Navy_CLEAN_PFAS_FOIA_request_covers.indd

NAVFAC
Naval Facilities Engineering Command

Groundwater Sample Results, Combined Level 2 and Level 4 Laboratory Report, Electronic Data Deliverable, Data Validation Report, and the Sample Location Report, SDG B8Q4471

Naval Air Station Cecil Field
Jacksonville, Florida

July 2019

APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED

N60200_009851
CECIL_FIELD_NAS
SSIC 5000-33c

LABORATORY DATA PACKAGE B8Q4471 NAS CECIL FIELD FL

10/25/2018

MAXXAM ANALYTICAL LABORATORIES

Approved for public release: distribution unlimited.

Prepared for: Earth Toxics

Project: JM10 CECIL

Analytical Data Package
(Level IV)

Analysis: PFOS and PFOA in water (Method 537 mod.)

Maxxam Job #: B8Q4471

Maxxam Analytics International
6740 Campobello Rd.
Mississauga, Ontario, Canada
L5N 2L8
1-800-668-0639
www.maxxamanalytics.com



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Maxxam Analytics International
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5. Initial Calibration
6. Continuing Calibration

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I hereby certify that to the best of my knowledge all analytical data presented in this report:

- Has been checked for completeness.
- Is accurate, legible and error free.
- Has been conducted in accordance with approved SOP's and that all deviations are clearly listed in the Case Narrative.
- This report has been generated in .pdf format.

Review Performed By:



Stephanie Pollen 2018.10.25 14:24:40 -04'00'

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Glossary of Terms

- ***Detection Limit (DL)*** this can also be called ***Method Detection Limit (MDL***): The lowest concentration or amount of the target analyte that can be identified, measured, and reported with confidence that the analyte concentration is not a false positive value. (Clarification): The smallest analyte concentration that can be demonstrated to be different from zero or a blank concentration at the 99% level of confidence. At the DL, the false positive rate (Type I error) is 1%.

- ***Limit of Detection (LOD*)**: An estimate of the minimum amount of a substance that an analytical process can reliably detect. An LOD is analyte- and matrix-specific and may be laboratory-dependent. (Clarification): The smallest amount or concentration of a substance that must be present in a sample in order to be detected at a high level of confidence (99%). At the LOD, the false negative rate (Type II error) is 1%.

- ***Limits of Quantitation (LOQ)*** this can also be called ***Reporting Detection Limit (RDL)***: The minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence. (Clarification): The lowest concentration that produces a quantitative result within specified limits of precision and bias. For DoD projects, the LOQ shall be set at or above the concentration of the lowest initial calibration standard.

- ***Acceptance Criteria*** are values used by the laboratory to determine that a process is in control.

- ***Accuracy*** is the degree of agreement of a measured value with the true or expected value.

- ***Calibration Standards*** are a set of solutions containing the analytes of interest at a specified concentration.

- ***Calibration Verification Standard*** consists of a calibration standard solution of intermediate concentration (mid-point initial calibration level) used to access whether the initial calibration is still valid

- ***Certified Reference Material*** is a stable homogenous material that is certified by repetitive analysis from a supplier who is certified to generate said materials.

- ***Internal Standard*** a deuterated or ^{13}C-labelled analyte that is added to a sample extract prior to instrumental analysis to compensate for injection variability.

- ***Isomer*** is a member of a group of compounds that differ from each other only in the locations of a specific number of common substituent atoms or groups of atoms on the parent compound.

- ***Method Blank*** is a laboratory control sample using reagents that are known to be free of contamination.

- ***Precision*** is the degree of agreement between the data generated from repetitive measurements under specific conditions.

- ***Quality Assurance*** is a system of activities whose purpose is to provide the producer or user of a product with the assurance that the product meets a defined standard of quality.

- ***Quality Control*** is the overall system of activities whose purpose is to control the quality of a product so that it meets the needs of the end user.

- ***RSD*** is the relative standard deviation.

- ***Blank Spike*** is a laboratory control sample that has been fortified with native analytes of interest.

- ***Window Defining Mixture*** is a solution containing only the earliest and latest eluting congeners within each homologous group of target analytes on a specified GC column.

- ***RPD*** or Relative Percent Difference. A measure used to compare duplicate sample analysis.

- ***EMPC/NDR –*** Peak detected does not meet ratio criteria and has resulted in a higher detection limit.



1.0 Project Narrative

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Maxxam Job: B8Q4471

Sample Analysis

Samples were analyzed on QC batch 5785280 (2018/10/17-18). No analytical difficulties were encountered.

Data Qualifiers

U – Analyte was not detected and is reported as less than the LOD or as defined by the customer. The LOD has been adjusted for any dilution or concentration of the sample.

J – The reported result is an estimated value (e.g., matrix interference was observed, or the analyte was detected at a concentration outside the calibration range).

Sin Chii Chia, B.Sc.
schia@maxxam.ca
Office 905 817 5700

PROJECT NARRATIVE

Maxxam Analytics
Client Project #: JM10 CECIL

Client: Earth Toxics Inc
Client Project: JM10 CECIL

I. SAMPLE RECEIPT/ANALYSIS

a) Sample Listing

Maxxam ID	Client Sample ID	Date Sampled	Date Received	Date Prepped	Date Run	Initial Calibration
PFOS and PFOA in water by SPE/LCMS						
HYO195	CEF-081-25I-20181005	2018/10/05	2018/10/06	2018/10/16	2018/10/18	2018/10/17-18
HYO196	CEF-081-DUP01-20181005	2018/10/05	2018/10/06	2018/10/16	2018/10/18	2018/10/17-18
HYO197	CEF-081-FB-20181005	2018/10/05	2018/10/06	2018/10/16	2018/10/18	2018/10/17-18
HYO198	CEF-081-12S-20181005	2018/10/05	2018/10/06	2018/10/16	2018/10/18	2018/10/17-18

Run Date is defined as the date of injection of the last calibration standard (12 hours or less) prior to the samples analyzed within that run sequence. Therefore the time of calibration injection that defines the run date is always within 12 hours of the time of sample injection.

b) Shipping Problems: none encountered

c) Documentation Problems: Sample "CEF-081-25I-20181005" received with bottle lids labelled as DUP. Client confirmed to proceed with ID as per the COC.

II. SAMPLE PREP:

No problems encountered

III. SAMPLE ANALYSIS:

See also comments within the appropriate Certificate of Analysis

a) Hold Times: all within recommended hold times

b) Instrument Calibration: all within control limits

c) Quality Control: All applicable QC meets control criteria, except where otherwise noted.

d) All analytes requiring manual intergration(s) are noted on the sample chromatograms

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for other than the conditions detailed above.

In addition, I certify, that to the best of my knowledge and belief, the data as reported are true and accurate. Release of the data contained in this data package has been authorized by the cognizant laboratory official or his/her designee, as verified by this signature.

Steph Fallon

Project Manager- Site Assessment and Remediation/ Ultra Trace

2018/10/25
Date



2. Sample Management Records

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2.1 Sample Custody

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6740 Campobello Road, Mississauga, Ontario Canada L5N 2L8 Tel (905) 817-5700 Toll-free 800-563-6266 Fax (905) 817-5777 www.maxxam.ca

06-Oct-18 12:30
Stephanie Pollen
B8Q4471
URE ENV-411
C6686693-01-01

Page of
Bottle Order #:
686693
Project Manager: Stephanie Pollen

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:	
Company Name:	#31688 Earth Toxics Inc	Company Name:	Tetra Tech	Quotation #:	
Attention:	Accounts Payable	Attention:	Magen Boric - Ved	P.O. #:	
Address:	PO Box 3382	Address:	Pittsburgh, PA	Project:	
	Logan UT 84321			Project Name:	
Tel:	(781) 455-0653 Fax:	Tel:	Fax:	Site #:	
Email:	rcarr@earthtoxics.com	Email:		Sampled By:	

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE MAXXAM DRINKING WATER CHAIN OF CUSTODY

Regulation 153 (2011)
☐ Table 1 ☐ Res/Park ☐ Medium/Fine
☐ Table 2 ☐ Ind/Comm ☐ Coarse
☐ Table 3 ☐ Agri/Other ☐ For RSC
☐ Table ___

Other Regulations
☐ CCME ☐ Sanitary Sewer Bylaw
☐ Reg 558 ☐ Storm Sewer Bylaw
☐ MISA Municipality ___
☐ PWQO
☐ Other

Special Instructions

Include Criteria on Certificate of Analysis (Y/N)? ___

ANALYSIS REQUESTED (PLEASE BE SPECIFIC):

Turnaround Time (TAT) Required
Please provide advance notice for rush projects
Regular (Standard) TAT: ☐
(will be applied if Rush TAT is not specified)
Standard TAT = 5-7 Working days for most tests
Please note: Standard TAT for certain tests such as BOD and Dioxins/Furans are > 5 days - contact your Project Manager for details.
Job Specific Rush TAT (if applies to entire submission)
Date Required: ___ Time Required: ___ ☐
Rush Confirmation Number: ___ *(call lab for #)*

	Sample Barcode Label	Sample (Location) Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle)	Metals / Hg / Cr VI								# of Bottles	Comments
1		CEF-081-25I-2018	10 05	1300	GW	2	X								2	Bottles 19926
2		CEF-081-DUP01-2018	10 05	1300	GW	2	X								2	CAP 19959
3		CEF-081-FB-2018	10 05	1310	QC	2	X								2	
4		CEF-081-12S-2018	10 05	1410	GW	5	X	← MS/MSD							5	Cool 4°C
5																
6																
7																
8																
9																
10																

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
David Steffen			[illegible]	2018/10/01	12:30	

Laboratory Use Only
Time Sensitive | Temperature (°C) on Rece: 2.9, 3.4 | Custody Seal Present / Intact: Yes ✓ / No

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO MAXXAM'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.MAXXAM.CA/TERMS.
* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.
** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT HTTP://MAXXAM.CA/WP-CONTENT/UPLOADS/ONTARIO-COC.PDF

SAMPLES MUST BE KEPT COOL (< 10° C) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

White: Maxxa Yellow: Client

2.0

Maxxam Analytics International Corporation o/a Maxxam Analytics



3. Analytical Results

Maxxam Analytics International
6740 Campobello Rd
Mississauga, Ontario, Canada
L5N 2L8
1-800-668-0639
www.maxxamanalytics.com



3.1 Summary Report

Maxxam Analytics International
6740 Campobello Rd
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www.maxxamanalytics.com

Your Project #: JM10 CECIL
Site#: JM10 CECIL
Site Location: JM10 CECIL
Your C.O.C. #: 686693-01-01

Attention: Rick Carr

Earth Toxics Inc
PO Box 3382
Logan, UT
USA 84321

Report Date: 2018/10/18
Report #: R5446371
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B8Q4471
Received: 2018/10/06, 12:30

Sample Matrix: Water
Samples Received: 4

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
PFOS and PFOA in water by SPE/LCMS (1)	4	2018/10/16	2018/10/18	CAM SOP-00894	EPA 537 m

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Maxxam, unless otherwise agreed in writing. Maxxam is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Maxxam, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) Per- and polyfluoroalkyl substances (PFAS) identified as surrogates on the certificate of analysis represent the extracted internal standard.

Your Project #: JM10 CECIL
Site#: JM10 CECIL
Site Location: JM10 CECIL
Your C.O.C. #: 686693-01-01

Attention: Rick Carr

Earth Toxics Inc
PO Box 3382
Logan, UT
USA 84321

Report Date: 2018/10/18
Report #: R5446371
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B8Q4471
Received: 2018/10/06, 12:30

Encryption Key



Stephanie Pollen
Project Manager
18 Oct 2018 13:57:41

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Stephanie Pollen, Project Manager
Email: SPollen@maxxam.ca
Phone# (905) 817-5700

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam Job #: B8Q4471
Report Date: 2018/10/18

Earth Toxics Inc
Client Project #: JM10 CECIL
Site Location: JM10 CECIL

RESULTS OF ANALYSES OF WATER

Maxxam ID		HYO195	HYO196	HYO197				
Sampling Date		2018/10/05 13:00	2018/10/05 13:00	2018/10/05 13:10				
COC Number		686693-01-01	686693-01-01	686693-01-01				
	UNITS	CEF-081-25I-20181005	CEF-081-DUP01-20181005	CEF-081-FB-20181005	DL	LOD	LOQ	QC Batch
Miscellaneous Parameters								
EtFOSAA	ng/L	10 U	10 U	10 U	3.3	10	20	5785280
MeFOSAA	ng/L	10 U	10 U	10 U	2.9	10	20	5785280
Perfluorobutane Sulfonate (PFBS)	ng/L	15 U	15 U	15 U	5.4	15	20	5785280
Perfluoroheptanoic Acid (PFHpA)	ng/L	8.8 J	9.0 J	15 U	7.4	15	20	5785280
Perfluorohexanoic Acid (PFHxA)	ng/L	11 J	11 J	10 U	3.5	10	20	5785280
Perfluorohexane Sulfonate (PFHxS)	ng/L	24	26	15 U	5.6	15	20	5785280
Perfluorononanoic Acid (PFNA)	ng/L	18 U	18 U	18 U	8.7	18	20	5785280
Perfluorotetradecanoic Acid	ng/L	10 U	10 U	10 U	2.7	10	20	5785280
Perfluorotridecanoic Acid	ng/L	10 U	10 U	10 U	3.8	10	20	5785280
Perfluoroundecanoic Acid (PFUnA)	ng/L	10 U	10 U	10 U	2.5	10	20	5785280
Perfluorodecanoic Acid (PFDA)	ng/L	15 U	15 U	15 U	6.1	15	20	5785280
Perfluorododecanoic Acid (PFDoA)	ng/L	10 U	10 U	10 U	5.0	10	20	5785280
Perfluoro-n-Octanoic Acid (PFOA)	ng/L	7.8 J	8.9 J	10 U	3.3	10	20	5785280
Perfluorooctane Sulfonate (PFOS)	ng/L	140	140	15 U	6.0	15	20	5785280
Surrogate Recovery (%)								
13C2-Perfluorodecanoic acid	%	87	80	88				5785280
13C2-Perfluorododecanoic acid	%	73	72	80				5785280
13C2-Perfluorohexanoic acid	%	89	84	91				5785280
13C2-perfluorotetradecanoic acid	%	61	63	73				5785280
13C2-Perfluoroundecanoic acid	%	79	75	84				5785280
13C4-Perfluoroheptanoic acid	%	90	86	93				5785280
13C4-Perfluorooctanesulfonate	%	92	86	85				5785280
13C4-Perfluorooctanoic acid	%	91	86	88				5785280
13C5-Perfluorononanoic acid	%	93	89	90				5785280
18O2-Perfluorohexanesulfonate	%	95	89	89				5785280
D3-MeFOSAA	%	74	73	79				5785280
D5-EtFOSAA	%	75	72	79				5785280

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Analytics

Maxxam Job #: B8Q4471
Report Date: 2018/10/18

Earth Toxics Inc
Client Project #: JM10 CECIL
Site Location: JM10 CECIL

RESULTS OF ANALYSES OF WATER

Maxxam ID		HYO198				
Sampling Date		2018/10/05 14:10				
COC Number		686693-01-01				
	UNITS	CEF-081-12S-20181005	DL	LOD	LOQ	QC Batch
Miscellaneous Parameters						
EtFOSAA	ng/L	10 U	3.3	10	20	5785280
MeFOSAA	ng/L	10 U	2.9	10	20	5785280
Perfluorobutane Sulfonate (PFBS)	ng/L	15 U	5.4	15	20	5785280
Perfluoroheptanoic Acid (PFHpA)	ng/L	15 U	7.4	15	20	5785280
Perfluorohexanoic Acid (PFHxA)	ng/L	7.6 J	3.5	10	20	5785280
Perfluorohexane Sulfonate (PFHxS)	ng/L	15 J	5.6	15	20	5785280
Perfluorononanoic Acid (PFNA)	ng/L	18 U	8.7	18	20	5785280
Perfluorotetradecanoic Acid	ng/L	10 U	2.7	10	20	5785280
Perfluorotridecanoic Acid	ng/L	10 U	3.8	10	20	5785280
Perfluoroundecanoic Acid (PFUnA)	ng/L	10 U	2.5	10	20	5785280
Perfluorodecanoic Acid (PFDA)	ng/L	15 U	6.1	15	20	5785280
Perfluorododecanoic Acid (PFDoA)	ng/L	10 U	5.0	10	20	5785280
Perfluoro-n-Octanoic Acid (PFOA)	ng/L	5.5 J	3.3	10	20	5785280
Perfluorooctane Sulfonate (PFOS)	ng/L	8.2 J	6.0	15	20	5785280
Surrogate Recovery (%)						
13C2-Perfluorodecanoic acid	%	96				5785280
13C2-Perfluorododecanoic acid	%	92				5785280
13C2-Perfluorohexanoic acid	%	93				5785280
13C2-perfluorotetradecanoic acid	%	71				5785280
13C2-Perfluoroundecanoic acid	%	95				5785280
13C4-Perfluoroheptanoic acid	%	96				5785280
13C4-Perfluorooctanesulfonate	%	97				5785280
13C4-Perfluorooctanoic acid	%	95				5785280
13C5-Perfluorononanoic acid	%	96				5785280
18O2-Perfluorohexanesulfonate	%	101				5785280
D3-MeFOSAA	%	90				5785280
D5-EtFOSAA	%	89				5785280

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Analytics

Maxxam Job #: B8Q4471
Report Date: 2018/10/18

Earth Toxics Inc
Client Project #: JM10 CECIL
Site Location: JM10 CECIL

TEST SUMMARY

Maxxam ID: HYO195 **Collected:** 2018/10/05
Sample ID: CEF-081-25I-20181005 **Shipped:**
Matrix: Water **Received:** 2018/10/06

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5785280	2018/10/16	2018/10/18	Anjan Desai

Maxxam ID: HYO196 **Collected:** 2018/10/05
Sample ID: CEF-081-DUP01-20181005 **Shipped:**
Matrix: Water **Received:** 2018/10/06

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5785280	2018/10/16	2018/10/18	Anjan Desai

Maxxam ID: HYO197 **Collected:** 2018/10/05
Sample ID: CEF-081-FB-20181005 **Shipped:**
Matrix: Water **Received:** 2018/10/06

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5785280	2018/10/16	2018/10/18	Anjan Desai

Maxxam ID: HYO198 **Collected:** 2018/10/05
Sample ID: CEF-081-12S-20181005 **Shipped:**
Matrix: Water **Received:** 2018/10/06

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5785280	2018/10/16	2018/10/18	Anjan Desai

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Report Date: 2018/10/18

Earth Toxics Inc
Client Project #: JM10 CECIL
Site Location: JM10 CECIL

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	2.4°C

Results reported in ng/L as per client request.

Results relate only to the items tested.

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Maxxam Job #: B8Q4471
Report Date: 2018/10/18

Earth Toxics Inc
Client Project #: JM10 CECIL
Site Location: JM10 CECIL

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
5785280	AD9	Matrix Spike(HYO198)	13C2-Perfluorodecanoic acid	2018/10/18		76	%	50 - 150
			13C2-Perfluorododecanoic acid	2018/10/18		71	%	50 - 150
			13C2-Perfluorohexanoic acid	2018/10/18		86	%	50 - 150
			13C2-perfluorotetradecanoic acid	2018/10/18		48 (1)	%	50 - 150
			13C2-Perfluoroundecanoic acid	2018/10/18		74	%	50 - 150
			13C4-Perfluoroheptanoic acid	2018/10/18		88	%	50 - 150
			13C4-Perfluorooctanesulfonate	2018/10/18		88	%	50 - 150
			13C4-Perfluorooctanoic acid	2018/10/18		88	%	50 - 150
			13C5-Perfluorononanoic acid	2018/10/18		89	%	50 - 150
			18O2-Perfluorohexanesulfonate	2018/10/18		91	%	50 - 150
			D3-MeFOSAA	2018/10/18		71	%	50 - 150
			D5-EtFOSAA	2018/10/18		67	%	50 - 150
			EtFOSAA	2018/10/18		105	%	73 - 128
			MeFOSAA	2018/10/18		106	%	77 - 127
			Perfluorobutane Sulfonate (PFBS)	2018/10/18		106	%	65 - 135
			Perfluoroheptanoic Acid (PFHpA)	2018/10/18		108	%	73 - 129
			Perfluorohexanoic Acid (PFHxA)	2018/10/18		111	%	74 - 129
			Perfluorohexane Sulfonate (PFHxS)	2018/10/18		103	%	67 - 132
			Perfluorononanoic Acid (PFNA)	2018/10/18		101	%	72 - 131
			Perfluorotetradecanoic Acid	2018/10/18		103	%	70 - 134
			Perfluorotridecanoic Acid	2018/10/18		129	%	67 - 143
			Perfluoroundecanoic Acid (PFUnA)	2018/10/18		105	%	71 - 133
			Perfluorodecanoic Acid (PFDA)	2018/10/18		109	%	71 - 133
			Perfluorododecanoic Acid (PFDoA)	2018/10/18		103	%	71 - 131
			Perfluoro-n-Octanoic Acid (PFOA)	2018/10/18		105	%	71 - 130
			Perfluorooctane Sulfonate (PFOS)	2018/10/18		107	%	72 - 131
5785280	AD9	Matrix Spike DUP(HYO198)	13C2-Perfluorodecanoic acid	2018/10/18		89	%	50 - 150
			13C2-Perfluorododecanoic acid	2018/10/18		81	%	50 - 150
			13C2-Perfluorohexanoic acid	2018/10/18		84	%	50 - 150
			13C2-perfluorotetradecanoic acid	2018/10/18		63	%	50 - 150
			13C2-Perfluoroundecanoic acid	2018/10/18		90	%	50 - 150
			13C4-Perfluoroheptanoic acid	2018/10/18		91	%	50 - 150
			13C4-Perfluorooctanesulfonate	2018/10/18		88	%	50 - 150
			13C4-Perfluorooctanoic acid	2018/10/18		91	%	50 - 150
			13C5-Perfluorononanoic acid	2018/10/18		91	%	50 - 150
			18O2-Perfluorohexanesulfonate	2018/10/18		88	%	50 - 150
			D3-MeFOSAA	2018/10/18		83	%	50 - 150
			D5-EtFOSAA	2018/10/18		82	%	50 - 150
			EtFOSAA	2018/10/18		108	%	73 - 128
			MeFOSAA	2018/10/18		112	%	77 - 127
			Perfluorobutane Sulfonate (PFBS)	2018/10/18		116	%	65 - 135
			Perfluoroheptanoic Acid (PFHpA)	2018/10/18		112	%	73 - 129
			Perfluorohexanoic Acid (PFHxA)	2018/10/18		119	%	74 - 129
			Perfluorohexane Sulfonate (PFHxS)	2018/10/18		114	%	67 - 132
			Perfluorononanoic Acid (PFNA)	2018/10/18		106	%	72 - 131
			Perfluorotetradecanoic Acid	2018/10/18		113	%	70 - 134
			Perfluorotridecanoic Acid	2018/10/18		131	%	67 - 143
			Perfluoroundecanoic Acid (PFUnA)	2018/10/18		107	%	71 - 133
			Perfluorodecanoic Acid (PFDA)	2018/10/18		108	%	71 - 133
			Perfluorododecanoic Acid (PFDoA)	2018/10/18		113	%	71 - 131
			Perfluoro-n-Octanoic Acid (PFOA)	2018/10/18		108	%	71 - 130
			Perfluorooctane Sulfonate (PFOS)	2018/10/18		117	%	72 - 131
5785280	AD9	MS/MSD RPD	EtFOSAA	2018/10/18	2.3		%	30

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			MeFOSAA	2018/10/18	5.4		%	30
			Perfluorobutane Sulfonate (PFBS)	2018/10/18	8.9		%	30
			Perfluoroheptanoic Acid (PFHpA)	2018/10/18	4.3		%	30
			Perfluorohexanoic Acid (PFHxA)	2018/10/18	7.7		%	30
			Perfluorohexane Sulfonate (PFHxS)	2018/10/18	9.7		%	30
			Perfluorononanoic Acid (PFNA)	2018/10/18	4.4		%	30
			Perfluorotetradecanoic Acid	2018/10/18	9.0		%	30
			Perfluorotridecanoic Acid	2018/10/18	1.3		%	30
			Perfluoroundecanoic Acid (PFUnA)	2018/10/18	1.7		%	30
			Perfluorodecanoic Acid (PFDA)	2018/10/18	0.81		%	30
			Perfluorododecanoic Acid (PFDoA)	2018/10/18	9.8		%	30
			Perfluoro-n-Octanoic Acid (PFOA)	2018/10/18	2.8		%	30
			Perfluorooctane Sulfonate (PFOS)	2018/10/18	8.7		%	30
5785280	AD9	Spiked Blank	13C2-Perfluorodecanoic acid	2018/10/18		92	%	50 - 150
			13C2-Perfluorododecanoic acid	2018/10/18		82	%	50 - 150
			13C2-Perfluorohexanoic acid	2018/10/18		88	%	50 - 150
			13C2-perfluorotetradecanoic acid	2018/10/18		79	%	50 - 150
			13C2-Perfluoroundecanoic acid	2018/10/18		89	%	50 - 150
			13C4-Perfluoroheptanoic acid	2018/10/18		88	%	50 - 150
			13C4-Perfluorooctanesulfonate	2018/10/18		89	%	50 - 150
			13C4-Perfluorooctanoic acid	2018/10/18		87	%	50 - 150
			13C5-Perfluorononanoic acid	2018/10/18		91	%	50 - 150
			18O2-Perfluorohexanesulfonate	2018/10/18		96	%	50 - 150
			D3-MeFOSAA	2018/10/18		78	%	50 - 150
			D5-EtFOSAA	2018/10/18		75	%	50 - 150
			EtFOSAA	2018/10/18		101	%	73 - 128
			MeFOSAA	2018/10/18		106	%	77 - 127
			Perfluorobutane Sulfonate (PFBS)	2018/10/18		102	%	65 - 135
			Perfluoroheptanoic Acid (PFHpA)	2018/10/18		111	%	73 - 129
			Perfluorohexanoic Acid (PFHxA)	2018/10/18		112	%	74 - 129
			Perfluorohexane Sulfonate (PFHxS)	2018/10/18		103	%	67 - 132
			Perfluorononanoic Acid (PFNA)	2018/10/18		101	%	72 - 131
			Perfluorotetradecanoic Acid	2018/10/18		107	%	70 - 134
			Perfluorotridecanoic Acid	2018/10/18		110	%	67 - 143
			Perfluoroundecanoic Acid (PFUnA)	2018/10/18		107	%	71 - 133
			Perfluorodecanoic Acid (PFDA)	2018/10/18		103	%	71 - 133
			Perfluorododecanoic Acid (PFDoA)	2018/10/18		113	%	71 - 131
			Perfluoro-n-Octanoic Acid (PFOA)	2018/10/18		110	%	71 - 130
			Perfluorooctane Sulfonate (PFOS)	2018/10/18		108	%	72 - 131
5785280	AD9	Method Blank	13C2-Perfluorodecanoic acid	2018/10/18		79	%	50 - 150
			13C2-Perfluorododecanoic acid	2018/10/18		82	%	50 - 150
			13C2-Perfluorohexanoic acid	2018/10/18		89	%	50 - 150
			13C2-perfluorotetradecanoic acid	2018/10/18		81	%	50 - 150
			13C2-Perfluoroundecanoic acid	2018/10/18		85	%	50 - 150
			13C4-Perfluoroheptanoic acid	2018/10/18		93	%	50 - 150
			13C4-Perfluorooctanesulfonate	2018/10/18		90	%	50 - 150
			13C4-Perfluorooctanoic acid	2018/10/18		90	%	50 - 150
			13C5-Perfluorononanoic acid	2018/10/18		89	%	50 - 150
			18O2-Perfluorohexanesulfonate	2018/10/18		93	%	50 - 150
			D3-MeFOSAA	2018/10/18		78	%	50 - 150
			D5-EtFOSAA	2018/10/18		79	%	50 - 150
			EtFOSAA	2018/10/18	10 U, LOD=10		ng/L	

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			MeFOSAA	2018/10/18	10 U, LOD=10		ng/L	
			Perfluorobutane Sulfonate (PFBS)	2018/10/18	15 U, LOD=15		ng/L	
			Perfluoroheptanoic Acid (PFHpA)	2018/10/18	15 U, LOD=15		ng/L	
			Perfluorohexanoic Acid (PFHxA)	2018/10/18	10 U, LOD=10		ng/L	
			Perfluorohexane Sulfonate (PFHxS)	2018/10/18	15 U, LOD=15		ng/L	
			Perfluorononanoic Acid (PFNA)	2018/10/18	18 U, LOD=18		ng/L	
			Perfluorotetradecanoic Acid	2018/10/18	10 U, LOD=10		ng/L	
			Perfluorotridecanoic Acid	2018/10/18	10 U, LOD=10		ng/L	
			Perfluoroundecanoic Acid (PFUnA)	2018/10/18	10 U, LOD=10		ng/L	
			Perfluorodecanoic Acid (PFDA)	2018/10/18	15 U, LOD=15		ng/L	
			Perfluorododecanoic Acid (PFDoA)	2018/10/18	10 U, LOD=10		ng/L	
			Perfluoro-n-Octanoic Acid (PFOA)	2018/10/18	10 U, LOD=10		ng/L	
			Perfluorooctane Sulfonate (PFOS)	2018/10/18	15 U, LOD=15		ng/L	

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

(1) Extracted internal standard analyte recovery was below the defined lower control limit (LCL). Because quantitation is performed using isotope dilution techniques, any losses of the native compound that may occur during any of the sample preparation, extraction, cleanup or determinative steps will be mirrored by a similar loss of the labeled standard, and as such can be accounted for and corrected. Therefore, the quantification of these target compounds is not affected by the low extracted internal standard analyte recovery.

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Maxxam Job #: B8Q4471
Report Date: 2018/10/18

Earth Toxics Inc
Client Project #: JM10 CECIL
Site Location: JM10 CECIL

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by the following individual(s).



Colm McNamara, Senior Analyst, Liquid Chromatography

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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METHOD 537 Modified

DETERMINATION OF SELECTED PERFLUORINATED ALKYL ACIDS IN DRINKING WATER BY SOLID PHASE EXTRACTION AND LIQUID CHROMATOGRAPHY/TANDEM MASS SPECTROMETRY (LC/MS/MS)

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3.2 Sample Chromatograms

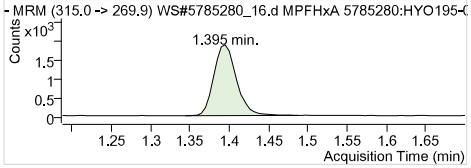
Maxxam Analytics International
6740 Campobello Rd
Mississauga, Ontario, Canada
L5N 2L8
1-800-668-0639
www.maxxamanalytics.com

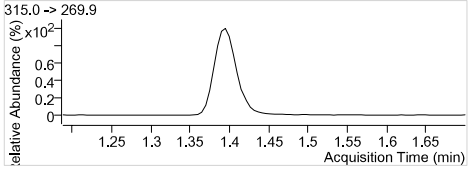
Batch Path	T:\LCMS04\PFC\20181017\WS#5785280\QuantResults\PFC_Water_Low_20181017_WS#5785280_EToxics

Sample Name	**5785280:HYO195-01**	**Instrument**	LCMS04
Data File	WS#5785280_16.d	**Operator**	
Sample Type	Sample	**Dilution**	0.024
Acq. Method	PFC_Water_Low.m	**Position**	P4-B5
Acq. Date	2018/10/18 3:21:38 AM	**Injection Volume**	Per Method
Sample Annotation	-		

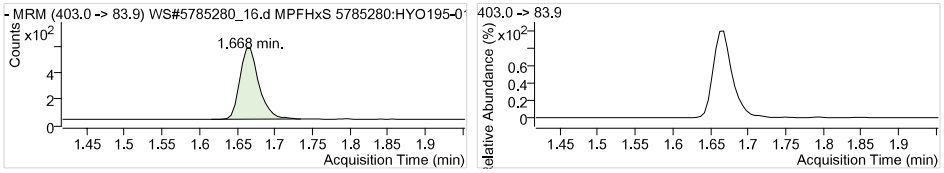
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	3709	1.39	1 µg/L		
MPFHxS	974	1.67	1 µg/L		
MPFHpA	5348	1.66	1 µg/L		
MPFOA	5478	1.85	1 µg/L		
MPFOS	1094	1.97	1 µg/L		
MPFNA	5339	1.99	1 µg/L		
MPFDA	3901	2.11	1 µg/L		
MPFUnA	3976	2.21	1 µg/L		
MPFDoA	4815	2.29	1 µg/L		
MPFTeDA	5464	2.44	1 µg/L		
13C6-PFHxA IS	17682	1.39	1 µg/L		
13C9-PFDA IS	24918	2.11	1 µg/L		

Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1			-	ND	-
PFHxA 1	532	1.38	-	0.01 µg/L	-
PFHxS 1	448	1.67	-	0.02 µg/L	-
PFHpA 1	527	1.65	-	0.01 µg/L	-
PFOA 1	544	1.84	-	0.01 µg/L	-
PFOS 1	2495	1.93	-	0.14 µg/L	-
PFNA 1	216	2.00	-	0.01 µg/L	-
PFDA 1			-	ND	-
PFUnA 1			-	ND	-
PFDoA 1			-	ND	-
PFTrDA 1			-	ND	-
PFTeDA 1			-	ND	-
13C2-PFHxA	3709	1.39	-	89.46 µg/L	-
18O2-PFHxS	974	1.67	-	94.64 µg/L	-
13C4-PFHpA	5348	1.66	-	90.39 µg/L	-
13C4-PFOA	5478	1.85	-	91.13 µg/L	-
13C4-PFOS	1094	1.97	-	91.70 µg/L	-
13C5-PFNA	5339	1.99	-	93.02 µg/L	-
13C2-PFDA	3901	2.11	-	87.03 µg/L	-
13C2-PFUnA	3976	2.21	-	79.48 µg/L	-
13C2-PFDoA	4815	2.29	-	72.72 µg/L	-
13C2-PFTeDA	5464	2.44	-	61.36 µg/L	-
13C6-PFHxA	17682	1.39	-	2.35 µg/L	-
13C9-PFDA	24918	2.11	-	2.42 µg/L	-

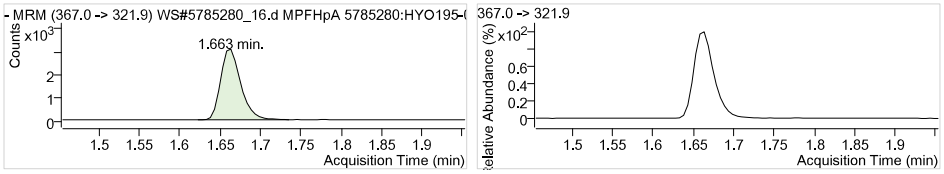




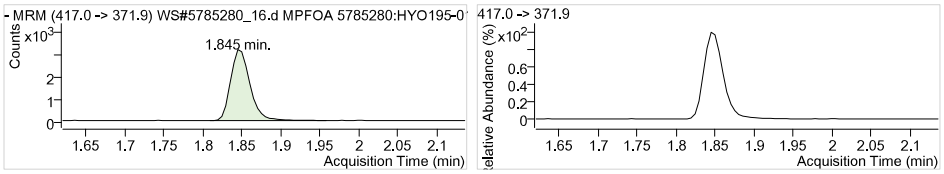
MPFHxA	Internal Standard
RT (Exp. RT):	1.395 (1.395)
Concentration:	1 µg/L
Sample type:	Sample



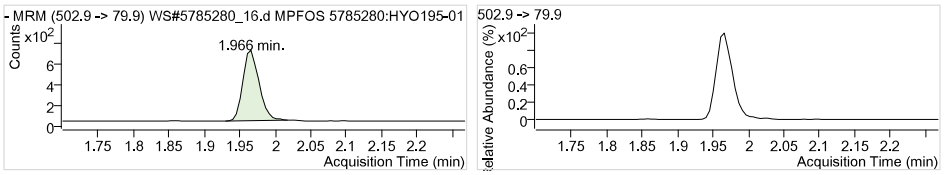
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Sample



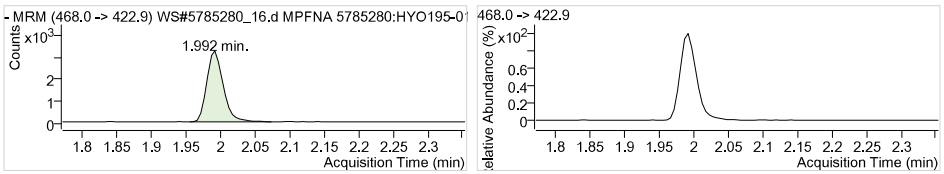
MPFHpA Internal Standard
RT (Exp. RT): 1.663 (1.663)
Concentration: 1 µg/L
Sample type: Sample



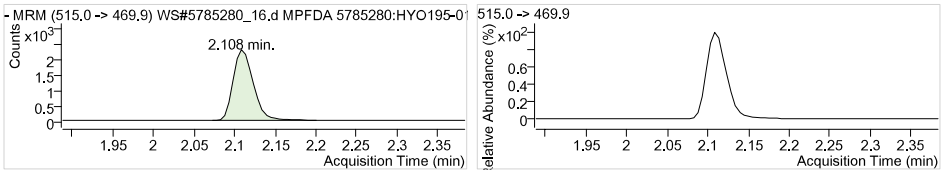
MPFOA Internal Standard
RT (Exp. RT): 1.845 (1.845)
Concentration: 1 µg/L
Sample type: Sample



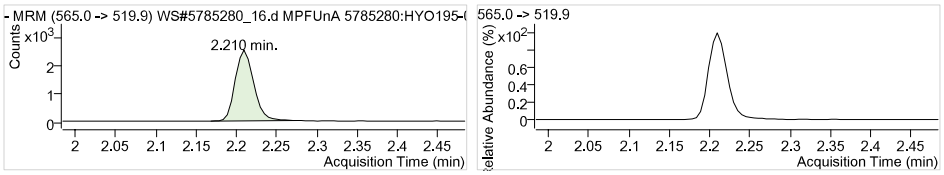
MPFOS Internal Standard
RT (Exp. RT): 1.966 (1.966)
Concentration: 1 µg/L
Sample type: Sample



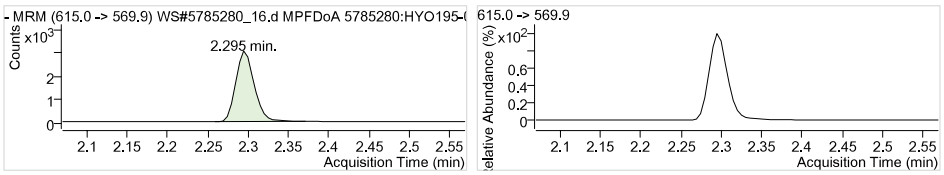
MPFNA Internal Standard
RT (Exp. RT): 1.992 (1.992)
Concentration: 1 µg/L
Sample type: Sample



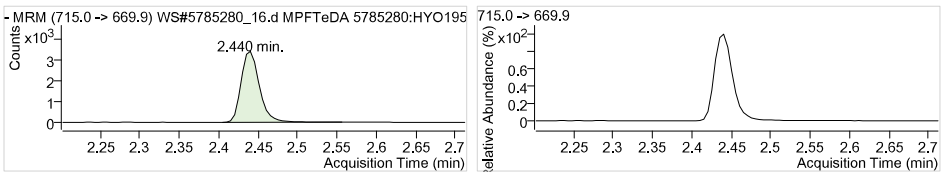
MPFDA Internal Standard
RT (Exp. RT): 2.108 (2.108)
Concentration: 1 µg/L
Sample type: Sample



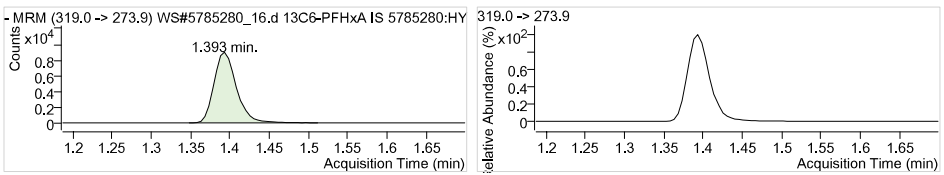
MPFUnA Internal Standard
RT (Exp. RT): 2.210 (2.210)
Concentration: 1 µg/L
Sample type: Sample



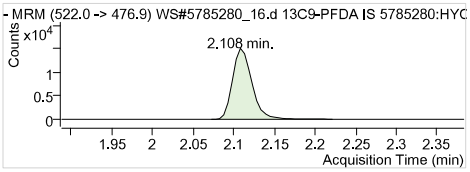
MPFDoA Internal Standard
RT (Exp. RT): 2.295 (2.295)
Concentration: 1 µg/L
Sample type: Sample

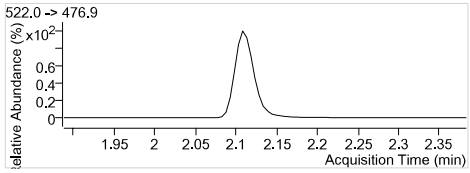


MPFTeDA Internal Standard
RT (Exp. RT): 2.440 (2.440)
Concentration: 1 µg/L
Sample type: Sample

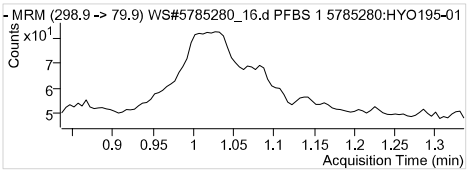


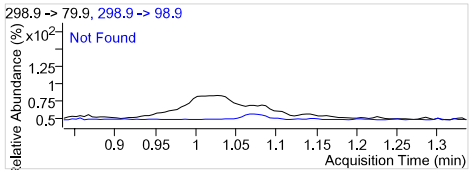
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.393 (1.393)
Concentration: 1 µg/L
Sample type: Sample



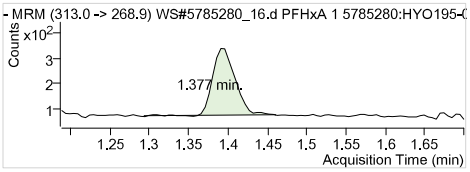


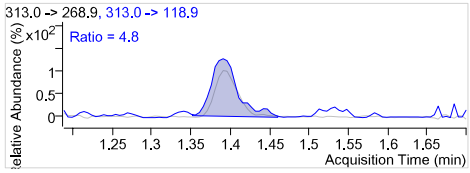
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.108 (2.108)
Concentration: 1 µg/L
Sample type: Sample



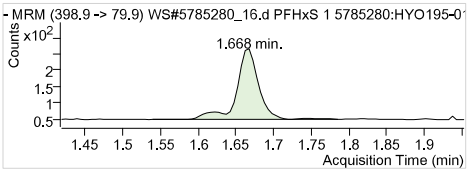


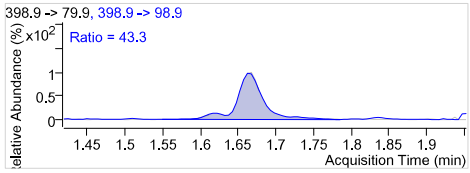
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 0.000 (1.067)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



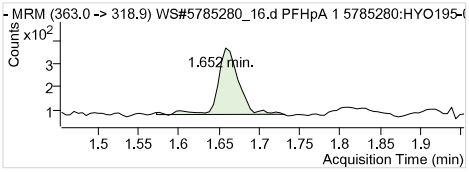


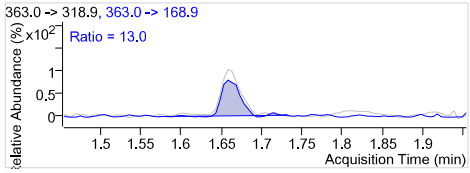
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 1.377 (1.391)
Calc. conc. 0.01 µg/L
Area ratio: 0.14337
Sample type: Sample



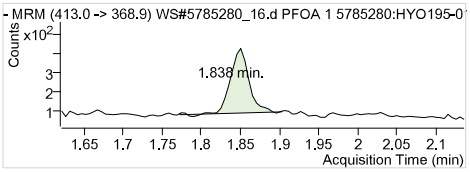


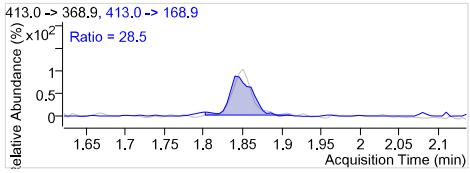
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.663)
Calc. conc. 0.02 µg/L
Area ratio: 0.45996
Sample type: Sample



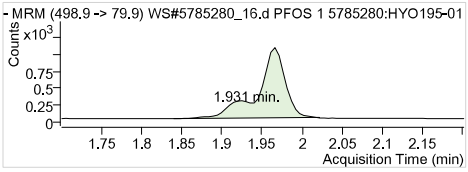


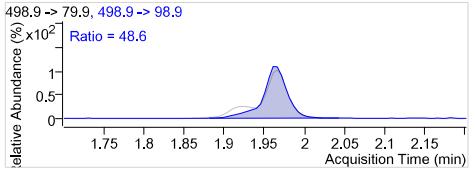
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 1.652 (1.664)
Calc. conc. 0.01 µg/L
Area ratio: 0.09861
Sample type: Sample



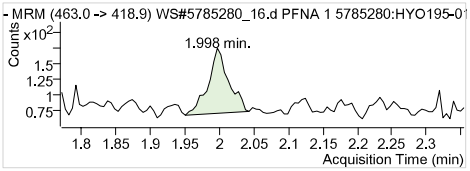


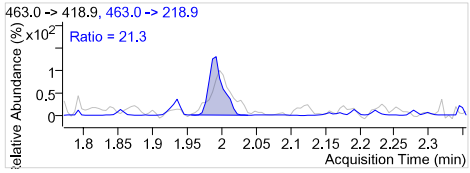
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 1.838 (1.845)
Calc. conc. 0.01 µg/L
Area ratio: 0.09931
Sample type: Sample



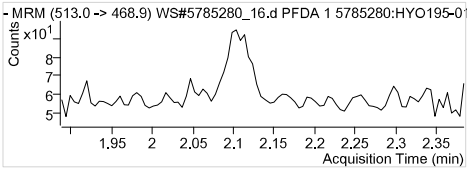


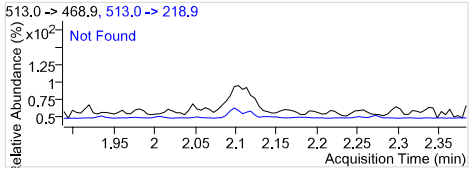
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.931 (1.966)
Calc. conc. 0.14 µg/L
Area ratio: 2.28064
Sample type: Sample



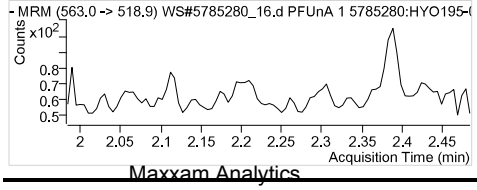


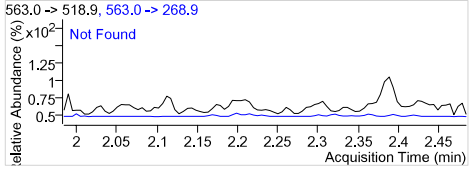
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 1.998 (1.992)
Calc. conc. 0.01 µg/L
Area ratio: 0.04046
Sample type: Sample



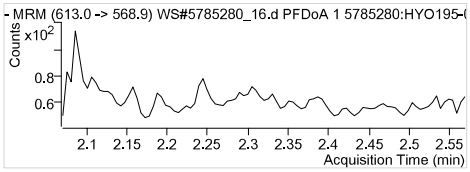


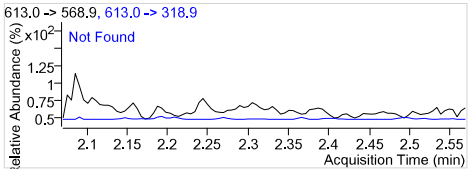
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 0.000 (2.108)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



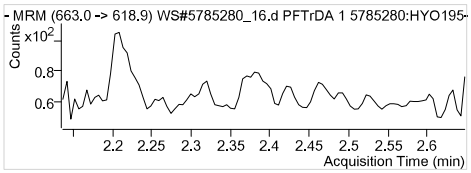


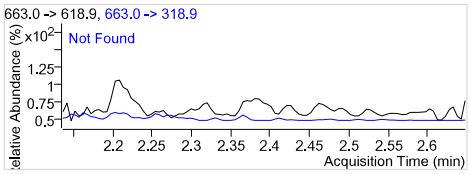
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 0.000 (2.210)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



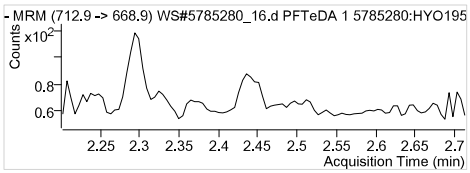


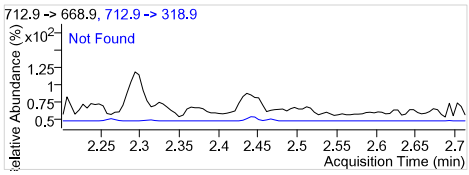
PFDoA 1 613.0 -> 568.9
RT (Exp. RT): 0.000 (2.295)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



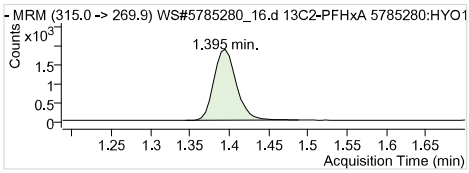


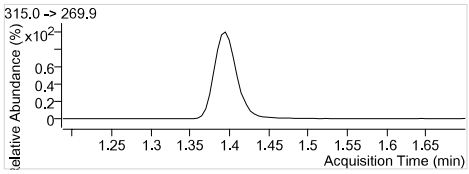
PFTrDA 1 663.0 -> 618.9
RT (Exp. RT): 0.000 (2.370)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



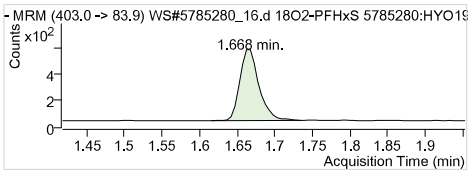


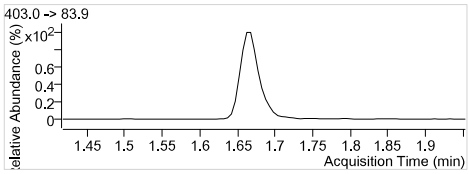
PFTeDA 1 712.9 -> 668.9
RT (Exp. RT): 0.000 (2.441)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



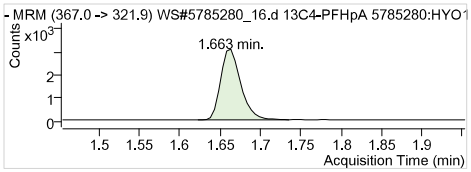


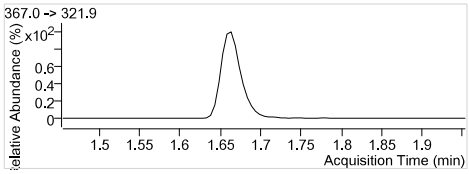
13C2-PFHxA 315.0 -> 269.9
RT (Exp. RT): 1.395 (1.395)
Calc. conc. 89.46 µg/L
Area ratio: 0.20976
Sample type: Sample



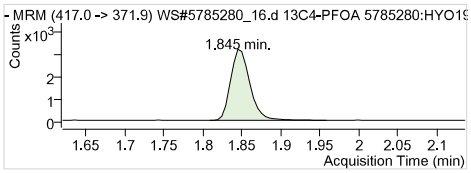


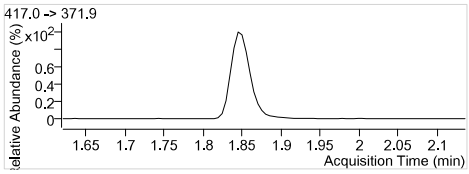
18O2-PFHxS 403.0 -> 83.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 94.64 µg/L
Area ratio: 0.05508
Sample type: Sample



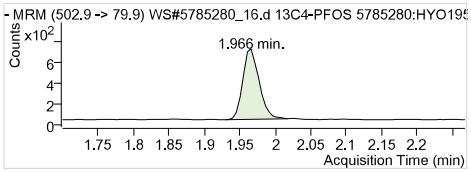


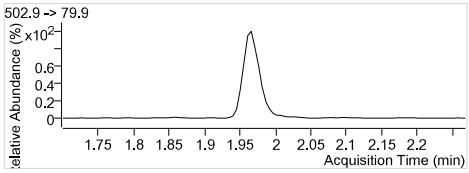
13C4-PFHpA 367.0 -> 321.9
RT (Exp. RT): 1.663 (1.663)
Calc. conc. 90.39 µg/L
Area ratio: 0.30245
Sample type: Sample



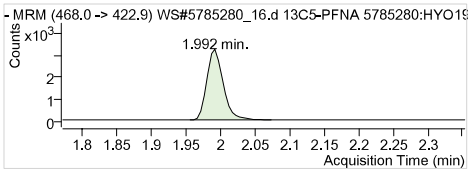


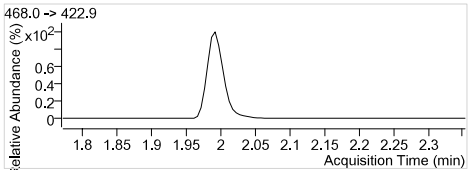
13C4-PFOA 417.0 -> 371.9
RT (Exp. RT): 1.845 (1.845)
Calc. conc. 91.13 µg/L
Area ratio: 0.30981
Sample type: Sample



