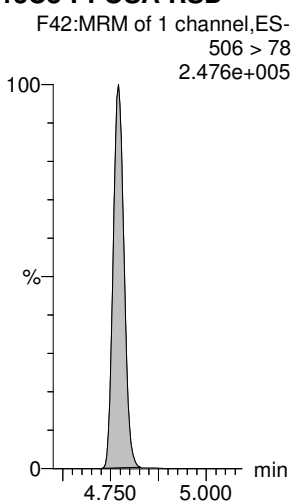
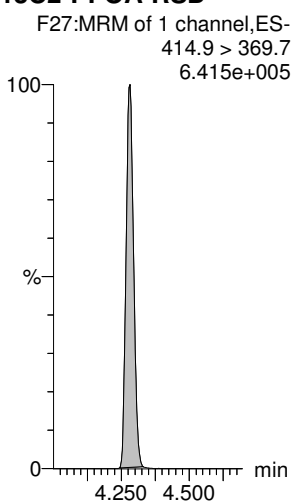
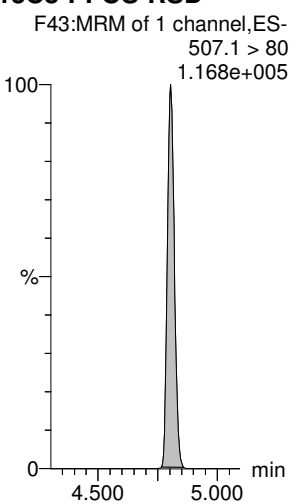


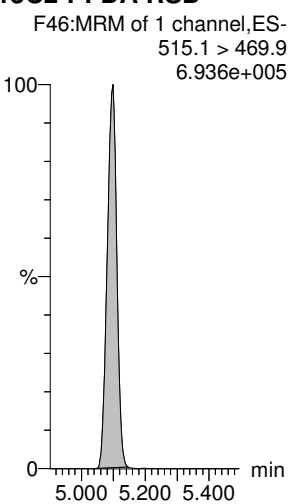
13C2-PFOA-RSD



13C8-PFOS-RSD



13C2-PFDA-RSD



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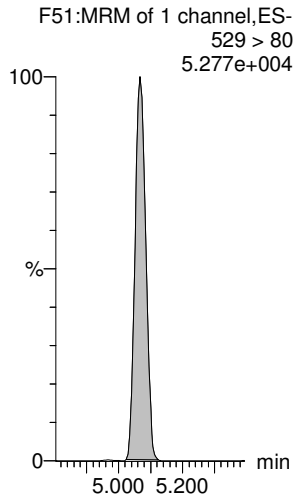
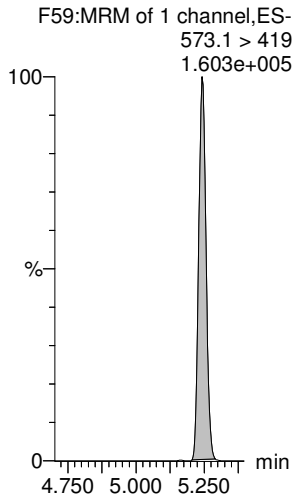
Name: 200715P1-15, Date: 15-Jul-2020, Time: 14:05:50, ID: IB, Description: IB

13C2-8:2 FTS-RSD



d3-N-MeFOSAA-RSD



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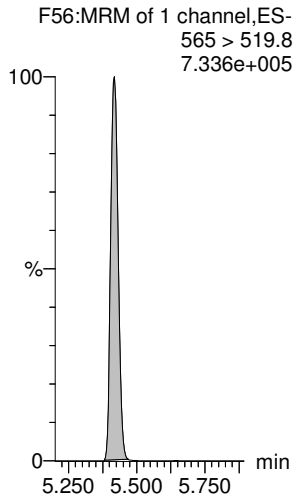

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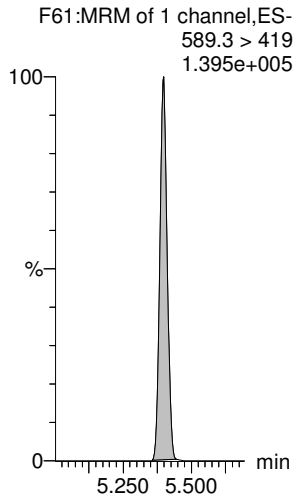

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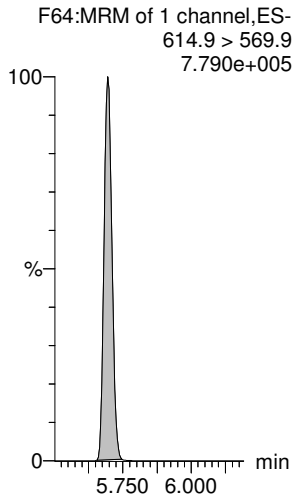
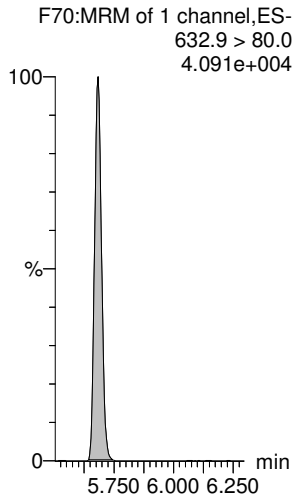


13C2-10:2 FTS-RSD



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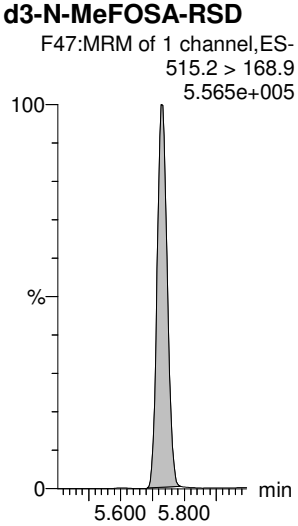
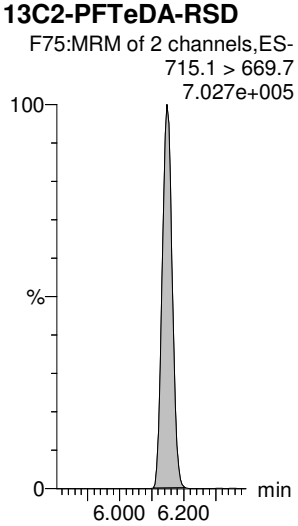


13C2-PFTeDA-RSD



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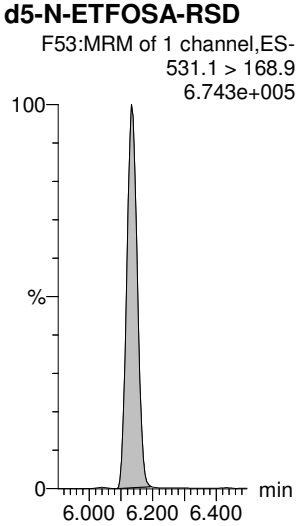

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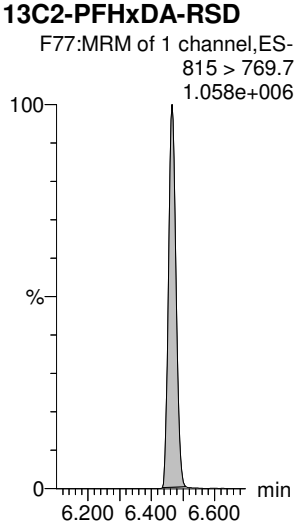
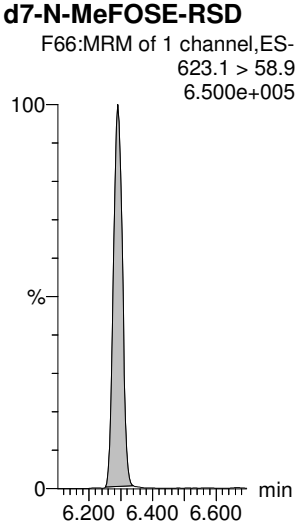
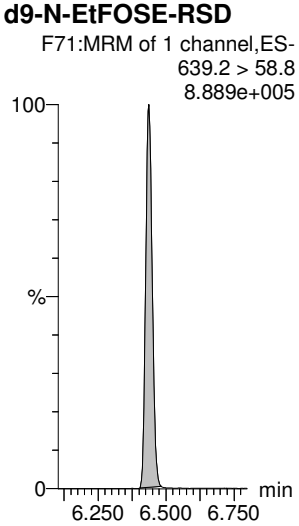


d7-N-MeFOSE-RSD



d9-N-EtFOSE-RSD



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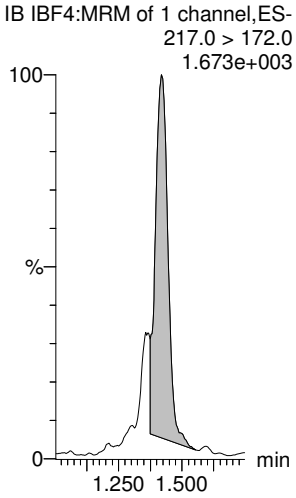
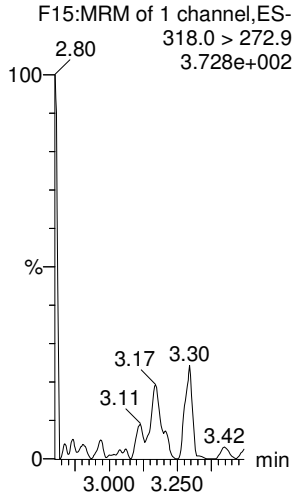
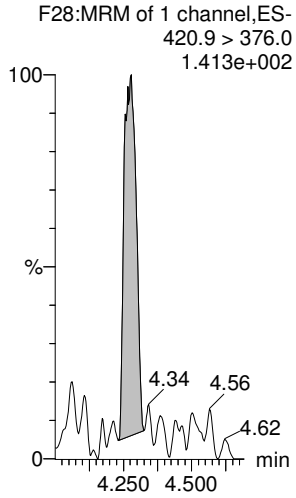
13C4-PFBA



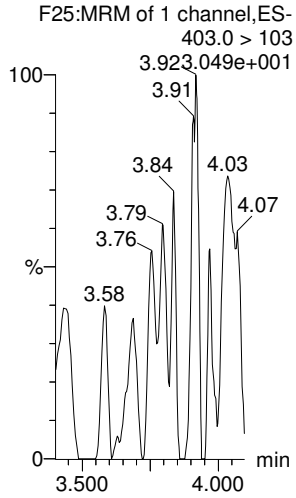
13C5-PFHxA



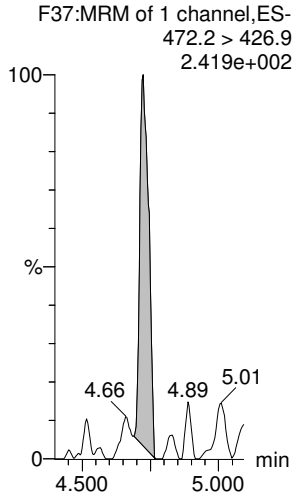
13C8-PFOA



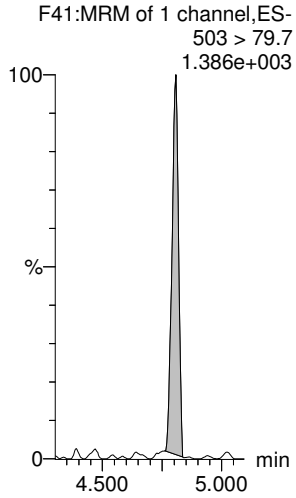
18O2-PFHxS



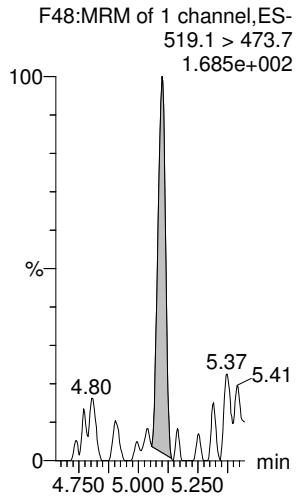
13C9-PFNA



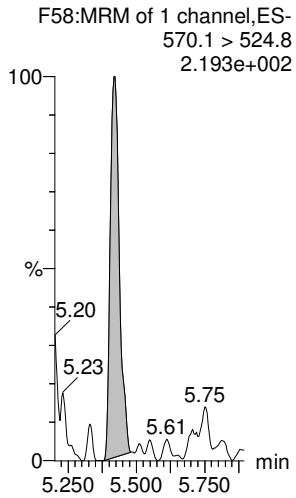
13C4-PFOS



13C6-PFDA



13C7-PFUdA



Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Thursday, July 16, 2020 08:33:14 Pacific Daylight Time
Printed: Thursday, July 16, 2020 08:33:20 Pacific Daylight Time

Name: 200715P1-15, Date: 15-Jul-2020, Time: 14:05:50, ID: IB, Description: IB

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Std. Conc	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
1	1	PFBA	213.0 > 168.8	12.119	10778.824	1.00	1.31	0.014				NO		
2	2	PFPrS	249 > 80		1813.848	1.00						NO		YES
3	3	3:3 FTCA	240.9 > 176.9		15224.953	1.00						NO		YES
4	4	PFPeA	263.1 > 218.9	8.944	15224.953	1.00	2.22	0.007				NO		
5	5	PFBS	299.0 > 80		1813.848	1.00						NO		YES
6	6	4:2 FTS	326.9 > 306.9		2010.718	1.00						NO		YES
7	47	13C3-PFBA-EIS	216.1 > 171.8	10778.824		1.00	1.42	10778.824	12.500	16.2	129.8	NO		
8	51	13C3-PFBS-EIS	302.0 > 98.9	1813.848		1.00	2.64	1813.848	12.500	12.5	99.9	NO		
9	49	13C3-PFPeA-EIS	266.0 > 221.8	15224.953		1.00	2.36	15224.953	12.500	13.5	108.1	NO		
10	49	13C3-PFPeA-EIS	266.0 > 221.8	15224.953		1.00	2.36	15224.953	12.500	13.5	108.1	NO		
11	51	13C3-PFBS-EIS	302.0 > 98.9	1813.848		1.00	2.64	1813.848	12.500	12.5	99.9	NO		
12	55	13C2-4:2 FTS-EIS	329.0 >80.8	2010.718		1.00	3.08	2010.718	12.500	13.2	105.5	NO		
13	-1													
14	7	PFHxA	313.0 > 269.0	52.881	16232.079	1.00	3.19	0.041				NO		YES
15	8	PFPeS	349.>80		1813.848	1.00						NO		YES
16	9	HFPO-DA	285.1 > 168.9		3081.270	1.00						NO		YES
17	10	5:3 FTCA	340.9 > 236.9		14878.547	1.00						NO		YES
18	11	PFHpA	363.0 > 319		14878.547	1.00						NO		YES
19	12	ADONA	376.8 > 250.9	108.036	14878.547	1.00	3.81	0.091		0.0695		NO	14.687	YES
20	57	13C2-PFHxA-EIS	315.0 > 270.0	16232.079		1.00	3.16	16232.079	12.500	13.2	105.9	NO		
21	51	13C3-PFBS-EIS	302.0 > 98.9	1813.848		1.00	2.64	1813.848	12.500	12.5	99.9	NO		
22	53	13C3-HFPO-DA-EIS	287.0 > 168.9	3081.270		1.00	3.39	3081.270	12.500	11.9	95.3	NO		
23	59	13C4-PFHpA-EIS	367.2 > 321.8	14878.547		1.00	3.76	14878.547	12.500	11.7	93.7	NO		
24	59	13C4-PFHpA-EIS	367.2 > 321.8	14878.547		1.00	3.76	14878.547	12.500	11.7	93.7	NO		
25	59	13C4-PFHpA-EIS	367.2 > 321.8	14878.547		1.00	3.76	14878.547	12.500	11.7	93.7	NO		
26	-1													
27	13	L-PFHxS	399 > 79.9		3888.677	1.00						NO		YES
28	15	6:2 FTS	427.0 > 407	14.528	2437.521	1.00	4.17	0.075		0.101		NO	1.658	YES
29	16	L-PFOA	413 > 369	60.749	19905.926	1.00	4.28	0.038		0.0321		NO	6.815	YES
30	18	PFecHS	461 > 381.0	9.962	19905.926	1.00	4.24	0.006		0.0592		NO	0.527	NO
31	19	PFHpS	449.0 > 80		3934.740	1.00						NO		YES
32	20	7:3 FTCA	440.9 > 336.9		20104.855	1.00						NO		YES
33	61	13C3-PFHxS-EIS	402 > 80	3888.677		1.00	3.91	3888.677	12.500	14.5	115.8	NO		
34	63	13C2-6:2 FTS-EIS	429.0 >79.7	2437.521		1.00	4.22	2437.521	12.500	12.9	102.8	NO		
35	69	13C2-PFOA-EIS	414.9 > 369.7	19905.926		1.00	4.28	19905.926	12.500	13.1	104.8	NO		
36	69	13C2-PFOA-EIS	414.9 > 369.7	19905.926		1.00	4.28	19905.926	12.500	13.1	104.8	NO		

Dataset: Untitled

Last Altered: Thursday, July 16, 2020 08:33:14 Pacific Daylight Time
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Name: 200715P1-15, Date: 15-Jul-2020, Time: 14:05:50, ID: IB, Description: IB

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Std. Conc	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
37	71	13C8-PFOS-EIS	507.1 > 80	3934.740		1.00	4.80	3934.740	12.500	14.1	112.9	NO		
38	65	13C5-PFNA-EIS	468.2 > 422.9	20104.855		1.00	4.72	20104.855	12.500	13.5	108.1	NO		
39	-1													
40	21	PFNA	463.0 > 418.8	84.844	20104.855	1.00	4.68	0.053		0.0321		NO		YES
41	22	PFOSA	498 > 78	14.863	8009.700	1.00	4.73	0.023		0.00177		NO		YES
42	23	L-PFOS	499 > 80	5.432	3934.740	1.00	4.81	0.017		0.0008...		NO		YES
43	25	9Cl-PF30NS	531 > 351	5.270	3934.740	1.00	4.97	0.017				NO		YES
44	26	PFDA	513 > 469	14.619	23947.822	1.00	5.07	0.008				NO		YES
45	27	8:2 FTS	526.8 > 506.9		2023.324	1.00						NO		YES
46	65	13C5-PFNA-EIS	468.2 > 422.9	20104.855		1.00	4.72	20104.855	12.500	13.5	108.1	NO		
47	67	13C8-PFOSA-EIS	506 > 78	8009.700		1.00	4.77	8009.700	12.500	13.5	107.7	NO		
48	71	13C8-PFOS-EIS	507.1 > 80	3934.740		1.00	4.80	3934.740	12.500	14.1	112.9	NO		
49	71	13C8-PFOS-EIS	507.1 > 80	3934.740		1.00	4.80	3934.740	12.500	14.1	112.9	NO		
50	73	13C2-PFDA-EIS	515.1 > 469.9	23947.822		1.00	5.10	23947.822	12.500	14.3	114.2	NO		
51	75	13C2-8:2 FTS-EIS	529 > 80	2023.324		1.00	5.07	2023.324	12.500	13.9	111.6	NO		
52	-1													
53	28	PFNS	549 > 80		3934.740	1.00						NO		YES
54	29	L-MeFOSAA	570 > 419	22.608	4814.739	1.00	5.20	0.059		0.104		NO	3.117	YES
55	31	L-EtFOSAA	583.9 > 419	21.482	4313.271	1.00	5.37	0.062		0.0521		NO	1.701	NO
56	33	PFUdA	563.0 > 519	66.650	22660.191	1.00	5.41	0.037				NO		YES
57	34	PFDS	598.8 >79.9	6.290	3934.740	1.00	5.42	0.020				NO		YES
58	35	11Cl-PF30UdS	631 > 451	12.852	25573.779	1.00	5.60	0.006				NO		YES
59	71	13C8-PFOS-EIS	507.1 > 80	3934.740		1.00	4.80	3934.740	12.500	14.1	112.9	NO		
60	77	d3-N-MeFOSAA-EIS	573.1 > 419	4814.739		1.00	5.24	4814.739	12.500	12.9	103.6	NO		
61	81	d5-N-EtFOSAA-EIS	589.3 > 419	4313.271		1.00	5.40	4313.271	12.500	12.0	95.9	NO		
62	79	13C2-PFUdA-EIS	565 > 519.8	22660.191		1.00	5.42	22660.191	12.500	13.2	105.4	NO		
63	71	13C8-PFOS-EIS	507.1 > 80	3934.740		1.00	4.80	3934.740	12.500	14.1	112.9	NO		
64	83	13C2-PFDoA-EIS	614.9 > 569.9	25573.779		1.00	5.69	25573.779	12.500	13.5	108.4	NO		
65	-1													
66	36	10:2 FTS	626.9 > 607		1392.512	1.00						NO		YES
67	37	PFDoA	612.9 > 569.0	231.340	25573.779	1.00	5.73	0.113		0.0144		NO		YES
68	38	N-MeFOSA	512.1 > 168.9	24.931	20233.803	1.00	5.65	0.184				NO		YES
69	39	PFTrDA	662.9 > 618.9	53.053	25573.779	1.00	5.90	0.026				NO		YES
70	40	PFDoS	699 > 80	6.107	25175.213	1.00	5.91	0.003		0.0172		NO		YES
71	41	PFTeDA	713.0 > 669.0		25175.213	1.00						NO		YES
72	85	13C2-10:2 FTS-EIS	632.9 > 80.0	1392.512		1.00	5.68	1392.512	12.500	13.4	106.9	NO		

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Name: 200715P1-15, Date: 15-Jul-2020, Time: 14:05:50, ID: IB, Description: IB

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Std. Conc	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
73	83	13C2-PFDoA-EIS	614.9 > 569.9	25573.779		1.00	5.69	25573.779	12.500	13.5	108.4	NO		
74	87	d3-N-MeFOSA-EIS	515.2 > 168.9	20233.803		1.00	5.73	20233.803	149.200	133	88.9	NO		
75	83	13C2-PFDoA-EIS	614.9 > 569.9	25573.779		1.00	5.69	25573.779	12.500	13.5	108.4	NO		
76	89	13C2-PFTeDA-EIS	715.1 > 669.7	25175.213		1.00	6.15	25175.213	12.500	13.3	106.3	NO		
77	89	13C2-PFTeDA-EIS	715.1 > 669.7	25175.213		1.00	6.15	25175.213	12.500	13.3	106.3	NO		
78	-1													
79	42	N-EtFOSA	526.1 > 168.9	32.519	25671.865	1.00	6.07	0.189		0.0174		NO	2.212	NO
80	43	PFHxDA	813 > 769	263.047	28307.994	1.00	6.47	0.116		0.0334		NO		YES
81	44	PFODA	913.1 > 868.8	141.381	28307.994	1.00	6.69	0.062		0.100		NO		
82	45	N-MeFOSE	616.1 > 58.9		20843.137	1.00						NO		
83	46	N-EtFOSE	630.1 > 58.9		23969.789	1.00						NO		
84	48	13C3-PFBA-RSD	216.1 > 171.8	10778.824	89.973	1.00	1.42	1497.508	12.500	1630	13038.6	YES		
85	91	d5-N-ETFOSA-EIS	531.1 > 168.9	25671.865		1.00	6.13	25671.865	149.200	135	90.2	NO		
86	93	13C2-PFHxDA-EIS	815 > 769.7	28307.994		1.00	6.47	28307.994	12.500	12.4	98.9	NO		
87	93	13C2-PFHxDA-EIS	815 > 769.7	28307.994		1.00	6.47	28307.994	12.500	12.4	98.9	NO		
88	95	d7-N-MeFOSE-EIS	623.1 > 58.9	20843.137		1.00	6.29	20843.137	149.200	136	91.5	NO		
89	97	d9-N-EtFOSE-EIS	639.2 > 58.8	23969.789		1.00	6.44	23969.789	149.200	136	91.1	NO		
90	50	13C3-PFPeA-RSD	266.0 > 221.8			1.00			12.500			NO		
91	-1													
92	52	13C3-PFBS-RSD	302.0 > 98.9			1.00			12.500			NO		
93	54	13C3-HFPO-DA-RSD	287.0 > 168.9	3081.270		1.00	3.39		12.500			NO		
94	56	13C2-4:2 FTS-RSD	329.0 >80.8			1.00			12.500			NO		
95	58	13C2-PFHxA-RSD	315.0 > 270.0			1.00			12.500			NO		
96	60	13C4-PFHpA-RSD	367.2 > 321.8	14878.547		1.00	3.76		12.500			NO		
97	62	13C3-PFHxS-RSD	402 > 80			1.00			12.500			NO		
98	64	13C2-6:2 FTS-RSD	429.0 >79.7	2437.521	44.122	1.00	4.22	690.563	12.500	1230	9811.9	YES		
99	66	13C5-PFNA-RSD	468.2 > 422.9	20104.855	8.771	1.00	4.72	28652.456	12.500	31000	24770...	YES		
100	68	13C8-PFOSA-RSD	506 > 78	8009.700	8.442	1.00	4.77	11859.897	12.500	26500	21202...	YES		
101	70	13C2-PFOA-RSD	414.9 > 369.7	19905.926	6.776	1.00	4.28	36721.381	12.500	30800	24600...	YES		
102	72	13C8-PFOS-RSD	507.1 > 80	3934.740	44.122	1.00	4.80	1114.733	12.500	1430	11441.6	YES		
103	74	13C2-PFDA-RSD	515.1 > 469.9	23947.822	6.025	1.00	5.10	49684.278	12.500	45000	36039...	YES		
104	-1													
105	76	13C2-8:2 FTS-RSD	529 > 80	2023.324	44.122	1.00	5.07	573.219	12.500	1270	10128.3	YES		
106	78	d3-N-MeFOSAA-RSD	573.1 > 419	4814.739	8.442	1.00	5.24	7129.144	12.500	25700	20522...	YES		
107	80	13C2-PFUdA-RSD	565 > 519.8	22660.191	8.442	1.00	5.42	33552.759	12.500	26000	20804...	YES		
108	82	d5-N-EtFOSAA-RSD	589.3 > 419	4313.271	8.442	1.00	5.40	6386.625	12.500	25900	20709...	YES		

Dataset: Untitled

Last Altered: Thursday, July 16, 2020 08:33:14 Pacific Daylight Time
Printed: Thursday, July 16, 2020 08:33:20 Pacific Daylight Time

Name: 200715P1-15, Date: 15-Jul-2020, Time: 14:05:50, ID: IB, Description: IB

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Std. Conc	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
109	84	13C2-PFDoA-RSD	614.9 > 569.9	25573.779	6.025	1.00	5.69	53057.633	12.500	43100	34445...	YES		
110	86	13C2-10:2 FTS-RSD	632.9 > 80.0	1392.512	44.122	1.00	5.68	394.506	12.500	1330	10635.9	YES		
111	88	d3-N-MeFOSA-RSD	515.2 > 168.9	20233.803	8.442	1.00	5.73	29960.026	149.200	251000	16845...	YES		
112	90	13C2-PFTeDA-RSD	715.1 > 669.7	25175.213	8.442	1.00	6.15	37276.731	12.500	25000	20038...	YES		
113	92	d5-N-ETFOSA-RSD	531.1 > 168.9	25671.865	8.442	1.00	6.13	38012.119	149.200	268000	17968...	YES		
114	94	13C2-PFHxDA-RSD	815 > 769.7	28307.994	8.442	1.00	6.47	41915.414	12.500	23900	19118...	YES		
115	96	d7-N-MeFOSE-RSD	623.1 > 58.9	20843.137	8.442	1.00	6.29	30862.262	149.200	256000	17180...	YES		
116	98	d9-N-EtFOSE-RSD	639.2 > 58.8	23969.789	8.442	1.00	6.44	35491.870	149.200	259000	17374...	YES		
117	-1													
118	99	13C4-PFBA	217.0 > 172.0	89.973	89.973	1.00	1.42	12.500	12.500	12.5	100.0	NO		
119	1...	13C5-PFHxA	318.0 > 272.9			1.00			12.500			NO		
120	1...	13C8-PFOA	420.9 > 376.0	6.776	6.776	1.00	4.28	12.500	12.500	12.5	100.0	NO		
121	1...	18O2-PFHxS	403.0 > 103			1.00			12.500			NO		
122	1...	13C9-PFNA	472.2 > 426.9	8.771	8.771	1.00	4.72	12.500	12.500	12.5	100.0	NO		
123	1...	13C4-PFOS	503 > 79.7	44.122	44.122	1.00	4.81	12.500	12.500	12.5	100.0	NO		
124	1...	13C6-PFDA	519.1 > 473.7	6.025	6.025	1.00	5.10	12.500	12.500	12.5	100.0	NO		
125	1...	13C7-PFUdA	570.1 > 524.8	8.442	8.442	1.00	5.42	12.500	12.500	12.5	100.0	NO		

LC Calibration Standards Review Checklist Q5

		ION Ratio	Concentration	C-Cals Name	Sign Date	Correct I-Cal	Manual Integrations	NA
Calibration ID: ST200715P1-11	L M H	☒	☒	☒	☒	☒	☒	☐
Calibration ID:	L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:	L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:	L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:	L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:	L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:	L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:	L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:	L M H	☐	☐	☐	☐	☐	☐	☐
Calibration ID:	L M H	☐	☐	☐	☐	☐	☐	☐

Full Mass Cal. Date: 09-10-2020

Run Log Present: ☒

# of Samples per Sequence Checked: ☒

Instrument Blank Saved ☒

All Branches in Acquisition Window ☒

IIS Area Saved ☐ N/A

Reviewed By: JR 07/16/2020
Initials/Date

Comments:

Dataset: Z:\PFAS5.PRO\RESULTS\200715P1\200715P1-36.qld

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Printed: Thursday, July 16, 2020 12:39:18 Pacific Daylight Time

√ 7R 07/16/2020

Name: 200715P1-36, Date: 15-Jul-2020, Time: 17:48:15, ID: ST200715P1-11 PFC CS3 20F1906, Description: PFC CS3 20F1906

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Std. Conc	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
1	1	PFBA	213.0 > 168.8	7124.953	8333.914	1.00	1.42	10.687	10.000	10.8	107.8	NO		
2	2	PFPrS	249 > 80	1879.532	1819.442	1.00	1.75	12.913	10.000	10.1	101.2	NO	2.796	NO
3	3	3:3 FTCA	240.9 > 176.9	839.566	14659.771	1.00	2.22	0.716	10.000	9.39	93.9	NO	3.247	NO
4	4	PFPeA	263.1 > 218.9	11084.158	14659.771	1.00	2.36	9.451	10.000	10.1	100.9	NO		
5	5	PFBS	299.0 > 80	3521.401	1819.442	1.00	2.64	24.193	10.000	9.60	96.0	NO	2.358	NO
6	6	4:2 FTS	326.9 > 306.9	4044.387	1844.722	1.00	3.08	27.405	10.000	10.9	108.9	NO	10.320	NO
7	47	13C3-PFBA-EIS	216.1 > 171.8	8333.914		1.00	1.42	8333.914	12.500	12.5	100.3	NO		
8	51	13C3-PFBS-EIS	302.0 > 98.9	1819.442		1.00	2.64	1819.442	12.500	12.5	100.2	NO		
9	49	13C3-PFPeA-EIS	266.0 > 221.8	14659.771		1.00	2.36	14659.771	12.500	13.0	104.1	NO		
10	49	13C3-PFPeA-EIS	266.0 > 221.8	14659.771		1.00	2.36	14659.771	12.500	13.0	104.1	NO		
11	51	13C3-PFBS-EIS	302.0 > 98.9	1819.442		1.00	2.64	1819.442	12.500	12.5	100.2	NO		
12	55	13C2-4:2 FTS-EIS	329.0 >80.8	1844.722		1.00	3.08	1844.722	12.500	12.1	96.8	NO		
13	-1													
14	7	PFHxA	313.0 > 269.0	13499.114	15610.274	1.00	3.16	10.809	10.000	10.8	108.3	NO	15.869	NO
15	8	PFPeS	349.>80	3102.873	1819.442	1.00	3.36	21.317	10.000	10.4	104.0	NO	2.363	NO
16	9	HFPO-DA	285.1 > 168.9	2530.410	3305.196	1.00	3.38	9.570	10.000	9.73	97.3	NO	2.291	NO
17	10	5:3 FTCA	340.9 > 236.9	1757.410	14872.864	1.00	3.70	1.477	10.000	9.79	97.9	NO	1.645	NO
18	11	PFHpA	363.0 > 319	13925.848	14872.864	1.00	3.76	11.704	10.000	9.08	90.8	NO	51.455	NO
19	12	ADONA	376.8 > 250.9	26174.326	14872.864	1.00	3.87	21.998	10.000	9.60	96.0	NO	3.713	NO
20	57	13C2-PFHxA-EIS	315.0 > 270.0	15610.274		1.00	3.16	15610.274	12.500	12.7	101.8	NO		
21	51	13C3-PFBS-EIS	302.0 > 98.9	1819.442		1.00	2.64	1819.442	12.500	12.5	100.2	NO		
22	53	13C3-HFPO-DA-EIS	287.0 > 168.9	3305.196		1.00	3.38	3305.196	12.500	12.8	102.2	NO		
23	59	13C4-PFHpA-EIS	367.2 > 321.8	14872.864		1.00	3.76	14872.864	12.500	11.7	93.7	NO		
24	59	13C4-PFHpA-EIS	367.2 > 321.8	14872.864		1.00	3.76	14872.864	12.500	11.7	93.7	NO		
25	59	13C4-PFHpA-EIS	367.2 > 321.8	14872.864		1.00	3.76	14872.864	12.500	11.7	93.7	NO		
26	-1													
27	13	L-PFHxS	399 > 79.9	3274.831	3480.682	1.00	3.91	11.761	10.000	10.1	101.2	NO	3.813	NO
28	15	6:2 FTS	427.0 > 407	1838.024	2337.447	1.00	4.22	9.829	10.000	9.78	97.8	NO	0.716	NO
29	16	L-PFOA	413 > 369	14904.339	19930.416	1.00	4.28	9.348	10.000	9.51	95.1	NO	2.930	NO
30	18	PFecHS	461 > 381.0	2834.354	19930.416	1.00	4.29	1.778	10.000	9.22	92.2	NO	0.497	NO
31	19	PFHpS	449.0 > 80	2827.431	3365.132	1.00	4.39	10.503	10.000	10.9	109.0	NO	1.881	NO
32	20	7:3 FTCA	440.9 > 336.9	3339.676	18050.121	1.00	4.71	2.313	10.000	10.2	101.7	NO	1.343	NO
33	61	13C3-PFHxS-EIS	402 > 80	3480.682		1.00	3.91	3480.682	12.500	13.0	103.7	NO		
34	63	13C2-6:2 FTS-EIS	429.0 >79.7	2337.447		1.00	4.22	2337.447	12.500	12.3	98.6	NO		
35	69	13C2-PFOA-EIS	414.9 > 369.7	19930.416		1.00	4.28	19930.416	12.500	13.1	104.9	NO		
36	69	13C2-PFOA-EIS	414.9 > 369.7	19930.416		1.00	4.28	19930.416	12.500	13.1	104.9	NO		

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Name: 200715P1-36, Date: 15-Jul-2020, Time: 17:48:15, ID: ST200715P1-11 PFC CS3 20F1906, Description: PFC CS3 20F1906

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Std. Conc	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
37	71	13C8-PFOS-EIS	507.1 > 80	3365.132		1.00	4.80	3365.132	12.500	12.1	96.5	NO		
38	65	13C5-PFNA-EIS	468.2 > 422.9	18050.121		1.00	4.72	18050.121	12.500	12.1	97.0	NO		
39	-1													
40	21	PFNA	463.0 > 418.8	16947.041	18050.121	1.00	4.72	11.736	10.000	9.93	99.3	NO	12.659	NO
41	22	PFOSA	498 > 78	4102.801	7130.445	1.00	4.77	7.192	10.000	10.3	103.4	NO	23.322	NO
42	23	L-PFOS	499 > 80	3409.648	3365.132	1.00	4.80	12.665	10.000	10.4	104.2	NO	2.400	NO
43	25	9Cl-PF30NS	531 > 351	6163.757	3365.132	1.00	5.02	22.896	10.000	9.56	95.6	NO	26.415	NO
44	26	PFDA	513 > 469	13719.299	22157.275	1.00	5.09	7.740	10.000	9.34	93.4	NO	4.814	NO
45	27	8:2 FTS	526.8 > 506.9	2013.363	1970.627	1.00	5.07	12.771	10.000	10.5	104.7	NO	0.801	NO
46	65	13C5-PFNA-EIS	468.2 > 422.9	18050.121		1.00	4.72	18050.121	12.500	12.1	97.0	NO		
47	67	13C8-PFOSA-EIS	506 > 78	7130.445		1.00	4.77	7130.445	12.500	12.0	95.9	NO		
48	71	13C8-PFOS-EIS	507.1 > 80	3365.132		1.00	4.80	3365.132	12.500	12.1	96.5	NO		
49	71	13C8-PFOS-EIS	507.1 > 80	3365.132		1.00	4.80	3365.132	12.500	12.1	96.5	NO		
50	73	13C2-PFDA-EIS	515.1 > 469.9	22157.275		1.00	5.09	22157.275	12.500	13.2	105.6	NO		
51	75	13C2-8:2 FTS-EIS	529 > 80	1970.627		1.00	5.07	1970.627	12.500	13.6	108.7	NO		
52	-1													
53	28	PFNS	549 > 80	3584.452	3365.132	1.00	5.16	13.315	10.000	10.9	109.0	NO	2.368	NO
54	29	L-MeFOSAA	570 > 419	4480.299	4667.393	1.00	5.24	11.999	10.000	9.88	98.8	NO	1.847	NO
55	31	L-EtFOSAA	583.9 > 419	5499.588	3904.618	1.00	5.40	17.606	10.000	11.2	111.9	NO	1.466	NO
56	33	PFUdA	563.0 > 519	16731.439	21671.645	1.00	5.41	9.651	10.000	10.1	101.1	NO	17.635	NO
57	34	PFDS	598.8 >79.9	3521.802	3365.132	1.00	5.46	13.082	10.000	10.9	108.7	NO	2.162	NO
58	35	11Cl-PF30UdS	631 > 451	5276.146	23844.336	1.00	5.62	2.766	10.000	10.7	106.7	NO	15.308	NO
59	71	13C8-PFOS-EIS	507.1 > 80	3365.132		1.00	4.80	3365.132	12.500	12.1	96.5	NO		
60	77	d3-N-MeFOSAA-EIS	573.1 > 419	4667.393		1.00	5.24	4667.393	12.500	12.5	100.4	NO		
61	81	d5-N-EtFOSAA-EIS	589.3 > 419	3904.618		1.00	5.39	3904.618	12.500	10.8	86.8	NO		
62	79	13C2-PFUdA-EIS	565 > 519.8	21671.645		1.00	5.42	21671.645	12.500	12.6	100.8	NO		
63	71	13C8-PFOS-EIS	507.1 > 80	3365.132		1.00	4.80	3365.132	12.500	12.1	96.5	NO		
64	83	13C2-PFDoA-EIS	614.9 > 569.9	23844.336		1.00	5.69	23844.336	12.500	12.6	101.0	NO		
65	-1													
66	36	10:2 FTS	626.9 > 607	1842.051	1324.835	1.00	5.68	17.380	10.000	9.00	90.0	NO	0.834	NO
67	37	PFDoA	612.9 > 569.0	17347.688	23844.336	1.00	5.69	9.094	10.000	10.1	101.2	NO	10.567	NO
68	38	N-MeFOSA	512.1 > 168.9	8370.574	22756.172	1.00	5.70	54.881	50.000	52.0	104.0	NO	1.999	NO
69	39	PFTrDA	662.9 > 618.9	20288.563	23844.336	1.00	5.93	10.636	10.000	10.1	101.0	NO	93.088	NO
70	40	PFDoS	699 > 80	3798.842	24687.342	1.00	5.96	1.923	10.000	10.1	100.9	NO	2.254	NO
71	41	PFTeDA	713.0 > 669.0	12057.662	24687.342	1.00	6.14	6.105	10.000	10.6	106.2	NO	13.933	NO
72	85	13C2-10:2 FTS-EIS	632.9 > 80.0	1324.835		1.00	5.68	1324.835	12.500	12.7	101.7	NO		

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Name: 200715P1-36, Date: 15-Jul-2020, Time: 17:48:15, ID: ST200715P1-11 PFC CS3 20F1906, Description: PFC CS3 20F1906

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Std. Conc	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
73	83	13C2-PFDoA-EIS	614.9 > 569.9	23844.336		1.00	5.69	23844.336	12.500	12.6	101.0	NO		
74	87	d3-N-MeFOSA-EIS	515.2 > 168.9	22756.172		1.00	5.73	22756.172	149.200	149	100.0	NO		
75	83	13C2-PFDoA-EIS	614.9 > 569.9	23844.336		1.00	5.69	23844.336	12.500	12.6	101.0	NO		
76	89	13C2-PFTeDA-EIS	715.1 > 669.7	24687.342		1.00	6.14	24687.342	12.500	13.0	104.3	NO		
77	89	13C2-PFTeDA-EIS	715.1 > 669.7	24687.342		1.00	6.14	24687.342	12.500	13.0	104.3	NO		
78	-1													
79	42	N-EtFOSA	526.1 > 168.9	11457.647	29135.488	1.00	6.12	58.673	50.000	50.3	100.6	NO	2.011	NO
80	43	PFHxDA	813 > 769	21359.457	29536.582	1.00	6.46	9.039	10.000	9.21	92.1	NO	29.228	NO
81	44	PFODA	913.1 > 868.8	18676.920	29536.582	1.00	6.69	7.904	10.000	10.0	100.2	NO		
82	45	N-MeFOSE	616.1 > 58.9	8874.549	22762.611	1.00	6.29	58.169	50.000	55.8	111.6	NO		
83	46	N-EtFOSE	630.1 > 58.9	9039.263	25868.955	1.00	6.44	52.134	50.000	54.8	109.5	NO		
84	48	13C3-PFBA-RSD	216.1 > 171.8	8034.194	9169.693	1.00	1.42	10.952	12.500	11.9	95.4	NO		
85	91	d5-N-ETFOSA-EIS	531.1 > 168.9	29135.488		1.00	6.13	29135.488	149.200	153	102.3	NO		
86	93	13C2-PFHxDA-EIS	815 > 769.7	29536.582		1.00	6.46	29536.582	12.500	12.9	103.2	NO		
87	93	13C2-PFHxDA-EIS	815 > 769.7	29536.582		1.00	6.46	29536.582	12.500	12.9	103.2	NO		
88	95	d7-N-MeFOSE-EIS	623.1 > 58.9	22762.611		1.00	6.29	22762.611	149.200	149	99.9	NO		
89	97	d9-N-EtFOSE-EIS	639.2 > 58.8	25868.955		1.00	6.43	25868.955	149.200	147	98.3	NO		
90	50	13C3-PFPeA-RSD	266.0 > 221.8	14659.771	19104.449	1.00	2.36	9.592	12.500	12.5	100.0	NO		
91	-1													
92	52	13C3-PFBS-RSD	302.0 > 98.9	1819.442	1491.065	1.00	2.64	15.253	12.500	12.3	98.5	NO		
93	54	13C3-HFPO-DA-RSD	287.0 > 168.9	3305.196	19104.449	1.00	3.38	2.163	12.500	13.0	104.3	NO		
94	56	13C2-4:2 FTS-RSD	329.0 >80.8	1844.722	1491.065	1.00	3.08	15.465	12.500	11.8	94.1	NO		
95	58	13C2-PFHxA-RSD	315.0 > 270.0	15610.274	19104.449	1.00	3.16	10.214	12.500	12.4	99.2	NO		
96	60	13C4-PFHpA-RSD	367.2 > 321.8	14872.864	19104.449	1.00	3.76	9.731	12.500	12.6	101.1	NO		
97	62	13C3-PFHxS-RSD	402 > 80	3480.682	1491.065	1.00	3.91	29.179	12.500	12.1	97.2	NO		
98	64	13C2-6:2 FTS-RSD	429.0 >79.7	2337.447	4406.790	1.00	4.22	6.630	12.500	12.6	100.8	NO		
99	66	13C5-PFNA-RSD	468.2 > 422.9	18050.121	19292.094	1.00	4.72	11.695	12.500	12.6	101.1	NO		
100	68	13C8-PFOSA-RSD	506 > 78	7130.445	17156.707	1.00	4.77	5.195	12.500	11.6	92.9	NO		
101	70	13C2-PFOA-RSD	414.9 > 369.7	19930.416	15440.847	1.00	4.28	16.134	12.500	13.5	108.1	NO		
102	72	13C8-PFOS-RSD	507.1 > 80	3365.132	4406.790	1.00	4.80	9.545	12.500	12.2	98.0	NO		
103	74	13C2-PFDA-RSD	515.1 > 469.9	22157.275	19811.434	1.00	5.09	13.980	12.500	12.7	101.4	NO		
104	-1													
105	76	13C2-8:2 FTS-RSD	529 > 80	1970.627	4406.790	1.00	5.07	5.590	12.500	12.3	98.8	NO		
106	78	d3-N-MeFOSAA-RSD	573.1 > 419	4667.393	17156.707	1.00	5.24	3.401	12.500	12.2	97.9	NO		
107	80	13C2-PFUdA-RSD	565 > 519.8	21671.645	17156.707	1.00	5.42	15.789	12.500	12.2	97.9	NO		
108	82	d5-N-EtFOSAA-RSD	589.3 > 419	3904.618	17156.707	1.00	5.39	2.845	12.500	11.5	92.2	NO		

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Name: 200715P1-36, Date: 15-Jul-2020, Time: 17:48:15, ID: ST200715P1-11 PFC CS3 20F1906, Description: PFC CS3 20F1906

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Std. Conc	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
109	84	13C2-PFDoA-RSD	614.9 > 569.9	23844.336	19811.434	1.00	5.69	15.045	12.500	12.2	97.7	NO		
110	86	13C2-10:2 FTS-RSD	632.9 > 80.0	1324.835	4406.790	1.00	5.68	3.758	12.500	12.7	101.3	NO		
111	88	d3-N-MeFOSA-RSD	515.2 > 168.9	22756.172	17156.707	1.00	5.73	16.580	149.200	139	93.2	NO		
112	90	13C2-PFTeDA-RSD	715.1 > 669.7	24687.342	17156.707	1.00	6.14	17.987	12.500	12.1	96.7	NO		
113	92	d5-N-ETFOSA-RSD	531.1 > 168.9	29135.488	17156.707	1.00	6.13	21.227	149.200	150	100.3	NO		
114	94	13C2-PFHxDA-RSD	815 > 769.7	29536.582	17156.707	1.00	6.46	21.520	12.500	12.3	98.2	NO		
115	96	d7-N-MeFOSE-RSD	623.1 > 58.9	22762.611	17156.707	1.00	6.29	16.584	149.200	138	92.3	NO		
116	98	d9-N-EtFOSE-RSD	639.2 > 58.8	25868.955	17156.707	1.00	6.43	18.848	149.200	138	92.3	NO		
117	-1													
118	99	13C4-PFBA	217.0 > 172.0	9169.693	9169.693	1.00	1.42	12.500	12.500	12.5	100.0	NO		
119	1...	13C5-PFHxA	318.0 > 272.9	19104.449	19104.449	1.00	3.16	12.500	12.500	12.5	100.0	NO		
120	1...	13C8-PFOA	420.9 > 376.0	15440.847	15440.847	1.00	4.28	12.500	12.500	12.5	100.0	NO		
121	1...	18O2-PFHxS	403.0 > 103	1491.065	1491.065	1.00	3.91	12.500	12.500	12.5	100.0	NO		
122	1...	13C9-PFNA	472.2 > 426.9	19292.094	19292.094	1.00	4.72	12.500	12.500	12.5	100.0	NO		
123	1...	13C4-PFOS	503 > 79.7	4406.790	4406.790	1.00	4.80	12.500	12.500	12.5	100.0	NO		
124	1...	13C6-PFDA	519.1 > 473.7	19811.434	19811.434	1.00	5.09	12.500	12.500	12.5	100.0	NO		
125	1...	13C7-PFUdA	570.1 > 524.8	17156.707	17156.707	1.00	5.42	12.500	12.500	12.5	100.0	NO		

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Dataset: Untitled

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Method: Z:\PFAS5.PRO\MethDB\NEW_PFAS_80C_071520.mdb 15 Jul 2020 14:50:21
Calibration: Z:\PFAS5.PRO\CurveDB\C18_VAL-PFAS_Q5_07-15-20.cdb 16 Jul 2020 10:32:09

Compound name: PFBA

	#	Name	ID	Acq.Date	Acq.Time
1	1	200715P1-01	IPA	15-Jul-20	11:36:45
2	2	200715P1-02	IPA	15-Jul-20	11:47:32
3	3	200715P1-03	TESTER	15-Jul-20	11:58:08
4	4	200715P1-04	IPA	15-Jul-20	12:08:44
5	5	200715P1-05	ST200715P1-1 PFC CS-2 20F1901	15-Jul-20	12:20:20
6	6	200715P1-06	ST200715P1-2 PFC CS-1 20F1902	15-Jul-20	12:30:45
7	7	200715P1-07	ST200715P1-3 PFC CS0 20F1903	15-Jul-20	12:41:22
8	8	200715P1-08	ST200715P1-4 PFC CS1 20F1904	15-Jul-20	12:51:58
9	9	200715P1-09	ST200715P1-5 PFC CS2 20F1905	15-Jul-20	13:02:34
10	10	200715P1-10	ST200715P1-6 PFC CS3 20F1906	15-Jul-20	13:13:09
11	11	200715P1-11	ST200715P1-7 PFC CS4 20F1907	15-Jul-20	13:23:45
12	12	200715P1-12	ST200715P1-8 PFC CS5 20F1908	15-Jul-20	13:34:11
13	13	200715P1-13	ST200715P1-9 PFC CS6 20F1909	15-Jul-20	13:44:48
14	14	200715P1-14	ST200715P1-10 PFC CS7 20F1910	15-Jul-20	13:55:24
15	15	200715P1-15	IB	15-Jul-20	14:05:50
16	16	200715P1-16	ICV200715P1-1 PFC ICV 20F1911	15-Jul-20	14:16:27
17	17	200715P1-17	IB	15-Jul-20	14:27:03
18	18	200715P1-18	2001430-01@10X IN-49 0.24168	15-Jul-20	14:37:38
19	19	200715P1-19	2001430-02@10X OUT-49 0.23991	15-Jul-20	14:48:14
20	20	200715P1-20	2001354-02 OUT-36 0.2466	15-Jul-20	14:58:50
21	21	200715P1-21	IB	15-Jul-20	15:09:26
22	22	200715P1-22	2001436-06@10X TW23D-20200708 0.27774	15-Jul-20	15:20:02
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24	24	200715P1-24	2001436-07 TW24D-20200708 0.28174	15-Jul-20	15:41:13
25	25	200715P1-25	2001436-08@5X TW17D-20200708 0.40597	15-Jul-20	15:51:49
26	26	200715P1-26	2001379-09@5X CH48-SB07-0810 2.47	15-Jul-20	16:02:25
27	27	200715P1-27	B0G0077-BLK1 Method Blank 250	15-Jul-20	16:13:00
28	28	200715P1-28	B0G0077-BS1 OPR 250	15-Jul-20	16:23:36
29	29	200715P1-29	2001415-01 Annual 224.87	15-Jul-20	16:34:12
30	30	200715P1-30	B0G0089-BLK1 Method Blank 0.25	15-Jul-20	16:44:48
31	31	200715P1-31	B0G0089-BS1 OPR 0.25	15-Jul-20	16:55:24
32	32	200715P1-32	B0G0089-BSD1 LCSD 0.25	15-Jul-20	17:06:01

Dataset: Untitled

Last Altered: Thursday, July 16, 2020 12:42:36 Pacific Daylight Time
Printed: Thursday, July 16, 2020 12:43:11 Pacific Daylight Time

Compound name: PFBA

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33	33 200715P1-33	2001418-08 EQ Rinsate-1 0.24429	15-Jul-20	17:16:26
34	34 200715P1-34	B0G0055-BS5 OPR 2	15-Jul-20	17:27:03
35	35 200715P1-35	IB	15-Jul-20	17:37:39
36	36 200715P1-36	ST200715P1-11 PFC CS3 20F1906	15-Jul-20	17:48:15
37	37 200715P1-37	IB	15-Jul-20	17:58:50

Dataset: Z:\PFAS5.PRO\RESULTS\200715P1\200715P1-36.qld

Last Altered: Thursday, July 16, 2020 12:37:53 Pacific Daylight Time
Printed: Thursday, July 16, 2020 12:39:18 Pacific Daylight Time

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Name: 200715P1-36, Date: 15-Jul-2020, Time: 17:48:15, ID: ST200715P1-11 PFC CS3 20F1906, Description: PFC CS3 20F1906

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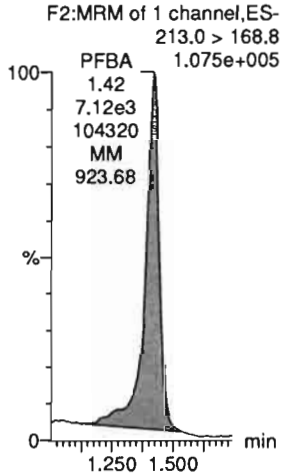

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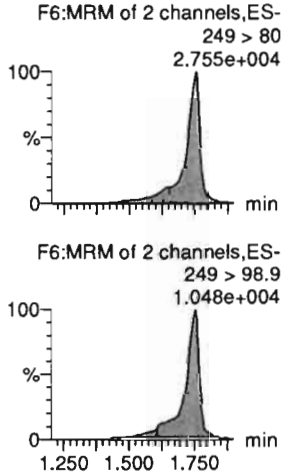
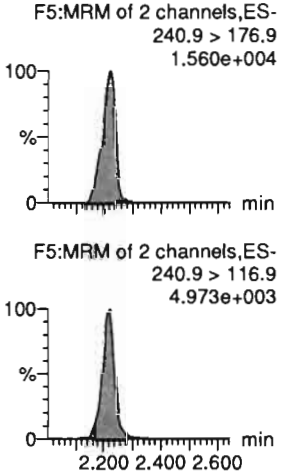


3:3 FTCA



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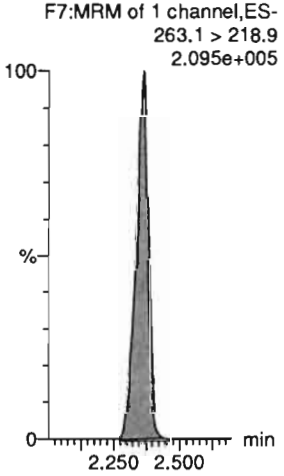

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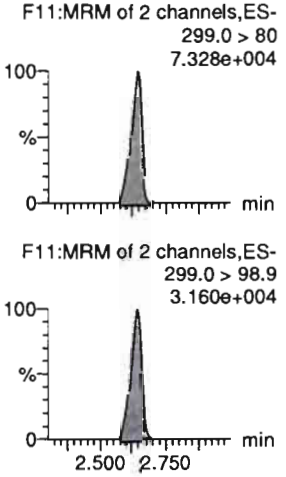
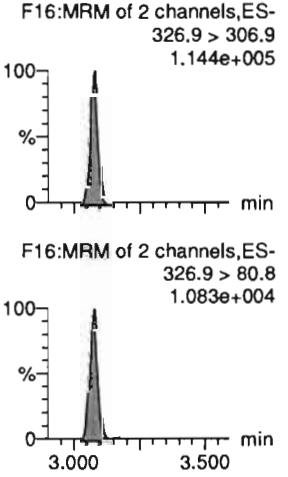
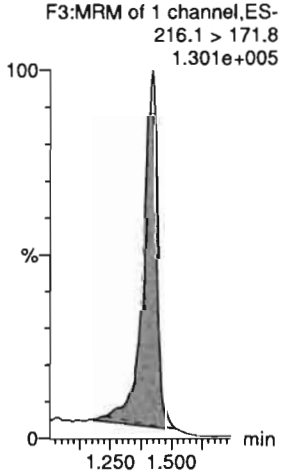


4:2 FTS



13C3-PFBA-EIS



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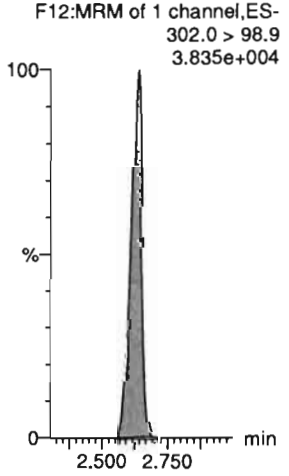

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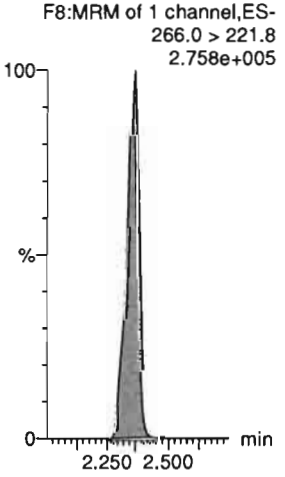

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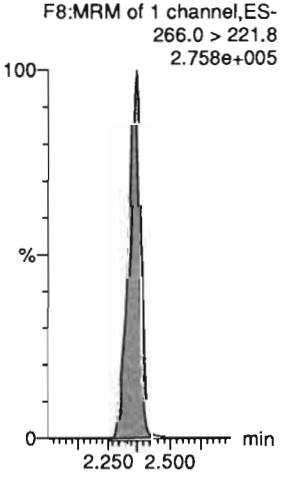

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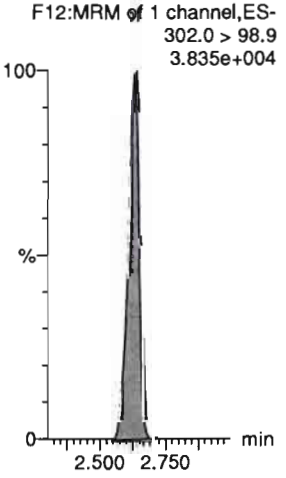
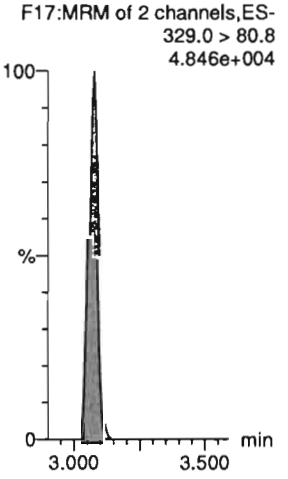


13C2-4:2 FTS-EIS



OPV 7/16/2020

Dataset: Z:\PFAS5.PRO\RESULTS\200715P1\200715P1-36.qld

Last Altered: Thursday, July 16, 2020 12:37:53 Pacific Daylight Time
Printed: Thursday, July 16, 2020 12:39:18 Pacific Daylight Time

Name: 200715P1-36, Date: 15-Jul-2020, Time: 17:48:15, ID: ST200715P1-11 PFC CS3 20F1906, Description: PFC CS3 20F1906

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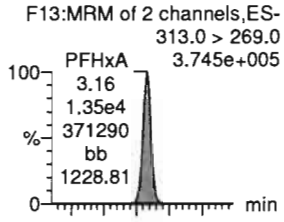

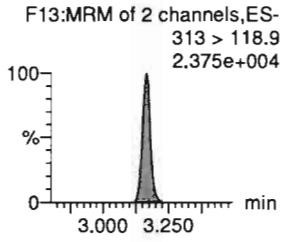

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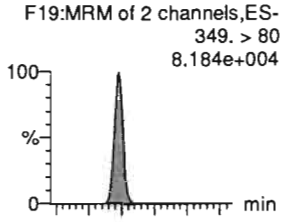
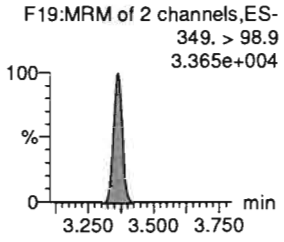
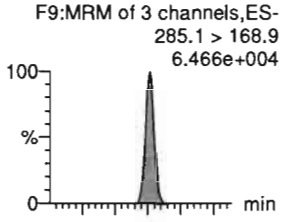
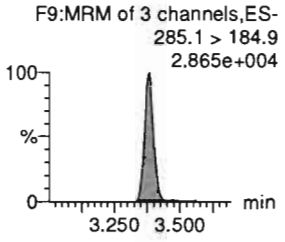


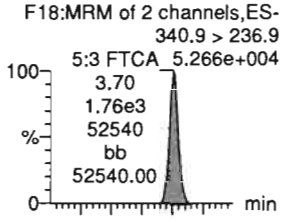


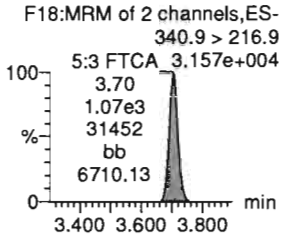
HFPO-DA





5:3 FTCA





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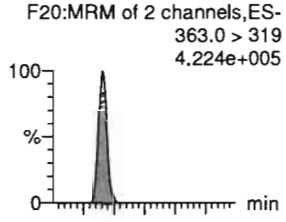

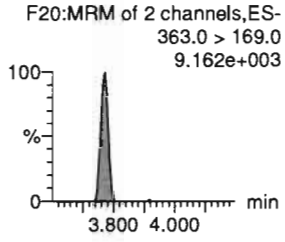

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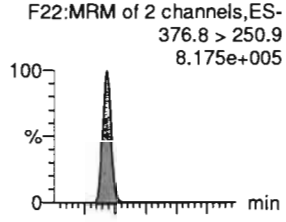
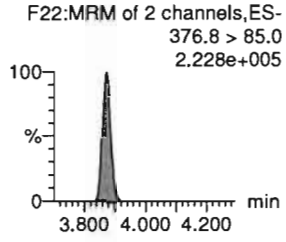
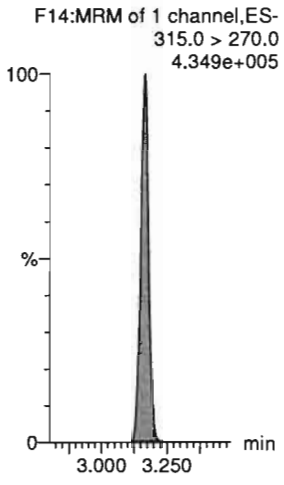




13C2-PFHxA-EIS



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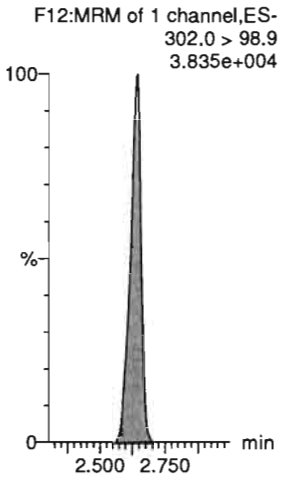
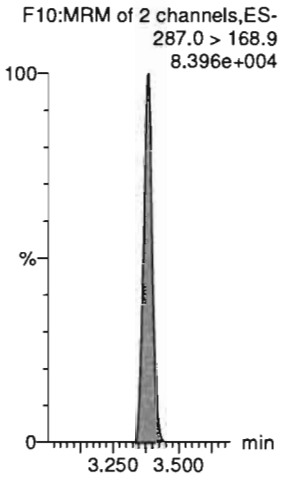
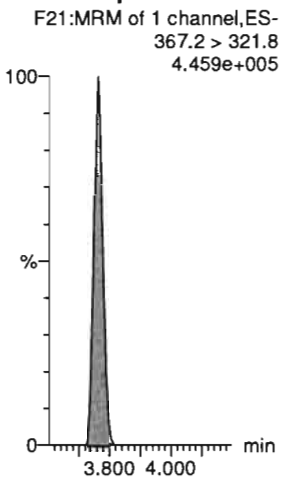


13C3-HFPO-DA-EIS



13C4-PFHpA-EIS



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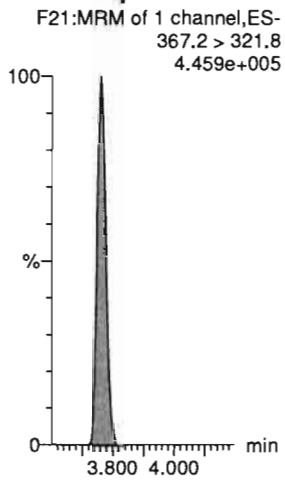

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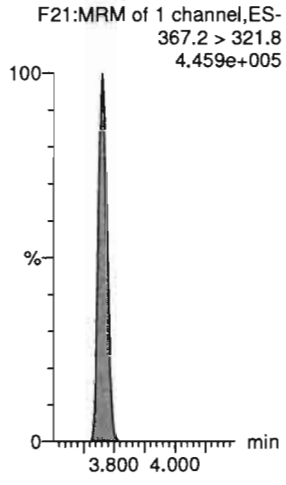


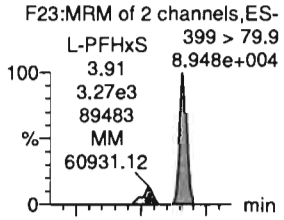
OPV 7/16/2020

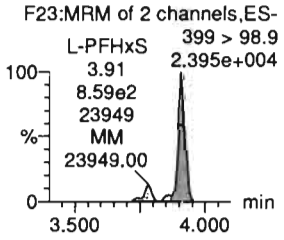
Dataset: Z:\PFAS5.PRO\RESULTS\200715P1\200715P1-36.qld

Last Altered: Thursday, July 16, 2020 12:37:53 Pacific Daylight Time
Printed: Thursday, July 16, 2020 12:39:18 Pacific Daylight Time

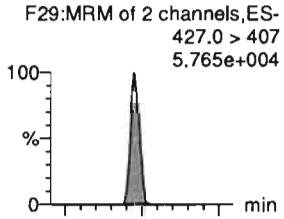
Name: 200715P1-36, Date: 15-Jul-2020, Time: 17:48:15, ID: ST200715P1-11 PFC CS3 20F1906, Description: PFC CS3 20F1906

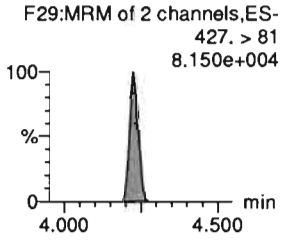
L-PFHxS



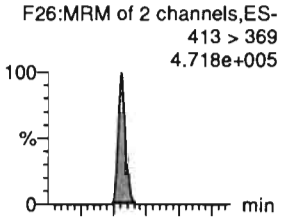


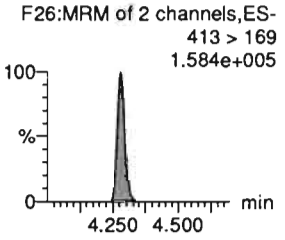
6:2 FTS





L-PFOA





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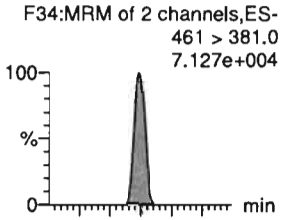
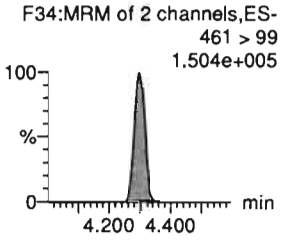
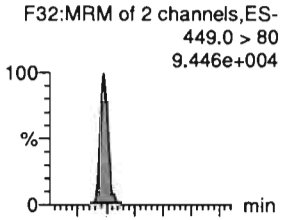
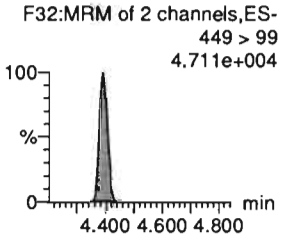


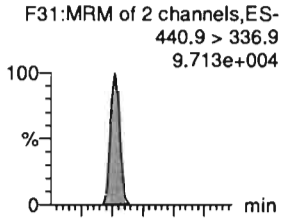


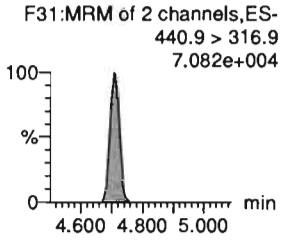
PFHpS



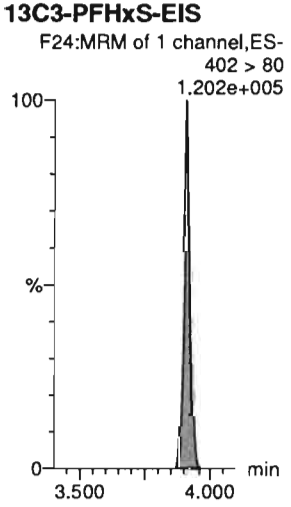


7:3 FTCA

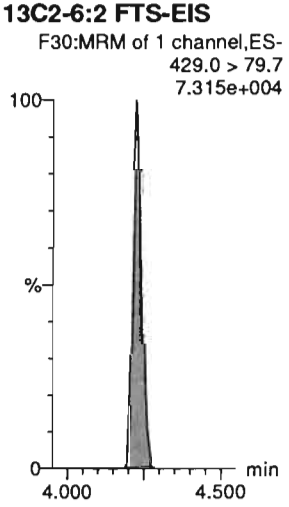




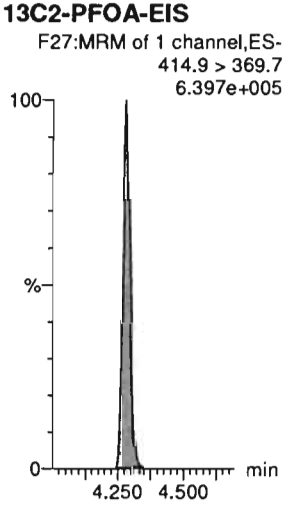
13C3-PFHxS-EIS



13C2-6:2 FTS-EIS



13C2-PFOA-EIS



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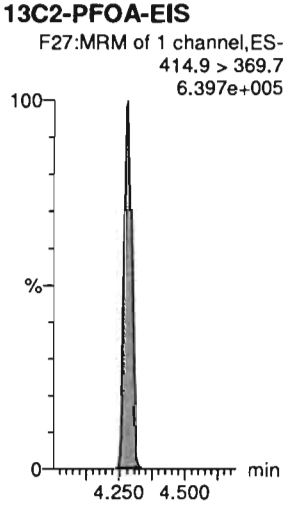

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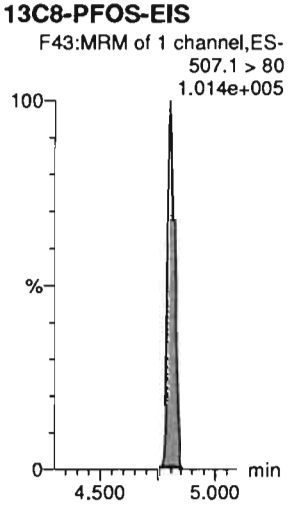
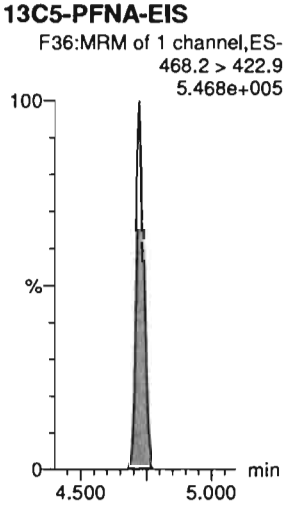


13C5-PFNA-EIS



OPV 7/16/2020

Dataset: Z:\PFAS5.PRO\RESULTS\200715P1\200715P1-36.qld

Last Altered: Thursday, July 16, 2020 12:37:53 Pacific Daylight Time
Printed: Thursday, July 16, 2020 12:39:18 Pacific Daylight Time

Name: 200715P1-36, Date: 15-Jul-2020, Time: 17:48:15, ID: ST200715P1-11 PFC CS3 20F1906, Description: PFC CS3 20F1906

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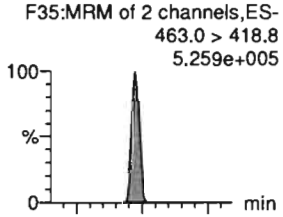

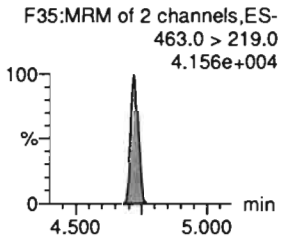

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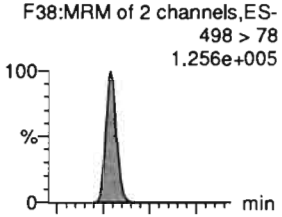

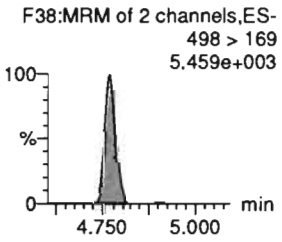

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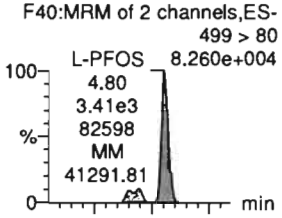

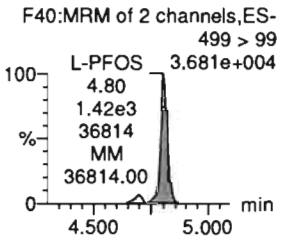

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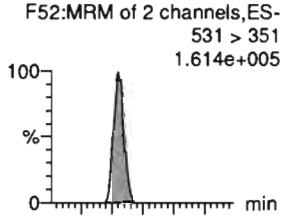

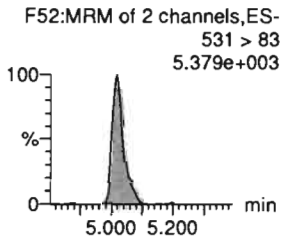

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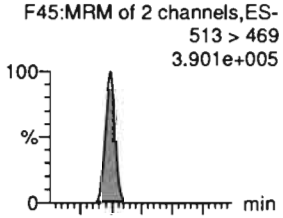

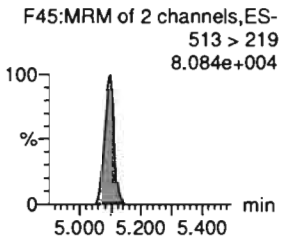

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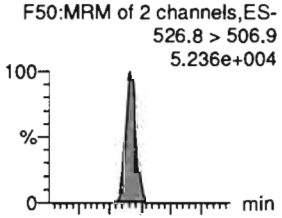
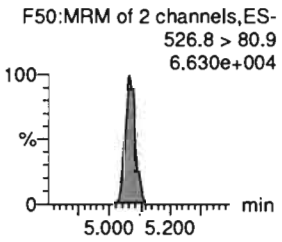
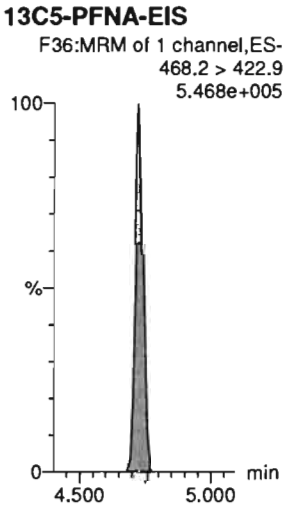




13C5-PFNA-EIS



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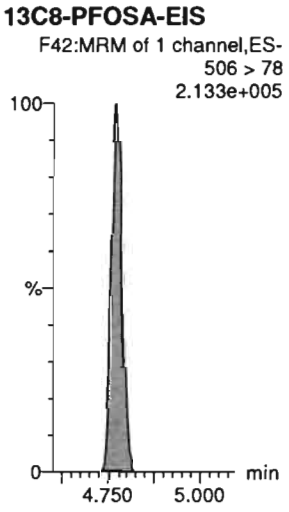
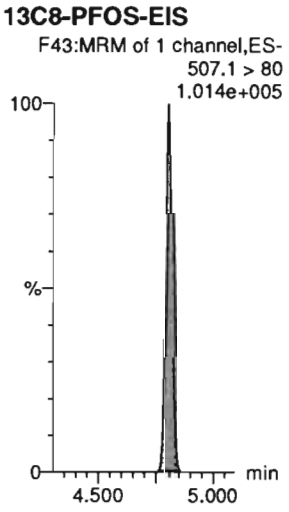


13C8-PFOS-EIS



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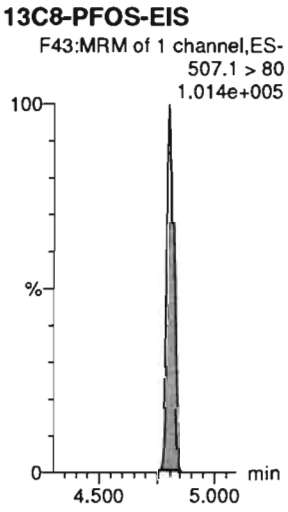

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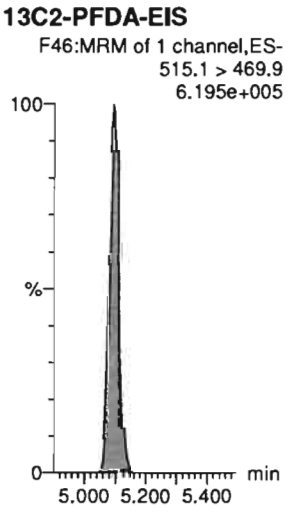

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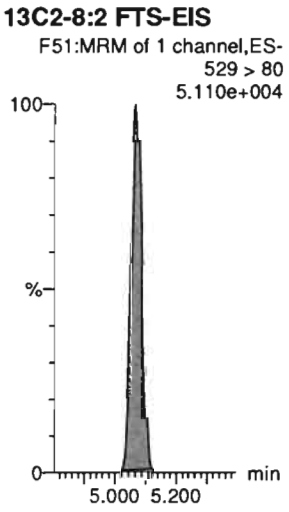

OPV 7/16/2020

Dataset: Z:\PFAS5.PRO\RESULTS\200715P1\200715P1-36.qld

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Name: 200715P1-36, Date: 15-Jul-2020, Time: 17:48:15, ID: ST200715P1-11 PFC CS3 20F1906, Description: PFC CS3 20F1906

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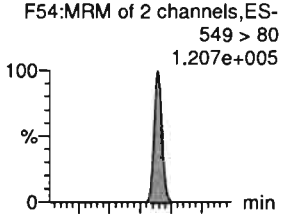

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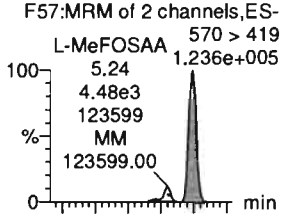

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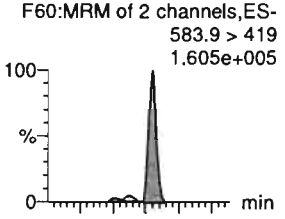

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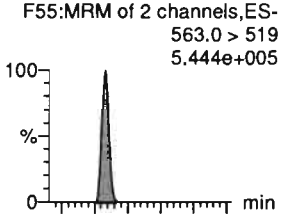

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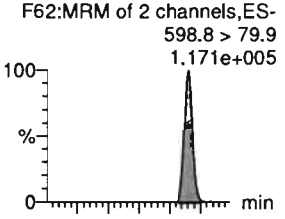

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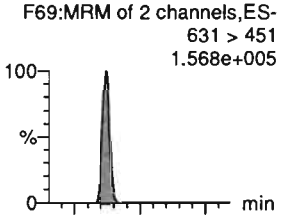

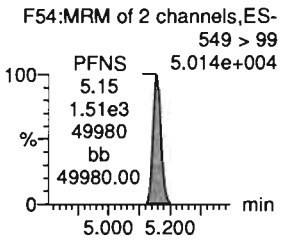

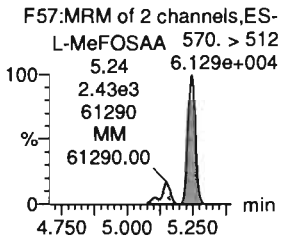

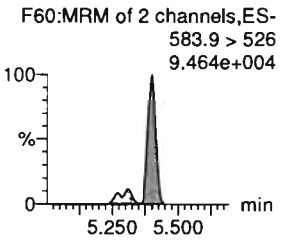

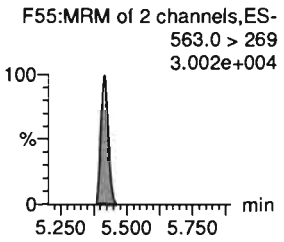

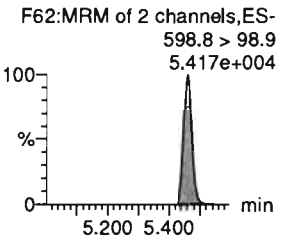

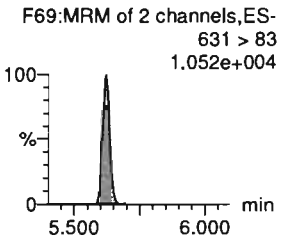

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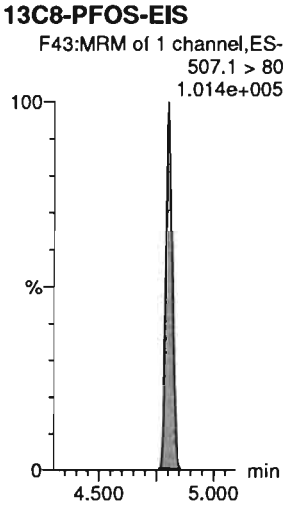

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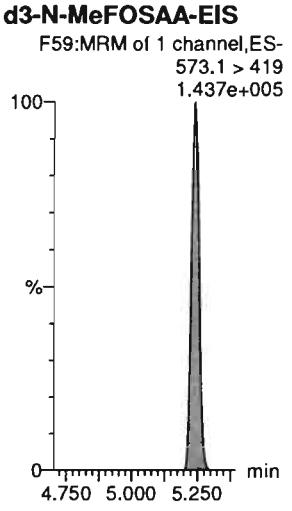

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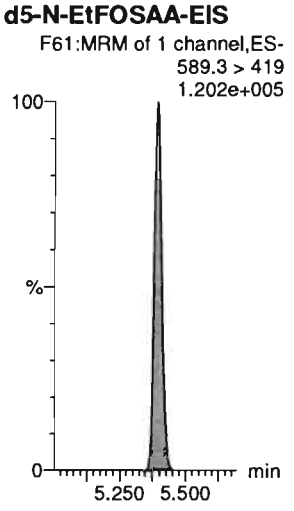

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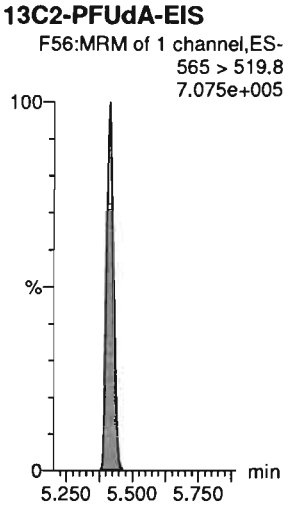

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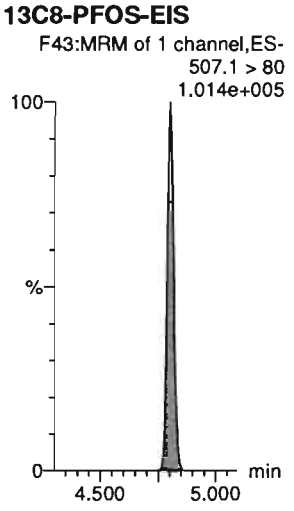

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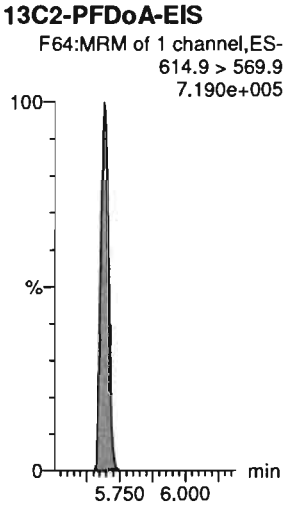

OPV 7/16/2020

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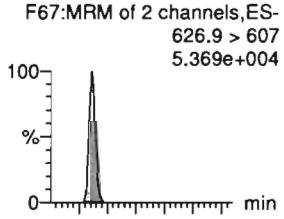
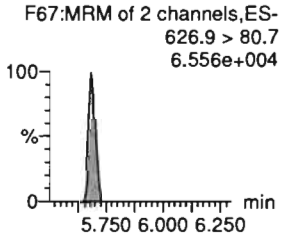
10:2 FTS





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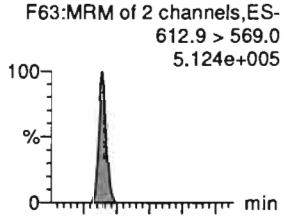
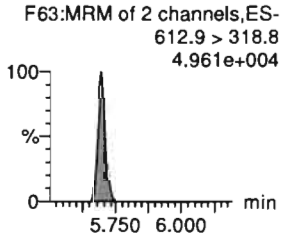
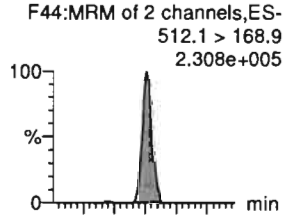
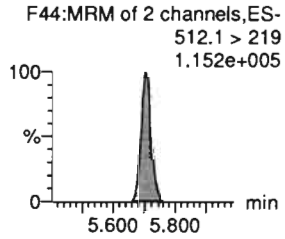




N-MeFOSA





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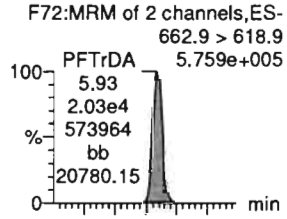

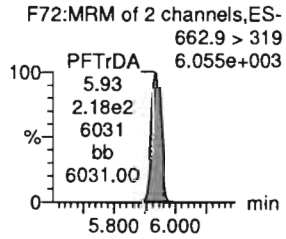

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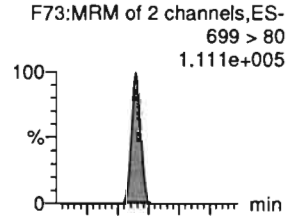

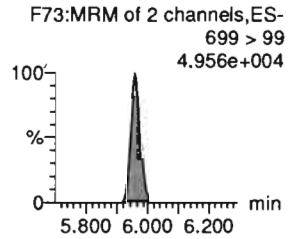

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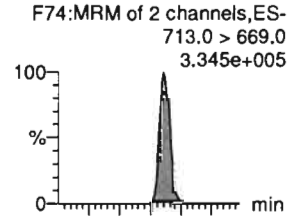
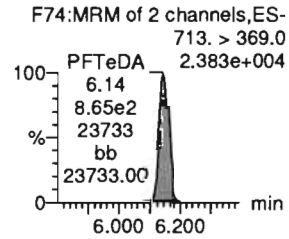
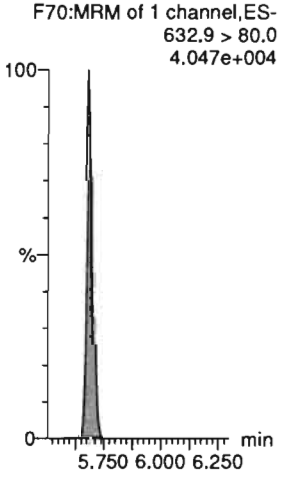




13C2-10:2 FTS-EIS



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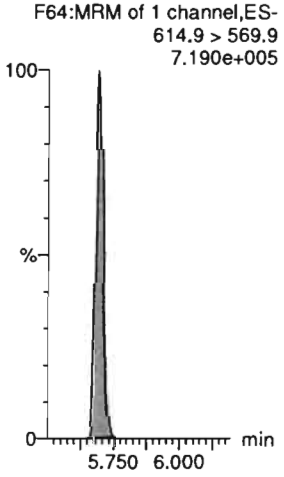
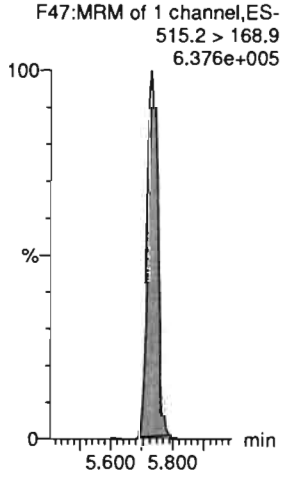
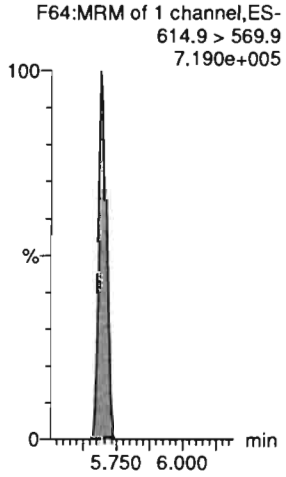


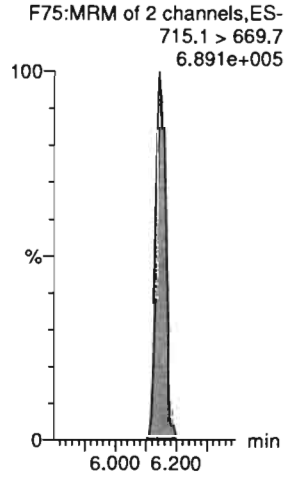
d3-N-MeFOSA-EIS



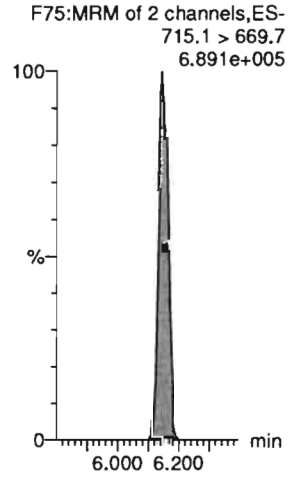
13C2-PFDoA-EIS



13C2-PFTeDA-EIS



13C2-PFTeDA-EIS



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Dataset: Z:\PFAS5.PRO\RESULTS\200715P1\200715P1-36.qld

Last Altered: Thursday, July 16, 2020 12:37:53 Pacific Daylight Time
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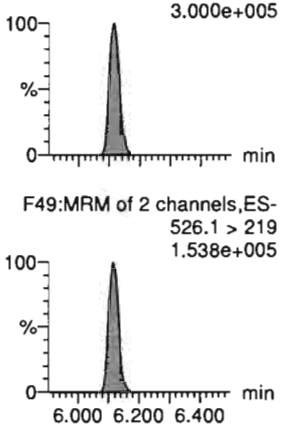
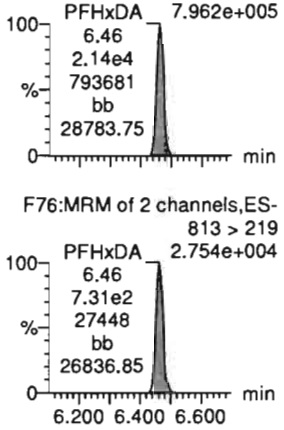
Name: 200715P1-36, Date: 15-Jul-2020, Time: 17:48:15, ID: ST200715P1-11 PFC CS3 20F1906, Description: PFC CS3 20F1906

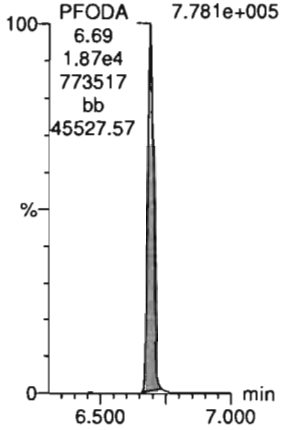
N-EtFOSA



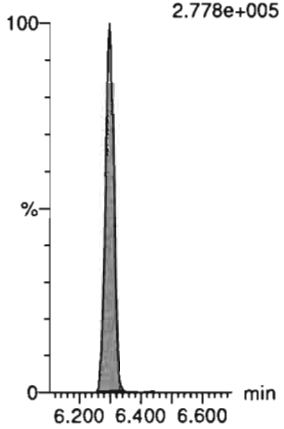
PFHxDA



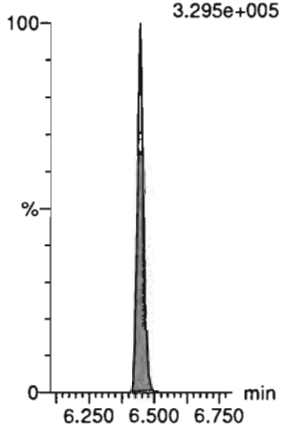
PFODA



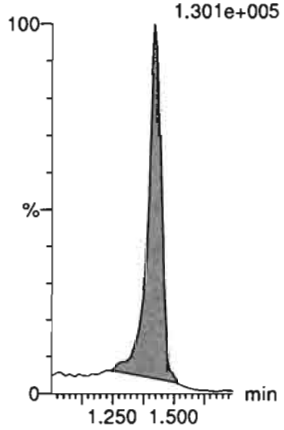
N-MeFOSE



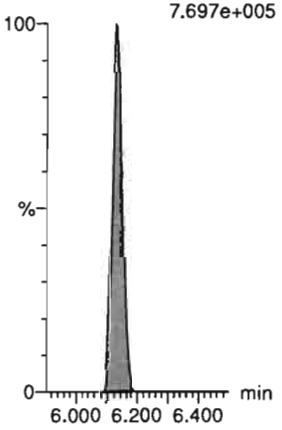
N-EtFOSE



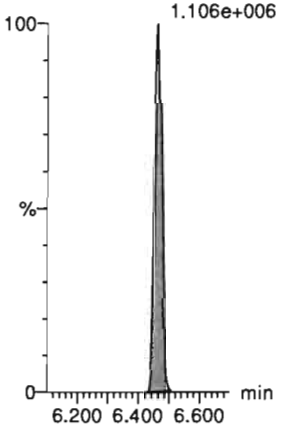
13C3-PFBA-RSD



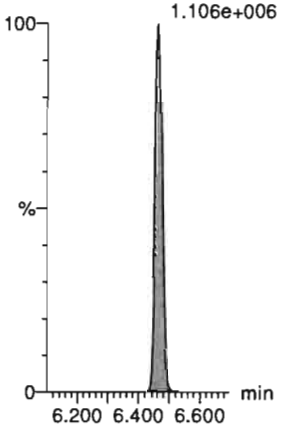
d5-N-ETFOSA-EIS



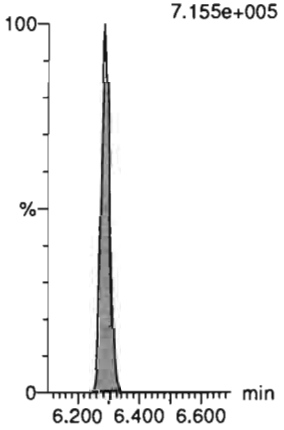
13C2-PFHxDA-EIS



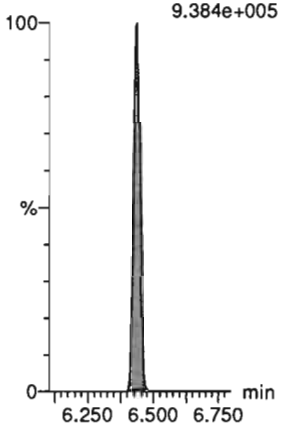
13C2-PFHxDA-EIS



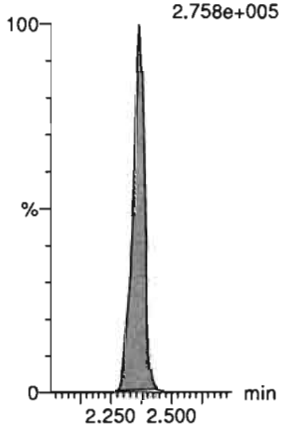
d7-N-MeFOSE-EIS



d9-N-EtFOSE-EIS



13C3-PFPeA-RSD



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Dataset: Z:\PFAS5.PRO\RESULTS\200715P1\200715P1-36.qld

Last Altered: Thursday, July 16, 2020 12:37:53 Pacific Daylight Time
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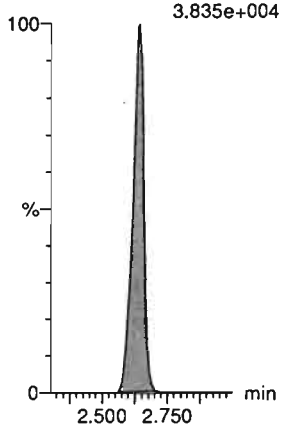
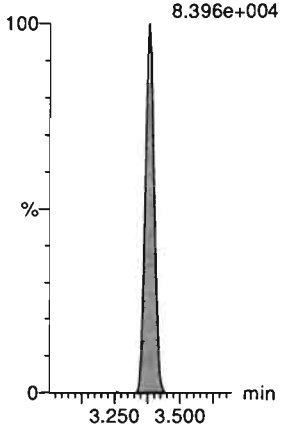
Name: 200715P1-36, Date: 15-Jul-2020, Time: 17:48:15, ID: ST200715P1-11 PFC CS3 20F1906, Description: PFC CS3 20F1906

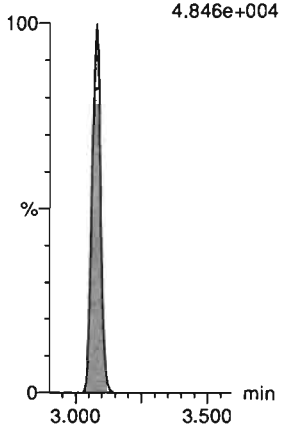
13C3-PFBS-RSD
F12:MRM of 1 channel,ES-
302.0 > 98.9
3.835e+004



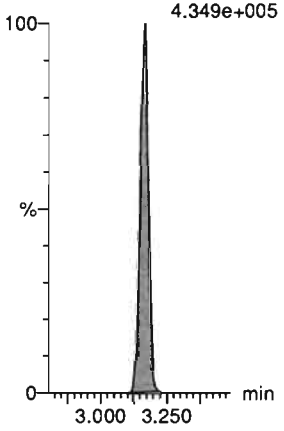
13C3-HFPO-DA-RSD
F10:MRM of 2 channels,ES-
287.0 > 168.9
8.396e+004



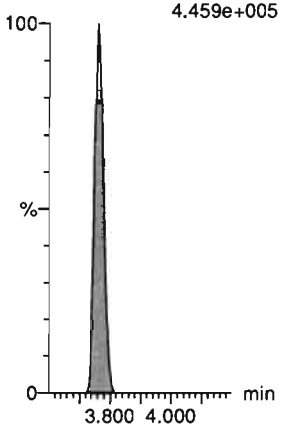
13C2-4:2 FTS-RSD
F17:MRM of 2 channels,ES-
329.0 > 80.8
4.846e+004



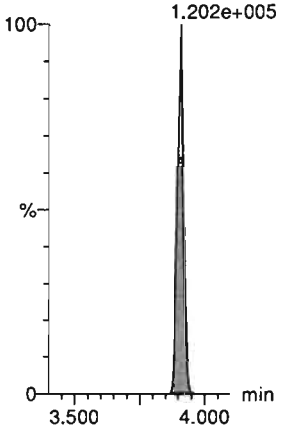
13C2-PFHxA-RSD
F14:MRM of 1 channel,ES-
315.0 > 270.0
4.349e+005



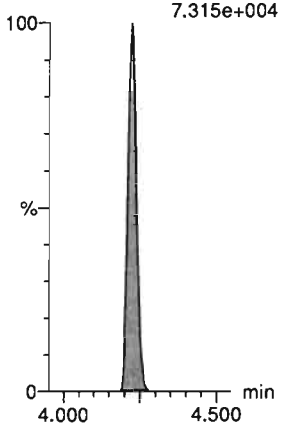
13C4-PFHpA-RSD
F21:MRM of 1 channel,ES-
367.2 > 321.8
4.459e+005



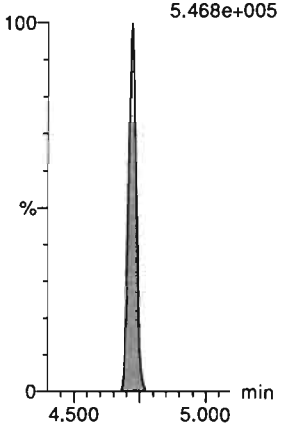
13C3-PFHxS-RSD
F24:MRM of 1 channel,ES-
402 > 80
1.202e+005



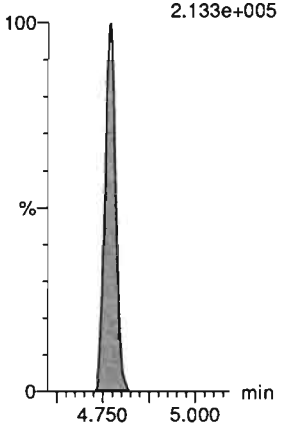
13C2-6:2 FTS-RSD
F30:MRM of 1 channel,ES-
429.0 > 79.7
7.315e+004



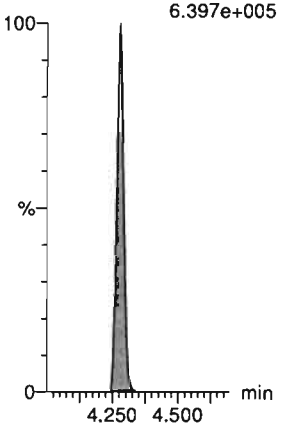
13C5-PFNA-RSD
F36:MRM of 1 channel,ES-
468.2 > 422.9
5.468e+005



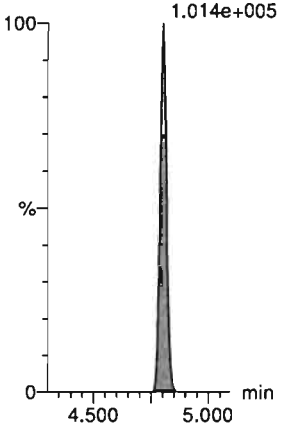
13C8-PFOSA-RSD
F42:MRM of 1 channel,ES-
506 > 78
2.133e+005



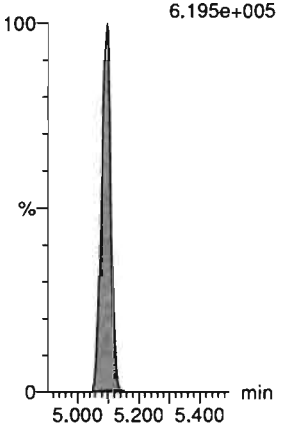
13C2-PFOA-RSD
F27:MRM of 1 channel,ES-
414.9 > 369.7
6.397e+005



13C8-PFOS-RSD
F43:MRM of 1 channel,ES-
507.1 > 80
1.014e+005



13C2-PFDA-RSD
F46:MRM of 1 channel,ES-
515.1 > 469.9
6.195e+005



Dataset: Z:\PFAS5.PRO\RESULTS\200715P1\200715P1-36.qld

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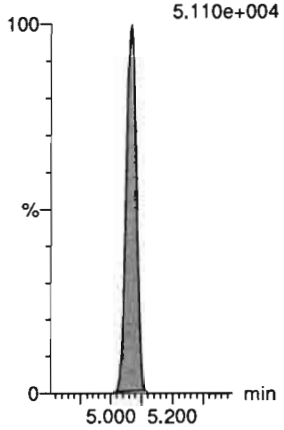
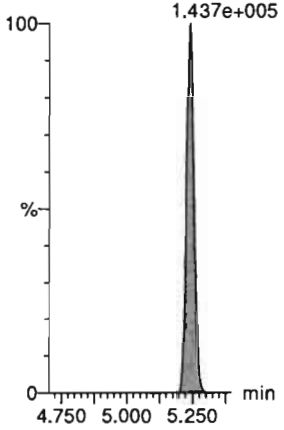
Printed: Thursday, July 16, 2020 12:39:18 Pacific Daylight Time

Name: 200715P1-36, Date: 15-Jul-2020, Time: 17:48:15, ID: ST200715P1-11 PFC CS3 20F1906, Description: PFC CS3 20F1906

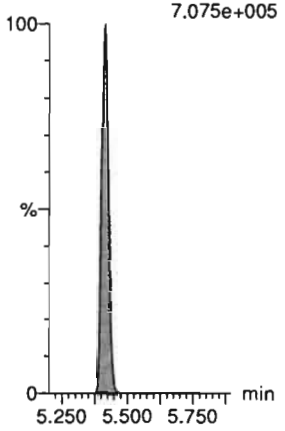
13C2-8:2 FTS-RSD
F51:MRM of 1 channel,ES-
529 > 80
5.110e+004



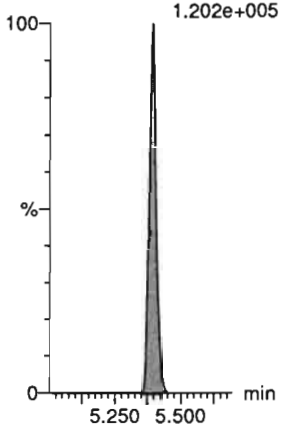
d3-N-MeFOSAA-RSD
F59:MRM of 1 channel,ES-
573.1 > 419
1.437e+005



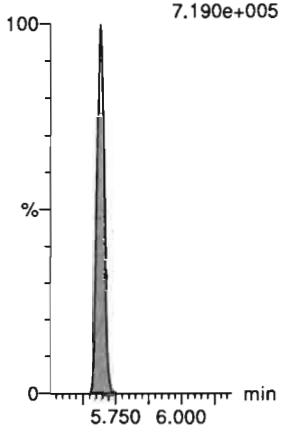
13C2-PFUdA-RSD
F56:MRM of 1 channel,ES-
565 > 519.8
7.075e+005



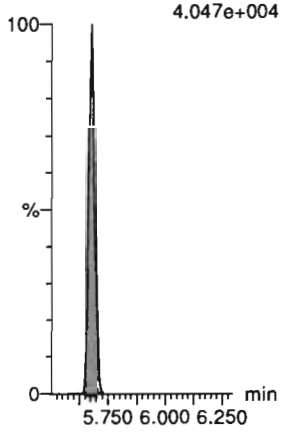
d5-N-EtFOSAA-RSD
F61:MRM of 1 channel,ES-
589.3 > 419
1.202e+005



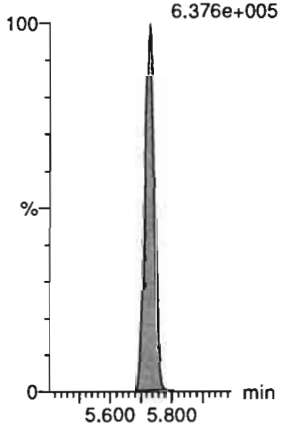
13C2-PFDoA-RSD
F64:MRM of 1 channel,ES-
614.9 > 569.9
7.190e+005



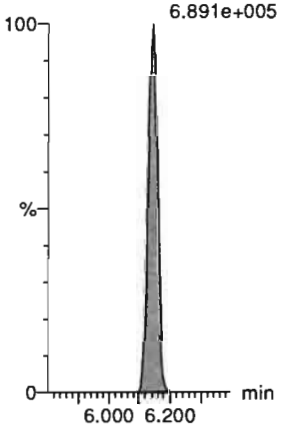
13C2-10:2 FTS-RSD
F70:MRM of 1 channel,ES-
632.9 > 80.0
4.047e+004



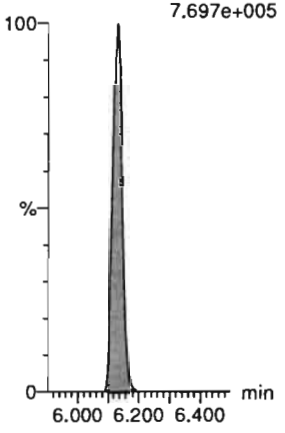
d3-N-MeFOSA-RSD
F47:MRM of 1 channel,ES-
515.2 > 168.9
6.376e+005



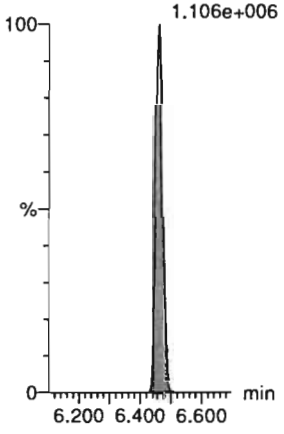
13C2-PFTeDA-RSD
F75:MRM of 2 channels,ES-
715.1 > 669.7
6.891e+005



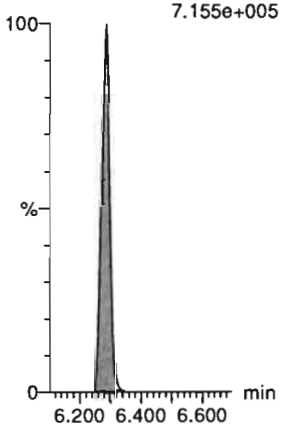
d5-N-ETFOSA-RSD
F53:MRM of 1 channel,ES-
531.1 > 168.9
7.697e+005



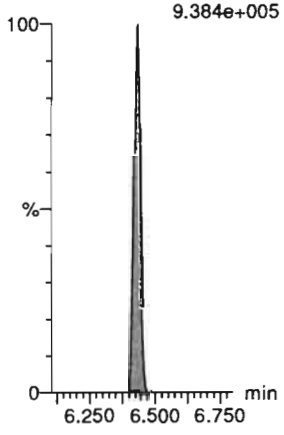
13C2-PFHxDA-RSD
F77:MRM of 1 channel,ES-
815 > 769.7
1.106e+006



d7-N-MeFOSE-RSD
F66:MRM of 1 channel,ES-
623.1 > 58.9
7.155e+005



d9-N-EtFOSE-RSD
F71:MRM of 1 channel,ES-
639.2 > 58.8
9.384e+005



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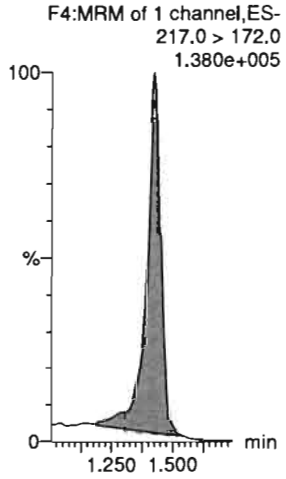
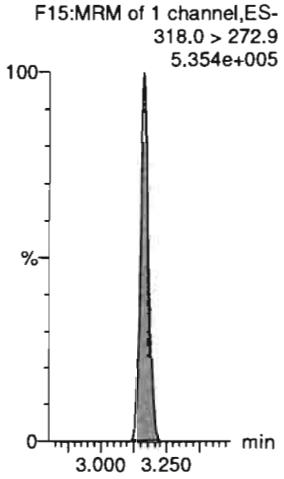
Name: 200715P1-36, Date: 15-Jul-2020, Time: 17:48:15, ID: ST200715P1-11 PFC CS3 20F1906, Description: PFC CS3 20F1906

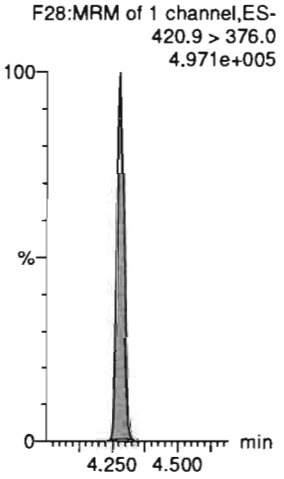
13C4-PFBA



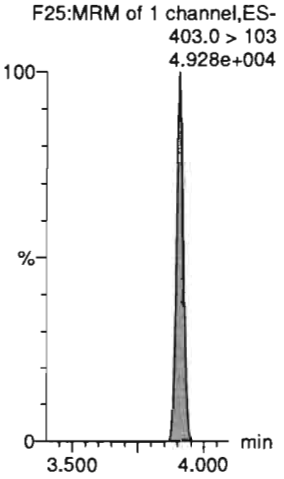
13C5-PFHxA



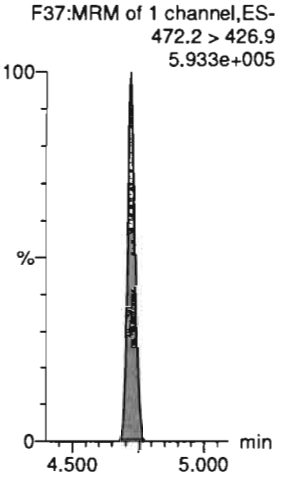
13C8-PFOA



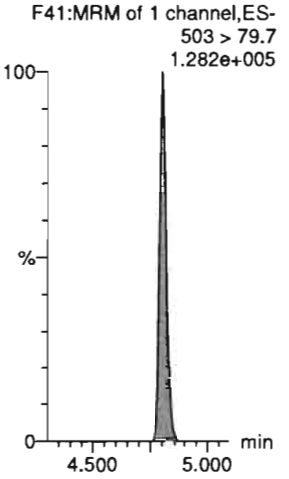
18O2-PFHxS



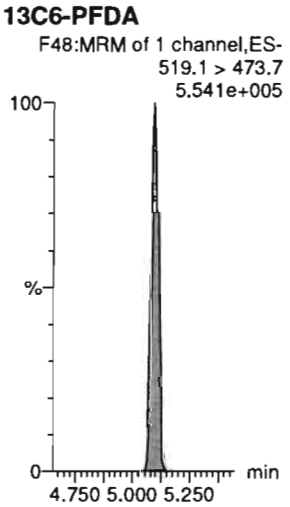
13C9-PFNA



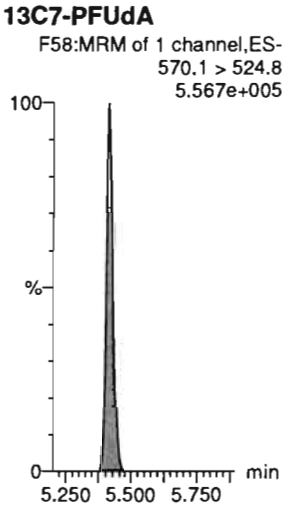
13C4-PFOS



13C6-PFDA



13C7-PFUdA



INITIAL CALIBRATION (ICAL)

INCLUDING ASSOCIATED

INITIAL CALIBRATION VERIFICATION (ICV) AND INSTRUMENT BLANK (IB)

High points
3:3 FTCA : 100
5:3 FTCA
7:3 FTCA

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Method: D:\PFAS5.PRO\MethDB\NEW_PFAS_80C_071420.mdb 14 Jul 2020 15:40:52
Calibration: D:\PFAS5.PRO\CurveDB\C18_VAL-PFAS_Q5_07-14-20.cdb 15 Jul 2020 08:25:12

✓ JR 07/15/2020

Compound name: PFBA
Correlation coefficient: r = 0.999617, r^2 = 0.999235
Calibration curve: 0.987981 * x + 0.0366579
Response type: Internal Std (Ref 47), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

1	200714P1-05	Standard	0.250	1.44	165.574	8634.482	0.240	0.2	-17.8	NO	0.999	NO	MM
2	200714P1-06	Standard	0.500	1.44	355.859	7761.148	0.573	0.5	8.6	NO	0.999	NO	MM
3	200714P1-07	Standard	1.000	1.44	621.584	8054.958	0.965	0.9	-6.1	NO	0.999	NO	MM
4	200714P1-08	Standard	2.000	1.44	1325.946	8093.072	2.048	2.0	1.8	NO	0.999	NO	MM
5	200714P1-09	Standard	5.000	1.44	3562.339	8777.822	5.073	5.1	2.0	NO	0.999	NO	MM
6	200714P1-10	Standard	10.000	1.44	6899.648	8196.123	10.523	10.6	6.1	NO	0.999	NO	MM
7	200714P1-11	Standard	50.000	1.44	35629.242	8846.722	50.342	50.9	1.8	NO	0.999	NO	MM
8	200714P1-12	Standard	100.000	1.44	67575.297	8020.483	105.317	106.6	6.6	NO	0.999	NO	MM
9	200714P1-13	Standard	250.000	1.44	188010.844	9781.167	240.271	243.2	-2.7	NO	0.999	NO	MM
10	200714P1-14	Standard	500.000	1.44	396656.844	10062.881	492.723	498.7	-0.3	NO	0.999	NO	MM

Compound name: PFPrS
Coefficient of Determination: R^2 = 0.997706
Calibration curve: 0.000798452 * x^2 + 1.04054 * x + 0.0822656
Response type: Internal Std (Ref 51), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

1	200714P1-05	Standard	0.250	1.77	45.628	1903.052	0.300	0.2	-16.4	NO	0.998	NO	MM
2	200714P1-06	Standard	0.500	1.77	78.240	1862.609	0.525	0.4	-14.9	NO	0.998	NO	MM
3	200714P1-07	Standard	1.000	1.76	152.260	1743.585	1.092	1.0	-3.1	NO	0.998	NO	bb
4	200714P1-08	Standard	2.000	1.77	327.820	1978.787	2.071	1.9	-4.6	NO	0.998	NO	MM
5	200714P1-09	Standard	5.000	1.77	970.535	1868.767	6.492	6.1	22.6	NO	0.998	NO	MM
6	200714P1-10	Standard	10.000	1.77	1775.407	1973.438	11.246	10.6	6.4	NO	0.998	NO	MM
7	200714P1-11	Standard	50.000	1.77	8963.530	1875.573	59.739	55.0	10.0	NO	0.998	NO	MM
8	200714P1-12	Standard	100.000	1.77	17242.676	1822.421	118.268	105.1	5.1	NO	0.998	NO	MM
9	200714P1-13	Standard	250.000	1.77	42652.816	1857.944	286.962	233.8	-6.5	NO	0.998	NO	MM
10	200714P1-14	Standard	500.000	1.77	98642.758	1689.719	729.728	505.3	1.1	NO	0.998	NO	MM

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Compound name: 3:3 FTCA
Coefficient of Determination: R^2 = 0.998582
Calibration curve: -9.63309e-005 * x^2 + 0.0810066 * x + -0.00413307
Response type: Internal Std (Ref 49), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

1	200714P1-05	Standard	0.250	2.24	22.873	16412.875	0.017	0.3	6.5	NO	0.999	NO	MM
2	200714P1-06	Standard	0.500	2.25	45.954	15752.672	0.036	0.5	0.3	NO	0.999	NO	bb
3	200714P1-07	Standard	1.000	2.24	89.947	15528.102	0.072	0.9	-5.4	NO	0.999	NO	bb
4	200714P1-08	Standard	2.000	2.24	177.217	16146.918	0.137	1.7	-12.6	NO	0.999	NO	bb
5	200714P1-09	Standard	5.000	2.24	471.163	16187.636	0.364	4.6	-8.7	NO	0.999	NO	bb
6	200714P1-10	Standard	10.000	2.24	1015.772	16593.268	0.765	9.6	-3.9	NO	0.999	NO	bb
7	200714P1-11	Standard	50.000	2.25	5369.175	16893.504	3.973	52.4	4.7	NO	0.999	NO	bb
8	200714P1-12	Standard	100.000	2.24	9236.140	16365.034	7.055	98.7	-1.3	NO	0.999	NO	bb
9	200714P1-13	Standard	250.000	2.24	5460.247	16390.885	4.164	55.1	-78.0	YES	0.999	NO	bbX
10	200714P1-14	Standard	500.000	2.24	9714.050	15678.485	7.745	110.1	-78.0	YES	0.999	NO	bbX

Compound name: PFPeA
Coefficient of Determination: R^2 = 0.999276
Calibration curve: 3.3512e-005 * x^2 + 0.888386 * x + 0.0341154
Response type: Internal Std (Ref 49), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

1	200714P1-05	Standard	0.250	2.39	314.524	16412.875	0.240	0.2	-7.5	NO	0.999	NO	MM
2	200714P1-06	Standard	0.500	2.39	641.144	15752.672	0.509	0.5	6.9	NO	0.999	NO	bb
3	200714P1-07	Standard	1.000	2.39	1151.484	15528.102	0.927	1.0	0.5	NO	0.999	NO	bb
4	200714P1-08	Standard	2.000	2.39	2375.880	16146.918	1.839	2.0	1.6	NO	0.999	NO	bb
5	200714P1-09	Standard	5.000	2.39	6131.300	16187.636	4.735	5.3	5.8	NO	0.999	NO	bb
6	200714P1-10	Standard	10.000	2.39	12224.443	16593.268	9.209	10.3	3.2	NO	0.999	NO	bb
7	200714P1-11	Standard	50.000	2.39	63850.113	16893.504	47.245	53.0	6.1	NO	0.999	NO	bb
8	200714P1-12	Standard	100.000	2.39	118969.891	16365.034	90.872	101.9	1.9	NO	0.999	NO	bb
9	200714P1-13	Standard	250.000	2.39	282608.719	16390.885	215.523	240.4	-3.8	NO	0.999	NO	bb
10	200714P1-14	Standard	500.000	2.39	572382.875	15678.485	456.344	504.1	0.8	NO	0.999	NO	bb

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Compound name: PFBS
Coefficient of Determination: R^2 = 0.998723
Calibration curve: -4.69568e-005 * x^2 + 2.50017 * x + 0.00855197
Response type: Internal Std (Ref 51), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

1	200714P1-05	Standard	0.250	2.67	97.168	1903.052	0.638	0.3	0.7	NO	0.999	NO	bb
2	200714P1-06	Standard	0.500	2.67	170.410	1862.609	1.144	0.5	-9.2	NO	0.999	NO	bb
3	200714P1-07	Standard	1.000	2.67	373.042	1743.585	2.674	1.1	6.6	NO	0.999	NO	MM
4	200714P1-08	Standard	2.000	2.67	748.057	1978.787	4.725	1.9	-5.7	NO	0.999	NO	bb
5	200714P1-09	Standard	5.000	2.67	1901.207	1868.767	12.717	5.1	1.7	NO	0.999	NO	bb
6	200714P1-10	Standard	10.000	2.67	3918.881	1973.438	24.823	9.9	-0.7	NO	0.999	NO	bb
7	200714P1-11	Standard	50.000	2.67	20489.486	1875.573	136.555	54.7	9.3	NO	0.999	NO	bb
8	200714P1-12	Standard	100.000	2.67	37265.707	1822.421	255.606	102.4	2.4	NO	0.999	NO	bb
9	200714P1-13	Standard	250.000	2.67	87971.047	1857.944	591.857	237.8	-4.9	NO	0.999	NO	bb
10	200714P1-14	Standard	500.000	2.67	169122.250	1689.719	1251.112	505.2	1.0	NO	0.999	NO	bb

Compound name: 4:2 FTS
Coefficient of Determination: R^2 = 0.999202
Calibration curve: -0.000737288 * x^2 + 2.54728 * x + 0.0768653
Response type: Internal Std (Ref 55), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

1	200714P1-05	Standard	0.250	3.11	118.928	1909.515	0.779	0.3	10.2	NO	0.999	NO	bb
2	200714P1-06	Standard	0.500	3.10	202.565	2089.262	1.212	0.4	-10.9	NO	0.999	NO	bb
3	200714P1-07	Standard	1.000	3.11	401.918	2024.739	2.481	0.9	-5.6	NO	0.999	NO	bb
4	200714P1-08	Standard	2.000	3.10	817.672	1900.099	5.379	2.1	4.1	NO	0.999	NO	bb
5	200714P1-09	Standard	5.000	3.11	2073.227	1906.399	13.594	5.3	6.3	NO	0.999	NO	bb
6	200714P1-10	Standard	10.000	3.11	4139.906	1925.623	26.874	10.6	5.5	NO	0.999	NO	bb
7	200714P1-11	Standard	50.000	3.11	20999.879	2057.393	127.588	50.8	1.6	NO	0.999	NO	bb
8	200714P1-12	Standard	100.000	3.11	36764.848	1787.714	257.066	104.0	4.0	NO	0.999	NO	bb
9	200714P1-13	Standard	250.000	3.10	80015.898	1762.434	567.510	239.3	-4.3	NO	0.999	NO	bb
10	200714P1-14	Standard	500.000	3.11	146589.531	1667.476	1098.888	505.3	1.1	NO	0.999	NO	bb

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Compound name: PFHxA
Correlation coefficient: r = 0.999268, r^2 = 0.998537
Calibration curve: 1.0329 * x + 0.0827038
Response type: Internal Std (Ref 57), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Include, Weighting: 1/x, Axis trans: None

1	200714P1-05	Standard	0.250	3.19	427.314	15907.278	0.336	0.2	-2.0	NO	0.999	NO	bb
2	200714P1-06	Standard	0.500	3.19	737.056	15890.239	0.580	0.5	-3.7	NO	0.999	NO	bb
3	200714P1-07	Standard	1.000	3.19	1427.497	15532.705	1.149	1.0	3.2	NO	0.999	NO	bb
4	200714P1-08	Standard	2.000	3.19	2946.802	15996.962	2.303	2.1	7.5	NO	0.999	NO	bb
5	200714P1-09	Standard	5.000	3.19	7425.986	15976.589	5.810	5.5	10.9	NO	0.999	NO	bb
6	200714P1-10	Standard	10.000	3.19	14396.337	16822.816	10.697	10.3	2.8	NO	0.999	NO	bb
7	200714P1-11	Standard	50.000	3.19	76400.109	16609.658	57.497	55.6	11.2	NO	0.999	NO	bb
8	200714P1-12	Standard	100.000	3.19	141662.188	16154.389	109.616	106.0	6.0	NO	0.999	NO	bb
9	200714P1-13	Standard	250.000	3.19	322644.875	16017.276	251.794	243.7	-2.5	NO	0.999	NO	bb
10	200714P1-14	Standard	500.000	3.19	630531.688	15453.551	510.022	493.7	-1.3	NO	0.999	NO	bb

Compound name: PFPeS
Coefficient of Determination: R^2 = 0.999032
Calibration curve: -0.000461665 * x^2 + 1.99257 * x + -0.028792
Response type: Internal Std (Ref 51), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

1	200714P1-05	Standard	0.250	3.39	75.625	1903.052	0.497	0.3	5.5	NO	0.999	NO	bb
2	200714P1-06	Standard	0.500	3.39	129.534	1862.609	0.869	0.5	-9.8	NO	0.999	NO	bb
3	200714P1-07	Standard	1.000	3.39	276.874	1743.585	1.985	1.0	1.1	NO	0.999	NO	bb
4	200714P1-08	Standard	2.000	3.39	570.505	1978.787	3.604	1.8	-8.8	NO	0.999	NO	bb
5	200714P1-09	Standard	5.000	3.39	1557.450	1868.767	10.418	5.2	5.0	NO	0.999	NO	bb
6	200714P1-10	Standard	10.000	3.39	3166.952	1973.438	20.060	10.1	1.1	NO	0.999	NO	bb
7	200714P1-11	Standard	50.000	3.39	15877.334	1875.573	105.817	53.8	7.6	NO	0.999	NO	bb
8	200714P1-12	Standard	100.000	3.39	28856.383	1822.421	197.926	101.7	1.7	NO	0.999	NO	bb
9	200714P1-13	Standard	250.000	3.39	66900.281	1857.944	450.096	239.2	-4.3	NO	0.999	NO	bb
10	200714P1-14	Standard	500.000	3.39	120174.961	1689.719	889.016	505.3	1.1	NO	0.999	NO	bb

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Compound name: HFPO-DA
Coefficient of Determination: R^2 = 0.999007
Calibration curve: -8.42178e-005 * x^2 + 0.962438 * x + 0.0164412
Response type: Internal Std (Ref 53), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

1	200714P1-05	Standard	0.250	3.41	53.778	2989.123	0.225	0.2	-13.4	NO	0.999	NO	bb
2	200714P1-06	Standard	0.500	3.41	111.089	2842.123	0.489	0.5	-1.9	NO	0.999	NO	bb
3	200714P1-07	Standard	1.000	3.41	261.694	2963.256	1.104	1.1	13.0	NO	0.999	NO	bb
4	200714P1-08	Standard	2.000	3.41	477.872	3239.311	1.844	1.9	-5.0	NO	0.999	NO	bb
5	200714P1-09	Standard	5.000	3.41	1250.931	2921.836	5.352	5.5	10.9	NO	0.999	NO	bb
6	200714P1-10	Standard	10.000	3.41	2535.565	3265.933	9.705	10.1	0.8	NO	0.999	NO	bb
7	200714P1-11	Standard	50.000	3.41	13057.020	3398.220	48.029	50.1	0.2	NO	0.999	NO	bb
8	200714P1-12	Standard	100.000	3.41	24970.145	3097.782	100.758	105.7	5.7	NO	0.999	NO	bb
9	200714P1-13	Standard	250.000	3.41	58466.770	3241.229	225.481	239.3	-4.3	NO	0.999	NO	bb
10	200714P1-14	Standard	500.000	3.41	112651.367	3034.546	464.037	504.4	0.9	NO	0.999	NO	bb

Compound name: 5:3 FTCA
Coefficient of Determination: R^2 = 0.998761
Calibration curve: -0.000177325 * x^2 + 0.174581 * x + -0.00686176
Response type: Internal Std (Ref 59), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

1	200714P1-05	Standard	0.250	3.73	38.633	15346.607	0.031	0.2	-12.2	NO	0.999	NO	bb
2	200714P1-06	Standard	0.500	3.73	102.800	15259.326	0.084	0.5	4.4	NO	0.999	NO	bb
3	200714P1-07	Standard	1.000	3.73	203.677	14560.729	0.175	1.0	4.2	NO	0.999	NO	bb
4	200714P1-08	Standard	2.000	3.73	421.042	15698.976	0.335	2.0	-1.8	NO	0.999	NO	bb
5	200714P1-09	Standard	5.000	3.73	1015.482	15596.706	0.814	4.7	-5.5	NO	0.999	NO	bb
6	200714P1-10	Standard	10.000	3.73	2037.094	16073.489	1.584	9.2	-8.0	NO	0.999	NO	bb
7	200714P1-11	Standard	50.000	3.73	11150.403	16174.724	8.617	52.2	4.3	NO	0.999	NO	bb
8	200714P1-12	Standard	100.000	3.73	18454.902	14859.042	15.525	98.9	-1.1	NO	0.999	NO	bb
9	200714P1-13	Standard	250.000	3.73	10997.056	14794.651	9.291	56.5	-77.4	YES	0.999	NO	bbX
10	200714P1-14	Standard	500.000	3.73	19562.098	13581.220	18.005	117.1	-76.6	YES	0.999	NO	bbX

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Compound name: PFHpA
Coefficient of Determination: R^2 = 0.999695
Calibration curve: -0.000149235 * x^2 + 1.22492 * x + 0.01823
Response type: Internal Std (Ref 59), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

1	200714P1-05	Standard	0.250	3.79	425.669	15346.607	0.347	0.3	7.3	NO	1.000	NO	bb
2	200714P1-06	Standard	0.500	3.79	752.043	15259.326	0.616	0.5	-2.4	NO	1.000	NO	bb
3	200714P1-07	Standard	1.000	3.79	1392.448	14560.729	1.195	1.0	-3.9	NO	1.000	NO	bb
4	200714P1-08	Standard	2.000	3.79	3028.734	15698.976	2.412	2.0	-2.3	NO	1.000	NO	bb
5	200714P1-09	Standard	5.000	3.79	7944.325	15596.706	6.367	5.2	3.7	NO	1.000	NO	MM
6	200714P1-10	Standard	10.000	3.79	15887.570	16073.489	12.355	10.1	0.8	NO	1.000	NO	bb
7	200714P1-11	Standard	50.000	3.79	80668.375	16174.724	62.341	51.2	2.4	NO	1.000	NO	bb
8	200714P1-12	Standard	100.000	3.79	147153.328	14859.042	123.791	102.3	2.3	NO	1.000	NO	bb
9	200714P1-13	Standard	250.000	3.79	342541.781	14794.651	289.414	243.5	-2.6	NO	1.000	NO	bb
10	200714P1-14	Standard	500.000	3.79	628236.688	13581.220	578.222	502.8	0.6	NO	1.000	NO	bb

Compound name: ADONA
Coefficient of Determination: R^2 = 0.998298
Calibration curve: 1.42154e-005 * x^2 + 2.14318 * x + 0.00966498
Response type: Internal Std (Ref 59), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

1	200714P1-05	Standard	0.250	3.90	511.972	15346.607	0.417	0.2	-24.0	NO	0.998	NO	bb
2	200714P1-06	Standard	0.500	3.90	1483.435	15259.326	1.215	0.6	12.5	NO	0.998	NO	bb
3	200714P1-07	Standard	1.000	3.90	2572.580	14560.729	2.208	1.0	2.6	NO	0.998	NO	bb
4	200714P1-08	Standard	2.000	3.90	5470.898	15698.976	4.356	2.0	1.4	NO	0.998	NO	bb
5	200714P1-09	Standard	5.000	3.90	13524.925	15596.706	10.840	5.1	1.1	NO	0.998	NO	bb
6	200714P1-10	Standard	10.000	3.90	27684.205	16073.489	21.529	10.0	0.4	NO	0.998	NO	bb
7	200714P1-11	Standard	50.000	3.90	143991.594	16174.724	111.278	51.9	3.8	NO	0.998	NO	bb
8	200714P1-12	Standard	100.000	3.90	272827.781	14859.042	229.513	107.0	7.0	NO	0.998	NO	bb
9	200714P1-13	Standard	250.000	3.90	597296.938	14794.651	504.656	235.1	-6.0	NO	0.998	NO	bb
10	200714P1-14	Standard	500.000	3.90	1181843.000	13581.220	1087.755	505.8	1.2	NO	0.998	NO	bb

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Compound name: L-PFHxS
Coefficient of Determination: R^2 = 0.999607
Calibration curve: 5.12413e-005 * x^2 + 1.13279 * x + 0.0236401
Response type: Internal Std (Ref 61), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

1	200714P1-05	Standard	0.250	3.93	87.639	3766.335	0.291	0.2	-5.6	NO	1.000	NO	MM
2	200714P1-06	Standard	0.500	3.93	184.469	3819.933	0.604	0.5	2.4	NO	1.000	NO	MM
3	200714P1-07	Standard	1.000	3.93	327.524	3651.700	1.121	1.0	-3.1	NO	1.000	NO	MM
4	200714P1-08	Standard	2.000	3.93	719.724	3841.074	2.342	2.0	2.3	NO	1.000	NO	MM
5	200714P1-09	Standard	5.000	3.93	1747.648	3815.933	5.725	5.0	0.6	NO	1.000	NO	MM
6	200714P1-10	Standard	10.000	3.93	3500.016	3814.796	11.469	10.1	1.0	NO	1.000	NO	MM
7	200714P1-11	Standard	50.000	3.93	18397.334	4010.179	57.346	50.5	1.0	NO	1.000	NO	MM
8	200714P1-12	Standard	100.000	3.93	34018.215	3602.187	118.047	103.7	3.7	NO	1.000	NO	MM
9	200714P1-13	Standard	250.000	3.93	79003.016	3548.005	278.336	243.0	-2.8	NO	1.000	NO	MM
10	200714P1-14	Standard	500.000	3.93	147027.750	3155.803	582.371	502.7	0.5	NO	1.000	NO	MM

Compound name: 6:2 FTS
Coefficient of Determination: R^2 = 0.997011
Calibration curve: -0.000138526 * x^2 + 0.916332 * x + 0.000564268
Response type: Internal Std (Ref 63), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

1	200714P1-05	Standard	0.250	4.26	33.791	2520.341	0.168	0.2	-27.1	NO	0.997	NO	bb
2	200714P1-06	Standard	0.500	4.25	108.213	2589.569	0.522	0.6	13.9	NO	0.997	NO	bb
3	200714P1-07	Standard	1.000	4.25	151.221	2349.270	0.805	0.9	-12.2	NO	0.997	NO	bb
4	200714P1-08	Standard	2.000	4.25	373.890	2426.874	1.926	2.1	5.1	NO	0.997	NO	bb
5	200714P1-09	Standard	5.000	4.25	1039.222	2602.857	4.991	5.5	9.0	NO	0.997	NO	bb
6	200714P1-10	Standard	10.000	4.25	1829.916	2485.114	9.204	10.1	0.6	NO	0.997	NO	bb
7	200714P1-11	Standard	50.000	4.25	9873.108	2371.706	52.036	57.3	14.6	NO	0.997	NO	bb
8	200714P1-12	Standard	100.000	4.25	17411.383	2362.379	92.128	102.1	2.1	NO	0.997	NO	bb
9	200714P1-13	Standard	250.000	4.25	38461.246	2348.477	204.714	231.5	-7.4	NO	0.997	NO	bb
10	200714P1-14	Standard	500.000	4.25	74945.305	2176.854	430.353	508.8	1.8	NO	0.997	NO	bb

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Compound name: L-PFOA
Coefficient of Determination: R^2 = 0.999948
Calibration curve: -0.000120375 * x^2 + 0.936543 * x + -0.00584507
Response type: Internal Std (Ref 69), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

1	200714P1-05	Standard	0.250	4.31	329.469	21637.133	0.190	0.2	-16.2	NO	1.000	NO	bb
2	200714P1-06	Standard	0.500	4.31	756.858	21370.082	0.443	0.5	-4.2	NO	1.000	NO	bb
3	200714P1-07	Standard	1.000	4.31	1589.854	20538.236	0.968	1.0	4.0	NO	1.000	NO	bb
4	200714P1-08	Standard	2.000	4.31	3415.061	21193.795	2.014	2.2	7.9	NO	1.000	NO	bb
5	200714P1-09	Standard	5.000	4.31	8738.218	22283.082	4.902	5.2	4.9	NO	1.000	NO	bb
6	200714P1-10	Standard	10.000	4.31	16403.027	21669.301	9.462	10.1	1.2	NO	1.000	NO	bb
7	200714P1-11	Standard	50.000	4.31	82345.938	21987.039	46.815	50.3	0.6	NO	1.000	NO	bb
8	200714P1-12	Standard	100.000	4.31	152417.438	20678.270	92.136	99.7	-0.3	NO	1.000	NO	bb
9	200714P1-13	Standard	250.000	4.31	342716.469	18985.717	225.641	248.9	-0.4	NO	1.000	NO	bb
10	200714P1-14	Standard	500.000	4.31	609939.313	17379.904	438.681	500.6	0.1	NO	1.000	NO	bb

Compound name: PFecHS
Coefficient of Determination: R^2 = 0.999883
Calibration curve: 2.27208e-005 * x^2 + 0.173314 * x + -0.00389701
Response type: Internal Std (Ref 69), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

1	200714P1-05	Standard	0.250	4.33	66.202	21637.133	0.038	0.2	-2.7	NO	1.000	NO	bb
2	200714P1-06	Standard	0.500	4.32	128.953	21370.082	0.075	0.5	-8.5	NO	1.000	NO	bb
3	200714P1-07	Standard	1.000	4.32	270.282	20538.236	0.164	1.0	-2.8	NO	1.000	NO	bb
4	200714P1-08	Standard	2.000	4.32	606.687	21193.795	0.358	2.1	4.3	NO	1.000	NO	bb
5	200714P1-09	Standard	5.000	4.32	1469.602	22283.082	0.824	4.8	-4.5	NO	1.000	NO	MM
6	200714P1-10	Standard	10.000	4.32	3145.391	21669.301	1.814	10.5	4.8	NO	1.000	NO	MM
7	200714P1-11	Standard	50.000	4.32	15677.282	21987.039	8.913	51.1	2.2	NO	1.000	NO	bb
8	200714P1-12	Standard	100.000	4.32	28427.936	20678.270	17.185	97.9	-2.1	NO	1.000	NO	MM
9	200714P1-13	Standard	250.000	4.32	68194.250	18985.717	44.898	250.8	0.3	NO	1.000	NO	MM
10	200714P1-14	Standard	500.000	4.32	128346.367	17379.904	92.309	499.9	-0.0	NO	1.000	NO	bb

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Compound name: PFHpS
Coefficient of Determination: R^2 = 0.999308
Calibration curve: -2.51256e-005 * x^2 + 0.987253 * x + 0.0125449
Response type: Internal Std (Ref 71), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

1	200714P1-05	Standard	0.250	4.42	64.845	3606.335	0.225	0.2	-14.0	NO	0.999	NO	bb
2	200714P1-06	Standard	0.500	4.42	144.443	3498.795	0.516	0.5	2.0	NO	0.999	NO	bb
3	200714P1-07	Standard	1.000	4.42	295.283	3526.449	1.047	1.0	4.8	NO	0.999	NO	bb
4	200714P1-08	Standard	2.000	4.42	561.650	3326.762	2.110	2.1	6.3	NO	0.999	NO	bb
5	200714P1-09	Standard	5.000	4.42	1504.316	4003.688	4.697	4.7	-5.1	NO	0.999	NO	bb
6	200714P1-10	Standard	10.000	4.42	2964.249	3738.472	9.911	10.0	0.3	NO	0.999	NO	bb
7	200714P1-11	Standard	50.000	4.42	15350.473	3559.743	53.903	54.7	9.3	NO	0.999	NO	bb
8	200714P1-12	Standard	100.000	4.42	28109.029	3637.705	96.589	98.1	-1.9	NO	0.999	NO	bb
9	200714P1-13	Standard	250.000	4.42	65494.555	3408.620	240.180	244.8	-2.1	NO	0.999	NO	bb
10	200714P1-14	Standard	500.000	4.42	118916.531	3034.717	489.817	502.6	0.5	NO	0.999	NO	bb

Compound name: 7:3 FTCA
Coefficient of Determination: R^2 = 0.998328
Calibration curve: -0.000437387 * x^2 + 0.302919 * x + -0.0184761
Response type: Internal Std (Ref 65), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

1	200714P1-05	Standard	0.250	4.74	87.548	19972.742	0.055	0.2	-3.2	NO	0.998	NO	bb
2	200714P1-06	Standard	0.500	4.73	231.373	19571.732	0.148	0.5	9.9	NO	0.998	NO	bb
3	200714P1-07	Standard	1.000	4.74	494.109	19051.625	0.324	1.1	13.3	NO	0.998	NO	bb
4	200714P1-08	Standard	2.000	4.74	845.682	19361.764	0.546	1.9	-6.6	NO	0.998	NO	bb
5	200714P1-09	Standard	5.000	4.74	2116.737	19859.246	1.332	4.5	-10.2	NO	0.998	NO	bb
6	200714P1-10	Standard	10.000	4.73	4639.592	20906.328	2.774	9.3	-6.6	NO	0.998	NO	bb
7	200714P1-11	Standard	50.000	4.74	23755.943	20276.420	14.645	52.4	4.7	NO	0.998	NO	bb
8	200714P1-12	Standard	100.000	4.73	40044.582	19536.756	25.621	98.7	-1.3	NO	0.998	NO	bb
9	200714P1-13	Standard	250.000	4.73	21658.217	18933.551	14.299	51.0	-79.6	YES	0.998	NO	bbX
10	200714P1-14	Standard	500.000	4.73	36917.539	17374.082	26.561	103.1	-79.4	YES	0.998	NO	bbX

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Compound name: PFNA
Coefficient of Determination: R^2 = 0.999434
Calibration curve: -0.000138506 * x^2 + 1.17974 * x + 0.048578
Response type: Internal Std (Ref 65), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

1	200714P1-05	Standard	0.250	4.75	489.370	19972.742	0.306	0.2	-12.6	NO	0.999	NO	MM
2	200714P1-06	Standard	0.500	4.75	915.663	19571.732	0.585	0.5	-9.1	NO	0.999	NO	bb
3	200714P1-07	Standard	1.000	4.75	1948.628	19051.625	1.279	1.0	4.3	NO	0.999	NO	bb
4	200714P1-08	Standard	2.000	4.75	3960.575	19361.764	2.557	2.1	6.3	NO	0.999	NO	bb
5	200714P1-09	Standard	5.000	4.75	10006.070	19859.246	6.298	5.3	6.0	NO	0.999	NO	bb
6	200714P1-10	Standard	10.000	4.75	19949.311	20906.328	11.928	10.1	0.8	NO	0.999	NO	bb
7	200714P1-11	Standard	50.000	4.75	100565.984	20276.420	61.997	52.8	5.7	NO	0.999	NO	bb
8	200714P1-12	Standard	100.000	4.75	184357.406	19536.756	117.955	101.1	1.1	NO	0.999	NO	bb
9	200714P1-13	Standard	250.000	4.75	419807.375	18933.551	277.158	241.8	-3.3	NO	0.999	NO	bb
10	200714P1-14	Standard	500.000	4.75	777351.688	17374.082	559.275	503.8	0.8	NO	0.999	NO	bb

Compound name: PFOSA
Coefficient of Determination: R^2 = 0.999787
Calibration curve: -9.50649e-005 * x^2 + 0.693143 * x + -0.0062738
Response type: Internal Std (Ref 67), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

1	200714P1-05	Standard	0.250	4.80	129.736	9252.494	0.175	0.3	4.8	NO	1.000	NO	bb
2	200714P1-06	Standard	0.500	4.79	231.159	8679.499	0.333	0.5	-2.1	NO	1.000	NO	bb
3	200714P1-07	Standard	1.000	4.80	498.261	8519.868	0.731	1.1	6.4	NO	1.000	NO	bb
4	200714P1-08	Standard	2.000	4.79	870.746	9343.495	1.165	1.7	-15.5	NO	1.000	NO	bb
5	200714P1-09	Standard	5.000	4.80	2472.346	9461.762	3.266	4.7	-5.5	NO	1.000	NO	bb
6	200714P1-10	Standard	10.000	4.79	5365.505	8943.736	7.499	10.8	8.4	NO	1.000	NO	bb
7	200714P1-11	Standard	50.000	4.80	25895.176	9289.922	34.843	50.6	1.3	NO	1.000	NO	bb
8	200714P1-12	Standard	100.000	4.79	47835.645	8893.026	67.238	98.3	-1.7	NO	1.000	NO	bb
9	200714P1-13	Standard	250.000	4.80	111628.852	8309.279	167.928	250.9	0.4	NO	1.000	NO	bb
10	200714P1-14	Standard	500.000	4.80	209261.531	8106.487	322.676	499.8	-0.0	NO	1.000	NO	bb

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Compound name: L-PFOS
Coefficient of Determination: R^2 = 0.999166
Calibration curve: 0.000226617 * x^2 + 1.18631 * x + -0.00608768
Response type: Internal Std (Ref 71), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

1	200714P1-05	Standard	0.250	4.83	68.214	3606.335	0.236	0.2	-18.2	NO	0.999	NO	MM
2	200714P1-06	Standard	0.500	4.83	152.631	3498.795	0.545	0.5	-7.1	NO	0.999	NO	MM
3	200714P1-07	Standard	1.000	4.83	338.634	3526.449	1.200	1.0	1.7	NO	0.999	NO	MM
4	200714P1-08	Standard	2.000	4.83	720.010	3326.762	2.705	2.3	14.2	NO	0.999	NO	MM
5	200714P1-09	Standard	5.000	4.83	1779.870	4003.688	5.557	4.7	-6.3	NO	0.999	NO	MM
6	200714P1-10	Standard	10.000	4.83	3840.030	3738.472	12.840	10.8	8.1	NO	0.999	NO	MM
7	200714P1-11	Standard	50.000	4.84	18319.631	3559.743	64.329	53.7	7.4	NO	0.999	NO	MM
8	200714P1-12	Standard	100.000	4.83	35573.703	3637.705	122.240	101.1	1.1	NO	0.999	NO	MM
9	200714P1-13	Standard	250.000	4.83	81507.461	3408.620	298.902	240.9	-3.6	NO	0.999	NO	MM
10	200714P1-14	Standard	500.000	4.83	159016.828	3034.717	654.990	503.7	0.7	NO	0.999	NO	MM

Compound name: 9Cl-PF30NS
Coefficient of Determination: R^2 = 0.999413
Calibration curve: 0.000168672 * x^2 + 2.48158 * x + 0.109799
Response type: Internal Std (Ref 71), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

1	200714P1-05	Standard	0.250	5.05	217.410	3606.335	0.754	0.3	3.8	NO	0.999	NO	bb
2	200714P1-06	Standard	0.500	5.05	355.380	3498.795	1.270	0.5	-6.5	NO	0.999	NO	bb
3	200714P1-07	Standard	1.000	5.05	787.523	3526.449	2.791	1.1	8.1	NO	0.999	NO	bb
4	200714P1-08	Standard	2.000	5.05	1341.231	3326.762	5.040	2.0	-0.7	NO	0.999	NO	bb
5	200714P1-09	Standard	5.000	5.05	3659.788	4003.688	11.426	4.6	-8.8	NO	0.999	NO	bb
6	200714P1-10	Standard	10.000	5.05	7365.616	3738.472	24.628	9.9	-1.3	NO	0.999	NO	bb
7	200714P1-11	Standard	50.000	5.05	37377.496	3559.743	131.251	52.7	5.3	NO	0.999	NO	bb
8	200714P1-12	Standard	100.000	5.05	74730.305	3637.705	256.791	102.7	2.7	NO	0.999	NO	bb
9	200714P1-13	Standard	250.000	5.05	166538.500	3408.620	610.726	242.1	-3.2	NO	0.999	NO	bb
10	200714P1-14	Standard	500.000	5.05	313477.281	3034.717	1291.213	503.1	0.6	NO	0.999	NO	bb

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Compound name: PFDA
Coefficient of Determination: R^2 = 0.999298
Calibration curve: -0.000109701 * x^2 + 0.792617 * x + 0.0293832
Response type: Internal Std (Ref 73), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

1	200714P1-05	Standard	0.250	5.13	446.364	23368.150	0.239	0.3	5.7	NO	0.999	NO	bb
2	200714P1-06	Standard	0.500	5.12	709.184	22980.668	0.386	0.4	-10.1	NO	0.999	NO	bb
3	200714P1-07	Standard	1.000	5.13	1578.313	23334.533	0.845	1.0	3.0	NO	0.999	NO	bb
4	200714P1-08	Standard	2.000	5.12	3432.888	24066.725	1.783	2.2	10.7	NO	0.999	NO	bb
5	200714P1-09	Standard	5.000	5.13	7991.229	24689.447	4.046	5.1	1.4	NO	0.999	NO	bb
6	200714P1-10	Standard	10.000	5.12	15790.757	24948.947	7.912	10.0	-0.4	NO	0.999	NO	bb
7	200714P1-11	Standard	50.000	5.13	80441.234	24347.441	41.299	52.4	4.9	NO	0.999	NO	bb
8	200714P1-12	Standard	100.000	5.12	152506.078	23742.848	80.291	102.7	2.7	NO	0.999	NO	bb
9	200714P1-13	Standard	250.000	5.12	340998.656	23145.813	184.158	240.3	-3.9	NO	0.999	NO	bb
10	200714P1-14	Standard	500.000	5.12	634736.000	21335.008	371.886	504.4	0.9	NO	0.999	NO	bb

Compound name: 8:2 FTS
Coefficient of Determination: R^2 = 0.998700
Calibration curve: -0.000435021 * x^2 + 1.22328 * x + -0.117694
Response type: Internal Std (Ref 75), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

1	200714P1-05	Standard	0.250	5.11	32.420	1964.635	0.206	0.3	5.9	NO	0.999	NO	MM
2	200714P1-06	Standard	0.500	5.10	79.567	1916.729	0.519	0.5	4.1	NO	0.999	NO	bb
3	200714P1-07	Standard	1.000	5.11	152.218	2081.913	0.914	0.8	-15.6	NO	0.999	NO	bb
4	200714P1-08	Standard	2.000	5.10	394.665	2058.287	2.397	2.1	2.9	NO	0.999	NO	bb
5	200714P1-09	Standard	5.000	5.10	995.960	2129.042	5.847	4.9	-2.3	NO	0.999	NO	bb
6	200714P1-10	Standard	10.000	5.10	2169.599	2189.957	12.384	10.3	2.6	NO	0.999	NO	bb
7	200714P1-11	Standard	50.000	5.10	10120.622	2129.608	59.404	49.5	-0.9	NO	0.999	NO	bb
8	200714P1-12	Standard	100.000	5.10	19100.855	1895.378	125.970	107.2	7.2	NO	0.999	NO	bb
9	200714P1-13	Standard	250.000	5.10	40978.699	1923.111	266.357	238.0	-4.8	NO	0.999	NO	bb
10	200714P1-14	Standard	500.000	5.10	76198.547	1877.654	507.272	505.7	1.1	NO	0.999	NO	bb

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Compound name: PFNS
Coefficient of Determination: R^2 = 0.999187
Calibration curve: -6.20869e-005 * x^2 + 1.27536 * x + -0.0463716
Response type: Internal Std (Ref 71), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

1	200714P1-05	Standard	0.250	5.19	58.211	3606.335	0.202	0.2	-22.2	NO	0.999	NO	bb
2	200714P1-06	Standard	0.500	5.19	165.222	3498.795	0.590	0.5	-0.2	NO	0.999	NO	bb
3	200714P1-07	Standard	1.000	5.19	335.274	3526.449	1.188	1.0	-3.2	NO	0.999	NO	bb
4	200714P1-08	Standard	2.000	5.18	735.381	3326.762	2.763	2.2	10.2	NO	0.999	NO	bb
5	200714P1-09	Standard	5.000	5.19	1940.506	4003.688	6.058	4.8	-4.2	NO	0.999	NO	bb
6	200714P1-10	Standard	10.000	5.19	3739.513	3738.472	12.503	9.8	-1.6	NO	0.999	NO	bb
7	200714P1-11	Standard	50.000	5.19	19644.602	3559.743	68.982	54.3	8.5	NO	0.999	NO	bb
8	200714P1-12	Standard	100.000	5.19	37180.945	3637.705	127.762	100.7	0.7	NO	0.999	NO	bb
9	200714P1-13	Standard	250.000	5.19	82998.172	3408.620	304.369	241.5	-3.4	NO	0.999	NO	bb
10	200714P1-14	Standard	500.000	5.19	152141.859	3034.717	626.672	503.8	0.8	NO	0.999	NO	bb

Compound name: L-MeFOSAA
Coefficient of Determination: R^2 = 0.999483
Calibration curve: -0.000284164 * x^2 + 1.20535 * x + -0.00718213
Response type: Internal Std (Ref 77), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

1	200714P1-05	Standard	0.250	5.28	101.065	4618.156	0.274	0.2	-6.8	NO	0.999	NO	MM
2	200714P1-06	Standard	0.500	5.28	250.493	4686.311	0.668	0.6	12.1	NO	0.999	NO	MM
3	200714P1-07	Standard	1.000	5.27	374.214	4361.361	1.073	0.9	-10.4	NO	0.999	NO	MM
4	200714P1-08	Standard	2.000	5.28	950.595	4787.729	2.482	2.1	3.3	NO	0.999	NO	MM
5	200714P1-09	Standard	5.000	5.28	2221.211	4916.231	5.648	4.7	-6.1	NO	0.999	NO	MM
6	200714P1-10	Standard	10.000	5.28	4747.327	4890.375	12.134	10.1	1.0	NO	0.999	NO	MM
7	200714P1-11	Standard	50.000	5.27	24559.869	4902.015	62.627	52.6	5.2	NO	0.999	NO	MM
8	200714P1-12	Standard	100.000	5.28	44888.188	4690.507	119.625	101.7	1.7	NO	0.999	NO	MM
9	200714P1-13	Standard	250.000	5.28	105165.039	4773.129	275.409	242.3	-3.1	NO	0.999	NO	MM
10	200714P1-14	Standard	500.000	5.28	198249.516	4631.904	535.011	503.7	0.7	NO	0.999	NO	MM

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Method: D:\PFAS5.PRO\MethDB\NEW_PFAS_80C_071420.mdb 14 Jul 2020 15:40:52
Calibration: D:\PFAS5.PRO\CurveDB\C18_VAL-PFAS_Q5_07-14-20.cdb 15 Jul 2020 08:25:12

Compound name: L-EtFOSAA
Coefficient of Determination: R^2 = 0.997393
Calibration curve: -0.000282602 * x^2 + 1.63624 * x + -0.0984931
Response type: Internal Std (Ref 81), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

1	200714P1-05	Standard	0.250	5.43	100.531	3925.879	0.320	0.3	2.3	NO	0.997	NO	MM
2	200714P1-06	Standard	0.500	5.43	212.967	3901.416	0.682	0.5	-4.5	NO	0.997	NO	MM
3	200714P1-07	Standard	1.000	5.43	483.796	3957.867	1.528	1.0	-0.6	NO	0.997	NO	MM
4	200714P1-08	Standard	2.000	5.43	1008.203	4226.074	2.982	1.9	-5.8	NO	0.997	NO	MM
5	200714P1-09	Standard	5.000	5.43	2625.065	3924.296	8.362	5.2	3.5	NO	0.997	NO	MM
6	200714P1-10	Standard	10.000	5.43	5515.005	4279.810	16.108	9.9	-0.8	NO	0.997	NO	MM
7	200714P1-11	Standard	50.000	5.43	28202.730	3788.670	93.050	57.5	15.0	NO	0.997	NO	MM
8	200714P1-12	Standard	100.000	5.43	51500.641	4450.607	144.645	89.9	-10.1	NO	0.997	NO	MM
9	200714P1-13	Standard	250.000	5.43	112114.336	3543.901	395.448	252.8	1.1	NO	0.997	NO	MM
10	200714P1-14	Standard	500.000	5.43	205339.438	3434.674	747.303	500.0	-0.0	NO	0.997	NO	MM

Compound name: PFUdA
Coefficient of Determination: R^2 = 0.999172
Calibration curve: -5.81281e-005 * x^2 + 0.938538 * x + 0.0721579
Response type: Internal Std (Ref 79), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

1	200714P1-05	Standard	0.250	5.45	471.334	23457.783	0.251	0.2	-23.7	NO	0.999	NO	bb
2	200714P1-06	Standard	0.500	5.45	1003.140	22756.576	0.551	0.5	2.0	NO	0.999	NO	bb
3	200714P1-07	Standard	1.000	5.45	1943.852	23169.525	1.049	1.0	4.1	NO	0.999	NO	bb
4	200714P1-08	Standard	2.000	5.45	3902.699	23991.473	2.033	2.1	4.5	NO	0.999	NO	bb
5	200714P1-09	Standard	5.000	5.45	9800.835	24467.885	5.007	5.3	5.2	NO	0.999	NO	bb
6	200714P1-10	Standard	10.000	5.45	18597.693	23970.490	9.698	10.3	2.6	NO	0.999	NO	bb
7	200714P1-11	Standard	50.000	5.45	95964.289	23967.434	50.049	53.4	6.9	NO	0.999	NO	bb
8	200714P1-12	Standard	100.000	5.45	173391.484	22860.875	94.808	101.6	1.6	NO	0.999	NO	bb
9	200714P1-13	Standard	250.000	5.45	399744.813	22522.078	221.863	239.9	-4.0	NO	0.999	NO	bb
10	200714P1-14	Standard	500.000	5.45	727779.250	19828.572	458.795	504.5	0.9	NO	0.999	NO	bb

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Compound name: PFDS
Coefficient of Determination: R^2 = 0.998888
Calibration curve: -0.000105434 * x^2 + 1.3242 * x + 0.0489966
Response type: Internal Std (Ref 71), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

1	200714P1-05	Standard	0.250	5.49	99.563	3606.335	0.345	0.2	-10.6	NO	0.999	NO	bb
2	200714P1-06	Standard	0.500	5.49	190.917	3498.795	0.682	0.5	-4.4	NO	0.999	NO	bb
3	200714P1-07	Standard	1.000	5.49	418.470	3526.449	1.483	1.1	8.3	NO	0.999	NO	bb
4	200714P1-08	Standard	2.000	5.49	867.920	3326.762	3.261	2.4	21.3	NO	0.999	NO	bb
5	200714P1-09	Standard	5.000	5.49	2017.785	4003.688	6.300	4.7	-5.6	NO	0.999	NO	bb
6	200714P1-10	Standard	10.000	5.49	3917.337	3738.472	13.098	9.9	-1.4	NO	0.999	NO	bb
7	200714P1-11	Standard	50.000	5.50	20643.418	3559.743	72.489	54.9	9.9	NO	0.999	NO	bb
8	200714P1-12	Standard	100.000	5.49	38247.523	3637.705	131.427	100.0	0.0	NO	0.999	NO	bb
9	200714P1-13	Standard	250.000	5.49	85261.922	3408.620	312.670	240.7	-3.7	NO	0.999	NO	bb
10	200714P1-14	Standard	500.000	5.49	155635.797	3034.717	641.064	504.3	0.9	NO	0.999	NO	bb

Compound name: 11Cl-PF30UdS
Correlation coefficient: r = 0.999903, r^2 = 0.999807
Calibration curve: 0.260724 * x + 0.00162518
Response type: Internal Std (Ref 83), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

1	200714P1-05	Standard	0.250	5.66	170.730	28899.332	0.074	0.3	10.8	NO	1.000	NO	bb
2	200714P1-06	Standard	0.500	5.65	288.189	27005.604	0.133	0.5	1.1	NO	1.000	NO	bb
3	200714P1-07	Standard	1.000	5.65	569.255	27706.188	0.257	1.0	-2.1	NO	1.000	NO	bb
4	200714P1-08	Standard	2.000	5.65	1096.410	27549.563	0.497	1.9	-4.9	NO	1.000	NO	bb
5	200714P1-09	Standard	5.000	5.66	2969.135	27539.930	1.348	5.2	3.3	NO	1.000	NO	bb
6	200714P1-10	Standard	10.000	5.65	5706.777	28799.658	2.477	9.5	-5.1	NO	1.000	NO	bb
7	200714P1-11	Standard	50.000	5.66	29718.678	29855.451	12.443	47.7	-4.6	NO	1.000	NO	bb
8	200714P1-12	Standard	100.000	5.65	55243.984	26112.064	26.446	101.4	1.4	NO	1.000	NO	bb
9	200714P1-13	Standard	250.000	5.65	127421.703	24515.406	64.970	249.2	-0.3	NO	1.000	NO	bb
10	200714P1-14	Standard	500.000	5.65	239072.875	22827.689	130.912	502.1	0.4	NO	1.000	NO	bb

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Compound name: 10:2 FTS
Coefficient of Determination: R^2 = 0.998347
Calibration curve: -0.000187848 * x^2 + 1.91721 * x + -0.173821
Response type: Internal Std (Ref 85), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

1	200714P1-05	Standard	0.250	5.72	26.518	1541.734	0.215	0.2	-18.9	NO	0.998	NO	bb
2	200714P1-06	Standard	0.500	5.72	86.379	1696.700	0.636	0.4	-15.5	NO	0.998	NO	bb
3	200714P1-07	Standard	1.000	5.72	264.713	1566.035	2.113	1.2	19.3	NO	0.998	NO	bb
4	200714P1-08	Standard	2.000	5.71	451.650	1543.193	3.658	2.0	-0.0	NO	0.998	NO	bb
5	200714P1-09	Standard	5.000	5.72	1161.960	1534.456	9.466	5.0	0.6	NO	0.998	NO	bb
6	200714P1-10	Standard	10.000	5.71	2457.000	1492.248	20.581	10.8	8.4	NO	0.998	NO	bb
7	200714P1-11	Standard	50.000	5.72	11326.204	1394.419	101.532	53.3	6.7	NO	0.998	NO	bb
8	200714P1-12	Standard	100.000	5.71	19540.855	1236.919	197.475	104.2	4.2	NO	0.998	NO	bb
9	200714P1-13	Standard	250.000	5.72	40839.281	1160.157	440.019	235.0	-6.0	NO	0.998	NO	bb
10	200714P1-14	Standard	500.000	5.71	69613.453	942.835	922.927	506.6	1.3	NO	0.998	NO	bb

Compound name: PFDoA
Coefficient of Determination: R^2 = 0.999776
Calibration curve: -0.000180161 * x^2 + 0.883117 * x + 0.100074
Response type: Internal Std (Ref 83), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

1	200714P1-05	Standard	0.250	5.73	846.371	28899.332	0.366	0.3	20.5	NO	1.000	NO	bb
2	200714P1-06	Standard	0.500	5.73	1263.476	27005.604	0.585	0.5	9.8	NO	1.000	NO	bb
3	200714P1-07	Standard	1.000	5.73	2203.720	27706.188	0.994	1.0	1.3	NO	1.000	NO	bb
4	200714P1-08	Standard	2.000	5.73	4374.940	27549.563	1.985	2.1	6.8	NO	1.000	NO	bb
5	200714P1-09	Standard	5.000	5.73	10687.967	27539.930	4.851	5.4	7.7	NO	1.000	NO	bb
6	200714P1-10	Standard	10.000	5.73	20415.998	28799.658	8.861	9.9	-0.6	NO	1.000	NO	bb
7	200714P1-11	Standard	50.000	5.73	103842.492	29855.451	43.477	49.6	-0.8	NO	1.000	NO	bb
8	200714P1-12	Standard	100.000	5.73	183915.844	26112.064	88.042	101.7	1.7	NO	1.000	NO	bb
9	200714P1-13	Standard	250.000	5.73	405802.188	24515.406	206.912	246.6	-1.4	NO	1.000	NO	bb
10	200714P1-14	Standard	500.000	5.73	726315.000	22827.689	397.716	501.6	0.3	NO	1.000	NO	bb

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Compound name: N-MeFOSA
Coefficient of Determination: R^2 = 0.998718
Calibration curve: -6.83846e-005 * x^2 + 1.11717 * x + 0.189665
Response type: Internal Std (Ref 87), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

1	200714P1-05	Standard	1.250	5.70	210.579	25001.195	1.257	1.0	-23.6	NO	0.999	NO	bb
2	200714P1-06	Standard	2.500	5.70	564.146	24880.635	3.383	2.9	14.4	NO	0.999	NO	bb
3	200714P1-07	Standard	5.000	5.71	976.602	24379.451	5.977	5.2	3.6	NO	0.999	NO	bb
4	200714P1-08	Standard	10.000	5.70	2110.002	25946.547	12.133	10.7	7.0	NO	0.999	NO	bb
5	200714P1-09	Standard	25.000	5.70	5017.485	25299.283	29.590	26.4	5.4	NO	0.999	NO	bb
6	200714P1-10	Standard	50.000	5.70	10149.167	26676.906	56.763	50.8	1.6	NO	0.999	NO	bb
7	200714P1-11	Standard	250.000	5.71	51931.137	26700.266	290.189	263.8	5.5	NO	0.999	NO	bb
8	200714P1-12	Standard	500.000	5.70	93518.367	24842.984	561.645	519.1	3.8	NO	0.999	NO	bb
9	200714P1-13	Standard	1250.000	5.70	200945.656	24493.023	1224.067	1180.9	-5.5	NO	0.999	NO	bb
10	200714P1-14	Standard	2500.000	5.70	353625.219	22047.441	2393.062	2535.4	1.4	NO	0.999	NO	bb

Compound name: PFTrDA
Coefficient of Determination: R^2 = 0.999891
Calibration curve: -0.000298642 * x^2 + 1.06717 * x + 0.0322737
Response type: Internal Std (Ref 83), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

1	200714P1-05	Standard	0.250	5.97	620.732	28899.332	0.268	0.2	-11.5	NO	1.000	NO	bb
2	200714P1-06	Standard	0.500	5.97	1198.380	27005.604	0.555	0.5	-2.1	NO	1.000	NO	bb
3	200714P1-07	Standard	1.000	5.97	2442.910	27706.188	1.102	1.0	0.3	NO	1.000	NO	bb
4	200714P1-08	Standard	2.000	5.97	5161.903	27549.563	2.342	2.2	8.3	NO	1.000	NO	bb
5	200714P1-09	Standard	5.000	5.97	12675.306	27539.930	5.753	5.4	7.4	NO	1.000	NO	bb
6	200714P1-10	Standard	10.000	5.97	24151.100	28799.658	10.482	9.8	-1.8	NO	1.000	NO	bb
7	200714P1-11	Standard	50.000	5.97	123987.102	29855.451	51.911	49.3	-1.4	NO	1.000	NO	bb
8	200714P1-12	Standard	100.000	5.97	219518.094	26112.064	105.085	101.3	1.3	NO	1.000	NO	bb
9	200714P1-13	Standard	250.000	5.97	483813.531	24515.406	246.689	248.4	-0.6	NO	1.000	NO	bb
10	200714P1-14	Standard	500.000	5.97	839148.250	22827.689	459.501	500.7	0.1	NO	1.000	NO	bb

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Compound name: PFDoS
Coefficient of Determination: R^2 = 0.999713
Calibration curve: -2.15044e-005 * x^2 + 0.17459 * x + 0.01518
Response type: Internal Std (Ref 89), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

1	200714P1-05	Standard	0.250	5.99	112.354	28348.844	0.050	0.2	-21.3	NO	1.000	NO	bb
2	200714P1-06	Standard	0.500	5.99	237.361	27195.896	0.109	0.5	7.6	NO	1.000	NO	bb
3	200714P1-07	Standard	1.000	5.99	395.474	27176.436	0.182	1.0	-4.5	NO	1.000	NO	bb
4	200714P1-08	Standard	2.000	5.99	871.351	27075.727	0.402	2.2	10.9	NO	1.000	NO	bb
5	200714P1-09	Standard	5.000	5.99	2033.205	28104.383	0.904	5.1	1.9	NO	1.000	NO	bb
6	200714P1-10	Standard	10.000	5.99	4055.817	28029.271	1.809	10.3	2.9	NO	1.000	NO	bb
7	200714P1-11	Standard	50.000	5.99	20817.539	28920.814	8.998	51.8	3.6	NO	1.000	NO	bb
8	200714P1-12	Standard	100.000	5.99	38911.223	27996.127	17.373	100.7	0.7	NO	1.000	NO	bb
9	200714P1-13	Standard	250.000	5.99	88404.789	26693.490	41.398	244.4	-2.2	NO	1.000	NO	bb
10	200714P1-14	Standard	500.000	5.99	160062.328	24299.152	82.339	502.6	0.5	NO	1.000	NO	bb

Compound name: PFTeDA
Correlation coefficient: r = 0.999476, r^2 = 0.998952
Calibration curve: 0.562517 * x + 0.0379145
Response type: Internal Std (Ref 89), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Include, Weighting: 1/x, Axis trans: None

1	200714P1-05	Standard	0.250	6.18	339.095	28348.844	0.150	0.2	-20.6	NO	0.999	NO	MM
2	200714P1-06	Standard	0.500	6.18	761.407	27195.896	0.350	0.6	10.9	NO	0.999	NO	bb
3	200714P1-07	Standard	1.000	6.18	1309.769	27176.436	0.602	1.0	0.4	NO	0.999	NO	bb
4	200714P1-08	Standard	2.000	6.18	2794.774	27075.727	1.290	2.2	11.3	NO	0.999	NO	bb
5	200714P1-09	Standard	5.000	6.18	7032.069	28104.383	3.128	5.5	9.9	NO	0.999	NO	bb
6	200714P1-10	Standard	10.000	6.18	13359.132	28029.271	5.958	10.5	5.2	NO	0.999	NO	bb
7	200714P1-11	Standard	50.000	6.18	71721.484	28920.814	30.999	55.0	10.1	NO	0.999	NO	bb
8	200714P1-12	Standard	100.000	6.18	129994.656	27996.127	58.041	103.1	3.1	NO	0.999	NO	bb
9	200714P1-13	Standard	250.000	6.18	291827.906	26693.490	136.657	242.9	-2.9	NO	0.999	NO	bb
10	200714P1-14	Standard	500.000	6.18	544333.500	24299.152	280.017	497.7	-0.5	NO	0.999	NO	bb

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Compound name: N-EtFOSA
Coefficient of Determination: R^2 = 0.998527
Calibration curve: -3.21665e-005 * x^2 + 1.12508 * x + 0.210037
Response type: Internal Std (Ref 91), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

1	200714P1-05	Standard	1.250	6.12	257.283	29955.465	1.281	1.0	-23.8	NO	0.999	NO	bb
2	200714P1-06	Standard	2.500	6.12	576.091	28843.000	2.980	2.5	-1.5	NO	0.999	NO	bb
3	200714P1-07	Standard	5.000	6.12	1209.530	29362.738	6.146	5.3	5.5	NO	0.999	NO	bb
4	200714P1-08	Standard	10.000	6.12	2629.860	30136.287	13.020	11.4	13.9	NO	0.999	NO	bb
5	200714P1-09	Standard	25.000	6.13	6164.792	30226.980	30.429	26.9	7.5	NO	0.999	NO	bb
6	200714P1-10	Standard	50.000	6.12	12599.517	30537.547	61.559	54.6	9.2	NO	0.999	NO	bb
7	200714P1-11	Standard	250.000	6.12	63127.563	32286.406	291.721	261.1	4.4	NO	0.999	NO	bb
8	200714P1-12	Standard	500.000	6.12	114940.141	29710.975	577.196	520.6	4.1	NO	0.999	NO	bb
9	200714P1-13	Standard	1250.000	6.12	246039.906	28657.531	1280.960	1178.0	-5.8	NO	0.999	NO	bb
10	200714P1-14	Standard	2500.000	6.12	432128.438	24387.775	2643.684	2533.0	1.3	NO	0.999	NO	bb

Compound name: PFHxDA
Coefficient of Determination: R^2 = 0.999036
Calibration curve: -5.90081e-005 * x^2 + 0.883241 * x + 0.156927
Response type: Internal Std (Ref 93), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

1	200714P1-05	Standard	0.250	6.49	860.372	31730.168	0.339	0.2	-17.6	NO	0.999	NO	bb
2	200714P1-06	Standard	0.500	6.49	1331.147	29605.863	0.562	0.5	-8.3	NO	0.999	NO	bb
3	200714P1-07	Standard	1.000	6.49	2527.355	29535.994	1.070	1.0	3.3	NO	0.999	NO	bb
4	200714P1-08	Standard	2.000	6.49	4939.370	29942.436	2.062	2.2	7.9	NO	0.999	NO	bb
5	200714P1-09	Standard	5.000	6.49	11984.801	31860.355	4.702	5.1	3.0	NO	0.999	NO	bb
6	200714P1-10	Standard	10.000	6.49	23953.498	30678.719	9.760	10.9	8.8	NO	0.999	NO	bb
7	200714P1-11	Standard	50.000	6.50	118266.555	32782.980	45.094	51.1	2.1	NO	0.999	NO	bb
8	200714P1-12	Standard	100.000	6.49	220697.141	30092.316	91.675	104.3	4.3	NO	0.999	NO	bb
9	200714P1-13	Standard	250.000	6.49	498969.094	30044.176	207.598	238.7	-4.5	NO	0.999	NO	bb
10	200714P1-14	Standard	500.000	6.49	920717.750	26702.994	430.999	504.8	1.0	NO	0.999	NO	bb

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Compound name: PFODA
Coefficient of Determination: R^2 = 0.999276
Calibration curve: -0.000105558 * x^2 + 0.775176 * x + 0.0163938
Response type: Internal Std (Ref 93), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

1	200714P1-05	Standard	0.250	6.72	499.094	31730.168	0.197	0.2	-7.0	NO	0.999	NO	bb
2	200714P1-06	Standard	0.500	6.72	952.010	29605.863	0.402	0.5	-0.5	NO	0.999	NO	bb
3	200714P1-07	Standard	1.000	6.72	1925.417	29535.994	0.815	1.0	3.0	NO	0.999	NO	bb
4	200714P1-08	Standard	2.000	6.72	3983.696	29942.436	1.663	2.1	6.2	NO	0.999	NO	bb
5	200714P1-09	Standard	5.000	6.72	9904.623	31860.355	3.886	5.0	-0.1	NO	0.999	NO	bb
6	200714P1-10	Standard	10.000	6.72	19559.615	30678.719	7.970	10.3	2.7	NO	0.999	NO	bb
7	200714P1-11	Standard	50.000	6.72	104827.328	32782.980	39.970	51.9	3.8	NO	0.999	NO	bb
8	200714P1-12	Standard	100.000	6.72	190364.500	30092.316	79.075	103.4	3.4	NO	0.999	NO	bb
9	200714P1-13	Standard	250.000	6.72	432192.781	30044.176	179.816	239.8	-4.1	NO	0.999	NO	bb
10	200714P1-14	Standard	500.000	6.72	778111.500	26702.994	364.244	504.5	0.9	NO	0.999	NO	bb

Compound name: N-MeFOSE
Correlation coefficient: r = 0.999902, r^2 = 0.999804
Calibration curve: 1.10733 * x + 0.324889
Response type: Internal Std (Ref 95), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

1	200714P1-05	Standard	1.250	6.32	278.253	25873.684	1.605	1.2	-7.6	NO	1.000	NO	bb
2	200714P1-06	Standard	2.500	6.31	512.311	25152.414	3.039	2.5	-2.0	NO	1.000	NO	bb
3	200714P1-07	Standard	5.000	6.31	1020.516	25712.727	5.922	5.1	1.1	NO	1.000	NO	bb
4	200714P1-08	Standard	10.000	6.31	2068.531	25659.541	12.028	10.6	5.7	NO	1.000	NO	bb
5	200714P1-09	Standard	25.000	6.31	5103.917	27093.271	28.107	25.1	0.4	NO	1.000	NO	bb
6	200714P1-10	Standard	50.000	6.31	9978.250	26548.555	56.077	50.3	0.7	NO	1.000	NO	bb
7	200714P1-11	Standard	250.000	6.32	55089.230	28773.104	285.660	257.7	3.1	NO	1.000	NO	bb
8	200714P1-12	Standard	500.000	6.31	99804.156	26893.195	553.701	499.7	-0.1	NO	1.000	NO	bb
9	200714P1-13	Standard	1250.000	6.31	243344.609	26758.592	1356.836	1225.0	-2.0	NO	1.000	NO	bb
10	200714P1-14	Standard	2500.000	6.31	482525.938	25831.100	2787.062	2516.6	0.7	NO	1.000	NO	bb

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Compound name: N-EtFOSE
Correlation coefficient: r = 0.999451, r^2 = 0.998902
Calibration curve: 0.992318 * x + 0.375815
Response type: Internal Std (Ref 97), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

1	200714P1-05	Standard	1.250	6.46	280.380	28655.701	1.460	1.1	-12.6	NO	0.999	NO	bb
2	200714P1-06	Standard	2.500	6.46	474.159	29116.070	2.430	2.1	-17.2	NO	0.999	NO	bb
3	200714P1-07	Standard	5.000	6.46	1041.439	28599.301	5.433	5.1	1.9	NO	0.999	NO	bb
4	200714P1-08	Standard	10.000	6.46	2189.929	29822.564	10.956	10.7	6.6	NO	0.999	NO	bb
5	200714P1-09	Standard	25.000	6.46	5486.919	31202.797	26.236	26.1	4.2	NO	0.999	NO	bb
6	200714P1-10	Standard	50.000	6.46	10848.807	30655.066	52.802	52.8	5.7	NO	0.999	NO	bb
7	200714P1-11	Standard	250.000	6.46	59325.379	32652.547	271.077	272.8	9.1	NO	0.999	NO	bb
8	200714P1-12	Standard	500.000	6.46	106031.563	30162.348	524.492	528.2	5.6	NO	0.999	NO	bb
9	200714P1-13	Standard	1250.000	6.46	249134.672	30691.268	1211.123	1220.1	-2.4	NO	0.999	NO	bb
10	200714P1-14	Standard	2500.000	6.46	489316.594	29723.055	2456.209	2474.8	-1.0	NO	0.999	NO	bb

Compound name: 13C3-PFBA-EIS
Response Factor: 655.69
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

1	200714P1-05	Standard	12.500	1.43	8634.482	8634.482	13.2	5.3	NO		NO	MMX
2	200714P1-06	Standard	12.500	1.44	7761.148	7761.148	11.8	-5.3	NO		NO	MMX
3	200714P1-07	Standard	12.500	1.44	8054.958	8054.958	12.3	-1.7	NO		NO	MMX
4	200714P1-08	Standard	12.500	1.44	8093.072	8093.072	12.3	-1.3	NO		NO	MMX
5	200714P1-09	Standard	12.500	1.44	8777.822	8777.822	13.4	7.1	NO		NO	MMX
6	200714P1-10	Standard	12.500	1.44	8196.123	8196.123	12.5	0.0	NO		NO	MM
7	200714P1-11	Standard	12.500	1.44	8846.722	8846.722	13.5	7.9	NO		NO	MMX
8	200714P1-12	Standard	12.500	1.44	8020.483	8020.483	12.2	-2.1	NO		NO	MMX
9	200714P1-13	Standard	12.500	1.44	9781.167	9781.167	14.9	19.3	NO		NO	MMX
10	200714P1-14	Standard	12.500	1.44	10062.881	10062.881	15.3	22.8	NO		NO	MMX

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Compound name: 13C3-PFBA-RSD
Response Factor: 0.933344
RRF SD: 0.031825, Relative SD: 3.40978
Response type: Internal Std (Ref 99), Area * (IS Conc. / IS Area)
Curve type: RF

1	200714P1-05	Standard	12.500	1.43	8613.404	8885.112	12.118	13.0	3.9	NO	NO	MM
2	200714P1-06	Standard	12.500	1.44	7826.519	8720.292	11.219	12.0	-3.8	NO	NO	MM
3	200714P1-07	Standard	12.500	1.44	8465.811	9075.949	11.660	12.5	-0.1	NO	NO	MM
4	200714P1-08	Standard	12.500	1.44	8357.626	9362.128	11.159	12.0	-4.4	NO	NO	MM
5	200714P1-09	Standard	12.500	1.44	9302.258	9944.453	11.693	12.5	0.2	NO	NO	MM
6	200714P1-10	Standard	12.500	1.44	8299.081	9086.962	11.416	12.2	-2.1	NO	NO	MM
7	200714P1-11	Standard	12.500	1.44	8876.046	9580.989	11.580	12.4	-0.7	NO	NO	MM
8	200714P1-12	Standard	12.500	1.44	8448.764	9050.654	11.669	12.5	0.0	NO	NO	MM
9	200714P1-13	Standard	12.500	1.44	9728.032	10431.643	11.657	12.5	-0.1	NO	NO	MM
10	200714P1-14	Standard	12.500	1.44	10021.724	10023.224	12.498	13.4	7.1	NO	NO	MM

Compound name: 13C3-PFPeA-EIS
Response Factor: 1327.46
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

1	200714P1-05	Standard	12.500	2.39	16412.875	16412.875	12.4	-1.1	NO	NO	bbX
2	200714P1-06	Standard	12.500	2.39	15752.672	15752.672	11.9	-5.1	NO	NO	bbX
3	200714P1-07	Standard	12.500	2.39	15528.102	15528.102	11.7	-6.4	NO	NO	bbX
4	200714P1-08	Standard	12.500	2.39	16146.918	16146.918	12.2	-2.7	NO	NO	bbX
5	200714P1-09	Standard	12.500	2.39	16187.636	16187.636	12.2	-2.4	NO	NO	bbX
6	200714P1-10	Standard	12.500	2.39	16593.268	16593.268	12.5	0.0	NO	NO	bb
7	200714P1-11	Standard	12.500	2.39	16893.504	16893.504	12.7	1.8	NO	NO	bbX
8	200714P1-12	Standard	12.500	2.39	16365.034	16365.034	12.3	-1.4	NO	NO	bbX
9	200714P1-13	Standard	12.500	2.39	16390.885	16390.885	12.3	-1.2	NO	NO	bbX
10	200714P1-14	Standard	12.500	2.39	15678.485	15678.485	11.8	-5.5	NO	NO	bbX

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Compound name: 13C3-PFPeA-RSD
Response Factor: 0.805502
RRF SD: 0.0332901, Relative SD: 4.13283
Response type: Internal Std (Ref 101), Area * (IS Conc. / IS Area)
Curve type: RF

1	200714P1-05	Standard	12.500	2.39	16412.875	18866.482	10.874	13.5	8.0	NO	NO	bb
2	200714P1-06	Standard	12.500	2.39	15752.672	20787.566	9.472	11.8	-5.9	NO	NO	bb
3	200714P1-07	Standard	12.500	2.39	15528.102	19919.666	9.744	12.1	-3.2	NO	NO	bb
4	200714P1-08	Standard	12.500	2.39	16146.918	20599.625	9.798	12.2	-2.7	NO	NO	bb
5	200714P1-09	Standard	12.500	2.39	16187.636	20465.453	9.887	12.3	-1.8	NO	NO	bb
6	200714P1-10	Standard	12.500	2.39	16593.268	20497.014	10.119	12.6	0.5	NO	NO	bb
7	200714P1-11	Standard	12.500	2.39	16893.504	21261.203	9.932	12.3	-1.4	NO	NO	bb
8	200714P1-12	Standard	12.500	2.39	16365.034	19705.504	10.381	12.9	3.1	NO	NO	bb
9	200714P1-13	Standard	12.500	2.39	16390.885	20587.143	9.952	12.4	-1.2	NO	NO	bb
10	200714P1-14	Standard	12.500	2.39	15678.485	18617.133	10.527	13.1	4.6	NO	NO	bb

Compound name: 13C3-PFBS-EIS
Response Factor: 157.875
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

1	200714P1-05	Standard	12.500	2.67	1903.052		1903.052	12.1	-3.6	NO	NO	bbX
2	200714P1-06	Standard	12.500	2.67	1862.609		1862.609	11.8	-5.6	NO	NO	bbX
3	200714P1-07	Standard	12.500	2.67	1743.585		1743.585	11.0	-11.6	NO	NO	bbX
4	200714P1-08	Standard	12.500	2.67	1978.787		1978.787	12.5	0.3	NO	NO	MMX
5	200714P1-09	Standard	12.500	2.67	1868.767		1868.767	11.8	-5.3	NO	NO	bbX
6	200714P1-10	Standard	12.500	2.67	1973.438		1973.438	12.5	0.0	NO	NO	bb
7	200714P1-11	Standard	12.500	2.67	1875.573		1875.573	11.9	-5.0	NO	NO	bbX
8	200714P1-12	Standard	12.500	2.67	1822.421		1822.421	11.5	-7.7	NO	NO	bbX
9	200714P1-13	Standard	12.500	2.67	1857.944		1857.944	11.8	-5.9	NO	NO	bbX
10	200714P1-14	Standard	12.500	2.67	1689.719		1689.719	10.7	-14.4	NO	NO	bbX

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Compound name: 13C3-PFBS-RSD
Response Factor: 1.24531
RRF SD: 0.0520366, Relative SD: 4.17862
Response type: Internal Std (Ref 102), Area * (IS Conc. / IS Area)
Curve type: RF

1	200714P1-05	Standard	12.500	2.67	1903.052	1443.999	16.474	13.2	5.8	NO	NO	bb
2	200714P1-06	Standard	12.500	2.67	1862.609	1495.675	15.567	12.5	0.0	NO	NO	bb
3	200714P1-07	Standard	12.500	2.67	1766.125	1475.380	14.963	12.0	-3.9	NO	NO	MM
4	200714P1-08	Standard	12.500	2.67	1979.960	1492.467	16.583	13.3	6.5	NO	NO	MM
5	200714P1-09	Standard	12.500	2.67	1868.767	1596.817	14.629	11.7	-6.0	NO	NO	bb
6	200714P1-10	Standard	12.500	2.67	1973.438	1566.257	15.750	12.6	1.2	NO	NO	bb
7	200714P1-11	Standard	12.500	2.67	1875.573	1564.087	14.989	12.0	-3.7	NO	NO	bb
8	200714P1-12	Standard	12.500	2.67	1822.421	1486.187	15.328	12.3	-1.5	NO	NO	bb
9	200714P1-13	Standard	12.500	2.67	1857.944	1514.581	15.334	12.3	-1.5	NO	NO	bb
10	200714P1-14	Standard	12.500	2.67	1689.719	1316.234	16.047	12.9	3.1	NO	NO	bb

Compound name: 13C3-HFPO-DA-EIS
Response Factor: 261.275
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

1	200714P1-05	Standard	12.500	3.41	2989.123	2989.123	11.4	-8.5	NO	NO	bbX
2	200714P1-06	Standard	12.500	3.41	2842.123	2842.123	10.9	-13.0	NO	NO	bbX
3	200714P1-07	Standard	12.500	3.41	2963.256	2963.256	11.3	-9.3	NO	NO	bbX
4	200714P1-08	Standard	12.500	3.41	3239.311	3239.311	12.4	-0.8	NO	NO	bbX
5	200714P1-09	Standard	12.500	3.41	2921.836	2921.836	11.2	-10.5	NO	NO	bbX
6	200714P1-10	Standard	12.500	3.41	3265.933	3265.933	12.5	0.0	NO	NO	bb
7	200714P1-11	Standard	12.500	3.41	3398.220	3398.220	13.0	4.1	NO	NO	bbX
8	200714P1-12	Standard	12.500	3.41	3097.782	3097.782	11.9	-5.1	NO	NO	bbX
9	200714P1-13	Standard	12.500	3.41	3241.229	3241.229	12.4	-0.8	NO	NO	bbX
10	200714P1-14	Standard	12.500	3.41	3034.546	3034.546	11.6	-7.1	NO	NO	bbX

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Compound name: 13C3-HFPO-DA-RSD
Response Factor: 0.154075
RRF SD: 0.00848423, Relative SD: 5.50656
Response type: Internal Std (Ref 101), Area * (IS Conc. / IS Area)
Curve type: RF

1	200714P1-05	Standard	12.500	3.41	2989.123	18866.482	1.980	12.9	2.8	NO	NO	bb
2	200714P1-06	Standard	12.500	3.41	2842.123	20787.566	1.709	11.1	-11.3	NO	NO	bb
3	200714P1-07	Standard	12.500	3.41	2963.256	19919.666	1.860	12.1	-3.4	NO	NO	bb
4	200714P1-08	Standard	12.500	3.41	3239.311	20599.625	1.966	12.8	2.1	NO	NO	bb
5	200714P1-09	Standard	12.500	3.41	2921.836	20465.453	1.785	11.6	-7.3	NO	NO	bb
6	200714P1-10	Standard	12.500	3.41	3265.933	20497.014	1.992	12.9	3.4	NO	NO	bb
7	200714P1-11	Standard	12.500	3.41	3398.220	21261.203	1.998	13.0	3.7	NO	NO	bb
8	200714P1-12	Standard	12.500	3.41	3097.782	19705.504	1.965	12.8	2.0	NO	NO	bb
9	200714P1-13	Standard	12.500	3.41	3241.229	20587.143	1.968	12.8	2.2	NO	NO	bb
10	200714P1-14	Standard	12.500	3.41	3034.546	18617.133	2.037	13.2	5.8	NO	NO	bb

Compound name: 13C2-4:2 FTS-EIS
Response Factor: 154.05
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

1	200714P1-05	Standard	12.500	3.10	1909.515	1909.515	12.4	-0.8	NO	NO	bbX
2	200714P1-06	Standard	12.500	3.11	2089.262	2089.262	13.6	8.5	NO	NO	bbX
3	200714P1-07	Standard	12.500	3.10	2024.739	2024.739	13.1	5.1	NO	NO	bbX
4	200714P1-08	Standard	12.500	3.10	1900.099	1900.099	12.3	-1.3	NO	NO	bbX
5	200714P1-09	Standard	12.500	3.11	1906.399	1906.399	12.4	-1.0	NO	NO	bbX
6	200714P1-10	Standard	12.500	3.11	1925.623	1925.623	12.5	0.0	NO	NO	bb
7	200714P1-11	Standard	12.500	3.11	2057.393	2057.393	13.4	6.8	NO	NO	bbX
8	200714P1-12	Standard	12.500	3.10	1787.714	1787.714	11.6	-7.2	NO	NO	bbX
9	200714P1-13	Standard	12.500	3.10	1762.434	1762.434	11.4	-8.5	NO	NO	bbX
10	200714P1-14	Standard	12.500	3.10	1667.476	1667.476	10.8	-13.4	NO	NO	MMX

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Compound name: 13C2-4:2 FTS-RSD
Response Factor: 1.27424
RRF SD: 0.0777941, Relative SD: 6.10512
Response type: Internal Std (Ref 102), Area * (IS Conc. / IS Area)
Curve type: RF

1	200714P1-05	Standard	12.500	3.10	1909.515	1443.999	16.530	13.0	3.8	NO	NO	bb
2	200714P1-06	Standard	12.500	3.11	2089.262	1495.675	17.461	13.7	9.6	NO	NO	bb
3	200714P1-07	Standard	12.500	3.10	2024.739	1475.380	17.154	13.5	7.7	NO	NO	bb
4	200714P1-08	Standard	12.500	3.10	1900.099	1492.467	15.914	12.5	-0.1	NO	NO	bb
5	200714P1-09	Standard	12.500	3.11	1906.399	1596.817	14.923	11.7	-6.3	NO	NO	bb
6	200714P1-10	Standard	12.500	3.11	1925.623	1566.257	15.368	12.1	-3.5	NO	NO	bb
7	200714P1-11	Standard	12.500	3.11	2057.393	1564.087	16.442	12.9	3.2	NO	NO	bb
8	200714P1-12	Standard	12.500	3.10	1787.714	1486.187	15.036	11.8	-5.6	NO	NO	bb
9	200714P1-13	Standard	12.500	3.10	1762.434	1514.581	14.546	11.4	-8.7	NO	NO	bb
10	200714P1-14	Standard	12.500	3.10	1674.868	1316.234	15.906	12.5	-0.1	NO	NO	MM

Compound name: 13C2-PFHxA-EIS
Response Factor: 1345.83
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

1	200714P1-05	Standard	12.500	3.19	15907.278	15907.278	11.8	-5.4	NO	NO	bbX
2	200714P1-06	Standard	12.500	3.19	15890.239	15890.239	11.8	-5.5	NO	NO	bbX
3	200714P1-07	Standard	12.500	3.19	15532.705	15532.705	11.5	-7.7	NO	NO	bbX
4	200714P1-08	Standard	12.500	3.19	15996.962	15996.962	11.9	-4.9	NO	NO	bbX
5	200714P1-09	Standard	12.500	3.20	15976.589	15976.589	11.9	-5.0	NO	NO	bbX
6	200714P1-10	Standard	12.500	3.19	16822.816	16822.816	12.5	0.0	NO	NO	bb
7	200714P1-11	Standard	12.500	3.20	16609.658	16609.658	12.3	-1.3	NO	NO	bbX
8	200714P1-12	Standard	12.500	3.19	16154.389	16154.389	12.0	-4.0	NO	NO	bbX
9	200714P1-13	Standard	12.500	3.19	16017.276	16017.276	11.9	-4.8	NO	NO	bbX
10	200714P1-14	Standard	12.500	3.20	15453.551	15453.551	11.5	-8.1	NO	NO	bbX

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Compound name: 13C2-PFHxA-RSD
Response Factor: 0.79744
RRF SD: 0.027804, Relative SD: 3.48665
Response type: Internal Std (Ref 101), Area * (IS Conc. / IS Area)
Curve type: RF

1	200714P1-05	Standard	12.500	3.19	15907.278	18866.482	10.539	13.2	5.7	NO	NO	bb
2	200714P1-06	Standard	12.500	3.19	15890.239	20787.566	9.555	12.0	-4.1	NO	NO	bb
3	200714P1-07	Standard	12.500	3.19	15532.705	19919.666	9.747	12.2	-2.2	NO	NO	bb
4	200714P1-08	Standard	12.500	3.19	15996.962	20599.625	9.707	12.2	-2.6	NO	NO	bb
5	200714P1-09	Standard	12.500	3.20	15976.589	20465.453	9.758	12.2	-2.1	NO	NO	bb
6	200714P1-10	Standard	12.500	3.19	16822.816	20497.014	10.259	12.9	2.9	NO	NO	bb
7	200714P1-11	Standard	12.500	3.20	16609.658	21261.203	9.765	12.2	-2.0	NO	NO	bb
8	200714P1-12	Standard	12.500	3.19	16154.389	19705.504	10.247	12.9	2.8	NO	NO	bb
9	200714P1-13	Standard	12.500	3.19	16017.276	20587.143	9.725	12.2	-2.4	NO	NO	bb
10	200714P1-14	Standard	12.500	3.20	15453.551	18617.133	10.376	13.0	4.1	NO	NO	bb

Compound name: 13C4-PFHpA-EIS
Response Factor: 1285.88
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

1	200714P1-05	Standard	12.500	3.79	15346.607	15346.607	11.9	-4.5	NO	NO	bbX
2	200714P1-06	Standard	12.500	3.79	15259.326	15259.326	11.9	-5.1	NO	NO	bbX
3	200714P1-07	Standard	12.500	3.79	14560.729	14560.729	11.3	-9.4	NO	NO	bbX
4	200714P1-08	Standard	12.500	3.79	15698.976	15698.976	12.2	-2.3	NO	NO	bbX
5	200714P1-09	Standard	12.500	3.79	15596.706	15596.706	12.1	-3.0	NO	NO	bbX
6	200714P1-10	Standard	12.500	3.79	16073.489	16073.489	12.5	0.0	NO	NO	bb
7	200714P1-11	Standard	12.500	3.79	16174.724	16174.724	12.6	0.6	NO	NO	bbX
8	200714P1-12	Standard	12.500	3.79	14859.042	14859.042	11.6	-7.6	NO	NO	bbX
9	200714P1-13	Standard	12.500	3.79	14794.651	14794.651	11.5	-8.0	NO	NO	bbX
10	200714P1-14	Standard	12.500	3.79	13581.220	13581.220	10.6	-15.5	NO	NO	bbX

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Compound name: 13C4-PFHpA-RSD
Response Factor: 0.754981
RRF SD: 0.028654, Relative SD: 3.79533
Response type: Internal Std (Ref 101), Area * (IS Conc. / IS Area)
Curve type: RF

1	200714P1-05	Standard	12.500	3.79	15346.607	18866.482	10.168	13.5	7.7	NO	NO	bb
2	200714P1-06	Standard	12.500	3.79	15259.326	20787.566	9.176	12.2	-2.8	NO	NO	bb
3	200714P1-07	Standard	12.500	3.79	14560.729	19919.666	9.137	12.1	-3.2	NO	NO	bb
4	200714P1-08	Standard	12.500	3.79	15698.976	20599.625	9.526	12.6	0.9	NO	NO	bb
5	200714P1-09	Standard	12.500	3.79	15596.706	20465.453	9.526	12.6	0.9	NO	NO	bb
6	200714P1-10	Standard	12.500	3.79	16073.489	20497.014	9.802	13.0	3.9	NO	NO	bb
7	200714P1-11	Standard	12.500	3.79	16174.724	21261.203	9.510	12.6	0.8	NO	NO	bb
8	200714P1-12	Standard	12.500	3.79	14859.042	19705.504	9.426	12.5	-0.1	NO	NO	bb
9	200714P1-13	Standard	12.500	3.79	14794.651	20587.143	8.983	11.9	-4.8	NO	NO	bb
10	200714P1-14	Standard	12.500	3.79	13581.220	18617.133	9.119	12.1	-3.4	NO	NO	bb

Compound name: 13C3-PFHxS-EIS
Response Factor: 305.184
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

1	200714P1-05	Standard	12.500	3.93	3766.335	3766.335	12.3	-1.3	NO	NO	bbX
2	200714P1-06	Standard	12.500	3.93	3819.933	3819.933	12.5	0.1	NO	NO	bbX
3	200714P1-07	Standard	12.500	3.93	3651.700	3651.700	12.0	-4.3	NO	NO	bbX
4	200714P1-08	Standard	12.500	3.93	3841.074	3841.074	12.6	0.7	NO	NO	bbX
5	200714P1-09	Standard	12.500	3.93	3815.933	3815.933	12.5	0.0	NO	NO	bbX
6	200714P1-10	Standard	12.500	3.93	3814.796	3814.796	12.5	0.0	NO	NO	bb
7	200714P1-11	Standard	12.500	3.93	4010.179	4010.179	13.1	5.1	NO	NO	bbX
8	200714P1-12	Standard	12.500	3.93	3602.187	3602.187	11.8	-5.6	NO	NO	bbX
9	200714P1-13	Standard	12.500	3.93	3548.005	3548.005	11.6	-7.0	NO	NO	bbX
10	200714P1-14	Standard	12.500	3.93	3155.803	3155.803	10.3	-17.3	NO	NO	bbX

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Compound name: 13C3-PFHxS-RSD
Response Factor: 2.47642
RRF SD: 0.0922512, Relative SD: 3.72519
Response type: Internal Std (Ref 102), Area * (IS Conc. / IS Area)
Curve type: RF

1	200714P1-05	Standard	12.500	3.93	3766.335	1443.999	32.603	13.2	5.3	NO	NO	bb
2	200714P1-06	Standard	12.500	3.93	3819.933	1495.675	31.925	12.9	3.1	NO	NO	bb
3	200714P1-07	Standard	12.500	3.93	3651.700	1475.380	30.939	12.5	-0.1	NO	NO	bb
4	200714P1-08	Standard	12.500	3.93	3841.074	1492.467	32.171	13.0	3.9	NO	NO	bb
5	200714P1-09	Standard	12.500	3.93	3815.933	1596.817	29.871	12.1	-3.5	NO	NO	bb
6	200714P1-10	Standard	12.500	3.93	3814.796	1566.257	30.445	12.3	-1.6	NO	NO	bb
7	200714P1-11	Standard	12.500	3.93	4010.179	1564.087	32.049	12.9	3.5	NO	NO	bb
8	200714P1-12	Standard	12.500	3.93	3602.187	1486.187	30.297	12.2	-2.1	NO	NO	bb
9	200714P1-13	Standard	12.500	3.93	3548.005	1514.581	29.282	11.8	-5.4	NO	NO	bb
10	200714P1-14	Standard	12.500	3.93	3155.803	1316.234	29.970	12.1	-3.2	NO	NO	bb

Compound name: 13C2-6:2 FTS-EIS
Response Factor: 198.809
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

1	200714P1-05	Standard	12.500	4.25	2520.341		2520.341	12.7	1.4	NO	NO	bbX
2	200714P1-06	Standard	12.500	4.25	2589.569		2589.569	13.0	4.2	NO	NO	bbX
3	200714P1-07	Standard	12.500	4.25	2349.270		2349.270	11.8	-5.5	NO	NO	bbX
4	200714P1-08	Standard	12.500	4.25	2426.874		2426.874	12.2	-2.3	NO	NO	bbX
5	200714P1-09	Standard	12.500	4.25	2602.857		2602.857	13.1	4.7	NO	NO	bbX
6	200714P1-10	Standard	12.500	4.25	2485.114		2485.114	12.5	0.0	NO	NO	bb
7	200714P1-11	Standard	12.500	4.25	2371.706		2371.706	11.9	-4.6	NO	NO	bbX
8	200714P1-12	Standard	12.500	4.25	2362.379		2362.379	11.9	-4.9	NO	NO	bbX
9	200714P1-13	Standard	12.500	4.25	2348.477		2348.477	11.8	-5.5	NO	NO	bbX
10	200714P1-14	Standard	12.500	4.25	2176.854		2176.854	10.9	-12.4	NO	NO	bbX

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Compound name: 13C2-6:2 FTS-RSD
Response Factor: 0.542354
RRF SD: 0.0360433, Relative SD: 6.64571
Response type: Internal Std (Ref 105), Area * (IS Conc. / IS Area)
Curve type: RF

1	200714P1-05	Standard	12.500	4.25	2520.341	4342.000	7.256	13.4	7.0	NO	NO	bb
2	200714P1-06	Standard	12.500	4.25	2589.569	4575.810	7.074	13.0	4.3	NO	NO	bb
3	200714P1-07	Standard	12.500	4.25	2349.270	4881.507	6.016	11.1	-11.3	NO	NO	bb
4	200714P1-08	Standard	12.500	4.25	2426.874	4537.158	6.686	12.3	-1.4	NO	NO	bb
5	200714P1-09	Standard	12.500	4.25	2602.857	4512.778	7.210	13.3	6.3	NO	NO	bb
6	200714P1-10	Standard	12.500	4.25	2485.114	4668.967	6.653	12.3	-1.9	NO	NO	bb
7	200714P1-11	Standard	12.500	4.25	2371.706	4686.146	6.326	11.7	-6.7	NO	NO	bb
8	200714P1-12	Standard	12.500	4.25	2362.379	4608.026	6.408	11.8	-5.5	NO	NO	bb
9	200714P1-13	Standard	12.500	4.25	2348.477	4335.323	6.771	12.5	-0.1	NO	NO	bb
10	200714P1-14	Standard	12.500	4.25	2176.854	3680.293	7.394	13.6	9.1	NO	NO	bb

Compound name: 13C5-PFNA-EIS
Response Factor: 1672.51
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

1	200714P1-05	Standard	12.500	4.75	19972.742		19972.742	11.9	-4.5	NO	NO	bbX
2	200714P1-06	Standard	12.500	4.75	19571.732		19571.732	11.7	-6.4	NO	NO	bbX
3	200714P1-07	Standard	12.500	4.75	19051.625		19051.625	11.4	-8.9	NO	NO	bbX
4	200714P1-08	Standard	12.500	4.75	19361.764		19361.764	11.6	-7.4	NO	NO	bbX
5	200714P1-09	Standard	12.500	4.75	19859.246		19859.246	11.9	-5.0	NO	NO	bbX
6	200714P1-10	Standard	12.500	4.75	20906.328		20906.328	12.5	0.0	NO	NO	bb
7	200714P1-11	Standard	12.500	4.75	20276.420		20276.420	12.1	-3.0	NO	NO	bbX
8	200714P1-12	Standard	12.500	4.75	19536.756		19536.756	11.7	-6.6	NO	NO	bbX
9	200714P1-13	Standard	12.500	4.75	18933.551		18933.551	11.3	-9.4	NO	NO	bbX
10	200714P1-14	Standard	12.500	4.75	17374.082		17374.082	10.4	-16.9	NO	NO	bbX

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Compound name: 13C5-PFNA-RSD
Response Factor: 0.941471
RRF SD: 0.0319652, Relative SD: 3.39525
Response type: Internal Std (Ref 104), Area * (IS Conc. / IS Area)
Curve type: RF

1	200714P1-05	Standard	12.500	4.75	19972.742	19925.254	12.530	13.3	6.5	NO	NO	bb
2	200714P1-06	Standard	12.500	4.75	19571.732	21069.840	11.611	12.3	-1.3	NO	NO	bb
3	200714P1-07	Standard	12.500	4.75	19051.625	21517.859	11.067	11.8	-6.0	NO	NO	bb
4	200714P1-08	Standard	12.500	4.75	19361.764	21104.348	11.468	12.2	-2.6	NO	NO	bb
5	200714P1-09	Standard	12.500	4.75	19859.246	21557.045	11.516	12.2	-2.1	NO	NO	bb
6	200714P1-10	Standard	12.500	4.75	20906.328	21648.375	12.072	12.8	2.6	NO	NO	bb
7	200714P1-11	Standard	12.500	4.75	20276.420	21192.848	11.959	12.7	1.6	NO	NO	bb
8	200714P1-12	Standard	12.500	4.75	19536.756	20765.273	11.760	12.5	-0.1	NO	NO	bb
9	200714P1-13	Standard	12.500	4.75	18933.551	20227.121	11.701	12.4	-0.6	NO	NO	bb
10	200714P1-14	Standard	12.500	4.75	17374.082	18098.008	12.000	12.7	2.0	NO	NO	bb

Compound name: 13C8-PFOSA-EIS
Response Factor: 715.499
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

1	200714P1-05	Standard	12.500	4.80	9252.494	9252.494	12.9	3.5	NO	NO	bbX
2	200714P1-06	Standard	12.500	4.80	8679.499	8679.499	12.1	-3.0	NO	NO	bbX
3	200714P1-07	Standard	12.500	4.80	8519.868	8519.868	11.9	-4.7	NO	NO	bbX
4	200714P1-08	Standard	12.500	4.80	9343.495	9343.495	13.1	4.5	NO	NO	bbX
5	200714P1-09	Standard	12.500	4.80	9461.762	9461.762	13.2	5.8	NO	NO	bbX
6	200714P1-10	Standard	12.500	4.80	8943.736	8943.736	12.5	0.0	NO	NO	bb
7	200714P1-11	Standard	12.500	4.80	9289.922	9289.922	13.0	3.9	NO	NO	bbX
8	200714P1-12	Standard	12.500	4.80	8893.026	8893.026	12.4	-0.6	NO	NO	bbX
9	200714P1-13	Standard	12.500	4.80	8309.279	8309.279	11.6	-7.1	NO	NO	bbX
10	200714P1-14	Standard	12.500	4.80	8106.487	8106.487	11.3	-9.4	NO	NO	bbX

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Compound name: 13C8-PFOSA-RSD
Response Factor: 0.492199
RRF SD: 0.0239961, Relative SD: 4.87528
Response type: Internal Std (Ref 107), Area * (IS Conc. / IS Area)
Curve type: RF

1	200714P1-05	Standard	12.500	4.80	9252.494	17934.158	6.449	13.1	4.8	NO	NO	bb
2	200714P1-06	Standard	12.500	4.80	8679.499	18804.207	5.770	11.7	-6.2	NO	NO	bb
3	200714P1-07	Standard	12.500	4.80	8519.868	18229.691	5.842	11.9	-5.0	NO	NO	bb
4	200714P1-08	Standard	12.500	4.80	9343.495	18290.113	6.386	13.0	3.8	NO	NO	bb
5	200714P1-09	Standard	12.500	4.80	9461.762	19788.580	5.977	12.1	-2.9	NO	NO	bb
6	200714P1-10	Standard	12.500	4.80	8943.736	18650.055	5.994	12.2	-2.6	NO	NO	bb
7	200714P1-11	Standard	12.500	4.80	9289.922	18798.543	6.177	12.6	0.4	NO	NO	bb
8	200714P1-12	Standard	12.500	4.80	8893.026	17734.996	6.268	12.7	1.9	NO	NO	bb
9	200714P1-13	Standard	12.500	4.80	8309.279	17457.488	5.950	12.1	-3.3	NO	NO	bb
10	200714P1-14	Standard	12.500	4.80	8106.487	15095.888	6.712	13.6	9.1	NO	NO	bb

Compound name: 13C2-PFOA-EIS
Response Factor: 1733.54
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

1	200714P1-05	Standard	12.500	4.31	21637.133	21637.133	12.5	-0.1	NO	NO	bbX
2	200714P1-06	Standard	12.500	4.31	21370.082	21370.082	12.3	-1.4	NO	NO	bbX
3	200714P1-07	Standard	12.500	4.31	20538.236	20538.236	11.8	-5.2	NO	NO	bbX
4	200714P1-08	Standard	12.500	4.31	21193.795	21193.795	12.2	-2.2	NO	NO	bbX
5	200714P1-09	Standard	12.500	4.31	22283.082	22283.082	12.9	2.8	NO	NO	bbX
6	200714P1-10	Standard	12.500	4.31	21669.301	21669.301	12.5	0.0	NO	NO	bb
7	200714P1-11	Standard	12.500	4.31	21987.039	21987.039	12.7	1.5	NO	NO	bbX
8	200714P1-12	Standard	12.500	4.31	20678.270	20678.270	11.9	-4.6	NO	NO	bbX
9	200714P1-13	Standard	12.500	4.31	18985.717	18985.717	11.0	-12.4	NO	NO	bbX
10	200714P1-14	Standard	12.500	4.31	17379.904	17379.904	10.0	-19.8	NO	NO	bbX

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Compound name: 13C2-PFOA-RSD
Response Factor: 1.24397
RRF SD: 0.0472783, Relative SD: 3.8006
Response type: Internal Std (Ref 103), Area * (IS Conc. / IS Area)
Curve type: RF

1	200714P1-05	Standard	12.500	4.31	21637.133	16144.792	16.752	13.5	7.7	NO	NO	bb
2	200714P1-06	Standard	12.500	4.31	21370.082	17366.801	15.381	12.4	-1.1	NO	NO	bb
3	200714P1-07	Standard	12.500	4.31	20538.236	16744.137	15.332	12.3	-1.4	NO	NO	bb
4	200714P1-08	Standard	12.500	4.31	21193.795	17080.313	15.510	12.5	-0.3	NO	NO	bb
5	200714P1-09	Standard	12.500	4.31	22283.082	18201.951	15.303	12.3	-1.6	NO	NO	bb
6	200714P1-10	Standard	12.500	4.31	21669.301	18261.623	14.833	11.9	-4.6	NO	NO	bb
7	200714P1-11	Standard	12.500	4.31	21987.039	17977.918	15.288	12.3	-1.7	NO	NO	bb
8	200714P1-12	Standard	12.500	4.31	20678.270	16470.166	15.694	12.6	0.9	NO	NO	bb
9	200714P1-13	Standard	12.500	4.31	18985.717	15792.484	15.027	12.1	-3.4	NO	NO	bb
10	200714P1-14	Standard	12.500	4.31	17379.904	13266.573	16.376	13.2	5.3	NO	NO	bb

Compound name: 13C8-PFOS-EIS
Response Factor: 299.078
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

1	200714P1-05	Standard	12.500	4.83	3606.335	3606.335	12.1	-3.5	NO	NO	bbX
2	200714P1-06	Standard	12.500	4.83	3498.795	3498.795	11.7	-6.4	NO	NO	bbX
3	200714P1-07	Standard	12.500	4.83	3526.449	3526.449	11.8	-5.7	NO	NO	bbX
4	200714P1-08	Standard	12.500	4.83	3326.762	3326.762	11.1	-11.0	NO	NO	bbX
5	200714P1-09	Standard	12.500	4.83	4003.688	4003.688	13.4	7.1	NO	NO	bbX
6	200714P1-10	Standard	12.500	4.83	3738.472	3738.472	12.5	0.0	NO	NO	bb
7	200714P1-11	Standard	12.500	4.83	3559.743	3559.743	11.9	-4.8	NO	NO	bbX
8	200714P1-12	Standard	12.500	4.83	3637.705	3637.705	12.2	-2.7	NO	NO	bbX
9	200714P1-13	Standard	12.500	4.84	3408.620	3408.620	11.4	-8.8	NO	NO	bbX
10	200714P1-14	Standard	12.500	4.83	3034.717	3034.717	10.1	-18.8	NO	NO	bbX

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Compound name: 13C8-PFOS-RSD
Response Factor: 0.789108
RRF SD: 0.0473126, Relative SD: 5.99571
Response type: Internal Std (Ref 105), Area * (IS Conc. / IS Area)
Curve type: RF

1	200714P1-05	Standard	12.500	4.83	3606.335	4342.000	10.382	13.2	5.3	NO	NO	bb
2	200714P1-06	Standard	12.500	4.83	3498.795	4575.810	9.558	12.1	-3.1	NO	NO	bb
3	200714P1-07	Standard	12.500	4.83	3526.449	4881.507	9.030	11.4	-8.5	NO	NO	bb
4	200714P1-08	Standard	12.500	4.83	3326.762	4537.158	9.165	11.6	-7.1	NO	NO	bb
5	200714P1-09	Standard	12.500	4.83	3960.673	4512.778	10.971	13.9	11.2	NO	NO	bb
6	200714P1-10	Standard	12.500	4.83	3738.472	4668.967	10.009	12.7	1.5	NO	NO	bb
7	200714P1-11	Standard	12.500	4.83	3559.743	4686.146	9.495	12.0	-3.7	NO	NO	bb
8	200714P1-12	Standard	12.500	4.83	3637.705	4608.026	9.868	12.5	0.0	NO	NO	bb
9	200714P1-13	Standard	12.500	4.84	3408.620	4335.323	9.828	12.5	-0.4	NO	NO	bb
10	200714P1-14	Standard	12.500	4.83	3042.042	3680.293	10.332	13.1	4.7	NO	NO	bb

Compound name: 13C2-PFDA-EIS
Response Factor: 1995.92
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

1	200714P1-05	Standard	12.500	5.12	23368.150		23368.150	11.7	-6.3	NO	NO	bbX
2	200714P1-06	Standard	12.500	5.13	22980.668		22980.668	11.5	-7.9	NO	NO	bbX
3	200714P1-07	Standard	12.500	5.13	23334.533		23334.533	11.7	-6.5	NO	NO	bbX
4	200714P1-08	Standard	12.500	5.13	24066.725		24066.725	12.1	-3.5	NO	NO	bbX
5	200714P1-09	Standard	12.500	5.13	24689.447		24689.447	12.4	-1.0	NO	NO	bbX
6	200714P1-10	Standard	12.500	5.13	24948.947		24948.947	12.5	0.0	NO	NO	bb
7	200714P1-11	Standard	12.500	5.13	24347.441		24347.441	12.2	-2.4	NO	NO	bbX
8	200714P1-12	Standard	12.500	5.13	23742.848		23742.848	11.9	-4.8	NO	NO	bbX
9	200714P1-13	Standard	12.500	5.13	23145.813		23145.813	11.6	-7.2	NO	NO	bbX
10	200714P1-14	Standard	12.500	5.13	21335.008		21335.008	10.7	-14.5	NO	NO	bbX

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Compound name: 13C2-PFDA-RSD
Response Factor: 1.1207
RRF SD: 0.0251841, Relative SD: 2.24718
Response type: Internal Std (Ref 106), Area * (IS Conc. / IS Area)
Curve type: RF

1	200714P1-05	Standard	12.500	5.12	23368.150	20368.861	14.341	12.8	2.4	NO	NO	bb
2	200714P1-06	Standard	12.500	5.13	22980.668	20726.273	13.860	12.4	-1.1	NO	NO	bb
3	200714P1-07	Standard	12.500	5.13	23334.533	21136.891	13.800	12.3	-1.5	NO	NO	bb
4	200714P1-08	Standard	12.500	5.13	24066.725	21789.701	13.806	12.3	-1.4	NO	NO	bb
5	200714P1-09	Standard	12.500	5.13	24689.447	22672.555	13.612	12.1	-2.8	NO	NO	bb
6	200714P1-10	Standard	12.500	5.13	24948.947	21944.688	14.211	12.7	1.4	NO	NO	bb
7	200714P1-11	Standard	12.500	5.13	24347.441	22437.697	13.564	12.1	-3.2	NO	NO	bb
8	200714P1-12	Standard	12.500	5.13	23742.848	20687.416	14.346	12.8	2.4	NO	NO	bb
9	200714P1-13	Standard	12.500	5.13	23145.813	20115.176	14.383	12.8	2.7	NO	NO	bb
10	200714P1-14	Standard	12.500	5.13	21335.008	18827.635	14.165	12.6	1.1	NO	NO	bb

Compound name: 13C2-8:2 FTS-EIS
Response Factor: 175.197
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

1	200714P1-05	Standard	12.500	5.10	1964.635	1964.635	11.2	-10.3	NO	NO	bbX
2	200714P1-06	Standard	12.500	5.10	1916.729	1916.729	10.9	-12.5	NO	NO	bbX
3	200714P1-07	Standard	12.500	5.10	2081.913	2081.913	11.9	-4.9	NO	NO	MMX
4	200714P1-08	Standard	12.500	5.10	2058.287	2058.287	11.7	-6.0	NO	NO	bbX
5	200714P1-09	Standard	12.500	5.10	2129.042	2129.042	12.2	-2.8	NO	NO	bbX
6	200714P1-10	Standard	12.500	5.10	2189.957	2189.957	12.5	0.0	NO	NO	bb
7	200714P1-11	Standard	12.500	5.10	2129.608	2129.608	12.2	-2.8	NO	NO	bbX
8	200714P1-12	Standard	12.500	5.10	1895.378	1895.378	10.8	-13.5	NO	NO	bbX
9	200714P1-13	Standard	12.500	5.10	1923.111	1923.111	11.0	-12.2	NO	NO	bbX
10	200714P1-14	Standard	12.500	5.10	1877.654	1877.654	10.7	-14.3	NO	NO	bbX

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Compound name: 13C2-8:2 FTS-RSD
Response Factor: 0.451181
RRF SD: 0.0289568, Relative SD: 6.418
Response type: Internal Std (Ref 105), Area * (IS Conc. / IS Area)
Curve type: RF

1	200714P1-05	Standard	12.500	5.10	1964.635	4342.000	5.656	12.5	0.3	NO	NO	bb
2	200714P1-06	Standard	12.500	5.10	1916.729	4575.810	5.236	11.6	-7.2	NO	NO	bb
3	200714P1-07	Standard	12.500	5.10	2081.609	4881.507	5.330	11.8	-5.5	NO	NO	MM
4	200714P1-08	Standard	12.500	5.10	2058.287	4537.158	5.671	12.6	0.5	NO	NO	bb
5	200714P1-09	Standard	12.500	5.10	2129.042	4512.778	5.897	13.1	4.6	NO	NO	bb
6	200714P1-10	Standard	12.500	5.10	2189.957	4668.967	5.863	13.0	4.0	NO	NO	bb
7	200714P1-11	Standard	12.500	5.10	2129.608	4686.146	5.681	12.6	0.7	NO	NO	bb
8	200714P1-12	Standard	12.500	5.10	1895.378	4608.026	5.142	11.4	-8.8	NO	NO	bb
9	200714P1-13	Standard	12.500	5.10	1923.111	4335.323	5.545	12.3	-1.7	NO	NO	bb
10	200714P1-14	Standard	12.500	5.10	1877.654	3680.293	6.377	14.1	13.1	NO	NO	bb

Compound name: d3-N-MeFOSAA-EIS
Response Factor: 391.23
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

1	200714P1-05	Standard	12.500	5.27	4618.156	4618.156	11.8	-5.6	NO	NO	bbX
2	200714P1-06	Standard	12.500	5.27	4686.311	4686.311	12.0	-4.2	NO	NO	bbX
3	200714P1-07	Standard	12.500	5.27	4361.361	4361.361	11.1	-10.8	NO	NO	bbX
4	200714P1-08	Standard	12.500	5.27	4787.729	4787.729	12.2	-2.1	NO	NO	bbX
5	200714P1-09	Standard	12.500	5.27	4916.231	4916.231	12.6	0.5	NO	NO	bbX
6	200714P1-10	Standard	12.500	5.27	4890.375	4890.375	12.5	0.0	NO	NO	bb
7	200714P1-11	Standard	12.500	5.27	4902.015	4902.015	12.5	0.2	NO	NO	bbX
8	200714P1-12	Standard	12.500	5.27	4690.507	4690.507	12.0	-4.1	NO	NO	bbX
9	200714P1-13	Standard	12.500	5.27	4773.129	4773.129	12.2	-2.4	NO	NO	bbX
10	200714P1-14	Standard	12.500	5.27	4631.904	4631.904	11.8	-5.3	NO	NO	bbX

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Compound name: d3-N-MeFOSAA-RSD
Response Factor: 0.262388
RRF SD: 0.018354, Relative SD: 6.99499
Response type: Internal Std (Ref 107), Area * (IS Conc. / IS Area)
Curve type: RF

1	200714P1-05	Standard	12.500	5.27	4618.156	17934.158	3.219	12.3	-1.9	NO	NO	bb
2	200714P1-06	Standard	12.500	5.27	4686.311	18804.207	3.115	11.9	-5.0	NO	NO	bb
3	200714P1-07	Standard	12.500	5.27	4361.361	18229.691	2.991	11.4	-8.8	NO	NO	bb
4	200714P1-08	Standard	12.500	5.27	4787.729	18290.113	3.272	12.5	-0.2	NO	NO	bb
5	200714P1-09	Standard	12.500	5.27	4916.231	19788.580	3.105	11.8	-5.3	NO	NO	bb
6	200714P1-10	Standard	12.500	5.27	4890.375	18650.055	3.278	12.5	-0.1	NO	NO	bb
7	200714P1-11	Standard	12.500	5.27	4902.015	18798.543	3.260	12.4	-0.6	NO	NO	bb
8	200714P1-12	Standard	12.500	5.27	4690.507	17734.996	3.306	12.6	0.8	NO	NO	bb
9	200714P1-13	Standard	12.500	5.27	4773.129	17457.488	3.418	13.0	4.2	NO	NO	bb
10	200714P1-14	Standard	12.500	5.27	4631.904	15095.888	3.835	14.6	16.9	NO	NO	bb

Compound name: 13C2-PFUdA-EIS
Response Factor: 1917.64
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

1	200714P1-05	Standard	12.500	5.45	23457.783	23457.783	12.2	-2.1	NO	NO	bbX
2	200714P1-06	Standard	12.500	5.45	22756.576	22756.576	11.9	-5.1	NO	NO	bbX
3	200714P1-07	Standard	12.500	5.45	23169.525	23169.525	12.1	-3.3	NO	NO	bbX
4	200714P1-08	Standard	12.500	5.45	23991.473	23991.473	12.5	0.1	NO	NO	bbX
5	200714P1-09	Standard	12.500	5.45	24467.885	24467.885	12.8	2.1	NO	NO	bbX
6	200714P1-10	Standard	12.500	5.45	23970.490	23970.490	12.5	0.0	NO	NO	bb
7	200714P1-11	Standard	12.500	5.45	23967.434	23967.434	12.5	-0.0	NO	NO	bbX
8	200714P1-12	Standard	12.500	5.45	22860.875	22860.875	11.9	-4.6	NO	NO	bbX
9	200714P1-13	Standard	12.500	5.45	22522.078	22522.078	11.7	-6.0	NO	NO	bbX
10	200714P1-14	Standard	12.500	5.45	19828.572	19828.572	10.3	-17.3	NO	NO	bbX

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Compound name: 13C2-PFUdA-RSD
Response Factor: 1.27902
RRF SD: 0.0333178, Relative SD: 2.60494
Response type: Internal Std (Ref 107), Area * (IS Conc. / IS Area)
Curve type: RF

1	200714P1-05	Standard	12.500	5.45	23457.783	17934.158	16.350	12.8	2.3	NO	NO	bb
2	200714P1-06	Standard	12.500	5.45	22756.576	18804.207	15.127	11.8	-5.4	NO	NO	bb
3	200714P1-07	Standard	12.500	5.45	23169.525	18229.691	15.887	12.4	-0.6	NO	NO	bb
4	200714P1-08	Standard	12.500	5.45	23991.473	18290.113	16.396	12.8	2.6	NO	NO	bb
5	200714P1-09	Standard	12.500	5.45	24467.885	19788.580	15.456	12.1	-3.3	NO	NO	bb
6	200714P1-10	Standard	12.500	5.45	23970.490	18650.055	16.066	12.6	0.5	NO	NO	bb
7	200714P1-11	Standard	12.500	5.45	23967.434	18798.543	15.937	12.5	-0.3	NO	NO	bb
8	200714P1-12	Standard	12.500	5.45	22860.875	17734.996	16.113	12.6	0.8	NO	NO	bb
9	200714P1-13	Standard	12.500	5.45	22522.078	17457.488	16.126	12.6	0.9	NO	NO	bb
10	200714P1-14	Standard	12.500	5.45	19828.572	15095.888	16.419	12.8	2.7	NO	NO	bb

Compound name: d5-N-EtFOSAA-EIS
Response Factor: 342.385
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

1	200714P1-05	Standard	12.500	5.42	3925.879	3925.879	11.5	-8.3	NO	NO	bbX
2	200714P1-06	Standard	12.500	5.42	3901.416	3901.416	11.4	-8.8	NO	NO	bbX
3	200714P1-07	Standard	12.500	5.43	3957.867	3957.867	11.6	-7.5	NO	NO	bbX
4	200714P1-08	Standard	12.500	5.42	4226.074	4226.074	12.3	-1.3	NO	NO	bbX
5	200714P1-09	Standard	12.500	5.43	3924.296	3924.296	11.5	-8.3	NO	NO	bbX
6	200714P1-10	Standard	12.500	5.42	4279.810	4279.810	12.5	0.0	NO	NO	bb
7	200714P1-11	Standard	12.500	5.43	3788.670	3788.670	11.1	-11.5	NO	NO	bbX
8	200714P1-12	Standard	12.500	5.42	4450.607	4450.607	13.0	4.0	NO	NO	bbX
9	200714P1-13	Standard	12.500	5.42	3543.901	3543.901	10.4	-17.2	NO	NO	bbX
10	200714P1-14	Standard	12.500	5.42	3434.674	3434.674	10.0	-19.7	NO	NO	bbX

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Compound name: d5-N-EtFOSAA-RSD
Response Factor: 0.218536
RRF SD: 0.0165722, Relative SD: 7.58329
Response type: Internal Std (Ref 107), Area * (IS Conc. / IS Area)
Curve type: RF

1	200714P1-05	Standard	12.500	5.42	3925.879	17934.158	2.736	12.5	0.2	NO	NO	bb
2	200714P1-06	Standard	12.500	5.42	3901.416	18804.207	2.593	11.9	-5.1	NO	NO	bb
3	200714P1-07	Standard	12.500	5.43	3957.867	18229.691	2.714	12.4	-0.7	NO	NO	bb
4	200714P1-08	Standard	12.500	5.42	4226.074	18290.113	2.888	13.2	5.7	NO	NO	bb
5	200714P1-09	Standard	12.500	5.43	3924.296	19788.580	2.479	11.3	-9.3	NO	NO	bb
6	200714P1-10	Standard	12.500	5.42	4279.810	18650.055	2.868	13.1	5.0	NO	NO	bb
7	200714P1-11	Standard	12.500	5.43	3788.670	18798.543	2.519	11.5	-7.8	NO	NO	bb
8	200714P1-12	Standard	12.500	5.42	4450.607	17734.996	3.137	14.4	14.8	NO	NO	bb
9	200714P1-13	Standard	12.500	5.42	3543.901	17457.488	2.538	11.6	-7.1	NO	NO	bb
10	200714P1-14	Standard	12.500	5.42	3434.674	15095.888	2.844	13.0	4.1	NO	NO	bb

Compound name: 13C2-PFDoA-EIS
Response Factor: 2303.97
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

1	200714P1-05	Standard	12.500	5.72	28899.332	28899.332	12.5	0.3	NO	NO	bbX
2	200714P1-06	Standard	12.500	5.73	27005.604	27005.604	11.7	-6.2	NO	NO	bbX
3	200714P1-07	Standard	12.500	5.73	27706.188	27706.188	12.0	-3.8	NO	NO	bbX
4	200714P1-08	Standard	12.500	5.73	27549.563	27549.563	12.0	-4.3	NO	NO	bbX
5	200714P1-09	Standard	12.500	5.73	27539.930	27539.930	12.0	-4.4	NO	NO	bbX
6	200714P1-10	Standard	12.500	5.73	28799.658	28799.658	12.5	0.0	NO	NO	bb
7	200714P1-11	Standard	12.500	5.73	29855.451	29855.451	13.0	3.7	NO	NO	bbX
8	200714P1-12	Standard	12.500	5.73	26112.064	26112.064	11.3	-9.3	NO	NO	bbX
9	200714P1-13	Standard	12.500	5.73	24515.406	24515.406	10.6	-14.9	NO	NO	bbX
10	200714P1-14	Standard	12.500	5.73	22827.689	22827.689	9.9	-20.7	NO	NO	bbX

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Compound name: 13C2-PFDoA-RSD
Response Factor: 1.2848
RRF SD: 0.064343, Relative SD: 5.00803
Response type: Internal Std (Ref 106), Area * (IS Conc. / IS Area)
Curve type: RF

1	200714P1-05	Standard	12.500	5.72	28899.332	20368.861	17.735	13.8	10.4	NO	NO	bb
2	200714P1-06	Standard	12.500	5.73	27005.604	20726.273	16.287	12.7	1.4	NO	NO	bb
3	200714P1-07	Standard	12.500	5.73	27706.188	21136.891	16.385	12.8	2.0	NO	NO	bb
4	200714P1-08	Standard	12.500	5.73	27549.563	21789.701	15.804	12.3	-1.6	NO	NO	bb
5	200714P1-09	Standard	12.500	5.73	27539.930	22672.555	15.184	11.8	-5.5	NO	NO	bb
6	200714P1-10	Standard	12.500	5.73	28799.658	21944.688	16.405	12.8	2.1	NO	NO	bb
7	200714P1-11	Standard	12.500	5.73	29855.451	22437.697	16.632	12.9	3.6	NO	NO	bb
8	200714P1-12	Standard	12.500	5.73	26112.064	20687.416	15.778	12.3	-1.8	NO	NO	bb
9	200714P1-13	Standard	12.500	5.73	24515.406	20115.176	15.234	11.9	-5.1	NO	NO	bb
10	200714P1-14	Standard	12.500	5.73	22827.689	18827.635	15.156	11.8	-5.6	NO	NO	bb

Compound name: 13C2-10:2 FTS-EIS
Response Factor: 119.38
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

1	200714P1-05	Standard	12.500	5.71	1541.734	1541.734	12.9	3.3	NO	NO	bbX
2	200714P1-06	Standard	12.500	5.71	1696.700	1696.700	14.2	13.7	NO	NO	bbX
3	200714P1-07	Standard	12.500	5.71	1566.035	1566.035	13.1	4.9	NO	NO	bbX
4	200714P1-08	Standard	12.500	5.71	1543.193	1543.193	12.9	3.4	NO	NO	bbX
5	200714P1-09	Standard	12.500	5.71	1534.456	1534.456	12.9	2.8	NO	NO	bbX
6	200714P1-10	Standard	12.500	5.71	1492.248	1492.248	12.5	0.0	NO	NO	bb
7	200714P1-11	Standard	12.500	5.71	1394.419	1394.419	11.7	-6.6	NO	NO	dbX
8	200714P1-12	Standard	12.500	5.71	1236.919	1236.919	10.4	-17.1	NO	NO	MMX
9	200714P1-13	Standard	12.500	5.71	1160.157	1160.157	9.7	-22.3	NO	NO	MMX
10	200714P1-14	Standard	12.500	5.71	942.835	942.835	7.9	-36.8	YES	NO	MMX

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Compound name: 13C2-10:2 FTS-RSD
Response Factor: 0.313625
RRF SD: 0.039701, Relative SD: 12.6588
Response type: Internal Std (Ref 105), Area * (IS Conc. / IS Area)
Curve type: RF

1	200714P1-05	Standard	12.500	5.71	1541.734	4342.000	4.438	14.2	13.2	NO	NO	bb
2	200714P1-06	Standard	12.500	5.71	1696.700	4575.810	4.635	14.8	18.2	NO	NO	bb
3	200714P1-07	Standard	12.500	5.71	1566.035	4881.507	4.010	12.8	2.3	NO	NO	bb
4	200714P1-08	Standard	12.500	5.71	1543.193	4537.158	4.252	13.6	8.4	NO	NO	bb
5	200714P1-09	Standard	12.500	5.71	1534.456	4512.778	4.250	13.6	8.4	NO	NO	bb
6	200714P1-10	Standard	12.500	5.71	1492.248	4668.967	3.995	12.7	1.9	NO	NO	bb
7	200714P1-11	Standard	12.500	5.71	1394.419	4686.146	3.720	11.9	-5.1	NO	NO	db
8	200714P1-12	Standard	12.500	5.71	1236.574	4608.026	3.354	10.7	-14.4	NO	NO	MM
9	200714P1-13	Standard	12.500	5.71	1159.967	4335.323	3.345	10.7	-14.7	NO	NO	MM
10	200714P1-14	Standard	12.500	5.71	943.368	3680.293	3.204	10.2	-18.3	NO	NO	MM

Compound name: d3-N-MeFOSA-EIS
Response Factor: 178.8
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

1	200714P1-05	Standard	149.200	5.73	25001.195	25001.195	139.8	-6.3	NO	NO	bbX
2	200714P1-06	Standard	149.200	5.73	24880.635	24880.635	139.2	-6.7	NO	NO	bbX
3	200714P1-07	Standard	149.200	5.73	24379.451	24379.451	136.4	-8.6	NO	NO	bbX
4	200714P1-08	Standard	149.200	5.73	25946.547	25946.547	145.1	-2.7	NO	NO	bbX
5	200714P1-09	Standard	149.200	5.73	25299.283	25299.283	141.5	-5.2	NO	NO	bbX
6	200714P1-10	Standard	149.200	5.73	26676.906	26676.906	149.2	0.0	NO	NO	bb
7	200714P1-11	Standard	149.200	5.73	26700.266	26700.266	149.3	0.1	NO	NO	bbX
8	200714P1-12	Standard	149.200	5.73	24842.984	24842.984	138.9	-6.9	NO	NO	bbX
9	200714P1-13	Standard	149.200	5.73	24493.023	24493.023	137.0	-8.2	NO	NO	bbX
10	200714P1-14	Standard	149.200	5.73	22047.441	22047.441	123.3	-17.4	NO	NO	bbX

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Compound name: d3-N-MeFOSA-RSD
Response Factor: 0.116175
RRF SD: 0.00469051, Relative SD: 4.03745
Response type: Internal Std (Ref 107), Area * (IS Conc. / IS Area)
Curve type: RF

1	200714P1-05	Standard	149.200	5.73	25001.195	17934.158	17.426	150.0	0.5	NO	NO	bb
2	200714P1-06	Standard	149.200	5.73	24880.635	18804.207	16.539	142.4	-4.6	NO	NO	bb
3	200714P1-07	Standard	149.200	5.73	24379.451	18229.691	16.717	143.9	-3.6	NO	NO	bb
4	200714P1-08	Standard	149.200	5.73	25946.547	18290.113	17.733	152.6	2.3	NO	NO	bb
5	200714P1-09	Standard	149.200	5.73	25299.283	19788.580	15.981	137.6	-7.8	NO	NO	bb
6	200714P1-10	Standard	149.200	5.73	26676.906	18650.055	17.880	153.9	3.2	NO	NO	bb
7	200714P1-11	Standard	149.200	5.73	26700.266	18798.543	17.754	152.8	2.4	NO	NO	bb
8	200714P1-12	Standard	149.200	5.73	24842.984	17734.996	17.510	150.7	1.0	NO	NO	bb
9	200714P1-13	Standard	149.200	5.73	24493.023	17457.488	17.538	151.0	1.2	NO	NO	bb
10	200714P1-14	Standard	149.200	5.73	22047.441	15095.888	18.256	157.1	5.3	NO	NO	bb

Compound name: 13C2-PFTeDA-EIS
Response Factor: 2242.34
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

1	200714P1-05	Standard	12.500	6.18	28348.844	28348.844	12.6	1.1	NO	NO	bbX
2	200714P1-06	Standard	12.500	6.18	27195.896	27195.896	12.1	-3.0	NO	NO	bbX
3	200714P1-07	Standard	12.500	6.18	27176.436	27176.436	12.1	-3.0	NO	NO	bbX
4	200714P1-08	Standard	12.500	6.17	27075.727	27075.727	12.1	-3.4	NO	NO	bbX
5	200714P1-09	Standard	12.500	6.18	28104.383	28104.383	12.5	0.3	NO	NO	bbX
6	200714P1-10	Standard	12.500	6.18	28029.271	28029.271	12.5	0.0	NO	NO	bb
7	200714P1-11	Standard	12.500	6.18	28920.814	28920.814	12.9	3.2	NO	NO	bbX
8	200714P1-12	Standard	12.500	6.17	27996.127	27996.127	12.5	-0.1	NO	NO	bbX
9	200714P1-13	Standard	12.500	6.18	26693.490	26693.490	11.9	-4.8	NO	NO	bbX
10	200714P1-14	Standard	12.500	6.18	24299.152	24299.152	10.8	-13.3	NO	NO	bbX

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Compound name: 13C2-PFTeDA-RSD
Response Factor: 1.5177
RRF SD: 0.0611325, Relative SD: 4.02797
Response type: Internal Std (Ref 107), Area * (IS Conc. / IS Area)
Curve type: RF

1	200714P1-05	Standard	12.500	6.18	28348.844	17934.158	19.759	13.0	4.2	NO	NO	bb
2	200714P1-06	Standard	12.500	6.18	27195.896	18804.207	18.078	11.9	-4.7	NO	NO	bb
3	200714P1-07	Standard	12.500	6.18	27176.436	18229.691	18.635	12.3	-1.8	NO	NO	bb
4	200714P1-08	Standard	12.500	6.17	27075.727	18290.113	18.504	12.2	-2.5	NO	NO	bb
5	200714P1-09	Standard	12.500	6.18	28104.383	19788.580	17.753	11.7	-6.4	NO	NO	bb
6	200714P1-10	Standard	12.500	6.18	28029.271	18650.055	18.786	12.4	-1.0	NO	NO	bb
7	200714P1-11	Standard	12.500	6.18	28920.814	18798.543	19.231	12.7	1.4	NO	NO	bb
8	200714P1-12	Standard	12.500	6.17	27996.127	17734.996	19.732	13.0	4.0	NO	NO	bb
9	200714P1-13	Standard	12.500	6.18	26693.490	17457.488	19.113	12.6	0.7	NO	NO	bb
10	200714P1-14	Standard	12.500	6.18	24299.152	15095.888	20.121	13.3	6.1	NO	NO	bb

Compound name: d5-N-ETFOSA-EIS
Response Factor: 204.675
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

1	200714P1-05	Standard	149.200	6.14	29955.465	29955.465	146.4	-1.9	NO	NO	bbX
2	200714P1-06	Standard	149.200	6.14	28843.000	28843.000	140.9	-5.5	NO	NO	bbX
3	200714P1-07	Standard	149.200	6.14	29362.738	29362.738	143.5	-3.8	NO	NO	bbX
4	200714P1-08	Standard	149.200	6.14	30136.287	30136.287	147.2	-1.3	NO	NO	bbX
5	200714P1-09	Standard	149.200	6.14	30226.980	30226.980	147.7	-1.0	NO	NO	bbX
6	200714P1-10	Standard	149.200	6.14	30537.547	30537.547	149.2	0.0	NO	NO	bb
7	200714P1-11	Standard	149.200	6.14	32286.406	32286.406	157.7	5.7	NO	NO	bbX
8	200714P1-12	Standard	149.200	6.14	29710.975	29710.975	145.2	-2.7	NO	NO	bbX
9	200714P1-13	Standard	149.200	6.14	28657.531	28657.531	140.0	-6.2	NO	NO	bbX
10	200714P1-14	Standard	149.200	6.14	24387.775	24387.775	119.2	-20.1	NO	NO	bbX

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Compound name: d5-N-ETFOSA-RSD
Response Factor: 0.136371
RRF SD: 0.00500432, Relative SD: 3.66962
Response type: Internal Std (Ref 107), Area * (IS Conc. / IS Area)
Curve type: RF

1	200714P1-05	Standard	149.200	6.14	29955.465	17934.158	20.879	153.1	2.6	NO	NO	bb
2	200714P1-06	Standard	149.200	6.14	28843.000	18804.207	19.173	140.6	-5.8	NO	NO	bb
3	200714P1-07	Standard	149.200	6.14	29362.738	18229.691	20.134	147.6	-1.0	NO	NO	bb
4	200714P1-08	Standard	149.200	6.14	30136.287	18290.113	20.596	151.0	1.2	NO	NO	bb
5	200714P1-09	Standard	149.200	6.14	30226.980	19788.580	19.094	140.0	-6.2	NO	NO	bb
6	200714P1-10	Standard	149.200	6.14	30537.547	18650.055	20.467	150.1	0.6	NO	NO	bb
7	200714P1-11	Standard	149.200	6.14	32286.406	18798.543	21.469	157.4	5.5	NO	NO	bb
8	200714P1-12	Standard	149.200	6.14	29710.975	17734.996	20.941	153.6	2.9	NO	NO	bb
9	200714P1-13	Standard	149.200	6.14	28657.531	17457.488	20.520	150.5	0.8	NO	NO	bb
10	200714P1-14	Standard	149.200	6.14	24387.775	15095.888	20.194	148.1	-0.7	NO	NO	bb

Compound name: 13C2-PFHxDA-EIS
Response Factor: 2454.3
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

1	200714P1-05	Standard	12.500	6.49	31730.168	31730.168	12.9	3.4	NO	NO	bbX
2	200714P1-06	Standard	12.500	6.49	29605.863	29605.863	12.1	-3.5	NO	NO	bbX
3	200714P1-07	Standard	12.500	6.49	29535.994	29535.994	12.0	-3.7	NO	NO	bbX
4	200714P1-08	Standard	12.500	6.49	29942.436	29942.436	12.2	-2.4	NO	NO	bbX
5	200714P1-09	Standard	12.500	6.49	31860.355	31860.355	13.0	3.9	NO	NO	bbX
6	200714P1-10	Standard	12.500	6.49	30678.719	30678.719	12.5	0.0	NO	NO	bb
7	200714P1-11	Standard	12.500	6.49	32782.980	32782.980	13.4	6.9	NO	NO	bbX
8	200714P1-12	Standard	12.500	6.49	30092.316	30092.316	12.3	-1.9	NO	NO	bbX
9	200714P1-13	Standard	12.500	6.49	30044.176	30044.176	12.2	-2.1	NO	NO	bbX
10	200714P1-14	Standard	12.500	6.49	26702.994	26702.994	10.9	-13.0	NO	NO	bbX

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Compound name: 13C2-PFHxDA-RSD
Response Factor: 1.67866
RRF SD: 0.0703807, Relative SD: 4.19268
Response type: Internal Std (Ref 107), Area * (IS Conc. / IS Area)
Curve type: RF

1	200714P1-05	Standard	12.500	6.49	31730.168	17934.158	22.116	13.2	5.4	NO	NO	bb
2	200714P1-06	Standard	12.500	6.49	29605.863	18804.207	19.680	11.7	-6.2	NO	NO	bb
3	200714P1-07	Standard	12.500	6.49	29535.994	18229.691	20.253	12.1	-3.5	NO	NO	bb
4	200714P1-08	Standard	12.500	6.49	29942.436	18290.113	20.464	12.2	-2.5	NO	NO	bb
5	200714P1-09	Standard	12.500	6.49	31860.355	19788.580	20.125	12.0	-4.1	NO	NO	bb
6	200714P1-10	Standard	12.500	6.49	30678.719	18650.055	20.562	12.2	-2.0	NO	NO	bb
7	200714P1-11	Standard	12.500	6.49	32782.980	18798.543	21.799	13.0	3.9	NO	NO	bb
8	200714P1-12	Standard	12.500	6.49	30092.316	17734.996	21.210	12.6	1.1	NO	NO	bb
9	200714P1-13	Standard	12.500	6.49	30044.176	17457.488	21.512	12.8	2.5	NO	NO	bb
10	200714P1-14	Standard	12.500	6.49	26702.994	15095.888	22.111	13.2	5.4	NO	NO	bb

Compound name: d7-N-MeFOSE-EIS
Response Factor: 177.939
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

1	200714P1-05	Standard	149.200	6.31	25873.684	25873.684	145.4	-2.5	NO	NO	bbX
2	200714P1-06	Standard	149.200	6.30	25152.414	25152.414	141.4	-5.3	NO	NO	bbX
3	200714P1-07	Standard	149.200	6.30	25712.727	25712.727	144.5	-3.1	NO	NO	bbX
4	200714P1-08	Standard	149.200	6.30	25659.541	25659.541	144.2	-3.3	NO	NO	bbX
5	200714P1-09	Standard	149.200	6.31	27093.271	27093.271	152.3	2.1	NO	NO	bbX
6	200714P1-10	Standard	149.200	6.30	26548.555	26548.555	149.2	0.0	NO	NO	bb
7	200714P1-11	Standard	149.200	6.31	28773.104	28773.104	161.7	8.4	NO	NO	bbX
8	200714P1-12	Standard	149.200	6.30	26893.195	26893.195	151.1	1.3	NO	NO	bbX
9	200714P1-13	Standard	149.200	6.31	26758.592	26758.592	150.4	0.8	NO	NO	bbX
10	200714P1-14	Standard	149.200	6.30	25831.100	25831.100	145.2	-2.7	NO	NO	bbX

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Compound name: d7-N-MeFOSE-RSD
Response Factor: 0.122966
RRF SD: 0.00911429, Relative SD: 7.41202
Response type: Internal Std (Ref 107), Area * (IS Conc. / IS Area)
Curve type: RF

1	200714P1-05	Standard	149.200	6.31	25873.684	17934.158	18.034	146.7	-1.7	NO	NO	bb
2	200714P1-06	Standard	149.200	6.30	25152.414	18804.207	16.720	136.0	-8.9	NO	NO	bb
3	200714P1-07	Standard	149.200	6.30	25712.727	18229.691	17.631	143.4	-3.9	NO	NO	bb
4	200714P1-08	Standard	149.200	6.30	25659.541	18290.113	17.536	142.6	-4.4	NO	NO	bb
5	200714P1-09	Standard	149.200	6.31	27093.271	19788.580	17.114	139.2	-6.7	NO	NO	bb
6	200714P1-10	Standard	149.200	6.30	26548.555	18650.055	17.794	144.7	-3.0	NO	NO	bb
7	200714P1-11	Standard	149.200	6.31	28773.104	18798.543	19.133	155.6	4.3	NO	NO	bb
8	200714P1-12	Standard	149.200	6.30	26893.195	17734.996	18.955	154.1	3.3	NO	NO	bb
9	200714P1-13	Standard	149.200	6.31	26758.592	17457.488	19.160	155.8	4.4	NO	NO	bb
10	200714P1-14	Standard	149.200	6.30	25831.100	15095.888	21.389	173.9	16.6	NO	NO	bb

Compound name: d9-N-EtFOSE-EIS
Response Factor: 205.463
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

1	200714P1-05	Standard	149.200	6.45	28655.701	28655.701	139.5	-6.5	NO	NO	bbX
2	200714P1-06	Standard	149.200	6.45	29116.070	29116.070	141.7	-5.0	NO	NO	bbX
3	200714P1-07	Standard	149.200	6.45	28599.301	28599.301	139.2	-6.7	NO	NO	bbX
4	200714P1-08	Standard	149.200	6.45	29822.564	29822.564	145.1	-2.7	NO	NO	bbX
5	200714P1-09	Standard	149.200	6.45	31202.797	31202.797	151.9	1.8	NO	NO	bbX
6	200714P1-10	Standard	149.200	6.45	30655.066	30655.066	149.2	0.0	NO	NO	bb
7	200714P1-11	Standard	149.200	6.45	32652.547	32652.547	158.9	6.5	NO	NO	bbX
8	200714P1-12	Standard	149.200	6.45	30162.348	30162.348	146.8	-1.6	NO	NO	bbX
9	200714P1-13	Standard	149.200	6.45	30691.268	30691.268	149.4	0.1	NO	NO	bbX
10	200714P1-14	Standard	149.200	6.45	29723.055	29723.055	144.7	-3.0	NO	NO	bbX

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Compound name: d9-N-EtFOSE-RSD
Response Factor: 0.140171
RRF SD: 0.0105838, Relative SD: 7.55066
Response type: Internal Std (Ref 107), Area * (IS Conc. / IS Area)
Curve type: RF

1 200714P1-05	Standard	149.200	6.45	28655.701	17934.158	19.973	142.5	-4.5	NO	NO	bb
2 200714P1-06	Standard	149.200	6.45	29116.070	18804.207	19.355	138.1	-7.5	NO	NO	bb
3 200714P1-07	Standard	149.200	6.45	28599.301	18229.691	19.610	139.9	-6.2	NO	NO	bb
4 200714P1-08	Standard	149.200	6.45	29822.564	18290.113	20.382	145.4	-2.5	NO	NO	bb
5 200714P1-09	Standard	149.200	6.45	31202.797	19788.580	19.710	140.6	-5.8	NO	NO	bb
6 200714P1-10	Standard	149.200	6.45	30655.066	18650.055	20.546	146.6	-1.8	NO	NO	bb
7 200714P1-11	Standard	149.200	6.45	32652.547	18798.543	21.712	154.9	3.8	NO	NO	bb
8 200714P1-12	Standard	149.200	6.45	30162.348	17734.996	21.259	151.7	1.7	NO	NO	bb
9 200714P1-13	Standard	149.200	6.45	30691.268	17457.488	21.976	156.8	5.1	NO	NO	bb
10 200714P1-14	Standard	149.200	6.45	29723.055	15095.888	24.612	175.6	17.7	NO	NO	bb

Compound name: 13C4-PFBA
Response Factor: 1
RRF SD: 3.70074e-017, Relative SD: 3.70074e-015
Response type: Internal Std (Ref 99), Area * (IS Conc. / IS Area)
Curve type: RF

1 200714P1-05	Standard	12.500	1.43	8885.112	8885.112	12.500	12.5	0.0	NO	NO	MM
2 200714P1-06	Standard	12.500	1.44	8720.292	8720.292	12.500	12.5	0.0	NO	NO	MM
3 200714P1-07	Standard	12.500	1.43	9075.949	9075.949	12.500	12.5	0.0	NO	NO	MM
4 200714P1-08	Standard	12.500	1.43	9362.128	9362.128	12.500	12.5	0.0	NO	NO	MM
5 200714P1-09	Standard	12.500	1.44	9944.453	9944.453	12.500	12.5	0.0	NO	NO	MM
6 200714P1-10	Standard	12.500	1.43	9086.962	9086.962	12.500	12.5	0.0	NO	NO	MM
7 200714P1-11	Standard	12.500	1.44	9580.989	9580.989	12.500	12.5	0.0	NO	NO	MM
8 200714P1-12	Standard	12.500	1.43	9050.654	9050.654	12.500	12.5	0.0	NO	NO	MM
9 200714P1-13	Standard	12.500	1.43	10431.643	10431.643	12.500	12.5	0.0	NO	NO	MM
10 200714P1-14	Standard	12.500	1.44	10023.224	10023.224	12.500	12.5	0.0	NO	NO	MM

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Compound name: 13C5-PFHxA
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 101), Area * (IS Conc. / IS Area)
Curve type: RF

1	200714P1-05	Standard	12.500	3.19	18866.482	18866.482	12.500	12.5	0.0	NO	NO	bb
2	200714P1-06	Standard	12.500	3.19	20787.566	20787.566	12.500	12.5	0.0	NO	NO	bb
3	200714P1-07	Standard	12.500	3.19	19919.666	19919.666	12.500	12.5	0.0	NO	NO	bb
4	200714P1-08	Standard	12.500	3.19	20599.625	20599.625	12.500	12.5	0.0	NO	NO	bb
5	200714P1-09	Standard	12.500	3.20	20465.453	20465.453	12.500	12.5	0.0	NO	NO	bb
6	200714P1-10	Standard	12.500	3.19	20497.014	20497.014	12.500	12.5	0.0	NO	NO	bb
7	200714P1-11	Standard	12.500	3.20	21261.203	21261.203	12.500	12.5	0.0	NO	NO	bb
8	200714P1-12	Standard	12.500	3.19	19705.504	19705.504	12.500	12.5	0.0	NO	NO	bb
9	200714P1-13	Standard	12.500	3.19	20587.143	20587.143	12.500	12.5	0.0	NO	NO	bb
10	200714P1-14	Standard	12.500	3.19	18617.133	18617.133	12.500	12.5	0.0	NO	NO	bb

Compound name: 18O2-PFHxS
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 102), Area * (IS Conc. / IS Area)
Curve type: RF

1	200714P1-05	Standard	12.500	3.93	1443.999	1443.999	12.500	12.5	0.0	NO	NO	bb
2	200714P1-06	Standard	12.500	3.93	1495.675	1495.675	12.500	12.5	0.0	NO	NO	bb
3	200714P1-07	Standard	12.500	3.93	1475.380	1475.380	12.500	12.5	0.0	NO	NO	bb
4	200714P1-08	Standard	12.500	3.94	1492.467	1492.467	12.500	12.5	0.0	NO	NO	bb
5	200714P1-09	Standard	12.500	3.94	1596.817	1596.817	12.500	12.5	0.0	NO	NO	bb
6	200714P1-10	Standard	12.500	3.94	1566.257	1566.257	12.500	12.5	0.0	NO	NO	bb
7	200714P1-11	Standard	12.500	3.94	1564.087	1564.087	12.500	12.5	0.0	NO	NO	bb
8	200714P1-12	Standard	12.500	3.94	1486.187	1486.187	12.500	12.5	0.0	NO	NO	bb
9	200714P1-13	Standard	12.500	3.94	1514.581	1514.581	12.500	12.5	0.0	NO	NO	bb
10	200714P1-14	Standard	12.500	3.94	1316.234	1316.234	12.500	12.5	0.0	NO	NO	bb

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Compound name: 13C8-PFOA
Response Factor: 1
RRF SD: 1.11022e-016, Relative SD: 1.11022e-014
Response type: Internal Std (Ref 103), Area * (IS Conc. / IS Area)
Curve type: RF

1	200714P1-05	Standard	12.500	4.31	16144.792	16144.792	12.500	12.5	0.0	NO	NO	bb
2	200714P1-06	Standard	12.500	4.31	17366.801	17366.801	12.500	12.5	0.0	NO	NO	bb
3	200714P1-07	Standard	12.500	4.31	16744.137	16744.137	12.500	12.5	0.0	NO	NO	bb
4	200714P1-08	Standard	12.500	4.31	17080.313	17080.313	12.500	12.5	0.0	NO	NO	bb
5	200714P1-09	Standard	12.500	4.31	18201.951	18201.951	12.500	12.5	0.0	NO	NO	bb
6	200714P1-10	Standard	12.500	4.31	18261.623	18261.623	12.500	12.5	0.0	NO	NO	bb
7	200714P1-11	Standard	12.500	4.31	17977.918	17977.918	12.500	12.5	0.0	NO	NO	bb
8	200714P1-12	Standard	12.500	4.31	16470.166	16470.166	12.500	12.5	0.0	NO	NO	bb
9	200714P1-13	Standard	12.500	4.31	15792.484	15792.484	12.500	12.5	0.0	NO	NO	bb
10	200714P1-14	Standard	12.500	4.31	13266.573	13266.573	12.500	12.5	0.0	NO	NO	bb

Compound name: 13C9-PFNA
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 104), Area * (IS Conc. / IS Area)
Curve type: RF

1	200714P1-05	Standard	12.500	4.75	19925.254	19925.254	12.500	12.5	0.0	NO	NO	bb
2	200714P1-06	Standard	12.500	4.75	21069.840	21069.840	12.500	12.5	0.0	NO	NO	bb
3	200714P1-07	Standard	12.500	4.75	21517.859	21517.859	12.500	12.5	0.0	NO	NO	bb
4	200714P1-08	Standard	12.500	4.75	21104.348	21104.348	12.500	12.5	0.0	NO	NO	bb
5	200714P1-09	Standard	12.500	4.75	21557.045	21557.045	12.500	12.5	0.0	NO	NO	bb
6	200714P1-10	Standard	12.500	4.75	21648.375	21648.375	12.500	12.5	0.0	NO	NO	bb
7	200714P1-11	Standard	12.500	4.75	21192.848	21192.848	12.500	12.5	0.0	NO	NO	bb
8	200714P1-12	Standard	12.500	4.75	20765.273	20765.273	12.500	12.5	0.0	NO	NO	bb
9	200714P1-13	Standard	12.500	4.75	20227.121	20227.121	12.500	12.5	0.0	NO	NO	bb
10	200714P1-14	Standard	12.500	4.75	18098.008	18098.008	12.500	12.5	0.0	NO	NO	bb

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Compound name: 13C4-PFOS
Response Factor: 1
RRF SD: 7.40149e-017, Relative SD: 7.40149e-015
Response type: Internal Std (Ref 105), Area * (IS Conc. / IS Area)
Curve type: RF

1	200714P1-05	Standard	12.500	4.83	4342.000	4342.000	12.500	12.5	0.0	NO	NO	bb
2	200714P1-06	Standard	12.500	4.83	4575.810	4575.810	12.500	12.5	0.0	NO	NO	bb
3	200714P1-07	Standard	12.500	4.83	4881.507	4881.507	12.500	12.5	0.0	NO	NO	bb
4	200714P1-08	Standard	12.500	4.83	4537.158	4537.158	12.500	12.5	0.0	NO	NO	bb
5	200714P1-09	Standard	12.500	4.84	4512.778	4512.778	12.500	12.5	0.0	NO	NO	bb
6	200714P1-10	Standard	12.500	4.83	4668.967	4668.967	12.500	12.5	0.0	NO	NO	bb
7	200714P1-11	Standard	12.500	4.83	4686.146	4686.146	12.500	12.5	0.0	NO	NO	bb
8	200714P1-12	Standard	12.500	4.83	4608.026	4608.026	12.500	12.5	0.0	NO	NO	bb
9	200714P1-13	Standard	12.500	4.84	4335.323	4335.323	12.500	12.5	0.0	NO	NO	bb
10	200714P1-14	Standard	12.500	4.83	3680.293	3680.293	12.500	12.5	0.0	NO	NO	bb

Compound name: 13C6-PFDA
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 106), Area * (IS Conc. / IS Area)
Curve type: RF

1	200714P1-05	Standard	12.500	5.12	20368.861	20368.861	12.500	12.5	0.0	NO	NO	bb
2	200714P1-06	Standard	12.500	5.13	20726.273	20726.273	12.500	12.5	0.0	NO	NO	bb
3	200714P1-07	Standard	12.500	5.13	21136.891	21136.891	12.500	12.5	0.0	NO	NO	bb
4	200714P1-08	Standard	12.500	5.13	21789.701	21789.701	12.500	12.5	0.0	NO	NO	bb
5	200714P1-09	Standard	12.500	5.13	22672.555	22672.555	12.500	12.5	0.0	NO	NO	bb
6	200714P1-10	Standard	12.500	5.13	21944.688	21944.688	12.500	12.5	0.0	NO	NO	bb
7	200714P1-11	Standard	12.500	5.13	22437.697	22437.697	12.500	12.5	0.0	NO	NO	bb
8	200714P1-12	Standard	12.500	5.13	20687.416	20687.416	12.500	12.5	0.0	NO	NO	bb
9	200714P1-13	Standard	12.500	5.13	20115.176	20115.176	12.500	12.5	0.0	NO	NO	bb
10	200714P1-14	Standard	12.500	5.13	18827.635	18827.635	12.500	12.5	0.0	NO	NO	bb

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Compound name: 13C7-PFUdA
Response Factor: 1
RRF SD: 3.70074e-017, Relative SD: 3.70074e-015
Response type: Internal Std (Ref 107), Area * (IS Conc. / IS Area)
Curve type: RF

1	200714P1-05	Standard	12.500	5.45	17934.158	17934.158	12.500	12.5	0.0	NO	NO	bb
2	200714P1-06	Standard	12.500	5.45	18804.207	18804.207	12.500	12.5	0.0	NO	NO	bb
3	200714P1-07	Standard	12.500	5.45	18229.691	18229.691	12.500	12.5	0.0	NO	NO	bb
4	200714P1-08	Standard	12.500	5.45	18290.113	18290.113	12.500	12.5	0.0	NO	NO	bb
5	200714P1-09	Standard	12.500	5.45	19788.580	19788.580	12.500	12.5	0.0	NO	NO	bb
6	200714P1-10	Standard	12.500	5.45	18650.055	18650.055	12.500	12.5	0.0	NO	NO	bb
7	200714P1-11	Standard	12.500	5.45	18798.543	18798.543	12.500	12.5	0.0	NO	NO	bb
8	200714P1-12	Standard	12.500	5.45	17734.996	17734.996	12.500	12.5	0.0	NO	NO	bb
9	200714P1-13	Standard	12.500	5.45	17457.488	17457.488	12.500	12.5	0.0	NO	NO	bb
10	200714P1-14	Standard	12.500	5.45	15095.888	15095.888	12.500	12.5	0.0	NO	NO	bb

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Method: D:\PFAS5.PRO\MethDB\NEW_PFAS_80C_071420.mdb 14 Jul 2020 15:40:52
Calibration: D:\PFAS5.PRO\CurveDB\C18_VAL-PFAS_Q5_07-14-20.cdb 15 Jul 2020 08:25:12

Name: 200714P1-05, Date: 14-Jul-2020, Time: 10:24:01, ID: ST200714P1-1 PFC CS-2 20F1901, Description: PFC CS-2 20F1901

1	PFBA	47	0.9992	NO
2	PFPrS	51	0.9977	NO
3	3:3 FTCA	49	0.9986	NO
4	PFPeA	49	0.9993	NO
5	PFBS	51	0.9987	NO
6	4:2 FTS	55	0.9992	NO
7	PFHxA	57	0.9985	NO
8	PFPeS	51	0.9990	NO
9	HFPO-DA	53	0.9990	NO
10	5:3 FTCA	59	0.9988	NO
11	PFHpA	59	0.9997	NO
12	ADONA	59	0.9983	NO
13	L-PFHxS	61	0.9996	NO
15	6:2 FTS	63	0.9970	NO
16	L-PFOA	69	0.9999	NO
18	PFecHS	69	0.9999	NO
19	PFHpS	71	0.9993	NO
20	7:3 FTCA	65	0.9983	NO
21	PFNA	65	0.9994	NO
22	PFOSA	67	0.9998	NO
23	L-PFOS	71	0.9992	NO
25	9Cl-PF30NS	71	0.9994	NO
26	PFDA	73	0.9993	NO
27	8:2 FTS	75	0.9987	NO
28	PFNS	71	0.9992	NO
29	L-MeFOSAA	77	0.9995	NO

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Method: D:\PFAS5.PRO\MethDB\NEW_PFAS_80C_071420.mdb 14 Jul 2020 15:40:52
Calibration: D:\PFAS5.PRO\CurveDB\C18_VAL-PFAS_Q5_07-14-20.cdb 15 Jul 2020 08:25:12

Name: 200714P1-05, Date: 14-Jul-2020, Time: 10:24:01, ID: ST200714P1-1 PFC CS-2 20F1901, Description: PFC CS-2 20F1901

31	L-EtFOSAA	81	0.9974	NO	
33	PFUdA	79	0.9992	NO	
34	PFDS	71	0.9989	NO	
35	11Cl-PF30UdS	83	0.9998	NO	
36	10:2 FTS	85	0.9983	NO	
37	PFDoA	83	0.9998	NO	
38	N-MeFOSA	87	0.9987	NO	
39	PFTrDA	83	0.9999	NO	
40	PFDoS	89	0.9997	NO	
41	PFTeDA	89	0.9990	NO	
42	N-EtFOSA	91	0.9985	NO	
43	PFHxDA	93	0.9990	NO	
44	PFODA	93	0.9993	NO	
45	N-MeFOSE	95	0.9998	NO	
46	N-EtFOSE	97	0.9989	NO	
47	13C3-PFBA-EIS			NO	0.000
48	13C3-PFBA-RSD	99		NO	3.410
49	13C3-PFPeA-EIS			NO	0.000
50	13C3-PFPeA-RSD	101		NO	4.133
51	13C3-PFBS-EIS			NO	0.000
52	13C3-PFBS-RSD	102		NO	4.179
53	13C3-HFPO-DA-EIS			NO	0.000
54	13C3-HFPO-DA-RSD	101		NO	5.507
55	13C2-4:2 FTS-EIS			NO	0.000
56	13C2-4:2 FTS-RSD	102		NO	6.105
57	13C2-PFHxA-EIS			NO	0.000
58	13C2-PFHxA-RSD	101		NO	3.487
59	13C4-PFHpA-EIS			NO	0.000
60	13C4-PFHpA-RSD	101		NO	3.795
61	13C3-PFHxS-EIS			NO	0.000
62	13C3-PFHxS-RSD	102		NO	3.725
63	13C2-6:2 FTS-EIS			NO	0.000

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Name: 200714P1-05, Date: 14-Jul-2020, Time: 10:24:01, ID: ST200714P1-1 PFC CS-2 20F1901, Description: PFC CS-2 20F1901

64	13C2-6:2 FTS-RSD	105	NO	6.646
65	13C5-PFNA-EIS		NO	0.000
66	13C5-PFNA-RSD	104	NO	3.395
67	13C8-PFOSA-EIS		NO	0.000
68	13C8-PFOSA-RSD	107	NO	4.875
69	13C2-PFOA-EIS		NO	0.000
70	13C2-PFOA-RSD	103	NO	3.801
71	13C8-PFOS-EIS		NO	0.000
72	13C8-PFOS-RSD	105	NO	5.996
73	13C2-PFDA-EIS		NO	0.000
74	13C2-PFDA-RSD	106	NO	2.247
75	13C2-8:2 FTS-EIS		NO	0.000
76	13C2-8:2 FTS-RSD	105	NO	6.418
77	d3-N-MeFOSAA-EIS		NO	0.000
78	d3-N-MeFOSAA-RSD	107	NO	6.995
79	13C2-PFUdA-EIS		NO	0.000
80	13C2-PFUdA-RSD	107	NO	2.605
81	d5-N-EtFOSAA-EIS		NO	0.000
82	d5-N-EtFOSAA-RSD	107	NO	7.583
83	13C2-PFDoA-EIS		NO	0.000
84	13C2-PFDoA-RSD	106	NO	5.008
85	13C2-10:2 FTS-EIS		NO	0.000
86	13C2-10:2 FTS-RSD	105	NO	12.659
87	d3-N-MeFOSA-EIS		NO	0.000
88	d3-N-MeFOSA-RSD	107	NO	4.037
89	13C2-PFTeDA-EIS		NO	0.000
90	13C2-PFTeDA-RSD	107	NO	4.028
91	d5-N-ETFOSA-EIS		NO	0.000
92	d5-N-ETFOSA-RSD	107	NO	3.670
93	13C2-PFHxDA-EIS		NO	0.000
94	13C2-PFHxDA-RSD	107	NO	4.193
95	d7-N-MeFOSE-EIS		NO	0.000
96	d7-N-MeFOSE-RSD	107	NO	7.412
97	d9-N-EtFOSE-EIS		NO	0.000
98	d9-N-EtFOSE-RSD	107	NO	7.551
99	13C4-PFBA	99	NO	0.000

Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

Last Altered: Wednesday, July 15, 2020 08:25:12 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 08:32:42 Pacific Daylight Time

Name: 200714P1-05, Date: 14-Jul-2020, Time: 10:24:01, ID: ST200714P1-1 PFC CS-2 20F1901, Description: PFC CS-2 20F1901

	1... 13C5-PFHxA	101	NO	0.000
	1... 18O2-PFHxS	102	NO	0.000
	1... 13C8-PFOA	103	NO	0.000
	1... 13C9-PFNA	104	NO	0.000
	1... 13C4-PFOS	105	NO	0.000
	1... 13C6-PFDA	106	NO	0.000
	1... 13C7-PFUdA	107	NO	0.000

Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

Last Altered: Wednesday, July 15, 2020 08:39:15 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 08:39:31 Pacific Daylight Time

Method: D:\PFAS5.PRO\MethDB\NEW_PFAS_80C_071420.mdb 15 Jul 2020 08:39:13
Calibration: D:\PFAS5.PRO\CurveDB\C18_VAL-PFAS_Q5_07-14-20.cdb 15 Jul 2020 08:25:12

Name: 200714P1-10, Date: 14-Jul-2020, Time: 11:17:00, ID: ST200714P1-6 PFC CS3 20F1906, Description: PFC CS3 20F1906

1	PFBA	1.44	1.44			
2	PFPrS	1.80	1.77	2.857	2.857	NO
3	3:3 FTCA	2.24	2.24	3.270	3.270	NO
4	PFPeA	2.39	2.39			
5	PFBS	2.67	2.67	2.414	2.414	NO
6	4:2 FTS	3.11	3.11	10.647	10.647	NO
7	PFHxA	3.19	3.19	13.923	13.923	NO
8	PFPeS	3.38	3.39	2.154	2.154	NO
9	HFPO-DA	3.41	3.41	2.294	2.294	NO
10	5:3 FTCA	3.75	3.73	1.544	1.544	NO
11	PFHpA	3.79	3.79	46.520	46.520	NO
12	ADONA	3.89	3.90	3.765	3.765	NO
13	L-PFHxS	3.93	3.93	3.985	3.985	NO
15	6:2 FTS	4.25	4.25	0.629	0.629	NO
16	L-PFOA	4.31	4.31	2.883	2.883	NO
18	PFecHS	4.32	4.32	0.499	0.499	NO
19	PFHpS	4.39	4.42	1.818	1.818	NO
20	7:3 FTCA	4.67	4.73	1.201	1.201	NO
21	PFNA	4.75	4.75	14.024	14.024	NO
22	PFOSA	4.80	4.79	20.851	20.851	NO
23	L-PFOS	4.83	4.83	2.760	2.760	NO
25	9Cl-PF30NS	5.04	5.05	36.858	36.858	NO
26	PFDA	5.13	5.12	4.418	4.418	NO
27	8:2 FTS	5.10	5.10	0.734	0.734	NO
28	PFNS	5.18	5.19	2.367	2.367	NO
29	L-MeFOSAA	5.27	5.28	1.682	1.682	NO

Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

Last Altered: Wednesday, July 15, 2020 08:42:26 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 08:42:32 Pacific Daylight Time

Method: D:\PFAS5.PRO\MethDB\NEW_PFAS_80C_071420.mdb 15 Jul 2020 08:42:23
Calibration: D:\PFAS5.PRO\CurveDB\C18_VAL-PFAS_Q5_07-14-20.cdb 15 Jul 2020 08:25:12

Name: 200714P1-10, Date: 14-Jul-2020, Time: 11:17:00, ID: ST200714P1-6 PFC CS3 20F1906, Description: PFC CS3 20F1906

31	L-EtFOSAA	5.42	5.43	1.528	1.528	NO
33	PFUdA	5.45	5.45	15.703	15.703	NO
34	PFDS	5.48	5.49	2.231	2.231	NO
35	11Cl-PF30UdS	5.67	5.65	14.569	14.569	NO
36	10:2 FTS	5.71	5.71	0.941	0.941	NO
37	PFDoA	5.73	5.73	10.361	10.361	NO
38	N-MeFOSA	5.72	5.70	1.982	1.982	NO
39	PFTrDA	5.97	5.97	115.034	115.034	NO
40	PFDoS	5.98	5.99	2.126	2.126	NO
41	PFTeDA	6.18	6.18	13.282	13.282	NO
42	N-EtFOSA	6.12	6.12	2.089	2.089	NO
43	PFHxDA	6.49	6.49	30.457	30.457	NO
44	PFODA	6.71	6.72			
45	N-MeFOSE	6.30	6.31			
46	N-EtFOSE	6.45	6.46			

Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Wednesday, July 15, 2020 08:43:31 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 08:43:43 Pacific Daylight Time

Method: D:\PFAS5.PRO\MethDB\NEW_PFAS_80C_071420.mdb 14 Jul 2020 15:40:52
Calibration: D:\PFAS5.PRO\CurveDB\C18_VAL-PFAS_Q5_07-14-20.cdb 15 Jul 2020 08:25:12

Compound name: PFBA

1	200714P1-01	IPA	14-Jul-20	09:41:26
2	200714P1-02	IPA	14-Jul-20	09:52:13
3	200714P1-03	TESTER	14-Jul-20	10:02:49
4	200714P1-04	IPA	14-Jul-20	10:13:25
5	200714P1-05	ST200714P1-1 PFC CS-2 20F1901	14-Jul-20	10:24:01
6	200714P1-06	ST200714P1-2 PFC CS-1 20F1902	14-Jul-20	10:34:37
7	200714P1-07	ST200714P1-3 PFC CS0 20F1903	14-Jul-20	10:45:12
8	200714P1-08	ST200714P1-4 PFC CS1 20F1904	14-Jul-20	10:55:49
9	200714P1-09	ST200714P1-5 PFC CS2 20F1905	14-Jul-20	11:06:24
10	200714P1-10	ST200714P1-6 PFC CS3 20F1906	14-Jul-20	11:17:00
11	200714P1-11	ST200714P1-7 PFC CS4 20F1907	14-Jul-20	11:27:36
12	200714P1-12	ST200714P1-8 PFC CS5 20F1908	14-Jul-20	11:38:12
13	200714P1-13	ST200714P1-9 PFC CS6 20F1909	14-Jul-20	11:48:48
14	200714P1-14	ST200714P1-10 PFC CS7 20F1910	14-Jul-20	11:59:24
15	200714P1-15	IB	14-Jul-20	12:10:00
16	200714P1-16	ICV200714P1-1 PFC ICV 20F1911	14-Jul-20	12:20:26
17	200714P1-17	IB	14-Jul-20	12:31:02

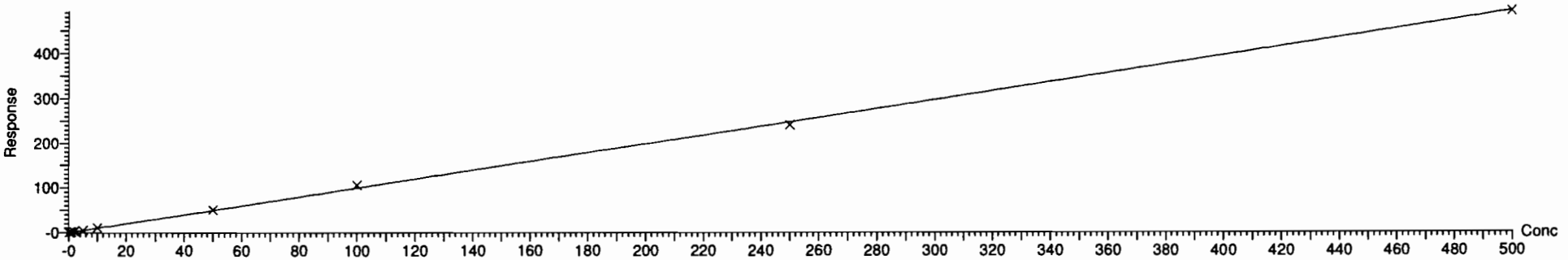
Vista Analytical Laboratory Q1

Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

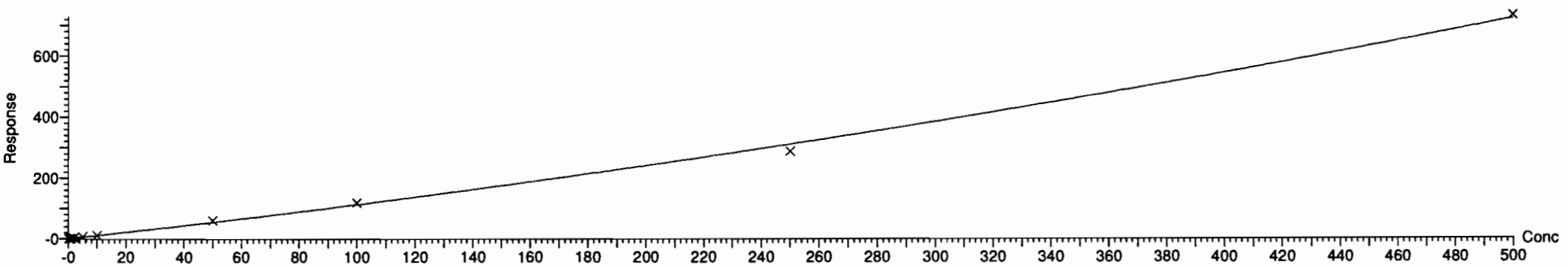
Last Altered: Wednesday, July 15, 2020 08:25:12 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 08:36:45 Pacific Daylight Time

Method: D:\PFAS5.PRO\MethDB\NEW_PFAS_80C_071420.mdb 14 Jul 2020 15:40:52
Calibration: D:\PFAS5.PRO\CurveDB\C18_VAL-PFAS_Q5_07-14-20.cdb 15 Jul 2020 08:25:12

Compound name: PFBA
Correlation coefficient: r = 0.999617, r^2 = 0.999235
Calibration curve: 0.987981 * x + 0.0366579
Response type: Internal Std (Ref 47), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



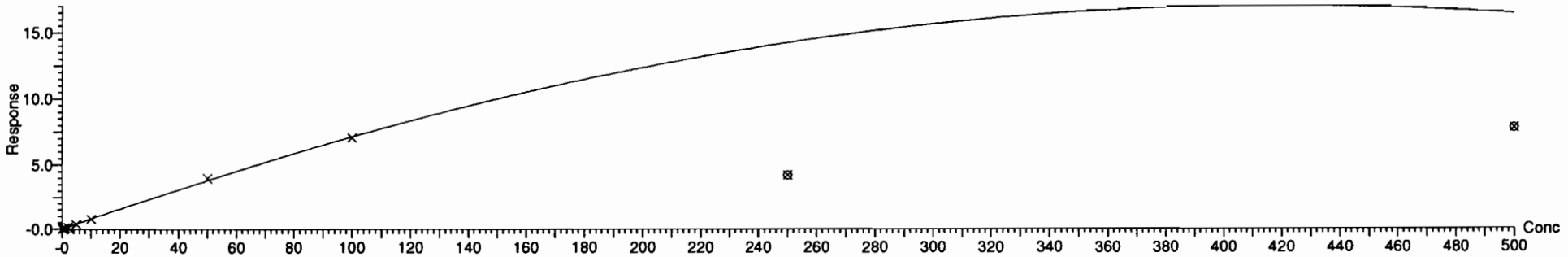
Compound name: PFPrS
Coefficient of Determination: R^2 = 0.997706
Calibration curve: 0.000798452 * x^2 + 1.04054 * x + 0.0822656
Response type: Internal Std (Ref 51), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



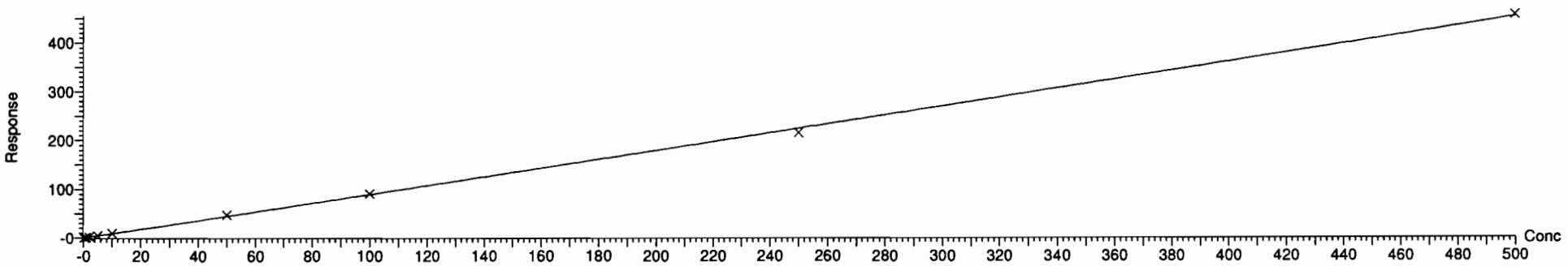
Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

Last Altered: Wednesday, July 15, 2020 08:25:12 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 08:36:45 Pacific Daylight Time

Compound name: 3:3 FTCA
Coefficient of Determination: R^2 = 0.998582
Calibration curve: -9.63309e-005 * x^2 + 0.0810066 * x + -0.00413307
Response type: Internal Std (Ref 49), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



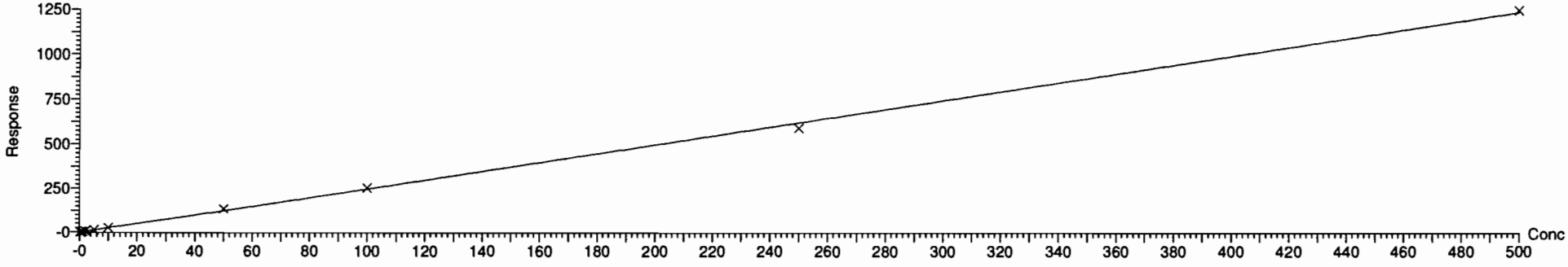
Compound name: PFPeA
Coefficient of Determination: R^2 = 0.999276
Calibration curve: 3.3512e-005 * x^2 + 0.888386 * x + 0.0341154
Response type: Internal Std (Ref 49), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



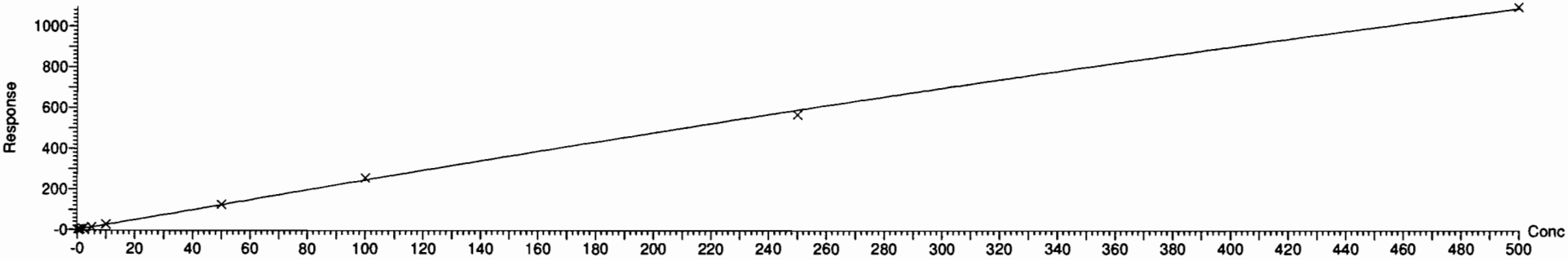
Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

Last Altered: Wednesday, July 15, 2020 08:25:12 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 08:36:45 Pacific Daylight Time

Compound name: PFBS
Coefficient of Determination: R^2 = 0.998723
Calibration curve: -4.69568e-005 * x^2 + 2.50017 * x + 0.00855197
Response type: Internal Std (Ref 51), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



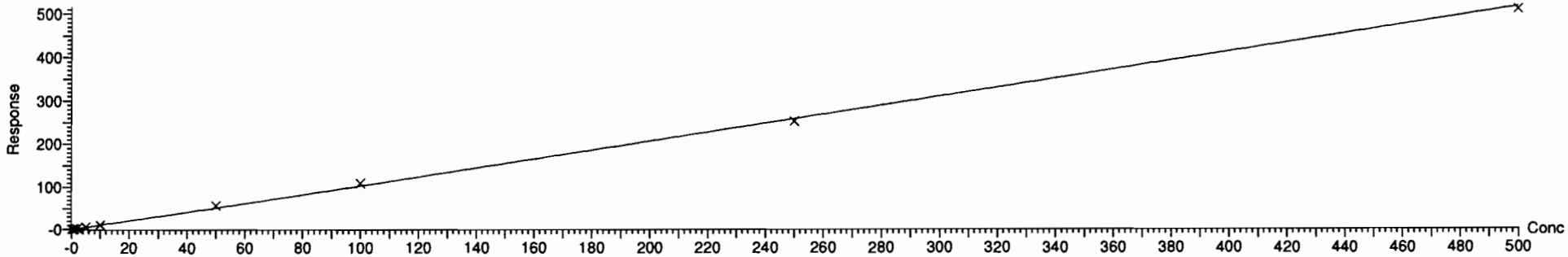
Compound name: 4:2 FTS
Coefficient of Determination: R^2 = 0.999202
Calibration curve: -0.000737288 * x^2 + 2.54728 * x + 0.0768653
Response type: Internal Std (Ref 55), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



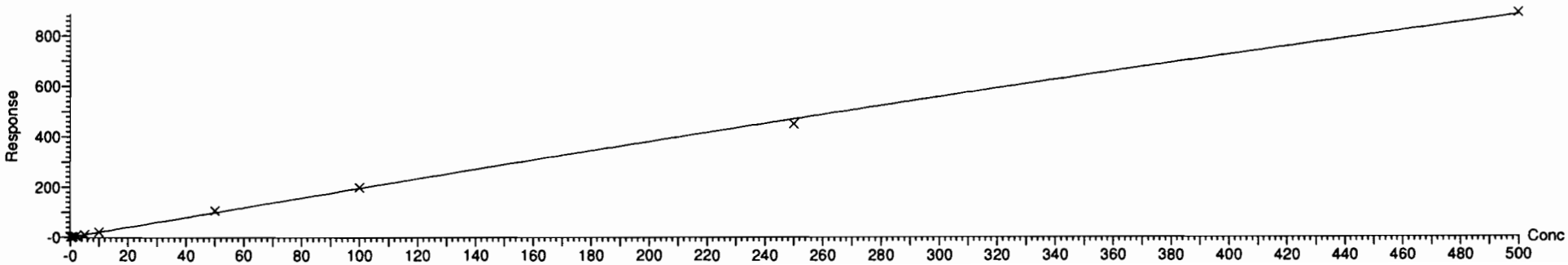
Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

Last Altered: Wednesday, July 15, 2020 08:25:12 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 08:36:45 Pacific Daylight Time

Compound name: PFHxA
Correlation coefficient: r = 0.999268, r^2 = 0.998537
Calibration curve: 1.0329 * x + 0.0827038
Response type: Internal Std (Ref 57), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Include, Weighting: 1/x, Axis trans: None



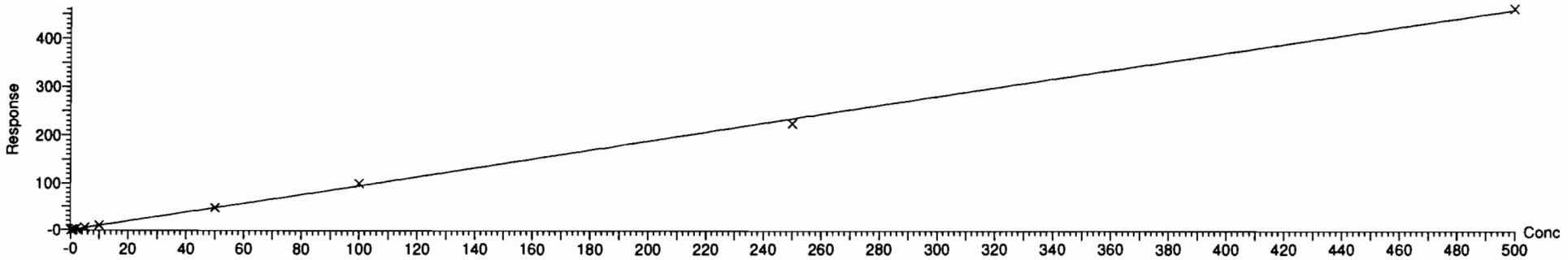
Compound name: PFPeS
Coefficient of Determination: R^2 = 0.999032
Calibration curve: -0.000461665 * x^2 + 1.99257 * x + -0.028792
Response type: Internal Std (Ref 51), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



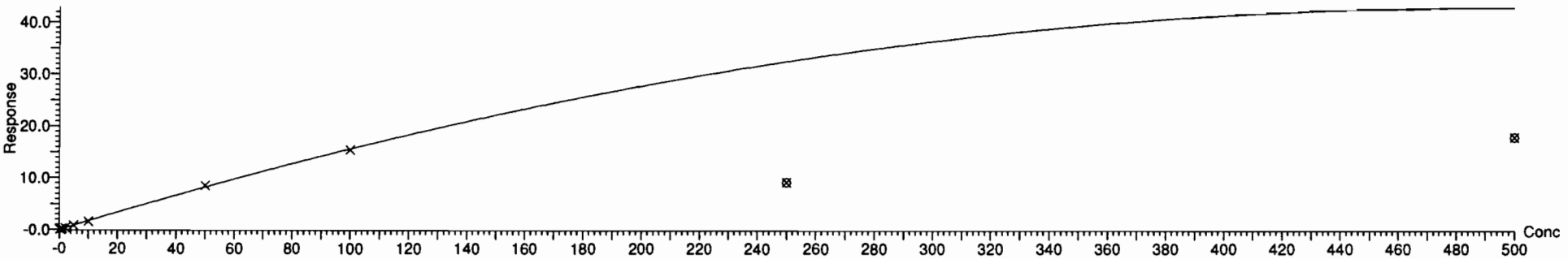
Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

Last Altered: Wednesday, July 15, 2020 08:25:12 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 08:36:45 Pacific Daylight Time

Compound name: HFPO-DA
Coefficient of Determination: R^2 = 0.999007
Calibration curve: -8.42178e-005 * x^2 + 0.962438 * x + 0.0164412
Response type: Internal Std (Ref 53), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



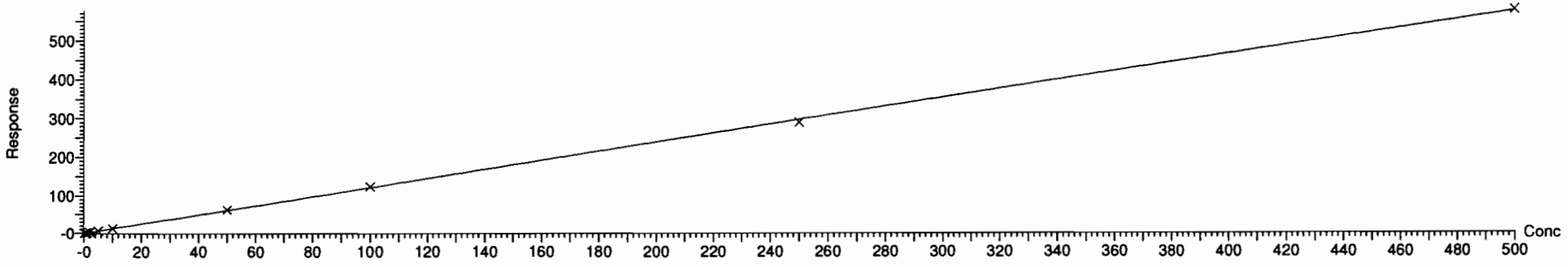
Compound name: 5:3 FTCA
Coefficient of Determination: R^2 = 0.998761
Calibration curve: -0.000177325 * x^2 + 0.174581 * x + -0.00686176
Response type: Internal Std (Ref 59), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



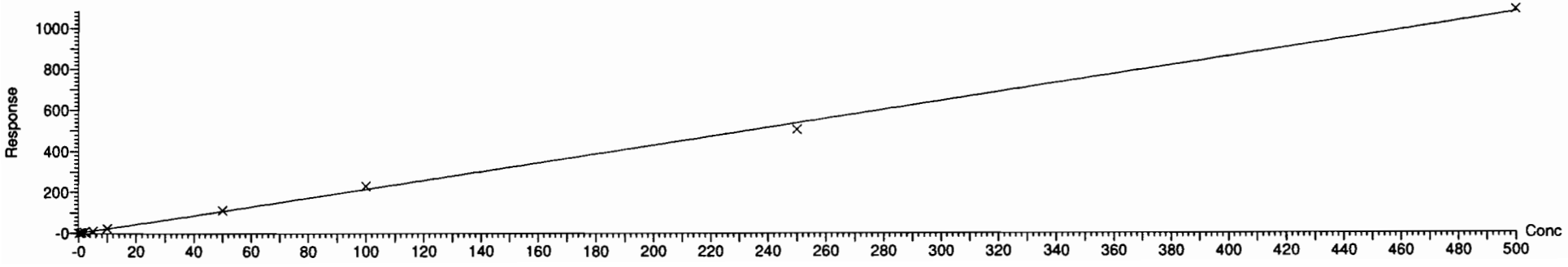
Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

Last Altered: Wednesday, July 15, 2020 08:25:12 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 08:36:45 Pacific Daylight Time

Compound name: PFHpA
Coefficient of Determination: R^2 = 0.999695
Calibration curve: -0.000149235 * x^2 + 1.22492 * x + 0.01823
Response type: Internal Std (Ref 59), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



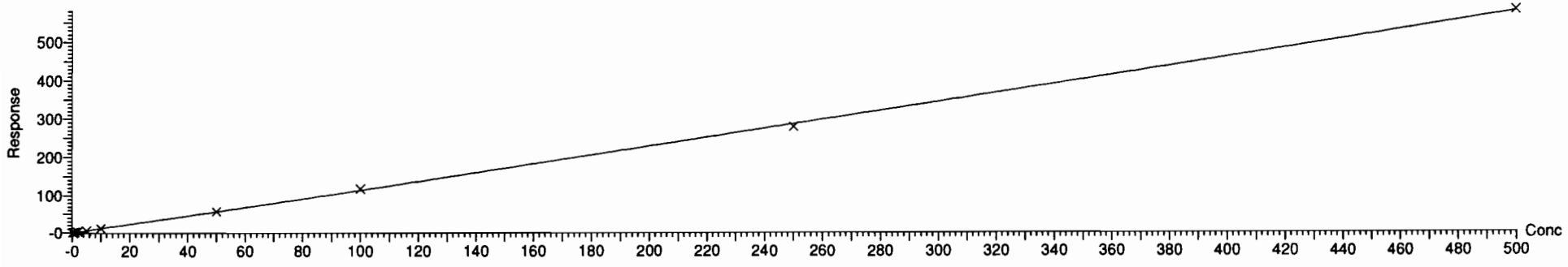
Compound name: ADONA
Coefficient of Determination: R^2 = 0.998298
Calibration curve: 1.42154e-005 * x^2 + 2.14318 * x + 0.00966498
Response type: Internal Std (Ref 59), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



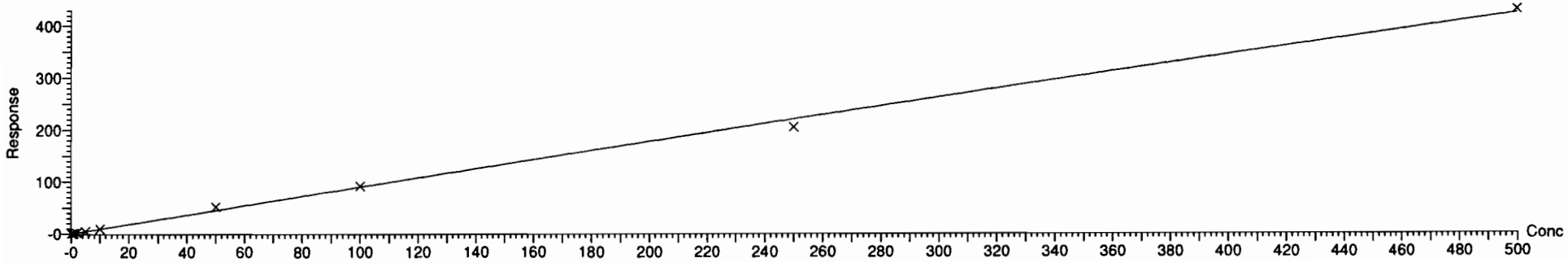
Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

Last Altered: Wednesday, July 15, 2020 08:25:12 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 08:36:45 Pacific Daylight Time

Compound name: L-PFHxS
Coefficient of Determination: R^2 = 0.999607
Calibration curve: 5.12413e-005 * x^2 + 1.13279 * x + 0.0236401
Response type: Internal Std (Ref 61), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



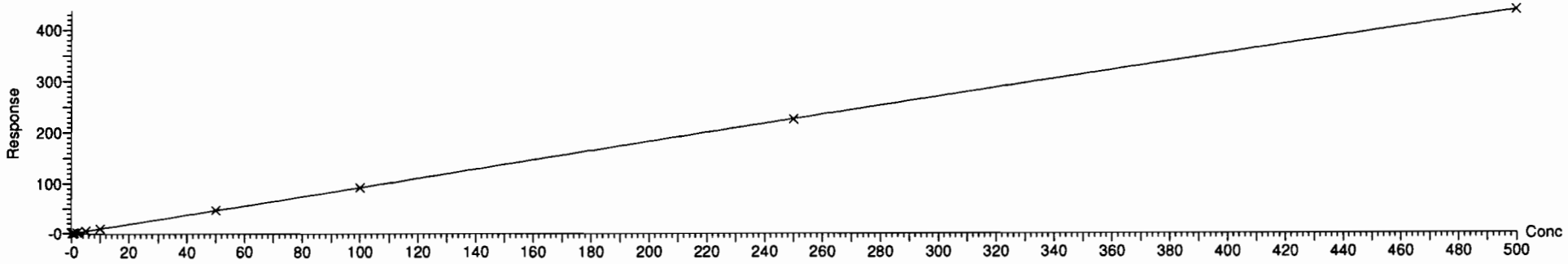
Compound name: 6:2 FTS
Coefficient of Determination: R^2 = 0.997011
Calibration curve: -0.000138526 * x^2 + 0.916332 * x + 0.000564268
Response type: Internal Std (Ref 63), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



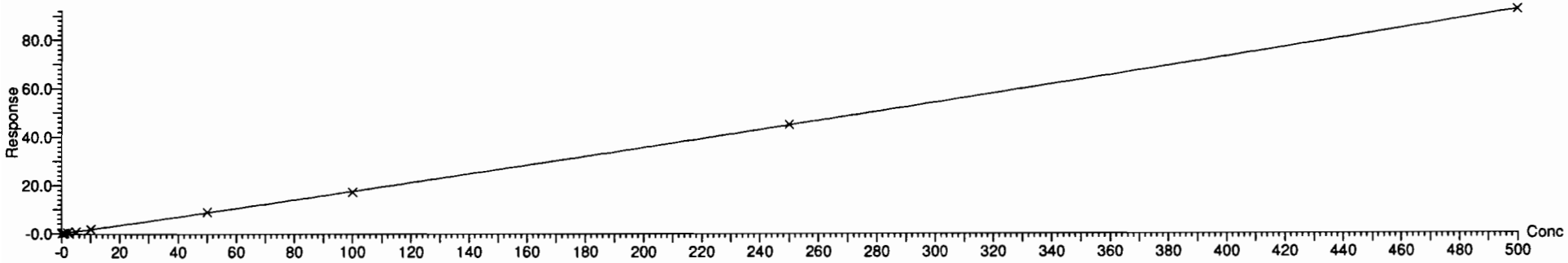
Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

Last Altered: Wednesday, July 15, 2020 08:25:12 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 08:36:45 Pacific Daylight Time

Compound name: L-PFOA
Coefficient of Determination: R^2 = 0.999948
Calibration curve: -0.000120375 * x^2 + 0.936543 * x + -0.00584507
Response type: Internal Std (Ref 69), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



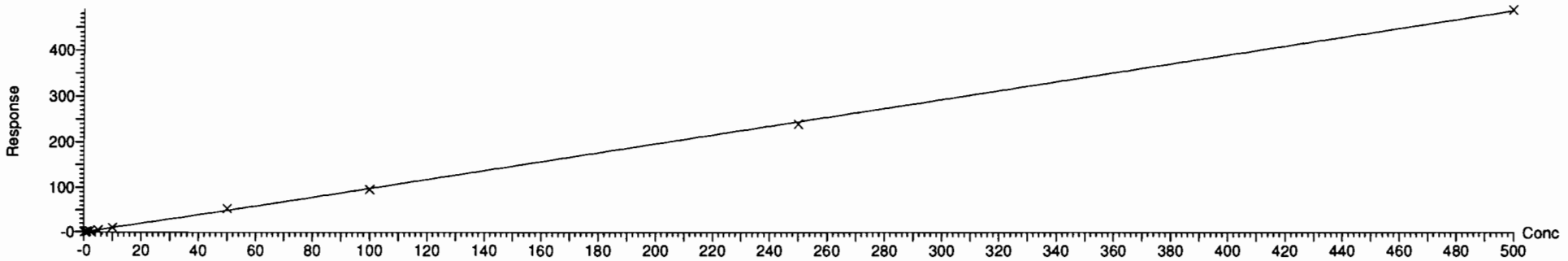
Compound name: PFecHS
Coefficient of Determination: R^2 = 0.999883
Calibration curve: 2.27208e-005 * x^2 + 0.173314 * x + -0.00389701
Response type: Internal Std (Ref 69), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



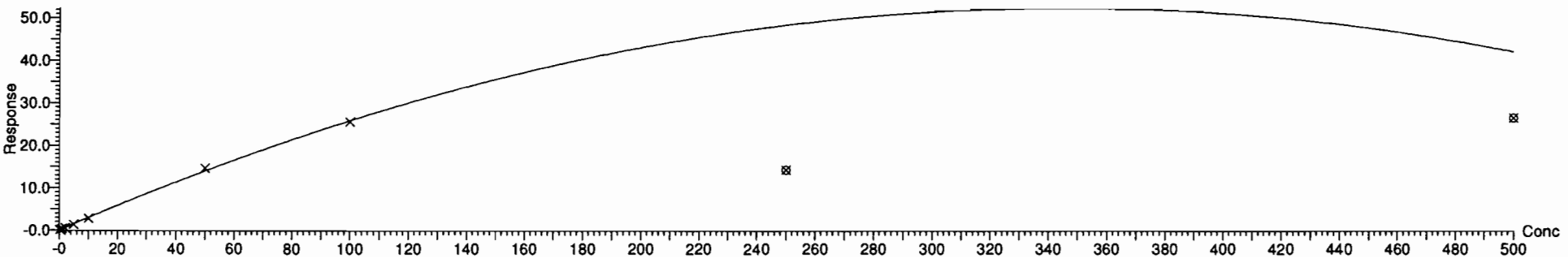
Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

Last Altered: Wednesday, July 15, 2020 08:25:12 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 08:36:45 Pacific Daylight Time

Compound name: PFHpS
Coefficient of Determination: R^2 = 0.999308
Calibration curve: -2.51256e-005 * x^2 + 0.987253 * x + 0.0125449
Response type: Internal Std (Ref 71), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



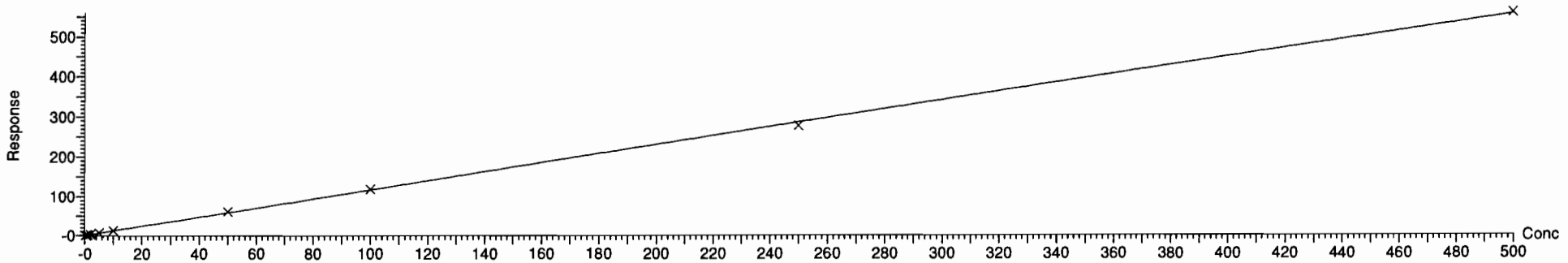
Compound name: 7:3 FTCA
Coefficient of Determination: R^2 = 0.998328
Calibration curve: -0.000437387 * x^2 + 0.302919 * x + -0.0184761
Response type: Internal Std (Ref 65), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



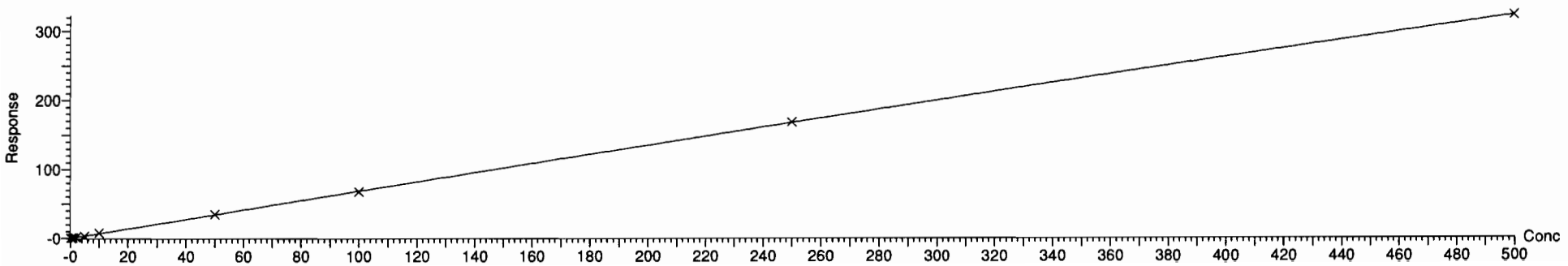
Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

Last Altered: Wednesday, July 15, 2020 08:25:12 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 08:36:45 Pacific Daylight Time

Compound name: PFNA
Coefficient of Determination: R^2 = 0.999434
Calibration curve: -0.000138506 * x^2 + 1.17974 * x + 0.048578
Response type: Internal Std (Ref 65), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



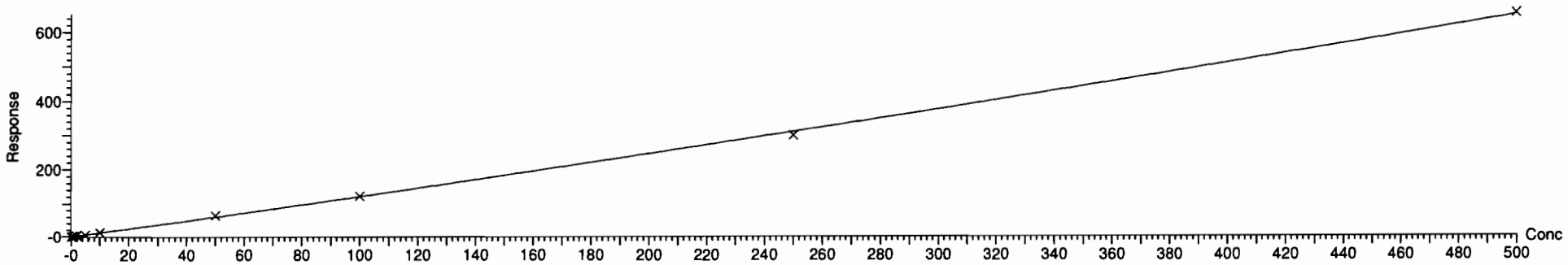
Compound name: PFOSA
Coefficient of Determination: R^2 = 0.999787
Calibration curve: -9.50649e-005 * x^2 + 0.693143 * x + -0.0062738
Response type: Internal Std (Ref 67), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



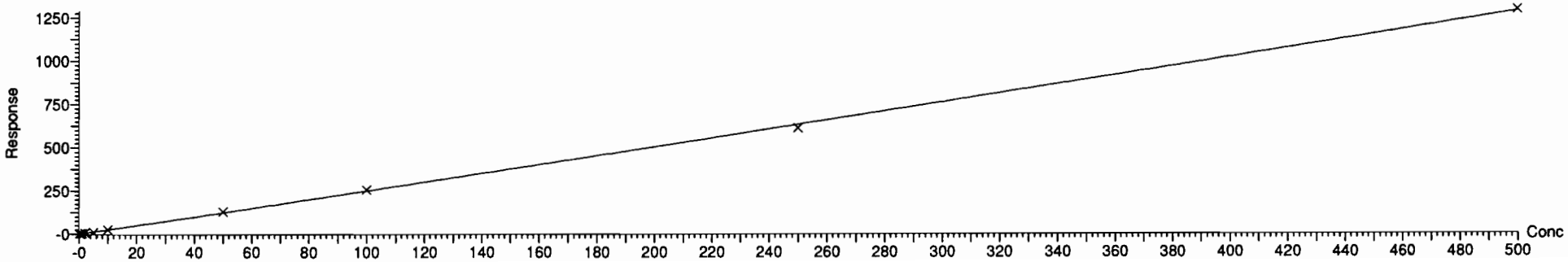
Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

Last Altered: Wednesday, July 15, 2020 08:25:12 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 08:36:45 Pacific Daylight Time

Compound name: L-PFOS
Coefficient of Determination: R^2 = 0.999166
Calibration curve: 0.000226617 * x^2 + 1.18631 * x + -0.00608768
Response type: Internal Std (Ref 71), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



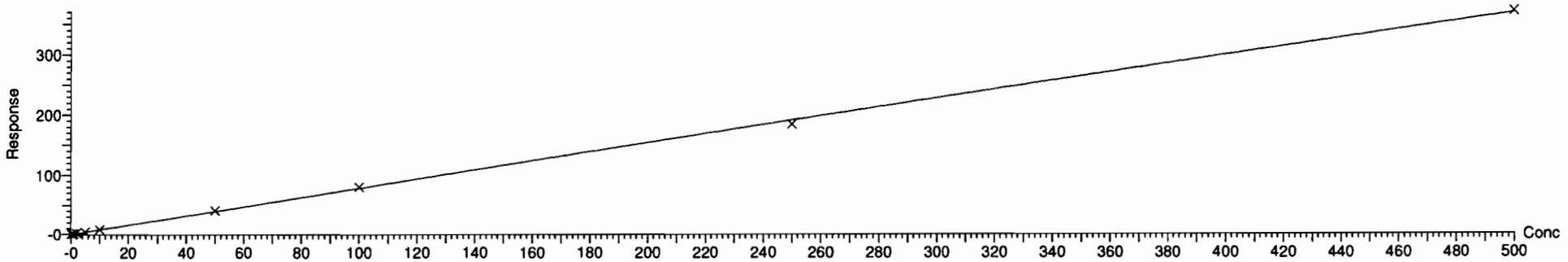
Compound name: 9Cl-PF30NS
Coefficient of Determination: R^2 = 0.999413
Calibration curve: 0.000168672 * x^2 + 2.48158 * x + 0.109799
Response type: Internal Std (Ref 71), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



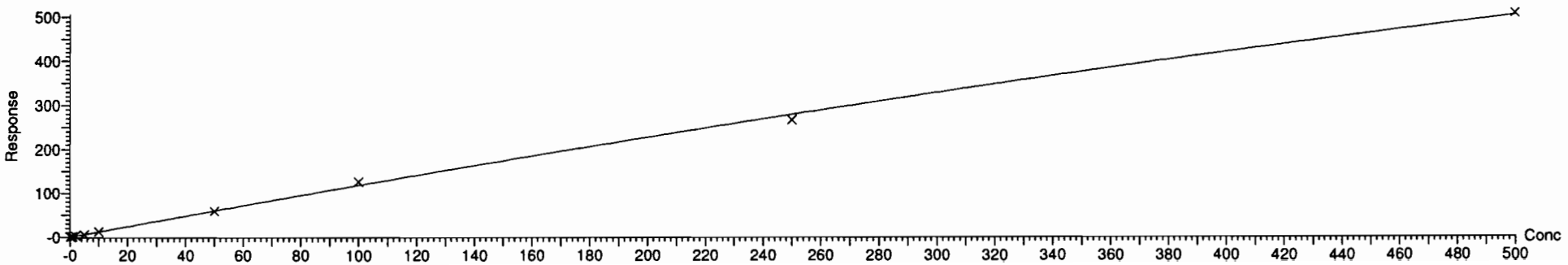
Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

Last Altered: Wednesday, July 15, 2020 08:25:12 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 08:36:45 Pacific Daylight Time

Compound name: PFDA
Coefficient of Determination: R^2 = 0.999298
Calibration curve: -0.000109701 * x^2 + 0.792617 * x + 0.0293832
Response type: Internal Std (Ref 73), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



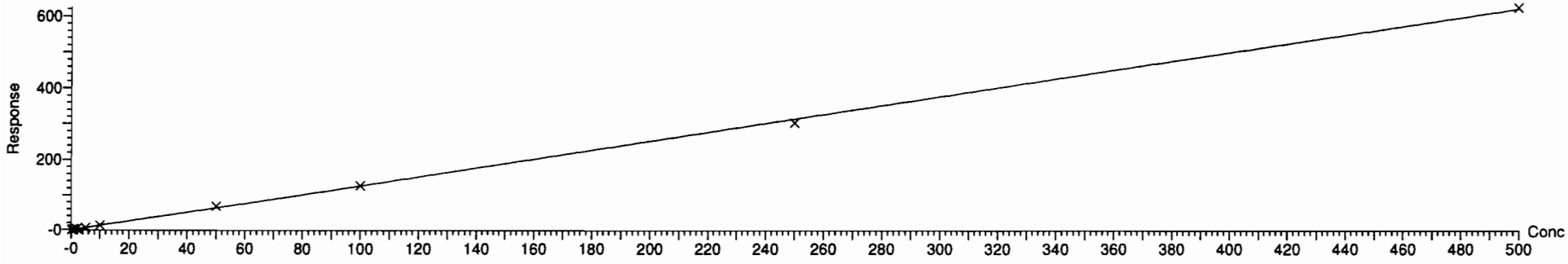
Compound name: 8:2 FTS
Coefficient of Determination: R^2 = 0.998700
Calibration curve: -0.000435021 * x^2 + 1.22328 * x + -0.117694
Response type: Internal Std (Ref 75), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



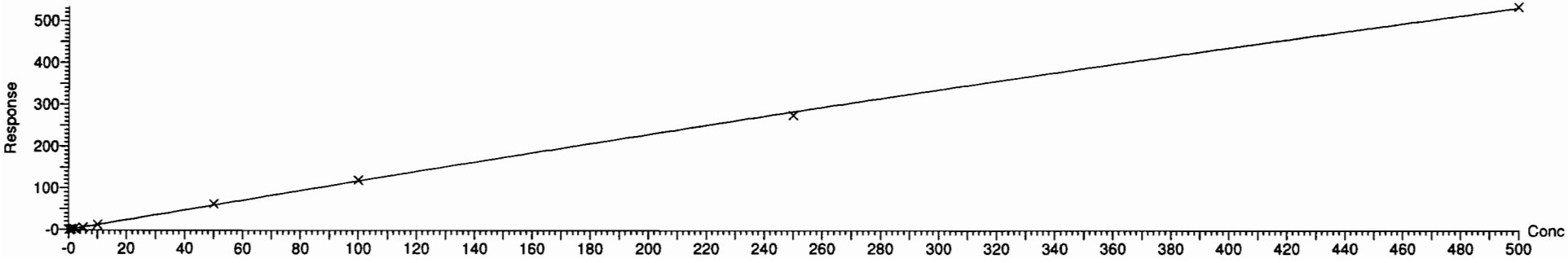
Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

Last Altered: Wednesday, July 15, 2020 08:25:12 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 08:36:45 Pacific Daylight Time

Compound name: PFNS
Coefficient of Determination: R^2 = 0.999187
Calibration curve: -6.20869e-005 * x^2 + 1.27536 * x + -0.0463716
Response type: Internal Std (Ref 71), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



Compound name: L-MeFOSAA
Coefficient of Determination: R^2 = 0.999483
Calibration curve: -0.000284164 * x^2 + 1.20535 * x + -0.00718213
Response type: Internal Std (Ref 77), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



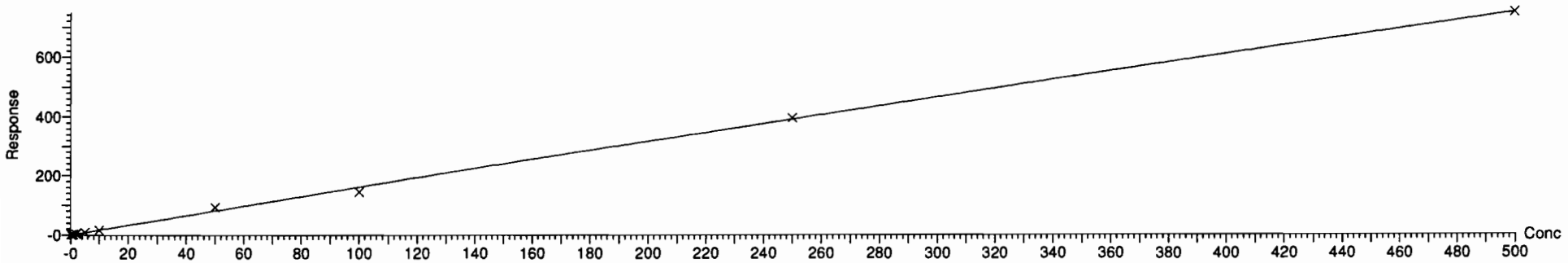
Vista Analytical Laboratory Q1

Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

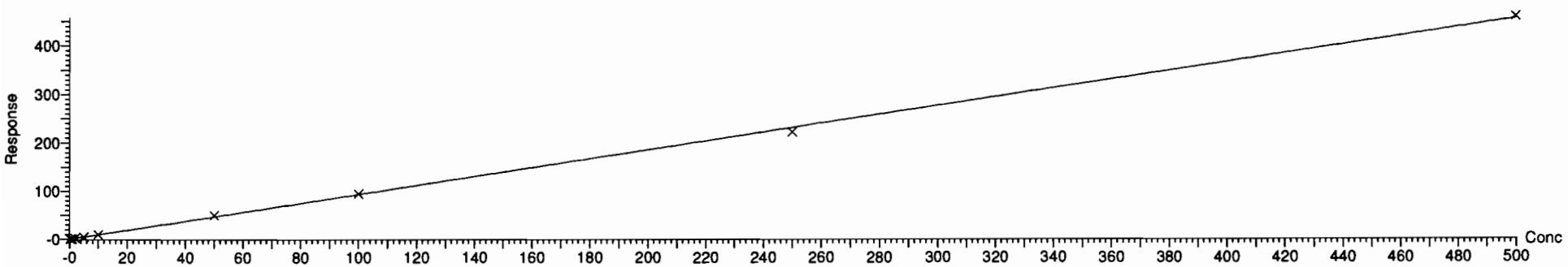
Last Altered: Wednesday, July 15, 2020 08:25:12 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 08:36:59 Pacific Daylight Time

Method: D:\PFAS5.PRO\MethDB\NEW_PFAS_80C_071420.mdb 14 Jul 2020 15:40:52
Calibration: D:\PFAS5.PRO\CurveDB\C18_VAL-PFAS_Q5_07-14-20.cdb 15 Jul 2020 08:25:12

Compound name: L-EtFOSAA
Coefficient of Determination: R^2 = 0.997393
Calibration curve: -0.000282602 * x^2 + 1.63624 * x + -0.0984931
Response type: Internal Std (Ref 81), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



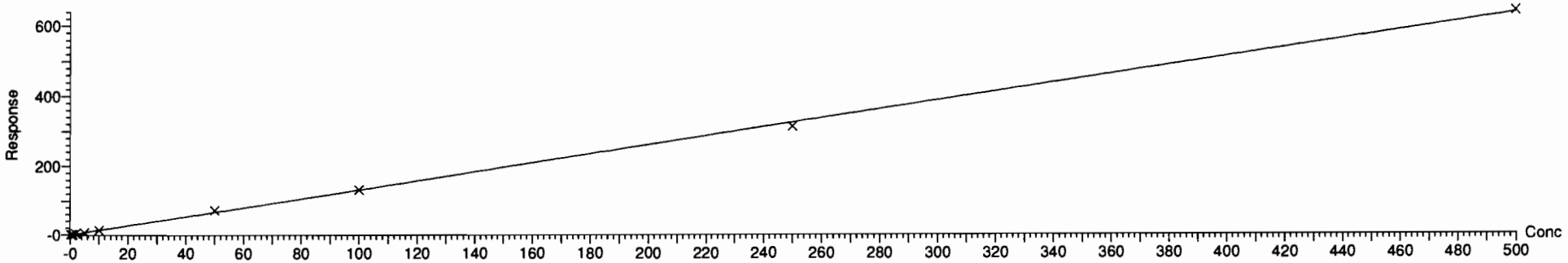
Compound name: PFUdA
Coefficient of Determination: R^2 = 0.999172
Calibration curve: -5.81281e-005 * x^2 + 0.938538 * x + 0.0721579
Response type: Internal Std (Ref 79), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



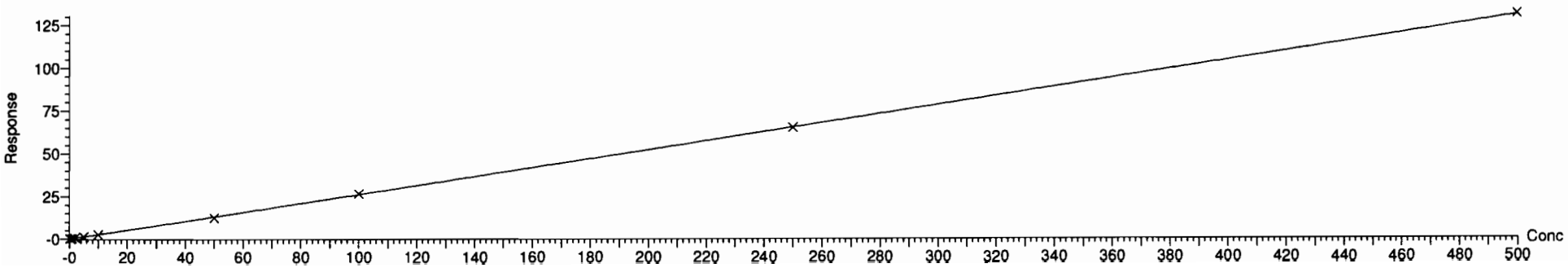
Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

Last Altered: Wednesday, July 15, 2020 08:25:12 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 08:36:59 Pacific Daylight Time

Compound name: PFDS
Coefficient of Determination: R^2 = 0.998888
Calibration curve: -0.000105434 * x^2 + 1.3242 * x + 0.0489966
Response type: Internal Std (Ref 71), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



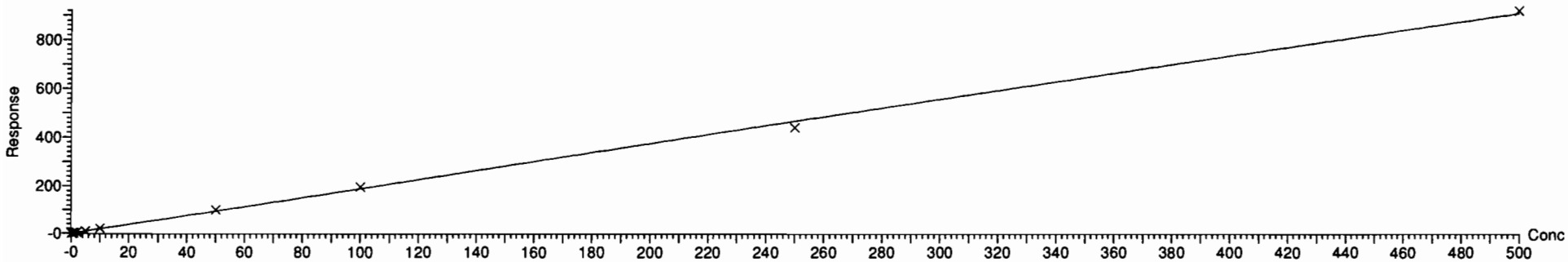
Compound name: 11Cl-PF30UdS
Correlation coefficient: r = 0.999903, r^2 = 0.999807
Calibration curve: 0.260724 * x + 0.00162518
Response type: Internal Std (Ref 83), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



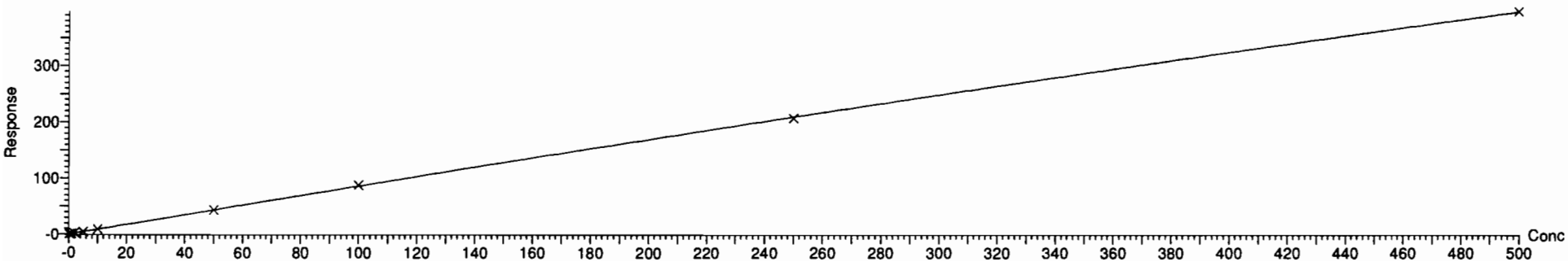
Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

Last Altered: Wednesday, July 15, 2020 08:25:12 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 08:36:59 Pacific Daylight Time

Compound name: 10:2 FTS
Coefficient of Determination: R^2 = 0.998347
Calibration curve: -0.000187848 * x^2 + 1.91721 * x + -0.173821
Response type: Internal Std (Ref 85), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



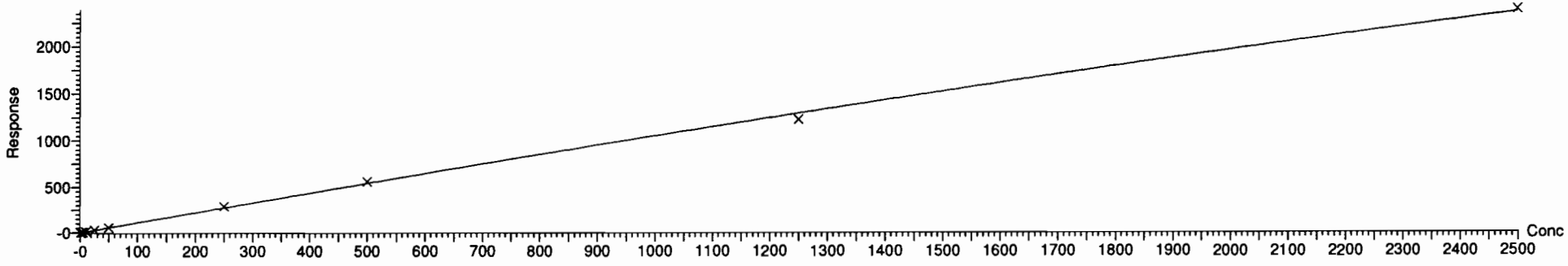
Compound name: PFDoA
Coefficient of Determination: R^2 = 0.999776
Calibration curve: -0.000180161 * x^2 + 0.883117 * x + 0.100074
Response type: Internal Std (Ref 83), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



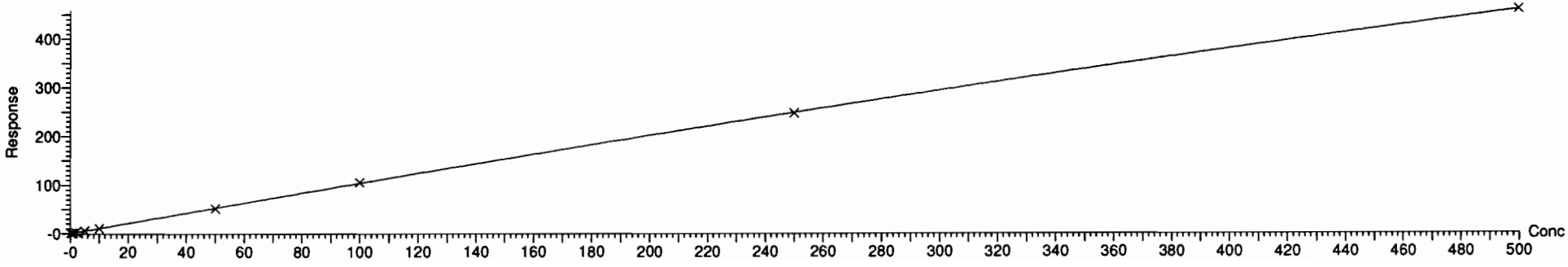
Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

Last Altered: Wednesday, July 15, 2020 08:25:12 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 08:36:59 Pacific Daylight Time

Compound name: N-MeFOSA
Coefficient of Determination: R^2 = 0.998718
Calibration curve: -6.83846e-005 * x^2 + 1.11717 * x + 0.189665
Response type: Internal Std (Ref 87), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



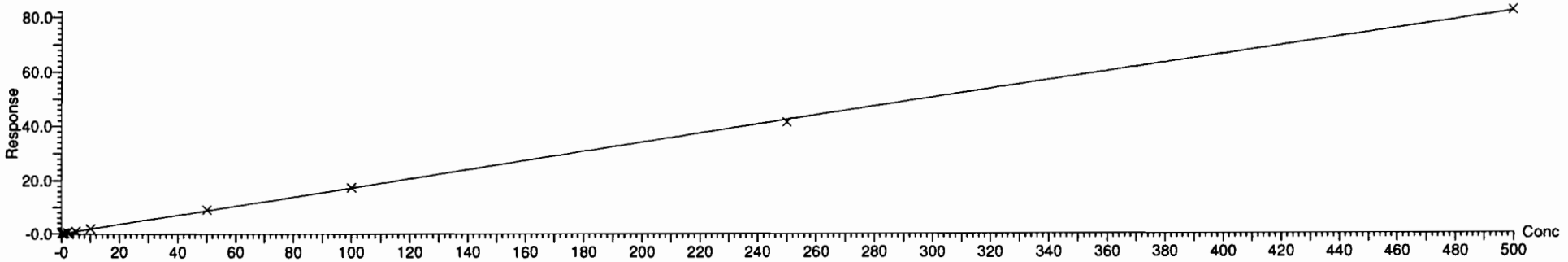
Compound name: PFTrDA
Coefficient of Determination: R^2 = 0.999891
Calibration curve: -0.000298642 * x^2 + 1.06717 * x + 0.0322737
Response type: Internal Std (Ref 83), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



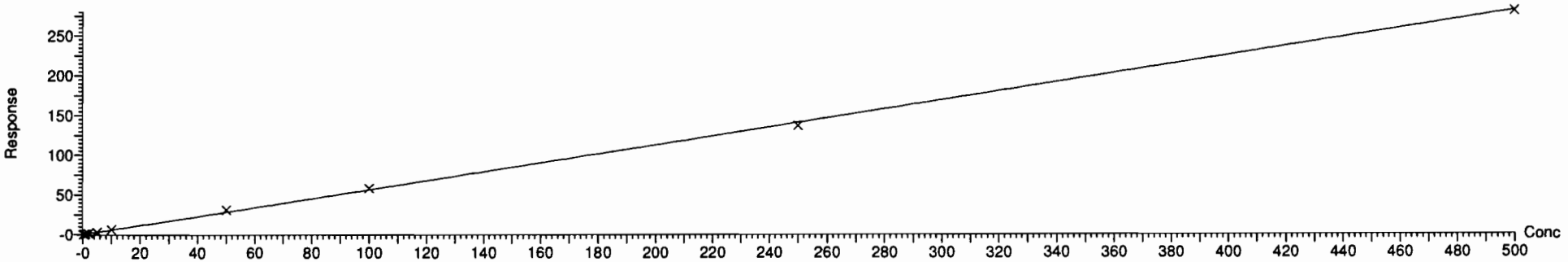
Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

Last Altered: Wednesday, July 15, 2020 08:25:12 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 08:36:59 Pacific Daylight Time

Compound name: PFDoS
Coefficient of Determination: R^2 = 0.999713
Calibration curve: -2.15044e-005 * x^2 + 0.17459 * x + 0.01518
Response type: Internal Std (Ref 89), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



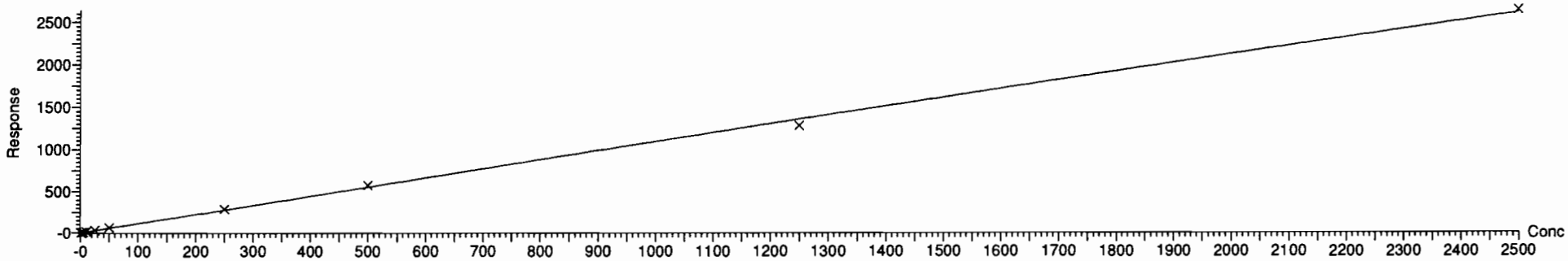
Compound name: PFTeDA
Correlation coefficient: r = 0.999476, r^2 = 0.998952
Calibration curve: 0.562517 * x + 0.0379145
Response type: Internal Std (Ref 89), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Include, Weighting: 1/x, Axis trans: None



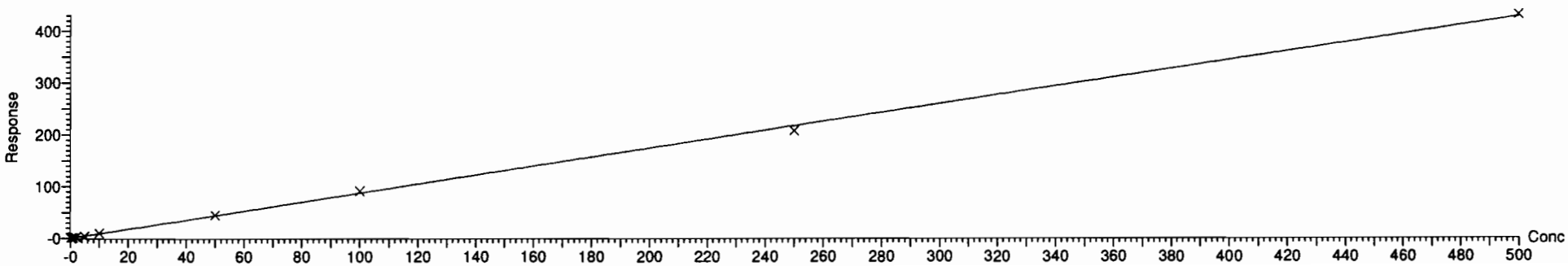
Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

Last Altered: Wednesday, July 15, 2020 08:25:12 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 08:36:59 Pacific Daylight Time

Compound name: N-EtFOSA
Coefficient of Determination: R^2 = 0.998527
Calibration curve: -3.21665e-005 * x^2 + 1.12508 * x + 0.210037
Response type: Internal Std (Ref 91), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



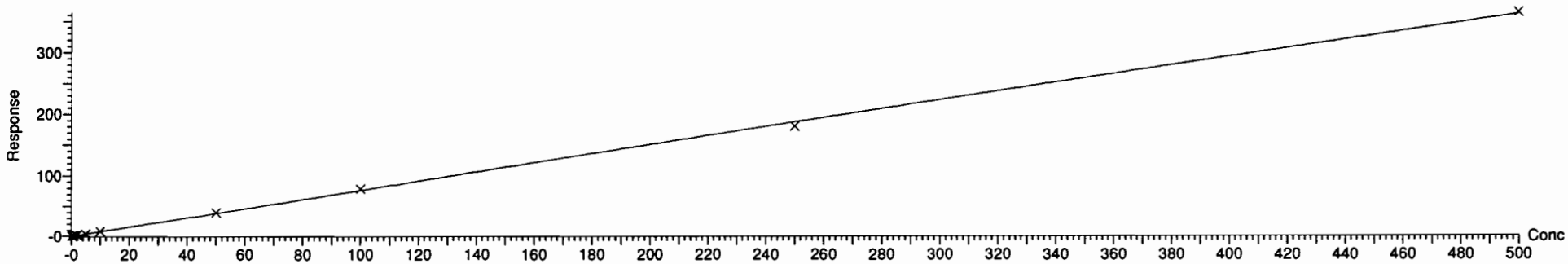
Compound name: PFHxDA
Coefficient of Determination: R^2 = 0.999036
Calibration curve: -5.90081e-005 * x^2 + 0.883241 * x + 0.156927
Response type: Internal Std (Ref 93), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



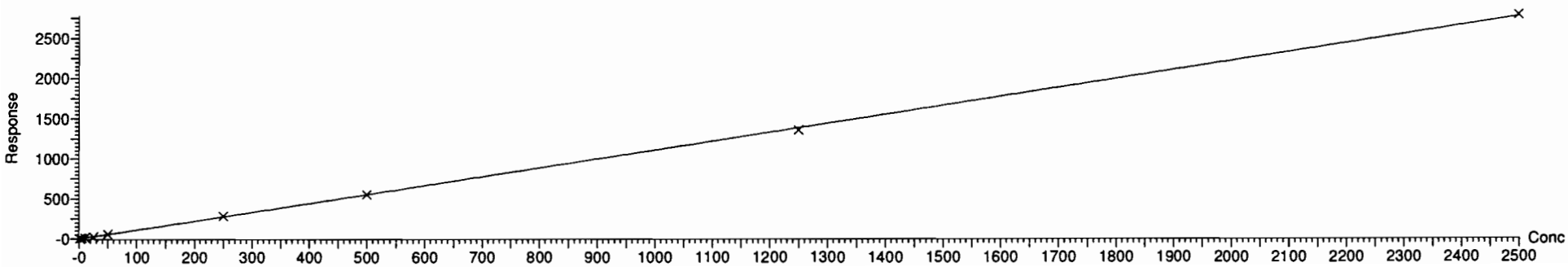
Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

Last Altered: Wednesday, July 15, 2020 08:25:12 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 08:36:59 Pacific Daylight Time

Compound name: PFODA
Coefficient of Determination: R^2 = 0.999276
Calibration curve: -0.000105558 * x^2 + 0.775176 * x + 0.0163938
Response type: Internal Std (Ref 93), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



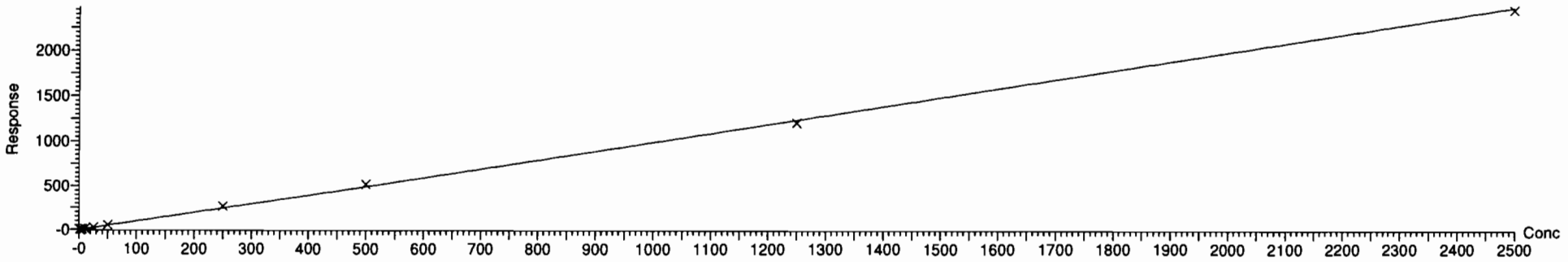
Compound name: N-MeFOSE
Correlation coefficient: r = 0.999902, r^2 = 0.999804
Calibration curve: 1.10733 * x + 0.324889
Response type: Internal Std (Ref 95), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

Last Altered: Wednesday, July 15, 2020 08:25:12 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 08:36:59 Pacific Daylight Time

Compound name: N-EtFOSE
Correlation coefficient: r = 0.999451, r^2 = 0.998902
Calibration curve: 0.992318 * x + 0.375815
Response type: Internal Std (Ref 97), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



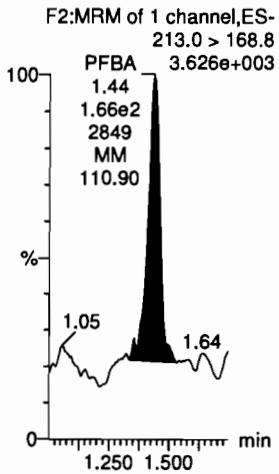
Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

Last Altered: Wednesday, July 15, 2020 08:25:12 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 08:25:32 Pacific Daylight Time

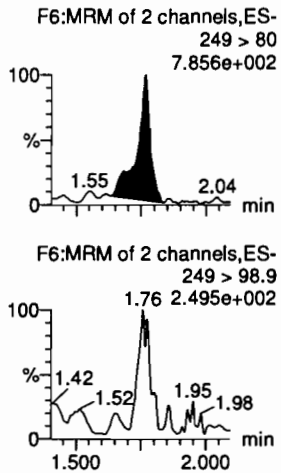
Method: D:\PFAS5.PRO\MethDB\NEW_PFAS_80C_071420.mdb 14 Jul 2020 15:40:52
Calibration: D:\PFAS5.PRO\CurveDB\C18_VAL-PFAS_Q5_07-14-20.cdb 15 Jul 2020 08:25:12

Name: 200714P1-05, Date: 14-Jul-2020, Time: 10:24:01, ID: ST200714P1-1 PFC CS-2 20F1901, Description: PFC CS-2 20F1901

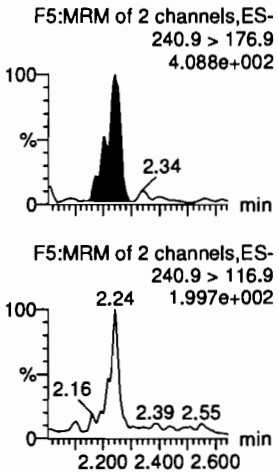
PFBA



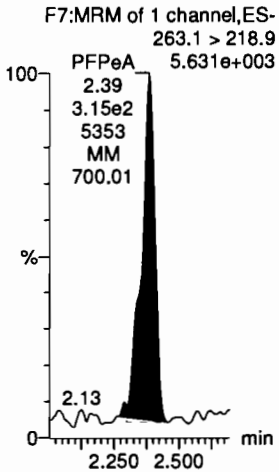
PFPrS



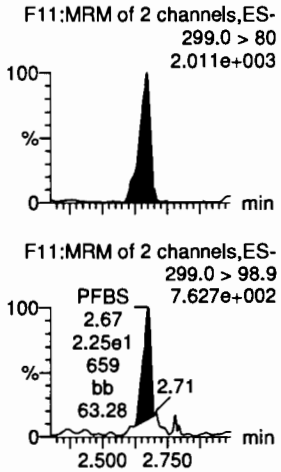
3:3 FTCA



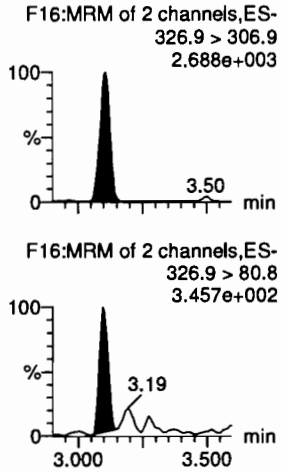
PFPeA



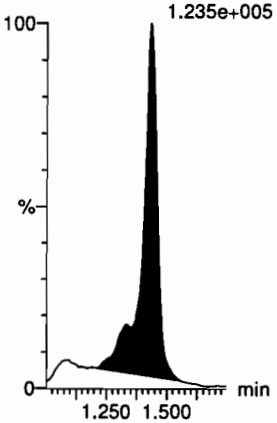
PFBS



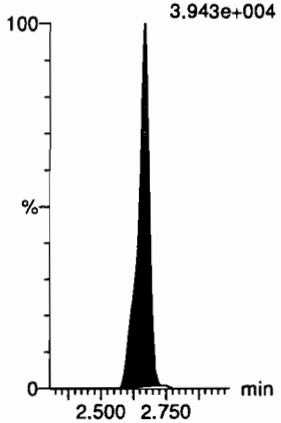
4:2 FTS



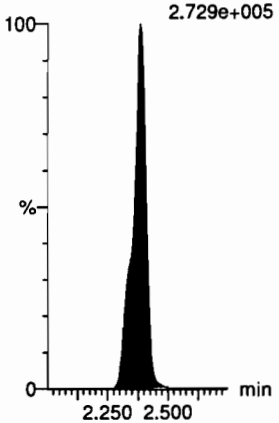
13C3-PFBA-EIS



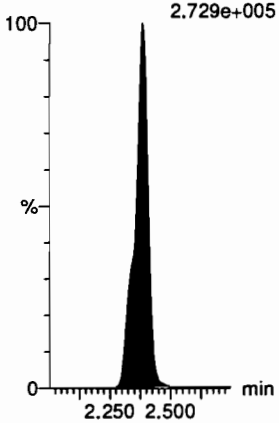
13C3-PFBS-EIS



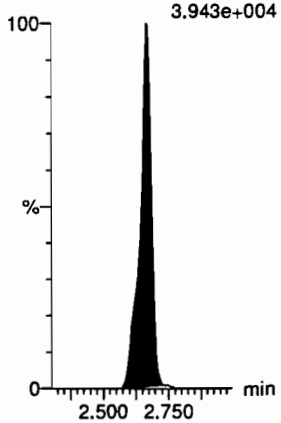
13C3-PFPeA-EIS



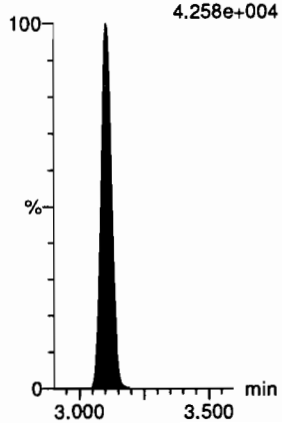
13C3-PFPeA-EIS



13C3-PFBS-EIS



13C2-4:2 FTS-EIS

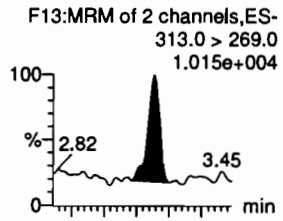


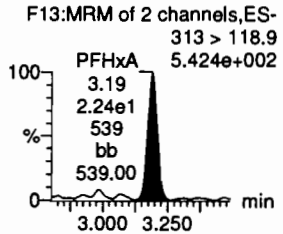
Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 16:21:31 Pacific Daylight Time

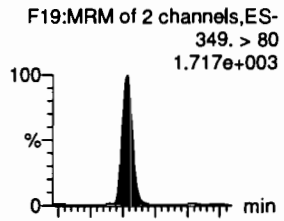
Name: 200714P1-05, Date: 14-Jul-2020, Time: 10:24:01, ID: ST200714P1-1 PFC CS-2 20F1901, Description: PFC CS-2 20F1901

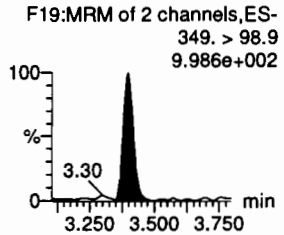
PFHxA



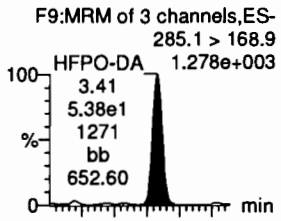


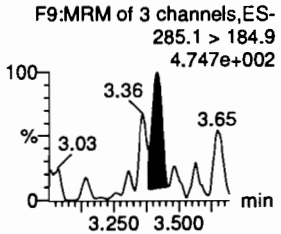
PFPeS



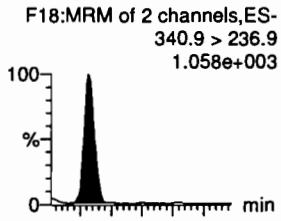


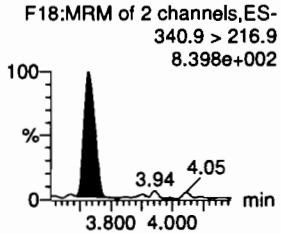
HFPO-DA



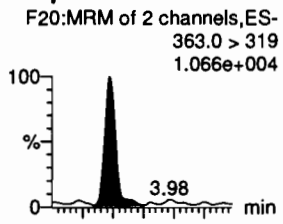


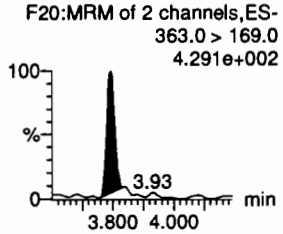
5:3 FTCA





PFHpA





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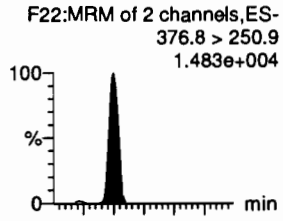
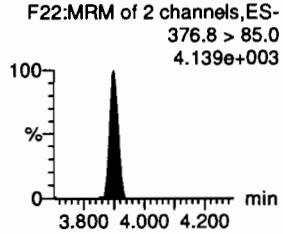
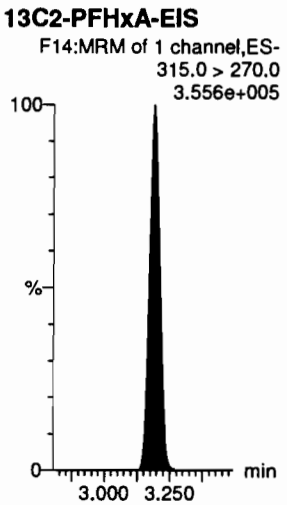
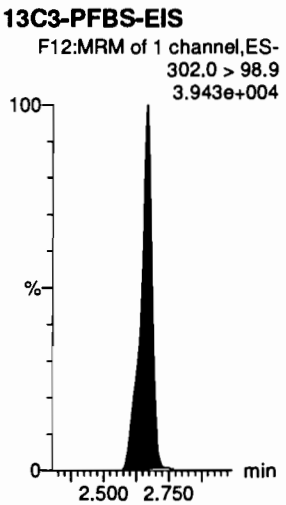




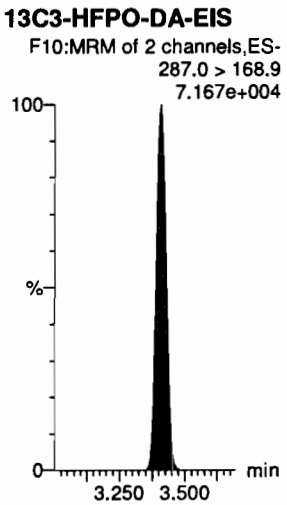
13C2-PFHxA-EIS



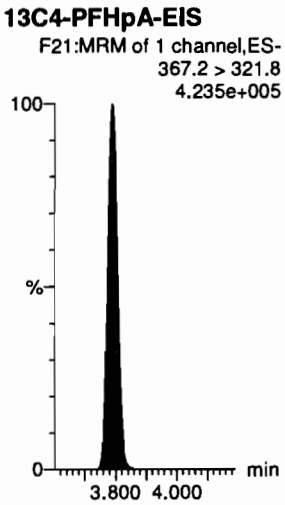
13C3-PFBS-EIS



13C3-HFPO-DA-EIS



13C4-PFHpA-EIS



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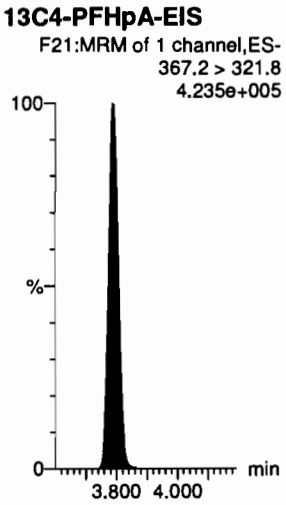

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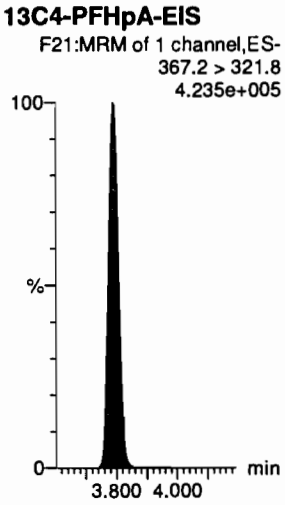

Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
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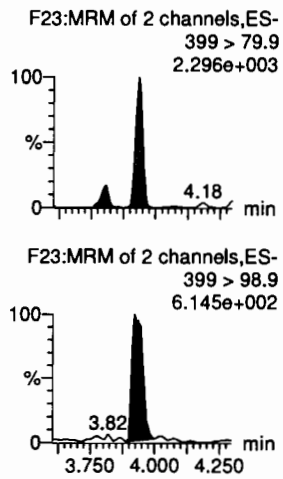
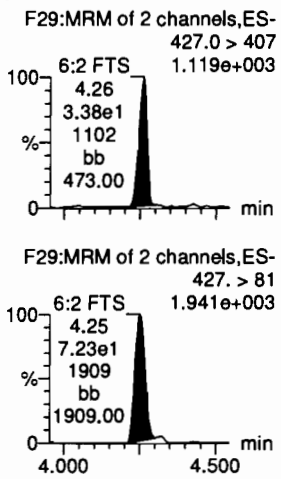
Name: 200714P1-05, Date: 14-Jul-2020, Time: 10:24:01, ID: ST200714P1-1 PFC CS-2 20F1901, Description: PFC CS-2 20F1901

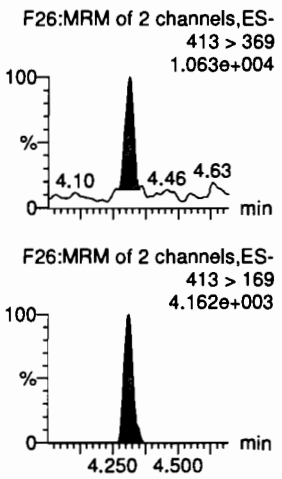
L-PFHxS



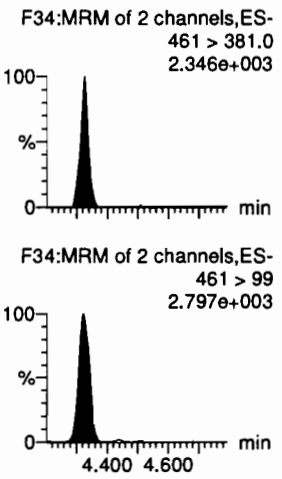
6:2 FTS



L-PFOA



PFEChS



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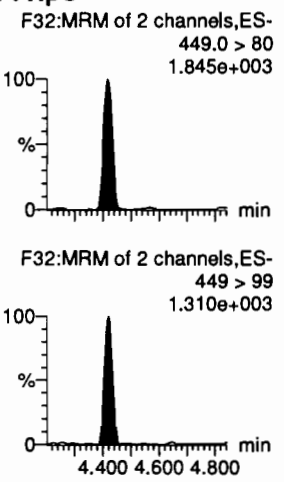
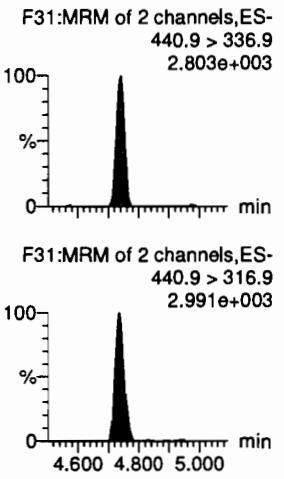
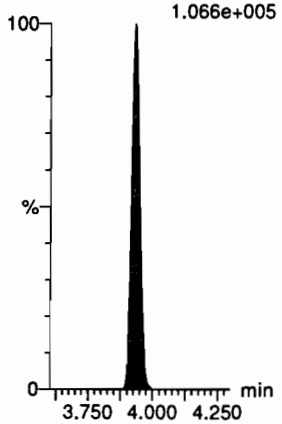


7:3 FTCA



13C3-PFHxS-EIS



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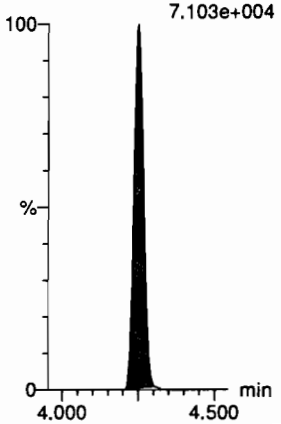

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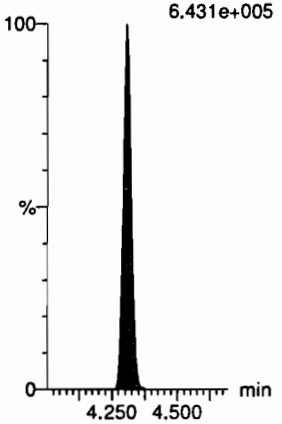

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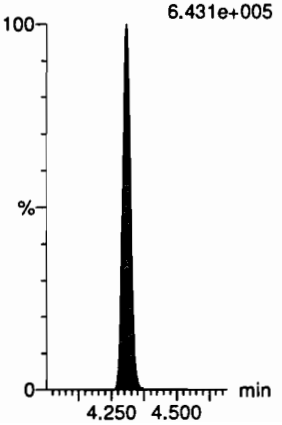
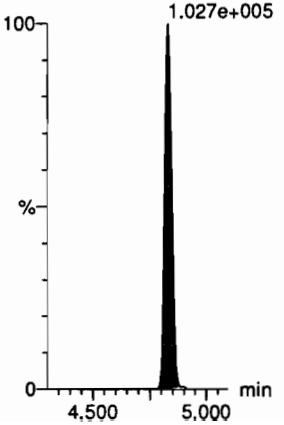
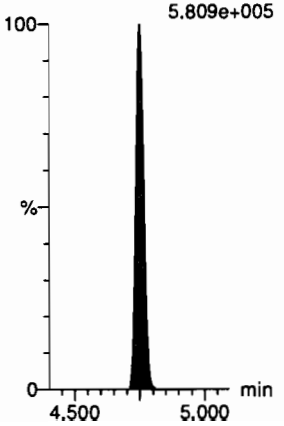


13C8-PFOS-EIS



13C5-PFNA-EIS



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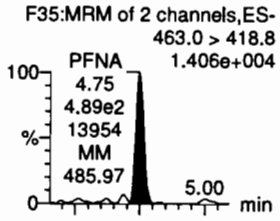
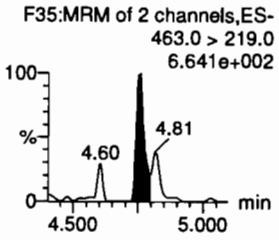
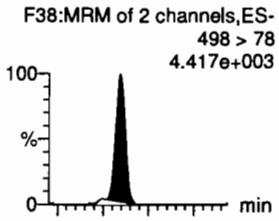
Name: 200714P1-05, Date: 14-Jul-2020, Time: 10:24:01, ID: ST200714P1-1 PFC CS-2 20F1901, Description: PFC CS-2 20F1901

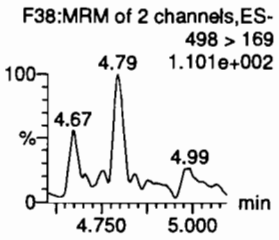
PFNA



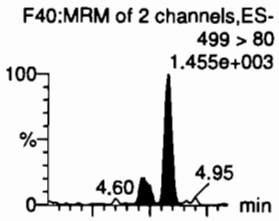


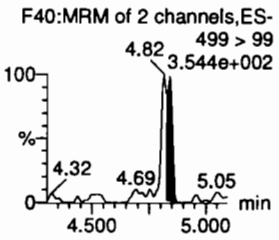
PFOSA





L-PFOS





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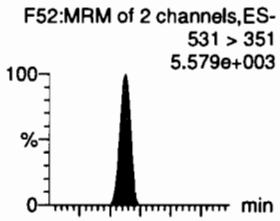

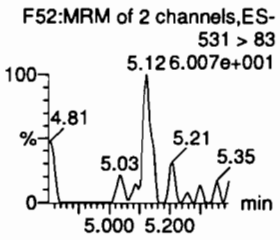

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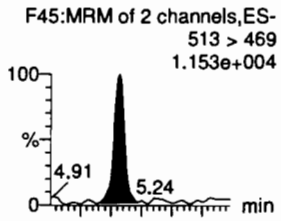
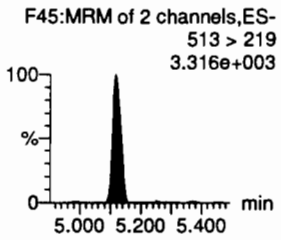
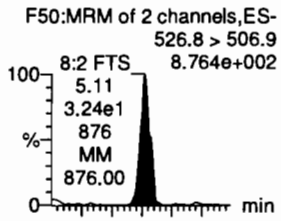
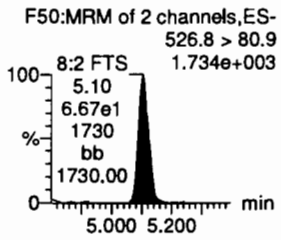


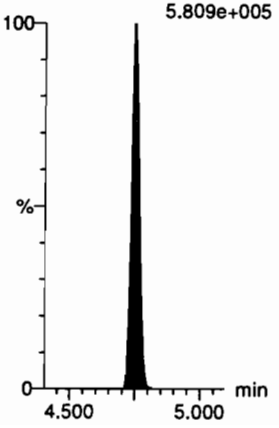


8:2 FTS

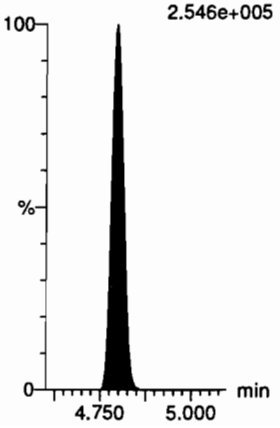




13C5-PFNA-EIS



13C8-PFOSA-EIS



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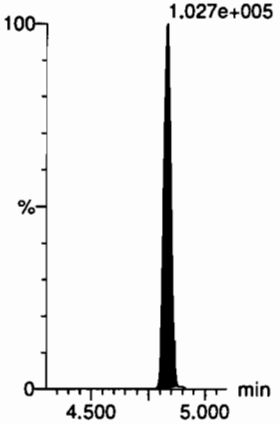

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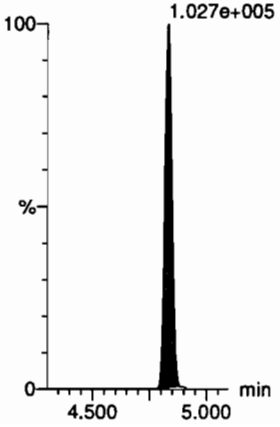
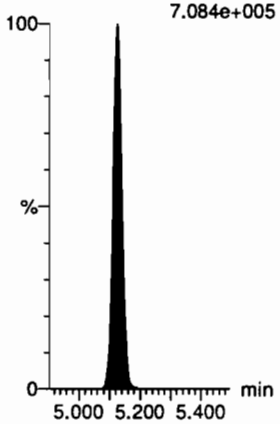
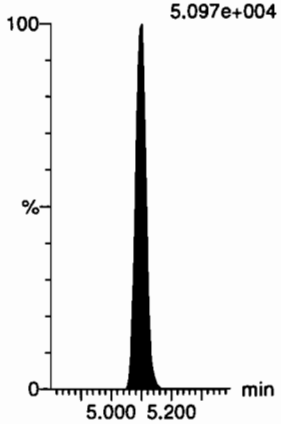


13C2-PFDA-EIS



13C2-8:2 FTS-EIS



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Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
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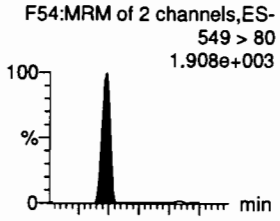
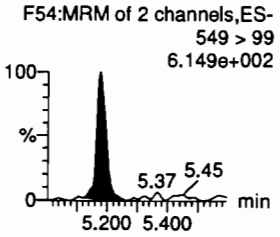
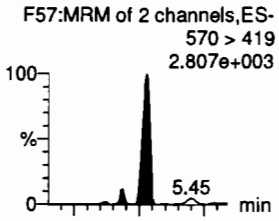
Name: 200714P1-05, Date: 14-Jul-2020, Time: 10:24:01, ID: ST200714P1-1 PFC CS-2 20F1901, Description: PFC CS-2 20F1901

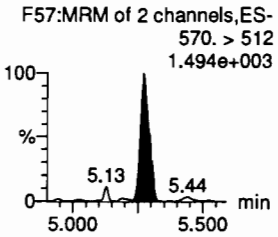
PFNS



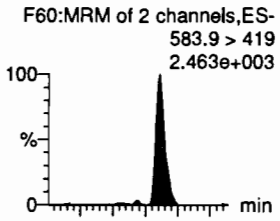


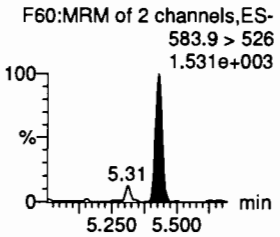
L-MeFOSAA



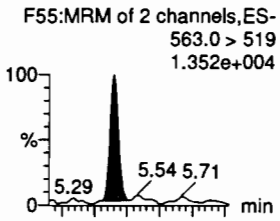


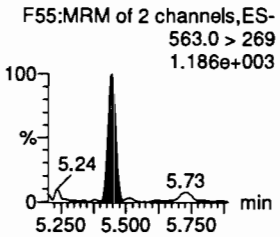
L-EtFOSAA



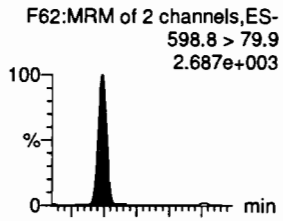


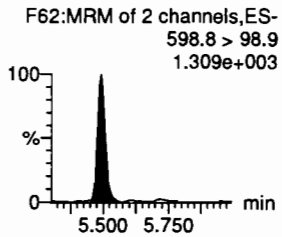
PFUdA



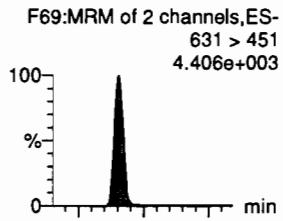


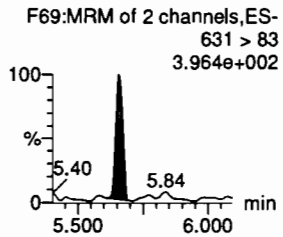
PFDS



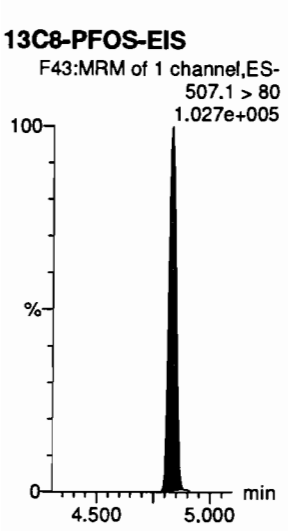


11Cl-PF30UdS

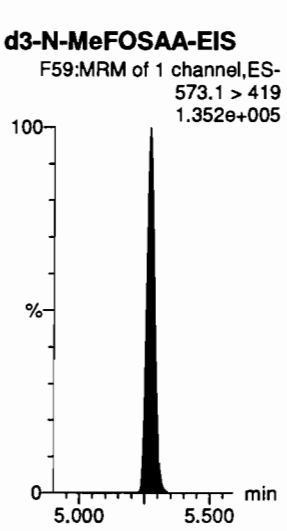




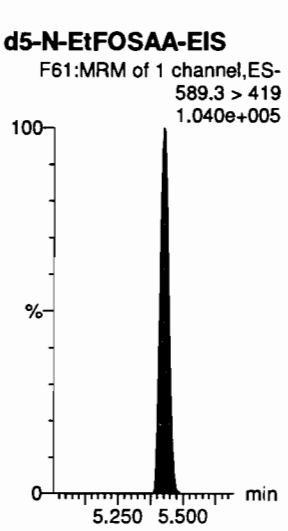
13C8-PFOS-EIS



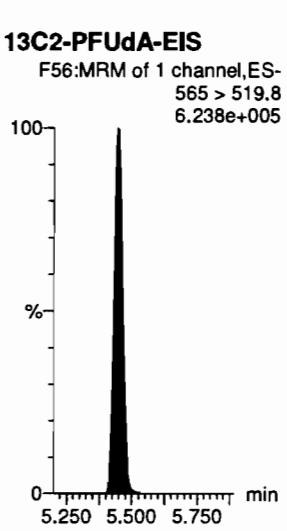
d3-N-MeFOSAA-EIS



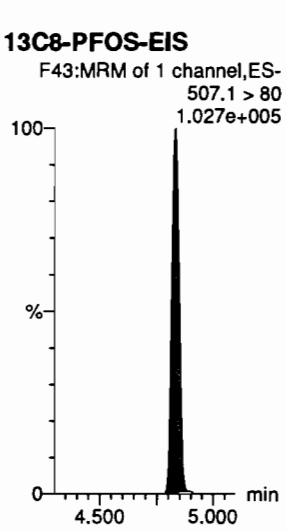
d5-N-EtFOSAA-EIS



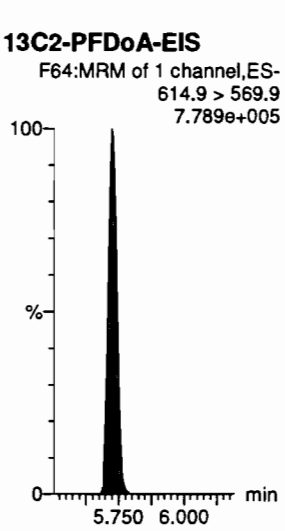
13C2-PFUdA-EIS



13C8-PFOS-EIS



13C2-PFDoA-EIS

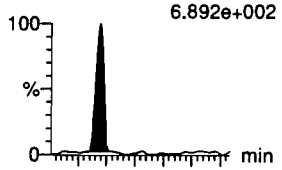


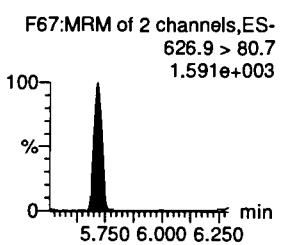
Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 16:21:31 Pacific Daylight Time