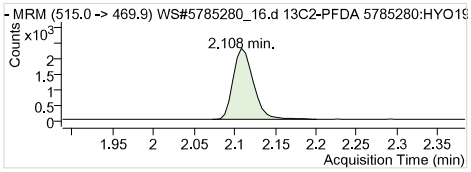


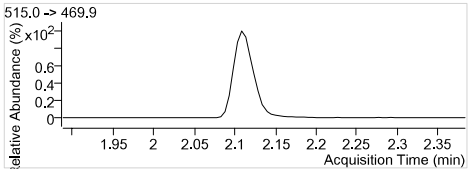
13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.966 (1.966)
Calc. conc. 91.70 µg/L
Area ratio: 0.06187
Sample type: Sample



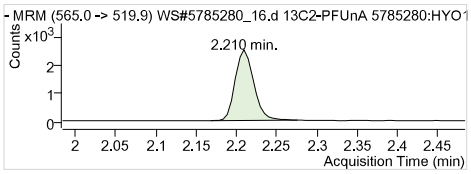


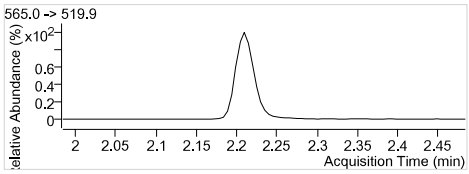
13C5-PFNA 468.0 -> 422.9
RT (Exp. RT): 1.992 (1.992)
Calc. conc. 93.02 µg/L
Area ratio: 0.30195
Sample type: Sample



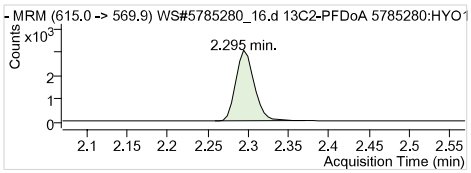


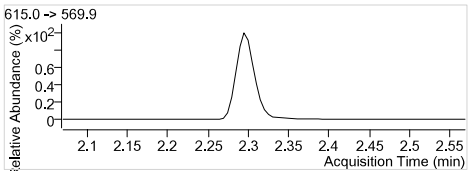
13C2-PFDA	515.0 -> 469.9
RT (Exp. RT):	2.108 (2.108)
Calc. conc.	87.03 µg/L
Area ratio:	0.15655
Sample type:	Sample



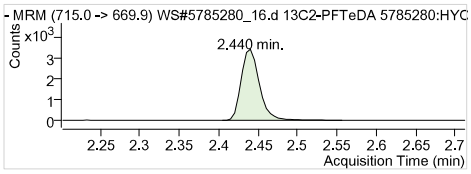


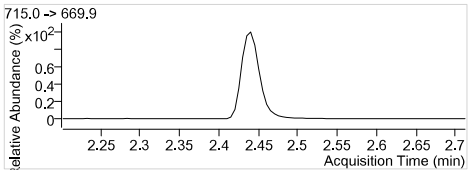
13C2-PFUnA	565.0 -> 519.9
RT (Exp. RT):	2.210 (2.210)
Calc. conc.	79.48 µg/L
Area ratio:	0.15956
Sample type:	Sample



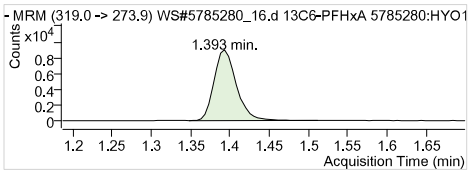


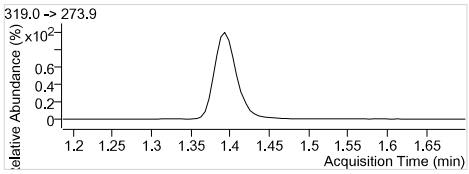
13C2-PFDoA	615.0 -> 569.9
RT (Exp. RT):	2.295 (2.295)
Calc. conc.	72.72 µg/L
Area ratio:	0.19323
Sample type:	Sample



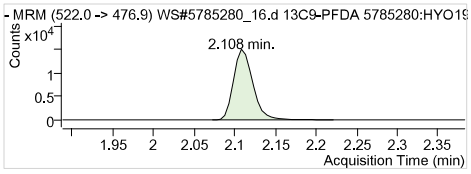


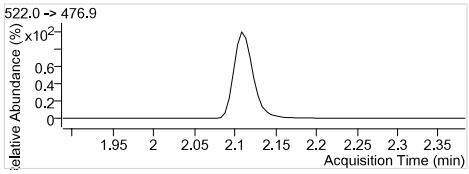
13C2-PFTeDA	715.0 -> 669.9
RT (Exp. RT):	2.440 (2.440)
Calc. conc.	61.36 µg/L
Area ratio:	0.21928
Sample type:	Sample





13C6-PFHxA	319.0 -> 273.9
RT (Exp. RT):	1.393 (1.393)
Calc. conc.	2.35 µg/L
Area ratio:	0
Sample type:	Sample





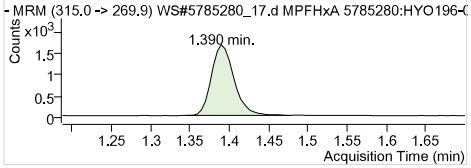
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	2.108 (2.108)
Calc. conc.	2.42 µg/L
Area ratio:	0
Sample type:	Sample

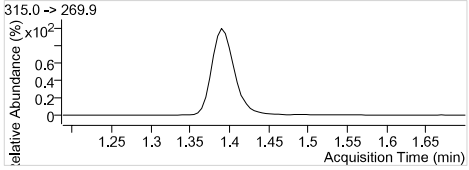
Batch Path	T:\LCMS04\PFC\20181017\WS#5785280\QuantResults\PFC_Water_Low_20181017_WS#5785280_EToxics

Sample Name	**5785280:HYO196-01**	**Instrument**	LCMS04
Data File	WS#5785280_17.d	**Operator**	
Sample Type	Sample	**Dilution**	0.024
Acq. Method	PFC_Water_Low.m	**Position**	P4-B6
Acq. Date	2018/10/18 3:26:33 AM	**Injection Volume**	Per Method
Sample Annotation	-		

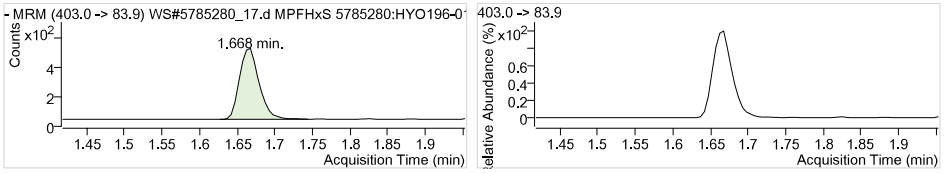
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	3306	1.39	1 µg/L		
MPFHxS	871	1.67	1 µg/L		
MPFHpA	4814	1.66	1 µg/L		
MPFOA	4887	1.85	1 µg/L		
MPFOS	972	1.97	1 µg/L		
MPFNA	4863	1.99	1 µg/L		
MPFDA	3404	2.11	1 µg/L		
MPFUnA	3546	2.21	1 µg/L		
MPFDoA	4530	2.29	1 µg/L		
MPFTeDA	5312	2.44	1 µg/L		
13C6-PFHxA IS	16784	1.39	1 µg/L		
13C9-PFDA IS	23561	2.11	1 µg/L		

Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1			-	ND	-
PFHxA 1	481	1.38	-	0.01 µg/L	-
PFHxS 1	431	1.66	-	0.03 µg/L	-
PFHpA 1	488	1.65	-	0.01 µg/L	-
PFOA 1	577	1.84	-	0.01 µg/L	-
PFOS 1	2223	1.93	-	0.14 µg/L	-
PFNA 1			-	ND	-
PFDA 1			-	ND	-
PFUnA 1			-	ND	-
PFDoA 1			-	ND	-
PFTrDA 1			-	ND	-
PFTeDA 1			-	ND	-
13C2-PFHxA	3306	1.39	-	84.00 µg/L	-
18O2-PFHxS	871	1.67	-	89.16 µg/L	-
13C4-PFHpA	4814	1.66	-	85.72 µg/L	-
13C4-PFOA	4887	1.85	-	85.65 µg/L	-
13C4-PFOS	972	1.97	-	85.83 µg/L	-
13C5-PFNA	4863	1.99	-	89.26 µg/L	-
13C2-PFDA	3404	2.11	-	80.32 µg/L	-
13C2-PFUnA	3546	2.21	-	74.97 µg/L	-
13C2-PFDoA	4530	2.29	-	72.35 µg/L	-
13C2-PFTeDA	5312	2.44	-	63.09 µg/L	-
13C6-PFHxA	16784	1.39	-	2.23 µg/L	-
13C9-PFDA	23561	2.11	-	2.29 µg/L	-

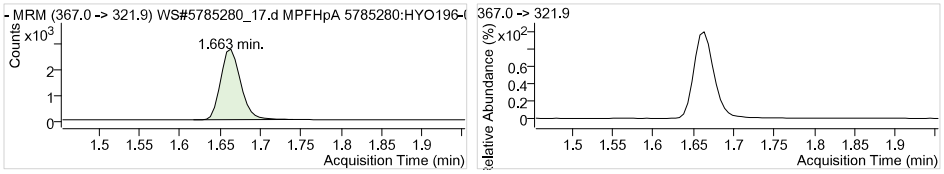




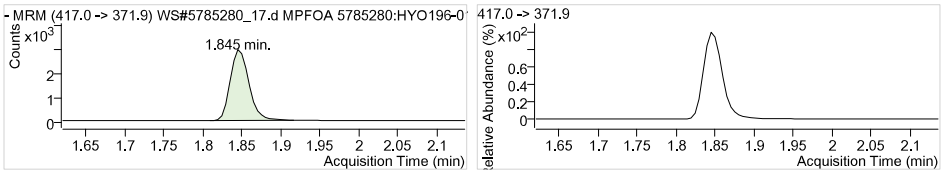
MPFHxA	Internal Standard
RT (Exp. RT):	1.390 (1.395)
Concentration:	1 µg/L
Sample type:	Sample



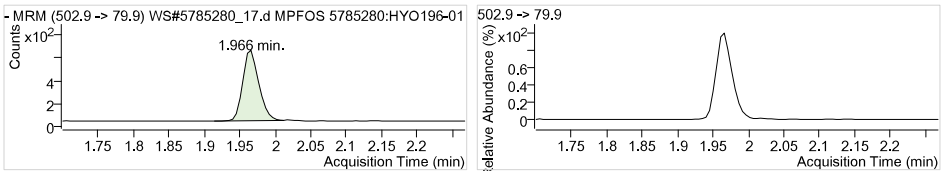
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Sample



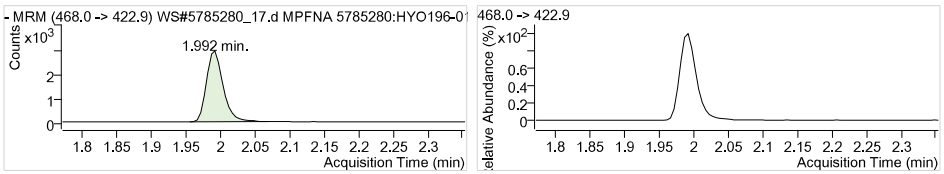
MPFHpA Internal Standard
RT (Exp. RT): 1.663 (1.663)
Concentration: 1 µg/L
Sample type: Sample



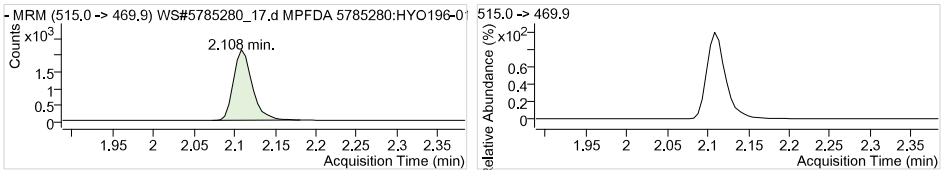
MPFOA Internal Standard
RT (Exp. RT): 1.845 (1.845)
Concentration: 1 µg/L
Sample type: Sample



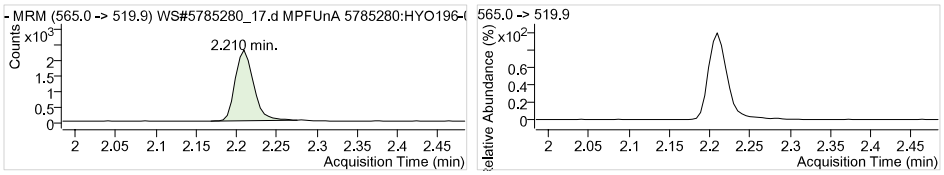
MPFOS Internal Standard
RT (Exp. RT): 1.966 (1.966)
Concentration: 1 µg/L
Sample type: Sample



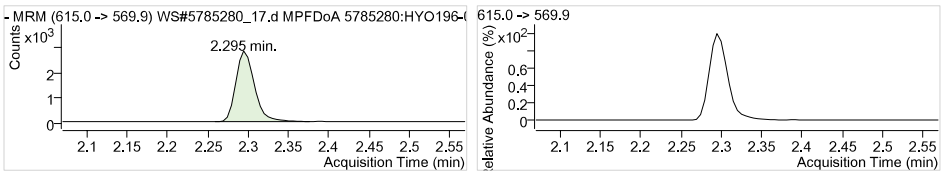
MPFNA Internal Standard
RT (Exp. RT): 1.992 (1.992)
Concentration: 1 µg/L
Sample type: Sample



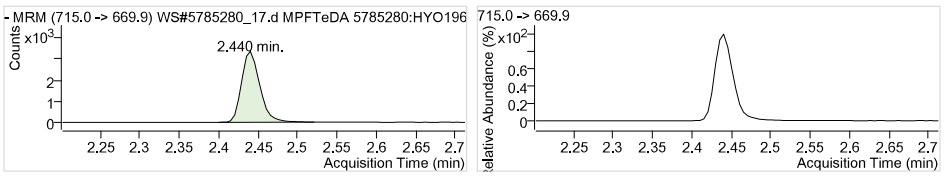
MPFDA Internal Standard
RT (Exp. RT): 2.108 (2.108)
Concentration: 1 µg/L
Sample type: Sample



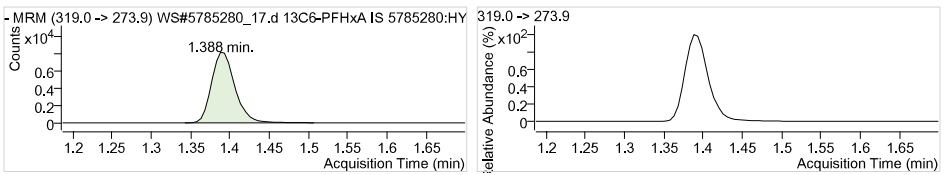
MPFUnA Internal Standard
RT (Exp. RT): 2.210 (2.210)
Concentration: 1 µg/L
Sample type: Sample



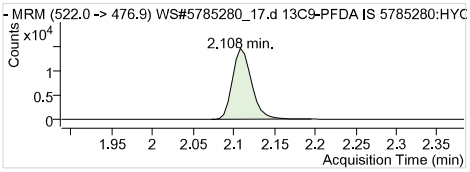
MPFDoA Internal Standard
RT (Exp. RT): 2.295 (2.295)
Concentration: 1 µg/L
Sample type: Sample

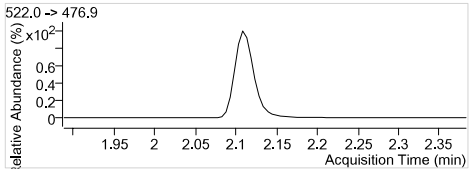


MPFTeDA Internal Standard
RT (Exp. RT): 2.440 (2.440)
Concentration: 1 µg/L
Sample type: Sample

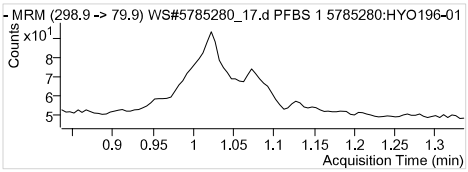


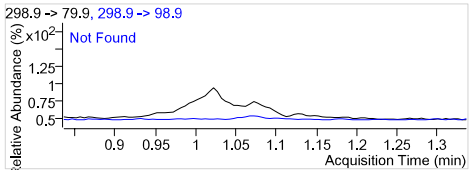
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.388 (1.393)
Concentration: 1 µg/L
Sample type: Sample



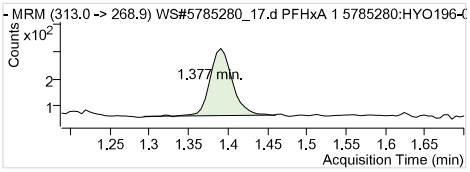


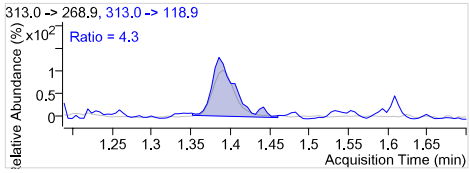
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.108 (2.108)
Concentration: 1 µg/L
Sample type: Sample



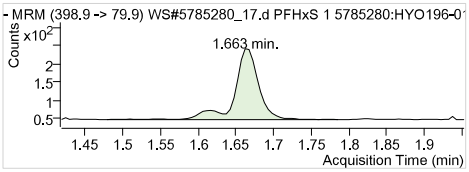


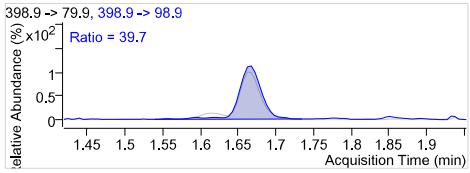
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 0.000 (1.067)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



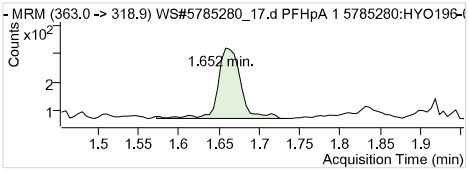


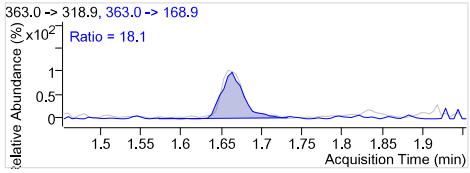
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 1.377 (1.391)
Calc. conc. 0.01 µg/L
Area ratio: 0.14554
Sample type: Sample



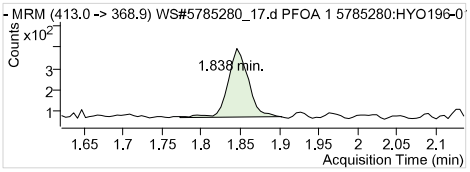


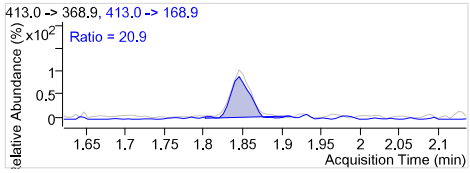
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.663 (1.663)
Calc. conc. 0.03 µg/L
Area ratio: 0.49483
Sample type: Sample



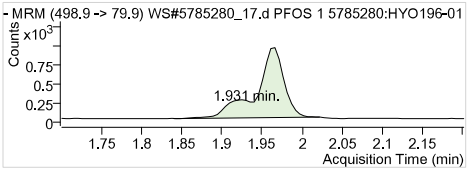


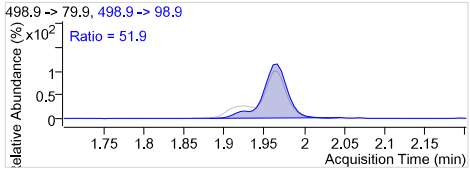
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 1.652 (1.664)
Calc. conc. 0.01 µg/L
Area ratio: 0.10146
Sample type: Sample



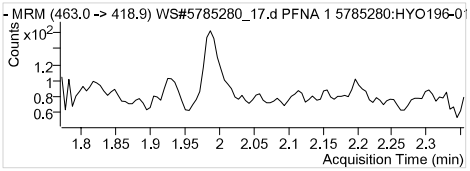


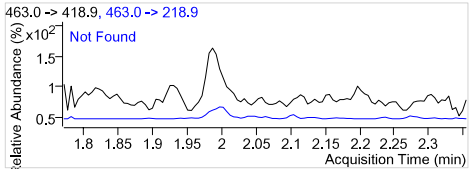
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 1.838 (1.845)
Calc. conc. 0.01 µg/L
Area ratio: 0.11805
Sample type: Sample



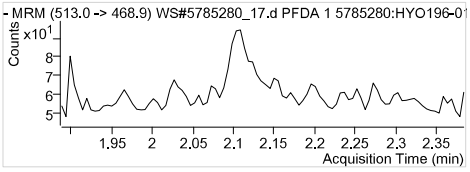


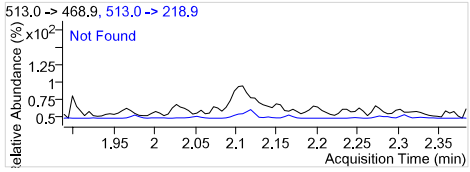
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.931 (1.966)
Calc. conc. 0.14 µg/L
Area ratio: 2.28696
Sample type: Sample



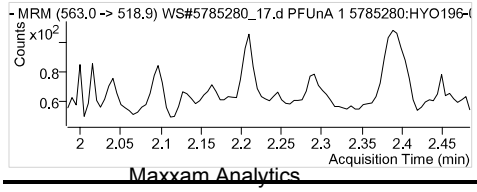


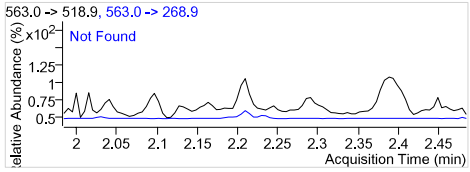
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 0.000 (1.992)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



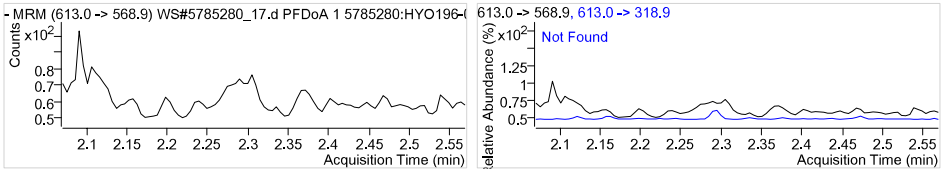


PFDA 1 513.0 -> 468.9
RT (Exp. RT): 0.000 (2.108)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample

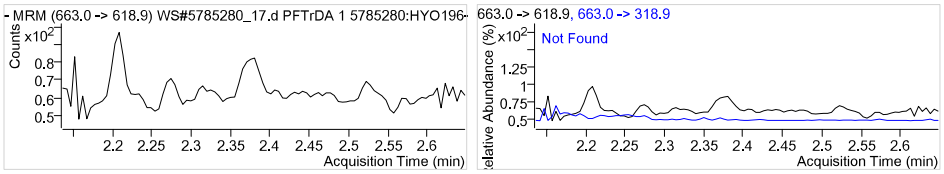




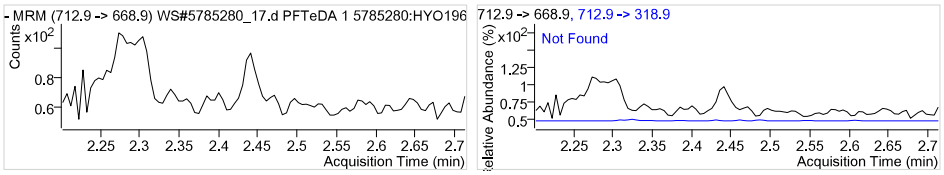
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 0.000 (2.210)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



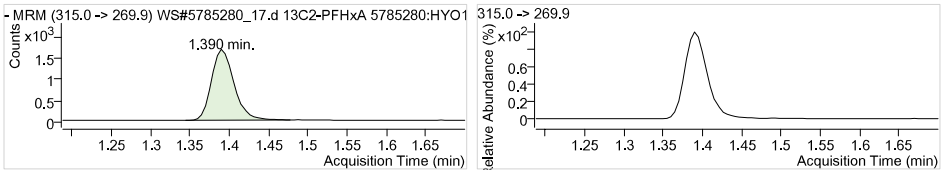
PFDoA 1 613.0 -> 568.9
RT (Exp. RT): 0.000 (2.295)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



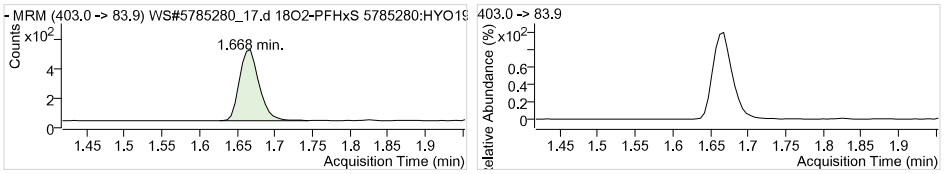
PFTrDA 1 663.0 -> 618.9
RT (Exp. RT): 0.000 (2.370)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



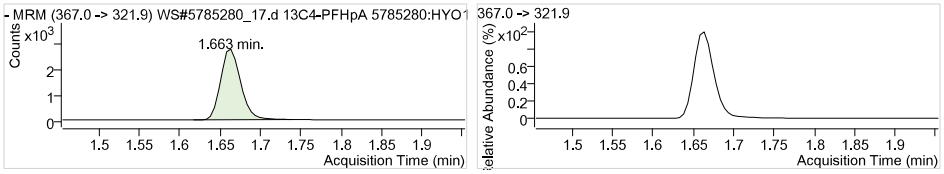
PFTeDA 1 712.9 -> 668.9
RT (Exp. RT): 0.000 (2.441)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



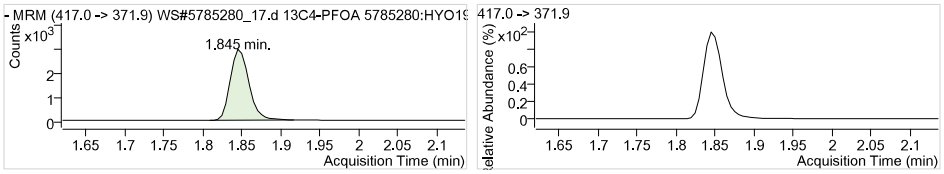
13C2-PFHxA 315.0 -> 269.9
RT (Exp. RT): 1.390 (1.395)
Calc. conc. 84.00 µg/L
Area ratio: 0.19697
Sample type: Sample



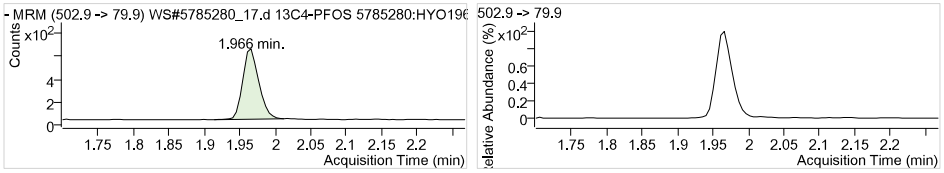
18O2-PFHxS 403.0 -> 83.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 89.16 µg/L
Area ratio: 0.05189
Sample type: Sample



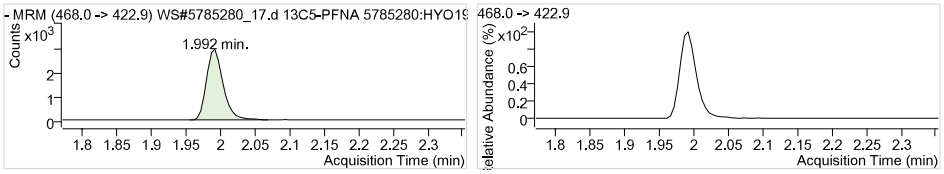
13C4-PFHpA 367.0 -> 321.9
RT (Exp. RT): 1.663 (1.663)
Calc. conc. 85.72 µg/L
Area ratio: 0.28682
Sample type: Sample



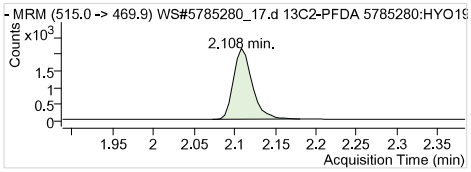
13C4-PFOA 417.0 -> 371.9
RT (Exp. RT): 1.845 (1.845)
Calc. conc. 85.65 µg/L
Area ratio: 0.29117
Sample type: Sample

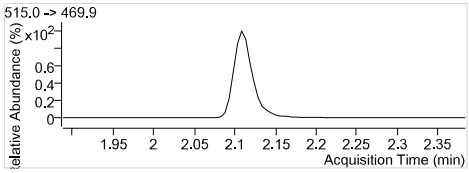


13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.966 (1.966)
Calc. conc. 85.83 µg/L
Area ratio: 0.05791
Sample type: Sample

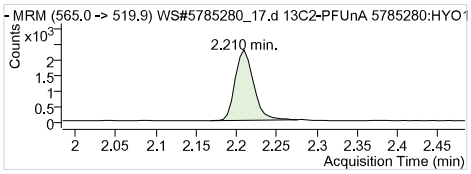


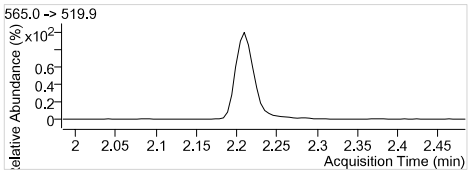
13C5-PFNA 468.0 -> 422.9
RT (Exp. RT): 1.992 (1.992)
Calc. conc. 89.26 µg/L
Area ratio: 0.28974
Sample type: Sample



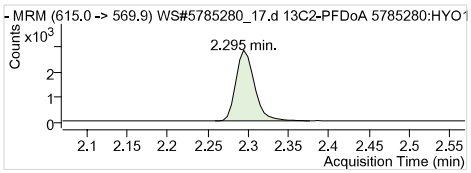


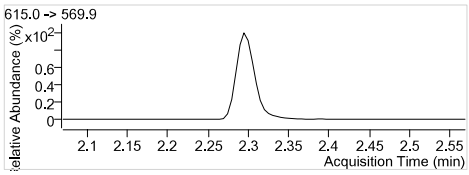
13C2-PFDA	515.0 -> 469.9
RT (Exp. RT):	2.108 (2.108)
Calc. conc.	80.32 µg/L
Area ratio:	0.14448
Sample type:	Sample



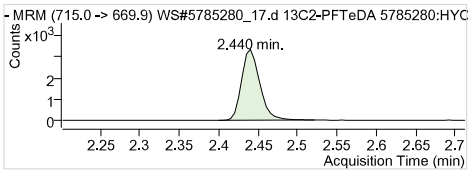


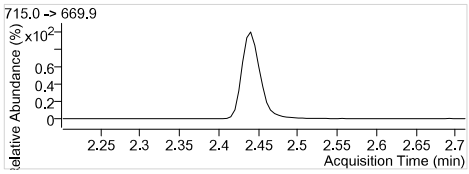
13C2-PFUnA	565.0 -> 519.9
RT (Exp. RT):	2.210 (2.210)
Calc. conc.	74.97 µg/L
Area ratio:	0.15050
Sample type:	Sample



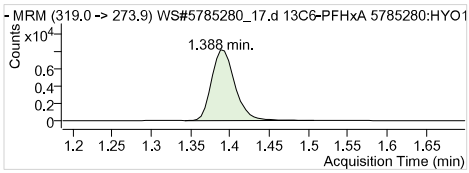


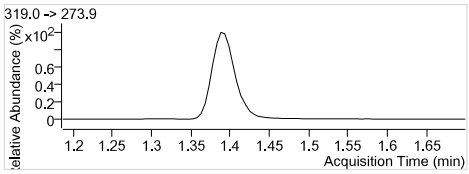
13C2-PFDoA	615.0 -> 569.9
RT (Exp. RT):	2.295 (2.295)
Calc. conc.	72.35 µg/L
Area ratio:	0.19227
Sample type:	Sample



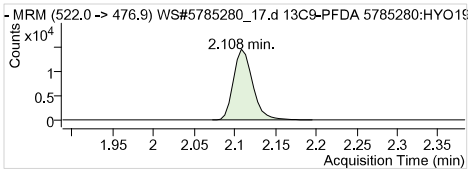


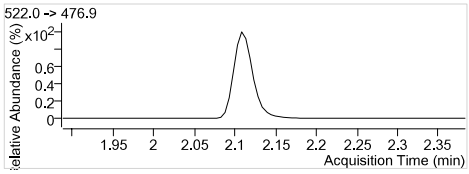
13C2-PFTeDA	715.0 -> 669.9
RT (Exp. RT):	2.440 (2.440)
Calc. conc.	63.09 µg/L
Area ratio:	0.22546
Sample type:	Sample





13C6-PFHxA	319.0 -> 273.9
RT (Exp. RT):	1.388 (1.393)
Calc. conc.	2.23 µg/L
Area ratio:	0
Sample type:	Sample





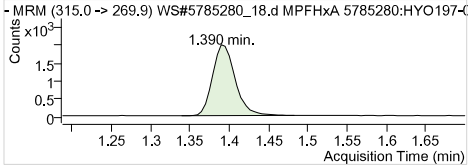
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	2.108 (2.108)
Calc. conc.	2.29 µg/L
Area ratio:	0
Sample type:	Sample

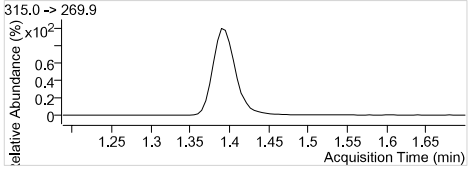
Batch Path	T:\LCMS04\PFC\20181017\WS#5785280\QuantResults\PFC_Water_Low_20181017_WS#5785280_EToxics

Sample Name	**5785280:HYO197-01**	**Instrument**	LCMS04
Data File	WS#5785280_18.d	**Operator**	
Sample Type	Sample	**Dilution**	0.024
Acq. Method	PFC_Water_Low.m	**Position**	P4-B7
Acq. Date	2018/10/18 3:31:28 AM	**Injection Volume**	Per Method
Sample Annotation	-		

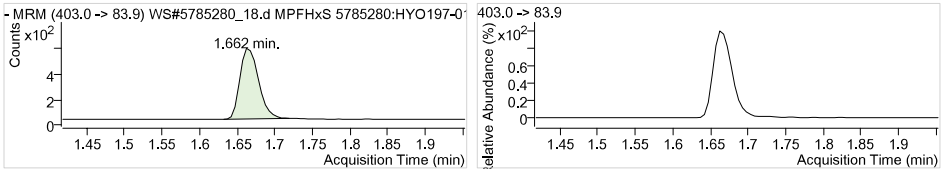
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	3930	1.39	1 µg/L		
MPFHxS	952	1.66	1 µg/L		
MPFHpA	5740	1.66	1 µg/L		
MPFOA	5498	1.85	1 µg/L		
MPFOS	1055	1.97	1 µg/L		
MPFNA	5348	1.99	1 µg/L		
MPFDA	3963	2.11	1 µg/L		
MPFUnA	4213	2.21	1 µg/L		
MPFDoA	5348	2.29	1 µg/L		
MPFTeDA	6513	2.44	1 µg/L		
13C6-PFHxA IS	18366	1.39	1 µg/L		
13C9-PFDA IS	25066	2.11	1 µg/L		

Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1			-	ND	-
PFHxA 1			-	ND	-
PFHxS 1			-	ND	-
PFHpA 1			-	ND	-
PFOA 1			-	ND	-
PFOS 1			-	ND	-
PFNA 1			-	ND	-
PFDA 1			-	ND	-
PFUnA 1			-	ND	-
PFDoA 1			-	ND	-
PFTrDA 1			-	ND	-
PFTeDA 1			-	ND	-
13C2-PFHxA	3930	1.39	-	91.26 µg/L	-
18O2-PFHxS	952	1.66	-	89.06 µg/L	-
13C4-PFHpA	5740	1.66	-	93.41 µg/L	-
13C4-PFOA	5498	1.85	-	88.06 µg/L	-
13C4-PFOS	1055	1.97	-	85.13 µg/L	-
13C5-PFNA	5348	1.99	-	89.71 µg/L	-
13C2-PFDA	3963	2.11	-	87.90 µg/L	-
13C2-PFUnA	4213	2.21	-	83.72 µg/L	-
13C2-PFDoA	5348	2.29	-	80.29 µg/L	-
13C2-PFTeDA	6513	2.44	-	72.71 µg/L	-
13C6-PFHxA	18366	1.39	-	2.45 µg/L	-
13C9-PFDA	25066	2.11	-	2.43 µg/L	-

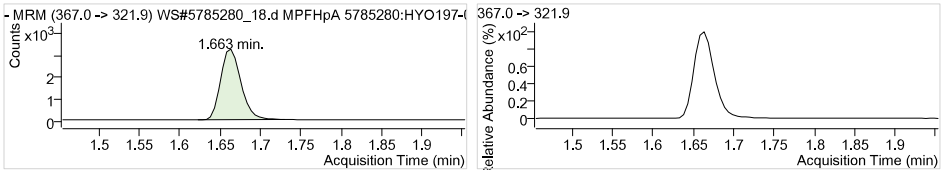




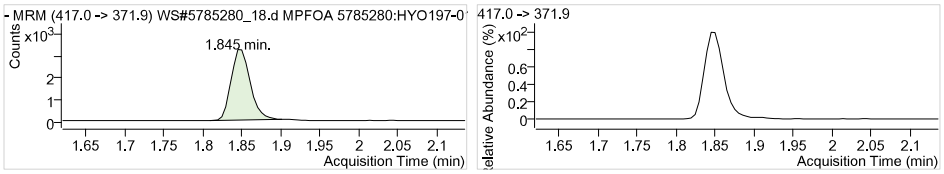
MPFHxA	Internal Standard
RT (Exp. RT):	1.390 (1.395)
Concentration:	1 µg/L
Sample type:	Sample



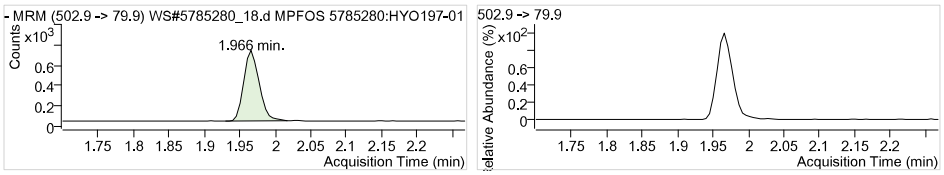
MPFHxS Internal Standard
RT (Exp. RT): 1.662 (1.668)
Concentration: 1 µg/L
Sample type: Sample



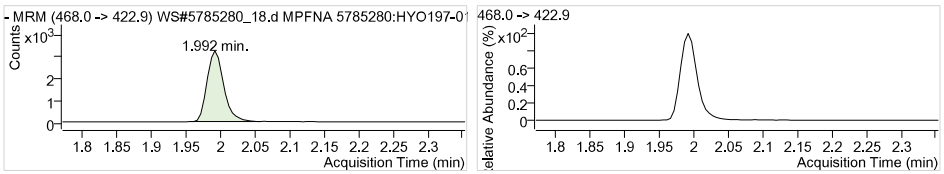
MPFHpA Internal Standard
RT (Exp. RT): 1.663 (1.663)
Concentration: 1 µg/L
Sample type: Sample



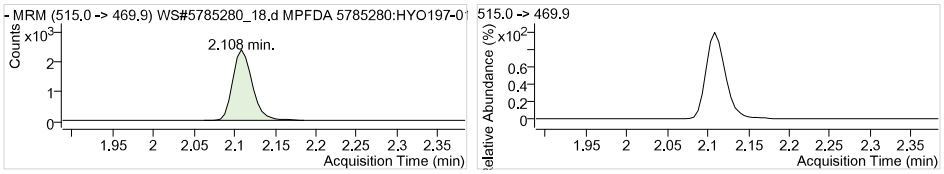
MPFOA Internal Standard
RT (Exp. RT): 1.845 (1.845)
Concentration: 1 µg/L
Sample type: Sample



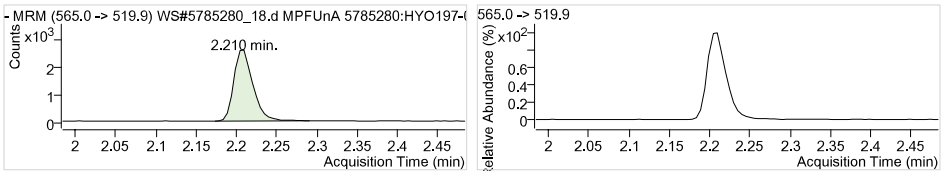
MPFOS Internal Standard
RT (Exp. RT): 1.966 (1.966)
Concentration: 1 µg/L
Sample type: Sample



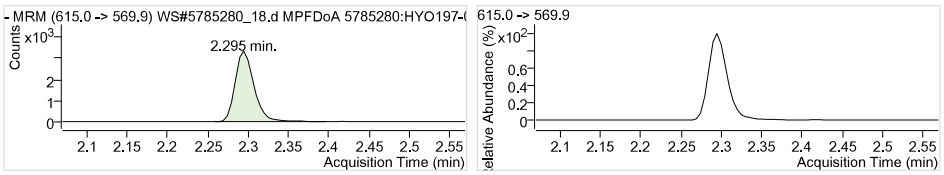
MPFNA Internal Standard
RT (Exp. RT): 1.992 (1.992)
Concentration: 1 µg/L
Sample type: Sample



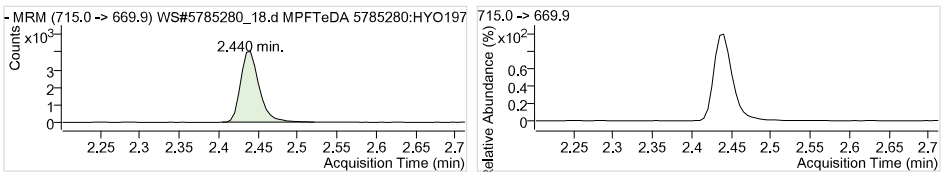
MPFDA Internal Standard
RT (Exp. RT): 2.108 (2.108)
Concentration: 1 µg/L
Sample type: Sample



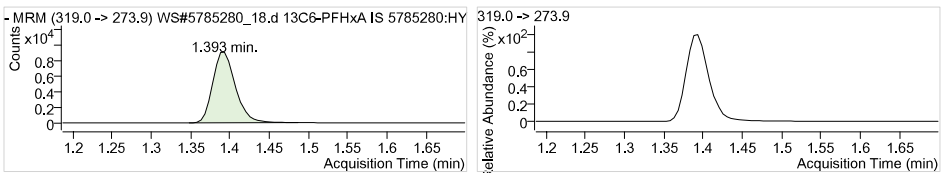
MPFUnA Internal Standard
RT (Exp. RT): 2.210 (2.210)
Concentration: 1 µg/L
Sample type: Sample



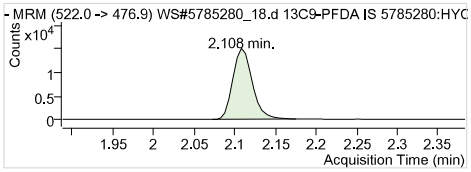
MPFDoA Internal Standard
RT (Exp. RT): 2.295 (2.295)
Concentration: 1 µg/L
Sample type: Sample

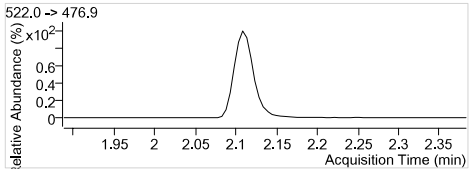


MPFTeDA Internal Standard
RT (Exp. RT): 2.440 (2.440)
Concentration: 1 µg/L
Sample type: Sample

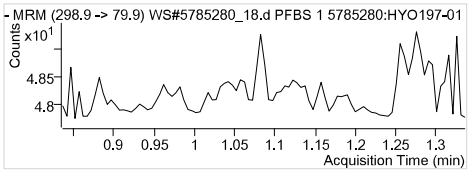


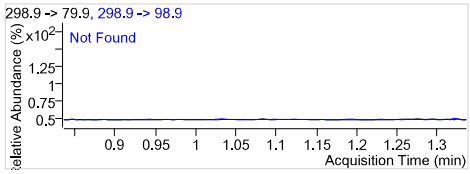
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.393 (1.393)
Concentration: 1 µg/L
Sample type: Sample



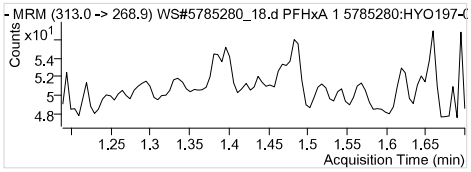


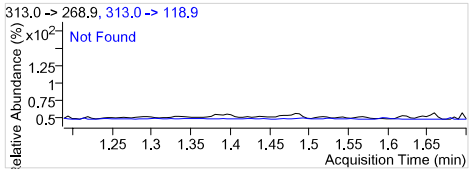
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.108 (2.108)
Concentration: 1 µg/L
Sample type: Sample



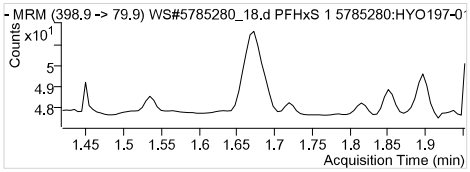


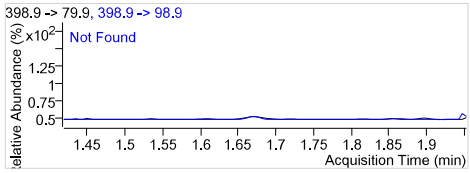
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 0.000 (1.067)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



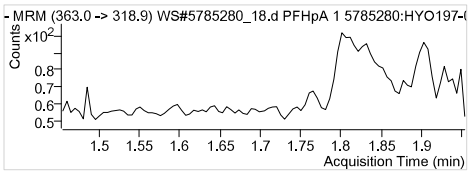


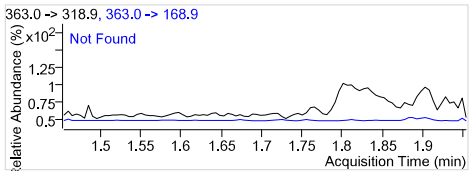
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 0.000 (1.391)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



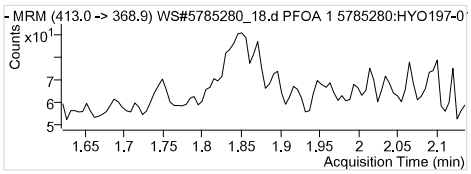


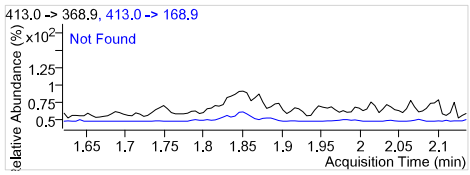
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 0.000 (1.663)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



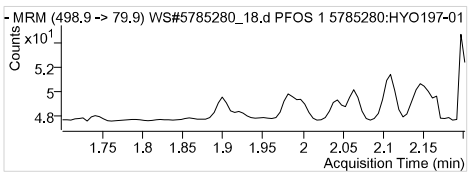


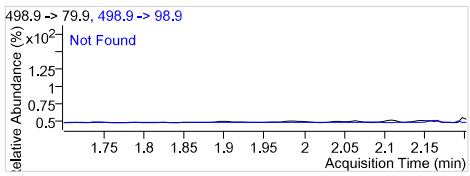
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 0.000 (1.664)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



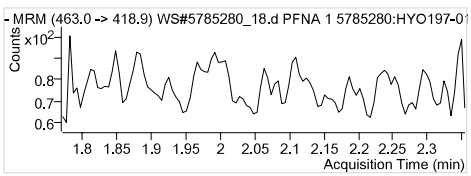


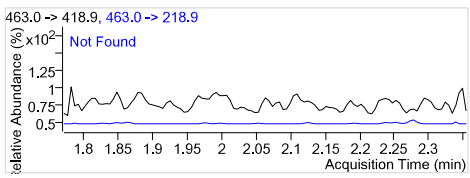
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 0.000 (1.845)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



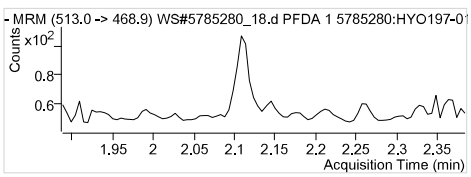


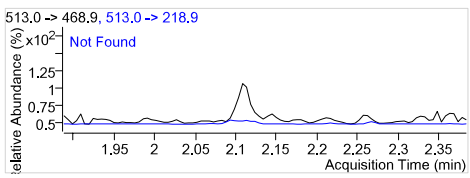
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 0.000 (1.966)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



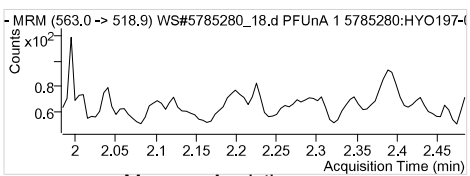


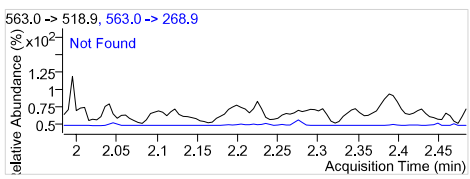
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 0.000 (1.992)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



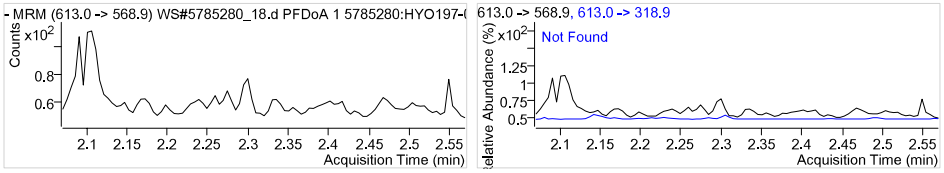


PFDA 1 513.0 -> 468.9
RT (Exp. RT): 0.000 (2.108)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample

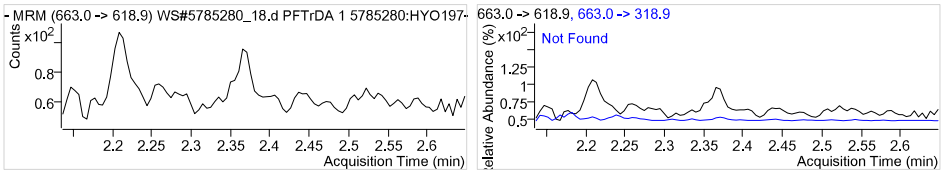




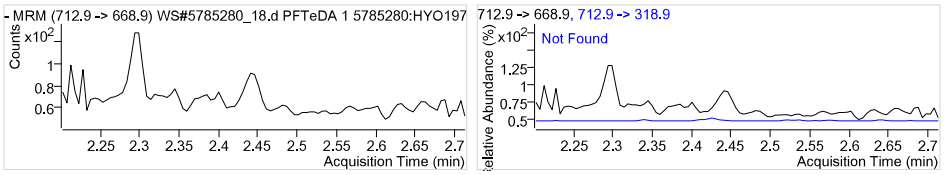
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 0.000 (2.210)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



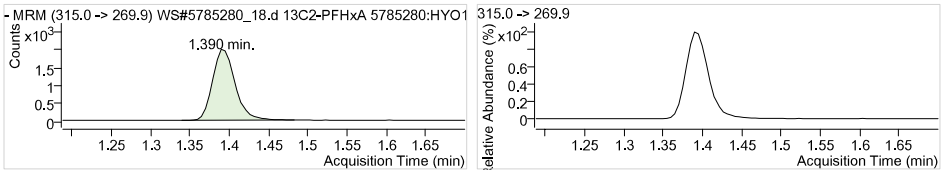
PFDoA 1	613.0 -> 568.9
RT (Exp. RT):	0.000 (2.295)
Calc. conc.	N.D.
Area ratio:	0
Sample type:	Sample



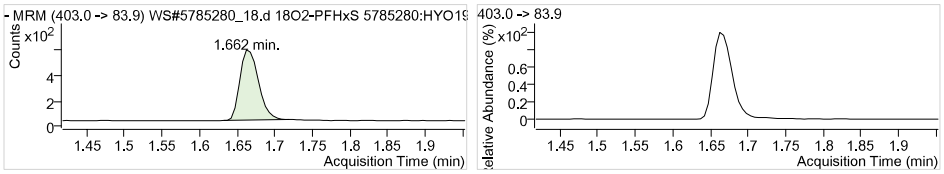
PFTrDA 1	663.0 -> 618.9
RT (Exp. RT):	0.000 (2.370)
Calc. conc.	N.D.
Area ratio:	0
Sample type:	Sample



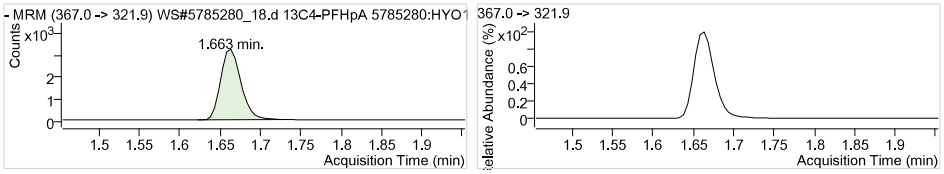
PFTeDA 1	712.9 -> 668.9
RT (Exp. RT):	0.000 (2.441)
Calc. conc.	N.D.
Area ratio:	0
Sample type:	Sample



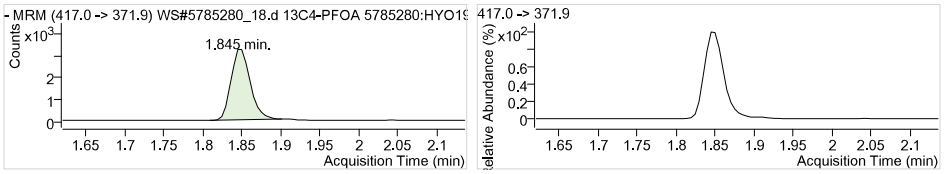
13C2-PFHxA	315.0 -> 269.9
RT (Exp. RT):	1.390 (1.395)
Calc. conc.	91.26 µg/L
Area ratio:	0.21398
Sample type:	Sample



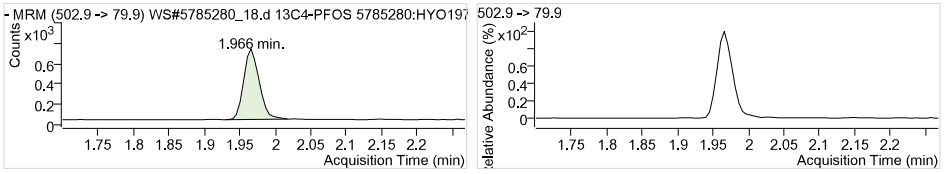
18O2-PFHxS	403.0 -> 83.9
RT (Exp. RT):	1.662 (1.668)
Calc. conc.	89.06 µg/L
Area ratio:	0.05183
Sample type:	Sample



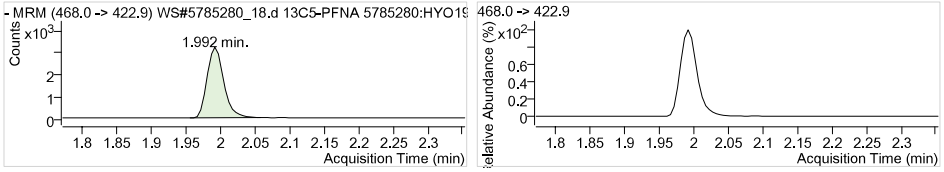
13C4-PFHpA	367.0 -> 321.9
RT (Exp. RT):	1.663 (1.663)
Calc. conc.	93.41 µg/L
Area ratio:	0.31253
Sample type:	Sample



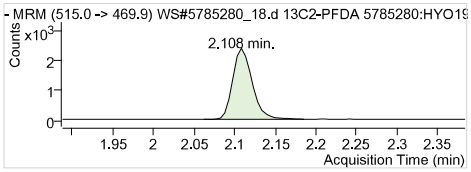
13C4-PFOA	417.0 -> 371.9
RT (Exp. RT):	1.845 (1.845)
Calc. conc.	88.06 µg/L
Area ratio:	0.29936
Sample type:	Sample

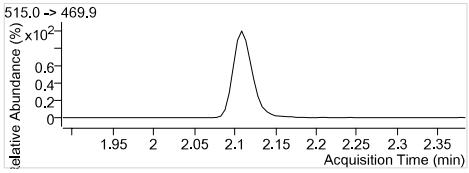


13C4-PFOS	502.9 -> 79.9
RT (Exp. RT):	1.966 (1.966)
Calc. conc.	85.13 µg/L
Area ratio:	0.05744
Sample type:	Sample

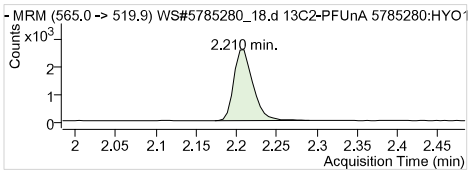


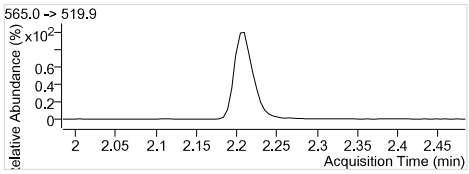
13C5-PFNA	468.0 -> 422.9
RT (Exp. RT):	1.992 (1.992)
Calc. conc.	89.71 µg/L
Area ratio:	0.29119
Sample type:	Sample



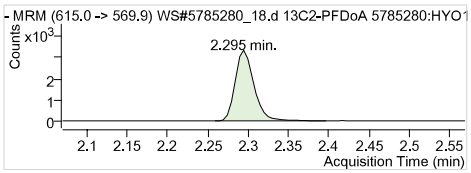


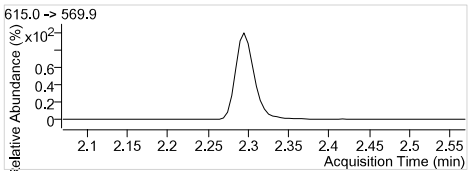
13C2-PFDA	515.0 -> 469.9
RT (Exp. RT):	2.108 (2.108)
Calc. conc.	87.90 µg/L
Area ratio:	0.15810
Sample type:	Sample



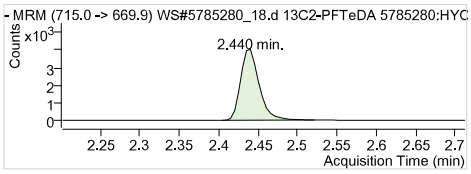


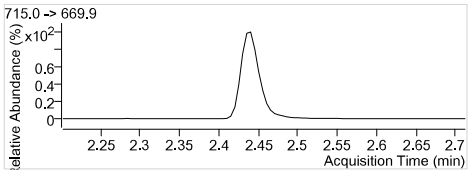
13C2-PFUnA	565.0 -> 519.9
RT (Exp. RT):	2.210 (2.210)
Calc. conc.	83.72 µg/L
Area ratio:	0.16808
Sample type:	Sample



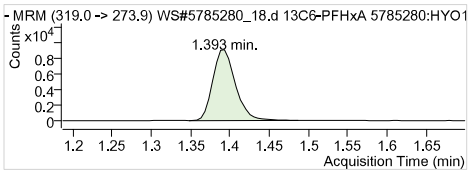


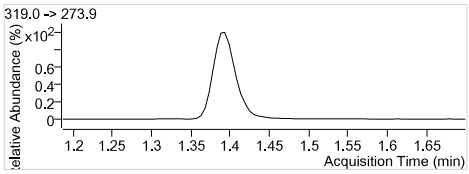
13C2-PFDoA	615.0 -> 569.9
RT (Exp. RT):	2.295 (2.295)
Calc. conc.	80.29 µg/L
Area ratio:	0.21336
Sample type:	Sample



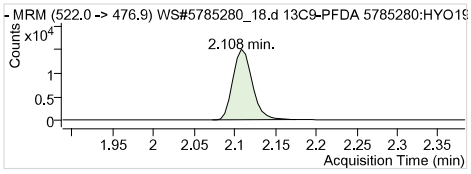


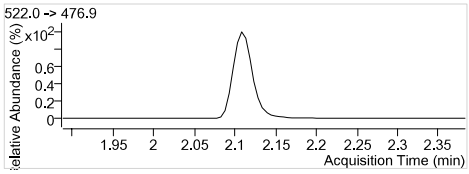
13C2-PFTeDA	715.0 -> 669.9
RT (Exp. RT):	2.440 (2.440)
Calc. conc.	72.71 µg/L
Area ratio:	0.25983
Sample type:	Sample





13C6-PFHxA	319.0 -> 273.9
RT (Exp. RT):	1.393 (1.393)
Calc. conc.	2.45 µg/L
Area ratio:	0
Sample type:	Sample





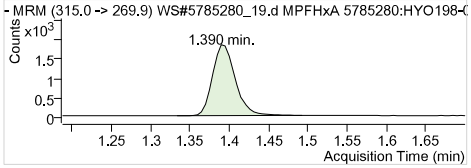
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	2.108 (2.108)
Calc. conc.	2.43 µg/L
Area ratio:	0
Sample type:	Sample

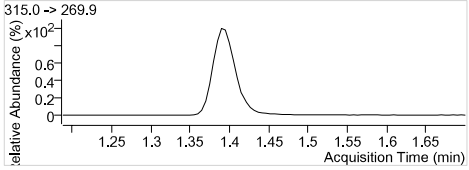
Batch Path	T:\LCMS04\PFC\20181017\WS#5785280\QuantResults\PFC_Water_Low_20181017_WS#5785280_EToxics

Sample Name	**5785280:HYO198-01**	**Instrument**	LCMS04
Data File	WS#5785280_19.d	**Operator**	
Sample Type	Sample	**Dilution**	0.024
Acq. Method	PFC_Water_Low.m	**Position**	P4-B8
Acq. Date	2018/10/18 3:36:22 AM	**Injection Volume**	Per Method
Sample Annotation	-		

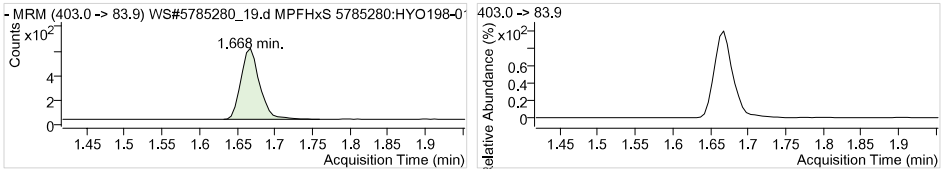
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	3688	1.39	1 µg/L		
MPFHxS	995	1.67	1 µg/L		
MPFHpA	5466	1.66	1 µg/L		
MPFOA	5511	1.85	1 µg/L		
MPFOS	1116	1.97	1 µg/L		
MPFNA	5300	1.99	1 µg/L		
MPFDA	3973	2.11	1 µg/L		
MPFUnA	4422	2.21	1 µg/L		
MPFDoA	5624	2.29	1 µg/L		
MPFTeDA	5867	2.44	1 µg/L		
13C6-PFHxA IS	16985	1.39	1 µg/L		
13C9-PFDA IS	23072	2.11	1 µg/L		

Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1			-	ND	-
PFHxA 1	301	1.38	-	0.01 µg/L	-
PFHxS 1	257	1.67	-	0.02 µg/L	-
PFHpA 1	304	1.65	-	0.01 µg/L	-
PFOA 1	323	1.84	-	0.01 µg/L	-
PFOS 1	150	1.93	-	0.01 µg/L	-
PFNA 1			-	ND	-
PFDA 1			-	ND	-
PFUnA 1			-	ND	-
PFDoA 1			-	ND	-
PFTrDA 1			-	ND	-
PFTeDA 1			-	ND	-
13C2-PFHxA	3688	1.39	-	92.60 µg/L	-
18O2-PFHxS	995	1.67	-	100.65 µg/L	-
13C4-PFHpA	5466	1.66	-	96.18 µg/L	-
13C4-PFOA	5511	1.85	-	95.44 µg/L	-
13C4-PFOS	1116	1.97	-	97.38 µg/L	-
13C5-PFNA	5300	1.99	-	96.13 µg/L	-
13C2-PFDA	3973	2.11	-	95.73 µg/L	-
13C2-PFUnA	4422	2.21	-	95.47 µg/L	-
13C2-PFDoA	5624	2.29	-	91.73 µg/L	-
13C2-PFTeDA	5867	2.44	-	71.16 µg/L	-
13C6-PFHxA	16985	1.39	-	2.26 µg/L	-
13C9-PFDA	23072	2.11	-	2.24 µg/L	-

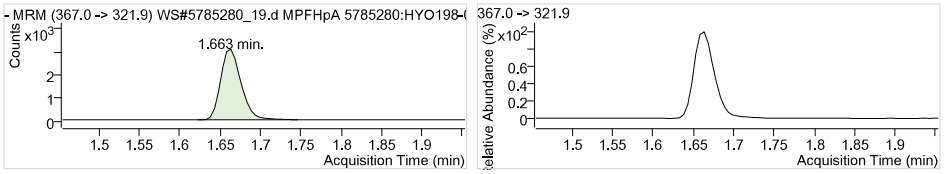




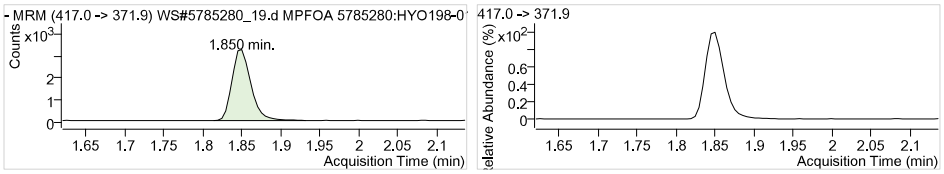
MPFHxA	Internal Standard
RT (Exp. RT):	1.390 (1.395)
Concentration:	1 µg/L
Sample type:	Sample



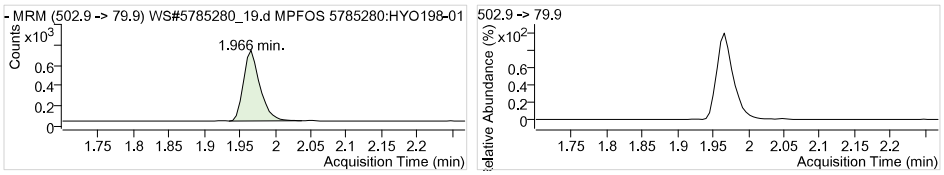
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Sample



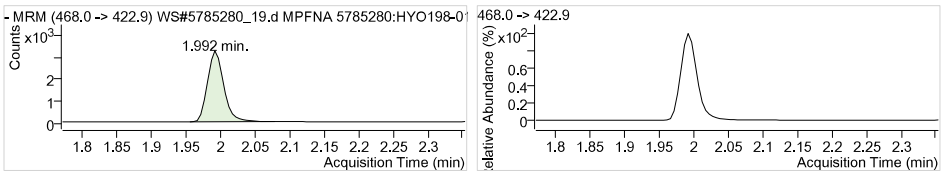
MPFHpA Internal Standard
RT (Exp. RT): 1.663 (1.663)
Concentration: 1 µg/L
Sample type: Sample



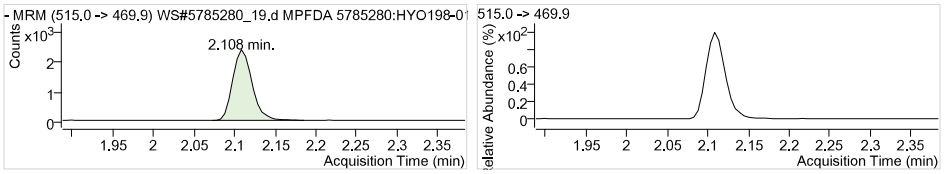
MPFOA Internal Standard
RT (Exp. RT): 1.850 (1.845)
Concentration: 1 µg/L
Sample type: Sample



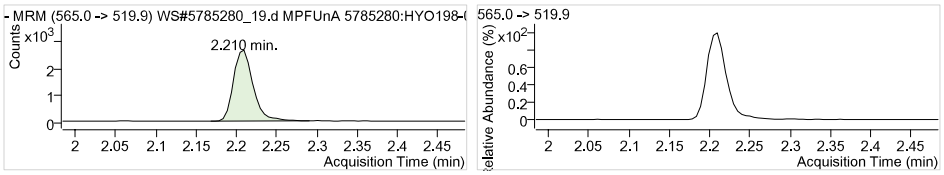
MPFOS Internal Standard
RT (Exp. RT): 1.966 (1.966)
Concentration: 1 µg/L
Sample type: Sample



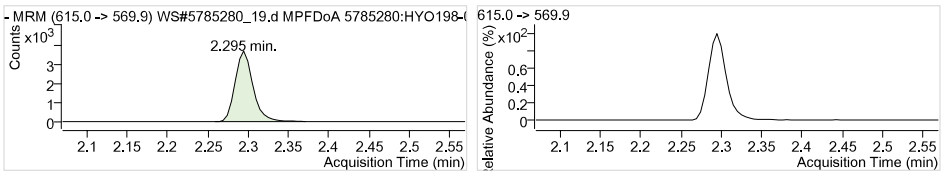
MPFNA Internal Standard
RT (Exp. RT): 1.992 (1.992)
Concentration: 1 µg/L
Sample type: Sample



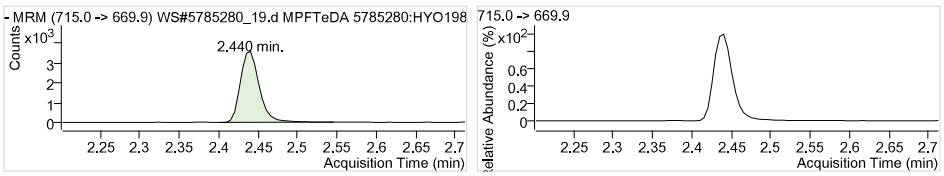
MPFDA Internal Standard
RT (Exp. RT): 2.108 (2.108)
Concentration: 1 µg/L
Sample type: Sample



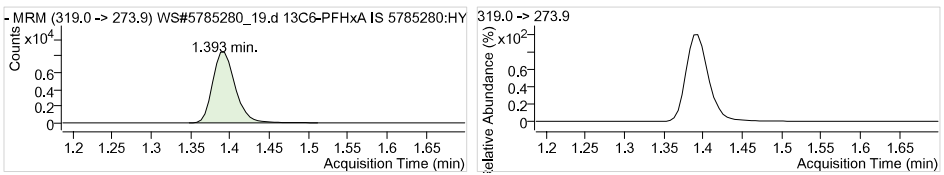
MPFUnA Internal Standard
RT (Exp. RT): 2.210 (2.210)
Concentration: 1 µg/L
Sample type: Sample



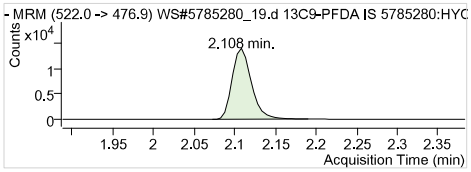
MPFDoA Internal Standard
RT (Exp. RT): 2.295 (2.295)
Concentration: 1 µg/L
Sample type: Sample

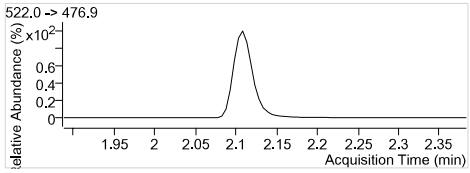


MPFTeDA Internal Standard
RT (Exp. RT): 2.440 (2.440)
Concentration: 1 µg/L
Sample type: Sample

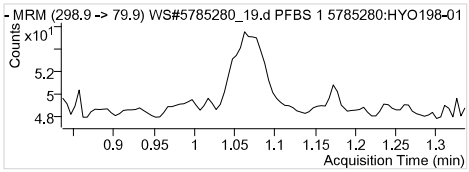


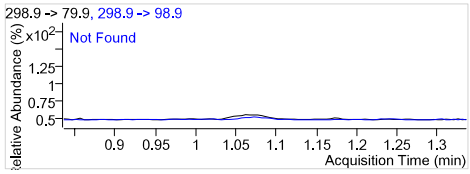
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.393 (1.393)
Concentration: 1 µg/L
Sample type: Sample



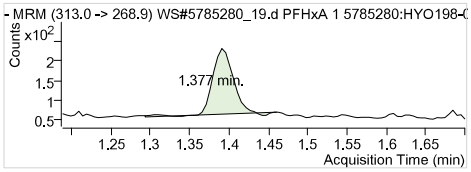


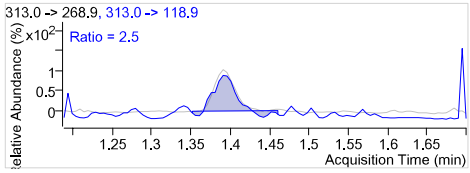
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.108 (2.108)
Concentration: 1 µg/L
Sample type: Sample



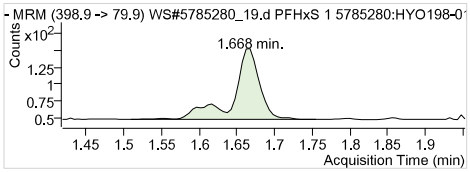


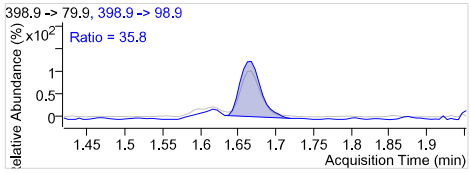
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 0.000 (1.067)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



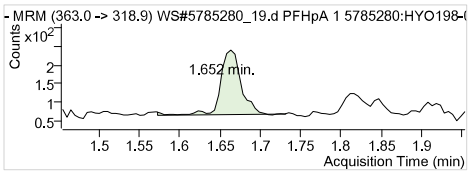


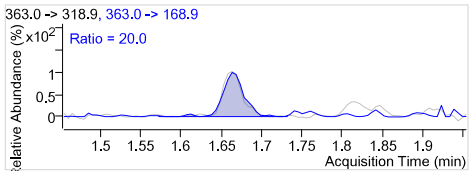
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 1.377 (1.391)
Calc. conc. 0.01 µg/L
Area ratio: 0.08153
Sample type: Sample



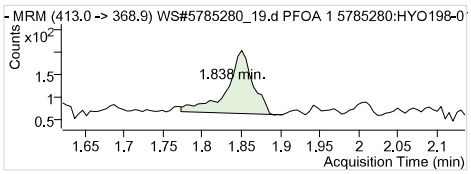


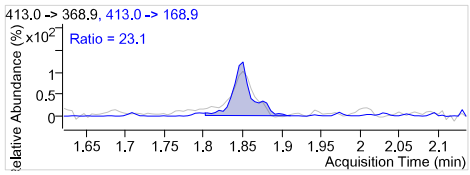
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.663)
Calc. conc. 0.02 µg/L
Area ratio: 0.25829
Sample type: Sample



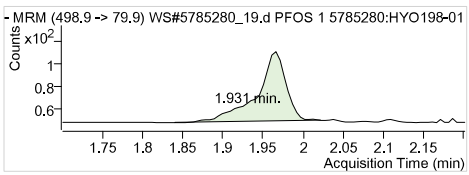


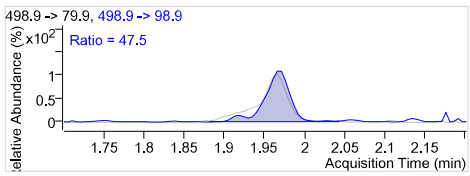
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 1.652 (1.664)
Calc. conc. 0.01 µg/L
Area ratio: 0.05568
Sample type: Sample



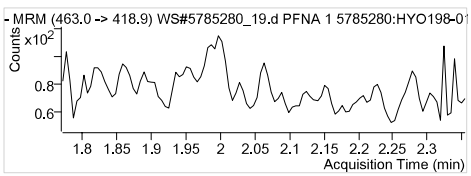


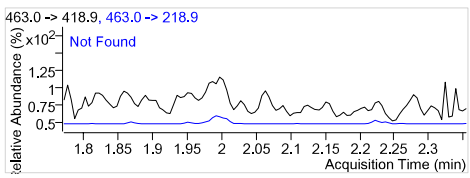
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 1.838 (1.845)
Calc. conc. 0.01 µg/L
Area ratio: 0.05861
Sample type: Sample



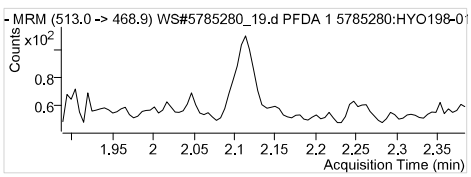


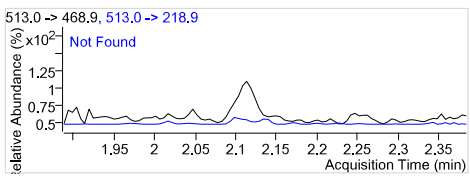
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.931 (1.966)
Calc. conc. 0.01 µg/L
Area ratio: 0.13421
Sample type: Sample



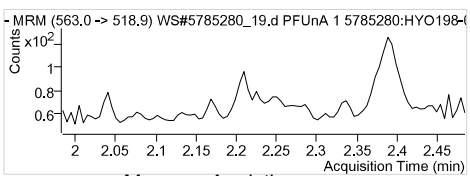


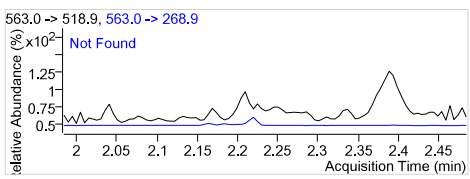
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 0.000 (1.992)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



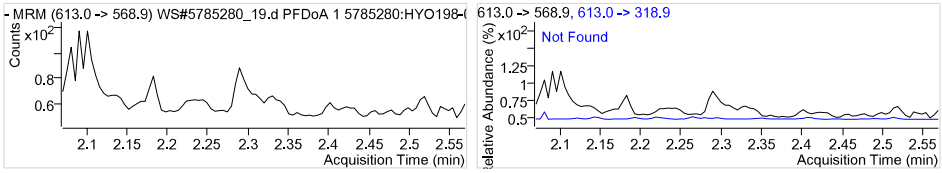


PFDA 1 513.0 -> 468.9
RT (Exp. RT): 0.000 (2.108)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample

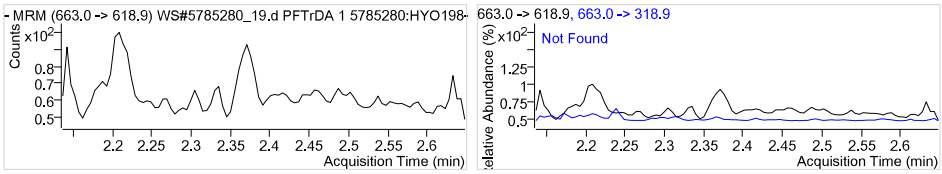




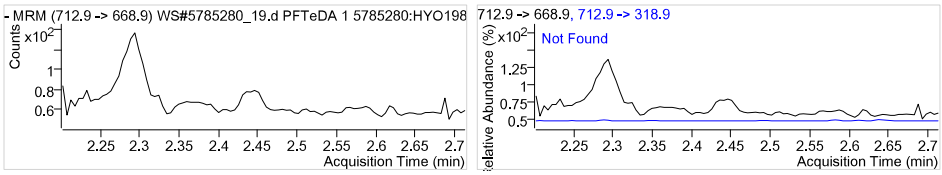
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 0.000 (2.210)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



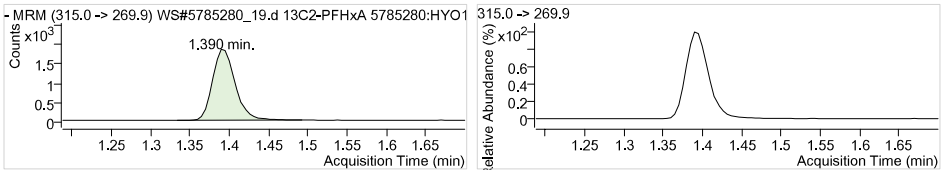
PFDoA 1 613.0 -> 568.9
RT (Exp. RT): 0.000 (2.295)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



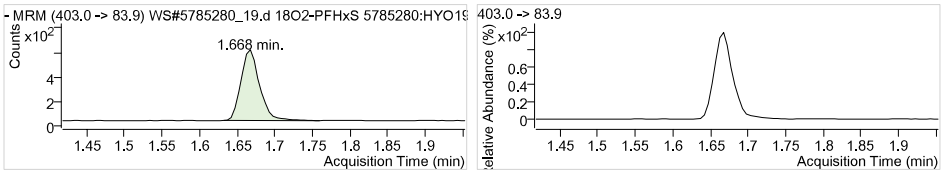
PFTrDA 1 663.0 -> 618.9
RT (Exp. RT): 0.000 (2.370)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



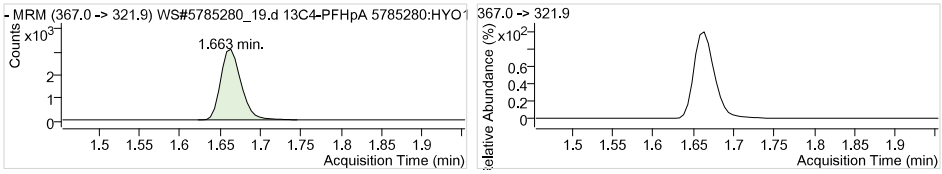
PFTeDA 1 712.9 -> 668.9
RT (Exp. RT): 0.000 (2.441)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



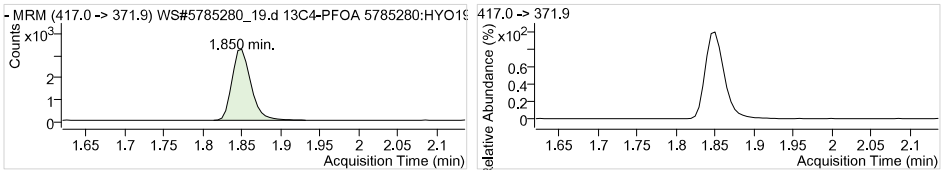
13C2-PFHxA 315.0 -> 269.9
RT (Exp. RT): 1.390 (1.395)
Calc. conc. 92.60 µg/L
Area ratio: 0.21713
Sample type: Sample



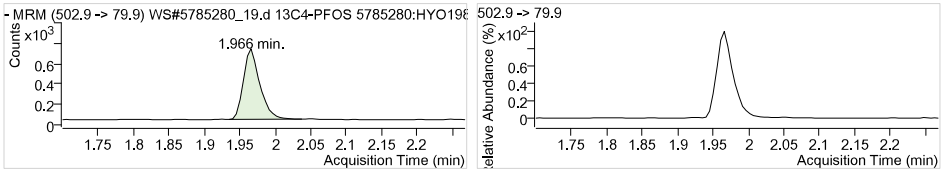
18O2-PFHxS 403.0 -> 83.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 100.65 µg/L
Area ratio: 0.05858
Sample type: Sample



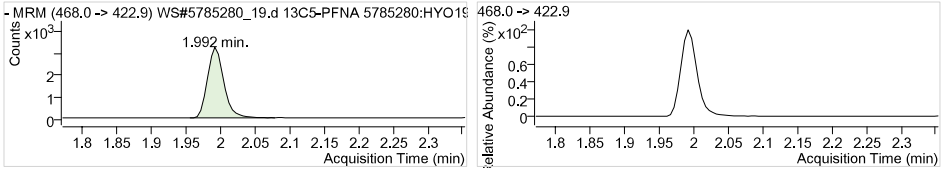
13C4-PFHpA 367.0 -> 321.9
RT (Exp. RT): 1.663 (1.663)
Calc. conc. 96.18 µg/L
Area ratio: 0.32181
Sample type: Sample



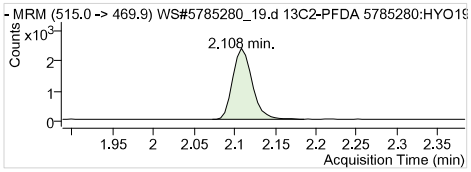
13C4-PFOA 417.0 -> 371.9
RT (Exp. RT): 1.850 (1.845)
Calc. conc. 95.44 µg/L
Area ratio: 0.32446
Sample type: Sample

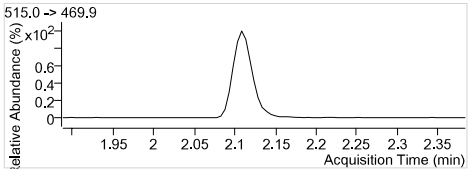


13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.966 (1.966)
Calc. conc. 97.38 µg/L
Area ratio: 0.06571
Sample type: Sample

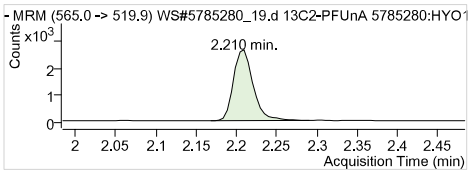


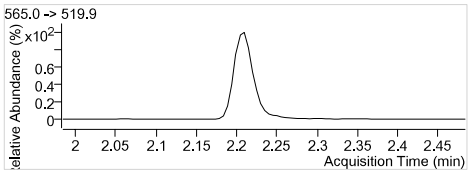
13C5-PFNA 468.0 -> 422.9
RT (Exp. RT): 1.992 (1.992)
Calc. conc. 96.13 µg/L
Area ratio: 0.31204
Sample type: Sample



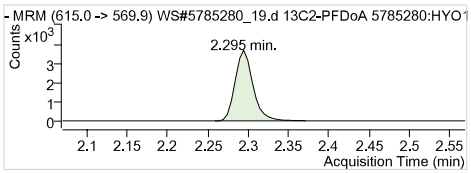


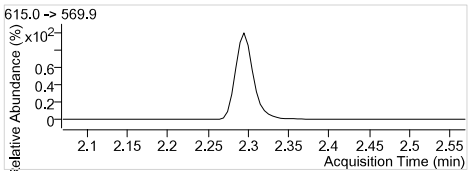
13C2-PFDA	515.0 -> 469.9
RT (Exp. RT):	2.108 (2.108)
Calc. conc.	95.73 µg/L
Area ratio:	0.17220
Sample type:	Sample



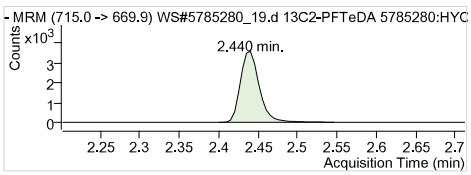


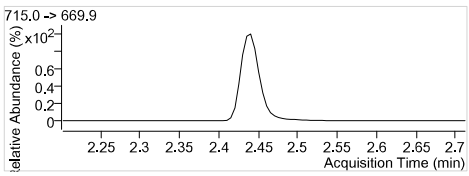
13C2-PFUnA	565.0 -> 519.9
RT (Exp. RT):	2.210 (2.210)
Calc. conc.	95.47 µg/L
Area ratio:	0.19166
Sample type:	Sample



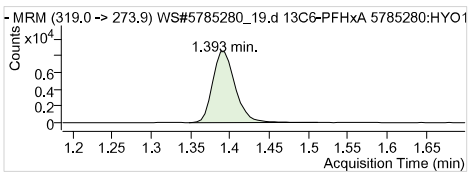


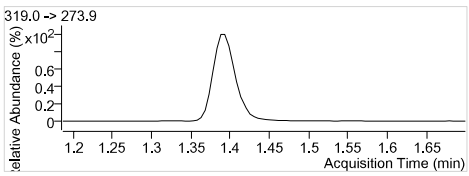
13C2-PFDoA	615.0 -> 569.9
RT (Exp. RT):	2.295 (2.295)
Calc. conc.	91.73 µg/L
Area ratio:	0.24376
Sample type:	Sample



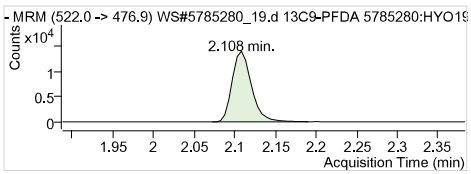


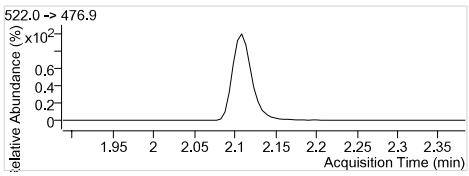
13C2-PFTeDA	715.0 -> 669.9
RT (Exp. RT):	2.440 (2.440)
Calc. conc.	71.16 µg/L
Area ratio:	0.25429
Sample type:	Sample





13C6-PFHxA	319.0 -> 273.9
RT (Exp. RT):	1.393 (1.393)
Calc. conc.	2.26 µg/L
Area ratio:	0
Sample type:	Sample





13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	2.108 (2.108)
Calc. conc.	2.24 µg/L
Area ratio:	0
Sample type:	Sample

Quantitation Results

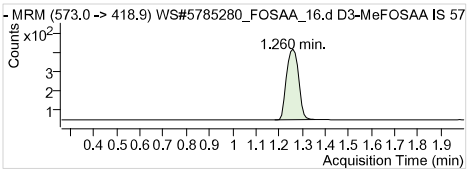
Agilent Technologies

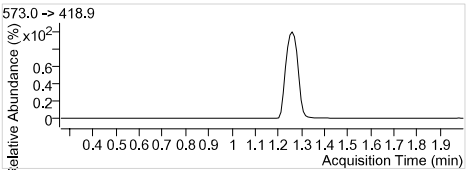
Batch Path	T:\LCMS04\PFC\20181017\WS#5785280_FOSAA\QuantResults\PFC_Water_Low_20181017_WS#5785280_FOSAA_EToxics

Sample Name	**5785280:HYO195-01**	**Instrument**	LCMS04
Data File	WS#5785280_FOSAA_16.d	**Operator**	
Sample Type	Sample	**Dilution**	0.024
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P4-B5
Acq. Date	2018/10/17 7:26:00 PM	**Injection Volume**	Per Method
Sample Annotation	-		

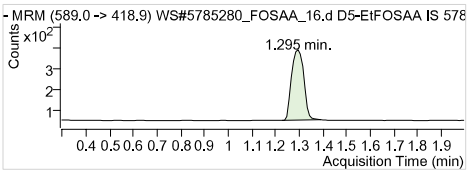
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1331	1.26	1 µg/L		
D5-EtFOSAA IS	1221	1.29	1 µg/L		
13C9-PFDA IS	23235	0.84	1 µg/L		

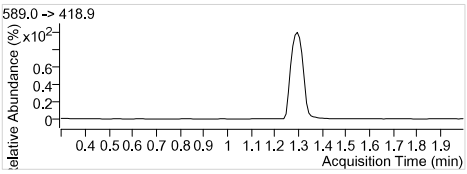
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1			-	ND	-
EtFOSAA 1			-	ND	-
D3-MeFOSAA	1348	1.26	-	74.28 µg/L	-
D5-EtFOSAA	1244	1.29	-	75.27 µg/L	-
13C9-PFDA	22822	0.84	-	2.19 µg/L	-



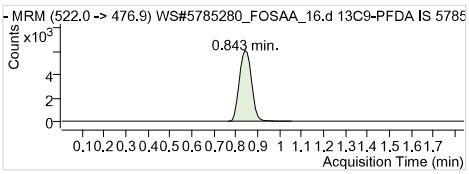


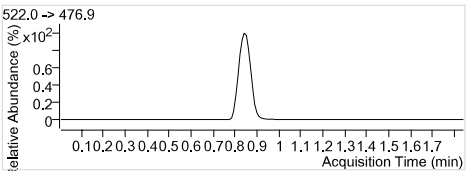
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.260 (1.260)
Concentration: 1 µg/L
Sample type: Sample



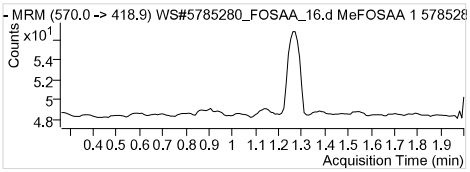


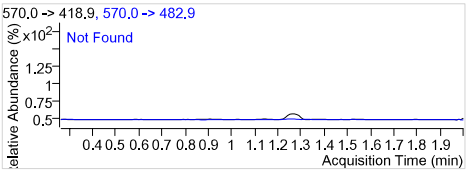
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.295 (1.295)
Concentration: 1 µg/L
Sample type: Sample



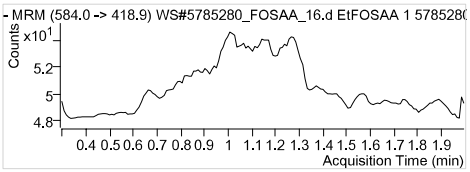


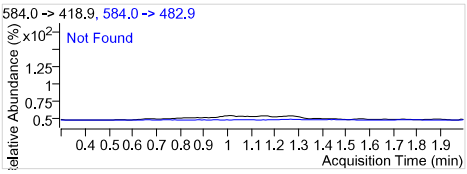
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.843 (0.843)
Concentration: 1 µg/L
Sample type: Sample



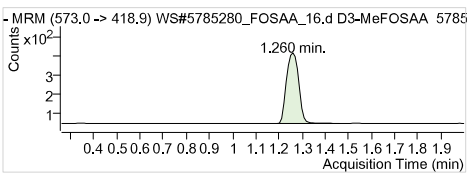


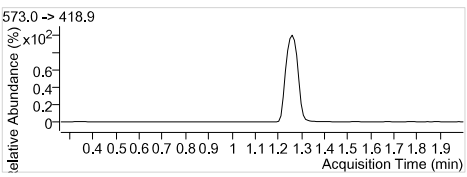
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 0.000 (1.262)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



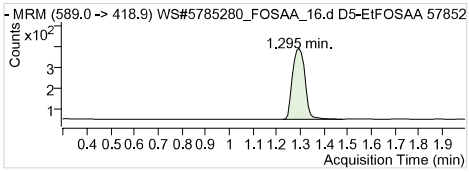


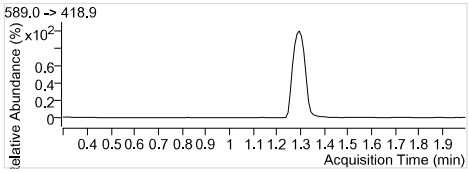
EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 0.000 (1.296)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



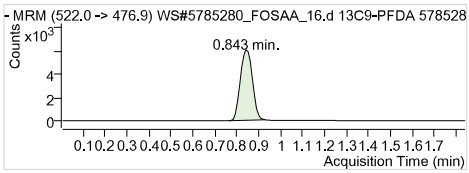


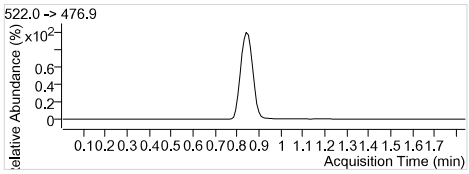
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.260 (1.260)
Calc. conc. 74.28 µg/L
Area ratio: 0.05802
Sample type: Sample





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.295 (1.295)
Calc. conc.	75.27 µg/L
Area ratio:	0.05354
Sample type:	Sample





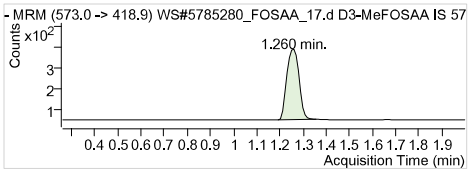
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.843 (0.843)
Calc. conc.	2.19 µg/L
Area ratio:	0
Sample type:	Sample

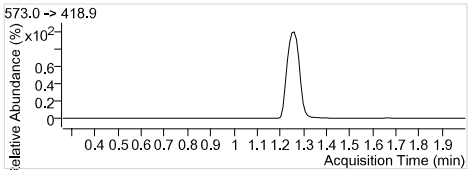
Batch Path	T:\LCMS04\PFC\20181017\WS#5785280_FOSAA\QuantResults\PFC_Water_Low_20181017_WS#5785280_FOSAA_EToxics

Sample Name	**5785280:HYO196-01**	**Instrument**	LCMS04
Data File	WS#5785280_FOSAA_17.d	**Operator**	
Sample Type	Sample	**Dilution**	0.024
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P4-B6
Acq. Date	2018/10/17 7:28:23 PM	**Injection Volume**	Per Method
Sample Annotation	-		

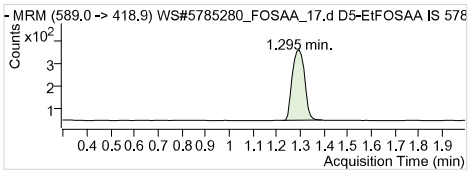
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1258	1.26	1 µg/L		
D5-EtFOSAA IS	1139	1.29	1 µg/L		
13C9-PFDA IS	22226	0.84	1 µg/L		

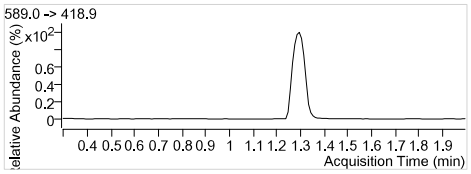
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1			-	ND	-
EtFOSAA 1			-	ND	-
D3-MeFOSAA	1275	1.26	-	73.45 µg/L	-
D5-EtFOSAA	1144	1.29	-	72.36 µg/L	-
13C9-PFDA	21889	0.84	-	2.10 µg/L	-



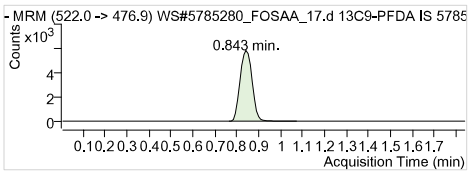


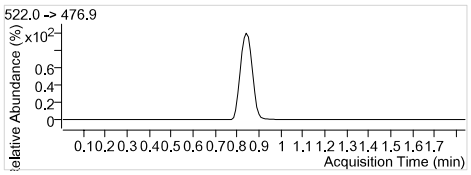
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.260 (1.260)
Concentration: 1 µg/L
Sample type: Sample



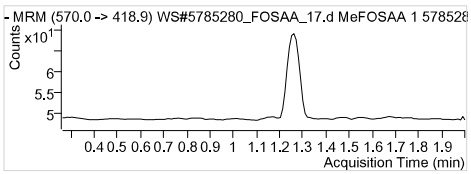


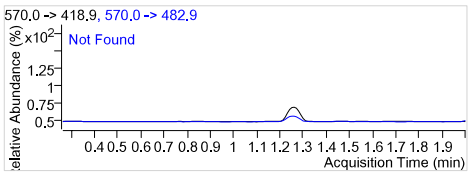
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.295 (1.295)
Concentration: 1 µg/L
Sample type: Sample



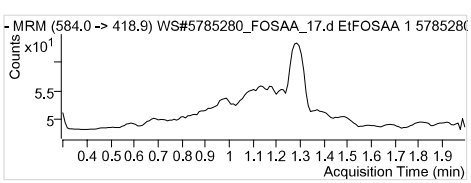


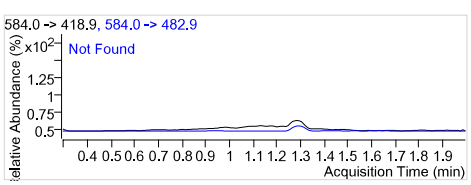
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.843 (0.843)
Concentration: 1 µg/L
Sample type: Sample



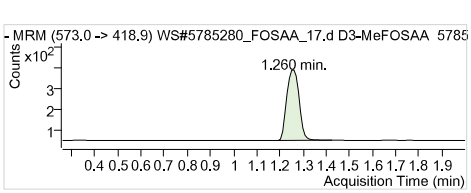


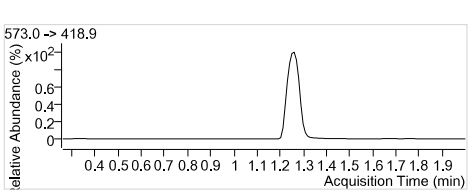
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 0.000 (1.262)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



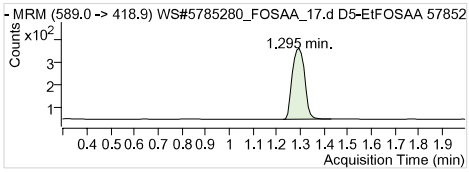


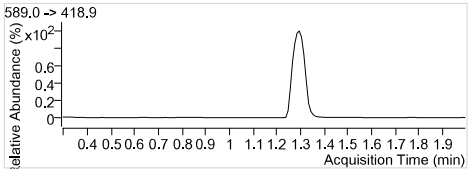
EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 0.000 (1.296)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



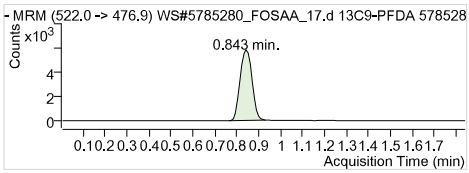


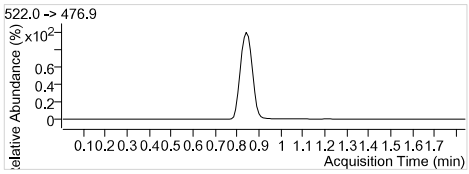
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.260 (1.260)
Calc. conc. 73.45 µg/L
Area ratio: 0.05737
Sample type: Sample





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.295 (1.295)
Calc. conc.	72.36 µg/L
Area ratio:	0.05147
Sample type:	Sample





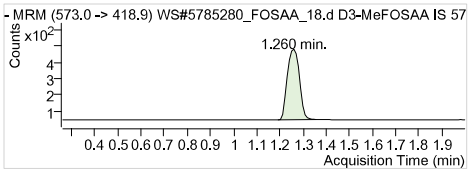
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.843 (0.843)
Calc. conc.	2.10 µg/L
Area ratio:	0
Sample type:	Sample

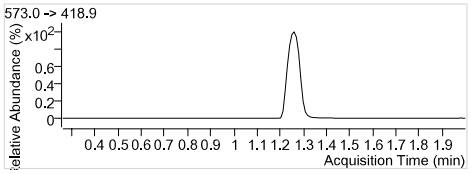
Batch Path	T:\LCMS04\PFC\20181017\WS#5785280_FOSAA\QuantResults\PFC_Water_Low_20181017_WS#5785280_FOSAA_EToxics

Sample Name	**5785280:HYO197-01**	**Instrument**	LCMS04
Data File	WS#5785280_FOSAA_18.d	**Operator**	
Sample Type	Sample	**Dilution**	0.024
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P4-B7
Acq. Date	2018/10/17 7:30:46 PM	**Injection Volume**	Per Method
Sample Annotation	-		

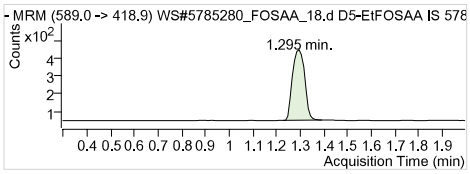
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1553	1.26	1 µg/L		
D5-EtFOSAA IS	1425	1.29	1 µg/L		
13C9-PFDA IS	25461	0.84	1 µg/L		

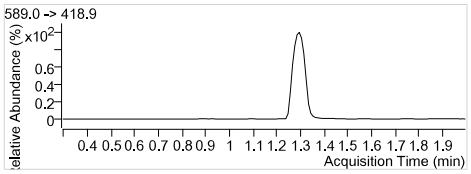
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1			-	ND	-
EtFOSAA 1			-	ND	-
D3-MeFOSAA	1577	1.26	-	79.30 µg/L	-
D5-EtFOSAA	1431	1.29	-	79.01 µg/L	-
13C9-PFDA	24982	0.84	-	2.40 µg/L	-



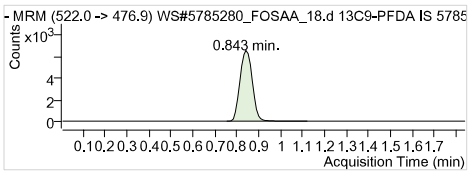


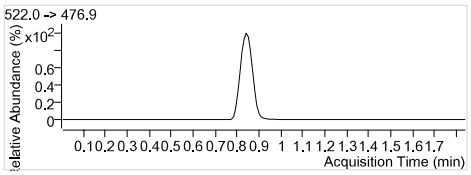
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.260 (1.260)
Concentration: 1 µg/L
Sample type: Sample



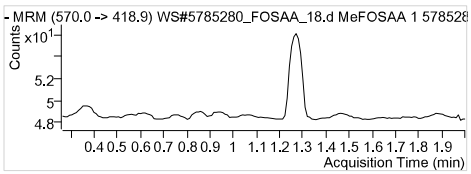


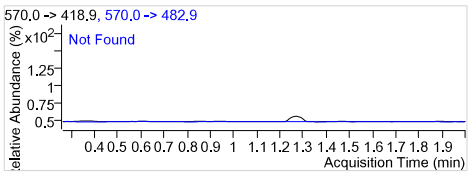
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.295 (1.295)
Concentration: 1 µg/L
Sample type: Sample



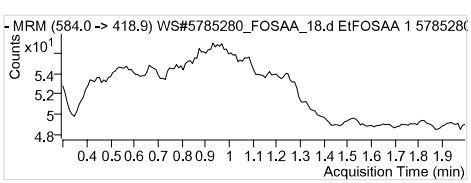


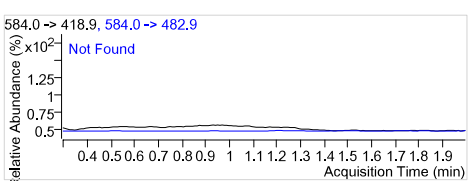
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.843 (0.843)
Concentration: 1 µg/L
Sample type: Sample



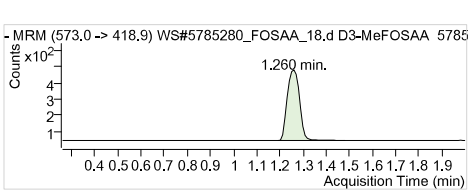


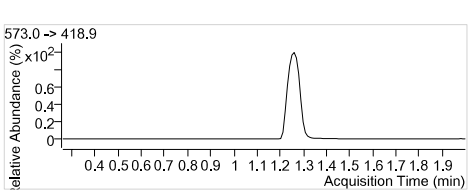
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 0.000 (1.262)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



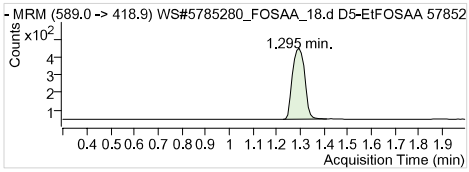


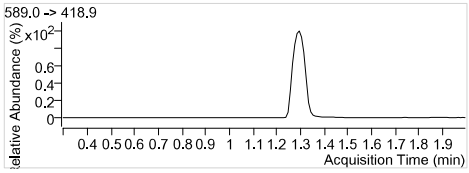
EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 0.000 (1.296)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



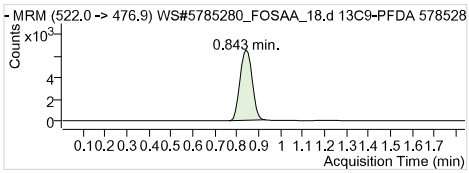


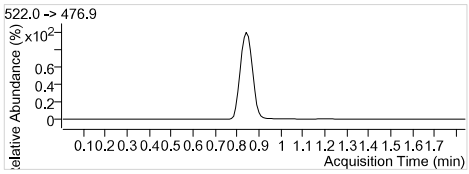
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.260 (1.260)
Calc. conc. 79.30 µg/L
Area ratio: 0.06194
Sample type: Sample





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.295 (1.295)
Calc. conc.	79.01 µg/L
Area ratio:	0.05620
Sample type:	Sample





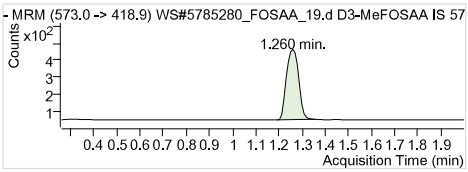
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.843 (0.843)
Calc. conc.	2.40 µg/L
Area ratio:	0
Sample type:	Sample