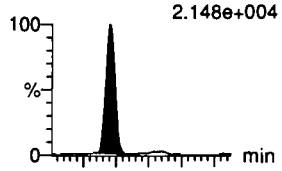
Name: 200714P1-05, Date: 14-Jul-2020, Time: 10:24:01, ID: ST200714P1-1 PFC CS-2 20F1901, Description: PFC CS-2 20F1901

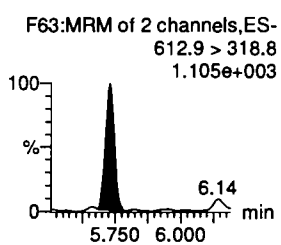
10:2 FTS



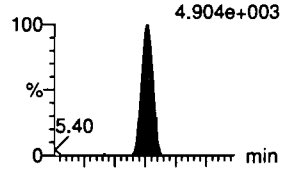


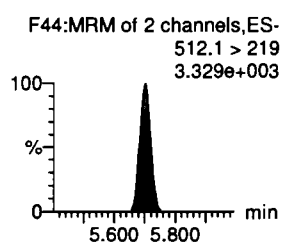
PFDoA





N-MeFOSA





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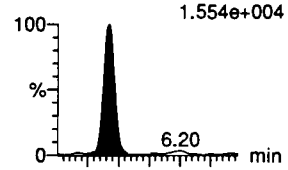
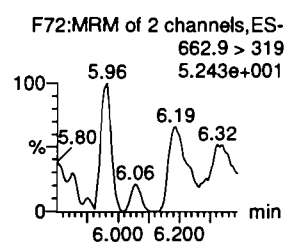
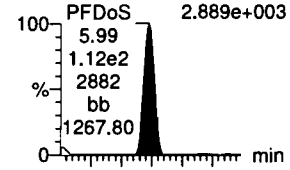
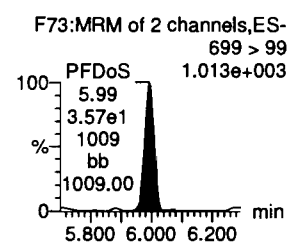




PFDoS





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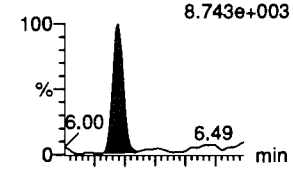
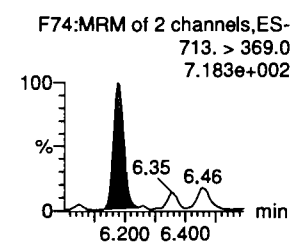
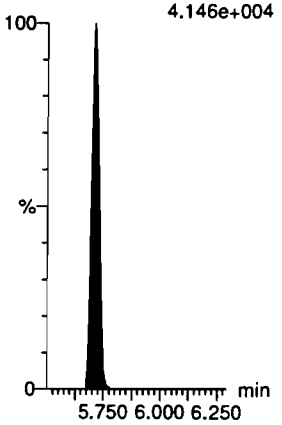
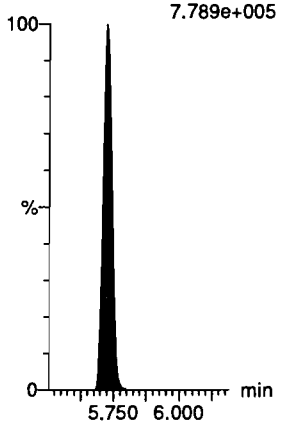




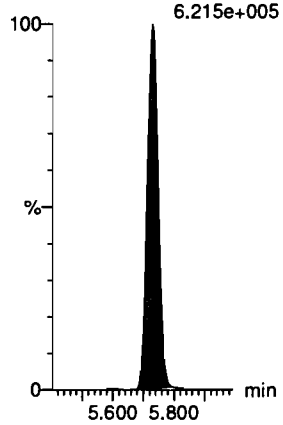
13C2-10:2 FTS-EIS



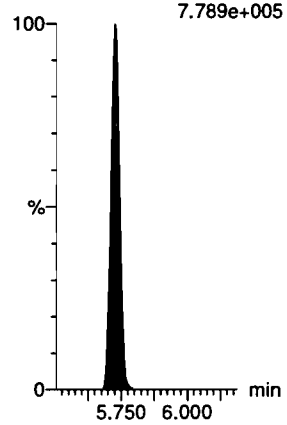
13C2-PFDoA-EIS



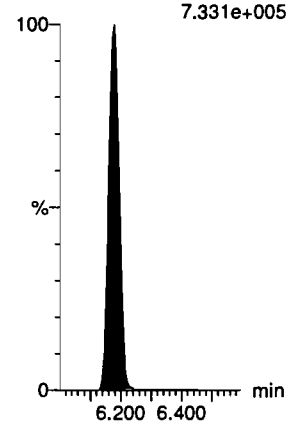
d3-N-MeFOSA-EIS



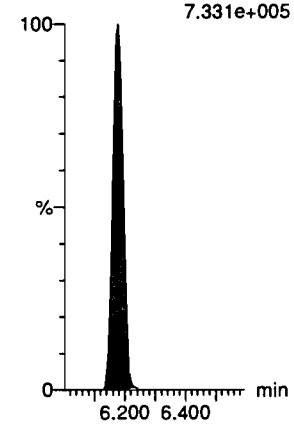
13C2-PFDoA-EIS



13C2-PFTeDA-EIS



13C2-PFTeDA-EIS



Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
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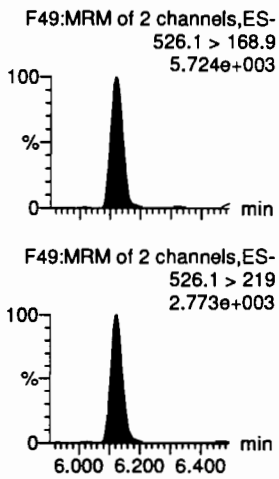
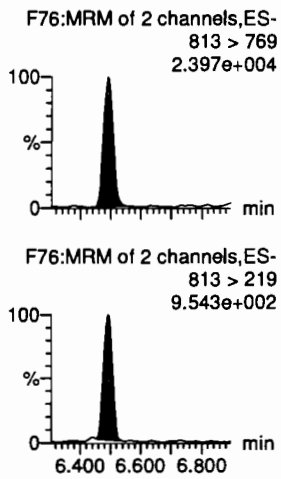
Name: 200714P1-05, Date: 14-Jul-2020, Time: 10:24:01, ID: ST200714P1-1 PFC CS-2 20F1901, Description: PFC CS-2 20F1901

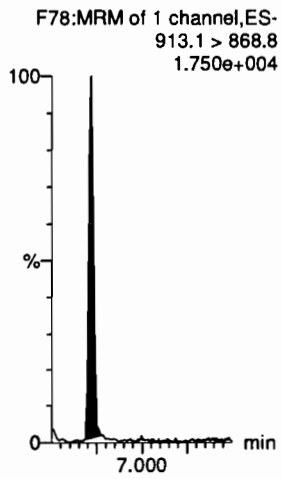
N-EtFOSA



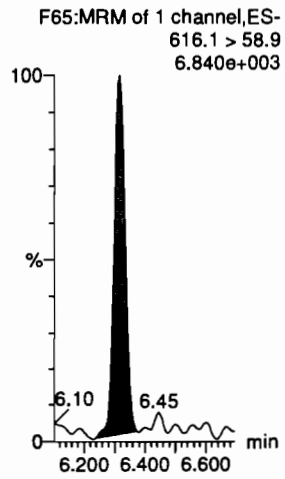
PFHxDA



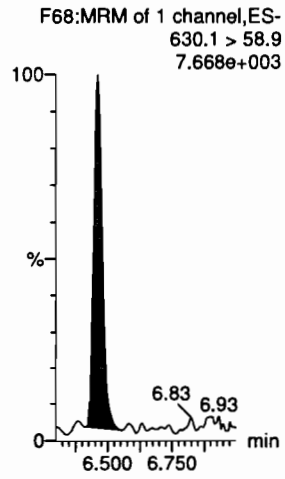
PFODA



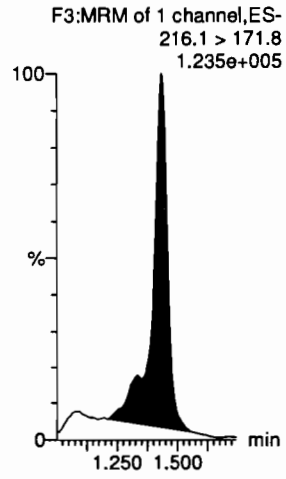
N-MeFOSE



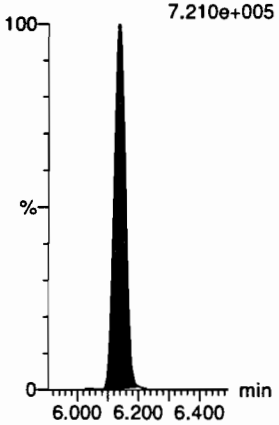
N-EtFOSE



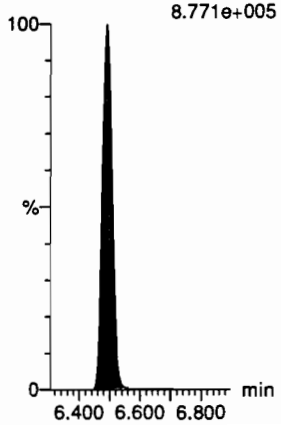
13C3-PFBA-RSD



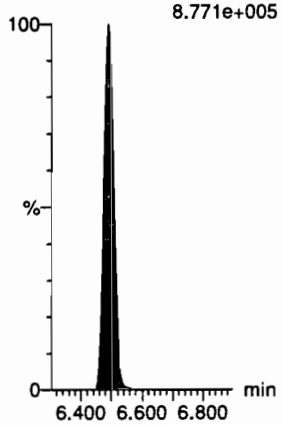
d5-N-ETFOSA-EIS



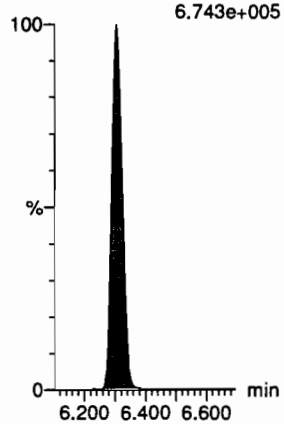
13C2-PFHxDA-EIS



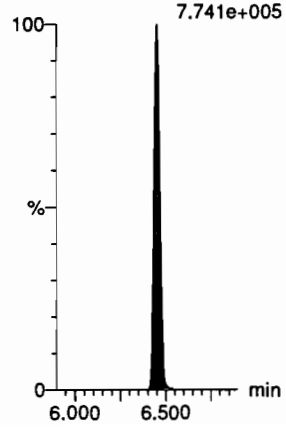
13C2-PFHxDA-EIS



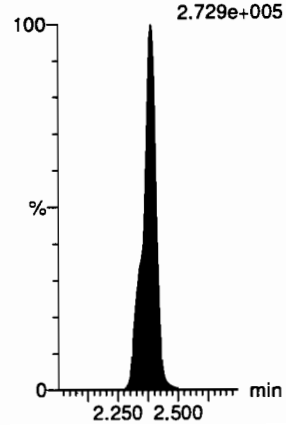
d7-N-MeFOSE-EIS



d9-N-EtFOSE-EIS



13C3-PFPeA-RSD



Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
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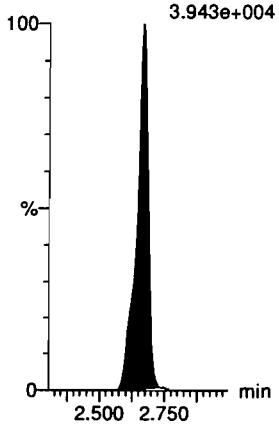
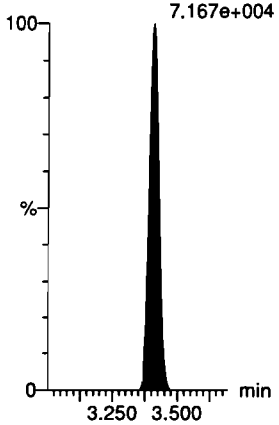
Name: 200714P1-05, Date: 14-Jul-2020, Time: 10:24:01, ID: ST200714P1-1 PFC CS-2 20F1901, Description: PFC CS-2 20F1901

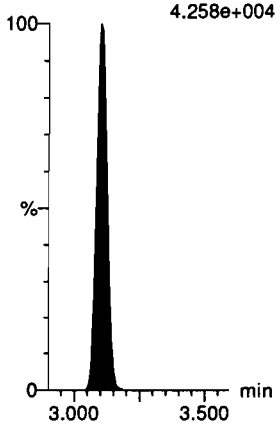
13C3-PFBS-RSD
F12:MRM of 1 channel,ES-
302.0 > 98.9
3.943e+004



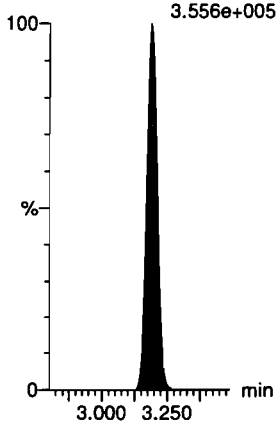
13C3-HFPO-DA-RSD
F10:MRM of 2 channels,ES-
287.0 > 168.9
7.167e+004



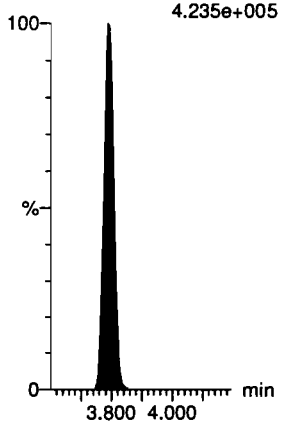
13C2-4:2 FTS-RSD
F17:MRM of 2 channels,ES-
329.0 > 80.8
4.258e+004



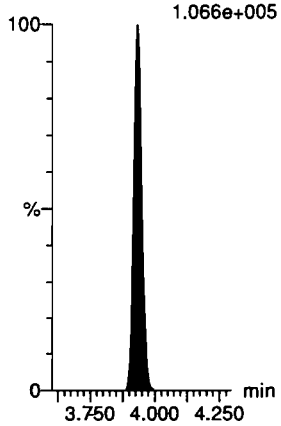
13C2-PFHxA-RSD
F14:MRM of 1 channel,ES-
315.0 > 270.0
3.556e+005



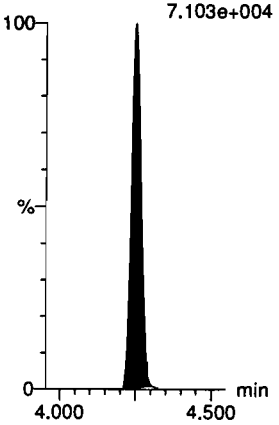
13C4-PFHpA-RSD
F21:MRM of 1 channel,ES-
367.2 > 321.8
4.235e+005



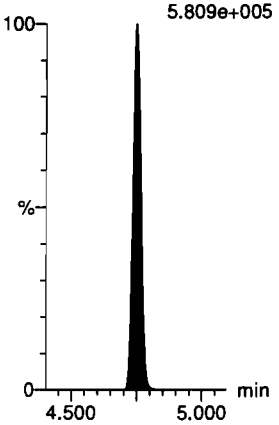
13C3-PFHxS-RSD
F24:MRM of 1 channel,ES-
402 > 80
1.066e+005



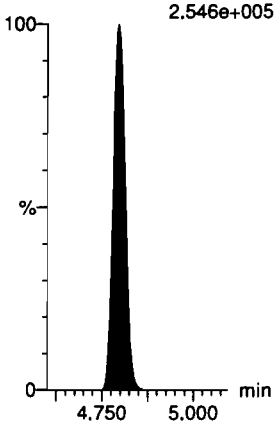
13C2-6:2 FTS-RSD
F30:MRM of 1 channel,ES-
429.0 > 79.7
7.103e+004



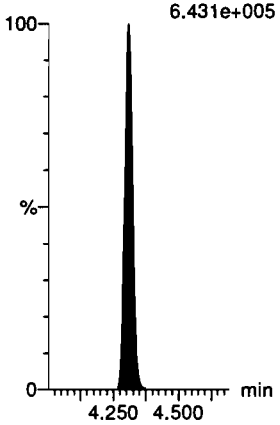
13C5-PFNA-RSD
F36:MRM of 1 channel,ES-
468.2 > 422.9
5.809e+005



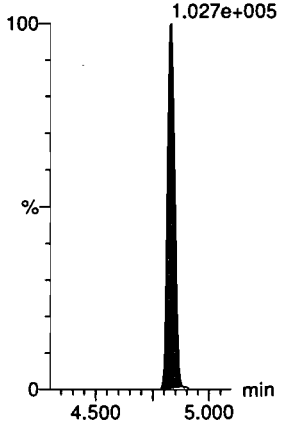
13C8-PFOSA-RSD
F42:MRM of 1 channel,ES-
506 > 78
2.546e+005



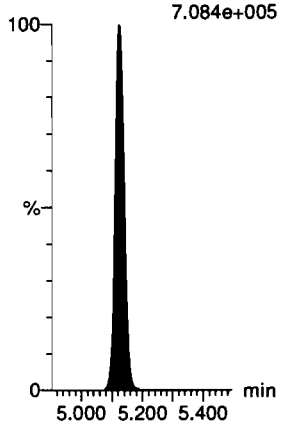
13C2-PFOA-RSD
F27:MRM of 1 channel,ES-
414.9 > 369.7
6.431e+005



13C8-PFOS-RSD
F43:MRM of 1 channel,ES-
507.1 > 80
1.027e+005



13C2-PFDA-RSD
F46:MRM of 1 channel,ES-
515.1 > 469.9
7.084e+005

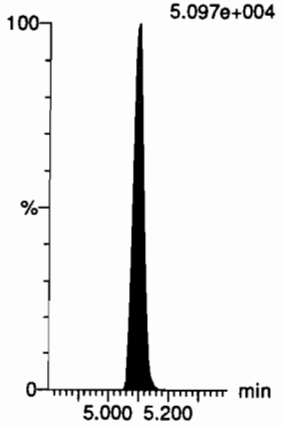


Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

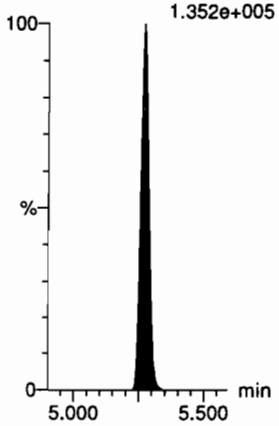
Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 16:21:31 Pacific Daylight Time

Name: 200714P1-05, Date: 14-Jul-2020, Time: 10:24:01, ID: ST200714P1-1 PFC CS-2 20F1901, Description: PFC CS-2 20F1901

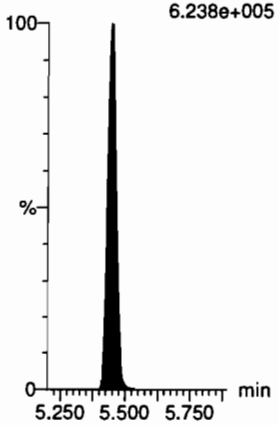
13C2-8:2 FTS-RSD
F51:MRM of 1 channel,ES-
529 > 80
5.097e+004



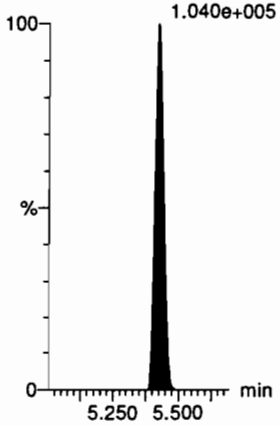
d3-N-MeFOSAA-RSD
F59:MRM of 1 channel,ES-
573.1 > 419
1.352e+005



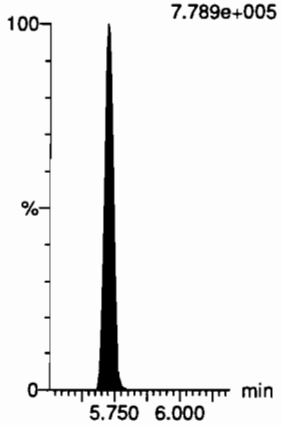
13C2-PFUdA-RSD
F56:MRM of 1 channel,ES-
565 > 519.8
6.238e+005



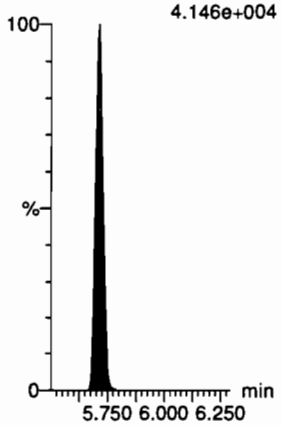
d5-N-EtFOSAA-RSD
F61:MRM of 1 channel,ES-
589.3 > 419
1.040e+005



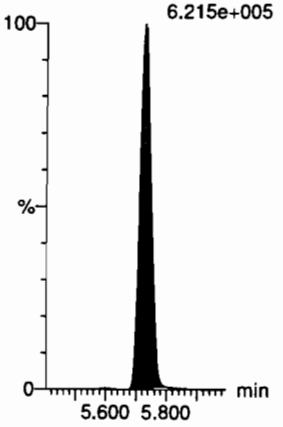
13C2-PFDoA-RSD
F64:MRM of 1 channel,ES-
614.9 > 569.9
7.789e+005



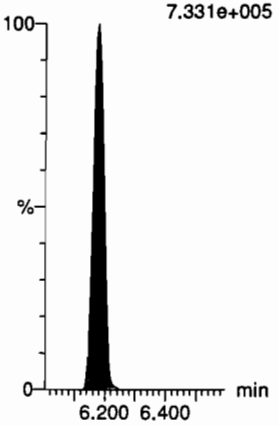
13C2-10:2 FTS-RSD
F70:MRM of 1 channel,ES-
632.9 > 80.0
4.146e+004



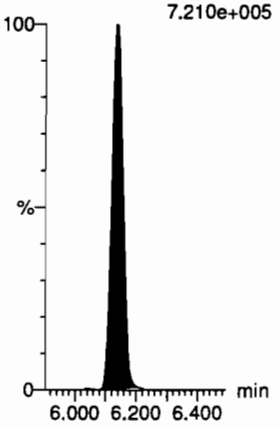
d3-N-MeFOSA-RSD
F47:MRM of 1 channel,ES-
515.2 > 168.9
6.215e+005



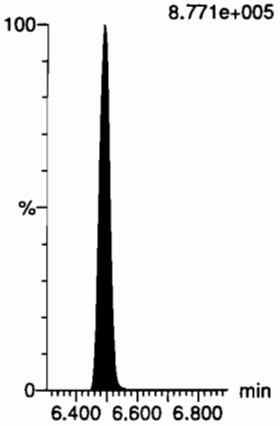
13C2-PFTeDA-RSD
F75:MRM of 2 channels,ES-
715.1 > 669.7
7.331e+005



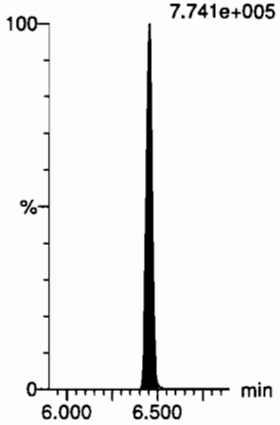
d5-N-ETFOSA-RSD
F53:MRM of 1 channel,ES-
531.1 > 168.9
7.210e+005



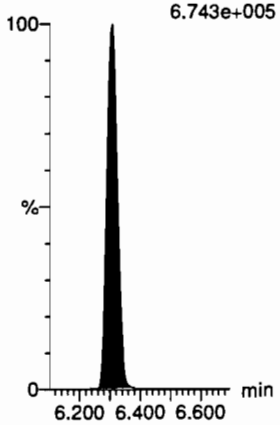
13C2-PFHxDA-RSD
F77:MRM of 1 channel,ES-
815 > 769.7
8.771e+005



d9-N-EtFOSE-RSD
F71:MRM of 1 channel,ES-
639.2 > 58.8
7.741e+005



d7-N-MeFOSE-RSD
F66:MRM of 1 channel,ES-
623.1 > 58.9
6.743e+005

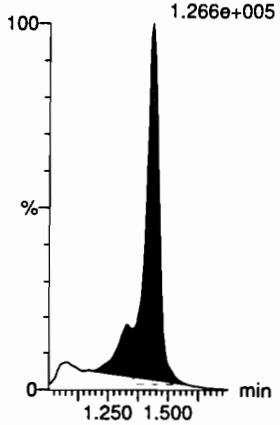


Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

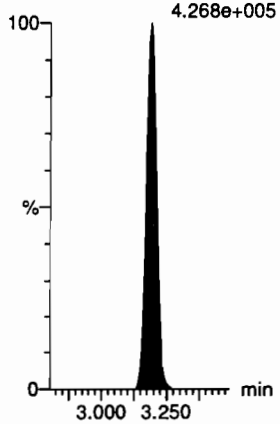
Last Altered: Wednesday, July 15, 2020 08:25:12 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 08:25:32 Pacific Daylight Time

Name: 200714P1-05, Date: 14-Jul-2020, Time: 10:24:01, ID: ST200714P1-1 PFC CS-2 20F1901, Description: PFC CS-2 20F1901

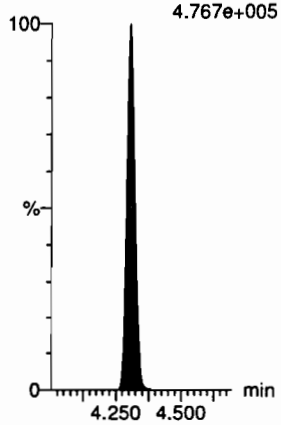
13C4-PFBA



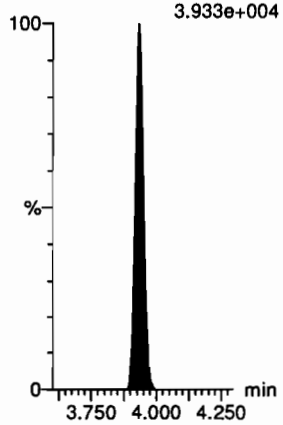
13C5-PFHxA



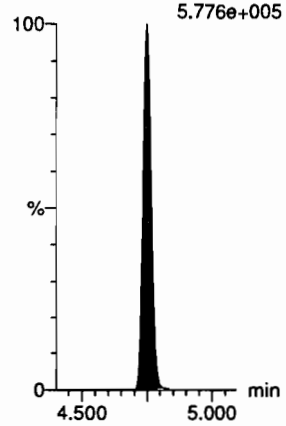
13C8-PFOA



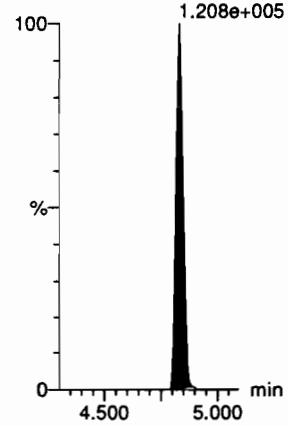
18O2-PFHxS



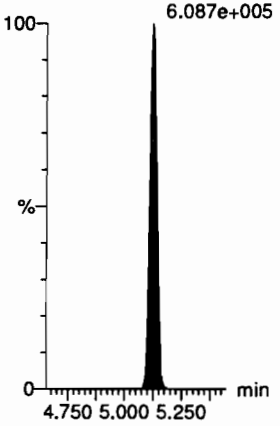
13C9-PFNA



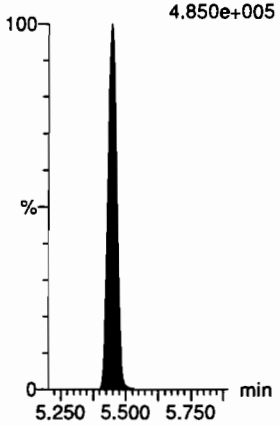
13C4-PFOS



13C6-PFDA



13C7-PFUdA

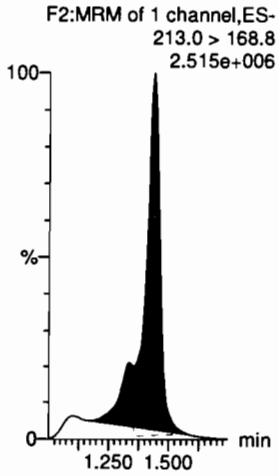


Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

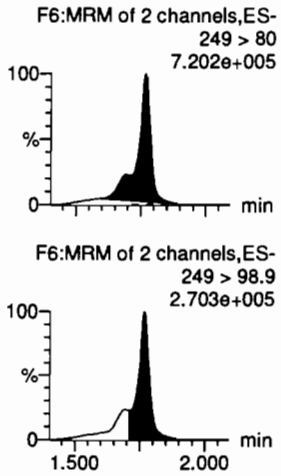
Last Altered: Wednesday, July 15, 2020 08:25:12 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 08:25:32 Pacific Daylight Time

Name: 200714P1-13, Date: 14-Jul-2020, Time: 11:48:48, ID: ST200714P1-9 PFC CS6 20F1909, Description: PFC CS6 20F1909

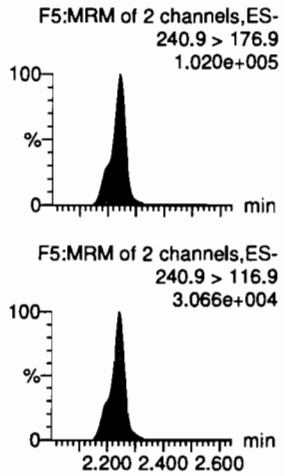
PFBA



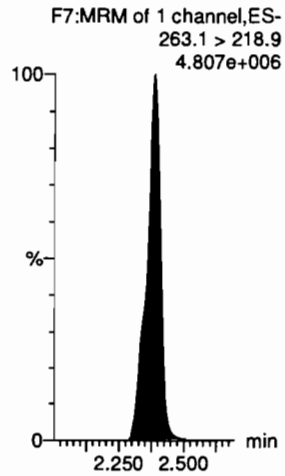
PFPrS



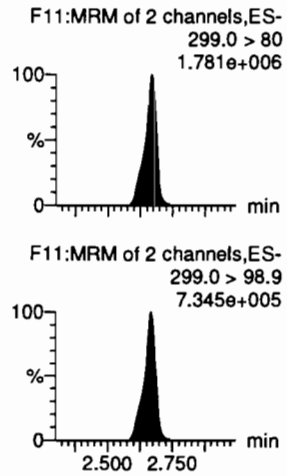
3:3 FTCA



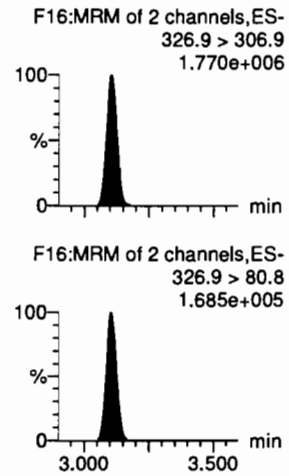
PFPeA



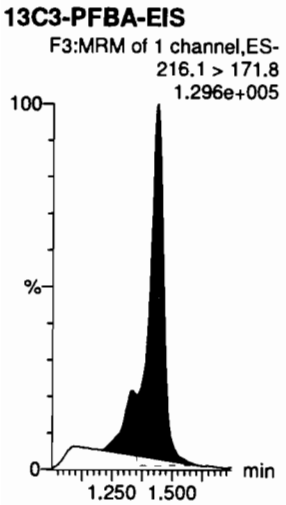
PFBS



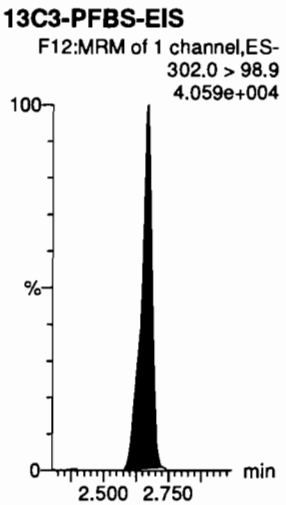
4:2 FTS



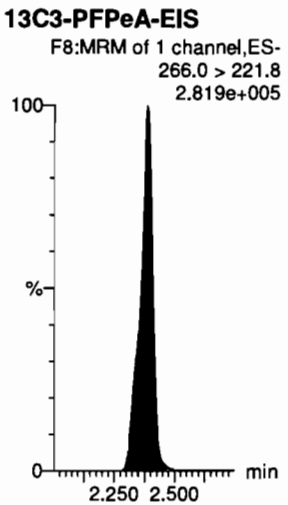
13C3-PFBA-EIS



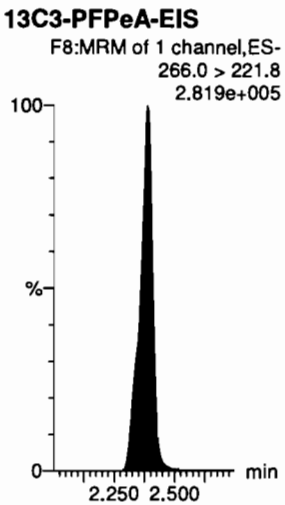
13C3-PFBS-EIS



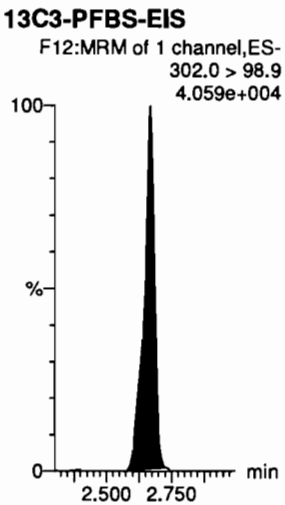
13C3-PFPeA-EIS



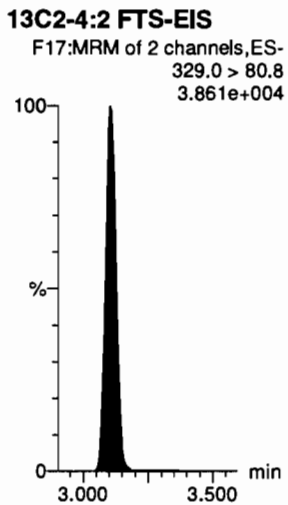
13C3-PFPeA-EIS



13C3-PFBS-EIS



13C2-4:2 FTS-EIS

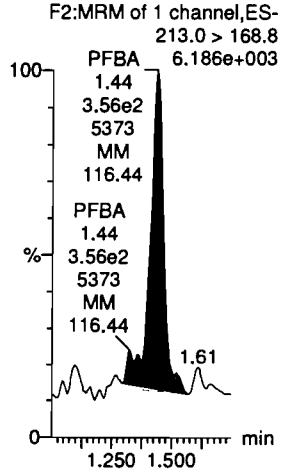


Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

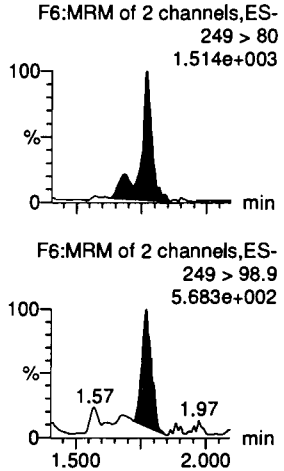
Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 16:21:31 Pacific Daylight Time

Name: 200714P1-06, Date: 14-Jul-2020, Time: 10:34:37, ID: ST200714P1-2 PFC CS-1 20F1902, Description: PFC CS-1 20F1902

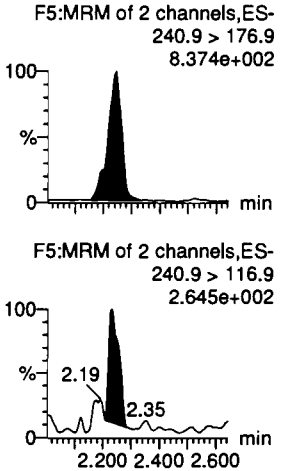
PFBA



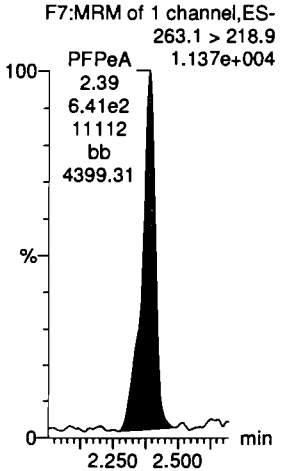
PFPrS



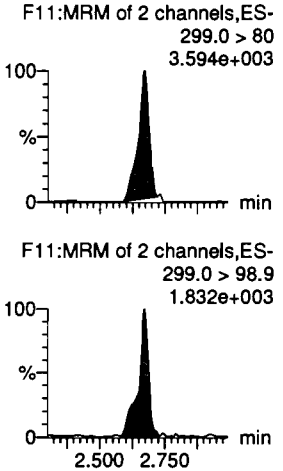
3:3 FTCA



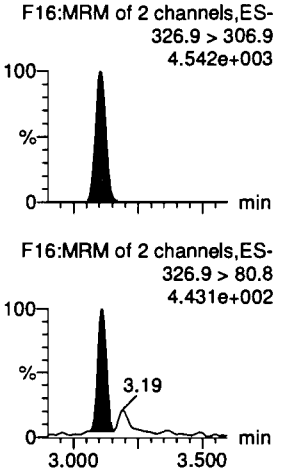
PFPeA



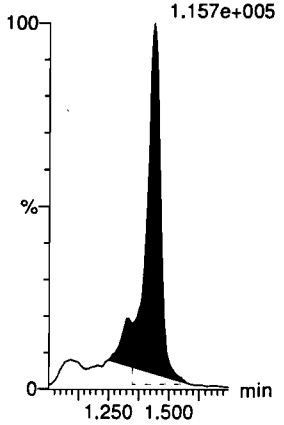
PFBS



4:2 FTS



13C3-PFBA-EIS



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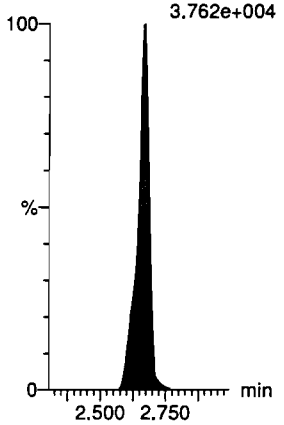

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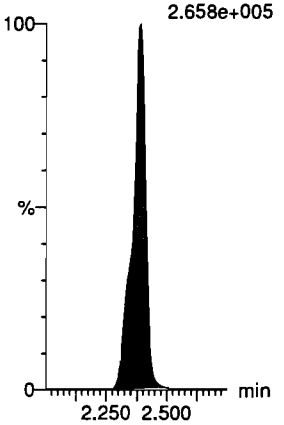

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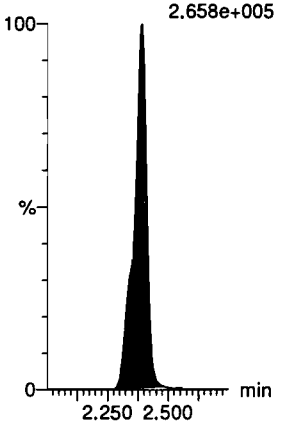

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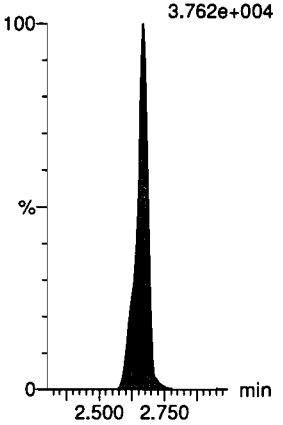
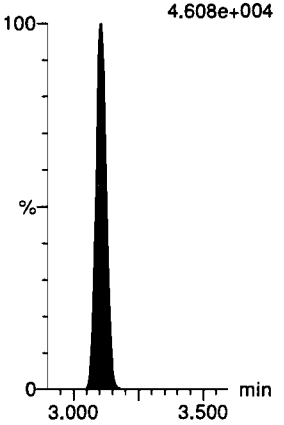


13C2-4:2 FTS-EIS



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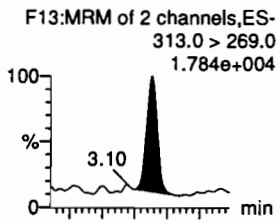
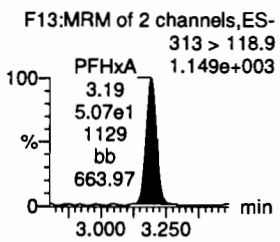
Printed: Tuesday, July 14, 2020 16:21:31 Pacific Daylight Time

Name: 200714P1-06, Date: 14-Jul-2020, Time: 10:34:37, ID: ST200714P1-2 PFC CS-1 20F1902, Description: PFC CS-1 20F1902

PFHxA





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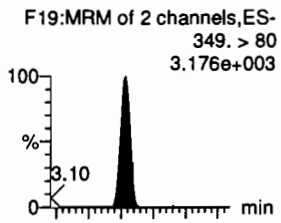

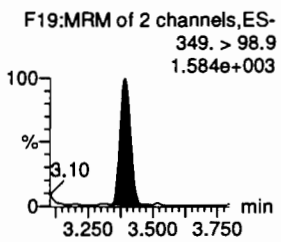

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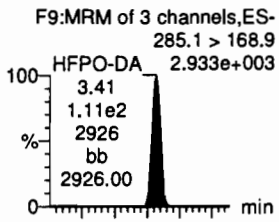
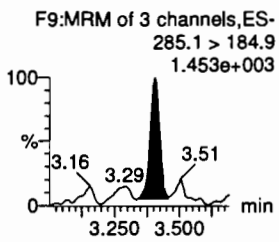
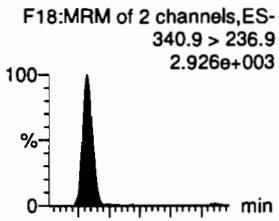
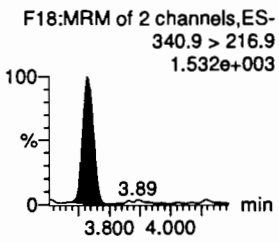




5:3 FTCA





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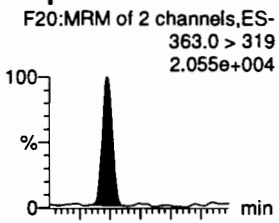

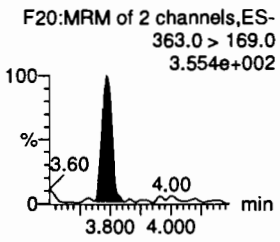

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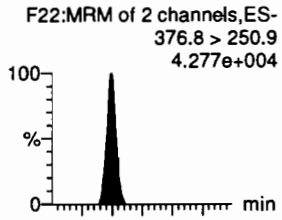

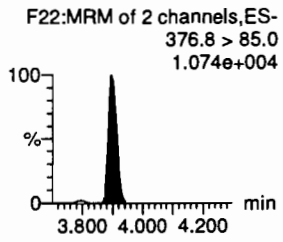

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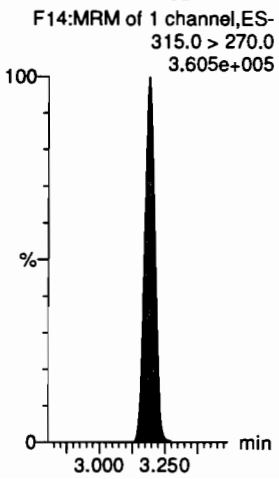
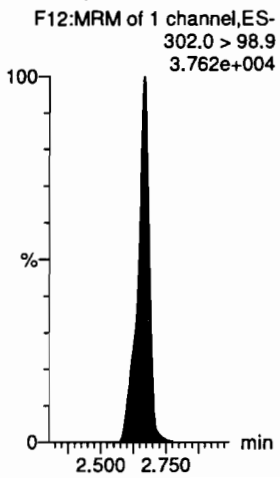


13C3-PFBS-EIS



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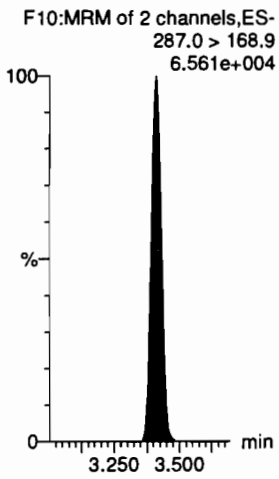

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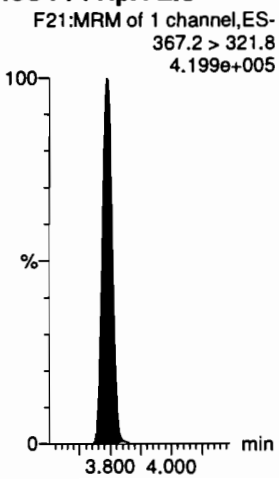

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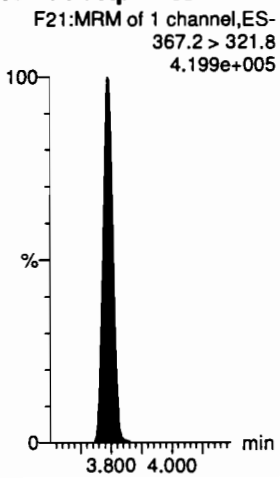

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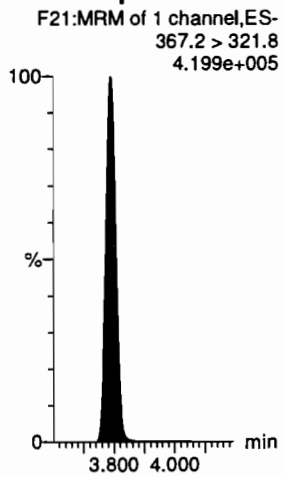

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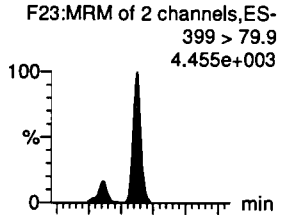
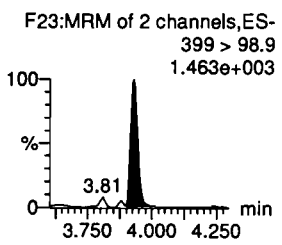
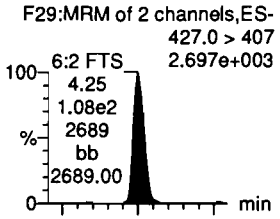
Name: 200714P1-06, Date: 14-Jul-2020, Time: 10:34:37, ID: ST200714P1-2 PFC CS-1 20F1902, Description: PFC CS-1 20F1902

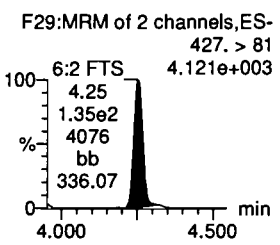
L-PFHxS





6:2 FTS





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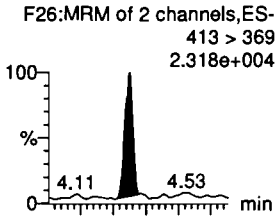

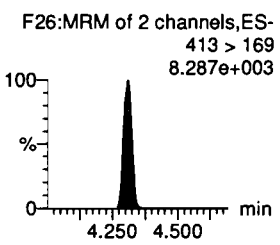

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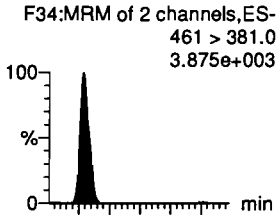

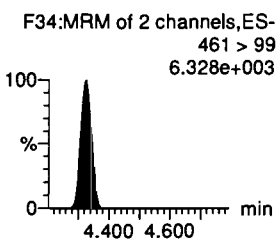

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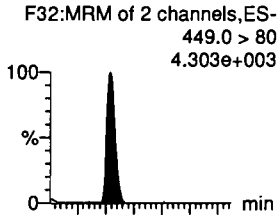
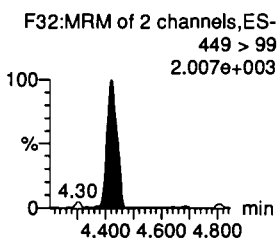
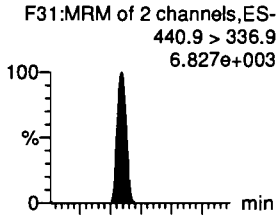
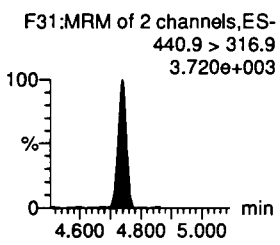


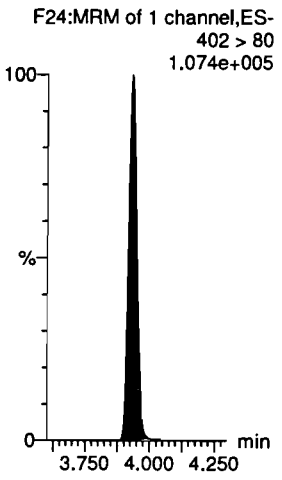


7:3 FTCA

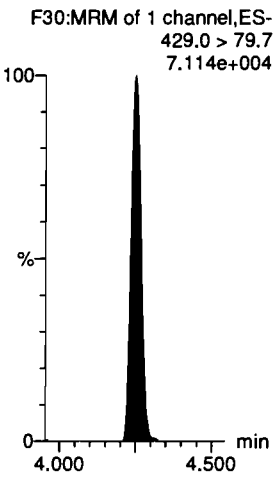




13C3-PFHxS-EIS



13C2-6:2 FTS-EIS



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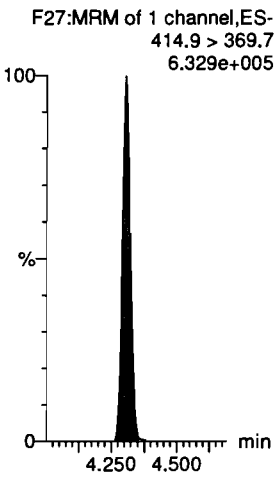

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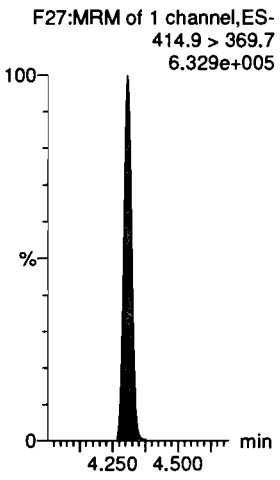
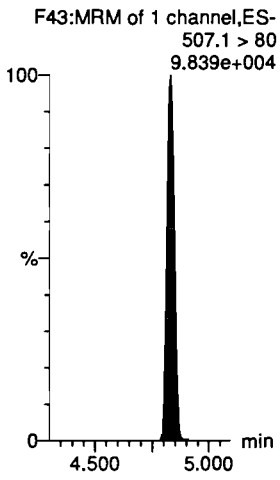


13C8-PFOS-EIS



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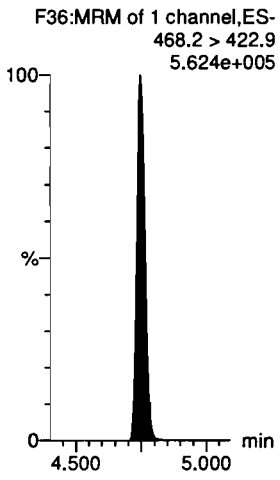

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Name: 200714P1-06, Date: 14-Jul-2020, Time: 10:34:37, ID: ST200714P1-2 PFC CS-1 20F1902, Description: PFC CS-1 20F1902

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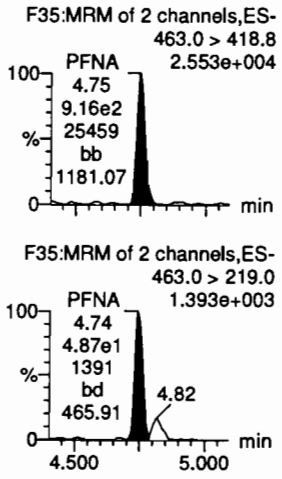

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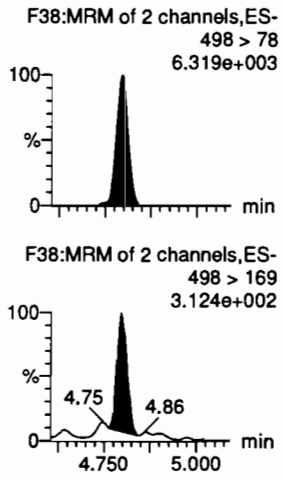
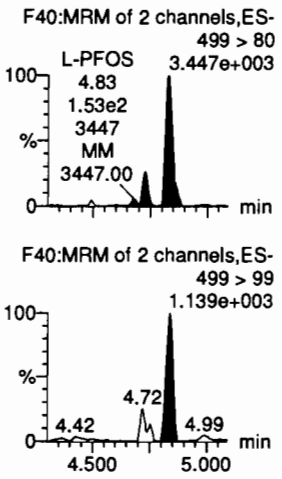
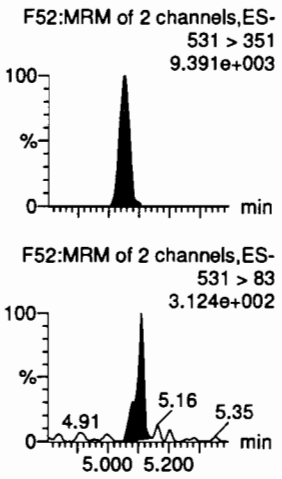


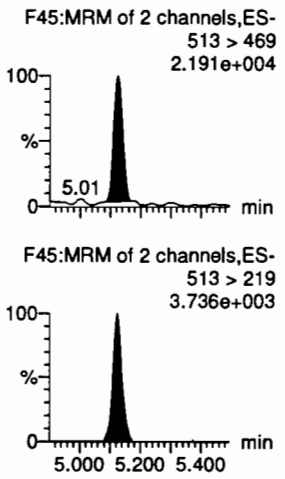
L-PFOS



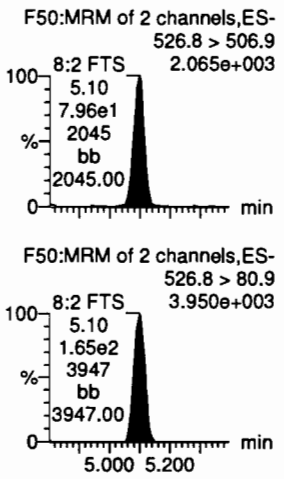
9Cl-PF30NS



PFDA



8:2 FTS



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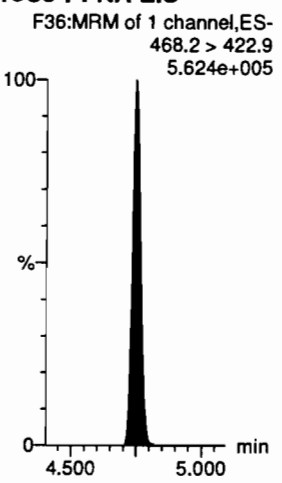

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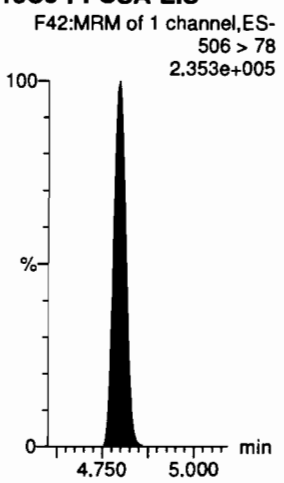

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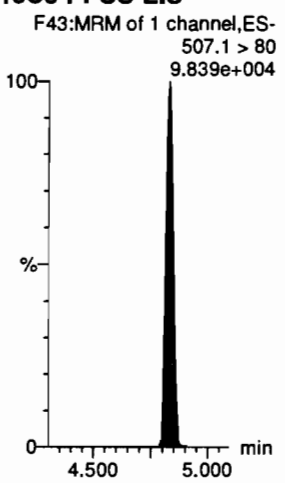

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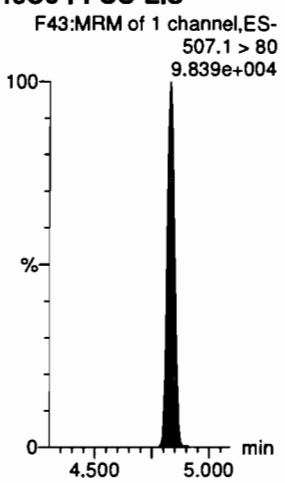
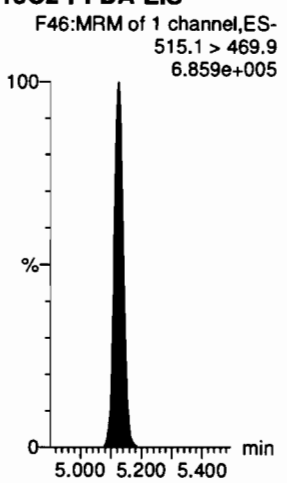
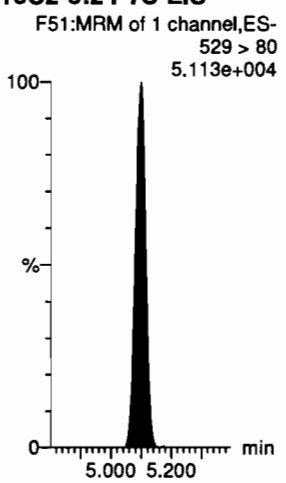


13C2-PFDA-EIS



13C2-8:2 FTS-EIS

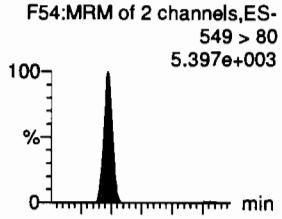


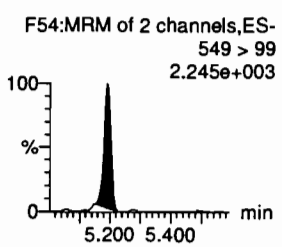
Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 16:21:31 Pacific Daylight Time

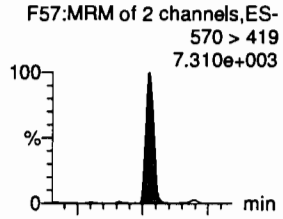
Name: 200714P1-06, Date: 14-Jul-2020, Time: 10:34:37, ID: ST200714P1-2 PFC CS-1 20F1902, Description: PFC CS-1 20F1902

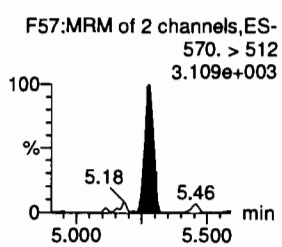
PFNS





L-MeFOSAA





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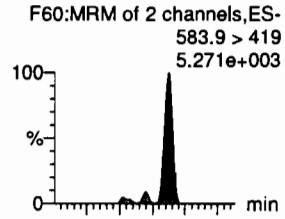
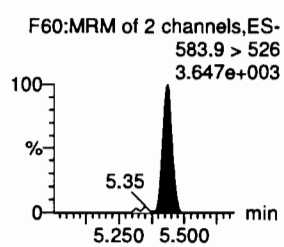
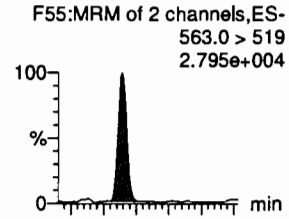
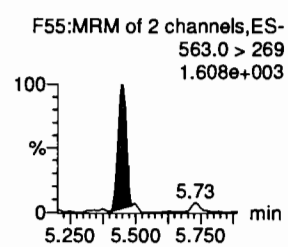


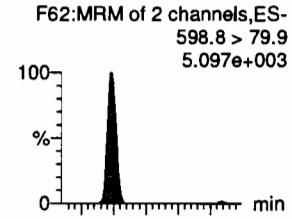


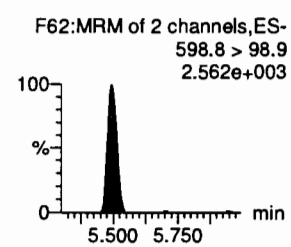
PFUdA



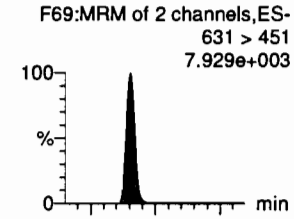


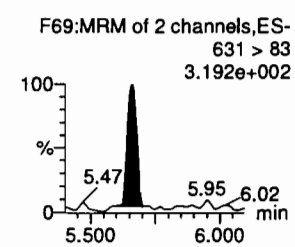
PFDS



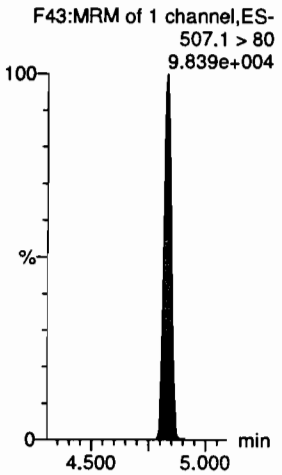


11Cl-PF30UdS

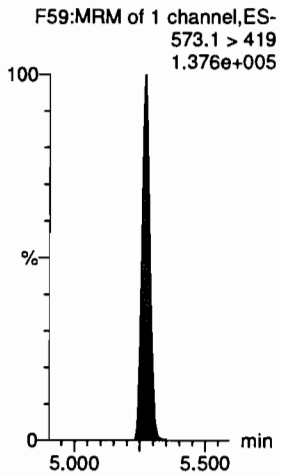




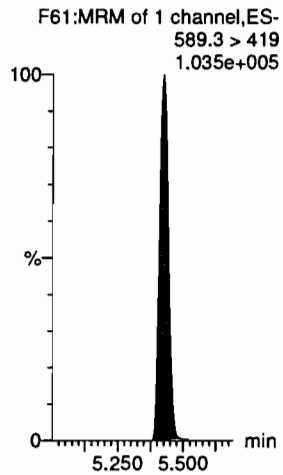
13C8-PFOS-EIS



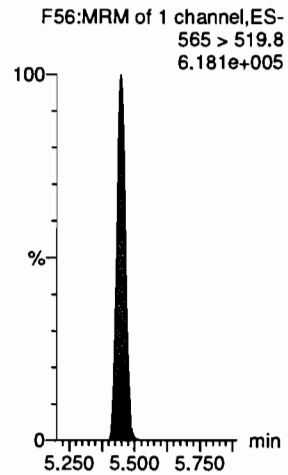
d3-N-MeFOSAA-EIS



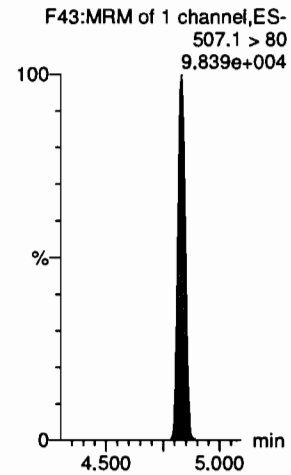
d5-N-EtFOSAA-EIS



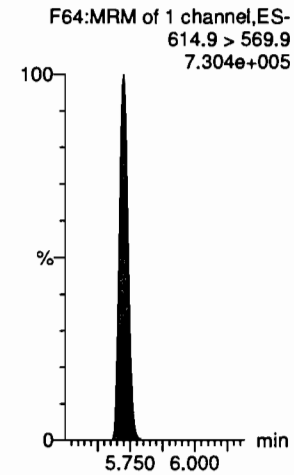
13C2-PFUdA-EIS



13C8-PFOS-EIS



13C2-PFDoA-EIS

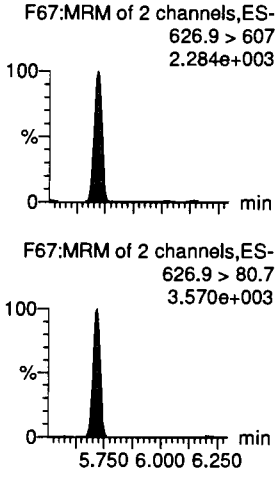


Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

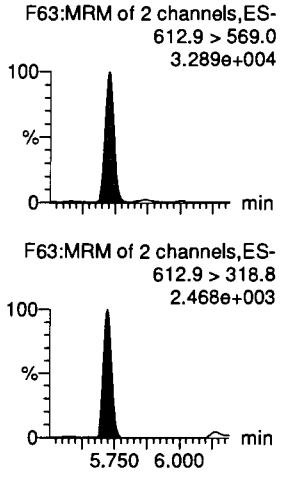
Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 16:21:31 Pacific Daylight Time

Name: 200714P1-06, Date: 14-Jul-2020, Time: 10:34:37, ID: ST200714P1-2 PFC CS-1 20F1902, Description: PFC CS-1 20F1902

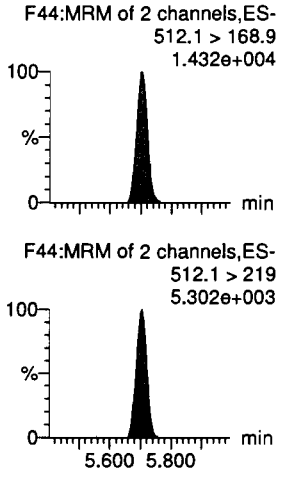
10:2 FTS



PFDoA



N-MeFOSA



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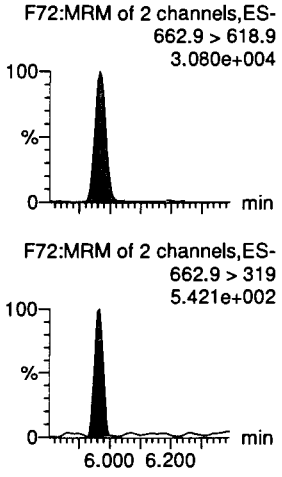
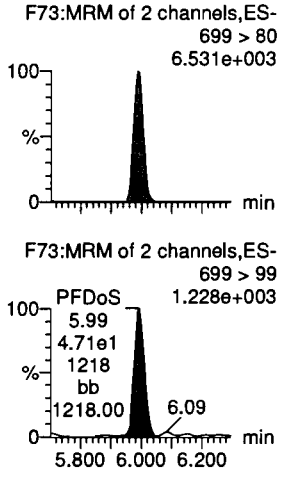
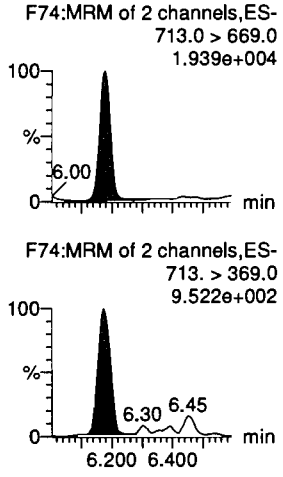


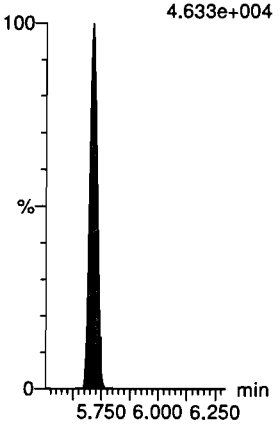
PFDoS



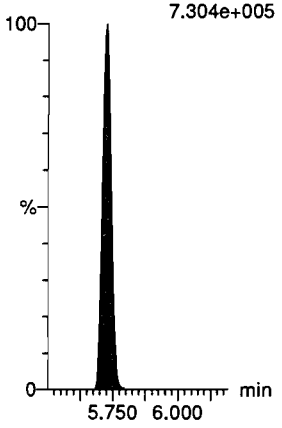
PFTeDA



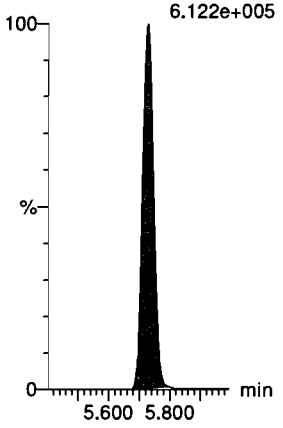
13C2-10:2 FTS-EIS



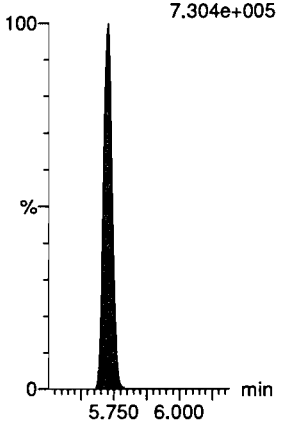
13C2-PFDoA-EIS



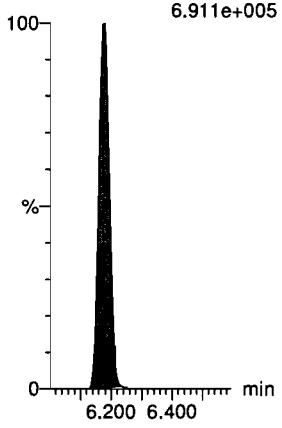
d3-N-MeFOSA-EIS



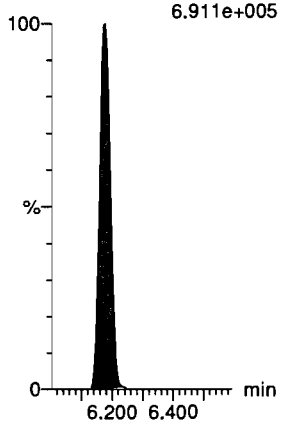
13C2-PFDoA-EIS



13C2-PFTeDA-EIS



13C2-PFTeDA-EIS



Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
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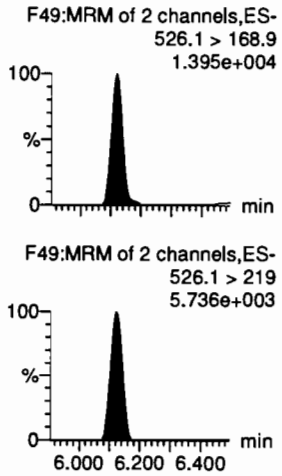
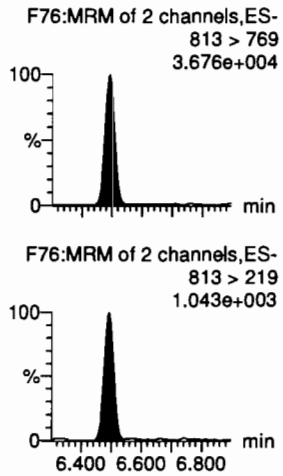
Name: 200714P1-06, Date: 14-Jul-2020, Time: 10:34:37, ID: ST200714P1-2 PFC CS-1 20F1902, Description: PFC CS-1 20F1902

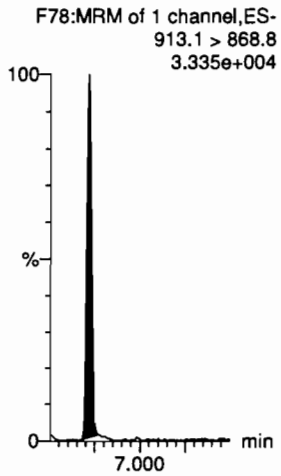
N-EtFOSA



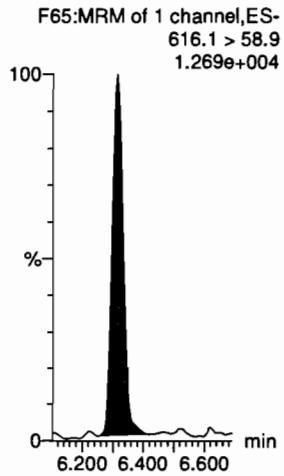
PFHxDA



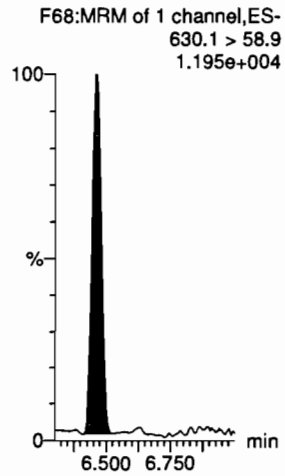
PFODA



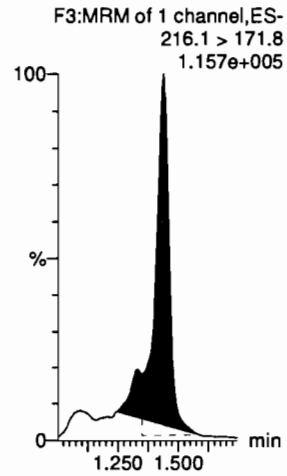
N-MeFOSE



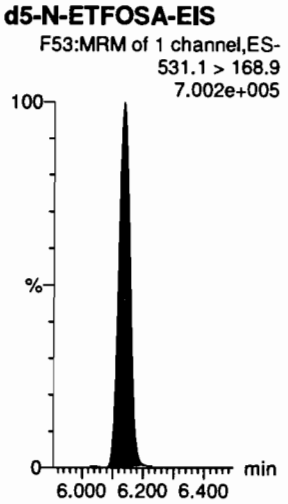
N-EtFOSE



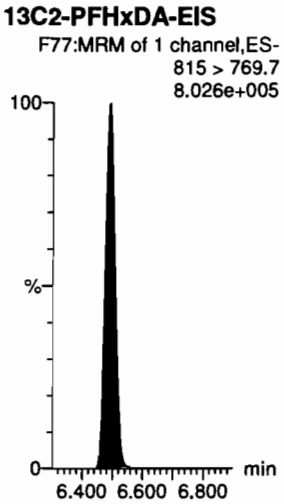
13C3-PFBA-RSD



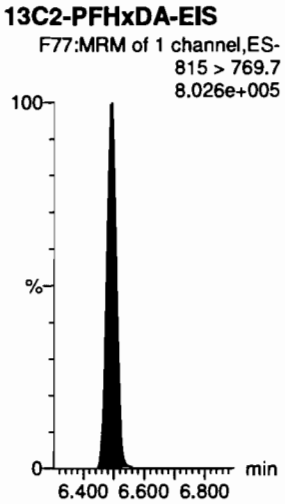
d5-N-ETFOSA-EIS



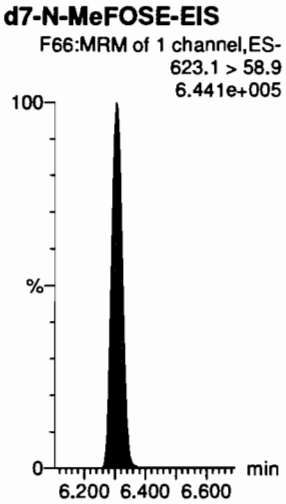
13C2-PFHxDA-EIS



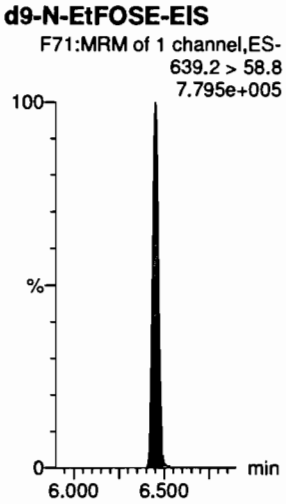
13C2-PFHxDA-EIS



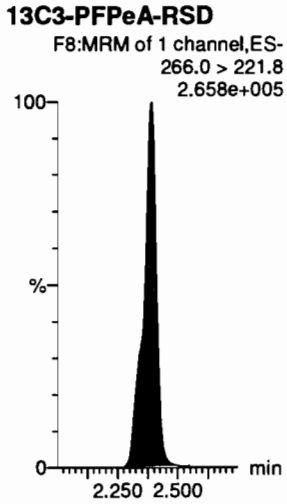
d7-N-MeFOSE-EIS



d9-N-EtFOSE-EIS



13C3-PFPeA-RSD

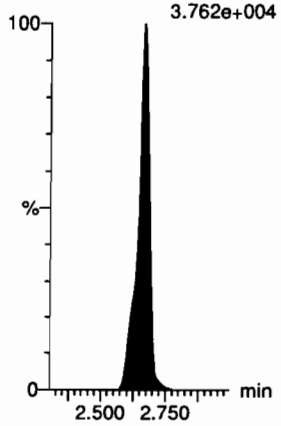


Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

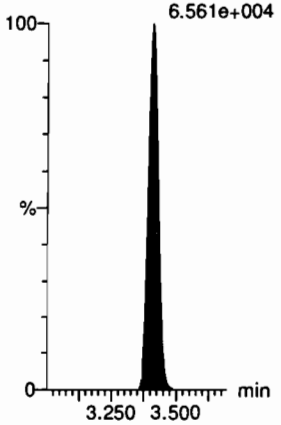
Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 16:21:31 Pacific Daylight Time

Name: 200714P1-06, Date: 14-Jul-2020, Time: 10:34:37, ID: ST200714P1-2 PFC CS-1 20F1902, Description: PFC CS-1 20F1902

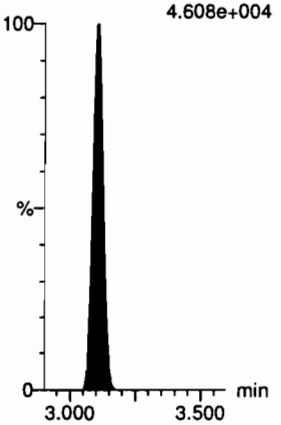
13C3-PFBS-RSD
F12:MRM of 1 channel,ES-
302.0 > 98.9
3.762e+004



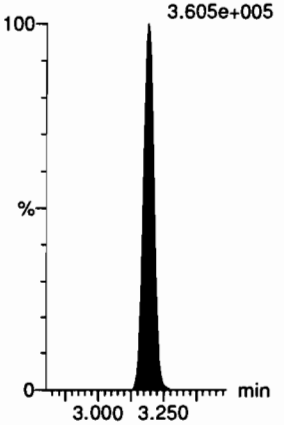
13C3-HFPO-DA-RSD
F10:MRM of 2 channels,ES-
287.0 > 168.9
6.561e+004



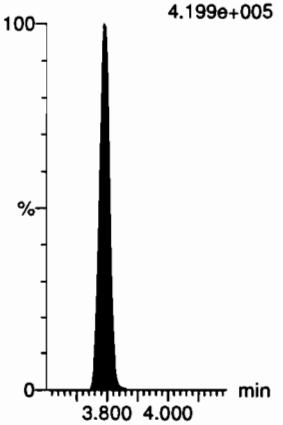
13C2-4:2 FTS-RSD
F17:MRM of 2 channels,ES-
329.0 > 80.8
4.608e+004



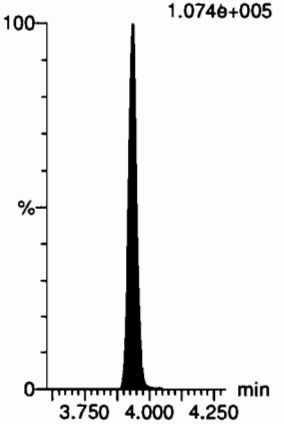
13C2-PFHxA-RSD
F14:MRM of 1 channel,ES-
315.0 > 270.0
3.605e+005



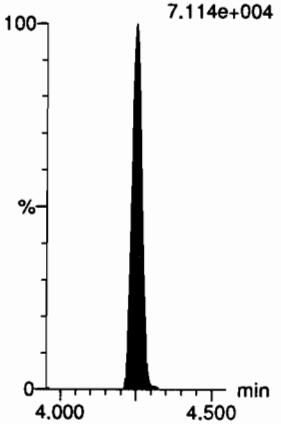
13C4-PFHpA-RSD
F21:MRM of 1 channel,ES-
367.2 > 321.8
4.199e+005



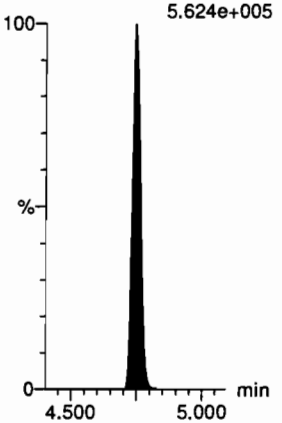
13C3-PFHxS-RSD
F24:MRM of 1 channel,ES-
402 > 80
1.074e+005



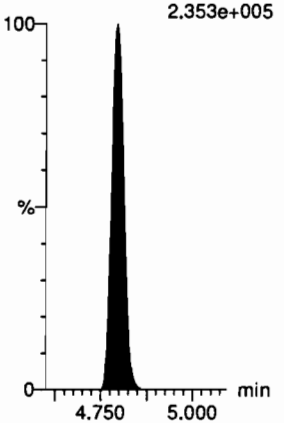
13C2-6:2 FTS-RSD
F30:MRM of 1 channel,ES-
429.0 > 79.7
7.114e+004



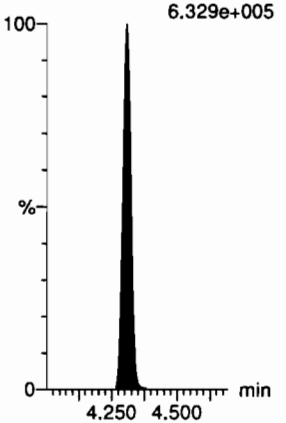
13C5-PFNA-RSD
F36:MRM of 1 channel,ES-
468.2 > 422.9
5.624e+005



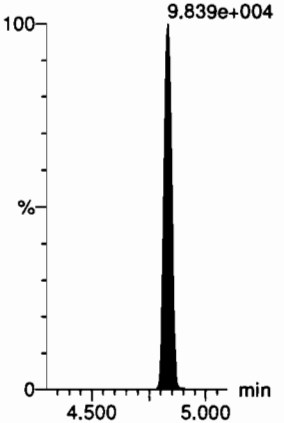
13C8-PFOSA-RSD
F42:MRM of 1 channel,ES-
506 > 78
2.353e+005



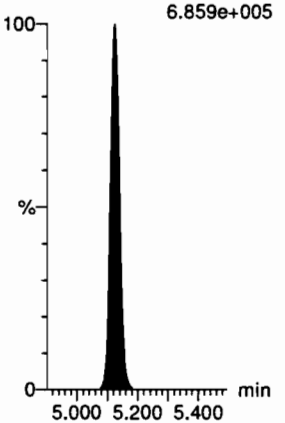
13C2-PFOA-RSD
F27:MRM of 1 channel,ES-
414.9 > 369.7
6.329e+005



13C8-PFOS-RSD
F43:MRM of 1 channel,ES-
507.1 > 80
9.839e+004



13C2-PFDA-RSD
F46:MRM of 1 channel,ES-
515.1 > 469.9
6.859e+005



Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
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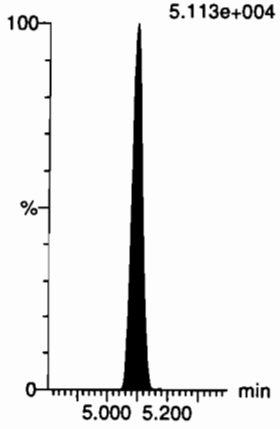
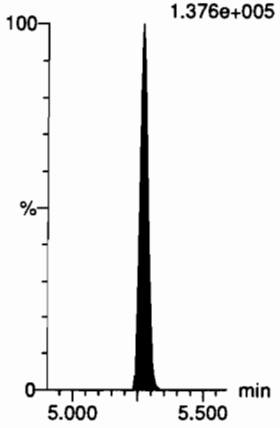
Name: 200714P1-06, Date: 14-Jul-2020, Time: 10:34:37, ID: ST200714P1-2 PFC CS-1 20F1902, Description: PFC CS-1 20F1902

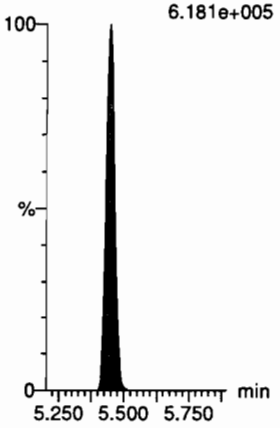
13C2-8:2 FTS-RSD
F51:MRM of 1 channel,ES-
529 > 80
5.113e+004



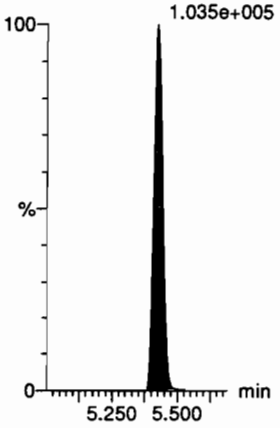
d3-N-MeFOSAA-RSD
F59:MRM of 1 channel,ES-
573.1 > 419
1.376e+005



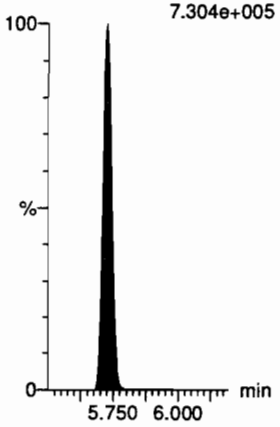
13C2-PFUdA-RSD
F56:MRM of 1 channel,ES-
565 > 519.8
6.181e+005



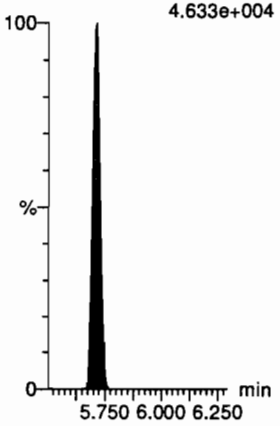
d5-N-EtFOSAA-RSD
F61:MRM of 1 channel,ES-
589.3 > 419
1.035e+005



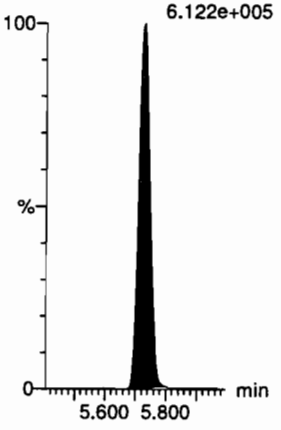
13C2-PFDoA-RSD
F64:MRM of 1 channel,ES-
614.9 > 569.9
7.304e+005



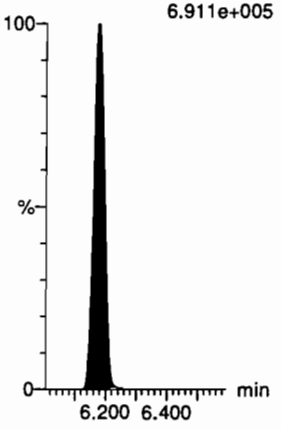
13C2-10:2 FTS-RSD
F70:MRM of 1 channel,ES-
632.9 > 80.0
4.633e+004



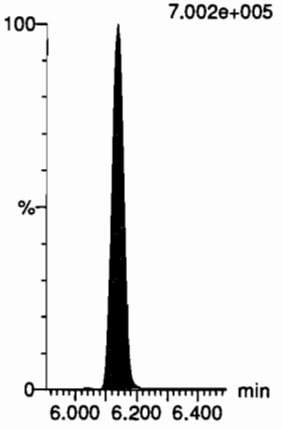
d3-N-MeFOSA-RSD
F47:MRM of 1 channel,ES-
515.2 > 168.9
6.122e+005



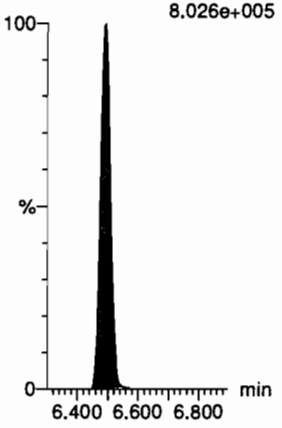
13C2-PFTeDA-RSD
F75:MRM of 2 channels,ES-
715.1 > 669.7
6.911e+005



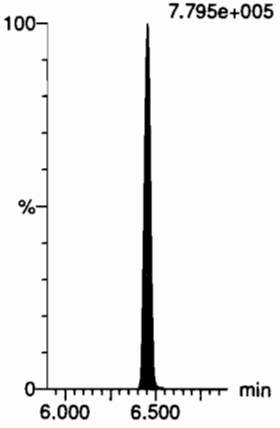
d5-N-ETFOSA-RSD
F53:MRM of 1 channel,ES-
531.1 > 168.9
7.002e+005



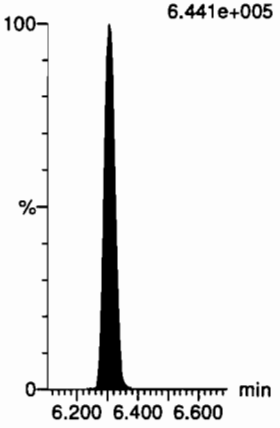
13C2-PFHxDA-RSD
F77:MRM of 1 channel,ES-
815 > 769.7
8.026e+005



d9-N-EtFOSE-RSD
F71:MRM of 1 channel,ES-
639.2 > 58.8
7.795e+005



d7-N-MeFOSE-RSD
F66:MRM of 1 channel,ES-
623.1 > 58.9
6.441e+005



Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
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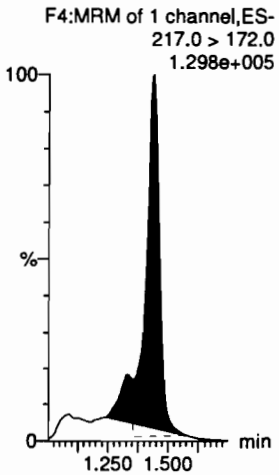
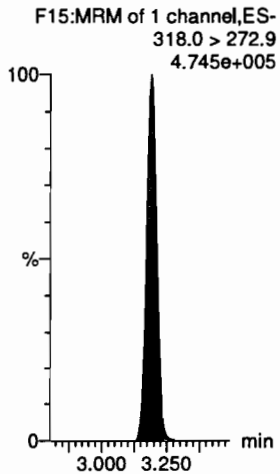
Name: 200714P1-06, Date: 14-Jul-2020, Time: 10:34:37, ID: ST200714P1-2 PFC CS-1 20F1902, Description: PFC CS-1 20F1902

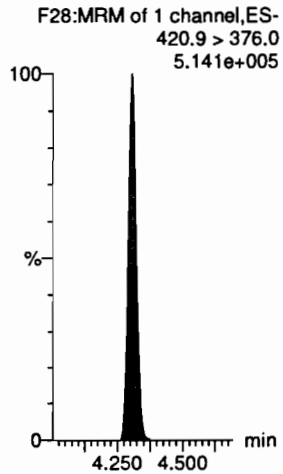
13C4-PFBA



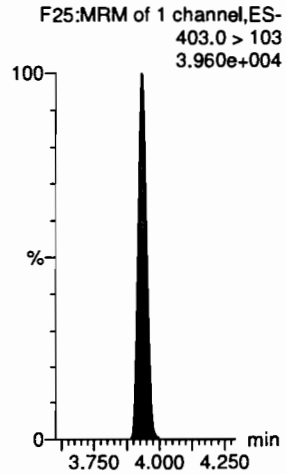
13C5-PFHxA



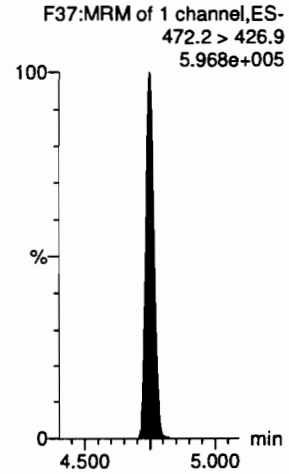
13C8-PFOA



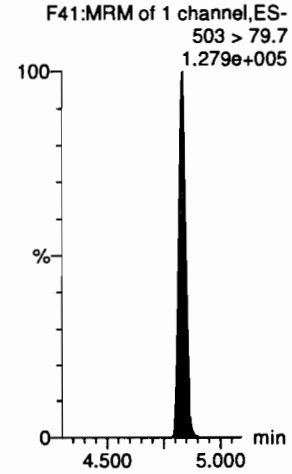
18O2-PFHxS



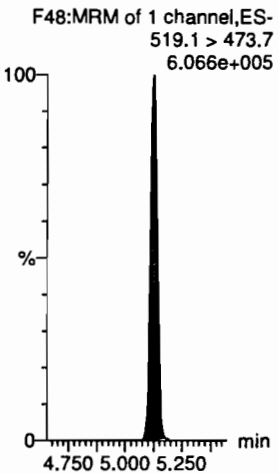
13C9-PFNA



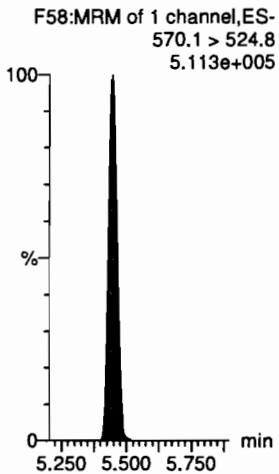
13C4-PFOS



13C6-PFDA



13C7-PFUdA



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Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
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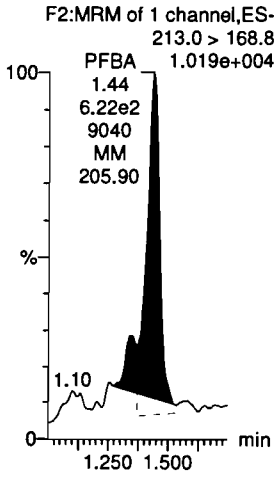
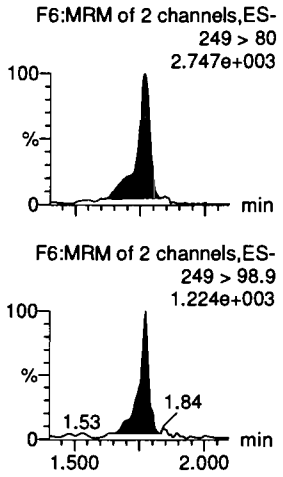
Name: 200714P1-07, Date: 14-Jul-2020, Time: 10:45:12, ID: ST200714P1-3 PFC CS0 20F1903, Description: PFC CS0 20F1903

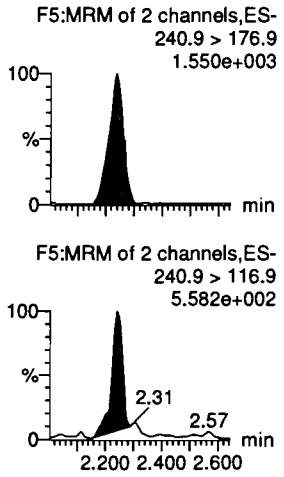
PFBA



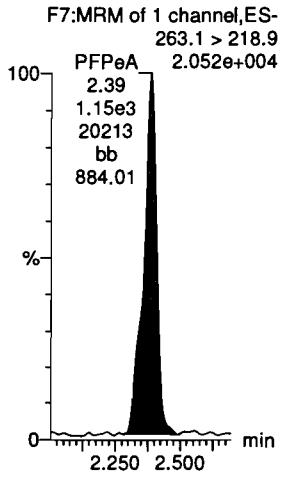
PFPrS



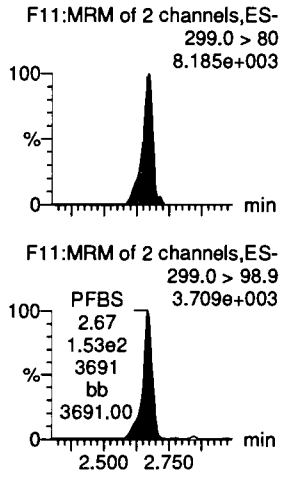
3:3 FTCA



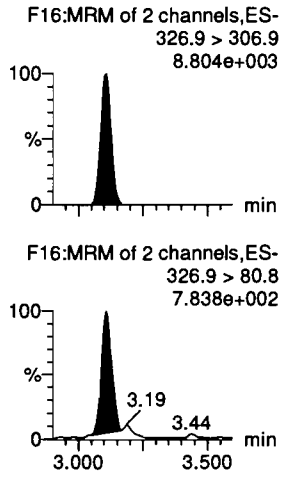
PFPeA



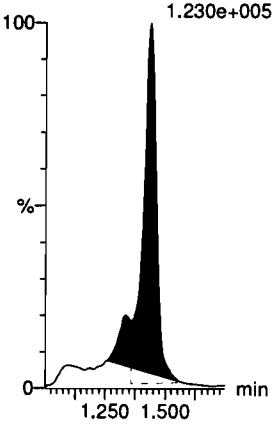
PFBS



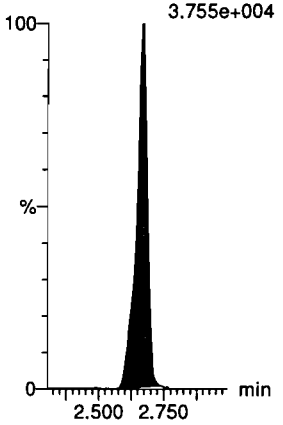
4:2 FTS



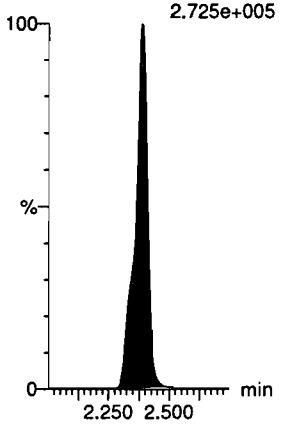
13C3-PFBA-EIS



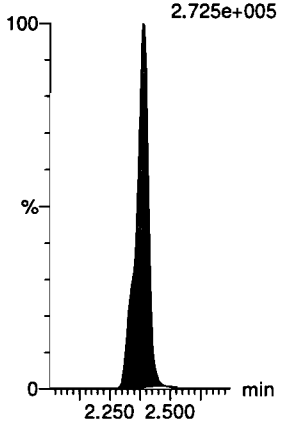
13C3-PFBS-EIS



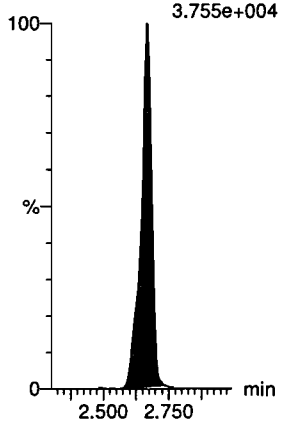
13C3-PFPeA-EIS



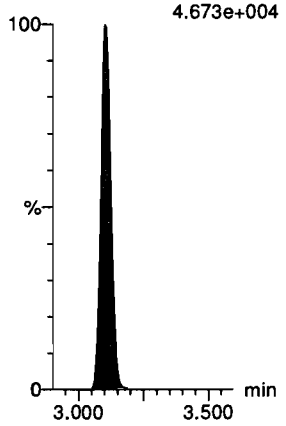
13C3-PFPeA-EIS



13C3-PFBS-EIS



13C2-4:2 FTS-EIS



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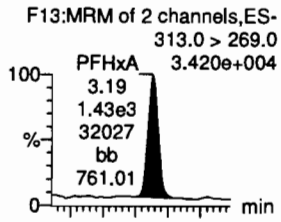
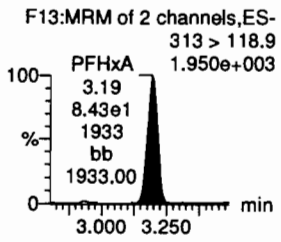
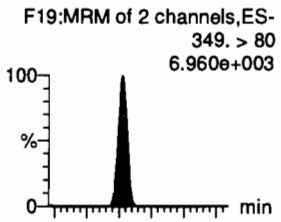
Name: 200714P1-07, Date: 14-Jul-2020, Time: 10:45:12, ID: ST200714P1-3 PFC CS0 20F1903, Description: PFC CS0 20F1903

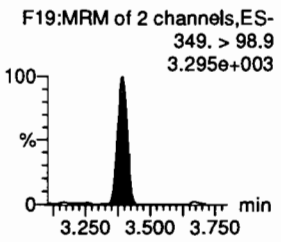
PFHxA



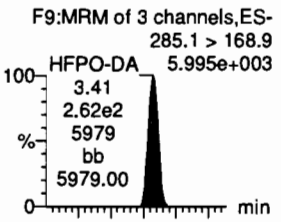


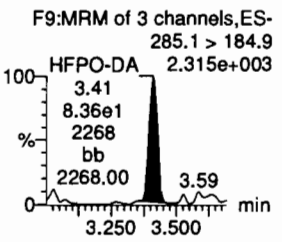
PFPeS



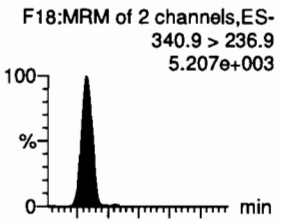


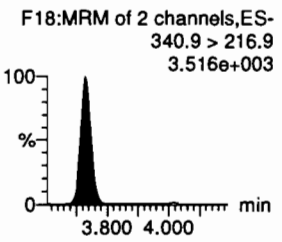
HFPO-DA



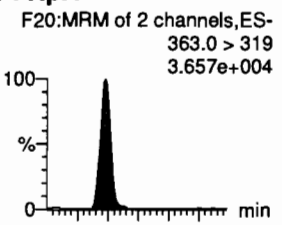


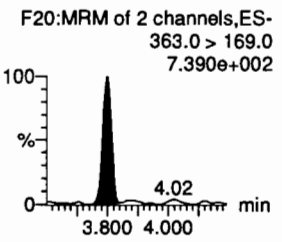
5:3 FTCA





PFHpA





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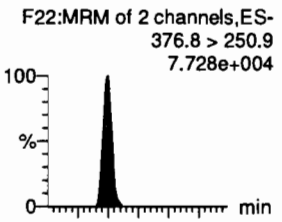
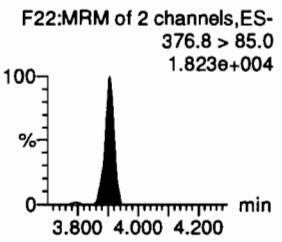
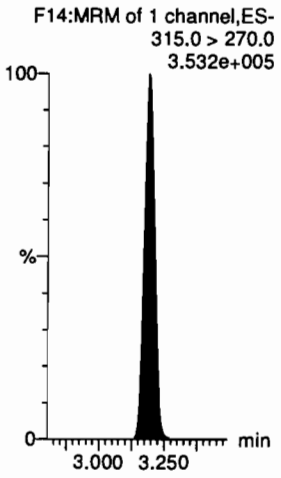
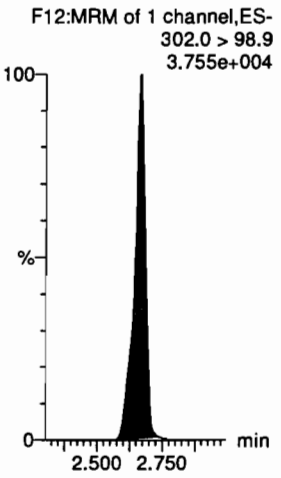




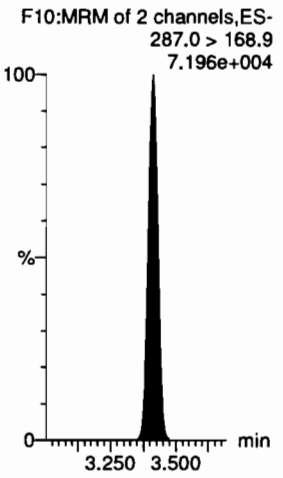
13C2-PFHxA-EIS



13C3-PFBS-EIS



13C3-HFPO-DA-EIS



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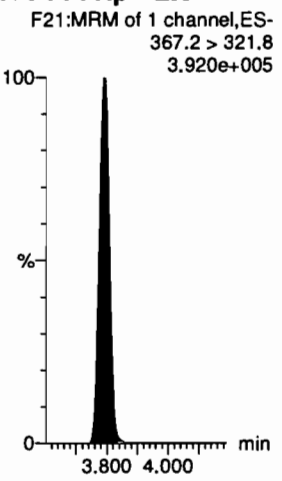

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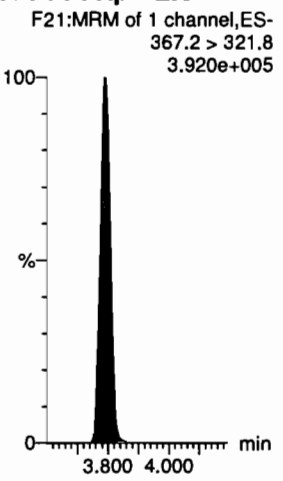

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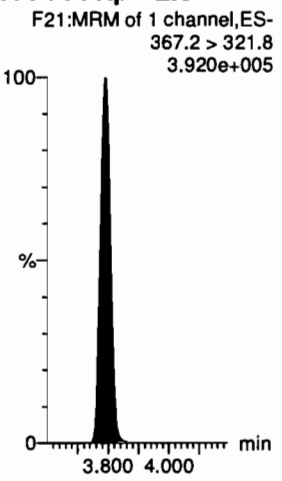

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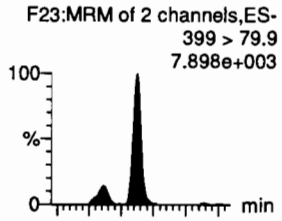
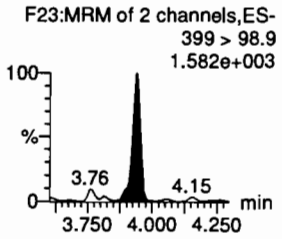
Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 16:21:31 Pacific Daylight Time

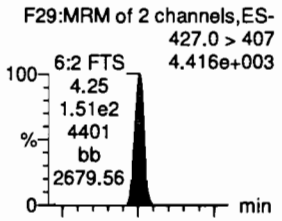
Name: 200714P1-07, Date: 14-Jul-2020, Time: 10:45:12, ID: ST200714P1-3 PFC CS0 20F1903, Description: PFC CS0 20F1903

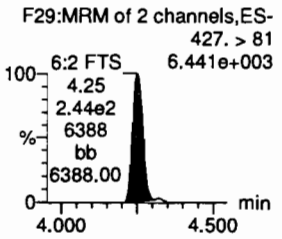
L-PFHxS





6:2 FTS





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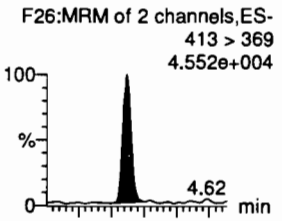

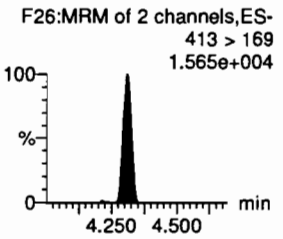

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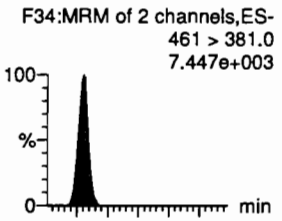
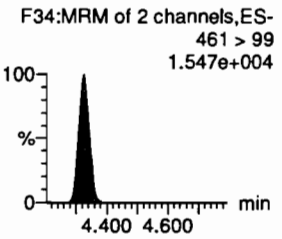
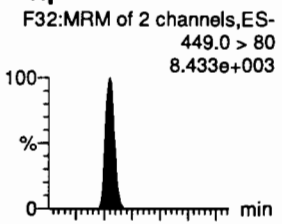
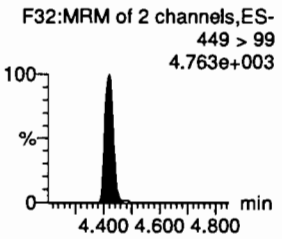


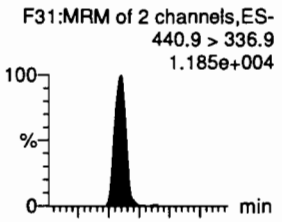


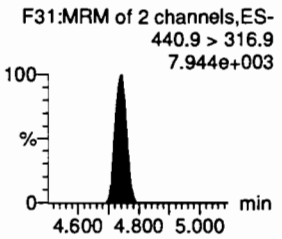
PFHpS



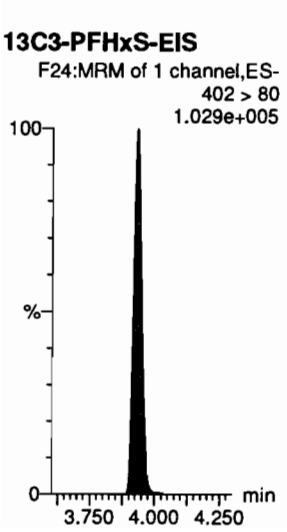


7:3 FTCA

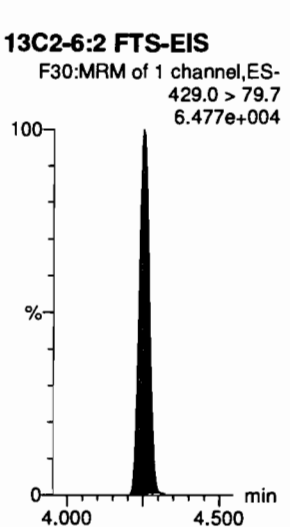




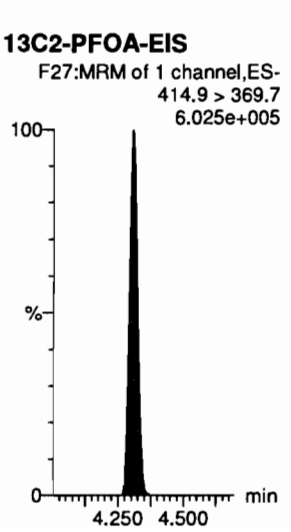
13C3-PFHxS-EIS



13C2-6:2 FTS-EIS



13C2-PFOA-EIS



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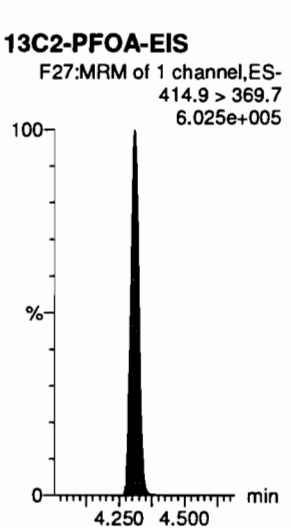
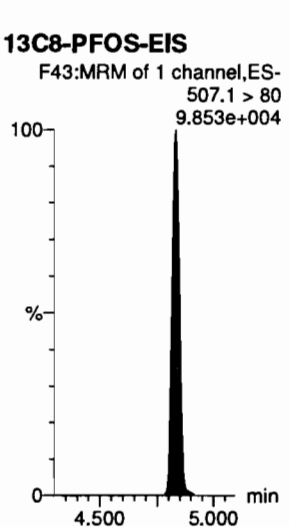
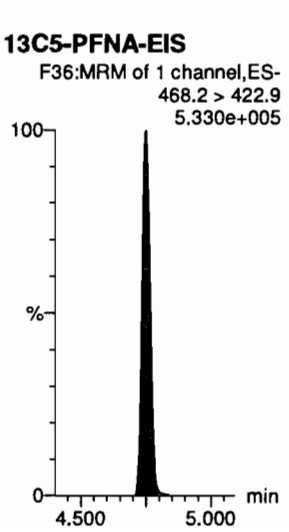


13C8-PFOS-EIS



13C5-PFNA-EIS



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Name: 200714P1-07, Date: 14-Jul-2020, Time: 10:45:12, ID: ST200714P1-3 PFC CS0 20F1903, Description: PFC CS0 20F1903

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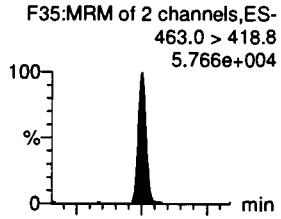

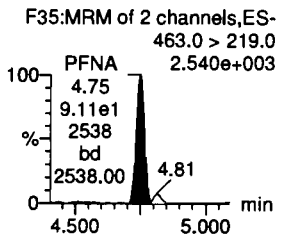

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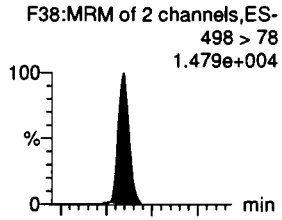
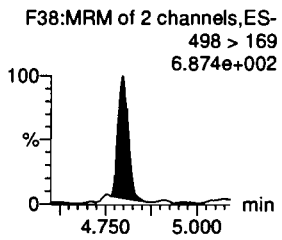
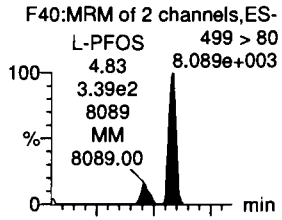
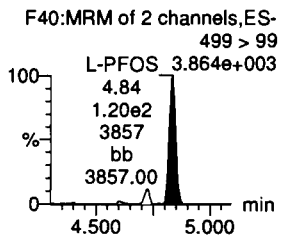


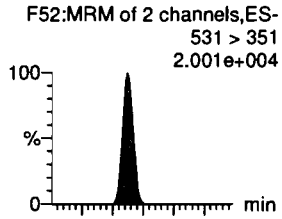


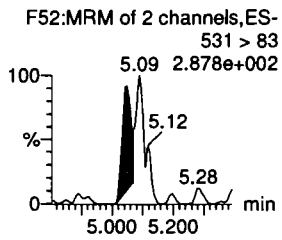
L-PFOS





9Cl-PF30NS





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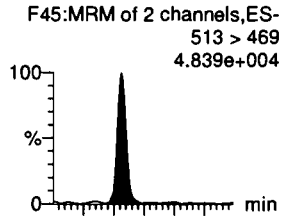
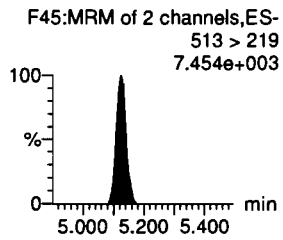
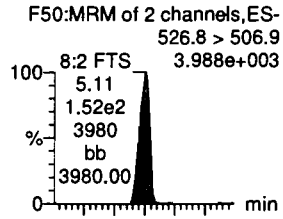
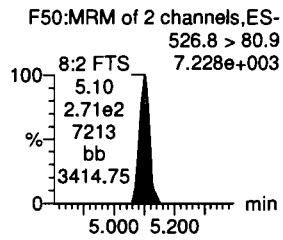


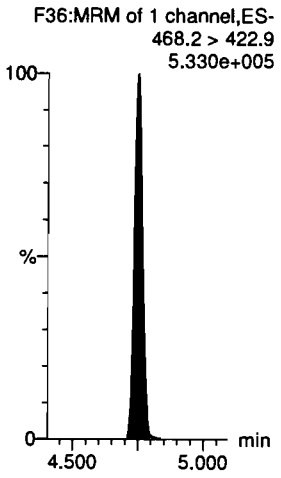


8:2 FTS





13C5-PFNA-EIS



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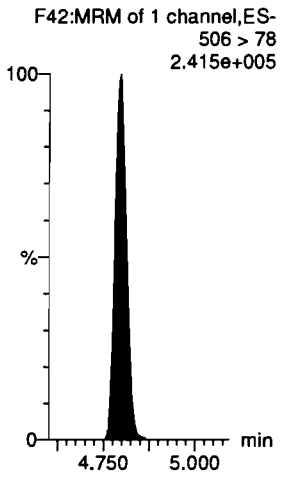

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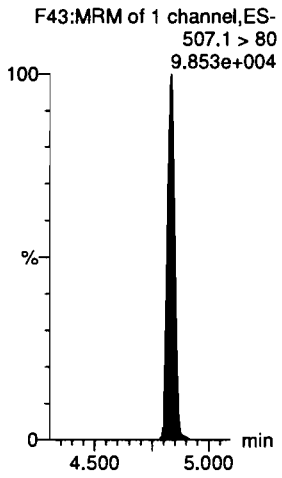

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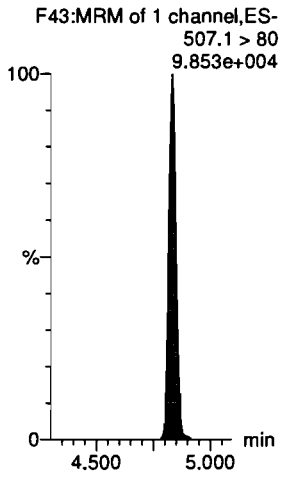

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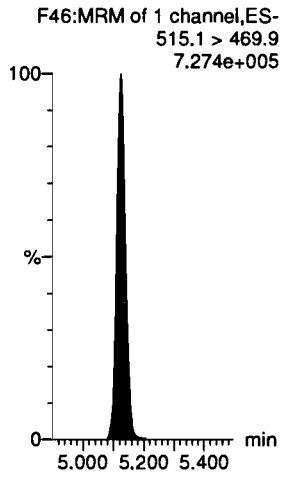
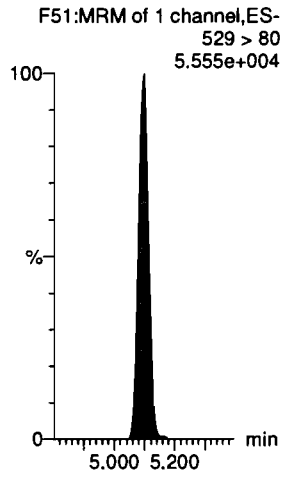


13C2-8:2 FTS-EIS



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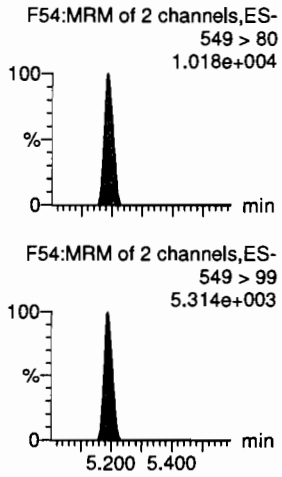
Name: 200714P1-07, Date: 14-Jul-2020, Time: 10:45:12, ID: ST200714P1-3 PFC CS0 20F1903, Description: PFC CS0 20F1903

PFNS



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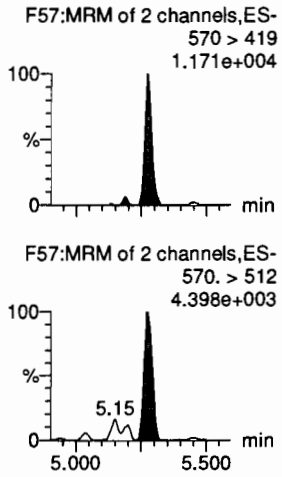

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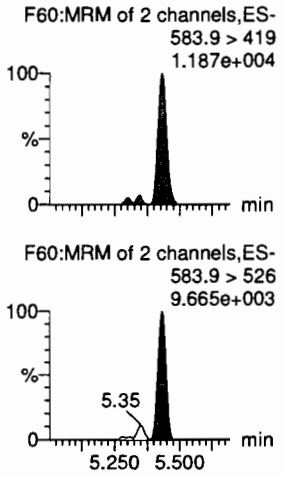
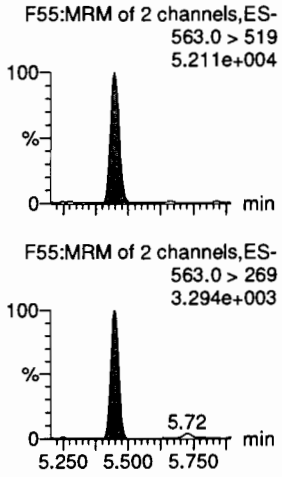
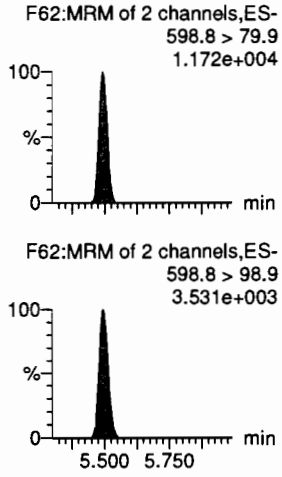


PFUdA



PFDS



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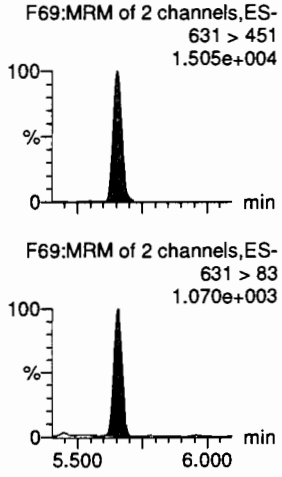
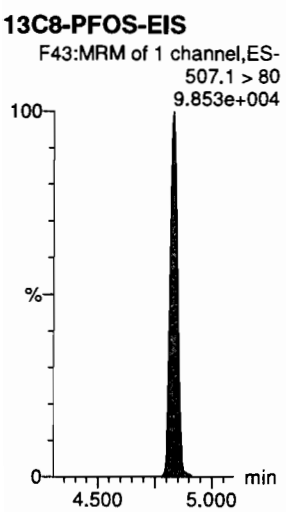
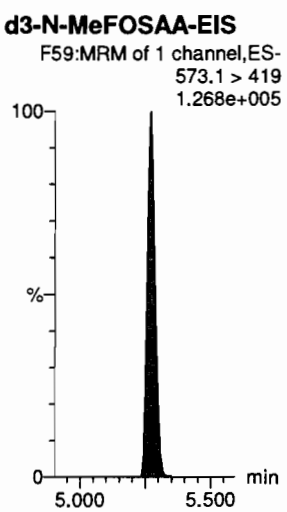


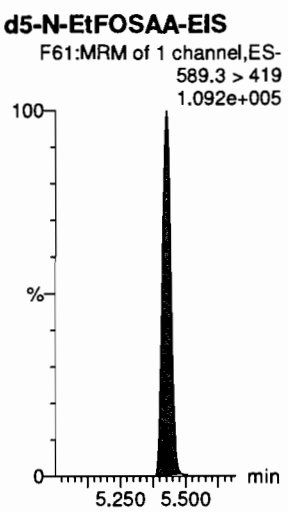
13C8-PFOS-EIS



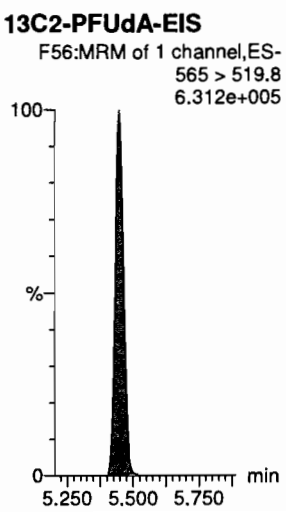
d3-N-MeFOSAA-EIS



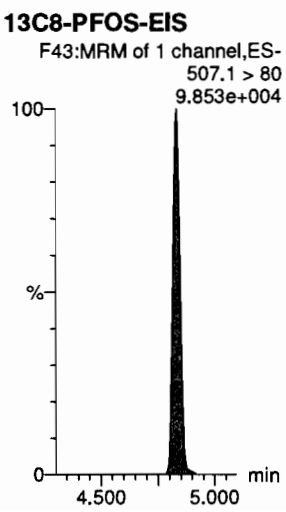
d5-N-EtFOSAA-EIS



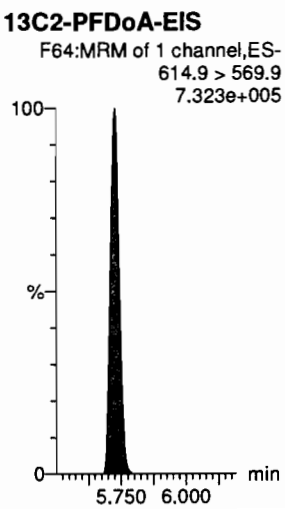
13C2-PFUdA-EIS



13C8-PFOS-EIS



13C2-PFDoA-EIS

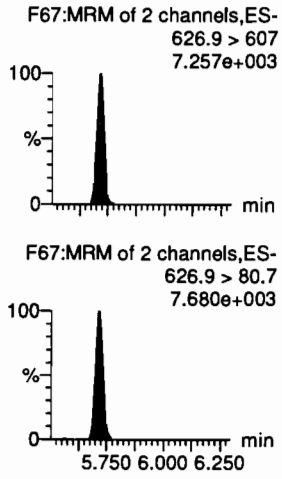


Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

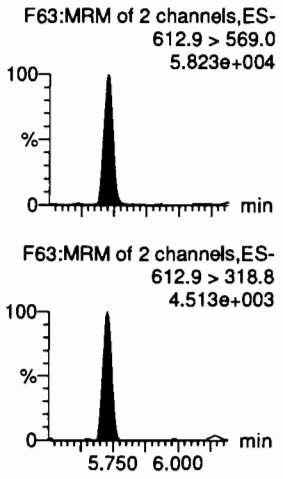
Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 16:21:31 Pacific Daylight Time

Name: 200714P1-07, Date: 14-Jul-2020, Time: 10:45:12, ID: ST200714P1-3 PFC CS0 20F1903, Description: PFC CS0 20F1903

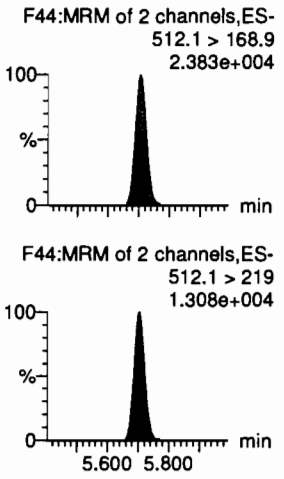
10:2 FTS



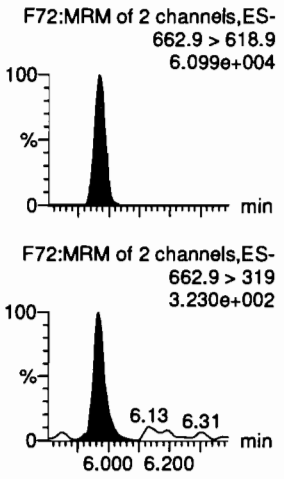
PFDoA



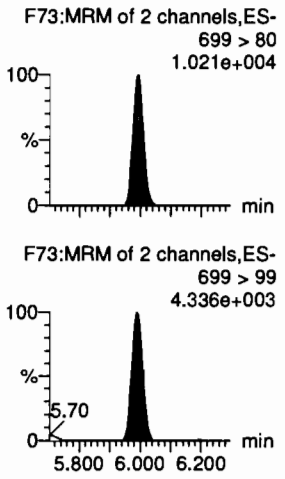
N-MeFOSA



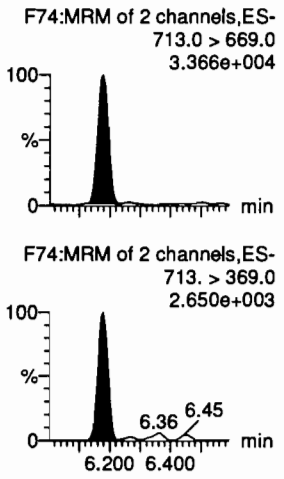
PFTrDA



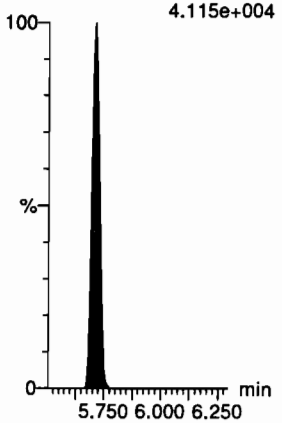
PFDoS



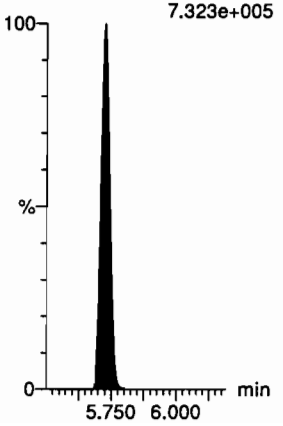
PFTeDA



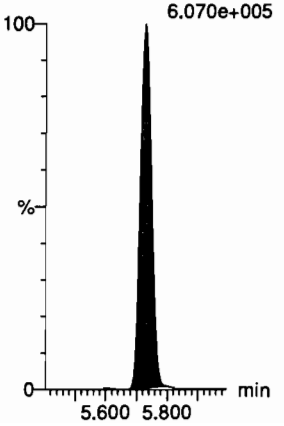
13C2-10:2 FTS-EIS



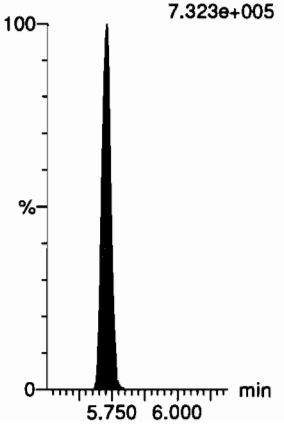
13C2-PFDoA-EIS



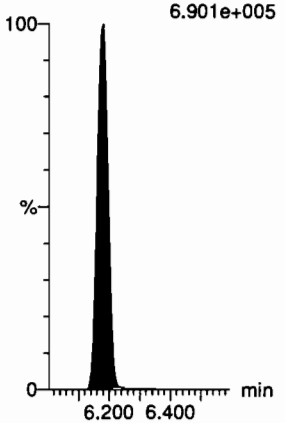
d3-N-MeFOSA-EIS



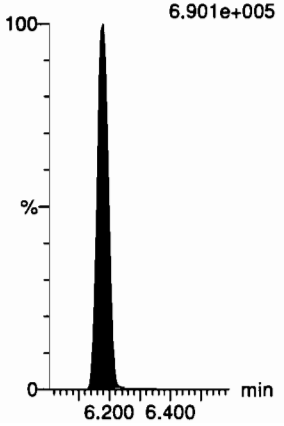
13C2-PFDoA-EIS



13C2-PFTeDA-EIS



13C2-PFTeDA-EIS



Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
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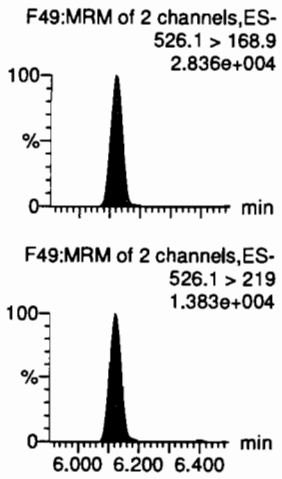
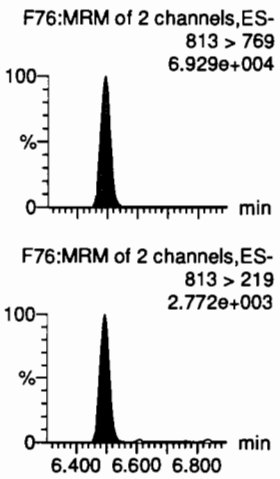
Name: 200714P1-07, Date: 14-Jul-2020, Time: 10:45:12, ID: ST200714P1-3 PFC CS0 20F1903, Description: PFC CS0 20F1903

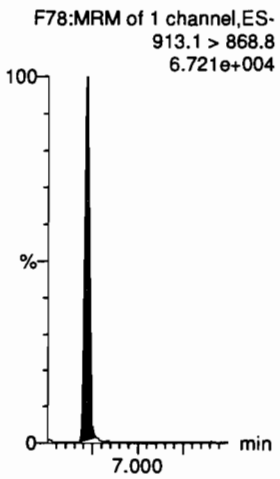
N-EtFOSA



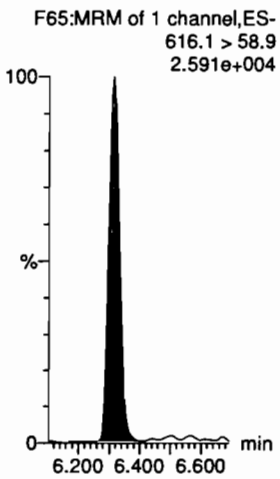
PFHxDA



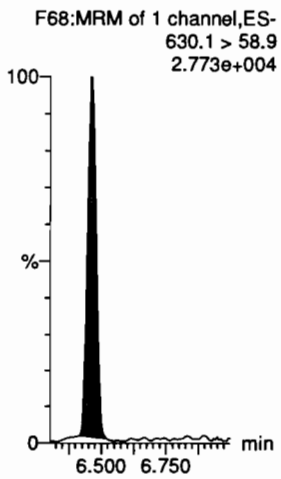
PFODA



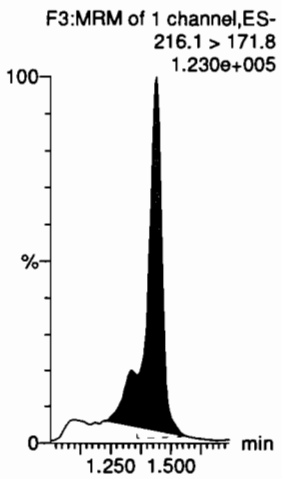
N-MeFOSE



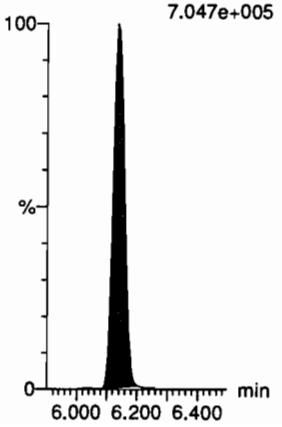
N-EtFOSE



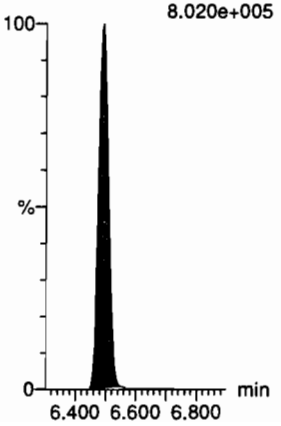
13C3-PFBA-RSD



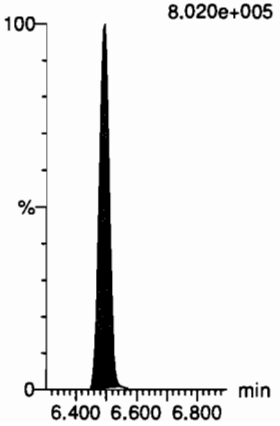
d5-N-ETFOSA-EIS



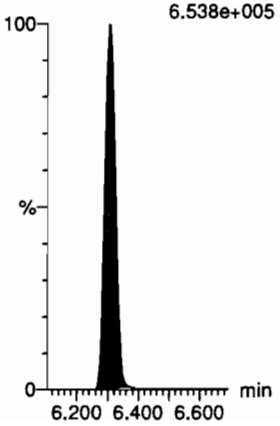
13C2-PFHxDA-EIS



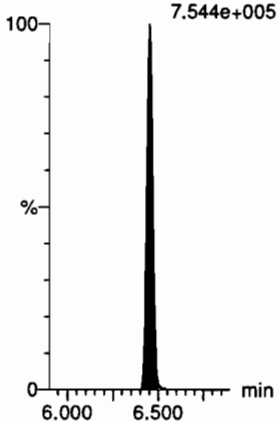
13C2-PFHxDA-EIS



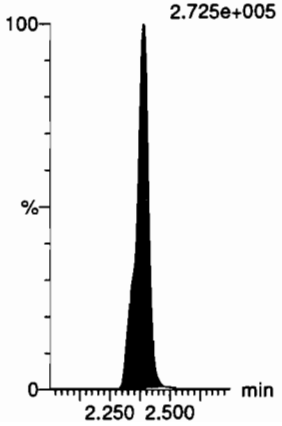
d7-N-MeFOSE-EIS



d9-N-EtFOSE-EIS



13C3-PFPeA-RSD

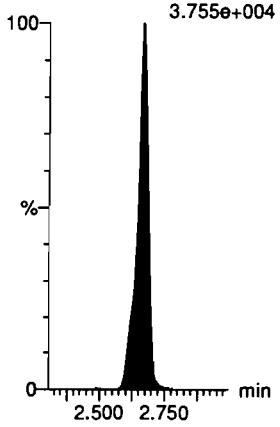


Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 16:21:31 Pacific Daylight Time

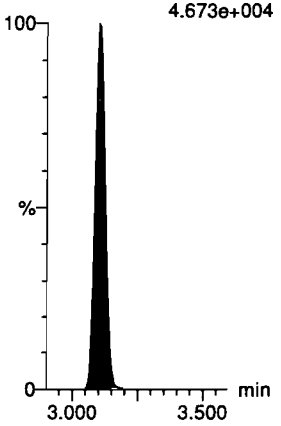
Name: 200714P1-07, Date: 14-Jul-2020, Time: 10:45:12, ID: ST200714P1-3 PFC CS0 20F1903, Description: PFC CS0 20F1903

13C3-PFBS-RSD
F12:MRM of 1 channel,ES-
302.0 > 98.9
3.755e+004

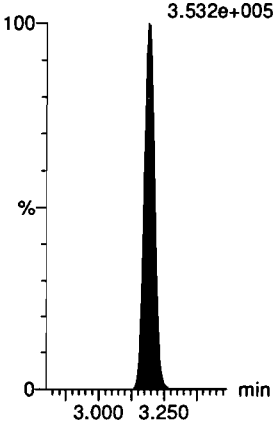


13C3-HFPO-DA-RSD
F10:MRM of 2 channels,ES-
287.0 > 168.9
7.196e+004

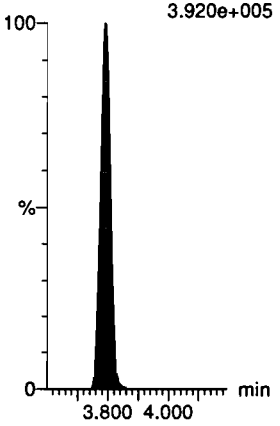
13C2-4:2 FTS-RSD
F17:MRM of 2 channels,ES-
329.0 > 80.8
4.673e+004



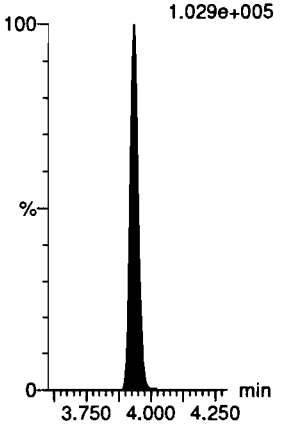
13C2-PFHxA-RSD
F14:MRM of 1 channel,ES-
315.0 > 270.0
3.532e+005



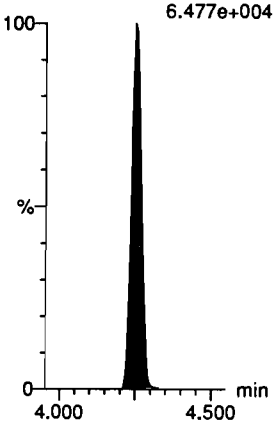
13C4-PFHpA-RSD
F21:MRM of 1 channel,ES-
367.2 > 321.8
3.920e+005



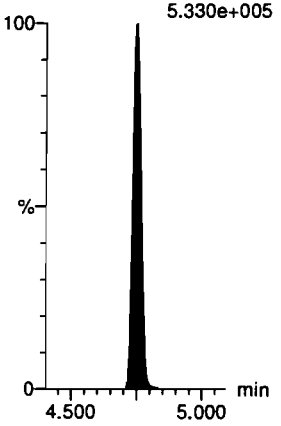
13C3-PFHxS-RSD
F24:MRM of 1 channel,ES-
402 > 80
1.029e+005



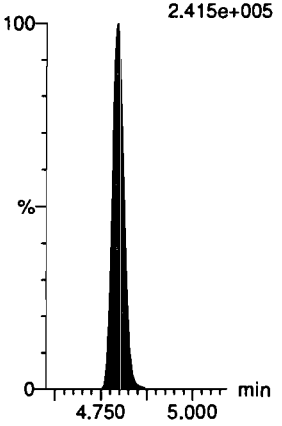
13C2-6:2 FTS-RSD
F30:MRM of 1 channel,ES-
429.0 > 79.7
6.477e+004



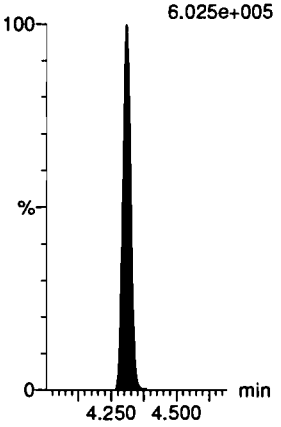
13C5-PFNA-RSD
F36:MRM of 1 channel,ES-
468.2 > 422.9
5.330e+005



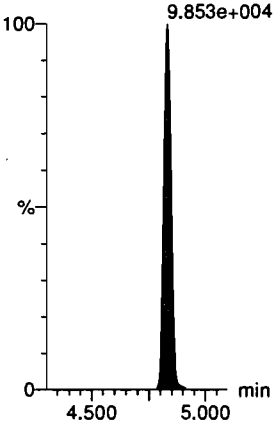
13C8-PFOSA-RSD
F42:MRM of 1 channel,ES-
506 > 78
2.415e+005



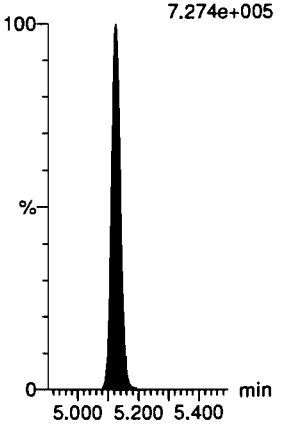
13C2-PFOA-RSD
F27:MRM of 1 channel,ES-
414.9 > 369.7
6.025e+005



13C8-PFOS-RSD
F43:MRM of 1 channel,ES-
507.1 > 80
9.853e+004



13C2-PFDA-RSD
F46:MRM of 1 channel,ES-
515.1 > 469.9
7.274e+005



Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
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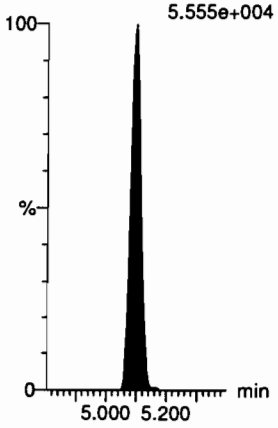
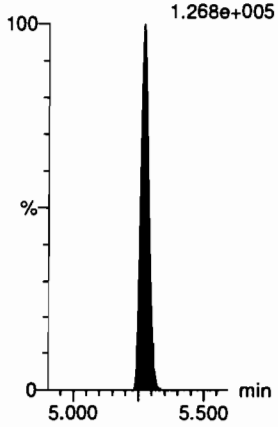
Name: 200714P1-07, Date: 14-Jul-2020, Time: 10:45:12, ID: ST200714P1-3 PFC CS0 20F1903, Description: PFC CS0 20F1903

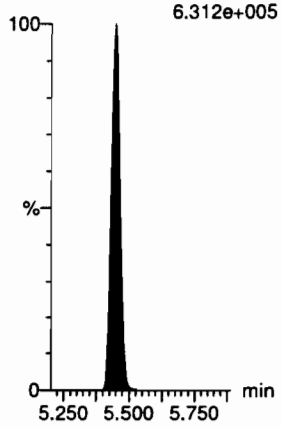
13C2-8:2 FTS-RSD
F51:MRM of 1 channel,ES-
529 > 80
5.555e+004



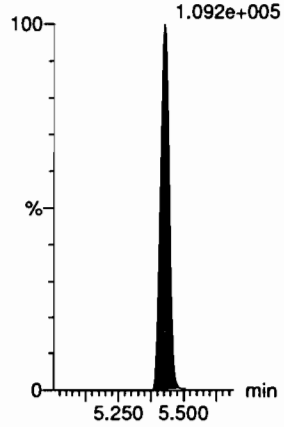
d3-N-MeFOSAA-RSD
F59:MRM of 1 channel,ES-
573.1 > 419
1.268e+005



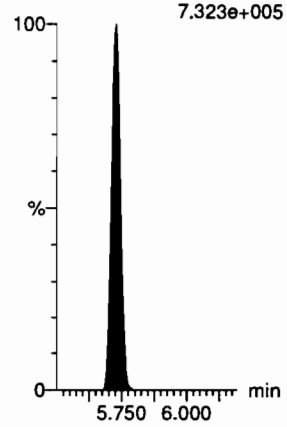
13C2-PFUdA-RSD
F56:MRM of 1 channel,ES-
565 > 519.8
6.312e+005



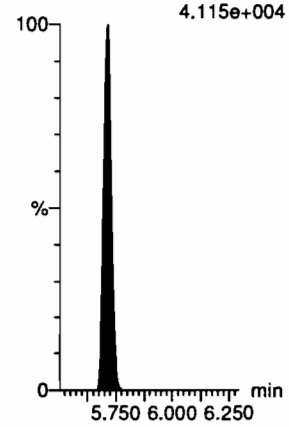
d5-N-EtFOSAA-RSD
F61:MRM of 1 channel,ES-
589.3 > 419
1.092e+005



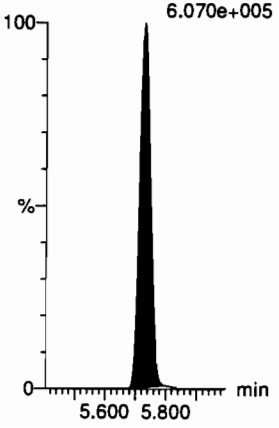
13C2-PFDoA-RSD
F64:MRM of 1 channel,ES-
614.9 > 569.9
7.323e+005



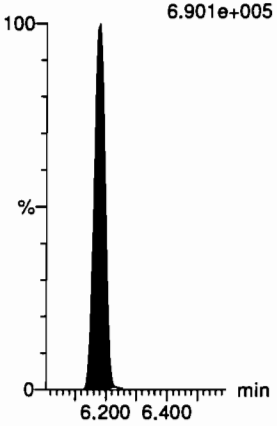
13C2-10:2 FTS-RSD
F70:MRM of 1 channel,ES-
632.9 > 80.0
4.115e+004



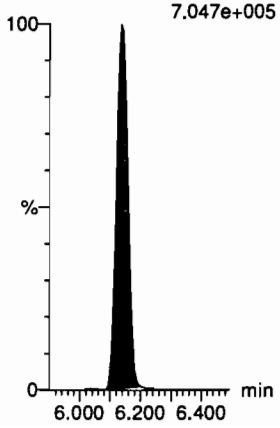
d3-N-MeFOSA-RSD
F47:MRM of 1 channel,ES-
515.2 > 168.9
6.070e+005



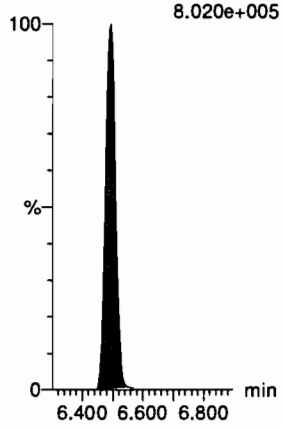
13C2-PFTeDA-RSD
F75:MRM of 2 channels,ES-
715.1 > 669.7
6.901e+005



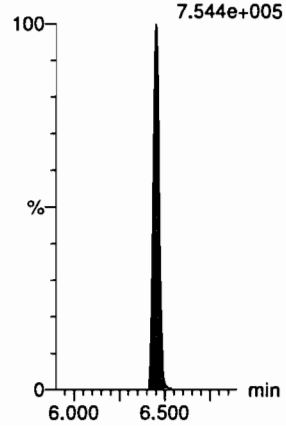
d5-N-ETFOSA-RSD
F53:MRM of 1 channel,ES-
531.1 > 168.9
7.047e+005



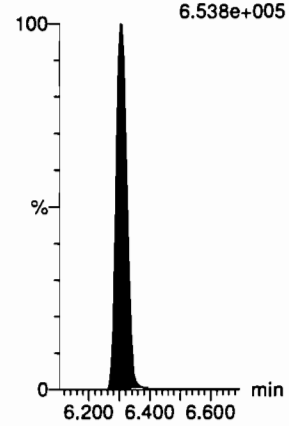
13C2-PFHxDA-RSD
F77:MRM of 1 channel,ES-
815 > 769.7
8.020e+005



d9-N-EtFOSE-RSD
F71:MRM of 1 channel,ES-
639.2 > 58.8
7.544e+005



d7-N-MeFOSE-RSD
F66:MRM of 1 channel,ES-
623.1 > 58.9
6.538e+005

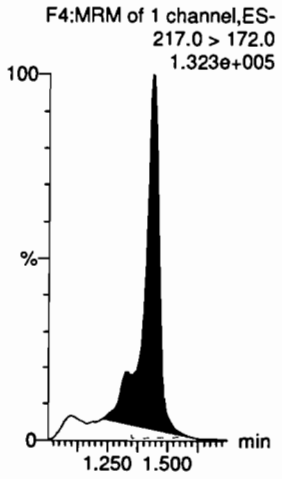


Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

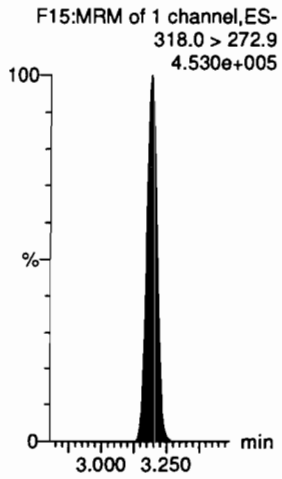
Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 16:21:31 Pacific Daylight Time

Name: 200714P1-07, Date: 14-Jul-2020, Time: 10:45:12, ID: ST200714P1-3 PFC CS0 20F1903, Description: PFC CS0 20F1903

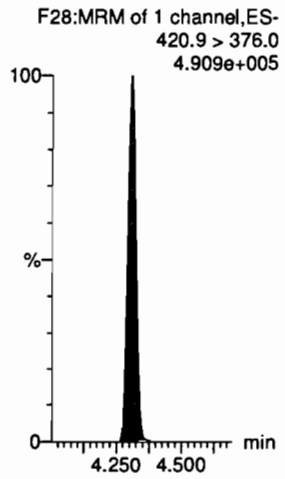
13C4-PFBA



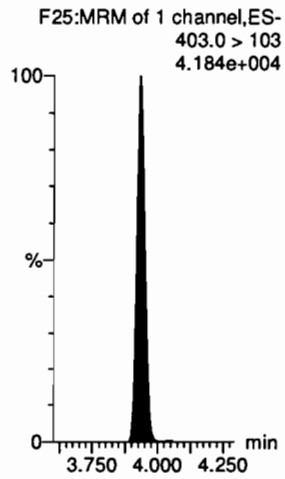
13C5-PFHxA



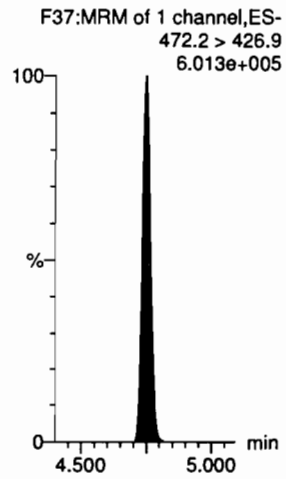
13C8-PFOA



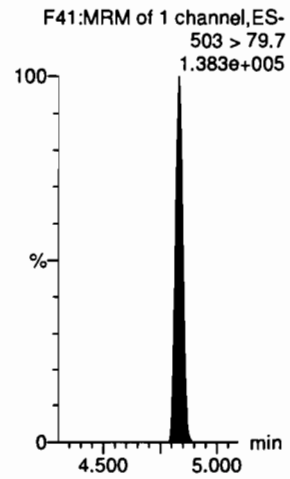
18O2-PFHxS



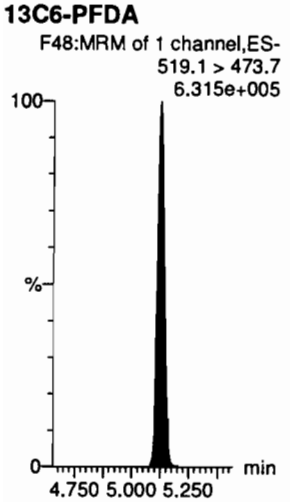
13C9-PFNA



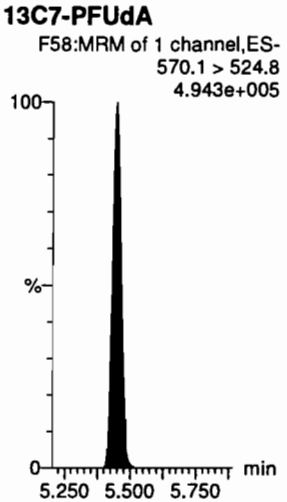
13C4-PFOS



13C6-PFDA



13C7-PFUdA

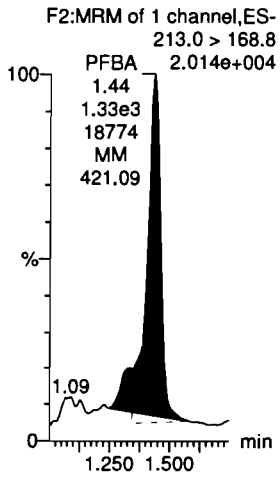


Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

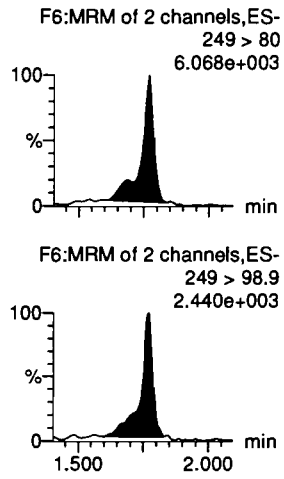
Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 16:21:31 Pacific Daylight Time

Name: 200714P1-08, Date: 14-Jul-2020, Time: 10:55:49, ID: ST200714P1-4 PFC CS1 20F1904, Description: PFC CS1 20F1904

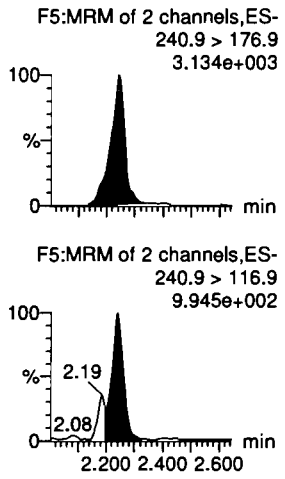
PFBA



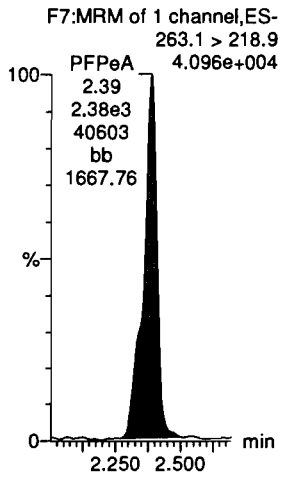
PFPrS



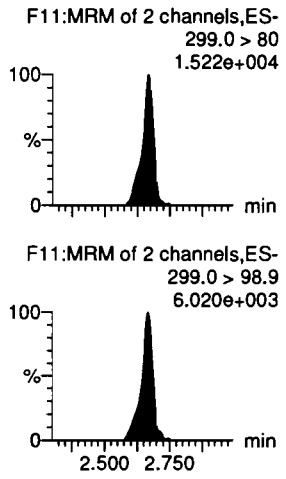
3:3 FTCA



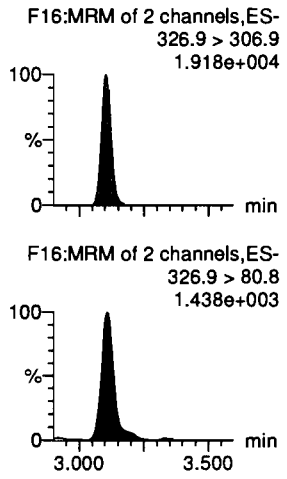
PFPeA



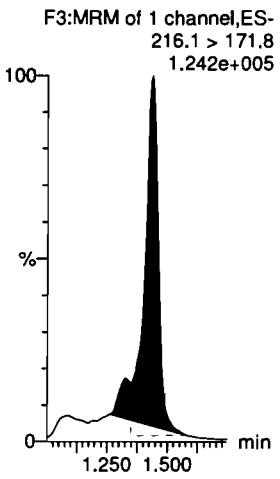
PFBS



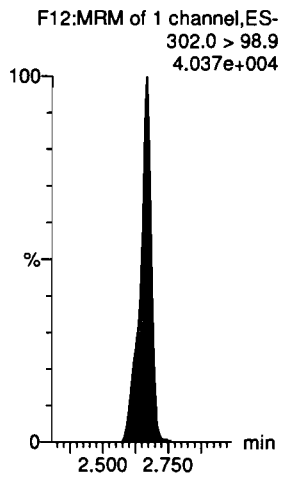
4:2 FTS



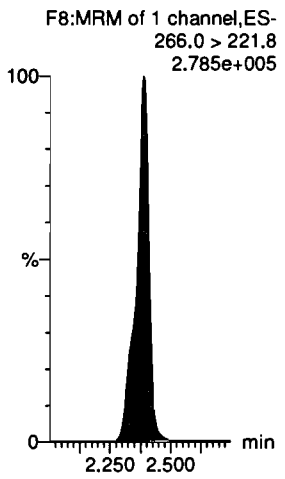
13C3-PFBA-EIS



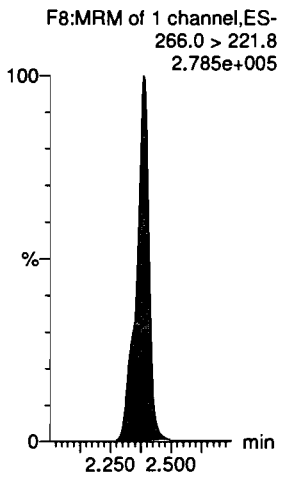
13C3-PFBS-EIS



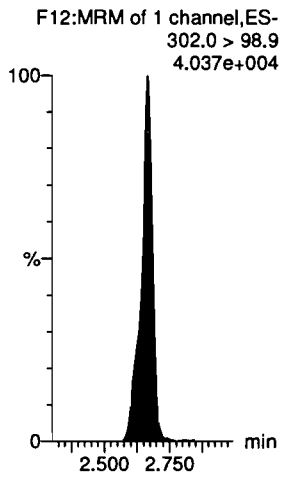
13C3-PFPeA-EIS



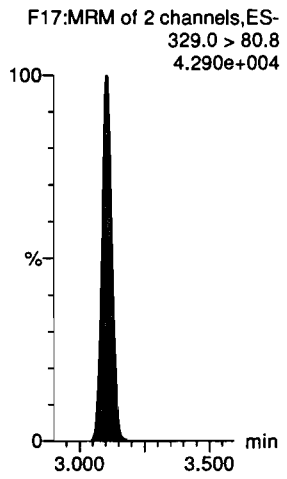
13C3-PFPeA-EIS



13C3-PFBS-EIS



13C2-4:2 FTS-EIS

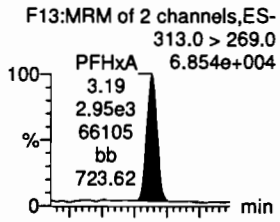


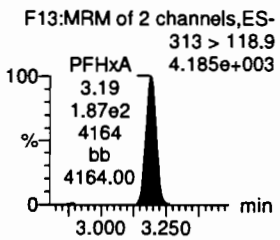
Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 16:21:31 Pacific Daylight Time

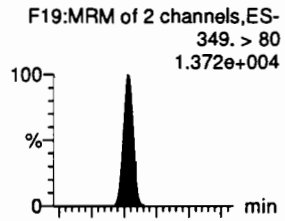
Name: 200714P1-08, Date: 14-Jul-2020, Time: 10:55:49, ID: ST200714P1-4 PFC CS1 20F1904, Description: PFC CS1 20F1904

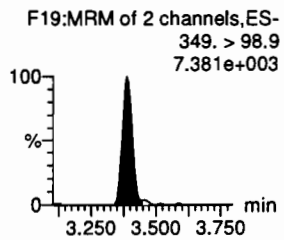
PFHxA



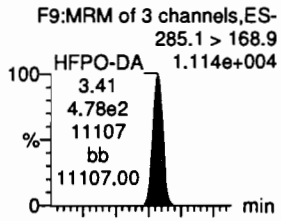


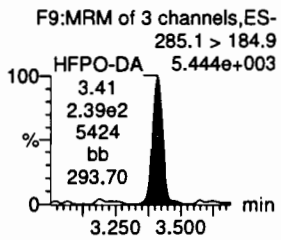
PFPeS



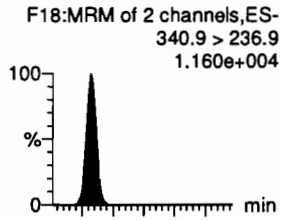


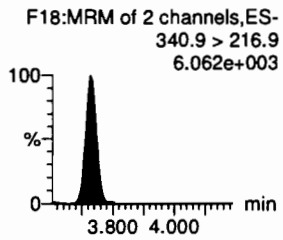
HFPO-DA



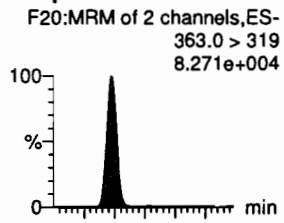


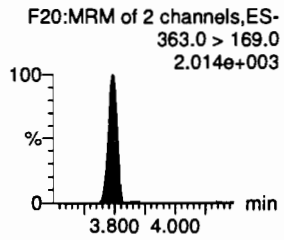
5:3 FTCA



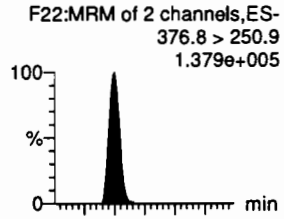


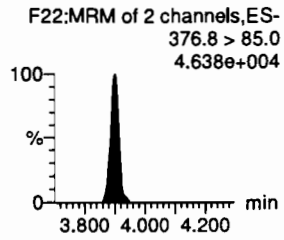
PFHpA



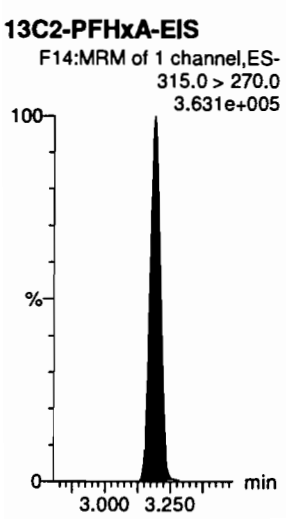


ADONA

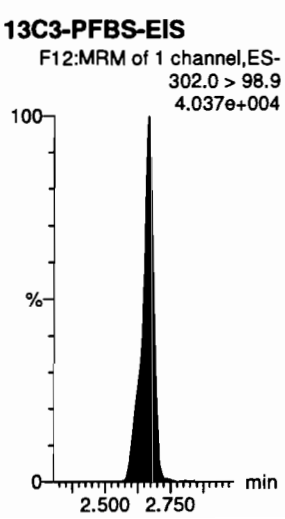




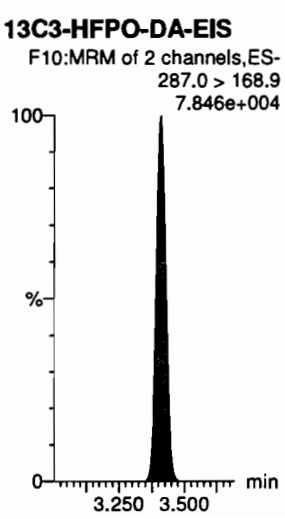
13C2-PFHxA-EIS



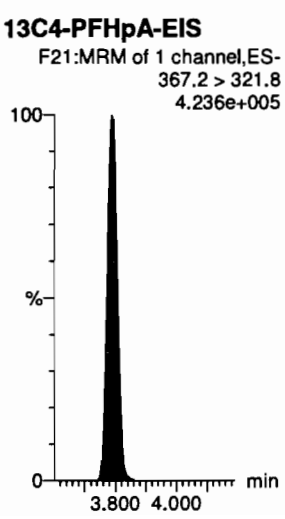
13C3-PFBS-EIS



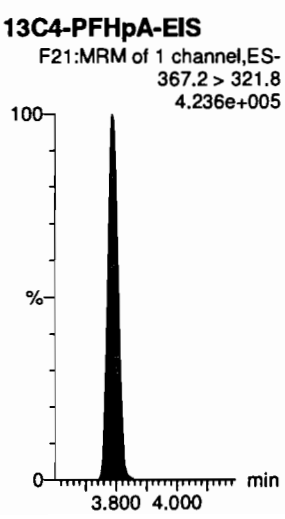
13C3-HFPO-DA-EIS



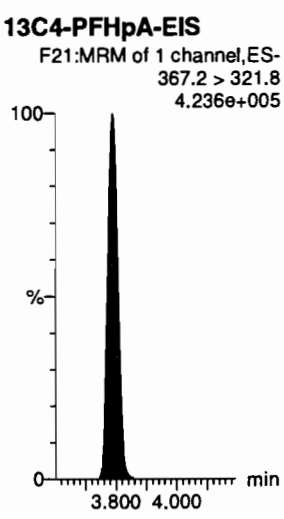
13C4-PFHpA-EIS



13C4-PFHpA-EIS



13C4-PFHpA-EIS

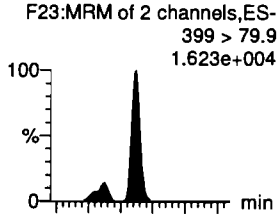


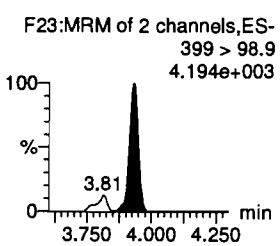
Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 16:21:31 Pacific Daylight Time

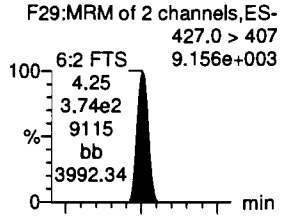
Name: 200714P1-08, Date: 14-Jul-2020, Time: 10:55:49, ID: ST200714P1-4 PFC CS1 20F1904, Description: PFC CS1 20F1904

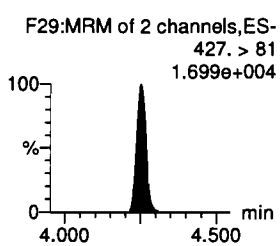
L-PFHxS



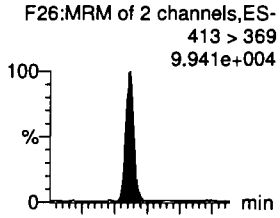


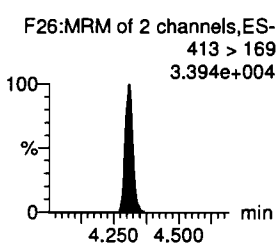
6:2 FTS





L-PFOA





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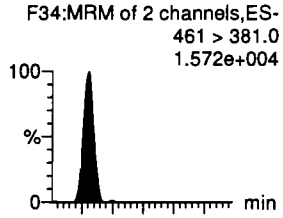

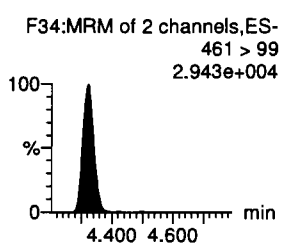

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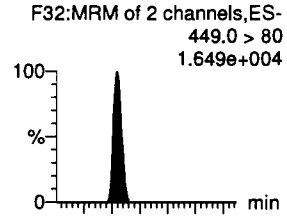

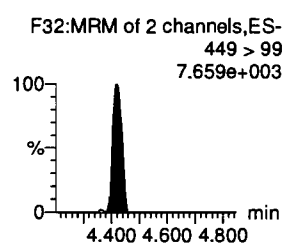

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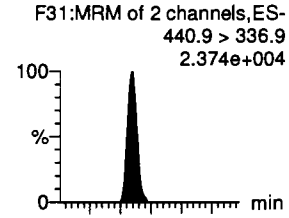
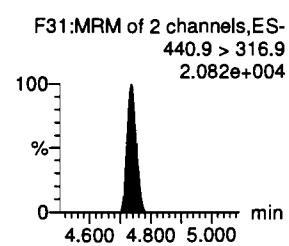
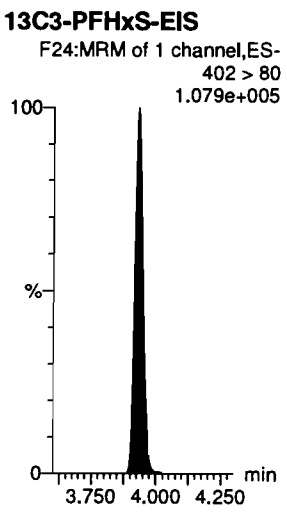
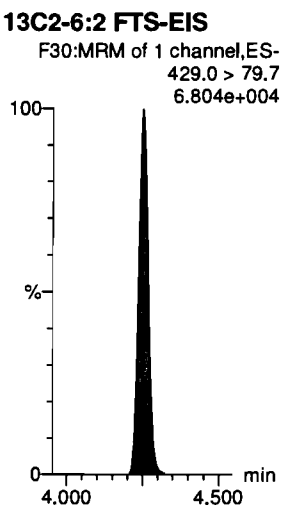




13C3-PFHxS-EIS



13C2-6:2 FTS-EIS



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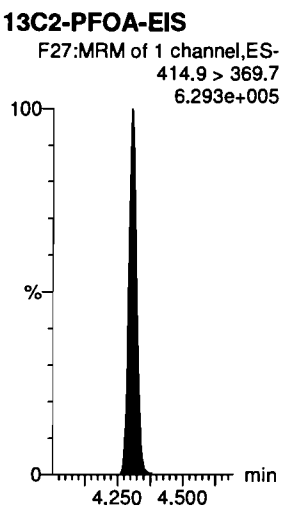

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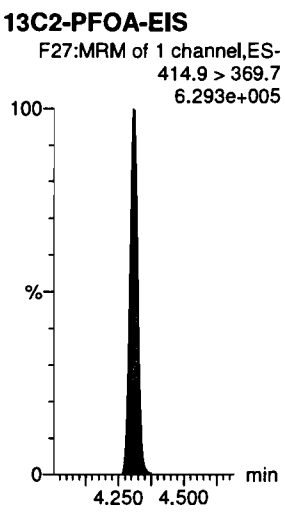

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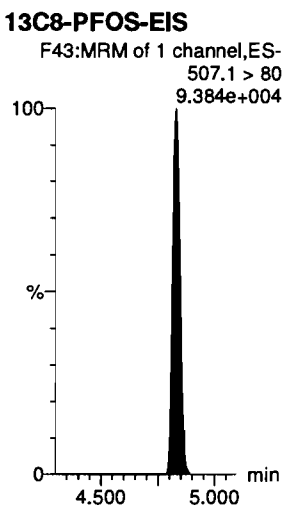
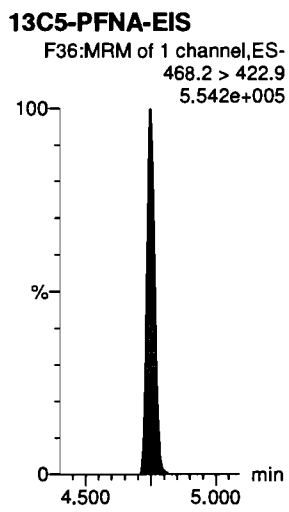


13C5-PFNA-EIS



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Printed: Tuesday, July 14, 2020 16:21:31 Pacific Daylight Time

Name: 200714P1-08, Date: 14-Jul-2020, Time: 10:55:49, ID: ST200714P1-4 PFC CS1 20F1904, Description: PFC CS1 20F1904

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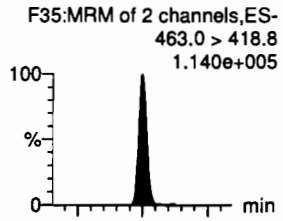

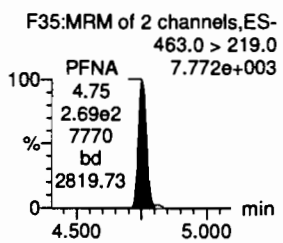

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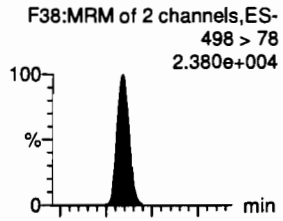

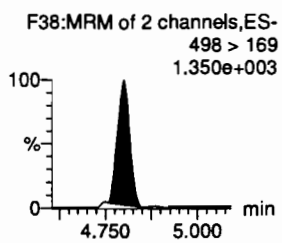

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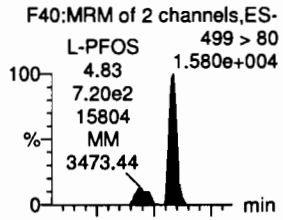

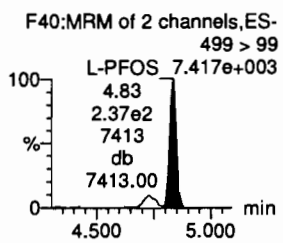

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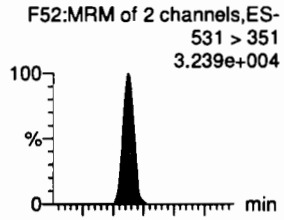

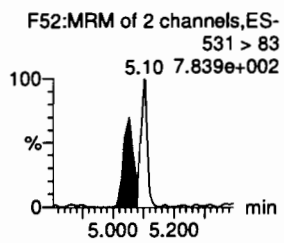

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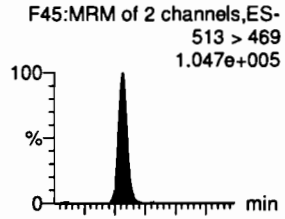
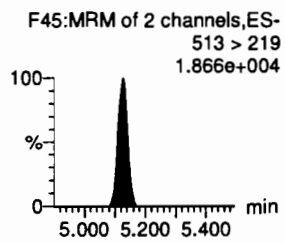
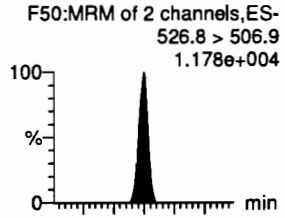
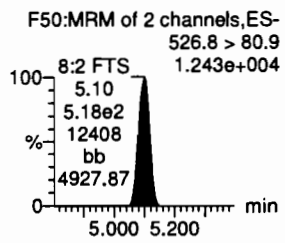




8:2 FTS





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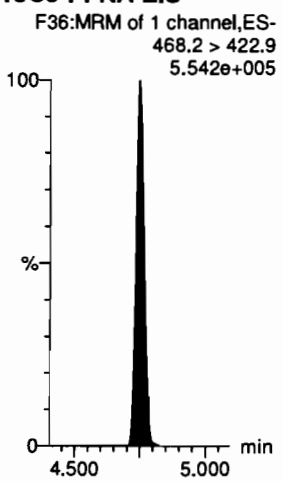
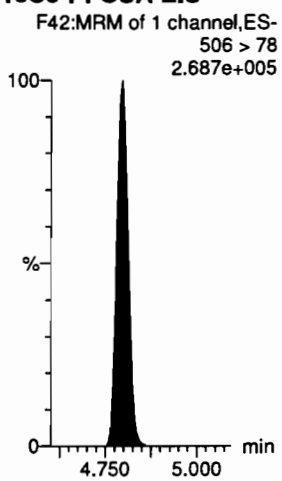
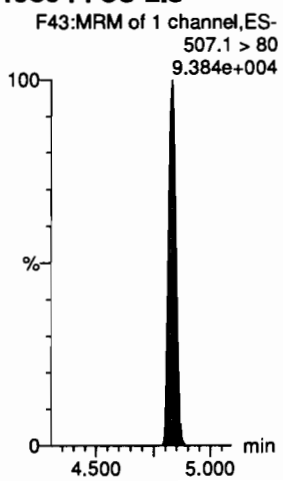


13C8-PFOSA-EIS



13C8-PFOS-EIS



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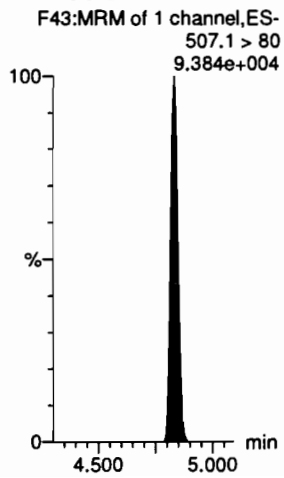

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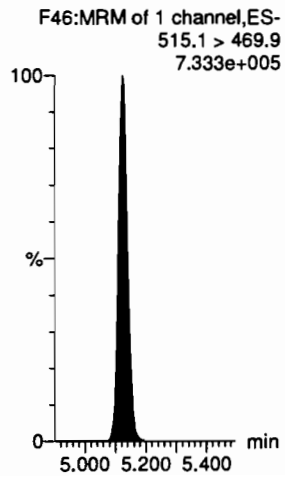

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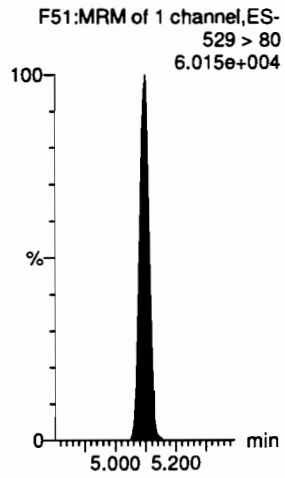

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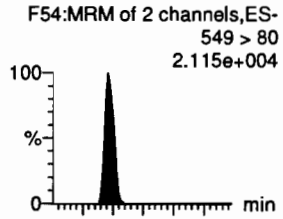

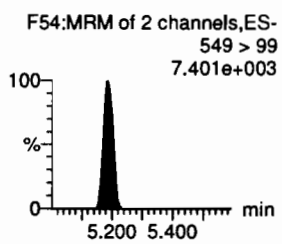

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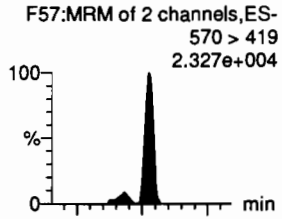
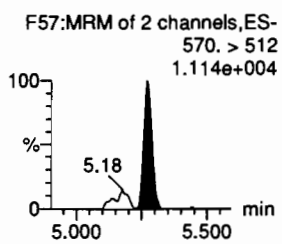
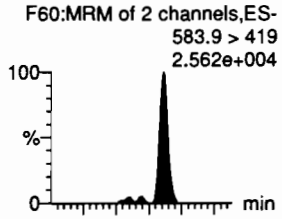
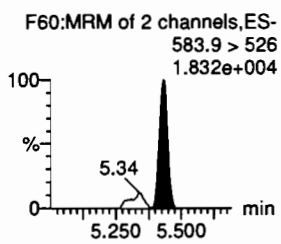


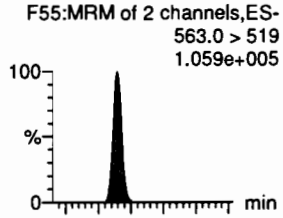


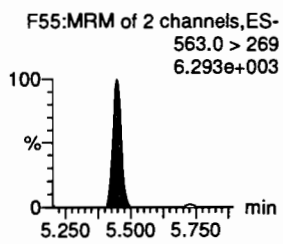
L-EtFOSAA





PFUdA





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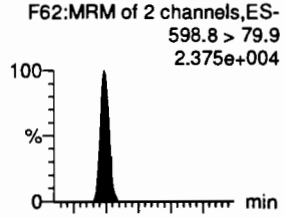

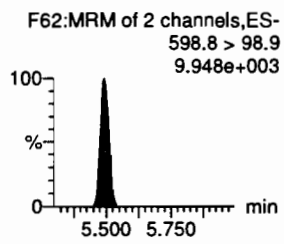

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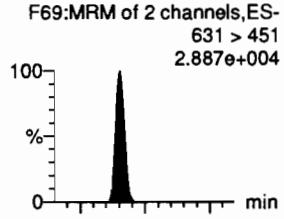
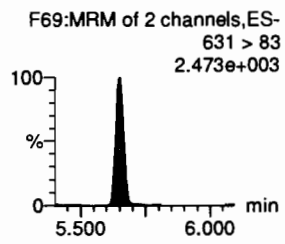
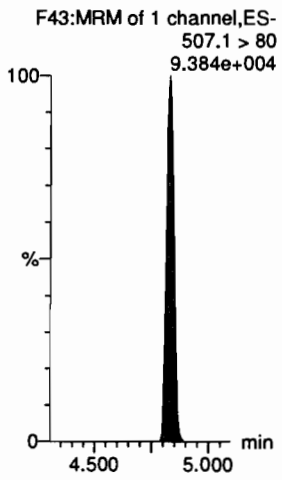




13C8-PFOS-EIS



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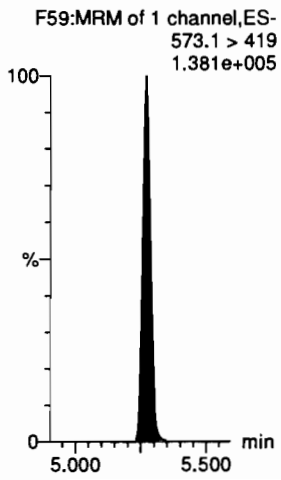

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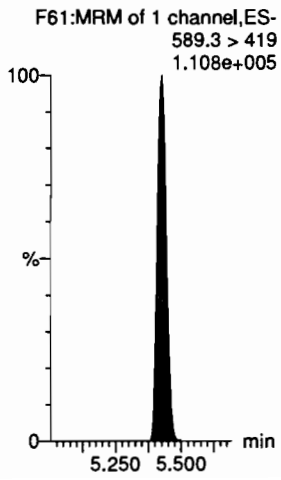

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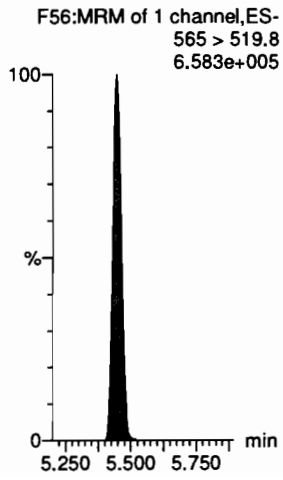

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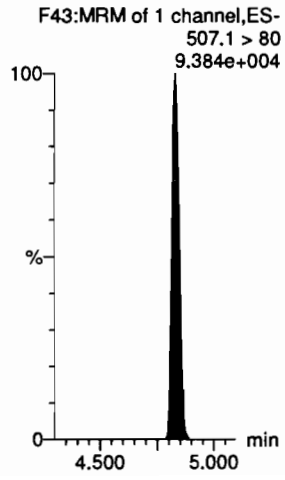

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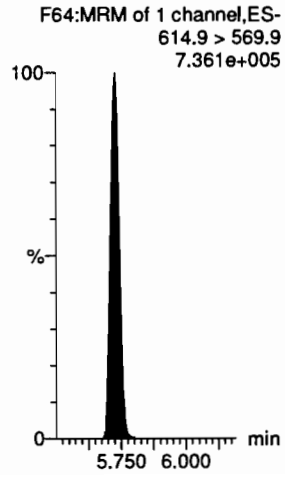

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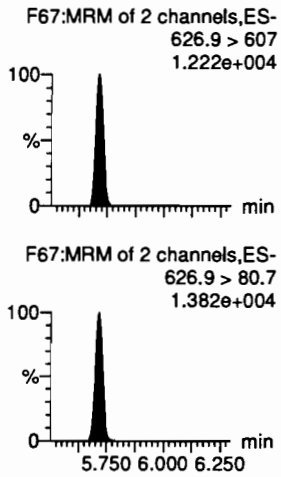
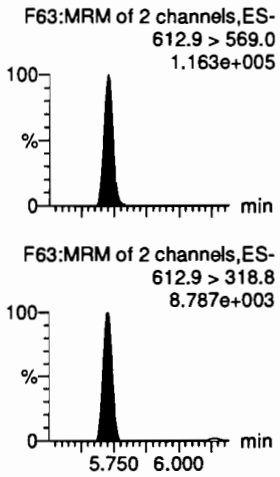
Name: 200714P1-08, Date: 14-Jul-2020, Time: 10:55:49, ID: ST200714P1-4 PFC CS1 20F1904, Description: PFC CS1 20F1904

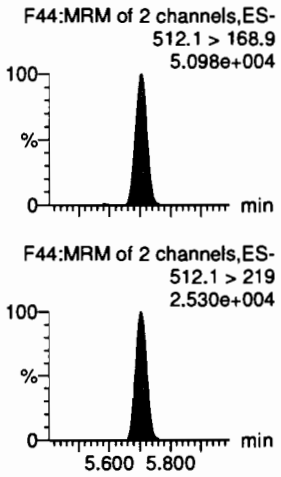
10:2 FTS



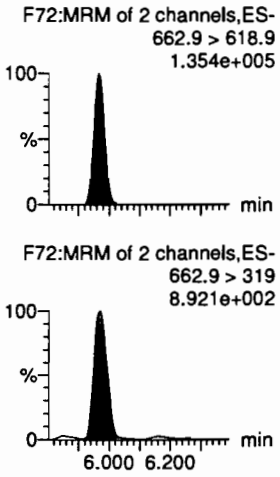
PFDoA



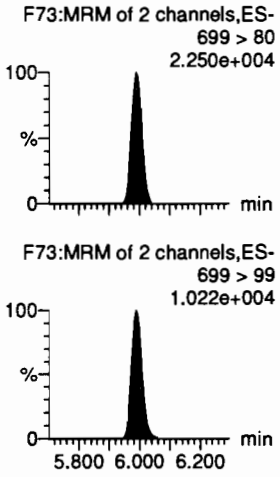
N-MeFOSA



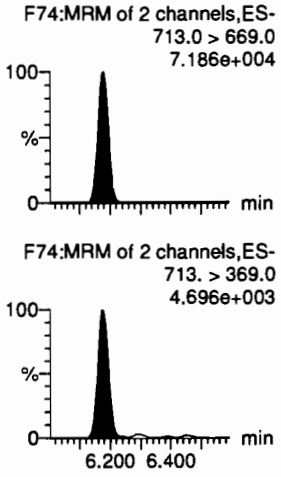
PFTrDA



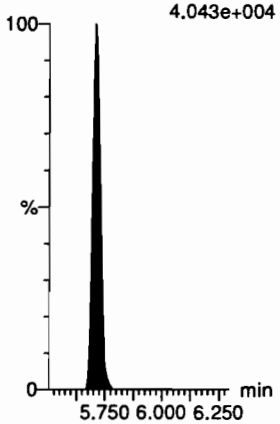
PFDoS



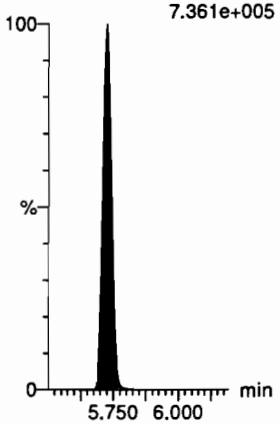
PFTeDA



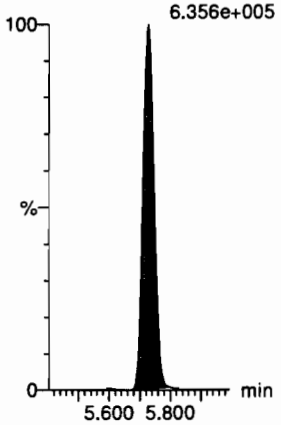
13C2-10:2 FTS-EIS



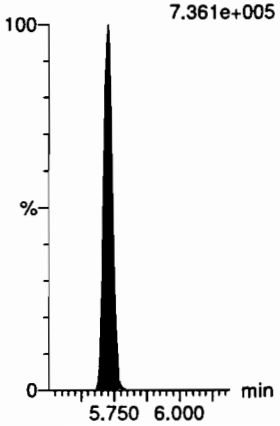
13C2-PFDoA-EIS



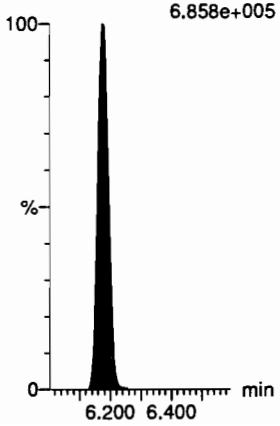
d3-N-MeFOSA-EIS



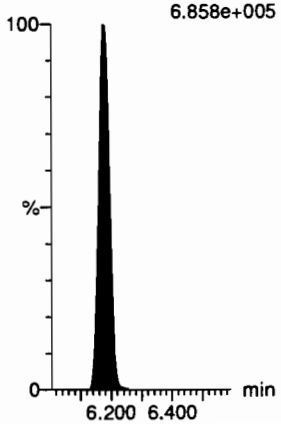
13C2-PFDoA-EIS



13C2-PFTeDA-EIS



13C2-PFTeDA-EIS



Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
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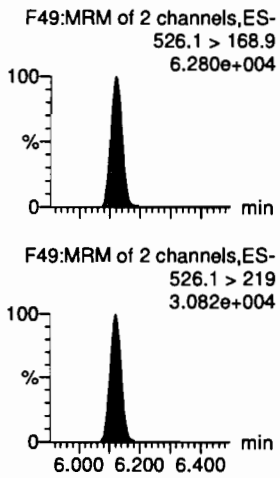
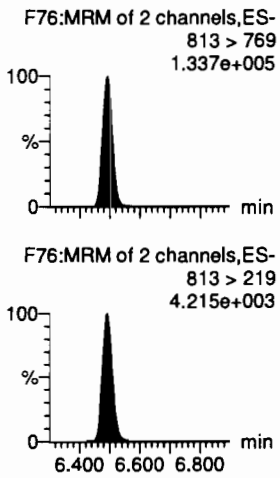
Name: 200714P1-08, Date: 14-Jul-2020, Time: 10:55:49, ID: ST200714P1-4 PFC CS1 20F1904, Description: PFC CS1 20F1904

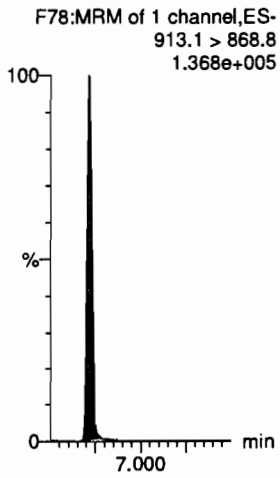
N-EtFOSA



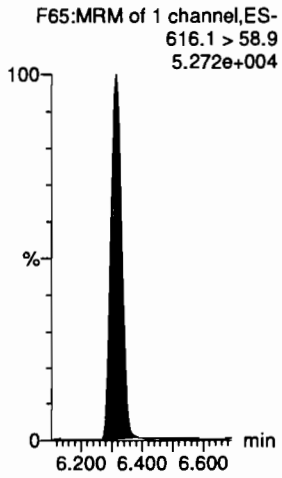
PFHxDA



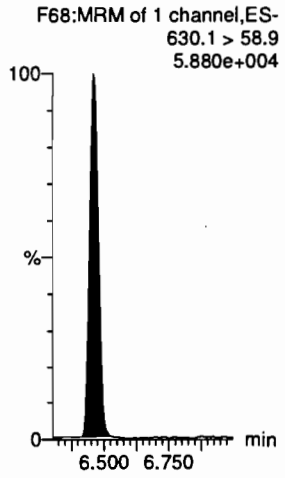
PFODA



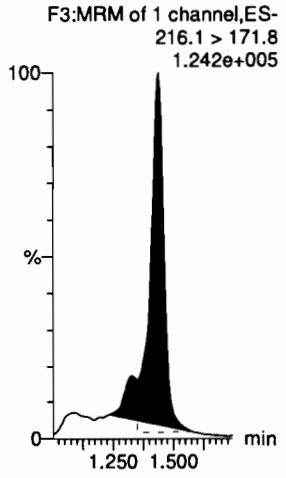
N-MeFOSE



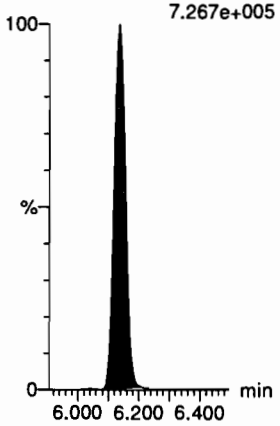
N-EtFOSE



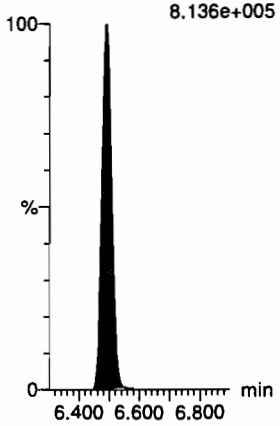
13C3-PFBA-RSD



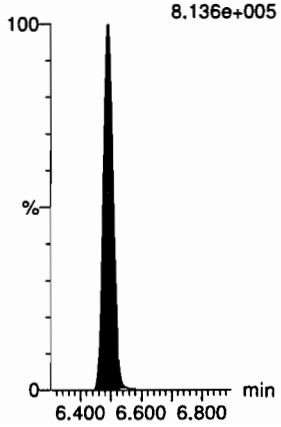
d5-N-ETFOSA-EIS



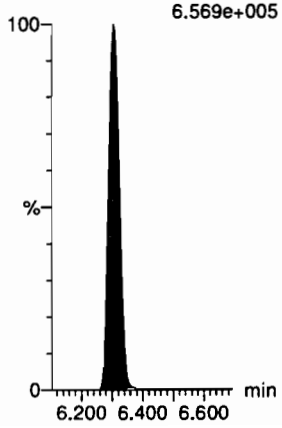
13C2-PFHxDA-EIS



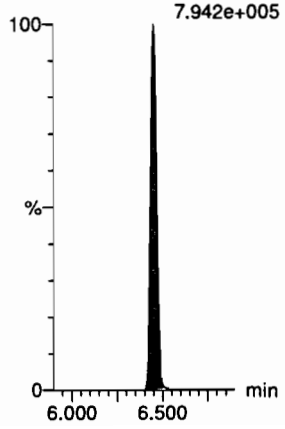
13C2-PFHxDA-EIS



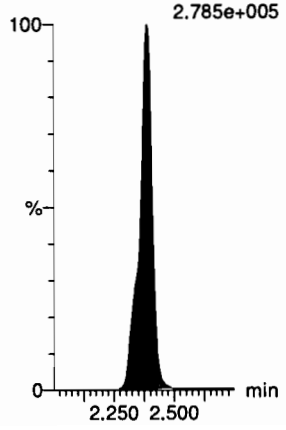
d7-N-MeFOSE-EIS



d9-N-EtFOSE-EIS



13C3-PFPeA-RSD



Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

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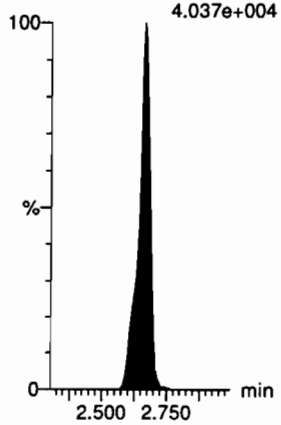
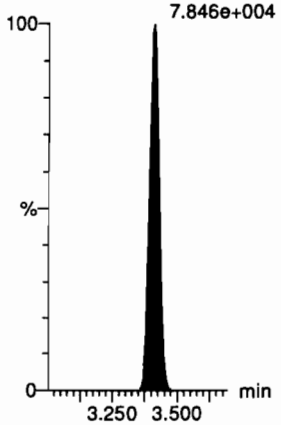
Name: 200714P1-08, Date: 14-Jul-2020, Time: 10:55:49, ID: ST200714P1-4 PFC CS1 20F1904, Description: PFC CS1 20F1904

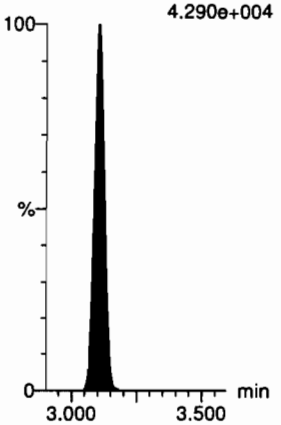
13C3-PFBS-RSD
F12:MRM of 1 channel,ES-
302.0 > 98.9
4.037e+004



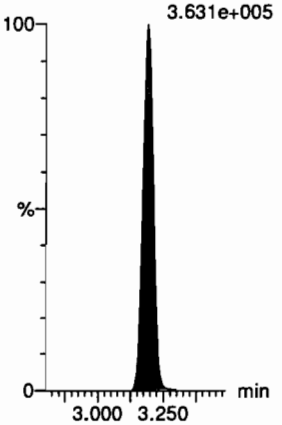
13C3-HFPO-DA-RSD
F10:MRM of 2 channels,ES-
287.0 > 168.9
7.846e+004



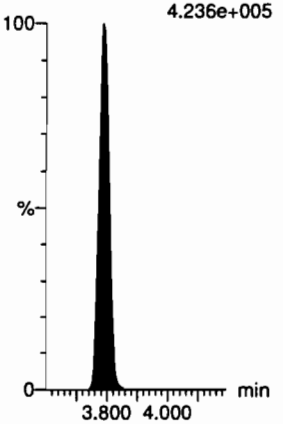
13C2-4:2 FTS-RSD
F17:MRM of 2 channels,ES-
329.0 > 80.8
4.290e+004



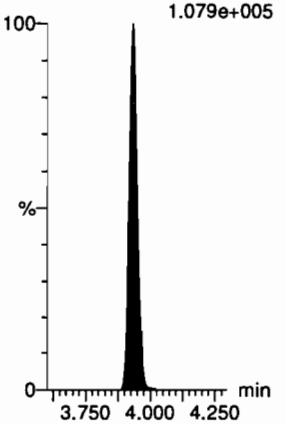
13C2-PFHxA-RSD
F14:MRM of 1 channel,ES-
315.0 > 270.0
3.631e+005



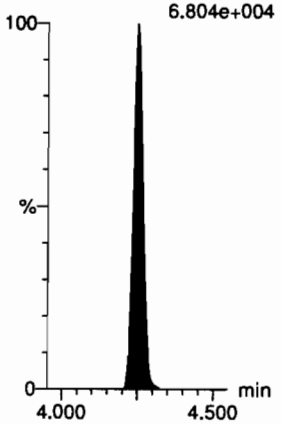
13C4-PFHpA-RSD
F21:MRM of 1 channel,ES-
367.2 > 321.8
4.236e+005



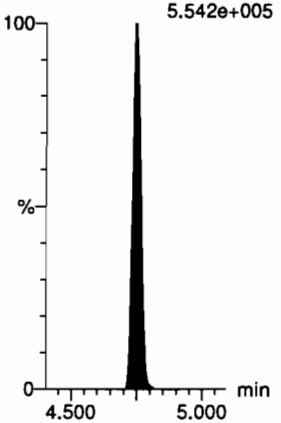
13C3-PFHxS-RSD
F24:MRM of 1 channel,ES-
402 > 80
1.079e+005



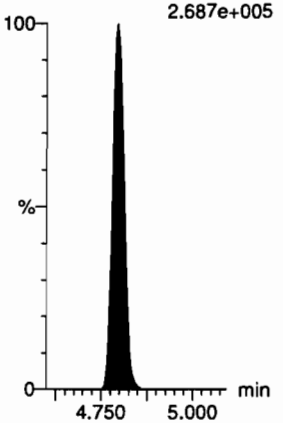
13C2-6:2 FTS-RSD
F30:MRM of 1 channel,ES-
429.0 > 79.7
6.804e+004



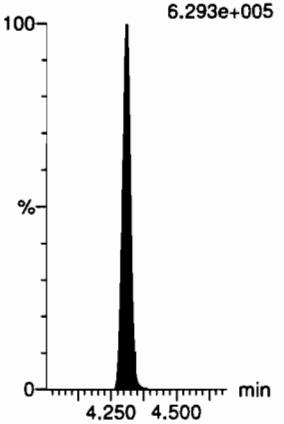
13C5-PFNA-RSD
F36:MRM of 1 channel,ES-
468.2 > 422.9
5.542e+005



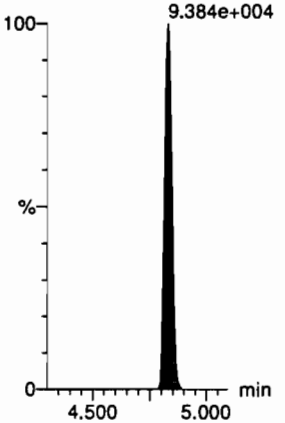
13C8-PFOSA-RSD
F42:MRM of 1 channel,ES-
506 > 78
2.687e+005



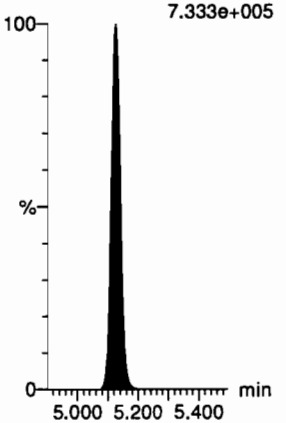
13C2-PFOA-RSD
F27:MRM of 1 channel,ES-
414.9 > 369.7
6.293e+005



13C8-PFOS-RSD
F43:MRM of 1 channel,ES-
507.1 > 80
9.384e+004



13C2-PFDA-RSD
F46:MRM of 1 channel,ES-
515.1 > 469.9
7.333e+005



Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

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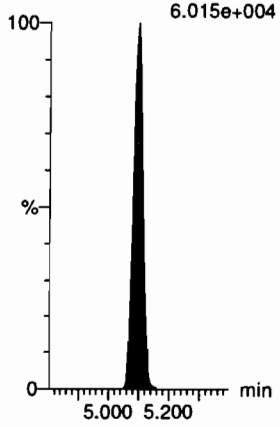
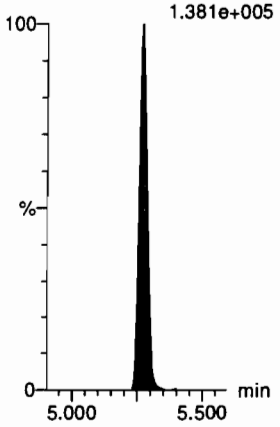
Name: 200714P1-08, Date: 14-Jul-2020, Time: 10:55:49, ID: ST200714P1-4 PFC CS1 20F1904, Description: PFC CS1 20F1904

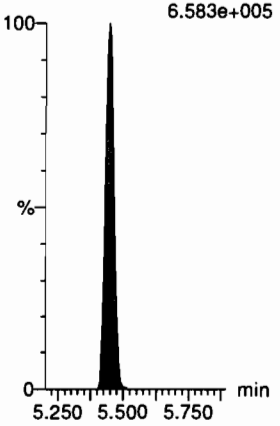
13C2-8:2 FTS-RSD
F51:MRM of 1 channel,ES-
529 > 80
6.015e+004



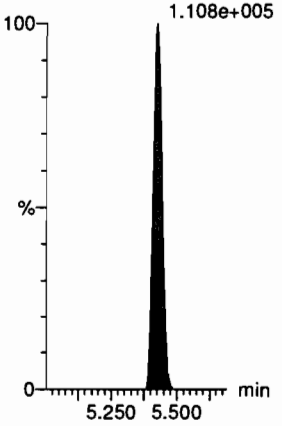
d3-N-MeFOSAA-RSD
F59:MRM of 1 channel,ES-
573.1 > 419
1.381e+005



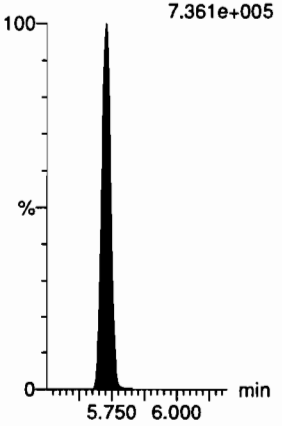
13C2-PFUdA-RSD
F56:MRM of 1 channel,ES-
565 > 519.8
6.583e+005



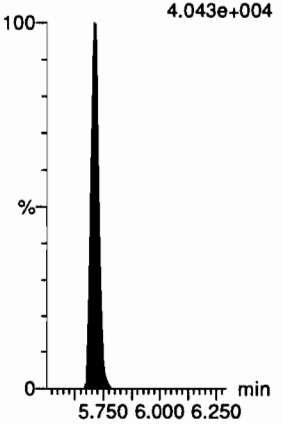
d5-N-EtFOSAA-RSD
F61:MRM of 1 channel,ES-
589.3 > 419
1.108e+005



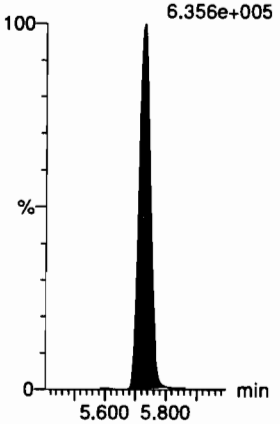
13C2-PFDoA-RSD
F64:MRM of 1 channel,ES-
614.9 > 569.9
7.361e+005



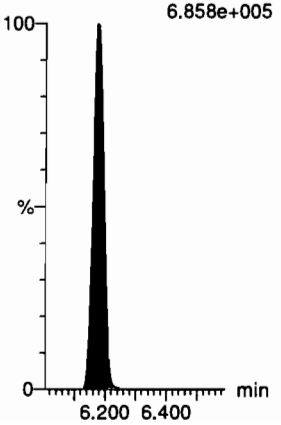
13C2-10:2 FTS-RSD
F70:MRM of 1 channel,ES-
632.9 > 80.0
4.043e+004



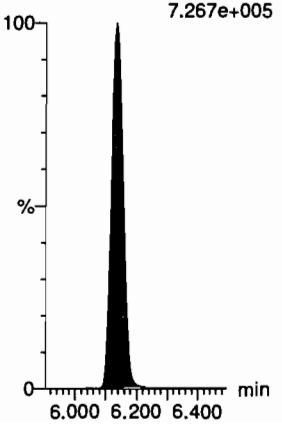
d3-N-MeFOSA-RSD
F47:MRM of 1 channel,ES-
515.2 > 168.9
6.356e+005



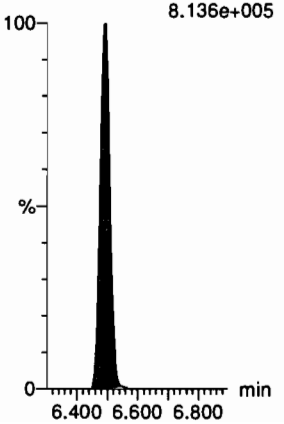
13C2-PFTeDA-RSD
F75:MRM of 2 channels,ES-
715.1 > 669.7
6.858e+005



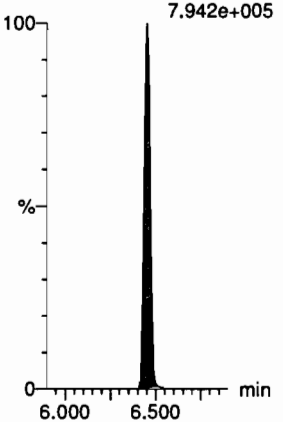
d5-N-ETFOSA-RSD
F53:MRM of 1 channel,ES-
531.1 > 168.9
7.267e+005



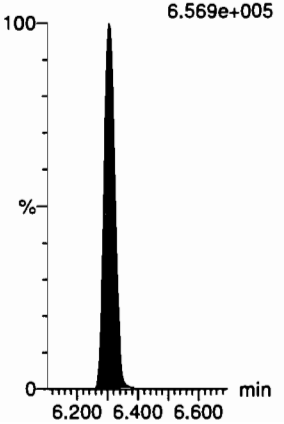
13C2-PFHxDA-RSD
F77:MRM of 1 channel,ES-
815 > 769.7
8.136e+005



d9-N-EtFOSE-RSD
F71:MRM of 1 channel,ES-
639.2 > 58.8
7.942e+005



d7-N-MeFOSE-RSD
F66:MRM of 1 channel,ES-
623.1 > 58.9
6.569e+005



Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

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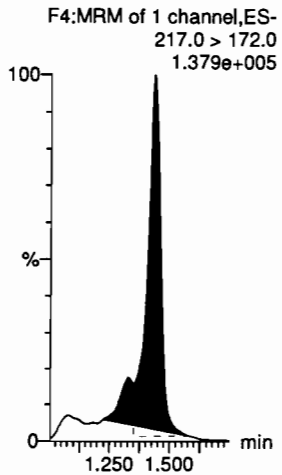
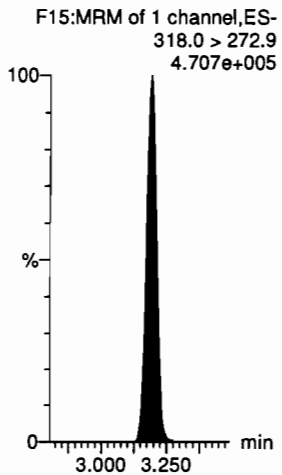
Name: 200714P1-08, Date: 14-Jul-2020, Time: 10:55:49, ID: ST200714P1-4 PFC CS1 20F1904, Description: PFC CS1 20F1904

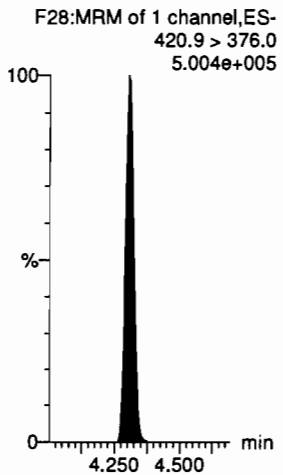
13C4-PFBA



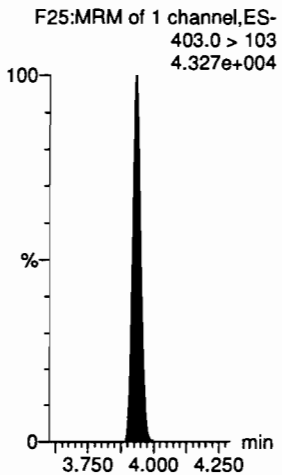
13C5-PFHxA



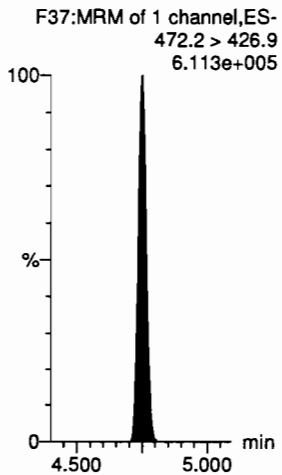
13C8-PFOA



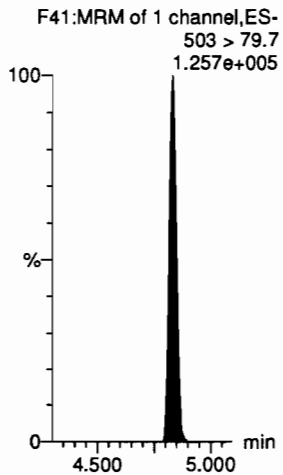
18O2-PFHxS



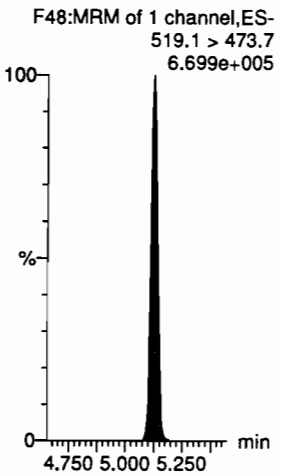
13C9-PFNA



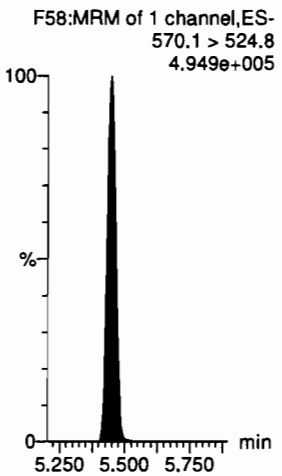
13C4-PFOS



13C6-PFDA



13C7-PFUdA

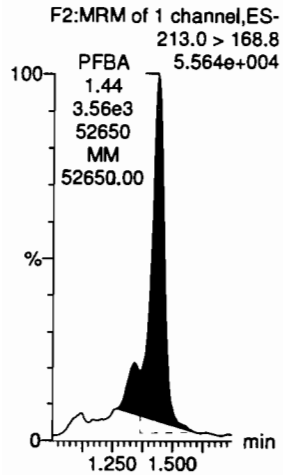


Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

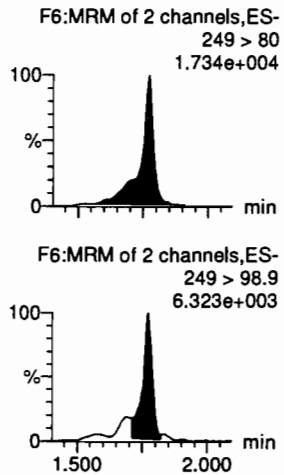
Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 16:21:31 Pacific Daylight Time

Name: 200714P1-09, Date: 14-Jul-2020, Time: 11:06:24, ID: ST200714P1-5 PFC CS2 20F1905, Description: PFC CS2 20F1905

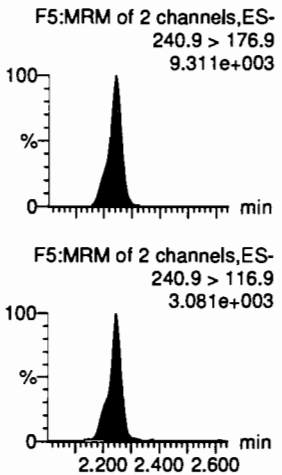
PFBA



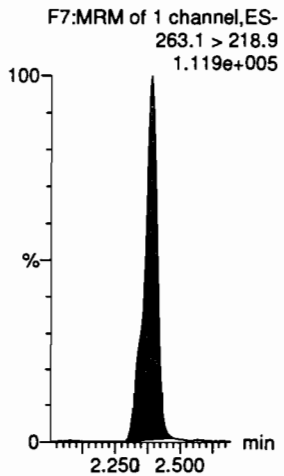
PFPrS



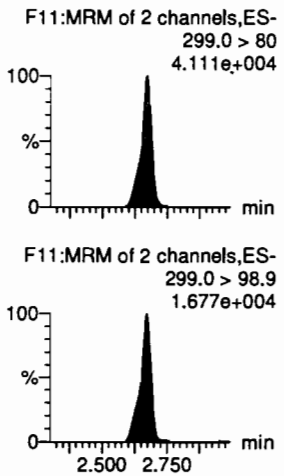
3:3 FTCA



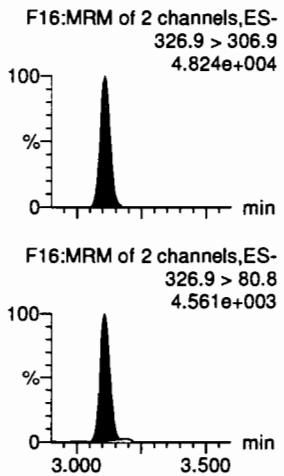
PFPeA



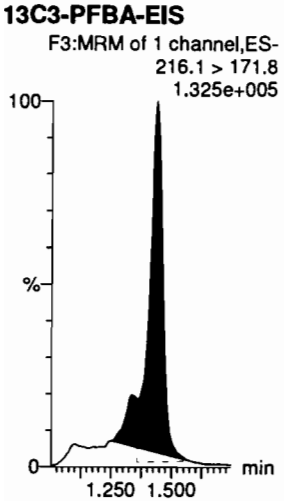
PFBS



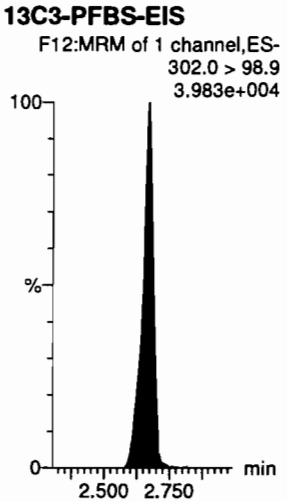
4:2 FTS



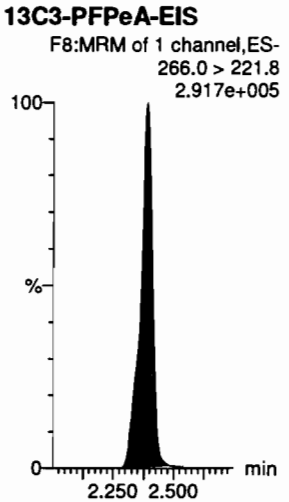
13C3-PFBA-EIS



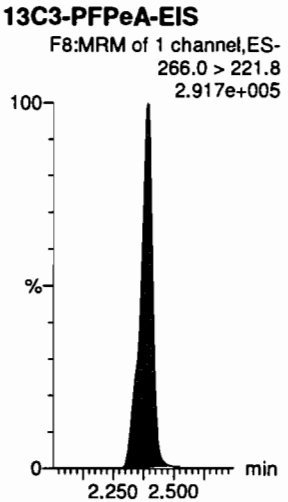
13C3-PFBS-EIS



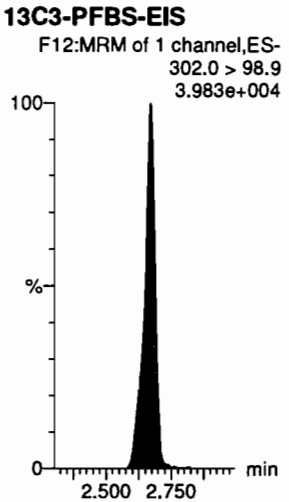
13C3-PFPeA-EIS



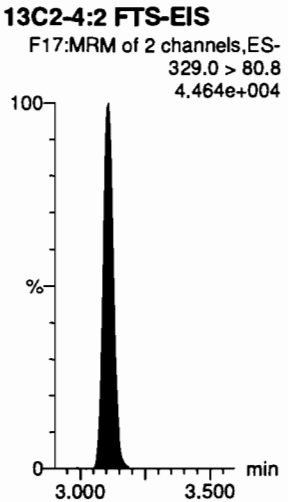
13C3-PFPeA-EIS



13C3-PFBS-EIS



13C2-4:2 FTS-EIS

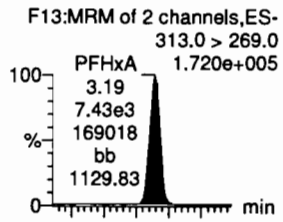


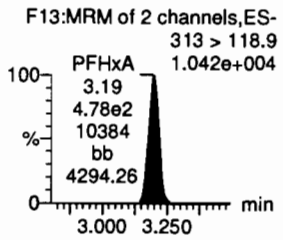
Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 16:21:31 Pacific Daylight Time

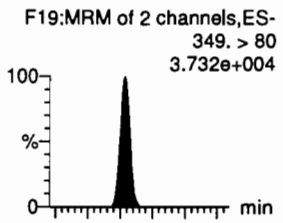
Name: 200714P1-09, Date: 14-Jul-2020, Time: 11:06:24, ID: ST200714P1-5 PFC CS2 20F1905, Description: PFC CS2 20F1905

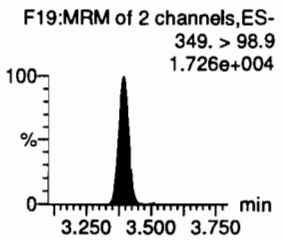
PFHxA



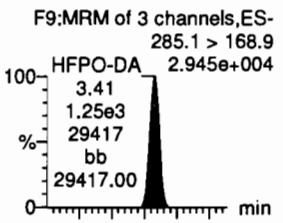


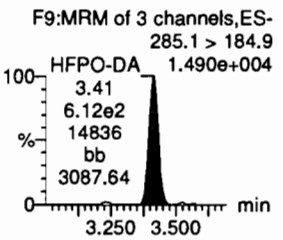
PFPeS



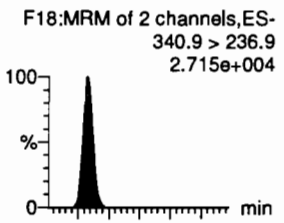


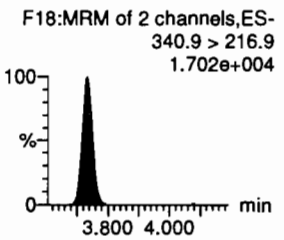
HFPO-DA



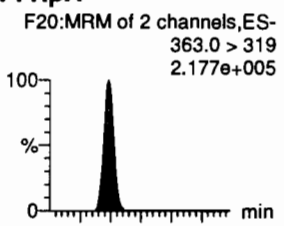


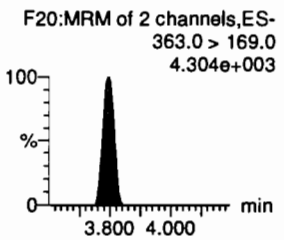
5:3 FTCA



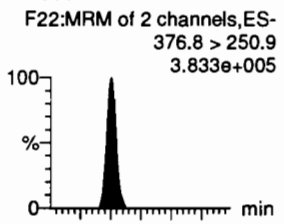


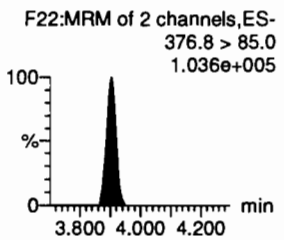
PFHpA





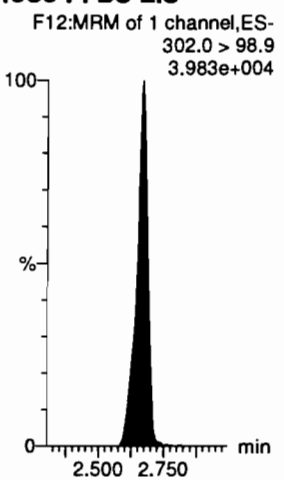
ADONA



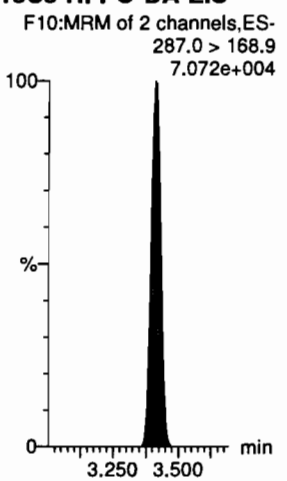


13C2-PFHxA-EIS

13C3-PFBS-EIS

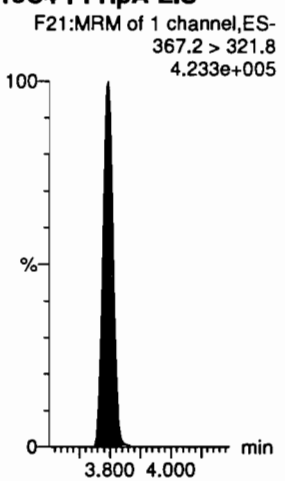


13C3-HFPO-DA-EIS

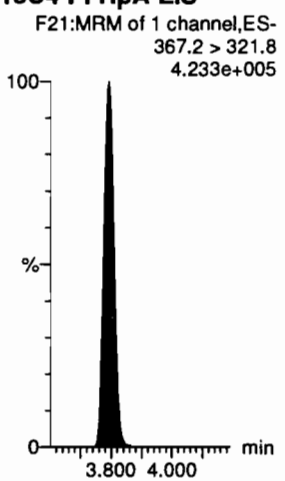


13C4-PFHpA-EIS

13C4-PFHpA-EIS



13C4-PFHpA-EIS



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Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
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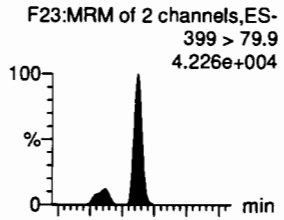
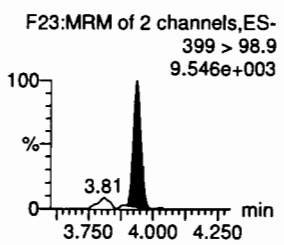
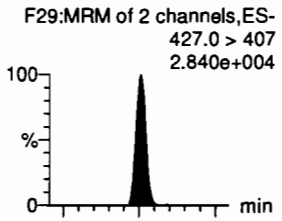
Name: 200714P1-09, Date: 14-Jul-2020, Time: 11:06:24, ID: ST200714P1-5 PFC CS2 20F1905, Description: PFC CS2 20F1905

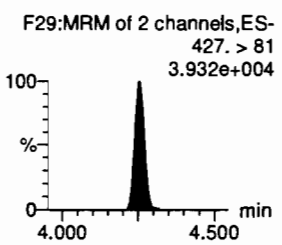
L-PFHxS



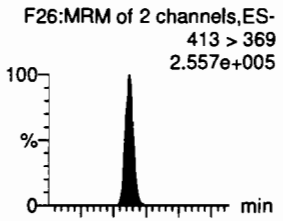


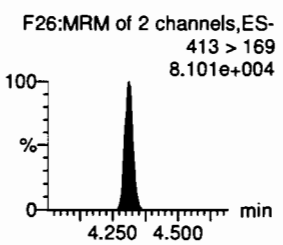
6:2 FTS



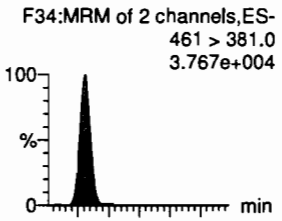


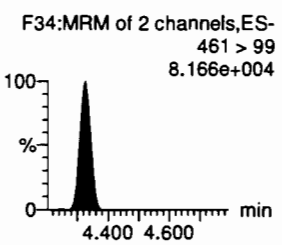
L-PFOA



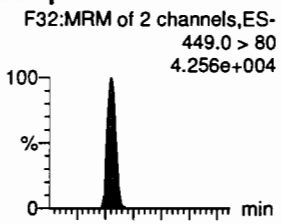


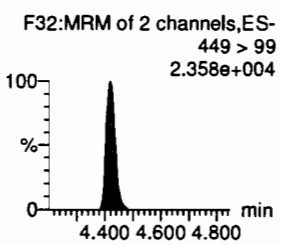
PFEChS



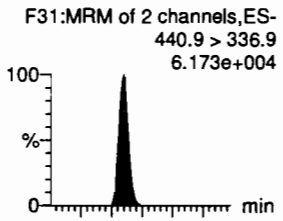


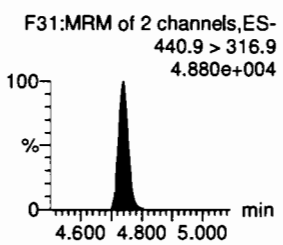
PFHpS



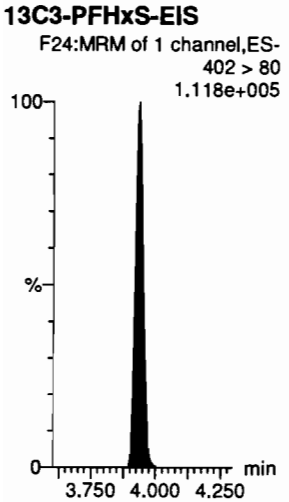


7:3 FTCA

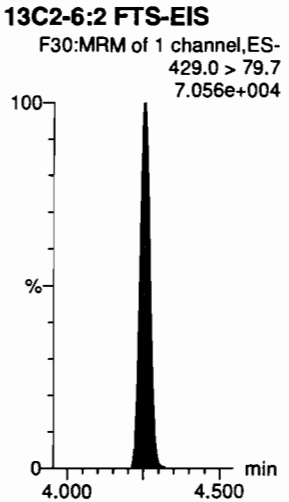




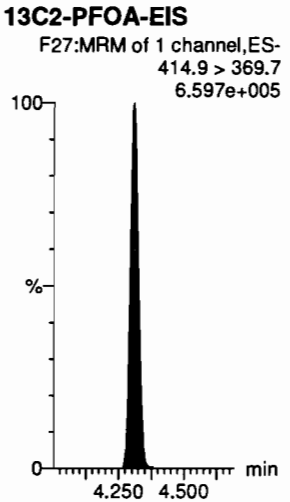
13C3-PFHxS-EIS



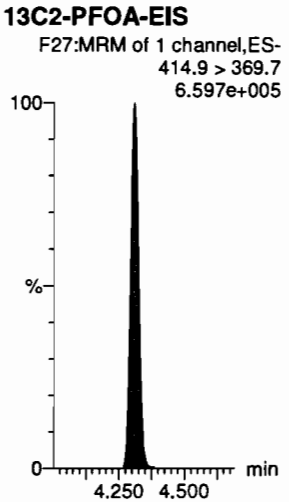
13C2-6:2 FTS-EIS



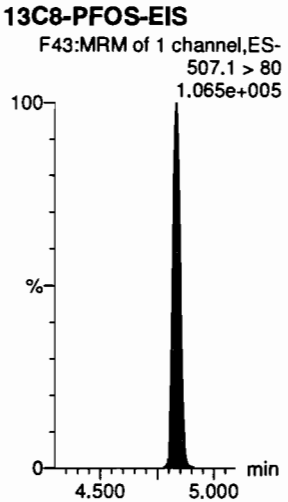
13C2-PFOA-EIS



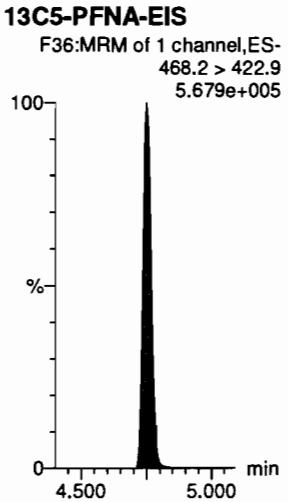
13C2-PFOA-EIS



13C8-PFOS-EIS



13C5-PFNA-EIS



Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 16:21:31 Pacific Daylight Time

Name: 200714P1-09, Date: 14-Jul-2020, Time: 11:06:24, ID: ST200714P1-5 PFC CS2 20F1905, Description: PFC CS2 20F1905

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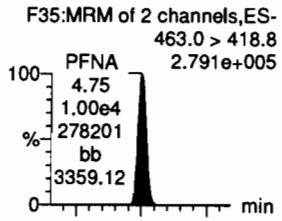

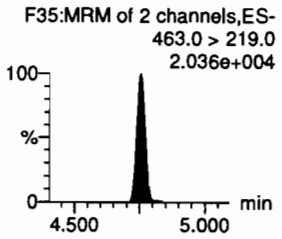

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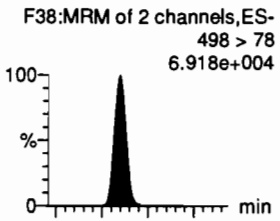

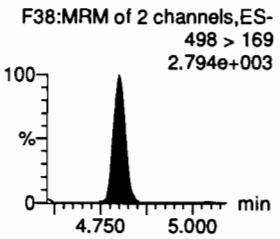

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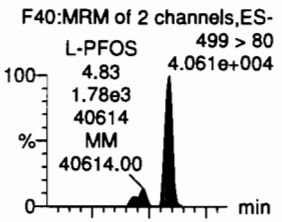

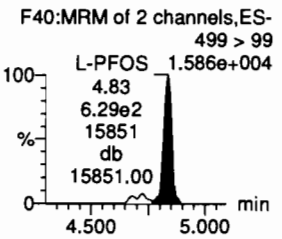

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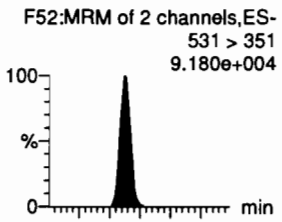

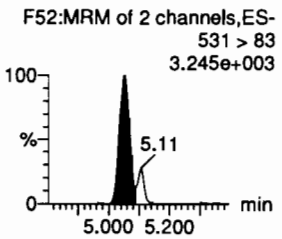

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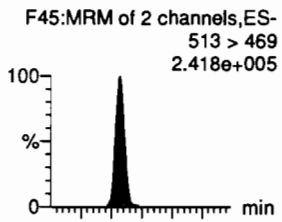
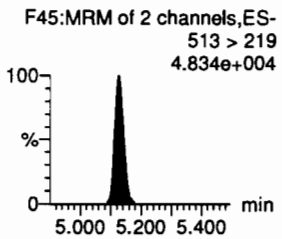
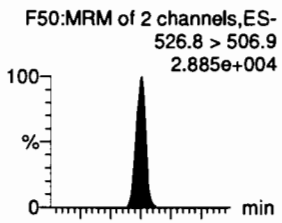
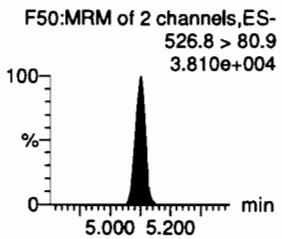




8:2 FTS





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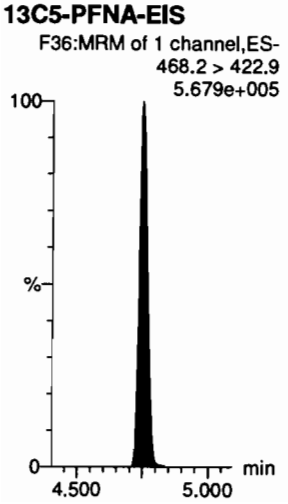
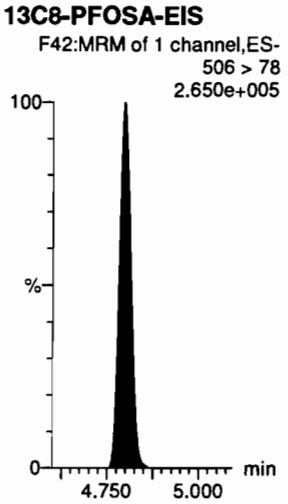


13C8-PFOSA-EIS



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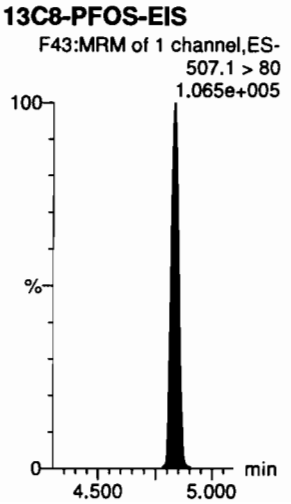

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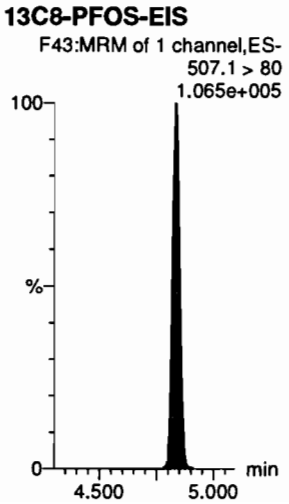

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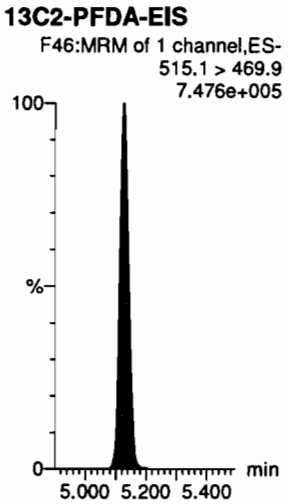
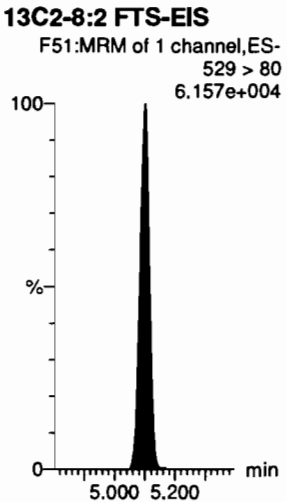


13C2-8:2 FTS-EIS



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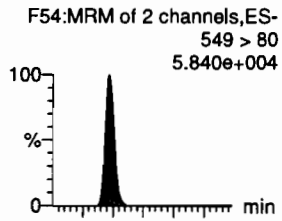
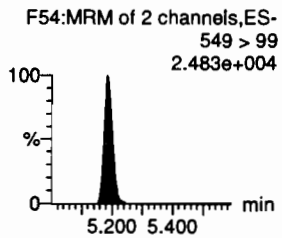
Name: 200714P1-09, Date: 14-Jul-2020, Time: 11:06:24, ID: ST200714P1-5 PFC CS2 20F1905, Description: PFC CS2 20F1905

PFNS





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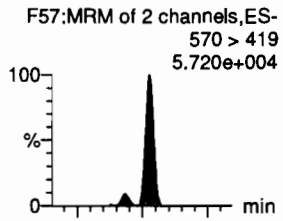

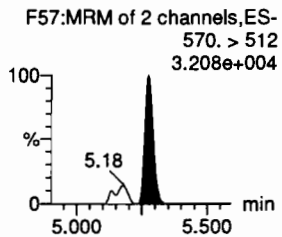

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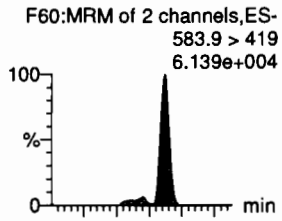

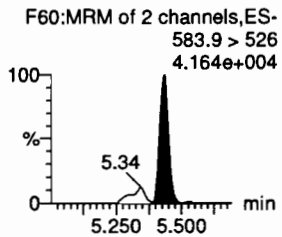

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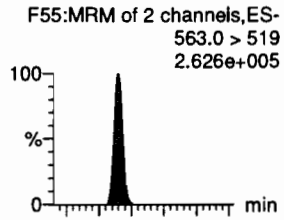

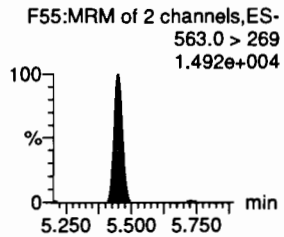

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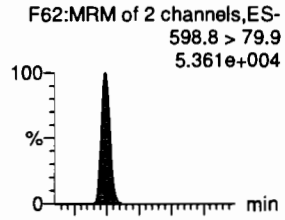

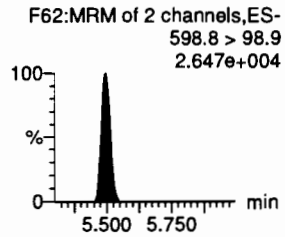

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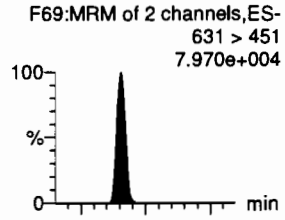
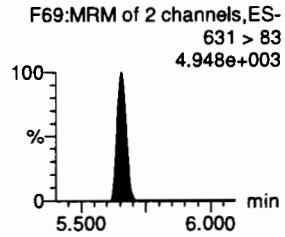
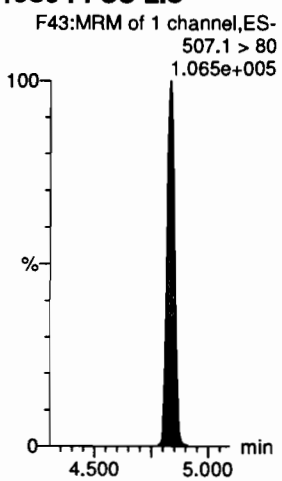




13C8-PFOS-EIS



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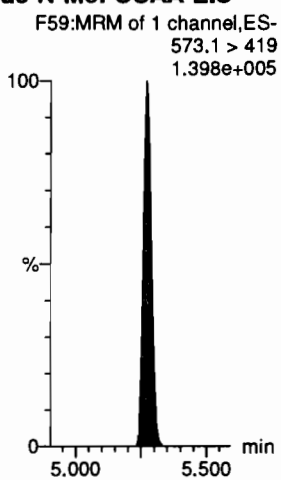

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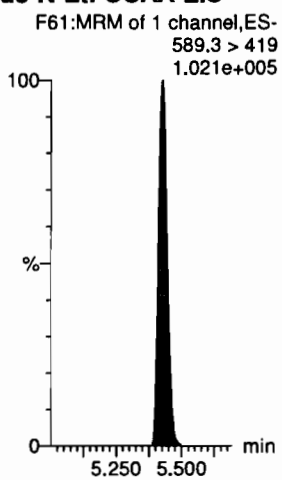

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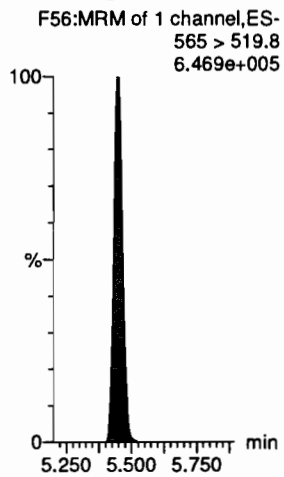

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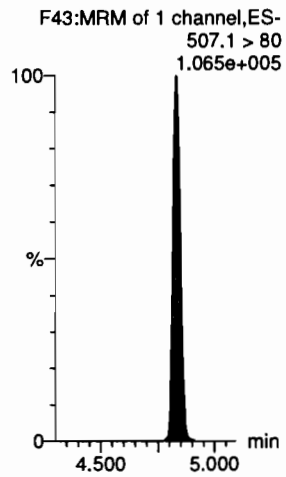

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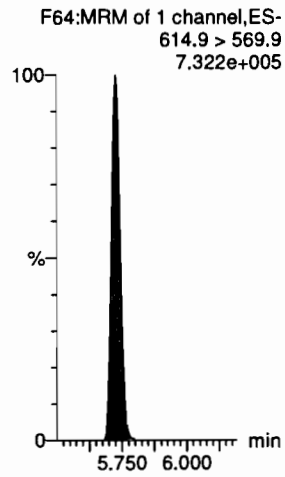

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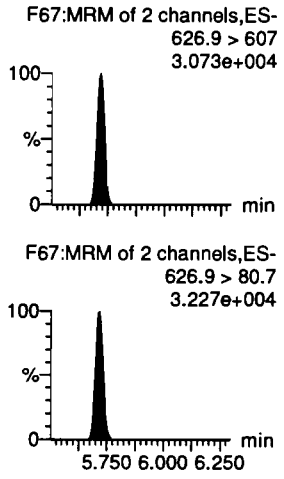
Name: 200714P1-09, Date: 14-Jul-2020, Time: 11:06:24, ID: ST200714P1-5 PFC CS2 20F1905, Description: PFC CS2 20F1905

10:2 FTS



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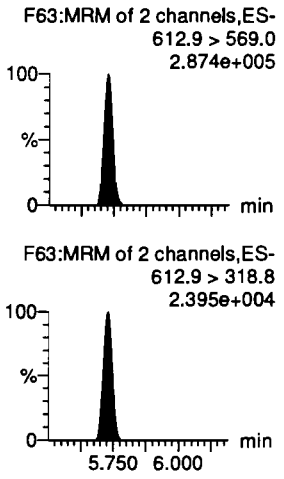

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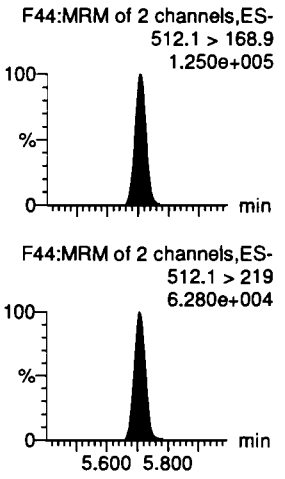

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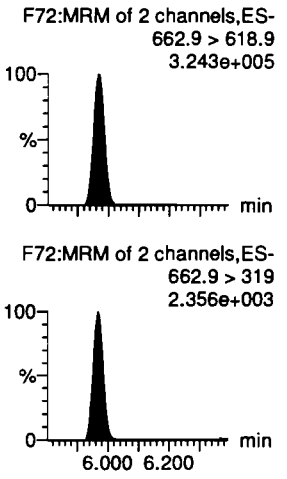
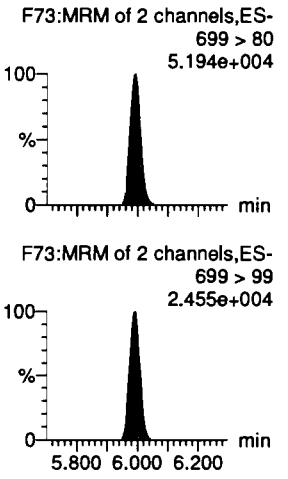


PFDoS



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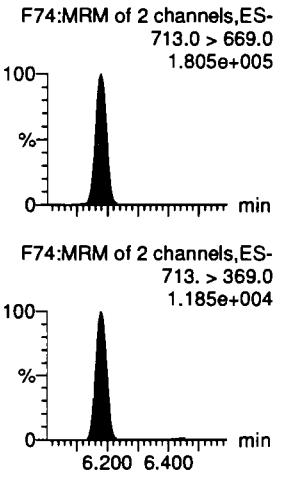

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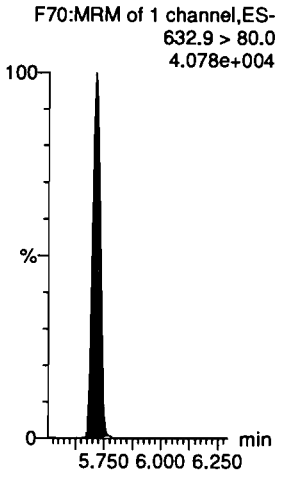

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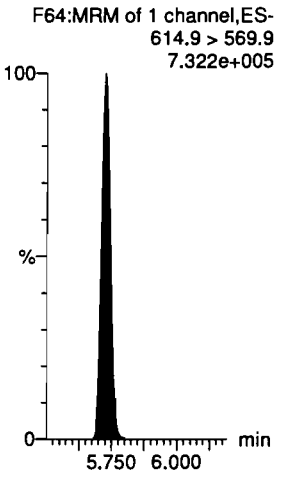
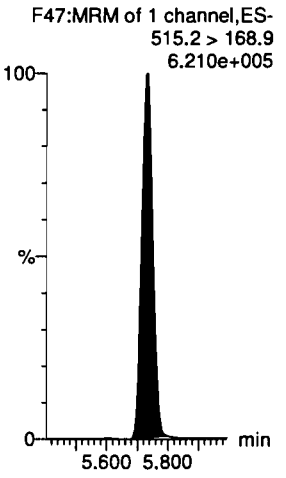


d3-N-MeFOSA-EIS



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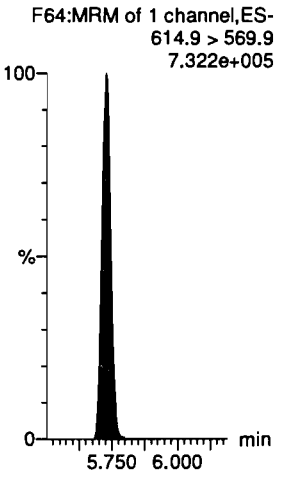

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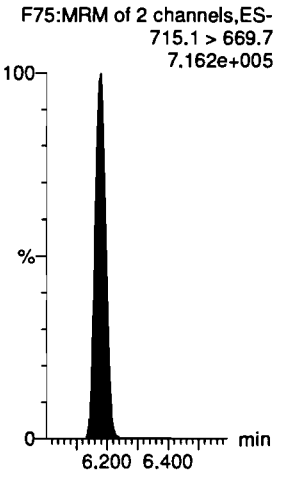

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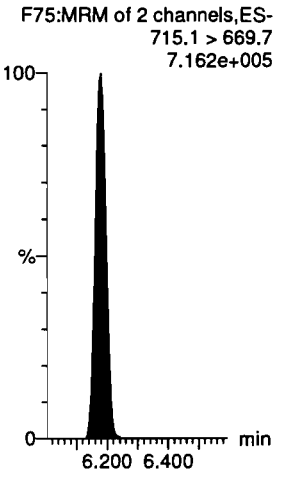

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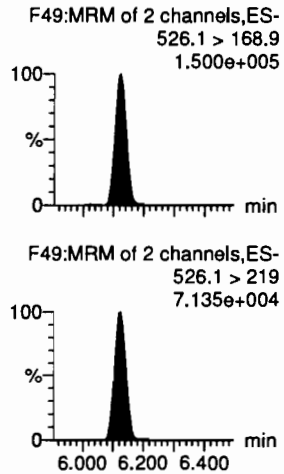
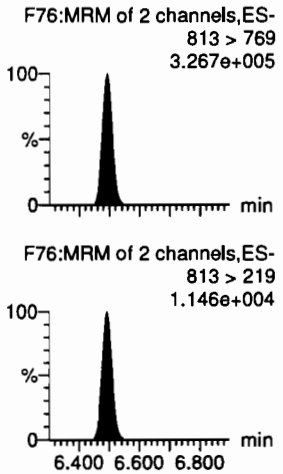
Name: 200714P1-09, Date: 14-Jul-2020, Time: 11:06:24, ID: ST200714P1-5 PFC CS2 20F1905, Description: PFC CS2 20F1905

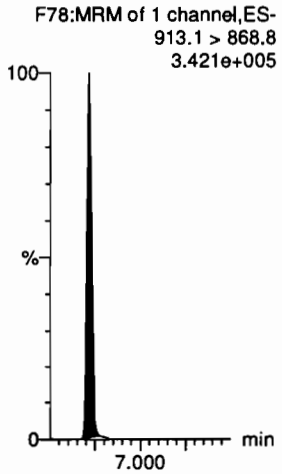
N-EtFOSA



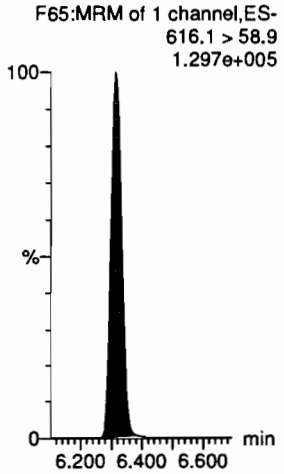
PFHxDA



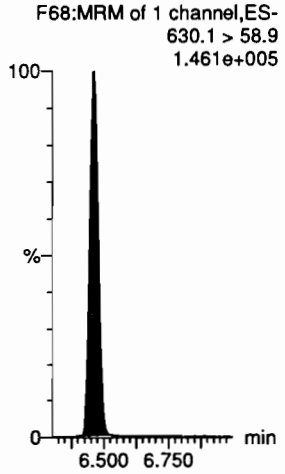
PFODA



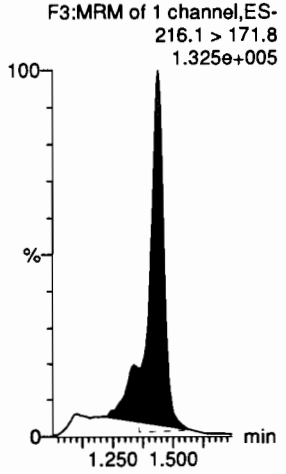
N-MeFOSE



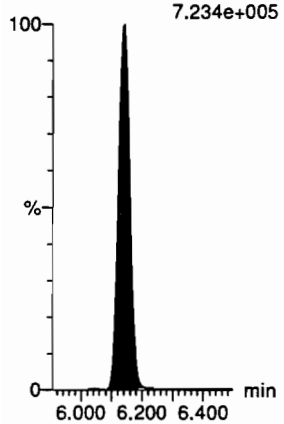
N-EtFOSE



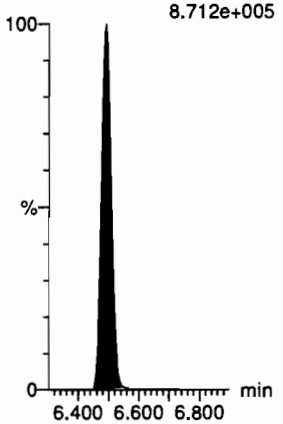
13C3-PFBA-RSD



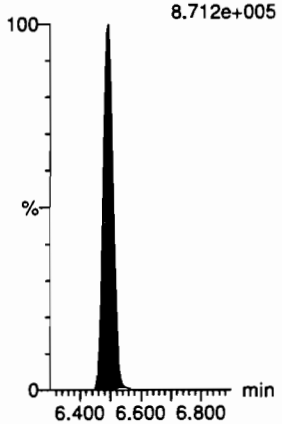
d5-N-ETFOSA-EIS



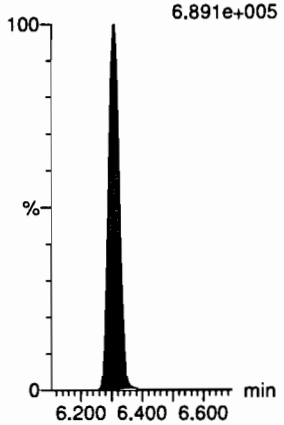
13C2-PFHxDA-EIS



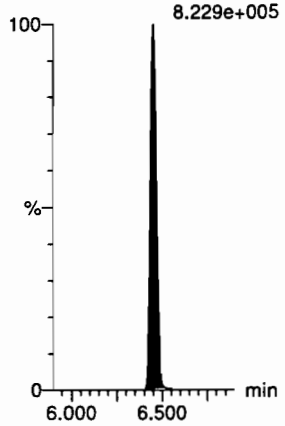
13C2-PFHxDA-EIS



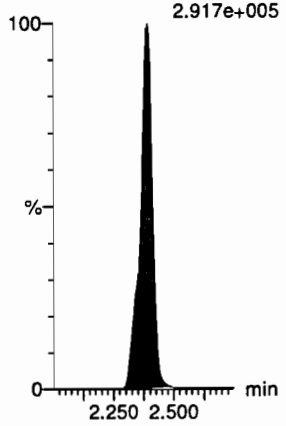
d7-N-MeFOSE-EIS



d9-N-EtFOSE-EIS



13C3-PFPeA-RSD

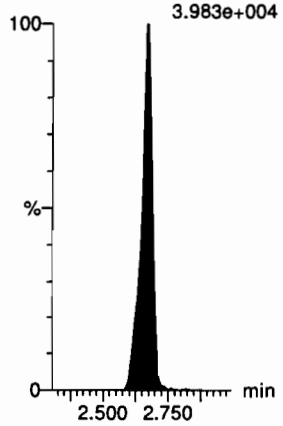


Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

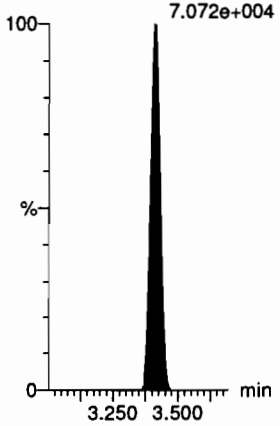
Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 16:21:31 Pacific Daylight Time

Name: 200714P1-09, Date: 14-Jul-2020, Time: 11:06:24, ID: ST200714P1-5 PFC CS2 20F1905, Description: PFC CS2 20F1905

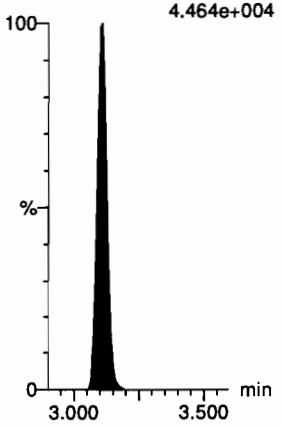
13C3-PFBS-RSD
F12:MRM of 1 channel,ES-
302.0 > 98.9
3.983e+004



13C3-HFPO-DA-RSD
F10:MRM of 2 channels,ES-
287.0 > 168.9
7.072e+004

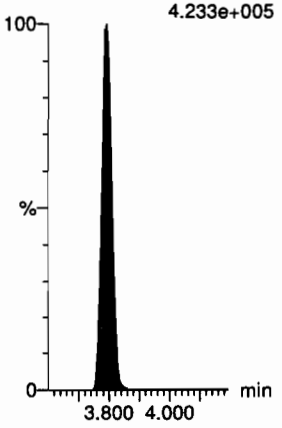


13C2-4:2 FTS-RSD
F17:MRM of 2 channels,ES-
329.0 > 80.8
4.464e+004

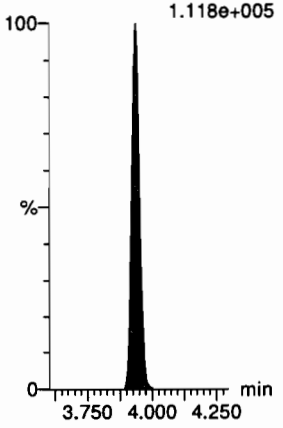


13C2-PFHxA-RSD
F14:MRM of 1 channel,ES-
315.0 > 270.0
3.701e+005

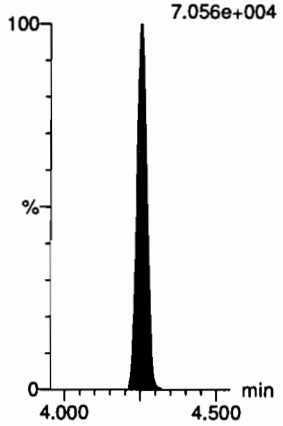
13C4-PFHpA-RSD
F21:MRM of 1 channel,ES-
367.2 > 321.8
4.233e+005



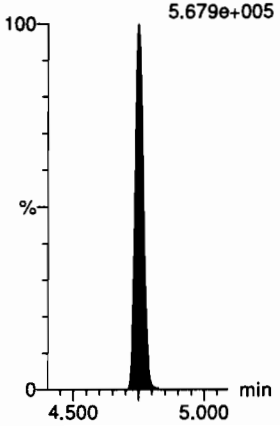
13C3-PFHxS-RSD
F24:MRM of 1 channel,ES-
402 > 80
1.118e+005



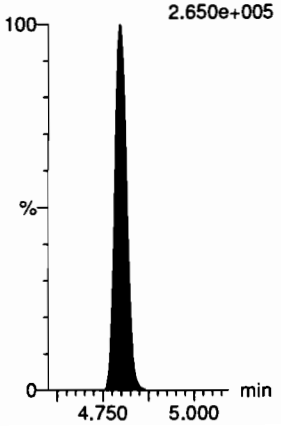
13C2-6:2 FTS-RSD
F30:MRM of 1 channel,ES-
429.0 > 79.7
7.056e+004



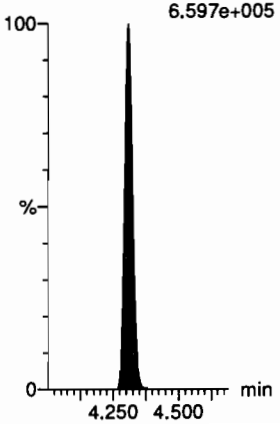
13C5-PFNA-RSD
F36:MRM of 1 channel,ES-
468.2 > 422.9
5.679e+005



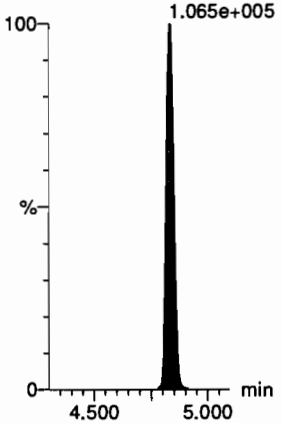
13C8-PFOSA-RSD
F42:MRM of 1 channel,ES-
506 > 78
2.650e+005



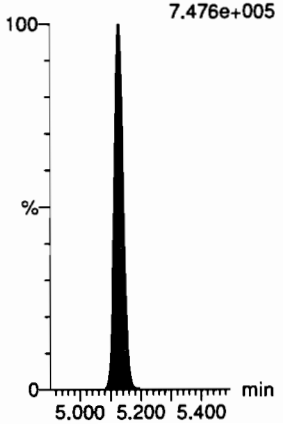
13C2-PFOA-RSD
F27:MRM of 1 channel,ES-
414.9 > 369.7
6.597e+005



13C8-PFOS-RSD
F43:MRM of 1 channel,ES-
507.1 > 80
1.065e+005



13C2-PFDA-RSD
F46:MRM of 1 channel,ES-
515.1 > 469.9
7.476e+005

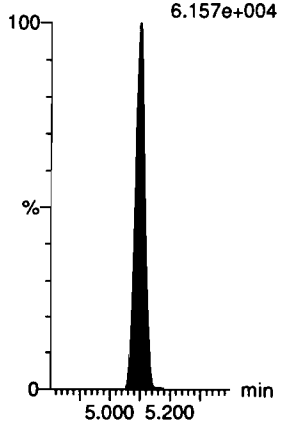


Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

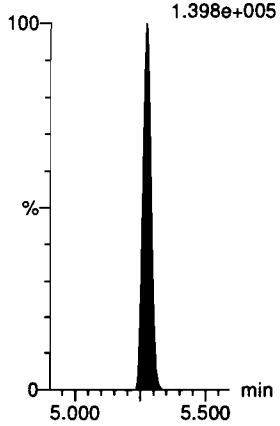
Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 16:21:31 Pacific Daylight Time

Name: 200714P1-09, Date: 14-Jul-2020, Time: 11:06:24, ID: ST200714P1-5 PFC CS2 20F1905, Description: PFC CS2 20F1905

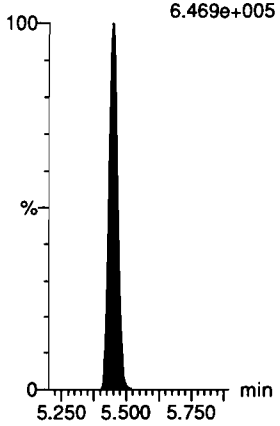
13C2-8:2 FTS-RSD
F51:MRM of 1 channel,ES-
529 > 80
6.157e+004



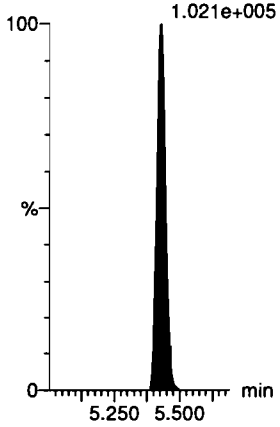
d3-N-MeFOSAA-RSD
F59:MRM of 1 channel,ES-
573.1 > 419
1.398e+005



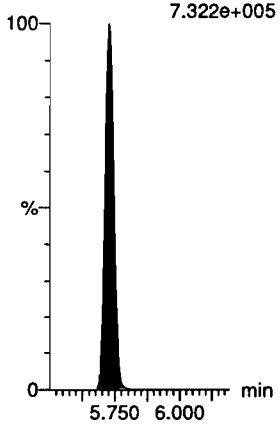
13C2-PFUdA-RSD
F56:MRM of 1 channel,ES-
565 > 519.8
6.469e+005



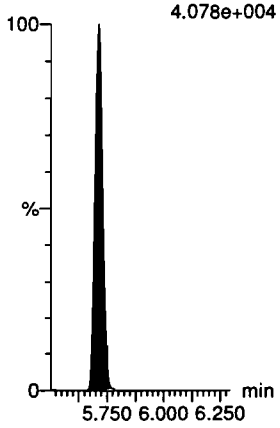
d5-N-EtFOSAA-RSD
F61:MRM of 1 channel,ES-
589.3 > 419
1.021e+005



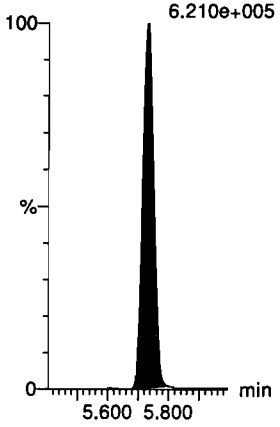
13C2-PFDoA-RSD
F64:MRM of 1 channel,ES-
614.9 > 569.9
7.322e+005



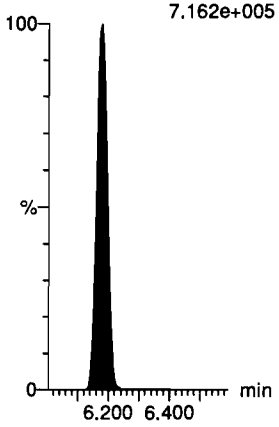
13C2-10:2 FTS-RSD
F70:MRM of 1 channel,ES-
632.9 > 80.0
4.078e+004



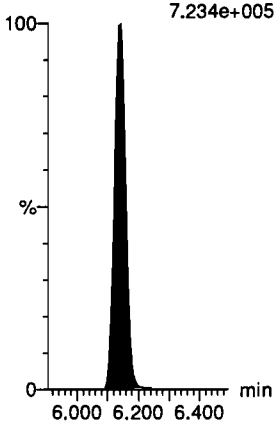
d3-N-MeFOSA-RSD
F47:MRM of 1 channel,ES-
515.2 > 168.9
6.210e+005



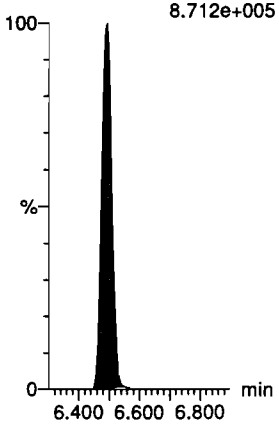
13C2-PFTeDA-RSD
F75:MRM of 2 channels,ES-
715.1 > 669.7
7.162e+005



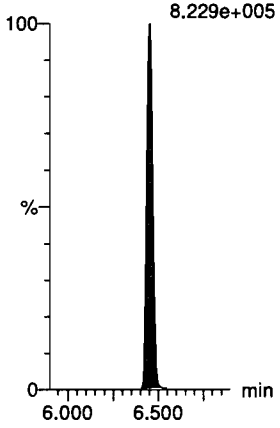
d5-N-ETFOSA-RSD
F53:MRM of 1 channel,ES-
531.1 > 168.9
7.234e+005



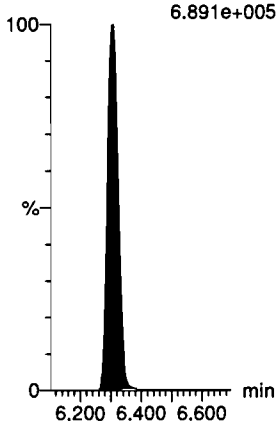
13C2-PFHxDA-RSD
F77:MRM of 1 channel,ES-
815 > 769.7
8.712e+005



d9-N-EtFOSE-RSD
F71:MRM of 1 channel,ES-
639.2 > 58.8
8.229e+005



d7-N-MeFOSE-RSD
F66:MRM of 1 channel,ES-
623.1 > 58.9
6.891e+005



Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
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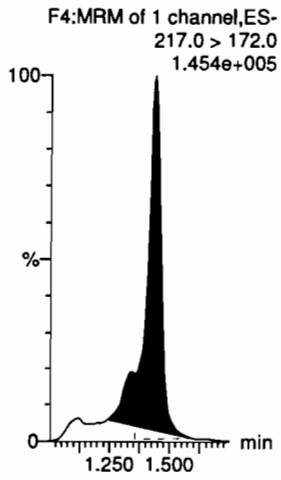
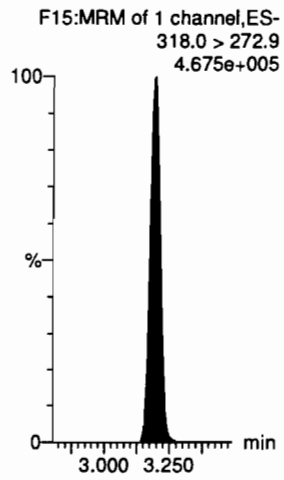
Name: 200714P1-09, Date: 14-Jul-2020, Time: 11:06:24, ID: ST200714P1-5 PFC CS2 20F1905, Description: PFC CS2 20F1905

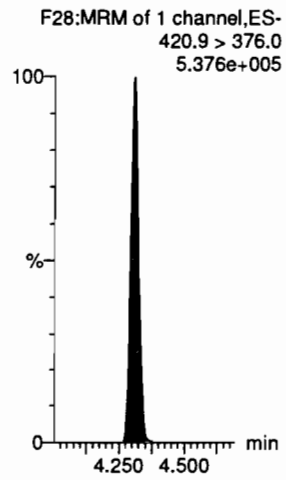
13C4-PFBA



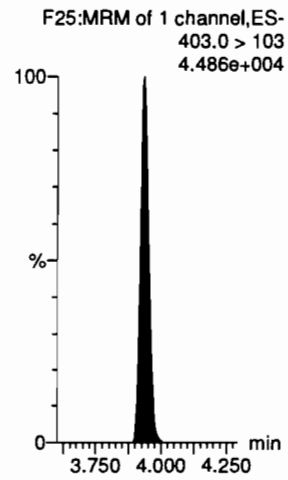
13C5-PFHxA



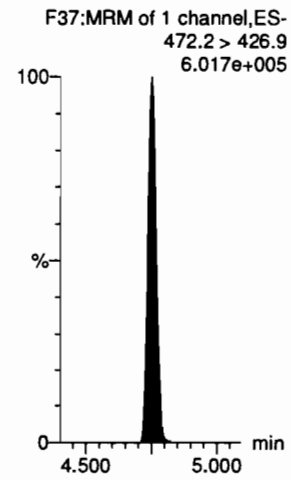
13C8-PFOA



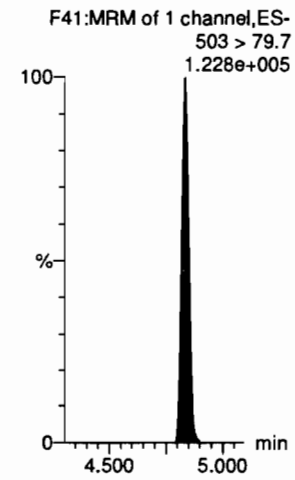
18O2-PFHxS



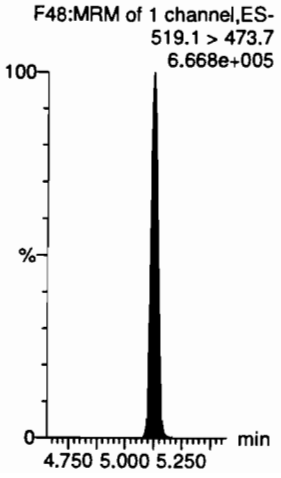
13C9-PFNA



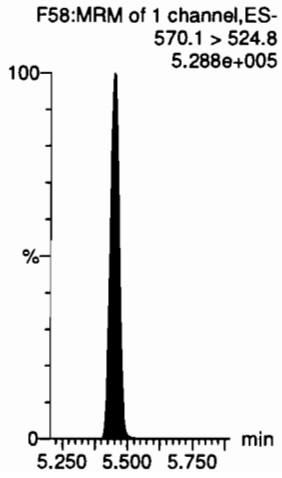
13C4-PFOS



13C6-PFDA



13C7-PFUdA



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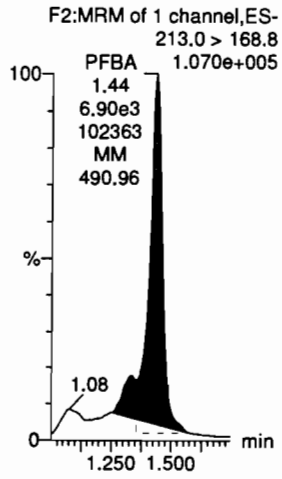
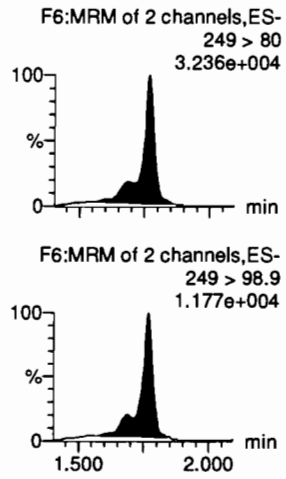
Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 16:21:31 Pacific Daylight Time

Name: 200714P1-10, Date: 14-Jul-2020, Time: 11:17:00, ID: ST200714P1-6 PFC CS3 20F1906, Description: PFC CS3 20F1906

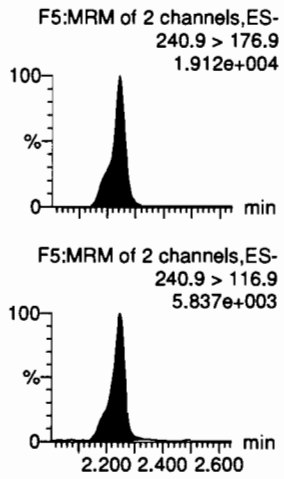
PFBA



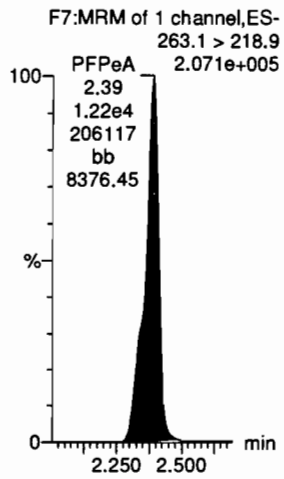
PFPrS



3:3 FTCA



PFPeA



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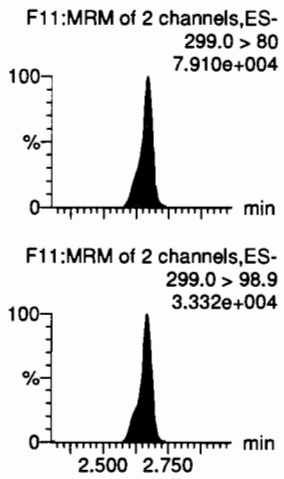
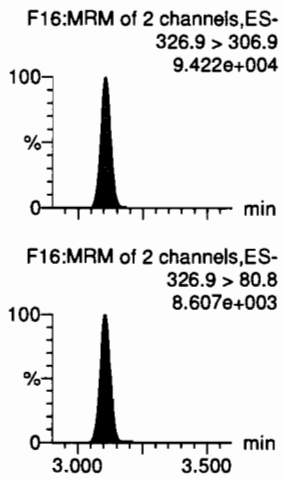
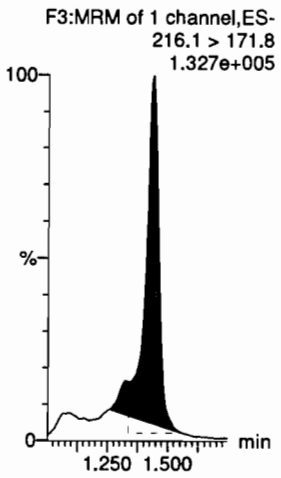


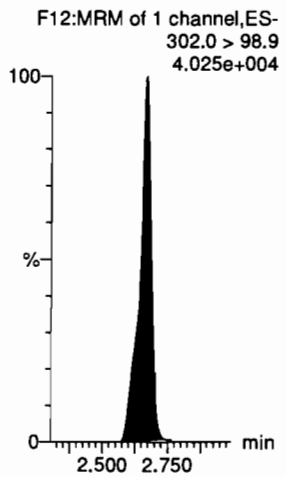
4:2 FTS



13C3-PFBA-EIS



13C3-PFBS-EIS



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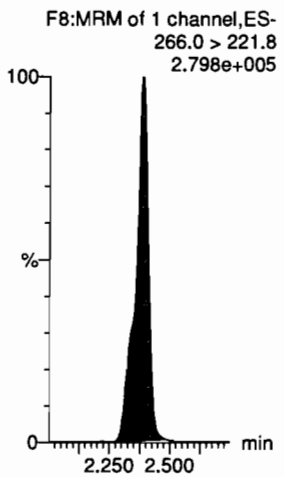

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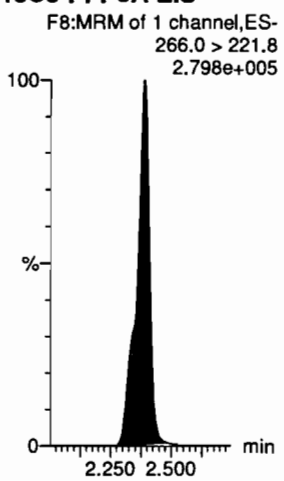

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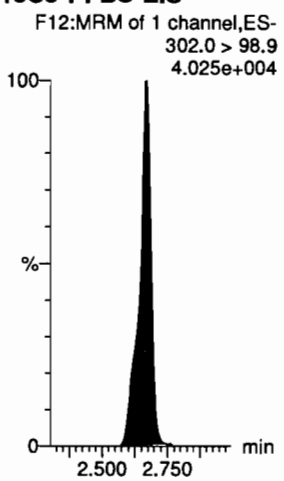
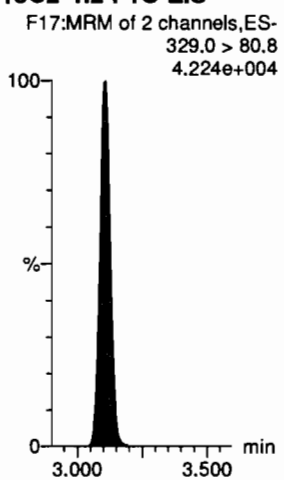


13C2-4:2 FTS-EIS

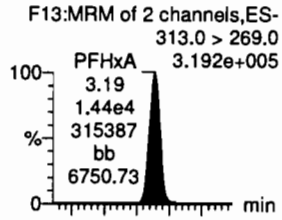


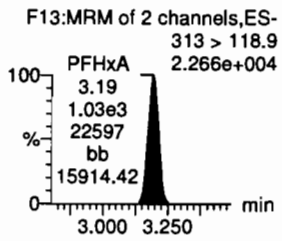
Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 16:21:31 Pacific Daylight Time

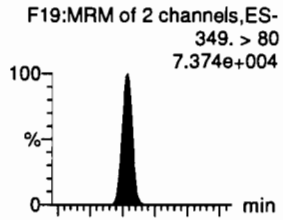
Name: 200714P1-10, Date: 14-Jul-2020, Time: 11:17:00, ID: ST200714P1-6 PFC CS3 20F1906, Description: PFC CS3 20F1906

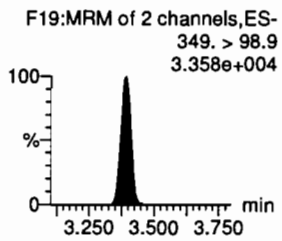
PFHxA



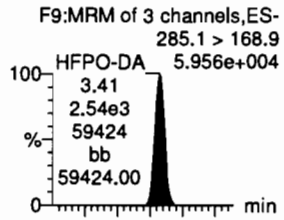


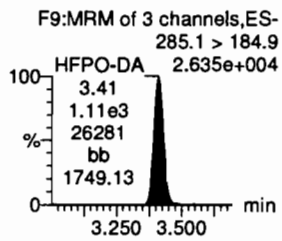
PFPeS



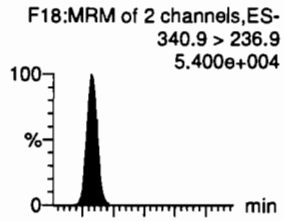


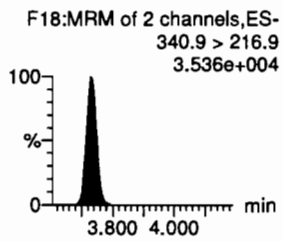
HFPO-DA



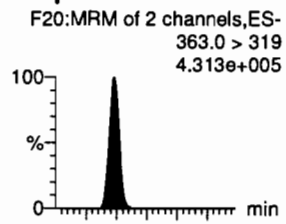


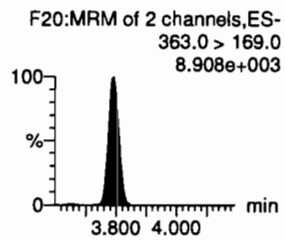
5:3 FTCA



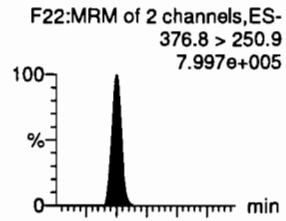


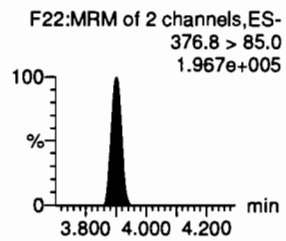
PFHpA



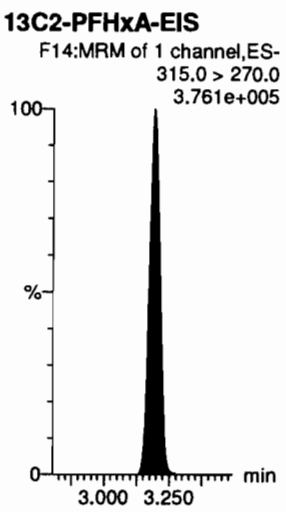


ADONA

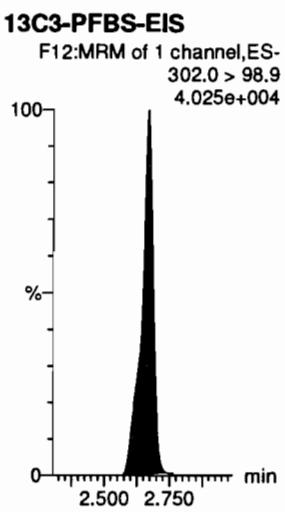




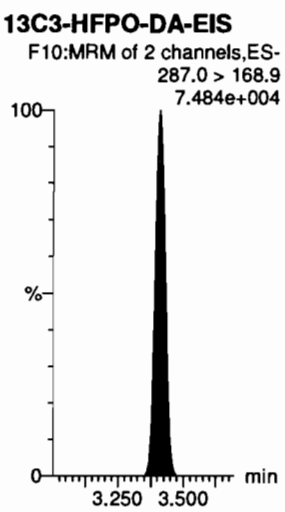
13C2-PFHxA-EIS



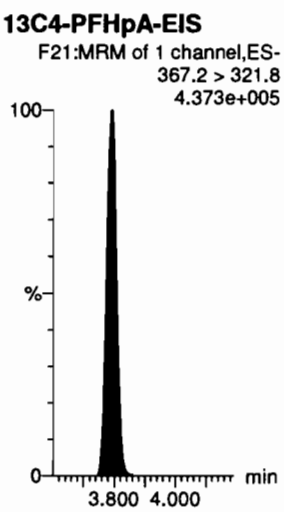
13C3-PFBS-EIS



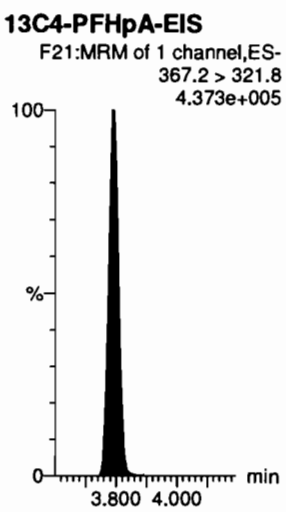
13C3-HFPO-DA-EIS



13C4-PFHpA-EIS



13C4-PFHpA-EIS



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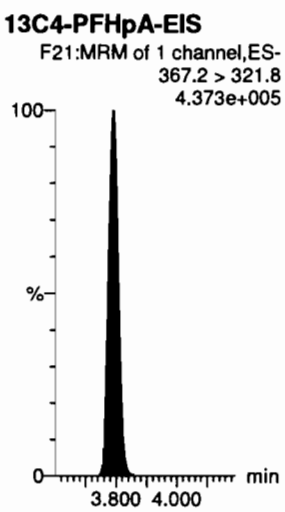

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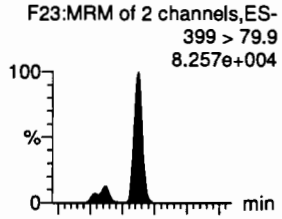
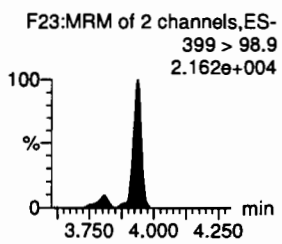
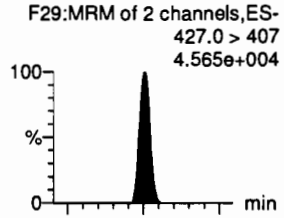
Name: 200714P1-10, Date: 14-Jul-2020, Time: 11:17:00, ID: ST200714P1-6 PFC CS3 20F1906, Description: PFC CS3 20F1906

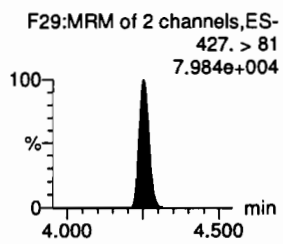
L-PFHxS



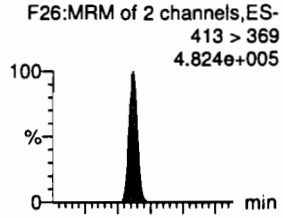


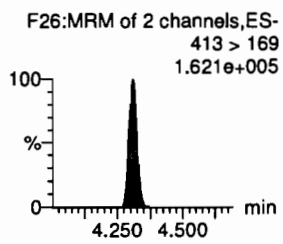
6:2 FTS



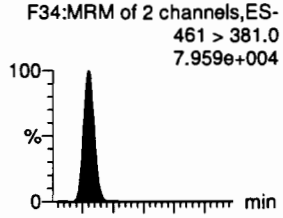


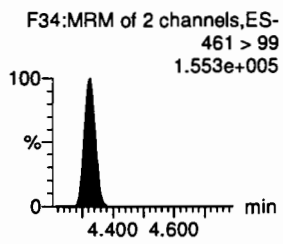
L-PFOA



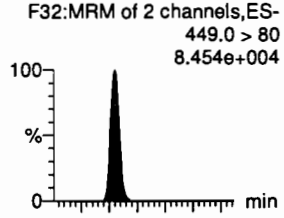


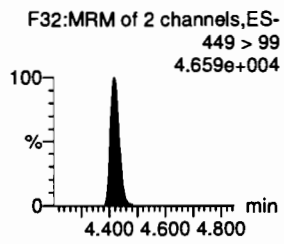
PFEChS



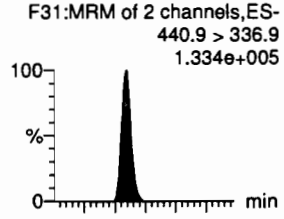


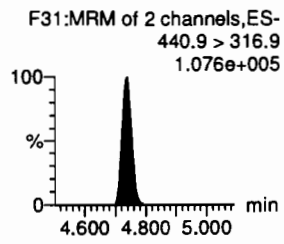
PFHpS



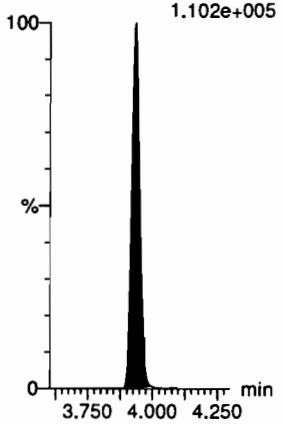


7:3 FTCA

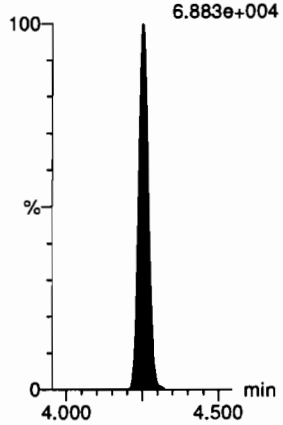




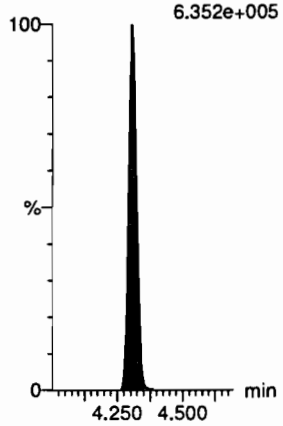
13C3-PFHxS-EIS



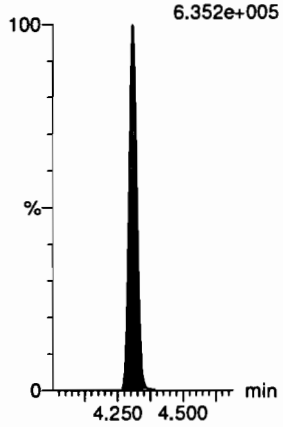
13C2-6:2 FTS-EIS



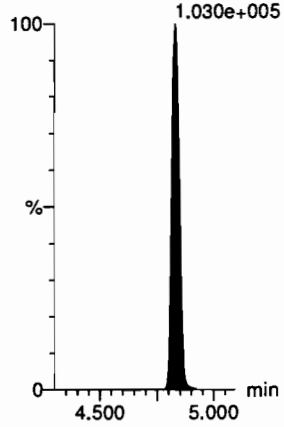
13C2-PFOA-EIS



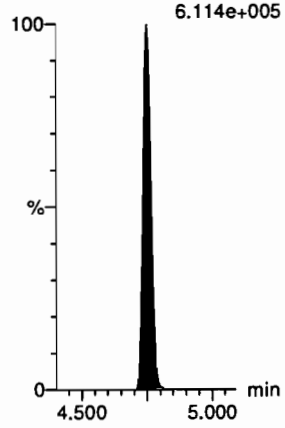
13C2-PFOA-EIS



13C8-PFOS-EIS



13C5-PFNA-EIS



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Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
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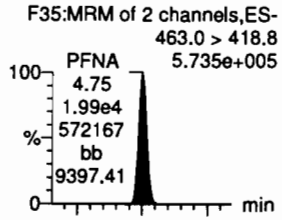
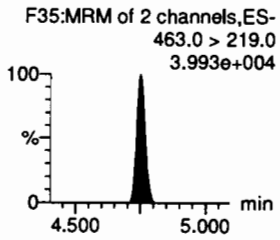
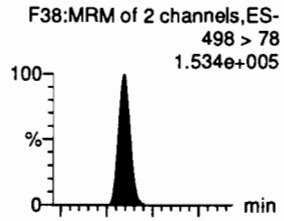
Name: 200714P1-10, Date: 14-Jul-2020, Time: 11:17:00, ID: ST200714P1-6 PFC CS3 20F1906, Description: PFC CS3 20F1906

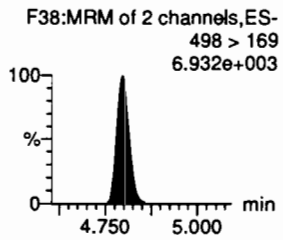
PFNA



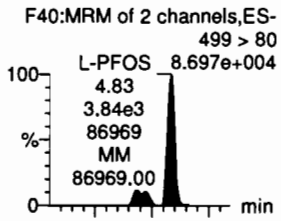


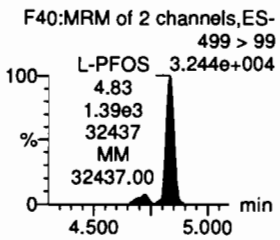
PFOSA



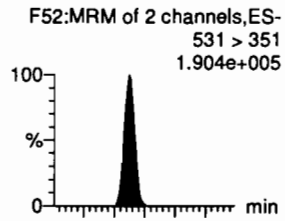


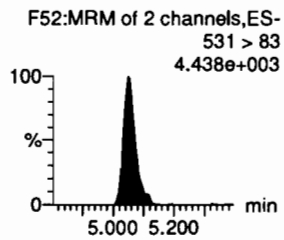
L-PFOS



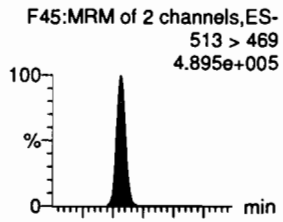


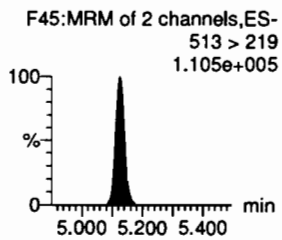
9Cl-PF30NS



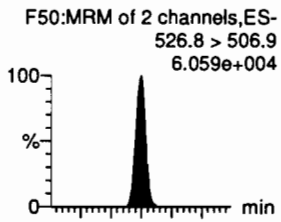


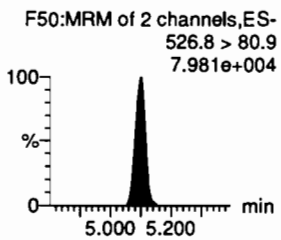
PFDA



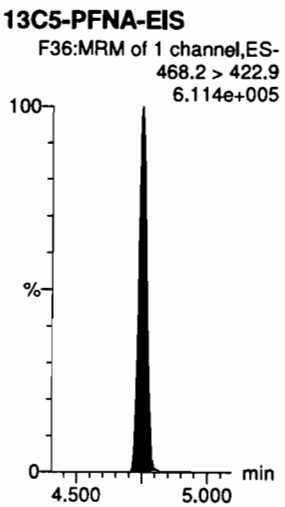


8:2 FTS

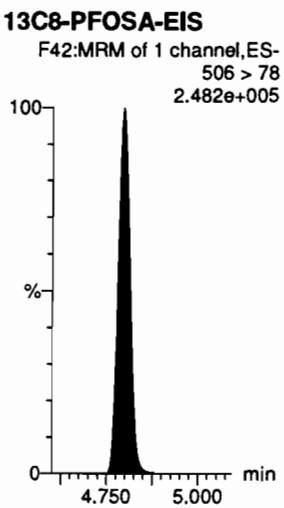




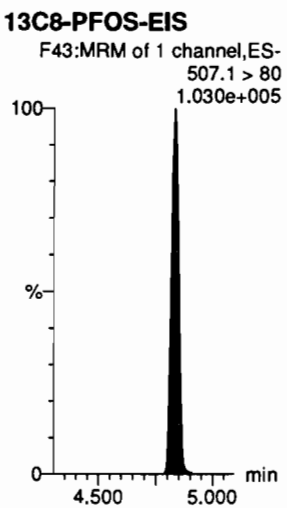
13C5-PFNA-EIS



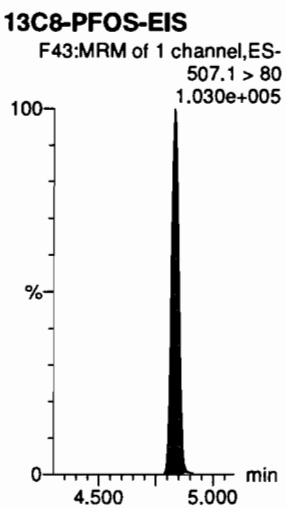
13C8-PFOSA-EIS



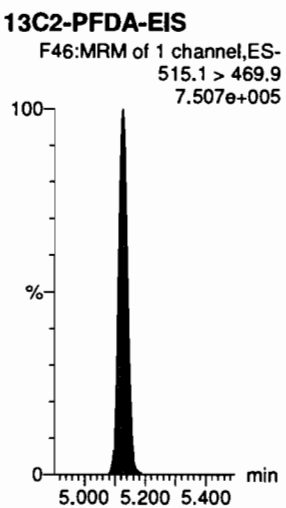
13C8-PFOS-EIS



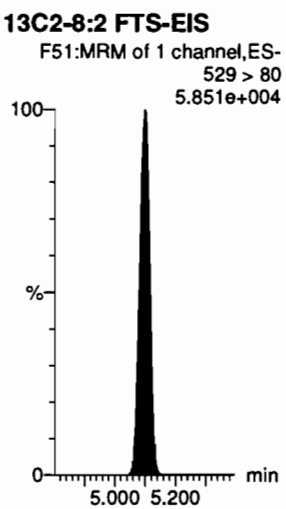
13C8-PFOS-EIS



13C2-PFDA-EIS



13C2-8:2 FTS-EIS

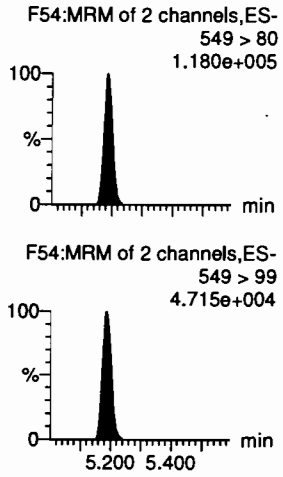


Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

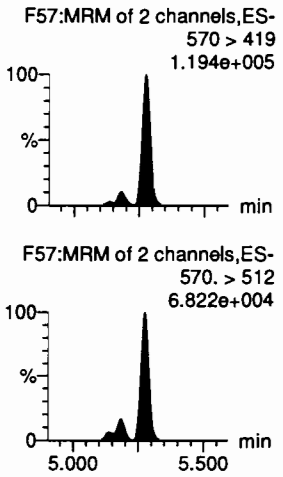
Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 16:21:31 Pacific Daylight Time

Name: 200714P1-10, Date: 14-Jul-2020, Time: 11:17:00, ID: ST200714P1-6 PFC CS3 20F1906, Description: PFC CS3 20F1906

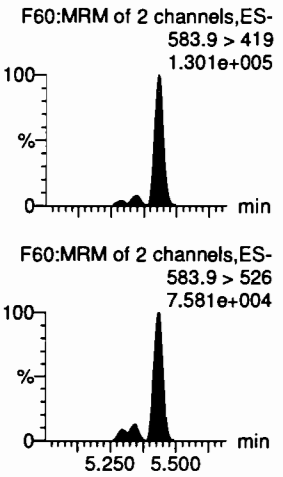
PFNS



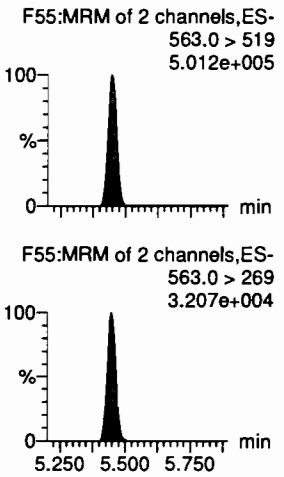
L-MeFOSAA



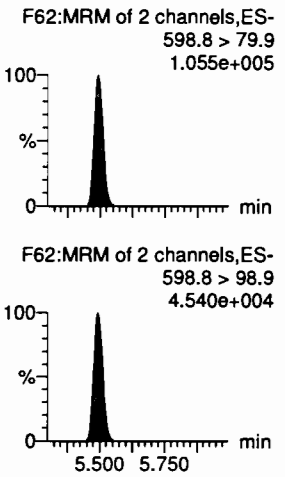
L-EtFOSAA



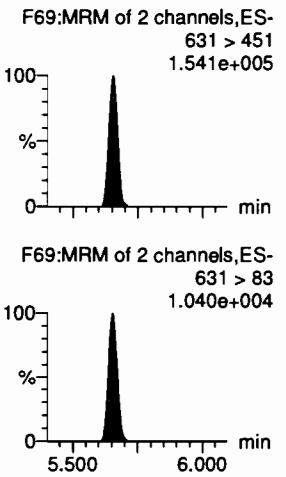
PFUdA



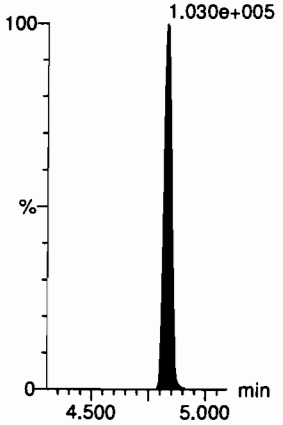
PFDS



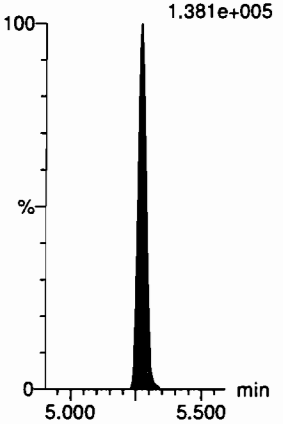
11Cl-PF30UdS



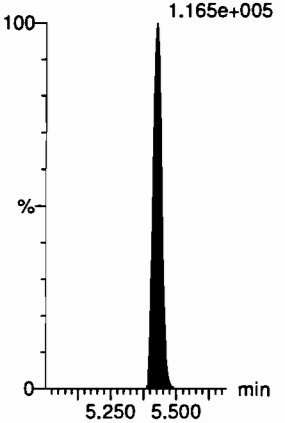
13C8-PFOS-EIS



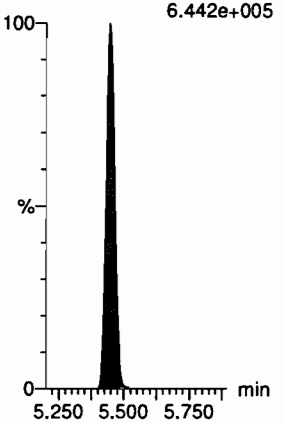
d3-N-MeFOSAA-EIS



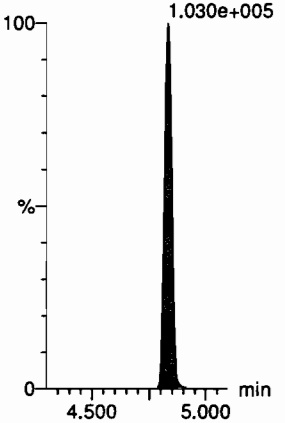
d5-N-EtFOSAA-EIS



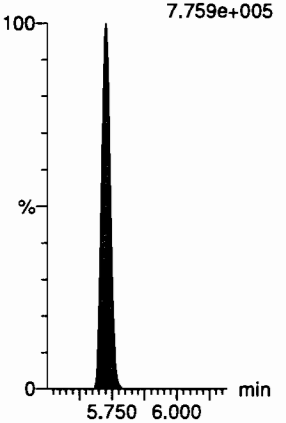
13C2-PFUdA-EIS



13C8-PFOS-EIS



13C2-PFDoA-EIS

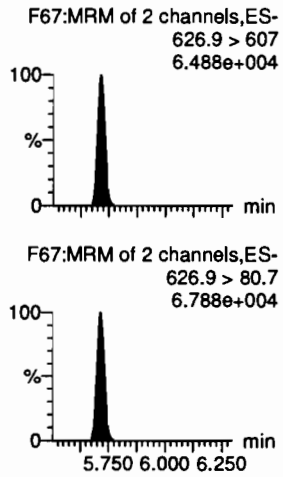


Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

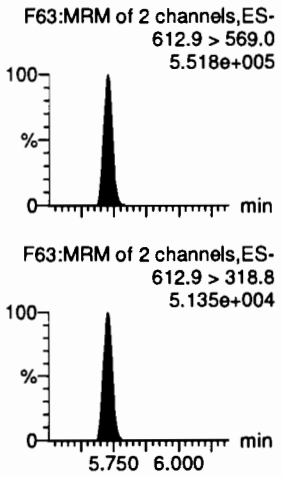
Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 16:21:31 Pacific Daylight Time

Name: 200714P1-10, Date: 14-Jul-2020, Time: 11:17:00, ID: ST200714P1-6 PFC CS3 20F1906, Description: PFC CS3 20F1906

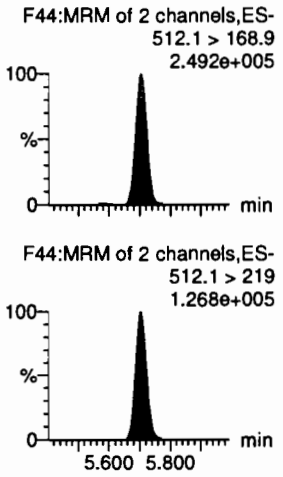
10:2 FTS



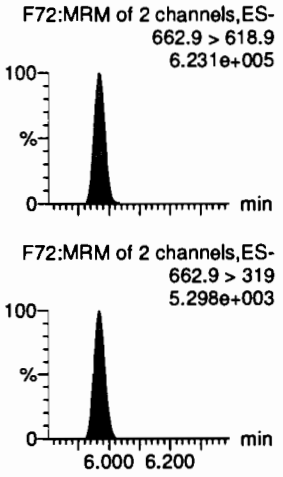
PFDoA



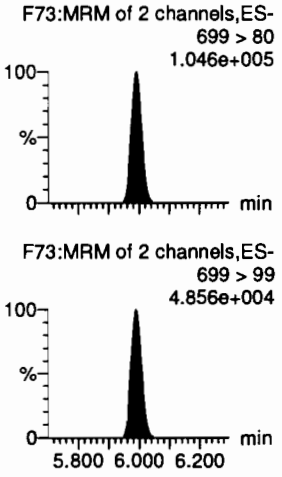
N-MeFOSA



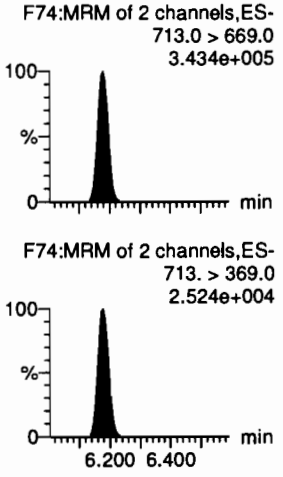
PFTrDA



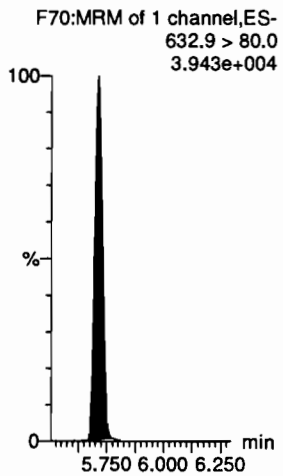
PFDoS



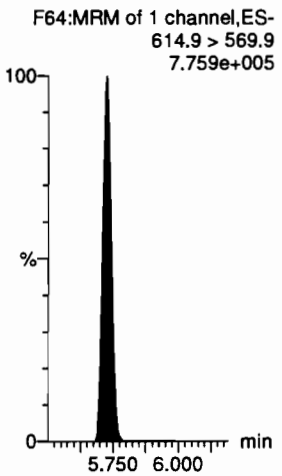
PFTeDA



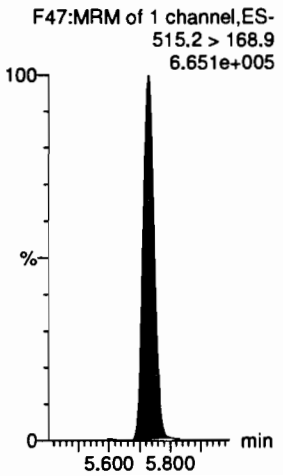
13C2-10:2 FTS-EIS



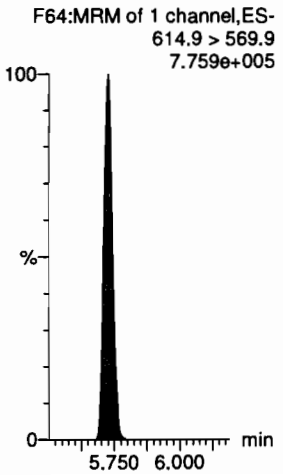
13C2-PFDoA-EIS



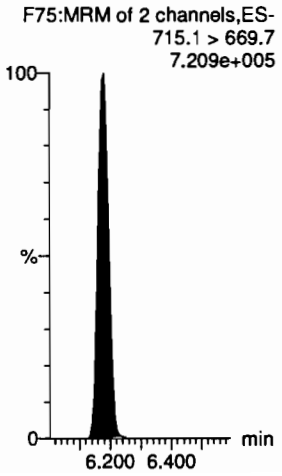
d3-N-MeFOSA-EIS



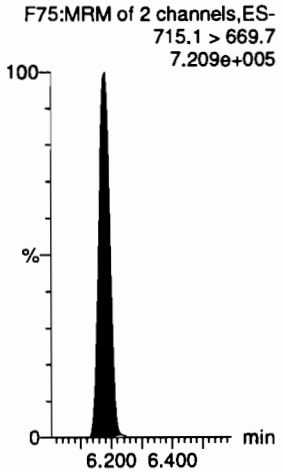
13C2-PFDoA-EIS



13C2-PFTeDA-EIS



13C2-PFTeDA-EIS

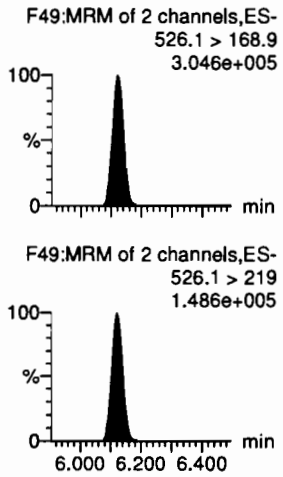


Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

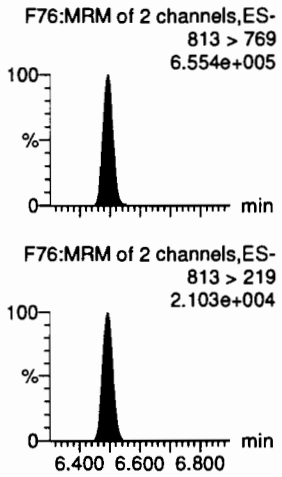
Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 16:21:31 Pacific Daylight Time

Name: 200714P1-10, Date: 14-Jul-2020, Time: 11:17:00, ID: ST200714P1-6 PFC CS3 20F1906, Description: PFC CS3 20F1906

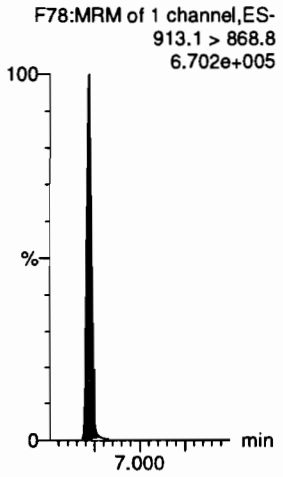
N-EtFOSA



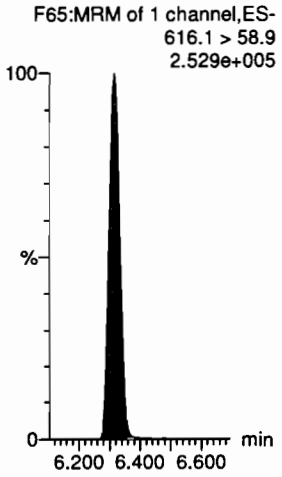
PFHxDA



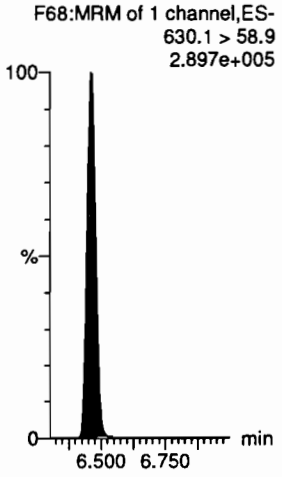
PFODA



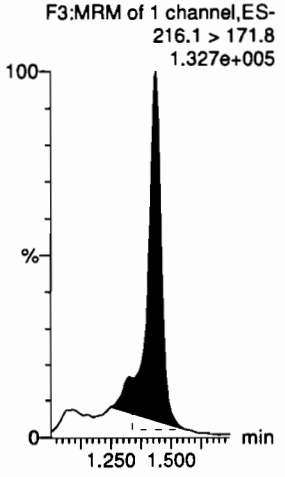
N-MeFOSE



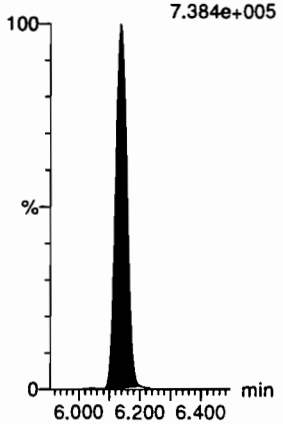
N-EtFOSE



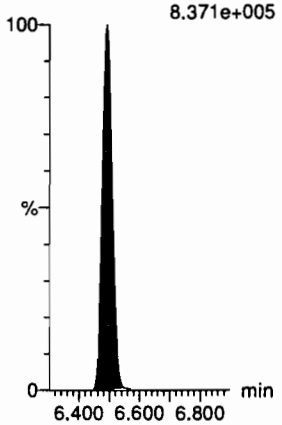
13C3-PFBA-RSD



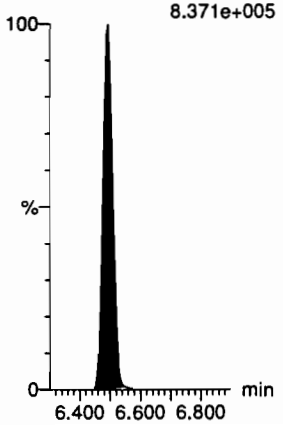
d5-N-ETFOSA-EIS



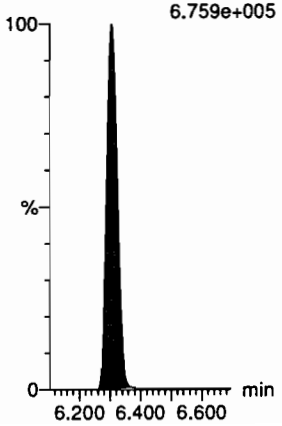
13C2-PFHxDA-EIS



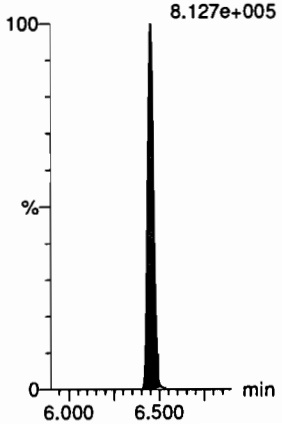
13C2-PFHxDA-EIS



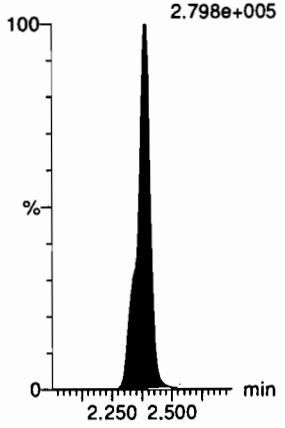
d7-N-MeFOSE-EIS



d9-N-EtFOSE-EIS



13C3-PFPeA-RSD

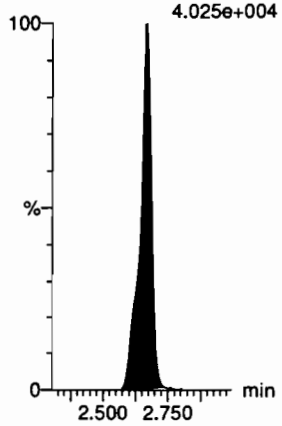


Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

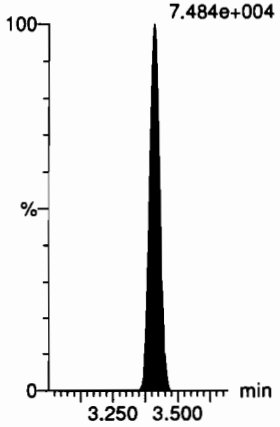
Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 16:21:31 Pacific Daylight Time

Name: 200714P1-10, Date: 14-Jul-2020, Time: 11:17:00, ID: ST200714P1-6 PFC CS3 20F1906, Description: PFC CS3 20F1906

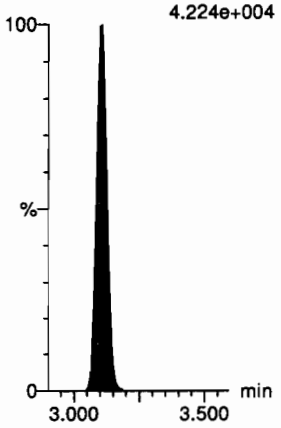
13C3-PFBS-RSD
F12:MRM of 1 channel,ES-
302.0 > 98.9
4.025e+004



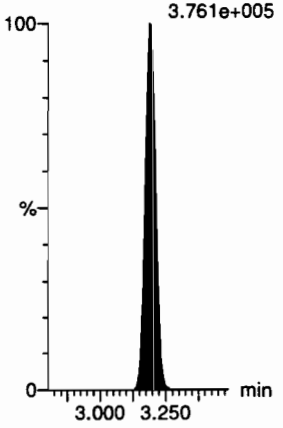
13C3-HFPO-DA-RSD
F10:MRM of 2 channels,ES-
287.0 > 168.9
7.484e+004



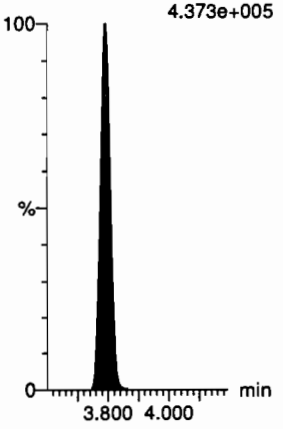
13C2-4:2 FTS-RSD
F17:MRM of 2 channels,ES-
329.0 > 80.8
4.224e+004



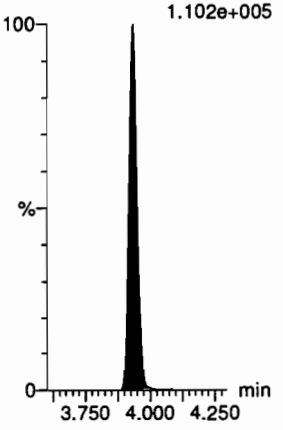
13C2-PFHxA-RSD
F14:MRM of 1 channel,ES-
315.0 > 270.0
3.761e+005



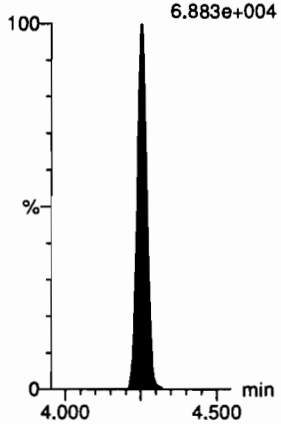
13C4-PFHpA-RSD
F21:MRM of 1 channel,ES-
367.2 > 321.8
4.373e+005



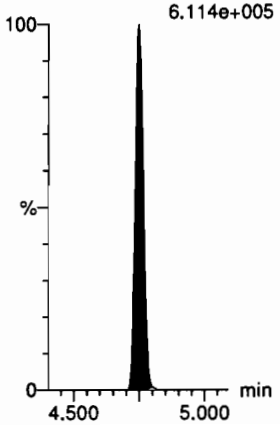
13C3-PFHxS-RSD
F24:MRM of 1 channel,ES-
402 > 80
1.102e+005



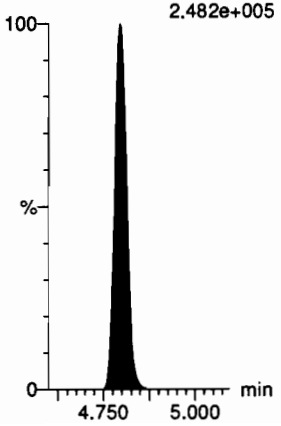
13C2-6:2 FTS-RSD
F30:MRM of 1 channel,ES-
429.0 > 79.7
6.883e+004



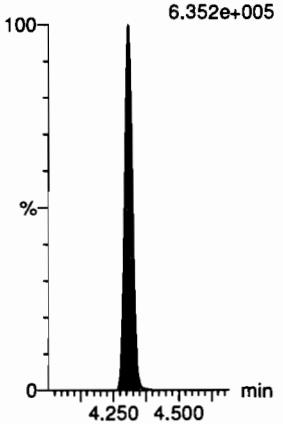
13C5-PFNA-RSD
F36:MRM of 1 channel,ES-
468.2 > 422.9
6.114e+005



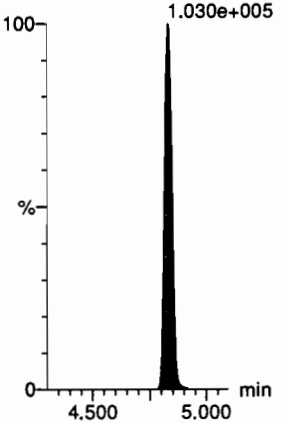
13C8-PFOSA-RSD
F42:MRM of 1 channel,ES-
506 > 78
2.482e+005



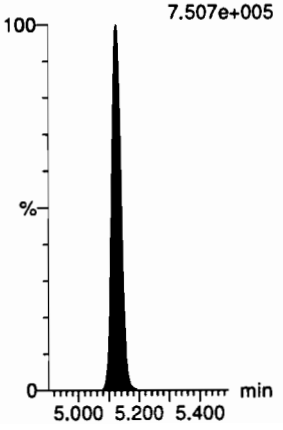
13C2-PFOA-RSD
F27:MRM of 1 channel,ES-
414.9 > 369.7
6.352e+005



13C8-PFOS-RSD
F43:MRM of 1 channel,ES-
507.1 > 80
1.030e+005



13C2-PFDA-RSD
F46:MRM of 1 channel,ES-
515.1 > 469.9
7.507e+005

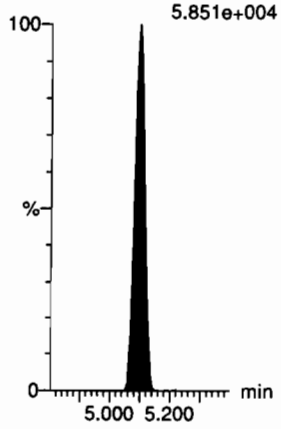


Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

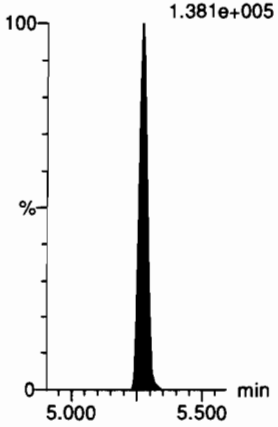
Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 16:21:31 Pacific Daylight Time

Name: 200714P1-10, Date: 14-Jul-2020, Time: 11:17:00, ID: ST200714P1-6 PFC CS3 20F1906, Description: PFC CS3 20F1906

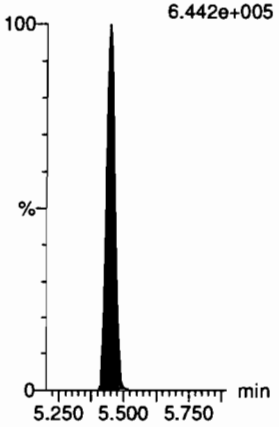
13C2-8:2 FTS-RSD
F51:MRM of 1 channel,ES-
529 > 80
5.851e+004



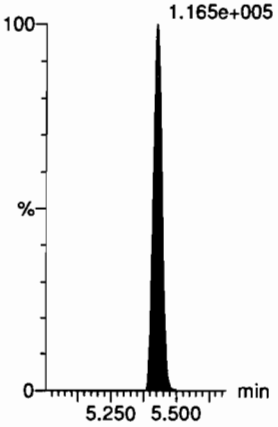
d3-N-MeFOSAA-RSD
F59:MRM of 1 channel,ES-
573.1 > 419
1.381e+005



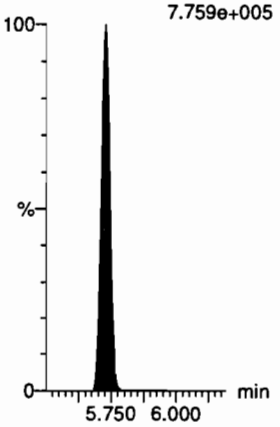
13C2-PFUdA-RSD
F56:MRM of 1 channel,ES-
565 > 519.8
6.442e+005



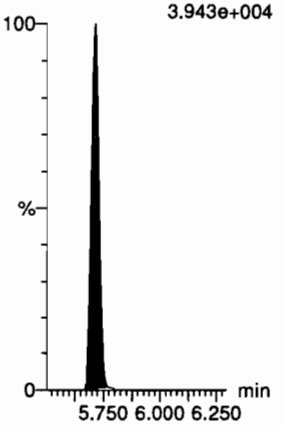
d5-N-EtFOSAA-RSD
F61:MRM of 1 channel,ES-
589.3 > 419
1.165e+005



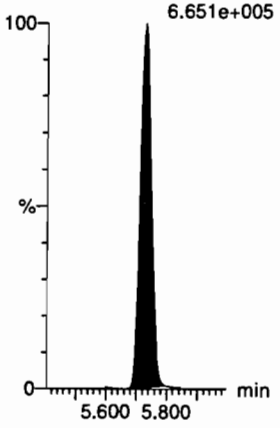
13C2-PFDoA-RSD
F64:MRM of 1 channel,ES-
614.9 > 569.9
7.759e+005



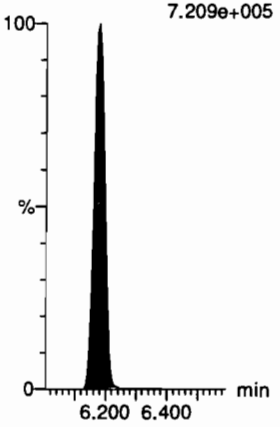
13C2-10:2 FTS-RSD
F70:MRM of 1 channel,ES-
632.9 > 80.0
3.943e+004



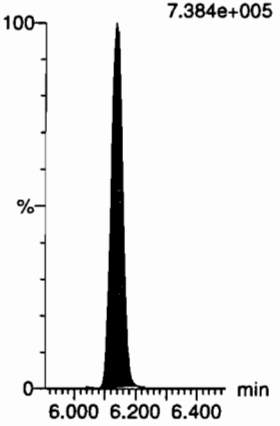
d3-N-MeFOSA-RSD
F47:MRM of 1 channel,ES-
515.2 > 168.9
6.651e+005



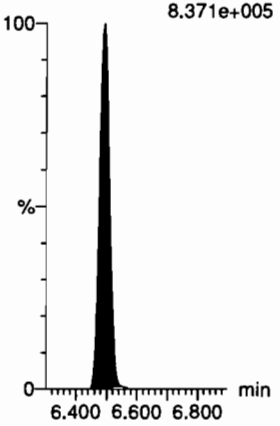
13C2-PFTeDA-RSD
F75:MRM of 2 channels,ES-
715.1 > 669.7
7.209e+005



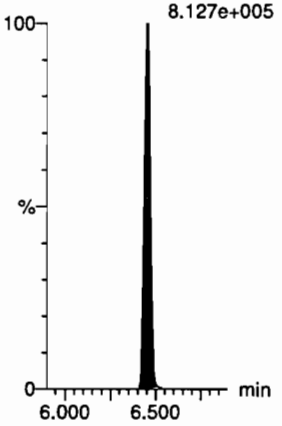
d5-N-ETFOSA-RSD
F53:MRM of 1 channel,ES-
531.1 > 168.9
7.384e+005



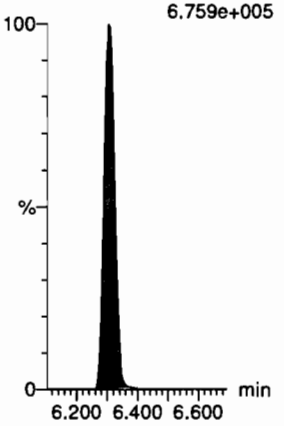
13C2-PFHxDA-RSD
F77:MRM of 1 channel,ES-
815 > 769.7
8.371e+005



d9-N-EtFOSE-RSD
F71:MRM of 1 channel,ES-
639.2 > 58.8
8.127e+005



d7-N-MeFOSE-RSD
F66:MRM of 1 channel,ES-
623.1 > 58.9
6.759e+005

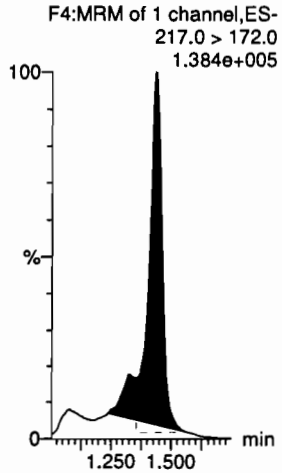


Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

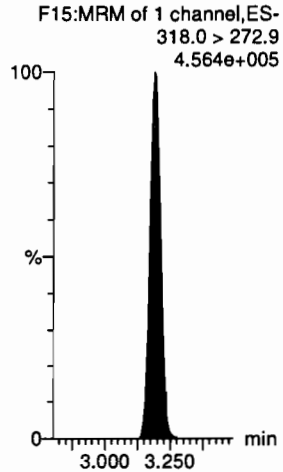
Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 16:21:31 Pacific Daylight Time

Name: 200714P1-10, Date: 14-Jul-2020, Time: 11:17:00, ID: ST200714P1-6 PFC CS3 20F1906, Description: PFC CS3 20F1906

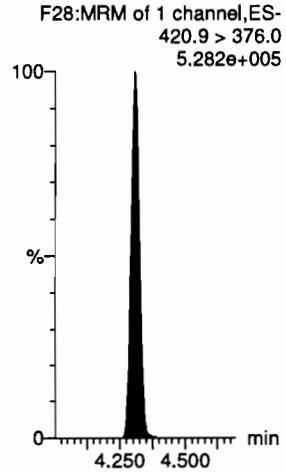
13C4-PFBA



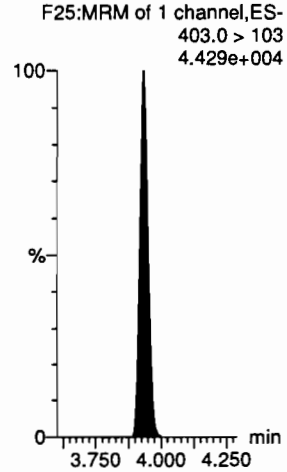
13C5-PFHxA



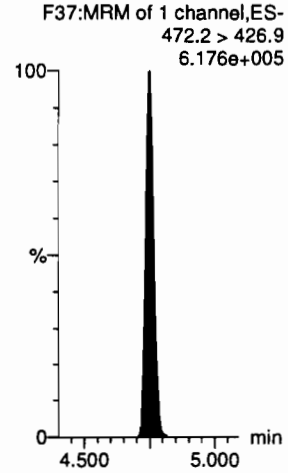
13C8-PFOA



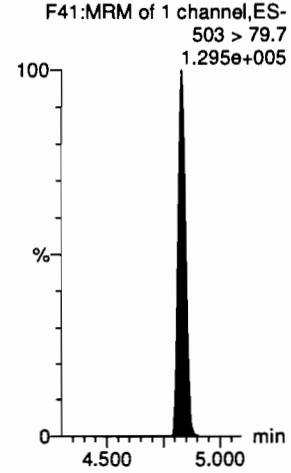
18O2-PFHxS



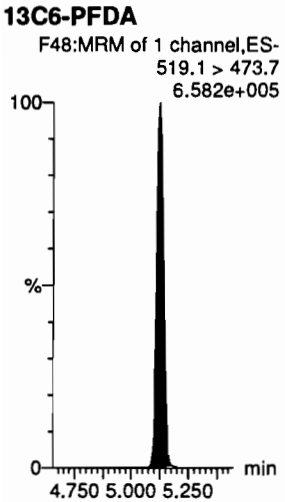
13C9-PFNA



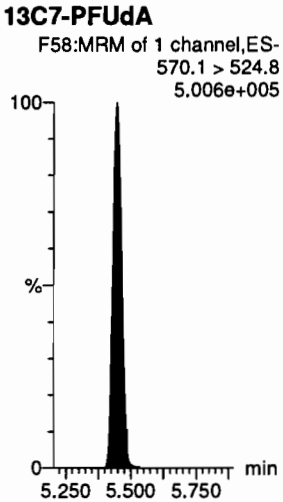
13C4-PFOS



13C6-PFDA



13C7-PFUdA



Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
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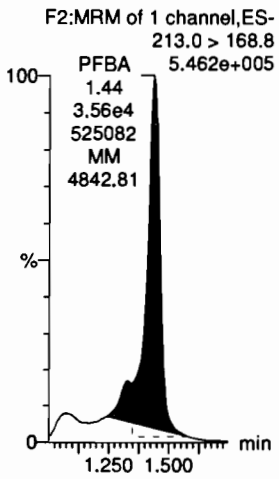
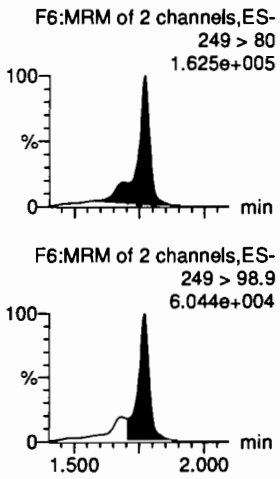
Name: 200714P1-11, Date: 14-Jul-2020, Time: 11:27:36, ID: ST200714P1-7 PFC CS4 20F1907, Description: PFC CS4 20F1907

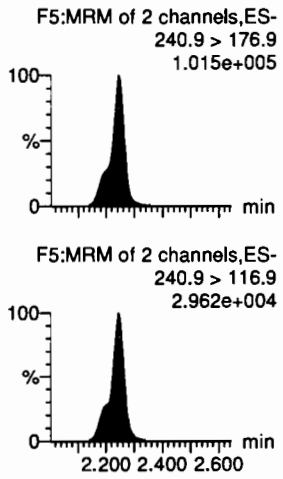
PFBA



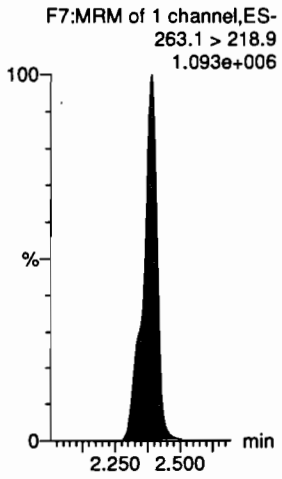
PFPrS



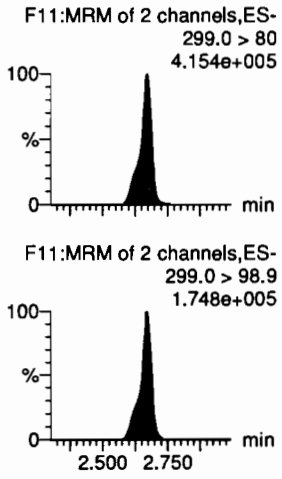
3:3 FTCA



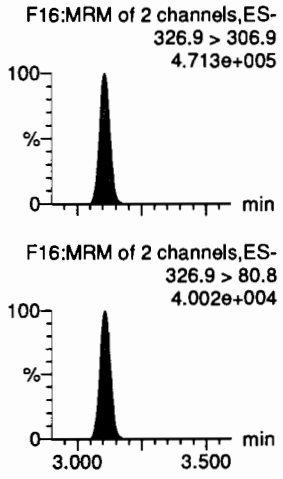
PFPeA



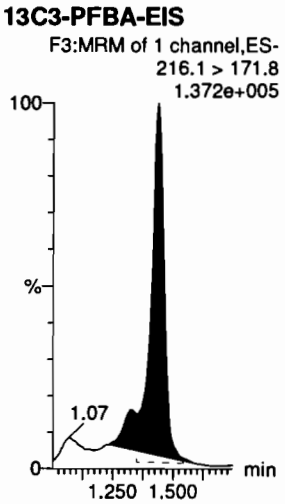
PFBS



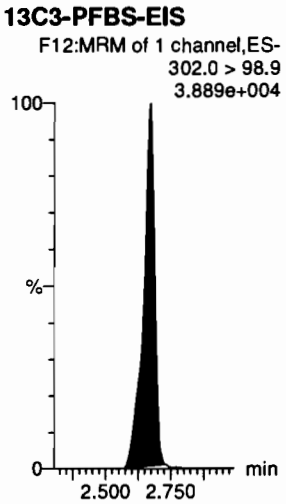
4:2 FTS



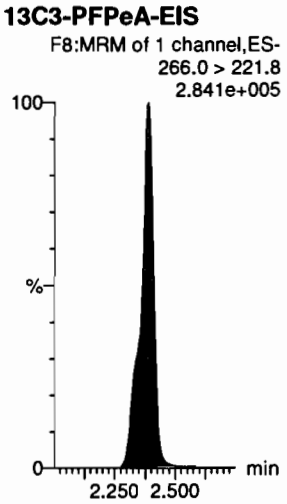
13C3-PFBA-EIS



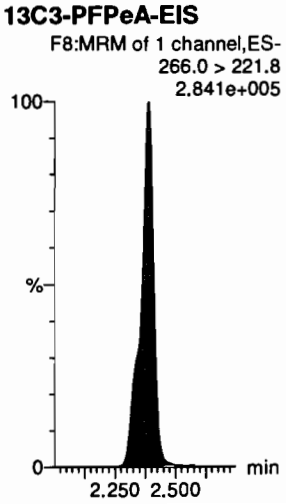
13C3-PFBS-EIS



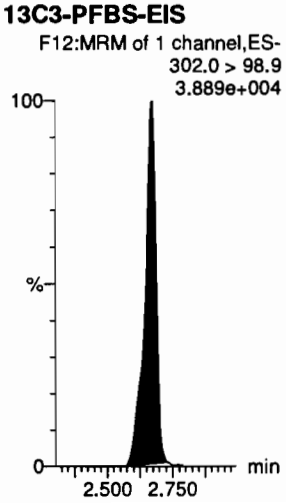
13C3-PFPeA-EIS



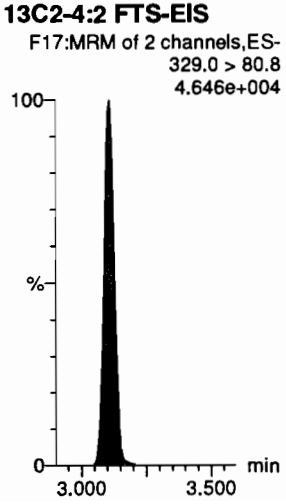
13C3-PFPeA-EIS



13C3-PFBS-EIS



13C2-4:2 FTS-EIS

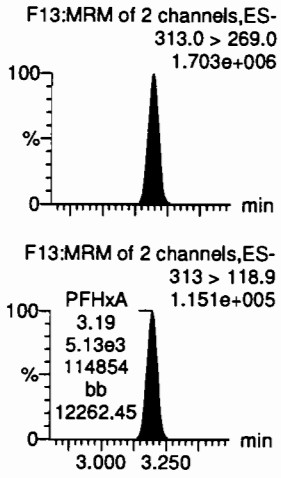


Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

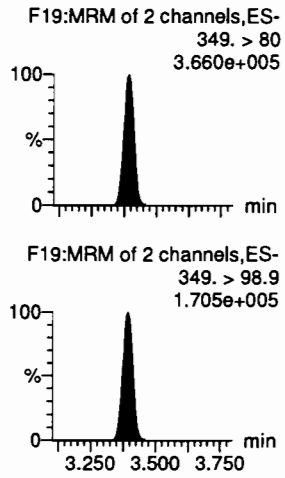
Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 16:21:31 Pacific Daylight Time

Name: 200714P1-11, Date: 14-Jul-2020, Time: 11:27:36, ID: ST200714P1-7 PFC CS4 20F1907, Description: PFC CS4 20F1907

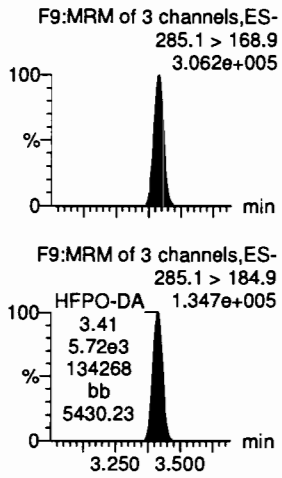
PFHxA



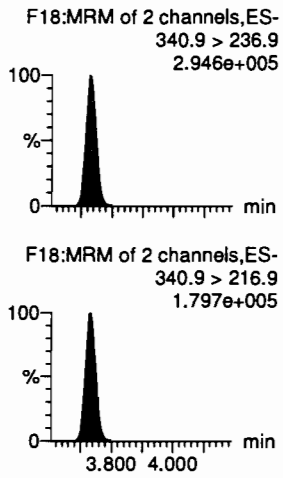
PFPeS



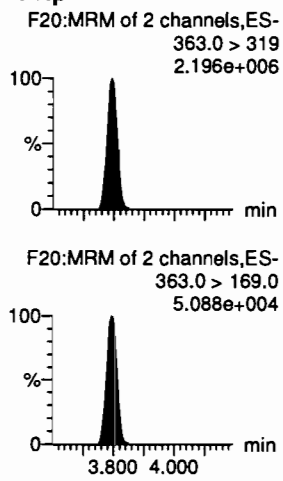
HFPO-DA



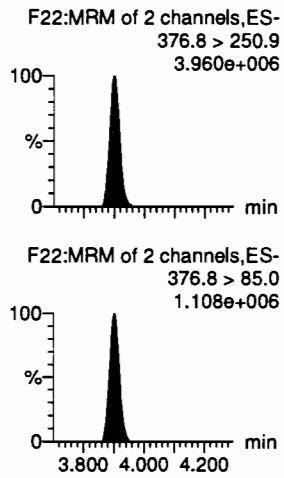
5:3 FTCA



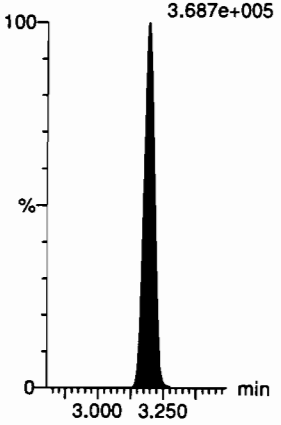
PFHpA



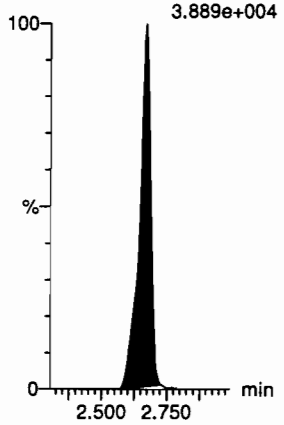
ADONA



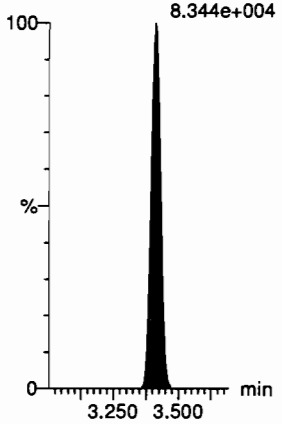
13C2-PFHxA-EIS



13C3-PFBS-EIS



13C3-HFPO-DA-EIS



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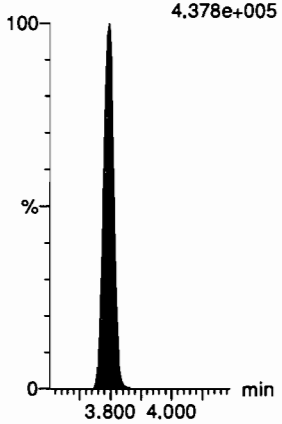

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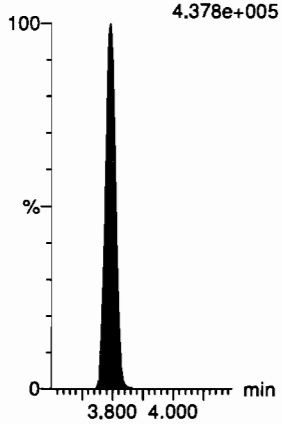

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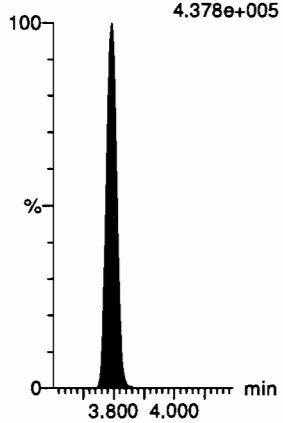

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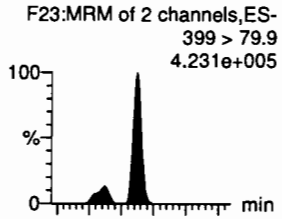
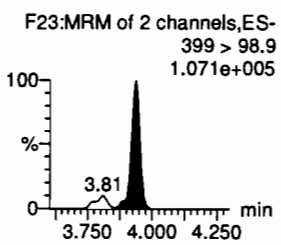
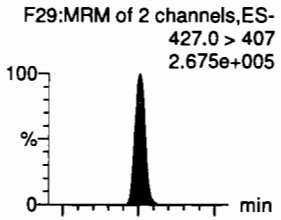
Name: 200714P1-11, Date: 14-Jul-2020, Time: 11:27:36, ID: ST200714P1-7 PFC CS4 20F1907, Description: PFC CS4 20F1907

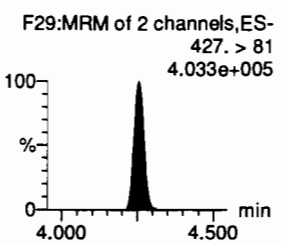
L-PFHxS





6:2 FTS





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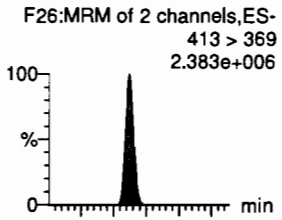

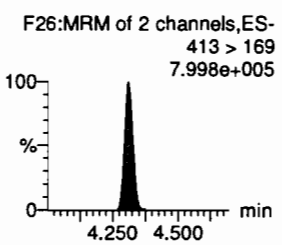

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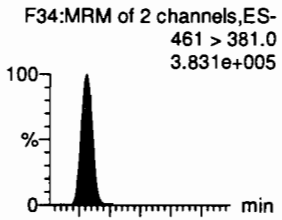

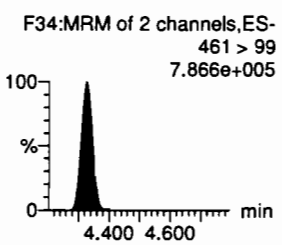

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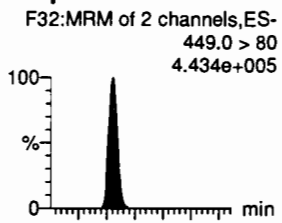

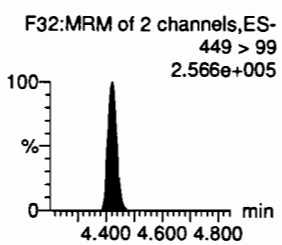

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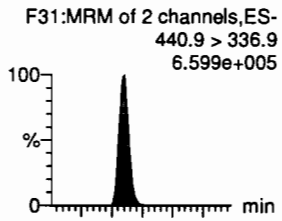
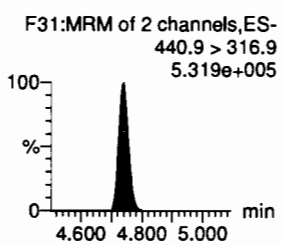
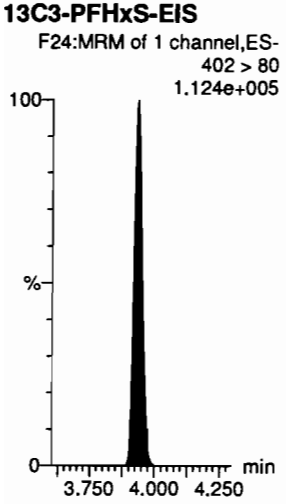
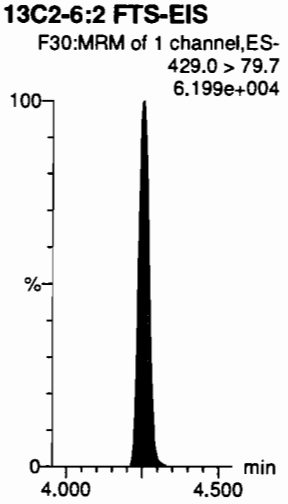




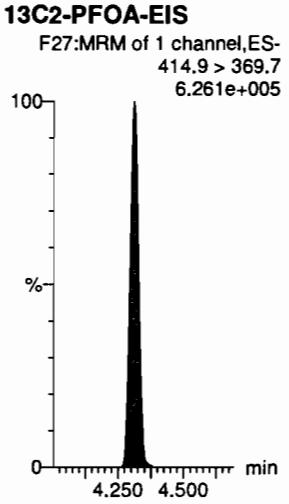
13C3-PFHxS-EIS



13C2-6:2 FTS-EIS



13C2-PFOA-EIS



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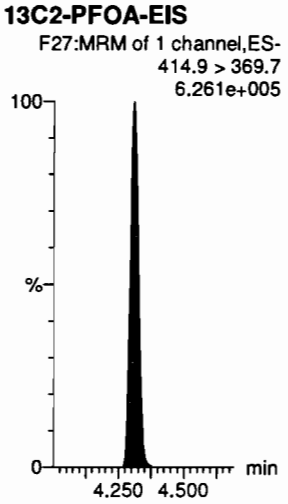
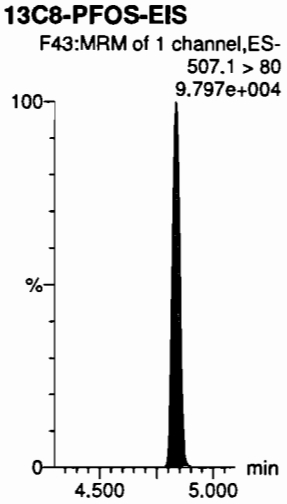
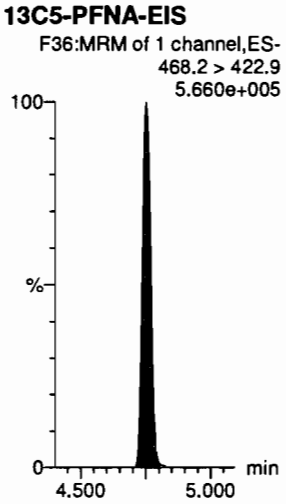


13C8-PFOS-EIS



13C5-PFNA-EIS



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Name: 200714P1-11, Date: 14-Jul-2020, Time: 11:27:36, ID: ST200714P1-7 PFC CS4 20F1907, Description: PFC CS4 20F1907

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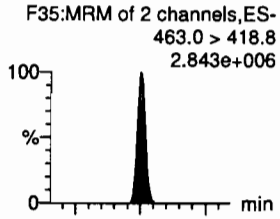

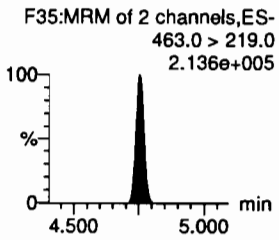

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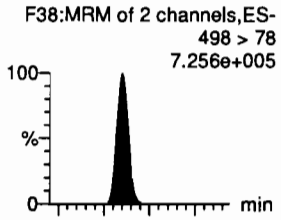

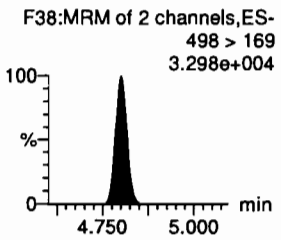

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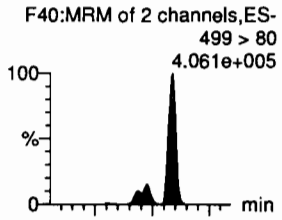

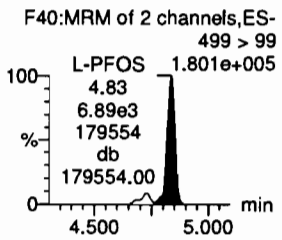

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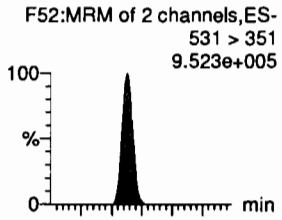

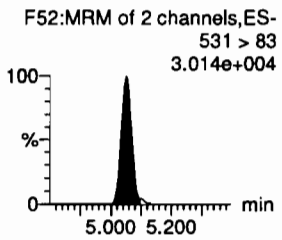

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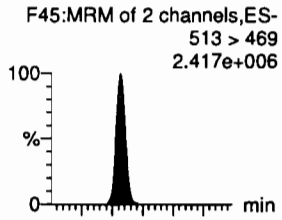
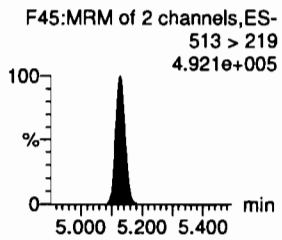
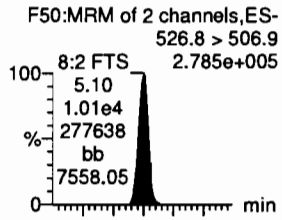
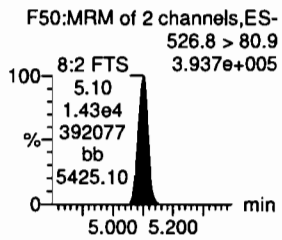


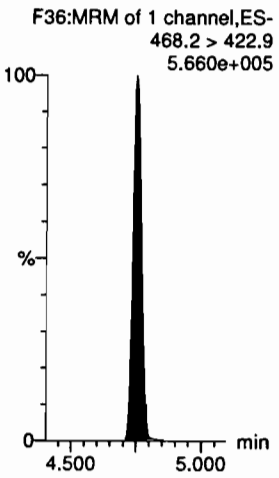


8:2 FTS





13C5-PFNA-EIS



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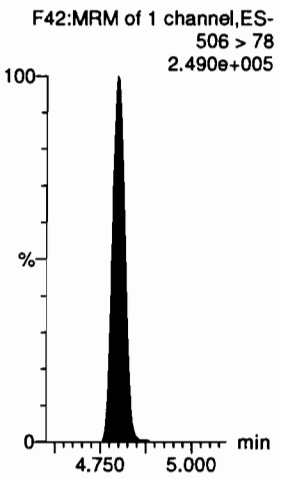

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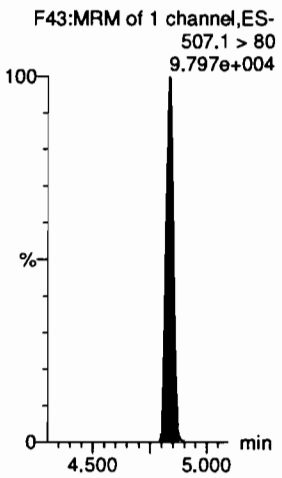

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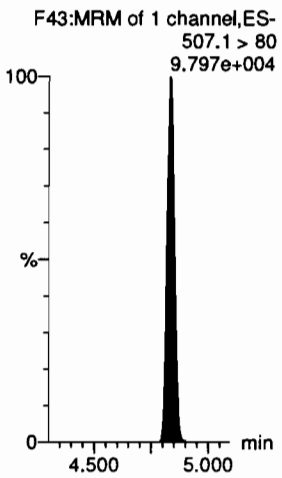

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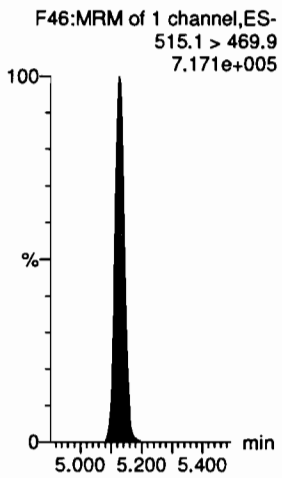

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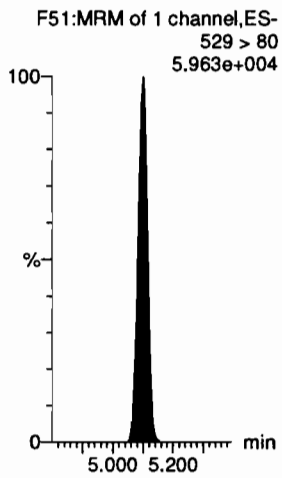

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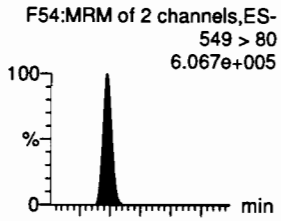
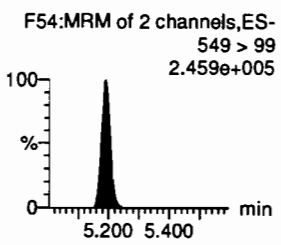
Name: 200714P1-11, Date: 14-Jul-2020, Time: 11:27:36, ID: ST200714P1-7 PFC CS4 20F1907, Description: PFC CS4 20F1907

PFNS





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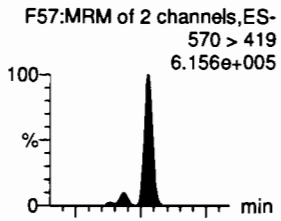
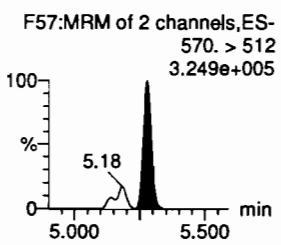
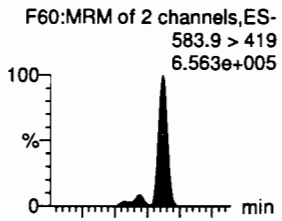
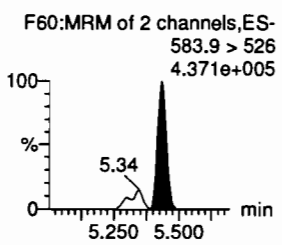




L-EtFOSAA





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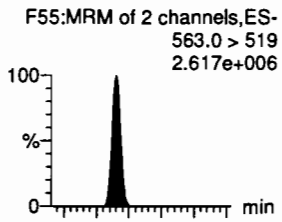
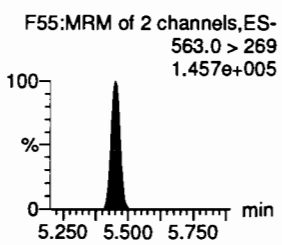
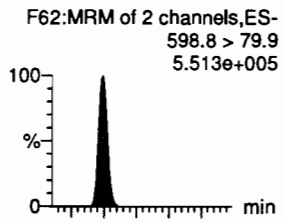
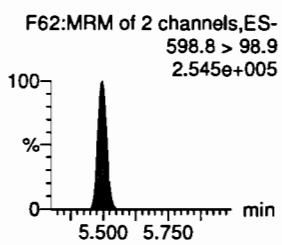


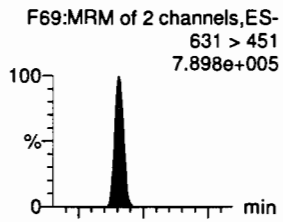


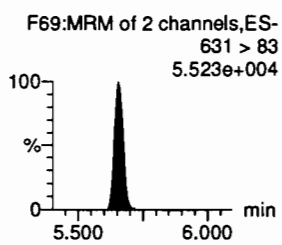
PFDS



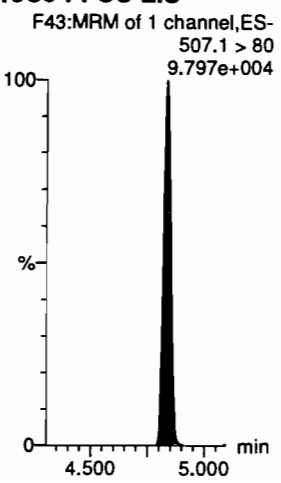


11Cl-PF30UdS

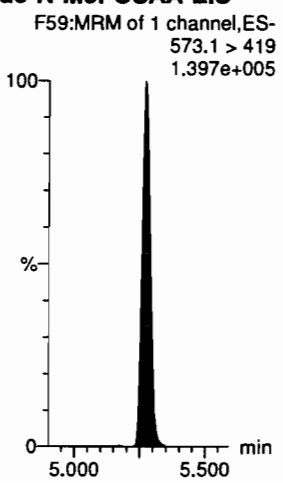




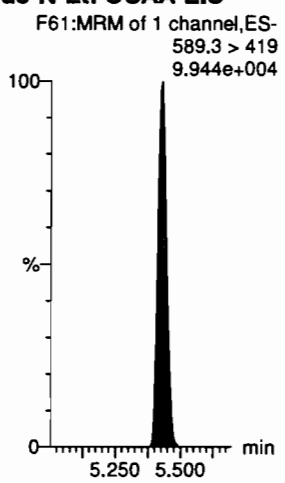
13C8-PFOS-EIS



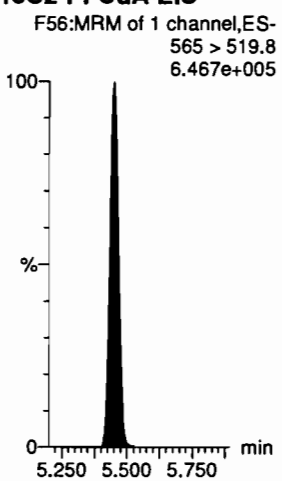
d3-N-MeFOSAA-EIS



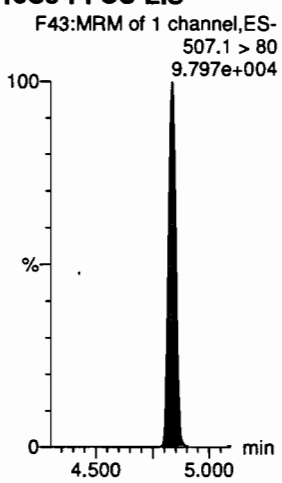
d5-N-EtFOSAA-EIS



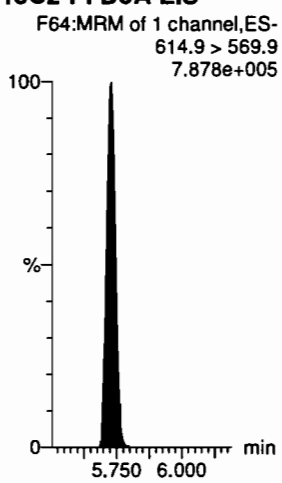
13C2-PFUdA-EIS



13C8-PFOS-EIS



13C2-PFDoA-EIS

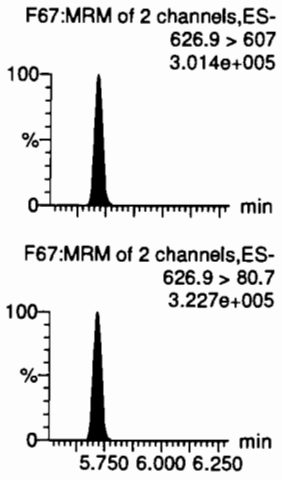


Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

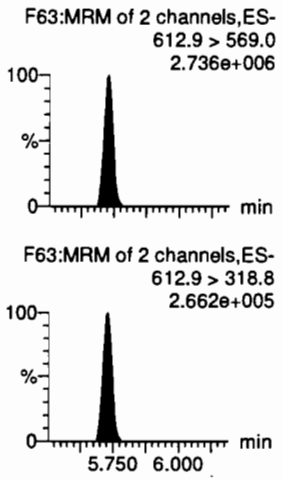
Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 16:21:31 Pacific Daylight Time

Name: 200714P1-11, Date: 14-Jul-2020, Time: 11:27:36, ID: ST200714P1-7 PFC CS4 20F1907, Description: PFC CS4 20F1907

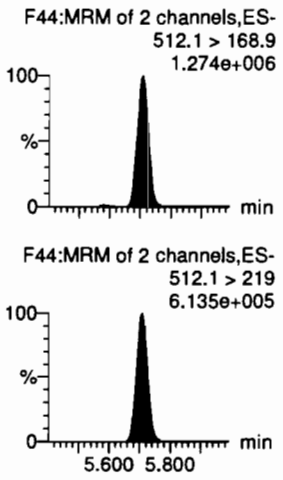
10:2 FTS



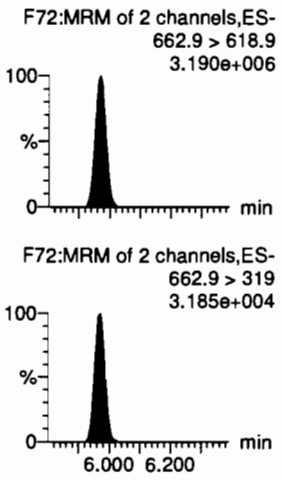
PFDoA



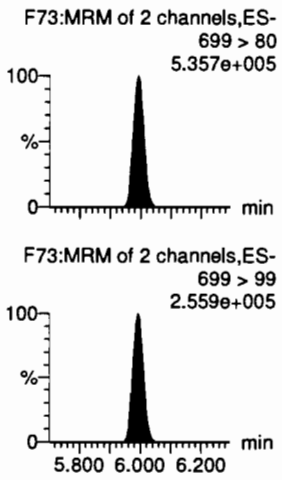
N-MeFOSA



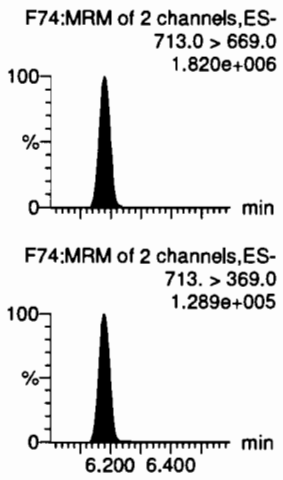
PFTrDA



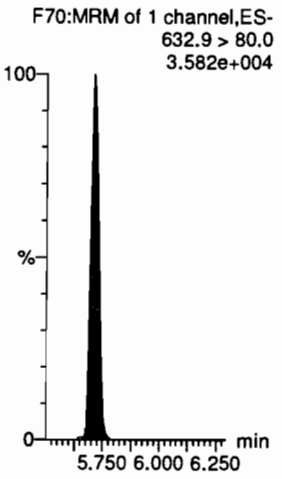
PFDoS



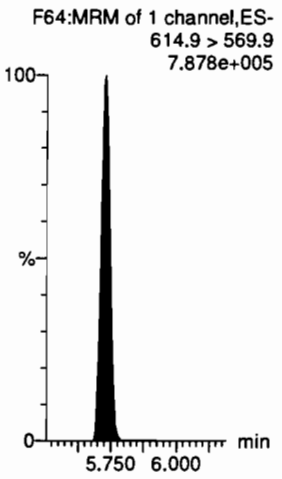
PFTeDA



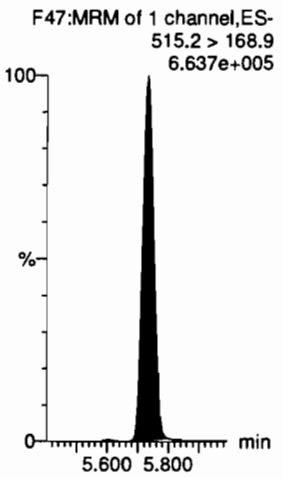
13C2-10:2 FTS-EIS



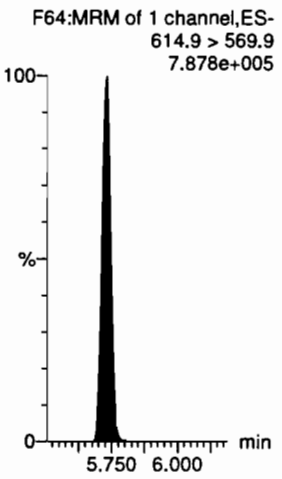
13C2-PFDoA-EIS



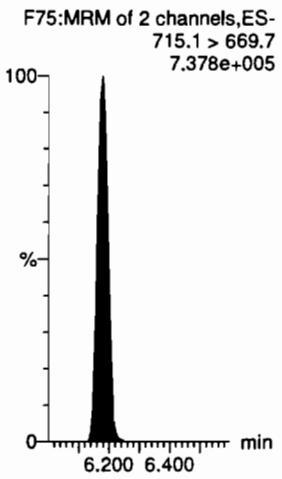
d3-N-MeFOSA-EIS



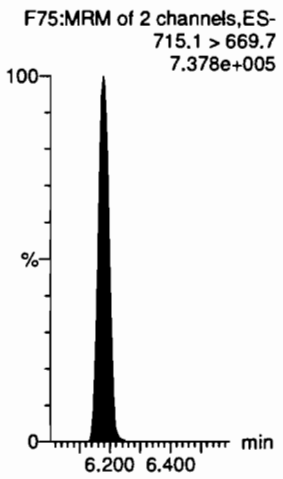
13C2-PFDoA-EIS



13C2-PFTeDA-EIS



13C2-PFTeDA-EIS



Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
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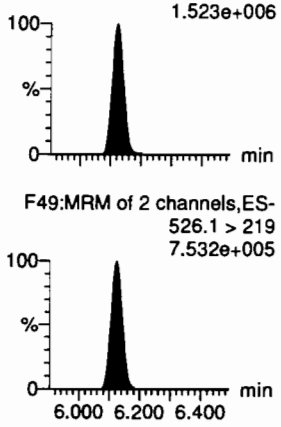
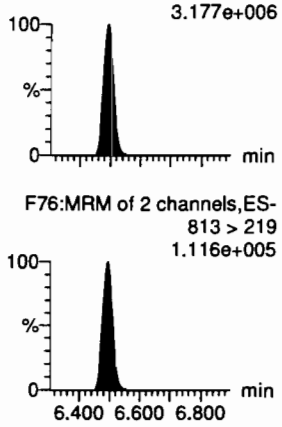
Name: 200714P1-11, Date: 14-Jul-2020, Time: 11:27:36, ID: ST200714P1-7 PFC CS4 20F1907, Description: PFC CS4 20F1907

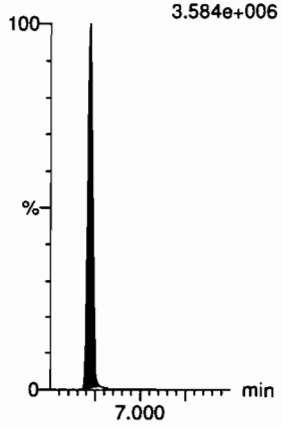
N-EtFOSA



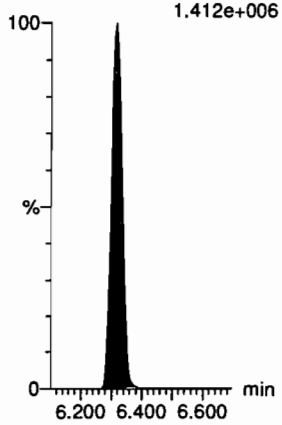
PFHxDA



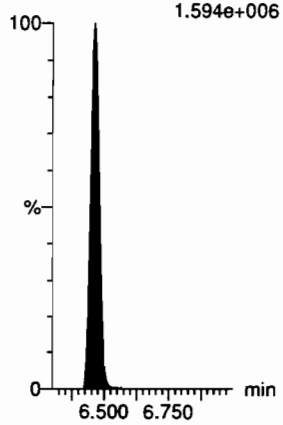
PFODA



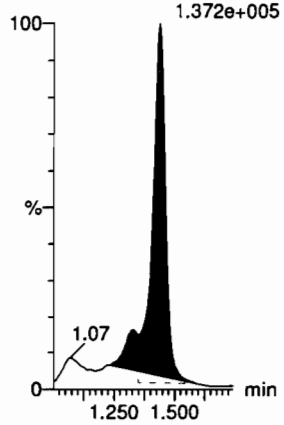
N-MeFOSE



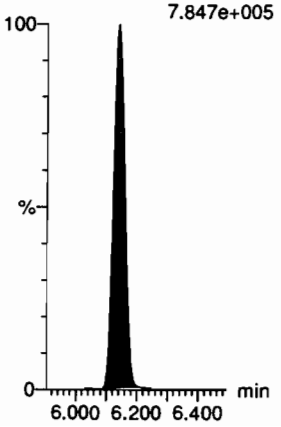
N-EtFOSE



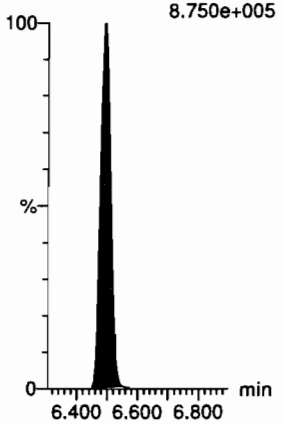
13C3-PFBA-RSD



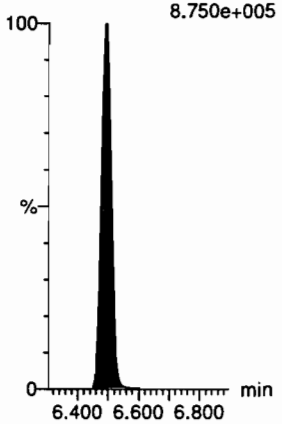
d5-N-ETFOSA-EIS



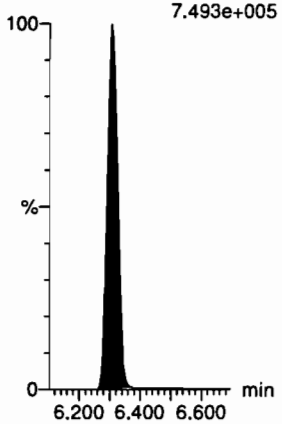
13C2-PFHxDA-EIS



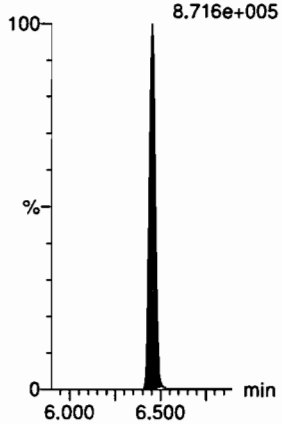
13C2-PFHxDA-EIS



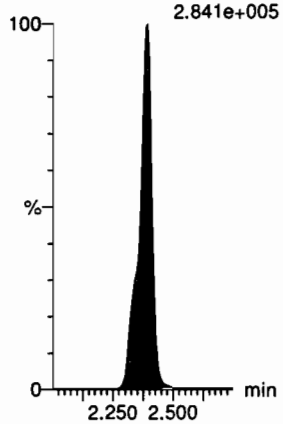
d7-N-MeFOSE-EIS



d9-N-EtFOSE-EIS



13C3-PFPeA-RSD



Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
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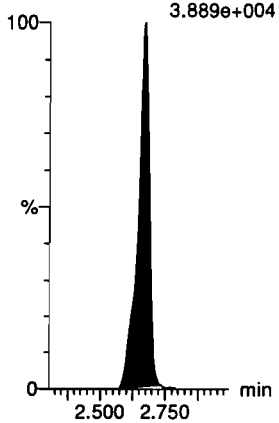
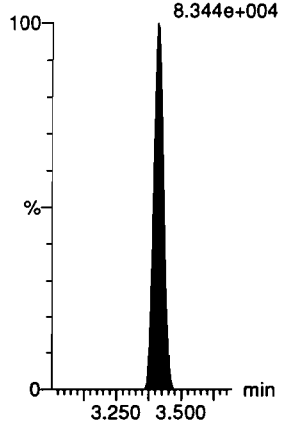
Name: 200714P1-11, Date: 14-Jul-2020, Time: 11:27:36, ID: ST200714P1-7 PFC CS4 20F1907, Description: PFC CS4 20F1907