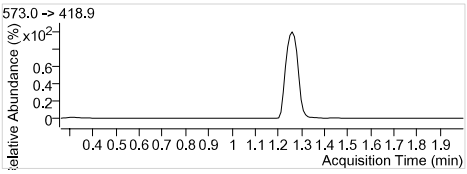
Batch Path	T:\LCMS04\PFC\20181017\WS#5785280_FOSAA\QuantResults\PFC_Water_Low_20181017_WS#5785280_FOSAA_EToxics

Sample Name	**5785280:HYO198-01**	**Instrument**	LCMS04
Data File	WS#5785280_FOSAA_19.d	**Operator**	
Sample Type	Sample	**Dilution**	0.024
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P4-B8
Acq. Date	2018/10/17 7:33:09 PM	**Injection Volume**	Per Method
Sample Annotation	-		

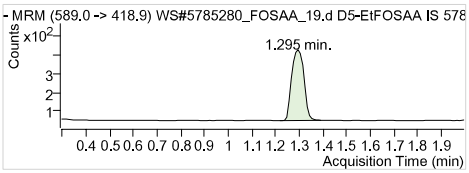
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1501	1.26	1 µg/L		
D5-EtFOSAA IS	1354	1.29	1 µg/L		
13C9-PFDA IS	21523	0.84	1 µg/L		

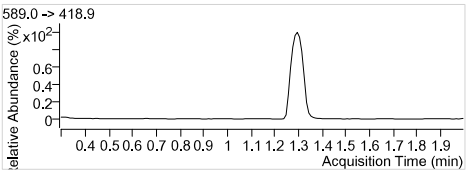
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1			-	ND	-
EtFOSAA 1			-	ND	-
D3-MeFOSAA	1517	1.26	-	90.24 µg/L	-
D5-EtFOSAA	1365	1.29	-	89.16 µg/L	-
13C9-PFDA	21355	0.84	-	2.05 µg/L	-



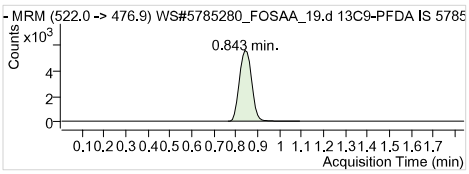


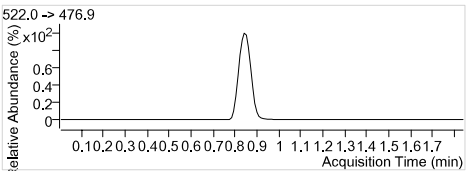
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.260 (1.260)
Concentration: 1 µg/L
Sample type: Sample



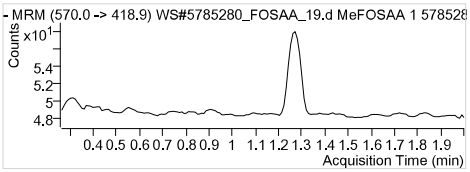


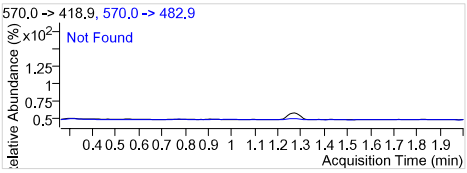
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.295 (1.295)
Concentration: 1 µg/L
Sample type: Sample



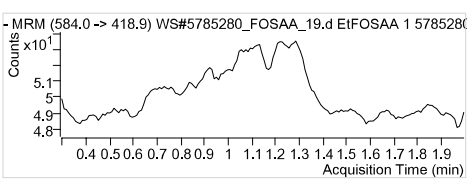


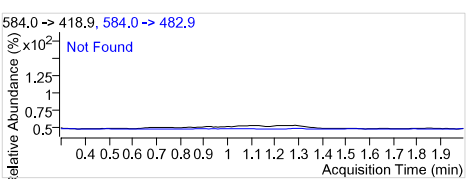
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.843 (0.843)
Concentration: 1 µg/L
Sample type: Sample



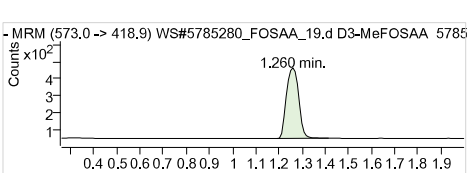


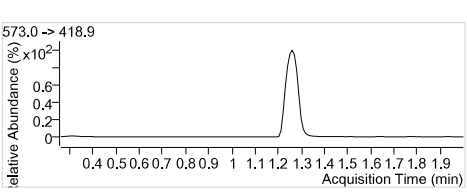
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 0.000 (1.262)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



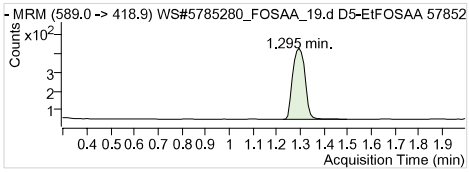


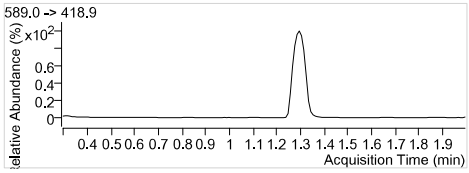
EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 0.000 (1.296)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



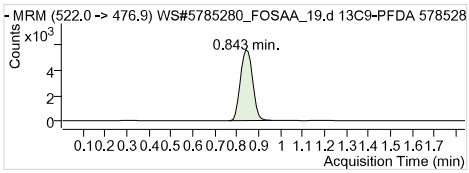


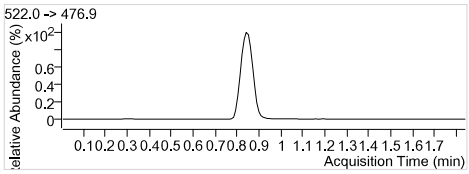
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.260 (1.260)
Calc. conc. 90.24 µg/L
Area ratio: 0.07048
Sample type: Sample





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.295 (1.295)
Calc. conc.	89.16 µg/L
Area ratio:	0.06342
Sample type:	Sample





13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.843 (0.843)
Calc. conc.	2.05 µg/L
Area ratio:	0
Sample type:	Sample



4. QA/QC Data

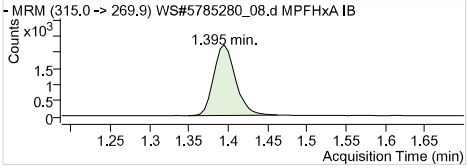
Maxxam Analytics International
6740 Campobello Rd
Mississauga, Ontario, Canada
L5N 2L8
1-800-668-0639
www.maxxamanalytics.com

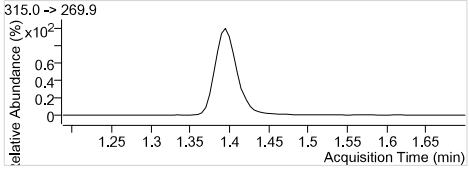
Batch Path	T:\LCMS04\PFC\20181017\WS#5785280\QuantResults\PFC_Water_Low_20181017_WS#5785280_EToxics

Sample Name	**IB**	**Instrument**	LCMS04
Data File	WS#5785280_08.d	**Operator**	
Sample Type	Sample	**Dilution**	1
Acq. Method	PFC_Water_Low.m	**Position**	P4-A8
Acq. Date	2018/10/18 2:42:21 AM	**Injection Volume**	Per Method
Sample Annotation	-		

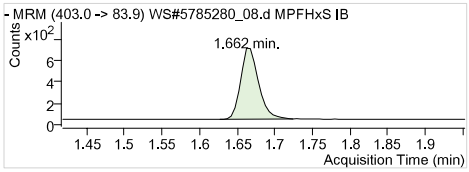
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	4224	1.39	1 µg/L		
MPFHxS	1124	1.66	1 µg/L		
MPFHpA	6052	1.66	1 µg/L		
MPFOA	6125	1.85	1 µg/L		
MPFOS	1160	1.97	1 µg/L		
MPFNA	5881	1.99	1 µg/L		
MPFDA	4640	2.11	1 µg/L		
MPFUnA	5019	2.21	1 µg/L		
MPFDoA	6714	2.29	1 µg/L		
MPFTeDA	9271	2.44	1 µg/L		
13C6-PFHxA IS	18407	1.39	1 µg/L		
13C9-PFDA IS	25703	2.11	1 µg/L		

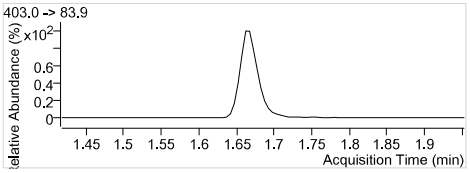
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1			-	ND	-
PFHxA 1			-	ND	-
PFHxS 1			-	ND	-
PFHpA 1			-	ND	-
PFOA 1			-	ND	-
PFOS 1			-	ND	-
PFNA 1			-	ND	-
PFDA 1			-	ND	-
PFUnA 1			-	ND	-
PFDoA 1			-	ND	-
PFTrDA 1			-	ND	-
PFTeDA 1			-	ND	-
13C2-PFHxA	4224	1.39	-	97.87 µg/L	-
18O2-PFHxS	1124	1.66	-	104.91 µg/L	-
13C4-PFHpA	6052	1.66	-	98.26 µg/L	-
13C4-PFOA	6125	1.85	-	97.88 µg/L	-
13C4-PFOS	1160	1.97	-	93.40 µg/L	-
13C5-PFNA	5881	1.99	-	98.43 µg/L	-
13C2-PFDA	4640	2.11	-	100.36 µg/L	-
13C2-PFUnA	5019	2.21	-	97.27 µg/L	-
13C2-PFDoA	6714	2.29	-	98.30 µg/L	-
13C2-PFTeDA	9271	2.44	-	100.93 µg/L	-
13C6-PFHxA	18407	1.39	-	102.12 µg/L	-
13C9-PFDA	25703	2.11	-	103.93 µg/L	-



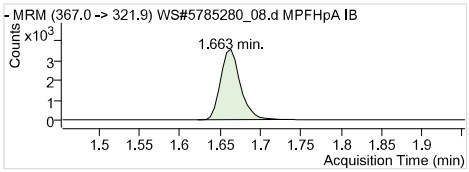


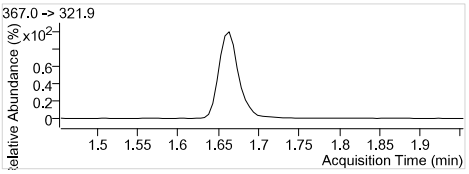
MPFHxA	Internal Standard
RT (Exp. RT):	1.395 (1.395)
Concentration:	1 µg/L
Sample type:	Sample



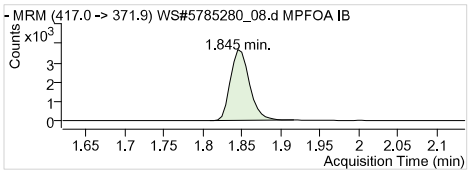


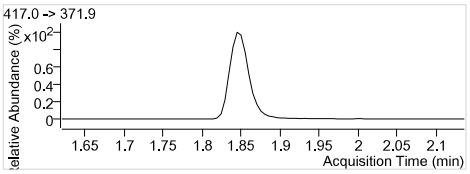
MPFHxS Internal Standard
RT (Exp. RT): 1.662 (1.668)
Concentration: 1 µg/L
Sample type: Sample



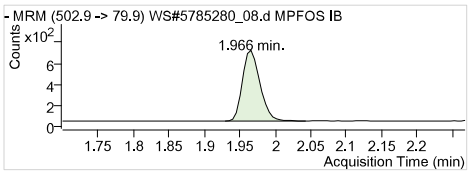


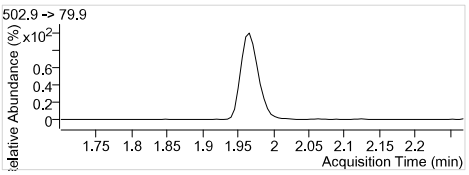
MPFHpA Internal Standard
RT (Exp. RT): 1.663 (1.663)
Concentration: 1 µg/L
Sample type: Sample



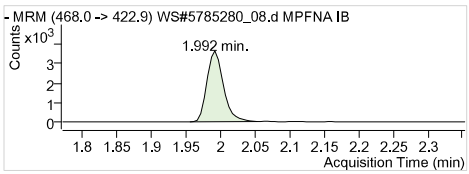


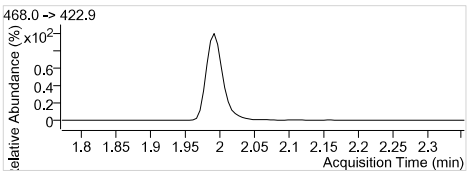
MPFOA Internal Standard
RT (Exp. RT): 1.845 (1.845)
Concentration: 1 µg/L
Sample type: Sample



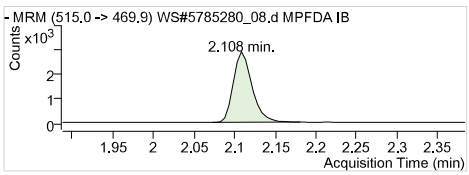


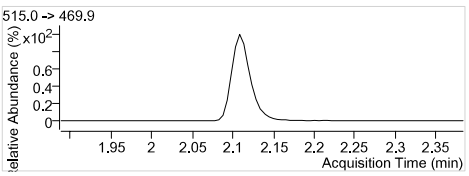
MPFOS Internal Standard
RT (Exp. RT): 1.966 (1.966)
Concentration: 1 µg/L
Sample type: Sample



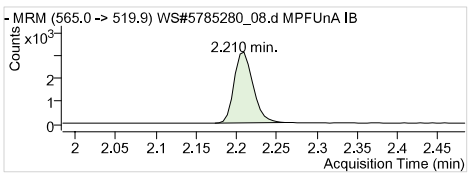


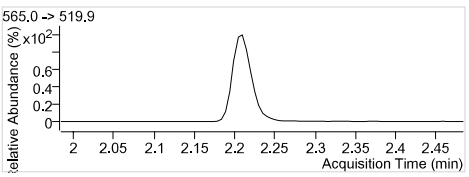
MPFNA Internal Standard
RT (Exp. RT): 1.992 (1.992)
Concentration: 1 µg/L
Sample type: Sample



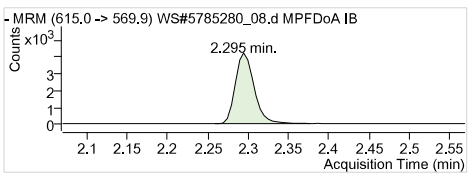


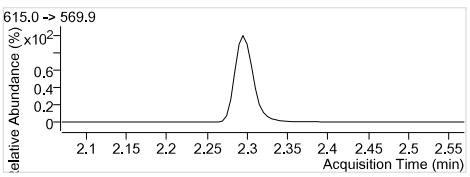
MPFDA Internal Standard
RT (Exp. RT): 2.108 (2.108)
Concentration: 1 µg/L
Sample type: Sample



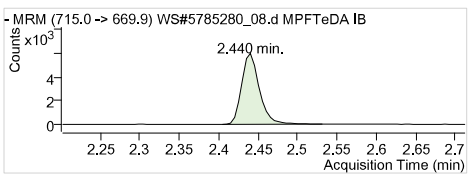


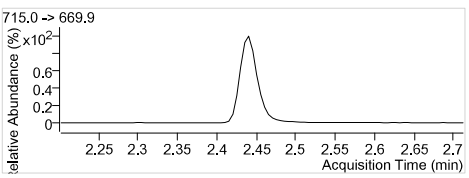
MPFUnA Internal Standard
RT (Exp. RT): 2.210 (2.210)
Concentration: 1 µg/L
Sample type: Sample



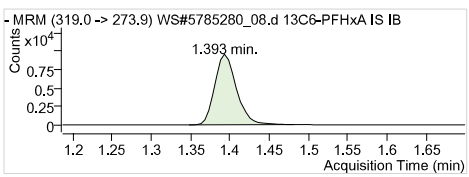


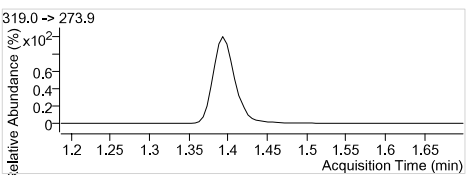
MPFDoA Internal Standard
RT (Exp. RT): 2.295 (2.295)
Concentration: 1 µg/L
Sample type: Sample



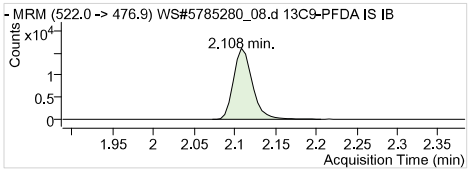


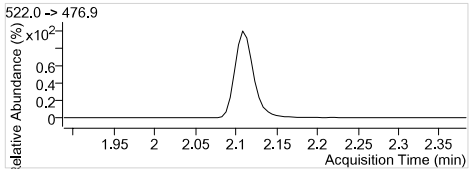
MPFTeDA Internal Standard
RT (Exp. RT): 2.440 (2.440)
Concentration: 1 µg/L
Sample type: Sample



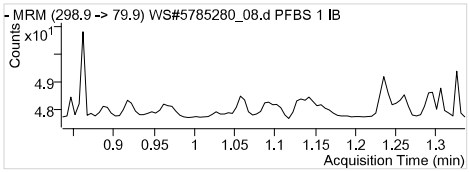


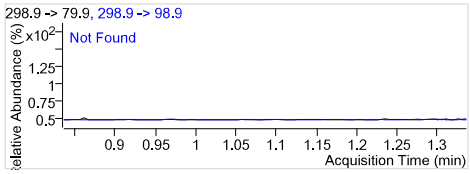
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.393 (1.393)
Concentration: 1 µg/L
Sample type: Sample



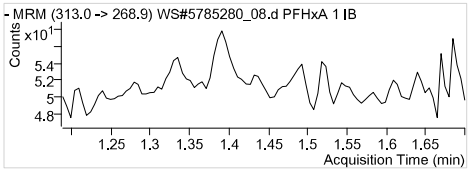


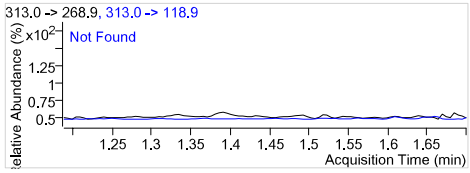
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.108 (2.108)
Concentration: 1 µg/L
Sample type: Sample



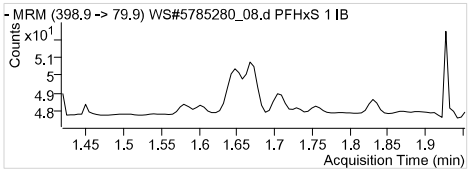


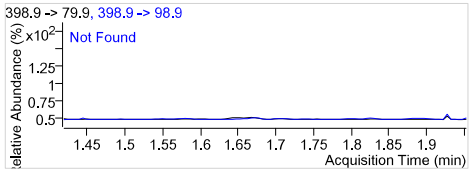
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 0.000 (1.067)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



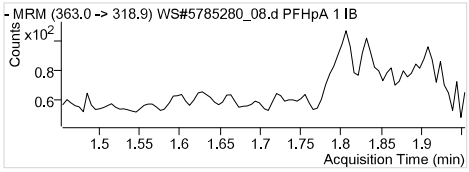


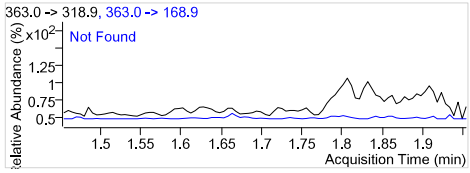
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 0.000 (1.391)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



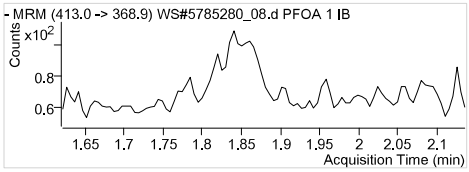


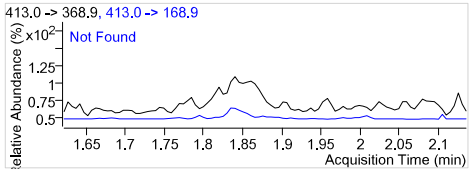
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 0.000 (1.663)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



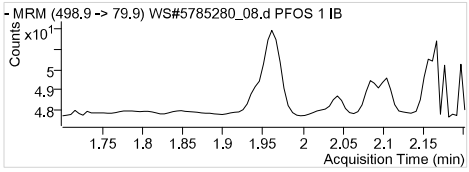


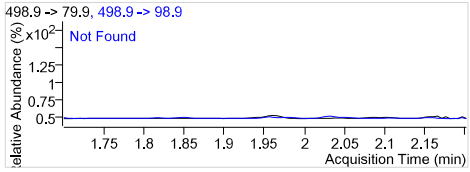
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 0.000 (1.664)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



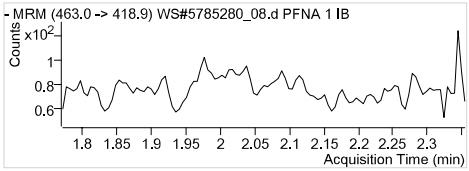


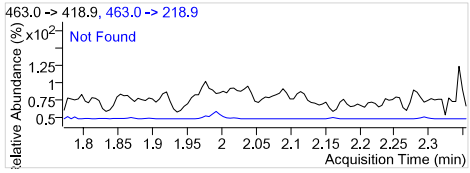
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 0.000 (1.845)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



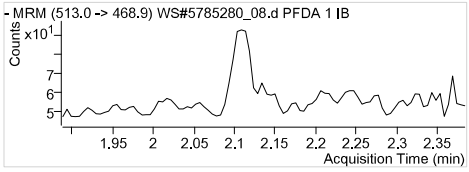


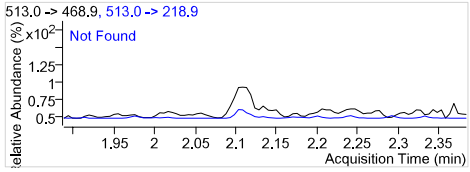
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 0.000 (1.966)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



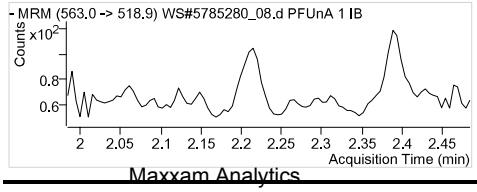


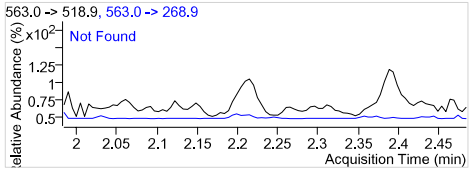
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 0.000 (1.992)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



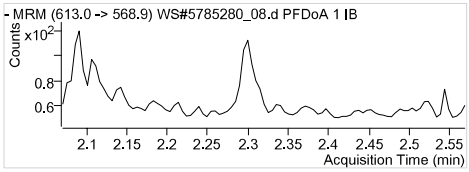


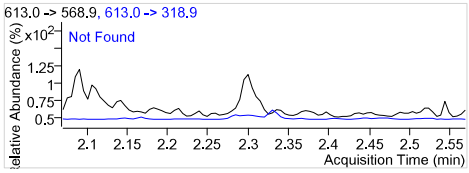
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 0.000 (2.108)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



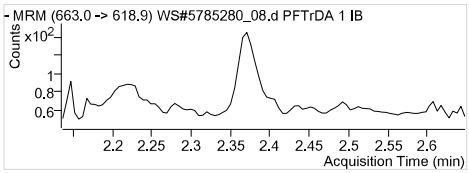


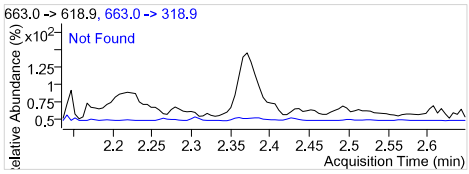
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 0.000 (2.210)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



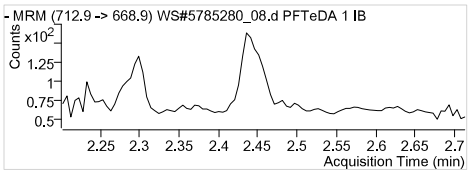


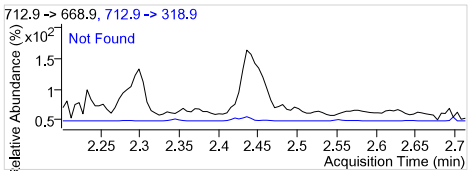
PFDoA 1	613.0 -> 568.9
RT (Exp. RT):	0.000 (2.295)
Calc. conc.	N.D.
Area ratio:	0
Sample type:	Sample



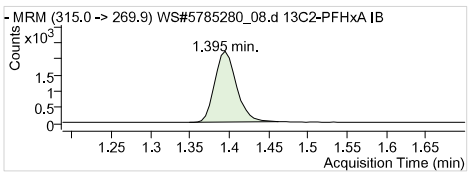


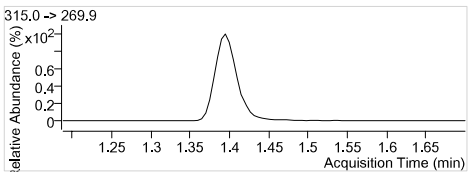
PFTrDA 1	663.0 -> 618.9
RT (Exp. RT):	0.000 (2.370)
Calc. conc.	N.D.
Area ratio:	0
Sample type:	Sample



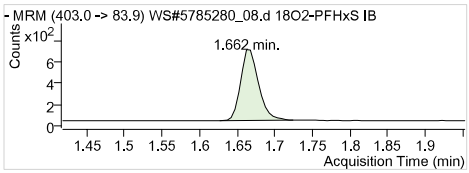


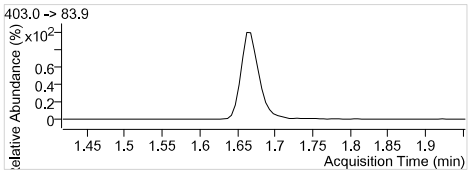
PFTeDA 1	712.9 -> 668.9
RT (Exp. RT):	0.000 (2.441)
Calc. conc.	N.D.
Area ratio:	0
Sample type:	Sample



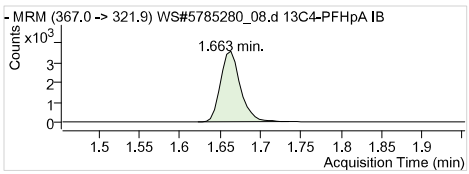


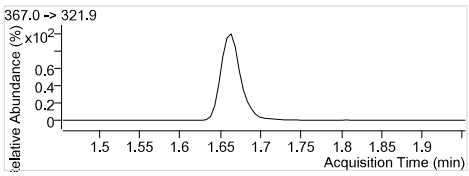
13C2-PFHxA	315.0 -> 269.9
RT (Exp. RT):	1.395 (1.395)
Calc. conc.	97.87 µg/L
Area ratio:	0.22948
Sample type:	Sample



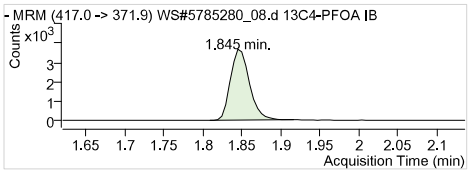


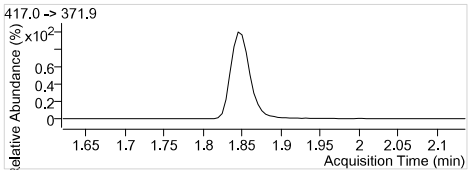
18O2-PFHxS	403.0 -> 83.9
RT (Exp. RT):	1.662 (1.668)
Calc. conc.	104.91 µg/L
Area ratio:	0.06106
Sample type:	Sample



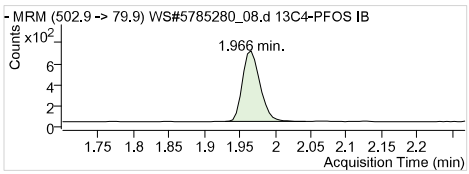


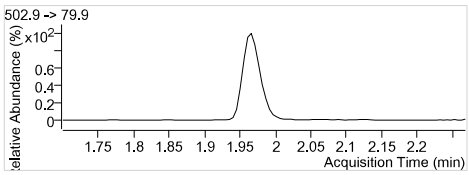
13C4-PFHpA	367.0 -> 321.9
RT (Exp. RT):	1.663 (1.663)
Calc. conc.	98.26 µg/L
Area ratio:	0.32879
Sample type:	Sample



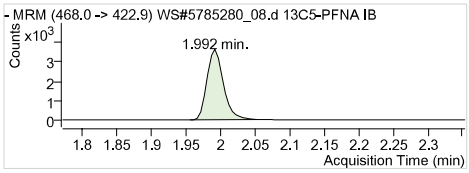


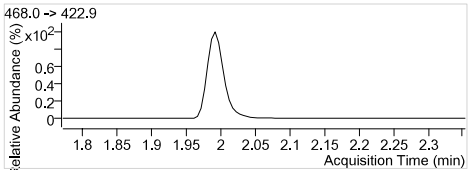
13C4-PFOA	417.0 -> 371.9
RT (Exp. RT):	1.845 (1.845)
Calc. conc.	97.88 µg/L
Area ratio:	0.33275
Sample type:	Sample



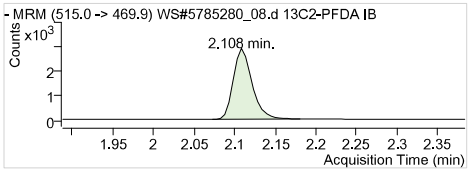


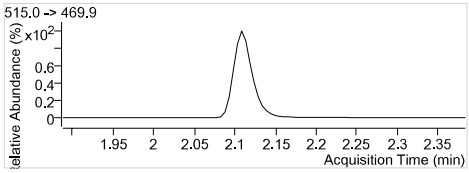
13C4-PFOS	502.9 -> 79.9
RT (Exp. RT):	1.966 (1.966)
Calc. conc.	93.40 µg/L
Area ratio:	0.06302
Sample type:	Sample



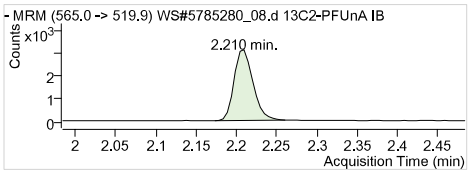


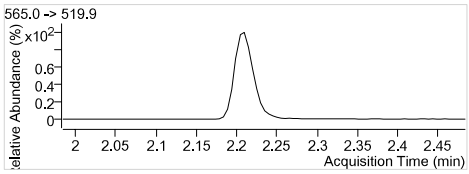
13C5-PFNA	468.0 -> 422.9
RT (Exp. RT):	1.992 (1.992)
Calc. conc.	98.43 µg/L
Area ratio:	0.31950
Sample type:	Sample



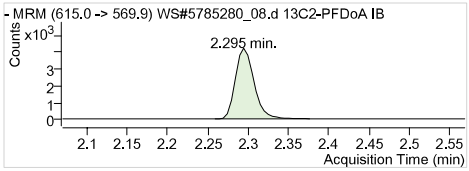


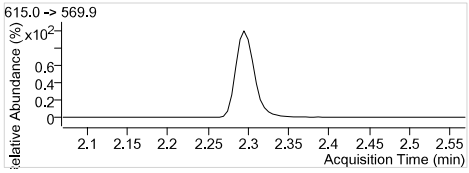
13C2-PFDA	515.0 -> 469.9
RT (Exp. RT):	2.108 (2.108)
Calc. conc.	100.36 µg/L
Area ratio:	0.18052
Sample type:	Sample



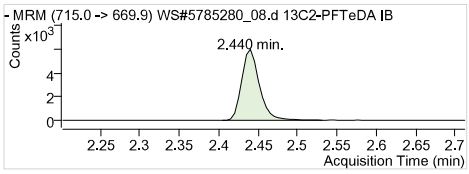


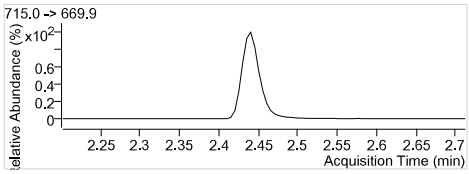
13C2-PFUnA	565.0 -> 519.9
RT (Exp. RT):	2.210 (2.210)
Calc. conc.	97.27 µg/L
Area ratio:	0.19527
Sample type:	Sample



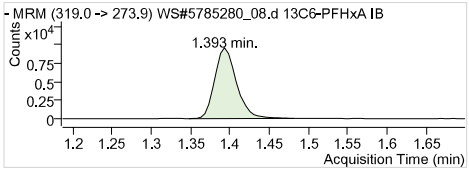


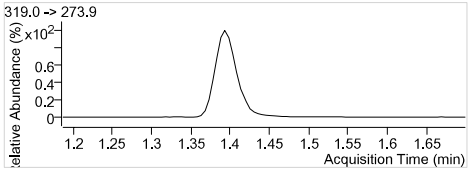
13C2-PFDoA	615.0 -> 569.9
RT (Exp. RT):	2.295 (2.295)
Calc. conc.	98.30 µg/L
Area ratio:	0.26121
Sample type:	Sample



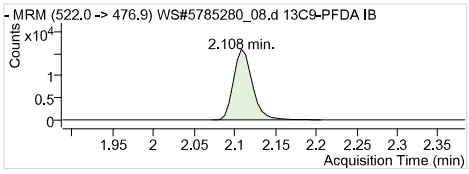


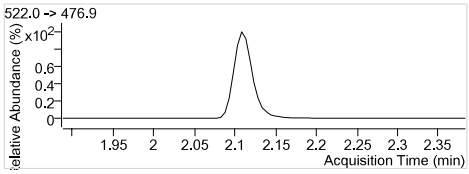
13C2-PFTeDA	715.0 -> 669.9
RT (Exp. RT):	2.440 (2.440)
Calc. conc.	100.93 µg/L
Area ratio:	0.36070
Sample type:	Sample





13C6-PFHxA	319.0 -> 273.9
RT (Exp. RT):	1.393 (1.393)
Calc. conc.	102.12 µg/L
Area ratio:	0
Sample type:	Sample





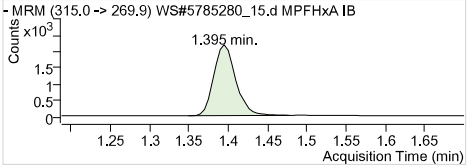
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	2.108 (2.108)
Calc. conc.	103.93 µg/L
Area ratio:	0
Sample type:	Sample

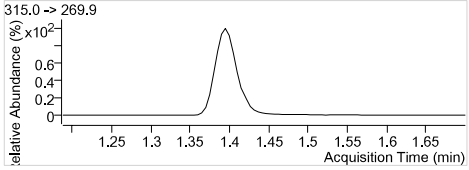
Batch Path T:\LCMS04\PFC\20181017\WS#5785280\QuantResults\PFC_Water_Low_20181017_WS#5785280_EToxics

Sample Name	**IB**	**Instrument**	LCMS04
Data File	WS#5785280_15.d	**Operator**	
Sample Type	Sample	**Dilution**	0.024
Acq. Method	PFC_Water_Low.m	**Position**	P4-A8
Acq. Date	2018/10/18 3:16:44 AM	**Injection Volume**	Per Method
Sample Annotation	-		

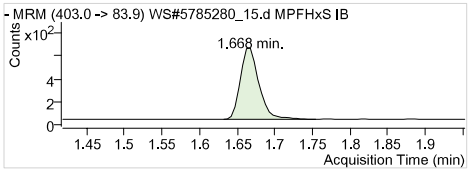
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	4208	1.39	1 µg/L		
MPFHxS	1072	1.67	1 µg/L		
MPFHpA	6129	1.66	1 µg/L		
MPFOA	6304	1.85	1 µg/L		
MPFOS	1249	1.97	1 µg/L		
MPFNA	5986	1.99	1 µg/L		
MPFDA	4532	2.11	1 µg/L		
MPFUnA	5044	2.21	1 µg/L		
MPFDoA	6602	2.29	1 µg/L		
MPFTeDA	8997	2.44	1 µg/L		
13C6-PFHxA IS	18210	1.39	1 µg/L		
13C9-PFDA IS	24899	2.11	1 µg/L		

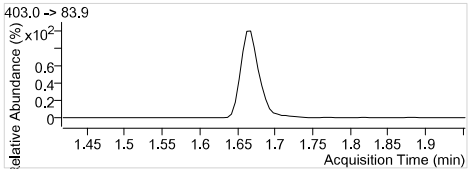
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1			-	ND	-
PFHxA 1			-	ND	-
PFHxS 1			-	ND	-
PFHpA 1			-	ND	-
PFOA 1			-	ND	-
PFOS 1			-	ND	-
PFNA 1			-	ND	-
PFDA 1			-	ND	-
PFUnA 1			-	ND	-
PFDoA 1			-	ND	-
PFTrDA 1			-	ND	-
PFTeDA 1			-	ND	-
13C2-PFHxA	4208	1.39	-	98.55 µg/L	-
18O2-PFHxS	1072	1.67	-	101.14 µg/L	-
13C4-PFHpA	6129	1.66	-	100.59 µg/L	-
13C4-PFOA	6304	1.85	-	101.83 µg/L	-
13C4-PFOS	1249	1.97	-	101.65 µg/L	-
13C5-PFNA	5986	1.99	-	101.27 µg/L	-
13C2-PFDA	4532	2.11	-	101.19 µg/L	-
13C2-PFUnA	5044	2.21	-	100.91 µg/L	-
13C2-PFDoA	6602	2.29	-	99.78 µg/L	-
13C2-PFTeDA	8997	2.44	-	101.11 µg/L	-
13C6-PFHxA	18210	1.39	-	2.42 µg/L	-
13C9-PFDA	24899	2.11	-	2.42 µg/L	-



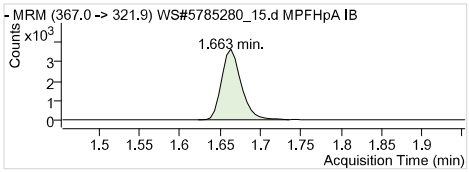


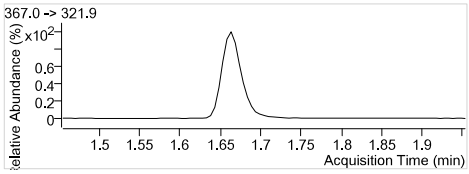
MPFHxA	Internal Standard
RT (Exp. RT):	1.395 (1.395)
Concentration:	1 µg/L
Sample type:	Sample



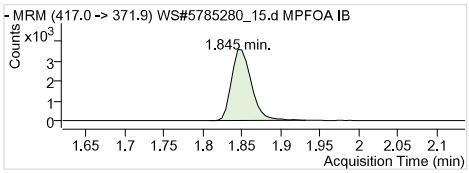


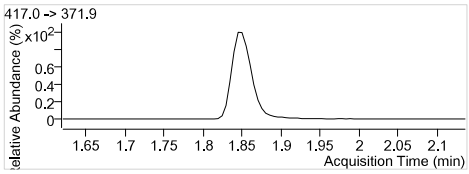
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Sample



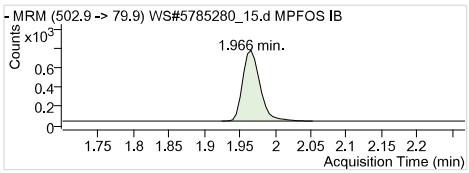


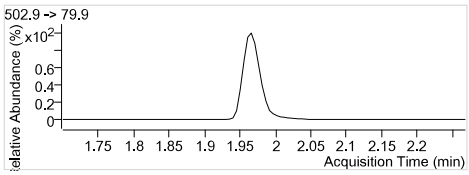
MPFHpA Internal Standard
RT (Exp. RT): 1.663 (1.663)
Concentration: 1 µg/L
Sample type: Sample



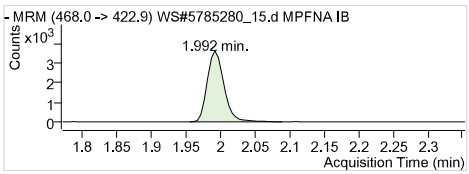


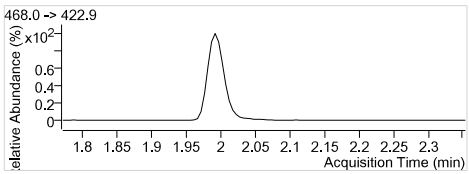
MPFOA Internal Standard
RT (Exp. RT): 1.845 (1.845)
Concentration: 1 µg/L
Sample type: Sample



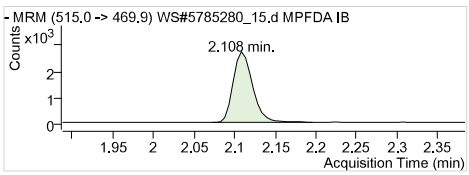


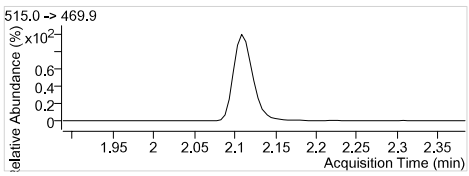
MPFOS Internal Standard
RT (Exp. RT): 1.966 (1.966)
Concentration: 1 µg/L
Sample type: Sample



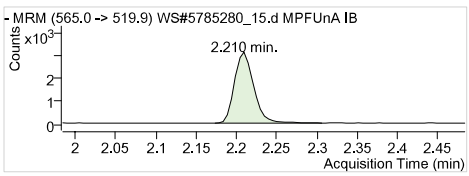


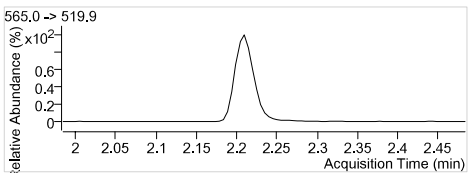
MPFNA Internal Standard
RT (Exp. RT): 1.992 (1.992)
Concentration: 1 µg/L
Sample type: Sample



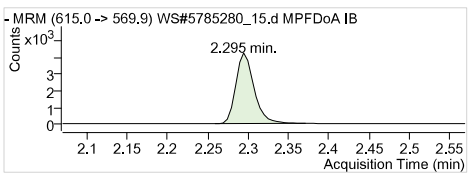


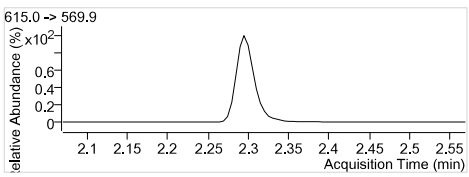
MPFDA Internal Standard
RT (Exp. RT): 2.108 (2.108)
Concentration: 1 µg/L
Sample type: Sample



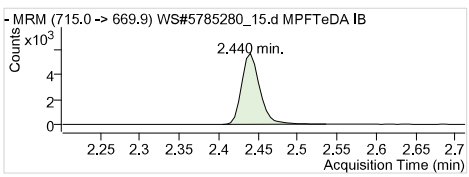


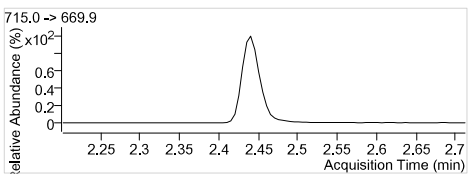
MPFUnA Internal Standard
RT (Exp. RT): 2.210 (2.210)
Concentration: 1 µg/L
Sample type: Sample



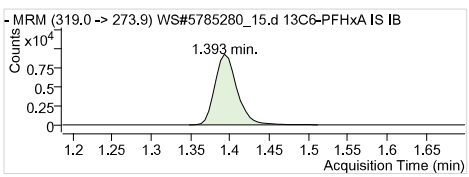


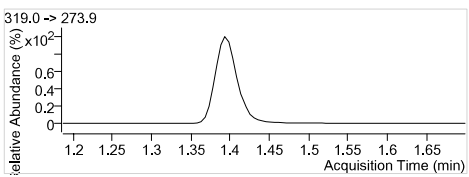
MPFDoA Internal Standard
RT (Exp. RT): 2.295 (2.295)
Concentration: 1 µg/L
Sample type: Sample



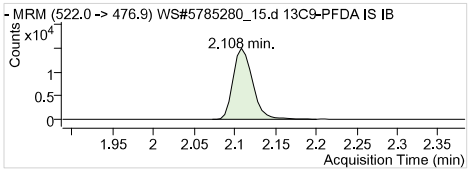


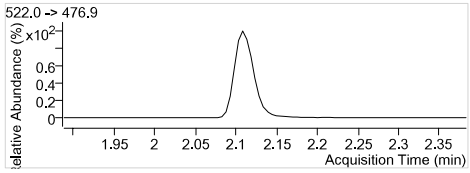
MPFTeDA Internal Standard
RT (Exp. RT): 2.440 (2.440)
Concentration: 1 µg/L
Sample type: Sample



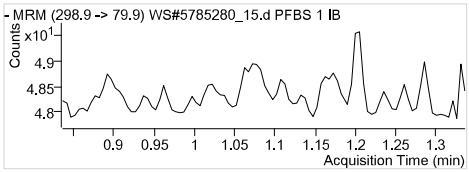


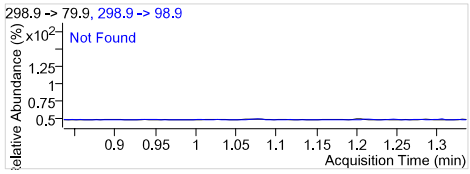
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.393 (1.393)
Concentration: 1 µg/L
Sample type: Sample



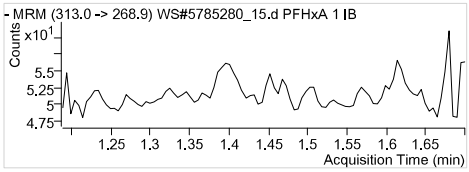


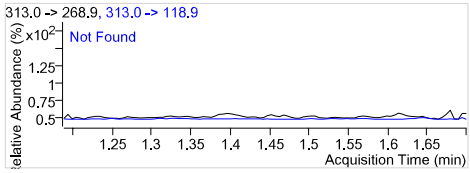
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.108 (2.108)
Concentration: 1 µg/L
Sample type: Sample



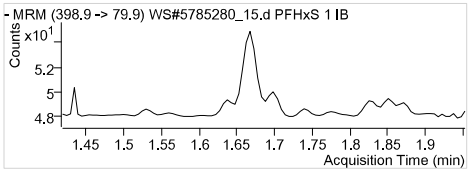


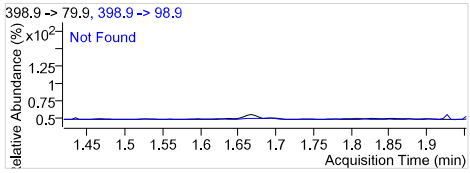
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 0.000 (1.067)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



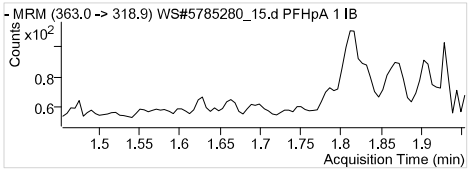


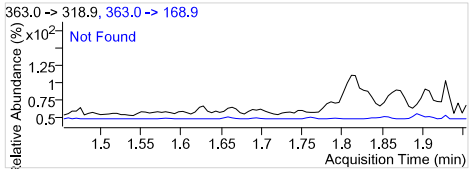
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 0.000 (1.391)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



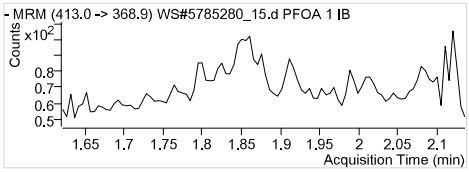


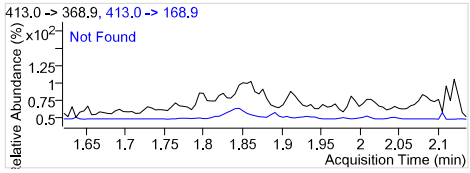
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 0.000 (1.663)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



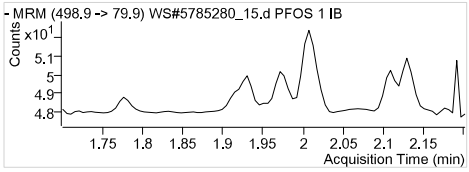


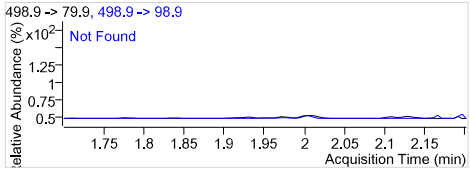
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 0.000 (1.664)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



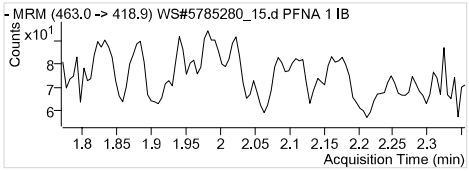


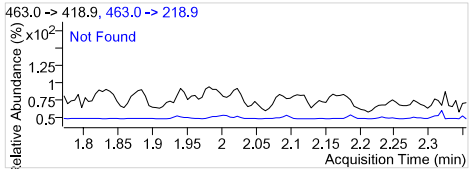
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 0.000 (1.845)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



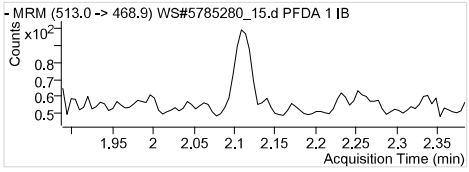


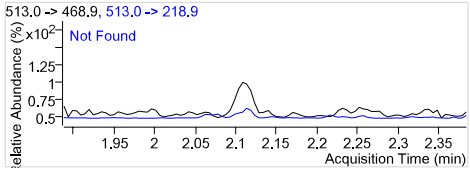
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 0.000 (1.966)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



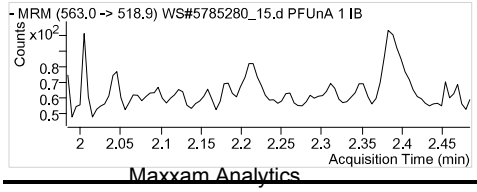


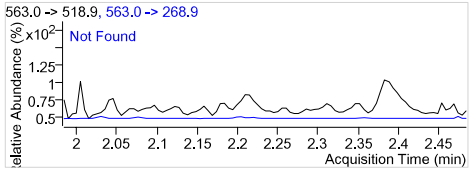
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 0.000 (1.992)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



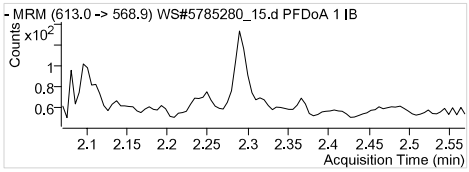


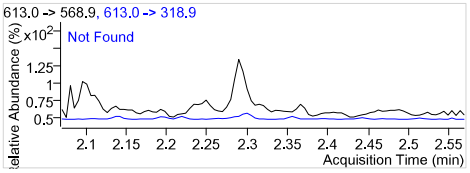
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 0.000 (2.108)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



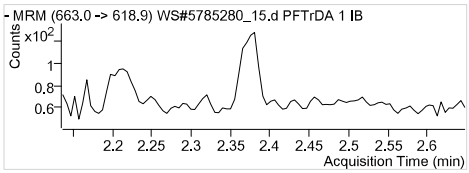


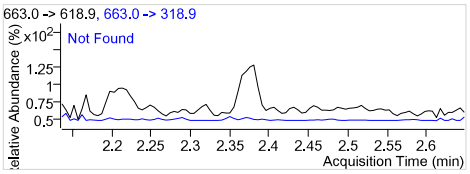
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 0.000 (2.210)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



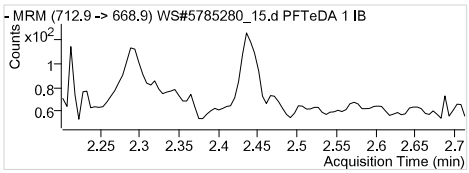


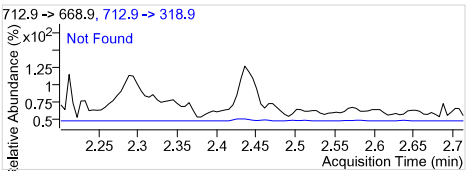
PFDoA 1	613.0 -> 568.9
RT (Exp. RT):	0.000 (2.295)
Calc. conc.	N.D.
Area ratio:	0
Sample type:	Sample



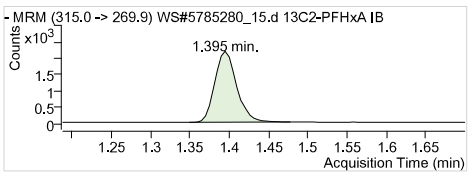


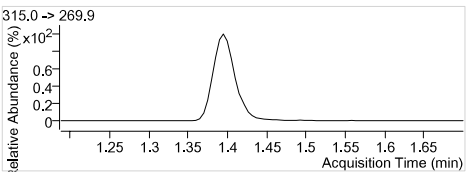
PFTrDA 1	663.0 -> 618.9
RT (Exp. RT):	0.000 (2.370)
Calc. conc.	N.D.
Area ratio:	0
Sample type:	Sample



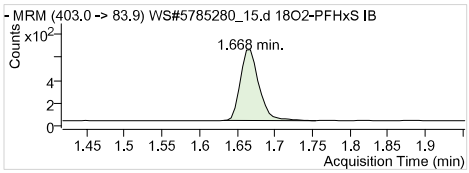


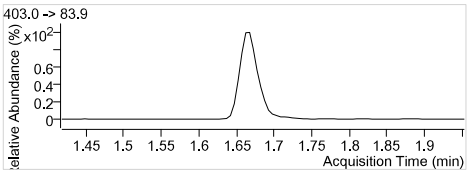
PFTeDA 1	712.9 -> 668.9
RT (Exp. RT):	0.000 (2.441)
Calc. conc.	N.D.
Area ratio:	0
Sample type:	Sample



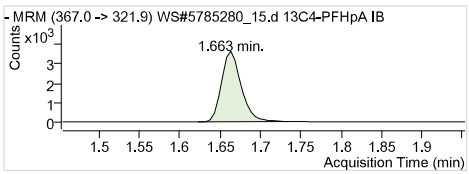


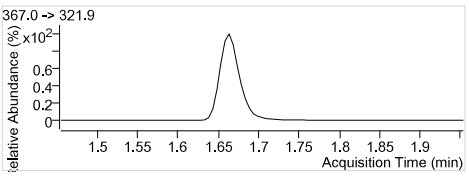
13C2-PFHxA	315.0 -> 269.9
RT (Exp. RT):	1.395 (1.395)
Calc. conc.	98.55 µg/L
Area ratio:	0.23108
Sample type:	Sample



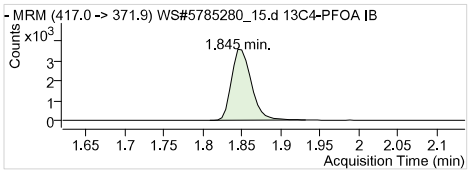


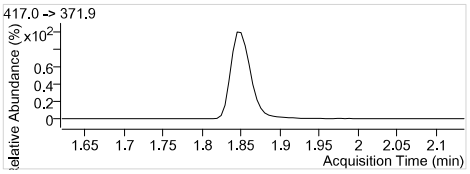
18O2-PFHxS	403.0 -> 83.9
RT (Exp. RT):	1.668 (1.668)
Calc. conc.	101.14 µg/L
Area ratio:	0.05887
Sample type:	Sample



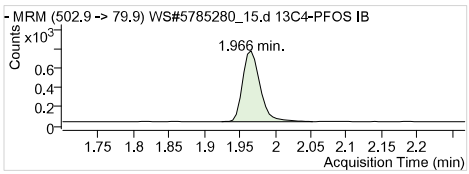


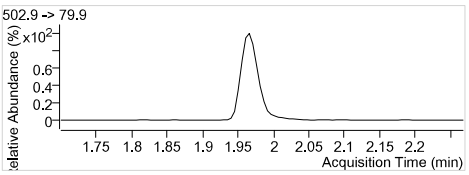
13C4-PFHpA	367.0 -> 321.9
RT (Exp. RT):	1.663 (1.663)
Calc. conc.	100.59 µg/L
Area ratio:	0.33657
Sample type:	Sample



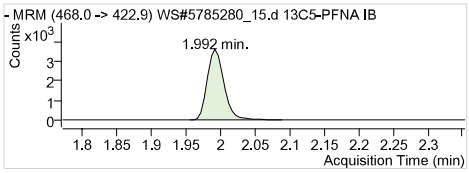


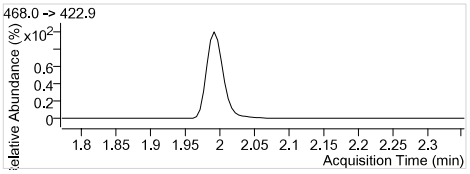
13C4-PFOA	417.0 -> 371.9
RT (Exp. RT):	1.845 (1.845)
Calc. conc.	101.83 µg/L
Area ratio:	0.34618
Sample type:	Sample



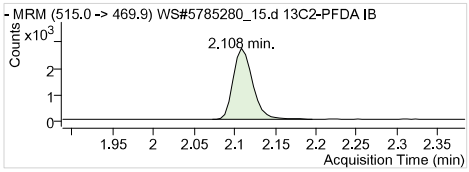


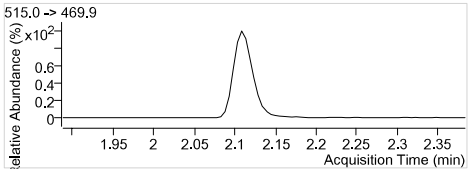
13C4-PFOS	502.9 -> 79.9
RT (Exp. RT):	1.966 (1.966)
Calc. conc.	101.65 µg/L
Area ratio:	0.06859
Sample type:	Sample



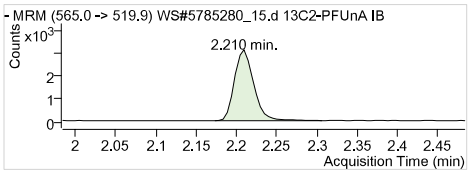


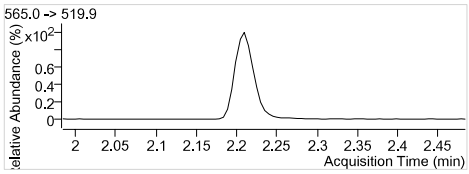
13C5-PFNA	468.0 -> 422.9
RT (Exp. RT):	1.992 (1.992)
Calc. conc.	101.27 µg/L
Area ratio:	0.32872
Sample type:	Sample



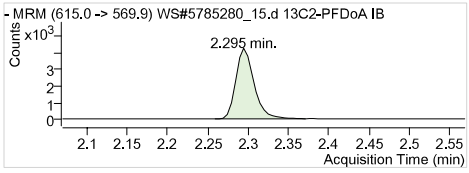


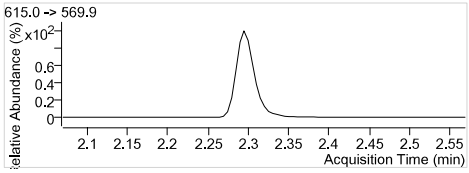
13C2-PFDA	515.0 -> 469.9
RT (Exp. RT):	2.108 (2.108)
Calc. conc.	101.19 µg/L
Area ratio:	0.18202
Sample type:	Sample



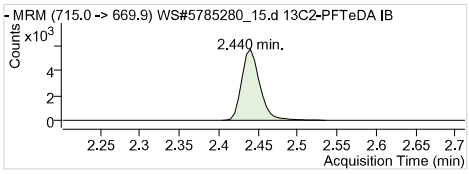


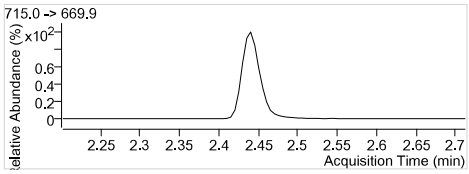
13C2-PFUnA	565.0 -> 519.9
RT (Exp. RT):	2.210 (2.210)
Calc. conc.	100.91 µg/L
Area ratio:	0.20258
Sample type:	Sample



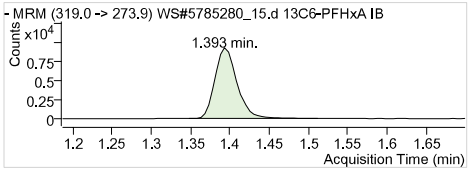


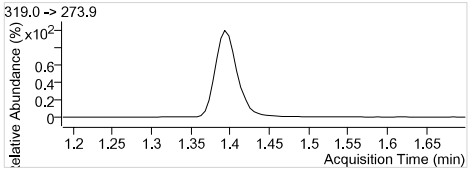
13C2-PFDoA	615.0 -> 569.9
RT (Exp. RT):	2.295 (2.295)
Calc. conc.	99.78 µg/L
Area ratio:	0.26515
Sample type:	Sample



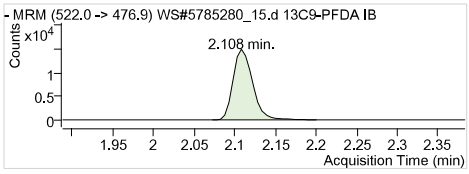


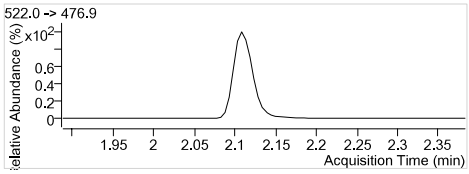
13C2-PFTeDA	715.0 -> 669.9
RT (Exp. RT):	2.440 (2.440)
Calc. conc.	101.11 µg/L
Area ratio:	0.36134
Sample type:	Sample





13C6-PFHxA	319.0 -> 273.9
RT (Exp. RT):	1.393 (1.393)
Calc. conc.	2.42 µg/L
Area ratio:	0
Sample type:	Sample





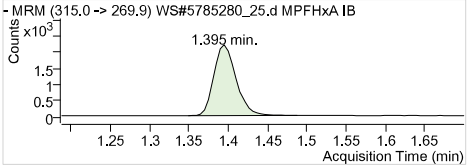
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	2.108 (2.108)
Calc. conc.	2.42 µg/L
Area ratio:	0
Sample type:	Sample

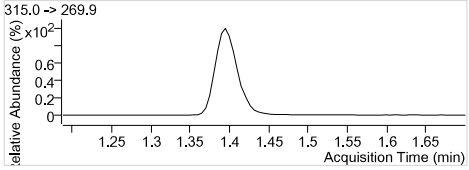
Batch Path	T:\LCMS04\PFC\20181017\WS#5785280\QuantResults\PFC_Water_Low_20181017_WS#5785280_EToxics

Sample Name	**IB**	**Instrument**	LCMS04
Data File	WS#5785280_25.d	**Operator**	
Sample Type	Sample	**Dilution**	0.024
Acq. Method	PFC_Water_Low.m	**Position**	P4-A8
Acq. Date	2018/10/18 4:05:51 AM	**Injection Volume**	Per Method
Sample Annotation	-		

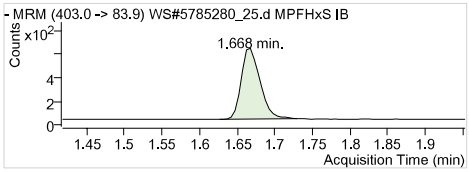
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	4311	1.39	1 µg/L		
MPFHxS	1057	1.67	1 µg/L		
MPFHpA	6292	1.66	1 µg/L		
MPFOA	6327	1.85	1 µg/L		
MPFOS	1174	1.97	1 µg/L		
MPFNA	6203	1.99	1 µg/L		
MPFDA	4444	2.11	1 µg/L		
MPFUnA	5135	2.21	1 µg/L		
MPFDoA	6218	2.29	1 µg/L		
MPFTeDA	8943	2.44	1 µg/L		
13C6-PFHxA IS	18645	1.39	1 µg/L		
13C9-PFDA IS	25136	2.11	1 µg/L		

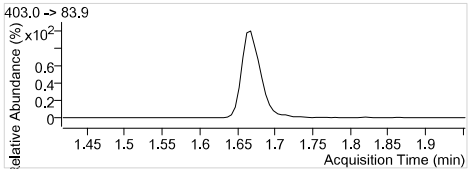
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1			-	ND	-
PFHxA 1			-	ND	-
PFHxS 1			-	ND	-
PFHpA 1			-	ND	-
PFOA 1			-	ND	-
PFOS 1			-	ND	-
PFNA 1			-	ND	-
PFDA 1			-	ND	-
PFUnA 1			-	ND	-
PFDoA 1			-	ND	-
PFTrDA 1			-	ND	-
PFTeDA 1			-	ND	-
13C2-PFHxA	4311	1.39	-	98.61 µg/L	-
18O2-PFHxS	1057	1.67	-	97.40 µg/L	-
13C4-PFHpA	6292	1.66	-	100.86 µg/L	-
13C4-PFOA	6327	1.85	-	99.82 µg/L	-
13C4-PFOS	1174	1.97	-	93.32 µg/L	-
13C5-PFNA	6203	1.99	-	102.49 µg/L	-
13C2-PFDA	4444	2.11	-	98.29 µg/L	-
13C2-PFUnA	5135	2.21	-	101.76 µg/L	-
13C2-PFDoA	6218	2.29	-	93.09 µg/L	-
13C2-PFTeDA	8943	2.44	-	99.56 µg/L	-
13C6-PFHxA	18645	1.39	-	2.48 µg/L	-
13C9-PFDA	25136	2.11	-	2.44 µg/L	-



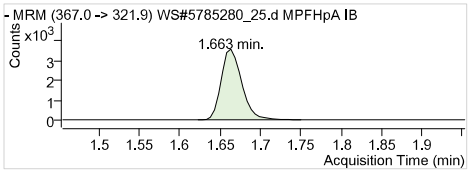


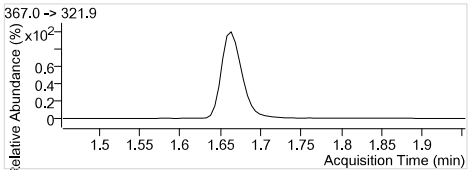
MPFHxA	Internal Standard
RT (Exp. RT):	1.395 (1.395)
Concentration:	1 µg/L
Sample type:	Sample



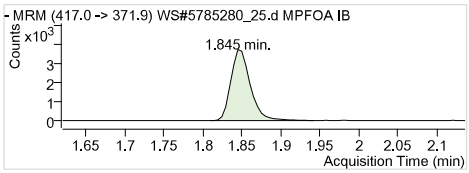


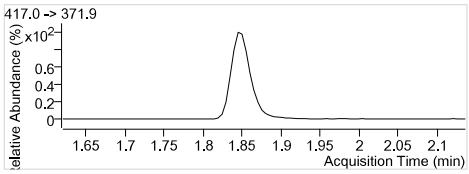
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Sample



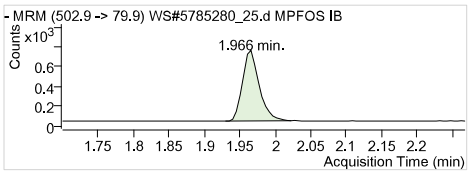


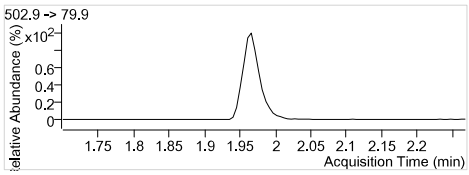
MPFHpA Internal Standard
RT (Exp. RT): 1.663 (1.663)
Concentration: 1 µg/L
Sample type: Sample



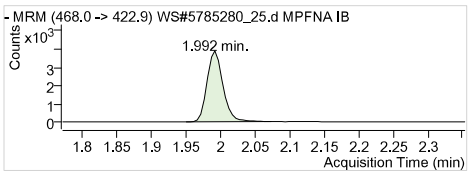


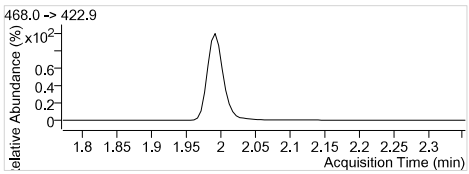
MPFOA Internal Standard
RT (Exp. RT): 1.845 (1.845)
Concentration: 1 µg/L
Sample type: Sample



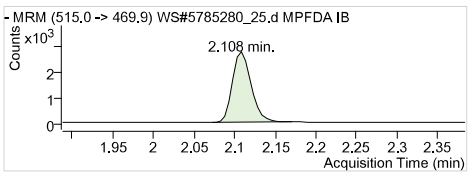


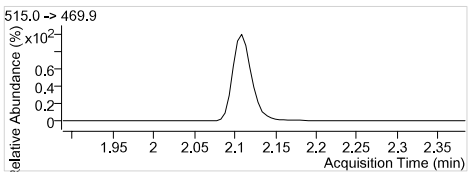
MPFOS Internal Standard
RT (Exp. RT): 1.966 (1.966)
Concentration: 1 µg/L
Sample type: Sample



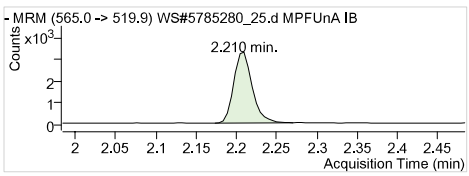


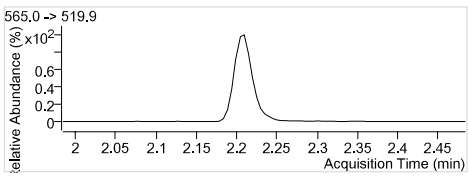
MPFNA Internal Standard
RT (Exp. RT): 1.992 (1.992)
Concentration: 1 µg/L
Sample type: Sample



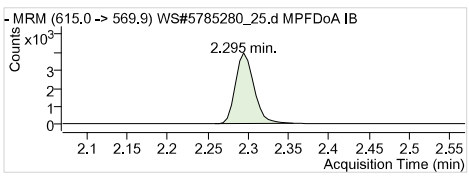


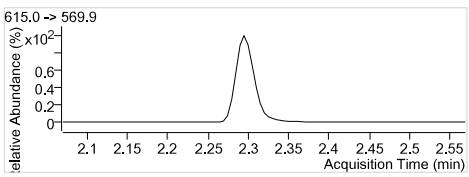
MPFDA Internal Standard
RT (Exp. RT): 2.108 (2.108)
Concentration: 1 µg/L
Sample type: Sample



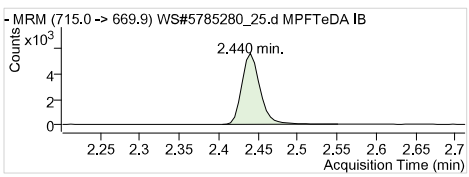


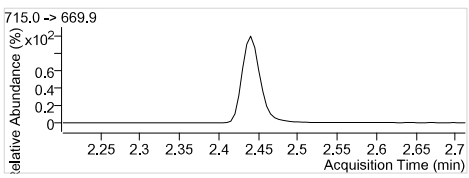
MPFUnA Internal Standard
RT (Exp. RT): 2.210 (2.210)
Concentration: 1 µg/L
Sample type: Sample



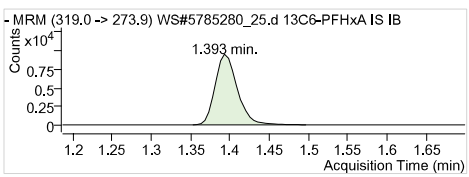


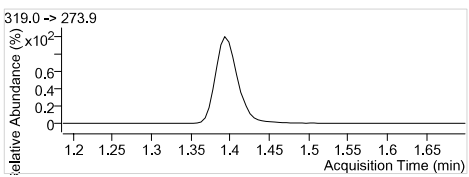
MPFDoA Internal Standard
RT (Exp. RT): 2.295 (2.295)
Concentration: 1 µg/L
Sample type: Sample



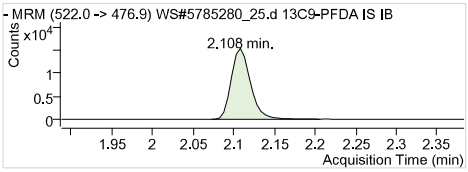


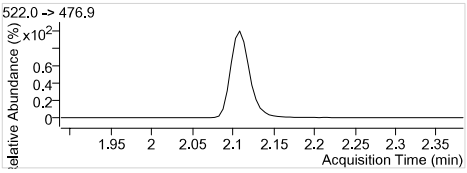
MPFTeDA Internal Standard
RT (Exp. RT): 2.440 (2.440)
Concentration: 1 µg/L
Sample type: Sample



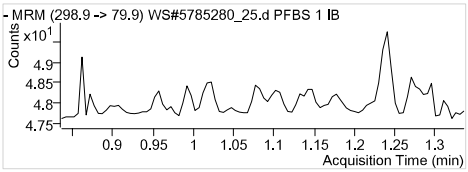


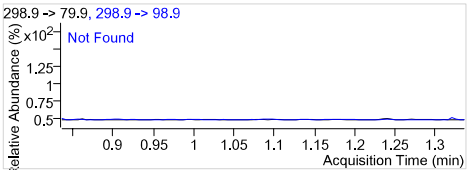
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.393 (1.393)
Concentration: 1 µg/L
Sample type: Sample



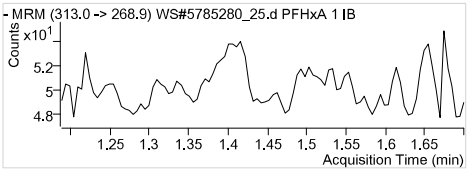


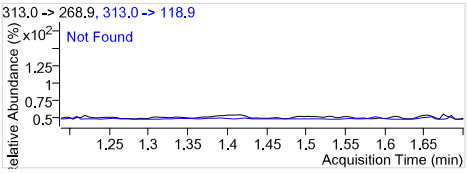
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.108 (2.108)
Concentration: 1 µg/L
Sample type: Sample



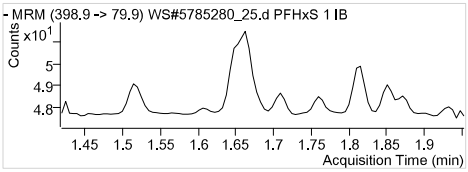


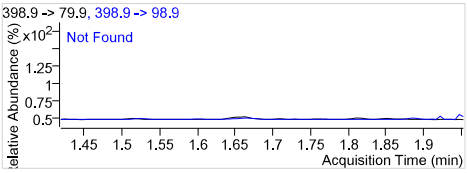
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 0.000 (1.067)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



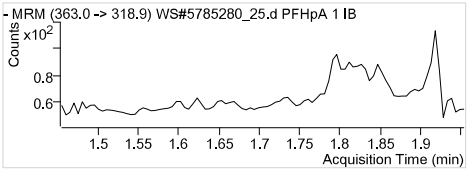


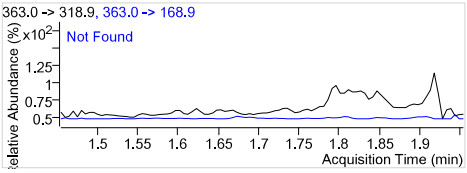
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 0.000 (1.391)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



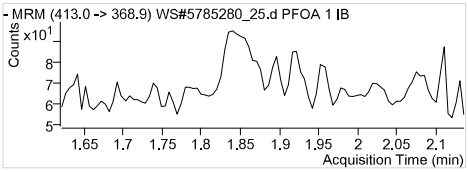


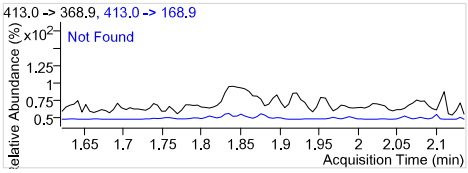
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 0.000 (1.663)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



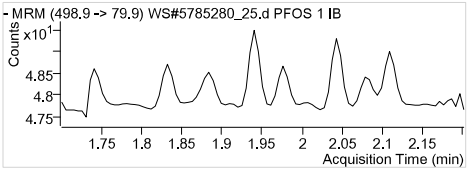


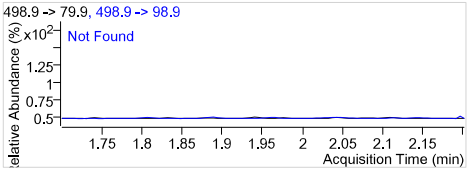
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 0.000 (1.664)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



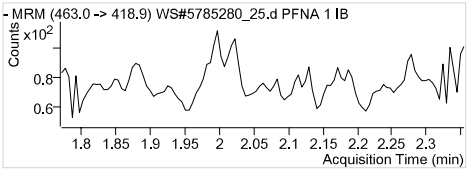


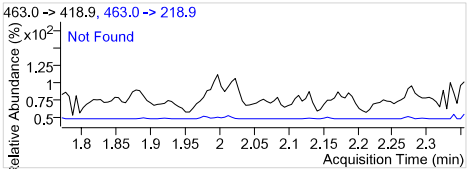
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 0.000 (1.845)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



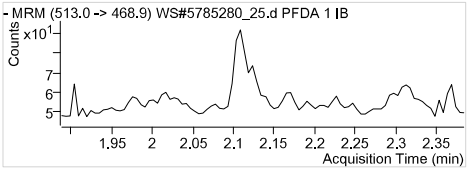


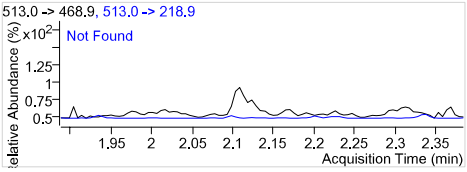
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 0.000 (1.966)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



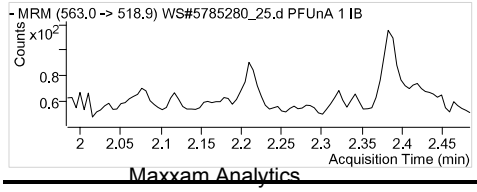


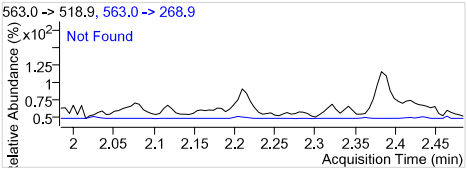
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 0.000 (1.992)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



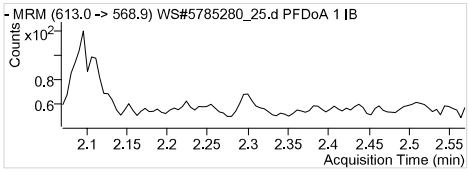


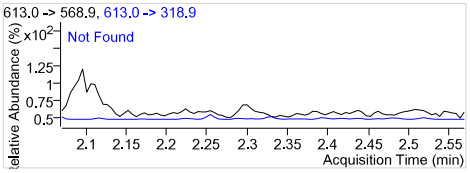
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 0.000 (2.108)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



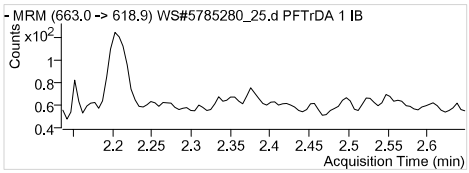


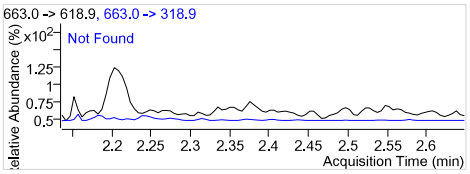
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 0.000 (2.210)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



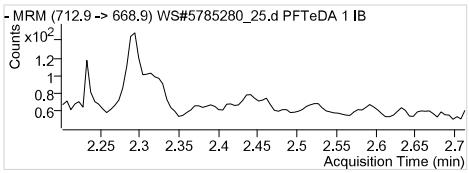


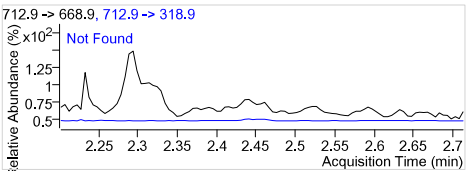
PFDoA 1	613.0 -> 568.9
RT (Exp. RT):	0.000 (2.295)
Calc. conc.	N.D.
Area ratio:	0
Sample type:	Sample



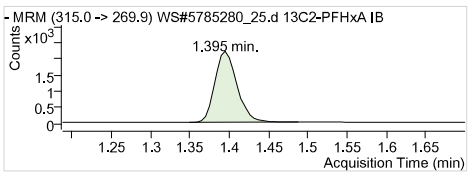


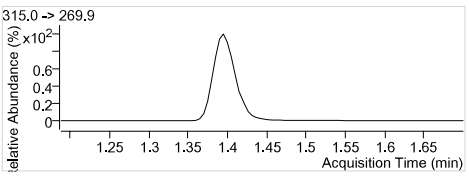
PFTrDA 1	663.0 -> 618.9
RT (Exp. RT):	0.000 (2.370)
Calc. conc.	N.D.
Area ratio:	0
Sample type:	Sample



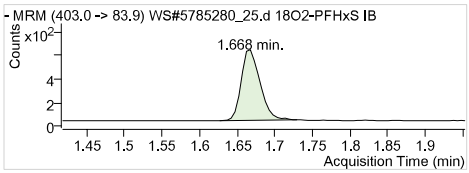


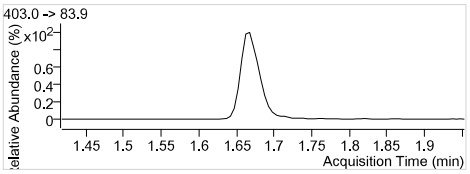
PFTeDA 1	712.9 -> 668.9
RT (Exp. RT):	0.000 (2.441)
Calc. conc.	N.D.
Area ratio:	0
Sample type:	Sample



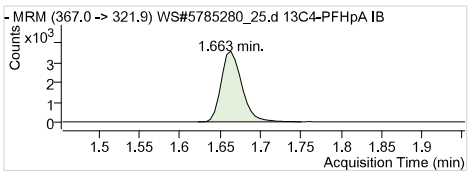


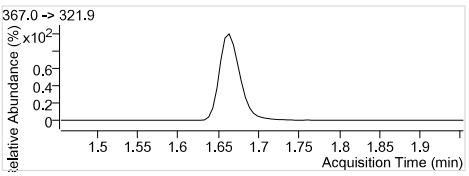
13C2-PFHxA	315.0 -> 269.9
RT (Exp. RT):	1.395 (1.395)
Calc. conc.	98.61 µg/L
Area ratio:	0.23121
Sample type:	Sample



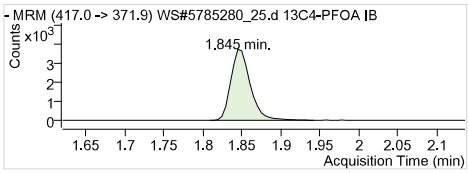


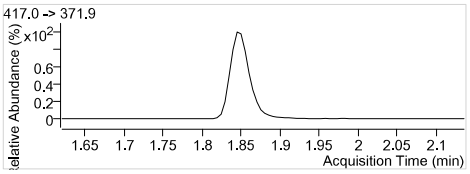
18O2-PFHxS	403.0 -> 83.9
RT (Exp. RT):	1.668 (1.668)
Calc. conc.	97.40 µg/L
Area ratio:	0.05669
Sample type:	Sample



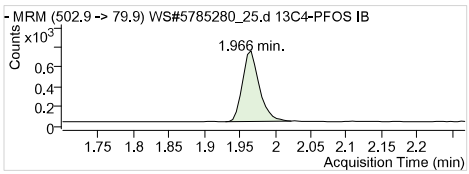


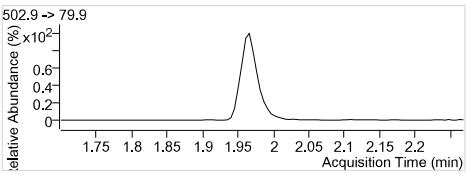
13C4-PFHpA	367.0 -> 321.9
RT (Exp. RT):	1.663 (1.663)
Calc. conc.	100.86 µg/L
Area ratio:	0.33746
Sample type:	Sample



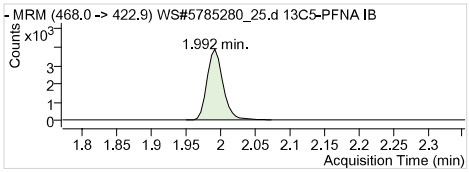


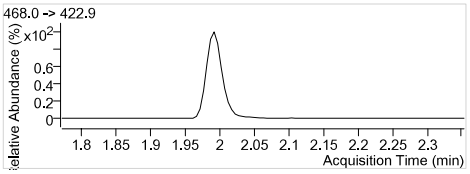
13C4-PFOA	417.0 -> 371.9
RT (Exp. RT):	1.845 (1.845)
Calc. conc.	99.82 µg/L
Area ratio:	0.33934
Sample type:	Sample



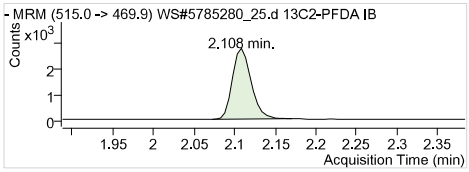


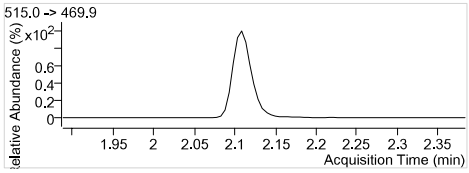
13C4-PFOS	502.9 -> 79.9
RT (Exp. RT):	1.966 (1.966)
Calc. conc.	93.32 µg/L
Area ratio:	0.06297
Sample type:	Sample



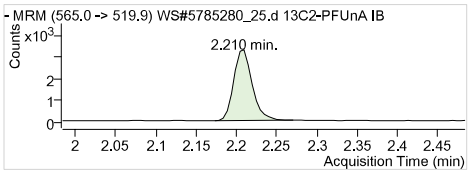


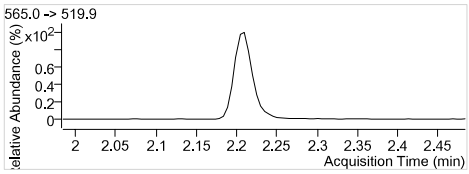
13C5-PFNA	468.0 -> 422.9
RT (Exp. RT):	1.992 (1.992)
Calc. conc.	102.49 µg/L
Area ratio:	0.33269
Sample type:	Sample



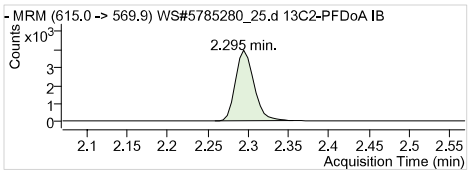


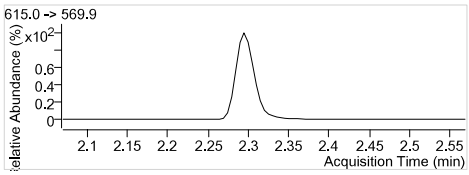
13C2-PFDA	515.0 -> 469.9
RT (Exp. RT):	2.108 (2.108)
Calc. conc.	98.29 µg/L
Area ratio:	0.17680
Sample type:	Sample



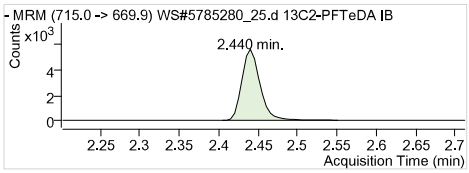


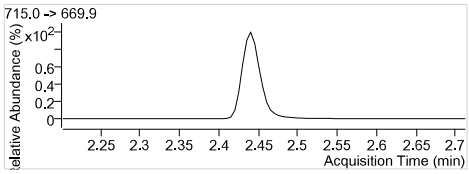
13C2-PFUnA	565.0 -> 519.9
RT (Exp. RT):	2.210 (2.210)
Calc. conc.	101.76 µg/L
Area ratio:	0.20429
Sample type:	Sample



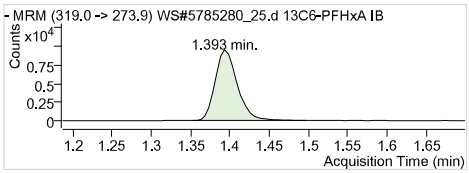


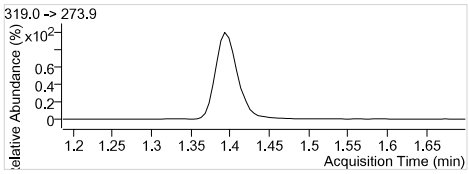
13C2-PFDoA	615.0 -> 569.9
RT (Exp. RT):	2.295 (2.295)
Calc. conc.	93.09 µg/L
Area ratio:	0.24737
Sample type:	Sample



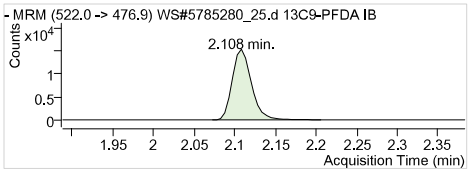


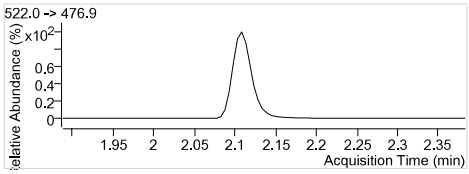
13C2-PFTeDA	715.0 -> 669.9
RT (Exp. RT):	2.440 (2.440)
Calc. conc.	99.56 µg/L
Area ratio:	0.35578
Sample type:	Sample





13C6-PFHxA	319.0 -> 273.9
RT (Exp. RT):	1.393 (1.393)
Calc. conc.	2.48 µg/L
Area ratio:	0
Sample type:	Sample





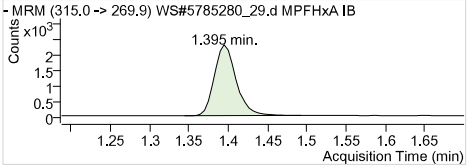
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	2.108 (2.108)
Calc. conc.	2.44 µg/L
Area ratio:	0
Sample type:	Sample

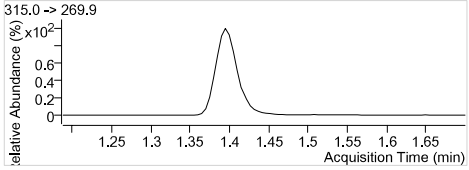
Batch Path	T:\LCMS04\PFC\20181017\WS#5785280\QuantResults\PFC_Water_Low_20181017_WS#5785280_EToxics

Sample Name	**IB**	**Instrument**	LCMS04
Data File	WS#5785280_29.d	**Operator**	
Sample Type	Sample	**Dilution**	0.024
Acq. Method	PFC_Water_Low.m	**Position**	P4-A8
Acq. Date	2018/10/18 4:25:29 AM	**Injection Volume**	Per Method
Sample Annotation	-		

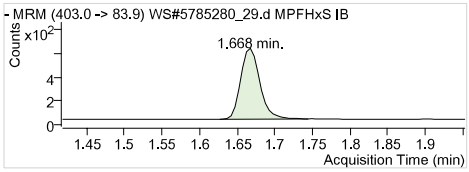
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	4420	1.39	1 µg/L		
MPFHxS	1068	1.67	1 µg/L		
MPFHpA	6290	1.66	1 µg/L		
MPFOA	6210	1.85	1 µg/L		
MPFOS	1252	1.97	1 µg/L		
MPFNA	5824	1.99	1 µg/L		
MPFDA	4802	2.11	1 µg/L		
MPFUnA	5279	2.21	1 µg/L		
MPFDoA	6627	2.29	1 µg/L		
MPFTeDA	9102	2.44	1 µg/L		
13C6-PFHxA IS	18811	1.39	1 µg/L		
13C9-PFDA IS	24877	2.11	1 µg/L		

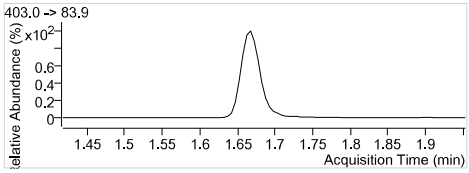
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1			-	ND	-
PFHxA 1			-	ND	-
PFHxS 1			-	ND	-
PFHpA 1			-	ND	-
PFOA 1			-	ND	-
PFOS 1			-	ND	-
PFNA 1			-	ND	-
PFDA 1			-	ND	-
PFUnA 1			-	ND	-
PFDoA 1			-	ND	-
PFTrDA 1			-	ND	-
PFTeDA 1			-	ND	-
13C2-PFHxA	4420	1.39	-	100.21 µg/L	-
18O2-PFHxS	1068	1.67	-	97.54 µg/L	-
13C4-PFHpA	6290	1.66	-	99.93 µg/L	-
13C4-PFOA	6210	1.85	-	97.11 µg/L	-
13C4-PFOS	1252	1.97	-	98.64 µg/L	-
13C5-PFNA	5824	1.99	-	95.38 µg/L	-
13C2-PFDA	4802	2.11	-	107.31 µg/L	-
13C2-PFUnA	5279	2.21	-	105.70 µg/L	-
13C2-PFDoA	6627	2.29	-	100.25 µg/L	-
13C2-PFTeDA	9102	2.44	-	102.38 µg/L	-
13C6-PFHxA	18811	1.39	-	2.50 µg/L	-
13C9-PFDA	24877	2.11	-	2.41 µg/L	-



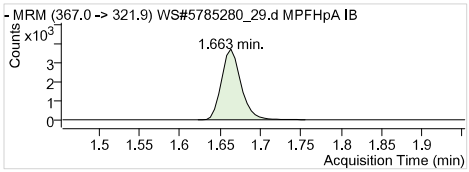


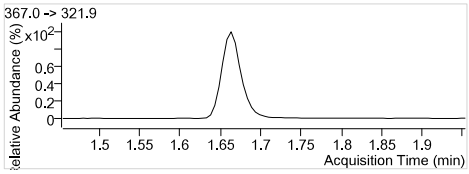
MPFHxA	Internal Standard
RT (Exp. RT):	1.395 (1.395)
Concentration:	1 µg/L
Sample type:	Sample



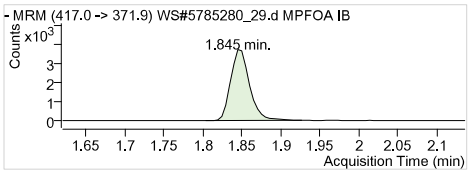


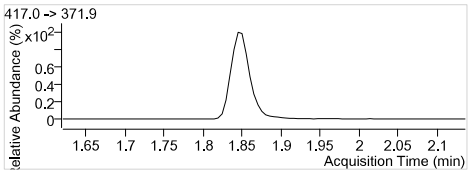
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Sample



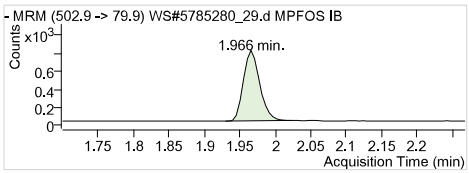


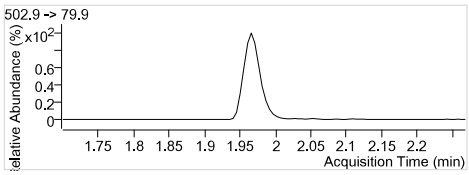
MPFHpA Internal Standard
RT (Exp. RT): 1.663 (1.663)
Concentration: 1 µg/L
Sample type: Sample



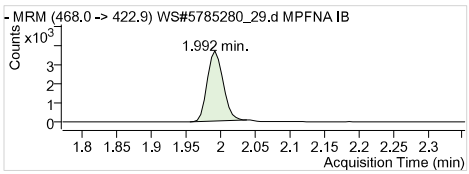


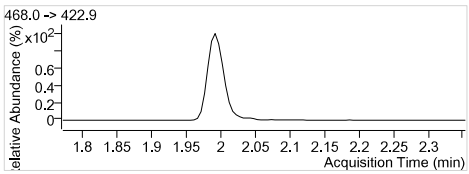
MPFOA Internal Standard
RT (Exp. RT): 1.845 (1.845)
Concentration: 1 µg/L
Sample type: Sample



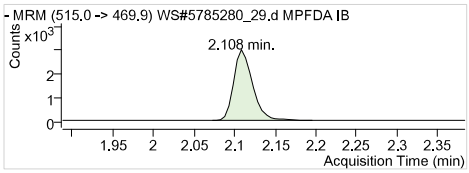


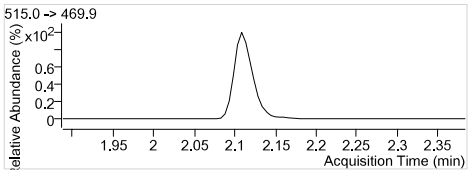
MPFOS Internal Standard
RT (Exp. RT): 1.966 (1.966)
Concentration: 1 µg/L
Sample type: Sample



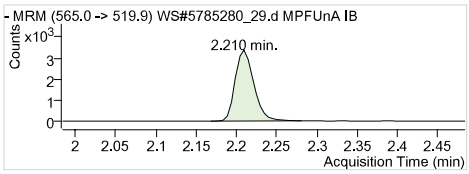


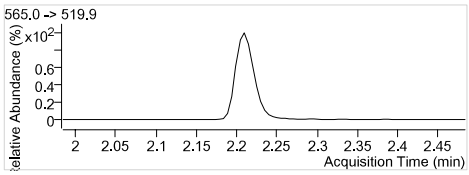
MPFNA Internal Standard
RT (Exp. RT): 1.992 (1.992)
Concentration: 1 µg/L
Sample type: Sample



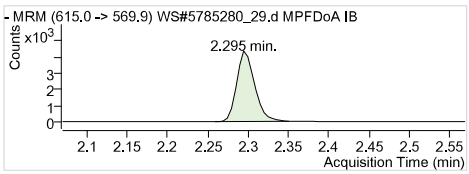


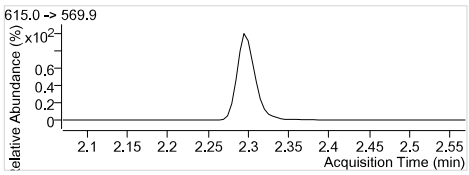
MPFDA Internal Standard
RT (Exp. RT): 2.108 (2.108)
Concentration: 1 µg/L
Sample type: Sample



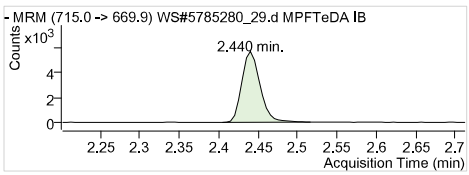


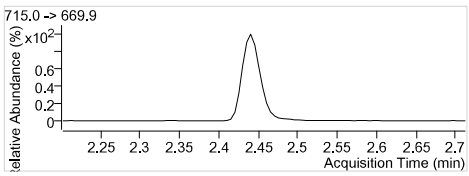
MPFUnA Internal Standard
RT (Exp. RT): 2.210 (2.210)
Concentration: 1 µg/L
Sample type: Sample



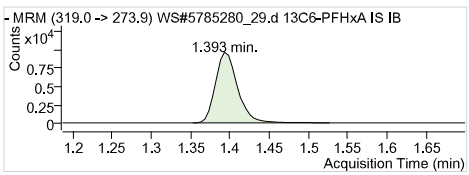


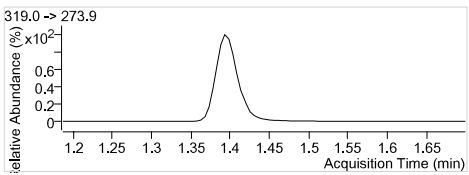
MPFDoA Internal Standard
RT (Exp. RT): 2.295 (2.295)
Concentration: 1 µg/L
Sample type: Sample



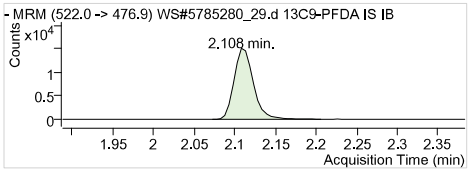


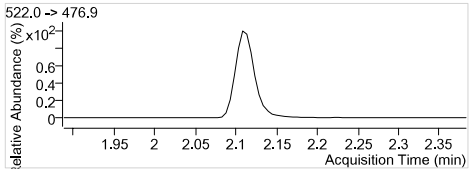
MPFTeDA Internal Standard
RT (Exp. RT): 2.440 (2.440)
Concentration: 1 µg/L
Sample type: Sample



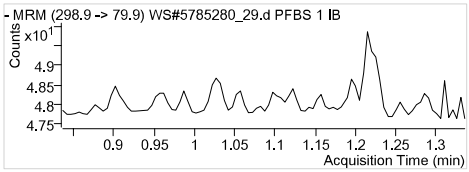


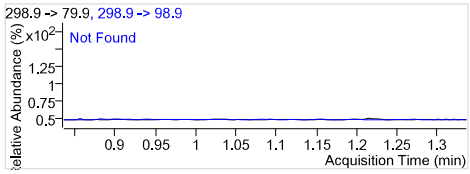
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.393 (1.393)
Concentration: 1 µg/L
Sample type: Sample



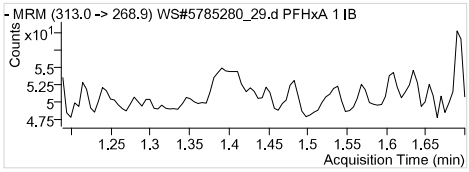


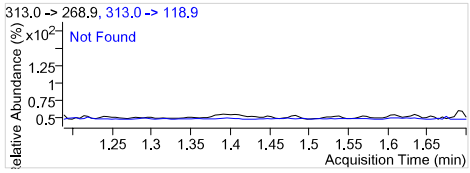
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.108 (2.108)
Concentration: 1 µg/L
Sample type: Sample



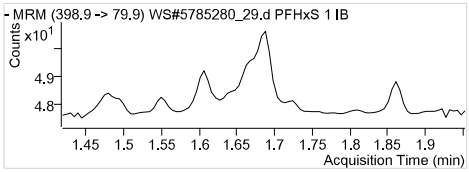


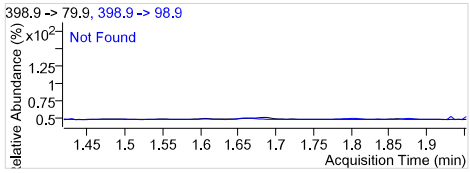
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 0.000 (1.067)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



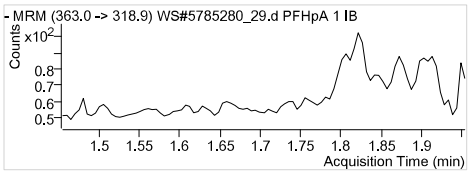


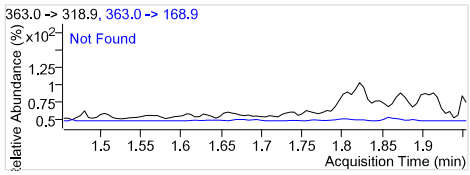
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 0.000 (1.391)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



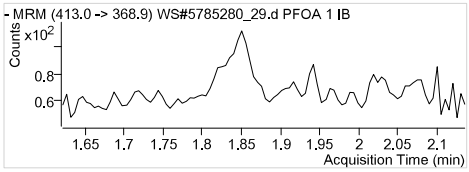


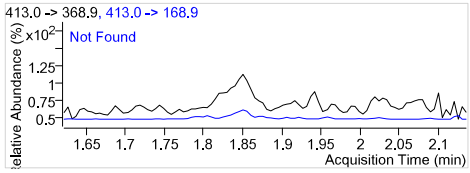
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 0.000 (1.663)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



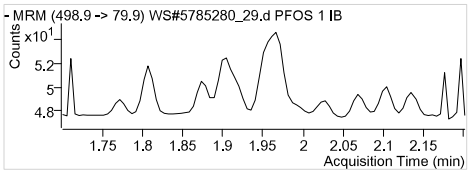


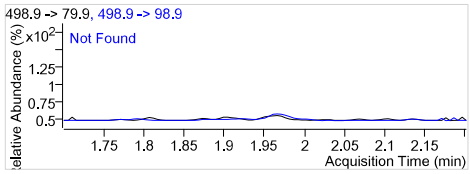
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 0.000 (1.664)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



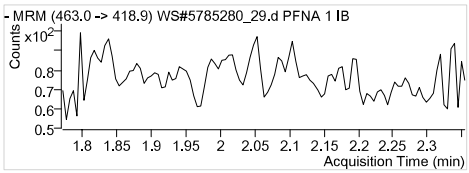


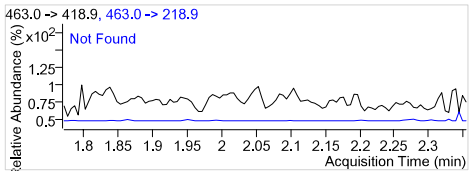
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 0.000 (1.845)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



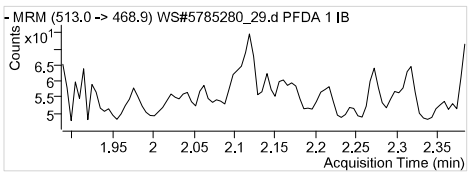


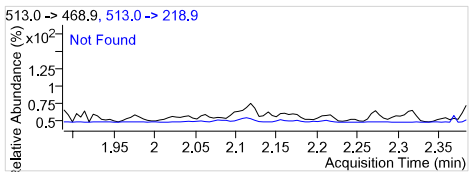
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 0.000 (1.966)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



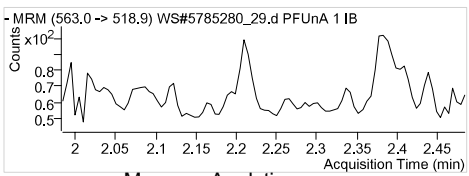


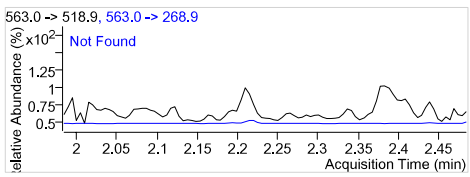
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 0.000 (1.992)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



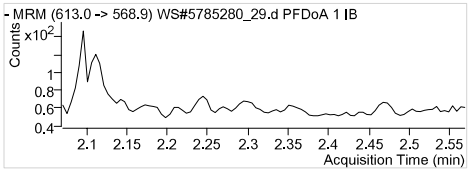


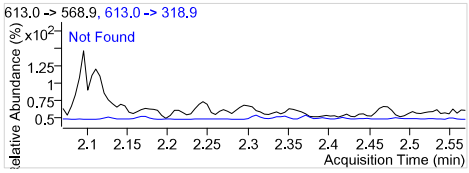
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 0.000 (2.108)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



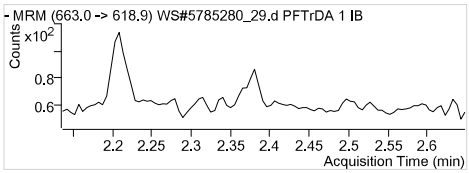


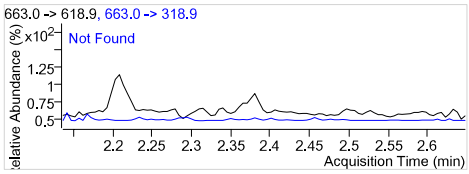
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 0.000 (2.210)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