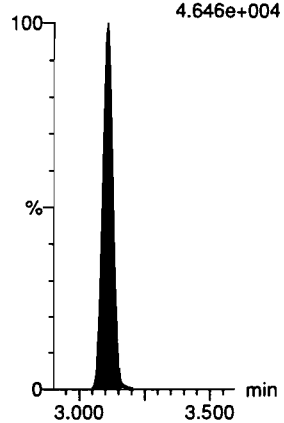
13C3-PFBS-RSD
F12:MRM of 1 channel,ES-
302.0 > 98.9
3.889e+004



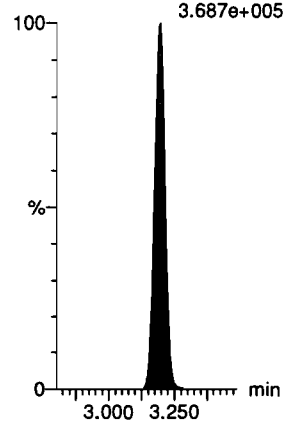
13C3-HFPO-DA-RSD
F10:MRM of 2 channels,ES-
287.0 > 168.9
8.344e+004



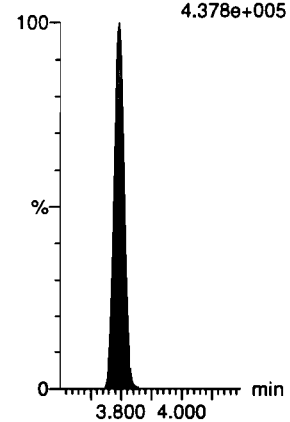
13C2-4:2 FTS-RSD
F17:MRM of 2 channels,ES-
329.0 > 80.8
4.646e+004



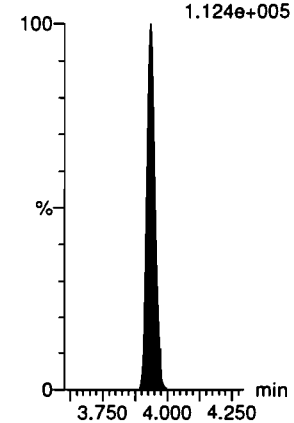
13C2-PFHxA-RSD
F14:MRM of 1 channel,ES-
315.0 > 270.0
3.687e+005



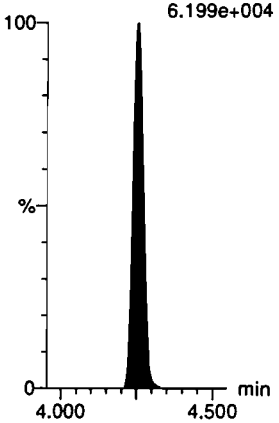
13C4-PFHpA-RSD
F21:MRM of 1 channel,ES-
367.2 > 321.8
4.378e+005



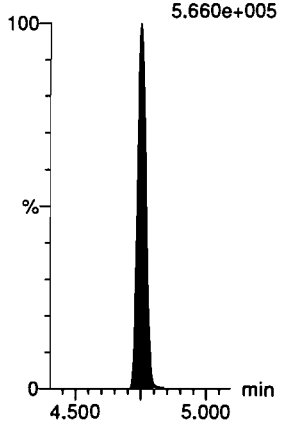
13C3-PFHxS-RSD
F24:MRM of 1 channel,ES-
402 > 80
1.124e+005



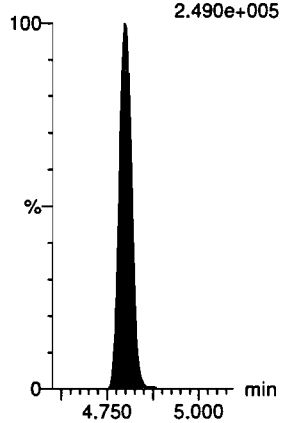
13C2-6:2 FTS-RSD
F30:MRM of 1 channel,ES-
429.0 > 79.7
6.199e+004



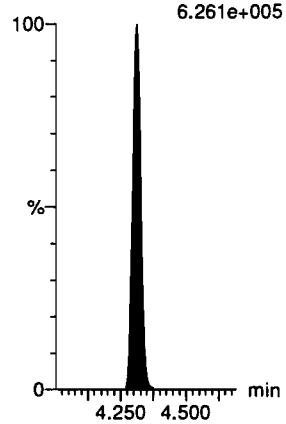
13C5-PFNA-RSD
F36:MRM of 1 channel,ES-
468.2 > 422.9
5.660e+005



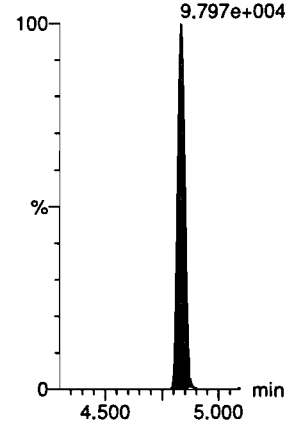
13C8-PFOSA-RSD
F42:MRM of 1 channel,ES-
506 > 78
2.490e+005



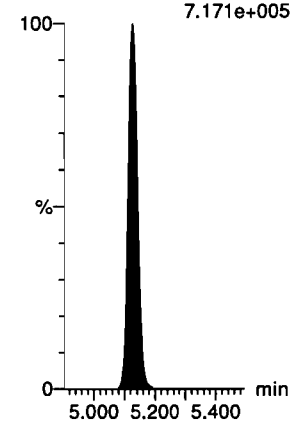
13C2-PFOA-RSD
F27:MRM of 1 channel,ES-
414.9 > 369.7
6.261e+005



13C8-PFOS-RSD
F43:MRM of 1 channel,ES-
507.1 > 80
9.797e+004



13C2-PFDA-RSD
F46:MRM of 1 channel,ES-
515.1 > 469.9
7.171e+005



Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
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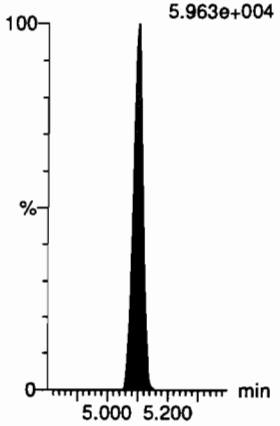
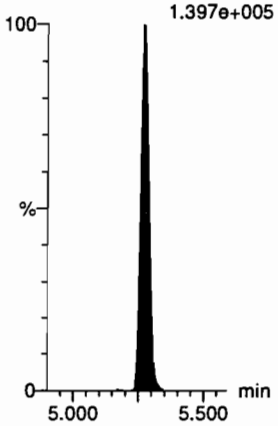
Name: 200714P1-11, Date: 14-Jul-2020, Time: 11:27:36, ID: ST200714P1-7 PFC CS4 20F1907, Description: PFC CS4 20F1907

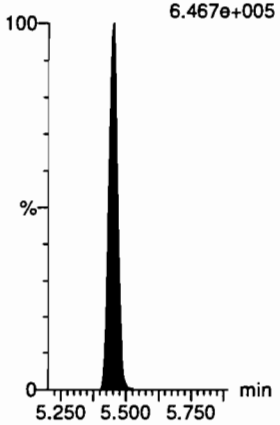
13C2-8:2 FTS-RSD
F51:MRM of 1 channel,ES-
529 > 80
5.963e+004



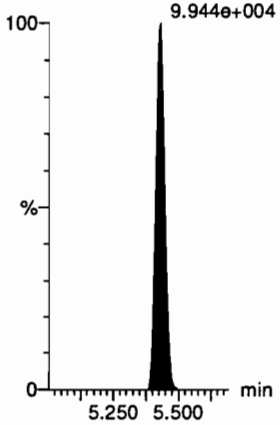
d3-N-MeFOSAA-RSD
F59:MRM of 1 channel,ES-
573.1 > 419
1.397e+005



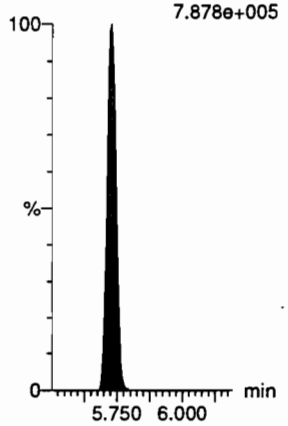
13C2-PFUdA-RSD
F56:MRM of 1 channel,ES-
565 > 519.8
6.467e+005



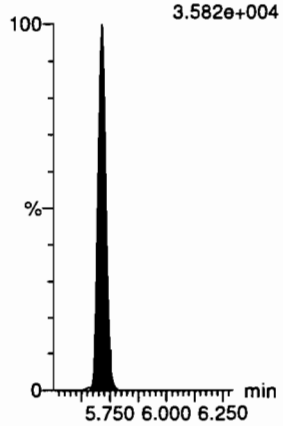
d5-N-EtFOSAA-RSD
F61:MRM of 1 channel,ES-
589.3 > 419
9.944e+004



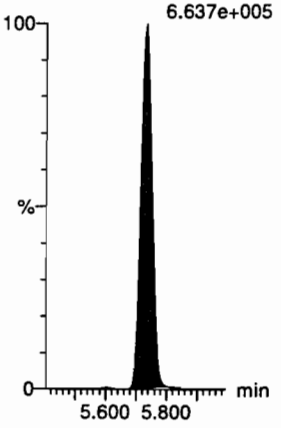
13C2-PFDoA-RSD
F64:MRM of 1 channel,ES-
614.9 > 569.9
7.878e+005



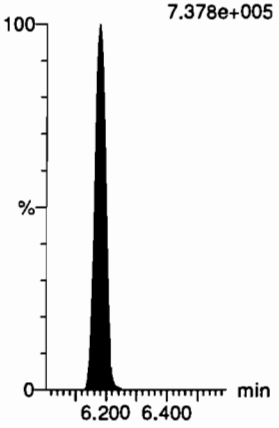
13C2-10:2 FTS-RSD
F70:MRM of 1 channel,ES-
632.9 > 80.0
3.582e+004



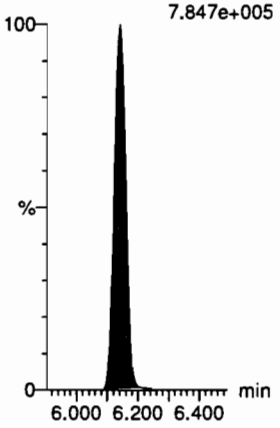
d3-N-MeFOSA-RSD
F47:MRM of 1 channel,ES-
515.2 > 168.9
6.637e+005



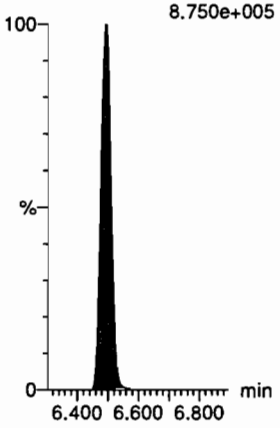
13C2-PFTeDA-RSD
F75:MRM of 2 channels,ES-
715.1 > 669.7
7.378e+005



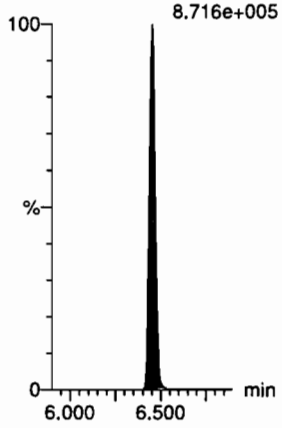
d5-N-ETFOSA-RSD
F53:MRM of 1 channel,ES-
531.1 > 168.9
7.847e+005



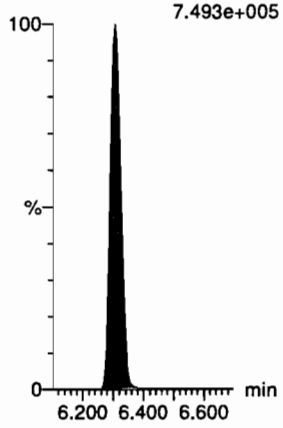
13C2-PFHxDA-RSD
F77:MRM of 1 channel,ES-
815 > 769.7
8.750e+005



d9-N-EtFOSE-RSD
F71:MRM of 1 channel,ES-
639.2 > 58.8
8.716e+005



d7-N-MeFOSE-RSD
F66:MRM of 1 channel,ES-
623.1 > 58.9
7.493e+005

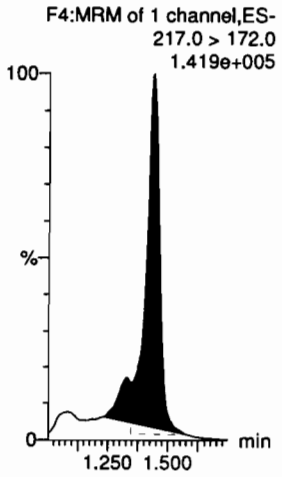


Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

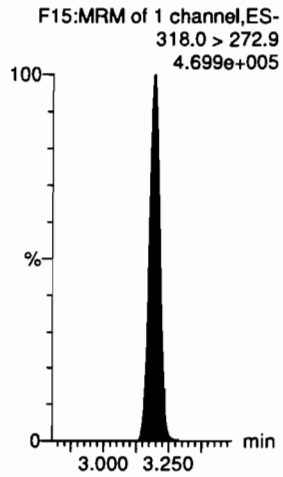
Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 16:21:31 Pacific Daylight Time

Name: 200714P1-11, Date: 14-Jul-2020, Time: 11:27:36, ID: ST200714P1-7 PFC CS4 20F1907, Description: PFC CS4 20F1907

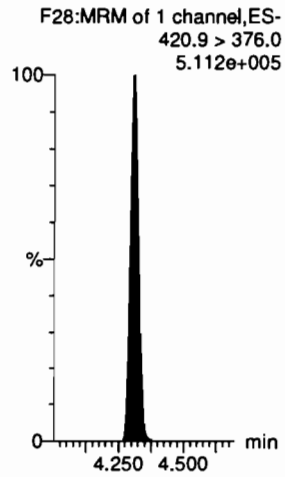
13C4-PFBA



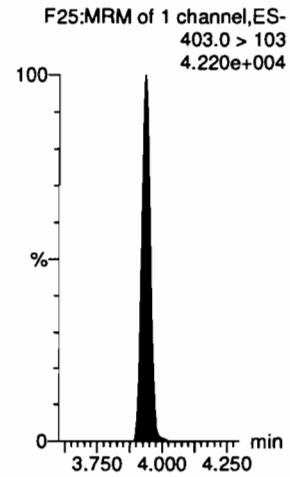
13C5-PFHxA



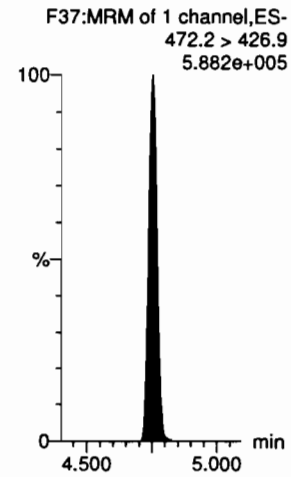
13C8-PFOA



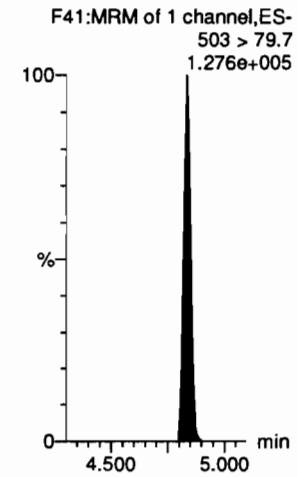
18O2-PFHxS



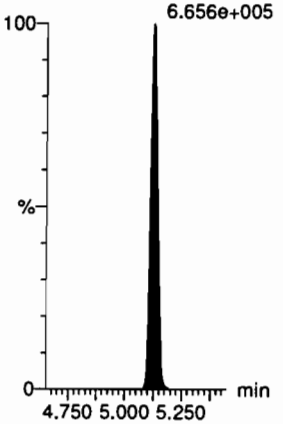
13C9-PFNA



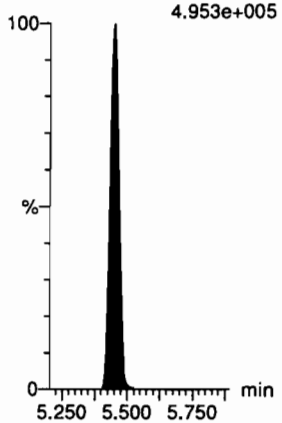
13C4-PFOS



13C6-PFDA



13C7-PFUdA

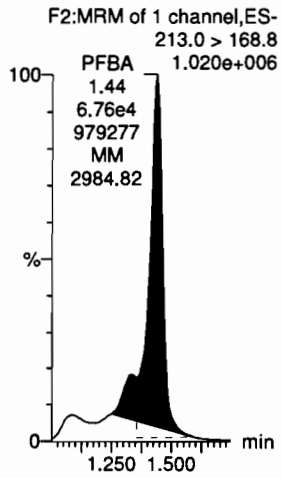


Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

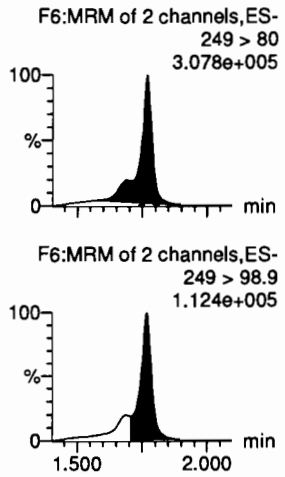
Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 16:21:31 Pacific Daylight Time

Name: 200714P1-12, Date: 14-Jul-2020, Time: 11:38:12, ID: ST200714P1-8 PFC CS5 20F1908, Description: PFC CS5 20F1908

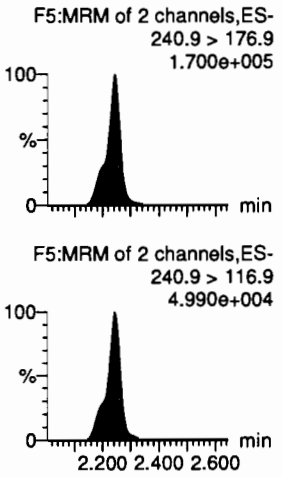
PFBA



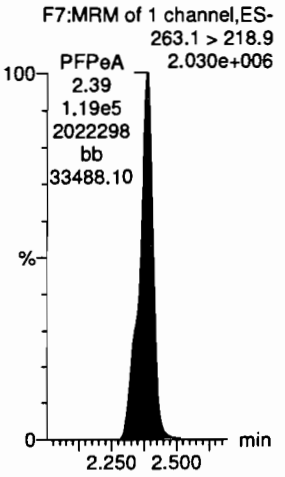
PFPrS



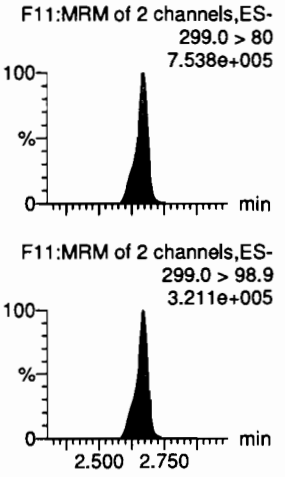
3:3 FTCA



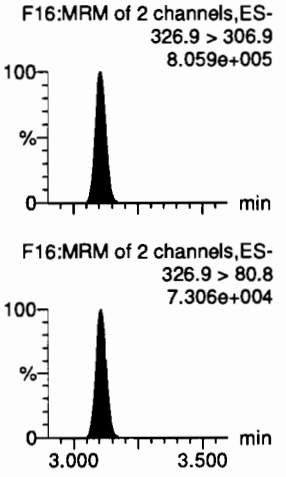
PFPeA



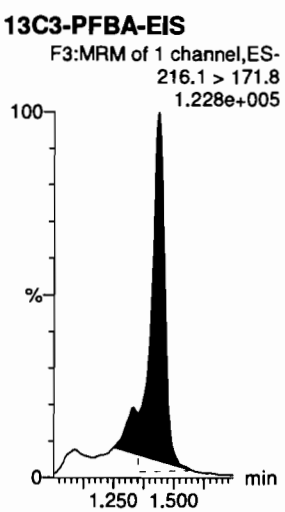
PFBS



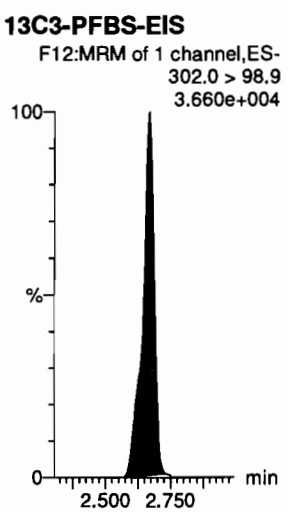
4:2 FTS



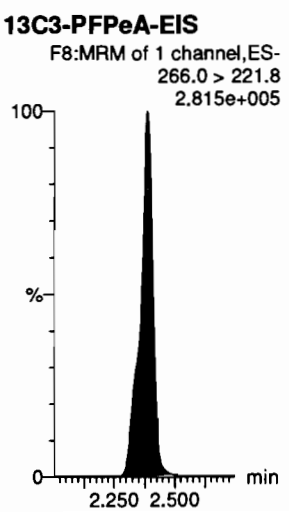
13C3-PFBA-EIS



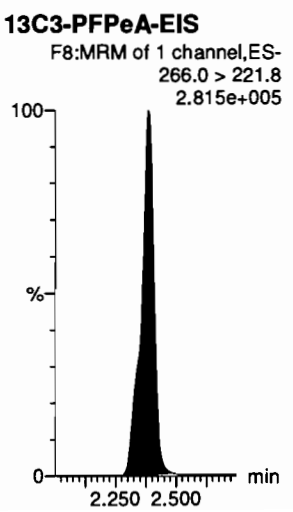
13C3-PFBS-EIS



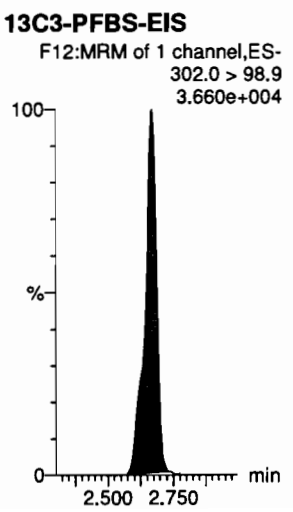
13C3-PFPeA-EIS



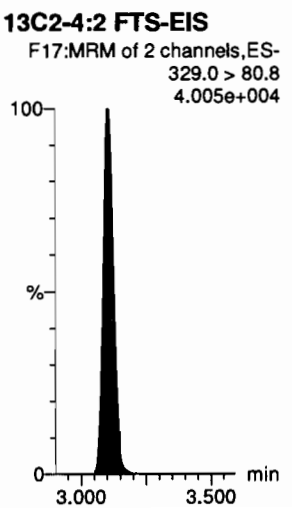
13C3-PFPeA-EIS



13C3-PFBS-EIS



13C2-4:2 FTS-EIS



Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
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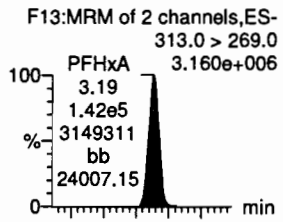
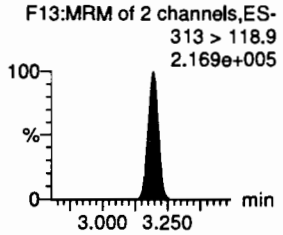
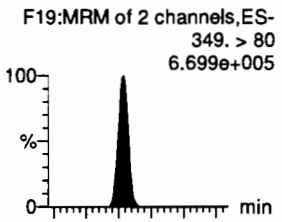
Name: 200714P1-12, Date: 14-Jul-2020, Time: 11:38:12, ID: ST200714P1-8 PFC CS5 20F1908, Description: PFC CS5 20F1908

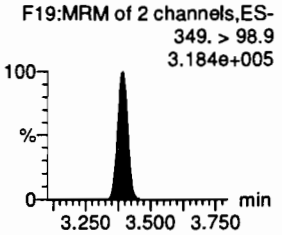
PFHxA



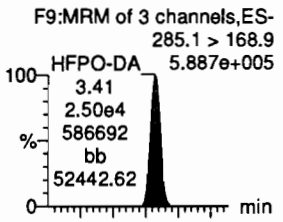


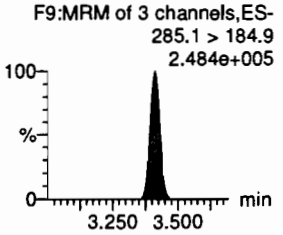
PFPeS



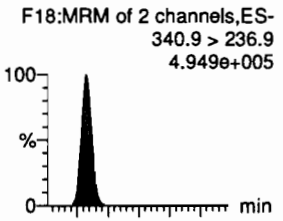


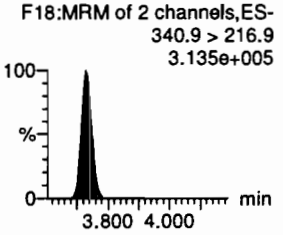
HFPO-DA



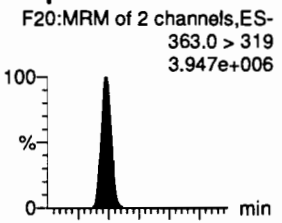


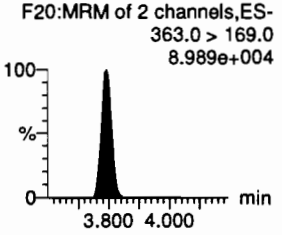
5:3 FTCA



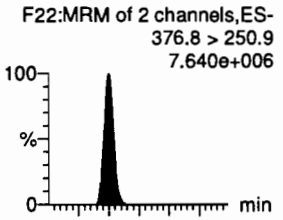


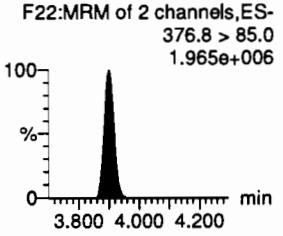
PFHpA



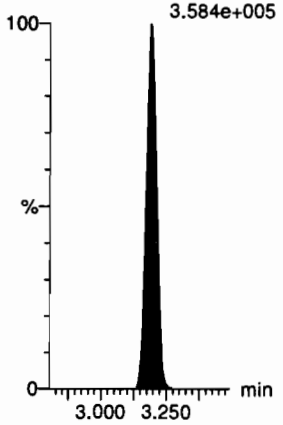


ADONA

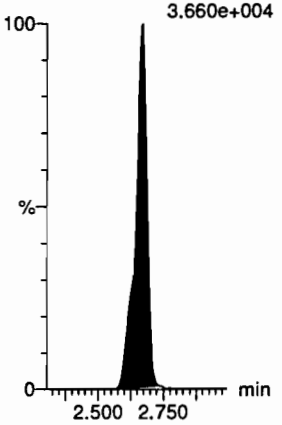




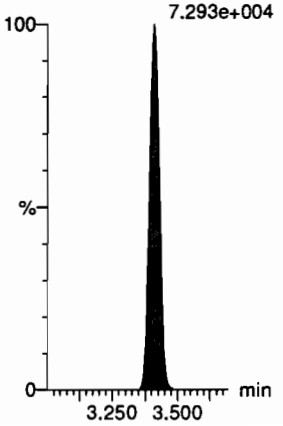
13C2-PFHxA-EIS



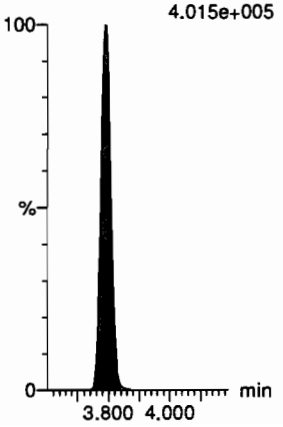
13C3-PFBS-EIS



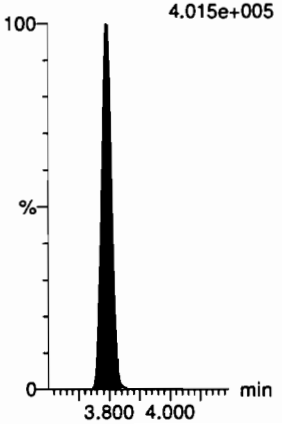
13C3-HFPO-DA-EIS



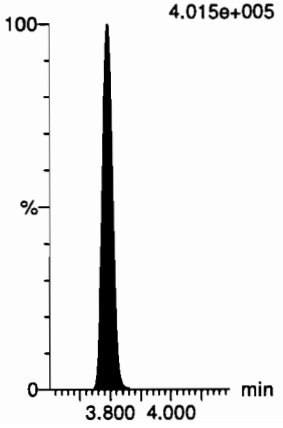
13C4-PFHpA-EIS



13C4-PFHpA-EIS



13C4-PFHpA-EIS

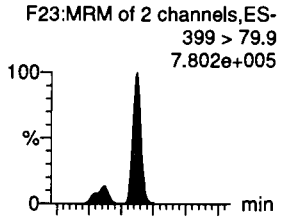


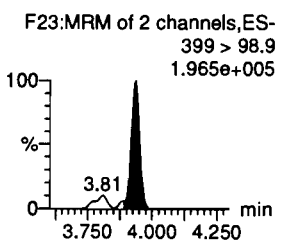
Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 16:21:31 Pacific Daylight Time

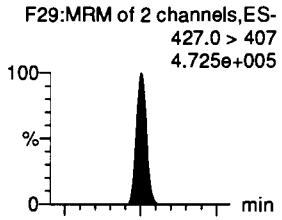
Name: 200714P1-12, Date: 14-Jul-2020, Time: 11:38:12, ID: ST200714P1-8 PFC CS5 20F1908, Description: PFC CS5 20F1908

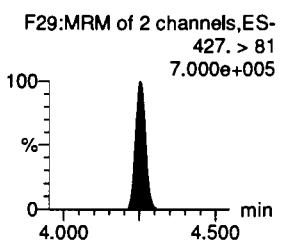
L-PFHxS



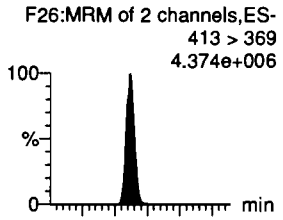


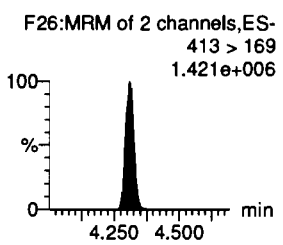
6:2 FTS



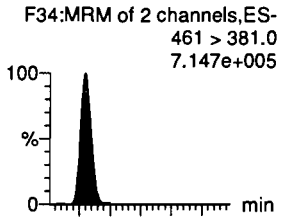


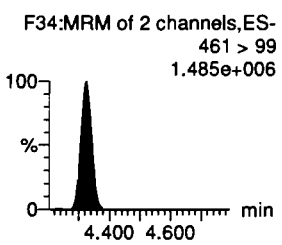
L-PFOA





PFEChS





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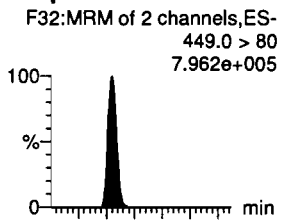
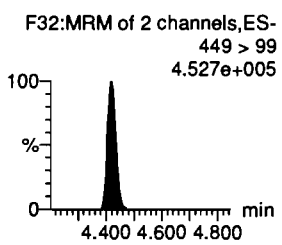
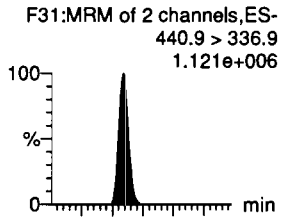
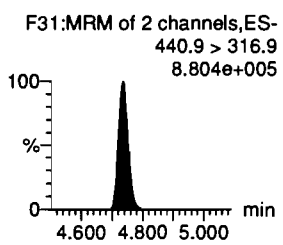


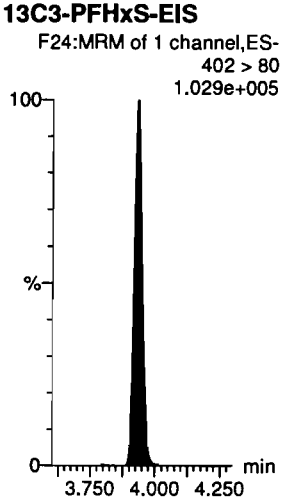


7:3 FTCA

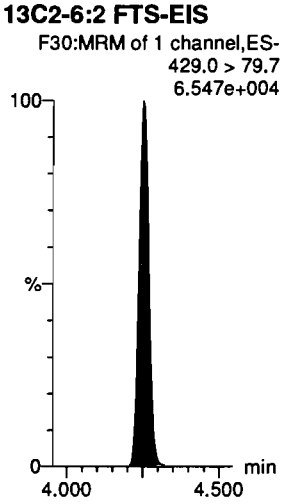




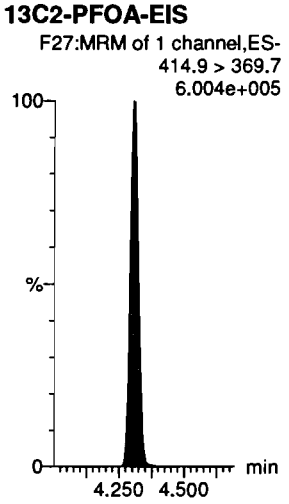
13C3-PFHxS-EIS



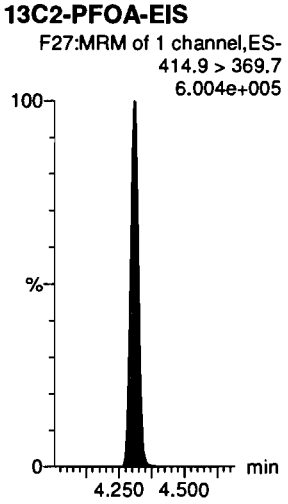
13C2-6:2 FTS-EIS



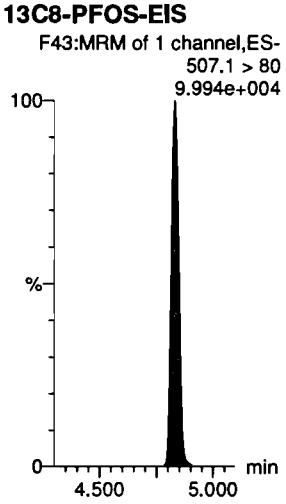
13C2-PFOA-EIS



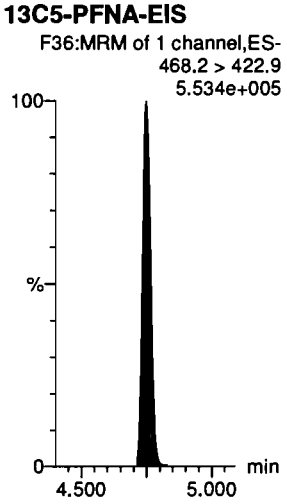
13C2-PFOA-EIS



13C8-PFOS-EIS



13C5-PFNA-EIS



Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 16:21:31 Pacific Daylight Time

Name: 200714P1-12, Date: 14-Jul-2020, Time: 11:38:12, ID: ST200714P1-8 PFC CS5 20F1908, Description: PFC CS5 20F1908

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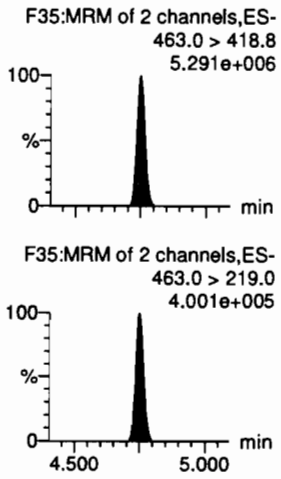
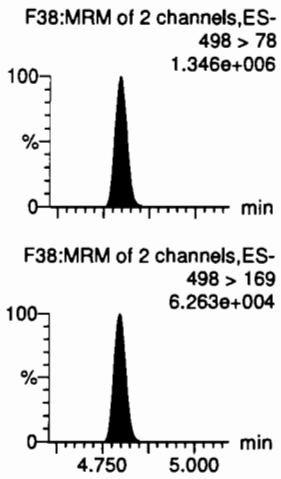
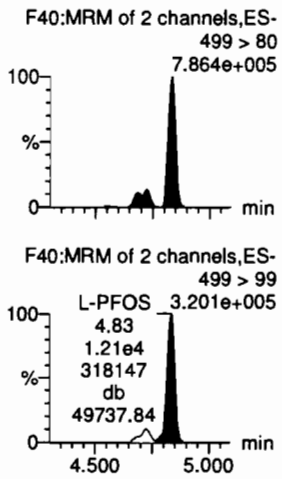


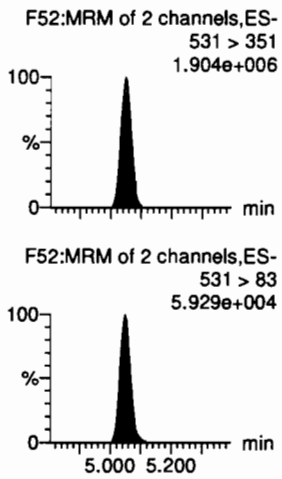
PFOSA



L-PFOS



9Cl-PF30NS



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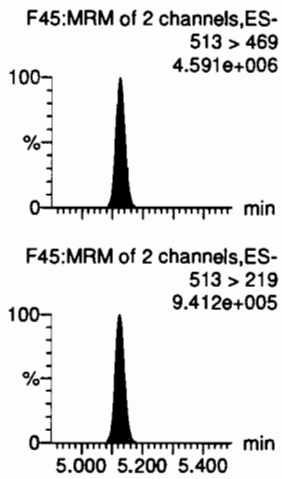
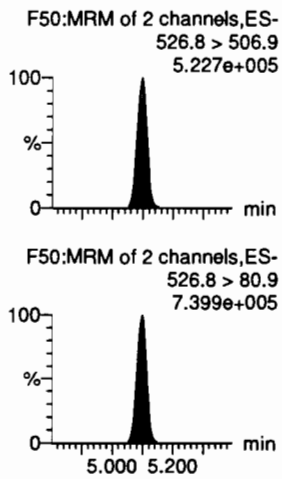
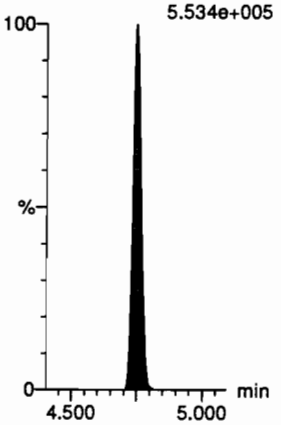


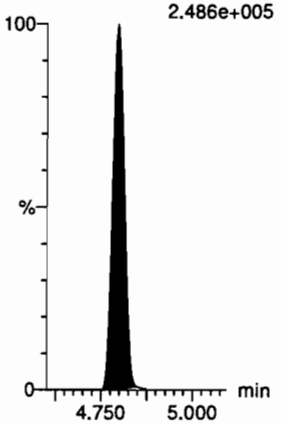
8:2 FTS



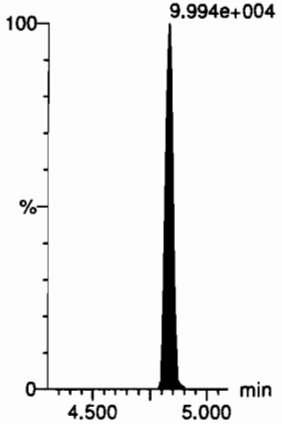
13C5-PFNA-EIS



13C8-PFOSA-EIS



13C8-PFOS-EIS



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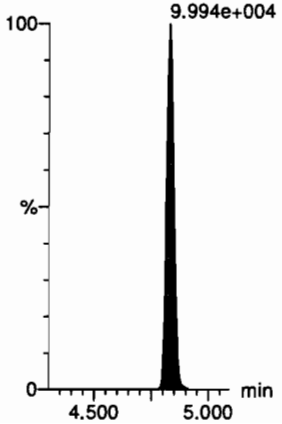

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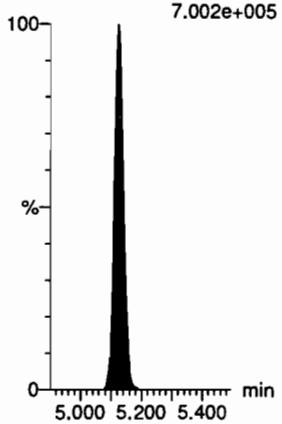
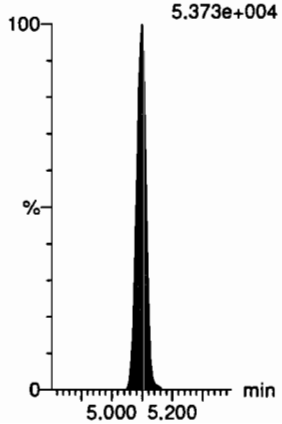


13C2-8:2 FTS-EIS

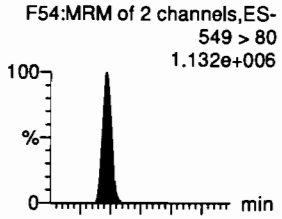


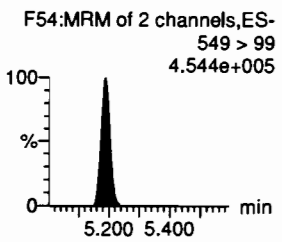
Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 16:21:31 Pacific Daylight Time

Name: 200714P1-12, Date: 14-Jul-2020, Time: 11:38:12, ID: ST200714P1-8 PFC CS5 20F1908, Description: PFC CS5 20F1908

PFNS





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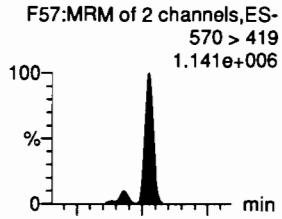
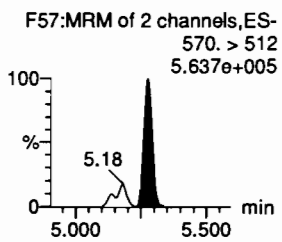
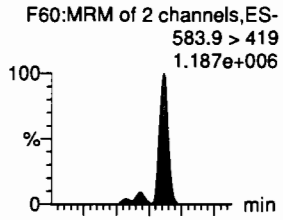
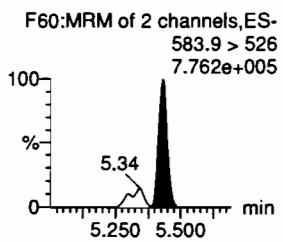


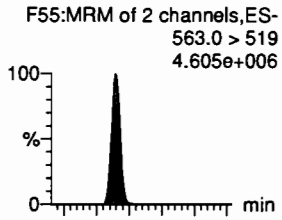


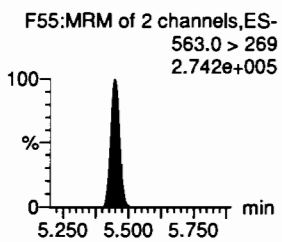
L-EtFOSAA





PFUdA





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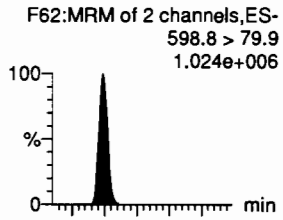
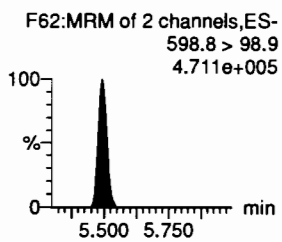
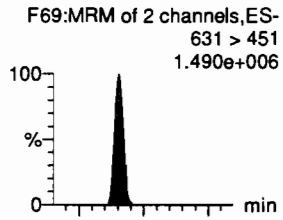
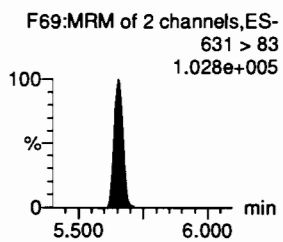


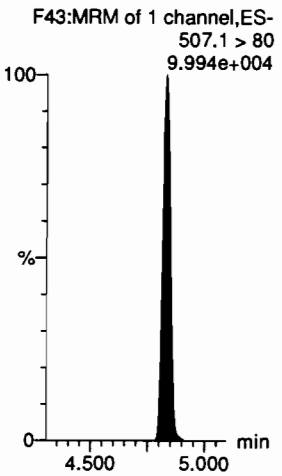


11Cl-PF30UdS

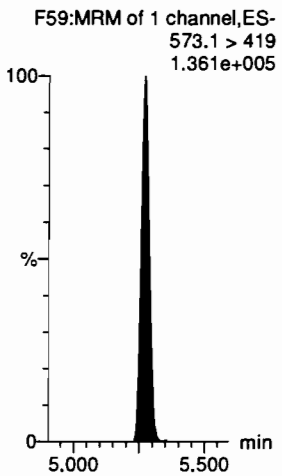




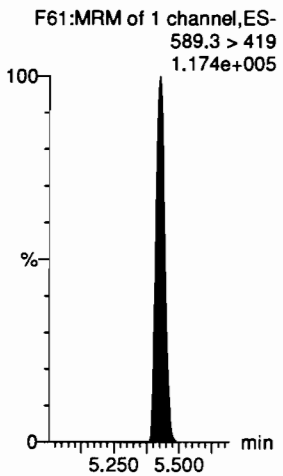
13C8-PFOS-EIS



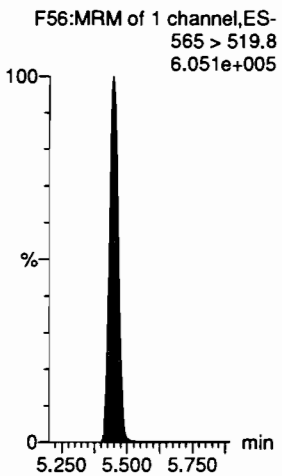
d3-N-MeFOSAA-EIS



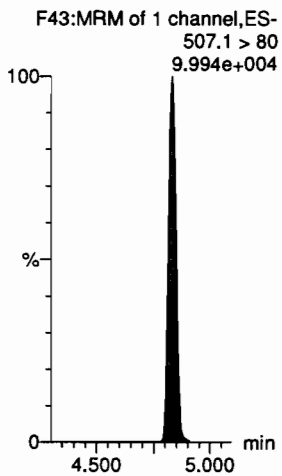
d5-N-EtFOSAA-EIS



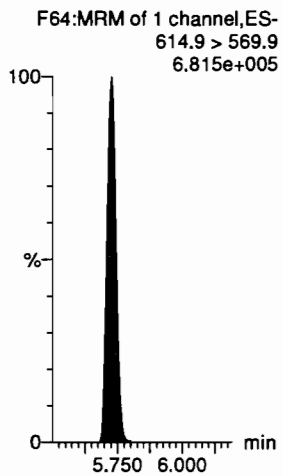
13C2-PFUdA-EIS



13C8-PFOS-EIS



13C2-PFDoA-EIS



Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
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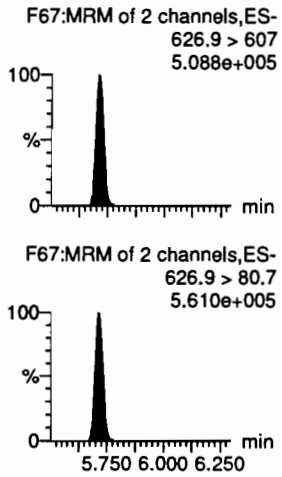
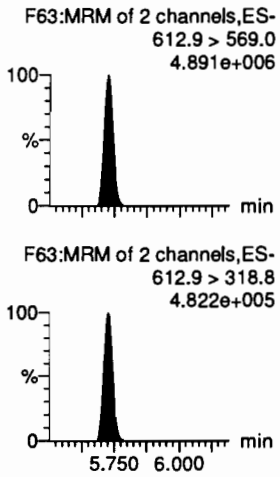
Name: 200714P1-12, Date: 14-Jul-2020, Time: 11:38:12, ID: ST200714P1-8 PFC CS5 20F1908, Description: PFC CS5 20F1908

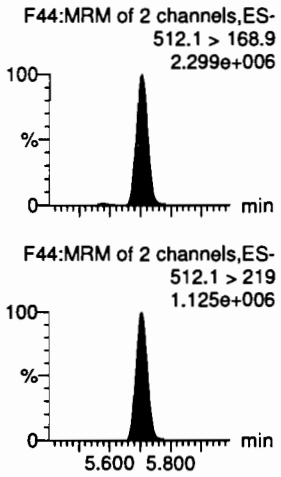
10:2 FTS



PFDoA



N-MeFOSA



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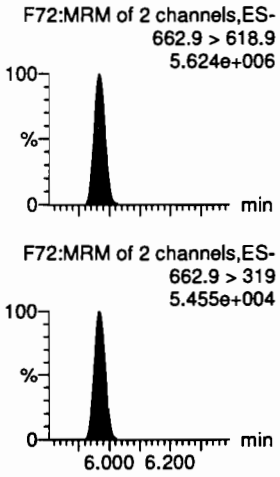
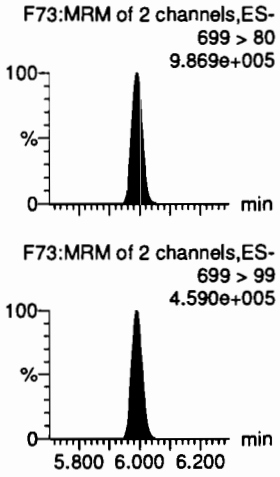
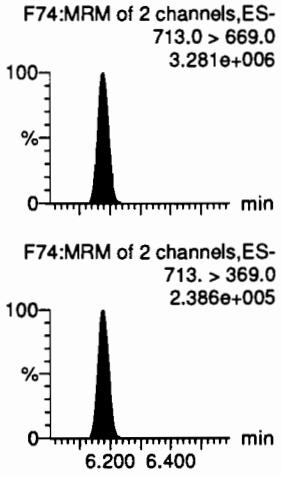


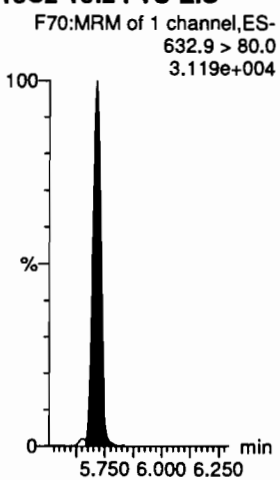
PFDoS



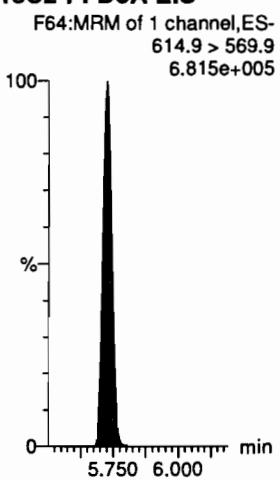
PFTeDA



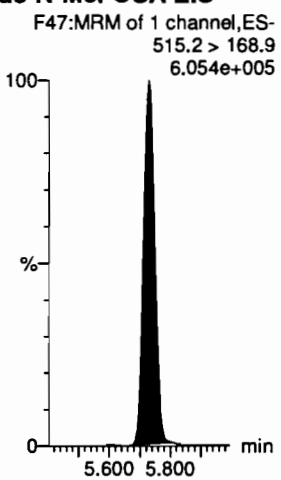
13C2-10:2 FTS-EIS



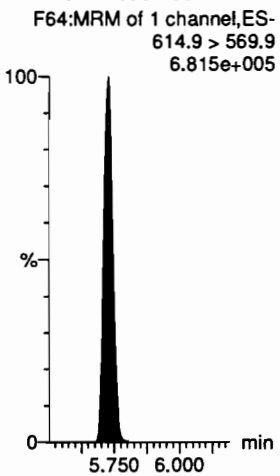
13C2-PFDoA-EIS



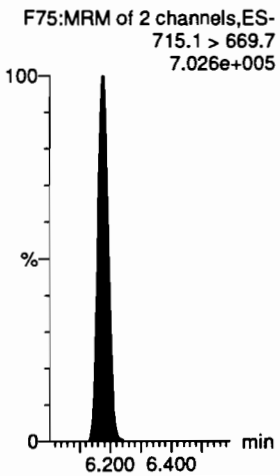
d3-N-MeFOSA-EIS



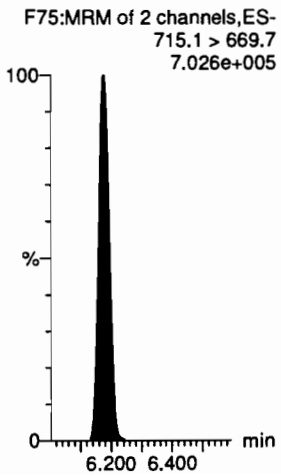
13C2-PFDoA-EIS



13C2-PFTeDA-EIS



13C2-PFTeDA-EIS



Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
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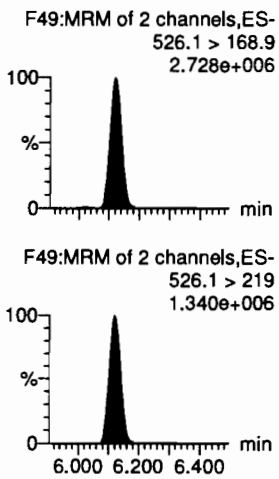
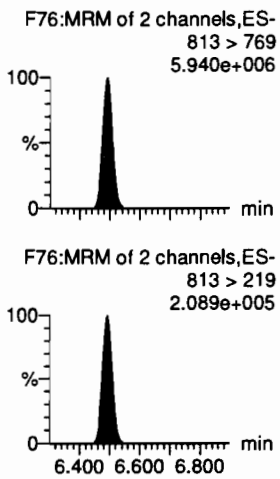
Name: 200714P1-12, Date: 14-Jul-2020, Time: 11:38:12, ID: ST200714P1-8 PFC CS5 20F1908, Description: PFC CS5 20F1908

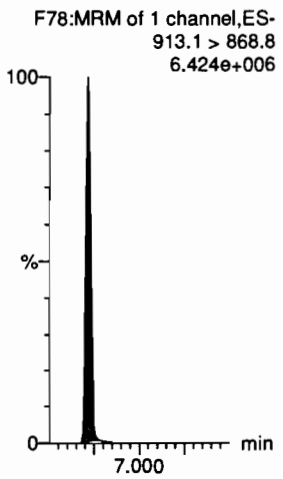
N-EtFOSA



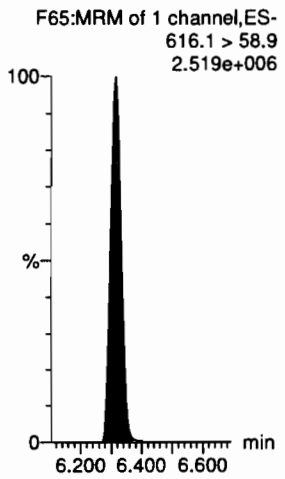
PFHxDA



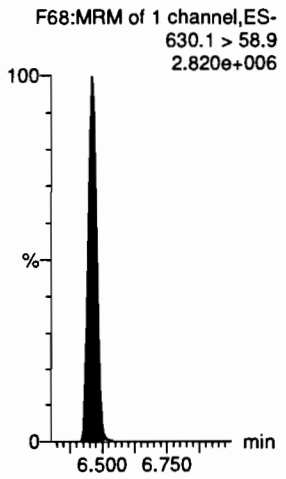
PFODA



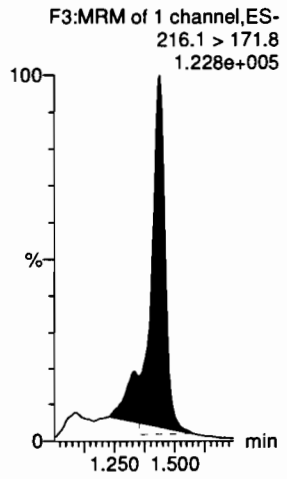
N-MeFOSE



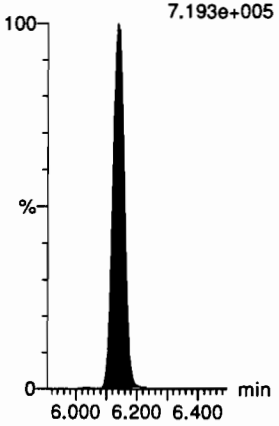
N-EtFOSE



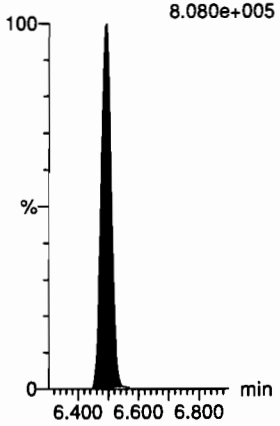
13C3-PFBA-RSD



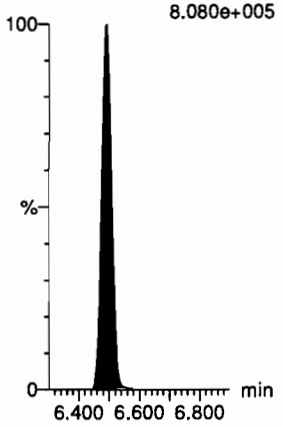
d5-N-ETFOSA-EIS



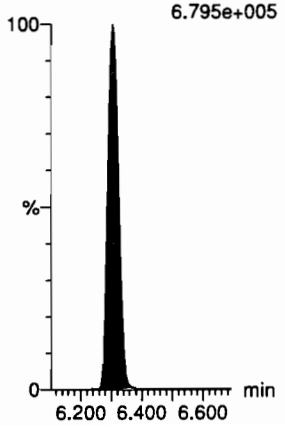
13C2-PFHxDA-EIS



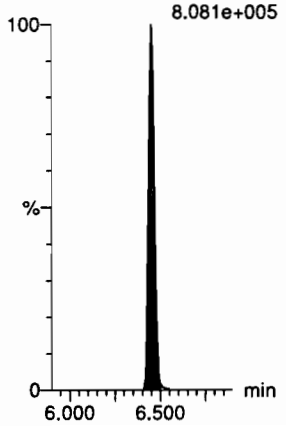
13C2-PFHxDA-EIS



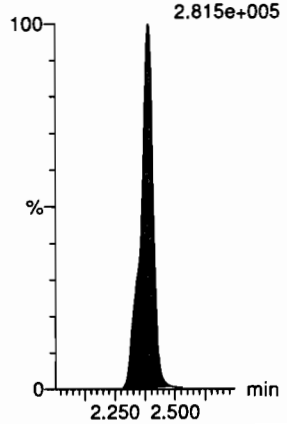
d7-N-MeFOSE-EIS



d9-N-EtFOSE-EIS



13C3-PFPeA-RSD



Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
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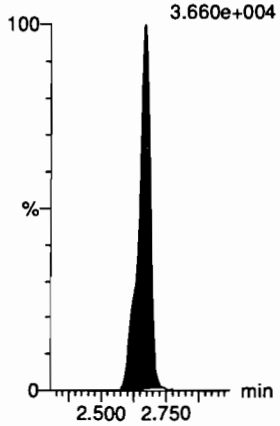
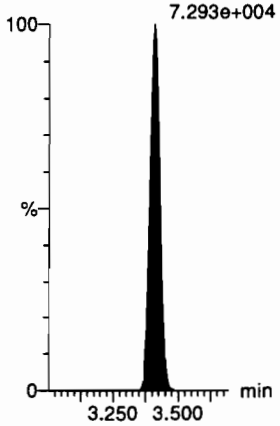
Name: 200714P1-12, Date: 14-Jul-2020, Time: 11:38:12, ID: ST200714P1-8 PFC CS5 20F1908, Description: PFC CS5 20F1908

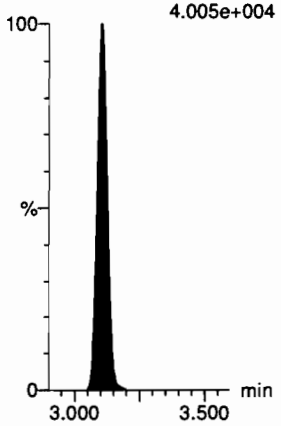
13C3-PFBS-RSD
F12:MRM of 1 channel,ES-
302.0 > 98.9
3.660e+004



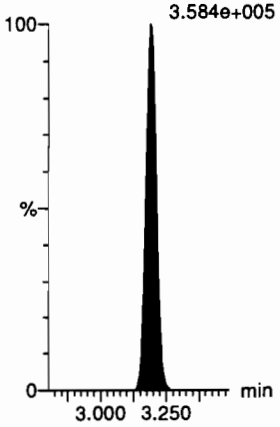
13C3-HFPO-DA-RSD
F10:MRM of 2 channels,ES-
287.0 > 168.9
7.293e+004



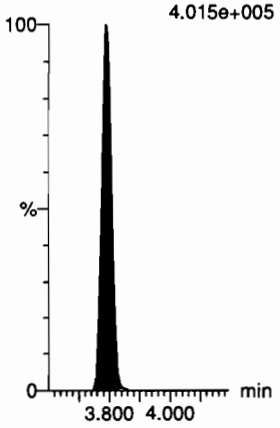
13C2-4:2 FTS-RSD
F17:MRM of 2 channels,ES-
329.0 > 80.8
4.005e+004



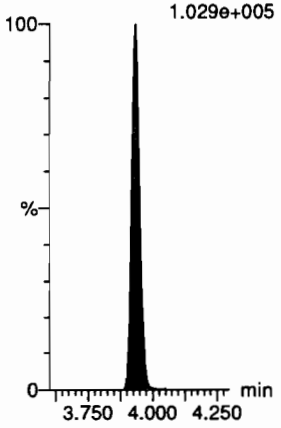
13C2-PFHxA-RSD
F14:MRM of 1 channel,ES-
315.0 > 270.0
3.584e+005



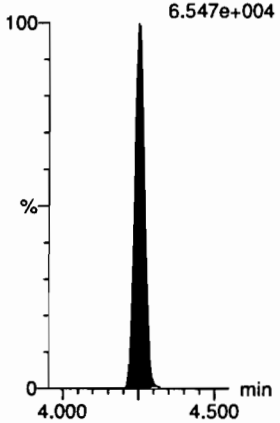
13C4-PFHpA-RSD
F21:MRM of 1 channel,ES-
367.2 > 321.8
4.015e+005



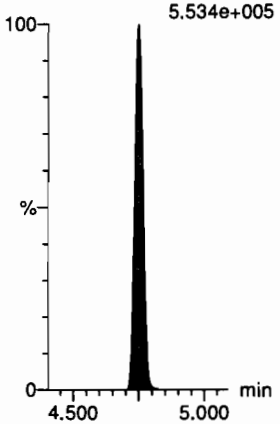
13C3-PFHxS-RSD
F24:MRM of 1 channel,ES-
402 > 80
1.029e+005



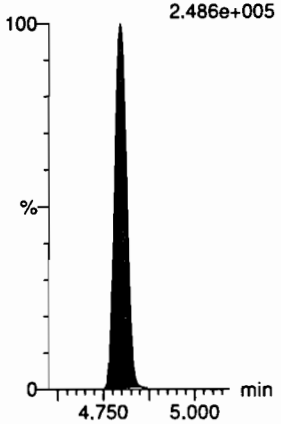
13C2-6:2 FTS-RSD
F30:MRM of 1 channel,ES-
429.0 > 79.7
6.547e+004



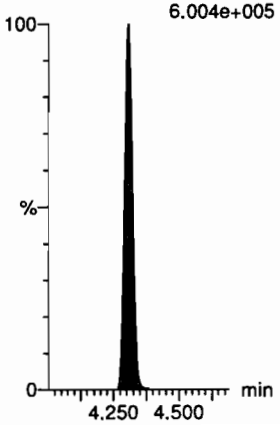
13C5-PFNA-RSD
F36:MRM of 1 channel,ES-
468.2 > 422.9
5.534e+005



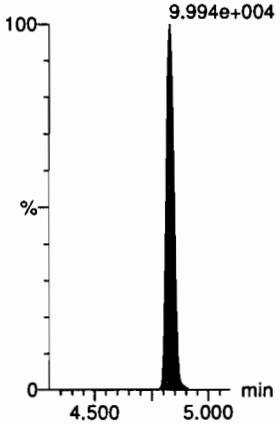
13C8-PFOSA-RSD
F42:MRM of 1 channel,ES-
506 > 78
2.486e+005



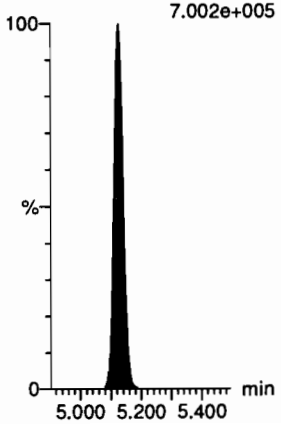
13C2-PFOA-RSD
F27:MRM of 1 channel,ES-
414.9 > 369.7
6.004e+005



13C8-PFOS-RSD
F43:MRM of 1 channel,ES-
507.1 > 80
9.994e+004



13C2-PFDA-RSD
F46:MRM of 1 channel,ES-
515.1 > 469.9
7.002e+005



Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
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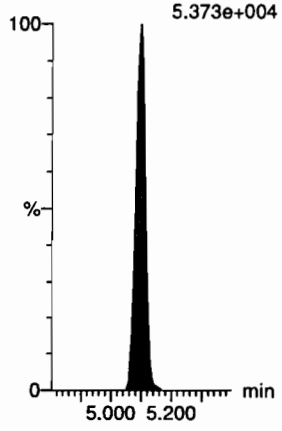
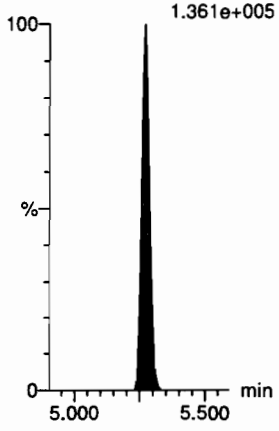
Name: 200714P1-12, Date: 14-Jul-2020, Time: 11:38:12, ID: ST200714P1-8 PFC CS5 20F1908, Description: PFC CS5 20F1908

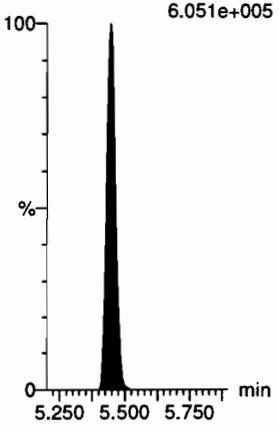
13C2-8:2 FTS-RSD
F51:MRM of 1 channel,ES-
529 > 80
5.373e+004



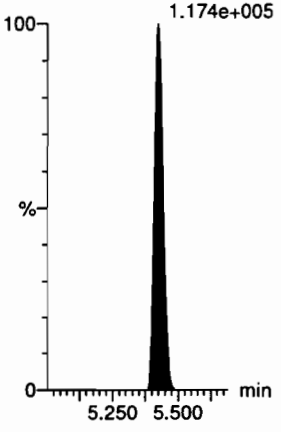
d3-N-MeFOSAA-RSD
F59:MRM of 1 channel,ES-
573.1 > 419
1.361e+005



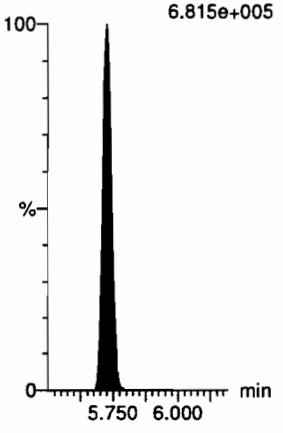
13C2-PFUdA-RSD
F56:MRM of 1 channel,ES-
565 > 519.8
6.051e+005



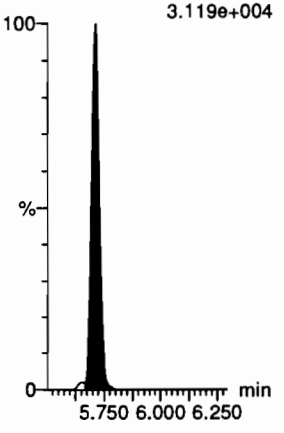
d5-N-EtFOSAA-RSD
F61:MRM of 1 channel,ES-
589.3 > 419
1.174e+005



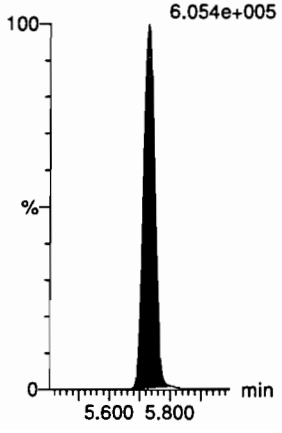
13C2-PFDoA-RSD
F64:MRM of 1 channel,ES-
614.9 > 569.9
6.815e+005



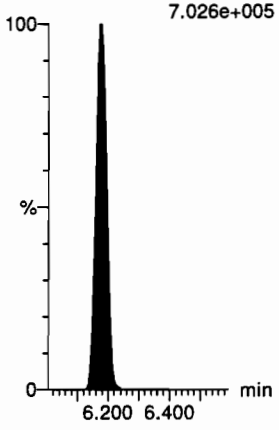
13C2-10:2 FTS-RSD
F70:MRM of 1 channel,ES-
632.9 > 80.0
3.119e+004



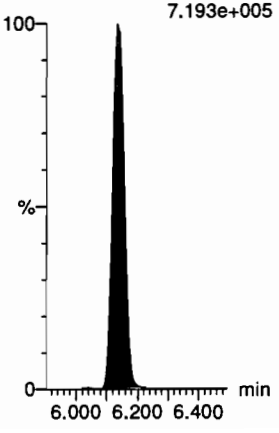
d3-N-MeFOSA-RSD
F47:MRM of 1 channel,ES-
515.2 > 168.9
6.054e+005



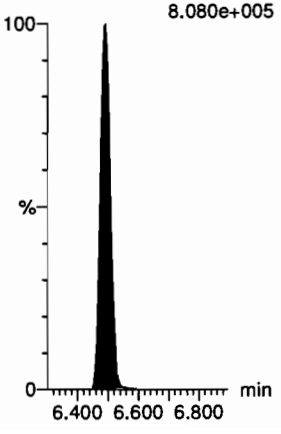
13C2-PFTeDA-RSD
F75:MRM of 2 channels,ES-
715.1 > 669.7
7.026e+005



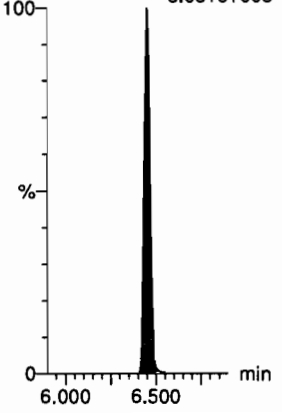
d5-N-ETFOSA-RSD
F53:MRM of 1 channel,ES-
531.1 > 168.9
7.193e+005



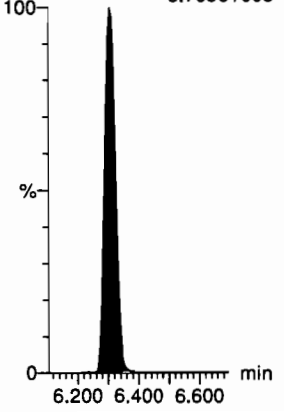
13C2-PFHxDA-RSD
F77:MRM of 1 channel,ES-
815 > 769.7
8.080e+005



d9-N-EtFOSE-RSD
F71:MRM of 1 channel,ES-
639.2 > 58.8
8.081e+005



d7-N-MeFOSE-RSD
F66:MRM of 1 channel,ES-
623.1 > 58.9
6.795e+005



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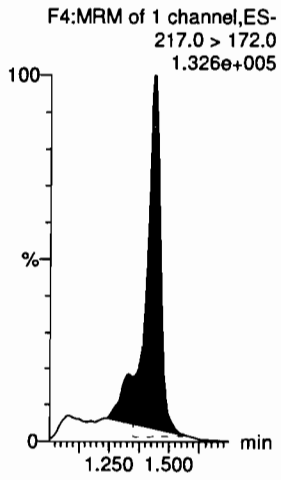
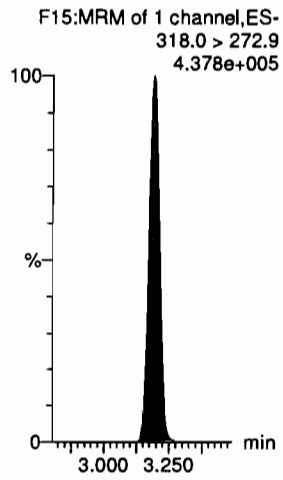
Name: 200714P1-12, Date: 14-Jul-2020, Time: 11:38:12, ID: ST200714P1-8 PFC CS5 20F1908, Description: PFC CS5 20F1908

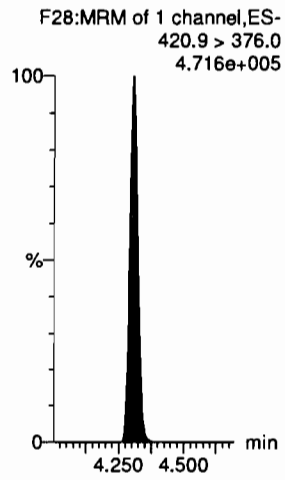
13C4-PFBA



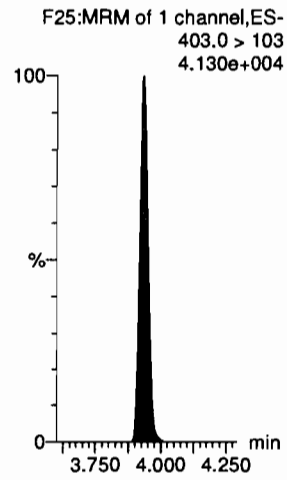
13C5-PFHxA



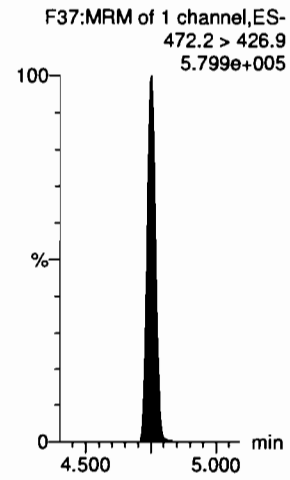
13C8-PFOA



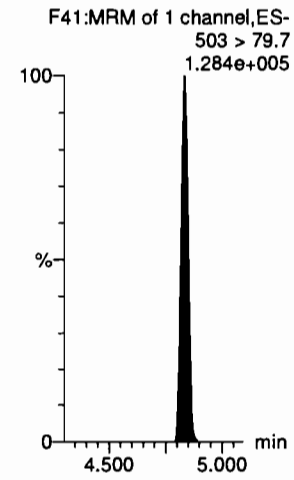
18O2-PFHxS



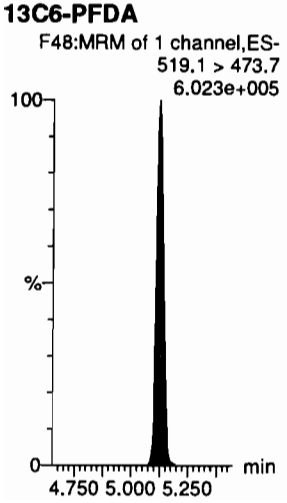
13C9-PFNA



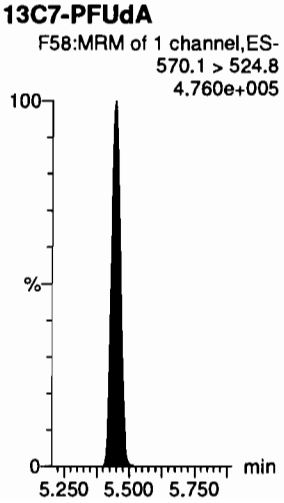
13C4-PFOS



13C6-PFDA



13C7-PFUdA



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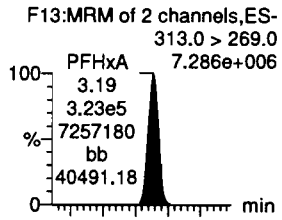
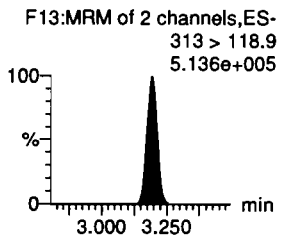
Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 16:21:31 Pacific Daylight Time

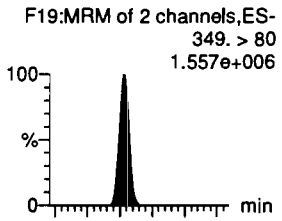
Name: 200714P1-13, Date: 14-Jul-2020, Time: 11:48:48, ID: ST200714P1-9 PFC CS6 20F1909, Description: PFC CS6 20F1909

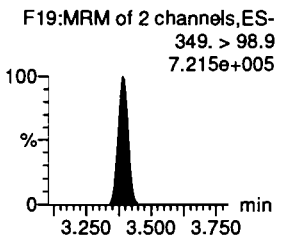
PFHxA



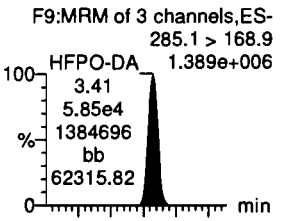


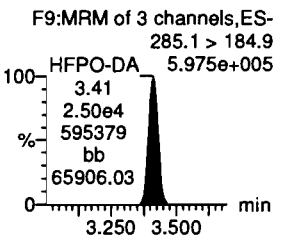
PFPeS



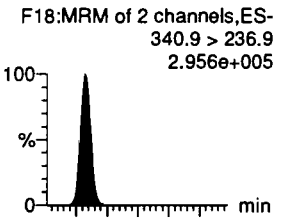


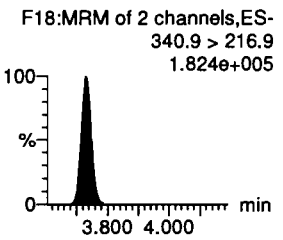
HFPO-DA



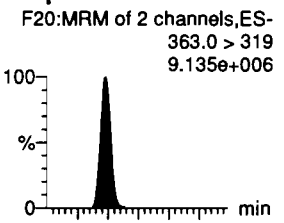


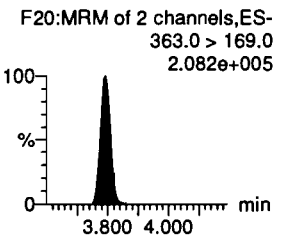
5:3 FTCA





PFHpA





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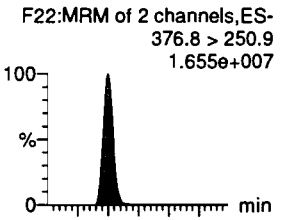
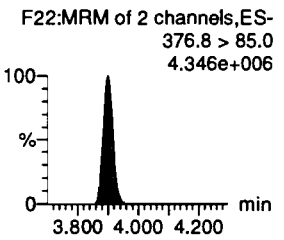
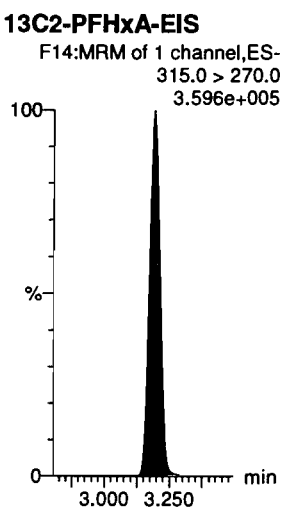
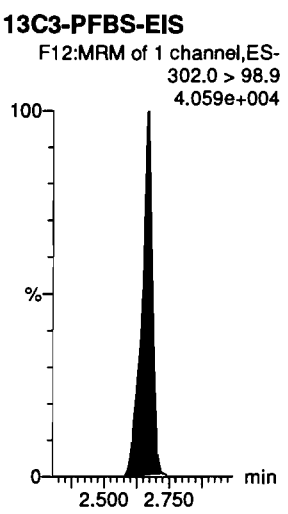




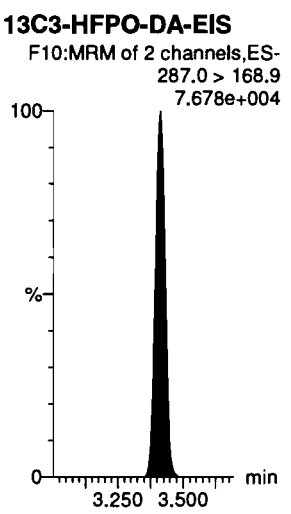
13C2-PFHxA-EIS



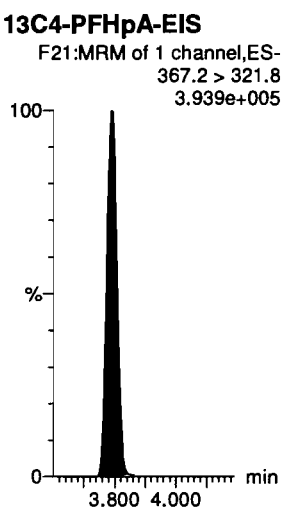
13C3-PFBS-EIS



13C3-HFPO-DA-EIS



13C4-PFHpA-EIS



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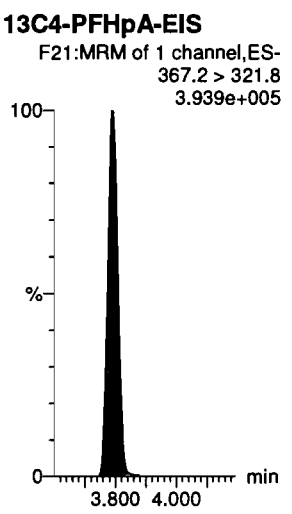

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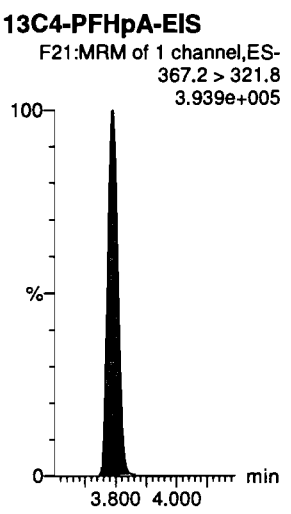

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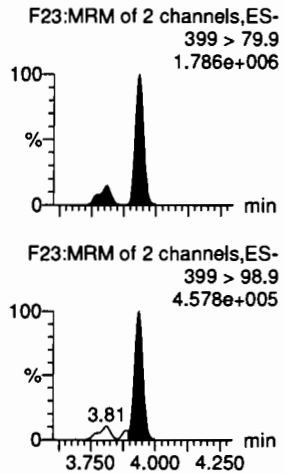
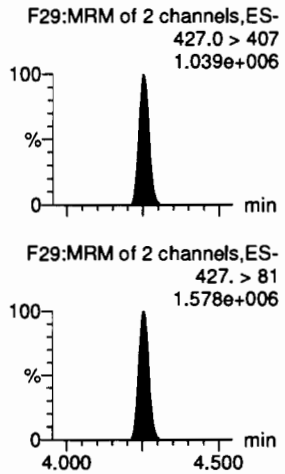
Name: 200714P1-13, Date: 14-Jul-2020, Time: 11:48:48, ID: ST200714P1-9 PFC CS6 20F1909, Description: PFC CS6 20F1909

L-PFHxS



6:2 FTS



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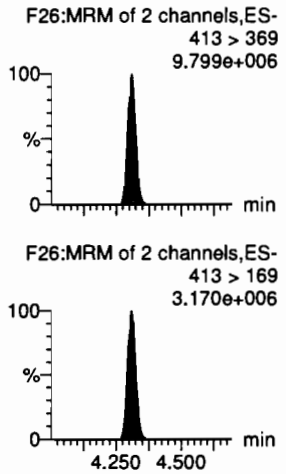
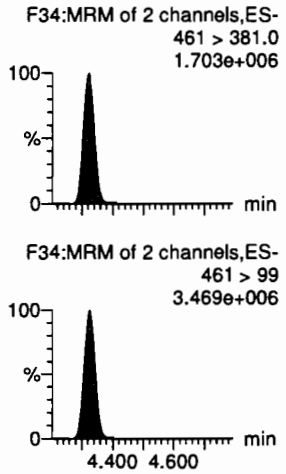


PFEChS



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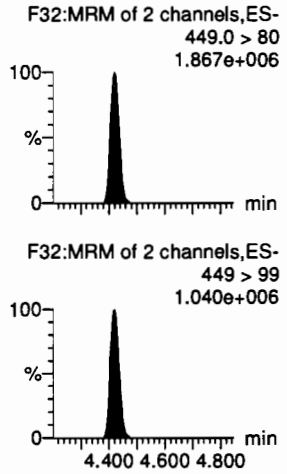
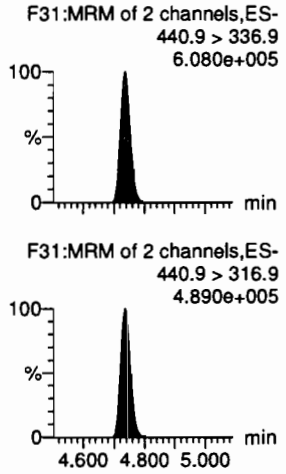
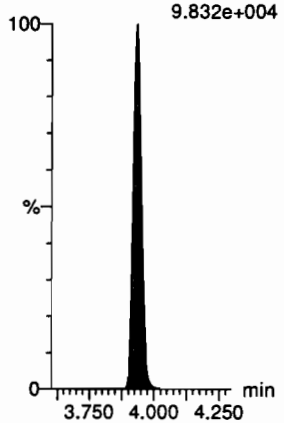


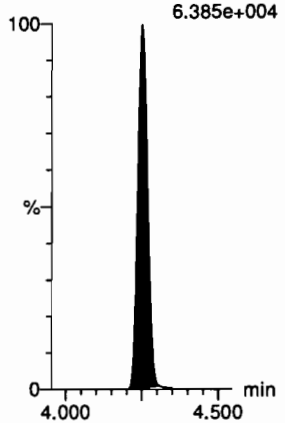
7:3 FTCA



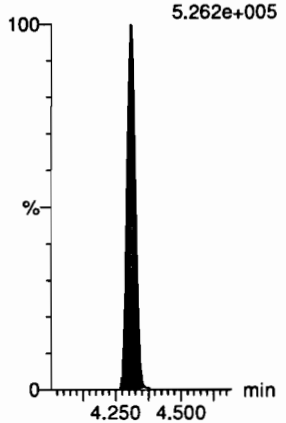
13C3-PFHxS-EIS



13C2-6:2 FTS-EIS



13C2-PFOA-EIS



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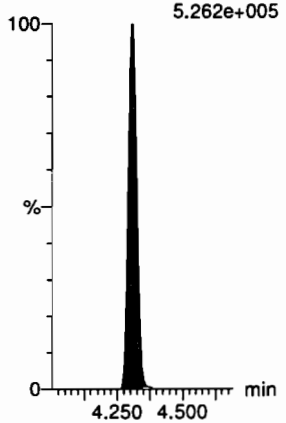
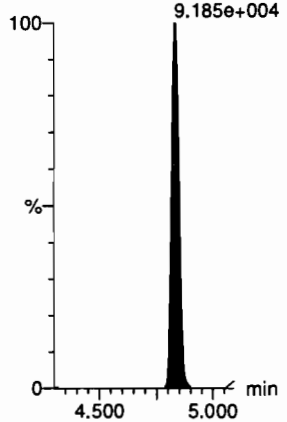
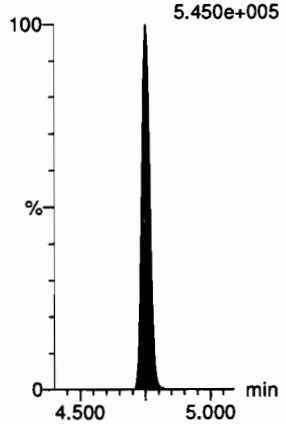


13C8-PFOS-EIS



13C5-PFNA-EIS



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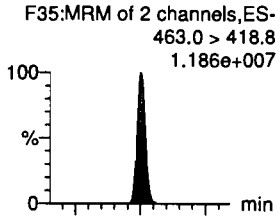
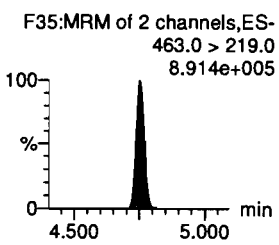
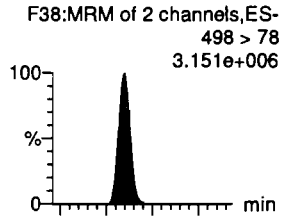
Name: 200714P1-13, Date: 14-Jul-2020, Time: 11:48:48, ID: ST200714P1-9 PFC CS6 20F1909, Description: PFC CS6 20F1909

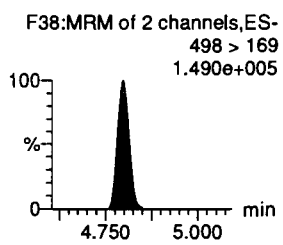
PFNA



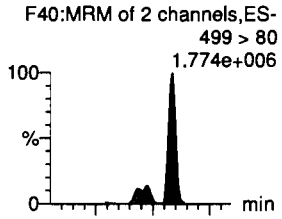


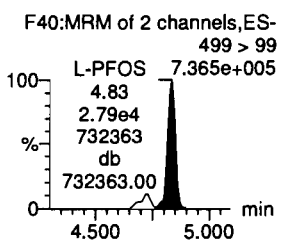
PFOSA





L-PFOS





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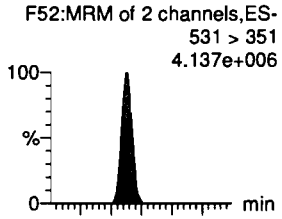

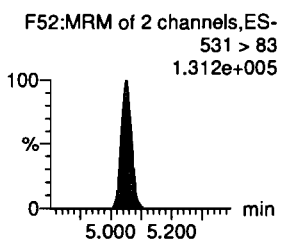

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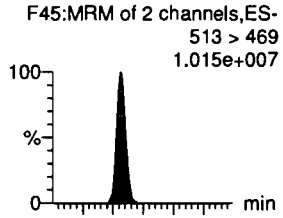
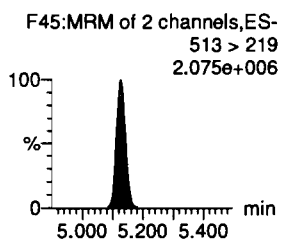
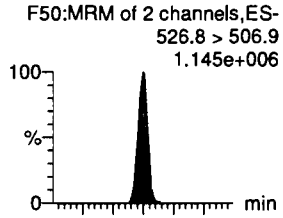
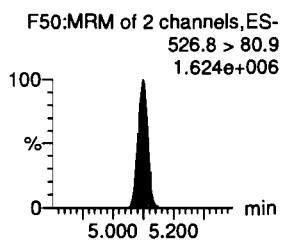


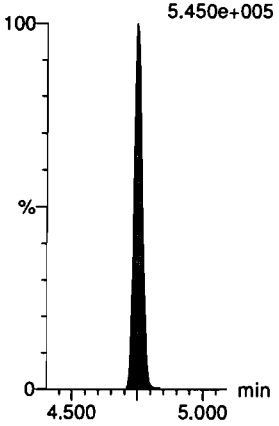


8:2 FTS

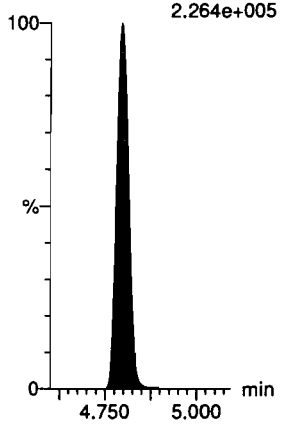




13C5-PFNA-EIS



13C8-PFOSA-EIS



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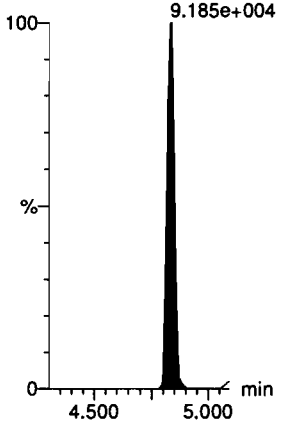

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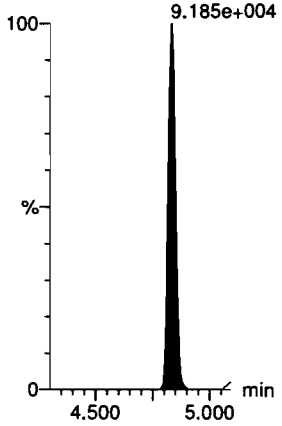
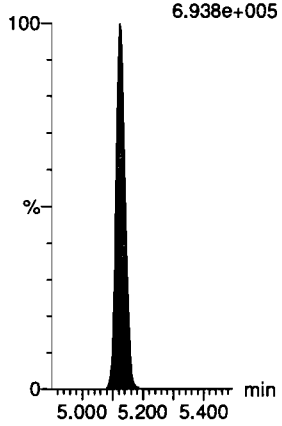
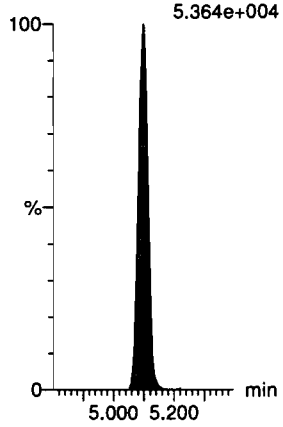


13C2-PFDA-EIS



13C2-8:2 FTS-EIS

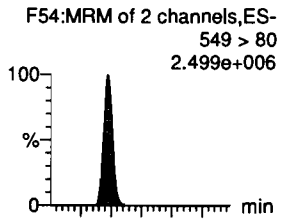


Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

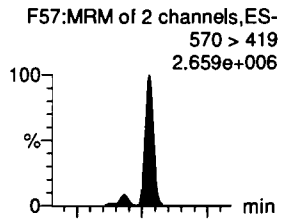
Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 16:21:31 Pacific Daylight Time

Name: 200714P1-13, Date: 14-Jul-2020, Time: 11:48:48, ID: ST200714P1-9 PFC CS6 20F1909, Description: PFC CS6 20F1909

PFNS



L-MeFOSAA



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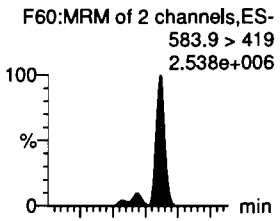

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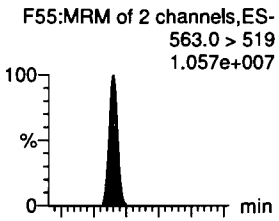

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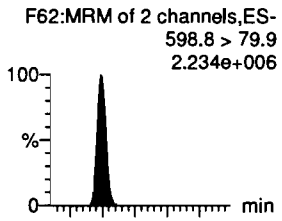

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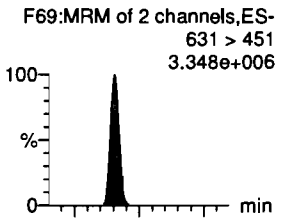
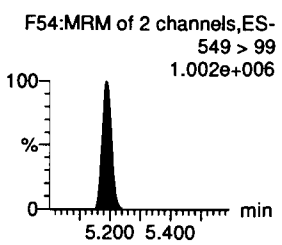
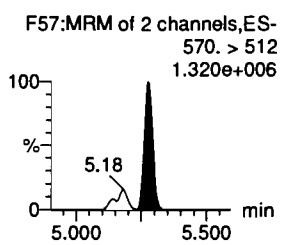
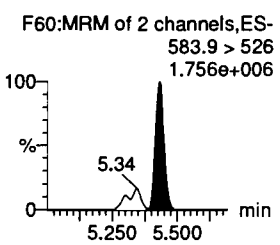
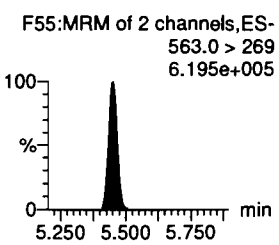
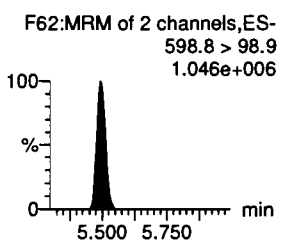


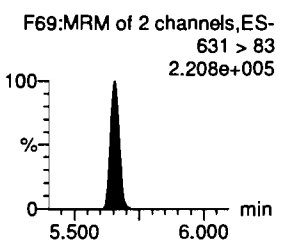




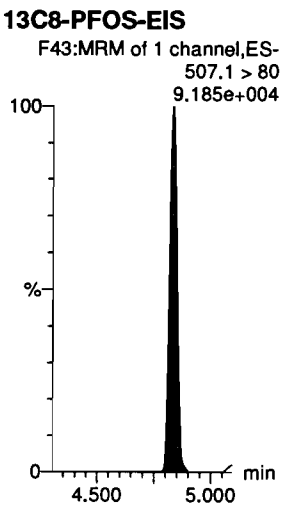




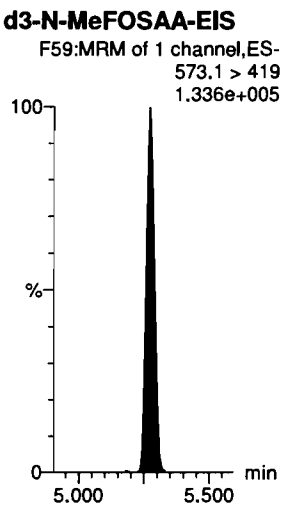




13C8-PFOS-EIS



d3-N-MeFOSAA-EIS



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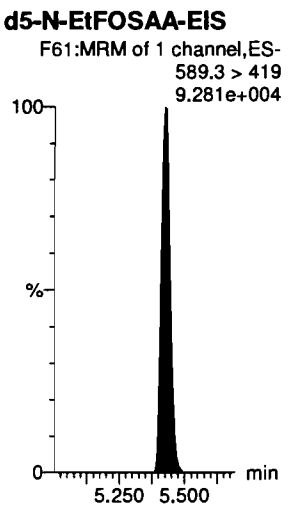
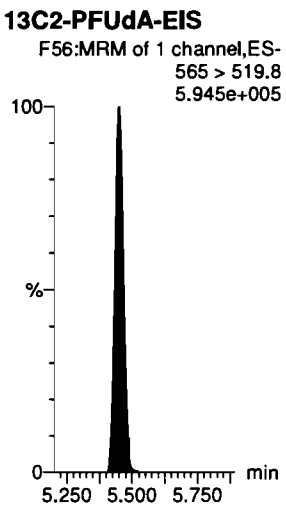


13C2-PFUdA-EIS



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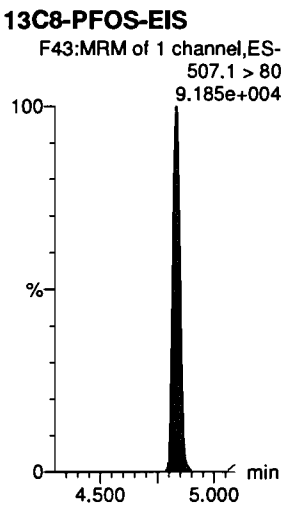
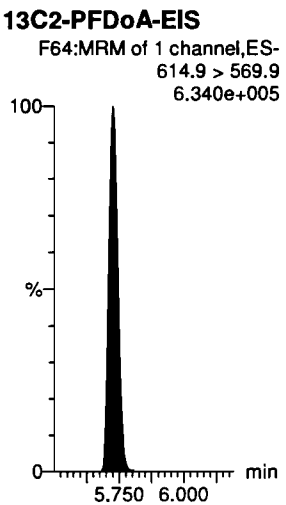


13C2-PFDoA-EIS

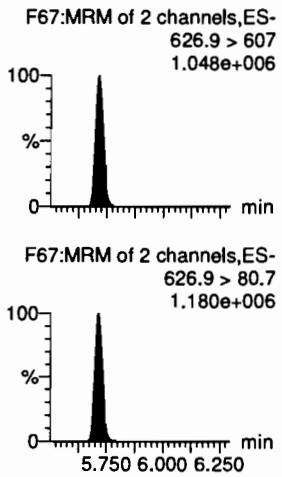


Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

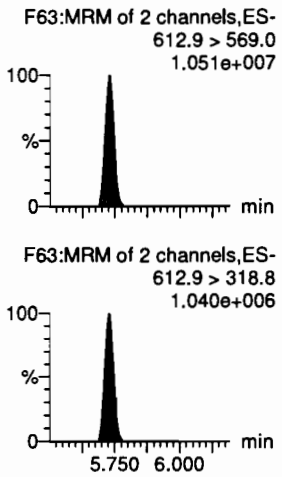
Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 16:21:31 Pacific Daylight Time

Name: 200714P1-13, Date: 14-Jul-2020, Time: 11:48:48, ID: ST200714P1-9 PFC CS6 20F1909, Description: PFC CS6 20F1909

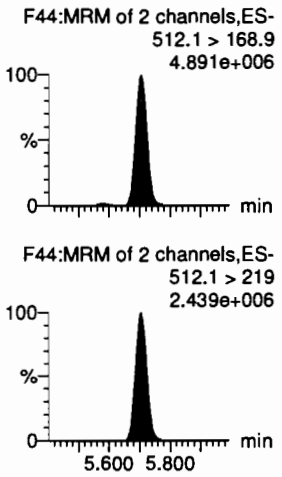
10:2 FTS



PFDoA



N-MeFOSA



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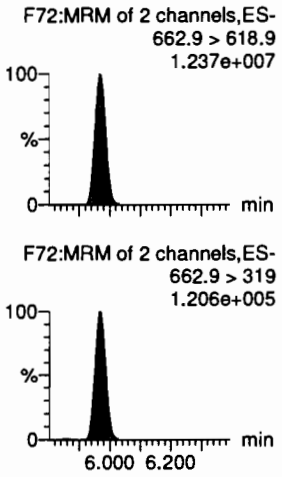

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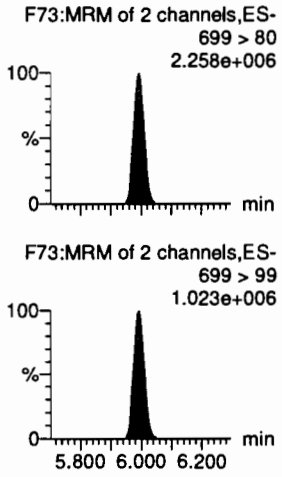

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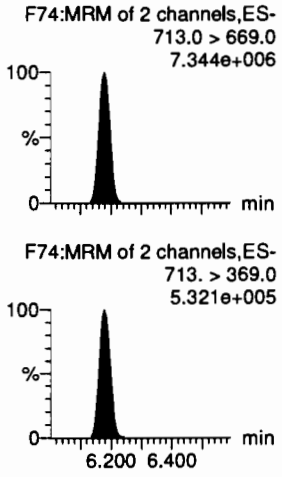
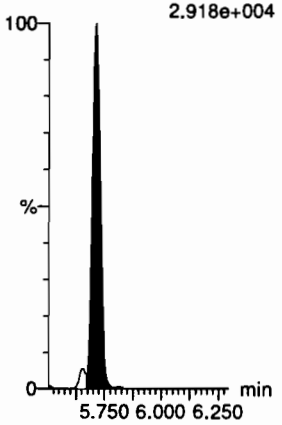
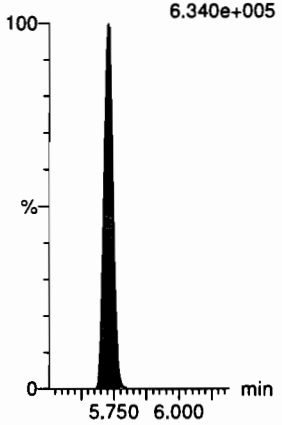


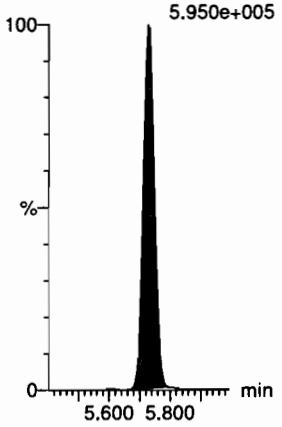
13C2-10:2 FTS-EIS



13C2-PFDoA-EIS



d3-N-MeFOSA-EIS



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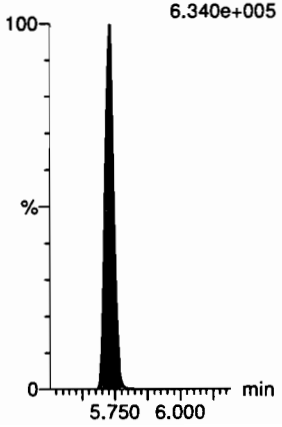

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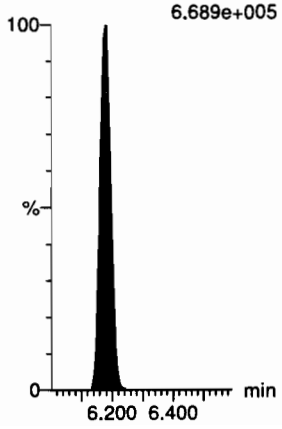

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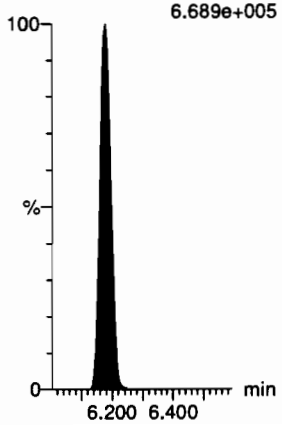

Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

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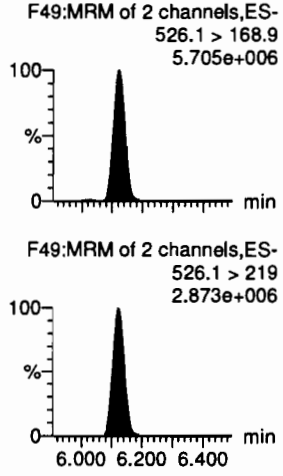
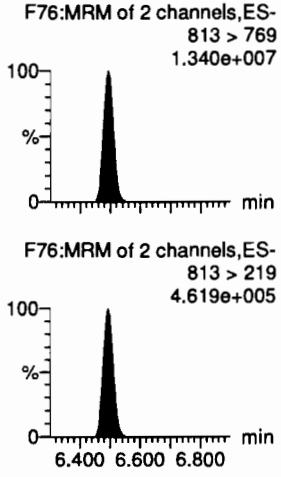
Name: 200714P1-13, Date: 14-Jul-2020, Time: 11:48:48, ID: ST200714P1-9 PFC CS6 20F1909, Description: PFC CS6 20F1909

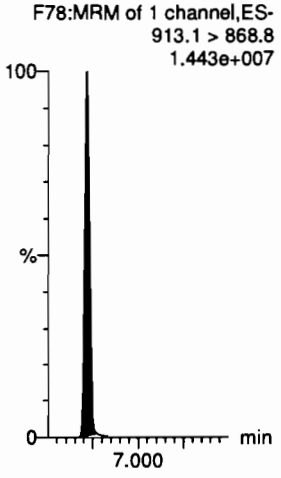
N-EtFOSA



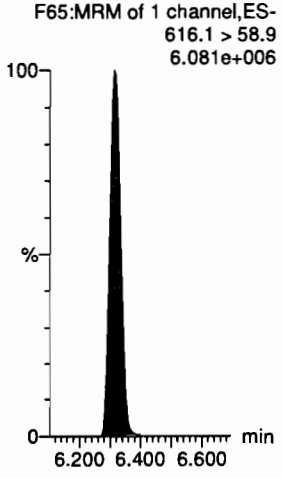
PFHxDA



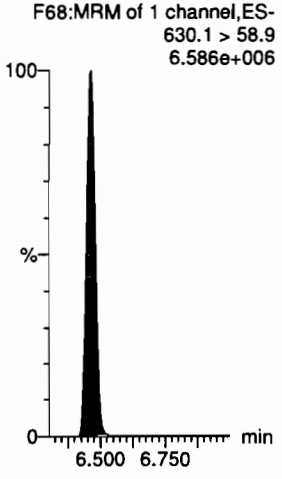
PFODA



N-MeFOSE



N-EtFOSE



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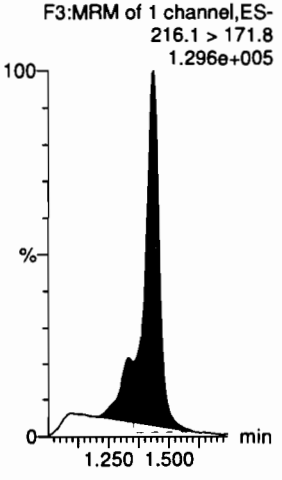
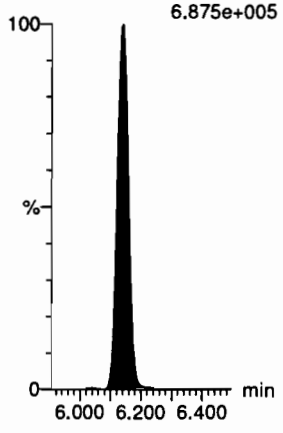


d5-N-ETFOSA-EIS



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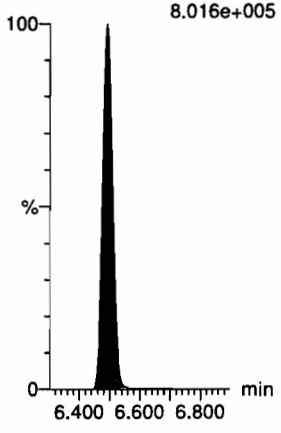
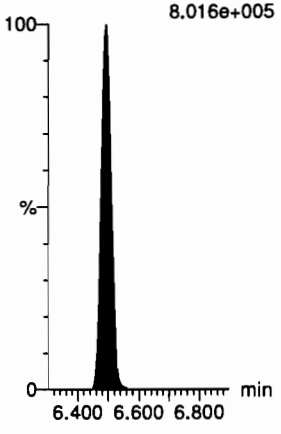
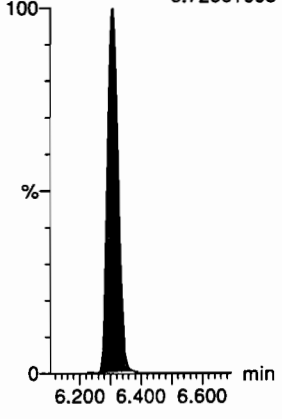


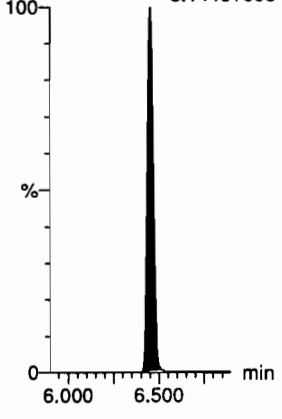
13C2-PFHxDA-EIS



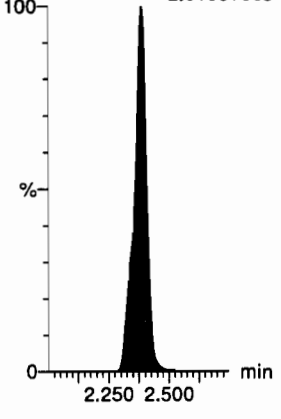
d7-N-MeFOSE-EIS



d9-N-EtFOSE-EIS



13C3-PFPeA-RSD



Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

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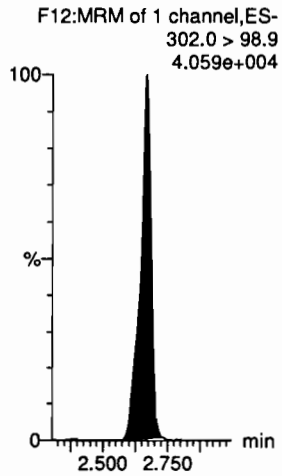
Name: 200714P1-13, Date: 14-Jul-2020, Time: 11:48:48, ID: ST200714P1-9 PFC CS6 20F1909, Description: PFC CS6 20F1909

13C3-PFBS-RSD



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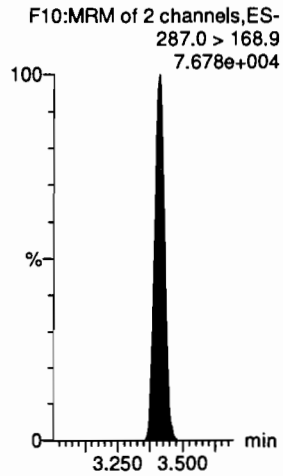
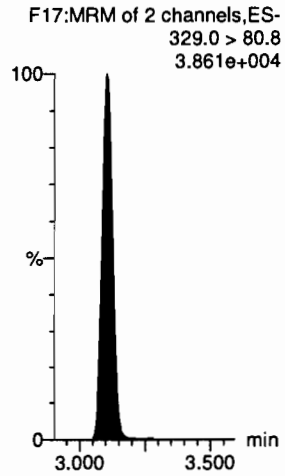


13C2-4:2 FTS-RSD



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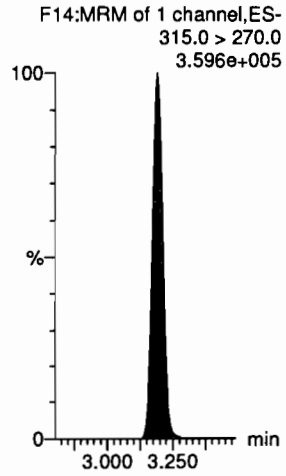

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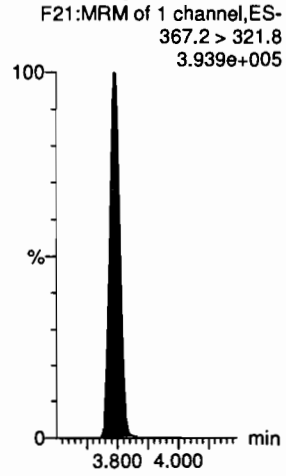

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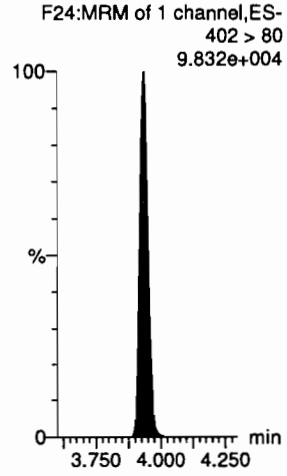
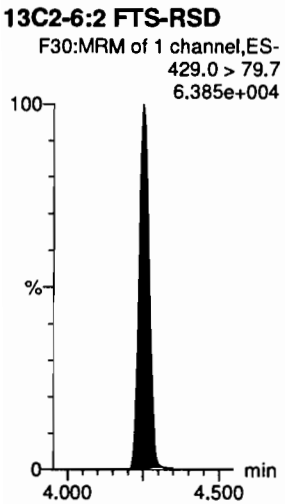
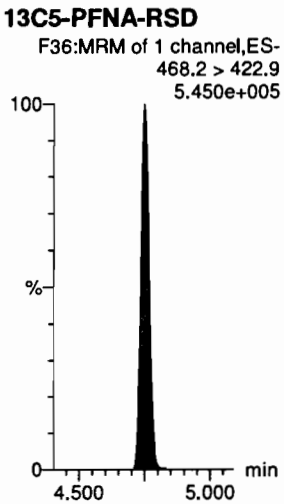


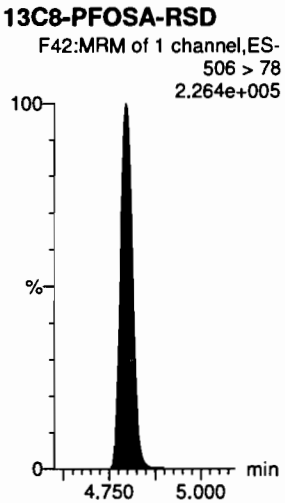
13C2-6:2 FTS-RSD



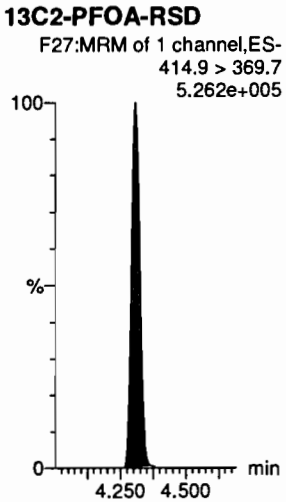
13C5-PFNA-RSD



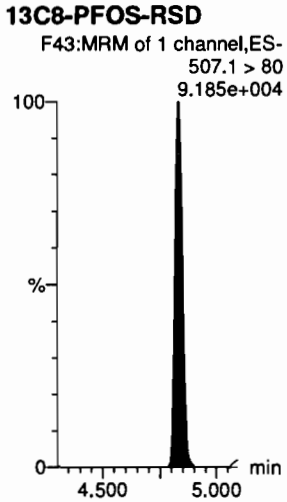
13C8-PFOSA-RSD



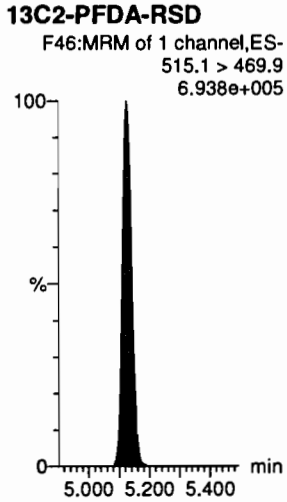
13C2-PFOA-RSD



13C8-PFOS-RSD



13C2-PFDA-RSD

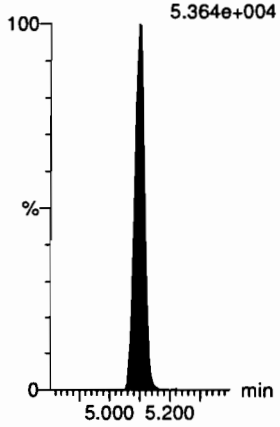


Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

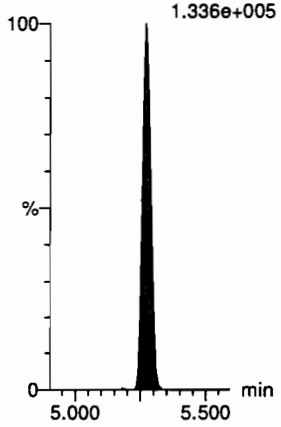
Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 16:21:31 Pacific Daylight Time

Name: 200714P1-13, Date: 14-Jul-2020, Time: 11:48:48, ID: ST200714P1-9 PFC CS6 20F1909, Description: PFC CS6 20F1909

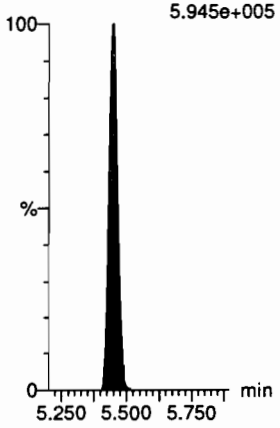
13C2-8:2 FTS-RSD
F51:MRM of 1 channel,ES-
529 > 80
5.364e+004



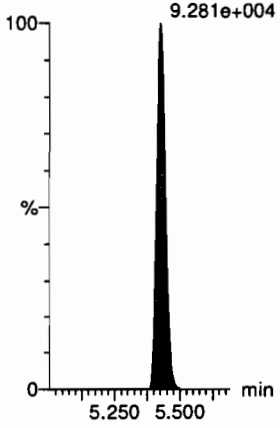
d3-N-MeFOSAA-RSD
F59:MRM of 1 channel,ES-
573.1 > 419
1.336e+005



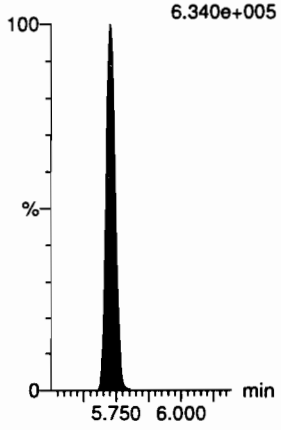
13C2-PFUdA-RSD
F56:MRM of 1 channel,ES-
565 > 519.8
5.945e+005



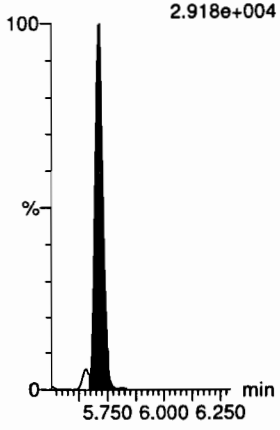
d5-N-EtFOSAA-RSD
F61:MRM of 1 channel,ES-
589.3 > 419
9.281e+004



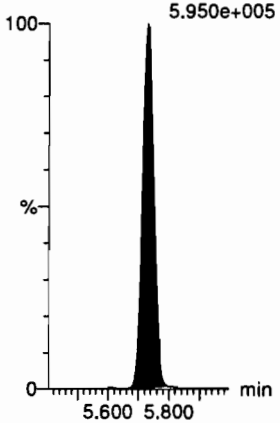
13C2-PFDoA-RSD
F64:MRM of 1 channel,ES-
614.9 > 569.9
6.340e+005



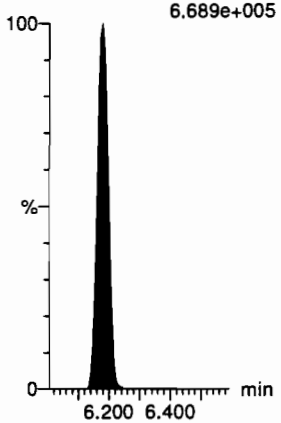
13C2-10:2 FTS-RSD
F70:MRM of 1 channel,ES-
632.9 > 80.0
2.918e+004



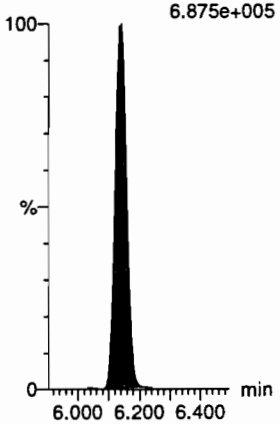
d3-N-MeFOSA-RSD
F47:MRM of 1 channel,ES-
515.2 > 168.9
5.950e+005



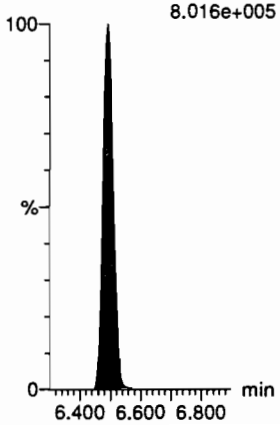
13C2-PFTeDA-RSD
F75:MRM of 2 channels,ES-
715.1 > 669.7
6.689e+005



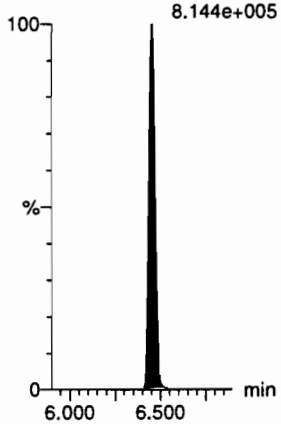
d5-N-ETFOSA-RSD
F53:MRM of 1 channel,ES-
531.1 > 168.9
6.875e+005



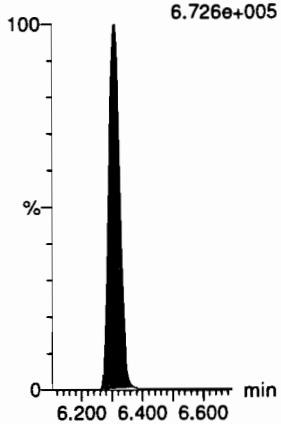
13C2-PFHxDA-RSD
F77:MRM of 1 channel,ES-
815 > 769.7
8.016e+005



d9-N-EtFOSE-RSD
F71:MRM of 1 channel,ES-
639.2 > 58.8
8.144e+005



d7-N-MeFOSE-RSD
F66:MRM of 1 channel,ES-
623.1 > 58.9
6.726e+005

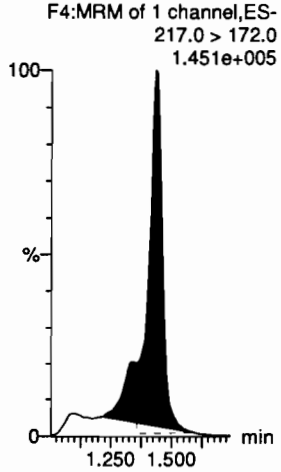


Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

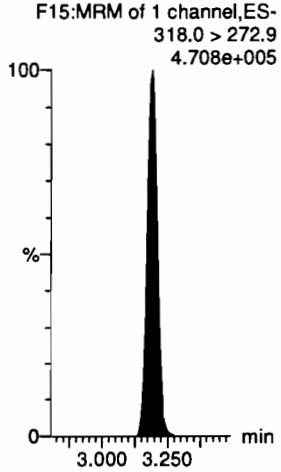
Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 16:21:31 Pacific Daylight Time

Name: 200714P1-13, Date: 14-Jul-2020, Time: 11:48:48, ID: ST200714P1-9 PFC CS6 20F1909, Description: PFC CS6 20F1909

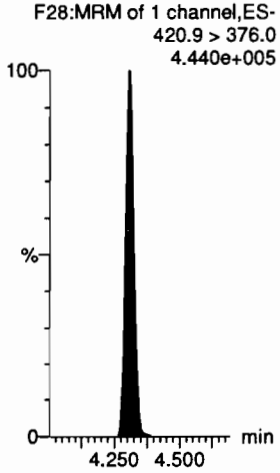
13C4-PFBA



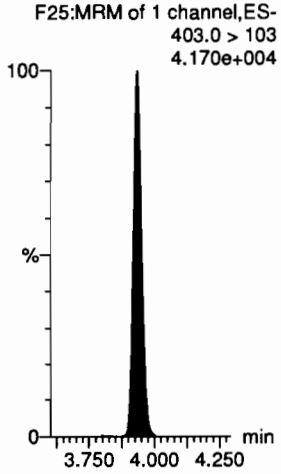
13C5-PFHxA



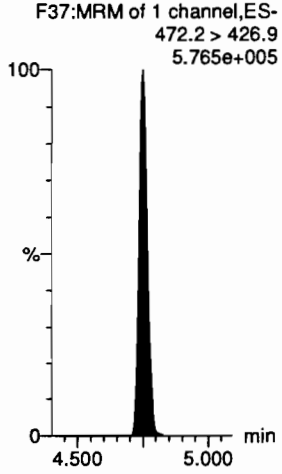
13C8-PFOA



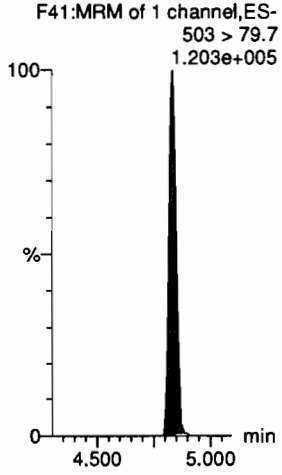
18O2-PFHxS



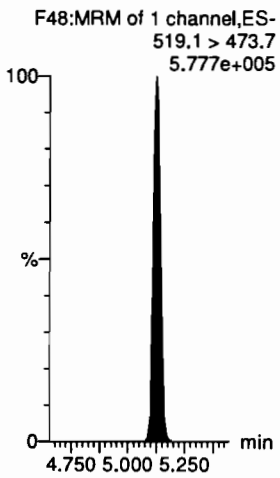
13C9-PFNA



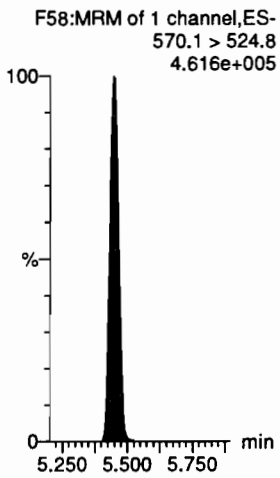
13C4-PFOS



13C6-PFDA



13C7-PFUdA



Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

Last Altered: Wednesday, July 15, 2020 08:25:12 Pacific Daylight Time
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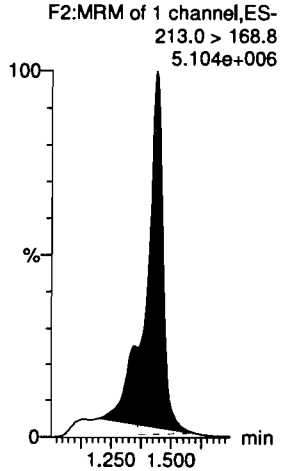
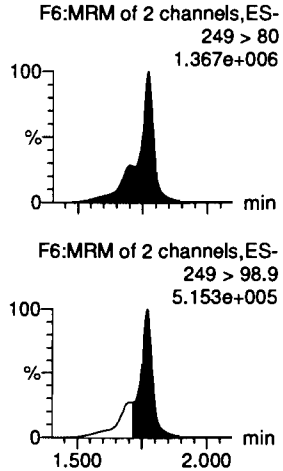
Name: 200714P1-14, Date: 14-Jul-2020, Time: 11:59:24, ID: ST200714P1-10 PFC CS7 20F1910, Description: PFC CS7 20F1910

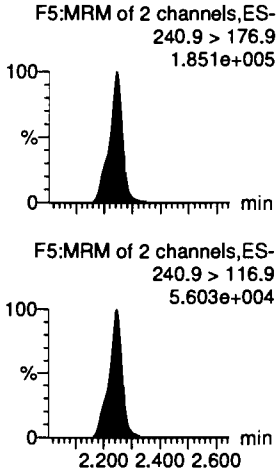
PFBA



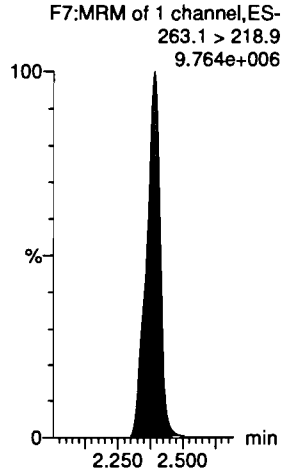
PFPrS



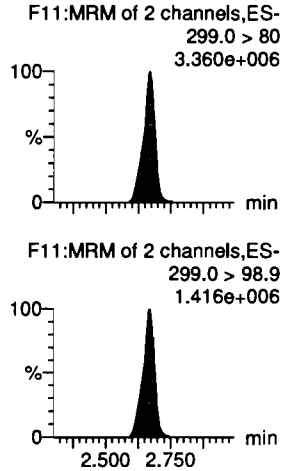
3:3 FTCA



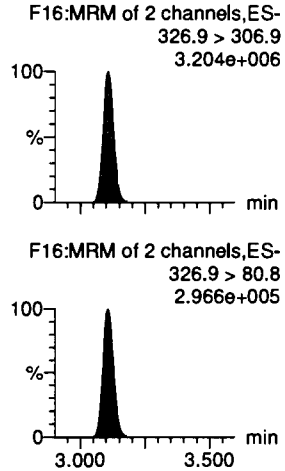
PFPeA



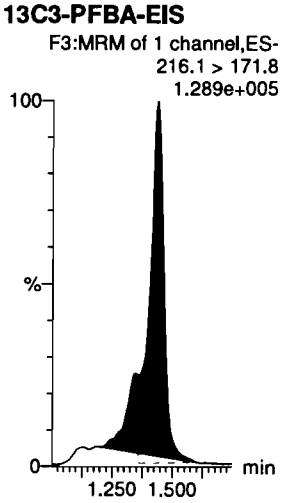
PFBS



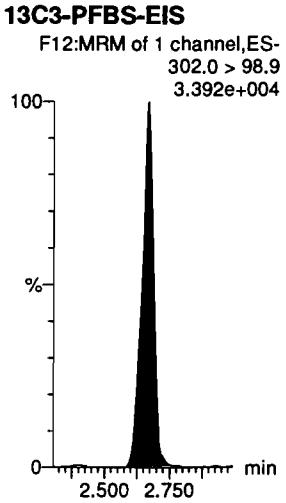
4:2 FTS



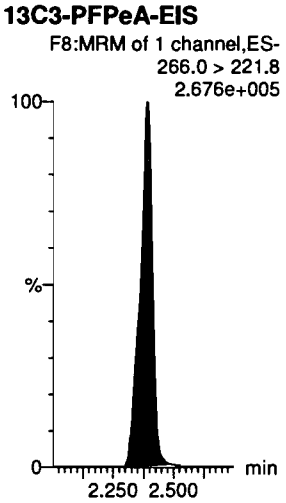
13C3-PFBA-EIS



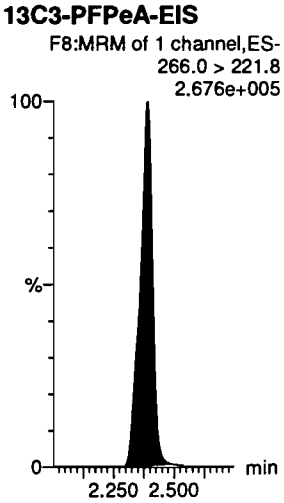
13C3-PFBS-EIS



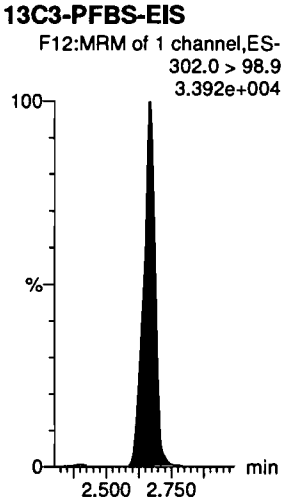
13C3-PFPeA-EIS



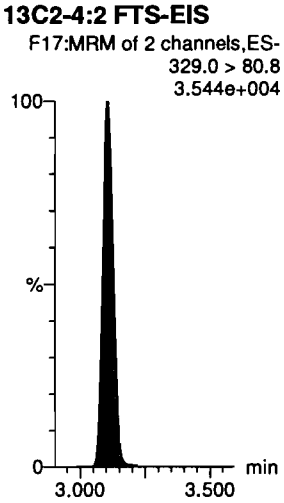
13C3-PFPeA-EIS



13C3-PFBS-EIS



13C2-4:2 FTS-EIS

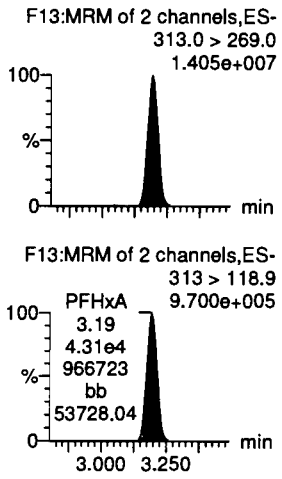


Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

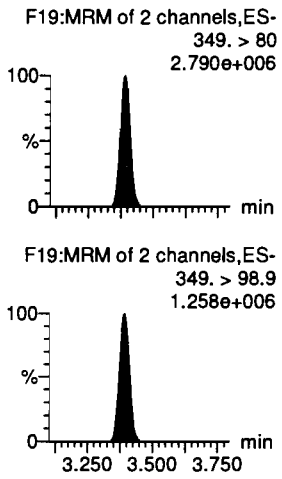
Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 16:21:31 Pacific Daylight Time

Name: 200714P1-14, Date: 14-Jul-2020, Time: 11:59:24, ID: ST200714P1-10 PFC CS7 20F1910, Description: PFC CS7 20F1910

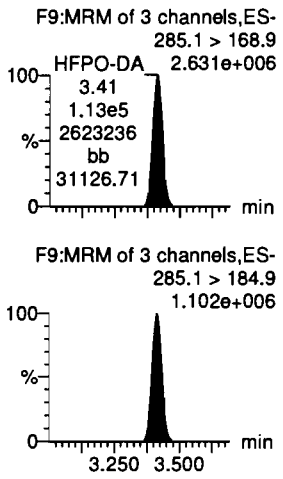
PFHxA



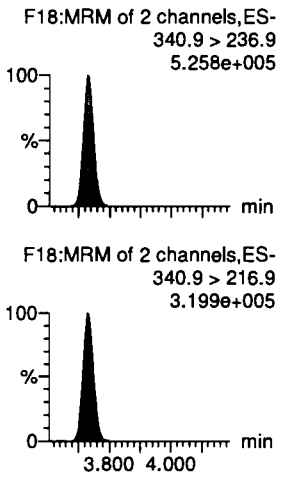
PFPeS



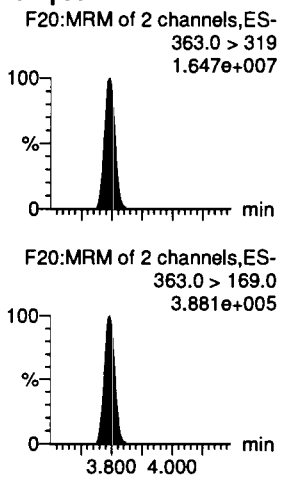
HFPO-DA



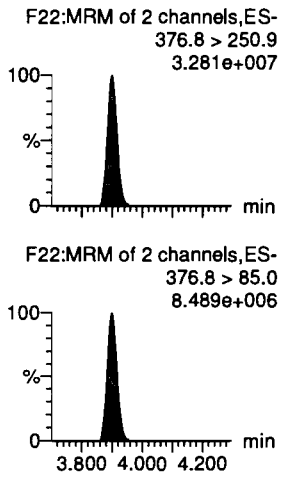
5:3 FTCA



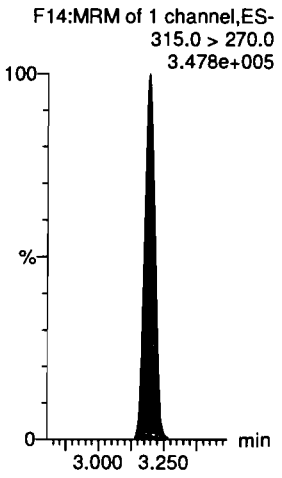
PFHpA



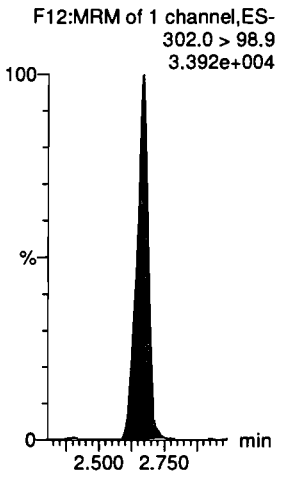
ADONA



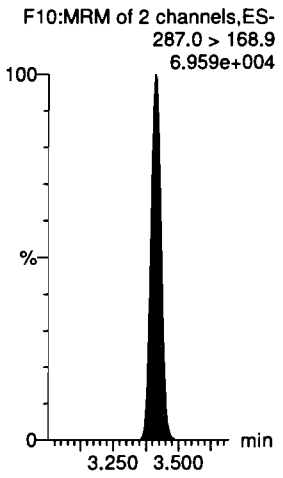
13C2-PFHxA-EIS



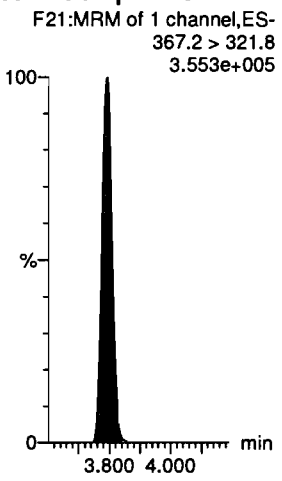
13C3-PFBS-EIS



13C3-HFPO-DA-EIS



13C4-PFHpA-EIS



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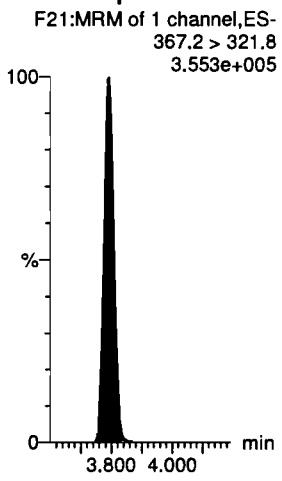

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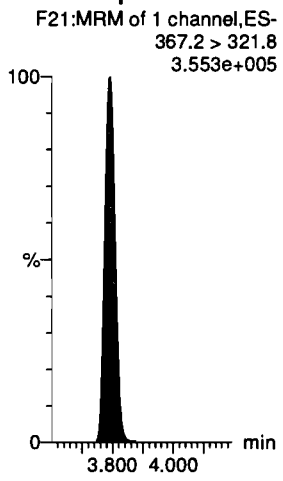

Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

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Printed: Tuesday, July 14, 2020 16:21:31 Pacific Daylight Time

Name: 200714P1-14, Date: 14-Jul-2020, Time: 11:59:24, ID: ST200714P1-10 PFC CS7 20F1910, Description: PFC CS7 20F1910

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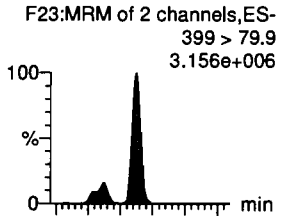
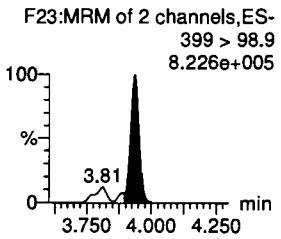
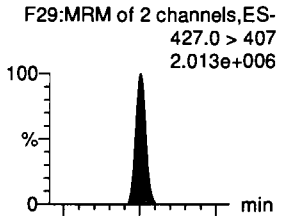
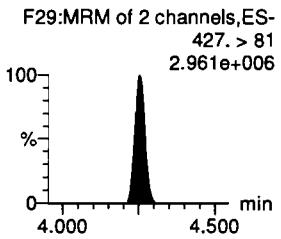




6:2 FTS





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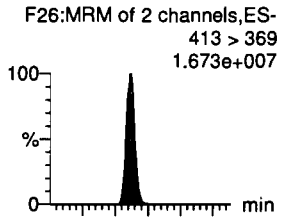

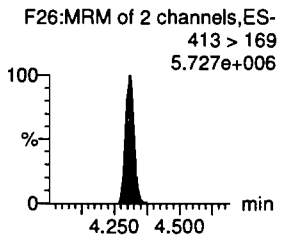

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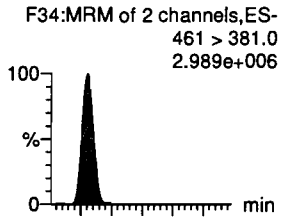

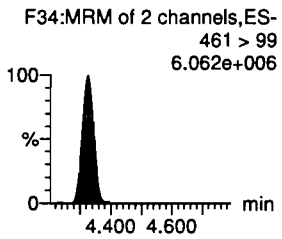

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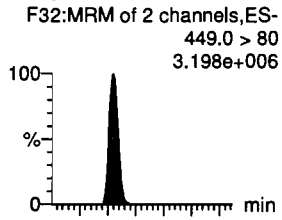
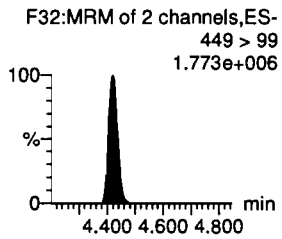
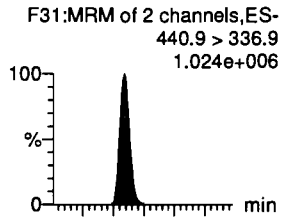
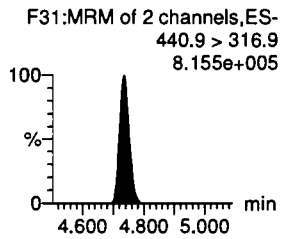


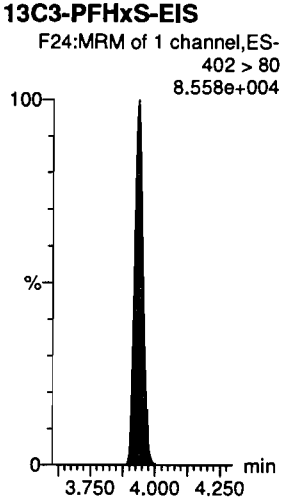


7:3 FTCA

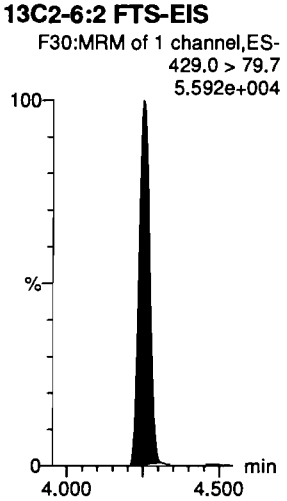




13C3-PFHxS-EIS



13C2-6:2 FTS-EIS



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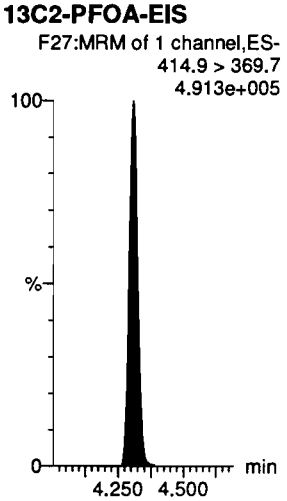

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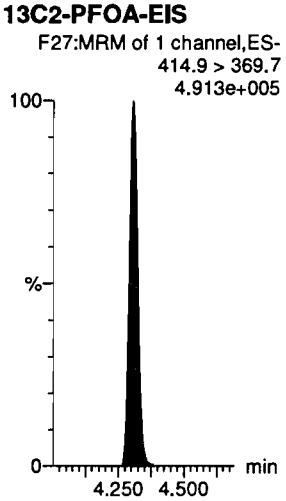
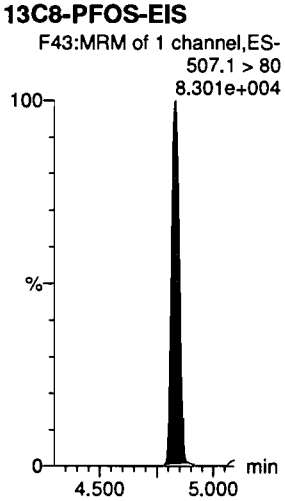


13C8-PFOS-EIS



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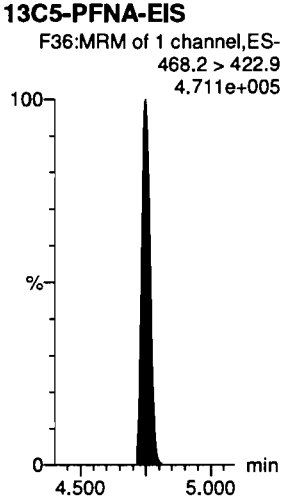

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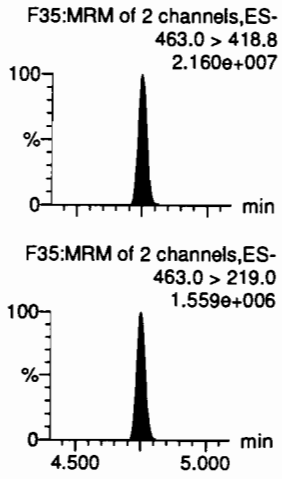

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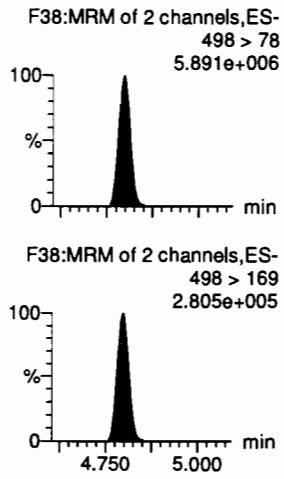
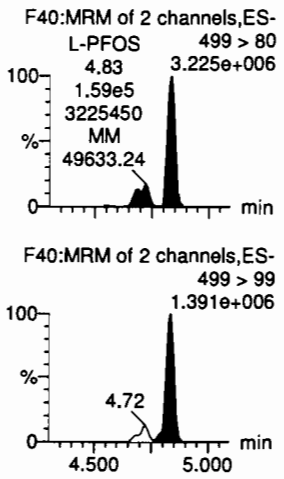


L-PFOS



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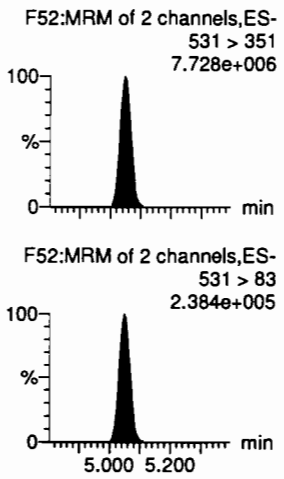

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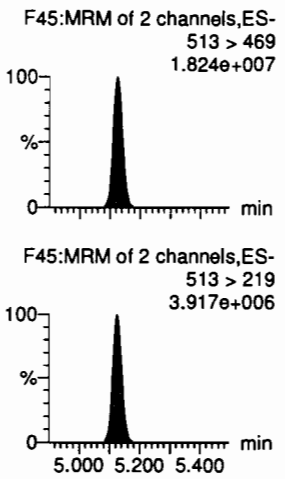
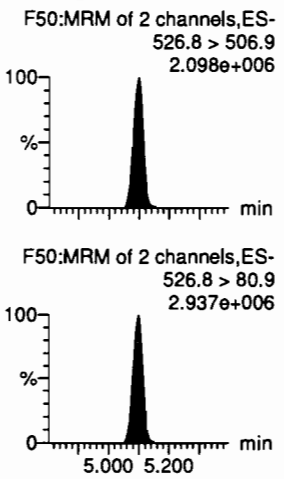


8:2 FTS



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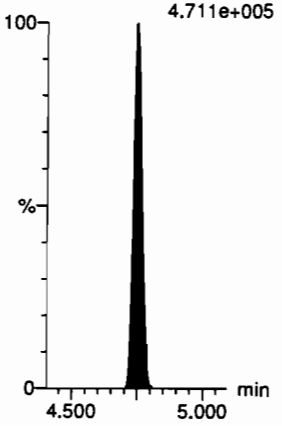

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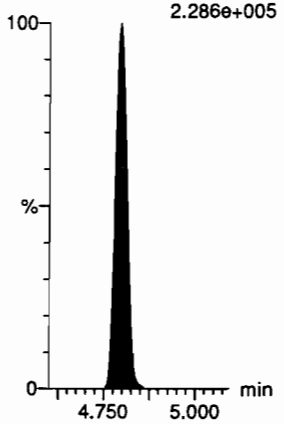

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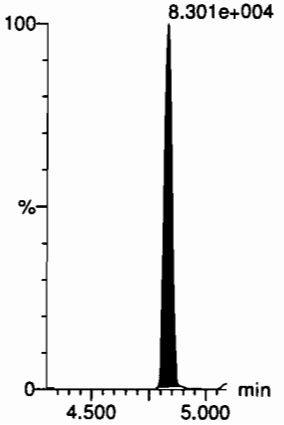

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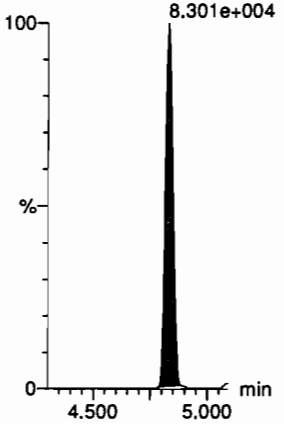

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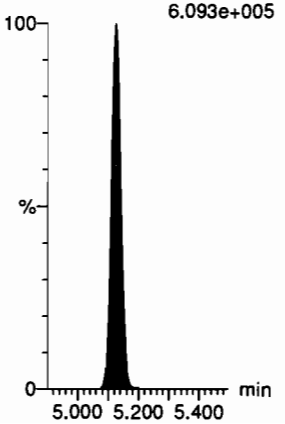

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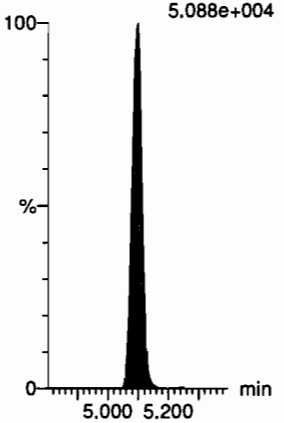

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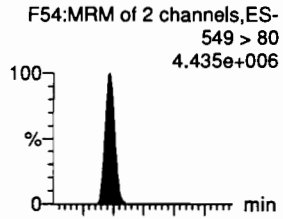

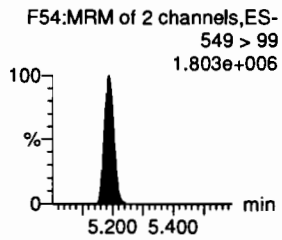

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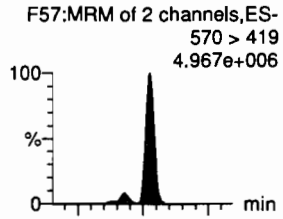

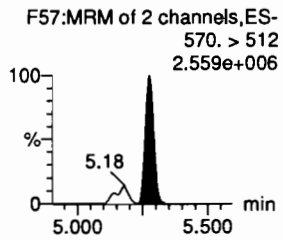

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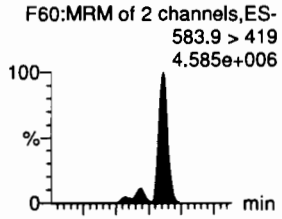

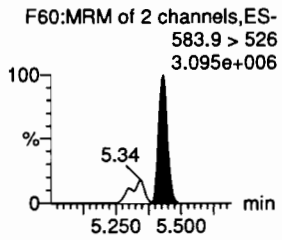

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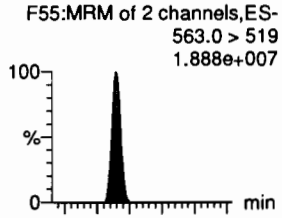

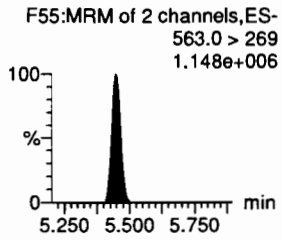

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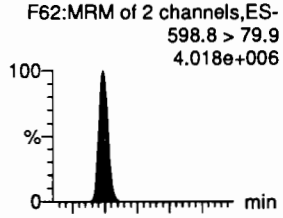

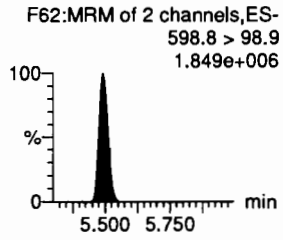

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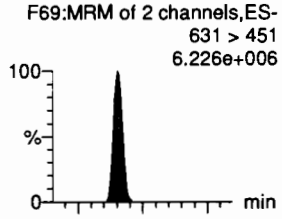

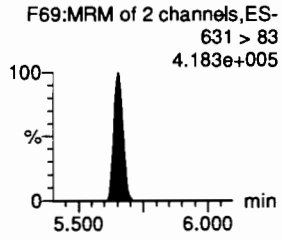

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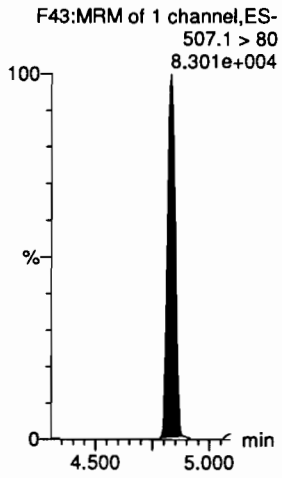
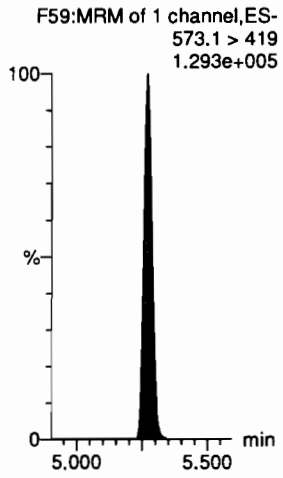


d3-N-MeFOSAA-EIS



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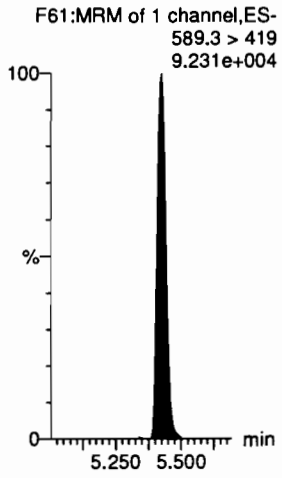

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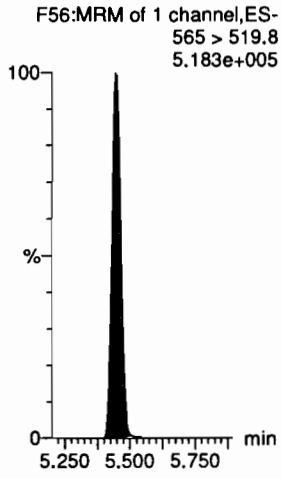

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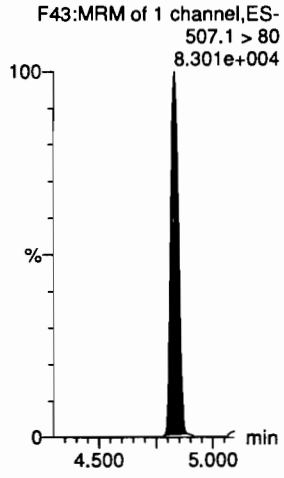

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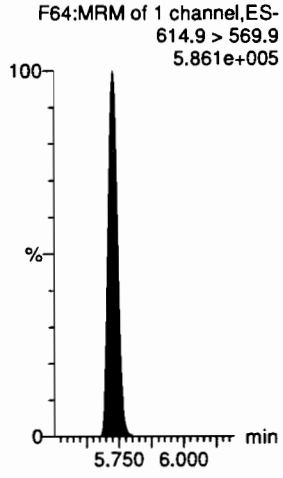

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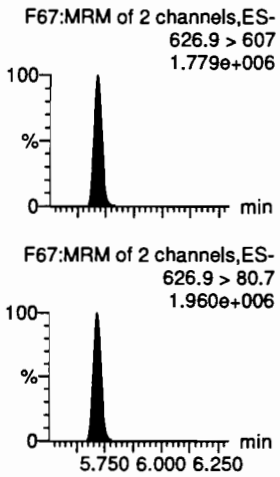
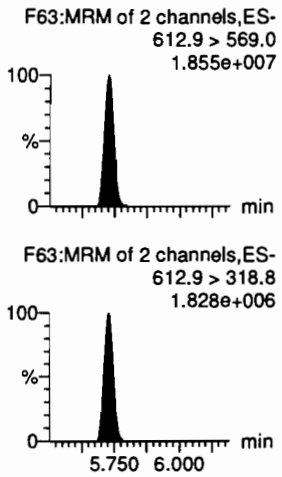
Name: 200714P1-14, Date: 14-Jul-2020, Time: 11:59:24, ID: ST200714P1-10 PFC CS7 20F1910, Description: PFC CS7 20F1910

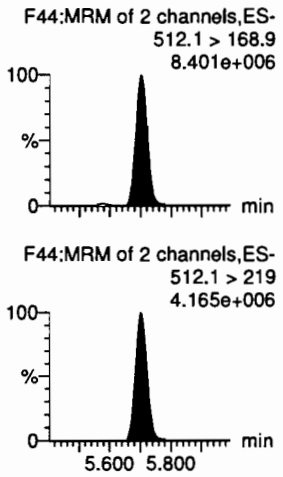
10:2 FTS



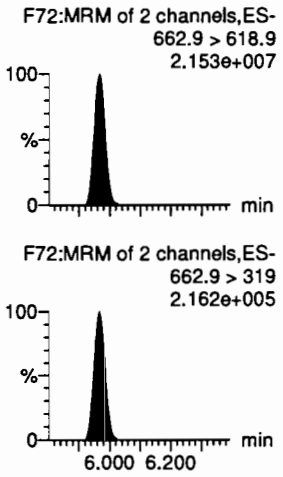
PFDoA



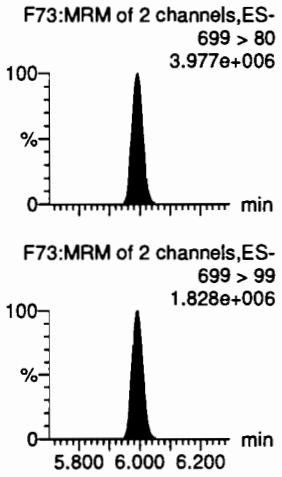
N-MeFOSA



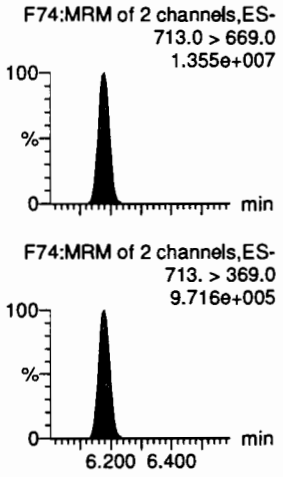
PFTrDA



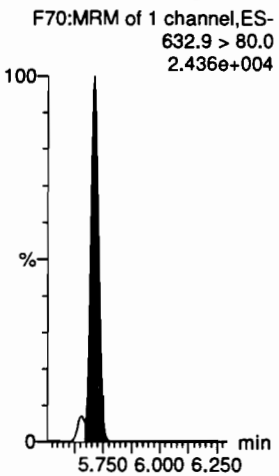
PFDoS



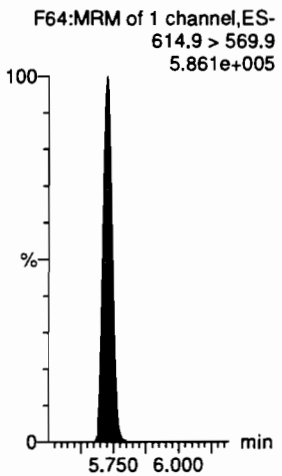
PFTeDA



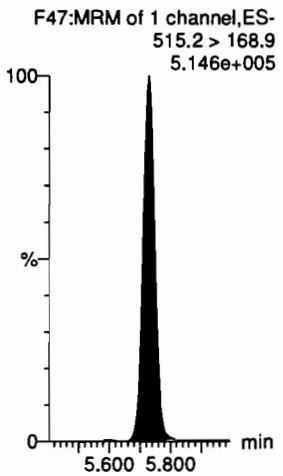
13C2-10:2 FTS-EIS



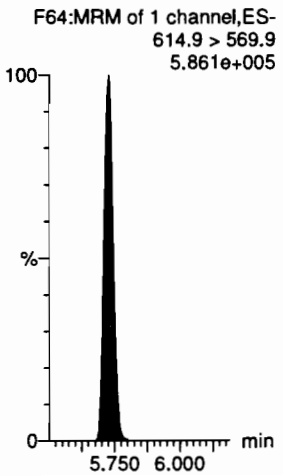
13C2-PFDoA-EIS



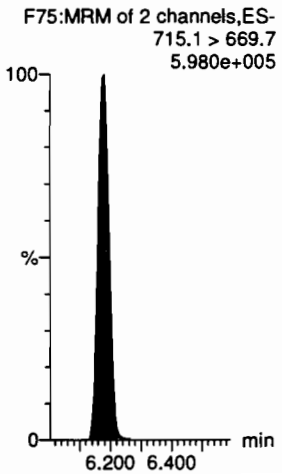
d3-N-MeFOSA-EIS



13C2-PFDoA-EIS



13C2-PFTeDA-EIS



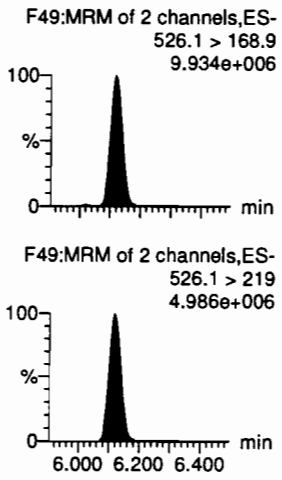
13C2-PFTeDA-EIS

Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

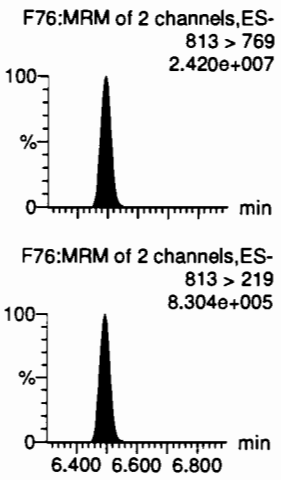
Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
Printed: Tuesday, July 14, 2020 16:21:31 Pacific Daylight Time

Name: 200714P1-14, Date: 14-Jul-2020, Time: 11:59:24, ID: ST200714P1-10 PFC CS7 20F1910, Description: PFC CS7 20F1910

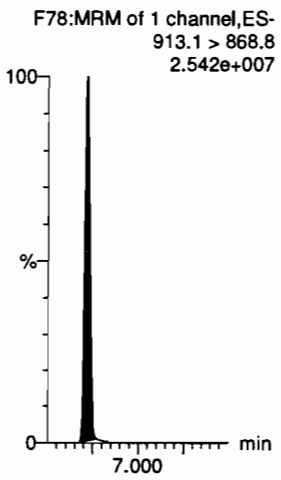
N-EtFOSA



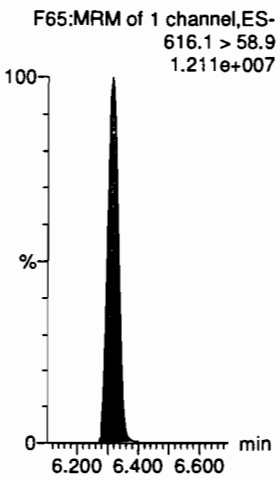
PFHxDA



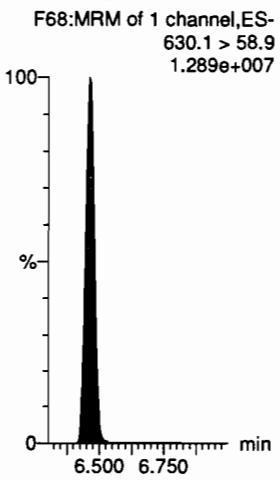
PFODA



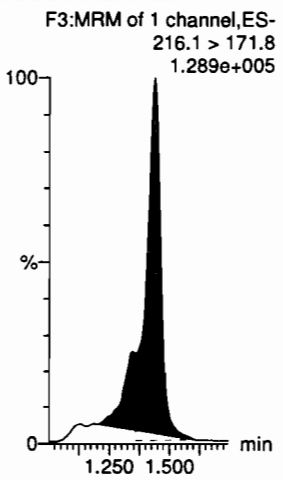
N-MeFOSE



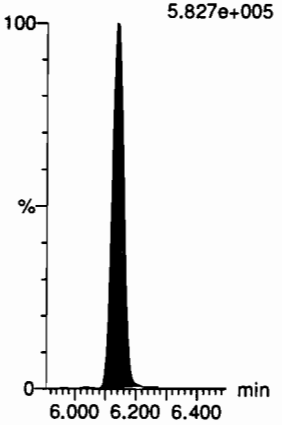
N-EtFOSE



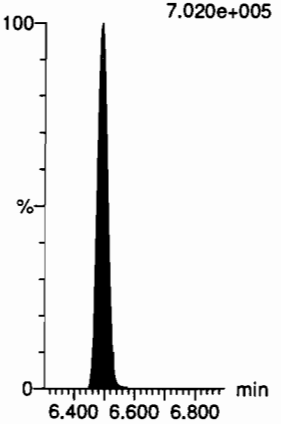
13C3-PFBA-RSD



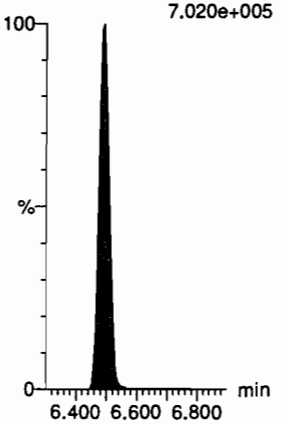
d5-N-ETFOSA-EIS



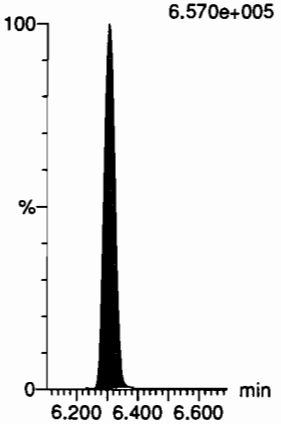
13C2-PFHxDA-EIS



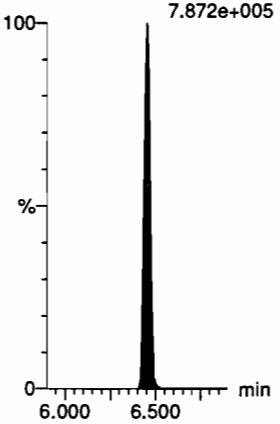
13C2-PFHxDA-EIS



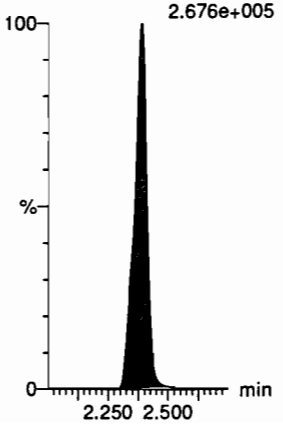
d7-N-MeFOSE-EIS



d9-N-EtFOSE-EIS



13C3-PFPeA-RSD



Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
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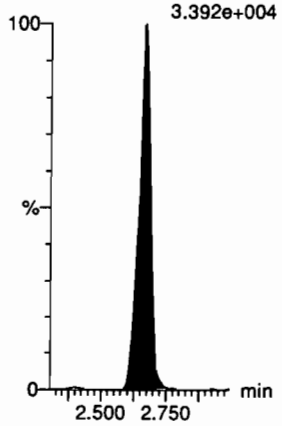
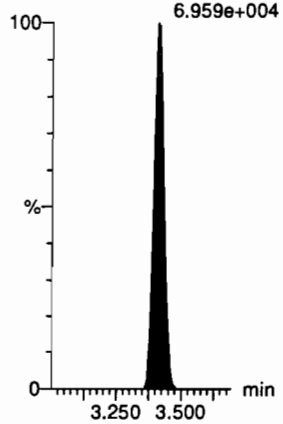
Name: 200714P1-14, Date: 14-Jul-2020, Time: 11:59:24, ID: ST200714P1-10 PFC CS7 20F1910, Description: PFC CS7 20F1910

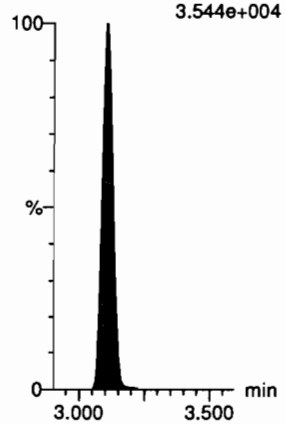
13C3-PFBS-RSD
F12:MRM of 1 channel,ES-
302.0 > 98.9
3.392e+004



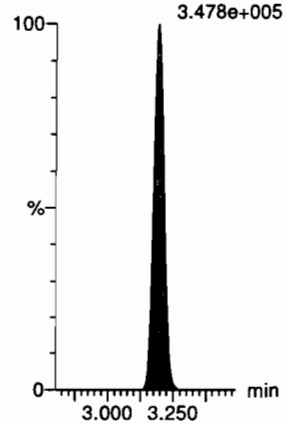
13C3-HFPO-DA-RSD
F10:MRM of 2 channels,ES-
287.0 > 168.9
6.959e+004



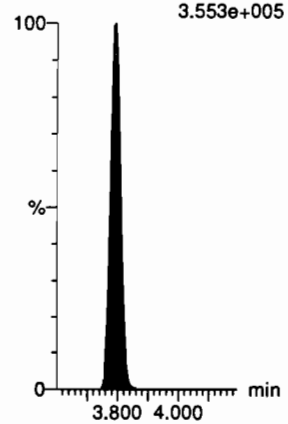
13C2-4:2 FTS-RSD
F17:MRM of 2 channels,ES-
329.0 > 80.8
3.544e+004



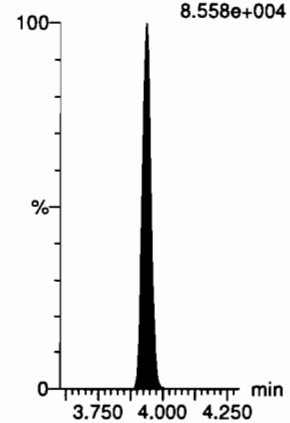
13C2-PFHxA-RSD
F14:MRM of 1 channel,ES-
315.0 > 270.0
3.478e+005



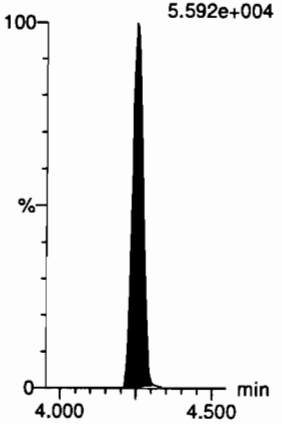
13C4-PFHpA-RSD
F21:MRM of 1 channel,ES-
367.2 > 321.8
3.553e+005



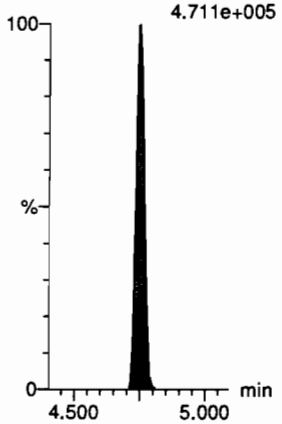
13C3-PFHxS-RSD
F24:MRM of 1 channel,ES-
402 > 80
8.558e+004



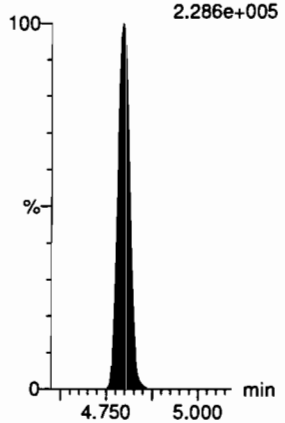
13C2-6:2 FTS-RSD
F30:MRM of 1 channel,ES-
429.0 > 79.7
5.592e+004



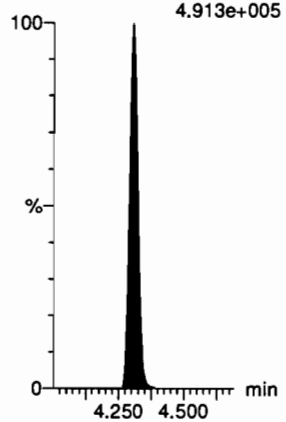
13C5-PFNA-RSD
F36:MRM of 1 channel,ES-
468.2 > 422.9
4.711e+005



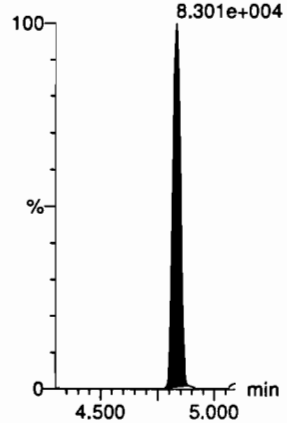
13C8-PFOSA-RSD
F42:MRM of 1 channel,ES-
506 > 78
2.286e+005



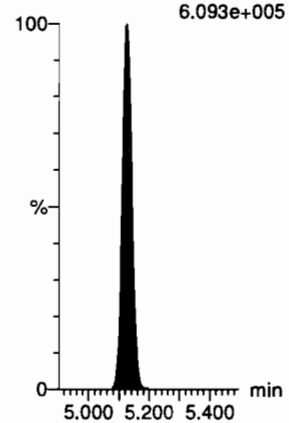
13C2-PFOA-RSD
F27:MRM of 1 channel,ES-
414.9 > 369.7
4.913e+005



13C8-PFOS-RSD
F43:MRM of 1 channel,ES-
507.1 > 80
8.301e+004



13C2-PFDA-RSD
F46:MRM of 1 channel,ES-
515.1 > 469.9
6.093e+005



Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
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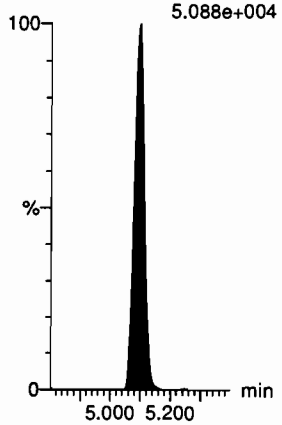
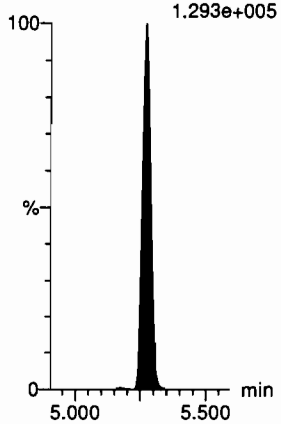
Name: 200714P1-14, Date: 14-Jul-2020, Time: 11:59:24, ID: ST200714P1-10 PFC CS7 20F1910, Description: PFC CS7 20F1910

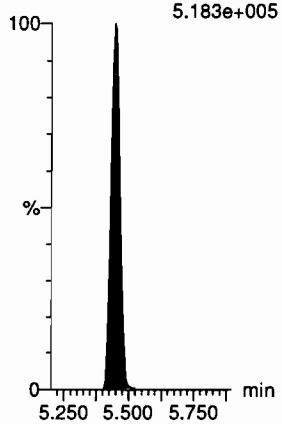
13C2-8:2 FTS-RSD
F51:MRM of 1 channel,ES-
529 > 80
5.088e+004



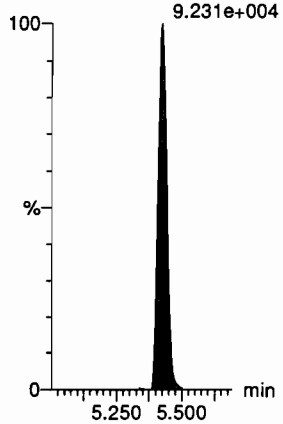
d3-N-MeFOSAA-RSD
F59:MRM of 1 channel,ES-
573.1 > 419
1.293e+005



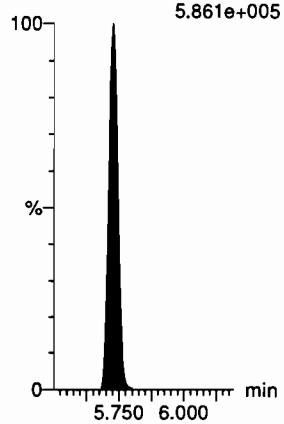
13C2-PFUdA-RSD
F56:MRM of 1 channel,ES-
565 > 519.8
5.183e+005



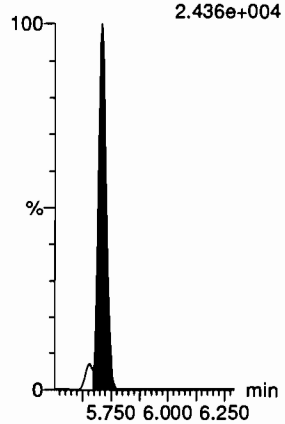
d5-N-EtFOSAA-RSD
F61:MRM of 1 channel,ES-
589.3 > 419
9.231e+004



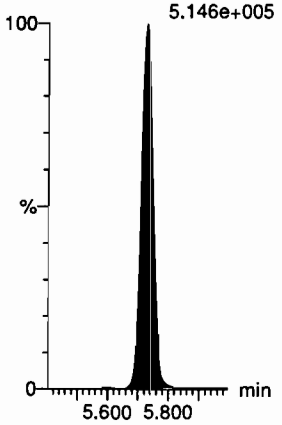
13C2-PFDoA-RSD
F64:MRM of 1 channel,ES-
614.9 > 569.9
5.861e+005



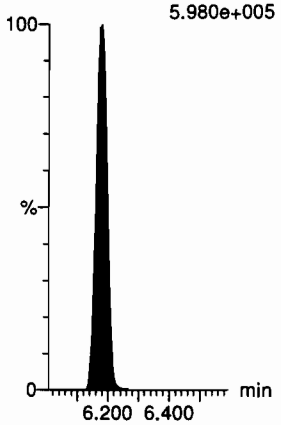
13C2-10:2 FTS-RSD
F70:MRM of 1 channel,ES-
632.9 > 80.0
2.436e+004



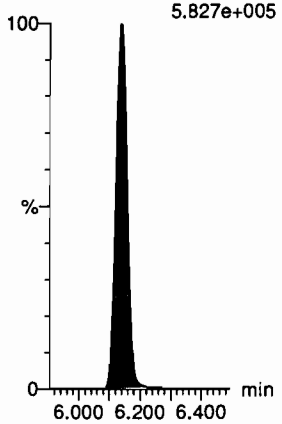
d3-N-MeFOSA-RSD
F47:MRM of 1 channel,ES-
515.2 > 168.9
5.146e+005



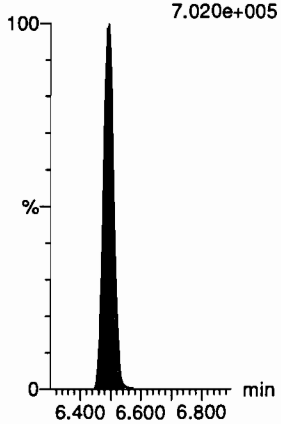
13C2-PFTeDA-RSD
F75:MRM of 2 channels,ES-
715.1 > 669.7
5.980e+005



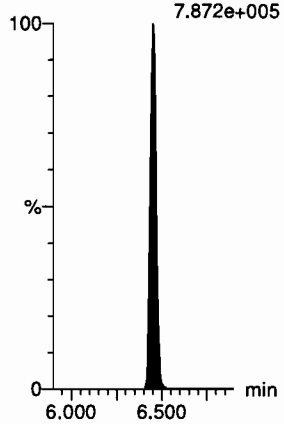
d5-N-ETFOSA-RSD
F53:MRM of 1 channel,ES-
531.1 > 168.9
5.827e+005



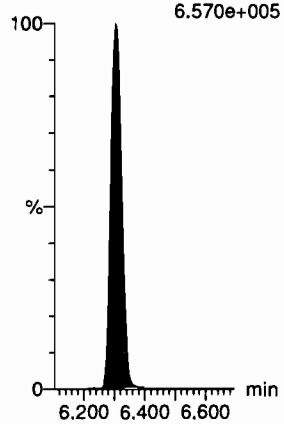
13C2-PFHxDA-RSD
F77:MRM of 1 channel,ES-
815 > 769.7
7.020e+005



d9-N-EtFOSE-RSD
F71:MRM of 1 channel,ES-
639.2 > 58.8
7.872e+005



d7-N-MeFOSE-RSD
F66:MRM of 1 channel,ES-
623.1 > 58.9
6.570e+005



Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-CRV.qld

Last Altered: Tuesday, July 14, 2020 16:20:24 Pacific Daylight Time
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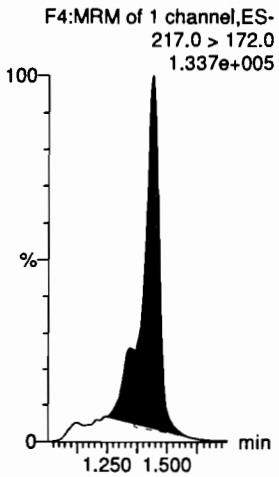
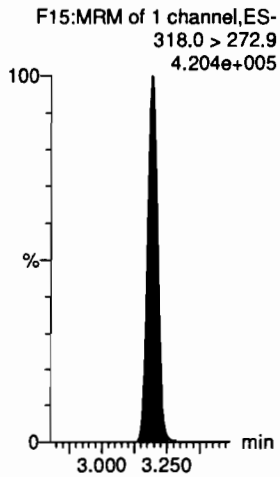
Name: 200714P1-14, Date: 14-Jul-2020, Time: 11:59:24, ID: ST200714P1-10 PFC CS7 20F1910, Description: PFC CS7 20F1910

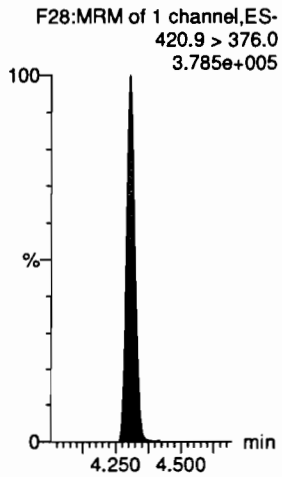
13C4-PFBA



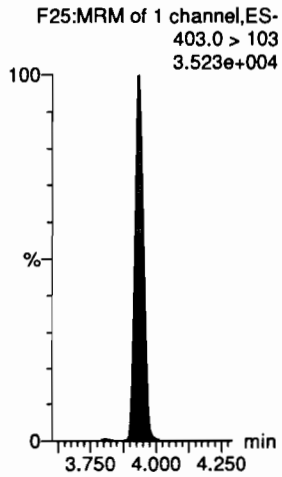
13C5-PFHxA



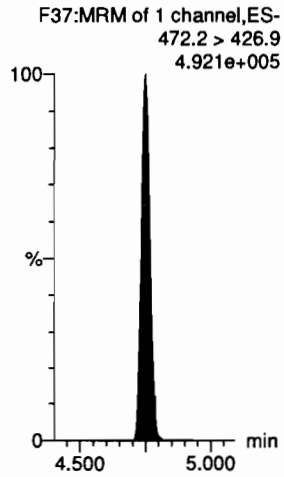
13C8-PFOA



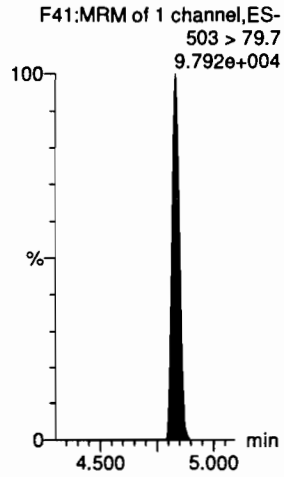
18O2-PFHxS



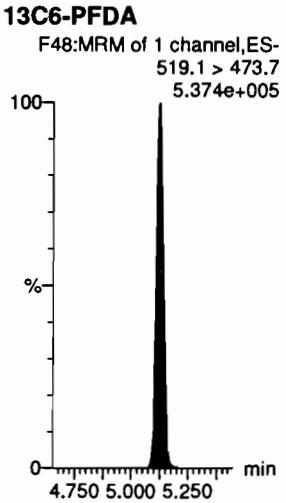
13C9-PFNA



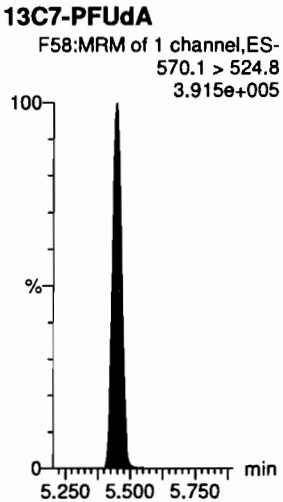
13C4-PFOS



13C6-PFDA



13C7-PFUdA



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Last Altered: Wednesday, July 15, 2020 08:49:29 Pacific Daylight Time
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(A) Not in ICV

Name: 200714P1-16, Date: 14-Jul-2020, Time: 12:20:26, ID: ICV200714P1-1 PFC ICV 20F1911, Description: PFC ICV 20F1911

✓ 7R 07/15/2020

1 PFBA	213.0 > 168.8	7218.825	9023.642	1.00	1.44	10.000	10.000	10.1	100.8	NO		
2 PFPrS	249 > 80		1938.842	1.00			10.000		(A)	NO		YES
3 3:3 FTCA	240.9 > 176.9		16347.065	1.00			10.000		↓	NO		YES
4 PFPeA	263.1 > 218.9	11994.819	16347.065	1.00	2.39	9.172	10.000	10.3	102.8	NO		
5 PFBS	299.0 > 80	3313.575	1938.842	1.00	2.67	21.363	8.840	8.54	96.6	NO	2.400	NO
6 4:2 FTS	326.9 > 306.9	3578.212	1921.517	1.00	3.11	23.277	9.360	9.13	97.6	NO	9.620	YES
47 13C3-PFBA-EIS	216.1 > 171.8	9023.642		1.00	1.44	9023.642	12.500	13.8	110.1	NO		
51 13C3-PFBS-EIS	302.0 > 98.9	1938.842		1.00	2.67	1938.842	12.500	12.3	98.2	NO		
49 13C3-PFPeA-EIS	266.0 > 221.8	16347.065		1.00	2.39	16347.065	12.500	12.3	98.5	NO		
49 13C3-PFPeA-EIS	266.0 > 221.8	16347.065		1.00	2.39	16347.065	12.500	12.3	98.5	NO		
51 13C3-PFBS-EIS	302.0 > 98.9	1938.842		1.00	2.67	1938.842	12.500	12.3	98.2	NO		
55 13C2-4:2 FTS-EIS	329.0 >80.8	1921.517		1.00	3.11	1921.517	12.500	12.5	99.8	NO		
-1												
7 PFHxA	313.0 > 269.0	14544.584	16510.848	1.00	3.19	11.011	10.000	10.6	105.8	NO	14.921	NO
8 PFPeS	349.>80	2796.821	1938.842	1.00	3.39	18.032	9.360	9.08	97.0	NO	2.159	NO
9 HFPO-DA	285.1 > 168.9	2516.414	3213.970	1.00	3.41	9.787	10.000	10.2	101.6	NO	2.313	NO
10 5:3 FTCA	340.9 > 236.9		15526.923	1.00			10.000		(A)	NO		YES
11 PFHpA	363.0 > 319	15312.332	15526.923	1.00	3.79	12.327	10.000	10.1	100.6	NO	46.829	YES
12 ADONA	376.8 > 250.9	27429.336	15526.923	1.00	3.90	22.082	9.440	10.3	109.1	NO	4.129	NO
57 13C2-PFHxA-EIS	315.0 > 270.0	16510.848		1.00	3.20	16510.848	12.500	12.3	98.1	NO		
51 13C3-PFBS-EIS	302.0 > 98.9	1938.842		1.00	2.67	1938.842	12.500	12.3	98.2	NO		
53 13C3-HFPO-DA-EIS	287.0 > 168.9	3213.970		1.00	3.42	3213.970	12.500	12.3	98.4	NO		
59 13C4-PFHpA-EIS	367.2 > 321.8	15526.923		1.00	3.79	15526.923	12.500	12.1	96.6	NO		
59 13C4-PFHpA-EIS	367.2 > 321.8	15526.923		1.00	3.79	15526.923	12.500	12.1	96.6	NO		
59 13C4-PFHpA-EIS	367.2 > 321.8	15526.923		1.00	3.79	15526.923	12.500	12.1	96.6	NO		
-1												
13 L-PFHxS	399 > 79.9	3312.230	3828.919	1.00	3.93	10.813	9.120	9.52	104.4	NO	4.415	YES
15 6:2 FTS	427.0 > 407	1792.462	2366.457	1.00	4.25	9.468	9.480	10.3	109.2	NO	0.645	NO
16 L-PFOA	413 > 369	15952.440	22056.738	1.00	4.31	9.041	10.000	9.67	96.7	NO	2.838	NO
18 PFecHS	461 > 381.0		22056.738	1.00			10.000		(A)	NO		YES
19 PFHpS	449.0 > 80	2924.212	3410.384	1.00	4.42	10.718	9.520	10.8	113.9	NO	1.871	NO
20 7:3 FTCA	440.9 > 336.9		20226.139	1.00			10.000		(A)	NO		YES
61 13C3-PFHxS-EIS	402 >80	3828.919		1.00	3.93	3828.919	12.500	12.5	100.4	NO		
63 13C2-6:2 FTS-EIS	429.0 >79.7	2366.457		1.00	4.25	2366.457	12.500	11.9	95.2	NO		
69 13C2-PFOA-EIS	414.9 > 369.7	22056.738		1.00	4.31	22056.738	12.500	12.7	101.8	NO		
69 13C2-PFOA-EIS	414.9 > 369.7	22056.738		1.00	4.31	22056.738	12.500	12.7	101.8	NO		

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Name: 200714P1-16, Date: 14-Jul-2020, Time: 12:20:26, ID: ICV200714P1-1 PFC ICV 20F1911, Description: PFC ICV 20F1911

71 13C8-PFOS-EIS	507.1 > 80	3410.384		1.00	4.83	3410.384	12.500	11.4	91.2	NO		
65 13C5-PFNA-EIS	468.2 > 422.9	20226.139		1.00	4.75	20226.139	12.500	12.1	96.7	NO		
-1												
21 PFNA	463.0 > 418.8	18994.207	20226.139	1.00	4.75	11.739	10.000	9.92	99.2	NO	14.617	YES
22 PFOSA	498 > 78	4878.791	9290.273	1.00	4.80	6.564	10.000	9.49	94.9	NO	21.367	NO
23 L-PFOS	499 > 80	3296.682	3410.384	1.00	4.83	12.083	9.280	10.2	109.6	NO	2.543	NO
25 9Cl-PF30NS	531 > 351	7026.456	3410.384	1.00	5.05	25.754	9.320	10.3	110.8	NO	29.606	YES
26 PFDA	513 > 469	14697.398	23783.740	1.00	5.12	7.724	10.000	9.72	97.2	NO	4.582	NO
27 8:2 FTS	526.8> 506.9	1985.401	2074.218	1.00	5.10	11.965	9.600	9.91	103.3	NO	0.697	NO
65 13C5-PFNA-EIS	468.2 > 422.9	20226.139		1.00	4.75	20226.139	12.500	12.1	96.7	NO		
67 13C8-PFOSA-EIS	506 > 78	9290.273		1.00	4.80	9290.273	12.500	13.0	103.9	NO		
71 13C8-PFOS-EIS	507.1 > 80	3410.384		1.00	4.83	3410.384	12.500	11.4	91.2	NO		
71 13C8-PFOS-EIS	507.1 > 80	3410.384		1.00	4.83	3410.384	12.500	11.4	91.2	NO		
73 13C2-PFDA-EIS	515.1 > 469.9	23783.740		1.00	5.13	23783.740	12.500	11.9	95.3	NO		
75 13C2-8:2 FTS-EIS	529 > 80	2074.218		1.00	5.10	2074.218	12.500	11.8	94.7	NO		
-1												
28 PFNS	549 > 80	3570.998	3410.384	1.00	5.19	13.089	9.600	10.3	107.3	NO	2.400	NO
29 L-MeFOSAA	570 > 419	4878.992	4866.376	1.00	5.28	12.532	10.000	10.4	104.3	NO	1.872	NO
31 L-EtFOSAA	583.9 > 419	5466.846	4219.164	1.00	5.43	16.196	10.000	9.98	99.8	NO	1.411	NO
33 PFUdA	563.0 > 519	18633.371	24246.650	1.00	5.45	9.606	10.000	10.2	101.6	NO	18.443	NO
34 PFDS	598.8 > 79.9	3745.249	3410.384	1.00	5.49	13.727	9.640	10.3	107.2	NO	2.047	NO
35 11Cl-PF30UdS	631 > 451	5062.650	27840.941	1.00	5.65	2.273	9.440	8.71	92.3	NO	14.592	NO
71 13C8-PFOS-EIS	507.1 > 80	3410.384		1.00	4.83	3410.384	12.500	11.4	91.2	NO		
77 d3-N-MeFOSAA-EIS	573.1 > 419	4866.376		1.00	5.27	4866.376	12.500	12.4	99.5	NO		
81 d5-N-EtFOSAA-EIS	589.3 > 419	4219.164		1.00	5.42	4219.164	12.500	12.3	98.6	NO		
79 13C2-PFUdA-EIS	565 > 519.8	24246.650		1.00	5.45	24246.650	12.500	12.6	101.2	NO		
71 13C8-PFOS-EIS	507.1 > 80	3410.384		1.00	4.83	3410.384	12.500	11.4	91.2	NO		
83 13C2-PFDoA-EIS	614.9 > 569.9	27840.941		1.00	5.73	27840.941	12.500	12.1	96.7	NO		
-1												
36 10:2 FTS	626.9 > 607		1563.687	1.00			10.000		(R)	NO		YES
37 PFDoA	612.9 > 569.0	19618.830	27840.941	1.00	5.73	8.808	10.000	9.88	98.8	NO	10.227	NO
38 N-MeFOSA	512.1 > 168.9		26454.725	1.00			9.600		(R)	NO		YES
39 PFTrDA	662.9 > 618.9	22778.639	27840.941	1.00	5.97	10.227	10.000	9.58	95.8	NO	102.351	YES
40 PFDoS	699 > 80		28662.805	1.00			10.000		(R)	NO		YES
41 PFTeDA	713.0 > 669.0	13381.869	28662.805	1.00	6.18	5.836	10.000	10.3	103.1	NO	13.305	NO
85 13C2-10:2 FTS-EIS	632.9 > 80.0	1563.687		1.00	5.71	1563.687	12.500	13.1	104.8	NO		

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83 13C2-PFDoA-EIS	614.9 > 569.9	27840.941		1.00	5.73	27840.941	12.500	12.1	96.7	NO	
87 d3-N-MeFOSA-EIS	515.2 > 168.9	26454.725		1.00	5.73	26454.725	149.200	148	99.2	NO	
83 13C2-PFDoA-EIS	614.9 > 569.9	27840.941		1.00	5.73	27840.941	12.500	12.1	96.7	NO	
89 13C2-PFTeDA-EIS	715.1 > 669.7	28662.805		1.00	6.18	28662.805	12.500	12.8	102.3	NO	
89 13C2-PFTeDA-EIS -1	715.1 > 669.7	28662.805		1.00	6.18	28662.805	12.500	12.8	102.3	NO	
42 N-EtFOSA	526.1 > 168.9		31556.365	1.00			9.600			NO	YES
43 PFHxDA	813 > 769		31443.863	1.00			10.000			NO	YES
44 PFODA	913.1 > 868.8		31443.863	1.00			10.000			NO	
45 N-MeFOSE	616.1 > 58.9		26578.174	1.00			9.600			NO	
46 N-EtFOSE	630.1 > 58.9		30771.617	1.00			9.600			NO	
48 13C3-PFBA-RSD	216.1 > 171.8	9053.575	9787.257	1.00	1.44	11.563	12.500	12.4	99.1	NO	
91 d5-N-ETFOSA-EIS	531.1 > 168.9	31556.365		1.00	6.14	31556.365	149.200	154	103.3	NO	
93 13C2-PFHxDA-EIS	815 > 769.7	31443.863		1.00	6.49	31443.863	12.500	12.8	102.5	NO	
93 13C2-PFHxDA-EIS	815 > 769.7	31443.863		1.00	6.49	31443.863	12.500	12.8	102.5	NO	
95 d7-N-MeFOSE-EIS	623.1 > 58.9	26578.174		1.00	6.30	26578.174	149.200	149	100.1	NO	
97 d9-N-EtFOSE-EIS	639.2 > 58.8	30771.617		1.00	6.45	30771.617	149.200	150	100.4	NO	
50 13C3-PFPeA-RSD -1	266.0 > 221.8	16595.543	20161.691	1.00	2.39	10.289	12.500	12.8	102.2	NO	
52 13C3-PFBS-RSD	302.0 > 98.9	1938.842	1577.924	1.00	2.67	15.359	12.500	12.3	98.7	NO	
54 13C3-HFPO-DA-RSD	287.0 > 168.9	3213.970	20161.691	1.00	3.42	1.993	12.500	12.9	103.5	NO	
56 13C2-4:2 FTS-RSD	329.0 >80.8	1921.517	1577.924	1.00	3.11	15.222	12.500	11.9	95.6	NO	
58 13C2-PFHxA-RSD	315.0 > 270.0	16510.848	20161.691	1.00	3.20	10.237	12.500	12.8	102.7	NO	
60 13C4-PFHpA-RSD	367.2 > 321.8	15526.923	20161.691	1.00	3.79	9.627	12.500	12.8	102.0	NO	
62 13C3-PFHxS-RSD	402 > 80	3828.919	1577.924	1.00	3.93	30.332	12.500	12.2	98.0	NO	
64 13C2-6:2 FTS-RSD	429.0 >79.7	2366.457	4832.003	1.00	4.25	6.122	12.500	11.3	90.3	NO	
66 13C5-PFNA-RSD	468.2 > 422.9	20226.139	21076.125	1.00	4.75	11.996	12.500	12.7	101.9	NO	
68 13C8-PFOSA-RSD	506 > 78	9290.273	18187.818	1.00	4.80	6.385	12.500	13.0	103.8	NO	
70 13C2-PFOA-RSD	414.9 > 369.7	22056.738	18072.352	1.00	4.31	15.256	12.500	12.3	98.1	NO	
72 13C8-PFOS-RSD	507.1 > 80	3410.384	4832.003	1.00	4.83	8.822	12.500	11.2	89.4	NO	
74 13C2-PFDA-RSD -1	515.1 > 469.9	23783.740	20996.398	1.00	5.13	14.159	12.500	12.6	101.1	NO	
76 13C2-8:2 FTS-RSD	529 > 80	2074.218	4832.003	1.00	5.10	5.366	12.500	11.9	95.1	NO	
78 d3-N-MeFOSAA-RSD	573.1 > 419	4866.376	18187.818	1.00	5.27	3.345	12.500	12.7	102.0	NO	
80 13C2-PFUdA-RSD	565 > 519.8	24246.650	18187.818	1.00	5.45	16.664	12.500	13.0	104.2	NO	
82 d5-N-EtFOSAA-RSD	589.3 > 419	4219.164	18187.818	1.00	5.42	2.900	12.500	13.3	106.2	NO	

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Name: 200714P1-16, Date: 14-Jul-2020, Time: 12:20:26, ID: ICV200714P1-1 PFC ICV 20F1911, Description: PFC ICV 20F1911

84	13C2-PFDoA-RSD	614.9 > 569.9	27840.941	20996.398	1.00	5.73	16.575	12.500	12.9	103.2	NO
86	13C2-10:2 FTS-RSD	632.9 > 80.0	1563.687	4832.003	1.00	5.71	4.045	12.500	12.9	103.2	NO
88	d3-N-MeFOSA-RSD	515.2 > 168.9	26454.725	18187.818	1.00	5.73	18.182	149.200	157	104.9	NO
90	13C2-PFTeDA-RSD	715.1 > 669.7	28662.805	18187.818	1.00	6.18	19.699	12.500	13.0	103.8	NO
92	d5-N-ETFOSA-RSD	531.1 > 168.9	31556.365	18187.818	1.00	6.14	21.688	149.200	159	106.6	NO
94	13C2-PFHxDA-RSD	815 > 769.7	31443.863	18187.818	1.00	6.49	21.611	12.500	12.9	103.0	NO
96	d7-N-MeFOSE-RSD	623.1 > 58.9	26578.174	18187.818	1.00	6.30	18.266	149.200	149	99.6	NO
98	d9-N-EtFOSE-RSD	639.2 > 58.8	30771.617	18187.818	1.00	6.45	21.149	149.200	151	101.1	NO
-1											
99	13C4-PFBA	217.0 > 172.0	9787.257	9787.257	1.00	1.43	12.500	12.500	12.5	100.0	NO
1...	13C5-PFHxA	318.0 > 272.9	20161.691	20161.691	1.00	3.20	12.500	12.500	12.5	100.0	NO
1...	13C8-PFOA	420.9 > 376.0	18072.352	18072.352	1.00	4.31	12.500	12.500	12.5	100.0	NO
1...	18O2-PFHxS	403.0 > 103	1577.924	1577.924	1.00	3.94	12.500	12.500			NO
1...	13C9-PFNA	472.2 > 426.9	21076.125	21076.125	1.00	4.75	12.500	12.500	12.5	100.0	NO
1...	13C4-PFOS	503 > 79.7	4832.003	4832.003	1.00	4.84	12.500	12.500			NO
1...	13C6-PFDA	519.1 > 473.7	20996.398	20996.398	1.00	5.13	12.500	12.500	12.5	100.0	NO
1...	13C7-PFUdA	570.1 > 524.8	18187.818	18187.818	1.00	5.45	12.500	12.500			NO

Vista Analytical Laboratory

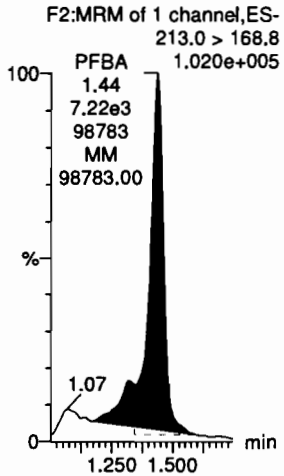
Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-ICV.qld

Last Altered: Wednesday, July 15, 2020 08:49:29 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 08:49:55 Pacific Daylight Time

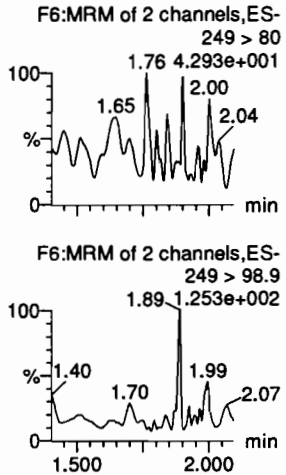
Method: D:\PFAS5.PRO\MethDB\NEW_PFAS_80C_071420_ICV.mdb 15 Jul 2020 08:49:27
Calibration: D:\PFAS5.PRO\CurveDB\C18_VAL-PFAS_Q5_07-14-20.cdb 15 Jul 2020 08:25:12

Name: 200714P1-16, Date: 14-Jul-2020, Time: 12:20:26, ID: ICV200714P1-1 PFC ICV 20F1911, Description: PFC ICV 20F1911

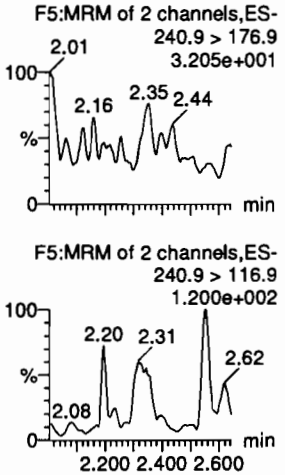
PFBA



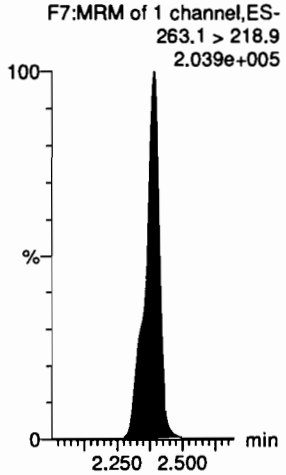
PFPrS



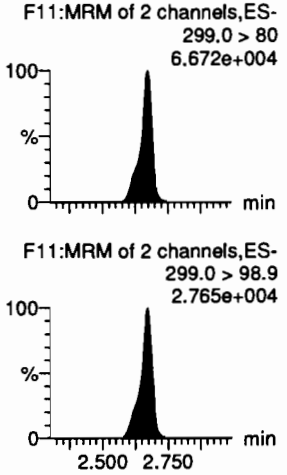
3:3 FTCA



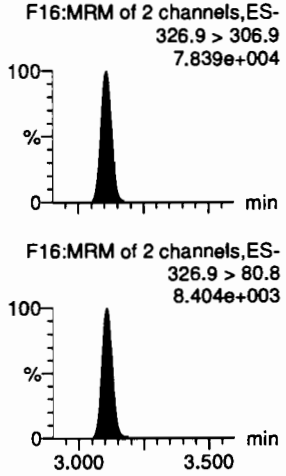
PFPeA



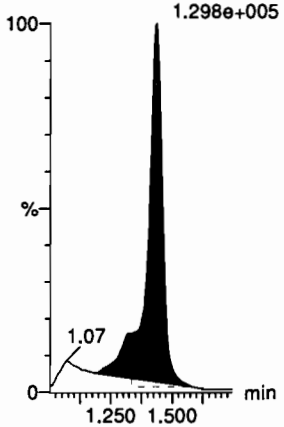
PFBS



4:2 FTS



13C3-PFBA-EIS



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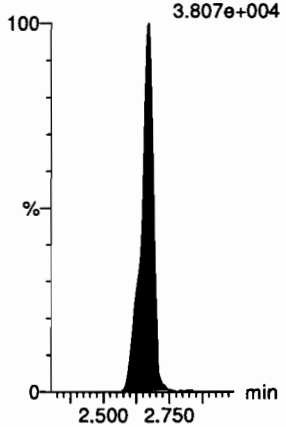
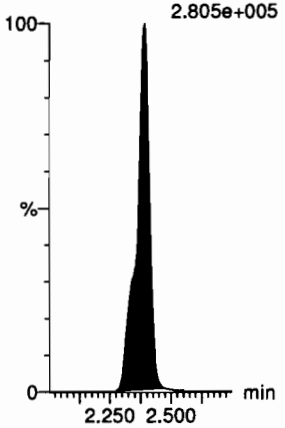


13C3-PFPeA-EIS



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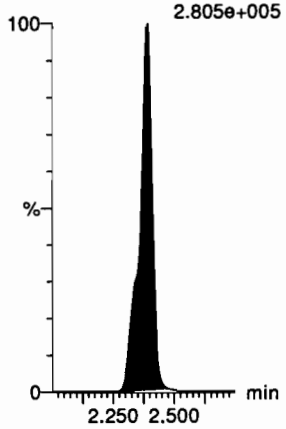

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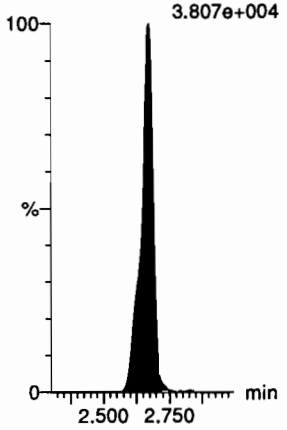
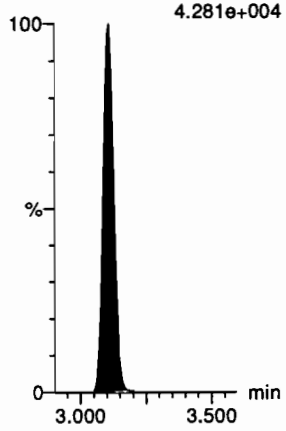


13C2-4:2 FTS-EIS



OPV 7/15/2020

Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-ICV.qld

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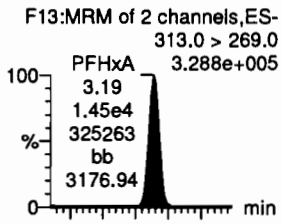
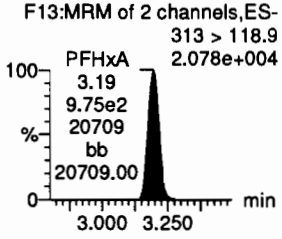
Printed: Wednesday, July 15, 2020 08:49:55 Pacific Daylight Time

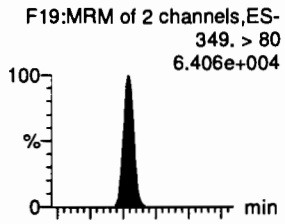
Name: 200714P1-16, Date: 14-Jul-2020, Time: 12:20:26, ID: ICV200714P1-1 PFC ICV 20F1911, Description: PFC ICV 20F1911

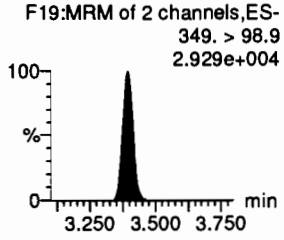
PFHxA



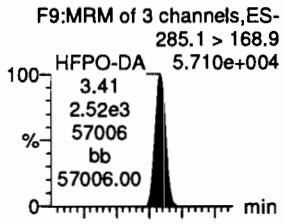


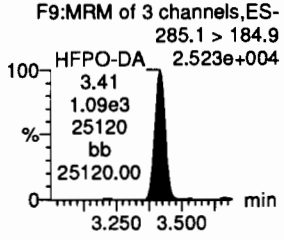
PFPeS



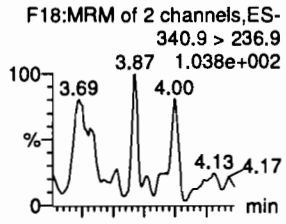


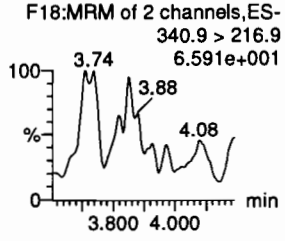
HFPO-DA



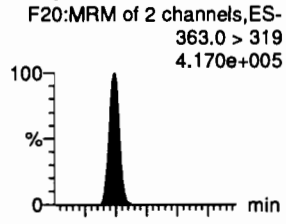


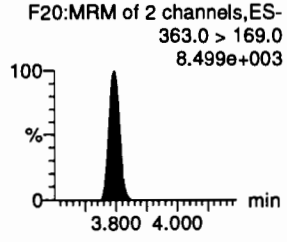
5:3 FTCA



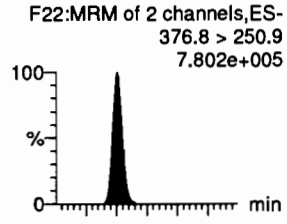


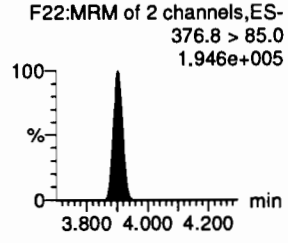
PFHpA



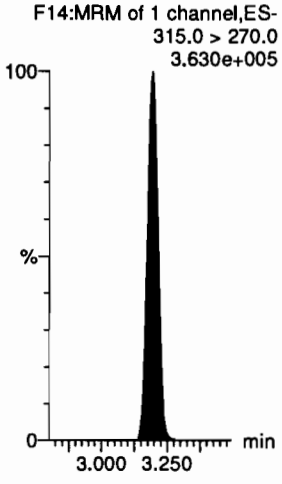


ADONA

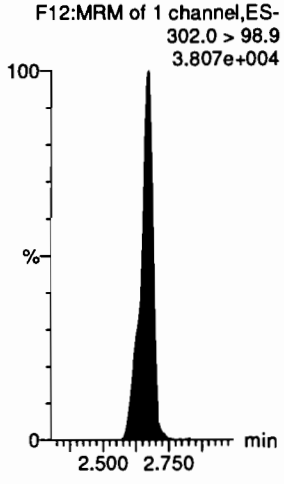




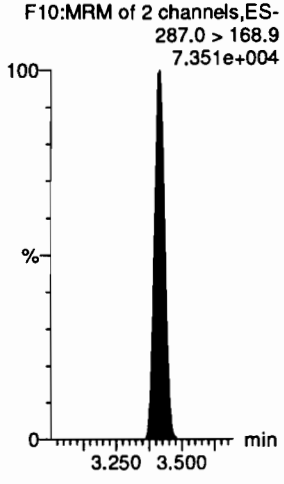
13C2-PFHxA-EIS



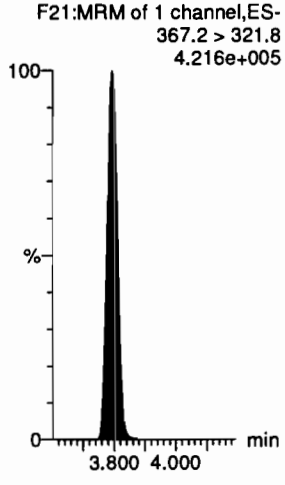
13C3-PFBS-EIS



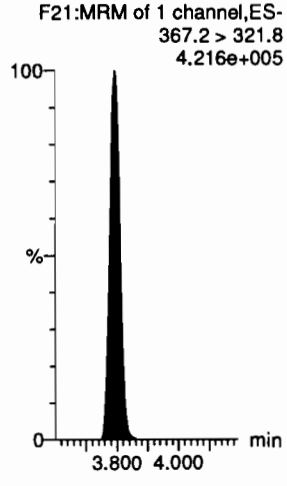
13C3-HFPO-DA-EIS



13C4-PFHpA-EIS



13C4-PFHpA-EIS



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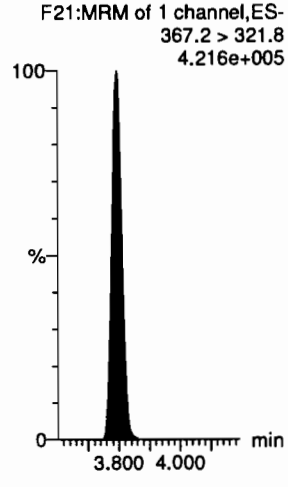

OPV 7/15/2020

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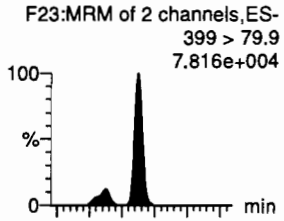
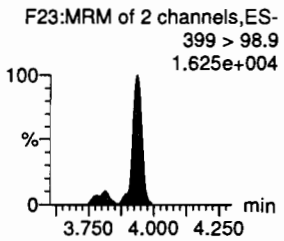
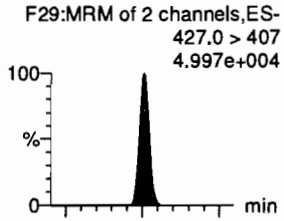
Name: 200714P1-16, Date: 14-Jul-2020, Time: 12:20:26, ID: ICV200714P1-1 PFC ICV 20F1911, Description: PFC ICV 20F1911

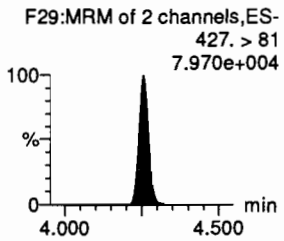
L-PFHxS



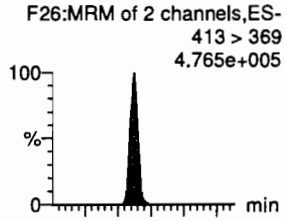


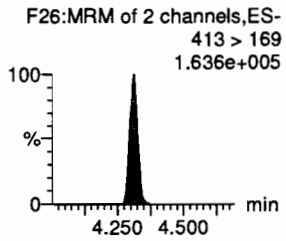
6:2 FTS



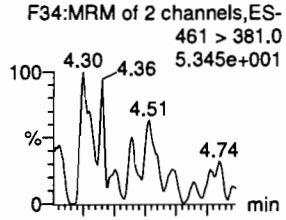


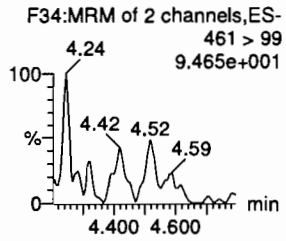
L-PFOA



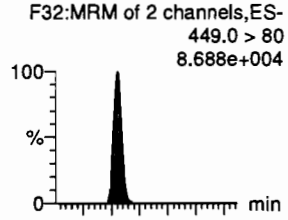


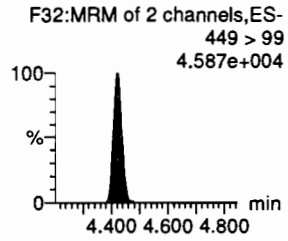
PFEChS



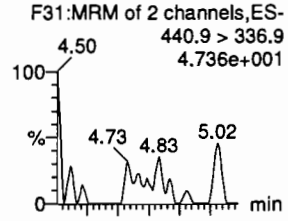


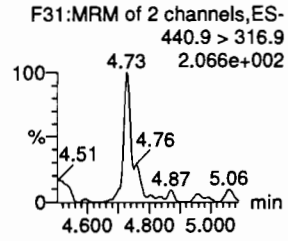
PFHpS



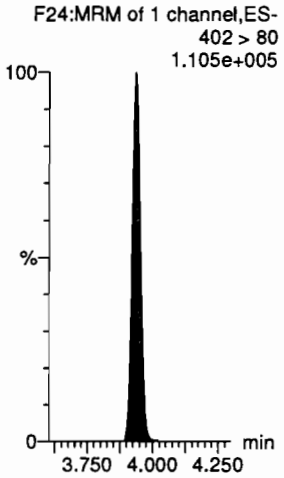


7:3 FTCA

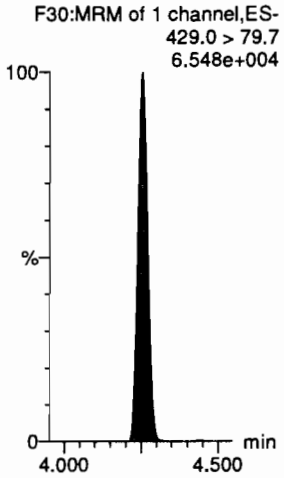




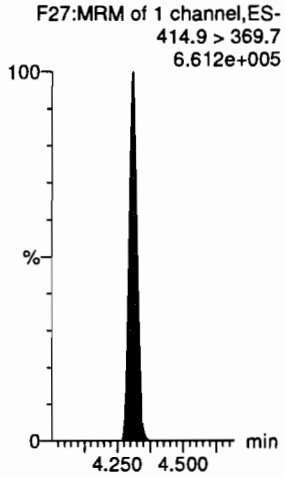
13C3-PFHxS-EIS



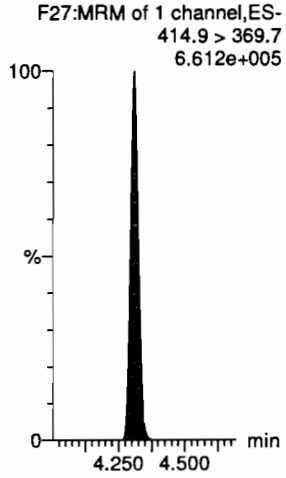
13C2-6:2 FTS-EIS



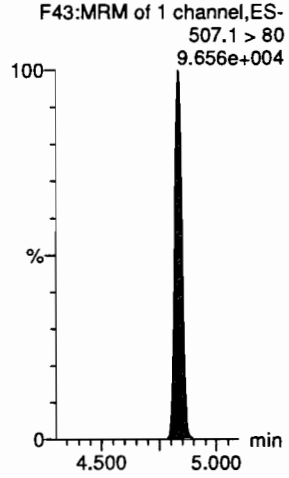
13C2-PFOA-EIS



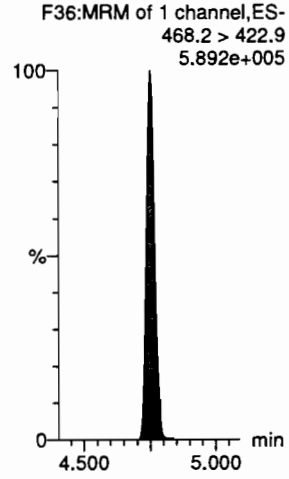
13C2-PFOA-EIS



13C8-PFOS-EIS



13C5-PFNA-EIS



OPV 7/15/2020

Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-ICV.qld

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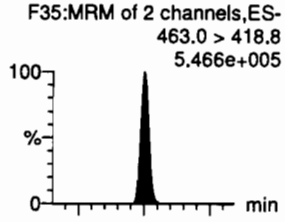
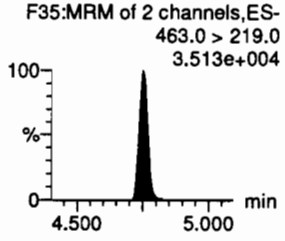
Printed: Wednesday, July 15, 2020 08:49:55 Pacific Daylight Time

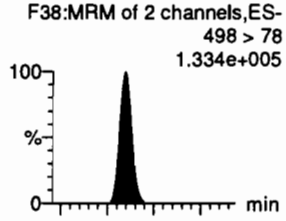
Name: 200714P1-16, Date: 14-Jul-2020, Time: 12:20:26, ID: ICV200714P1-1 PFC ICV 20F1911, Description: PFC ICV 20F1911

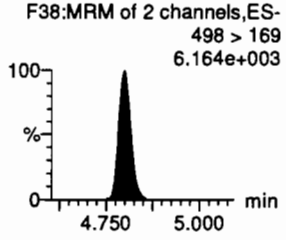
PFNA





PFOSA





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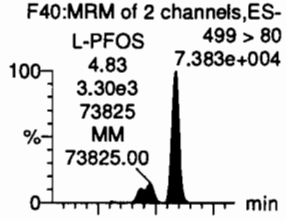

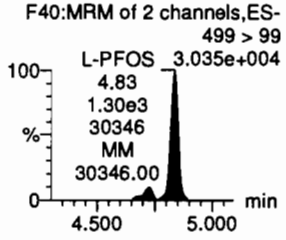

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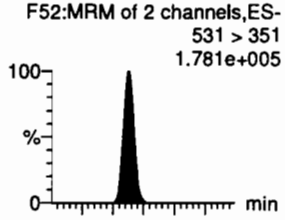

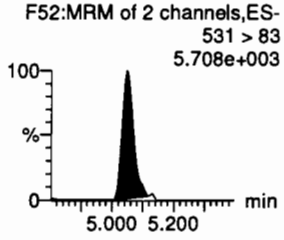

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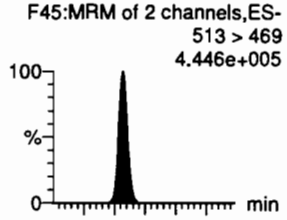
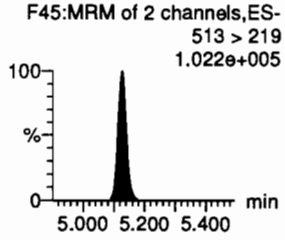
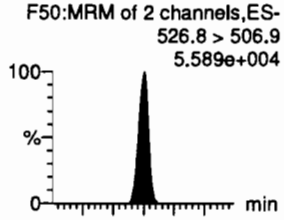
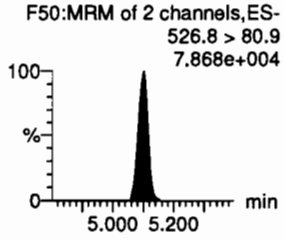


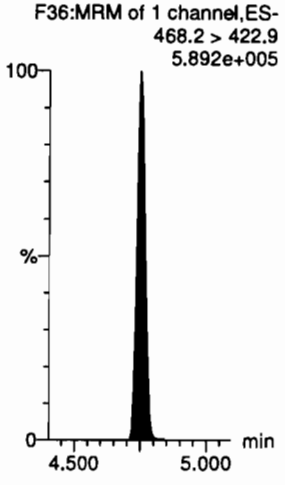


8:2 FTS



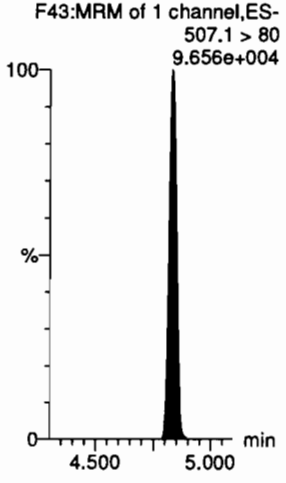


13C5-PFNA-EIS



13C8-PFOSA-EIS

13C8-PFOS-EIS



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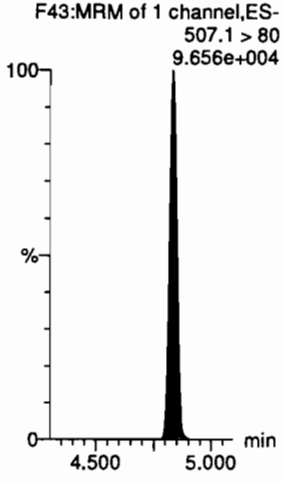

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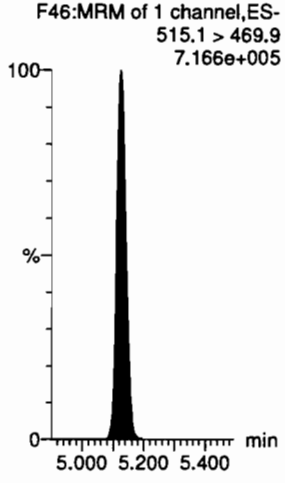

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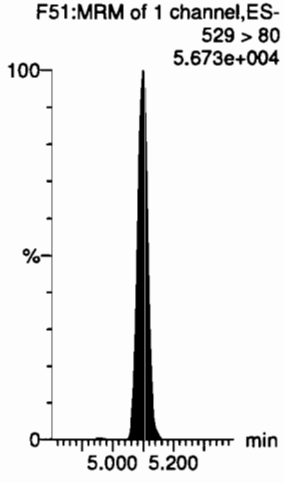

OPV 7/15/2020

Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-ICV.qld

Last Altered: Wednesday, July 15, 2020 08:49:29 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 08:49:55 Pacific Daylight Time

Name: 200714P1-16, Date: 14-Jul-2020, Time: 12:20:26, ID: ICV200714P1-1 PFC ICV 20F1911, Description: PFC ICV 20F1911

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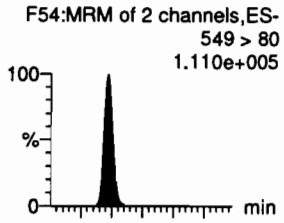

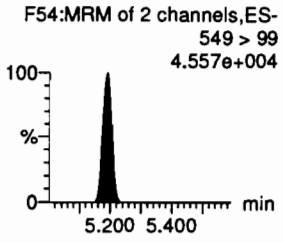

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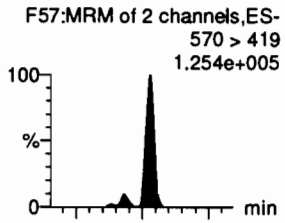

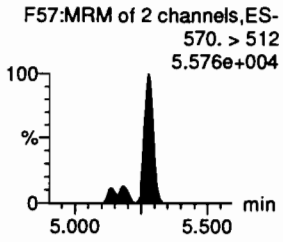

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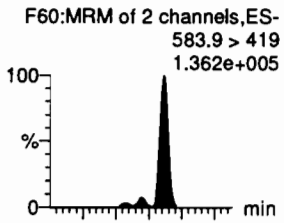

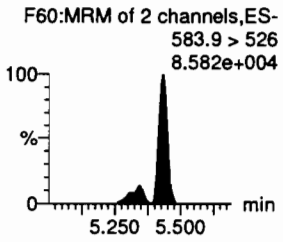

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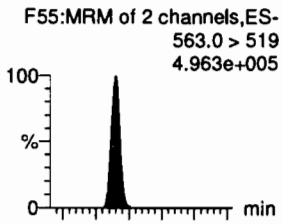

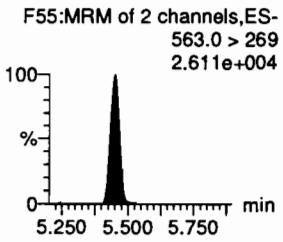

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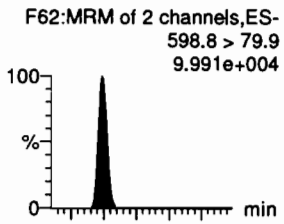

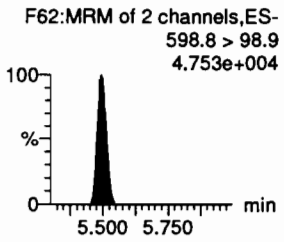

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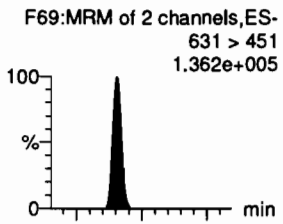
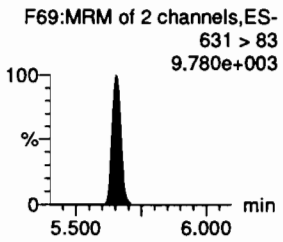
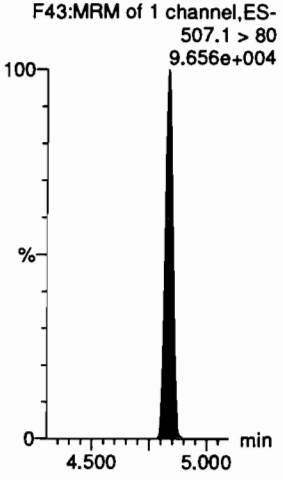




13C8-PFOS-EIS



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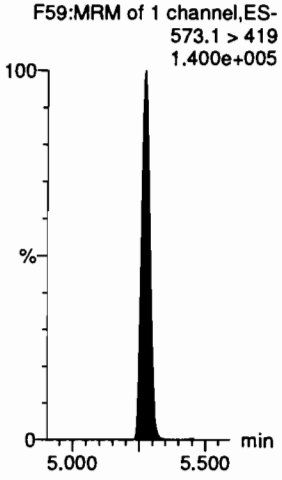

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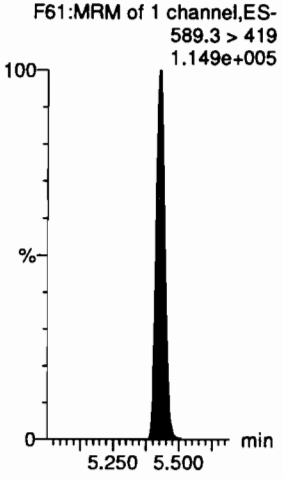

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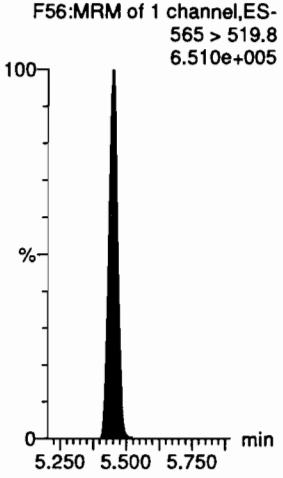

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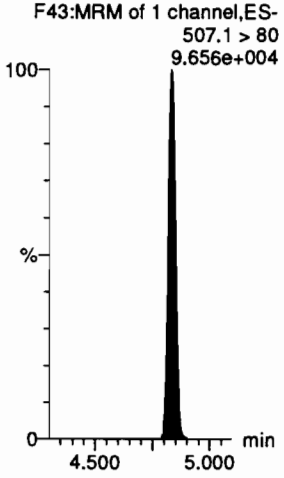

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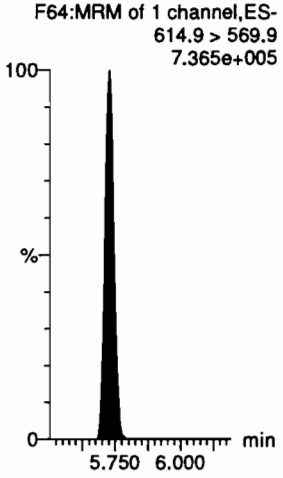

OPV 7/15/2020

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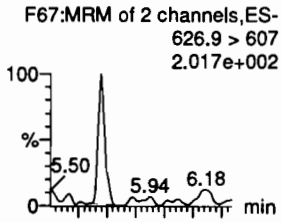
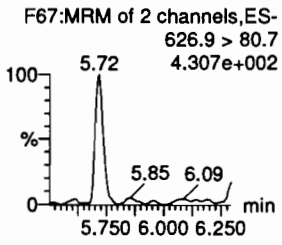
10:2 FTS





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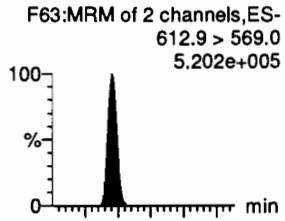
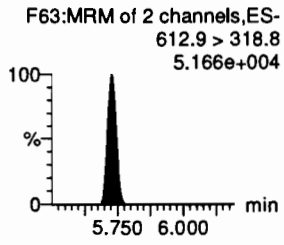
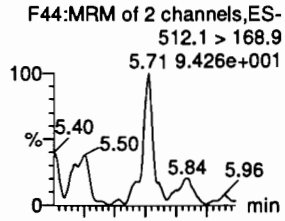
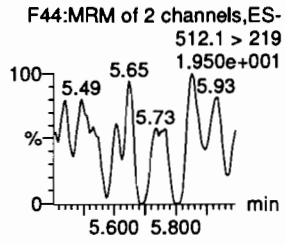




N-MeFOSA





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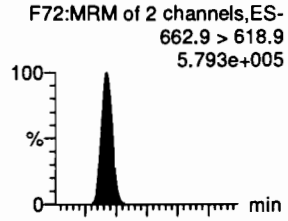

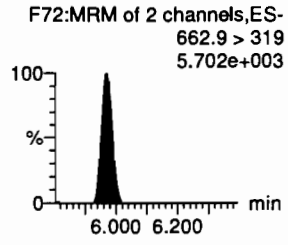

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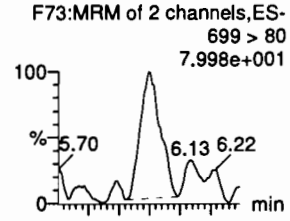

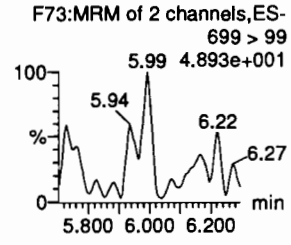

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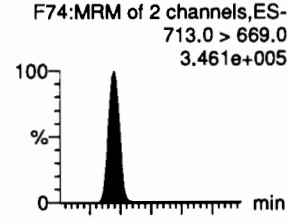
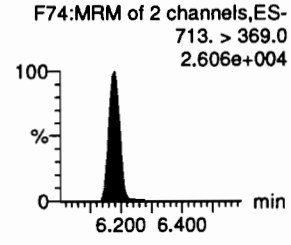
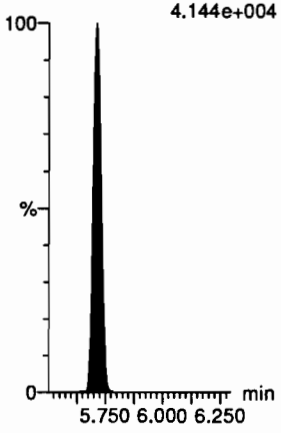




13C2-10:2 FTS-EIS



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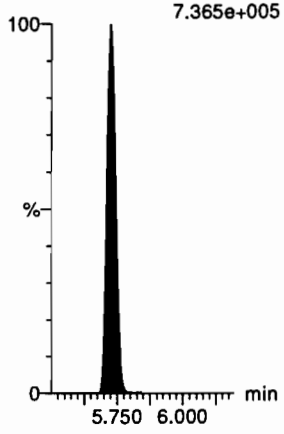

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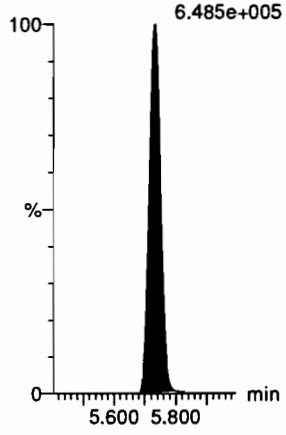

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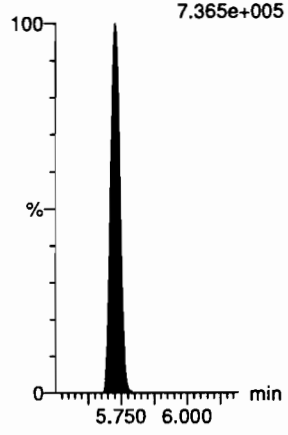

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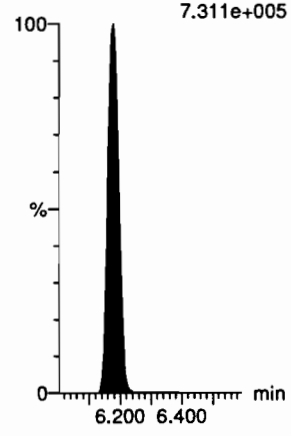

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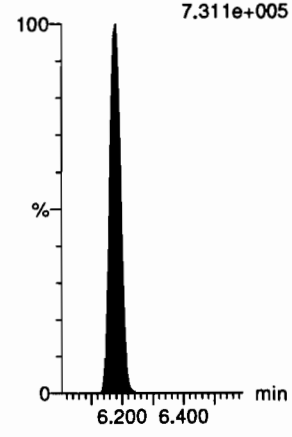

OPV 7/15/2020

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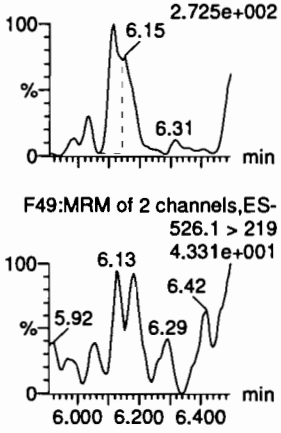
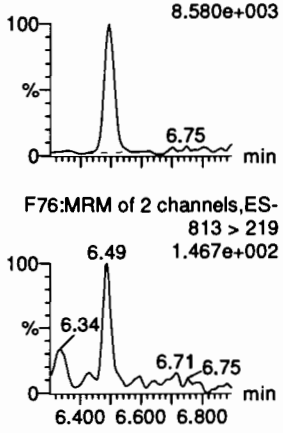
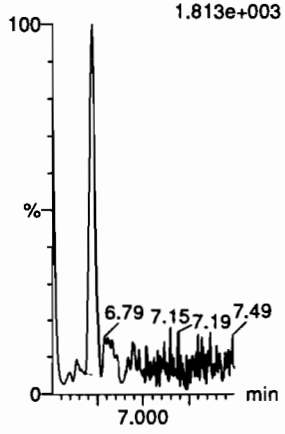


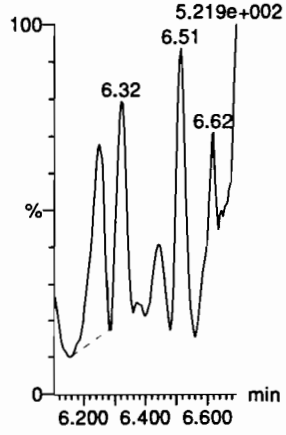
PFHxDA



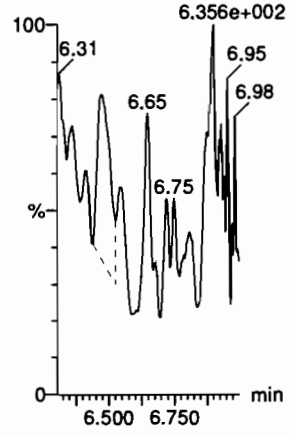
PFODA



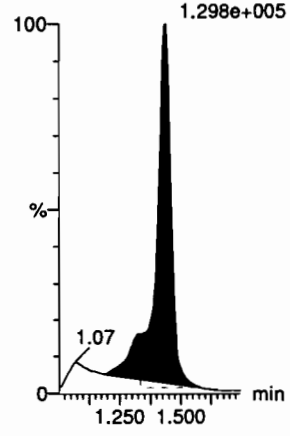
N-MeFOSE



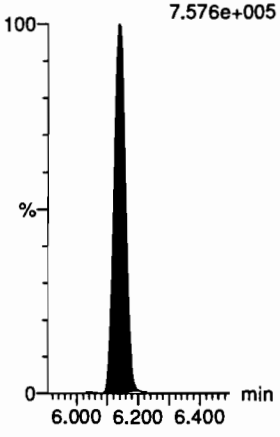
N-EtFOSE



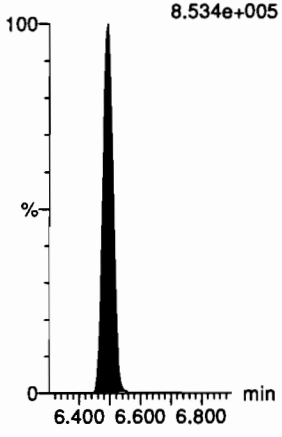
13C3-PFBA-RSD



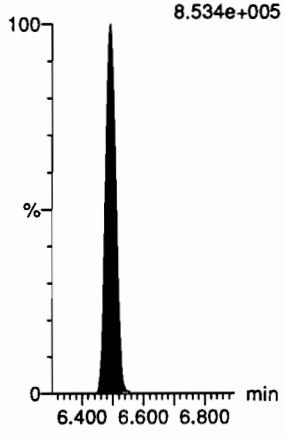
d5-N-ETFOSA-EIS



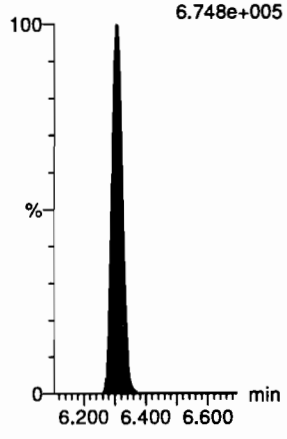
13C2-PFHxDA-EIS



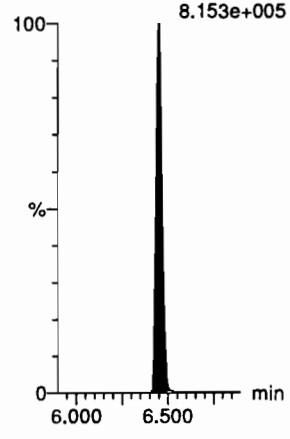
13C2-PFHxDA-EIS



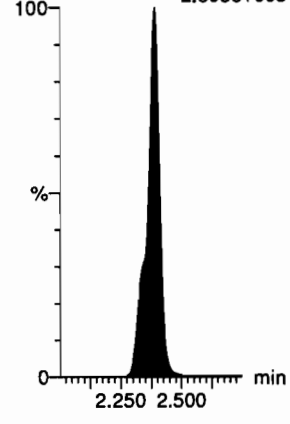
d7-N-MeFOSE-EIS



d9-N-EtFOSE-EIS



13C3-PFPeA-RSD



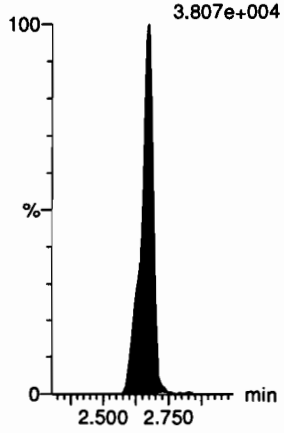
OPV 7/15/2020

Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-ICV.qld

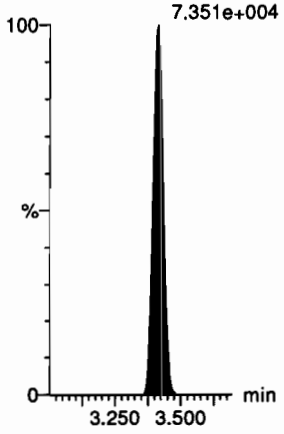
Last Altered: Wednesday, July 15, 2020 08:49:29 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 08:49:55 Pacific Daylight Time

Name: 200714P1-16, Date: 14-Jul-2020, Time: 12:20:26, ID: ICV200714P1-1 PFC ICV 20F1911, Description: PFC ICV 20F1911

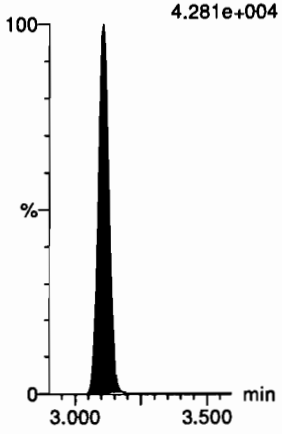
13C3-PFBS-RSD
F12:MRM of 1 channel,ES-
302.0 > 98.9
3.807e+004



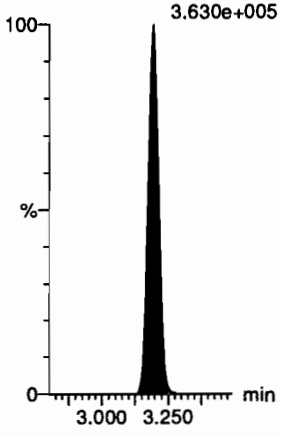
13C3-HFPO-DA-RSD
F10:MRM of 2 channels,ES-
287.0 > 168.9
7.351e+004



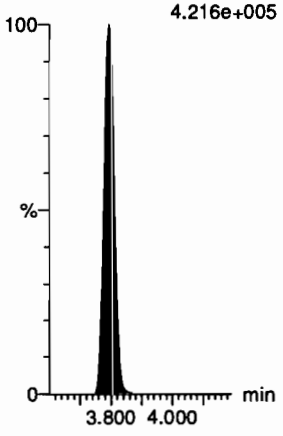
13C2-4:2 FTS-RSD
F17:MRM of 2 channels,ES-
329.0 > 80.8
4.281e+004



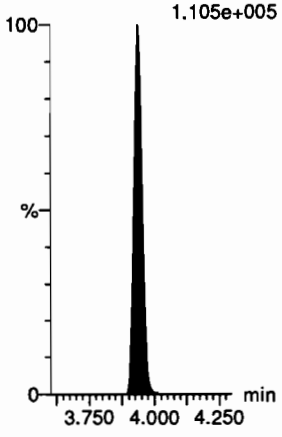
13C2-PFHxA-RSD
F14:MRM of 1 channel,ES-
315.0 > 270.0
3.630e+005



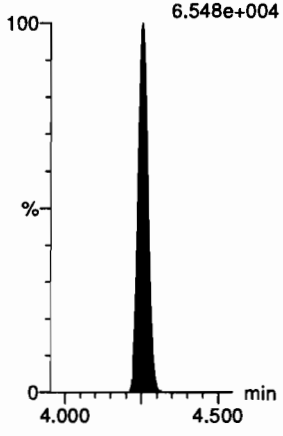
13C4-PFHpA-RSD
F21:MRM of 1 channel,ES-
367.2 > 321.8
4.216e+005



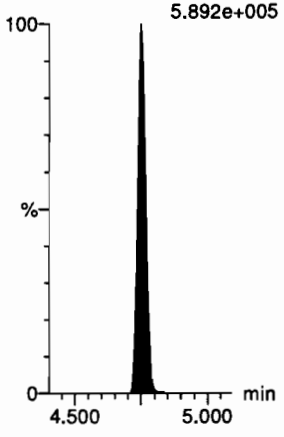
13C3-PFHxS-RSD
F24:MRM of 1 channel,ES-
402 > 80
1.105e+005



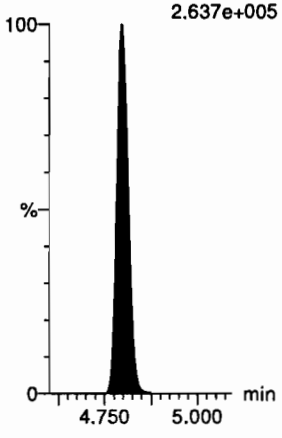
13C2-6:2 FTS-RSD
F30:MRM of 1 channel,ES-
429.0 > 79.7
6.548e+004



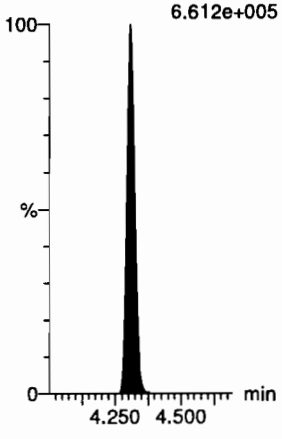
13C5-PFNA-RSD
F36:MRM of 1 channel,ES-
468.2 > 422.9
5.892e+005



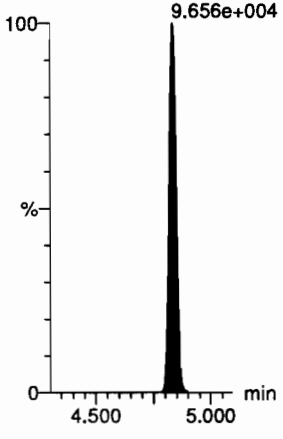
13C8-PFOSA-RSD
F42:MRM of 1 channel,ES-
506 > 78
2.637e+005



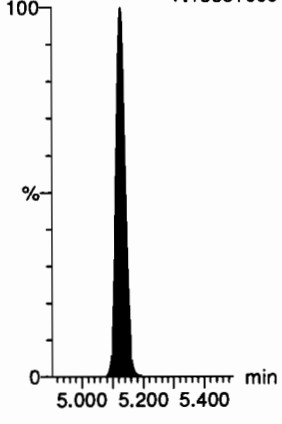
13C2-PFOA-RSD
F27:MRM of 1 channel,ES-
414.9 > 369.7
6.612e+005



13C8-PFOS-RSD
F43:MRM of 1 channel,ES-
507.1 > 80
9.656e+004



13C2-PFDA-RSD
F46:MRM of 1 channel,ES-
515.1 > 469.9
7.166e+005



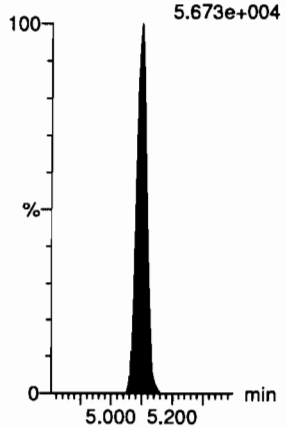
OPV 7/15/2020

Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-ICV.qld

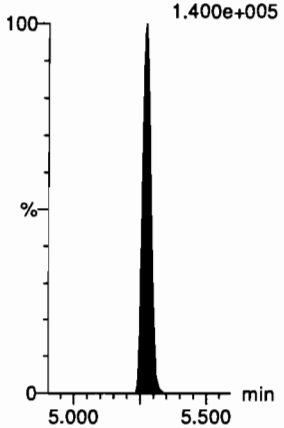
Last Altered: Wednesday, July 15, 2020 08:49:29 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 08:49:55 Pacific Daylight Time

Name: 200714P1-16, Date: 14-Jul-2020, Time: 12:20:26, ID: ICV200714P1-1 PFC ICV 20F1911, Description: PFC ICV 20F1911

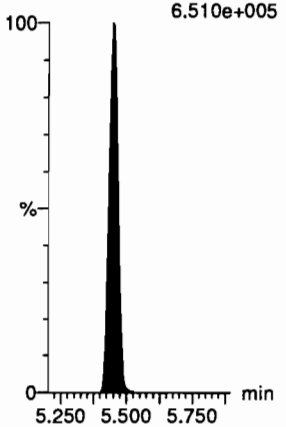
13C2-8:2 FTS-RSD
F51:MRM of 1 channel,ES-
529 > 80
5.673e+004



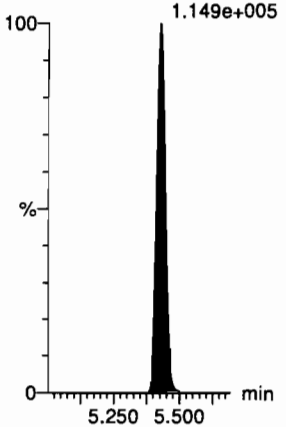
d3-N-MeFOSAA-RSD
F59:MRM of 1 channel,ES-
573.1 > 419
1.400e+005



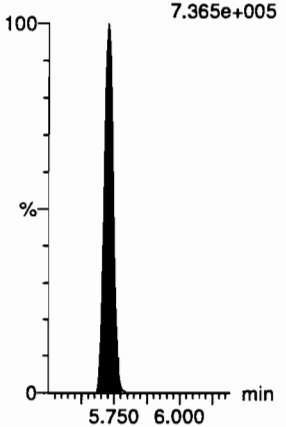
13C2-PFUdA-RSD
F56:MRM of 1 channel,ES-
565 > 519.8
6.510e+005



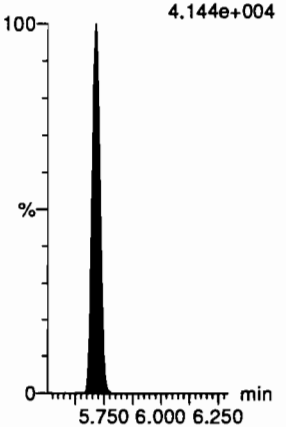
d5-N-EtFOSAA-RSD
F61:MRM of 1 channel,ES-
589.3 > 419
1.149e+005



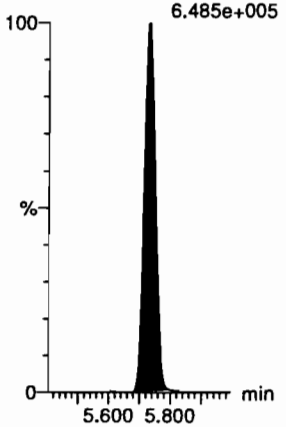
13C2-PFDoA-RSD
F64:MRM of 1 channel,ES-
614.9 > 569.9
7.365e+005



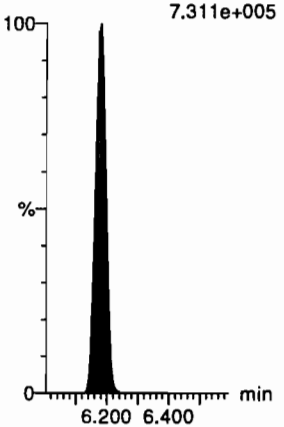
13C2-10:2 FTS-RSD
F70:MRM of 1 channel,ES-
632.9 > 80.0
4.144e+004



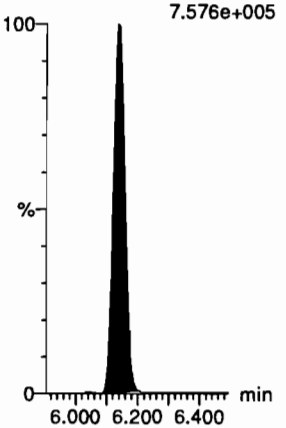
d3-N-MeFOSA-RSD
F47:MRM of 1 channel,ES-
515.2 > 168.9
6.485e+005



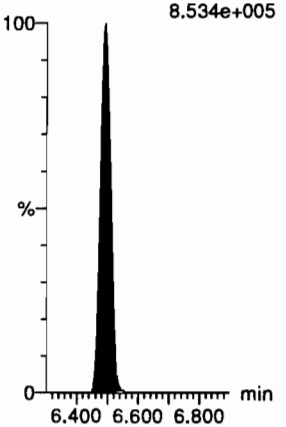
13C2-PFTeDA-RSD
F75:MRM of 2 channels,ES-
715.1 > 669.7
7.311e+005



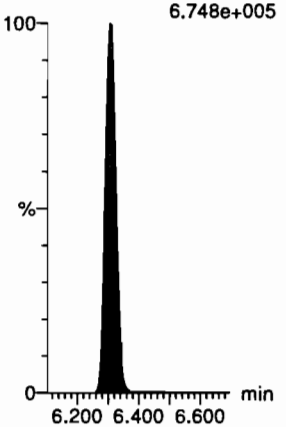
d5-N-ETFOSA-RSD
F53:MRM of 1 channel,ES-
531.1 > 168.9
7.576e+005



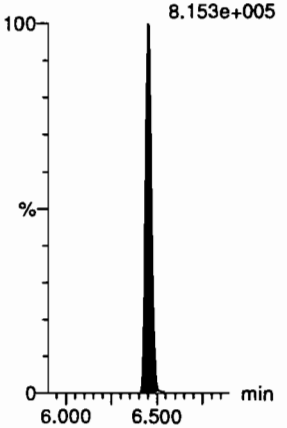
13C2-PFHxDA-RSD
F77:MRM of 1 channel,ES-
815 > 769.7
8.534e+005



d7-N-MeFOSE-RSD
F66:MRM of 1 channel,ES-
623.1 > 58.9
6.748e+005



d9-N-EtFOSE-RSD
F71:MRM of 1 channel,ES-
639.2 > 58.8
8.153e+005

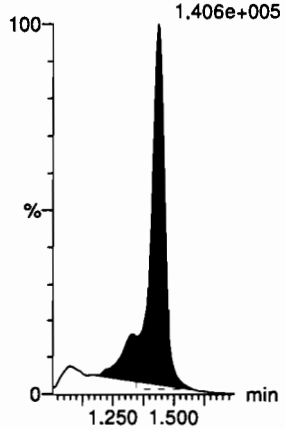


Dataset: D:\PFAS5.PRO\RESULTS\200714P1\200714P1-ICV.qld

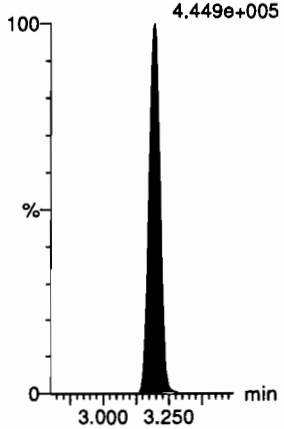
Last Altered: Wednesday, July 15, 2020 08:49:29 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 08:49:55 Pacific Daylight Time

Name: 200714P1-16, Date: 14-Jul-2020, Time: 12:20:26, ID: ICV200714P1-1 PFC ICV 20F1911, Description: PFC ICV 20F1911

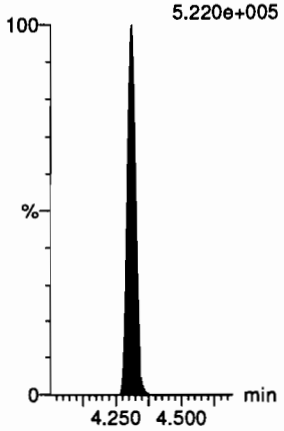
13C4-PFBA



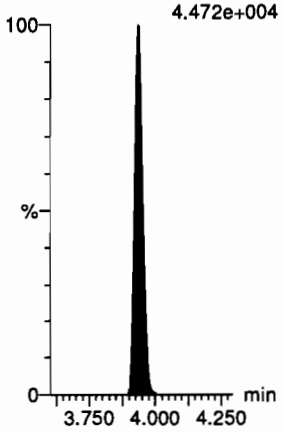
13C5-PFHxA



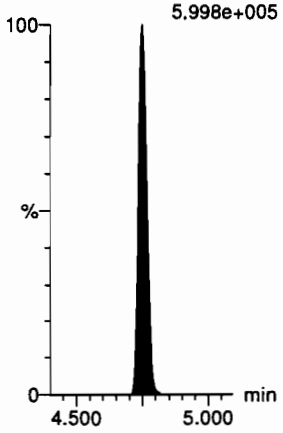
13C8-PFOA



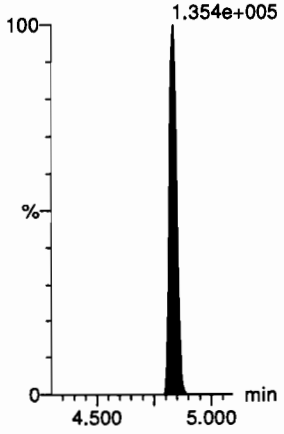
18O2-PFHxS



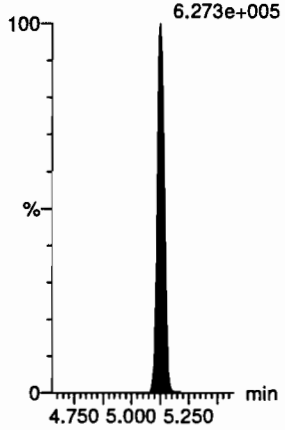
13C9-PFNA



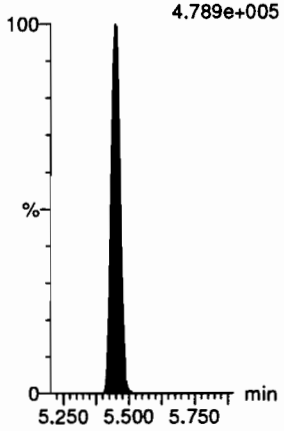
13C4-PFOS



13C6-PFDA



13C7-PFUdA



OPV 7/15/2020

Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Wednesday, July 15, 2020 08:45:05 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 08:45:14 Pacific Daylight Time

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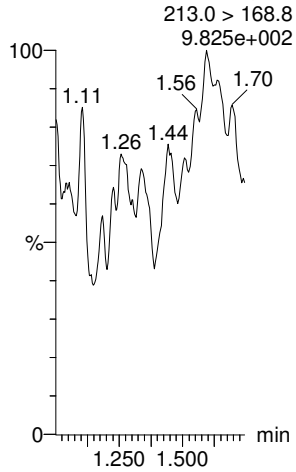
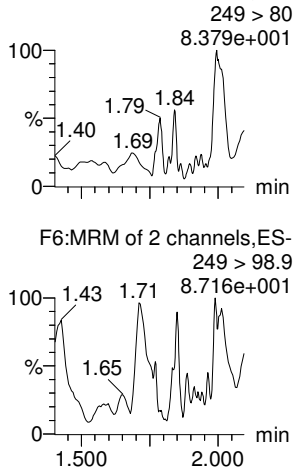
Calibration: D:\PFAS5.PRO\CurveDB\C18_VAL-PFAS_Q5_07-14-20.cdb 15 Jul 2020 08:25:12

Name: 200714P1-15, Date: 14-Jul-2020, Time: 12:10:00, ID: IB, Description: IB

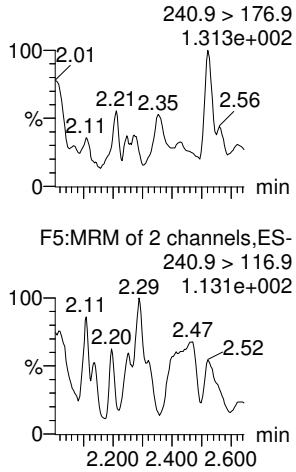
PFBA



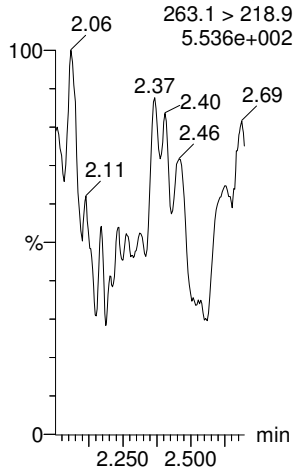
PFPrS



3:3 FTCA



PFPeA



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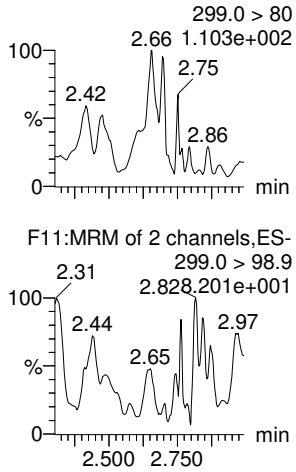
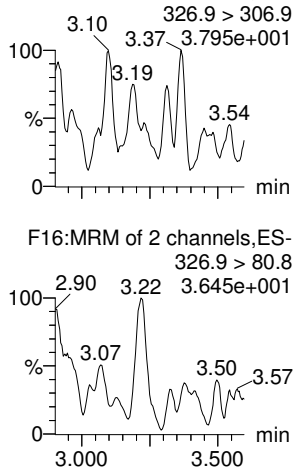
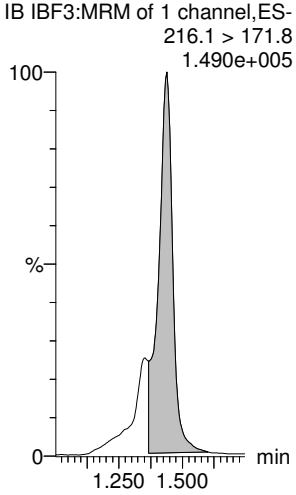


4:2 FTS



13C3-PFBA-EIS



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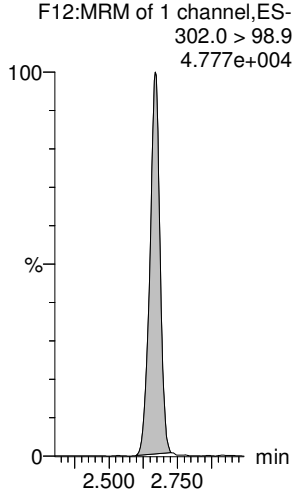

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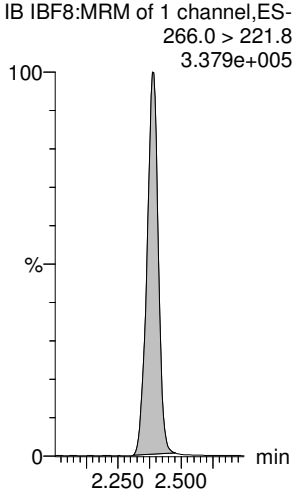

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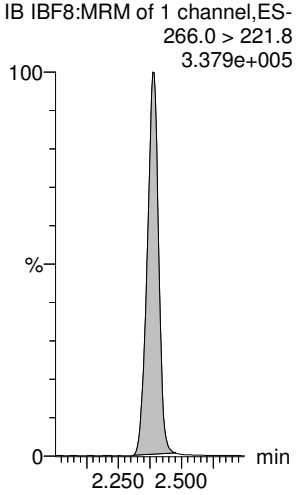

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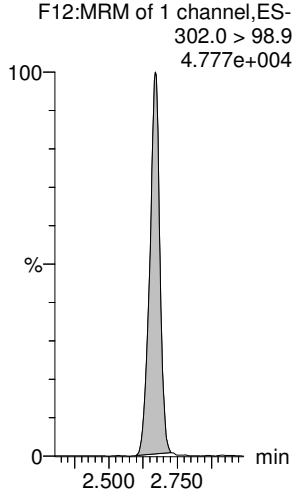
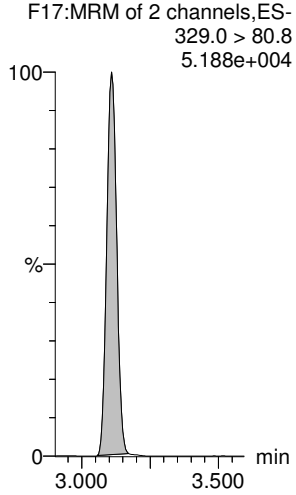


13C2-4:2 FTS-EIS



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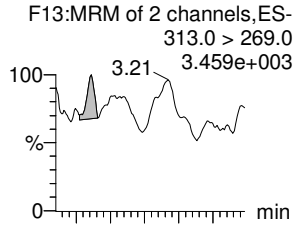
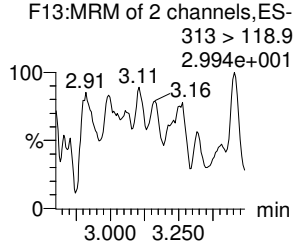
Printed: Wednesday, July 15, 2020 08:45:14 Pacific Daylight Time

Name: 200714P1-15, Date: 14-Jul-2020, Time: 12:10:00, ID: IB, Description: IB

PFHxA





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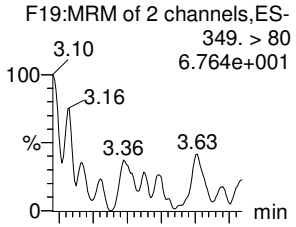
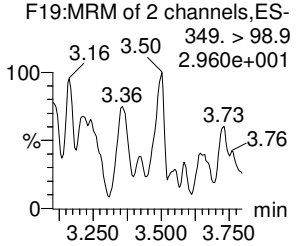
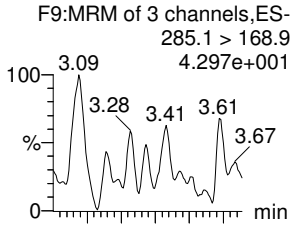
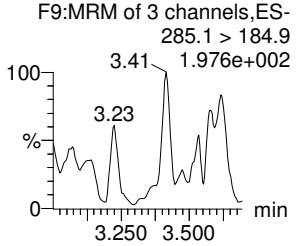


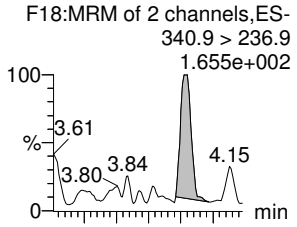


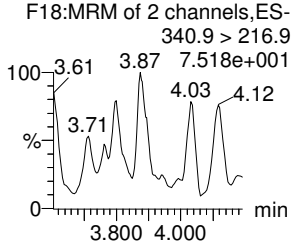
HFPO-DA



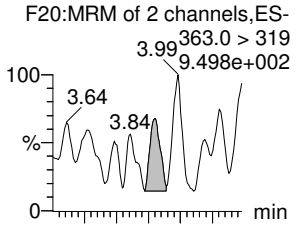


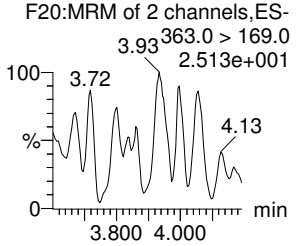
5:3 FTCA





PFHpA





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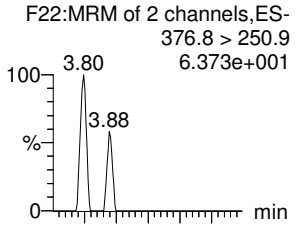
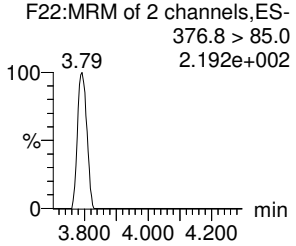
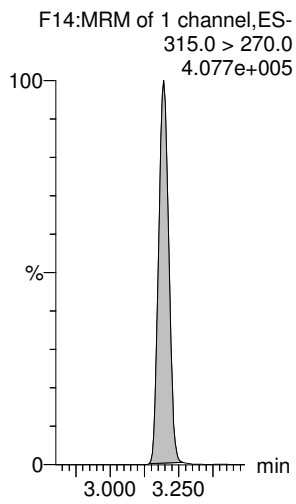
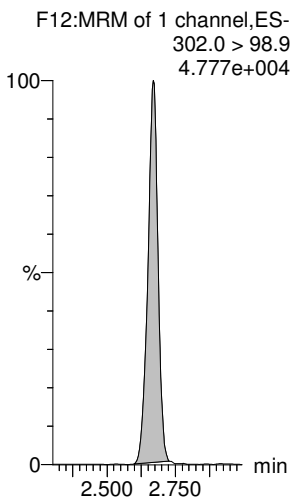




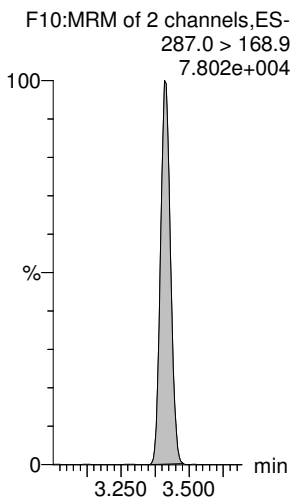
13C2-PFHxA-EIS



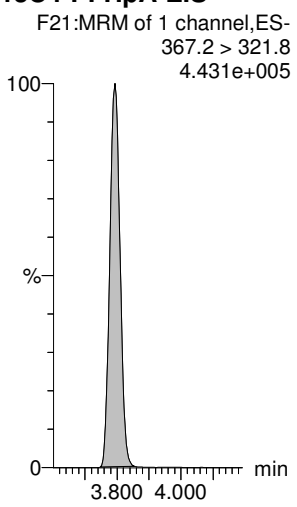
13C3-PFBS-EIS



13C3-HFPO-DA-EIS



13C4-PFHpA-EIS



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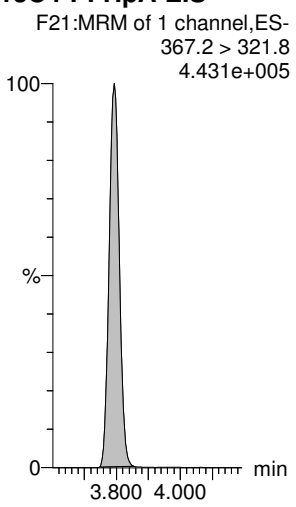

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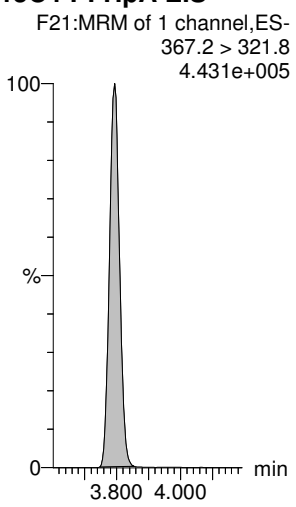

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Last Altered: Wednesday, July 15, 2020 08:45:05 Pacific Daylight Time
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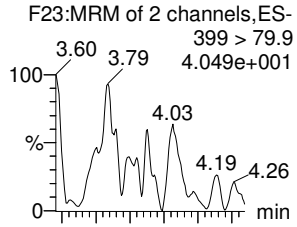
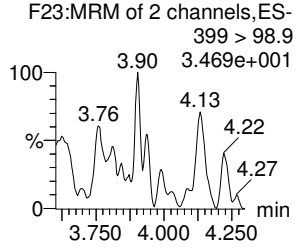
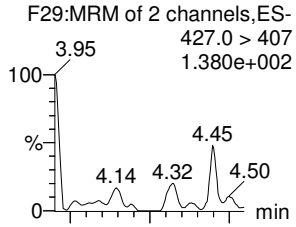
Name: 200714P1-15, Date: 14-Jul-2020, Time: 12:10:00, ID: IB, Description: IB

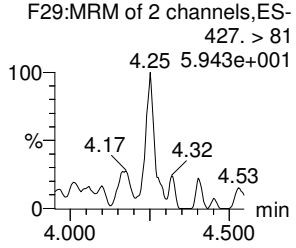
L-PFHxS



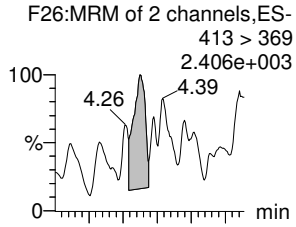


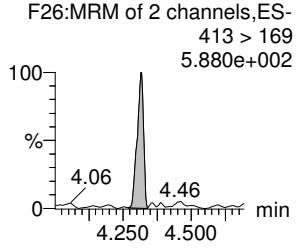
6:2 FTS





L-PFOA





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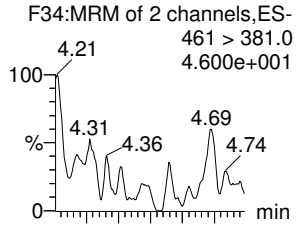

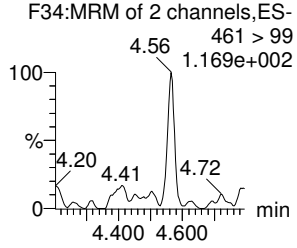

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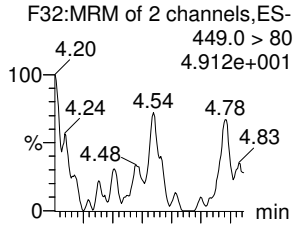
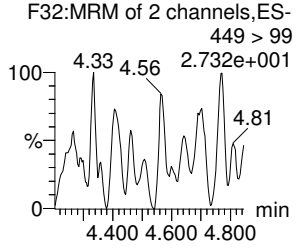
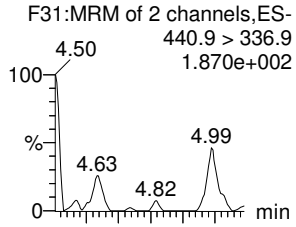
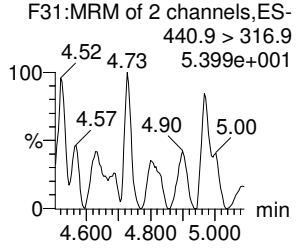


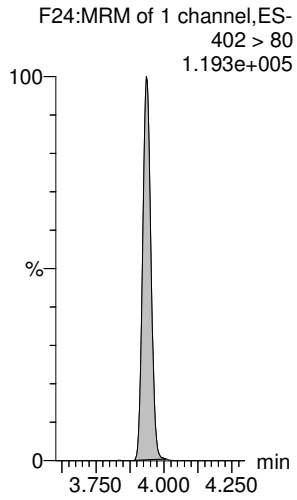


7:3 FTCA

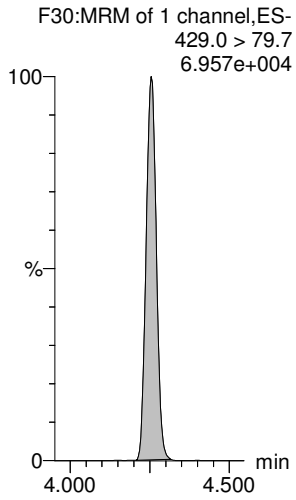




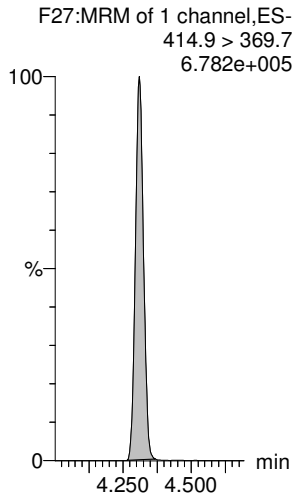
13C3-PFHxS-EIS



13C2-6:2 FTS-EIS



13C2-PFOA-EIS



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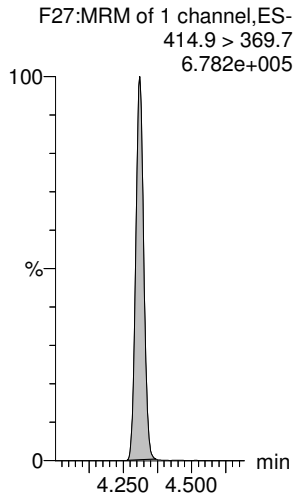

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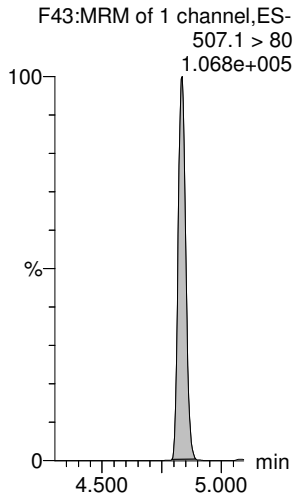

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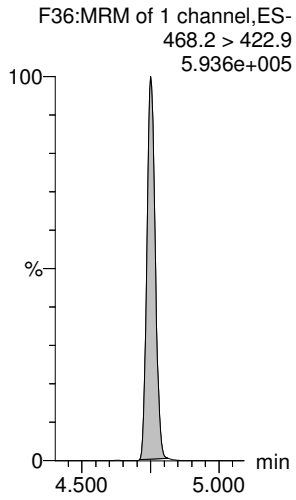

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Name: 200714P1-15, Date: 14-Jul-2020, Time: 12:10:00, ID: IB, Description: IB

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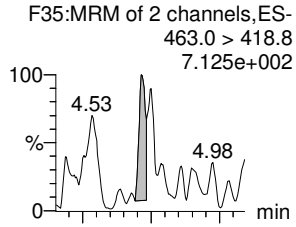

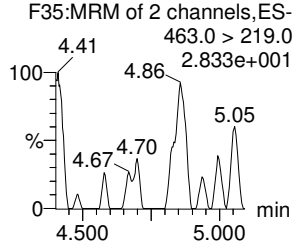

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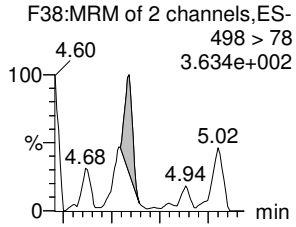
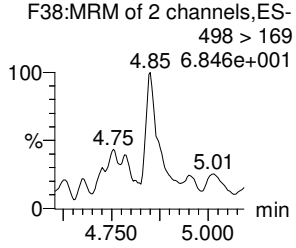
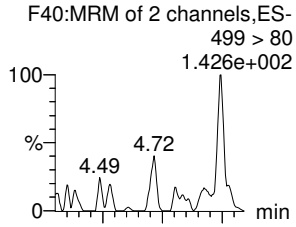
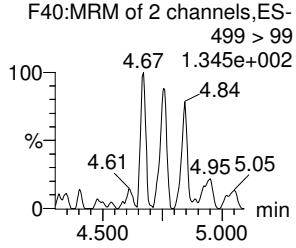


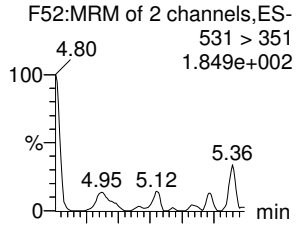


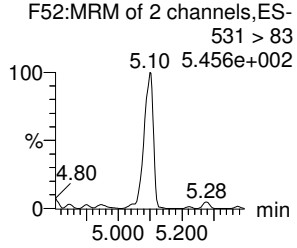
L-PFOS





9Cl-PF30NS





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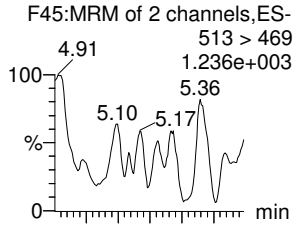
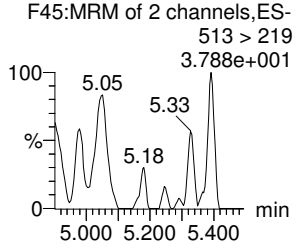
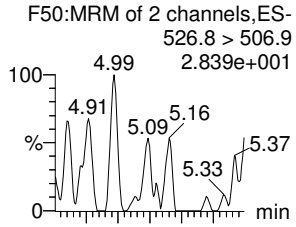
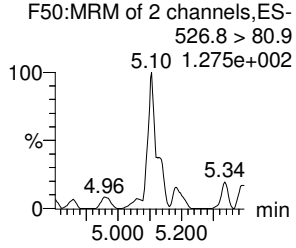




8:2 FTS





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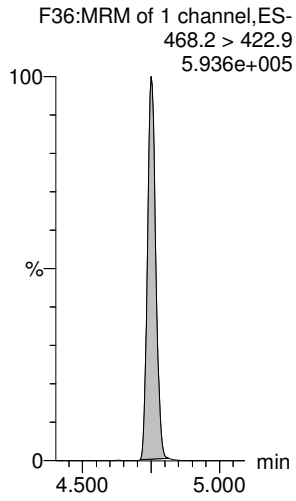

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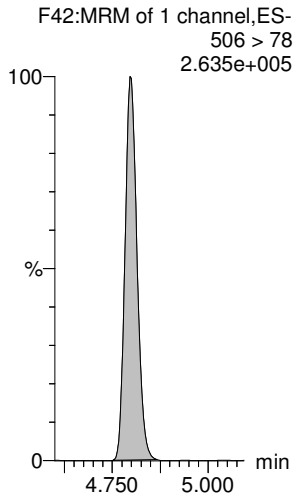

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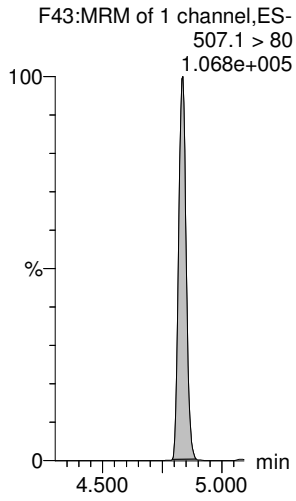

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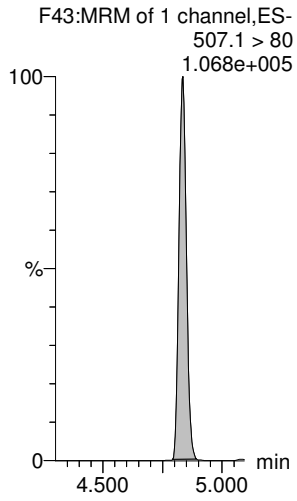

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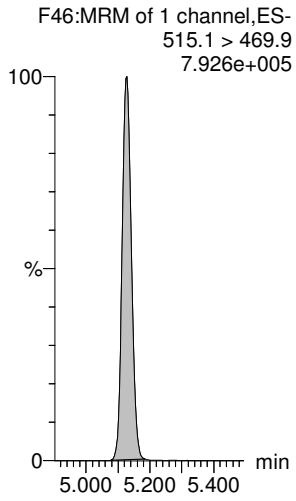

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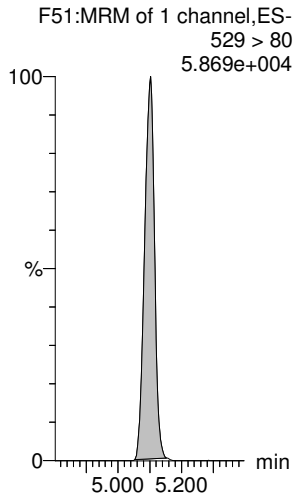

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Printed: Wednesday, July 15, 2020 08:45:14 Pacific Daylight Time

Name: 200714P1-15, Date: 14-Jul-2020, Time: 12:10:00, ID: IB, Description: IB

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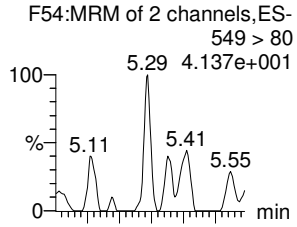

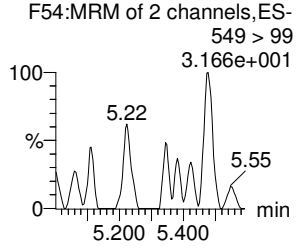

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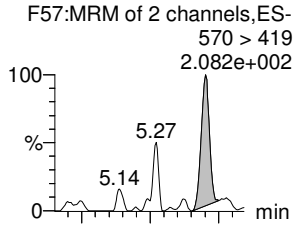

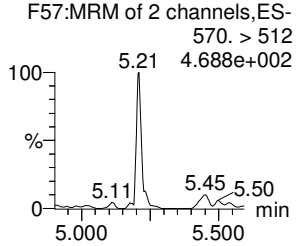

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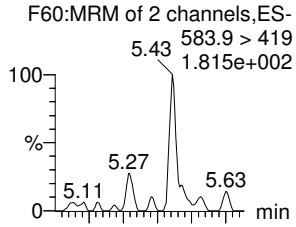

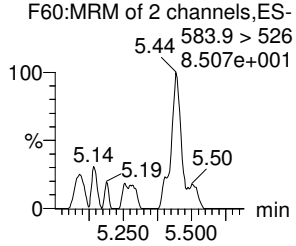

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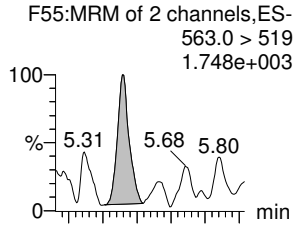

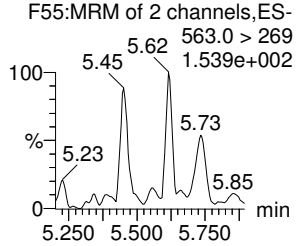

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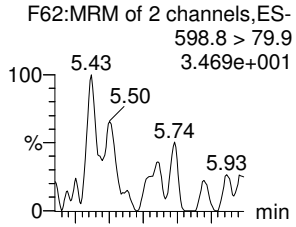

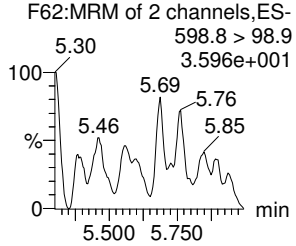

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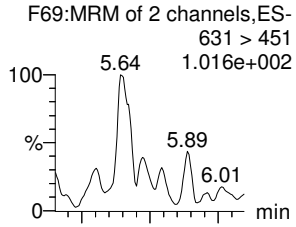

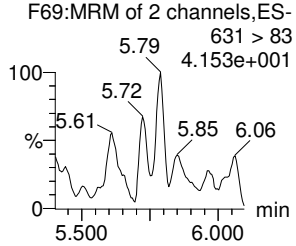

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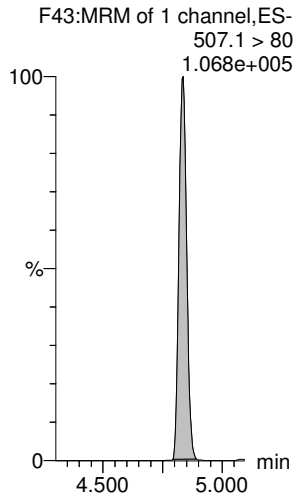
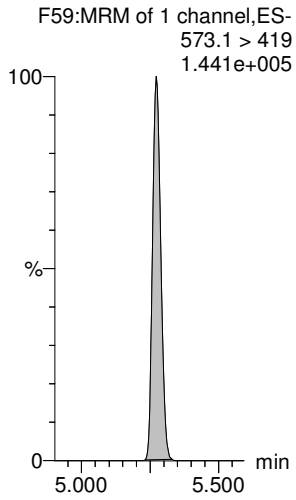


d3-N-MeFOSAA-EIS



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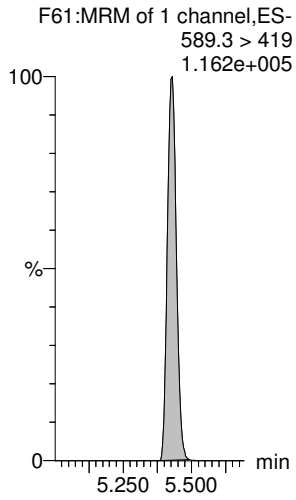

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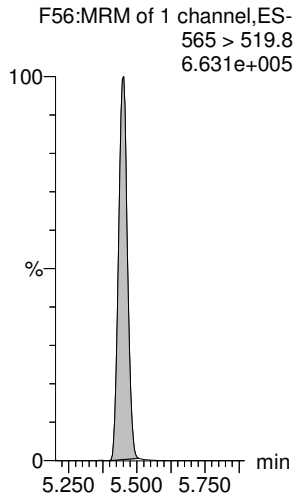

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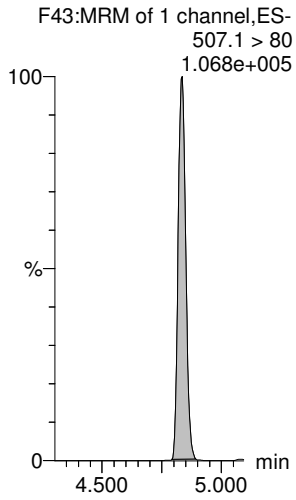

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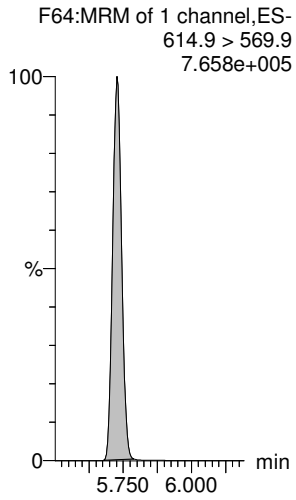

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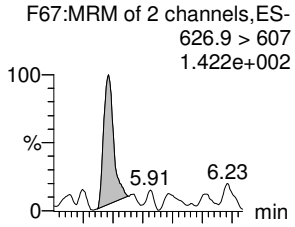
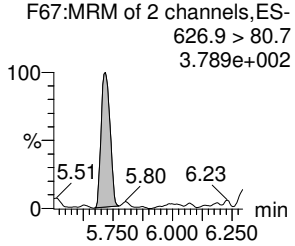
Name: 200714P1-15, Date: 14-Jul-2020, Time: 12:10:00, ID: IB, Description: IB

10:2 FTS





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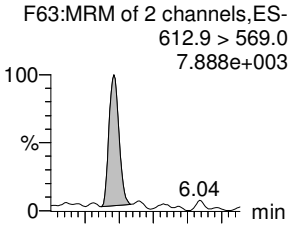

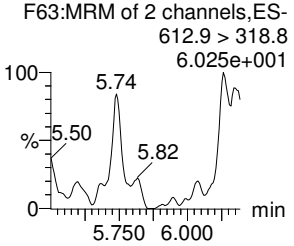

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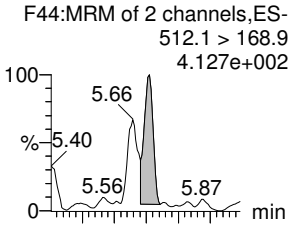

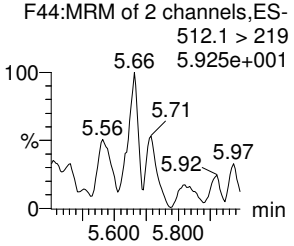

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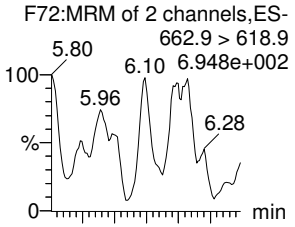

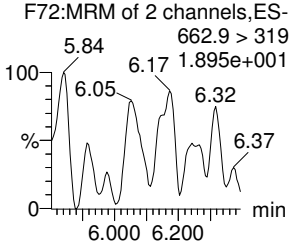

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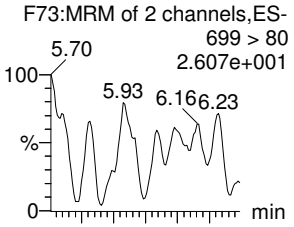

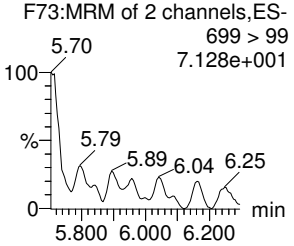

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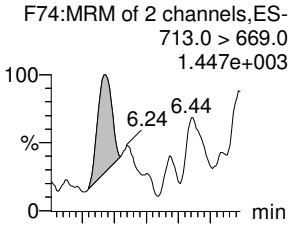

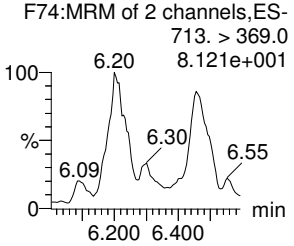

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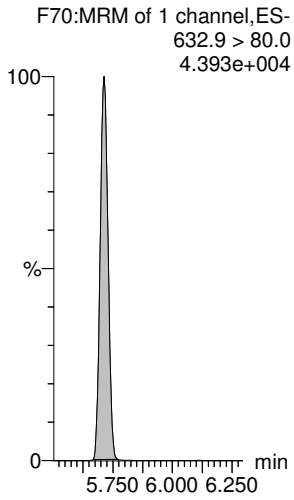

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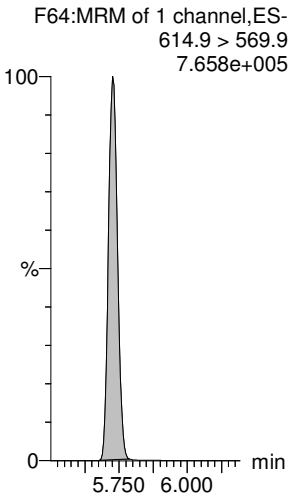
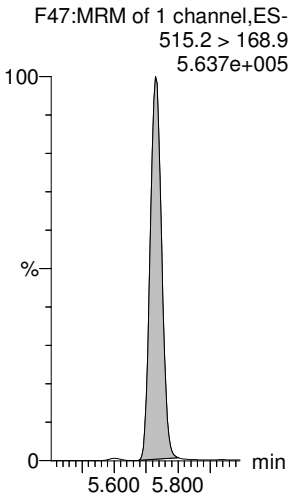


d3-N-MeFOSA-EIS



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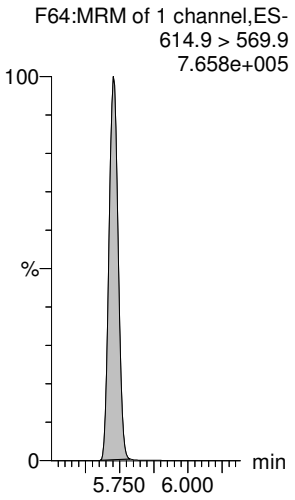

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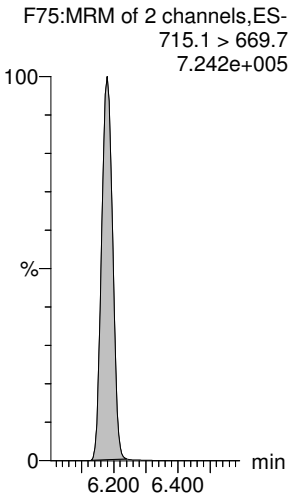

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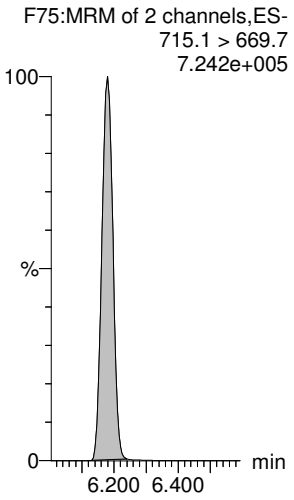

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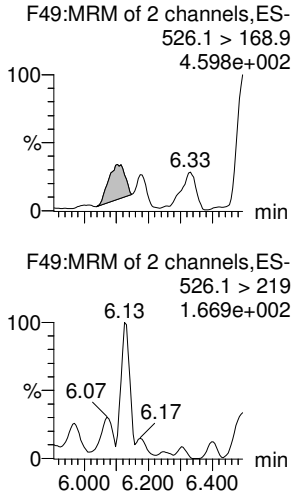
Name: 200714P1-15, Date: 14-Jul-2020, Time: 12:10:00, ID: IB, Description: IB

N-EtFOSA



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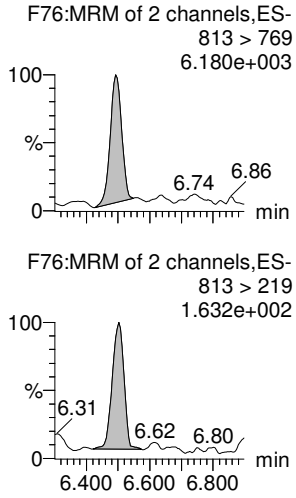

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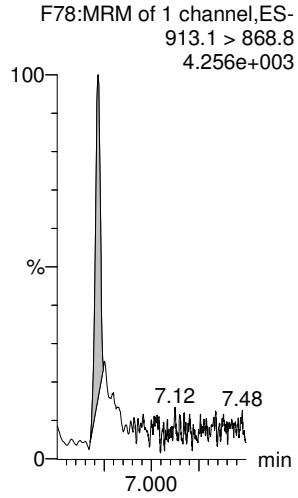

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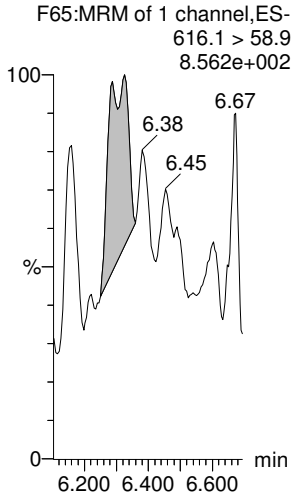

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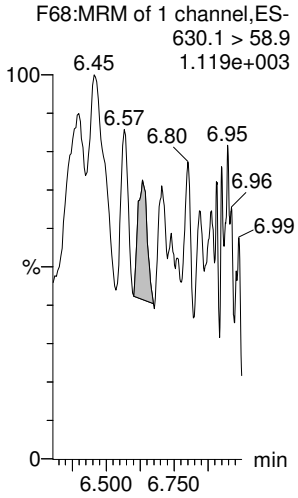
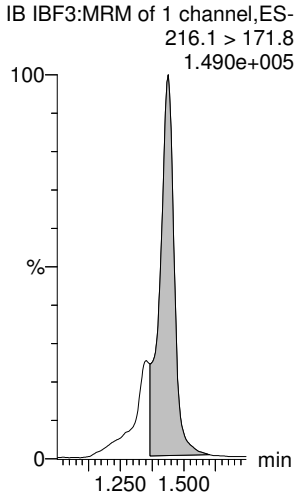
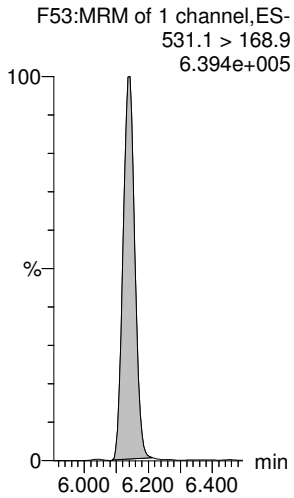


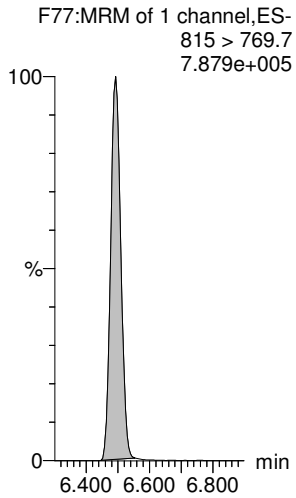
13C3-PFBA-RSD



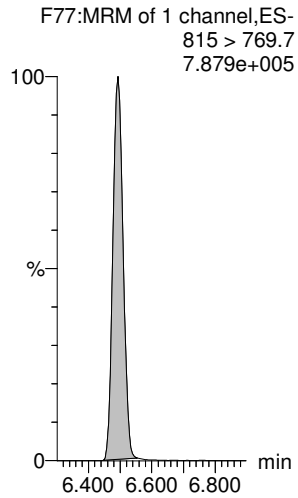
d5-N-ETFOSA-EIS



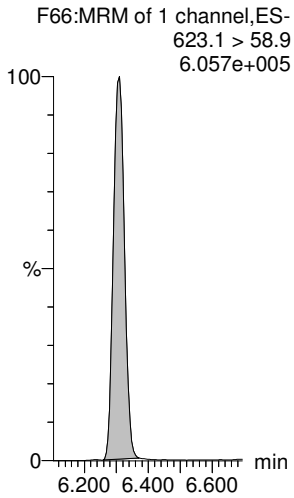
13C2-PFHxDA-EIS



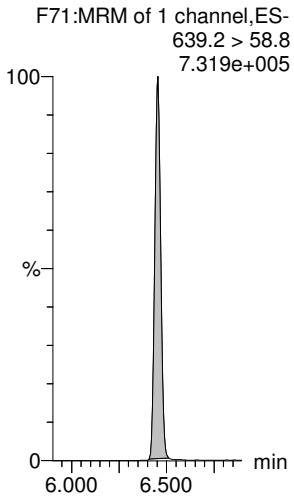
13C2-PFHxDA-EIS



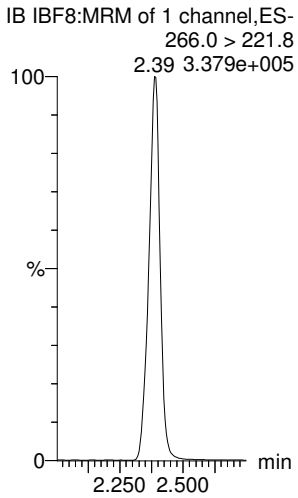
d7-N-MeFOSE-EIS



d9-N-EtFOSE-EIS



13C3-PFPeA-RSD



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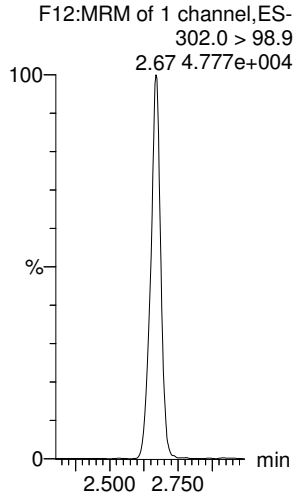
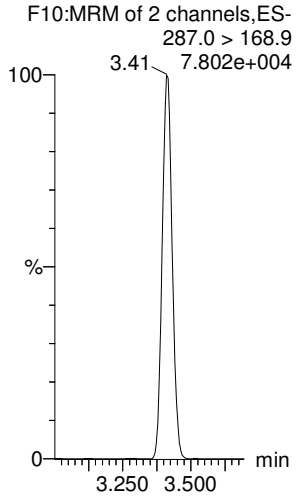
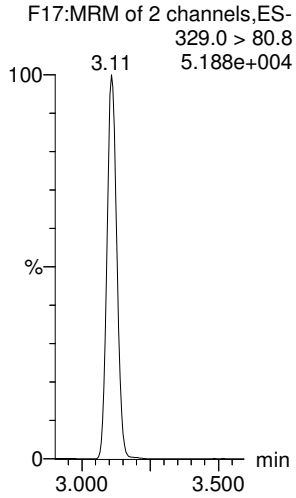
13C3-PFBS-RSD



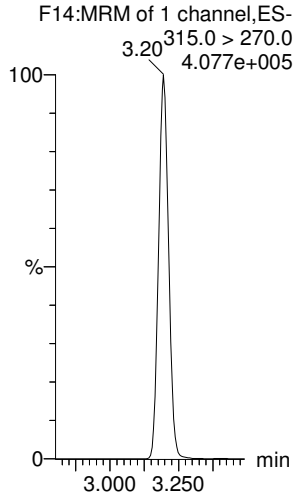
13C3-HFPO-DA-RSD



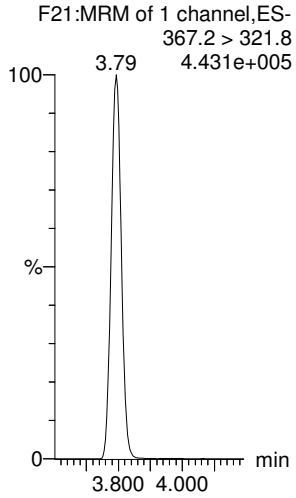
13C2-4:2 FTS-RSD



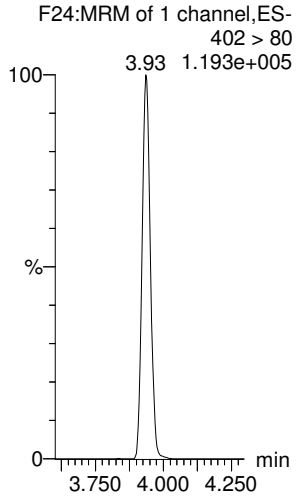
13C2-PFHxA-RSD



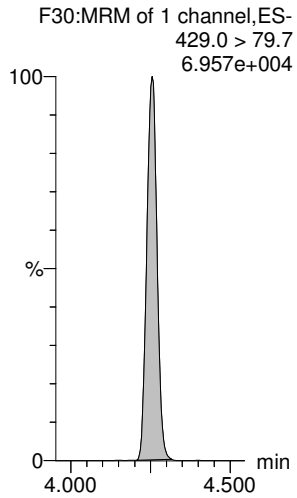
13C4-PFHpA-RSD



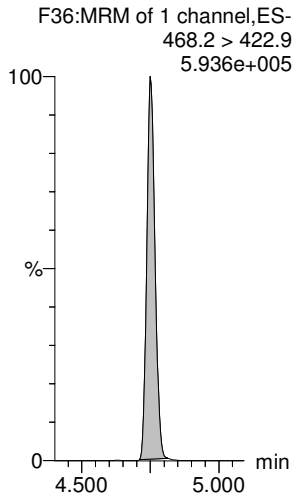
13C3-PFHxS-RSD



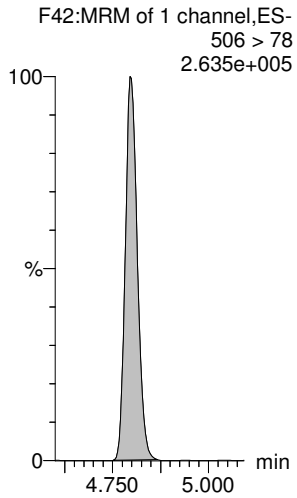
13C2-6:2 FTS-RSD



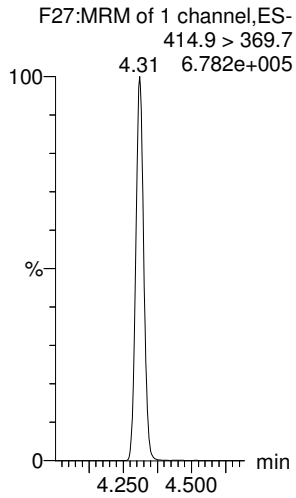
13C5-PFNA-RSD



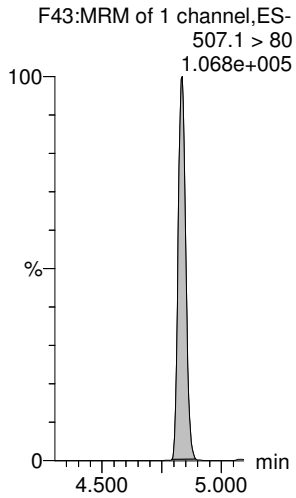
13C8-PFOSA-RSD



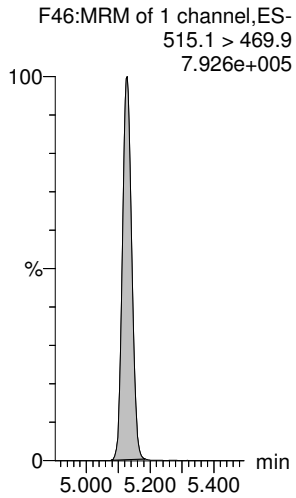
13C2-PFOA-RSD



13C8-PFOS-RSD



13C2-PFDA-RSD



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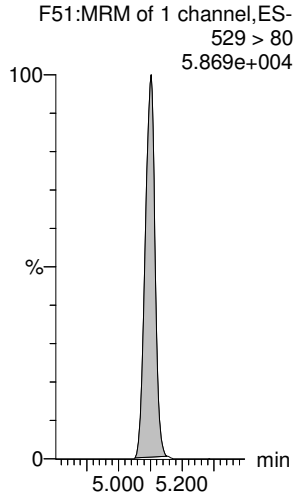
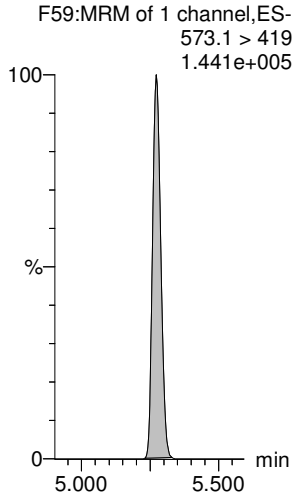
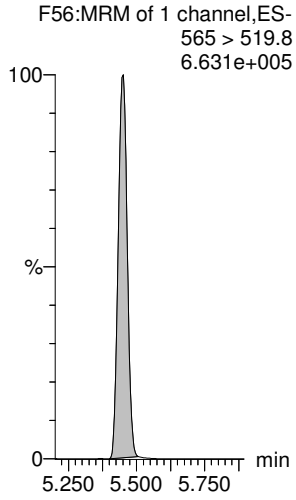
13C2-8:2 FTS-RSD



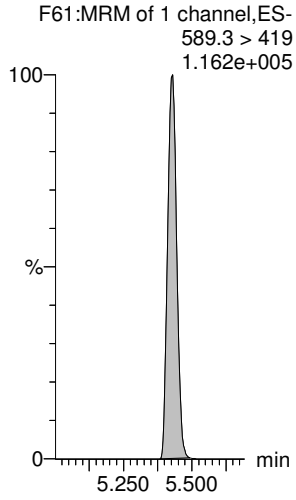
d3-N-MeFOSAA-RSD



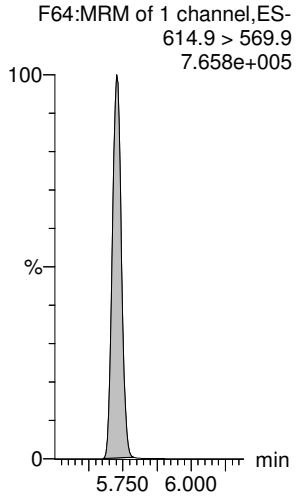
13C2-PFUdA-RSD



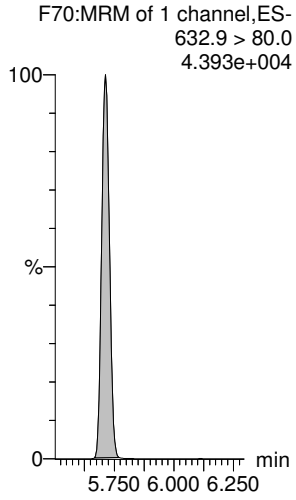
d5-N-EtFOSAA-RSD



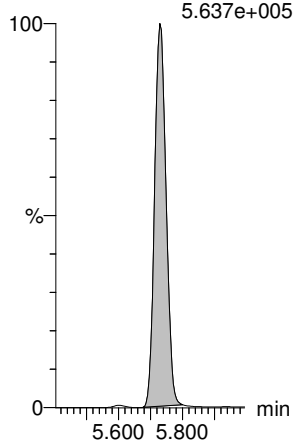
13C2-PFDoA-RSD



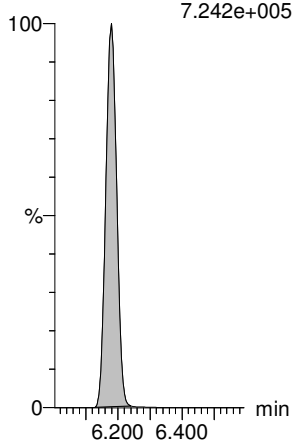
13C2-10:2 FTS-RSD



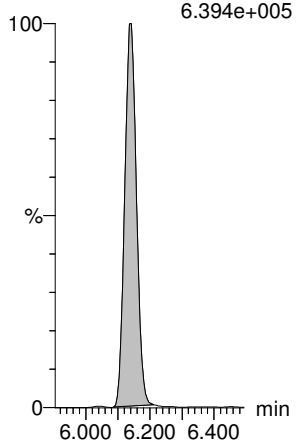
d3-N-MeFOSA-RSD



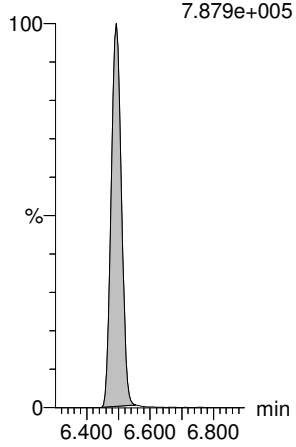
13C2-PFTeDA-RSD



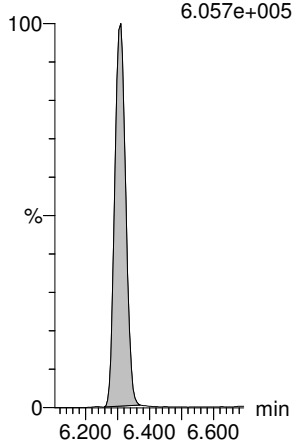
d5-N-ETFOSA-RSD



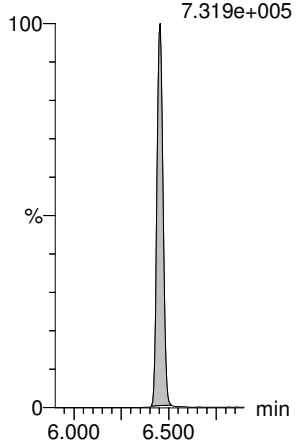
13C2-PFHxDA-RSD



d7-N-MeFOSE-RSD



d9-N-EtFOSE-RSD



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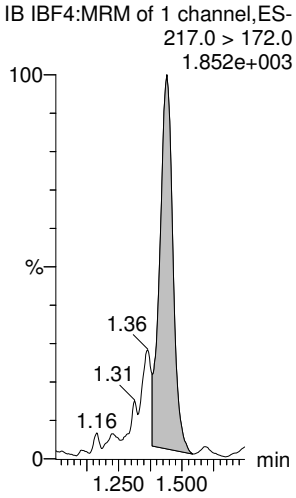
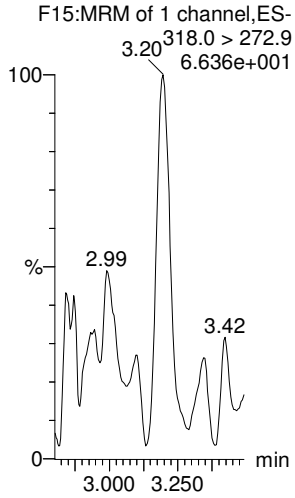
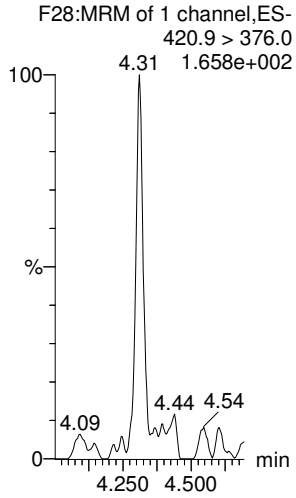
13C4-PFBA



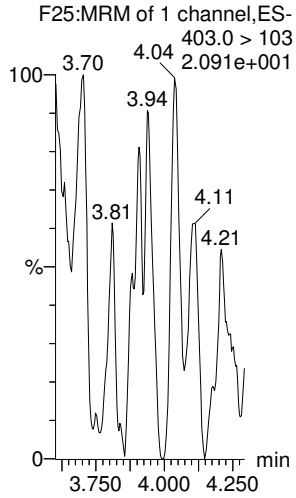
13C5-PFHxA



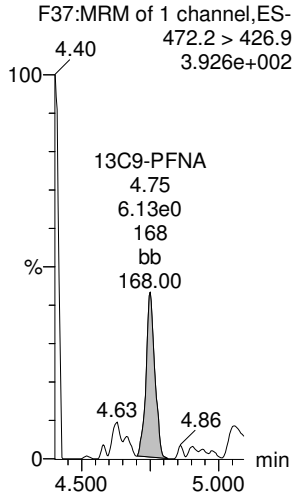
13C8-PFOA



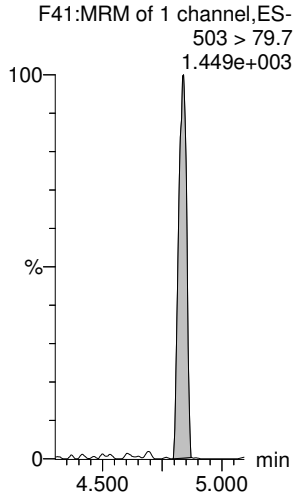
18O2-PFHxS



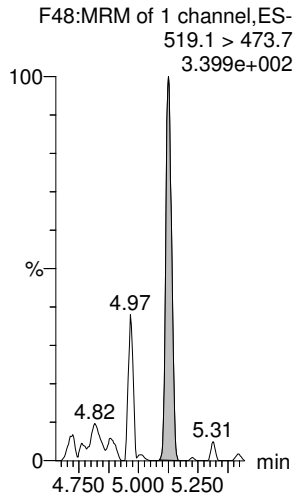
13C9-PFNA



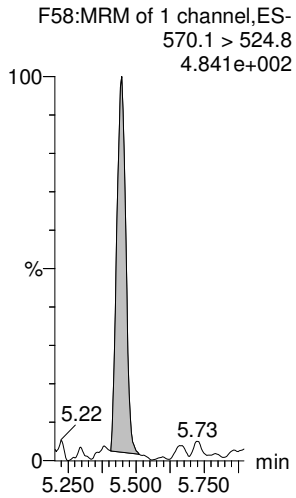
13C4-PFOS



13C6-PFDA



13C7-PFUdA



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	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Std. Conc	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
1	1	PFBA	213.0 > 168.8		9513.212	1.00						NO		
2	2	PFPrS	249 > 80		1992.017	1.00						NO		YES
3	3	3:3 FTCA	240.9 > 176.9		17131.500	1.00						NO		YES
4	4	PFPeA	263.1 > 218.9		17131.500	1.00						NO		
5	5	PFBS	299.0 > 80		1992.017	1.00						NO		YES
6	6	4:2 FTS	326.9 > 306.9		2153.246	1.00						NO		YES
7	47	13C3-PFBA-EIS	216.1 > 171.8	9513.212		1.00	1.44	9513.212	12.500	14.5	116.1	NO		
8	51	13C3-PFBS-EIS	302.0 > 98.9	1992.017		1.00	2.67	1992.017	12.500	12.6	100.9	NO		
9	49	13C3-PFPeA-EIS	266.0 > 221.8	17131.500		1.00	2.39	17131.500	12.500	12.9	103.2	NO		
10	49	13C3-PFPeA-EIS	266.0 > 221.8	17131.500		1.00	2.39	17131.500	12.500	12.9	103.2	NO		
11	51	13C3-PFBS-EIS	302.0 > 98.9	1992.017		1.00	2.67	1992.017	12.500	12.6	100.9	NO		
12	55	13C2-4:2 FTS-EIS	329.0 >80.8	2153.246		1.00	3.11	2153.246	12.500	14.0	111.8	NO		
13	-1													
14	7	PFHxA	313.0 > 269.0	34.478	17163.252	1.00	2.93	0.025				NO		YES
15	8	PFPeS	349.>80		1992.017	1.00						NO		YES
16	9	HFPO-DA	285.1 > 168.9		3305.184	1.00						NO		YES
17	10	5:3 FTCA	340.9 > 236.9	5.703	16015.530	1.00	4.02	0.004		0.0648		NO		YES
18	11	PFHpA	363.0 > 319	18.997	16015.530	1.00	3.92	0.015				NO		YES
19	12	ADONA	376.8 > 250.9		16015.530	1.00						NO		YES
20	57	13C2-PFHxA-EIS	315.0 > 270.0	17163.252		1.00	3.20	17163.252	12.500	12.8	102.0	NO		
21	51	13C3-PFBS-EIS	302.0 > 98.9	1992.017		1.00	2.67	1992.017	12.500	12.6	100.9	NO		
22	53	13C3-HFPO-DA-EIS	287.0 > 168.9	3305.184		1.00	3.41	3305.184	12.500	12.7	101.2	NO		
23	59	13C4-PFHpA-EIS	367.2 > 321.8	16015.530		1.00	3.79	16015.530	12.500	12.5	99.6	NO		
24	59	13C4-PFHpA-EIS	367.2 > 321.8	16015.530		1.00	3.79	16015.530	12.500	12.5	99.6	NO		
25	59	13C4-PFHpA-EIS	367.2 > 321.8	16015.530		1.00	3.79	16015.530	12.500	12.5	99.6	NO		
26	-1													
27	13	L-PFHxS	399 > 79.9		4131.388	1.00						NO		YES
28	15	6:2 FTS	427.0 > 407		2575.395	1.00						NO		YES
29	16	L-PFOA	413 > 369	101.135	22652.164	1.00	4.31	0.056		0.0658		NO	6.534	YES
30	18	PFecHS	461 > 381.0		22652.164	1.00						NO		YES
31	19	PFHpS	449.0 > 80		3845.086	1.00						NO		YES
32	20	7:3 FTCA	440.9 > 336.9		20484.012	1.00						NO		YES
33	61	13C3-PFHxS-EIS	402 > 80	4131.388		1.00	3.93	4131.388	12.500	13.5	108.3	NO		
34	63	13C2-6:2 FTS-EIS	429.0 >79.7	2575.395		1.00	4.25	2575.395	12.500	13.0	103.6	NO		
35	69	13C2-PFOA-EIS	414.9 > 369.7	22652.164		1.00	4.31	22652.164	12.500	13.1	104.5	NO		
36	69	13C2-PFOA-EIS	414.9 > 369.7	22652.164		1.00	4.31	22652.164	12.500	13.1	104.5	NO		

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Name: 200714P1-15, Date: 14-Jul-2020, Time: 12:10:00, ID: IB, Description: IB

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Std. Conc	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
37	71	13C8-PFOS-EIS	507.1 > 80	3845.086		1.00	4.84	3845.086	12.500	12.9	102.9	NO		
38	65	13C5-PFNA-EIS	468.2 > 422.9	20484.012		1.00	4.75	20484.012	12.500	12.2	98.0	NO		
39	-1													
40	21	PFNA	463.0 > 418.8	16.722	20484.012	1.00	4.71	0.010				NO		YES
41	22	PFOSA	498 > 78	5.786	9497.403	1.00	4.79	0.008		0.0200		NO		YES
42	23	L-PFOS	499 > 80		3845.086	1.00						NO		YES
43	25	9Cl-PF30NS	531 > 351		3845.086	1.00						NO		YES
44	26	PFDA	513 > 469		25875.230	1.00						NO		YES
45	27	8:2 FTS	526.8 > 506.9		2048.711	1.00						NO		YES
46	65	13C5-PFNA-EIS	468.2 > 422.9	20484.012		1.00	4.75	20484.012	12.500	12.2	98.0	NO		
47	67	13C8-PFOSA-EIS	506 > 78	9497.403		1.00	4.80	9497.403	12.500	13.3	106.2	NO		
48	71	13C8-PFOS-EIS	507.1 > 80	3845.086		1.00	4.84	3845.086	12.500	12.9	102.9	NO		
49	71	13C8-PFOS-EIS	507.1 > 80	3845.086		1.00	4.84	3845.086	12.500	12.9	102.9	NO		
50	73	13C2-PFDA-EIS	515.1 > 469.9	25875.230		1.00	5.13	25875.230	12.500	13.0	103.7	NO		
51	75	13C2-8:2 FTS-EIS	529 > 80	2048.711		1.00	5.10	2048.711	12.500	11.7	93.6	NO		
52	-1													
53	28	PFNS	549 > 80		3845.086	1.00						NO		YES
54	29	L-MeFOSAA	570 > 419	7.000	4908.206	1.00	5.45	0.018		0.0207		NO		YES
55	31	L-EtFOSAA	583.9 > 419		4413.458	1.00						NO		YES
56	33	PFUdA	563.0 > 519	82.139	24818.340	1.00	5.45	0.041				NO		YES
57	34	PFDS	598.8 >79.9		3845.086	1.00						NO		YES
58	35	11Cl-PF30UdS	631 > 451		28920.432	1.00						NO		YES
59	71	13C8-PFOS-EIS	507.1 > 80	3845.086		1.00	4.84	3845.086	12.500	12.9	102.9	NO		
60	77	d3-N-MeFOSAA-EIS	573.1 > 419	4908.206		1.00	5.27	4908.206	12.500	12.5	100.4	NO		
61	81	d5-N-EtFOSAA-EIS	589.3 > 419	4413.458		1.00	5.43	4413.458	12.500	12.9	103.1	NO		
62	79	13C2-PFUdA-EIS	565 > 519.8	24818.340		1.00	5.45	24818.340	12.500	12.9	103.5	NO		
63	71	13C8-PFOS-EIS	507.1 > 80	3845.086		1.00	4.84	3845.086	12.500	12.9	102.9	NO		
64	83	13C2-PFDoA-EIS	614.9 > 569.9	28920.432		1.00	5.73	28920.432	12.500	12.6	100.4	NO		
65	-1													
66	36	10:2 FTS	626.9 > 607	6.495	1627.563	1.00	5.73	0.050		0.117		NO	0.408	NO
67	37	PFDoA	612.9 > 569.0	318.598	28920.432	1.00	5.73	0.138		0.0426		NO		YES
68	38	N-MeFOSA	512.1 > 168.9	12.792	23015.049	1.00	5.71	0.083				NO		YES
69	39	PFTrDA	662.9 > 618.9		28920.432	1.00						NO		YES
70	40	PFDoS	699 > 80		28326.213	1.00						NO		YES
71	41	PFTeDA	713.0 > 669.0	53.048	28326.213	1.00	6.17	0.023				NO		YES
72	85	13C2-10:2 FTS-EIS	632.9 > 80.0	1627.563		1.00	5.71	1627.563	12.500	13.6	109.1	NO		

Dataset: Untitled

Last Altered: Wednesday, July 15, 2020 08:45:05 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 08:45:14 Pacific Daylight Time

Name: 200714P1-15, Date: 14-Jul-2020, Time: 12:10:00, ID: IB, Description: IB

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Std. Conc	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
73	83	13C2-PFDoA-EIS	614.9 > 569.9	28920.432		1.00	5.73	28920.432	12.500	12.6	100.4	NO		
74	87	d3-N-MeFOSA-EIS	515.2 > 168.9	23015.049		1.00	5.73	23015.049	149.200	129	86.3	NO		
75	83	13C2-PFDoA-EIS	614.9 > 569.9	28920.432		1.00	5.73	28920.432	12.500	12.6	100.4	NO		
76	89	13C2-PFTeDA-EIS	715.1 > 669.7	28326.213		1.00	6.18	28326.213	12.500	12.6	101.1	NO		
77	89	13C2-PFTeDA-EIS	715.1 > 669.7	28326.213		1.00	6.18	28326.213	12.500	12.6	101.1	NO		
78	-1													
79	42	N-EtFOSA	526.1 > 168.9	7.015	26932.115	1.00	6.10	0.039				NO		YES
80	43	PFHxDA	813 > 769	241.693	29006.180	1.00	6.49	0.104				NO	37.414	NO
81	44	PFODA	913.1 > 868.8	103.514	29006.180	1.00	6.72	0.045		0.0364		NO		
82	45	N-MeFOSE	616.1 > 58.9	28.298	23923.449	1.00	6.33	0.176				NO		
83	46	N-EtFOSE	630.1 > 58.9	13.771	27124.117	1.00	6.63	0.076				NO		
84	48	13C3-PFBA-RSD	216.1 > 171.8	9513.212	107.341	1.00	1.44	1107.826	12.500	1190	9495.5	YES		
85	91	d5-N-ETFOSA-EIS	531.1 > 168.9	26932.115		1.00	6.14	26932.115	149.200	132	88.2	NO		
86	93	13C2-PFHxDA-EIS	815 > 769.7	29006.180		1.00	6.49	29006.180	12.500	11.8	94.5	NO		
87	93	13C2-PFHxDA-EIS	815 > 769.7	29006.180		1.00	6.49	29006.180	12.500	11.8	94.5	NO		
88	95	d7-N-MeFOSE-EIS	623.1 > 58.9	23923.449		1.00	6.31	23923.449	149.200	134	90.1	NO		
89	97	d9-N-EtFOSE-EIS	639.2 > 58.8	27124.117		1.00	6.45	27124.117	149.200	132	88.5	NO		
90	50	13C3-PFPeA-RSD	266.0 > 221.8			1.00			12.500			NO		
91	-1													
92	52	13C3-PFBS-RSD	302.0 > 98.9			1.00			12.500			NO		
93	54	13C3-HFPO-DA-RSD	287.0 > 168.9			1.00			12.500			NO		
94	56	13C2-4:2 FTS-RSD	329.0 >80.8			1.00			12.500			NO		
95	58	13C2-PFHxA-RSD	315.0 > 270.0			1.00			12.500			NO		
96	60	13C4-PFHpA-RSD	367.2 > 321.8			1.00			12.500			NO		
97	62	13C3-PFHxS-RSD	402 > 80			1.00			12.500			NO		
98	64	13C2-6:2 FTS-RSD	429.0 >79.7	2575.395	55.125	1.00	4.25	583.990	12.500	1080	8614.1	YES		
99	66	13C5-PFNA-RSD	468.2 > 422.9	20484.012	6.128	1.00	4.75	41783.641	12.500	44400	35505...	YES		
100	68	13C8-PFOSA-RSD	506 > 78	9497.403	17.706	1.00	4.80	6704.933	12.500	13600	10897...	YES		
101	70	13C2-PFOA-RSD	414.9 > 369.7			1.00			12.500			NO		
102	72	13C8-PFOS-RSD	507.1 > 80	3845.086	55.125	1.00	4.84	871.902	12.500	1100	8839.4	YES		
103	74	13C2-PFDA-RSD	515.1 > 469.9	25875.230	9.614	1.00	5.13	33642.644	12.500	30000	24015...	YES		
104	-1													
105	76	13C2-8:2 FTS-RSD	529 > 80	2048.711	55.125	1.00	5.10	464.560	12.500	1030	8237.2	YES		
106	78	d3-N-MeFOSAA-RSD	573.1 > 419	4908.206	17.706	1.00	5.27	3465.073	12.500	13200	10564...	YES		
107	80	13C2-PFUdA-RSD	565 > 519.8	24818.340	17.706	1.00	5.45	17521.137	12.500	13700	10959...	YES		
108	82	d5-N-EtFOSAA-RSD	589.3 > 419	4413.458	17.706	1.00	5.43	3115.793	12.500	14300	11406...	YES		

Dataset: Untitled

Last Altered: Wednesday, July 15, 2020 08:45:05 Pacific Daylight Time
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Name: 200714P1-15, Date: 14-Jul-2020, Time: 12:10:00, ID: IB, Description: IB

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Std. Conc	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
109	84	13C2-PFDoA-RSD	614.9 > 569.9	28920.432	9.614	1.00	5.73	37601.976	12.500	29300	23413...	YES		
110	86	13C2-10:2 FTS-RSD	632.9 > 80.0	1627.563	55.125	1.00	5.71	369.062	12.500	1180	9414.1	YES		
111	88	d3-N-MeFOSA-RSD	515.2 > 168.9	23015.049	17.706	1.00	5.73	16248.058	149.200	140000	93738.9	YES		
112	90	13C2-PFTeDA-RSD	715.1 > 669.7	28326.213	17.706	1.00	6.18	19997.609	12.500	13200	10541...	YES		
113	92	d5-N-ETFOSA-RSD	531.1 > 168.9	26932.115	17.706	1.00	6.14	19013.410	149.200	139000	93447.5	YES		
114	94	13C2-PFHxDA-RSD	815 > 769.7	29006.180	17.706	1.00	6.49	20477.649	12.500	12200	97590.7	YES		
115	96	d7-N-MeFOSE-RSD	623.1 > 58.9	23923.449	17.706	1.00	6.31	16889.366	149.200	137000	92057.3	YES		
116	98	d9-N-EtFOSE-RSD	639.2 > 58.8	27124.117	17.706	1.00	6.45	19148.959	149.200	137000	91562.8	YES		
117	-1													
118	99	13C4-PFBA	217.0 > 172.0	107.341	107.341	1.00	1.44	12.500	12.500	12.5	100.0	NO		
119	1...	13C5-PFHxA	318.0 > 272.9			1.00			12.500			NO		
120	1...	13C8-PFOA	420.9 > 376.0			1.00			12.500			NO		
121	1...	18O2-PFHxS	403.0 > 103			1.00			12.500			NO		
122	1...	13C9-PFNA	472.2 > 426.9	6.128	6.128	1.00	4.75	12.500	12.500	12.5	100.0	NO		
123	1...	13C4-PFOS	503 > 79.7	55.125	55.125	1.00	4.84	12.500	12.500	12.5	100.0	NO		
124	1...	13C6-PFDA	519.1 > 473.7	9.614	9.614	1.00	5.13	12.500	12.500	12.5	100.0	NO		
125	1...	13C7-PFUdA	570.1 > 524.8	17.706	17.706	1.00	5.45	12.500	12.500	12.5	100.0	NO		

high points
3:3 FTCA: 100
5:3 FTCA:
7:3 FTCA:

Dataset: Z:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

Last Altered: Thursday, July 16, 2020 10:32:09 Pacific Daylight Time
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Method: D:\PFAS5.PRO\MethDB\NEW_PFAS_80C_071520.mdb 16 Jul 2020 08:29:48
Calibration: Z:\PFAS5.PRO\CurveDB\C18_VAL-PFAS_Q5_07-15-20.cdb 16 Jul 2020 10:32:09

JTR 07/16/2020

Compound name: PFBA
Correlation coefficient: r = 0.999639, r^2 = 0.999278
Calibration curve: 0.980185 * x + 0.115891
Response type: Internal Std (Ref 47), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	200715P1-05	Standard	0.250	1.43	209.265	7806.605	0.335	0.2	-10.6	NO	0.999	NO	MM
2	2	200715P1-06	Standard	0.500	1.41	354.173	8077.563	0.548	0.4	-11.8	NO	0.999	NO	MM
3	3	200715P1-07	Standard	1.000	1.42	691.099	7777.376	1.111	1.0	1.5	NO	0.999	NO	MM
4	4	200715P1-08	Standard	2.000	1.42	1436.594	8496.101	2.114	2.0	1.9	NO	0.999	NO	MM
5	5	200715P1-09	Standard	5.000	1.42	3542.690	8430.298	5.253	5.2	4.8	NO	0.999	NO	MM
6	6	200715P1-10	Standard	10.000	1.42	6935.486	8307.313	10.436	10.5	5.3	NO	0.999	NO	MM
7	7	200715P1-11	Standard	50.000	1.42	34374.906	8312.727	51.690	52.6	5.2	NO	0.999	NO	MM
8	8	200715P1-12	Standard	100.000	1.42	70991.281	8540.275	103.907	105.9	5.9	NO	0.999	NO	MM
9	9	200715P1-13	Standard	250.000	1.42	163008.766	8380.282	243.143	247.9	-0.8	NO	0.999	NO	MM
10	10	200715P1-14	Standard	500.000	1.42	361299.438	9347.157	483.168	492.8	-1.4	NO	0.999	NO	MM

Compound name: PFPrS
Coefficient of Determination: R^2 = 0.999657
Calibration curve: 0.000167653 * x^2 + 1.28527 * x + -0.115337
Response type: Internal Std (Ref 51), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	200715P1-05	Standard	0.250	1.76	30.573	1738.671	0.220	0.3	4.3	NO	1.000	NO	MM
2	2	200715P1-06	Standard	0.500	1.75	62.228	1667.350	0.467	0.5	-9.5	NO	1.000	NO	MM
3	3	200715P1-07	Standard	1.000	1.75	171.072	1738.769	1.230	1.0	4.6	NO	1.000	NO	MM
4	4	200715P1-08	Standard	2.000	1.74	344.020	1599.076	2.689	2.2	9.1	NO	1.000	NO	MM
5	5	200715P1-09	Standard	5.000	1.75	927.538	1845.682	6.282	5.0	-0.5	NO	1.000	NO	MM
6	6	200715P1-10	Standard	10.000	1.75	1687.590	1816.360	11.614	9.1	-8.9	NO	1.000	NO	MM
7	7	200715P1-11	Standard	50.000	1.75	9294.304	1839.425	63.160	48.9	-2.2	NO	1.000	NO	MM
8	8	200715P1-12	Standard	100.000	1.75	18892.416	1744.090	135.403	104.0	4.0	NO	1.000	NO	MM
9	9	200715P1-13	Standard	250.000	1.75	43142.551	1646.553	327.522	247.0	-1.2	NO	1.000	NO	MM
10	10	200715P1-14	Standard	500.000	1.75	88739.359	1617.881	685.614	500.8	0.2	NO	1.000	NO	MM

QV 07/16/20

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Compound name: 3:3 FTCA
Coefficient of Determination: R^2 = 0.999213
Calibration curve: -0.000108646 * x^2 + 0.0776709 * x + -0.00369656
Response type: Internal Std (Ref 49), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	0.250	2.22	16.896	13826.016	0.015	0.2	-2.3	NO	0.999	NO	MM
2	2 200715P1-06	Standard	0.500	2.21	41.570	14065.802	0.037	0.5	4.7	NO	0.999	NO	MM
3	3 200715P1-07	Standard	1.000	2.22	77.302	13909.148	0.069	0.9	-5.7	NO	0.999	NO	bb
4	4 200715P1-08	Standard	2.000	2.22	145.611	13478.511	0.135	1.8	-10.5	NO	0.999	NO	MM
5	5 200715P1-09	Standard	5.000	2.22	437.020	15018.269	0.364	4.8	-4.8	NO	0.999	NO	bb
6	6 200715P1-10	Standard	10.000	2.22	832.712	14085.286	0.739	9.7	-3.1	NO	0.999	NO	bb
7	7 200715P1-11	Standard	50.000	2.22	4513.634	15158.109	3.722	51.7	3.4	NO	0.999	NO	bb
8	8 200715P1-12	Standard	100.000	2.22	7788.723	14698.876	6.624	99.0	-1.0	NO	0.999	NO	bb
9	9 200715P1-13	Standard	250.000	2.22	4374.361	14042.888	3.894	54.3	-78.3	YES	0.999	NO	bbX
10	10 200715P1-14	Standard	500.000	2.22	8259.125	14165.455	7.288	111.2	-77.8	YES	0.999	NO	bbX

Compound name: PFPeA
Coefficient of Determination: R^2 = 0.999950
Calibration curve: -0.000166693 * x^2 + 0.936142 * x + 0.0191783
Response type: Internal Std (Ref 49), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	0.250	2.36	265.423	13826.016	0.240	0.2	-5.7	NO	1.000	NO	MM
2	2 200715P1-06	Standard	0.500	2.36	579.970	14065.802	0.515	0.5	6.0	NO	1.000	NO	bb
3	3 200715P1-07	Standard	1.000	2.36	1082.506	13909.148	0.973	1.0	1.9	NO	1.000	NO	bb
4	4 200715P1-08	Standard	2.000	2.36	2048.591	13478.511	1.900	2.0	0.5	NO	1.000	NO	bb
5	5 200715P1-09	Standard	5.000	2.36	5881.572	15018.269	4.895	5.2	4.3	NO	1.000	NO	bb
6	6 200715P1-10	Standard	10.000	2.36	10669.291	14085.286	9.468	10.1	1.1	NO	1.000	NO	bb
7	7 200715P1-11	Standard	50.000	2.36	56169.977	15158.109	46.320	49.9	-0.2	NO	1.000	NO	bb
8	8 200715P1-12	Standard	100.000	2.36	109126.078	14698.876	92.801	100.9	0.9	NO	1.000	NO	bb
9	9 200715P1-13	Standard	250.000	2.36	249152.469	14042.888	221.778	247.8	-0.9	NO	1.000	NO	bb
10	10 200715P1-14	Standard	500.000	2.36	484100.281	14165.455	427.184	501.0	0.2	NO	1.000	NO	bb

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Compound name: PFBS
Coefficient of Determination: R^2 = 0.999766
Calibration curve: -0.000471545 * x^2 + 2.52596 * x + -0.0069074
Response type: Internal Std (Ref 51), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	0.250	2.64	86.356	1738.671	0.621	0.2	-0.6	NO	1.000	NO	bb
2	2 200715P1-06	Standard	0.500	2.64	169.391	1667.350	1.270	0.5	1.1	NO	1.000	NO	bb
3	3 200715P1-07	Standard	1.000	2.64	345.926	1738.769	2.487	1.0	-1.3	NO	1.000	NO	bb
4	4 200715P1-08	Standard	2.000	2.64	654.522	1599.076	5.116	2.0	1.5	NO	1.000	NO	bb
5	5 200715P1-09	Standard	5.000	2.64	1922.760	1845.682	13.022	5.2	3.3	NO	1.000	NO	bb
6	6 200715P1-10	Standard	10.000	2.64	3511.424	1816.360	24.165	9.6	-4.1	NO	1.000	NO	bb
7	7 200715P1-11	Standard	50.000	2.64	17753.797	1839.425	120.648	48.2	-3.6	NO	1.000	NO	bb
8	8 200715P1-12	Standard	100.000	2.64	35663.453	1744.090	255.602	103.2	3.2	NO	1.000	NO	bb
9	9 200715P1-13	Standard	250.000	2.64	78877.070	1646.553	598.805	248.6	-0.6	NO	1.000	NO	bb
10	10 200715P1-14	Standard	500.000	2.64	148276.594	1617.881	1145.608	500.3	0.1	NO	1.000	NO	bb

Compound name: 4:2 FTS
Coefficient of Determination: R^2 = 0.999085
Calibration curve: -0.000777096 * x^2 + 2.51837 * x + 0.0713002
Response type: Internal Std (Ref 55), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	0.250	3.07	99.580	1860.907	0.669	0.2	-5.1	NO	0.999	NO	bb
2	2 200715P1-06	Standard	0.500	3.08	205.323	1772.278	1.448	0.5	9.4	NO	0.999	NO	bb
3	3 200715P1-07	Standard	1.000	3.08	392.398	1924.178	2.549	1.0	-1.6	NO	0.999	NO	bb
4	4 200715P1-08	Standard	2.000	3.07	785.223	1898.710	5.169	2.0	1.3	NO	0.999	NO	bb
5	5 200715P1-09	Standard	5.000	3.08	2046.222	1914.402	13.361	5.3	5.7	NO	0.999	NO	bb
6	6 200715P1-10	Standard	10.000	3.08	3735.083	1906.392	24.491	9.7	-2.7	NO	0.999	NO	bb
7	7 200715P1-11	Standard	50.000	3.08	19669.475	1813.734	135.559	54.7	9.4	NO	0.999	NO	bb
8	8 200715P1-12	Standard	100.000	3.07	36811.188	1977.304	232.711	95.2	-4.8	NO	0.999	NO	bb
9	9 200715P1-13	Standard	250.000	3.08	74619.242	1612.728	578.362	248.7	-0.5	NO	0.999	NO	bb
10	10 200715P1-14	Standard	500.000	3.08	138701.766	1624.158	1067.490	501.4	0.3	NO	0.999	NO	bb

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Compound name: PFHxA
Correlation coefficient: r = 0.998355, r^2 = 0.996713
Calibration curve: 0.989028 * x + 0.093798
Response type: Internal Std (Ref 57), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Include, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	0.250	3.16	331.189	15339.016	0.270	0.2	-28.8	NO	0.997	NO	bb
2	2 200715P1-06	Standard	0.500	3.16	753.281	15588.797	0.604	0.5	3.2	NO	0.997	NO	MM
3	3 200715P1-07	Standard	1.000	3.16	1416.958	14456.156	1.225	1.1	14.4	NO	0.997	NO	bb
4	4 200715P1-08	Standard	2.000	3.16	2550.491	14190.115	2.247	2.2	8.8	NO	0.997	NO	bb
5	5 200715P1-09	Standard	5.000	3.16	7470.837	16557.631	5.640	5.6	12.2	NO	0.997	NO	bb
6	6 200715P1-10	Standard	10.000	3.16	13453.060	15333.919	10.967	11.0	9.9	NO	0.997	NO	bb
7	7 200715P1-11	Standard	50.000	3.16	68944.961	15465.936	55.723	56.2	12.5	NO	0.997	NO	bb
8	8 200715P1-12	Standard	100.000	3.16	135199.703	15965.140	105.855	106.9	6.9	NO	0.997	NO	bb
9	9 200715P1-13	Standard	250.000	3.16	302604.625	14763.244	256.215	259.0	3.6	NO	0.997	NO	bb
10	10 200715P1-14	Standard	500.000	3.17	572349.813	15194.222	470.861	476.0	-4.8	NO	0.997	NO	bb

Compound name: PFPeS
Coefficient of Determination: R^2 = 0.999528
Calibration curve: -0.000776818 * x^2 + 2.0532 * x + 0.045083
Response type: Internal Std (Ref 51), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	0.250	3.34	70.804	1738.671	0.509	0.2	-9.6	NO	1.000	NO	bb
2	2 200715P1-06	Standard	0.500	3.36	121.794	1667.350	0.913	0.4	-15.4	NO	1.000	NO	bb
3	3 200715P1-07	Standard	1.000	3.36	293.027	1738.769	2.107	1.0	0.4	NO	1.000	NO	bb
4	4 200715P1-08	Standard	2.000	3.36	649.530	1599.076	5.077	2.5	22.7	NO	1.000	NO	bb
5	5 200715P1-09	Standard	5.000	3.36	1549.416	1845.682	10.494	5.1	2.0	NO	1.000	NO	bb
6	6 200715P1-10	Standard	10.000	3.36	2956.720	1816.360	20.348	9.9	-0.7	NO	1.000	NO	bb
7	7 200715P1-11	Standard	50.000	3.36	14725.169	1839.425	100.066	49.6	-0.7	NO	1.000	NO	bb
8	8 200715P1-12	Standard	100.000	3.36	28440.760	1744.090	203.837	103.3	3.3	NO	1.000	NO	bb
9	9 200715P1-13	Standard	250.000	3.36	59869.996	1646.553	454.510	243.8	-2.5	NO	1.000	NO	bb
10	10 200715P1-14	Standard	500.000	3.36	108256.188	1617.881	836.404	503.1	0.6	NO	1.000	NO	bb

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Compound name: HFPO-DA
Coefficient of Determination: R^2 = 0.999863
Calibration curve: -0.000207197 * x^2 + 0.9792 * x + 0.0644029
Response type: Internal Std (Ref 53), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	0.250	3.37	66.363	3054.830	0.272	0.2	-15.4	NO	1.000	NO	bb
2	2 200715P1-06	Standard	0.500	3.38	156.347	2970.628	0.658	0.6	21.2	NO	1.000	NO	bb
3	3 200715P1-07	Standard	1.000	3.38	257.741	2768.974	1.164	1.1	12.3	NO	1.000	NO	bb
4	4 200715P1-08	Standard	2.000	3.38	488.027	2801.989	2.177	2.2	7.9	NO	1.000	NO	bb
5	5 200715P1-09	Standard	5.000	3.38	1346.487	3238.469	5.197	5.2	5.0	NO	1.000	NO	bb
6	6 200715P1-10	Standard	10.000	3.38	2430.643	3233.451	9.396	9.5	-4.5	NO	1.000	NO	bb
7	7 200715P1-11	Standard	50.000	3.38	12482.712	3225.027	48.382	49.9	-0.3	NO	1.000	NO	bb
8	8 200715P1-12	Standard	100.000	3.38	25270.379	3287.801	96.076	100.2	0.2	NO	1.000	NO	bb
9	9 200715P1-13	Standard	250.000	3.38	57094.559	3081.841	231.577	249.6	-0.2	NO	1.000	NO	bb
10	10 200715P1-14	Standard	500.000	3.38	109837.281	3134.487	438.019	500.2	0.0	NO	1.000	NO	bb

Compound name: 5:3 FTCA
Coefficient of Determination: R^2 = 0.997857
Calibration curve: 2.67699e-006 * x^2 + 0.150879 * x + -0.000564457
Response type: Internal Std (Ref 59), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	0.250	3.69	50.596	14141.860	0.045	0.3	20.1	NO	0.998	NO	bb
2	2 200715P1-06	Standard	0.500	3.70	91.264	14738.732	0.077	0.5	3.3	NO	0.998	NO	bb
3	3 200715P1-07	Standard	1.000	3.70	161.471	14201.896	0.142	0.9	-5.4	NO	0.998	NO	bb
4	4 200715P1-08	Standard	2.000	3.70	320.228	14172.102	0.282	1.9	-6.2	NO	0.998	NO	bb
5	5 200715P1-09	Standard	5.000	3.70	898.411	15900.185	0.706	4.7	-6.3	NO	0.998	NO	bb
6	6 200715P1-10	Standard	10.000	3.70	1698.282	15879.081	1.337	8.9	-11.4	NO	0.998	NO	bb
7	7 200715P1-11	Standard	50.000	3.70	8875.668	13898.979	7.982	52.9	5.7	NO	0.998	NO	bb
8	8 200715P1-12	Standard	100.000	3.70	15796.716	13236.320	14.918	98.7	-1.3	NO	0.998	NO	bb
9	9 200715P1-13	Standard	250.000	3.70	8877.041	13781.080	8.052	53.3	-78.7	YES	0.998	NO	bbX
10	10 200715P1-14	Standard	500.000	3.70	17122.254	13020.542	16.438	108.7	-78.3	YES	0.998	NO	bbX

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Compound name: PFHpA
Coefficient of Determination: R^2 = 0.998154
Calibration curve: -0.000400669 * x^2 + 1.29457 * x + -0.0179516
Response type: Internal Std (Ref 59), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	0.250	3.75	415.303	14141.860	0.367	0.3	19.0	NO	0.998	NO	bb
2	2 200715P1-06	Standard	0.500	3.76	855.347	14738.732	0.725	0.6	14.9	NO	0.998	NO	bb
3	3 200715P1-07	Standard	1.000	3.76	1535.167	14201.896	1.351	1.1	5.8	NO	0.998	NO	bb
4	4 200715P1-08	Standard	2.000	3.76	2173.251	14172.102	1.917	1.5	-25.2	NO	0.998	NO	bb
5	5 200715P1-09	Standard	5.000	3.76	7357.491	15900.185	5.784	4.5	-10.2	NO	0.998	NO	bb
6	6 200715P1-10	Standard	10.000	3.76	13942.688	15879.081	10.976	8.5	-14.9	NO	0.998	NO	bb
7	7 200715P1-11	Standard	50.000	3.76	70620.063	13898.979	63.512	49.8	-0.3	NO	0.998	NO	bb
8	8 200715P1-12	Standard	100.000	3.76	143832.344	13236.320	135.831	108.6	8.6	NO	0.998	NO	bb
9	9 200715P1-13	Standard	250.000	3.76	317724.188	13781.080	288.189	240.5	-3.8	NO	0.998	NO	bb
10	10 200715P1-14	Standard	500.000	3.76	573197.063	13020.542	550.281	503.6	0.7	NO	0.998	NO	bb

Compound name: ADONA
Coefficient of Determination: R^2 = 0.997677
Calibration curve: -0.000616138 * x^2 + 2.30427 * x + -0.0693606
Response type: Internal Std (Ref 59), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	0.250	3.87	669.737	14141.860	0.592	0.3	14.8	NO	0.998	NO	bb
2	2 200715P1-06	Standard	0.500	3.87	1328.318	14738.732	1.127	0.5	3.8	NO	0.998	NO	bb
3	3 200715P1-07	Standard	1.000	3.87	2471.188	14201.896	2.175	1.0	-2.6	NO	0.998	NO	bb
4	4 200715P1-08	Standard	2.000	3.87	4826.819	14172.102	4.257	1.9	-6.1	NO	0.998	NO	bb
5	5 200715P1-09	Standard	5.000	3.87	13789.471	15900.185	10.841	4.7	-5.2	NO	0.998	NO	bb
6	6 200715P1-10	Standard	10.000	3.87	25719.617	15879.081	20.246	8.8	-11.6	NO	0.998	NO	bb
7	7 200715P1-11	Standard	50.000	3.87	129128.820	13898.979	116.132	51.1	2.3	NO	0.998	NO	bb
8	8 200715P1-12	Standard	100.000	3.87	259148.453	13236.320	244.732	109.4	9.4	NO	0.998	NO	bb
9	9 200715P1-13	Standard	250.000	3.87	558854.563	13781.080	506.904	234.7	-6.1	NO	0.998	NO	bb
10	10 200715P1-14	Standard	500.000	3.87	1051045.750	13020.542	1009.026	506.5	1.3	NO	0.998	NO	bb

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Compound name: L-PFHxS
Coefficient of Determination: R^2 = 0.999839
Calibration curve: -0.000166876 * x^2 + 1.16221 * x + 0.0219326
Response type: Internal Std (Ref 61), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	0.250	3.90	98.922	3286.932	0.376	0.3	21.9	NO	1.000	NO	MM
2	2 200715P1-06	Standard	0.500	3.91	136.501	3456.514	0.494	0.4	-18.8	NO	1.000	NO	MM
3	3 200715P1-07	Standard	1.000	3.91	312.872	3296.439	1.186	1.0	0.2	NO	1.000	NO	MM
4	4 200715P1-08	Standard	2.000	3.91	554.025	3275.624	2.114	1.8	-10.0	NO	1.000	NO	MM
5	5 200715P1-09	Standard	5.000	3.91	1768.111	3663.371	6.033	5.2	3.5	NO	1.000	NO	MM
6	6 200715P1-10	Standard	10.000	3.90	3207.511	3357.679	11.941	10.3	2.7	NO	1.000	NO	MM
7	7 200715P1-11	Standard	50.000	3.91	16479.568	3494.369	58.950	51.1	2.2	NO	1.000	NO	MM
8	8 200715P1-12	Standard	100.000	3.90	31483.596	3507.856	112.190	97.9	-2.1	NO	1.000	NO	MM
9	9 200715P1-13	Standard	250.000	3.90	70564.531	3136.063	281.262	251.0	0.4	NO	1.000	NO	MM
10	10 200715P1-14	Standard	500.000	3.91	129946.344	3012.524	539.192	499.8	-0.0	NO	1.000	NO	MM

Compound name: 6:2 FTS
Coefficient of Determination: R^2 = 0.999703
Calibration curve: -0.000429136 * x^2 + 1.01207 * x + -0.0281069
Response type: Internal Std (Ref 63), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	0.250	4.22	40.578	2288.134	0.222	0.2	-1.3	NO	1.000	NO	bb
2	2 200715P1-06	Standard	0.500	4.22	93.582	2199.076	0.532	0.6	10.7	NO	1.000	NO	bb
3	3 200715P1-07	Standard	1.000	4.22	153.270	2229.958	0.859	0.9	-12.3	NO	1.000	NO	bb
4	4 200715P1-08	Standard	2.000	4.22	367.735	2106.058	2.183	2.2	9.3	NO	1.000	NO	bb
5	5 200715P1-09	Standard	5.000	4.22	893.897	2461.530	4.539	4.5	-9.6	NO	1.000	NO	bb
6	6 200715P1-10	Standard	10.000	4.22	1733.231	2370.508	9.140	9.1	-9.1	NO	1.000	NO	bb
7	7 200715P1-11	Standard	50.000	4.22	8970.587	2253.882	49.751	50.3	0.5	NO	1.000	NO	bb
8	8 200715P1-12	Standard	100.000	4.22	17424.672	2254.202	96.623	99.7	-0.3	NO	1.000	NO	bb
9	9 200715P1-13	Standard	250.000	4.22	37304.406	2039.324	228.657	253.1	1.2	NO	1.000	NO	bb
10	10 200715P1-14	Standard	500.000	4.22	68659.656	2158.935	397.532	498.0	-0.4	NO	1.000	NO	bb

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Compound name: L-PFOA
Coefficient of Determination: R^2 = 0.999925
Calibration curve: -0.000278493 * x^2 + 0.984998 * x + 0.00651212
Response type: Internal Std (Ref 69), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	200715P1-05	Standard	0.250	4.27	386.220	18747.258	0.258	0.3	1.9	NO	1.000	NO	bb
2	2	200715P1-06	Standard	0.500	4.28	764.909	18013.293	0.531	0.5	6.5	NO	1.000	NO	bb
3	3	200715P1-07	Standard	1.000	4.28	1468.491	18092.994	1.015	1.0	2.4	NO	1.000	NO	bb
4	4	200715P1-08	Standard	2.000	4.28	2805.938	17356.375	2.021	2.0	2.3	NO	1.000	NO	bb
5	5	200715P1-09	Standard	5.000	4.28	7312.187	20100.508	4.547	4.6	-7.7	NO	1.000	NO	bb
6	6	200715P1-10	Standard	10.000	4.28	14541.508	18997.652	9.568	9.7	-2.7	NO	1.000	NO	bb
7	7	200715P1-11	Standard	50.000	4.28	71918.922	18724.668	48.011	49.4	-1.1	NO	1.000	NO	bb
8	8	200715P1-12	Standard	100.000	4.28	141860.125	18385.432	96.449	100.8	0.8	NO	1.000	NO	bb
9	9	200715P1-13	Standard	250.000	4.28	298805.969	16259.043	229.723	251.0	0.4	NO	1.000	NO	bb
10	10	200715P1-14	Standard	500.000	4.28	517858.719	15326.200	422.364	499.3	-0.1	NO	1.000	NO	bb

Compound name: PFecHS
Coefficient of Determination: R^2 = 0.999832
Calibration curve: -1.00689e-005 * x^2 + 0.193418 * x + -0.00519347
Response type: Internal Std (Ref 69), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	200715P1-05	Standard	0.250	4.30	66.564	18747.258	0.044	0.3	2.5	NO	1.000	NO	bb
2	2	200715P1-06	Standard	0.500	4.28	148.568	18013.293	0.103	0.6	12.0	NO	1.000	NO	bb
3	3	200715P1-07	Standard	1.000	4.29	245.055	18092.994	0.169	0.9	-9.8	NO	1.000	NO	bb
4	4	200715P1-08	Standard	2.000	4.30	461.520	17356.375	0.332	1.7	-12.7	NO	1.000	NO	bb
5	5	200715P1-09	Standard	5.000	4.29	1535.510	20100.508	0.955	5.0	-0.7	NO	1.000	NO	bb
6	6	200715P1-10	Standard	10.000	4.29	2896.756	18997.652	1.906	9.9	-1.1	NO	1.000	NO	bb
7	7	200715P1-11	Standard	50.000	4.29	13998.150	18724.668	9.345	48.5	-3.1	NO	1.000	NO	bb
8	8	200715P1-12	Standard	100.000	4.29	28906.139	18385.432	19.653	102.2	2.2	NO	1.000	NO	bb
9	9	200715P1-13	Standard	250.000	4.29	62112.363	16259.043	47.752	250.2	0.1	NO	1.000	NO	bb
10	10	200715P1-14	Standard	500.000	4.29	115397.273	15326.200	94.118	499.6	-0.1	NO	1.000	NO	bd

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Compound name: PFHpS
Coefficient of Determination: R^2 = 0.999276
Calibration curve: -0.000136149 * x^2 + 0.966385 * x + -0.0100863
Response type: Internal Std (Ref 71), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	0.250	4.38	44.520	3339.633	0.167	0.2	-26.9	NO	0.999	NO	bb
2	2 200715P1-06	Standard	0.500	4.39	109.049	3464.958	0.393	0.4	-16.5	NO	0.999	NO	bb
3	3 200715P1-07	Standard	1.000	4.39	275.895	3207.886	1.075	1.1	12.3	NO	0.999	NO	bb
4	4 200715P1-08	Standard	2.000	4.39	514.012	3209.567	2.002	2.1	4.1	NO	0.999	NO	bb
5	5 200715P1-09	Standard	5.000	4.39	1529.380	3319.781	5.759	6.0	19.5	NO	0.999	NO	bb
6	6 200715P1-10	Standard	10.000	4.39	2840.143	3485.769	10.185	10.6	5.7	NO	0.999	NO	bb
7	7 200715P1-11	Standard	50.000	4.39	13445.822	3397.571	49.469	51.6	3.1	NO	0.999	NO	bb
8	8 200715P1-12	Standard	100.000	4.39	26984.529	3501.605	96.329	101.1	1.1	NO	0.999	NO	bb
9	9 200715P1-13	Standard	250.000	4.39	59139.055	3276.164	225.641	241.7	-3.3	NO	0.999	NO	bb
10	10 200715P1-14	Standard	500.000	4.39	105313.844	2909.353	452.480	504.0	0.8	NO	0.999	NO	bb

Compound name: 7:3 FTCA
Coefficient of Determination: R^2 = 0.999738
Calibration curve: -0.000267529 * x^2 + 0.232502 * x + -0.0230233
Response type: Internal Std (Ref 65), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	0.250	4.70	63.024	18166.605	0.043	0.3	14.3	NO	1.000	NO	bb
2	2 200715P1-06	Standard	0.500	4.70	126.751	18475.305	0.086	0.5	-6.4	NO	1.000	NO	bb
3	3 200715P1-07	Standard	1.000	4.71	275.734	16942.672	0.203	1.0	-2.5	NO	1.000	NO	bb
4	4 200715P1-08	Standard	2.000	4.71	590.007	16943.467	0.435	2.0	-1.2	NO	1.000	NO	bb
5	5 200715P1-09	Standard	5.000	4.71	1672.349	18984.844	1.101	4.9	-2.8	NO	1.000	NO	bb
6	6 200715P1-10	Standard	10.000	4.71	3291.384	18605.793	2.211	9.7	-2.8	NO	1.000	NO	bb
7	7 200715P1-11	Standard	50.000	4.71	15861.765	17815.230	11.129	51.0	1.9	NO	1.000	NO	bb
8	8 200715P1-12	Standard	100.000	4.71	28910.637	17661.139	20.462	99.5	-0.5	NO	1.000	NO	bb
9	9 200715P1-13	Standard	250.000	4.71	15162.998	16655.285	11.380	52.2	-79.1	YES	1.000	NO	bbX
10	10 200715P1-14	Standard	500.000	4.71	28538.283	15295.544	23.322	115.9	-76.8	YES	1.000	NO	bbX

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Compound name: PFNA
Coefficient of Determination: R^2 = 0.999634
Calibration curve: -0.000101923 * x^2 + 1.18112 * x + 0.0147918
Response type: Internal Std (Ref 65), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	200715P1-05	Standard	0.250	4.72	413.564	18166.605	0.285	0.2	-8.6	NO	1.000	NO	MM
2	2	200715P1-06	Standard	0.500	4.72	880.181	18475.305	0.596	0.5	-1.7	NO	1.000	NO	bb
3	3	200715P1-07	Standard	1.000	4.72	1512.548	16942.672	1.116	0.9	-6.8	NO	1.000	NO	bb
4	4	200715P1-08	Standard	2.000	4.72	3413.570	16943.467	2.518	2.1	6.0	NO	1.000	NO	MM
5	5	200715P1-09	Standard	5.000	4.72	9579.593	18984.844	6.307	5.3	6.6	NO	1.000	NO	bb
6	6	200715P1-10	Standard	10.000	4.72	17799.180	18605.793	11.958	10.1	1.2	NO	1.000	NO	MM
7	7	200715P1-11	Standard	50.000	4.72	87441.578	17815.230	61.353	52.2	4.3	NO	1.000	NO	bb
8	8	200715P1-12	Standard	100.000	4.72	167018.047	17661.139	118.210	101.0	1.0	NO	1.000	NO	bb
9	9	200715P1-13	Standard	250.000	4.72	375064.469	16655.285	281.491	243.4	-2.6	NO	1.000	NO	bb
10	10	200715P1-14	Standard	500.000	4.72	695432.063	15295.544	568.329	503.0	0.6	NO	1.000	NO	bb

Compound name: PFOSA
Coefficient of Determination: R^2 = 0.999738
Calibration curve: -7.63122e-005 * x^2 + 0.694419 * x + 0.0219661
Response type: Internal Std (Ref 67), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	200715P1-05	Standard	0.250	4.76	116.570	7423.152	0.196	0.3	0.4	NO	1.000	NO	bb
2	2	200715P1-06	Standard	0.500	4.77	201.944	7301.197	0.346	0.5	-6.7	NO	1.000	NO	bb
3	3	200715P1-07	Standard	1.000	4.77	412.129	7447.246	0.692	1.0	-3.5	NO	1.000	NO	bb
4	4	200715P1-08	Standard	2.000	4.77	853.378	6848.962	1.557	2.2	10.6	NO	1.000	NO	bb
5	5	200715P1-09	Standard	5.000	4.77	2317.238	7848.611	3.691	5.3	5.7	NO	1.000	NO	MM
6	6	200715P1-10	Standard	10.000	4.77	4350.626	7434.802	7.315	10.5	5.1	NO	1.000	NO	bb
7	7	200715P1-11	Standard	50.000	4.77	21072.910	7334.455	35.914	52.0	4.0	NO	1.000	NO	bb
8	8	200715P1-12	Standard	100.000	4.77	40529.145	7561.286	67.001	97.5	-2.5	NO	1.000	NO	bb
9	9	200715P1-13	Standard	250.000	4.77	88396.961	6583.585	167.836	248.4	-0.6	NO	1.000	NO	bb
10	10	200715P1-14	Standard	500.000	4.77	170774.109	6491.171	328.858	501.1	0.2	NO	1.000	NO	bb

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Compound name: L-PFOS
Coefficient of Determination: R^2 = 0.998321
Calibration curve: -5.66898e-005 * x^2 + 1.21465 * x + 0.0162657
Response type: Internal Std (Ref 71), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	200715P1-05	Standard	0.250	4.80	64.669	3339.633	0.242	0.2	-25.6	NO	0.998	NO	MM
2	2	200715P1-06	Standard	0.500	4.79	175.677	3464.958	0.634	0.5	1.7	NO	0.998	NO	MM
3	3	200715P1-07	Standard	1.000	4.80	320.598	3207.886	1.249	1.0	1.5	NO	0.998	NO	MM
4	4	200715P1-08	Standard	2.000	4.80	653.320	3209.567	2.544	2.1	4.1	NO	0.998	NO	MM
5	5	200715P1-09	Standard	5.000	4.80	1843.474	3319.781	6.941	5.7	14.1	NO	0.998	NO	MM
6	6	200715P1-10	Standard	10.000	4.80	3496.370	3485.769	12.538	10.3	3.1	NO	0.998	NO	MM
7	7	200715P1-11	Standard	50.000	4.80	17722.518	3397.571	65.203	53.8	7.6	NO	0.998	NO	MM
8	8	200715P1-12	Standard	100.000	4.80	35094.867	3501.605	125.281	103.6	3.6	NO	0.998	NO	MM
9	9	200715P1-13	Standard	250.000	4.80	73999.398	3276.164	282.340	235.0	-6.0	NO	0.998	NO	MM
10	10	200715P1-14	Standard	500.000	4.80	139815.500	2909.353	600.716	506.5	1.3	NO	0.998	NO	MM