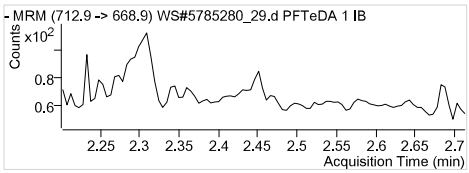


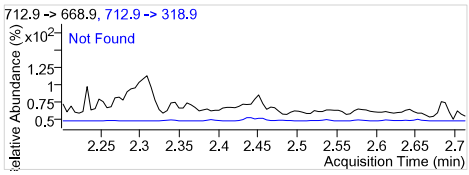
PFDoA 1	613.0 -> 568.9
RT (Exp. RT):	0.000 (2.295)
Calc. conc.	N.D.
Area ratio:	0
Sample type:	Sample



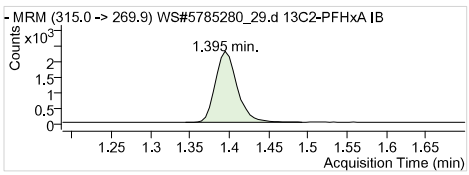


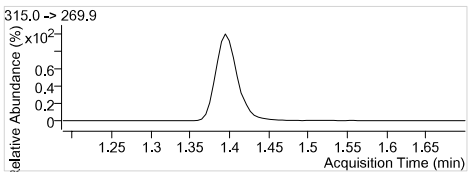
PFTrDA 1	663.0 -> 618.9
RT (Exp. RT):	0.000 (2.370)
Calc. conc.	N.D.
Area ratio:	0
Sample type:	Sample



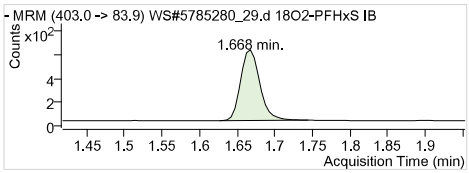


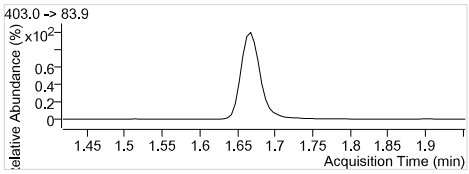
PFTeDA 1	712.9 -> 668.9
RT (Exp. RT):	0.000 (2.441)
Calc. conc.	N.D.
Area ratio:	0
Sample type:	Sample



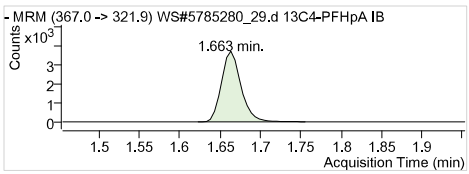


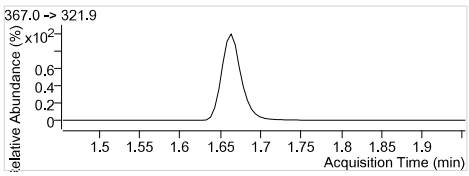
13C2-PFHxA	315.0 -> 269.9
RT (Exp. RT):	1.395 (1.395)
Calc. conc.	100.21 µg/L
Area ratio:	0.23497
Sample type:	Sample



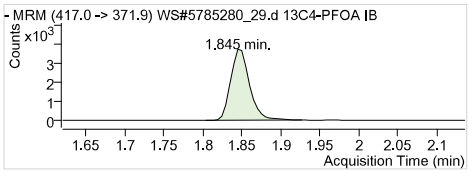


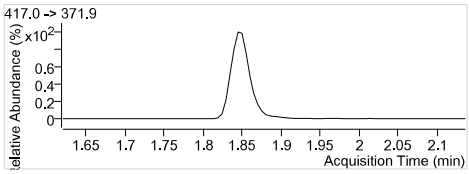
18O2-PFHxS	403.0 -> 83.9
RT (Exp. RT):	1.668 (1.668)
Calc. conc.	97.54 µg/L
Area ratio:	0.05678
Sample type:	Sample



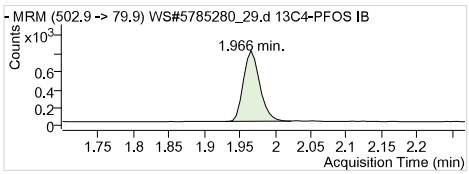


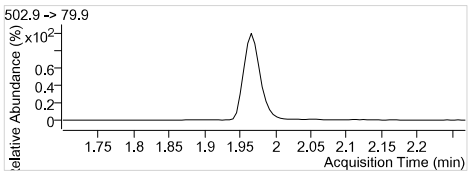
13C4-PFHpA	367.0 -> 321.9
RT (Exp. RT):	1.663 (1.663)
Calc. conc.	99.93 µg/L
Area ratio:	0.33438
Sample type:	Sample



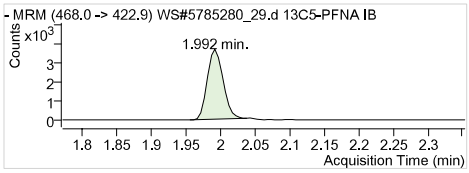


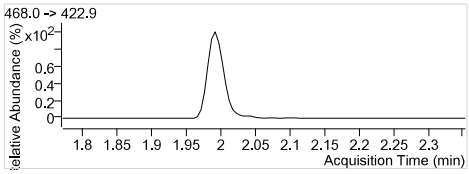
13C4-PFOA	417.0 -> 371.9
RT (Exp. RT):	1.845 (1.845)
Calc. conc.	97.11 µg/L
Area ratio:	0.33013
Sample type:	Sample



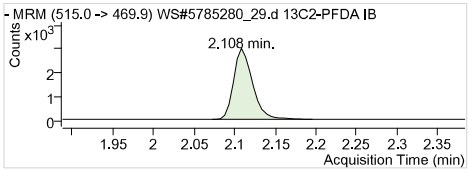


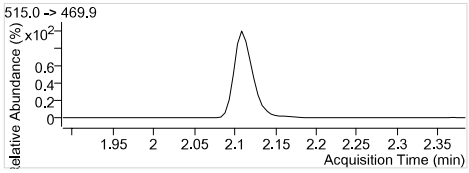
13C4-PFOS	502.9 -> 79.9
RT (Exp. RT):	1.966 (1.966)
Calc. conc.	98.64 µg/L
Area ratio:	0.06656
Sample type:	Sample



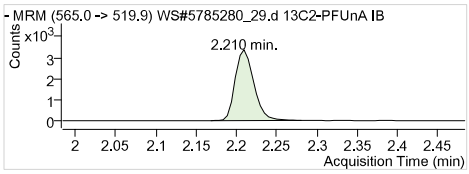


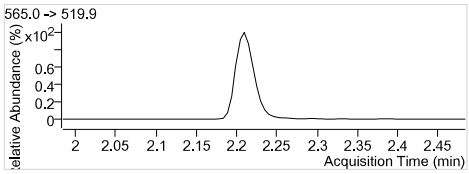
13C5-PFNA	468.0 -> 422.9
RT (Exp. RT):	1.992 (1.992)
Calc. conc.	95.38 µg/L
Area ratio:	0.30961
Sample type:	Sample



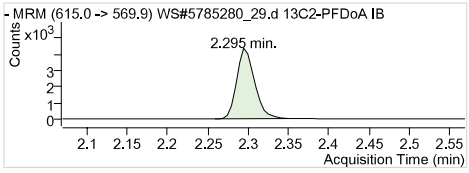


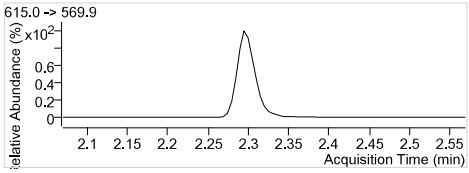
13C2-PFDA	515.0 -> 469.9
RT (Exp. RT):	2.108 (2.108)
Calc. conc.	107.31 µg/L
Area ratio:	0.19303
Sample type:	Sample



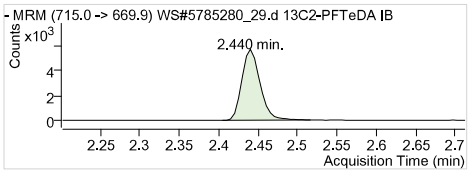


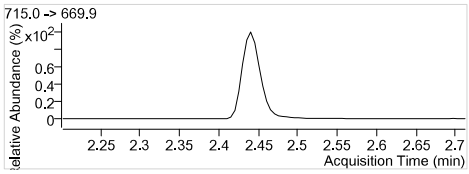
13C2-PFUnA	565.0 -> 519.9
RT (Exp. RT):	2.210 (2.210)
Calc. conc.	105.70 µg/L
Area ratio:	0.21220
Sample type:	Sample



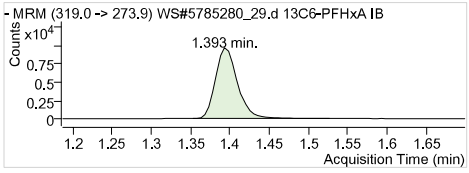


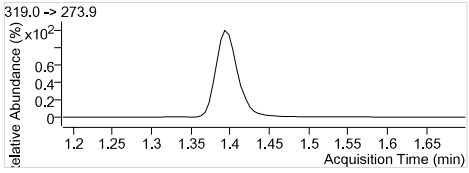
13C2-PFDoA	615.0 -> 569.9
RT (Exp. RT):	2.295 (2.295)
Calc. conc.	100.25 µg/L
Area ratio:	0.26639
Sample type:	Sample



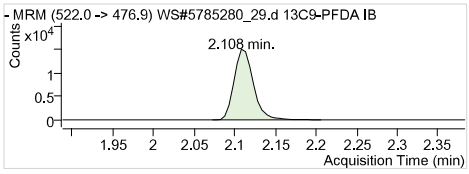


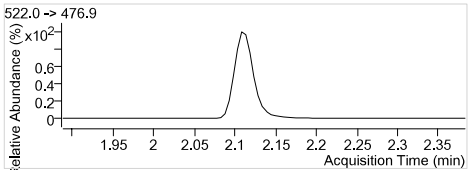
13C2-PFTeDA	715.0 -> 669.9
RT (Exp. RT):	2.440 (2.440)
Calc. conc.	102.38 µg/L
Area ratio:	0.36588
Sample type:	Sample





13C6-PFHxA	319.0 -> 273.9
RT (Exp. RT):	1.393 (1.393)
Calc. conc.	2.50 µg/L
Area ratio:	0
Sample type:	Sample





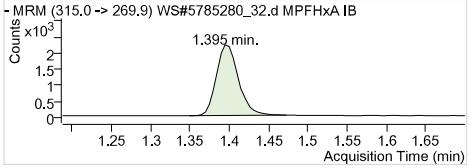
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	2.108 (2.108)
Calc. conc.	2.41 µg/L
Area ratio:	0
Sample type:	Sample

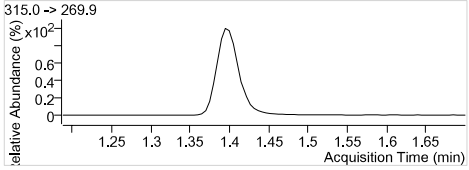
Batch Path	T:\LCMS04\PFC\20181017\WS#5785280\QuantResults\PFC_Water_Low_20181017_WS#5785280_EToxics

Sample Name	**IB**	**Instrument**	LCMS04
Data File	WS#5785280_32.d	**Operator**	
Sample Type	Sample	**Dilution**	0.024
Acq. Method	PFC_Water_Low.m	**Position**	P4-A8
Acq. Date	2018/10/18 4:40:13 AM	**Injection Volume**	Per Method
Sample Annotation	-		

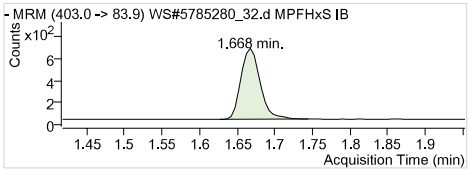
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	4331	1.39	1 µg/L		
MPFHxS	1152	1.67	1 µg/L		
MPFHpA	6307	1.66	1 µg/L		
MPFOA	6351	1.85	1 µg/L		
MPFOS	1230	1.97	1 µg/L		
MPFNA	6203	1.99	1 µg/L		
MPFDA	4634	2.11	1 µg/L		
MPFUnA	5223	2.21	1 µg/L		
MPFDoA	6610	2.29	1 µg/L		
MPFTeDA	9215	2.44	1 µg/L		
13C6-PFHxA IS	18446	1.39	1 µg/L		
13C9-PFDA IS	25430	2.11	1 µg/L		

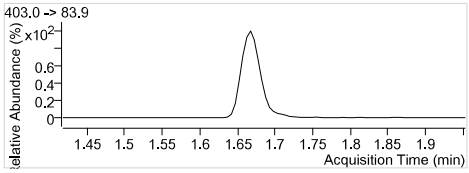
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1			-	ND	-
PFHxA 1			-	ND	-
PFHxS 1			-	ND	-
PFHpA 1			-	ND	-
PFOA 1			-	ND	-
PFOS 1			-	ND	-
PFNA 1			-	ND	-
PFDA 1			-	ND	-
PFUnA 1			-	ND	-
PFDoA 1			-	ND	-
PFTrDA 1			-	ND	-
PFTeDA 1			-	ND	-
13C2-PFHxA	4331	1.39	-	100.13 µg/L	-
18O2-PFHxS	1152	1.67	-	107.30 µg/L	-
13C4-PFHpA	6307	1.66	-	102.19 µg/L	-
13C4-PFOA	6351	1.85	-	101.28 µg/L	-
13C4-PFOS	1230	1.97	-	98.82 µg/L	-
13C5-PFNA	6203	1.99	-	103.60 µg/L	-
13C2-PFDA	4634	2.11	-	101.31 µg/L	-
13C2-PFUnA	5223	2.21	-	102.31 µg/L	-
13C2-PFDoA	6610	2.29	-	97.81 µg/L	-
13C2-PFTeDA	9215	2.44	-	101.40 µg/L	-
13C6-PFHxA	18446	1.39	-	2.46 µg/L	-
13C9-PFDA	25430	2.11	-	2.47 µg/L	-



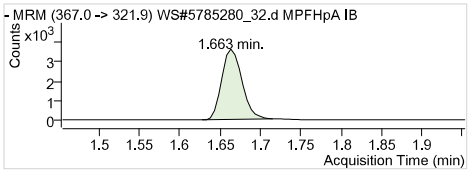


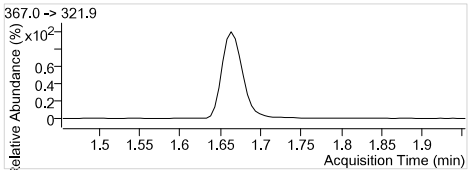
MPFHxA	Internal Standard
RT (Exp. RT):	1.395 (1.395)
Concentration:	1 µg/L
Sample type:	Sample



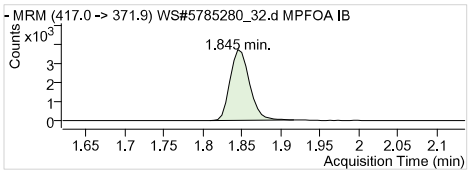


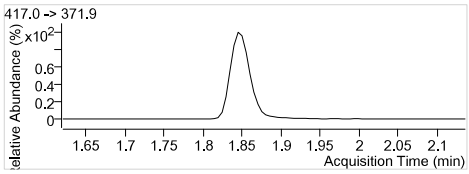
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Sample



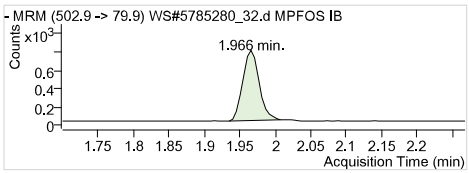


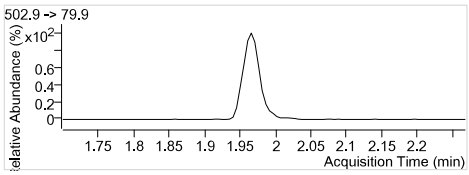
MPFHpA Internal Standard
RT (Exp. RT): 1.663 (1.663)
Concentration: 1 µg/L
Sample type: Sample



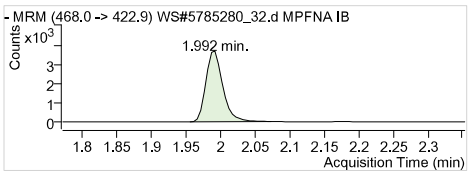


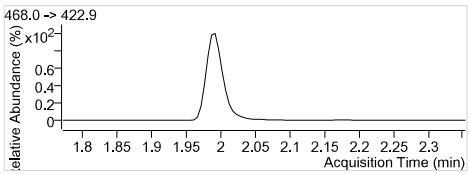
MPFOA Internal Standard
RT (Exp. RT): 1.845 (1.845)
Concentration: 1 µg/L
Sample type: Sample



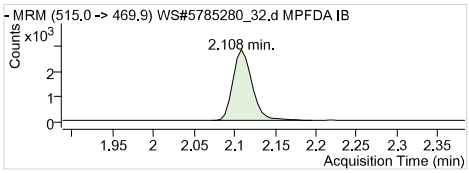


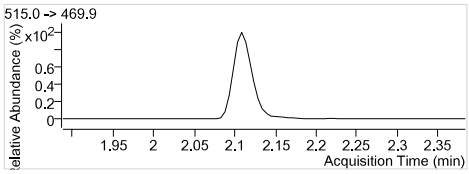
MPFOS Internal Standard
RT (Exp. RT): 1.966 (1.966)
Concentration: 1 µg/L
Sample type: Sample



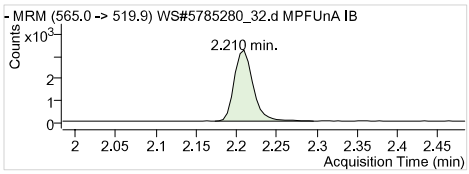


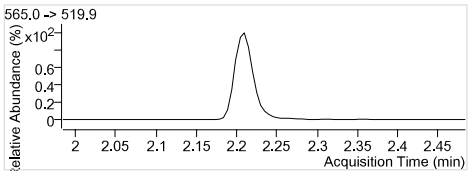
MPFNA Internal Standard
RT (Exp. RT): 1.992 (1.992)
Concentration: 1 µg/L
Sample type: Sample



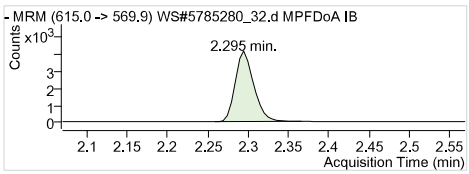


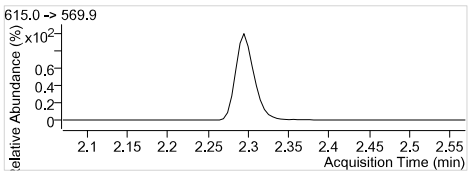
MPFDA Internal Standard
RT (Exp. RT): 2.108 (2.108)
Concentration: 1 µg/L
Sample type: Sample



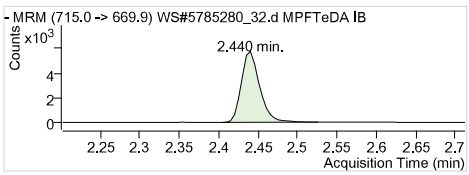


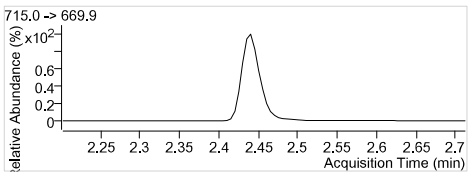
MPFUnA Internal Standard
RT (Exp. RT): 2.210 (2.210)
Concentration: 1 µg/L
Sample type: Sample



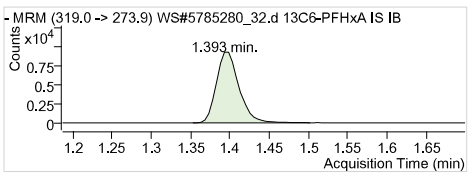


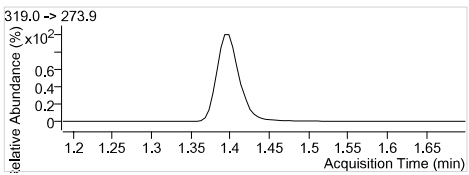
MPFDoA Internal Standard
RT (Exp. RT): 2.295 (2.295)
Concentration: 1 µg/L
Sample type: Sample



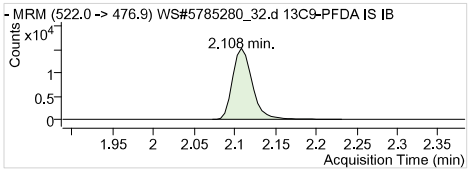


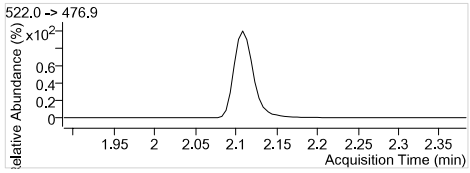
MPFTeDA Internal Standard
RT (Exp. RT): 2.440 (2.440)
Concentration: 1 µg/L
Sample type: Sample



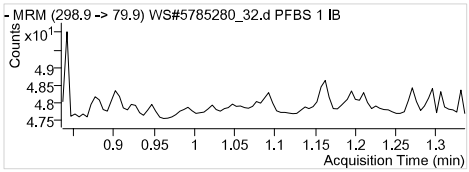


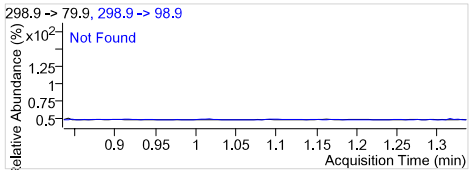
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.393 (1.393)
Concentration: 1 µg/L
Sample type: Sample



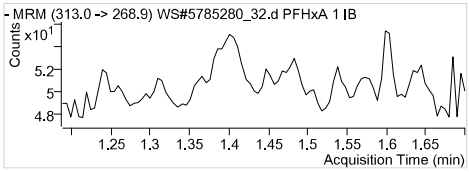


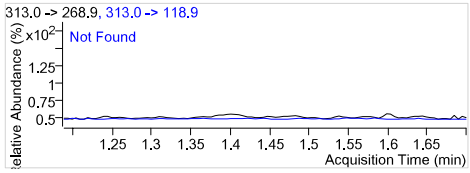
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.108 (2.108)
Concentration: 1 µg/L
Sample type: Sample



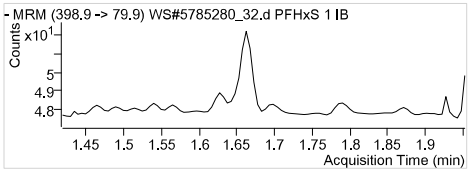


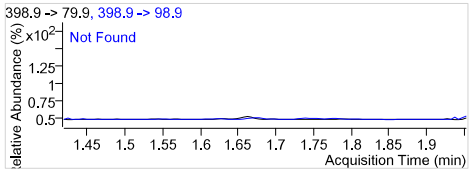
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 0.000 (1.067)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



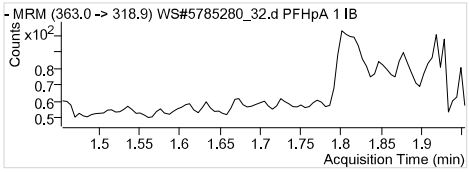


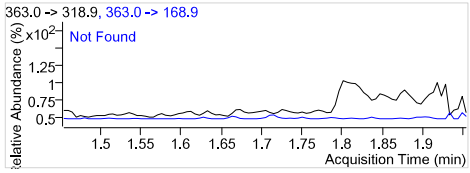
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 0.000 (1.391)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



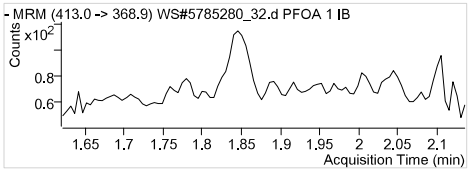


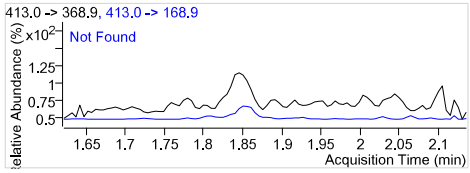
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 0.000 (1.663)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



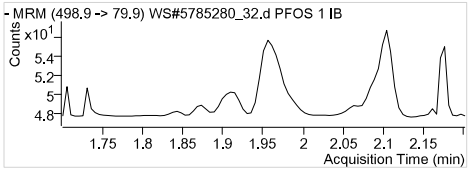


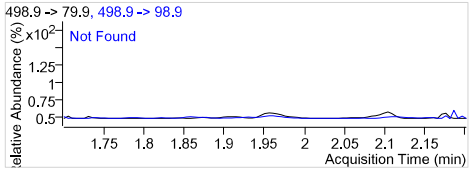
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 0.000 (1.664)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



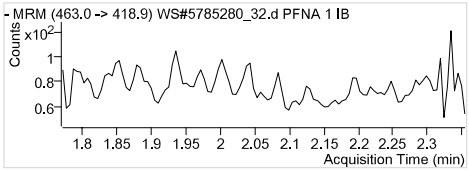


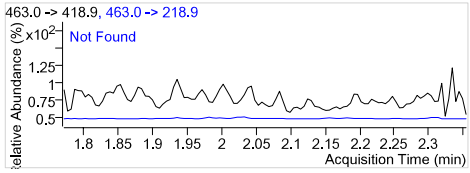
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 0.000 (1.845)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



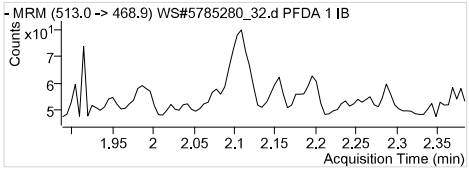


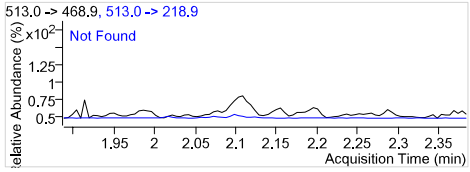
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 0.000 (1.966)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



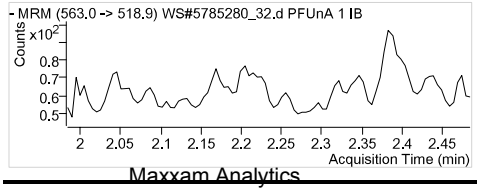


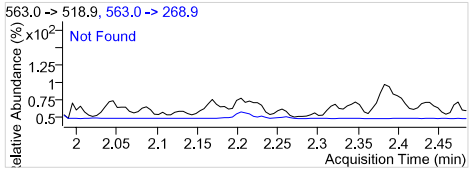
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 0.000 (1.992)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



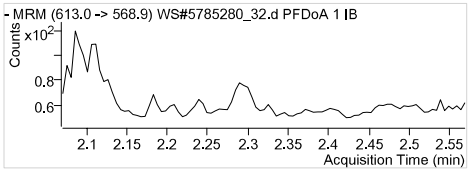


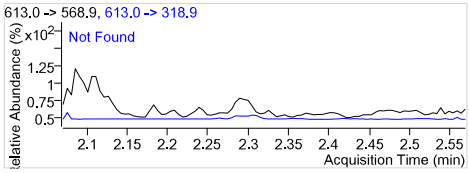
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 0.000 (2.108)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



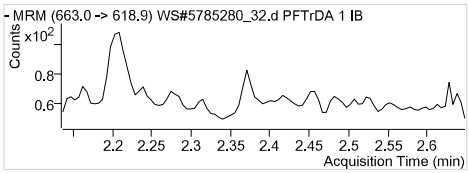


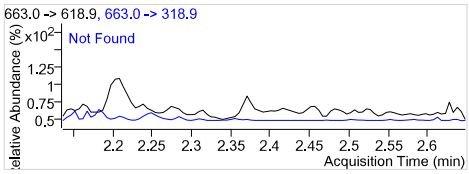
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 0.000 (2.210)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



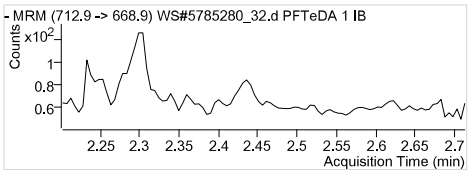


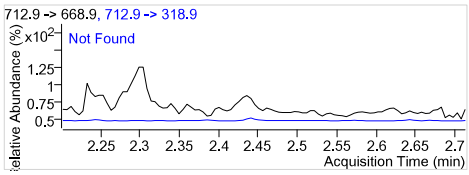
PFDoA 1	613.0 -> 568.9
RT (Exp. RT):	0.000 (2.295)
Calc. conc.	N.D.
Area ratio:	0
Sample type:	Sample



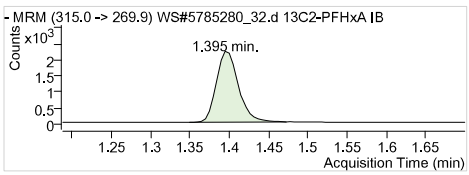


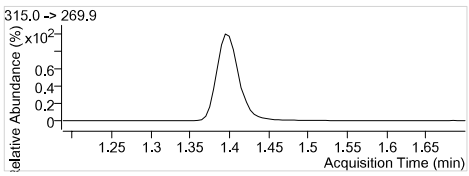
PFTrDA 1	663.0 -> 618.9
RT (Exp. RT):	0.000 (2.370)
Calc. conc.	N.D.
Area ratio:	0
Sample type:	Sample



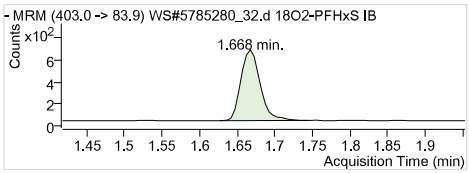


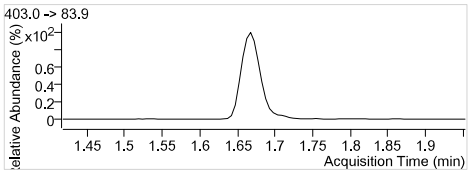
PFTeDA 1	712.9 -> 668.9
RT (Exp. RT):	0.000 (2.441)
Calc. conc.	N.D.
Area ratio:	0
Sample type:	Sample



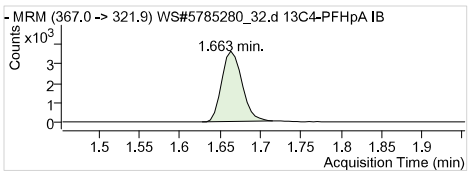


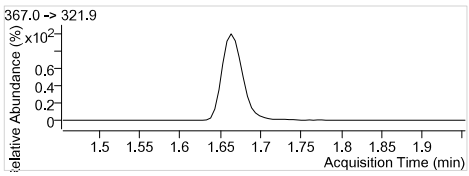
13C2-PFHxA	315.0 -> 269.9
RT (Exp. RT):	1.395 (1.395)
Calc. conc.	100.13 µg/L
Area ratio:	0.23479
Sample type:	Sample



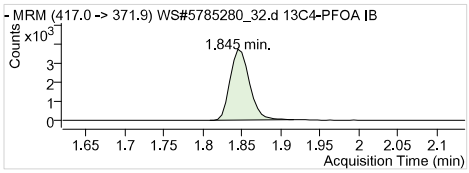


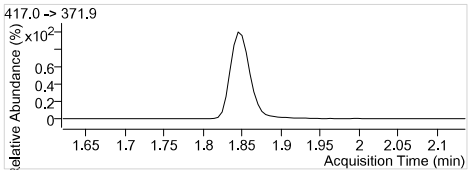
18O2-PFHxS	403.0 -> 83.9
RT (Exp. RT):	1.668 (1.668)
Calc. conc.	107.30 µg/L
Area ratio:	0.06245
Sample type:	Sample



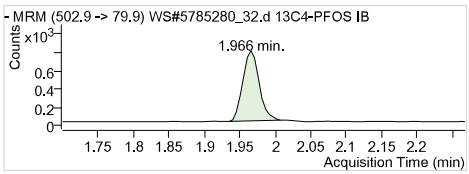


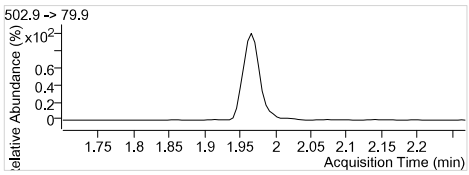
13C4-PFHpA	367.0 -> 321.9
RT (Exp. RT):	1.663 (1.663)
Calc. conc.	102.19 µg/L
Area ratio:	0.34192
Sample type:	Sample



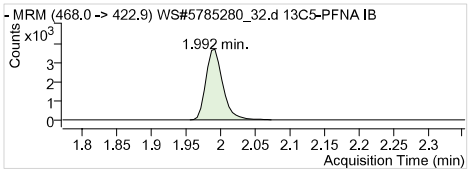


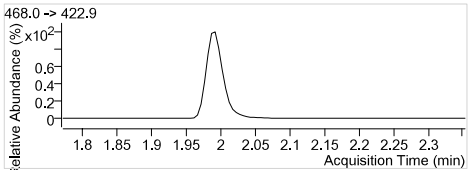
13C4-PFOA	417.0 -> 371.9
RT (Exp. RT):	1.845 (1.845)
Calc. conc.	101.28 µg/L
Area ratio:	0.34430
Sample type:	Sample



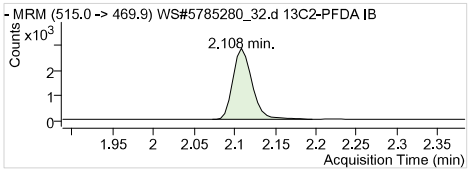


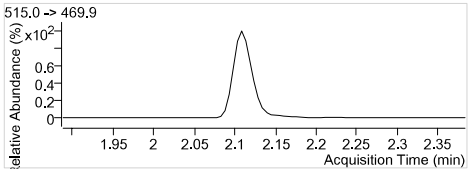
13C4-PFOS	502.9 -> 79.9
RT (Exp. RT):	1.966 (1.966)
Calc. conc.	98.82 µg/L
Area ratio:	0.06668
Sample type:	Sample



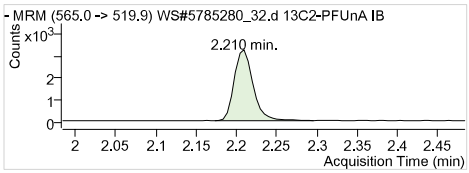


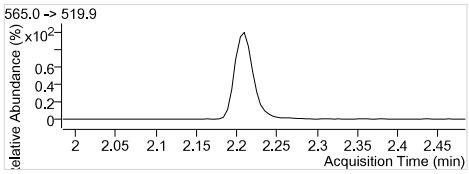
13C5-PFNA	468.0 -> 422.9
RT (Exp. RT):	1.992 (1.992)
Calc. conc.	103.60 µg/L
Area ratio:	0.33628
Sample type:	Sample



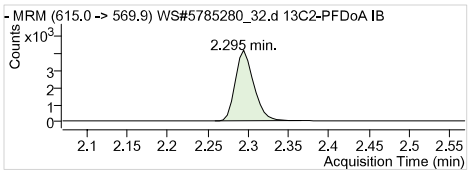


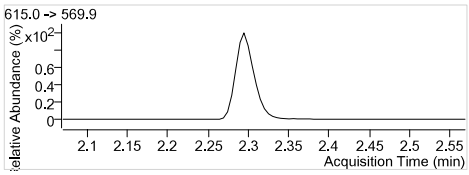
13C2-PFDA	515.0 -> 469.9
RT (Exp. RT):	2.108 (2.108)
Calc. conc.	101.31 µg/L
Area ratio:	0.18223
Sample type:	Sample



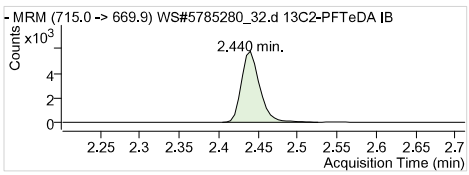


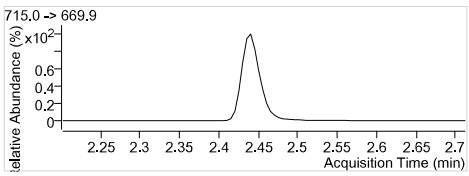
13C2-PFUnA	565.0 -> 519.9
RT (Exp. RT):	2.210 (2.210)
Calc. conc.	102.31 µg/L
Area ratio:	0.20539
Sample type:	Sample



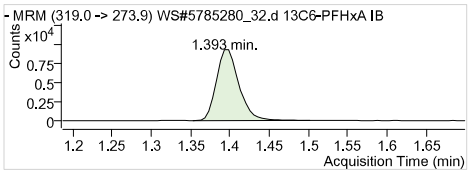


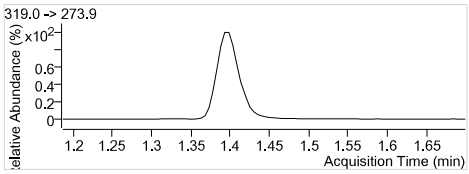
13C2-PFDoA	615.0 -> 569.9
RT (Exp. RT):	2.295 (2.295)
Calc. conc.	97.81 µg/L
Area ratio:	0.25993
Sample type:	Sample



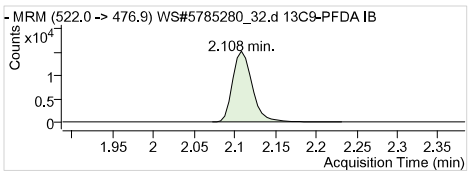


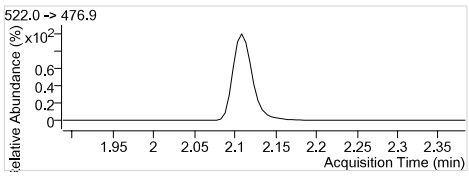
13C2-PFTeDA	715.0 -> 669.9
RT (Exp. RT):	2.440 (2.440)
Calc. conc.	101.40 µg/L
Area ratio:	0.36237
Sample type:	Sample





13C6-PFHxA	319.0 -> 273.9
RT (Exp. RT):	1.393 (1.393)
Calc. conc.	2.46 µg/L
Area ratio:	0
Sample type:	Sample





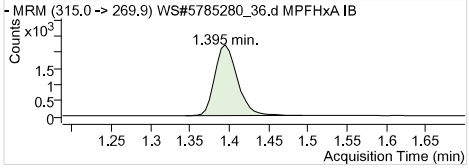
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	2.108 (2.108)
Calc. conc.	2.47 µg/L
Area ratio:	0
Sample type:	Sample

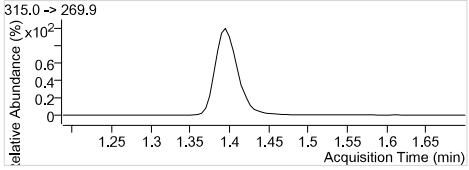
Batch Path	T:\LCMS04\PFC\20181017\WS#5785280\QuantResults\PFC_Water_Low_20181017_WS#5785280_EToxics

Sample Name	**IB**	**Instrument**	LCMS04
Data File	WS#5785280_36.d	**Operator**	
Sample Type	Sample	**Dilution**	0.024
Acq. Method	PFC_Water_Low.m	**Position**	P4-A8
Acq. Date	2018/10/18 4:59:52 AM	**Injection Volume**	Per Method
Sample Annotation	-		

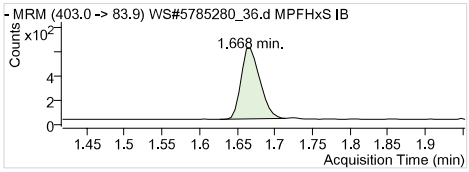
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	4355	1.39	1 µg/L		
MPFHxS	1020	1.67	1 µg/L		
MPFHpA	6245	1.66	1 µg/L		
MPFOA	6379	1.85	1 µg/L		
MPFOS	1268	1.97	1 µg/L		
MPFNA	6427	1.99	1 µg/L		
MPFDA	4608	2.11	1 µg/L		
MPFUnA	5011	2.21	1 µg/L		
MPFDoA	6648	2.29	1 µg/L		
MPFTeDA	8957	2.44	1 µg/L		
13C6-PFHxA IS	18659	1.39	1 µg/L		
13C9-PFDA IS	24719	2.11	1 µg/L		

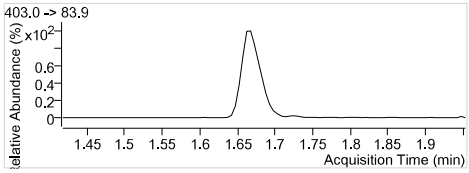
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1			-	ND	-
PFHxA 1			-	ND	-
PFHxS 1			-	ND	-
PFHpA 1			-	ND	-
PFOA 1			-	ND	-
PFOS 1			-	ND	-
PFNA 1			-	ND	-
PFDA 1			-	ND	-
PFUnA 1			-	ND	-
PFDoA 1			-	ND	-
PFTrDA 1			-	ND	-
PFTeDA 1			-	ND	-
13C2-PFHxA	4355	1.39	-	99.54 µg/L	-
18O2-PFHxS	1020	1.67	-	93.92 µg/L	-
13C4-PFHpA	6245	1.66	-	100.03 µg/L	-
13C4-PFOA	6379	1.85	-	100.56 µg/L	-
13C4-PFOS	1268	1.97	-	100.71 µg/L	-
13C5-PFNA	6427	1.99	-	106.11 µg/L	-
13C2-PFDA	4608	2.11	-	103.64 µg/L	-
13C2-PFUnA	5011	2.21	-	100.98 µg/L	-
13C2-PFDoA	6648	2.29	-	101.21 µg/L	-
13C2-PFTeDA	8957	2.44	-	101.39 µg/L	-
13C6-PFHxA	18659	1.39	-	2.48 µg/L	-
13C9-PFDA	24719	2.11	-	2.40 µg/L	-



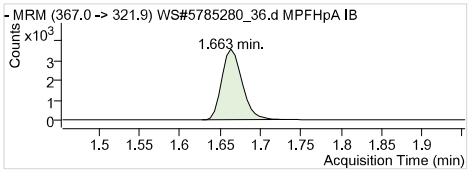


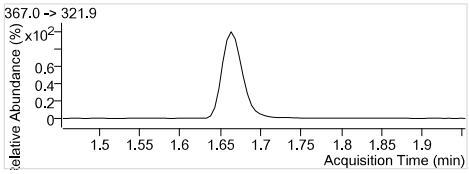
MPFHxA	Internal Standard
RT (Exp. RT):	1.395 (1.395)
Concentration:	1 µg/L
Sample type:	Sample



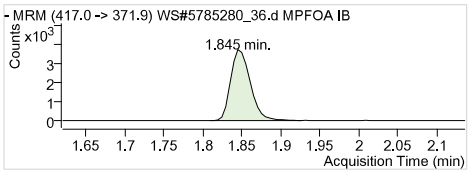


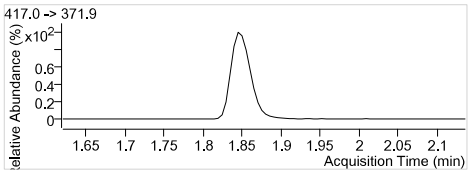
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Sample



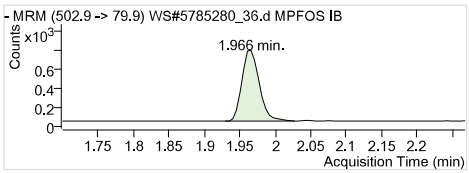


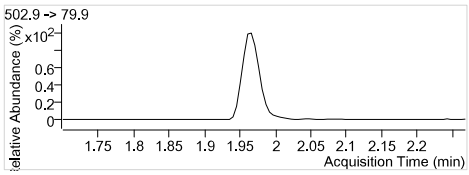
MPFHpA Internal Standard
RT (Exp. RT): 1.663 (1.663)
Concentration: 1 µg/L
Sample type: Sample



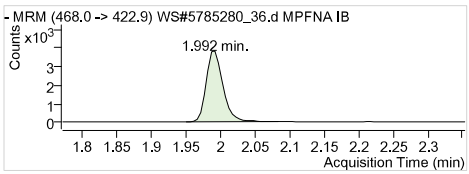


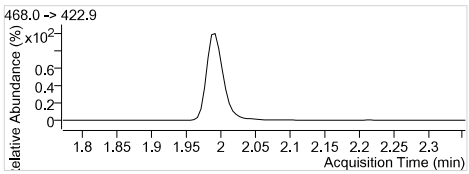
MPFOA Internal Standard
RT (Exp. RT): 1.845 (1.845)
Concentration: 1 µg/L
Sample type: Sample



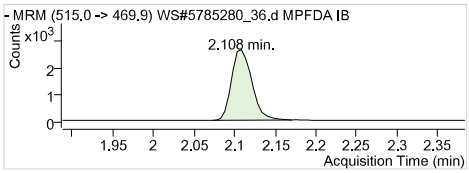


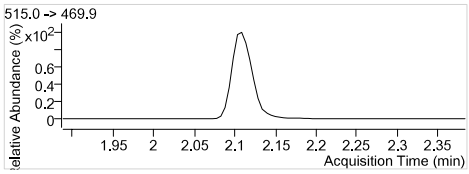
MPFOS Internal Standard
RT (Exp. RT): 1.966 (1.966)
Concentration: 1 µg/L
Sample type: Sample



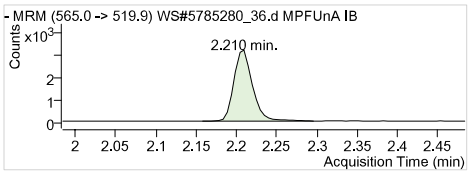


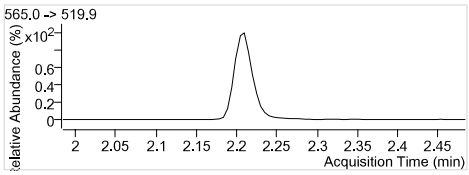
MPFNA Internal Standard
RT (Exp. RT): 1.992 (1.992)
Concentration: 1 µg/L
Sample type: Sample



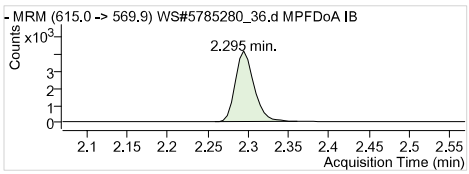


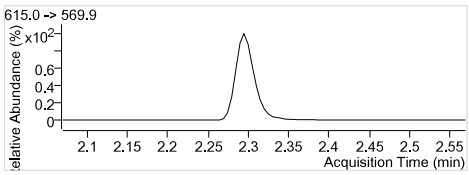
MPFDA Internal Standard
RT (Exp. RT): 2.108 (2.108)
Concentration: 1 µg/L
Sample type: Sample



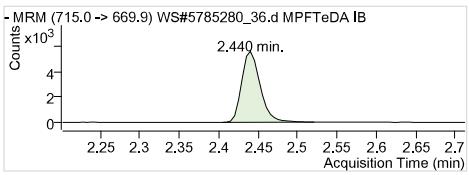


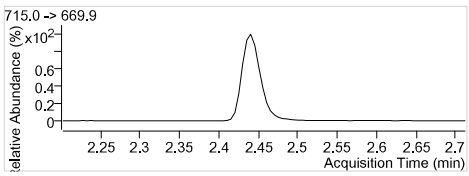
MPFUnA Internal Standard
RT (Exp. RT): 2.210 (2.210)
Concentration: 1 µg/L
Sample type: Sample



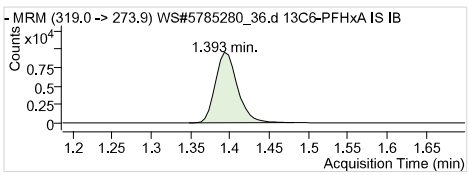


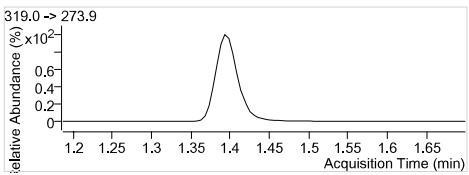
MPFDoA Internal Standard
RT (Exp. RT): 2.295 (2.295)
Concentration: 1 µg/L
Sample type: Sample



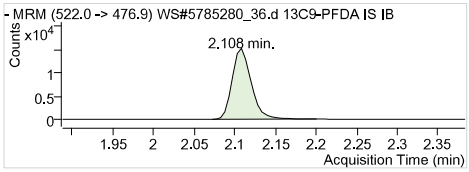


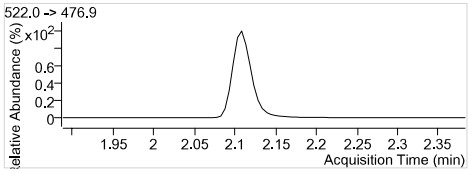
MPFTeDA Internal Standard
RT (Exp. RT): 2.440 (2.440)
Concentration: 1 µg/L
Sample type: Sample



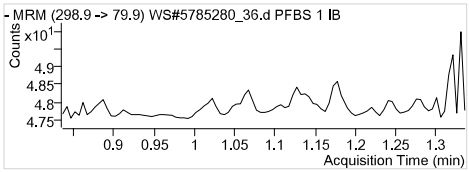


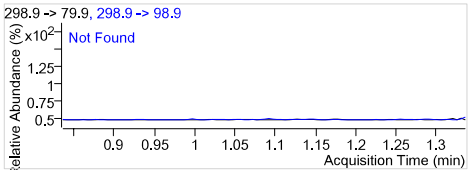
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.393 (1.393)
Concentration: 1 µg/L
Sample type: Sample



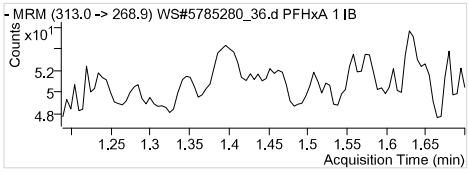


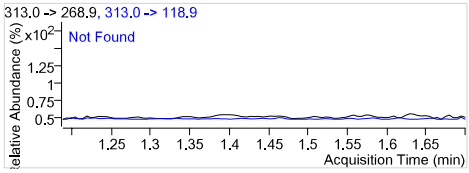
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.108 (2.108)
Concentration: 1 µg/L
Sample type: Sample



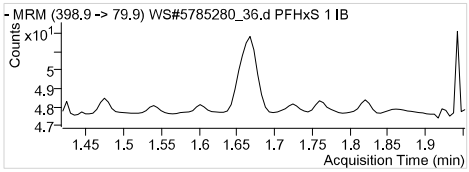


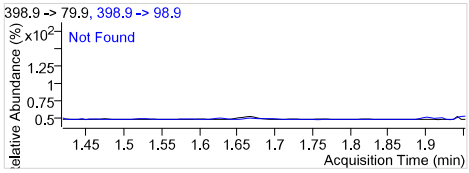
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 0.000 (1.067)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



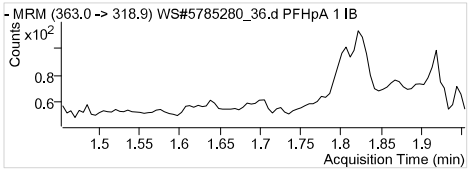


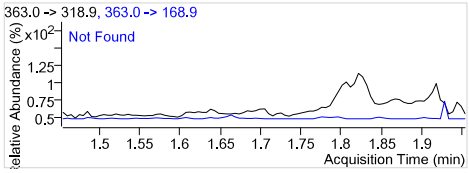
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 0.000 (1.391)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



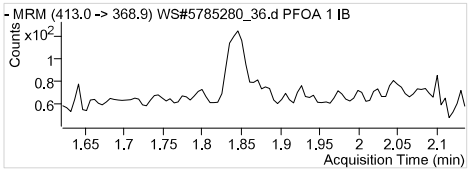


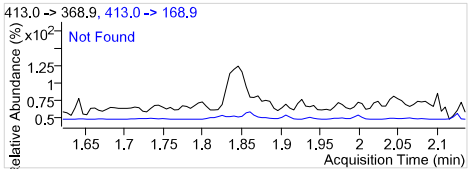
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 0.000 (1.663)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



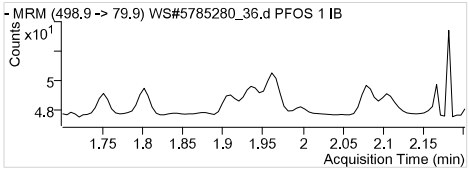


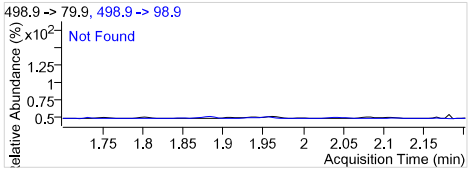
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 0.000 (1.664)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



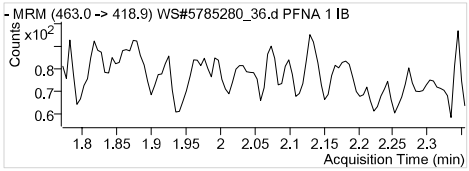


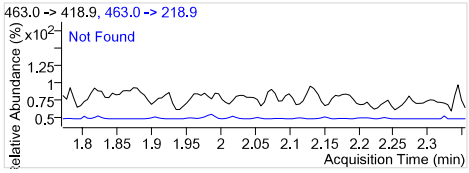
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 0.000 (1.845)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



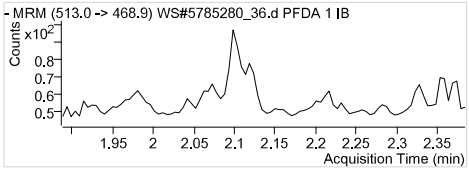


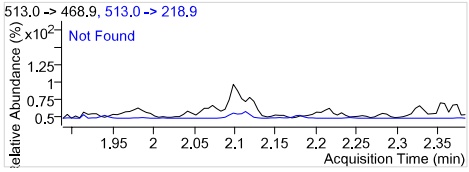
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 0.000 (1.966)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