Compound name: 9Cl-PF30NS
Coefficient of Determination: R^2 = 0.999037
Calibration curve: -9.96094e-005 * x^2 + 2.39352 * x + 0.0272839
Response type: Internal Std (Ref 71), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	200715P1-05	Standard	0.250	5.01	144.374	3339.633	0.540	0.2	-14.3	NO	0.999	NO	bb
2	2	200715P1-06	Standard	0.500	5.01	329.993	3464.958	1.190	0.5	-2.8	NO	0.999	NO	bb
3	3	200715P1-07	Standard	1.000	5.01	509.340	3207.886	1.985	0.8	-18.2	NO	0.999	NO	bb
4	4	200715P1-08	Standard	2.000	5.02	1517.250	3209.567	5.909	2.5	22.9	NO	0.999	NO	bb
5	5	200715P1-09	Standard	5.000	5.02	3533.801	3319.781	13.306	5.5	11.0	NO	0.999	NO	bb
6	6	200715P1-10	Standard	10.000	5.02	6444.495	3485.769	23.110	9.6	-3.5	NO	0.999	NO	bb
7	7	200715P1-11	Standard	50.000	5.02	34283.121	3397.571	126.131	52.8	5.6	NO	0.999	NO	bb
8	8	200715P1-12	Standard	100.000	5.02	68417.602	3501.605	244.237	102.5	2.5	NO	0.999	NO	bb
9	9	200715P1-13	Standard	250.000	5.02	149071.953	3276.164	568.775	240.0	-4.0	NO	0.999	NO	bb
10	10	200715P1-14	Standard	500.000	5.02	275050.250	2909.353	1181.750	504.3	0.9	NO	0.999	NO	bb

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Compound name: PFDA
Coefficient of Determination: R^2 = 0.999905
Calibration curve: -0.000201267 * x^2 + 0.827978 * x + 0.0201845
Response type: Internal Std (Ref 73), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	0.250	5.09	433.780	21139.320	0.257	0.3	14.2	NO	1.000	NO	MM
2	2 200715P1-06	Standard	0.500	5.09	669.625	21237.906	0.394	0.5	-9.7	NO	1.000	NO	bb
3	3 200715P1-07	Standard	1.000	5.09	1356.105	20143.082	0.842	1.0	-0.8	NO	1.000	NO	MM
4	4 200715P1-08	Standard	2.000	5.09	2636.082	20088.832	1.640	2.0	-2.1	NO	1.000	NO	bb
5	5 200715P1-09	Standard	5.000	5.09	7560.735	22234.100	4.251	5.1	2.3	NO	1.000	NO	bb
6	6 200715P1-10	Standard	10.000	5.09	14747.348	20973.631	8.789	10.6	6.2	NO	1.000	NO	bb
7	7 200715P1-11	Standard	50.000	5.10	70767.844	21425.146	41.288	50.5	0.9	NO	1.000	NO	bb
8	8 200715P1-12	Standard	100.000	5.09	136002.297	21301.400	79.808	98.7	-1.3	NO	1.000	NO	bb
9	9 200715P1-13	Standard	250.000	5.09	307421.406	19779.787	194.278	249.8	-0.1	NO	1.000	NO	bb
10	10 200715P1-14	Standard	500.000	5.10	565327.000	19417.826	363.923	500.4	0.1	NO	1.000	NO	bb

Compound name: 8:2 FTS
Coefficient of Determination: R^2 = 0.997655
Calibration curve: -0.00053721 * x^2 + 1.21826 * x + 0.0763701
Response type: Internal Std (Ref 75), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	0.250	5.06	58.618	2272.706	0.322	0.2	-19.2	NO	0.998	NO	bb
2	2 200715P1-06	Standard	0.500	5.06	116.001	1834.680	0.790	0.6	17.2	NO	0.998	NO	bb
3	3 200715P1-07	Standard	1.000	5.06	240.277	1900.979	1.580	1.2	23.5	NO	0.998	NO	bb
4	4 200715P1-08	Standard	2.000	5.07	294.866	1863.108	1.978	1.6	-21.9	NO	0.998	NO	bb
5	5 200715P1-09	Standard	5.000	5.07	827.806	2057.675	5.029	4.1	-18.6	NO	0.998	NO	bb
6	6 200715P1-10	Standard	10.000	5.07	1961.545	1813.562	13.520	11.1	10.9	NO	0.998	NO	bb
7	7 200715P1-11	Standard	50.000	5.07	9822.263	1843.435	66.603	56.0	12.0	NO	0.998	NO	bb
8	8 200715P1-12	Standard	100.000	5.06	17718.611	1908.331	116.061	99.6	-0.4	NO	0.998	NO	bb
9	9 200715P1-13	Standard	250.000	5.06	37185.203	1792.268	259.345	237.7	-4.9	NO	0.998	NO	bb
10	10 200715P1-14	Standard	500.000	5.06	73817.852	1921.738	480.150	507.7	1.5	NO	0.998	NO	bb

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Compound name: PFNS
Coefficient of Determination: R^2 = 0.998706
Calibration curve: -0.00023121 * x^2 + 1.22365 * x + 0.00033998
Response type: Internal Std (Ref 71), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	0.250	5.15	69.856	3339.633	0.261	0.2	-14.6	NO	0.999	NO	bb
2	2 200715P1-06	Standard	0.500	5.15	184.099	3464.958	0.664	0.5	8.5	NO	0.999	NO	bb
3	3 200715P1-07	Standard	1.000	5.16	286.282	3207.886	1.116	0.9	-8.8	NO	0.999	NO	bb
4	4 200715P1-08	Standard	2.000	5.15	587.596	3209.567	2.288	1.9	-6.5	NO	0.999	NO	bb
5	5 200715P1-09	Standard	5.000	5.15	1882.255	3319.781	7.087	5.8	16.0	NO	0.999	NO	bb
6	6 200715P1-10	Standard	10.000	5.16	3398.972	3485.769	12.189	10.0	-0.2	NO	0.999	NO	bb
7	7 200715P1-11	Standard	50.000	5.16	17602.125	3397.571	64.760	53.5	6.9	NO	0.999	NO	bb
8	8 200715P1-12	Standard	100.000	5.15	34540.637	3501.605	123.303	102.8	2.8	NO	0.999	NO	bb
9	9 200715P1-13	Standard	250.000	5.15	72709.813	3276.164	277.420	237.4	-5.1	NO	0.999	NO	bb
10	10 200715P1-14	Standard	500.000	5.15	130332.055	2909.353	559.970	506.0	1.2	NO	0.999	NO	bb

Compound name: L-MeFOSAA
Coefficient of Determination: R^2 = 0.999586
Calibration curve: -0.0003658 * x^2 + 1.2249 * x + -0.0692446
Response type: Internal Std (Ref 77), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	0.250	5.25	85.118	4257.820	0.250	0.3	4.2	NO	1.000	NO	MM
2	2 200715P1-06	Standard	0.500	5.24	148.994	4776.380	0.390	0.4	-25.0	NO	1.000	NO	MM
3	3 200715P1-07	Standard	1.000	5.24	372.722	4202.767	1.109	1.0	-3.8	NO	1.000	NO	MM
4	4 200715P1-08	Standard	2.000	5.24	798.606	4219.502	2.366	2.0	-0.5	NO	1.000	NO	MM
5	5 200715P1-09	Standard	5.000	5.24	2417.612	5097.341	5.929	4.9	-1.9	NO	1.000	NO	MM
6	6 200715P1-10	Standard	10.000	5.24	4530.702	4649.107	12.182	10.0	0.3	NO	1.000	NO	MM
7	7 200715P1-11	Standard	50.000	5.24	23172.645	4569.278	63.393	52.6	5.3	NO	1.000	NO	MM
8	8 200715P1-12	Standard	100.000	5.24	43745.910	4572.478	119.590	100.7	0.7	NO	1.000	NO	MM
9	9 200715P1-13	Standard	250.000	5.24	94112.063	4248.579	276.893	243.9	-2.5	NO	1.000	NO	MM
10	10 200715P1-14	Standard	500.000	5.24	179126.328	4275.856	523.656	503.2	0.6	NO	1.000	NO	MM

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Calibration: Z:\PFAS5.PRO\CurveDB\C18_VAL-PFAS_Q5_07-15-20.cdb 16 Jul 2020 10:32:09

Compound name: L-EtFOSAA
Coefficient of Determination: R^2 = 0.996663
Calibration curve: -0.000334065 * x^2 + 1.57877 * x + -0.0199931
Response type: Internal Std (Ref 81), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	0.250	5.40	131.627	3986.506	0.413	0.3	9.6	NO	0.997	NO	bb
2	2 200715P1-06	Standard	0.500	5.39	227.880	4282.189	0.665	0.4	-13.2	NO	0.997	NO	MM
3	3 200715P1-07	Standard	1.000	5.40	427.501	3868.556	1.381	0.9	-11.2	NO	0.997	NO	MM
4	4 200715P1-08	Standard	2.000	5.40	1020.746	3919.445	3.255	2.1	3.8	NO	0.997	NO	MM
5	5 200715P1-09	Standard	5.000	5.40	2870.599	4487.496	7.996	5.1	1.7	NO	0.997	NO	MM
6	6 200715P1-10	Standard	10.000	5.40	5508.482	4499.632	15.303	9.7	-2.7	NO	0.997	NO	MM
7	7 200715P1-11	Standard	50.000	5.40	27099.191	3799.720	89.149	57.2	14.3	NO	0.997	NO	MM
8	8 200715P1-12	Standard	100.000	5.40	50528.141	3935.188	160.501	104.0	4.0	NO	0.997	NO	MM
9	9 200715P1-13	Standard	250.000	5.40	105988.992	3838.678	345.135	229.8	-8.1	NO	0.997	NO	MM
10	10 200715P1-14	Standard	500.000	5.40	188881.781	3288.879	717.881	509.7	1.9	NO	0.997	NO	MM

Compound name: PFUdA
Coefficient of Determination: R^2 = 0.999624
Calibration curve: -0.000198343 * x^2 + 0.951704 * x + 0.0496106
Response type: Internal Std (Ref 79), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	0.250	5.41	468.340	21431.557	0.273	0.2	-6.0	NO	1.000	NO	bd
2	2 200715P1-06	Standard	0.500	5.41	874.066	21511.854	0.508	0.5	-3.7	NO	1.000	NO	bb
3	3 200715P1-07	Standard	1.000	5.41	1651.168	20974.463	0.984	1.0	-1.8	NO	1.000	NO	bb
4	4 200715P1-08	Standard	2.000	5.41	3227.538	19514.449	2.067	2.1	6.1	NO	1.000	NO	bb
5	5 200715P1-09	Standard	5.000	5.41	8949.953	23148.672	4.833	5.0	0.6	NO	1.000	NO	bb
6	6 200715P1-10	Standard	10.000	5.41	16688.541	21499.816	9.703	10.2	1.6	NO	1.000	NO	bb
7	7 200715P1-11	Standard	50.000	5.41	82864.445	21237.574	48.772	51.8	3.5	NO	1.000	NO	bb
8	8 200715P1-12	Standard	100.000	5.41	160110.328	21069.113	94.991	101.9	1.9	NO	1.000	NO	bb
9	9 200715P1-13	Standard	250.000	5.41	342172.719	19500.521	219.336	242.7	-2.9	NO	1.000	NO	bb
10	10 200715P1-14	Standard	500.000	5.41	635211.938	18511.988	428.919	503.5	0.7	NO	1.000	NO	bb

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Compound name: PFDS
Coefficient of Determination: R^2 = 0.997646
Calibration curve: -0.000203698 * x^2 + 1.19751 * x + 0.0930634
Response type: Internal Std (Ref 71), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	200715P1-05	Standard	0.250	5.45	112.911	3339.633	0.423	0.3	10.1	NO	0.998	NO	bb
2	2	200715P1-06	Standard	0.500	5.46	154.994	3464.958	0.559	0.4	-22.2	NO	0.998	NO	bb
3	3	200715P1-07	Standard	1.000	5.46	348.536	3207.886	1.358	1.1	5.7	NO	0.998	NO	bb
4	4	200715P1-08	Standard	2.000	5.46	656.372	3209.567	2.556	2.1	2.9	NO	0.998	NO	bb
5	5	200715P1-09	Standard	5.000	5.46	1949.901	3319.781	7.342	6.1	21.2	NO	0.998	NO	bb
6	6	200715P1-10	Standard	10.000	5.46	3571.197	3485.769	12.806	10.6	6.4	NO	0.998	NO	bb
7	7	200715P1-11	Standard	50.000	5.46	17812.500	3397.571	65.534	55.2	10.3	NO	0.998	NO	bb
8	8	200715P1-12	Standard	100.000	5.46	33589.191	3501.605	119.906	101.8	1.8	NO	0.998	NO	bb
9	9	200715P1-13	Standard	250.000	5.46	70341.375	3276.164	268.383	233.3	-6.7	NO	0.998	NO	bb
10	10	200715P1-14	Standard	500.000	5.46	129418.617	2909.353	556.046	508.2	1.6	NO	0.998	NO	bb

Compound name: 11Cl-PF30UdS
Correlation coefficient: r = 0.999559, r^2 = 0.999118
Calibration curve: 0.258298 * x + 0.00979795
Response type: Internal Std (Ref 83), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	200715P1-05	Standard	0.250	5.62	112.861	23416.920	0.060	0.2	-21.9	NO	0.999	NO	bb
2	2	200715P1-06	Standard	0.500	5.62	292.274	24413.588	0.150	0.5	8.3	NO	0.999	NO	bb
3	3	200715P1-07	Standard	1.000	5.62	488.277	24811.789	0.246	0.9	-8.6	NO	0.999	NO	bb
4	4	200715P1-08	Standard	2.000	5.62	937.900	21661.838	0.541	2.1	2.9	NO	0.999	NO	bb
5	5	200715P1-09	Standard	5.000	5.62	2893.741	26248.602	1.378	5.3	5.9	NO	0.999	NO	bb
6	6	200715P1-10	Standard	10.000	5.62	5083.053	23602.262	2.692	10.4	3.8	NO	0.999	NO	bb
7	7	200715P1-11	Standard	50.000	5.62	26420.645	24305.359	13.588	52.6	5.1	NO	0.999	NO	bb
8	8	200715P1-12	Standard	100.000	5.62	50649.570	23221.037	27.265	105.5	5.5	NO	0.999	NO	bb
9	9	200715P1-13	Standard	250.000	5.62	108933.398	20839.002	65.342	252.9	1.2	NO	0.999	NO	bb
10	10	200715P1-14	Standard	500.000	5.62	202938.250	20109.285	126.147	488.3	-2.3	NO	0.999	NO	bb

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Compound name: 10:2 FTS
Coefficient of Determination: R^2 = 0.999872
Calibration curve: -0.000771562 * x^2 + 1.93313 * x + 0.0501835
Response type: Internal Std (Ref 85), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	0.250	5.69	58.419	1420.543	0.514	0.2	-4.0	NO	1.000	NO	bb
2	2 200715P1-06	Standard	0.500	5.68	129.386	1362.904	1.187	0.6	17.6	NO	1.000	NO	bb
3	3 200715P1-07	Standard	1.000	5.68	225.255	1333.479	2.112	1.1	6.7	NO	1.000	NO	bb
4	4 200715P1-08	Standard	2.000	5.68	344.143	1283.837	3.351	1.7	-14.6	NO	1.000	NO	bb
5	5 200715P1-09	Standard	5.000	5.68	1134.910	1400.038	10.133	5.2	4.5	NO	1.000	NO	bb
6	6 200715P1-10	Standard	10.000	5.68	2017.579	1302.852	19.357	10.0	0.3	NO	1.000	NO	bb
7	7 200715P1-11	Standard	50.000	5.68	10025.633	1330.195	94.212	49.7	-0.6	NO	1.000	NO	bb
8	8 200715P1-12	Standard	100.000	5.68	17951.852	1199.234	187.118	100.8	0.8	NO	1.000	NO	bb
9	9 200715P1-13	Standard	250.000	5.68	34841.949	1004.974	433.369	248.9	-0.4	NO	1.000	NO	bb
10	10 200715P1-14	Standard	500.000	5.68	63713.176	1028.491	774.353	500.5	0.1	NO	1.000	NO	bb

Compound name: PFDoA
Coefficient of Determination: R^2 = 0.999564
Calibration curve: -0.000226089 * x^2 + 0.890842 * x + 0.100204
Response type: Internal Std (Ref 83), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	0.250	5.69	710.037	23416.920	0.379	0.3	25.2	NO	1.000	NO	MM
2	2 200715P1-06	Standard	0.500	5.69	1191.504	24413.588	0.610	0.6	14.5	NO	1.000	NO	bb
3	3 200715P1-07	Standard	1.000	5.69	1932.240	24811.789	0.973	1.0	-2.0	NO	1.000	NO	bb
4	4 200715P1-08	Standard	2.000	5.69	3268.157	21661.838	1.886	2.0	0.3	NO	1.000	NO	bb
5	5 200715P1-09	Standard	5.000	5.69	9688.501	26248.602	4.614	5.1	1.5	NO	1.000	NO	bb
6	6 200715P1-10	Standard	10.000	5.69	17609.547	23602.262	9.326	10.4	3.8	NO	1.000	NO	bb
7	7 200715P1-11	Standard	50.000	5.69	86729.867	24305.359	44.604	50.6	1.2	NO	1.000	NO	bb
8	8 200715P1-12	Standard	100.000	5.69	165618.438	23221.037	89.153	102.6	2.6	NO	1.000	NO	bb
9	9 200715P1-13	Standard	250.000	5.69	338679.031	20839.002	203.152	242.9	-2.8	NO	1.000	NO	bb
10	10 200715P1-14	Standard	500.000	5.69	629431.875	20109.285	391.257	503.4	0.7	NO	1.000	NO	bb

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Compound name: N-MeFOSA
Coefficient of Determination: R^2 = 0.999190
Calibration curve: -0.000129273 * x^2 + 1.05734 * x + 0.27278
Response type: Internal Std (Ref 87), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	1.250	5.70	249.041	21841.283	1.701	1.4	8.1	NO	0.999	NO	bb
2	2 200715P1-06	Standard	2.500	5.70	459.993	23502.238	2.920	2.5	0.2	NO	0.999	NO	bb
3	3 200715P1-07	Standard	5.000	5.70	740.411	21928.951	5.038	4.5	-9.8	NO	0.999	NO	bb
4	4 200715P1-08	Standard	10.000	5.70	1602.713	21040.414	11.365	10.5	5.0	NO	0.999	NO	bb
5	5 200715P1-09	Standard	25.000	5.70	4599.471	23506.068	29.194	27.4	9.8	NO	0.999	NO	bb
6	6 200715P1-10	Standard	50.000	5.70	8422.188	22762.703	55.204	52.3	4.6	NO	0.999	NO	bb
7	7 200715P1-11	Standard	250.000	5.71	43301.352	24242.186	266.501	260.1	4.0	NO	0.999	NO	bb
8	8 200715P1-12	Standard	500.000	5.70	80660.758	23830.158	505.015	509.1	1.8	NO	0.999	NO	bb
9	9 200715P1-13	Standard	1250.000	5.70	166759.969	23068.273	1078.563	1194.2	-4.5	NO	0.999	NO	bb
10	10 200715P1-14	Standard	2500.000	5.70	290392.938	23374.256	1853.605	2544.3	1.8	NO	0.999	NO	bb

Compound name: PFTrDA
Coefficient of Determination: R^2 = 0.999713
Calibration curve: -0.000380084 * x^2 + 1.05341 * x + 0.0381517
Response type: Internal Std (Ref 83), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	0.250	5.93	572.388	23416.920	0.306	0.3	1.5	NO	1.000	NO	bb
2	2 200715P1-06	Standard	0.500	5.93	1067.272	24413.588	0.546	0.5	-3.5	NO	1.000	NO	bb
3	3 200715P1-07	Standard	1.000	5.93	2152.266	24811.789	1.084	1.0	-0.7	NO	1.000	NO	bb
4	4 200715P1-08	Standard	2.000	5.94	3740.028	21661.838	2.158	2.0	0.7	NO	1.000	NO	bb
5	5 200715P1-09	Standard	5.000	5.93	11187.904	26248.602	5.328	5.0	0.6	NO	1.000	NO	bb
6	6 200715P1-10	Standard	10.000	5.93	19984.627	23602.262	10.584	10.0	0.5	NO	1.000	NO	bb
7	7 200715P1-11	Standard	50.000	5.94	99616.922	24305.359	51.232	49.5	-1.0	NO	1.000	NO	bb
8	8 200715P1-12	Standard	100.000	5.93	195091.750	23221.037	105.019	103.5	3.5	NO	1.000	NO	bb
9	9 200715P1-13	Standard	250.000	5.94	391657.625	20839.002	234.931	244.6	-2.2	NO	1.000	NO	bb
10	10 200715P1-14	Standard	500.000	5.93	697291.813	20109.285	433.439	502.6	0.5	NO	1.000	NO	bb

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Compound name: PFDoS
Coefficient of Determination: R^2 = 0.999750
Calibration curve: -6.16511e-005 * x^2 + 0.191239 * x + -0.000256267
Response type: Internal Std (Ref 89), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	0.250	5.96	104.727	24885.520	0.053	0.3	10.6	NO	1.000	NO	bb
2	2 200715P1-06	Standard	0.500	5.96	169.514	24382.600	0.087	0.5	-8.8	NO	1.000	NO	bb
3	3 200715P1-07	Standard	1.000	5.96	353.472	24504.398	0.180	0.9	-5.6	NO	1.000	NO	bb
4	4 200715P1-08	Standard	2.000	5.96	684.205	23434.535	0.365	1.9	-4.5	NO	1.000	NO	bb
5	5 200715P1-09	Standard	5.000	5.95	2053.781	27046.730	0.949	5.0	-0.5	NO	1.000	NO	bb
6	6 200715P1-10	Standard	10.000	5.96	3855.758	23673.172	2.036	10.7	6.8	NO	1.000	NO	bb
7	7 200715P1-11	Standard	50.000	5.96	19223.158	24599.662	9.768	51.9	3.9	NO	1.000	NO	bb
8	8 200715P1-12	Standard	100.000	5.96	36401.352	24810.045	18.340	99.1	-0.9	NO	1.000	NO	bb
9	9 200715P1-13	Standard	250.000	5.96	76173.016	21943.178	43.392	246.5	-1.4	NO	1.000	NO	bb
10	10 200715P1-14	Standard	500.000	5.96	136127.438	21142.191	80.483	502.1	0.4	NO	1.000	NO	bb

Compound name: PFTeDA
Correlation coefficient: r = 0.999012, r^2 = 0.998025
Calibration curve: 0.566624 * x + 0.0868218
Response type: Internal Std (Ref 89), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	0.250	6.15	402.921	24885.520	0.202	0.2	-18.4	NO	0.998	NO	bb
2	2 200715P1-06	Standard	0.500	6.15	641.972	24382.600	0.329	0.4	-14.5	NO	0.998	NO	MM
3	3 200715P1-07	Standard	1.000	6.14	1287.455	24504.398	0.657	1.0	0.6	NO	0.998	NO	bb
4	4 200715P1-08	Standard	2.000	6.14	2370.460	23434.535	1.264	2.1	3.9	NO	0.998	NO	bb
5	5 200715P1-09	Standard	5.000	6.15	6589.403	27046.730	3.045	5.2	4.4	NO	0.998	NO	bb
6	6 200715P1-10	Standard	10.000	6.14	11822.068	23673.172	6.242	10.9	8.6	NO	0.998	NO	MM
7	7 200715P1-11	Standard	50.000	6.15	61581.098	24599.662	31.292	55.1	10.1	NO	0.998	NO	MM
8	8 200715P1-12	Standard	100.000	6.15	120394.836	24810.045	60.658	106.9	6.9	NO	0.998	NO	MM
9	9 200715P1-13	Standard	250.000	6.15	253308.188	21943.178	144.298	254.5	1.8	NO	0.998	NO	MM
10	10 200715P1-14	Standard	500.000	6.15	462533.219	21142.191	273.466	482.5	-3.5	NO	0.998	NO	MM

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Compound name: N-EtFOSA
Coefficient of Determination: R^2 = 0.999721
Calibration curve: -8.20315e-005 * x^2 + 1.16743 * x + 0.168696
Response type: Internal Std (Ref 91), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	200715P1-05	Standard	1.250	6.11	288.609	27398.318	1.572	1.2	-3.9	NO	1.000	NO	bb
2	2	200715P1-06	Standard	2.500	6.12	544.813	28358.557	2.866	2.3	-7.6	NO	1.000	NO	bb
3	3	200715P1-07	Standard	5.000	6.11	1171.463	27892.357	6.266	5.2	4.5	NO	1.000	NO	bb
4	4	200715P1-08	Standard	10.000	6.12	2153.836	26273.701	12.231	10.3	3.4	NO	1.000	NO	bb
5	5	200715P1-09	Standard	25.000	6.11	5904.786	30147.381	29.223	24.9	-0.3	NO	1.000	NO	bb
6	6	200715P1-10	Standard	50.000	6.11	11367.891	28474.869	59.564	51.1	2.1	NO	1.000	NO	bb
7	7	200715P1-11	Standard	250.000	6.12	57015.883	29372.900	289.613	252.4	1.0	NO	1.000	NO	bb
8	8	200715P1-12	Standard	500.000	6.11	105771.250	27323.699	577.560	513.1	2.6	NO	1.000	NO	bb
9	9	200715P1-13	Standard	1250.000	6.11	218266.484	25037.039	1300.687	1218.3	-2.5	NO	1.000	NO	bb
10	10	200715P1-14	Standard	2500.000	6.11	378527.219	23354.625	2418.205	2516.1	0.6	NO	1.000	NO	bb

Compound name: PFHxDA
Coefficient of Determination: R^2 = 0.999849
Calibration curve: -0.000402925 * x^2 + 0.976081 * x + 0.0835205
Response type: Internal Std (Ref 93), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	200715P1-05	Standard	0.250	6.46	771.906	29059.072	0.332	0.3	1.9	NO	1.000	NO	bb
2	2	200715P1-06	Standard	0.500	6.46	1382.134	28296.508	0.611	0.5	8.0	NO	1.000	NO	bb
3	3	200715P1-07	Standard	1.000	6.46	2387.388	28548.980	1.045	1.0	-1.4	NO	1.000	NO	bb
4	4	200715P1-08	Standard	2.000	6.46	4402.578	26845.547	2.050	2.0	0.8	NO	1.000	NO	bb
5	5	200715P1-09	Standard	5.000	6.46	11945.094	31838.660	4.690	4.7	-5.4	NO	1.000	NO	bb
6	6	200715P1-10	Standard	10.000	6.46	21898.631	28631.020	9.561	9.7	-2.5	NO	1.000	NO	bb
7	7	200715P1-11	Standard	50.000	6.46	112753.984	30016.869	46.954	49.0	-2.0	NO	1.000	NO	bb
8	8	200715P1-12	Standard	100.000	6.46	211497.469	28390.104	93.121	99.4	-0.6	NO	1.000	NO	bb
9	9	200715P1-13	Standard	250.000	6.46	454277.656	25537.041	222.362	254.5	1.8	NO	1.000	NO	bb
10	10	200715P1-14	Standard	500.000	6.46	805205.250	26083.391	385.880	497.4	-0.5	NO	1.000	NO	bb

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Compound name: PFODA
Coefficient of Determination: R^2 = 0.999959
Calibration curve: -0.000226523 * x^2 + 0.792874 * x + -0.0169914
Response type: Internal Std (Ref 93), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	0.250	6.69	419.173	29059.072	0.180	0.2	-0.5	NO	1.000	NO	bb
2	2 200715P1-06	Standard	0.500	6.69	864.419	28296.508	0.382	0.5	0.6	NO	1.000	NO	bb
3	3 200715P1-07	Standard	1.000	6.69	1680.293	28548.980	0.736	0.9	-5.0	NO	1.000	NO	bb
4	4 200715P1-08	Standard	2.000	6.69	3381.313	26845.547	1.574	2.0	0.4	NO	1.000	NO	bb
5	5 200715P1-09	Standard	5.000	6.69	9448.405	31838.660	3.709	4.7	-5.9	NO	1.000	NO	bb
6	6 200715P1-10	Standard	10.000	6.69	18288.852	28631.020	7.985	10.1	1.2	NO	1.000	NO	MM
7	7 200715P1-11	Standard	50.000	6.69	93904.891	30016.869	39.105	50.1	0.1	NO	1.000	NO	bb
8	8 200715P1-12	Standard	100.000	6.69	176125.734	28390.104	77.547	100.7	0.7	NO	1.000	NO	bb
9	9 200715P1-13	Standard	250.000	6.69	374745.625	25537.041	183.432	249.1	-0.4	NO	1.000	NO	bb
10	10 200715P1-14	Standard	500.000	6.69	709432.188	26083.391	339.983	500.3	0.1	NO	1.000	NO	bb

Compound name: N-MeFOSE
Correlation coefficient: r = 0.998493, r^2 = 0.996988
Calibration curve: 1.03662 * x + 0.326411
Response type: Internal Std (Ref 95), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Include, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	1.250	6.29	191.783	22042.436	1.298	0.9	-25.0	NO	0.997	NO	bb
2	2 200715P1-06	Standard	2.500	6.29	497.276	22906.777	3.239	2.8	12.4	NO	0.997	NO	bb
3	3 200715P1-07	Standard	5.000	6.29	871.803	23014.031	5.652	5.1	2.7	NO	0.997	NO	bb
4	4 200715P1-08	Standard	10.000	6.29	1574.452	20678.135	11.360	10.6	6.4	NO	0.997	NO	bb
5	5 200715P1-09	Standard	25.000	6.29	4683.907	25029.580	27.921	26.6	6.5	NO	0.997	NO	bb
6	6 200715P1-10	Standard	50.000	6.29	8566.106	22782.658	56.098	53.8	7.6	NO	0.997	NO	bb
7	7 200715P1-11	Standard	250.000	6.30	45471.313	24770.096	273.892	263.9	5.6	NO	0.997	NO	bb
8	8 200715P1-12	Standard	500.000	6.29	88846.906	23290.061	569.168	548.7	9.7	NO	0.997	NO	bb
9	9 200715P1-13	Standard	1250.000	6.30	204808.953	22675.961	1347.572	1299.7	4.0	NO	0.997	NO	bb
10	10 200715P1-14	Standard	2500.000	6.30	401690.469	24273.727	2469.016	2381.5	-4.7	NO	0.997	NO	bb

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Compound name: N-EtFOSE
Correlation coefficient: r = 0.998790, r^2 = 0.997581
Calibration curve: 0.94506 * x + 0.386549
Response type: Internal Std (Ref 97), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Include, Weighting: 1/x, Axis trans: None

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	1.250	6.44	227.799	24906.385	1.365	1.0	-17.2	NO	0.998	NO	bb
2	2 200715P1-06	Standard	2.500	6.45	487.143	26213.271	2.773	2.5	1.0	NO	0.998	NO	MM
3	3 200715P1-07	Standard	5.000	6.44	908.112	25231.670	5.370	5.3	5.5	NO	0.998	NO	bb
4	4 200715P1-08	Standard	10.000	6.44	1747.612	24829.252	10.501	10.7	7.0	NO	0.998	NO	bb
5	5 200715P1-09	Standard	25.000	6.44	4976.437	27796.789	26.711	27.9	11.4	NO	0.998	NO	bb
6	6 200715P1-10	Standard	50.000	6.44	9296.296	26325.184	52.687	55.3	10.7	NO	0.998	NO	bb
7	7 200715P1-11	Standard	250.000	6.45	48084.113	28501.563	251.711	265.9	6.4	NO	0.998	NO	bb
8	8 200715P1-12	Standard	500.000	6.44	92497.383	26307.164	524.595	554.7	10.9	NO	0.998	NO	bb
9	9 200715P1-13	Standard	1250.000	6.45	210617.156	26478.449	1186.779	1255.4	0.4	NO	0.998	NO	bb
10	10 200715P1-14	Standard	2500.000	6.44	406837.031	26590.842	2282.744	2415.0	-3.4	NO	0.998	NO	bb

Compound name: 13C3-PFBA-EIS
Response Factor: 664.585
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	12.500	1.42	7806.605		7806.605	11.7	-6.0	NO		NO	bbX
2	2 200715P1-06	Standard	12.500	1.42	8077.563		8077.563	12.2	-2.8	NO		NO	MMX
3	3 200715P1-07	Standard	12.500	1.42	7777.376		7777.376	11.7	-6.4	NO		NO	MMX
4	4 200715P1-08	Standard	12.500	1.42	8496.101		8496.101	12.8	2.3	NO		NO	MMX
5	5 200715P1-09	Standard	12.500	1.42	8430.298		8430.298	12.7	1.5	NO		NO	bbX
6	6 200715P1-10	Standard	12.500	1.42	8307.313		8307.313	12.5	0.0	NO		NO	MM
7	7 200715P1-11	Standard	12.500	1.42	8312.727		8312.727	12.5	0.1	NO		NO	MMX
8	8 200715P1-12	Standard	12.500	1.42	8540.275		8540.275	12.9	2.8	NO		NO	bbX
9	9 200715P1-13	Standard	12.500	1.42	8380.282		8380.282	12.6	0.9	NO		NO	MMX
10	10 200715P1-14	Standard	12.500	1.42	9347.157		9347.157	14.1	12.5	NO		NO	MMX

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Compound name: 13C3-PFBA-RSD
Response Factor: 0.918818
RRF SD: 0.0286318, Relative SD: 3.11616
Response type: Internal Std (Ref 99), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	12.500	1.42	7806.605	8065.804	12.098	13.2	5.3	NO		NO	bb
2	2 200715P1-06	Standard	12.500	1.42	8068.967	8879.700	11.359	12.4	-1.1	NO		NO	MM
3	3 200715P1-07	Standard	12.500	1.42	8026.422	8829.724	11.363	12.4	-1.1	NO		NO	MM
4	4 200715P1-08	Standard	12.500	1.42	8084.584	9003.292	11.224	12.2	-2.3	NO		NO	MM
5	5 200715P1-09	Standard	12.500	1.42	8430.298	9562.452	11.020	12.0	-4.1	NO		NO	bb
6	6 200715P1-10	Standard	12.500	1.42	8262.543	8705.206	11.864	12.9	3.3	NO		NO	MM
7	7 200715P1-11	Standard	12.500	1.42	8241.467	9065.156	11.364	12.4	-1.1	NO		NO	MM
8	8 200715P1-12	Standard	12.500	1.42	8540.275	9629.864	11.086	12.1	-3.5	NO		NO	bb
9	9 200715P1-13	Standard	12.500	1.42	8375.872	8851.127	11.829	12.9	3.0	NO		NO	MM
10	10 200715P1-14	Standard	12.500	1.42	9330.408	10015.587	11.645	12.7	1.4	NO		NO	MM

Compound name: 13C3-PFPeA-EIS
Response Factor: 1126.82
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	12.500	2.36	13826.016		13826.016	12.3	-1.8	NO		NO	bbX
2	2 200715P1-06	Standard	12.500	2.36	14065.802		14065.802	12.5	-0.1	NO		NO	bbX
3	3 200715P1-07	Standard	12.500	2.36	13909.148		13909.148	12.3	-1.3	NO		NO	bbX
4	4 200715P1-08	Standard	12.500	2.36	13478.511		13478.511	12.0	-4.3	NO		NO	bbX
5	5 200715P1-09	Standard	12.500	2.36	15018.269		15018.269	13.3	6.6	NO		NO	bbX
6	6 200715P1-10	Standard	12.500	2.36	14085.286		14085.286	12.5	0.0	NO		NO	bb
7	7 200715P1-11	Standard	12.500	2.36	15158.109		15158.109	13.5	7.6	NO		NO	bbX
8	8 200715P1-12	Standard	12.500	2.36	14698.876		14698.876	13.0	4.4	NO		NO	bbX
9	9 200715P1-13	Standard	12.500	2.36	14042.888		14042.888	12.5	-0.3	NO		NO	bbX
10	10 200715P1-14	Standard	12.500	2.36	14165.455		14165.455	12.6	0.6	NO		NO	bbX

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Compound name: 13C3-PFPeA-RSD
Response Factor: 0.767707
RRF SD: 0.0318764, Relative SD: 4.15216
Response type: Internal Std (Ref 101), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	12.500	2.36	13826.016	17566.010	9.839	12.8	2.5	NO		NO	bb
2	2 200715P1-06	Standard	12.500	2.36	14065.802	19701.178	8.924	11.6	-7.0	NO		NO	bb
3	3 200715P1-07	Standard	12.500	2.36	13909.148	18014.391	9.651	12.6	0.6	NO		NO	bb
4	4 200715P1-08	Standard	12.500	2.36	13478.511	16962.791	9.932	12.9	3.5	NO		NO	bb
5	5 200715P1-09	Standard	12.500	2.36	15018.269	20454.236	9.178	12.0	-4.4	NO		NO	bb
6	6 200715P1-10	Standard	12.500	2.36	14085.286	19295.111	9.125	11.9	-4.9	NO		NO	bb
7	7 200715P1-11	Standard	12.500	2.36	15158.109	19661.080	9.637	12.6	0.4	NO		NO	bb
8	8 200715P1-12	Standard	12.500	2.36	14698.876	19048.023	9.646	12.6	0.5	NO		NO	bb
9	9 200715P1-13	Standard	12.500	2.36	14042.888	17808.982	9.857	12.8	2.7	NO		NO	bb
10	10 200715P1-14	Standard	12.500	2.36	14165.455	17404.020	10.174	13.3	6.0	NO		NO	bb

Compound name: 13C3-PFBS-EIS
Response Factor: 145.309
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	12.500	2.64	1738.671		1738.671	12.0	-4.3	NO		NO	bbX
2	2 200715P1-06	Standard	12.500	2.63	1667.350		1667.350	11.5	-8.2	NO		NO	bbX
3	3 200715P1-07	Standard	12.500	2.64	1738.769		1738.769	12.0	-4.3	NO		NO	bbX
4	4 200715P1-08	Standard	12.500	2.64	1599.076		1599.076	11.0	-12.0	NO		NO	bbX
5	5 200715P1-09	Standard	12.500	2.64	1845.682		1845.682	12.7	1.6	NO		NO	MMX
6	6 200715P1-10	Standard	12.500	2.64	1816.360		1816.360	12.5	0.0	NO		NO	bb
7	7 200715P1-11	Standard	12.500	2.64	1839.425		1839.425	12.7	1.3	NO		NO	bbX
8	8 200715P1-12	Standard	12.500	2.63	1744.090		1744.090	12.0	-4.0	NO		NO	bbX
9	9 200715P1-13	Standard	12.500	2.64	1646.553		1646.553	11.3	-9.3	NO		NO	bbX
10	10 200715P1-14	Standard	12.500	2.64	1617.881		1617.881	11.1	-10.9	NO		NO	bbX

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Compound name: 13C3-PFBS-RSD
Response Factor: 1.23836
RRF SD: 0.0494305, Relative SD: 3.99161
Response type: Internal Std (Ref 102), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	12.500	2.64	1738.671	1309.306	16.599	13.4	7.2	NO		NO	bb
2	2 200715P1-06	Standard	12.500	2.63	1667.350	1450.812	14.366	11.6	-7.2	NO		NO	bb
3	3 200715P1-07	Standard	12.500	2.64	1738.769	1394.800	15.583	12.6	0.7	NO		NO	bb
4	4 200715P1-08	Standard	12.500	2.64	1599.076	1333.273	14.992	12.1	-3.1	NO		NO	bb
5	5 200715P1-09	Standard	12.500	2.64	1842.397	1531.875	15.034	12.1	-2.9	NO		NO	MM
6	6 200715P1-10	Standard	12.500	2.64	1816.360	1411.437	16.086	13.0	3.9	NO		NO	bb
7	7 200715P1-11	Standard	12.500	2.64	1839.425	1478.114	15.556	12.6	0.5	NO		NO	bb
8	8 200715P1-12	Standard	12.500	2.63	1744.090	1428.318	15.263	12.3	-1.4	NO		NO	bb
9	9 200715P1-13	Standard	12.500	2.64	1646.553	1320.536	15.586	12.6	0.7	NO		NO	bb
10	10 200715P1-14	Standard	12.500	2.64	1617.881	1285.609	15.731	12.7	1.6	NO		NO	bb

Compound name: 13C3-HFPO-DA-EIS
Response Factor: 258.676
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	12.500	3.36	3054.830		3054.830	11.8	-5.5	NO		NO	bbX
2	2 200715P1-06	Standard	12.500	3.38	2970.628		2970.628	11.5	-8.1	NO		NO	bbX
3	3 200715P1-07	Standard	12.500	3.38	2768.974		2768.974	10.7	-14.4	NO		NO	bbX
4	4 200715P1-08	Standard	12.500	3.38	2801.989		2801.989	10.8	-13.3	NO		NO	bbX
5	5 200715P1-09	Standard	12.500	3.38	3238.469		3238.469	12.5	0.2	NO		NO	bbX
6	6 200715P1-10	Standard	12.500	3.38	3233.451		3233.451	12.5	0.0	NO		NO	bb
7	7 200715P1-11	Standard	12.500	3.38	3225.027		3225.027	12.5	-0.3	NO		NO	bbX
8	8 200715P1-12	Standard	12.500	3.38	3287.801		3287.801	12.7	1.7	NO		NO	bbX
9	9 200715P1-13	Standard	12.500	3.38	3081.841		3081.841	11.9	-4.7	NO		NO	bbX
10	10 200715P1-14	Standard	12.500	3.38	3134.487		3134.487	12.1	-3.1	NO		NO	bbX

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Compound name: 13C3-HFPO-DA-RSD
Response Factor: 0.165928
RRF SD: 0.00944647, Relative SD: 5.69312
Response type: Internal Std (Ref 101), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	12.500	3.36	3054.830	17566.010	2.174	13.1	4.8	NO		NO	bb
2	2 200715P1-06	Standard	12.500	3.38	2970.628	19701.178	1.885	11.4	-9.1	NO		NO	bb
3	3 200715P1-07	Standard	12.500	3.38	2768.974	18014.391	1.921	11.6	-7.4	NO		NO	bb
4	4 200715P1-08	Standard	12.500	3.38	2801.989	16962.791	2.065	12.4	-0.4	NO		NO	bb
5	5 200715P1-09	Standard	12.500	3.38	3238.469	20454.236	1.979	11.9	-4.6	NO		NO	bb
6	6 200715P1-10	Standard	12.500	3.38	3233.451	19295.111	2.095	12.6	1.0	NO		NO	bb
7	7 200715P1-11	Standard	12.500	3.38	3225.027	19661.080	2.050	12.4	-1.1	NO		NO	bb
8	8 200715P1-12	Standard	12.500	3.38	3287.801	19048.023	2.158	13.0	4.0	NO		NO	bb
9	9 200715P1-13	Standard	12.500	3.38	3081.841	17808.982	2.163	13.0	4.3	NO		NO	bb
10	10 200715P1-14	Standard	12.500	3.38	3134.487	17404.020	2.251	13.6	8.5	NO		NO	bb

Compound name: 13C2-4:2 FTS-EIS
Response Factor: 152.511
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	12.500	3.08	1860.907		1860.907	12.2	-2.4	NO		NO	bbX
2	2 200715P1-06	Standard	12.500	3.07	1772.278		1772.278	11.6	-7.0	NO		NO	bbX
3	3 200715P1-07	Standard	12.500	3.08	1924.178		1924.178	12.6	0.9	NO		NO	bbX
4	4 200715P1-08	Standard	12.500	3.08	1898.710		1898.710	12.4	-0.4	NO		NO	bbX
5	5 200715P1-09	Standard	12.500	3.08	1914.402		1914.402	12.6	0.4	NO		NO	bbX
6	6 200715P1-10	Standard	12.500	3.08	1906.392		1906.392	12.5	0.0	NO		NO	bb
7	7 200715P1-11	Standard	12.500	3.08	1813.734		1813.734	11.9	-4.9	NO		NO	bbX
8	8 200715P1-12	Standard	12.500	3.08	1977.304		1977.304	13.0	3.7	NO		NO	bbX
9	9 200715P1-13	Standard	12.500	3.08	1612.728		1612.728	10.6	-15.4	NO		NO	bbX
10	10 200715P1-14	Standard	12.500	3.08	1624.158		1624.158	10.6	-14.8	NO		NO	bbX

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Compound name: 13C2-4:2 FTS-RSD
Response Factor: 1.31429
RRF SD: 0.0853895, Relative SD: 6.497
Response type: Internal Std (Ref 102), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	12.500	3.08	1860.907	1309.306	17.766	13.5	8.1	NO		NO	bb
2	2 200715P1-06	Standard	12.500	3.07	1772.278	1450.812	15.270	11.6	-7.1	NO		NO	bb
3	3 200715P1-07	Standard	12.500	3.08	1924.178	1394.800	17.244	13.1	5.0	NO		NO	bb
4	4 200715P1-08	Standard	12.500	3.08	1898.710	1333.273	17.801	13.5	8.4	NO		NO	bb
5	5 200715P1-09	Standard	12.500	3.08	1914.402	1531.875	15.621	11.9	-4.9	NO		NO	bb
6	6 200715P1-10	Standard	12.500	3.08	1906.392	1411.437	16.883	12.8	2.8	NO		NO	bb
7	7 200715P1-11	Standard	12.500	3.08	1813.734	1478.114	15.338	11.7	-6.6	NO		NO	bb
8	8 200715P1-12	Standard	12.500	3.08	1977.304	1428.318	17.304	13.2	5.3	NO		NO	bb
9	9 200715P1-13	Standard	12.500	3.08	1612.728	1320.536	15.266	11.6	-7.1	NO		NO	bb
10	10 200715P1-14	Standard	12.500	3.08	1624.158	1285.609	15.792	12.0	-3.9	NO		NO	bb

Compound name: 13C2-PFHxA-EIS
Response Factor: 1226.71
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	12.500	3.16	15339.016		15339.016	12.5	0.0	NO		NO	bbX
2	2 200715P1-06	Standard	12.500	3.16	15588.797		15588.797	12.7	1.7	NO		NO	bbX
3	3 200715P1-07	Standard	12.500	3.16	14456.156		14456.156	11.8	-5.7	NO		NO	bbX
4	4 200715P1-08	Standard	12.500	3.16	14190.115		14190.115	11.6	-7.5	NO		NO	bbX
5	5 200715P1-09	Standard	12.500	3.16	16557.631		16557.631	13.5	8.0	NO		NO	bbX
6	6 200715P1-10	Standard	12.500	3.16	15333.919		15333.919	12.5	0.0	NO		NO	bb
7	7 200715P1-11	Standard	12.500	3.16	15465.936		15465.936	12.6	0.9	NO		NO	bbX
8	8 200715P1-12	Standard	12.500	3.16	15965.140		15965.140	13.0	4.1	NO		NO	bbX
9	9 200715P1-13	Standard	12.500	3.16	14763.244		14763.244	12.0	-3.7	NO		NO	bbX
10	10 200715P1-14	Standard	12.500	3.16	15194.222		15194.222	12.4	-0.9	NO		NO	bbX

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Compound name: 13C2-PFHxA-RSD
Response Factor: 0.823449
RRF SD: 0.0319831, Relative SD: 3.88404
Response type: Internal Std (Ref 101), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	12.500	3.16	15339.016	17566.010	10.915	13.3	6.0	NO		NO	bb
2	2 200715P1-06	Standard	12.500	3.16	15588.797	19701.178	9.891	12.0	-3.9	NO		NO	bb
3	3 200715P1-07	Standard	12.500	3.16	14456.156	18014.391	10.031	12.2	-2.5	NO		NO	bb
4	4 200715P1-08	Standard	12.500	3.16	14190.115	16962.791	10.457	12.7	1.6	NO		NO	bb
5	5 200715P1-09	Standard	12.500	3.16	16557.631	20454.236	10.119	12.3	-1.7	NO		NO	bb
6	6 200715P1-10	Standard	12.500	3.16	15333.919	19295.111	9.934	12.1	-3.5	NO		NO	bb
7	7 200715P1-11	Standard	12.500	3.16	15465.936	19661.080	9.833	11.9	-4.5	NO		NO	bb
8	8 200715P1-12	Standard	12.500	3.16	15965.140	19048.023	10.477	12.7	1.8	NO		NO	bb
9	9 200715P1-13	Standard	12.500	3.16	14763.244	17808.982	10.362	12.6	0.7	NO		NO	bb
10	10 200715P1-14	Standard	12.500	3.16	15194.222	17404.020	10.913	13.3	6.0	NO		NO	bb

Compound name: 13C4-PFHpA-EIS
Response Factor: 1270.33
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	12.500	3.75	14141.860		14141.860	11.1	-10.9	NO		NO	bbX
2	2 200715P1-06	Standard	12.500	3.76	14738.732		14738.732	11.6	-7.2	NO		NO	bbX
3	3 200715P1-07	Standard	12.500	3.76	14201.896		14201.896	11.2	-10.6	NO		NO	bbX
4	4 200715P1-08	Standard	12.500	3.76	14172.102		14172.102	11.2	-10.7	NO		NO	bbX
5	5 200715P1-09	Standard	12.500	3.76	15900.185		15900.185	12.5	0.1	NO		NO	bbX
6	6 200715P1-10	Standard	12.500	3.76	15879.081		15879.081	12.5	0.0	NO		NO	bb
7	7 200715P1-11	Standard	12.500	3.76	13898.979		13898.979	10.9	-12.5	NO		NO	bbX
8	8 200715P1-12	Standard	12.500	3.76	13236.320		13236.320	10.4	-16.6	NO		NO	bbX
9	9 200715P1-13	Standard	12.500	3.76	13781.080		13781.080	10.8	-13.2	NO		NO	bbX
10	10 200715P1-14	Standard	12.500	3.76	13020.542		13020.542	10.2	-18.0	NO		NO	bbX

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Compound name: 13C4-PFHpA-RSD
Response Factor: 0.770112
RRF SD: 0.0463136, Relative SD: 6.01387
Response type: Internal Std (Ref 101), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	12.500	3.75	14141.860	17566.010	10.063	13.1	4.5	NO		NO	bb
2	2 200715P1-06	Standard	12.500	3.76	14738.732	19701.178	9.351	12.1	-2.9	NO		NO	bb
3	3 200715P1-07	Standard	12.500	3.76	14201.896	18014.391	9.855	12.8	2.4	NO		NO	bb
4	4 200715P1-08	Standard	12.500	3.76	14172.102	16962.791	10.444	13.6	8.5	NO		NO	bb
5	5 200715P1-09	Standard	12.500	3.76	15900.185	20454.236	9.717	12.6	0.9	NO		NO	bb
6	6 200715P1-10	Standard	12.500	3.76	15879.081	19295.111	10.287	13.4	6.9	NO		NO	bb
7	7 200715P1-11	Standard	12.500	3.76	13898.979	19661.080	8.837	11.5	-8.2	NO		NO	bb
8	8 200715P1-12	Standard	12.500	3.76	13236.320	19048.023	8.686	11.3	-9.8	NO		NO	bb
9	9 200715P1-13	Standard	12.500	3.76	13781.080	17808.982	9.673	12.6	0.5	NO		NO	bb
10	10 200715P1-14	Standard	12.500	3.76	13020.542	17404.020	9.352	12.1	-2.9	NO		NO	bb

Compound name: 13C3-PFHxS-EIS
Response Factor: 268.614
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	12.500	3.90	3286.932		3286.932	12.2	-2.1	NO		NO	bbX
2	2 200715P1-06	Standard	12.500	3.90	3456.514		3456.514	12.9	2.9	NO		NO	bbX
3	3 200715P1-07	Standard	12.500	3.90	3296.439		3296.439	12.3	-1.8	NO		NO	bbX
4	4 200715P1-08	Standard	12.500	3.91	3275.624		3275.624	12.2	-2.4	NO		NO	bbX
5	5 200715P1-09	Standard	12.500	3.90	3663.371		3663.371	13.6	9.1	NO		NO	bbX
6	6 200715P1-10	Standard	12.500	3.90	3357.679		3357.679	12.5	0.0	NO		NO	bb
7	7 200715P1-11	Standard	12.500	3.91	3494.369		3494.369	13.0	4.1	NO		NO	bbX
8	8 200715P1-12	Standard	12.500	3.91	3507.856		3507.856	13.1	4.5	NO		NO	bbX
9	9 200715P1-13	Standard	12.500	3.91	3136.063		3136.063	11.7	-6.6	NO		NO	bbX
10	10 200715P1-14	Standard	12.500	3.91	3012.524		3012.524	11.2	-10.3	NO		NO	bbX

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Compound name: 13C3-PFHxS-RSD
Response Factor: 2.40216
RRF SD: 0.0535597, Relative SD: 2.22965
Response type: Internal Std (Ref 102), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	12.500	3.90	3286.932	1309.306	31.380	13.1	4.5	NO		NO	bb
2	2 200715P1-06	Standard	12.500	3.90	3456.514	1450.812	29.781	12.4	-0.8	NO		NO	bb
3	3 200715P1-07	Standard	12.500	3.90	3296.439	1394.800	29.542	12.3	-1.6	NO		NO	bb
4	4 200715P1-08	Standard	12.500	3.91	3275.624	1333.273	30.710	12.8	2.3	NO		NO	bb
5	5 200715P1-09	Standard	12.500	3.90	3663.371	1531.875	29.893	12.4	-0.4	NO		NO	bb
6	6 200715P1-10	Standard	12.500	3.90	3357.679	1411.437	29.736	12.4	-1.0	NO		NO	bb
7	7 200715P1-11	Standard	12.500	3.91	3494.369	1478.114	29.551	12.3	-1.6	NO		NO	bb
8	8 200715P1-12	Standard	12.500	3.91	3507.856	1428.318	30.699	12.8	2.2	NO		NO	bb
9	9 200715P1-13	Standard	12.500	3.91	3136.063	1320.536	29.686	12.4	-1.1	NO		NO	bb
10	10 200715P1-14	Standard	12.500	3.91	3012.524	1285.609	29.291	12.2	-2.5	NO		NO	bb

Compound name: 13C2-6:2 FTS-EIS
Response Factor: 189.641
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	12.500	4.22	2288.134		2288.134	12.1	-3.5	NO		NO	bbX
2	2 200715P1-06	Standard	12.500	4.22	2199.076		2199.076	11.6	-7.2	NO		NO	bbX
3	3 200715P1-07	Standard	12.500	4.22	2229.958		2229.958	11.8	-5.9	NO		NO	bbX
4	4 200715P1-08	Standard	12.500	4.22	2106.058		2106.058	11.1	-11.2	NO		NO	bbX
5	5 200715P1-09	Standard	12.500	4.22	2461.530		2461.530	13.0	3.8	NO		NO	bbX
6	6 200715P1-10	Standard	12.500	4.22	2370.508		2370.508	12.5	0.0	NO		NO	bb
7	7 200715P1-11	Standard	12.500	4.22	2253.882		2253.882	11.9	-4.9	NO		NO	bbX
8	8 200715P1-12	Standard	12.500	4.22	2254.202		2254.202	11.9	-4.9	NO		NO	bbX
9	9 200715P1-13	Standard	12.500	4.22	2039.324		2039.324	10.8	-14.0	NO		NO	bbX
10	10 200715P1-14	Standard	12.500	4.22	2158.935		2158.935	11.4	-8.9	NO		NO	bbX

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Compound name: 13C2-6:2 FTS-RSD
Response Factor: 0.526333
RRF SD: 0.0265128, Relative SD: 5.03726
Response type: Internal Std (Ref 105), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	200715P1-05	Standard	12.500	4.22	2288.134	4219.512	6.778	12.9	3.0	NO		NO	bb
2	2	200715P1-06	Standard	12.500	4.22	2199.076	4605.905	5.968	11.3	-9.3	NO		NO	bb
3	3	200715P1-07	Standard	12.500	4.22	2229.958	4267.988	6.531	12.4	-0.7	NO		NO	bb
4	4	200715P1-08	Standard	12.500	4.22	2106.058	4133.559	6.369	12.1	-3.2	NO		NO	bb
5	5	200715P1-09	Standard	12.500	4.22	2461.530	4631.470	6.643	12.6	1.0	NO		NO	bb
6	6	200715P1-10	Standard	12.500	4.22	2370.508	4210.171	7.038	13.4	7.0	NO		NO	bb
7	7	200715P1-11	Standard	12.500	4.22	2253.882	4449.938	6.331	12.0	-3.8	NO		NO	bb
8	8	200715P1-12	Standard	12.500	4.22	2254.202	4390.262	6.418	12.2	-2.4	NO		NO	bb
9	9	200715P1-13	Standard	12.500	4.22	2039.324	3823.365	6.667	12.7	1.3	NO		NO	bb
10	10	200715P1-14	Standard	12.500	4.22	2158.935	3829.495	7.047	13.4	7.1	NO		NO	bb

Compound name: 13C5-PFNA-EIS
Response Factor: 1488.46
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	200715P1-05	Standard	12.500	4.72	18166.605		18166.605	12.2	-2.4	NO		NO	bbX
2	2	200715P1-06	Standard	12.500	4.72	18475.305		18475.305	12.4	-0.7	NO		NO	bbX
3	3	200715P1-07	Standard	12.500	4.72	16942.672		16942.672	11.4	-8.9	NO		NO	bbX
4	4	200715P1-08	Standard	12.500	4.72	16943.467		16943.467	11.4	-8.9	NO		NO	bbX
5	5	200715P1-09	Standard	12.500	4.72	18984.844		18984.844	12.8	2.0	NO		NO	bbX
6	6	200715P1-10	Standard	12.500	4.72	18605.793		18605.793	12.5	0.0	NO		NO	bb
7	7	200715P1-11	Standard	12.500	4.72	17815.230		17815.230	12.0	-4.2	NO		NO	bbX
8	8	200715P1-12	Standard	12.500	4.72	17661.139		17661.139	11.9	-5.1	NO		NO	bbX
9	9	200715P1-13	Standard	12.500	4.72	16655.285		16655.285	11.2	-10.5	NO		NO	bbX
10	10	200715P1-14	Standard	12.500	4.72	15295.544		15295.544	10.3	-17.8	NO		NO	bbX

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Compound name: 13C5-PFNA-RSD
Response Factor: 0.925392
RRF SD: 0.0287632, Relative SD: 3.10822
Response type: Internal Std (Ref 104), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	12.500	4.72	18166.605	18321.781	12.394	13.4	7.1	NO		NO	bb
2	2 200715P1-06	Standard	12.500	4.72	18475.305	20475.734	11.279	12.2	-2.5	NO		NO	bb
3	3 200715P1-07	Standard	12.500	4.72	16942.672	18416.609	11.500	12.4	-0.6	NO		NO	bb
4	4 200715P1-08	Standard	12.500	4.72	16943.467	18333.438	11.552	12.5	-0.1	NO		NO	bb
5	5 200715P1-09	Standard	12.500	4.72	18984.844	20861.383	11.376	12.3	-1.7	NO		NO	bb
6	6 200715P1-10	Standard	12.500	4.72	18605.793	19774.121	11.761	12.7	1.7	NO		NO	bb
7	7 200715P1-11	Standard	12.500	4.72	17815.230	19769.285	11.264	12.2	-2.6	NO		NO	bb
8	8 200715P1-12	Standard	12.500	4.72	17661.139	19395.494	11.382	12.3	-1.6	NO		NO	bb
9	9 200715P1-13	Standard	12.500	4.72	16655.285	17507.348	11.892	12.9	2.8	NO		NO	bb
10	10 200715P1-14	Standard	12.500	4.72	15295.544	16959.104	11.274	12.2	-2.5	NO		NO	bb

Compound name: 13C8-PFOSA-EIS
Response Factor: 594.784
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	12.500	4.76	7423.152		7423.152	12.5	-0.2	NO		NO	bbX
2	2 200715P1-06	Standard	12.500	4.76	7301.197		7301.197	12.3	-1.8	NO		NO	bbX
3	3 200715P1-07	Standard	12.500	4.76	7447.246		7447.246	12.5	0.2	NO		NO	bbX
4	4 200715P1-08	Standard	12.500	4.77	6848.962		6848.962	11.5	-7.9	NO		NO	bbX
5	5 200715P1-09	Standard	12.500	4.77	7848.611		7848.611	13.2	5.6	NO		NO	bbX
6	6 200715P1-10	Standard	12.500	4.77	7434.802		7434.802	12.5	0.0	NO		NO	bb
7	7 200715P1-11	Standard	12.500	4.77	7334.455		7334.455	12.3	-1.3	NO		NO	bbX
8	8 200715P1-12	Standard	12.500	4.77	7561.286		7561.286	12.7	1.7	NO		NO	bbX
9	9 200715P1-13	Standard	12.500	4.77	6583.585		6583.585	11.1	-11.4	NO		NO	bbX
10	10 200715P1-14	Standard	12.500	4.77	6491.171		6491.171	10.9	-12.7	NO		NO	bbX

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Compound name: 13C8-PFOSA-RSD
Response Factor: 0.4475
RRF SD: 0.0170834, Relative SD: 3.81753
Response type: Internal Std (Ref 107), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	12.500	4.76	7423.152	15334.599	6.051	13.5	8.2	NO		NO	bb
2	2 200715P1-06	Standard	12.500	4.76	7301.197	17351.859	5.260	11.8	-6.0	NO		NO	bb
3	3 200715P1-07	Standard	12.500	4.76	7447.246	16905.795	5.506	12.3	-1.6	NO		NO	bb
4	4 200715P1-08	Standard	12.500	4.77	6848.962	15689.824	5.457	12.2	-2.5	NO		NO	bb
5	5 200715P1-09	Standard	12.500	4.77	7848.611	17768.025	5.522	12.3	-1.3	NO		NO	bb
6	6 200715P1-10	Standard	12.500	4.77	7434.802	16785.340	5.537	12.4	-1.0	NO		NO	bb
7	7 200715P1-11	Standard	12.500	4.77	7334.455	16712.057	5.486	12.3	-1.9	NO		NO	bb
8	8 200715P1-12	Standard	12.500	4.77	7561.286	16502.117	5.728	12.8	2.4	NO		NO	bb
9	9 200715P1-13	Standard	12.500	4.77	6583.585	14566.803	5.649	12.6	1.0	NO		NO	bb
10	10 200715P1-14	Standard	12.500	4.77	6491.171	14129.214	5.743	12.8	2.7	NO		NO	bb

Compound name: 13C2-PFOA-EIS
Response Factor: 1519.81
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	12.500	4.27	18747.258		18747.258	12.3	-1.3	NO		NO	bbX
2	2 200715P1-06	Standard	12.500	4.28	18013.293		18013.293	11.9	-5.2	NO		NO	bbX
3	3 200715P1-07	Standard	12.500	4.28	18092.994		18092.994	11.9	-4.8	NO		NO	bbX
4	4 200715P1-08	Standard	12.500	4.28	17356.375		17356.375	11.4	-8.6	NO		NO	bbX
5	5 200715P1-09	Standard	12.500	4.28	20100.508		20100.508	13.2	5.8	NO		NO	bbX
6	6 200715P1-10	Standard	12.500	4.28	18997.652		18997.652	12.5	0.0	NO		NO	bb
7	7 200715P1-11	Standard	12.500	4.28	18724.668		18724.668	12.3	-1.4	NO		NO	bbX
8	8 200715P1-12	Standard	12.500	4.28	18385.432		18385.432	12.1	-3.2	NO		NO	bbX
9	9 200715P1-13	Standard	12.500	4.28	16259.043		16259.043	10.7	-14.4	NO		NO	bbX
10	10 200715P1-14	Standard	12.500	4.28	15326.200		15326.200	10.1	-19.3	NO		NO	bbX

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Compound name: 13C2-PFOA-RSD
Response Factor: 1.19415
RRF SD: 0.0525083, Relative SD: 4.39712
Response type: Internal Std (Ref 103), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	200715P1-05	Standard	12.500	4.27	18747.258	14428.058	16.242	13.6	8.8	NO		NO	bb
2	2	200715P1-06	Standard	12.500	4.28	18013.293	16159.228	13.934	11.7	-6.7	NO		NO	bb
3	3	200715P1-07	Standard	12.500	4.28	18092.994	15326.044	14.757	12.4	-1.1	NO		NO	bb
4	4	200715P1-08	Standard	12.500	4.28	17356.375	14847.943	14.612	12.2	-2.1	NO		NO	bb
5	5	200715P1-09	Standard	12.500	4.28	20100.508	17270.594	14.548	12.2	-2.5	NO		NO	bb
6	6	200715P1-10	Standard	12.500	4.28	18997.652	15396.748	15.423	12.9	3.3	NO		NO	bb
7	7	200715P1-11	Standard	12.500	4.28	18724.668	15835.567	14.781	12.4	-1.0	NO		NO	bb
8	8	200715P1-12	Standard	12.500	4.28	18385.432	15850.188	14.499	12.1	-2.9	NO		NO	bb
9	9	200715P1-13	Standard	12.500	4.28	16259.043	13654.862	14.884	12.5	-0.3	NO		NO	bb
10	10	200715P1-14	Standard	12.500	4.28	15326.200	12289.493	15.589	13.1	4.4	NO		NO	bb

Compound name: 13C8-PFOS-EIS
Response Factor: 278.862
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	200715P1-05	Standard	12.500	4.80	3339.633		3339.633	12.0	-4.2	NO		NO	bbX
2	2	200715P1-06	Standard	12.500	4.80	3464.958		3464.958	12.4	-0.6	NO		NO	bbX
3	3	200715P1-07	Standard	12.500	4.80	3207.886		3207.886	11.5	-8.0	NO		NO	bbX
4	4	200715P1-08	Standard	12.500	4.80	3209.567		3209.567	11.5	-7.9	NO		NO	bbX
5	5	200715P1-09	Standard	12.500	4.80	3319.781		3319.781	11.9	-4.8	NO		NO	bbX
6	6	200715P1-10	Standard	12.500	4.80	3485.769		3485.769	12.5	0.0	NO		NO	bb
7	7	200715P1-11	Standard	12.500	4.80	3397.571		3397.571	12.2	-2.5	NO		NO	bbX
8	8	200715P1-12	Standard	12.500	4.80	3501.605		3501.605	12.6	0.5	NO		NO	bbX
9	9	200715P1-13	Standard	12.500	4.80	3276.164		3276.164	11.7	-6.0	NO		NO	bbX
10	10	200715P1-14	Standard	12.500	4.80	2909.353		2909.353	10.4	-16.5	NO		NO	bbX

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Compound name: 13C8-PFOS-RSD
Response Factor: 0.779427
RRF SD: 0.0407041, Relative SD: 5.22232
Response type: Internal Std (Ref 105), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	12.500	4.80	3339.633	4219.512	9.893	12.7	1.5	NO		NO	bb
2	2 200715P1-06	Standard	12.500	4.80	3464.958	4605.905	9.404	12.1	-3.5	NO		NO	bb
3	3 200715P1-07	Standard	12.500	4.80	3207.886	4267.988	9.395	12.1	-3.6	NO		NO	bb
4	4 200715P1-08	Standard	12.500	4.80	3209.567	4133.559	9.706	12.5	-0.4	NO		NO	bb
5	5 200715P1-09	Standard	12.500	4.80	3319.781	4631.470	8.960	11.5	-8.0	NO		NO	bb
6	6 200715P1-10	Standard	12.500	4.80	3485.769	4210.171	10.349	13.3	6.2	NO		NO	bb
7	7 200715P1-11	Standard	12.500	4.80	3397.571	4449.938	9.544	12.2	-2.0	NO		NO	bb
8	8 200715P1-12	Standard	12.500	4.80	3501.605	4390.262	9.970	12.8	2.3	NO		NO	bb
9	9 200715P1-13	Standard	12.500	4.80	3276.164	3823.365	10.711	13.7	9.9	NO		NO	bb
10	10 200715P1-14	Standard	12.500	4.80	2909.353	3829.495	9.497	12.2	-2.5	NO		NO	bb

Compound name: 13C2-PFDA-EIS
Response Factor: 1677.89
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	12.500	5.09	21139.320		21139.320	12.6	0.8	NO		NO	bbX
2	2 200715P1-06	Standard	12.500	5.09	21237.906		21237.906	12.7	1.3	NO		NO	bbX
3	3 200715P1-07	Standard	12.500	5.09	20143.082		20143.082	12.0	-4.0	NO		NO	bbX
4	4 200715P1-08	Standard	12.500	5.09	20088.832		20088.832	12.0	-4.2	NO		NO	bbX
5	5 200715P1-09	Standard	12.500	5.09	22234.100		22234.100	13.3	6.0	NO		NO	bbX
6	6 200715P1-10	Standard	12.500	5.09	20973.631		20973.631	12.5	0.0	NO		NO	bb
7	7 200715P1-11	Standard	12.500	5.10	21425.146		21425.146	12.8	2.2	NO		NO	bbX
8	8 200715P1-12	Standard	12.500	5.09	21301.400		21301.400	12.7	1.6	NO		NO	bbX
9	9 200715P1-13	Standard	12.500	5.09	19779.787		19779.787	11.8	-5.7	NO		NO	bbX
10	10 200715P1-14	Standard	12.500	5.10	19417.826		19417.826	11.6	-7.4	NO		NO	bbX

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Compound name: 13C2-PFDA-RSD
Response Factor: 1.10289
RRF SD: 0.0427578, Relative SD: 3.87689
Response type: Internal Std (Ref 106), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	200715P1-05	Standard	12.500	5.09	21139.320	18067.412	14.625	13.3	6.1	NO		NO	bb
2	2	200715P1-06	Standard	12.500	5.09	21237.906	20148.336	13.176	11.9	-4.4	NO		NO	bb
3	3	200715P1-07	Standard	12.500	5.09	20143.082	18807.287	13.388	12.1	-2.9	NO		NO	bb
4	4	200715P1-08	Standard	12.500	5.09	20088.832	18401.150	13.646	12.4	-1.0	NO		NO	bb
5	5	200715P1-09	Standard	12.500	5.09	22234.100	21510.396	12.921	11.7	-6.3	NO		NO	bb
6	6	200715P1-10	Standard	12.500	5.09	20973.631	18755.420	13.978	12.7	1.4	NO		NO	bb
7	7	200715P1-11	Standard	12.500	5.10	21425.146	19409.744	13.798	12.5	0.1	NO		NO	bb
8	8	200715P1-12	Standard	12.500	5.09	21301.400	19378.539	13.740	12.5	-0.3	NO		NO	bb
9	9	200715P1-13	Standard	12.500	5.09	19779.787	17205.107	14.371	13.0	4.2	NO		NO	bb
10	10	200715P1-14	Standard	12.500	5.10	19417.826	17071.865	14.218	12.9	3.1	NO		NO	bb

Compound name: 13C2-8:2 FTS-EIS
Response Factor: 145.085
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	200715P1-05	Standard	12.500	5.06	2272.706		2272.706	15.7	25.3	NO		NO	bbX
2	2	200715P1-06	Standard	12.500	5.06	1834.680		1834.680	12.6	1.2	NO		NO	bbX
3	3	200715P1-07	Standard	12.500	5.06	1900.979		1900.979	13.1	4.8	NO		NO	bbX
4	4	200715P1-08	Standard	12.500	5.06	1863.108		1863.108	12.8	2.7	NO		NO	bbX
5	5	200715P1-09	Standard	12.500	5.06	2057.675		2057.675	14.2	13.5	NO		NO	bbX
6	6	200715P1-10	Standard	12.500	5.07	1813.562		1813.562	12.5	0.0	NO		NO	bb
7	7	200715P1-11	Standard	12.500	5.07	1843.435		1843.435	12.7	1.6	NO		NO	bbX
8	8	200715P1-12	Standard	12.500	5.06	1908.331		1908.331	13.2	5.2	NO		NO	bbX
9	9	200715P1-13	Standard	12.500	5.06	1792.268		1792.268	12.4	-1.2	NO		NO	bbX
10	10	200715P1-14	Standard	12.500	5.06	1921.738		1921.738	13.2	6.0	NO		NO	bbX

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Compound name: 13C2-8:2 FTS-RSD
Response Factor: 0.452765
RRF SD: 0.0413941, Relative SD: 9.14251
Response type: Internal Std (Ref 105), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	12.500	5.06	2272.706	4219.512	6.733	14.9	19.0	NO		NO	bb
2	2 200715P1-06	Standard	12.500	5.06	1834.680	4605.905	4.979	11.0	-12.0	NO		NO	bb
3	3 200715P1-07	Standard	12.500	5.06	1900.979	4267.988	5.568	12.3	-1.6	NO		NO	bb
4	4 200715P1-08	Standard	12.500	5.06	1863.108	4133.559	5.634	12.4	-0.4	NO		NO	bb
5	5 200715P1-09	Standard	12.500	5.06	2057.675	4631.470	5.554	12.3	-1.9	NO		NO	bb
6	6 200715P1-10	Standard	12.500	5.07	1813.562	4210.171	5.384	11.9	-4.9	NO		NO	bb
7	7 200715P1-11	Standard	12.500	5.07	1843.435	4449.938	5.178	11.4	-8.5	NO		NO	bb
8	8 200715P1-12	Standard	12.500	5.06	1908.331	4390.262	5.433	12.0	-4.0	NO		NO	bb
9	9 200715P1-13	Standard	12.500	5.06	1792.268	3823.365	5.860	12.9	3.5	NO		NO	bb
10	10 200715P1-14	Standard	12.500	5.06	1921.738	3829.495	6.273	13.9	10.8	NO		NO	bb

Compound name: d3-N-MeFOSAA-EIS
Response Factor: 371.929
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	12.500	5.23	4257.820		4257.820	11.4	-8.4	NO		NO	bbX
2	2 200715P1-06	Standard	12.500	5.24	4776.380		4776.380	12.8	2.7	NO		NO	bbX
3	3 200715P1-07	Standard	12.500	5.24	4202.767		4202.767	11.3	-9.6	NO		NO	bbX
4	4 200715P1-08	Standard	12.500	5.24	4219.502		4219.502	11.3	-9.2	NO		NO	bbX
5	5 200715P1-09	Standard	12.500	5.24	5097.341		5097.341	13.7	9.6	NO		NO	bbX
6	6 200715P1-10	Standard	12.500	5.24	4649.107		4649.107	12.5	0.0	NO		NO	bb
7	7 200715P1-11	Standard	12.500	5.24	4569.278		4569.278	12.3	-1.7	NO		NO	bbX
8	8 200715P1-12	Standard	12.500	5.24	4572.478		4572.478	12.3	-1.6	NO		NO	bbX
9	9 200715P1-13	Standard	12.500	5.24	4248.579		4248.579	11.4	-8.6	NO		NO	bbX
10	10 200715P1-14	Standard	12.500	5.24	4275.856		4275.856	11.5	-8.0	NO		NO	bbX

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Compound name: d3-N-MeFOSAA-RSD
Response Factor: 0.27791
RRF SD: 0.0143334, Relative SD: 5.15758
Response type: Internal Std (Ref 107), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	12.500	5.23	4257.820	15334.599	3.471	12.5	-0.1	NO		NO	bb
2	2 200715P1-06	Standard	12.500	5.24	4776.380	17351.859	3.441	12.4	-1.0	NO		NO	bb
3	3 200715P1-07	Standard	12.500	5.24	4202.767	16905.795	3.107	11.2	-10.5	NO		NO	bb
4	4 200715P1-08	Standard	12.500	5.24	4219.502	15689.824	3.362	12.1	-3.2	NO		NO	bb
5	5 200715P1-09	Standard	12.500	5.24	5097.341	17768.025	3.586	12.9	3.2	NO		NO	bb
6	6 200715P1-10	Standard	12.500	5.24	4649.107	16785.340	3.462	12.5	-0.3	NO		NO	bb
7	7 200715P1-11	Standard	12.500	5.24	4569.278	16712.057	3.418	12.3	-1.6	NO		NO	bb
8	8 200715P1-12	Standard	12.500	5.24	4572.478	16502.117	3.464	12.5	-0.3	NO		NO	bb
9	9 200715P1-13	Standard	12.500	5.24	4248.579	14566.803	3.646	13.1	4.9	NO		NO	bb
10	10 200715P1-14	Standard	12.500	5.24	4275.856	14129.214	3.783	13.6	8.9	NO		NO	bb

Compound name: 13C2-PFUdA-EIS
Response Factor: 1719.99
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	12.500	5.41	21431.557		21431.557	12.5	-0.3	NO		NO	bbX
2	2 200715P1-06	Standard	12.500	5.41	21511.854		21511.854	12.5	0.1	NO		NO	bbX
3	3 200715P1-07	Standard	12.500	5.41	20974.463		20974.463	12.2	-2.4	NO		NO	bbX
4	4 200715P1-08	Standard	12.500	5.41	19514.449		19514.449	11.3	-9.2	NO		NO	bbX
5	5 200715P1-09	Standard	12.500	5.41	23148.672		23148.672	13.5	7.7	NO		NO	bbX
6	6 200715P1-10	Standard	12.500	5.41	21499.816		21499.816	12.5	0.0	NO		NO	bb
7	7 200715P1-11	Standard	12.500	5.42	21237.574		21237.574	12.3	-1.2	NO		NO	bbX
8	8 200715P1-12	Standard	12.500	5.41	21069.113		21069.113	12.2	-2.0	NO		NO	bbX
9	9 200715P1-13	Standard	12.500	5.41	19500.521		19500.521	11.3	-9.3	NO		NO	bbX
10	10 200715P1-14	Standard	12.500	5.41	18511.988		18511.988	10.8	-13.9	NO		NO	bbX

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Compound name: 13C2-PFUdA-RSD
Response Factor: 1.29019
RRF SD: 0.0497156, Relative SD: 3.85336
Response type: Internal Std (Ref 107), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	12.500	5.41	21431.557	15334.599	17.470	13.5	8.3	NO		NO	bb
2	2 200715P1-06	Standard	12.500	5.41	21511.854	17351.859	15.497	12.0	-3.9	NO		NO	bb
3	3 200715P1-07	Standard	12.500	5.41	20974.463	16905.795	15.508	12.0	-3.8	NO		NO	bb
4	4 200715P1-08	Standard	12.500	5.41	19514.449	15689.824	15.547	12.1	-3.6	NO		NO	bb
5	5 200715P1-09	Standard	12.500	5.41	23148.672	17768.025	16.285	12.6	1.0	NO		NO	bb
6	6 200715P1-10	Standard	12.500	5.41	21499.816	16785.340	16.011	12.4	-0.7	NO		NO	bb
7	7 200715P1-11	Standard	12.500	5.42	21237.574	16712.057	15.885	12.3	-1.5	NO		NO	bb
8	8 200715P1-12	Standard	12.500	5.41	21069.113	16502.117	15.959	12.4	-1.0	NO		NO	bb
9	9 200715P1-13	Standard	12.500	5.41	19500.521	14566.803	16.734	13.0	3.8	NO		NO	bb
10	10 200715P1-14	Standard	12.500	5.41	18511.988	14129.214	16.377	12.7	1.6	NO		NO	bb

Compound name: d5-N-EtFOSAA-EIS
Response Factor: 359.971
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	12.500	5.39	3986.506		3986.506	11.1	-11.4	NO		NO	bbX
2	2 200715P1-06	Standard	12.500	5.39	4282.189		4282.189	11.9	-4.8	NO		NO	bbX
3	3 200715P1-07	Standard	12.500	5.39	3868.556		3868.556	10.7	-14.0	NO		NO	bbX
4	4 200715P1-08	Standard	12.500	5.39	3919.445		3919.445	10.9	-12.9	NO		NO	bbX
5	5 200715P1-09	Standard	12.500	5.39	4487.496		4487.496	12.5	-0.3	NO		NO	bbX
6	6 200715P1-10	Standard	12.500	5.39	4499.632		4499.632	12.5	0.0	NO		NO	bb
7	7 200715P1-11	Standard	12.500	5.39	3799.720		3799.720	10.6	-15.6	NO		NO	bbX
8	8 200715P1-12	Standard	12.500	5.39	3935.188		3935.188	10.9	-12.5	NO		NO	bbX
9	9 200715P1-13	Standard	12.500	5.39	3838.678		3838.678	10.7	-14.7	NO		NO	MMX
10	10 200715P1-14	Standard	12.500	5.39	3288.879		3288.879	9.1	-26.9	NO		NO	bbX

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Compound name: d5-N-EtFOSAA-RSD
Response Factor: 0.246719
RRF SD: 0.014466, Relative SD: 5.86337
Response type: Internal Std (Ref 107), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	12.500	5.39	3986.506	15334.599	3.250	13.2	5.4	NO		NO	bb
2	2 200715P1-06	Standard	12.500	5.39	4282.189	17351.859	3.085	12.5	0.0	NO		NO	bb
3	3 200715P1-07	Standard	12.500	5.39	3868.556	16905.795	2.860	11.6	-7.3	NO		NO	bb
4	4 200715P1-08	Standard	12.500	5.39	3919.445	15689.824	3.123	12.7	1.3	NO		NO	bb
5	5 200715P1-09	Standard	12.500	5.39	4487.496	17768.025	3.157	12.8	2.4	NO		NO	bb
6	6 200715P1-10	Standard	12.500	5.39	4499.632	16785.340	3.351	13.6	8.7	NO		NO	bb
7	7 200715P1-11	Standard	12.500	5.39	3799.720	16712.057	2.842	11.5	-7.8	NO		NO	bb
8	8 200715P1-12	Standard	12.500	5.39	3935.188	16502.117	2.981	12.1	-3.3	NO		NO	bb
9	9 200715P1-13	Standard	12.500	5.39	3824.729	14566.803	3.282	13.3	6.4	NO		NO	bd
10	10 200715P1-14	Standard	12.500	5.39	3288.879	14129.214	2.910	11.8	-5.7	NO		NO	bb

Compound name: 13C2-PFDoA-EIS
Response Factor: 1888.18
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	12.500	5.69	23416.920		23416.920	12.4	-0.8	NO		NO	bbX
2	2 200715P1-06	Standard	12.500	5.69	24413.588		24413.588	12.9	3.4	NO		NO	bbX
3	3 200715P1-07	Standard	12.500	5.69	24811.789		24811.789	13.1	5.1	NO		NO	bbX
4	4 200715P1-08	Standard	12.500	5.69	21661.838		21661.838	11.5	-8.2	NO		NO	bbX
5	5 200715P1-09	Standard	12.500	5.69	26248.602		26248.602	13.9	11.2	NO		NO	bbX
6	6 200715P1-10	Standard	12.500	5.69	23602.262		23602.262	12.5	0.0	NO		NO	bb
7	7 200715P1-11	Standard	12.500	5.69	24305.359		24305.359	12.9	3.0	NO		NO	bbX
8	8 200715P1-12	Standard	12.500	5.69	23221.037		23221.037	12.3	-1.6	NO		NO	bbX
9	9 200715P1-13	Standard	12.500	5.69	20839.002		20839.002	11.0	-11.7	NO		NO	bbX
10	10 200715P1-14	Standard	12.500	5.69	20109.285		20109.285	10.7	-14.8	NO		NO	bbX

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Compound name: 13C2-PFDoA-RSD
Response Factor: 1.23226
RRF SD: 0.0481607, Relative SD: 3.90833
Response type: Internal Std (Ref 106), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	12.500	5.69	23416.920	18067.412	16.201	13.1	5.2	NO		NO	bb
2	2 200715P1-06	Standard	12.500	5.69	24413.588	20148.336	15.146	12.3	-1.7	NO		NO	bb
3	3 200715P1-07	Standard	12.500	5.69	24811.789	18807.287	16.491	13.4	7.1	NO		NO	bb
4	4 200715P1-08	Standard	12.500	5.69	21661.838	18401.150	14.715	11.9	-4.5	NO		NO	bb
5	5 200715P1-09	Standard	12.500	5.69	26248.602	21510.396	15.253	12.4	-1.0	NO		NO	bb
6	6 200715P1-10	Standard	12.500	5.69	23602.262	18755.420	15.730	12.8	2.1	NO		NO	bb
7	7 200715P1-11	Standard	12.500	5.69	24305.359	19409.744	15.653	12.7	1.6	NO		NO	bb
8	8 200715P1-12	Standard	12.500	5.69	23221.037	19378.539	14.979	12.2	-2.8	NO		NO	bb
9	9 200715P1-13	Standard	12.500	5.69	20839.002	17205.107	15.140	12.3	-1.7	NO		NO	bb
10	10 200715P1-14	Standard	12.500	5.69	20109.285	17071.865	14.724	11.9	-4.4	NO		NO	bb

Compound name: 13C2-10:2 FTS-EIS
Response Factor: 104.228
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	12.500	5.68	1420.543		1420.543	13.6	9.0	NO		NO	bbX
2	2 200715P1-06	Standard	12.500	5.68	1362.904		1362.904	13.1	4.6	NO		NO	bbX
3	3 200715P1-07	Standard	12.500	5.68	1333.479		1333.479	12.8	2.4	NO		NO	bbX
4	4 200715P1-08	Standard	12.500	5.68	1283.837		1283.837	12.3	-1.5	NO		NO	bbX
5	5 200715P1-09	Standard	12.500	5.68	1400.038		1400.038	13.4	7.5	NO		NO	bbX
6	6 200715P1-10	Standard	12.500	5.68	1302.852		1302.852	12.5	0.0	NO		NO	bb
7	7 200715P1-11	Standard	12.500	5.68	1330.195		1330.195	12.8	2.1	NO		NO	MMX
8	8 200715P1-12	Standard	12.500	5.68	1199.234		1199.234	11.5	-8.0	NO		NO	MMX
9	9 200715P1-13	Standard	12.500	5.68	1004.974		1004.974	9.6	-22.9	NO		NO	MMX
10	10 200715P1-14	Standard	12.500	5.67	1028.491		1028.491	9.9	-21.1	NO		NO	MMX

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Compound name: 13C2-10:2 FTS-RSD
Response Factor: 0.296734
RRF SD: 0.0230901, Relative SD: 7.78142
Response type: Internal Std (Ref 105), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	12.500	5.68	1420.543	4219.512	4.208	14.2	13.5	NO		NO	bb
2	2 200715P1-06	Standard	12.500	5.68	1362.904	4605.905	3.699	12.5	-0.3	NO		NO	bb
3	3 200715P1-07	Standard	12.500	5.68	1333.479	4267.988	3.905	13.2	5.3	NO		NO	bb
4	4 200715P1-08	Standard	12.500	5.68	1283.837	4133.559	3.882	13.1	4.7	NO		NO	bb
5	5 200715P1-09	Standard	12.500	5.68	1400.038	4631.470	3.779	12.7	1.9	NO		NO	bb
6	6 200715P1-10	Standard	12.500	5.68	1302.852	4210.171	3.868	13.0	4.3	NO		NO	bb
7	7 200715P1-11	Standard	12.500	5.68	1320.766	4449.938	3.710	12.5	0.0	NO		NO	db
8	8 200715P1-12	Standard	12.500	5.68	1197.821	4390.262	3.410	11.5	-8.1	NO		NO	MM
9	9 200715P1-13	Standard	12.500	5.68	1005.131	3823.365	3.286	11.1	-11.4	NO		NO	MM
10	10 200715P1-14	Standard	12.500	5.67	1024.302	3829.495	3.343	11.3	-9.9	NO		NO	MM

Compound name: d3-N-MeFOSA-EIS
Response Factor: 152.565
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	149.200	5.72	21841.283		21841.283	143.2	-4.0	NO		NO	bbX
2	2 200715P1-06	Standard	149.200	5.72	23502.238		23502.238	154.0	3.2	NO		NO	bbX
3	3 200715P1-07	Standard	149.200	5.72	21928.951		21928.951	143.7	-3.7	NO		NO	bbX
4	4 200715P1-08	Standard	149.200	5.73	21040.414		21040.414	137.9	-7.6	NO		NO	bbX
5	5 200715P1-09	Standard	149.200	5.72	23506.068		23506.068	154.1	3.3	NO		NO	bbX
6	6 200715P1-10	Standard	149.200	5.72	22762.703		22762.703	149.2	0.0	NO		NO	bb
7	7 200715P1-11	Standard	149.200	5.73	24242.186		24242.186	158.9	6.5	NO		NO	bbX
8	8 200715P1-12	Standard	149.200	5.72	23830.158		23830.158	156.2	4.7	NO		NO	bbX
9	9 200715P1-13	Standard	149.200	5.72	23068.273		23068.273	151.2	1.3	NO		NO	bbX
10	10 200715P1-14	Standard	149.200	5.73	23374.256		23374.256	153.2	2.7	NO		NO	bbX

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Compound name: d3-N-MeFOSA-RSD
Response Factor: 0.119207
RRF SD: 0.00976493, Relative SD: 8.19157
Response type: Internal Std (Ref 107), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	149.200	5.72	21841.283	15334.599	17.804	149.4	0.1	NO		NO	bb
2	2 200715P1-06	Standard	149.200	5.72	23502.238	17351.859	16.931	142.0	-4.8	NO		NO	bb
3	3 200715P1-07	Standard	149.200	5.72	21928.951	16905.795	16.214	136.0	-8.8	NO		NO	bb
4	4 200715P1-08	Standard	149.200	5.73	21040.414	15689.824	16.763	140.6	-5.8	NO		NO	bb
5	5 200715P1-09	Standard	149.200	5.72	23506.068	17768.025	16.537	138.7	-7.0	NO		NO	bb
6	6 200715P1-10	Standard	149.200	5.72	22762.703	16785.340	16.951	142.2	-4.7	NO		NO	bb
7	7 200715P1-11	Standard	149.200	5.73	24242.186	16712.057	18.132	152.1	1.9	NO		NO	bb
8	8 200715P1-12	Standard	149.200	5.72	23830.158	16502.117	18.051	151.4	1.5	NO		NO	bb
9	9 200715P1-13	Standard	149.200	5.72	23068.273	14566.803	19.795	166.1	11.3	NO		NO	bb
10	10 200715P1-14	Standard	149.200	5.73	23374.256	14129.214	20.679	173.5	16.3	NO		NO	bb

Compound name: 13C2-PFTeDA-EIS
Response Factor: 1893.85
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	12.500	6.14	24885.520		24885.520	13.1	5.1	NO		NO	bbX
2	2 200715P1-06	Standard	12.500	6.15	24382.600		24382.600	12.9	3.0	NO		NO	bbX
3	3 200715P1-07	Standard	12.500	6.14	24504.398		24504.398	12.9	3.5	NO		NO	bbX
4	4 200715P1-08	Standard	12.500	6.14	23434.535		23434.535	12.4	-1.0	NO		NO	bbX
5	5 200715P1-09	Standard	12.500	6.14	27046.730		27046.730	14.3	14.3	NO		NO	bbX
6	6 200715P1-10	Standard	12.500	6.14	23673.172		23673.172	12.5	0.0	NO		NO	bb
7	7 200715P1-11	Standard	12.500	6.15	24599.662		24599.662	13.0	3.9	NO		NO	bbX
8	8 200715P1-12	Standard	12.500	6.14	24810.045		24810.045	13.1	4.8	NO		NO	bbX
9	9 200715P1-13	Standard	12.500	6.15	21943.178		21943.178	11.6	-7.3	NO		NO	bbX
10	10 200715P1-14	Standard	12.500	6.15	21142.191		21142.191	11.2	-10.7	NO		NO	bbX

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Compound name: 13C2-PFTeDA-RSD
Response Factor: 1.48818
RRF SD: 0.0620554, Relative SD: 4.16989
Response type: Internal Std (Ref 107), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	12.500	6.14	24885.520	15334.599	20.285	13.6	9.0	NO		NO	bb
2	2 200715P1-06	Standard	12.500	6.15	24382.600	17351.859	17.565	11.8	-5.6	NO		NO	bb
3	3 200715P1-07	Standard	12.500	6.14	24504.398	16905.795	18.118	12.2	-2.6	NO		NO	bb
4	4 200715P1-08	Standard	12.500	6.14	23434.535	15689.824	18.670	12.5	0.4	NO		NO	bb
5	5 200715P1-09	Standard	12.500	6.14	27046.730	17768.025	19.028	12.8	2.3	NO		NO	bb
6	6 200715P1-10	Standard	12.500	6.14	23673.172	16785.340	17.629	11.8	-5.2	NO		NO	bb
7	7 200715P1-11	Standard	12.500	6.15	24599.662	16712.057	18.400	12.4	-1.1	NO		NO	bb
8	8 200715P1-12	Standard	12.500	6.14	24810.045	16502.117	18.793	12.6	1.0	NO		NO	bb
9	9 200715P1-13	Standard	12.500	6.15	21943.178	14566.803	18.830	12.7	1.2	NO		NO	bb
10	10 200715P1-14	Standard	12.500	6.15	21142.191	14129.214	18.704	12.6	0.5	NO		NO	bb

Compound name: d5-N-ETFOSA-EIS
Response Factor: 190.85
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	149.200	6.13	27398.318		27398.318	143.6	-3.8	NO		NO	bbX
2	2 200715P1-06	Standard	149.200	6.13	28358.557		28358.557	148.6	-0.4	NO		NO	bbX
3	3 200715P1-07	Standard	149.200	6.13	27892.357		27892.357	146.1	-2.0	NO		NO	bbX
4	4 200715P1-08	Standard	149.200	6.13	26273.701		26273.701	137.7	-7.7	NO		NO	bbX
5	5 200715P1-09	Standard	149.200	6.13	30147.381		30147.381	158.0	5.9	NO		NO	bbX
6	6 200715P1-10	Standard	149.200	6.13	28474.869		28474.869	149.2	0.0	NO		NO	bb
7	7 200715P1-11	Standard	149.200	6.13	29372.900		29372.900	153.9	3.2	NO		NO	bbX
8	8 200715P1-12	Standard	149.200	6.13	27323.699		27323.699	143.2	-4.0	NO		NO	bbX
9	9 200715P1-13	Standard	149.200	6.13	25037.039		25037.039	131.2	-12.1	NO		NO	bbX
10	10 200715P1-14	Standard	149.200	6.13	23354.625		23354.625	122.4	-18.0	NO		NO	bbX

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Compound name: d5-N-ETFOSA-RSD
Response Factor: 0.141787
RRF SD: 0.00416766, Relative SD: 2.93939
Response type: Internal Std (Ref 107), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	149.200	6.13	27398.318	15334.599	22.334	157.5	5.6	NO		NO	bb
2	2 200715P1-06	Standard	149.200	6.13	28358.557	17351.859	20.429	144.1	-3.4	NO		NO	bb
3	3 200715P1-07	Standard	149.200	6.13	27892.357	16905.795	20.623	145.5	-2.5	NO		NO	bb
4	4 200715P1-08	Standard	149.200	6.13	26273.701	15689.824	20.932	147.6	-1.1	NO		NO	bb
5	5 200715P1-09	Standard	149.200	6.13	30147.381	17768.025	21.209	149.6	0.3	NO		NO	bb
6	6 200715P1-10	Standard	149.200	6.13	28474.869	16785.340	21.205	149.6	0.2	NO		NO	bb
7	7 200715P1-11	Standard	149.200	6.13	29372.900	16712.057	21.970	154.9	3.9	NO		NO	bb
8	8 200715P1-12	Standard	149.200	6.13	27323.699	16502.117	20.697	146.0	-2.2	NO		NO	bb
9	9 200715P1-13	Standard	149.200	6.13	25037.039	14566.803	21.485	151.5	1.6	NO		NO	bb
10	10 200715P1-14	Standard	149.200	6.13	23354.625	14129.214	20.662	145.7	-2.3	NO		NO	bb

Compound name: 13C2-PFHxDA-EIS
Response Factor: 2290.48
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	12.500	6.46	29059.072		29059.072	12.7	1.5	NO		NO	bbX
2	2 200715P1-06	Standard	12.500	6.46	28296.508		28296.508	12.4	-1.2	NO		NO	bbX
3	3 200715P1-07	Standard	12.500	6.46	28548.980		28548.980	12.5	-0.3	NO		NO	bbX
4	4 200715P1-08	Standard	12.500	6.46	26845.547		26845.547	11.7	-6.2	NO		NO	bbX
5	5 200715P1-09	Standard	12.500	6.46	31838.660		31838.660	13.9	11.2	NO		NO	bbX
6	6 200715P1-10	Standard	12.500	6.46	28631.020		28631.020	12.5	0.0	NO		NO	bb
7	7 200715P1-11	Standard	12.500	6.46	30016.869		30016.869	13.1	4.8	NO		NO	bbX
8	8 200715P1-12	Standard	12.500	6.46	28390.104		28390.104	12.4	-0.8	NO		NO	bbX
9	9 200715P1-13	Standard	12.500	6.46	25537.041		25537.041	11.1	-10.8	NO		NO	bbX
10	10 200715P1-14	Standard	12.500	6.46	26083.391		26083.391	11.4	-8.9	NO		NO	bbX

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Compound name: 13C2-PFHxDA-RSD
Response Factor: 1.75388
RRF SD: 0.0791135, Relative SD: 4.51078
Response type: Internal Std (Ref 107), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	12.500	6.46	29059.072	15334.599	23.688	13.5	8.0	NO		NO	bb
2	2 200715P1-06	Standard	12.500	6.46	28296.508	17351.859	20.384	11.6	-7.0	NO		NO	bb
3	3 200715P1-07	Standard	12.500	6.46	28548.980	16905.795	21.109	12.0	-3.7	NO		NO	bb
4	4 200715P1-08	Standard	12.500	6.46	26845.547	15689.824	21.388	12.2	-2.4	NO		NO	bb
5	5 200715P1-09	Standard	12.500	6.46	31838.660	17768.025	22.399	12.8	2.2	NO		NO	bb
6	6 200715P1-10	Standard	12.500	6.46	28631.020	16785.340	21.321	12.2	-2.7	NO		NO	bb
7	7 200715P1-11	Standard	12.500	6.46	30016.869	16712.057	22.452	12.8	2.4	NO		NO	bb
8	8 200715P1-12	Standard	12.500	6.46	28390.104	16502.117	21.505	12.3	-1.9	NO		NO	bb
9	9 200715P1-13	Standard	12.500	6.46	25537.041	14566.803	21.914	12.5	-0.0	NO		NO	bb
10	10 200715P1-14	Standard	12.500	6.46	26083.391	14129.214	23.076	13.2	5.3	NO		NO	bb

Compound name: d7-N-MeFOSE-EIS
Response Factor: 152.699
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	149.200	6.29	22042.436		22042.436	144.4	-3.2	NO		NO	bbX
2	2 200715P1-06	Standard	149.200	6.29	22906.777		22906.777	150.0	0.5	NO		NO	bbX
3	3 200715P1-07	Standard	149.200	6.29	23014.031		23014.031	150.7	1.0	NO		NO	bbX
4	4 200715P1-08	Standard	149.200	6.29	20678.135		20678.135	135.4	-9.2	NO		NO	bbX
5	5 200715P1-09	Standard	149.200	6.29	25029.580		25029.580	163.9	9.9	NO		NO	bbX
6	6 200715P1-10	Standard	149.200	6.29	22782.658		22782.658	149.2	0.0	NO		NO	bb
7	7 200715P1-11	Standard	149.200	6.29	24770.096		24770.096	162.2	8.7	NO		NO	bbX
8	8 200715P1-12	Standard	149.200	6.29	23290.061		23290.061	152.5	2.2	NO		NO	bbX
9	9 200715P1-13	Standard	149.200	6.29	22675.961		22675.961	148.5	-0.5	NO		NO	bbX
10	10 200715P1-14	Standard	149.200	6.29	24273.727		24273.727	159.0	6.5	NO		NO	bbX

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Compound name: d7-N-MeFOSE-RSD
Response Factor: 0.1204
RRF SD: 0.0103251, Relative SD: 8.57562
Response type: Internal Std (Ref 107), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	149.200	6.29	22042.436	15334.599	17.968	149.2	0.0	NO		NO	bb
2	2 200715P1-06	Standard	149.200	6.29	22906.777	17351.859	16.502	137.1	-8.1	NO		NO	bb
3	3 200715P1-07	Standard	149.200	6.29	23014.031	16905.795	17.016	141.3	-5.3	NO		NO	bb
4	4 200715P1-08	Standard	149.200	6.29	20678.135	15689.824	16.474	136.8	-8.3	NO		NO	bb
5	5 200715P1-09	Standard	149.200	6.29	25029.580	17768.025	17.609	146.3	-2.0	NO		NO	bb
6	6 200715P1-10	Standard	149.200	6.29	22782.658	16785.340	16.966	140.9	-5.6	NO		NO	bb
7	7 200715P1-11	Standard	149.200	6.29	24770.096	16712.057	18.527	153.9	3.1	NO		NO	bb
8	8 200715P1-12	Standard	149.200	6.29	23290.061	16502.117	17.642	146.5	-1.8	NO		NO	bb
9	9 200715P1-13	Standard	149.200	6.29	22675.961	14566.803	19.459	161.6	8.3	NO		NO	bb
10	10 200715P1-14	Standard	149.200	6.29	24273.727	14129.214	21.475	178.4	19.5	NO		NO	bb

Compound name: d9-N-EtFOSE-EIS
Response Factor: 176.442
RRF SD: 0, Relative SD: 0
Response type: External Std, Area
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	149.200	6.43	24906.385		24906.385	141.2	-5.4	NO		NO	bbX
2	2 200715P1-06	Standard	149.200	6.43	26213.271		26213.271	148.6	-0.4	NO		NO	bbX
3	3 200715P1-07	Standard	149.200	6.43	25231.670		25231.670	143.0	-4.2	NO		NO	bbX
4	4 200715P1-08	Standard	149.200	6.43	24829.252		24829.252	140.7	-5.7	NO		NO	bbX
5	5 200715P1-09	Standard	149.200	6.43	27796.789		27796.789	157.5	5.6	NO		NO	bbX
6	6 200715P1-10	Standard	149.200	6.43	26325.184		26325.184	149.2	0.0	NO		NO	bb
7	7 200715P1-11	Standard	149.200	6.43	28501.563		28501.563	161.5	8.3	NO		NO	bbX
8	8 200715P1-12	Standard	149.200	6.43	26307.164		26307.164	149.1	-0.1	NO		NO	bbX
9	9 200715P1-13	Standard	149.200	6.43	26478.449		26478.449	150.1	0.6	NO		NO	bbX
10	10 200715P1-14	Standard	149.200	6.43	26590.842		26590.842	150.7	1.0	NO		NO	bbX

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Compound name: d9-N-EtFOSE-RSD
Response Factor: 0.136913
RRF SD: 0.0107823, Relative SD: 7.87531
Response type: Internal Std (Ref 107), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	149.200	6.43	24906.385	15334.599	20.302	148.3	-0.6	NO		NO	bb
2	2 200715P1-06	Standard	149.200	6.43	26213.271	17351.859	18.884	137.9	-7.6	NO		NO	bb
3	3 200715P1-07	Standard	149.200	6.43	25231.670	16905.795	18.656	136.3	-8.7	NO		NO	bb
4	4 200715P1-08	Standard	149.200	6.43	24829.252	15689.824	19.781	144.5	-3.2	NO		NO	bb
5	5 200715P1-09	Standard	149.200	6.43	27796.789	17768.025	19.555	142.8	-4.3	NO		NO	bb
6	6 200715P1-10	Standard	149.200	6.43	26325.184	16785.340	19.604	143.2	-4.0	NO		NO	bb
7	7 200715P1-11	Standard	149.200	6.43	28501.563	16712.057	21.318	155.7	4.4	NO		NO	bb
8	8 200715P1-12	Standard	149.200	6.43	26307.164	16502.117	19.927	145.5	-2.4	NO		NO	bb
9	9 200715P1-13	Standard	149.200	6.43	26478.449	14566.803	22.722	166.0	11.2	NO		NO	bb
10	10 200715P1-14	Standard	149.200	6.43	26590.842	14129.214	23.525	171.8	15.2	NO		NO	bb

Compound name: 13C4-PFBA
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 99), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	12.500	1.42	8065.804	8065.804	12.500	12.5	0.0	NO		NO	MM
2	2 200715P1-06	Standard	12.500	1.41	8879.700	8879.700	12.500	12.5	0.0	NO		NO	MM
3	3 200715P1-07	Standard	12.500	1.42	8829.724	8829.724	12.500	12.5	0.0	NO		NO	MM
4	4 200715P1-08	Standard	12.500	1.42	9003.292	9003.292	12.500	12.5	0.0	NO		NO	MM
5	5 200715P1-09	Standard	12.500	1.42	9562.452	9562.452	12.500	12.5	0.0	NO		NO	bb
6	6 200715P1-10	Standard	12.500	1.42	8705.206	8705.206	12.500	12.5	0.0	NO		NO	bb
7	7 200715P1-11	Standard	12.500	1.42	9065.156	9065.156	12.500	12.5	0.0	NO		NO	bb
8	8 200715P1-12	Standard	12.500	1.41	9629.864	9629.864	12.500	12.5	0.0	NO		NO	bb
9	9 200715P1-13	Standard	12.500	1.42	8851.127	8851.127	12.500	12.5	0.0	NO		NO	bb
10	10 200715P1-14	Standard	12.500	1.42	10015.587	10015.587	12.500	12.5	0.0	NO		NO	MM

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Compound name: 13C5-PFHxA
Response Factor: 1
RRF SD: 7.40149e-017, Relative SD: 7.40149e-015
Response type: Internal Std (Ref 101), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	12.500	3.16	17566.010	17566.010	12.500	12.5	0.0	NO		NO	bb
2	2 200715P1-06	Standard	12.500	3.16	19701.178	19701.178	12.500	12.5	0.0	NO		NO	bb
3	3 200715P1-07	Standard	12.500	3.16	18014.391	18014.391	12.500	12.5	0.0	NO		NO	bb
4	4 200715P1-08	Standard	12.500	3.16	16962.791	16962.791	12.500	12.5	0.0	NO		NO	bb
5	5 200715P1-09	Standard	12.500	3.16	20454.236	20454.236	12.500	12.5	0.0	NO		NO	bb
6	6 200715P1-10	Standard	12.500	3.16	19295.111	19295.111	12.500	12.5	0.0	NO		NO	bb
7	7 200715P1-11	Standard	12.500	3.16	19661.080	19661.080	12.500	12.5	0.0	NO		NO	bb
8	8 200715P1-12	Standard	12.500	3.16	19048.023	19048.023	12.500	12.5	0.0	NO		NO	bb
9	9 200715P1-13	Standard	12.500	3.16	17808.982	17808.982	12.500	12.5	0.0	NO		NO	bb
10	10 200715P1-14	Standard	12.500	3.16	17404.020	17404.020	12.500	12.5	0.0	NO		NO	bb

Compound name: 18O2-PFHxS
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 102), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	12.500	3.90	1309.306	1309.306	12.500	12.5	0.0	NO		NO	bb
2	2 200715P1-06	Standard	12.500	3.90	1450.812	1450.812	12.500	12.5	0.0	NO		NO	bb
3	3 200715P1-07	Standard	12.500	3.90	1394.800	1394.800	12.500	12.5	0.0	NO		NO	bb
4	4 200715P1-08	Standard	12.500	3.90	1333.273	1333.273	12.500	12.5	0.0	NO		NO	bb
5	5 200715P1-09	Standard	12.500	3.90	1531.875	1531.875	12.500	12.5	0.0	NO		NO	bb
6	6 200715P1-10	Standard	12.500	3.90	1411.437	1411.437	12.500	12.5	0.0	NO		NO	bb
7	7 200715P1-11	Standard	12.500	3.91	1478.114	1478.114	12.500	12.5	0.0	NO		NO	bb
8	8 200715P1-12	Standard	12.500	3.90	1428.318	1428.318	12.500	12.5	0.0	NO		NO	bb
9	9 200715P1-13	Standard	12.500	3.91	1320.536	1320.536	12.500	12.5	0.0	NO		NO	bb
10	10 200715P1-14	Standard	12.500	3.91	1285.609	1285.609	12.500	12.5	0.0	NO		NO	bb

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Compound name: 13C8-PFOA
Response Factor: 1
RRF SD: 8.27511e-017, Relative SD: 8.27511e-015
Response type: Internal Std (Ref 103), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	12.500	4.27	14428.058	14428.058	12.500	12.5	0.0	NO		NO	bb
2	2 200715P1-06	Standard	12.500	4.27	16159.228	16159.228	12.500	12.5	0.0	NO		NO	bb
3	3 200715P1-07	Standard	12.500	4.28	15326.044	15326.044	12.500	12.5	0.0	NO		NO	bb
4	4 200715P1-08	Standard	12.500	4.28	14847.943	14847.943	12.500	12.5	0.0	NO		NO	bb
5	5 200715P1-09	Standard	12.500	4.28	17270.594	17270.594	12.500	12.5	0.0	NO		NO	bb
6	6 200715P1-10	Standard	12.500	4.28	15396.748	15396.748	12.500	12.5	0.0	NO		NO	bb
7	7 200715P1-11	Standard	12.500	4.28	15835.567	15835.567	12.500	12.5	0.0	NO		NO	bb
8	8 200715P1-12	Standard	12.500	4.28	15850.188	15850.188	12.500	12.5	0.0	NO		NO	bb
9	9 200715P1-13	Standard	12.500	4.28	13654.862	13654.862	12.500	12.5	0.0	NO		NO	bb
10	10 200715P1-14	Standard	12.500	4.28	12289.493	12289.493	12.500	12.5	0.0	NO		NO	bb

Compound name: 13C9-PFNA
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 104), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	12.500	4.72	18321.781	18321.781	12.500	12.5	0.0	NO		NO	bb
2	2 200715P1-06	Standard	12.500	4.72	20475.734	20475.734	12.500	12.5	0.0	NO		NO	bb
3	3 200715P1-07	Standard	12.500	4.72	18416.609	18416.609	12.500	12.5	0.0	NO		NO	bb
4	4 200715P1-08	Standard	12.500	4.72	18333.438	18333.438	12.500	12.5	0.0	NO		NO	bb
5	5 200715P1-09	Standard	12.500	4.72	20861.383	20861.383	12.500	12.5	0.0	NO		NO	bb
6	6 200715P1-10	Standard	12.500	4.72	19774.121	19774.121	12.500	12.5	0.0	NO		NO	bb
7	7 200715P1-11	Standard	12.500	4.72	19769.285	19769.285	12.500	12.5	0.0	NO		NO	bb
8	8 200715P1-12	Standard	12.500	4.72	19395.494	19395.494	12.500	12.5	0.0	NO		NO	bb
9	9 200715P1-13	Standard	12.500	4.72	17507.348	17507.348	12.500	12.5	0.0	NO		NO	bb
10	10 200715P1-14	Standard	12.500	4.72	16959.104	16959.104	12.500	12.5	0.0	NO		NO	bb

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Compound name: 13C4-PFOS
Response Factor: 1
RRF SD: 0, Relative SD: 0
Response type: Internal Std (Ref 105), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	200715P1-05	Standard	12.500	4.80	4219.512	4219.512	12.500	12.5	0.0	NO		NO	bb
2	2	200715P1-06	Standard	12.500	4.80	4605.905	4605.905	12.500	12.5	0.0	NO		NO	bb
3	3	200715P1-07	Standard	12.500	4.80	4267.988	4267.988	12.500	12.5	0.0	NO		NO	bb
4	4	200715P1-08	Standard	12.500	4.80	4133.559	4133.559	12.500	12.5	0.0	NO		NO	bb
5	5	200715P1-09	Standard	12.500	4.80	4631.470	4631.470	12.500	12.5	0.0	NO		NO	bb
6	6	200715P1-10	Standard	12.500	4.80	4210.171	4210.171	12.500	12.5	0.0	NO		NO	bb
7	7	200715P1-11	Standard	12.500	4.80	4449.938	4449.938	12.500	12.5	0.0	NO		NO	bb
8	8	200715P1-12	Standard	12.500	4.80	4390.262	4390.262	12.500	12.5	0.0	NO		NO	bb
9	9	200715P1-13	Standard	12.500	4.80	3823.365	3823.365	12.500	12.5	0.0	NO		NO	bb
10	10	200715P1-14	Standard	12.500	4.80	3829.495	3829.495	12.500	12.5	0.0	NO		NO	bb

Compound name: 13C6-PFDA
Response Factor: 1
RRF SD: 3.70074e-017, Relative SD: 3.70074e-015
Response type: Internal Std (Ref 106), Area * (IS Conc. / IS Area)
Curve type: RF

	#	Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1	200715P1-05	Standard	12.500	5.09	18067.412	18067.412	12.500	12.5	0.0	NO		NO	bb
2	2	200715P1-06	Standard	12.500	5.09	20148.336	20148.336	12.500	12.5	0.0	NO		NO	bb
3	3	200715P1-07	Standard	12.500	5.09	18807.287	18807.287	12.500	12.5	0.0	NO		NO	bb
4	4	200715P1-08	Standard	12.500	5.09	18401.150	18401.150	12.500	12.5	0.0	NO		NO	bb
5	5	200715P1-09	Standard	12.500	5.09	21510.396	21510.396	12.500	12.5	0.0	NO		NO	bb
6	6	200715P1-10	Standard	12.500	5.09	18755.420	18755.420	12.500	12.5	0.0	NO		NO	bb
7	7	200715P1-11	Standard	12.500	5.09	19409.744	19409.744	12.500	12.5	0.0	NO		NO	bb
8	8	200715P1-12	Standard	12.500	5.09	19378.539	19378.539	12.500	12.5	0.0	NO		NO	bb
9	9	200715P1-13	Standard	12.500	5.09	17205.107	17205.107	12.500	12.5	0.0	NO		NO	bb
10	10	200715P1-14	Standard	12.500	5.10	17071.865	17071.865	12.500	12.5	0.0	NO		NO	bb

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Compound name: 13C7-PFUdA
Response Factor: 1
RRF SD: 1.33432e-016, Relative SD: 1.33432e-014
Response type: Internal Std (Ref 107), Area * (IS Conc. / IS Area)
Curve type: RF

	# Name	Type	Std. Conc	RT	Area	IS Area	Response	Conc.	%Dev	Conc. Flag	CoD	CoD Flag	x=excluded
1	1 200715P1-05	Standard	12.500	5.41	15334.599	15334.599	12.500	12.5	0.0	NO		NO	bb
2	2 200715P1-06	Standard	12.500	5.41	17351.859	17351.859	12.500	12.5	0.0	NO		NO	bb
3	3 200715P1-07	Standard	12.500	5.41	16905.795	16905.795	12.500	12.5	0.0	NO		NO	bb
4	4 200715P1-08	Standard	12.500	5.42	15689.824	15689.824	12.500	12.5	0.0	NO		NO	bb
5	5 200715P1-09	Standard	12.500	5.41	17768.025	17768.025	12.500	12.5	0.0	NO		NO	bb
6	6 200715P1-10	Standard	12.500	5.42	16785.340	16785.340	12.500	12.5	0.0	NO		NO	bb
7	7 200715P1-11	Standard	12.500	5.42	16712.057	16712.057	12.500	12.5	0.0	NO		NO	bb
8	8 200715P1-12	Standard	12.500	5.41	16502.117	16502.117	12.500	12.5	0.0	NO		NO	bb
9	9 200715P1-13	Standard	12.500	5.41	14566.803	14566.803	12.500	12.5	0.0	NO		NO	bb
10	10 200715P1-14	Standard	12.500	5.41	14129.214	14129.214	12.500	12.5	0.0	NO		NO	bb

Dataset: Z:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

Last Altered: Thursday, July 16, 2020 10:32:09 Pacific Daylight Time
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Method: D:\PFAS5.PRO\MethDB\NEW_PFAS_80C_071520.mdb 16 Jul 2020 08:29:48
Calibration: Z:\PFAS5.PRO\CurveDB\C18_VAL-PFAS_Q5_07-15-20.cdb 16 Jul 2020 10:32:09

Name: 200715P1-05, Date: 15-Jul-2020, Time: 12:20:20, ID: ST200715P1-1 PFC CS-2 20F1901, Description: PFC CS-2 20F1901

	#	Name	IS#	CoD	CoD Flag	%RSD
1	1	PFBA	47	0.9993	NO	
2	2	PFPrS	51	0.9997	NO	
3	3	3:3 FTCA	49	0.9992	NO	
4	4	PFPeA	49	0.9999	NO	
5	5	PFBS	51	0.9998	NO	
6	6	4:2 FTS	55	0.9991	NO	
7	7	PFHxA	57	0.9967	NO	
8	8	PFPeS	51	0.9995	NO	
9	9	HFPO-DA	53	0.9999	NO	
10	10	5:3 FTCA	59	0.9979	NO	
11	11	PFHpA	59	0.9982	NO	
12	12	ADONA	59	0.9977	NO	
13	13	L-PFHxS	61	0.9998	NO	
14	15	6:2 FTS	63	0.9997	NO	
15	16	L-PFOA	69	0.9999	NO	
16	18	PFecHS	69	0.9998	NO	
17	19	PFHpS	71	0.9993	NO	
18	20	7:3 FTCA	65	0.9997	NO	
19	21	PFNA	65	0.9996	NO	
20	22	PFOSA	67	0.9997	NO	
21	23	L-PFOS	71	0.9983	NO	
22	25	9Cl-PF30NS	71	0.9990	NO	
23	26	PFDA	73	0.9999	NO	
24	27	8:2 FTS	75	0.9977	NO	
25	28	PFNS	71	0.9987	NO	
26	29	L-MeFOSAA	77	0.9996	NO	

Dataset: Z:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

Last Altered: Thursday, July 16, 2020 10:32:09 Pacific Daylight Time
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Name: 200715P1-06, Date: 15-Jul-2020, Time: 12:30:45, ID: ST200715P1-2 PFC CS-1 20F1902, Description: PFC CS-1 20F1902

	#	Name	IS#	CoD	CoD Flag	%RSD
1	31	L-EtFOSAA	81	0.9967	NO	
2	33	PFUdA	79	0.9996	NO	
3	34	PFDS	71	0.9976	NO	
4	35	11Cl-PF30UdS	83	0.9991	NO	
5	36	10:2 FTS	85	0.9999	NO	
6	37	PFDoA	83	0.9996	NO	
7	38	N-MeFOSA	87	0.9992	NO	
8	39	PFTrDA	83	0.9997	NO	
9	40	PFDoS	89	0.9998	NO	
10	41	PFTeDA	89	0.9980	NO	
11	42	N-EtFOSA	91	0.9997	NO	
12	43	PFHxDA	93	0.9998	NO	
13	44	PFODA	93	1.0000	NO	
14	45	N-MeFOSE	95	0.9970	NO	
15	46	N-EtFOSE	97	0.9976	NO	
16	47	13C3-PFBA-EIS			NO	0.000
17	48	13C3-PFBA-RSD	99		NO	3.116
18	49	13C3-PFPeA-EIS			NO	0.000
19	50	13C3-PFPeA-RSD	101		NO	4.152
20	51	13C3-PFBS-EIS			NO	0.000
21	52	13C3-PFBS-RSD	102		NO	3.992
22	53	13C3-HFPO-DA-EIS			NO	0.000
23	54	13C3-HFPO-DA-RSD	101		NO	5.693
24	55	13C2-4:2 FTS-EIS			NO	0.000
25	56	13C2-4:2 FTS-RSD	102		NO	6.497
26	57	13C2-PFHxA-EIS			NO	0.000
27	58	13C2-PFHxA-RSD	101		NO	3.884
28	59	13C4-PFHpA-EIS			NO	0.000
29	60	13C4-PFHpA-RSD	101		NO	6.014
30	61	13C3-PFHxS-EIS			NO	0.000
31	62	13C3-PFHxS-RSD	102		NO	2.230
32	63	13C2-6:2 FTS-EIS			NO	0.000
33	64	13C2-6:2 FTS-RSD	105		NO	5.037
34	65	13C5-PFNA-EIS			NO	0.000
35	66	13C5-PFNA-RSD	104		NO	3.108
36	67	13C8-PFOSA-EIS			NO	0.000

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Printed: Thursday, July 16, 2020 10:34:58 Pacific Daylight Time

Name: 200715P1-06, Date: 15-Jul-2020, Time: 12:30:45, ID: ST200715P1-2 PFC CS-1 20F1902, Description: PFC CS-1 20F1902

	#	Name	IS#	CoD	CoD Flag	%RSD
37	68	13C8-PFOSA-RSD	107		NO	3.818
38	69	13C2-PFOA-EIS			NO	0.000
39	70	13C2-PFOA-RSD	103		NO	4.397
40	71	13C8-PFOS-EIS			NO	0.000
41	72	13C8-PFOS-RSD	105		NO	5.222
42	73	13C2-PFDA-EIS			NO	0.000
43	74	13C2-PFDA-RSD	106		NO	3.877
44	75	13C2-8:2 FTS-EIS			NO	0.000
45	76	13C2-8:2 FTS-RSD	105		NO	9.143
46	77	d3-N-MeFOSAA-EIS			NO	0.000
47	78	d3-N-MeFOSAA-RSD	107		NO	5.158
48	79	13C2-PFUdA-EIS			NO	0.000
49	80	13C2-PFUdA-RSD	107		NO	3.853
50	81	d5-N-EtFOSAA-EIS			NO	0.000
51	82	d5-N-EtFOSAA-RSD	107		NO	5.863
52	83	13C2-PFDoA-EIS			NO	0.000
53	84	13C2-PFDoA-RSD	106		NO	3.908
54	85	13C2-10:2 FTS-EIS			NO	0.000
55	86	13C2-10:2 FTS-RSD	105		NO	7.781
56	87	d3-N-MeFOSA-EIS			NO	0.000
57	88	d3-N-MeFOSA-RSD	107		NO	8.192
58	89	13C2-PFTeDA-EIS			NO	0.000
59	90	13C2-PFTeDA-RSD	107		NO	4.170
60	91	d5-N-ETFOSA-EIS			NO	0.000
61	92	d5-N-ETFOSA-RSD	107		NO	2.939
62	93	13C2-PFHxDA-EIS			NO	0.000
63	94	13C2-PFHxDA-RSD	107		NO	4.511
64	95	d7-N-MeFOSE-EIS			NO	0.000
65	96	d7-N-MeFOSE-RSD	107		NO	8.576
66	97	d9-N-EtFOSE-EIS			NO	0.000
67	98	d9-N-EtFOSE-RSD	107		NO	7.875
68	99	13C4-PFBA	99		NO	0.000
69	1...	13C5-PFHxA	101		NO	0.000
70	1...	18O2-PFHxS	102		NO	0.000
71	1...	13C8-PFOA	103		NO	0.000
72	1...	13C9-PFNA	104		NO	0.000

Dataset: Z:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

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Name: 200715P1-05, Date: 15-Jul-2020, Time: 12:20:20, ID: ST200715P1-1 PFC CS-2 20F1901, Description: PFC CS-2 20F1901

	#	Name	IS#	CoD	CoD Flag	%RSD
69	1...	13C5-PFHxA	101		NO	0.000
70	1...	18O2-PFHxS	102		NO	0.000
71	1...	13C8-PFOA	103		NO	0.000
72	1...	13C9-PFNA	104		NO	0.000
73	1...	13C4-PFOS	105		NO	0.000
74	1...	13C6-PFDA	106		NO	0.000
75	1...	13C7-PFUdA	107		NO	0.000

Dataset: Z:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

Last Altered: Thursday, July 16, 2020 10:32:09 Pacific Daylight Time
Printed: Thursday, July 16, 2020 11:16:06 Pacific Daylight Time

Method: D:\PFAS5.PRO\MethDB\NEW_PFAS_80C_071520.mdb 16 Jul 2020 08:29:48
Calibration: Z:\PFAS5.PRO\CurveDB\C18_VAL-PFAS_Q5_07-15-20.cdb 16 Jul 2020 10:32:09

Name: 200715P1-10, Date: 15-Jul-2020, Time: 13:13:09, ID: ST200715P1-6 PFC CS3 20F1906, Description: PFC CS3 20F1906

	#	Name	Pred.RT	RT	Pred. Ratio	Ion Ratio	Ratio Out?
1	31	L-EtFOSAA	5.39	5.40	1.341	1.341	NO
2	33	PFUdA	5.41	5.41	17.498	17.498	NO
3	34	PFDS	5.45	5.46	2.164	2.164	NO
4	35	11Cl-PF30UdS	5.63	5.62	17.102	17.102	NO
5	36	10:2 FTS	5.68	5.68	0.905	0.905	NO
6	37	PFDoA	5.69	5.69	10.664	10.664	NO
7	38	N-MeFOSA	5.71	5.70	1.978	1.978	NO
8	39	PFTrDA	5.93	5.93	88.332	88.332	NO
9	40	PFDoS	5.95	5.96	2.298	2.298	NO
10	41	PFTeDA	6.14	6.14	14.205	14.205	NO
11	42	N-EtFOSA	6.11	6.11	2.142	2.142	NO
12	43	PFHxDA	6.46	6.46	29.864	29.864	NO
13	44	PFODA	6.67	6.69			
14	45	N-MeFOSE	6.29	6.29			
15	46	N-EtFOSE	6.43	6.44			

Dataset: Z:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

Last Altered: Thursday, July 16, 2020 10:32:09 Pacific Daylight Time
Printed: Thursday, July 16, 2020 11:16:33 Pacific Daylight Time

Method: D:\PFAS5.PRO\MethDB\NEW_PFAS_80C_071520.mdb 16 Jul 2020 08:29:48
Calibration: Z:\PFAS5.PRO\CurveDB\C18_VAL-PFAS_Q5_07-15-20.cdb 16 Jul 2020 10:32:09

Name: 200715P1-10, Date: 15-Jul-2020, Time: 13:13:09, ID: ST200715P1-6 PFC CS3 20F1906, Description: PFC CS3 20F1906

	#	Name	Pred.RT	RT	Pred. Ratio	Ion Ratio	Ratio Out?
1	1	PFBA	1.42	1.42			
2	2	PFPrS	1.77	1.75	2.716	2.716	NO
3	3	3:3 FTCA	2.21	2.22	3.526	3.526	NO
4	4	PFPeA	2.36	2.36			
5	5	PFBS	2.64	2.64	2.379	2.379	NO
6	6	4:2 FTS	3.08	3.08	9.810	9.810	NO
7	7	PFHxA	3.16	3.16	15.983	15.983	NO
8	8	PFPeS	3.34	3.36	2.265	2.265	NO
9	9	HFPO-DA	3.38	3.38	2.312	2.312	NO
10	10	5:3 FTCA	3.72	3.70	1.519	1.519	NO
11	11	PFHpA	3.76	3.76	24.926	24.926	NO
12	12	ADONA	3.85	3.87	3.751	3.751	NO
13	13	L-PFHxS	3.90	3.90	4.011	4.011	NO
14	15	6:2 FTS	4.22	4.22	0.661	0.661	NO
15	16	L-PFOA	4.28	4.28	2.969	2.969	NO
16	18	PFecHS	4.29	4.29	0.496	0.496	NO
17	19	PFHpS	4.36	4.39	1.851	1.851	NO
18	20	7:3 FTCA	4.63	4.71	1.442	1.442	NO
19	21	PFNA	4.72	4.72	13.129	13.129	NO
20	22	PFOSA	4.77	4.77	21.305	21.305	NO
21	23	L-PFOS	4.80	4.80	2.505	2.505	NO
22	25	9Cl-PF30NS	5.01	5.02	27.242	27.242	NO
23	26	PFDA	5.09	5.09	5.330	5.330	NO
24	27	8:2 FTS	5.07	5.07	0.815	0.815	NO
25	28	PFNS	5.15	5.16	2.306	2.306	NO
26	29	L-MeFOSAA	5.24	5.24	1.855	1.855	NO

Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Thursday, July 16, 2020 08:32:31 Pacific Daylight Time
Printed: Thursday, July 16, 2020 08:32:39 Pacific Daylight Time

Method: D:\PFAS5.PRO\MethDB\NEW_PFAS_80C_071520.mdb 15 Jul 2020 14:50:21
Calibration: D:\PFAS5.PRO\CurveDB\C18_VAL-PFAS_Q5_07-15-20.cdb 16 Jul 2020 08:15:46

Compound name: PFBA

	#	Name	ID	Acq.Date	Acq.Time
1	1	200715P1-01	IPA	15-Jul-20	11:36:45
2	2	200715P1-02	IPA	15-Jul-20	11:47:32
3	3	200715P1-03	TESTER	15-Jul-20	11:58:08
4	4	200715P1-04	IPA	15-Jul-20	12:08:44
5	5	200715P1-05	ST200715P1-1 PFC CS-2 20F1901	15-Jul-20	12:20:20
6	6	200715P1-06	ST200715P1-2 PFC CS-1 20F1902	15-Jul-20	12:30:45
7	7	200715P1-07	ST200715P1-3 PFC CS0 20F1903	15-Jul-20	12:41:22
8	8	200715P1-08	ST200715P1-4 PFC CS1 20F1904	15-Jul-20	12:51:58
9	9	200715P1-09	ST200715P1-5 PFC CS2 20F1905	15-Jul-20	13:02:34
10	10	200715P1-10	ST200715P1-6 PFC CS3 20F1906	15-Jul-20	13:13:09
11	11	200715P1-11	ST200715P1-7 PFC CS4 20F1907	15-Jul-20	13:23:45
12	12	200715P1-12	ST200715P1-8 PFC CS5 20F1908	15-Jul-20	13:34:11
13	13	200715P1-13	ST200715P1-9 PFC CS6 20F1909	15-Jul-20	13:44:48
14	14	200715P1-14	ST200715P1-10 PFC CS7 20F1910	15-Jul-20	13:55:24
15	15	200715P1-15	IB	15-Jul-20	14:05:50

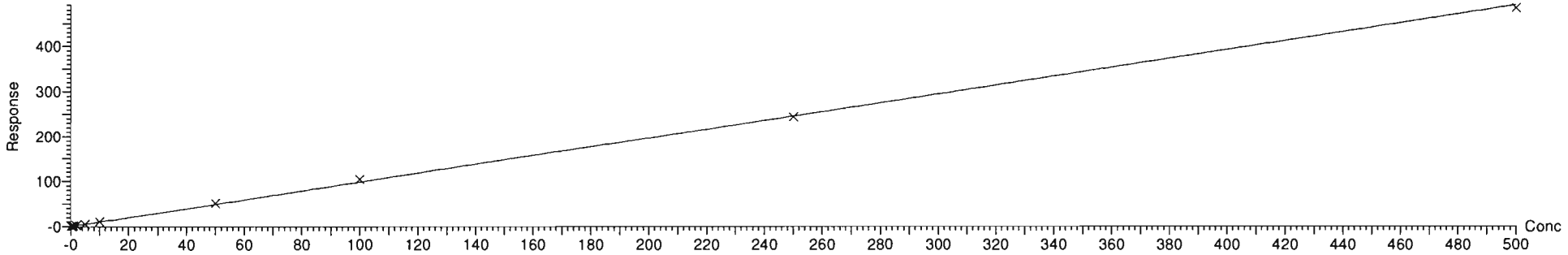
Vista Analytical Laboratory Q1

Dataset: Z:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

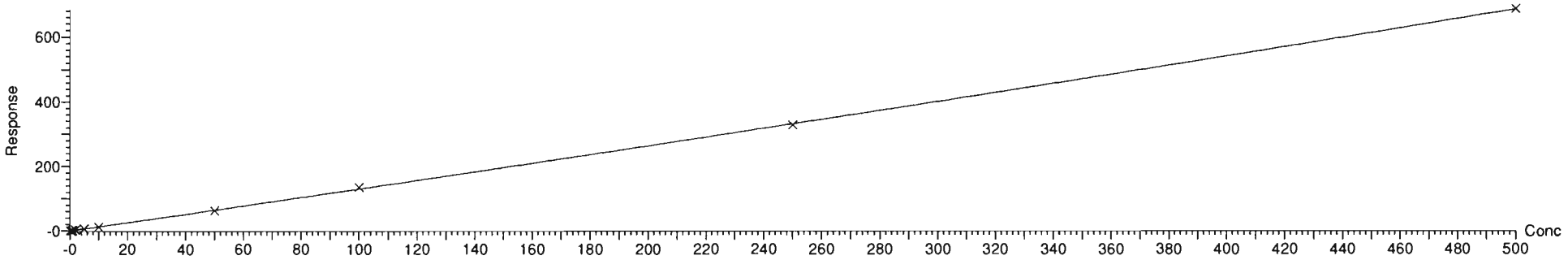
Last Altered: Thursday, July 16, 2020 10:32:09 Pacific Daylight Time
Printed: Thursday, July 16, 2020 11:17:40 Pacific Daylight Time

Method: D:\PFAS5.PRO\MethDB\NEW_PFAS_80C_071520.mdb 16 Jul 2020 08:29:48
Calibration: Z:\PFAS5.PRO\CurveDB\C18_VAL-PFAS_Q5_07-15-20.cdb 16 Jul 2020 10:32:09

Compound name: PFBA
Correlation coefficient: r = 0.999639, r^2 = 0.999278
Calibration curve: 0.980185 * x + 0.115891
Response type: Internal Std (Ref 47), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Compound name: PFPrS
Coefficient of Determination: R^2 = 0.999657
Calibration curve: 0.000167653 * x^2 + 1.28527 * x + -0.115337
Response type: Internal Std (Ref 51), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

Last Altered: Thursday, July 16, 2020 08:15:46 Pacific Daylight Time
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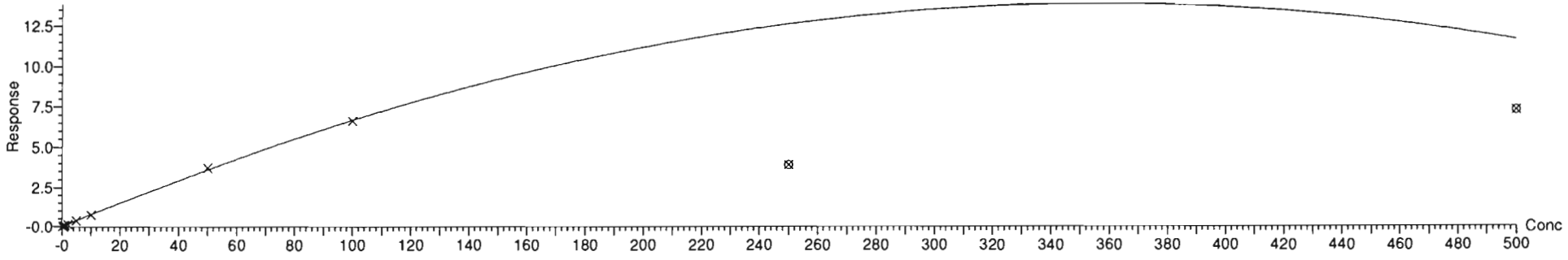
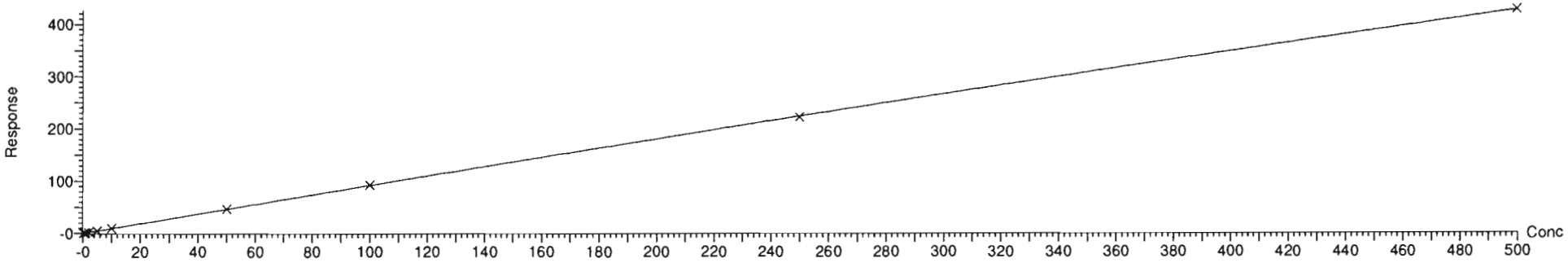
Compound name: 3:3 FTCA
Coefficient of Determination: R^2 = 0.999213
Calibration curve: -0.000108646 * x^2 + 0.0776709 * x + -0.00369656
Response type: Internal Std (Ref 49), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



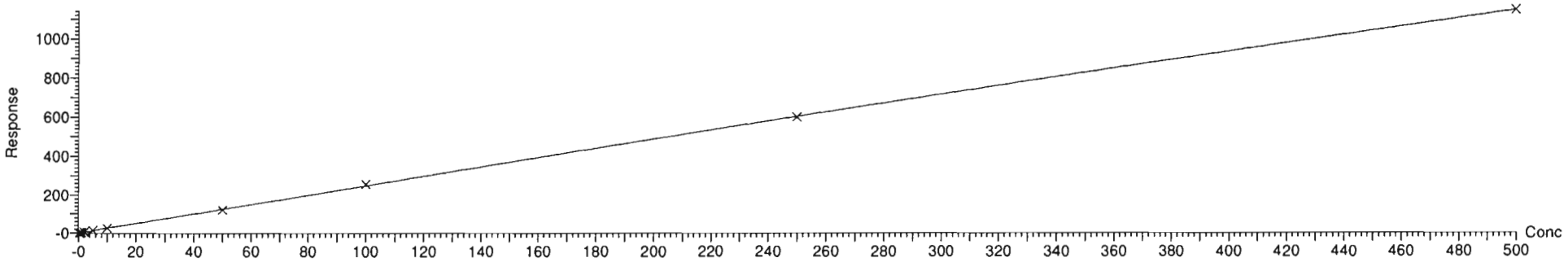
Compound name: PFPeA
Coefficient of Determination: R^2 = 0.999950
Calibration curve: -0.000166693 * x^2 + 0.936142 * x + 0.0191783
Response type: Internal Std (Ref 49), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



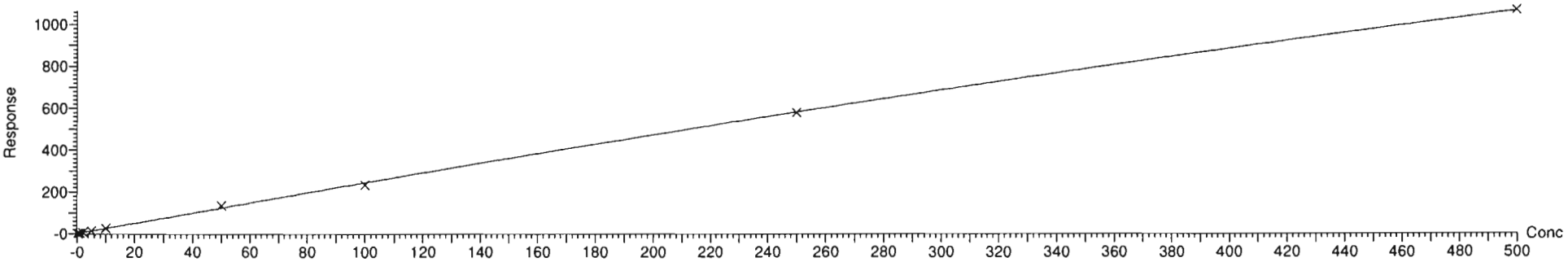
Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

Last Altered: Thursday, July 16, 2020 08:15:46 Pacific Daylight Time
Printed: Thursday, July 16, 2020 08:28:32 Pacific Daylight Time

Compound name: PFBS
Coefficient of Determination: R^2 = 0.999766
Calibration curve: -0.000471545 * x^2 + 2.52596 * x + -0.0069074
Response type: Internal Std (Ref 51), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



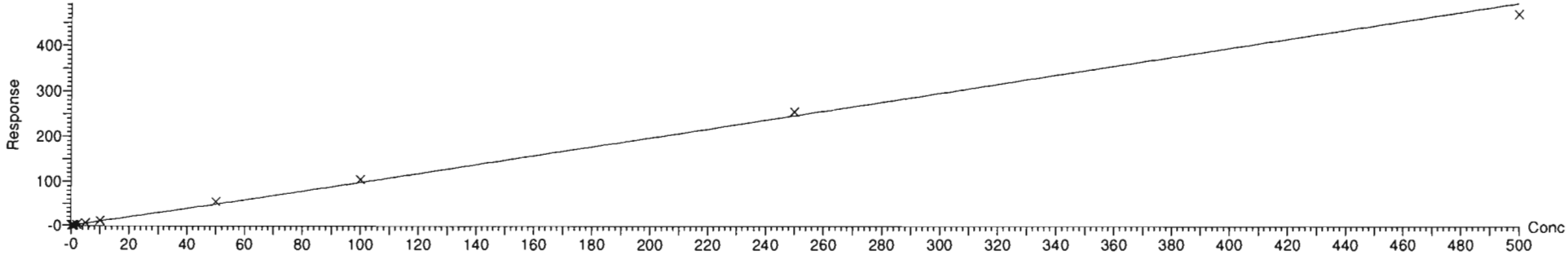
Compound name: 4:2 FTS
Coefficient of Determination: R^2 = 0.999085
Calibration curve: -0.000777096 * x^2 + 2.51837 * x + 0.0713002
Response type: Internal Std (Ref 55), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



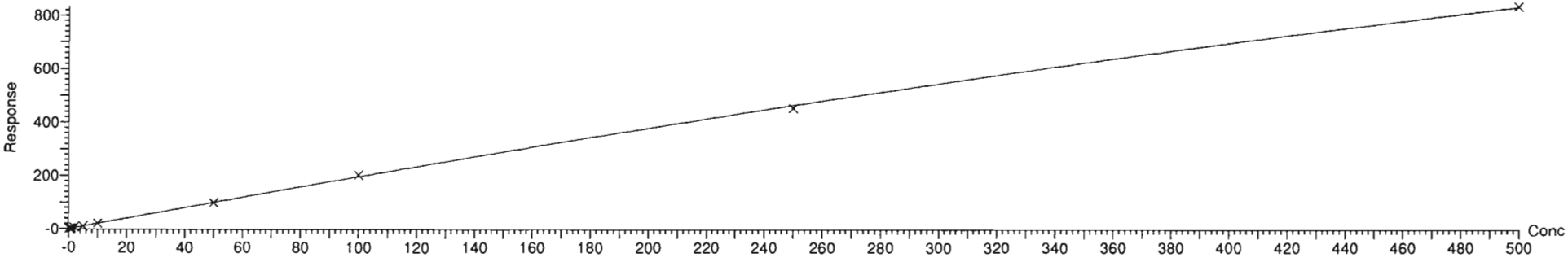
Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

Last Altered: Thursday, July 16, 2020 08:15:46 Pacific Daylight Time
Printed: Thursday, July 16, 2020 08:28:32 Pacific Daylight Time

Compound name: PFHxA
Correlation coefficient: r = 0.998355, r^2 = 0.996713
Calibration curve: 0.989028 * x + 0.093798
Response type: Internal Std (Ref 57), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Include, Weighting: 1/x, Axis trans: None



Compound name: PFPeS
Coefficient of Determination: R^2 = 0.999528
Calibration curve: -0.000776818 * x^2 + 2.0532 * x + 0.045083
Response type: Internal Std (Ref 51), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

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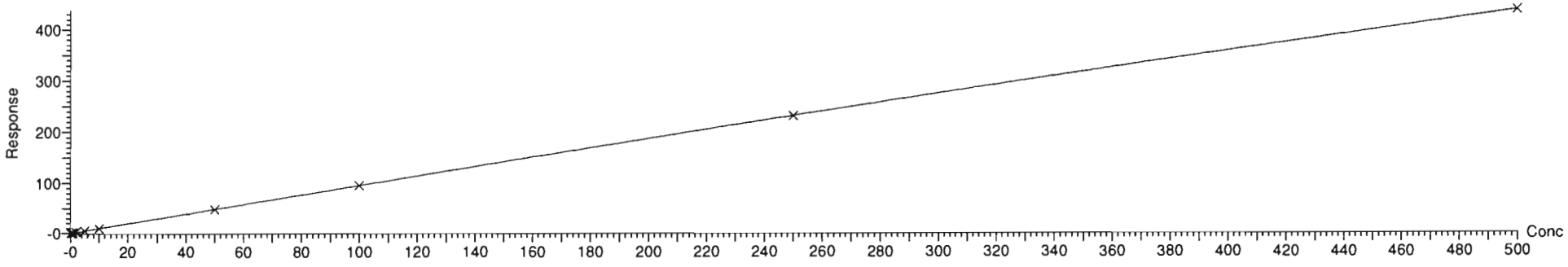
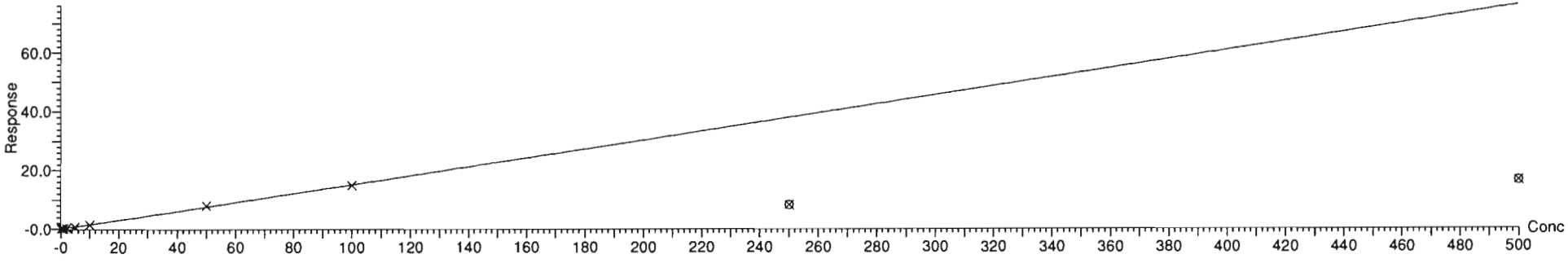
Compound name: HFPO-DA
Coefficient of Determination: R^2 = 0.999863
Calibration curve: -0.000207197 * x^2 + 0.9792 * x + 0.0644029
Response type: Internal Std (Ref 53), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



Compound name: 5:3 FTCA
Coefficient of Determination: R^2 = 0.997857
Calibration curve: 2.67699e-006 * x^2 + 0.150879 * x + -0.000564457
Response type: Internal Std (Ref 59), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

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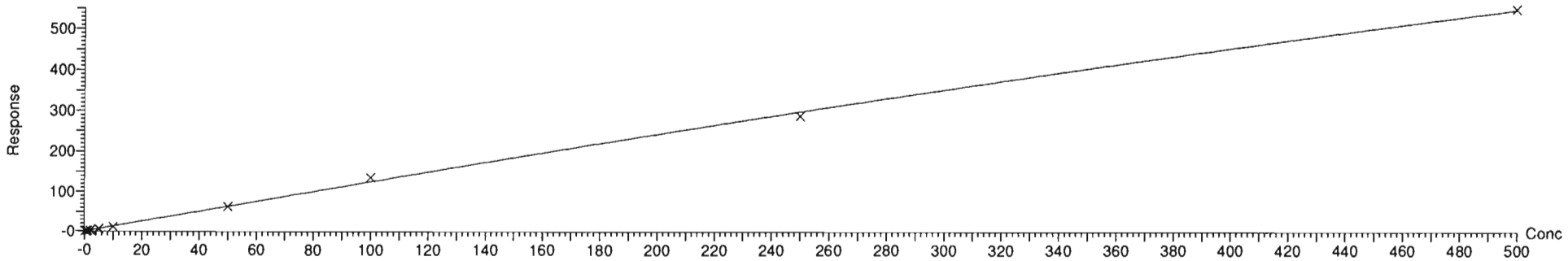
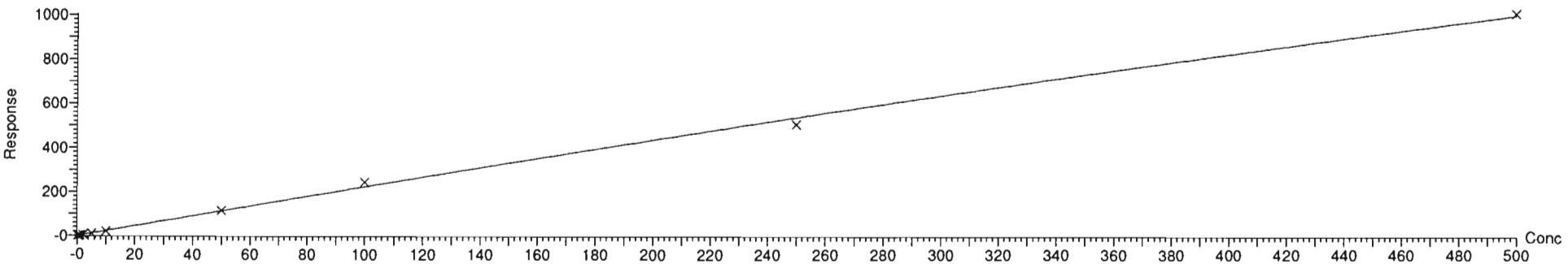
Compound name: PFHpA
Coefficient of Determination: R^2 = 0.998154
Calibration curve: -0.000400669 * x^2 + 1.29457 * x + -0.0179516
Response type: Internal Std (Ref 59), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



Compound name: ADONA
Coefficient of Determination: R^2 = 0.997677
Calibration curve: -0.000616138 * x^2 + 2.30427 * x + -0.0693606
Response type: Internal Std (Ref 59), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

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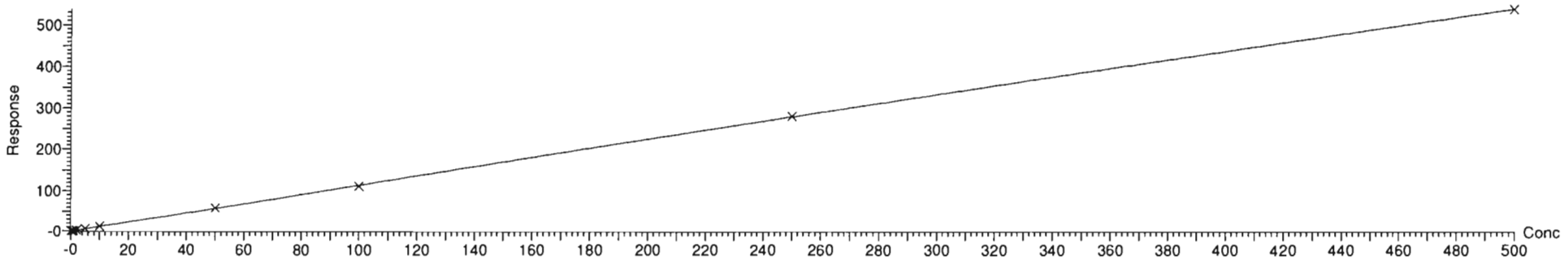
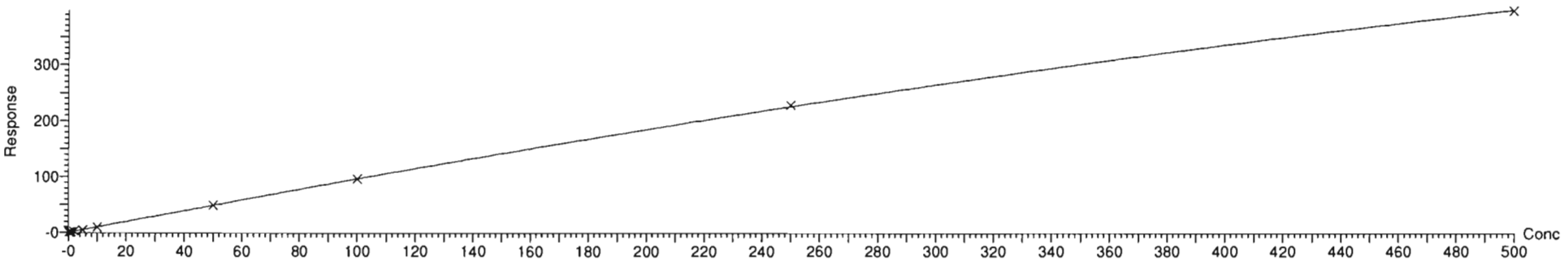
Compound name: L-PFHxS
Coefficient of Determination: R^2 = 0.999839
Calibration curve: -0.000166876 * x^2 + 1.16221 * x + 0.0219326
Response type: Internal Std (Ref 61), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Compound name: 6:2 FTS
Coefficient of Determination: R^2 = 0.999703
Calibration curve: -0.000429136 * x^2 + 1.01207 * x + -0.0281069
Response type: Internal Std (Ref 63), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



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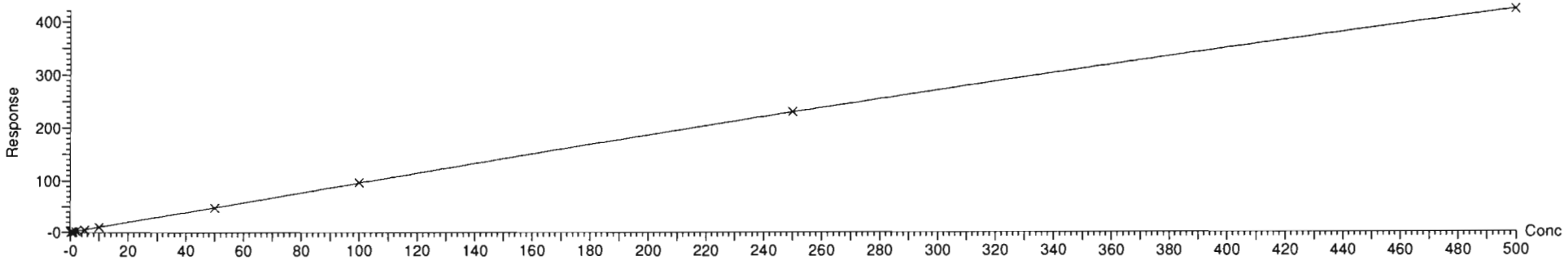
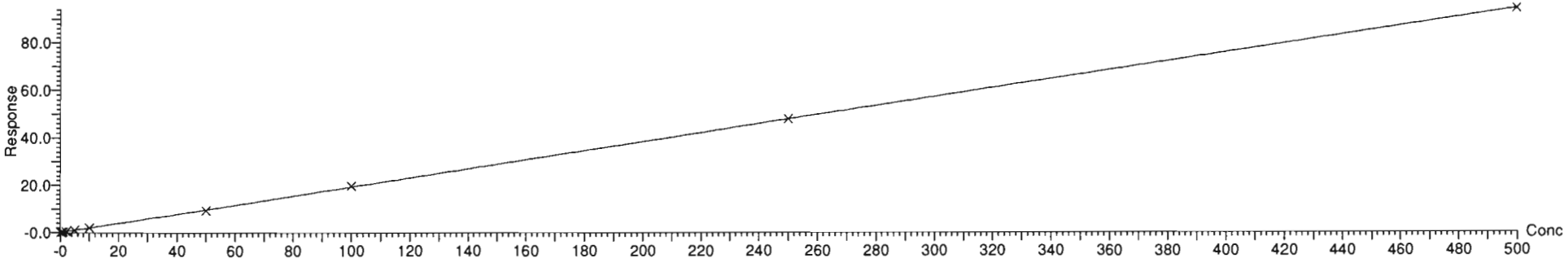
Compound name: L-PFOA
Coefficient of Determination: R^2 = 0.999925
Calibration curve: -0.000278493 * x^2 + 0.984998 * x + 0.00651212
Response type: Internal Std (Ref 69), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



Compound name: PFecHS
Coefficient of Determination: R^2 = 0.999832
Calibration curve: -1.00689e-005 * x^2 + 0.193418 * x + -0.00519347
Response type: Internal Std (Ref 69), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

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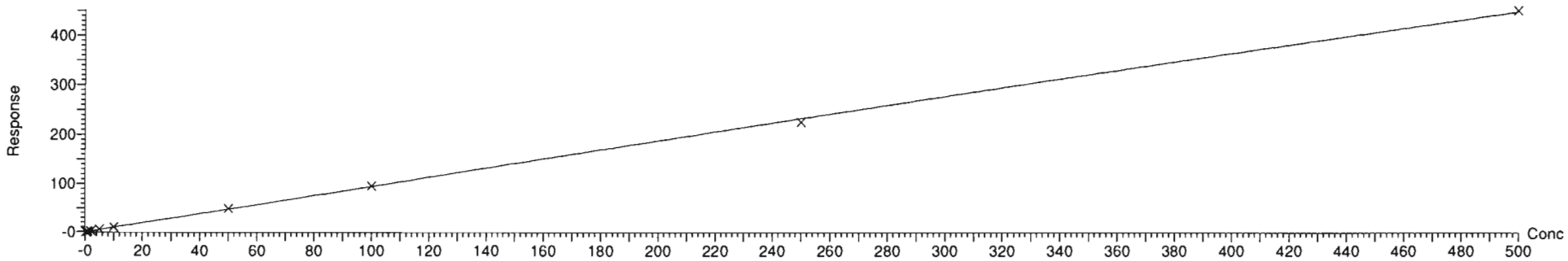
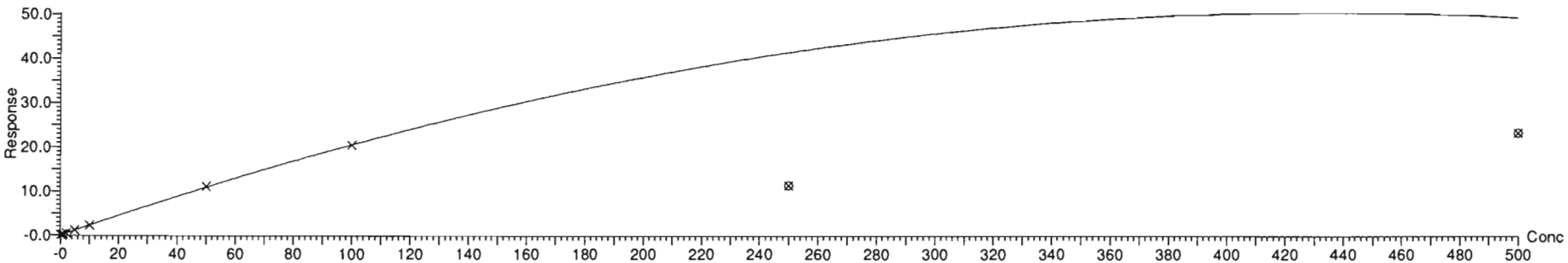
Compound name: PFHpS
Coefficient of Determination: R^2 = 0.999276
Calibration curve: -0.000136149 * x^2 + 0.966385 * x + -0.0100863
Response type: Internal Std (Ref 71), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Compound name: 7:3 FTCA
Coefficient of Determination: R^2 = 0.999738
Calibration curve: -0.000267529 * x^2 + 0.232502 * x + -0.0230233
Response type: Internal Std (Ref 65), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

Last Altered: Thursday, July 16, 2020 08:15:46 Pacific Daylight Time
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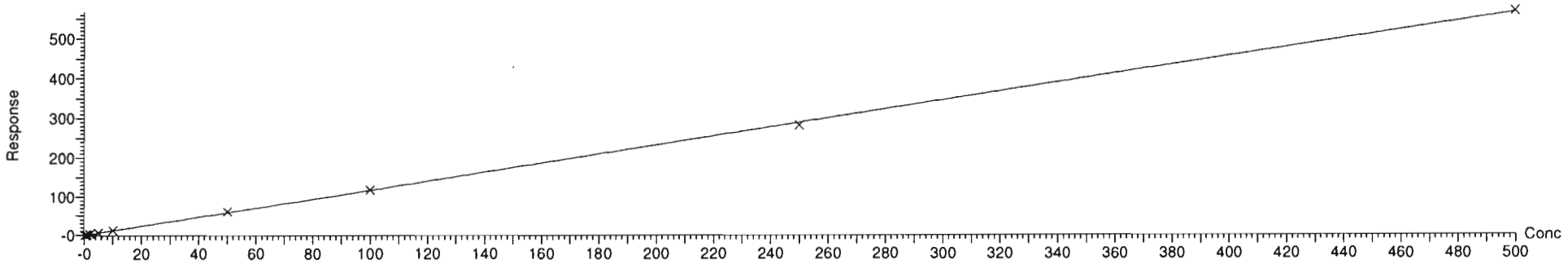
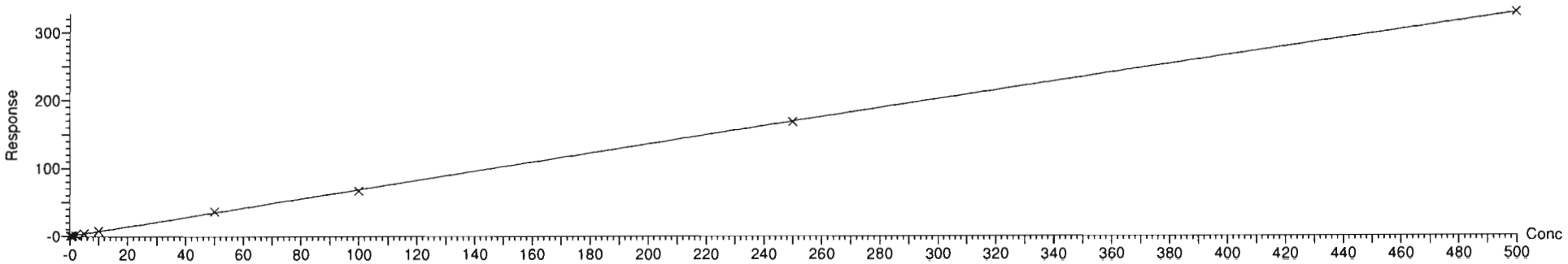
Compound name: PFNA
Coefficient of Determination: R^2 = 0.999634
Calibration curve: -0.000101923 * x^2 + 1.18112 * x + 0.0147918
Response type: Internal Std (Ref 65), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Compound name: PFOSA
Coefficient of Determination: R^2 = 0.999738
Calibration curve: -7.63122e-005 * x^2 + 0.694419 * x + 0.0219661
Response type: Internal Std (Ref 67), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

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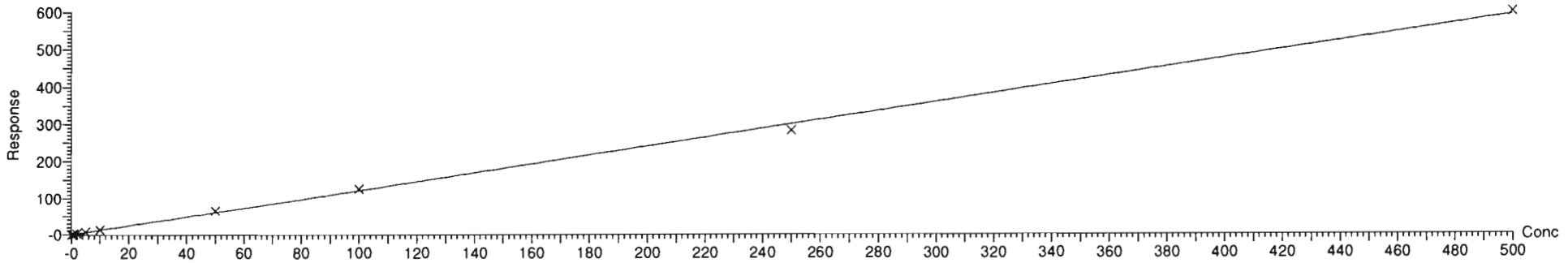
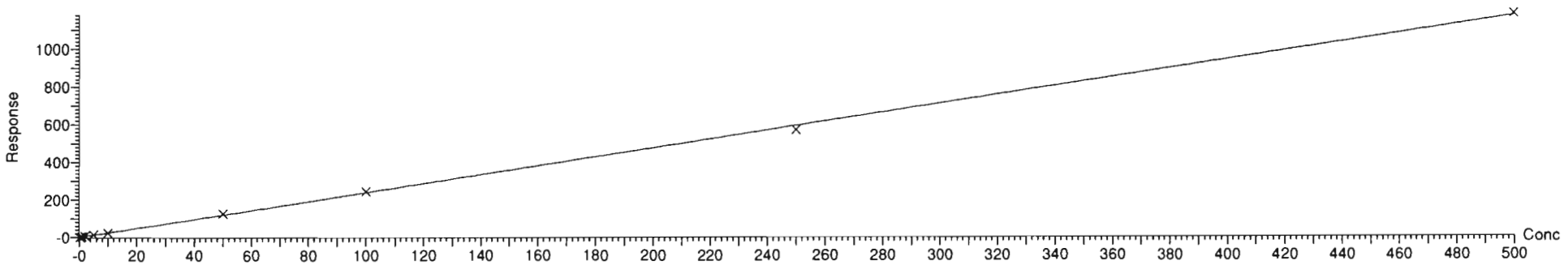
Compound name: L-PFOS
Coefficient of Determination: R^2 = 0.998321
Calibration curve: -5.66898e-005 * x^2 + 1.21465 * x + 0.0162657
Response type: Internal Std (Ref 71), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



Compound name: 9Cl-PF30NS
Coefficient of Determination: R^2 = 0.999037
Calibration curve: -9.96094e-005 * x^2 + 2.39352 * x + 0.0272839
Response type: Internal Std (Ref 71), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

Last Altered: Thursday, July 16, 2020 08:15:46 Pacific Daylight Time
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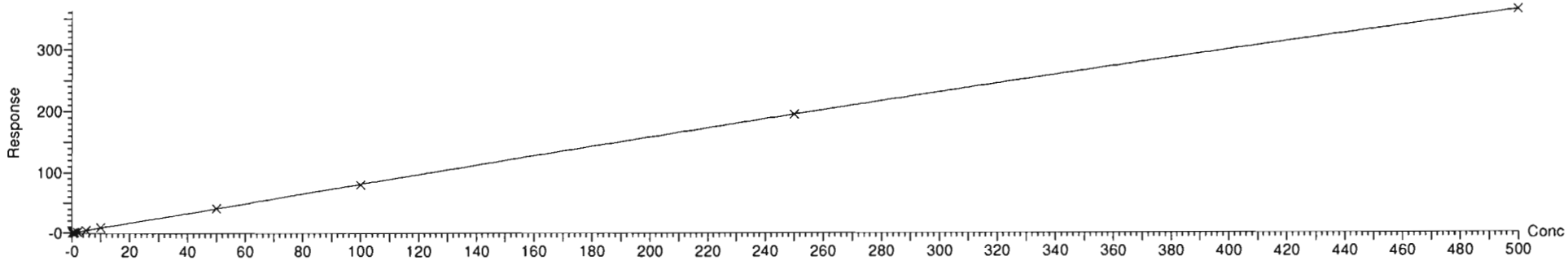
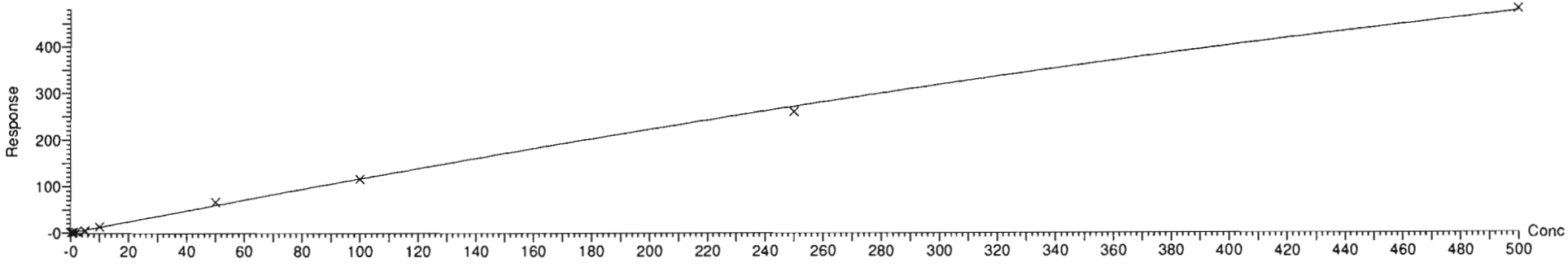
Compound name: PFDA
Coefficient of Determination: R^2 = 0.999905
Calibration curve: -0.000201267 * x^2 + 0.827978 * x + 0.0201845
Response type: Internal Std (Ref 73), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



Compound name: 8:2 FTS
Coefficient of Determination: R^2 = 0.997655
Calibration curve: -0.00053721 * x^2 + 1.21826 * x + 0.0763701
Response type: Internal Std (Ref 75), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

Last Altered: Thursday, July 16, 2020 08:15:46 Pacific Daylight Time
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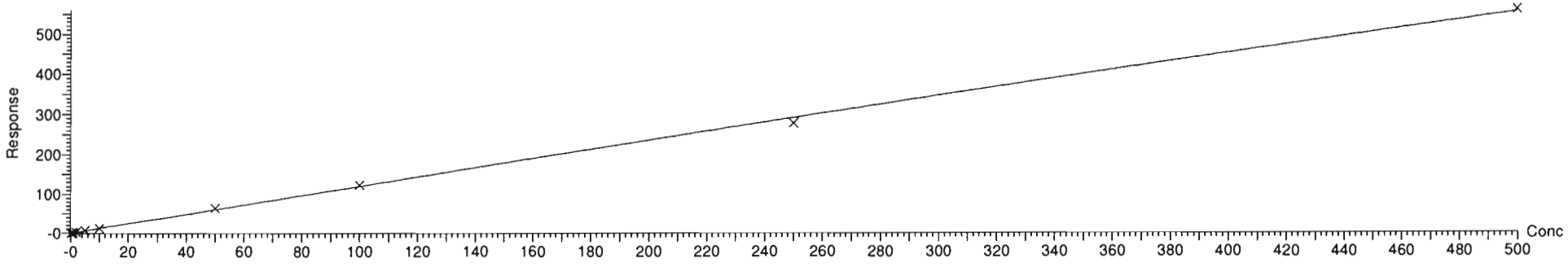
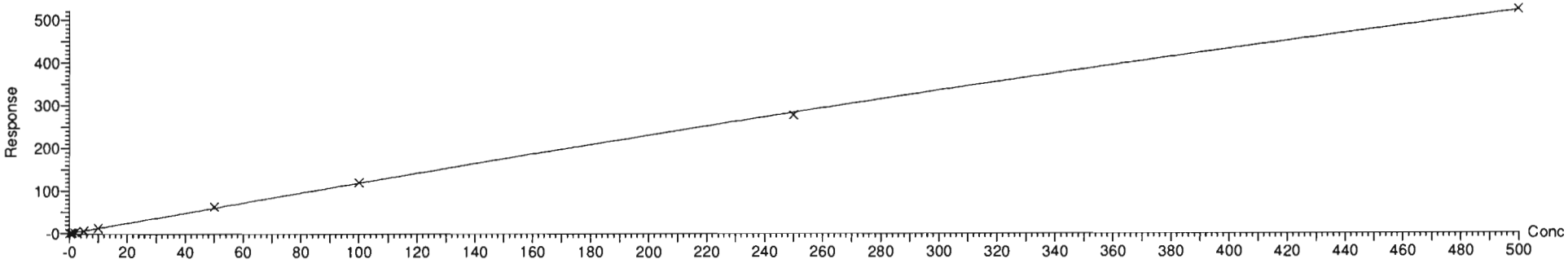
Compound name: PFNS
Coefficient of Determination: R^2 = 0.998706
Calibration curve: -0.00023121 * x^2 + 1.22365 * x + 0.00033998
Response type: Internal Std (Ref 71), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



Compound name: L-MeFOSAA
Coefficient of Determination: R^2 = 0.999586
Calibration curve: -0.0003658 * x^2 + 1.2249 * x + -0.0692446
Response type: Internal Std (Ref 77), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



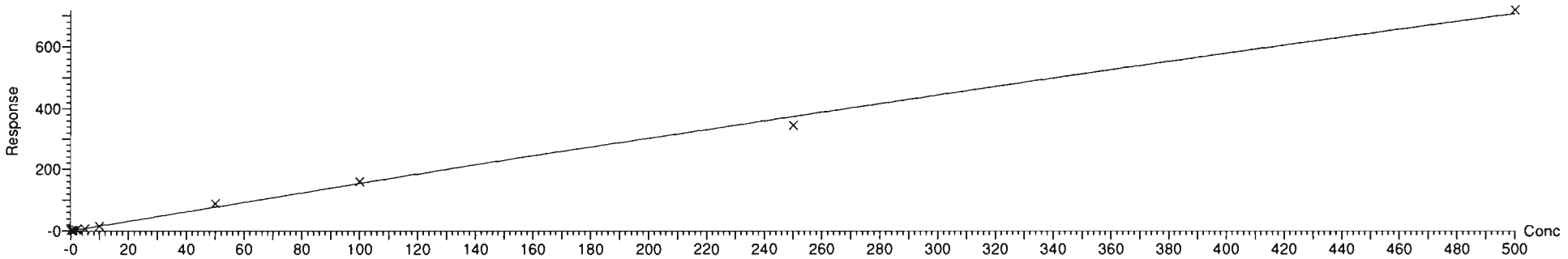
Vista Analytical Laboratory Q1

Dataset: Z:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

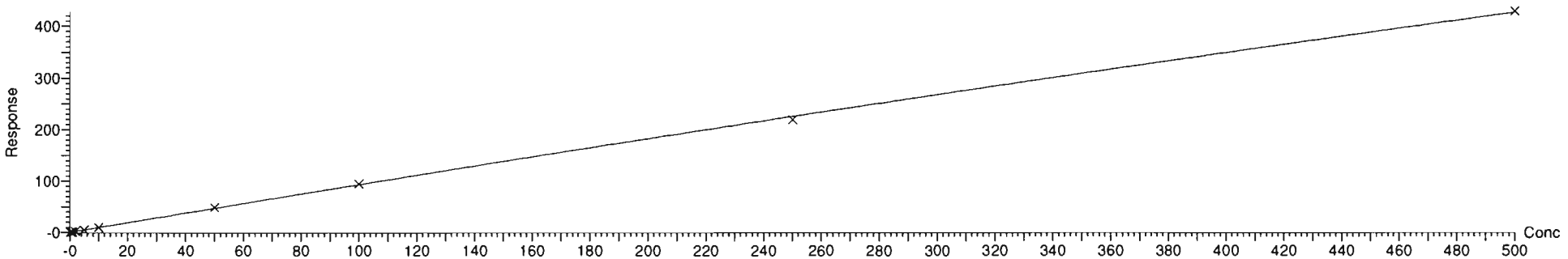
Last Altered: Thursday, July 16, 2020 10:32:09 Pacific Daylight Time
Printed: Thursday, July 16, 2020 11:18:05 Pacific Daylight Time

Method: D:\PFAS5.PRO\MethDB\NEW_PFAS_80C_071520.mdb 16 Jul 2020 08:29:48
Calibration: Z:\PFAS5.PRO\CurveDB\C18_VAL-PFAS_Q5_07-15-20.cdb 16 Jul 2020 10:32:09

Compound name: L-EtFOSAA
Coefficient of Determination: R^2 = 0.996663
Calibration curve: -0.000334065 * x^2 + 1.57877 * x + -0.0199931
Response type: Internal Std (Ref 81), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Compound name: PFUdA
Coefficient of Determination: R^2 = 0.999624
Calibration curve: -0.000198343 * x^2 + 0.951704 * x + 0.0496106
Response type: Internal Std (Ref 79), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



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Last Altered: Thursday, July 16, 2020 08:15:46 Pacific Daylight Time
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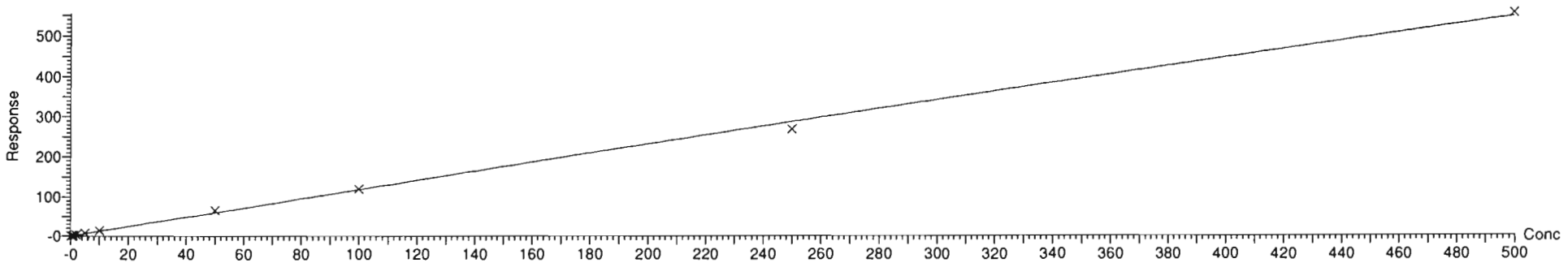
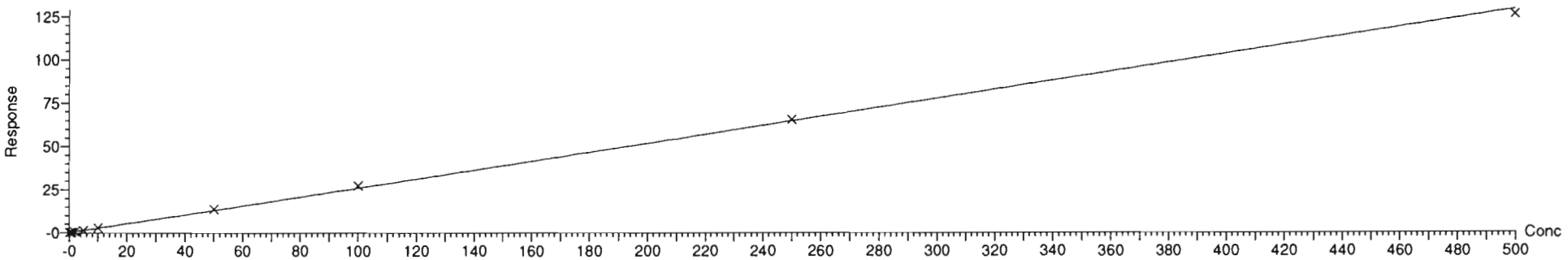
Compound name: PFDS
Coefficient of Determination: R^2 = 0.997646
Calibration curve: -0.000203698 * x^2 + 1.19751 * x + 0.0930634
Response type: Internal Std (Ref 71), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



Compound name: 11Cl-PF30UdS
Correlation coefficient: r = 0.999559, r^2 = 0.999118
Calibration curve: 0.258298 * x + 0.00979795
Response type: Internal Std (Ref 83), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

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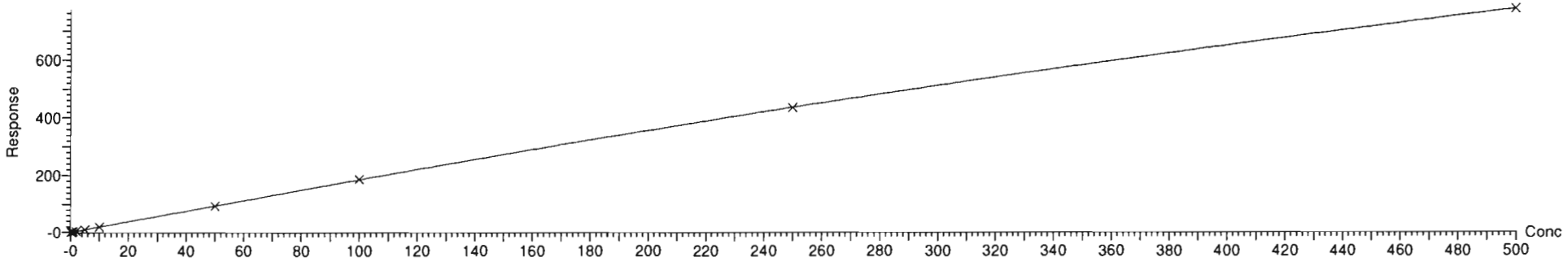
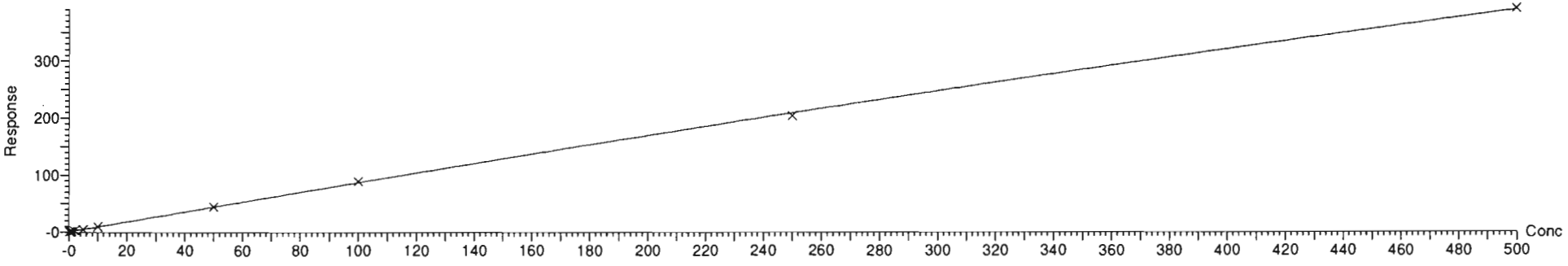
Compound name: 10:2 FTS
Coefficient of Determination: R^2 = 0.999872
Calibration curve: -0.000771562 * x^2 + 1.93313 * x + 0.0501835
Response type: Internal Std (Ref 85), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



Compound name: PFDoA
Coefficient of Determination: R^2 = 0.999564
Calibration curve: -0.000226089 * x^2 + 0.890842 * x + 0.100204
Response type: Internal Std (Ref 83), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



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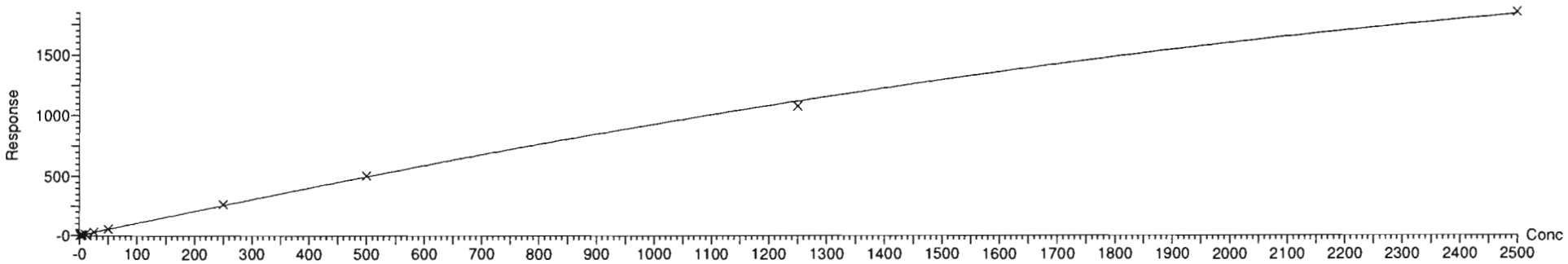
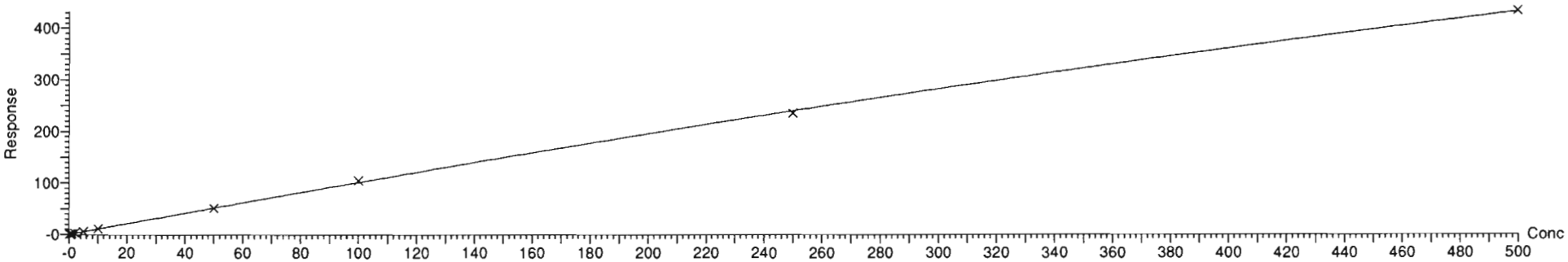
Compound name: N-MeFOSA
Coefficient of Determination: R^2 = 0.999190
Calibration curve: -0.000129273 * x^2 + 1.05734 * x + 0.27278
Response type: Internal Std (Ref 87), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



Compound name: PFTrDA
Coefficient of Determination: R^2 = 0.999713
Calibration curve: -0.000380084 * x^2 + 1.05341 * x + 0.0381517
Response type: Internal Std (Ref 83), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

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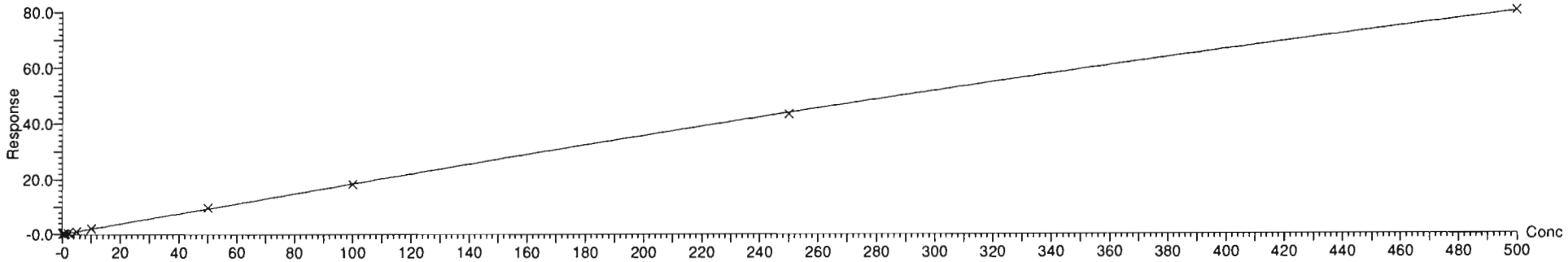
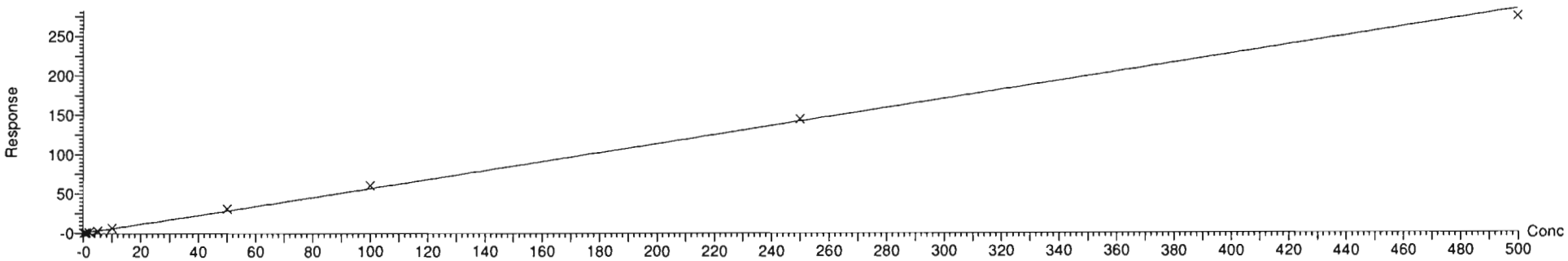
Compound name: PFDoS
Coefficient of Determination: R^2 = 0.999750
Calibration curve: -6.16511e-005 * x^2 + 0.191239 * x + -0.000256267
Response type: Internal Std (Ref 89), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



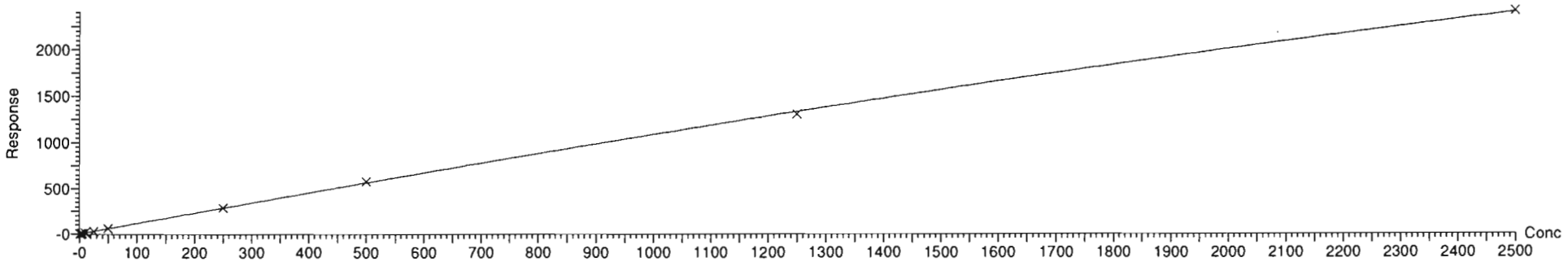
Compound name: PFTeDA
Correlation coefficient: r = 0.999012, r^2 = 0.998025
Calibration curve: 0.566624 * x + 0.0868218
Response type: Internal Std (Ref 89), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Exclude, Weighting: 1/x, Axis trans: None



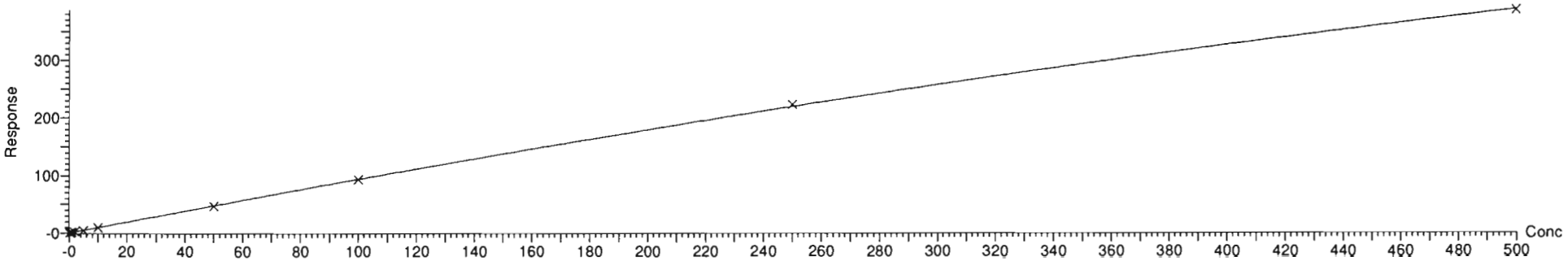
Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

Last Altered: Thursday, July 16, 2020 08:15:46 Pacific Daylight Time
Printed: Thursday, July 16, 2020 08:28:53 Pacific Daylight Time

Compound name: N-EtFOSA
Coefficient of Determination: R^2 = 0.999721
Calibration curve: -8.20315e-005 * x^2 + 1.16743 * x + 0.168696
Response type: Internal Std (Ref 91), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



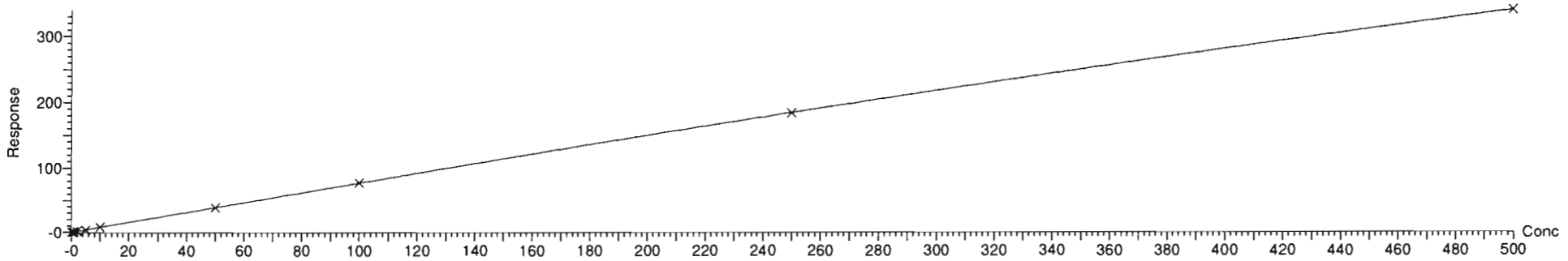
Compound name: PFHxDA
Coefficient of Determination: R^2 = 0.999849
Calibration curve: -0.000402925 * x^2 + 0.976081 * x + 0.0835205
Response type: Internal Std (Ref 93), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Exclude, Weighting: 1/x, Axis trans: None



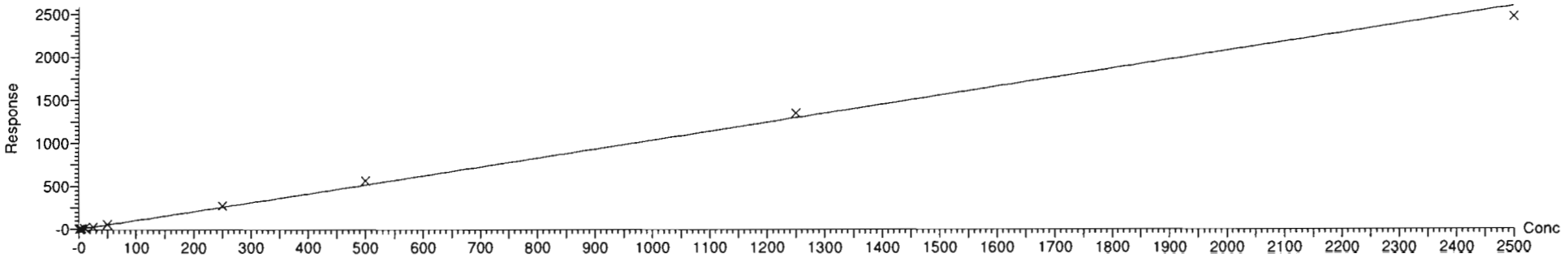
Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

Last Altered: Thursday, July 16, 2020 08:15:46 Pacific Daylight Time
Printed: Thursday, July 16, 2020 08:28:53 Pacific Daylight Time

Compound name: PFODA
Coefficient of Determination: R^2 = 0.999959
Calibration curve: -0.000226523 * x^2 + 0.792874 * x + -0.0169914
Response type: Internal Std (Ref 93), Area * (IS Conc. / IS Area)
Curve type: 2nd Order, Origin: Include, Weighting: 1/x, Axis trans: None



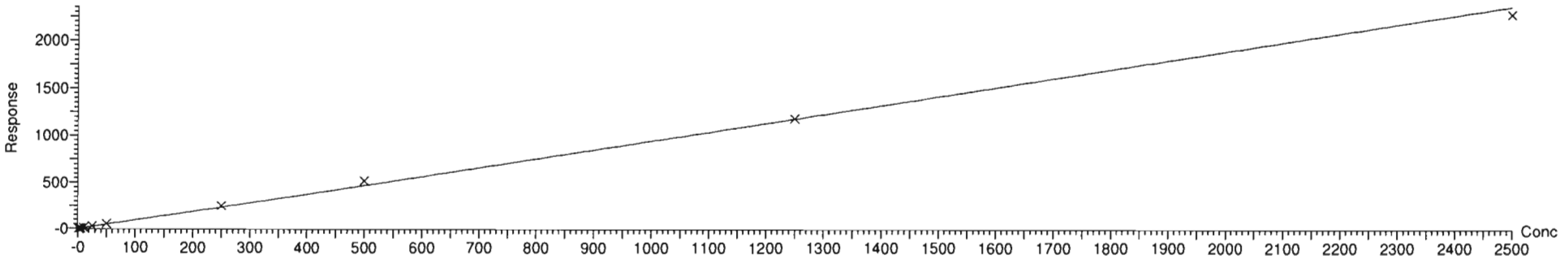
Compound name: N-MeFOSE
Correlation coefficient: r = 0.998493, r^2 = 0.996988
Calibration curve: 1.03662 * x + 0.326411
Response type: Internal Std (Ref 95), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Include, Weighting: 1/x, Axis trans: None



Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

Last Altered: Thursday, July 16, 2020 08:15:46 Pacific Daylight Time
Printed: Thursday, July 16, 2020 08:28:53 Pacific Daylight Time

Compound name: N-EtFOSE
Correlation coefficient: r = 0.998790, r^2 = 0.997581
Calibration curve: 0.94506 * x + 0.386549
Response type: Internal Std (Ref 97), Area * (IS Conc. / IS Area)
Curve type: Linear, Origin: Include, Weighting: 1/x, Axis trans: None



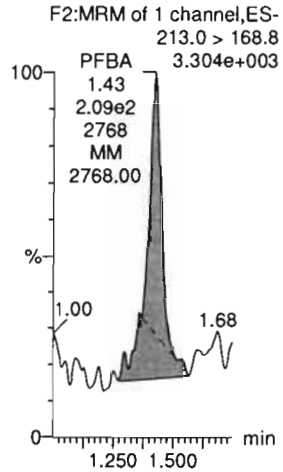
Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

Last Altered: Wednesday, July 15, 2020 15:31:31 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 15:32:47 Pacific Daylight Time

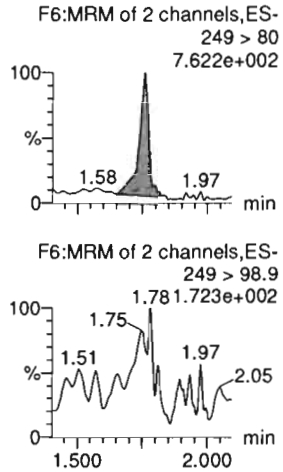
Method: D:\PFAS5.PRO\MethDB\NEW_PFAS_80C_071520.mdb 15 Jul 2020 14:50:21
Calibration: D:\PFAS5.PRO\CurveDB\C18_VAL-PFAS_Q5_07-15-20.cdb 15 Jul 2020 15:31:31

Name: 200715P1-05, Date: 15-Jul-2020, Time: 12:20:20, ID: ST200715P1-1 PFC CS-2 20F1901, Description: PFC CS-2 20F1901

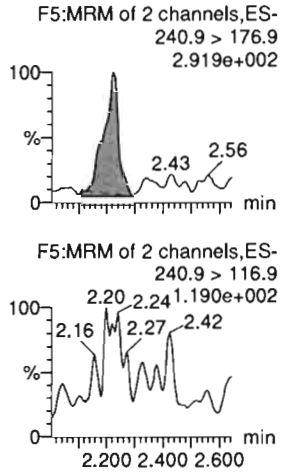
PFBA



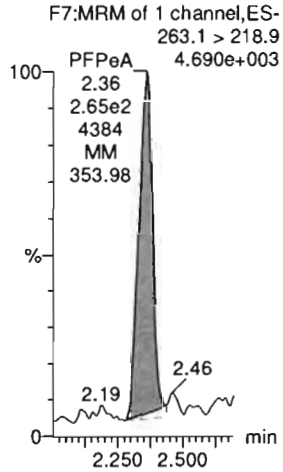
PFPrS



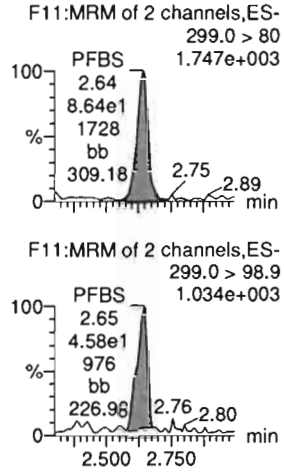
3:3 FTCA



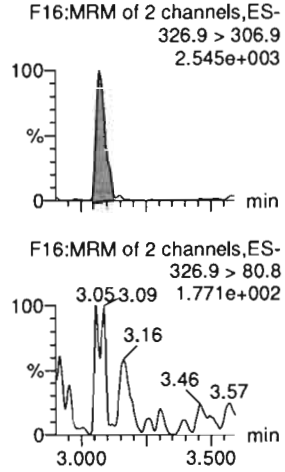
PFPeA



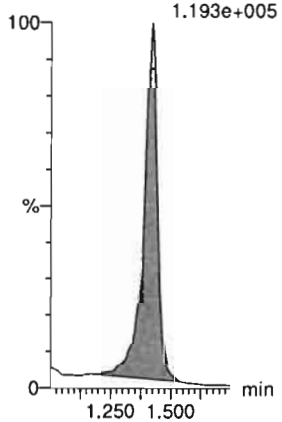
PFBS



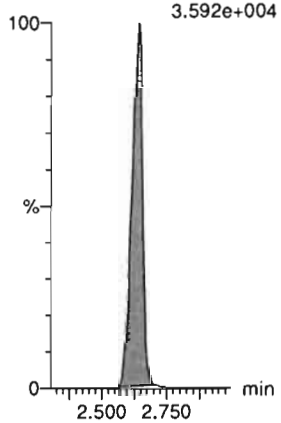
4:2 FTS



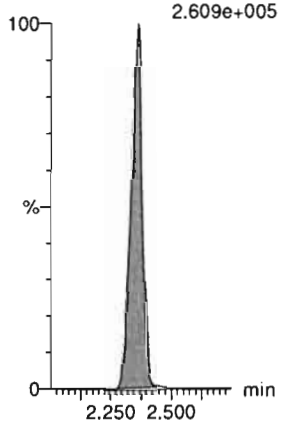
13C3-PFBA-EIS



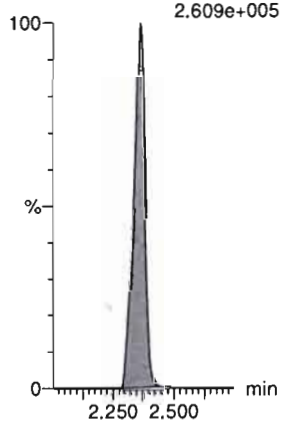
13C3-PFBS-EIS



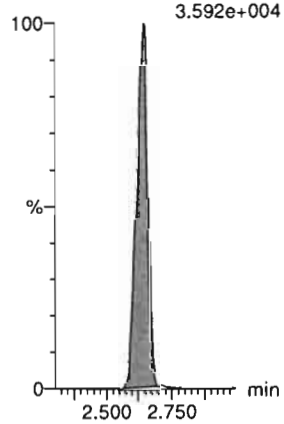
13C3-PFPeA-EIS



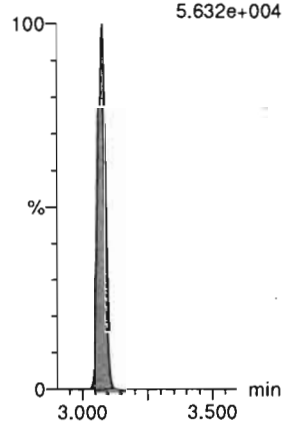
13C3-PFPeA-EIS



13C3-PFBS-EIS



13C2-4:2 FTS-EIS

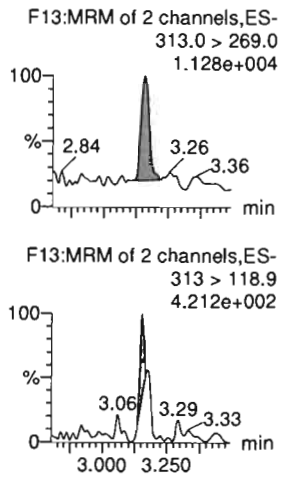


Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

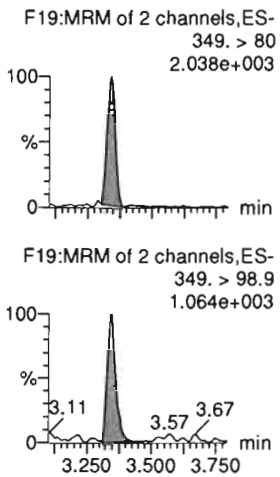
Last Altered: Wednesday, July 15, 2020 15:31:31 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 15:32:47 Pacific Daylight Time

Name: 200715P1-05, Date: 15-Jul-2020, Time: 12:20:20, ID: ST200715P1-1 PFC CS-2 20F1901, Description: PFC CS-2 20F1901

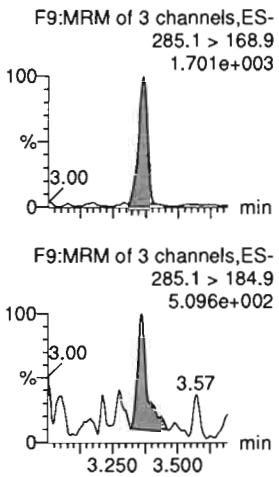
PFHxA



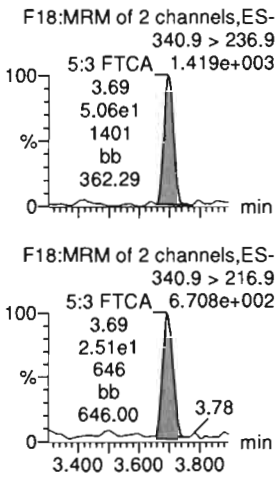
PFPeS



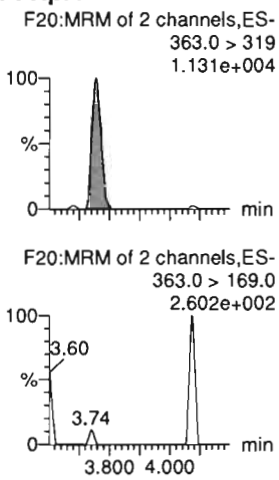
HFPO-DA



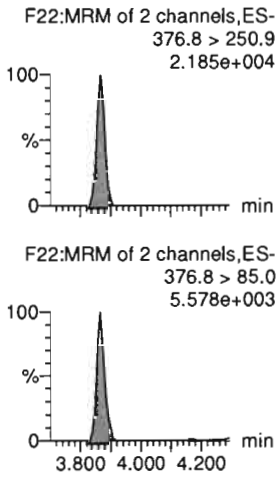
5:3 FTCA



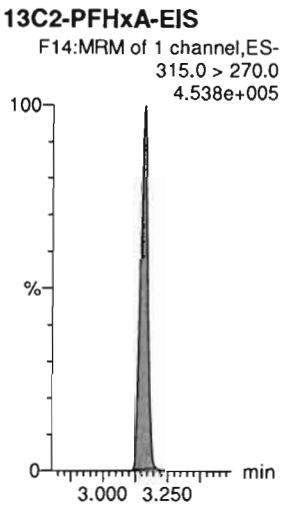
PFHpA



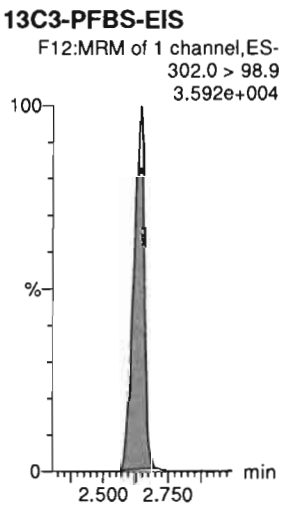
ADONA



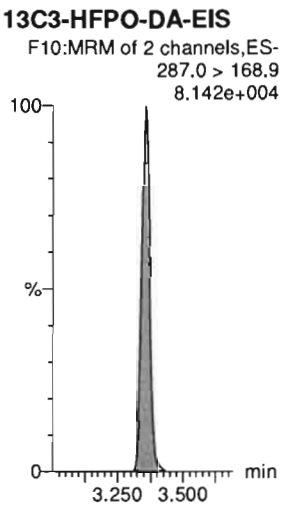
13C2-PFHxA-EIS



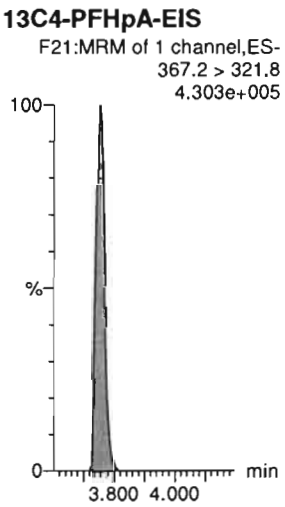
13C3-PFBS-EIS



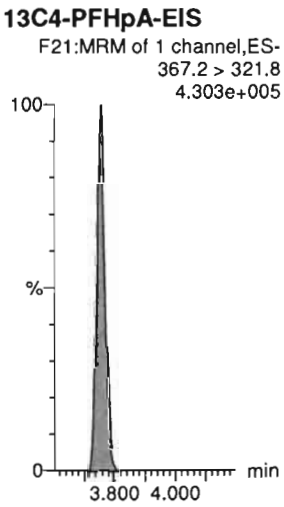
13C3-HFPO-DA-EIS



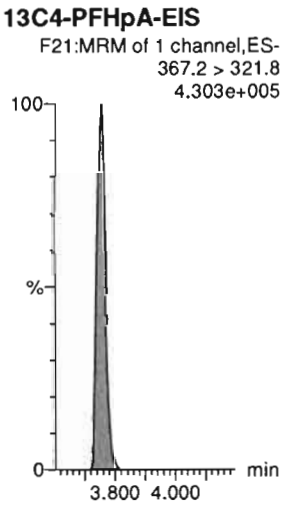
13C4-PFHpA-EIS



13C4-PFHpA-EIS



13C4-PFHpA-EIS

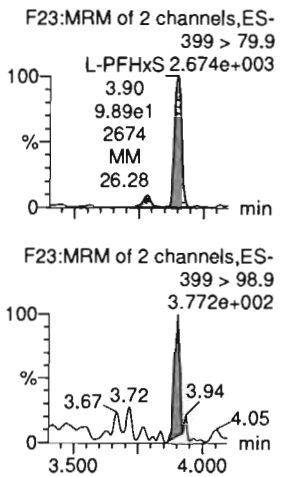


Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

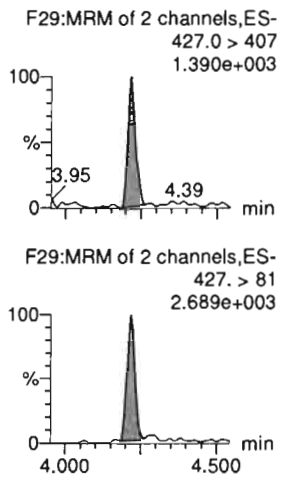
Last Altered: Wednesday, July 15, 2020 15:31:31 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 15:32:47 Pacific Daylight Time

Name: 200715P1-05, Date: 15-Jul-2020, Time: 12:20:20, ID: ST200715P1-1 PFC CS-2 20F1901, Description: PFC CS-2 20F1901

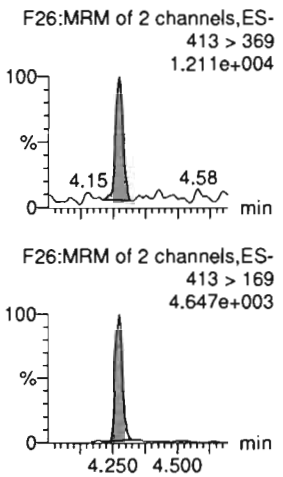
L-PFHxS



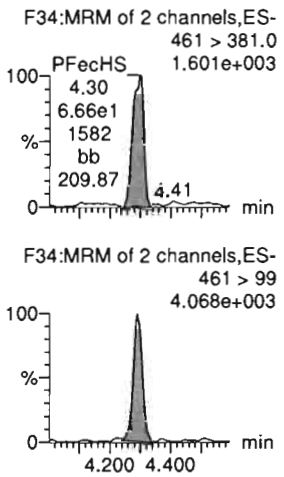
6:2 FTS



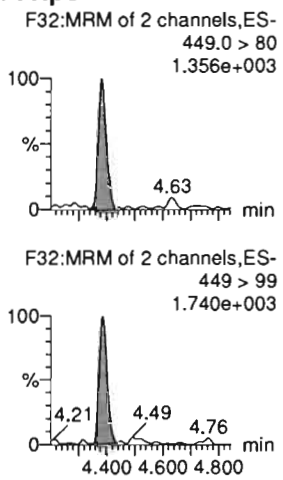
L-PFOA



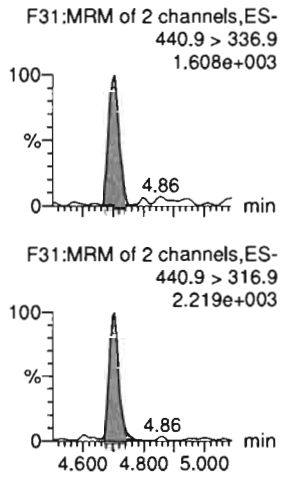
PFEChS



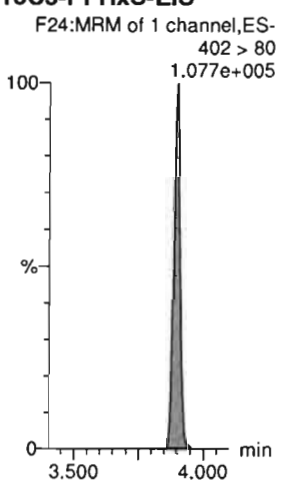
PFHpS



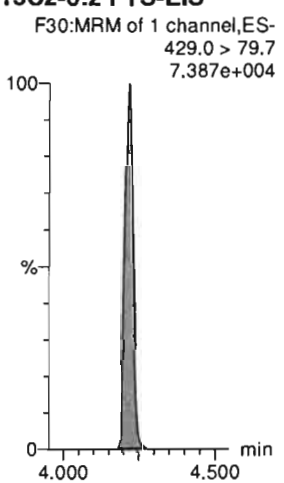
7:3 FTCA



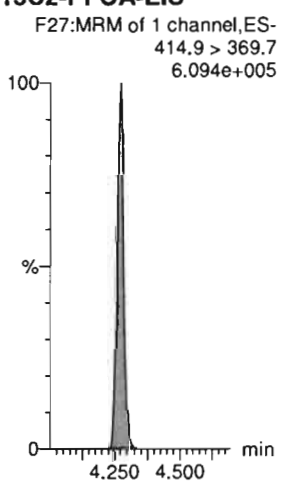
13C3-PFHxS-EIS



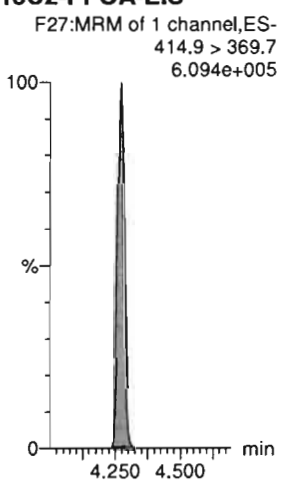
13C2-6:2 FTS-EIS



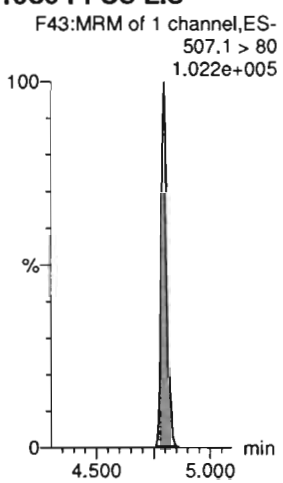
13C2-PFOA-EIS



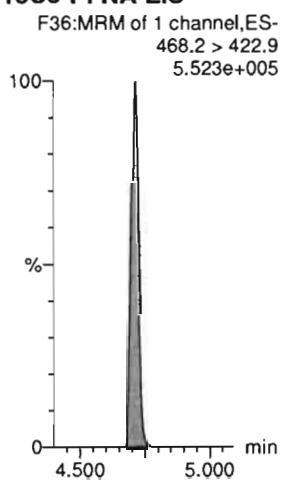
13C2-PFOA-EIS



13C8-PFOS-EIS



13C5-PFNA-EIS

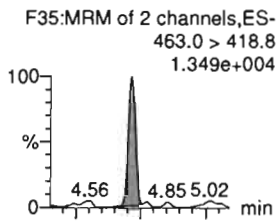


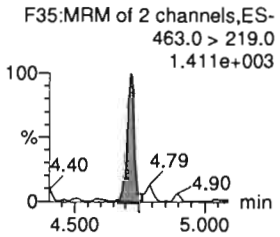
Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

Last Altered: Wednesday, July 15, 2020 15:31:31 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 15:32:47 Pacific Daylight Time

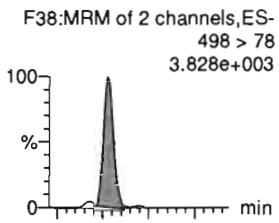
Name: 200715P1-05, Date: 15-Jul-2020, Time: 12:20:20, ID: ST200715P1-1 PFC CS-2 20F1901, Description: PFC CS-2 20F1901

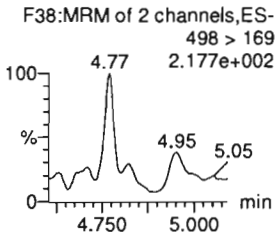
PFNA



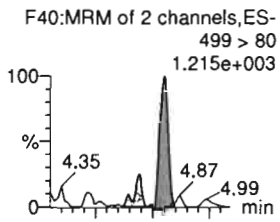


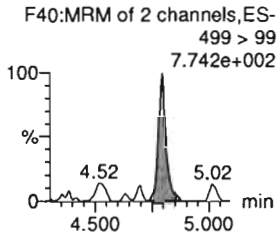
PFOSA



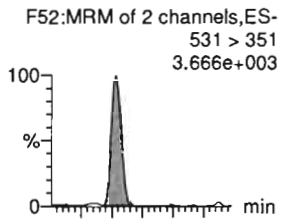


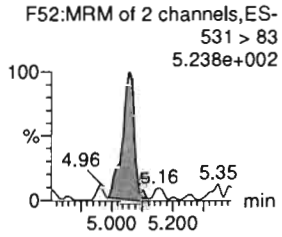
L-PFOS



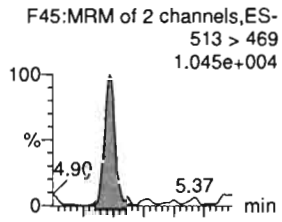


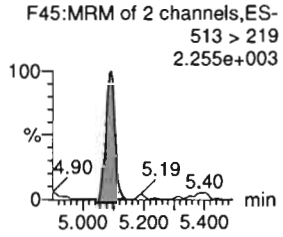
9Cl-PF30NS



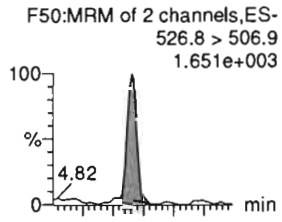


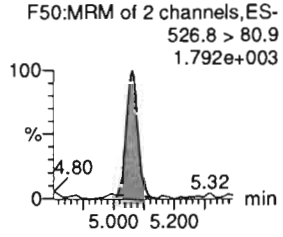
PFDA



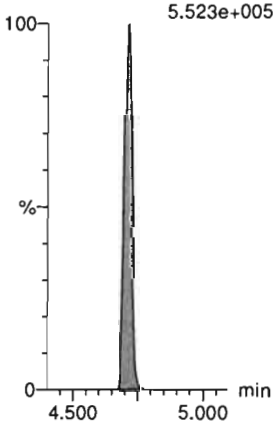


8:2 FTS

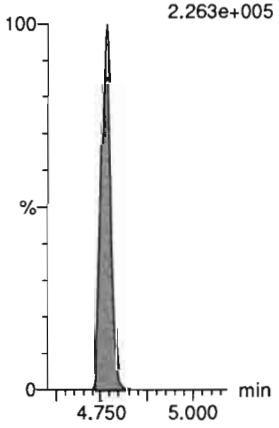




13C5-PFNA-EIS



13C8-PFOSA-EIS



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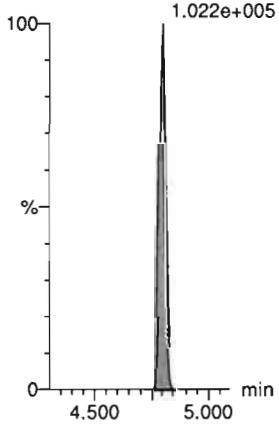
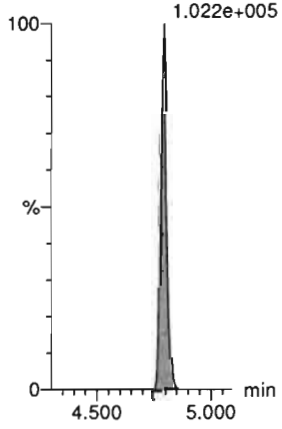
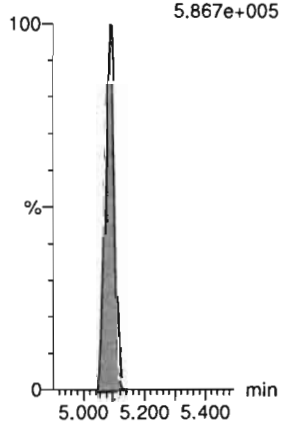


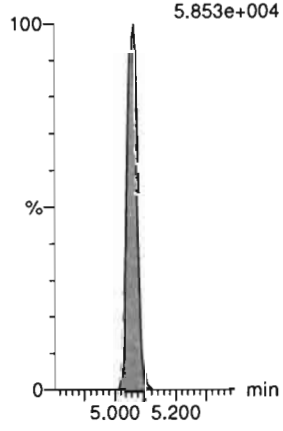
13C8-PFOS-EIS



13C2-PFDA-EIS



13C2-8:2 FTS-EIS

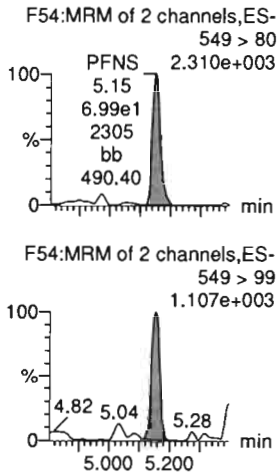


Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

Last Altered: Wednesday, July 15, 2020 15:31:31 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 15:32:47 Pacific Daylight Time

Name: 200715P1-05, Date: 15-Jul-2020, Time: 12:20:20, ID: ST200715P1-1 PFC CS-2 20F1901, Description: PFC CS-2 20F1901

PFNS



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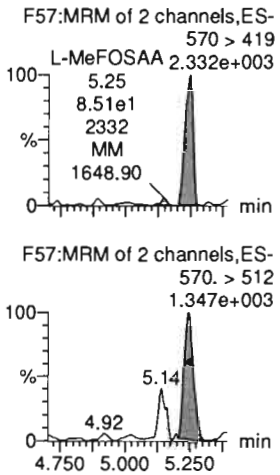

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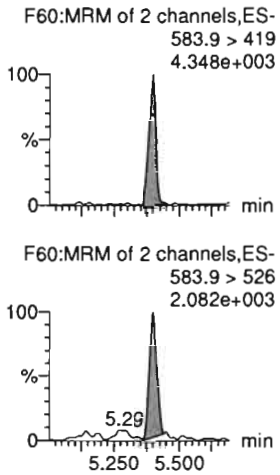
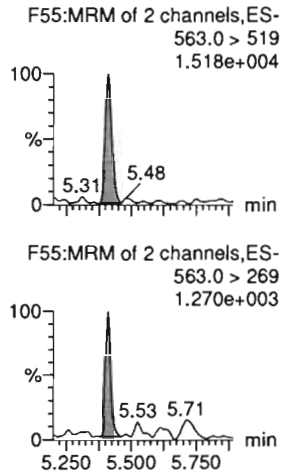


PFUdA



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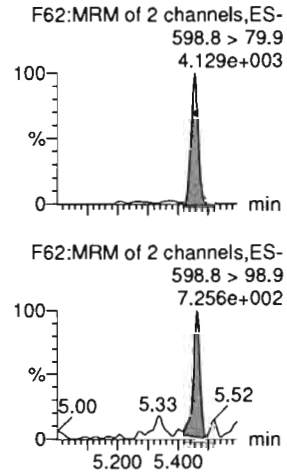
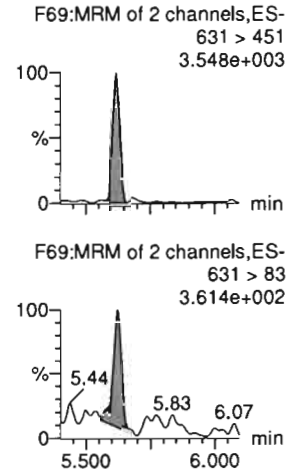
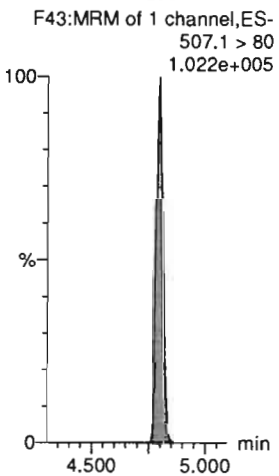


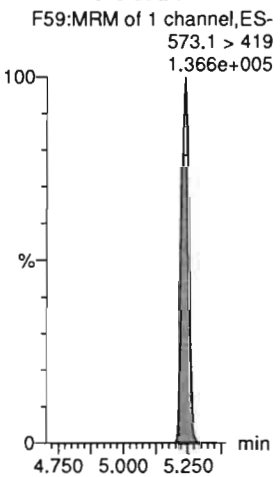
11Cl-PF30UdS



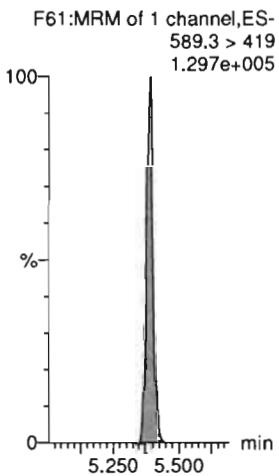
13C8-PFOS-EIS



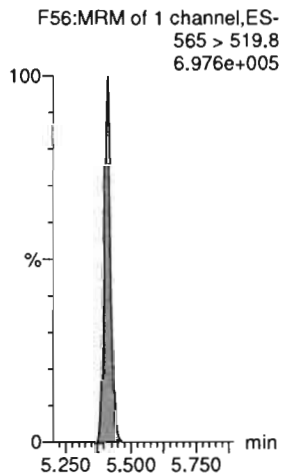
d3-N-MeFOSAA-EIS



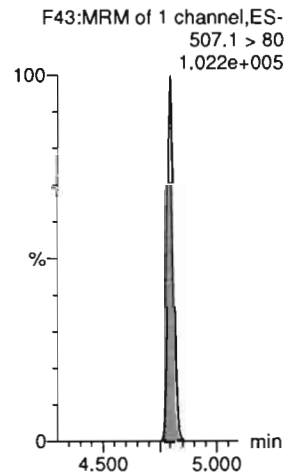
d5-N-EtFOSAA-EIS



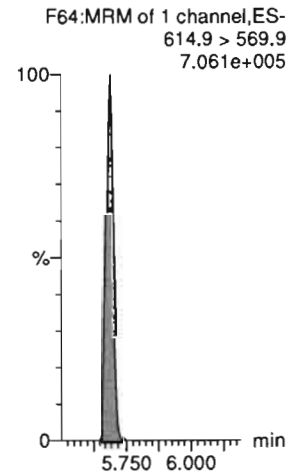
13C2-PFUdA-EIS



13C8-PFOS-EIS



13C2-PFDoA-EIS



Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

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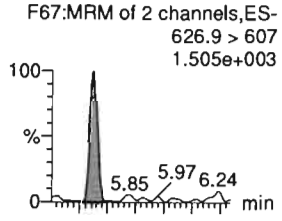
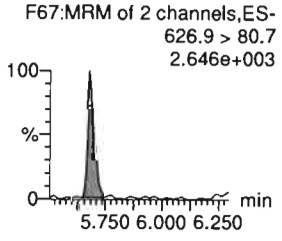
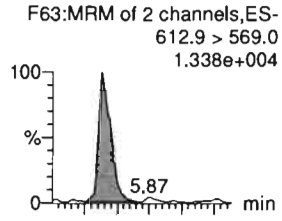
Name: 200715P1-05, Date: 15-Jul-2020, Time: 12:20:20, ID: ST200715P1-1 PFC CS-2 20F1901, Description: PFC CS-2 20F1901

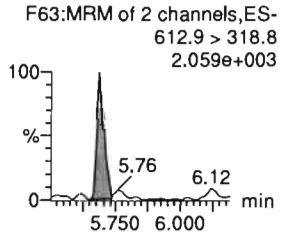
10:2 FTS



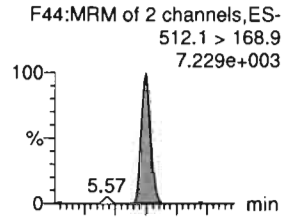


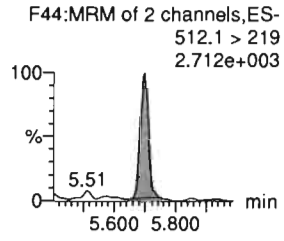
PFDoA





N-MeFOSA





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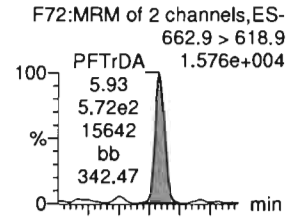

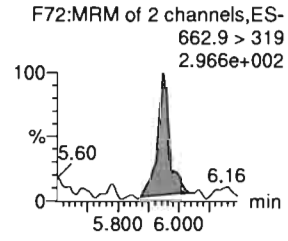

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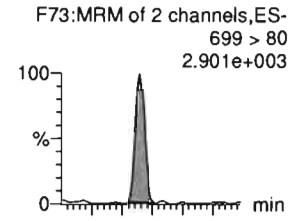
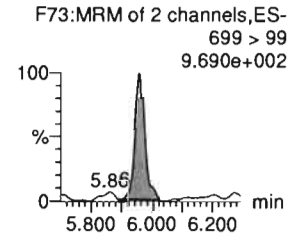
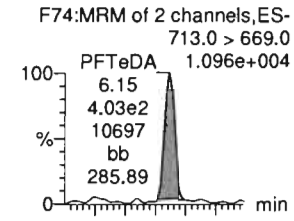
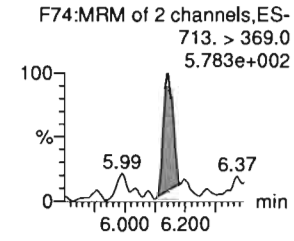


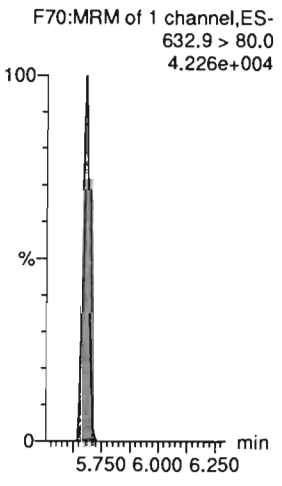


PFTeDA

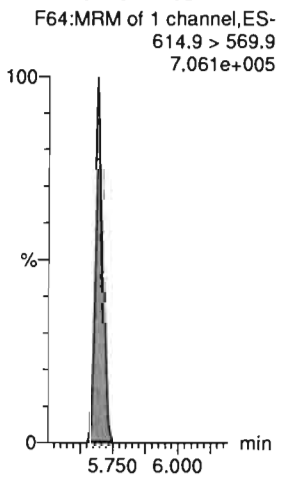




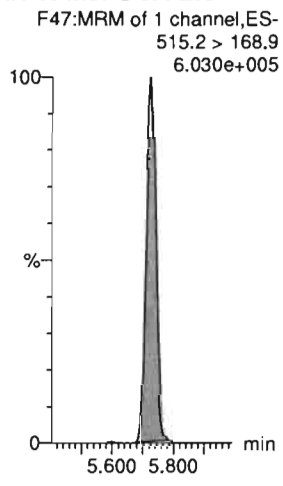
13C2-10:2 FTS-EIS



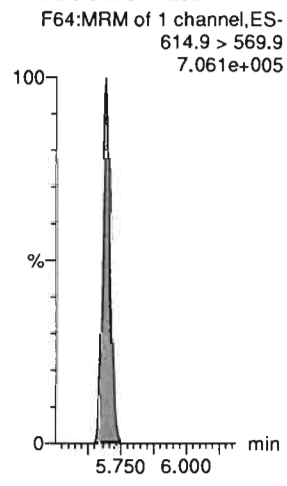
13C2-PFDoA-EIS



d3-N-MeFOSA-EIS



13C2-PFDoA-EIS



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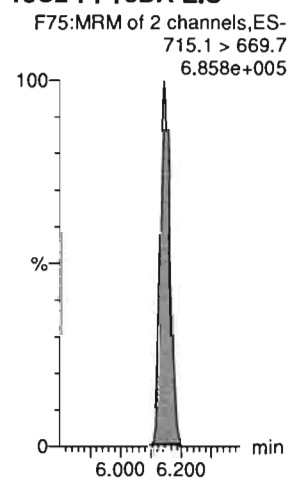
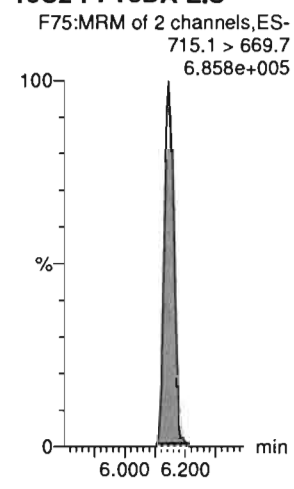


13C2-PFTeDA-EIS



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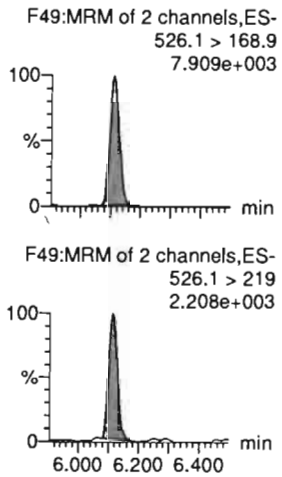
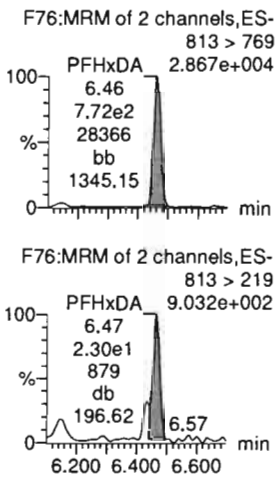
Name: 200715P1-05, Date: 15-Jul-2020, Time: 12:20:20, ID: ST200715P1-1 PFC CS-2 20F1901, Description: PFC CS-2 20F1901

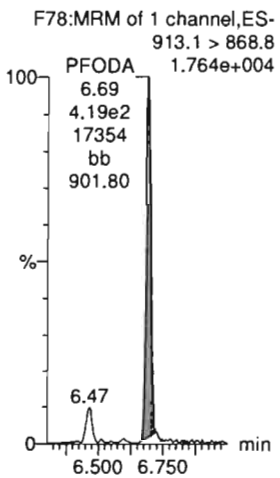
N-EtFOSA



PFHxDA



PFODA



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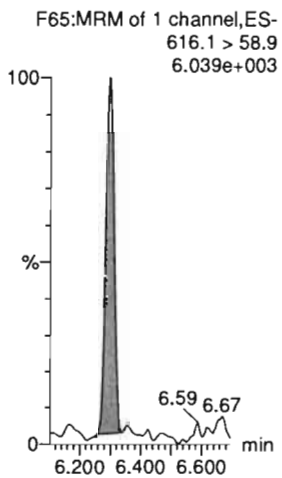

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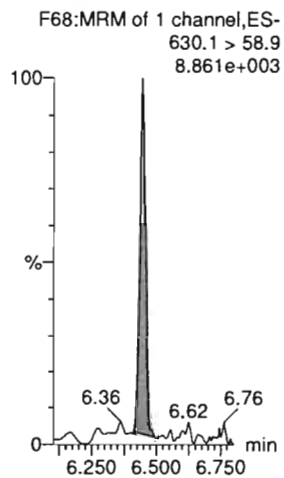
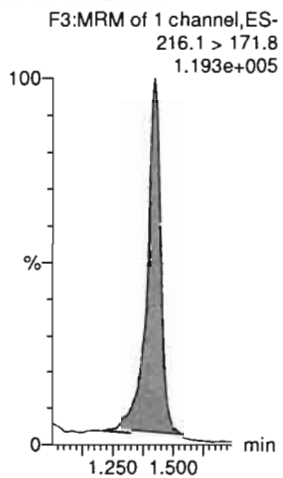
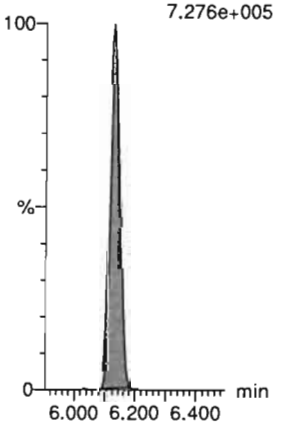


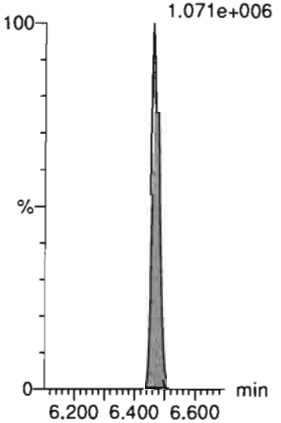
13C3-PFBA-RSD



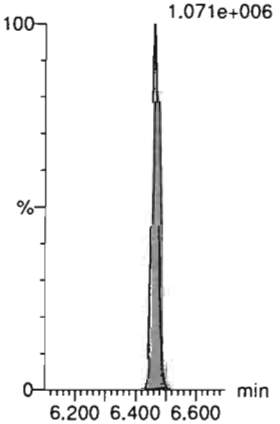
d5-N-ETFOSA-EIS



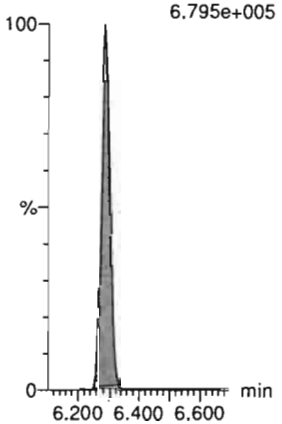
13C2-PFHxDA-EIS



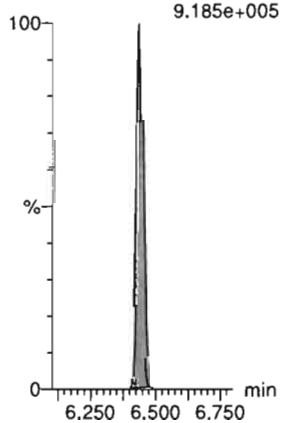
13C2-PFHxDA-EIS



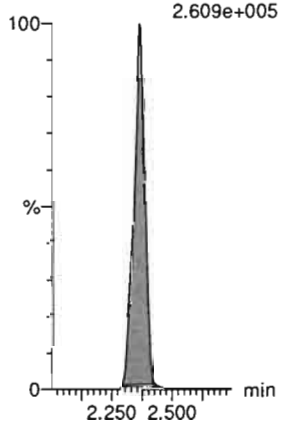
d7-N-MeFOSE-EIS



d9-N-EtFOSE-EIS



13C3-PFPeA-RSD



Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

Last Altered: Wednesday, July 15, 2020 15:31:31 Pacific Daylight Time
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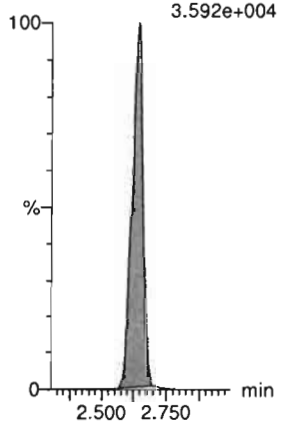
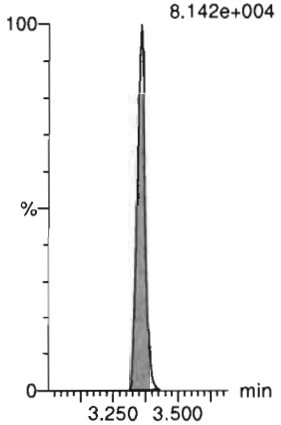
Name: 200715P1-05, Date: 15-Jul-2020, Time: 12:20:20, ID: ST200715P1-1 PFC CS-2 20F1901, Description: PFC CS-2 20F1901

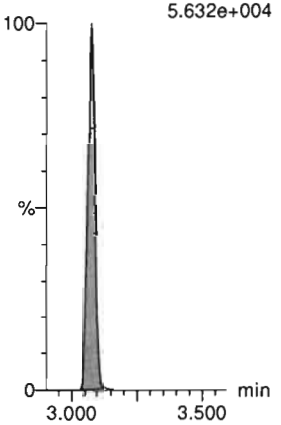
13C3-PFBS-RSD
F12:MRM of 1 channel,ES-
302.0 > 98.9
3.592e+004



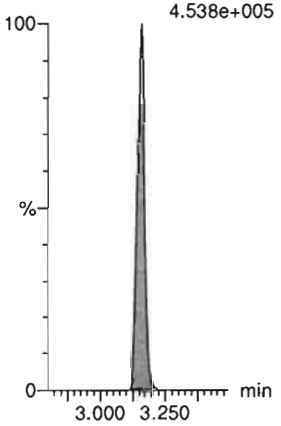
13C3-HFPO-DA-RSD
F10:MRM of 2 channels,ES-
287.0 > 168.9
8.142e+004



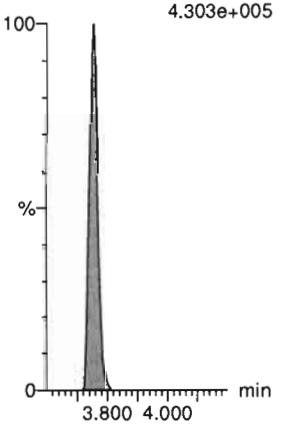
13C2-4:2 FTS-RSD
F17:MRM of 2 channels,ES-
329.0 > 80.8
5.632e+004



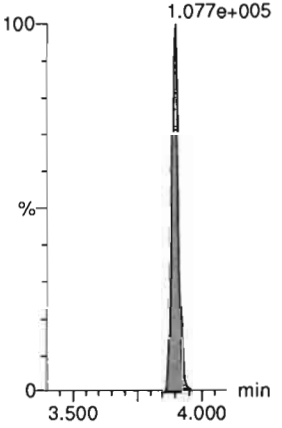
13C2-PFHxA-RSD
F14:MRM of 1 channel,ES-
315.0 > 270.0
4.538e+005



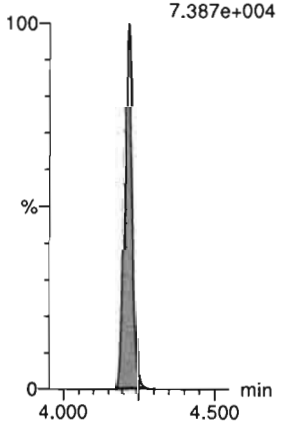
13C4-PFHpA-RSD
F21:MRM of 1 channel,ES-
367.2 > 321.8
4.303e+005



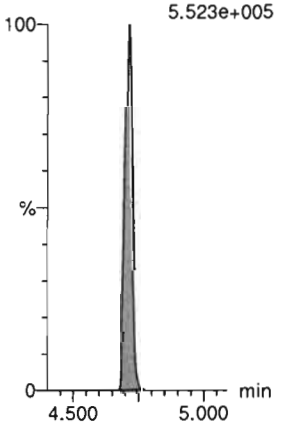
13C3-PFHxS-RSD
F24:MRM of 1 channel,ES-
402 > 80
1.077e+005



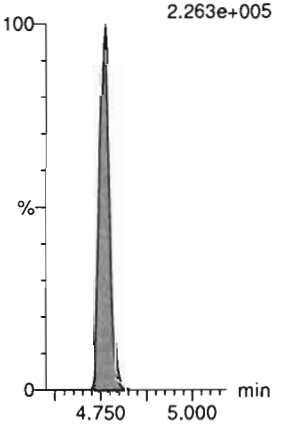
13C2-6:2 FTS-RSD
F30:MRM of 1 channel,ES-
429.0 > 79.7
7.387e+004



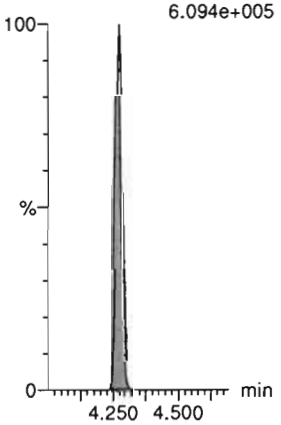
13C5-PFNA-RSD
F36:MRM of 1 channel,ES-
468.2 > 422.9
5.523e+005



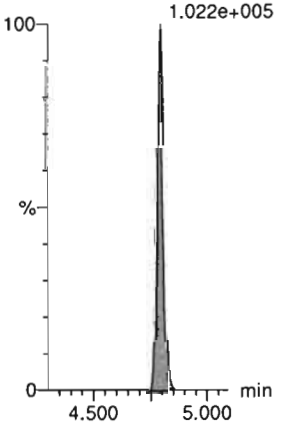
13C8-PFOSA-RSD
F42:MRM of 1 channel,ES-
506 > 78
2.263e+005



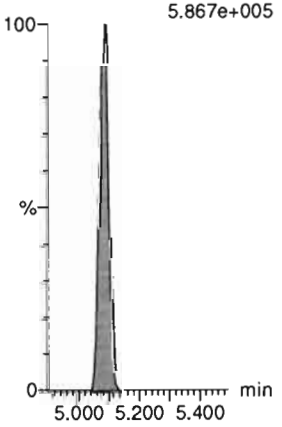
13C2-PFOA-RSD
F27:MRM of 1 channel,ES-
414.9 > 369.7
6.094e+005



13C8-PFOS-RSD
F43:MRM of 1 channel,ES-
507.1 > 80
1.022e+005



13C2-PFDA-RSD
F46:MRM of 1 channel,ES-
515.1 > 469.9
5.867e+005



Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

Last Altered: Wednesday, July 15, 2020 15:31:31 Pacific Daylight Time
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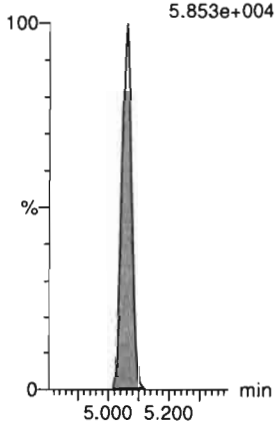
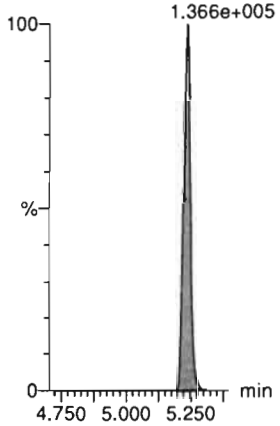
Name: 200715P1-05, Date: 15-Jul-2020, Time: 12:20:20, ID: ST200715P1-1 PFC CS-2 20F1901, Description: PFC CS-2 20F1901

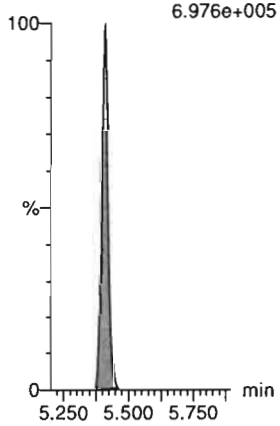
13C2-8:2 FTS-RSD
F51:MRM of 1 channel,ES-
529 > 80
5.853e+004



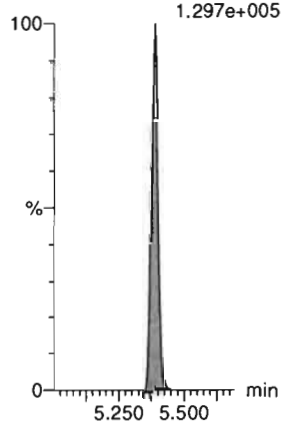
d3-N-MeFOSAA-RSD
F59:MRM of 1 channel,ES-
573.1 > 419
1.366e+005



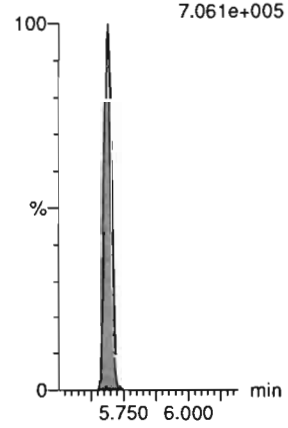
13C2-PFUdA-RSD
F56:MRM of 1 channel,ES-
565 > 519.8
6.976e+005



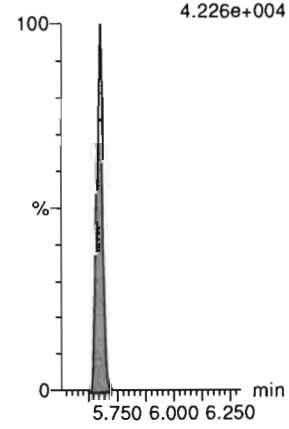
d5-N-EtFOSAA-RSD
F61:MRM of 1 channel,ES-
589.3 > 419
1.297e+005



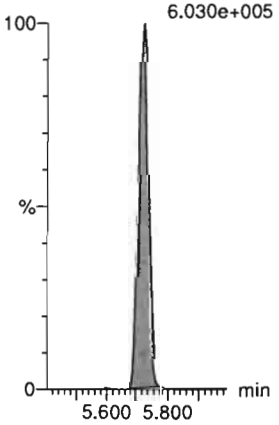
13C2-PFDoA-RSD
F64:MRM of 1 channel,ES-
614.9 > 569.9
7.061e+005



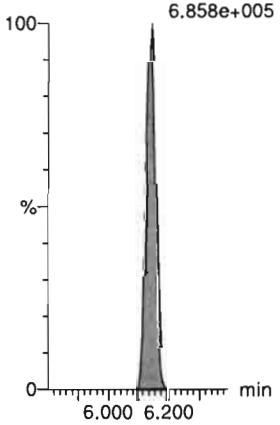
13C2-10:2 FTS-RSD
F70:MRM of 1 channel,ES-
632.9 > 80.0
4.226e+004



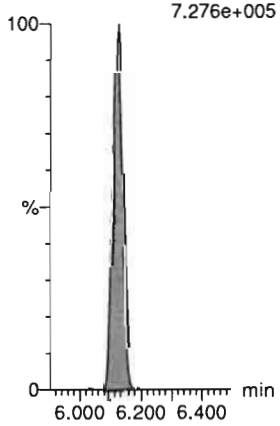
d3-N-MeFOSA-RSD
F47:MRM of 1 channel,ES-
515.2 > 168.9
6.030e+005



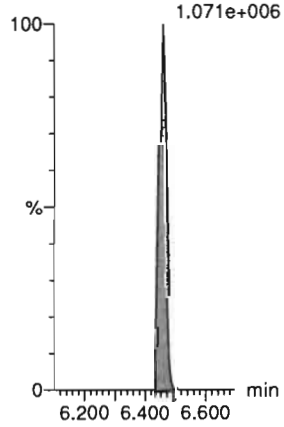
13C2-PFTeDA-RSD
F75:MRM of 2 channels,ES-
715.1 > 669.7
6.858e+005



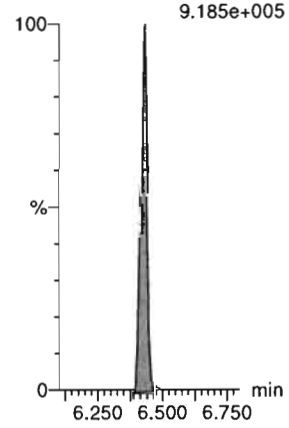
d5-N-ETFOSA-RSD
F53:MRM of 1 channel,ES-
531.1 > 168.9
7.276e+005



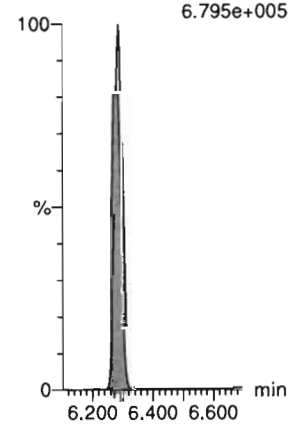
13C2-PFHxDA-RSD
F77:MRM of 1 channel,ES-
815 > 769.7
1.071e+006



d9-N-EtFOSE-RSD
F71:MRM of 1 channel,ES-
639.2 > 58.8
9.185e+005



d7-N-MeFOSE-RSD
F66:MRM of 1 channel,ES-
623.1 > 58.9
6.795e+005



Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

Last Altered: Wednesday, July 15, 2020 15:31:31 Pacific Daylight Time
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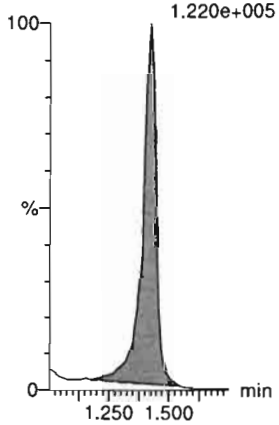
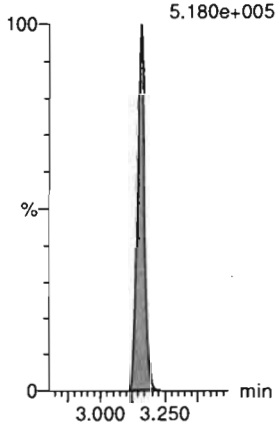
Name: 200715P1-05, Date: 15-Jul-2020, Time: 12:20:20, ID: ST200715P1-1 PFC CS-2 20F1901, Description: PFC CS-2 20F1901

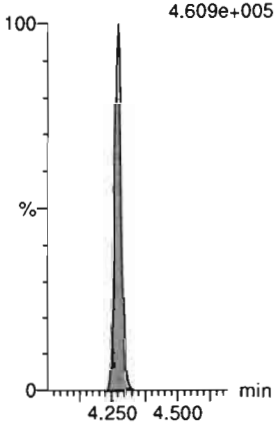
13C4-PFBA



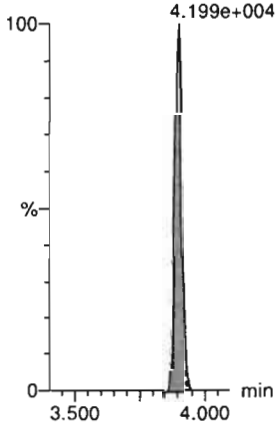
13C5-PFHxA



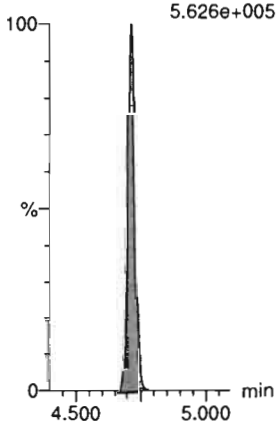
13C8-PFOA



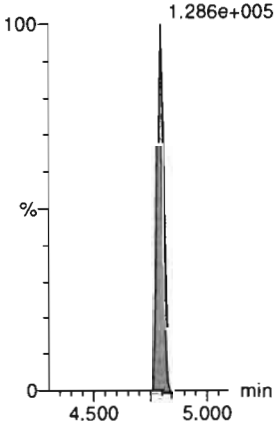
18O2-PFHxS



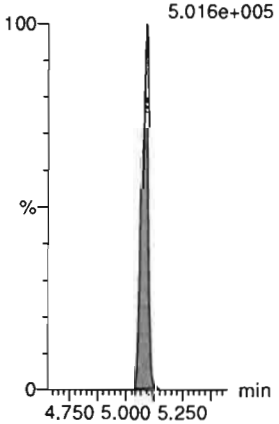
13C9-PFNA



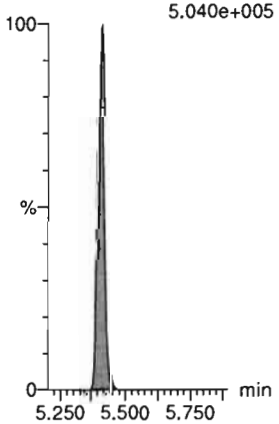
13C4-PFOS



13C6-PFDA



13C7-PFUdA



Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

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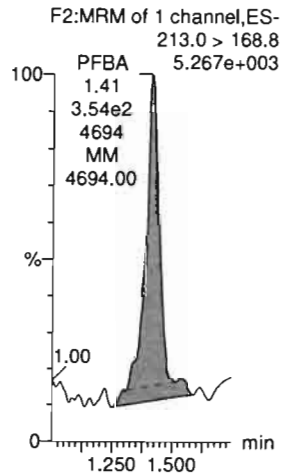
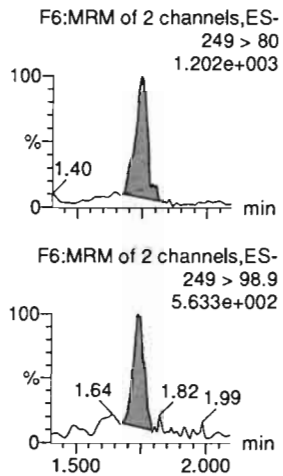
Name: 200715P1-06, Date: 15-Jul-2020, Time: 12:30:45, ID: ST200715P1-2 PFC CS-1 20F1902, Description: PFC CS-1 20F1902

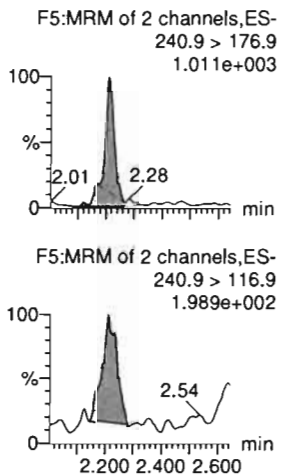
PFBA



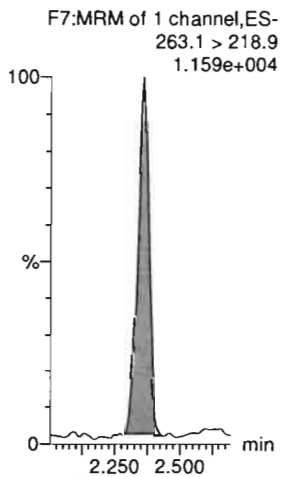
PFPrS



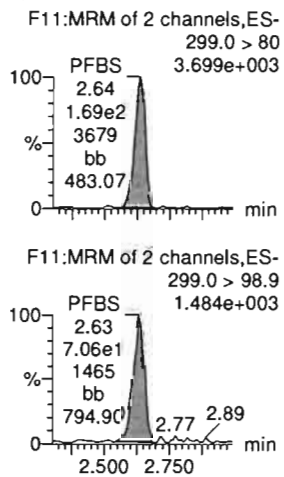
3:3 FTCA



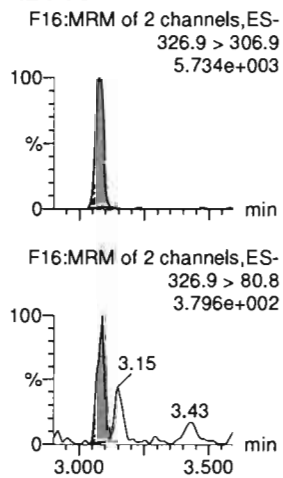
PFPeA



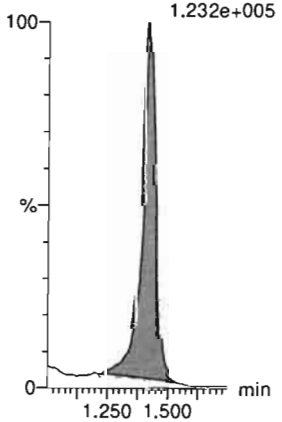
PFBS



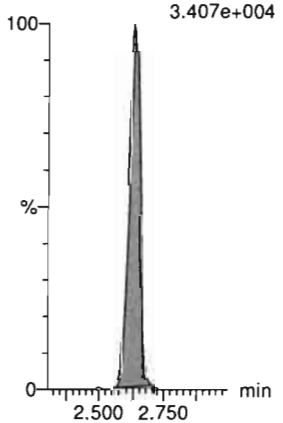
4:2 FTS



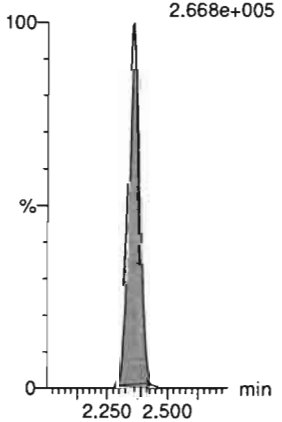
13C3-PFBA-EIS



13C3-PFBS-EIS



13C3-PFPeA-EIS



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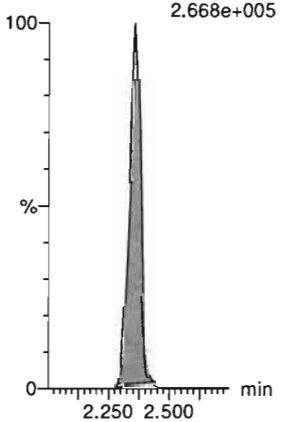

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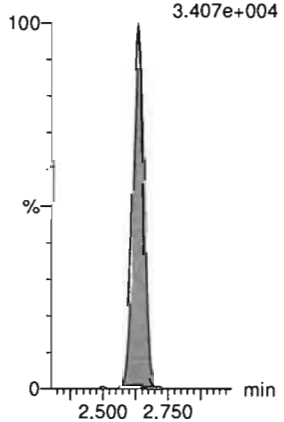
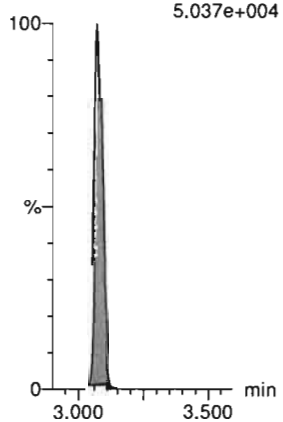


13C2-4:2 FTS-EIS



Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

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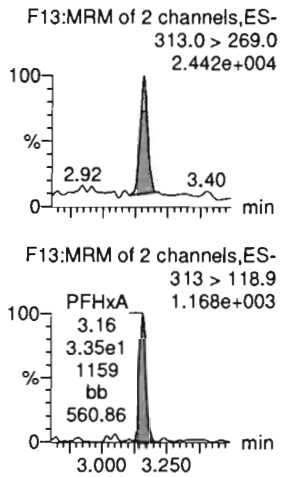
Printed: Wednesday, July 15, 2020 15:32:47 Pacific Daylight Time

Name: 200715P1-06, Date: 15-Jul-2020, Time: 12:30:45, ID: ST200715P1-2 PFC CS-1 20F1902, Description: PFC CS-1 20F1902

PFHxA



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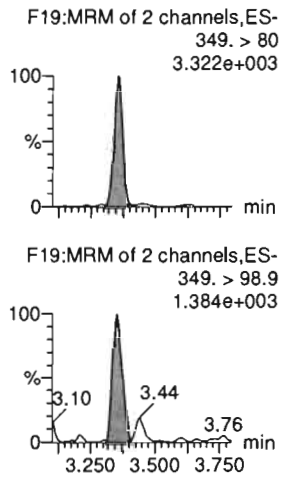
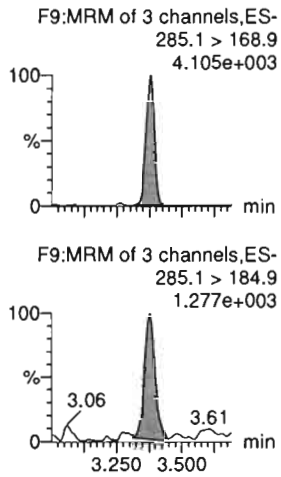
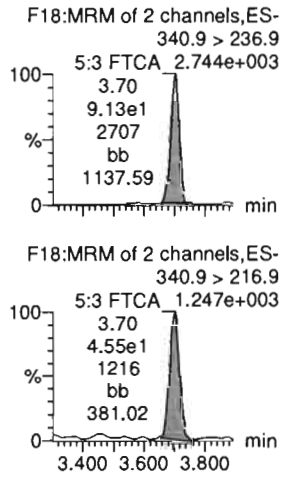


HFPO-DA



5:3 FTCA



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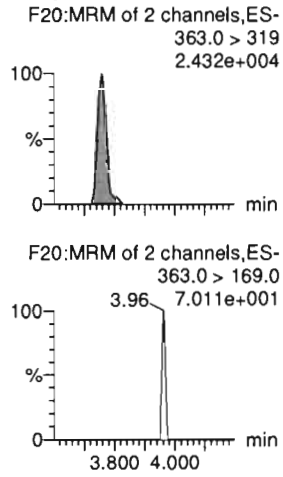
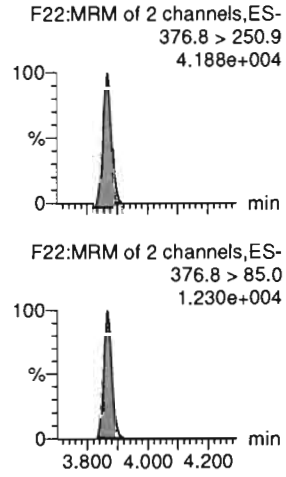
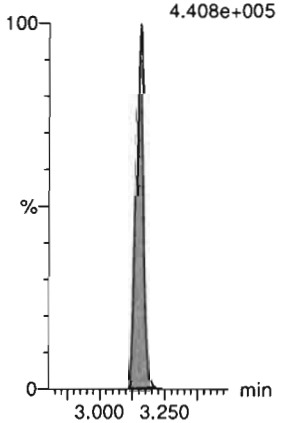


ADONA



13C2-PFHxA-EIS



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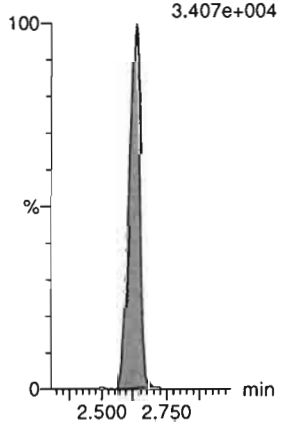
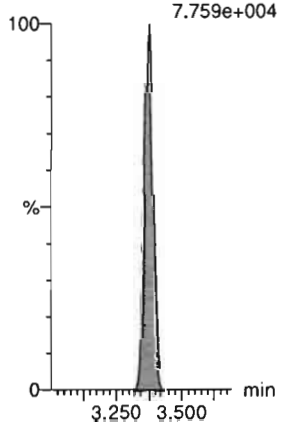
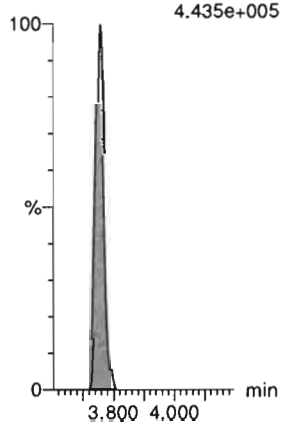


13C3-HFPO-DA-EIS



13C4-PFHpA-EIS



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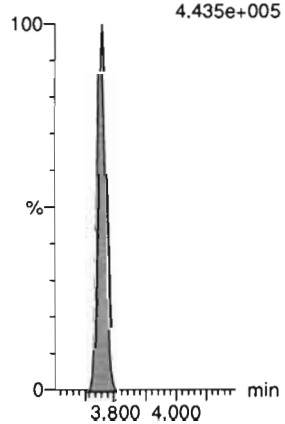

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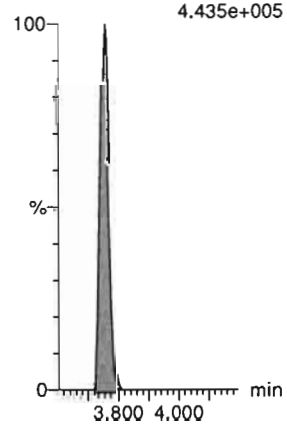

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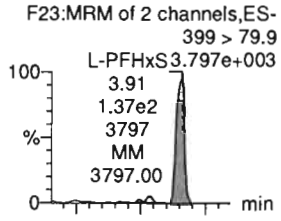
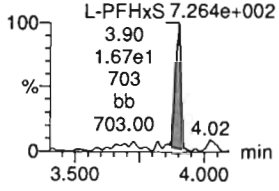
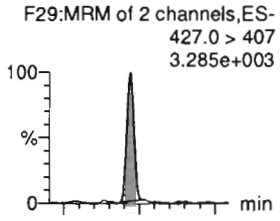
Name: 200715P1-06, Date: 15-Jul-2020, Time: 12:30:45, ID: ST200715P1-2 PFC CS-1 20F1902, Description: PFC CS-1 20F1902

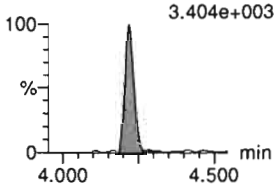
L-PFHxS





6:2 FTS





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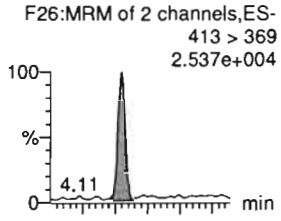

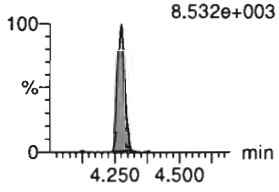

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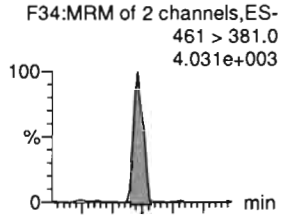

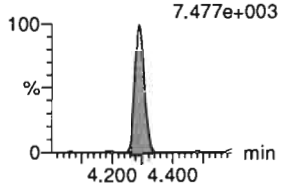

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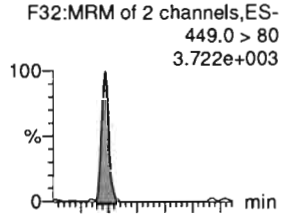
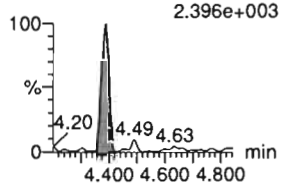
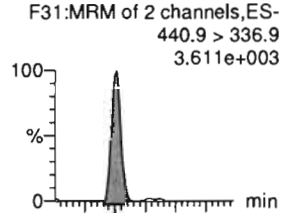
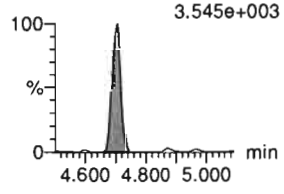


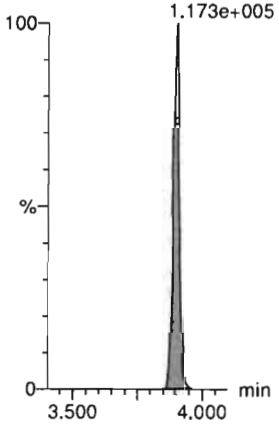


7:3 FTCA

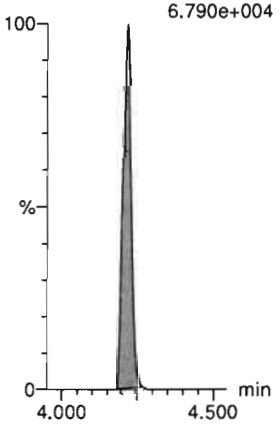




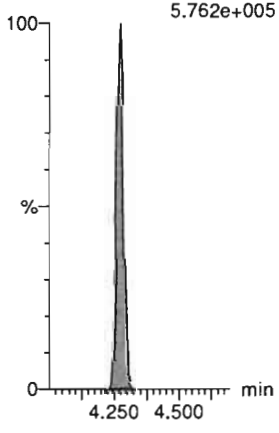
13C3-PFHxS-EIS



13C2-6:2 FTS-EIS



13C2-PFOA-EIS



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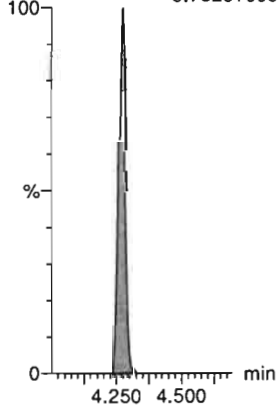
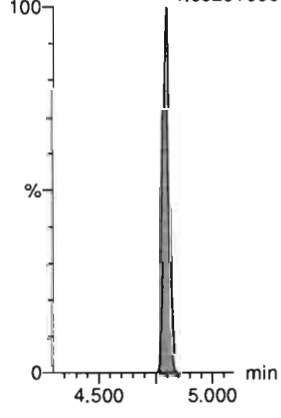
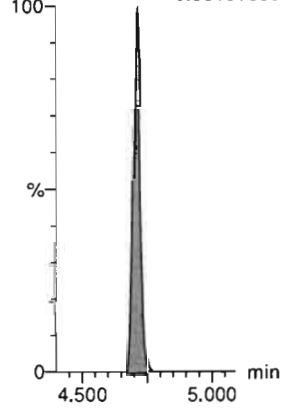


13C8-PFOS-EIS



13C5-PFNA-EIS



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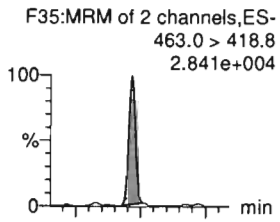
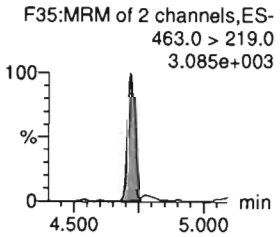
Name: 200715P1-06, Date: 15-Jul-2020, Time: 12:30:45, ID: ST200715P1-2 PFC CS-1 20F1902, Description: PFC CS-1 20F1902

PFNA





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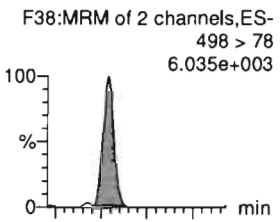
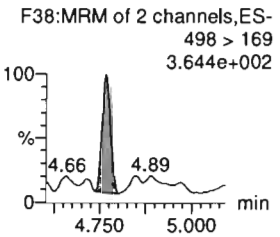
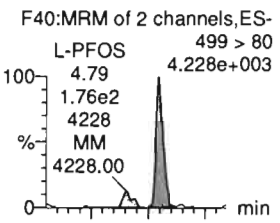
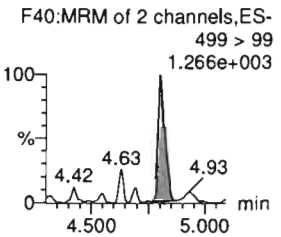


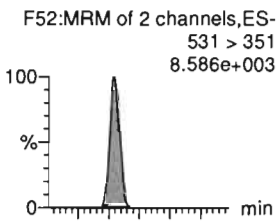


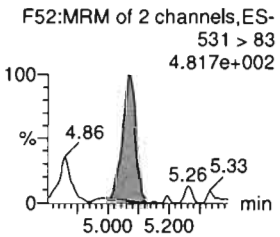
L-PFOS





9Cl-PF30NS





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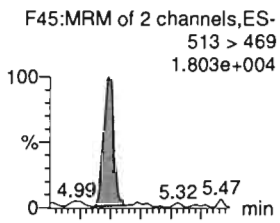
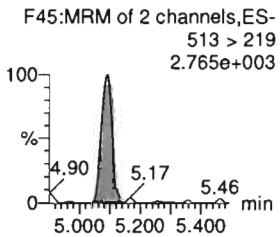
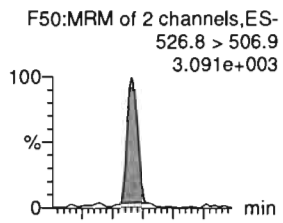
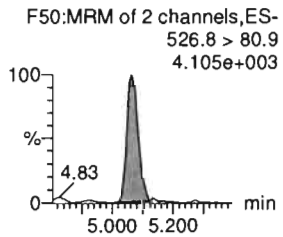


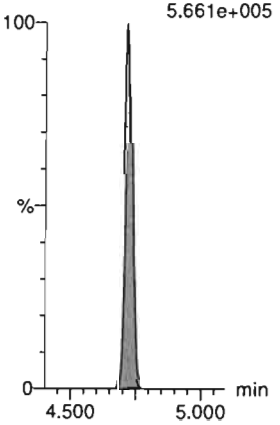


8:2 FTS

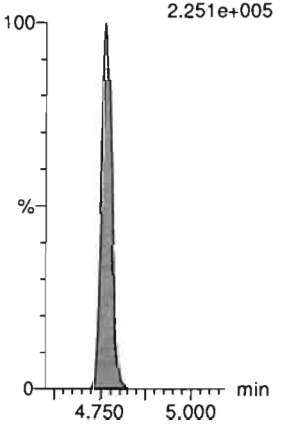




13C5-PFNA-EIS



13C8-PFOSA-EIS



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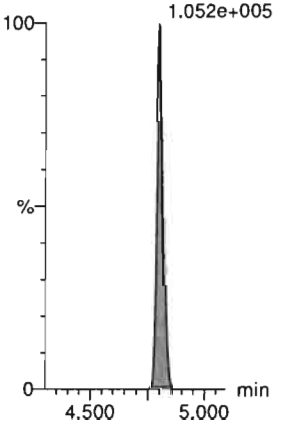

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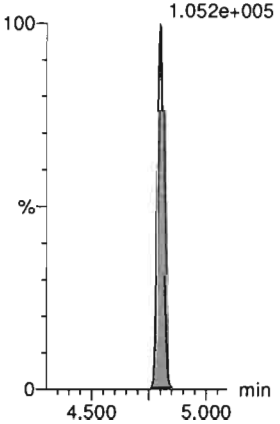

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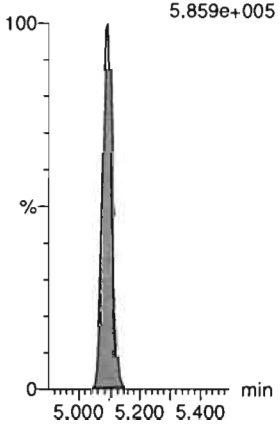
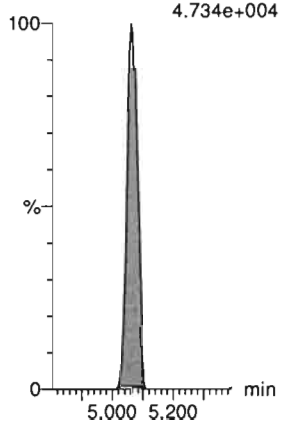


13C2-8:2 FTS-EIS



Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

Last Altered: Wednesday, July 15, 2020 15:31:31 Pacific Daylight Time
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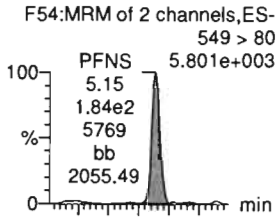
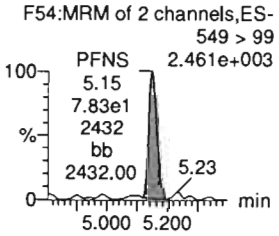
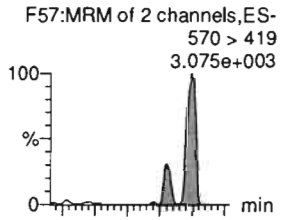
Name: 200715P1-06, Date: 15-Jul-2020, Time: 12:30:45, ID: ST200715P1-2 PFC CS-1 20F1902, Description: PFC CS-1 20F1902

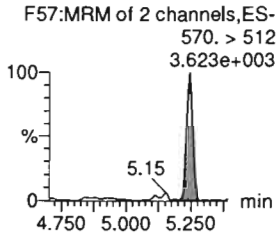
PFNS





L-MeFOSAA





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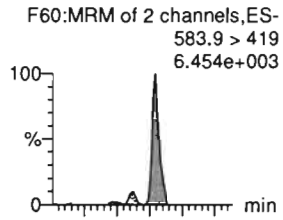
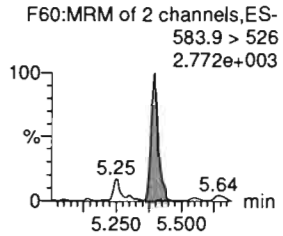
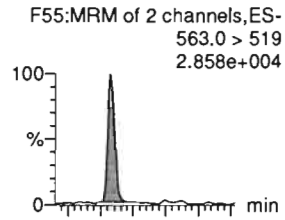
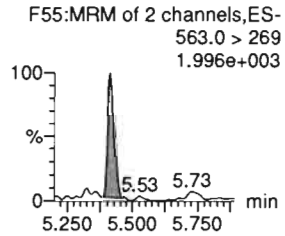


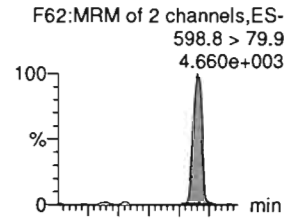


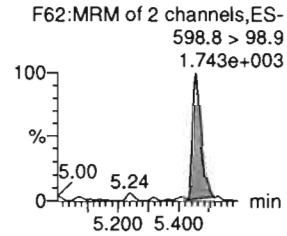
PFUdA



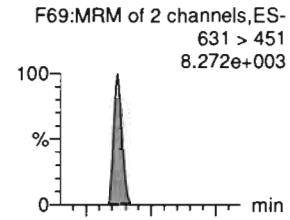


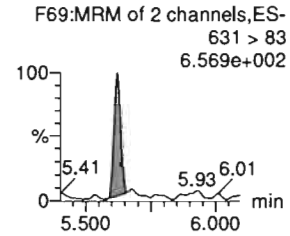
PFDS



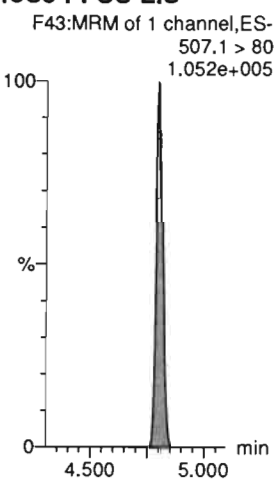


11Cl-PF30UdS

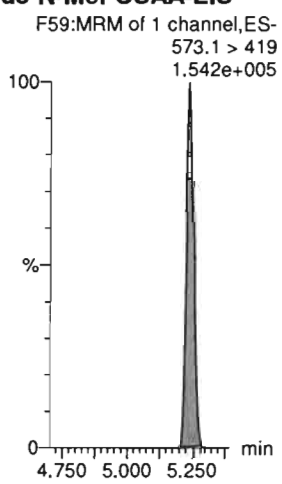




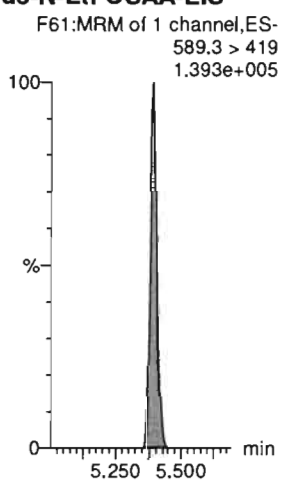
13C8-PFOS-EIS



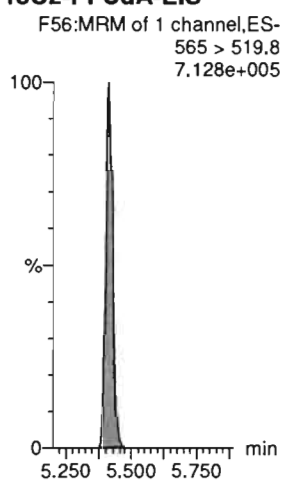
d3-N-MeFOSAA-EIS



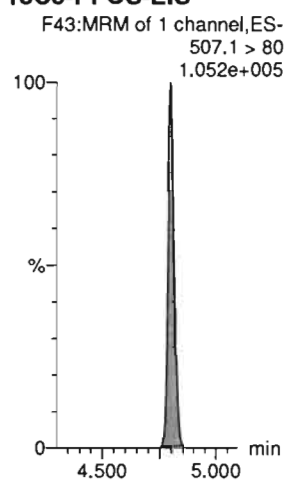
d5-N-EtFOSAA-EIS



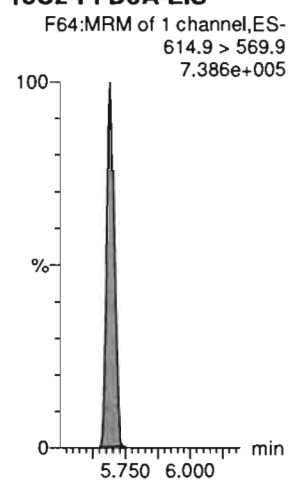
13C2-PFUdA-EIS



13C8-PFOS-EIS



13C2-PFDoA-EIS



Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

Last Altered: Wednesday, July 15, 2020 15:31:31 Pacific Daylight Time
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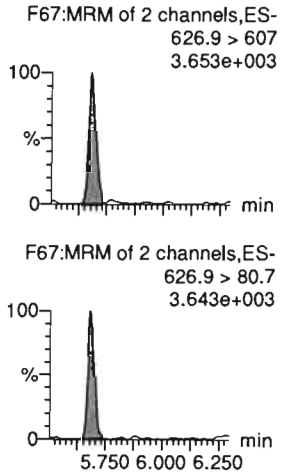
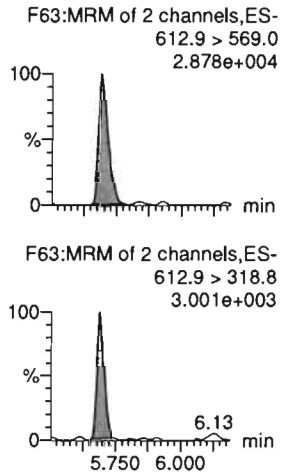
Name: 200715P1-06, Date: 15-Jul-2020, Time: 12:30:45, ID: ST200715P1-2 PFC CS-1 20F1902, Description: PFC CS-1 20F1902

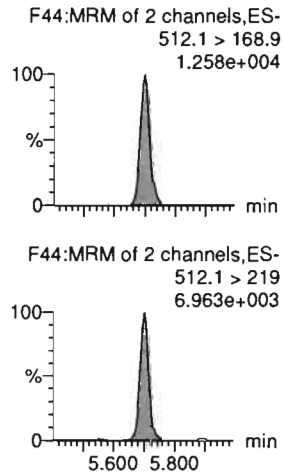
10:2 FTS



PFDoA



N-MeFOSA



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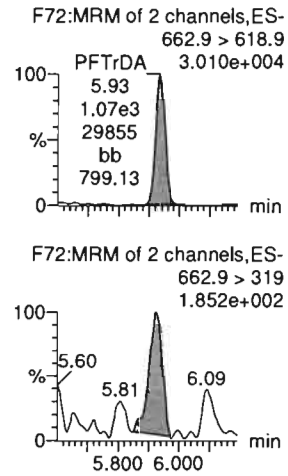
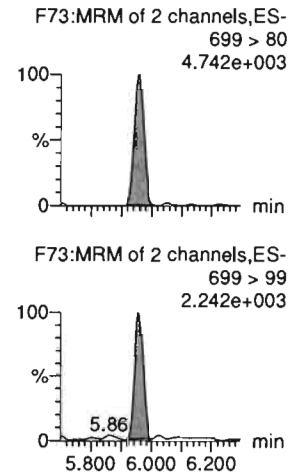
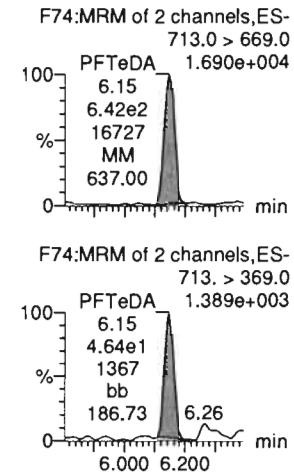


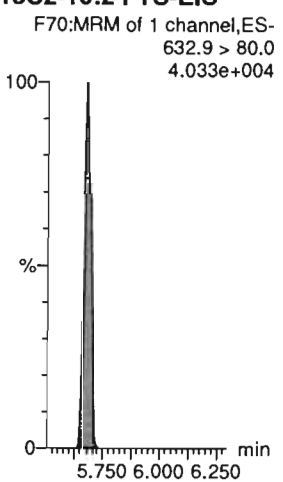
PFDoS



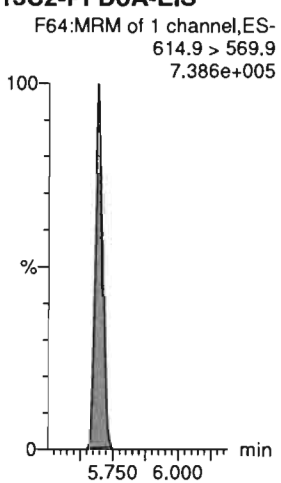
PFTeDA



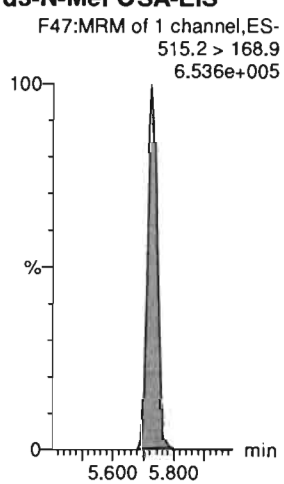
13C2-10:2 FTS-EIS



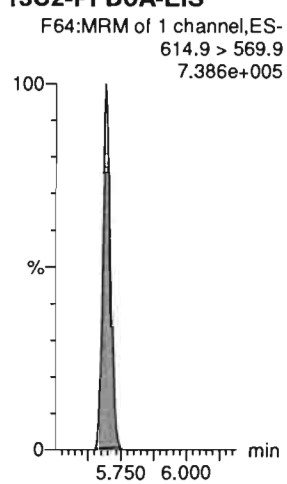
13C2-PFDoA-EIS



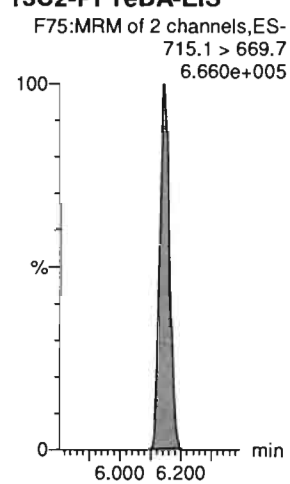
d3-N-MeFOSA-EIS



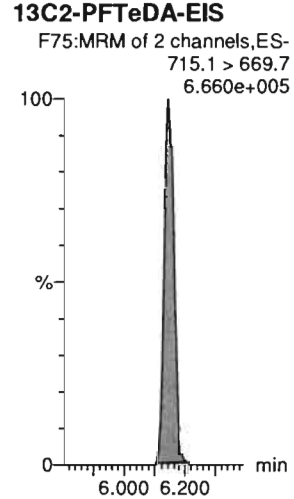
13C2-PFDoA-EIS



13C2-PFTeDA-EIS



13C2-PFTeDA-EIS



Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

Last Altered: Wednesday, July 15, 2020 15:31:31 Pacific Daylight Time
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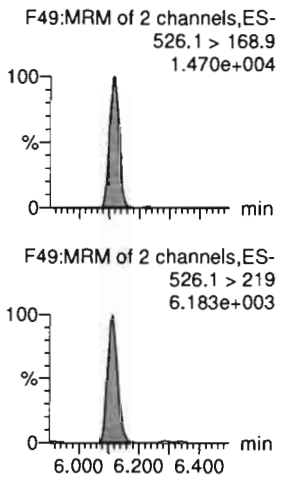
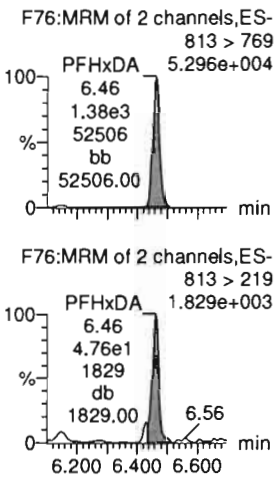
Name: 200715P1-06, Date: 15-Jul-2020, Time: 12:30:45, ID: ST200715P1-2 PFC CS-1 20F1902, Description: PFC CS-1 20F1902

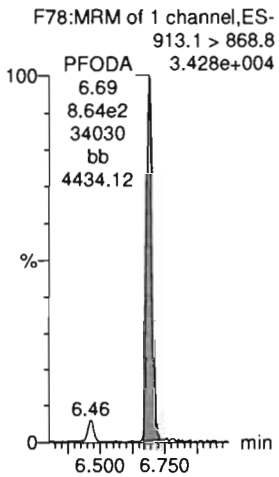
N-EtFOSA



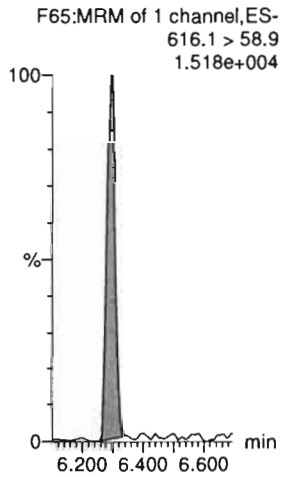
PFHxDA



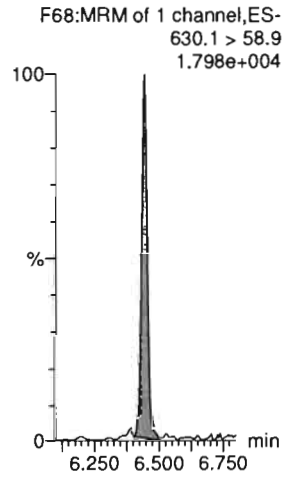
PFODA



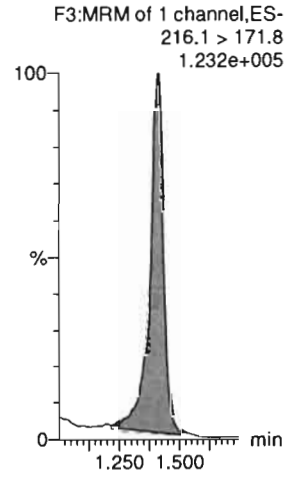
N-MeFOSE



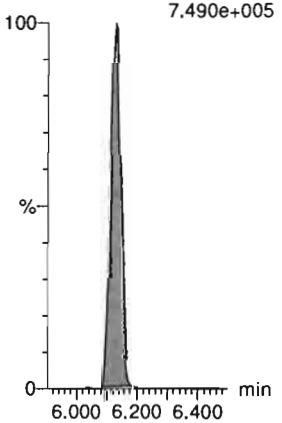
N-EtFOSE



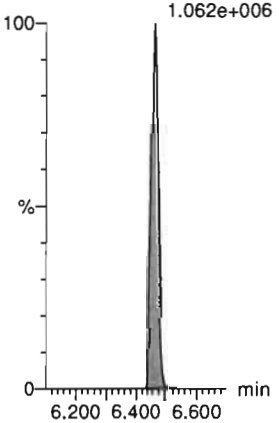
13C3-PFBA-RSD



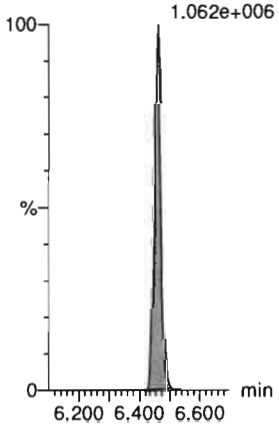
d5-N-ETFOSA-EIS



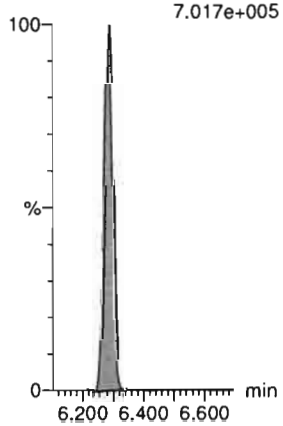
13C2-PFHxDA-EIS



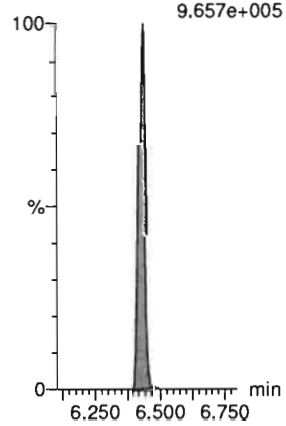
13C2-PFHxDA-EIS



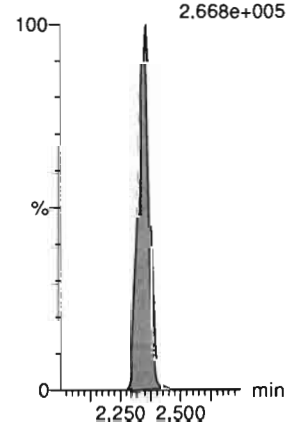
d7-N-MeFOSE-EIS



d9-N-EtFOSE-EIS



13C3-PFPeA-RSD



Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

Last Altered: Wednesday, July 15, 2020 15:31:31 Pacific Daylight Time
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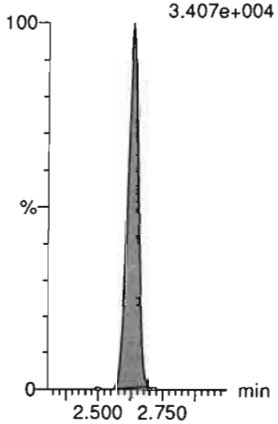
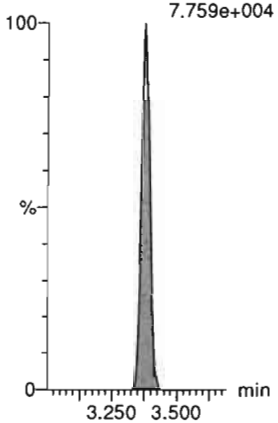
Name: 200715P1-06, Date: 15-Jul-2020, Time: 12:30:45, ID: ST200715P1-2 PFC CS-1 20F1902, Description: PFC CS-1 20F1902

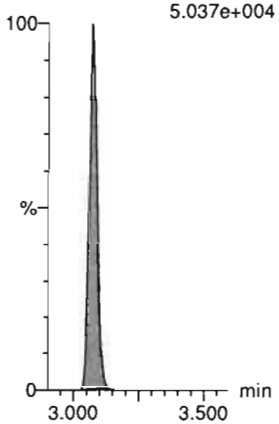
13C3-PFBS-RSD
F12:MRM of 1 channel,ES-
302.0 > 98.9
3.407e+004



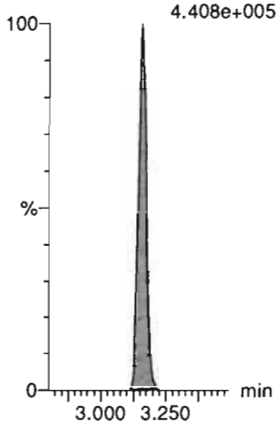
13C3-HFPO-DA-RSD
F10:MRM of 2 channels,ES-
287.0 > 168.9
7.759e+004



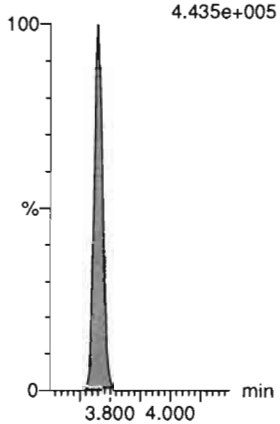
13C2-4:2 FTS-RSD
F17:MRM of 2 channels,ES-
329.0 > 80.8
5.037e+004



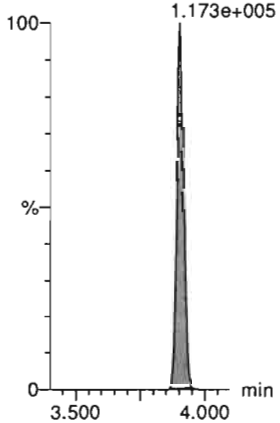
13C2-PFHxA-RSD
F14:MRM of 1 channel,ES-
315.0 > 270.0
4.408e+005



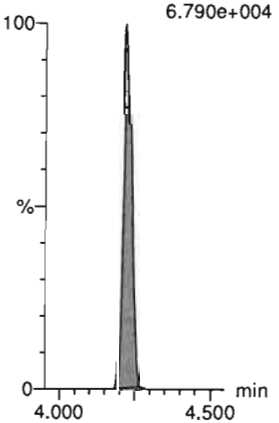
13C4-PFHpA-RSD
F21:MRM of 1 channel,ES-
367.2 > 321.8
4.435e+005



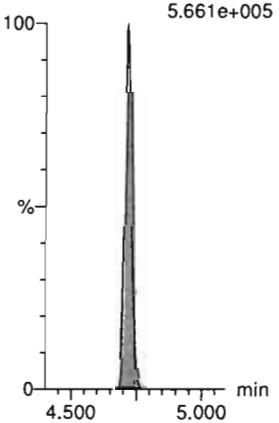
13C3-PFHxS-RSD
F24:MRM of 1 channel,ES-
402 > 80
1.173e+005



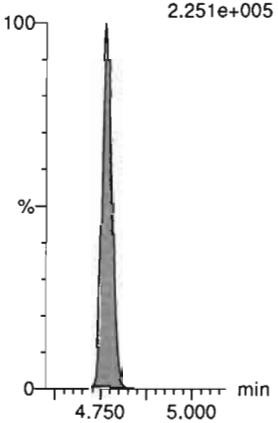
13C2-6:2 FTS-RSD
F30:MRM of 1 channel,ES-
429.0 > 79.7
6.790e+004



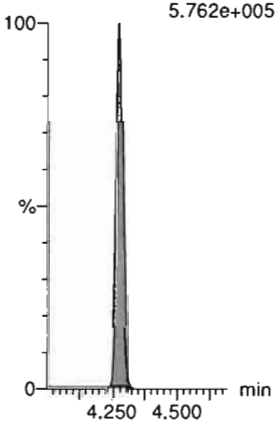
13C5-PFNA-RSD
F36:MRM of 1 channel,ES-
468.2 > 422.9
5.661e+005



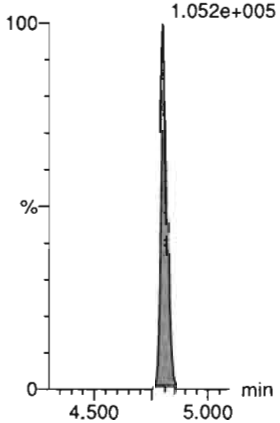
13C8-PFOSA-RSD
F42:MRM of 1 channel,ES-
506 > 78
2.251e+005



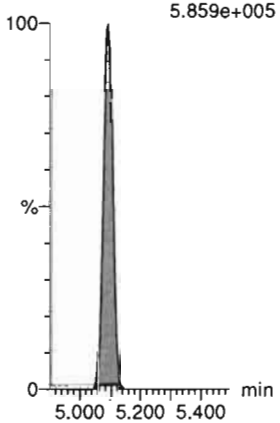
13C2-PFOA-RSD
F27:MRM of 1 channel,ES-
414.9 > 369.7
5.762e+005



13C8-PFOS-RSD
F43:MRM of 1 channel,ES-
507.1 > 80
1.052e+005



13C2-PFDA-RSD
F46:MRM of 1 channel,ES-
515.1 > 469.9
5.859e+005

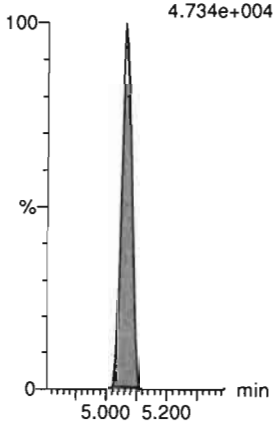


Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

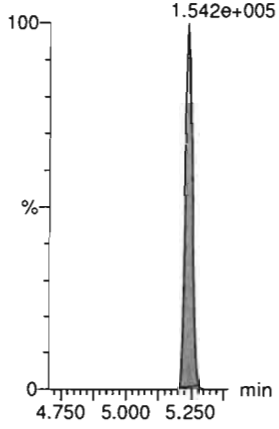
Last Altered: Wednesday, July 15, 2020 15:31:31 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 15:32:47 Pacific Daylight Time

Name: 200715P1-06, Date: 15-Jul-2020, Time: 12:30:45, ID: ST200715P1-2 PFC CS-1 20F1902, Description: PFC CS-1 20F1902

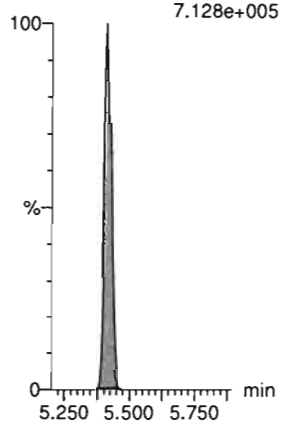
13C2-8:2 FTS-RSD
F51:MRM of 1 channel,ES-
529 > 80
4.734e+004



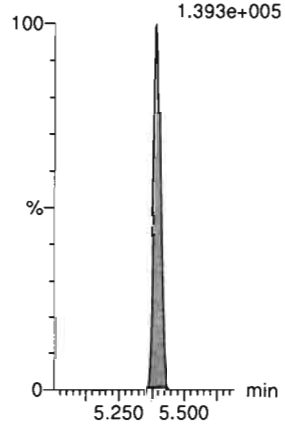
d3-N-MeFOSAA-RSD
F59:MRM of 1 channel,ES-
573.1 > 419
1.542e+005



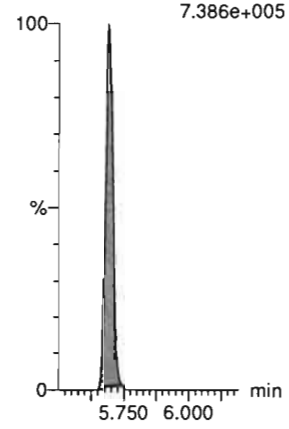
13C2-PFUdA-RSD
F56:MRM of 1 channel,ES-
565 > 519.8
7.128e+005



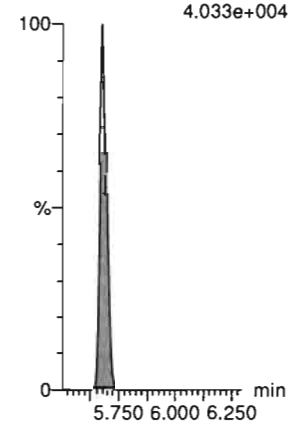
d5-N-EtFOSAA-RSD
F61:MRM of 1 channel,ES-
589.3 > 419
1.393e+005



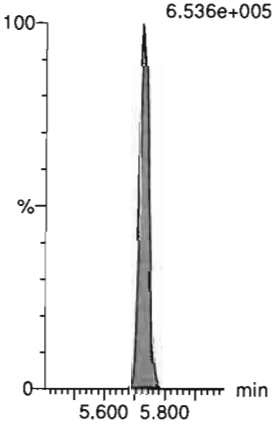
13C2-PFDoA-RSD
F64:MRM of 1 channel,ES-
614.9 > 569.9
7.386e+005



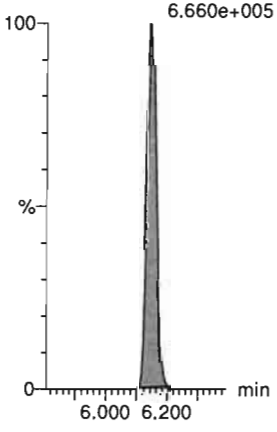
13C2-10:2 FTS-RSD
F70:MRM of 1 channel,ES-
632.9 > 80.0
4.033e+004



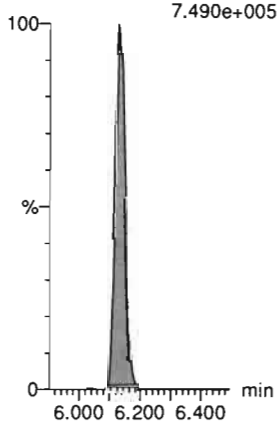
d3-N-MeFOSA-RSD
F47:MRM of 1 channel,ES-
515.2 > 168.9
6.536e+005



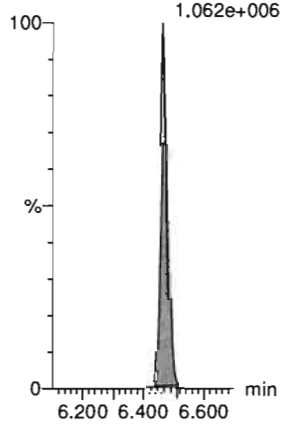
13C2-PFTeDA-RSD
F75:MRM of 2 channels,ES-
715.1 > 669.7
6.660e+005



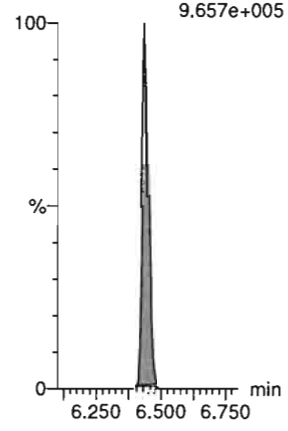
d5-N-ETFOSA-RSD
F53:MRM of 1 channel,ES-
531.1 > 168.9
7.490e+005



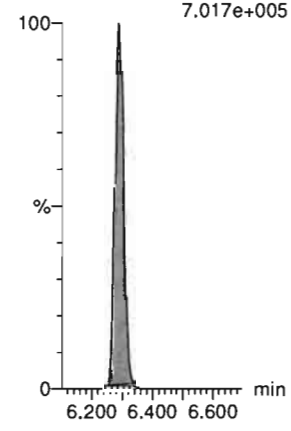
13C2-PFHxDA-RSD
F77:MRM of 1 channel,ES-
815 > 769.7
1.062e+006



d9-N-EtFOSE-RSD
F71:MRM of 1 channel,ES-
639.2 > 58.8
9.657e+005



d7-N-MeFOSE-RSD
F66:MRM of 1 channel,ES-
623.1 > 58.9
7.017e+005



Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

Last Altered: Wednesday, July 15, 2020 15:31:31 Pacific Daylight Time
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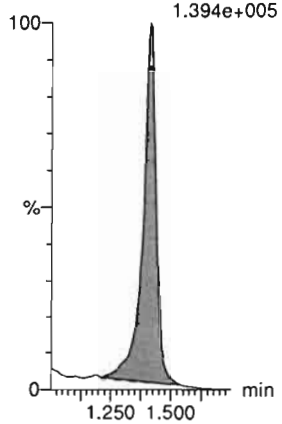
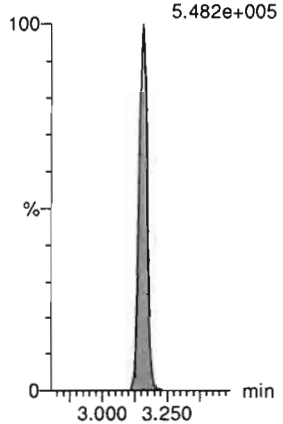
Name: 200715P1-06, Date: 15-Jul-2020, Time: 12:30:45, ID: ST200715P1-2 PFC CS-1 20F1902, Description: PFC CS-1 20F1902

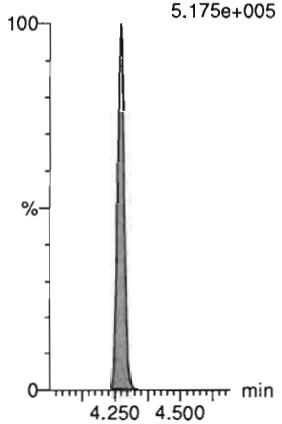
13C4-PFBA



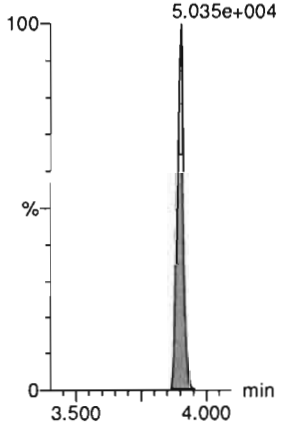
13C5-PFHxA



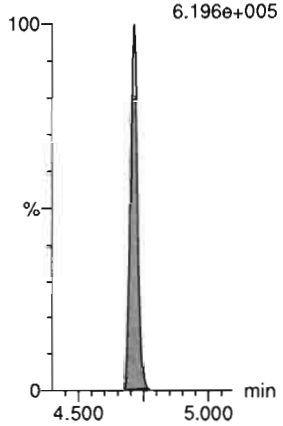
13C8-PFOA



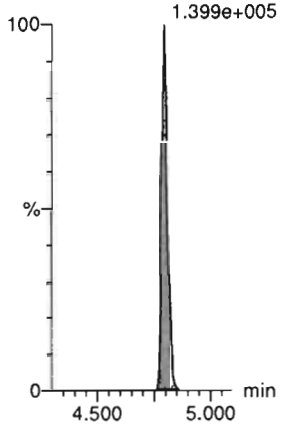
18O2-PFHxS



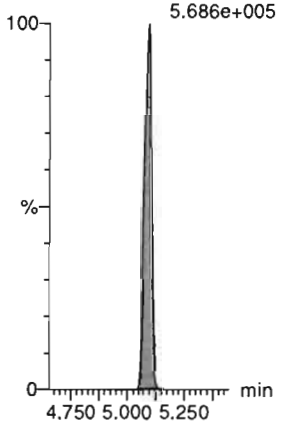
13C9-PFNA



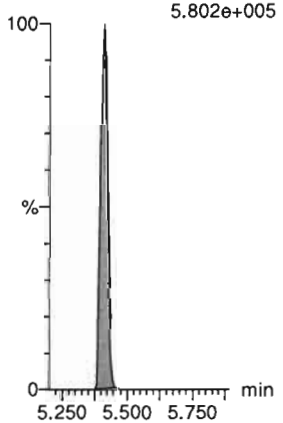
13C4-PFOS



13C6-PFDA



13C7-PFUdA



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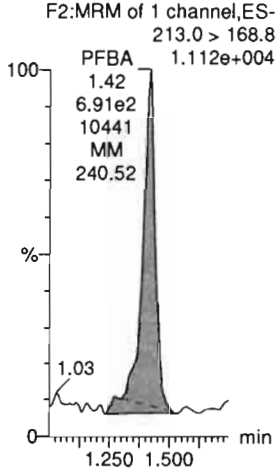
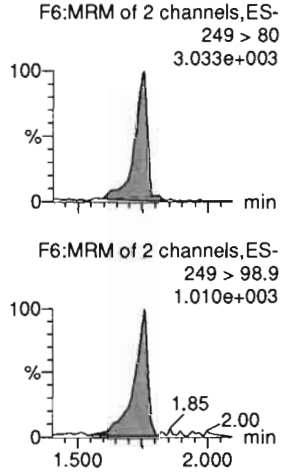
Name: 200715P1-07, Date: 15-Jul-2020, Time: 12:41:22, ID: ST200715P1-3 PFC CS0 20F1903, Description: PFC CS0 20F1903

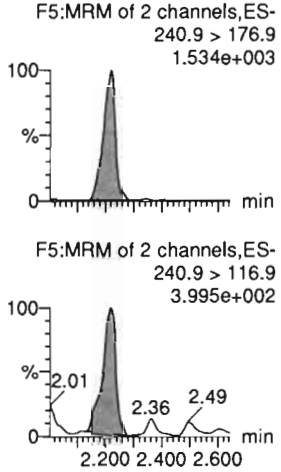
PFBA



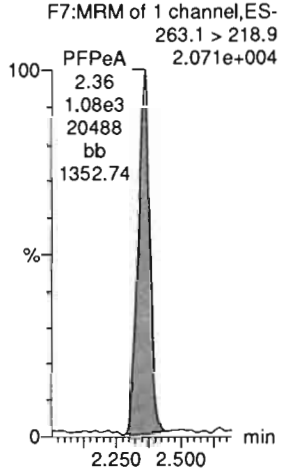
PFPrS



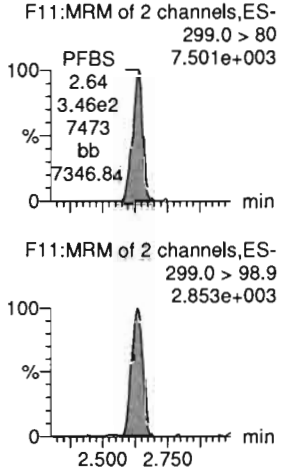
3:3 FTCA



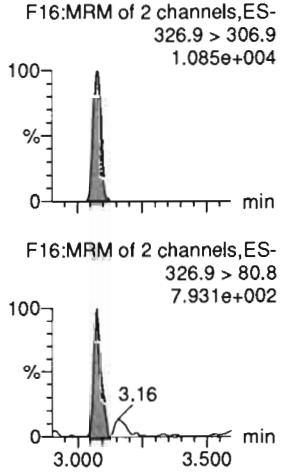
PFPeA



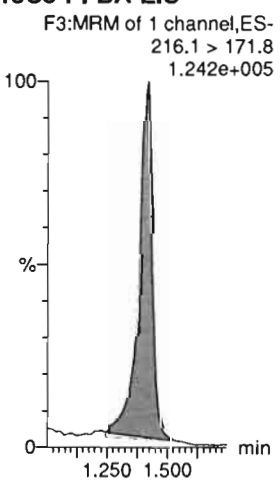
PFBS



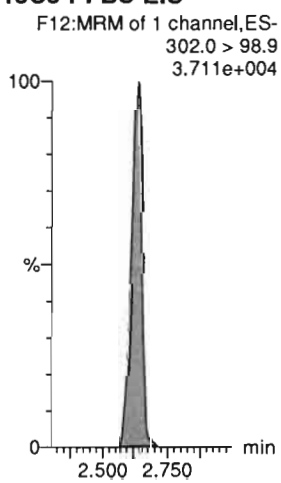
4:2 FTS



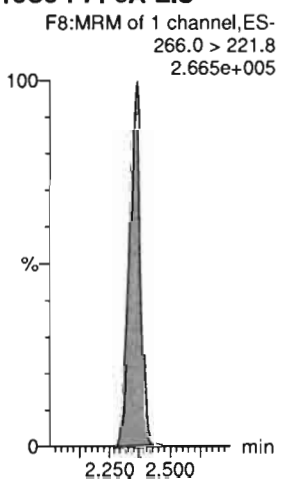
13C3-PFBA-EIS



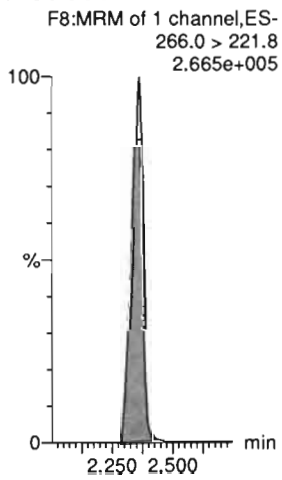
13C3-PFBS-EIS



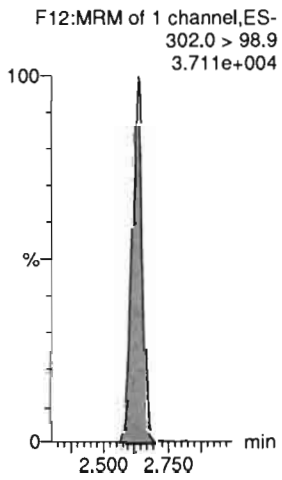
13C3-PFPeA-EIS



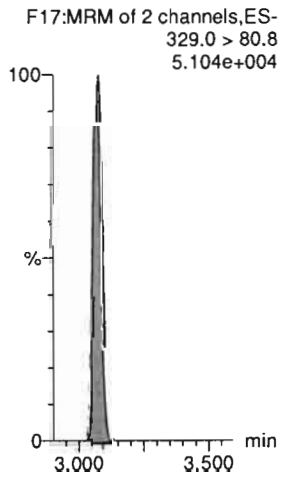
13C3-PFPeA-EIS



13C3-PFBS-EIS



13C2-4:2 FTS-EIS



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Last Altered: Wednesday, July 15, 2020 15:31:31 Pacific Daylight Time
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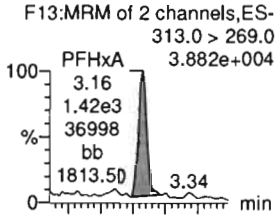
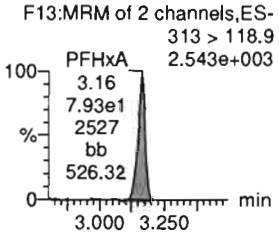
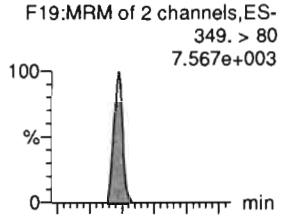
Name: 200715P1-07, Date: 15-Jul-2020, Time: 12:41:22, ID: ST200715P1-3 PFC CS0 20F1903, Description: PFC CS0 20F1903

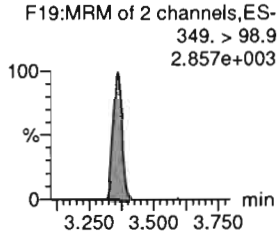
PFHxA



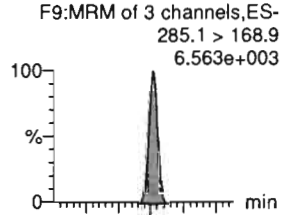


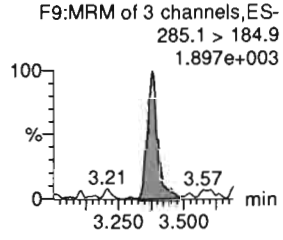
PFPeS



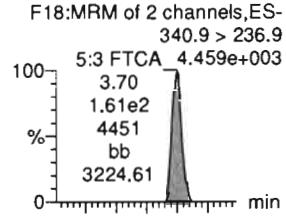


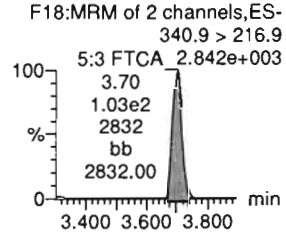
HFPO-DA



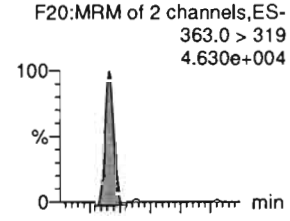


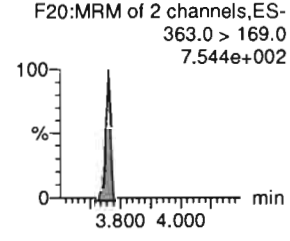
5:3 FTCA



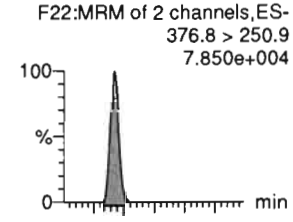


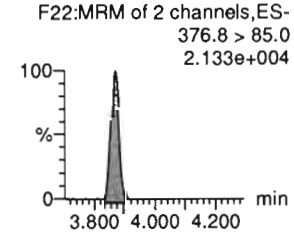
PFHpA



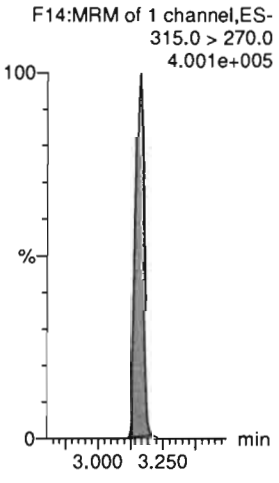


ADONA

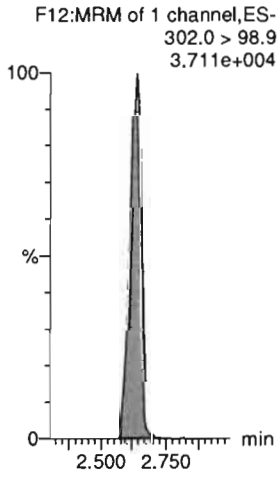




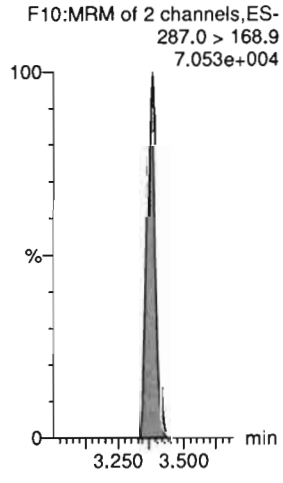
13C2-PFHxA-EIS



13C3-PFBS-EIS



13C3-HFPO-DA-EIS



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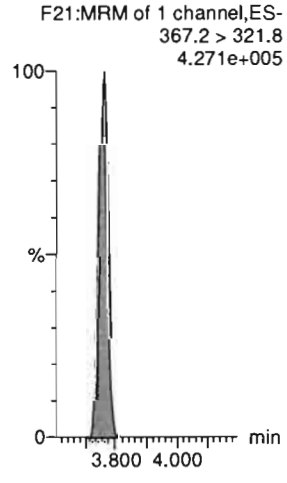

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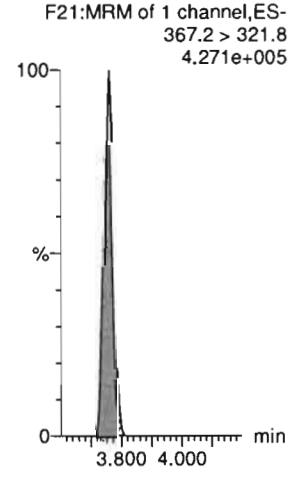

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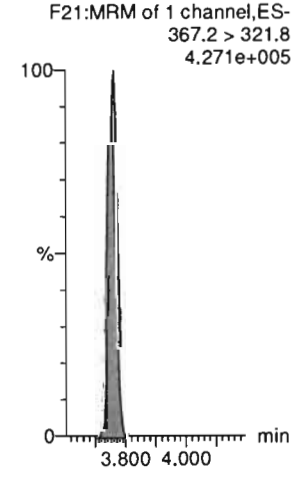

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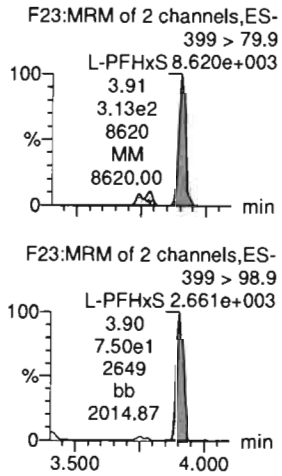
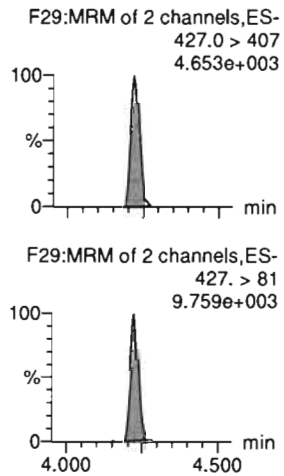
Printed: Wednesday, July 15, 2020 15:32:47 Pacific Daylight Time

Name: 200715P1-07, Date: 15-Jul-2020, Time: 12:41:22, ID: ST200715P1-3 PFC CS0 20F1903, Description: PFC CS0 20F1903

L-PFHxS



6:2 FTS



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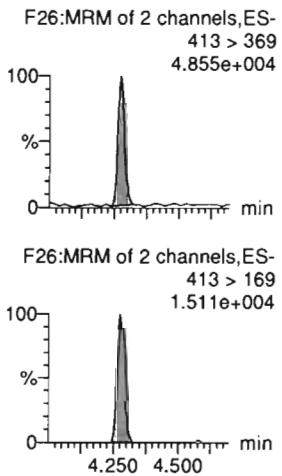

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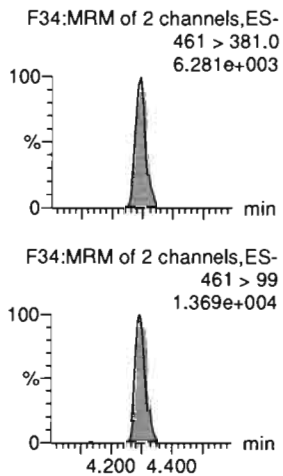

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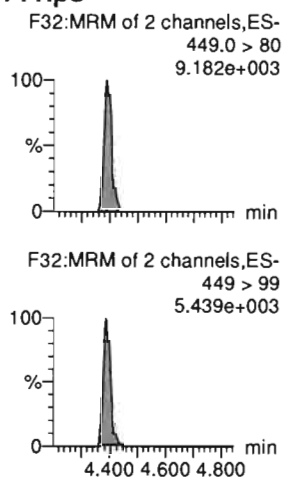
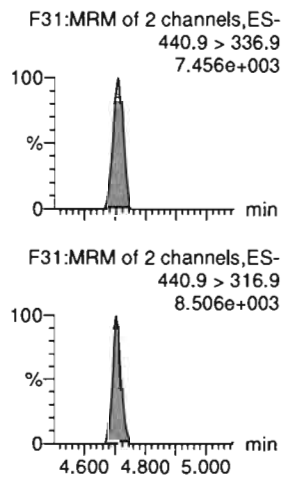


7:3 FTCA



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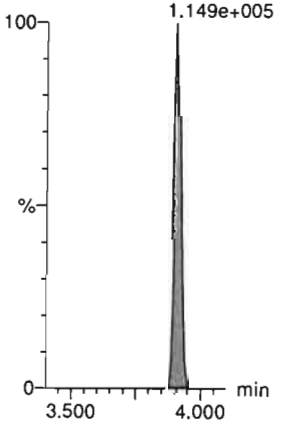
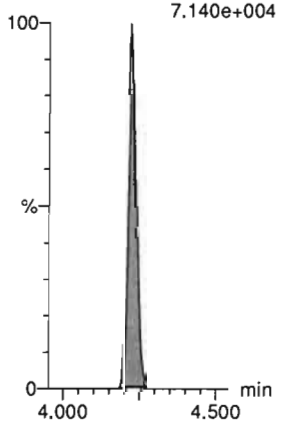


13C2-6:2 FTS-EIS



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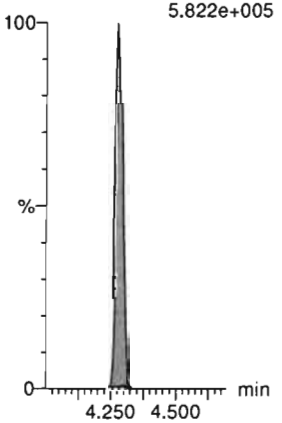

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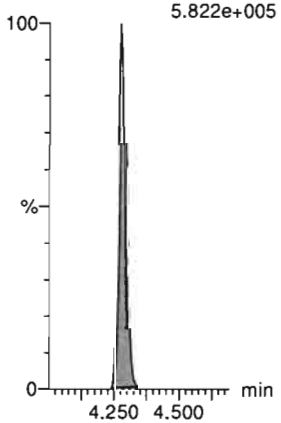
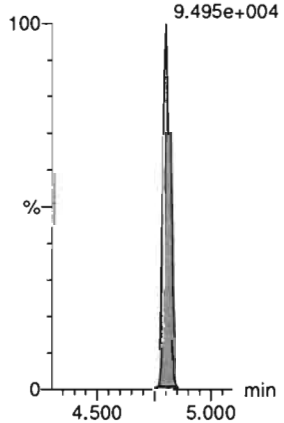
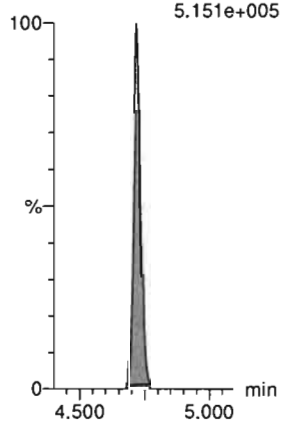


13C8-PFOS-EIS



13C5-PFNA-EIS



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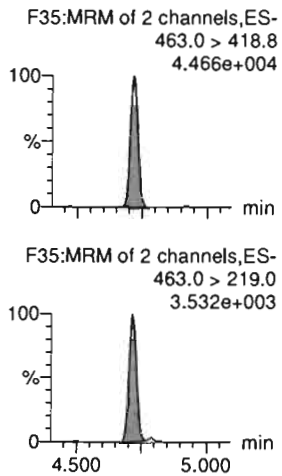

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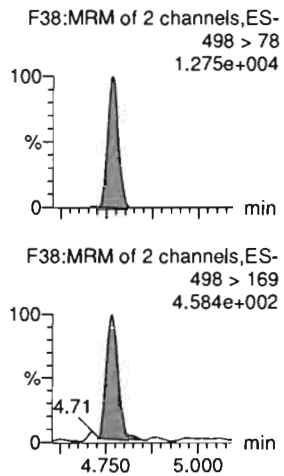

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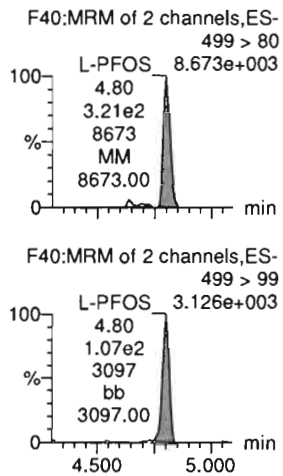

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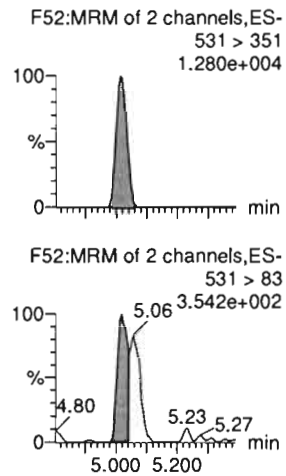

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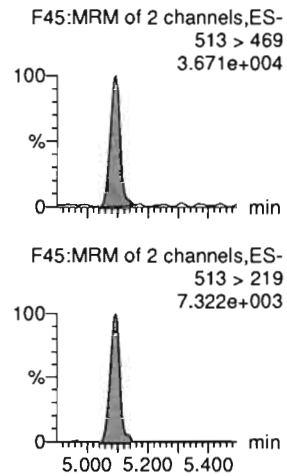
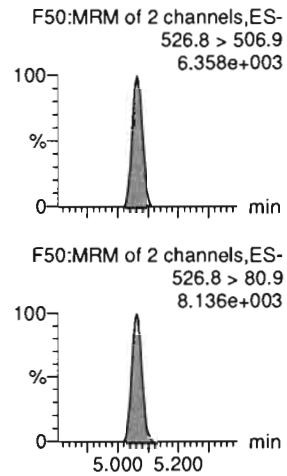


8:2 FTS



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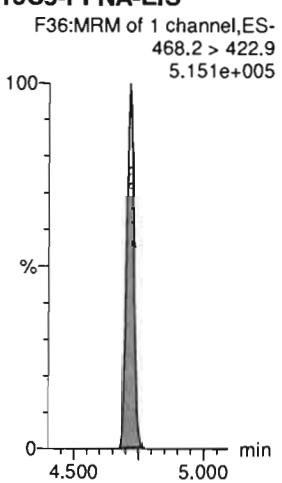

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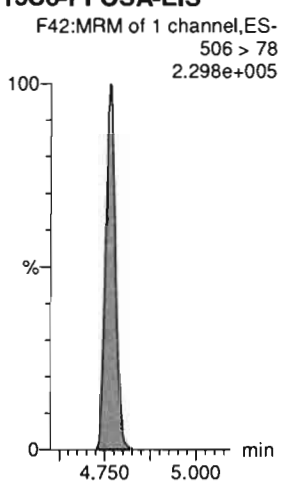

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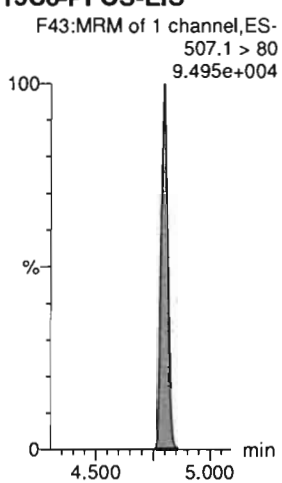

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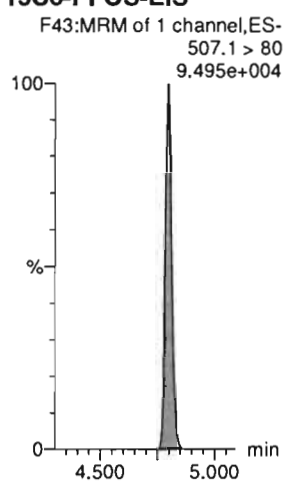

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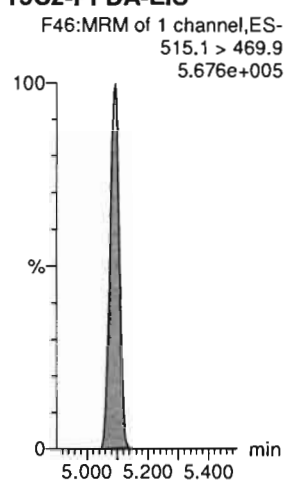

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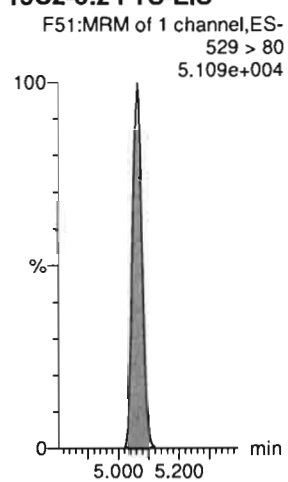

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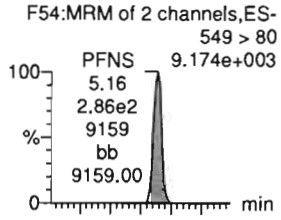
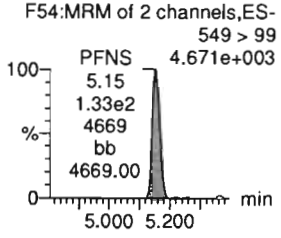
PFNS





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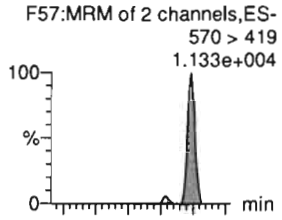

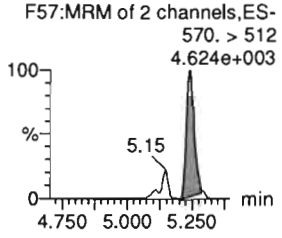

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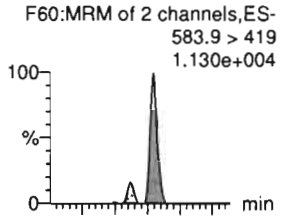

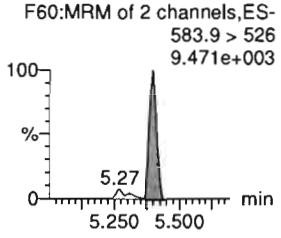

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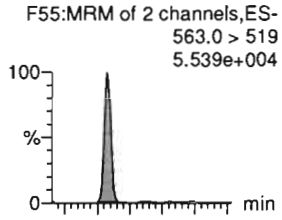

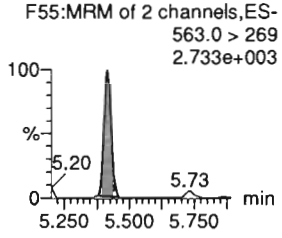

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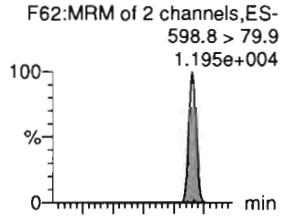

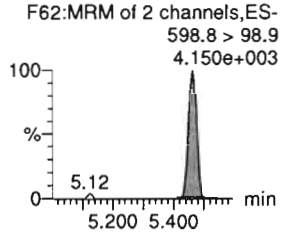

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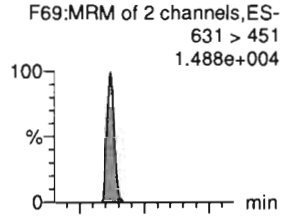

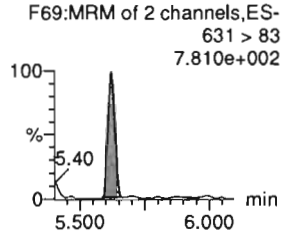

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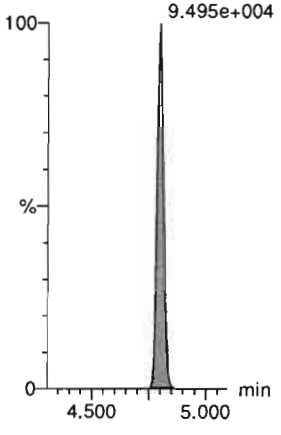

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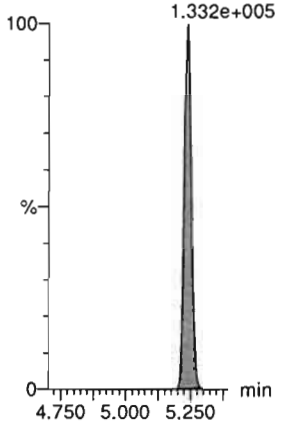

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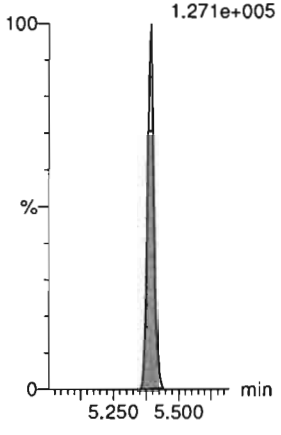

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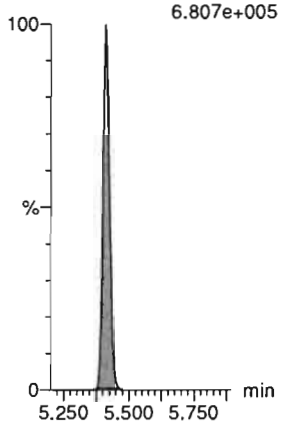

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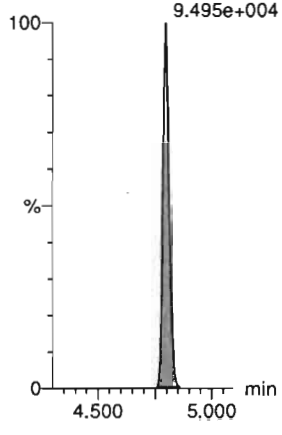
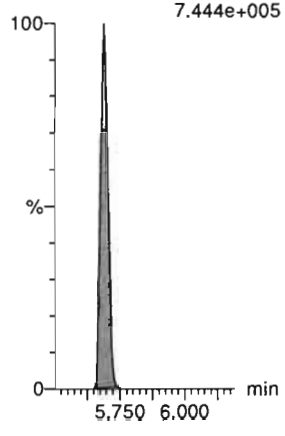


13C2-PFDoA-EIS



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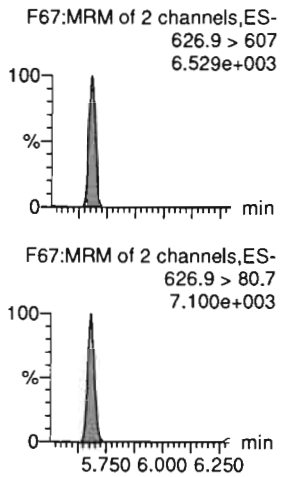
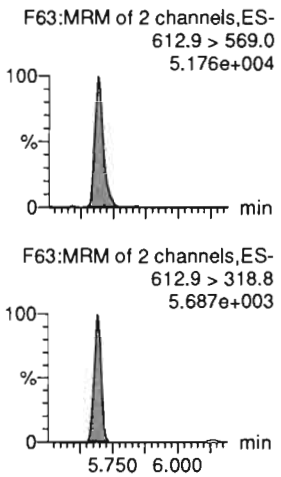
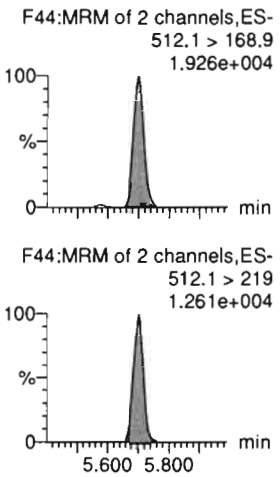
10:2 FTS



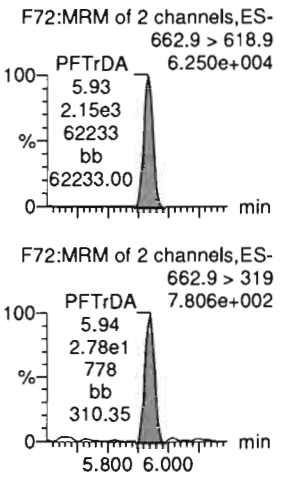
PFDoA



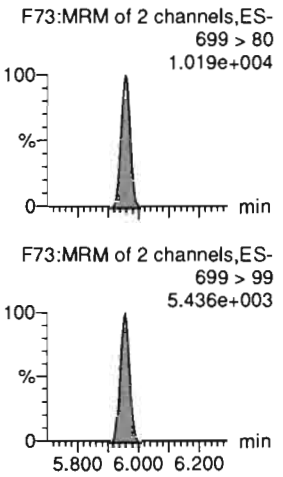
N-MeFOSA



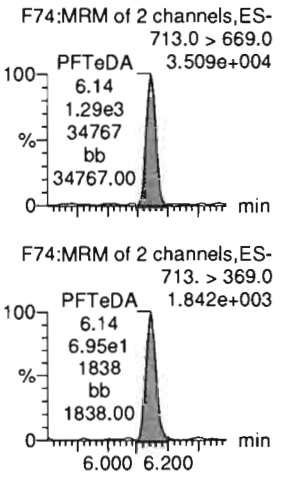
PFTrDA



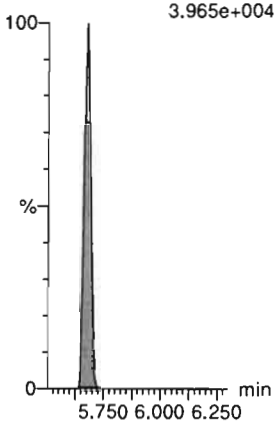
PFDoS



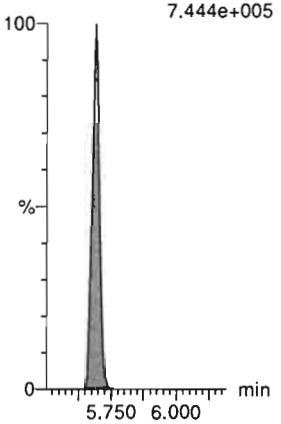
PFTeDA



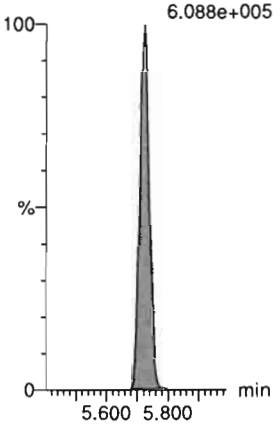
13C2-10:2 FTS-EIS



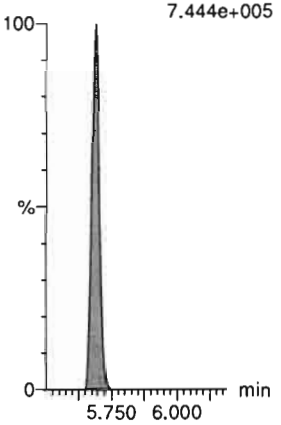
13C2-PFDoA-EIS



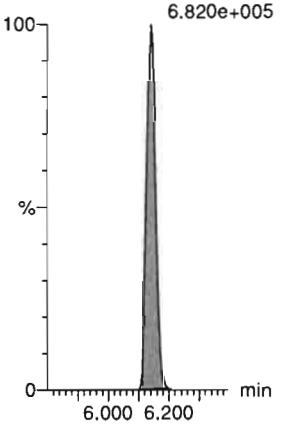
d3-N-MeFOSA-EIS



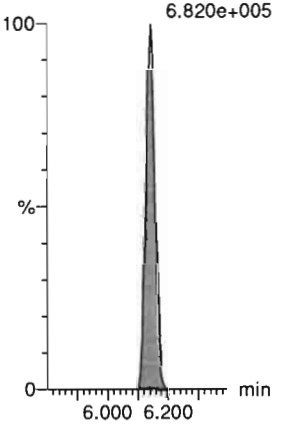
13C2-PFDoA-EIS



13C2-PFTeDA-EIS



13C2-PFTeDA-EIS

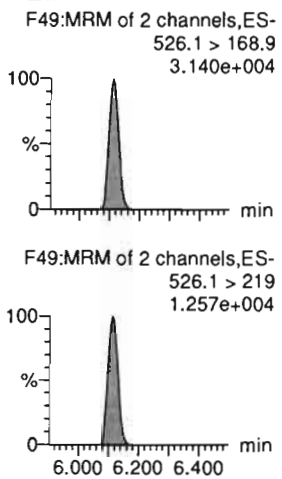


Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

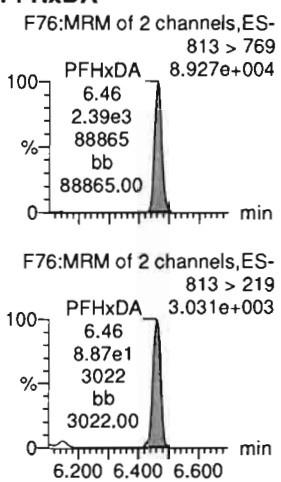
Last Altered: Wednesday, July 15, 2020 15:31:31 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 15:32:47 Pacific Daylight Time

Name: 200715P1-07, Date: 15-Jul-2020, Time: 12:41:22, ID: ST200715P1-3 PFC CS0 20F1903, Description: PFC CS0 20F1903

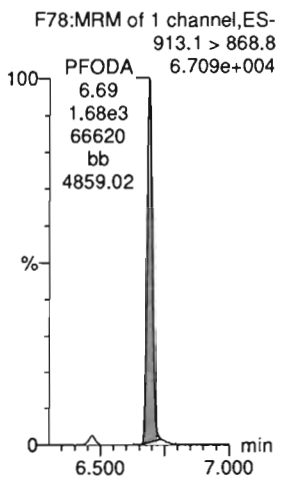
N-EtFOSA



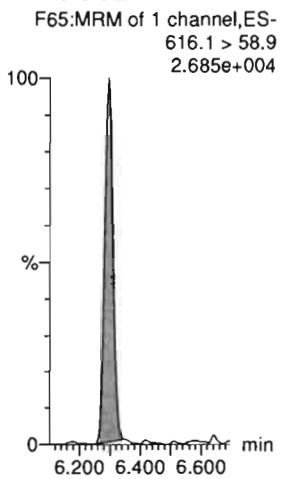
PFHxDA



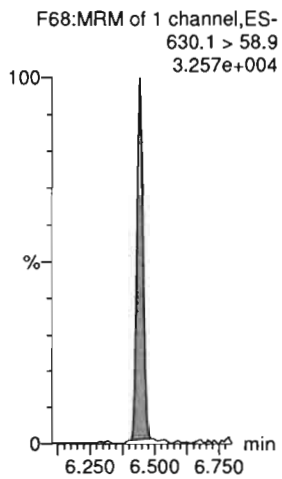
PFODA



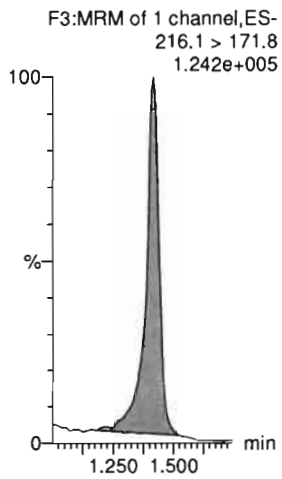
N-MeFOSE



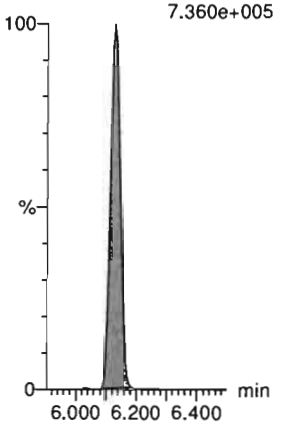
N-EtFOSE



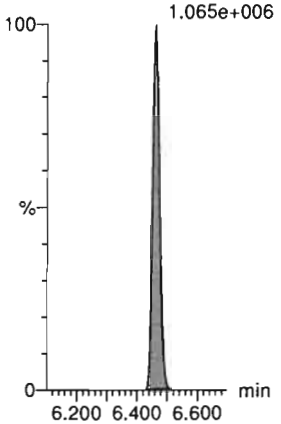
13C3-PFBA-RSD



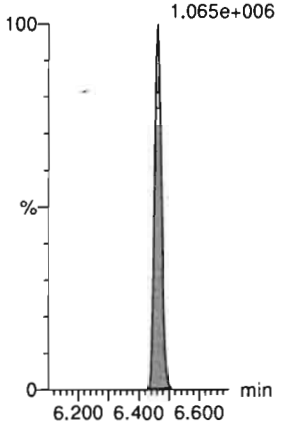
d5-N-ETFOSA-EIS



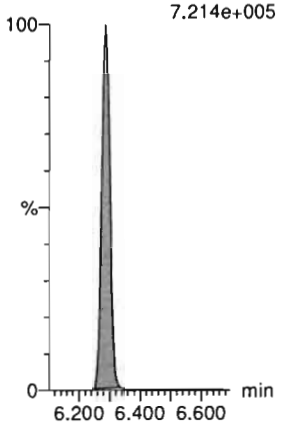
13C2-PFHxDA-EIS



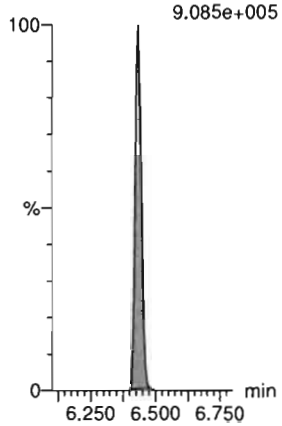
13C2-PFHxDA-EIS



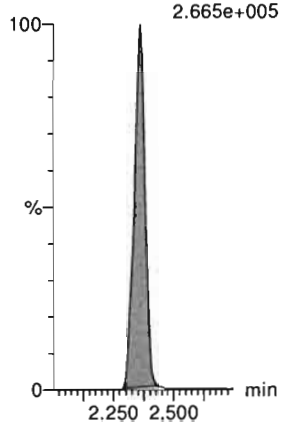
d7-N-MeFOSE-EIS



d9-N-EtFOSE-EIS



13C3-PFPeA-RSD



Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

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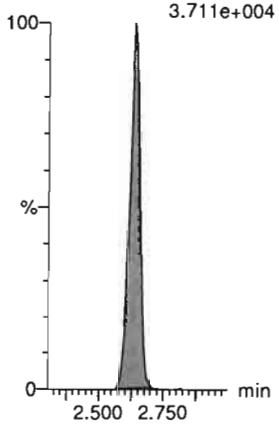
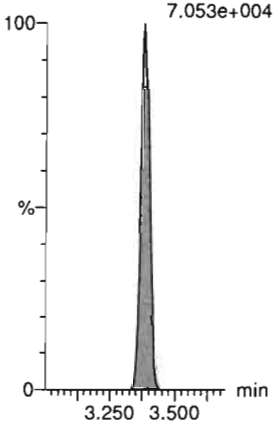
Printed: Wednesday, July 15, 2020 15:32:47 Pacific Daylight Time

Name: 200715P1-07, Date: 15-Jul-2020, Time: 12:41:22, ID: ST200715P1-3 PFC CS0 20F1903, Description: PFC CS0 20F1903

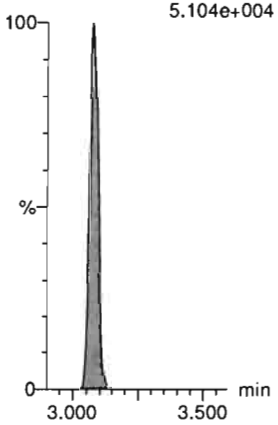
13C3-PFBS-RSD
F12:MRM of 1 channel,ES-
302.0 > 98.9
3.711e+004



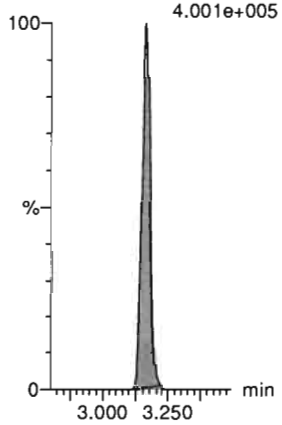
13C3-HFPO-DA-RSD
F10:MRM of 2 channels,ES-
287.0 > 168.9
7.053e+004



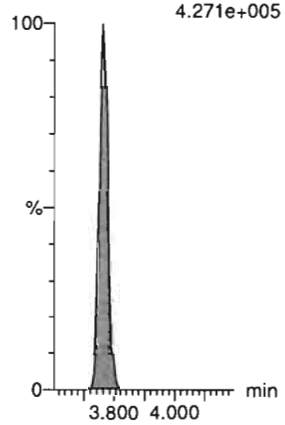
13C2-4:2 FTS-RSD
F17:MRM of 2 channels,ES-
329.0 > 80.8
5.104e+004



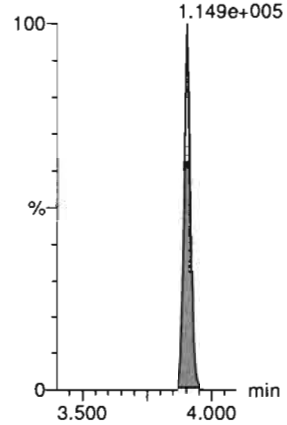
13C2-PFHxA-RSD
F14:MRM of 1 channel,ES-
315.0 > 270.0
4.001e+005



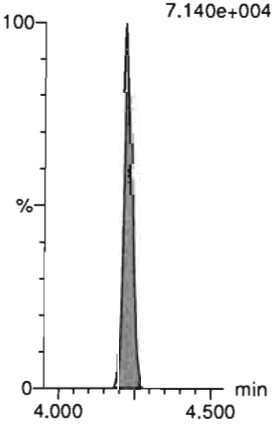
13C4-PFHpA-RSD
F21:MRM of 1 channel,ES-
367.2 > 321.8
4.271e+005



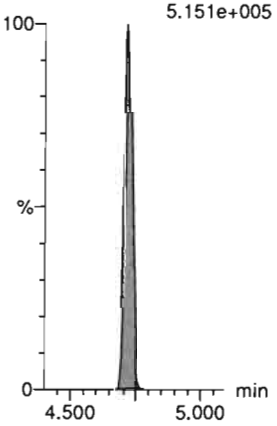
13C3-PFHxS-RSD
F24:MRM of 1 channel,ES-
402 > 80
1.149e+005



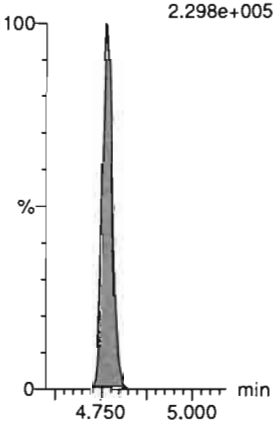
13C2-6:2 FTS-RSD
F30:MRM of 1 channel,ES-
429.0 > 79.7
7.140e+004



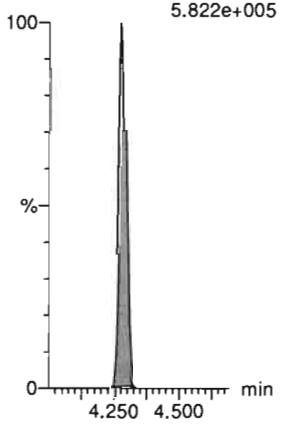
13C5-PFNA-RSD
F36:MRM of 1 channel,ES-
468.2 > 422.9
5.151e+005



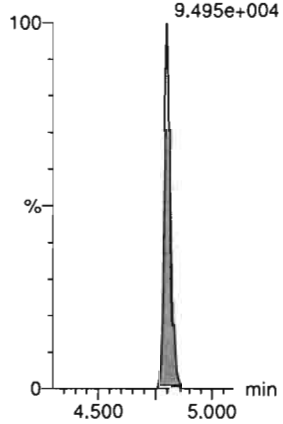
13C8-PFOSA-RSD
F42:MRM of 1 channel,ES-
506 > 78
2.298e+005



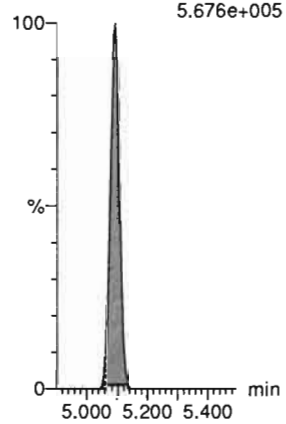
13C2-PFOA-RSD
F27:MRM of 1 channel,ES-
414.9 > 369.7
5.822e+005



13C8-PFOS-RSD
F43:MRM of 1 channel,ES-
507.1 > 80
9.495e+004



13C2-PFDA-RSD
F46:MRM of 1 channel,ES-
515.1 > 469.9
5.676e+005

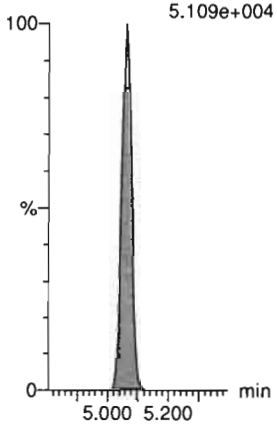


Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

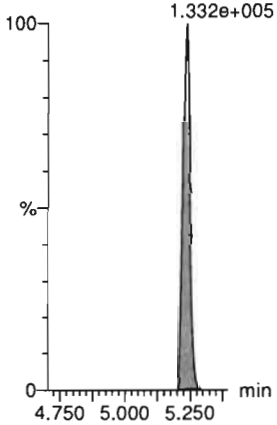
Last Altered: Wednesday, July 15, 2020 15:31:31 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 15:32:47 Pacific Daylight Time

Name: 200715P1-07, Date: 15-Jul-2020, Time: 12:41:22, ID: ST200715P1-3 PFC CS0 20F1903, Description: PFC CS0 20F1903

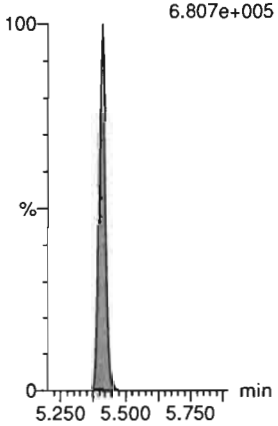
13C2-8:2 FTS-RSD
F51:MRM of 1 channel,ES-
529 > 80
5.109e+004



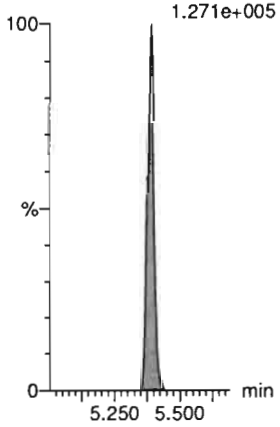
d3-N-MeFOSAA-RSD
F59:MRM of 1 channel,ES-
573.1 > 419
1.332e+005



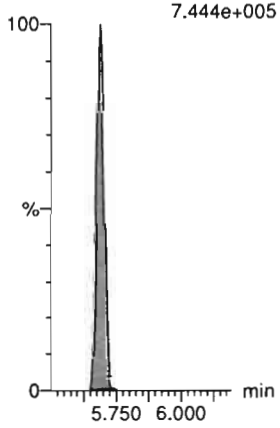
13C2-PFUdA-RSD
F56:MRM of 1 channel,ES-
565 > 519.8
6.807e+005



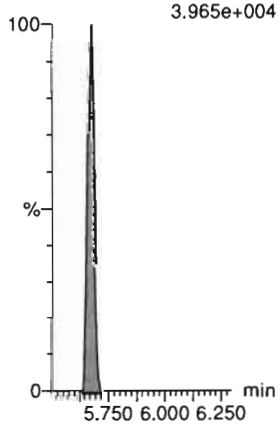
d5-N-EtFOSAA-RSD
F61:MRM of 1 channel,ES-
589.3 > 419
1.271e+005



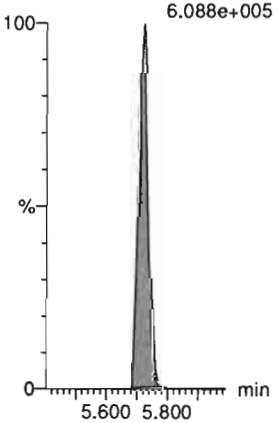
13C2-PFDoA-RSD
F64:MRM of 1 channel,ES-
614.9 > 569.9
7.444e+005



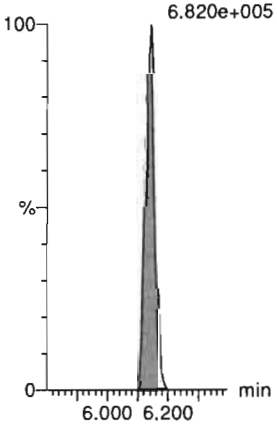
13C2-10:2 FTS-RSD
F70:MRM of 1 channel,ES-
632.9 > 80.0
3.965e+004



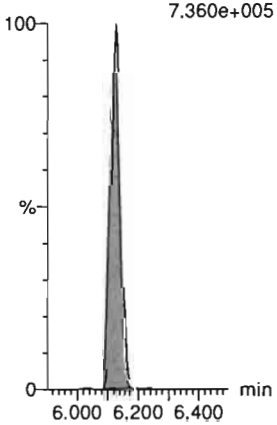
d3-N-MeFOSA-RSD
F47:MRM of 1 channel,ES-
515.2 > 168.9
6.088e+005



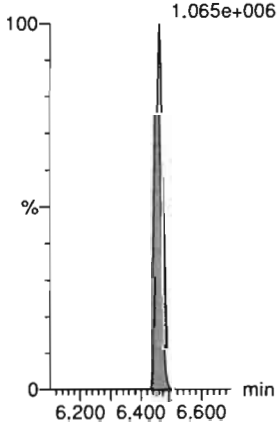
13C2-PFTeDA-RSD
F75:MRM of 2 channels,ES-
715.1 > 669.7
6.820e+005



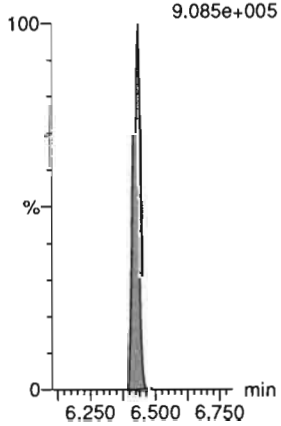
d5-N-ETFOSA-RSD
F53:MRM of 1 channel,ES-
531.1 > 168.9
7.360e+005



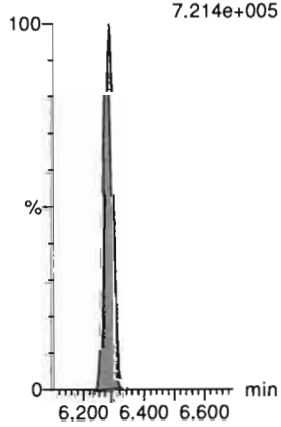
13C2-PFHxDA-RSD
F77:MRM of 1 channel,ES-
815 > 769.7
1.065e+006



d9-N-EtFOSE-RSD
F71:MRM of 1 channel,ES-
639.2 > 58.8
9.085e+005



d7-N-MeFOSE-RSD
F66:MRM of 1 channel,ES-
623.1 > 58.9
7.214e+005

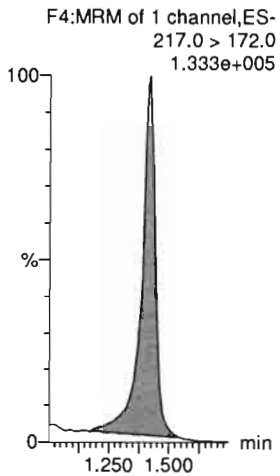


Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

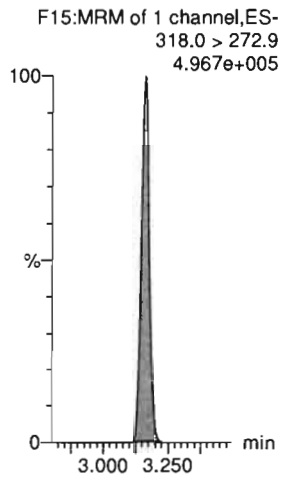
Last Altered: Wednesday, July 15, 2020 15:31:31 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 15:32:47 Pacific Daylight Time

Name: 200715P1-07, Date: 15-Jul-2020, Time: 12:41:22, ID: ST200715P1-3 PFC CS0 20F1903, Description: PFC CS0 20F1903

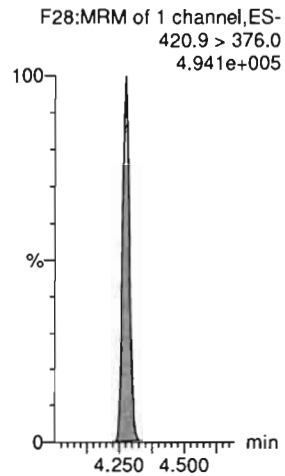
13C4-PFBA



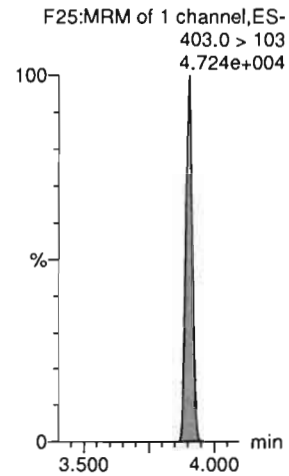
13C5-PFHxA



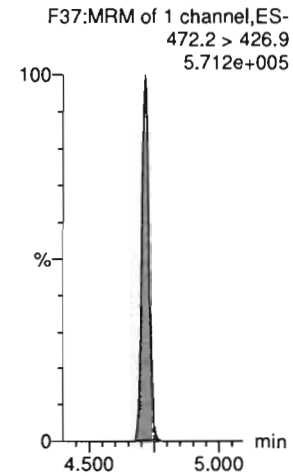
13C8-PFOA



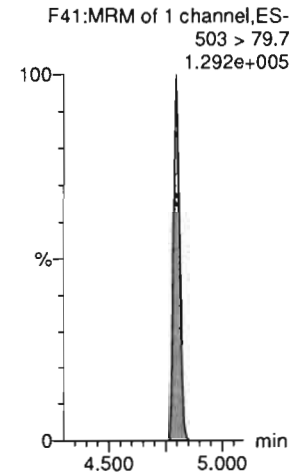
18O2-PFHxS



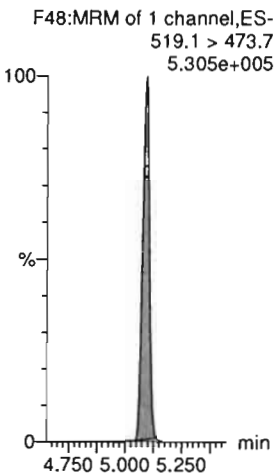
13C9-PFNA



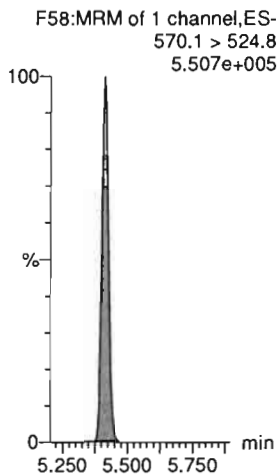
13C4-PFOS



13C6-PFDA



13C7-PFUdA

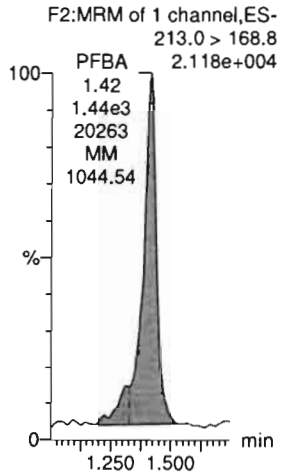


Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

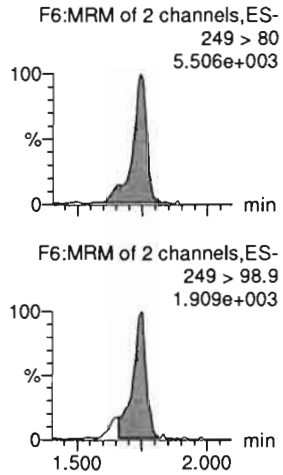
Last Altered: Wednesday, July 15, 2020 15:31:31 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 15:32:47 Pacific Daylight Time