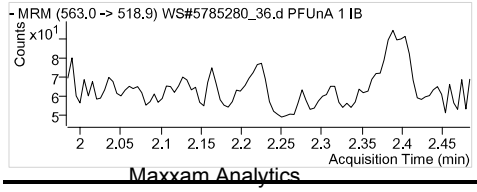


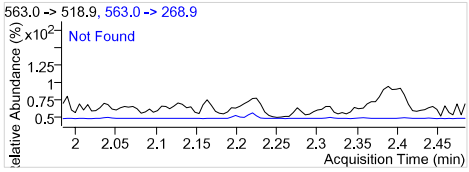
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 0.000 (1.992)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



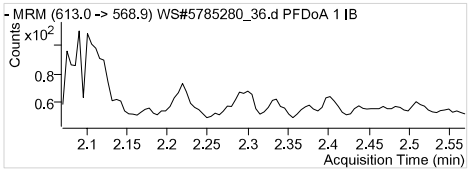


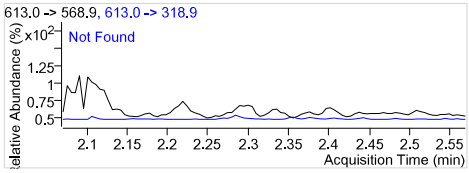
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 0.000 (2.108)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



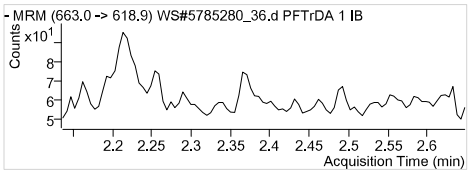


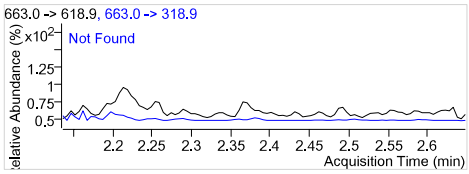
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 0.000 (2.210)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



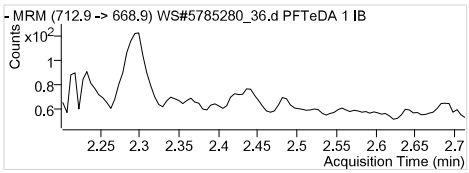


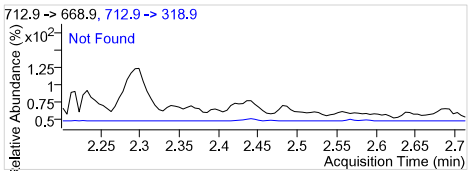
PFDoA 1	613.0 -> 568.9
RT (Exp. RT):	0.000 (2.295)
Calc. conc.	N.D.
Area ratio:	0
Sample type:	Sample



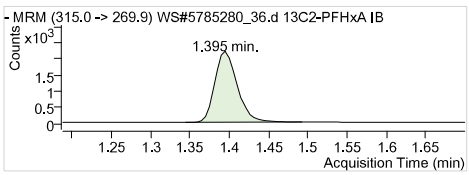


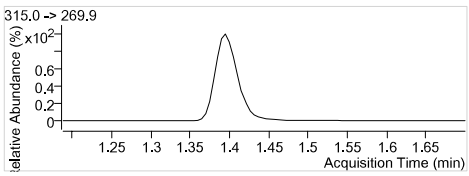
PFTrDA 1	663.0 -> 618.9
RT (Exp. RT):	0.000 (2.370)
Calc. conc.	N.D.
Area ratio:	0
Sample type:	Sample



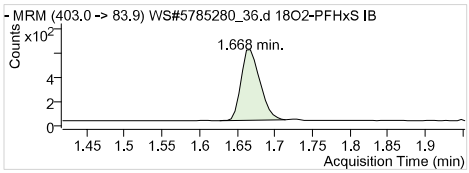


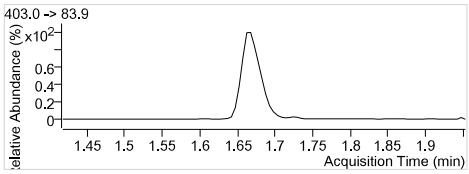
PFTeDA 1	712.9 -> 668.9
RT (Exp. RT):	0.000 (2.441)
Calc. conc.	N.D.
Area ratio:	0
Sample type:	Sample



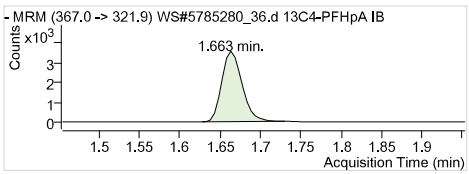


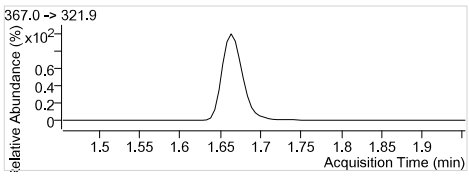
13C2-PFHxA	315.0 -> 269.9
RT (Exp. RT):	1.395 (1.395)
Calc. conc.	99.54 µg/L
Area ratio:	0.23340
Sample type:	Sample



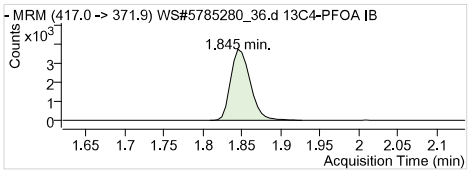


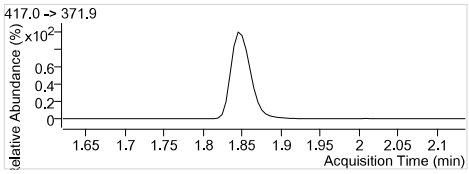
18O2-PFHxS	403.0 -> 83.9
RT (Exp. RT):	1.668 (1.668)
Calc. conc.	93.92 µg/L
Area ratio:	0.05467
Sample type:	Sample



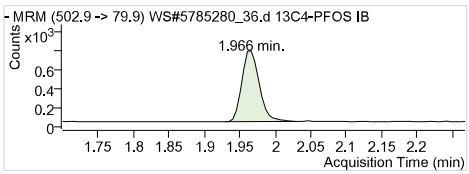


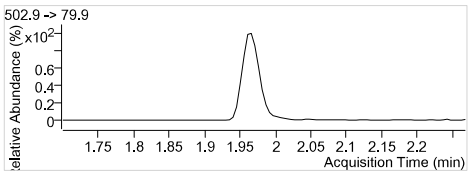
13C4-PFHpA	367.0 -> 321.9
RT (Exp. RT):	1.663 (1.663)
Calc. conc.	100.03 µg/L
Area ratio:	0.33469
Sample type:	Sample



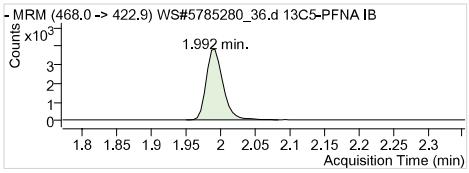


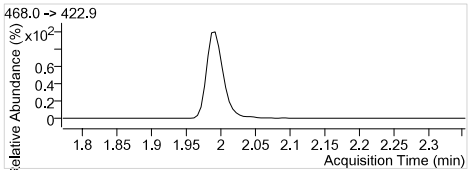
13C4-PFOA	417.0 -> 371.9
RT (Exp. RT):	1.845 (1.845)
Calc. conc.	100.56 µg/L
Area ratio:	0.34187
Sample type:	Sample



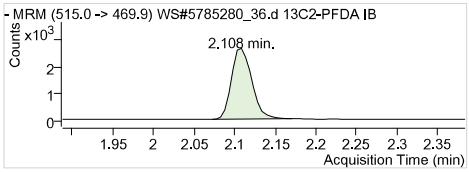


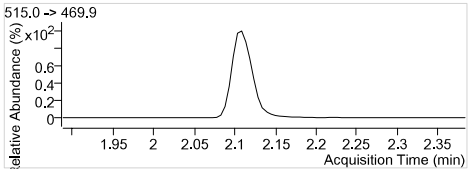
13C4-PFOS	502.9 -> 79.9
RT (Exp. RT):	1.966 (1.966)
Calc. conc.	100.71 µg/L
Area ratio:	0.06796
Sample type:	Sample



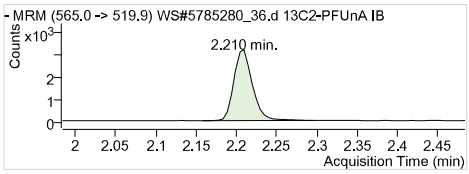


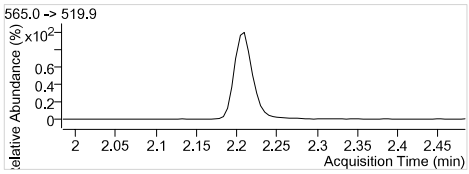
13C5-PFNA	468.0 -> 422.9
RT (Exp. RT):	1.992 (1.992)
Calc. conc.	106.11 µg/L
Area ratio:	0.34445
Sample type:	Sample



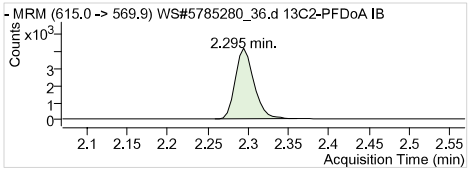


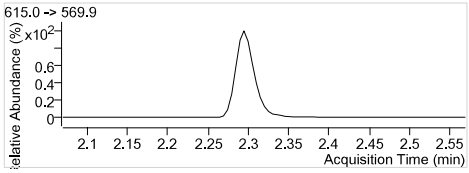
13C2-PFDA	515.0 -> 469.9
RT (Exp. RT):	2.108 (2.108)
Calc. conc.	103.64 µg/L
Area ratio:	0.18642
Sample type:	Sample



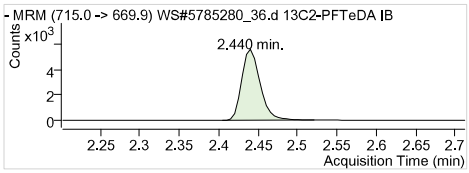


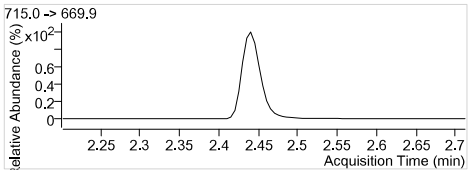
13C2-PFUnA	565.0 -> 519.9
RT (Exp. RT):	2.210 (2.210)
Calc. conc.	100.98 µg/L
Area ratio:	0.20272
Sample type:	Sample



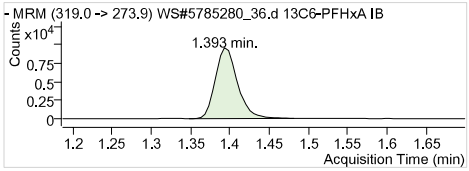


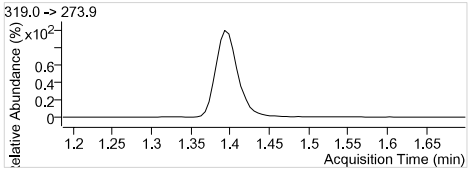
13C2-PFDoA	615.0 -> 569.9
RT (Exp. RT):	2.295 (2.295)
Calc. conc.	101.21 µg/L
Area ratio:	0.26894
Sample type:	Sample



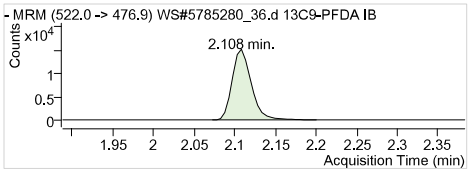


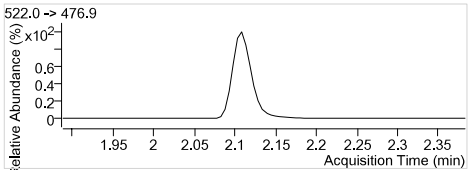
13C2-PFTeDA	715.0 -> 669.9
RT (Exp. RT):	2.440 (2.440)
Calc. conc.	101.39 µg/L
Area ratio:	0.36235
Sample type:	Sample





13C6-PFHxA	319.0 -> 273.9
RT (Exp. RT):	1.393 (1.393)
Calc. conc.	2.48 µg/L
Area ratio:	0
Sample type:	Sample





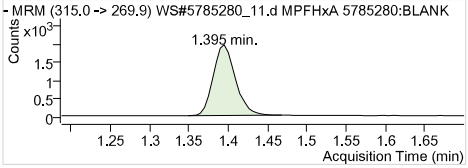
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	2.108 (2.108)
Calc. conc.	2.40 µg/L
Area ratio:	0
Sample type:	Sample

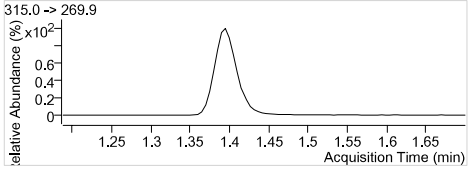
Batch Path	T:\LCMS04\PFC\20181017\WS#5785280\QuantResults\PFC_Water_Low_20181017_WS#5785280_EToxics

Sample Name	**5785280:BLANK**	**Instrument**	LCMS04
Data File	WS#5785280_11.d	**Operator**	
Sample Type	Sample	**Dilution**	0.024
Acq. Method	PFC_Water_Low.m	**Position**	P4-B1
Acq. Date	2018/10/18 2:57:05 AM	**Injection Volume**	Per Method
Sample Annotation	-		

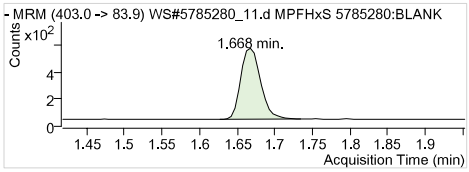
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	3813	1.39	1 µg/L		
MPFHxS	985	1.67	1 µg/L		
MPFHpA	5674	1.66	1 µg/L		
MPFOA	5575	1.85	1 µg/L		
MPFOS	1107	1.97	1 µg/L		
MPFNA	5268	1.99	1 µg/L		
MPFDA	3528	2.11	1 µg/L		
MPFUnA	4233	2.21	1 µg/L		
MPFDoA	5405	2.29	1 µg/L		
MPFTeDA	7164	2.44	1 µg/L		
13C6-PFHxA IS	18213	1.39	1 µg/L		
13C9-PFDA IS	24842	2.11	1 µg/L		

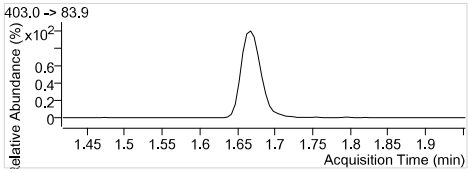
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1			-	ND	-
PFHxA 1			-	ND	-
PFHxS 1			-	ND	-
PFHpA 1			-	ND	-
PFOA 1			-	ND	-
PFOS 1			-	ND	-
PFNA 1			-	ND	-
PFDA 1			-	ND	-
PFUnA 1			-	ND	-
PFDoA 1			-	ND	-
PFTrDA 1			-	ND	-
PFTeDA 1			-	ND	-
13C2-PFHxA	3813	1.39	-	89.28 µg/L	-
18O2-PFHxS	985	1.67	-	92.92 µg/L	-
13C4-PFHpA	5674	1.66	-	93.11 µg/L	-
13C4-PFOA	5575	1.85	-	90.04 µg/L	-
13C4-PFOS	1107	1.97	-	90.08 µg/L	-
13C5-PFNA	5268	1.99	-	89.11 µg/L	-
13C2-PFDA	3528	2.11	-	78.95 µg/L	-
13C2-PFUnA	4233	2.21	-	84.88 µg/L	-
13C2-PFDoA	5405	2.29	-	81.88 µg/L	-
13C2-PFTeDA	7164	2.44	-	80.70 µg/L	-
13C6-PFHxA	18213	1.39	-	2.43 µg/L	-
13C9-PFDA	24842	2.11	-	2.41 µg/L	-



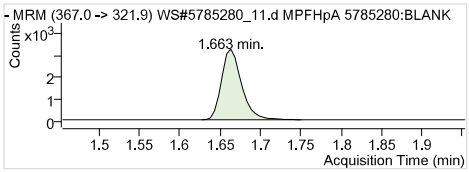


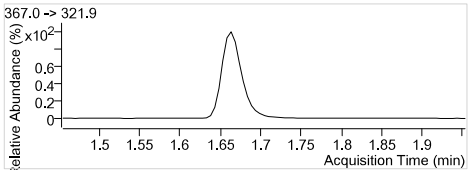
MPFHxA	Internal Standard
RT (Exp. RT):	1.395 (1.395)
Concentration:	1 µg/L
Sample type:	Sample



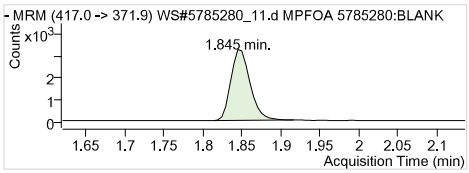


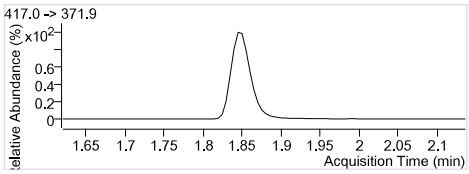
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Sample



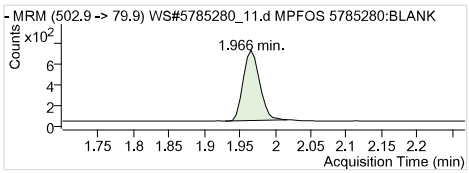


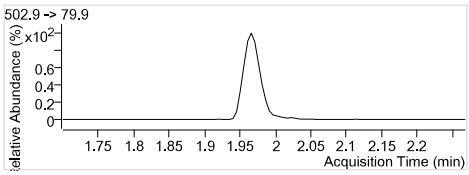
MPFHpA Internal Standard
RT (Exp. RT): 1.663 (1.663)
Concentration: 1 µg/L
Sample type: Sample



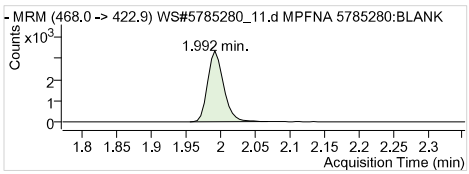


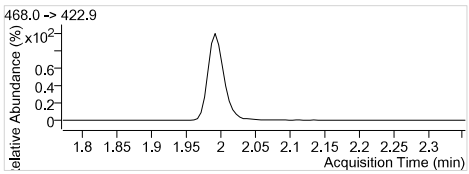
MPFOA Internal Standard
RT (Exp. RT): 1.845 (1.845)
Concentration: 1 µg/L
Sample type: Sample



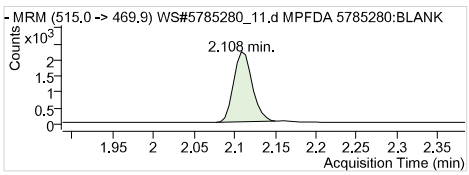


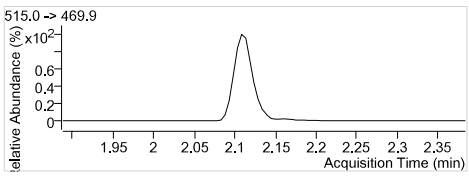
MPFOS Internal Standard
RT (Exp. RT): 1.966 (1.966)
Concentration: 1 µg/L
Sample type: Sample



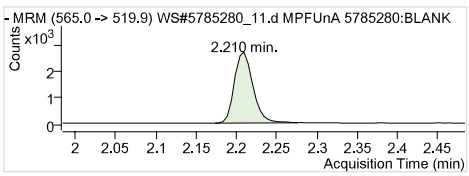


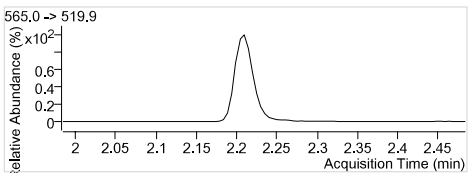
MPFNA Internal Standard
RT (Exp. RT): 1.992 (1.992)
Concentration: 1 µg/L
Sample type: Sample



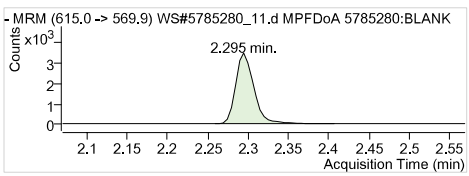


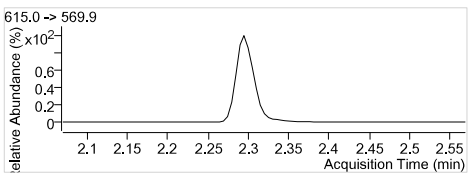
MPFDA Internal Standard
RT (Exp. RT): 2.108 (2.108)
Concentration: 1 µg/L
Sample type: Sample



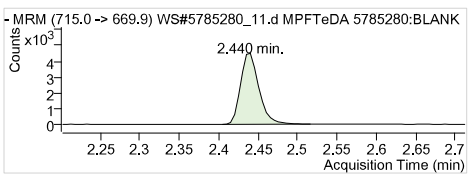


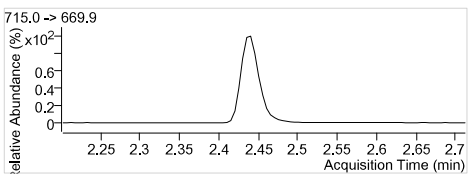
MPFUnA Internal Standard
RT (Exp. RT): 2.210 (2.210)
Concentration: 1 µg/L
Sample type: Sample



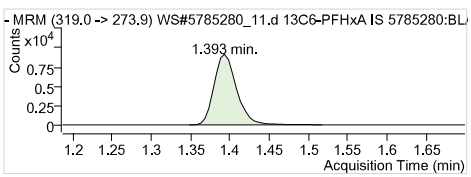


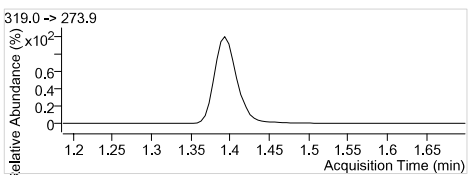
MPFDoA Internal Standard
RT (Exp. RT): 2.295 (2.295)
Concentration: 1 µg/L
Sample type: Sample



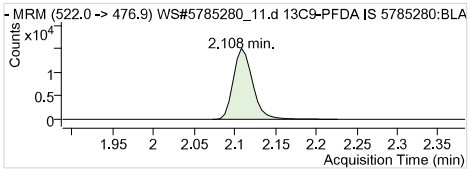


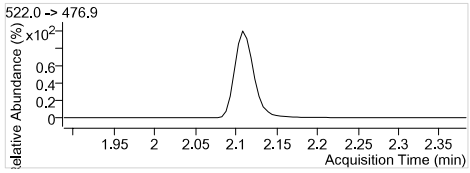
MPFTeDA Internal Standard
RT (Exp. RT): 2.440 (2.440)
Concentration: 1 µg/L
Sample type: Sample



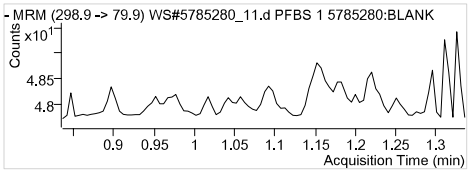


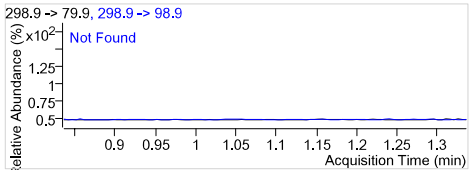
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.393 (1.393)
Concentration: 1 µg/L
Sample type: Sample



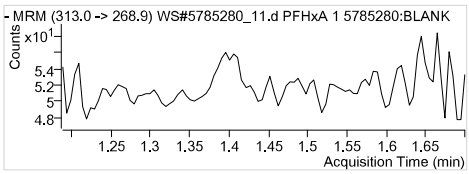


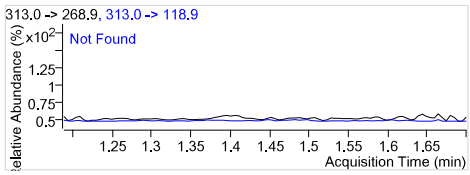
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.108 (2.108)
Concentration: 1 µg/L
Sample type: Sample



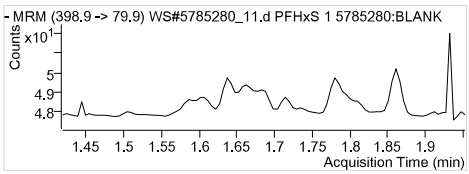


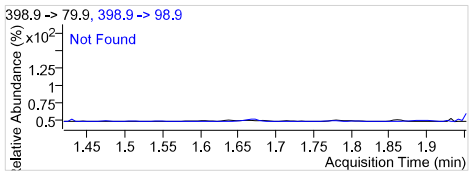
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 0.000 (1.067)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



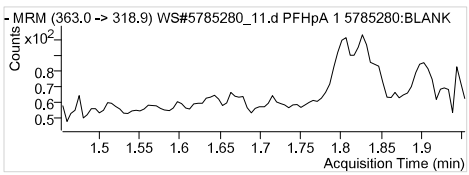


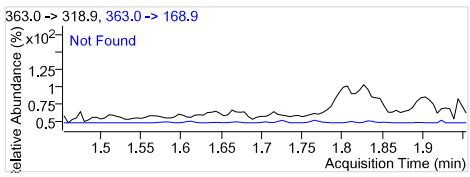
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 0.000 (1.391)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



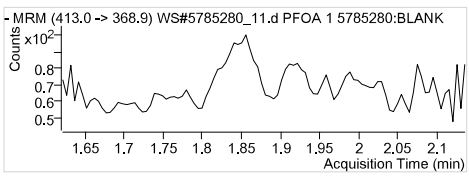


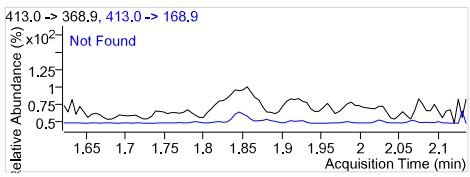
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 0.000 (1.663)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



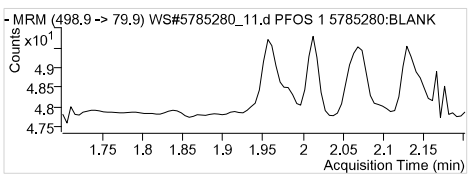


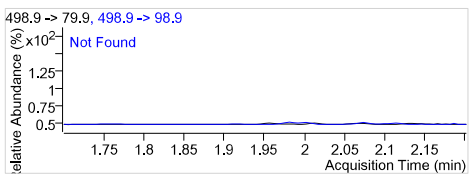
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 0.000 (1.664)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



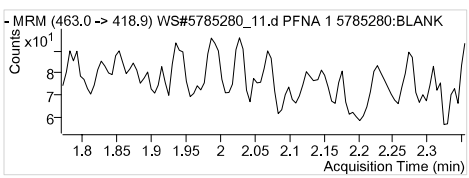


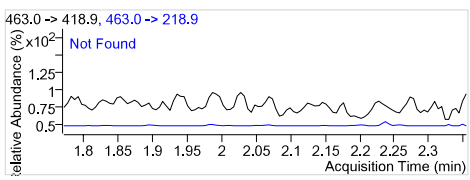
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 0.000 (1.845)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



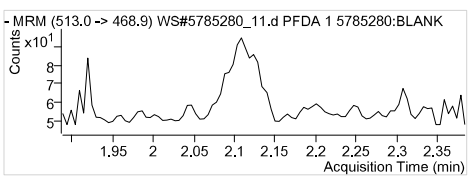


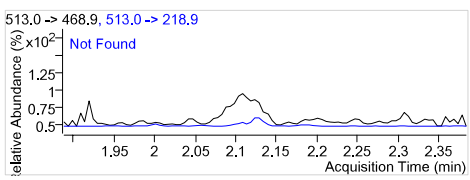
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 0.000 (1.966)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



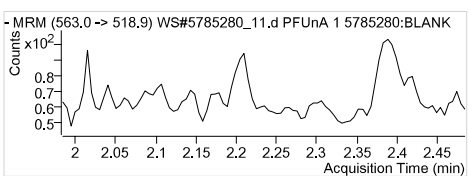


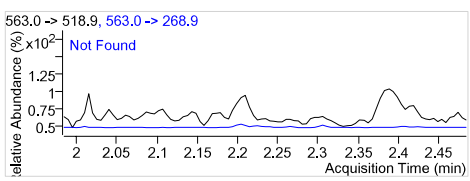
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 0.000 (1.992)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



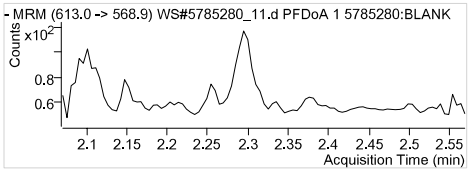


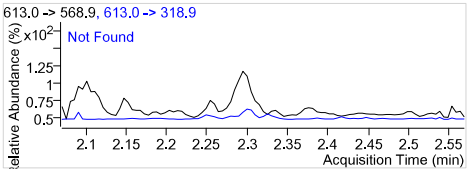
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 0.000 (2.108)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



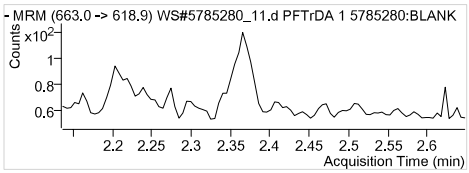


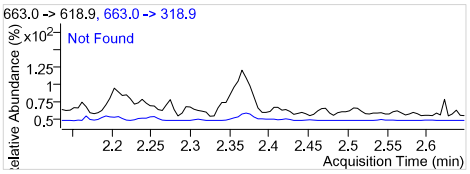
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 0.000 (2.210)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



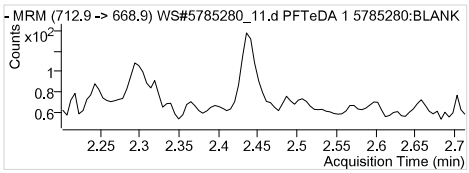


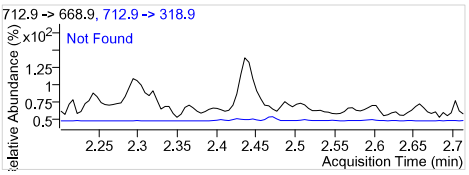
PFDoA 1	613.0 -> 568.9
RT (Exp. RT):	0.000 (2.295)
Calc. conc.	N.D.
Area ratio:	0
Sample type:	Sample



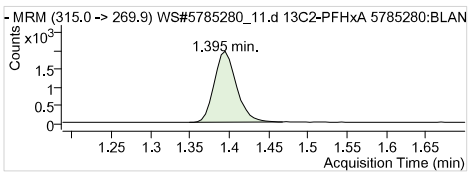


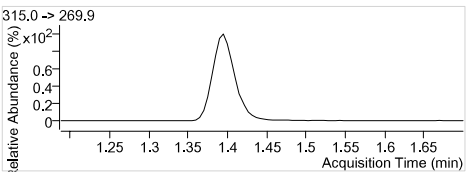
PFTrDA 1	663.0 -> 618.9
RT (Exp. RT):	0.000 (2.370)
Calc. conc.	N.D.
Area ratio:	0
Sample type:	Sample



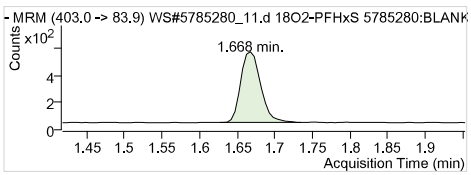


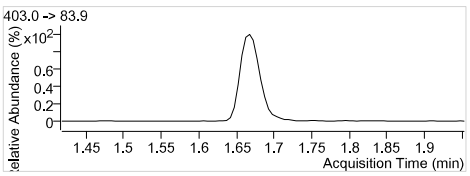
PFTeDA 1	712.9 -> 668.9
RT (Exp. RT):	0.000 (2.441)
Calc. conc.	N.D.
Area ratio:	0
Sample type:	Sample



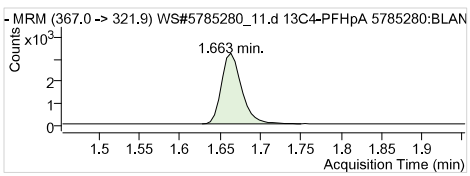


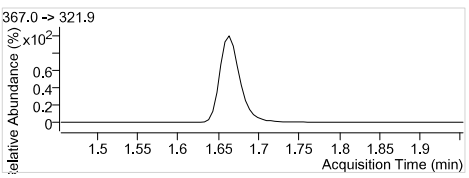
13C2-PFHxA	315.0 -> 269.9
RT (Exp. RT):	1.395 (1.395)
Calc. conc.	89.28 µg/L
Area ratio:	0.20936
Sample type:	Sample



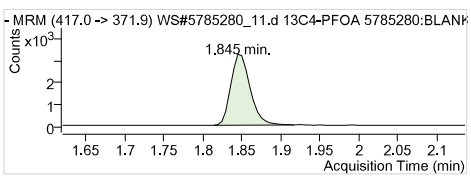


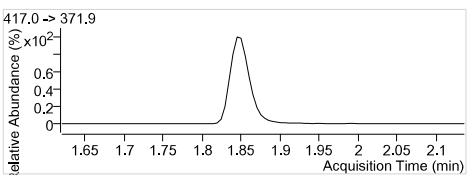
18O2-PFHxS	403.0 -> 83.9
RT (Exp. RT):	1.668 (1.668)
Calc. conc.	92.92 µg/L
Area ratio:	0.05408
Sample type:	Sample



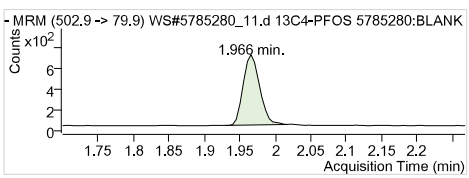


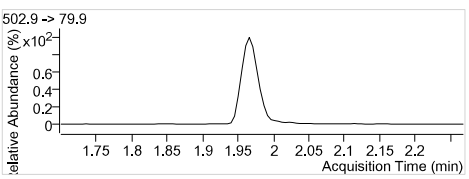
13C4-PFHpA	367.0 -> 321.9
RT (Exp. RT):	1.663 (1.663)
Calc. conc.	93.11 µg/L
Area ratio:	0.31154
Sample type:	Sample



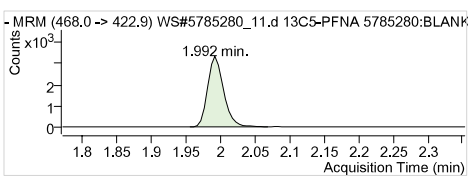


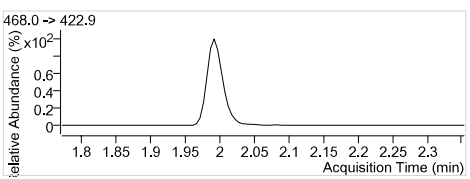
13C4-PFOA	417.0 -> 371.9
RT (Exp. RT):	1.845 (1.845)
Calc. conc.	90.04 µg/L
Area ratio:	0.30610
Sample type:	Sample



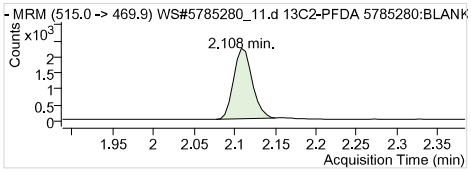


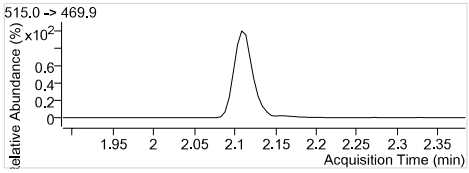
13C4-PFOS	502.9 -> 79.9
RT (Exp. RT):	1.966 (1.966)
Calc. conc.	90.08 µg/L
Area ratio:	0.06078
Sample type:	Sample



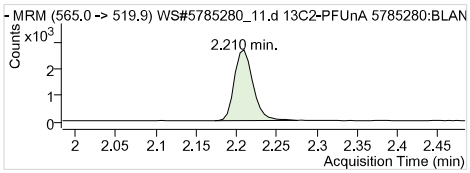


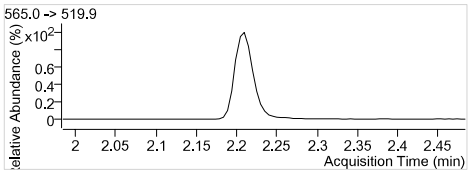
13C5-PFNA	468.0 -> 422.9
RT (Exp. RT):	1.992 (1.992)
Calc. conc.	89.11 µg/L
Area ratio:	0.28924
Sample type:	Sample



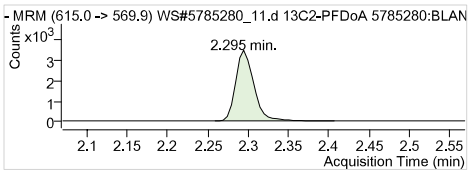


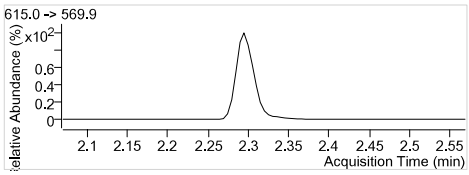
13C2-PFDA	515.0 -> 469.9
RT (Exp. RT):	2.108 (2.108)
Calc. conc.	78.95 µg/L
Area ratio:	0.14202
Sample type:	Sample



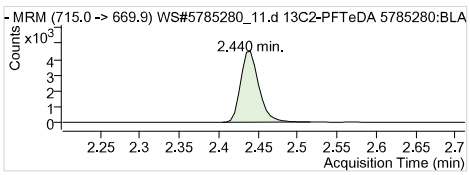


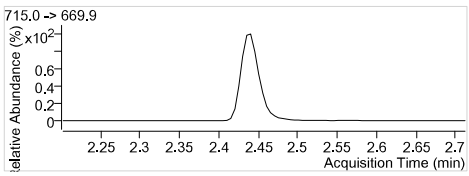
13C2-PFUnA	565.0 -> 519.9
RT (Exp. RT):	2.210 (2.210)
Calc. conc.	84.88 µg/L
Area ratio:	0.17040
Sample type:	Sample



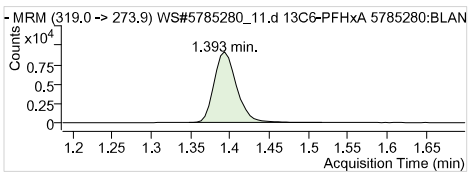


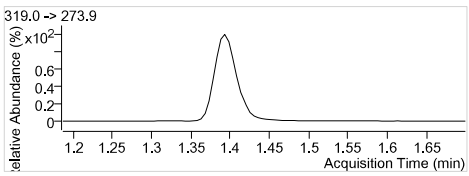
13C2-PFDoA	615.0 -> 569.9
RT (Exp. RT):	2.295 (2.295)
Calc. conc.	81.88 µg/L
Area ratio:	0.21758
Sample type:	Sample



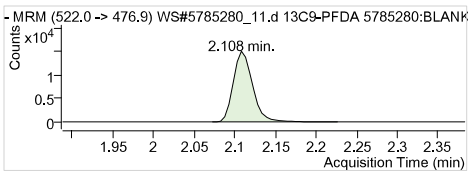


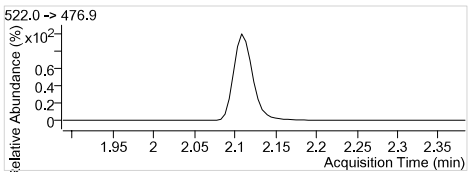
13C2-PFTeDA	715.0 -> 669.9
RT (Exp. RT):	2.440 (2.440)
Calc. conc.	80.70 µg/L
Area ratio:	0.28838
Sample type:	Sample





13C6-PFHxA	319.0 -> 273.9
RT (Exp. RT):	1.393 (1.393)
Calc. conc.	2.43 µg/L
Area ratio:	0
Sample type:	Sample





13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	2.108 (2.108)
Calc. conc.	2.41 µg/L
Area ratio:	0
Sample type:	Sample

Quantitation Results

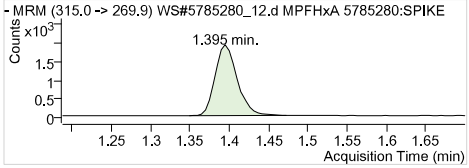
Agilent Technologies

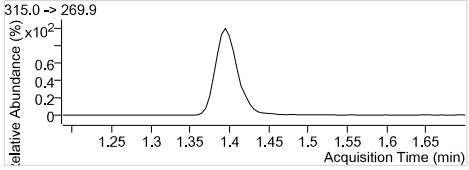
Batch Path	T:\LCMS04\PFC\20181017\WS#5785280\QuantResults\PFC_Water_Low_20181017_WS#5785280_EToxics

Sample Name	**5785280:SPIKE**	**Instrument**	LCMS04
Data File	WS#5785280_12.d	**Operator**	
Sample Type	QC	**Dilution**	0.024
Acq. Method	PFC_Water_Low.m	**Position**	P4-B2
Acq. Date	2018/10/18 3:01:59 AM	**Injection Volume**	Per Method
Sample Annotation	-		

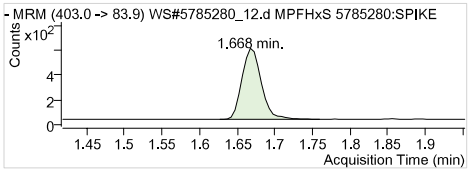
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	3752	1.39	1 µg/L		
MPFHxS	1017	1.67	1 µg/L		
MPFHpA	5351	1.66	1 µg/L		
MPFOA	5349	1.85	1 µg/L		
MPFOS	1088	1.97	1 µg/L		
MPFNA	5390	1.99	1 µg/L		
MPFDA	4021	2.11	1 µg/L		
MPFUnA	4348	2.21	1 µg/L		
MPFDoA	5299	2.29	1 µg/L		
MPFTeDA	6863	2.44	1 µg/L		
13C6-PFHxA IS	18161	1.39	1 µg/L		
13C9-PFDA IS	24399	2.11	1 µg/L		

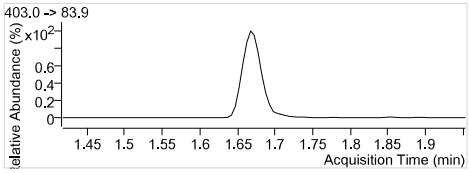
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1	12858	1.08	20.80	0.51 µg/L	102.34
PFHxA 1	35493	1.38	20.80	0.56 µg/L	112.47
PFHxS 1	11486	1.67	20.80	0.52 µg/L	103.38
PFHpA 1	49015	1.65	20.80	0.55 µg/L	111.10
PFOA 1	51485	1.84	20.80	0.55 µg/L	110.58
PFOS 1	9691	1.93	20.80	0.54 µg/L	108.58
PFNA 1	45364	1.99	20.80	0.51 µg/L	101.25
PFDA 1	48321	2.11	20.80	0.51 µg/L	103.00
PFUnA 1	45114	2.21	20.80	0.54 µg/L	107.21
PFDoA 1	49021	2.29	20.80	0.57 µg/L	113.35
PFTrDA 1	57293	2.37	20.80	0.55 µg/L	110.10
PFTeDA 1	56684	2.44	20.80	0.53 µg/L	106.86
13C2-PFHxA	3752	1.39	100.00	88.11 µg/L	88.11
18O2-PFHxS	1017	1.67	100.00	96.21 µg/L	96.21
13C4-PFHpA	5351	1.66	100.00	88.06 µg/L	88.06
13C4-PFOA	5349	1.85	100.00	86.64 µg/L	86.64
13C4-PFOS	1088	1.97	100.00	88.79 µg/L	88.79
13C5-PFNA	5390	1.99	100.00	91.43 µg/L	91.43
13C2-PFDA	4021	2.11	100.00	91.62 µg/L	91.62
13C2-PFUnA	4348	2.21	100.00	88.77 µg/L	88.77
13C2-PFDoA	5299	2.29	100.00	81.73 µg/L	81.73
13C2-PFTeDA	6863	2.44	100.00	78.71 µg/L	78.71
13C6-PFHxA	18161	1.39	100.00	2.42 µg/L	100.76
13C9-PFDA	24399	2.11	100.00	2.37 µg/L	98.66



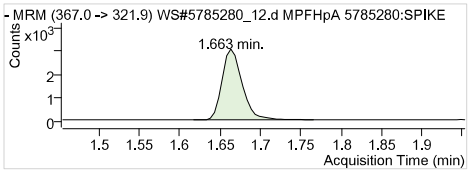


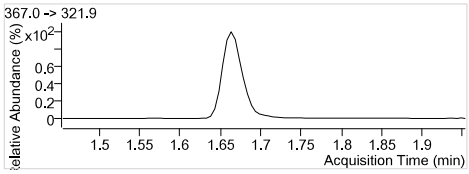
MPFHxA	Internal Standard
RT (Exp. RT):	1.395 (1.395)
Concentration:	1 µg/L
Sample type:	QC



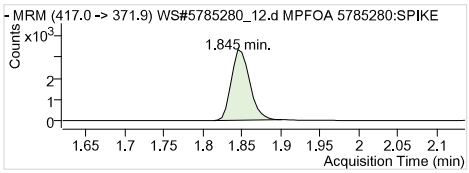


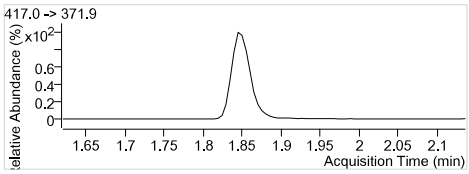
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: QC



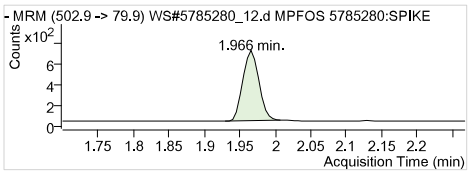


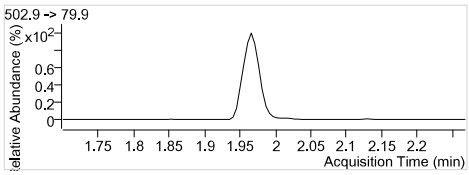
MPFHpA Internal Standard
RT (Exp. RT): 1.663 (1.663)
Concentration: 1 µg/L
Sample type: QC



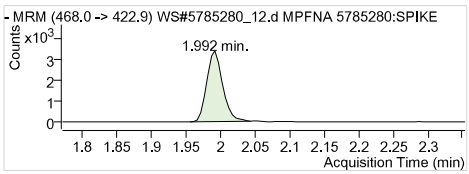


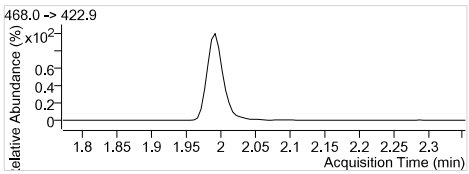
MPFOA Internal Standard
RT (Exp. RT): 1.845 (1.845)
Concentration: 1 µg/L
Sample type: QC



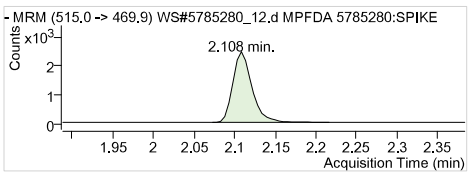


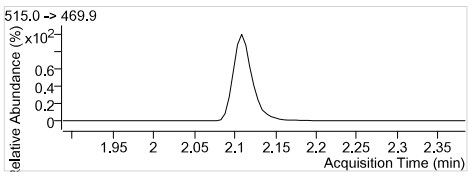
MPFOS Internal Standard
RT (Exp. RT): 1.966 (1.966)
Concentration: 1 µg/L
Sample type: QC



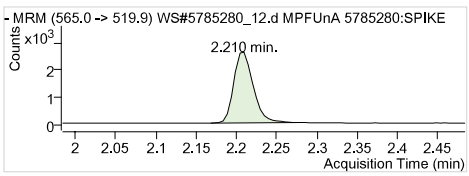


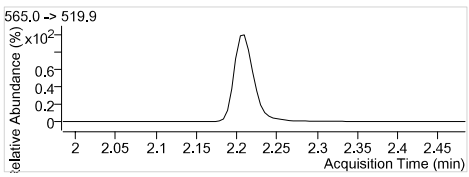
MPFNA Internal Standard
RT (Exp. RT): 1.992 (1.992)
Concentration: 1 µg/L
Sample type: QC



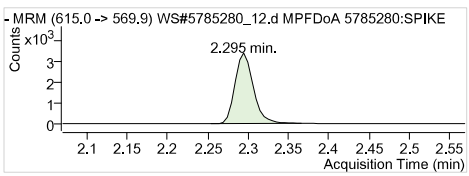


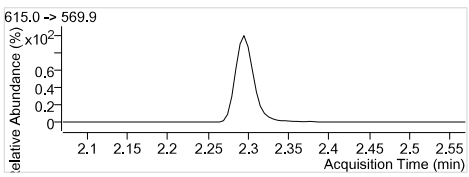
MPFDA Internal Standard
RT (Exp. RT): 2.108 (2.108)
Concentration: 1 µg/L
Sample type: QC



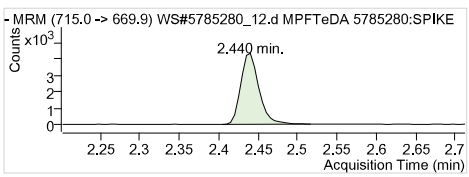


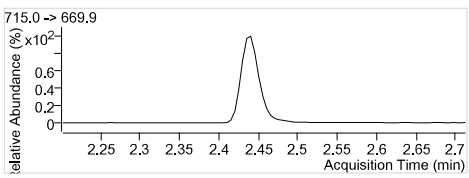
MPFUnA Internal Standard
RT (Exp. RT): 2.210 (2.210)
Concentration: 1 µg/L
Sample type: QC



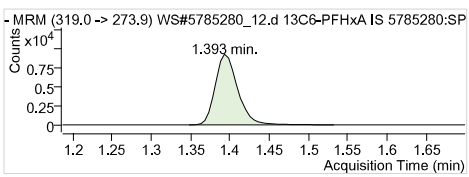


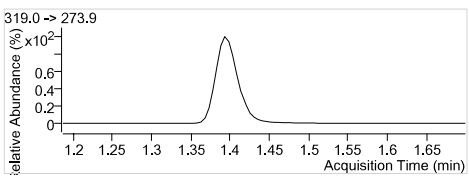
MPFDoA Internal Standard
RT (Exp. RT): 2.295 (2.295)
Concentration: 1 µg/L
Sample type: QC



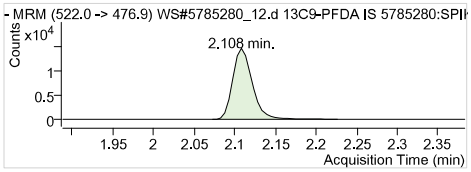


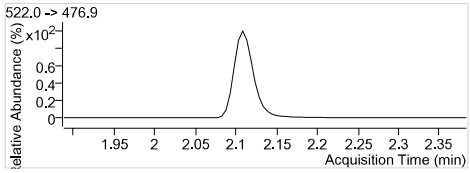
MPFTeDA Internal Standard
RT (Exp. RT): 2.440 (2.440)
Concentration: 1 µg/L
Sample type: QC



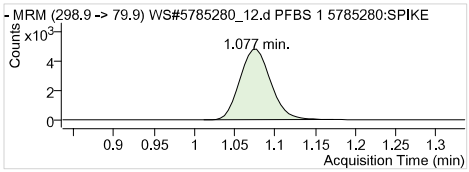


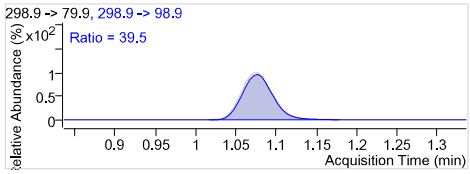
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.393 (1.393)
Concentration: 1 µg/L
Sample type: QC



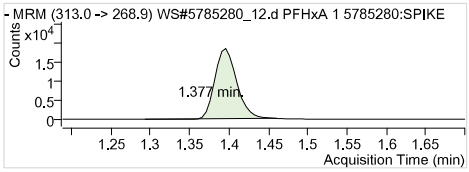


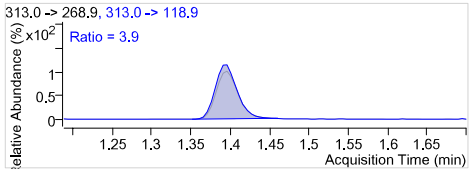
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.108 (2.108)
Concentration: 1 µg/L
Sample type: QC



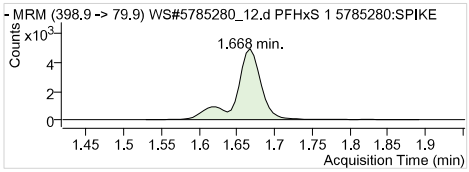


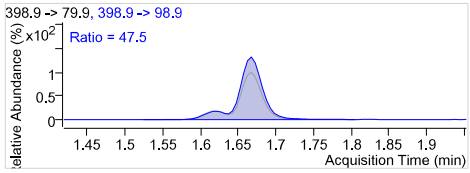
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 1.077 (1.067)
Calc. conc. 0.51 µg/L
Area ratio: 12.64307
Sample type: QC