Name: 200715P1-08, Date: 15-Jul-2020, Time: 12:51:58, ID: ST200715P1-4 PFC CS1 20F1904, Description: PFC CS1 20F1904

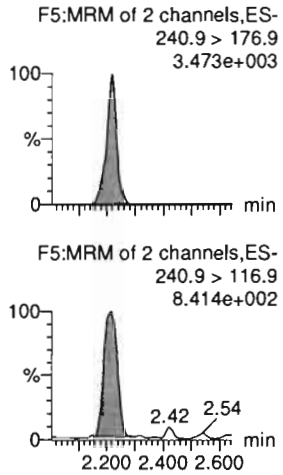
PFBA



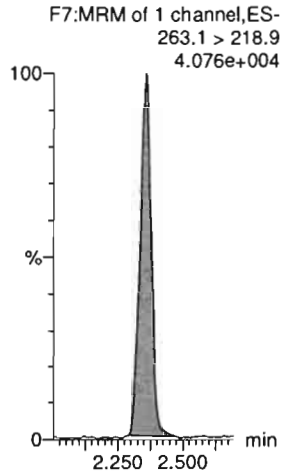
PFPrS



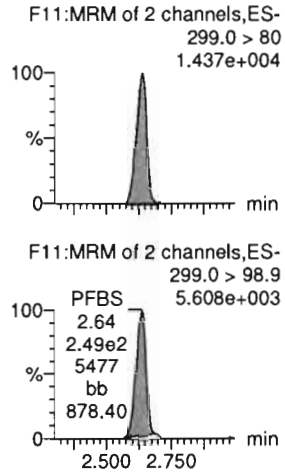
3:3 FTCA



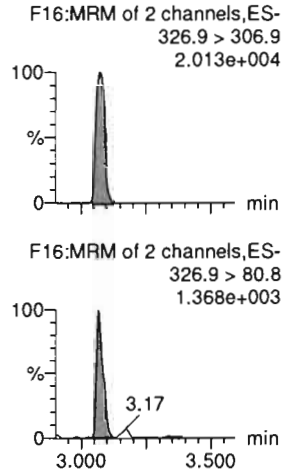
PFPeA



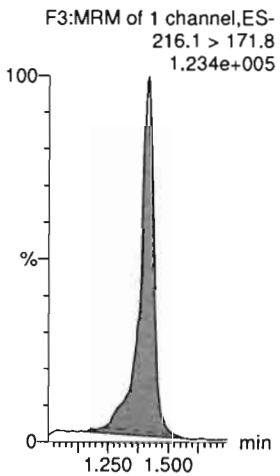
PFBS



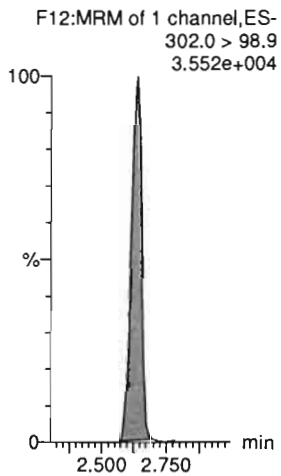
4:2 FTS



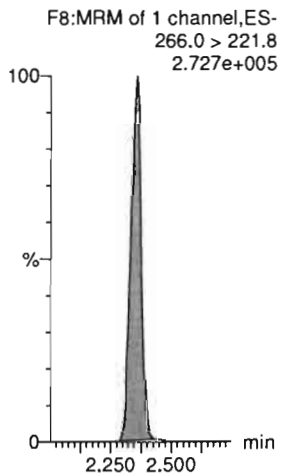
13C3-PFBA-EIS



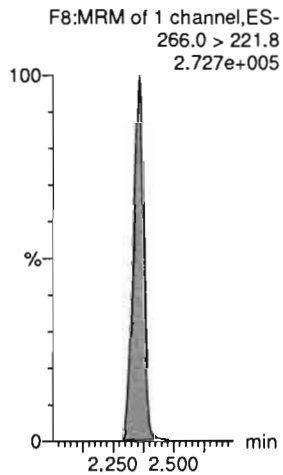
13C3-PFBS-EIS



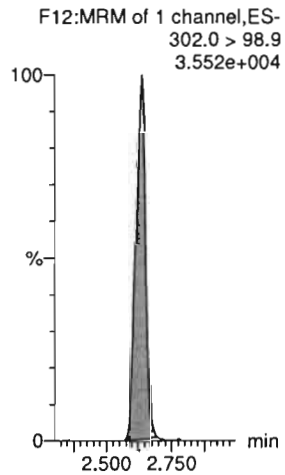
13C3-PFPeA-EIS



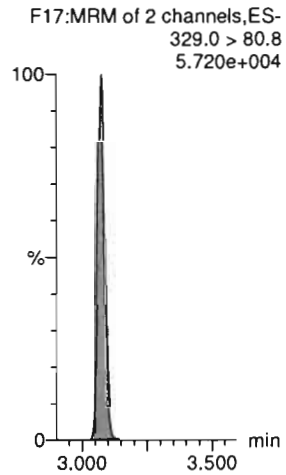
13C3-PFPeA-EIS



13C3-PFBS-EIS



13C2-4:2 FTS-EIS

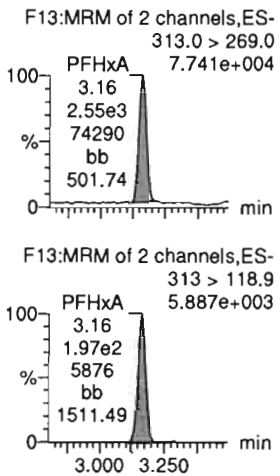


Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

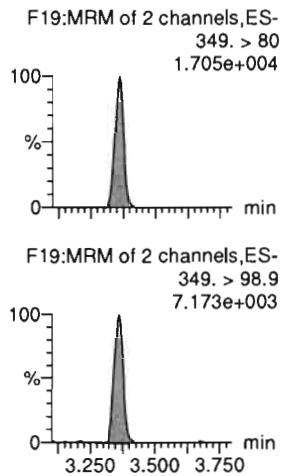
Last Altered: Wednesday, July 15, 2020 15:31:31 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 15:32:47 Pacific Daylight Time

Name: 200715P1-08, Date: 15-Jul-2020, Time: 12:51:58, ID: ST200715P1-4 PFC CS1 20F1904, Description: PFC CS1 20F1904

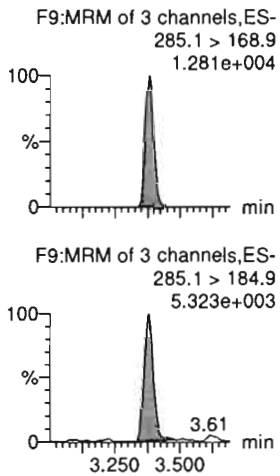
PFHxA



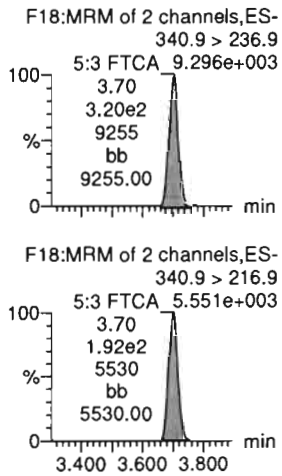
PFPeS



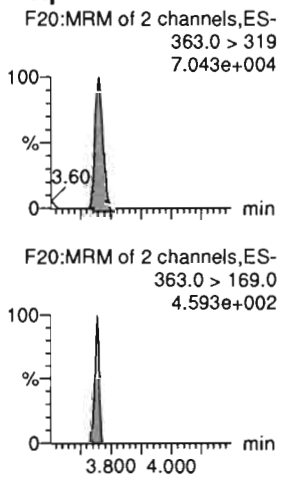
HFPO-DA



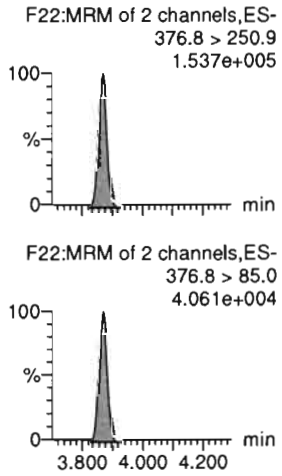
5:3 FTCA



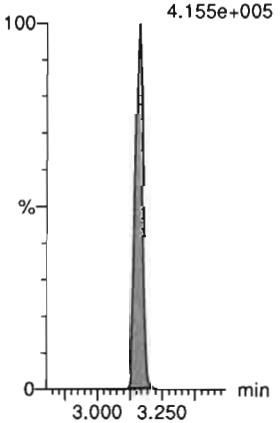
PFHpA



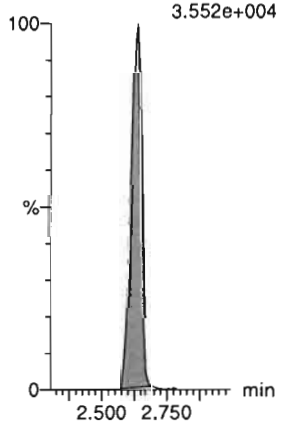
ADONA



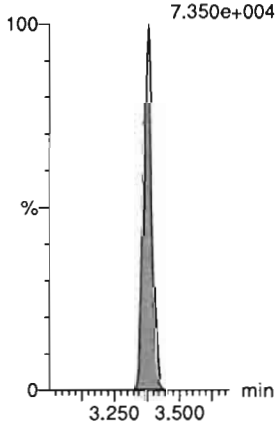
13C2-PFHxA-EIS



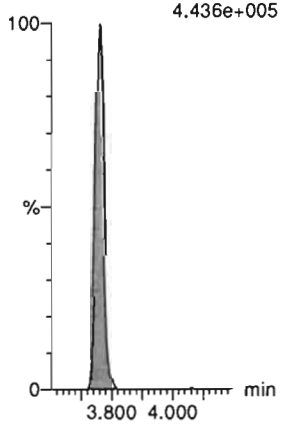
13C3-PFBS-EIS



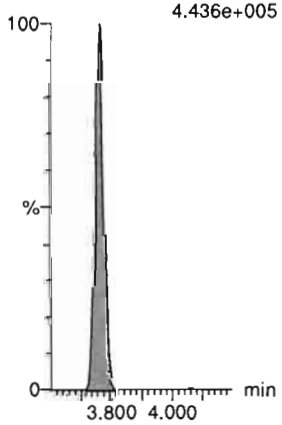
13C3-HFPO-DA-EIS



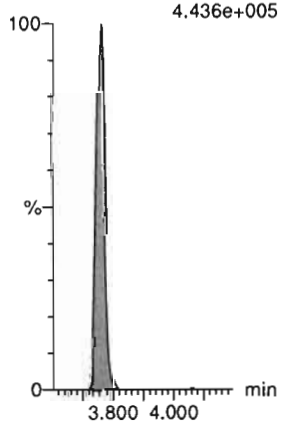
13C4-PFHpA-EIS



13C4-PFHpA-EIS



13C4-PFHpA-EIS

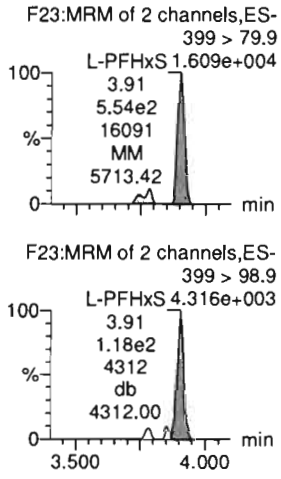


Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

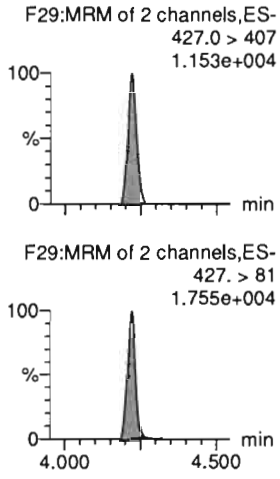
Last Altered: Wednesday, July 15, 2020 15:31:31 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 15:32:47 Pacific Daylight Time

Name: 200715P1-08, Date: 15-Jul-2020, Time: 12:51:58, ID: ST200715P1-4 PFC CS1 20F1904, Description: PFC CS1 20F1904

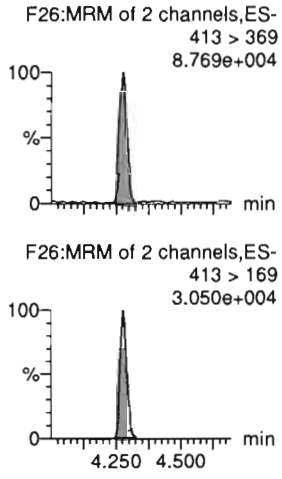
L-PFHxS



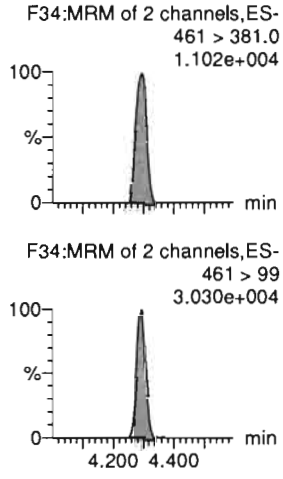
6:2 FTS



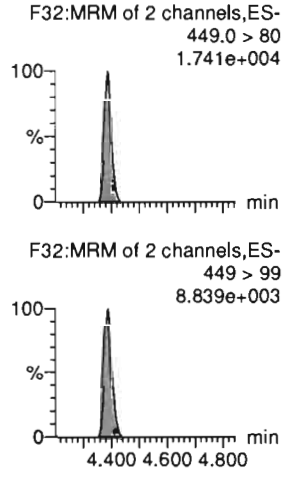
L-PFOA



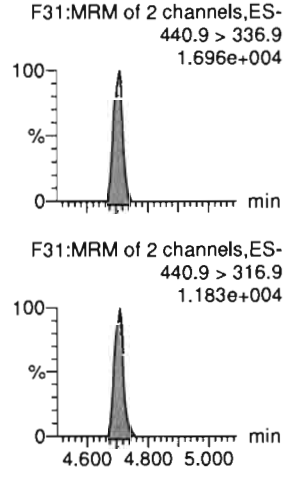
PFEChS



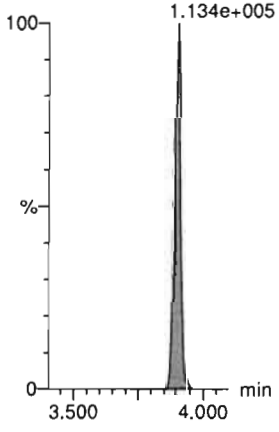
PFHpS



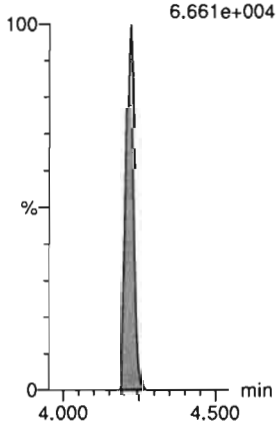
7:3 FTCA



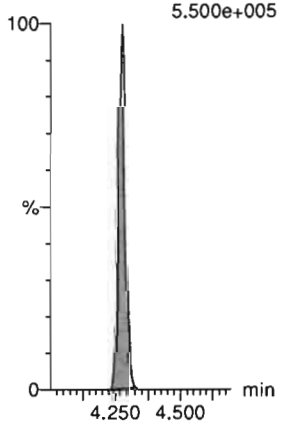
13C3-PFHxS-EIS



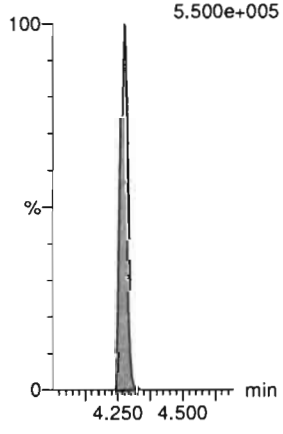
13C2-6:2 FTS-EIS



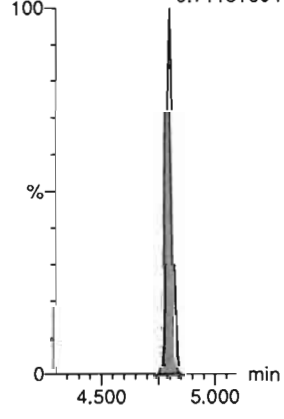
13C2-PFOA-EIS



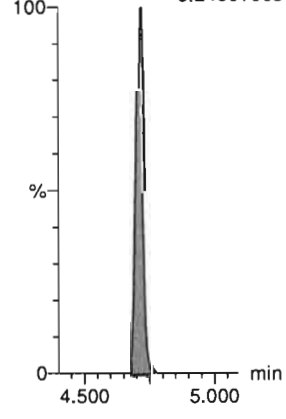
13C2-PFOA-EIS



13C8-PFOS-EIS



13C5-PFNA-EIS

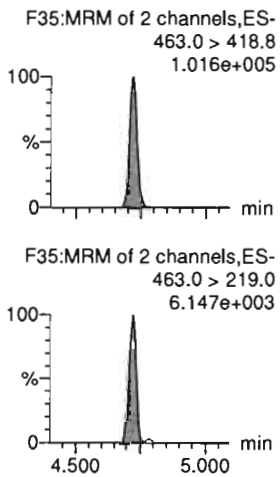


Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

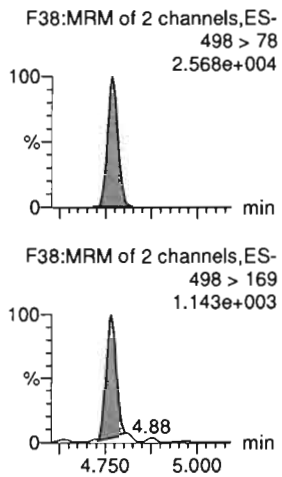
Last Altered: Wednesday, July 15, 2020 15:31:31 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 15:32:47 Pacific Daylight Time

Name: 200715P1-08, Date: 15-Jul-2020, Time: 12:51:58, ID: ST200715P1-4 PFC CS1 20F1904, Description: PFC CS1 20F1904

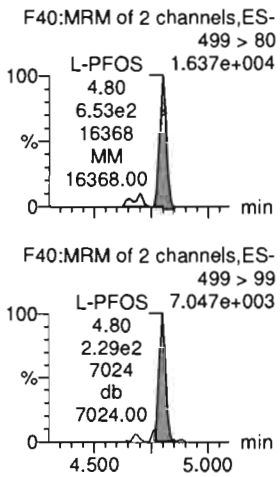
PFNA



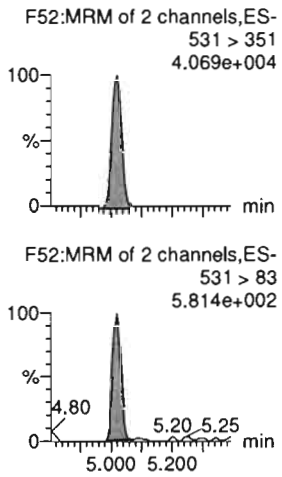
PFOSA



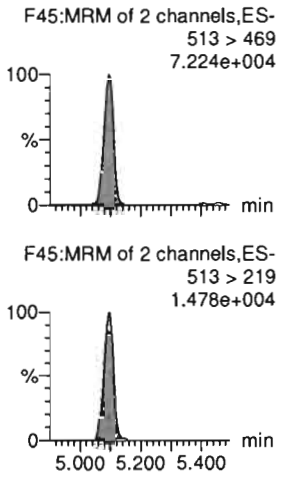
L-PFOS



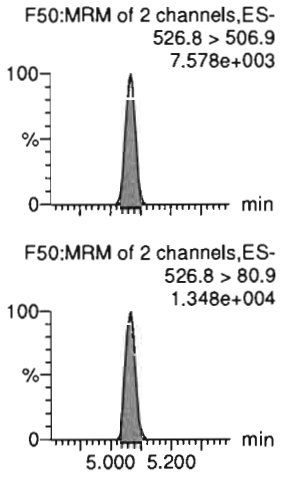
9Cl-PF30NS



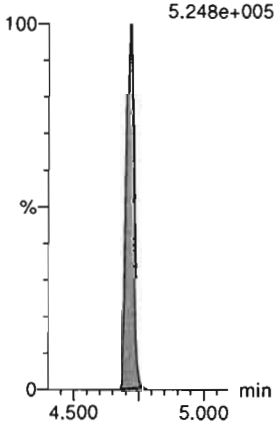
PFDA



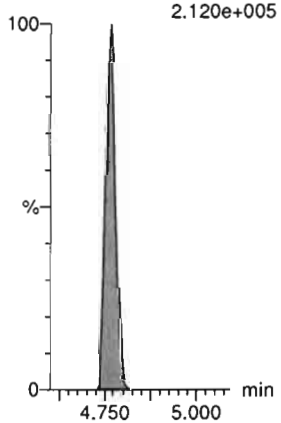
8:2 FTS



13C5-PFNA-EIS



13C8-PFOSA-EIS



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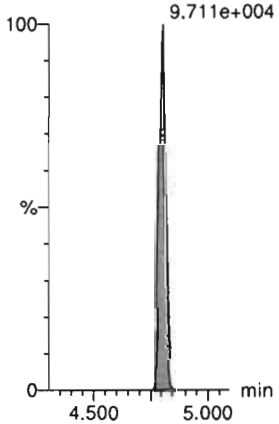

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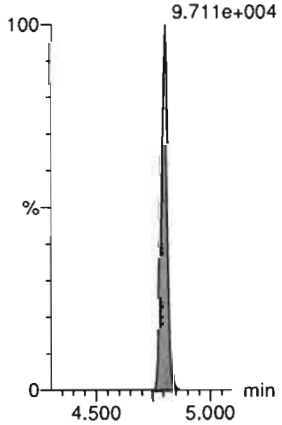

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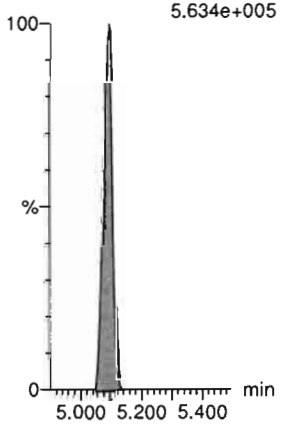

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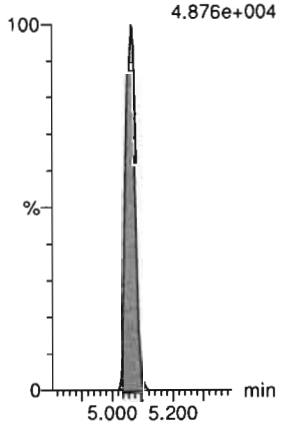

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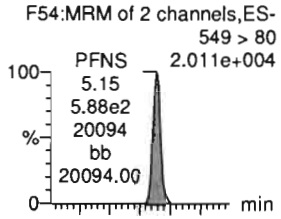
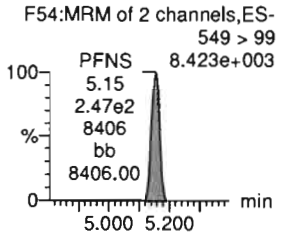
Printed: Wednesday, July 15, 2020 15:32:47 Pacific Daylight Time

Name: 200715P1-08, Date: 15-Jul-2020, Time: 12:51:58, ID: ST200715P1-4 PFC CS1 20F1904, Description: PFC CS1 20F1904

PFNS





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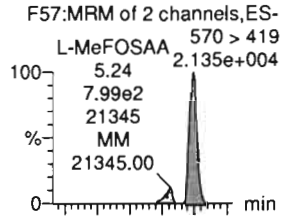

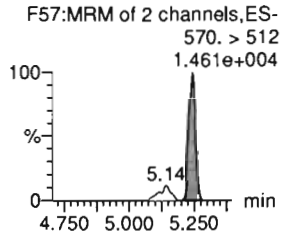

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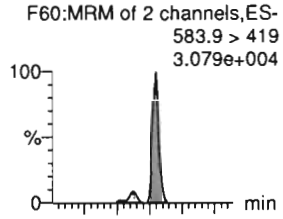

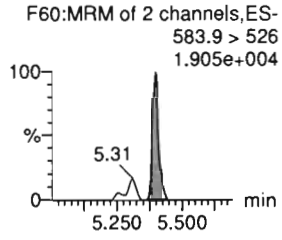

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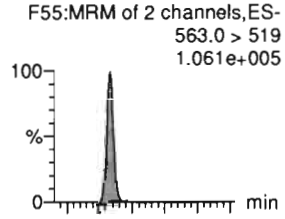

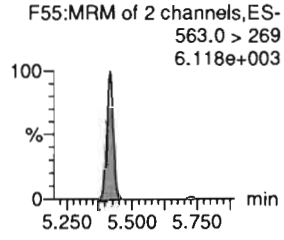

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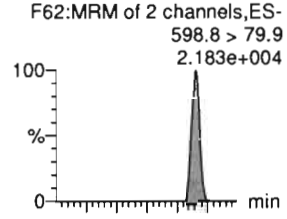

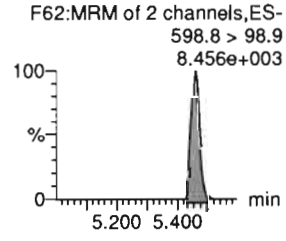

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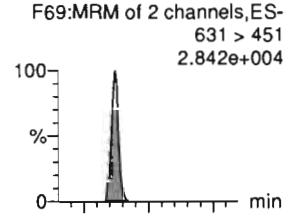
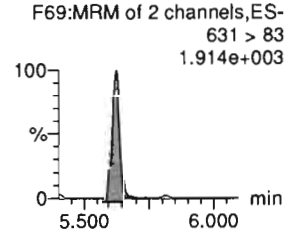
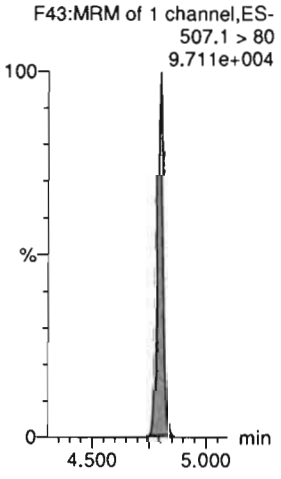
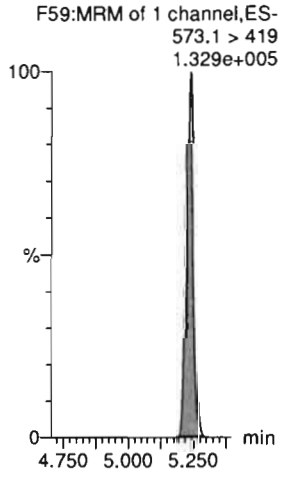




13C8-PFOS-EIS



d3-N-MeFOSAA-EIS



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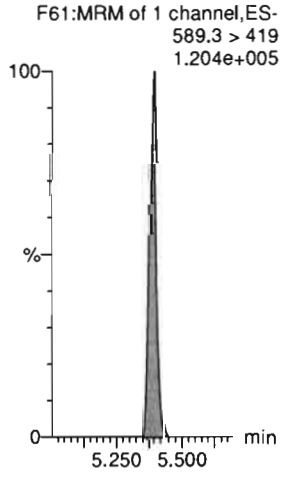

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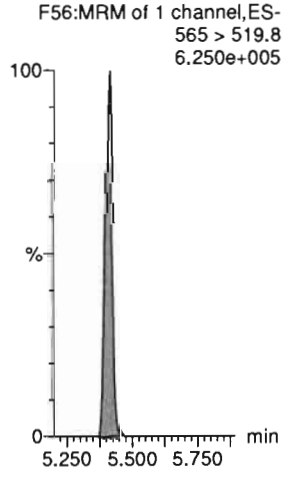

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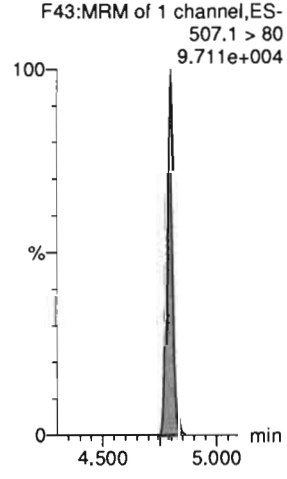

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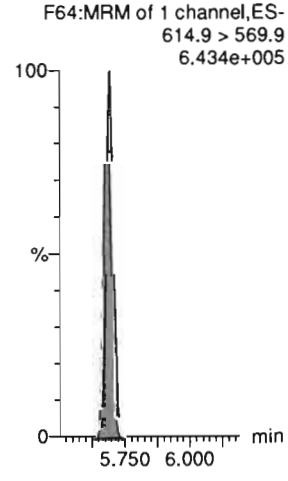

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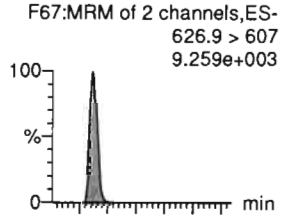
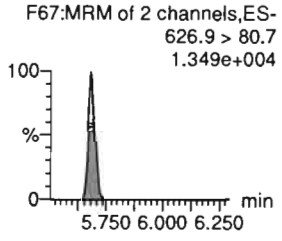
Name: 200715P1-08, Date: 15-Jul-2020, Time: 12:51:58, ID: ST200715P1-4 PFC CS1 20F1904, Description: PFC CS1 20F1904

10:2 FTS





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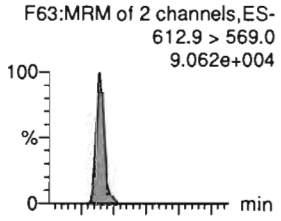

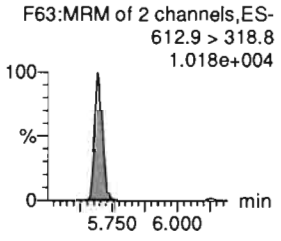

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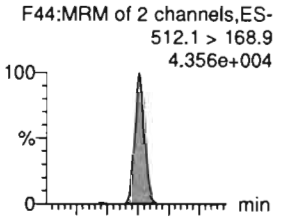

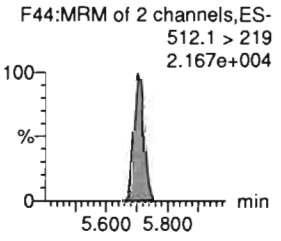

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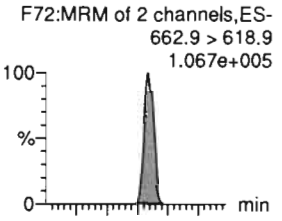

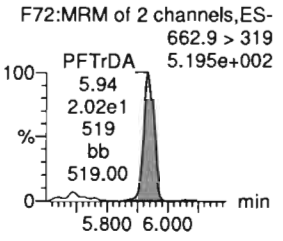

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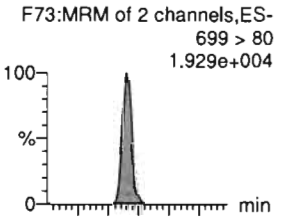

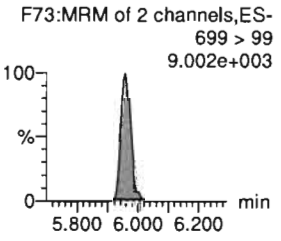

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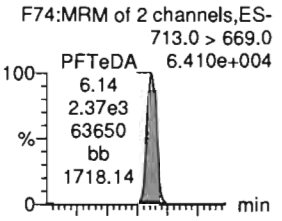

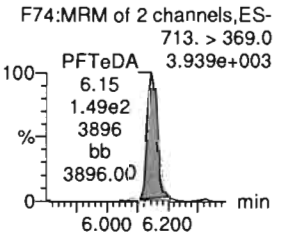

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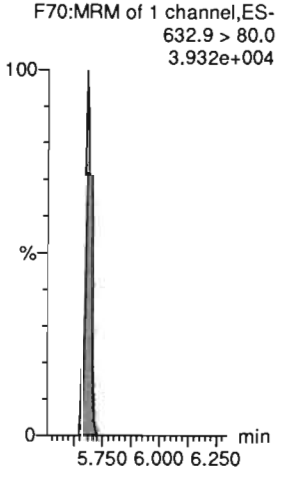
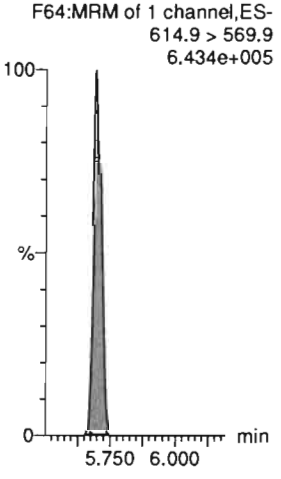
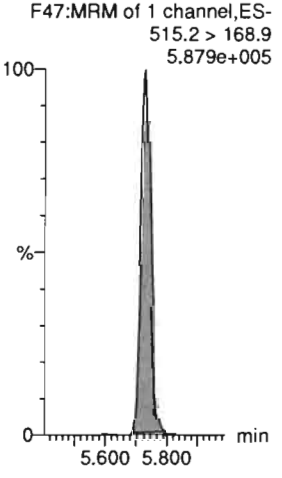


13C2-PFDoA-EIS



d3-N-MeFOSA-EIS



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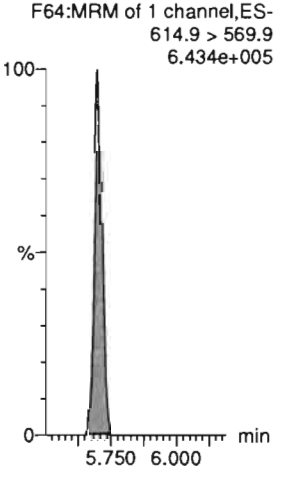

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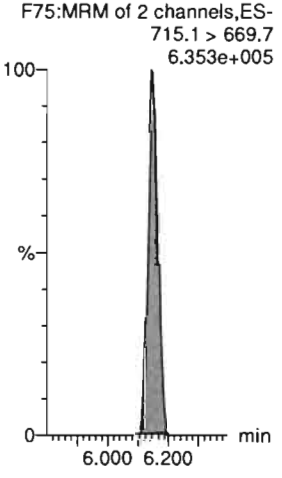

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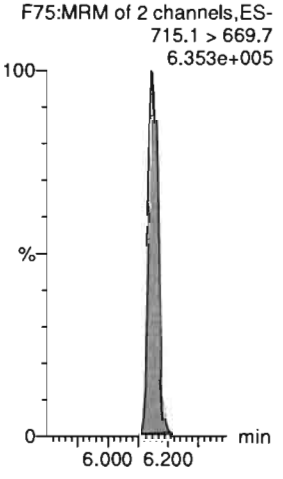

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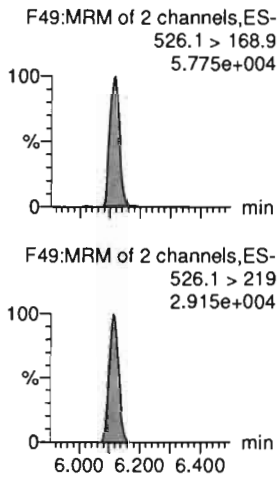
N-EtFOSA



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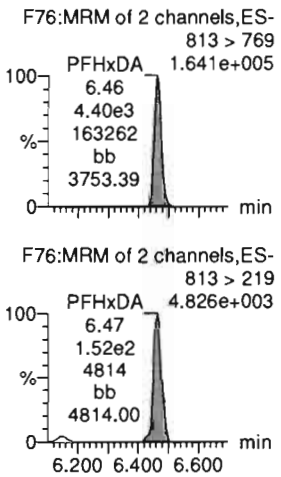

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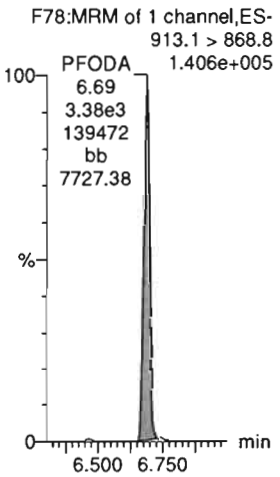
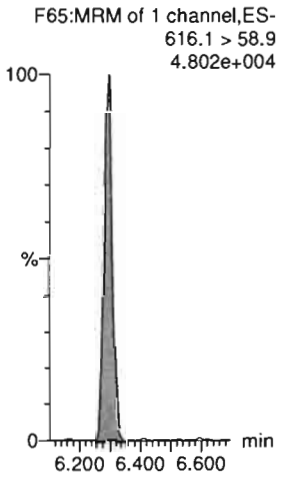
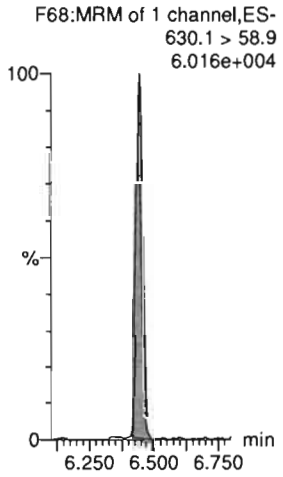


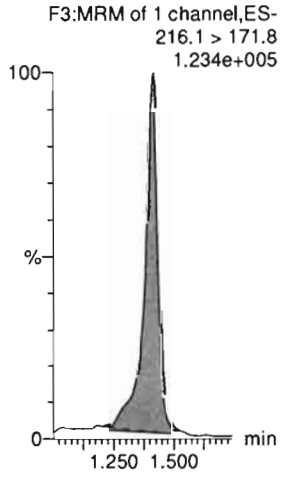
N-MeFOSE



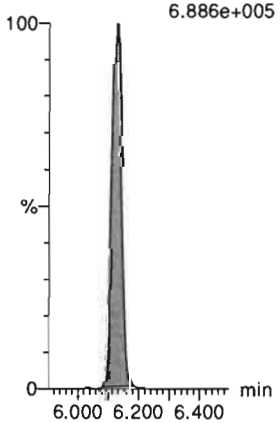
N-EtFOSE



13C3-PFBA-RSD



d5-N-ETFOSA-EIS



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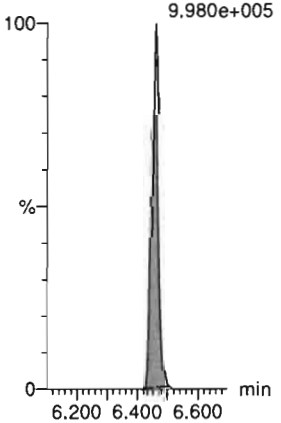
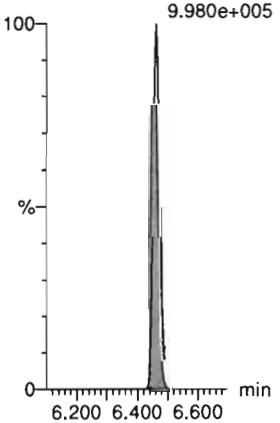
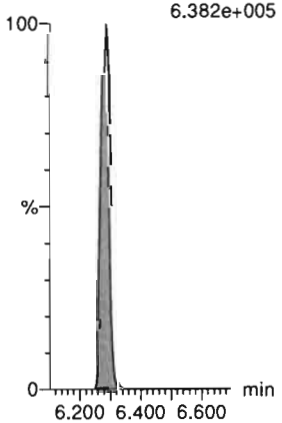


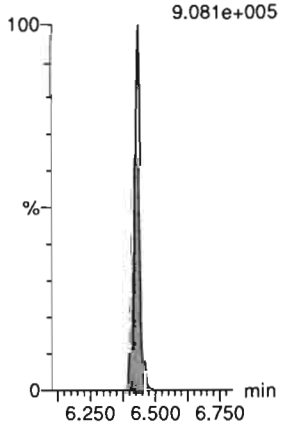
13C2-PFHxDA-EIS



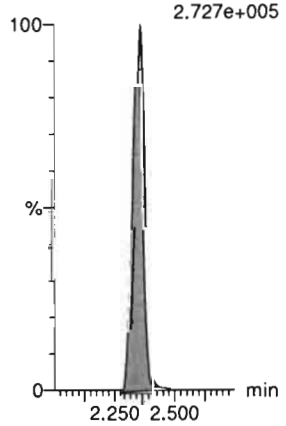
d7-N-MeFOSE-EIS



d9-N-EtFOSE-EIS



13C3-PFPeA-RSD

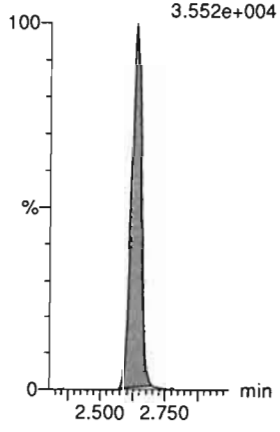


Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

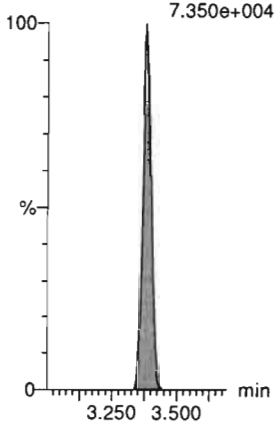
Last Altered: Wednesday, July 15, 2020 15:31:31 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 15:32:47 Pacific Daylight Time

Name: 200715P1-08, Date: 15-Jul-2020, Time: 12:51:58, ID: ST200715P1-4 PFC CS1 20F1904, Description: PFC CS1 20F1904

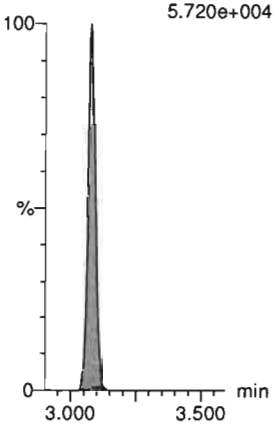
13C3-PFBS-RSD
F12:MRM of 1 channel,ES-
302.0 > 98.9
3.552e+004



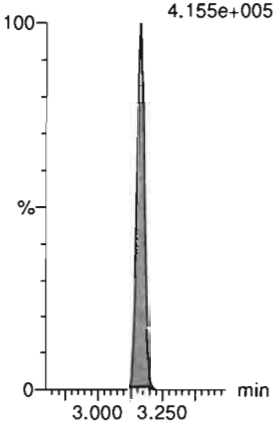
13C3-HFPO-DA-RSD
F10:MRM of 2 channels,ES-
287.0 > 168.9
7.350e+004



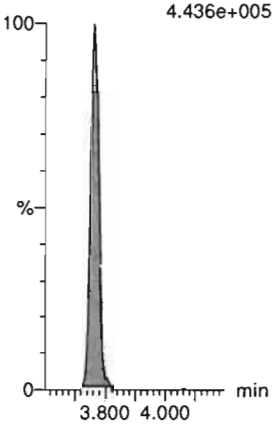
13C2-4:2 FTS-RSD
F17:MRM of 2 channels,ES-
329.0 > 80.8
5.720e+004



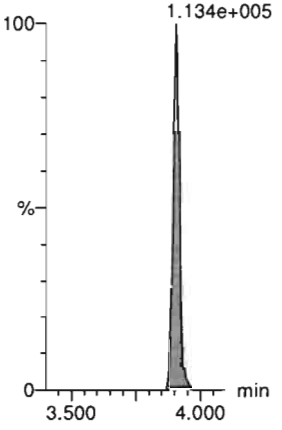
13C2-PFHxA-RSD
F14:MRM of 1 channel,ES-
315.0 > 270.0
4.155e+005



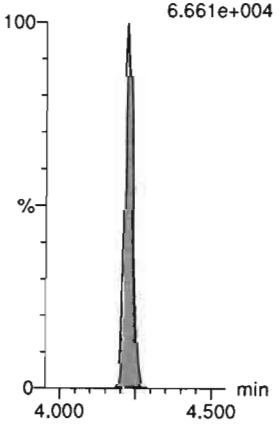
13C4-PFHpA-RSD
F21:MRM of 1 channel,ES-
367.2 > 321.8
4.436e+005



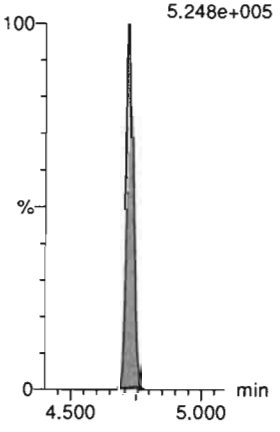
13C3-PFHxS-RSD
F24:MRM of 1 channel,ES-
402 > 80
1.134e+005



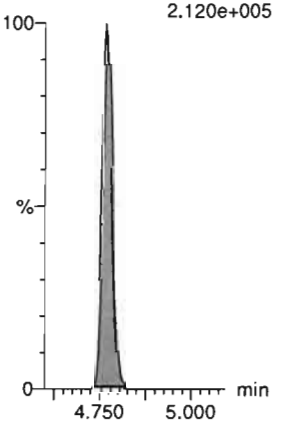
13C2-6:2 FTS-RSD
F30:MRM of 1 channel,ES-
429.0 > 79.7
6.661e+004



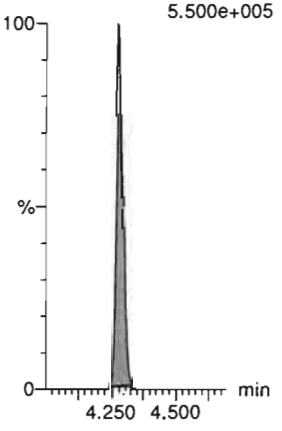
13C5-PFNA-RSD
F36:MRM of 1 channel,ES-
468.2 > 422.9
5.248e+005



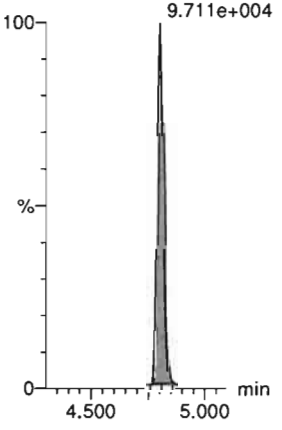
13C8-PFOSA-RSD
F42:MRM of 1 channel,ES-
506 > 78
2.120e+005



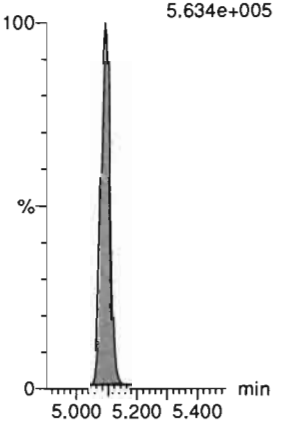
13C2-PFOA-RSD
F27:MRM of 1 channel,ES-
414.9 > 369.7
5.500e+005



13C8-PFOS-RSD
F43:MRM of 1 channel,ES-
507.1 > 80
9.711e+004



13C2-PFDA-RSD
F46:MRM of 1 channel,ES-
515.1 > 469.9
5.634e+005



Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

Last Altered: Wednesday, July 15, 2020 15:31:31 Pacific Daylight Time
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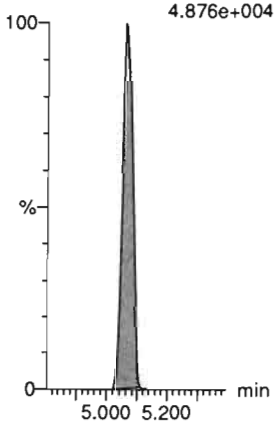
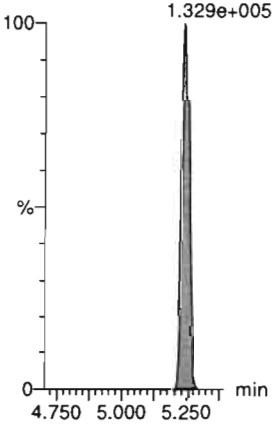
Name: 200715P1-08, Date: 15-Jul-2020, Time: 12:51:58, ID: ST200715P1-4 PFC CS1 20F1904, Description: PFC CS1 20F1904

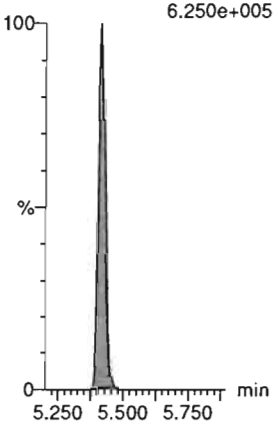
13C2-8:2 FTS-RSD
F51:MRM of 1 channel,ES-
529 > 80
4.876e+004



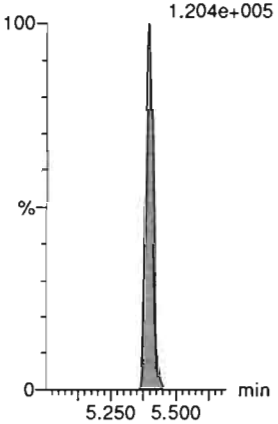
d3-N-MeFOSAA-RSD
F59:MRM of 1 channel,ES-
573.1 > 419
1.329e+005



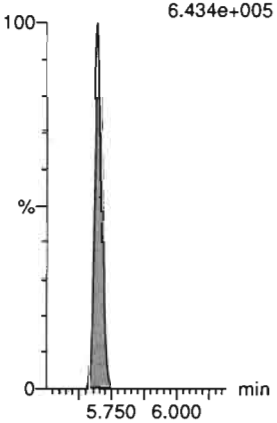
13C2-PFUdA-RSD
F56:MRM of 1 channel,ES-
565 > 519.8
6.250e+005



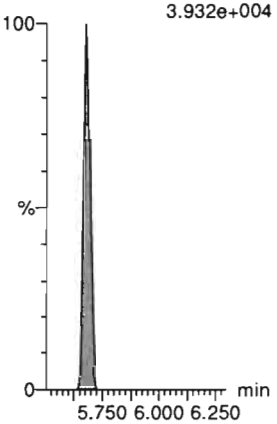
d5-N-EtFOSAA-RSD
F61:MRM of 1 channel,ES-
589.3 > 419
1.204e+005



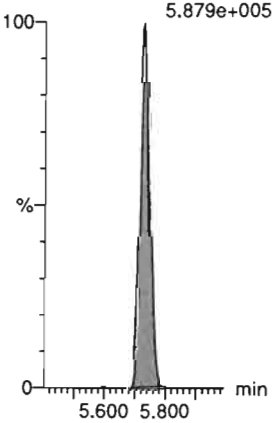
13C2-PFDoA-RSD
F64:MRM of 1 channel,ES-
614.9 > 569.9
6.434e+005



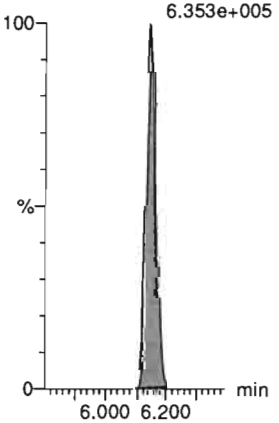
13C2-10:2 FTS-RSD
F70:MRM of 1 channel,ES-
632.9 > 80.0
3.932e+004



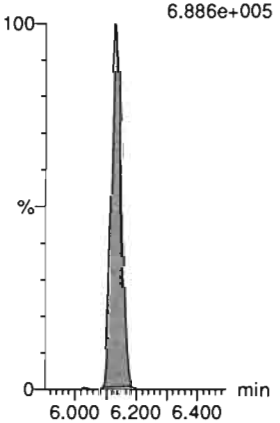
d3-N-MeFOSA-RSD
F47:MRM of 1 channel,ES-
515.2 > 168.9
5.879e+005



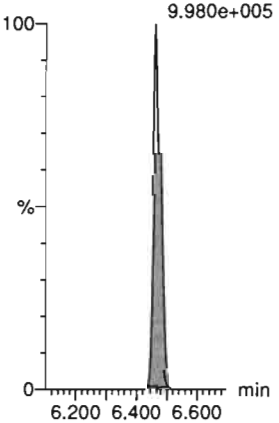
13C2-PFTeDA-RSD
F75:MRM of 2 channels,ES-
715.1 > 669.7
6.353e+005



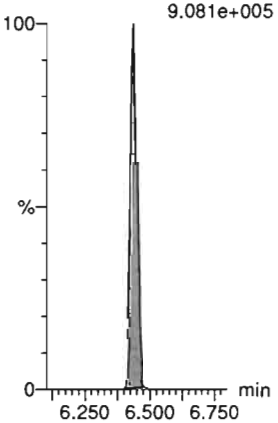
d5-N-ETFOSA-RSD
F53:MRM of 1 channel,ES-
531.1 > 168.9
6.886e+005



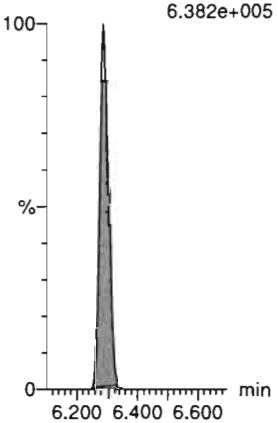
13C2-PFHxDA-RSD
F77:MRM of 1 channel,ES-
815 > 769.7
9.980e+005



d9-N-EtFOSE-RSD
F71:MRM of 1 channel,ES-
639.2 > 58.8
9.081e+005



d7-N-MeFOSE-RSD
F66:MRM of 1 channel,ES-
623.1 > 58.9
6.382e+005



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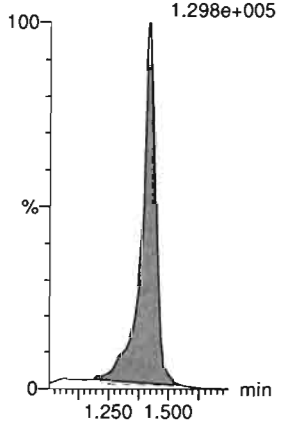
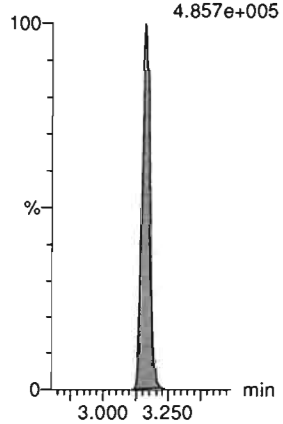
Last Altered: Wednesday, July 15, 2020 15:31:31 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 15:32:47 Pacific Daylight Time

Name: 200715P1-08, Date: 15-Jul-2020, Time: 12:51:58, ID: ST200715P1-4 PFC CS1 20F1904, Description: PFC CS1 20F1904

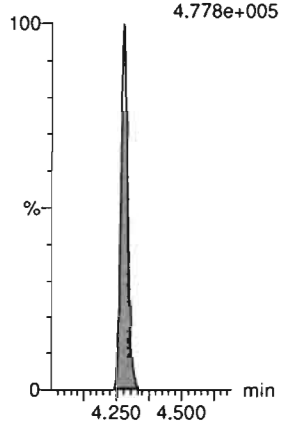
13C4-PFBA



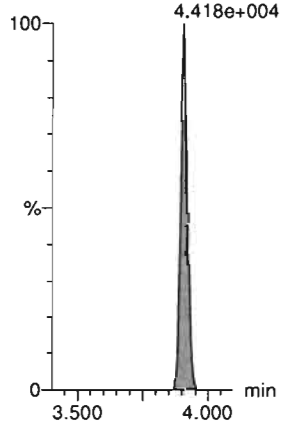
13C5-PFHxA



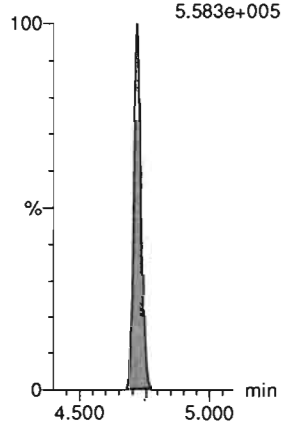
13C8-PFOA



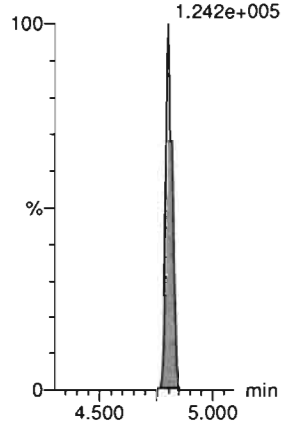
18O2-PFHxS



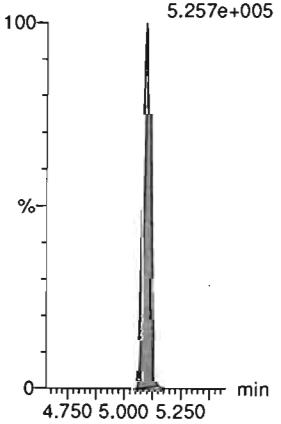
13C9-PFNA



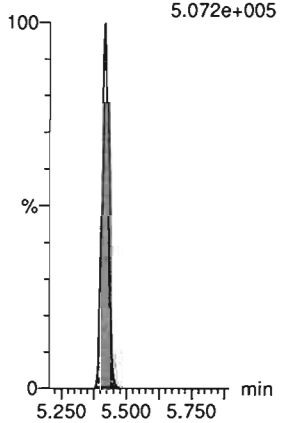
13C4-PFOS



13C6-PFDA



13C7-PFUdA



Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

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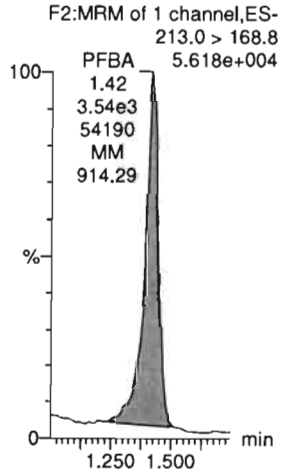
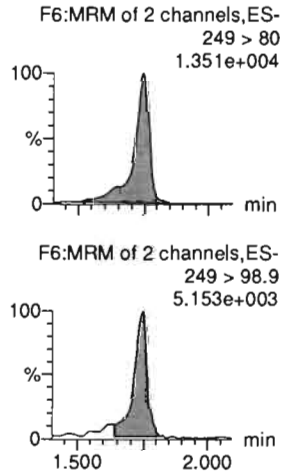
Name: 200715P1-09, Date: 15-Jul-2020, Time: 13:02:34, ID: ST200715P1-5 PFC CS2 20F1905, Description: PFC CS2 20F1905

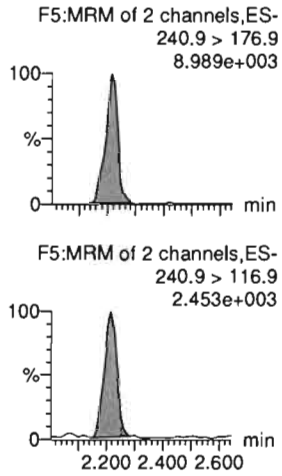
PFBA



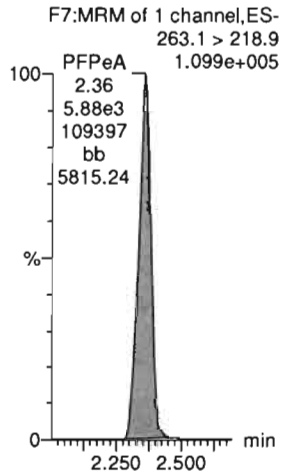
PFPrS



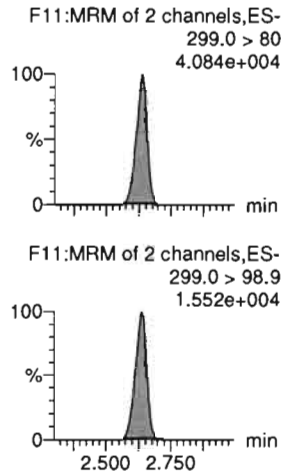
3:3 FTCA



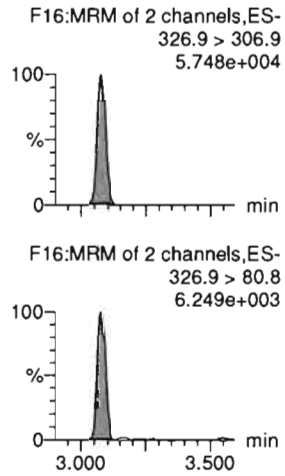
PFPeA



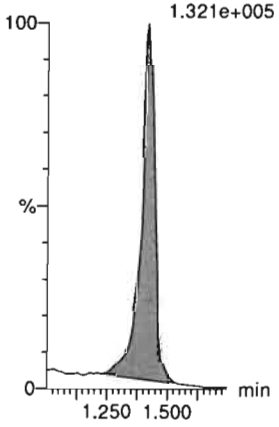
PFBS



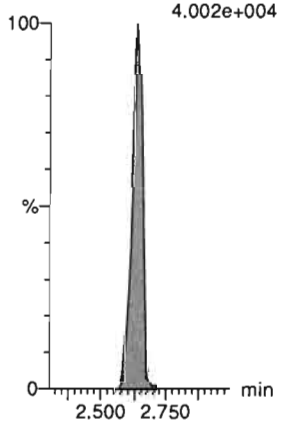
4:2 FTS



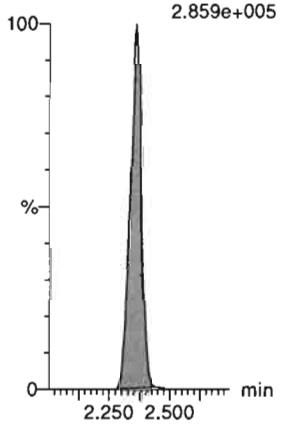
13C3-PFBA-EIS



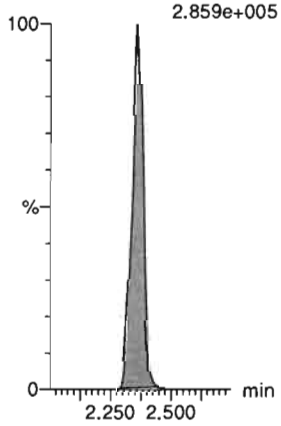
13C3-PFBS-EIS



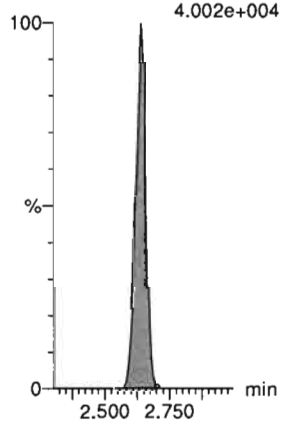
13C3-PFPeA-EIS



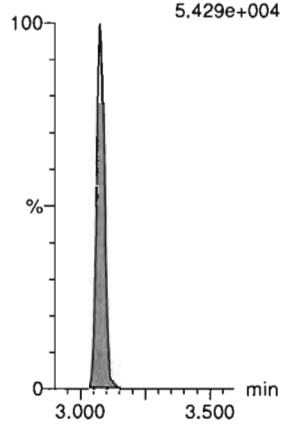
13C3-PFPeA-EIS



13C3-PFBS-EIS



13C2-4:2 FTS-EIS



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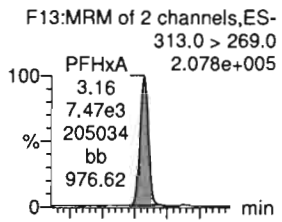
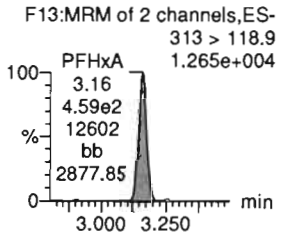
Name: 200715P1-09, Date: 15-Jul-2020, Time: 13:02:34, ID: ST200715P1-5 PFC CS2 20F1905, Description: PFC CS2 20F1905

PFHxA





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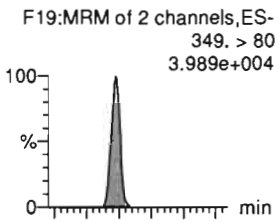
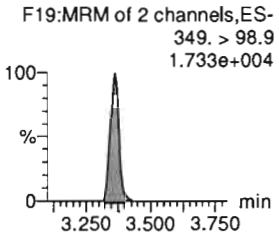
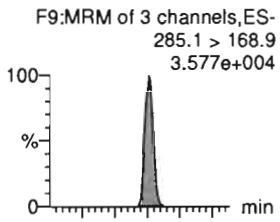
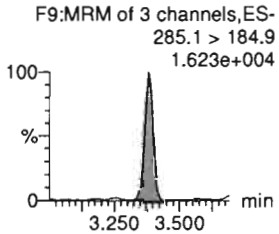


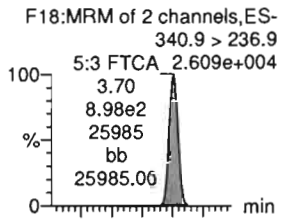


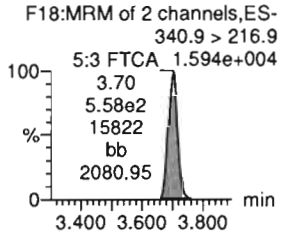
HFPO-DA





5:3 FTCA





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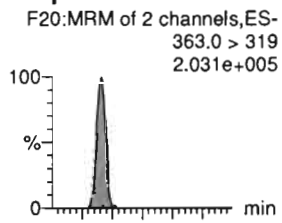

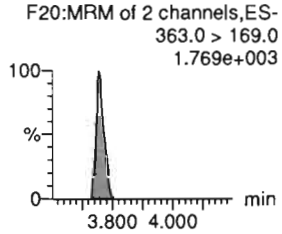

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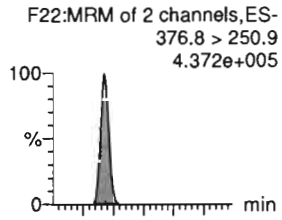
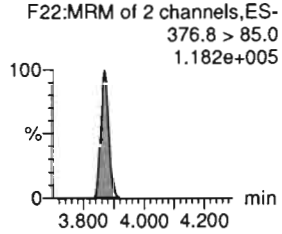
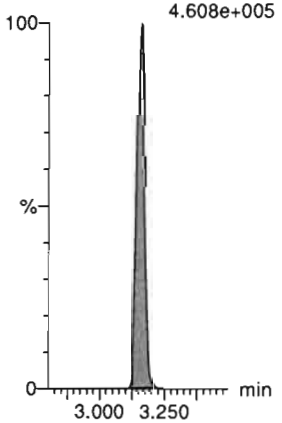
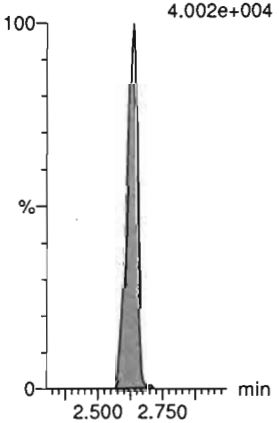




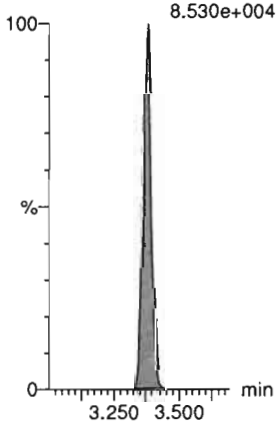
13C2-PFHxA-EIS



13C3-PFBS-EIS



13C3-HFPO-DA-EIS



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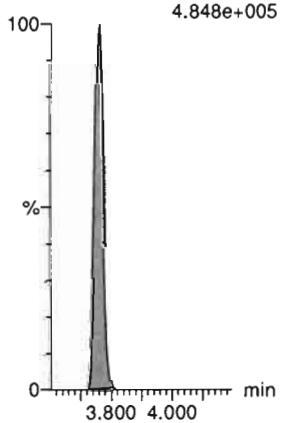

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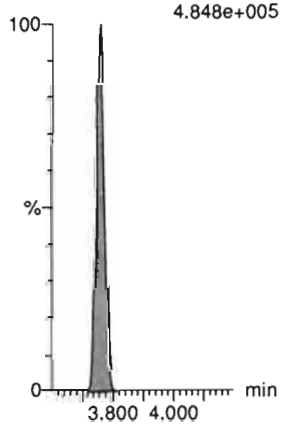

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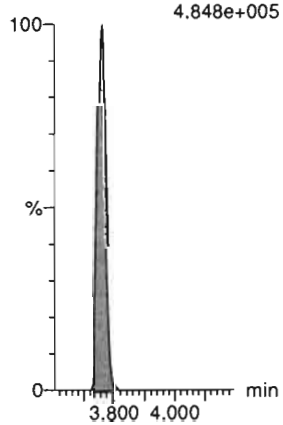

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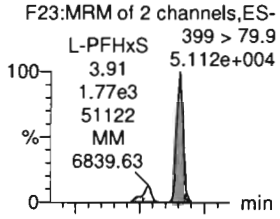
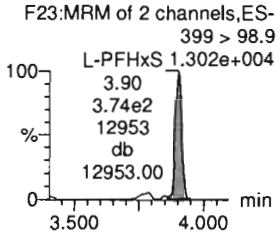
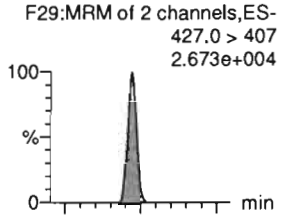
Name: 200715P1-09, Date: 15-Jul-2020, Time: 13:02:34, ID: ST200715P1-5 PFC CS2 20F1905, Description: PFC CS2 20F1905

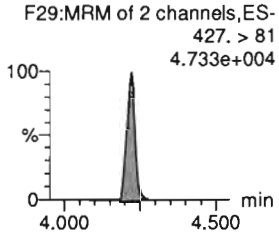
L-PFHxS





6:2 FTS





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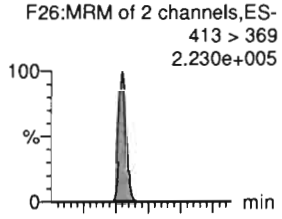

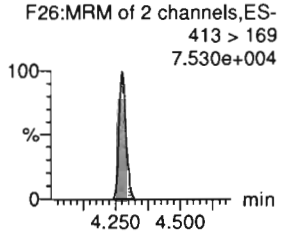

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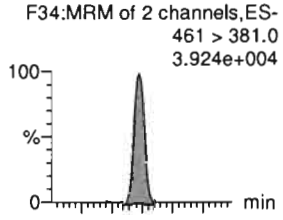

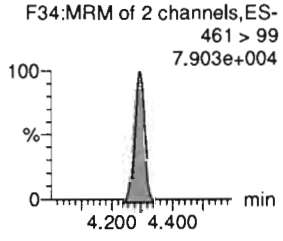

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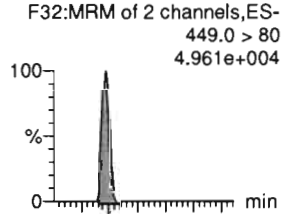
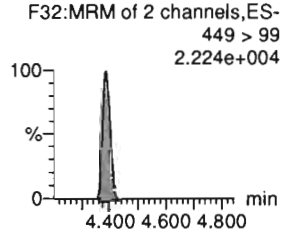
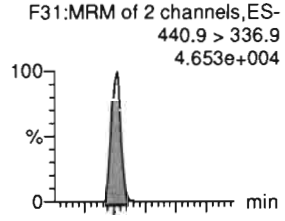
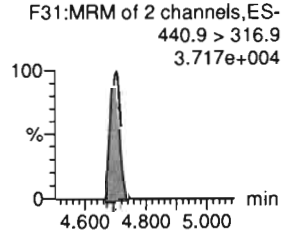


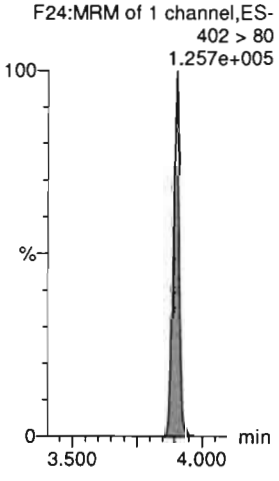


7:3 FTCA

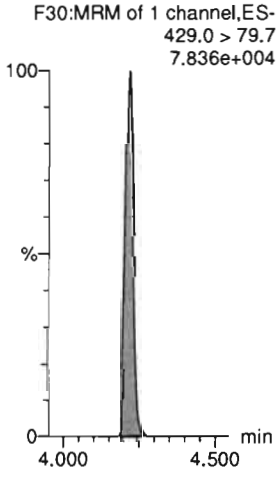




13C3-PFHxS-EIS



13C2-6:2 FTS-EIS



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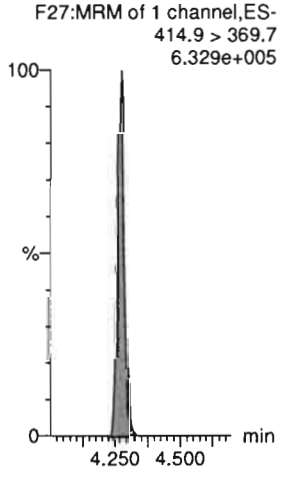

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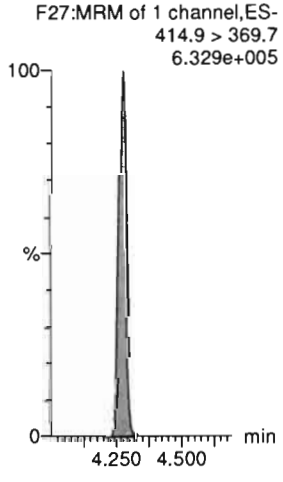
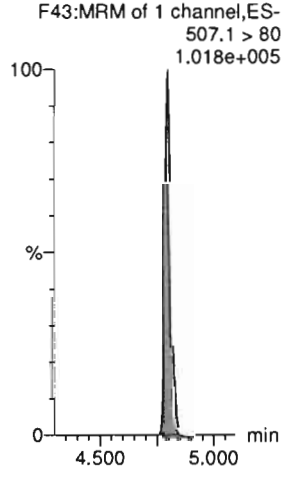


13C8-PFOS-EIS



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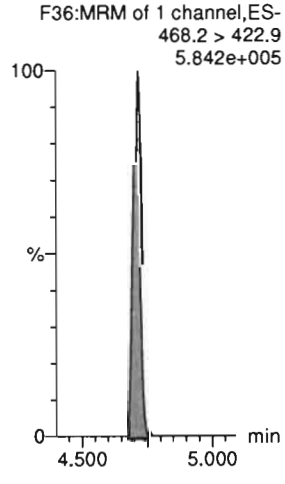

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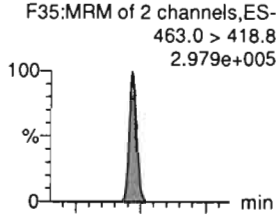

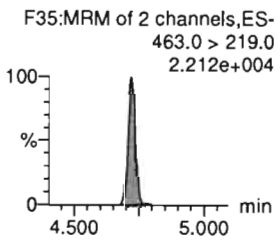

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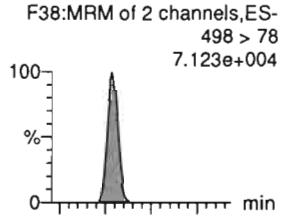
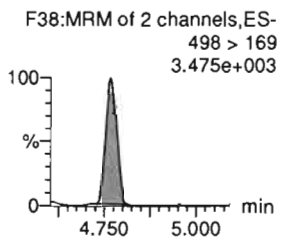
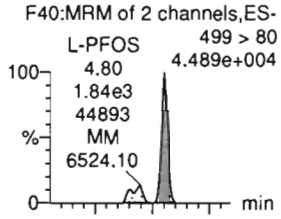
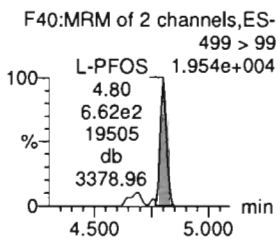




L-PFOS





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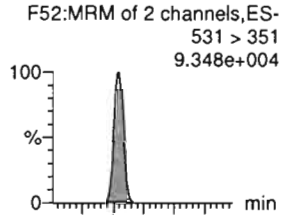

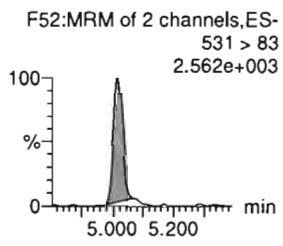

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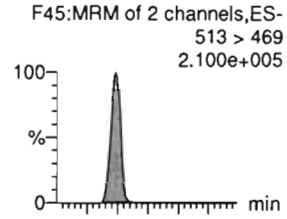
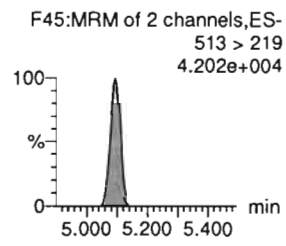
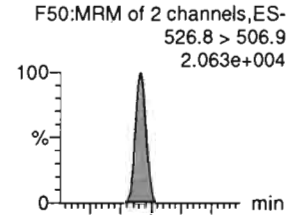
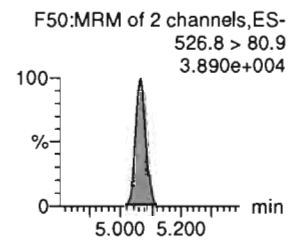


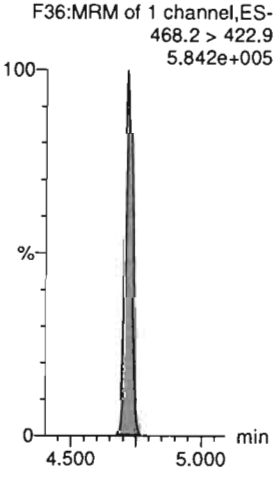


8:2 FTS





13C5-PFNA-EIS



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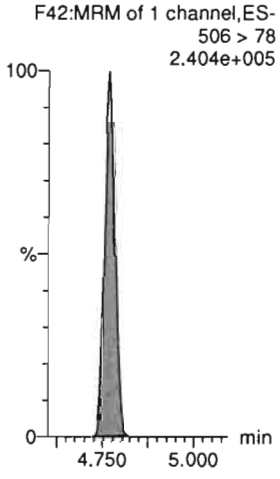
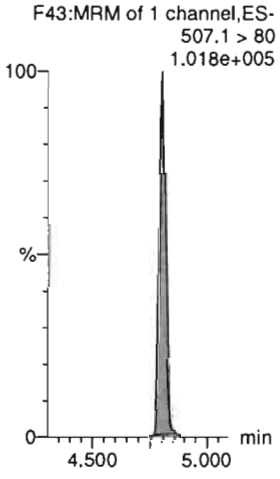
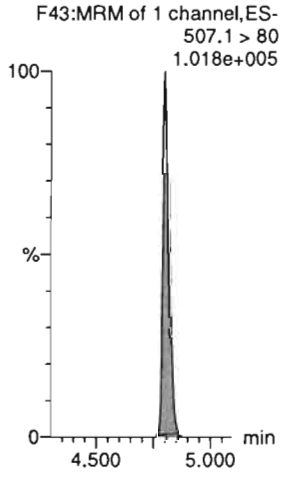


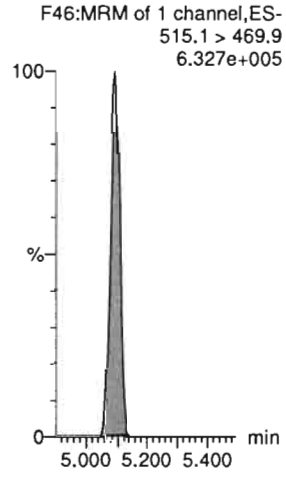
13C8-PFOS-EIS



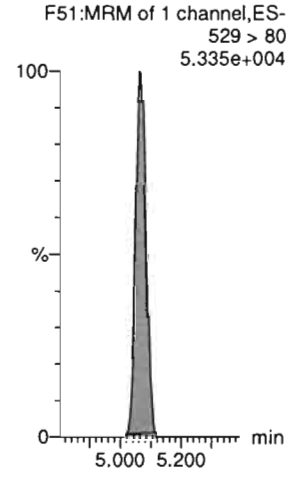
13C8-PFOS-EIS



13C2-PFDA-EIS



13C2-8:2 FTS-EIS

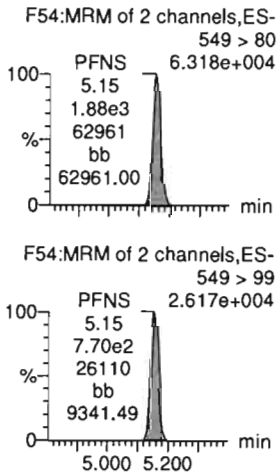


Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

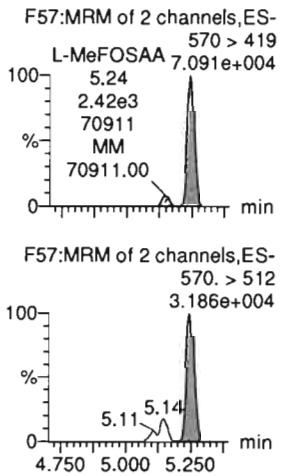
Last Altered: Wednesday, July 15, 2020 15:31:31 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 15:32:47 Pacific Daylight Time

Name: 200715P1-09, Date: 15-Jul-2020, Time: 13:02:34, ID: ST200715P1-5 PFC CS2 20F1905, Description: PFC CS2 20F1905

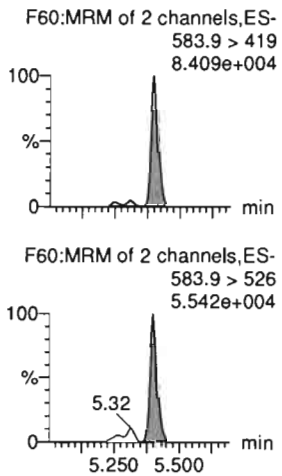
PFNS



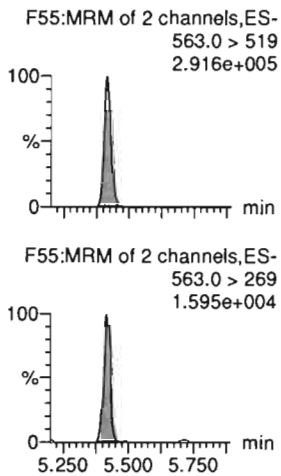
L-MeFOSAA



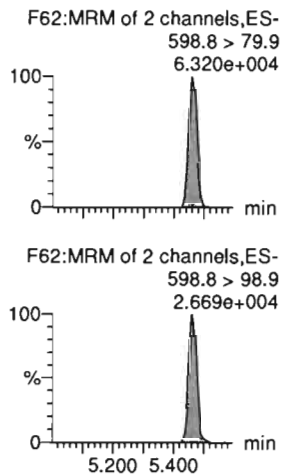
L-EtFOSAA



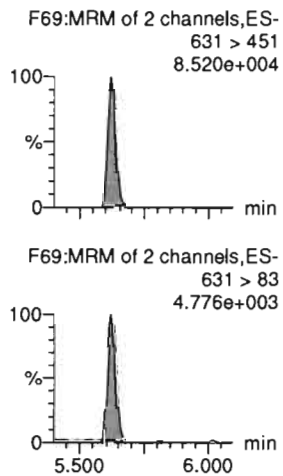
PFUdA



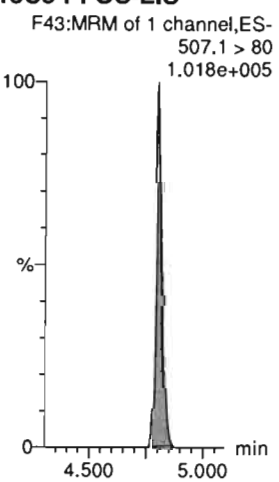
PFDS



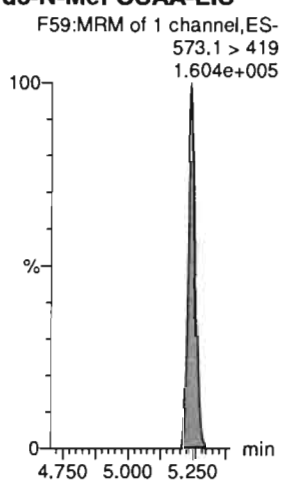
11Cl-PF30UdS



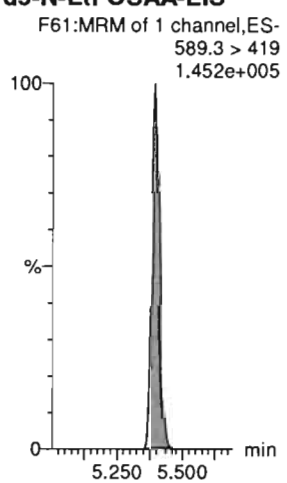
13C8-PFOS-EIS



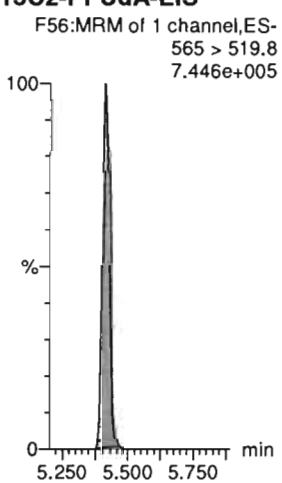
d3-N-MeFOSAA-EIS



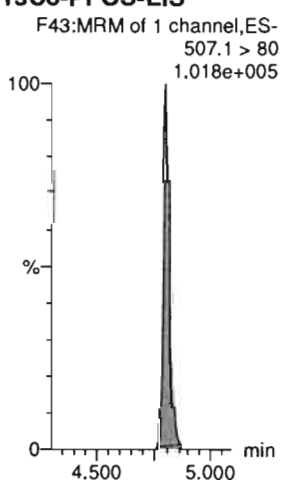
d5-N-EtFOSAA-EIS



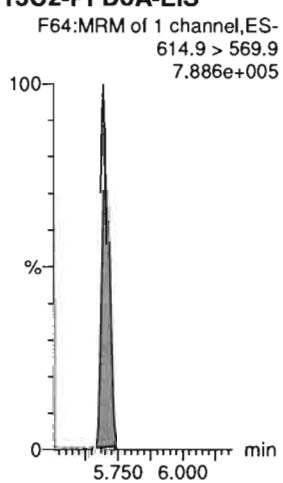
13C2-PFUdA-EIS



13C8-PFOS-EIS



13C2-PFDoA-EIS

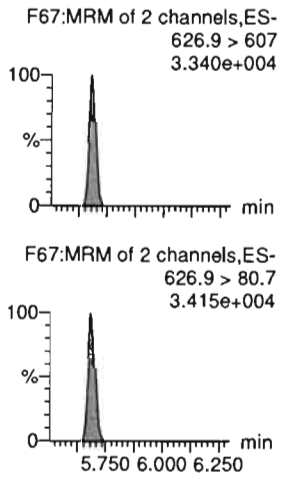


Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

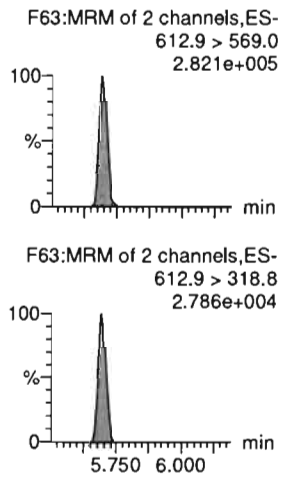
Last Altered: Wednesday, July 15, 2020 15:31:31 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 15:32:47 Pacific Daylight Time

Name: 200715P1-09, Date: 15-Jul-2020, Time: 13:02:34, ID: ST200715P1-5 PFC CS2 20F1905, Description: PFC CS2 20F1905

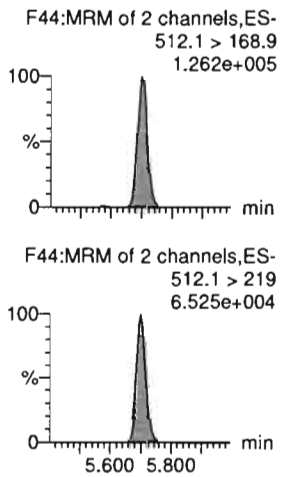
10:2 FTS



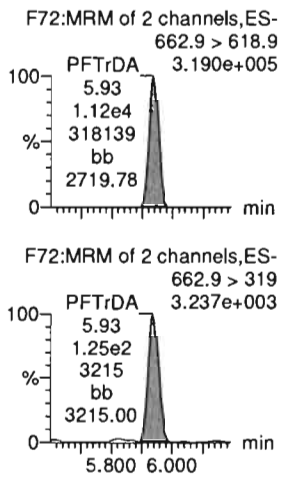
PFDoA



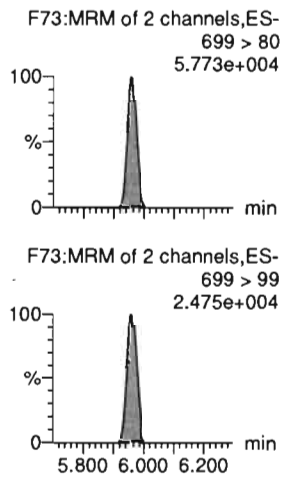
N-MeFOSA



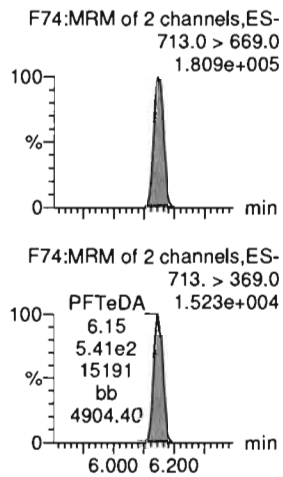
PFTrDA



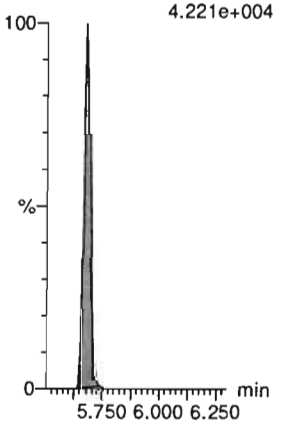
PFDoS



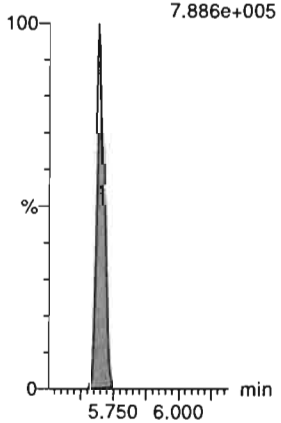
PFTeDA



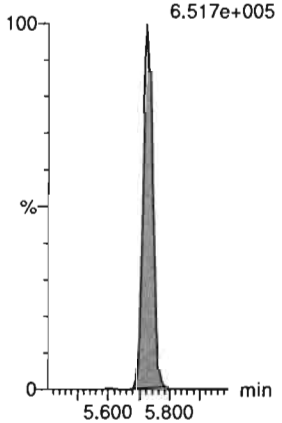
13C2-10:2 FTS-EIS



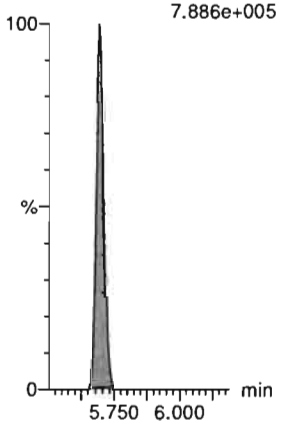
13C2-PFDoA-EIS



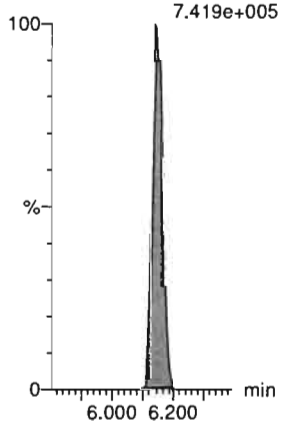
d3-N-MeFOSA-EIS



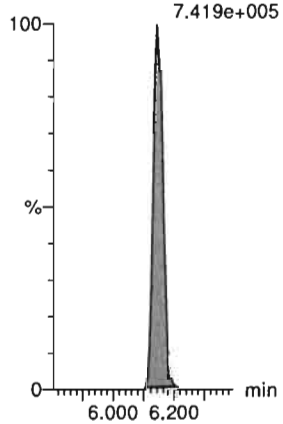
13C2-PFDoA-EIS



13C2-PFTeDA-EIS



13C2-PFTeDA-EIS



Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

Last Altered: Wednesday, July 15, 2020 15:31:31 Pacific Daylight Time
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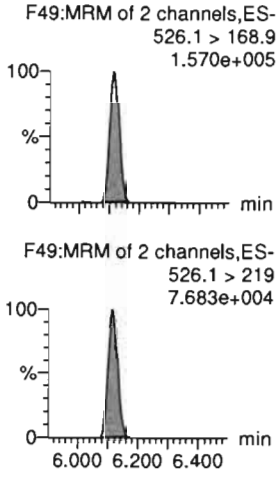
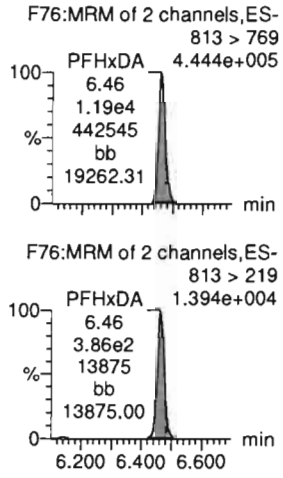
Name: 200715P1-09, Date: 15-Jul-2020, Time: 13:02:34, ID: ST200715P1-5 PFC CS2 20F1905, Description: PFC CS2 20F1905

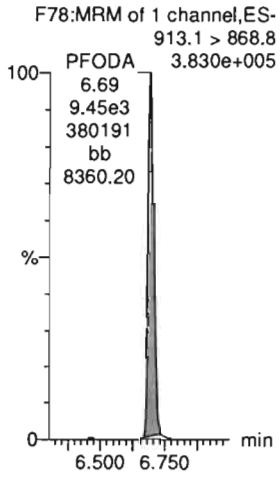
N-EtFOSA



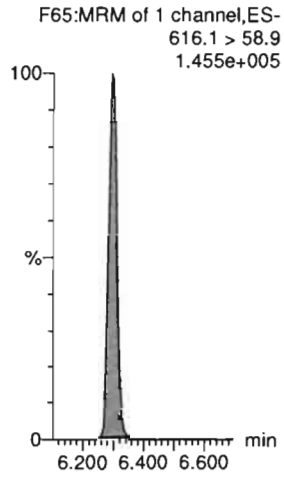
PFHxDA



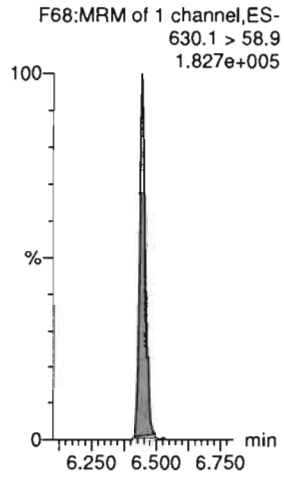
PFODA



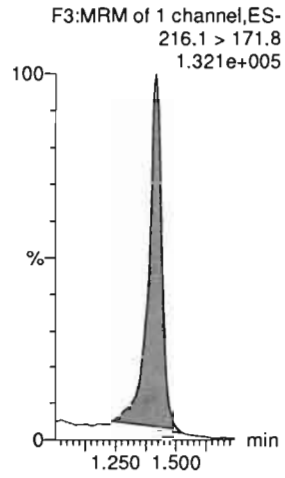
N-MeFOSE



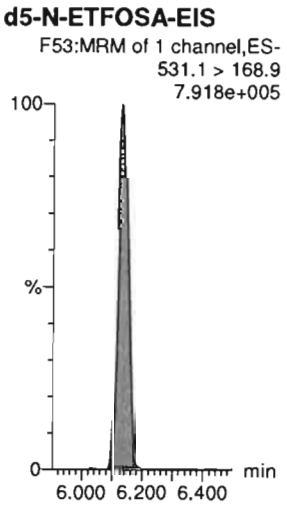
N-EtFOSE



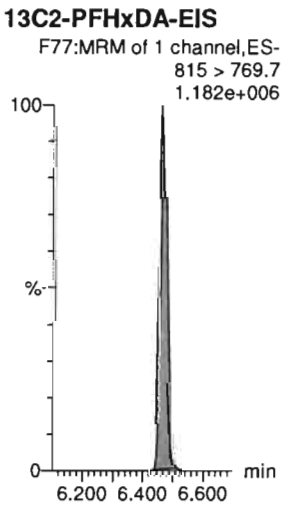
13C3-PFBA-RSD



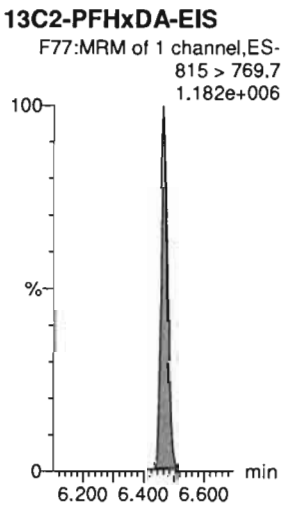
d5-N-ETFOSA-EIS



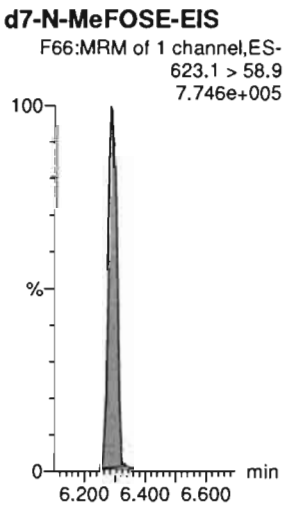
13C2-PFHxDA-EIS



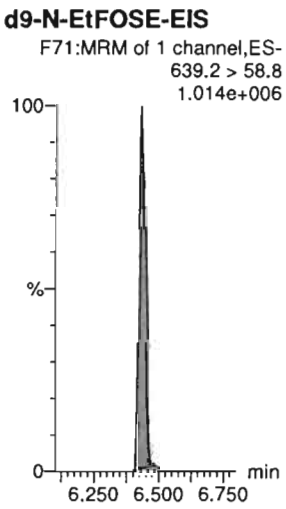
13C2-PFHxDA-EIS



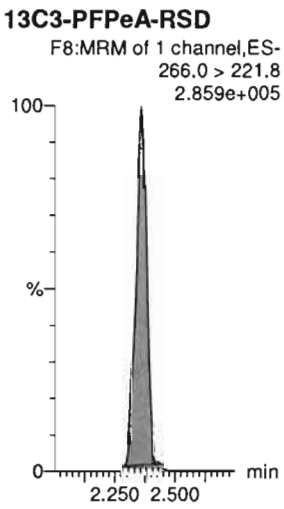
d7-N-MeFOSE-EIS



d9-N-EtFOSE-EIS



13C3-PFPeA-RSD



Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

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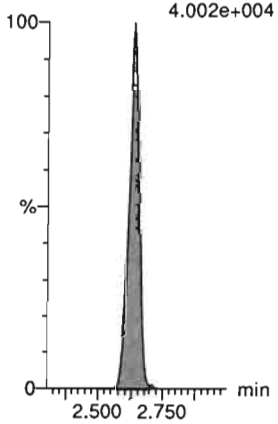
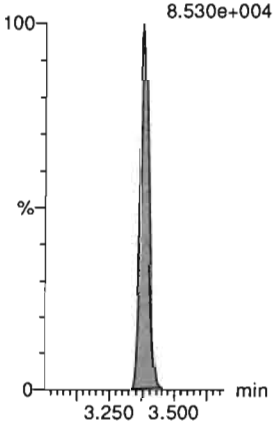
Name: 200715P1-09, Date: 15-Jul-2020, Time: 13:02:34, ID: ST200715P1-5 PFC CS2 20F1905, Description: PFC CS2 20F1905

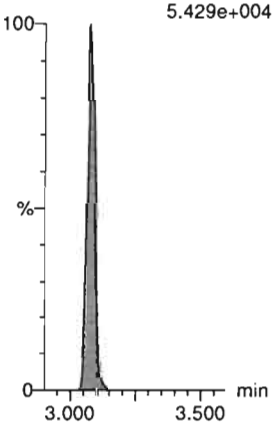
13C3-PFBS-RSD
F12:MRM of 1 channel,ES-
302.0 > 98.9
4.002e+004



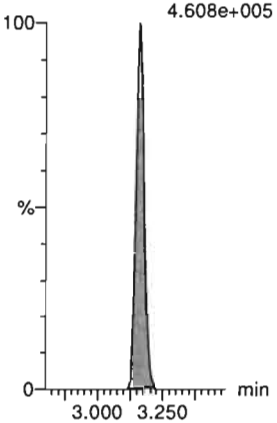
13C3-HFPO-DA-RSD
F10:MRM of 2 channels,ES-
287.0 > 168.9
8.530e+004



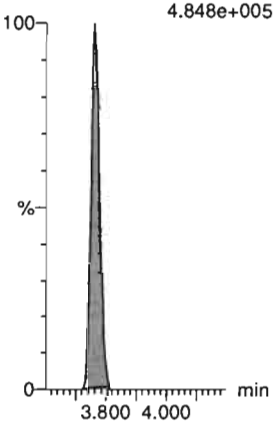
13C2-4:2 FTS-RSD
F17:MRM of 2 channels,ES-
329.0 > 80.8
5.429e+004



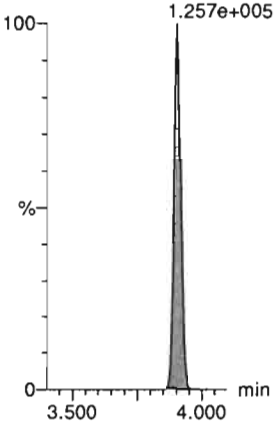
13C2-PFHxA-RSD
F14:MRM of 1 channel,ES-
315.0 > 270.0
4.608e+005



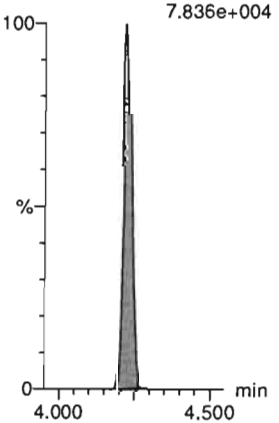
13C4-PFHpA-RSD
F21:MRM of 1 channel,ES-
367.2 > 321.8
4.848e+005



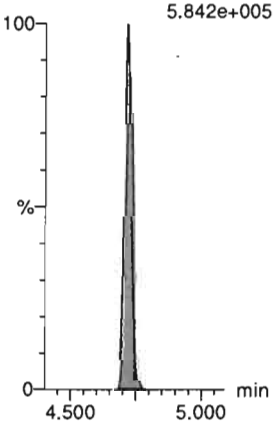
13C3-PFHxS-RSD
F24:MRM of 1 channel,ES-
402 > 80
1.257e+005



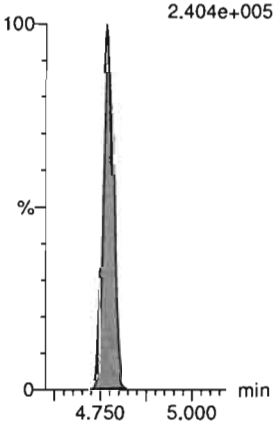
13C2-6:2 FTS-RSD
F30:MRM of 1 channel,ES-
429.0 > 79.7
7.836e+004



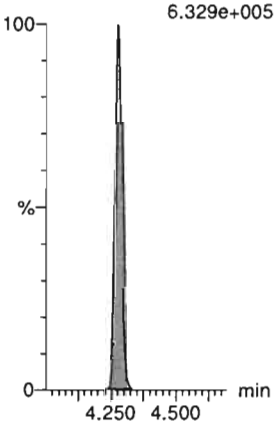
13C5-PFNA-RSD
F36:MRM of 1 channel,ES-
468.2 > 422.9
5.842e+005



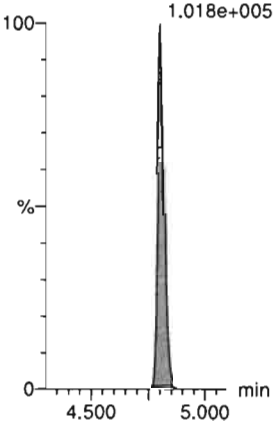
13C8-PFOSA-RSD
F42:MRM of 1 channel,ES-
506 > 78
2.404e+005



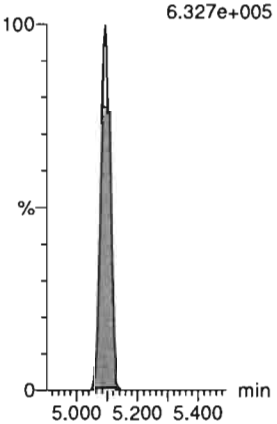
13C2-PFOA-RSD
F27:MRM of 1 channel,ES-
414.9 > 369.7
6.329e+005



13C8-PFOS-RSD
F43:MRM of 1 channel,ES-
507.1 > 80
1.018e+005



13C2-PFDA-RSD
F46:MRM of 1 channel,ES-
515.1 > 469.9
6.327e+005



Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

Last Altered: Wednesday, July 15, 2020 15:31:31 Pacific Daylight Time
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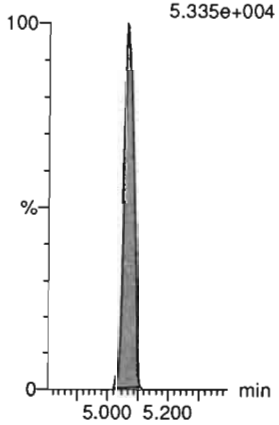
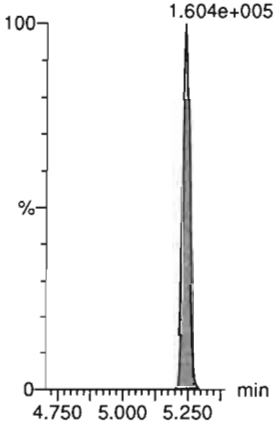
Name: 200715P1-09, Date: 15-Jul-2020, Time: 13:02:34, ID: ST200715P1-5 PFC CS2 20F1905, Description: PFC CS2 20F1905

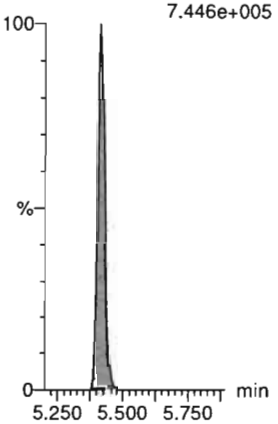
13C2-8:2 FTS-RSD
F51:MRM of 1 channel,ES-
529 > 80
5.335e+004



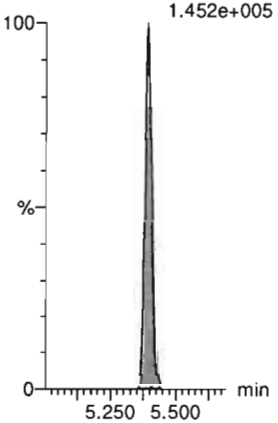
d3-N-MeFOSAA-RSD
F59:MRM of 1 channel,ES-
573.1 > 419
1.604e+005



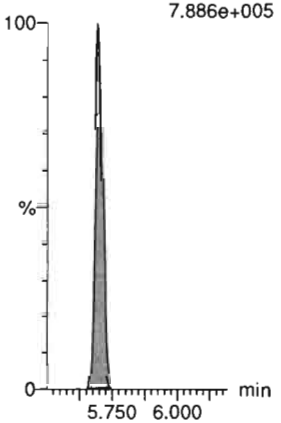
13C2-PFUdA-RSD
F56:MRM of 1 channel,ES-
565 > 519.8
7.446e+005



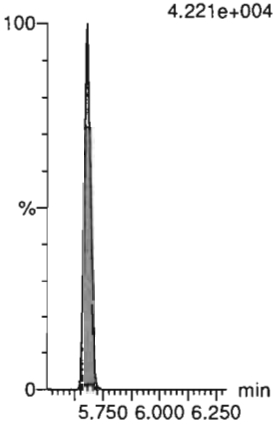
d5-N-EtFOSAA-RSD
F61:MRM of 1 channel,ES-
589.3 > 419
1.452e+005



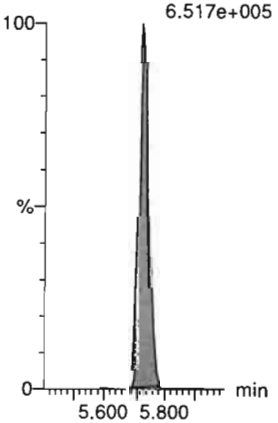
13C2-PFDoA-RSD
F64:MRM of 1 channel,ES-
614.9 > 569.9
7.886e+005



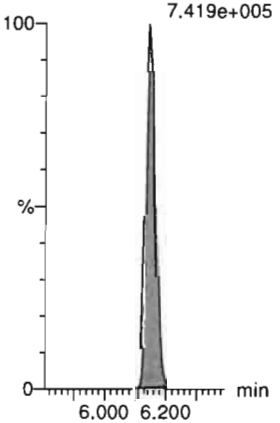
13C2-10:2 FTS-RSD
F70:MRM of 1 channel,ES-
632.9 > 80.0
4.221e+004



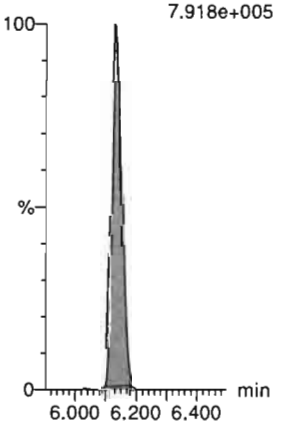
d3-N-MeFOSA-RSD
F47:MRM of 1 channel,ES-
515.2 > 168.9
6.517e+005



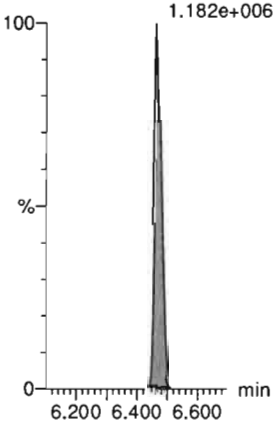
13C2-PFTeDA-RSD
F75:MRM of 2 channels,ES-
715.1 > 669.7
7.419e+005



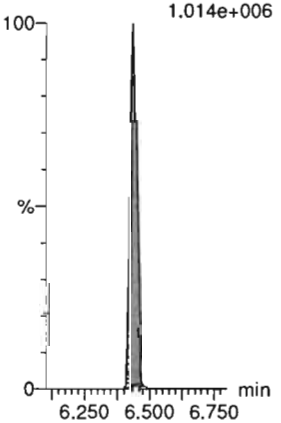
d5-N-ETFOSA-RSD
F53:MRM of 1 channel,ES-
531.1 > 168.9
7.918e+005



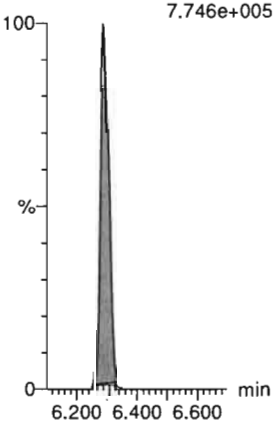
13C2-PFHxDA-RSD
F77:MRM of 1 channel,ES-
815 > 769.7
1.182e+006



d9-N-EtFOSE-RSD
F71:MRM of 1 channel,ES-
639.2 > 58.8
1.014e+006



d7-N-MeFOSE-RSD
F66:MRM of 1 channel,ES-
623.1 > 58.9
7.746e+005



Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

Last Altered: Wednesday, July 15, 2020 15:31:31 Pacific Daylight Time
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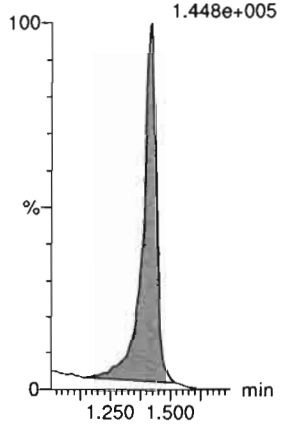
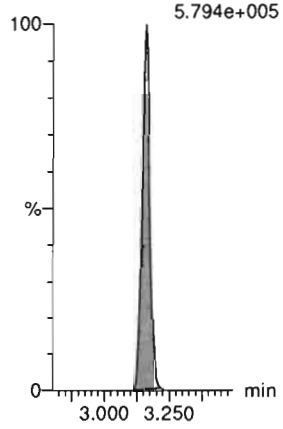
Name: 200715P1-09, Date: 15-Jul-2020, Time: 13:02:34, ID: ST200715P1-5 PFC CS2 20F1905, Description: PFC CS2 20F1905

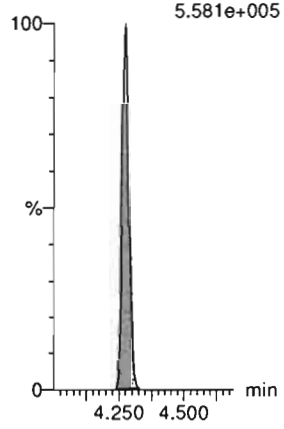
13C4-PFBA



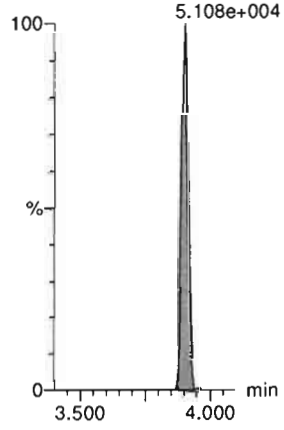
13C5-PFHxA



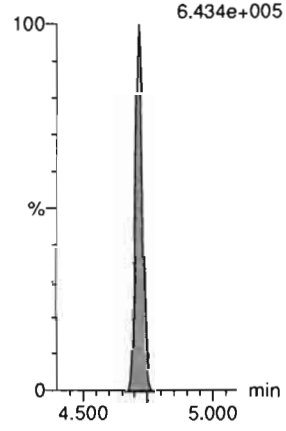
13C8-PFOA



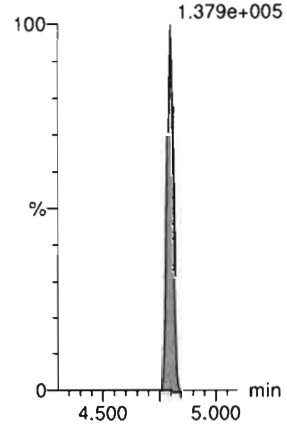
18O2-PFHxS



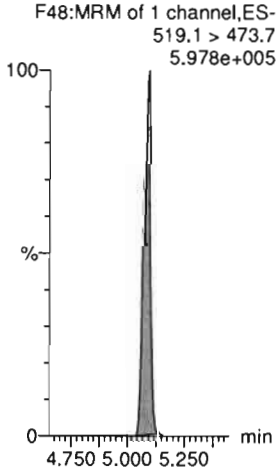
13C9-PFNA



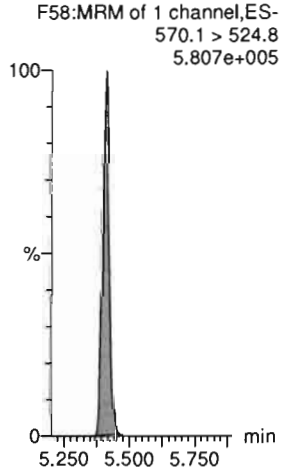
13C4-PFOS



13C6-PFDA



13C7-PFUdA



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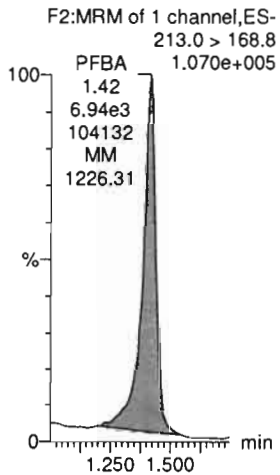
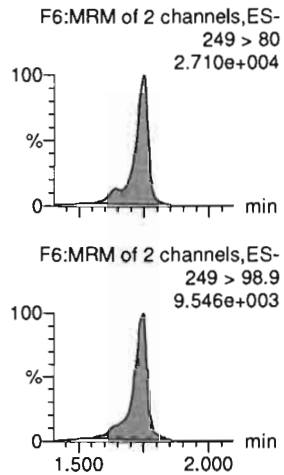
Name: 200715P1-10, Date: 15-Jul-2020, Time: 13:13:09, ID: ST200715P1-6 PFC CS3 20F1906, Description: PFC CS3 20F1906

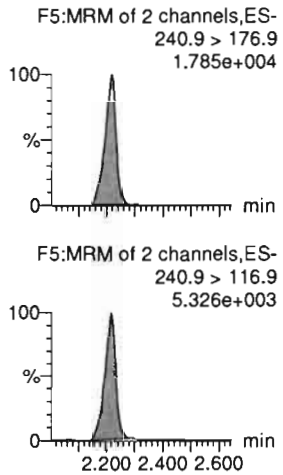
PFBA



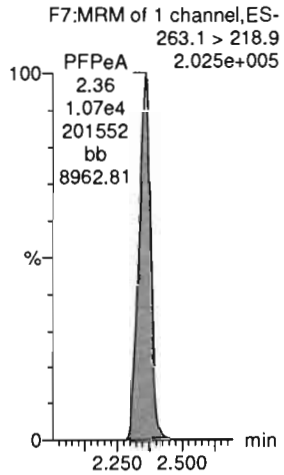
PFPrS



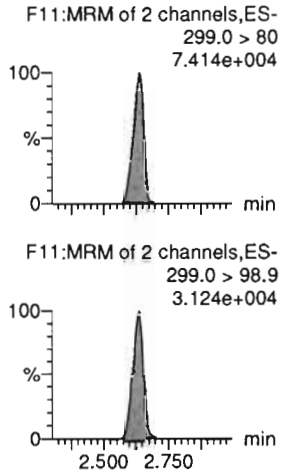
3:3 FTCA



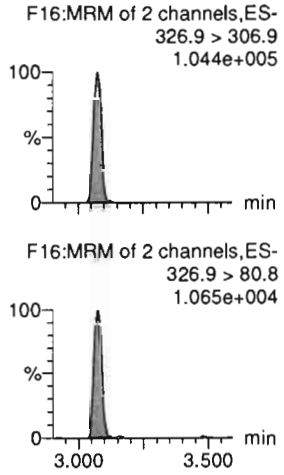
PFPeA



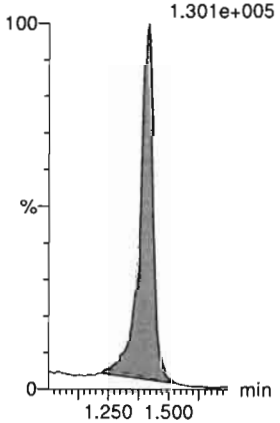
PFBS



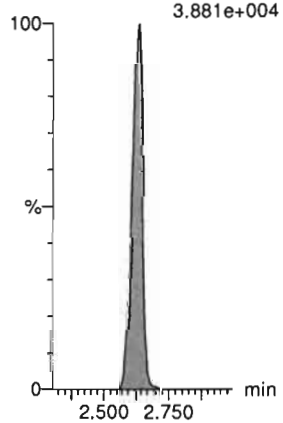
4:2 FTS



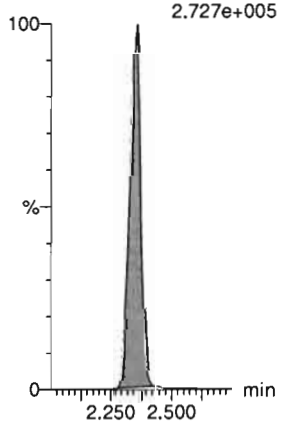
13C3-PFBA-EIS



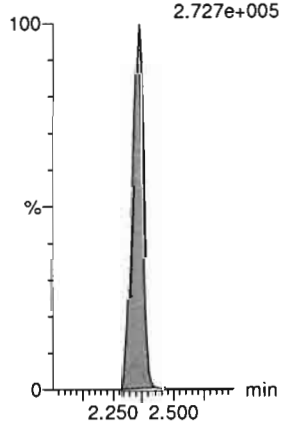
13C3-PFBS-EIS



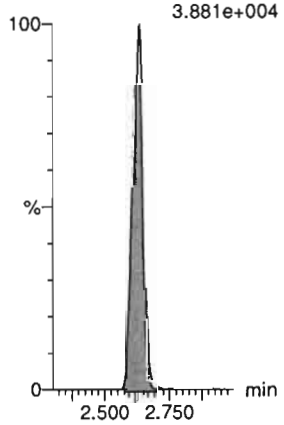
13C3-PFPeA-EIS



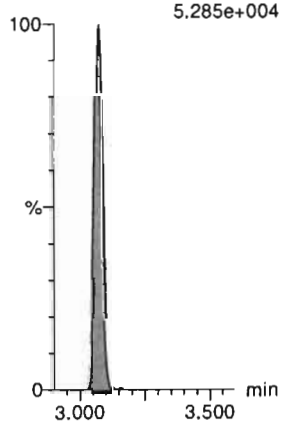
13C3-PFPeA-EIS



13C3-PFBS-EIS



13C2-4:2 FTS-EIS



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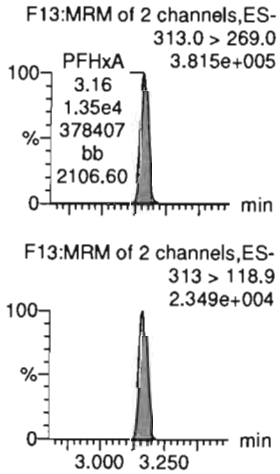
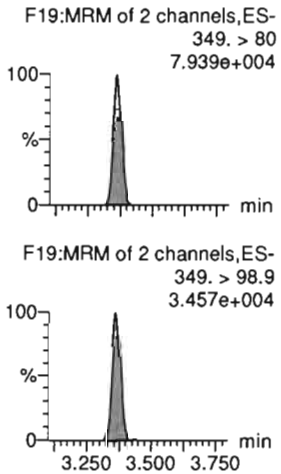
Name: 200715P1-10, Date: 15-Jul-2020, Time: 13:13:09, ID: ST200715P1-6 PFC CS3 20F1906, Description: PFC CS3 20F1906

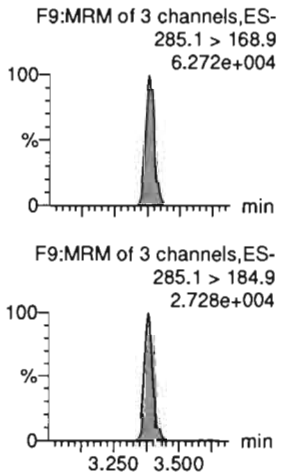
PFHxA



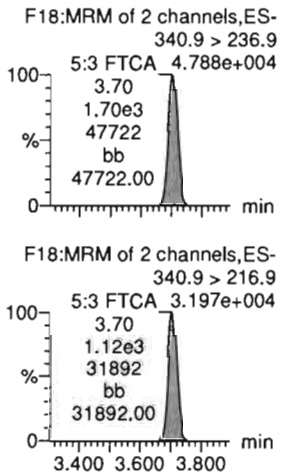
PFPeS



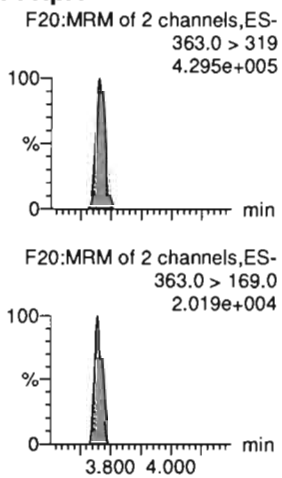
HFPO-DA



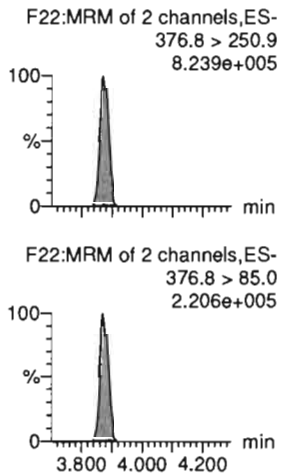
5:3 FTCA



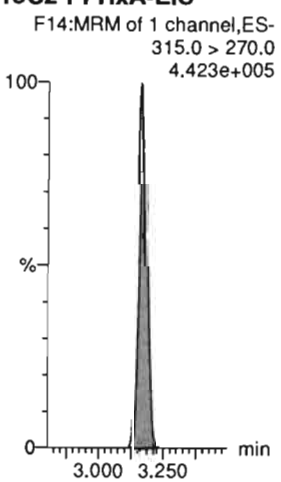
PFHpA



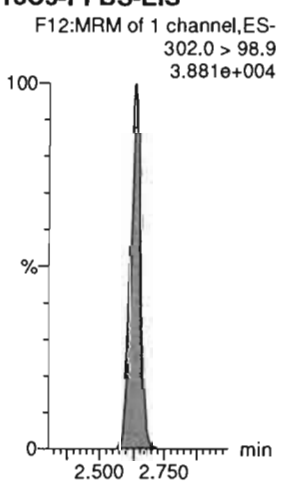
ADONA



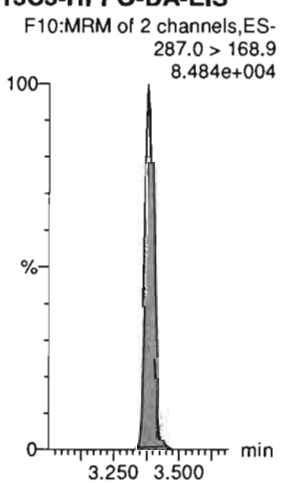
13C2-PFHxA-EIS



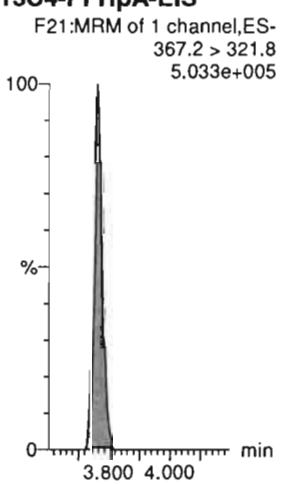
13C3-PFBS-EIS



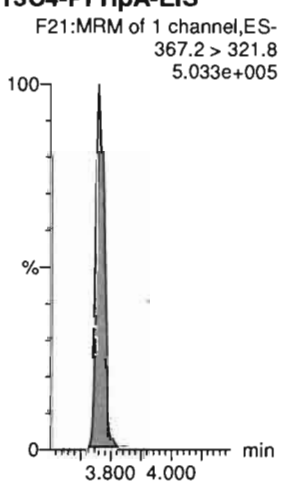
13C3-HFPO-DA-EIS



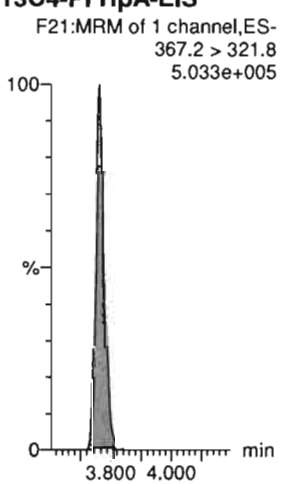
13C4-PFHpA-EIS



13C4-PFHpA-EIS



13C4-PFHpA-EIS

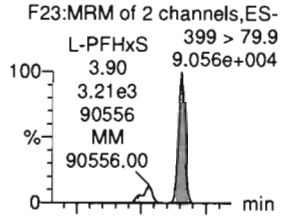


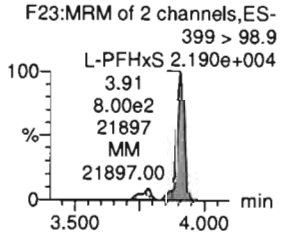
Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

Last Altered: Wednesday, July 15, 2020 15:31:31 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 15:32:47 Pacific Daylight Time

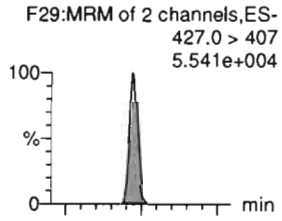
Name: 200715P1-10, Date: 15-Jul-2020, Time: 13:13:09, ID: ST200715P1-6 PFC CS3 20F1906, Description: PFC CS3 20F1906

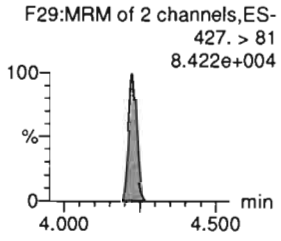
L-PFHxS



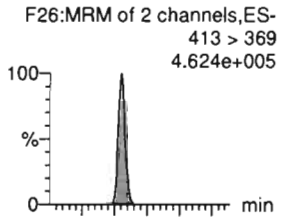


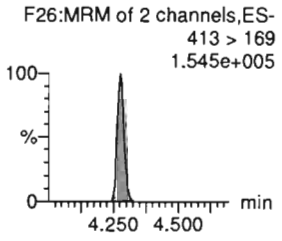
6:2 FTS





L-PFOA





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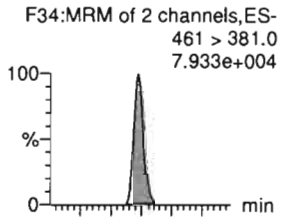

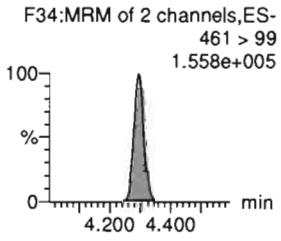

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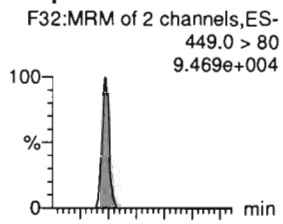
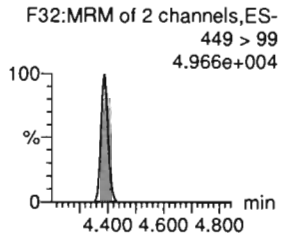
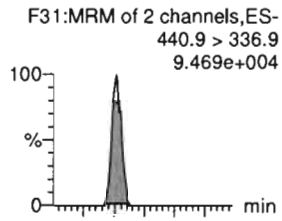
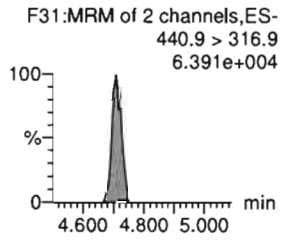


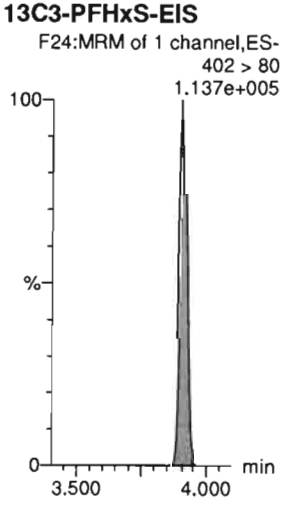


7:3 FTCA

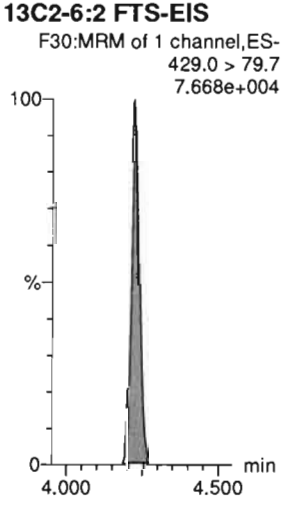




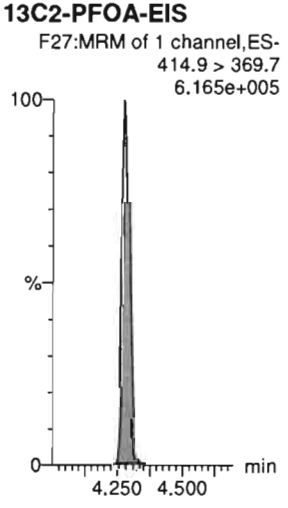
13C3-PFHxS-EIS



13C2-6:2 FTS-EIS



13C2-PFOA-EIS



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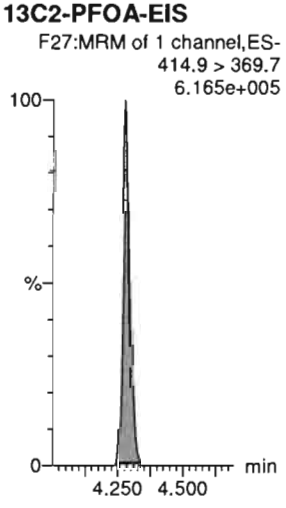
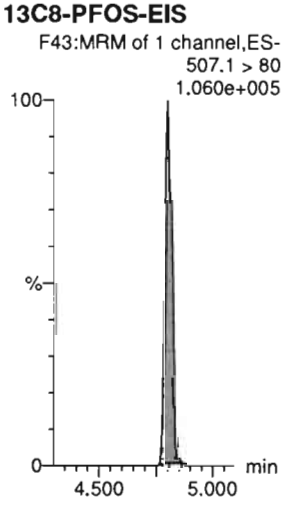
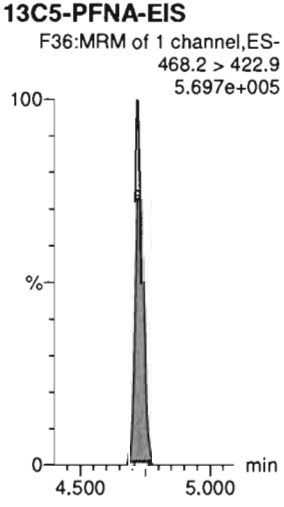


13C8-PFOS-EIS



13C5-PFNA-EIS



Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

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Name: 200715P1-10, Date: 15-Jul-2020, Time: 13:13:09, ID: ST200715P1-6 PFC CS3 20F1906, Description: PFC CS3 20F1906

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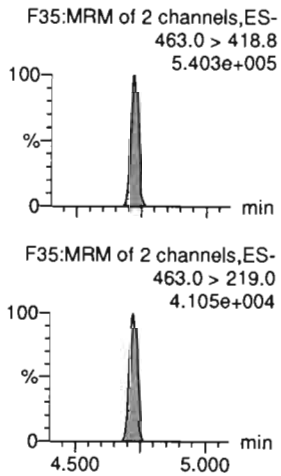

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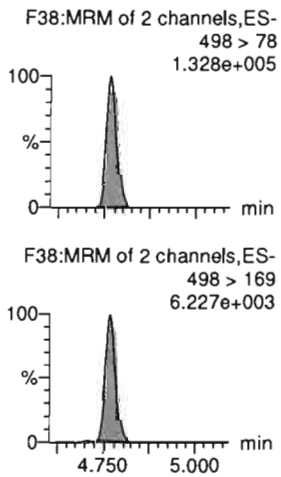
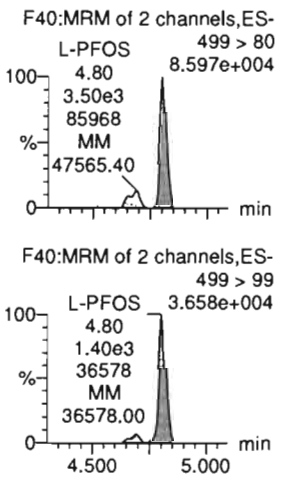
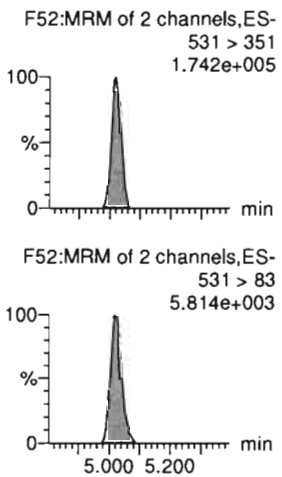


L-PFOS



9Cl-PF30NS



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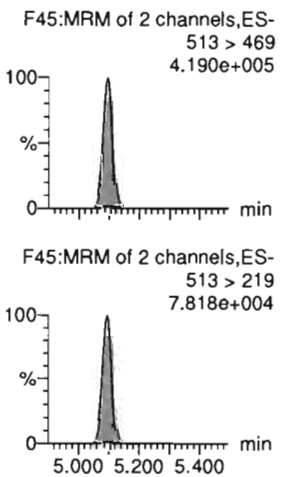
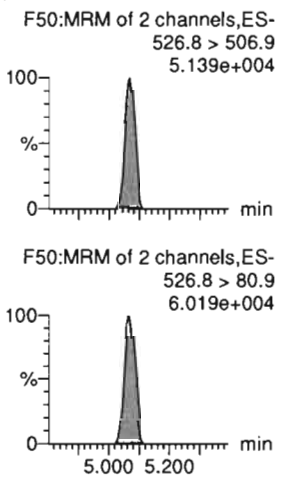


8:2 FTS



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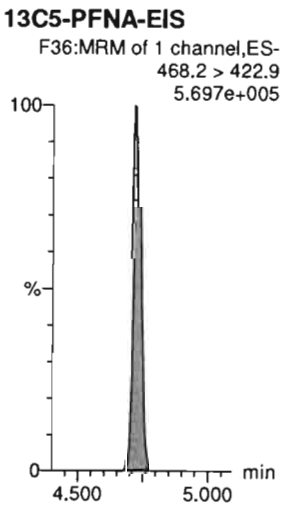

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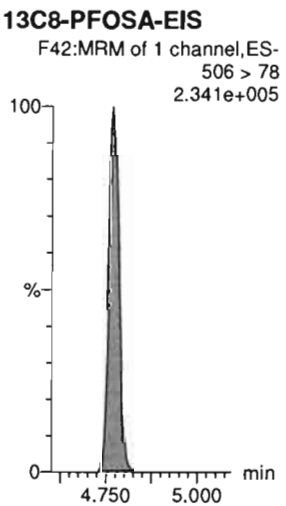

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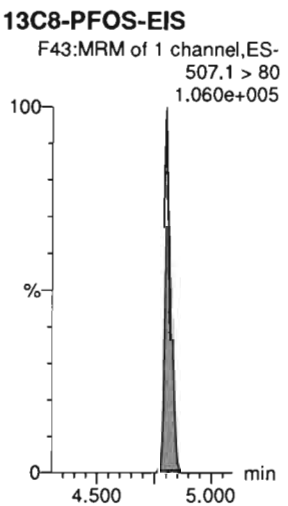

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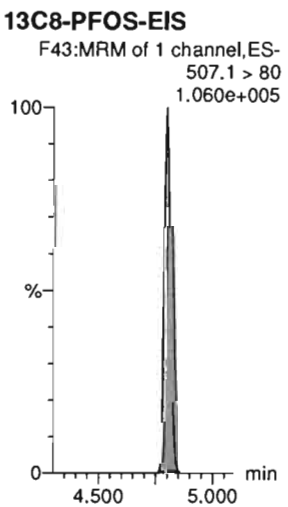

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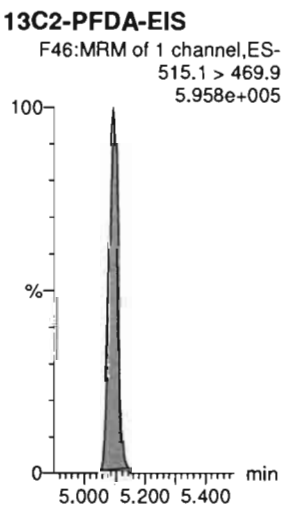

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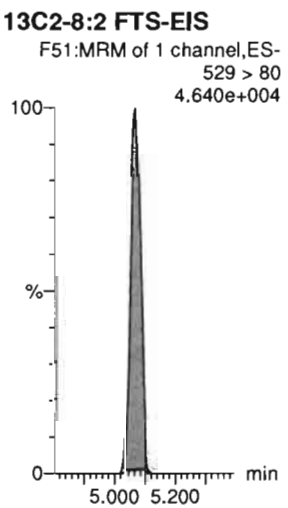

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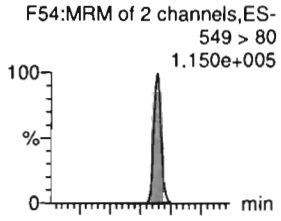
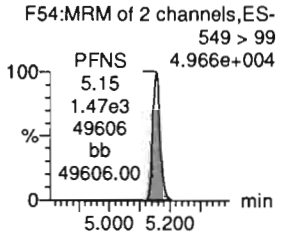
Name: 200715P1-10, Date: 15-Jul-2020, Time: 13:13:09, ID: ST200715P1-6 PFC CS3 20F1906, Description: PFC CS3 20F1906

PFNS





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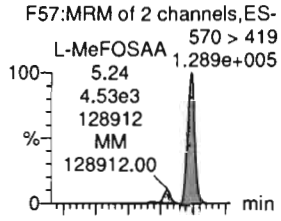
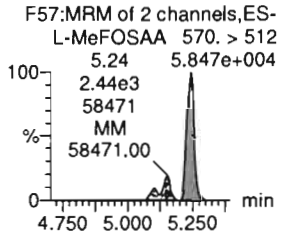
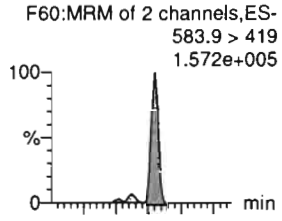
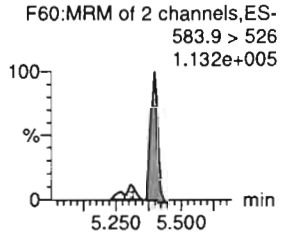


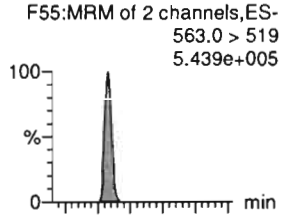


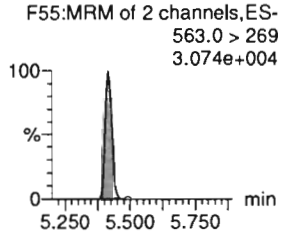
L-EtFOSAA





PFUdA





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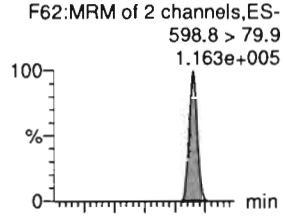

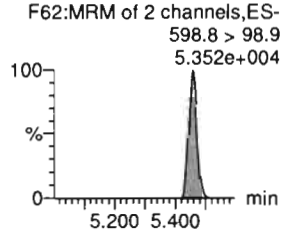

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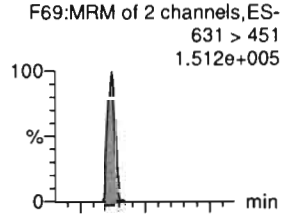
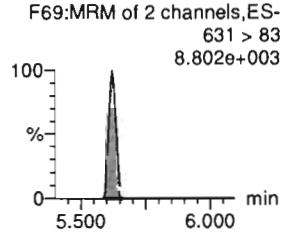
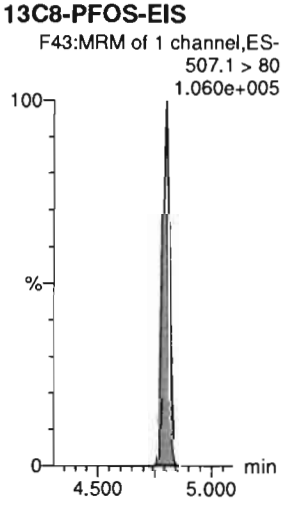
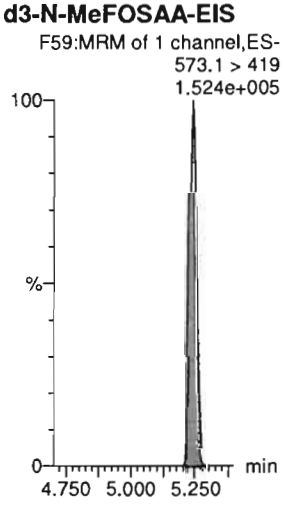




13C8-PFOS-EIS



d3-N-MeFOSAA-EIS



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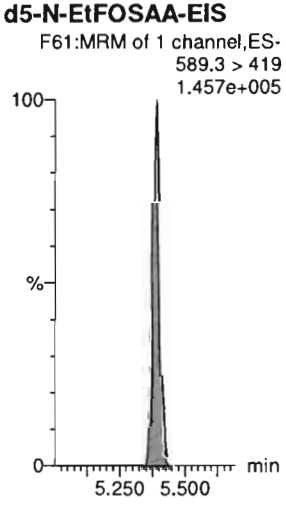

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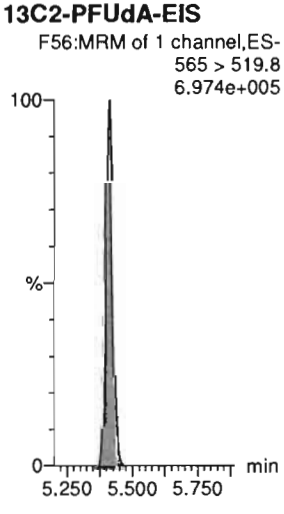

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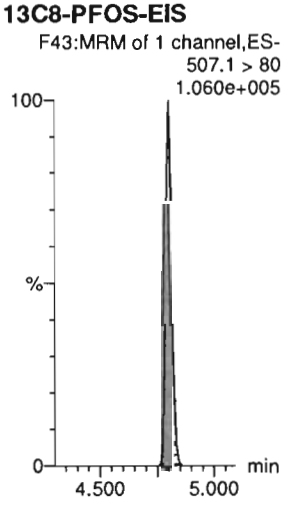
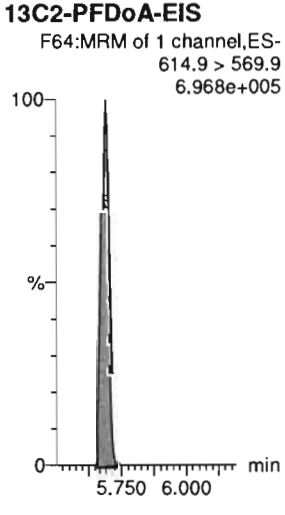


13C2-PFDoA-EIS



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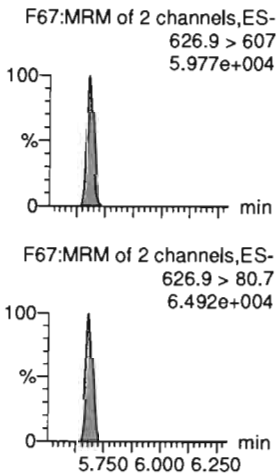
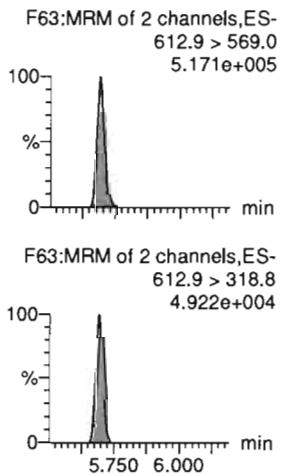
Name: 200715P1-10, Date: 15-Jul-2020, Time: 13:13:09, ID: ST200715P1-6 PFC CS3 20F1906, Description: PFC CS3 20F1906

10:2 FTS



PFDoA



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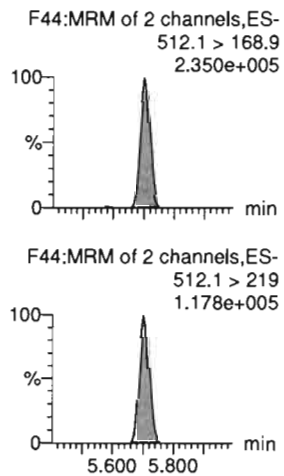
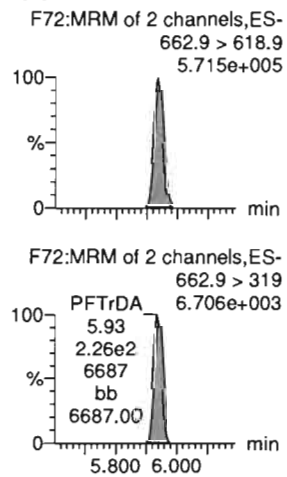
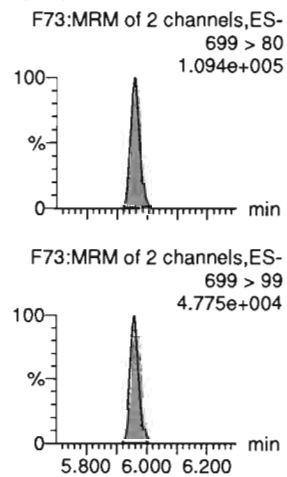


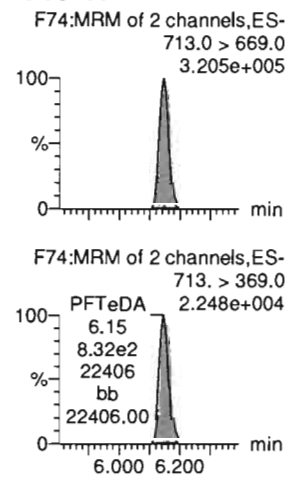
PFTrDA



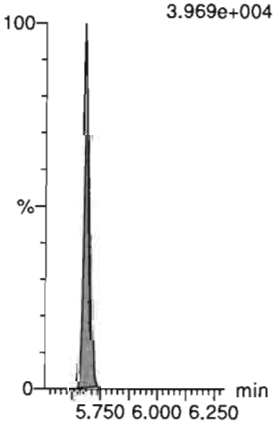
PFDoS



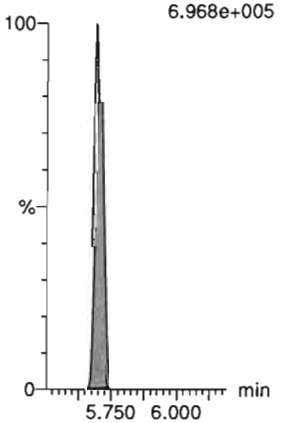
PFTeDA



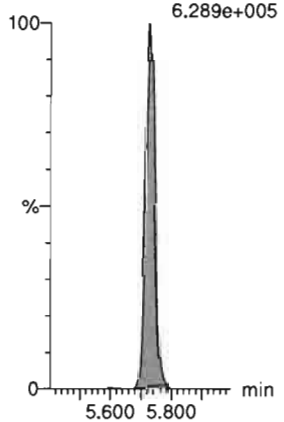
13C2-10:2 FTS-EIS



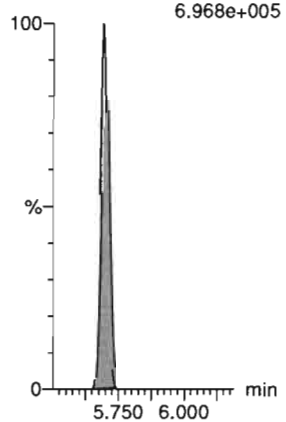
13C2-PFDoA-EIS



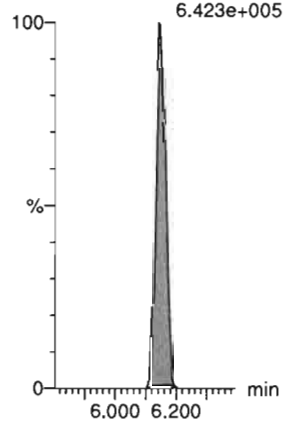
d3-N-MeFOSA-EIS



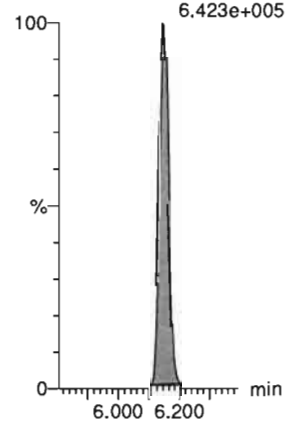
13C2-PFDoA-EIS



13C2-PFTeDA-EIS



13C2-PFTeDA-EIS



Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

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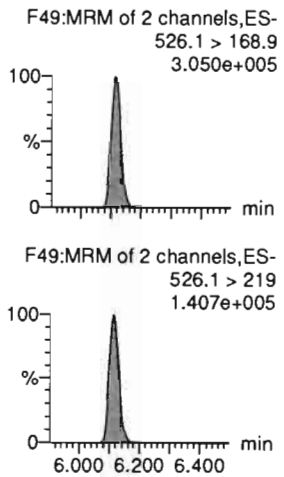
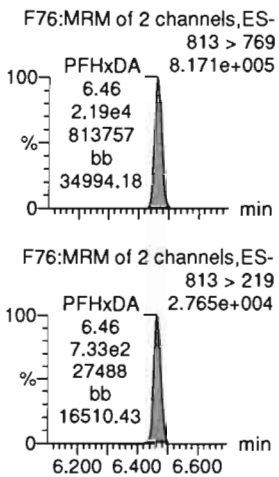
Name: 200715P1-10, Date: 15-Jul-2020, Time: 13:13:09, ID: ST200715P1-6 PFC CS3 20F1906, Description: PFC CS3 20F1906

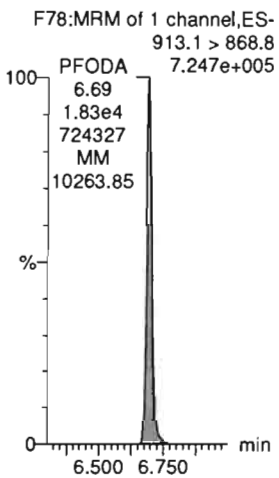
N-EtFOSA



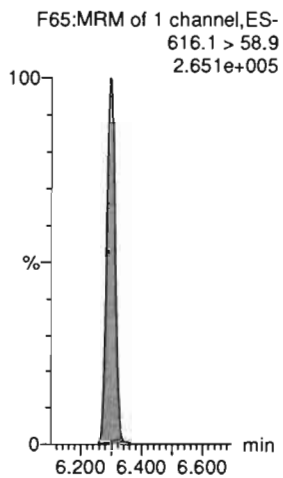
PFHxDA



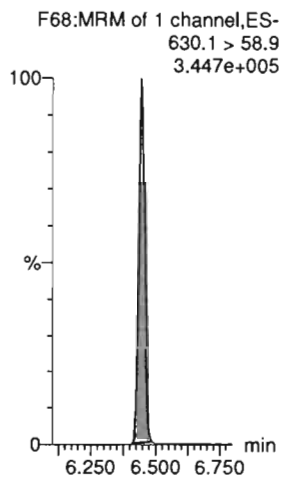
PFODA



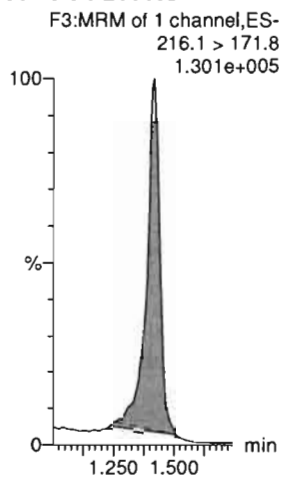
N-MeFOSE



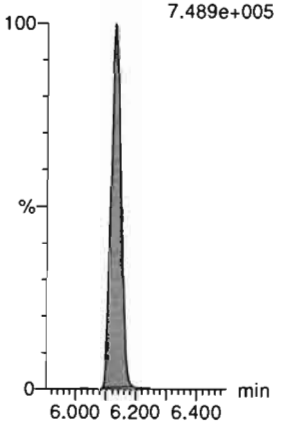
N-EtFOSE



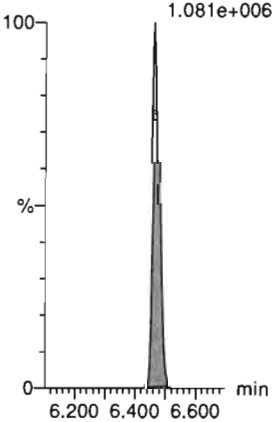
13C3-PFBA-RSD



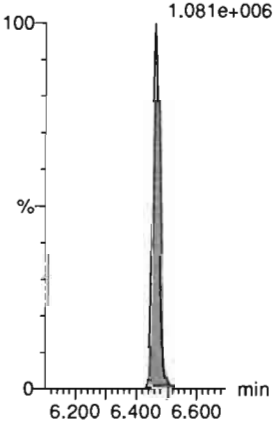
d5-N-ETFOSA-EIS



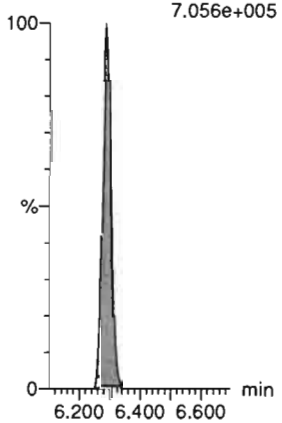
13C2-PFHxDA-EIS



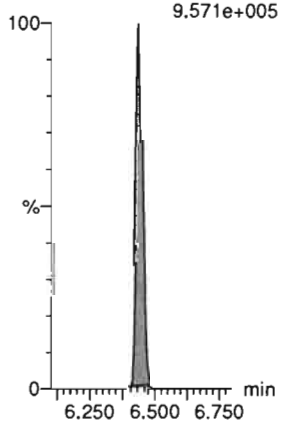
13C2-PFHxDA-EIS



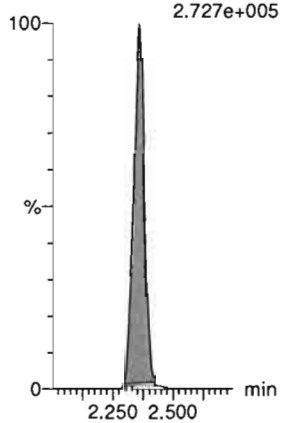
d7-N-MeFOSE-EIS



d9-N-EtFOSE-EIS



13C3-PFPeA-RSD



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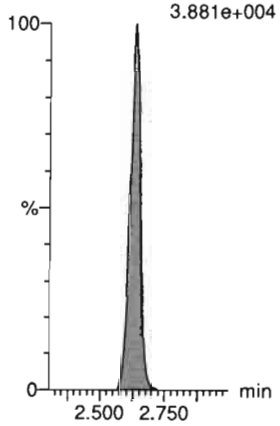
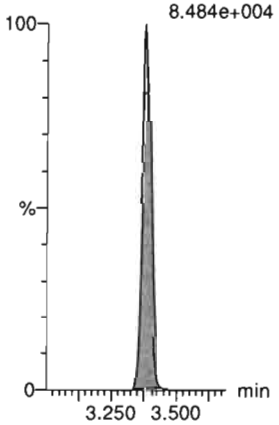
Name: 200715P1-10, Date: 15-Jul-2020, Time: 13:13:09, ID: ST200715P1-6 PFC CS3 20F1906, Description: PFC CS3 20F1906

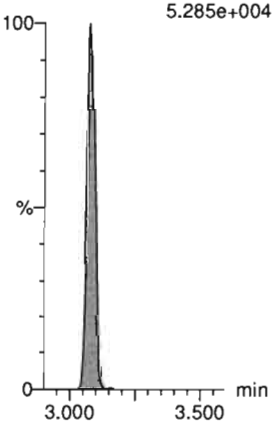
13C3-PFBS-RSD
F12:MRM of 1 channel,ES-
302.0 > 98.9
3.881e+004



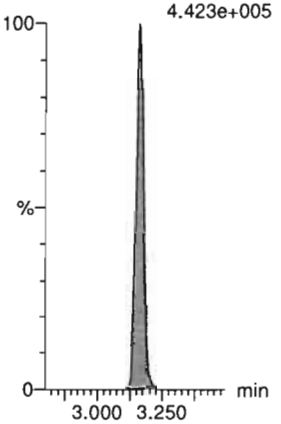
13C3-HFPO-DA-RSD
F10:MRM of 2 channels,ES-
287.0 > 168.9
8.484e+004



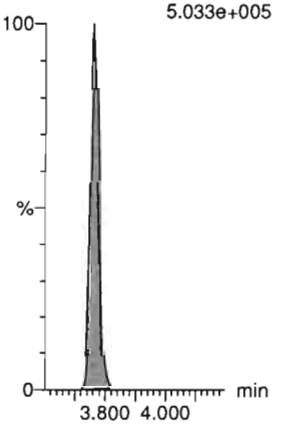
13C2-4:2 FTS-RSD
F17:MRM of 2 channels,ES-
329.0 > 80.8
5.285e+004



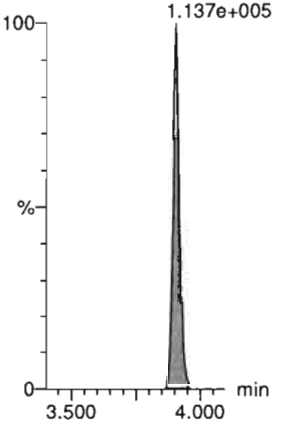
13C2-PFHxA-RSD
F14:MRM of 1 channel,ES-
315.0 > 270.0
4.423e+005



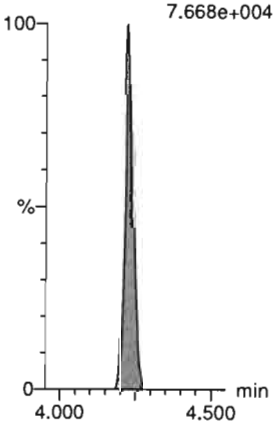
13C4-PFHpA-RSD
F21:MRM of 1 channel,ES-
367.2 > 321.8
5.033e+005



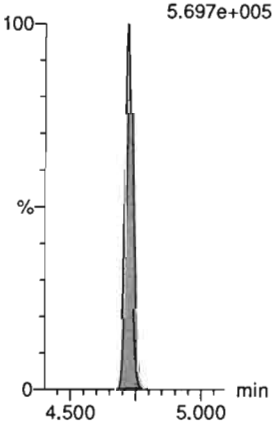
13C3-PFHxS-RSD
F24:MRM of 1 channel,ES-
402 > 80
1.137e+005



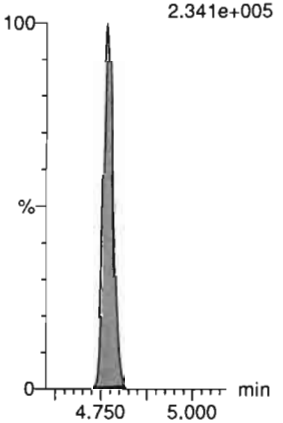
13C2-6:2 FTS-RSD
F30:MRM of 1 channel,ES-
429.0 > 79.7
7.668e+004



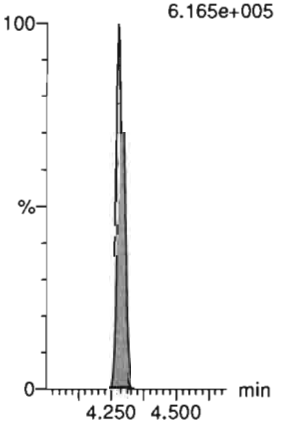
13C5-PFNA-RSD
F36:MRM of 1 channel,ES-
468.2 > 422.9
5.697e+005



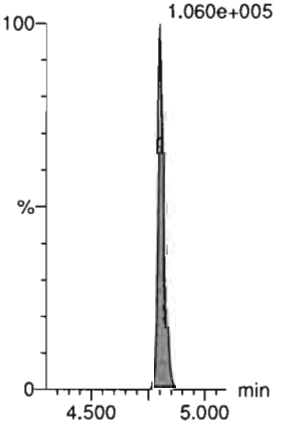
13C8-PFOSA-RSD
F42:MRM of 1 channel,ES-
506 > 78
2.341e+005



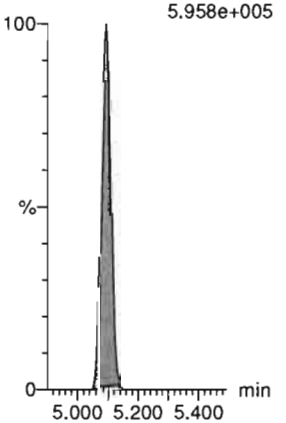
13C2-PFOA-RSD
F27:MRM of 1 channel,ES-
414.9 > 369.7
6.165e+005



13C8-PFOS-RSD
F43:MRM of 1 channel,ES-
507.1 > 80
1.060e+005



13C2-PFDA-RSD
F46:MRM of 1 channel,ES-
515.1 > 469.9
5.958e+005



Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

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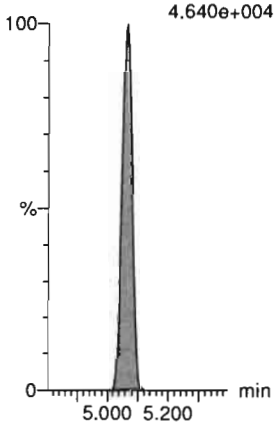
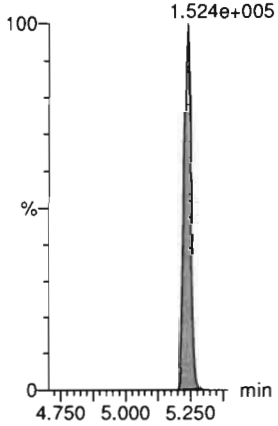
Name: 200715P1-10, Date: 15-Jul-2020, Time: 13:13:09, ID: ST200715P1-6 PFC CS3 20F1906, Description: PFC CS3 20F1906

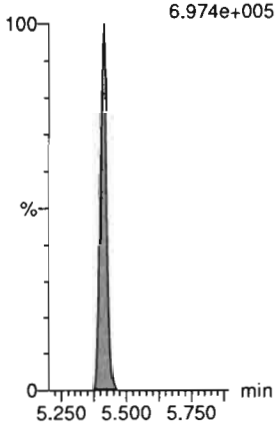
13C2-8:2 FTS-RSD
F51:MRM of 1 channel,ES-
529 > 80
4.640e+004



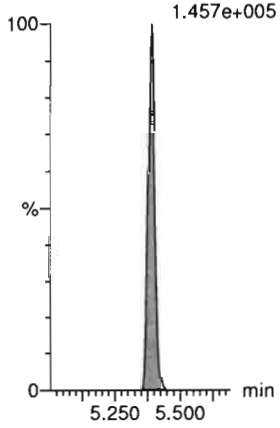
d3-N-MeFOSAA-RSD
F59:MRM of 1 channel,ES-
573.1 > 419
1.524e+005



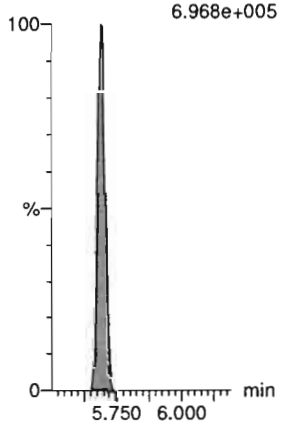
13C2-PFUdA-RSD
F56:MRM of 1 channel,ES-
565 > 519.8
6.974e+005



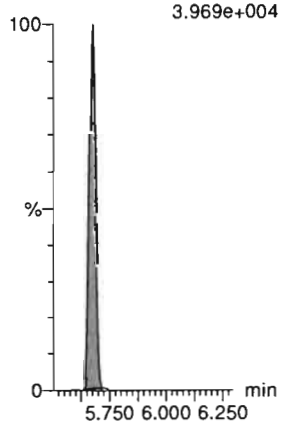
d5-N-EtFOSAA-RSD
F61:MRM of 1 channel,ES-
589.3 > 419
1.457e+005



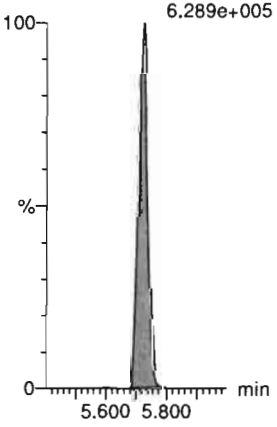
13C2-PFDoA-RSD
F64:MRM of 1 channel,ES-
614.9 > 569.9
6.968e+005



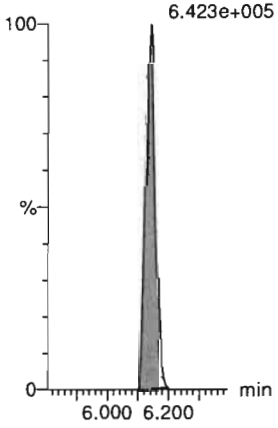
13C2-10:2 FTS-RSD
F70:MRM of 1 channel,ES-
632.9 > 80.0
3.969e+004



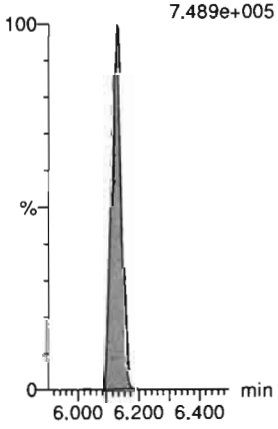
d3-N-MeFOSA-RSD
F47:MRM of 1 channel,ES-
515.2 > 168.9
6.289e+005



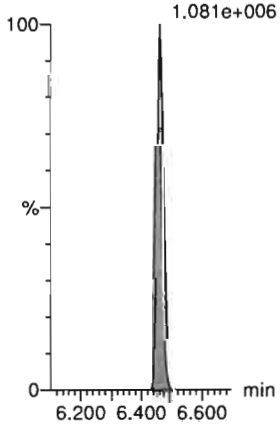
13C2-PFTeDA-RSD
F75:MRM of 2 channels,ES-
715.1 > 669.7
6.423e+005



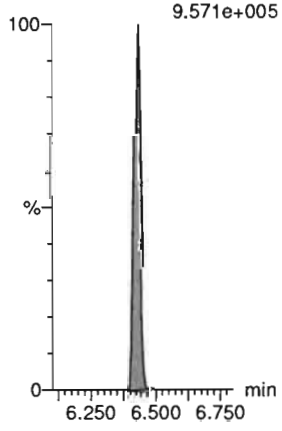
d5-N-ETFOSA-RSD
F53:MRM of 1 channel,ES-
531.1 > 168.9
7.489e+005



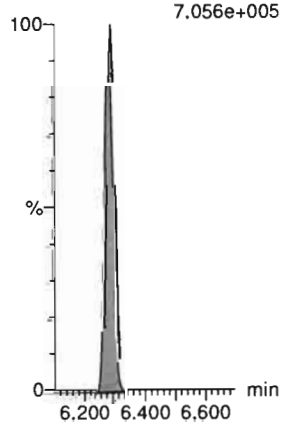
13C2-PFHxDA-RSD
F77:MRM of 1 channel,ES-
815 > 769.7
1.081e+006



d9-N-EtFOSE-RSD
F71:MRM of 1 channel,ES-
639.2 > 58.8
9.571e+005



d7-N-MeFOSE-RSD
F66:MRM of 1 channel,ES-
623.1 > 58.9
7.056e+005



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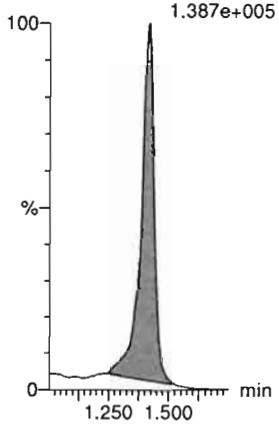
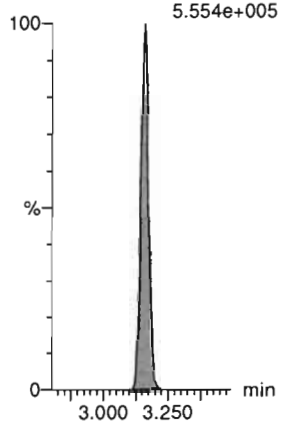
Name: 200715P1-10, Date: 15-Jul-2020, Time: 13:13:09, ID: ST200715P1-6 PFC CS3 20F1906, Description: PFC CS3 20F1906

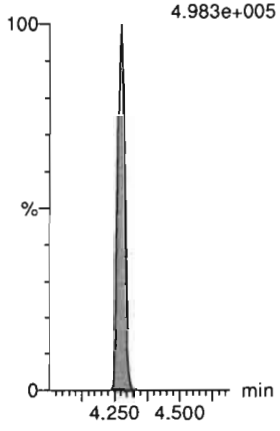
13C4-PFBA



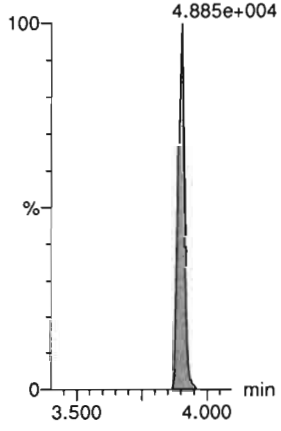
13C5-PFHxA



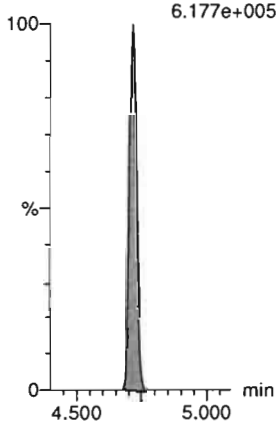
13C8-PFOA



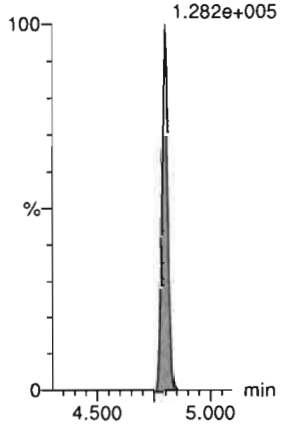
18O2-PFHxS



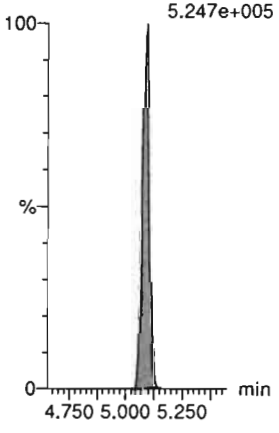
13C9-PFNA



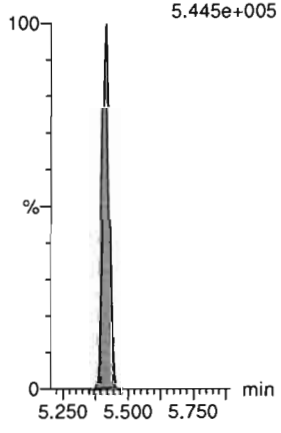
13C4-PFOS



13C6-PFDA



13C7-PFUdA

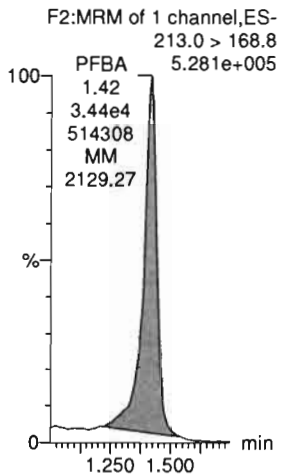


Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

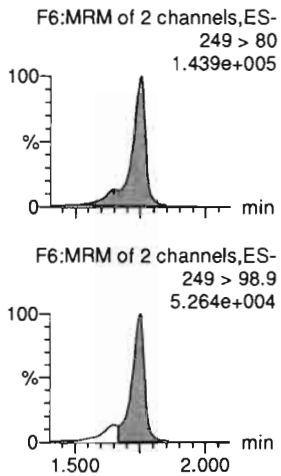
Last Altered: Wednesday, July 15, 2020 15:31:31 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 15:32:47 Pacific Daylight Time

Name: 200715P1-11, Date: 15-Jul-2020, Time: 13:23:45, ID: ST200715P1-7 PFC CS4 20F1907, Description: PFC CS4 20F1907

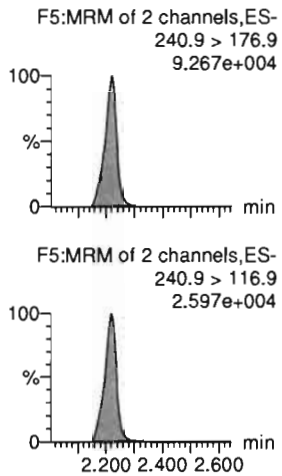
PFBA



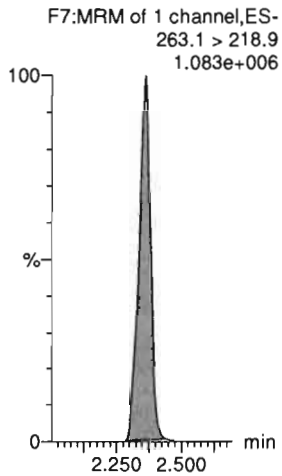
PFPrS



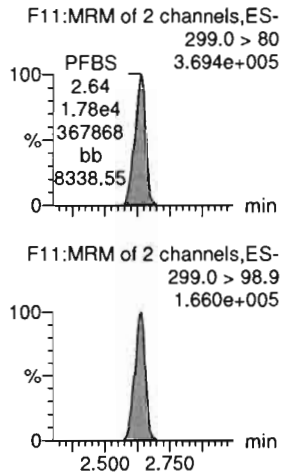
3:3 FTCA



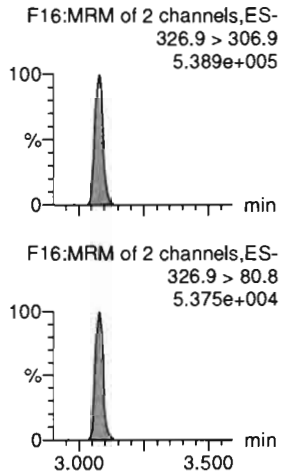
PFPeA



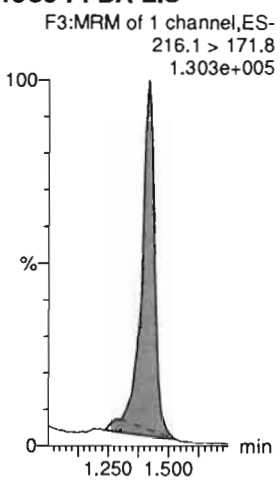
PFBS



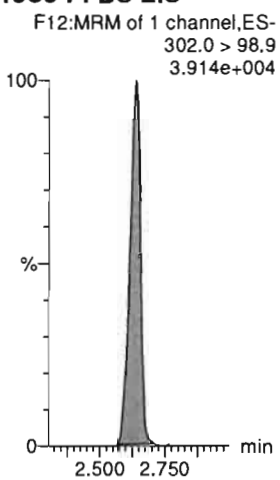
4:2 FTS



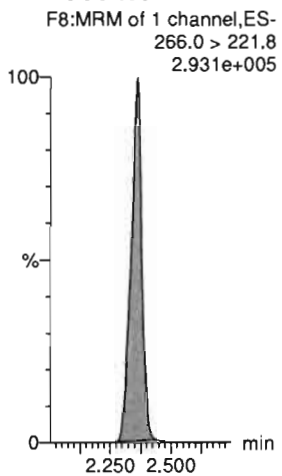
13C3-PFBA-EIS



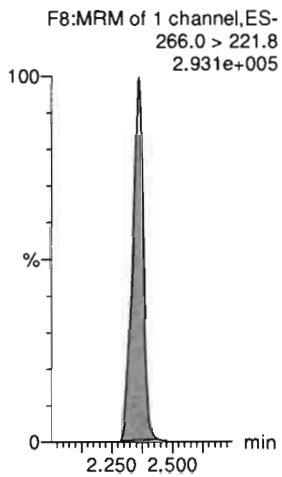
13C3-PFBS-EIS



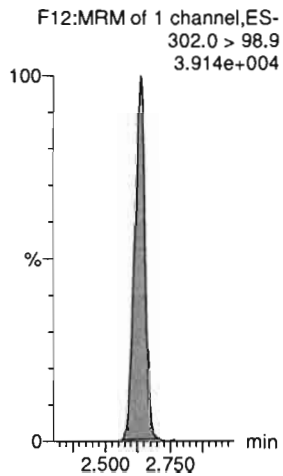
13C3-PFPeA-EIS



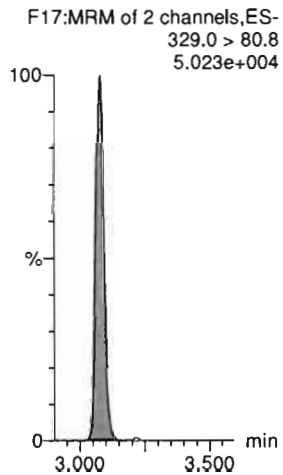
13C3-PFPeA-EIS



13C3-PFBS-EIS



13C2-4:2 FTS-EIS



Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

Last Altered: Wednesday, July 15, 2020 15:31:31 Pacific Daylight Time
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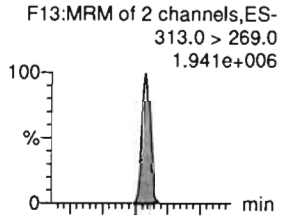
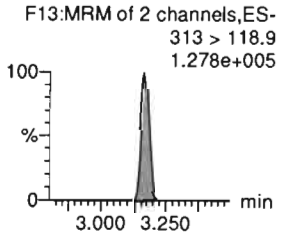
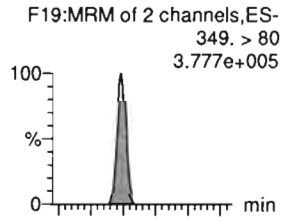
Name: 200715P1-11, Date: 15-Jul-2020, Time: 13:23:45, ID: ST200715P1-7 PFC CS4 20F1907, Description: PFC CS4 20F1907

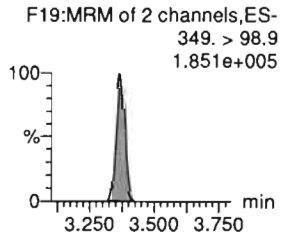
PFHxA



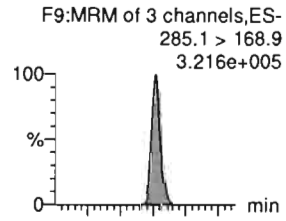


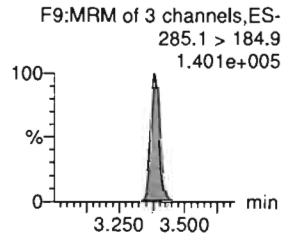
PFPeS



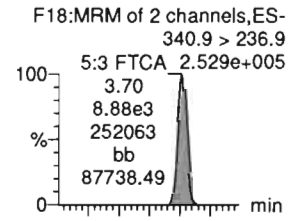


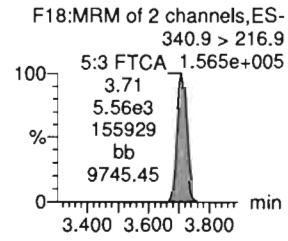
HFPO-DA



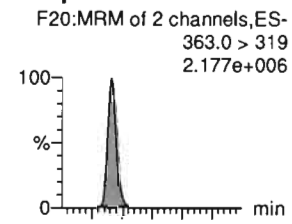


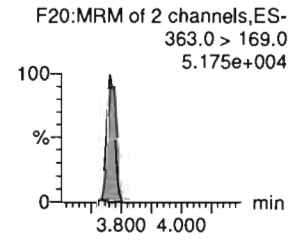
5:3 FTCA



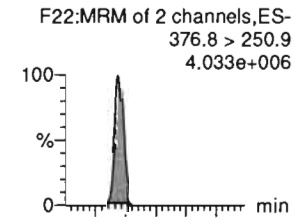


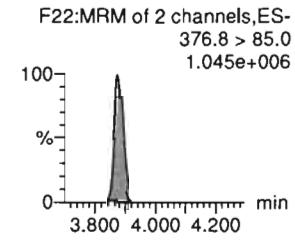
PFHpA



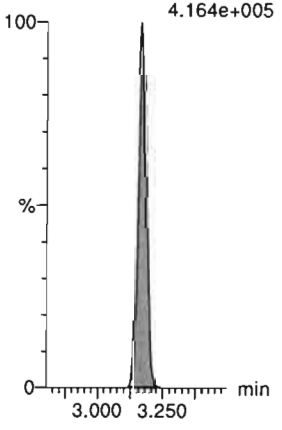


ADONA

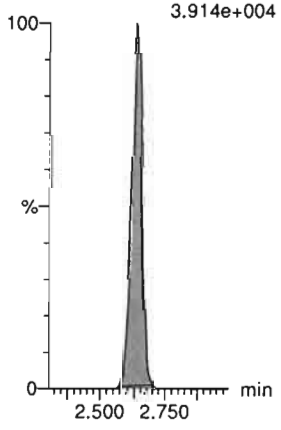




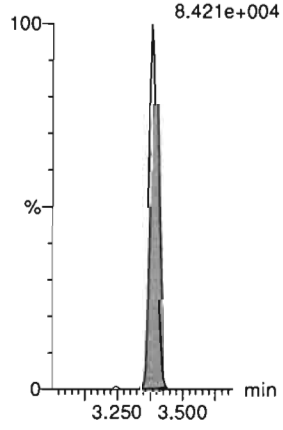
13C2-PFHxA-EIS



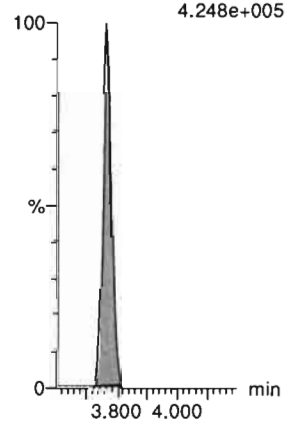
13C3-PFBS-EIS



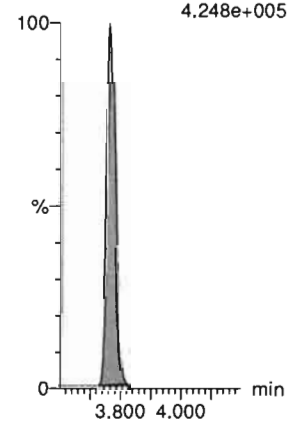
13C3-HFPO-DA-EIS



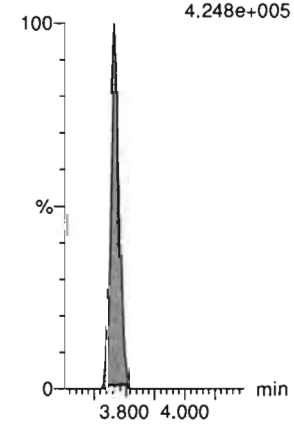
13C4-PFHpA-EIS



13C4-PFHpA-EIS



13C4-PFHpA-EIS



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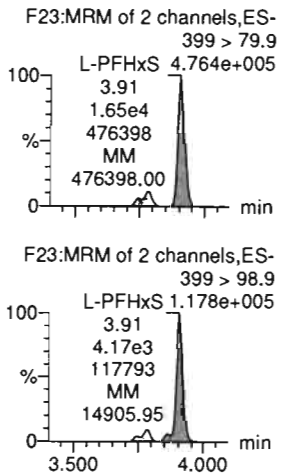
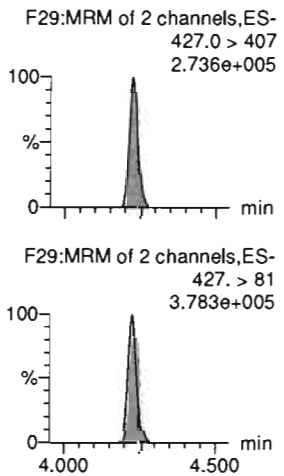
Name: 200715P1-11, Date: 15-Jul-2020, Time: 13:23:45, ID: ST200715P1-7 PFC CS4 20F1907, Description: PFC CS4 20F1907

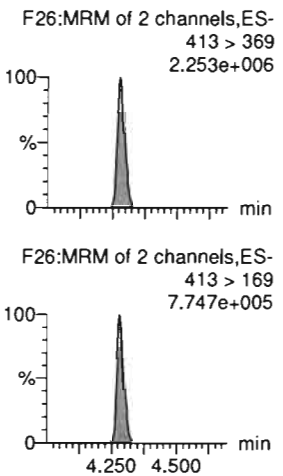
L-PFHxS



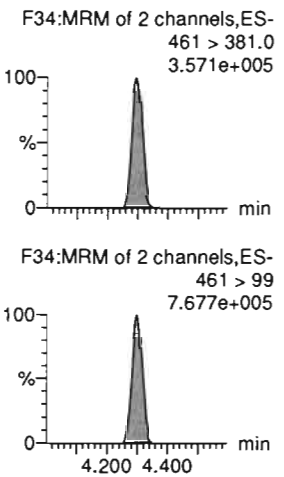
6:2 FTS



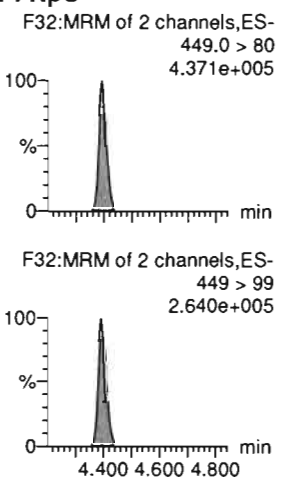
L-PFOA



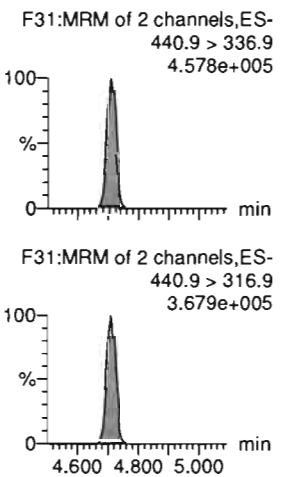
PFEChS



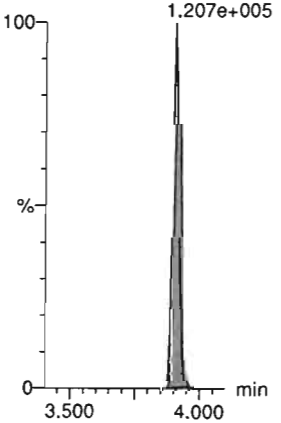
PFHpS



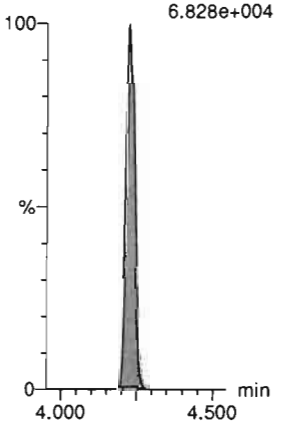
7:3 FTCA



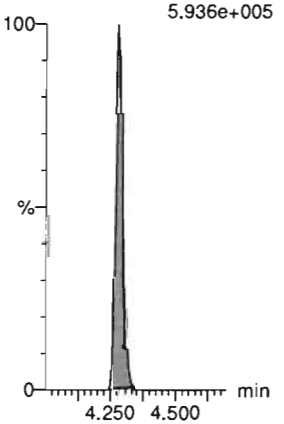
13C3-PFHxS-EIS



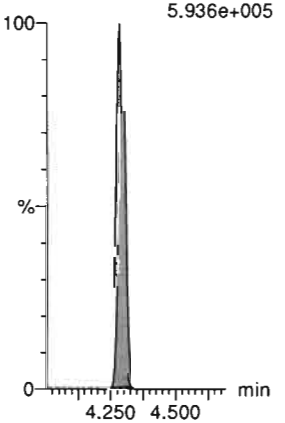
13C2-6:2 FTS-EIS



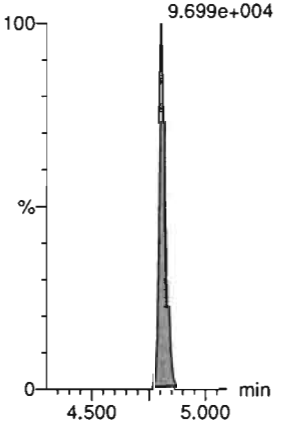
13C2-PFOA-EIS



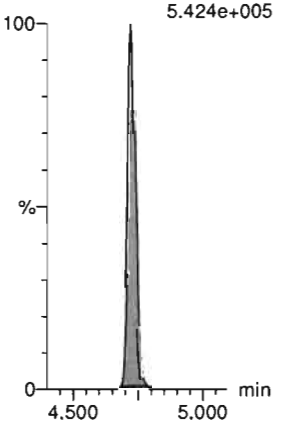
13C2-PFOA-EIS



13C8-PFOS-EIS



13C5-PFNA-EIS



Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

Last Altered: Wednesday, July 15, 2020 15:31:31 Pacific Daylight Time
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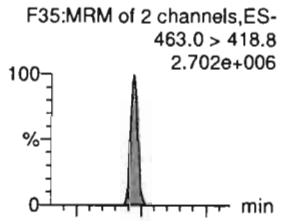
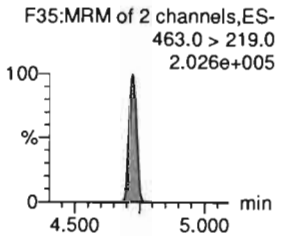
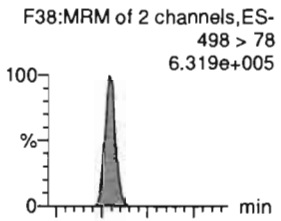
Name: 200715P1-11, Date: 15-Jul-2020, Time: 13:23:45, ID: ST200715P1-7 PFC CS4 20F1907, Description: PFC CS4 20F1907

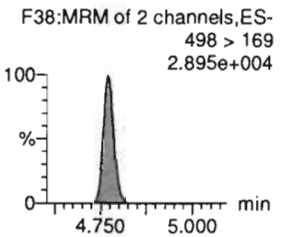
PFNA



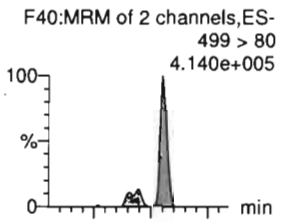


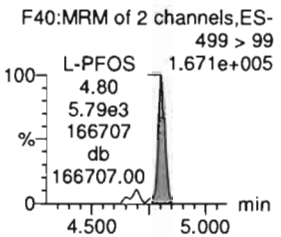
PFOSA



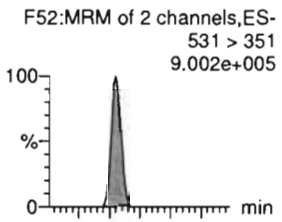


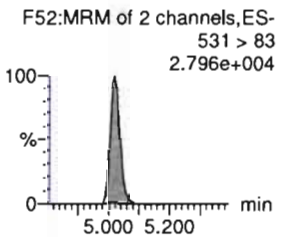
L-PFOS





9Cl-PF30NS





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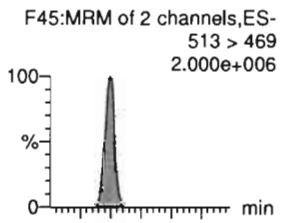
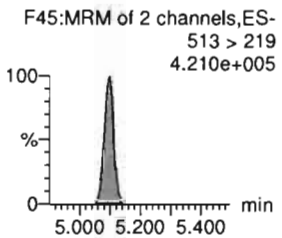
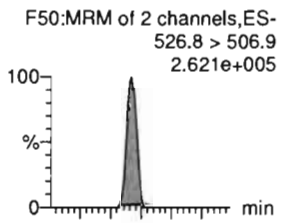
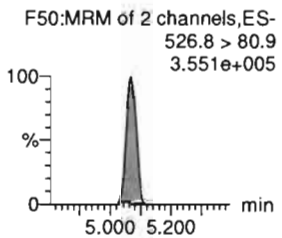


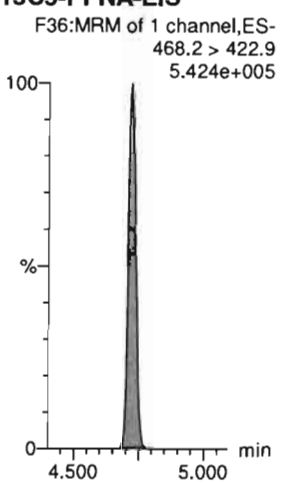


8:2 FTS

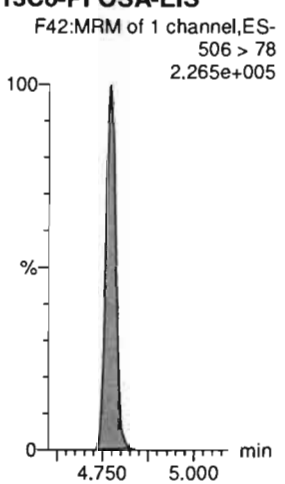




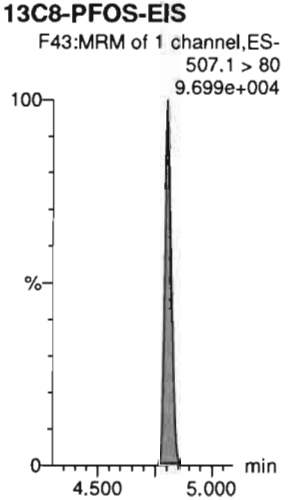
13C5-PFNA-EIS



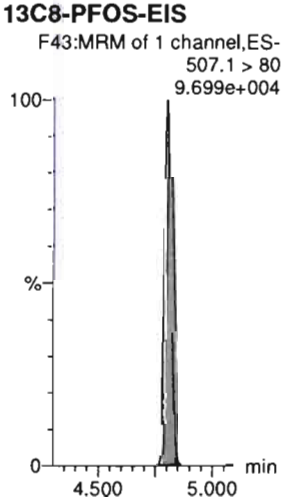
13C8-PFOSA-EIS



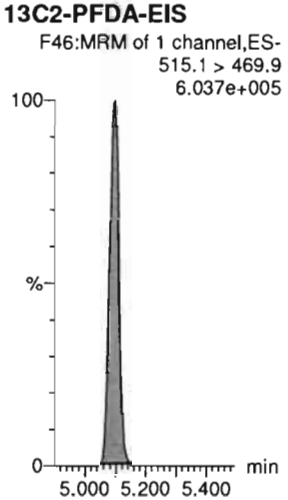
13C8-PFOS-EIS



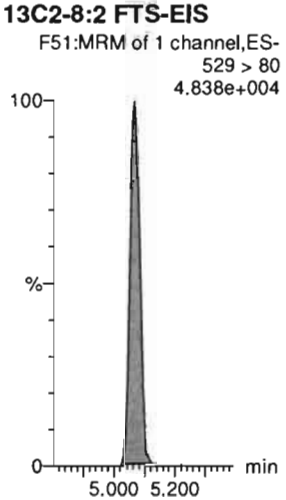
13C8-PFOS-EIS



13C2-PFDA-EIS



13C2-8:2 FTS-EIS

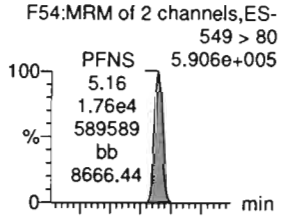


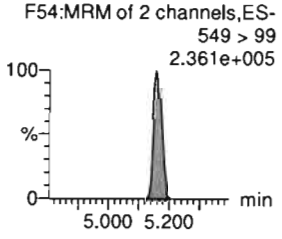
Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

Last Altered: Wednesday, July 15, 2020 15:31:31 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 15:32:47 Pacific Daylight Time

Name: 200715P1-11, Date: 15-Jul-2020, Time: 13:23:45, ID: ST200715P1-7 PFC CS4 20F1907, Description: PFC CS4 20F1907

PFNS





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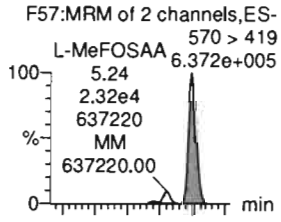

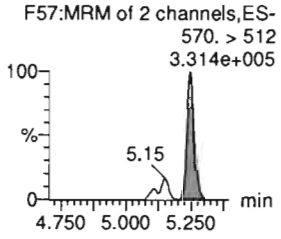

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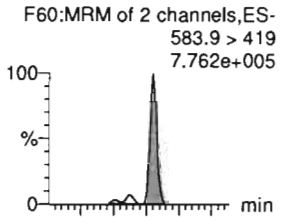
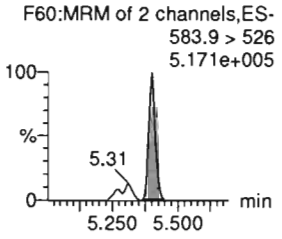
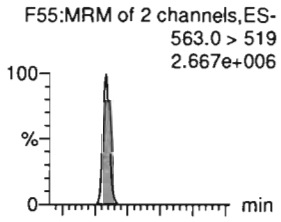
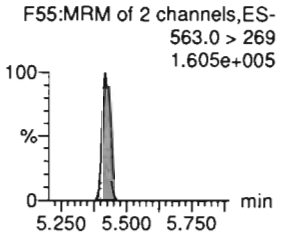


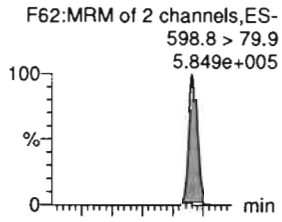


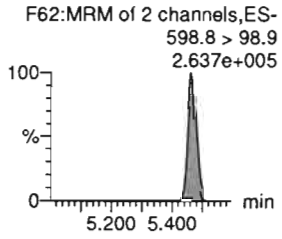
PFUdA





PFDS





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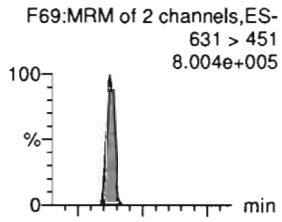
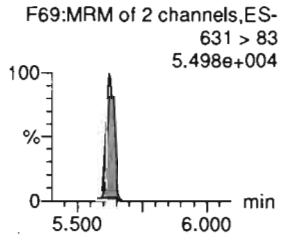
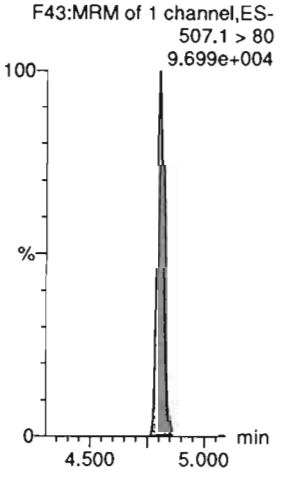
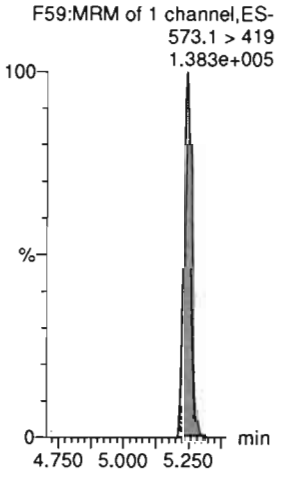




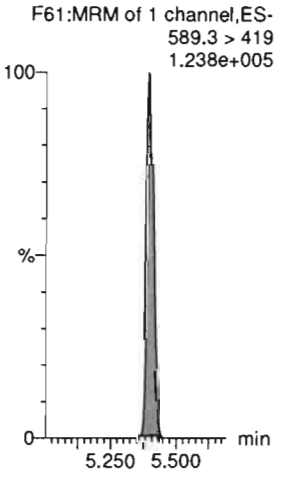
13C8-PFOS-EIS



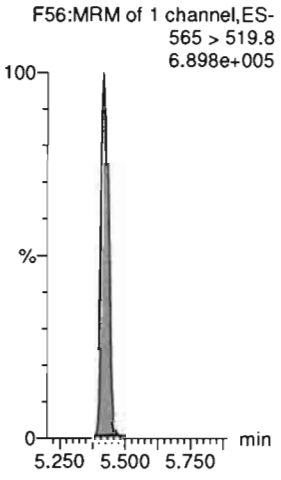
d3-N-MeFOSAA-EIS



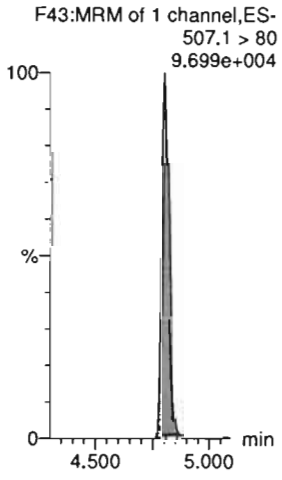
d5-N-EtFOSAA-EIS



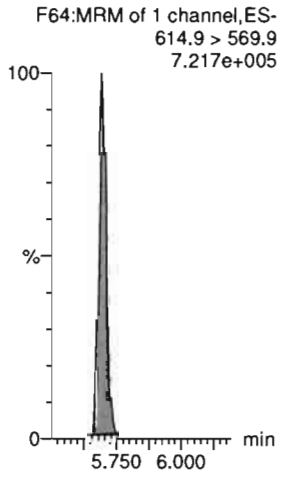
13C2-PFUdA-EIS



13C8-PFOS-EIS



13C2-PFDoA-EIS



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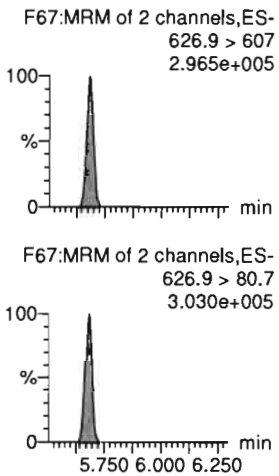
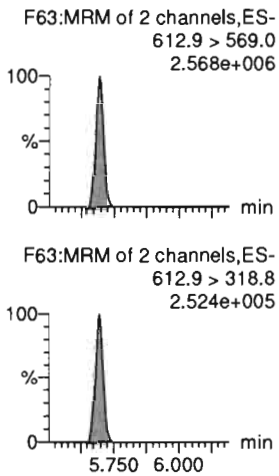
Name: 200715P1-11, Date: 15-Jul-2020, Time: 13:23:45, ID: ST200715P1-7 PFC CS4 20F1907, Description: PFC CS4 20F1907

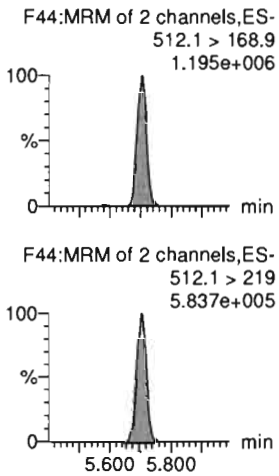
10:2 FTS



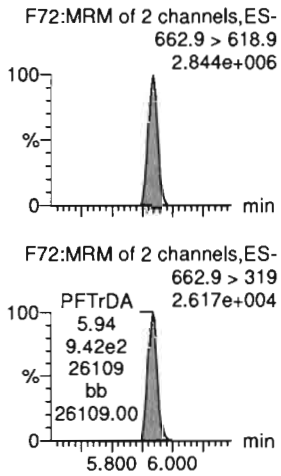
PFDoA



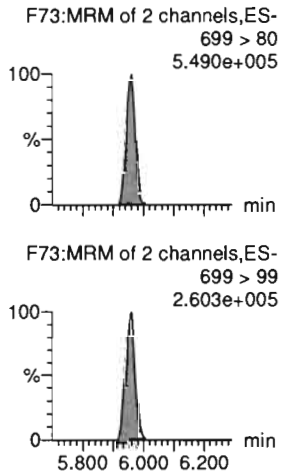
N-MeFOSA



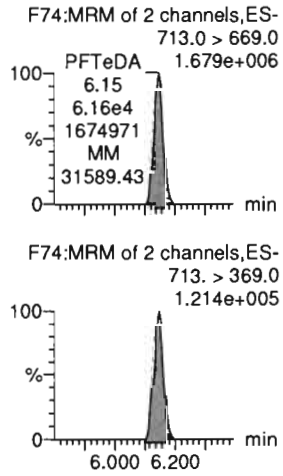
PFTrDA



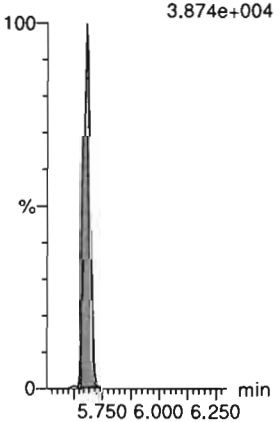
PFDoS



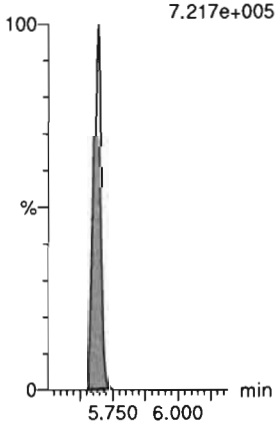
PFTeDA



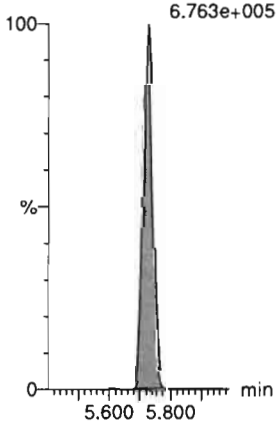
13C2-10:2 FTS-EIS



13C2-PFDoA-EIS



d3-N-MeFOSA-EIS



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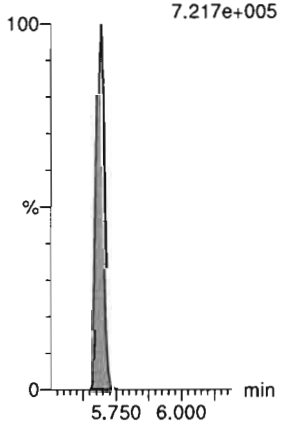
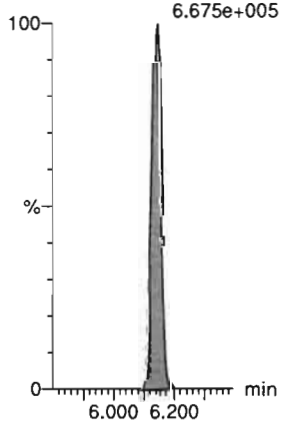
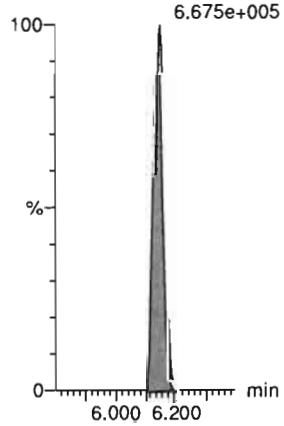


13C2-PFTeDA-EIS



13C2-PFTeDA-EIS



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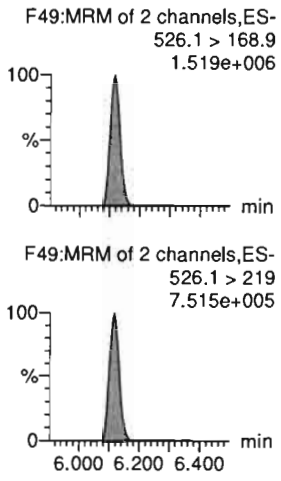
Name: 200715P1-11, Date: 15-Jul-2020, Time: 13:23:45, ID: ST200715P1-7 PFC CS4 20F1907, Description: PFC CS4 20F1907

N-EtFOSA



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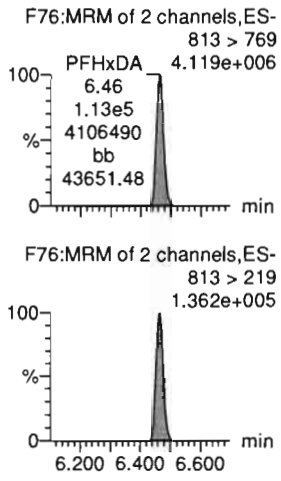
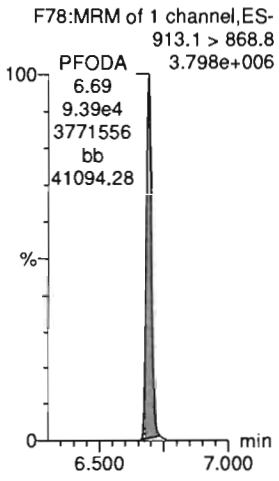
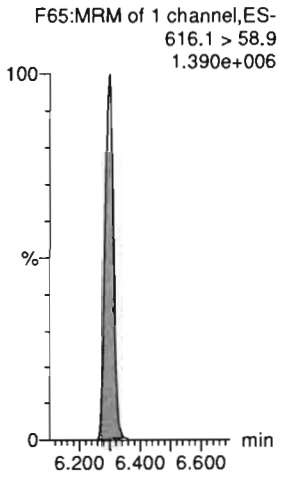


PFODA



N-MeFOSE



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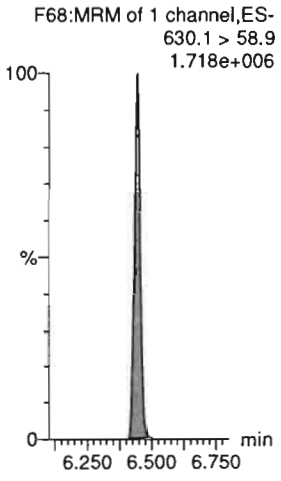
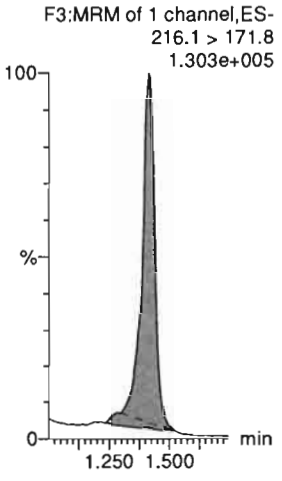
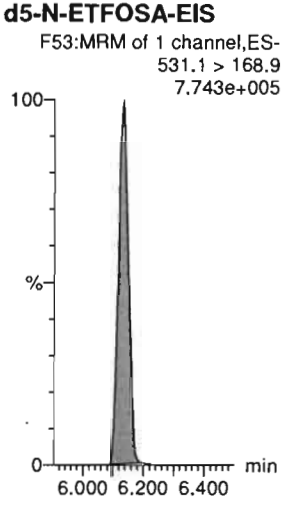


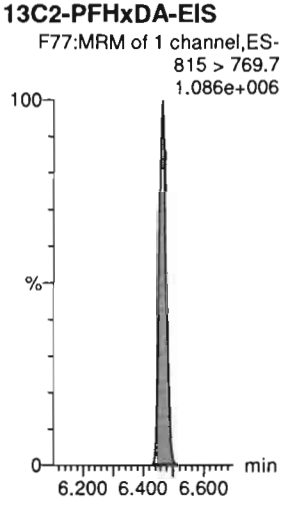
13C3-PFBA-RSD



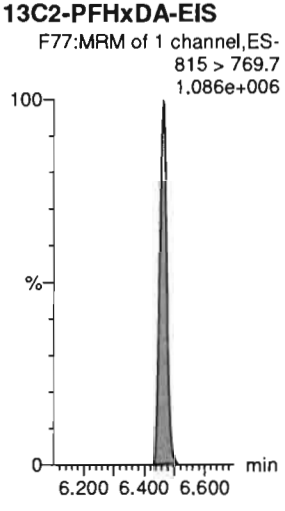
d5-N-ETFOSA-EIS



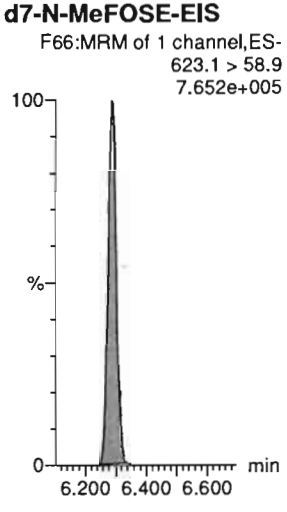
13C2-PFHxDA-EIS



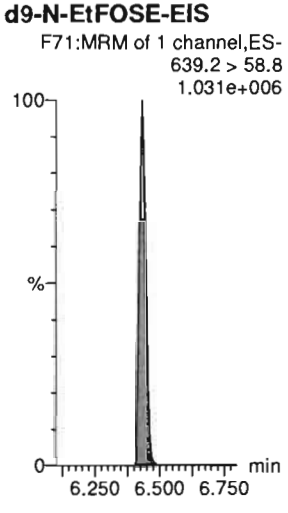
13C2-PFHxDA-EIS



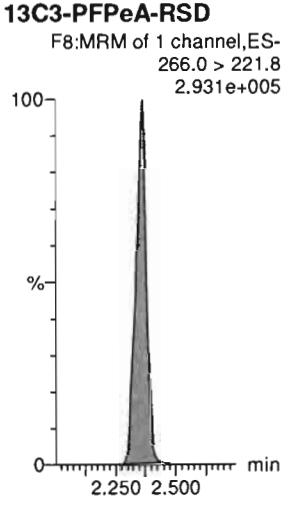
d7-N-MeFOSE-EIS



d9-N-EtFOSE-EIS



13C3-PFPeA-RSD

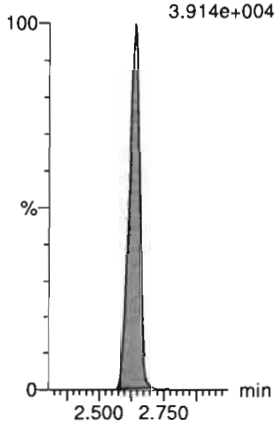


Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

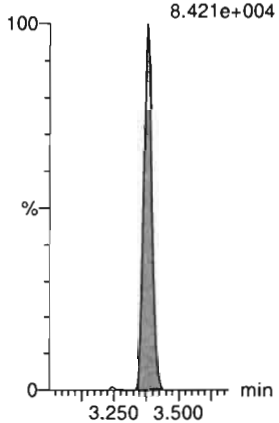
Last Altered: Wednesday, July 15, 2020 15:31:31 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 15:32:47 Pacific Daylight Time

Name: 200715P1-11, Date: 15-Jul-2020, Time: 13:23:45, ID: ST200715P1-7 PFC CS4 20F1907, Description: PFC CS4 20F1907

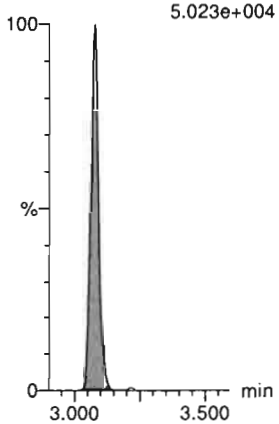
13C3-PFBS-RSD
F12:MRM of 1 channel,ES-
302.0 > 98.9
3.914e+004



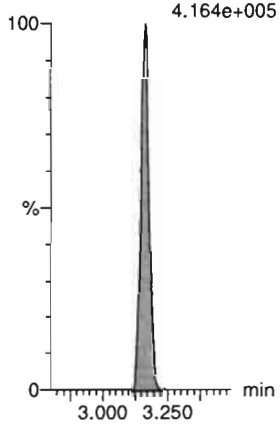
13C3-HFPO-DA-RSD
F10:MRM of 2 channels,ES-
287.0 > 168.9
8.421e+004



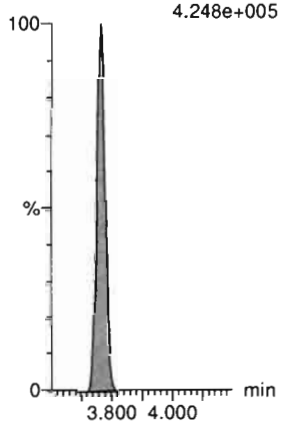
13C2-4:2 FTS-RSD
F17:MRM of 2 channels,ES-
329.0 > 80.8
5.023e+004



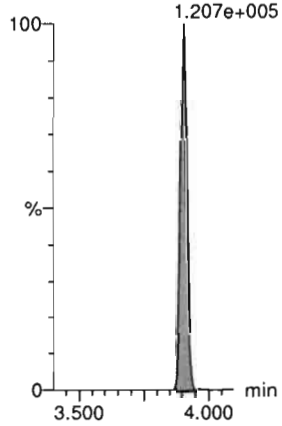
13C2-PFHxA-RSD
F14:MRM of 1 channel,ES-
315.0 > 270.0
4.164e+005



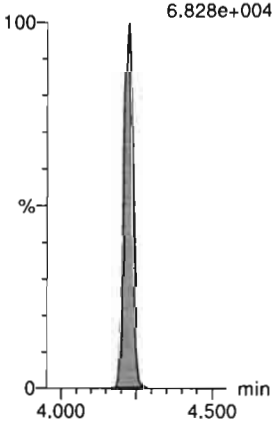
13C4-PFHpA-RSD
F21:MRM of 1 channel,ES-
367.2 > 321.8
4.248e+005



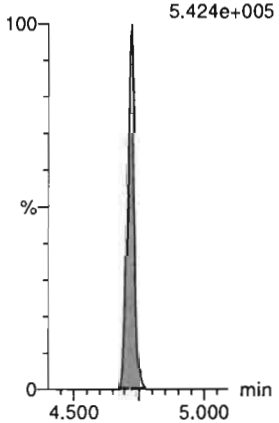
13C3-PFHxS-RSD
F24:MRM of 1 channel,ES-
402 > 80
1.207e+005



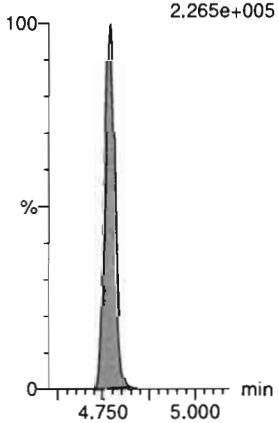
13C2-6:2 FTS-RSD
F30:MRM of 1 channel,ES-
429.0 > 79.7
6.828e+004



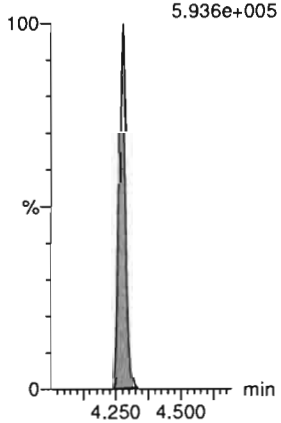
13C5-PFNA-RSD
F36:MRM of 1 channel,ES-
468.2 > 422.9
5.424e+005



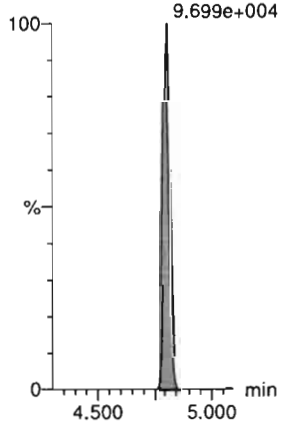
13C8-PFOSA-RSD
F42:MRM of 1 channel,ES-
506 > 78
2.265e+005



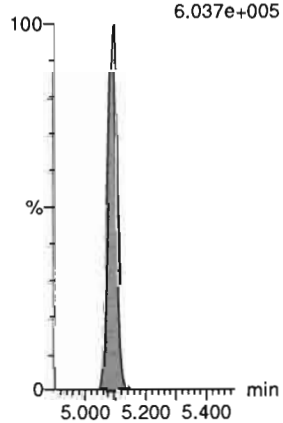
13C2-PFOA-RSD
F27:MRM of 1 channel,ES-
414.9 > 369.7
5.936e+005



13C8-PFOS-RSD
F43:MRM of 1 channel,ES-
507.1 > 80
9.699e+004



13C2-PFDA-RSD
F46:MRM of 1 channel,ES-
515.1 > 469.9
6.037e+005



Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

Last Altered: Wednesday, July 15, 2020 15:31:31 Pacific Daylight Time
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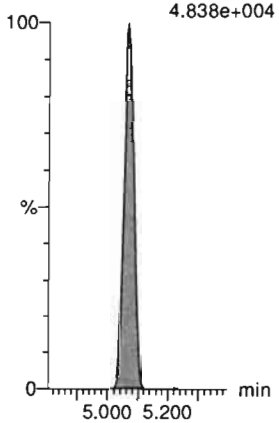
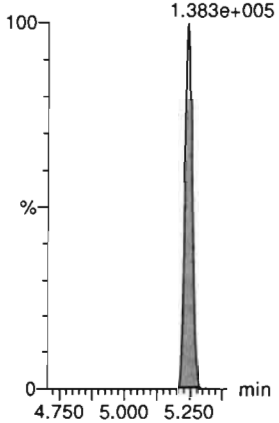
Name: 200715P1-11, Date: 15-Jul-2020, Time: 13:23:45, ID: ST200715P1-7 PFC CS4 20F1907, Description: PFC CS4 20F1907

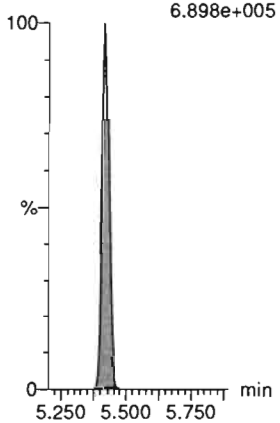
13C2-8:2 FTS-RSD
F51:MRM of 1 channel,ES-
529 > 80
4.838e+004



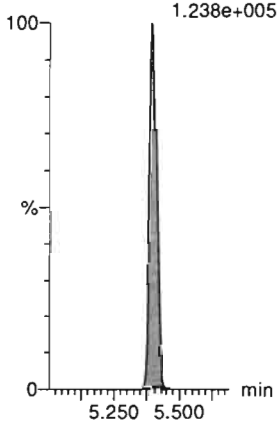
d3-N-MeFOSAA-RSD
F59:MRM of 1 channel,ES-
573.1 > 419
1.383e+005



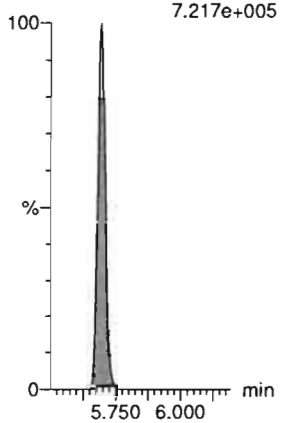
13C2-PFUdA-RSD
F56:MRM of 1 channel,ES-
565 > 519.8
6.898e+005



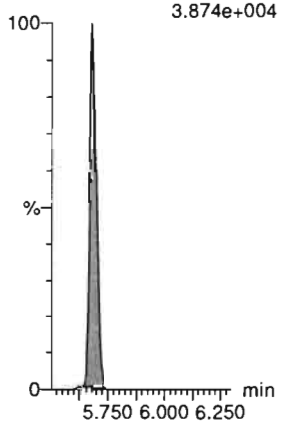
d5-N-EtFOSAA-RSD
F61:MRM of 1 channel,ES-
589.3 > 419
1.238e+005



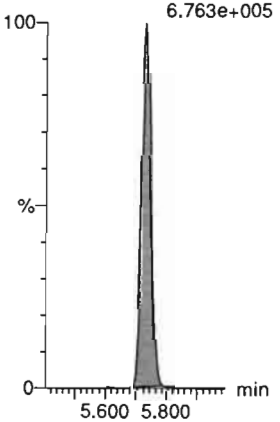
13C2-PFDoA-RSD
F64:MRM of 1 channel,ES-
614.9 > 569.9
7.217e+005



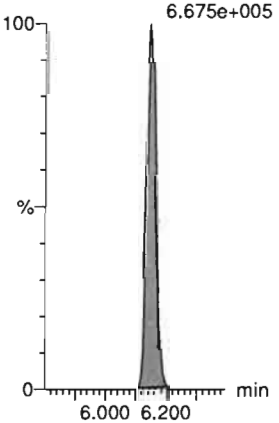
13C2-10:2 FTS-RSD
F70:MRM of 1 channel,ES-
632.9 > 80.0
3.874e+004



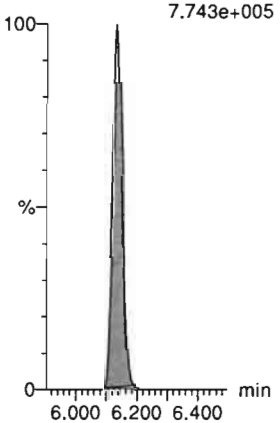
d3-N-MeFOSA-RSD
F47:MRM of 1 channel,ES-
515.2 > 168.9
6.763e+005



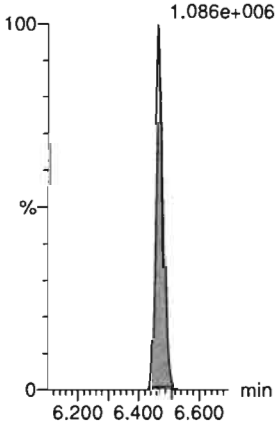
13C2-PFTeDA-RSD
F75:MRM of 2 channels,ES-
715.1 > 669.7
6.675e+005



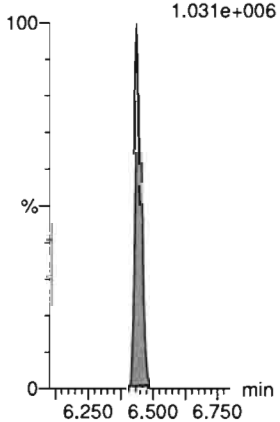
d5-N-ETFOSA-RSD
F53:MRM of 1 channel,ES-
531.1 > 168.9
7.743e+005



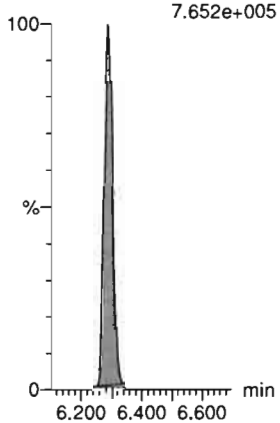
13C2-PFHxDA-RSD
F77:MRM of 1 channel,ES-
815 > 769.7
1.086e+006



d9-N-EtFOSE-RSD
F71:MRM of 1 channel,ES-
639.2 > 58.8
1.031e+006



d7-N-MeFOSE-RSD
F66:MRM of 1 channel,ES-
623.1 > 58.9
7.652e+005



Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

Last Altered: Wednesday, July 15, 2020 15:31:31 Pacific Daylight Time
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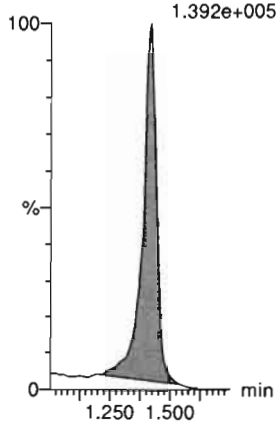
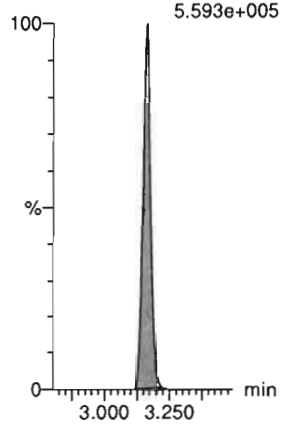
Name: 200715P1-11, Date: 15-Jul-2020, Time: 13:23:45, ID: ST200715P1-7 PFC CS4 20F1907, Description: PFC CS4 20F1907

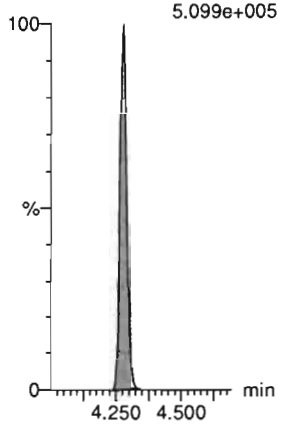
13C4-PFBA



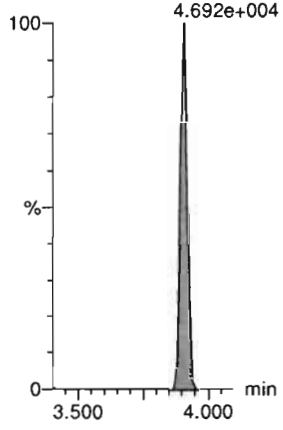
13C5-PFHxA



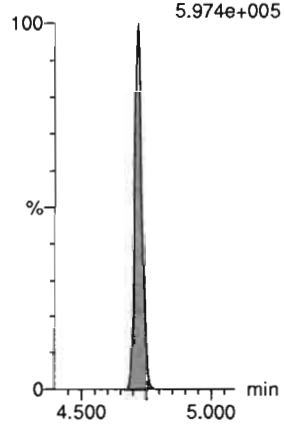
13C8-PFOA



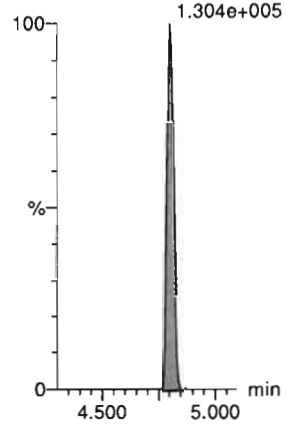
18O2-PFHxS



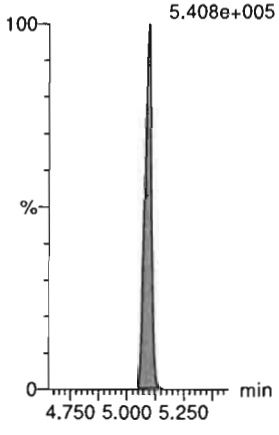
13C9-PFNA



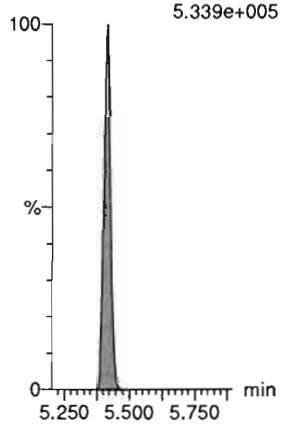
13C4-PFOS



13C6-PFDA



13C7-PFUdA



Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

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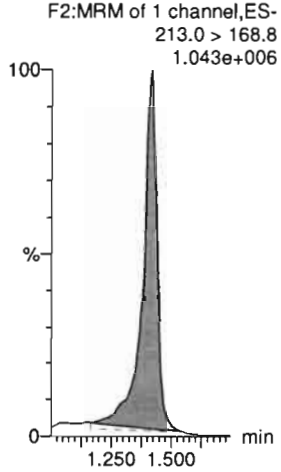
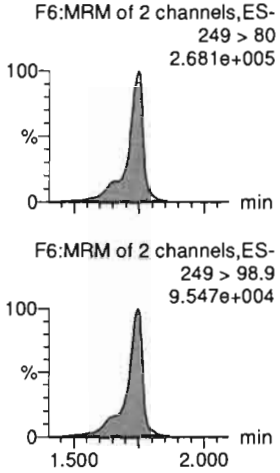
Name: 200715P1-12, Date: 15-Jul-2020, Time: 13:34:11, ID: ST200715P1-8 PFC CS5 20F1908, Description: PFC CS5 20F1908

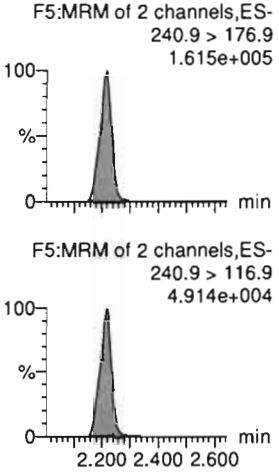
PFBA



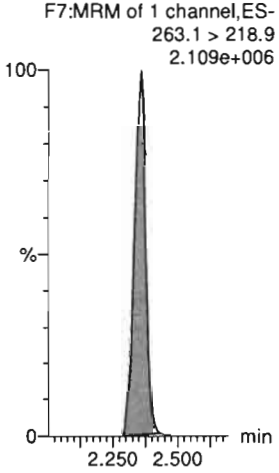
PFPrS



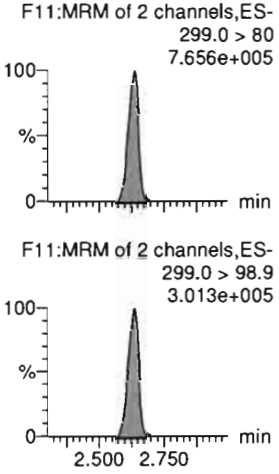
3:3 FTCA



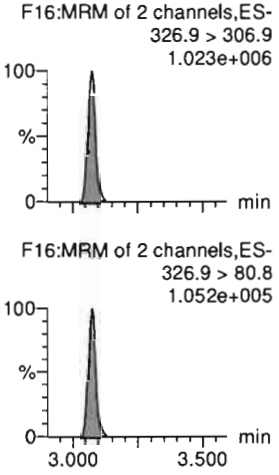
PFPeA



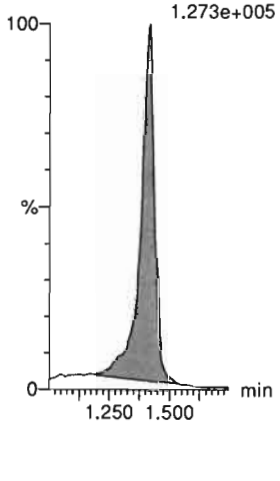
PFBS



4:2 FTS



13C3-PFBA-EIS



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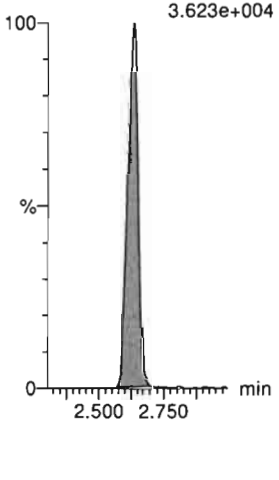

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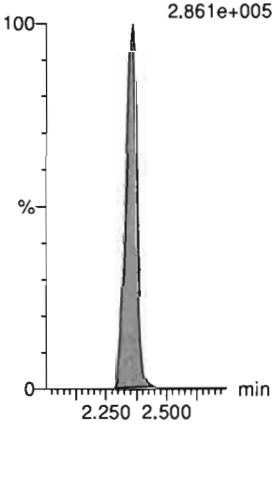

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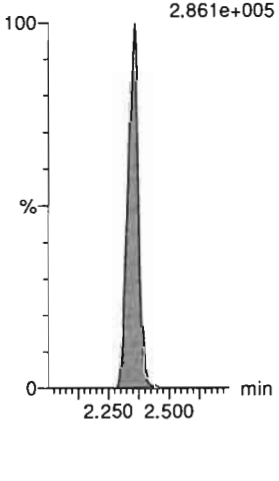

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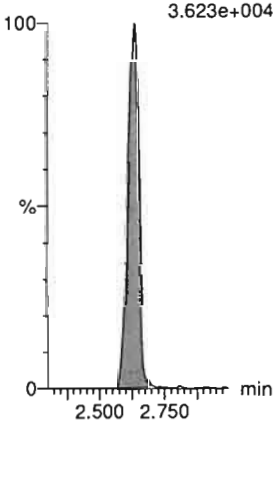
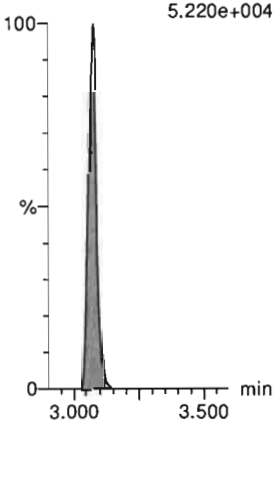


13C2-4:2 FTS-EIS



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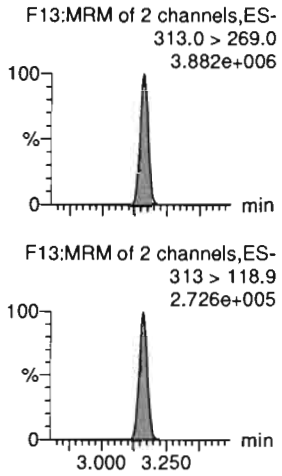
Name: 200715P1-12, Date: 15-Jul-2020, Time: 13:34:11, ID: ST200715P1-8 PFC CS5 20F1908, Description: PFC CS5 20F1908

PFHxA



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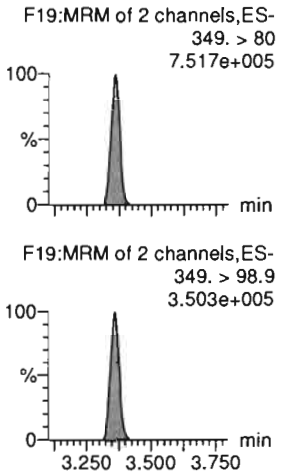
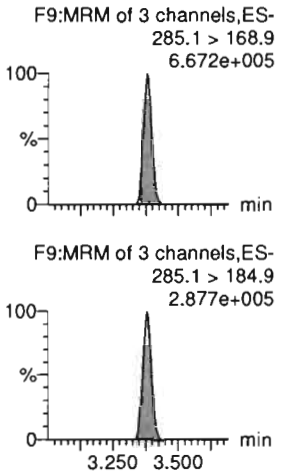
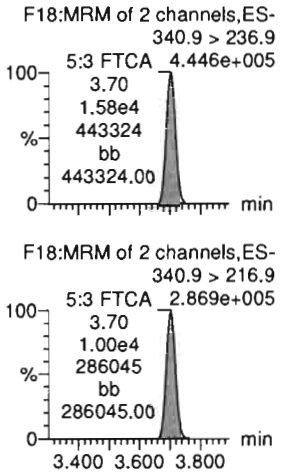


HFPO-DA



5:3 FTCA



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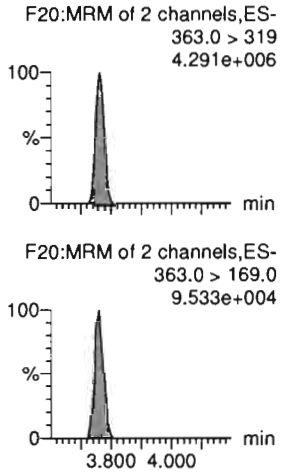

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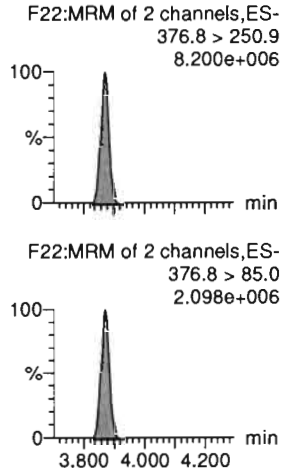
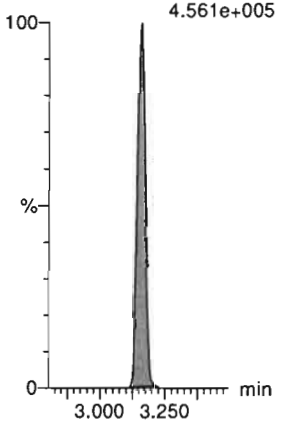


13C2-PFHxA-EIS



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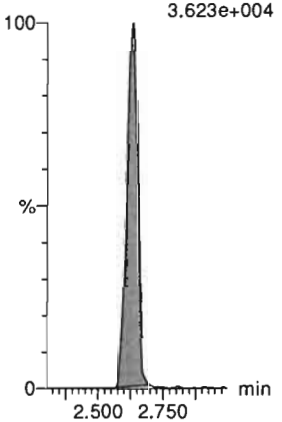

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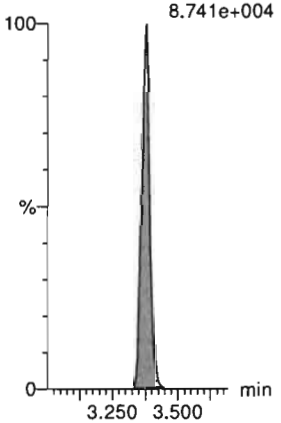
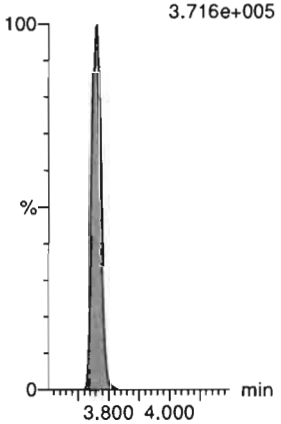


13C4-PFHpA-EIS



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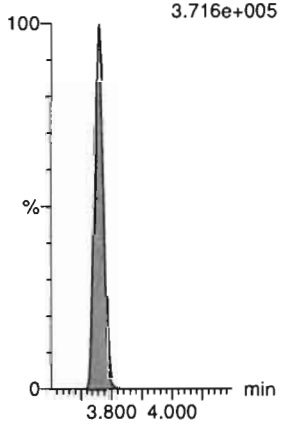

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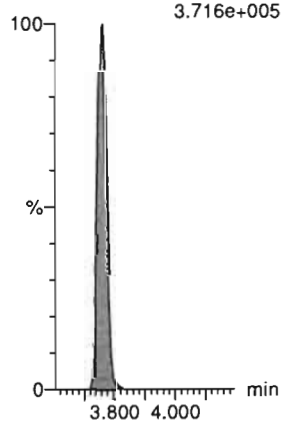

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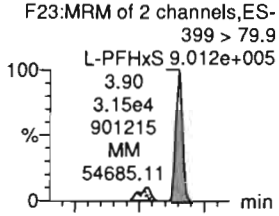
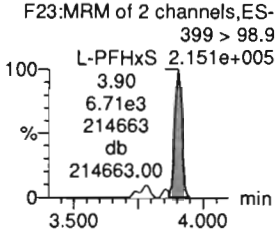
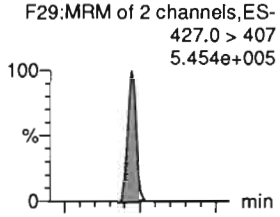
Name: 200715P1-12, Date: 15-Jul-2020, Time: 13:34:11, ID: ST200715P1-8 PFC CS5 20F1908, Description: PFC CS5 20F1908

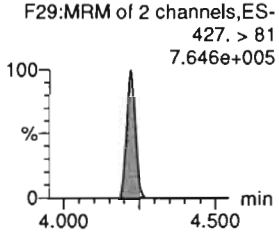
L-PFHxS





6:2 FTS





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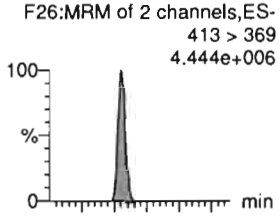

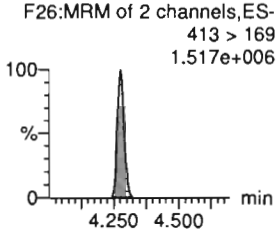

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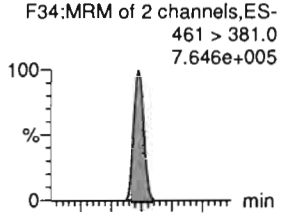
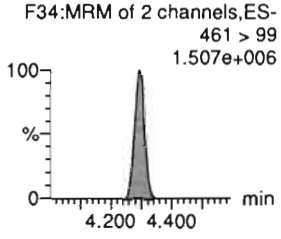
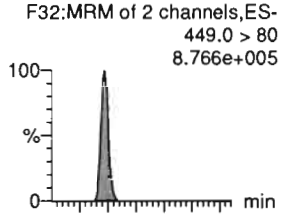
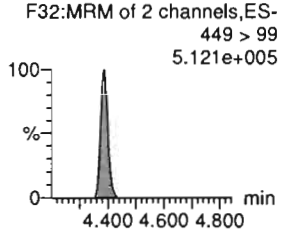


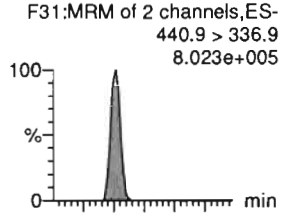


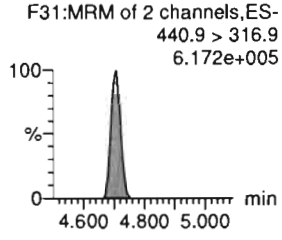
PFHpS





7:3 FTCA





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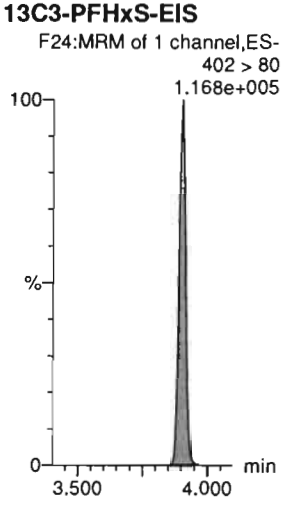
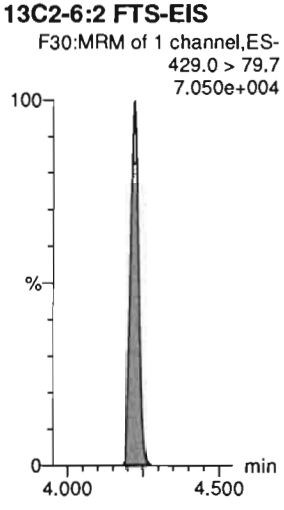
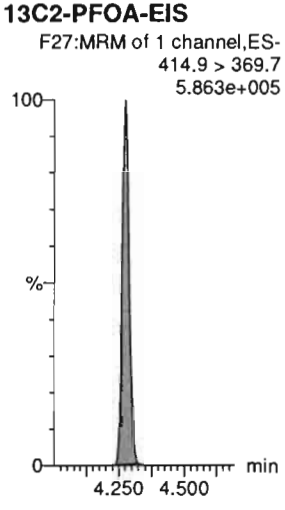


13C2-6:2 FTS-EIS



13C2-PFOA-EIS



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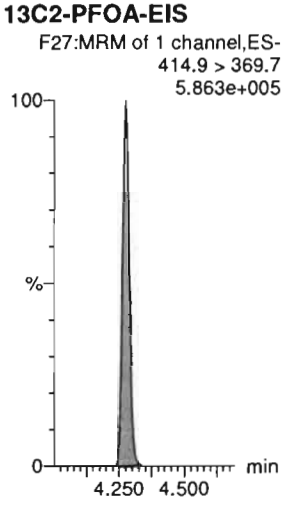
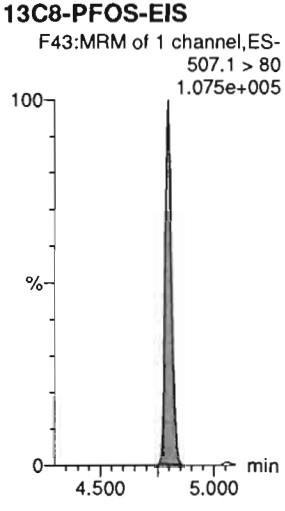
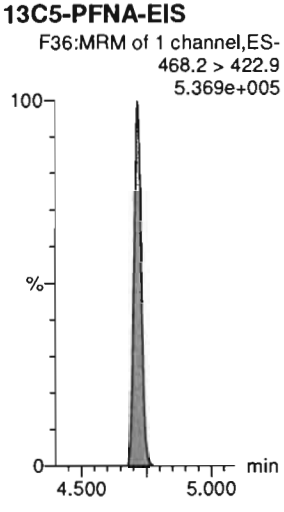


13C8-PFOS-EIS



13C5-PFNA-EIS



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Name: 200715P1-12, Date: 15-Jul-2020, Time: 13:34:11, ID: ST200715P1-8 PFC CS5 20F1908, Description: PFC CS5 20F1908

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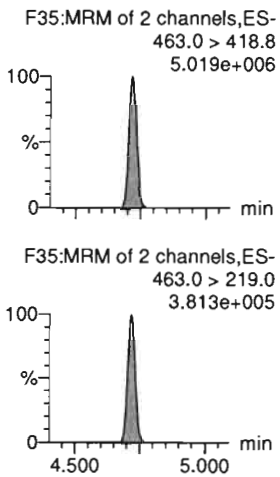

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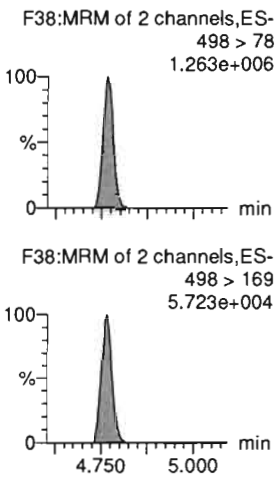
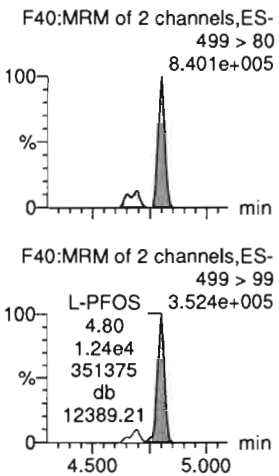


L-PFOS



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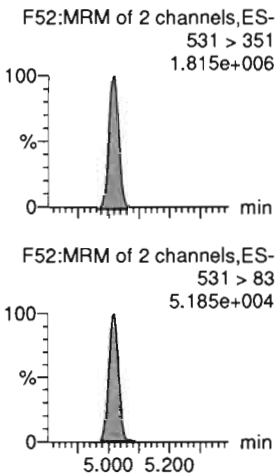

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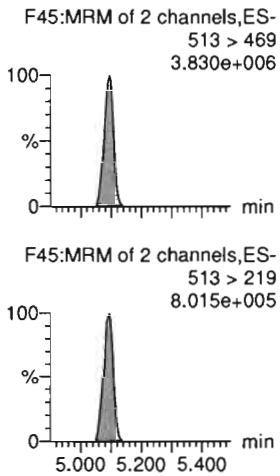
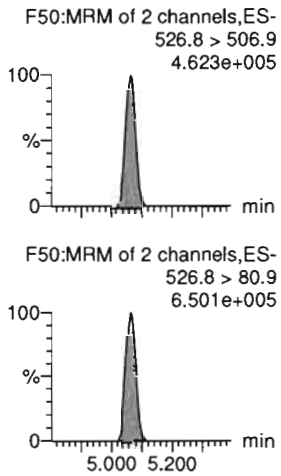


8:2 FTS



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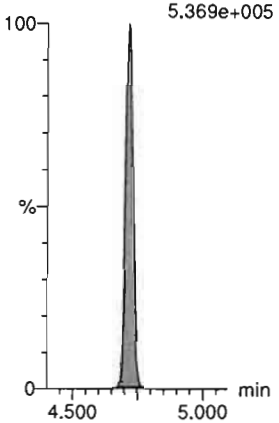
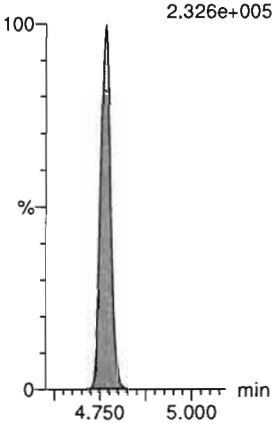


13C8-PFOSA-EIS



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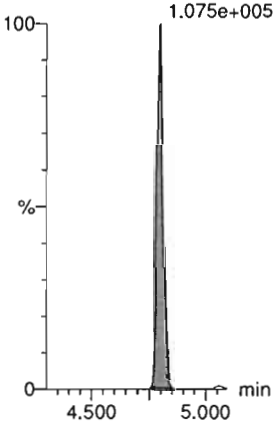

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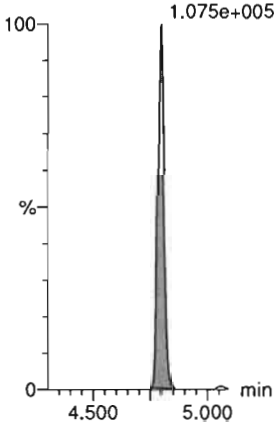

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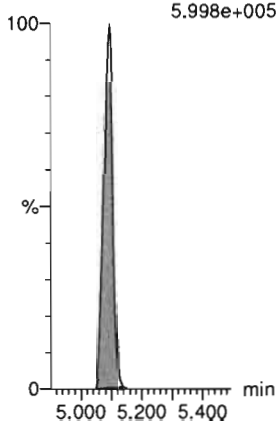
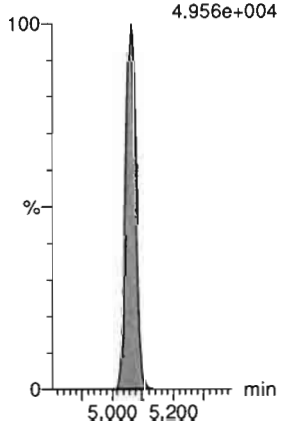


13C2-8:2 FTS-EIS



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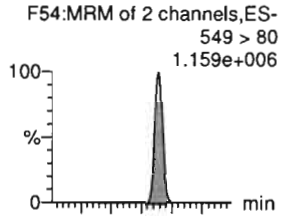
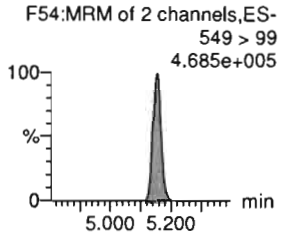
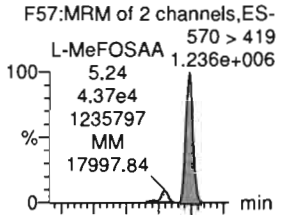
Name: 200715P1-12, Date: 15-Jul-2020, Time: 13:34:11, ID: ST200715P1-8 PFC CS5 20F1908, Description: PFC CS5 20F1908

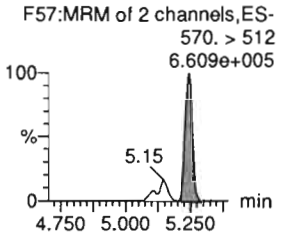
PFNS



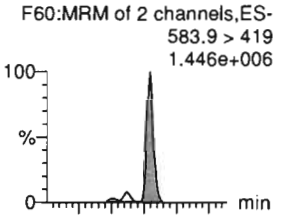


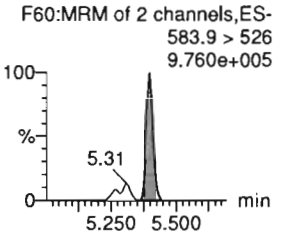
L-MeFOSAA



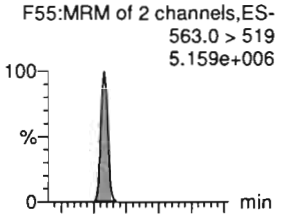


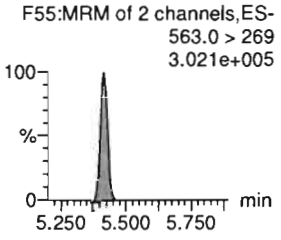
L-EtFOSAA



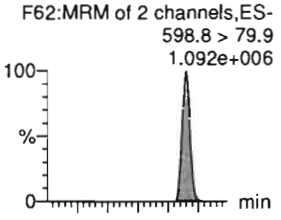


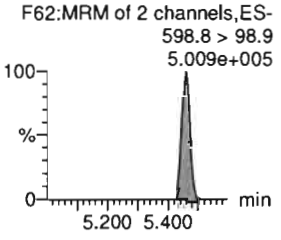
PFUdA



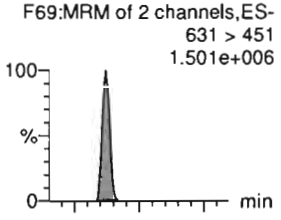


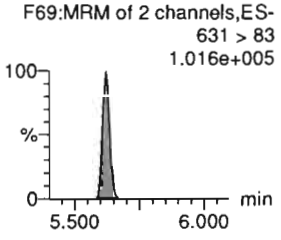
PFDS



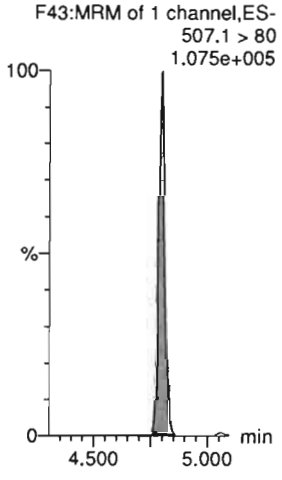


11Cl-PF30UdS

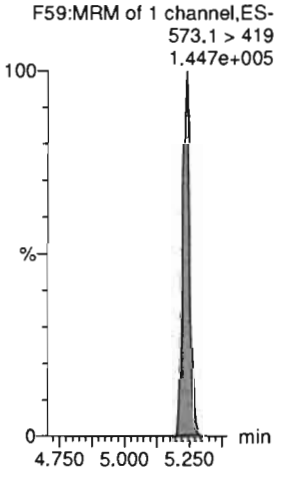




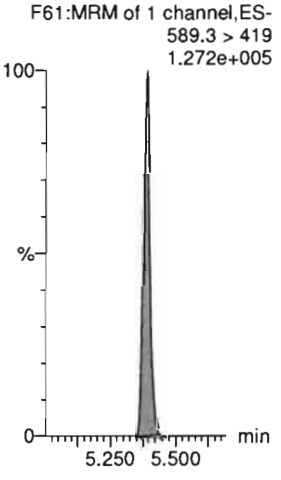
13C8-PFOS-EIS



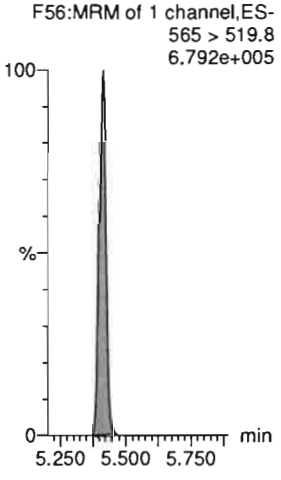
d3-N-MeFOSAA-EIS



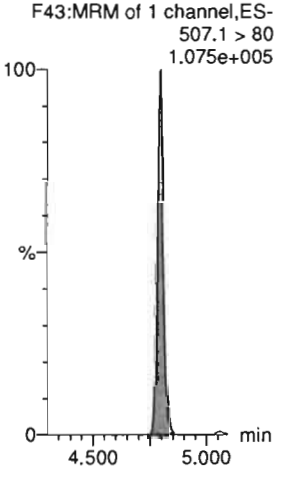
d5-N-EtFOSAA-EIS



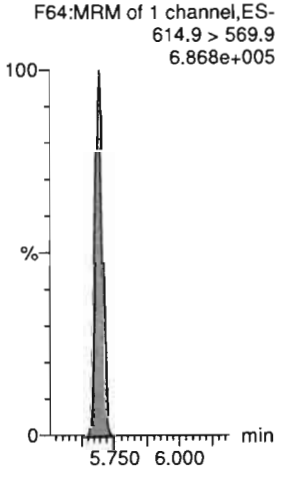
13C2-PFUdA-EIS



13C8-PFOS-EIS



13C2-PFDoA-EIS

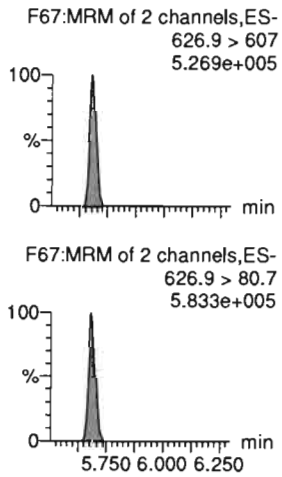


Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

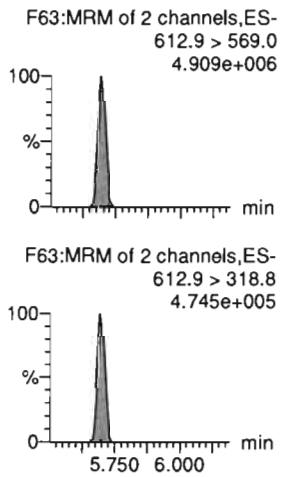
Last Altered: Wednesday, July 15, 2020 15:31:31 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 15:32:47 Pacific Daylight Time

Name: 200715P1-12, Date: 15-Jul-2020, Time: 13:34:11, ID: ST200715P1-8 PFC CS5 20F1908, Description: PFC CS5 20F1908

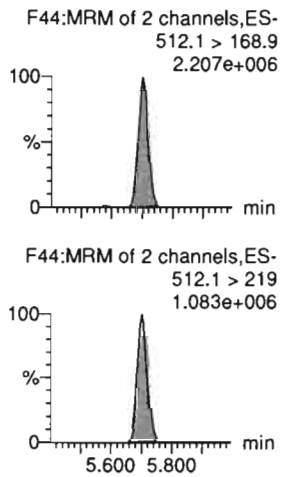
10:2 FTS



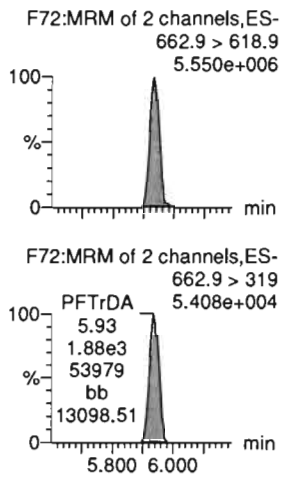
PFDoA



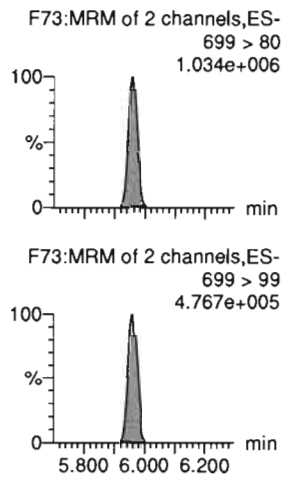
N-MeFOSA



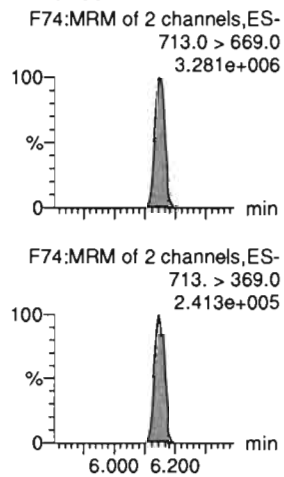
PFTrDA



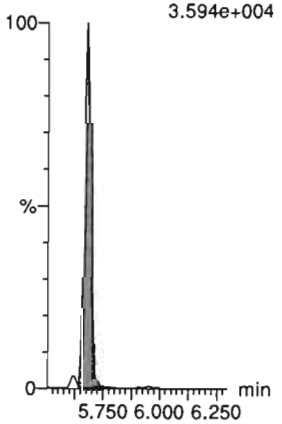
PFDoS



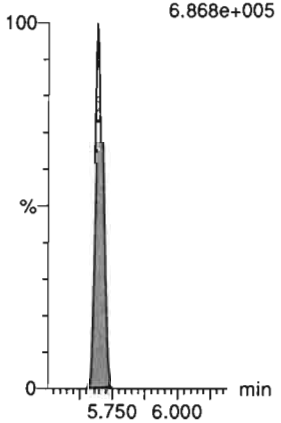
PFTeDA



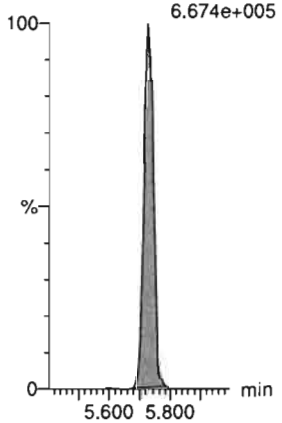
13C2-10:2 FTS-EIS



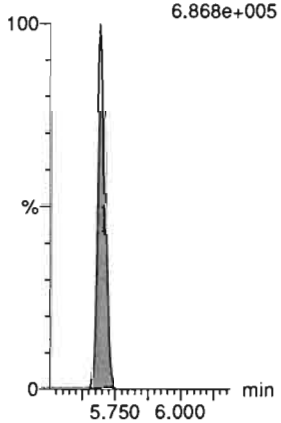
13C2-PFDoA-EIS



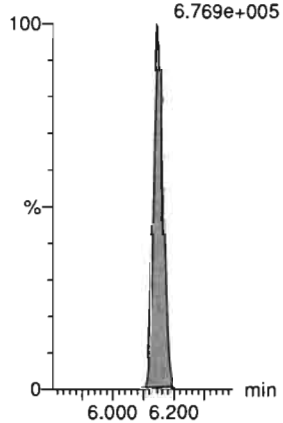
d3-N-MeFOSA-EIS



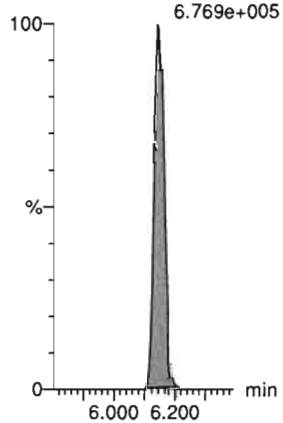
13C2-PFDoA-EIS



13C2-PFTeDA-EIS



13C2-PFTeDA-EIS

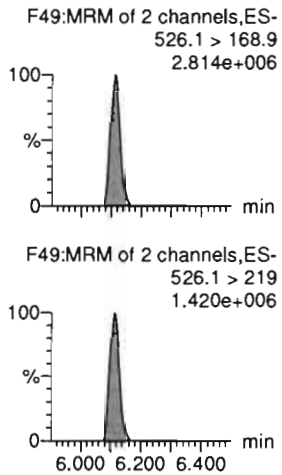


Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

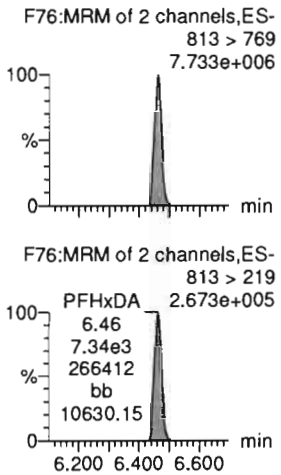
Last Altered: Wednesday, July 15, 2020 15:31:31 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 15:32:47 Pacific Daylight Time

Name: 200715P1-12, Date: 15-Jul-2020, Time: 13:34:11, ID: ST200715P1-8 PFC CS5 20F1908, Description: PFC CS5 20F1908

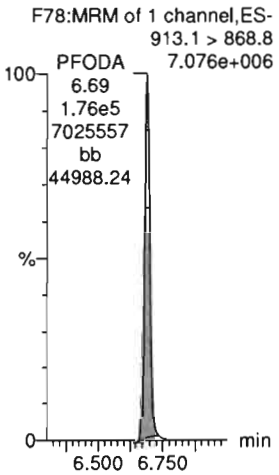
N-EtFOSA



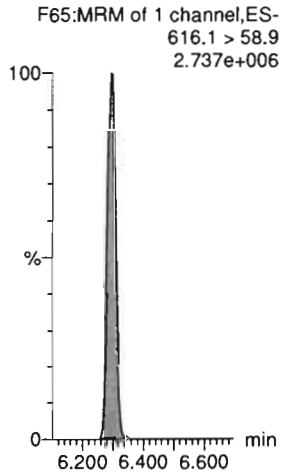
PFHxDA



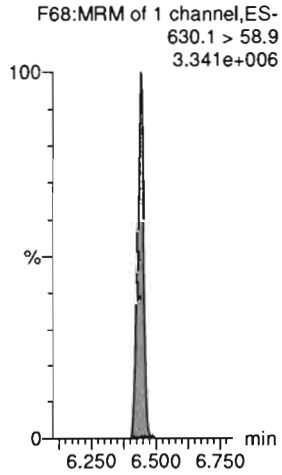
PFODA



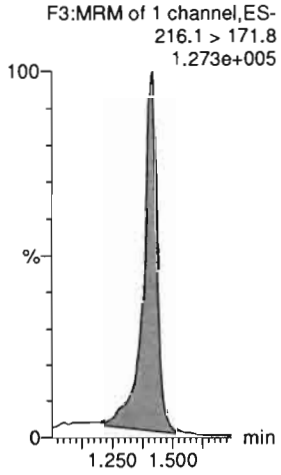
N-MeFOSE



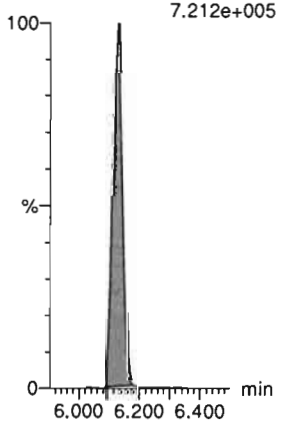
N-EtFOSE



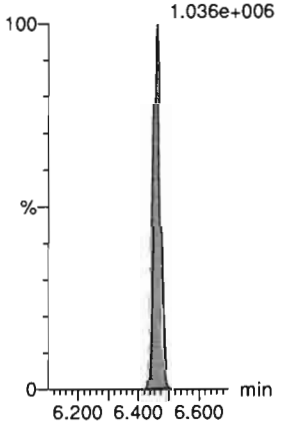
13C3-PFBA-RSD



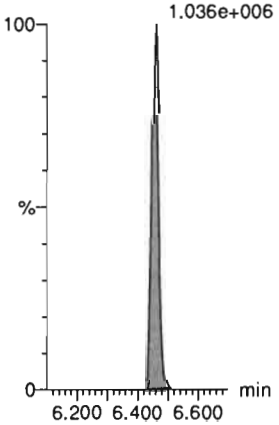
d5-N-ETFOSA-EIS



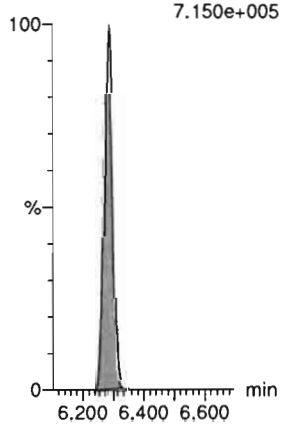
13C2-PFHxDA-EIS



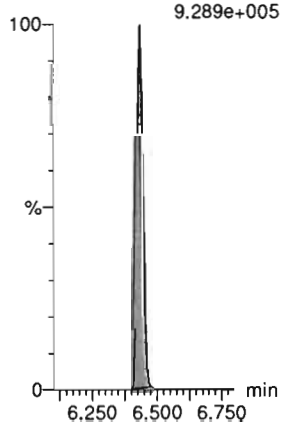
13C2-PFHxDA-EIS



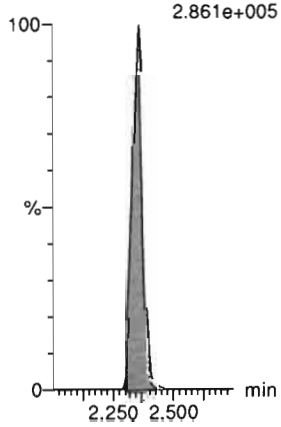
d7-N-MeFOSE-EIS



d9-N-EtFOSE-EIS



13C3-PFPeA-RSD



Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

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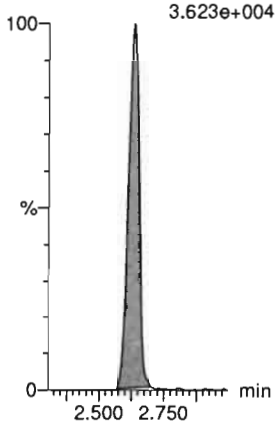
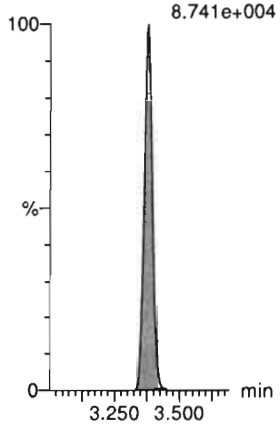
Name: 200715P1-12, Date: 15-Jul-2020, Time: 13:34:11, ID: ST200715P1-8 PFC CS5 20F1908, Description: PFC CS5 20F1908

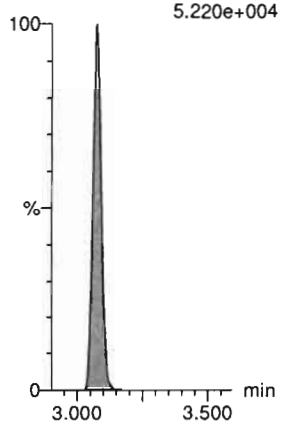
13C3-PFBS-RSD
F12:MRM of 1 channel,ES-
302.0 > 98.9
3.623e+004



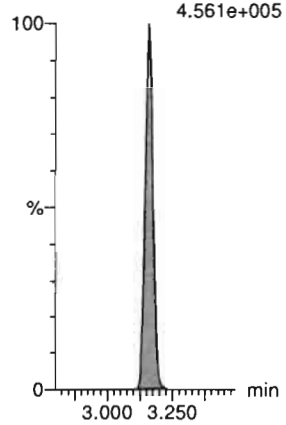
13C3-HFPO-DA-RSD
F10:MRM of 2 channels,ES-
287.0 > 168.9
8.741e+004



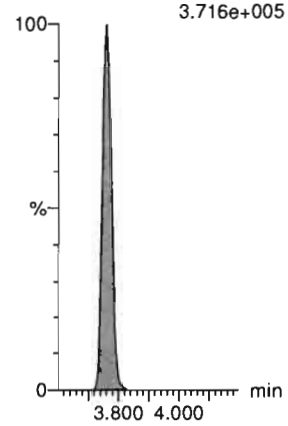
13C2-4:2 FTS-RSD
F17:MRM of 2 channels,ES-
329.0 > 80.8
5.220e+004



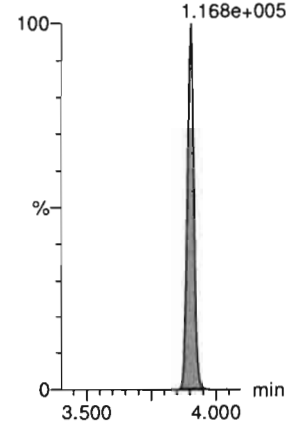
13C2-PFHxA-RSD
F14:MRM of 1 channel,ES-
315.0 > 270.0
4.561e+005



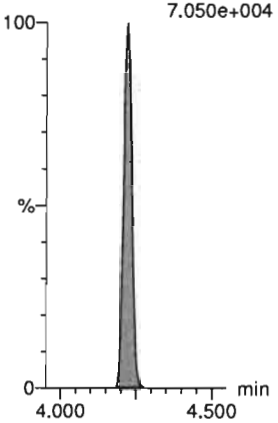
13C4-PFHpA-RSD
F21:MRM of 1 channel,ES-
367.2 > 321.8
3.716e+005



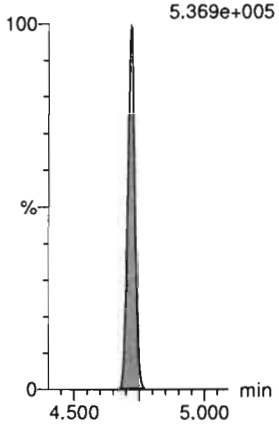
13C3-PFHxS-RSD
F24:MRM of 1 channel,ES-
402 > 80
1.168e+005



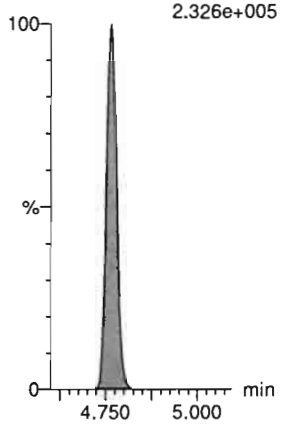
13C2-6:2 FTS-RSD
F30:MRM of 1 channel,ES-
429.0 > 79.7
7.050e+004



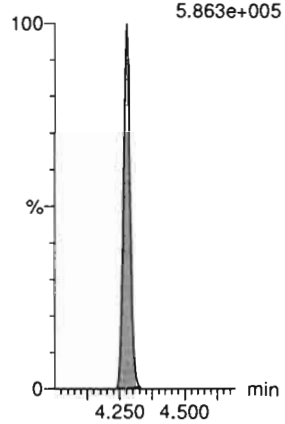
13C5-PFNA-RSD
F36:MRM of 1 channel,ES-
468.2 > 422.9
5.369e+005



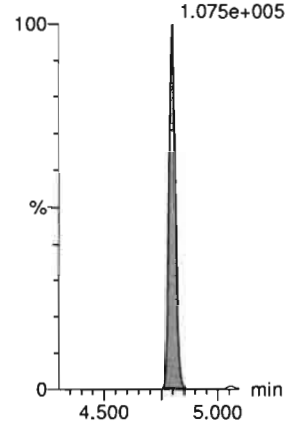
13C8-PFOSA-RSD
F42:MRM of 1 channel,ES-
506 > 78
2.326e+005



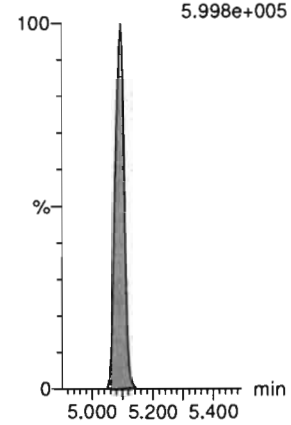
13C2-PFOA-RSD
F27:MRM of 1 channel,ES-
414.9 > 369.7
5.863e+005



13C8-PFOS-RSD
F43:MRM of 1 channel,ES-
507.1 > 80
1.075e+005



13C2-PFDA-RSD
F46:MRM of 1 channel,ES-
515.1 > 469.9
5.998e+005

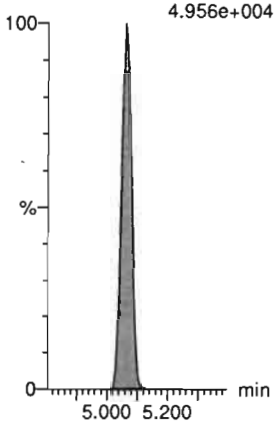


Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

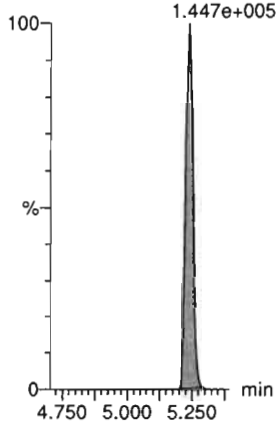
Last Altered: Wednesday, July 15, 2020 15:31:31 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 15:32:47 Pacific Daylight Time

Name: 200715P1-12, Date: 15-Jul-2020, Time: 13:34:11, ID: ST200715P1-8 PFC CS5 20F1908, Description: PFC CS5 20F1908

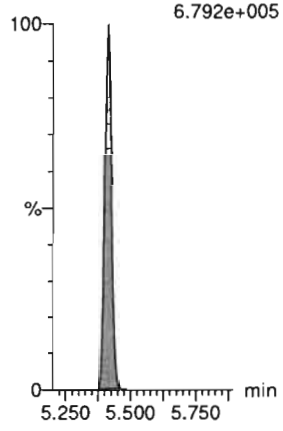
13C2-8:2 FTS-RSD
F51:MRM of 1 channel,ES-
529 > 80
4.956e+004



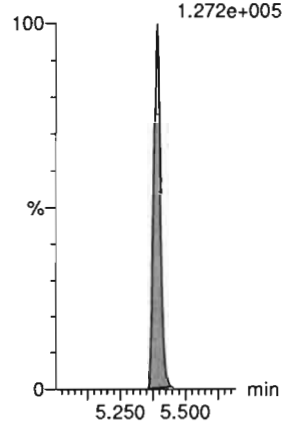
d3-N-MeFOSAA-RSD
F59:MRM of 1 channel,ES-
573.1 > 419
1.447e+005



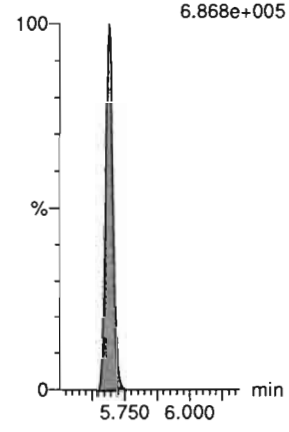
13C2-PFUdA-RSD
F56:MRM of 1 channel,ES-
565 > 519.8
6.792e+005



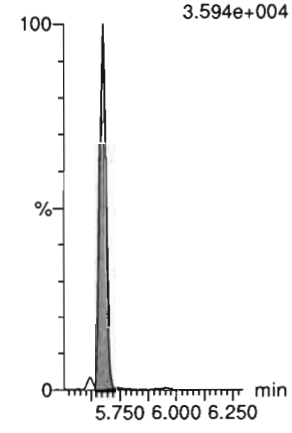
d5-N-EtFOSAA-RSD
F61:MRM of 1 channel,ES-
589.3 > 419
1.272e+005



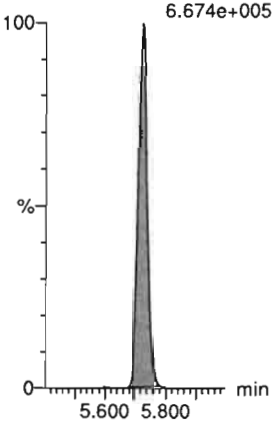
13C2-PFDoA-RSD
F64:MRM of 1 channel,ES-
614.9 > 569.9
6.868e+005



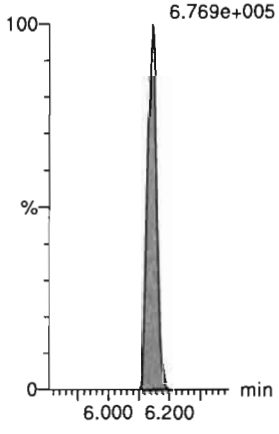
13C2-10:2 FTS-RSD
F70:MRM of 1 channel,ES-
632.9 > 80.0
3.594e+004



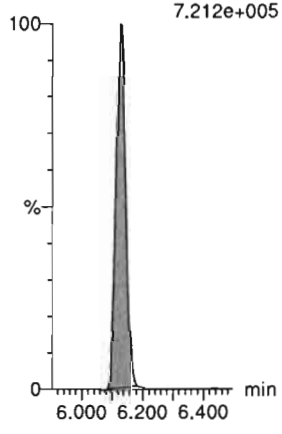
d3-N-MeFOSA-RSD
F47:MRM of 1 channel,ES-
515.2 > 168.9
6.674e+005



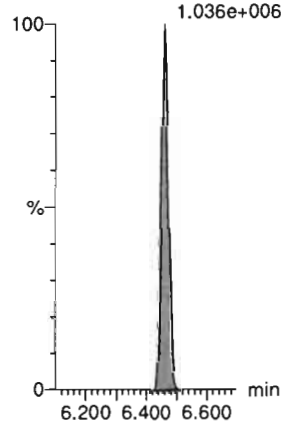
13C2-PFTeDA-RSD
F75:MRM of 2 channels,ES-
715.1 > 669.7
6.769e+005



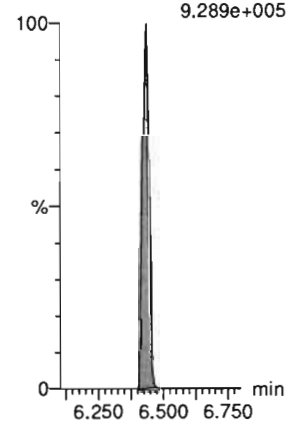
d5-N-ETFOSA-RSD
F53:MRM of 1 channel,ES-
531.1 > 168.9
7.212e+005



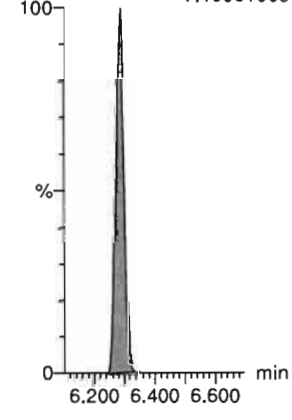
13C2-PFHxDA-RSD
F77:MRM of 1 channel,ES-
815 > 769.7
1.036e+006



d9-N-EtFOSE-RSD
F71:MRM of 1 channel,ES-
639.2 > 58.8
9.289e+005



d7-N-MeFOSE-RSD
F66:MRM of 1 channel,ES-
623.1 > 58.9
7.150e+005



Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

Last Altered: Wednesday, July 15, 2020 15:31:31 Pacific Daylight Time
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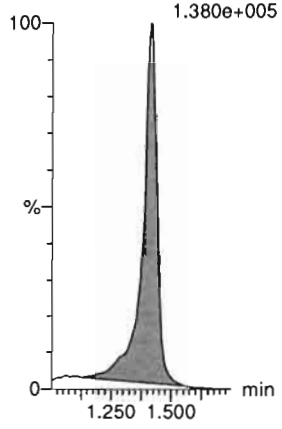
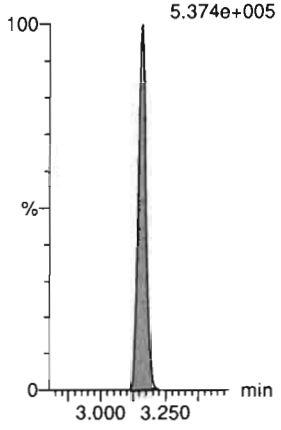
Name: 200715P1-12, Date: 15-Jul-2020, Time: 13:34:11, ID: ST200715P1-8 PFC CS5 20F1908, Description: PFC CS5 20F1908

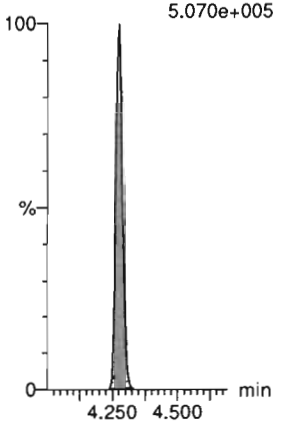
13C4-PFBA



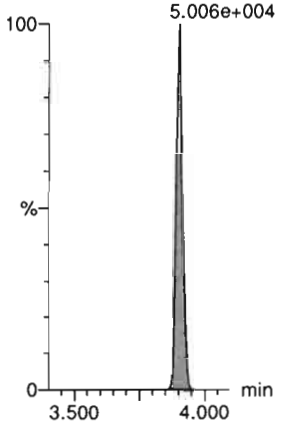
13C5-PFHxA



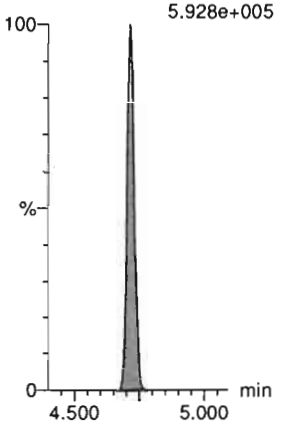
13C8-PFOA



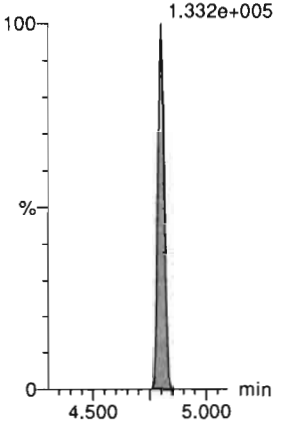
18O2-PFHxS



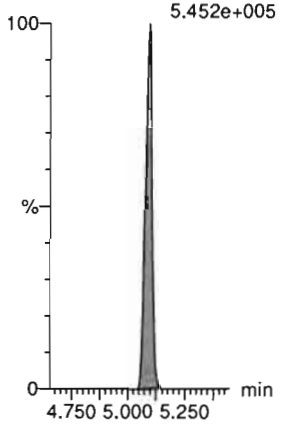
13C9-PFNA



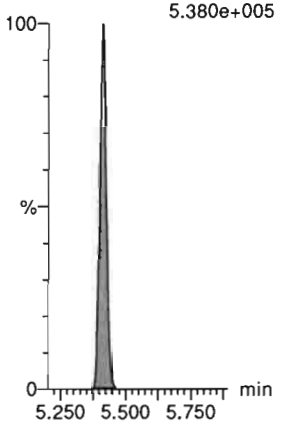
13C4-PFOS



13C6-PFDA



13C7-PFUdA



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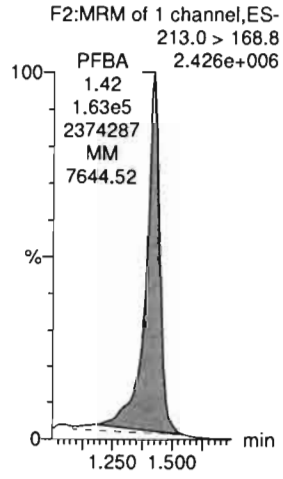
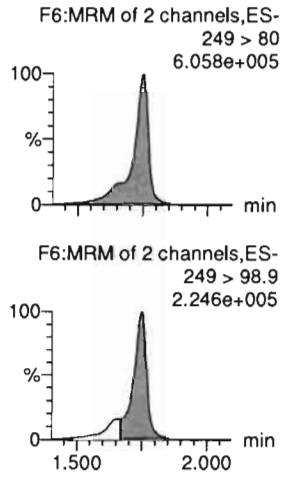
Name: 200715P1-13, Date: 15-Jul-2020, Time: 13:44:48, ID: ST200715P1-9 PFC CS6 20F1909, Description: PFC CS6 20F1909

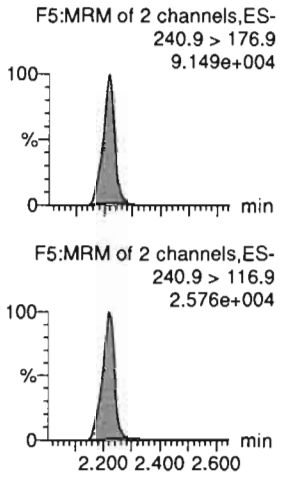
PFBA



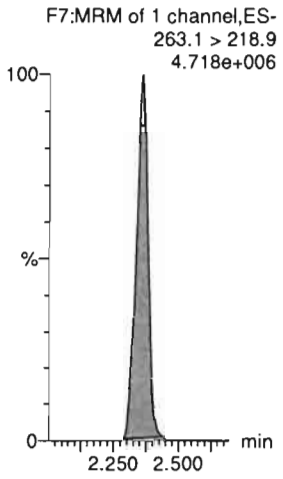
PFPrS



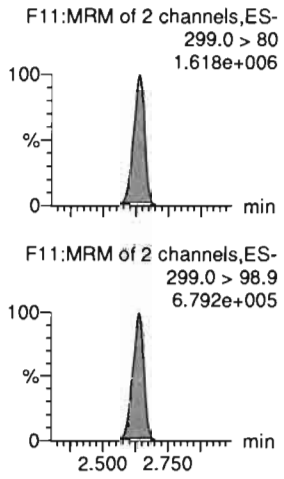
3:3 FTCA



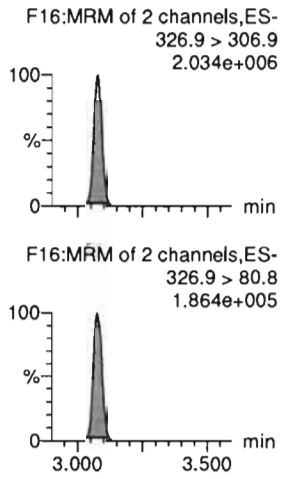
PFPeA



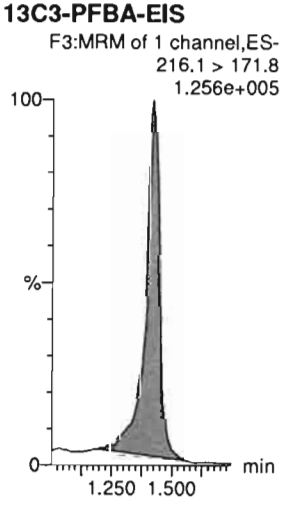
PFBS



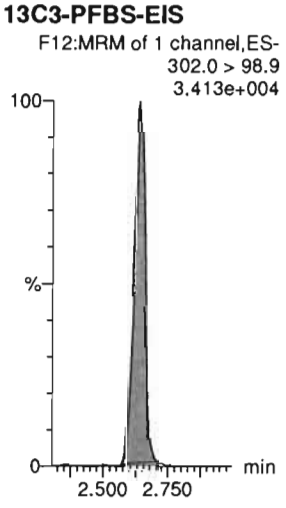
4:2 FTS



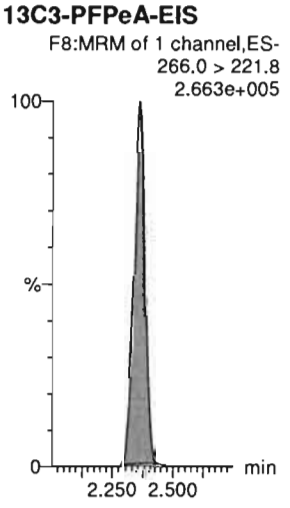
13C3-PFBA-EIS



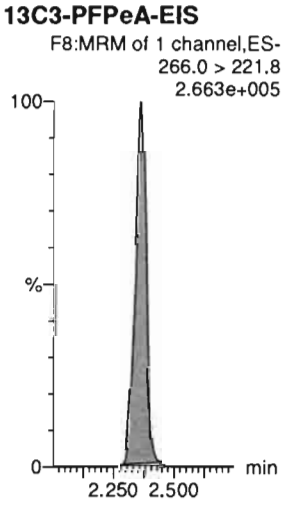
13C3-PFBS-EIS



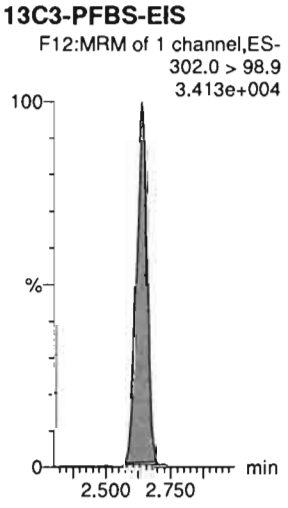
13C3-PFPeA-EIS



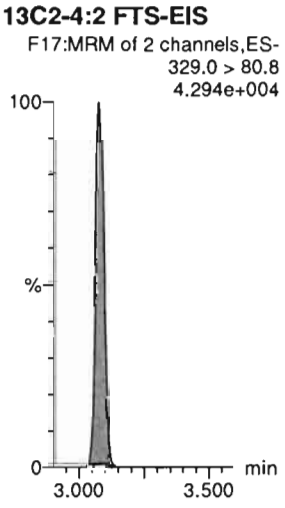
13C3-PFPeA-EIS



13C3-PFBS-EIS



13C2-4:2 FTS-EIS



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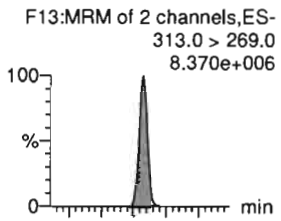
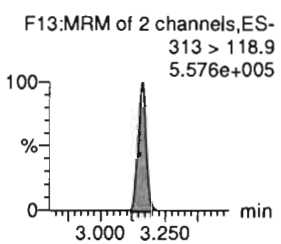
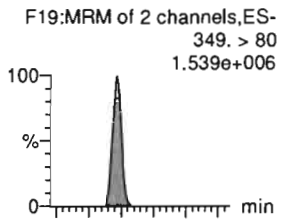
Name: 200715P1-13, Date: 15-Jul-2020, Time: 13:44:48, ID: ST200715P1-9 PFC CS6 20F1909, Description: PFC CS6 20F1909

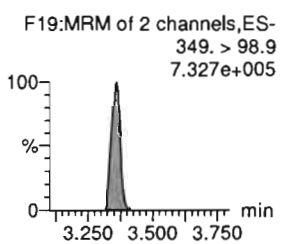
PFHxA



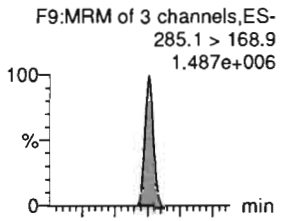


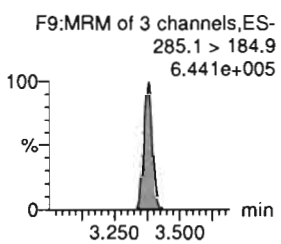
PFPeS



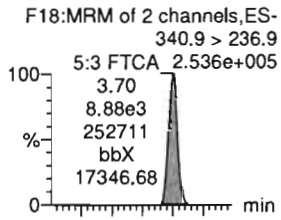


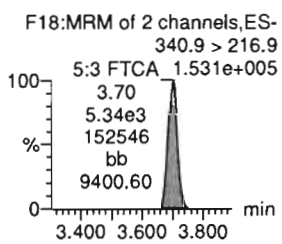
HFPO-DA



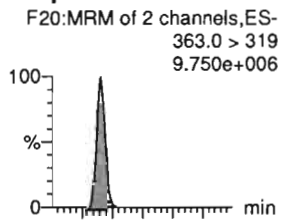


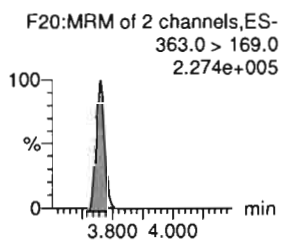
5:3 FTCA



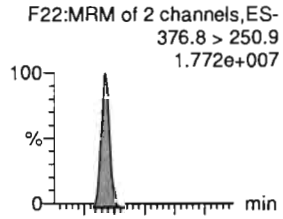


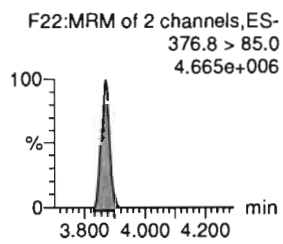
PFHpA



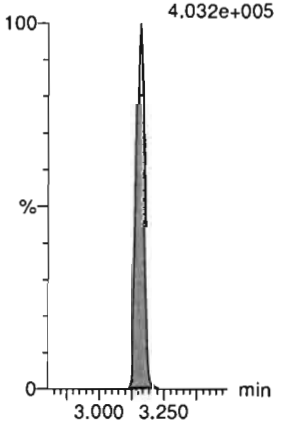


ADONA

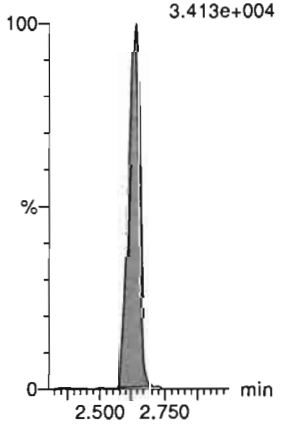




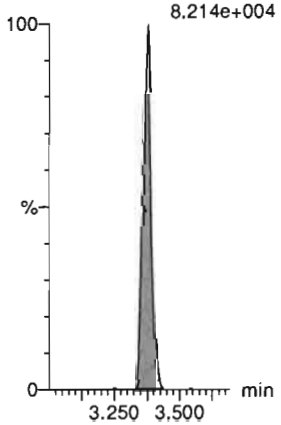
13C2-PFHxA-EIS



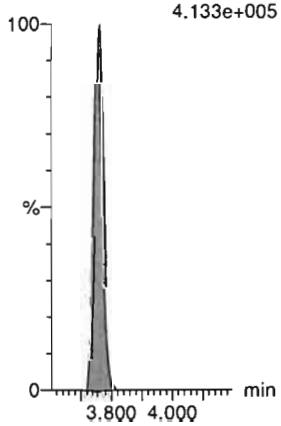
13C3-PFBS-EIS



13C3-HFPO-DA-EIS



13C4-PFHpA-EIS



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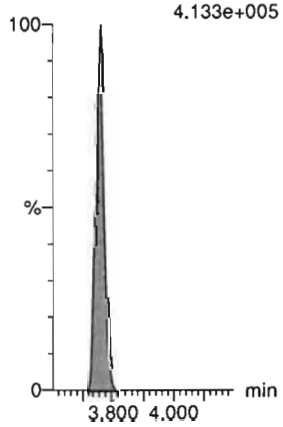

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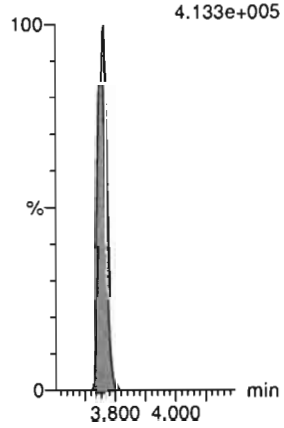

Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

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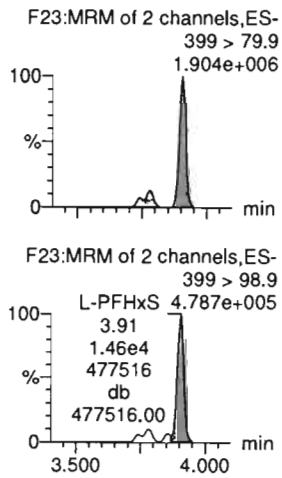
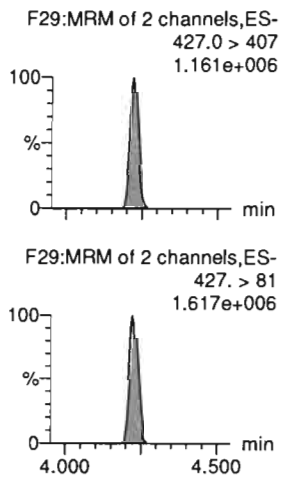
Printed: Wednesday, July 15, 2020 15:32:47 Pacific Daylight Time

Name: 200715P1-13, Date: 15-Jul-2020, Time: 13:44:48, ID: ST200715P1-9 PFC CS6 20F1909, Description: PFC CS6 20F1909

L-PFHxS



6:2 FTS



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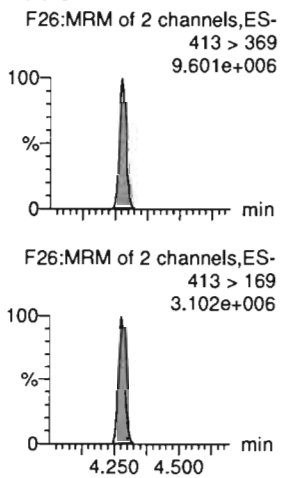

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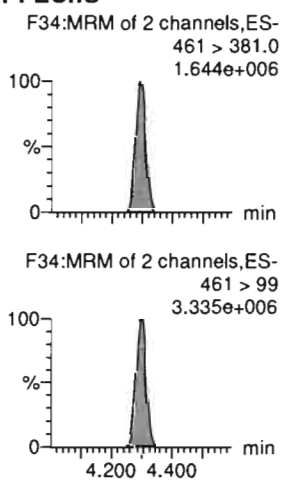

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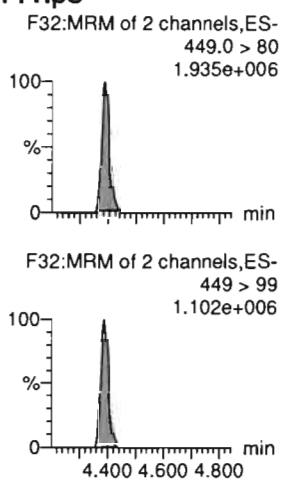
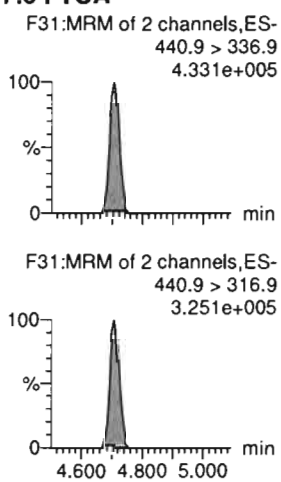


7:3 FTCA



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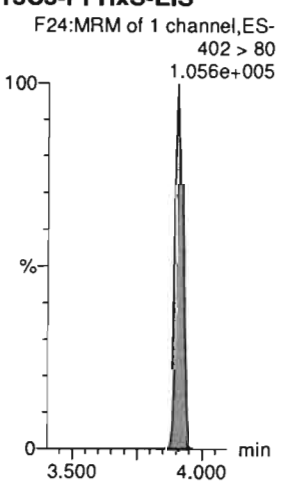

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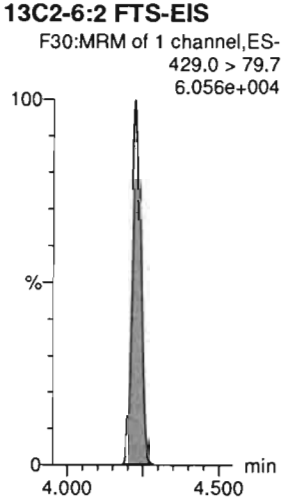

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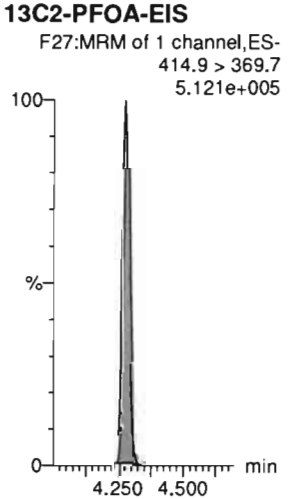

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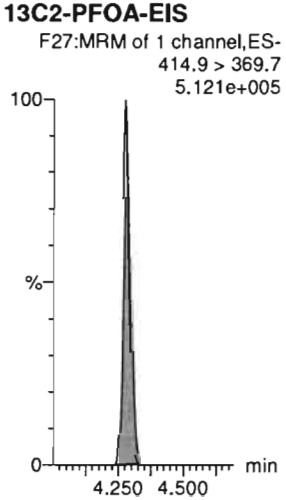
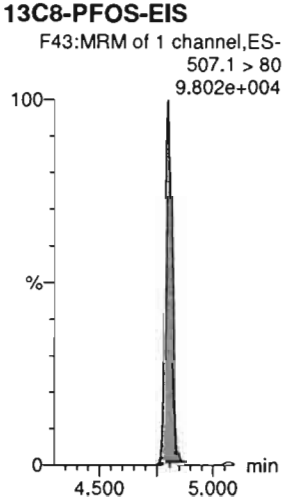
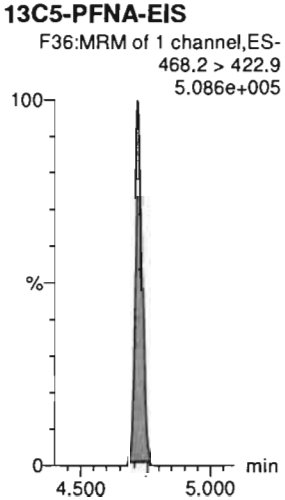


13C8-PFOS-EIS



13C5-PFNA-EIS



Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

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Name: 200715P1-13, Date: 15-Jul-2020, Time: 13:44:48, ID: ST200715P1-9 PFC CS6 20F1909, Description: PFC CS6 20F1909

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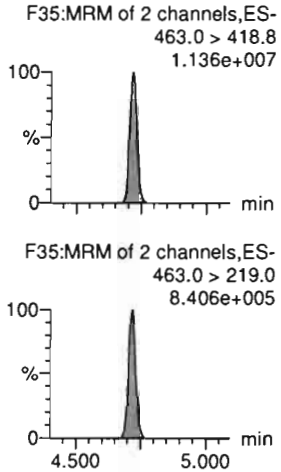

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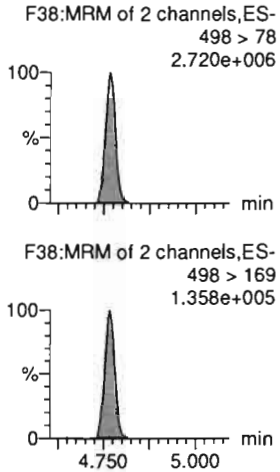

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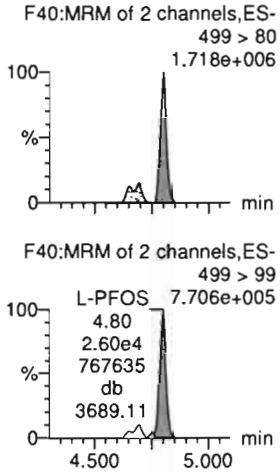

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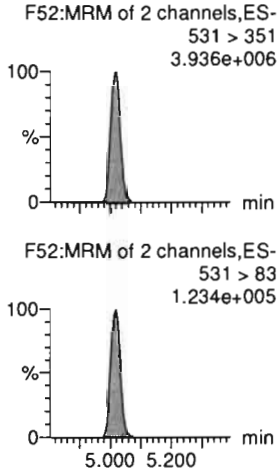

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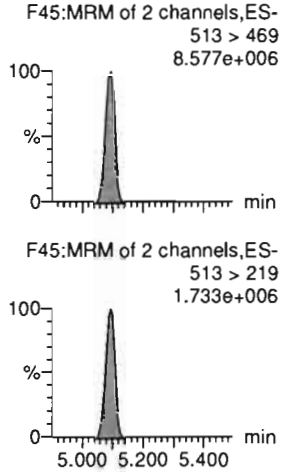
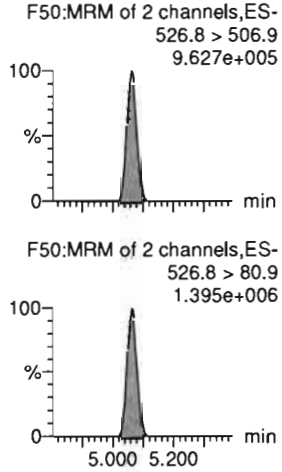


8:2 FTS



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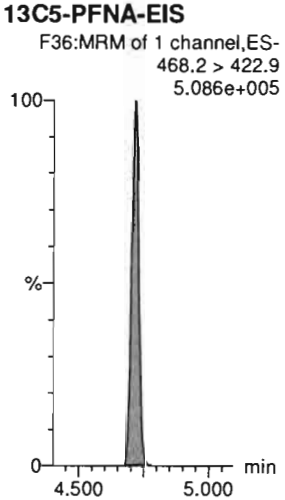

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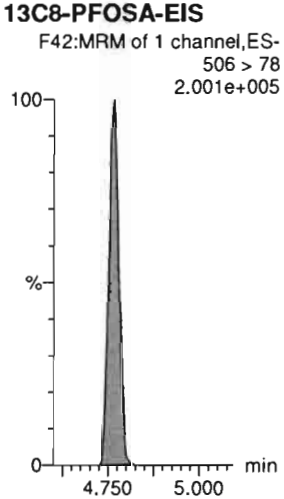

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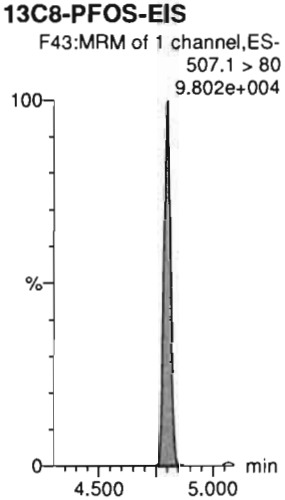

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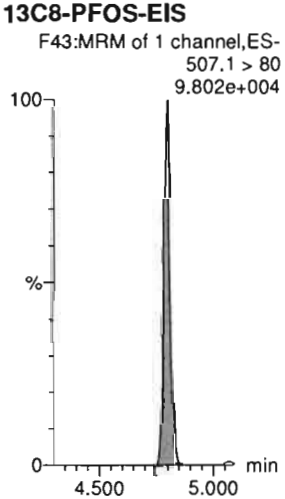

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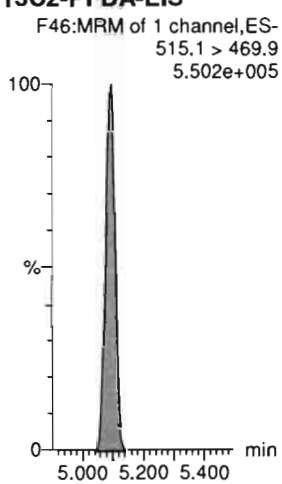

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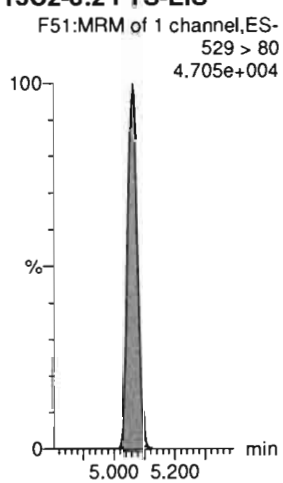

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Name: 200715P1-13, Date: 15-Jul-2020, Time: 13:44:48, ID: ST200715P1-9 PFC CS6 20F1909, Description: PFC CS6 20F1909

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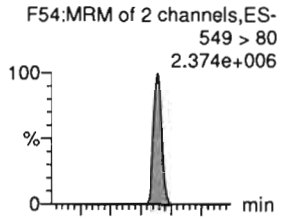

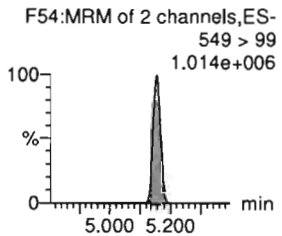

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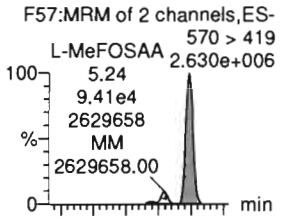

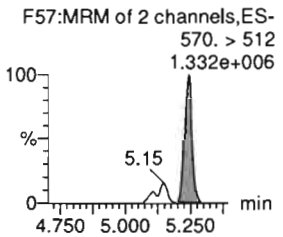

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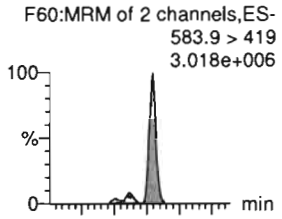
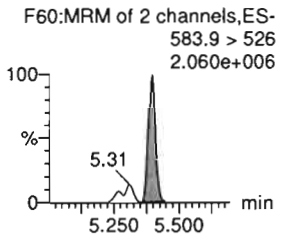
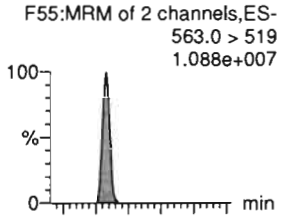
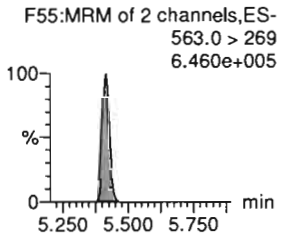




PFUdA





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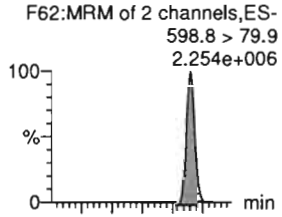

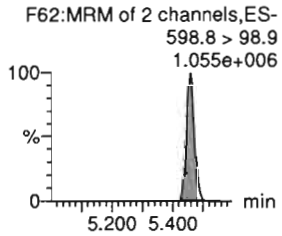

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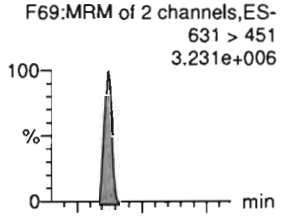
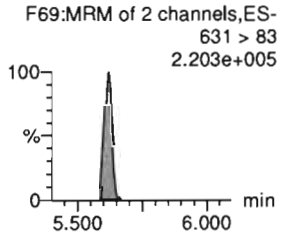
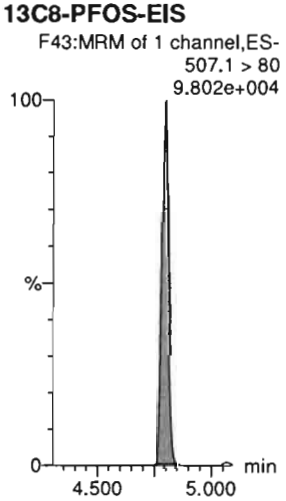
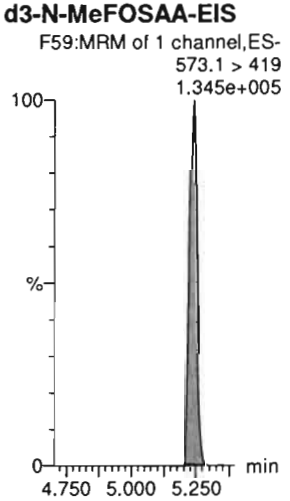




13C8-PFOS-EIS



d3-N-MeFOSAA-EIS



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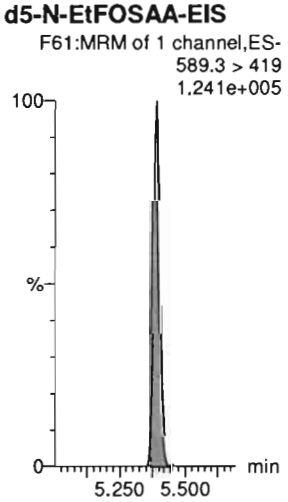
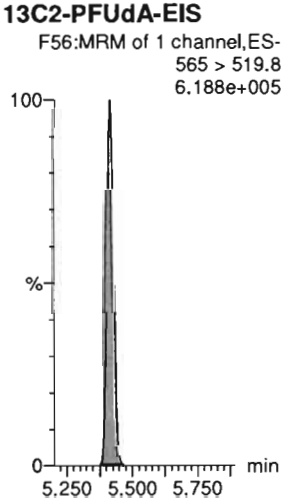


13C2-PFUdA-EIS



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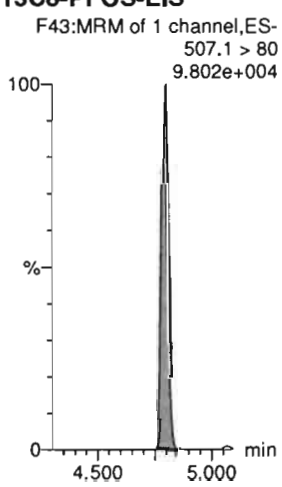

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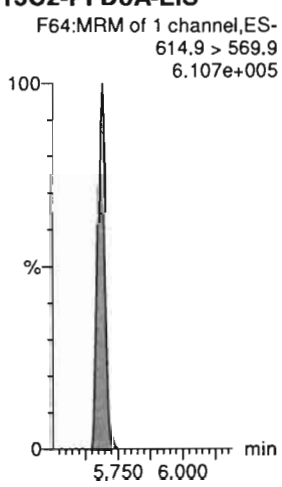

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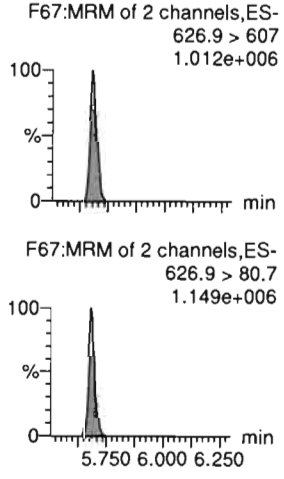
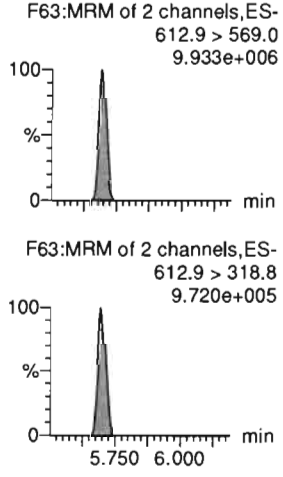
Name: 200715P1-13, Date: 15-Jul-2020, Time: 13:44:48, ID: ST200715P1-9 PFC CS6 20F1909, Description: PFC CS6 20F1909

10:2 FTS



PFDoA



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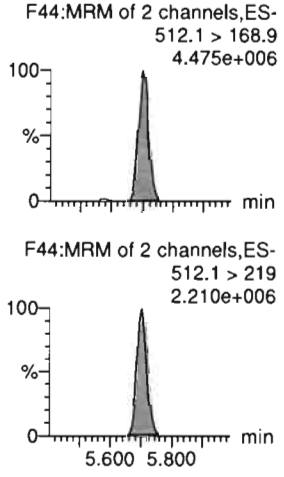

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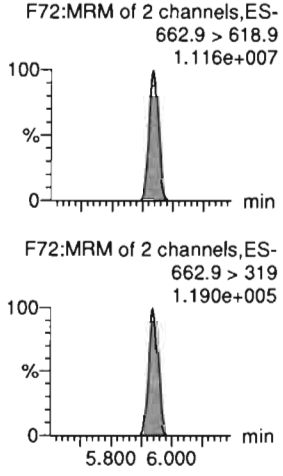
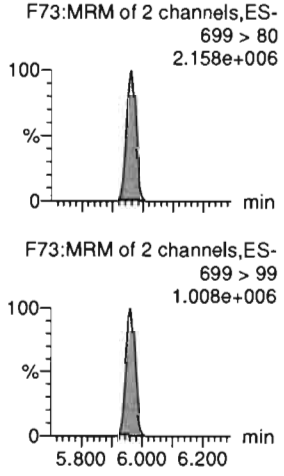


PFDoS



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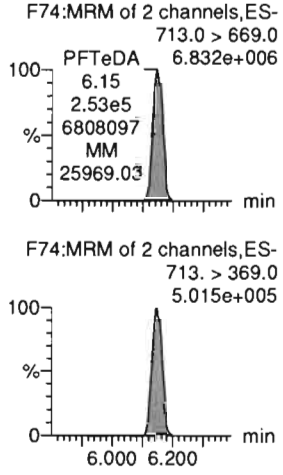
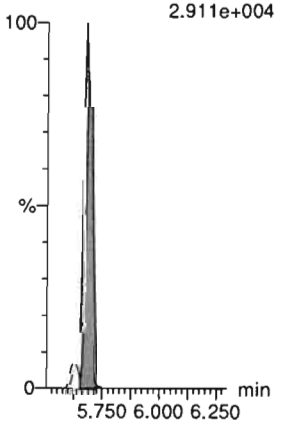
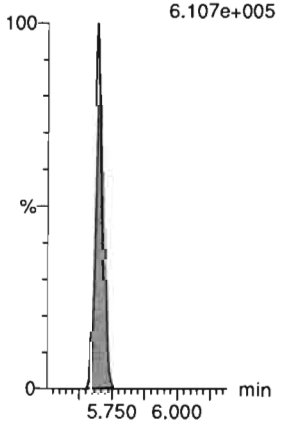


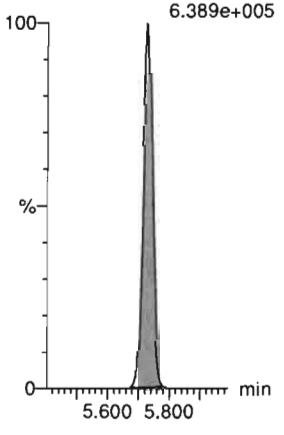
13C2-10:2 FTS-EIS



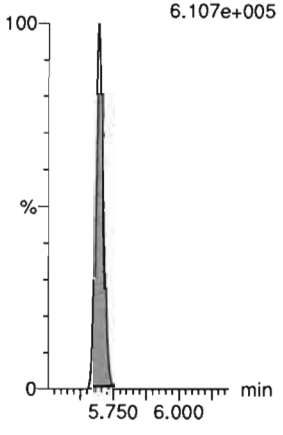
13C2-PFDoA-EIS



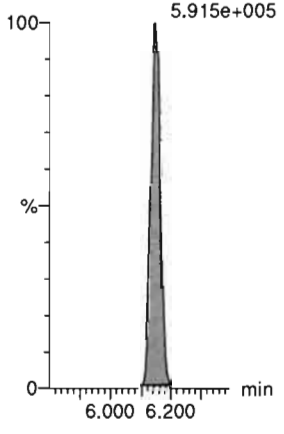
d3-N-MeFOSA-EIS



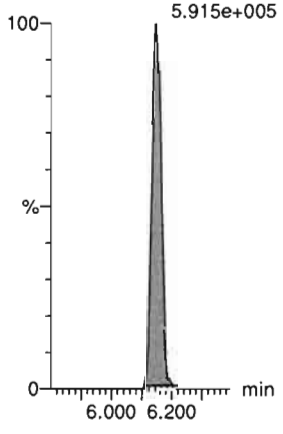
13C2-PFDoA-EIS



13C2-PFTeDA-EIS



13C2-PFTeDA-EIS



Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

Last Altered: Wednesday, July 15, 2020 15:31:31 Pacific Daylight Time
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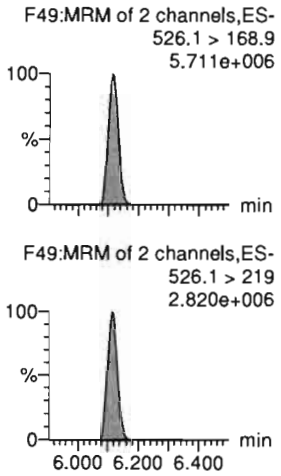
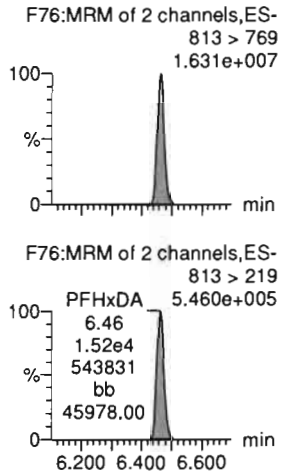
Name: 200715P1-13, Date: 15-Jul-2020, Time: 13:44:48, ID: ST200715P1-9 PFC CS6 20F1909, Description: PFC CS6 20F1909

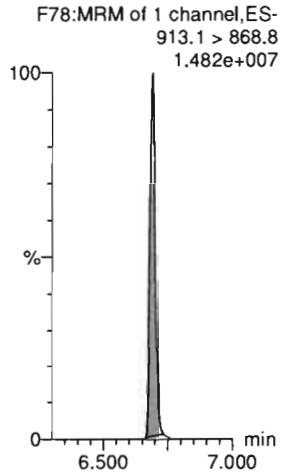
N-EtFOSA



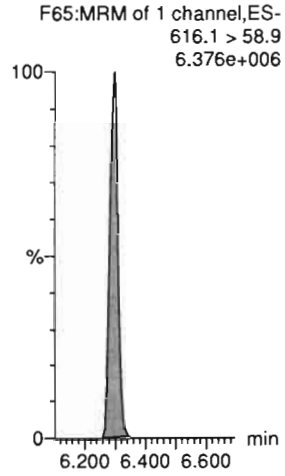
PFHxDA



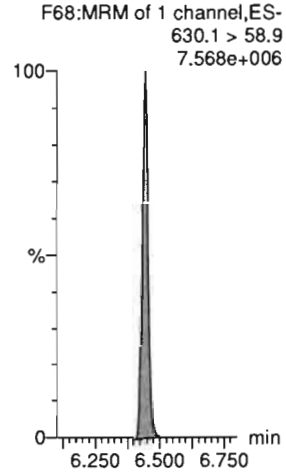
PFODA



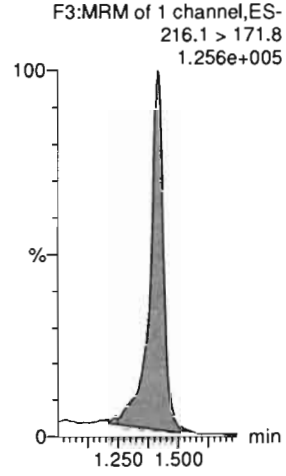
N-MeFOSE



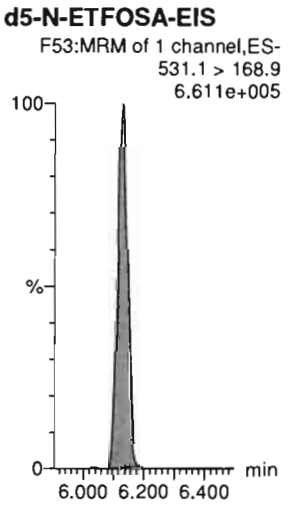
N-EtFOSE



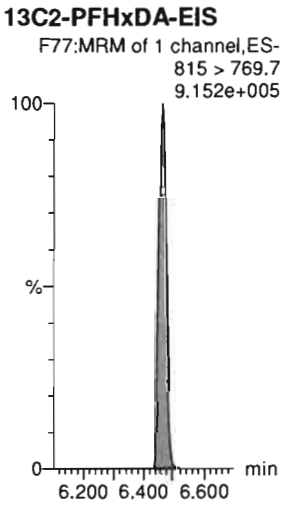
13C3-PFBA-RSD



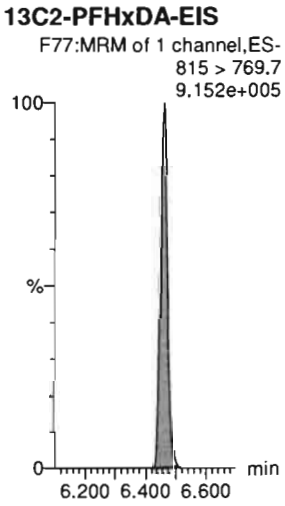
d5-N-ETFOSA-EIS



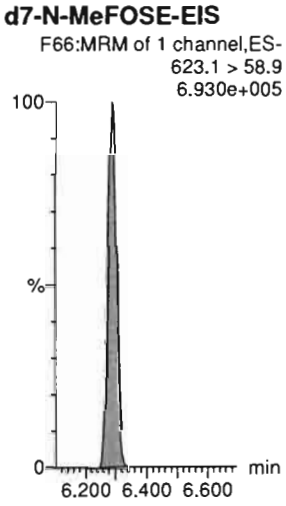
13C2-PFHxDA-EIS



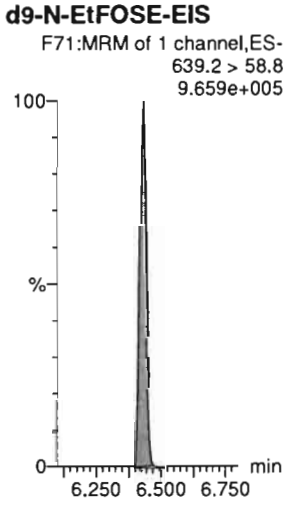
13C2-PFHxDA-EIS



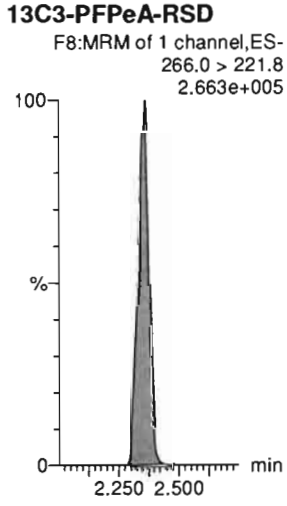
d7-N-MeFOSE-EIS



d9-N-EtFOSE-EIS



13C3-PFPeA-RSD



Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

Last Altered: Wednesday, July 15, 2020 15:31:31 Pacific Daylight Time
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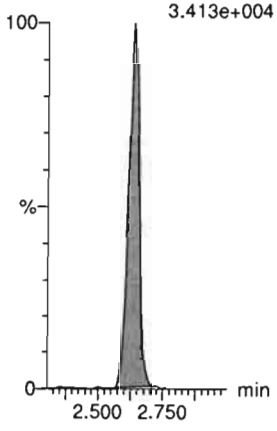
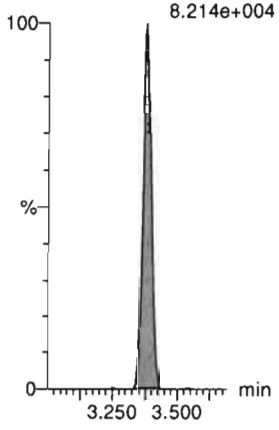
Name: 200715P1-13, Date: 15-Jul-2020, Time: 13:44:48, ID: ST200715P1-9 PFC CS6 20F1909, Description: PFC CS6 20F1909

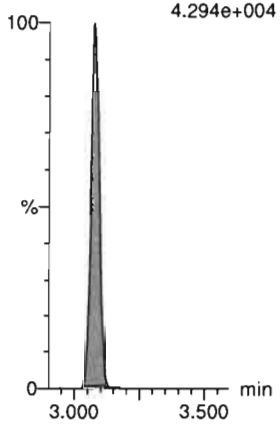
13C3-PFBS-RSD
F12:MRM of 1 channel,ES-
302.0 > 98.9
3.413e+004



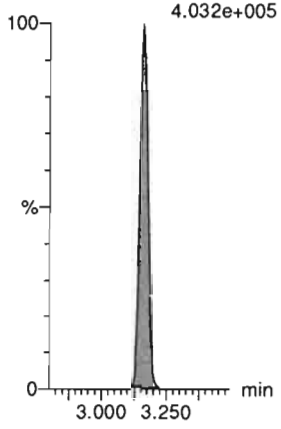
13C3-HFPO-DA-RSD
F10:MRM of 2 channels,ES-
287.0 > 168.9
8.214e+004



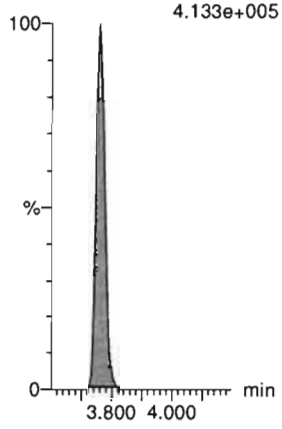
13C2-4:2 FTS-RSD
F17:MRM of 2 channels,ES-
329.0 > 80.8
4.294e+004



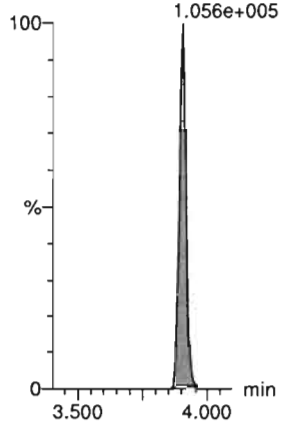
13C2-PFHxA-RSD
F14:MRM of 1 channel,ES-
315.0 > 270.0
4.032e+005



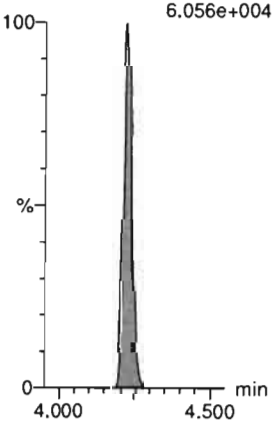
13C4-PFHpA-RSD
F21:MRM of 1 channel,ES-
367.2 > 321.8
4.133e+005



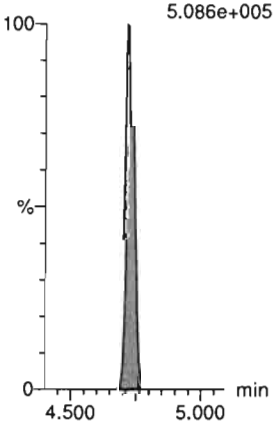
13C3-PFHxS-RSD
F24:MRM of 1 channel,ES-
402 > 80
1.056e+005



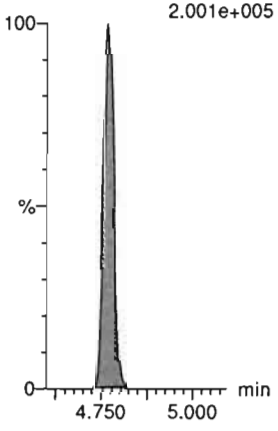
13C2-6:2 FTS-RSD
F30:MRM of 1 channel,ES-
429.0 > 79.7
6.056e+004



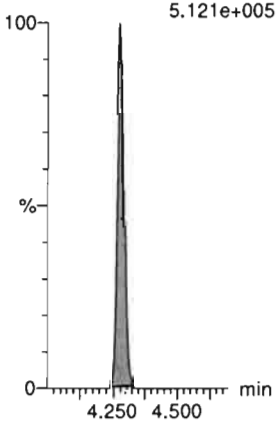
13C5-PFNA-RSD
F36:MRM of 1 channel,ES-
468.2 > 422.9
5.086e+005



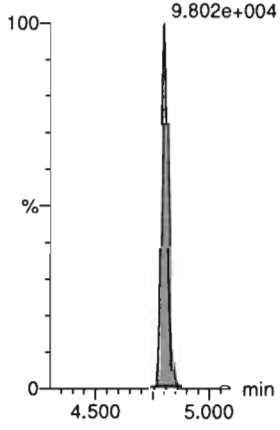
13C8-PFOSA-RSD
F42:MRM of 1 channel,ES-
506 > 78
2.001e+005



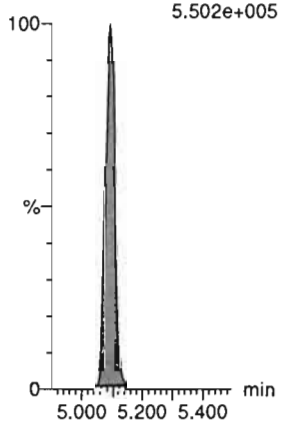
13C2-PFOA-RSD
F27:MRM of 1 channel,ES-
414.9 > 369.7
5.121e+005



13C8-PFOS-RSD
F43:MRM of 1 channel,ES-
507.1 > 80
9.802e+004



13C2-PFDA-RSD
F46:MRM of 1 channel,ES-
515.1 > 469.9
5.502e+005



Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

Last Altered: Wednesday, July 15, 2020 15:31:31 Pacific Daylight Time
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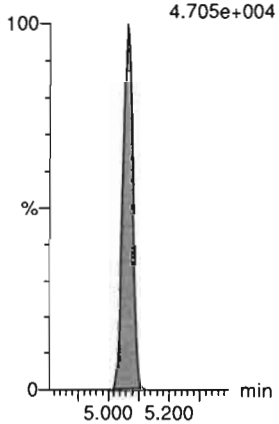
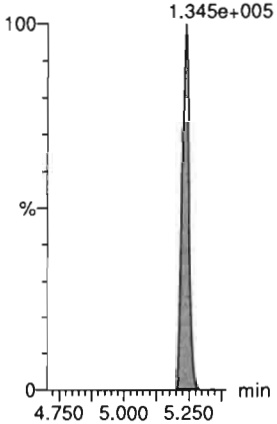
Name: 200715P1-13, Date: 15-Jul-2020, Time: 13:44:48, ID: ST200715P1-9 PFC CS6 20F1909, Description: PFC CS6 20F1909

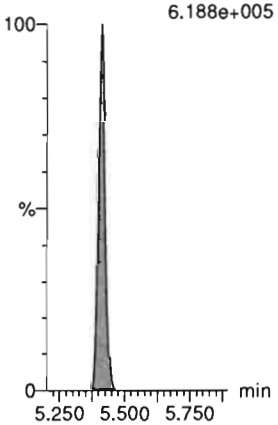
13C2-8:2 FTS-RSD
F51:MRM of 1 channel,ES-
529 > 80
4.705e+004



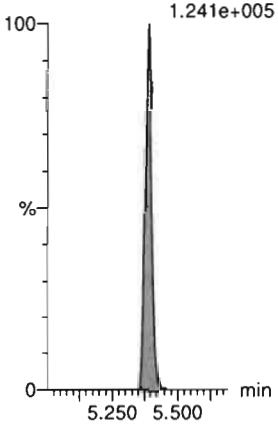
d3-N-MeFOSAA-RSD
F59:MRM of 1 channel,ES-
573.1 > 419
1.345e+005



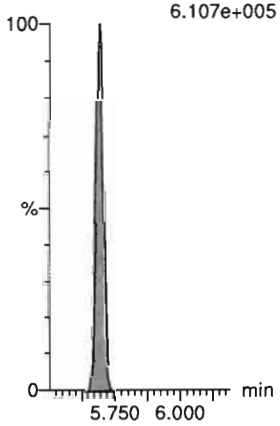
13C2-PFUdA-RSD
F56:MRM of 1 channel,ES-
565 > 519.8
6.188e+005



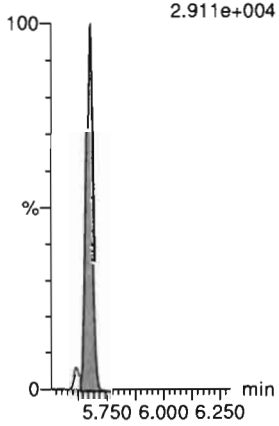
d5-N-EtFOSAA-RSD
F61:MRM of 1 channel,ES-
589.3 > 419
1.241e+005



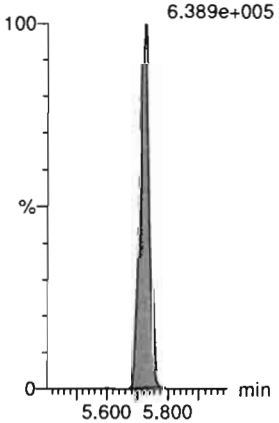
13C2-PFDoA-RSD
F64:MRM of 1 channel,ES-
614.9 > 569.9
6.107e+005



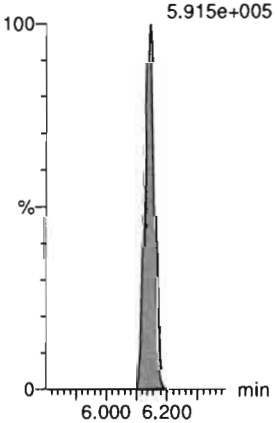
13C2-10:2 FTS-RSD
F70:MRM of 1 channel,ES-
632.9 > 80.0
2.911e+004



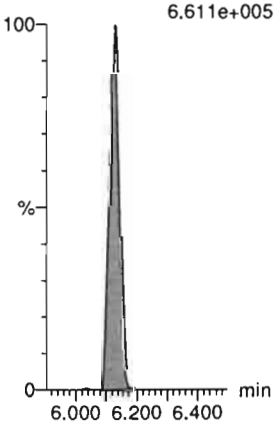
d3-N-MeFOSA-RSD
F47:MRM of 1 channel,ES-
515.2 > 168.9
6.389e+005



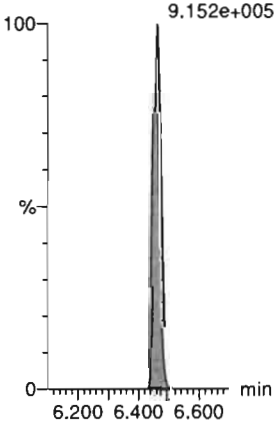
13C2-PFTeDA-RSD
F75:MRM of 2 channels,ES-
715.1 > 669.7
5.915e+005



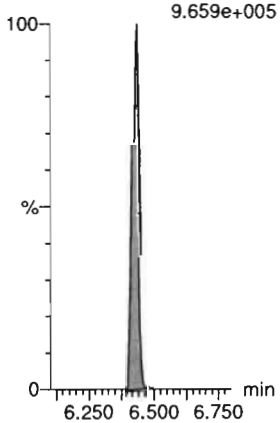
d5-N-ETFOSA-RSD
F53:MRM of 1 channel,ES-
531.1 > 168.9
6.611e+005



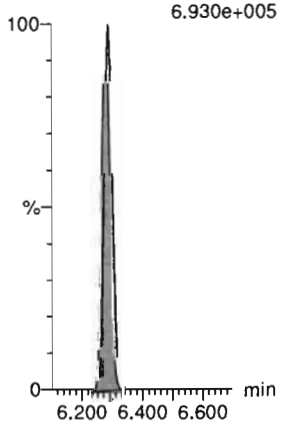
13C2-PFHxDA-RSD
F77:MRM of 1 channel,ES-
815 > 769.7
9.152e+005



d9-N-EtFOSE-RSD
F71:MRM of 1 channel,ES-
639.2 > 58.8
9.659e+005



d7-N-MeFOSE-RSD
F66:MRM of 1 channel,ES-
623.1 > 58.9
6.930e+005



Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

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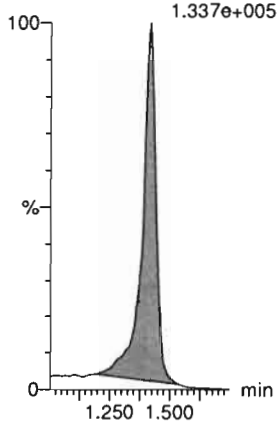
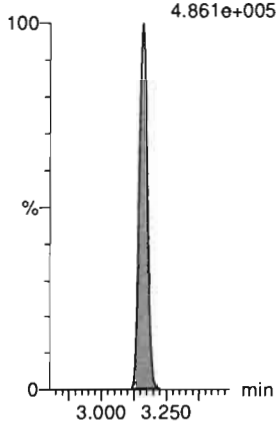
Name: 200715P1-13, Date: 15-Jul-2020, Time: 13:44:48, ID: ST200715P1-9 PFC CS6 20F1909, Description: PFC CS6 20F1909

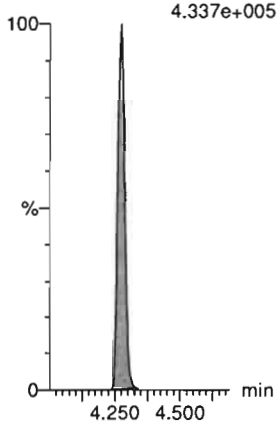
13C4-PFBA



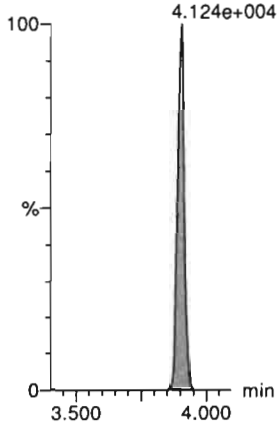
13C5-PFHxA



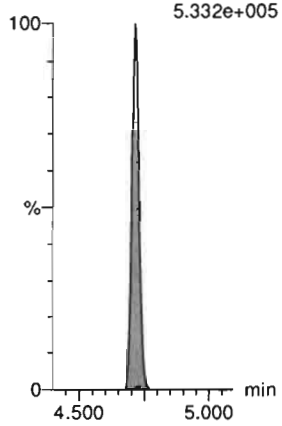
13C8-PFOA



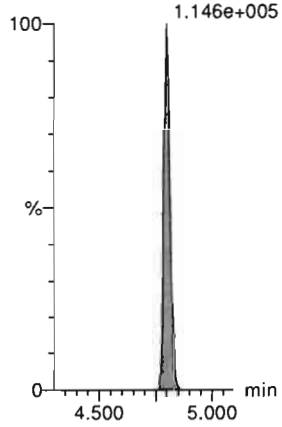
18O2-PFHxS



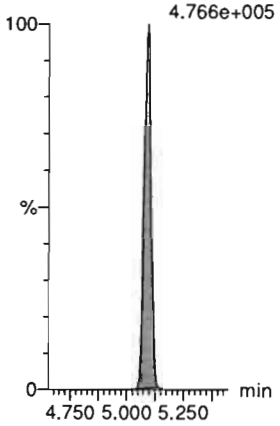
13C9-PFNA



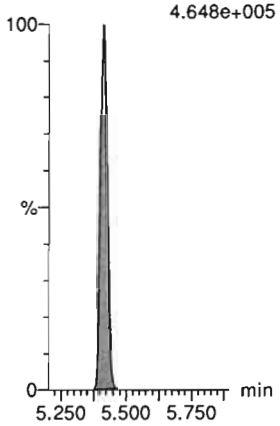
13C4-PFOS



13C6-PFDA



13C7-PFUdA

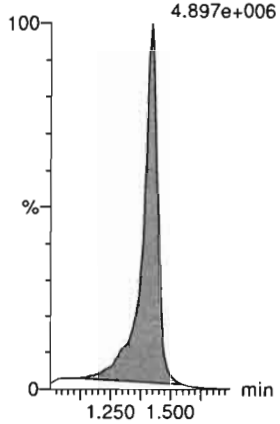


Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

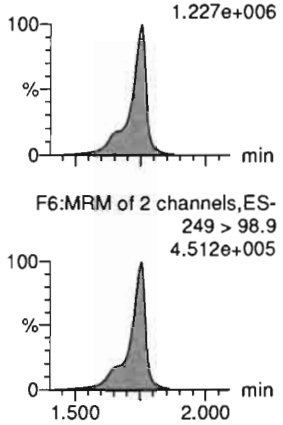
Last Altered: Wednesday, July 15, 2020 15:31:31 Pacific Daylight Time
Printed: Wednesday, July 15, 2020 15:32:47 Pacific Daylight Time

Name: 200715P1-14, Date: 15-Jul-2020, Time: 13:55:24, ID: ST200715P1-10 PFC CS7 20F1910, Description: PFC CS7 20F1910

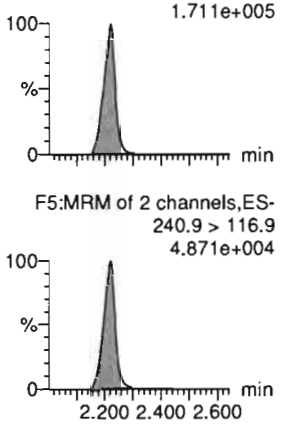
PFBA



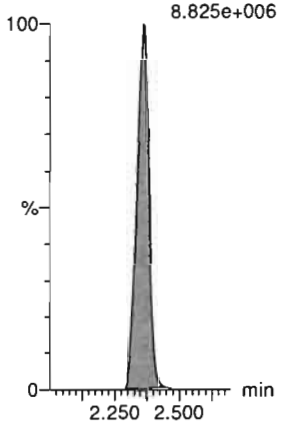
PFPrS



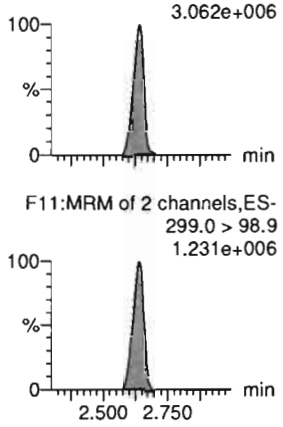
3:3 FTCA



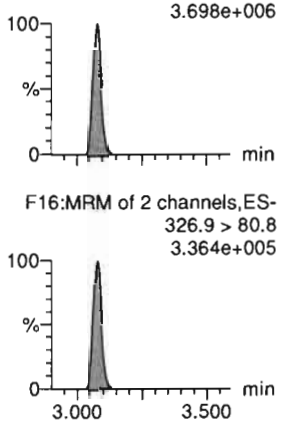
PFPeA



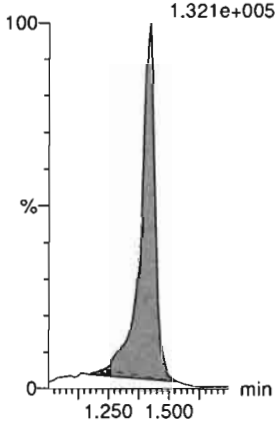
PFBS



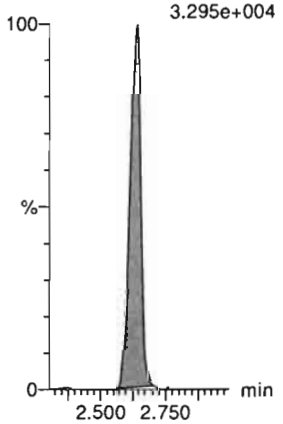
4:2 FTS



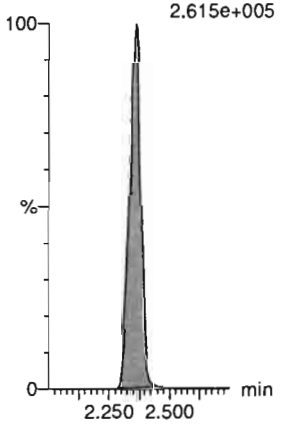
13C3-PFBA-EIS



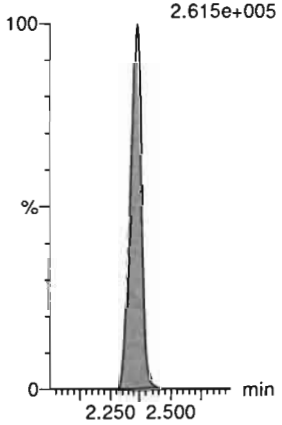
13C3-PFBS-EIS



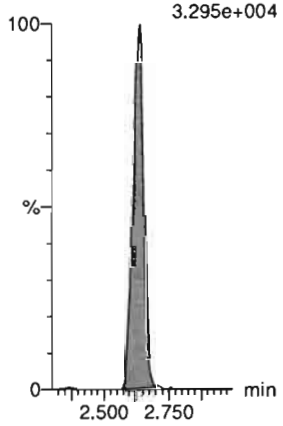
13C3-PFPeA-EIS



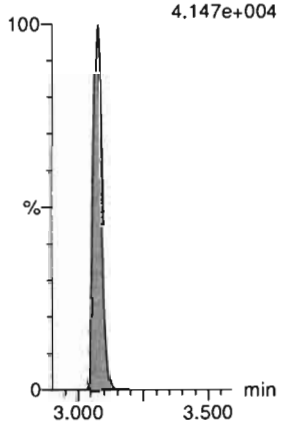
13C3-PFPeA-EIS



13C3-PFBS-EIS



13C2-4:2 FTS-EIS



Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

Last Altered: Wednesday, July 15, 2020 15:31:31 Pacific Daylight Time
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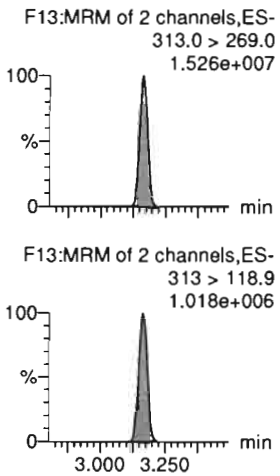
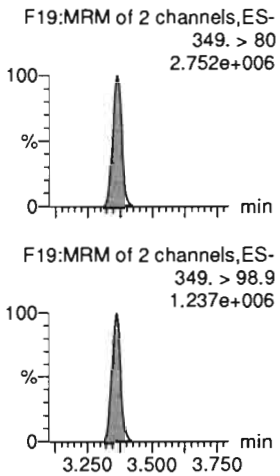
Name: 200715P1-14, Date: 15-Jul-2020, Time: 13:55:24, ID: ST200715P1-10 PFC CS7 20F1910, Description: PFC CS7 20F1910

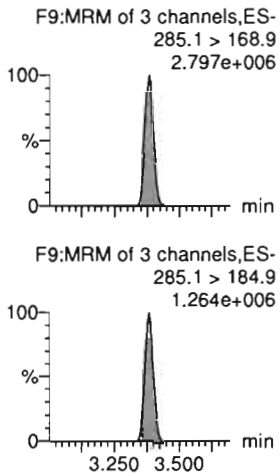
PFHxA



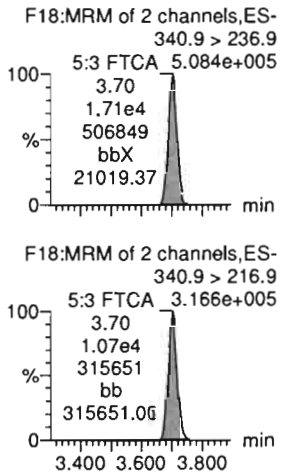
PFPeS



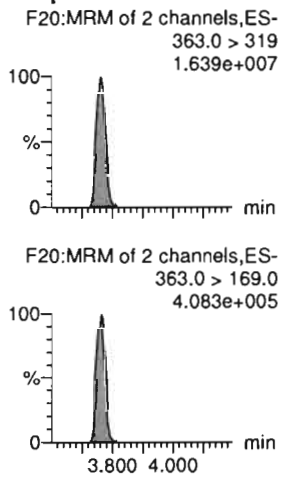
HFPO-DA



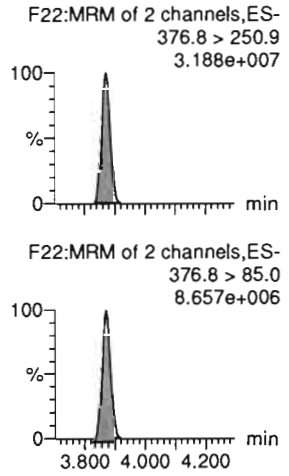
5:3 FTCA



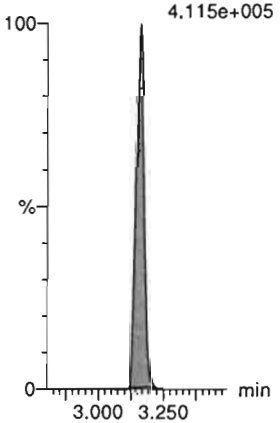
PFHpA



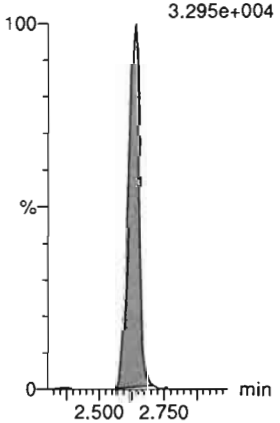
ADONA



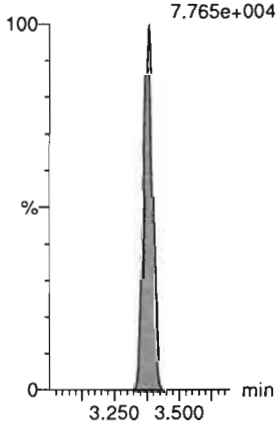
13C2-PFHxA-EIS



13C3-PFBS-EIS



13C3-HFPO-DA-EIS



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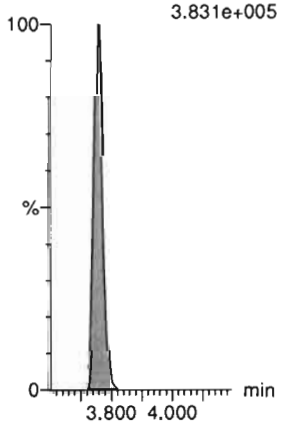
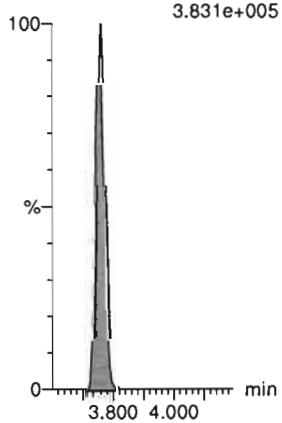
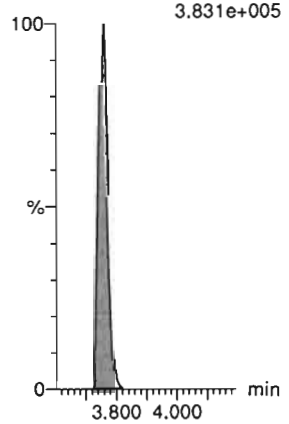


13C4-PFHpA-EIS



13C4-PFHpA-EIS



Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

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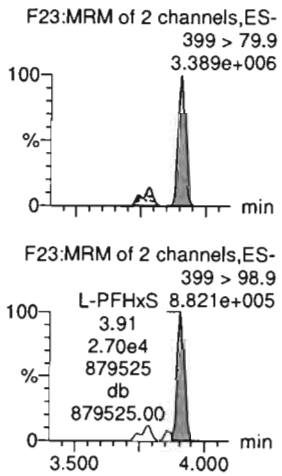
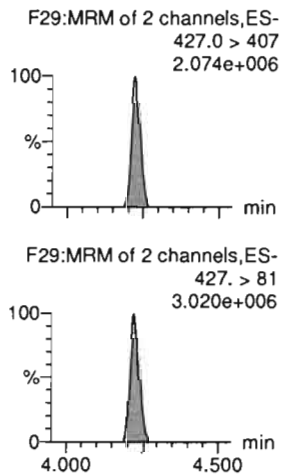
Name: 200715P1-14, Date: 15-Jul-2020, Time: 13:55:24, ID: ST200715P1-10 PFC CS7 20F1910, Description: PFC CS7 20F1910

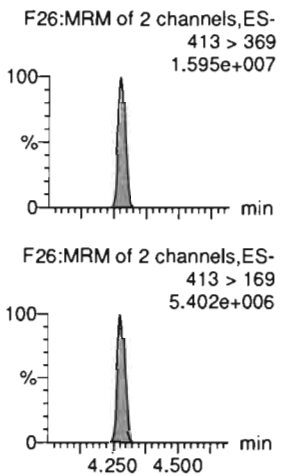
L-PFHxS



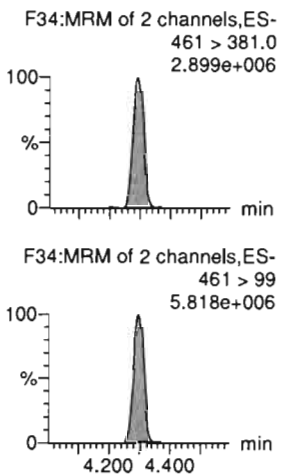
6:2 FTS



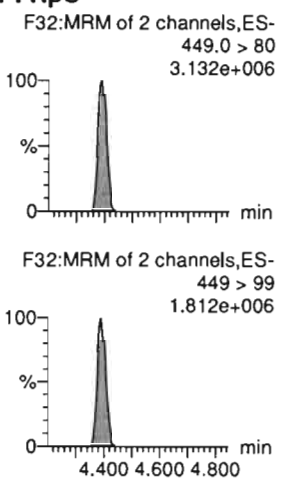
L-PFOA



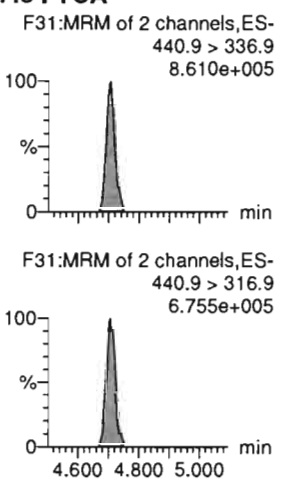
PFEChS



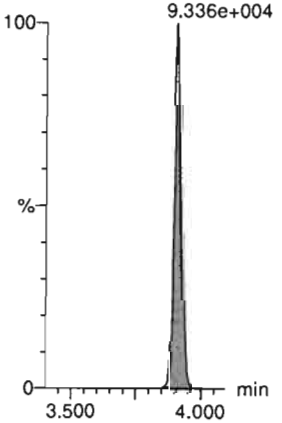
PFHpS



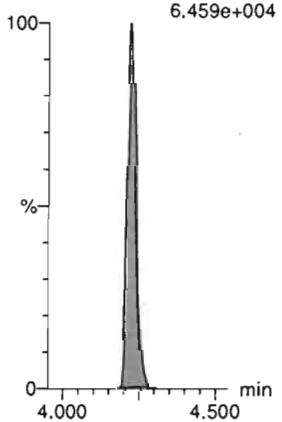
7:3 FTCA



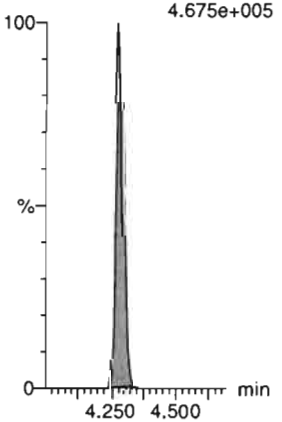
13C3-PFHxS-EIS



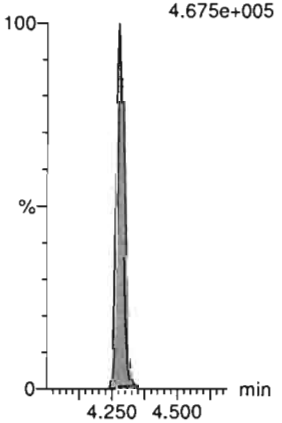
13C2-6:2 FTS-EIS



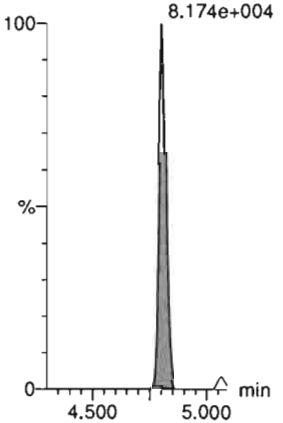
13C2-PFOA-EIS



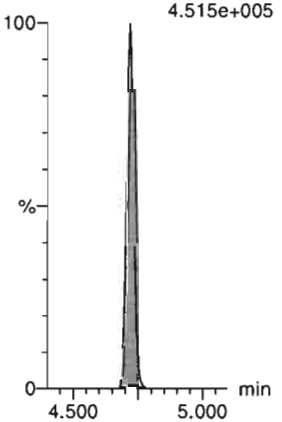
13C2-PFOA-EIS



13C8-PFOS-EIS



13C5-PFNA-EIS



Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

Last Altered: Wednesday, July 15, 2020 15:31:31 Pacific Daylight Time
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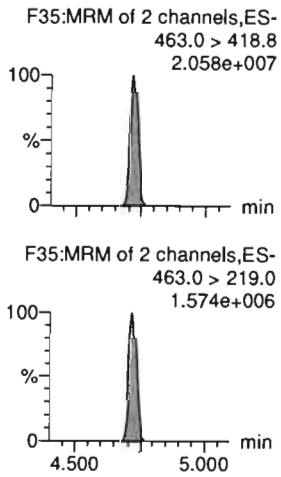
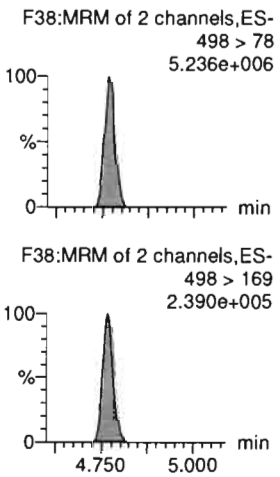
Name: 200715P1-14, Date: 15-Jul-2020, Time: 13:55:24, ID: ST200715P1-10 PFC CS7 20F1910, Description: PFC CS7 20F1910

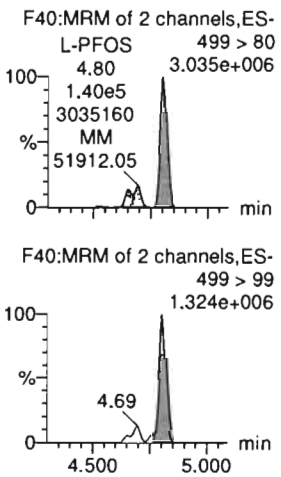
PFNA



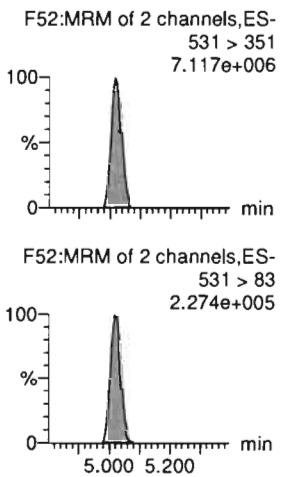
PFOSA



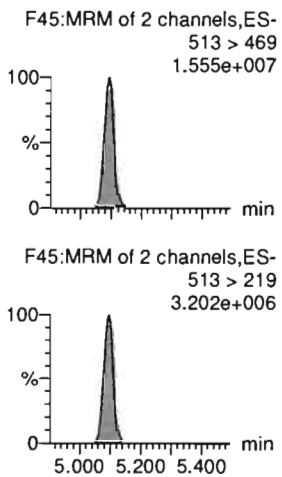
L-PFOS



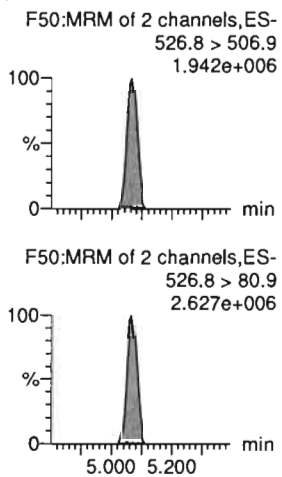
9Cl-PF30NS



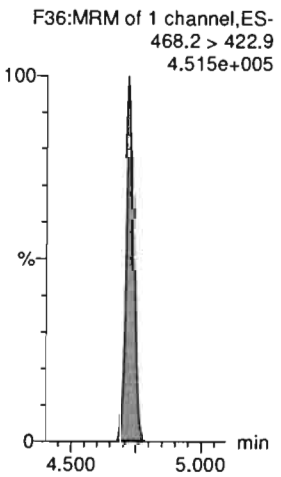
PFDA



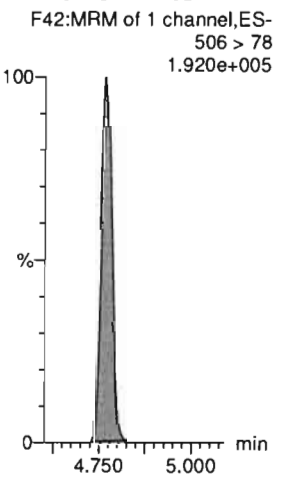
8:2 FTS



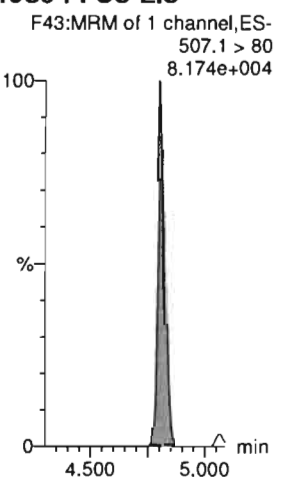
13C5-PFNA-EIS



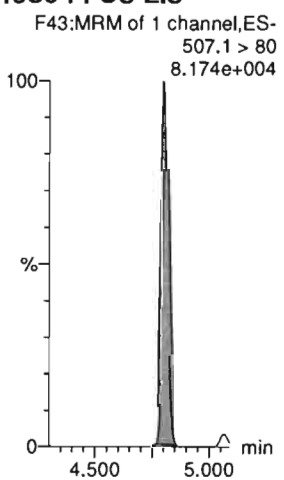
13C8-PFOSA-EIS



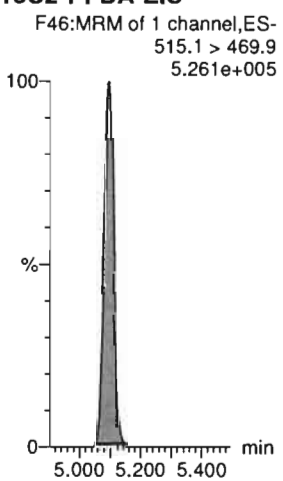
13C8-PFOS-EIS



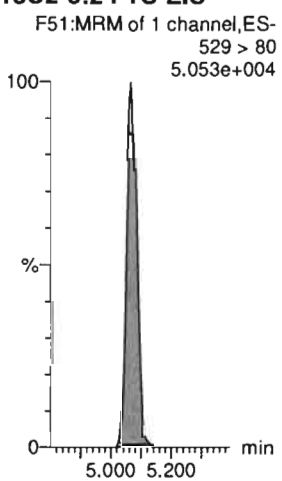
13C8-PFOS-EIS



13C2-PFDA-EIS



13C2-8:2 FTS-EIS



Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

Last Altered: Wednesday, July 15, 2020 15:31:31 Pacific Daylight Time
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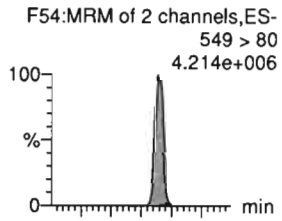
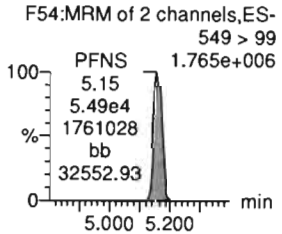
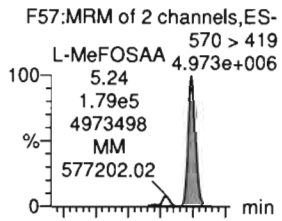
Name: 200715P1-14, Date: 15-Jul-2020, Time: 13:55:24, ID: ST200715P1-10 PFC CS7 20F1910, Description: PFC CS7 20F1910

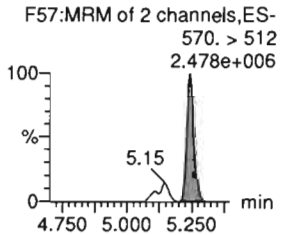
PFNS





L-MeFOSAA





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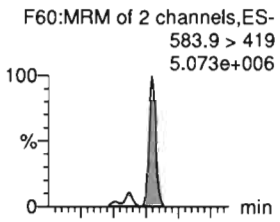
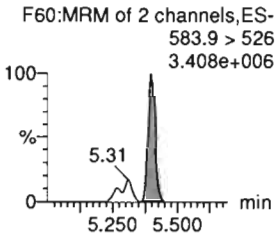
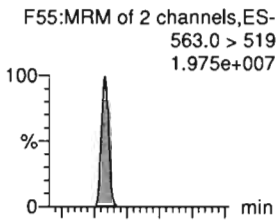
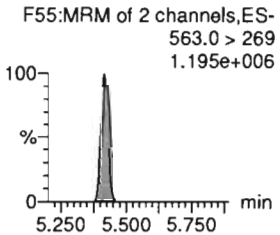


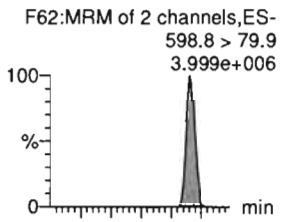


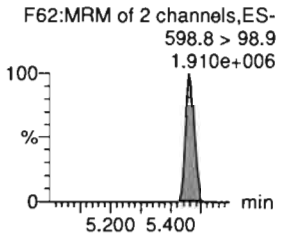
PFUdA



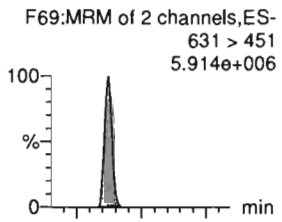


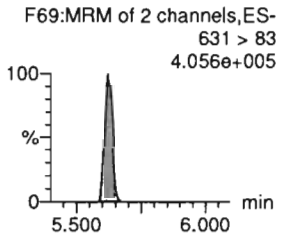
PFDS



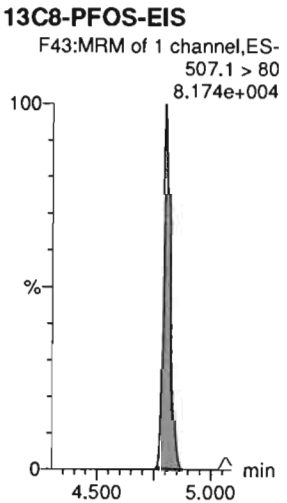


11Cl-PF30UdS

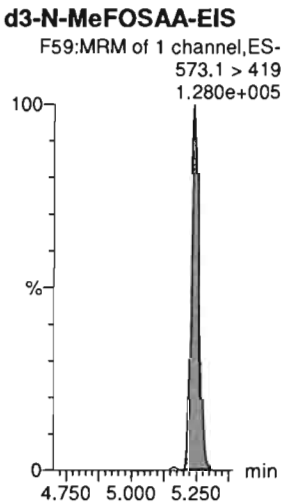




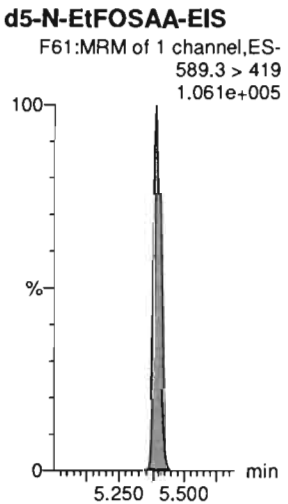
13C8-PFOS-EIS



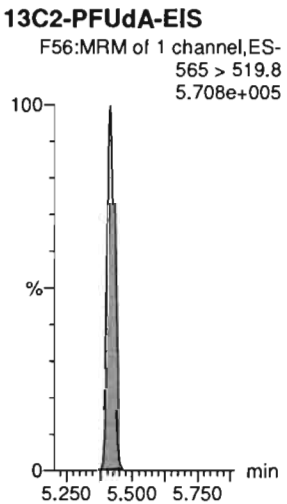
d3-N-MeFOSAA-EIS



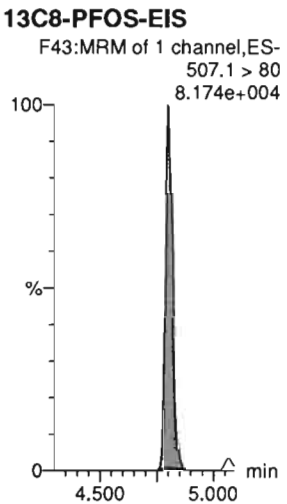
d5-N-EtFOSAA-EIS



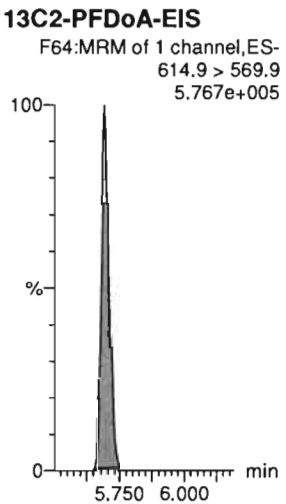
13C2-PFUdA-EIS



13C8-PFOS-EIS



13C2-PFDoA-EIS



Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

Last Altered: Wednesday, July 15, 2020 15:31:31 Pacific Daylight Time
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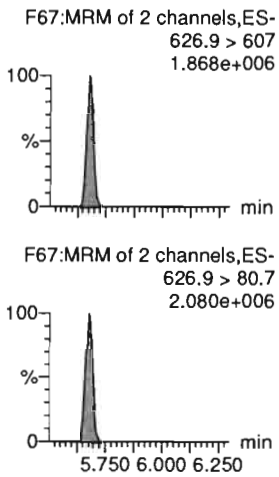
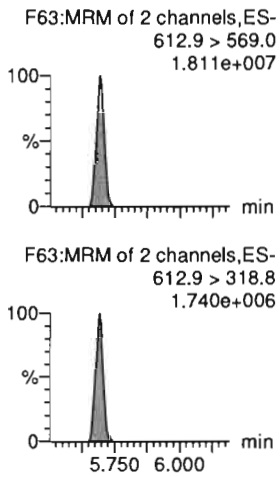
Name: 200715P1-14, Date: 15-Jul-2020, Time: 13:55:24, ID: ST200715P1-10 PFC CS7 20F1910, Description: PFC CS7 20F1910

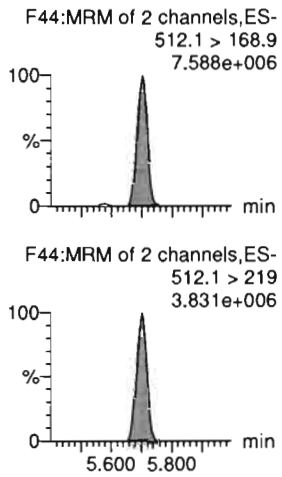
10:2 FTS



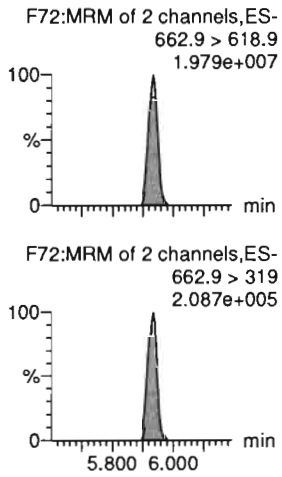
PFDoA



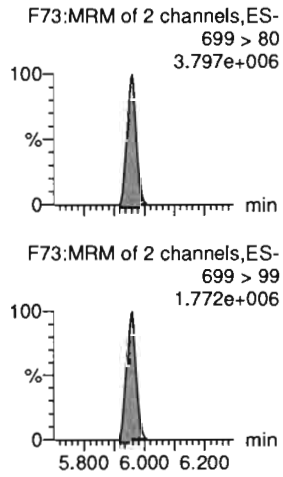
N-MeFOSA



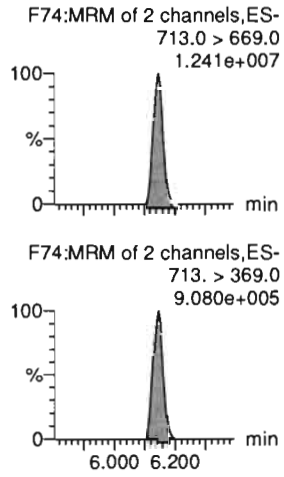
PFTrDA



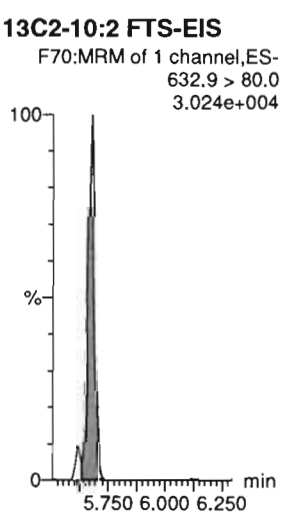
PFDoS



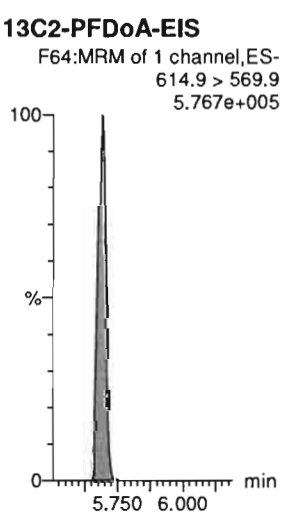
PFTeDA



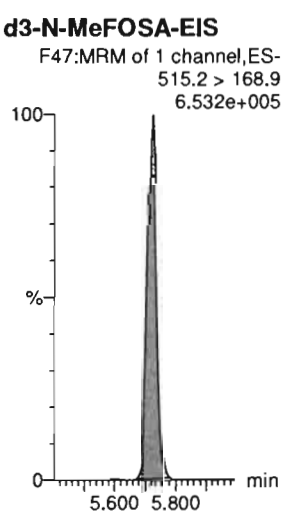
13C2-10:2 FTS-EIS



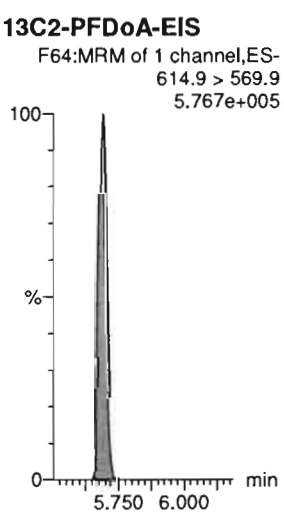
13C2-PFDoA-EIS



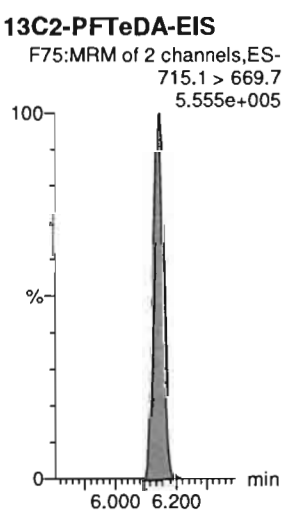
d3-N-MeFOSA-EIS



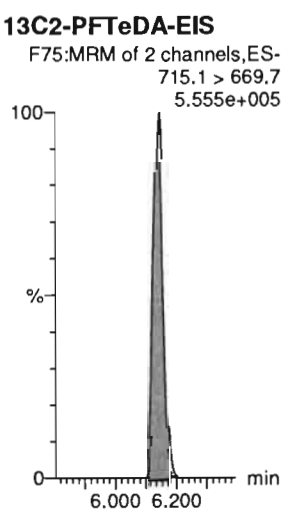
13C2-PFDoA-EIS



13C2-PFTeDA-EIS



13C2-PFTeDA-EIS



Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

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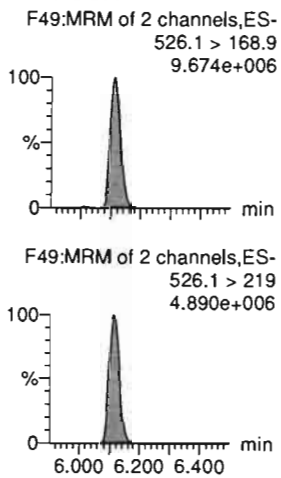
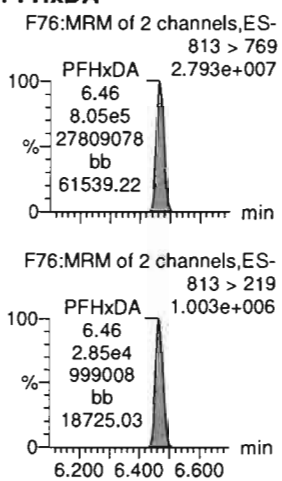
Name: 200715P1-14, Date: 15-Jul-2020, Time: 13:55:24, ID: ST200715P1-10 PFC CS7 20F1910, Description: PFC CS7 20F1910

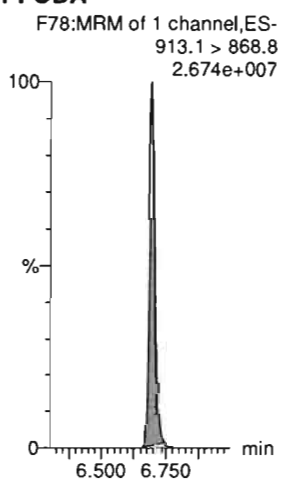
N-EtFOSA



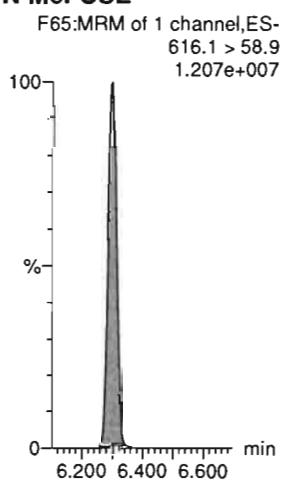
PFHxDA



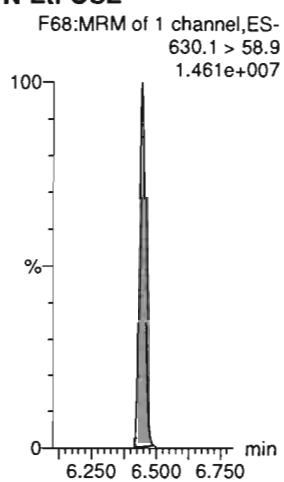
PFODA



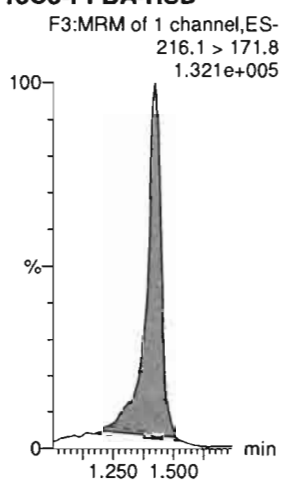
N-MeFOSE



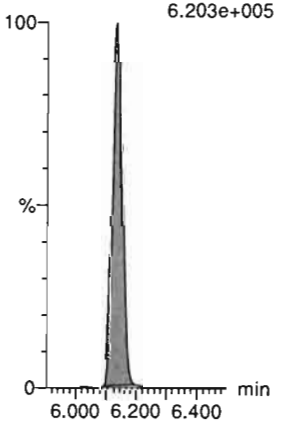
N-EtFOSE



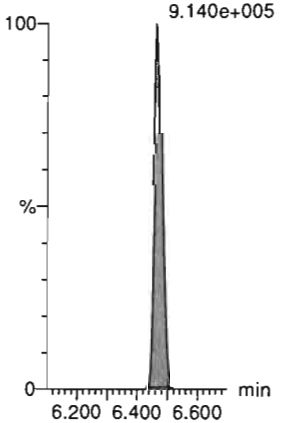
13C3-PFBA-RSD



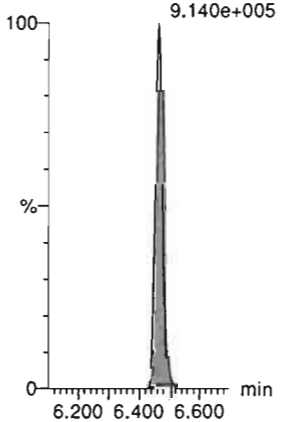
d5-N-ETFOSA-EIS



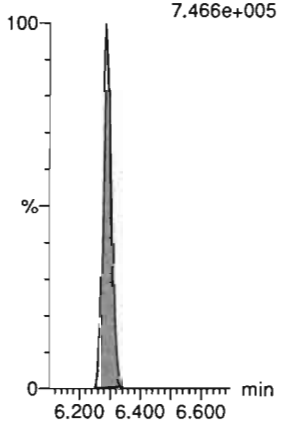
13C2-PFHxDA-EIS



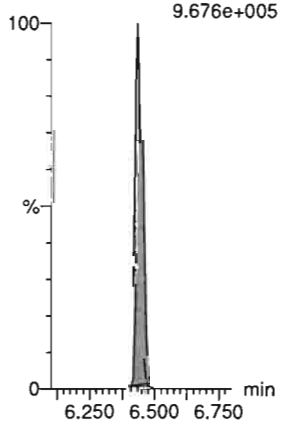
13C2-PFHxDA-EIS



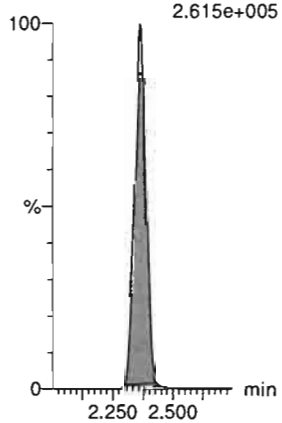
d7-N-MeFOSE-EIS



d9-N-EtFOSE-EIS



13C3-PFPeA-RSD



Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

Last Altered: Wednesday, July 15, 2020 15:31:31 Pacific Daylight Time
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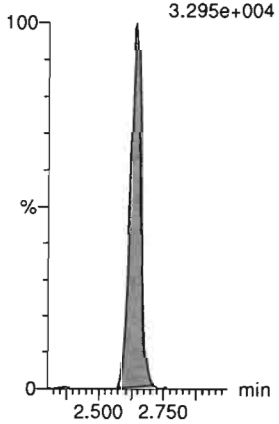
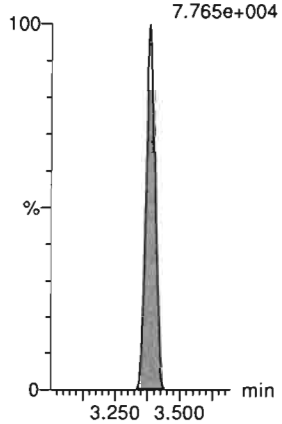
Name: 200715P1-14, Date: 15-Jul-2020, Time: 13:55:24, ID: ST200715P1-10 PFC CS7 20F1910, Description: PFC CS7 20F1910

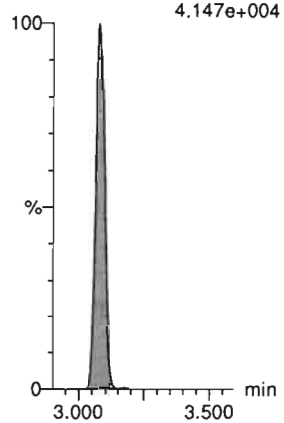
13C3-PFBS-RSD
F12:MRM of 1 channel,ES-
302.0 > 98.9
3.295e+004



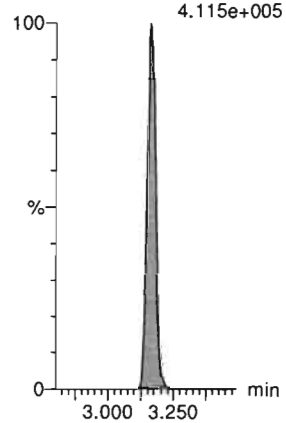
13C3-HFPO-DA-RSD
F10:MRM of 2 channels,ES-
287.0 > 168.9
7.765e+004



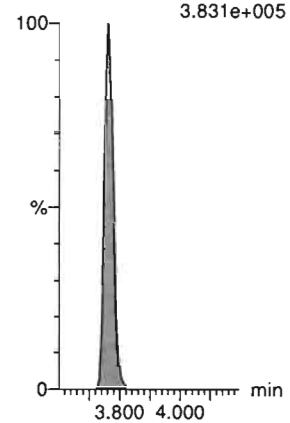
13C2-4:2 FTS-RSD
F17:MRM of 2 channels,ES-
329.0 > 80.8
4.147e+004



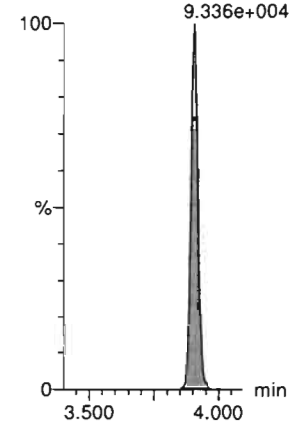
13C2-PFHxA-RSD
F14:MRM of 1 channel,ES-
315.0 > 270.0
4.115e+005



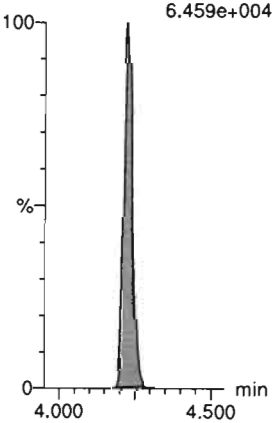
13C4-PFHpA-RSD
F21:MRM of 1 channel,ES-
367.2 > 321.8
3.831e+005



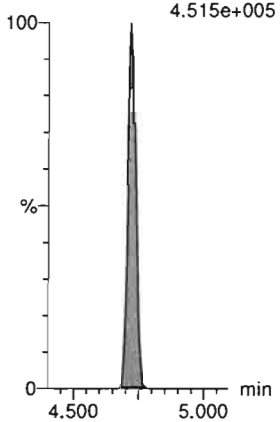
13C3-PFHxS-RSD
F24:MRM of 1 channel,ES-
402 > 80
9.336e+004



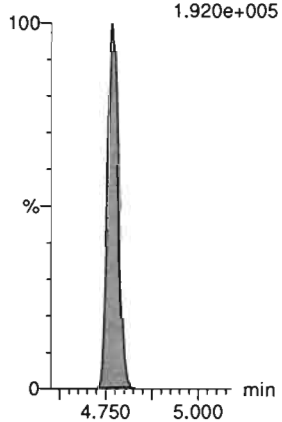
13C2-6:2 FTS-RSD
F30:MRM of 1 channel,ES-
429.0 > 79.7
6.459e+004



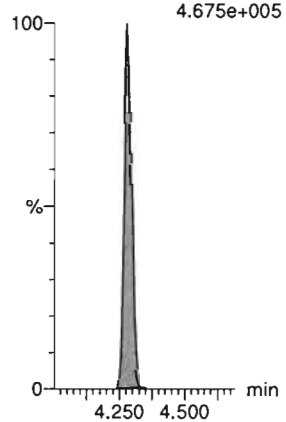
13C5-PFNA-RSD
F36:MRM of 1 channel,ES-
468.2 > 422.9
4.515e+005



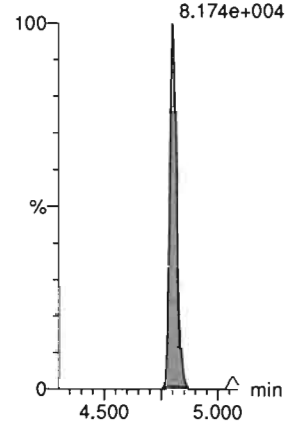
13C8-PFOSA-RSD
F42:MRM of 1 channel,ES-
506 > 78
1.920e+005



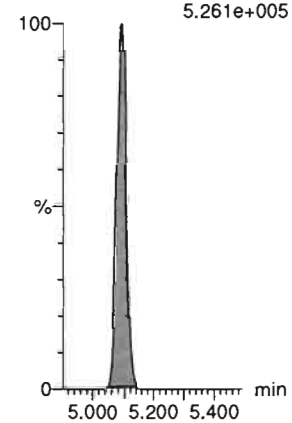
13C2-PFOA-RSD
F27:MRM of 1 channel,ES-
414.9 > 369.7
4.675e+005



13C8-PFOS-RSD
F43:MRM of 1 channel,ES-
507.1 > 80
8.174e+004



13C2-PFDA-RSD
F46:MRM of 1 channel,ES-
515.1 > 469.9
5.261e+005



Dataset: D:\PFAS5.PRO\RESULTS\200715P1\200715P1-CRV.qld

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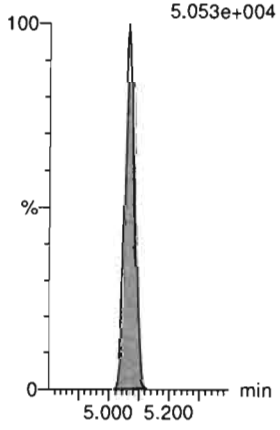
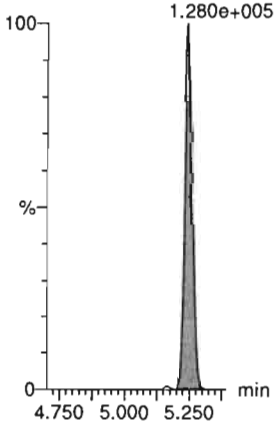
Name: 200715P1-14, Date: 15-Jul-2020, Time: 13:55:24, ID: ST200715P1-10 PFC CS7 20F1910, Description: PFC CS7 20F1910

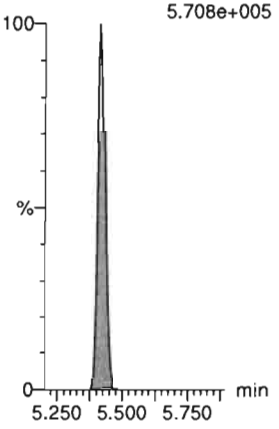
13C2-8:2 FTS-RSD
F51:MRM of 1 channel,ES-
529 > 80
5.053e+004



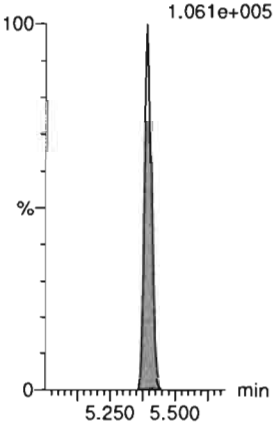
d3-N-MeFOSAA-RSD
F59:MRM of 1 channel,ES-
573.1 > 419
1.280e+005



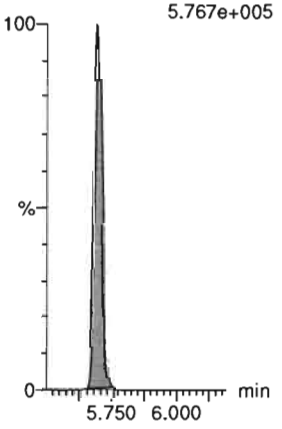
13C2-PFUdA-RSD
F56:MRM of 1 channel,ES-
565 > 519.8
5.708e+005



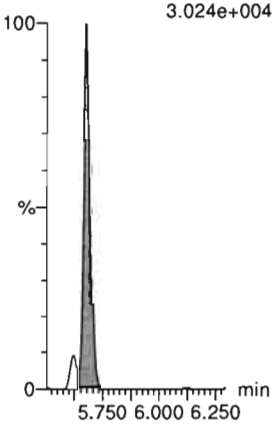
d5-N-EtFOSAA-RSD
F61:MRM of 1 channel,ES-
589.3 > 419
1.061e+005



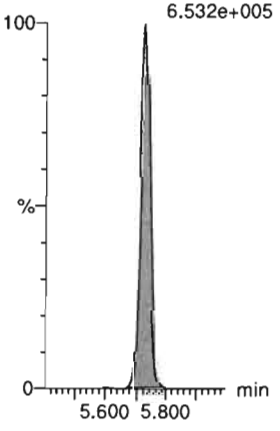
13C2-PFDoA-RSD
F64:MRM of 1 channel,ES-
614.9 > 569.9
5.767e+005



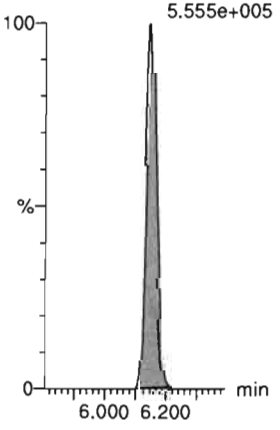
13C2-10:2 FTS-RSD
F70:MRM of 1 channel,ES-
632.9 > 80.0
3.024e+004



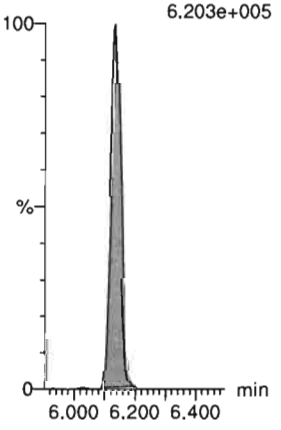
d3-N-MeFOSA-RSD
F47:MRM of 1 channel,ES-
515.2 > 168.9
6.532e+005



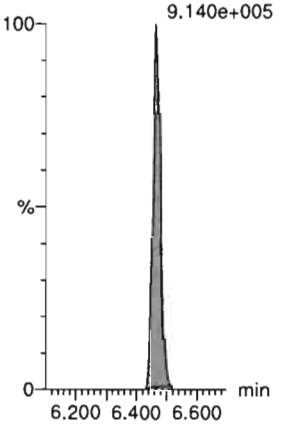
13C2-PFTeDA-RSD
F75:MRM of 2 channels,ES-
715.1 > 669.7
5.555e+005



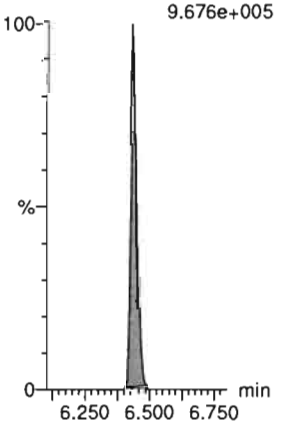
d5-N-ETFOSA-RSD
F53:MRM of 1 channel,ES-
531.1 > 168.9
6.203e+005



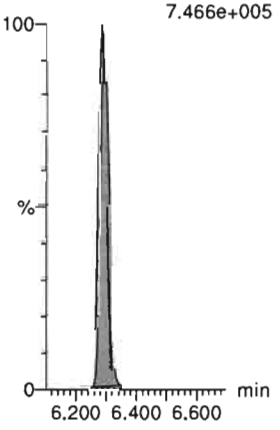
13C2-PFHxDA-RSD
F77:MRM of 1 channel,ES-
815 > 769.7
9.140e+005



d9-N-EtFOSE-RSD
F71:MRM of 1 channel,ES-
639.2 > 58.8
9.676e+005



d7-N-MeFOSE-RSD
F66:MRM of 1 channel,ES-
623.1 > 58.9
7.466e+005



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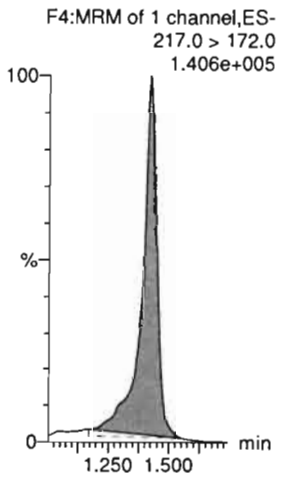
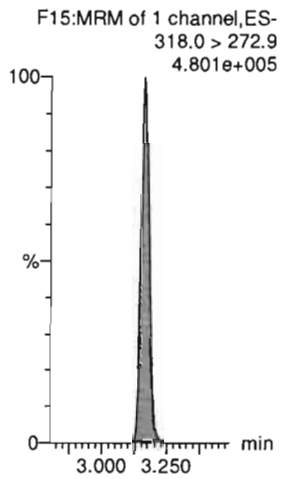
Name: 200715P1-14, Date: 15-Jul-2020, Time: 13:55:24, ID: ST200715P1-10 PFC CS7 20F1910, Description: PFC CS7 20F1910

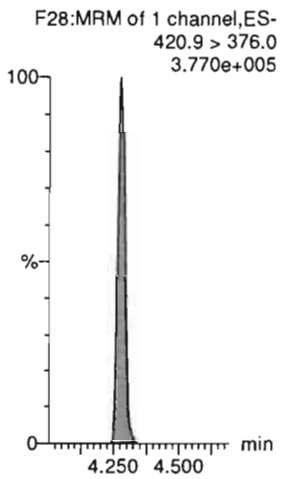
13C4-PFBA



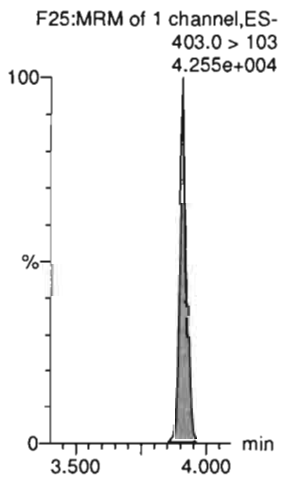
13C5-PFHxA



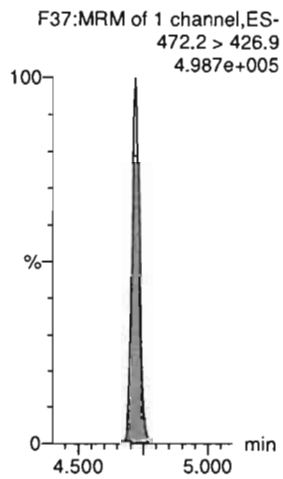
13C8-PFOA



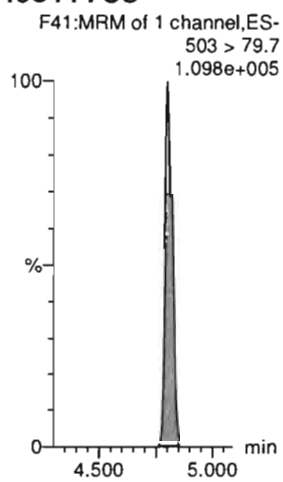
18O2-PFHxS



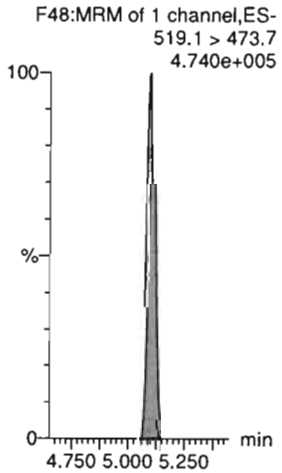
13C9-PFNA



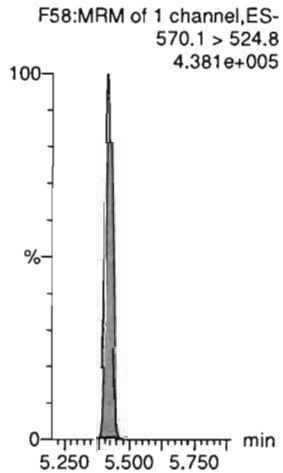
13C4-PFOS



13C6-PFDA



13C7-PFUdA



Dataset: Z:\PFAS5.PRO\RESULTS\200715P1\200715P1-ICV.qld

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(A) Not In ICV

Name: 200715P1-16, Date: 15-Jul-2020, Time: 14:16:27, ID: ICV200715P1-1 PFC ICV 20F1911, Description: PFC ICV 20F1911

✓ JR 07/16/2020

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Std. Conc	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
1	1	PFBA	213.0 > 168.8	6516.935	8111.474	1.00	1.42	10.043	10.000	10.1	101.3	NO		
2	2	PFPrS	249 > 80		1746.936	1.00			10.000		(A)	NO		YES
3	3	3:3 FTCA	240.9 > 176.9		14271.676	1.00			10.000			NO		YES
4	4	PFPeA	263.1 > 218.9	10634.506	14271.676	1.00	2.36	9.314	10.000	9.95	99.5	NO		
5	5	PFBS	299.0 > 80	3108.885	1746.936	1.00	2.64	22.245	8.840	8.82	99.8	NO	2.519	NO
6	6	4:2 FTS	326.9 > 306.9	3629.962	1869.268	1.00	3.08	24.274	9.360	9.64	103.0	NO	10.769	YES
7	47	13C3-PFBA-EIS	216.1 > 171.8	8111.474		1.00	1.42	8111.474	12.500	12.2	97.6	NO		
8	51	13C3-PFBS-EIS	302.0 > 98.9	1746.936		1.00	2.64	1746.936	12.500	12.0	96.2	NO		
9	49	13C3-PFPeA-EIS	266.0 > 221.8	14271.676		1.00	2.36	14271.676	12.500	12.7	101.3	NO		
10	49	13C3-PFPeA-EIS	266.0 > 221.8	14271.676		1.00	2.36	14271.676	12.500	12.7	101.3	NO		
11	51	13C3-PFBS-EIS	302.0 > 98.9	1746.936		1.00	2.64	1746.936	12.500	12.0	96.2	NO		
12	55	13C2-4:2 FTS-EIS	329.0 >80.8	1869.268		1.00	3.08	1869.268	12.500	12.3	98.1	NO		
13	-1													
14	7	PFHxA	313.0 > 269.0	13686.150	15417.667	1.00	3.16	11.096	10.000	11.1	111.2	NO	15.563	NO
15	8	PFPeS	349.>80	2558.882	1746.936	1.00	3.36	18.310	9.360	8.93	95.4	NO	2.258	NO
16	9	HFPO-DA	285.1 > 168.9	2339.570	3119.215	1.00	3.38	9.376	10.000	9.53	95.3	NO	2.181	NO
17	10	5:3 FTCA	340.9 > 236.9		14201.428	1.00			10.000		(A)	NO		YES
18	11	PFHpA	363.0 > 319	13695.731	14201.428	1.00	3.76	12.055	10.000	9.35	93.5	NO	51.565	YES
19	12	ADONA	376.8 > 250.9	24444.570	14201.428	1.00	3.87	21.516	9.440	9.39	99.5	NO	3.782	NO
20	57	13C2-PFHxA-EIS	315.0 > 270.0	15417.667		1.00	3.16	15417.667	12.500	12.6	100.5	NO		
21	51	13C3-PFBS-EIS	302.0 > 98.9	1746.936		1.00	2.64	1746.936	12.500	12.0	96.2	NO		
22	53	13C3-HFPO-DA-EIS	287.0 > 168.9	3119.215		1.00	3.38	3119.215	12.500	12.1	96.5	NO		
23	59	13C4-PFHpA-EIS	367.2 > 321.8	14201.428		1.00	3.76	14201.428	12.500	11.2	89.4	NO		
24	59	13C4-PFHpA-EIS	367.2 > 321.8	14201.428		1.00	3.76	14201.428	12.500	11.2	89.4	NO		
25	59	13C4-PFHpA-EIS	367.2 > 321.8	14201.428		1.00	3.76	14201.428	12.500	11.2	89.4	NO		
26	-1													
27	13	L-PFHxS	399 > 79.9	2828.827	3497.200	1.00	3.91	10.111	9.120	8.69	95.3	NO	3.866	YES
28	15	6:2 FTS	427.0 > 407	1750.110	2356.959	1.00	4.22	9.282	9.480	9.23	97.4	NO	0.707	NO
29	16	L-PFOA	413 > 369	14042.050	19628.160	1.00	4.28	8.943	10.000	9.10	91.0	NO	2.974	NO
30	18	PFecHS	461 > 381.0		19628.160	1.00			10.000		(A)	NO		YES
31	19	PFHpS	449.0 > 80	2571.877	3610.254	1.00	4.39	8.905	9.520	9.24	97.0	NO	1.759	NO
32	20	7:3 FTCA	440.9 > 336.9		18455.713	1.00			10.000		(A)	NO		YES
33	61	13C3-PFHxS-EIS	402 >80	3497.200		1.00	3.90	3497.200	12.500	13.0	104.2	NO		
34	63	13C2-6:2 FTS-EIS	429.0 >79.7	2356.959		1.00	4.22	2356.959	12.500	12.4	99.4	NO		
35	69	13C2-PFOA-EIS	414.9 > 369.7	19628.160		1.00	4.28	19628.160	12.500	12.9	103.3	NO		
36	69	13C2-PFOA-EIS	414.9 > 369.7	19628.160		1.00	4.28	19628.160	12.500	12.9	103.3	NO		

OPV 7/16/2020

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Name: 200715P1-16, Date: 15-Jul-2020, Time: 14:16:27, ID: ICV200715P1-1 PFC ICV 20F1911, Description: PFC ICV 20F1911

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Std. Conc	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
37	71	13C8-PFOS-EIS	507.1 > 80	3610.254		1.00	4.80	3610.254	12.500	12.9	103.6	NO		
38	65	13C5-PFNA-EIS	468.2 > 422.9	18455.713		1.00	4.72	18455.713	12.500	12.4	99.2	NO		
39	-1													
40	21	PFNA	463.0 > 418.8	17190.543	18455.713	1.00	4.72	11.643	10.000	9.85	98.5	NO	12.868	YES
41	22	PFOSA	498 > 78	4178.458	7465.645	1.00	4.77	6.996	10.000	10.1	100.5	NO	22.323	NO
42	23	L-PFOS	499 > 80	3151.762	3610.254	1.00	4.80	10.913	9.280	8.97	96.7	NO	2.504	NO
43	25	9Cl-PF30NS	531 > 351	6421.060	3610.254	1.00	5.02	22.232	9.320	9.28	99.6	NO	28.405	YES
44	26	PFDA	513 > 469	13784.684	21000.865	1.00	5.09	8.205	10.000	9.91	99.1	NO	4.802	NO
45	27	8:2 FTS	526.8> 506.9	1814.890	1968.452	1.00	5.07	11.525	9.600	9.44	98.3	NO	0.698	NO
46	65	13C5-PFNA-EIS	468.2 > 422.9	18455.713		1.00	4.72	18455.713	12.500	12.4	99.2	NO		
47	67	13C8-PFOSA-EIS	506 > 78	7465.645		1.00	4.77	7465.645	12.500	12.6	100.4	NO		
48	71	13C8-PFOS-EIS	507.1 > 80	3610.254		1.00	4.80	3610.254	12.500	12.9	103.6	NO		
49	71	13C8-PFOS-EIS	507.1 > 80	3610.254		1.00	4.80	3610.254	12.500	12.9	103.6	NO		
50	73	13C2-PFDA-EIS	515.1 > 469.9	21000.865		1.00	5.09	21000.865	12.500	12.5	100.1	NO		
51	75	13C2-8:2 FTS-EIS	529 > 80	1968.452		1.00	5.06	1968.452	12.500	13.6	108.5	NO		
52	-1													
53	28	PFNS	549 > 80	3190.839	3610.254	1.00	5.15	11.048	9.600	9.04	94.2	NO	2.453	NO
54	29	L-MeFOSAA	570 > 419	4585.037	4735.387	1.00	5.24	12.103	10.000	9.97	99.7	NO	1.825	NO
55	31	L-EtFOSAA	583.9 > 419	5407.196	4302.655	1.00	5.40	15.709	10.000	9.98	99.8	NO	1.417	NO
56	33	PFUdA	563.0 > 519	16620.105	21864.861	1.00	5.41	9.502	10.000	9.95	99.5	NO	17.141	NO
57	34	PFDS	598.8 > 79.9	3365.530	3610.254	1.00	5.46	11.653	9.640	9.67	100.3	NO	2.163	NO
58	35	11Cl-PF30UdS	631 > 451	4716.181	24389.789	1.00	5.62	2.417	9.440	9.32	98.7	NO	13.884	NO
59	71	13C8-PFOS-EIS	507.1 > 80	3610.254		1.00	4.80	3610.254	12.500	12.9	103.6	NO		
60	77	d3-N-MeFOSAA-EIS	573.1 > 419	4735.387		1.00	5.24	4735.387	12.500	12.7	101.9	NO		
61	81	d5-N-EtFOSAA-EIS	589.3 > 419	4302.655		1.00	5.39	4302.655	12.500	12.0	95.6	NO		
62	79	13C2-PFUdA-EIS	565 > 519.8	21864.861		1.00	5.41	21864.861	12.500	12.7	101.7	NO		
63	71	13C8-PFOS-EIS	507.1 > 80	3610.254		1.00	4.80	3610.254	12.500	12.9	103.6	NO		
64	83	13C2-PFDoA-EIS	614.9 > 569.9	24389.789		1.00	5.69	24389.789	12.500	12.9	103.3	NO		
65	-1													
66	36	10:2 FTS	626.9 > 607		1263.112	1.00			10.000		(A)	NO		YES
67	37	PFDoA	612.9 > 569.0	16664.564	24389.789	1.00	5.69	8.541	10.000	9.50	95.0	NO	10.261	NO
68	38	N-MeFOSA	512.1 > 168.9		22943.932	1.00			9.600		(A)	NO		YES
69	39	PFTrDA	662.9 > 618.9	20393.447	24389.789	1.00	5.94	10.452	10.000	9.92	99.2	NO	114.941	YES
70	40	PFDoS	699 > 80		26374.061	1.00			10.000		(A)	NO		YES
71	41	PFTeDA	713.0 > 669.0	12292.354	26374.061	1.00	6.14	5.826	10.000	10.1	101.3	NO	13.891	NO
72	85	13C2-10:2 FTS-EIS	632.9 > 80.0	1263.112		1.00	5.68	1263.112	12.500	12.1	96.9	NO		

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Name: 200715P1-16, Date: 15-Jul-2020, Time: 14:16:27, ID: ICV200715P1-1 PFC ICV 20F1911, Description: PFC ICV 20F1911

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Std. Conc	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
73	83	13C2-PFDoA-EIS	614.9 > 569.9	24389.789		1.00	5.69	24389.789	12.500	12.9	103.3	NO		
74	87	d3-N-MeFOSA-EIS	515.2 > 168.9	22943.932		1.00	5.72	22943.932	149.200	150	100.8	NO		
75	83	13C2-PFDoA-EIS	614.9 > 569.9	24389.789		1.00	5.69	24389.789	12.500	12.9	103.3	NO		
76	89	13C2-PFTeDA-EIS	715.1 > 669.7	26374.061		1.00	6.14	26374.061	12.500	13.9	111.4	NO		
77	89	13C2-PFTeDA-EIS	715.1 > 669.7	26374.061		1.00	6.14	26374.061	12.500	13.9	111.4	NO		
78	-1													
79	42	N-EtFOSA	526.1 > 168.9		29189.348	1.00			9.600			NO		YES
80	43	PFHxDA	813 > 769		29436.680	1.00			10.000			NO		YES
81	44	PFODA	913.1 > 868.8		29436.680	1.00			10.000			NO		
82	45	N-MeFOSE	616.1 > 58.9		23597.609	1.00			9.600			NO		
83	46	N-EtFOSE	630.1 > 58.9		26533.391	1.00			9.600			NO		
84	48	13C3-PFBA-RSD	216.1 > 171.8	8364.973	8954.581	1.00	1.42	11.677	12.500	12.7	101.7	NO		
85	91	d5-N-ETFOSA-EIS	531.1 > 168.9	29189.348		1.00	6.13	29189.348	149.200	153	102.5	NO		
86	93	13C2-PFHxDA-EIS	815 > 769.7	29436.680		1.00	6.46	29436.680	12.500	12.9	102.8	NO		
87	93	13C2-PFHxDA-EIS	815 > 769.7	29436.680		1.00	6.46	29436.680	12.500	12.9	102.8	NO		
88	95	d7-N-MeFOSE-EIS	623.1 > 58.9	23597.609		1.00	6.29	23597.609	149.200	155	103.6	NO		
89	97	d9-N-EtFOSE-EIS	639.2 > 58.8	26533.391		1.00	6.43	26533.391	149.200	150	100.8	NO		
90	50	13C3-PFPeA-RSD	266.0 > 221.8	14271.676	18826.773	1.00	2.36	9.476	12.500	12.3	98.7	NO		
91	-1													
92	52	13C3-PFBS-RSD	302.0 > 98.9	1746.936	1468.157	1.00	2.64	14.874	12.500	12.0	96.1	NO		
93	54	13C3-HFPO-DA-RSD	287.0 > 168.9	3119.215	18826.773	1.00	3.38	2.071	12.500	12.5	99.9	NO		
94	56	13C2-4:2 FTS-RSD	329.0 >80.8	1869.268	1468.157	1.00	3.08	15.915	12.500	12.1	96.9	NO		
95	58	13C2-PFHxA-RSD	315.0 > 270.0	15417.667	18826.773	1.00	3.16	10.237	12.500	12.4	99.5	NO		
96	60	13C4-PFHpA-RSD	367.2 > 321.8	14201.428	18826.773	1.00	3.76	9.429	12.500	12.2	97.9	NO		
97	62	13C3-PFHxS-RSD	402 > 80	3497.200	1468.157	1.00	3.90	29.775	12.500	12.4	99.2	NO		
98	64	13C2-6:2 FTS-RSD	429.0 >79.7	2356.959	4391.438	1.00	4.22	6.709	12.500	12.7	102.0	NO		
99	66	13C5-PFNA-RSD	468.2 > 422.9	18455.713	20433.566	1.00	4.72	11.290	12.500	12.2	97.6	NO		
100	68	13C8-PFOSA-RSD	506 > 78	7465.645	16878.475	1.00	4.77	5.529	12.500	12.4	98.8	NO		
101	70	13C2-PFOA-RSD	414.9 > 369.7	19628.160	15557.563	1.00	4.28	15.771	12.500	13.2	105.7	NO		
102	72	13C8-PFOS-RSD	507.1 > 80	3610.254	4391.438	1.00	4.80	10.276	12.500	13.2	105.5	NO		
103	74	13C2-PFDA-RSD	515.1 > 469.9	21000.865	20792.721	1.00	5.09	12.625	12.500	11.4	91.6	NO		
104	-1													
105	76	13C2-8:2 FTS-RSD	529 > 80	1968.452	4391.438	1.00	5.06	5.603	12.500	12.4	99.0	NO		
106	78	d3-N-MeFOSAA-RSD	573.1 > 419	4735.387	16878.475	1.00	5.24	3.507	12.500	12.6	101.0	NO		
107	80	13C2-PFUdA-RSD	565 > 519.8	21864.861	16878.475	1.00	5.41	16.193	12.500	12.6	100.4	NO		
108	82	d5-N-EtFOSAA-RSD	589.3 > 419	4302.655	16878.475	1.00	5.39	3.186	12.500	12.9	103.3	NO		

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Name: 200715P1-16, Date: 15-Jul-2020, Time: 14:16:27, ID: ICV200715P1-1 PFC ICV 20F1911, Description: PFC ICV 20F1911

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Std. Conc	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
109	84	13C2-PFDoA-RSD	614.9 > 569.9	24389.789	20792.721	1.00	5.69	14.662	12.500	11.9	95.2	NO		
110	86	13C2-10:2 FTS-RSD	632.9 > 80.0	1263.112	4391.438	1.00	5.68	3.595	12.500	12.1	96.9	NO		
111	88	d3-N-MeFOSA-RSD	515.2 > 168.9	22943.932	16878.475	1.00	5.72	16.992	149.200	143	95.5	NO		
112	90	13C2-PFTeDA-RSD	715.1 > 669.7	26374.061	16878.475	1.00	6.14	19.532	12.500	13.1	105.0	NO		
113	92	d5-N-ETFOSA-RSD	531.1 > 168.9	29189.348	16878.475	1.00	6.13	21.617	149.200	152	102.2	NO		
114	94	13C2-PFHxDA-RSD	815 > 769.7	29436.680	16878.475	1.00	6.46	21.800	12.500	12.4	99.4	NO		
115	96	d7-N-MeFOSE-RSD	623.1 > 58.9	23597.609	16878.475	1.00	6.29	17.476	149.200	145	97.3	NO		
116	98	d9-N-EtFOSE-RSD	639.2 > 58.8	26533.391	16878.475	1.00	6.43	19.650	149.200	144	96.2	NO		
117	-1													
118	99	13C4-PFBA	217.0 > 172.0	8954.581	8954.581	1.00	1.42	12.500	12.500	12.5	100.0	NO		
119	1...	13C5-PFHxA	318.0 > 272.9	18826.773	18826.773	1.00	3.16	12.500	12.500	12.5	100.0	NO		
120	1...	13C8-PFOA	420.9 > 376.0	15557.563	15557.563	1.00	4.28	12.500	12.500	12.5	100.0	NO		
121	1...	18O2-PFHxS	403.0 > 103	1468.157	1468.157	1.00	3.91	12.500	12.500	12.5	100.0	NO		
122	1...	13C9-PFNA	472.2 > 426.9	20433.566	20433.566	1.00	4.72	12.500	12.500	12.5	100.0	NO		
123	1...	13C4-PFOS	503 > 79.7	4391.438	4391.438	1.00	4.80	12.500	12.500	12.5	100.0	NO		
124	1...	13C6-PFDA	519.1 > 473.7	20792.721	20792.721	1.00	5.09	12.500	12.500	12.5	100.0	NO		
125	1...	13C7-PFUdA	570.1 > 524.8	16878.475	16878.475	1.00	5.41	12.500	12.500			NO		

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Name: 200715P1-16, Date: 15-Jul-2020, Time: 14:16:27, ID: ICV200715P1-1 PFC ICV 20F1911, Description: PFC ICV 20F1911

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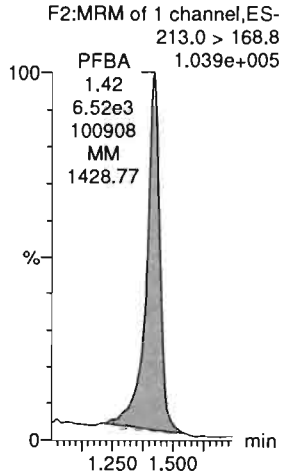

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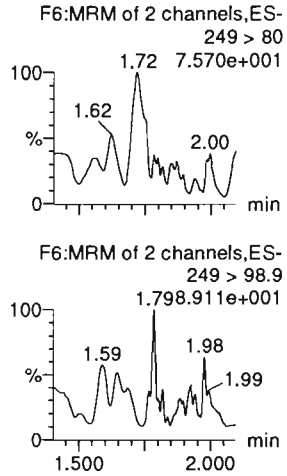
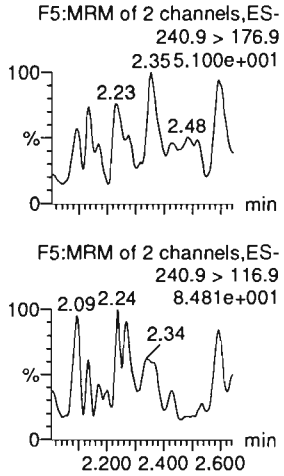


3:3 FTCA



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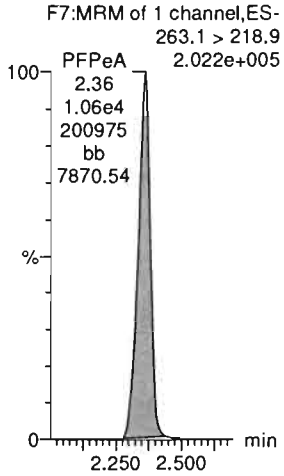

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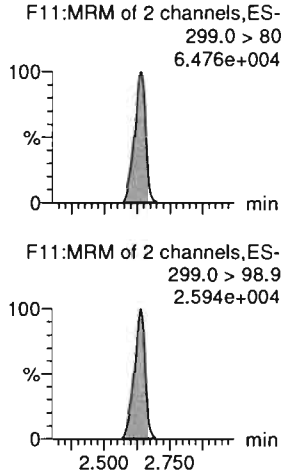
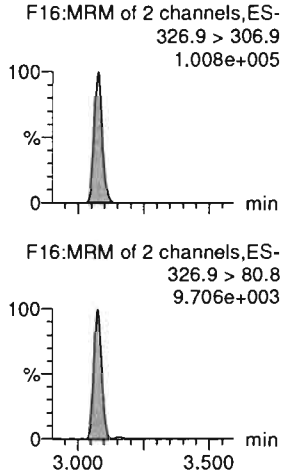


4:2 FTS



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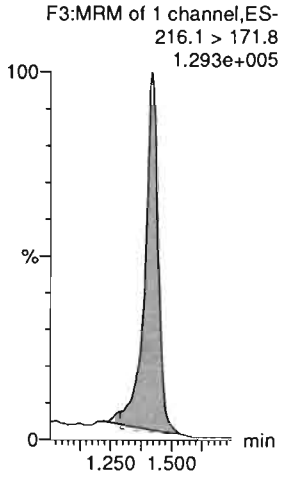

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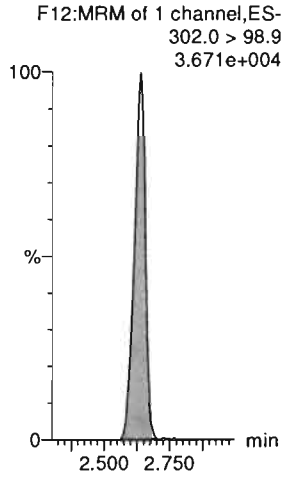

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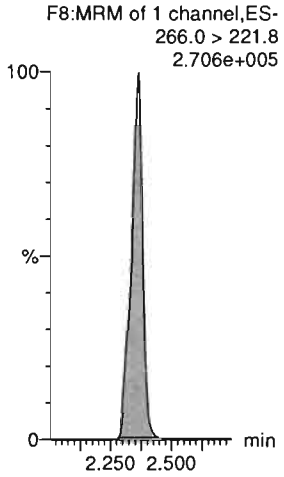

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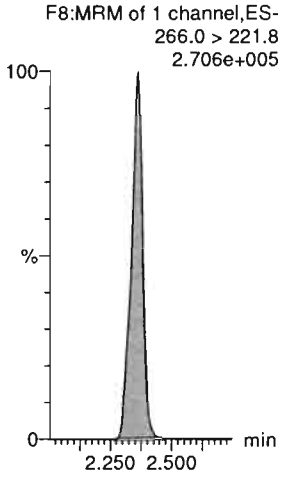

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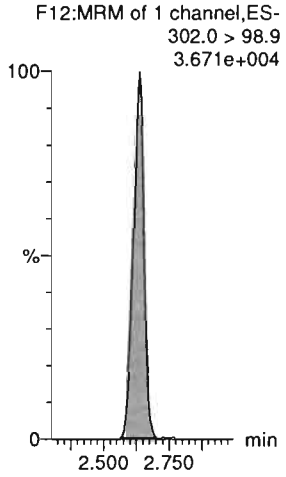

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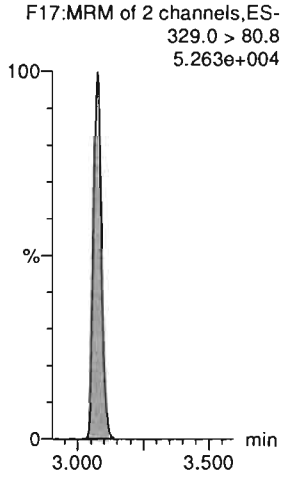

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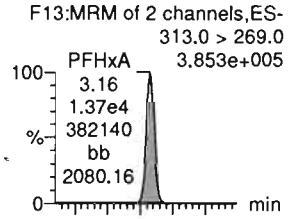
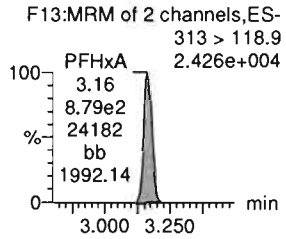
PFHxA





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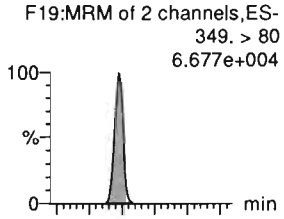

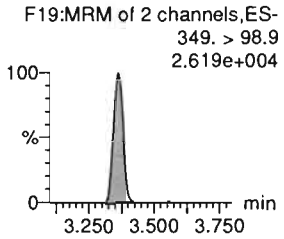

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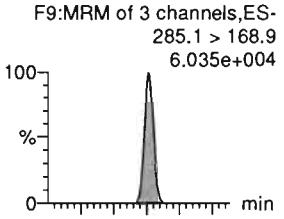
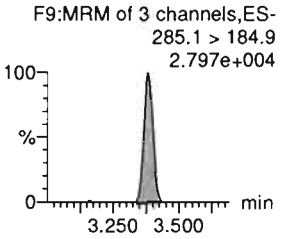
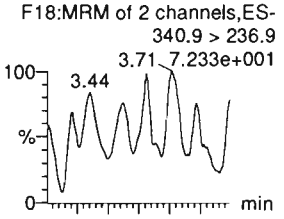
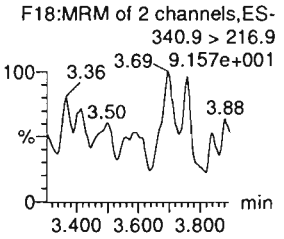


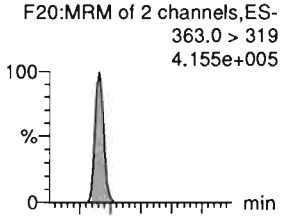


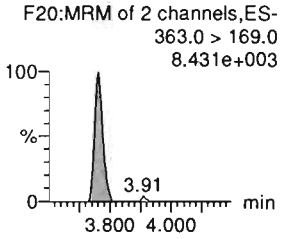
5:3 FTCA





PFHpA





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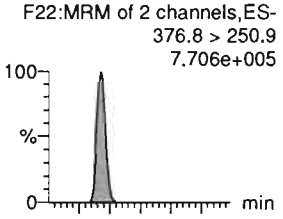
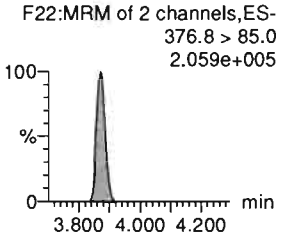
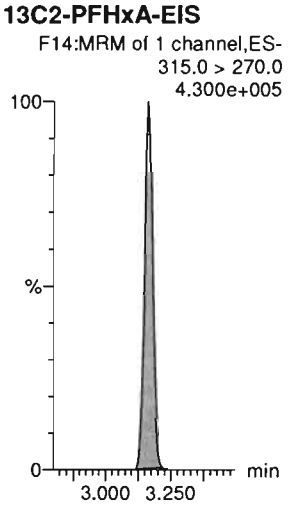




13C2-PFHxA-EIS



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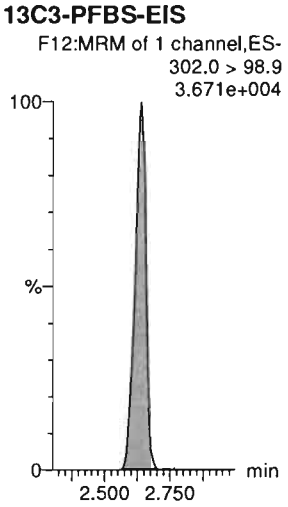

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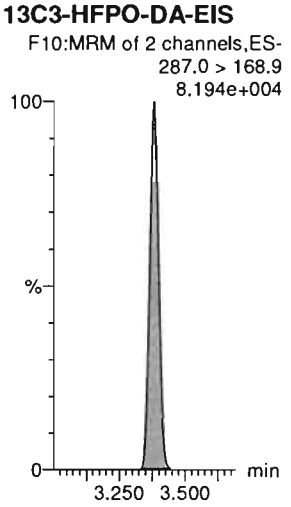

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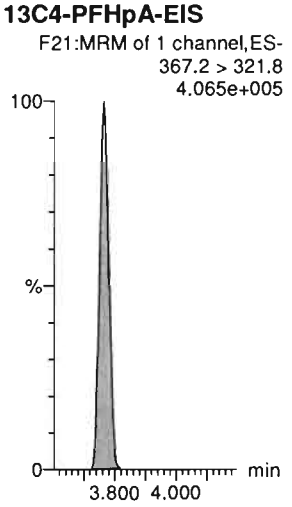

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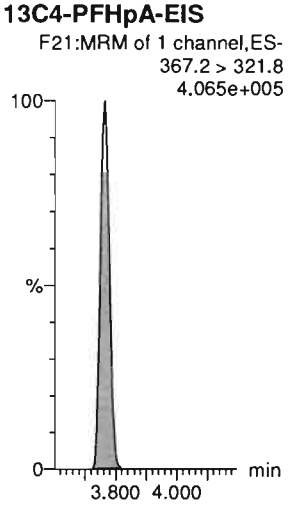

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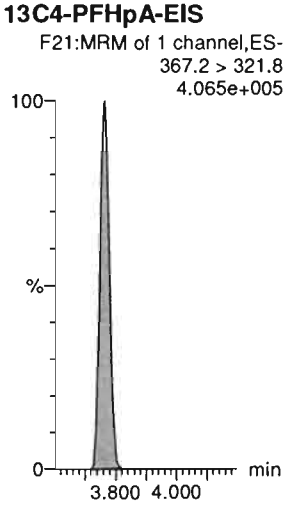

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Name: 200715P1-16, Date: 15-Jul-2020, Time: 14:16:27, ID: ICV200715P1-1 PFC ICV 20F1911, Description: PFC ICV 20F1911

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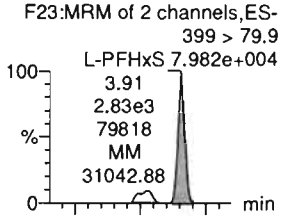

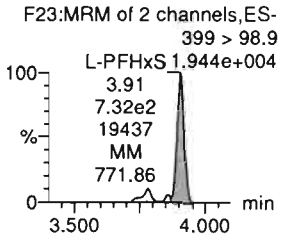

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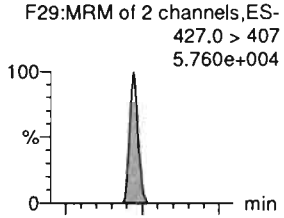

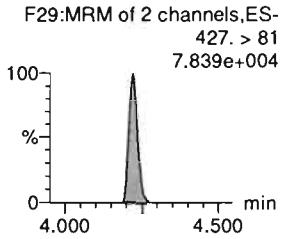

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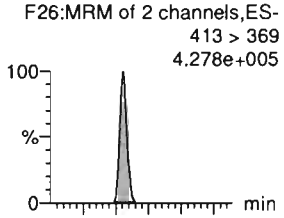

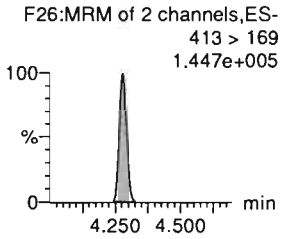

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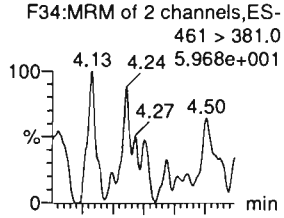

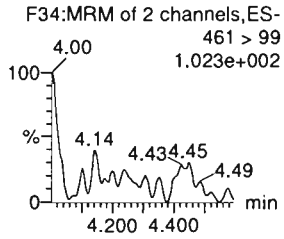

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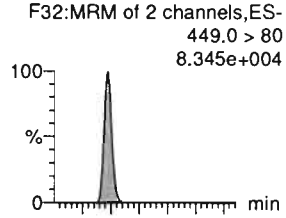

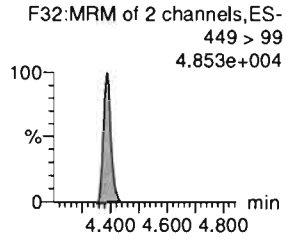

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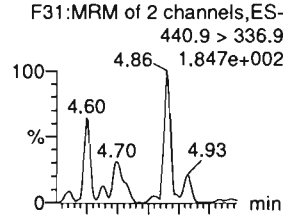

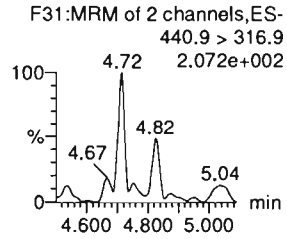

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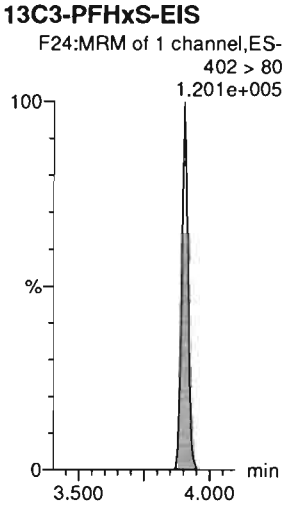

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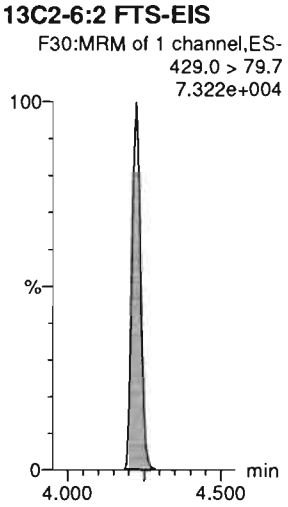

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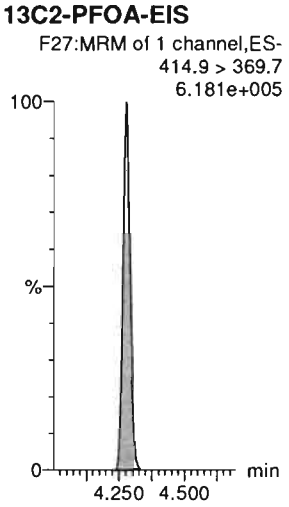

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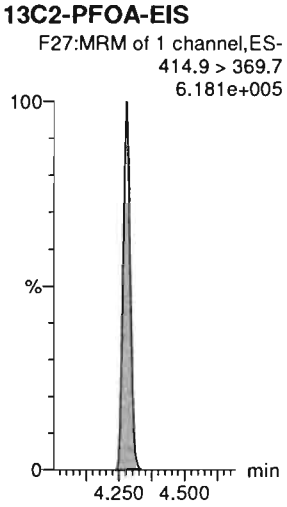

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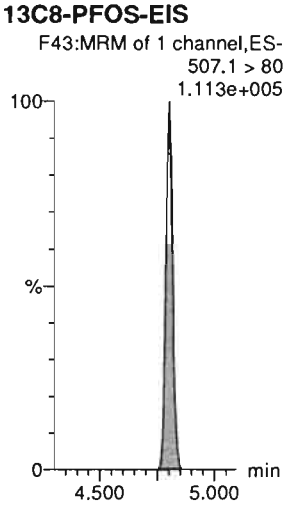

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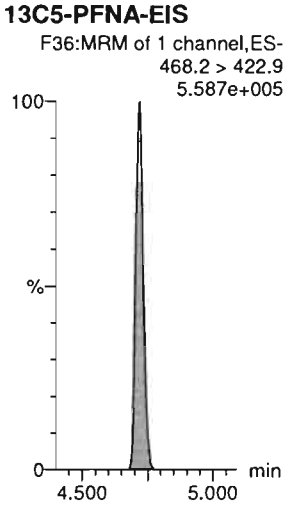

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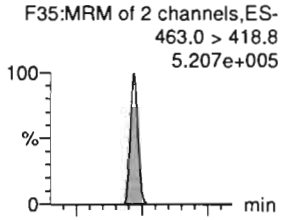

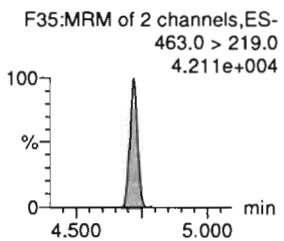

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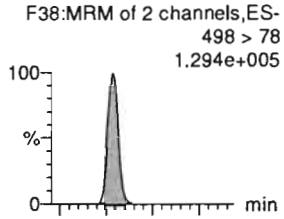

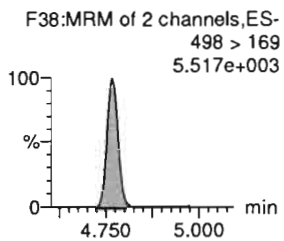

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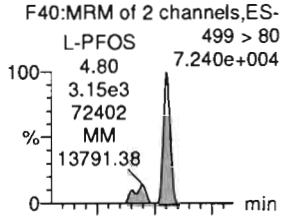

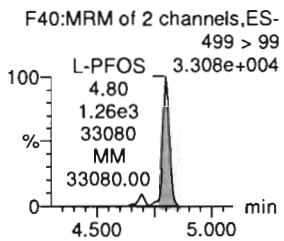

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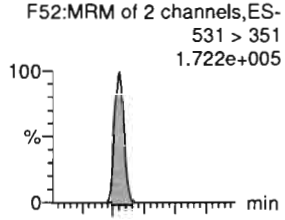

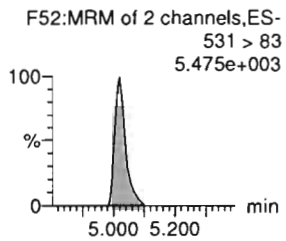

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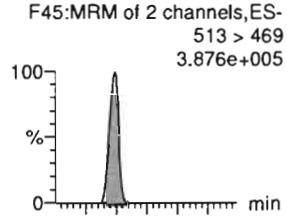

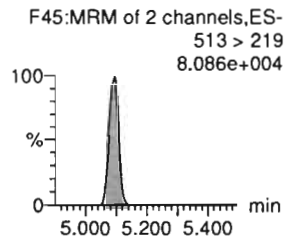

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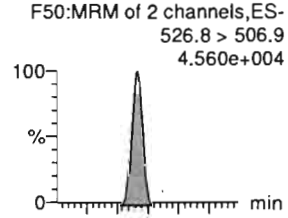

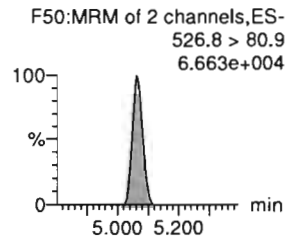

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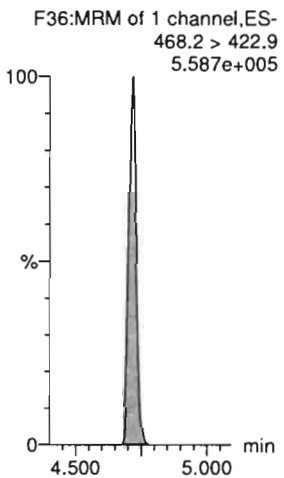

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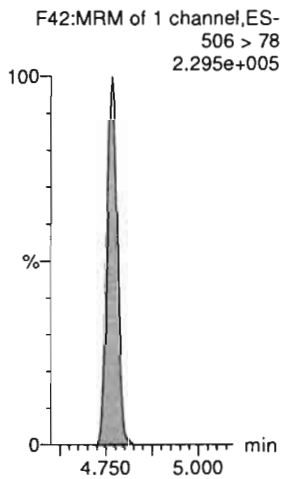

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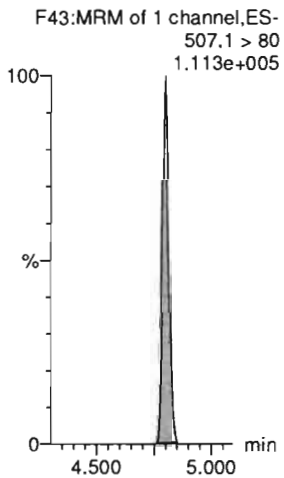

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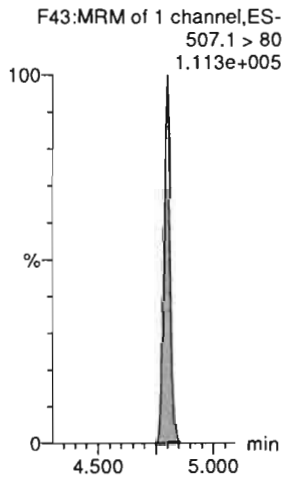

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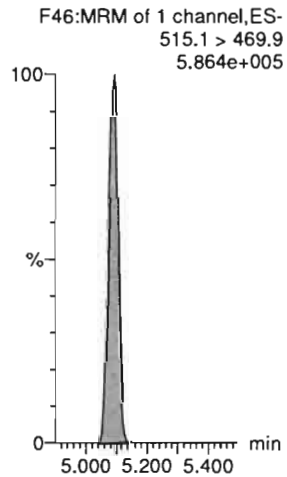

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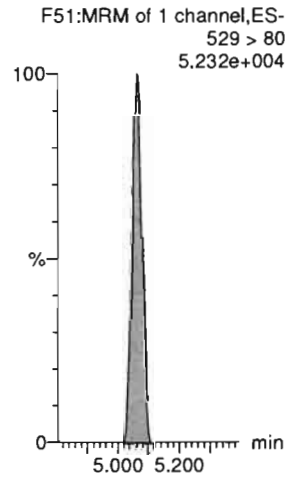

OPV 7/16/2020

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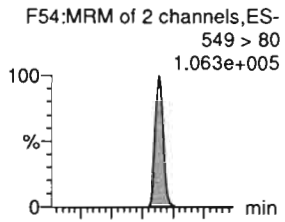

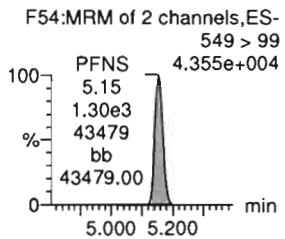

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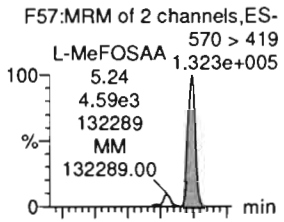

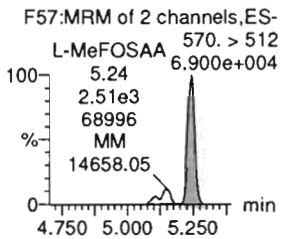

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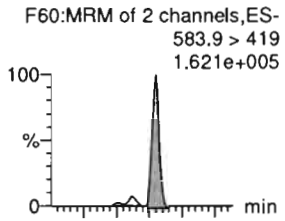

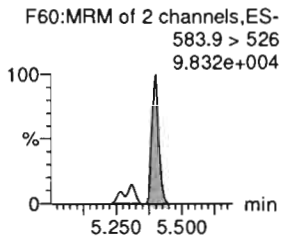

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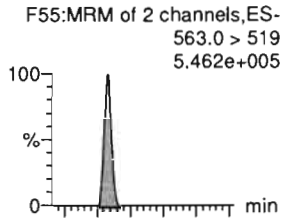

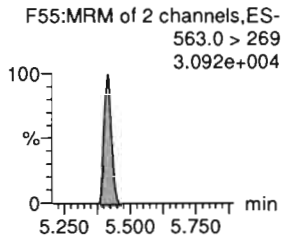

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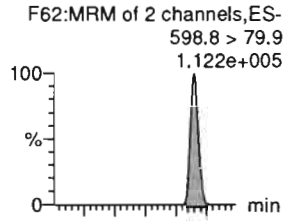
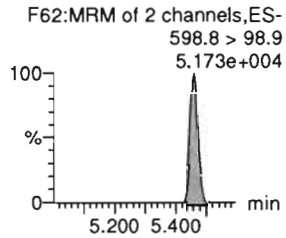
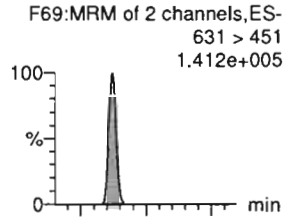
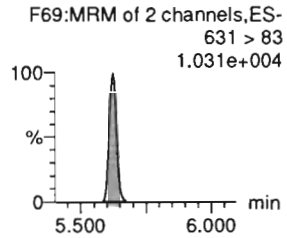


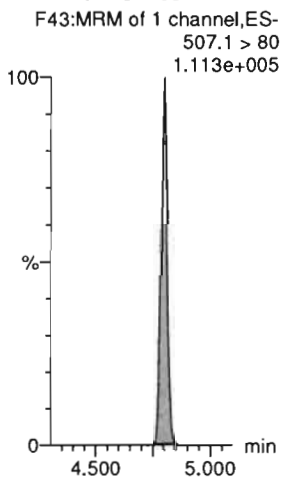


11Cl-PF30UdS

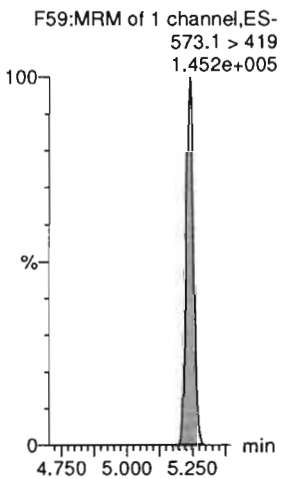




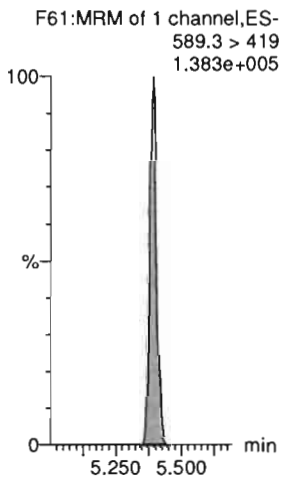
13C8-PFOS-EIS



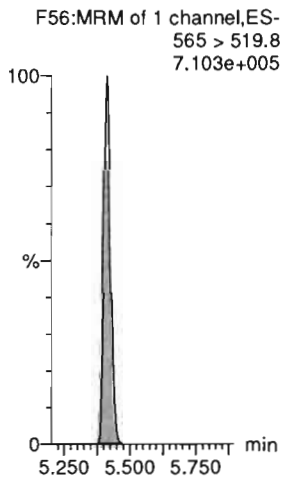
d3-N-MeFOSAA-EIS



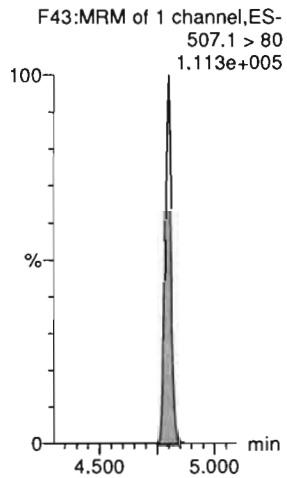
d5-N-EtFOSAA-EIS



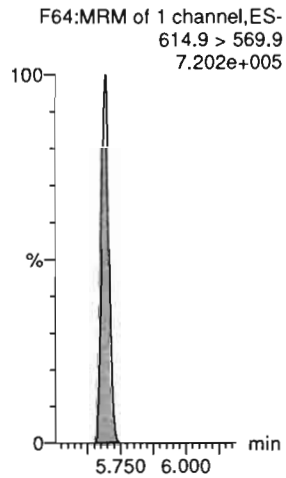
13C2-PFUdA-EIS



13C8-PFOS-EIS



13C2-PFDoA-EIS



Dataset: Z:\PFAS5.PRO\RESULTS\200715P1\200715P1-ICV.qld

Last Altered: Thursday, July 16, 2020 10:45:58 Pacific Daylight Time
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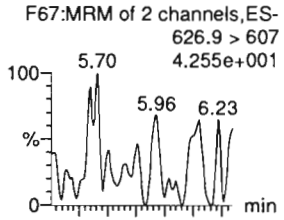
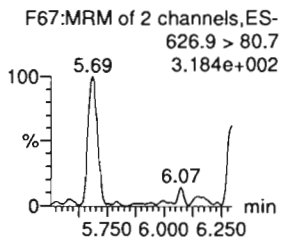
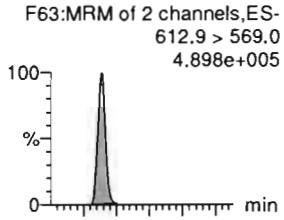
Name: 200715P1-16, Date: 15-Jul-2020, Time: 14:16:27, ID: ICV200715P1-1 PFC ICV 20F1911, Description: PFC ICV 20F1911

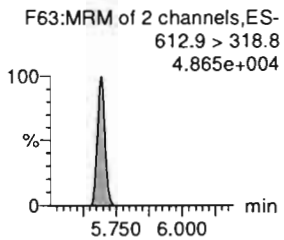
10:2 FTS



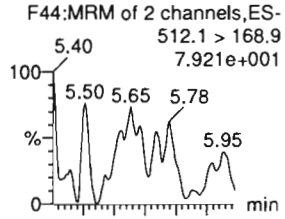


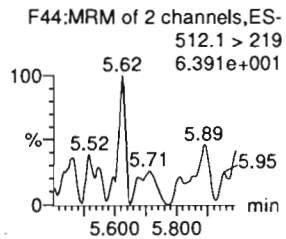
PFDoA



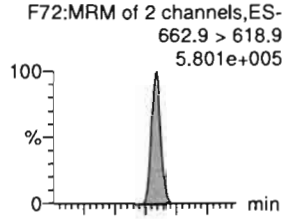


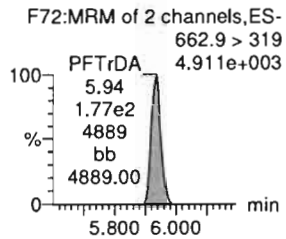
N-MeFOSA



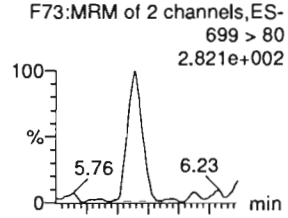


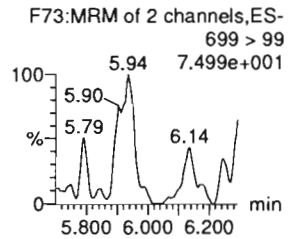
PFTrDA





PFDoS





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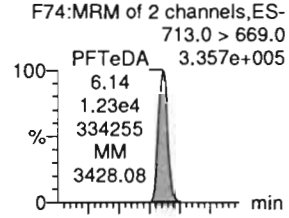
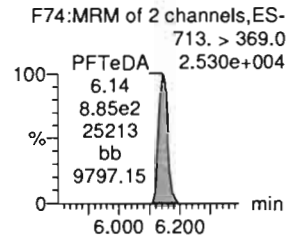
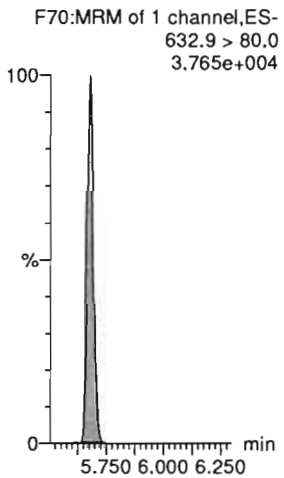
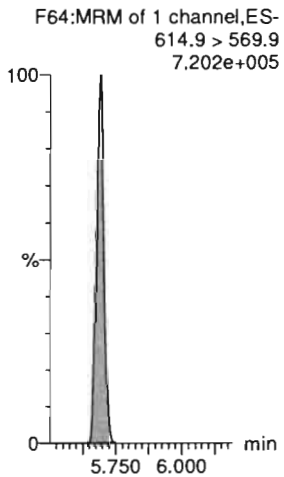




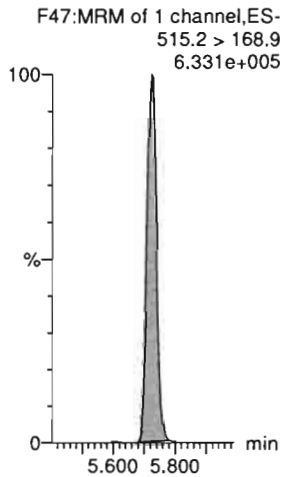
13C2-10:2 FTS-EIS



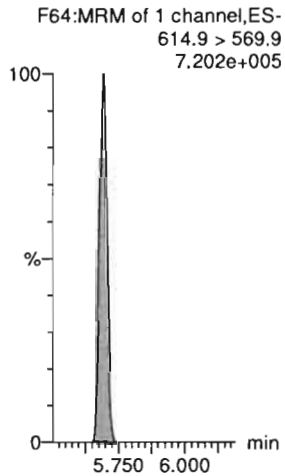
13C2-PFDoA-EIS



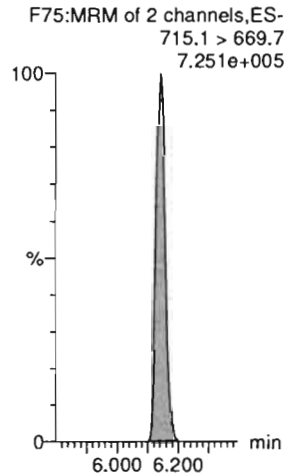
d3-N-MeFOSA-EIS



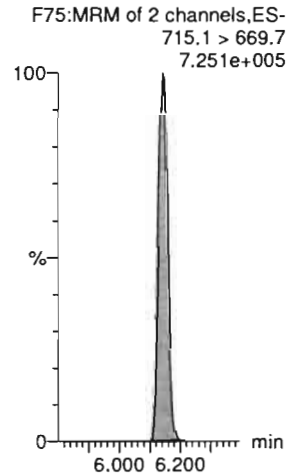
13C2-PFDoA-EIS



13C2-PFTeDA-EIS



13C2-PFTeDA-EIS



QPV 7/16/2020

Dataset: Z:\PFAS5.PRO\RESULTS\200715P1\200715P1-ICV.qld

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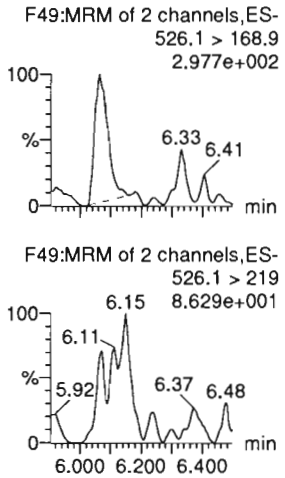
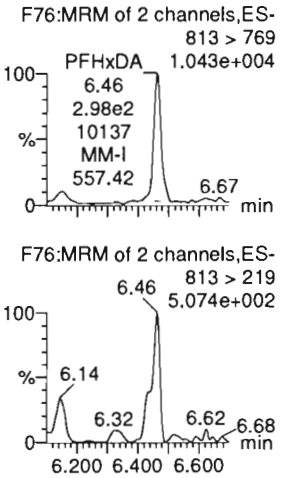
Name: 200715P1-16, Date: 15-Jul-2020, Time: 14:16:27, ID: ICV200715P1-1 PFC ICV 20F1911, Description: PFC ICV 20F1911

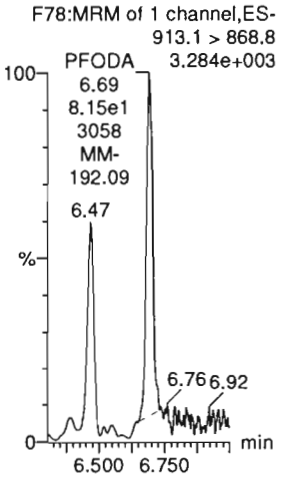
N-EtFOSA



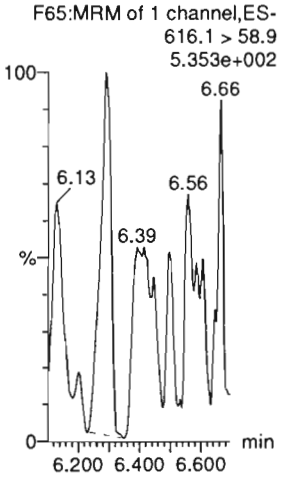
PFHxDA



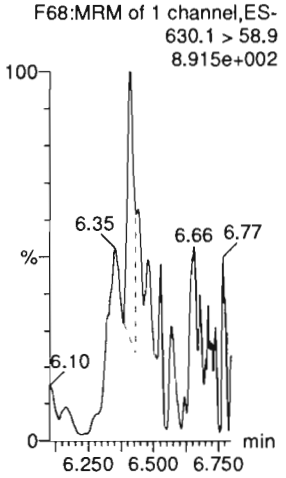
PFODA



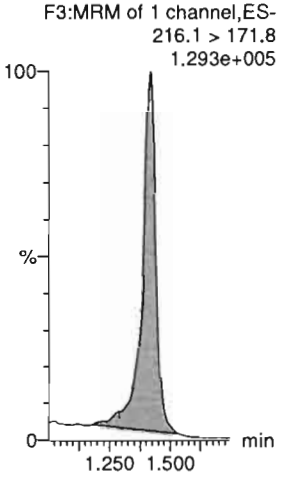
N-MeFOSE



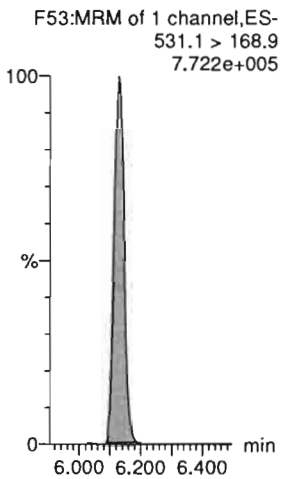
N-EtFOSE



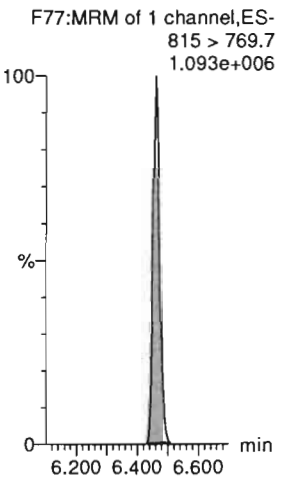
13C3-PFBA-RSD



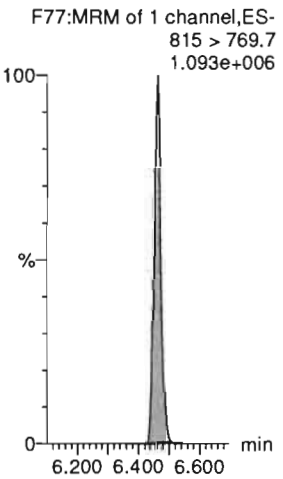
d5-N-ETFOSA-EIS



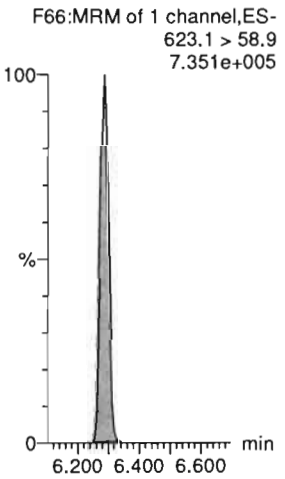
13C2-PFHxDA-EIS



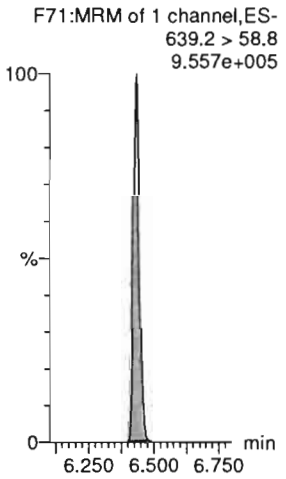
13C2-PFHxDA-EIS



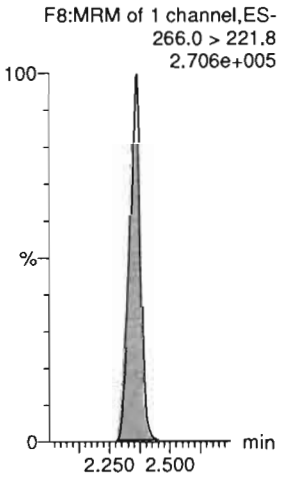
d7-N-MeFOSE-EIS



d9-N-EtFOSE-EIS



13C3-PFPeA-RSD



Dataset: Z:\PFAS5.PRO\RESULTS\200715P1\200715P1-ICV.qld

Last Altered: Thursday, July 16, 2020 10:45:58 Pacific Daylight Time
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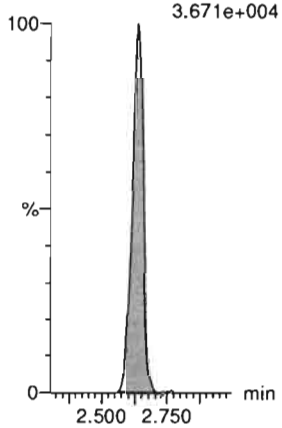
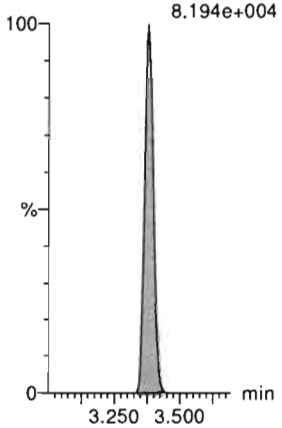
Name: 200715P1-16, Date: 15-Jul-2020, Time: 14:16:27, ID: ICV200715P1-1 PFC ICV 20F1911, Description: PFC ICV 20F1911

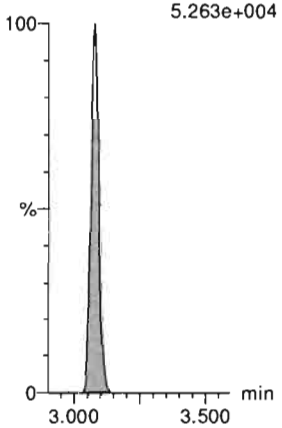
13C3-PFBS-RSD
F12:MRM of 1 channel,ES-
302.0 > 98.9
3.671e+004



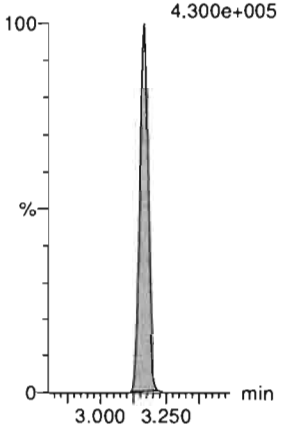
13C3-HFPO-DA-RSD
F10:MRM of 2 channels,ES-
287.0 > 168.9
8.194e+004



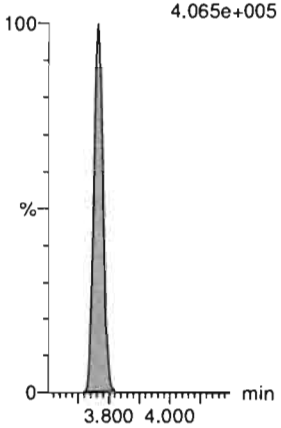
13C2-4:2 FTS-RSD
F17:MRM of 2 channels,ES-
329.0 > 80.8
5.263e+004



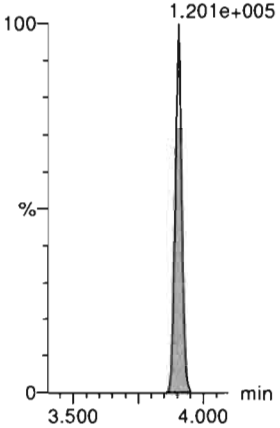
13C2-PFHxA-RSD
F14:MRM of 1 channel,ES-
315.0 > 270.0
4.300e+005



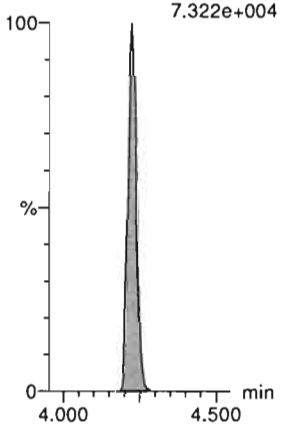
13C4-PFHpA-RSD
F21:MRM of 1 channel,ES-
367.2 > 321.8
4.065e+005



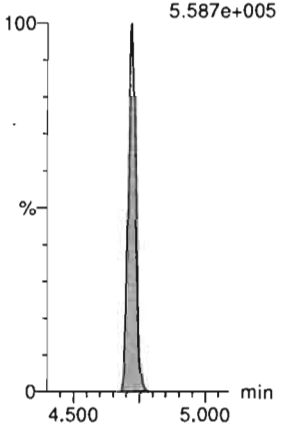
13C3-PFHxS-RSD
F24:MRM of 1 channel,ES-
402 > 80
1.201e+005



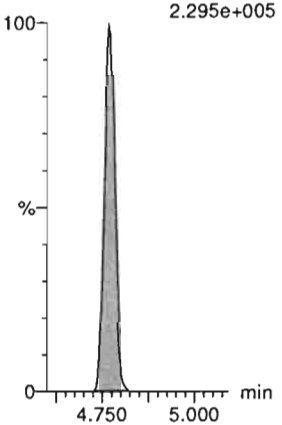
13C2-6:2 FTS-RSD
F30:MRM of 1 channel,ES-
429.0 > 79.7
7.322e+004



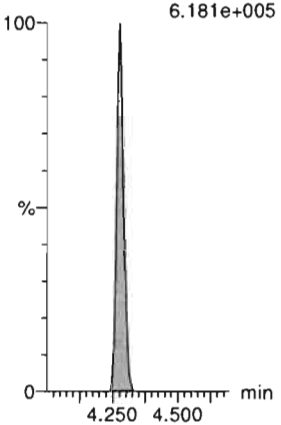
13C5-PFNA-RSD
F36:MRM of 1 channel,ES-
468.2 > 422.9
5.587e+005



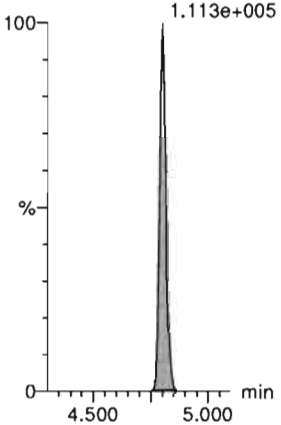
13C8-PFOSA-RSD
F42:MRM of 1 channel,ES-
506 > 78
2.295e+005



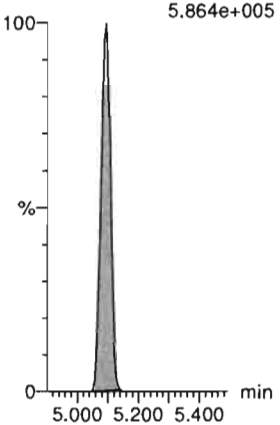
13C2-PFOA-RSD
F27:MRM of 1 channel,ES-
414.9 > 369.7
6.181e+005



13C8-PFOS-RSD
F43:MRM of 1 channel,ES-
507.1 > 80
1.113e+005



13C2-PFDA-RSD
F46:MRM of 1 channel,ES-
515.1 > 469.9
5.864e+005

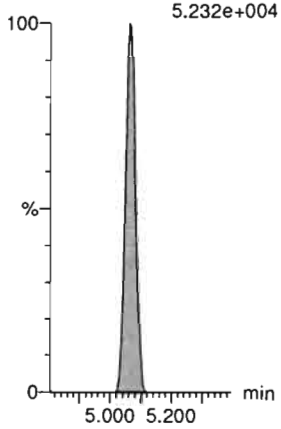


Dataset: Z:\PFAS5.PRO\RESULTS\200715P1\200715P1-ICV.qld

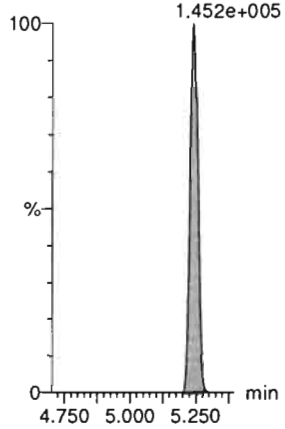
Last Altered: Thursday, July 16, 2020 10:45:58 Pacific Daylight Time
Printed: Thursday, July 16, 2020 10:46:55 Pacific Daylight Time

Name: 200715P1-16, Date: 15-Jul-2020, Time: 14:16:27, ID: ICV200715P1-1 PFC ICV 20F1911, Description: PFC ICV 20F1911

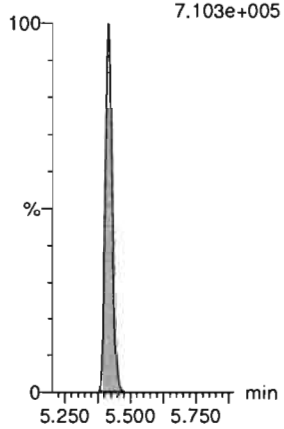
13C2-8:2 FTS-RSD
F51:MRM of 1 channel,ES-
529 > 80
5.232e+004



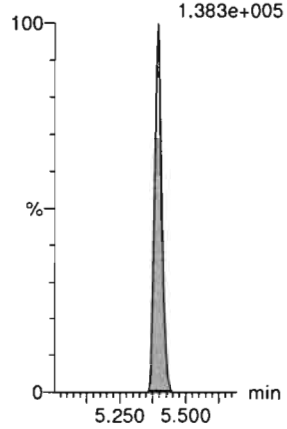
d3-N-MeFOSAA-RSD
F59:MRM of 1 channel,ES-
573.1 > 419
1.452e+005



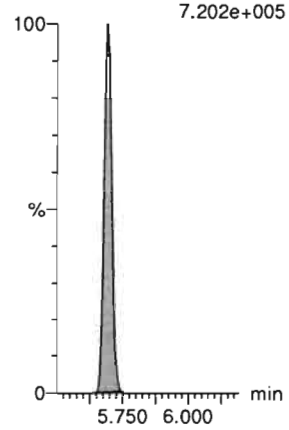
13C2-PFUdA-RSD
F56:MRM of 1 channel,ES-
565 > 519.8
7.103e+005



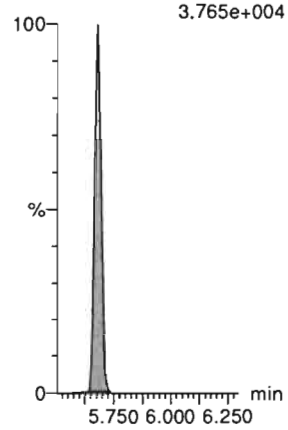
d5-N-EtFOSAA-RSD
F61:MRM of 1 channel,ES-
589.3 > 419
1.383e+005



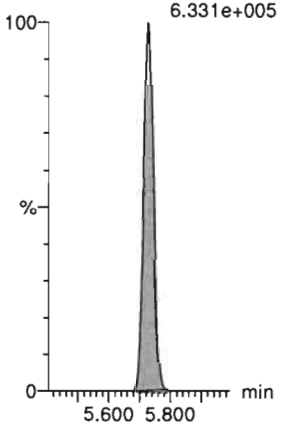
13C2-PFDoA-RSD
F64:MRM of 1 channel,ES-
614.9 > 569.9
7.202e+005



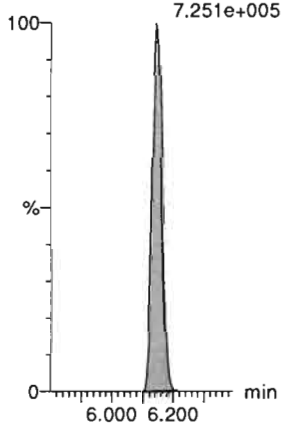
13C2-10:2 FTS-RSD
F70:MRM of 1 channel,ES-
632.9 > 80.0
3.765e+004



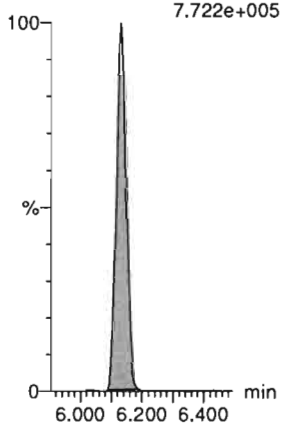
d3-N-MeFOSA-RSD
F47:MRM of 1 channel,ES-
515.2 > 168.9
6.331e+005



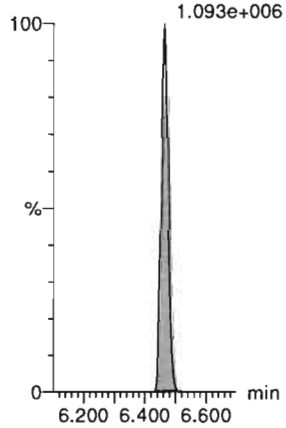
13C2-PFTeDA-RSD
F75:MRM of 2 channels,ES-
715.1 > 669.7
7.251e+005



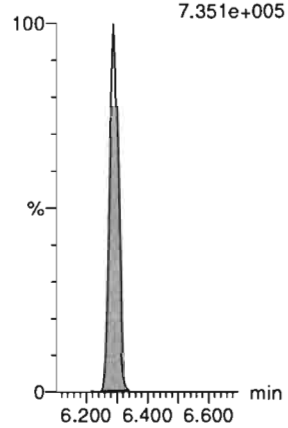
d5-N-ETFOSA-RSD
F53:MRM of 1 channel,ES-
531.1 > 168.9
7.722e+005



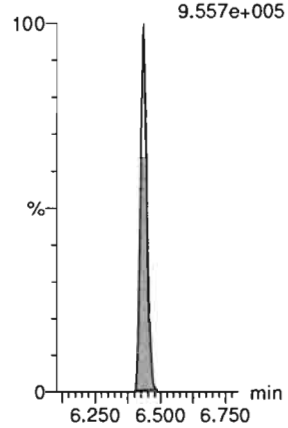
13C2-PFHxDA-RSD
F77:MRM of 1 channel,ES-
815 > 769.7
1.093e+006



d7-N-MeFOSE-RSD
F66:MRM of 1 channel,ES-
623.1 > 58.9
7.351e+005



d9-N-EtFOSE-RSD
F71:MRM of 1 channel,ES-
639.2 > 58.8
9.557e+005

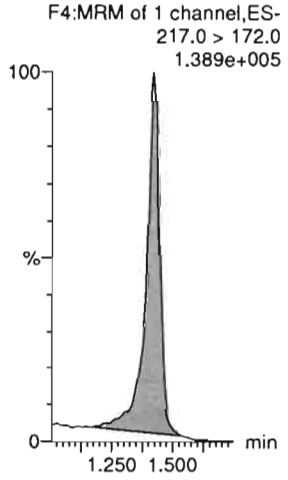


Dataset: Z:\PFAS5.PRO\RESULTS\200715P1\200715P1-ICV.qld

Last Altered: Thursday, July 16, 2020 10:45:58 Pacific Daylight Time
Printed: Thursday, July 16, 2020 10:46:55 Pacific Daylight Time

Name: 200715P1-16, Date: 15-Jul-2020, Time: 14:16:27, ID: ICV200715P1-1 PFC ICV 20F1911, Description: PFC ICV 20F1911

13C4-PFBA



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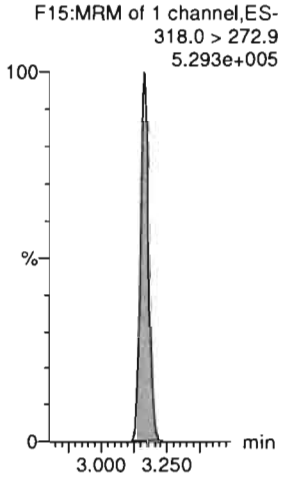

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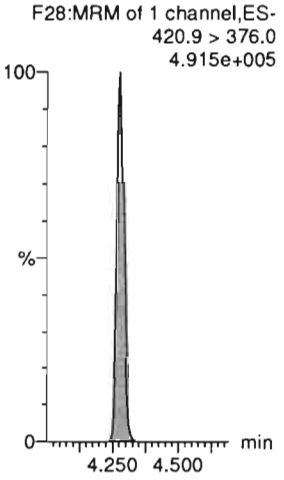

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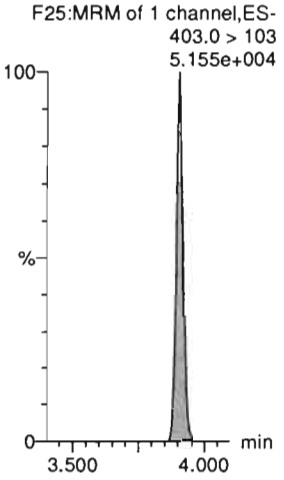
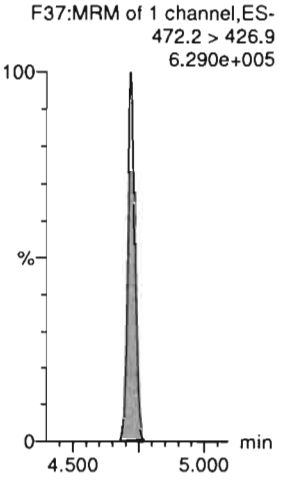
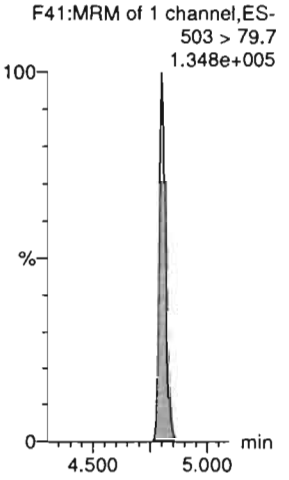


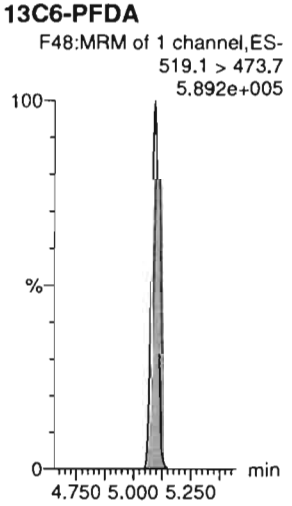
13C9-PFNA



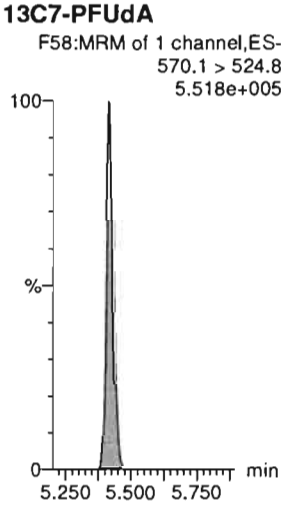
13C4-PFOS



13C6-PFDA



13C7-PFUdA



Vista Analytical Laboratory

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Last Altered: Thursday, July 16, 2020 08:33:14 Pacific Daylight Time
Printed: Thursday, July 16, 2020 08:33:20 Pacific Daylight Time

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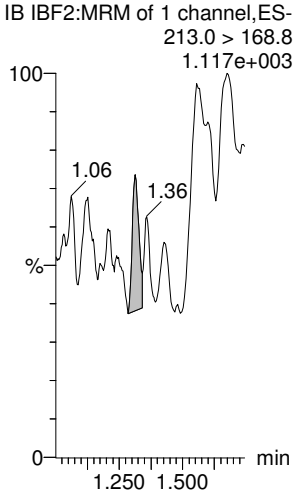
Calibration: D:\PFAS5.PRO\CurveDB\C18_VAL-PFAS_Q5_07-15-20.cdb 16 Jul 2020 08:15:46

Name: 200715P1-15, Date: 15-Jul-2020, Time: 14:05:50, ID: IB, Description: IB

PFBA



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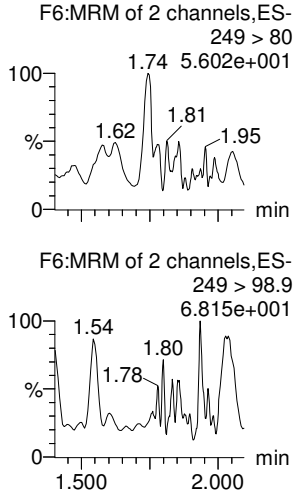
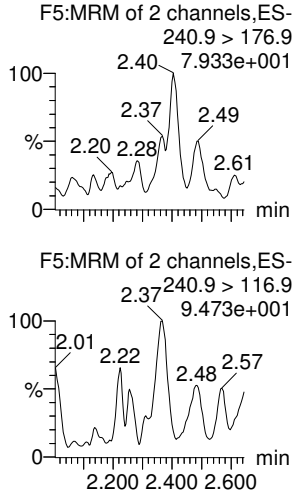
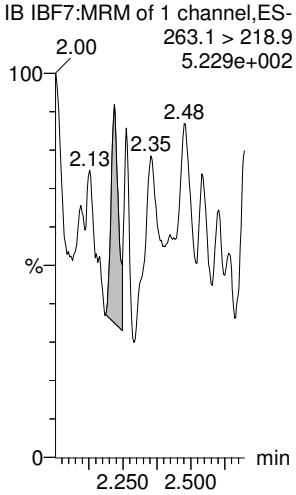


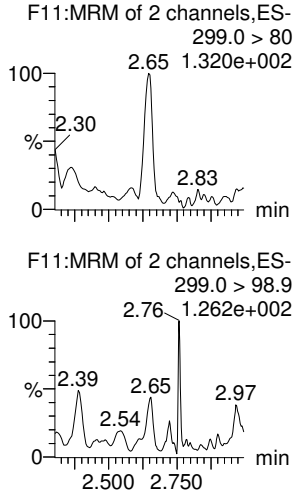
3:3 FTCA



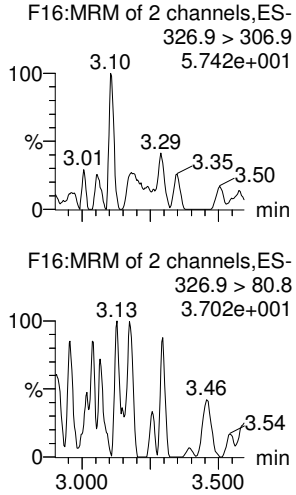
PFPeA



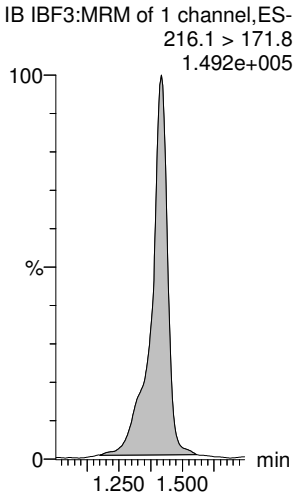
PFBS



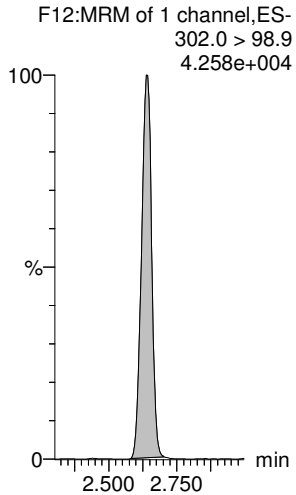
4:2 FTS



13C3-PFBA-EIS



13C3-PFBS-EIS



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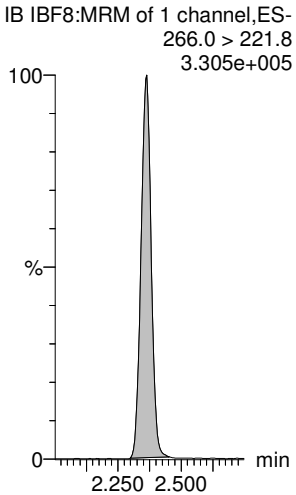

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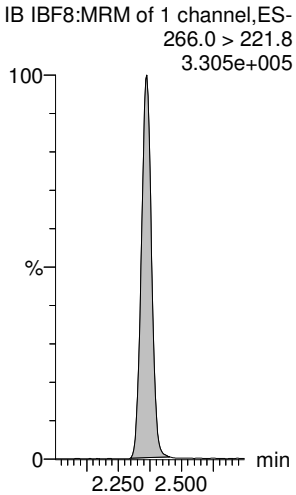

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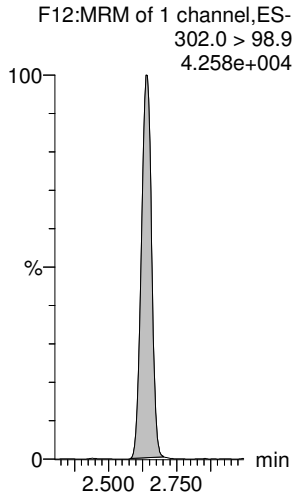
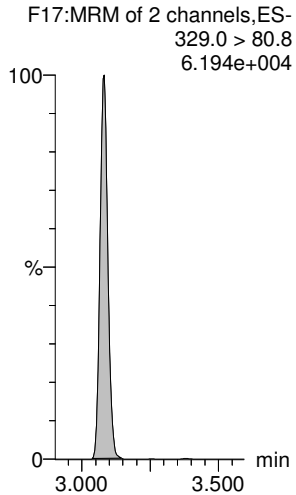


13C2-4:2 FTS-EIS



Vista Analytical Laboratory

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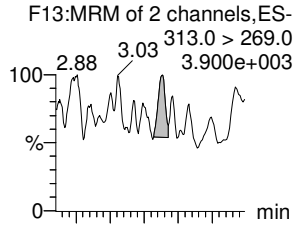
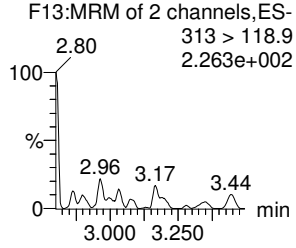
Last Altered: Thursday, July 16, 2020 08:33:14 Pacific Daylight Time
Printed: Thursday, July 16, 2020 08:33:20 Pacific Daylight Time

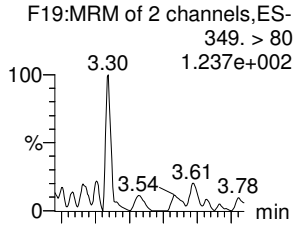
Name: 200715P1-15, Date: 15-Jul-2020, Time: 14:05:50, ID: IB, Description: IB

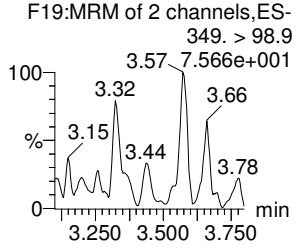
PFHxA



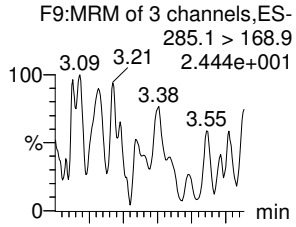


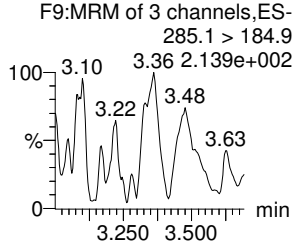
PFPeS



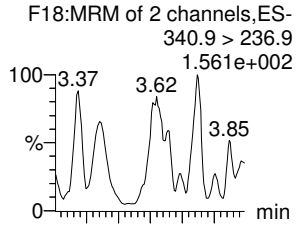


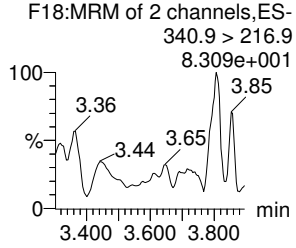
HFPO-DA



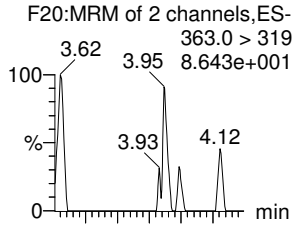


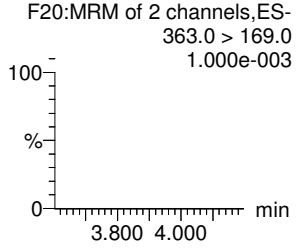
5:3 FTCA



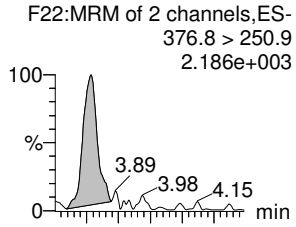


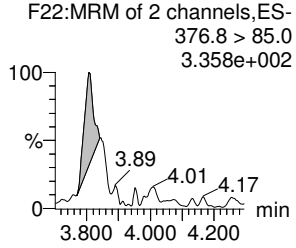
PFHpA





ADONA





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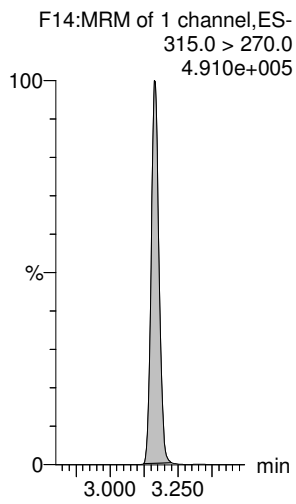
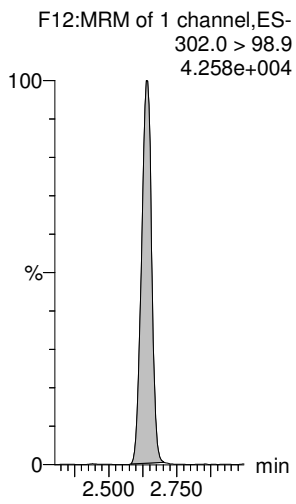
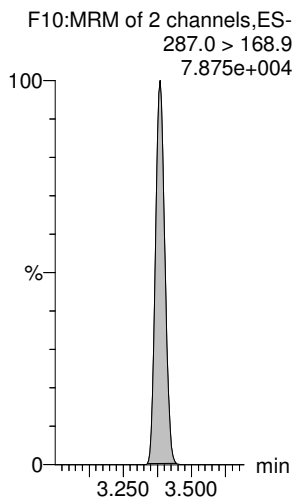


13C3-PFBS-EIS



13C3-HFPO-DA-EIS



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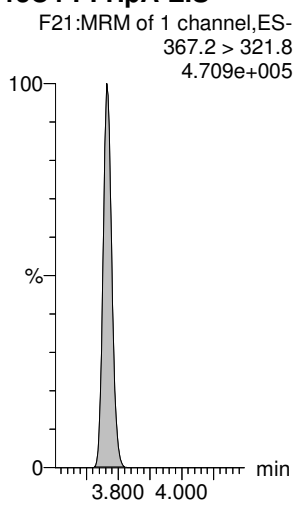

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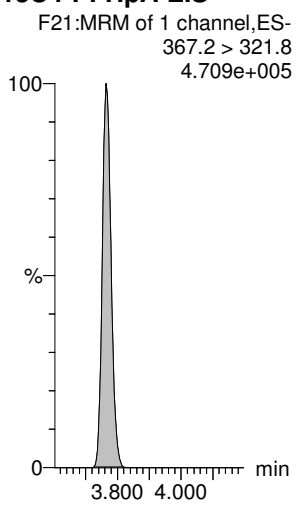

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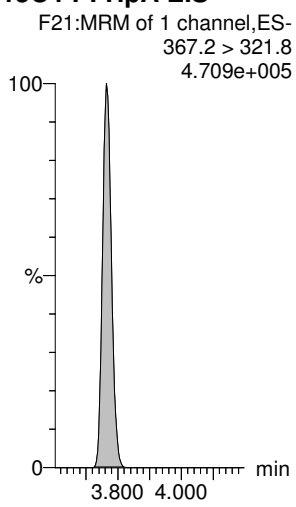

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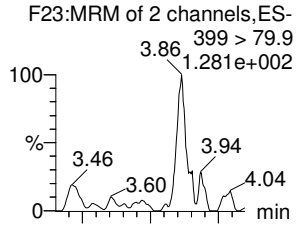
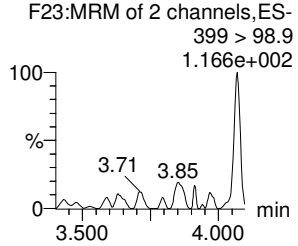
Printed: Thursday, July 16, 2020 08:33:20 Pacific Daylight Time

Name: 200715P1-15, Date: 15-Jul-2020, Time: 14:05:50, ID: IB, Description: IB

L-PFHxS





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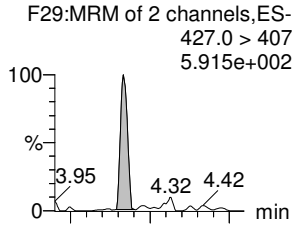

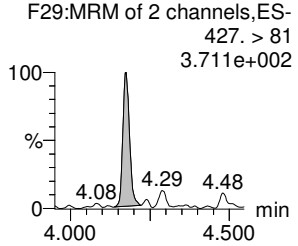

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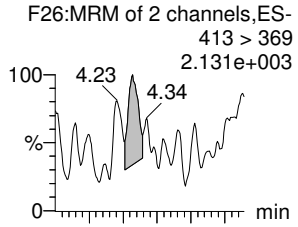

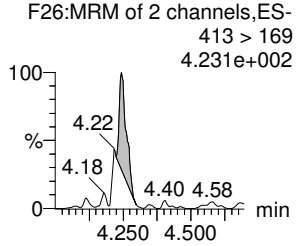

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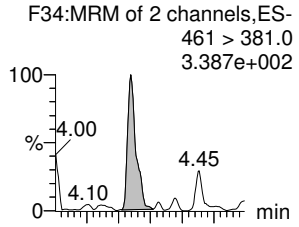

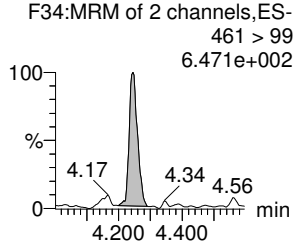

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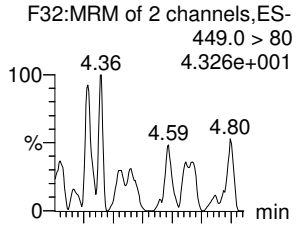

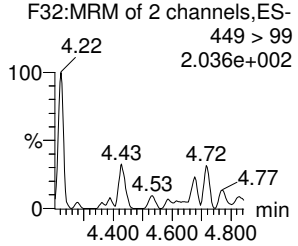

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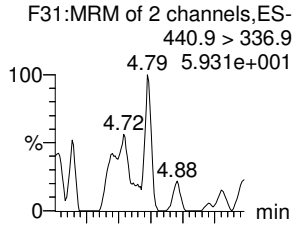
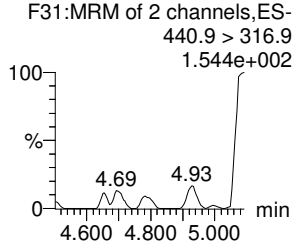
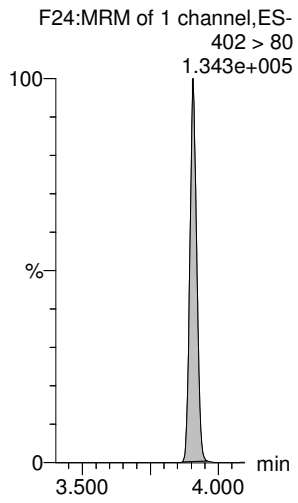




13C3-PFHxS-EIS



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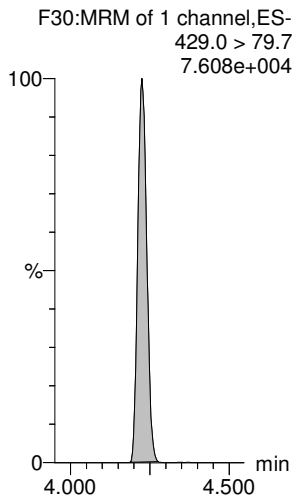

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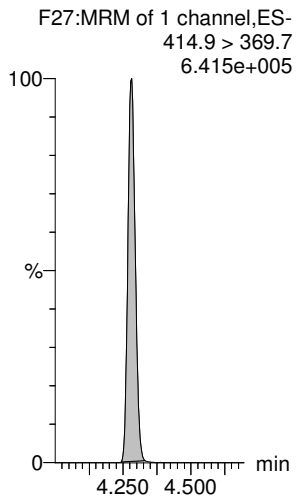

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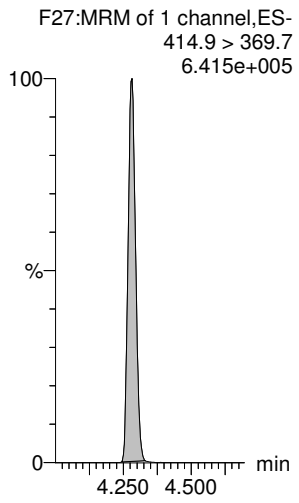
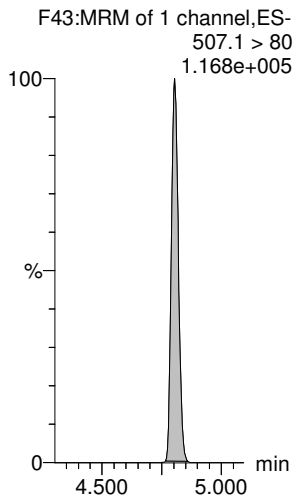


13C8-PFOS-EIS



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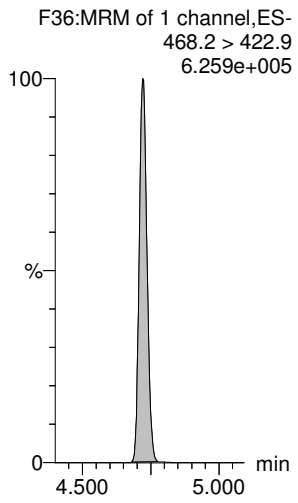

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Name: 200715P1-15, Date: 15-Jul-2020, Time: 14:05:50, ID: IB, Description: IB

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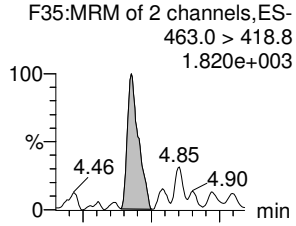

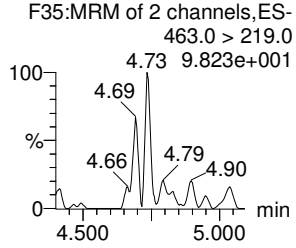

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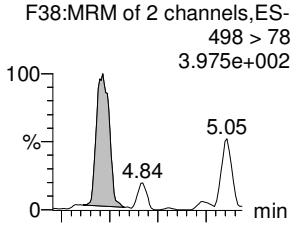

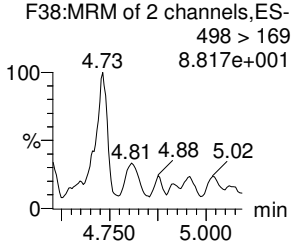

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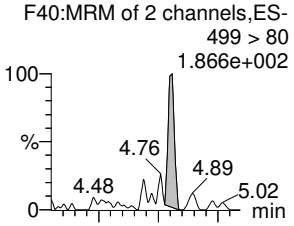

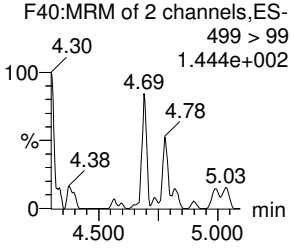

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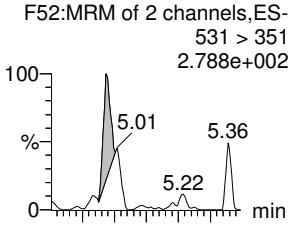

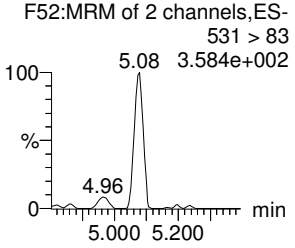

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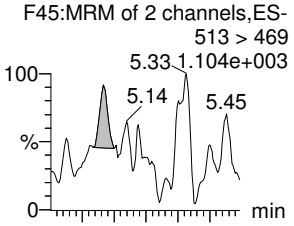

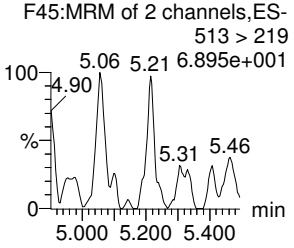

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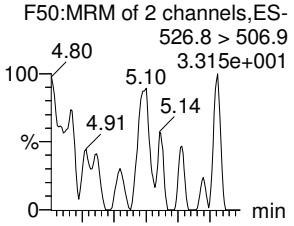

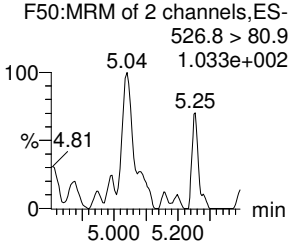

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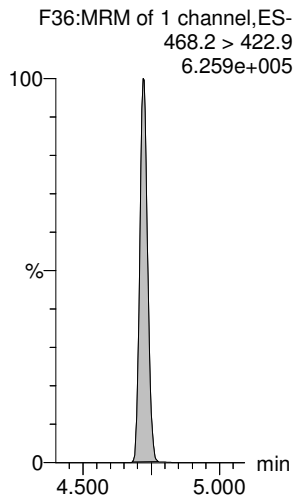

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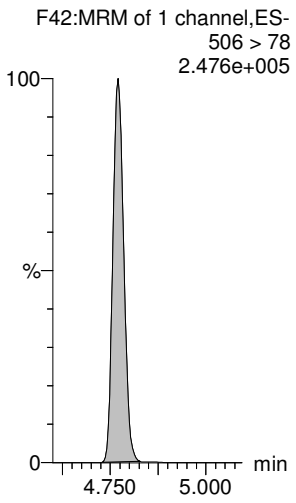

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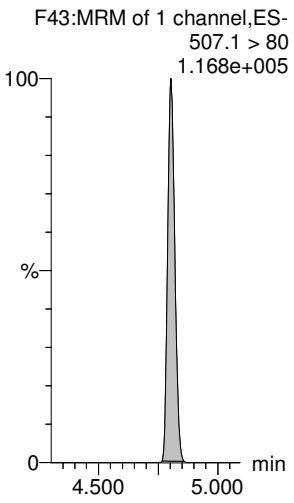

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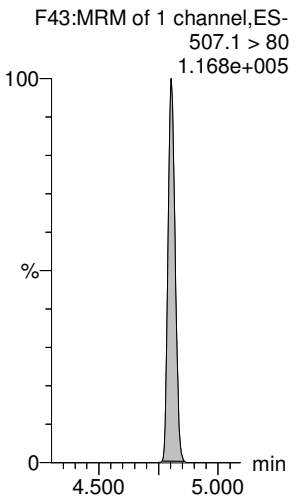

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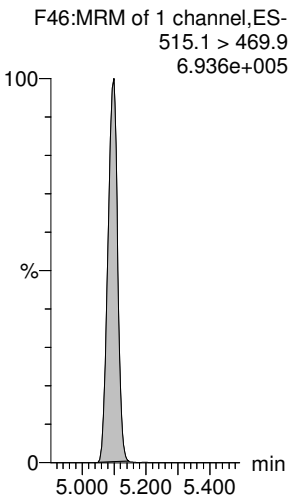

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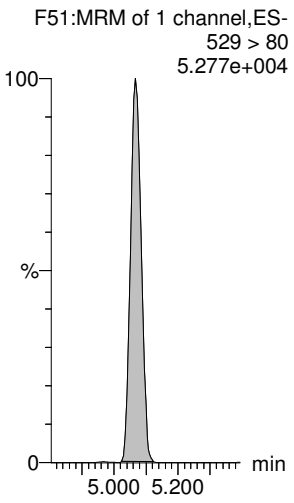

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Name: 200715P1-15, Date: 15-Jul-2020, Time: 14:05:50, ID: IB, Description: IB

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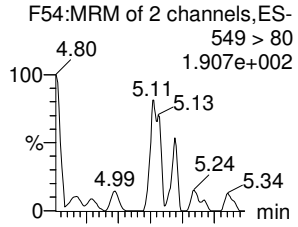

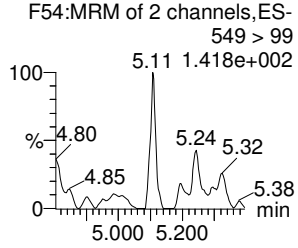

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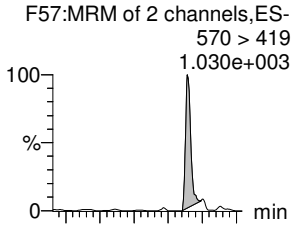

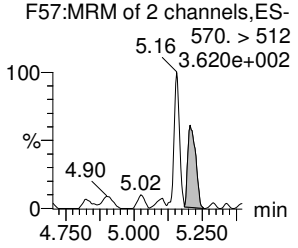

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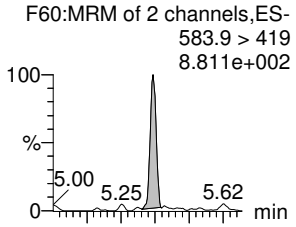

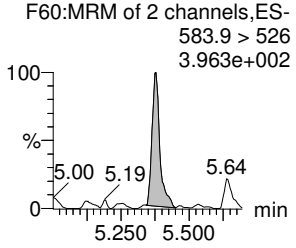

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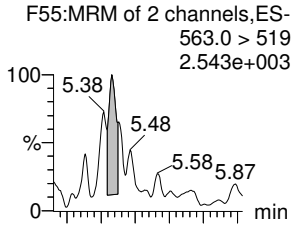

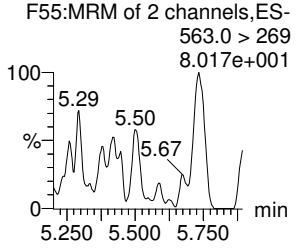

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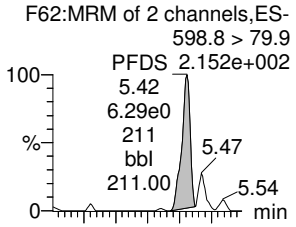

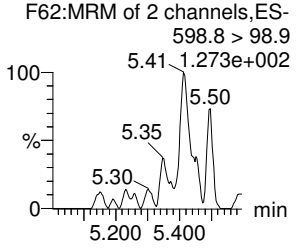

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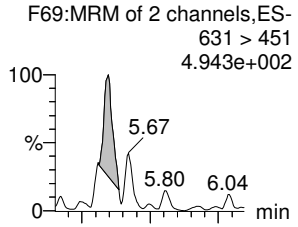

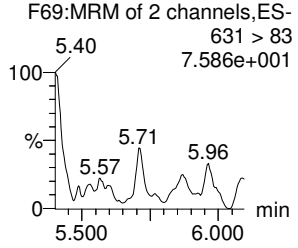

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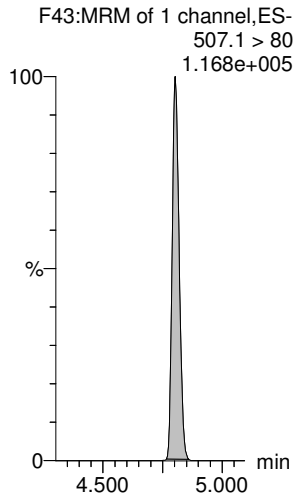
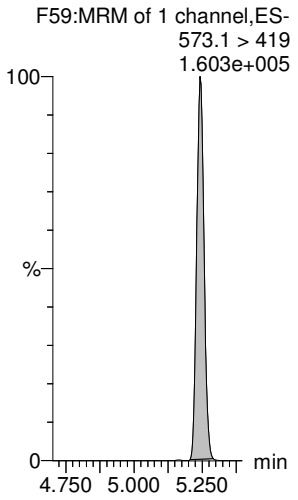


d3-N-MeFOSAA-EIS



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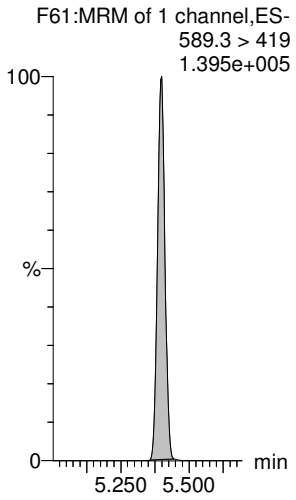

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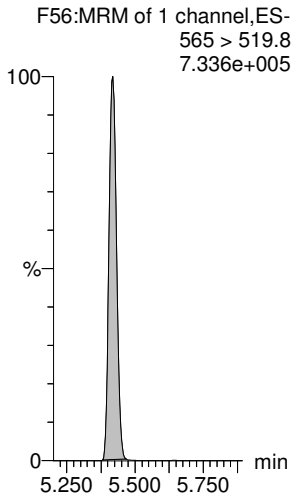

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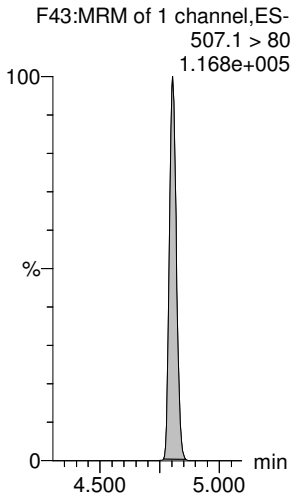

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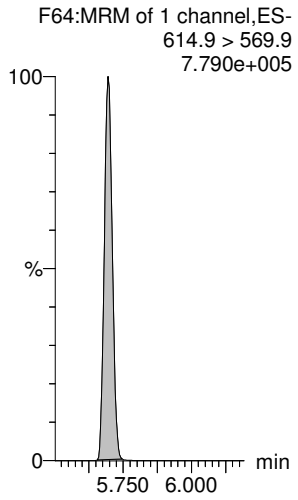

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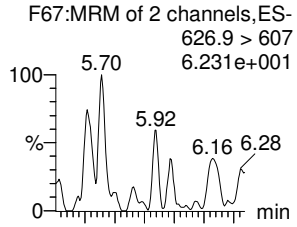
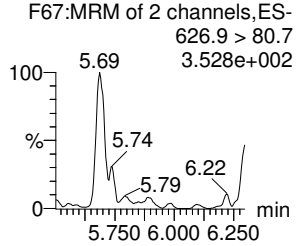
Name: 200715P1-15, Date: 15-Jul-2020, Time: 14:05:50, ID: IB, Description: IB

10:2 FTS





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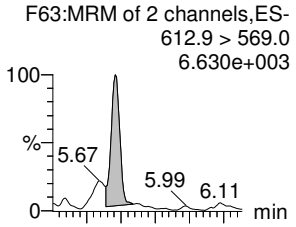

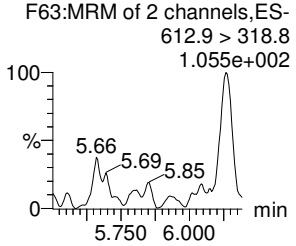

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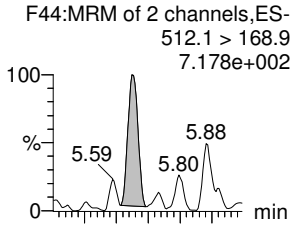

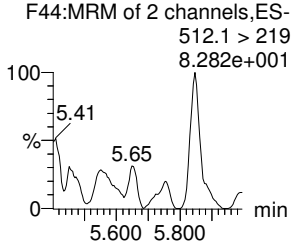

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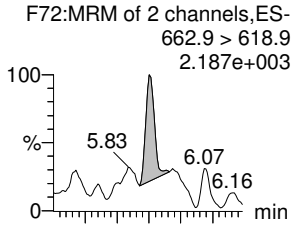

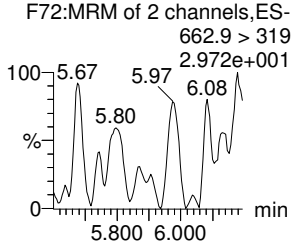

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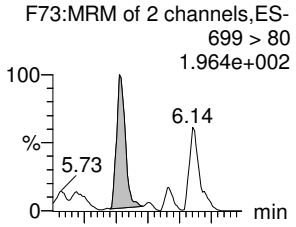

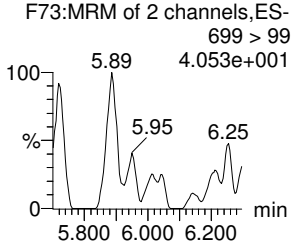

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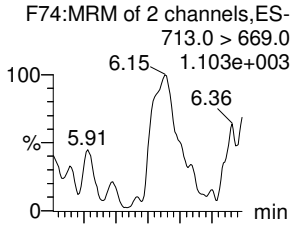
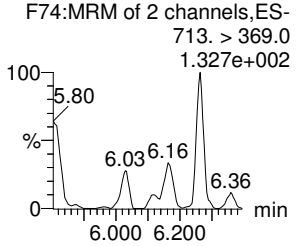
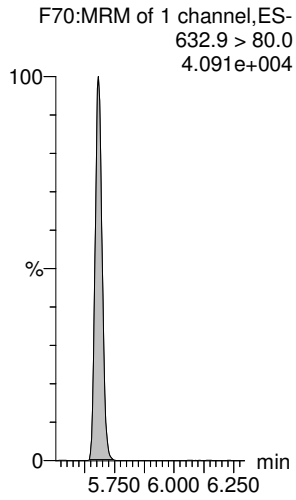




13C2-10:2 FTS-EIS



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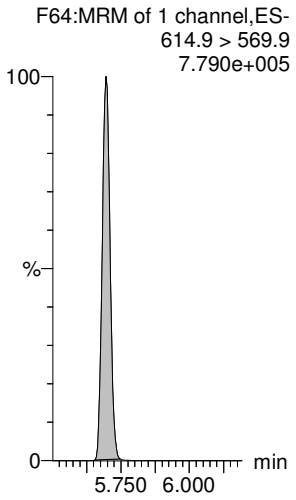

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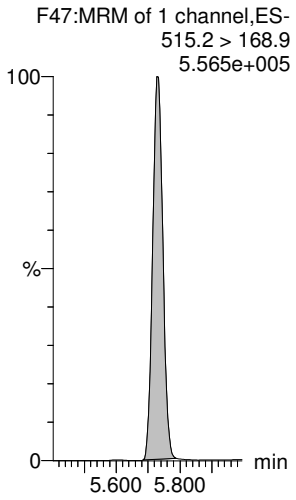

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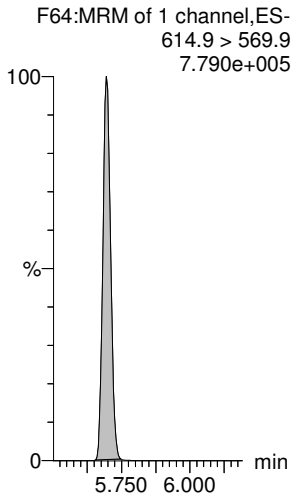

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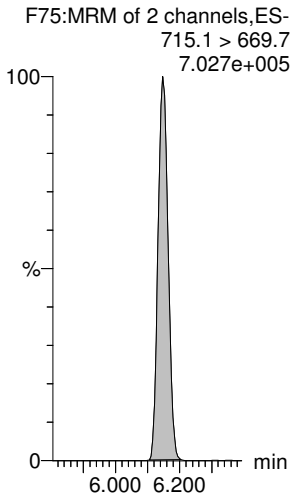

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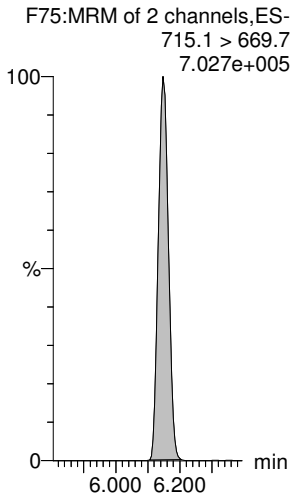

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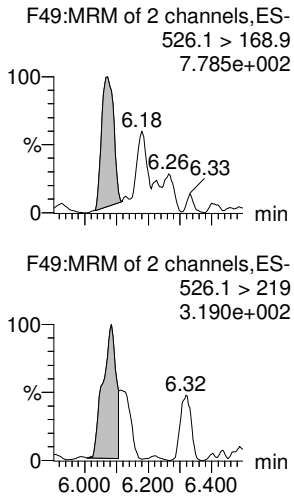
Name: 200715P1-15, Date: 15-Jul-2020, Time: 14:05:50, ID: IB, Description: IB

N-EtFOSA



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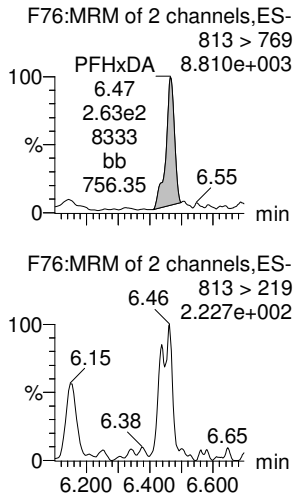

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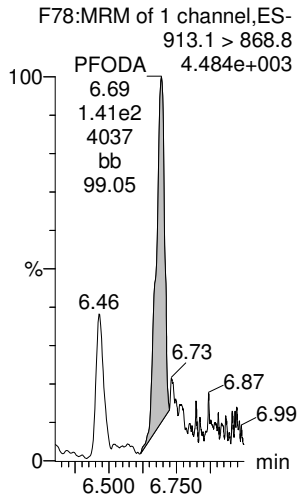

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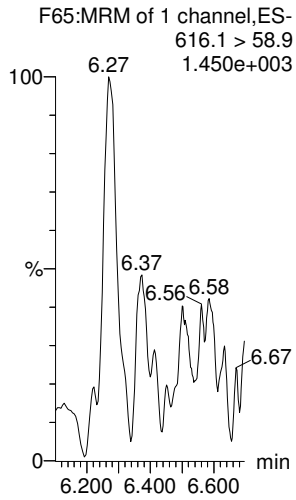

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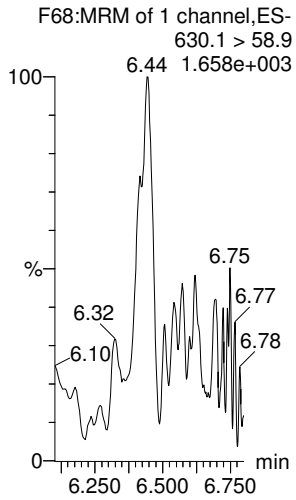

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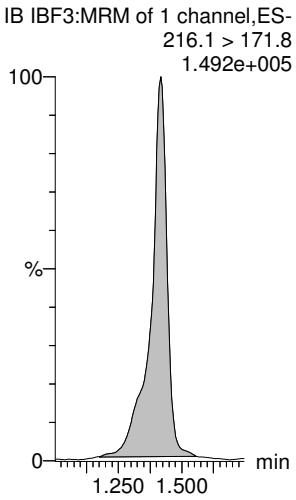

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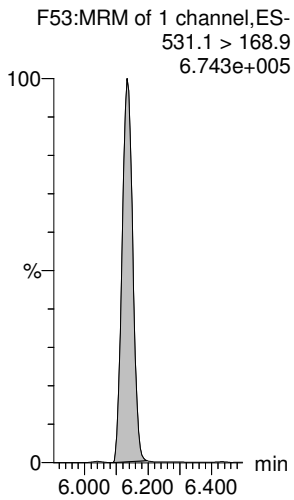

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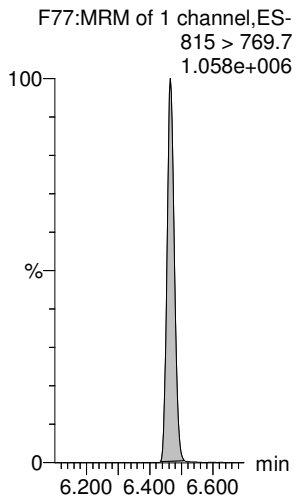

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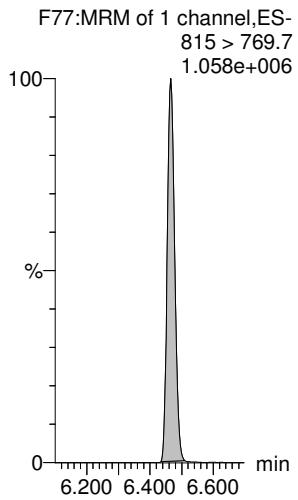

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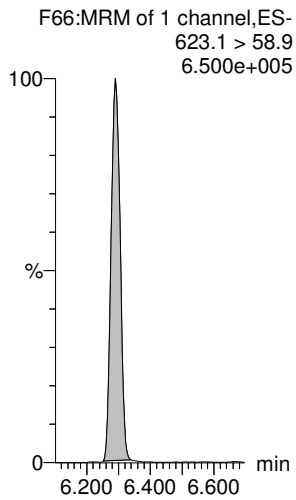

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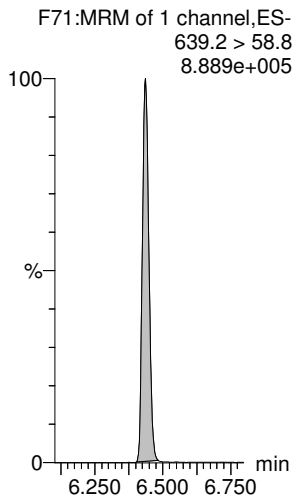

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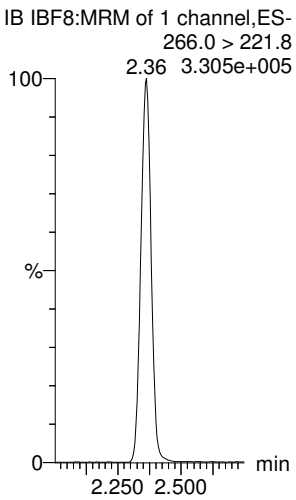

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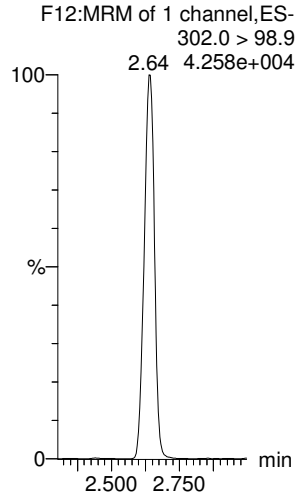

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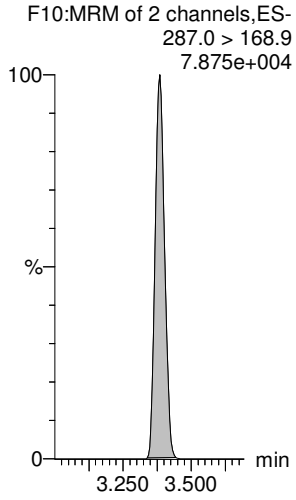

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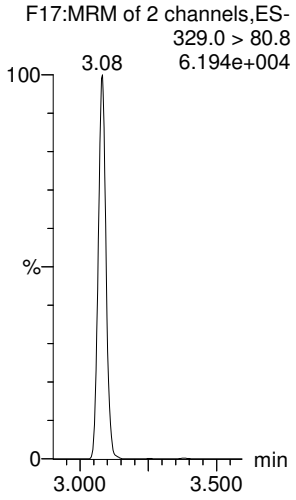

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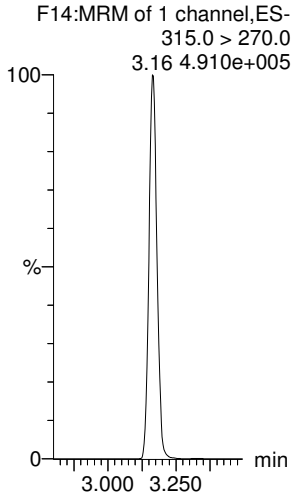

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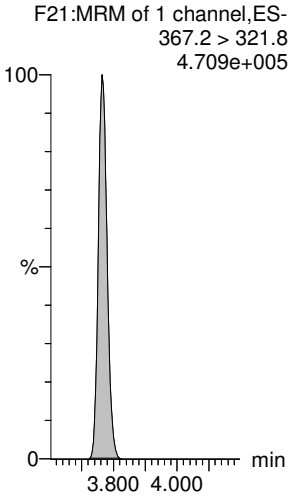

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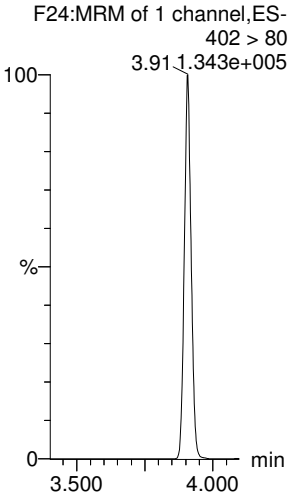

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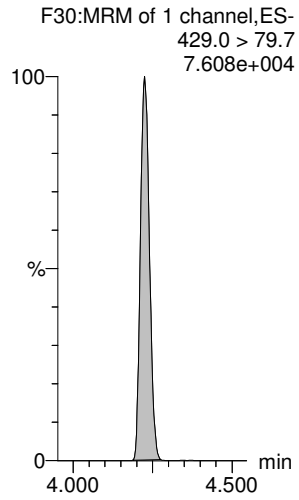

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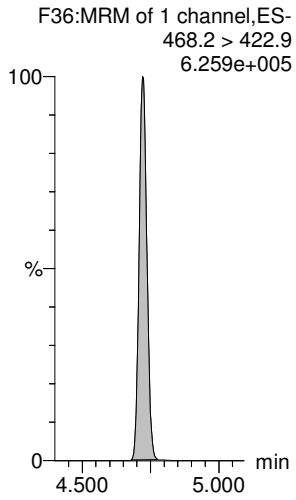

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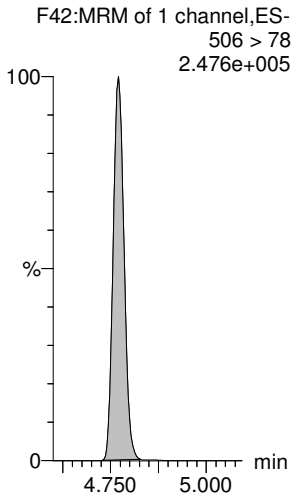

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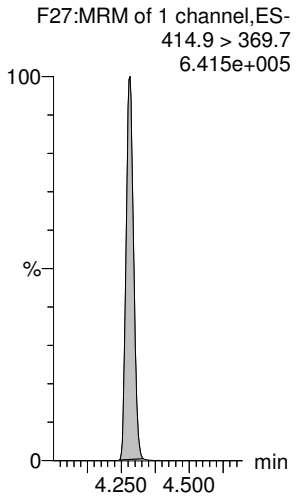

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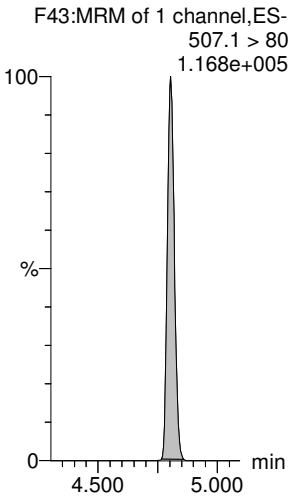

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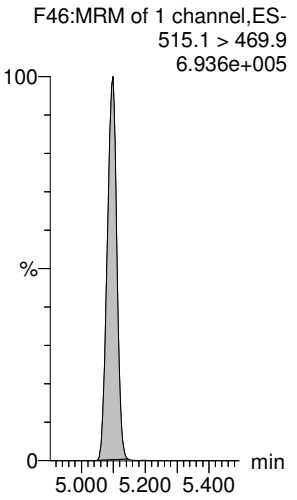

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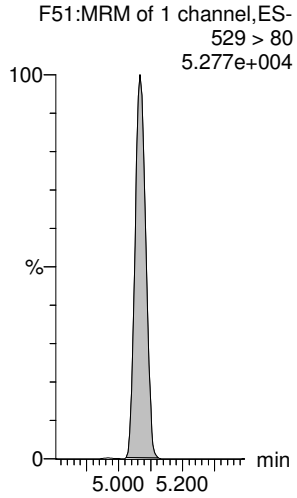
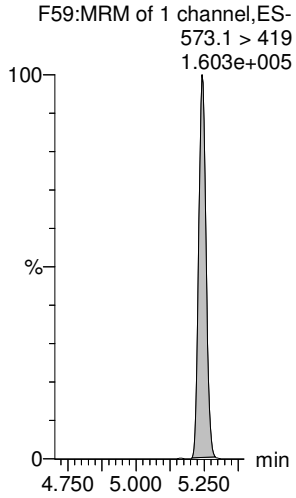
Name: 200715P1-15, Date: 15-Jul-2020, Time: 14:05:50, ID: IB, Description: IB

13C2-8:2 FTS-RSD



d3-N-MeFOSAA-RSD



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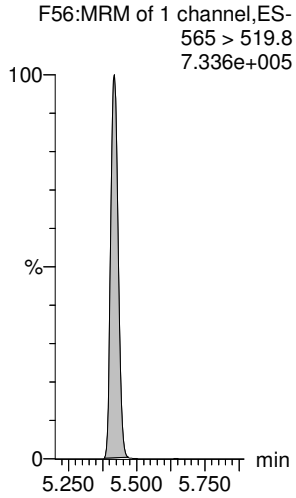

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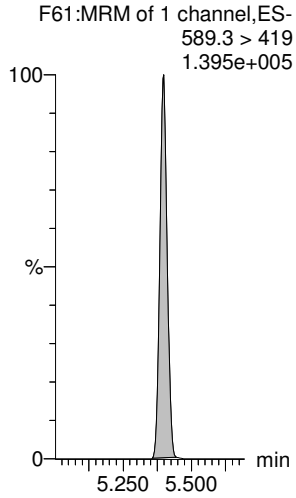
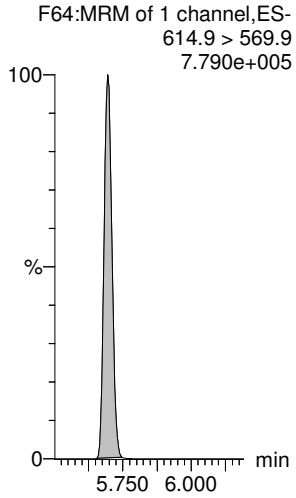
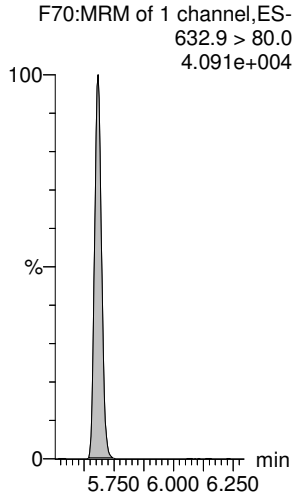


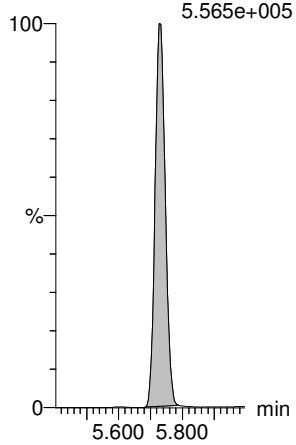
13C2-PFDoA-RSD



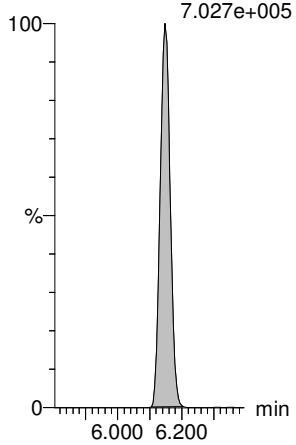
13C2-10:2 FTS-RSD



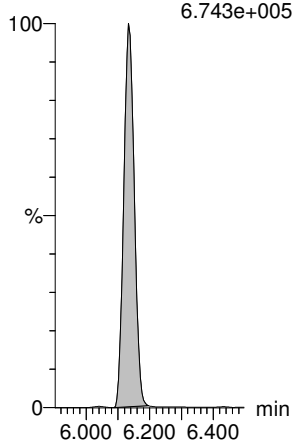
d3-N-MeFOSA-RSD



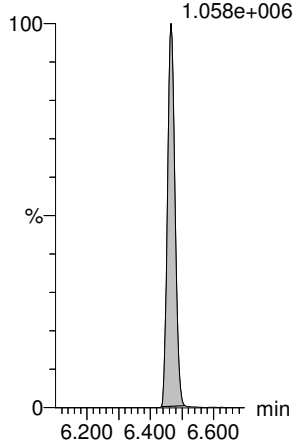
13C2-PFTeDA-RSD



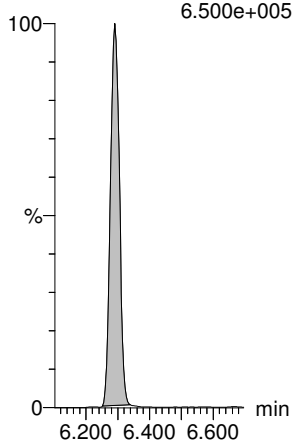
d5-N-ETFOSA-RSD



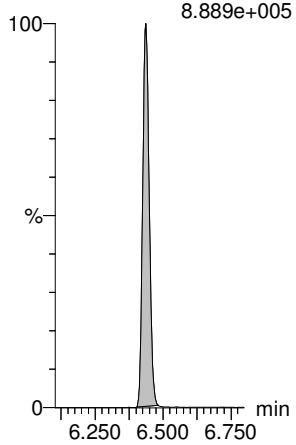
13C2-PFHxDA-RSD



d7-N-MeFOSE-RSD



d9-N-EtFOSE-RSD



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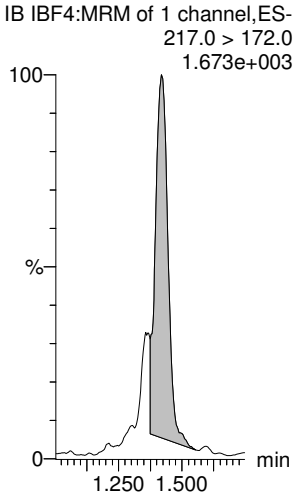
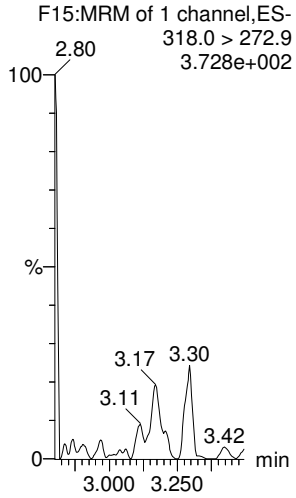
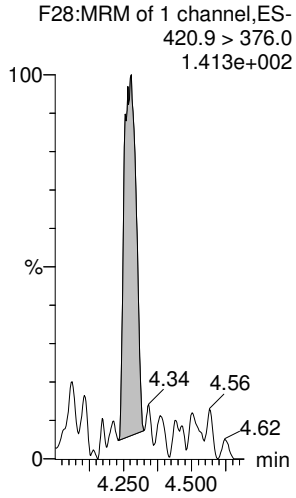
13C4-PFBA



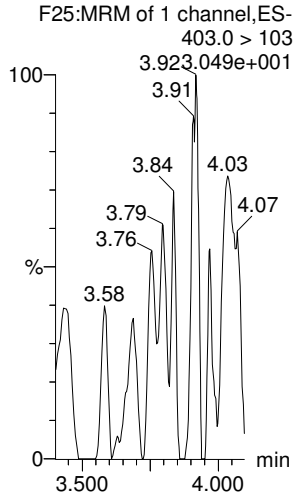
13C5-PFHxA



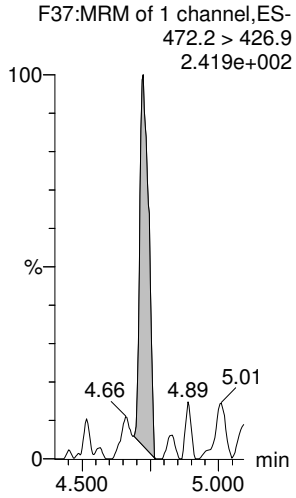
13C8-PFOA



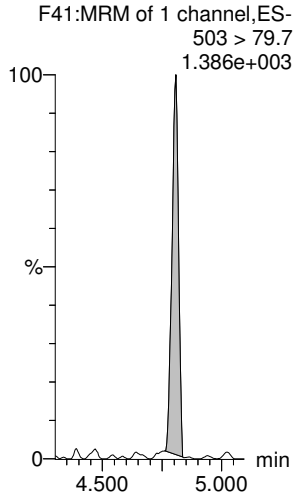
18O2-PFHxS



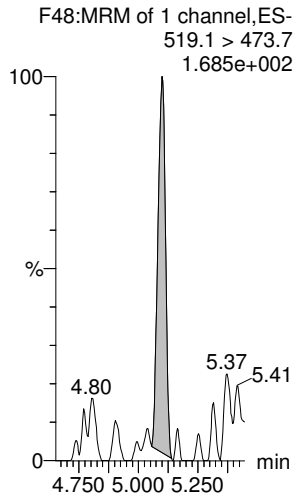
13C9-PFNA



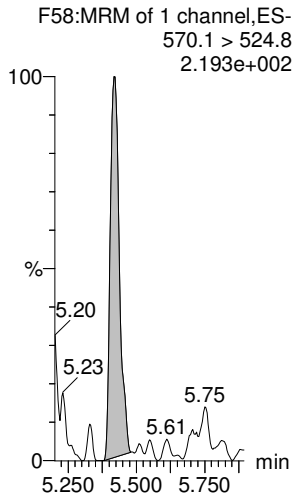
13C4-PFOS



13C6-PFDA



13C7-PFUdA



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	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Std. Conc	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
1	1	PFBA	213.0 > 168.8	12.119	10778.824	1.00	1.31	0.014				NO		
2	2	PFPrS	249 > 80		1813.848	1.00						NO		YES
3	3	3:3 FTCA	240.9 > 176.9		15224.953	1.00						NO		YES
4	4	PFPeA	263.1 > 218.9	8.944	15224.953	1.00	2.22	0.007				NO		
5	5	PFBS	299.0 > 80		1813.848	1.00						NO		YES
6	6	4:2 FTS	326.9 > 306.9		2010.718	1.00						NO		YES
7	47	13C3-PFBA-EIS	216.1 > 171.8	10778.824		1.00	1.42	10778.824	12.500	16.2	129.8	NO		
8	51	13C3-PFBS-EIS	302.0 > 98.9	1813.848		1.00	2.64	1813.848	12.500	12.5	99.9	NO		
9	49	13C3-PFPeA-EIS	266.0 > 221.8	15224.953		1.00	2.36	15224.953	12.500	13.5	108.1	NO		
10	49	13C3-PFPeA-EIS	266.0 > 221.8	15224.953		1.00	2.36	15224.953	12.500	13.5	108.1	NO		
11	51	13C3-PFBS-EIS	302.0 > 98.9	1813.848		1.00	2.64	1813.848	12.500	12.5	99.9	NO		
12	55	13C2-4:2 FTS-EIS	329.0 >80.8	2010.718		1.00	3.08	2010.718	12.500	13.2	105.5	NO		
13	-1													
14	7	PFHxA	313.0 > 269.0	52.881	16232.079	1.00	3.19	0.041				NO		YES
15	8	PFPeS	349.>80		1813.848	1.00						NO		YES
16	9	HFPO-DA	285.1 > 168.9		3081.270	1.00						NO		YES
17	10	5:3 FTCA	340.9 > 236.9		14878.547	1.00						NO		YES
18	11	PFHpA	363.0 > 319		14878.547	1.00						NO		YES
19	12	ADONA	376.8 > 250.9	108.036	14878.547	1.00	3.81	0.091		0.0695		NO	14.687	YES
20	57	13C2-PFHxA-EIS	315.0 > 270.0	16232.079		1.00	3.16	16232.079	12.500	13.2	105.9	NO		
21	51	13C3-PFBS-EIS	302.0 > 98.9	1813.848		1.00	2.64	1813.848	12.500	12.5	99.9	NO		
22	53	13C3-HFPO-DA-EIS	287.0 > 168.9	3081.270		1.00	3.39	3081.270	12.500	11.9	95.3	NO		
23	59	13C4-PFHpA-EIS	367.2 > 321.8	14878.547		1.00	3.76	14878.547	12.500	11.7	93.7	NO		
24	59	13C4-PFHpA-EIS	367.2 > 321.8	14878.547		1.00	3.76	14878.547	12.500	11.7	93.7	NO		
25	59	13C4-PFHpA-EIS	367.2 > 321.8	14878.547		1.00	3.76	14878.547	12.500	11.7	93.7	NO		
26	-1													
27	13	L-PFHxS	399 > 79.9		3888.677	1.00						NO		YES
28	15	6:2 FTS	427.0 > 407	14.528	2437.521	1.00	4.17	0.075		0.101		NO	1.658	YES
29	16	L-PFOA	413 > 369	60.749	19905.926	1.00	4.28	0.038		0.0321		NO	6.815	YES
30	18	PFecHS	461 > 381.0	9.962	19905.926	1.00	4.24	0.006		0.0592		NO	0.527	NO
31	19	PFHpS	449.0 > 80		3934.740	1.00						NO		YES
32	20	7:3 FTCA	440.9 > 336.9		20104.855	1.00						NO		YES
33	61	13C3-PFHxS-EIS	402 > 80	3888.677		1.00	3.91	3888.677	12.500	14.5	115.8	NO		
34	63	13C2-6:2 FTS-EIS	429.0 >79.7	2437.521		1.00	4.22	2437.521	12.500	12.9	102.8	NO		
35	69	13C2-PFOA-EIS	414.9 > 369.7	19905.926		1.00	4.28	19905.926	12.500	13.1	104.8	NO		
36	69	13C2-PFOA-EIS	414.9 > 369.7	19905.926		1.00	4.28	19905.926	12.500	13.1	104.8	NO		

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37	71	13C8-PFOS-EIS	507.1 > 80	3934.740		1.00	4.80	3934.740	12.500	14.1	112.9	NO		
38	65	13C5-PFNA-EIS	468.2 > 422.9	20104.855		1.00	4.72	20104.855	12.500	13.5	108.1	NO		
39	-1													
40	21	PFNA	463.0 > 418.8	84.844	20104.855	1.00	4.68	0.053		0.0321		NO		YES
41	22	PFOSA	498 > 78	14.863	8009.700	1.00	4.73	0.023		0.00177		NO		YES
42	23	L-PFOS	499 > 80	5.432	3934.740	1.00	4.81	0.017		0.0008...		NO		YES
43	25	9Cl-PF30NS	531 > 351	5.270	3934.740	1.00	4.97	0.017				NO		YES
44	26	PFDA	513 > 469	14.619	23947.822	1.00	5.07	0.008				NO		YES
45	27	8:2 FTS	526.8 > 506.9		2023.324	1.00						NO		YES
46	65	13C5-PFNA-EIS	468.2 > 422.9	20104.855		1.00	4.72	20104.855	12.500	13.5	108.1	NO		
47	67	13C8-PFOSA-EIS	506 > 78	8009.700		1.00	4.77	8009.700	12.500	13.5	107.7	NO		
48	71	13C8-PFOS-EIS	507.1 > 80	3934.740		1.00	4.80	3934.740	12.500	14.1	112.9	NO		
49	71	13C8-PFOS-EIS	507.1 > 80	3934.740		1.00	4.80	3934.740	12.500	14.1	112.9	NO		
50	73	13C2-PFDA-EIS	515.1 > 469.9	23947.822		1.00	5.10	23947.822	12.500	14.3	114.2	NO		
51	75	13C2-8:2 FTS-EIS	529 > 80	2023.324		1.00	5.07	2023.324	12.500	13.9	111.6	NO		
52	-1													
53	28	PFNS	549 > 80		3934.740	1.00						NO		YES
54	29	L-MeFOSAA	570 > 419	22.608	4814.739	1.00	5.20	0.059		0.104		NO	3.117	YES
55	31	L-EtFOSAA	583.9 > 419	21.482	4313.271	1.00	5.37	0.062		0.0521		NO	1.701	NO
56	33	PFUdA	563.0 > 519	66.650	22660.191	1.00	5.41	0.037				NO		YES
57	34	PFDS	598.8 >79.9	6.290	3934.740	1.00	5.42	0.020				NO		YES
58	35	11Cl-PF30UdS	631 > 451	12.852	25573.779	1.00	5.60	0.006				NO		YES
59	71	13C8-PFOS-EIS	507.1 > 80	3934.740		1.00	4.80	3934.740	12.500	14.1	112.9	NO		
60	77	d3-N-MeFOSAA-EIS	573.1 > 419	4814.739		1.00	5.24	4814.739	12.500	12.9	103.6	NO		
61	81	d5-N-EtFOSAA-EIS	589.3 > 419	4313.271		1.00	5.40	4313.271	12.500	12.0	95.9	NO		
62	79	13C2-PFUdA-EIS	565 > 519.8	22660.191		1.00	5.42	22660.191	12.500	13.2	105.4	NO		
63	71	13C8-PFOS-EIS	507.1 > 80	3934.740		1.00	4.80	3934.740	12.500	14.1	112.9	NO		
64	83	13C2-PFDoA-EIS	614.9 > 569.9	25573.779		1.00	5.69	25573.779	12.500	13.5	108.4	NO		
65	-1													
66	36	10:2 FTS	626.9 > 607		1392.512	1.00						NO		YES
67	37	PFDoA	612.9 > 569.0	231.340	25573.779	1.00	5.73	0.113		0.0144		NO		YES
68	38	N-MeFOSA	512.1 > 168.9	24.931	20233.803	1.00	5.65	0.184				NO		YES
69	39	PFTrDA	662.9 > 618.9	53.053	25573.779	1.00	5.90	0.026				NO		YES
70	40	PFDoS	699 > 80	6.107	25175.213	1.00	5.91	0.003		0.0172		NO		YES
71	41	PFTeDA	713.0 > 669.0		25175.213	1.00						NO		YES
72	85	13C2-10:2 FTS-EIS	632.9 > 80.0	1392.512		1.00	5.68	1392.512	12.500	13.4	106.9	NO		

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73	83	13C2-PFDoA-EIS	614.9 > 569.9	25573.779		1.00	5.69	25573.779	12.500	13.5	108.4	NO		
74	87	d3-N-MeFOSA-EIS	515.2 > 168.9	20233.803		1.00	5.73	20233.803	149.200	133	88.9	NO		
75	83	13C2-PFDoA-EIS	614.9 > 569.9	25573.779		1.00	5.69	25573.779	12.500	13.5	108.4	NO		
76	89	13C2-PFTeDA-EIS	715.1 > 669.7	25175.213		1.00	6.15	25175.213	12.500	13.3	106.3	NO		
77	89	13C2-PFTeDA-EIS	715.1 > 669.7	25175.213		1.00	6.15	25175.213	12.500	13.3	106.3	NO		
78	-1													
79	42	N-EtFOSA	526.1 > 168.9	32.519	25671.865	1.00	6.07	0.189		0.0174		NO	2.212	NO
80	43	PFHxDA	813 > 769	263.047	28307.994	1.00	6.47	0.116		0.0334		NO		YES
81	44	PFODA	913.1 > 868.8	141.381	28307.994	1.00	6.69	0.062		0.100		NO		
82	45	N-MeFOSE	616.1 > 58.9		20843.137	1.00						NO		
83	46	N-EtFOSE	630.1 > 58.9		23969.789	1.00						NO		
84	48	13C3-PFBA-RSD	216.1 > 171.8	10778.824	89.973	1.00	1.42	1497.508	12.500	1630	13038.6	YES		
85	91	d5-N-ETFOSA-EIS	531.1 > 168.9	25671.865		1.00	6.13	25671.865	149.200	135	90.2	NO		
86	93	13C2-PFHxDA-EIS	815 > 769.7	28307.994		1.00	6.47	28307.994	12.500	12.4	98.9	NO		
87	93	13C2-PFHxDA-EIS	815 > 769.7	28307.994		1.00	6.47	28307.994	12.500	12.4	98.9	NO		
88	95	d7-N-MeFOSE-EIS	623.1 > 58.9	20843.137		1.00	6.29	20843.137	149.200	136	91.5	NO		
89	97	d9-N-EtFOSE-EIS	639.2 > 58.8	23969.789		1.00	6.44	23969.789	149.200	136	91.1	NO		
90	50	13C3-PFPeA-RSD	266.0 > 221.8			1.00			12.500			NO		
91	-1													
92	52	13C3-PFBS-RSD	302.0 > 98.9			1.00			12.500			NO		
93	54	13C3-HFPO-DA-RSD	287.0 > 168.9	3081.270		1.00	3.39		12.500			NO		
94	56	13C2-4:2 FTS-RSD	329.0 >80.8			1.00			12.500			NO		
95	58	13C2-PFHxA-RSD	315.0 > 270.0			1.00			12.500			NO		
96	60	13C4-PFHpA-RSD	367.2 > 321.8	14878.547		1.00	3.76		12.500			NO		
97	62	13C3-PFHxS-RSD	402 > 80			1.00			12.500			NO		
98	64	13C2-6:2 FTS-RSD	429.0 >79.7	2437.521	44.122	1.00	4.22	690.563	12.500	1230	9811.9	YES		
99	66	13C5-PFNA-RSD	468.2 > 422.9	20104.855	8.771	1.00	4.72	28652.456	12.500	31000	24770...	YES		
100	68	13C8-PFOSA-RSD	506 > 78	8009.700	8.442	1.00	4.77	11859.897	12.500	26500	21202...	YES		
101	70	13C2-PFOA-RSD	414.9 > 369.7	19905.926	6.776	1.00	4.28	36721.381	12.500	30800	24600...	YES		
102	72	13C8-PFOS-RSD	507.1 > 80	3934.740	44.122	1.00	4.80	1114.733	12.500	1430	11441.6	YES		
103	74	13C2-PFDA-RSD	515.1 > 469.9	23947.822	6.025	1.00	5.10	49684.278	12.500	45000	36039...	YES		
104	-1													
105	76	13C2-8:2 FTS-RSD	529 > 80	2023.324	44.122	1.00	5.07	573.219	12.500	1270	10128.3	YES		
106	78	d3-N-MeFOSAA-RSD	573.1 > 419	4814.739	8.442	1.00	5.24	7129.144	12.500	25700	20522...	YES		
107	80	13C2-PFUdA-RSD	565 > 519.8	22660.191	8.442	1.00	5.42	33552.759	12.500	26000	20804...	YES		
108	82	d5-N-EtFOSAA-RSD	589.3 > 419	4313.271	8.442	1.00	5.40	6386.625	12.500	25900	20709...	YES		

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Printed: Thursday, July 16, 2020 08:33:20 Pacific Daylight Time

Name: 200715P1-15, Date: 15-Jul-2020, Time: 14:05:50, ID: IB, Description: IB

	#	Name	Trace	Area	IS Area	wt/vol	RT	Response	Std. Conc	Conc.	%Rec	Recovery ...	Ion Ratio	Ratio Out?
109	84	13C2-PFDoA-RSD	614.9 > 569.9	25573.779	6.025	1.00	5.69	53057.633	12.500	43100	34445...	YES		
110	86	13C2-10:2 FTS-RSD	632.9 > 80.0	1392.512	44.122	1.00	5.68	394.506	12.500	1330	10635.9	YES		
111	88	d3-N-MeFOSA-RSD	515.2 > 168.9	20233.803	8.442	1.00	5.73	29960.026	149.200	251000	16845...	YES		
112	90	13C2-PFTeDA-RSD	715.1 > 669.7	25175.213	8.442	1.00	6.15	37276.731	12.500	25000	20038...	YES		
113	92	d5-N-ETFOSA-RSD	531.1 > 168.9	25671.865	8.442	1.00	6.13	38012.119	149.200	268000	17968...	YES		
114	94	13C2-PFHxDA-RSD	815 > 769.7	28307.994	8.442	1.00	6.47	41915.414	12.500	23900	19118...	YES		
115	96	d7-N-MeFOSE-RSD	623.1 > 58.9	20843.137	8.442	1.00	6.29	30862.262	149.200	256000	17180...	YES		
116	98	d9-N-EtFOSE-RSD	639.2 > 58.8	23969.789	8.442	1.00	6.44	35491.870	149.200	259000	17374...	YES		
117	-1													
118	99	13C4-PFBA	217.0 > 172.0	89.973	89.973	1.00	1.42	12.500	12.500	12.5	100.0	NO		
119	1...	13C5-PFHxA	318.0 > 272.9			1.00			12.500			NO		
120	1...	13C8-PFOA	420.9 > 376.0	6.776	6.776	1.00	4.28	12.500	12.500	12.5	100.0	NO		
121	1...	18O2-PFHxS	403.0 > 103			1.00			12.500			NO		
122	1...	13C9-PFNA	472.2 > 426.9	8.771	8.771	1.00	4.72	12.500	12.500	12.5	100.0	NO		
123	1...	13C4-PFOS	503 > 79.7	44.122	44.122	1.00	4.81	12.500	12.500	12.5	100.0	NO		
124	1...	13C6-PFDA	519.1 > 473.7	6.025	6.025	1.00	5.10	12.500	12.500	12.5	100.0	NO		
125	1...	13C7-PFUdA	570.1 > 524.8	8.442	8.442	1.00	5.42	12.500	12.500	12.5	100.0	NO		

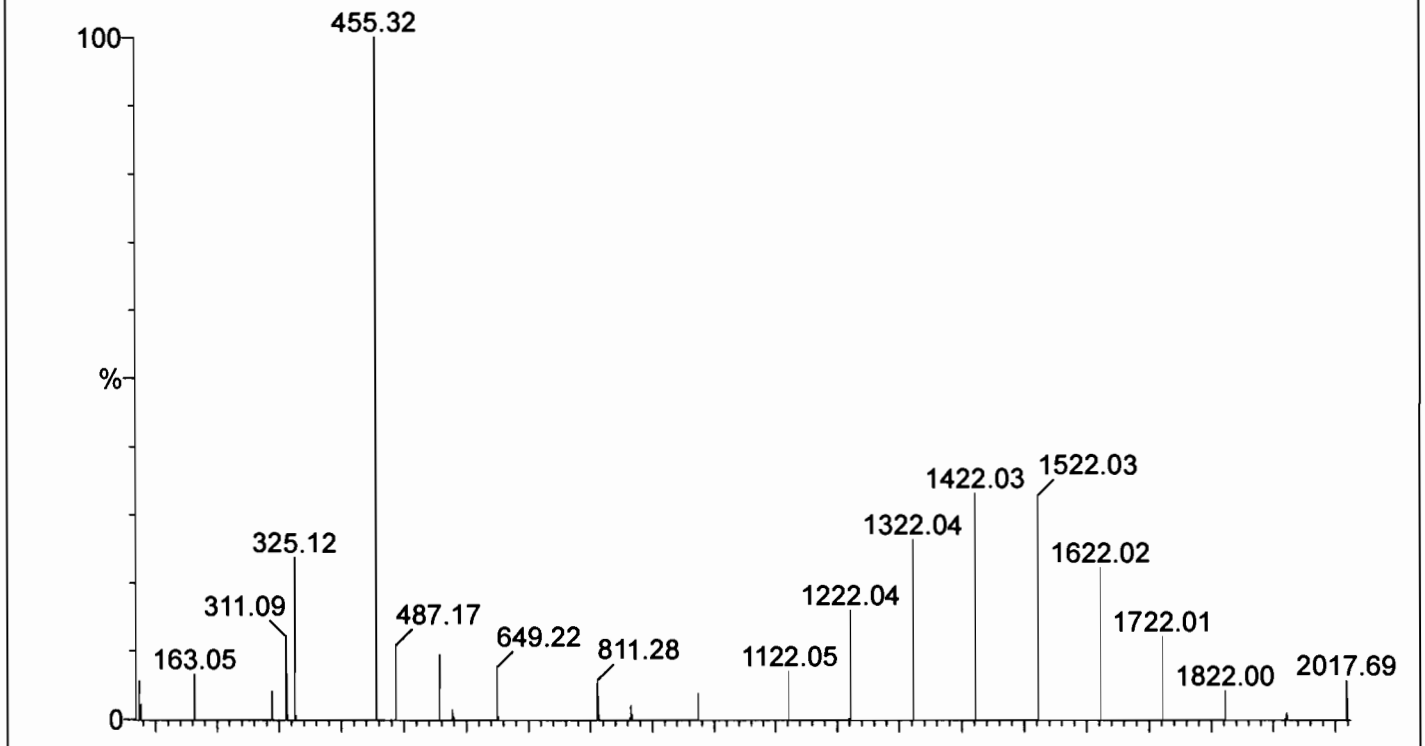
TUNE CHECKS

Calibration Verification Report - MS1 Static

Printed: **Tue Jul 14 08:33:47 2020**

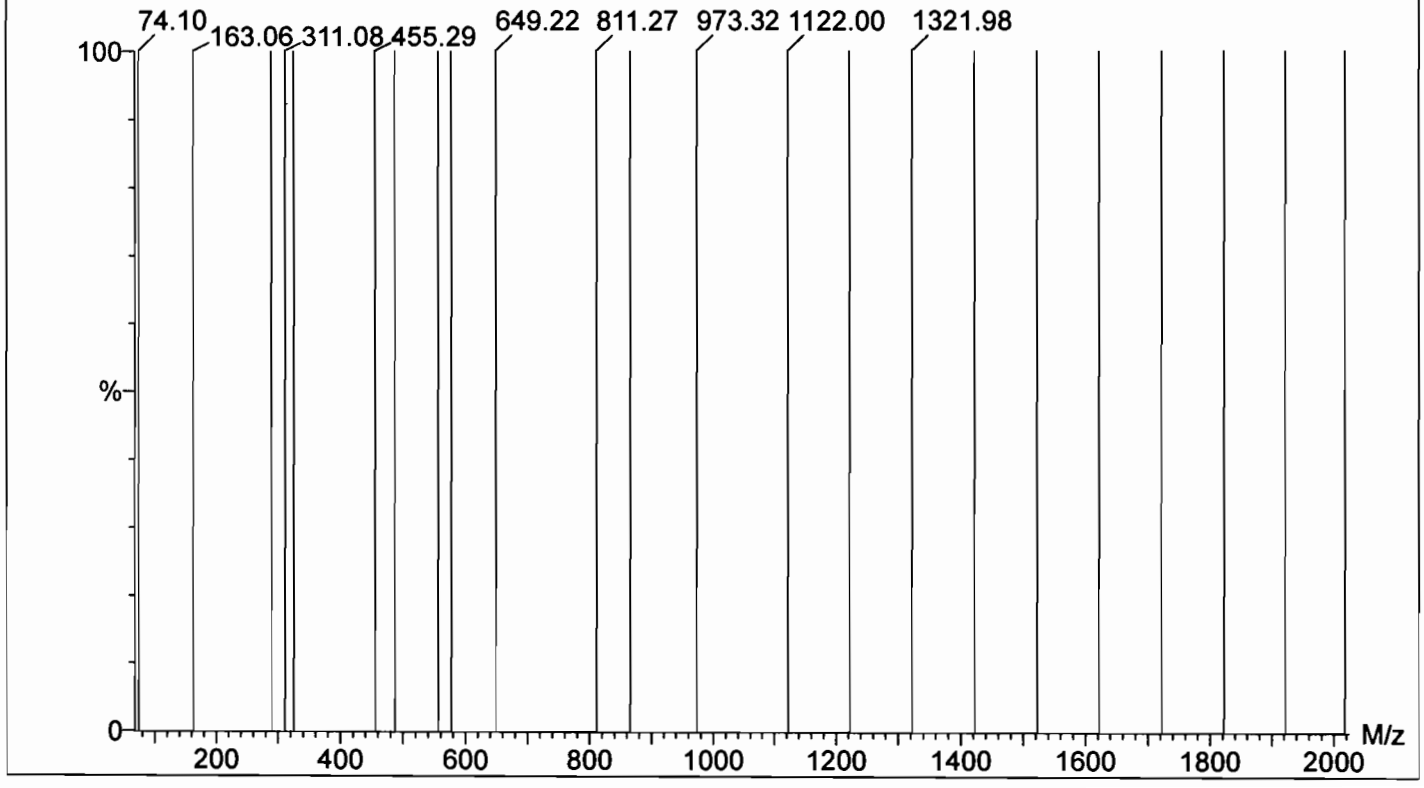
Data file: STATMS1V - Calibrated

23 matches of 23 tested references

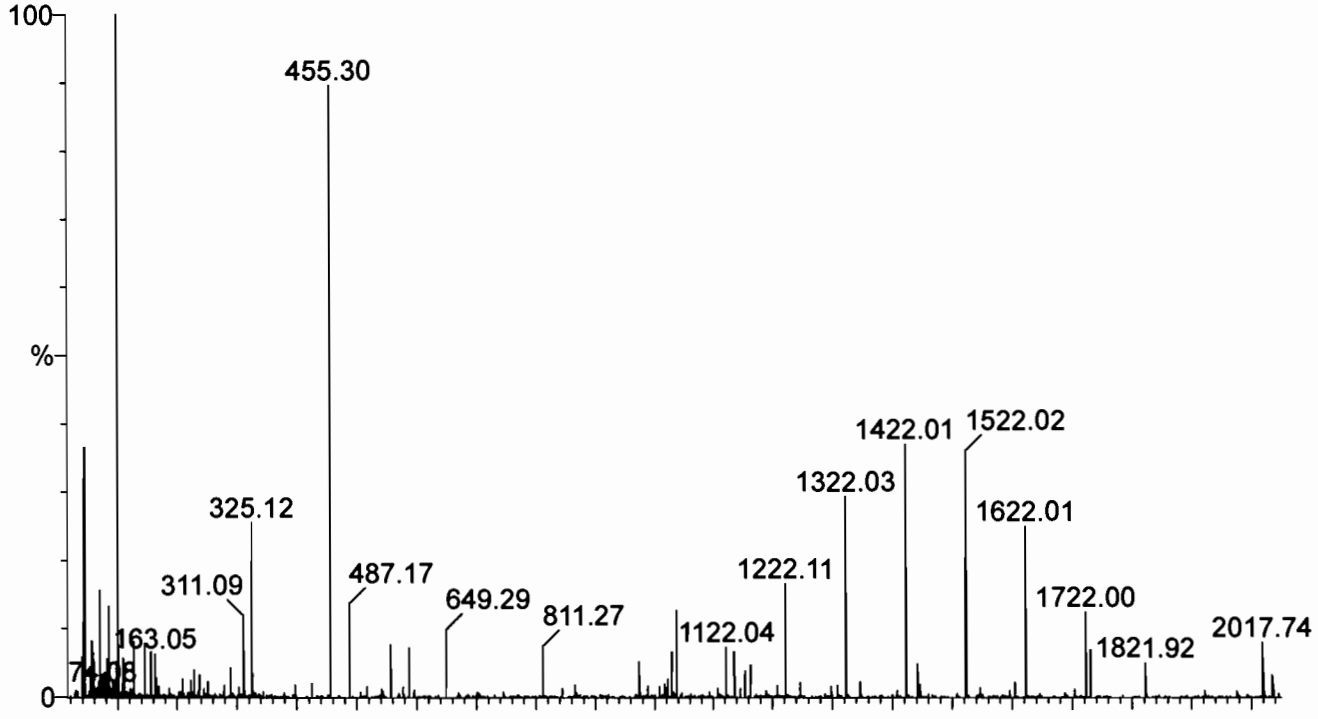


Reference: c:\masslynx\ref\ESI Calibration TQ ResCal.ref

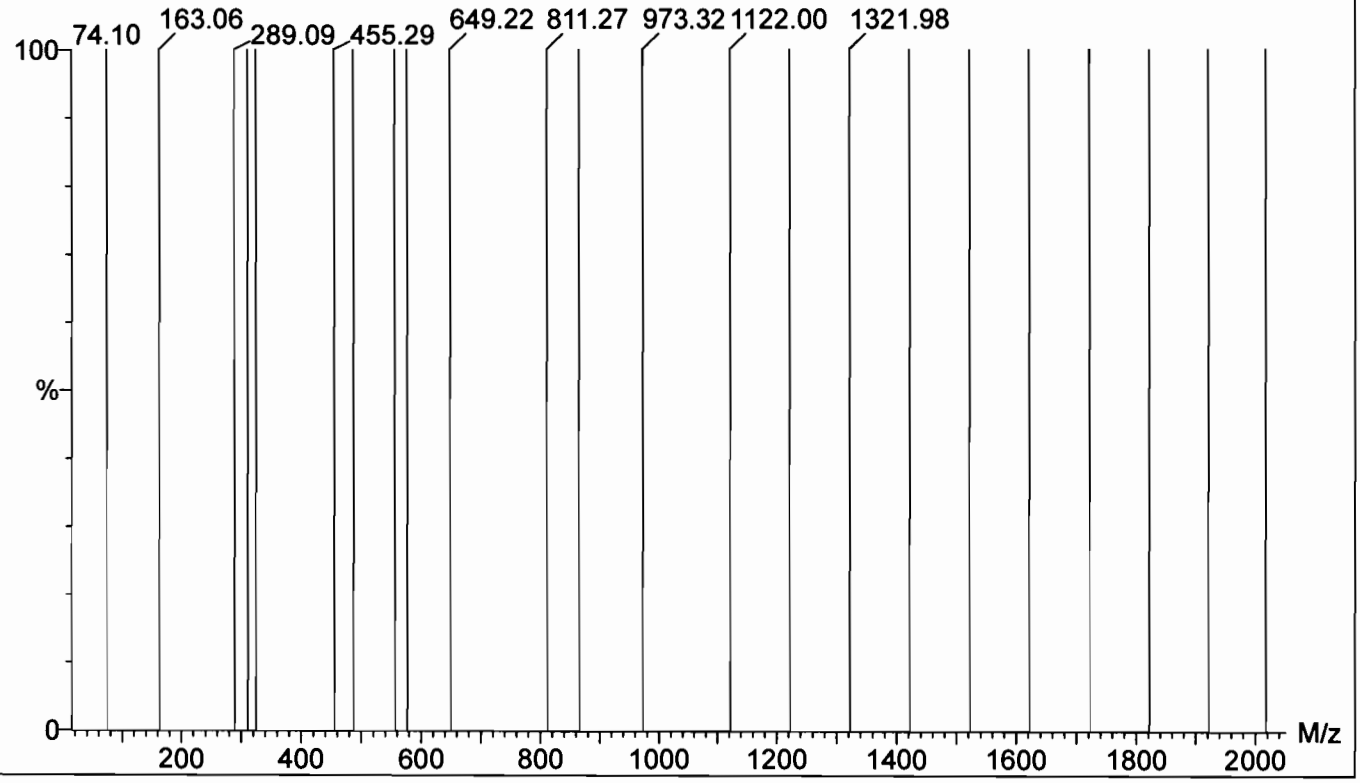
Mean residual = 0.0391 amu



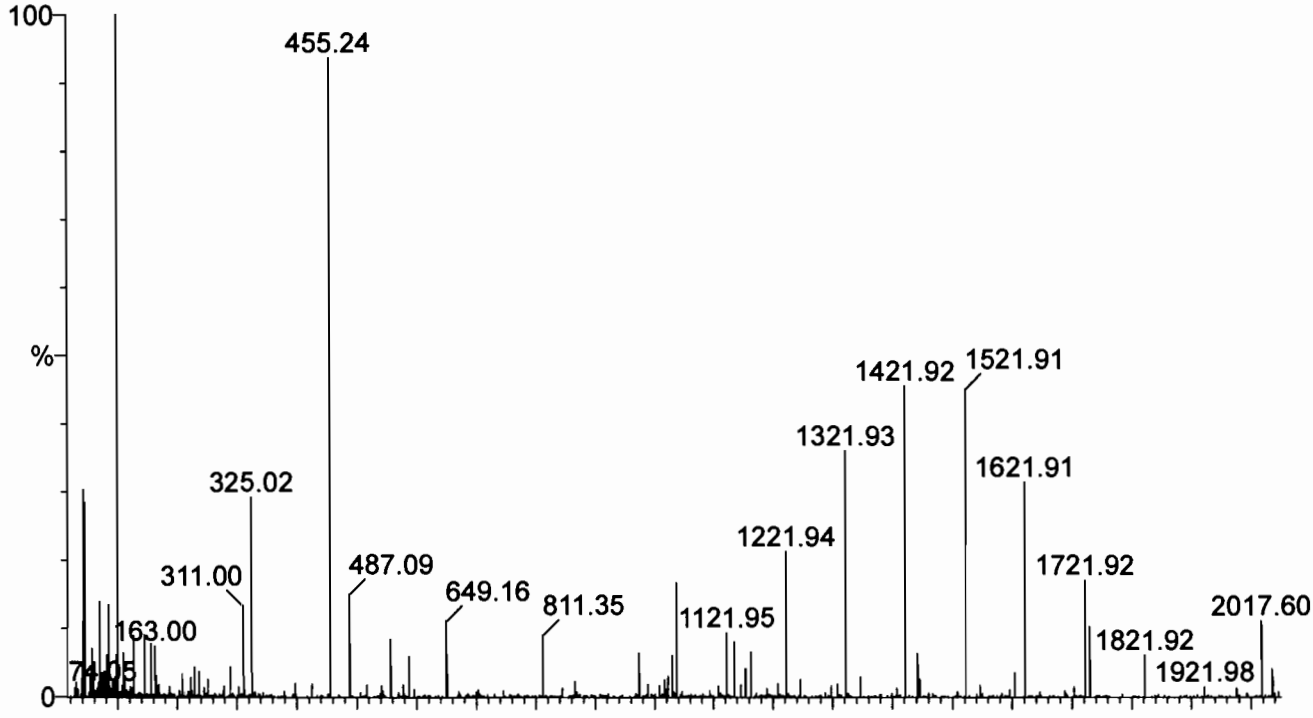
Data file: SCNMS1V - Calibrated 23 matches of 23 tested references



Reference: c:\masslynx\ref\ESI Calibration TQ ResCal.ref Mean residual = 0.0336 amu



Data file: FASTMS1V - Calibrated 23 matches of 23 tested references



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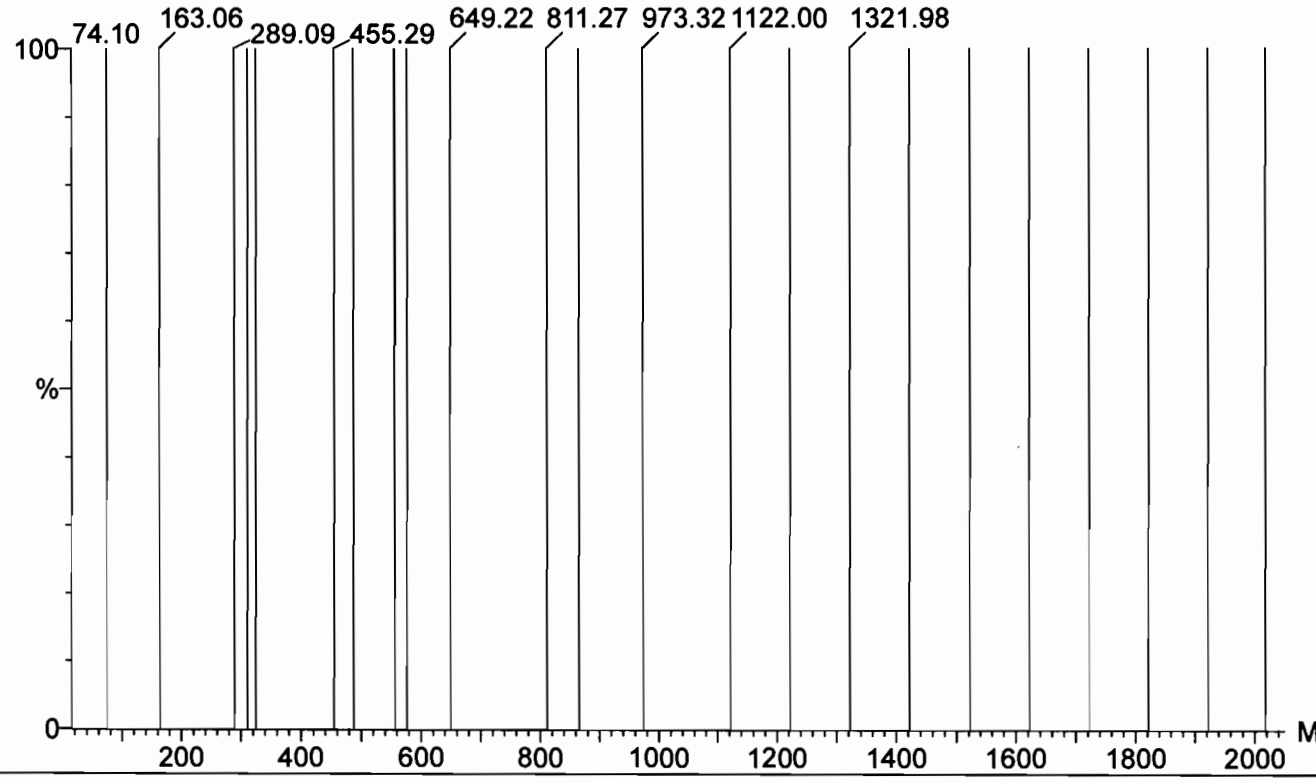
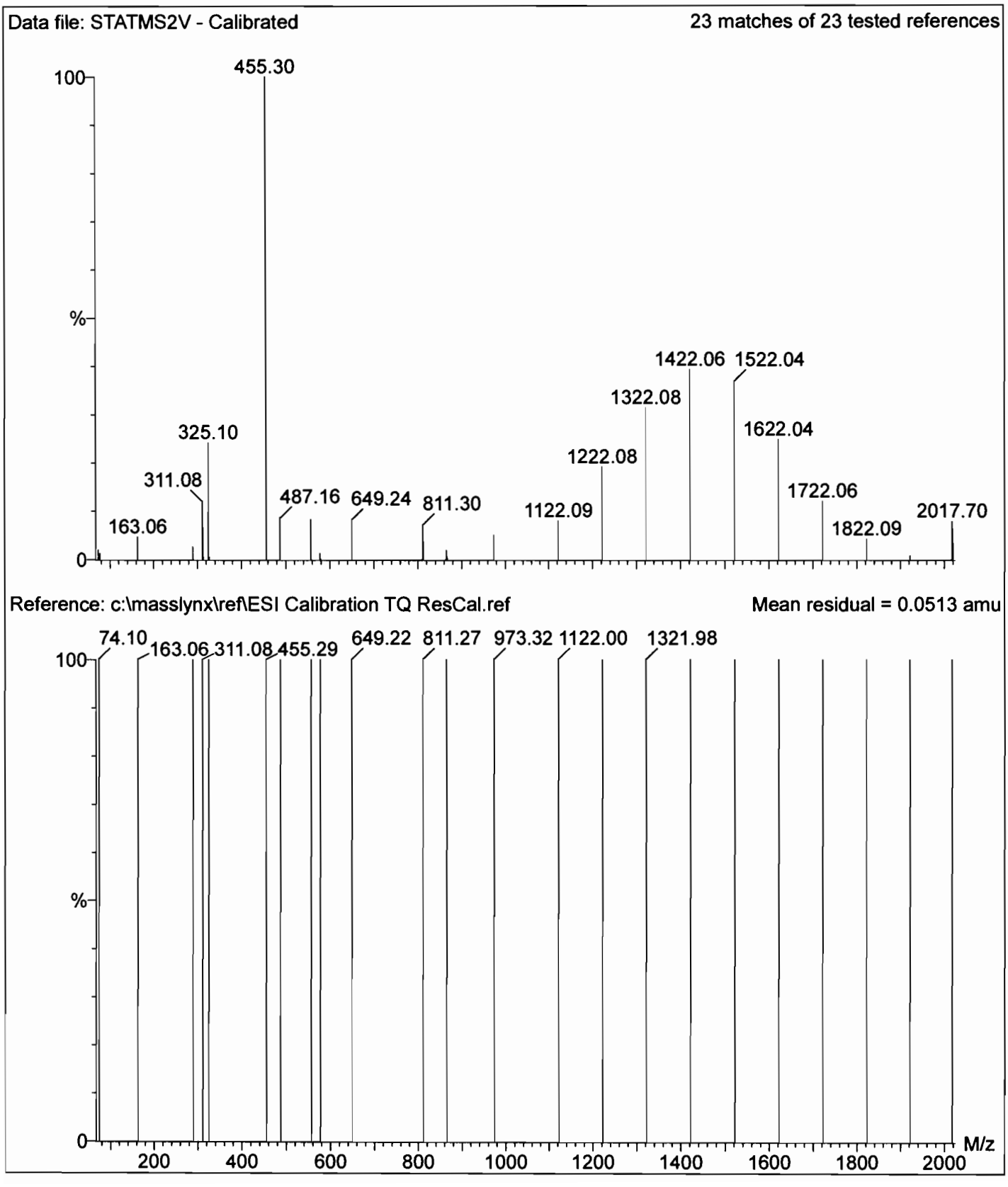
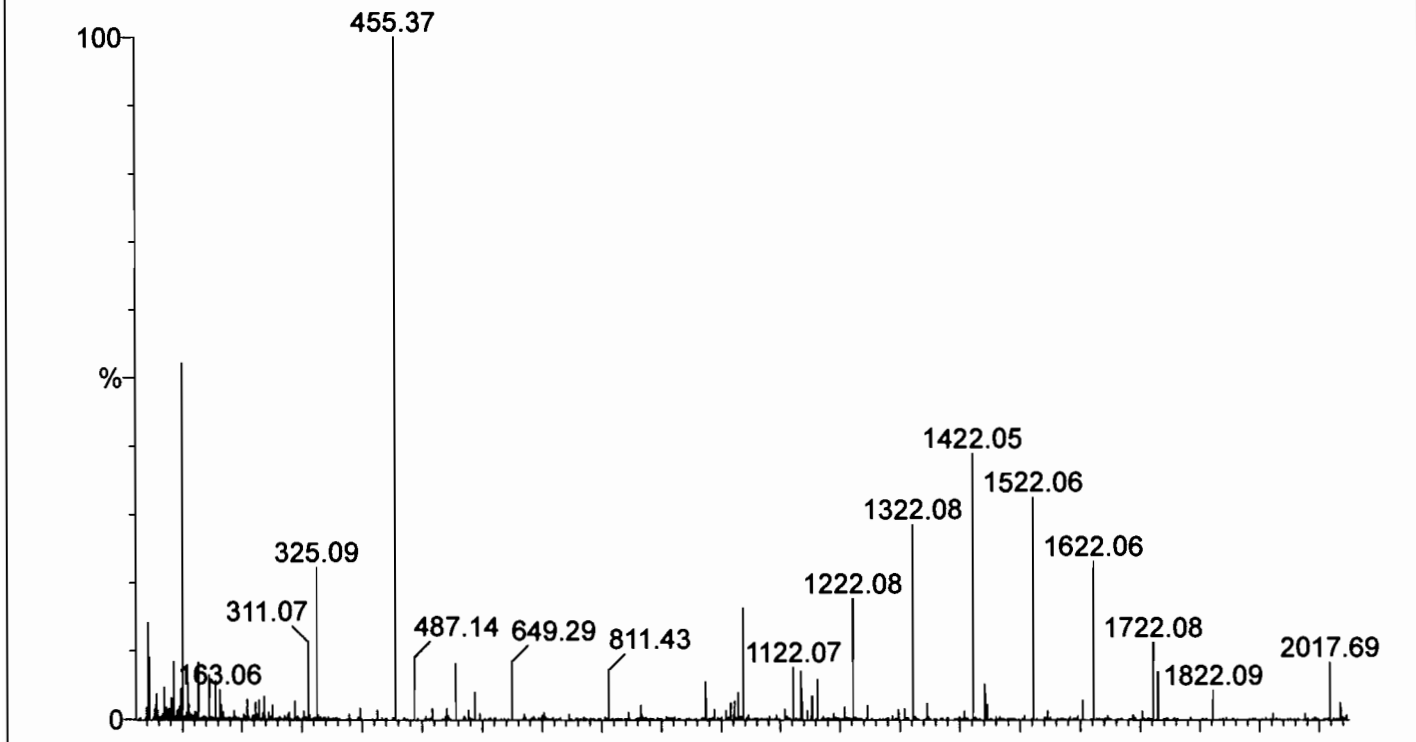
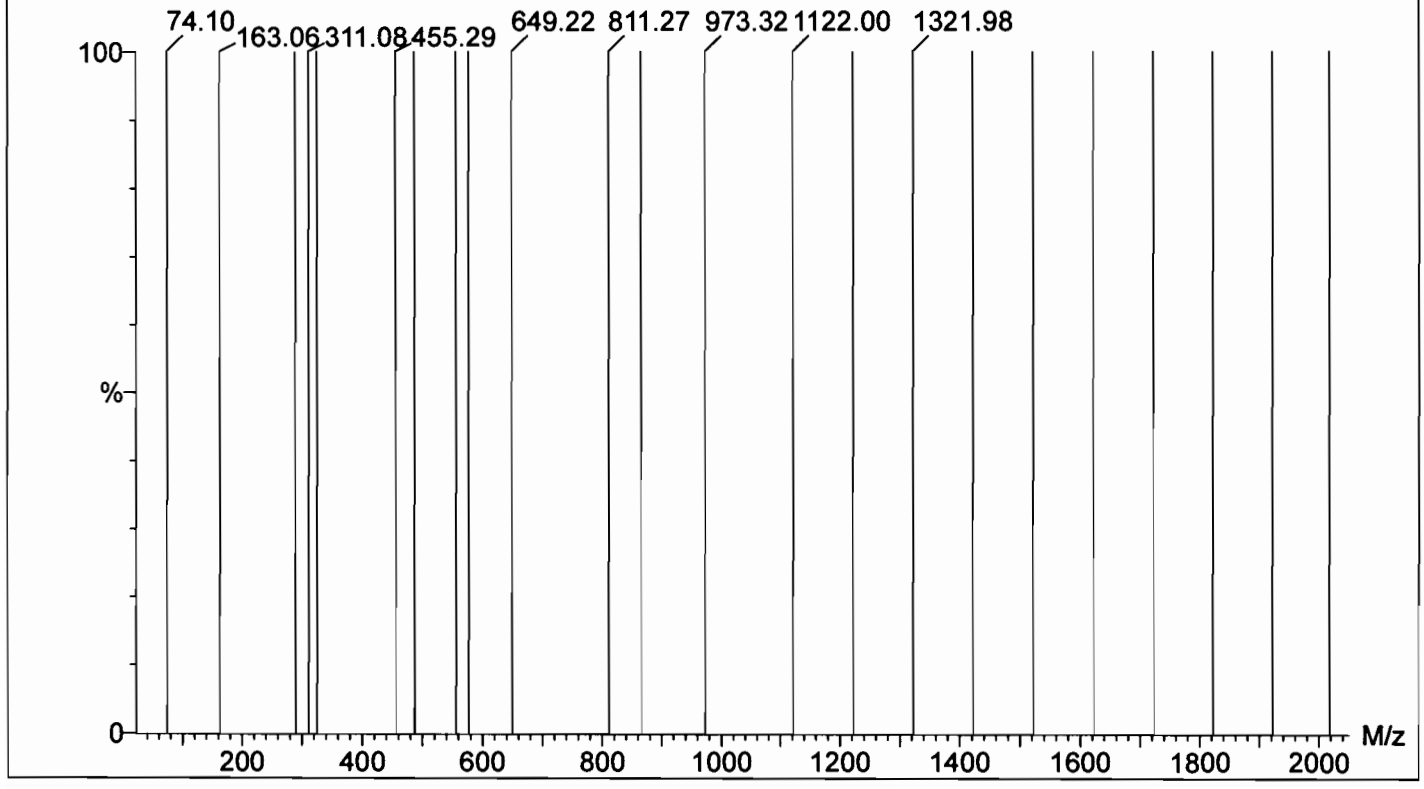



Data file: STATMS2V - Calibrated
23 matches of 23 tested references
100
%
0
455.30
325.10
311.08
163.06
487.16
649.24
811.30
1122.09
1222.08
1322.08
1422.06
1522.04
1622.04
1722.06
1822.09
2017.70
Reference: c:\masslynx\ref\ESI Calibration TQ ResCal.ref
Mean residual = 0.0513 amu
74.10
163.06
311.08
455.29
649.22
811.27
973.32
1122.00
1321.98
200
400
600
800
1000
1200
1400
1600
1800
2000
M/z

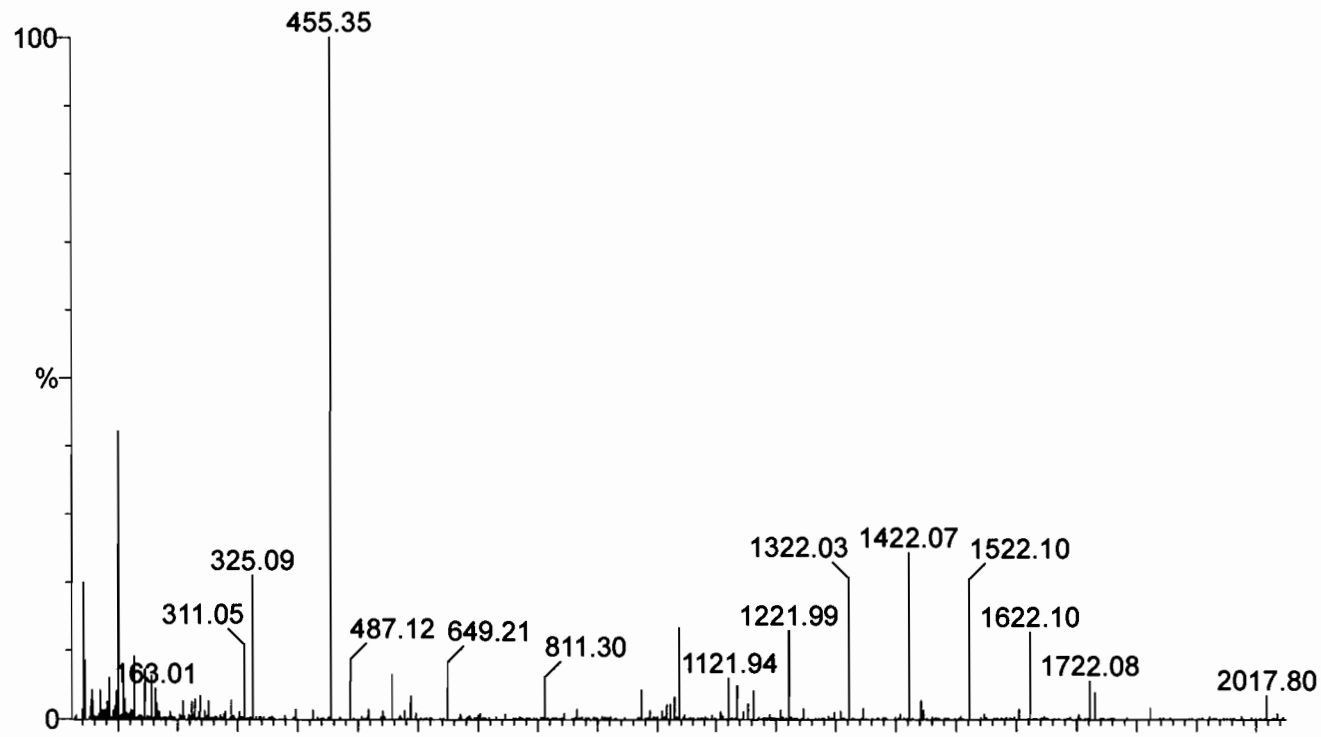
Data file: SCNMS2V - Calibrated 23 matches of 23 tested references



Reference: c:\masslynx\ref\ESI Calibration TQ ResCal.ref Mean residual = 0.0761 amu



Data file: FASTMS2V - Calibrated 23 matches of 23 tested references



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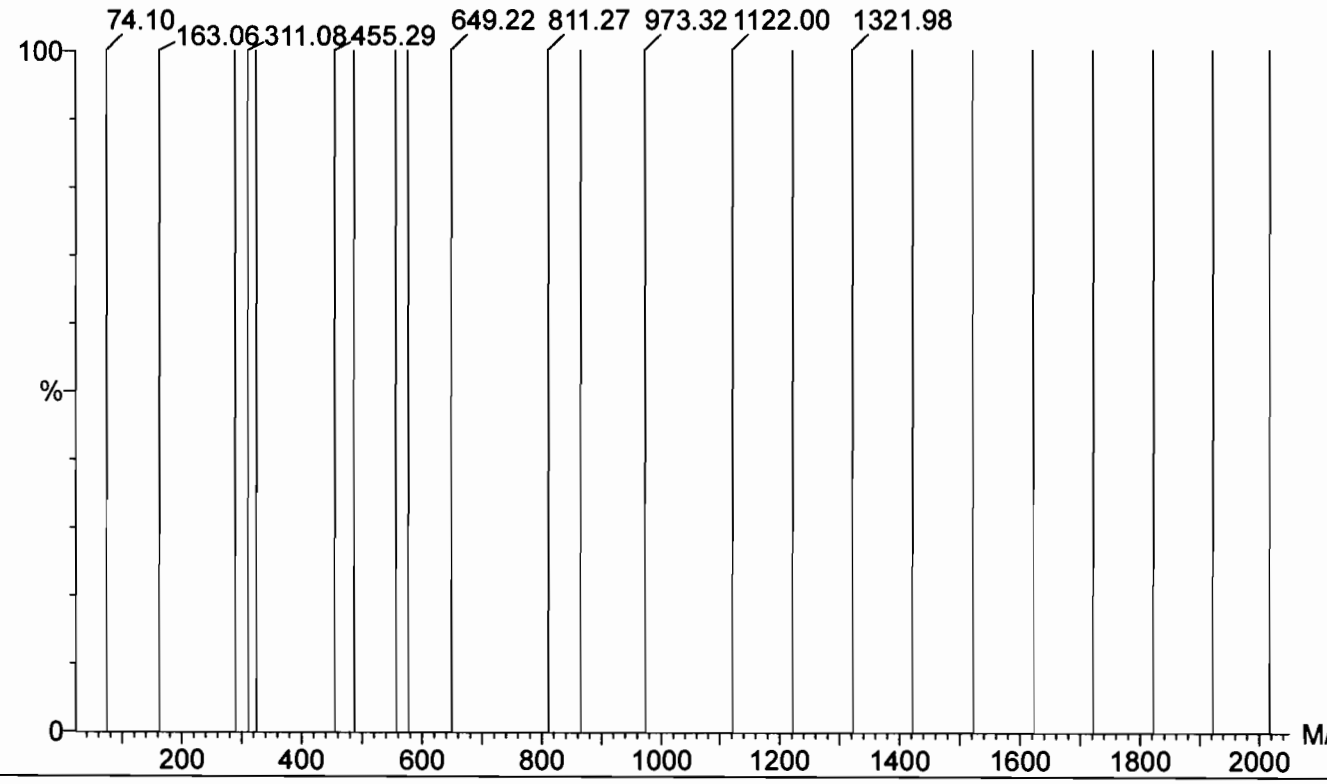
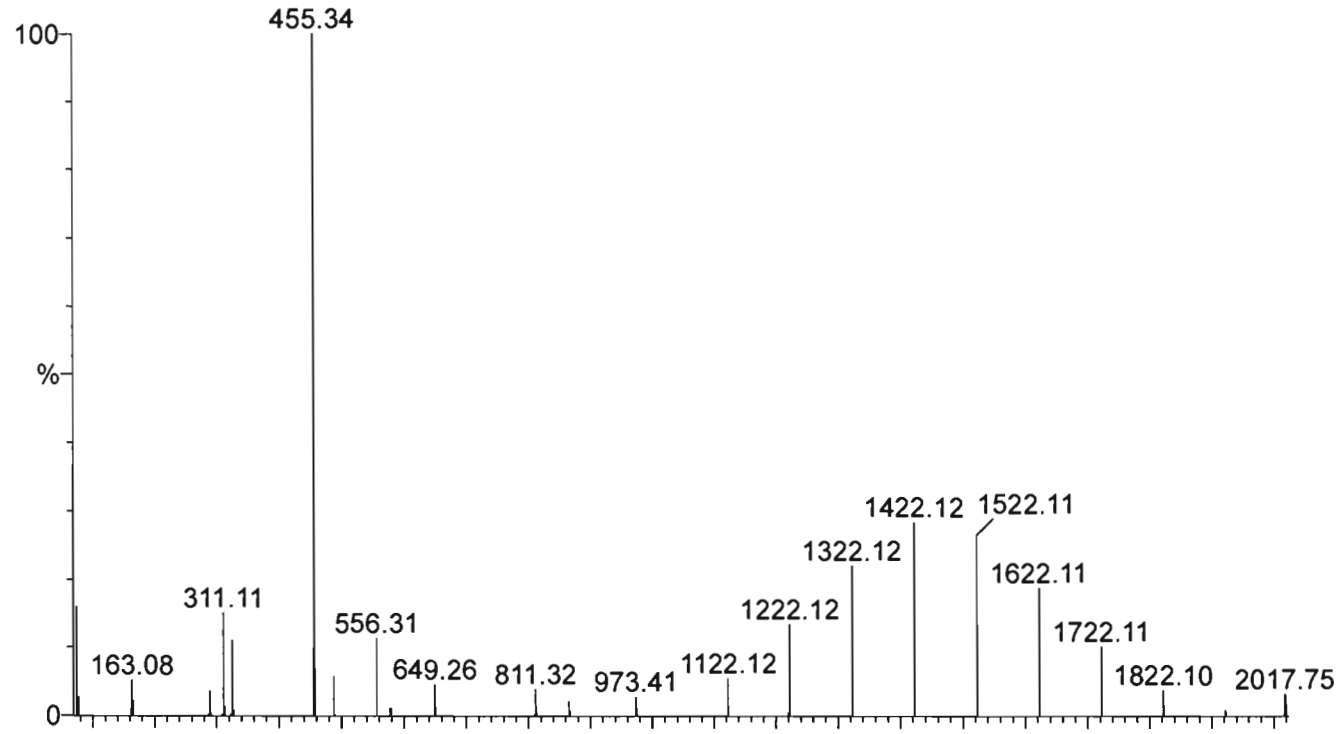


Calibration Verification Report - MS1 Static

Printed: **Wed Jul 15 09:19:05 2020**

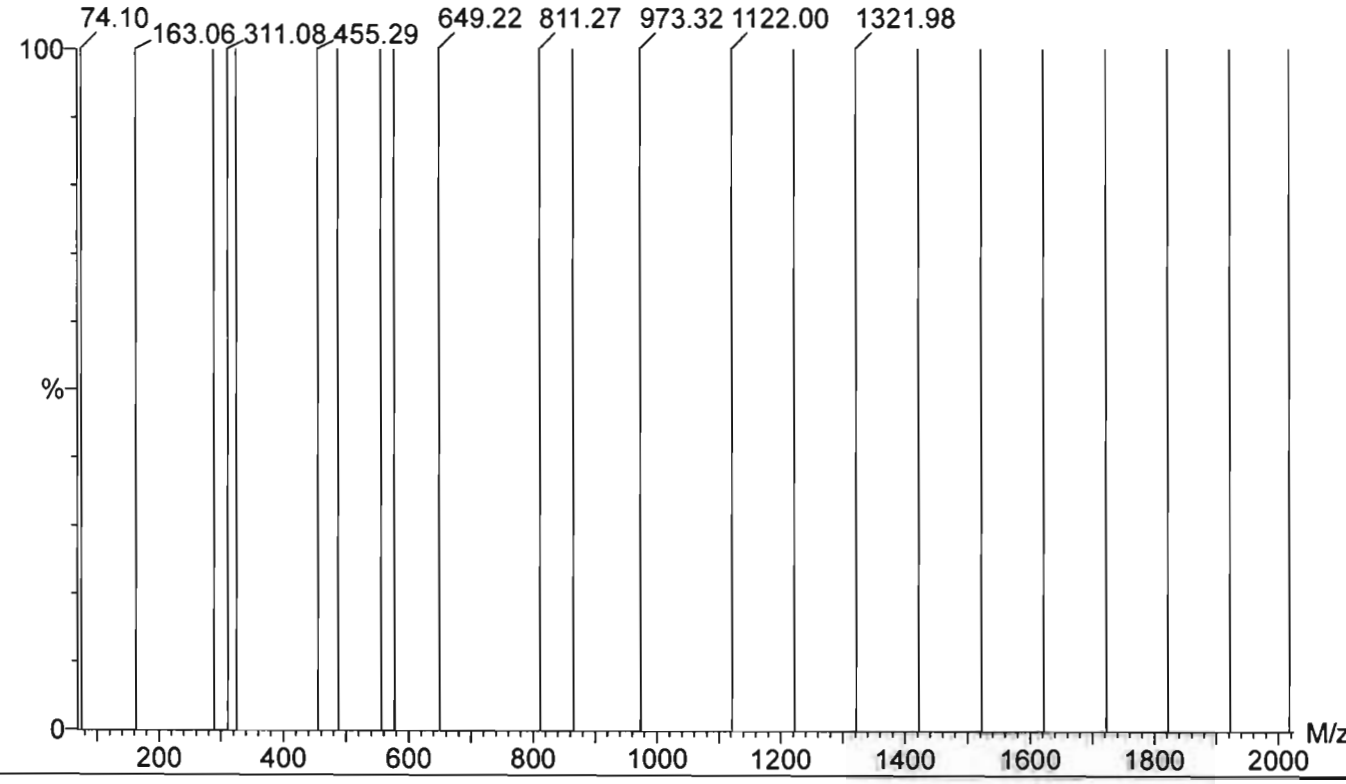
Data file: STATMS1V - Calibrated

23 matches of 23 tested references

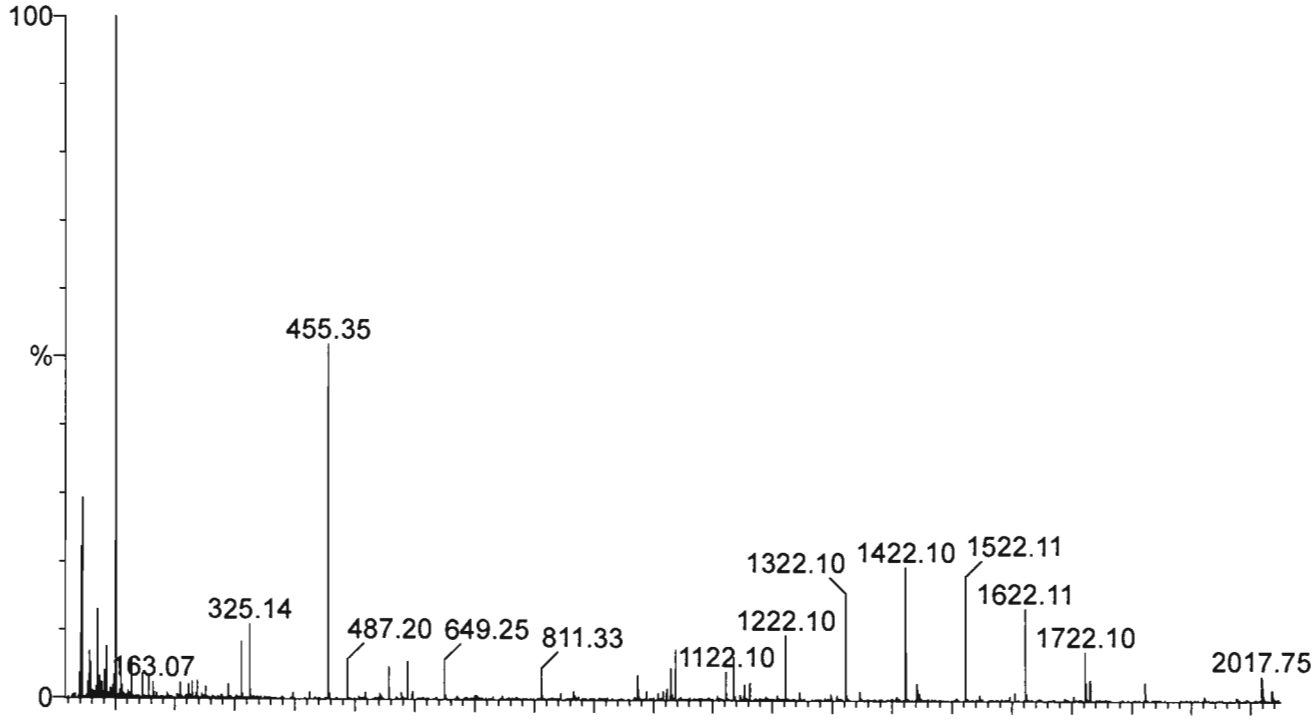


Reference: c:\masslynx\ref\ESI Calibration TQ ResCal.ref

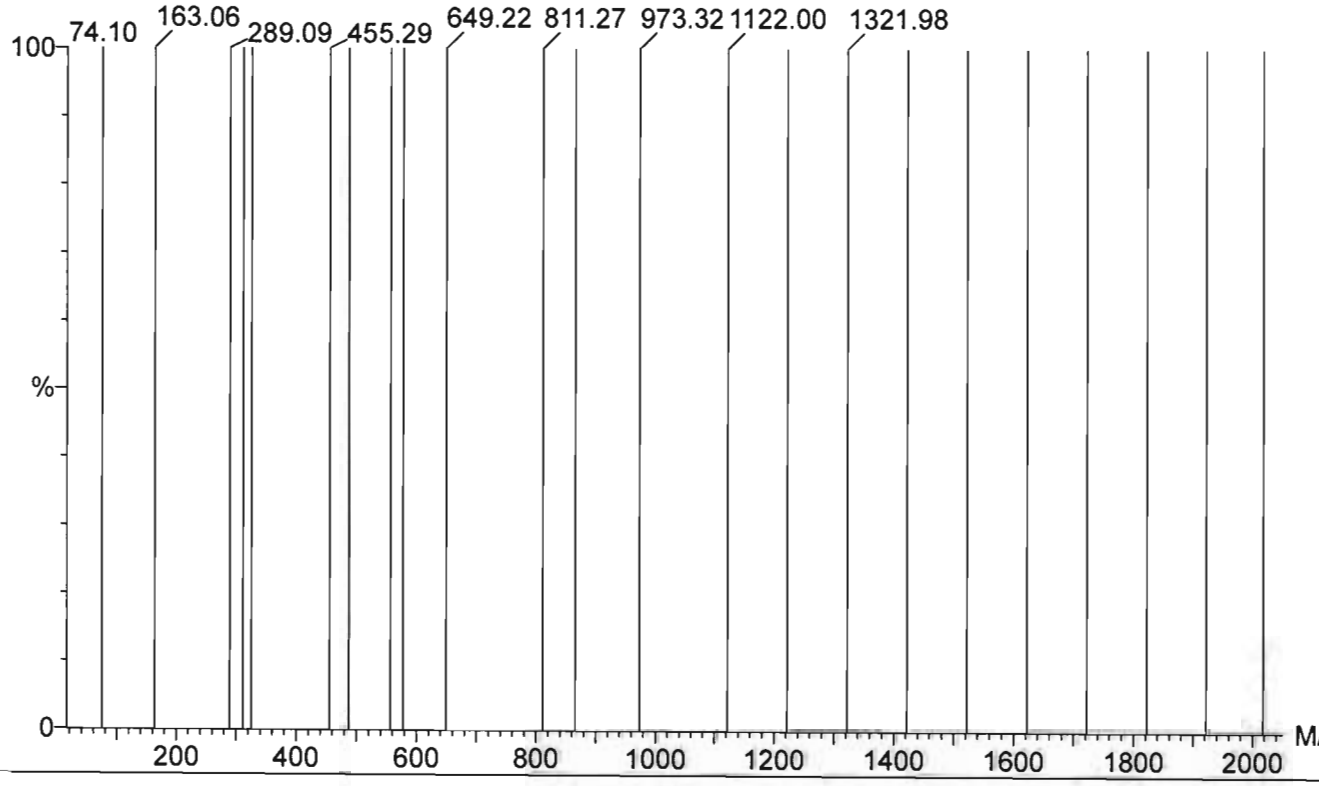
Mean residual = 0.0821 amu



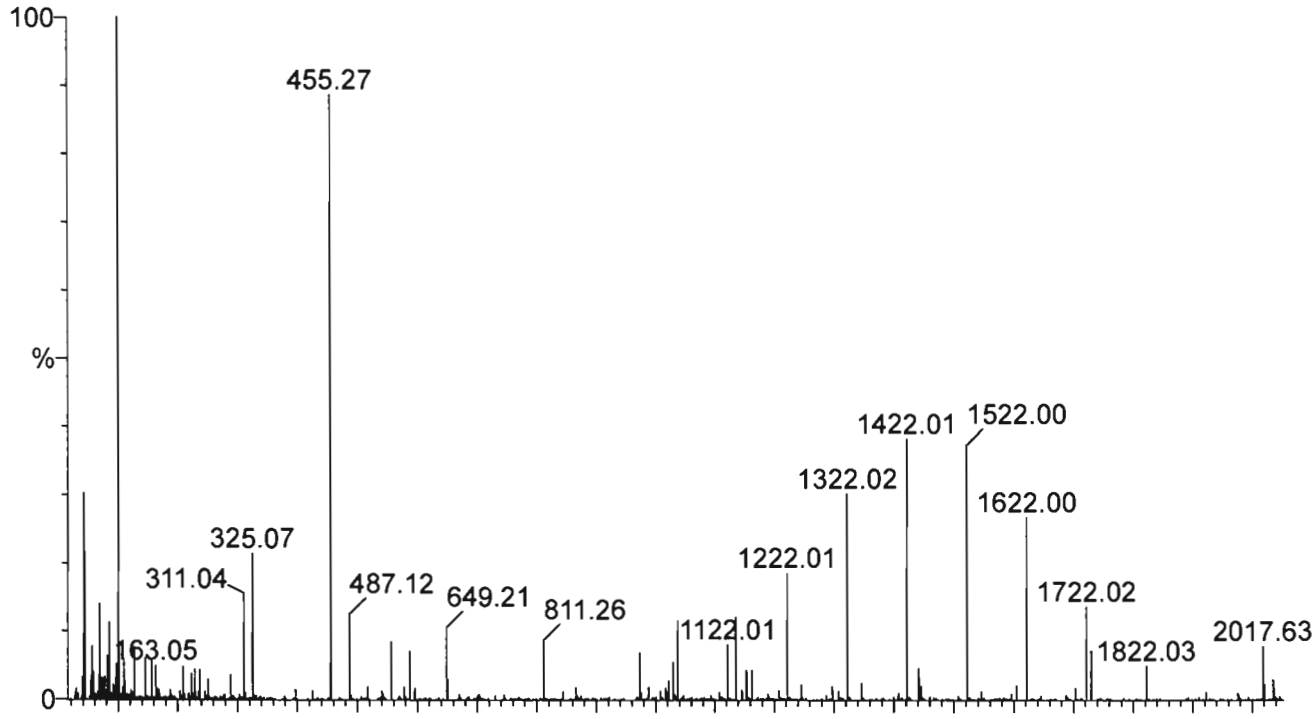
Data file: SCNMS1V - Calibrated 23 matches of 23 tested references



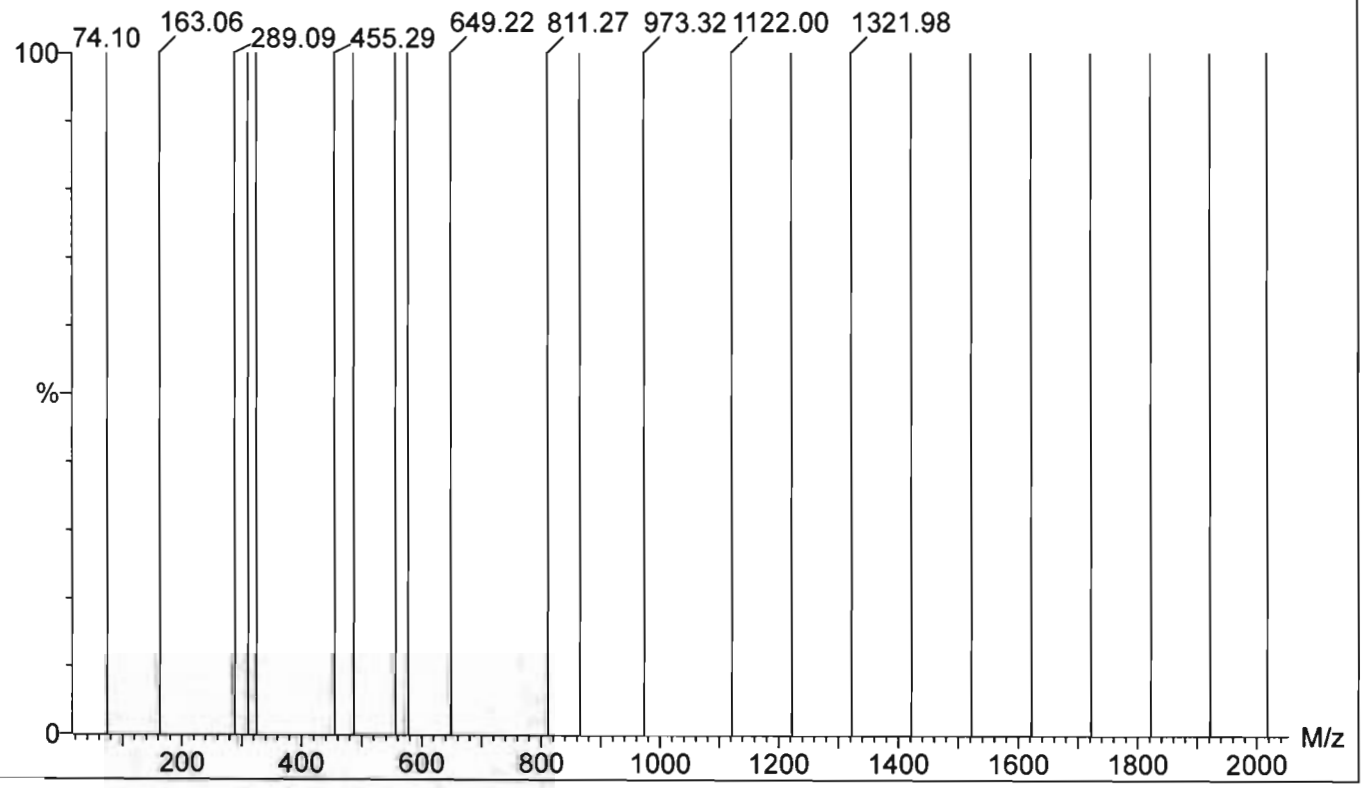
Reference: c:\masslynx\ref\ESI Calibration TQ ResCal.ref Mean residual = 0.0753 amu



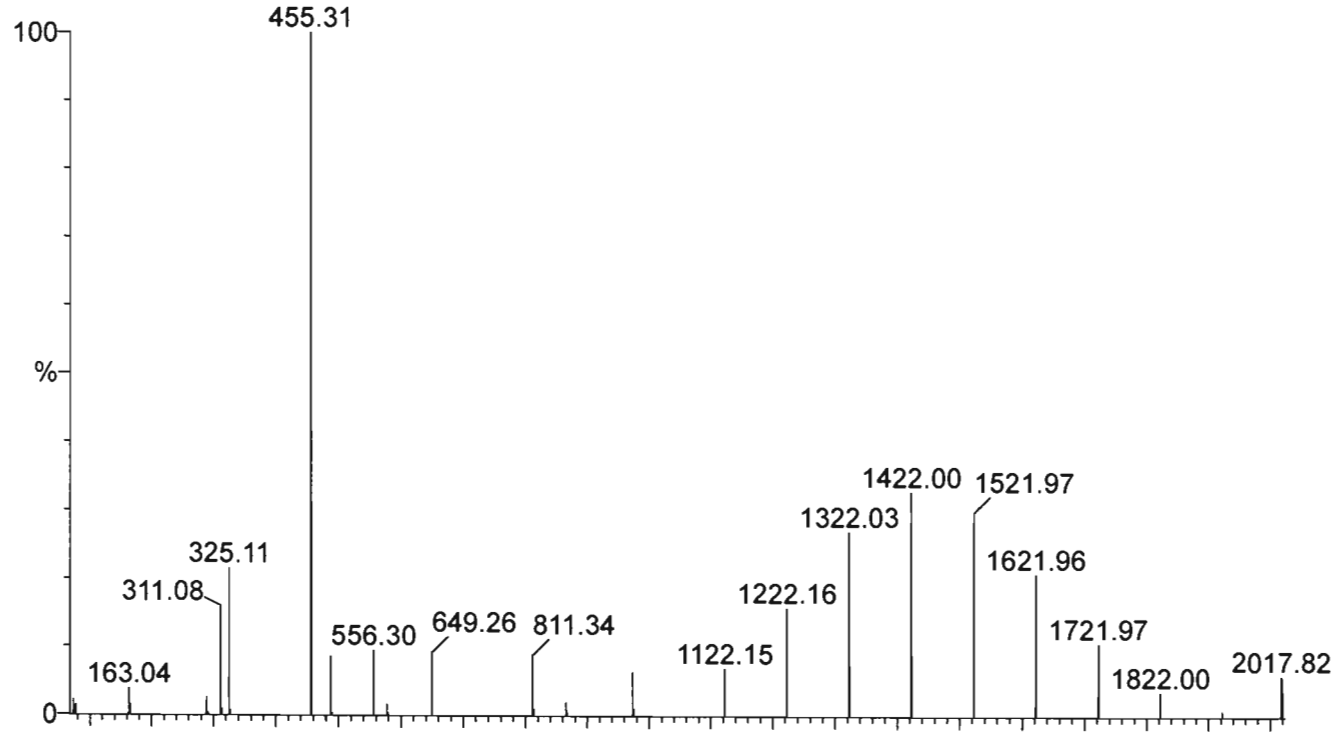
Data file: FASTMS1V - Calibrated 23 matches of 23 tested references



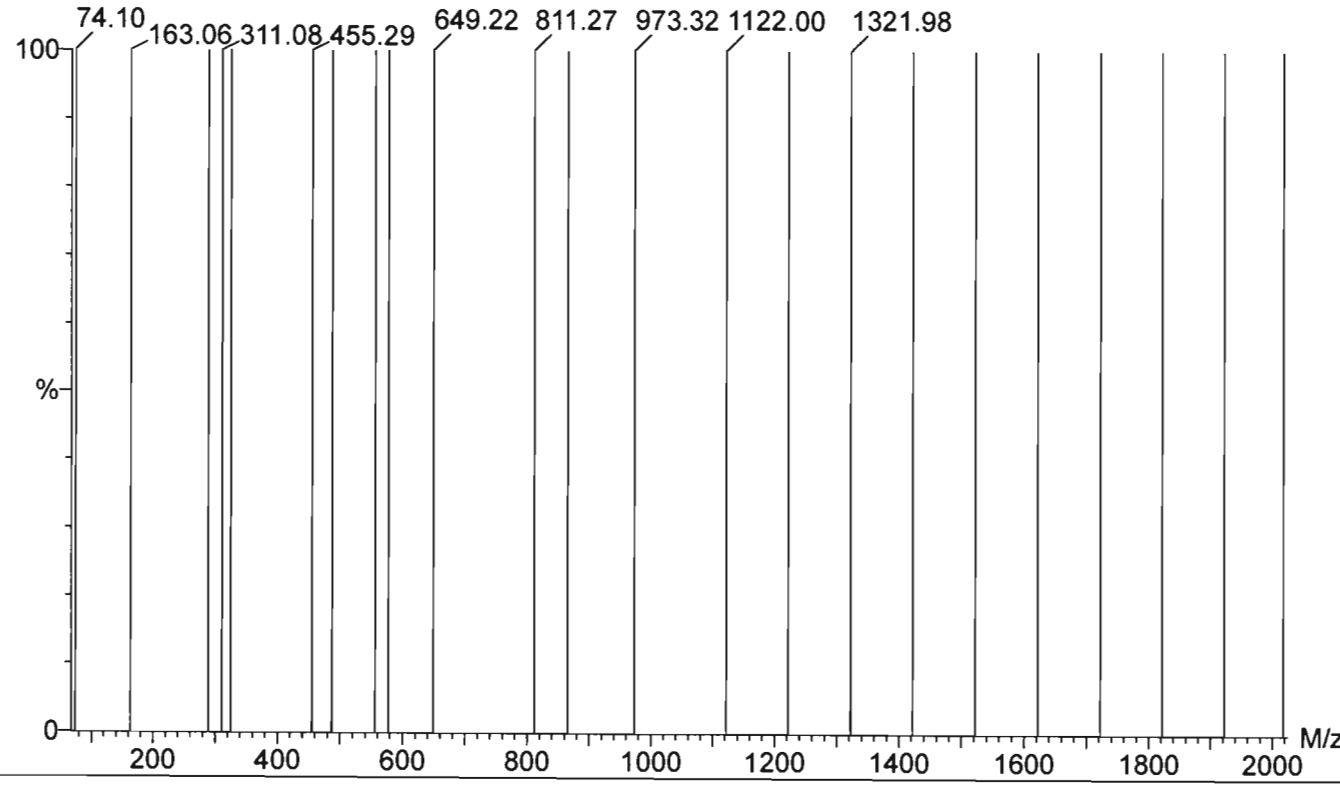
Reference: c:\masslynx\ref\ESI Calibration TQ ResCal.ref Mean residual = 0.036 amu



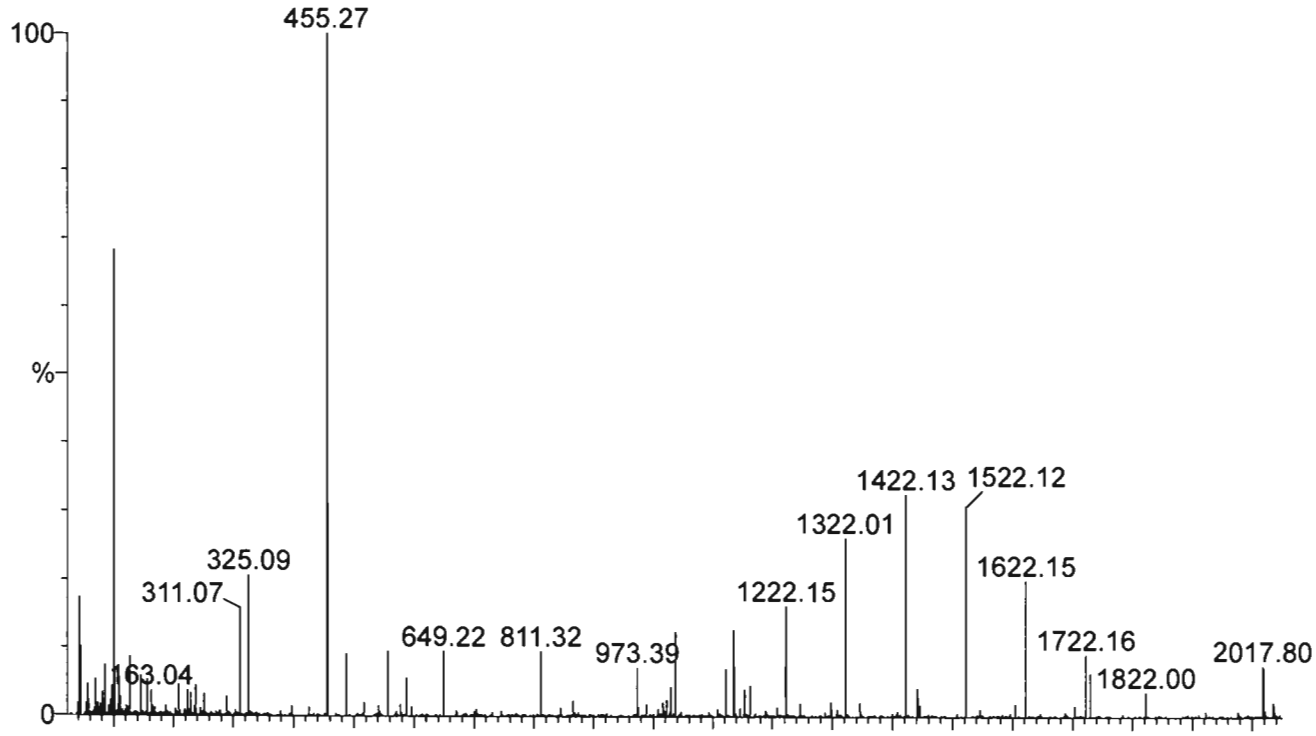
Data file: STATMS2V - Calibrated 23 matches of 23 tested references



Reference: c:\masslynx\ref\ESI Calibration TQ ResCal.ref Mean residual = 0.0496 amu



Data file: SCNMS2V - Calibrated 23 matches of 23 tested references



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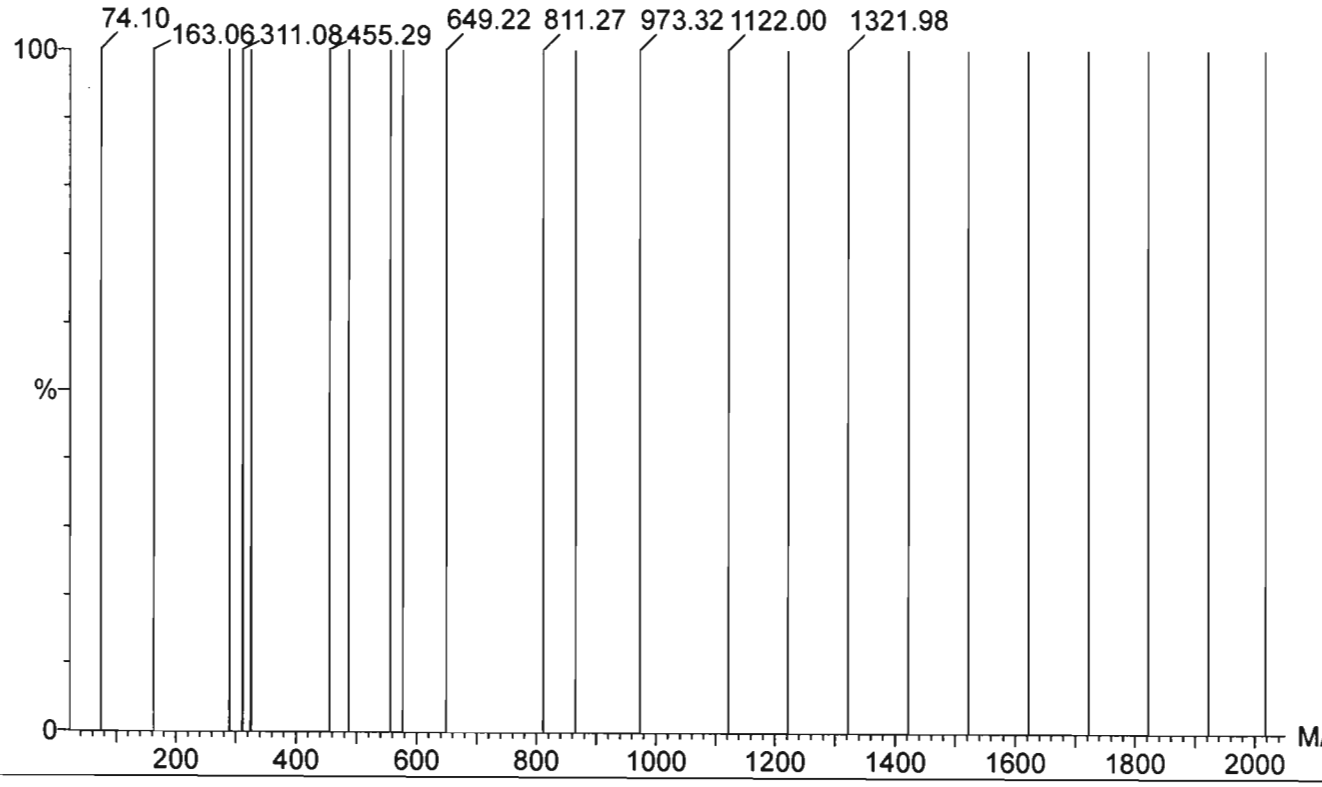
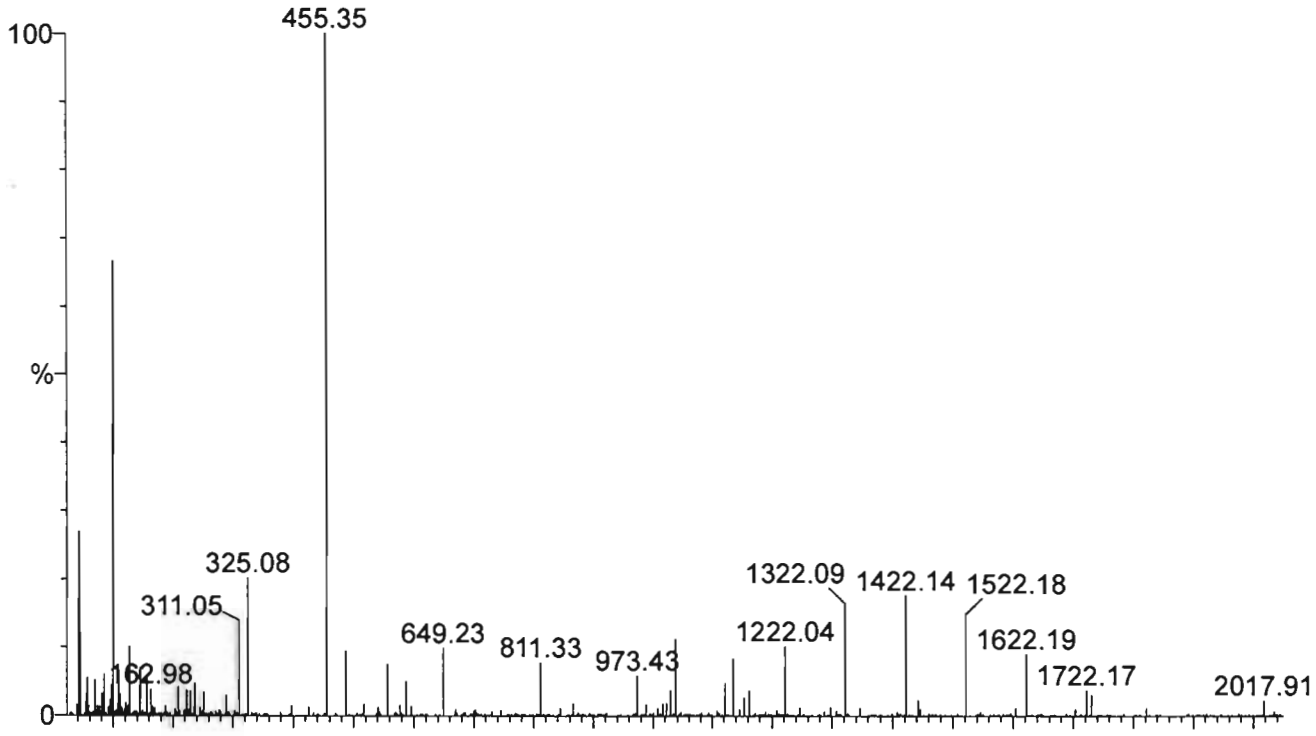
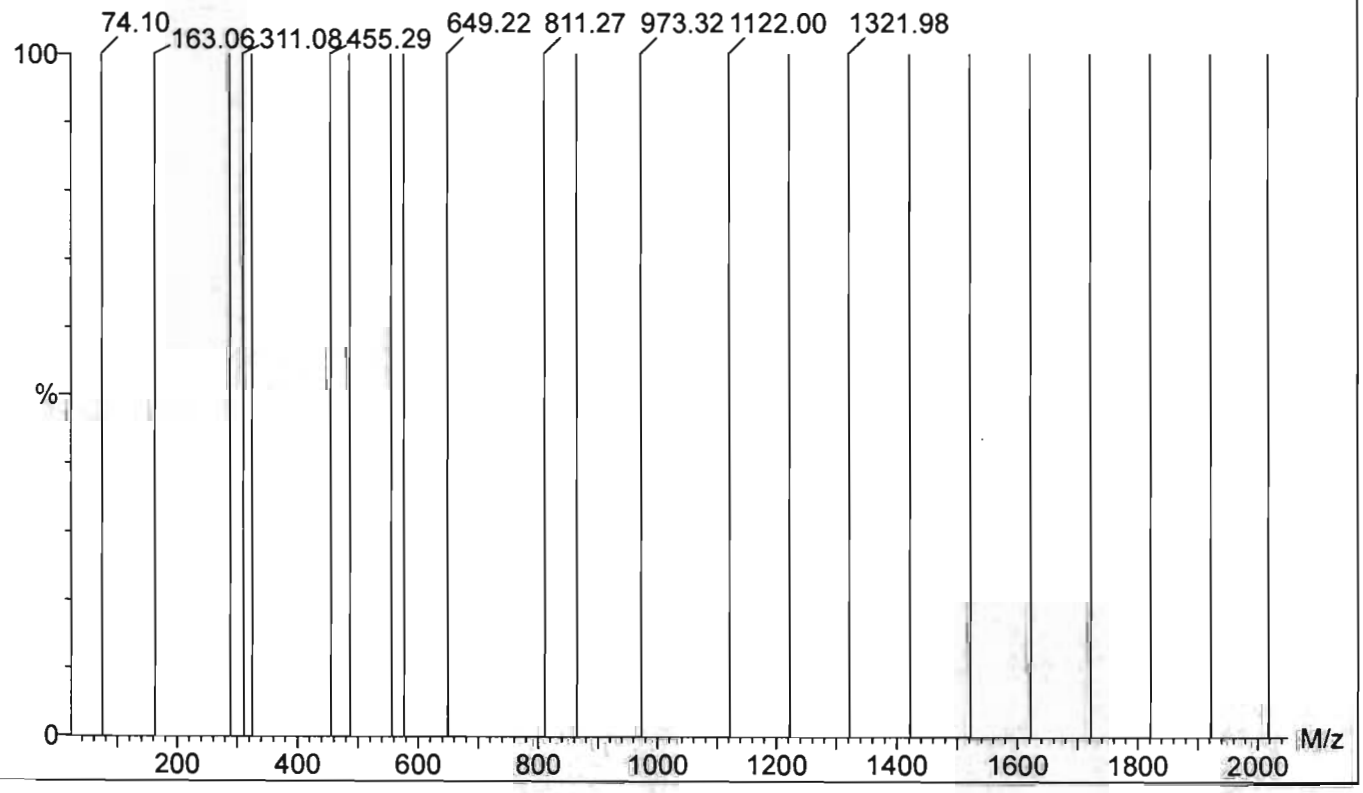


Printed: **Wed Jul 15 09:25:07 2020**

Data file: FASTMS2V - Calibrated 23 matches of 23 tested references



Reference: c:\masslynx\ref\ESI Calibration TQ ResCal.ref Mean residual = 0.0908 amu



STANDARDS

Analytical Standard Record

Vista Analytical Laboratory

20E1201

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	(mls)
19H2706	13C2-10:2 FTS	21-Aug-19	** Vendor **	21-Aug-24	1
19L0601	13C2-4:2 FTS	06-Dec-19	** Vendor **	29-Oct-24	1.07
19L0602	13C2-6:2 FTS	06-Dec-19	** Vendor **	21-Nov-24	1.05
19L0603	13C2-8:2 FTS	06-Dec-19	** Vendor **	11-Oct-24	1.04
19L0604	13C3-PFBA	06-Dec-19	** Vendor **	14-Dec-22	1
19L0605	13C2-PFDA	06-Dec-19	** Vendor **	05-Sep-24	1
19L0606	13C2-PFUdA	06-Dec-19	** Vendor **	04-Jul-24	1
19L0607	13C2-PFTeDA	06-Dec-19	** Vendor **	11-Dec-23	1
19L0608	13C5-PFNA	06-Dec-19	** Vendor **	05-Dec-23	1
19L0609	13C2-PFDoA	06-Dec-19	** Vendor **	11-Dec-23	1
19L0610	13C4-PFHpA	06-Dec-19	** Vendor **	06-May-24	1
19L0611	13C2-PFOA	06-Dec-19	** Vendor **	21-Jun-24	1
19L0612	13C3-PFPeA	06-Dec-19	** Vendor **	08-Mar-24	1
19L0613	13C8-FOSA-I	06-Dec-19	** Vendor **	19-Jun-24	1
19L0614	d3-N-Me-FOSAA	06-Dec-19	** Vendor **	24-Jul-24	1
19L0615	d5-N-EtFOSAA	06-Dec-19	** Vendor **	25-Jul-24	1
19L0616	13C3-PFBS	06-Dec-19	** Vendor **	29-Oct-24	1.075
19L0617	13C8-PFOS	06-Dec-19	** Vendor **	06-May-24	1.045
19L0618	13C3-PFHxS	06-Dec-19	** Vendor **	15-Oct-24	1.06
19L0619	13C2-PFHxA	06-Dec-19	** Vendor **	11-Oct-24	1
19L0620	13C2-PFHxDA	06-Dec-19	** Vendor **	11-Oct-24	1
19L0621	13C3-HFPO-DA	06-Dec-19	** Vendor **	20-Sep-22	1

Description:	PFC - IS	Expires:	12-May-21
Standard Type:	Reagent	Prepared:	12-May-20
Solvent:	MeOH	Prepared By:	Brittany M. Lamb
Final Volume (mls):	40	Department:	LCMS
Vials:	1	Last Edit:	12-May-20 10:53 by BML

10:2 added
10 uL spike

Analyte	CAS Number	Concentration	Units
13C3-HFPO-DA		1.25	ug/mL
13C2-4:2 FTS		1.25	ug/mL
13C2-6:2 FTS		1.25	ug/mL
13C2-8:2 FTS		1.25	ug/mL
13C2-PFDA		1.25	ug/mL
13C2-PFDoA		1.25	ug/mL
13C2-PFHxA		1.25	ug/mL
13C2-PFHxDA		1.25	ug/mL
13C2-PFOA		1.25	ug/mL
13C2-10:2 FTS		1.25	ug/mL
13C2-PFUnA		1.25	ug/mL
d5-EtFOSAA		1.25	ug/mL

Analytical Standard Record

Vista Analytical Laboratory

20E1201

Description:	PFC - IS	Expires:	12-May-21
Standard Type:	Reagent	Prepared:	12-May-20
Solvent:	MeOH	Prepared By:	Brittany M. Lamb
Final Volume (mls):	40	Department:	LCMS
Vials:	1	Last Edit:	12-May-20 10:53 by BML

10:2 added
10 uL spike

Analyte	CAS Number	Concentration	Units
13C3-PFBA		1.25	ug/mL
13C3-PFBS		1.25	ug/mL
13C3-PFHxS		1.25	ug/mL
13C3-PFPeA		1.25	ug/mL
13C4-PFHpA		1.25	ug/mL
13C5-PFNA		1.25	ug/mL
13C8-PFOS		1.25	ug/mL
13C8-PFOSA		1.25	ug/mL
d3-MeFOSAA		1.25	ug/mL
13C2-PFTeDA		1.25	ug/mL

19H27016

Cambridge Isotope Laboratories, Inc.

Certificate of Analysis

Product Name:
(Isotopic Label & Enrichment Specification)
1H,1H,2H,2H-PERFLUORODODECANE SULFONATE(10:2 FTS), SODIUM SALT (13C2, 99%; D4, 98%) 50 UG/ML IN MEOH

Lot Number: SDIJ-019A

Catalog Number: CDLM-10750-S

Product Information

Chemical Purity Specification:	≥ 98%
MW*: * *For isotopically labeled compounds, MW listed is for the fully enriched product.*	656.19
Labeled CAS Number:	NA
Unlabeled CAS Number:	108026-35-3
Chemical Formula:	C10*C2D4F21NaO3S
Storage:	Store at room temperature away from light and moisture.
Stability:	See storage and expiration date.

Certification

Cambridge Isotope Laboratories, Inc. guarantees that this material meets or exceeds the specifications stated. Absolute identity as well as chemical and isotopic purities are assured by the use of unambiguous synthetic routes and multiple chemical analyses whenever possible. Results are representative of QC testing at time of release from Quality Control unless otherwise stated. CIL Certificates of Analysis are occasionally updated with new data following recertification. We recommend checking the website for the latest version.

Volumetric measurements were made with Class A glassware. Gravimetry is traceable to the NIST through calibrated balances and certified, calibrated, standard weights. The calibrations are traceable to the NIST under Test No. 822/270236-04. The calibrations also meet specifications outlined in ISO 9001, ISO/IEC 17025, ANSI/NSCL Z540-1-1994, NCR Document 10CFR50 Appendix B, and applicable subdocuments.

This COA references the bulk catalog number before packaging. The COA also applies to the CIL finished good catalog number . Some possible packaging sizes and their corresponding suffix are -1.2, -1, -0.5, -10, or -0.1.

Approved by: Sashi Sivendran-Basak

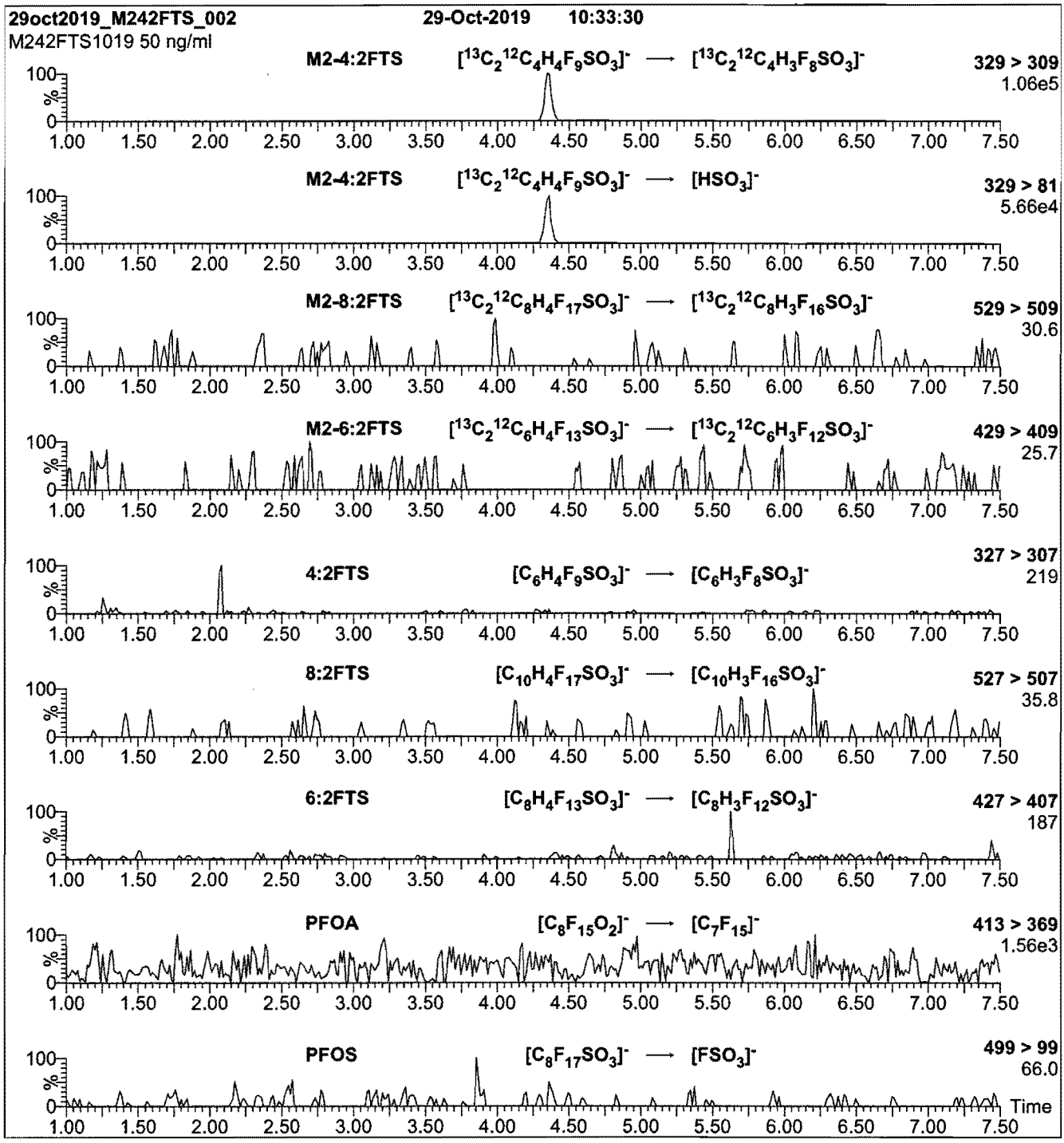
Sashi Sivendran-Basak, Ph.D., Quality Review

Quality Control Tests and Results

QC Release Date	8/21/2019
Expiration Date	8/21/2024
Concentration Based on Gravimetry	50.0 ± 0.5 µg/mL (k=2)
Chemical Purity of Neat Material(s)	100.0%

CIL subscribes to the following standards for different products: ISO Guide 34, ISO/IEC 17025, ISO 13485 and cGMP as appropriate.

Figure 2: **M2-4:2FTS; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (M2-4:2FTS)

Mobile phase: Same as Figure 1

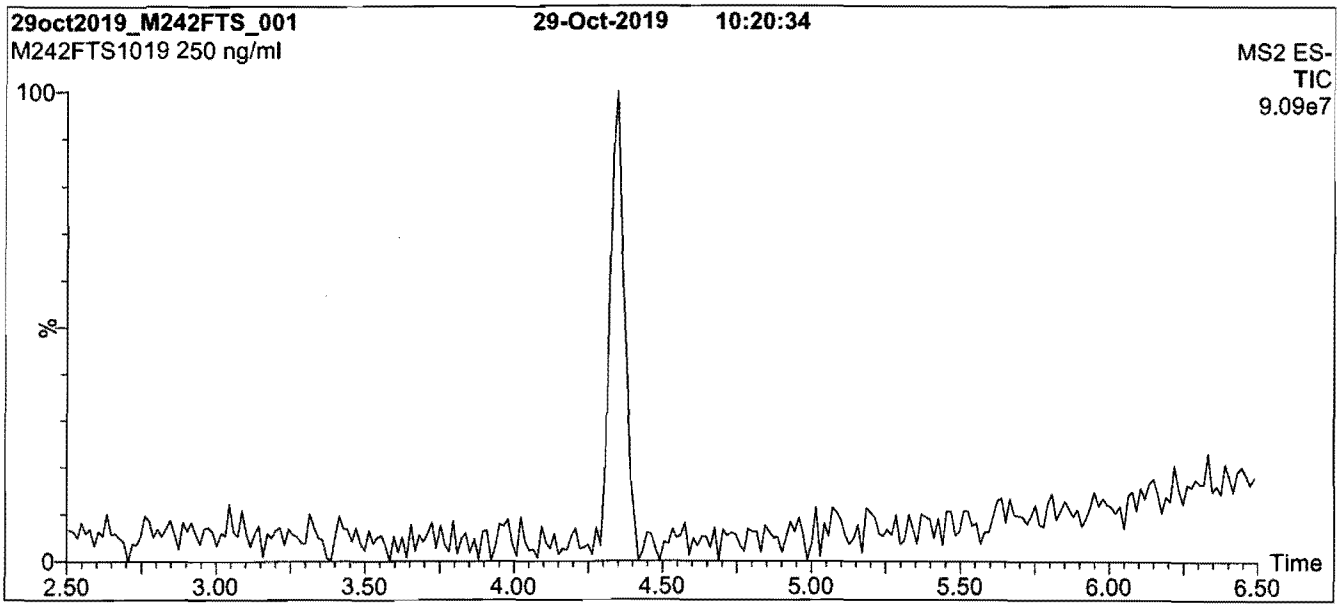
Flow: 300 µl/min

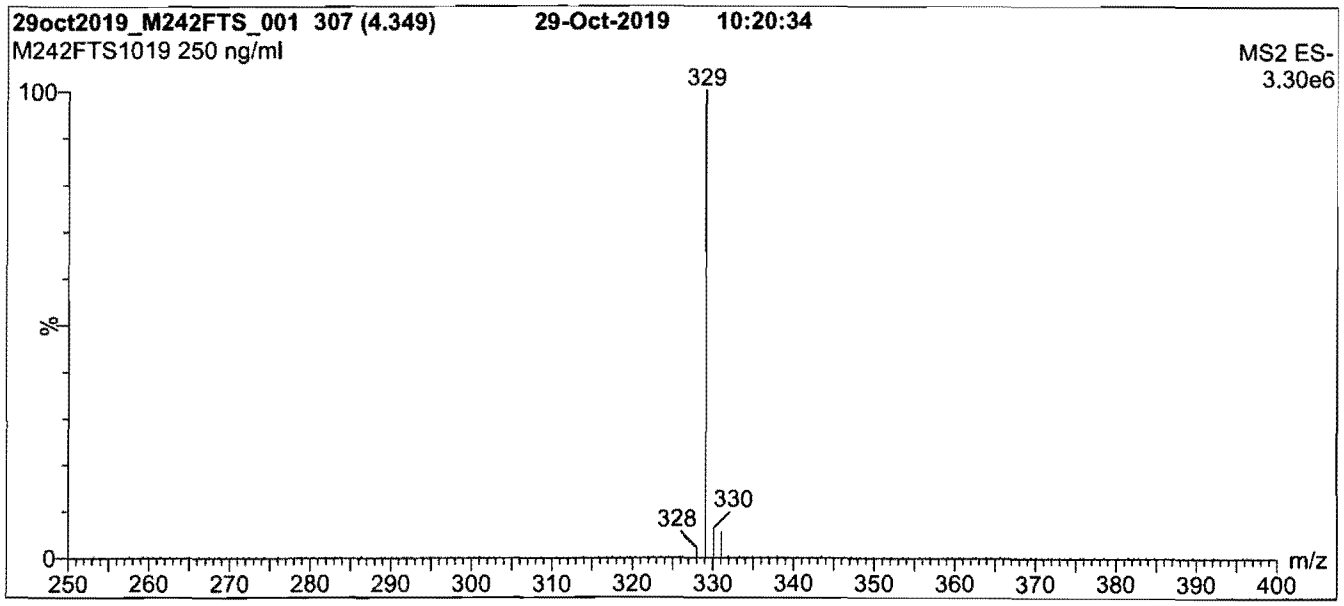
MS Parameters

Collision Gas (mbar) = 3.51e-3
Collision Energy (eV) = 18

19L0601

Figure 1: **M2-4:2FTS; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 40% (80:20 MeOH:ACN) / 60% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (250 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 0.50
Cone Voltage (V) = 25.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2,...x_n$ on which it depends is:

$$u_c(y(x_1, x_2, ...x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

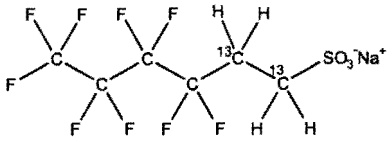
For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

19L0601

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	M2-4:2FTS	**LOT NUMBER:**	M242FTS1019
COMPOUND:	Sodium 1H,1H,2H,2H-perfluoro-[1,2-$^{13}C_2$]hexane sulfonate		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_2{}^{12}C_4H_4F_9SO_3Na$	**MOLECULAR WEIGHT:**	352.12
CONCENTRATION:	50.0 ± 2.5 µg/ml (Na salt)	**SOLVENT(S):**	Methanol
	46.7 ± 2.3 µg/ml (M2-4:2FTS anion)		
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2\text{-}^{13}C_2$)
LAST TESTED: (mm/dd/yyyy)	10/29/2019		
EXPIRY DATE: (mm/dd/yyyy)	10/29/2024		
RECOMMENDED STORAGE:	Refrigerate ampoule		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

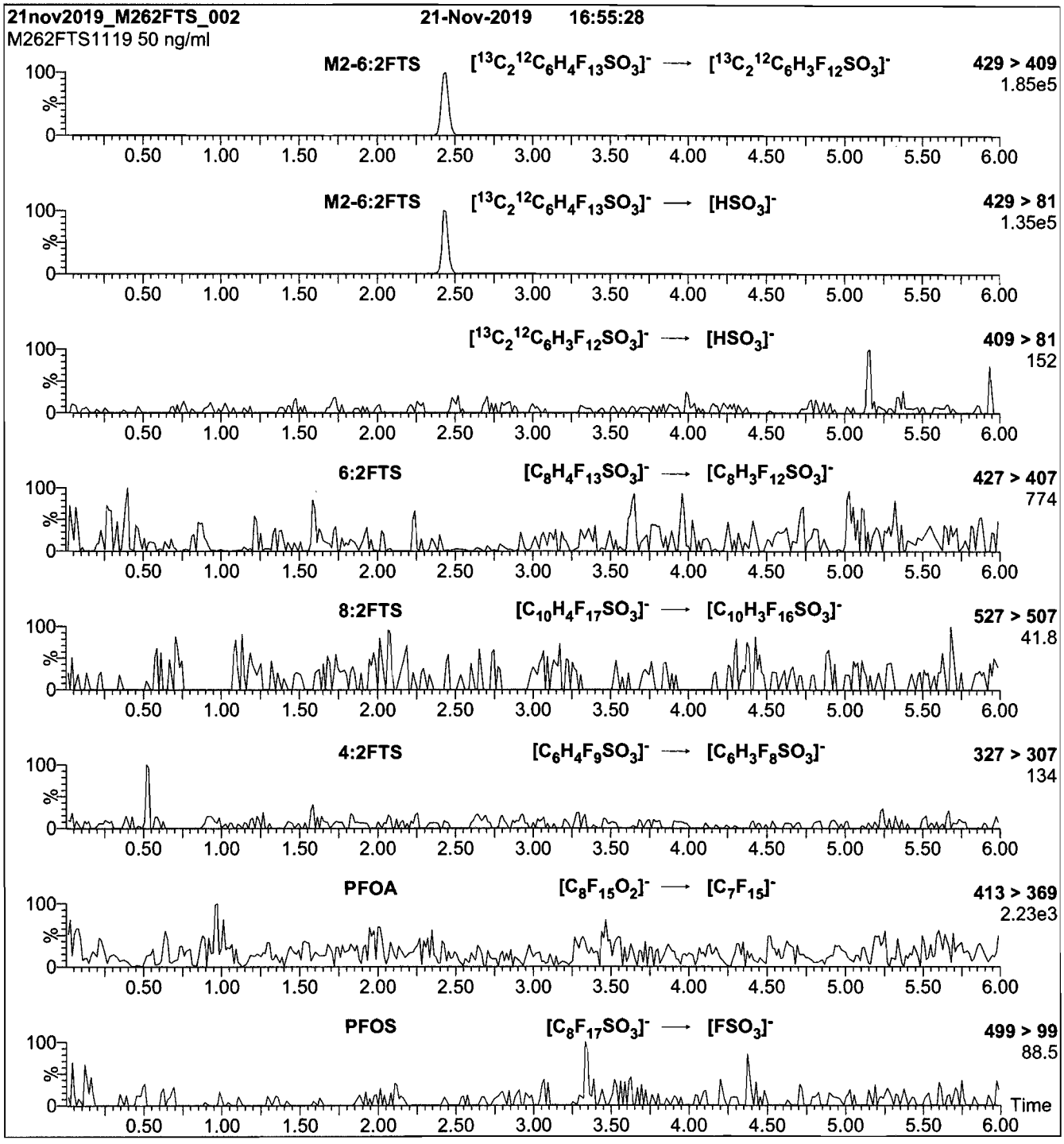
- See page 2 for further details.
- The native 4:2FTS contains 4.22% of ^{34}S (due to natural isotopic abundance) therefore both native 4:2FTS and M2-4:2FTS will produce signals in the m/z 329 to m/z 309 channel during SRM analysis. We recommend using the m/z 329 to m/z 81 transition to monitor for M2-4:2FTS during quantitative analysis as it will be free of any native contribution (see Figure 2).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 11/05/2019 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Figure 2: **M2-6:2FTS; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (M2-6:2FTS)

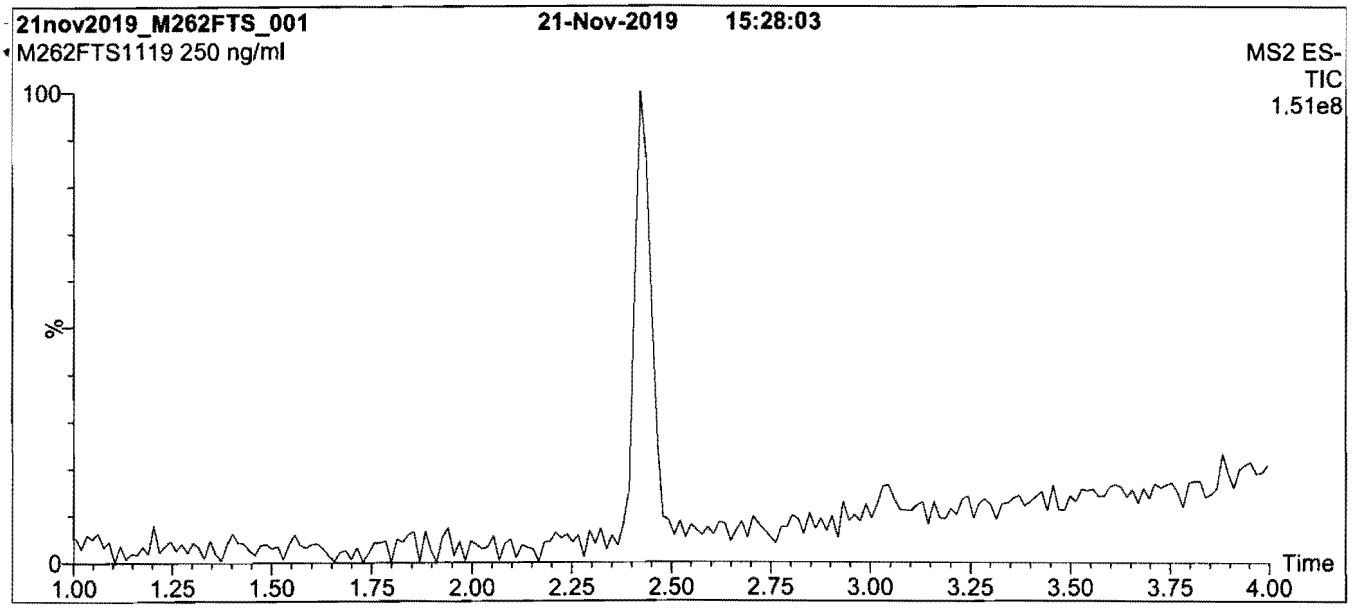
Mobile phase: Same as Figure 1

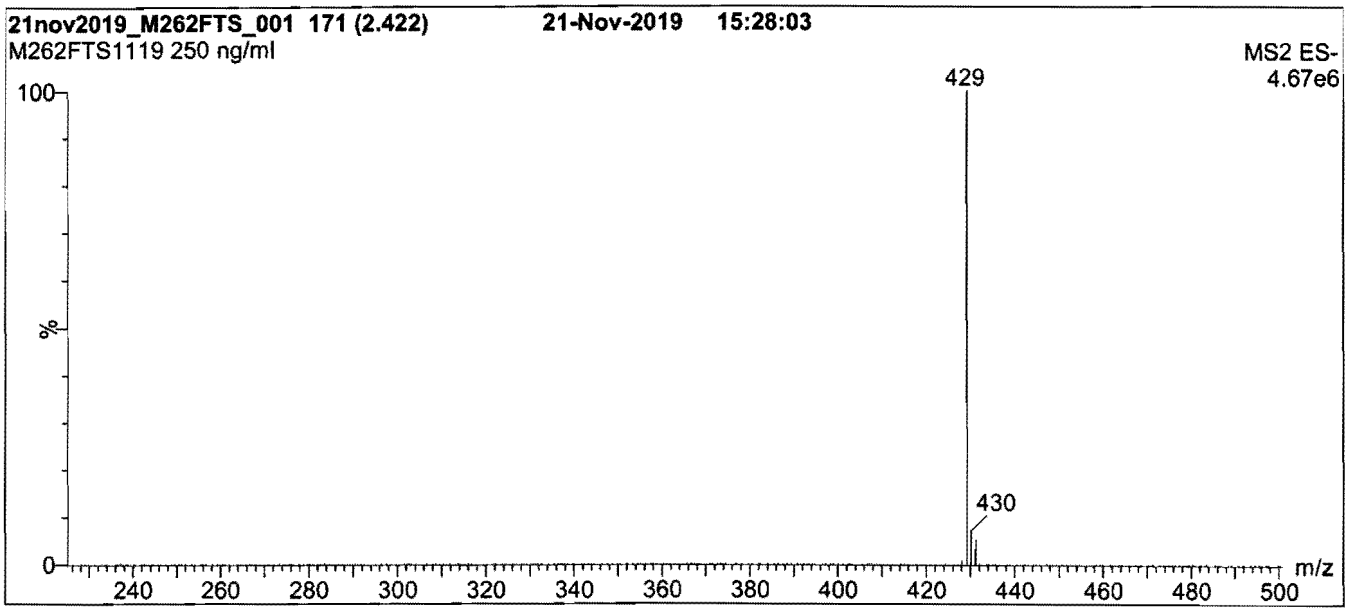
Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.31e-3
Collision Energy (eV) = 20

Figure 1: **M2-6:2FTS; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 60% (80:20 MeOH:ACN) / 40% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for
3 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 0.50
Cone Voltage (V) = 25.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

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HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

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where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

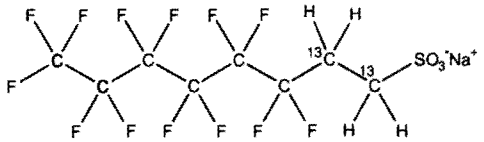
For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

19L0602

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	M2-6:2FTS	**LOT NUMBER:**	M262FTS1119
COMPOUND:	Sodium 1H,1H,2H,2H-perfluoro-[1,2-$^{13}C_2$]octane sulfonate		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_2{}^{12}C_6H_4F_{13}SO_3Na$	**MOLECULAR WEIGHT:**	452.13
CONCENTRATION:	50.0 ± 2.5 µg/ml (Na salt) 47.5 ± 2.4 µg/ml (M2-6:2FTS anion)	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2\text{-}^{13}C_2$)
LAST TESTED: (mm/dd/yyyy)	11/21/2019		
EXPIRY DATE: (mm/dd/yyyy)	11/21/2024		
RECOMMENDED STORAGE:	Refrigerate ampoule		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

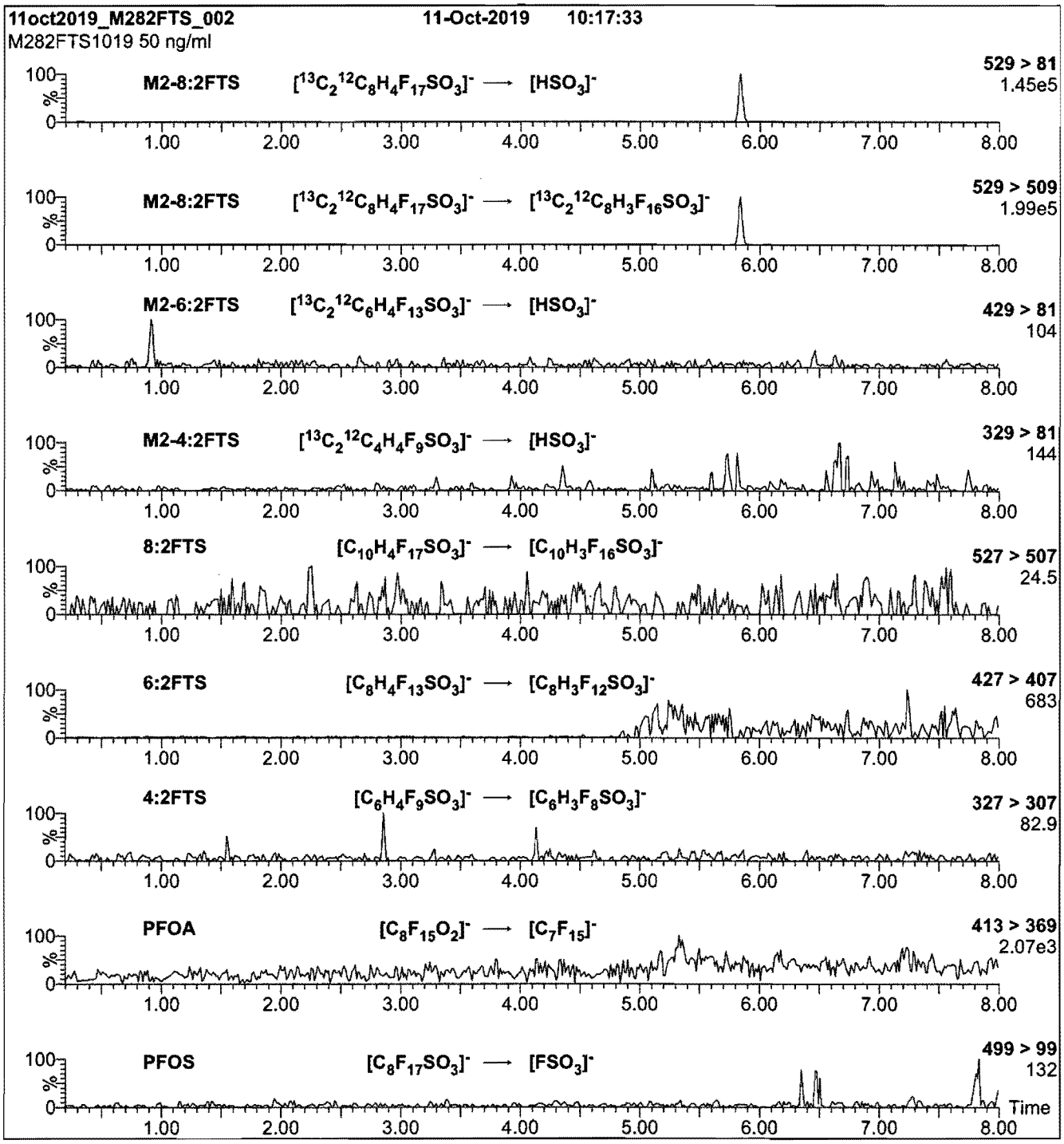
- See page 2 for further details.
- The native 6:2FTS contains 4.22% of ^{34}S (due to natural isotopic abundance) therefore both native 6:2FTS and M2-6:2FTS will produce signals in the m/z 429 to m/z 409 channel during SRM analysis. We recommend using the m/z 429 to m/z 81 transition to monitor for M2-6:2FTS during quantitative analysis as it will be free of any native contribution (see Figure 2).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 11/25/2019 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Figure 2: **M2-8:2FTS; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (M2-8:2FTS)

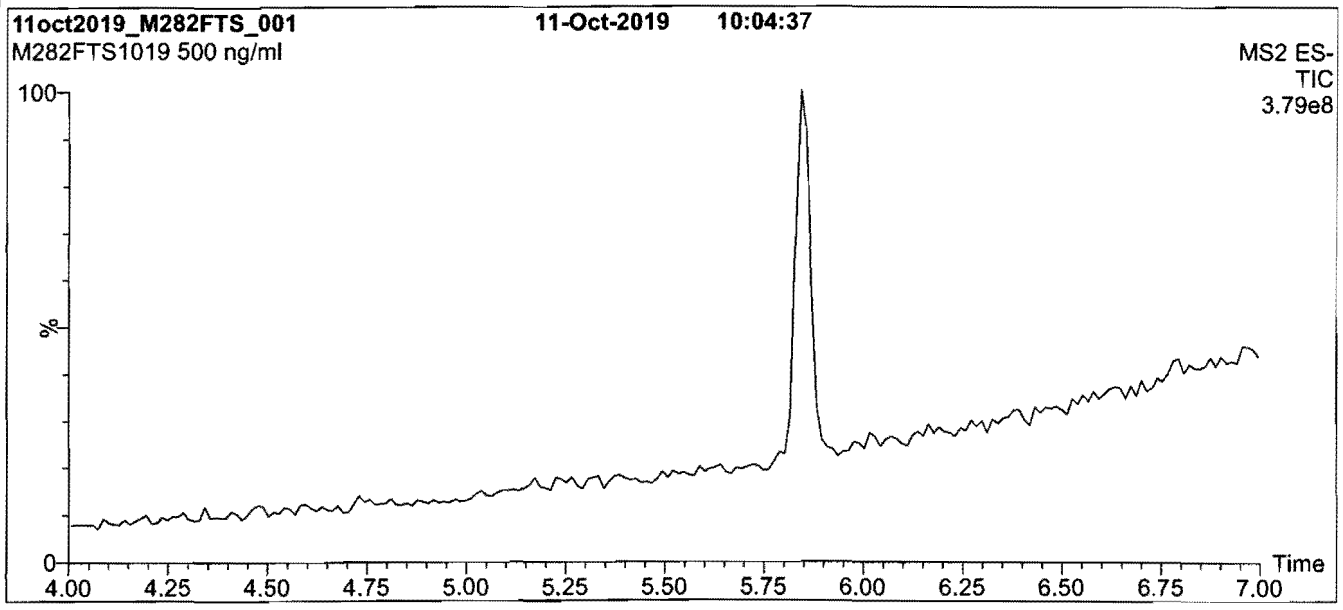
Mobile phase: Same as Figure 1

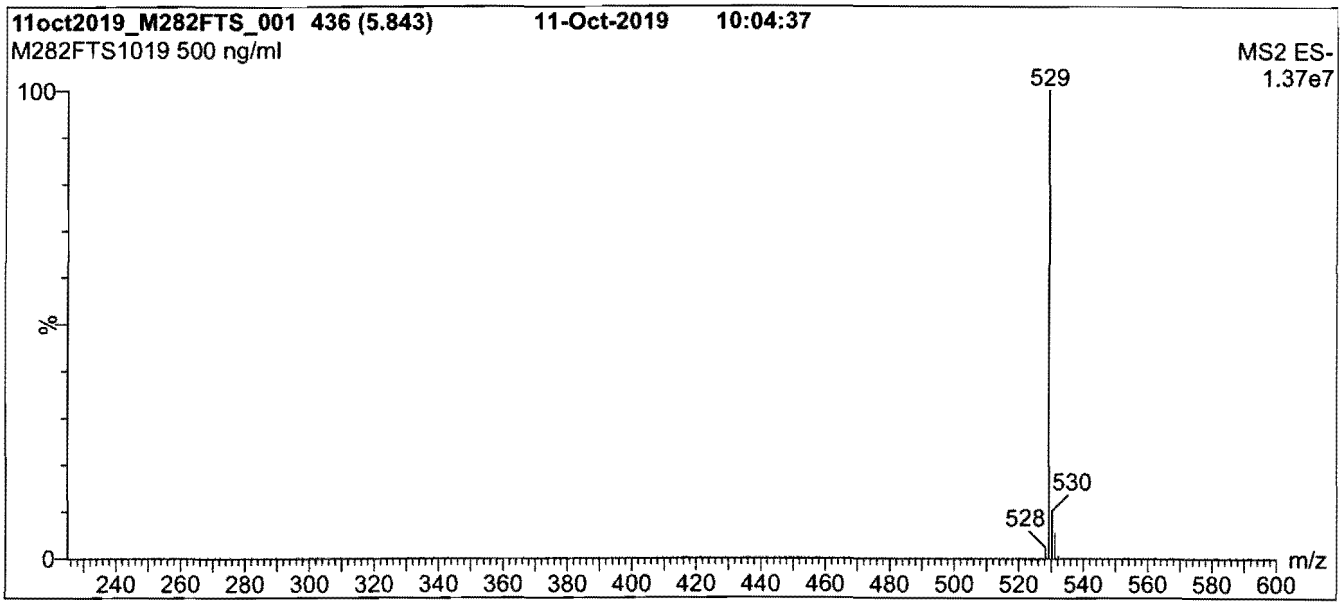
Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.87e-3
Collision Energy (eV) = 26

Figure 1: **M2-8:2FTS; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 0.50
Cone Voltage (V) = 25.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

19L0603

INTENDED USE:

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HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

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HOMOGENEITY:

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UNCERTAINTY:

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The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

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EXPIRY DATE / PERIOD OF VALIDITY:

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LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A 1226

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

19L0603

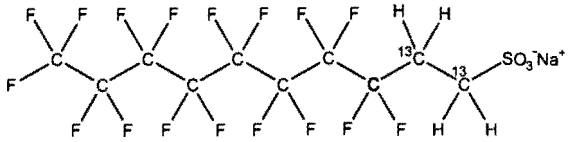
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: M2-8:2FTS **LOT NUMBER:** M282FTS1019

COMPOUND: Sodium 1H,1H,2H,2H-perfluoro-[1,2-$^{13}C_2$]decane sulfonate

STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA:	$^{13}C_2{}^{12}C_8H_4F_{17}SO_3Na$	**MOLECULAR WEIGHT:**	552.15
CONCENTRATION:	50.0 ± 2.5 µg/ml (Na salt) 47.9 ± 2.4 µg/ml (M2-8:2FTS anion)	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2\text{-}^{13}C_2$)
LAST TESTED: (mm/dd/yyyy)	10/11/2019		
EXPIRY DATE: (mm/dd/yyyy)	10/11/2024		
RECOMMENDED STORAGE:	Refrigerate ampoule		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- The native 8:2FTS contains 4.22% of ^{34}S (due to natural isotopic abundance) therefore both native 8:2FTS and M2-8:2FTS will produce signals in the m/z 529 to m/z 509 channel during SRM analysis. We recommend using the m/z 529 to m/z 81 transition to monitor for M2-8:2FTS during quantitative analysis as it will be free of any native contribution (see Figure 2).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 10/15/2019 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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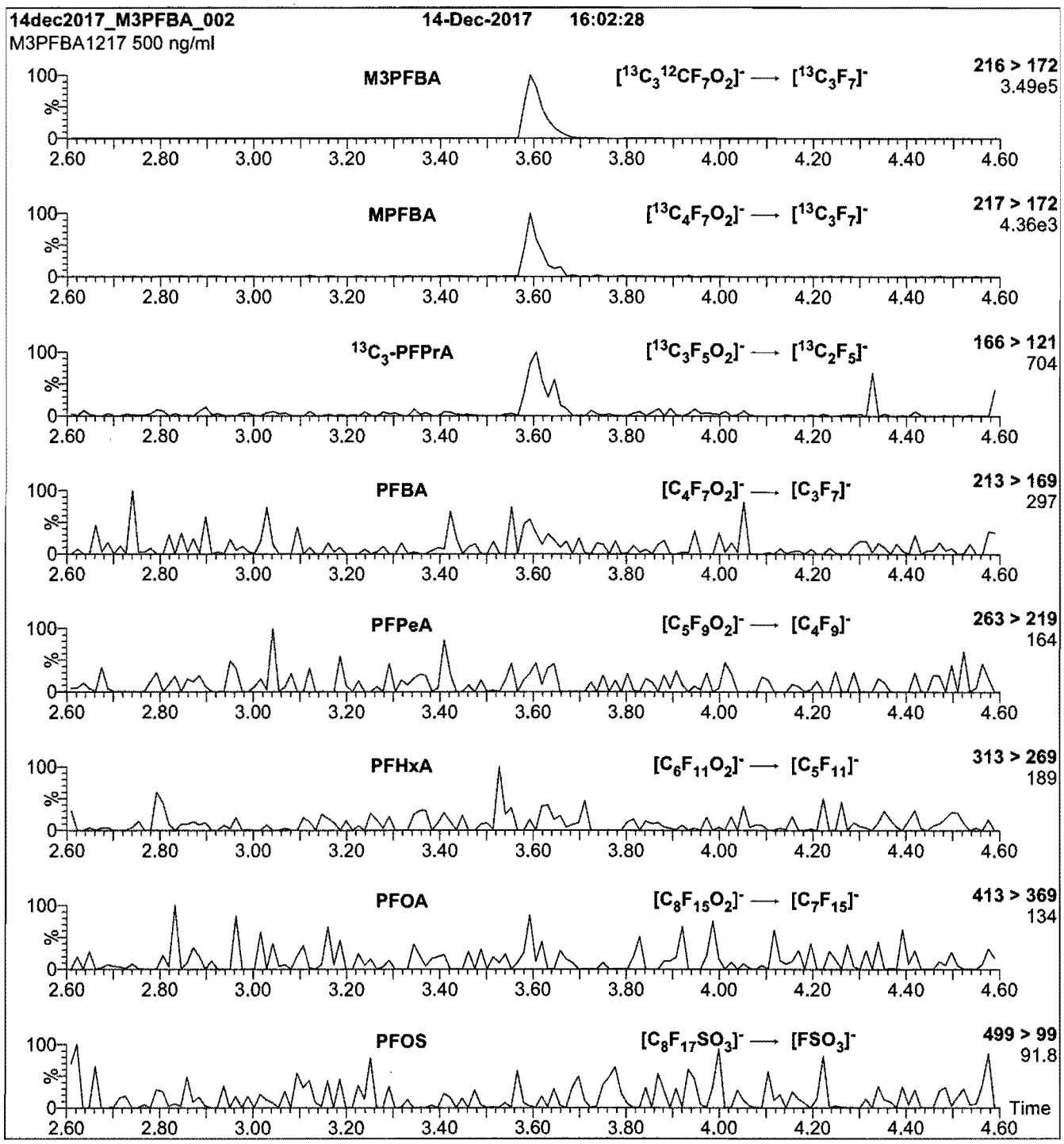
Figure 2: **M3PFBA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml M3PFBA)

Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O
(both with 10 mM NH_4OAc buffer)

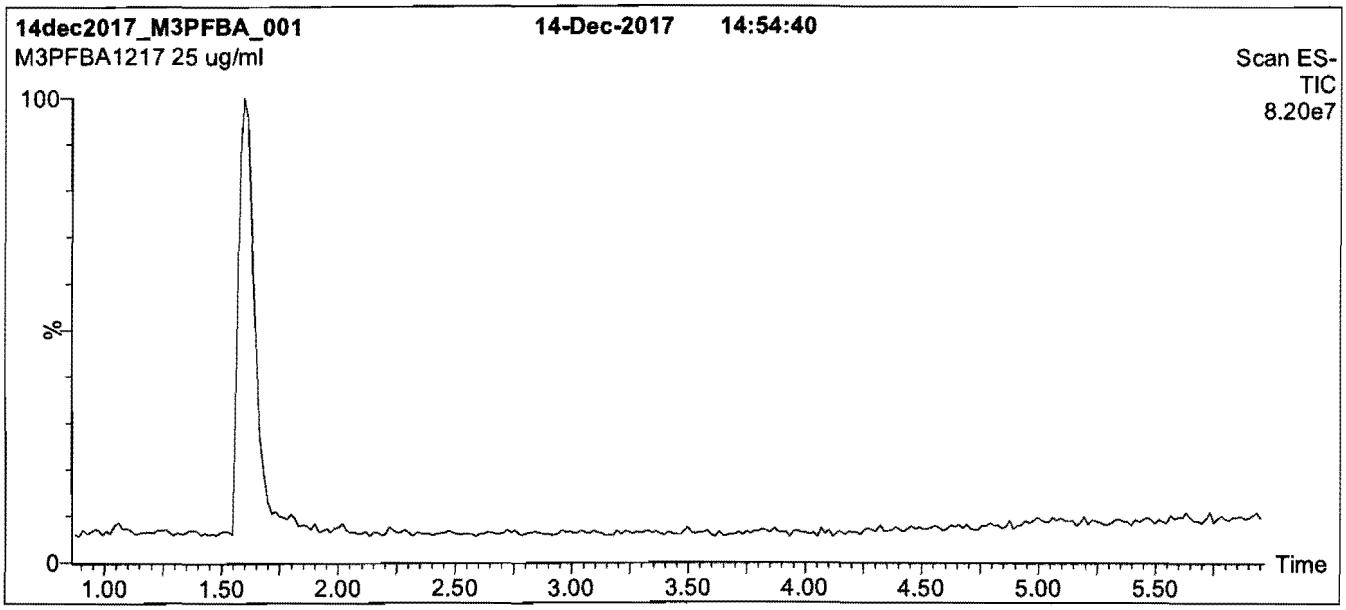
Flow: 300 µl/min

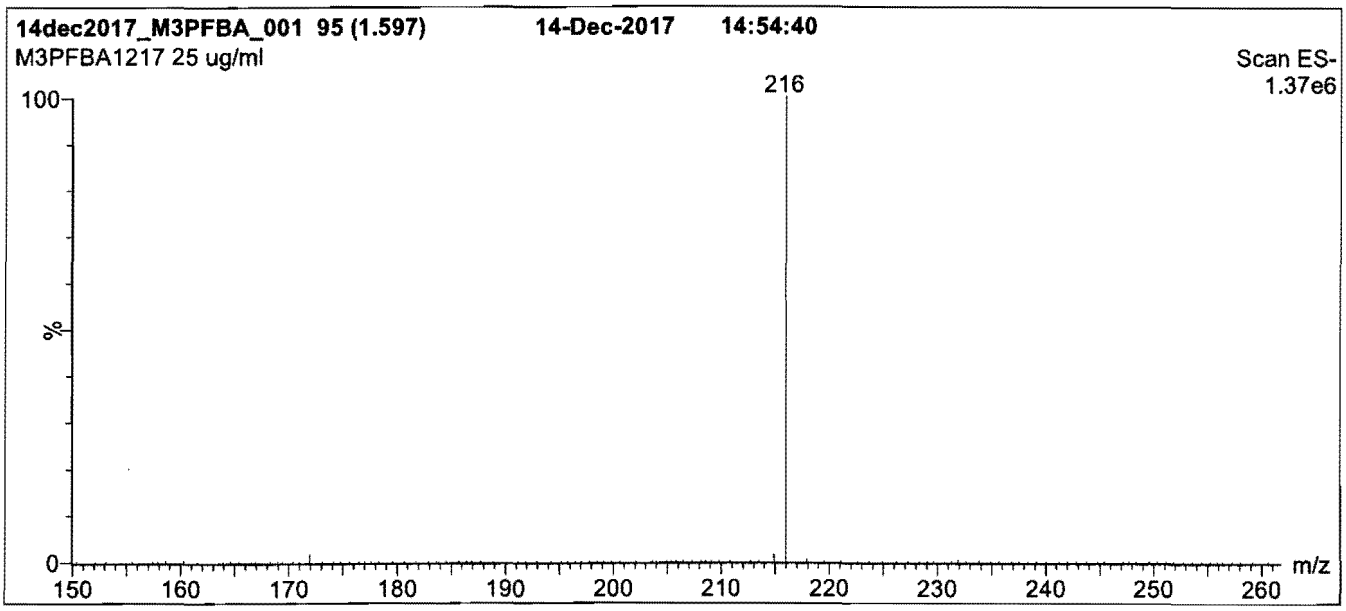
MS Parameters

Collision Gas (mbar) = 3.39e-3
Collision Energy (eV) = 10

19L0604

Figure 1: **M3PFBA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 30% (80:20 MeOH:ACN) / 70% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for 1.5 min before returning to initial conditions in 0.5 min.
Time: 10 min

Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (150 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 10.00
Cone Gas Flow (l/hr) = 100
Desolvation Gas Flow (l/hr) = 750

19L0604

INTENDED USE:

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HAZARDS:

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Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external ISO/IEC 17025 accredited calibration company. In addition, their calibration is verified prior to each weighing using calibrated NIST and/or NRC traceable external weights. All volumetric glassware used is calibrated, of Class A tolerance, and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A 1226

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

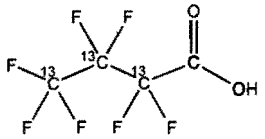
For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

19L0604

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:	M3PFBA	**LOT NUMBER:**	M3PFBA1217
COMPOUND:	Perfluoro-n-[2,3,4-$^{13}C_3$]butanoic acid		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_3{}^{12}CHF_7O_2$	**MOLECULAR WEIGHT:**	217.02
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C (2,3,4-$^{13}C_3$)
LAST TESTED: (mm/dd/yyyy)	12/14/2017		
EXPIRY DATE: (mm/dd/yyyy)	12/14/2022		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

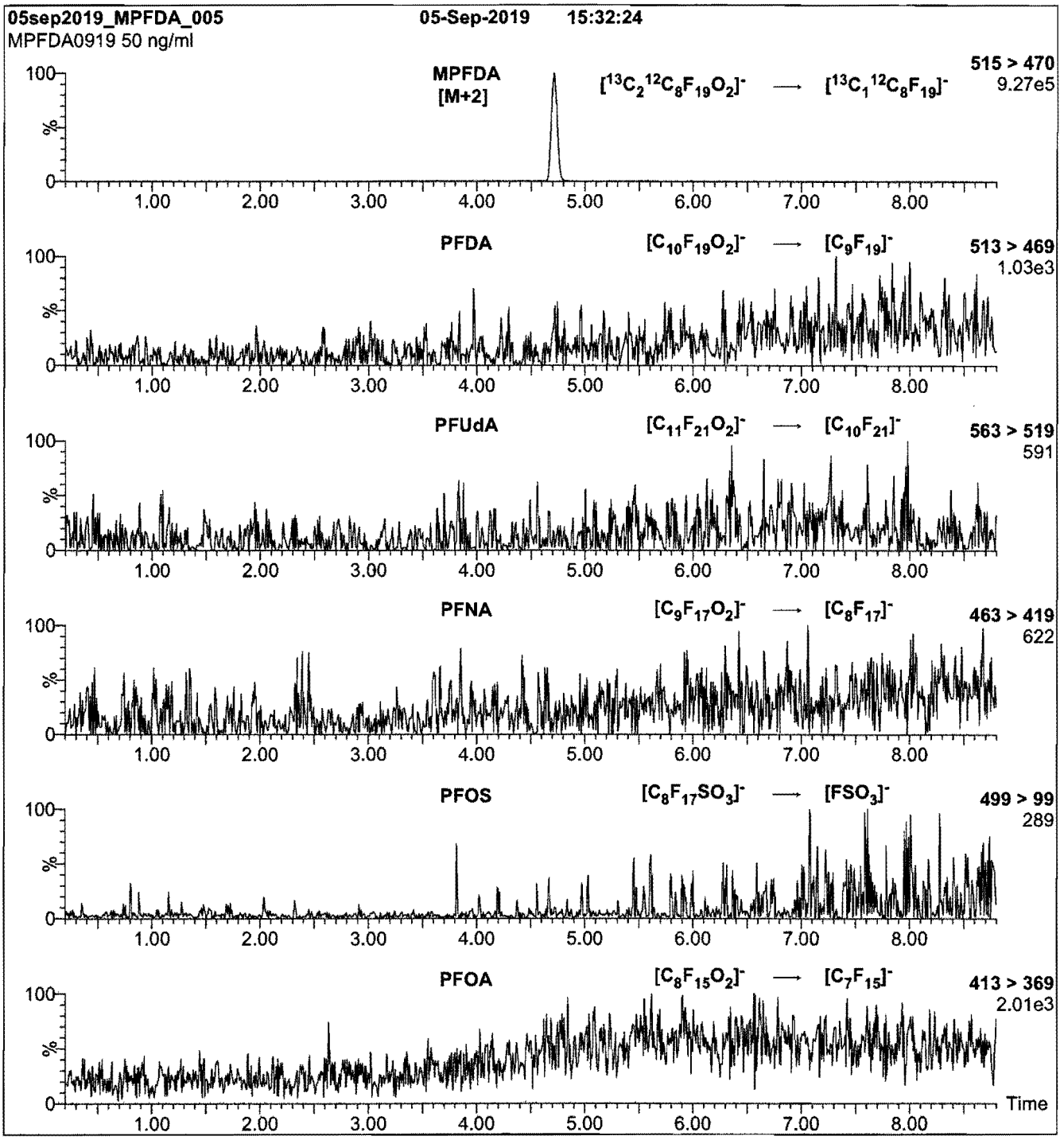
- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains ~ 0.2% of perfluoro-n-[$^{13}C_3$]propanoic acid and also contains ~ 1.0% of perfluoro-n-[1,2,3,4-$^{13}C_4$]butanoic acid due to the naturally occurring isotopic abundance of ^{13}C in the unlabelled carbon atom.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 12/22/2017 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Figure 2: **MPFDA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (MPFDA)

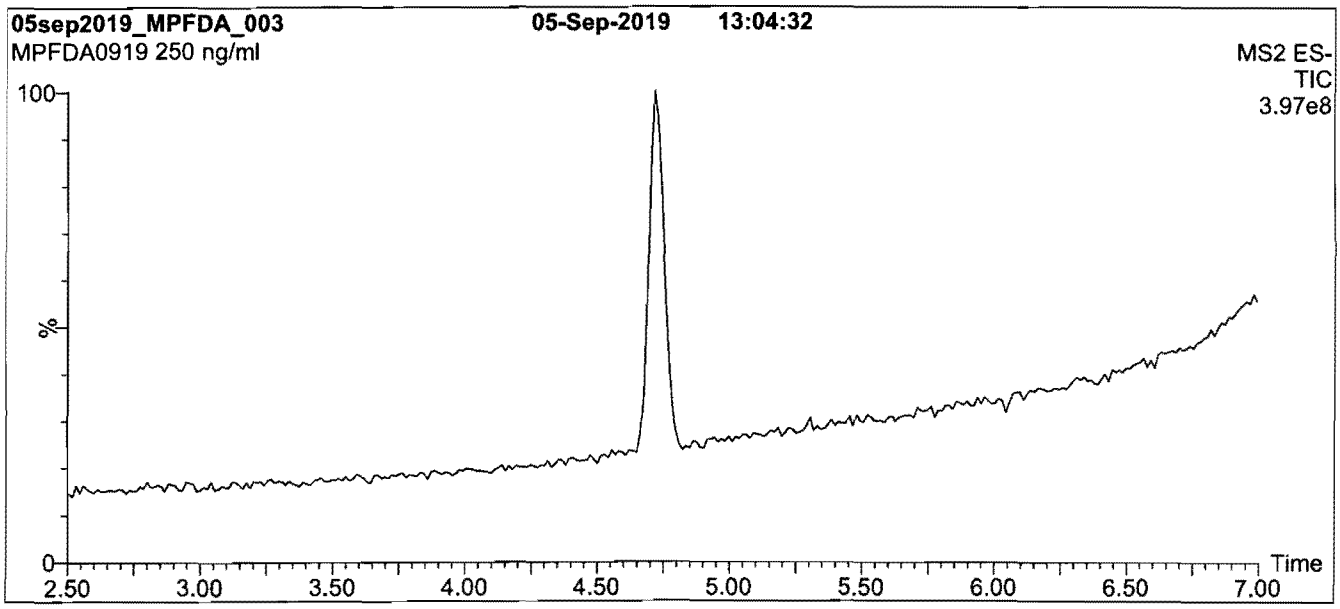
Mobile phase: Same as Figure 1

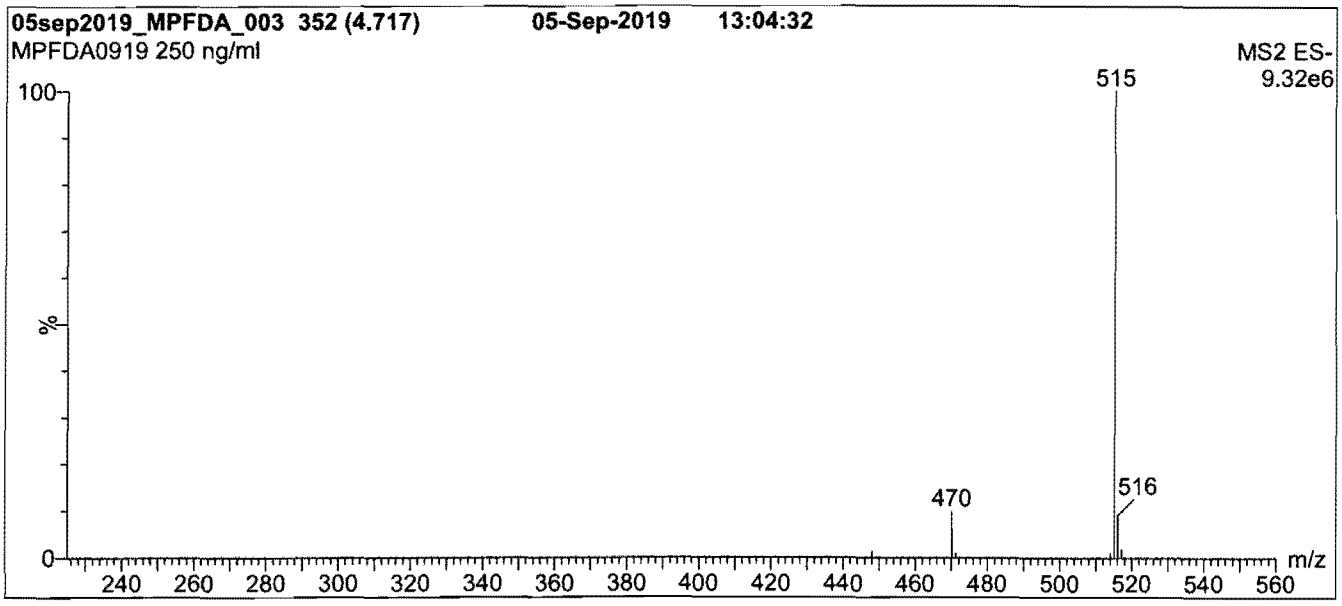
Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.45e-3
Collision Energy (eV) = 10

Figure 1: **MPFDA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 60% (80:20 MeOH:ACN) / 40% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for
3 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.50
Cone Voltage (V) = 10.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

19L0605

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

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where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

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QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A1226

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

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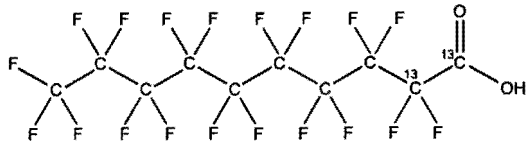
19L0605

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	MPFDA	**LOT NUMBER:**	MPFDA0919
COMPOUND:	Perfluoro-n-[1,2-$^{13}C_2$]decanoic acid		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_2{}^{12}C_8HF_{19}O_2$	**MOLECULAR WEIGHT:**	516.07
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2\text{-}^{13}C_2$)
LAST TESTED: (mm/dd/yyyy)	09/05/2019		
EXPIRY DATE: (mm/dd/yyyy)	09/05/2024		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

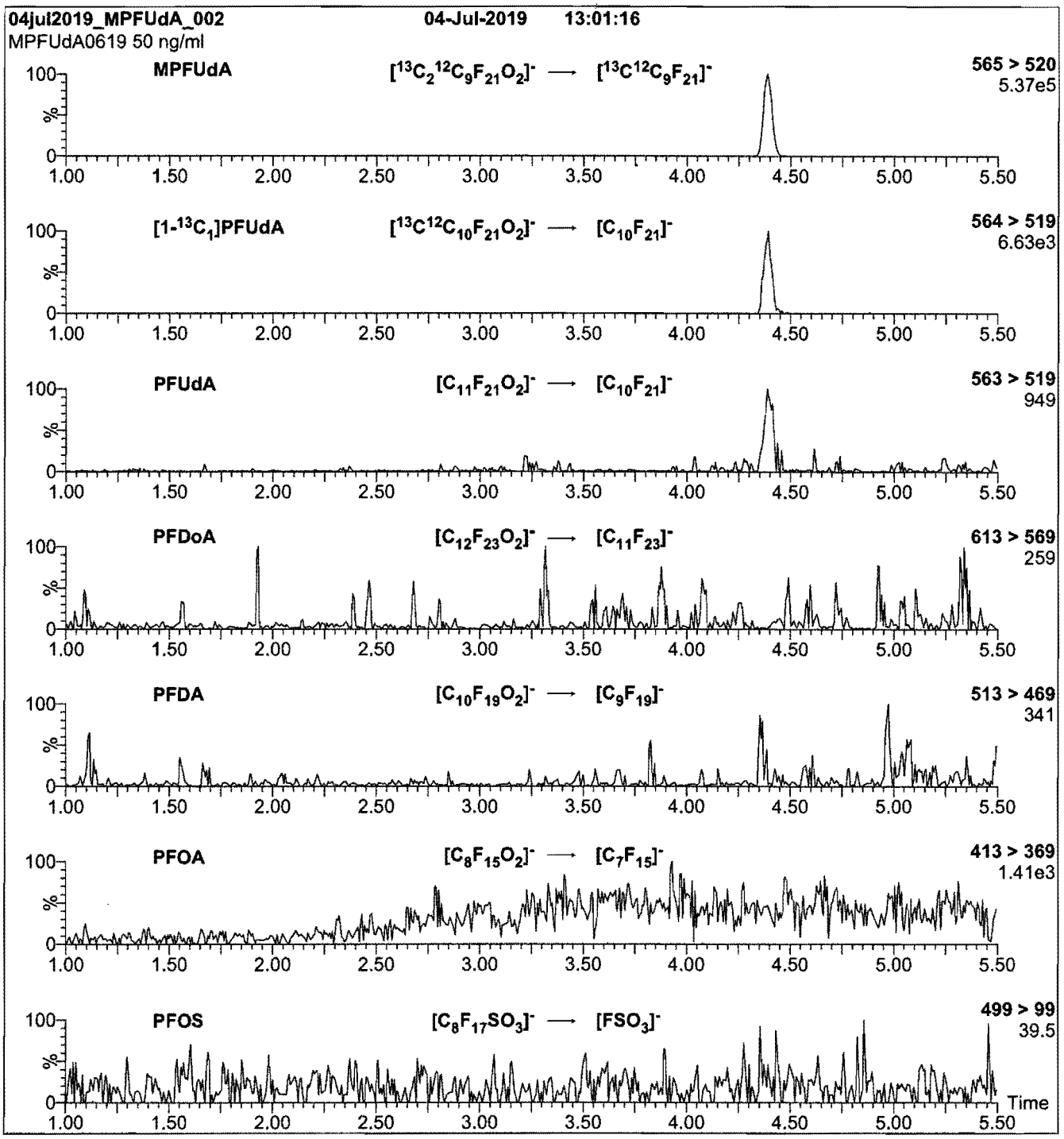
FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 09/09/2019 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

19L06006

Figure 2: **MPFUdA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (MPFUdA)

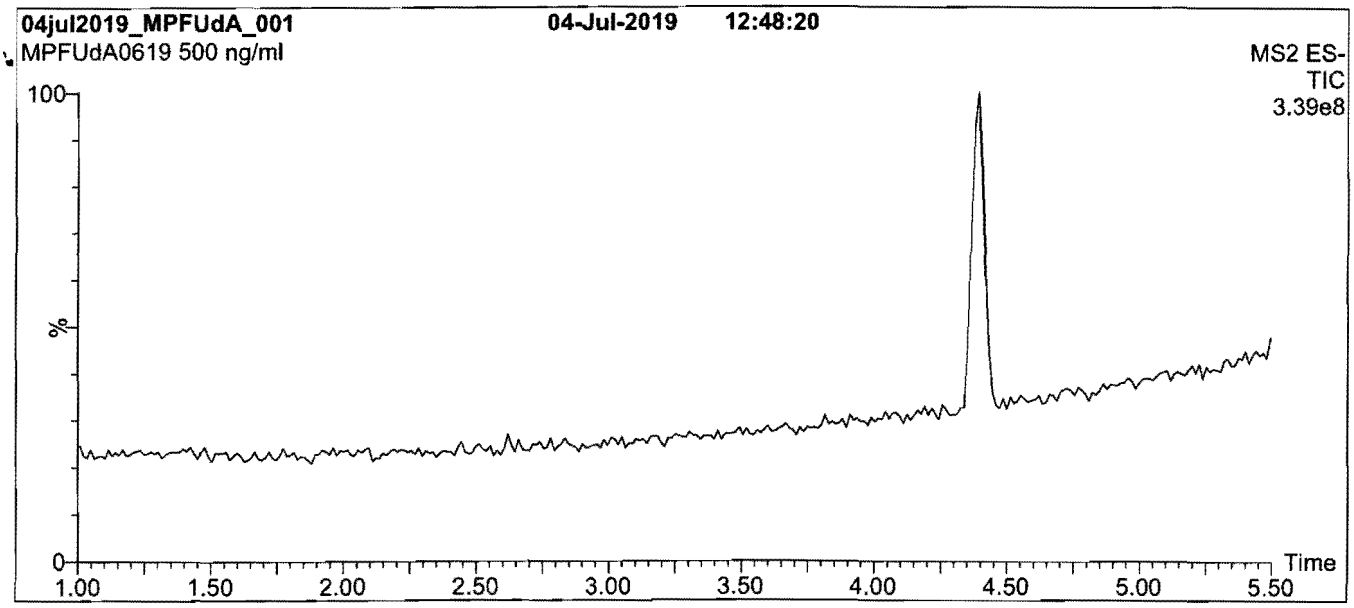
Mobile phase: Same as Figure 1

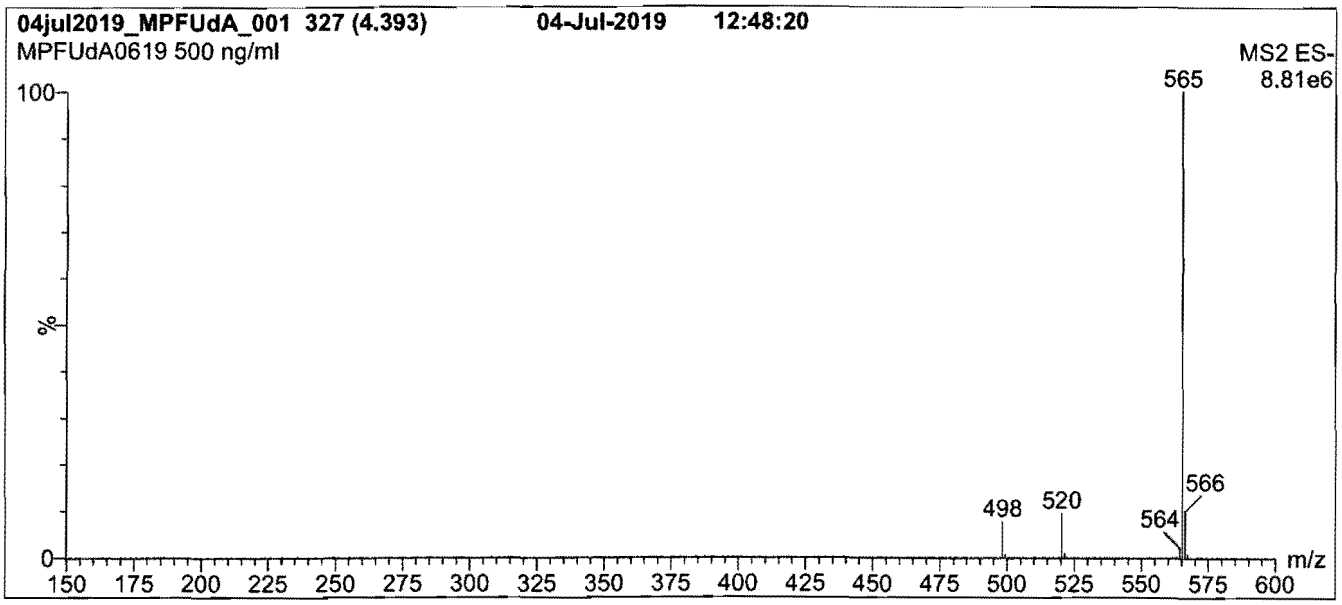
Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.39e-3
Collision Energy (eV) = 12

Figure 1: **MPFUdA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 60% (80:20 MeOH:ACN) / 40% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for
3 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (150 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 10.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

19L0606

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

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HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters x_1, x_2,...x_n on which it depends is:

$$u_c(y(x_1, x_2, ...x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

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QUALITY MANAGEMENT:

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CALA Testing Accreditation No. A 1226

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

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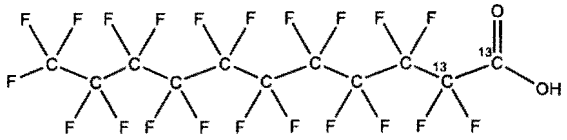
19L0606

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	MPFUdA	**LOT NUMBER:**	MPFUdA0619
COMPOUND:	Perfluoro-n-[1,2-$^{13}C_2$]undecanoic acid		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_2{}^{12}C_9HF_{21}O_2$	**MOLECULAR WEIGHT:**	566.08
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2\text{-}^{13}C_2$)
LAST TESTED: (mm/dd/yyyy)	07/04/2019		
EXPIRY DATE: (mm/dd/yyyy)	07/04/2024		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

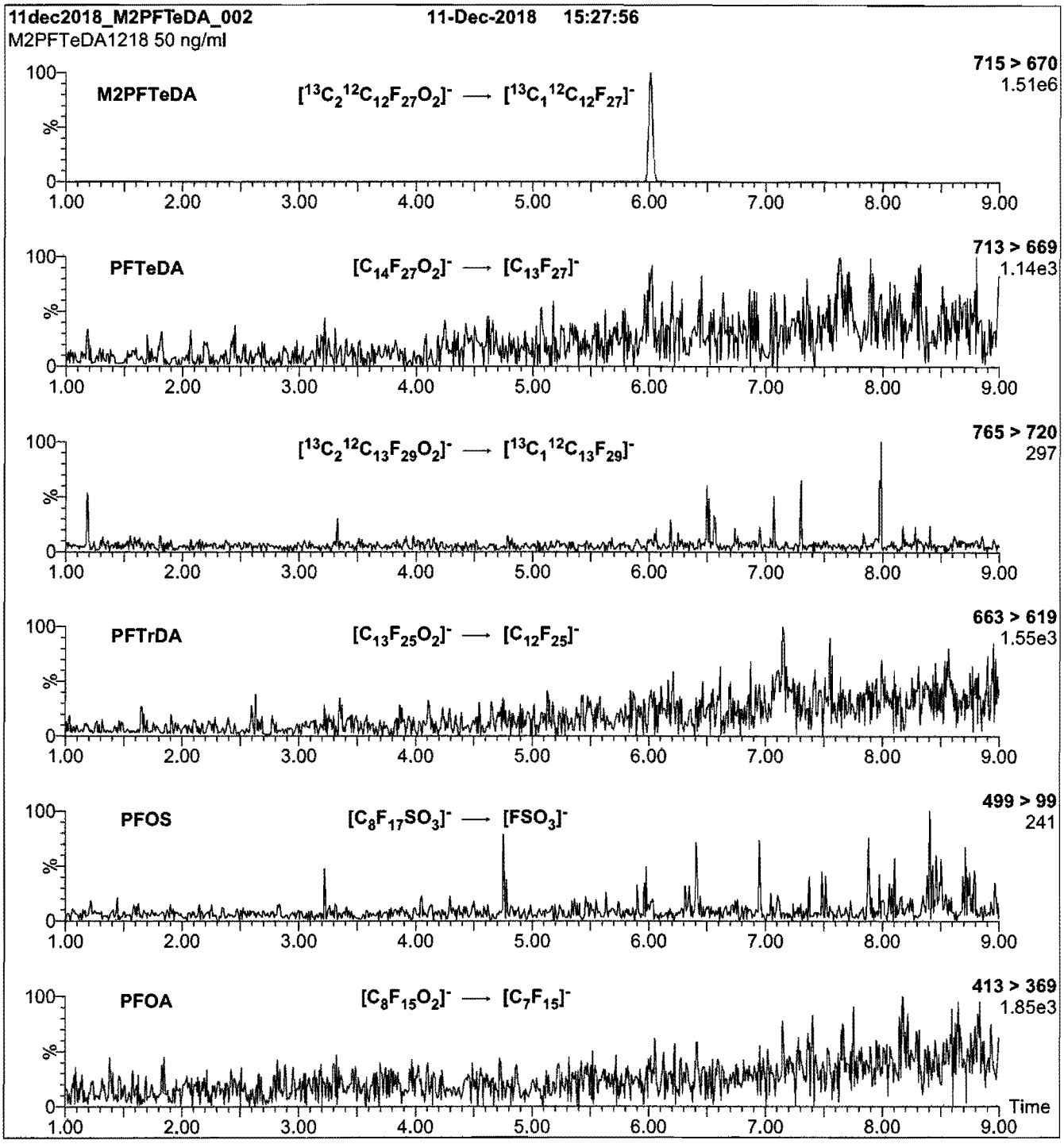
- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Presence of 1-$^{13}C_1$-PFUdA (~1%; see Figure 2), 2-$^{13}C_1$-PFUdA (~1%), and PFUdA (~0.2%; see Figure 2) are due to the isotopic purity of the ^{13}C-precursor.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 07/05/2019 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Figure 2: **M2PFTeDA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (M2PFTeDA)

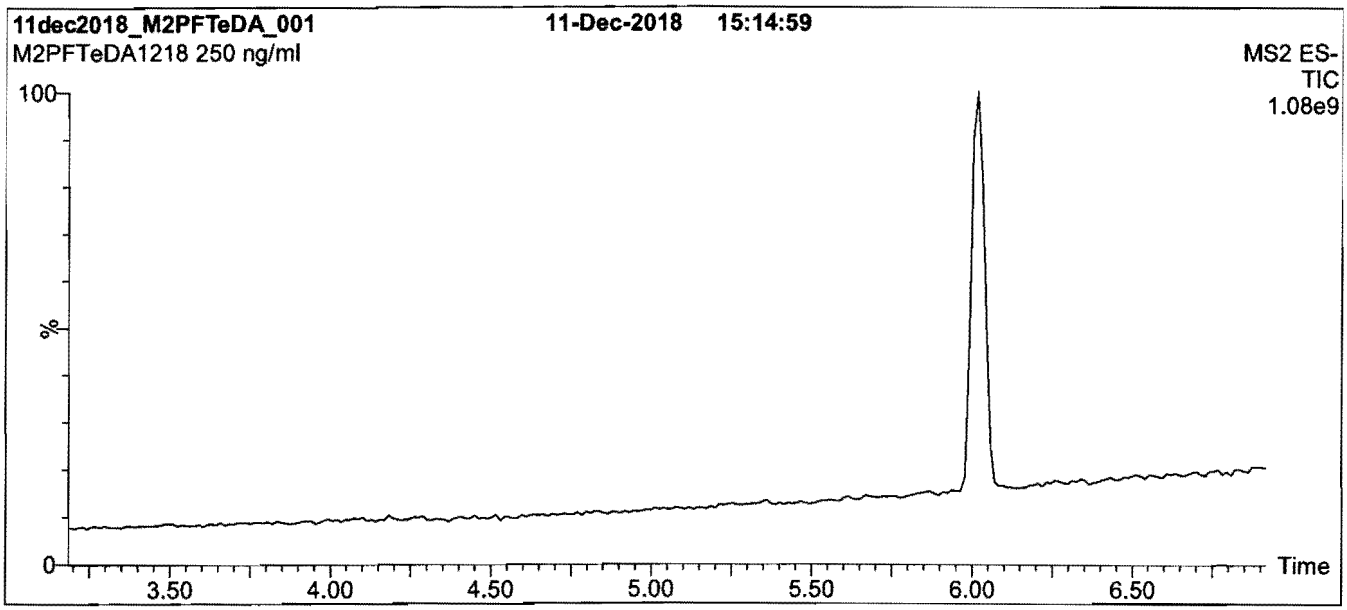
Mobile phase: Same as Figure 1

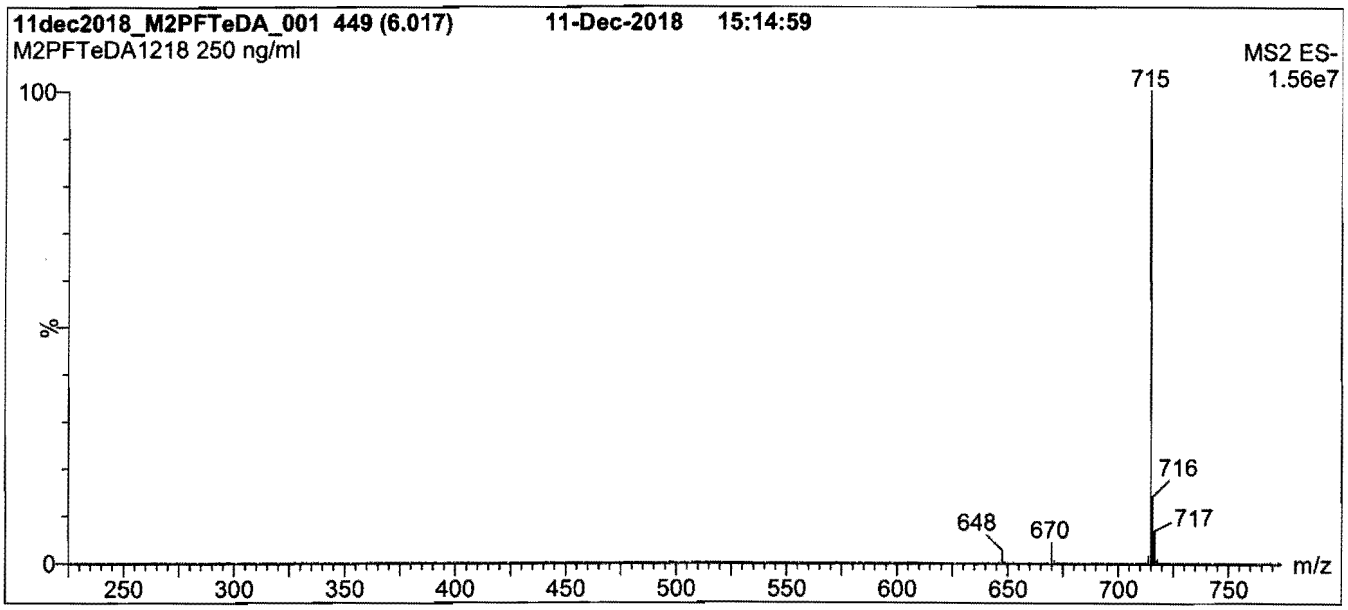
Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.16e-3
Collision Energy (eV) = 14

Figure 1: **M2PFTeDA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 60% (80:20 MeOH:ACN) / 40% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for 3 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
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Desolvation Temperature (°C) = 500
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At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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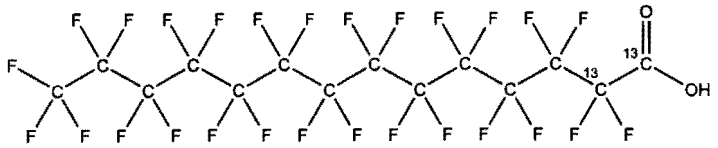
19L0607

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: M2PFTeDA
LOT NUMBER: M2PFTeDA1218
COMPOUND: Perfluoro-n-[1,2-$^{13}C_2$]tetradecanoic acid

STRUCTURE:
CAS #: Not available



MOLECULAR FORMULA:	$^{13}C_2{}^{12}C_{12}HF_{27}O_2$	**MOLECULAR WEIGHT:**	716.10
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2\text{-}^{13}C_2$)
LAST TESTED: (mm/dd/yyyy)	12/11/2018		
EXPIRY DATE: (mm/dd/yyyy)	12/11/2023		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

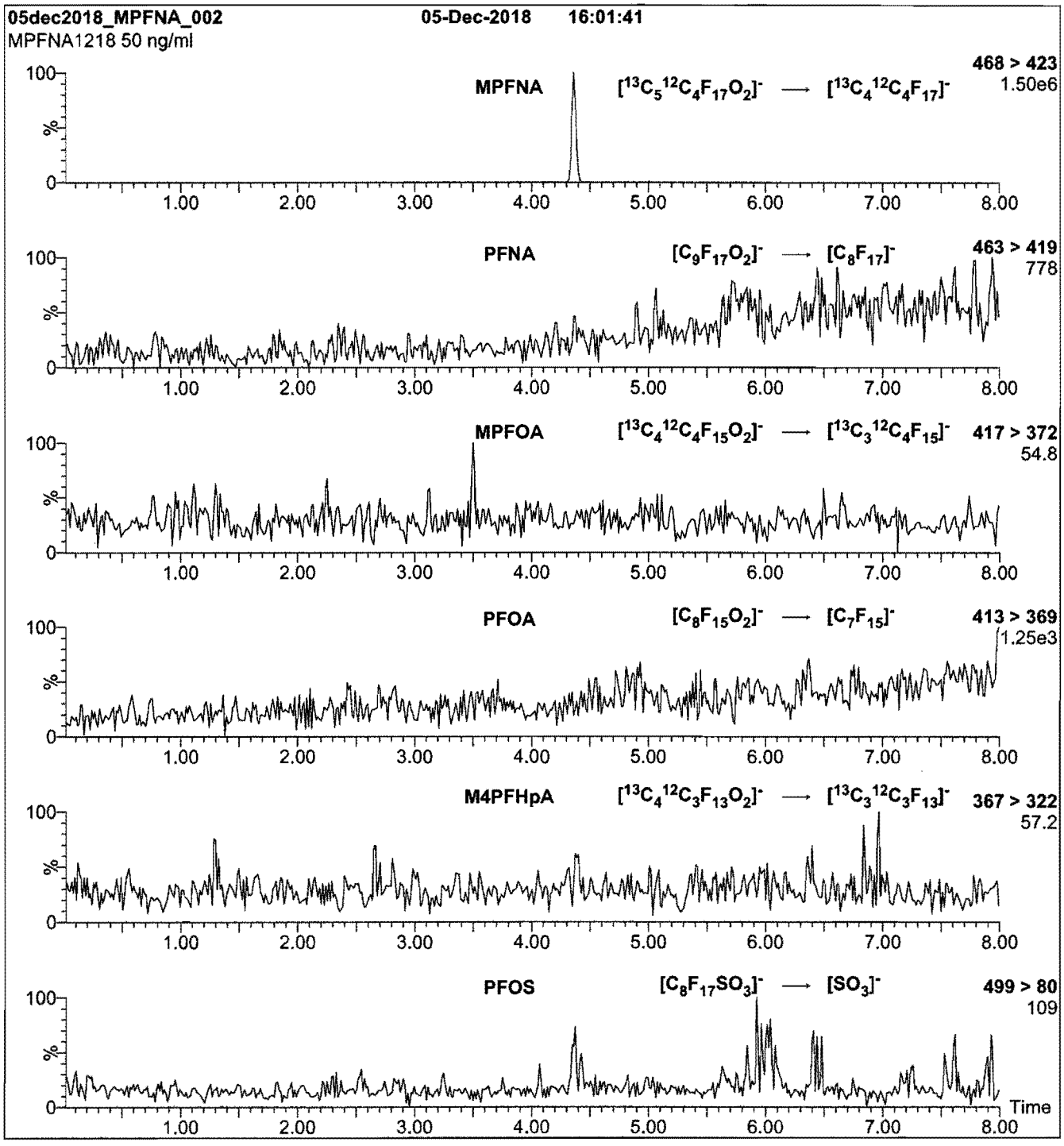
FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 12/20/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

19L0608

Figure 2: **MPFNA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (MPFNA)

Mobile phase: Same as Figure 1

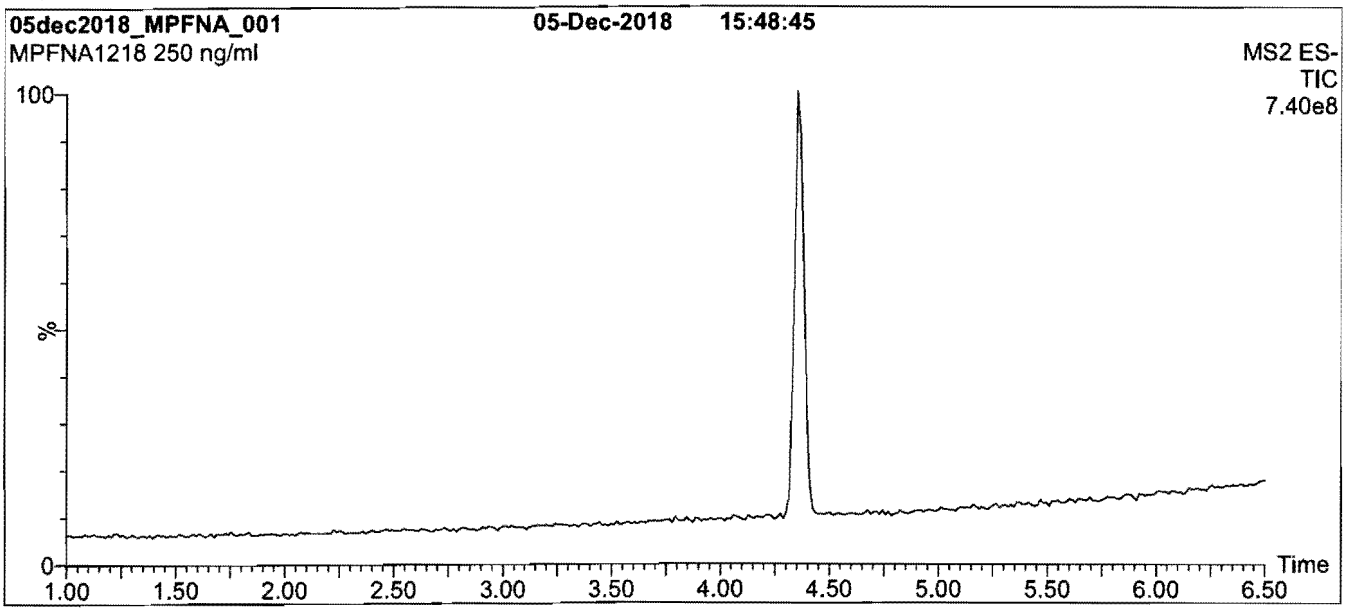
Flow: 300 µl/min

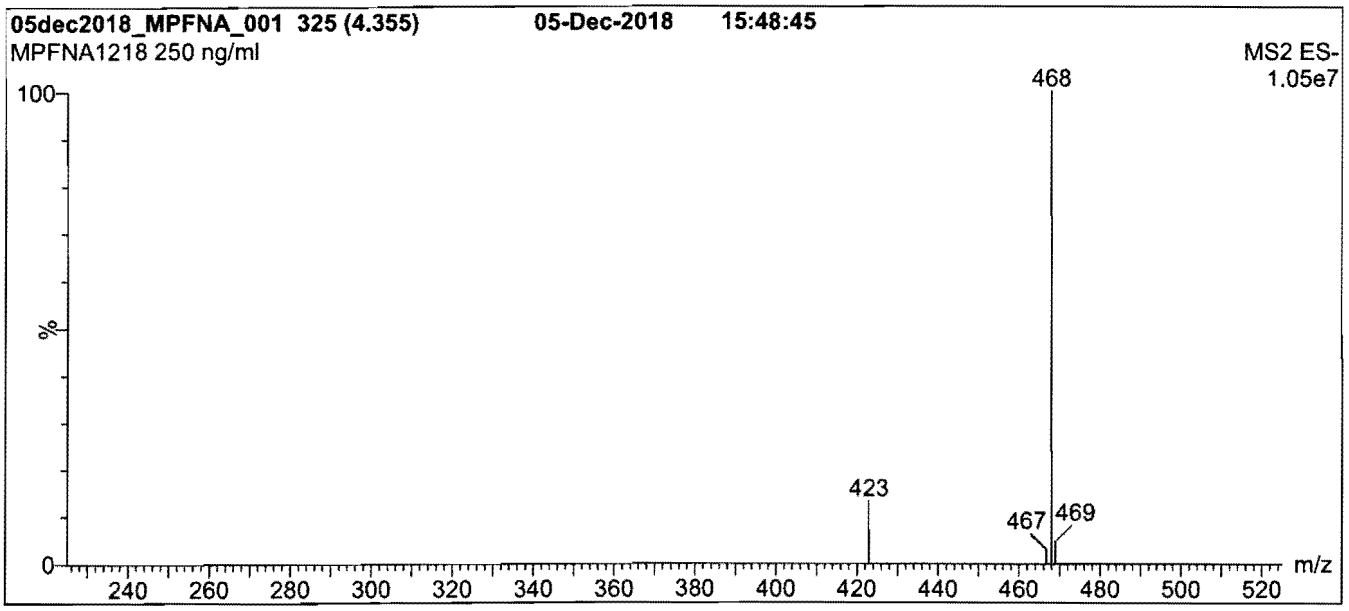
MS Parameters

Collision Gas (mbar) = 2.88e-3
Collision Energy (eV) = 10

19L0608

Figure 1: **MPFNA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 10.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

INTENDED USE:

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SYNTHESIS / CHARACTERIZATION:

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HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

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QUALITY MANAGEMENT:

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CALA Testing Accreditation No. A1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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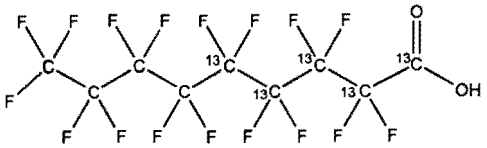
19L0608

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	MPFNA	**LOT NUMBER:**	MPFNA1218
COMPOUND:	Perfluoro-n-[1,2,3,4,5-$^{13}C_5$]nonanoic acid		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_5{}^{12}C_4HF_{17}O_2$	**MOLECULAR WEIGHT:**	469.04
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C (1,2,3,4,5-$^{13}C_5$)
LAST TESTED: (mm/dd/yyyy)	12/05/2018		
EXPIRY DATE: (mm/dd/yyyy)	12/05/2023		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 12/10/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

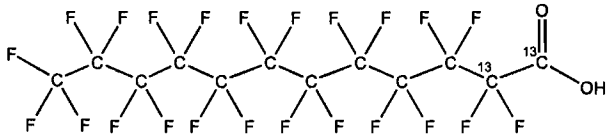
19L0609

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: MPFDoA
COMPOUND: Perfluoro-n-[1,2-$^{13}C_2$]dodecanoic acid
LOT NUMBER: MPFDoA1218

STRUCTURE:
CAS #: Not available



MOLECULAR FORMULA:	$^{13}C_2{}^{12}C_{10}HF_{23}O_2$	**MOLECULAR WEIGHT:**	616.08
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2\text{-}^{13}C_2$)
LAST TESTED: (mm/dd/yyyy)	12/11/2018		
EXPIRY DATE: (mm/dd/yyyy)	12/11/2023		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

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Certified By: _____ **Date:** 12/18/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

19L0609

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HANDLING:

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CALA Testing Accreditation No. A1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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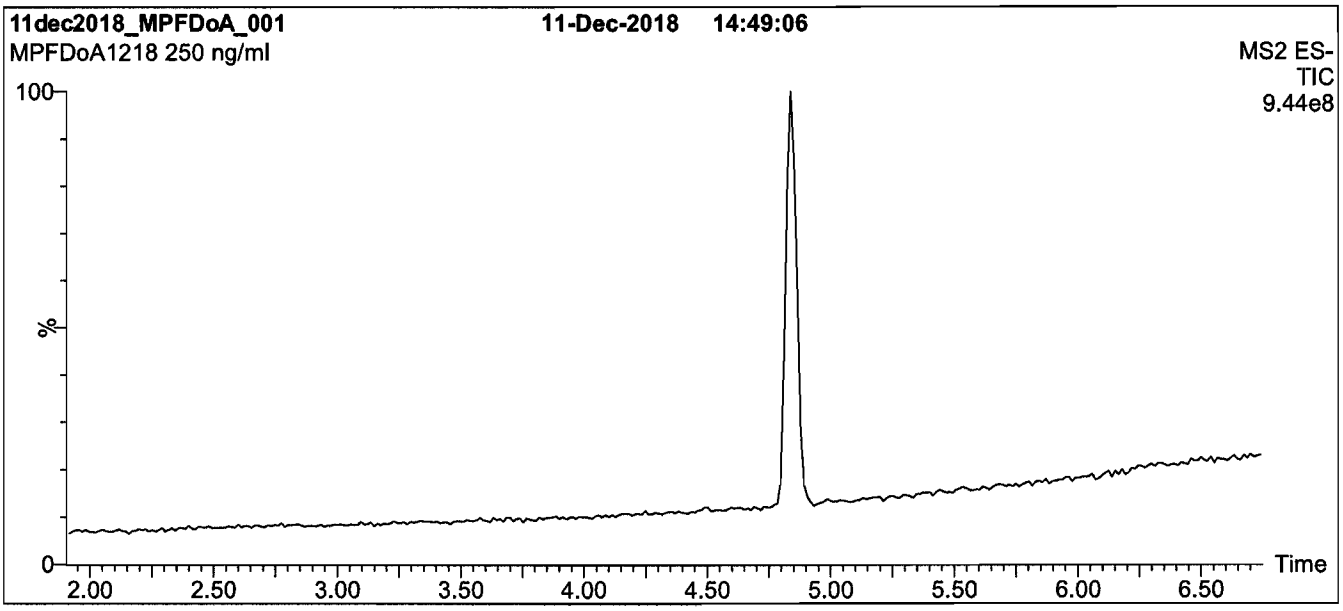
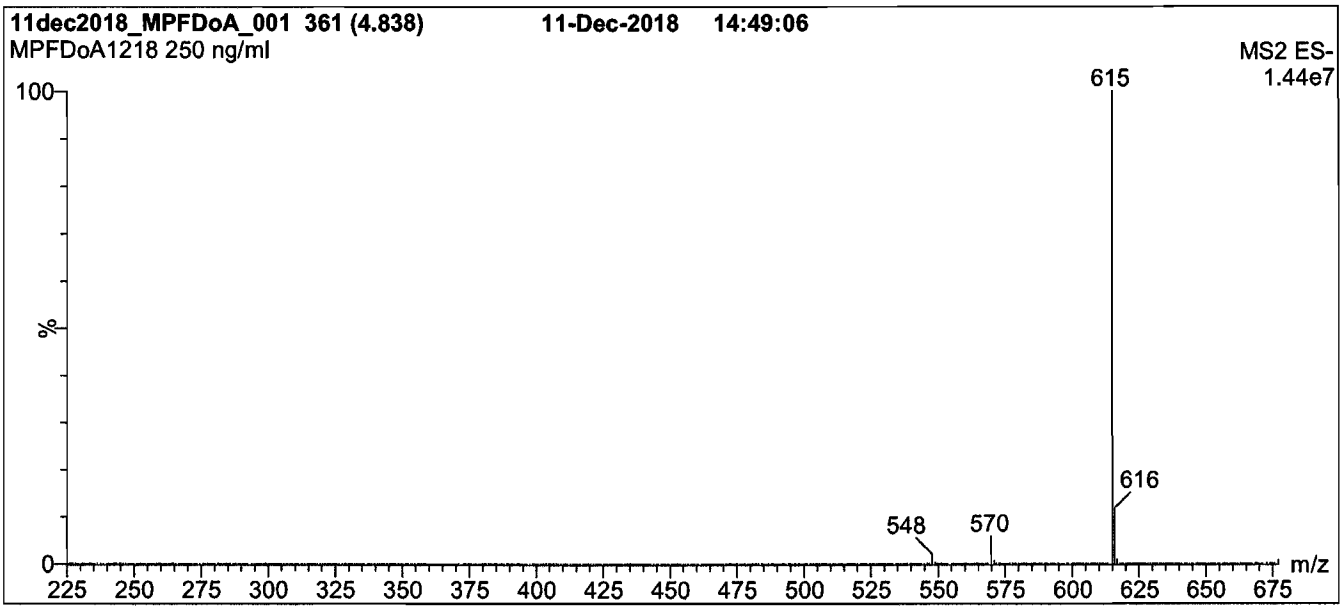
Figure 1: **MPFDoA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 60% (80:20 MeOH:ACN) / 40% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for 3 min before returning to initial conditions in 0.75 min.
Time: 12 min

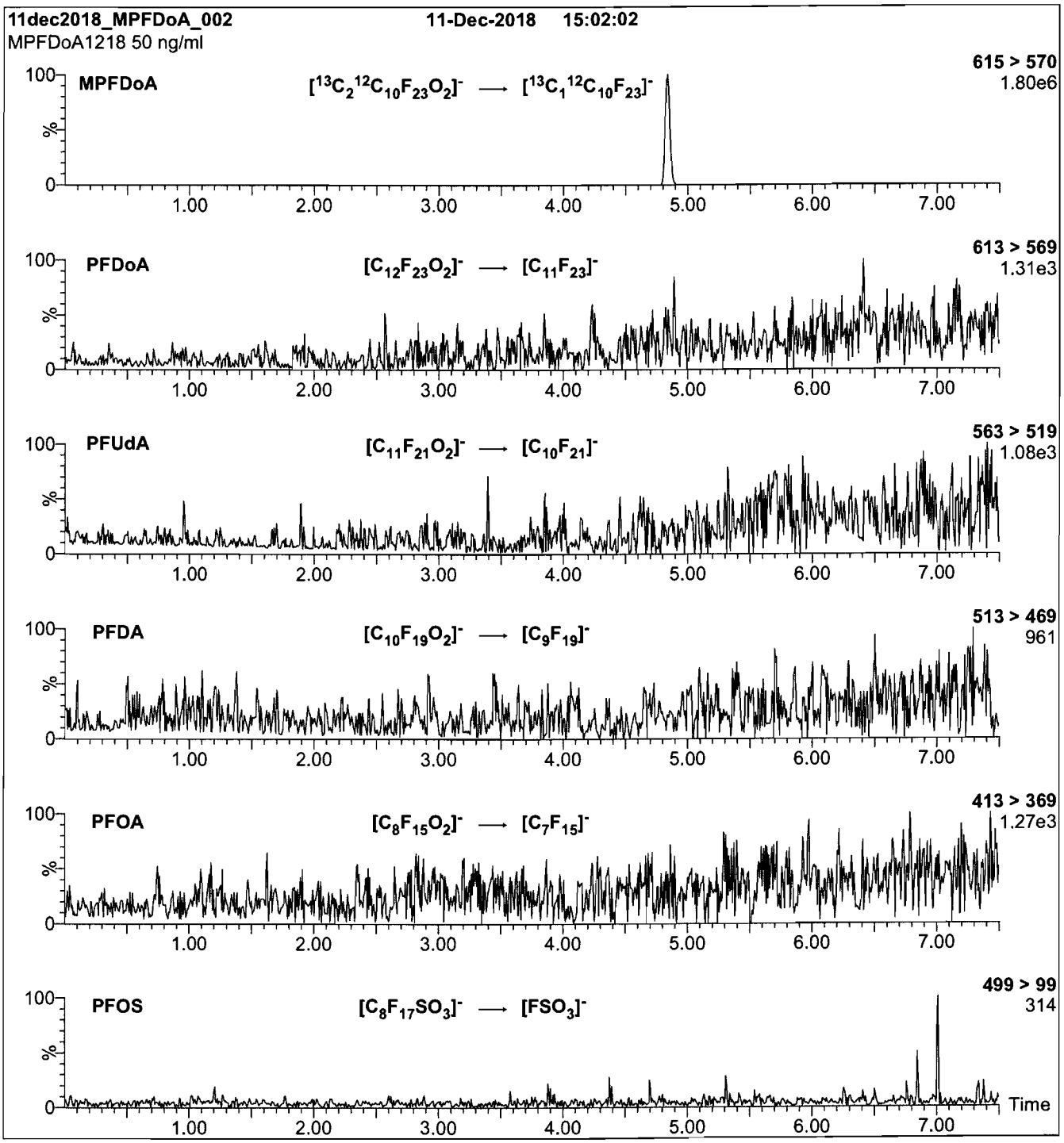
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 10.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

Figure 2: **MPFDoA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (MPFDoA)

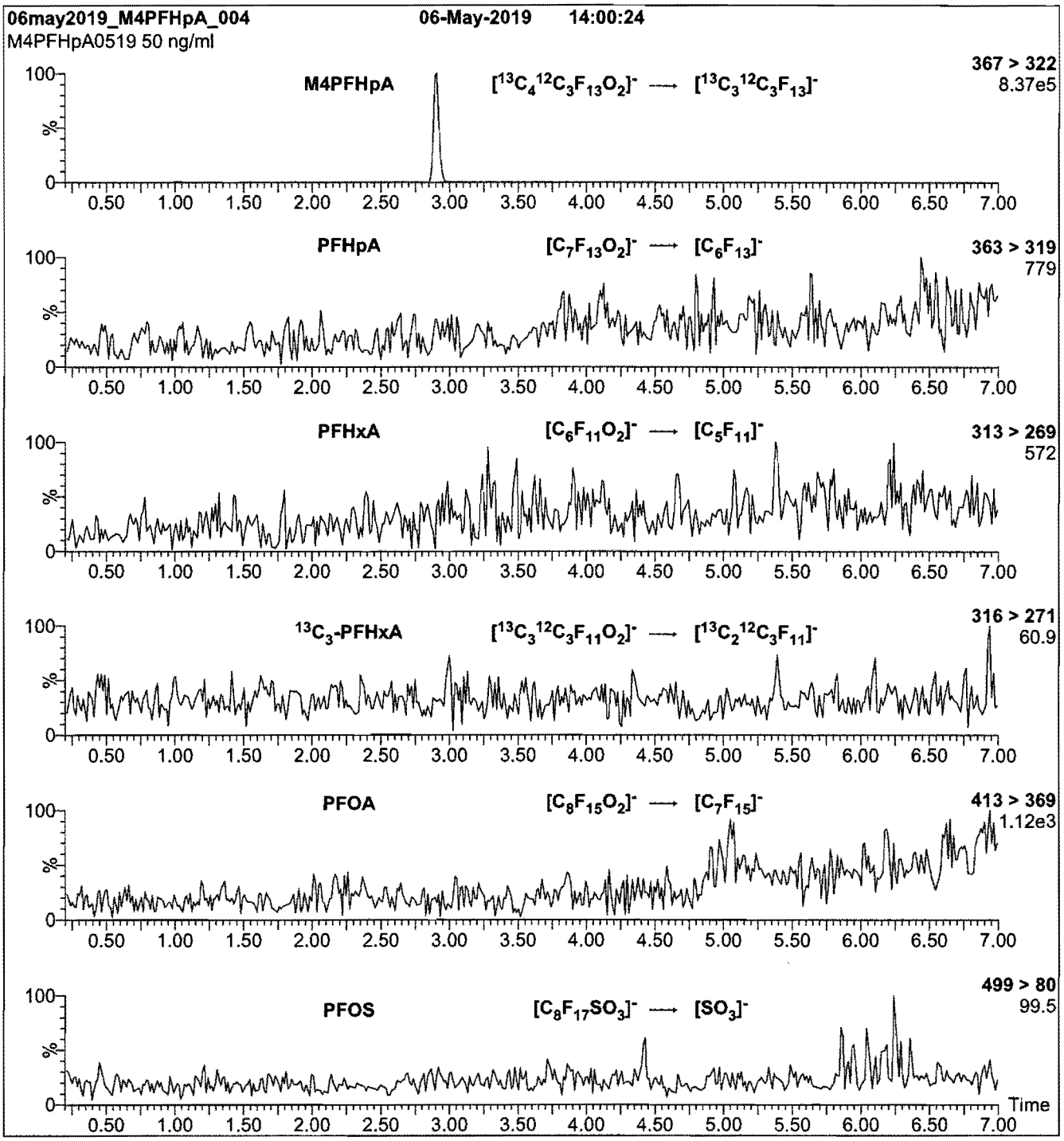
Mobile phase: Same as Figure 1

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.16e-3
Collision Energy (eV) = 12

Figure 2: **M4PFHpA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (M4PFHpA)

Mobile phase: Same as Figure 1

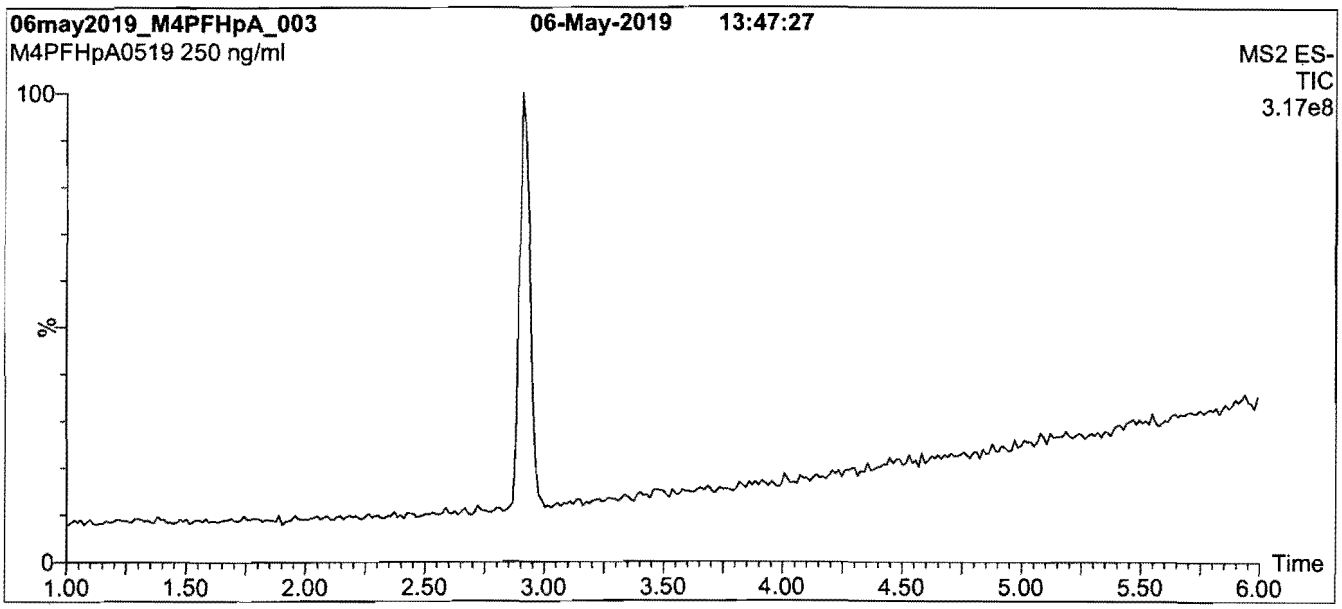
Flow: 300 µl/min

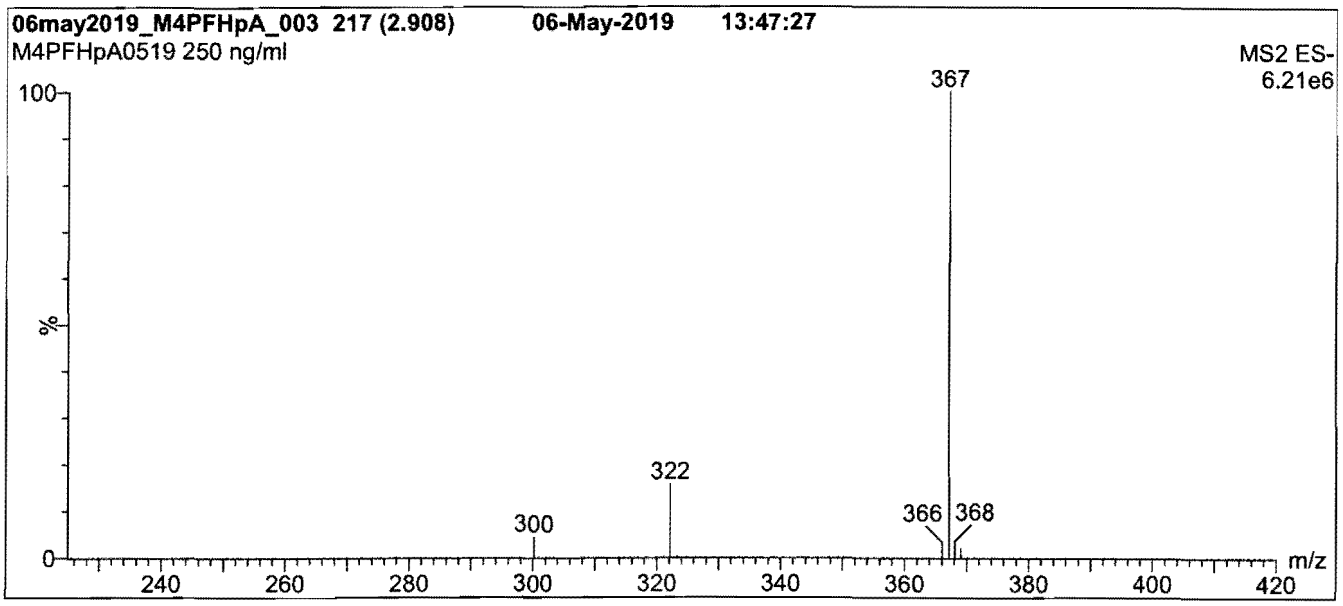
MS Parameters

Collision Gas (mbar) = 2.87e-3
Collision Energy (eV) = 8

19L0610

Figure 1: **M4PFHpA; LC/MS Data (TIC and Mass Spectrum)**





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Ramp to 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 11 min

Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 10.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

19L0610

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CALA Testing Accreditation No. A1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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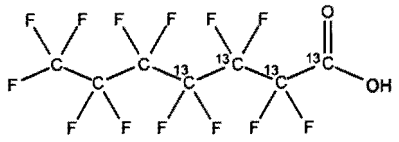
19L0610

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	M4PFHpA	**LOT NUMBER:**	M4PFHpA0519
COMPOUND:	Perfluoro-n-[1,2,3,4-$^{13}C_4$]heptanoic acid		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_4{}^{12}C_3HF_{13}O_2$	**MOLECULAR WEIGHT:**	368.03
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2,3,4$-$^{13}C_4$)
LAST TESTED: (mm/dd/yyyy)	05/06/2019		
EXPIRY DATE: (mm/dd/yyyy)	05/06/2024		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

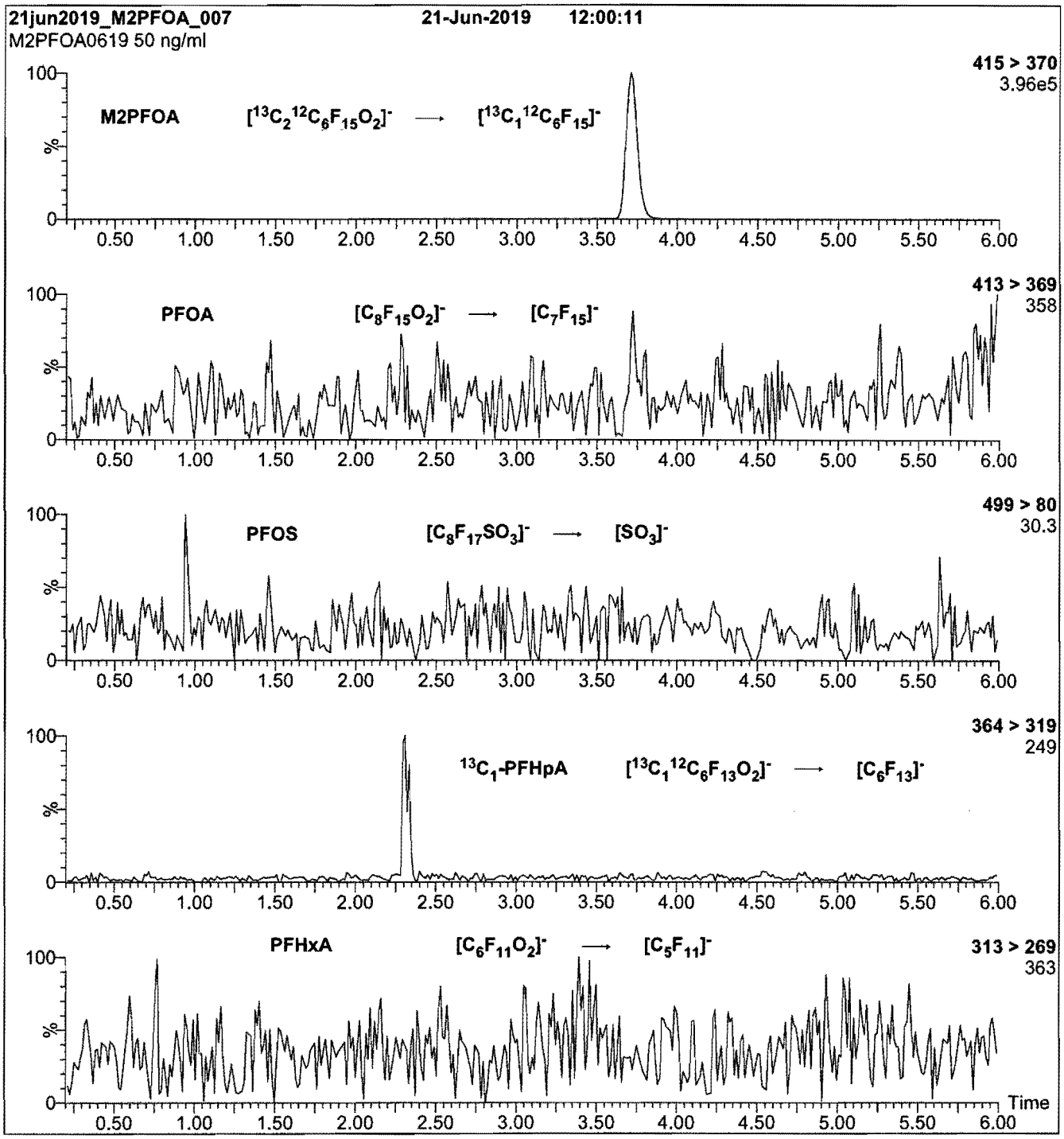
FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 05/17/2019 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

19L0611

Figure 2: **M2PFOA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (M2PFOA)

Mobile phase: Same as Figure 1

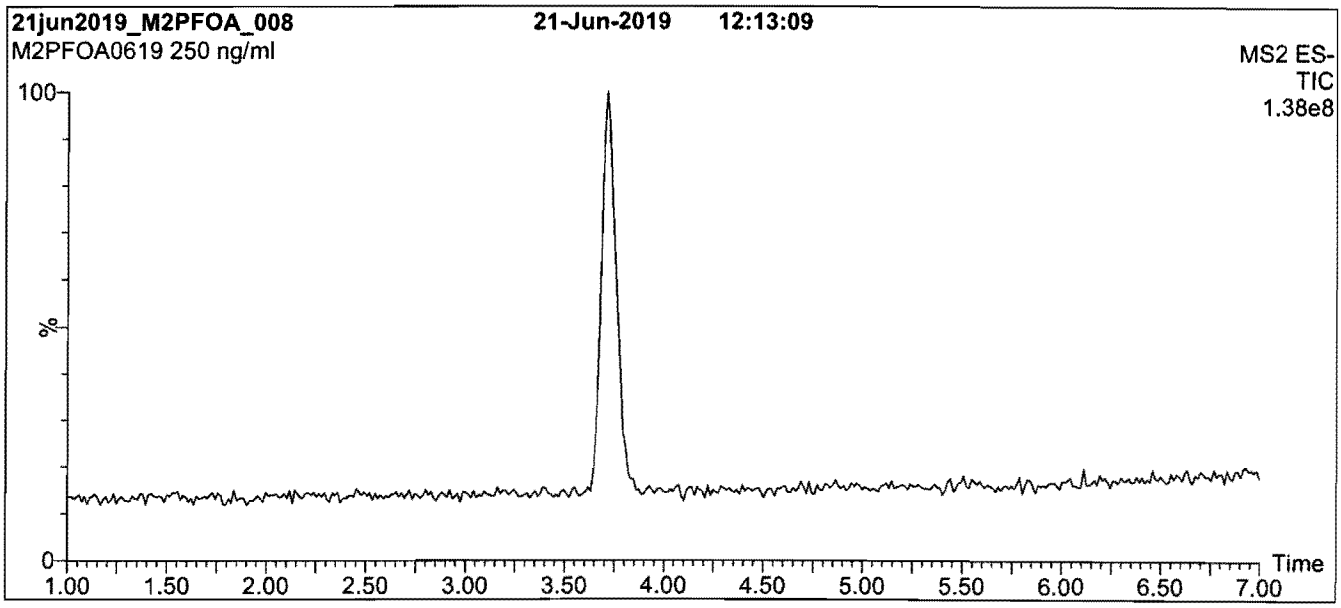
Flow: 300 µl/min

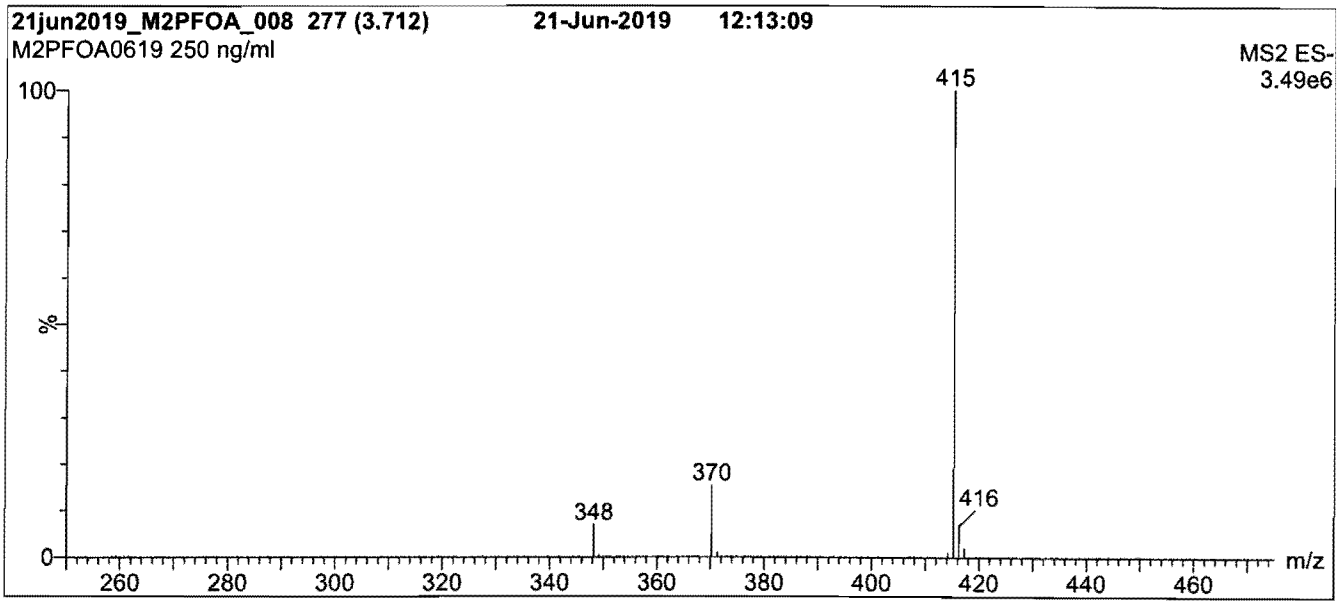
MS Parameters

Collision Gas (mbar) = 2.88e-3
Collision Energy (eV) = 8

19L0611

Figure 1: **M2PFOA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 55% (80:20 MeOH:ACN) / 45% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 80% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (250 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 10.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters x_1, x_2,...x_n on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

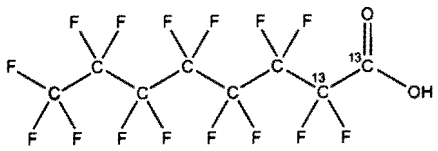
For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

19L 0611

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	M2PFOA	**LOT NUMBER:**	M2PFOA0619
COMPOUND:	Perfluoro-n-[1,2-$^{13}C_2$]octanoic acid		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_2{}^{12}C_6HF_{15}O_2$	**MOLECULAR WEIGHT:**	416.05
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2\text{-}^{13}C_2$)
LAST TESTED: (mm/dd/yyyy)	06/21/2019		
EXPIRY DATE: (mm/dd/yyyy)	06/21/2024		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains < 0.1% of perfluoro-n-[$^{13}C_1$]heptanoic acid ($^{13}C_1$-PFHpA).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 06/21/2019 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
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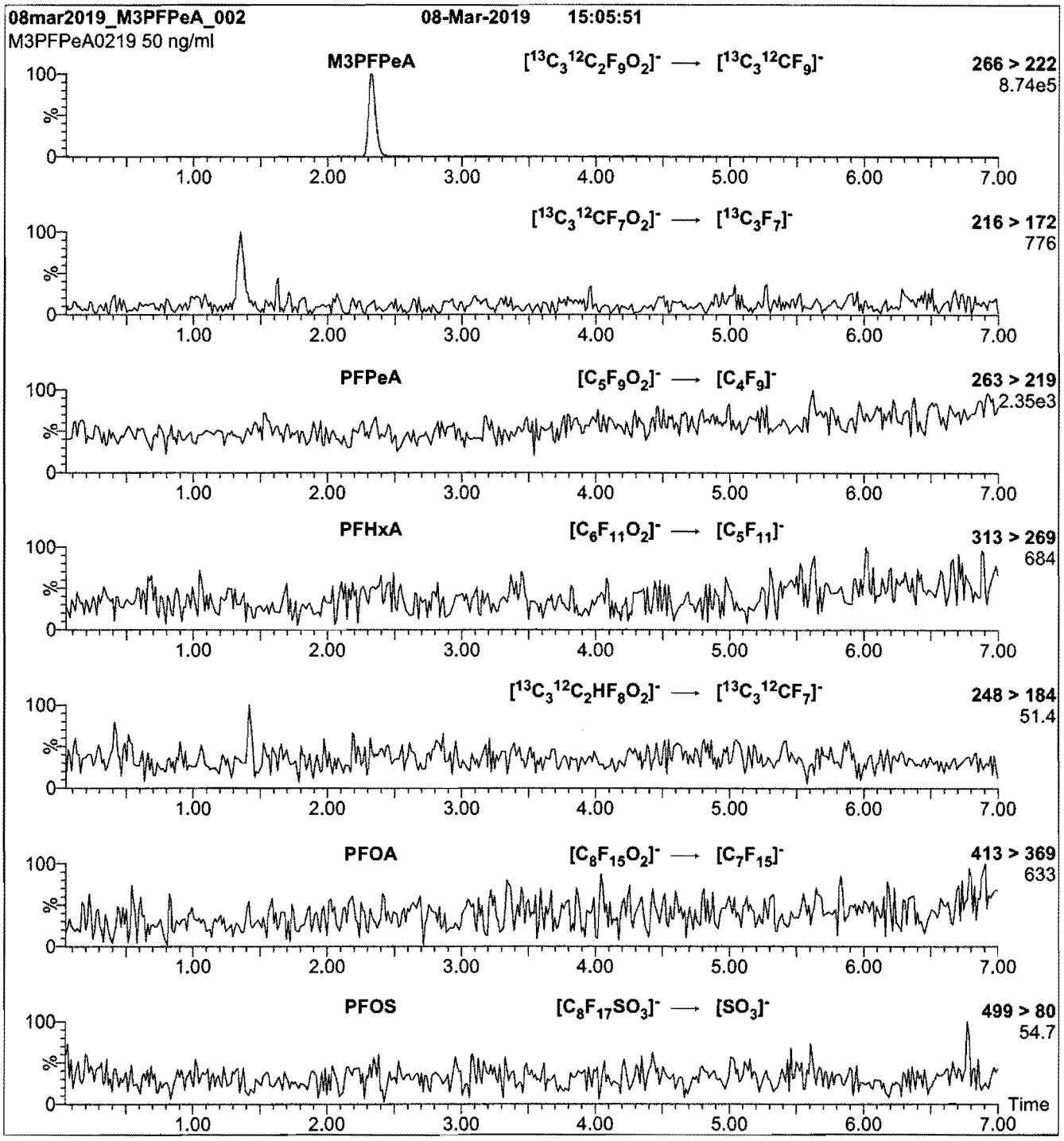
19L0612

Figure 2: **M3PFPeA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (M3PFPeA)

Mobile phase: Same as Figure 1

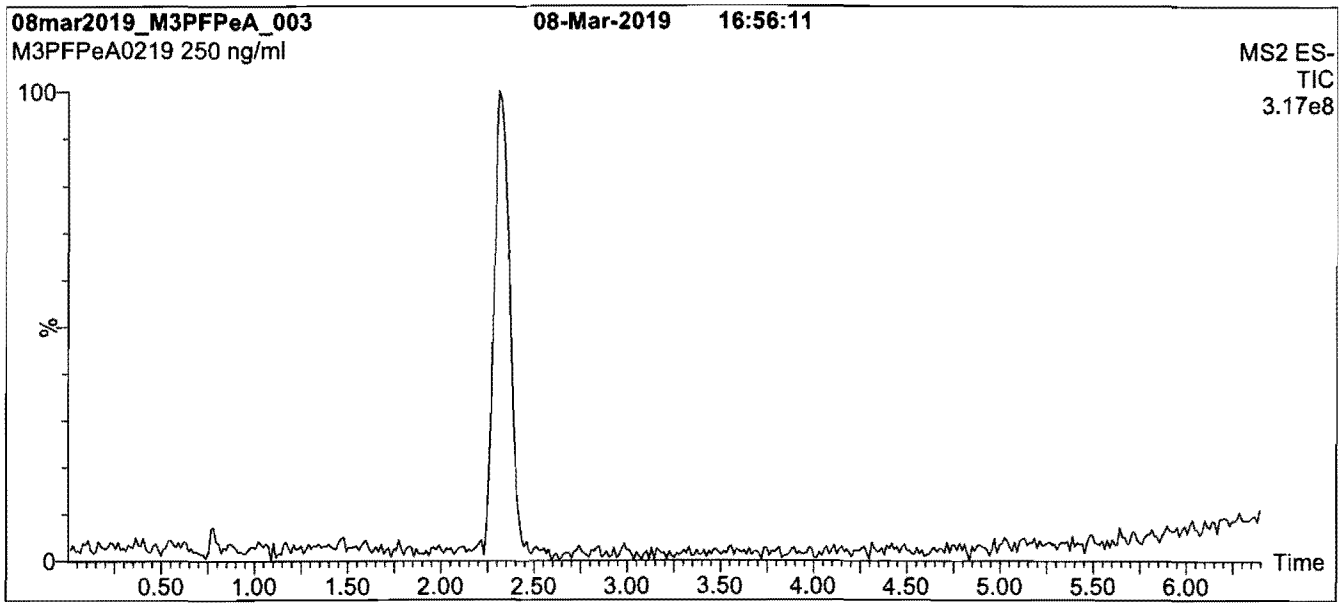
Flow: 300 µl/min

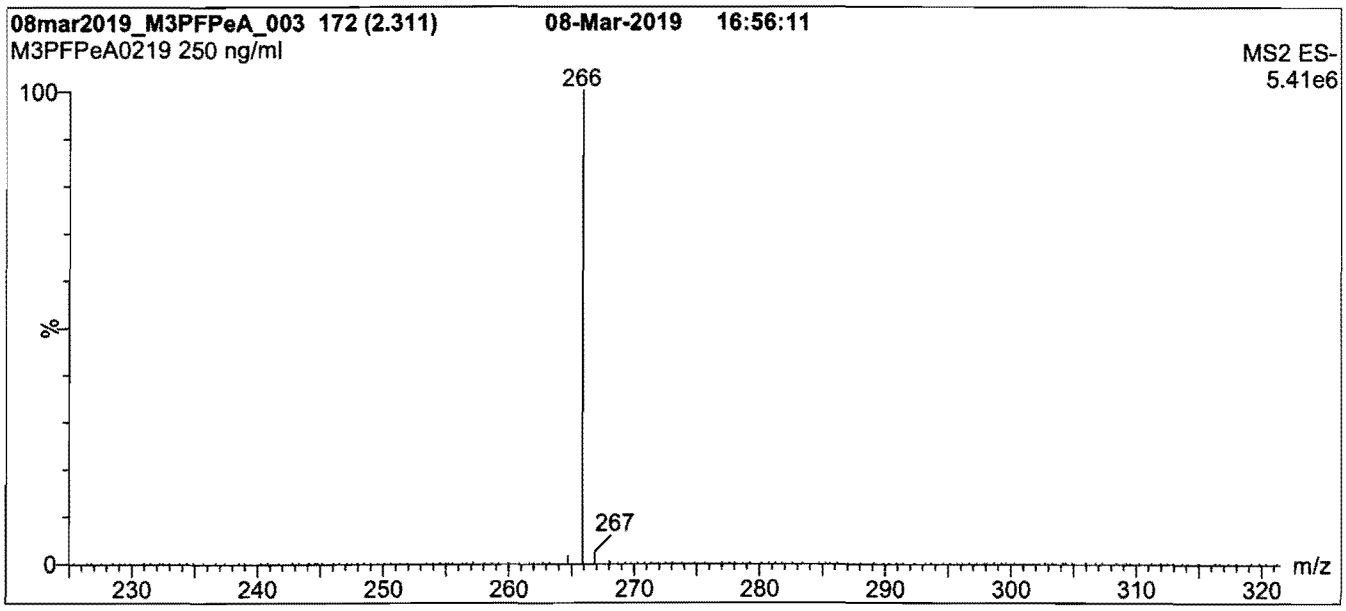
MS Parameters

Collision Gas (mbar) = 2.84e-3
Collision Energy (eV) = 8

19L0612

Figure 1: **M3PFPeA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 40% (80:20 MeOH:ACN) / 60% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 8 min and hold for 2 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (150 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 10.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

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HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

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The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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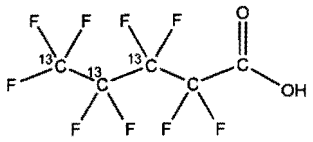
19L0612

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	M3PFPeA	**LOT NUMBER:**	M3PFPeA0219
COMPOUND:	Perfluoro-n-[3,4,5-$^{13}C_3$]pentanoic acid		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_3{}^{12}C_2HF_9O_2$	**MOLECULAR WEIGHT:**	267.02
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($3,4,5$-$^{13}C_3$)
LAST TESTED: (mm/dd/yyyy)	03/08/2019		
EXPIRY DATE: (mm/dd/yyyy)	03/08/2024		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains ~ 0.95% of perfluoro-n-[$^{13}C_3$]butanoic acid and 0.05% of perfluoro-1-pentanoic acid.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 03/19/2019 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
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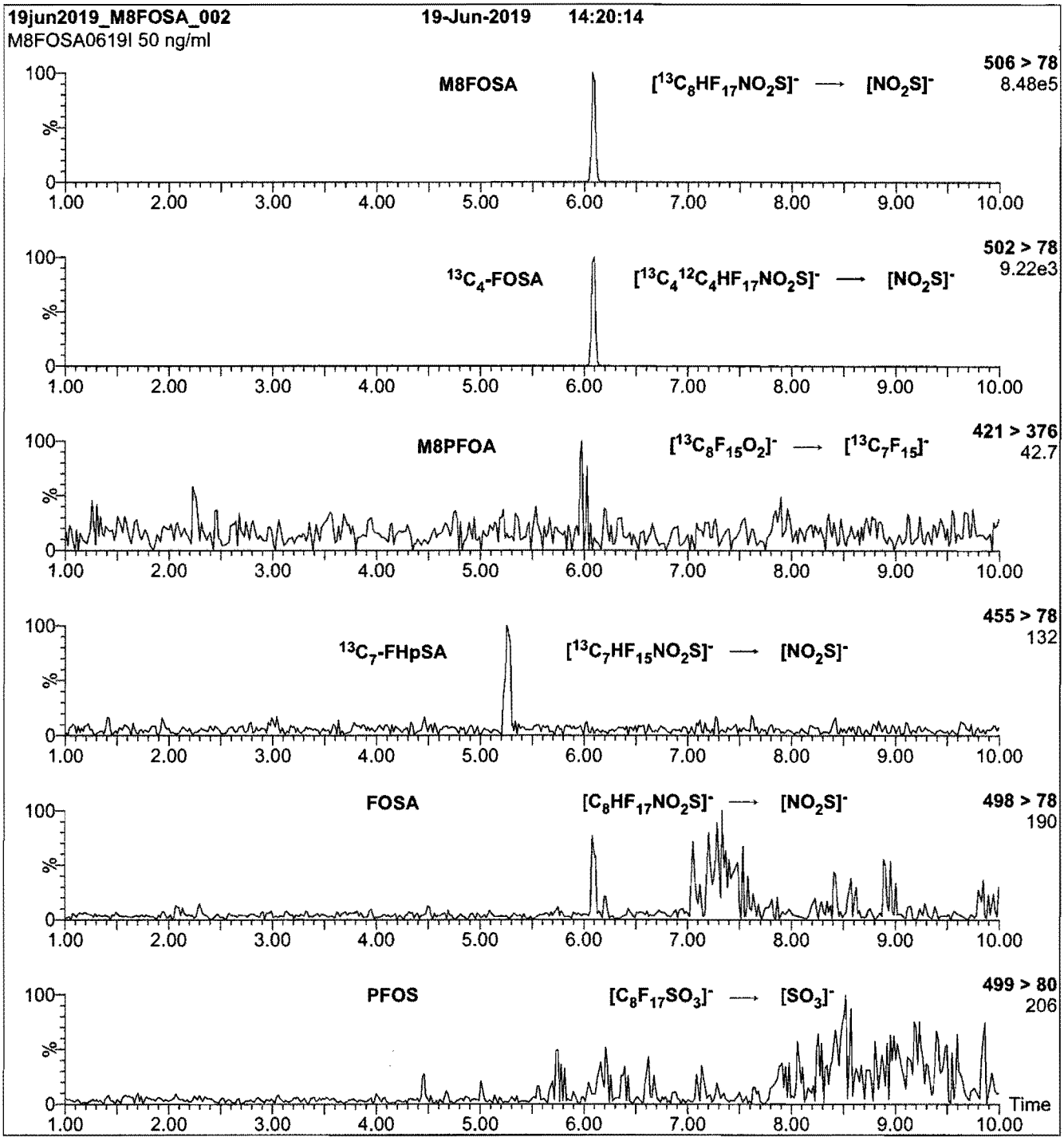
19L0613

Figure 2: **M8FOSA-I; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (M8FOSA-I)

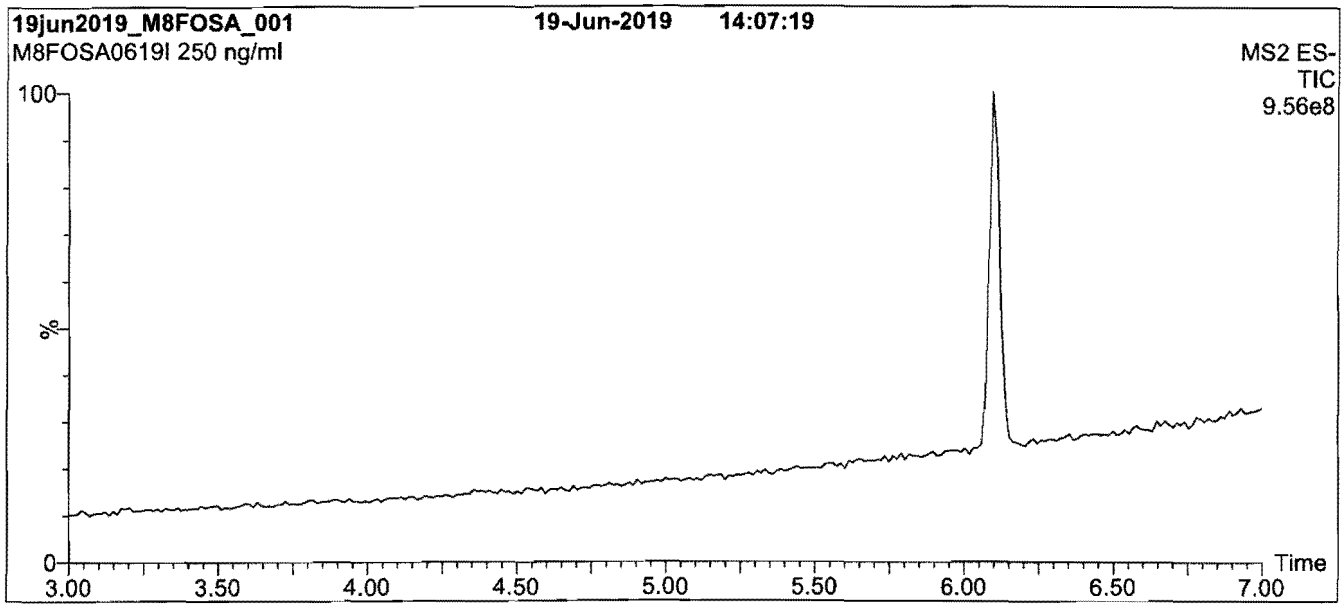
Mobile phase: Same as Figure 1

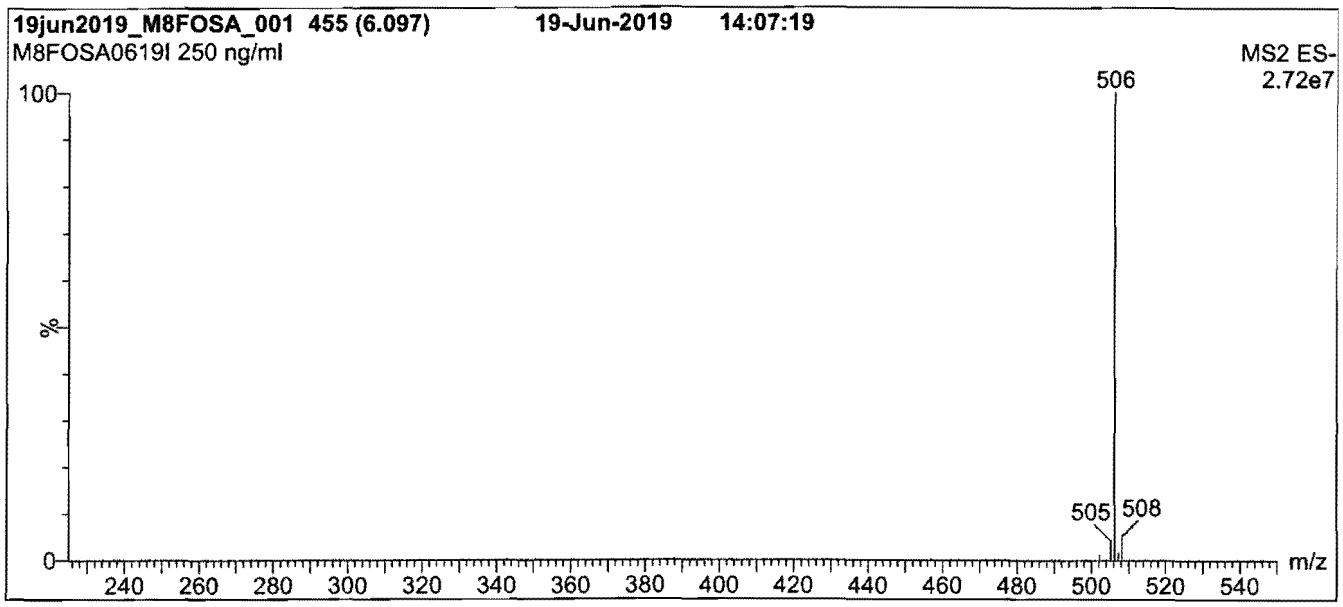
Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 2.94e-3
Collision Energy (eV) = 30

Figure 1: **M8FOSA-I; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 0.50
Cone Voltage (V) = 20.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

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where x is expressed as a relative standard uncertainty of the individual parameter.

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EXPIRY DATE / PERIOD OF VALIDITY:

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LIMITED WARRANTY:

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QUALITY MANAGEMENT:

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CALA Testing Accreditation No. A1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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19L0613

WELLINGTON LABORATORIES

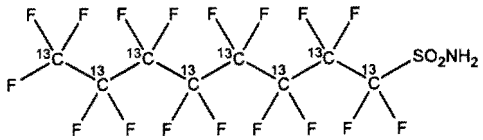
CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: M8FOSA-I
COMPOUND: Perfluoro-1-[$^{13}C_8$]octanesulfonamide

LOT NUMBER: M8FOSA0619I

STRUCTURE:

CAS #: 1365803-60-6



MOLECULAR FORMULA:	$^{13}C_8H_2F_{17}NO_2S$	**MOLECULAR WEIGHT:**	507.09
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Isopropanol
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($^{13}C_8$)
LAST TESTED: (mm/dd/yyyy)	06/19/2019		
EXPIRY DATE: (mm/dd/yyyy)	06/19/2024		
RECOMMENDED STORAGE:	Refrigerate ampoule		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains ~ 1.2% of perfluoro-1-[$^{13}C_4$]octanesulfonamide and ~ 0.02% of perfluoro-1-[$^{13}C_7$]heptanesulfonamide.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 06/21/2019 (mm/dd/yyyy)
B.G. Chittim, General Manager

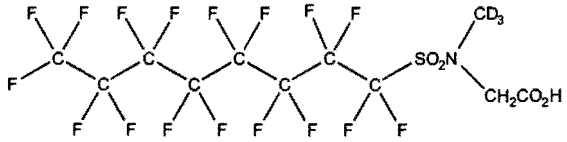
Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

19L0614

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:	d3-N-MeFOSAA	**LOT NUMBER:**	d3NMeFOSAA0719
COMPOUND:	N-methyl-d3-perfluoro-1-octanesulfonamidoacetic acid		
STRUCTURE:		**CAS #:**	1400690-70-1



MOLECULAR FORMULA:	$C_{11}D_3H_3F_{17}NO_4S$	**MOLECULAR WEIGHT:**	574.23
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥98% $^2H_3$
LAST TESTED: (mm/dd/yyyy)	07/24/2019		
EXPIRY DATE: (mm/dd/yyyy)	07/24/2024		
RECOMMENDED STORAGE:	Refrigerate ampoule		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent the conversion of the acetic acid moiety to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 07/26/2019 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

19LC064

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

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The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters x_1, x_2,...x_n on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

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LIMITED WARRANTY:

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QUALITY MANAGEMENT:

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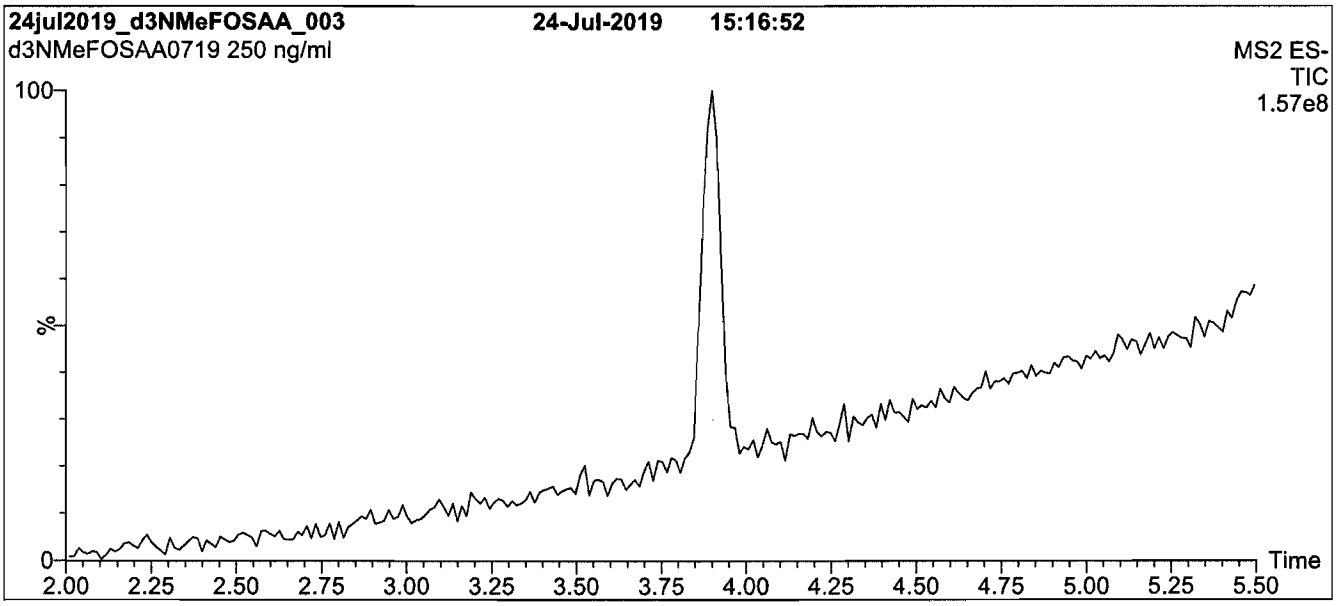
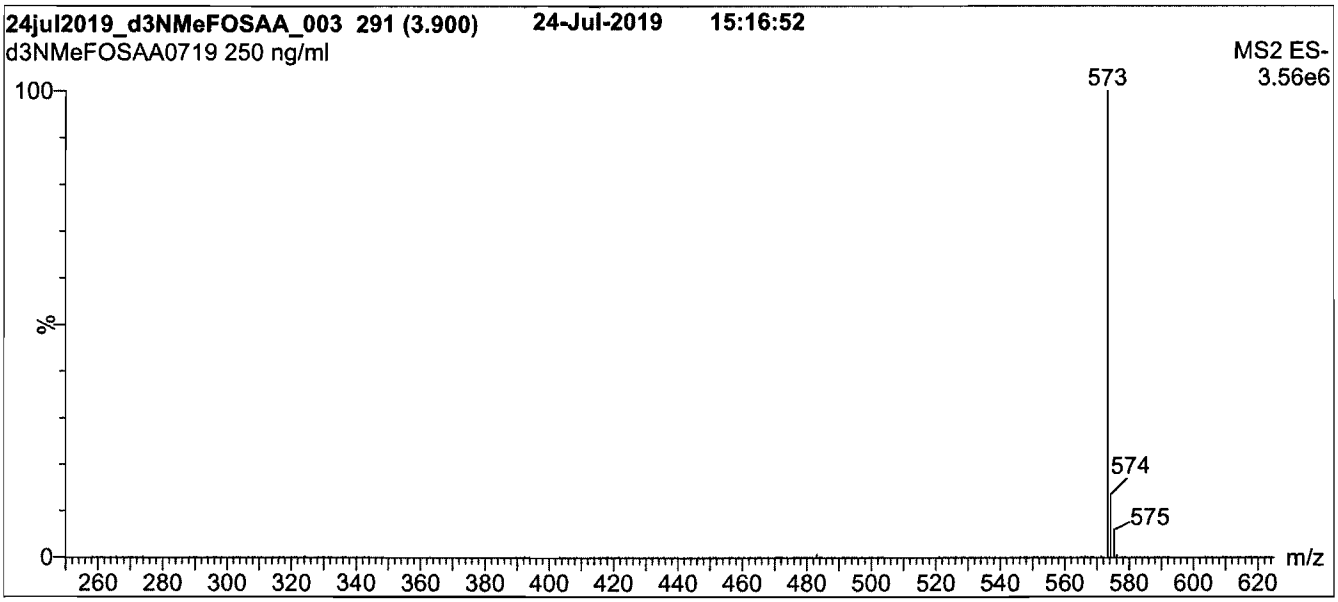
CALA Testing Accreditation No. A1226

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

Figure 1: **d3-N-MeFOSAA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 60% (80:20 MeOH:ACN) / 40% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for
3 min before returning to initial conditions in 0.75 min.
Time: 12 min

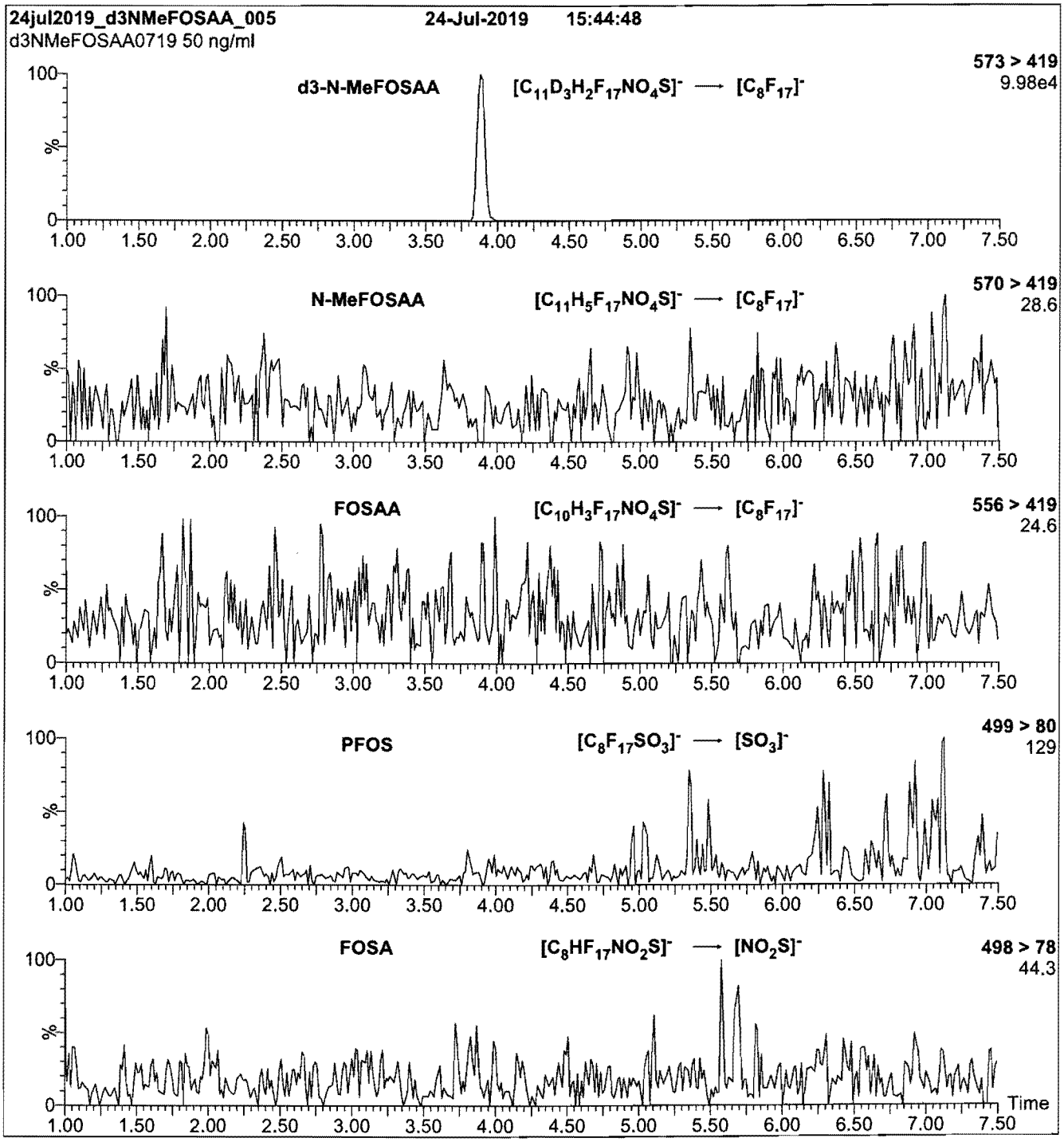
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (250 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 20.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

Figure 2: **d3-N-MeFOSAA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (d3-N-MeFOSAA)

Mobile phase: Same as Figure 1

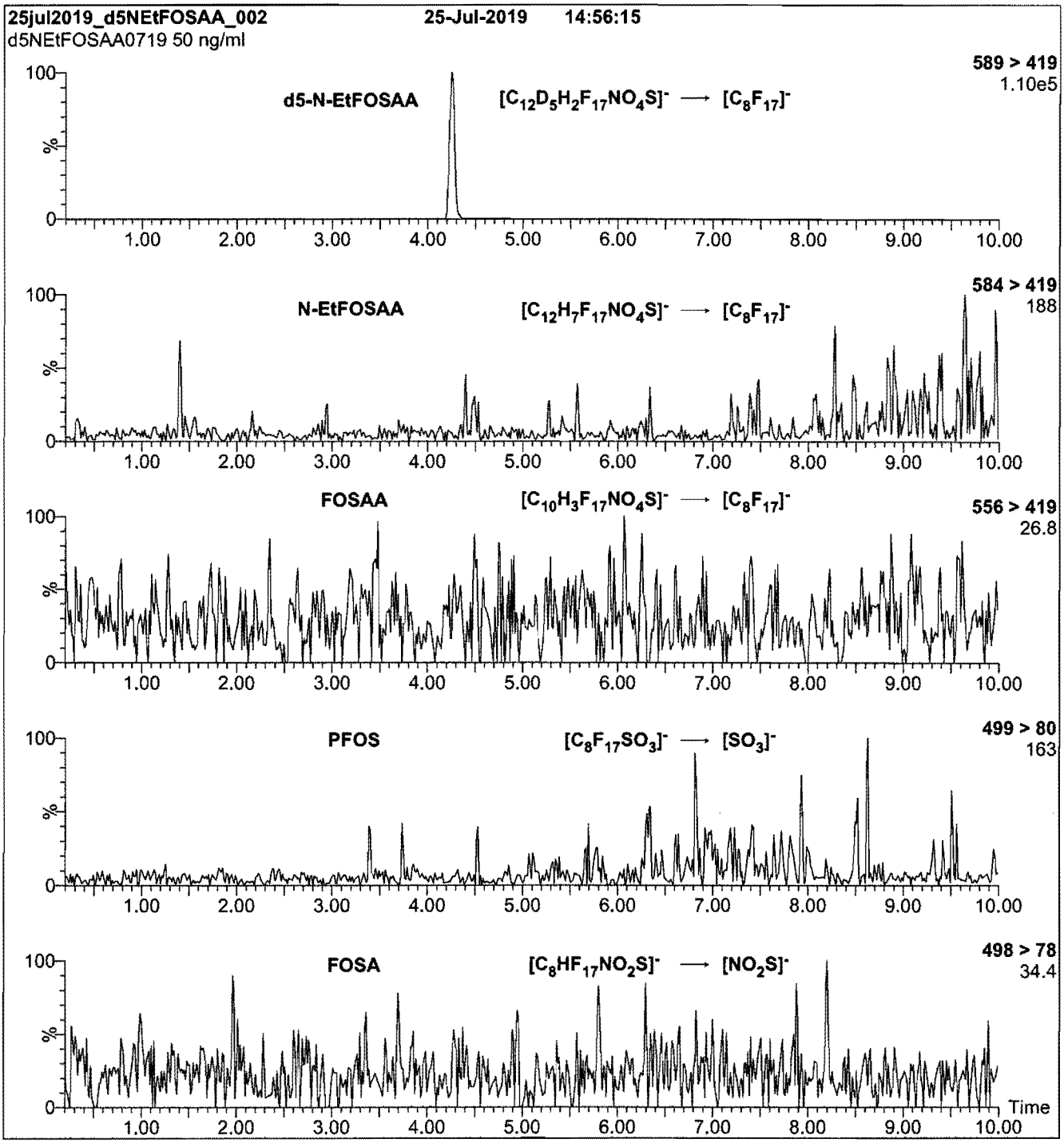
Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.33e-3
Collision Energy (eV) = 18

19L0615

Figure 2: **d5-N-EtFOSAA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (d5-N-EtFOSAA)

Mobile phase: Same as Figure 1

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.29e-3
Collision Energy (eV) = 18

19L0615

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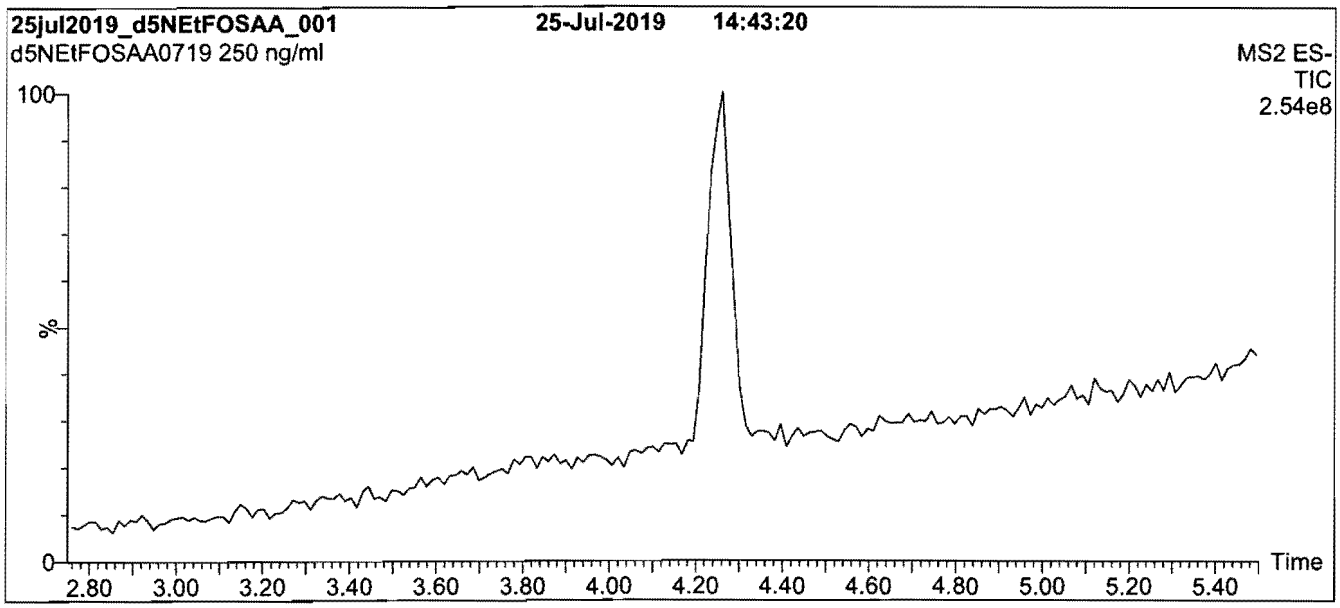

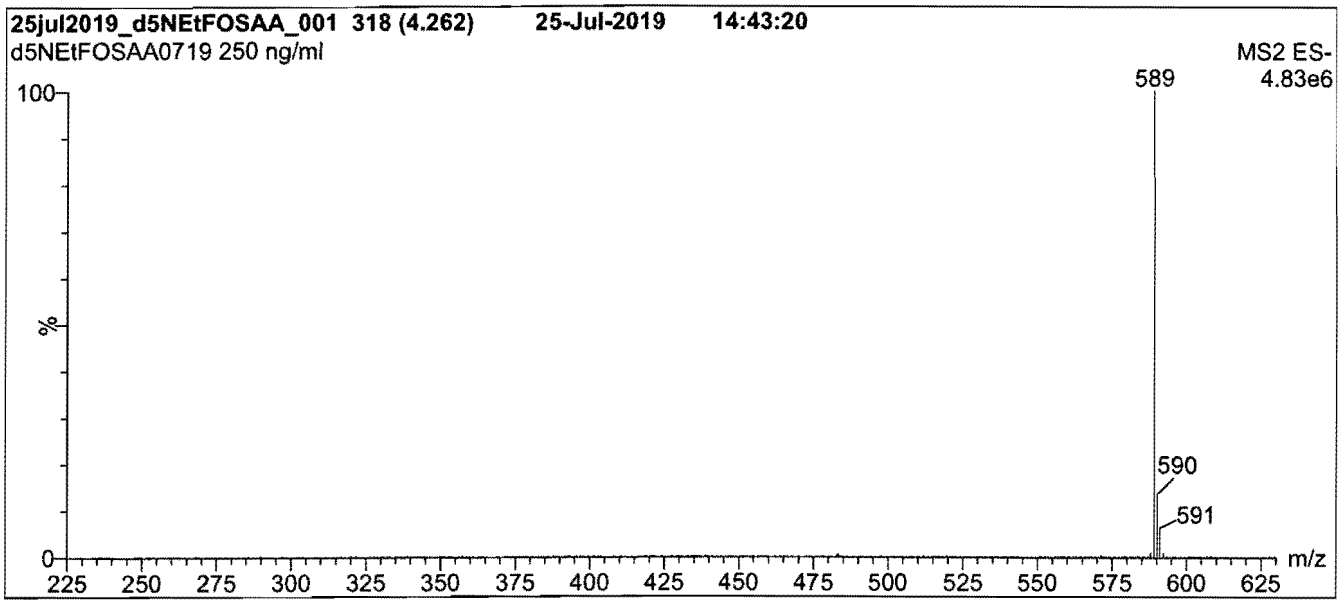

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19L0615

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CALA Testing Accreditation No. A1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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1910615

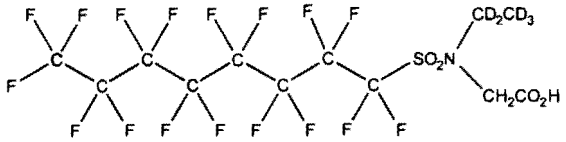
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: d5-N-EtFOSAA **LOT NUMBER:** d5NEtFOSAA0719

COMPOUND: N-ethyl-d5-perfluoro-1-octanesulfonamidoacetic acid

STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA:	$C_{12}D_5H_3F_{17}NO_4S$	**MOLECULAR WEIGHT:**	590.26
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥98% $^2H_5$
LAST TESTED: (mm/dd/yyyy)	07/25/2019		
EXPIRY DATE: (mm/dd/yyyy)	07/25/2024		
RECOMMENDED STORAGE:	Refrigerate ampoule		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

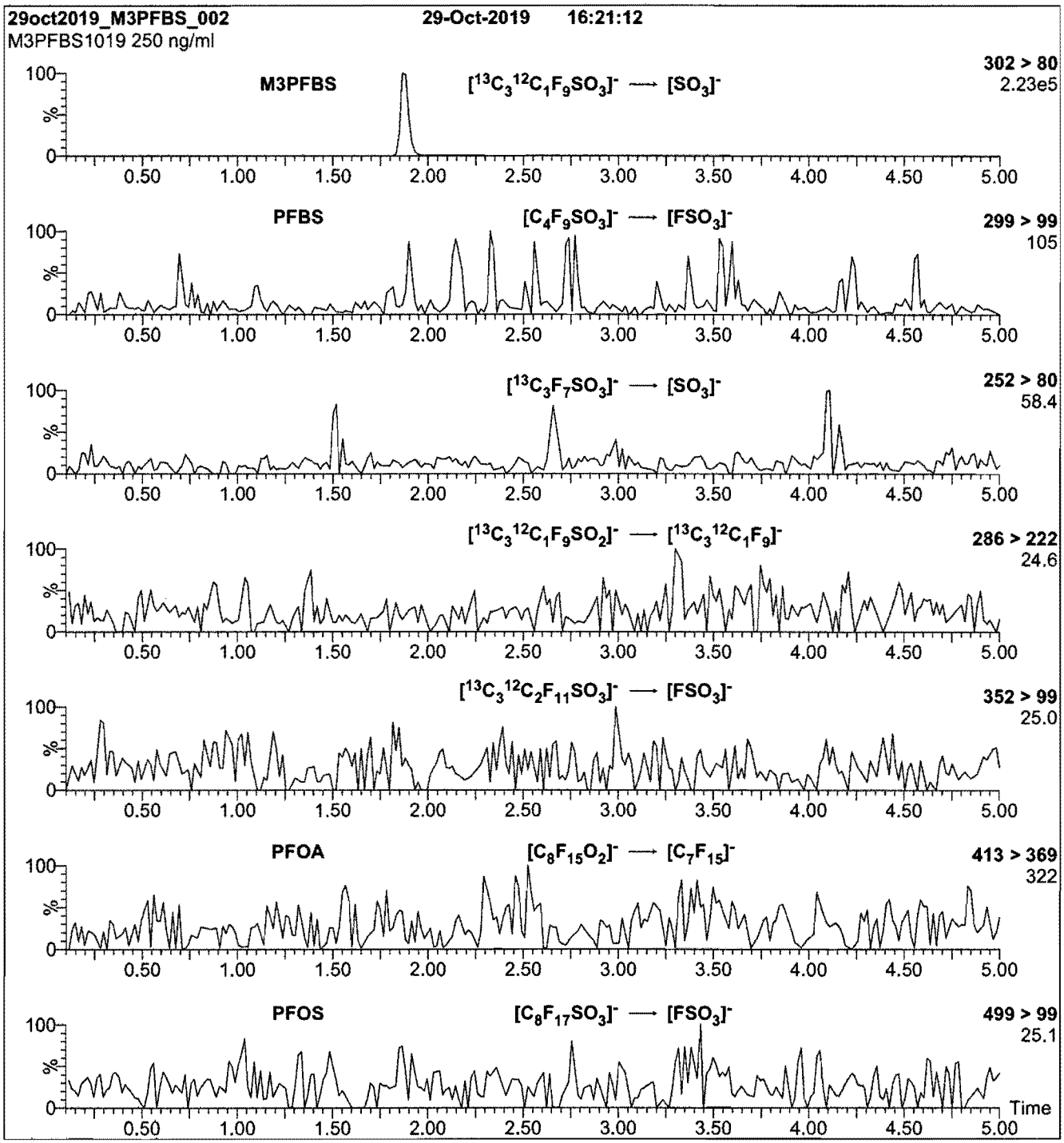
- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent the conversion of the acetic acid moiety to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 07/26/2019 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Figure 2: **M3PFBS; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (M3PFBS)

Mobile phase: Same as Figure 1

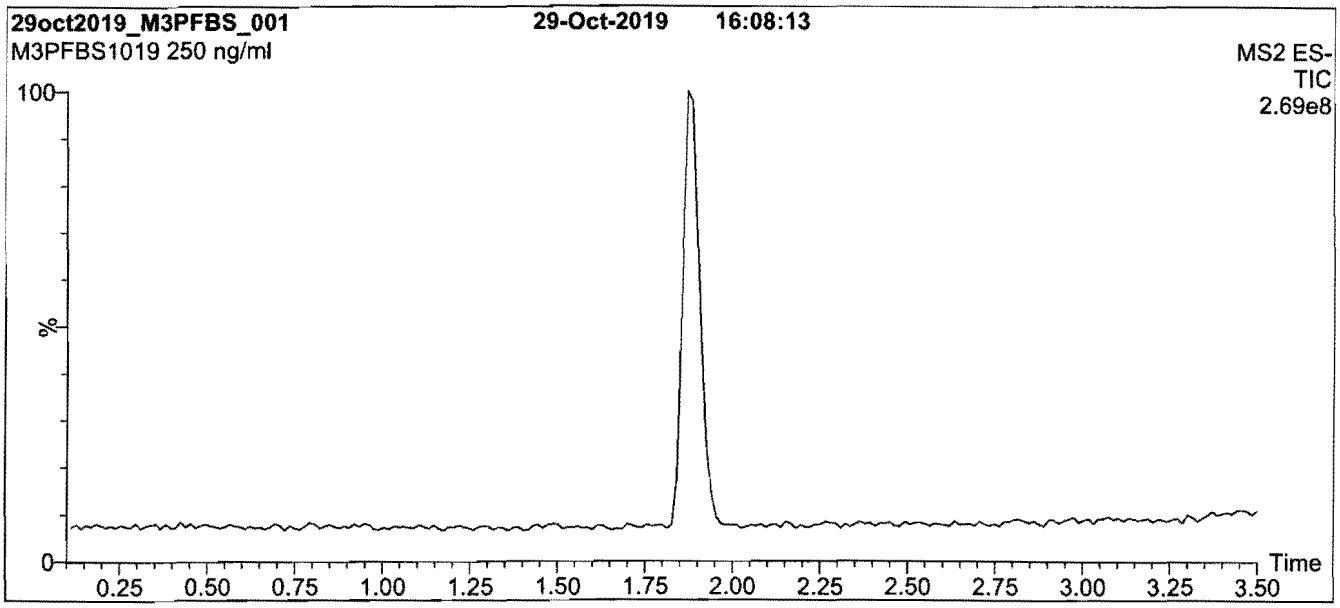
Flow: 300 µl/min

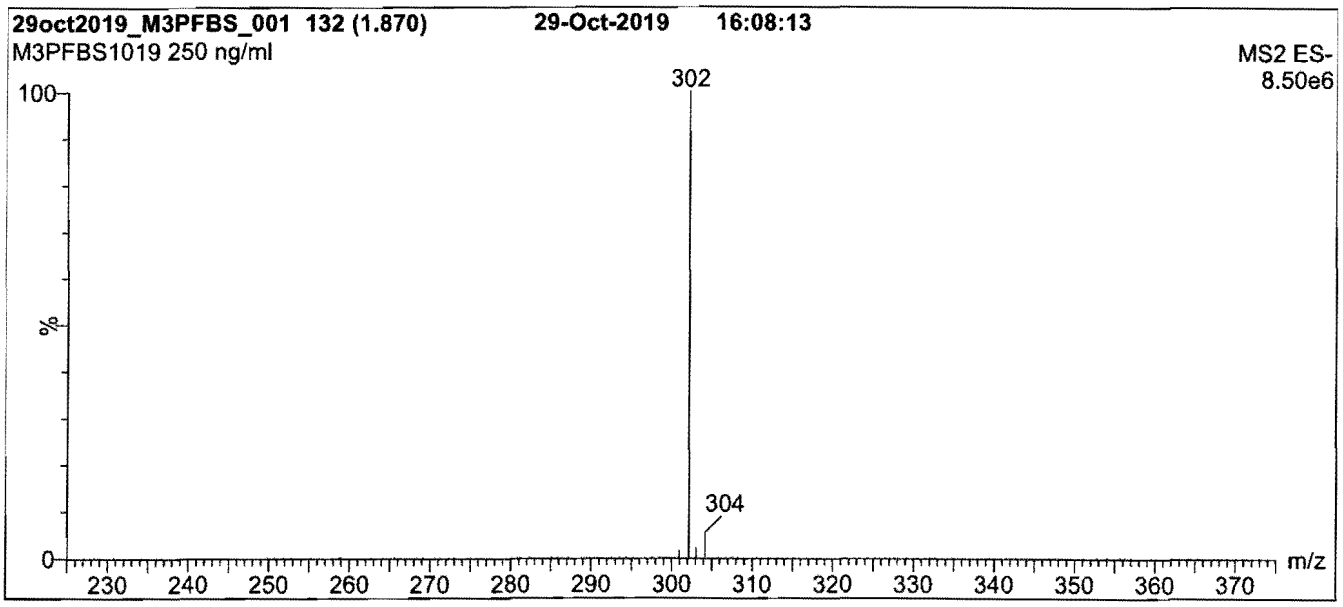
MS Parameters

Collision Gas (mbar) = 3.57e-3
Collision Energy (eV) = 30

19L0616

Figure 1: **M3PFBS; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

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MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

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Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 10.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

19L0616

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CALA Testing Accreditation No. A1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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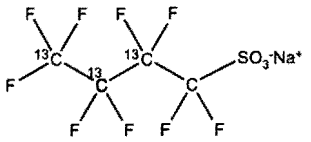
19L0616

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	M3PFBS	**LOT NUMBER:**	M3PFBS1019
COMPOUND:	Sodium perfluoro-1-[2,3,4-$^{13}C_3$]butanesulfonate		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_3{}^{12}CF_9SO_3Na$	**MOLECULAR WEIGHT:**	325.06
CONCENTRATION:	50.0 ± 2.5 µg/ml (Na salt) 46.5 ± 2.3 µg/ml (M3PFBS anion)	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($2,3,4\text{-}^{13}C_3$)
LAST TESTED: (mm/dd/yyyy)	10/29/2019		
EXPIRY DATE: (mm/dd/yyyy)	10/29/2024		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains < 0.1% of perfluoro-1-butanesulfonate.

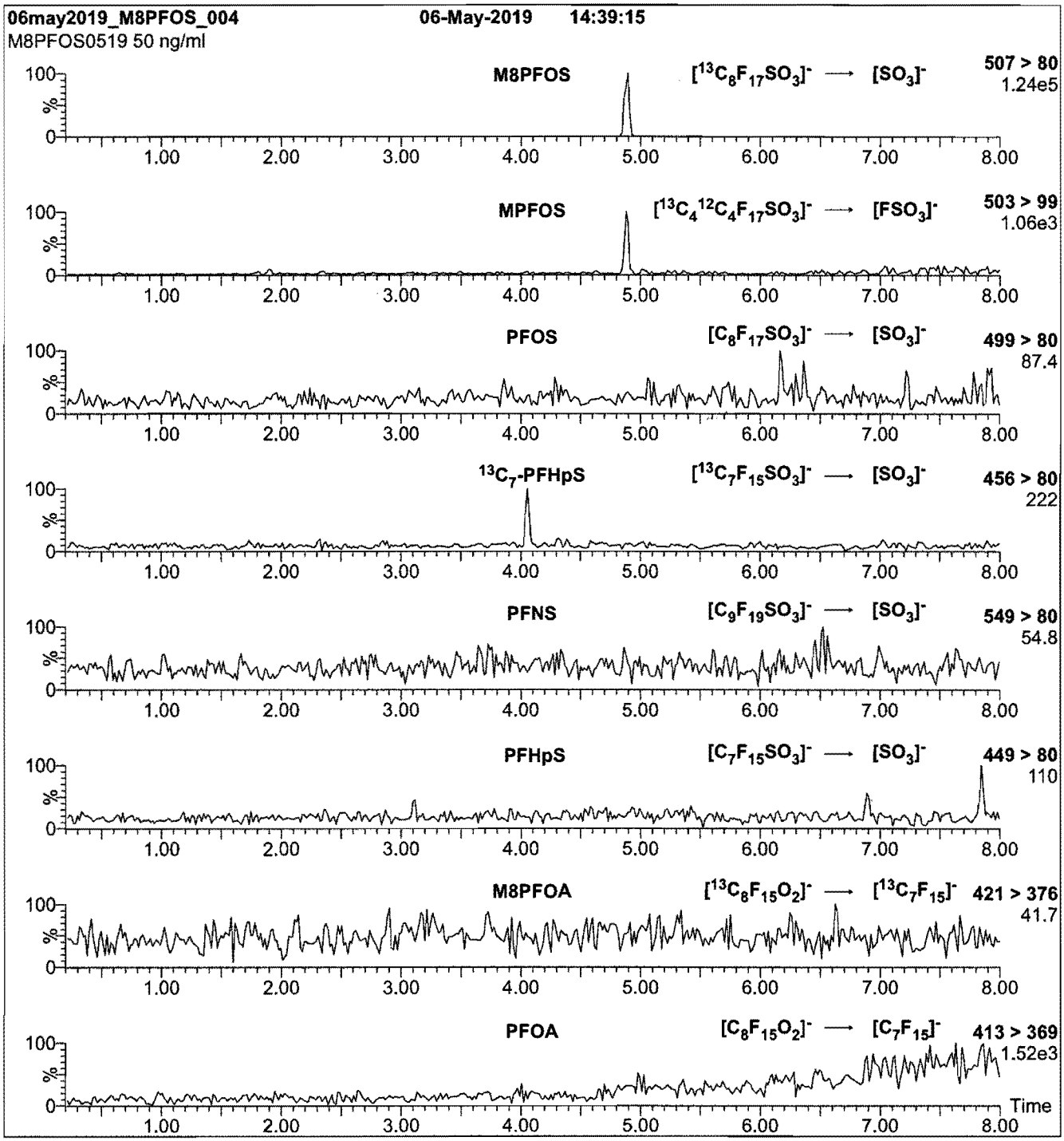
FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 11/08/2019 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

19L0617

Figure 2: **M8PFOS; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (M8PFOS)

Mobile phase: Same as Figure 1

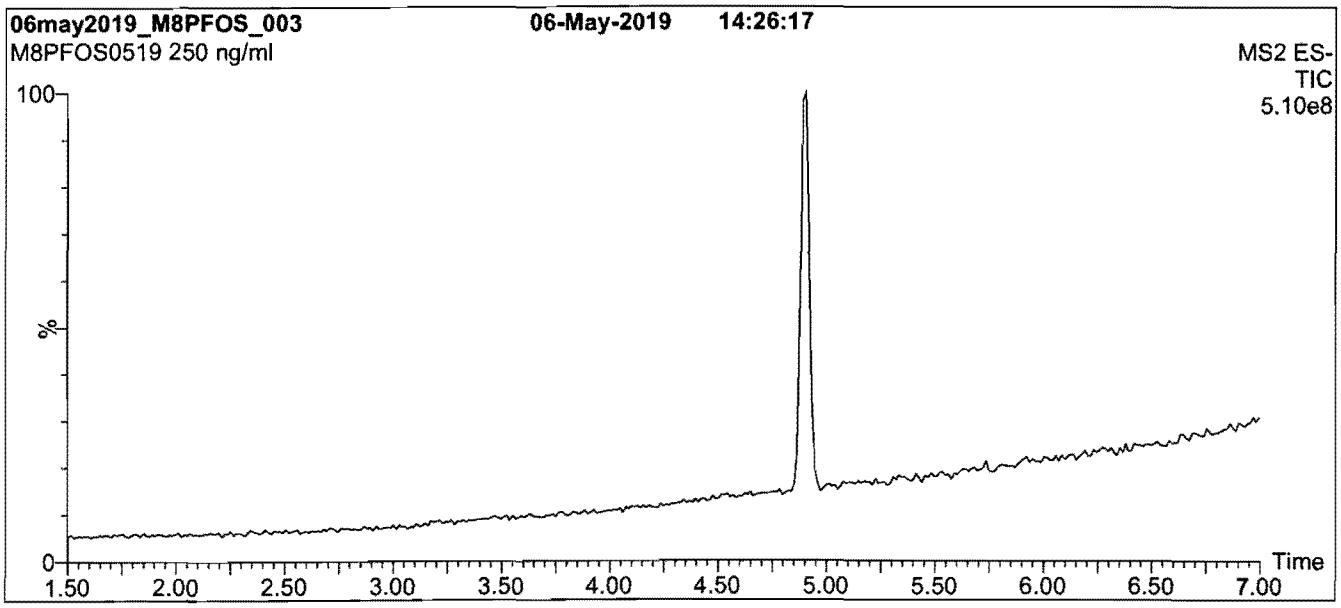
Flow: 300 µl/min

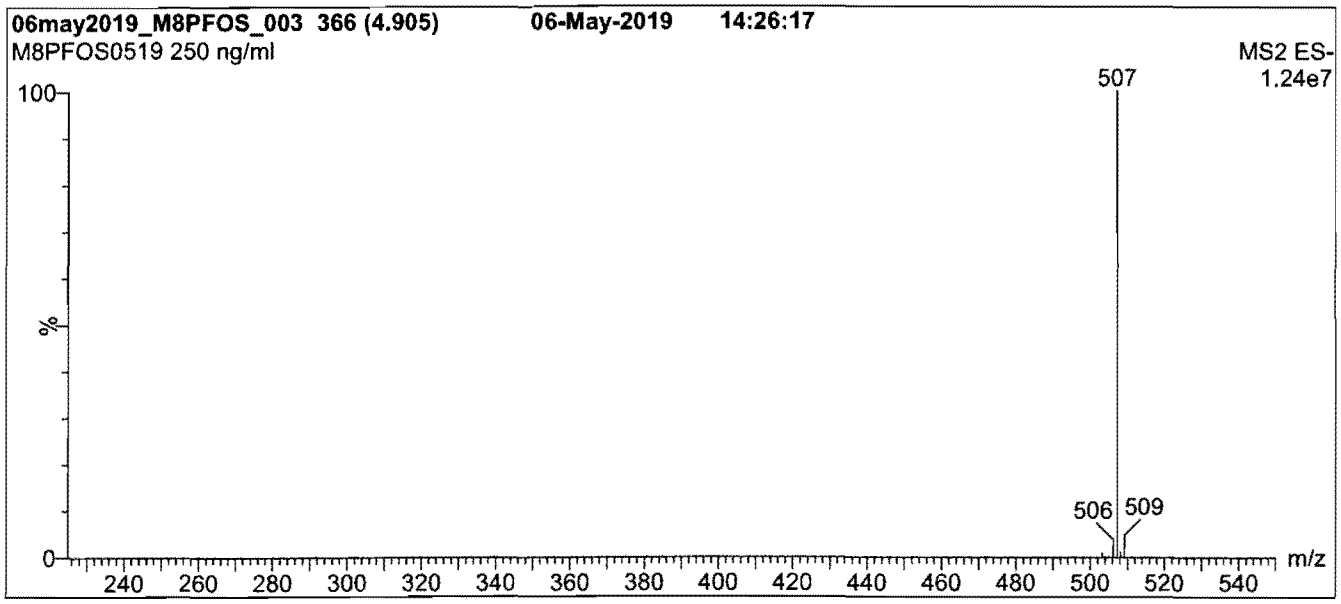
MS Parameters

Collision Gas (mbar) = 2.85e-3
Collision Energy (eV) = 42

19L0617

Figure 1: **M8PFOS; LC/MS Data (TIC and Mass Spectrum)**





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Ramp to 90% organic over 8 min and hold for 2 min
before returning to initial conditions in 0.75 min.
Time: 11 min

Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

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where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A1226

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

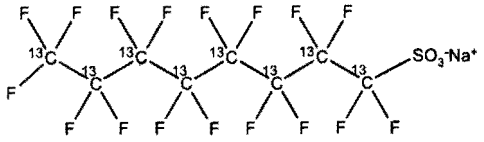
For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

19L0617

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	M8PFOS	**LOT NUMBER:**	M8PFOS0519
COMPOUND:	Sodium perfluoro-1-[$^{13}C_8$]octanesulfonate		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_8F_{17}SO_3Na$	**MOLECULAR WEIGHT:**	530.05
CONCENTRATION:	50.0 ± 2.5 µg/ml (Na salt) 47.8 ± 2.4 µg/ml (M8PFOS anion)	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	>99% ^{13}C ($^{13}C_8$)
LAST TESTED: (mm/dd/yyyy)	05/06/2019		
EXPIRY DATE: (mm/dd/yyyy)	05/06/2024		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

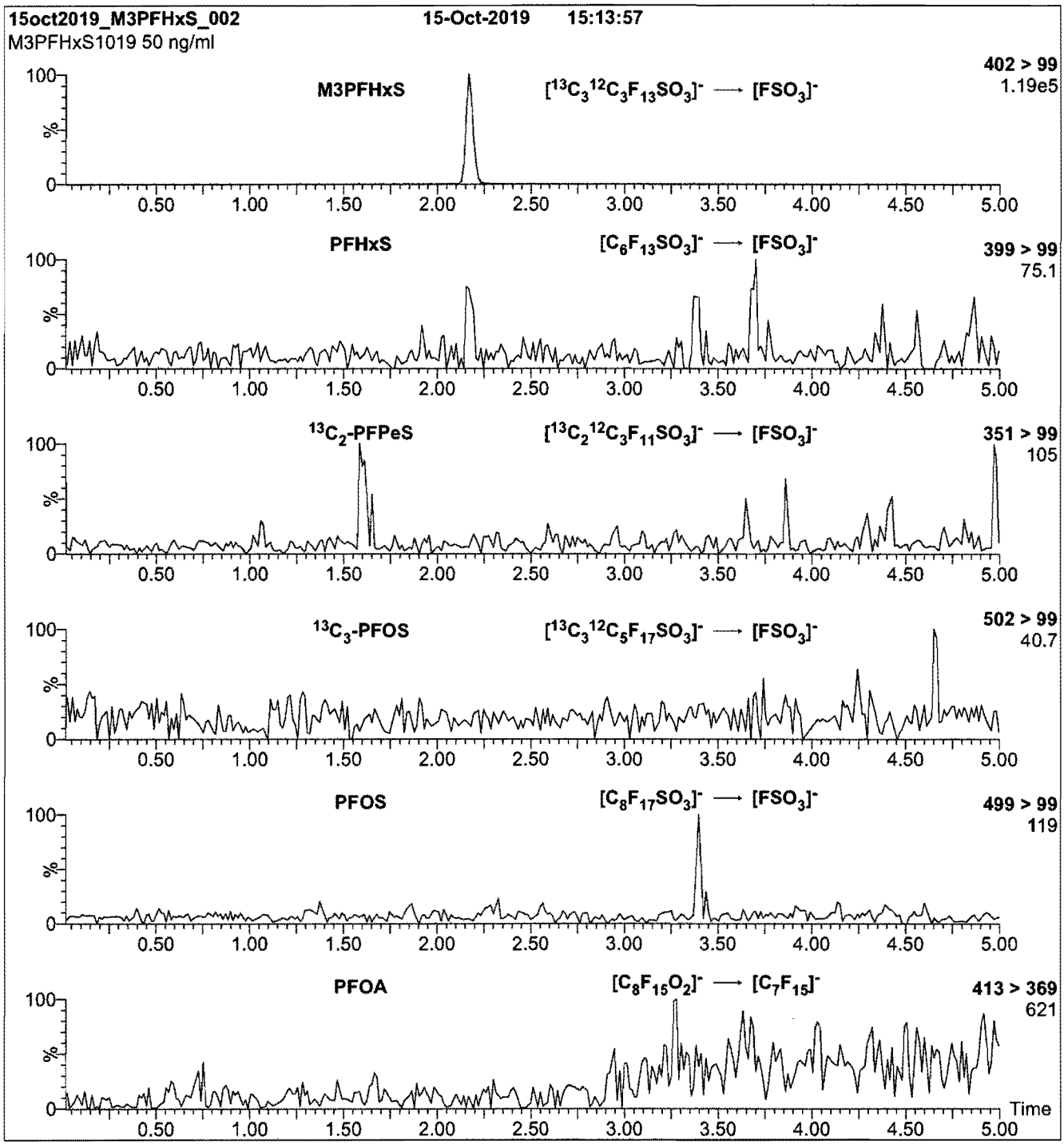
- See page 2 for further details.
- Contains ~ 0.2% of sodium perfluoro-1-[$^{13}C_7$]heptanesulfonate ($^{13}C_7$-PFHpS) and ~ 1.0% of sodium perfluoro-1-[$^{13}C_4$]octanesulfonate (MPFOS).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 05/23/2019 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Figure 2: **M3PFHxS; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (M3PFHxS)

Mobile phase: Same as Figure 1

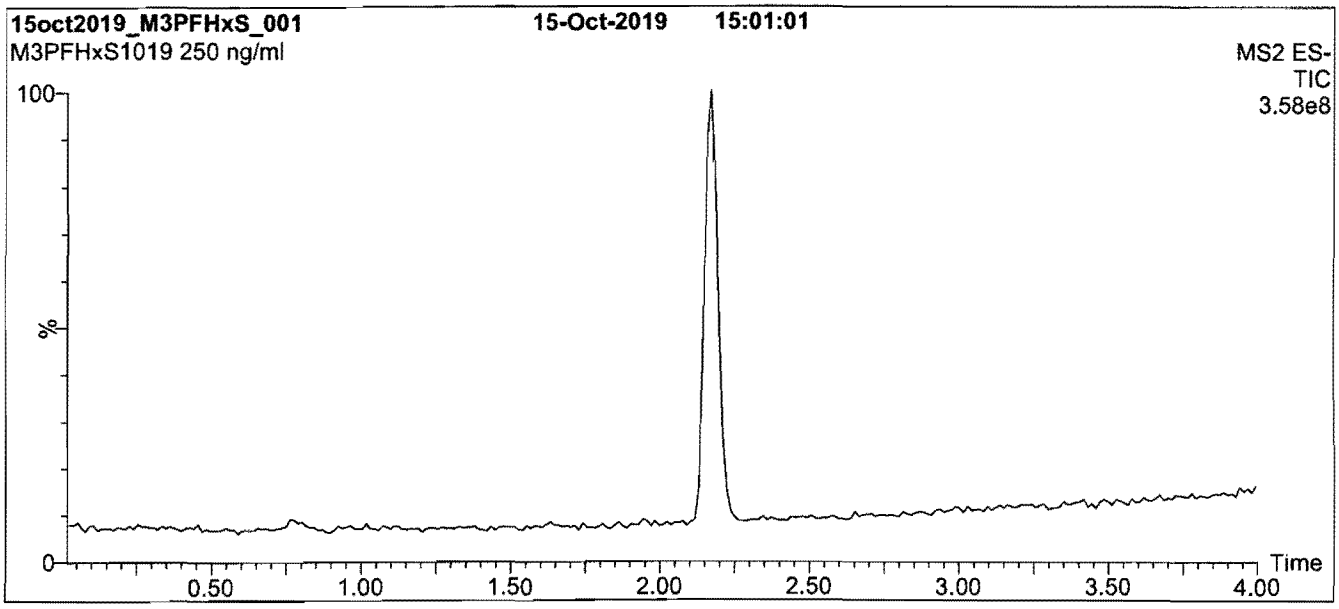
Flow: 300 µl/min

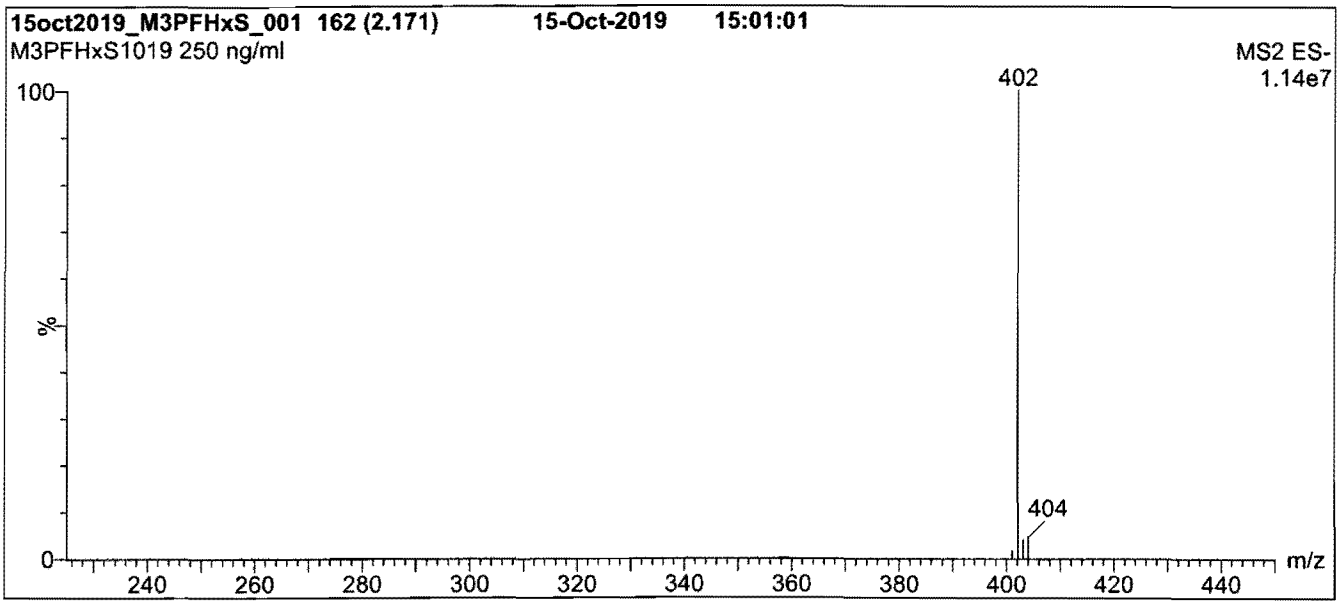
MS Parameters

Collision Gas (mbar) = 3.91e-3
Collision Energy (eV) = 32

19L0618

Figure 1: **M3PFHxS; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 60% (80:20 MeOH:ACN) / 40% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for
3 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.50
Cone Voltage (V) = 10.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters x_1, x_2,...x_n on which it depends is:

$$u_c(y(x_1, x_2, ...x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

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EXPIRY DATE / PERIOD OF VALIDITY:

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LIMITED WARRANTY:

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QUALITY MANAGEMENT:

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CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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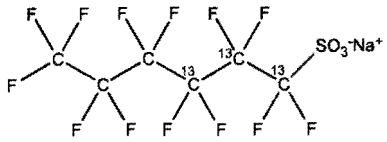
19L0618

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	M3PFHxS	**LOT NUMBER:**	M3PFHxS1019
COMPOUND:	Sodium perfluoro-1-[1,2,3-$^{13}C_3$]hexanesulfonate		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_3{}^{12}C_3F_{13}SO_3Na$	**MOLECULAR WEIGHT:**	425.07
CONCENTRATION:	50.0 ± 2.5 µg/ml (Na salt) 47.3 ± 2.4 µg/ml (M3PFHxS anion)	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2,3\text{-}^{13}C_3$)
LAST TESTED: (mm/dd/yyyy)	10/15/2019		
EXPIRY DATE: (mm/dd/yyyy)	10/15/2024		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

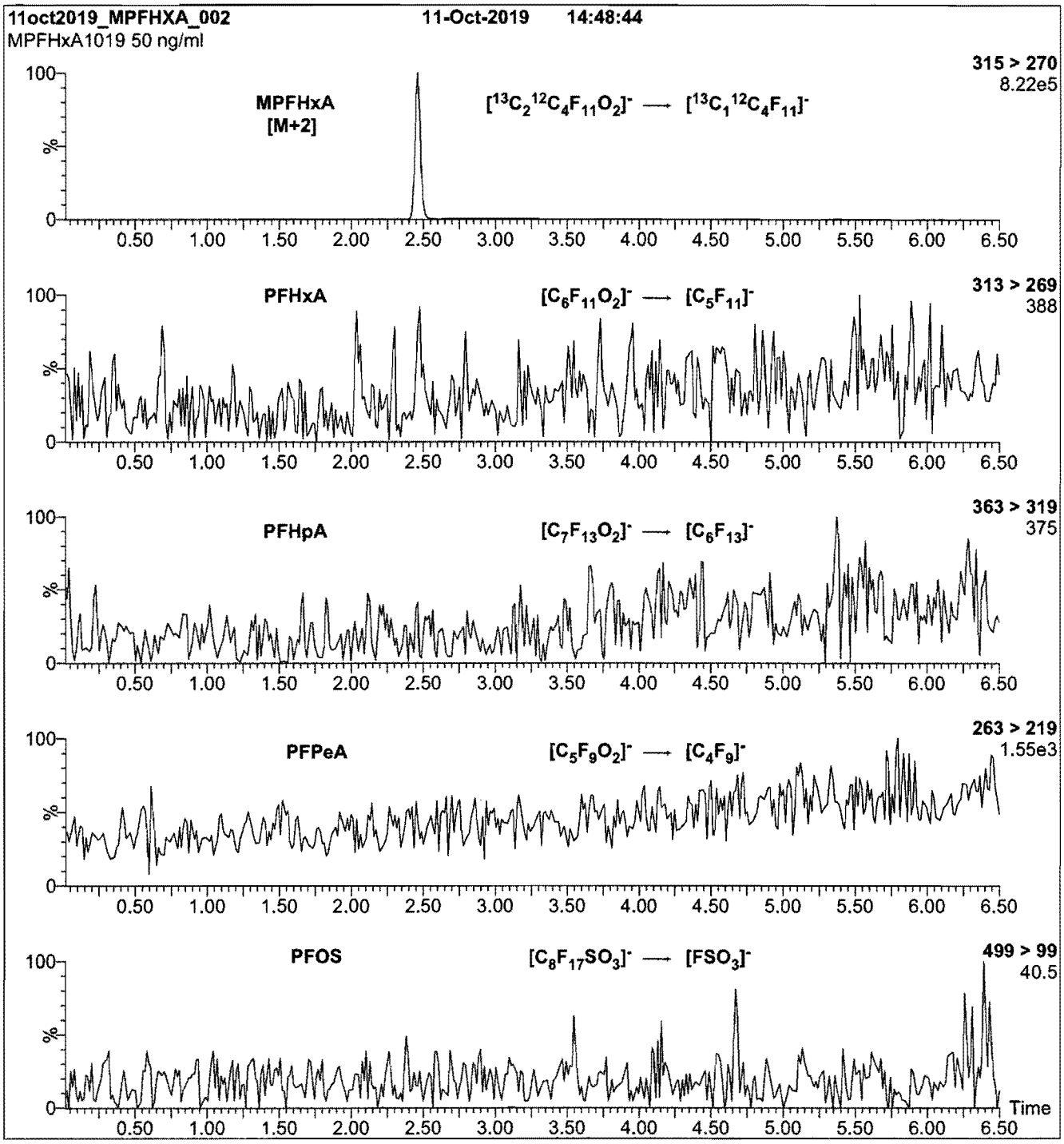
- See page 2 for further details.
- Contains ~ 0.1% perfluoro-1-[1,2-$^{13}C_2$]pentanesulfonate, ~ 0.1% perfluoro-1-octanesulfonate, and ~ 0.05% of perfluoro-1-hexanesulfonate.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 10/16/2019 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Figure 2: **MPFHxA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (MPFHxA)

Mobile phase: Same as Figure 1

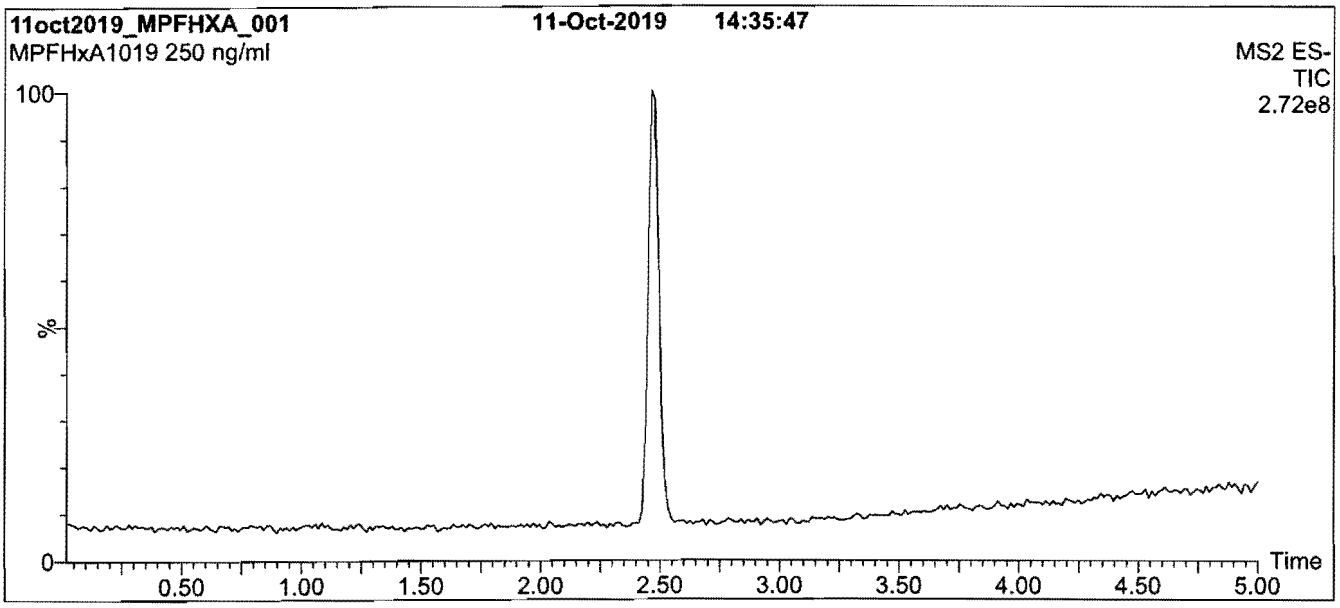
Flow: 300 µl/min

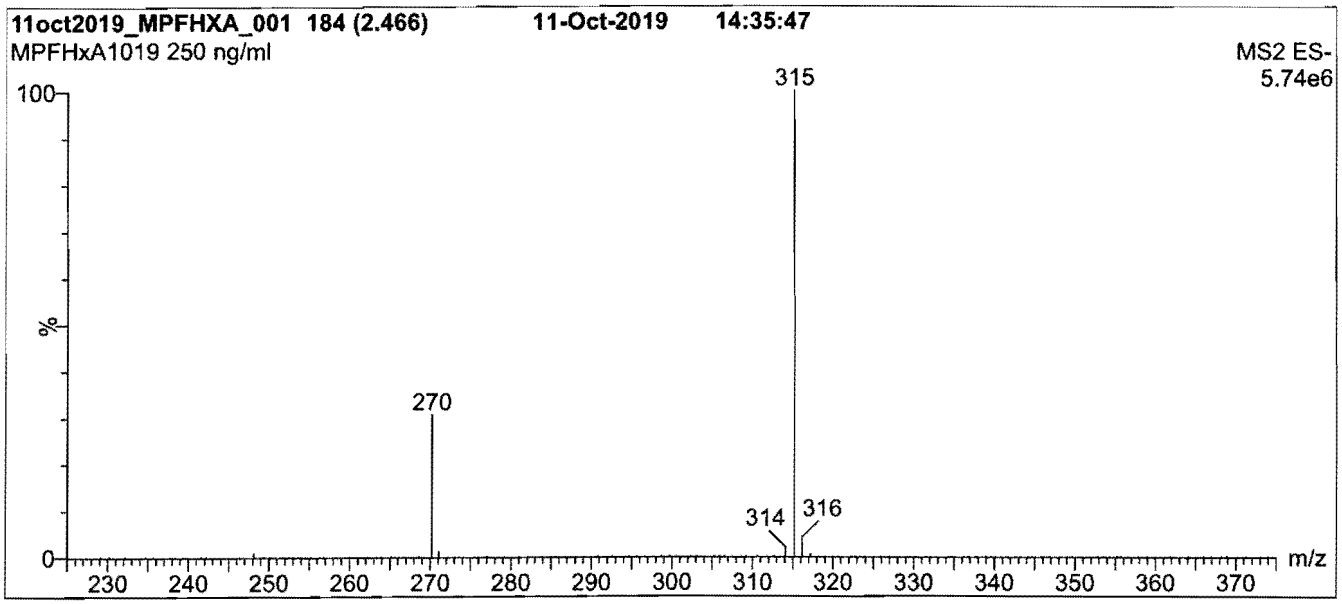
MS Parameters

Collision Gas (mbar) = 3.80e-3
Collision Energy (eV) = 8

19L0619

Figure 1: **MPFHxA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.50
Cone Voltage (V) = 10.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

INTENDED USE:

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HANDLING:

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SYNTHESIS / CHARACTERIZATION:

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HOMOGENEITY:

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UNCERTAINTY:

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$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

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EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

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QUALITY MANAGEMENT:

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CALA Testing Accreditation No. A1226

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

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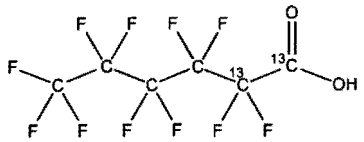
19L0619

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	MPFHxA	**LOT NUMBER:**	MPFHxA1019
COMPOUND:	Perfluoro-n-[1,2-$^{13}C_2$]hexanoic acid		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_2{}^{12}C_4HF_{11}O_2$	**MOLECULAR WEIGHT:**	316.04
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2\text{-}^{13}C_2$)
LAST TESTED: (mm/dd/yyyy)	10/11/2019		
EXPIRY DATE: (mm/dd/yyyy)	10/11/2024		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

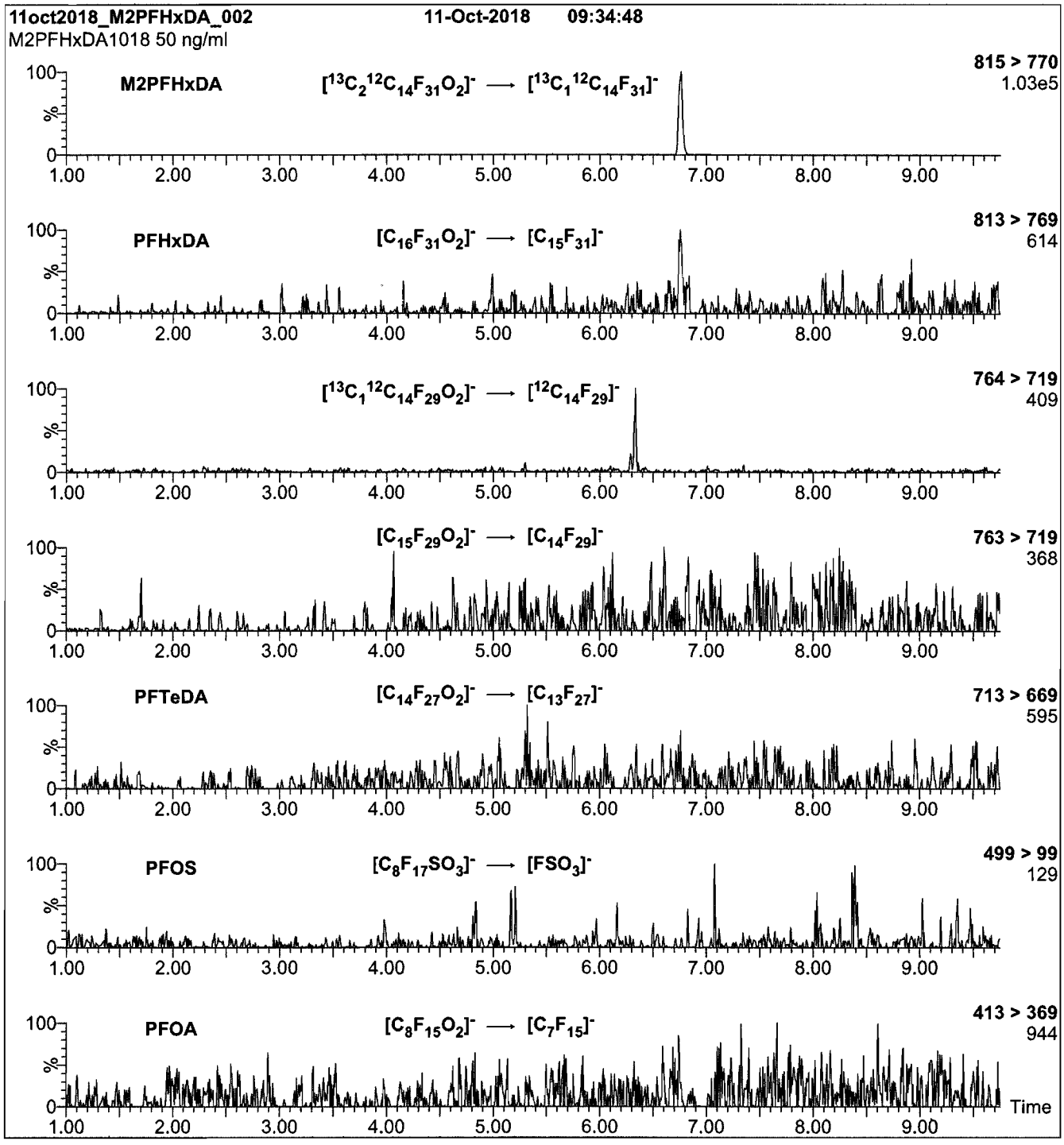
FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 10/22/2019 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

19L0620

Figure 2: **M2PFHxDA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (M2PFHxDA)

Mobile phase: Same as Figure 1

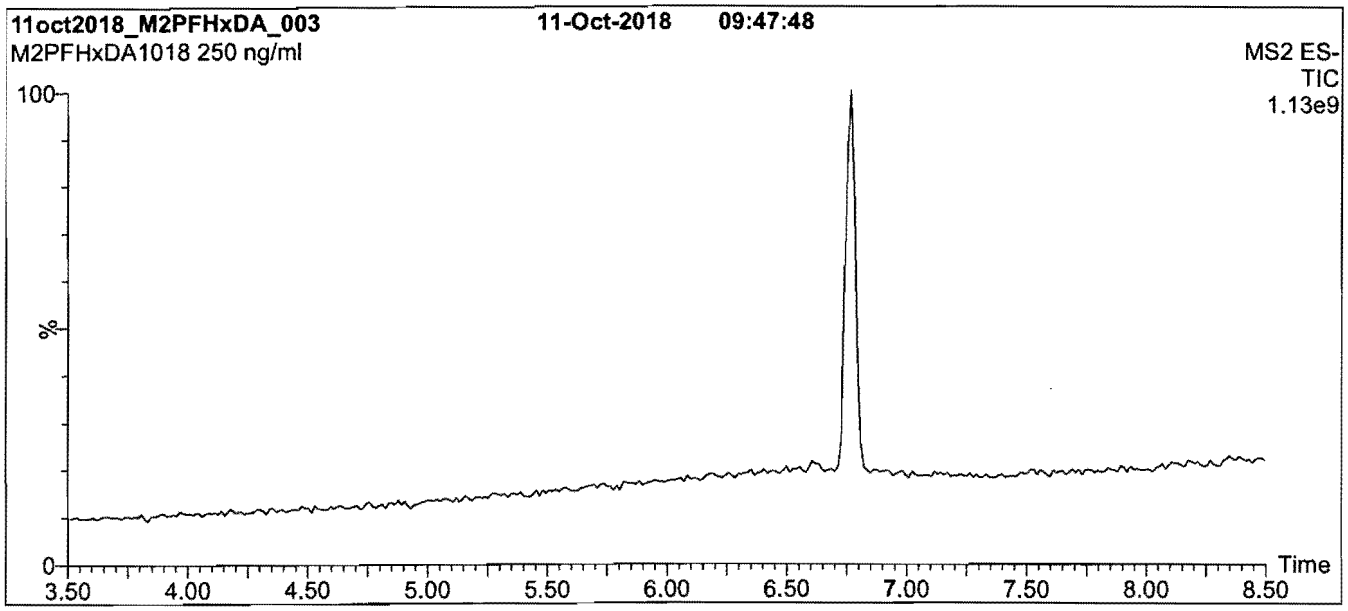
Flow: 300 µl/min

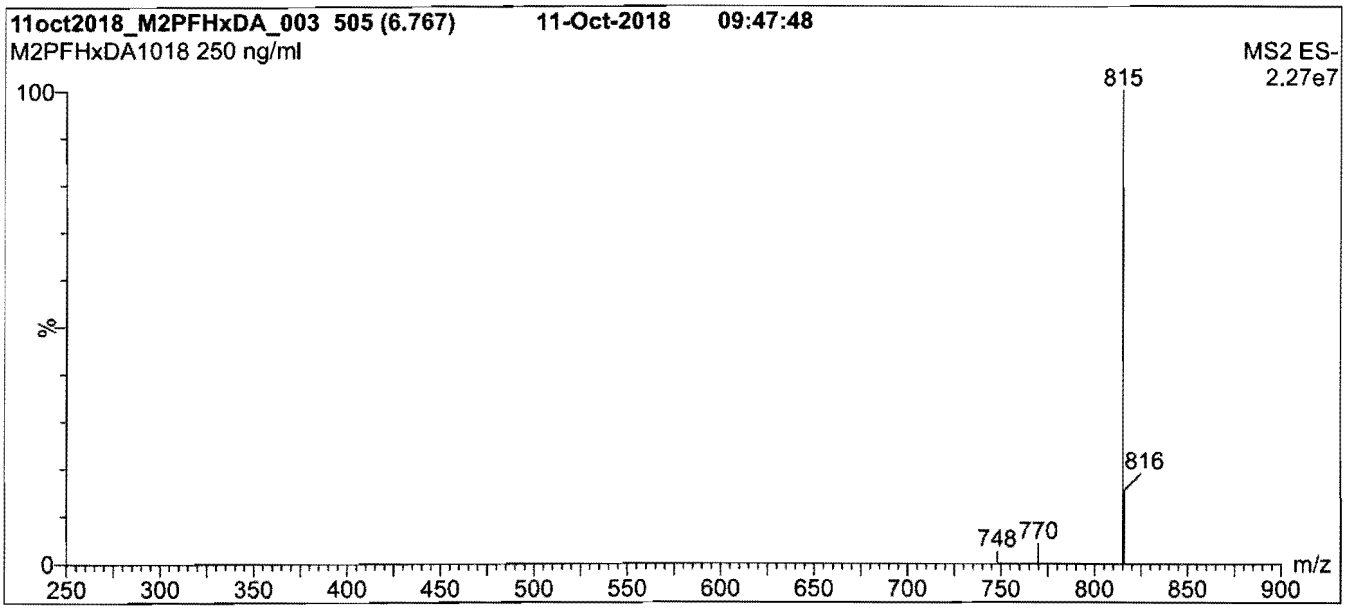
MS Parameters

Collision Gas (mbar) = 2.97e-3
Collision Energy (eV) = 15

19L0620

Figure 1: **M2PFHxDA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 60% (80:20 MeOH:ACN) / 40% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for
3 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (250 - 1200 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 10.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

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where x is expressed as a relative standard uncertainty of the individual parameter.

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LIMITED WARRANTY:

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QUALITY MANAGEMENT:

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CALA Testing Accreditation No. A 1226

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

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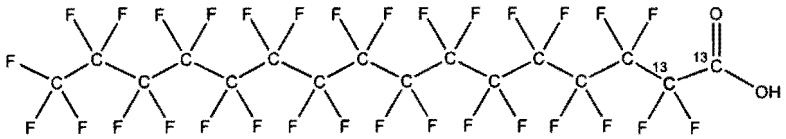
19L0620

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	M2PFHxDA	**LOT NUMBER:**	M2PFHxDA1018
COMPOUND:	Perfluoro-n-[1,2-$^{13}C_2$]hexadecanoic acid		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_2{}^{12}C_{14}HF_{31}O_2$	**MOLECULAR WEIGHT:**	816.11
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2\text{-}^{13}C_2$)
LAST TESTED: (mm/dd/yyyy)	10/11/2018		
EXPIRY DATE: (mm/dd/yyyy)	10/11/2023		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

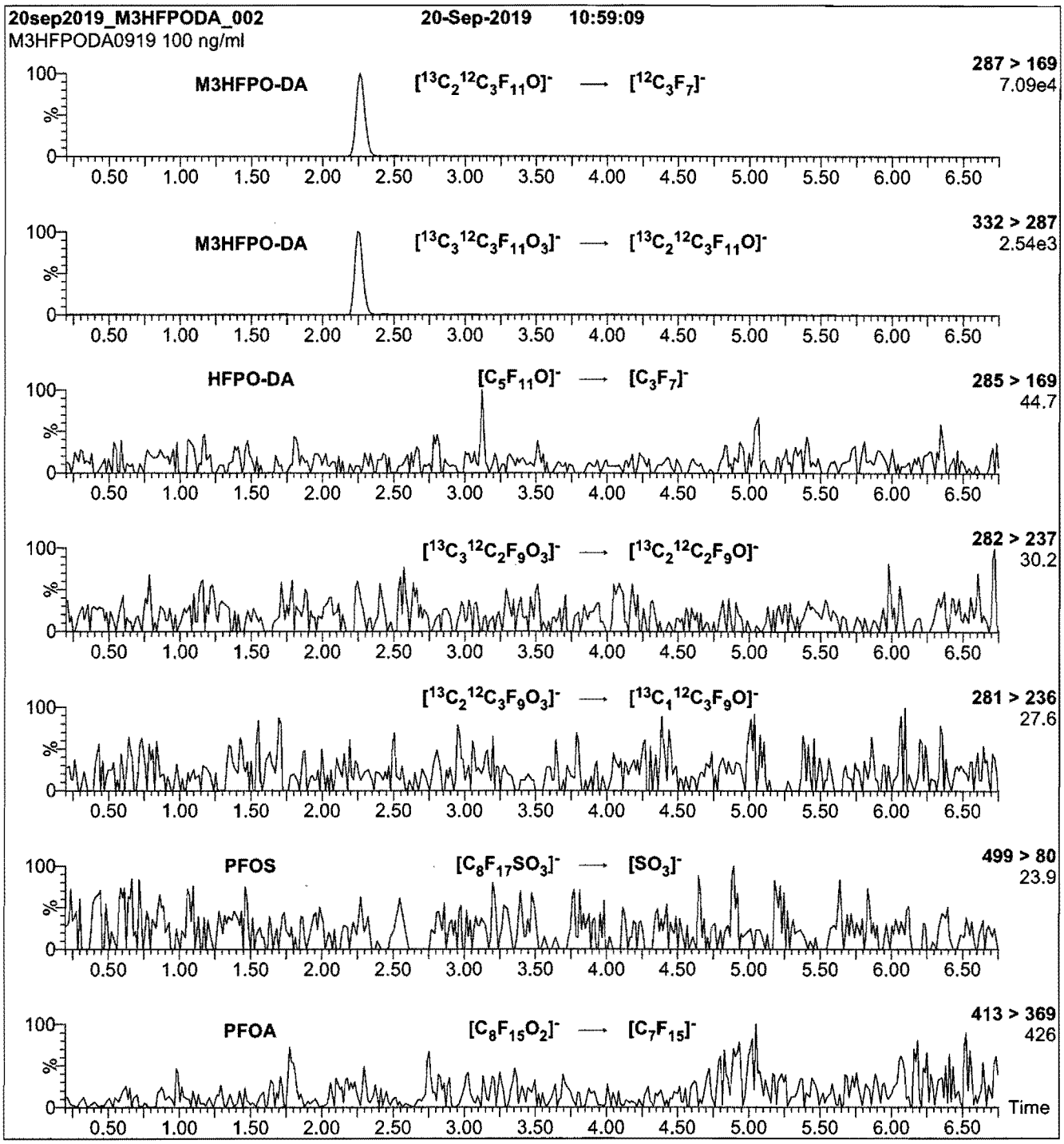
- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains ~ 0.3% of native perfluoro-n-hexadecanoic acid and ~ 0.2% of perfluoro-n-[$^{13}C_1$]pentadecanoic acid.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 10/19/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Figure 2: **M3HFPO-DA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (M3HFPO-DA)

Mobile phase: Same as Figure 1

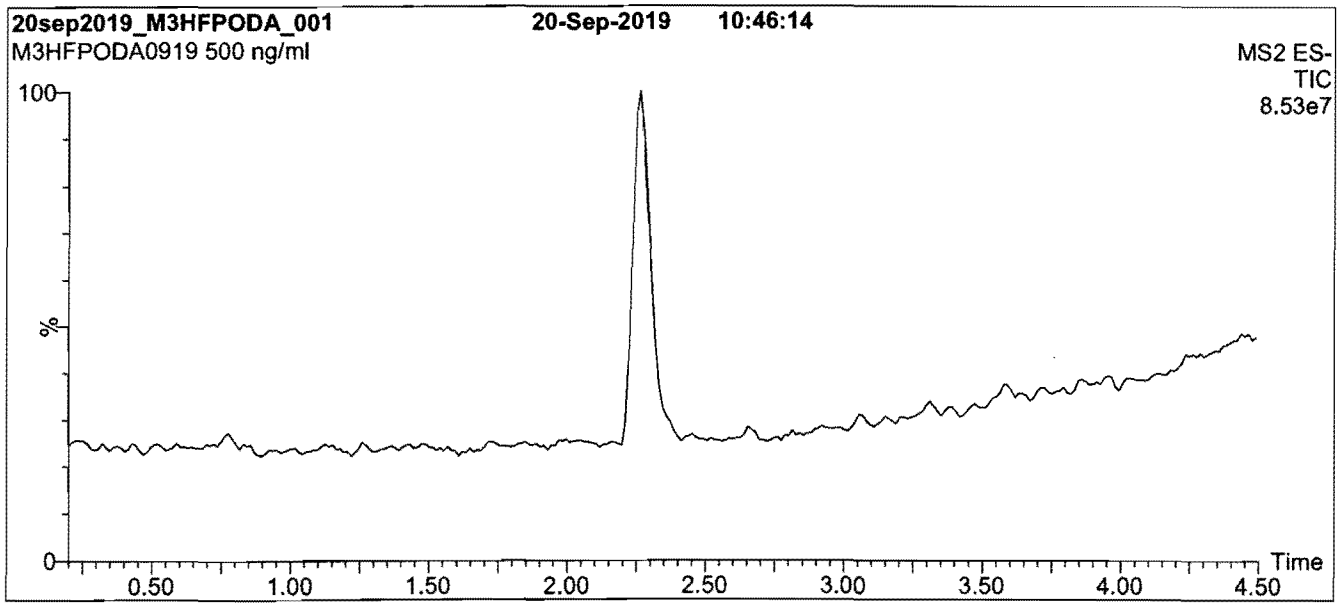
Flow: 300 µl/min

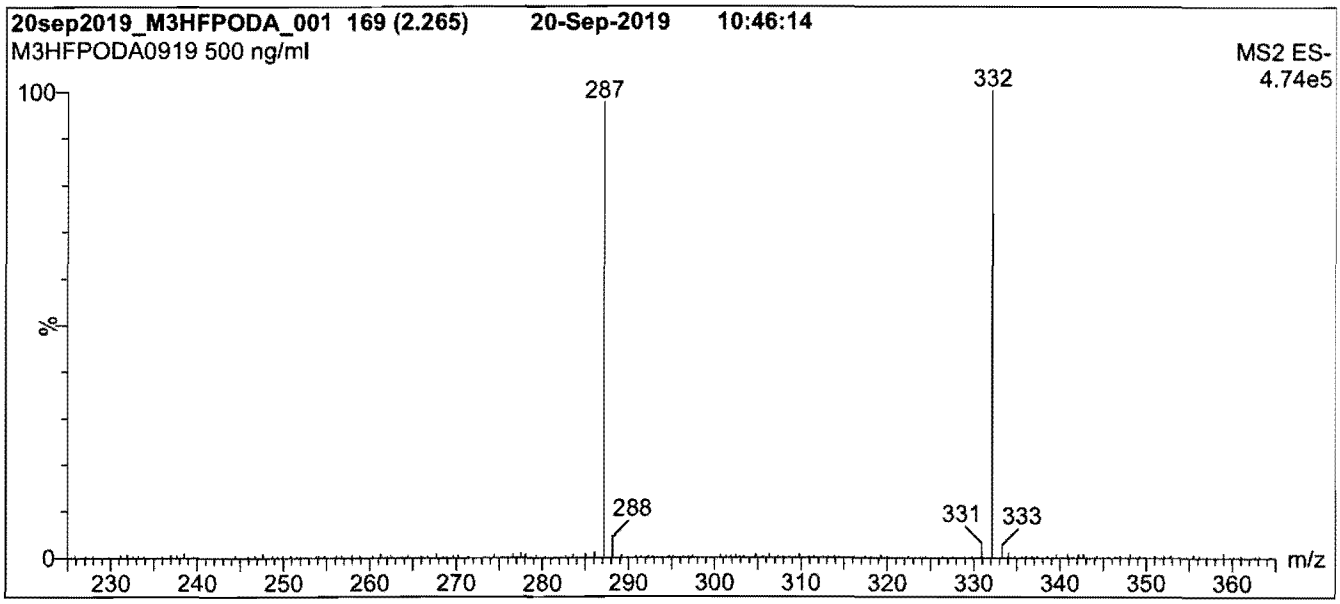
MS Parameters

Collision Gas (mbar) = 3.60e-3
Collision Energy (eV) = 8

19L0621

Figure 1: **M3HFPO-DA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 15.00
Desolvation Temperature (°C) = 325
Desolvation Gas Flow (l/hr) = 1000

19L0621

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters x_1, x_2,...x_n on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

19L0621

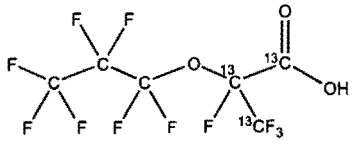
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: M3HFPO-DA **LOT NUMBER:** M3HFPODA0919

COMPOUND: 2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-$^{13}C_3$-propanoic acid

STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA:	$^{13}C_3{}^{12}C_3HF_{11}O_3$	**MOLECULAR WEIGHT:**	333.03
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($^{13}C_3$)
LAST TESTED: (mm/dd/yyyy)	09/20/2019		
EXPIRY DATE: (mm/dd/yyyy)	09/20/2022		
RECOMMENDED STORAGE:	Refrigerate ampoule		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains ~ 1.9% of the linear M3HFPO-DA isomer.
- Product is commercially known as GenX.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 09/30/2019 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Analytical Standard Record

Vista Analytical Laboratory

20E1202

Parent Standards used in this standard:

Standard	Description	Prepared	Prepared By	Expires	(mls)
19L0635	PFDoA	06-Dec-19	** Vendor **	23-Jan-24	0.4
19L0636	PFBA	06-Dec-19	** Vendor **	10-Jul-24	0.4
19L0637	PFPeA	06-Dec-19	** Vendor **	04-Sep-24	0.4
19L0638	PFHxA	06-Dec-19	** Vendor **	08-Aug-24	0.4
19L0639	PFDA	06-Dec-19	** Vendor **	01-May-24	0.4
19L0640	PFUdA	06-Dec-19	** Vendor **	19-Mar-24	0.4
19L0641	PFTrDA	06-Dec-19	** Vendor **	26-Sep-24	0.4
19L0642	PFHpA	06-Dec-19	** Vendor **	05-Mar-24	0.4
19L0643	PFOA	06-Dec-19	** Vendor **	06-Sep-24	0.4
19L0644	PFNA	06-Dec-19	** Vendor **	08-Jul-24	0.4
19L0645	PFTeDA	06-Dec-19	** Vendor **	11-Mar-24	0.4
19L0646	PFHxDA	06-Dec-19	** Vendor **	03-Nov-24	0.4
19L0647	PFODA	06-Dec-19	** Vendor **	02-May-24	0.4
19L0648	L-PFBS	06-Dec-19	** Vendor **	10-Jul-24	0.454
19L0649	L-PFPeS	06-Dec-19	** Vendor **	08-Jul-24	0.428
19L0650	L-PFHpS	06-Dec-19	** Vendor **	16-Aug-24	0.42
19L0651	L-PFNS	06-Dec-19	** Vendor **	06-Aug-24	0.418
19L0652	L-PFDS	06-Dec-19	** Vendor **	04-Apr-24	0.415
19L0653	br-PFHxSK	06-Dec-19	** Vendor **	02-Oct-23	0.44
19L0654	br-PFOSK anion	06-Dec-19	** Vendor **	07-Jun-24	0.431
19L0655	4:2 FTS	06-Dec-19	** Vendor **	08-May-24	0.43
19L0656	6:2FTS	06-Dec-19	** Vendor **	09-Sep-24	0.422
19L0657	8:2FTS	06-Dec-19	** Vendor **	11-Sep-24	0.418
19L0658	FOSA-I	06-Dec-19	** Vendor **	12-Sep-24	0.4
19L0659	br-NMeFOSAA	06-Dec-19	** Vendor **	08-Jan-24	0.4
19L0660	br-NEtFOSAA	06-Dec-19	** Vendor **	20-Aug-24	0.4
19L0661	N-MeFOSA-M	06-Dec-19	** Vendor **	07-May-24	2
19L0662	N-EtFOSA-M	06-Dec-19	** Vendor **	07-May-24	2
19L0663	N-MeFOSE-M	06-Dec-19	** Vendor **	08-Apr-24	2
19L0664	N-EtFOSE-M	06-Dec-19	** Vendor **	08-Apr-24	2
19L0665	10:2FTS	06-Dec-19	** Vendor **	11-Jun-22	0.415
19L0666	HFPO-DA	06-Dec-19	** Vendor **	20-Sep-22	0.4
19L0667	11Cl-PF3OUdS	06-Dec-19	** Vendor **	23-Nov-24	0.425
19L0668	9Cl-PF3ONS	06-Dec-19	** Vendor **	30-Oct-24	0.43
19L0669	NaDONA	06-Dec-19	** Vendor **	15-Jul-24	0.425
19L0670	PFECHS	06-Dec-19	** Vendor **	04-Apr-24	0.435
19L0671	L-PFPrS	06-Dec-19	** Vendor **	14-Dec-24	0.438
19L1707	L-PFDoS	17-Dec-19	** Vendor **	06-Dec-23	0.415

Analytical Standard Record

Vista Analytical Laboratory

20E1202

Description:	PFC NS Stock	Expires:	12-May-21
Standard Type:	Analyte Spike	Prepared:	12-May-20
Solvent:	MeOH	Prepared By:	Brittany M. Lamb
Final Volume (mls):	20	Department:	LCMS
Vials:	1	Last Edit:	12-May-20 10:53 by BML

Analyte	CAS Number	Concentration	Units
L-PFHpA		1	ug/mL
10:2 FTS	120226-60-0	1	ug/mL
L-MeFOSA	31506-32-8	5	ug/mL
L-MeFOSAA	2355-31-9	0.76	ug/mL
L-MeFOSE	24448-09-7	5	ug/mL
L-PFBA		1	ug/mL
L-PFBS		1	ug/mL
L-PFDA		1	ug/mL
L-PFDoA		1	ug/mL
L-EtFOSAA	2991-50-6	0.776	ug/mL
L-PFDS		1	ug/mL
L-EtFOSA	4151-50-2	5	ug/mL
L-PFHpS		1	ug/mL
L-PFHxA		1	ug/mL
L-PFHxDA		1	ug/mL
L-PFHxS		0.812	ug/mL
L-PFNA		1	ug/mL
L-PFNS	68259-12-1	1	ug/mL
L-PFOA		1	ug/mL
L-PFODA		1	ug/mL
L-PFDoS		1	ug/mL
cis-PFECHS		0.668	ug/mL
11Cl-PF3OUdS	763051-92-9	1	ug/mL
4:2 FTS	757124-72-4	1	ug/mL
6:2 FTS	27619-97-2	1	ug/mL
8:2 FTS	39108-34-4	1	ug/mL
9Cl-PF3ONS	756426-58-1	1	ug/mL
ADONA	919005-14-4	1	ug/mL
Br-EtFOSAA		0.224	ug/mL
Br-MeFOSAA		0.24	ug/mL
L-EtFOSE	1691-99-2	5	ug/mL
Br-PFOS	2795-39-3	0.211	ug/mL
L-PFPeA		1	ug/mL
EtFOSA	4151-50-2	5	ug/mL

Analytical Standard Record

Vista Analytical Laboratory

20E1202

Description:	PFC NS Stock	Expires:	12-May-21
Standard Type:	Analyte Spike	Prepared:	12-May-20
Solvent:	MeOH	Prepared By:	Brittany M. Lamb
Final Volume (mls):	20	Department:	LCMS
Vials:	1	Last Edit:	12-May-20 10:53 by BML

Analyte	CAS Number	Concentration	Units
EtFOSAA	2991-50-6	1	ug/mL
EtFOSE	1691-99-2	5	ug/mL
F-53B Total		2	ug/mL
HFPO-DA	13252-13-6	1	ug/mL
L-4:2 FTS	75124-72-4	1	ug/mL
L-6:2 FTS		1	ug/mL
L-8:2FTS		1	ug/mL
Br-PFHxS	3871-99-6	0.189	ug/mL
Total 6:2 FTS		1	ug/mL
PFOA	335-67-1	1	ug/mL
PFODA	16517-11-6	1	ug/mL
PFOS	1763-23-1	1	ug/mL
PFOSA	754-91-6	1	ug/mL
PFPeA	2706-90-3	1	ug/mL
PFPeS	2706-91-4	1	ug/mL
PFPrS	423-41-6	1	ug/mL
PFTeDA	376-06-7	1	ug/mL
L-PFOS		0.789	ug/mL
PFUnA	2058-94-8	1	ug/mL
PFHxS	355-46-4	1	ug/mL
Total EtFOSAA		1	ug/mL
Total MeFOSAA		1	ug/mL
Total PFDS		1	ug/mL
Total PFHpS		1	ug/mL
Total PFHxS		1	ug/mL
Total PFOA		1	ug/mL
Total PFOS		1	ug/mL
Total PFUnA		1	ug/mL
PFTrDA	72629-94-8	1	ug/mL
PFDA	335-76-2	1	ug/mL
trans-PFECHS		0.335	ug/mL
L-PFPeS	2706-91-4	1	ug/mL
L-PFTeDA		1	ug/mL
L-PFTrDA		1	ug/mL

Analytical Standard Record

Vista Analytical Laboratory

20E1202

Description:	PFC NS Stock	Expires:	12-May-21
Standard Type:	Analyte Spike	Prepared:	12-May-20
Solvent:	MeOH	Prepared By:	Brittany M. Lamb
Final Volume (mls):	20	Department:	LCMS
Vials:	1	Last Edit:	12-May-20 10:53 by BML

Analyte	CAS Number	Concentration	Units
L-PFUnA		1	ug/mL
MeFOSA	31506-32-8	5	ug/mL
MeFOSAA	2355-31-9	1	ug/mL
MeFOSE	24448-09-7	5	ug/mL
PFNS	68259-12-1	1	ug/mL
PFBS	375-73-5	1	ug/mL
PFNA	375-95-1	1	ug/mL
PFDoA	307-55-1	1	ug/mL
PFDoS	79780-39-5	1	ug/mL
PFDS	335-77-3	1	ug/mL
PFecHS	646-83-3	1	ug/mL
PFHpA	375-85-9	1	ug/mL
PFHpS	375-92-8	1	ug/mL
PFHxA	307-24-4	1	ug/mL
PFHxDA	67905-19-5	1	ug/mL
L-PFOSA		1	ug/mL
PFBA	375-22-4	1	ug/mL

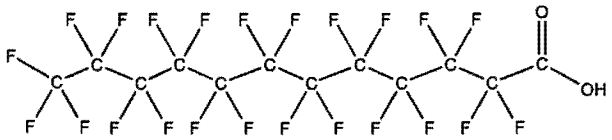
19L0635

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: PFDoA
COMPOUND: Perfluoro-n-dodecanoic acid
LOT NUMBER: PFDoA0119

STRUCTURE:
CAS #: 307-55-1



MOLECULAR FORMULA: $C_{12}HF_{23}O_2$
MOLECULAR WEIGHT: 614.10
CONCENTRATION: 50 ± 2.5 µg/ml
SOLVENT(S): Methanol
Water (<1%)

CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 01/23/2019
EXPIRY DATE: (mm/dd/yyyy) 01/23/2024
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 01/30/2019 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

19L0635

INTENDED USE:

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HANDLING:

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The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

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LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

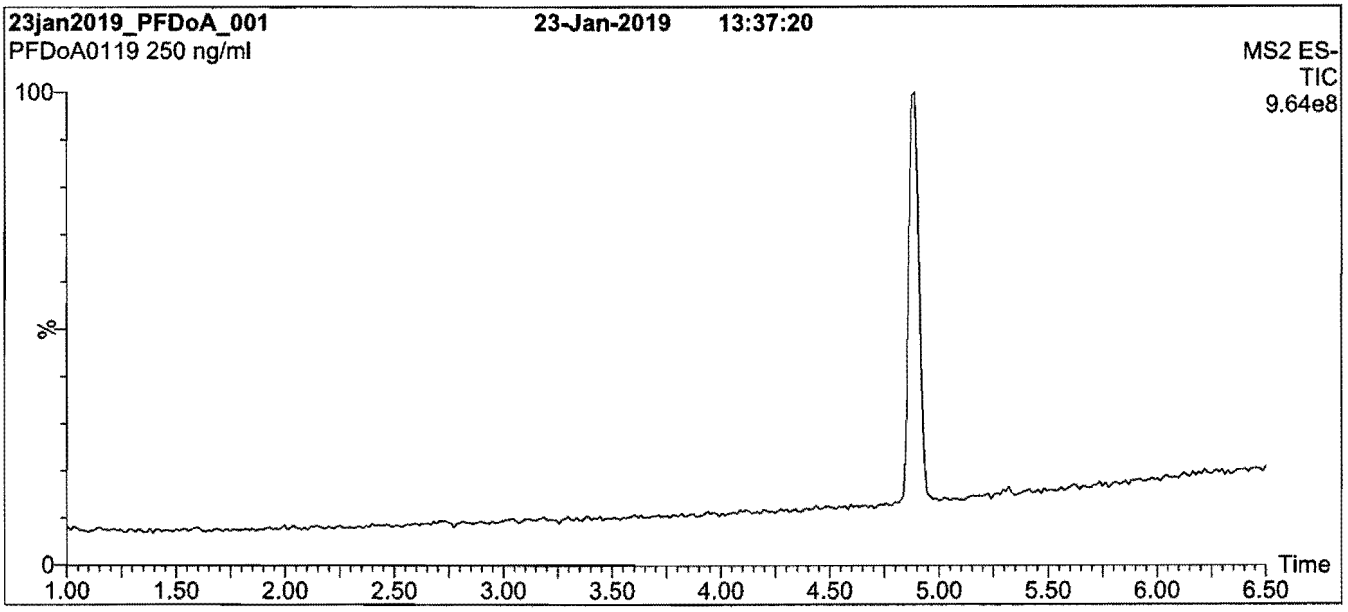
CALA Testing Accreditation No. A 1226

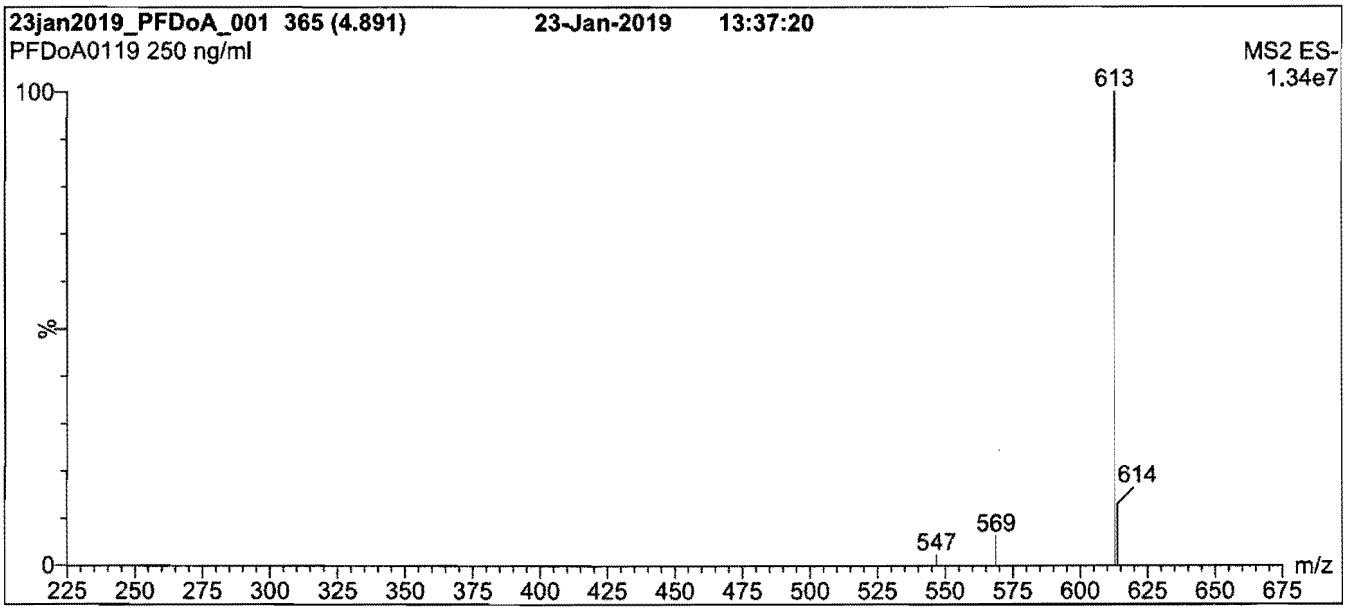
ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

19L0635

- **Figure 1:** **PFDoA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 60% (80:20 MeOH:ACN) / 40% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for 3 min
before returning to initial conditions in 0.75 min.
Time: 12 min

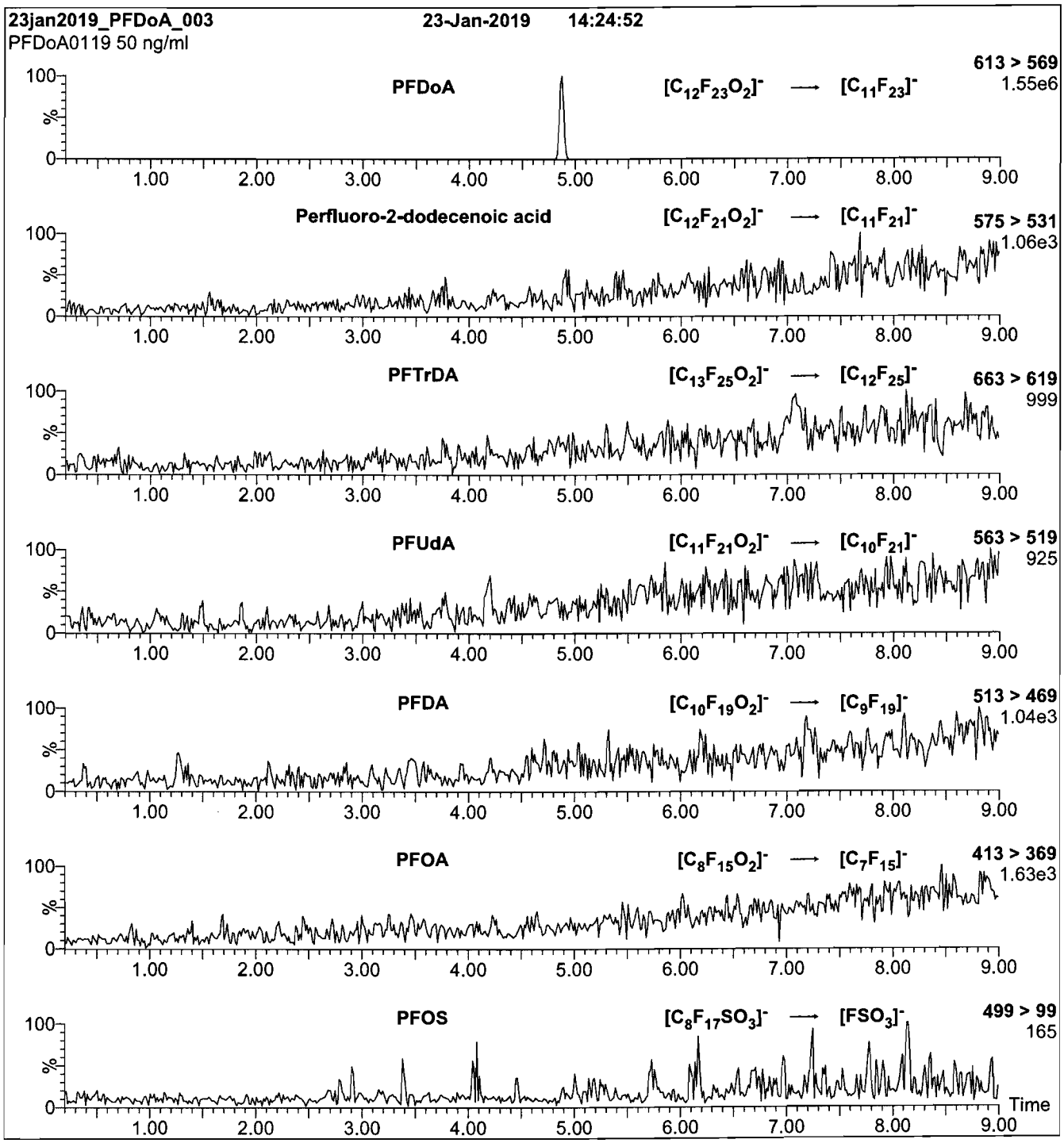
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 10.00
Cone Gas Flow (l/hr) = 500
Desolvation Gas Flow (l/hr) = 1000

Figure 2: **PFDoA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (PFDoA)

Mobile phase: Same as Figure 1

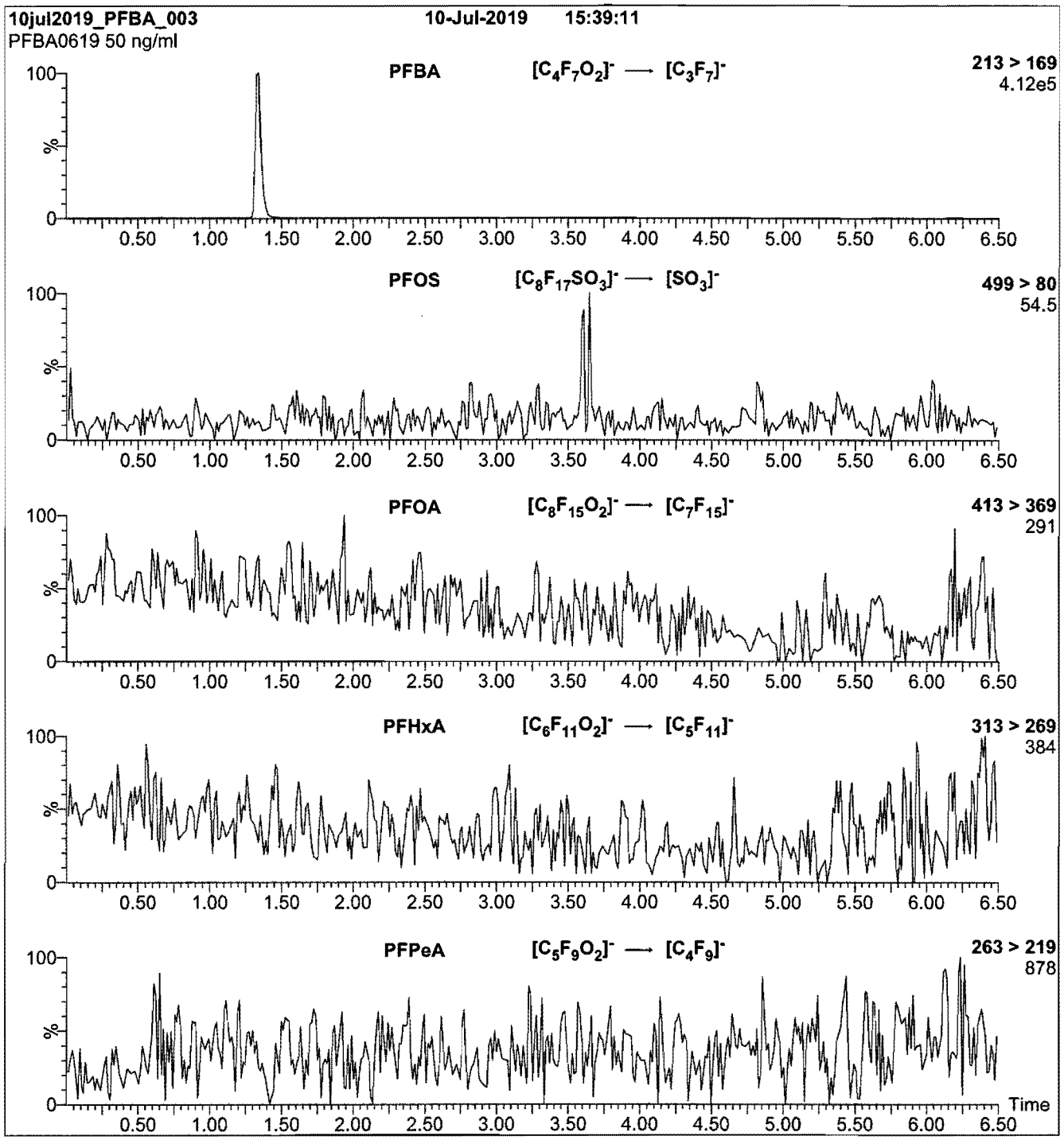
Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 2.72e-3
Collision Energy (eV) = 12

19L0636

Figure 2: **PFBA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (PFBA)

Mobile phase: Same as Figure 1

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.43e-3
Collision Energy (eV) = 8

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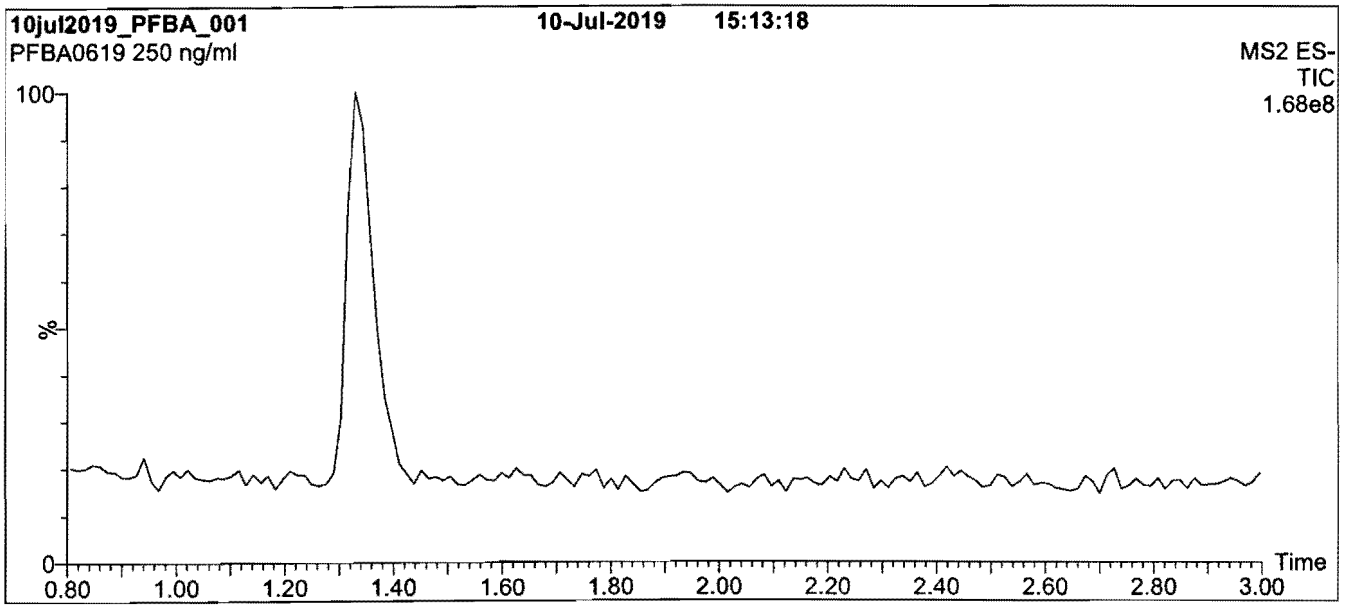
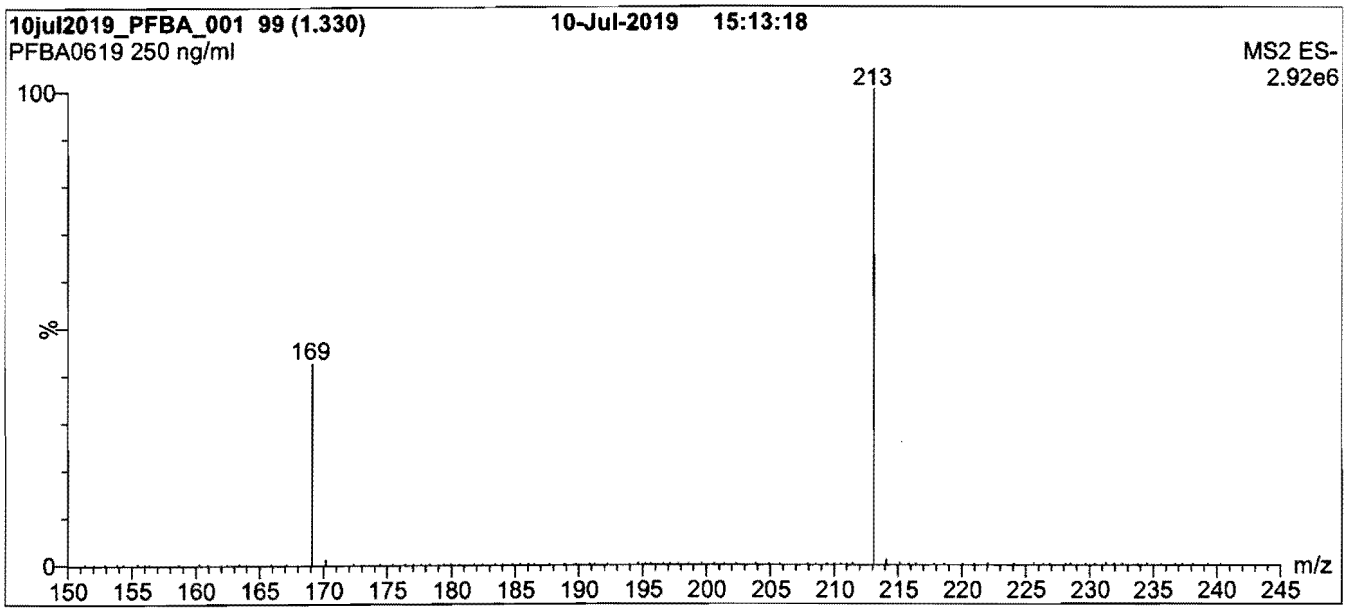
Figure 1: **PFBA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 40% (80:20 MeOH:ACN) / 60% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 70% organic over 7 min.
Ramp to 90% organic over 2 min and hold for
1.5 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (150 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.50
Cone Voltage (V) = 10.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

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INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A1226

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

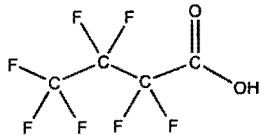
For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

19L0636

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	PFBA	**LOT NUMBER:**	PFBA0619
COMPOUND:	Perfluoro-n-butanoic acid		
STRUCTURE:		**CAS #:**	375-22-4



MOLECULAR FORMULA:	$C_4HF_7O_2$	**MOLECULAR WEIGHT:**	214.04
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	07/10/2019		
EXPIRY DATE: (mm/dd/yyyy)	07/10/2024		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 07/22/2019 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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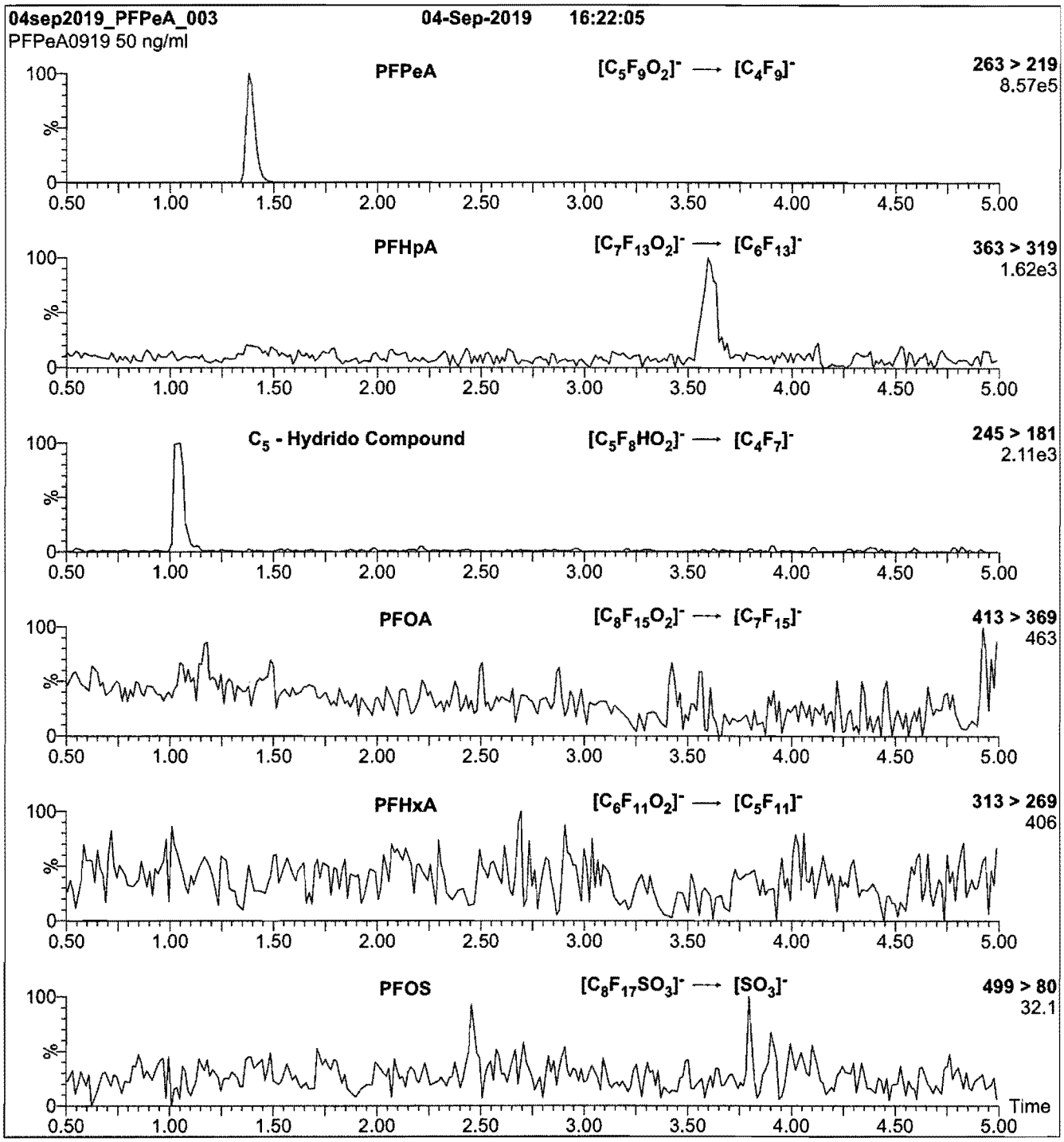
Figure 2: **PFPeA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (PFPeA)

Mobile phase: Same as Figure 1

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.51e-3
Collision Energy (eV) = 8

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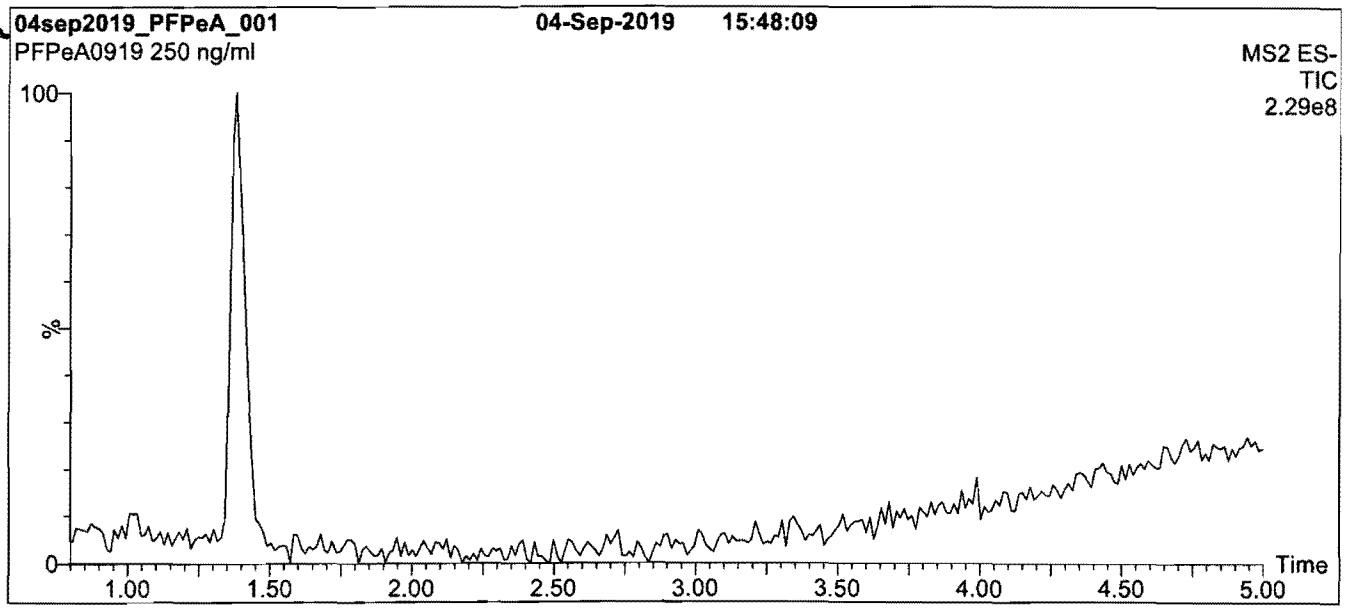
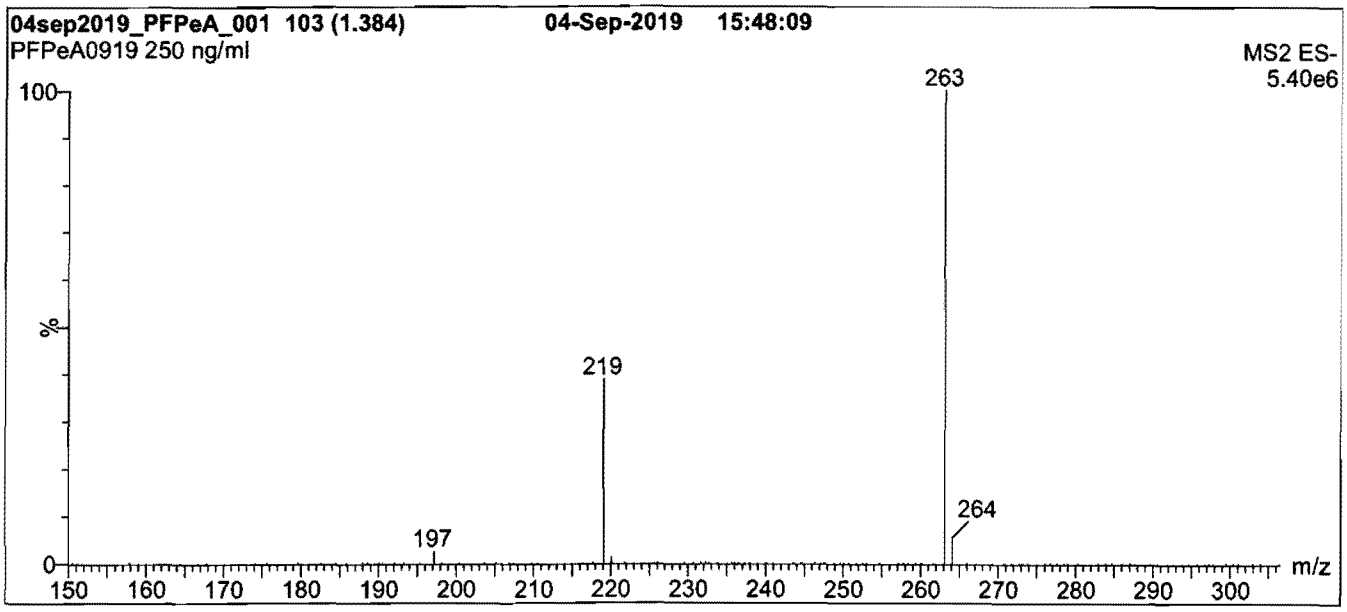
Figure 1: **PFPeA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 8 min and hold for 2 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (150 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.50
Cone Voltage (V) = 10.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

1926637

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

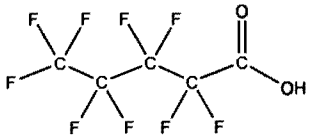
For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

19L0637

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	PFPeA	**LOT NUMBER:**	PFPeA0919
COMPOUND:	Perfluoro-n-pentanoic acid		
STRUCTURE:		**CAS #:**	2706-90-3



MOLECULAR FORMULA:	$C_5HF_9O_2$	**MOLECULAR WEIGHT:**	264.05
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	09/04/2019		
EXPIRY DATE: (mm/dd/yyyy)	09/04/2024		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

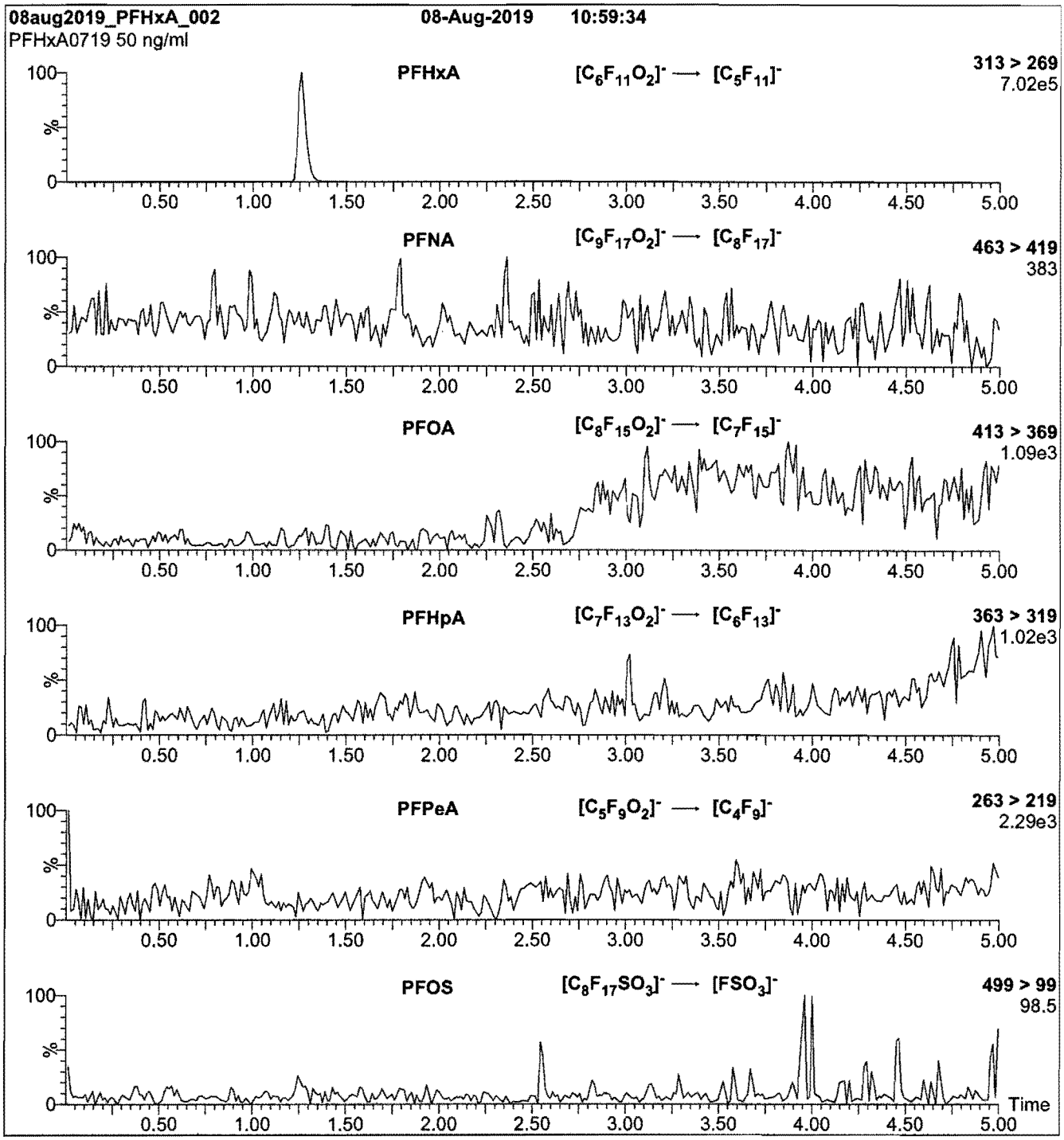
- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains ~ 0.3% of Perfluoro-n-heptanoic acid (PFHpA) and ~ 0.2% of $C_5H_2F_8O_2$ (hydrido - derivative) as measured by ^{19}F NMR.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 09/05/2019 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Figure 2: **PFHxA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (PFHxA)

Mobile phase: Same as Figure 1

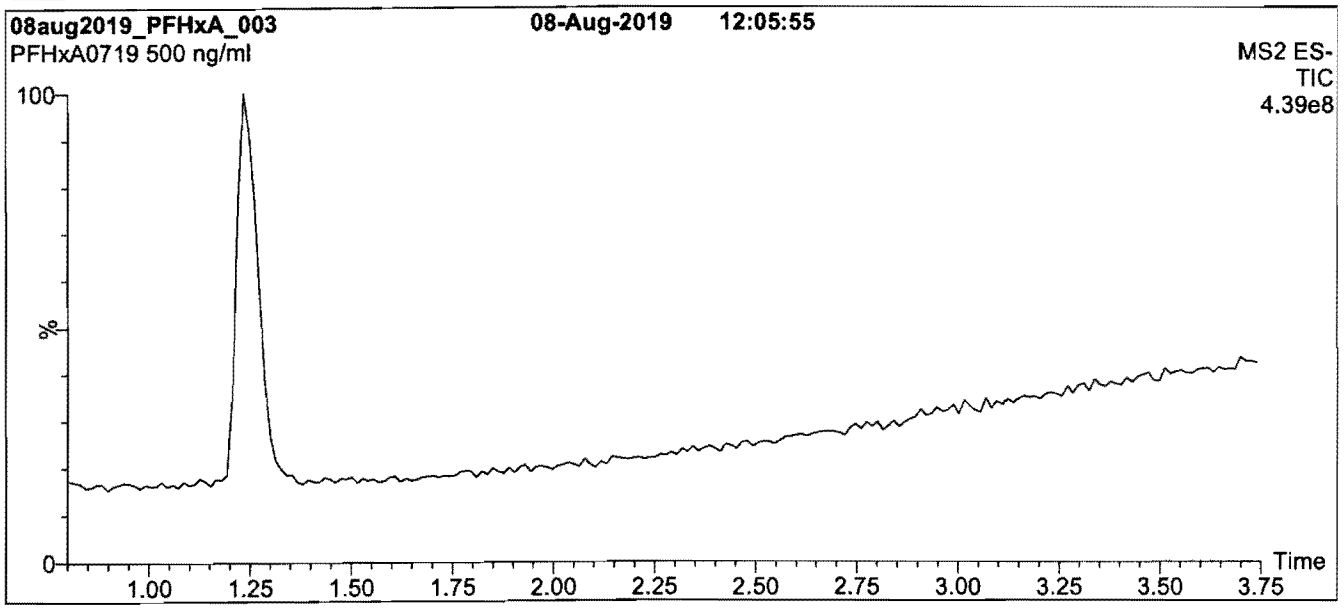
Flow: 300 µl/min

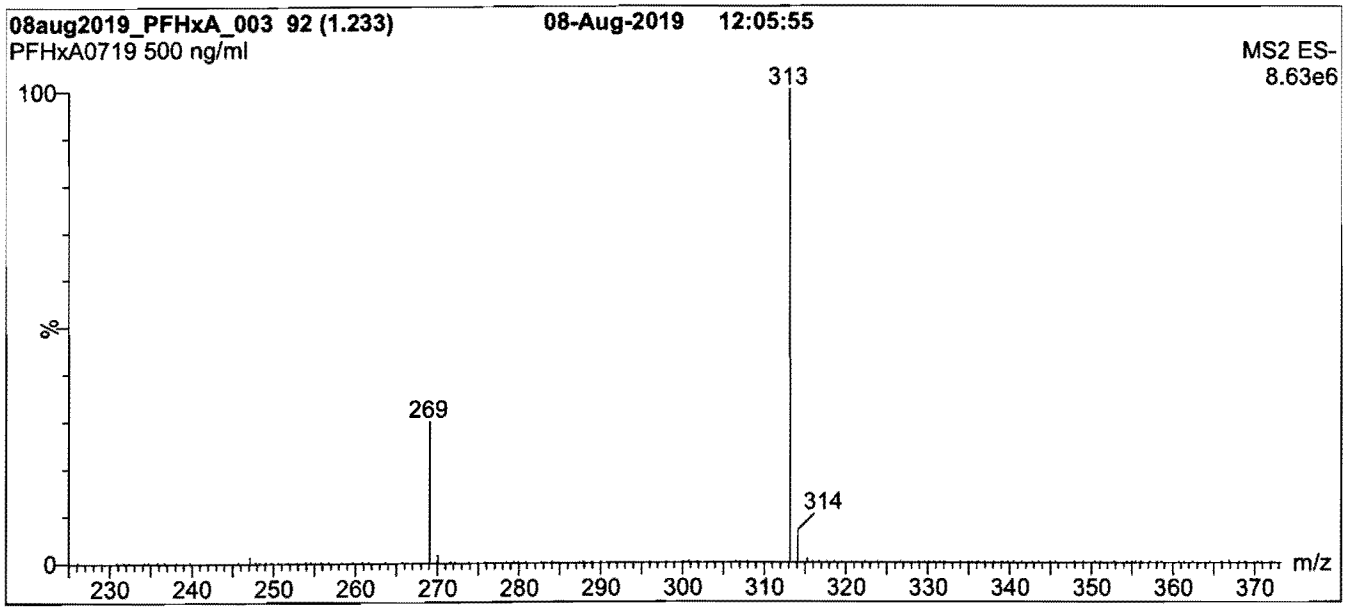
MS Parameters

Collision Gas (mbar) = 3.49e-3
Collision Energy (eV) = 8

19L0638

Figure 1: **PFHxA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 60% (80:20 MeOH:ACN) / 40% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for
3 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.50
Cone Voltage (V) = 10.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

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where x is expressed as a relative standard uncertainty of the individual parameter.

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TRACEABILITY:

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EXPIRY DATE / PERIOD OF VALIDITY:

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CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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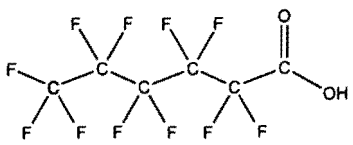
19L0638

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	PFHxA	**LOT NUMBER:**	PFHxA0719
COMPOUND:	Perfluoro-n-hexanoic acid		
STRUCTURE:		**CAS #:**	307-24-4



MOLECULAR FORMULA:	$C_6HF_{11}O_2$	**MOLECULAR WEIGHT:**	314.05
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	08/08/2019		
EXPIRY DATE: (mm/dd/yyyy)	08/08/2024		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains ~ 1.0% of branched isomers.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 08/15/2019 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

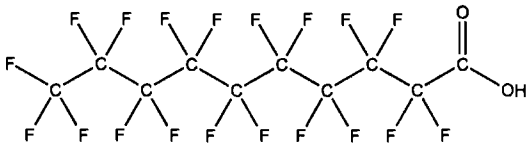
19L0639

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: PFDA
COMPOUND: Perfluoro-n-decanoic acid
LOT NUMBER: PFDA0419

STRUCTURE:
CAS #: 335-76-2



MOLECULAR FORMULA: $C_{10}HF_{19}O_2$
MOLECULAR WEIGHT: 514.08
CONCENTRATION: 50 ± 2.5 µg/ml
SOLVENT(S): Methanol
Water (<1%)

CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 05/01/2019
EXPIRY DATE: (mm/dd/yyyy) 05/01/2024
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains ~ 0.2% of perfluoro-n-nonanoic acid (PFNA).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 05/02/2019 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

19L0639

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

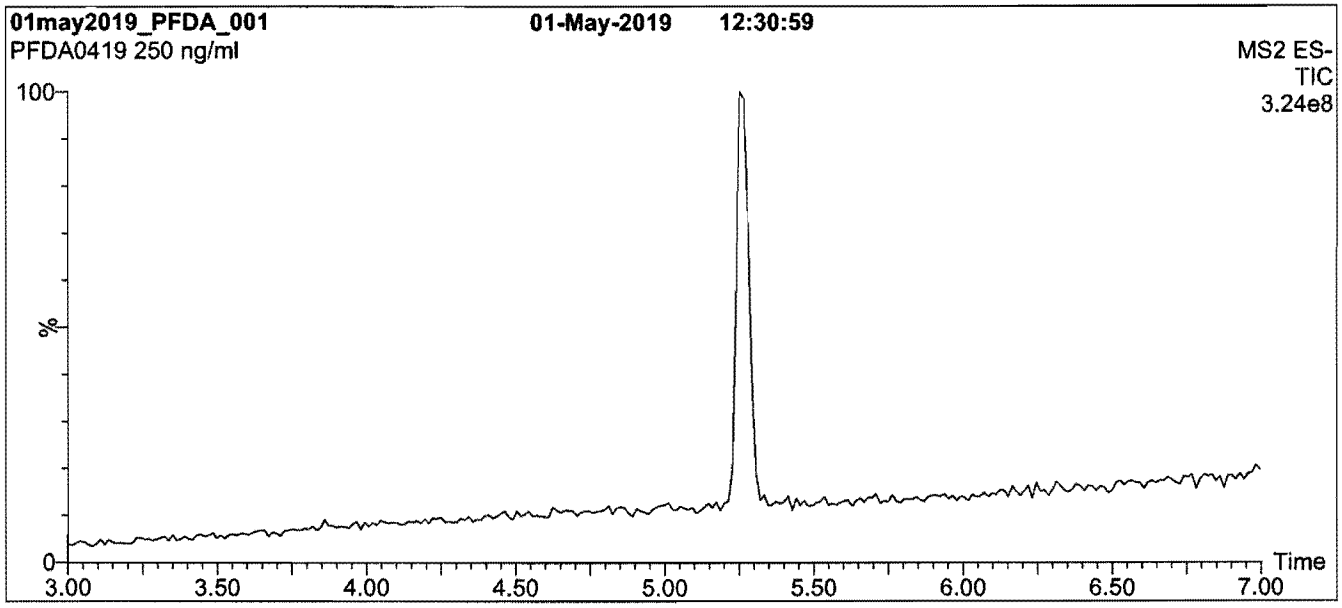
CALA Testing Accreditation No. A 1226

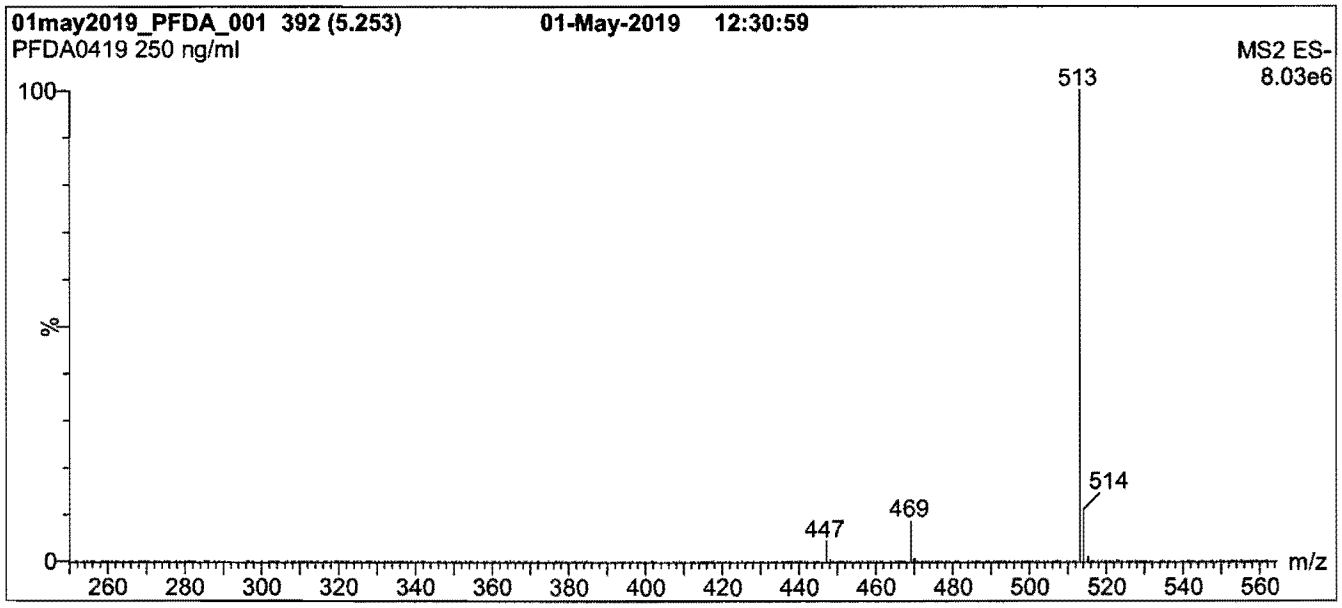
ANAB ACCREDITED 17034 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

19L0639

Figure 1: **PFDA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 11 min

Flow: 300 µl/min

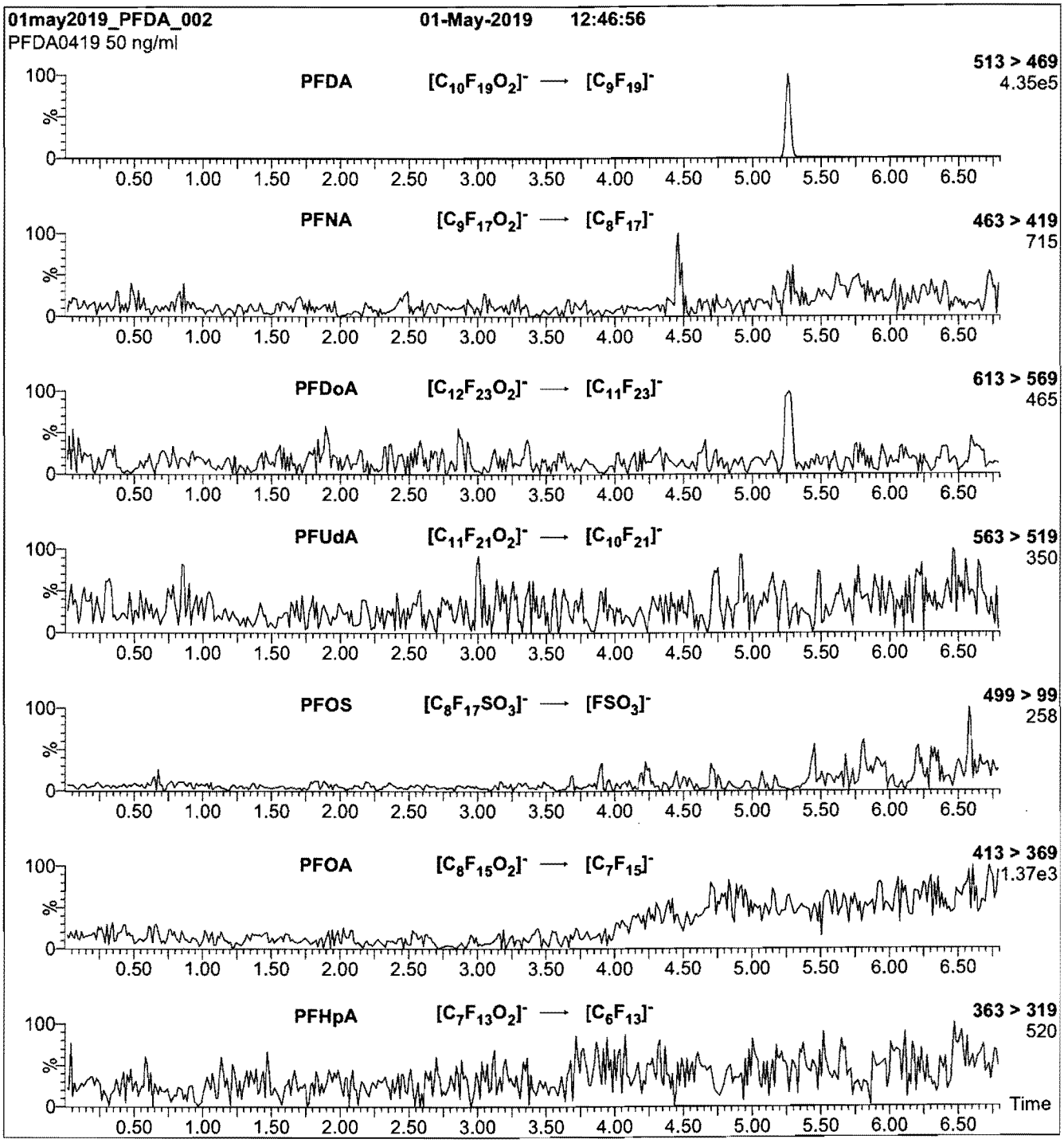
MS Parameters

Experiment: Full Scan (250 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 10.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

19L0639

Figure 2: **PFDA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (PFDA)

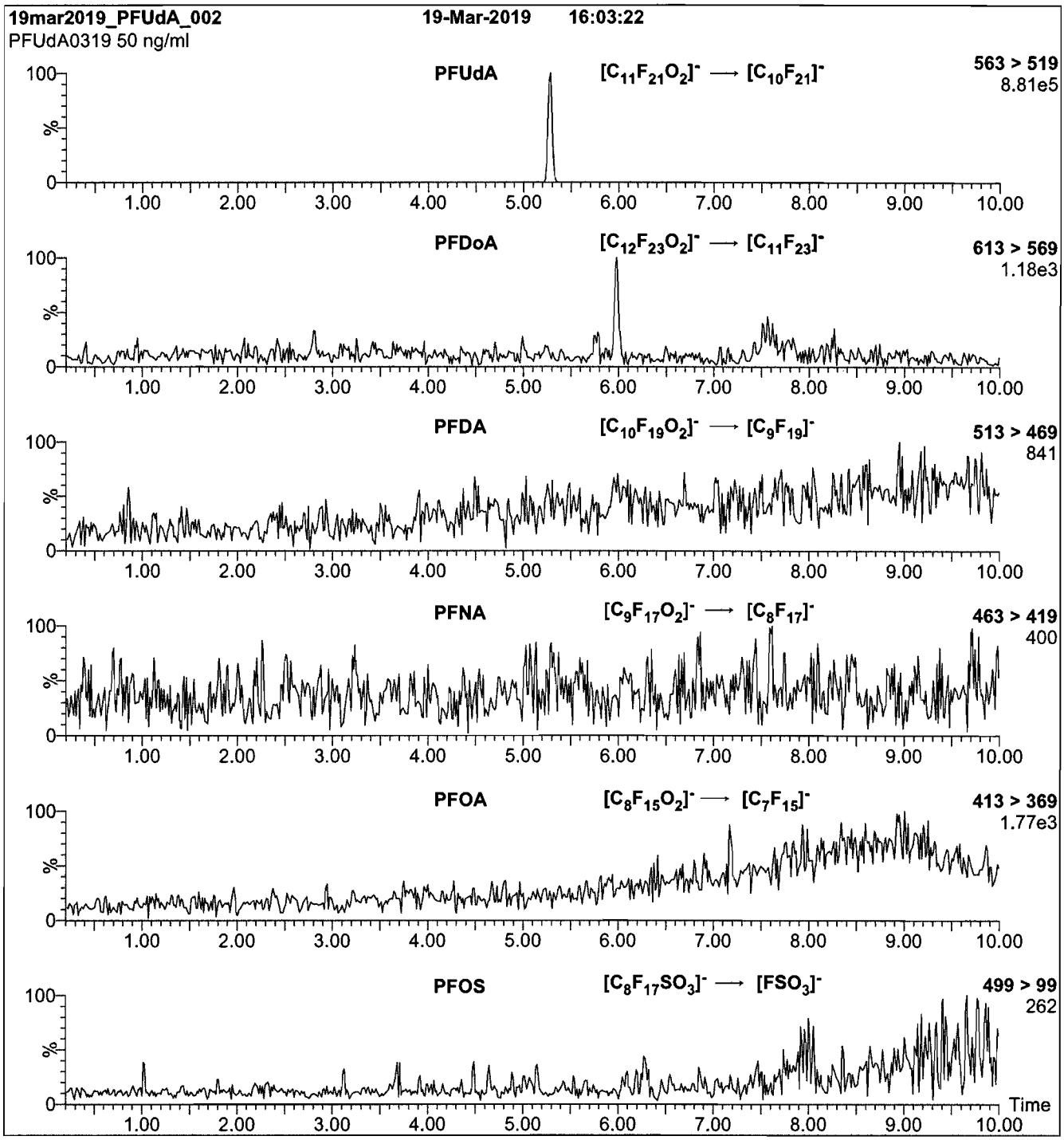
Mobile phase: Same as Figure 1

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 2.88e-3
Collision Energy (eV) = 10

Figure 2: **PFUdA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (PFUdA)

Mobile phase: Same as Figure 1

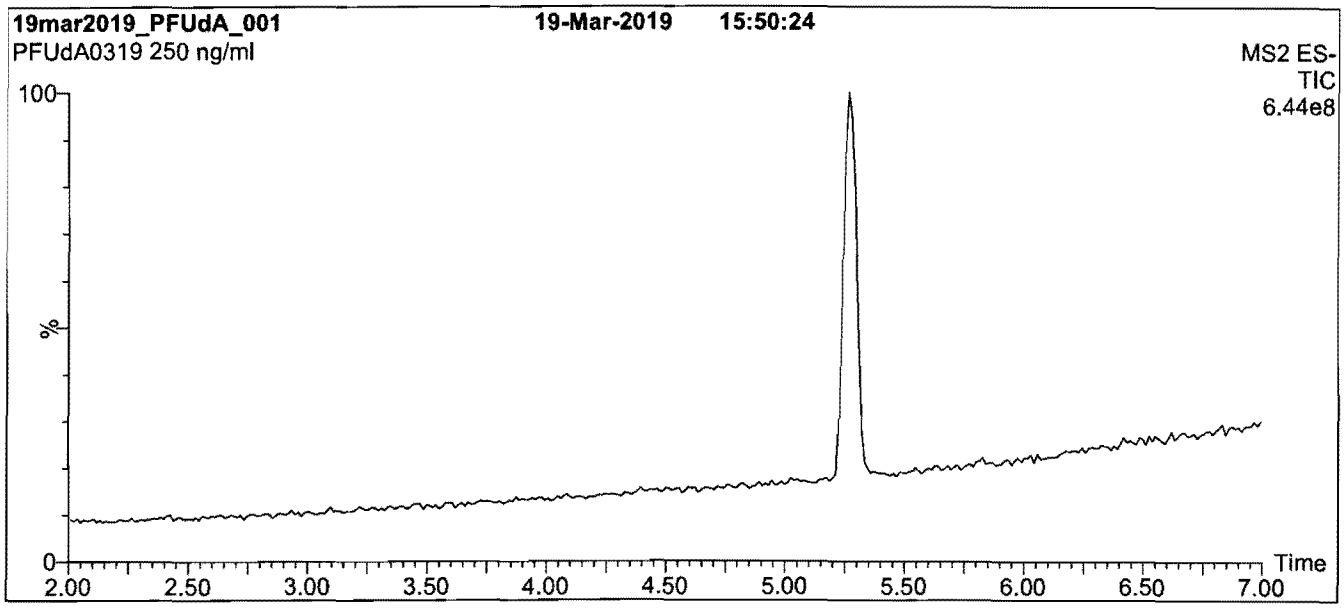
Flow: 300 µl/min

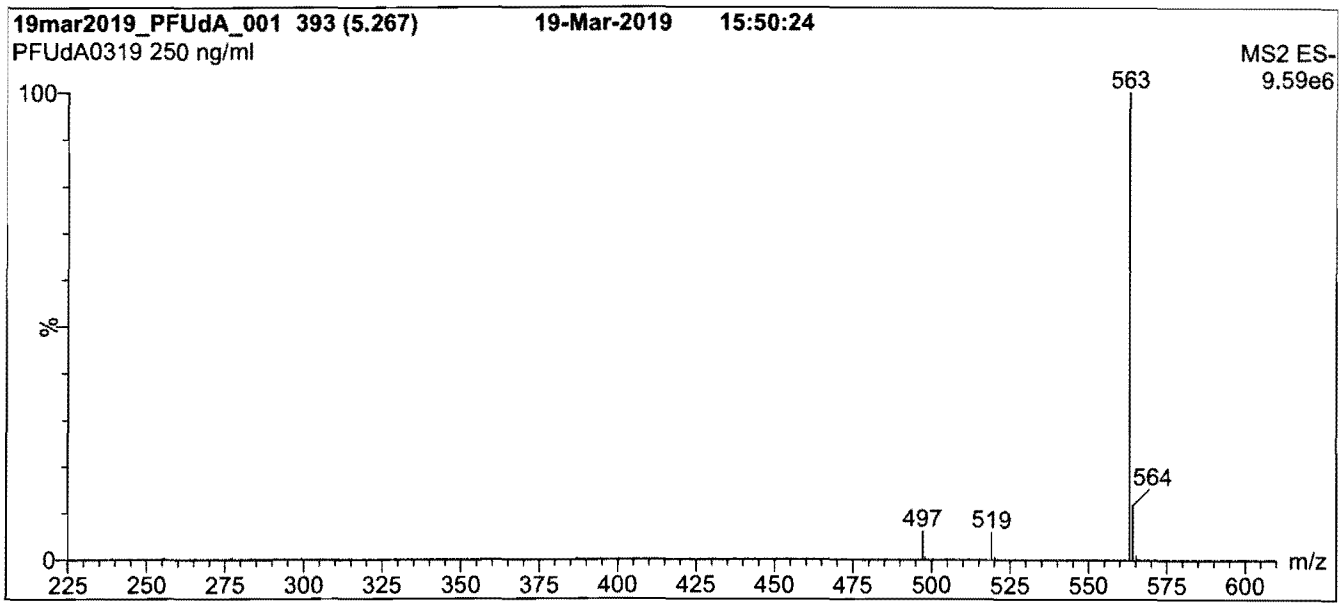
MS Parameters

Collision Gas (mbar) = 3.04e-3
Collision Energy (eV) = 12

19L0690

Figure 1: **PFUdA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 55% (80:20 MeOH:ACN) / 45% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 8 min and hold for 2 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 10.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

19L0640

INTENDED USE:

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HANDLING:

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where x is expressed as a relative standard uncertainty of the individual parameter.

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TRACEABILITY:

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EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

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QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

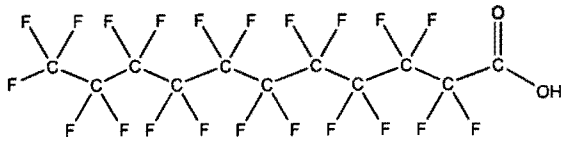
19L0640

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: PFUdA
COMPOUND: Perfluoro-n-undecanoic acid
LOT NUMBER: PFUdA0319

STRUCTURE:
CAS #: 2058-94-8



MOLECULAR FORMULA: $C_{11}HF_{21}O_2$
MOLECULAR WEIGHT: 564.09
CONCENTRATION: 50 ± 2.5 µg/ml
SOLVENT(S): Methanol
Water (<1%)

CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 03/19/2019
EXPIRY DATE: (mm/dd/yyyy) 03/19/2024
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains ~ 0.1% of pefluoro-n-dodecanoic acid (PFDoA).

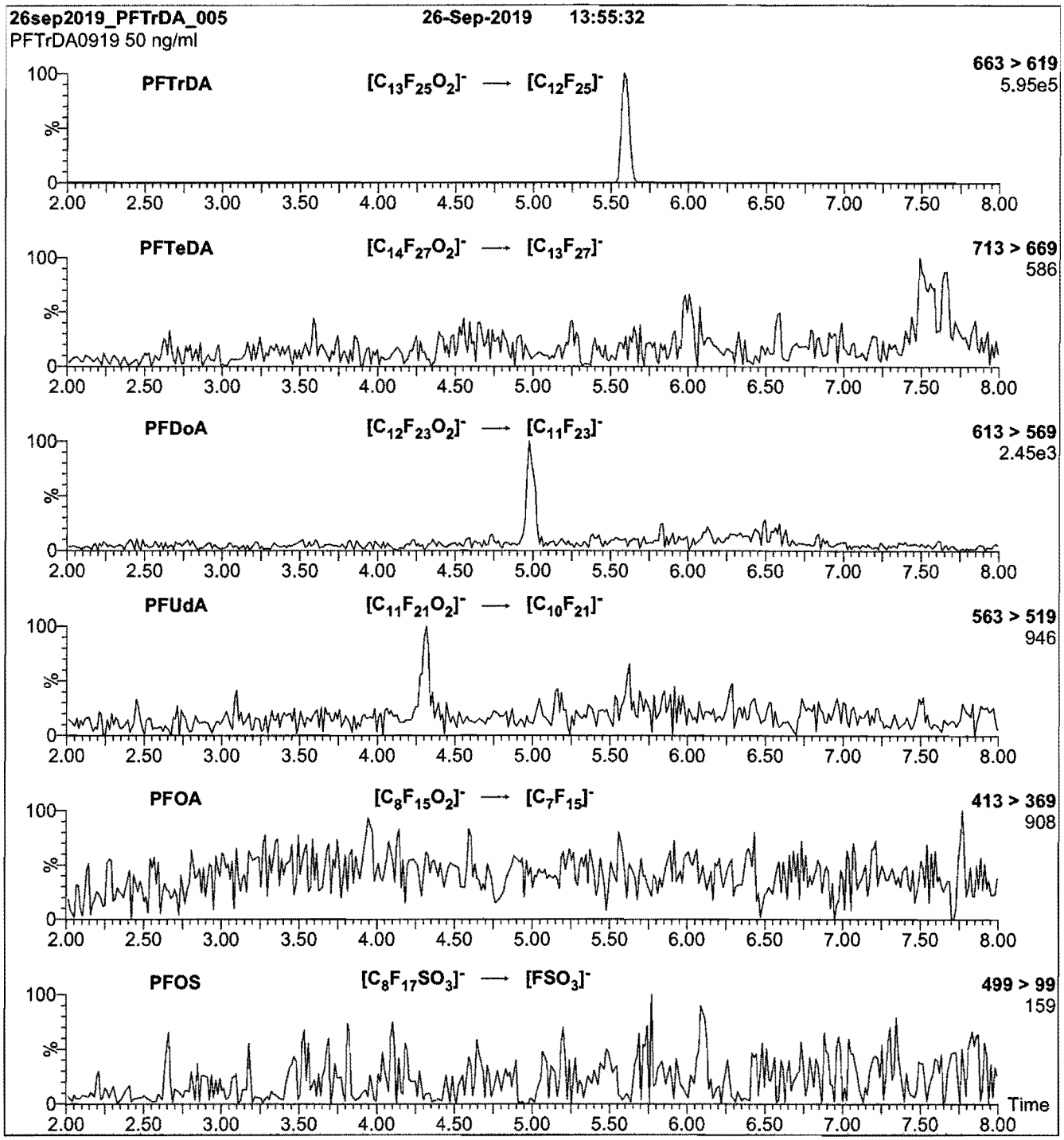
FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 03/21/2019 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

19L0641

Figure 2: **PFTrDA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (PFTrDA)

Mobile phase: Same as Figure 1

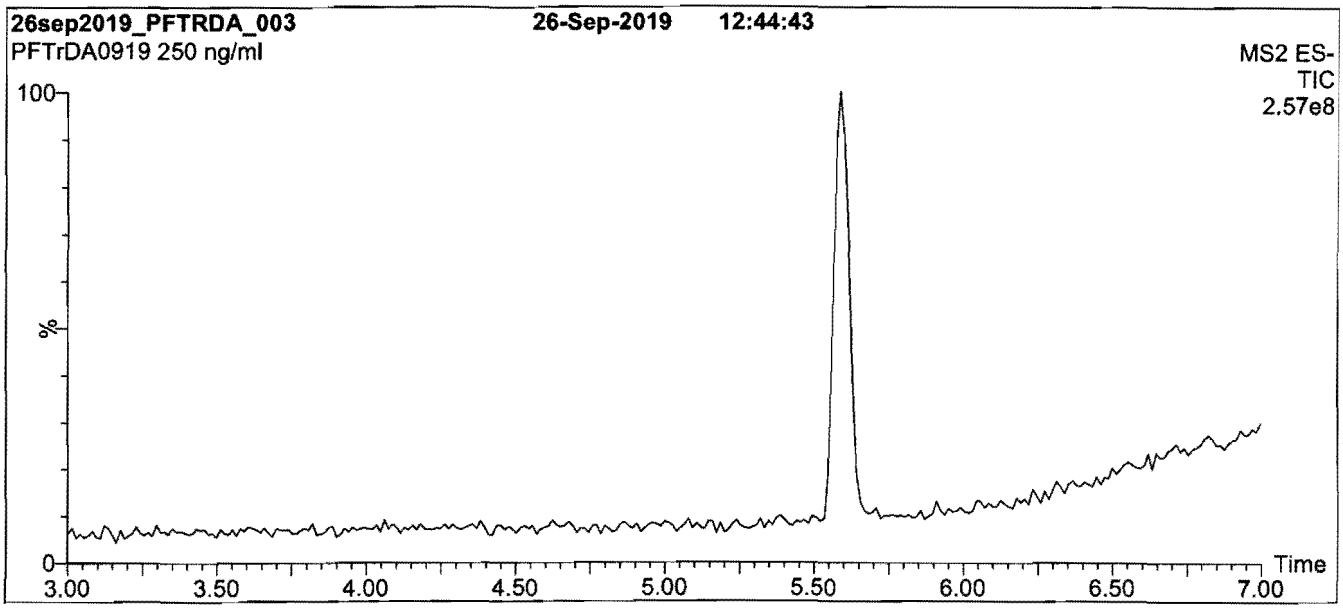
Flow: 300 µl/min

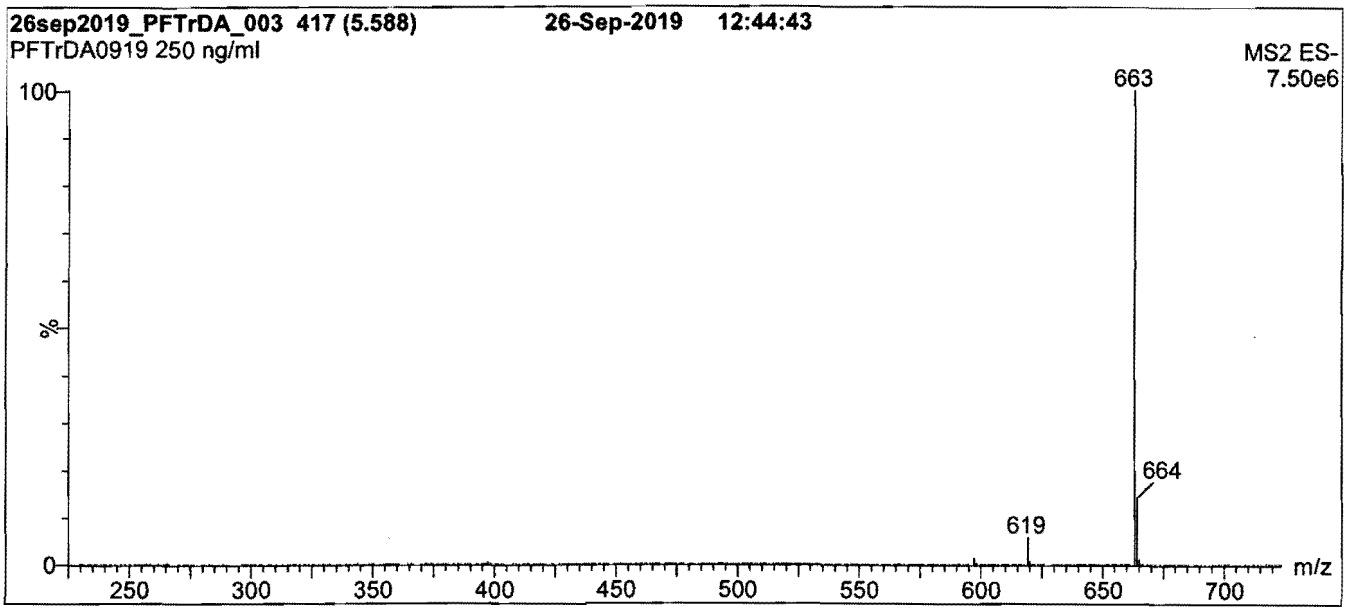
MS Parameters

Collision Gas (mbar) = 3.73e-3
Collision Energy (eV) = 12

1920641

Figure 1: **PFTrDA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 60% (80:20 MeOH:ACN) / 40% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for 3 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.50
Cone Voltage (V) = 10.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

19L0641

INTENDED USE:

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HANDLING:

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where x is expressed as a relative standard uncertainty of the individual parameter.

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CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

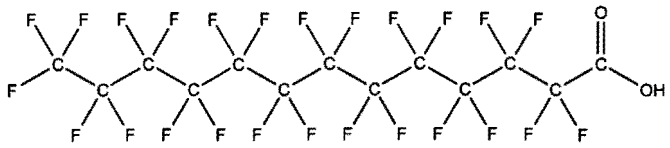
For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

19L0691

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	PFTrDA	**LOT NUMBER:**	PFTrDA0919
COMPOUND:	Perfluoro-n-tridecanoic acid		
STRUCTURE:		**CAS #:**	72629-94-8



MOLECULAR FORMULA:	$C_{13}HF_{25}O_2$	**MOLECULAR WEIGHT:**	664.11
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	09/26/2019		
EXPIRY DATE: (mm/dd/yyyy)	09/26/2024		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains ~ 0.1% of PFUdA ($C_{11}HF_{21}O_2$), ~ 0.4% of PFDoA ($C_{12}HF_{23}O_2$), and ~ 0.1% of PFTeDA ($C_{14}HF_{27}O_2$).

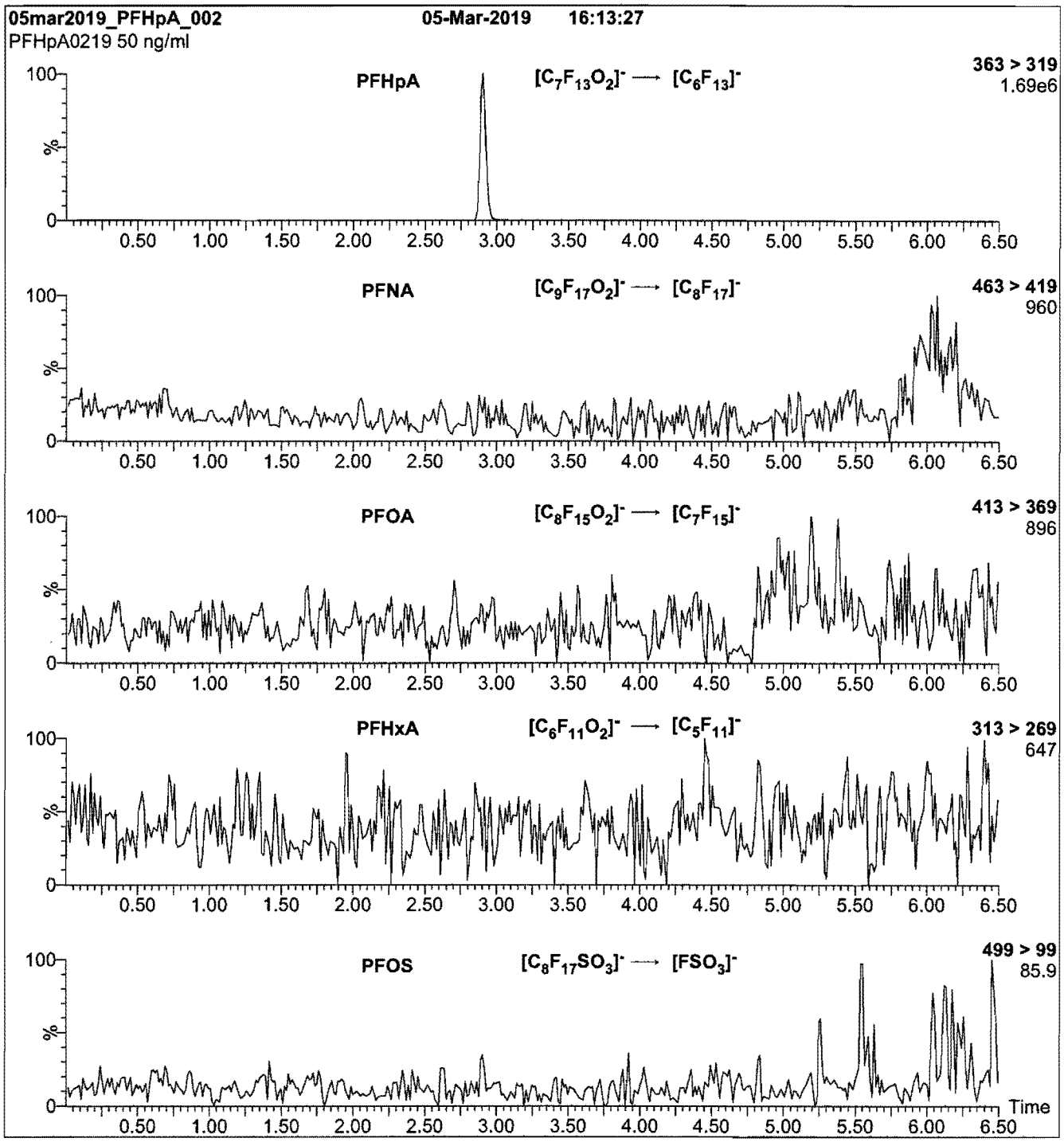
FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 10/03/2019 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

19L0642

Figure 2: **PFHpA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (PFHpA)

Mobile phase: Same as Figure 1

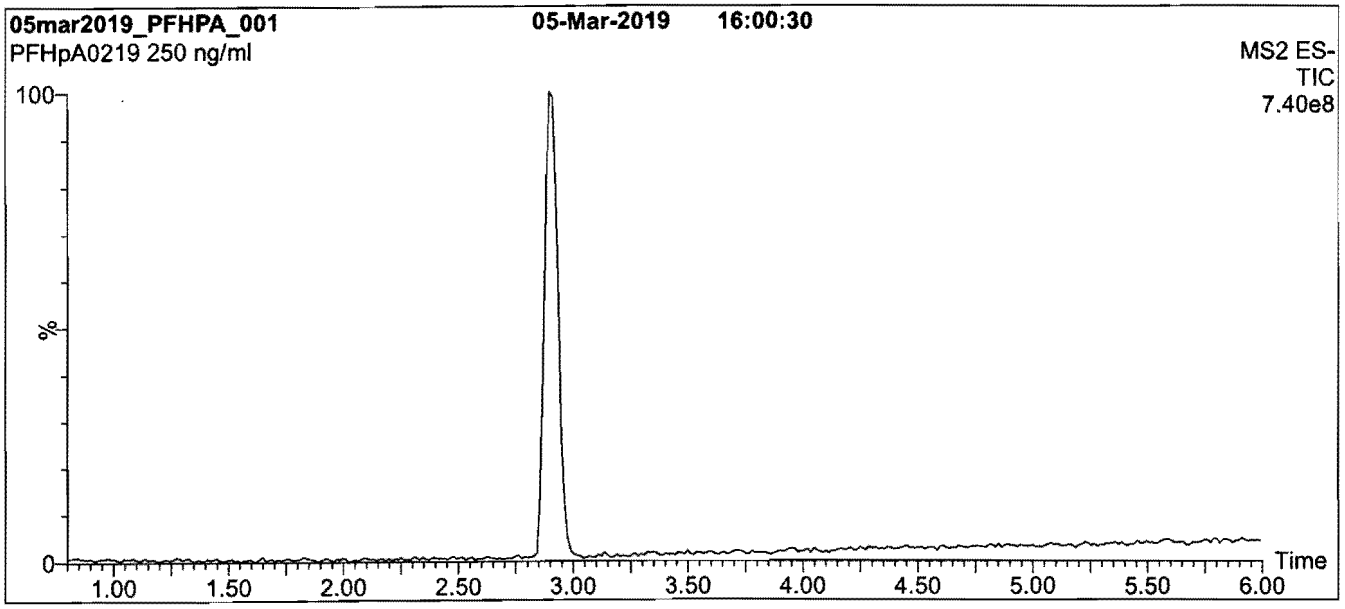
Flow: 300 µl/min

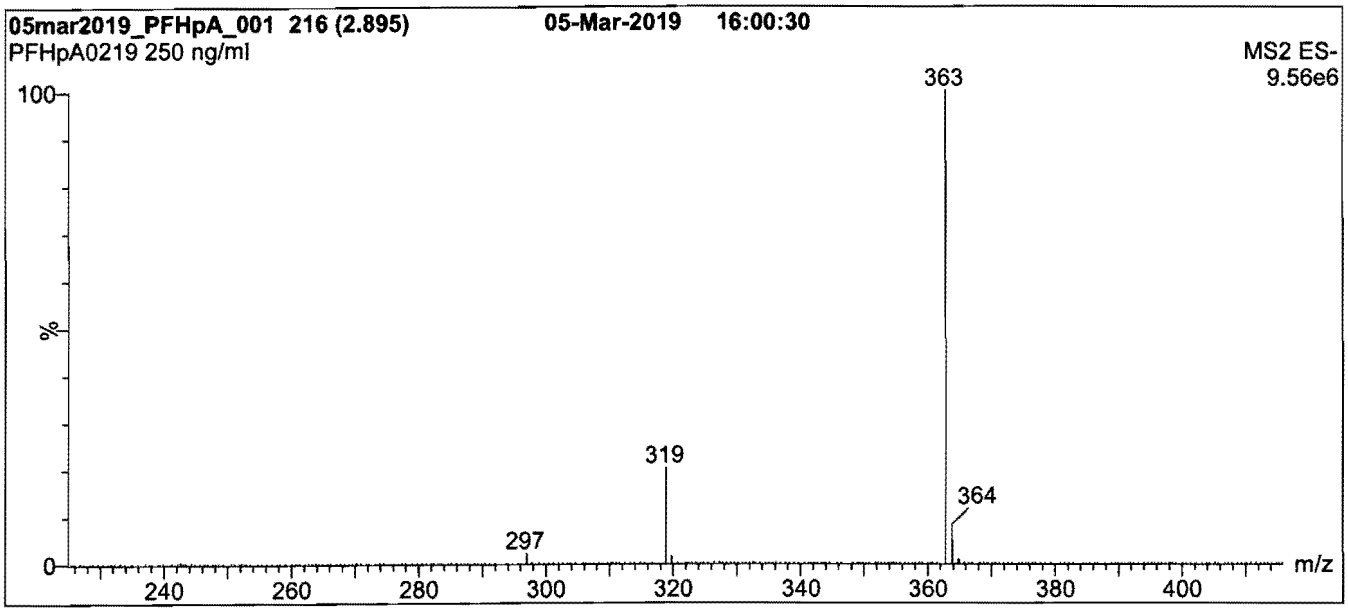
MS Parameters

Collision Gas (mbar) = 2.74e-3
Collision Energy (eV) = 8

19L0642

Figure 1: **PFHpA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

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Column: Acquity UPLC BEH Shield RP_{18}
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Time: 12 min

Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 10.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

19L0642

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UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

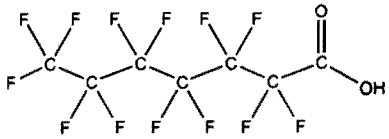
For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

19L0642

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	PFHpA	**LOT NUMBER:**	PFHpA0219
COMPOUND:	Perfluoro-n-heptanoic acid		
STRUCTURE:		**CAS #:**	375-85-9



MOLECULAR FORMULA:	$C_7HF_{13}O_2$	**MOLECULAR WEIGHT:**	364.06
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	03/05/2019		
EXPIRY DATE: (mm/dd/yyyy)	03/05/2024		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

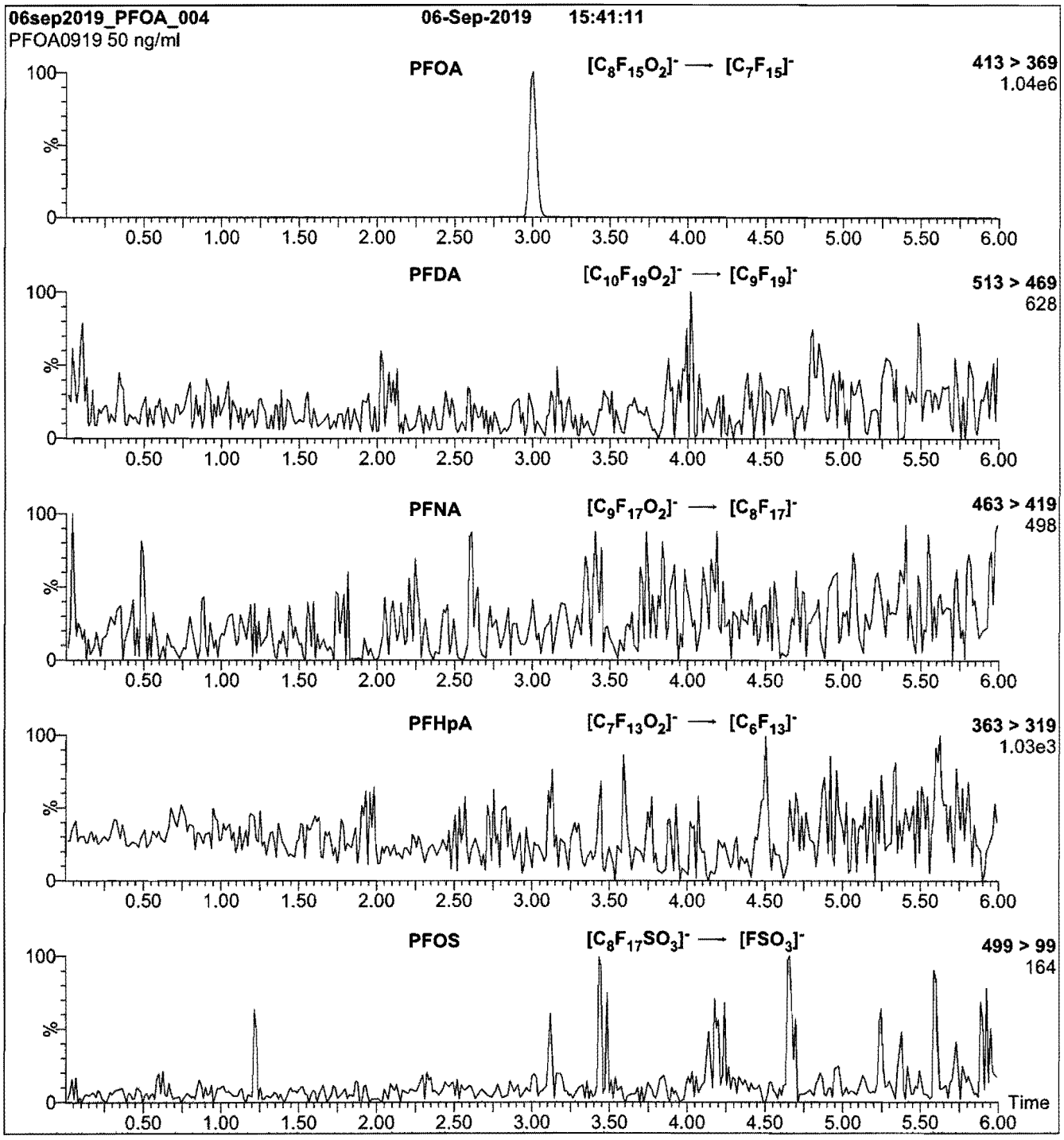
- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 03/18/2019 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Figure 2: **PFOA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (PFOA)

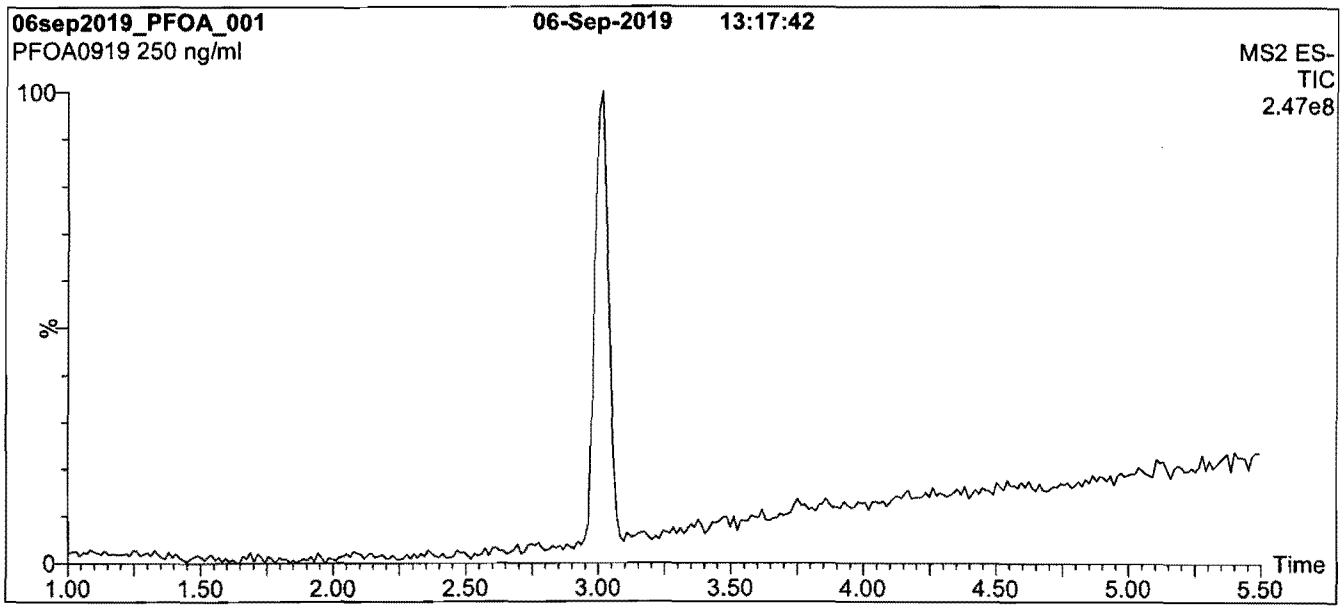
Mobile phase: Same as Figure 1

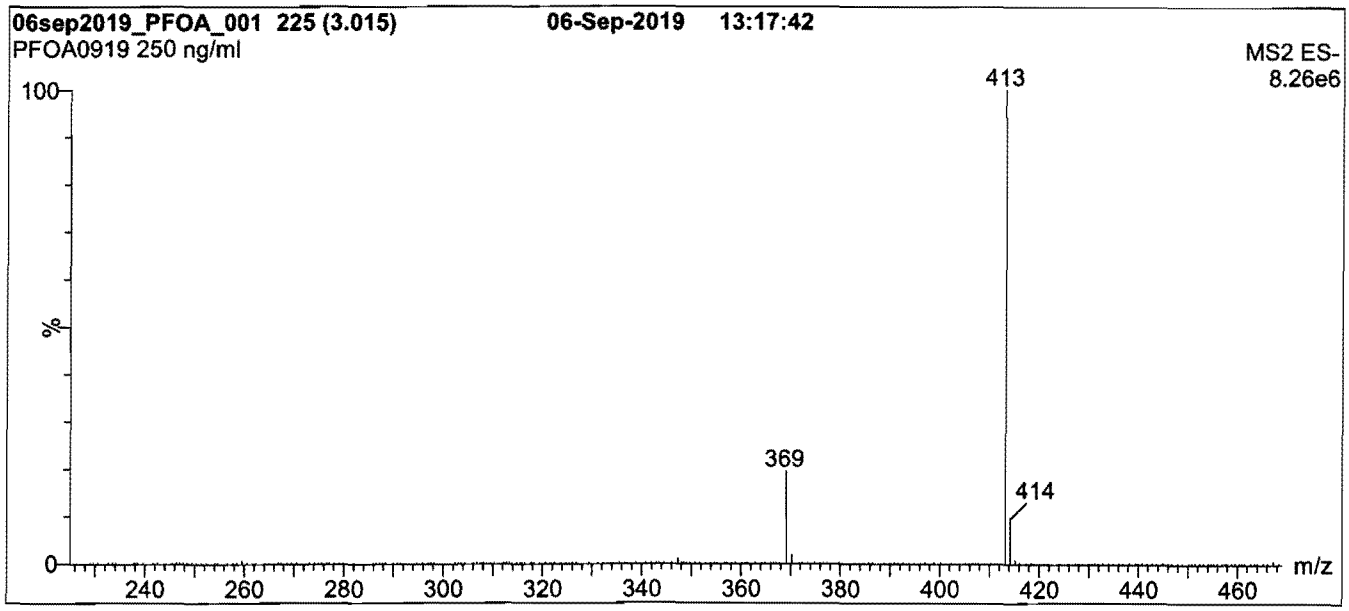
Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.49e-3
Collision Energy (eV) = 8

Figure 1: **PFOA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 55% (80:20 MeOH:ACN) / 45% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.50
Cone Voltage (V) = 10.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

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INTENDED USE:

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HANDLING:

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SYNTHESIS / CHARACTERIZATION:

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where x is expressed as a relative standard uncertainty of the individual parameter.

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LIMITED WARRANTY:

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QUALITY MANAGEMENT:

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CALA Testing Accreditation No. A1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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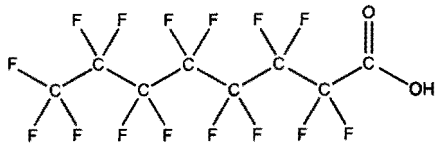
19L0643

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: PFOA
COMPOUND: Perfluoro-n-octanoic acid
LOT NUMBER: PFOA0919

STRUCTURE:
CAS #: 335-67-1



MOLECULAR FORMULA: $C_8HF_{15}O_2$
MOLECULAR WEIGHT: 414.07
CONCENTRATION: 50 ± 2.5 µg/ml
SOLVENT(S): Methanol
Water (<1%)

CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 09/06/2019
EXPIRY DATE: (mm/dd/yyyy) 09/06/2024
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

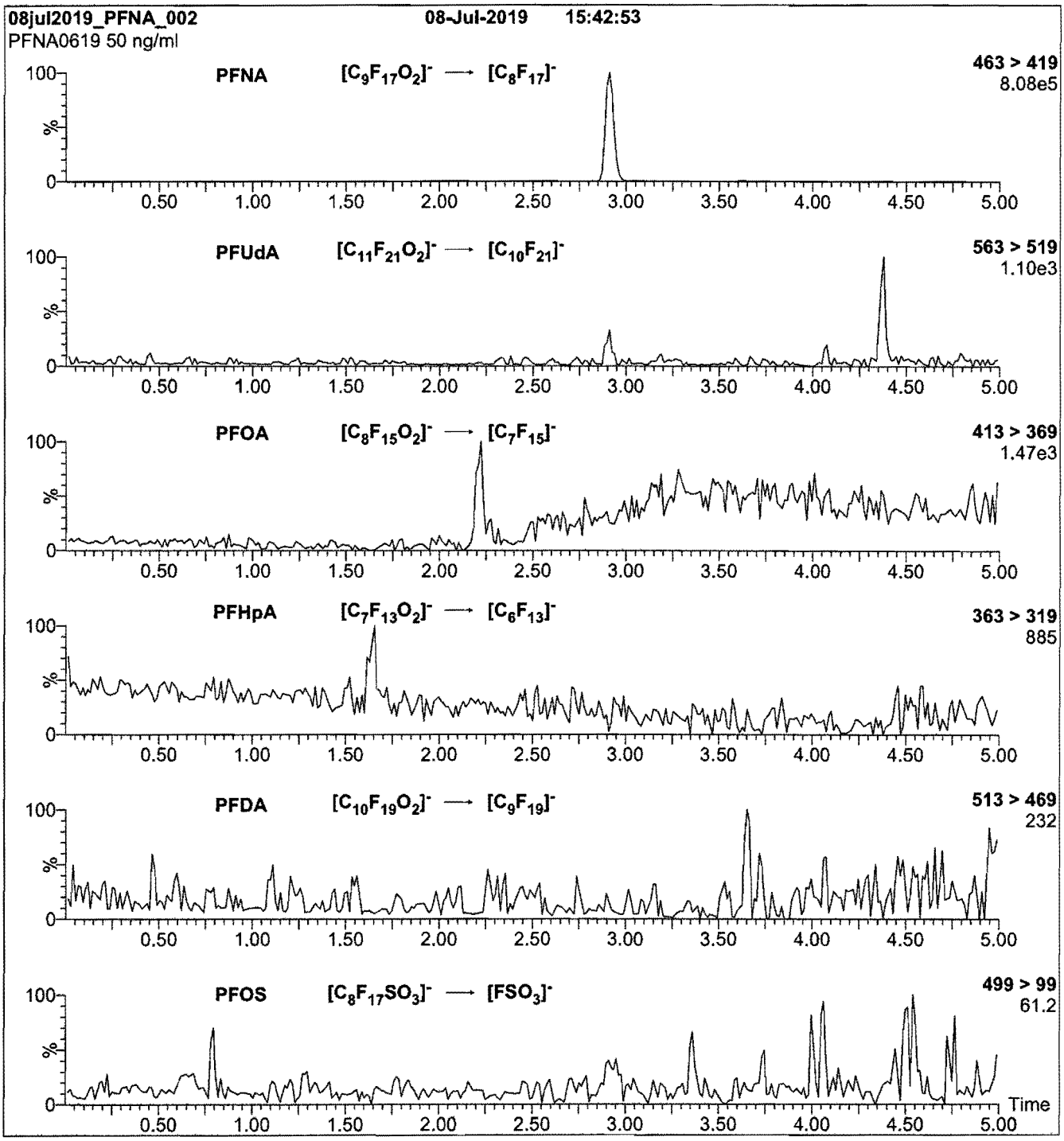
FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 09/09/2019 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

19L0644

Figure 2: **PFNA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (PFNA)

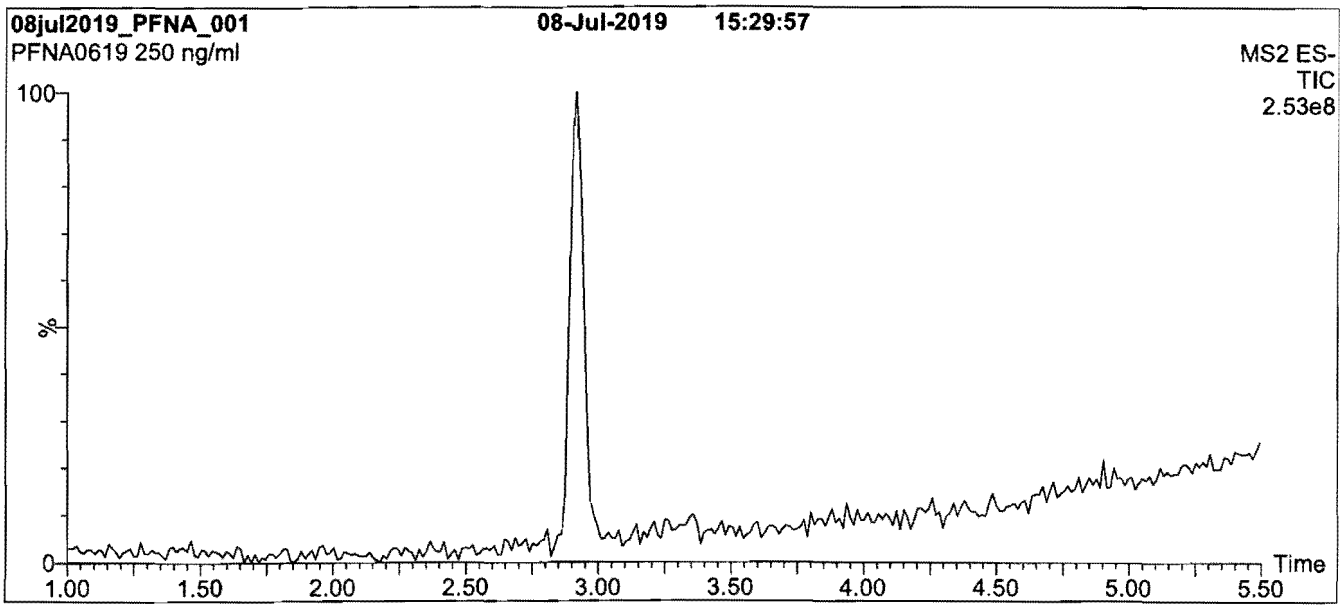
Mobile phase: Same as Figure 1

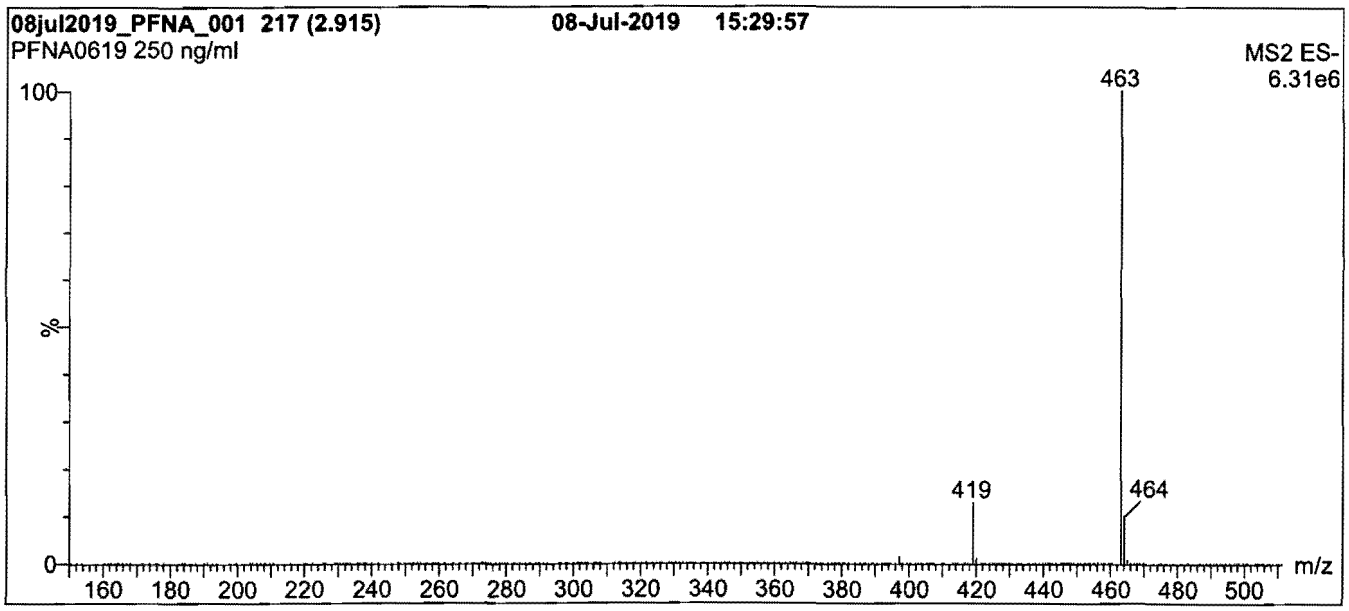
Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.35e-3
Collision Energy (eV) = 10

Figure 1: **PFNA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 60% (80:20 MeOH:ACN) / 40% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for
3 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (150 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.50
Cone Voltage (V) = 10.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

19L0644

INTENDED USE:

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HANDLING:

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SYNTHESIS / CHARACTERIZATION:

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where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

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EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

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CALA Testing Accreditation No. A1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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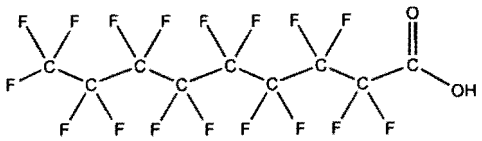
19L0644

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	PFNA	**LOT NUMBER:**	PFNA0619
COMPOUND:	Perfluoro-n-nonanoic acid		
STRUCTURE:		**CAS #:**	375-95-1



MOLECULAR FORMULA:	$C_9HF_{17}O_2$	**MOLECULAR WEIGHT:**	464.08
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	07/08/2019		
EXPIRY DATE: (mm/dd/yyyy)	07/08/2024		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains ~ 0.2% of perfluoro-n-octanoic acid (PFOA), < 0.1% of perfluoro-n-heptanoic acid (PFHpA), and < 0.1% of perfluoro-n-undecanoic acid (PFUdA).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 07/11/2019 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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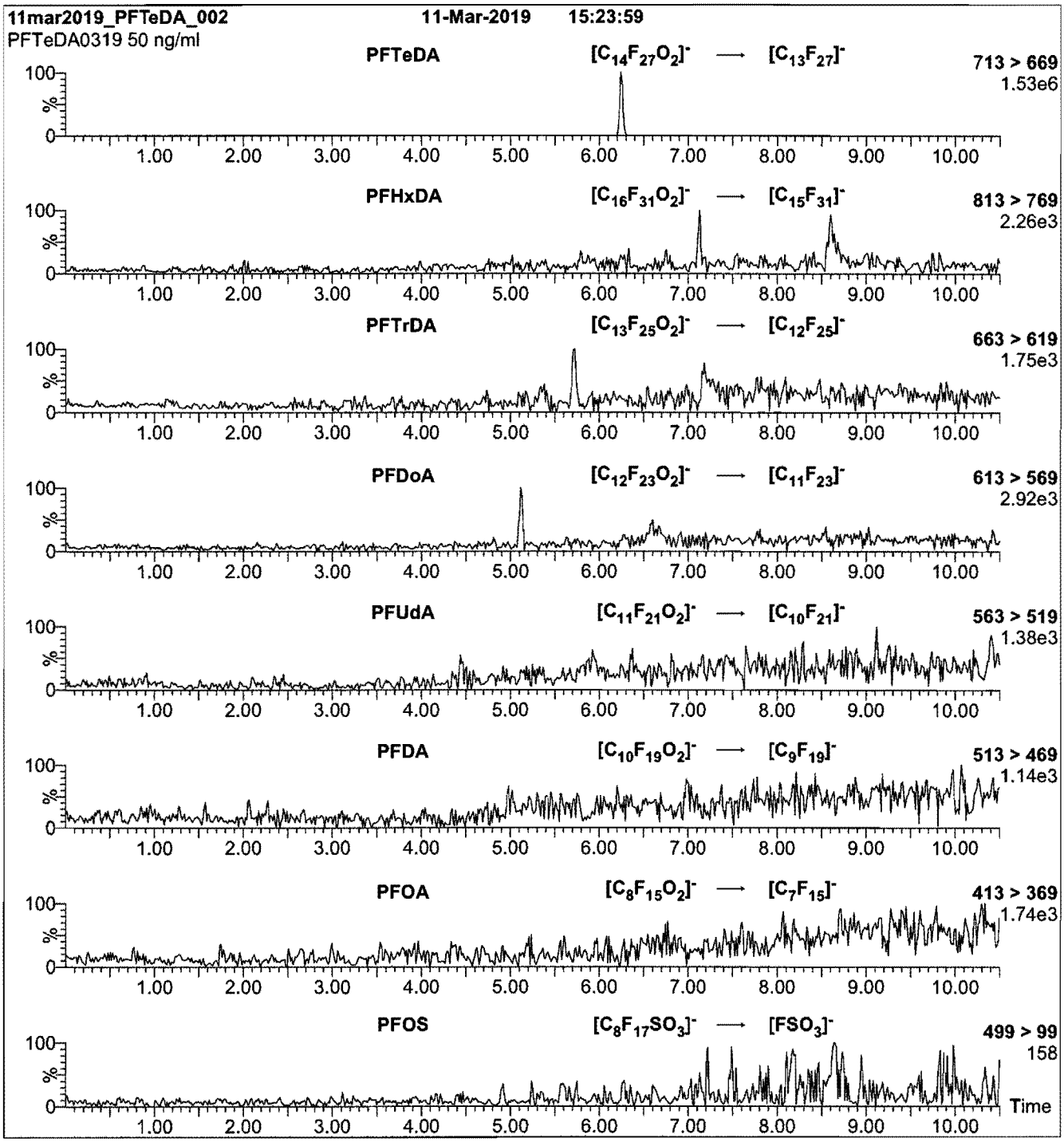
Figure 2: **PFTeDA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (PFTeDA)

Mobile phase: Same as Figure 1

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.03e-3
Collision Energy (eV) = 14

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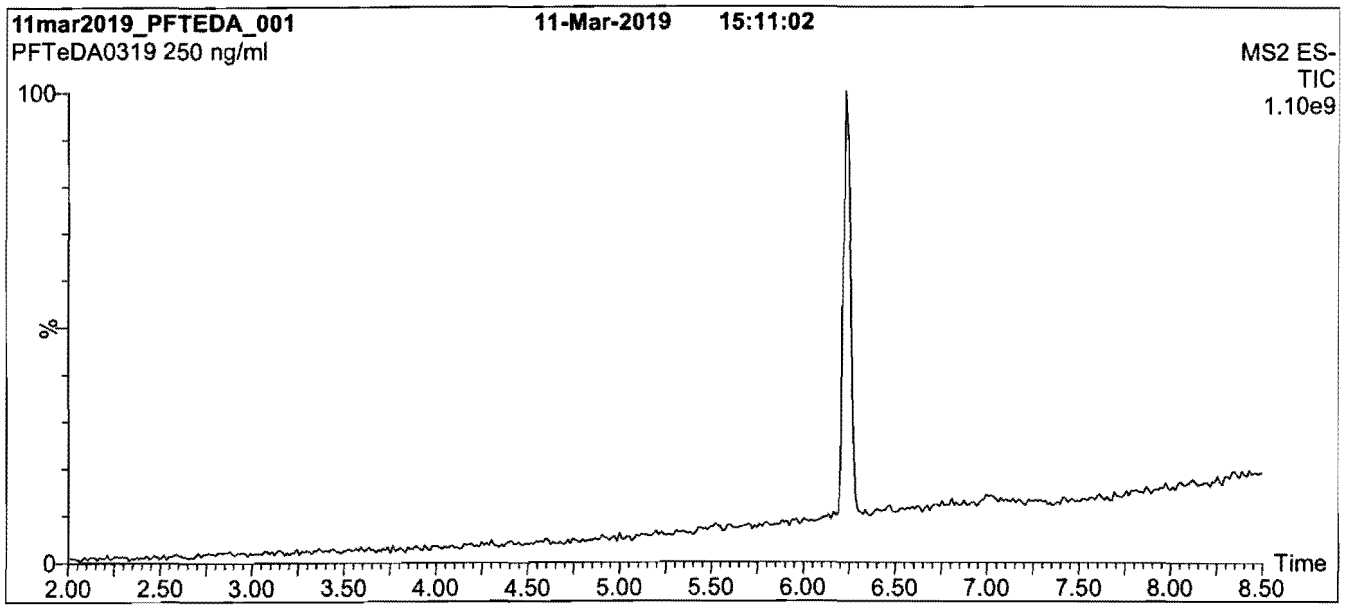
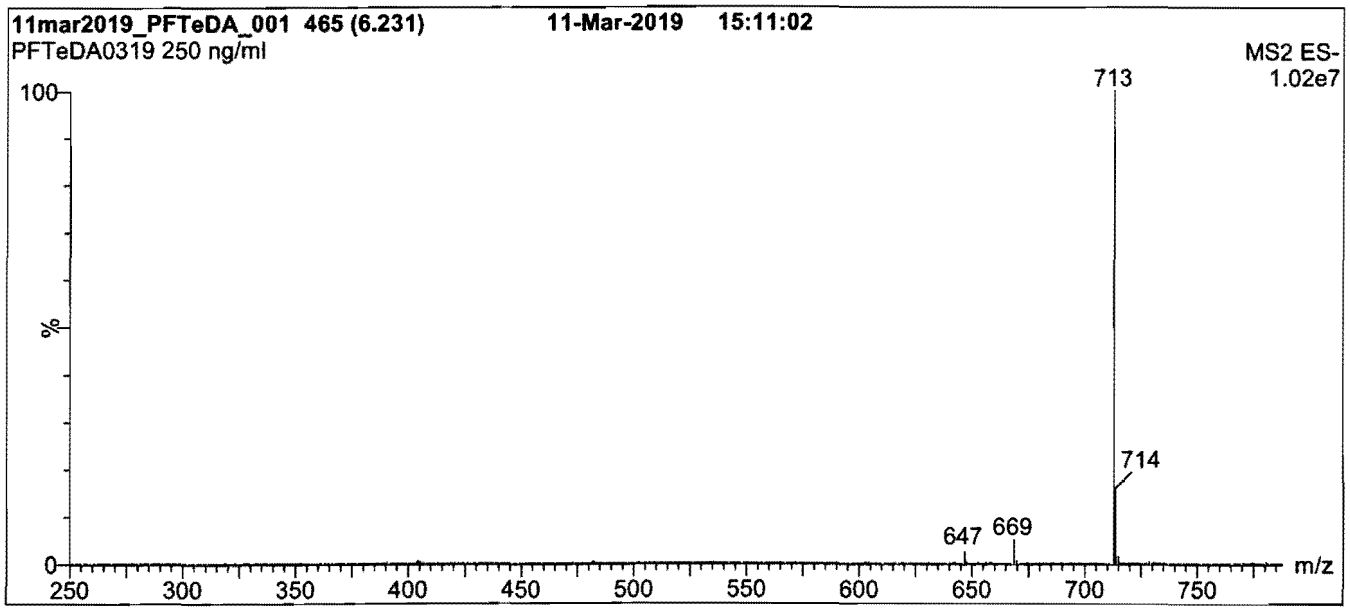
Figure 1: **PFTeDA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

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Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 60% (80:20 MeOH:ACN) / 40% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for 3 min
before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (250 - 1200 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
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Desolvation Temperature (°C) = 500
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CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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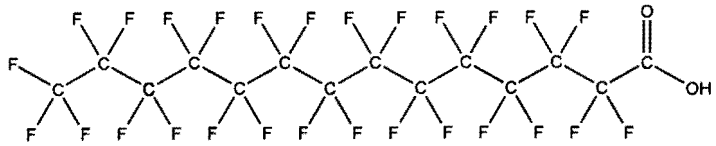
19L0645

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	PFTeDA	**LOT NUMBER:**	PFTeDA0319
COMPOUND:	Perfluoro-n-tetradecanoic acid		
STRUCTURE:		**CAS #:**	376-06-7



MOLECULAR FORMULA:	$C_{14}HF_{27}O_2$	**MOLECULAR WEIGHT:**	714.11
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	03/11/2019		
EXPIRY DATE: (mm/dd/yyyy)	03/11/2024		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains ~ 0.3% of PFDoA ($C_{12}HF_{23}O_2$), ~ 0.1% of PFTrDA ($C_{13}HF_{25}O_2$), and ~ 0.1% of PFHxDA ($C_{16}HF_{31}O_2$).

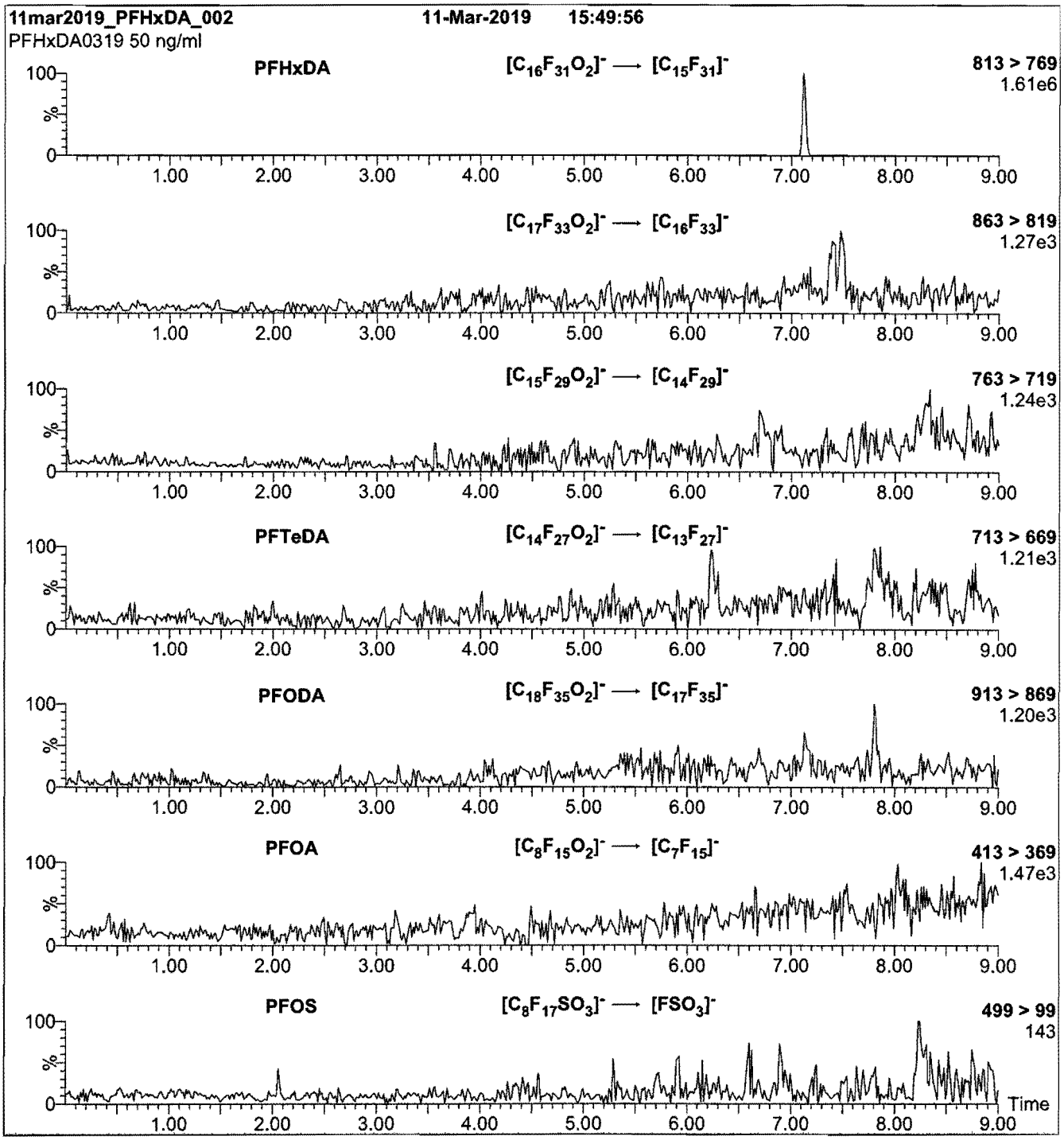
FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 03/28/2019 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

19L0646

Figure 2: **PFHxDA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (PFHxDA)

Mobile phase: Same as Figure 1

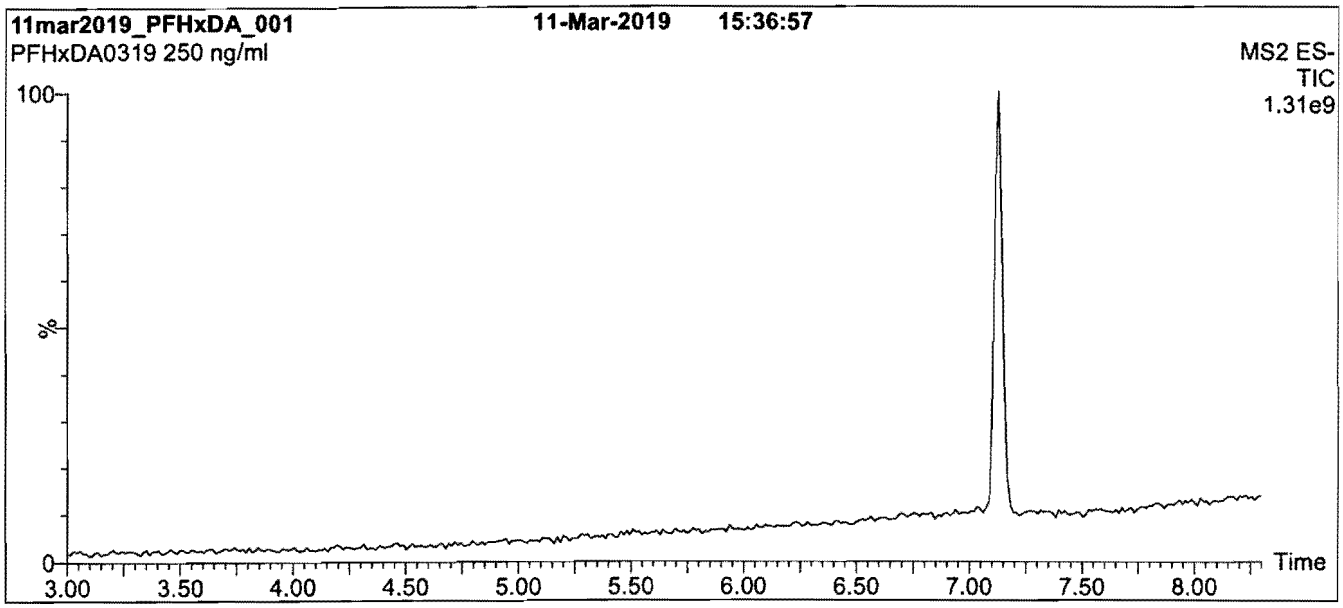
Flow: 300 µl/min

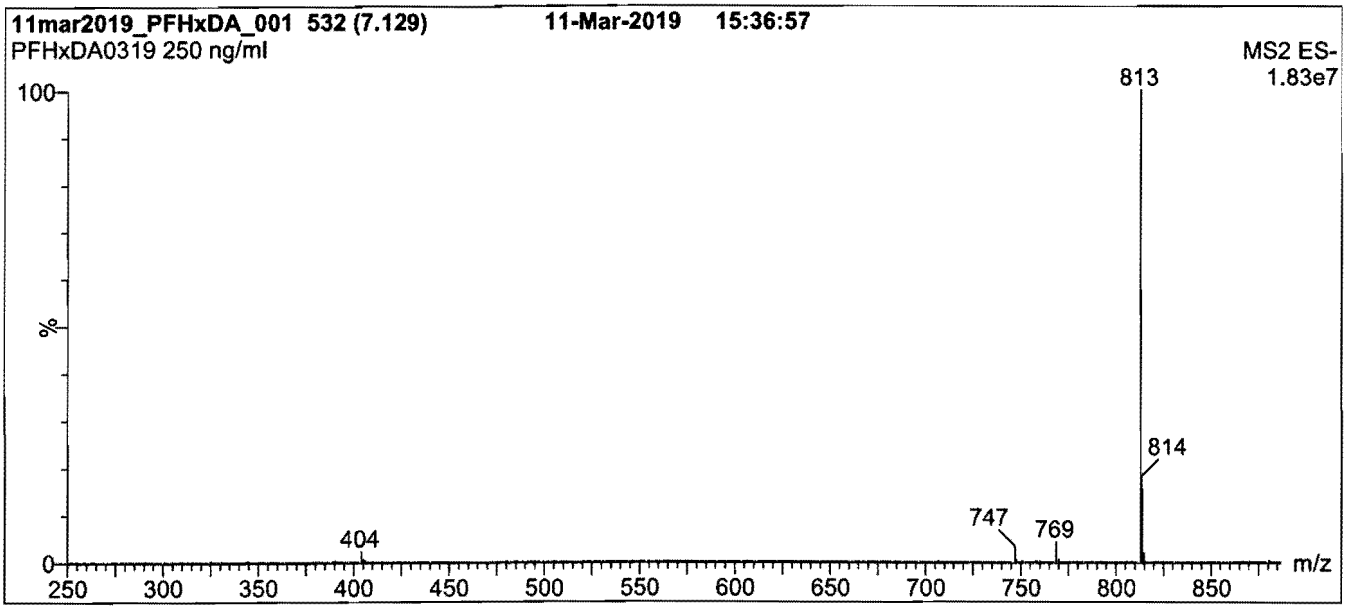
MS Parameters

Collision Gas (mbar) = 3.03e-3
Collision Energy (eV) = 15

19L0646

Figure 1: **PFHxDA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 60% (80:20 MeOH:ACN) / 40% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for 3 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (250 - 1200 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 10.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

19L0646

INTENDED USE:

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HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

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HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters x_1, x_2,...x_n on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

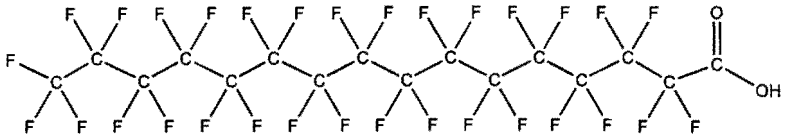
19L0646

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: PFHxDA
LOT NUMBER: PFHxDA0319
COMPOUND: Perfluoro-n-hexadecanoic acid

STRUCTURE:
CAS #: 67905-19-5



MOLECULAR FORMULA: $C_{16}HF_{31}O_2$
MOLECULAR WEIGHT: 814.13
CONCENTRATION: 50 ± 2.5 µg/ml
SOLVENT(S): Methanol
Water (<1%)

CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 03/11/2019
EXPIRY DATE: (mm/dd/yyyy) 03/11/2024
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 03/28/2019 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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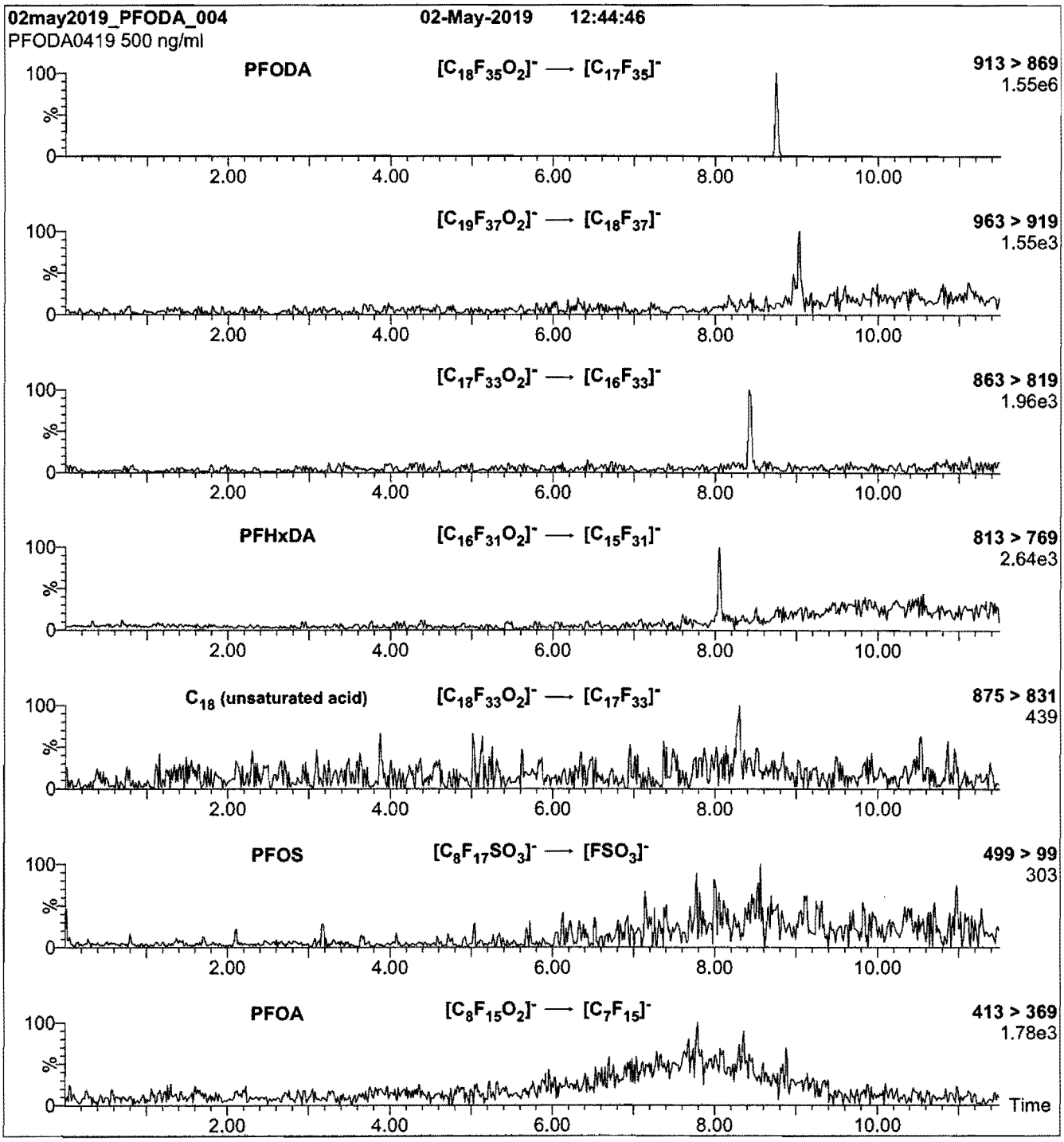
Figure 2: **PFODA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (PFODA)

Mobile phase: Same as Figure 1

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 2.92e-3
Collision Energy (eV) = 15

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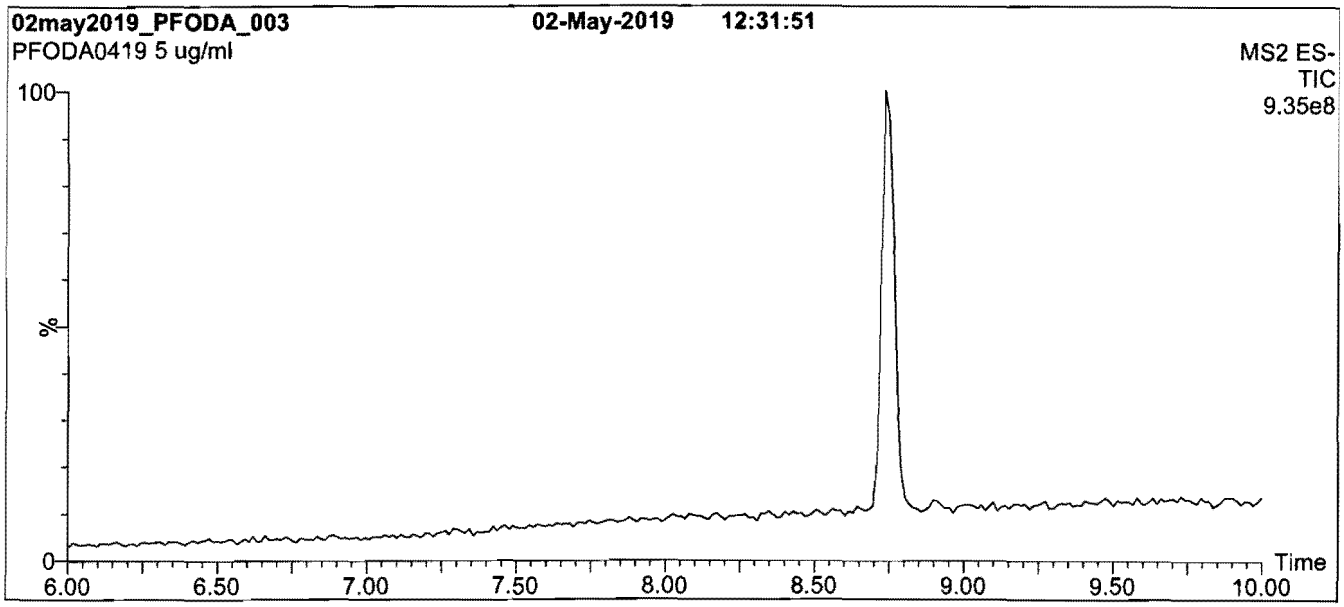
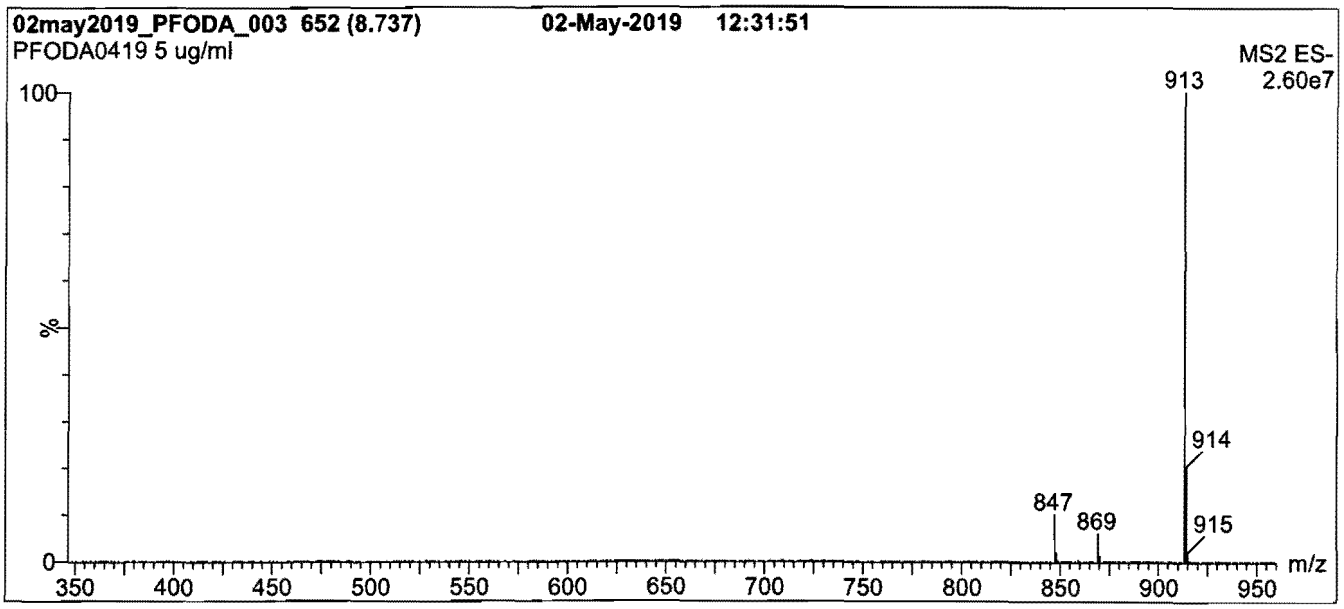
Figure 1: **PFODA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 55% (80:20 MeOH:ACN) / 45% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 11 min

Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (250 - 1200 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 10.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

19L0647

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

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HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters x_1, x_2,...x_n on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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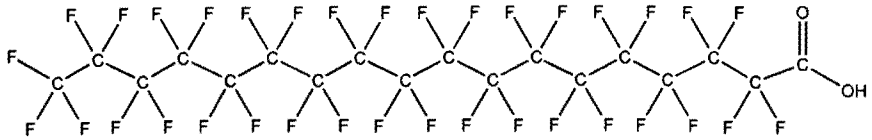
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:	PFODA	**LOT NUMBER:**	PFODA0419
COMPOUND:	Perfluoro-n-octadecanoic acid		
STRUCTURE:		**CAS #:**	16517-11-6



MOLECULAR FORMULA:	$C_{18}HF_{35}O_2$	**MOLECULAR WEIGHT:**	914.14
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	05/02/2019		
EXPIRY DATE: (mm/dd/yyyy)	05/02/2024		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains ~ 0.2% of PFHxDA ($C_{16}HF_{31}O_2$) and ~ 0.1% of PFHpDA ($C_{17}HF_{33}O_2$)

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 05/16/2019 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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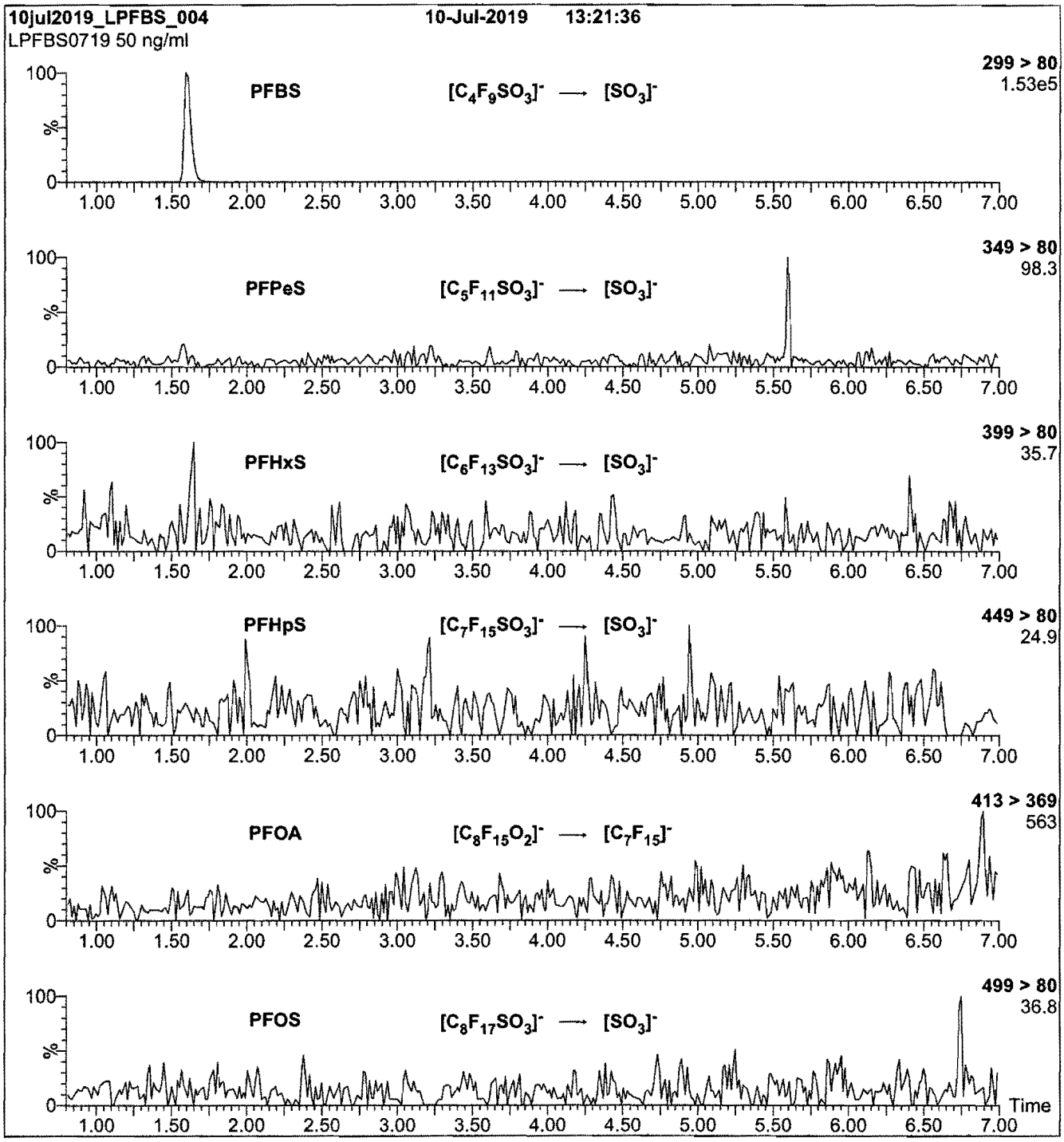
Figure 2: **L-PFBS; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (L-PFBS)

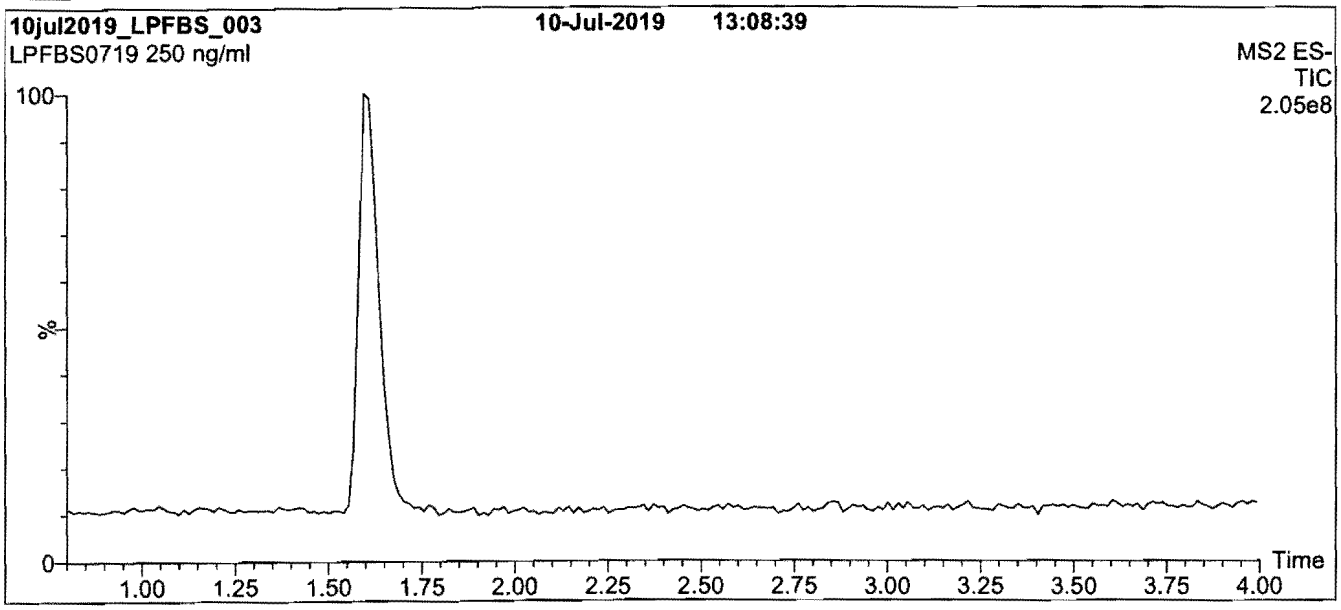
Mobile phase: Same as Figure 1

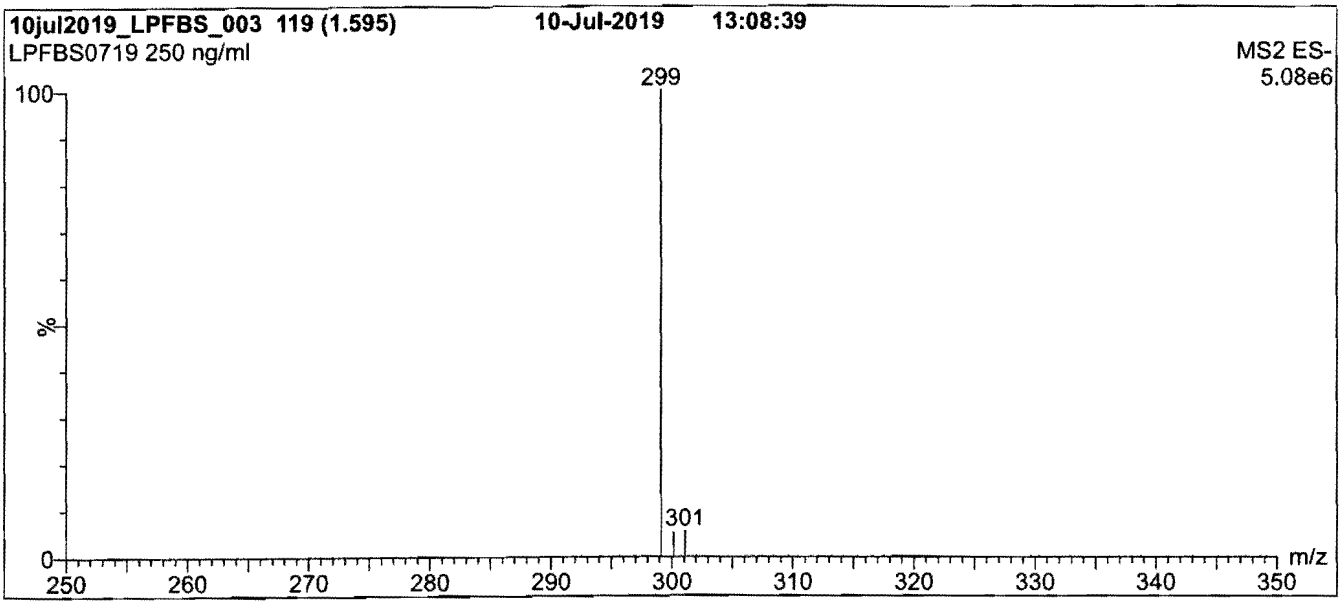
Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.25e-3
Collision Energy (eV) = 30

Figure 1: **L-PFBS; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 70% organic over 7 min, then ramp to 90% organic over 2 min and hold for 1.5 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (250 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.50
Cone Voltage (V) = 10.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

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where x is expressed as a relative standard uncertainty of the individual parameter.

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EXPIRY DATE / PERIOD OF VALIDITY:

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QUALITY MANAGEMENT:

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CALA Testing Accreditation No. A1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

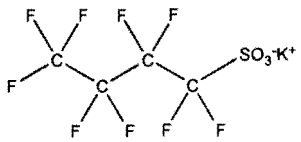
For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

19L0648

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	L-PFBS	**LOT NUMBER:**	LPFBS0719
COMPOUND:	Potassium perfluoro-1-butanesulfonate		
STRUCTURE:		**CAS #:**	29420-49-3



MOLECULAR FORMULA:	$C_4F_9SO_3K$	**MOLECULAR WEIGHT:**	338.19
CONCENTRATION:	50.0 ± 2.5 µg/ml (K salt) 44.2 ± 2.2 µg/ml (PFBS anion)	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	07/10/2019		
EXPIRY DATE: (mm/dd/yyyy)	07/10/2024		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains ~ 0.2% of sodium perfluoro-1-nonanesulfonate (L-PFNS).

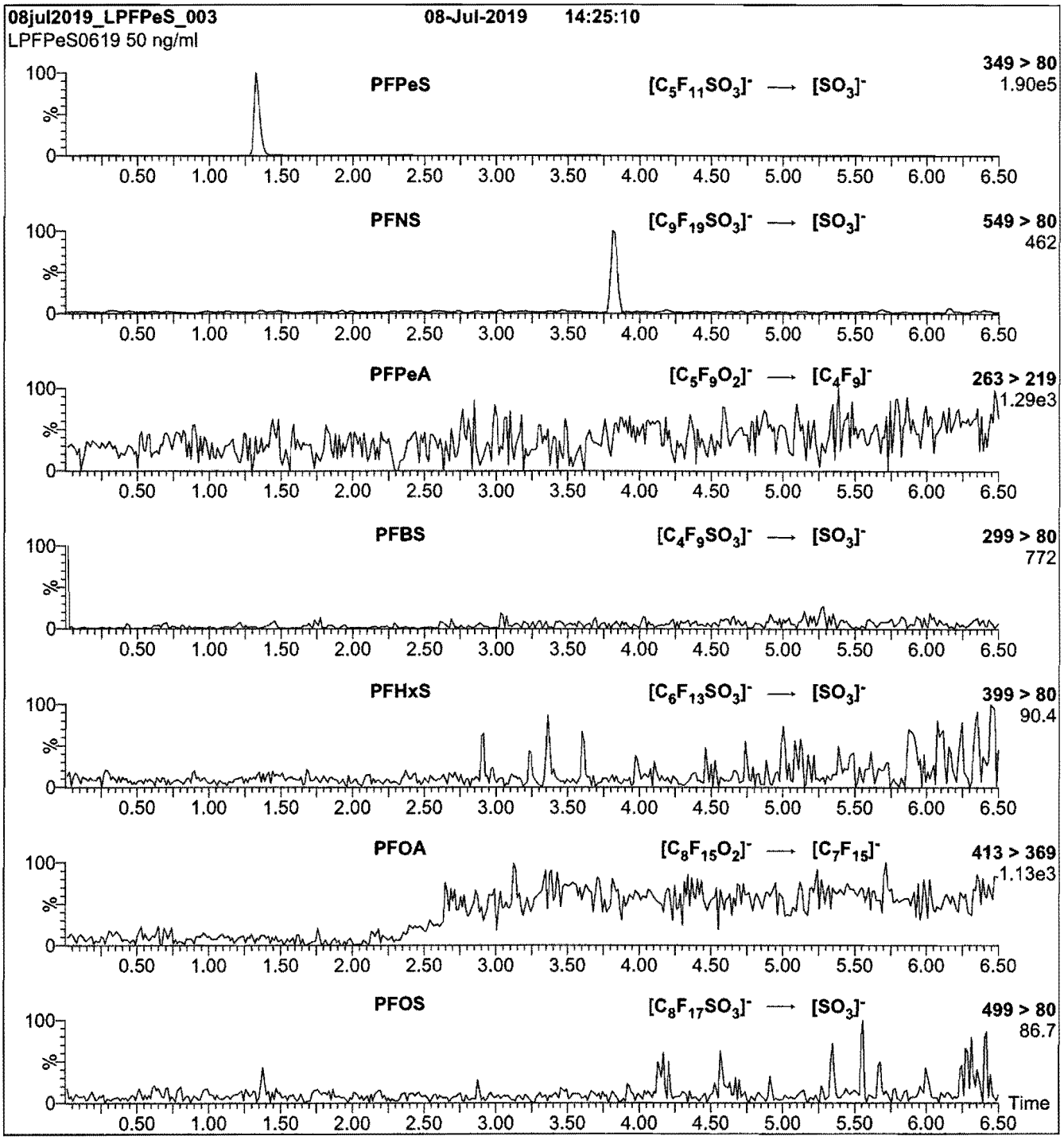
FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 08/06/2019 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

19L0649

Figure 2: **L-PFPeS; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (L-PFPeS)

Mobile phase: Same as Figure 1

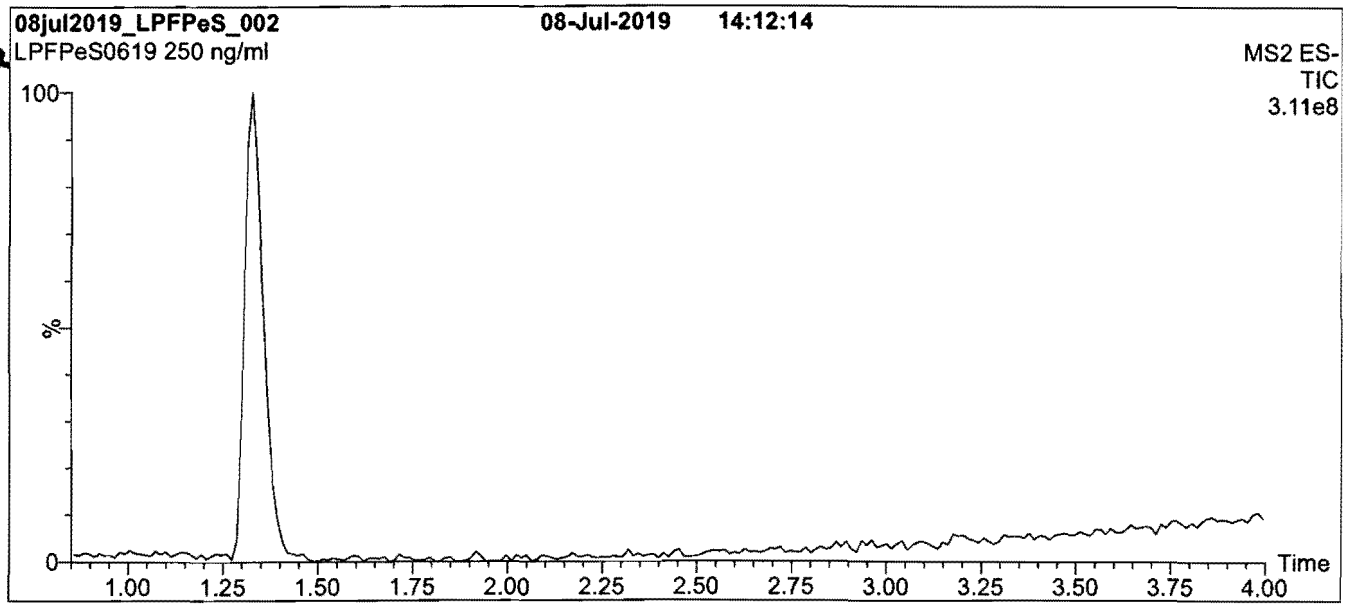
Flow: 300 µl/min

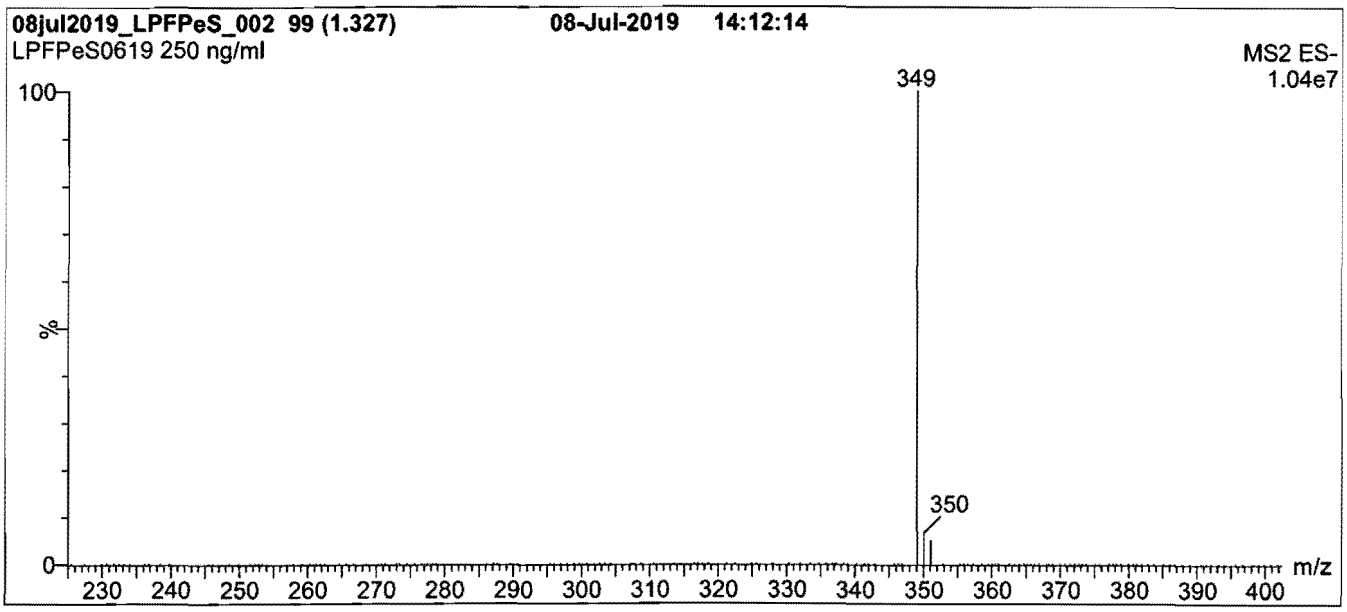
MS Parameters

Collision Gas (mbar) = 3.37e-3
Collision Energy (eV) = 32

19L0649

Figure 1: **L-PFPeS; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 60% (80:20 MeOH:ACN) / 40% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for
3 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.50
Cone Voltage (V) = 10.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

19L0649

INTENDED USE:

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HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters x_1, x_2,...x_n on which it depends is:

$$u_c(y(x_1, x_2, ...x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

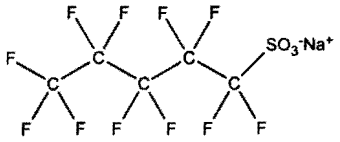
For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

19L0619

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	L-PFPeS	**LOT NUMBER:**	LPFPeS0619
COMPOUND:	Sodium perfluoro-1-pentanesulfonate		
STRUCTURE:		**CAS #:**	630402-22-1



MOLECULAR FORMULA:	$C_5F_{11}SO_3Na$	**MOLECULAR WEIGHT:**	372.09
CONCENTRATION:	50.0 ± 2.5 µg/ml (Na salt) 46.9 ± 2.3 µg/ml (PFPeS anion)	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	07/08/2019		
EXPIRY DATE: (mm/dd/yyyy)	07/08/2024		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

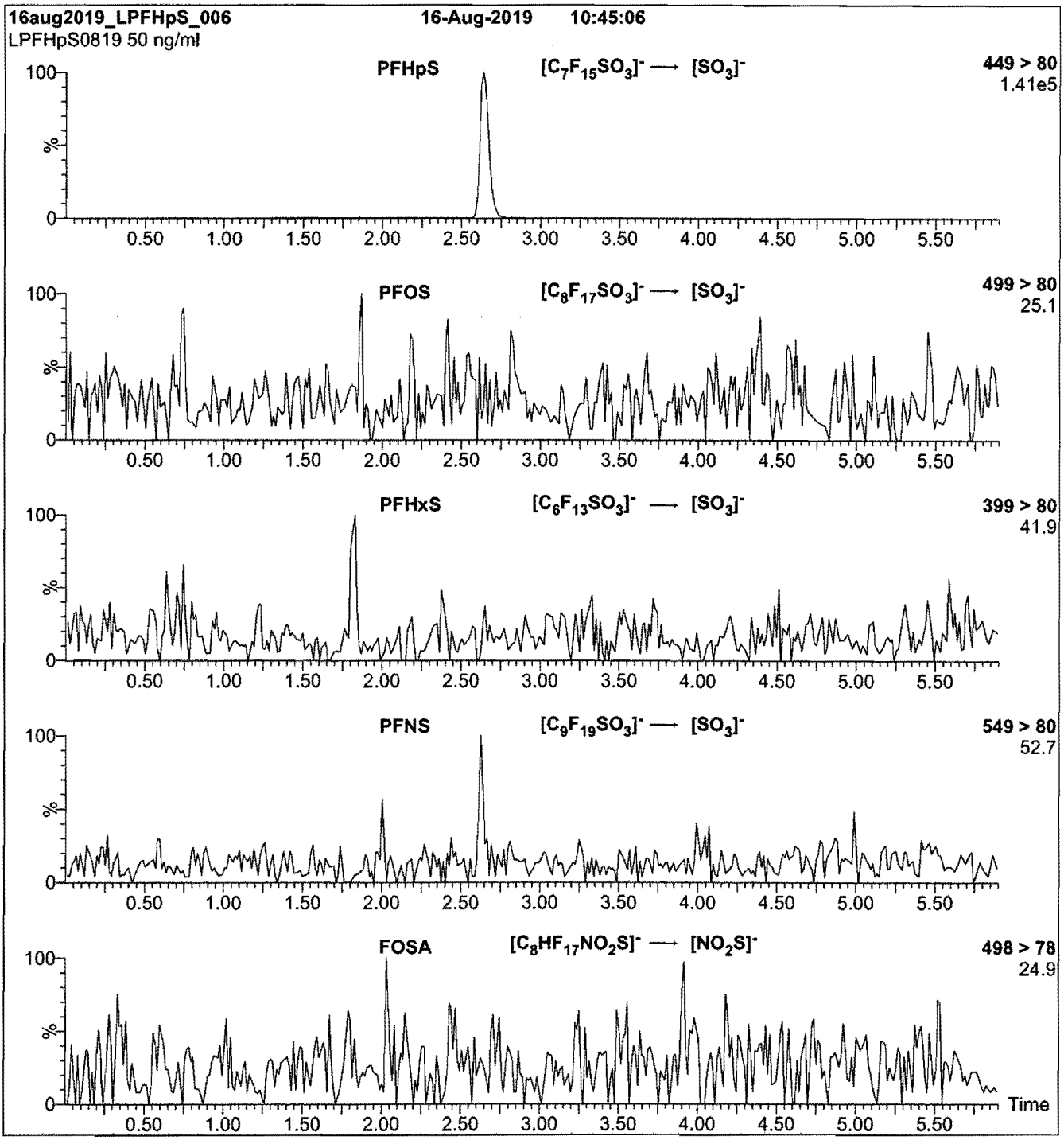
- See page 2 for further details.
- Contains ~ 0.3% of sodium perfluoro-1-nonanesulfonate (L-PFNS).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 07/11/2019 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Figure 2: **L-PFHpS; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (L-PFHpS)

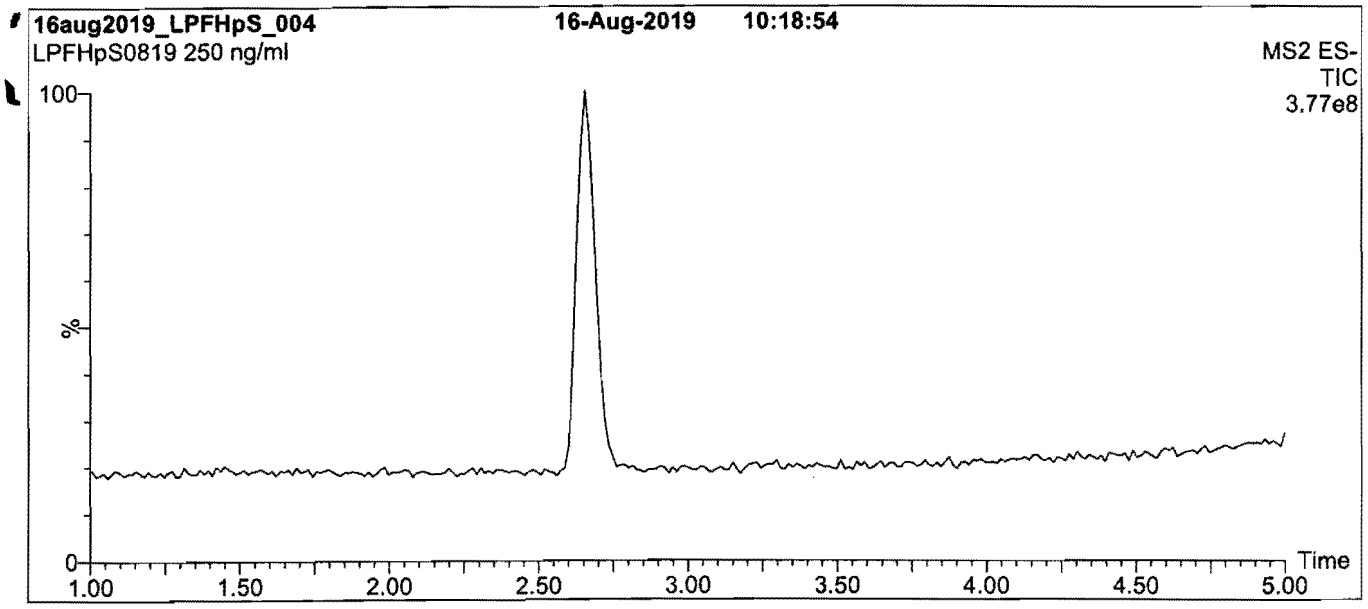
Mobile phase: Same as Figure 1

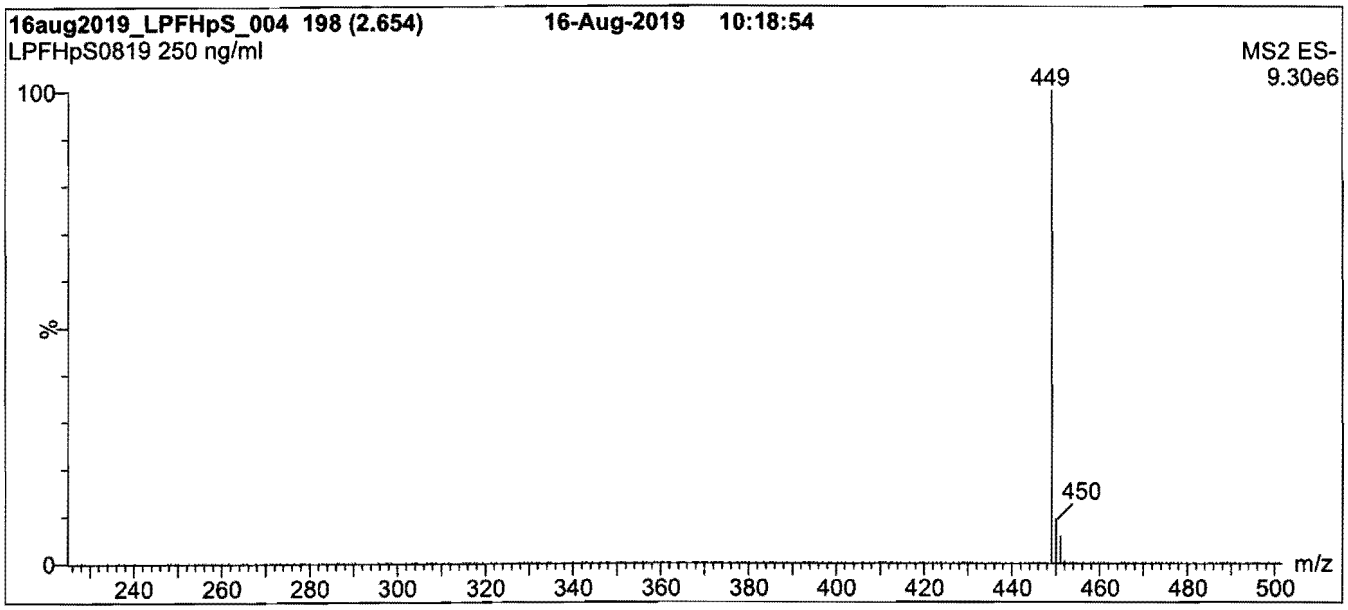
Flow: 300 µl/min

MS Parameters
Collision Gas (mbar) = 3.61e-3
Collision Energy (eV) = 42

191650

Figure 1: **L-PFHpS; LC/MS Data (TIC and Mass Spectrum)**





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1.7 µm, 2.1 x 100 mm

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Start: 60% (80:20 MeOH:ACN) / 40% H_2O
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3 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.50
Cone Voltage (V) = 10.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

19L0650

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QUALITY MANAGEMENT:

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CALA Testing Accreditation No. A 1226

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

19L0650

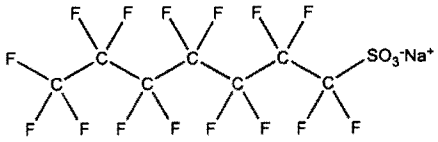
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: L-PFHpS
LOT NUMBER: LPFHpS0819
COMPOUND: Sodium perfluoro-1-heptanesulfonate

STRUCTURE:

CAS #: 21934-50-9



MOLECULAR FORMULA:	$C_7F_{15}SO_3Na$	**MOLECULAR WEIGHT:**	472.10
CONCENTRATION:	50.0 ± 2.5 µg/ml (Na salt) 47.6 ± 2.4 µg/ml (PFHpS anion)	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	08/16/2019		
EXPIRY DATE: (mm/dd/yyyy)	08/16/2024		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

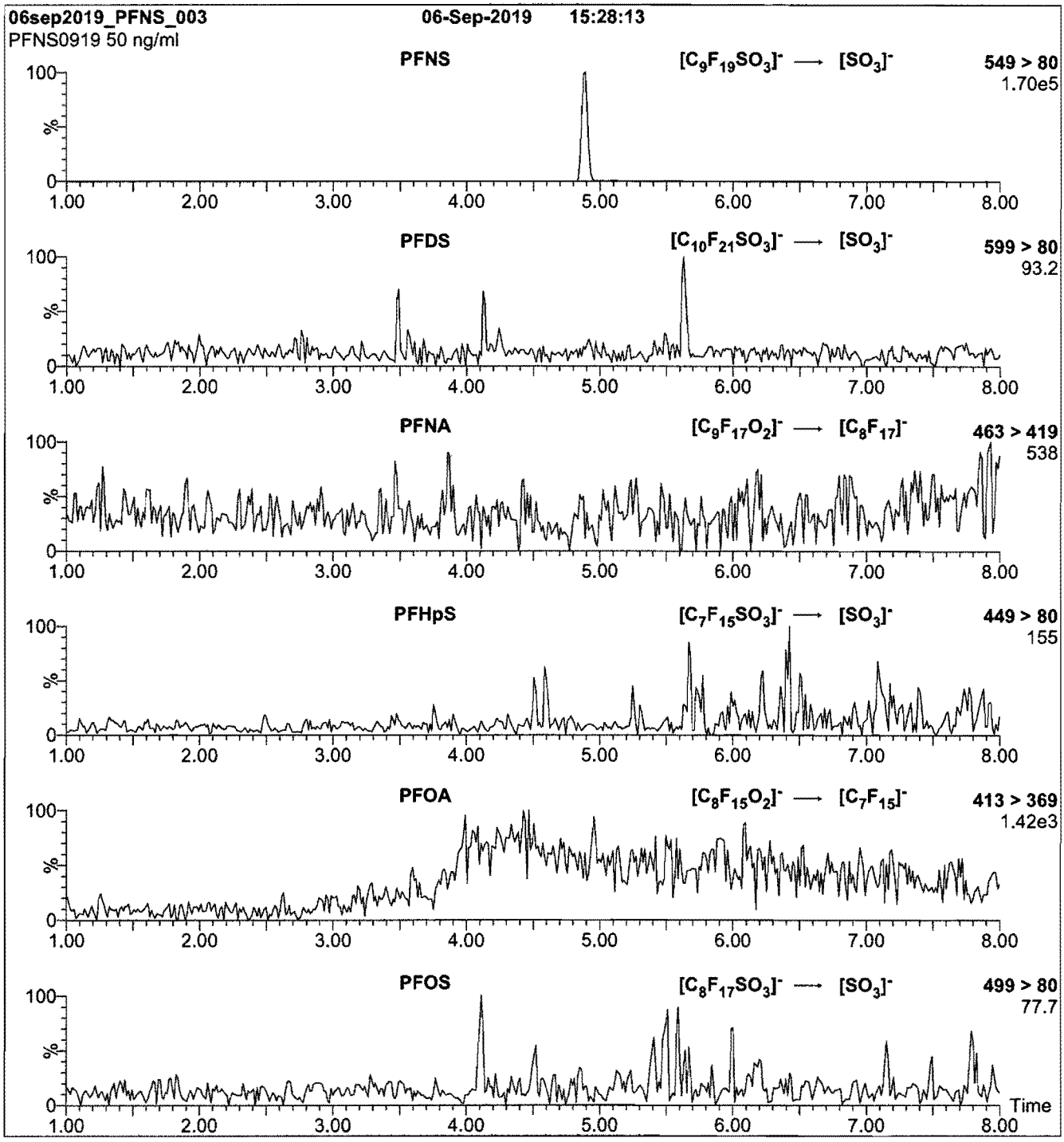
- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 08/29/2019 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Figure 2: **L-PFNS; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (L-PFNS)

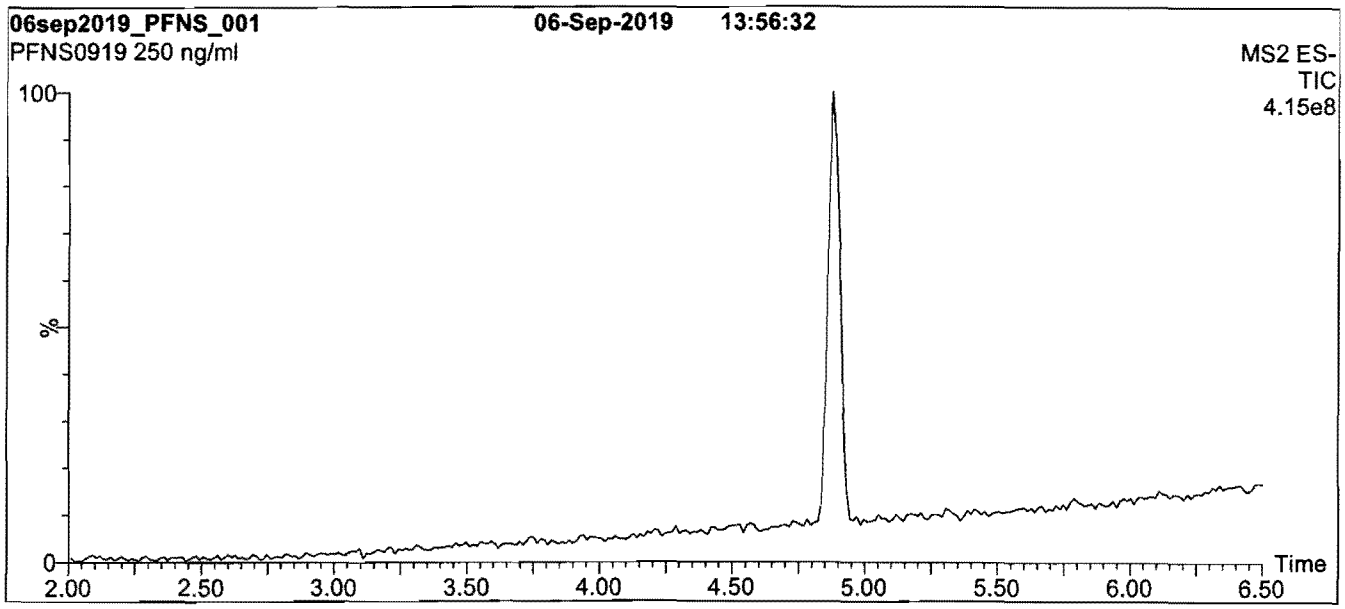
Mobile phase: Same as Figure 1

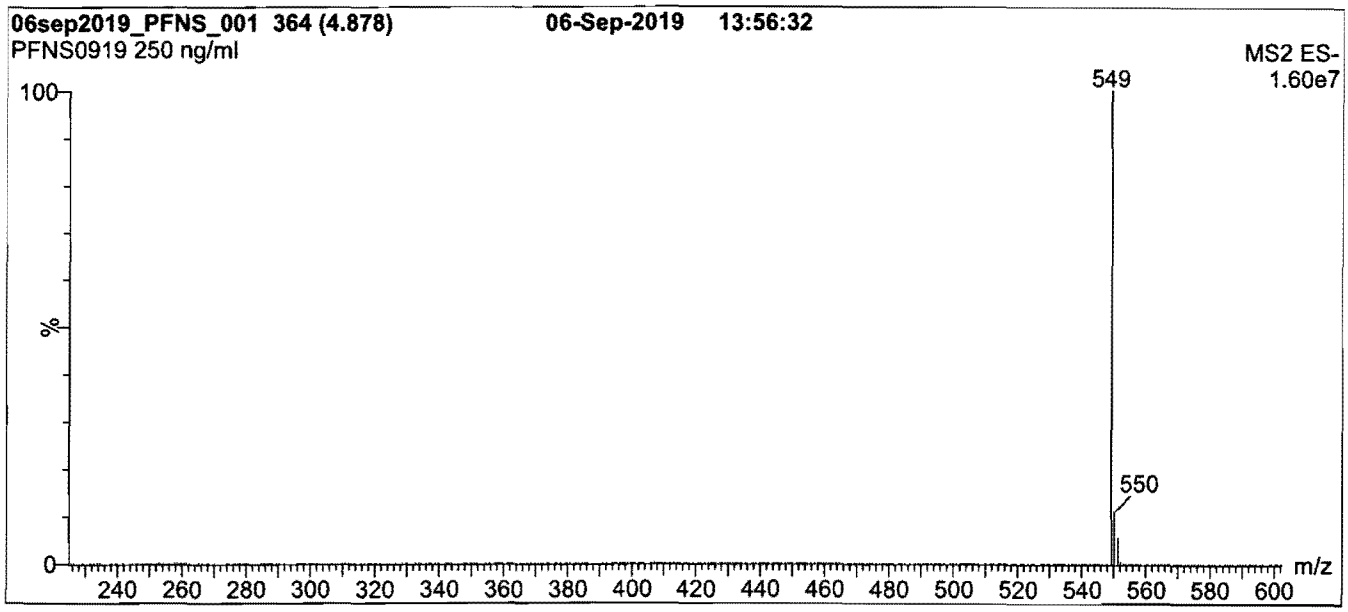
Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.49e-3
Collision Energy (eV) = 64

Figure 1: **L-PFNS; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

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1.7 µm, 2.1 x 100 mm

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2 min before returning to initial conditions in 0.75 min.
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Flow: 300 µl/min

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Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
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CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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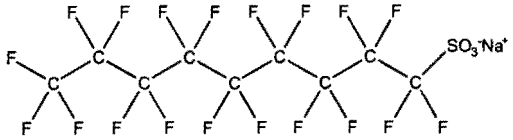
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:	L-PFNS	**LOT NUMBER:**	LPFNS0919
COMPOUND:	Sodium perfluoro-1-nonanesulfonate		
STRUCTURE:		**CAS #:**	98789-57-2



MOLECULAR FORMULA:	$C_9F_{19}SO_3Na$	**MOLECULAR WEIGHT:**	572.12
CONCENTRATION:	50.0 ± 2.5 µg/ml (Na salt) 48.0 ± 2.4 µg/ml (PFNS anion)	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	09/06/2019		
EXPIRY DATE: (mm/dd/yyyy)	09/06/2024		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

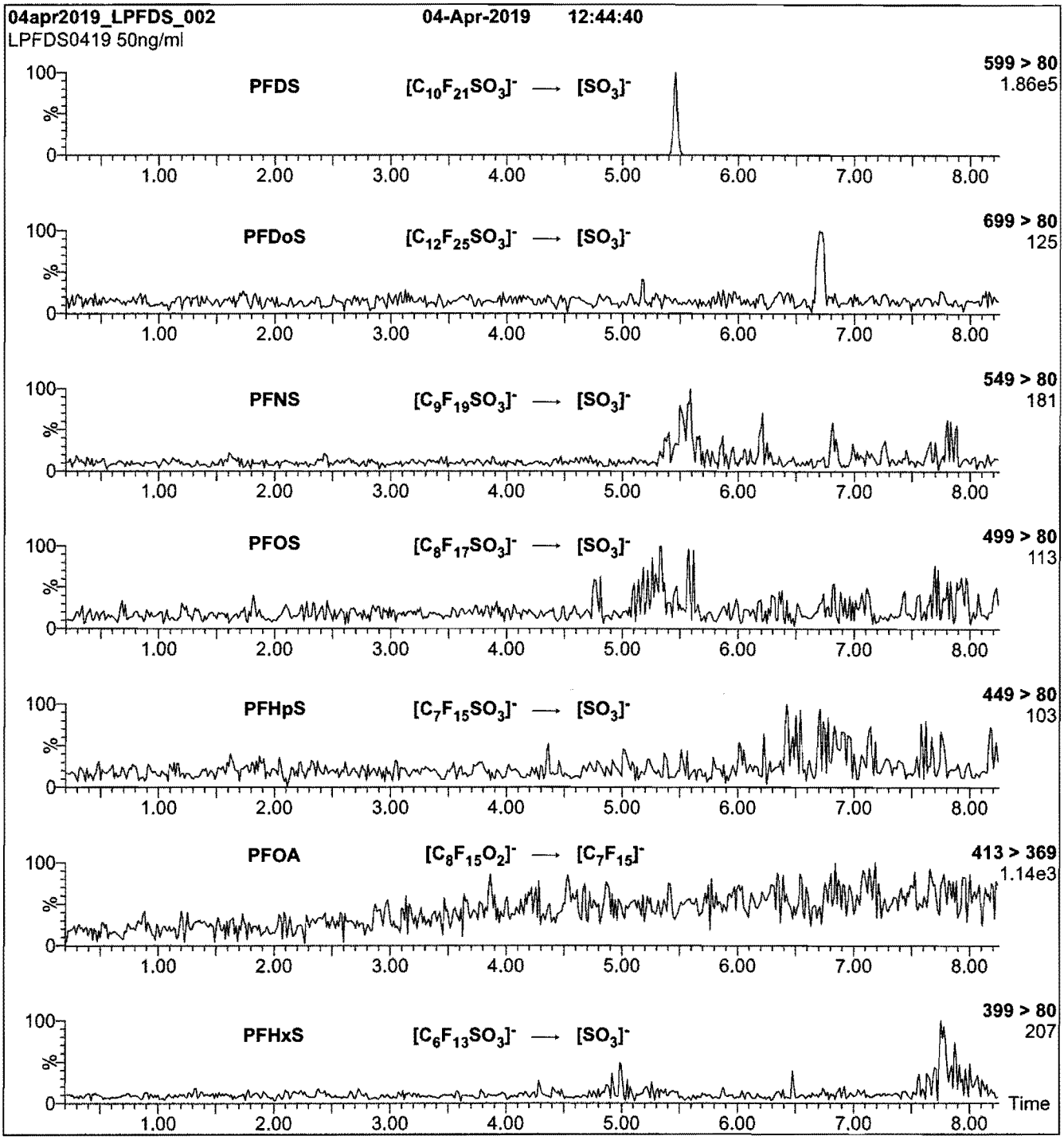
FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 09/09/2019 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

19L0652

Figure 2: **L-PFDS; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (L-PFDS)

Mobile phase: Same as Figure 1

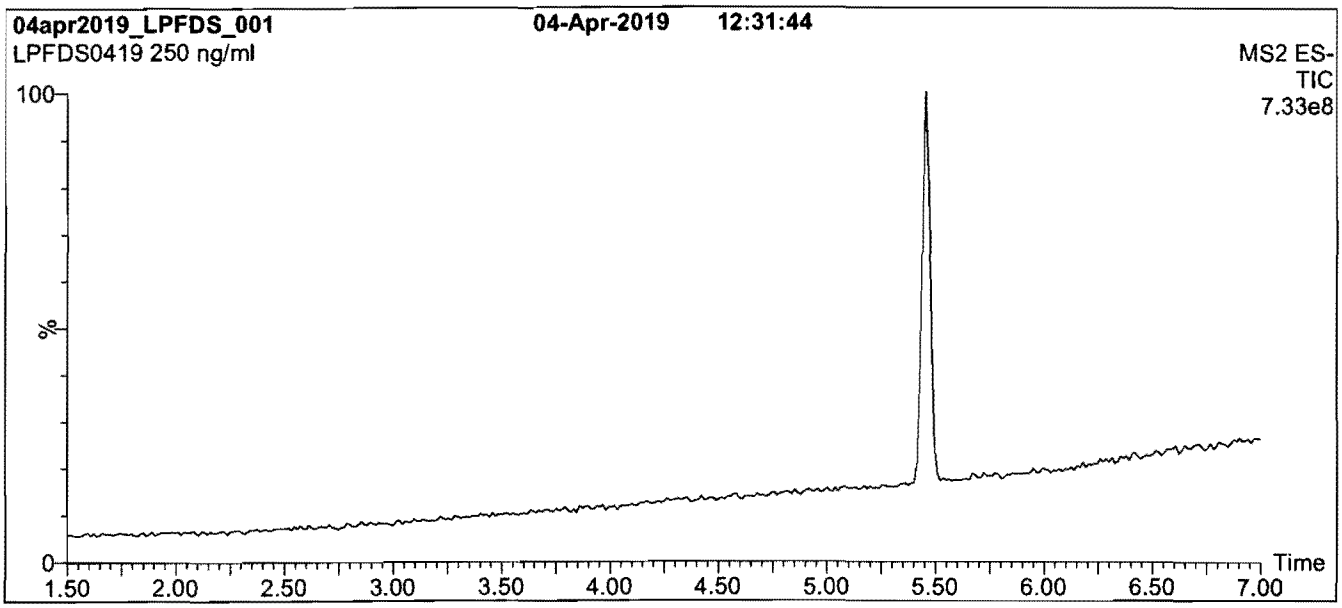
Flow: 300 µl/min

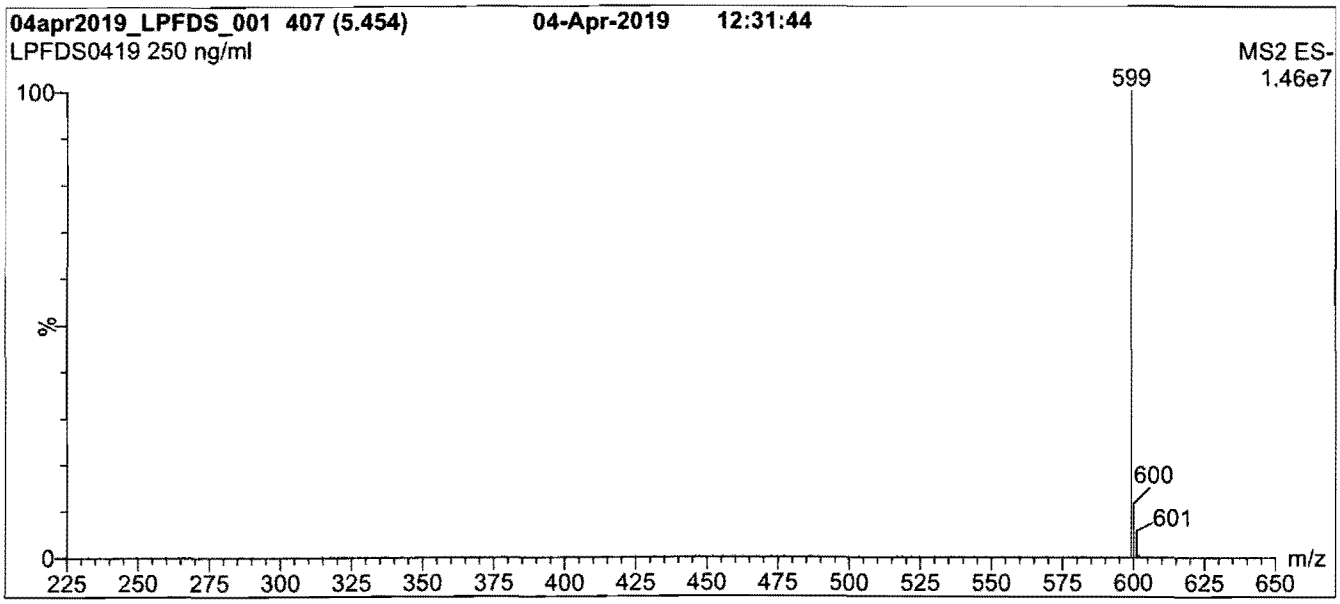
MS Parameters

Collision Gas (mbar) = 2.99e-3
Collision Energy (eV) = 56

19L0652

Figure 1: **L-PFDS; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

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1.7 µm, 2.1 x 100 mm

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Ramp to 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
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Cone Voltage (V) = 10.00
Desolvation Temperature (°C) = 500
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19L0652

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Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters x_1, x_2,...x_n on which it depends is:

$$u_c(y(x_1, x_2, ...x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

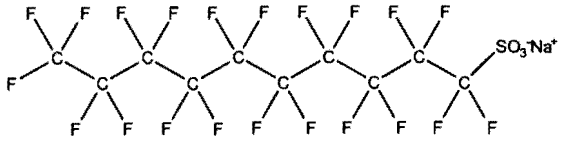
For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

19L0652

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	L-PFDS	**LOT NUMBER:**	LPFDS0419
COMPOUND:	Sodium perfluoro-1-decanesulfonate		
STRUCTURE:		**CAS #:**	2806-15-7



MOLECULAR FORMULA:	$C_{10}F_{21}SO_3Na$	**MOLECULAR WEIGHT:**	622.13
CONCENTRATION:	50.0 ± 2.5 µg/ml (Na salt) 48.2 ± 2.4 µg/ml (PFDS anion)	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	04/04/2019		
EXPIRY DATE: (mm/dd/yyyy)	04/04/2024		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains ~ 0.9% of sodium perfluoro-1-dodecanesulfonate (L-PFDoS).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 04/30/2019 (mm/dd/yyyy)
B.G. Chittim, General Manager

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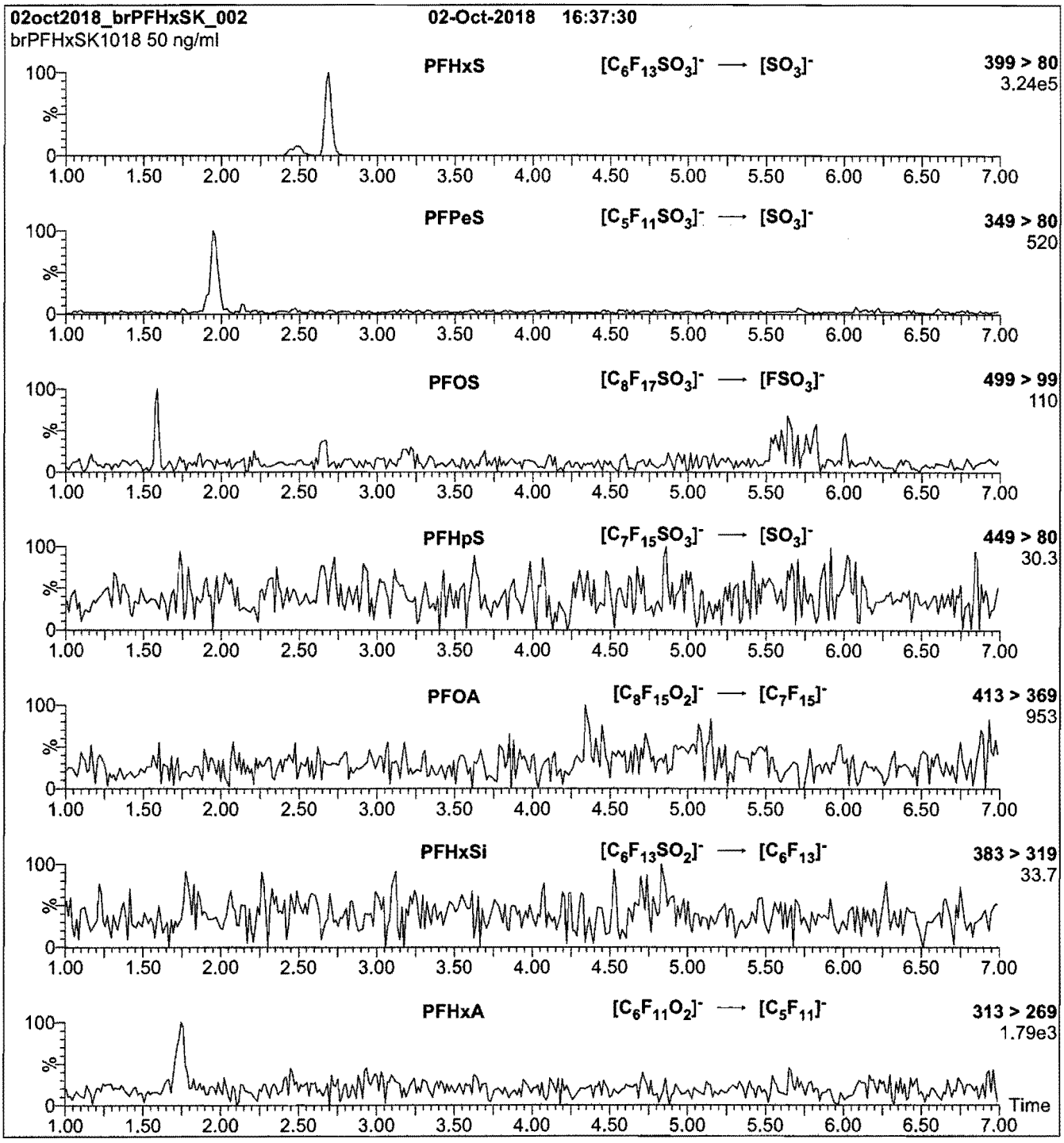
19L0653

Figure 3: **br-PFHxSK; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 3:

Injection: On-column (br-PFHxSK)

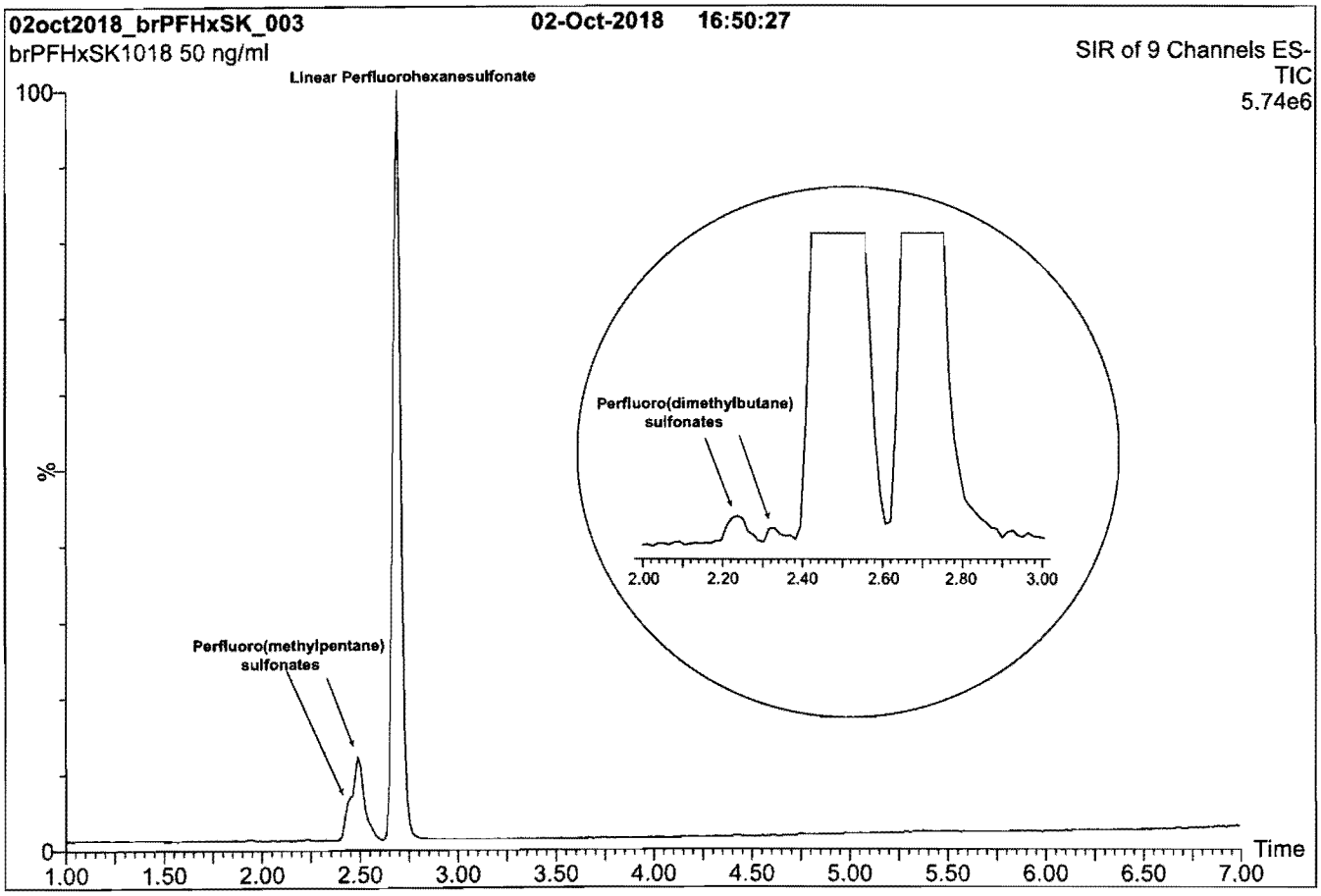
Mobile phase: Same as Figures 1 and 2

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 2.87e-3
Collision Energy (eV) = 42

Figure 2: **br-PFHxSK; LC/MS Data (SIR)**



Conditions for Figure 2:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 8 min. Hold for 2 min
before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

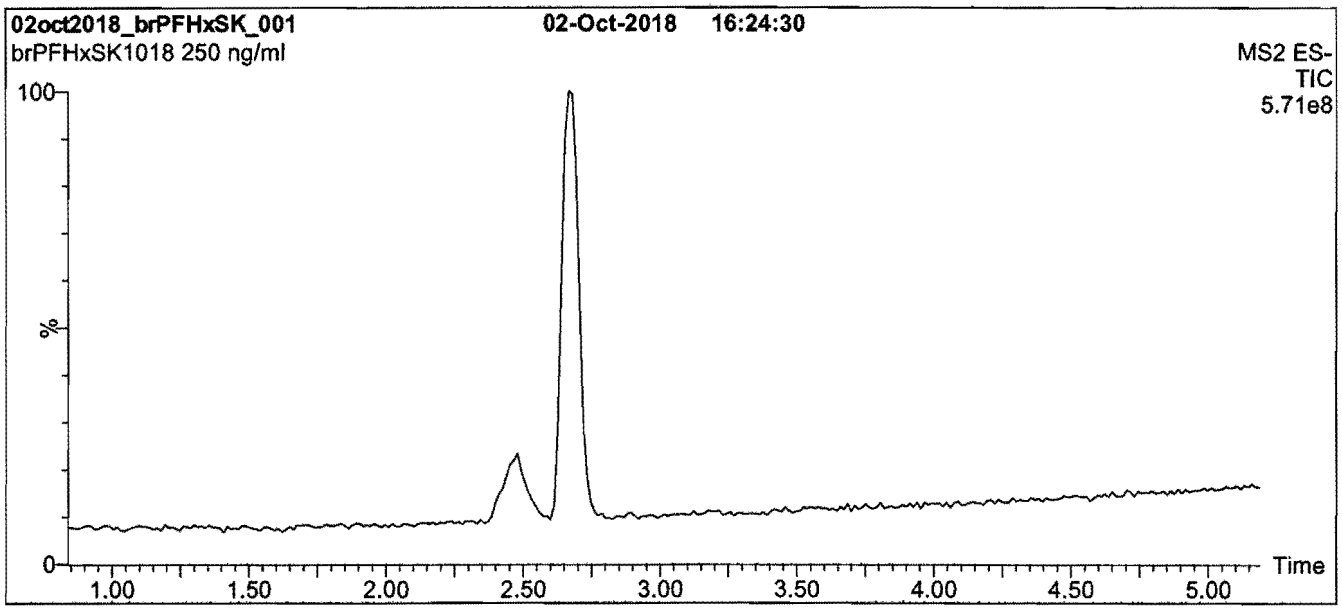
MS Parameters

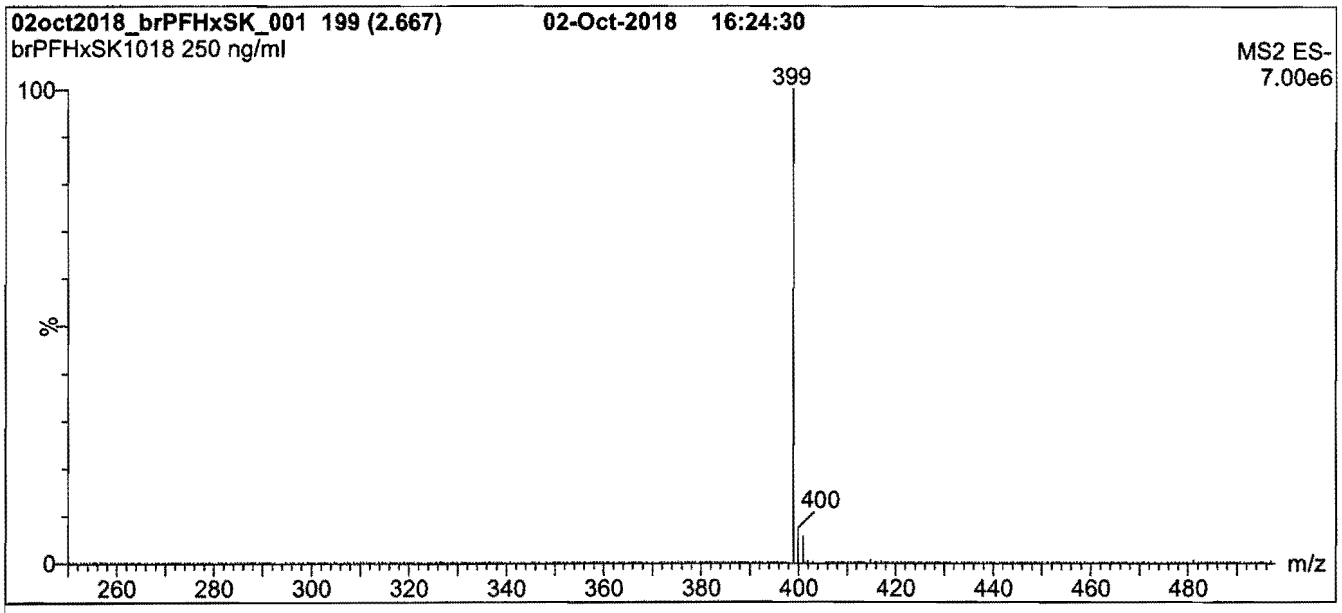
Experiment: SIR (9 channels)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = variable (2 - 6)
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

19L0653

Figure 1: **br-PFHxSK; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 8 min. Hold for 2 min
before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (250 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 10.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

19L0653

Table A: **br-PFHxSK; Isomeric Components and Percent Composition (by ^{19}F-NMR)***

Isomer	Name	Structure	Percent Composition by ^{19}F-NMR
1	Potassium perfluoro-1-hexanesulfonate	$CF_3CF_2CF_2CF_2CF_2CF_2SO_3^-K^+$	81.1
2	Potassium 1-trifluoromethylperfluoropentanesulfonate**	$CF_3CF_2CF_2CF_2CF(CF_3)SO_3^-K^+$	2.9
3	Potassium 2-trifluoromethylperfluoropentanesulfonate	$CF_3CF_2CF_2CF(CF_3)CF_2SO_3^-K^+$	1.4
4	Potassium 3-trifluoromethylperfluoropentanesulfonate	$CF_3CF_2CF(CF_3)CF_2CF_2SO_3^-K^+$	5.0
5	Potassium 4-trifluoromethylperfluoropentanesulfonate	$CF_3CF(CF_3)CF_2CF_2CF_2SO_3^-K^+$	8.9
6	Potassium 3,3-di(trifluoromethyl)perfluorobutanesulfonate	$CF_3C(CF_3)_2CF_2CF_2SO_3^-K^+$	0.2
7	Other Unidentified Isomers		0.5

* Percent of total perfluorohexanesulfonate isomers only.
** Systematic Name: Potassium perfluorohexane-2-sulfonate.

Certified By: _____ **Date:** 10/05/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

19L0653

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compounds it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products, as well as mixtures and calibration solutions, are compared to older lots in a similar manner. This further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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19L0653

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

br-PFHxSK

Potassium Perfluorohexanesulfonate Solution/Mixture of Linear and Branched Isomers

PRODUCT CODE:	br-PFHxSK
LOT NUMBER:	brPFHxSK1018
CONCENTRATION:	50.0 ± 2.5 µg/ml (total potassium salt)
	45.5 ± 2.3 µg/ml (total PFHxS anion)
SOLVENT(S):	Methanol
DATE PREPARED: (mm/dd/yyyy)	10/01/2018
LAST TESTED: (mm/dd/yyyy)	10/02/2018
EXPIRY DATE: (mm/dd/yyyy)	10/02/2023
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place

DESCRIPTION:

The chemical purity has been determined to be ≥98% perfluorohexanesulfonate linear and branched isomers. The full name, structure and percent composition for each of the identified isomeric components are given in Table A.

DOCUMENTATION/ DATA ATTACHED:

Table A: Isomeric Components and Percent Composition by ^{19}F-NMR
Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS Data (SIR)
Figure 3: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains ~ 0.3% of perfluoro-n-hexanoic acid and ~ 0.15% of perfluoro-1-pentanesulfonate.
- CAS#: 3871-99-6 (for linear isomer; potassium salt).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

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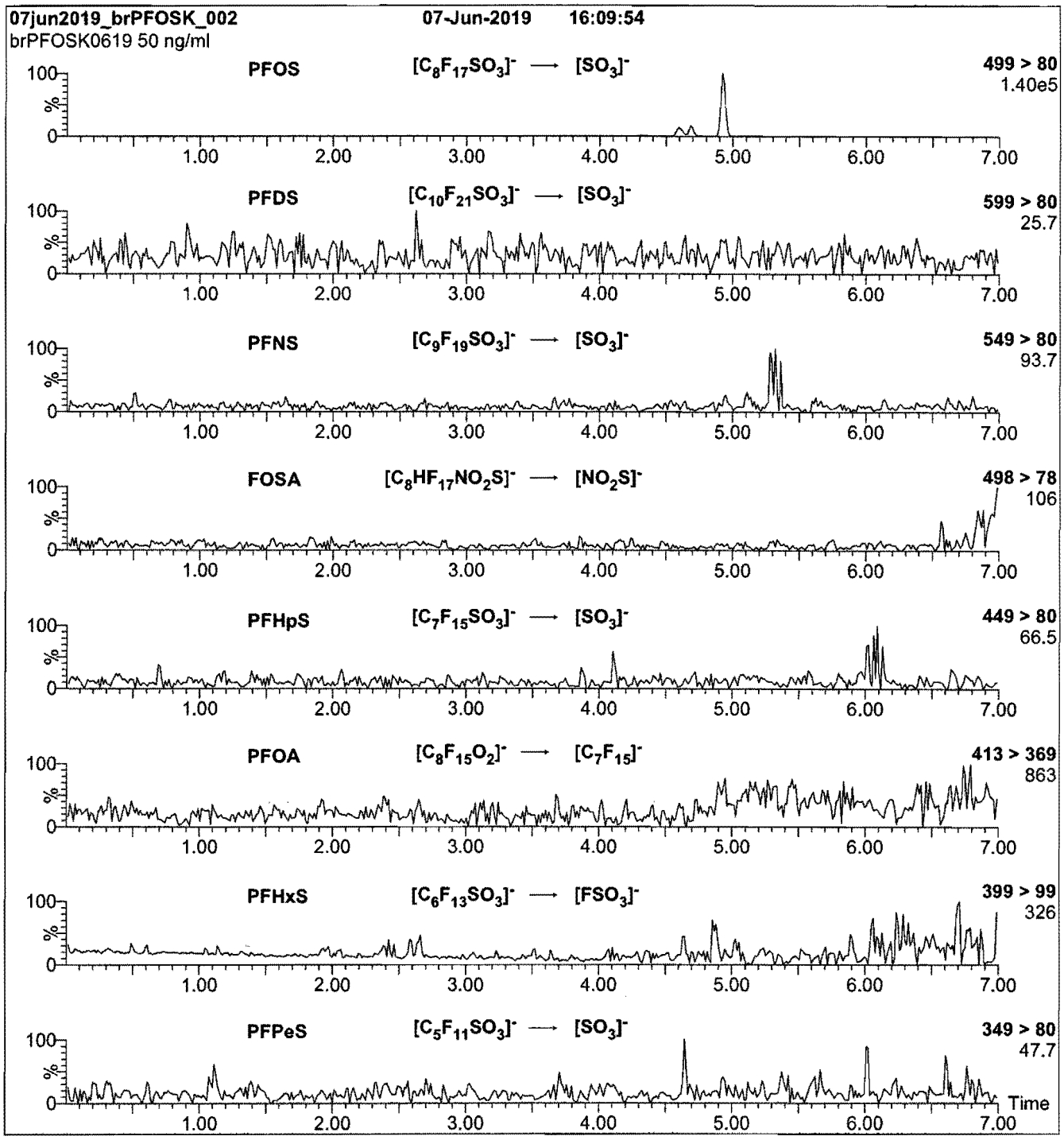
19L0654

Figure 3: **br-PFOSK; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 3:

Injection: On-column (br-PFOSK)

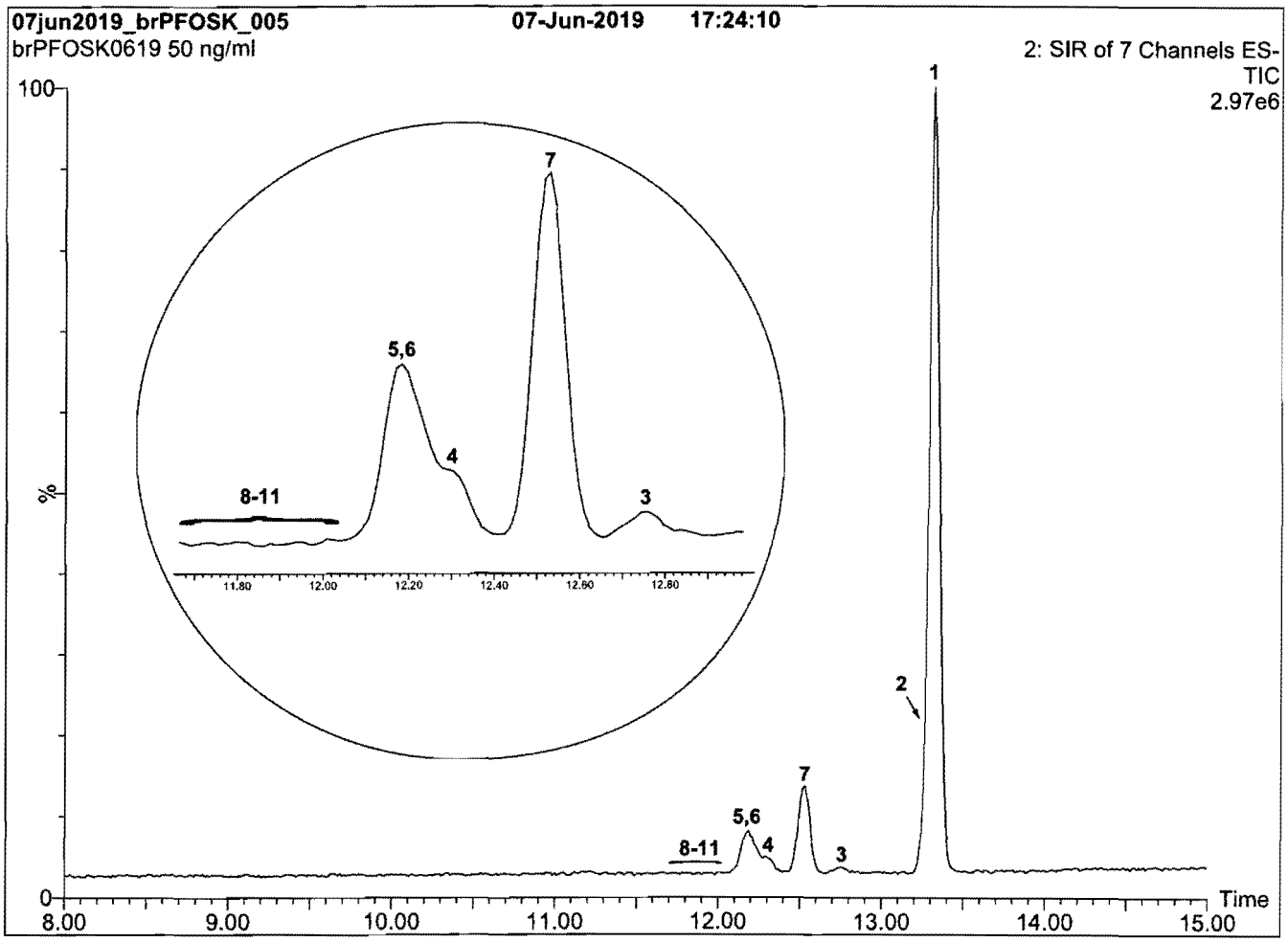
Mobile phase: Same as Figure 2

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 2.97e-3
Collision Energy (eV) = 64

Figure 2: **br-PFOSK; LC/MS Data (SIR)**



Conditions for Figure 2:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions:

Column: Acquity UPLC BEH Shield RP_{18} (1.7 µm, 2.1 x 100 mm)

Injection: 50 ng/ml of br-PFOSK

Mobile Phase: Gradient
50% (80:20 MeOH:ACN) / 50% H_2O (both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 8 min and hold for 2 min.
Return to initial conditions over 0.75 min.
Time: 12 min

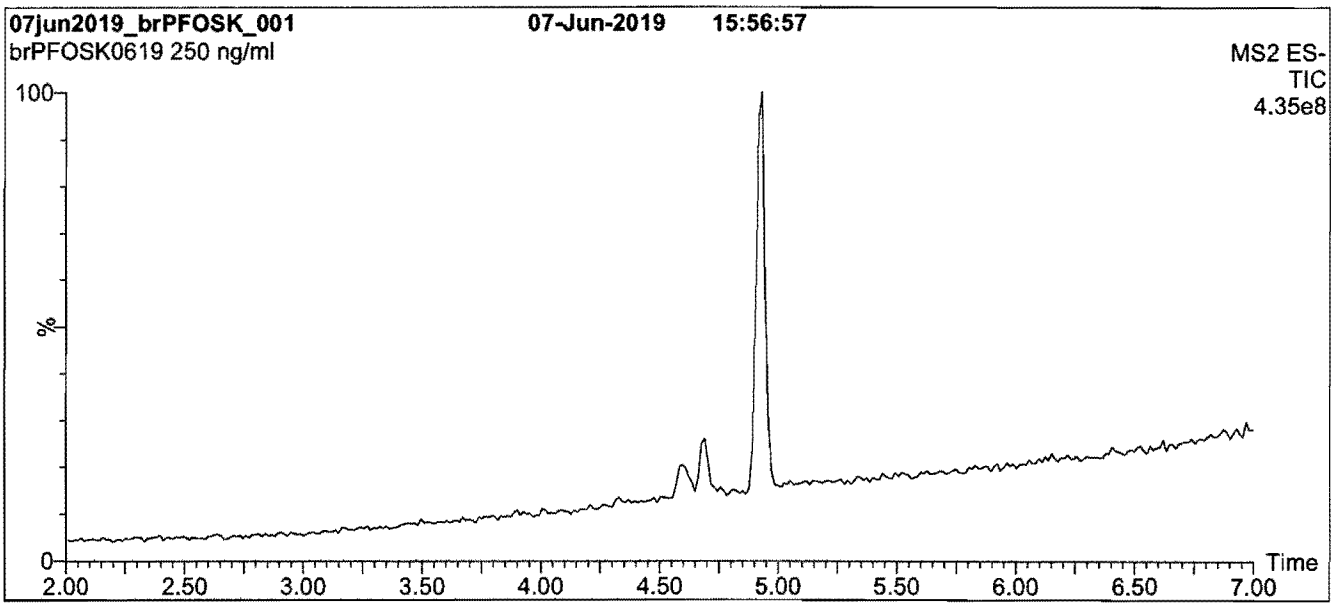
Flow: 300 µl/min

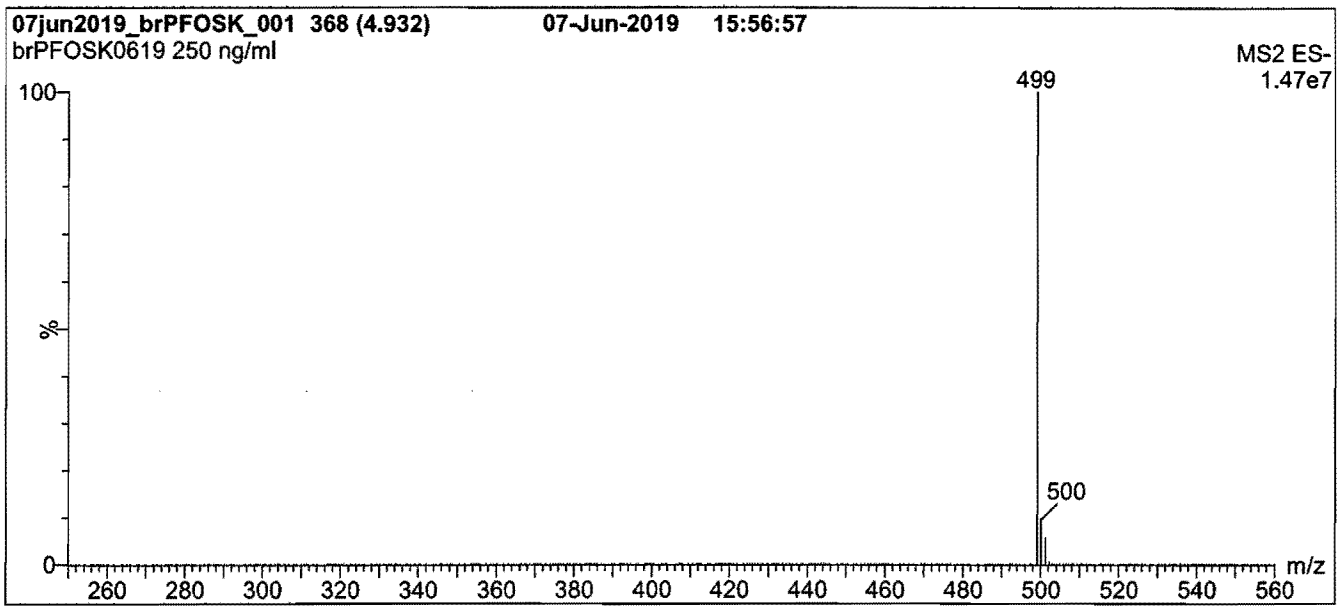
MS Conditions:

SIR (ES^-)
Source = 120 °C
Desolvation = 500 °C
Cone Voltage = 2.00V

1910654

Figure 1: **br-PFOSK; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 8 min and hold for 2 min.
Return to initial conditions over 0.75 min.
Time: 12 min

Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 10.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

19L0654

Table A: **br-PFOSK; Isomeric Components and Percent Composition (by ^{19}F-NMR)***

Isomer	Name	Structure	Percent Composition by ^{19}F-NMR
1	Potassium perfluoro-1-octanesulfonate	$CF_3CF_2CF_2CF_2CF_2CF_2CF_2CF_2SO_3^-K^+$	78.8
2	Potassium 1-trifluoromethylperfluoroheptanesulfonate**	$CF_3CF_2CF_2CF_2CF_2CF_2CF(CF_3)SO_3^-K^+$	1.2
3	Potassium 2-trifluoromethylperfluoroheptanesulfonate	$CF_3CF_2CF_2CF_2CF_2CF(CF_3)CF_2SO_3^-K^+$	0.6
4	Potassium 3-trifluoromethylperfluoroheptanesulfonate	$CF_3CF_2CF_2CF_2CF(CF_3)CF_2CF_2SO_3^-K^+$	1.9
5	Potassium 4-trifluoromethylperfluoroheptanesulfonate	$CF_3CF_2CF_2CF(CF_3)CF_2CF_2CF_2SO_3^-K^+$	2.2
6	Potassium 5-trifluoromethylperfluoroheptanesulfonate	$CF_3CF_2CF(CF_3)CF_2CF_2CF_2CF_2SO_3^-K^+$	4.5
7	Potassium 6-trifluoromethylperfluoroheptanesulfonate	$CF_3CF(CF_3)CF_2CF_2CF_2CF_2CF_2SO_3^-K^+$	10.0
8	Potassium 5,5-di(trifluoromethyl)perfluorohexanesulfonate	$CF_3C(CF_3)CF_2CF_2CF_2CF_2SO_3^-K^+$	0.2
9	Potassium 4,4-di(trifluoromethyl)perfluorohexanesulfonate	$CF_3CF_2C(CF_3)CF_2CF_2CF_2SO_3^-K^+$	0.03
10	Potassium 4,5-di(trifluoromethyl)perfluorohexanesulfonate	$CF_3CF(CF_3)CF_2CF_2CF_2CF_2SO_3^-K^+$	0.4
11	Potassium 3,5-di(trifluoromethyl)perfluorohexanesulfonate	$CF_3CF(CF_3)CF_2CF(CF_3)CF_2CF_2SO_3^-K^+$	0.07

* Percent of total perfluorooctanesulfonate isomers only. Isomers are labelled in Figure 2.
** Systematic Name: Potassium perfluorooctane-2-sulfonate.

Certified By: _____ **Date:** 06/17/2019 (mm/dd/yyyy)

B.G. Chittim, General Manager

19L0654

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compounds it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products, as well as mixtures and calibration solutions, are compared to older lots in a similar manner. This further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters x_1, x_2,...x_n on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A1226

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

br-PFOSK

Potassium Perfluorooctanesulfonate Solution/Mixture of Linear and Branched Isomers

PRODUCT CODE:	br-PFOSK
LOT NUMBER:	brPFOSK0619
CONCENTRATION:	50 ± 2.5 µg/ml (total potassium salt)
	46.4 ± 2.3 µg/ml (total PFOS anion)
SOLVENT(S):	Methanol
DATE PREPARED: (mm/dd/yyyy)	06/03/2019
LAST TESTED: (mm/dd/yyyy)	06/07/2019
EXPIRY DATE: (mm/dd/yyyy)	06/07/2024
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place

DESCRIPTION:

The chemical purity has been determined to be ≥98% perfluorooctanesulfonate linear and branched isomers. The full name, structure and percent composition for each of the isomeric components are given in Table A.

DOCUMENTATION/ DATA ATTACHED:

Table A: Isomeric Components and Percent Composition by ^{19}F-NMR
Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS Data (SIR)
Figure 3: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- A 5-point calibration curve was generated using linear PFOS (potassium salt) and mass-labelled PFOS as an internal standard to enable quantitation of br-PFOSK using isotopic dilution.
- CAS#: 2795-39-3 (for linear isomer; potassium salt).

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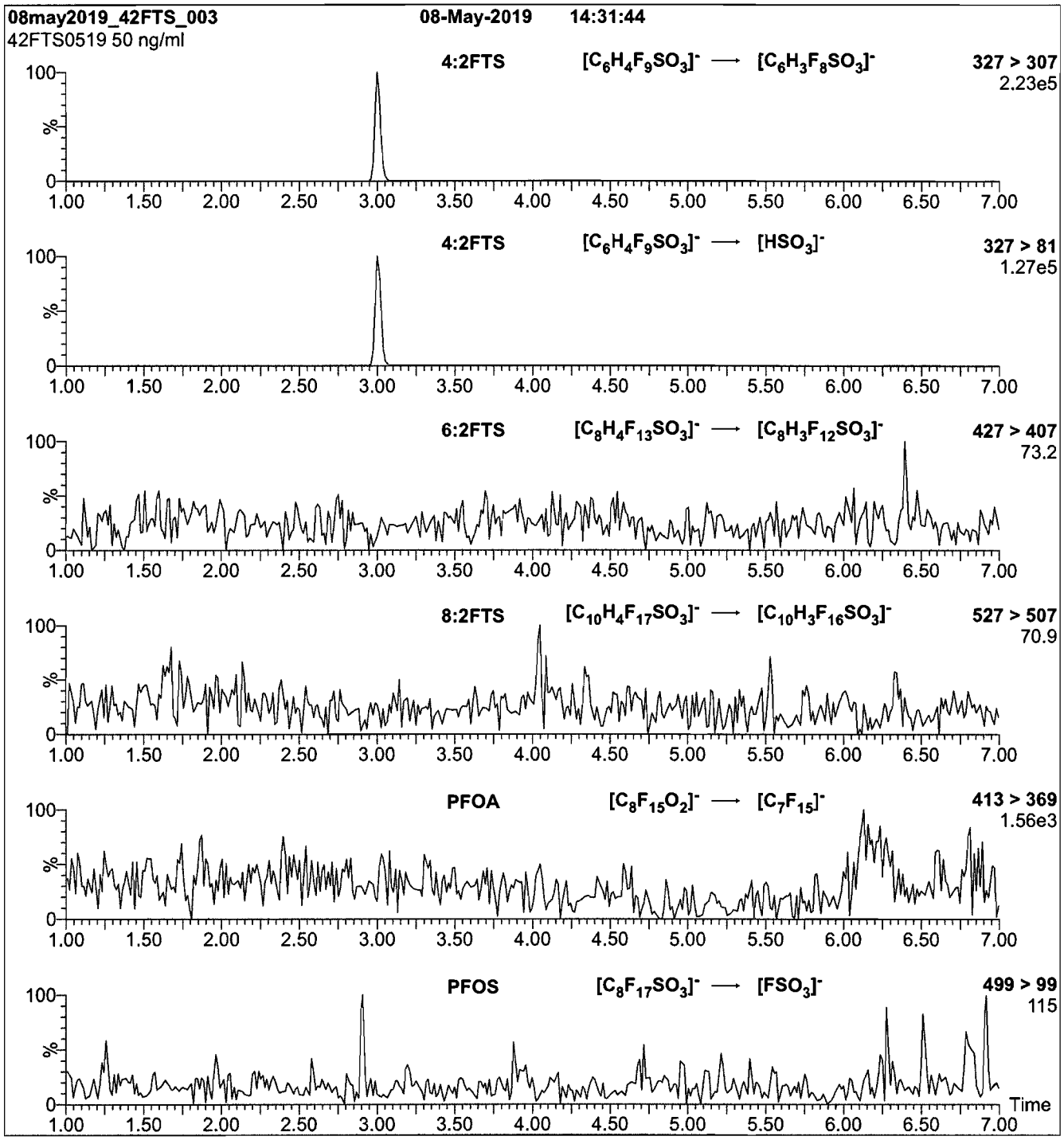
Figure 2: **4:2FTS; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (4:2FTS)

Mobile phase: Same as Figure 1

Flow: 300 µl/min

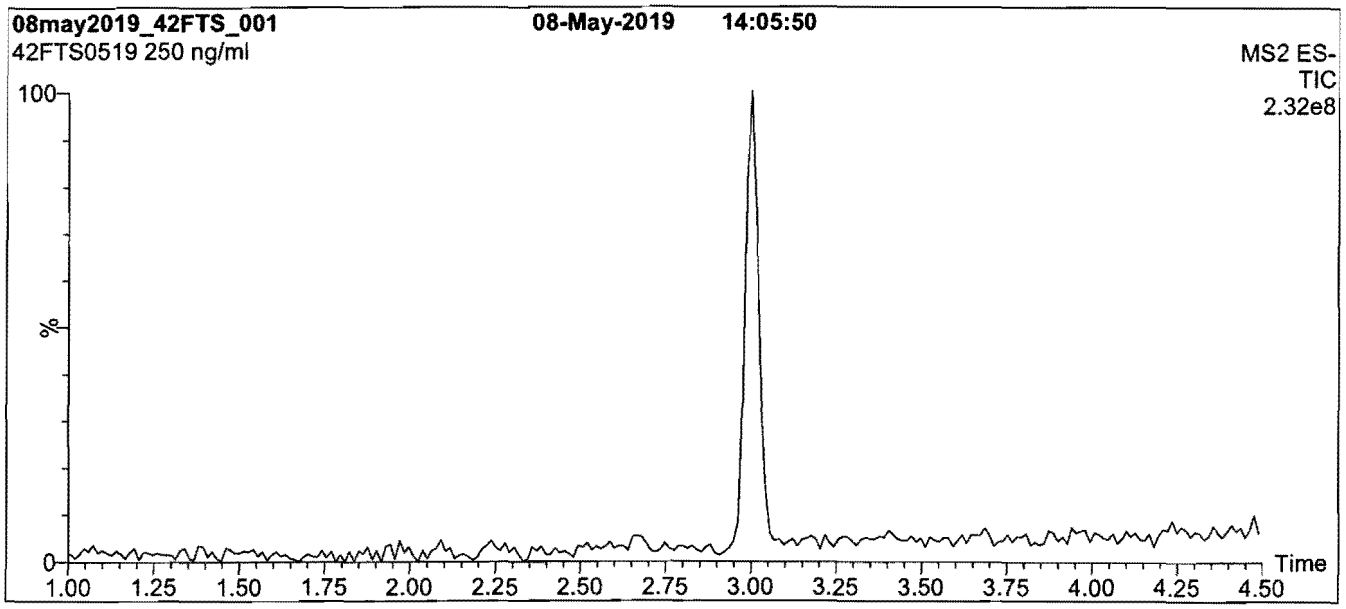
MS Parameters

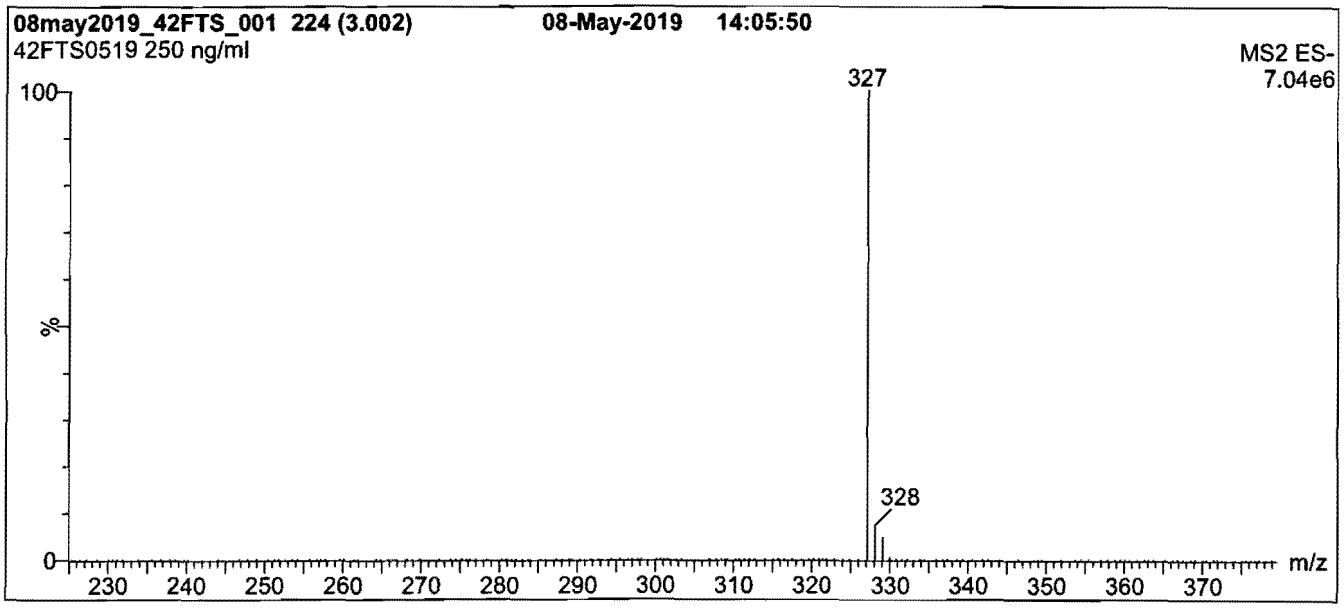
Collision Gas (mbar) = 3.07e-3

Collision Energy (eV) = 18

19L0655

Figure 1: 4:2FTS; LC/MS Data (TIC and Mass Spectrum)





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 40% (80:20 MeOH:ACN) / 60% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 8 min and hold for 2 min
before returning to initial conditions in 0.75 min.
Time: 11 min

Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 0.50
Cone Voltage (V) = 25.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

19L0655

INTENDED USE:

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HANDLING:

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HOMOGENEITY:

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UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

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All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

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LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A1226

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

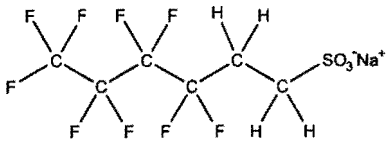
For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

19L0655

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	4:2FTS	**LOT NUMBER:**	42FTS0519
COMPOUND:	Sodium 1H,1H,2H,2H-perfluorohexane sulfonate		
STRUCTURE:		**CAS #:**	27619-93-8



MOLECULAR FORMULA:	$C_6H_4F_9SO_3Na$	**MOLECULAR WEIGHT:**	350.13
CONCENTRATION:	50.0 ± 2.5 µg/ml (Na salt)	**SOLVENT(S):**	Methanol
	46.7 ± 2.3 µg/ml (4:2FTS anion)		
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	05/08/2019		
EXPIRY DATE: (mm/dd/yyyy)	05/08/2024		
RECOMMENDED STORAGE:	Refrigerate ampoule		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 05/09/2019 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
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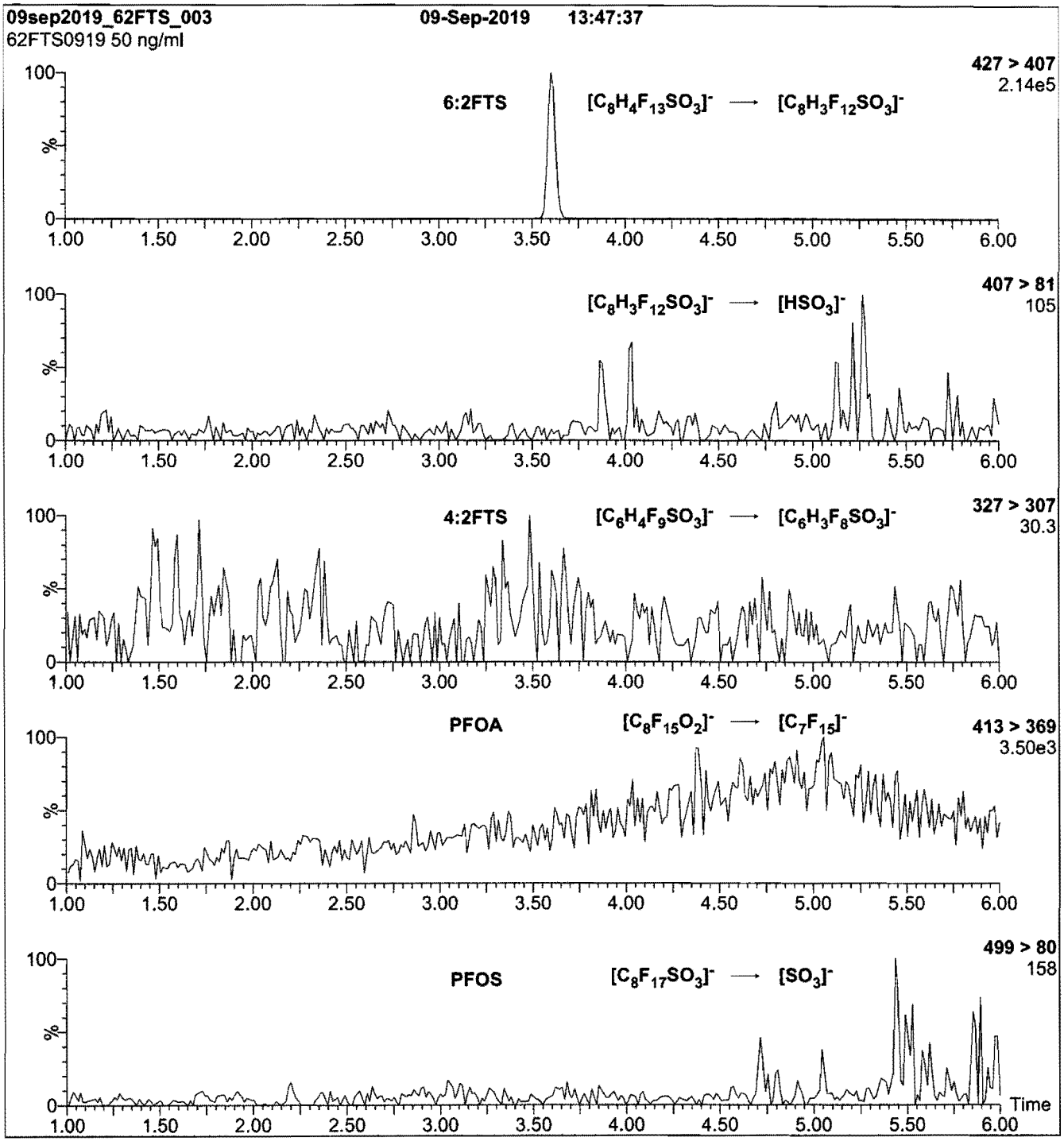
19L0656

Figure 2: **6:2FTS; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (6:2FTS)

Mobile phase: Same as Figure 1

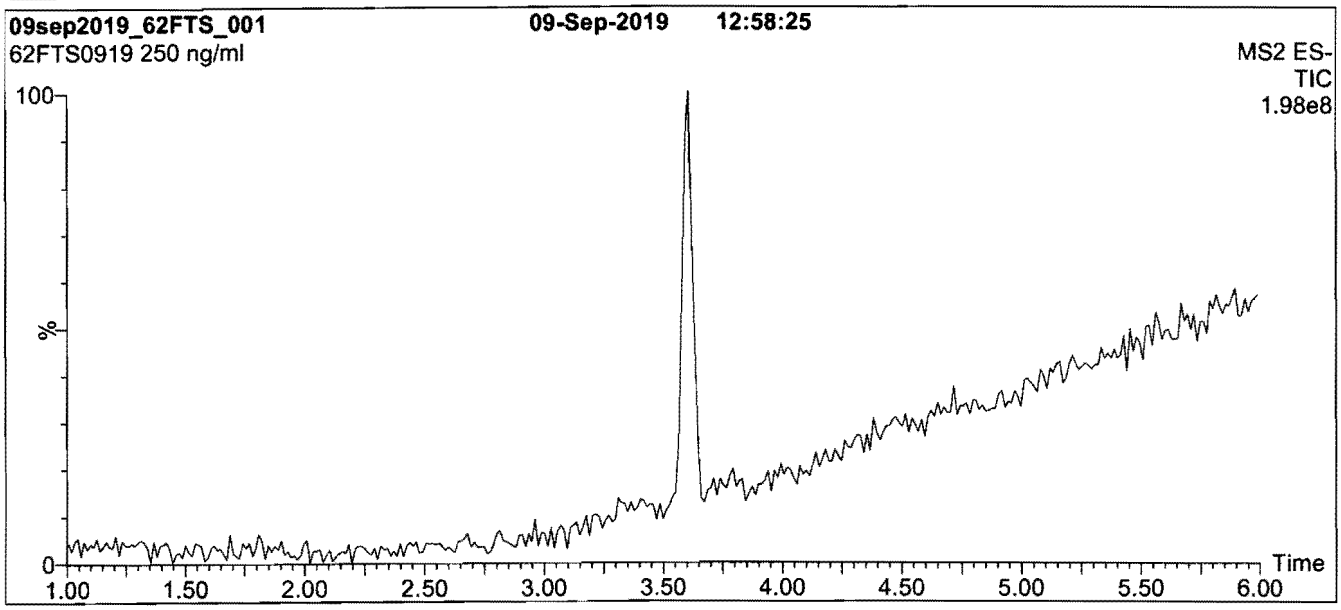
Flow: 300 µl/min

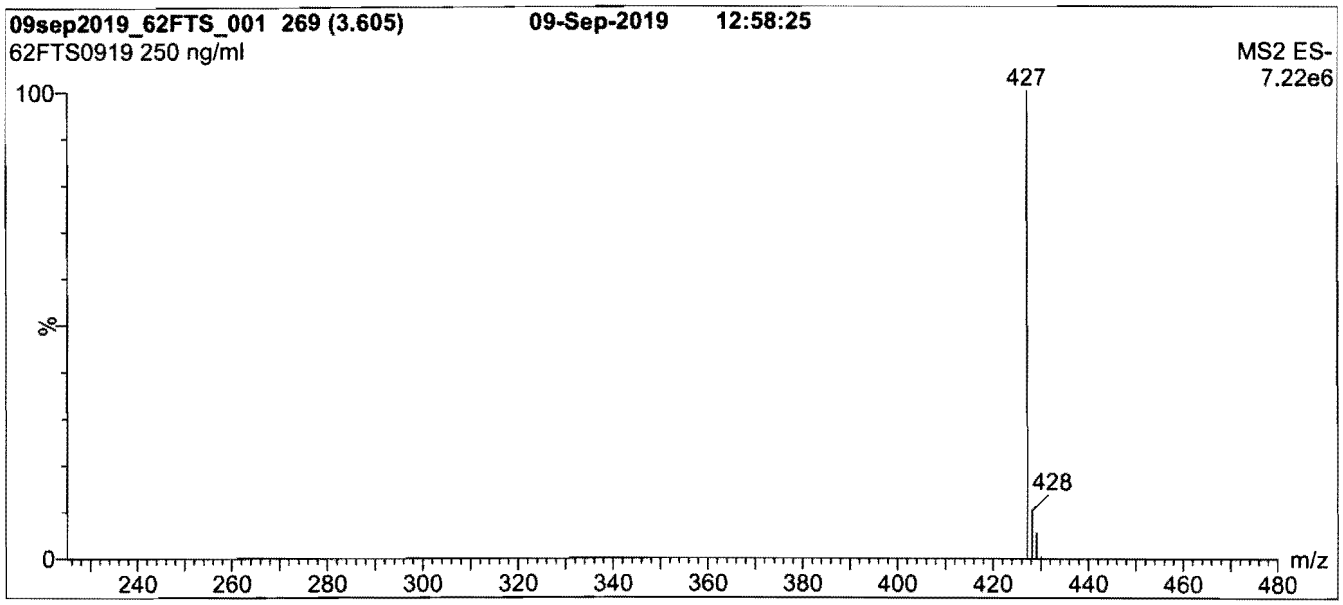
MS Parameters

Collision Gas (mbar) = 3.61e-3
Collision Energy (eV) = 20

19L0656

Figure 1: **6:2FTS; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 0.50
Cone Voltage (V) = 25.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

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where x is expressed as a relative standard uncertainty of the individual parameter.

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CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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19L0656

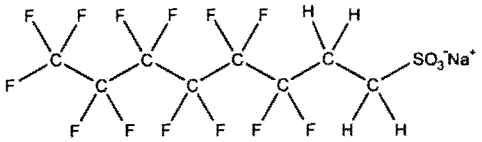
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: 6:2FTS **LOT NUMBER:** 62FTS0919

COMPOUND: Sodium 1H,1H,2H,2H-perfluorooctane sulfonate

STRUCTURE: **CAS #:** 27619-94-9



MOLECULAR FORMULA:	$C_8H_4F_{13}SO_3Na$	**MOLECULAR WEIGHT:**	450.15
CONCENTRATION:	50.0 ± 2.5 µg/ml (Na salt)	**SOLVENT(S):**	Methanol
	47.4 ± 2.4 µg/ml (6:2FTS anion)		
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	09/09/2019		
EXPIRY DATE: (mm/dd/yyyy)	09/09/2024		
RECOMMENDED STORAGE:	Refrigerate ampoule		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 09/09/2019 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
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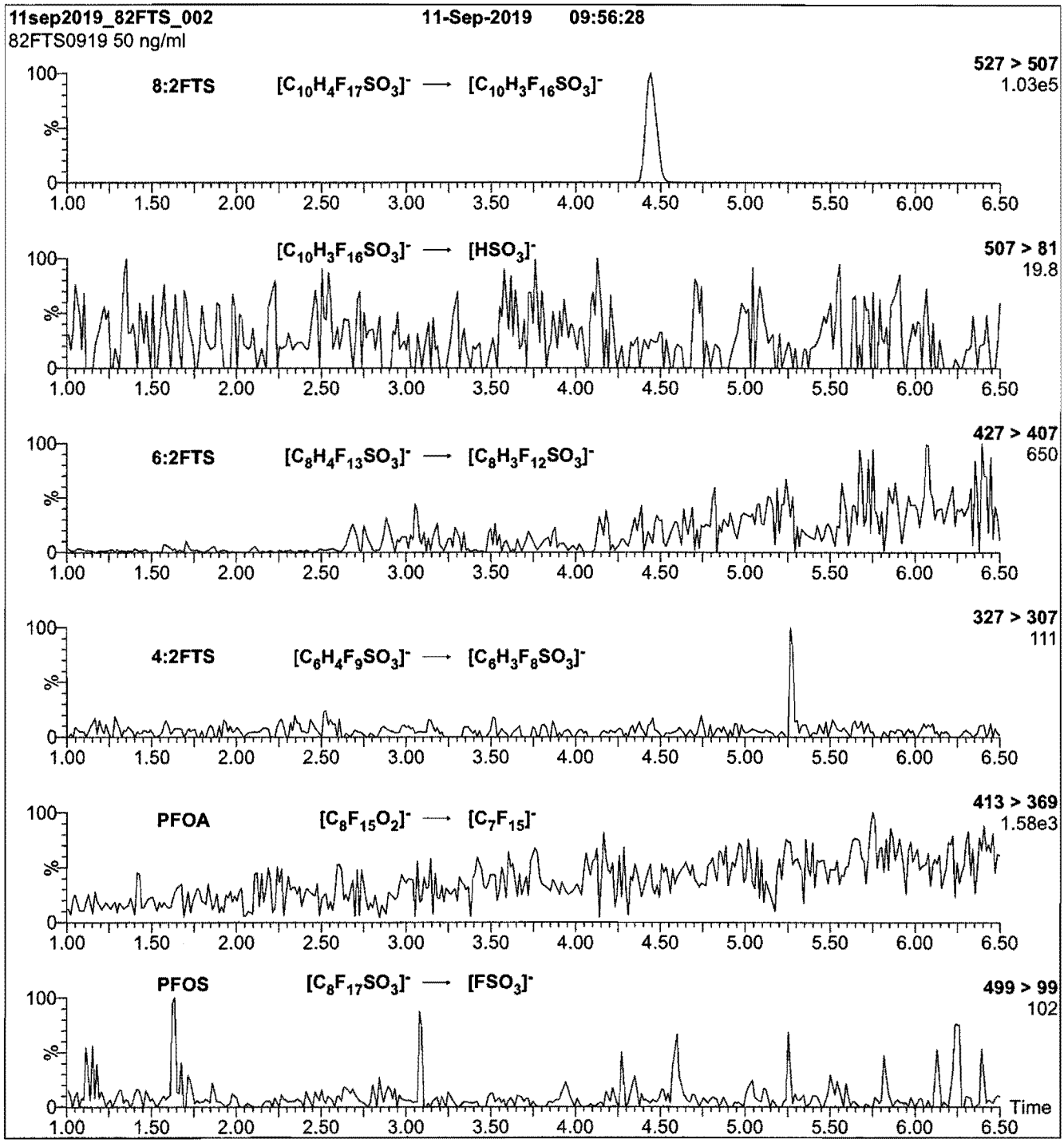
Figure 2: **8:2FTS; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (8:2FTS)

Mobile phase: Same as Figure 1

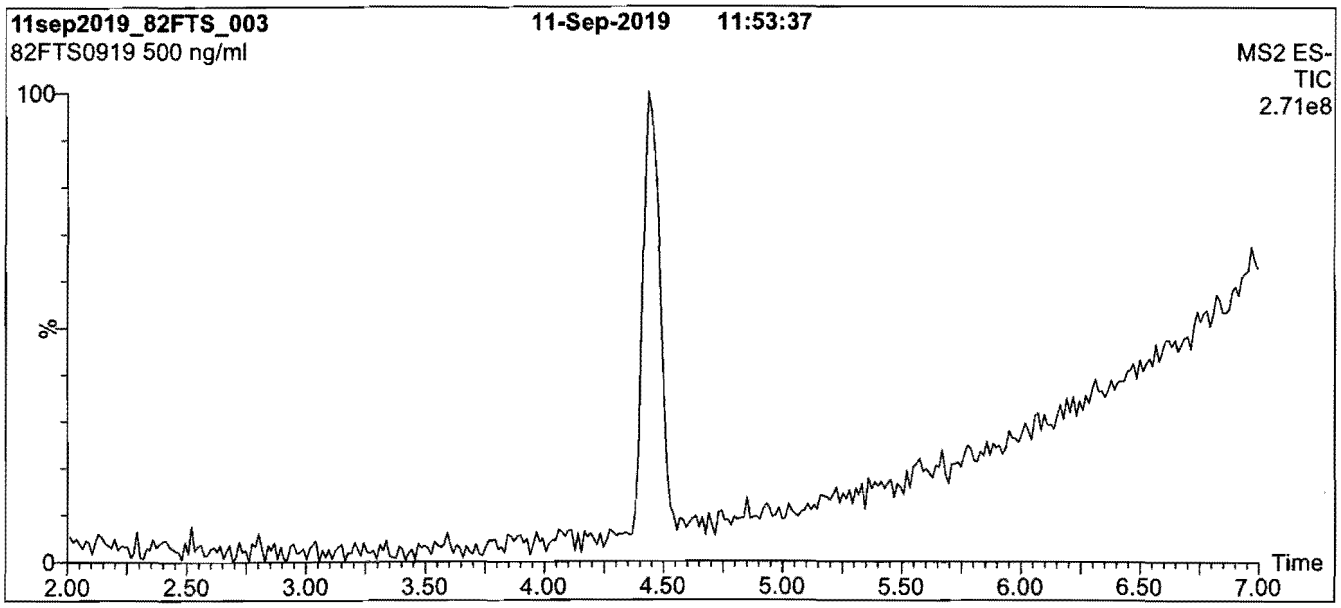
Flow: 300 µl/min

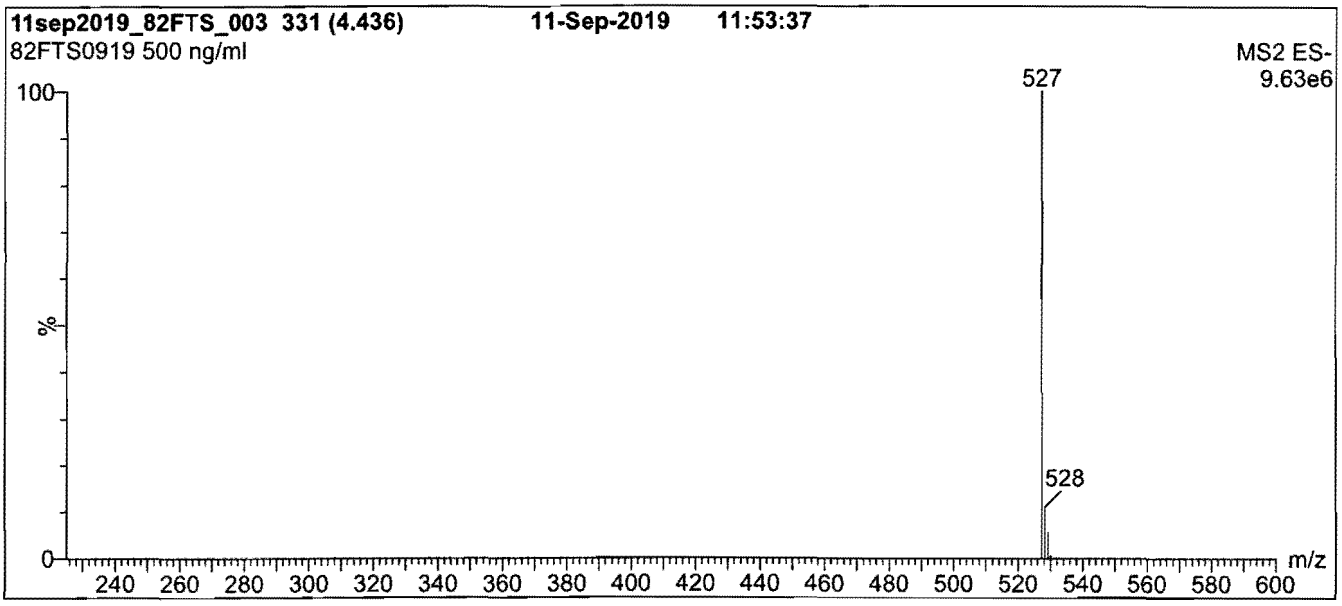
MS Parameters

Collision Gas (mbar) = 3.49e-3
Collision Energy (eV) = 26

19L0657

Figure 1: **8:2FTS; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

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1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 60% (80:20 MeOH:ACN) / 40% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for 3 min
before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 0.50
Cone Voltage (V) = 25.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

19L0657

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CALA Testing Accreditation No. A1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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19L0657

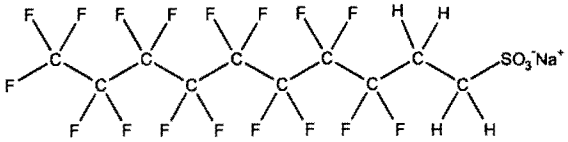
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: 8:2FTS **LOT NUMBER:** 82FTS0919

COMPOUND: Sodium 1H,1H,2H,2H-perfluorodecane sulfonate

STRUCTURE: **CAS #:** 27619-96-1



MOLECULAR FORMULA:	$C_{10}H_4F_{17}SO_3Na$	**MOLECULAR WEIGHT:**	550.16
CONCENTRATION:	50.0 ± 2.5 µg/ml (Na salt)	**SOLVENT(S):**	Methanol
	47.9 ± 2.4 µg/ml (8:2FTS anion)		
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	09/11/2019		
EXPIRY DATE: (mm/dd/yyyy)	09/11/2024		
RECOMMENDED STORAGE:	Refrigerate ampoule		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 09/11/2019 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
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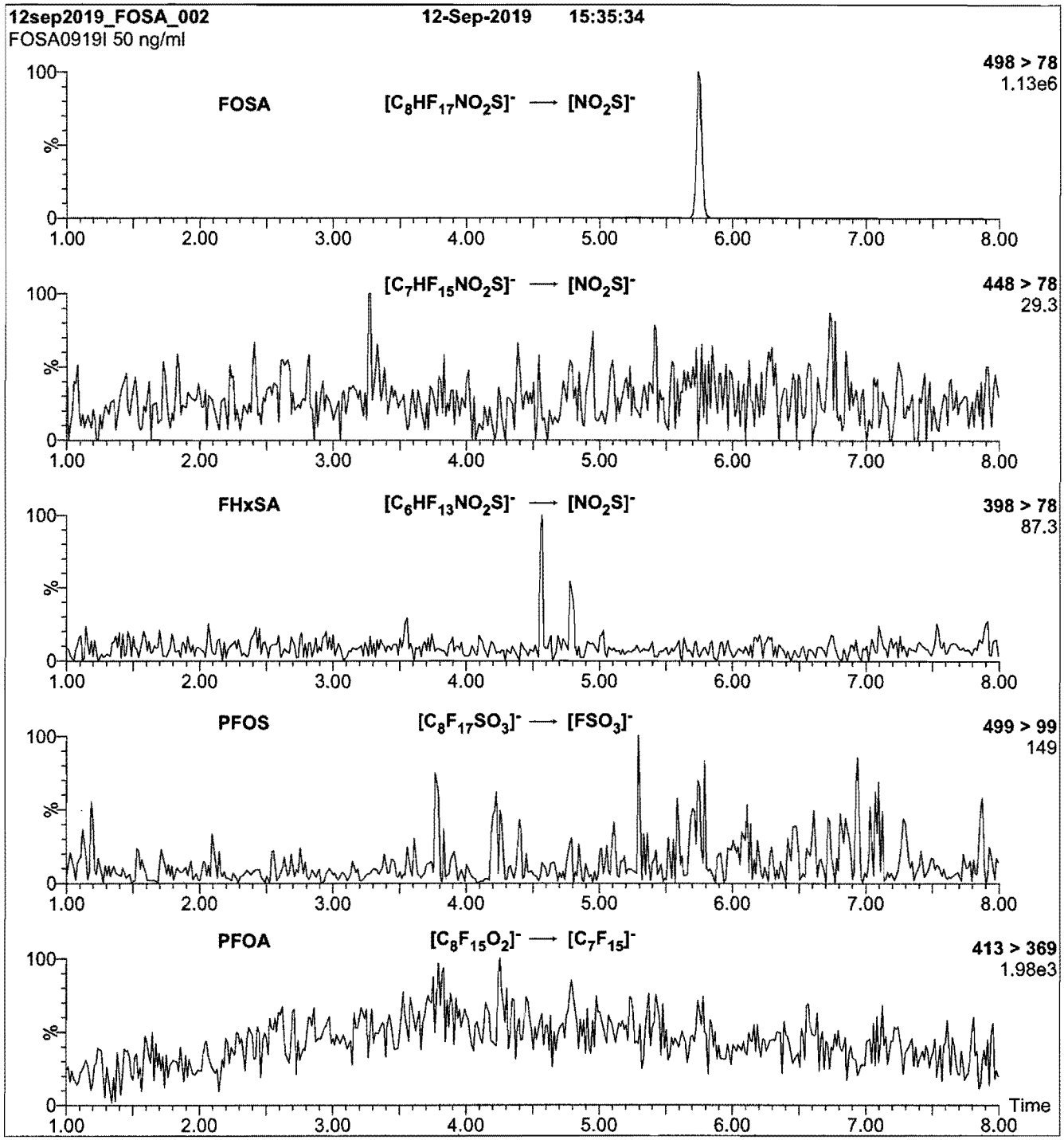
19L0658

Figure 2: **FOSA-I; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (FOSA-I)

Mobile phase: Same as Figure 1

Flow: 300 µl/min

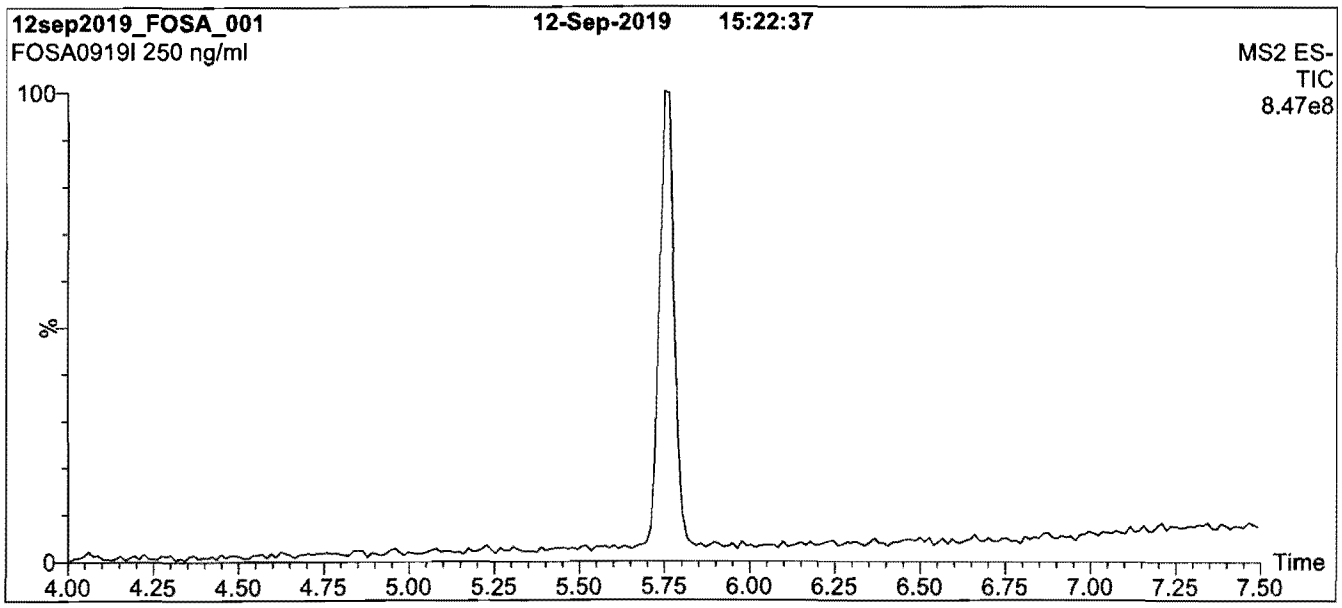
MS Parameters

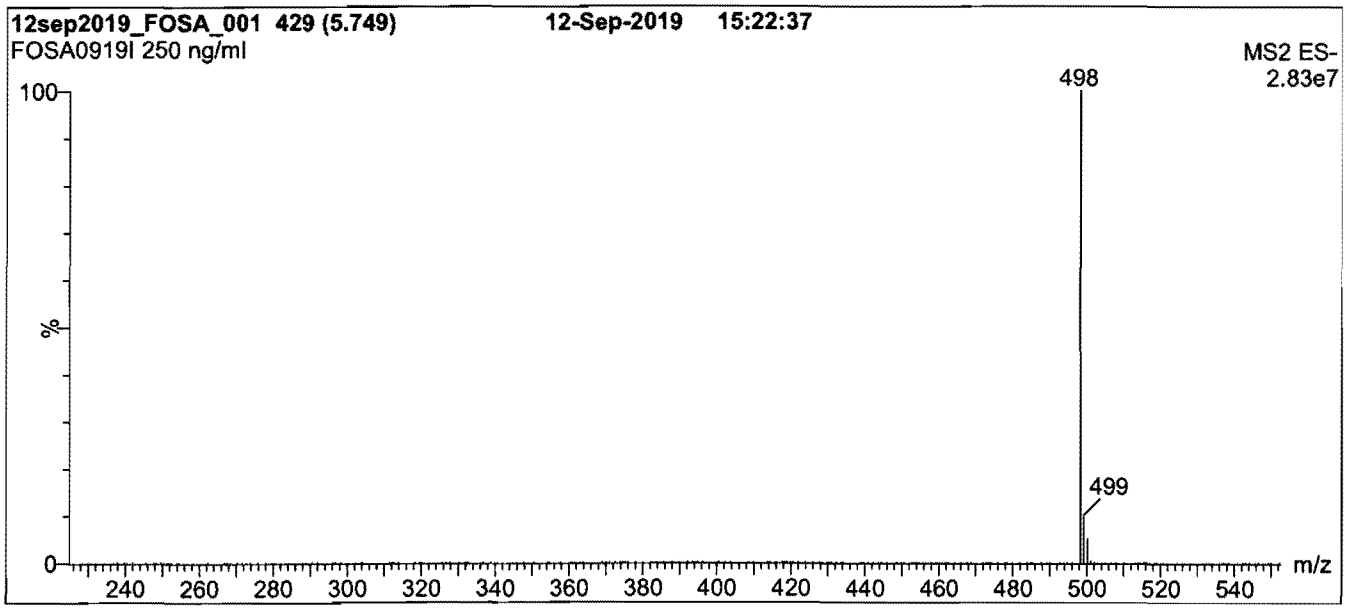
Collision Gas (mbar) = 3.57e-3

Collision Energy (eV) = 30

19L0658

Figure 1: **FOSA-I; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 60% (80:20 MeOH:ACN) / 40% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for 3 min
before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 0.50
Cone Voltage (V) = 20.00
Desolvation Temperature (°C) = 500
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HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

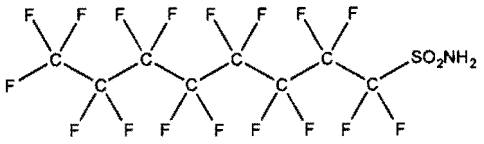
19L0658

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: FOSA-I
COMPOUND: Perfluoro-1-octanesulfonamide
LOT NUMBER: FOSA0919I

STRUCTURE:
CAS #: 754-91-6



MOLECULAR FORMULA:	$C_8H_2F_{17}NO_2S$	**MOLECULAR WEIGHT:**	499.14
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Isopropanol
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	09/12/2019		
EXPIRY DATE: (mm/dd/yyyy)	09/12/2024		
RECOMMENDED STORAGE:	Refrigerate ampoule		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

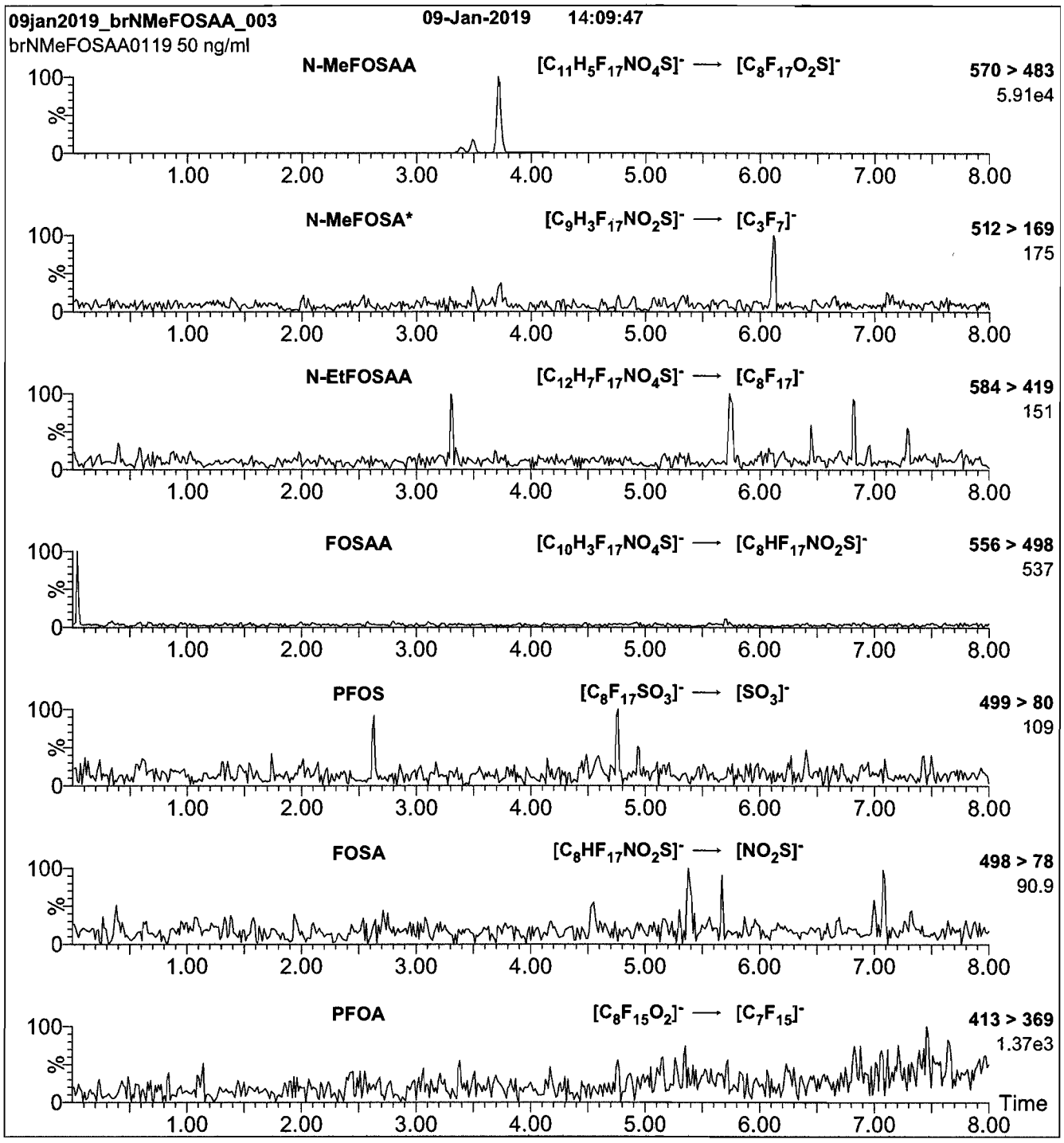
- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 09/13/2019 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Figure 3: **br-NMeFOSAA; LC/MS/MS Data (Selected MRM Transitions)**



*Note: N-MeFOSA is formed by in-source fragmentation.

Conditions for Figure 3:

Injection: On-column (br-NMeFOSAA)

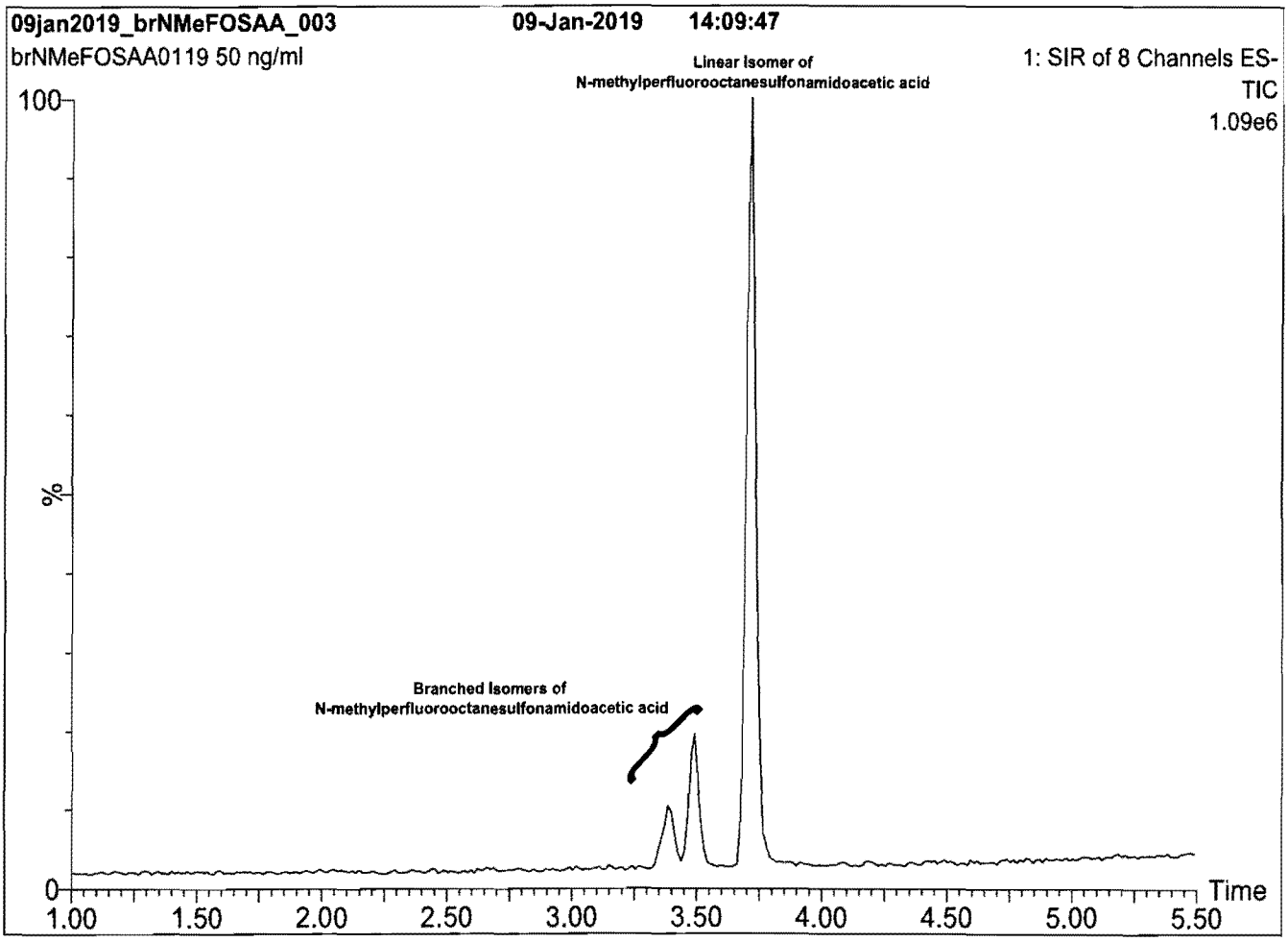
Mobile phase: Same as Figure 1

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 2.79e-3
Collision Energy (eV) = 16

Figure 2: **br-NMeFOSAA; LC/MS Data (SIR)**



Conditions for Figure 2:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 60% (80:20 MeOH:ACN) / 40% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for
3 min before returning to initial conditions in 0.75 min.
Time: 12 min

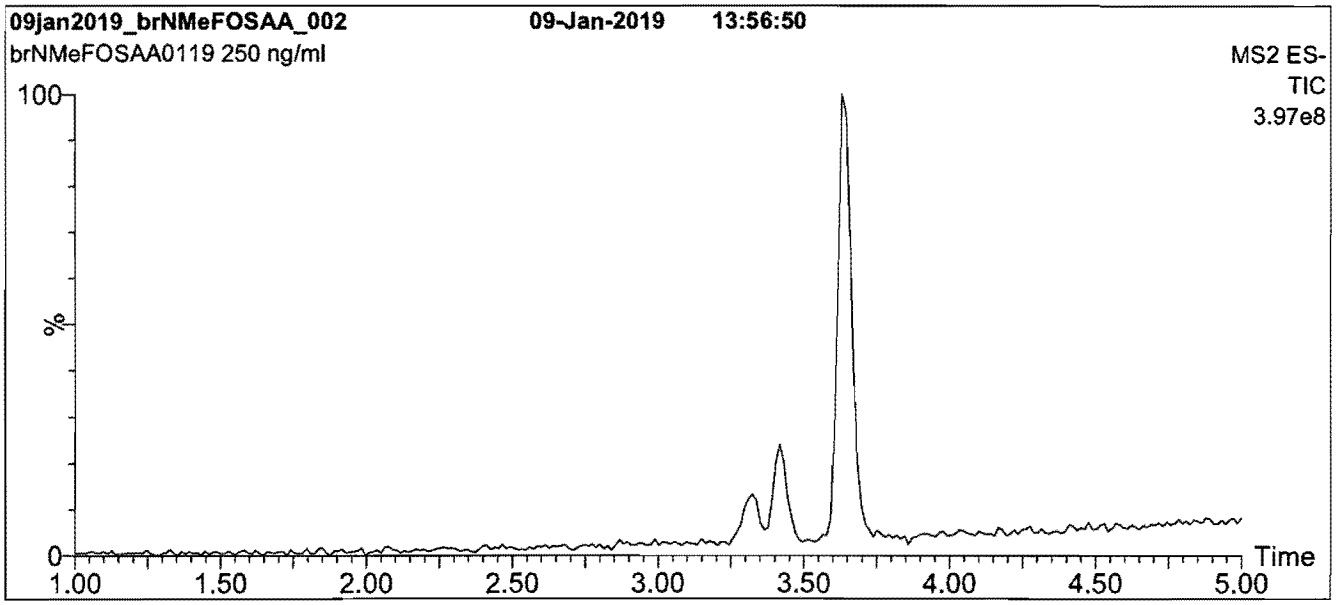
Flow: 300 µl/min

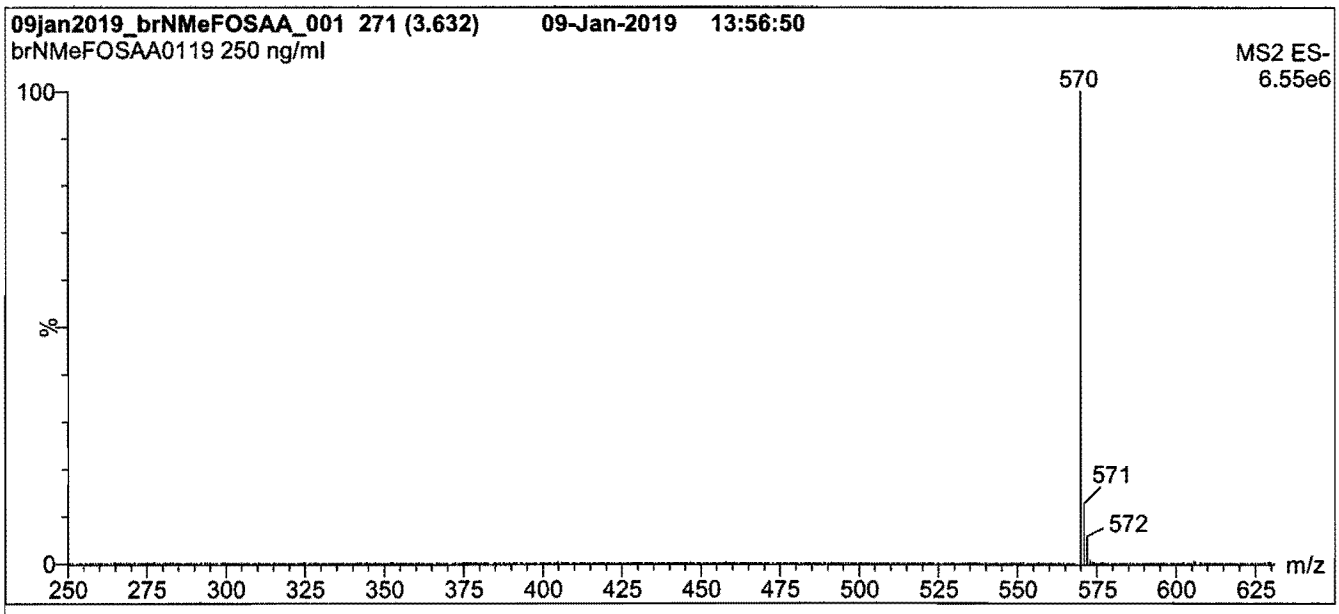
MS Parameters

Experiment: SIR (8 channels)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 2-64
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

Figure 1: **br-NMeFOSAA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
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Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
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Mobile phase: Gradient
Start: 60% (80:20 MeOH:ACN) / 40% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for
3 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (250 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 20.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

Table A: **br-NMeFOSAA; Isomeric Components and Percent Composition (by ^{19}F-NMR)***

Isomer	Name	Structure	Percent Composition by ^{19}F-NMR
1	N-methylperfluoro-1-octanesulfonamidoacetic acid	$CF_3(CF_2)_7SO_2N(CH_3)CH_2CO_2H$	76.0
2	N-methylperfluoro-3-methylheptanesulfonamidoacetic acid	$CF_3(CF_2)_3CF(CF_3)(CF_2)_2SO_2N(CH_3)CH_2CO_2H$	0.7
3	N-methylperfluoro-4-methylheptanesulfonamidoacetic acid	$CF_3(CF_2)_2CF(CF_3)(CF_2)_3SO_2N(CH_3)CH_2CO_2H$	2.0
4	N-methylperfluoro-5-methylheptanesulfonamidoacetic acid	$CF_3CF_2CF(CF_3)(CF_2)_4SO_2N(CH_3)CH_2CO_2H$	6.0
5	N-methylperfluoro-6-methylheptanesulfonamidoacetic acid	$CF_3CF(CF_3)(CF_2)_5SO_2N(CH_3)CH_2CO_2H$	14.0
6	N-methylperfluoro-5,5-dimethylhexanesulfonamidoacetic acid	$CF_3C(CF_3)_2(CF_2)_4SO_2N(CH_3)CH_2CO_2H$	0.2
7	Other Unidentified Isomers		1.1

* Percent of total N-methylperfluorooctanesulfonamidoacetic acid isomers only.

Certified By: _____ **Date:** 01/16/2019 (mm/dd/yyyy)

B.G. Chittim, General Manager

19L0659

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compounds it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products, as well as mixtures and calibration solutions, are compared to older lots in a similar manner. This further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters x_1, x_2,...x_n on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A 1226

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

19L0659

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

br-NMeFOSAA

N-Methylperfluorooctanesulfonamidoacetic Acid Solution/Mixture of Linear and Branched Isomers

PRODUCT CODE:	br-NMeFOSAA
LOT NUMBER:	brNMeFOSAA0119
CONCENTRATION:	50.0 ± 2.5 µg/ml
SOLVENT(S):	Methanol/Water (<1%)
DATE PREPARED: (mm/dd/yyyy)	01/02/2019
LAST TESTED: (mm/dd/yyyy)	01/09/2019
EXPIRY DATE: (mm/dd/yyyy)	01/09/2024
RECOMMENDED STORAGE:	Refrigerate ampoule

DESCRIPTION:

The chemical purity has been determined to be ≥98% N-methylperfluorooctanesulfonamidoacetic acid (linear and branched isomers). The full name, structure and percent composition for each of the identified isomeric components are given in Table A.

DOCUMENTATION/ DATA ATTACHED:

Table A: Isomeric Components and Percent Composition by ^{19}F-NMR
Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS Data (SIR)
Figure 3: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the acetic acid moiety to its respective methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

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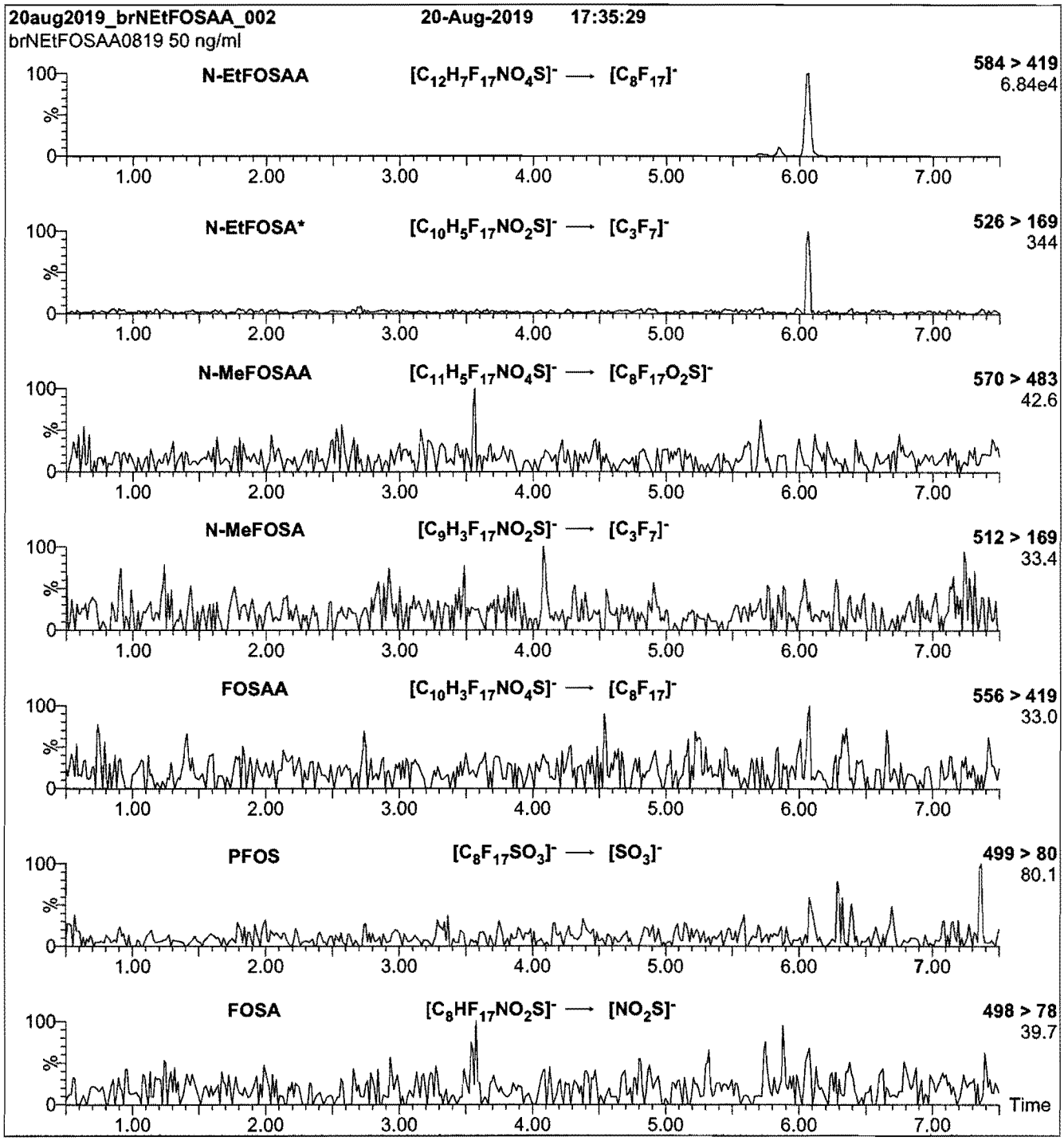
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Figure 3: **br-NEtFOSAA; LC/MS/MS Data (Selected MRM Transitions)**



*Note: N-EtFOSA is formed by in-source fragmentation.

Conditions for Figure 3:

Injection: On-column (br-NEtFOSAA)

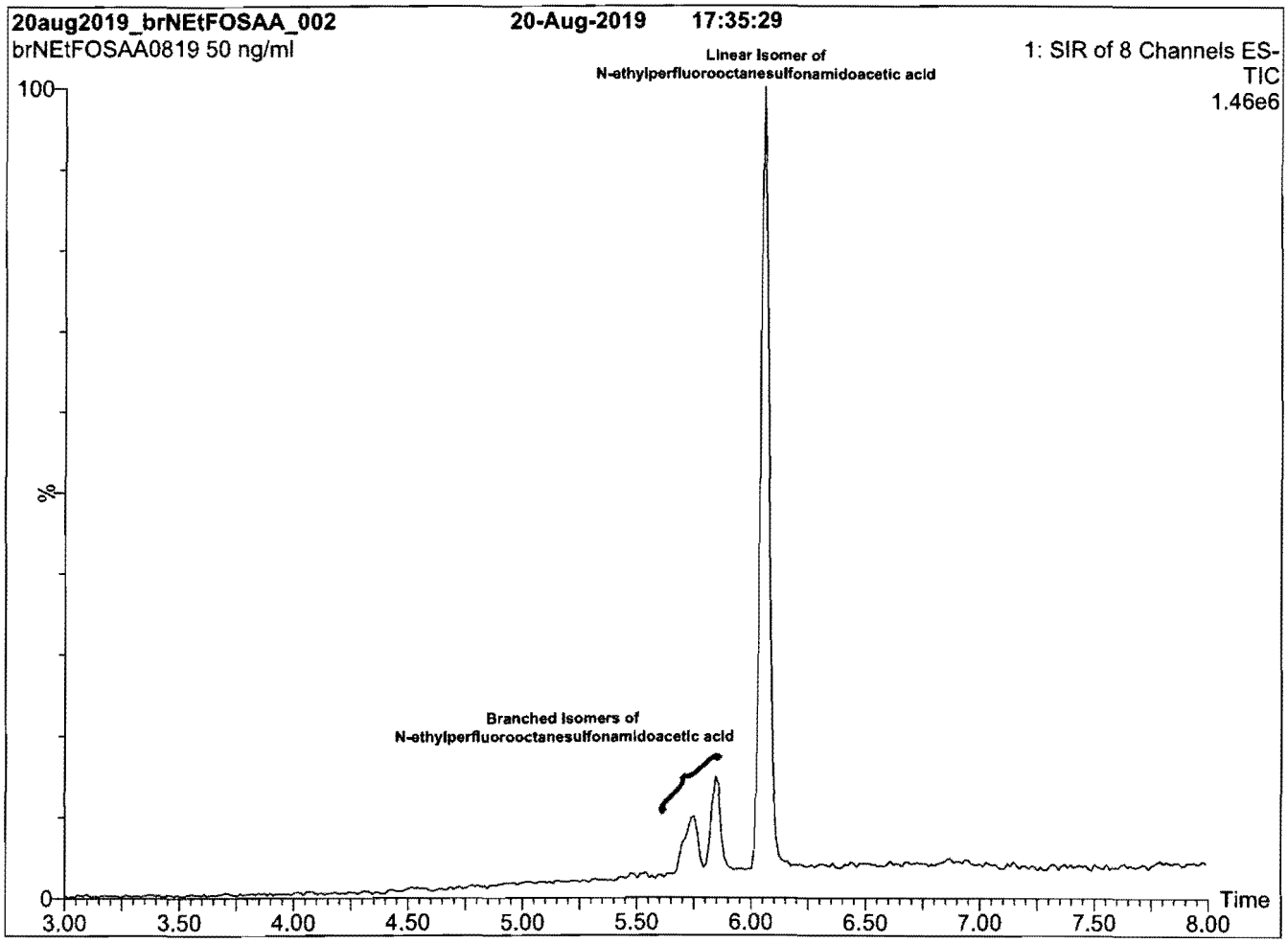
Mobile phase: Same as Figure 1

Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.53e-3
Collision Energy (eV) = 18

Figure 2: **br-NEtFOSAA; LC/MS Data (SIR)**



Conditions for Figure 2:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

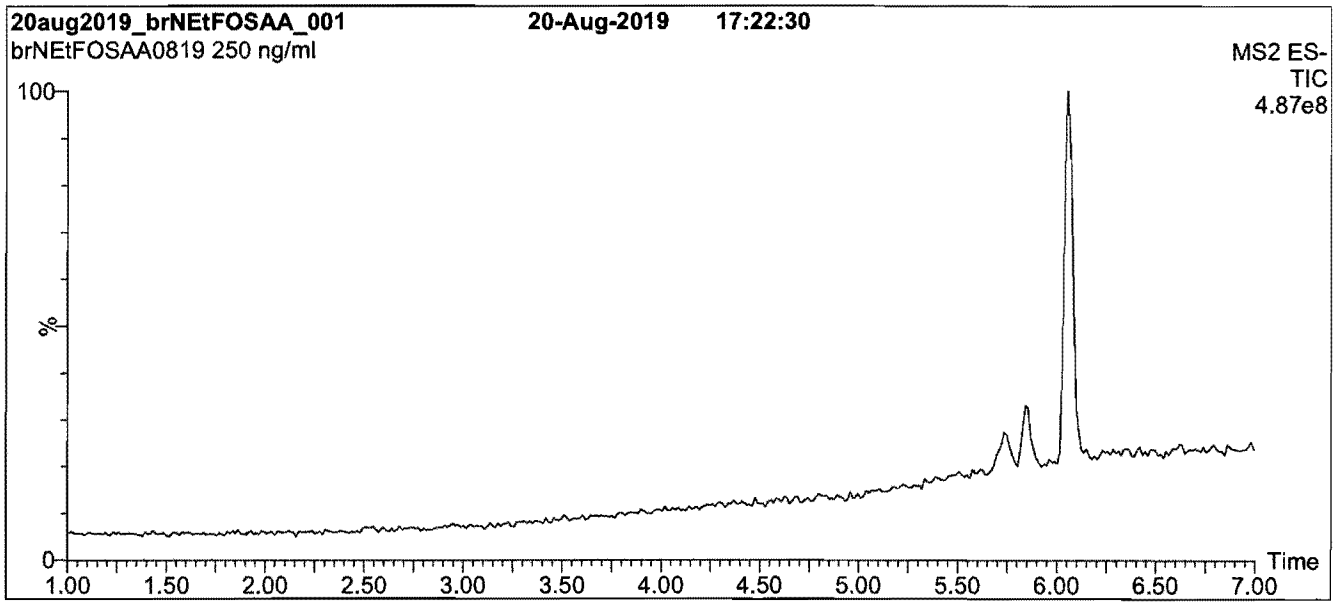
MS Parameters

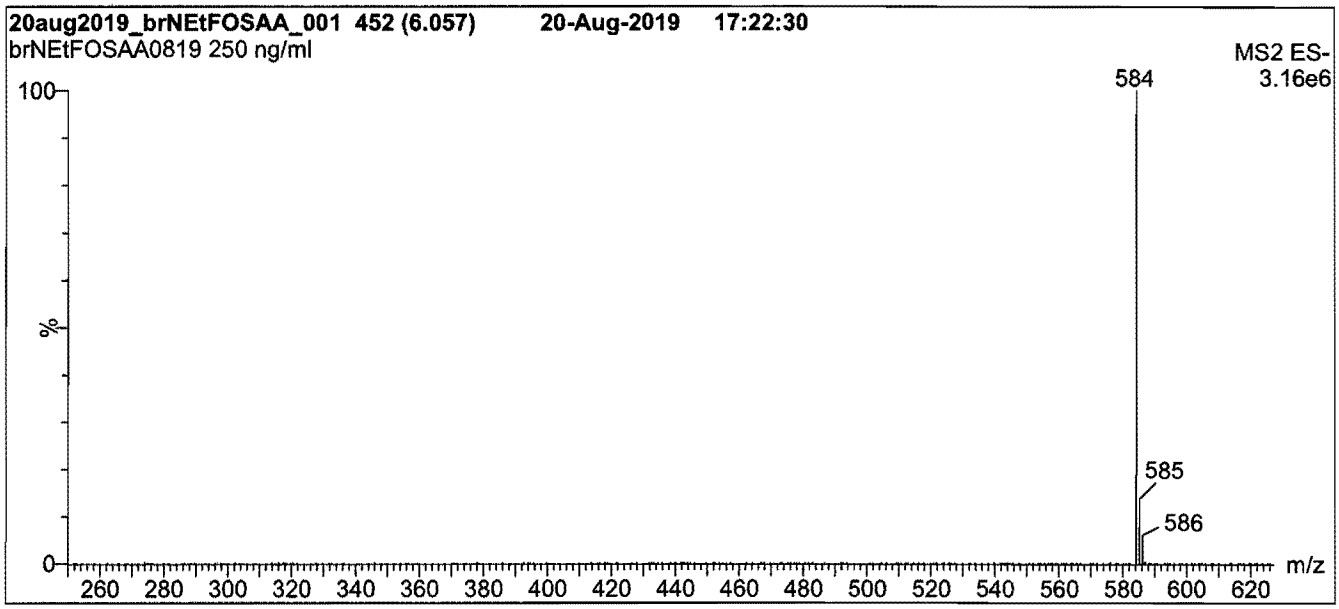
Experiment: SIR (8 channels)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = variable (2-64)
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

19L0660

Figure 1: **br-NEtFOSAA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (250 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 20
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

19L0660

Table A: **br-NEtFOSAA; Isomeric Components and Percent Composition (by ^{19}F-NMR)***

Isomer	Name	Structure	Percent Composition by ^{19}F-NMR
1	N-ethylperfluoro-1-octanesulfonamidoacetic acid	$CF_3(CF_2)_7SO_2N(C_2H_5)CH_2CO_2H$	77.5
2	N-ethylperfluoro-3-methylheptanesulfonamidoacetic acid	$CF_3(CF_2)_3CF(CF_3)(CF_2)_2SO_2N(C_2H_5)CH_2CO_2H$	2.3
3	N-ethylperfluoro-4-methylheptanesulfonamidoacetic acid	$CF_3(CF_2)_2CF(CF_3)(CF_2)_3SO_2N(C_2H_5)CH_2CO_2H$	2.2
4	N-ethylperfluoro-5-methylheptanesulfonamidoacetic acid	$CF_3CF_2CF(CF_3)(CF_2)_4SO_2N(C_2H_5)CH_2CO_2H$	5.4
5	N-ethylperfluoro-6-methylheptanesulfonamidoacetic acid	$CF_3CF(CF_3)(CF_2)_5SO_2N(C_2H_5)CH_2CO_2H$	10.4
6	N-ethylperfluoro-5,5-dimethylhexanesulfonamidoacetic acid	$CF_3C(CF_3)_2(CF_2)_4SO_2N(C_2H_5)CH_2CO_2H$	0.3
7	N-ethylperfluoro-4,5-dimethylhexanesulfonamidoacetic acid	$CF_3CF(CF_3)CF(CF_2)_3SO_2N(C_2H_5)CH_2CO_2H$	0.3
8	N-ethylperfluoro-3,5-dimethylhexanesulfonamidoacetic acid	$CF_3CF(CF_3)CF_2CF(CF_2)_2SO_2N(C_2H_5)CH_2CO_2H$	0.3
9	Other Unidentified Isomers		1.3

* Percent of total N-ethylperfluorooctanesulfonamidoacetic acid isomers only.

Certified By: _____ **Date:** 08/29/2019
(mm/dd/yyyy)

B.G. Chittim, General Manager

INTENDED USE:

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HANDLING:

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SYNTHESIS / CHARACTERIZATION:

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UNCERTAINTY:

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$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

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EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

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CALA Testing Accreditation No. A1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

1910660

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

br-NEtFOSAA

N-Ethylperfluorooctanesulfonamidoacetic Acid Solution/Mixture of Linear and Branched Isomers

PRODUCT CODE:	br-NEtFOSAA
LOT NUMBER:	brNEtFOSAA0819
CONCENTRATION:	50.0 ± 2.5 µg/ml
SOLVENT(S):	Methanol/Water (<1%)
DATE PREPARED: (mm/dd/yyyy)	08/20/2019
LAST TESTED: (mm/dd/yyyy)	08/20/2019
EXPIRY DATE: (mm/dd/yyyy)	08/20/2024
RECOMMENDED STORAGE:	Refrigerate ampoule

DESCRIPTION:

The chemical purity has been determined to be ≥98% N-ethylperfluorooctanesulfonamidoacetic acid (linear and branched isomers). The full name, structure and percent composition for each of the identified isomeric components are given in Table A.

DOCUMENTATION/ DATA ATTACHED:

Table A: Isomeric Components and Percent Composition by ^{19}F-NMR
Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS Data (SIR)
Figure 3: LC/MS/MS Data (Selected MRM Transitions)

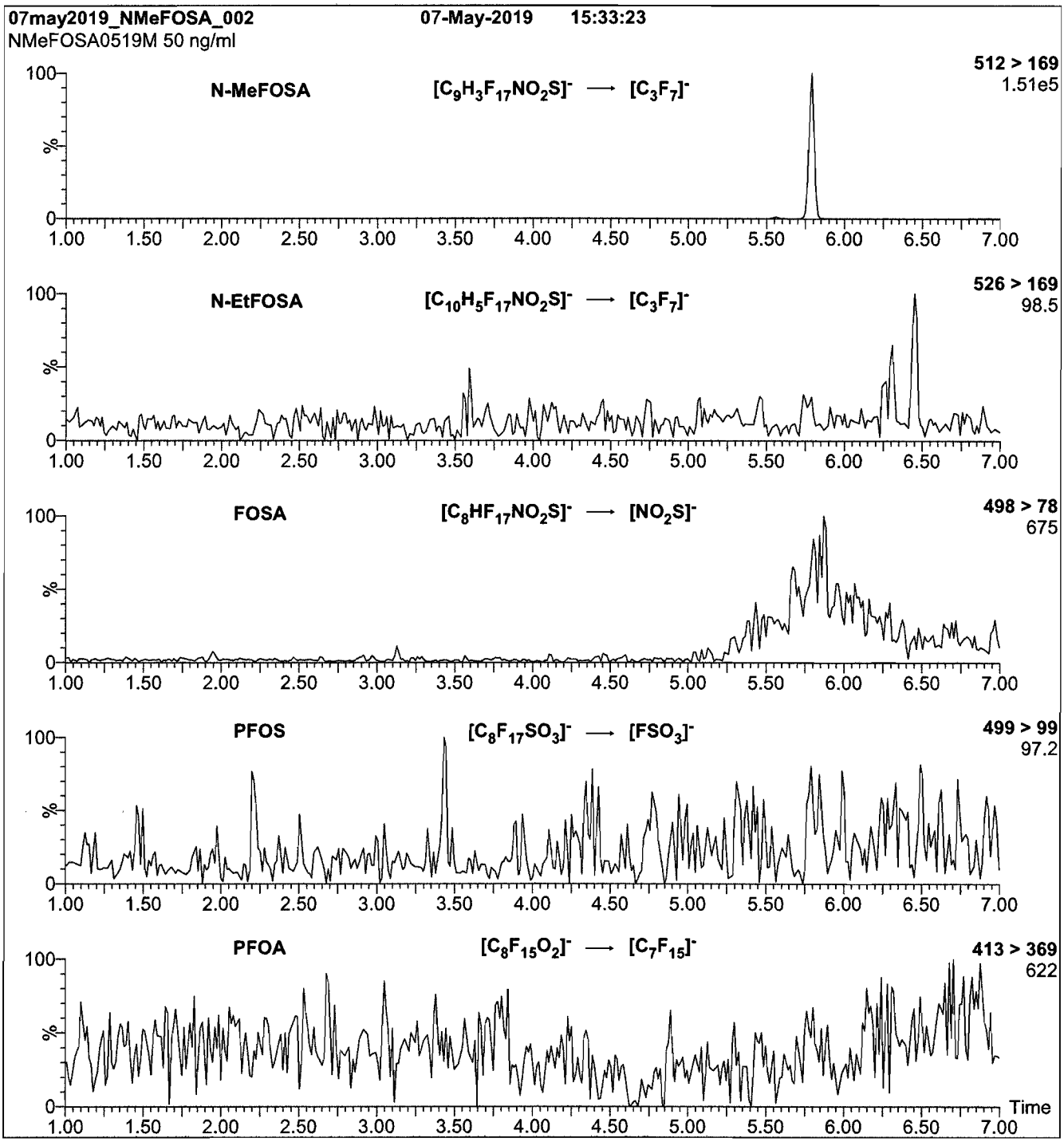
ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the acetic acid moiety to its respective methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Figure 2: **N-MeFOSA-M; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (N-MeFOSA-M)

Mobile phase: Same as Figure 1

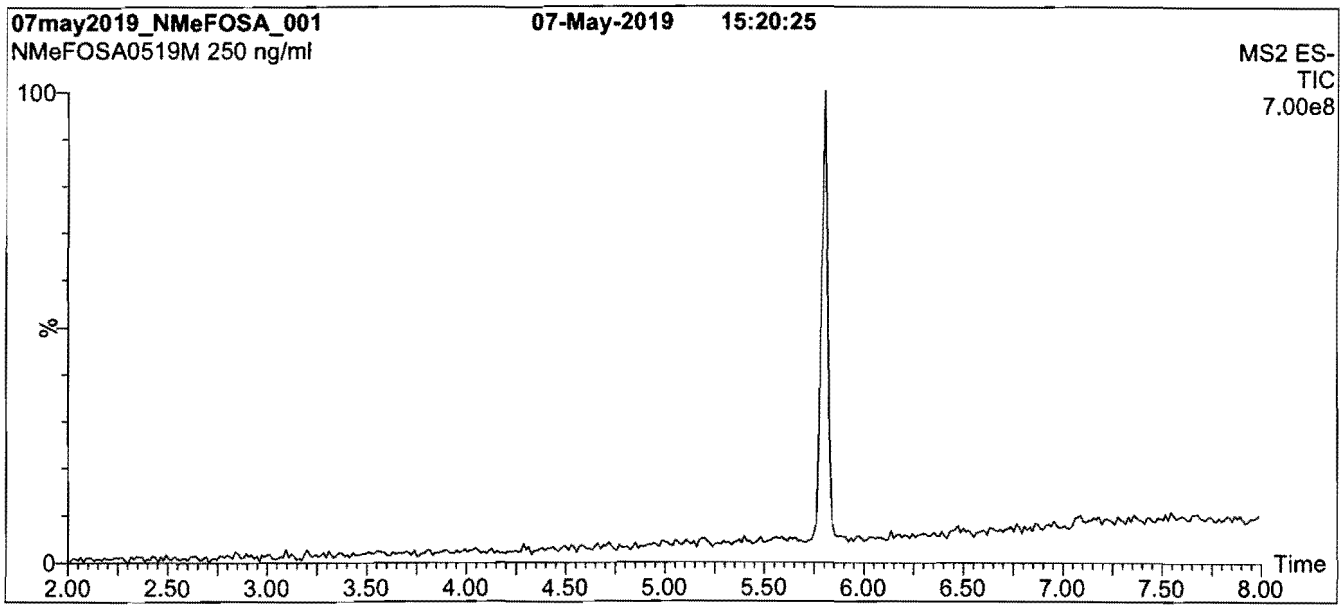
Flow: 300 µl/min

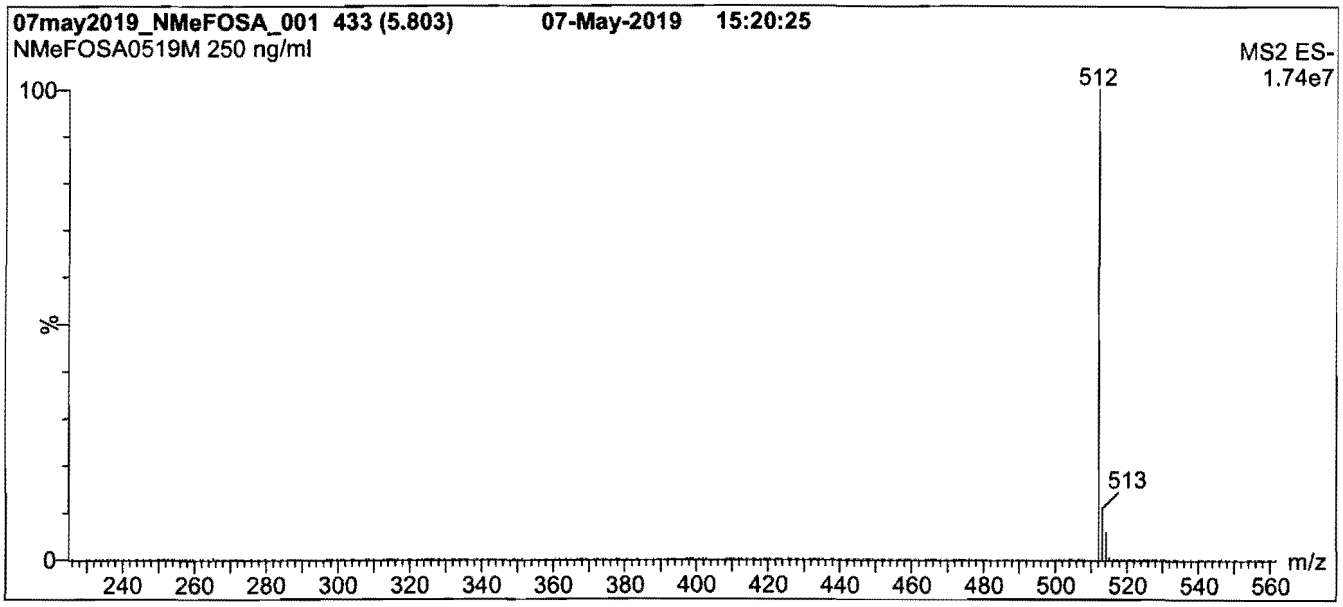
MS Parameters

Collision Gas (mbar) = 2.99e-3
Collision Energy (eV) = 24

19L0661

Figure 1: **N-MeFOSA-M; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 60% (80:20 MeOH:ACN) / 40% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for
3 min before returning to initial conditions in 0.75 min.
Time: 11 min

Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 0.50
Cone Voltage (V) = 20.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

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HANDLING:

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HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

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LIMITED WARRANTY:

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QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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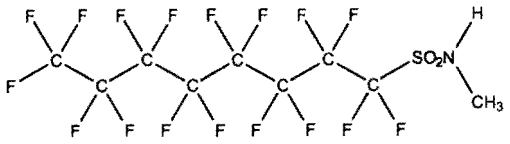
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	N-MeFOSA-M	**LOT NUMBER:**	NMeFOSA0519M
COMPOUND:	N-methylperfluoro-1-octanesulfonamide		
STRUCTURE:		**CAS #:**	31506-32-8



MOLECULAR FORMULA:	$C_9H_4F_{17}NO_2S$	**MOLECULAR WEIGHT:**	513.17
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	05/07/2019		
EXPIRY DATE: (mm/dd/yyyy)	05/07/2024		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

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Certified By: _____ **Date:** 05/09/2019 (mm/dd/yyyy)
B.G. Chittim, General Manager

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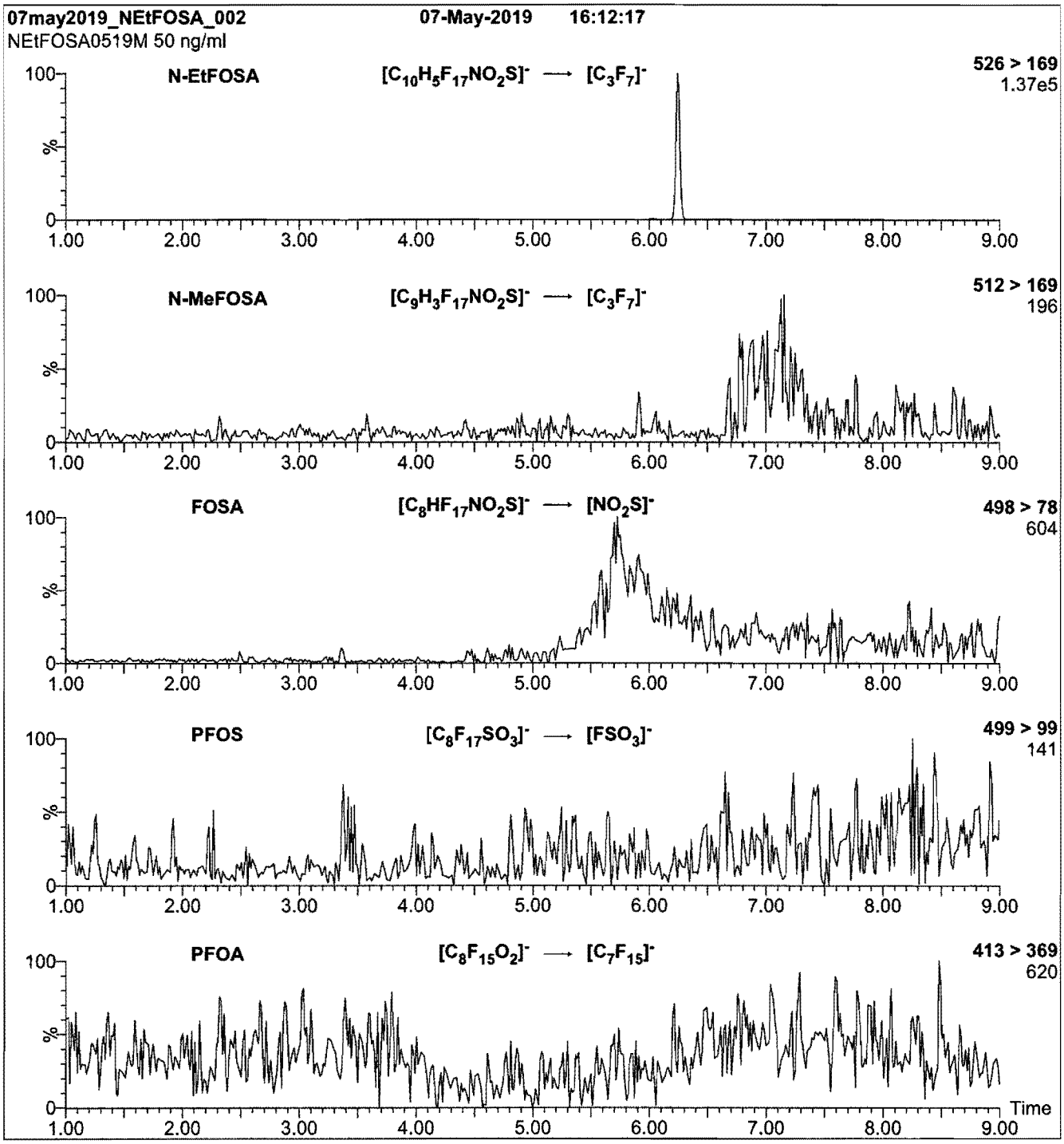
Figure 2: **N-EtFOSA-M; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (N-EtFOSA-M)

Mobile phase: Same as Figure 1

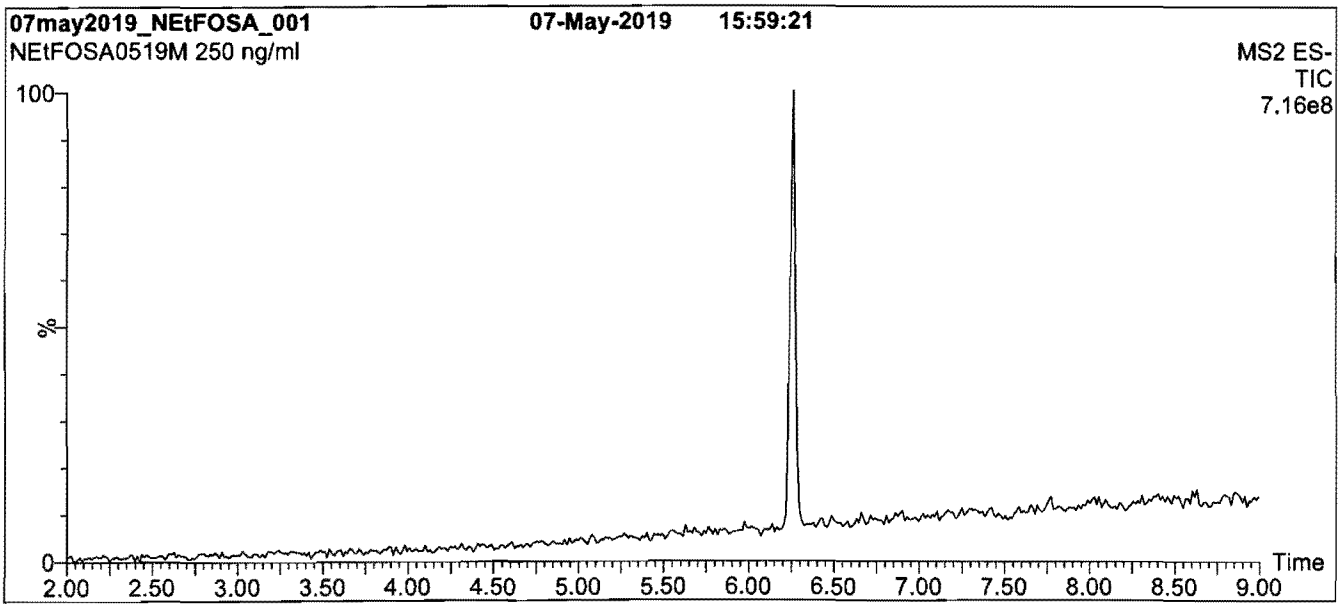
Flow: 300 µl/min

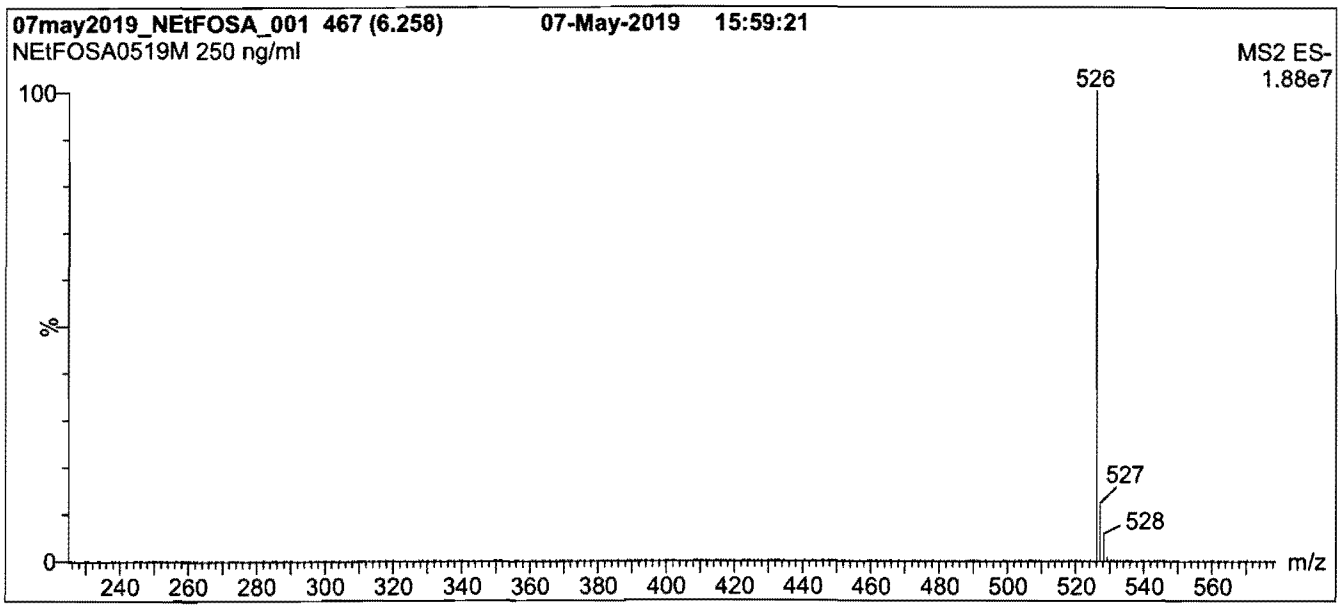
MS Parameters

Collision Gas (mbar) = 3.00e-3
Collision Energy (eV) = 24

19L0662

Figure 1: **N-EtFOSA-M; LC/MS Data (TIC and Mass Spectrum)**





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Ramp to 90% organic over 7 min and hold for
3 min before returning to initial conditions in 0.75 min.
Time: 11 min

Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 0.50
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Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

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CALA Testing Accreditation No. A 1226

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

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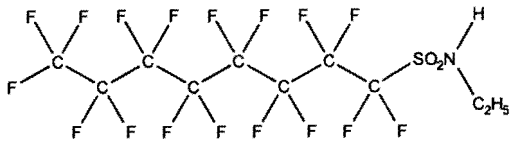
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	N-EtFOSA-M	**LOT NUMBER:**	NEtFOSA0519M
COMPOUND:	N-ethylperfluoro-1-octanesulfonamide		
STRUCTURE:		**CAS #:**	4151-50-2



MOLECULAR FORMULA:	$C_{10}H_6F_{17}NO_2S$	**MOLECULAR WEIGHT:**	527.20
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	05/07/2019		
EXPIRY DATE: (mm/dd/yyyy)	05/07/2024		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains ~ 0.5% branched isomers of N-ethylperfluorooctanesulfonamide.

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Certified By: _____ **Date:** 05/09/2019 (mm/dd/yyyy)
B.G. Chittim, General Manager

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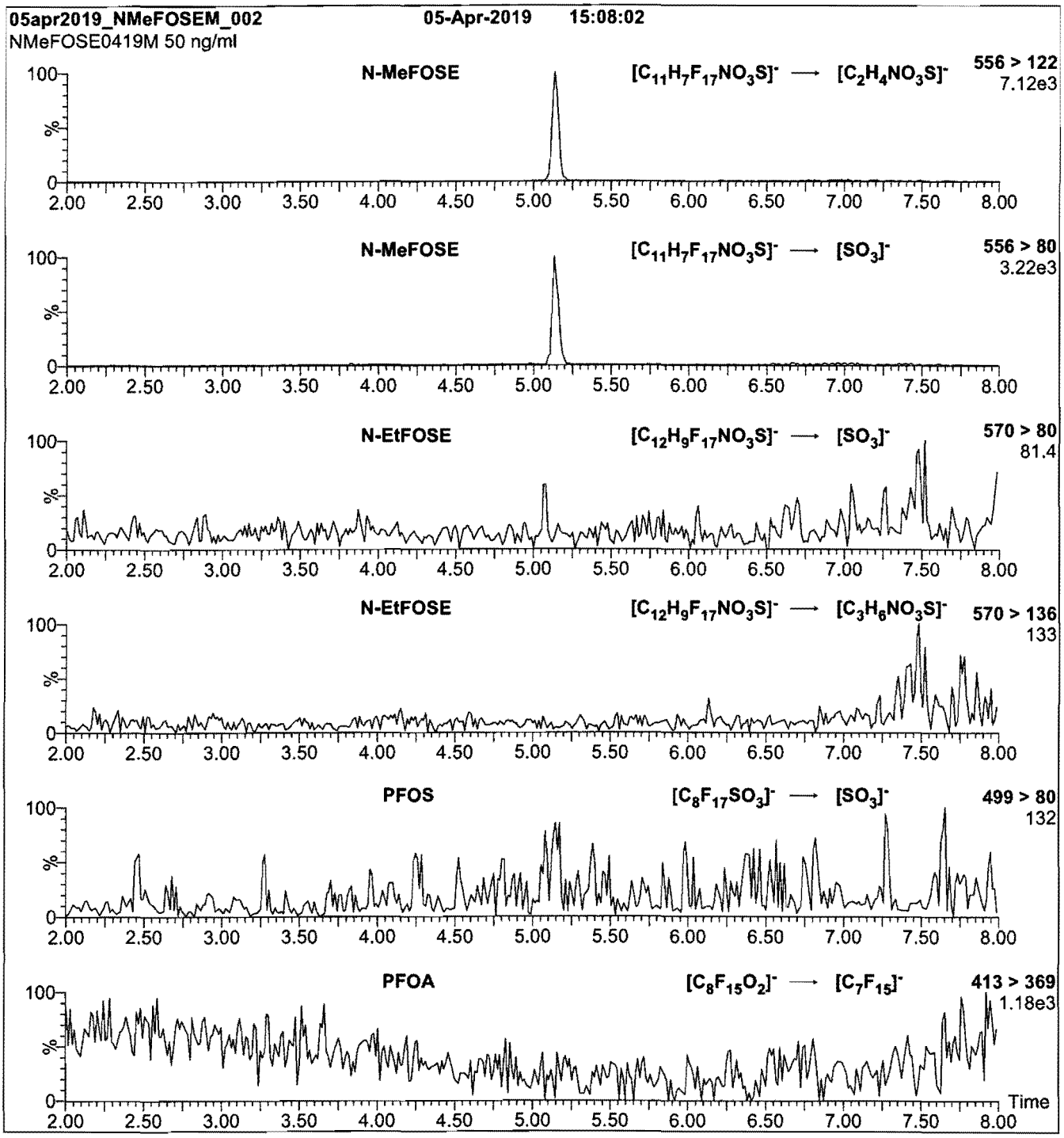
Figure 3: **N-MeFOSE-M; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 3:

Injection: On-column (N-MeFOSE-M)

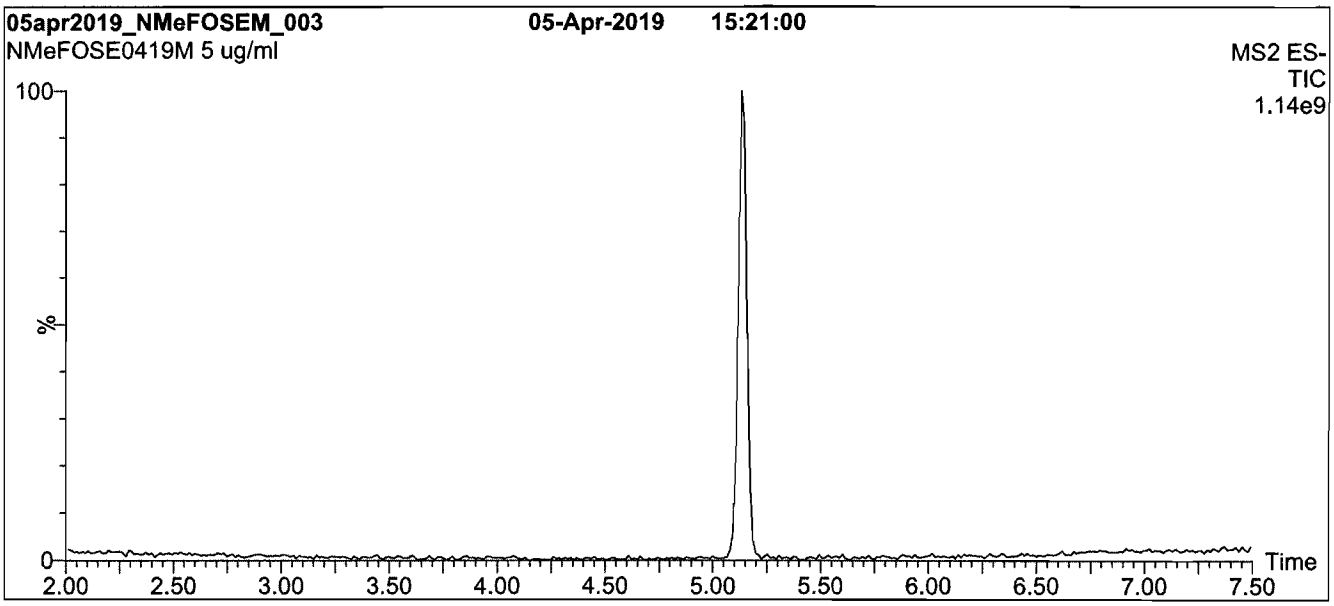
Mobile phase: Same as Figure 2

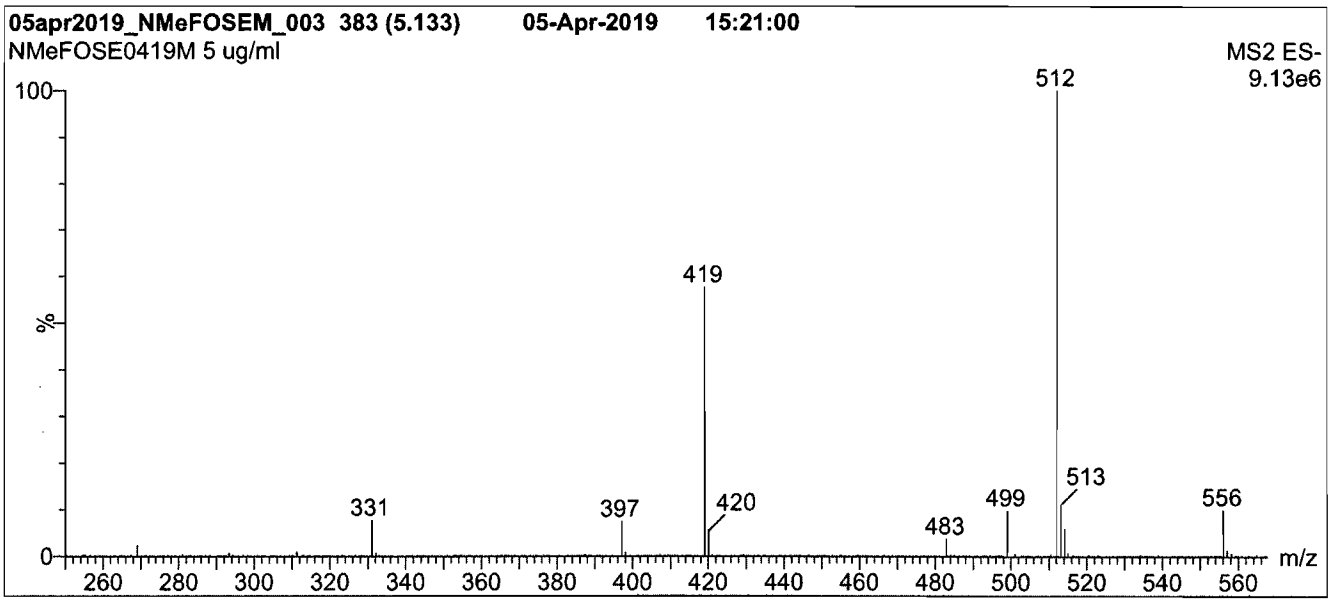
Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 2.94e-3
Collision Energy (eV) = 36

Figure 2: **N-MeFOSE-M; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 2:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 65% MeOH / 35% H_2O
Ramp to 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

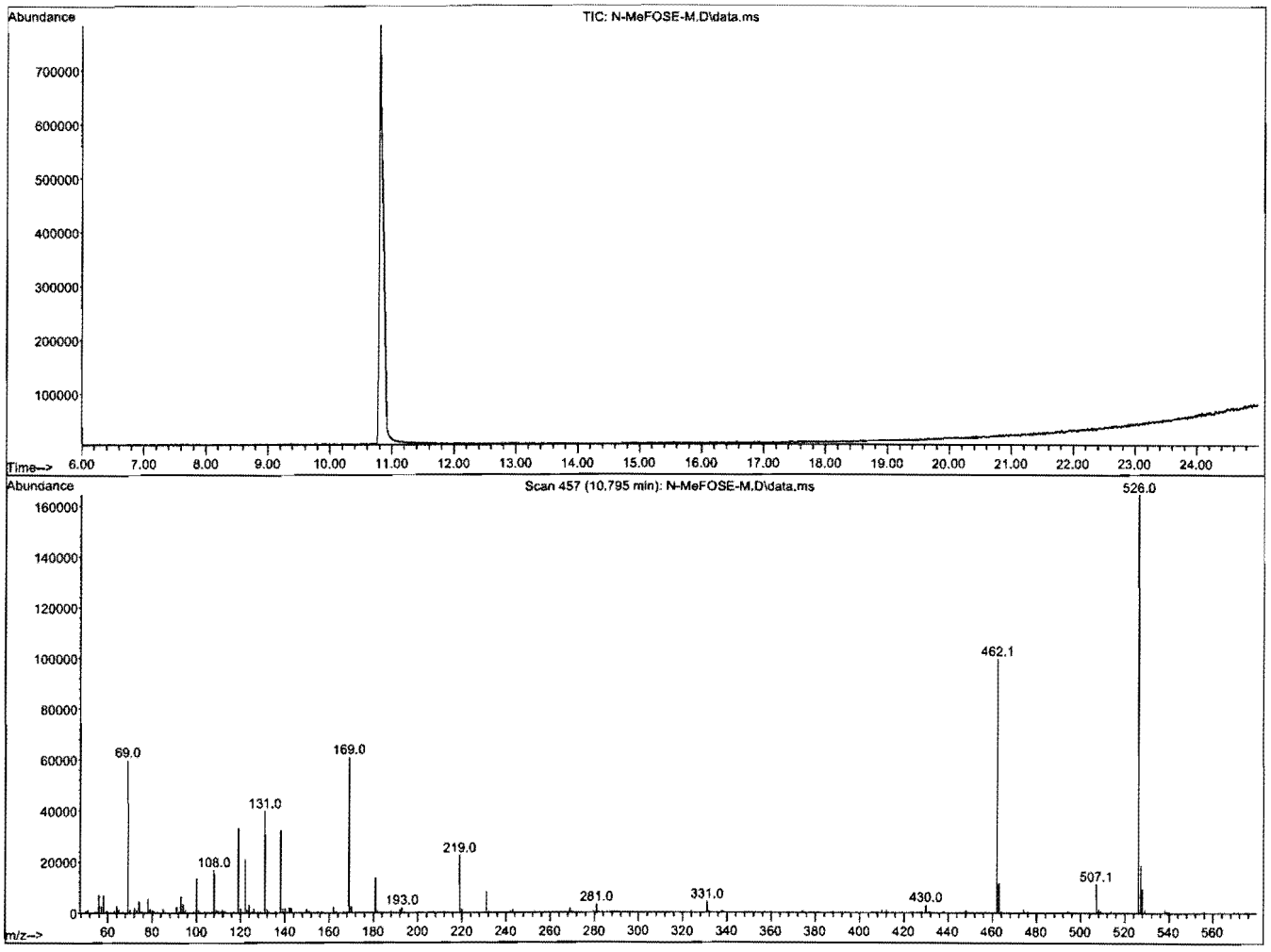
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (250 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 65.00
Desolvation Temperature (°C) = 450
Desolvation Gas Flow (l/hr) = 1000

Figure 1: **N-MeFOSE-M; HRGC/LRMS Data (TIC and Mass Spectrum)**



HRGC/LRMS:

Agilent 7890A (HRGC)
Agilent 5975C (LRMS)

Chromatographic Conditions:

Column:	30 m DB-5 (0.25 mm id, 0.25 µm film thickness) Agilent J&W
Injector:	250 °C (Splitless Injection)
Oven:	100 °C (5 min)
	10 °C/min to 325 °C
	325 °C (20 min)
Ionization:	EI+
Detector:	250 °C
	Full Scan (50-1000 amu)

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CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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1910663

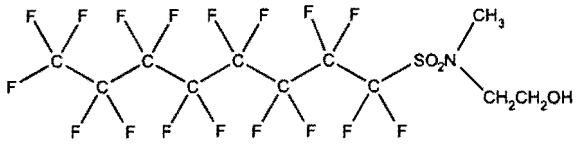
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: N-MeFOSE-M **LOT NUMBER:** NMeFOSE0419M

COMPOUND: 2-(N-methylperfluoro-1-octanesulfonamido)-ethanol

STRUCTURE: **CAS #:** 24448-09-7



MOLECULAR FORMULA:	$C_{11}H_8F_{17}NO_3S$	**MOLECULAR WEIGHT:**	557.22
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	04/08/2019 (HRGC/LRMS) 04/05/2019 (LC/MS)		
EXPIRY DATE: (mm/dd/yyyy)	04/08/2024		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: HRGC/LRMS Data (TIC and Mass Spectrum)
Figure 2: LC/MS Data (TIC and Mass Spectrum)
Figure 3: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- In order to see the molecular ion (adduct free), the LC mobile phase should be free of ammonium acetate buffer.

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Certified By: _____ **Date:** 04/12/2019 (mm/dd/yyyy)
B.G. Chittim, General Manager

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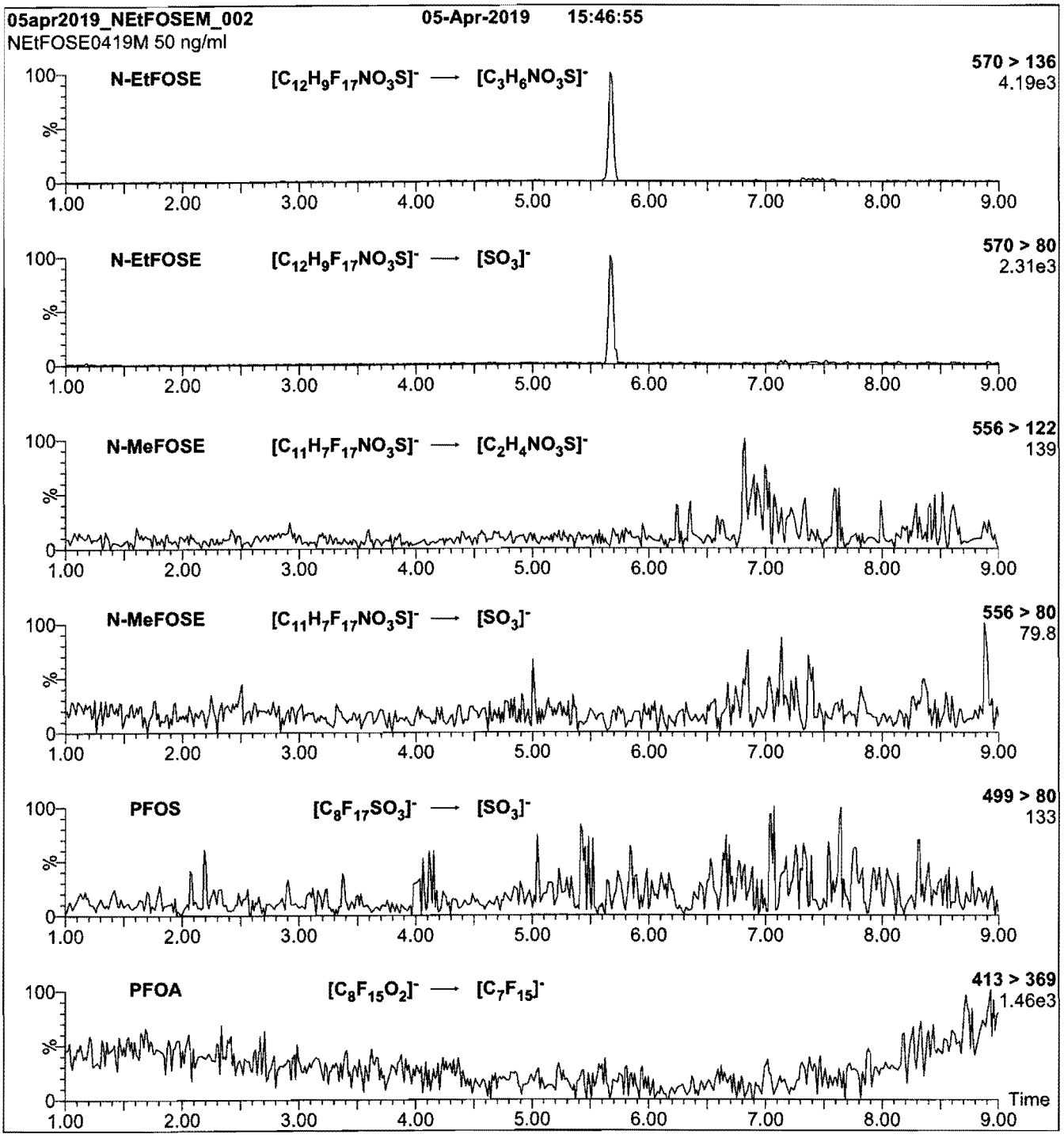


Conditions for Figure 3:

Injection: On-column (N-EtFOSE-M)

Mobile phase: Same as Figure 2

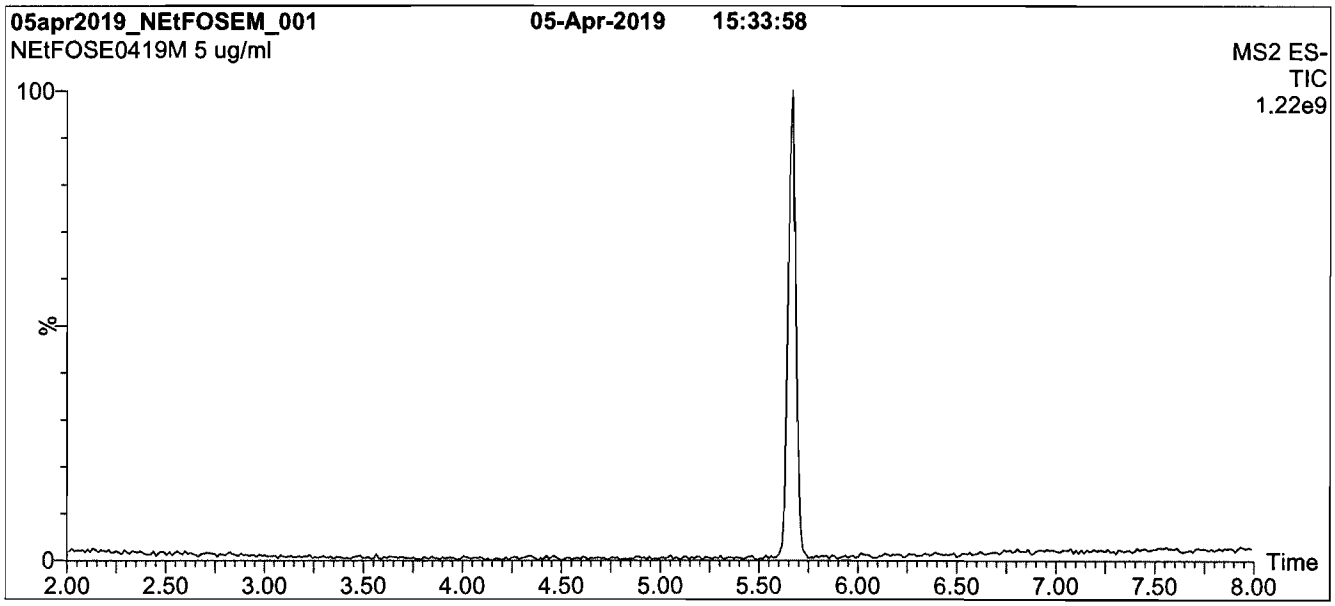
Flow: 300 µl/min

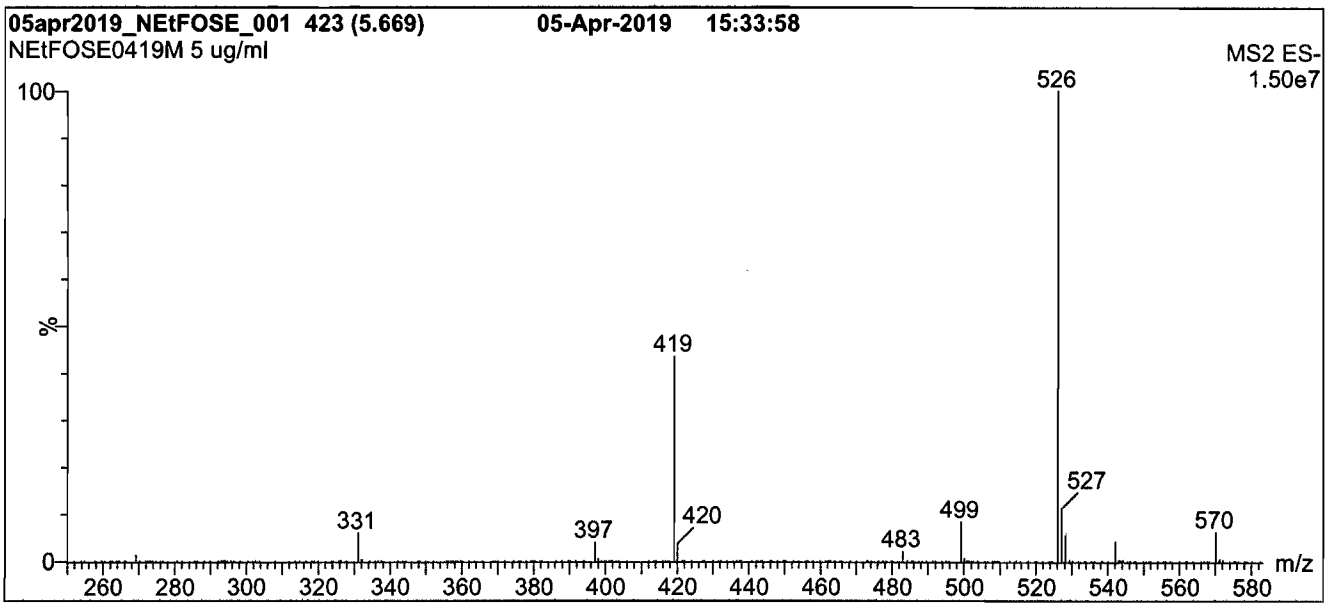
MS Parameters

Collision Gas (mbar) = 2.76e-3
Collision Energy (eV) = 32

19L0664

Figure 2: **N-EtFOSE-M; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 2:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 65% MeOH / 35% H_2O
Ramp to 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

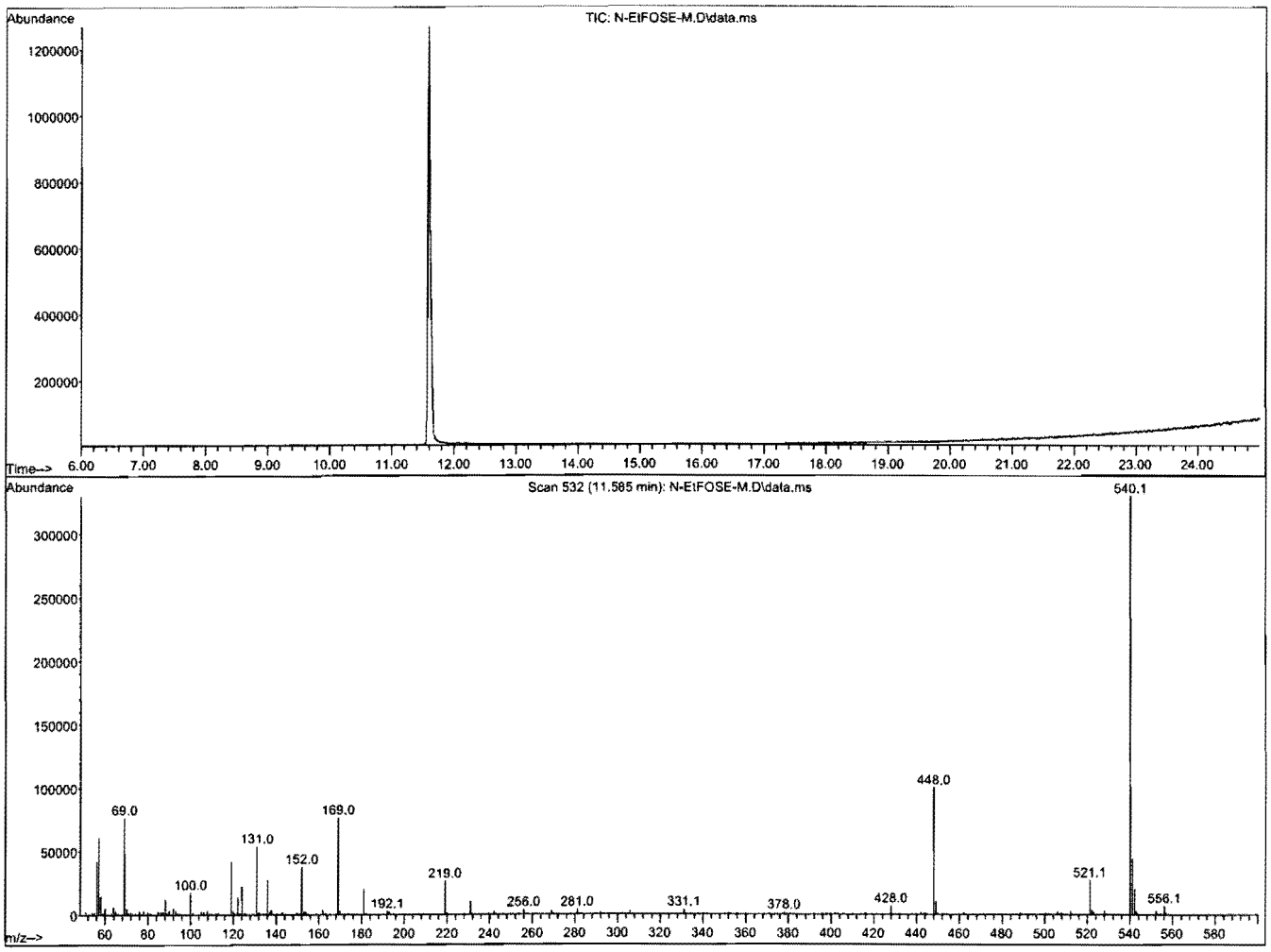
Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (250 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 65.00
Desolvation Temperature (°C) = 450
Desolvation Gas Flow (l/hr) = 1000

Figure 1: **N-EtFOSE-M; HRGC/LRMS Data (TIC and Mass Spectrum)**



HRGC/LRMS:

Agilent 7890A (HRGC)
Agilent 5975C (LRMS)

Chromatographic Conditions:

Column:	30 m DB-5 (0.25 mm id, 0.25 µm film thickness) Agilent J&W
Injector:	250 °C (Splitless Injection)
Oven:	100 °C (5 min)
	10 °C/min to 325 °C
	325 °C (20 min)
Ionization:	EI+
Detector:	250 °C
	Full Scan (50-1000 amu)

19L0564

INTENDED USE:

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HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

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HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters x_1, x_2,...x_n on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

19L 0664

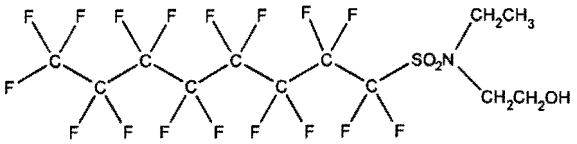
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: N-EtFOSE-M **LOT NUMBER:** NEtFOSE0419M

COMPOUND: 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol

STRUCTURE: **CAS #:** 1691-99-2



MOLECULAR FORMULA:	$C_{12}H_{10}F_{17}NO_3S$	**MOLECULAR WEIGHT:**	571.25
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	04/08/2019 (HRGC/LRMS) 04/05/2019 (LC/MS)		
EXPIRY DATE: (mm/dd/yyyy)	04/08/2024		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: HRGC/LRMS Data (TIC and Mass Spectrum)
Figure 2: LC/MS Data (TIC and Mass Spectrum)
Figure 3: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

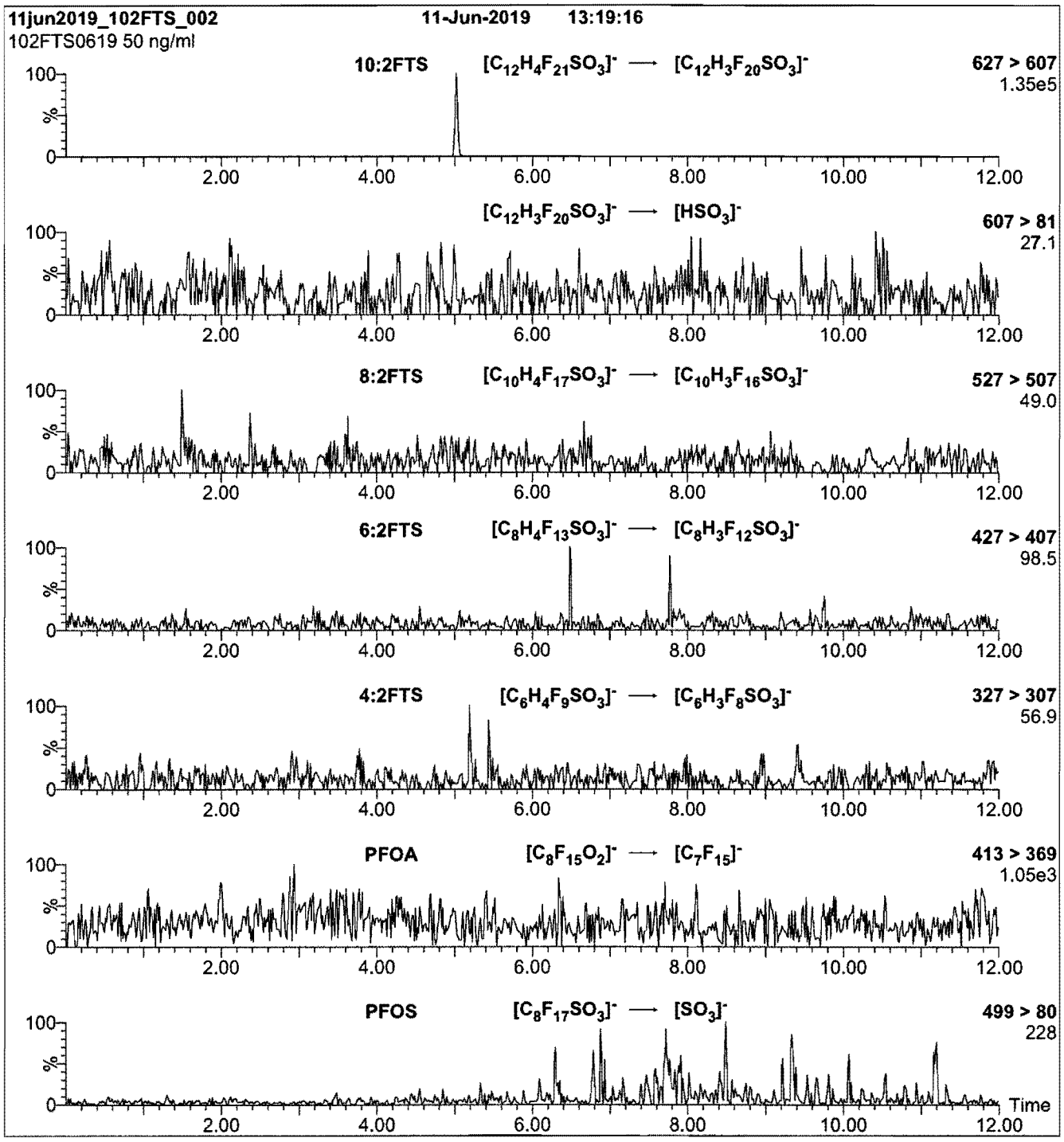
- See page 2 for further details.
- In order to see the molecular ion (adduct free), the LC mobile phase should be free of ammonium acetate buffer.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 04/15/2019 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Figure 2: **10:2FTS; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (10:2FTS)

Mobile phase: Same as Figure 1

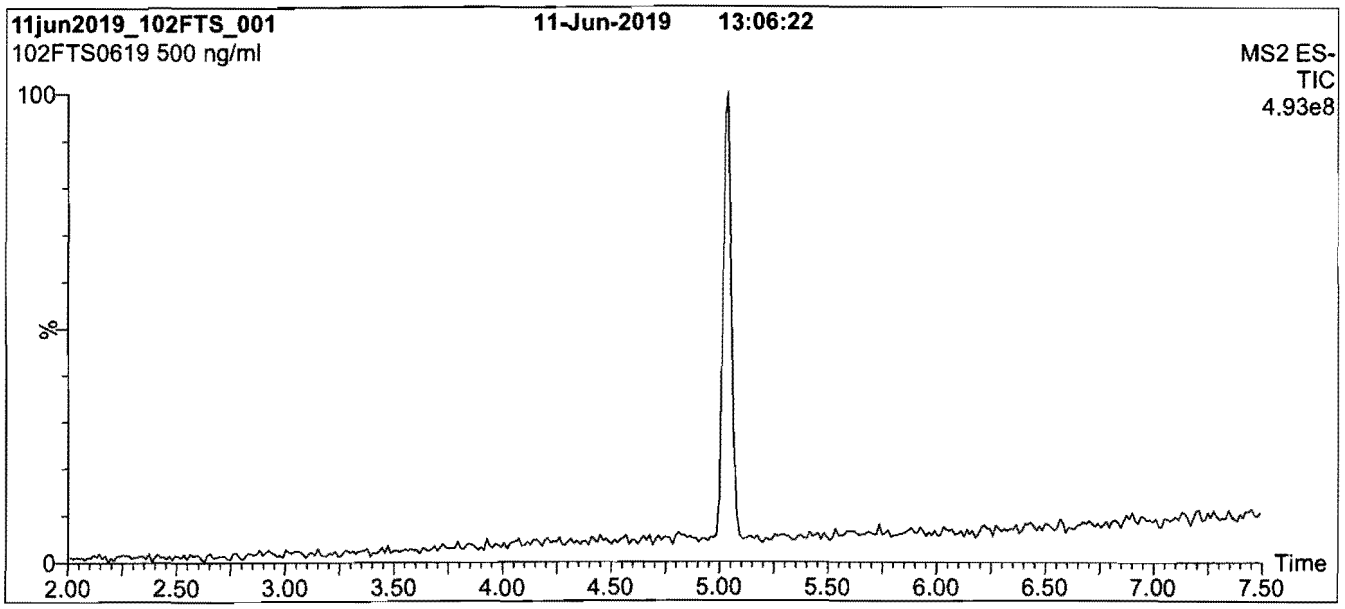
Flow: 300 µl/min

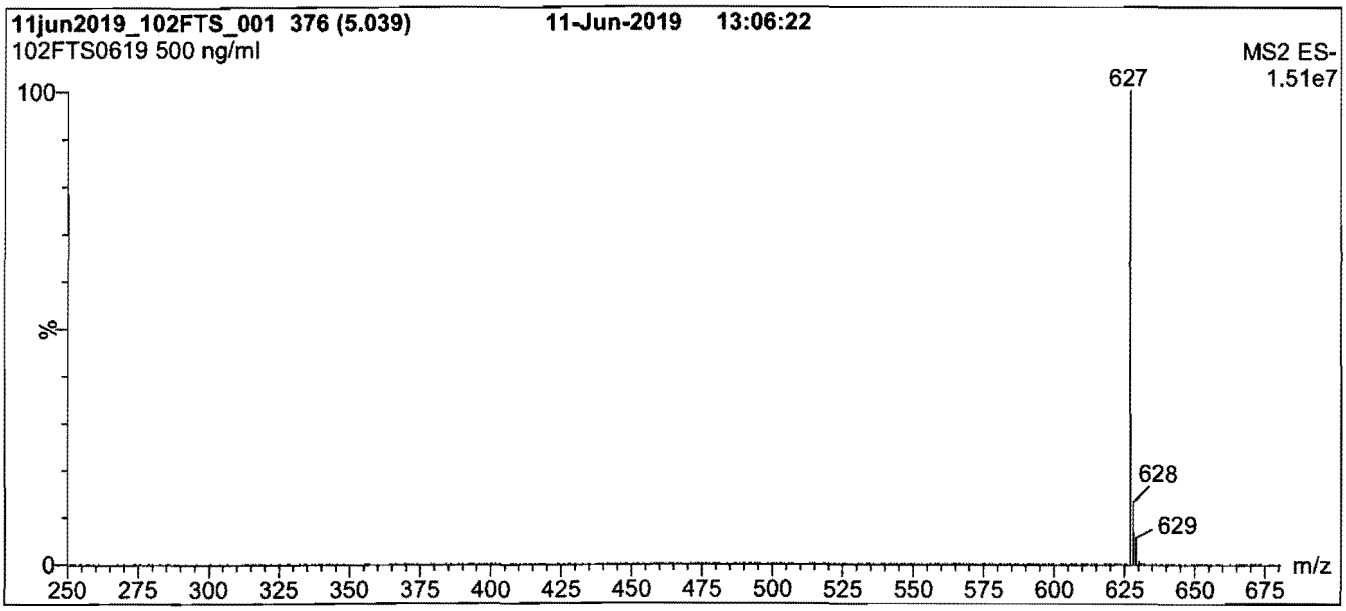
MS Parameters

Collision Gas (mbar) = 2.92e-3
Collision Energy (eV) = 25

19L0665

Figure 1: **10:2FTS; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 60% (80:20 MeOH:ACN) / 40% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for
3 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (250 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 0.50
Cone Voltage (V) = 25.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

1910665

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

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HOMOGENEITY:

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UNCERTAINTY:

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The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters x_1, x_2,...x_n on which it depends is:

$$u_c(y(x_1, x_2, ...x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

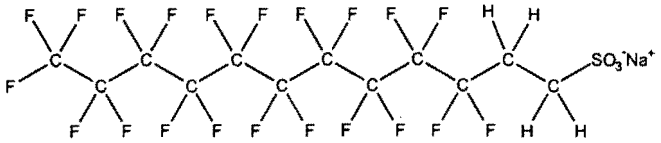
19L0665

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: 10:2FTS **LOT NUMBER:** 102FTS0619
COMPOUND: Sodium 1H,1H,2H,2H-perfluorododecane sulfonate

STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA:	$C_{12}H_4F_{21}SO_3Na$		**MOLECULAR WEIGHT:**	650.18
CONCENTRATION:	50.0 ± 2.5 µg/ml	(Na salt)	**SOLVENT(S):**	Methanol
	48.2 ± 2.4 µg/ml	(10:2FTS anion)		
CHEMICAL PURITY:	>98%			
LAST TESTED: (mm/dd/yyyy)	06/11/2019			
EXPIRY DATE: (mm/dd/yyyy)	06/11/2022			
RECOMMENDED STORAGE:	Refrigerate ampoule			

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

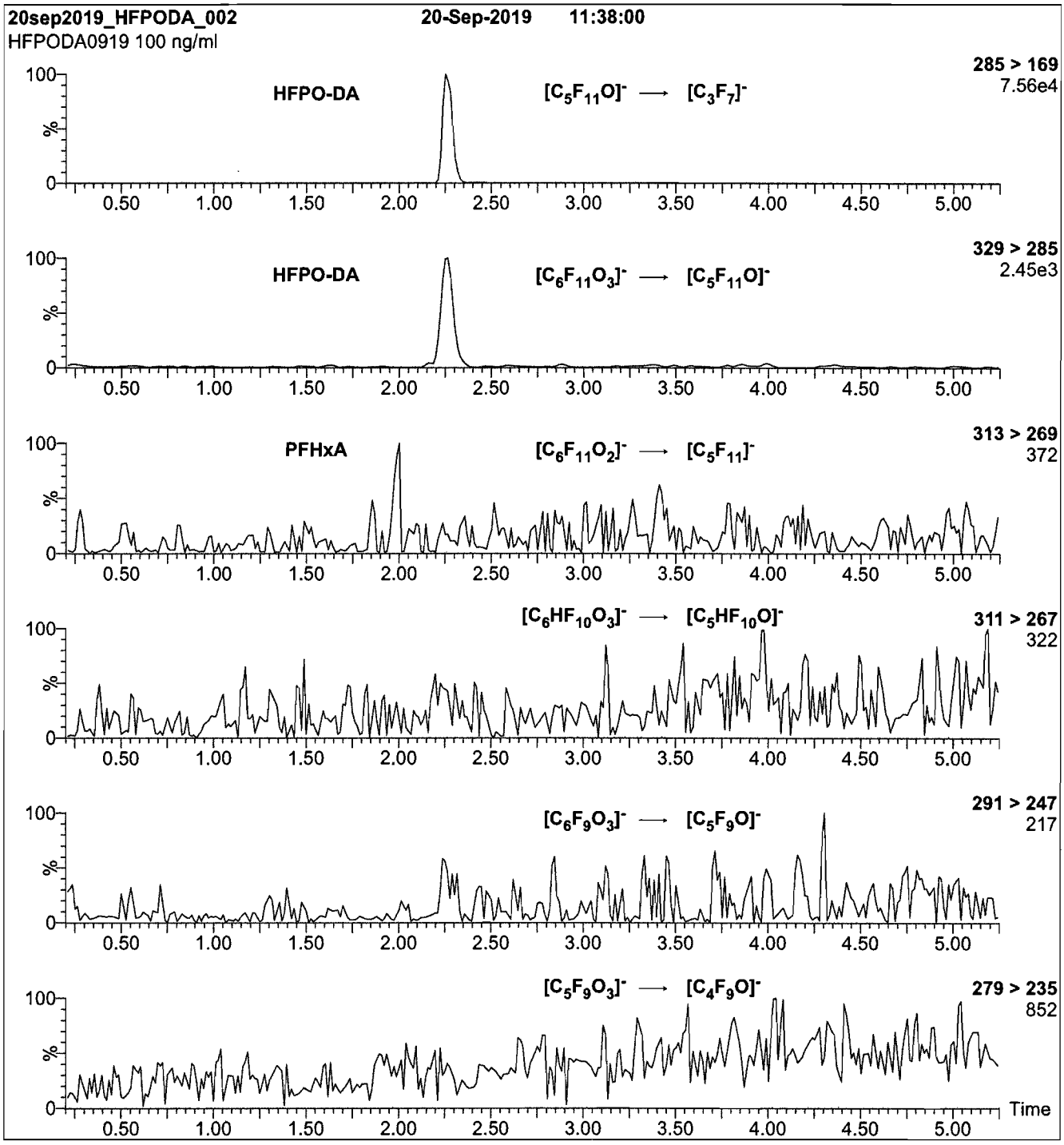
FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 06/18/2019 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

1910666

Figure 2: **HFPO-DA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (HFPO-DA)

Mobile phase: Same as Figure 1

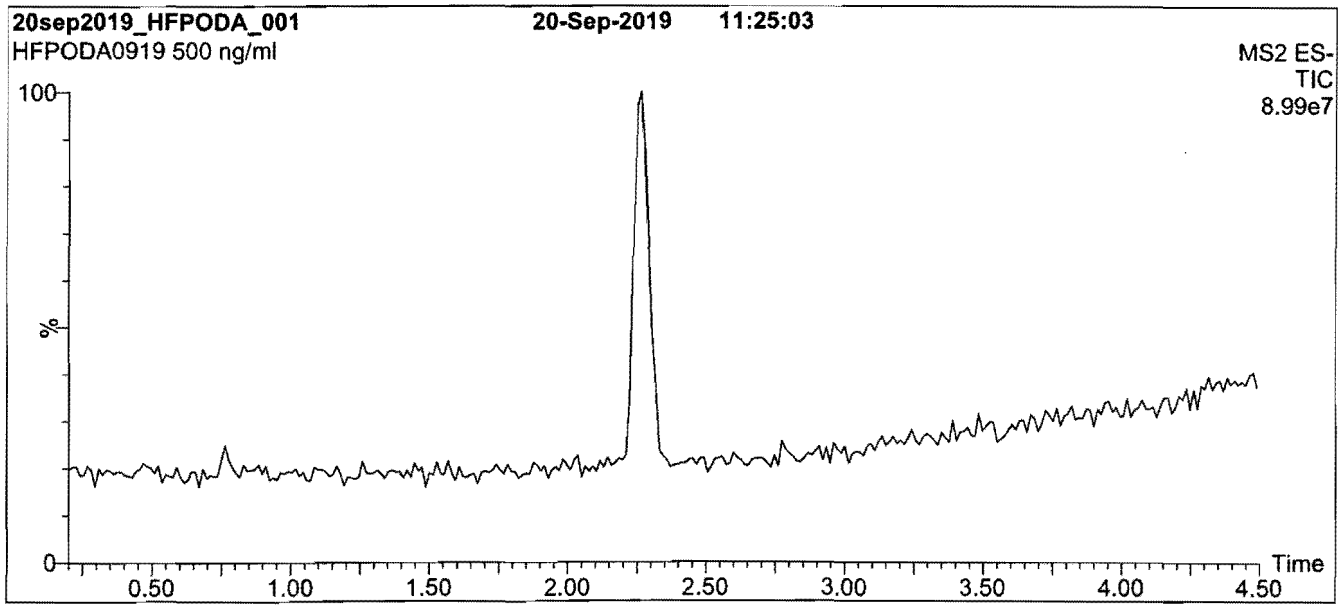
Flow: 300 µl/min

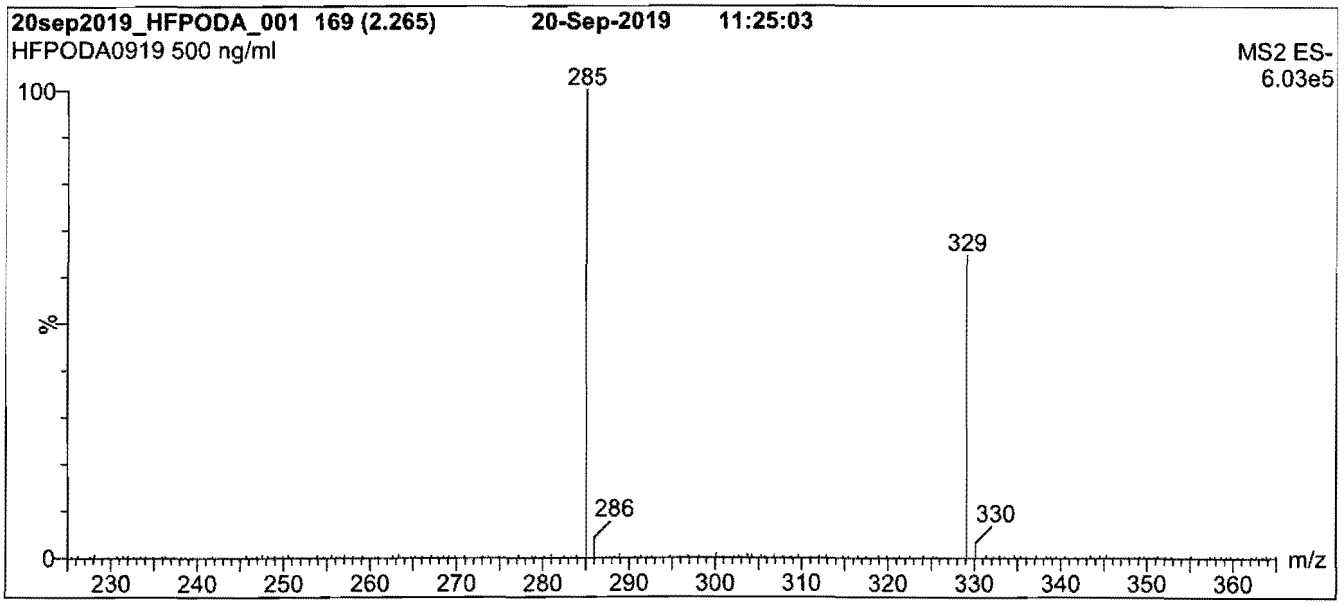
MS Parameters

Collision Gas (mbar) = 3.60e-3
Collision Energy (eV) = 8

1910666

Figure 1: **HFPO-DA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 15.00
Desolvation Temperature (°C) = 325
Desolvation Gas Flow (l/hr) = 1000

19L 0666

INTENDED USE:

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CALA Testing Accreditation No. A1226

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

19L0666

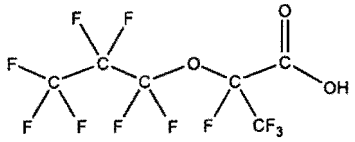
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: HFPO-DA **LOT NUMBER:** HFPODA0919

COMPOUND: 2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-propanoic acid

STRUCTURE: **CAS #:** 13252-13-6



MOLECULAR FORMULA:	$C_6HF_{11}O_3$	**MOLECULAR WEIGHT:**	330.05
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	09/20/2019		
EXPIRY DATE: (mm/dd/yyyy)	09/20/2022		
RECOMMENDED STORAGE:	Refrigerate ampoule		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

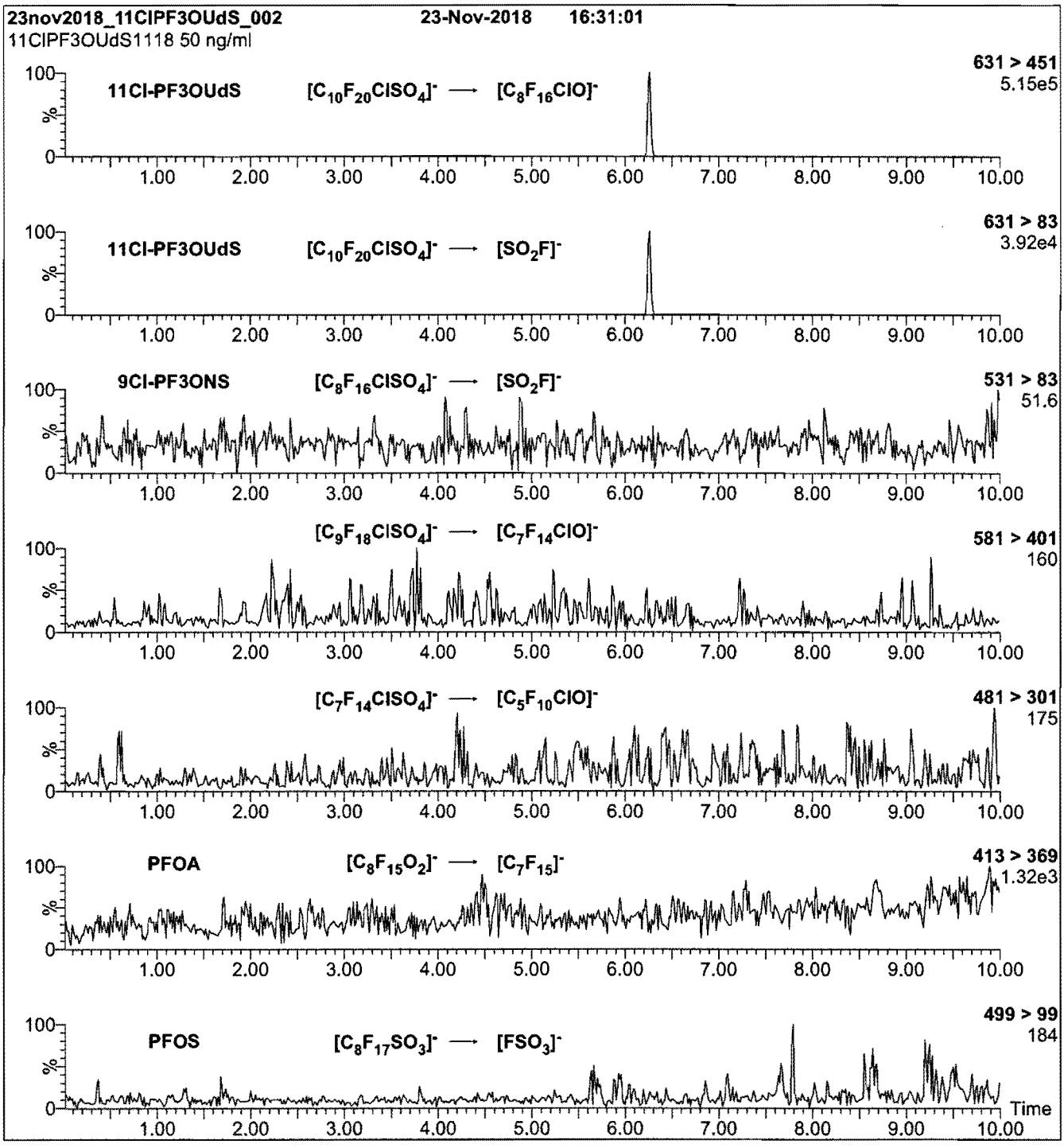
- See page 2 for further details.
- Product is commercially known as GenX.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 09/30/2019
(mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Figure 2: **11Cl-PF3OUdS; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (11Cl-PF3OUdS)

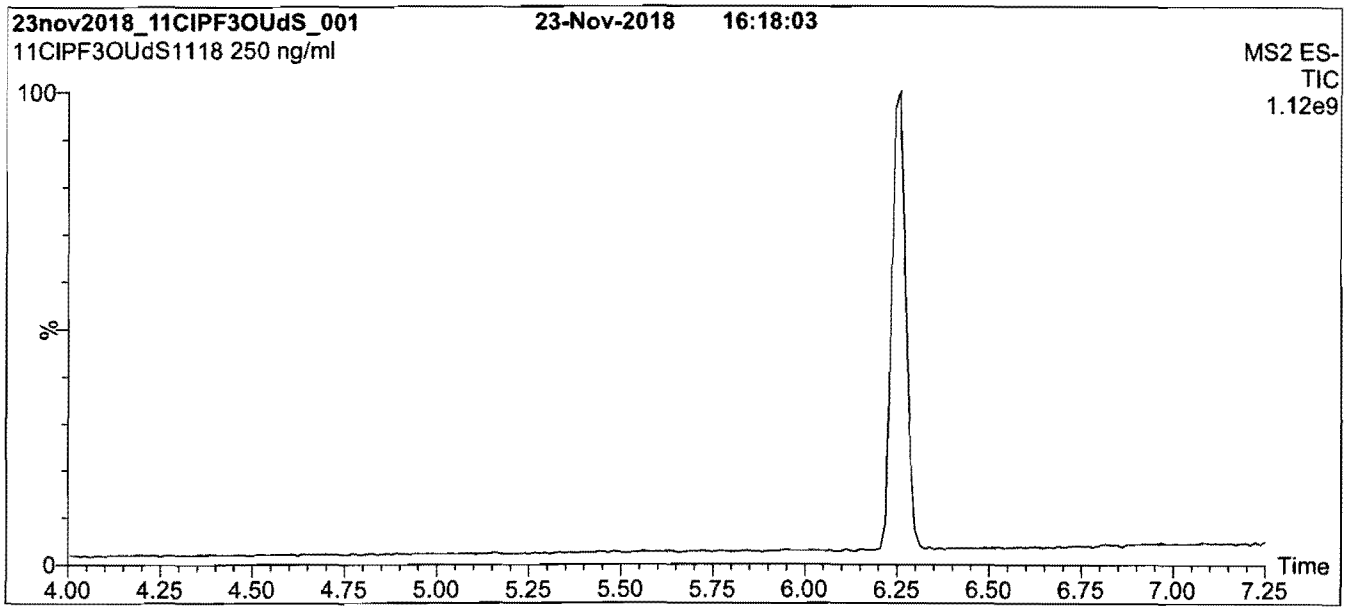
Mobile phase: Same as Figure 1

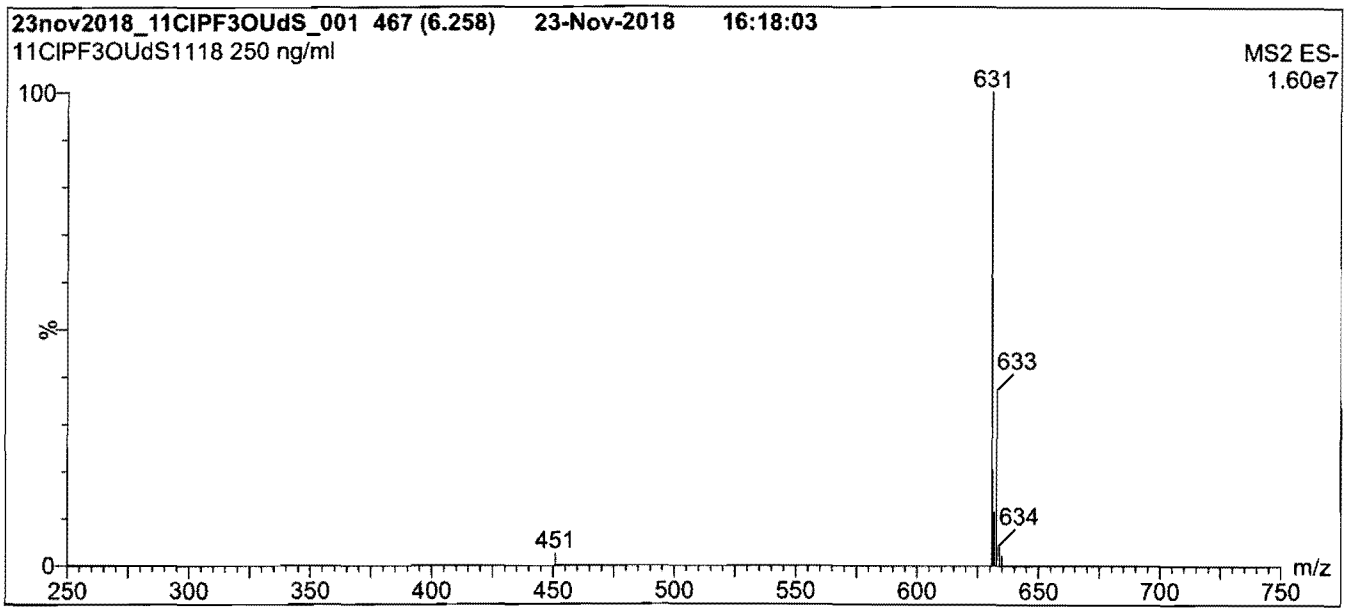
Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 2.84e-3
Collision Energy (eV) = 24

Figure 1: **11Cl-PF3OUdS; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 50% (80:20 MeOH:ACN) / 50% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (250 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 70.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 750

19L0667

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HANDLING:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Our products are synthesized using single-product unambiguous routes whenever possible. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS, and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly calibrated by an external ISO/IEC 17025 accredited laboratory. In addition, their calibration is verified prior to each weighing using calibrated external weights traceable to an ISO/IEC 17025 accredited laboratory. All volumetric glassware used is calibrated, of Class A tolerance, and traceable to an ISO/IEC 17025 accredited laboratory. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

For additional information or assistance concerning this or any other products from Wellington Laboratories Inc., please visit our website at www.well-labs.com or contact us directly at info@well-labs.com

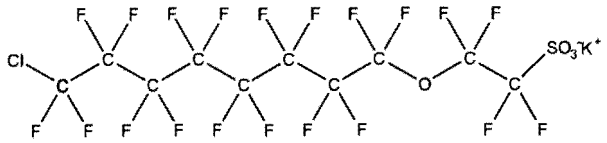
19L0667

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: 11Cl-PF3OUdS **LOT NUMBER:** 11ClPF3OUdS1118
COMPOUND: Potassium 11-chloroeicosafluoro-3-oxaundecane-1-sulfonate

STRUCTURE: **CAS #:** 83329-89-9



MOLECULAR FORMULA:	$C_{10}F_{20}ClSO_4K$	**MOLECULAR WEIGHT:**	670.69
CONCENTRATION:	50.0 ± 2.5 µg/ml (K Salt)	**SOLVENT(S):**	Methanol
	47.1 ± 2.4 µg/ml (11Cl-PF3OUdS anion)		
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	11/23/2018		
EXPIRY DATE: (mm/dd/yyyy)	11/23/2023		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- This compound is a minor component of the commercial formulation known as F-53B.

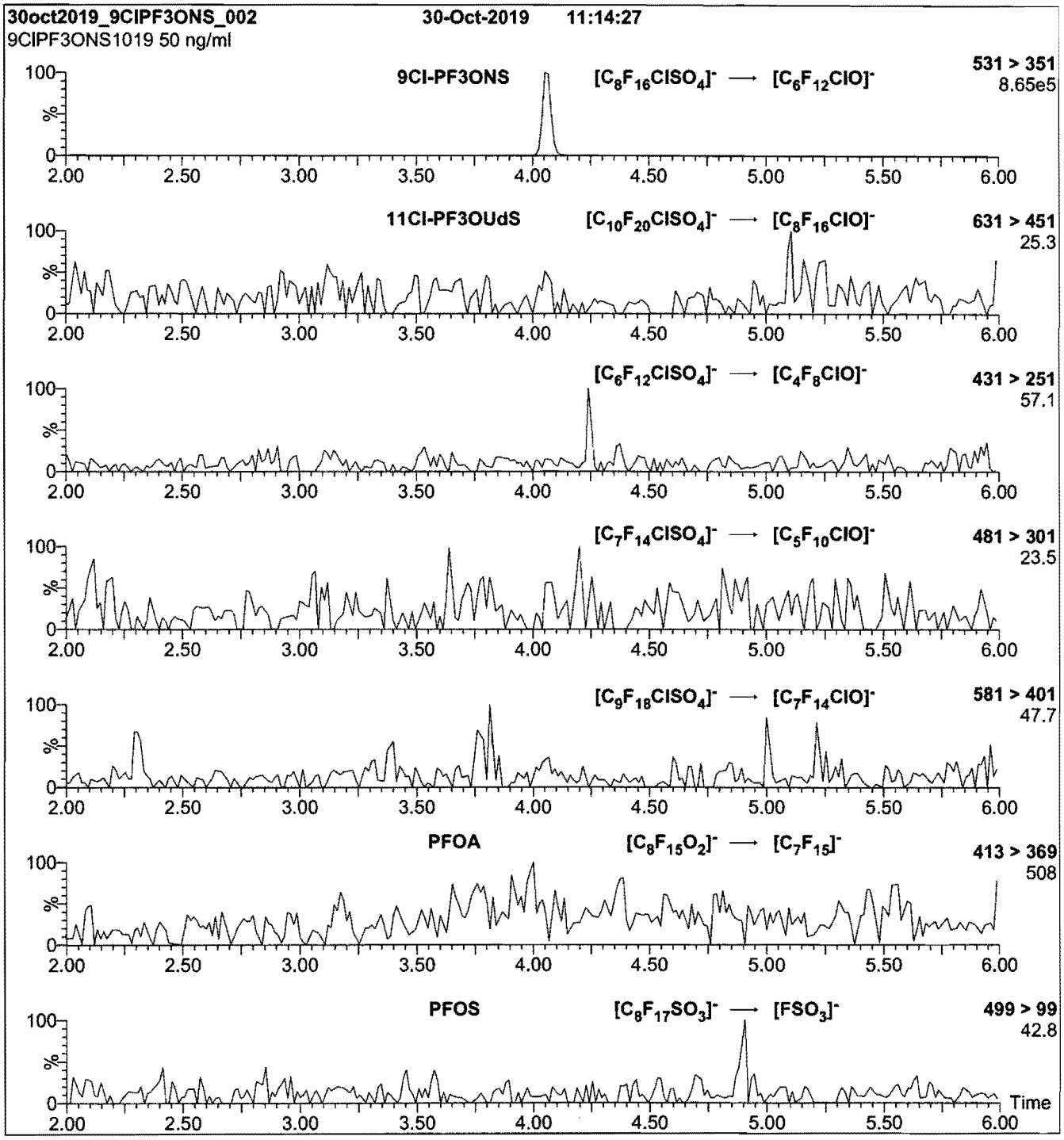
FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 11/28/2018
(mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

1910668

Figure 2: **9Cl-PF3ONS; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (9Cl-PF3ONS)

Mobile phase: Same as Figure 1

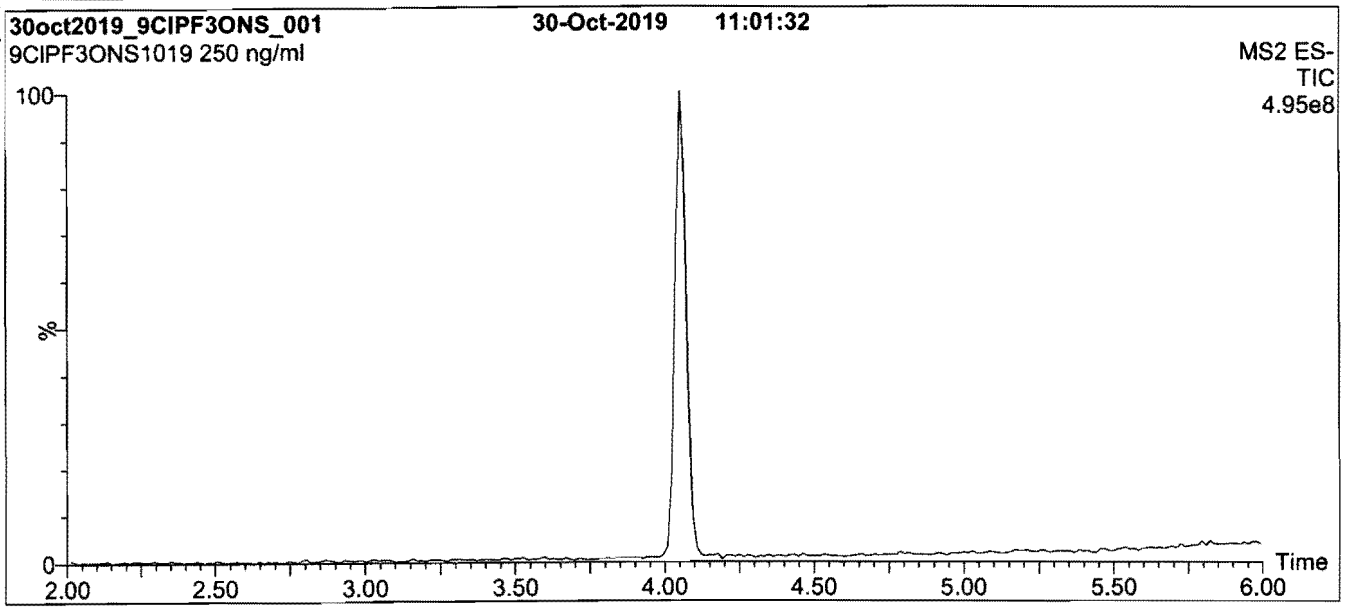
Flow: 300 µl/min

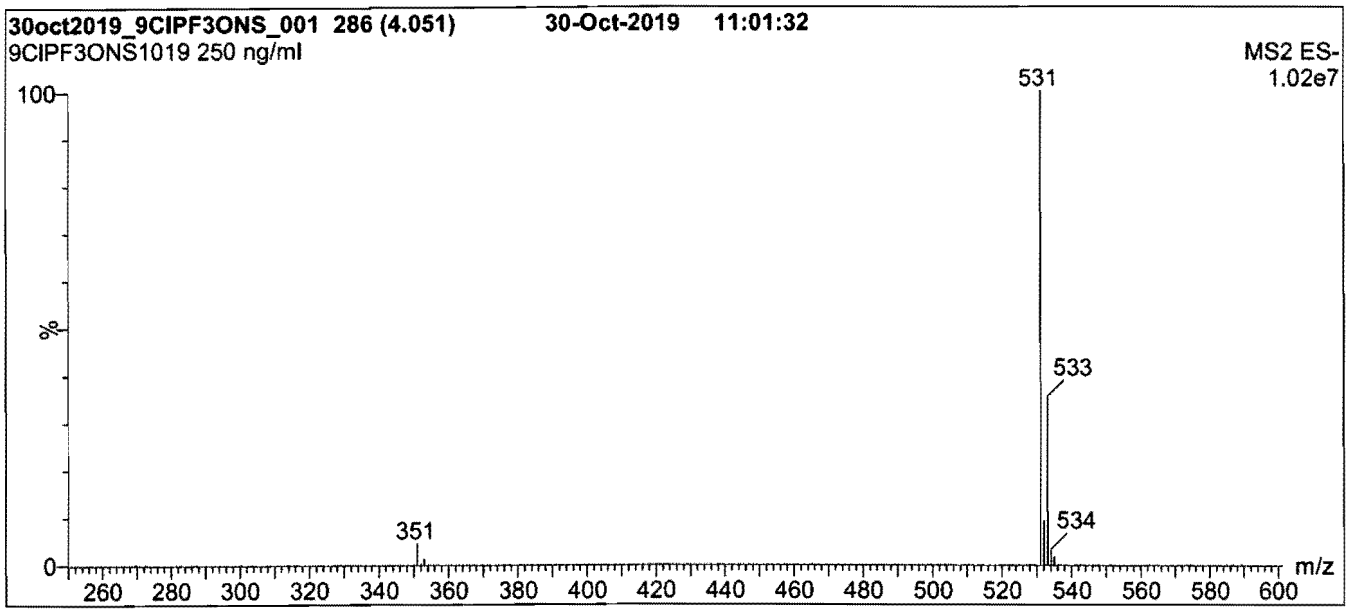
MS Parameters

Collision Gas (mbar) = 3.25e-3
Collision Energy (eV) = 20

19L0668

Figure 1: **9Cl-PF3ONS; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 60% (80:20 MeOH:ACN) / 40% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for
3 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (250 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 70.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 750

19L0668

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LIMITED WARRANTY:

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QUALITY MANAGEMENT:

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CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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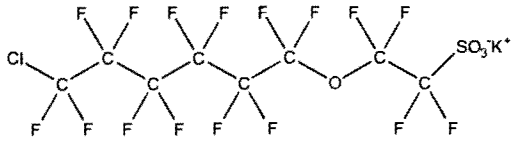
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: 9Cl-PF3ONS **LOT NUMBER:** 9ClPF3ONS1019

COMPOUND: Potassium 9-chlorohexadecafluoro-3-oxanonane-1-sulfonate

STRUCTURE: **CAS #:** 73606-19-6



MOLECULAR FORMULA:	$C_8F_{16}ClSO_4K$	**MOLECULAR WEIGHT:**	570.67
CONCENTRATION:	50.0 ± 2.5 µg/ml (K Salt) 46.6 ± 2.3 µg/ml (9Cl-PF3ONS anion)	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	10/30/2019		
EXPIRY DATE: (mm/dd/yyyy)	10/30/2024		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- This compound is the major component of the commercial formulation known as F-53B.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 11/04/2019 (mm/dd/yyyy)

B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
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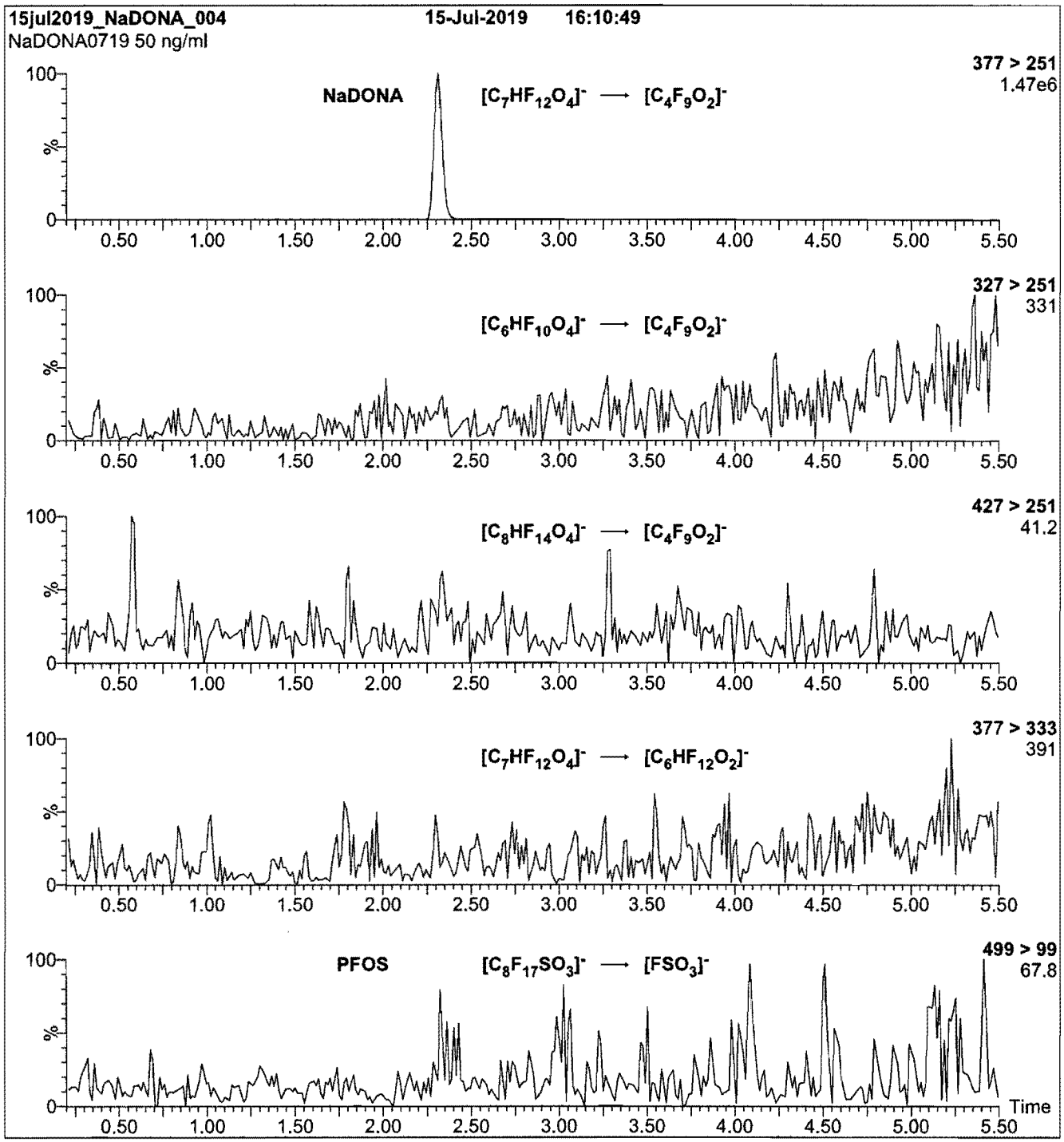
19L0669

Figure 2: **NaDONA; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (NaDONA)

Mobile phase: Same as Figure 1

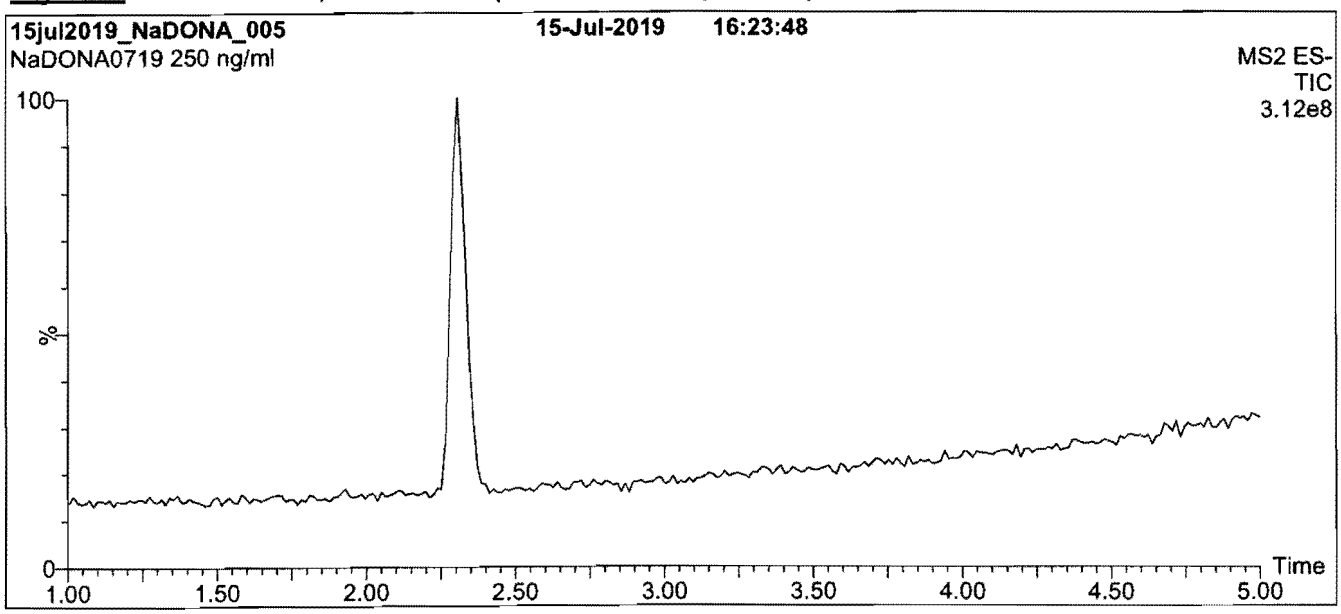
Flow: 300 µl/min

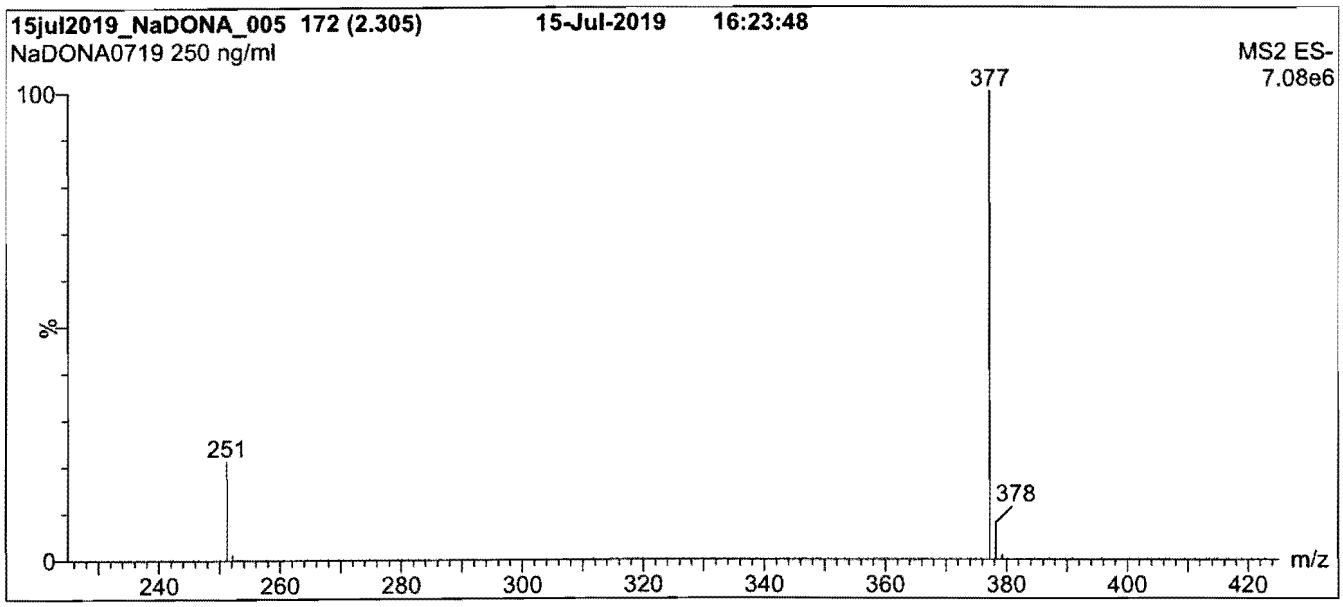
MS Parameters

Collision Gas (mbar) = 3.37e-3
Collision Energy (eV) = 10

19L0669

Figure 1: **NaDONA; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 55% (80:20 MeOH:ACN) / 45% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 8 min and hold for
2 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.70
Cone Voltage (V) = 20.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

19L0669

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where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

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CALA Testing Accreditation No. A1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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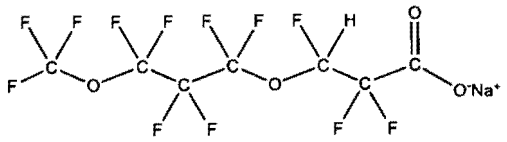
19L0669

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:	NaDONA	**LOT NUMBER:**	NaDONA0719
COMPOUND:	Sodium dodecafluoro-3H-4,8-dioxanonanoate		
STRUCTURE:		**CAS #:**	958445-44-8 (ammonium salt)



MOLECULAR FORMULA:	$C_7HF_{12}O_4Na$	**MOLECULAR WEIGHT:**	400.05
CONCENTRATION:	50 ± 2.5 µg/ml (Na Salt)	**SOLVENT(S):**	Methanol
	47.1 ± 2.4 µg/ml (NaDONA anion)		Water (<1%)
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	07/15/2019		
EXPIRY DATE: (mm/dd/yyyy)	07/15/2024		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Product is commercially known as ADONA.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

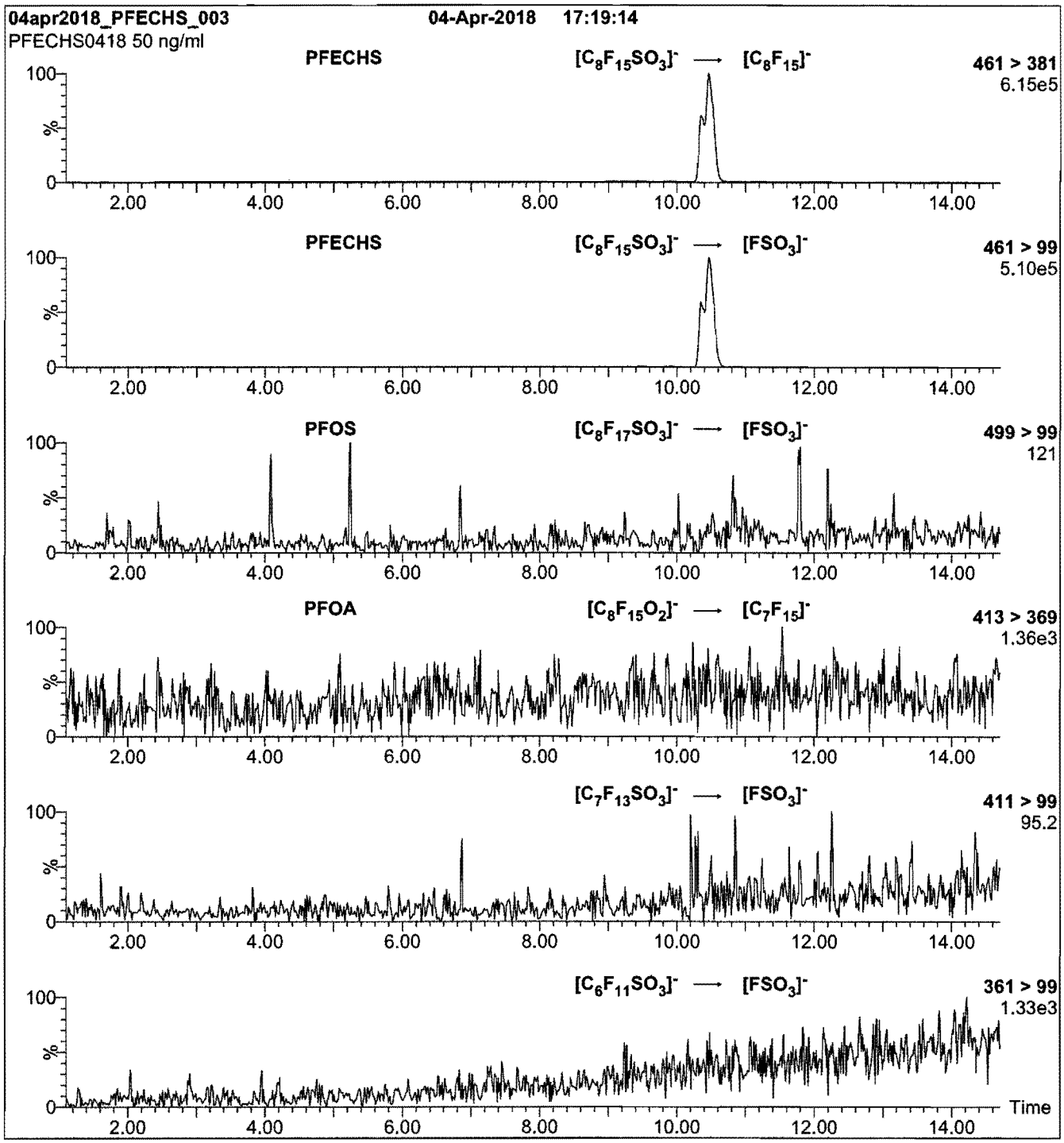
FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 07/25/2019 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

1910670

Figure 2: **PFECHS; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (PFECHS)

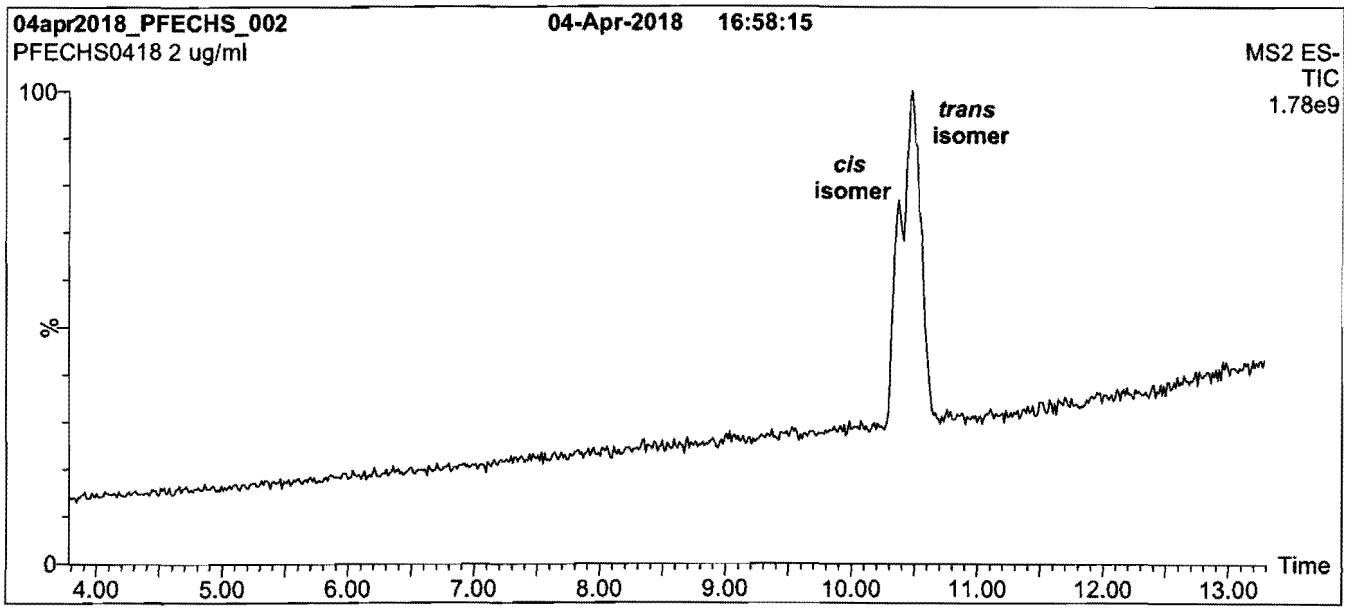
Mobile phase: Same as Figure 1

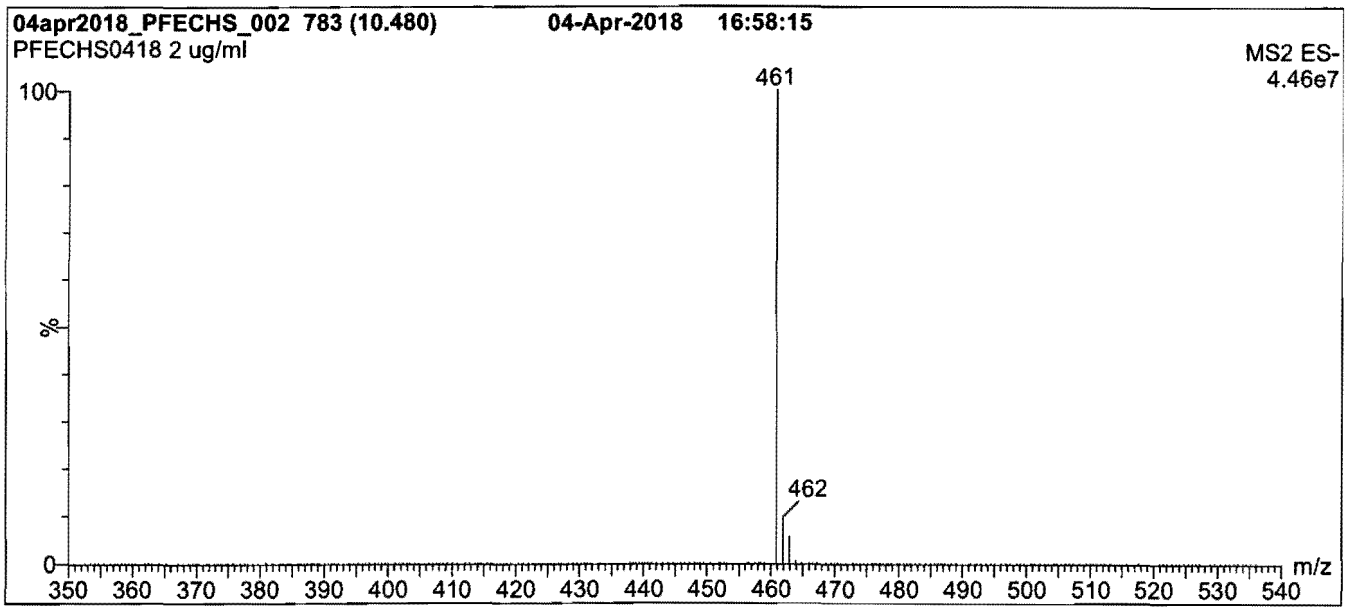
Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.37e-3
Collision Energy (eV) = 24

Figure 1: **PFECHS; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity CSH Fluoro-Phenyl
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 25% (80:20 MeOH:ACN) / 75% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 60% organic over 13 min.
Ramp to 80% organic over 2 min and hold for
2 min before returning to initial conditions in 1 min.
Time: 20 min

Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (350 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 45.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 750

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EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO 17034 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A1226

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

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1910670

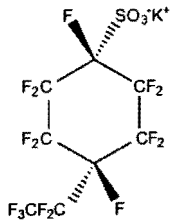
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

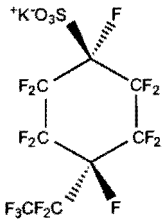
PRODUCT CODE: PFECHS **LOT NUMBER:** PFECHS0418

COMPOUND: Potassium perfluoro-4-ethylcyclohexanesulfonate (isomeric mixture)

STRUCTURE:



cis-isomer



trans-isomer

CAS #: 67584-42-3

MOLECULAR FORMULA:	$C_8F_{15}SO_3K$	**MOLECULAR WEIGHT:**	500.22
CONCENTRATION:	50.0 ± 2.5 µg/ml (K salt) 46.1 ± 2.3 µg/ml (PFECHS anion)	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	04/04/2018		
EXPIRY DATE: (mm/dd/yyyy)	04/04/2023		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains a mixture of the *cis*/*trans* isomers of PFECHS at a ratio of 2:3 (*cis*:*trans*).
- Contains ~ 1.5% of other isomeric impurities.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 04/09/2018 (mm/dd/yyyy)

B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
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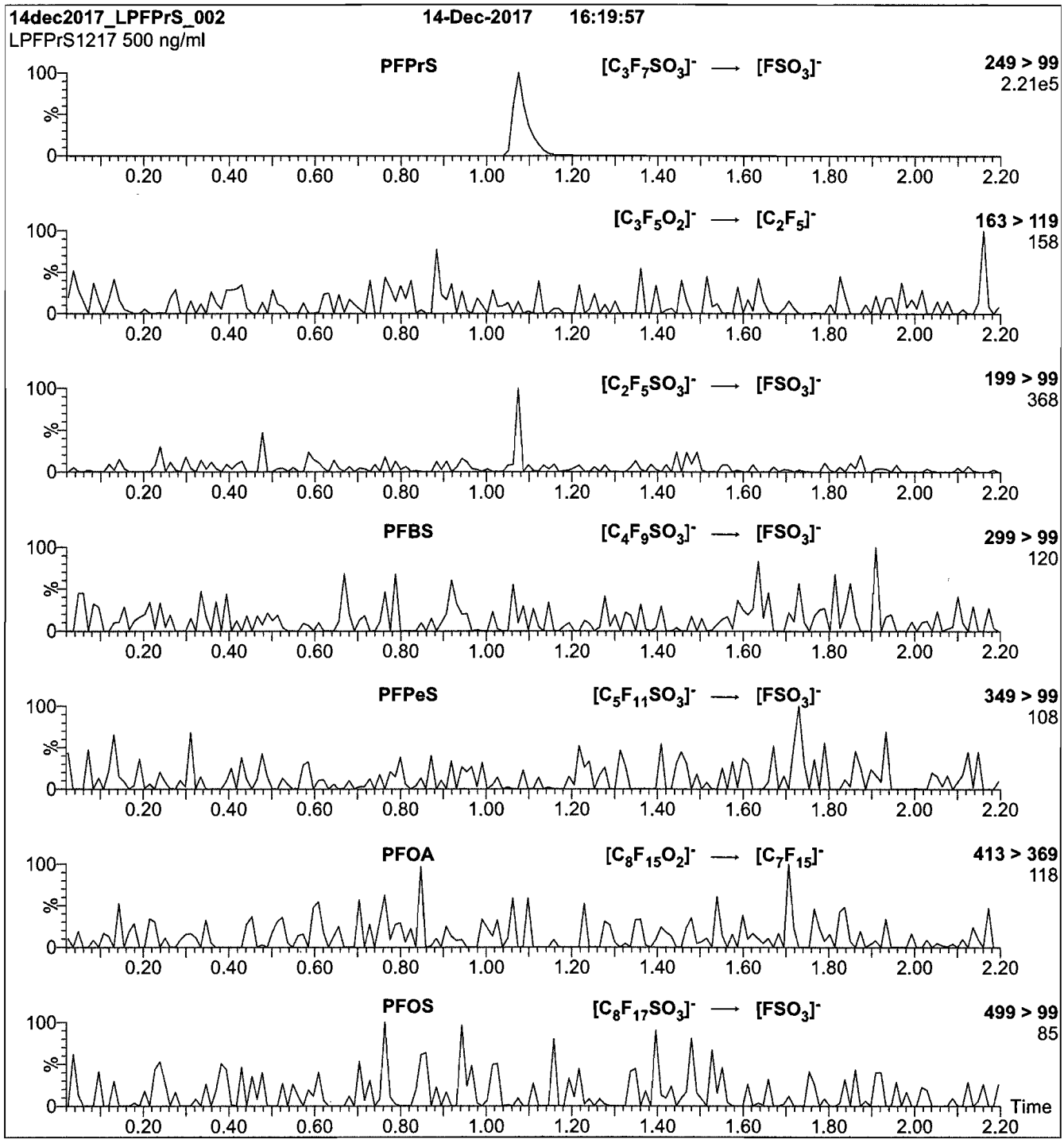
Figure 2: **L-PFPrS; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: Direct loop injection
10 µl (500 ng/ml L-PFPrS)

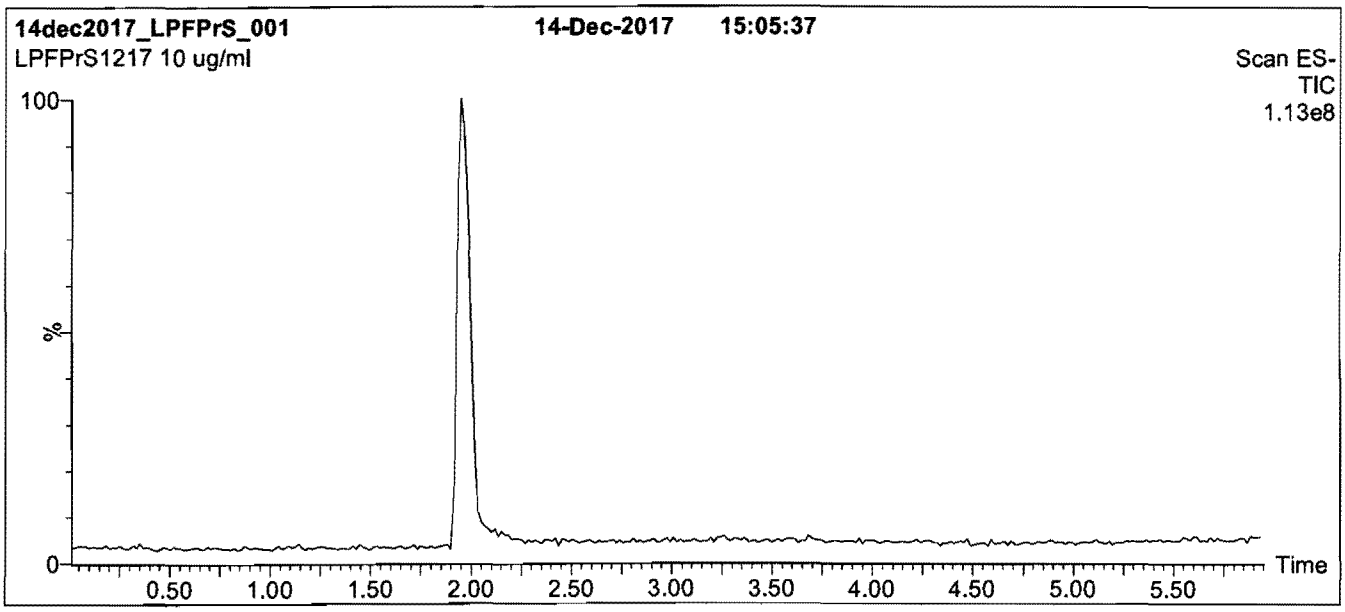
Mobile phase: Isocratic 80% (80:20 MeOH:ACN) / 20% H_2O
(both with 10 mM NH_4OAc buffer)

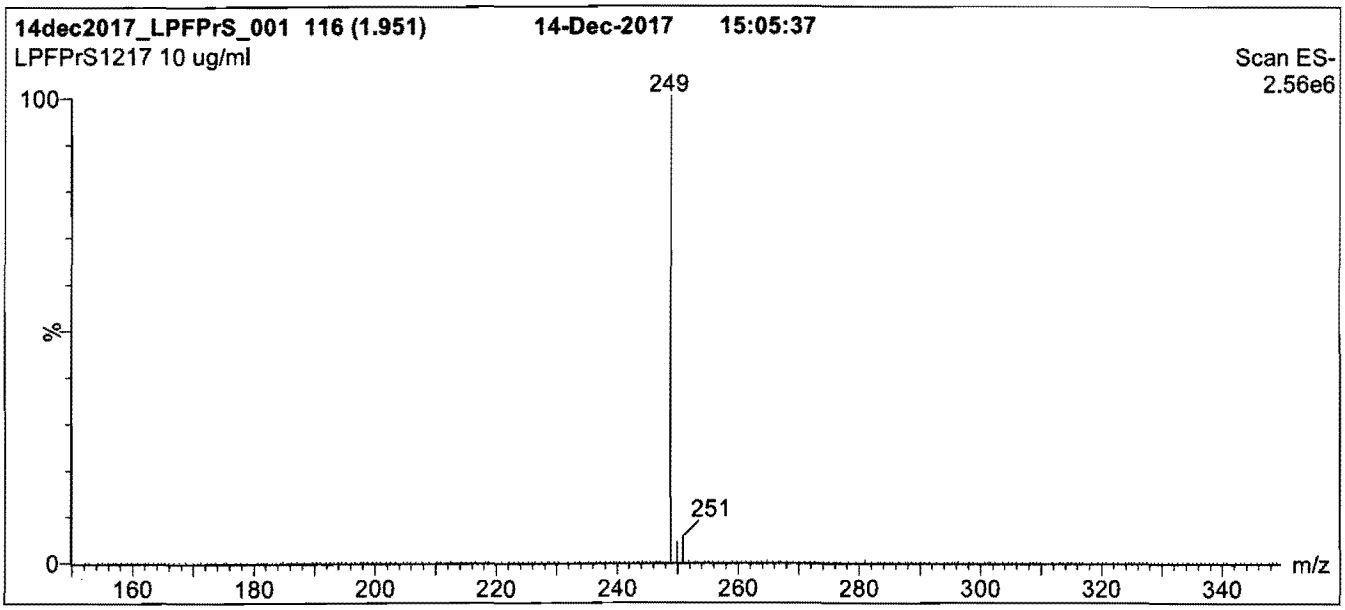
Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.43e-3
Collision Energy (eV) = 25

Figure 1: **L-PFPrS; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Micromass Quattro *micro* API MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 30% (80:20 MeOH:ACN) / 70% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for 1.5 min
before returning to initial conditions over 0.5 min.
Time: 10 min

Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (150 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 3.00
Cone Voltage (V) = 40.00
Cone Gas Flow (l/hr) = 50
Desolvation Gas Flow (l/hr) = 750

INTENDED USE:

The products prepared by Wellington Laboratories Inc. are for laboratory use only. This certified reference material (CRM) was designed to be used as a standard for the identification and/or quantification of the specific chemical compound it contains.

HAZARDS:

This product should only be used by qualified personnel familiar with its potential hazards and trained in the handling of hazardous chemicals. Due care should be exercised to prevent unnecessary human contact or ingestion. All procedures should be carried out in a well-functioning fume hood and suitable gloves, eye protection, and clothing should be worn at all times. Waste should be disposed of according to national and regional regulations. Safety Data Sheets (SDSs) are available upon request.

SYNTHESIS / CHARACTERIZATION:

Where possible, all of our products are synthesized using single-product unambiguous routes. They are then characterized, and their structures and purities confirmed, using a combination of the most relevant techniques, such as NMR, GC/MS, LC/MS/MS, SFC/UV/MS/MS, x-ray crystallography, and melting point. Isotopic purities of mass-labelled compounds are also confirmed using HRGC/HRMS and/or LC/MS/MS.

HOMOGENEITY:

Prior to solution preparation, crystalline material is tested for homogeneity using a variety of techniques (as stated above) and its solubility in a given diluent is taken into consideration. Duplicate solutions of a new product are prepared from the same crystalline lot and, after the addition of an appropriate internal standard, they are compared by GC/MS, LC/MS/MS and/or SFC/UV/MS/MS. The relative response factors of the analyte of interest in each solution are required to be <5% RSD. New solution lots of existing products are compared to older lots in the same manner, which further confirms the homogeneity of the crystalline material as well as the stability and homogeneity of the solutions in the storage containers. In order to maintain the integrity of the assigned value(s), and associated uncertainty, the dilution or injection of a subsample of this product should be performed using calibrated measuring equipment.

UNCERTAINTY:

The maximum combined relative standard uncertainty of our reference standard solutions is calculated using the following equation:

The combined relative standard uncertainty, $u_c(y)$, of a value y and the uncertainty of the independent parameters $x_1, x_2, \ldots x_n$ on which it depends is:

$$u_c(y(x_1, x_2, \ldots x_n)) = \sqrt{\sum_{i=1}^{n} u(y, x_i)^2}$$

where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

TRACEABILITY:

All reference standard solutions are traceable to specific crystalline lots. The microbalances used for solution preparation are regularly tested by an external ISO/IEC 17025 accredited calibration company. In addition, their calibration is verified prior to each weighing using calibrated NIST and/or NRC traceable external weights. All volumetric glassware used is calibrated, of Class A tolerance, and has been tested according to the appropriate ASTM procedures, which are ultimately traceable to NIST. For certain products, traceability to international interlaboratory studies has also been established.

EXPIRY DATE / PERIOD OF VALIDITY:

Ongoing stability studies of this product have demonstrated stability in its composition and concentration, until the specified expiry date, in the unopened ampoule. Monitoring for any degradation or change in concentration of the listed analyte(s) is performed on a routine basis.

LIMITED WARRANTY:

At the time of shipment, all products are warranted to be free of defects in material and workmanship and to conform to the stated technical and purity specifications.

QUALITY MANAGEMENT:

This product was produced using a Quality Management System registered to the latest versions of ISO 9001 by SAI Global, ISO/IEC 17025 by the Canadian Association for Laboratory Accreditation Inc. (CALA; A 1226), and ISO GUIDE 34 by ANSI-ASQ National Accreditation Board (ANAB; AR-1523).

CALA Testing Accreditation No. A 1226

ANAB ACCREDITED REFERENCE MATERIAL PRODUCER

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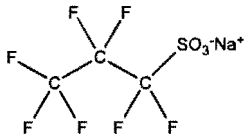
1L0671

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	L-PFPrS	**LOT NUMBER:**	LPFPrS1217
COMPOUND:	Sodium perfluoro-1-propanesulfonate		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$C_3F_7SO_3Na$	**MOLECULAR WEIGHT:**	272.07
CONCENTRATION:	50.0 ± 2.5 µg/ml (Na salt) 45.8 ± 2.3 µg/ml (PFPrS anion)	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	12/14/2017		
EXPIRY DATE: (mm/dd/yyyy)	12/14/2022		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 12/18/2017 (mm/dd/yyyy)
B.G. Chittim, General Manager

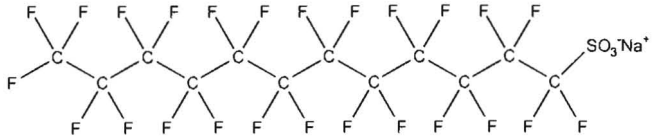
Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

19L1707

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:	L-PFDoS	**LOT NUMBER:**	LPFDoS1218
COMPOUND:	Sodium perfluoro-1-dodecanesulfonate		
STRUCTURE:		**CAS #:**	1260224-54-1



MOLECULAR FORMULA:	$C_{12}F_{25}SO_3Na$	**MOLECULAR WEIGHT:**	722.14
CONCENTRATION:	50.0 ± 2.5 µg/ml (Na salt) 48.4 ± 2.4 µg/ml (PFDoS anion)	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	12/06/2018		
EXPIRY DATE: (mm/dd/yyyy)	12/06/2023		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

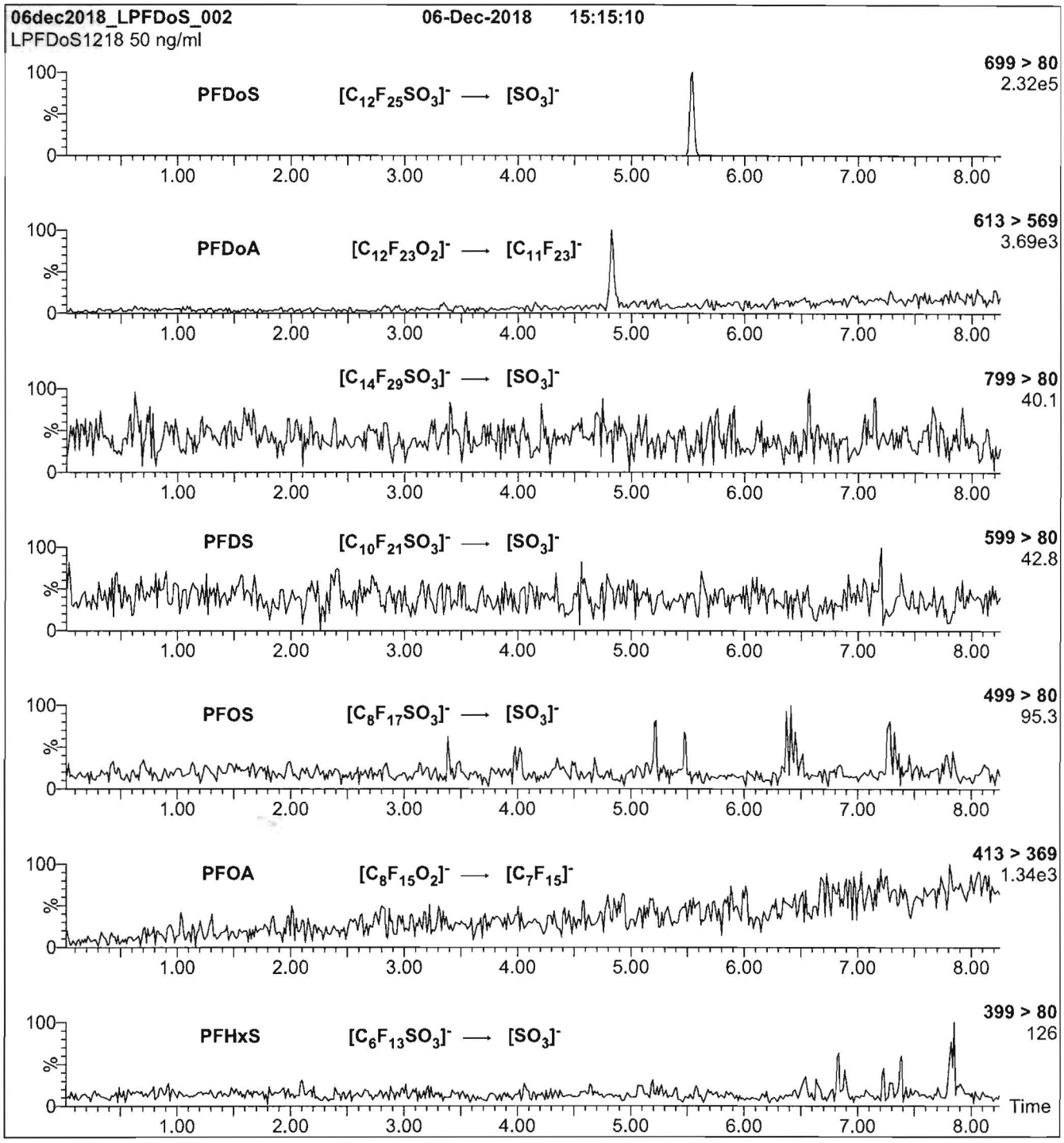
- See page 2 for further details.
- Contains ~ 0.2% of perfluoro-n-dodecanoic acid (PFDoA).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 12/20/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Figure 2: **L-PFDoS; LC/MS/MS Data (Selected MRM Transitions)**



Conditions for Figure 2:

Injection: On-column (L-PFDoS)

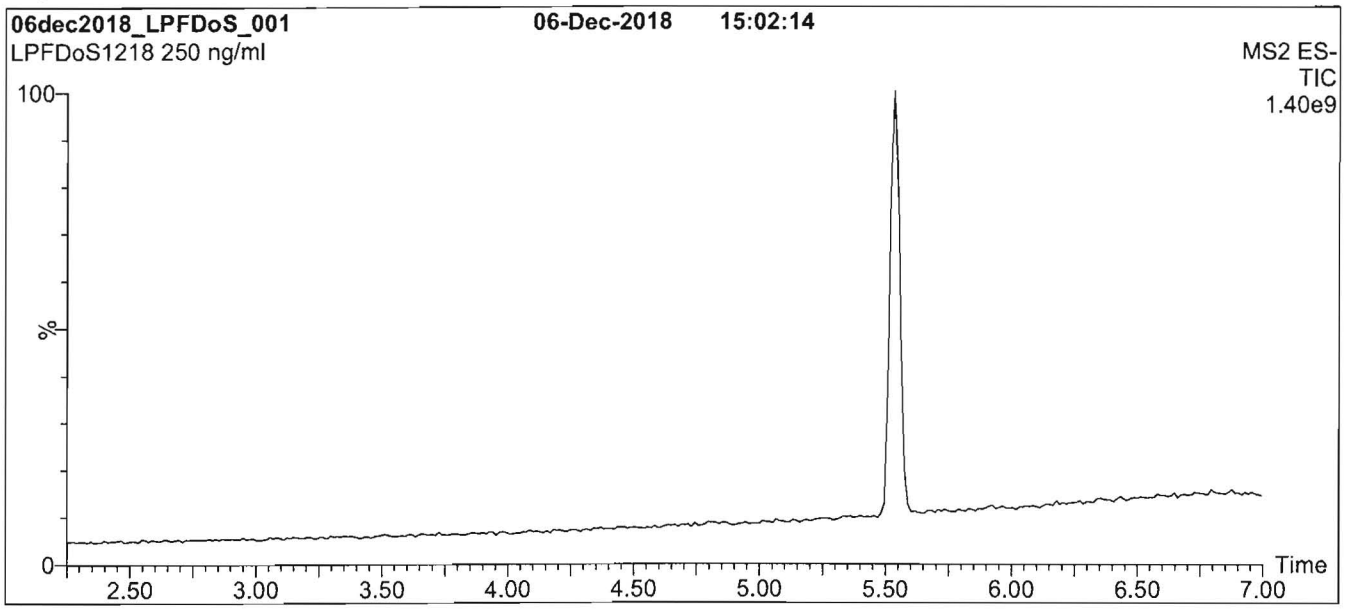
Mobile phase: Same as Figure 1

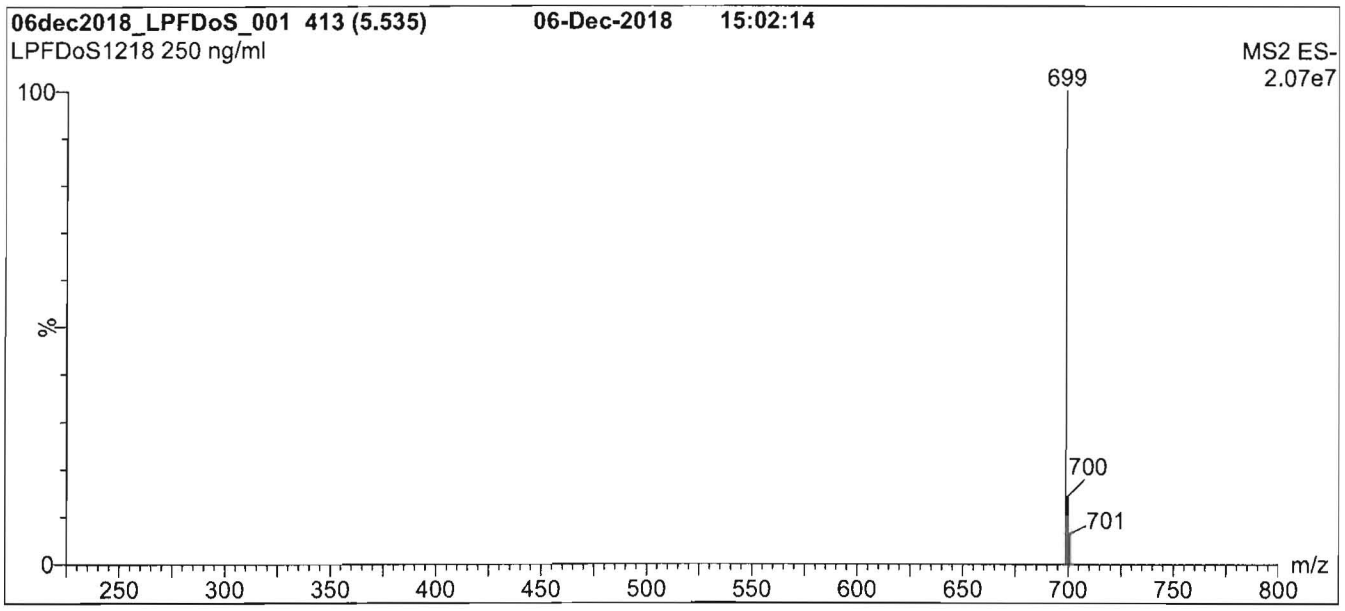
Flow: 300 µl/min

MS Parameters

Collision Gas (mbar) = 3.27e-3
Collision Energy (eV) = 60

Figure 1: **L-PFDoS; LC/MS Data (TIC and Mass Spectrum)**





Conditions for Figure 1:

LC: **Waters Acquity Ultra Performance LC**
MS: **Waters Xevo TQ-S micro MS**

Chromatographic Conditions

Column: Acquity UPLC BEH Shield RP_{18}
1.7 µm, 2.1 x 100 mm

Mobile phase: Gradient
Start: 60% (80:20 MeOH:ACN) / 40% H_2O
(both with 10 mM NH_4OAc buffer)
Ramp to 90% organic over 7 min and hold for
3 min before returning to initial conditions in 0.75 min.
Time: 12 min

Flow: 300 µl/min

MS Parameters

Experiment: Full Scan (225 - 850 amu)

Source: Electrospray (negative)
Capillary Voltage (kV) = 2.00
Cone Voltage (V) = 10.00
Desolvation Temperature (°C) = 500
Desolvation Gas Flow (l/hr) = 1000

INTENDED USE:

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HANDLING:

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where x is expressed as a relative standard uncertainty of the individual parameter.

The individual uncertainties taken into account include those associated with weights (calibration of the balance) and volumes (calibration of the volumetric glassware). An expanded maximum combined percent relative uncertainty of ±5% (calculated with a coverage factor of 2 and a level of confidence of 95%) is stated on the Certificate of Analysis for all of our products.

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QUALITY MANAGEMENT:

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CALA Testing Accreditation No. A 1226

ANAB ACCREDITED ISO 17034 REFERENCE MATERIAL PRODUCER

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"TW21D-20200707","537_MOD","07/14/20","19:02","N","NA","000","13C2-PFDoA","13C2-PFDoA","51.9","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","51.9","51.9","","","","","","50","150","","","","",""
"TW21D-20200707","537_MOD","07/14/20","19:02","N","NA","000","13C2-PFTeDA","13C2-PFTeDA","32.1","","IS","Yes","Y","H","Y","","","","PCT_REC","","","","","100","32.1","32.1","","","","","","50","150","","*","","","
"TW09D-20200707","537_MOD","07/14/20","19:13","N","NA","000","375-73-

5","PFBS","0.0693","","TRG","Yes","Y","","Y","0.00131","0.00191","0.00382","UG_L","UG_L","","","

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"TW09D-20200707","537_MOD","07/14/20","19:13","N","NA","000","72629-94-8","PFTrDA","","","TRG","Yes","N","U","Y","0.00131","0.00191","0.00382","UG_L","UG_L","","","","","","","","","

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"TW22D-20200707","537_MOD","07/14/20","19:23","N","NA","000","13252-13-6","HEXAFLUOROPROPYLENE OXIDE DIMER ACID (HFPO-DA)","","","TRG","Yes","N","U","Y","0.00224","0.00279","0.00372","UG_L","UG_L","
","TW22D-20200707","537_MOD","07/14/20","19:23","N","NA","000","375-85-9","PERFLUOROHEPTANOIC ACID (PFHPA)","0.363","","TRG","Yes","Y","","Y","0.00127","0.00186","0.00372","UG_L","UG_L","
","TW22D-20200707","537_MOD","07/14/20","19:23","N","NA","000","919005-14-4","4,8-DIOXA-3H-PERFLUORONONANOIC ACID (ADONA)","","","TRG","Yes","N","U","Y","0.00127","0.00186","0.00372","UG_L","UG_L","
","TW22D-20200707","537_MOD","07/14/20","19:23","N","NA","000","355-46-4","PERFLUOROHEXANESULFONIC ACID (PFHXS)","0.886","","TRG","Yes","Y","","Y","0.00127","0.00186","0.00372","UG_L","UG_L","
","TW22D-20200707","537_MOD","07/14/20","19:23","N","NA","000","335-67-1","PERFLUOROOCTANOIC ACID (PFOA)","0.961","","TRG","Yes","Y","","Y","0.00127","0.00186","0.00372","UG_L","UG_L","
","TW22D-20200707","537_MOD","07/14/20","19:23","N","NA","000","375-95-1","PERFLUORONONANOIC ACID (PFNA)","0.00496","","TRG","Yes","Y","","Y","0.00127","0.00186","0.00372","UG_L","UG_L","
","TW22D-20200707","537_MOD","07/14/20","19:23","N","NA","000","1763-23-1","HEPTADECAFLUOROACTANESULFONIC ACID SOLUTION","0.444","","TRG","Yes","Y","","Y","0.00127","0.00186","0.00372","UG_L","UG_L","
","TW22D-20200707","537_MOD","07/14/20","19:23","N","NA","000","756426-58-1","9-CHLOROHEXADECAFLUORO-3-OXANONE-1-SULFONIC ACID (9Cl-PF3ONS)","","","TRG","Yes","N","U","Y","0.00127","0.00186","0.00372","UG_L","UG_L","
","TW22D-20200707","537_MOD","07/14/20","19:23","N","NA","000","335-76-2","PERFLUORODECANOIC ACID (PFDA)","0.00303","","TRG","Yes","Y","J","Y","0.00127","0.00186","0.00372","UG_L","UG_L","
","TW22D-20200707","537_MOD","07/14/20","19:23","N","NA","000","2355-31-9","MeFOSAA","","","TRG","Yes","N","U","Y","0.00127","0.00186","0.00372","UG_L","UG_L","
","TW22D-20200707","537_MOD","07/14/20","19:23","N","NA","000","2991-50-6","EtFOSAA","","","TRG","Yes","N","U","Y","0.00127","0.00186","0.00372","UG_L","UG_L","
","TW22D-20200707","537_MOD","07/14/20","19:23","N","NA","000","2058-94-8","PERFLUOROUNDECANOIC ACID (PFUNA)","","","TRG","Yes","N","U","Y","0.00127","0.00186","0.00372","UG_L","UG_L","
","TW22D-20200707","537_MOD","07/14/20","19:23","N","NA","000","763051-92-9","11-CHLOROEICOSAFLUORO-3-OXAUNDECANE-1-SULFONIC ACID (11Cl-PF3OUdS)","","","TRG","Yes","N","U","Y","0.00127","0.00186","0.00372","UG_L","UG_L","
","TW22D-20200707","537_MOD","07/14/20","19:23","N","NA","000","307-55-1","PERFLUORODODECANOIC ACID (PFDOA)","","","TRG","Yes","N","U","Y","0.00127","0.00186","0.00372","UG_L","UG_L","
","TW22D-20200707","537_MOD","07/14/20","19:23","N","NA","000","72629-94-8","PFTrDA","","","TRG","Yes","N","U","Y","0.00127","0.00186","0.00372","UG_L","UG_L","

"TW22D-20200707","537_MOD","07/14/20","19:23","N","NA","000","376-06-7","PFTeDA","","","TRG","Yes","N","U","Y","0.00127","0.00186","0.00372","UG_L","UG_L","","","

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"EB06-20200708","537_MOD","07/14/20","19:45","N","NA","000","375-85-9","PERFLUOROHEPTANOIC ACID (PFHPA)","","","TRG","Yes","N","U","Y","0.00134","0.00196","0.00392","UG_L","UG_L","","","","","","","","","","","","","","","","","","","
"EB06-20200708","537_MOD","07/14/20","19:45","N","NA","000","919005-14-4","4,8-DIOXA-3H-PERFLUORONONANOIC ACID (ADONA)","","","TRG","Yes","N","U","Y","0.00134","0.00196","0.00392","UG_L","UG_L","","","","","","","","","","","","","","","","","","","
"EB06-20200708","537_MOD","07/14/20","19:45","N","NA","000","355-46-4","PERFLUOROHEXANESULFONIC ACID (PFHXS)","","","TRG","Yes","N","U","Y","0.00134","0.00196","0.00392","UG_L","UG_L","","","","","","","","","","","","","","","","","","","
"EB06-20200708","537_MOD","07/14/20","19:45","N","NA","000","335-67-1","PERFLUOROOCTANOIC ACID (PFOA)","","","TRG","Yes","N","U","Y","0.00134","0.00196","0.00392","UG_L","UG_L","","","","","","","","","","","","","","","","","","","
"EB06-20200708","537_MOD","07/14/20","19:45","N","NA","000","375-95-1","PERFLUORONONANOIC ACID (PFNA)","","","TRG","Yes","N","U","Y","0.00134","0.00196","0.00392","UG_L","UG_L","","","","","","","","","","","","","","","","","","","
"EB06-20200708","537_MOD","07/14/20","19:45","N","NA","000","1763-23-1","HEPTADECAFLUOROACTANESULFONIC ACID SOLUTION","","","TRG","Yes","N","U","Y","0.00134","0.00196","0.00392","UG_L","UG_L","","","","","","","","","","","","","","","","","","","
"EB06-20200708","537_MOD","07/14/20","19:45","N","NA","000","756426-58-1","9-CHLOROHEXADECAFLUORO-3-OXANONE-1-SULFONIC ACID (9Cl-PF3ONS)","","","TRG","Yes","N","U","Y","0.00134","0.00196","0.00392","UG_L","UG_L","","","","","","","","","","","","","","","","","","","
"EB06-20200708","537_MOD","07/14/20","19:45","N","NA","000","335-76-2","PERFLUORODECANOIC ACID (PFDA)","","","TRG","Yes","N","U","Y","0.00134","0.00196","0.00392","UG_L","UG_L","","","","","","","","","","","","","","","","","","","
"EB06-20200708","537_MOD","07/14/20","19:45","N","NA","000","2355-31-9","MeFOSAA","","","TRG","Yes","N","U","Y","0.00134","0.00196","0.00392","UG_L","UG_L","","","","","","","","","","","","","","","","","","","
"EB06-20200708","537_MOD","07/14/20","19:45","N","NA","000","2991-50-6","EtFOSAA","","","TRG","Yes","N","U","Y","0.00134","0.00196","0.00392","UG_L","UG_L","","","","","","","","","","","","","","","","","","","
"EB06-20200708","537_MOD","07/14/20","19:45","N","NA","000","2058-94-8","PERFLUOROUNDECANOIC ACID (PFUNA)","","","TRG","Yes","N","U","Y","0.00134","0.00196","0.00392","UG_L","UG_L","","","","","","","","","","","","","","","","","","","
"EB06-20200708","537_MOD","07/14/20","19:45","N","NA","000","763051-92-9","11-CHLOROEICOSAFLUORO-3-OXAUNDECANE-1-SULFONIC ACID (11Cl-PF3OUdS)","","","TRG","Yes","N","U","Y","0.00134","0.00196","0.00392","UG_L","UG_L","","","","","","","","","","","","","","","","","","","
"EB06-20200708","537_MOD","07/14/20","19:45","N","NA","000","307-55-1","PERFLUORODODECANOIC ACID (PFDOA)","","","TRG","Yes","N","U","Y","0.00134","0.00196","0.00392","UG_L","UG_L","","","","","","","","","","","","","","","","","","","
"EB06-20200708","537_MOD","07/14/20","19:45","N","NA","000","72629-94-8","PFTrDA","","","TRG","Yes","N","U","Y","0.00134","0.00196","0.00392","UG_L","UG_L","","","","","","","","","","","","","","","","","","","
"EB06-20200708","537_MOD","07/14/20","19:45","N","NA","000","376-06-7","PFTeDA","","","TRG","Yes","N","U","Y","0.00134","0.00196","0.00392","UG_L","UG_L","","","","","","","","","","","","","","","","","","","
"EB06-20200708","537_MOD","07/14/20","19:45","N","NA","000","13C3-PFBS","13C3-PFBS","71.2","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","71.2","71.2","","","","","","50","150","",

"","","",""
"EB06-20200708","537_MOD","07/14/20","19:45","N","NA","000","13C3-HFPO-DA","13C3-HFPO-DA","70.4","","IS","Yes","Y","","Y","","","","","PCT_REC","","","","","100","70.4","70.4","","","","","","50","150","","","","",""
"EB06-20200708","537_MOD","07/14/20","19:45","N","NA","000","13C2-PFHxA","13C2-PFHxA","66.5","","IS","Yes","Y","","Y","","","","","PCT_REC","","","","","100","66.5","66.5","","","","","","50","150","","","","",""
"EB06-20200708","537_MOD","07/14/20","19:45","N","NA","000","13C4-PFHpA","13C4-PFHpA","68.8","","IS","Yes","Y","","Y","","","","","PCT_REC","","","","","100","68.8","68.8","","","","","","50","150","","","","",""
"EB06-20200708","537_MOD","07/14/20","19:45","N","NA","000","13C3-PFHxS","13C3-PFHxS","74.1","","IS","Yes","Y","","Y","","","","","PCT_REC","","","","","100","74.1","74.1","","","","","","50","150","","","","",""
"EB06-20200708","537_MOD","07/14/20","19:45","N","NA","000","13C5-PFNA","13C5-PFNA","65.3","","IS","Yes","Y","","Y","","","","","PCT_REC","","","","","100","65.3","65.3","","","","","","50","150","","","","",""
"EB06-20200708","537_MOD","07/14/20","19:45","N","NA","000","13C2-PFOA","13C2-PFOA","71.3","","IS","Yes","Y","","Y","","","","","PCT_REC","","","","","100","71.3","71.3","","","","","","50","150","","","","",""
"EB06-20200708","537_MOD","07/14/20","19:45","N","NA","000","13C8-PFOS","13C8-PFOS","72.0","","IS","Yes","Y","","Y","","","","","PCT_REC","","","","","100","72.0","72.0","","","","","","50","150","","","","",""
"EB06-20200708","537_MOD","07/14/20","19:45","N","NA","000","13C2-PFDA","13C2-PFDA","65.4","","IS","Yes","Y","","Y","","","","","PCT_REC","","","","","100","65.4","65.4","","","","","","50","150","","","","",""
"EB06-20200708","537_MOD","07/14/20","19:45","N","NA","000","d3-MeFOSAA","d3-MeFOSAA","58.9","","IS","Yes","Y","","Y","","","","","PCT_REC","","","","","100","58.9","58.9","","","","","","50","150","","","","",""
"EB06-20200708","537_MOD","07/14/20","19:45","N","NA","000","13C2-PFUnA","13C2-PFUnA","66.2","","IS","Yes","Y","","Y","","","","","PCT_REC","","","","","100","66.2","66.2","","","","","","50","150","","","","",""
"EB06-20200708","537_MOD","07/14/20","19:45","N","NA","000","d5-EtFOSAA","d5-EtFOSAA","51.8","","IS","Yes","Y","","Y","","","","","PCT_REC","","","","","100","51.8","51.8","","","","","","50","150","","","","","",""
"EB06-20200708","537_MOD","07/14/20","19:45","N","NA","000","13C2-PFDoA","13C2-PFDoA","59.4","","IS","Yes","Y","","Y","","","","","PCT_REC","","","","","100","59.4","59.4","","","","","","50","150","","","","",""
"EB06-20200708","537_MOD","07/14/20","19:45","N","NA","000","13C2-PFTeDA","13C2-PFTeDA","59.6","","IS","Yes","Y","","Y","","","","","PCT_REC","","","","","100","59.6","59.6","","","","","","50","150","","","","","",""
"TW23D-20200708","537_MOD","07/14/20","19:55","N","NA","000","375-73-5","PFBS","0.711","","TRG","Yes","Y","","Y","0.00123","0.00180","0.00360","UG_L","UG_L",""
"TW23D-20200708","537_MOD","07/15/20","15:20","N","NA","DL1","307-24-4","PERFLUOROHEXANOIC ACID (PFHXA)","2.98","","TRG","Yes","Y","D","Y","0.0123","0.0180","0.0360","UG_L","UG_L",""
"TW23D-20200708","537_MOD","07/14/20","19:55","N","NA","000","13252-13-6","HEXAFLUOROPROPYLENE OXIDE DIMER ACID (HFPO-DA)","","","TRG","Yes","N","U","Y","0.00217","0.00270","0.00360","UG_L","UG_L",""
"TW23D-20200708","537_MOD","07/14/20","19:55","N","NA","000","375-85-9","PERFLUOROHEPTANOIC ACID (PFHPA)","0.772","","TRG","Yes","Y","","Y","0.00123","0.00180","0.00360","UG_L","UG_L",""
"TW23D-20200708","537_MOD","07/14/20","19:55","N","NA","000","919005-14-4","4,8-DIOXA-3H-

PERFLUORONONANOIC ACID
(ADONA)","","","TRG","Yes","N","U","Y","0.00123","0.00180","0.00360","UG_L","UG_L","","","

"TW23D-20200708","537_MOD","07/15/20","15:20","N","NA","DL1","13C2-PFHxA","13C2-PFHxA","71.5","","IS","Yes","Y","D","Y","","","","PCT_REC","","","","","100","71.5","71.5","","","","","","50","150","","","","",""
"TW23D-20200708","537_MOD","07/14/20","19:55","N","NA","000","13C4-PFHpA","13C4-PFHpA","60.8","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","60.8","60.8","","","","","","50","150","","","","",""
"TW23D-20200708","537_MOD","07/15/20","15:20","N","NA","DL1","13C3-PFHxS","13C3-PFHxS","66.8","","IS","Yes","Y","D","Y","","","","PCT_REC","","","","","100","66.8","66.8","","","","","","50","150","","","","",""
"TW23D-20200708","537_MOD","07/14/20","19:55","N","NA","000","13C5-PFNA","13C5-PFNA","61.0","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","61.0","61.0","","","","","","50","150","","","","",""
"TW23D-20200708","537_MOD","07/15/20","15:20","N","NA","DL1","13C2-PFOA","13C2-PFOA","77.0","","IS","Yes","Y","D","Y","","","","PCT_REC","","","","","100","77.0","77.0","","","","","","50","150","","","","",""
"TW23D-20200708","537_MOD","07/14/20","19:55","N","NA","000","13C8-PFOS","13C8-PFOS","64.0","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","64.0","64.0","","","","","","50","150","","","","",""
"TW23D-20200708","537_MOD","07/14/20","19:55","N","NA","000","13C2-PFDA","13C2-PFDA","59.5","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","59.5","59.5","","","","","","50","150","","","","",""
"TW23D-20200708","537_MOD","07/14/20","19:55","N","NA","000","d3-MeFOSAA","d3-MeFOSAA","53.2","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","53.2","53.2","","","","","","50","150","","","","",""
"TW23D-20200708","537_MOD","07/14/20","19:55","N","NA","000","13C2-PFUnA","13C2-PFUnA","50.7","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","50.7","50.7","","","","","","50","150","","","","",""
"TW23D-20200708","537_MOD","07/14/20","19:55","N","NA","000","d5-EtFOSAA","d5-EtFOSAA","48.0","","IS","Yes","Y","H","Y","","","","PCT_REC","","","","","100","48.0","48.0","","","","","","50","150","","*","","",""
"TW23D-20200708","537_MOD","07/14/20","19:55","N","NA","000","13C2-PFDoA","13C2-PFDoA","35.0","","IS","Yes","Y","H","Y","","","","PCT_REC","","","","","100","35.0","35.0","","","","","","50","150","","*","","",""
"TW23D-20200708","537_MOD","07/14/20","19:55","N","NA","000","13C2-PFTeDA","13C2-PFTeDA","5.40","","IS","Yes","Y","H","Y","","","","PCT_REC","","","","","100","5.40","5.40","","","","","","50","150","","*","","",""
"TW24D-20200708","537_MOD","07/15/20","15:41","N","NA","000","375-73-5","PFBS","0.0448","","TRG","Yes","Y","","Y","0.00122","0.00177","0.00355","UG_L","UG_L","","","","","","

4","PERFLUOROHEXANESULFONIC ACID
(PFHXS)","0.248","","TRG","Yes","Y","","Y","0.00122","0.00177","0.00355","UG_L","UG_L","","","","","","","","","
","","","","","","","","","","
"TW24D-20200708","537_MOD","07/15/20","15:41","N","NA","000","335-67-1","PERFLUOROOCTANOIC ACID
(PFOA)","1.55","","TRG","Yes","Y","","Y","0.00122","0.00177","0.00355","UG_L","UG_L","","","","","","","","","","
","","","","","","","","","
"TW24D-20200708","537_MOD","07/15/20","15:41","N","NA","000","375-95-1","PERFLUORONONANOIC ACID
(PFNA)","","","TRG","Yes","N","U","Y","0.00122","0.00177","0.00355","UG_L","UG_L","","","","","","","","","","","
","","","","","","","","","
"TW24D-20200708","537_MOD","07/15/20","15:41","N","NA","000","1763-23-
1","HEPTADECAFLUOROACTANESULFONIC ACID SOLUTION
","0.0326","","TRG","Yes","Y","","Y","0.00122","0.00177","0.00355","UG_L","UG_L","","","","","","","","","","","
","","","","","","","","","
"TW24D-20200708","537_MOD","07/15/20","15:41","N","NA","000","756426-58-1","9-
CHLOROHEXADECAFLUORO-3-OXANONE-1-SULFONIC ACID (9Cl-
PF3ONS)","","","TRG","Yes","N","U","Y","0.00122","0.00177","0.00355","UG_L","UG_L","","","","","","","","","","
","","","","","","","","","
"TW24D-20200708","537_MOD","07/15/20","15:41","N","NA","000","335-76-2","PERFLUORODECANOIC ACID
(PFDA)","","","TRG","Yes","N","U","Y","0.00122","0.00177","0.00355","UG_L","UG_L","","","","","","","","","","","
","","","","","","","","","
"TW24D-20200708","537_MOD","07/15/20","15:41","N","NA","000","2355-31-
9","MeFOSAA","","","TRG","Yes","N","U","Y","0.00122","0.00177","0.00355","UG_L","UG_L","","","","","","","","","
","","","","","","","","","","
"TW24D-20200708","537_MOD","07/15/20","15:41","N","NA","000","2991-50-
6","EtFOSAA","","","TRG","Yes","N","U","Y","0.00122","0.00177","0.00355","UG_L","UG_L","","","","","","","","","
","","","","","","","","","","
"TW24D-20200708","537_MOD","07/15/20","15:41","N","NA","000","2058-94-8","PERFLUOROUNDECANOIC
ACID
(PFUNA)","","","TRG","Yes","N","U","Y","0.00122","0.00177","0.00355","UG_L","UG_L","","","","","","","","","","
","","","","","","","","","
"TW24D-20200708","537_MOD","07/15/20","15:41","N","NA","000","763051-92-9","11-
CHLOROEICOSAFLUORO-3-OXAUNDECANE-1-SULFONIC ACID (11Cl-
PF3OUdS)","","","TRG","Yes","N","U","Y","0.00122","0.00177","0.00355","UG_L","UG_L","","","","","","","","","","
","","","","","","","","","
"TW24D-20200708","537_MOD","07/15/20","15:41","N","NA","000","307-55-1","PERFLUORODODECANOIC
ACID
(PFDOA)","","","TRG","Yes","N","U","Y","0.00122","0.00177","0.00355","UG_L","UG_L","","","","","","","","","","
","","","","","","","","","
"TW24D-20200708","537_MOD","07/15/20","15:41","N","NA","000","72629-94-
8","PFTrDA","","","TRG","Yes","N","U","Y","0.00122","0.00177","0.00355","UG_L","UG_L","","","","","","","","","","
","","","","","","","","","
"TW24D-20200708","537_MOD","07/15/20","15:41","N","NA","000","376-06-
7","PFTeDA","","","TRG","Yes","N","U","Y","0.00122","0.00177","0.00355","UG_L","UG_L","","","","","","","","","","
","","","","","","","","","
"TW24D-20200708","537_MOD","07/15/20","15:41","N","NA","000","13C3-PFBS","13C3-
PFBS","70.5","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","70.5","70.5","","","","","","50","150","","
","","","
"TW24D-20200708","537_MOD","07/15/20","15:41","N","NA","000","13C3-HFPO-DA","13C3-HFPO-
DA","66.9","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","66.9","66.9","","","","","","50","150","","
","","
"TW24D-20200708","537_MOD","07/15/20","15:41","N","NA","000","13C2-PFHxA","13C2-
PFHxA","66.7","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","66.7","66.7","","","","","","50","150","
","","","","
"TW24D-20200708","537_MOD","07/15/20","15:41","N","NA","000","13C4-PFHpA","13C4-

PFHpA","63.0","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","63.0","63.0","","","","","","50","150","","","","",""
"TW24D-20200708","537_MOD","07/15/20","15:41","N","NA","000","13C3-PFHxS","13C3-PFHxS","73.2","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","73.2","73.2","","","","","","50","150","","","","",""
"TW24D-20200708","537_MOD","07/15/20","15:41","N","NA","000","13C5-PFNA","13C5-PFNA","65.5","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","65.5","65.5","","","","","","50","150","","","","",""
"TW24D-20200708","537_MOD","07/15/20","15:41","N","NA","000","13C2-PFOA","13C2-PFOA","64.6","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","64.6","64.6","","","","","","50","150","","","","",""
"TW24D-20200708","537_MOD","07/15/20","15:41","N","NA","000","13C8-PFOS","13C8-PFOS","70.8","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","70.8","70.8","","","","","","50","150","","","","",""
"TW24D-20200708","537_MOD","07/15/20","15:41","N","NA","000","13C2-PFDA","13C2-PFDA","67.3","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","67.3","67.3","","","","","","50","150","","","","",""
"TW24D-20200708","537_MOD","07/15/20","15:41","N","NA","000","d3-MeFOSAA","d3-MeFOSAA","63.6","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","63.6","63.6","","","","","","50","150","","","","",""
"TW24D-20200708","537_MOD","07/15/20","15:41","N","NA","000","13C2-PFUnA","13C2-PFUnA","59.3","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","59.3","59.3","","","","","","50","150","","","","",""
"TW24D-20200708","537_MOD","07/15/20","15:41","N","NA","000","d5-EtFOSAA","d5-EtFOSAA","50.2","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","50.2","50.2","","","","","","50","150","","","","","",""
"TW24D-20200708","537_MOD","07/15/20","15:41","N","NA","000","13C2-PFDoA","13C2-PFDoA","45.9","","IS","Yes","Y","H","Y","","","","PCT_REC","","","","","100","45.9","45.9","","","","","","50","150","","*","","",""
"TW24D-20200708","537_MOD","07/15/20","15:41","N","NA","000","13C2-PFTeDA","13C2-PFTeDA","7.80","","IS","Yes","Y","H","Y","","","","PCT_REC","","","","","100","7.80","7.80","","","","","","50","150","","*","","",""
"TW17D-20200708","537_MOD","07/14/20","20:16","N","NA","000","375-73-5","PFBS","0.169","","TRG","Yes","Y","","Y","0.000844","0.00123","0.00246","UG_L","UG_L",""
"TW17D-20200708","537_MOD","07/14/20","20:16","N","NA","000","307-24-4","PERFLUOROHEXANOIC ACID (PFHXA)","0.987","","TRG","Yes","Y","","Y","0.000844","0.00123","0.00246","UG_L","UG_L",""
"TW17D-20200708","537_MOD","07/14/20","20:16","N","NA","000","13252-13-6","HEXAFLUOROPROPYLENE OXIDE DIMER ACID (HFPO-DA)","","","","TRG","Yes","N","U","Y","0.00148","0.00185","0.00246","UG_L","UG_L",""
"TW17D-20200708","537_MOD","07/14/20","20:16","N","NA","000","375-85-9","PERFLUOROHEPTANOIC ACID (PFHPA)","0.196","","TRG","Yes","Y","","Y","0.000844","0.00123","0.00246","UG_L","UG_L",""
"TW17D-20200708","537_MOD","07/14/20","20:16","N","NA","000","919005-14-4","4,8-DIOXA-3H-PERFLUORONONANOIC ACID (ADONA)","","","","TRG","Yes","N","U","Y","0.000844","0.00123","0.00246","UG_L","UG_L",""
"TW17D-20200708","537_MOD","07/14/20","20:16","N","NA","000","355-46-4","PERFLUOROHEXANESULFONIC ACID (PFHXS)","0.990","","TRG","Yes","Y","","Y","0.000844","0.00123","0.00246","UG_L","UG_L",""
"TW17D-20200708","537_MOD","07/15/20","15:51","N","NA","DL1","335-67-1","PERFLUOROOCTANOIC ACID

(PFOA)","3.87","","TRG","Yes","Y","D","Y","0.00422","0.00616","0.0123","UG_L","UG_L","","","

,"","*","","",""
"TW17D-20200708","537_MOD","07/14/20","20:16","N","NA","000","13C5-PFNA","13C5-
PFNA","41.9","","IS","Yes","Y","H","Y","","","","PCT_REC","","","","","100","41.9","41.9","","","","","","50","150",
"","*","","",""
"TW17D-20200708","537_MOD","07/15/20","15:51","N","NA","DL1","13C2-PFOA","13C2-
PFOA","47.8","","IS","Yes","Y","D,
H","Y","","","","","PCT_REC","","","","","","100","47.8","47.8","","","","","","50","150","","*","","",""
"TW17D-20200708","537_MOD","07/14/20","20:16","N","NA","000","13C8-PFOS","13C8-
PFOS","45.5","","IS","Yes","Y","H","Y","","","","PCT_REC","","","","","100","45.5","45.5","","","","","","50","150","
","*","","",""
"TW17D-20200708","537_MOD","07/14/20","20:16","N","NA","000","13C2-PFDA","13C2-
PFDA","39.0","","IS","Yes","Y","H","Y","","","","PCT_REC","","","","","100","39.0","39.0","","","","","","50","150",
"","*","","",""
"TW17D-20200708","537_MOD","07/14/20","20:16","N","NA","000","d3-MeFOSAA","d3-
MeFOSAA","27.8","","IS","Yes","Y","H","Y","","","","PCT_REC","","","","","100","27.8","27.8","","","","","","50","
150","","*","","",""
"TW17D-20200708","537_MOD","07/14/20","20:16","N","NA","000","13C2-PFUnA","13C2-
PFUnA","28.3","","IS","Yes","Y","H","Y","","","","PCT_REC","","","","","100","28.3","28.3","","","","","","50","150"
,"","*","","",""
"TW17D-20200708","537_MOD","07/14/20","20:16","N","NA","000","d5-EtFOSAA","d5-
EtFOSAA","22.3","","IS","Yes","Y","H","Y","","","","PCT_REC","","","","","100","22.3","22.3","","","","","","50","1
50","","*","","",""
"TW17D-20200708","537_MOD","07/14/20","20:16","N","NA","000","13C2-PFDoA","13C2-
PFDoA","15.3","","IS","Yes","Y","H","Y","","","","PCT_REC","","","","","100","15.3","15.3","","","","","","50","150"
,"","*","","",""
"TW17D-20200708","537_MOD","07/14/20","20:16","N","NA","000","13C2-PFTeDA","13C2-
PFTeDA","3.30","","IS","Yes","Y","H","Y","","","","PCT_REC","","","","","100","3.30","3.30","","","","","","50","15
0","","*","","",""
"B0G0058-BLK1","537_MOD","07/14/20","18:20","N","NA","000","375-73-
5","PFBS","","","TRG","Yes","N","U","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","","","","","","","
","","","","","","","","",""
"B0G0058-BLK1","537_MOD","07/14/20","18:20","N","NA","000","307-24-4","PERFLUOROHEXANOIC ACID
(PFHXA)","","","TRG","Yes","N","U","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","","","","","","","
","","","","","","","","",""
"B0G0058-BLK1","537_MOD","07/14/20","18:20","N","NA","000","13252-13-6","HEXAFLUOROPROPYLENE
OXIDE DIMER ACID (HFPO-
DA)","","","TRG","Yes","N","U","Y","0.00241","0.00300","0.00400","UG_L","UG_L","","","","","","","","","","","","
","","","","","","","","",""
"B0G0058-BLK1","537_MOD","07/14/20","18:20","N","NA","000","375-85-9","PERFLUOROHEPTANOIC ACID
(PFHPA)","","","TRG","Yes","N","U","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","","","","","","","","
","","","","","","","","",""
"B0G0058-BLK1","537_MOD","07/14/20","18:20","N","NA","000","919005-14-4","4,8-DIOXA-3H-
PERFLUORONONANOIC ACID
(ADONA)","","","TRG","Yes","N","U","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","","","","","","","","
","","","","","","","","",""
"B0G0058-BLK1","537_MOD","07/14/20","18:20","N","NA","000","355-46-4","PERFLUOROHEXANESULFONIC
ACID
(PFHXS)","","","TRG","Yes","N","U","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","","","","","","","","
","","","","","","","","",""
"B0G0058-BLK1","537_MOD","07/14/20","18:20","N","NA","000","335-67-1","PERFLUOROOCTANOIC ACID
(PFOA)","","","TRG","Yes","N","U","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","","","","","","","","
","","","","","","","","",""
"B0G0058-BLK1","537_MOD","07/14/20","18:20","N","NA","000","375-95-1","PERFLUORONONANOIC ACID
(PFNA)","","","TRG","Yes","N","U","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","","","","","","","","

"","","","","","","","
"B0G0058-BLK1","537_MOD","07/14/20","18:20","N","NA","000","1763-23-
1","HEPTADECAFLUOROACTANESULFONIC ACID SOLUTION
","","","TRG","Yes","N","U","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","","","","","","","","","","","","","
","","","",""
"B0G0058-BLK1","537_MOD","07/14/20","18:20","N","NA","000","756426-58-1","9-
CHLOROHEXADECAFLUORO-3-OXANONE-1-SULFONIC ACID (9Cl-
PF3ONS)","","","TRG","Yes","N","U","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","","","","","","","","
","","","","","","","","",""
"B0G0058-BLK1","537_MOD","07/14/20","18:20","N","NA","000","335-76-2","PERFLUORODECANOIC ACID
(PFDA)","","","TRG","Yes","N","U","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","","","","","","","","
","","","","","","","","",""
"B0G0058-BLK1","537_MOD","07/14/20","18:20","N","NA","000","2355-31-
9","MeFOSAA","","","TRG","Yes","N","U","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","","","","","","
","","","","","","","","","","",""
"B0G0058-BLK1","537_MOD","07/14/20","18:20","N","NA","000","2991-50-
6","EtFOSAA","","","TRG","Yes","N","U","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","","","","","","
","","","","","","","","","","",""
"B0G0058-BLK1","537_MOD","07/14/20","18:20","N","NA","000","2058-94-8","PERFLUOROUNDECANOIC
ACID
(PFUNA)","","","TRG","Yes","N","U","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","","","","","","","","
","","","","","","","","",""
"B0G0058-BLK1","537_MOD","07/14/20","18:20","N","NA","000","763051-92-9","11-CHLOROEICOSAFLUORO-
3-OXAUNDECANE-1-SULFONIC ACID (11Cl-
PF3OUdS)","","","TRG","Yes","N","U","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","","","","","","","","
","","","","","","","","",""
"B0G0058-BLK1","537_MOD","07/14/20","18:20","N","NA","000","307-55-1","PERFLUORODODECANOIC ACID
(PFDOA)","","","TRG","Yes","N","U","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","","","","","","","","
","","","","","","","","",""
"B0G0058-BLK1","537_MOD","07/14/20","18:20","N","NA","000","72629-94-
8","PFTrDA","","","TRG","Yes","N","U","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","","","","","","","","
","","","","","","","","",""
"B0G0058-BLK1","537_MOD","07/14/20","18:20","N","NA","000","376-06-
7","PFTeDA","","","TRG","Yes","N","U","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","","","","","","","","
","","","","","","","","",""
"B0G0058-BLK1","537_MOD","07/14/20","18:20","N","NA","000","13C3-PFBS","13C3-
PFBS","69.5","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","69.5","69.5","","","","","","50","150","","
","","",""
"B0G0058-BLK1","537_MOD","07/14/20","18:20","N","NA","000","13C3-HFPO-DA","13C3-HFPO-
DA","65.4","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","65.4","65.4","","","","","","50","150","","","
","",""
"B0G0058-BLK1","537_MOD","07/14/20","18:20","N","NA","000","13C2-PFHxA","13C2-
PFHxA","67.9","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","67.9","67.9","","","","","","50","150","
","","","",""
"B0G0058-BLK1","537_MOD","07/14/20","18:20","N","NA","000","13C4-PFHpA","13C4-
PFHpA","66.1","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","66.1","66.1","","","","","","50","150","
","","","",""
"B0G0058-BLK1","537_MOD","07/14/20","18:20","N","NA","000","13C3-PFHxS","13C3-
PFHxS","74.9","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","74.9","74.9","","","","","","50","150","
","","","",""
"B0G0058-BLK1","537_MOD","07/14/20","18:20","N","NA","000","13C5-PFNA","13C5-
PFNA","64.3","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","64.3","64.3","","","","","","50","150","","
","","",""
"B0G0058-BLK1","537_MOD","07/14/20","18:20","N","NA","000","13C2-PFOA","13C2-

PFOA","72.0","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","72.0","72.0","","","","","","50","150","","","","",""
"B0G0058-BLK1","537_MOD","07/14/20","18:20","N","NA","000","13C8-PFOS","13C8-PFOS","63.4","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","63.4","63.4","","","","","","50","150","","","","",""
"B0G0058-BLK1","537_MOD","07/14/20","18:20","N","NA","000","13C2-PFDA","13C2-PFDA","60.3","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","60.3","60.3","","","","","","50","150","","","","",""
"B0G0058-BLK1","537_MOD","07/14/20","18:20","N","NA","000","d3-MeFOSAA","d3-MeFOSAA","56.5","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","56.5","56.5","","","","","","50","150","","","","",""
"B0G0058-BLK1","537_MOD","07/14/20","18:20","N","NA","000","13C2-PFUnA","13C2-PFUnA","57.4","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","57.4","57.4","","","","","","50","150","","","","",""
"B0G0058-BLK1","537_MOD","07/14/20","18:20","N","NA","000","d5-EtFOSAA","d5-EtFOSAA","54.6","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","54.6","54.6","","","","","","50","150","","","","","",""
"B0G0058-BLK1","537_MOD","07/14/20","18:20","N","NA","000","13C2-PFDoA","13C2-PFDoA","55.5","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","55.5","55.5","","","","","","50","150","","","","","",""
"B0G0058-BLK1","537_MOD","07/14/20","18:20","N","NA","000","13C2-PFTeDA","13C2-PFTeDA","59.0","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","59.0","59.0","","","","","","50","150","","","","","",""
"B0G0058-BS1","537_MOD","07/14/20","18:31","N","NA","000","375-73-5","PFBS","0.0413","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","","0.0400","0.0413","103","","","","","","72","130","","","","",""
"B0G0058-BS1","537_MOD","07/14/20","18:31","N","NA","000","307-24-4","PERFLUOROHEXANOIC ACID (PFHXA)","0.0434","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","","0.0400","0.0434","108","","","","","","72","129","","","","",""
"B0G0058-BS1","537_MOD","07/14/20","18:31","N","NA","000","13252-13-6","HEXAFLUOROPROPYLENE OXIDE DIMER ACID (HFPO-DA)","0.0413","","TRG","Yes","Y","","Y","0.00241","0.00300","0.00400","UG_L","UG_L","","","","","0.0400","0.0413","103","","","","","","70","130","","","","",""
"B0G0058-BS1","537_MOD","07/14/20","18:31","N","NA","000","375-85-9","PERFLUOROHEPTANOIC ACID (PFHPA)","0.0406","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","","0.0400","0.0406","101","","","","","","72","130","","","","",""
"B0G0058-BS1","537_MOD","07/14/20","18:31","N","NA","000","919005-14-4","4,8-DIOXA-3H-PERFLUORONONANOIC ACID (ADONA)","0.0397","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","","0.0400","0.0397","99.3","","","","","","","70","130","","","","",""
"B0G0058-BS1","537_MOD","07/14/20","18:31","N","NA","000","355-46-4","PERFLUOROHEXANESULFONIC ACID (PFHXS)","0.0397","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","","0.0400","0.0397","99.1","","","","","","","68","131","","","","",""
"B0G0058-BS1","537_MOD","07/14/20","18:31","N","NA","000","335-67-1","PERFLUOROOCTANOIC ACID (PFOA)","0.0380","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","","0.0400","0.0380","95.1","","","","","","","71","133","","","","",""
"B0G0058-BS1","537_MOD","07/14/20","18:31","N","NA","000","375-95-1","PERFLUORONONANOIC ACID (PFNA)","0.0410","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","","0.0400","0.0410","103","","","","","","","69","130","","","","",""
"B0G0058-BS1","537_MOD","07/14/20","18:31","N","NA","000","1763-23-1","HEPTADECAFLUOROACTANESULFONIC ACID SOLUTION","0.0365","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","","0.0400","0.0365","91.2","","","","","","","65","140","","","","",""

"B0G0058-BS1","537_MOD","07/14/20","18:31","N","NA","000","756426-58-1","9-CHLOROHEXADECAFLUORO-3-OXANONE-1-SULFONIC ACID (9Cl-PF3ONS)","0.0338","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","0.0400","0.0338","84.5","","","","","","70","130","","","",""
"B0G0058-BS1","537_MOD","07/14/20","18:31","N","NA","000","335-76-2","PERFLUORODECANOIC ACID (PFDA)","0.0413","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","0.0400","0.0413","103","","","","","","71","129","","","",""
"B0G0058-BS1","537_MOD","07/14/20","18:31","N","NA","000","2355-31-9","MeFOSAA","0.0428","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","0.0400","0.0428","107","","","","","","65","136","","","",""
"B0G0058-BS1","537_MOD","07/14/20","18:31","N","NA","000","2991-50-6","EtFOSAA","0.0422","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","0.0400","0.0422","106","","","","","","61","135","","","",""
"B0G0058-BS1","537_MOD","07/14/20","18:31","N","NA","000","2058-94-8","PERFLUOROUNDECANOIC ACID (PFUNA)","0.0396","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","0.0400","0.0396","99.1","","","","","","69","133","","","",""
"B0G0058-BS1","537_MOD","07/14/20","18:31","N","NA","000","763051-92-9","11-CHLOROEICOSAFLUORO-3-OXAUNDECANE-1-SULFONIC ACID (11Cl-PF3OUdS)","0.0393","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","0.0400","0.0393","98.1","","","","","","70","130","","","",""
"B0G0058-BS1","537_MOD","07/14/20","18:31","N","NA","000","307-55-1","PERFLUORODODECANOIC ACID (PFDOA)","0.0431","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","0.0400","0.0431","108","","","","","","72","134","","","",""
"B0G0058-BS1","537_MOD","07/14/20","18:31","N","NA","000","72629-94-8","PFTrDA","0.0382","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","0.0400","0.0382","95.6","","","","","","65","144","","","",""
"B0G0058-BS1","537_MOD","07/14/20","18:31","N","NA","000","376-06-7","PFTeDA","0.0406","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","0.0400","0.0406","102","","","","","","71","132","","","",""
"B0G0058-BS1","537_MOD","07/14/20","18:31","N","NA","000","13C3-PFBS","13C3-PFBS","66.5","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","66.5","66.5","","","","","","50","150","","","","",""
"B0G0058-BS1","537_MOD","07/14/20","18:31","N","NA","000","13C3-HFPO-DA","13C3-HFPO-DA","59.5","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","59.5","59.5","","","","","","50","150","","","","",""
"B0G0058-BS1","537_MOD","07/14/20","18:31","N","NA","000","13C2-PFHxA","13C2-PFHxA","59.7","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","59.7","59.7","","","","","","50","150","","","","",""
"B0G0058-BS1","537_MOD","07/14/20","18:31","N","NA","000","13C4-PFHpA","13C4-PFHpA","60.0","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","60.0","60.0","","","","","","50","150","","","","",""
"B0G0058-BS1","537_MOD","07/14/20","18:31","N","NA","000","13C3-PFHxS","13C3-PFHxS","71.1","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","71.1","71.1","","","","","","50","150","","","","",""
"B0G0058-BS1","537_MOD","07/14/20","18:31","N","NA","000","13C5-PFNA","13C5-PFNA","57.9","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","57.9","57.9","","","","","","50","150","","","","",""
"B0G0058-BS1","537_MOD","07/14/20","18:31","N","NA","000","13C2-PFOA","13C2-PFOA","66.0","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","66.0","66.0","","","","","","50","150","","","","",""
"B0G0058-BS1","537_MOD","07/14/20","18:31","N","NA","000","13C8-PFOS","13C8-PFOS","69.6","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","69.6","69.6","","","","","","50","150","","","","",""
"B0G0058-BS1","537_MOD","07/14/20","18:31","N","NA","000","13C2-PFDA","13C2-

PFDA","57.2","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","57.2","57.2","","","","","","50","150","","","","",""
"B0G0058-BS1","537_MOD","07/14/20","18:31","N","NA","000","d3-MeFOSAA","d3-MeFOSAA","47.0","","IS","Yes","Y","H","Y","","","","PCT_REC","","","","","100","47.0","47.0","","","","","","50","150","","+","",""
"B0G0058-BS1","537_MOD","07/14/20","18:31","N","NA","000","13C2-PFUnA","13C2-PFUnA","55.9","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","55.9","55.9","","","","","","50","150","","","","",""
"B0G0058-BS1","537_MOD","07/14/20","18:31","N","NA","000","d5-EtFOSAA","d5-EtFOSAA","44.2","","IS","Yes","Y","H","Y","","","","PCT_REC","","","","","100","44.2","44.2","","","","","","50","150","","+","",""
"B0G0058-BS1","537_MOD","07/14/20","18:31","N","NA","000","13C2-PFDoA","13C2-PFDoA","46.9","","IS","Yes","Y","H","Y","","","","PCT_REC","","","","","100","46.9","46.9","","","","","","50","150","","+","",""
"B0G0058-BS1","537_MOD","07/14/20","18:31","N","NA","000","13C2-PFTeDA","13C2-PFTeDA","51.5","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","51.5","51.5","","","","","","50","150","","","","",""
"B0G0058-BSD1","537_MOD","07/14/20","18:41","N","NA","000","375-73-5","PFBS","0.0425","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","0.0400","0.0425","106","","","","","2.83","72","130","","","","",""
"B0G0058-BSD1","537_MOD","07/14/20","18:41","N","NA","000","307-24-4","PERFLUOROHEXANOIC ACID (PFHXA)","0.0441","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","0.0400","0.0441","110","","","","","1.64","72","129","","","","",""
"B0G0058-BSD1","537_MOD","07/14/20","18:41","N","NA","000","13252-13-6","HEXAFLUOROPROPYLENE OXIDE DIMER ACID (HFPO-DA)","0.0437","","TRG","Yes","Y","","Y","0.00241","0.00300","0.00400","UG_L","UG_L","","","","0.0400","0.0437","109","","","","","","5.60","70","130","","","","",""
"B0G0058-BSD1","537_MOD","07/14/20","18:41","N","NA","000","375-85-9","PERFLUOROHEPTANOIC ACID (PFHPA)","0.0399","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","0.0400","0.0399","99.6","","","","","","1.77","72","130","","","","",""
"B0G0058-BSD1","537_MOD","07/14/20","18:41","N","NA","000","919005-14-4","4,8-DIOXA-3H-PERFLUORONONANOIC ACID (ADONA)","0.0423","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","0.0400","0.0423","106","","","","","","6.30","70","130","","","","",""
"B0G0058-BSD1","537_MOD","07/14/20","18:41","N","NA","000","355-46-4","PERFLUOROHEXANESULFONIC ACID (PFHXS)","0.0430","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","0.0400","0.0430","107","","","","","8.07","68","131","","","","",""
"B0G0058-BSD1","537_MOD","07/14/20","18:41","N","NA","000","335-67-1","PERFLUOROOCTANOIC ACID (PFOA)","0.0422","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","0.0400","0.0422","105","","","","","","10.4","71","133","","","","",""
"B0G0058-BSD1","537_MOD","07/14/20","18:41","N","NA","000","375-95-1","PERFLUORONONANOIC ACID (PFNA)","0.0446","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","0.0400","0.0446","111","","","","","","8.27","69","130","","","","",""
"B0G0058-BSD1","537_MOD","07/14/20","18:41","N","NA","000","1763-23-1","HEPTADECAFLUOROACTANESULFONIC ACID SOLUTION","0.0485","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","0.0400","0.0485","121","","","","","","28.4","65","140","","","","",""
"B0G0058-BSD1","537_MOD","07/14/20","18:41","N","NA","000","756426-58-1","9-CHLOROHEXADECAFLUORO-3-OXANONE-1-SULFONIC ACID (9Cl-PF3ONS)","0.0456","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","0.0400","0.0456","114","","","","","29.7","70","130","","","","",""
"B0G0058-BSD1","537_MOD","07/14/20","18:41","N","NA","000","335-76-2","PERFLUORODECANOIC ACID (PFDA)","0.0432","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","0.0400","0.0

432","108","","","","","4.51","71","129","","","",""
"B0G0058-BSD1","537_MOD","07/14/20","18:41","N","NA","000","2355-31-
9","MeFOSAA","0.0368","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","0.040
0","0.0368","91.9","","","","","15.1","65","136","","","",""
"B0G0058-BSD1","537_MOD","07/14/20","18:41","N","NA","000","2991-50-
6","EtFOSAA","0.0412","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","0.0400
","0.0412","103","","","","","2.39","61","135","","","",""
"B0G0058-BSD1","537_MOD","07/14/20","18:41","N","NA","000","2058-94-8","PERFLUOROUNDECANOIC
ACID
(PFUNA)","0.0405","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","0.0400","0.
0405","101","","","","","2.23","69","133","","","",""
"B0G0058-BSD1","537_MOD","07/14/20","18:41","N","NA","000","763051-92-9","11-CHLOROEICOSAFLUORO-
3-OXAUNDECANE-1-SULFONIC ACID (11Cl-
PF3OUdS)","0.0432","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","0.0400","
0.0432","108","","","","","9.63","70","130","","","",""
"B0G0058-BSD1","537_MOD","07/14/20","18:41","N","NA","000","307-55-1","PERFLUORODODECANOIC ACID
(PFDOA)","0.0401","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","0.0400","0.
0401","100","","","","","7.17","72","134","","","",""
"B0G0058-BSD1","537_MOD","07/14/20","18:41","N","NA","000","72629-94-
8","PFTrDA","0.0402","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","0.0400",
"0.0402","100","","","","","4.93","65","144","","","",""
"B0G0058-BSD1","537_MOD","07/14/20","18:41","N","NA","000","376-06-
7","PFTeDA","0.0425","","TRG","Yes","Y","","Y","0.00137","0.00200","0.00400","UG_L","UG_L","","","","0.0400",
"0.0425","106","","","","","4.62","71","132","","","",""
"B0G0058-BSD1","537_MOD","07/14/20","18:41","N","NA","000","13C3-PFBS","13C3-
PFBS","74.2","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","74.2","74.2","","","","","","50","150","",
"","","",""
"B0G0058-BSD1","537_MOD","07/14/20","18:41","N","NA","000","13C3-HFPO-DA","13C3-HFPO-
DA","72.0","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","72.0","72.0","","","","","","50","150","","
","","",""
"B0G0058-BSD1","537_MOD","07/14/20","18:41","N","NA","000","13C2-PFHxA","13C2-
PFHxA","72.8","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","72.8","72.8","","","","","","50","150","
","","","",""
"B0G0058-BSD1","537_MOD","07/14/20","18:41","N","NA","000","13C4-PFHpA","13C4-
PFHpA","74.0","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","74.0","74.0","","","","","","50","150","
","","","",""
"B0G0058-BSD1","537_MOD","07/14/20","18:41","N","NA","000","13C3-PFHxS","13C3-
PFHxS","77.4","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","77.4","77.4","","","","","","50","150","
","","","",""
"B0G0058-BSD1","537_MOD","07/14/20","18:41","N","NA","000","13C5-PFNA","13C5-
PFNA","67.2","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","67.2","67.2","","","","","","50","150","",
"","","",""
"B0G0058-BSD1","537_MOD","07/14/20","18:41","N","NA","000","13C2-PFOA","13C2-
PFOA","75.3","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","75.3","75.3","","","","","","50","150","",
"","","",""
"B0G0058-BSD1","537_MOD","07/14/20","18:41","N","NA","000","13C8-PFOS","13C8-
PFOS","63.6","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","63.6","63.6","","","","","","50","150","",
"","","",""
"B0G0058-BSD1","537_MOD","07/14/20","18:41","N","NA","000","13C2-PFDA","13C2-
PFDA","64.5","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","64.5","64.5","","","","","","50","150","",
"","","",""
"B0G0058-BSD1","537_MOD","07/14/20","18:41","N","NA","000","d3-MeFOSAA","d3-
MeFOSAA","63.0","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","63.0","63.0","","","","","","50","15
0","","","","",""

"B0G0058-BSD1","537_MOD","07/14/20","18:41","N","NA","000","13C2-PFUnA","13C2-PFUnA","62.0","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","62.0","62.0","","","","","","50","150","","","","",""
"B0G0058-BSD1","537_MOD","07/14/20","18:41","N","NA","000","d5-EtFOSAA","d5-EtFOSAA","57.3","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","57.3","57.3","","","","","","50","150","","","","","",""
"B0G0058-BSD1","537_MOD","07/14/20","18:41","N","NA","000","13C2-PFDoA","13C2-PFDoA","56.6","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","56.6","56.6","","","","","","50","150","","","","","",""
"B0G0058-BSD1","537_MOD","07/14/20","18:41","N","NA","000","13C2-PFTeDA","13C2-PFTeDA","63.7","","IS","Yes","Y","","Y","","","","PCT_REC","","","","","100","63.7","63.7","","","","","","50","150","","","","","",""

LABORATORY DATA CONSULTANTS, INC.
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Wood Environment & Infrastructure Solutions, Inc.
7376 SW Durham Road
Portland, OR 97224
Attn: Ms. Kimberly Shiroodi
Kimberly.Shiroodi@woodplc.com

September 3, 2020

SUBJECT: Revised MCAS El Toro & Tustin PFAs, Data Validation

Dear Ms. Shiroodi,

Enclosed are the revised validation reports for the fraction listed below. These SDGs were received on August 4th and 19th, 2020. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project #48792_RV2:

SDG #	Fraction
2001357, 2001409, 2001417 2001436, 2001444, 2001472	Perfluoroalkyl & Polyfluoroalkyl Substances

The data validation was performed under Stage 4 guidelines. The analyses were validated using the following documents, as applicable to each method:

- Final Sampling and Analysis Plan for Per- and Polyfluoroalkyl Substances in Groundwater in Carve-Outs 2,5,6 and 9 and Groundwater and Surface Water Near Operable Unit 3, Former Marine Corps Air Station Tustin, Tustin, California with Addendum #02 to Final Sampling and Analysis Plan for Per- and Polyfluoroalkyl Substances Sampling for Groundwater Remedial Action at Operable Unit 3, Installation Restoration Program Site 1; February 2020
- U.S. Department of Defense Quality Systems Manual for Environmental Laboratories, Version 5.3, 2019
- DoD General Validation Guidelines, February 2018

Please feel free to contact us if you have any questions.

Sincerely,

Pei Geng

Pei Geng
Pgeng@lab-data.com
Project Manager/Senior Chemist

167 pages-ADV (100% Stage 4 for this job) (RV-F added) Attachment 1

Stage 2B/4 - do not validate QC samples **LDC #48792 (Wood/KMEA - National City, CA / MCAS El Toro & Tustin PFAs)** **PO001184**

LDC	SDG#	DATE REC'D	(2) DATE DUE	PFAs (537M/ QSM 5.3)																															
Matrix: Water/Soil				W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	2001357	08/04/20	08/18/20	2	0																														
B	2001409	08/04/20	08/18/20	12	0																														
C	2001417	08/04/20	08/18/20	4	0																														
D	2001436	08/04/20	08/18/20	6	0																														
E	2001444	08/04/20	08/18/20	7	0																														
F	2001472	08/19/20	09/02/20	4	0																														
Total	J/PG			35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35

Shaded cells indicate Stage 4 validation (all other cells are Stage 2B validation). These sample counts do not include MS/MSD, and DUPs

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Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: MCAS El Toro and Tustin PFAS

LDC Report Date: August 25, 2020

Parameters: Perfluoroalkyl & Polyfluoroalkyl Substances

Validation Level: Stage 4

Laboratory: Vista Analytical Laboratory

Sample Delivery Group (SDG): 2001357

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
I006MW06S-20200624	2001357-03	Water	06/24/20
DUP01-20200624	2001357-04	Water	06/24/20

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Final Sampling and Analysis Plan for Per- and Polyfluoroalkyl Substances in Groundwater in Carve-Outs 2, 5, 6, and 9 and Groundwater and Surface Water Near Operable Unit 3, Former Marine Corps Air Station Tustin, Tustin, California, with Addendum #02 to Final Sampling and Analysis Plan for Per- and Polyfluoroalkyl Substances Sampling for Groundwater Remedial Action at Operable Unit 3, Installation Restoration Program Site 1 (February 2020), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.3 (2019), and the DoD General Validation Guidelines (February 2018). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following methods:

Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS) by Environmental Protection Agency (EPA) Method 537 Modified and LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

All sample results were subjected to Stage 4 data validation, which is comprised of the quality control (QC) summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. LC/MS Instrument Performance Check

Instrument performance was checked and the requirements were met.

III. Initial Calibration and Initial Calibration Verification

Initial calibration was performed as required by the methods.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990.

For each calibration standard, all compounds were within 70-130% of their true value.

The signal to noise (S/N) ratio was within validation criteria for all compounds.

Retention time windows were established as required by the methods.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 30.0% for all compounds.

IV. Continuing Calibration and Instrument Sensitivity Check

Continuing calibration was performed at required frequencies.

The percent differences (%D) were less than or equal to 30.0% for all compounds.

The signal to noise (S/N) ratio was within validation criteria for all compounds.

The percent differences (%D) of the instrument sensitivity check (ISC) were less than or equal to 30.0% for all compounds.

Retention times of all compounds in the calibration standards were within the established retention time windows.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the methods. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Sample EB01-20200624 was identified as an equipment blank. No contaminants were found.

Sample SB01-20200624 was identified as a source blank. No contaminants were found.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the methods. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

IX. Field Duplicates

Samples I006MW06S-20200624 and DUP01-20200624 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Difference (Limits)	Flag	A or P
	222MW09D-20200701	DUP02-20200701				
PFBS	0.0819	0.0824	1 (≤30)	-	-	-
PFHxA	0.6050	0.5880	3 (≤30)	-	-	-
PFHpA	0.3370	0.339	1 (≤30)	-	-	-
PFHxS	0.5150	0.5350	4 (≤30)	-	-	-
PFOA	0.2680	0.3150	16 (≤30)	-	-	-
PFNA	0.0044	0.0049	-	0.00049 (≤0.00394)	-	-
PFOS	0.0906	0.1060	16 (≤30)	-	-	-

X. Labeled Compounds

All percent recoveries (%R) for labeled compounds used to quantitate target compounds were within QC limits.

XI. Compound Quantitation

All compound quantitations met validation criteria.

XII. Target Compound Identifications

All target compound identifications met validation criteria.

XIII. System Performance

The system performance was acceptable.

XIV. Overall Assessment of Data

The analysis was conducted within all specifications of the methods. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable.

MCAS El Toro and Tustin PFAS
Perfluoroalkyl & Polyfluoroalkyl Substances - Data Qualification Summary - SDG 2001357

No Sample Data Qualified in this SDG

MCAS El Toro and Tustin PFAS
Perfluoroalkyl & Polyfluoroalkyl Substances - Laboratory Blank Data Qualification Summary - SDG 2001357

No Sample Data Qualified in this SDG

MCAS El Toro and Tustin PFAS
Perfluoroalkyl & Polyfluoroalkyl Substances - Field Blank Data Qualification Summary - SDG 2001357

No Sample Data Qualified in this SDG

LDC #: 48792A96 **VALIDATION COMPLETENESS WORKSHEET** Date: 8/14/20

SDG #: 2001357 Stage 4 Page: 1 of 1

Laboratory: Vista Analytical Laboratory Reviewer:

2nd Reviewer:

METHOD: LC/MS Perfluoroalkyl & Polyfluoroalkyl Substances (EPA Method 537M/QSM 5.3 Table B-15)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	LC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A / A	r ≥ 0.99 |%D| ≤ 30
IV.	Continuing calibration/ISC	A / A	%D ≤ 30
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	SB01-20200624 EB01-20200624
VII.	Matrix spike/Matrix spike duplicates	N	
VIII.	Laboratory control samples	A	LCS/D
IX.	Field duplicates	SW	D= 1+2
X.	Labeled Compounds	A	
VI.	Compound quantitation RL/LOQ/LODs	A	
XII.	Target compound identification	A	
XIII.	System performance	A	
XIV.	Overall assessment of data	A	

Note: A = Acceptable ND = No compounds detected D = Duplicate SB=Source blank
N = Not provided/applicable R = Rinsate TB = Trip blank OTHER:
SW = See worksheet FB = Field blank EB = Equipment blank

	Client ID	Lab ID	Matrix	Date
1	I006MW06S-20200624	2001357-03	Water	06/24/20
2	DUP01-20200624	2001357-04	Water	06/24/20
3				
4				
5				
6				
7				
8				
9				
10				

Notes:

	BDF0257						

LDC #: 48792A90

VALIDATION FINDINGS CHECKLIST

Reviewer:
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Were cooler temperature criteria met?	✓			
II. LC/MS Instrument performance check				
Were the instrument performance reviewed and found to be within the validation criteria?	✓			
III. Initial calibration and Initial calibration verification				
Did the laboratory perform a 5-point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) $\leq$ 20%?			✓	
Was a curve fit used for evaluation? If yes, did the initial calibration meet the coefficient of determination (r^2) criteria of $\geq$ 0.990?	✓			
Were all analytes within 70-130% or percent differences (%D) $\leq$30% of their true value for each calibration standard?	✓			
Was the signal to noise (S/N) ratio for all compounds within the validation criteria?	✓			
Were the retention time windows properly established?	✓			
Was an initial calibration verification (ICV) standard analyzed after each initial calibration for each instrument?	✓			
Were all ICV percent differences (%D) of the initial calibration verification $\leq$ 30%?	✓			
IV. Continuing calibration and Instrument sensitivity check				
Was a continuing calibration analyzed prior to sample analysis, after every 10 samples and at the end of the analytical sequence?	✓			
Were all percent differences (%D) of the continuing calibration $\leq$ 30%?	✓			
Were all the retention times within the acceptance windows?	✓			
Was the signal to noise (S/N) ratio for all compounds within the validation criteria?	✓			
Were all percent differences (%D) of the Instrument Sensitivity Check $\leq$ 30%?	✓			
V. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks?		✓		
VI. Field blanks				
Were field blanks identified in this SDG?	✓			
Were target compounds detected in the field blanks?		✓		

Validation Area	Yes	No	NA	Findings/Comments
VII. Matrix spike/Matrix spike duplicates				
Were matrix spike (MS) and matrix spike duplicate (MSD) analyzed in this SDG?		✓		
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
VIII. Laboratory control samples				
Was an LCS analyzed per extraction batch for this SDG?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Field duplicates				
Were field duplicate pairs identified in this SDG?	✓			
Were target compounds detected in the field duplicates?	✓			
X. Labeled compounds				
Were labeled compound percent recoveries (%R) within the QC limits?	✓			
Were retention times within 0.4 minutes of the associated calibration standard?	✓			
XI. Compound quantitation				
Did the laboratory reporting limits (i.e. DL, LOD, LOQ) meet the QAPP?	✓			
Did reported results include both branched and linear isomers?	✓			
Were the correct ion transition, labeled compound and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound retention times within 0.1 minutes of the associated labeled compound for compounds with a labeled analog?	✓			
Were compound quantitation and reporting limits adjusted to reflect all sample dilutions and dry weight factors applicable to Stage 4 validation?	✓			
XII. Target compound identification				
Was the signal to noise (S/N) ratio for all compounds within the validation criteria?	✓			
Were two transitions and the ion transition ratio per analyte monitored and documented with the exception of PFBA and PFPeA?	✓			
Were ion ratios between 50-150%?	✓			
XIII. System performance				
System performance was found to be acceptable.	✓			
XIV. Overall assessment of Data				
Overall assessment of data was found to be acceptable.	✓			

TARGET COMPOUND WORKSHEET

METHOD: PFAS

A. PFBS		
B. PFHxA		
C. PFHpA		
D. PFHxS		
E. PFOA		
F. PFNA		
G. PFOS		
H. PFDA		
I. MeFOSAA		
J. EtFOSAA		
K. PFUnA		
L. PFDoA		
M. PFTrDA		
N. PFTeDA		
O. HFPO-DA		
P. ADONA		
Q. 9Cl-PF3ØNS		
R. 11Cl-PF3ØUdS		

LDC #: 48792A96

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: SG
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Compound	Concentration (ug/L)		RPD≤30	Difference (<5XLOQ)	Difference (<LOQ)	Qualification
	1	2				
A	0.0819	0.0824	1			
B	0.6050	0.5880	3			
C	0.3370	0.339	1			
D	0.5150	0.5350	4			
E	0.2680	0.3150	16			
F	0.0044	0.0049		0.00049	0.00394	
G	0.0906	0.1060	16			

LDC # 48792A96

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Calibration Date	Instrument	Compound	Standard	(Y) Response ratio	(X) Conc. Ratio	(X^2) Conc. Ratio
7/6/2020	SCN977	PFOA	1	0.0283	0.02	0.00040
			2	0.0513	0.04	0.0016
			3	0.0937	0.08	0.0064
			4	0.1952	0.16	0.0256
			5	0.4739	0.40	0.1600
			6	0.8828	0.80	0.6400
			7	4.5622	4.00	16.0000
			8	9.3191	8.00	64.0000
			9	20.7411	20.00	400.0000
			10	41.4806	40.00	1600.0000

Regression Output	Calculated		Reported	
Constant	c	0.09230	c	0.0543225
Std Err of Y Est				.
Degrees of Freedom				
	b	a	b	a
X Coefficient(s)	1.09128	-0.0014190	1.13013	-0.000202972
Std Err of Coef.				
Correlation Coefficient		0.999825		
Coefficient of Determination (r^2)		0.999651		0.999173

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Calibration Date	Instrument	Compound	Standard	(Y) Response ratio	(X) Conc. Ratio	(X^2) Conc. Ratio
7/6/2020	SCN977	PFOS	1	0.0184	0.02	0.00040
			2	0.0397	0.04	0.0016
			3	0.0806	0.08	0.0064
			4	0.1980	0.16	0.0256
			5	0.4633	0.40	0.1600
			6	1.0057	0.80	0.6400
			7	4.8637	4.00	16.0000
			8	10.3716	8.00	64.0000
			9	24.6679	20.00	400.0000
			10	47.3616	40.00	1600.0000

Regression Output	Calculated		Reported	
Constant	c	-0.03049	c	-0.0944633
Std Err of Y Est				
Degrees of Freedom				
	b	a	b	a
X Coefficient(s)	1.28839	-0.0026132	1.27905	-0.0001870130
Std Err of Coef.				
Correlation Coefficient		0.999980		
Coefficient of Determination (r^2)		0.999959		0.999703

LDC #: 48792A96

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Calculation Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (aveRRF - RRF)/aveRRF
RRF = (Ax)(Cis)/(Ais)(Cx)

Where:
aveRRF = initial calib average RRF
RRF = continuing calib RRF
Ax = Area of compound
Cx = Concentration of compound,
Ais = Area of associated internal standard
Cis = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (IS)	Conc	Reported Conc	Recalculated Conc	Reported %R	Recalculated %R
1	200706P1_48	6/30/2020	PFOA (13C2-PFOA)	10.0	9.81	9.81	98.1	98.1
			PFOS (13C8-PFOS)	10.0	9.91	9.89	99.1	98.9
2			PFOA (13C2-PFOA)					
			PFOS (13C8-PFOS)					
3			PFOA (13C2-PFOA)					
			PFOS (13C8-PFOS)					
4			PFOA (13C2-PFOA)					
			PFOS (13C8-PFOS)					
5			PFOA (13C2-PFOA)					
			PFOS (13C8-PFOS)					
6			PFOA (13C2-PFOA)					
			PFOS (13C8-PFOS)					

LDC #: 48792A96

VALIDATION FINDINGS WORKSHEET
LCS Results Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control duplicate were recalculated for the compounds identified below using the following calculation:

SSC = (Area spike) (Conc IS) / (Area IS) (average RRF spike)
%Recovery = 100 * SSC/SA

Where:
SSC = Spiked concentration
SA = Spike added
LCS = Laboratory control spike recovery
LCSD = Laboratory control spike duplicate recovery

RPD = | LCS - LCSD | * 2/(LCS + LCSD)

LCS/LCSD ID: B0F0257-BS/D1

Compound	SA (ug/L)		SSC (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
PFOA	0.0400	0.0400	0.0391	0.0393	97.7	97.8	98.2	98.3	0.463	0.510
PFOS	0.0400	0.0400	0.0386	0.0384	96.5	96.5	96.1	96.0	0.435	0.519

LDC #: 47924g6

VALIDATION FINDINGS WORKSHEET
Sample Results Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Compound results for all Level IV samples reported with a positive detect were recalculated and verified using the following equation:

$$\text{Concentration} = \frac{(Ax)\,(Cis)\,(Vt)\,(DF)}{(Ais)\,(RRF)\,(Vo)}$$

Where:

Ax = Area or height of the peak for the compound to be measured
Ais = Area or height of the peak for the internal standard
Cis = Concentration of the internal standard
DF = Dilution factor
Vt = Volume of extract in milliliters (mL)
RRF = Average relative response factor
Vo = Volume of sample in liters (L)

Sample #	Compound	Ax	Ais	Cis	DF	RRF	Vt (mL)	Vo (mL)	Calculated Concentration (ug/L)	Reported Concentration (ug/L)	% Diff
1	PFOS	5.670E+03	2.408E+03	12.5	1	curve	1	255.63	0.0906	0.0906	0

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: MCAS El Toro and Tustin PFAS

LDC Report Date: August 25, 2020

Parameters: Perfluoroalkyl & Polyfluoroalkyl Substances

Validation Level: Stage 4

Laboratory: Vista Analytical Laboratory

Sample Delivery Group (SDG): 2001409

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
IS72MW16DR-20200701	2001409-02	Water	07/01/20
IS72MW15D-20200701	2001409-03	Water	07/01/20
222MW09D-20200701	2001409-04	Water	07/01/20
DUP02-20200701	2001409-05	Water	07/01/20
IS72MW17D-20200701	2001409-06	Water	07/01/20
DUP03-20200701	2001409-07	Water	07/01/20
I003MW01D-20200701	2001409-08	Water	07/01/20
I003MW02D-20200701	2001409-09	Water	07/01/20
DUP04-20200701	2001409-10	Water	07/01/20
I003MW05D-20200701	2001409-11	Water	07/01/20
TW07D-20200702	2001409-13	Water	07/02/20
TW05D-20200702	2001409-14	Water	07/02/20
IS72MW16DR-20200701MS	2001409-02MS	Water	07/01/20
IS72MW16DR-20200701MSD	2001409-02MSD	Water	07/01/20
I003MW01D-20200701MS	2001409-08MS	Water	07/01/20
I003MW01D-20200701MSD	2001409-08MSD	Water	07/01/20

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Final Sampling and Analysis Plan for Per- and Polyfluoroalkyl Substances in Groundwater in Carve-Outs 2, 5, 6, and 9 and Groundwater and Surface Water Near Operable Unit 3, Former Marine Corps Air Station Tustin, Tustin, California, with Addendum #02 to Final Sampling and Analysis Plan for Per- and Polyfluoroalkyl Substances Sampling for Groundwater Remedial Action at Operable Unit 3, Installation Restoration Program Site 1 (February 2020), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.3 (2019), and the DoD General Validation Guidelines (February 2018). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following methods:

Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS) by Environmental Protection Agency (EPA) Method 537 Modified and LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

All sample results were subjected to Stage 4 data validation, which is comprised of the quality control (QC) summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. LC/MS Instrument Performance Check

Instrument performance was checked and the requirements were met.

III. Initial Calibration and Initial Calibration Verification

Initial calibration was performed as required by the methods.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990.

For each calibration standard, all compounds were within 70-130% of their true value.

The signal to noise (S/N) ratio was within validation criteria for all compounds.

Retention time windows were established as required by the methods.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 30.0% for all compounds.

IV. Continuing Calibration and Instrument Sensitivity Check

Continuing calibration was performed at required frequencies.

The percent differences (%D) were less than or equal to 30.0% for all compounds.

The signal to noise (S/N) ratio was within validation criteria for all compounds.

The percent differences (%D) of the instrument sensitivity check (ISC) were less than or equal to 30.0% for all compounds.

Retention times of all compounds in the calibration standards were within the established retention time windows.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the methods. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Samples EB02-20200701 and EB03-20200702 were identified as equipment blanks. No contaminants were found.

VII. Matrix Spike/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) sample analysis was performed on an associated project sample. Percent recoveries (%R) were within QC limits with the following exceptions:

Spike ID (Associated Samples)	Compound	MS (%R) (Limits)	MSD (%R) (Limits)	Flag	A or P
I003MW01D-20200701MS/MSD (I003MW01D-20200701)	PFNA	133 (69-130)	-	J (all detects)	A

For I003MW01D-20200701MS/MSD, no data were qualified for PFBS and PFHpA percent recoveries (%R) outside the QC limits since the parent sample results were greater than 4X the spike concentration.

PFHxA, PFHxS, PFOA, and PFOS percent recoveries (%R) and PFHxA, PFHxS, and PFOS relative percent differences (RPD) were not within the QC limits for I003MW01D-20200701MS/MSD. No data were qualified for MS/MSD samples analyzed greater than or equal to a 5X dilution.

Relative percent differences (RPD) were within QC limits.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) were analyzed as required by the methods. Percent recoveries (%R) were within QC limits.

IX. Field Duplicates

Samples 222MW09D-20200701 and DUP02-20200701, samples IS72MW17D-20200701 and DUP03-20200701, and samples I003MW02D-20200701 and DUP04-20200701 were identified as field duplicates. No results were detected in any of the samples with the following exceptions:

Compound	Concentration (ug/L)		RPD (Limits)	Difference (Limits)	Flag	A or P
	222MW09D-20200701	DUP02-20200701				
PFBS	0.0105	0.0105	-	0 (≤0.00405)	-	-
PFHxA	0.0207	0.0226	9 (≤30)	-	-	-

Compound	Concentration (ug/L)		RPD (Limits)	Difference (Limits)	Flag	A or P
	222MW09D-20200701	DUP02-20200701				
PFHpA	0.00555	0.00521	-	0.0003 (≤0.00405)	-	-
PFHxS	0.0702	0.0610	14 (≤30)	-	-	-
PFOA	0.0839	0.0822	2 (≤30)	-	-	-
PFOS	0.0150	0.0154	-	0.0004 (≤0.00405)	-	-

Compound	Concentration (ug/L)		RPD (Limits)	Difference (Limits)	Flag	A or P
	IS72MW17D-20200701	DUP03-20200701				
PFBS	0.0262	0.0285	8 (≤30)	-	-	-
PFHxA	0.185	0.189	2 (≤30)	-	-	-
PFHpA	0.0980	0.0945	4 (≤30)	-	-	-
PFHxS	0.0788	0.0737	7 (≤30)	-	-	-
PFOA	0.781	0.755	3 (≤30)	-	-	-
PFNA	0.00477	0.00546	-	0.00069 (≤0.00409)	-	-
PFOS	0.0432	0.0418	3 (≤30)	-	-	-

Compound	Concentration (ug/L)		RPD (Limits)	Difference (Limits)	Flag	A or P
	I003MW02D-20200701	DUP04-20200701				
PFBS	0.364	0.397	9 (≤30)	-	-	-
PFHxA	2.59	2.57	1 (≤30)	-	-	-
PFHpA	0.537	0.529	2 (≤30)	-	-	-
PFHxS	2.49	2.59	4 (≤30)	-	-	-
PFOA	11.1	11.0	1 (≤30)	-	-	-
PFNA	0.00392	0.00425	-	0.00033 (≤0.00400)	-	-
PFOS	0.879	0.972	10 (≤30)	-	-	-

X. Labeled Compounds

All percent recoveries (%R) for labeled compounds used to quantitate target compounds were within QC limits with the following exceptions:

Sample	Labeled Compound	%R (Limits)	Affected Compound	Flag	A or P
TW07D-20200702	13C2-PFDoA 13C2-PFTeDA	46.2 (50-150) 12.6 (50-150)	PFDoA PFTrDA 11Cl-PF30UdS PFTeDA	NA	-
TW05D-20200702	13C2-PFTeDA	28.0 (50-150)	PFTeDA	NA	-

XI. Compound Quantitation

All compound quantitations met validation criteria.

XII. Target Compound Identifications

All target compound identifications met validation criteria with the following exceptions:

Sample	Compound	Ion Abundance Ratio (Limits)	Flag	A or P
222MW09D-20200701	PFOS	3.506 (1.003-3.008)	J (all detects)	P
DUP02-20200701	PFOS	3.255 (1.003-3.008)	J (all detects)	P

XIII. System Performance

The system performance was acceptable.

XIV. Overall Assessment of Data

The analysis was conducted within all specifications of the methods. No results were rejected in this SDG.

Due to MS/MSD %R and ion abundance ratio, data were qualified as estimated in three samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable.

MCAS El Toro and Tustin PFAS
Perfluoroalkyl & Polyfluoroalkyl Substances - Data Qualification Summary - SDG 2001409

Sample	Compound	Flag	A or P	Reason
I003MW01D-20200701	PFNA	J (all detects)	A	Matrix spike/Matrix spike duplicate (%R)
222MW09D-20200701 DUP02-20200701	PFOS	J (all detects)	P	Target compound identification (ion abundance ratio)

MCAS El Toro and Tustin PFAS
Perfluoroalkyl & Polyfluoroalkyl Substances - Laboratory Blank Data Qualification Summary - SDG 2001409

No Sample Data Qualified in this SDG

MCAS El Toro and Tustin PFAS
Perfluoroalkyl & Polyfluoroalkyl Substances - Field Blank Data Qualification Summary - SDG 2001409

No Sample Data Qualified in this SDG

LDC #: 48792B96 **VALIDATION COMPLETENESS WORKSHEET** Date: 8/14/20

SDG #: 2001409 Stage 4 Page: 1 of 2

Laboratory: Vista Analytical Laboratory Reviewer: M

2nd Reviewer:

METHOD: LC/MS Perfluoroalkyl & Polyfluoroalkyl Substances (EPA Method 537M/QSM 5.3 Table B-15)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	LC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A / A	%D TV/ICV ≤ 30
IV.	Continuing calibration/ISC	A/A	%D ≤ 30
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	EB02-20200701, EB03-20200702
VII.	Matrix spike/Matrix spike duplicates	SW	
VIII.	Laboratory control samples	A	LCS
IX.	Field duplicates	SW	D = 3+4, 5+6, 8+9
X.	Labeled Compounds	SW	
VI.	Compound quantitation RL/LOQ/LODs	A	
XII.	Target compound identification	SW	
XIII.	System performance	A	
XIV.	Overall assessment of data	A	

Note: A = Acceptable ND = No compounds detected D = Duplicate SB=Source blank
N = Not provided/applicable R = Rinsate TB = Trip blank OTHER:
SW = See worksheet FB = Field blank EB = Equipment blank

	Client ID	Lab ID	Matrix	Date
1	IS72MW16DR-20200701	2001409-02	Water	07/01/20
2	IS72MW15D-20200701	2001409-03	Water	07/01/20
3	222MW09D-20200701	2001409-04	Water	07/01/20
4	DUP02-20200701	2001409-05	Water	07/01/20
5	IS72MW17D-20200701	2001409-06	Water	07/01/20
6	DUP03-20200701	2001409-07	Water	07/01/20
7	I003MW01D-20200701	2001409-08	Water	07/01/20
8	I003MW02D-20200701	2001409-09	Water	07/01/20
9	DUP04-20200701	2001409-10	Water	07/01/20
10	I003MW05D-20200701	2001409-11	Water	07/01/20
11	TW07D-20200702	2001409-13	Water	07/02/20
12	TW05D-20200702	2001409-14	Water	07/02/20
13	IS72MW16DR-20200701MS	2001409-02MS	Water	07/01/20
14	IS72MW16DR-20200701MSD	2001409-02MSD	Water	07/01/20
15	I003MW01D-20200701MS	2001409-08MS	Water	07/01/20

LDC #: 48792B96 **VALIDATION COMPLETENESS WORKSHEET** Date: 8/14/20

SDG #: 2001409 Stage 4 Page: 2 of 2

Laboratory: Vista Analytical Laboratory Reviewer:

2nd Reviewer:

METHOD: LC/MS Perfluoroalkyl & Polyfluoroalkyl Substances (EPA Method 537M/QSM 5.3 Table B-15)

16	I003MW01D-20200701MSD	2001409-08MSD	Water	07/01/20
17				
18				
19				

Notes:

	BoGD034						

LDC #: 48797B96

VALIDATION FINDINGS CHECKLIST

Reviewer: [illegible]
2nd Reviewer: [illegible]

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Were cooler temperature criteria met?	✓			
II. LC/MS Instrument performance check				
Were the instrument performance reviewed and found to be within the validation criteria?	✓			
III. Initial calibration and Initial calibration verification				
Did the laboratory perform a 5-point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) ≤ 20%?			✓	
Was a curve fit used for evaluation? If yes, did the initial calibration meet the coefficient of determination (r^2) criteria of ≥ 0.990?	✓			
Were all analytes within 70-130% or percent differences (%D) ≤30% of their true value for each calibration standard?	✓			
Was the signal to noise (S/N) ratio for all compounds within the validation criteria?	✓			
Were the retention time windows properly established?	✓			
Was an initial calibration verification (ICV) standard analyzed after each initial calibration for each instrument?	✓			
Were all ICV percent differences (%D) of the initial calibration verification ≤ 30%?	✓			
IV. Continuing calibration and Instrument sensitivity check				
Was a continuing calibration analyzed prior to sample analysis, after every 10 samples and at the end of the analytical sequence?	✓			
Were all percent differences (%D) of the continuing calibration ≤ 30%?	✓			
Were all the retention times within the acceptance windows?	✓			
Was the signal to noise (S/N) ratio for all compounds within the validation criteria?	✓			
Were all percent differences (%D) of the Instrument Sensitivity Check ≤ 30%?	✓			
V. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks?		✓		
VI. Field blanks				
Were field blanks identified in this SDG?	✓			
Were target compounds detected in the field blanks?		✓		

LDC #: 46792B96

VALIDATION FINDINGS CHECKLIST

Reviewer: IV
2nd Reviewer: IV

Validation Area	Yes	No	NA	Findings/Comments
VII. Matrix spike/Matrix spike duplicates				
Were matrix spike (MS) and matrix spike duplicate (MSD) analyzed in this SDG?	✓			
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?		✓		
VIII. Laboratory control samples				
Was an LCS analyzed per extraction batch for this SDG?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Field duplicates				
Were field duplicate pairs identified in this SDG?	✓			
Were target compounds detected in the field duplicates?	✓			
X. Labeled compounds				
Were labeled compound percent recoveries (%R) within the QC limits?		✓		
Were retention times within 0.4 minutes of the associated calibration standard?	✓			
XI. Compound quantitation				
Did the laboratory reporting limits (i.e. DL, LOD, LOQ) meet the QAPP?	✓			
Did reported results include both branched and linear isomers?	✓			
Were the correct ion transition, labeled compound and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound retention times within 0.1 minutes of the associated labeled compound for compounds with a labeled analog?	✓			
Were compound quantitation and reporting limits adjusted to reflect all sample dilutions and dry weight factors applicable to Stage 4 validation?	✓			
XII. Target compound identification				
Was the signal to noise (S/N) ratio for all compounds within the validation criteria?	✓			
Were two transitions and the ion transition ratio per analyte monitored and documented with the exception of PFBA and PFPeA?	✓			
Were ion ratios between 50-150%?		✓		
XIII. System performance				
System performance was found to be acceptable.	✓			
XIV. Overall assessment of Data				
Overall assessment of data was found to be acceptable.	✓			

TARGET COMPOUND WORKSHEET

METHOD: PFAS

A. PFBS		
B. PFHxA		
C. PFHpA		
D. PFHxS		
E. PFOA		
F. PFNA		
G. PFOS		
H. PFDA		
I. MeFOSAA		
J. EtFOSAA		
K. PFUnA		
L. PFDoA		
M. PFTrDA		
N. PFTeDA		
O. HFPO-DA		
P. ADONA		
Q. 9Cl-PF30NS		
R. 11Cl-PF30UdS		

LDC #: 49792B96

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Results

Page: 1 of 1
Reviewer:
2nd Reviewer:

METHOD: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DOD QSM 5.1
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Were a matrix spike (MS) and matrix spike duplicate (MSD) or duplicate sample analyzed for each matrix in this SDG?
Y N N/A Was a MS/MSD analyzed every 20 samples of each matrix?
Y (N) N/A Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?

#	Date	MS/MSD ID	Compound	MS %R (Limits)	MSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
		15/16	A		48.3 (72-130)		7 (dets)	No qual. >4x
			C	250 (72-130)	265 ↓			↓
			F	133 (69-130				J dets/A
		15/16 (10x)	B, D, E, G	%RS out			7 (dets)	No qual. >4x
			B			32 (≤30)		
			D			39		
			G			31 ↓		

Reported RPDs based on %RS. RPDs evaluated using conc.

LDC #: 48792B96

VALIDATION FINDINGS WORKSHEET
Field Duplicates

Reviewer: SC
2nd Reviewer: [illegible]

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.1

Compound	Concentration (ug/L)		RPD≤30	Difference (<5XLOQ)	Difference (<LOQ)	Qualification
	1	2				
A	0.0105	0.0105		0	0.00405	
B	0.0207	0.0226	9			
C	0.00555	0.00521		0.0003	0.00405	
D	0.0702	0.0610	14			
E	0.0839	0.0822	2			
G	0.0150	0.0154		0.0004	0.00405	

Compound	Concentration (ug/L)		RPD≤30	Difference (<5XLOQ)	Difference (<LOQ)	Qualification
	5	6				
A	0.0262	0.0285	8			
B	0.185	0.189	2			
C	0.0980	0.0945	4			
D	0.0788	0.0737	7			
E	0.781	0.755	3			
F	0.00477	0.00546		0.00069	0.00409	
G	0.0432	0.0418	3			

Compound	Concentration (ug/L)		RPD≤30	Difference (<5XLOQ)	Difference (<LOQ)	Qualification
	8	9				
A	0.364	0.397	9			
B	2.59	2.57	1			
C	0.537	0.529	2			
D	2.49	2.59	4			
E	11.1	11.0	1			
F	0.00392	0.00425		0.00033	0.00400	
G	0.879	0.972	10			

LDC #: 48792B96

VALIDATION FINDINGS WORKSHEET
Labeled Compounds

Reviewer: π
2nd Reviewer: (T)

METHOD: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Y (N) N/A Were all labeled compound recoveries within the QC criteria?

#	Date	Lab ID/Reference	Labeled Compound	% Recovery (Limit)	Qualifications
		11TB4 (ND)	DDA	46.2 (50-150)	Jdet/P (L, M, R)
			TDA	12.6	(N)
		12TB4		28.0	(N)

BS = 13C3-PFBS HXS = 13C3-PFHxS OS = 13C8-PFOS TDA = 13C2-PFTeDA EFOS = d5-EtFOSAA
HXA = 13C2-PFHxA NA = 13C5-PFNA DA = 13C2-PFDA DDA = 13C2-PFDoA
HPA = 13C4-PFHpA OA = 13C2-PFOA UDA = 13C2-PFUnA MFOS = d3-MeFOSAA

LDC #: 48792B96

VALIDATION FINDINGS WORKSHEET
Target Compound Identification

Reviewer: MG
2nd Reviewer: [illegible]

METHOD: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

Y (N) N/A Was the signal to noise (S/N) ratio for all compounds within the validation criteria?
Y (N) N/A Were two transitions and the ion transition ratio per analyte monitored and documented with the exception of PFBA and PFPeA?
Y (N) N/A Were ion ratios within QC limits and between 50-150%?

#	Date	Sample ID	Associated Compound	Ion ratio (~~%D≤50~~ limit)	Qualifications
		3	G	3.506 (1.003-3.008)	J (det)/P
		↓	↓	↓	↓
		4	↓	3.255	↓

LDC # 48792B96

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Calibration Date	Instrument	Compound	Standard	(Y) Response ratio	(X) Conc. Ratio	(X^2) Conc. Ratio
7/14/2020	SCN945/960	PFOA	1	0.0391	0.02	0.00040
			2	0.0607	0.04	0.0016
			3	0.1111	0.08	0.0064
			4	0.2362	0.16	0.0256
			5	0.6220	0.40	0.1600
			6	1.1520	0.80	0.6400
			7	6.2166	4.00	16.0000
			8	11.3946	8.00	64.0000
			9	26.3657	20.00	400.0000
			10	53.5565	40.00	1600.0000

Regression Output	Calculated		Reported	
Constant	c	0.15850	c	0.1102520
Std Err of Y Est				.
Degrees of Freedom				
	b	a	b	a
X Coefficient(s)	1.36351	-0.0006947	1.42944	-0.000207503
Std Err of Coef.				
Correlation Coefficient		0.999826		
Coefficient of Determination (r^2)		0.999652		0.99882

LDC #: 18792B96

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Calibration Date	Instrument	Compound	Standard	(Y) Response ratio	(X) Conc. Ratio	(X^2) Conc. Ratio
7/14/2020	SCN945/960	PFOS	1	0.0227	0.02	0.00040
			2	0.0317	0.04	0.0016
			3	0.0814	0.08	0.0064
			4	0.1498	0.16	0.0256
			5	0.4309	0.40	0.1600
			6	0.7906	0.80	0.6400
			7	4.2751	4.00	16.0000
			8	8.1452	8.00	64.0000
			9	19.0425	20.00	400.0000
			10	38.9489	40.00	1600.0000

Regression Output	Calculated		Reported	
Constant	c	0.08248	c	-0.0037090
Std Err of Y Est				
Degrees of Freedom				
	b	a	b	a
X Coefficient(s)	0.970908	0.0000222	1.008000	-0.0000832828
Std Err of Coef.				
Correlation Coefficient		0.999885		
Coefficient of Determination (r^2)		0.999771		0.998246

LDC # 48962 B96 (97)

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Calibration Date	Instrument	Compound	Standard	(Y) Response ratio	(X) Conc. Ratio	(X^2) Conc. Ratio
7/15/2020	SCN945/960	PFOA	1	0.0339	0.02	0.00040
			2	0.0701	0.04	0.0016
			3	0.1254	0.08	0.0064
			4	0.2383	0.16	0.0256
			5	0.6010	0.40	0.1600
			6	1.2023	0.80	0.6400
			7	6.0452	4.00	16.0000
			8	11.7530	8.00	64.0000
			9	27.7324	20.00	400.0000
			10	51.9259	40.00	1600.0000

Regression Output	Calculated		Reported	
Constant	c	0.03546	c	0.0669438
Std Err of Y Est				
Degrees of Freedom				
	b	a	b	a
X Coefficient(s)	1.49055	-0.0048287	1.50337	-0.000416136
Std Err of Coef.				
Correlation Coefficient		0.999991		
Coefficient of Determination (r^2)		0.999981		0.999939

LDC #: 48972B96

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Calibration Date	Instrument	Compound	Standard	(Y) Response ratio	(X) Conc. Ratio	(X^2) Conc. Ratio
7/15/2020	SCN945/960	PFOS	1	0.0161	0.02	0.00040
			2	0.0303	0.04	0.0016
			3	0.0746	0.08	0.0064
			4	0.1589	0.16	0.0256
			5	0.4236	0.40	0.1600
			6	0.8187	0.80	0.6400
			7	4.1694	4.00	16.0000
			8	7.9315	8.00	64.0000
			9	20.4718	20.00	400.0000
			10	38.8811	40.00	1600.0000

Regression Output	Calculated		Reported	
Constant	c	-0.03613	c	-0.0860112
Std Err of Y Est				
Degrees of Freedom				
	b	a	b	a
X Coefficient(s)	1.051162	-0.0019514	1.03891	-0.0001274520
Std Err of Coef.				
Correlation Coefficient		0.999955		
Coefficient of Determination (r^2)		0.999911		0.999761

LDC #: 48792B96

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Calibration Date	Instrument	Compound	Standard	(Y) Response ratio	(X) Conc. Ratio	(X^2) Conc. Ratio
7/16/2020	SCN945/960	PFOA	1	0.0305	0.02	0.00040
			2	0.0521	0.04	0.0016
			3	0.1192	0.08	0.0064
			4	0.2380	0.16	0.0256
			5	0.5742	0.40	0.1600
			6	1.1541	0.80	0.6400
			7	5.8217	4.00	16.0000
			8	11.3244	8.00	64.0000
			9	26.9039	20.00	400.0000
			10	49.4671	40.00	1600.0000

Regression Output	Calculated		Reported	
Constant	c	0.00837	c	-0.0054419
Std Err of Y Est				
Degrees of Freedom				
	b	a	b	a
X Coefficient(s)	1.45774	-0.0055315	1.46173	-0.000451650
Std Err of Coef.				
Correlation Coefficient		0.999999		
Coefficient of Determination (r^2)		0.999998		0.999976

LDC #: 48792B96

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Calibration Date	Instrument	Compound	Standard	(Y) Response ratio	(X) Conc. Ratio	(X^2) Conc. Ratio
7/16/2020	SCN945/960	PFOS	1	0.0152	0.02	0.00040
			2	0.0407	0.04	0.0016
			3	0.0966	0.08	0.0064
			4	0.1510	0.16	0.0256
			5	0.4276	0.40	0.1600
			6	0.7511	0.80	0.6400
			7	4.2366	4.00	16.0000
			8	7.8487	8.00	64.0000
			9	18.9035	20.00	400.0000
			10	38.4993	40.00	1600.0000

Regression Output	Calculated		Reported	
Constant	c	0.06995	c	0.0058948
Std Err of Y Est				
Degrees of Freedom				
	b	a	b	a
X Coefficient(s)	0.95629	0.0001198	0.98734	-0.0000616685
Std Err of Coef.				
Correlation Coefficient		0.999926		
Coefficient of Determination (r^2)		0.999853		0.999295

LDC #: 48792B96

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Calculation Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (aveRRF - RRF)/aveRRF
RRF = (Ax)(Cis)/(Ais)(Cx)

Where:
aveRRF = initial calib average RRF
RRF = continuing calib RRF
Ax = Area of compound
Cx = Concentration of compound,
Ais = Area of associated internal standard
Cis = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (IS)	Conc	Reported Conc	Recalculated Conc	Reported %R	Recalculated %R
1	200714M1_63	7/15/2020	PFOA (13C2-PFOA)	1.00	0.997	0.997	99.4	99.7
			PFOS (13C8-PFOS)	1.00	1.160	1.159	115.9	115.9
2	200714M1_83	7/15/2020	PFOA (13C2-PFOA)	10.00	9.23	9.23	92.3	92.3
			PFOS (13C8-PFOS)	10.00	11.6	11.6	116.3	116.2
3	200716M1_27	7/16/2020	PFOA (13C2-PFOA)	10.00	10.50	10.49	104.9	104.9
			PFOS (13C8-PFOS)	10.00	10.20	10.20	102.1	102.0
4			PFOA (13C2-PFOA)					
			PFOS (13C8-PFOS)					
5			PFOA (13C2-PFOA)					
			PFOS (13C8-PFOS)					
6			PFOA (13C2-PFOA)					
			PFOS (13C8-PFOS)					

LDC #: 45792B96

VALIDATION FINDINGS WORKSHEET
Matrix Spike/Matrix Spike Duplicates Results Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

The percent recoveries (%R) and relative percent differences (RPD) of the matrix spike and matrix spike duplicate were recalculated for the compounds identified below using the following calculation:

SSC = (Area spike) (Conc IS) / (Area IS) (average RRF spike)
%Recovery = 100 * (SSC - SC)/SA

Where: SSC = Spiked concentration; SA = Spike added; SC = Sample concentration

RPD = | MS - MSD | * 2/(MS + MSD)

MS = Matrix spike recovery; MSD = Matrix spike duplicate recovery

MS/MSD ID: 13/14

Compound	SA (ug/L)		SC (ug/L)	SSC (ug/L)		MS Percent Recovery		MSD Percent Recovery		MS/MSD RPD	
	MS	MSD		MS	MSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
PFOA	0.0414	0.0409	0.1670	0.2120	0.2060	109	109	95.0	95.4	13.7	2.87
PFOS	0.0414	0.0409	0.0650	0.1150	0.1070	121	121	102	103	17.0	7.21

LDC #: 48792B96

VALIDATION FINDINGS WORKSHEET
LCS Results Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control duplicate were recalculated for the compounds identified below using the following calculation:

SSC = (Area spike) (Conc IS) / (Area IS) (average RRF spike)
%Recovery = 100 * SSC/SA

Where:
SSC = Spiked concentration
SA = Spike added
LCS = Laboratory control spike recovery
LCSD = Laboratory control spike duplicate recovery

RPD = | LCS - LCSD | * 2/(LCS + LCSD)

LCS/LCSD ID: B0G0034-BS1

Compound	SA (ng/L)		SSC (ng/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
PFOA	0.0400		0.0414		104	104				
PFOS	0.0400		0.0355		88.7	88.8				

LDC #: 48792B96

VALIDATION FINDINGS WORKSHEET
Sample Results Verification

Reviewer: SG
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Compound results for all Level IV samples reported with a positive detect were recalculated and verified using the following equation:

$$\text{Concentration} = \frac{(Ax)\,(Cis)\,(Vt)\,(DF)}{(Ais)\,(RRF)\,(Vo)}$$

Where:

Ax = Area or height of the peak for the compound to be measured
Ais = Area or height of the peak for the internal standard
Cis = Concentration of the internal standard
DF = Dilution factor
Vt = Volume of extract in milliters (mL)
RRF = Average relative response factor
Vo = Volume of sample in liters (L)

Sample #	Compound	Ax	Ais	Cis	DF	RRF	Vt (mL)	Vo (L)	Calculated Concentration (ug/L)	Reported Concentration (ug/L)	% Diff
1	PFOA	6.129E+04	1.362E+04	12.5	1	curve	1	236.45	0.167	0.167	0

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: MCAS El Toro and Tustin PFAS

LDC Report Date: August 25, 2020

Parameters: Perfluoroalkyl & Polyfluoroalkyl Substances

Validation Level: Stage 4

Laboratory: Vista Analytical Laboratory

Sample Delivery Group (SDG): 2001417

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
TW06D-20200706	2001417-02	Water	07/06/20
TW25D-20200706	2001417-03	Water	07/06/20
TW26D-20200706	2001417-04	Water	07/06/20
TW08D-20200706	2001417-05	Water	07/06/20

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Final Sampling and Analysis Plan for Per- and Polyfluoroalkyl Substances in Groundwater in Carve-Outs 2, 5, 6, and 9 and Groundwater and Surface Water Near Operable Unit 3, Former Marine Corps Air Station Tustin, Tustin, California, with Addendum #02 to Final Sampling and Analysis Plan for Per- and Polyfluoroalkyl Substances Sampling for Groundwater Remedial Action at Operable Unit 3, Installation Restoration Program Site 1 (February 2020), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.3 (2019), and the DoD General Validation Guidelines (February 2018). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following methods:

Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS) by Environmental Protection Agency (EPA) Method 537 Modified and LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

All sample results were subjected to Stage 4 data validation, which is comprised of the quality control (QC) summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

R (Rejected): The sample results were rejected due to gross non-conformances discovered during data validation. Data qualified as rejected is not usable.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. LC/MS Instrument Performance Check

Instrument performance was checked and the requirements were met.

III. Initial Calibration and Initial Calibration Verification

Initial calibration was performed as required by the methods.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990.

For each calibration standard, all compounds were within 70-130% of their true value.

The signal to noise (S/N) ratio was within validation criteria for all compounds.

Retention time windows were established as required by the methods.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 30.0% for all compounds.

IV. Continuing Calibration and Instrument Sensitivity Check

Continuing calibration was performed at required frequencies.

The percent differences (%D) were less than or equal to 30.0% for all compounds.

The signal to noise (S/N) ratio was within validation criteria for all compounds.

The percent differences (%D) of the instrument sensitivity check (ISC) were less than or equal to 30.0% for all compounds.

Retention times of all compounds in the calibration standards were within the established retention time windows.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the methods. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Sample EB04-20200706 was identified as an equipment blank. No contaminants were found.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the methods. Percent recoveries (%R) were within QC limits.

Relative percent differences (RPD) were within QC limits with the following exceptions:

LCS ID (Associated Samples)	Compound	RPD (Limits)	Flag	A or P
BOG0039-BS1/BSD1 (All samples in SDG 2001417)	PFTeDA	35.7 (≤30)	NA	-

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Labeled Compounds

All percent recoveries (%R) for labeled compounds used to quantitate target compounds were within QC limits with the following exceptions:

Sample	Labeled Compound	%R (Limits)	Affected Compound	Flag	A or P
TW06D-20200706	13C2-PFTeDA	27.0 (50-150)	PFTeDA	NA	-
TW25D-20200706	d5-EtFOSAA 13C2-PFDoA 13C2-PFTeDA	46.4 (50-150) 42.7 (50-150) 17.3 (50-150)	EtFOSAA PFDoA PFTrDA 11Cl-PF30UdS PFTeDA	NA	-
TW26D-20200706	13C2-PFTeDA	24.3 (50-150)	PFTeDA	NA	-

XI. Compound Quantitation

All compound quantitations met validation criteria.

XII. Target Compound Identifications

All target compound identifications met validation criteria.

XIII. System Performance

The system performance was acceptable.

XIV. Overall Assessment of Data

The analysis was conducted within all specifications of the methods. No results were rejected in this SDG.

The quality control criteria reviewed were met and are considered acceptable.

MCAS El Toro and Tustin PFAS
Perfluoroalkyl & Polyfluoroalkyl Substances - Data Qualification Summary - SDG 2001417

No Sample Data Qualified in this SDG

MCAS El Toro and Tustin PFAS
Perfluoroalkyl & Polyfluoroalkyl Substances - Laboratory Blank Data Qualification Summary - SDG 2001417

No Sample Data Qualified in this SDG

MCAS El Toro and Tustin PFAS
Perfluoroalkyl & Polyfluoroalkyl Substances - Field Blank Data Qualification Summary - SDG 2001417

No Sample Data Qualified in this SDG

LDC #: 48792C696 **VALIDATION COMPLETENESS WORKSHEET** Date: 8/14/20

SDG #: 2001417 Stage 4 Page: 1 of 1

Laboratory: Vista Analytical Laboratory Reviewer: [illegible]

2nd Reviewer: [illegible]

METHOD: LC/MS Perfluoroalkyl & Polyfluoroalkyl Substances (EPA Method 537M/QSM 5.3 Table B-15)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	LC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A / A	r² ≥0.99 %RSD ≤30
IV.	Continuing calibration/ISC	A/A	D ≤30
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	EB04-20200706
VII.	Matrix spike/Matrix spike duplicates	N	
VIII.	Laboratory control samples	SW	LCS/D
IX.	Field duplicates	N	
X.	Labeled Compounds	SW	
VI.	Compound quantitation RL/LOQ/LODs	A	
XII.	Target compound identification	A	
XIII.	System performance	A	
XIV.	Overall assessment of data	A	

Note: A = Acceptable; ND = No compounds detected; D = Duplicate; SB=Source blank
N = Not provided/applicable; R = Rinsate; TB = Trip blank; OTHER:
SW = See worksheet; FB = Field blank; EB = Equipment blank

	Client ID	Lab ID	Matrix	Date
1	TW06D-20200706	2001417-02	Water	07/06/20
2	TW25D-20200706	2001417-03	Water	07/06/20
3	TW26D-20200706	2001417-04	Water	07/06/20
4	TW08D-20200706	2001417-05	Water	07/06/20
5				
6				
7				
8				
9				
10				

Notes:

	B0G0039						

LDC #: 48792Q96 **VALIDATION FINDINGS CHECKLIST** Page: 1 of 2
Reviewer:
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Were cooler temperature criteria met?	✓			
II. LC/MS Instrument performance check				
Were the instrument performance reviewed and found to be within the validation criteria?	✓			
III. Initial calibration and Initial calibration verification				
Did the laboratory perform a 5-point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) ≤ 20%?		✓	✓	
Was a curve fit used for evaluation? If yes, did the initial calibration meet the coefficient of determination (r^2) criteria of ≥ 0.990?	✓			
Were all analytes within 70-130% or percent differences (%D) ≤30% of their true value for each calibration standard?	✓			
Was the signal to noise (S/N) ratio for all compounds within the validation criteria?	✓			
Were the retention time windows properly established?	✓			
Was an initial calibration verification (ICV) standard analyzed after each initial calibration for each instrument?	✓			
Were all ICV percent differences (%D) of the initial calibration verification ≤ 30%?	✓			
IV. Continuing calibration and Instrument sensitivity check				
Was a continuing calibration analyzed prior to sample analysis, after every 10 samples and at the end of the analytical sequence?	✓			
Were all percent differences (%D) of the continuing calibration ≤ 30%?	✓			
Were all the retention times within the acceptance windows?	✓			
Was the signal to noise (S/N) ratio for all compounds within the validation criteria?	✓			
Were all percent differences (%D) of the Instrument Sensitivity Check ≤ 30%?	✓			
V. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks?		✓		
VI. Field blanks				
Were field blanks identified in this SDG?	✓			
Were target compounds detected in the field blanks?		✓		

Validation Area	Yes	No	NA	Findings/Comments
VII. Matrix spike/Matrix spike duplicates				
Were matrix spike (MS) and matrix spike duplicate (MSD) analyzed in this SDG?		✓		
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
VIII. Laboratory control samples				
Was an LCS analyzed per extraction batch for this SDG?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?		✓		
IX. Field duplicates				
Were field duplicate pairs identified in this SDG?	•	✓		
Were target compounds detected in the field duplicates?			✓	
X. Labeled compounds				
Were labeled compound percent recoveries (%R) within the QC limits?		✓		
Were retention times within 0.4 minutes of the associated calibration standard?	✓			
XI. Compound quantitation				
Did the laboratory reporting limits (i.e. DL, LOD, LOQ) meet the QAPP?	✓			
Did reported results include both branched and linear isomers?	✓			
Were the correct ion transition, labeled compound and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound retention times within 0.1 minutes of the associated labeled compound for compounds with a labeled analog?	✓			
Were compound quantitation and reporting limits adjusted to reflect all sample dilutions and dry weight factors applicable to Stage 4 validation?	✓			
XII. Target compound identification				
Was the signal to noise (S/N) ratio for all compounds within the validation criteria?	✓			
Were two transitions and the ion transition ratio per analyte monitored and documented with the exception of PFBA and PFPeA?	✓			
Were ion ratios between 50-150%?	✓			
XIII. System performance				
System performance was found to be acceptable.	✓			
XIV. Overall assessment of Data				
Overall assessment of data was found to be acceptable.	✓			

TARGET COMPOUND WORKSHEET

METHOD: PFAS

A. PFBS		
B. PFHxA		
C. PFHpA		
D. PFHxS		
E. PFOA		
F. PFNA		
G. PFOS		
H. PFDA		
I. MeFOSAA		
J. EtFOSAA		
K. PFUnA		
L. PFDoA		
M. PFTrDA		
N. PFTeDA		
O. HFPO-DA		
P. ADONA		
Q. 9Cl-PF30NS		
R. 11Cl-PF30UdS		

LDC #: 48792C96

VALIDATION FINDINGS WORKSHEET
Laboratory Control Samples (LCS)

Reviewer: 9
2nd Reviewer: 0

METHOD: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DOD QSM 5.3

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Was a LCS required?

Y (N) N/A Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?

#	LCS/LCSD ID	Compound	LCS %R (Limits)	LCSD %R (Limits)	RPD (Limits)	Associated Samples	Qualifications
	BQG0039-BS1/BSD1	N			35.7 (≤30)	All (ND)	J (all/P

LDC #: 48792C96

VALIDATION FINDINGS WORKSHEET
Labeled Compounds

Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Y (N) N/A Were all labeled compound recoveries within the QC criteria?

#	Date	Lab ID/Reference	Labeled Compound	% Recovery (Limit)	Qualifications
		1 (ND)	TDA	27.0 (50-150)	J dets/P (N)
		2	EFOS	46.4	(J)
			DDA	42.7	(L, M, R)
			TDA	17.3	(N)
		3 (ND)	TDA	24.3	

BS = 13C3-PFBS HXS = 13C3-PFHxS OS = 13C8-PFOS TDA = 13C2-PFTeDA EFOS = d5-EtFOSAA
HXA = 13C2-PFHxA NA = 13C5-PFNA DA = 13C2-PFDA DDA = 13C2-PFDoA
HPA = 13C4-PFHpA OA = 13C2-PFOA UDA = 13C2-PFUnA MFOS = d3-MeFOSAA

LDC # 48792096

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: SC
2nd Reviewer: [signature]

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Calibration Date	Instrument	Compound	Standard	(Y) Response ratio	(X) Conc. Ratio	(X^2) Conc. Ratio
7/10/2020	SCN982	PFOA	1	0.0371	0.02	0.00040
			2	0.0615	0.04	0.0016
			3	0.1197	0.08	0.0064
			4	0.2327	0.16	0.0256
			5	0.6277	0.40	0.1600
			6	1.1434	0.80	0.6400
			7	5.5884	4.00	16.0000
			8	11.6240	8.00	64.0000
			9	26.4062	20.00	400.0000
			10	51.9666	40.00	1600.0000

Regression Output	Calculated		Reported	
Constant	c	0.08117	c	0.1077220
Std Err of Y Est				.
Degrees of Freedom				
	b	a	b	a
X Coefficient(s)	1.38891	-0.0022976	1.42034	-0.000256585
Std Err of Coef.				
Correlation Coefficient		0.999908		
Coefficient of Determination (r^2)		0.999815		0.999514

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Calibration Date	Instrument	Compound	Standard	(Y) Response ratio	(X) Conc. Ratio	(X^2) Conc. Ratio
7/10/2020	SCN982	PFOS	1	0.0181	0.02	0.00040
			2	0.0367	0.04	0.0016
			3	0.0751	0.08	0.0064
			4	0.1287	0.16	0.0256
			5	0.4089	0.40	0.1600
			6	0.8490	0.80	0.6400
			7	4.3716	4.00	16.0000
			8	8.7038	8.00	64.0000
			9	21.4254	20.00	400.0000
			10	38.6788	40.00	1600.0000

Regression Output	Calculated		Reported	
Constant	c	-0.06963	c	-0.0940027
Std Err of Y Est				
Degrees of Freedom				
	b	a	b	a
X Coefficient(s)	1.153191	-0.0046289	1.126310	-0.0003080400
Std Err of Coef.				
Correlation Coefficient		0.999967		
Coefficient of Determination (r^2)		0.999933		0.999556

LDC #: 48792 c96

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Calculation Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (aveRRF - RRF)/aveRRF
RRF = (Ax)(Cis)/(Ais)(Cx)

Where:
aveRRF = initial calib average RRF
RRF = continuing calib RRF
Ax = Area of compound
Cx = Concentration of compound,
Ais = Area of associated internal standard
Cis = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (IS)	Conc	Reported Conc	Recalculated Conc	Reported %R	Recalculated %R
1	200710M1_109	7/11/2020	PFOA (13C2-PFOA)	10.00	10.7	10.7	106.5	106.5
			PFOS (13C8-PFOS)	10.00	8.57	8.55	85.7	85.5
2			PFOA (13C2-PFOA)					
			PFOS (13C8-PFOS)					
3			PFOA (13C2-PFOA)					
			PFOS (13C8-PFOS)					
4			PFOA (13C2-PFOA)					
			PFOS (13C8-PFOS)					
5			PFOA (13C2-PFOA)					
			PFOS (13C8-PFOS)					
6			PFOA (13C2-PFOA)					
			PFOS (13C8-PFOS)					

LDC #: 48792C96

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Calibration Date	Instrument	Compound	Standard	(Y) Response ratio	(X) Conc. Ratio	(X^2) Conc. Ratio
7/16/2020	SCN945/960	PFOA	1	0.0307	0.02	0.00040
			2	0.0628	0.04	0.0016
			3	0.1341	0.08	0.0064
			4	0.2594	0.16	0.0256
			5	0.5827	0.40	0.1600
			6	1.2264	0.80	0.6400
			7	6.2227	4.00	16.0000
			8	11.8314	8.00	64.0000
			9	27.9818	20.00	400.0000
			10	55.1083	40.00	1600.0000

Regression Output	Calculated		Reported	
Constant	c	0.09022	c	0.0619264
Std Err of Y Est				
Degrees of Freedom				
	b	a	b	a
X Coefficient(s)	1.45746	-0.0020386	1.49503	-0.000249651
Std Err of Coef.				
Correlation Coefficient		0.999949		
Coefficient of Determination (r^2)		0.999898		0.99964

LDC #: 48792C9v

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Calibration Date	Instrument	Compound	Standard	(Y) Response ratio	(X) Conc. Ratio	(X^2) Conc. Ratio
7/16/2020	SCN982	PFOS	1	0.0183	0.02	0.00040
			2	0.0368	0.04	0.0016
			3	0.0855	0.08	0.0064
			4	0.1639	0.16	0.0256
			5	0.4212	0.40	0.1600
			6	0.8879	0.80	0.6400
			7	4.2126	4.00	16.0000
			8	8.8898	8.00	64.0000
			9	20.8350	20.00	400.0000
			10	37.5574	40.00	1600.0000

Regression Output	Calculated		Reported	
Constant	c	-0.03856	c	-0.0882230
Std Err of Y Est				
Degrees of Freedom				
	b	a	b	a
X Coefficient(s)	1.14010	-0.0050221	1.12687	-0.0003708350
Std Err of Coef.				
Correlation Coefficient		0.999978		
Coefficient of Determination (r^2)		0.999957		0.999734

LDC #: 48792C96

VALIDATION FINDINGS WORKSHEET
LCS Results Verification

Reviewer: SC
2nd Reviewer: CJ

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control duplicate were recalculated for the compounds identified below using the following calculation:

SSC = (Area spike) (Conc IS) / (Area IS) (average RRF spike)
%Recovery = 100 * SSC/SA

Where:
SSC = Spiked concentration
SA = Spike added
LCS = Laboratory control spike recovery
LCSD = Laboratory control spike duplicate recovery

RPD = | LCS - LCSD | * 2/(LCS + LCSD)

LCS/LCSD ID: B0G0039-BS/D

Compound	SA (ug/L)		SSC (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
PFOA	0.0400	0.0400	0.0431	0.0411	108	108	103	103	4.76	4.75
PFOS	0.0400	0.0400	0.0397	0.0398	99.1	99.3	99.4	99.5	0.260	0.252

LDC #: 48792096

VALIDATION FINDINGS WORKSHEET
Sample Results Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Compound results for all Level IV samples reported with a positive detect were recalculated and verified using the following equation:

$$\text{Concentration} = \frac{(Ax)\,(Cis)\,(Vt)\,(DF)}{(Ais)\,(RRF)\,(Vo)}$$

Where:

Ax = Area or height of the peak for the compound to be measured
Ais = Area or height of the peak for the internal standard
Cis = Concentration of the internal standard
DF = Dilution factor
Vt = Volume of extract in milliliters (mL)
RRF = Average relative response factor
Vo = Volume of sample in liters (L)

Sample #	Compound	Ax	Ais	Cis	DF	RRF	Vt (mL)	Vo (L)	Calculated Concentration (ug/L)	Reported Concentration (ug/L)	% Diff
1	PFOS	4.907E+02	3.402E+03	12.5	1	curve	1	261.96	0.00643	0.00643	0

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: MCAS El Toro and Tustin PFAS

LDC Report Date: September 3, 2020

Parameters: Perfluoroalkyl & Polyfluoroalkyl Substances

Validation Level: Stage 4

Laboratory: Vista Analytical Laboratory

Sample Delivery Group (SDG): 2001436

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
TW21D-20200707	2001436-02	Water	07/07/20
TW09D-20200707	2001436-03	Water	07/07/20
TW22D-20200707	2001436-04	Water	07/07/20
TW23D-20200708	2001436-06	Water	07/08/20
TW24D-20200708	2001436-07	Water	07/08/20
TW17D-20200708	2001436-08	Water	07/08/20

Introduction

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All sample results were subjected to Stage 4 data validation, which is comprised of the quality control (QC) summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

X The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team, but exclusion of the data is recommended.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. LC/MS Instrument Performance Check

Instrument performance was checked and the requirements were met.

III. Initial Calibration and Initial Calibration Verification

Initial calibration was performed as required by the methods.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990.

For each calibration standard, all compounds were within 70-130% of their true value.

The signal to noise (S/N) ratio was within validation criteria for all compounds.

Retention time windows were established as required by the methods.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 30.0% for all compounds.

IV. Continuing Calibration and Instrument Sensitivity Check

Continuing calibration was performed at required frequencies.

The percent differences (%D) were less than or equal to 30.0% for all compounds.

The signal to noise (S/N) ratio was within validation criteria for all compounds.

The percent differences (%D) of the instrument sensitivity check (ISC) were less than or equal to 30.0% for all compounds.

Retention times of all compounds in the calibration standards were within the established retention time windows.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the methods. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Samples EB05-20200707 and EB06-20200708 were identified as equipment blanks. No contaminants were found.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the methods. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Labeled Compounds

All percent recoveries (%R) for labeled compounds used to quantitate target compounds were within QC limits with the following exceptions:

Sample	Labeled Compound	%R (Limits)	Affected Compound	Flag	A or P
TW21D-20200707	13C2-PFTeDA	32.1 (50-150)	PFTeDA	NA	-
TW09D-20200707	d5-EtFOSAA 13C2-PFDoA 13C2-PFTeDA	42.0 (50-150) 38.5 (50-150) 11.4 (50-150)	EtFOSAA PFDoA PFTrDA 11Cl-PF30UdS PFTeDA	NA	-
TW22D-20200707	d3-MeFOSAA 13C2-PFUnA d5-EtFOSAA 13C2-PFDoA	30.9 (50-150) 35.7 (50-150) 23.3 (50-150) 13.5 (50-150)	MeFOSAA PFUnA EtFOSAA PFDoA PFTrDA 11Cl-PF30UdS	NA	-
TW22D-20200707	13C2-PFTeDA	6.30 (50-150)	PFTeDA	X	P
TW23D-20200708	d5-EtFOSAA 13C2-PFDoA	48.0 (50-150) 35.0 (50-150)	EtFOSAA PFDoA PFTrDA 11Cl-PF30UdS	NA	-
TW23D-20200708	13C2-PFTeDA	5.40 (50-150)	PFTeDA	X	P

Sample	Labeled Compound	%R (Limits)	Affected Compound	Flag	A or P
TW24D-20200708	13C2-PFDoA	45.9 (50-150)	PFDoA PFTrDA 11Cl-PF30UdS	NA	-
TW24D-20200708	13C2-PFTeDA	7.80 (50-150)	PFTeDA	X	P
TW17D-20200708	13C3-PFBS 13C2-PFHxA 13C4-PFHpA 13C3-PFHxS 13C5-PFNA 13C8-PFOS	44.4 (50-150) 42.2 (50-150) 45.2 (50-150) 44.2 (50-150) 41.9 (50-150) 45.5 (50-150)	PFBS PFHxA PFHpA PFHxS PFNA PFOS	J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects)	P
TW17D-20200708	13C3-HFPO-DA 13C4-PFHpA 13C8-PFOS 13C2-PFDA D3-MeFOSAA 13C2-PFUnA D5-EtFOSAA 13C2-PFDoA	39.6 (50-150) 45.2 (50-150) 45.5 (50-150) 39.0 (50-150) 27.8 (50-150) 28.3 (50-150) 22.3 (50-150) 15.3 (50-150)	HFPO-DA ADONA 9Cl-PF30NS PFDA MeFOSAA PFUnA EtFOSAA PFDoA PFTrDA 11Cl-PF30UdS	NA	-
TW17D-20200708	13C2-PFTeDA	3.30 (50-150)	PFTeDA	X	P

XI. Compound Quantitation

All compound quantitations met validation criteria.

XII. Target Compound Identifications

All target compound identifications met validation criteria.

XIII. System Performance

The system performance was acceptable.

XIV. Overall Assessment of Data

The analysis was conducted within all specifications of the methods. No results were rejected in this SDG.

Due to labeled compound %R, data were qualified for recommended exclusion in four samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable.

MCAS El Toro and Tustin PFAS
Perfluoroalkyl & Polyfluoroalkyl Substances - Data Qualification Summary - SDG 2001436

Sample	Compound	Flag	A or P	Reason
TW22D-20200707 TW23D-20200708 TW24D-20200708 TW17D-20200708	PFTeDA	X	P	Labeled compounds (%R)
TW17D-20200708	PFBS PFHxA PFHpA PFHxS PFNA PFOS	J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects)	P	Labeled compounds (%R)

MCAS El Toro and Tustin PFAS
Perfluoroalkyl & Polyfluoroalkyl Substances - Laboratory Blank Data Qualification Summary - SDG 2001436

No Sample Data Qualified in this SDG

MCAS El Toro and Tustin PFAS
Perfluoroalkyl & Polyfluoroalkyl Substances - Field Blank Data Qualification Summary - SDG 2001436

No Sample Data Qualified in this SDG

LDC #: 48792D96

VALIDATION COMPLETENESS WORKSHEET

Stage 4

Date: 8/14/20

SDG #: 2001436

Page: 1 of 1

Laboratory: Vista Analytical Laboratory

Reviewer:

2nd Reviewer:

METHOD: LC/MS Perfluoroalkyl & Polyfluoroalkyl Substances (EPA Method 537M/QSM 5.3 Table B-15)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	LC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A / A	r TV/ICV ≤ 30
IV.	Continuing calibration/ISC	A/A	D ≤ 30
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	EB05-20200707, EB06-20200708
VII.	Matrix spike/Matrix spike duplicates	N	
VIII.	Laboratory control samples	A	LCSD
IX.	Field duplicates	N	
X.	Labeled Compounds	SW	
VI.	Compound quantitation RL/LOQ/LODs	A	
XII.	Target compound identification	A	
XIII.	System performance	A	
XIV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	TW21D-20200707	2001436-02	Water	07/07/20
2	TW09D-20200707	2001436-03	Water	07/07/20
3	TW22D-20200707	2001436-04	Water	07/07/20
4	TW23D-20200708	2001436-06	Water	07/08/20
5	TW24D-20200708	2001436-07	Water	07/08/20
6	TW17D-20200708	2001436-08	Water	07/08/20
7				
8				
9				
10				

Notes:

	B0G0058						

LDC #: 48192D96

VALIDATION FINDINGS CHECKLIST

Reviewer:
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Were cooler temperature criteria met?	✓			
II. LC/MS Instrument performance check				
Were the instrument performance reviewed and found to be within the validation criteria?	✓			
III. Initial calibration and Initial calibration verification				
Did the laboratory perform a 5-point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) ≤ 20%?			✓	
Was a curve fit used for evaluation? If yes, did the initial calibration meet the coefficient of determination (r^2) criteria of ≥ 0.990?	✓			
Were all analytes within 70-130% or percent differences (%D) ≤30% of their true value for each calibration standard?	✓			
Was the signal to noise (S/N) ratio for all compounds within the validation criteria?	✓			
Were the retention time windows properly established?	✓			
Was an initial calibration verification (ICV) standard analyzed after each initial calibration for each instrument?	✓			
Were all ICV percent differences (%D) of the initial calibration verification ≤ 30%?	✓			
IV. Continuing calibration and Instrument sensitivity check				
Was a continuing calibration analyzed prior to sample analysis, after every 10 samples and at the end of the analytical sequence?	✓			
Were all percent differences (%D) of the continuing calibration ≤ 30%?	✓			
Were all the retention times within the acceptance windows?	✓			
Was the signal to noise (S/N) ratio for all compounds within the validation criteria?	✓			
Were all percent differences (%D) of the Instrument Sensitivity Check ≤ 30%?	✓			
V. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks?		✓		
VI. Field blanks				
Were field blanks identified in this SDG?	✓			
Were target compounds detected in the field blanks?		✓		

LDC #: 48792D96

VALIDATION FINDINGS CHECKLIST

Reviewer: 9
2nd Reviewer: [signature]

Validation Area	Yes	No	NA	Findings/Comments
VII. Matrix spike/Matrix spike duplicates				
Were matrix spike (MS) and matrix spike duplicate (MSD) analyzed in this SDG?		✓		
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
VIII. Laboratory control samples				
Was an LCS analyzed per extraction batch for this SDG?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Field duplicates				
Were field duplicate pairs identified in this SDG?		✓		
Were target compounds detected in the field duplicates?			✓	
X. Labeled compounds				
Were labeled compound percent recoveries (%R) within the QC limits?	✓			
Were retention times within 0.4 minutes of the associated calibration standard?	✓			
XI. Compound quantitation				
Did the laboratory reporting limits (i.e. DL, LOD, LOQ) meet the QAPP?	✓			
Did reported results include both branched and linear isomers?	✓			
Were the correct ion transition, labeled compound and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound retention times within 0.1 minutes of the associated labeled compound for compounds with a labeled analog?	✓			
Were compound quantitation and reporting limits adjusted to reflect all sample dilutions and dry weight factors applicable to Stage 4 validation?	✓			
XII. Target compound identification				
Was the signal to noise (S/N) ratio for all compounds within the validation criteria?	✓			
Were two transitions and the ion transition ratio per analyte monitored and documented with the exception of PFBA and PFPeA?	✓			
Were ion ratios between 50-150%?	✓			
XIII. System performance				
System performance was found to be acceptable.	✓			
XIV. Overall assessment of Data				
Overall assessment of data was found to be acceptable.	✓			

TARGET COMPOUND WORKSHEET

METHOD: PFAS

A. PFBS		
B. PFHxA		
C. PFHpA		
D. PFHxS		
E. PFOA		
F. PFNA		
G. PFOS		
H. PFDA		
I. MeFOSAA		
J. EtFOSAA		
K. PFUnA		
L. PFDoA		
M. PFTrDA		
N. PFTeDA		
O. HFPO-DA		
P. ADONA		
Q. 9Cl-PF30NS		
R. 11Cl-PF30UdS		

LDC #: 48793D96

VALIDATION FINDINGS WORKSHEET
Labeled Compounds

Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Y (N) N/A Were all labeled compound recoveries within the QC criteria?

#	Date	Lab ID/Reference	Labeled Compound	% Recovery (Limit)	Qualifications
		1 (ND)	TDA	32.1 (50-150)	J (all detects) / UJ (ND)
		2	EFOS	42.0	(J)
			DDA	38.5	(L, M, R)
			TDA	11.4	
		3 (ND)	MFOS	30.9	(I)
			UDA	35.7	(k)
			EFOS	23.3	
			DDA	13.5	
			TDA	6.30	J (all detects) / UJ (ND) x / P
		4 (ND)	EFOS	48.0	J (all detects) / UJ (ND)
			DDA	35.0	
			TDA	5.40	J (all detects) / UJ (ND) x / P
		5 (ND)	DDA	45.9	J (all detects) / UJ (ND)
			TDA	7.80	J (all detects) / UJ (ND) x / P

BS = 13C3-PFBS HXS = 13C3-PFHxS OS = 13C8-PFOS TDA = 13C2-PFTeDA EFOS = d5-EtFOSAA
HXA = 13C2-PFHxA NA = 13C5-PFNA DA = 13C2-PFDA DDA = 13C2-PFDoA
HPA = 13C4-PFHpA OA = 13C2-PFOA UDA = 13C2-PFUnA MFOS = d3-MeFOSAA

LDC #: 48792D96

VALIDATION FINDINGS WORKSHEET
Labeled Compounds

Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Y (N) N/A Were all labeled compound recoveries within the QC criteria?

#	Date	Lab ID/Reference	Labeled Compound	% Recovery (Limit)	Qualifications
		6 (dets/ND)	BS	44.4 (50-150)	J dets/P (A)
		(ND)	13C3-HFPO-DA	39.6	(O)
	C(dets), P(ND)	(dets)	HXA	42.2	(B)
	C(dets), P(ND)	↓	HPA	45.2	(C, P)
		(dets)	HXS	44.2	(D)
		↓	NA	41.9	(F)
		↓	OA	47.8	No qual, SX (E)
	G(dets), Q(ND)	(dets)	OS	45.5	J dets/P (G, Q)
		(ND)	DA	39.0	(H)
		↓	MFOS	27.8	(I)
		↓	UDA	28.3	(K)
		↓	EFOS	22.3	(J)
		↓	DDA	15.3	↓ (L, M, R)
		(ND)	TDA	3.30	~~J/P~~ J/X/P (N)

BS = 13C3-PFBS HXS = 13C3-PFHxS OS = 13C8-PFOS TDA = 13C2-PFTeDA EFOS = d5-EtFOSAA
HXA = 13C2-PFHxA NA = 13C5-PFNA DA = 13C2-PFDA DDA = 13C2-PFDoA
HPA = 13C4-PFHpA OA = 13C2-PFOA UDA = 13C2-PFUnA MFOS = d3-MeFOSAA

LDC # 48792D96

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Calibration Date	Instrument	Compound	Standard	(Y) Response ratio	(X) Conc. Ratio	(X^2) Conc. Ratio
7/14/2020	SCN977	PFOA	1	0.0152	0.02	0.00040
			2	0.0354	0.04	0.0016
			3	0.0774	0.08	0.0064
			4	0.1611	0.16	0.0256
			5	0.3921	0.40	0.1600
			6	0.7570	0.80	0.6400
			7	3.7452	4.00	16.0000
			8	7.3709	8.00	64.0000
			9	18.0513	20.00	400.0000
			10	35.0945	40.00	1600.0000

Regression Output	Calculated		Reported	
Constant	c	0.01292	c	-0.0058451
Std Err of Y Est				.
Degrees of Freedom				
	b	a	b	a
X Coefficient(s)	0.93049	-0.0013317	0.93654	-0.000120375
Std Err of Coef.				
Correlation Coefficient		0.999999		
Coefficient of Determination (r^2)		0.999998		0.999948

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Calibration Date	Instrument	Compound	Standard	(Y) Response ratio	(X) Conc. Ratio	(X^2) Conc. Ratio
7/14/2020	SCN977	PFOS	1	0.0189	0.02	0.00040
			2	0.0436	0.04	0.0016
			3	0.0960	0.08	0.0064
			4	0.2164	0.16	0.0256
			5	0.4446	0.40	0.1600
			6	1.0272	0.80	0.6400
			7	5.1463	4.00	16.0000
			8	9.7792	8.00	64.0000
			9	23.9122	20.00	400.0000
			10	52.3992	40.00	1600.0000

Regression Output	Calculated		Reported	
Constant	c	0.11969	c	-0.0060877
Std Err of Y Est				
Degrees of Freedom				
	b	a	b	a
X Coefficient(s)	1.132454	0.0043764	1.186310	0.0002266170
Std Err of Coef.				
Correlation Coefficient		0.999890		
Coefficient of Determination (r^2)		0.999781		0.999166

LDC # 48792D96

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: SC
2nd Reviewer: 4

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Calibration Date	Instrument	Compound	Standard	(Y) Response ratio	(X) Conc. Ratio	(X^2) Conc. Ratio
7/15/2020	SCN977	PFOA	1	0.0206	0.02	0.00040
			2	0.0425	0.04	0.0016
			3	0.0812	0.08	0.0064
			4	0.1617	0.16	0.0256
			5	0.3638	0.40	0.1600
			6	0.7654	0.80	0.6400
			7	3.8409	4.00	16.0000
			8	7.7159	8.00	64.0000
			9	18.3778	20.00	400.0000
			10	33.7891	40.00	1600.0000

Regression Output	Calculated		Reported	
Constant	c	-0.01377	c	0.0065121
Std Err of Y Est				.
Degrees of Freedom				
	b	a	b	a
X Coefficient(s)	0.99146	-0.0036659	0.98500	-0.000278493
Std Err of Coef.				
Correlation Coefficient		0.999998		
Coefficient of Determination (r^2)		0.999996		0.999925

LDC #: 48792D96

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: SC
2nd Reviewer: A

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Calibration Date	Instrument	Compound	Standard	(Y) Response ratio	(X) Conc. Ratio	(X^2) Conc. Ratio
7/15/2020	SCN977	PFOS	1	0.0194	0.02	0.00040
			2	0.0507	0.04	0.0016
			3	0.0999	0.08	0.0064
			4	0.2036	0.16	0.0256
			5	0.5553	0.40	0.1600
			6	1.0030	0.80	0.6400
			7	5.2162	4.00	16.0000
			8	10.0225	8.00	64.0000
			9	22.5872	20.00	400.0000
			10	48.0572	40.00	1600.0000

Regression Output	Calculated		Reported	
Constant	c	0.17286	c	0.0162657
Std Err of Y Est				
Degrees of Freedom				
	b	a	b	a
X Coefficient(s)	1.138001	0.0014902	1.214650	-0.0000566898
Std Err of Coef.				
Correlation Coefficient		0.999708		
Coefficient of Determination (r^2)		0.999416		0.998321

LDC #: 48792D96

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Calculation Verification

Reviewer: SC
2nd Reviewer: A

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (aveRRF - RRF)/aveRRF
RRF = (Ax)(Cis)/(Ais)(Cx)

Where:
aveRRF = initial calib average RRF
RRF = continuing calib RRF
Ax = Area of compound
Cx = Concentration of compound,
Ais = Area of associated internal standard
Cis = Concentration of internal standard

#	Standard ID	Calibration Date	Compound	(IS)	Conc	Reported Conc	Recalculated Conc	Reported %R	Recalculated %R
1	200714P1_42	7/15/2020	PFOA	(13C2-PFOA)	10.00	9.99	9.99	99.9	99.9
			PFOS	(13C8-PFOS)	10.00	10.70	10.75	107.2	107.5
2			PFOA	(13C2-PFOA)					
			PFOS	(13C8-PFOS)					
3			PFOA	(13C2-PFOA)					
			PFOS	(13C8-PFOS)					
4			PFOA	(13C2-PFOA)					
			PFOS	(13C8-PFOS)					
5			PFOA	(13C2-PFOA)					
			PFOS	(13C8-PFOS)					
6			PFOA	(13C2-PFOA)					
			PFOS	(13C8-PFOS)					

LDC #: 48792D96

VALIDATION FINDINGS WORKSHEET
LCS Results Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control duplicate were recalculated for the compounds identified below using the following calculation:

SSC = (Area spike) (Conc IS) / (Area IS) (average RRF spike)
%Recovery = 100 * SSC/SA

Where:
SSC = Spiked concentration
SA = Spike added
LCS = Laboratory control spike recovery
LCSD = Laboratory control spike duplicate recovery

RPD = | LCS - LCSD | * 2/(LCS + LCSD)

LCS/LCSD ID: B0G0058-BS/D

Compound	SA (ug/L)		SSC (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
PFOA	0.0400	0.0400	0.0380	0.0422	95.1	95.0	105	106	10.4	10.5
PFOS	0.0400	0.0400	0.0365	0.0485	91.2	91.3	121.0	121	28.4	28.2

LDC #: 48792B9C

VALIDATION FINDINGS WORKSHEET
Sample Results Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Compound results for all Level IV samples reported with a positive detect were recalculated and verified using the following equation:

$$\text{Concentration} = \frac{(Ax)\,(Cis)\,(Vt)\,(DF)}{(Ais)\,(RRF)\,(Vo)}$$

Where:

Ax = Area or height of the peak for the compound to be measured
Ais = Area or height of the peak for the internal standard
Cis = Concentration of the internal standard
DF = Dilution factor
Vt = Volume of extract in milliters (mL)
RRF = Average relative response factor
Vo = Volume of sample in liters (L)

Sample #	Compound	Ax	Ais	Cis	DF	RRF	Vt (mL)	Vo (L)	Calculated Concentration (ug/L)	Reported Concentration (ug/L)	% Diff
1	PFOA	4.611E+03	1.596E+04	12.5	1	curve	1	246.85	0.0157	0.0157	0

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: MCAS El Toro and Tustin PFAS

LDC Report Date: September 3, 2020

Parameters: Perfluoroalkyl & Polyfluoroalkyl Substances

Validation Level: Stage 4

Laboratory: Vista Analytical Laboratory

Sample Delivery Group (SDG): 2001444

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
TW27S-20200709	2001444-02	Water	07/09/20
TW22S-20200709	2001444-03	Water	07/09/20
TW10D-20200709	2001444-04	Water	07/09/20
TW11D-20200709	2001444-05	Water	07/09/20
TW12D-20200709	2001444-06	Water	07/09/20
TW13D-20200709	2001444-07	Water	07/09/20
TW14D-20200709	2001444-08	Water	07/09/20

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Final Sampling and Analysis Plan for Per- and Polyfluoroalkyl Substances in Groundwater in Carve-Outs 2, 5, 6, and 9 and Groundwater and Surface Water Near Operable Unit 3, Former Marine Corps Air Station Tustin, Tustin, California, with Addendum #02 to Final Sampling and Analysis Plan for Per- and Polyfluoroalkyl Substances Sampling for Groundwater Remedial Action at Operable Unit 3, Installation Restoration Program Site 1 (February 2020), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.3 (2019), and the DoD General Validation Guidelines (February 2018). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following methods:

Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS) by Environmental Protection Agency (EPA) Method 537 Modified and LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

All sample results were subjected to Stage 4 data validation, which is comprised of the quality control (QC) summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

X The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team, but exclusion of the data is recommended.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. LC/MS Instrument Performance Check

Instrument performance was checked and the requirements were met.

III. Initial Calibration and Initial Calibration Verification

Initial calibration was performed as required by the methods.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990.

For each calibration standard, all compounds were within 70-130% of their true value.

The signal to noise (S/N) ratio was within validation criteria for all compounds.

Retention time windows were established as required by the methods.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 30.0% for all compounds.

IV. Continuing Calibration and Instrument Sensitivity Check

Continuing calibration was performed at required frequencies.

The percent differences (%D) were less than or equal to 30.0% for all compounds.

The signal to noise (S/N) ratio was within validation criteria for all compounds.

The percent differences (%D) of the instrument sensitivity check (ISC) were less than or equal to 30.0% for all compounds.

Retention times of all compounds in the calibration standards were within the established retention time windows.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the methods. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Sample EB07-20200709 was identified as an equipment blank. No contaminants were found.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the methods. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Labeled Compounds

All percent recoveries (%R) for labeled compounds used to quantitate target compounds were within QC limits with the following exceptions:

Sample	Labeled Compound	%R (Limits)	Affected Compound	Flag	A or P
TW10D-20200709	13C2-PFTeDA	14.5 (50-150)	PFTeDA	NA	-
TW11D-20200709	d3-MeFOSAA 13C2-PFUnA d5-EtFOSAA 13C2-PFDoA	40.0 (50-150) 43.6 (50-150) 42.9 (50-150) 27.5 (50-150)	MeFOSAA EtFOSAA PFUnA PFDoA PFTrDA 11Cl-PF30UdS	NA	-
TW11D-20200709	13C2-PFTeDA	6.00 (50-150)	PFTeDA	X	P
TW12D-20200709	d3-MeFOSAA 13C2-PFUnA d5-EtFOSAA 13C2-PFDoA	44.9 (50-150) 42.9 (50-150) 41.2 (50-150) 24.1 (50-150)	MeFOSAA EtFOSAA PFUnA PFDoA PFTrDA 11Cl-PF30UdS	NA	-
TW12D-20200709	13C2-PFTeDA	5.20 (50-150)	PFTeDA	X	P
TW13D-20200709	13C2-PFTeDA	10.8 (50-150)	PFTeDA	NA	-

XI. Compound Quantitation

All compound quantitations met validation criteria.

XII. Target Compound Identifications

All target compound identifications met validation criteria with the following exceptions:

Sample	Compound	Ion Abundance Ratio (Limits)	Flag	A or P
TW13D-20200709	PFNA	26.223 (6.217-18.651)	J (all detects)	P

XIII. System Performance

The system performance was acceptable.

XIV. Overall Assessment of Data

The analysis was conducted within all specifications of the methods. No results were rejected in this SDG.

Due to labeled compound %R, data were qualified for recommended exclusion in two samples.

Due to labeled compounds %R and ion abundance ratio, data were qualified as estimated in one sample.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable.

MCAS El Toro and Tustin PFAS
Perfluoroalkyl & Polyfluoroalkyl Substances - Data Qualification Summary - SDG 2001444

Sample	Compound	Flag	A or P	Reason
TW11D-20200709 TW12D-20200709	PFTeDA	X	P	Labeled compounds (%R)
TW13D-20200709	PFNA	J (all detects)	P	Target compound identification (ion abundance ratio)

MCAS El Toro and Tustin PFAS
Perfluoroalkyl & Polyfluoroalkyl Substances - Laboratory Blank Data Qualification Summary - SDG 2001444

No Sample Data Qualified in this SDG

MCAS El Toro and Tustin PFAS
Perfluoroalkyl & Polyfluoroalkyl Substances - Field Blank Data Qualification Summary - SDG 2001444

No Sample Data Qualified in this SDG

LDC #: 48792E96 **VALIDATION COMPLETENESS WORKSHEET** Date: 8/14/20
SDG #: 2001444 Stage 4 Page: 1 of 1
Laboratory: Vista Analytical Laboratory Reviewer:
2nd Reviewer:

METHOD: LC/MS Perfluoroalkyl & Polyfluoroalkyl Substances (EPA Method 537M/QSM 5.3 Table B-15)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	LC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A / A	r² TV/CV ≤ 30
IV.	Continuing calibration/ISC	A / A	≤ 30
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	EB07-20200709
VII.	Matrix spike/Matrix spike duplicates	N	
VIII.	Laboratory control samples	A	LCS/D
IX.	Field duplicates	N	
X.	Labeled Compounds	SW	
VI.	Compound quantitation RL/LOQ/LODs	A	
XII.	Target compound identification	SW	
XIII.	System performance	A	
XIV.	Overall assessment of data	A	

Note: A = Acceptable ND = No compounds detected D = Duplicate SB=Source blank
N = Not provided/applicable R = Rinsate TB = Trip blank OTHER:
SW = See worksheet FB = Field blank EB = Equipment blank

	Client ID	Lab ID	Matrix	Date
1	TW27S-20200709	2001444-02	Water	07/09/20
2	TW22S-20200709	2001444-03	Water	07/09/20
3	TW10D-20200709	2001444-04	Water	07/09/20
4	TW11D-20200709	2001444-05	Water	07/09/20
5	TW12D-20200709	2001444-06	Water	07/09/20
6	TW13D-20200709	2001444-07	Water	07/09/20
7	TW14D-20200709	2001444-08	Water	07/09/20
8				
9				
10				

Notes:

	BOG0090						

LDC #: 48792E96

VALIDATION FINDINGS CHECKLIST

Reviewer:
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Were cooler temperature criteria met?	✓			
II. LC/MS Instrument performance check				
Were the instrument performance reviewed and found to be within the validation criteria?	✓			
III. Initial calibration and Initial calibration verification				
Did the laboratory perform a 5-point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) ≤ 20%?			✓	
Was a curve fit used for evaluation? If yes, did the initial calibration meet the coefficient of determination (r^2) criteria of ≥ 0.990?	✓			
Were all analytes within 70-130% or percent differences (%D) ≤30% of their true value for each calibration standard?	✓			
Was the signal to noise (S/N) ratio for all compounds within the validation criteria?	✓			
Were the retention time windows properly established?	✓			
Was an initial calibration verification (ICV) standard analyzed after each initial calibration for each instrument?	✓			
Were all ICV percent differences (%D) of the initial calibration verification ≤ 30%?	✓			
IV. Continuing calibration and Instrument sensitivity check				
Was a continuing calibration analyzed prior to sample analysis, after every 10 samples and at the end of the analytical sequence?	✓			
Were all percent differences (%D) of the continuing calibration ≤ 30%?	✓			
Were all the retention times within the acceptance windows?	✓			
Was the signal to noise (S/N) ratio for all compounds within the validation criteria?	✓			
Were all percent differences (%D) of the Instrument Sensitivity Check ≤ 30%?	✓			
V. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks?		✓		
VI. Field blanks				
Were field blanks identified in this SDG?	✓			
Were target compounds detected in the field blanks?		✓		

LDC #: 48792E96

VALIDATION FINDINGS CHECKLIST

Reviewer: MK
2nd Reviewer:

Validation Area	Yes	No	NA	Findings/Comments
VII. Matrix spike/Matrix spike duplicates				
Were matrix spike (MS) and matrix spike duplicate (MSD) analyzed in this SDG?		✓		
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
VIII. Laboratory control samples				
Was an LCS analyzed per extraction batch for this SDG?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Field duplicates				
Were field duplicate pairs identified in this SDG?		✓		
Were target compounds detected in the field duplicates?			✓	
X. Labeled compounds				
Were labeled compound percent recoveries (%R) within the QC limits?		✓		
Were retention times within 0.4 minutes of the associated calibration standard?	✓			
XI. Compound quantitation				
Did the laboratory reporting limits (i.e. DL, LOD, LOQ) meet the QAPP?	✓			
Did reported results include both branched and linear isomers?	✓			
Were the correct ion transition, labeled compound and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound retention times within 0.1 minutes of the associated labeled compound for compounds with a labeled analog?	✓			
Were compound quantitation and reporting limits adjusted to reflect all sample dilutions and dry weight factors applicable to Stage 4 validation?	✓			
XII. Target compound identification				
Was the signal to noise (S/N) ratio for all compounds within the validation criteria?	✓			
Were two transitions and the ion transition ratio per analyte monitored and documented with the exception of PFBA and PFPeA?	✓			
Were ion ratios between 50-150%?		✓		
XIII. System performance				
System performance was found to be acceptable.	✓			
XIV. Overall assessment of Data				
Overall assessment of data was found to be acceptable.	✓			

TARGET COMPOUND WORKSHEET

METHOD: PFAS

A. PFBS		
B. PFHxA		
C. PFHpA		
D. PFHxS		
E. PFOA		
F. PFNA		
G. PFOS		
H. PFDA		
I. MeFOSAA		
J. EtFOSAA		
K. PFUnA		
L. PFDoA		
M. PFTrDA		
N. PFTeDA		
O. HFPO-DA		
P. ADONA		
Q. 9Cl-PF30NS		
R. 11Cl-PF30UdS		

LDC #: 48792E96

VALIDATION FINDINGS WORKSHEET
Labeled Compounds

Reviewer: M
2nd Reviewer: A

METHOD: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Y (N) N/A Were all labeled compound recoveries within the QC criteria?

#	Date	Lab ID/Reference	Labeled Compound	% Recovery (Limit)	Qualifications
		3 (ND)	TDA	14.5 (50-150)	Jdets/P (N)
		4 (ND)	MFOS	40.0	(I)
			UDA	43.6	(K)
			EFOS	42.9	(J)
			DDA	27.5	(L, M, R)
			TDA	6.00	~~J-det/P~~ ~~J-det/P~~
		5 (ND)	MFOS	44.9	Jdets/P
			UDA	42.9	
			EFOS	41.2	
			DDA	24.1	
			TDA	5.20	~~J-det/P~~ ~~J-det/P~~
		6 (ND)	TDA	10.8	Jdets/P

BS = 13C3-PFBS HXS = 13C3-PFHxS OS = 13C8-PFOS TDA = 13C2-PFTeDA EFOS = d5-EtFOSAA
HXA = 13C2-PFHxA NA = 13C5-PFNA DA = 13C2-PFDA DDA = 13C2-PFDoA
HPA = 13C4-PFHpA OA = 13C2-PFOA UDA = 13C2-PFUnA MFOS = d3-MeFOSAA

LDC #: 48792E96

VALIDATION FINDINGS WORKSHEET
Target Compound Identification

Page: 1 of 1
Reviewer: [illegible]
2nd Reviewer: [illegible]

METHOD: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".

(Y) N N/A Was the signal to noise (S/N) ratio for all compounds within the validation criteria?
(Y) N N/A Were two transitions and the ion transition ratio per analyte monitored and documented with the exception of PFBA and PFPeA?
Y (N) N/A Were ion ratios within QC limits and between 50-150%?

#	Date	Sample ID	Associated Compound	Ion ratio (%D≤50) limit	Qualifications
		6	F	26.223 (6.217-8.651)	Jdets/A

LDC # 48792E96

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: SC
2nd Reviewer: A

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Calibration Date	Instrument	Compound	Standard	(Y) Response ratio	(X) Conc. Ratio	(X^2) Conc. Ratio
7/21/2020	SCN977	PFOA	1	0.0278	0.02	0.00040
			2	0.0469	0.04	0.0016
			3	0.0823	0.08	0.0064
			4	0.1593	0.16	0.0256
			5	0.3971	0.40	0.1600
			6	0.7486	0.80	0.6400
			7	3.7233	4.00	16.0000
			8	7.8135	8.00	64.0000
			9	18.9803	20.00	400.0000
			10	36.5156	40.00	1600.0000

Regression Output	Calculated		Reported	
Constant	c	-0.01706	c	0.0565111
Std Err of Y Est				
Degrees of Freedom				
	b	a	b	a
X Coefficient(s)	0.98243	-0.0017341	0.972216	-0.000115660
Std Err of Coef.				
Correlation Coefficient		0.999989		
Coefficient of Determination (r^2)		0.999978		0.999818

LDC #: 48792E96

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: SC
2nd Reviewer: [illegible]

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Calibration Date	Instrument	Compound	Standard	(Y) Response ratio	(X) Conc. Ratio	(X^2) Conc. Ratio
7/21/2020	SCN977	PFOS	1	0.0210	0.02	0.00040
			2	0.0340	0.04	0.0016
			3	0.1120	0.08	0.0064
			4	0.1911	0.16	0.0256
			5	0.5292	0.40	0.1600
			6	0.9517	0.80	0.6400
			7	5.0005	4.00	16.0000
			8	10.7860	8.00	64.0000
			9	25.6408	20.00	400.0000
			10	52.0437	40.00	1600.0000

Regression Output	Calculated		Reported	
Constant	c	0.00376	c	-0.0631930
Std Err of Y Est				
Degrees of Freedom				
	b	a	b	a
X Coefficient(s)	1.287640	0.0003101	1.292200	0.0000147461
Std Err of Coef.				
Correlation Coefficient		0.999957		
Coefficient of Determination (r^2)		0.999913		0.99958

LDC # 48792E96

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Calibration Date	Instrument	Compound	Standard	(Y) Response ratio	(X) Conc. Ratio	(X^2) Conc. Ratio
7/23/2020	SCN977	PFOA	1	0.0232	0.02	0.00040
			2	0.0463	0.04	0.0016
			3	0.0863	0.08	0.0064
			4	0.1615	0.16	0.0256
			5	0.3900	0.40	0.1600
			6	0.7723	0.80	0.6400
			7	3.8020	4.00	16.0000
			8	7.3944	8.00	64.0000
			9	19.1260	20.00	400.0000
			10	36.7968	40.00	1600.0000

Regression Output	Calculated		Reported	
Constant	c	-0.02577	c	0.0499833
Std Err of Y Est				
Degrees of Freedom				
	b	a	b	a
X Coefficient(s)	0.97078	-0.0012466	0.956964	-0.0000683589
Std Err of Coef.				
Correlation Coefficient		0.999962		
Coefficient of Determination (r^2)		0.999925		0.999795

LDC #: 48792E96

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Calibration Date	Instrument	Compound	Standard	(Y) Response ratio	(X) Conc. Ratio	(X^2) Conc. Ratio
7/23/2020	SCN977	PFOS	1	0.0175	0.02	0.00040
			2	0.0388	0.04	0.0016
			3	0.1035	0.08	0.0064
			4	0.2072	0.16	0.0256
			5	0.5466	0.40	0.1600
			6	0.8809	0.80	0.6400
			7	5.1093	4.00	16.0000
			8	9.5918	8.00	64.0000
			9	25.5339	20.00	400.0000
			10	60.0403	40.00	1600.0000

Regression Output	Calculated		Reported	
Constant	c	0.10878	c	0.0102665
Std Err of Y Est				
Degrees of Freedom				
	b	a	b	a
X Coefficient(s)	1.089828	0.0102330	1.138060	0.0007079480
Std Err of Coef.				
Correlation Coefficient		0.999939		
Coefficient of Determination (r^2)		0.999877		0.999249

LDC # 48792E96

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Calibration Date	Instrument	Compound	Standard	(Y) Response ratio	(X) Conc. Ratio	(X^2) Conc. Ratio
7/24/2020	SCN977	PFOA	1	0.0257	0.02	0.00040
			2	0.0357	0.04	0.0016
			3	0.0821	0.08	0.0064
			4	0.1614	0.16	0.0256
			5	0.4081	0.40	0.1600
			6	0.7089	0.80	0.6400
			7	3.6827	4.00	16.0000
			8	7.6180	8.00	64.0000
			9	19.7474	20.00	400.0000
			10	38.9385	40.00	1600.0000

Regression Output	Calculated		Reported	
Constant	c	-0.04915	c	0.0306828
Std Err of Y Est				
Degrees of Freedom				
	b	a	b	a
X Coefficient(s)	0.97842	-0.0000964	0.955014	0.0000457658
Std Err of Coef.				
Correlation Coefficient		0.999962		
Coefficient of Determination (r^2)		0.999925		0.999663

LDC #: 48792E96

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Calibration Date	Instrument	Compound	Standard	(Y) Response ratio	(X) Conc. Ratio	(X^2) Conc. Ratio
7/24/2020	SCN977	PFOS	1	0.0154	0.02	0.00040
			2	0.0500	0.04	0.0016
			3	0.0828	0.08	0.0064
			4	0.2236	0.16	0.0256
			5	0.4951	0.40	0.1600
			6	0.9308	0.80	0.6400
			7	4.7375	4.00	16.0000
			8	9.4045	8.00	64.0000
			9	27.8957	20.00	400.0000
			10	50.8200	40.00	1600.0000

Regression Output	Calculated		Reported	
Constant	c	-0.24946	c	-0.0790602
Std Err of Y Est				
Degrees of Freedom				
	b	a	b	a
X Coefficient(s)	1.386808	-0.0027533	1.278740	0.0000281280
Std Err of Coef.				
Correlation Coefficient		0.999343		
Coefficient of Determination (r^2)		0.998686		0.996689

LDC #: 48792E96

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Calculation Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (aveRRF - RRF)/aveRRF
RRF = (Ax)(Cis)/(Ais)(Cx)

Where:
aveRRF = initial calib average RRF
RRF = continuing calib RRF
Ax = Area of compound
Cx = Concentration of compound,
Ais = Area of associated internal standard
Cis = Concentration of internal standard

#	Standard ID	Calibration Date	Compound	(IS)	Conc	Reported Conc	Recalculated Conc	Reported %R	Recalculated %R
1	200721P1_38	7/21/2020	PFOA	(13C2-PFOA)	10.00	9.17	9.17	91.7	91.7
			PFOS	(13C8-PFOS)	10.00	9.15	9.16	91.5	91.6
2	200724P1_48	7/24/2020	PFOA	(13C2-PFOA)	10.00	9.37	9.35	93.7	93.5
			PFOS	(13C8-PFOS)	10.00	9.19	9.19	91.9	91.9
3			PFOA	(13C2-PFOA)					
			PFOS	(13C8-PFOS)					
4			PFOA	(13C2-PFOA)					
			PFOS	(13C8-PFOS)					
5			PFOA	(13C2-PFOA)					
			PFOS	(13C8-PFOS)					
6			PFOA	(13C2-PFOA)					
			PFOS	(13C8-PFOS)					

LDC #: 48792E96

VALIDATION FINDINGS WORKSHEET
LCS Results Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control duplicate were recalculated for the compounds identified below using the following calculation:

SSC = (Area spike) (Conc IS) / (Area IS) (average RRF spike)
%Recovery = 100 * SSC/SA

Where:
SSC = Spiked concentration
SA = Spike added
LCS = Laboratory control spike recovery
LCSD = Laboratory control spike duplicate recovery

RPD = | LCS - LCSD | * 2/(LCS + LCSD)

LCS/LCSD ID: B0G0090-BS/D

Compound	SA (ug/L)		SSC (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
PFOA	0.0400	0.0400	0.0381	0.0380	95.3	95.3	94.9	95.0	0.339	0.263
PFOS	0.0400	0.0400	0.0417	0.0357	104	104	89.2	89.3	15.6	15.5

LDC #: 48792E96

VALIDATION FINDINGS WORKSHEET
Sample Results Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Compound results for all Level IV samples reported with a positive detect were recalculated and verified using the following equation:

$$\text{Concentration} = \frac{(Ax)\,(Cis)\,(Vt)\,(DF)}{(Ais)\,(RRF)\,(Vo)}$$

Where:

Ax = Area or height of the peak for the compound to be measured
Ais = Area or height of the peak for the internal standard
Cis = Concentration of the internal standard
DF = Dilution factor
Vt = Volume of extract in milliters (mL)
RRF = Average relative response factor
Vo = Volume of sample in liters (L)

Sample #	Compound	Ax	Ais	Cis	DF	RRF	Vt (mL)	Vo (mL)	Calculated Concentration (ug/L)	Reported Concentration (ug/L)	% Diff
1	PFOS	5.300E+04	1.611E+02	12.5	15	curve	1	247.75	12.2	12.2	0

Laboratory Data Consultants, Inc.
Data Validation Report

Project/Site Name: MCAS El Toro and Tustin PFAS

LDC Report Date: September 3, 2020

Parameters: Perfluoroalkyl & Polyfluoroalkyl Substances

Validation Level: Stage 4

Laboratory: Vista Analytical Laboratory

Sample Delivery Group (SDG): 2001472

Sample Identification	Laboratory Sample Identification	Matrix	Collection Date
TW23S-20200710	2001472-02	Water	07/10/20
TW24S-20200710	2001472-03	Water	07/10/20
TW15D-20200710	2001472-04	Water	07/10/20
TW16D-20200710	2001472-05	Water	07/10/20

Introduction

This Data Validation Report (DVR) presents data validation findings and results for the associated samples listed on the cover page. Data validation was performed in accordance with the Final Sampling and Analysis Plan for Per- and Polyfluoroalkyl Substances in Groundwater in Carve-Outs 2, 5, 6, and 9 and Groundwater and Surface Water Near Operable Unit 3, Former Marine Corps Air Station Tustin, Tustin, California, with Addendum #02 to Final Sampling and Analysis Plan for Per- and Polyfluoroalkyl Substances Sampling for Groundwater Remedial Action at Operable Unit 3, Installation Restoration Program Site 1 (February 2020), the U.S. Department of Defense (DoD) Quality Systems Manual (QSM) for Environmental Laboratories, Version 5.3 (2019), and the DoD General Validation Guidelines (February 2018). Where specific guidance was not available, the data has been evaluated in a conservative manner consistent with industry standards using professional experience.

The analyses were performed by the following methods:

Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS) by Environmental Protection Agency (EPA) Method 537 Modified and LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

All sample results were subjected to Stage 4 data validation, which is comprised of the quality control (QC) summary forms as well as the raw data, to confirm sample quantitation and identification.

The following are definitions of the data qualifiers utilized during data validation:

J (Estimated): The compound or analyte was analyzed for and positively identified by the laboratory; however the reported concentration is estimated due to non-conformances discovered during data validation.

U (Non-detected): The compound or analyte was analyzed for and positively identified by the laboratory; however the compound or analyte should be considered non-detected at the reported concentration due to the presence of contaminants detected in the associated blank(s).

UJ (Non-detected estimated): The compound or analyte was reported as not detected by the laboratory; however the reported quantitation/detection limit is estimated due to non-conformances discovered during data validation.

X The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and to meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team, but exclusion of the data is recommended.

NA (Not Applicable): The non-conformance discovered during data validation demonstrates a high bias, while the affected compound or analyte in the associated sample(s) was reported as not detected by the laboratory and did not warrant the qualification of the data.

A qualification summary table is provided at the end of this report if data has been qualified. Flags are classified as P (protocol) or A (advisory) to indicate whether the flag is due to a laboratory deviation from a specified protocol or is of technical advisory nature.

I. Sample Receipt and Technical Holding Times

All samples were received in good condition and cooler temperatures upon receipt met validation criteria.

All technical holding time requirements were met.

II. LC/MS Instrument Performance Check

Instrument performance was checked and the requirements were met.

III. Initial Calibration and Initial Calibration Verification

Initial calibration was performed as required by the methods.

A curve fit, based on the initial calibration, was established for quantitation. The coefficient of determination (r^2) was greater than or equal to 0.990.

For each calibration standard, all compounds were within 70-130% of their true value.

The signal to noise (S/N) ratio was within validation criteria for all compounds.

Retention time windows were established as required by the methods.

The percent differences (%D) of the initial calibration verification (ICV) standard were less than or equal to 30.0% for all compounds.

IV. Continuing Calibration and Instrument Sensitivity Check

Continuing calibration was performed at required frequencies.

The percent differences (%D) were less than or equal to 30.0% for all compounds.

The signal to noise (S/N) ratio was within validation criteria for all compounds.

The percent differences (%D) of the instrument sensitivity check (ISC) were less than or equal to 30.0% for all compounds.

Retention times of all compounds in the calibration standards were within the established retention time windows.

V. Laboratory Blanks

Laboratory blanks were analyzed as required by the methods. No contaminants were found in the laboratory blanks.

VI. Field Blanks

Sample 08-2020710 was identified as an equipment blank. No contaminants were found.

VII. Matrix Spike/Matrix Spike Duplicates

The laboratory has indicated that there were no matrix spike (MS) and matrix spike duplicate (MSD) analyses specified for the samples in this SDG, and therefore matrix spike and matrix spike duplicate analyses were not performed for this SDG.

VIII. Laboratory Control Samples

Laboratory control samples (LCS) and laboratory control samples duplicates (LCSD) were analyzed as required by the methods. Percent recoveries (%R) were within QC limits. Relative percent differences (RPD) were within QC limits.

IX. Field Duplicates

No field duplicates were identified in this SDG.

X. Labeled Compounds

All percent recoveries (%R) for labeled compounds used to quantitate target compounds were within QC limits with the following exceptions:

Sample	Labeled Compound	%R (Limits)	Affected Compound	Flag	A or P
TW24S-20200710	13C2-PFTeDA	36.1 (50-150)	PFTeDA	NA	-
TW15D-20200710	13C2-PFDoA	46.9 (50-150)	PFDoA PFTrDA 11Cl-PF30UdS	NA	-
TW15D-20200710	13C2-PFTeDA	6.90 (50-150)	PFTeDA	X	P
TW16D-20200710	d3-MeFOSAA 13C2-PFUnA d5-EtFOSAA 13C2-PFDoA	49.9 (50-150) 44.2 (50-150) 46.5 (50-150) 28.8 (50-150)	MeFOSAA PFUnA EtFOSAA PFDoA PFTrDA 11Cl-PF30UdS	NA	-
TW16D-20200710	13C2-PFTeDA	5.50 (50-150)	PFTeDA	X	P

XI. Compound Quantitation

All compound quantitations met validation criteria.

XII. Target Compound Identifications

All target compound identifications met validation criteria.

XIII. System Performance

The system performance was acceptable.

XIV. Overall Assessment of Data

The analysis was conducted within all specifications of the methods. No results were rejected in this SDG.

Due to labeled compounds %R, data were qualified for recommended exclusion in two samples.

The quality control criteria reviewed, other than those discussed above, were met and are considered acceptable

MCAS El Toro and Tustin PFAS
Perfluoroalkyl & Polyfluoroalkyl Substances - Data Qualification Summary - SDG 2001472

Sample	Compound	Flag	A or P	Reason
TW15D-20200710 TW16D-20200710	PFTeDA	X	P	Labeled compounds (%R)

MCAS El Toro and Tustin PFAS
Perfluoroalkyl & Polyfluoroalkyl Substances - Laboratory Blank Data Qualification Summary - SDG 2001472

No Sample Data Qualified in this SDG

MCAS El Toro and Tustin PFAS
Perfluoroalkyl & Polyfluoroalkyl Substances - Field Blank Data Qualification Summary - SDG 2001472

No Sample Data Qualified in this SDG

LDC #: 48792F96 **VALIDATION COMPLETENESS WORKSHEET** Date: 8/30/20
SDG #: 2001472 Stage 4 Page: 1 of 1
Laboratory: Vista Analytical Laboratory Reviewer: M
2nd Reviewer: G

METHOD: LC/MS Perfluoroalkyl & Polyfluoroalkyl Substances (EPA Method 537M/QSM 5.3 Table B-15)

The samples listed below were reviewed for each of the following validation areas. Validation findings are noted in attached validation findings worksheets.

	Validation Area		Comments
I.	Sample receipt/Technical holding times	A / A	
II.	LC/MS Instrument performance check	A	
III.	Initial calibration/ICV	A / A	r TN/IQ/ ≤30
IV.	Continuing calibration/ISC	A/A	D ≤30
V.	Laboratory Blanks	A	
VI.	Field blanks	ND	EB08-20200710
VII.	Matrix spike/Matrix spike duplicates	N	
VIII.	Laboratory control samples	A	LCS/D
IX.	Field duplicates	N	
X.	Labeled Compounds	SW	
VI.	Compound quantitation RL/LOQ/LODs	A	
XII.	Target compound identification	A	
XIII.	System performance	A	
XIV.	Overall assessment of data	A	

Note: A = Acceptable; N = Not provided/applicable; SW = See worksheet; ND = No compounds detected; R = Rinsate; FB = Field blank; D = Duplicate; TB = Trip blank; EB = Equipment blank; SB=Source blank; OTHER:

	Client ID	Lab ID	Matrix	Date
1	TW23S-20200710	2001472-02	Water	07/10/20
2	TW24S-20200710	2001472-03	Water	07/10/20
3	TW15D-20200710	2001472-04	Water	07/10/20
4	TW16D-20200710	2001472-05	Water	07/10/20
5				
6				
7				
8				
9				
10				

Notes:

	BoG0090						

LDC #: 48792F96

VALIDATION FINDINGS CHECKLIST

Page: 1 of 2
Reviewer: N
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Validation Area	Yes	No	NA	Findings/Comments
I. Technical holding times				
Were all technical holding times met?	✓			
Were cooler temperature criteria met?	✓			
II. LC/MS Instrument performance check				
Were the instrument performance reviewed and found to be within the validation criteria?	✓			
III. Initial calibration and Initial calibration verification				
Did the laboratory perform a 5-point calibration prior to sample analysis?	✓			
Were all percent relative standard deviations (%RSD) ≤ 20%?			✓	
Was a curve fit used for evaluation? If yes, did the initial calibration meet the coefficient of determination (r^2) criteria of ≥ 0.990?	✓			
Were all analytes within 70-130% or percent differences (%D) ≤30% of their true value for each calibration standard?	✓			
Was the signal to noise (S/N) ratio for all compounds within the validation criteria?	✓			
Were the retention time windows properly established?	✓			
Was an initial calibration verification (ICV) standard analyzed after each initial calibration for each instrument?	✓			
Were all ICV percent differences (%D) of the initial calibration verification ≤ 30%?	✓			
IV. Continuing calibration and Instrument sensitivity check				
Was a continuing calibration analyzed prior to sample analysis, after every 10 samples and at the end of the analytical sequence?	✓			
Were all percent differences (%D) of the continuing calibration ≤ 30%?	✓			
Were all the retention times within the acceptance windows?	✓			
Was the signal to noise (S/N) ratio for all compounds within the validation criteria?	✓			
Were all percent differences (%D) of the Instrument Sensitivity Check ≤ 30%?	✓			
V. Laboratory Blanks				
Was a laboratory blank associated with every sample in this SDG?	✓			
Was a laboratory blank analyzed for each matrix and concentration?	✓			
Was there contamination in the laboratory blanks?		✓		
VI. Field blanks				
Were field blanks identified in this SDG?	✓			
Were target compounds detected in the field blanks?		✓		

LDC #: 48792F96

VALIDATION FINDINGS CHECKLIST

Reviewer: [illegible]
2nd Reviewer: [illegible]

Validation Area	Yes	No	NA	Findings/Comments
VII. Matrix spike/Matrix spike duplicates				
Were matrix spike (MS) and matrix spike duplicate (MSD) analyzed in this SDG?		✓		
Were the MS/MSD percent recoveries (%R) and the relative percent differences (RPD) within the QC limits?			✓	
VIII. Laboratory control samples				
Was an LCS analyzed per extraction batch for this SDG?	✓			
Were the LCS percent recoveries (%R) and relative percent difference (RPD) within the QC limits?	✓			
IX. Field duplicates				
Were field duplicate pairs identified in this SDG?		✓		
Were target compounds detected in the field duplicates?			✓	
X. Labeled compounds				
Were labeled compound percent recoveries (%R) within the QC limits?		✓		
Were retention times within 0.4 minutes of the associated calibration standard?	✓			
XI. Compound quantitation				
Did the laboratory reporting limits (i.e. DL, LOD, LOQ) meet the QAPP?	✓			
Did reported results include both branched and linear isomers?	✓			
Were the correct ion transition, labeled compound and relative response factor (RRF) used to quantitate the compound?	✓			
Were compound retention times within 0.1 minutes of the associated labeled compound for compounds with a labeled analog?	✓			
Were compound quantitation and reporting limits adjusted to reflect all sample dilutions and dry weight factors applicable to Stage 4 validation?	✓			
XII. Target compound identification				
Was the signal to noise (S/N) ratio for all compounds within the validation criteria?	✓			
Were two transitions and the ion transition ratio per analyte monitored and documented with the exception of PFBA and PFPeA?	✓			
Were ion ratios between 50-150%?	✓			
XIII. System performance				
System performance was found to be acceptable.	✓			
XIV. Overall assessment of Data				
Overall assessment of data was found to be acceptable.	✓			

TARGET COMPOUND WORKSHEET

METHOD: PFAS

A. PFBS		
B. PFHxA		
C. PFHpA		
D. PFHxS		
E. PFOA		
F. PFNA		
G. PFOS		
H. PFDA		
I. MeFOSAA		
J. EtFOSAA		
K. PFUnA		
L. PFDoA		
M. PFTrDA		
N. PFTeDA		
O. HFPO-DA		
P. ADONA		
Q. 9Cl-PF30NS		
R. 11Cl-PF30UdS		

LDC #: 48792F96

VALIDATION FINDINGS WORKSHEET
Labeled Compounds

Reviewer: K
2nd Reviewer: C

METHOD: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3
Please see qualifications below for all questions answered "N". Not applicable questions are identified as "N/A".
Y (N) N/A Were all labeled compound recoveries within the QC criteria?

#	Date	Lab ID/Reference	Labeled Compound	% Recovery (Limit)	Qualifications
		2 (ND)	TDA	36.1 (50-150)	J detect/P (N)
		3	DDA	46.9	
			TDA	6.90	J/X/P
		4	MFOS	49.9	(I)
			UDA	44.2	(K)
			EFOS	46.5	(J)
			DDA	28.8	(L, M, R)
			TDA	5.50	J/X/P (N)

BS = 13C3-PFBS HXS = 13C3-PFHxS OS = 13C8-PFOS TDA = 13C2-PFTeDA EFOS = d5-EtFOSAA
HXA = 13C2-PFHxA NA = 13C5-PFNA DA = 13C2-PFDA DDA = 13C2-PFDoA
HPA = 13C4-PFHpA OA = 13C2-PFOA UDA = 13C2-PFUnA MFOS = d3-MeFOSAA

LDC # 48792F96

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Calibration Date	Instrument	Compound	Standard	(Y) Response ratio	(X) Conc. Ratio	(X^2) Conc. Ratio
7/21/2020	SCN977	PFOA	1	0.0278	0.02	0.00040
			2	0.0469	0.04	0.0016
			3	0.0823	0.08	0.0064
			4	0.1593	0.16	0.0256
			5	0.3971	0.40	0.1600
			6	0.7486	0.80	0.6400
			7	3.7233	4.00	16.0000
			8	7.8135	8.00	64.0000
			9	18.9803	20.00	400.0000
			10	36.5156	40.00	1600.0000

Regression Output	Calculated		Reported	
Constant	c	-0.01706	c	0.0565111
Std Err of Y Est				
Degrees of Freedom				
	b	a	b	a
X Coefficient(s)	0.98243	-0.0017341	0.972216	-0.000115660
Std Err of Coef.				
Correlation Coefficient		0.999989		
Coefficient of Determination (r^2)		0.999978		0.999818

LDC #: 43792F96

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Calibration Date	Instrument	Compound	Standard	(Y) Response ratio	(X) Conc. Ratio	(X^2) Conc. Ratio
7/21/2020	SCN977	PFOS	1	0.0210	0.02	0.00040
			2	0.0340	0.04	0.0016
			3	0.1120	0.08	0.0064
			4	0.1911	0.16	0.0256
			5	0.5292	0.40	0.1600
			6	0.9517	0.80	0.6400
			7	5.0005	4.00	16.0000
			8	10.7860	8.00	64.0000
			9	25.6408	20.00	400.0000
			10	52.0437	40.00	1600.0000

Regression Output	Calculated		Reported	
Constant	c	0.00376	c	-0.0631930
Std Err of Y Est				
Degrees of Freedom				
	b	a	b	a
X Coefficient(s)	1.287640	0.0003101	1.292200	0.0000147461
Std Err of Coef.				
Correlation Coefficient		0.999957		
Coefficient of Determination (r^2)		0.999913		0.99958

LDC # 48792F96

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Calibration Date	Instrument	Compound	Standard	(Y) Response ratio	(X) Conc. Ratio	(X^2) Conc. Ratio
7/23/2020	SCN977	PFOA	1	0.0232	0.02	0.00040
			2	0.0463	0.04	0.0016
			3	0.0863	0.08	0.0064
			4	0.1615	0.16	0.0256
			5	0.3900	0.40	0.1600
			6	0.7723	0.80	0.6400
			7	3.8020	4.00	16.0000
			8	7.3944	8.00	64.0000
			9	19.1260	20.00	400.0000
			10	36.7968	40.00	1600.0000

Regression Output	Calculated		Reported	
Constant	c	-0.02577	c	0.0499833
Std Err of Y Est				
Degrees of Freedom				
	b	a	b	a
X Coefficient(s)	0.97078	-0.0012466	0.956964	-0.0000683589
Std Err of Coef.				
Correlation Coefficient		0.999962		
Coefficient of Determination (r^2)		0.999925		0.999795

LDC #: 48792F96

VALIDATION FINDINGS WORKSHEET
Initial Calibration Calculation Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Calibration Date	Instrument	Compound	Standard	(Y) Response ratio	(X) Conc. Ratio	(X^2) Conc. Ratio
7/23/2020	SCN977	PFOS	1	0.0175	0.02	0.00040
			2	0.0388	0.04	0.0016
			3	0.1035	0.08	0.0064
			4	0.2072	0.16	0.0256
			5	0.5466	0.40	0.1600
			6	0.8809	0.80	0.6400
			7	5.1093	4.00	16.0000
			8	9.5918	8.00	64.0000
			9	25.5339	20.00	400.0000
			10	60.0403	40.00	1600.0000

Regression Output	Calculated		Reported	
Constant	c	0.10878	c	0.0102665
Std Err of Y Est				
Degrees of Freedom				
	b	a	b	a
X Coefficient(s)	1.089828	0.0102330	1.138060	0.0007079480
Std Err of Coef.				
Correlation Coefficient		0.999939		
Coefficient of Determination (r^2)		0.999877		0.999249

LDC #: 48792F96

VALIDATION FINDINGS WORKSHEET
Continuing Calibration Calculation Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

The percent difference (%D) of the initial calibration average Relative Response Factors (RRFs) and the continuing calibration RRFs were recalculated for the compounds identified below using the following calculation:

% Difference = 100 * (aveRRF - RRF)/aveRRF
RRF = (Ax)(Cis)/(Ais)(Cx)

Where:
aveRRF = initial calib average RRF
RRF = continuing calib RRF
Ax = Area of compound
Cx = Concentration of compound,
Ais = Area of associated internal standard
Cis = Concentration of internal standard

#	Standard ID	Calibration Date	Compound (IS)	Conc	Reported Conc	Recalculated Conc	Reported %R	Recalculated %R
1	200721P1_38	7/21/2020	PFOA (13C2-PFOA)	10.00	9.17	9.17	91.7	91.7
			PFOS (13C8-PFOS)	10.00	9.15	9.16	91.5	91.6
2			PFOA (13C2-PFOA)					
			PFOS (13C8-PFOS)					
3			PFOA (13C2-PFOA)					
			PFOS (13C8-PFOS)					
4			PFOA (13C2-PFOA)					
			PFOS (13C8-PFOS)					
5			PFOA (13C2-PFOA)					
			PFOS (13C8-PFOS)					
6			PFOA (13C2-PFOA)					
			PFOS (13C8-PFOS)					

LDC #: 4X792F96

VALIDATION FINDINGS WORKSHEET
LCS Results Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

The percent recoveries (%R) and relative percent differences (RPD) of the laboratory control sample and laboratory control duplicate were recalculated for the compounds identified below using the following calculation:

SSC = (Area spike) (Conc IS) / (Area IS) (average RRF spike)
%Recovery = 100 * SSC/SA

Where:
SSC = Spiked concentration
SA = Spike added
LCS = Laboratory control spike recovery
LCSD = Laboratory control spike duplicate recovery

RPD = | LCS - LCSD | * 2/(LCS + LCSD)

LCS/LCSD ID: B0G0090-BS/D

Compound	SA (ug/L)		SSC (ug/L)		LCS Percent Recovery		LCSD Percent Recovery		LCS/LCSD RPD	
	LCS	LCSD	LCS	LCSD	Reported	Recalc.	Reported	Recalc.	Reported	Recalc.
PFOA	0.0400	0.0400	0.0381	0.0380	95.3	95.3	94.9	95.0	0.339	0.263
PFOS	0.0400	0.0400	0.0417	0.0357	104	104	89.2	89.3	15.6	15.5

LDC #: 48792F96

VALIDATION FINDINGS WORKSHEET
Sample Results Verification

Reviewer: SC
2nd Reviewer:

Method: LC/MS/MS and Isotope Dilution Compliant with Table B-15 of DoD QSM 5.3

Compound results for all Level IV samples reported with a positive detect were recalculated and verified using the following equation:

$$\text{Concentration} = \frac{(Ax)\,(Cis)\,(Vt)\,(DF)}{(Ais)\,(RRF)\,(Vo)}$$

Where:

Ax = Area or height of the peak for the compound to be measured
Ais = Area or height of the peak for the internal standard
Cis = Concentration of the internal standard
DF = Dilution factor
Vt = Volume of extract in milliters (mL)
RRF = Average relative response factor
Vo = Volume of sample in liters (L)

Sample #	Compound	Ax	Ais	Cis	DF	RRF	Vt (mL)	Vo (mL)	Calculated Concentration (ug/L)	Reported Concentration (ug/L)	% Diff
1	PFOA	3.013E+05	1.304E+03	12.5	10	curve	1	241.84	18.2	18.2	0

INSTALLATION_ID	SITE_NAME	LOCATION_NAME	LOCATION_TYPE_DESC	COORD_X	COORD_Y	SAMPLE_NAME	SAMPLE_MATRIX_DESC	COLLECT_DATE	ANALYTICAL_METHOD_GRP_DESC	SDG
TUSTIN_MCAS	OU 0000001B SOUTH	TW17D	Temporary well point	6083373.988	2202403.097	TW17D-20200708	Ground water	8-Jul-20	Perfluoroalkyl Compounds	2001436
TUSTIN_MCAS	OU 0000001B SOUTH	TW22D	Temporary well point	6082601.688	2203498.64	TW22D-20200707	Ground water	7-Jul-20	Perfluoroalkyl Compounds	2001436
TUSTIN_MCAS	SITE 00001	TW21D	Temporary well point	6087513.086	2202367.331	TW21D-20200707	Ground water	7-Jul-20	Perfluoroalkyl Compounds	2001436
TUSTIN_MCAS	OU 0000001A	TW09D	Temporary well point	6080905.075	2205225.73	TW09D-20200707	Ground water	7-Jul-20	Perfluoroalkyl Compounds	2001436
TUSTIN_MCAS	OU 0000001B SOUTH	TW17D	Temporary well point	6083373.988	2202403.097	TW17D-20200708	Ground water	8-Jul-20	Perfluoroalkyl Compounds	2001436
TUSTIN_MCAS	OU 0000001B SOUTH	TW17D	Temporary well point	6083373.988	2202403.097	TW17D-20200708	Ground water	8-Jul-20	Perfluoroalkyl Compounds	2001436
TUSTIN_MCAS	OU 0000001A	TW09D	Temporary well point	6080905.075	2205225.73	TW09D-20200707	Ground water	7-Jul-20	Perfluoroalkyl Compounds	2001436
TUSTIN_MCAS	SITE 00001	TW21D	Temporary well point	6087513.086	2202367.331	TW21D-20200707	Ground water	7-Jul-20	Perfluoroalkyl Compounds	2001436
TUSTIN_MCAS	OU 0000001B SOUTH	TW23D	Temporary well point	6083085.315	2203475.97	TW23D-20200708	Ground water	8-Jul-20	Perfluoroalkyl Compounds	2001436
TUSTIN_MCAS	OU 0000001B SOUTH	TW23D	Temporary well point	6083085.315	2203475.97	TW23D-20200708	Ground water	8-Jul-20	Perfluoroalkyl Compounds	2001436
TUSTIN_MCAS	OU 0000001B SOUTH	TW24D	Temporary well point	6083508.489	2203234.156	TW24D-20200708	Ground water	8-Jul-20	Perfluoroalkyl Compounds	2001436
TUSTIN_MCAS	OU 0000001B SOUTH	TW23D	Temporary well point	6083085.315	2203475.97	TW23D-20200708	Ground water	8-Jul-20	Perfluoroalkyl Compounds	2001436
TUSTIN_MCAS	OU 0000001B SOUTH	TW24D	Temporary well point	6083508.489	2203234.156	TW24D-20200708	Ground water	8-Jul-20	Perfluoroalkyl Compounds	2001436
TUSTIN_MCAS	OU 0000001A	TW09D	Temporary well point	6080905.075	2205225.73	TW09D-20200707	Ground water	7-Jul-20	Perfluoroalkyl Compounds	2001436
TUSTIN_MCAS	OU 0000001B SOUTH	TW24D	Temporary well point	6083508.489	2203234.156	TW24D-20200708	Ground water	8-Jul-20	Perfluoroalkyl Compounds	2001436
TUSTIN_MCAS	OU 0000001B SOUTH	TW23D	Temporary well point	6083085.315	2203475.97	TW23D-20200708	Ground water	8-Jul-20	Perfluoroalkyl Compounds	2001436
TUSTIN_MCAS	OU 0000001B SOUTH	TW23D	Temporary well point	6083085.315	2203475.97	TW23D-20200708	Ground water	8-Jul-20	Perfluoroalkyl Compounds	2001436
TUSTIN_MCAS	SITE 00001	TW21D	Temporary well point	6087513.086	2202367.331	TW21D-20200707	Ground water	7-Jul-20	Perfluoroalkyl Compounds	2001436
TUSTIN_MCAS	OU 0000001B SOUTH	TW23D	Temporary well point	6083085.315	2203475.97	TW23D-20200708	Ground water	8-Jul-20	Perfluoroalkyl Compounds	2001436
TUSTIN_MCAS	OU 0000001A	TW09D	Temporary well point	6080905.075	2205225.73	TW09D-20200707	Ground water	7-Jul-20	Perfluoroalkyl Compounds	2001436
TUSTIN_MCAS	SITE 00001	TW21D	Temporary well point	6087513.086	2202367.331	TW21D-20200707	Ground water	7-Jul-20	Perfluoroalkyl Compounds	2001436
TUSTIN_MCAS	OU 0000001B SOUTH	TW23D	Temporary well point	6083085.315	2203475.97	TW23D-20200708	Ground water	8-Jul-20	Perfluoroalkyl Compounds	2001436
TUSTIN_MCAS	SITE 00001	TW21D	Temporary well point	6087513.086	2202367.331	TW21D-20200707	Ground water	7-Jul-20	Perfluoroalkyl Compounds	2001436
TUSTIN_MCAS	OU 0000001B SOUTH	TW17D	Temporary well point	6083373.988	2202403.097	TW17D-20200708	Ground water	8-Jul-20	Perfluoroalkyl Compounds	2001436
TUSTIN_MCAS	OU 0000001B SOUTH	TW24D	Temporary well point	6083508.489	2203234.156	TW24D-20200708	Ground water	8-Jul-20	Perfluoroalkyl Compounds	2001436
TUSTIN_MCAS	OU 0000001B SOUTH	TW24D	Temporary well point	6083508.489	2203234.156	TW24D-20200708	Ground water	8-Jul-20	Perfluoroalkyl Compounds	2001436
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TUSTIN_MCAS	OU 0000001B SOUTH	TW22D	Temporary well point	6082601.688	2203498.64	TW22D-20200707	Ground water	7-Jul-20	Perfluoroalkyl Compounds	2001436
TUSTIN_MCAS	SITE 00001	TW21D	Temporary well point	6087513.086	2202367.331	TW21D-20200707	Ground water	7-Jul-20	Perfluoroalkyl Compounds	2001436
TUSTIN_MCAS	OU 0000001A	TW09D	Temporary well point	6080905.075	2205225.73	TW09D-20200707	Ground water	7-Jul-20	Perfluoroalkyl Compounds	2001436
TUSTIN_MCAS	OU 0000001B SOUTH	TW17D	Temporary well point	6083373.988	2202403.097	TW17D-20200708	Ground water	8-Jul-20	Perfluoroalkyl Compounds	2001436
TUSTIN_MCAS	OU 0000001A	TW09D	Temporary well point	6080905.075	2205225.73	TW09D-20200707	Ground water	7-Jul-20	Perfluoroalkyl Compounds	2001436
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INSTALLATION_ID	SITE_NAME	LOCATION_NAME	LOCATION_TYPE_DESC	COORD_X	COORD_Y	SAMPLE_NAME	SAMPLE_MATRIX_DESC	COLLECT_DATE	ANALYTICAL_METHOD_GRP_DESC	SDG
TUSTIN_MCAS	SITE 00001	TW21D	Temporary well point	6087513.086	2202367.331	TW21D-20200707	Ground water	7-Jul-20	Perfluoroalkyl Compounds	2001436
TUSTIN_MCAS	OU 0000001B SOUTH	TW22D	Temporary well point	6082601.688	2203498.64	TW22D-20200707	Ground water	7-Jul-20	Perfluoroalkyl Compounds	2001436
TUSTIN_MCAS	OU 0000001B SOUTH	TW24D	Temporary well point	6083508.489	2203234.156	TW24D-20200708	Ground water	8-Jul-20	Perfluoroalkyl Compounds	2001436
TUSTIN_MCAS	OU 0000001B SOUTH	TW24D	Temporary well point	6083508.489	2203234.156	TW24D-20200708	Ground water	8-Jul-20	Perfluoroalkyl Compounds	2001436
TUSTIN_MCAS	OU 0000001B SOUTH	TW24D	Temporary well point	6083508.489	2203234.156	TW24D-20200708	Ground water	8-Jul-20	Perfluoroalkyl Compounds	2001436
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