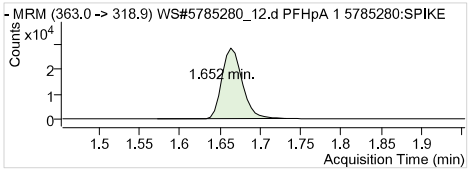


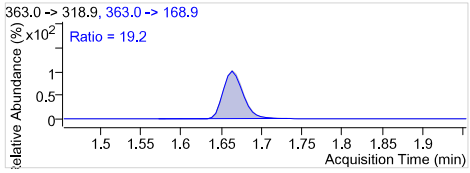
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 1.377 (1.391)
Calc. conc. 0.56 µg/L
Area ratio: 9.45973
Sample type: QC



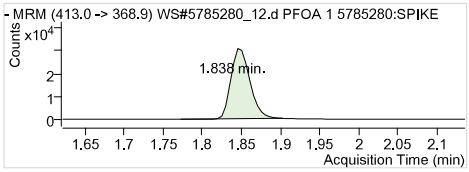


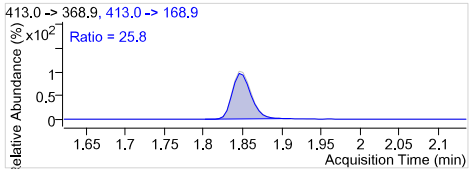
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.663)
Calc. conc. 0.52 µg/L
Area ratio: 11.29400
Sample type: QC



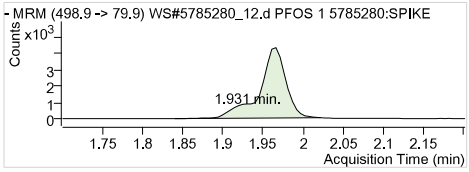


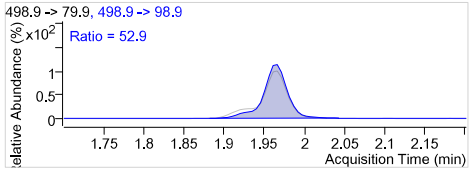
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 1.652 (1.664)
Calc. conc. 0.55 µg/L
Area ratio: 9.15998
Sample type: QC



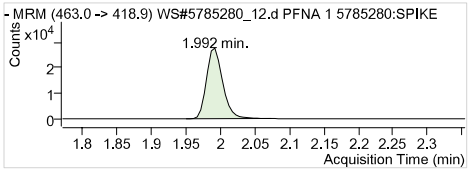


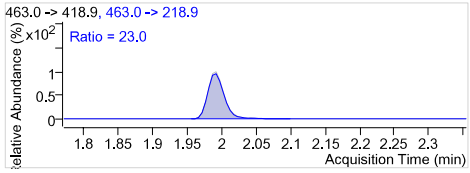
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 1.838 (1.845)
Calc. conc. 0.55 µg/L
Area ratio: 9.62516
Sample type: QC



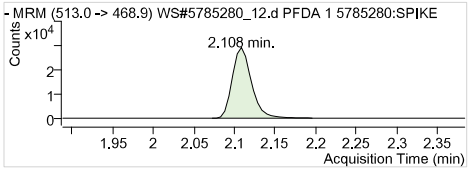


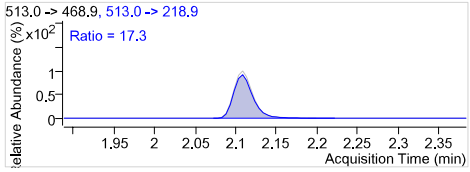
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.931 (1.966)
Calc. conc. 0.54 µg/L
Area ratio: 8.90755
Sample type: QC



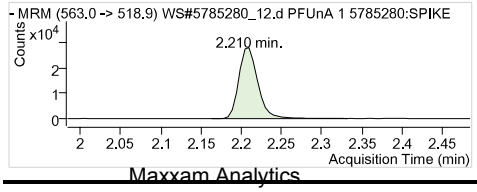


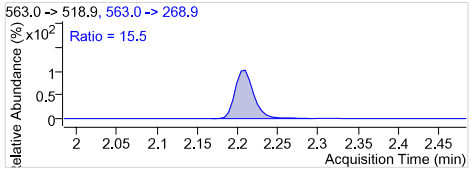
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 1.992 (1.992)
Calc. conc. 0.51 µg/L
Area ratio: 8.41633
Sample type: QC



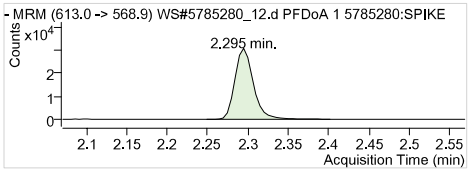


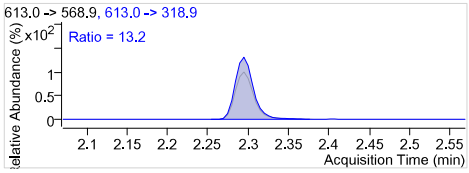
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 2.108 (2.108)
Calc. conc. 0.51 µg/L
Area ratio: 12.01716
Sample type: QC



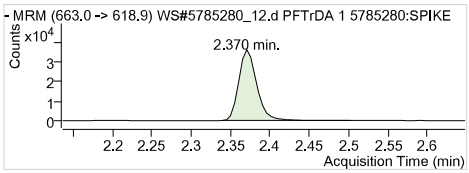


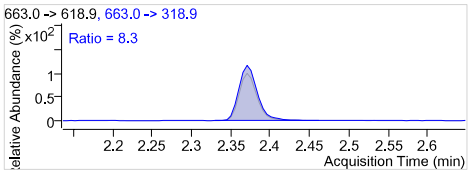
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 2.210 (2.210)
Calc. conc. 0.54 µg/L
Area ratio: 10.37580
Sample type: QC



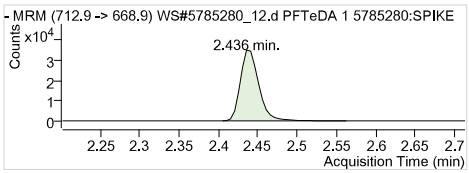


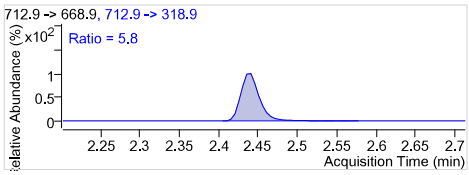
PFDoA 1	613.0 -> 568.9
RT (Exp. RT):	2.295 (2.295)
Calc. conc.	0.57 µg/L
Area ratio:	9.25099
Sample type:	QC



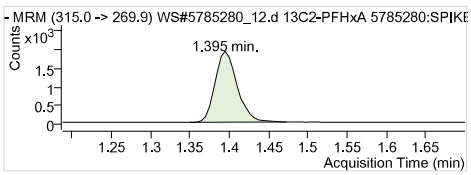


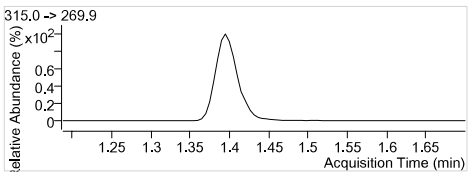
PFTrDA 1	663.0 -> 618.9
RT (Exp. RT):	2.370 (2.370)
Calc. conc.	0.55 µg/L
Area ratio:	8.34810
Sample type:	QC



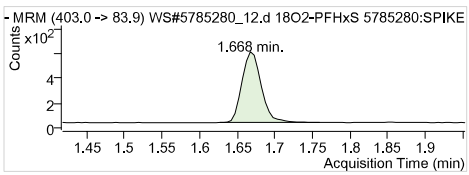


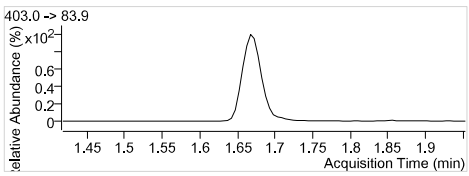
PFTeDA 1	712.9 -> 668.9
RT (Exp. RT):	2.436 (2.441)
Calc. conc.	0.53 µg/L
Area ratio:	8.25936
Sample type:	QC



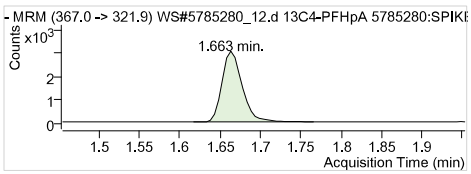


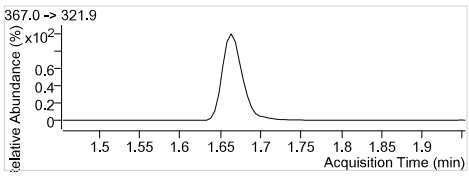
13C2-PFHxA	315.0 -> 269.9
RT (Exp. RT):	1.395 (1.395)
Calc. conc.	88.11 µg/L
Area ratio:	0.20660
Sample type:	QC



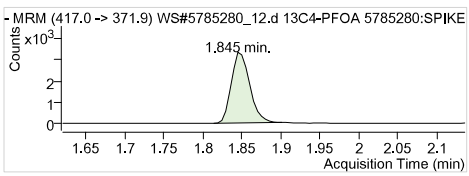


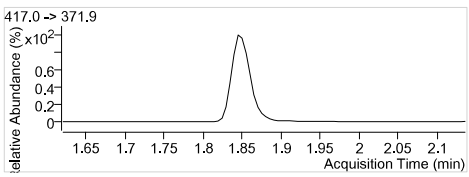
18O2-PFHxS	403.0 -> 83.9
RT (Exp. RT):	1.668 (1.668)
Calc. conc.	96.21 µg/L
Area ratio:	0.05600
Sample type:	QC



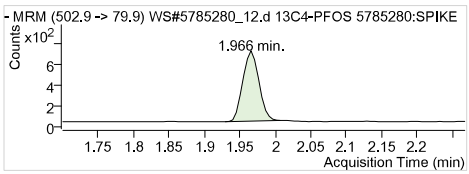


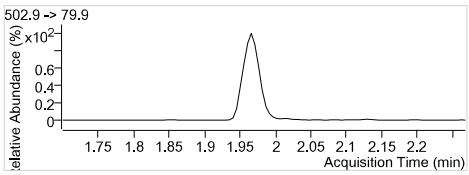
13C4-PFHpA	367.0 -> 321.9
RT (Exp. RT):	1.663 (1.663)
Calc. conc.	88.06 µg/L
Area ratio:	0.29464
Sample type:	QC



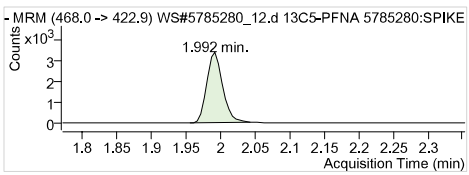


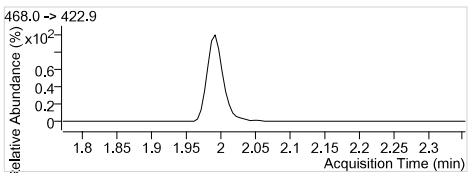
13C4-PFOA	417.0 -> 371.9
RT (Exp. RT):	1.845 (1.845)
Calc. conc.	86.64 µg/L
Area ratio:	0.29453
Sample type:	QC



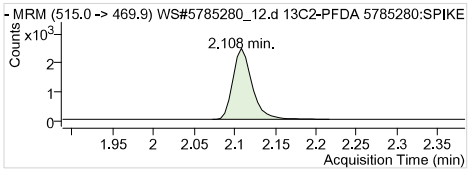


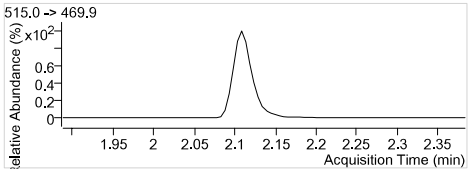
13C4-PFOS	502.9 -> 79.9
RT (Exp. RT):	1.966 (1.966)
Calc. conc.	88.79 µg/L
Area ratio:	0.05991
Sample type:	QC



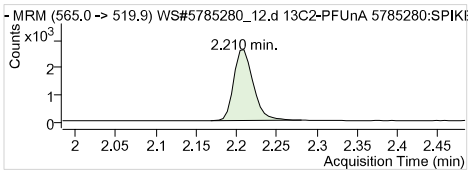


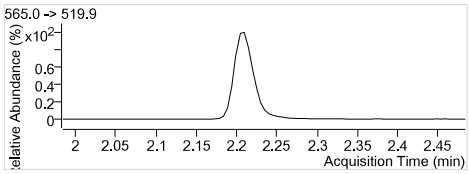
13C5-PFNA	468.0 -> 422.9
RT (Exp. RT):	1.992 (1.992)
Calc. conc.	91.43 µg/L
Area ratio:	0.29679
Sample type:	QC



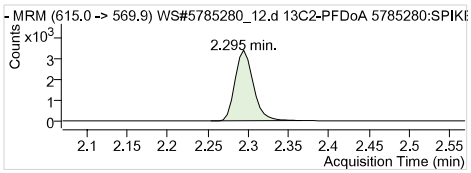


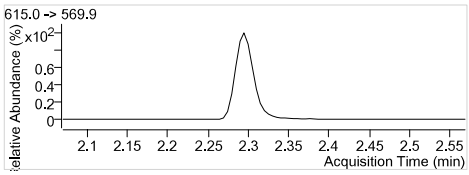
13C2-PFDA 515.0 -> 469.9
RT (Exp. RT): 2.108 (2.108)
Calc. conc. 91.62 µg/L
Area ratio: 0.16480
Sample type: QC



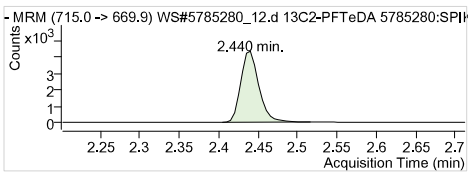


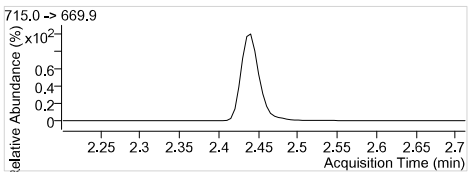
13C2-PFUnA 565.0 -> 519.9
RT (Exp. RT): 2.210 (2.210)
Calc. conc. 88.77 µg/L
Area ratio: 0.17820
Sample type: QC



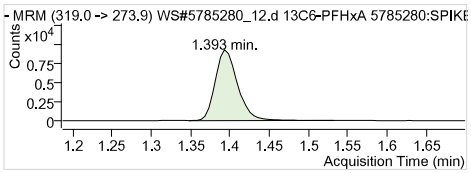


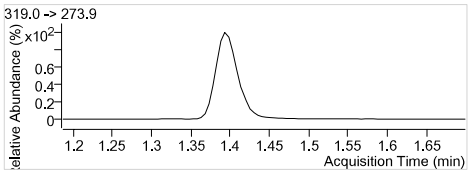
13C2-PFDoA 615.0 -> 569.9
RT (Exp. RT): 2.295 (2.295)
Calc. conc. 81.73 µg/L
Area ratio: 0.21718
Sample type: QC



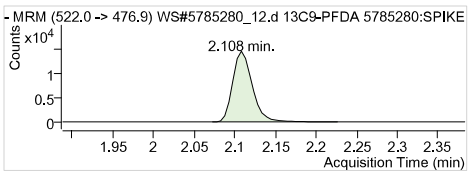


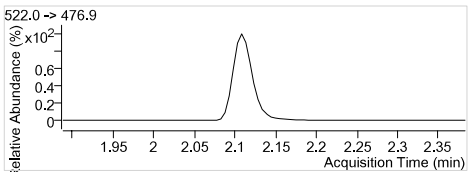
13C2-PFTeDA 715.0 -> 669.9
RT (Exp. RT): 2.440 (2.440)
Calc. conc. 78.71 µg/L
Area ratio: 0.28128
Sample type: QC





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.393 (1.393)
Calc. conc. 2.42 µg/L
Area ratio: 0
Sample type: QC





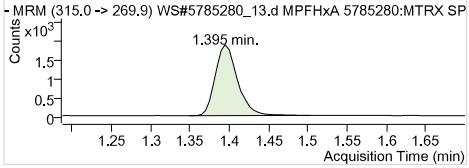
13C9-PFDA 522.0 -> 476.9
RT (Exp. RT): 2.108 (2.108)
Calc. conc. 2.37 µg/L
Area ratio: 0
Sample type: QC

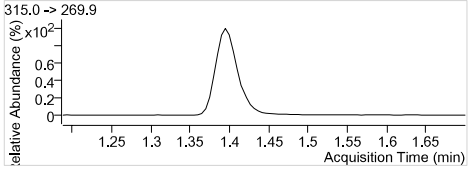
Batch Path	T:\LCMS04\PFC\20181017\WS#5785280\QuantResults\PFC_Water_Low_20181017_WS#5785280_EToxics

Sample Name	**5785280:MTRX SPK**	**Instrument**	LCMS04
Data File	WS#5785280_13.d	**Operator**	
Sample Type	QC	**Dilution**	0.024
Acq. Method	PFC_Water_Low.m	**Position**	P4-B3
Acq. Date	2018/10/18 3:06:54 AM	**Injection Volume**	Per Method
Sample Annotation	HYO198		

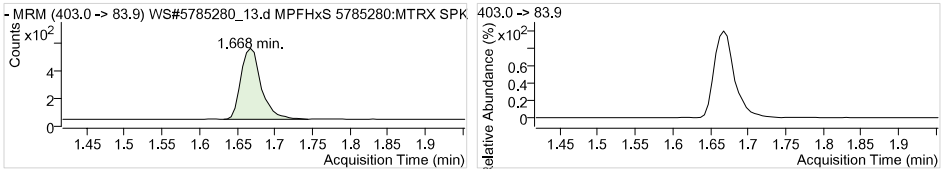
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	3710	1.39	1 µg/L		
MPFHxS	971	1.67	1 µg/L		
MPFHpA	5377	1.66	1 µg/L		
MPFOA	5504	1.85	1 µg/L		
MPFOS	1092	1.97	1 µg/L		
MPFNA	5283	1.99	1 µg/L		
MPFDA	3657	2.11	1 µg/L		
MPFUnA	4004	2.21	1 µg/L		
MPFDoA	5042	2.29	1 µg/L		
MPFTeDA	4587	2.44	1 µg/L		
13C6-PFHxA IS	18333	1.39	1 µg/L		
13C9-PFDA IS	26796	2.11	1 µg/L		

Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1	12715	1.07	20.80	0.53 µg/L	105.96
PFHxA 1	35029	1.38	20.80	0.56 µg/L	112.26
PFHxS 1	11282	1.67	20.80	0.53 µg/L	106.34
PFHpA 1	48403	1.65	20.80	0.55 µg/L	109.19
PFOA 1	50951	1.84	20.80	0.53 µg/L	106.37
PFOS 1	9744	1.93	20.80	0.54 µg/L	108.77
PFNA 1	44603	1.99	20.80	0.51 µg/L	101.57
PFDA 1	46589	2.11	20.80	0.54 µg/L	109.15
PFUnA 1	40675	2.21	20.80	0.52 µg/L	104.98
PFDoA 1	42355	2.29	20.80	0.51 µg/L	102.96
PFTrDA 1	45146	2.37	20.80	0.65 µg/L	129.71
PFTeDA 1	36677	2.44	20.80	0.52 µg/L	103.47
13C2-PFHxA	3710	1.39	100.00	86.30 µg/L	86.30
18O2-PFHxS	971	1.67	100.00	91.00 µg/L	91.00
13C4-PFHpA	5377	1.66	100.00	87.66 µg/L	87.66
13C4-PFOA	5504	1.85	100.00	88.31 µg/L	88.31
13C4-PFOS	1092	1.97	100.00	88.28 µg/L	88.28
13C5-PFNA	5283	1.99	100.00	88.78 µg/L	88.78
13C2-PFDA	3657	2.11	100.00	75.87 µg/L	75.87
13C2-PFUnA	4004	2.21	100.00	74.43 µg/L	74.43
13C2-PFDoA	5042	2.29	100.00	70.81 µg/L	70.81
13C2-PFTeDA	4587	2.44	100.00	47.90 µg/L	47.90
13C6-PFHxA	18333	1.39	100.00	2.44 µg/L	101.71
13C9-PFDA	26796	2.11	100.00	2.60 µg/L	108.35

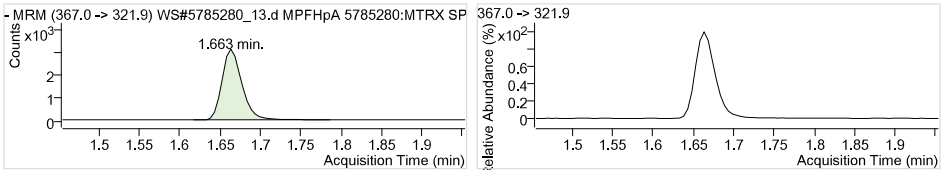




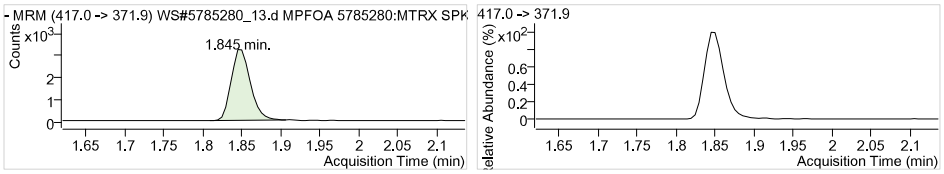
MPFHxA	Internal Standard
RT (Exp. RT):	1.395 (1.395)
Concentration:	1 µg/L
Sample type:	QC



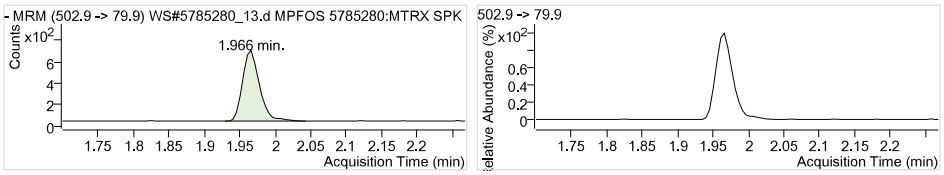
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: QC



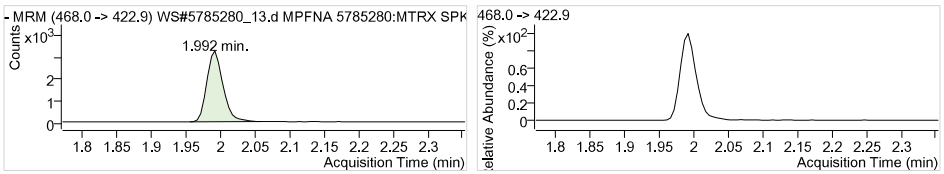
MPFHpA Internal Standard
RT (Exp. RT): 1.663 (1.663)
Concentration: 1 µg/L
Sample type: QC



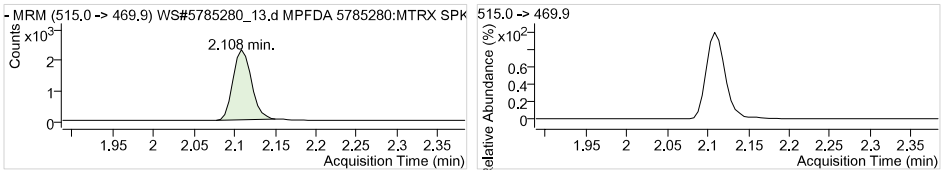
MPFOA Internal Standard
RT (Exp. RT): 1.845 (1.845)
Concentration: 1 µg/L
Sample type: QC



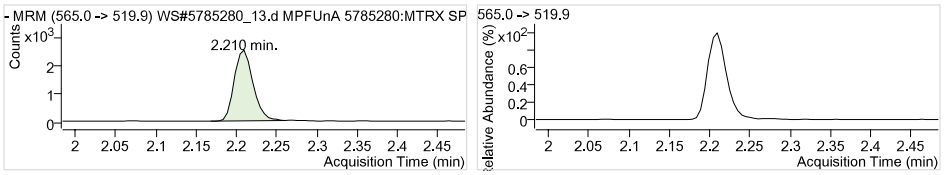
MPFOS Internal Standard
RT (Exp. RT): 1.966 (1.966)
Concentration: 1 µg/L
Sample type: QC



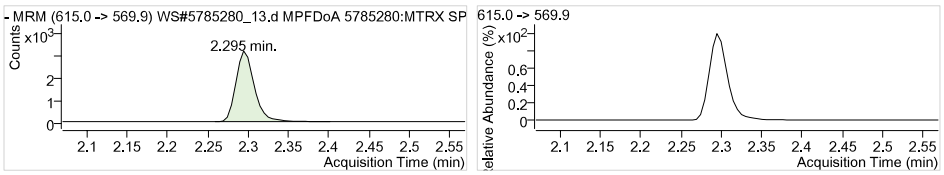
MPFNA Internal Standard
RT (Exp. RT): 1.992 (1.992)
Concentration: 1 µg/L
Sample type: QC



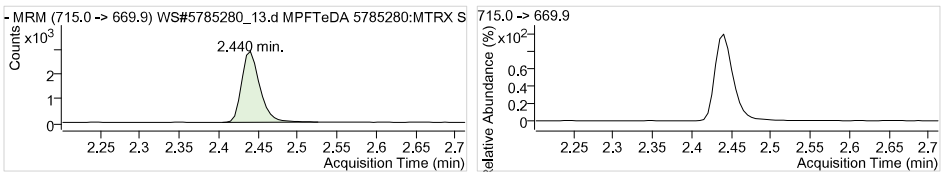
MPFDA Internal Standard
RT (Exp. RT): 2.108 (2.108)
Concentration: 1 µg/L
Sample type: QC



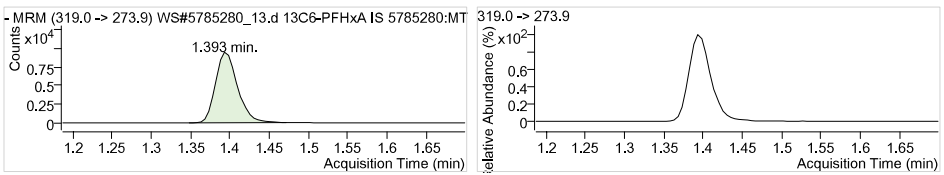
MPFUnA Internal Standard
RT (Exp. RT): 2.210 (2.210)
Concentration: 1 µg/L
Sample type: QC



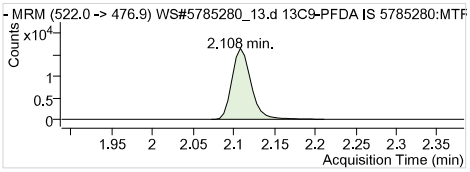
MPFDoA Internal Standard
RT (Exp. RT): 2.295 (2.295)
Concentration: 1 µg/L
Sample type: QC

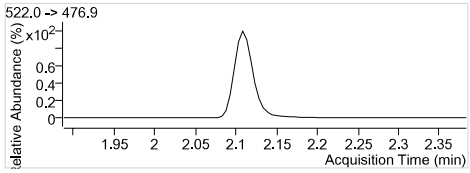


MPFTeDA Internal Standard
RT (Exp. RT): 2.440 (2.440)
Concentration: 1 µg/L
Sample type: QC

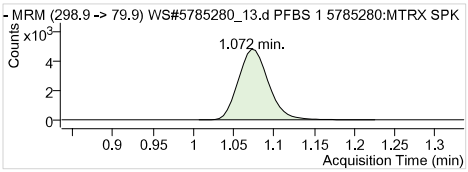


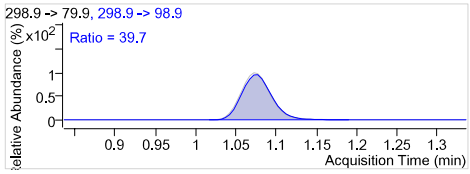
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.393 (1.393)
Concentration: 1 µg/L
Sample type: QC



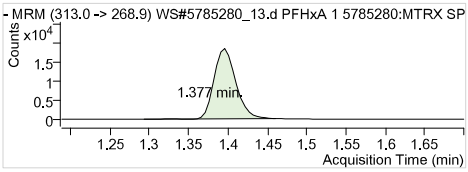


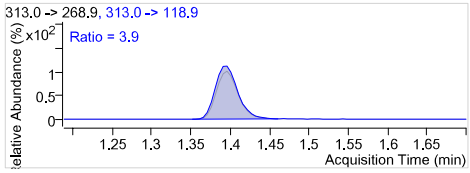
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.108 (2.108)
Concentration: 1 µg/L
Sample type: QC



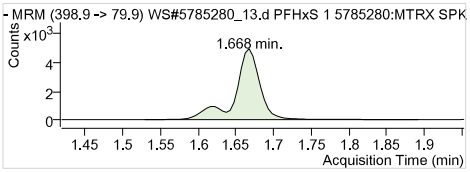


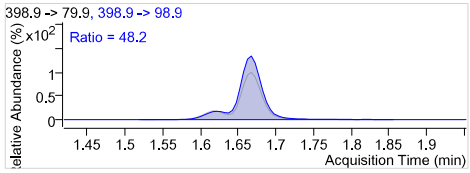
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 1.072 (1.067)
Calc. conc. 0.53 µg/L
Area ratio: 13.09475
Sample type: QC



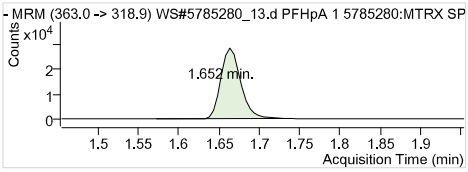


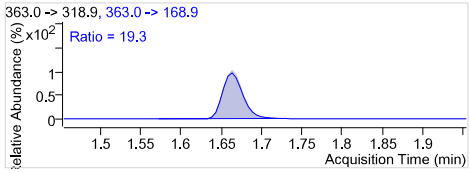
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 1.377 (1.391)
Calc. conc. 0.56 µg/L
Area ratio: 9.44186
Sample type: QC



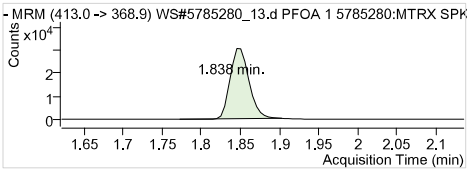


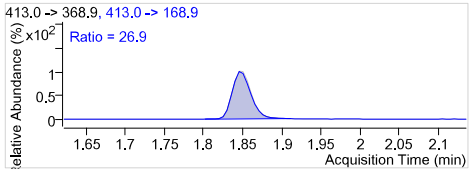
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.663)
Calc. conc. 0.53 µg/L
Area ratio: 11.61895
Sample type: QC



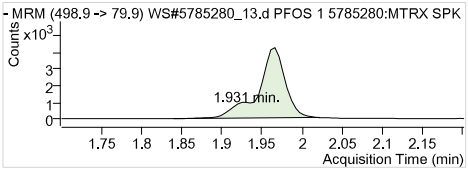


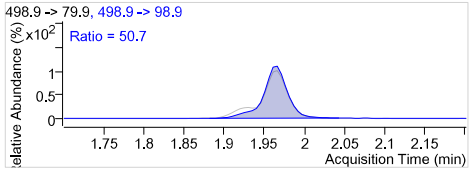
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 1.652 (1.664)
Calc. conc. 0.55 µg/L
Area ratio: 9.00192
Sample type: QC



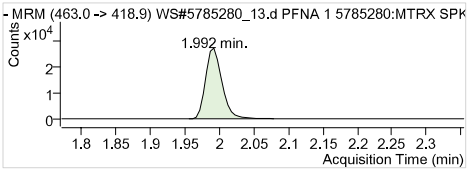


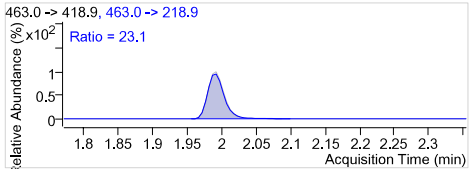
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 1.838 (1.845)
Calc. conc. 0.53 µg/L
Area ratio: 9.25706
Sample type: QC



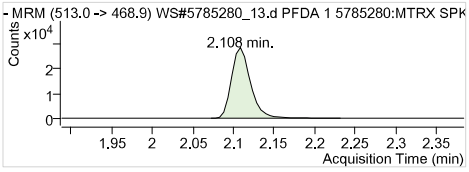


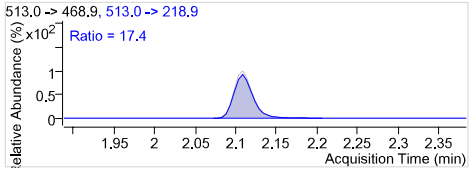
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.931 (1.966)
Calc. conc. 0.54 µg/L
Area ratio: 8.92312
Sample type: QC



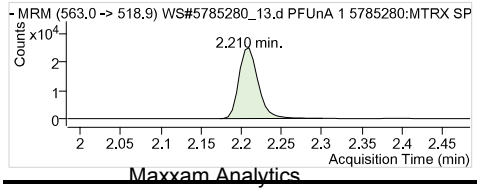


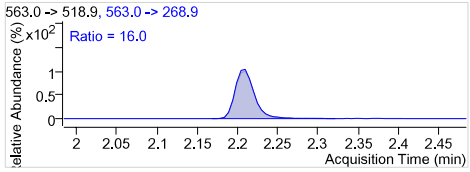
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 1.992 (1.992)
Calc. conc. 0.51 µg/L
Area ratio: 8.44274
Sample type: QC



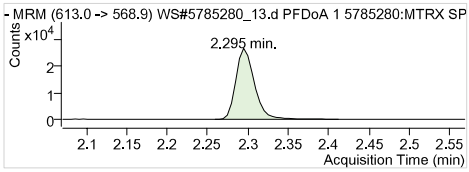


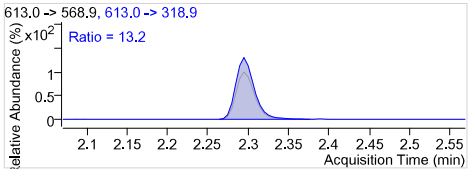
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 2.108 (2.108)
Calc. conc. 0.54 µg/L
Area ratio: 12.73968
Sample type: QC



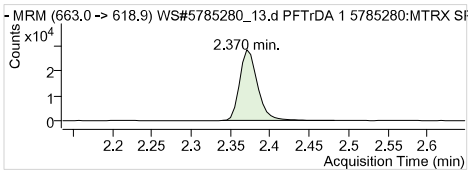


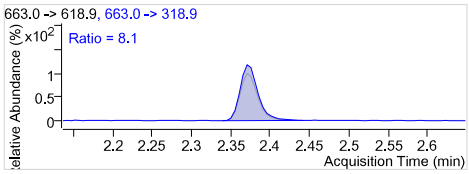
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 2.210 (2.210)
Calc. conc. 0.52 µg/L
Area ratio: 10.15859
Sample type: QC



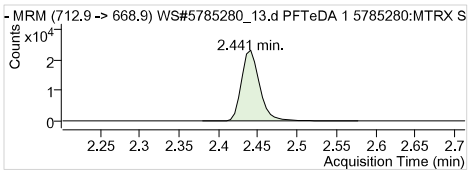


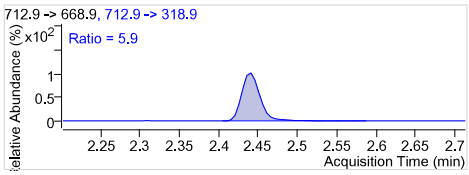
PFDoA 1	613.0 -> 568.9
RT (Exp. RT):	2.295 (2.295)
Calc. conc.	0.51 µg/L
Area ratio:	8.40044
Sample type:	QC



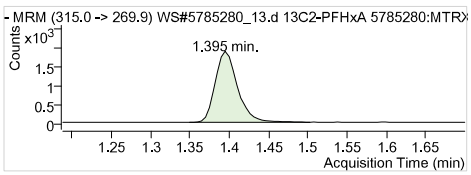


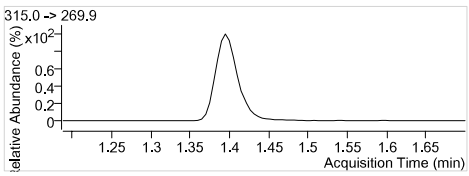
PFTrDA 1	663.0 -> 618.9
RT (Exp. RT):	2.370 (2.370)
Calc. conc.	0.65 µg/L
Area ratio:	9.84216
Sample type:	QC



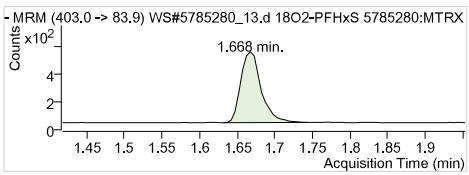


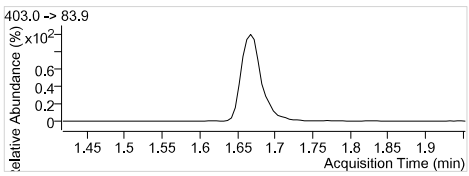
PFTeDA 1	712.9 -> 668.9
RT (Exp. RT):	2.441 (2.441)
Calc. conc.	0.52 µg/L
Area ratio:	7.99586
Sample type:	QC



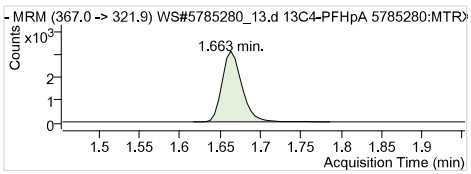


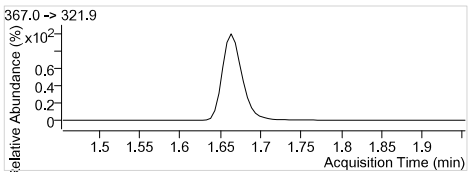
13C2-PFHxA	315.0 -> 269.9
RT (Exp. RT):	1.395 (1.395)
Calc. conc.	86.30 µg/L
Area ratio:	0.20237
Sample type:	QC



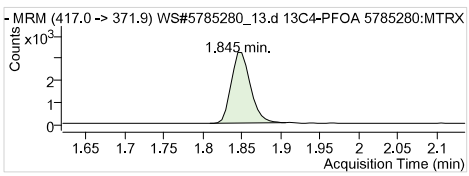


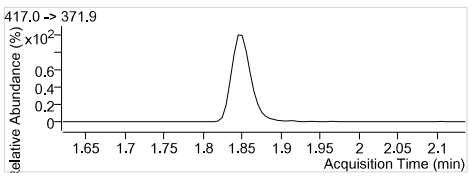
18O2-PFHxS	403.0 -> 83.9
RT (Exp. RT):	1.668 (1.668)
Calc. conc.	91.00 µg/L
Area ratio:	0.05296
Sample type:	QC



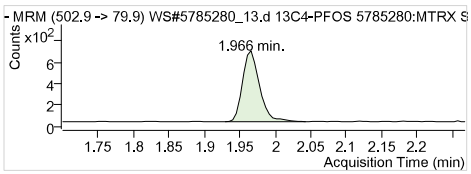


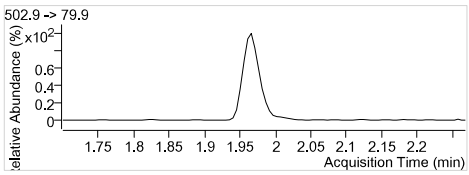
13C4-PFHpA	367.0 -> 321.9
RT (Exp. RT):	1.663 (1.663)
Calc. conc.	87.66 µg/L
Area ratio:	0.29330
Sample type:	QC



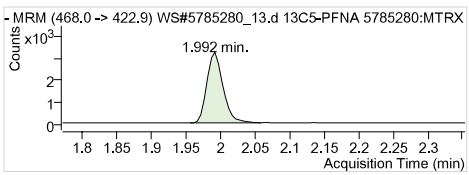


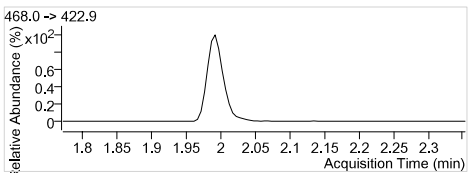
13C4-PFOA	417.0 -> 371.9
RT (Exp. RT):	1.845 (1.845)
Calc. conc.	88.31 µg/L
Area ratio:	0.30022
Sample type:	QC



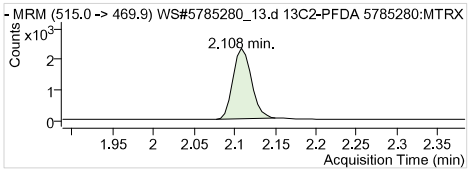


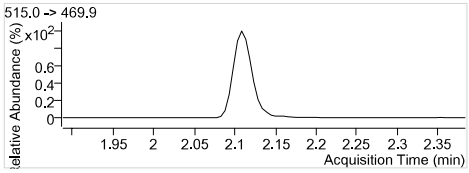
13C4-PFOS	502.9 -> 79.9
RT (Exp. RT):	1.966 (1.966)
Calc. conc.	88.28 µg/L
Area ratio:	0.05956
Sample type:	QC



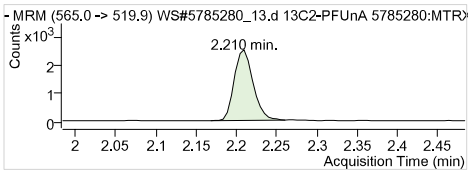


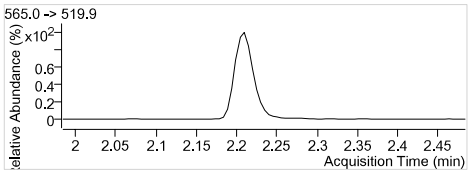
13C5-PFNA	468.0 -> 422.9
RT (Exp. RT):	1.992 (1.992)
Calc. conc.	88.78 µg/L
Area ratio:	0.28817
Sample type:	QC



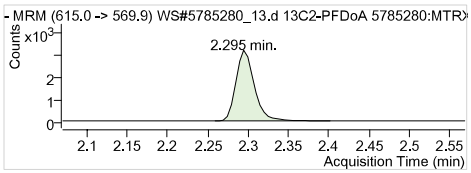


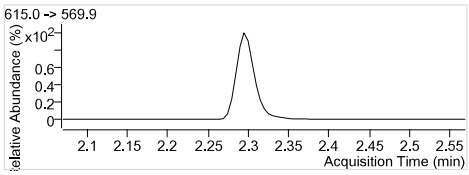
13C2-PFDA	515.0 -> 469.9
RT (Exp. RT):	2.108 (2.108)
Calc. conc.	75.87 µg/L
Area ratio:	0.13648
Sample type:	QC



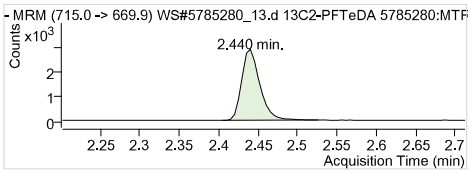


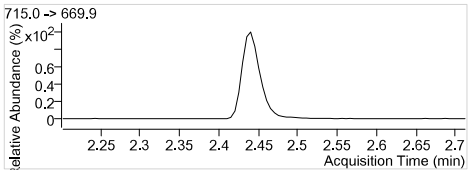
13C2-PFUnA	565.0 -> 519.9
RT (Exp. RT):	2.210 (2.210)
Calc. conc.	74.43 µg/L
Area ratio:	0.14943
Sample type:	QC



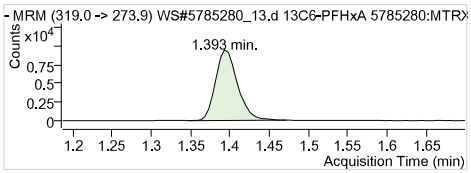


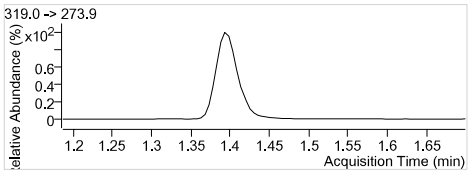
13C2-PFDoA	615.0 -> 569.9
RT (Exp. RT):	2.295 (2.295)
Calc. conc.	70.81 µg/L
Area ratio:	0.18816
Sample type:	QC



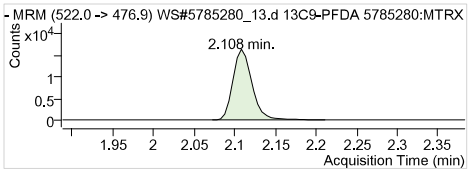


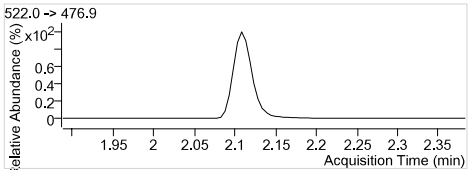
13C2-PFTeDA	715.0 -> 669.9
RT (Exp. RT):	2.440 (2.440)
Calc. conc.	47.90 µg/L
Area ratio:	0.17118
Sample type:	QC





13C6-PFHxA	319.0 -> 273.9
RT (Exp. RT):	1.393 (1.393)
Calc. conc.	2.44 µg/L
Area ratio:	0
Sample type:	QC





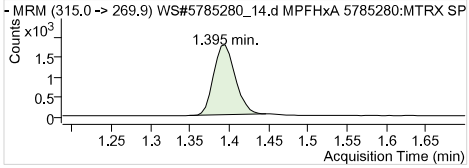
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	2.108 (2.108)
Calc. conc.	2.60 µg/L
Area ratio:	0
Sample type:	QC

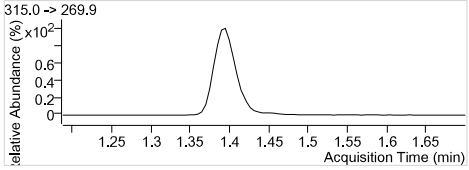
Batch Path	T:\LCMS04\PFC\20181017\WS#5785280\QuantResults\PFC_Water_Low_20181017_WS#5785280_EToxics

Sample Name	**5785280:MTRX SPK:D1**	**Instrument**	LCMS04
Data File	WS#5785280_14.d	**Operator**	
Sample Type	QC	**Dilution**	0.024
Acq. Method	PFC_Water_Low.m	**Position**	P4-B4
Acq. Date	2018/10/18 3:11:49 AM	**Injection Volume**	Per Method
Sample Annotation	HYO198		

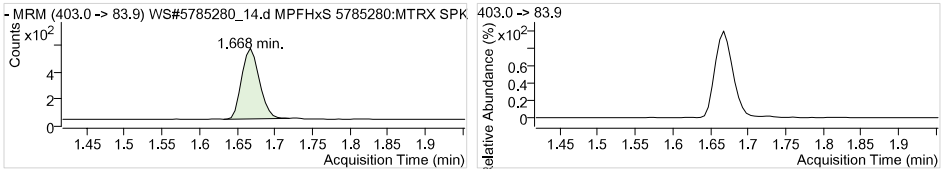
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	3370	1.39	1 µg/L		
MPFHxS	875	1.67	1 µg/L		
MPFHpA	5154	1.66	1 µg/L		
MPFOA	5293	1.85	1 µg/L		
MPFOS	1012	1.97	1 µg/L		
MPFNA	5053	1.99	1 µg/L		
MPFDA	3750	2.11	1 µg/L		
MPFUnA	4229	2.21	1 µg/L		
MPFDoA	5015	2.29	1 µg/L		
MPFTeDA	5282	2.44	1 µg/L		
13C6-PFHxA IS	17017	1.39	1 µg/L		
13C9-PFDA IS	23341	2.11	1 µg/L		

Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1	12535	1.07	20.80	0.58 µg/L	115.84
PFHxA 1	34355	1.38	20.80	0.60 µg/L	121.16
PFHxS 1	11181	1.67	20.80	0.58 µg/L	116.88
PFHpA 1	48413	1.65	20.80	0.57 µg/L	113.91
PFOA 1	50403	1.84	20.80	0.55 µg/L	109.41
PFOS 1	9839	1.93	20.80	0.59 µg/L	118.52
PFNA 1	44580	1.99	20.80	0.53 µg/L	106.11
PFDA 1	47387	2.11	20.80	0.54 µg/L	108.28
PFUnA 1	43697	2.21	20.80	0.53 µg/L	106.77
PFDoA 1	46488	2.29	20.80	0.57 µg/L	113.58
PFTrDA 1	52680	2.37	20.80	0.66 µg/L	131.43
PFTeDA 1	46257	2.44	20.80	0.57 µg/L	113.26
13C2-PFHxA	3370	1.39	100.00	84.46 µg/L	84.46
18O2-PFHxS	875	1.67	100.00	88.34 µg/L	88.34
13C4-PFHpA	5154	1.66	100.00	90.52 µg/L	90.52
13C4-PFOA	5293	1.85	100.00	91.49 µg/L	91.49
13C4-PFOS	1012	1.97	100.00	88.14 µg/L	88.14
13C5-PFNA	5053	1.99	100.00	91.48 µg/L	91.48
13C2-PFDA	3750	2.11	100.00	89.32 µg/L	89.32
13C2-PFUnA	4229	2.21	100.00	90.25 µg/L	90.25
13C2-PFDoA	5015	2.29	100.00	80.85 µg/L	80.85
13C2-PFTeDA	5282	2.44	100.00	63.32 µg/L	63.32
13C6-PFHxA	17017	1.39	100.00	2.27 µg/L	94.41
13C9-PFDA	23341	2.11	100.00	2.27 µg/L	94.38

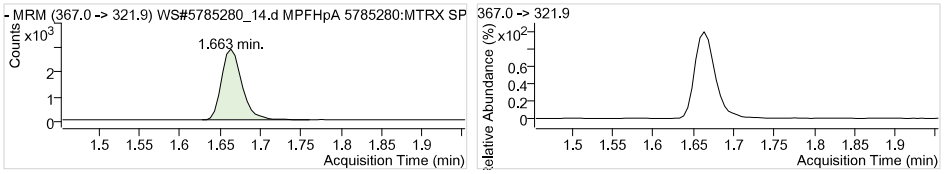




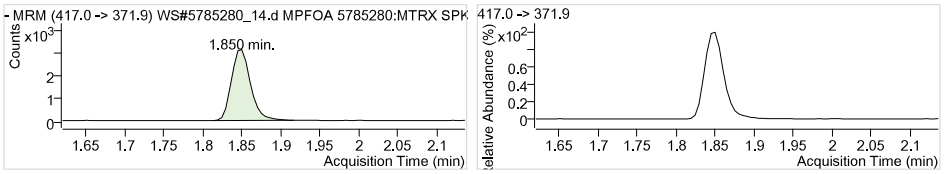
MPFHxA	Internal Standard
RT (Exp. RT):	1.395 (1.395)
Concentration:	1 µg/L
Sample type:	QC



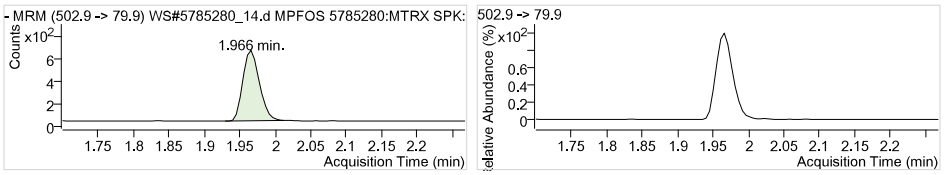
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: QC



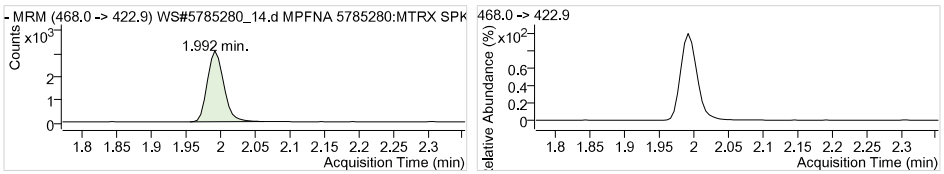
MPFHpA Internal Standard
RT (Exp. RT): 1.663 (1.663)
Concentration: 1 µg/L
Sample type: QC



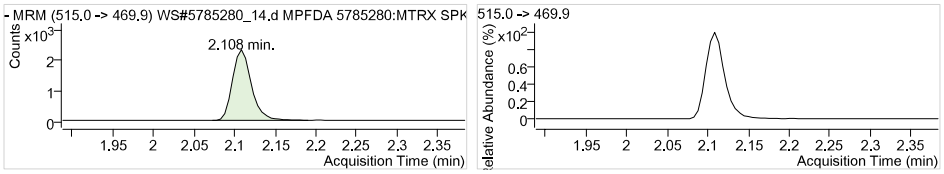
MPFOA Internal Standard
RT (Exp. RT): 1.850 (1.845)
Concentration: 1 µg/L
Sample type: QC



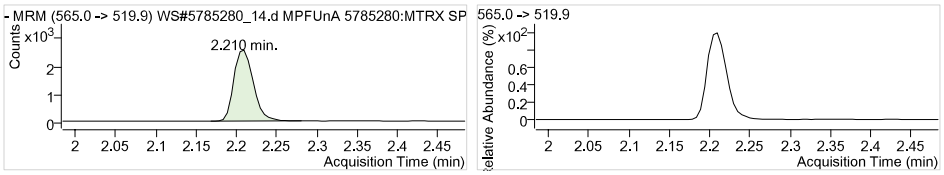
MPFOS Internal Standard
RT (Exp. RT): 1.966 (1.966)
Concentration: 1 µg/L
Sample type: QC



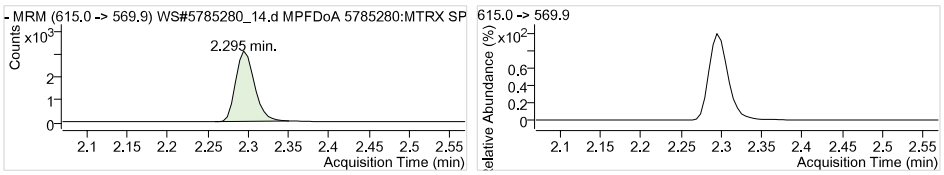
MPFNA Internal Standard
RT (Exp. RT): 1.992 (1.992)
Concentration: 1 µg/L
Sample type: QC



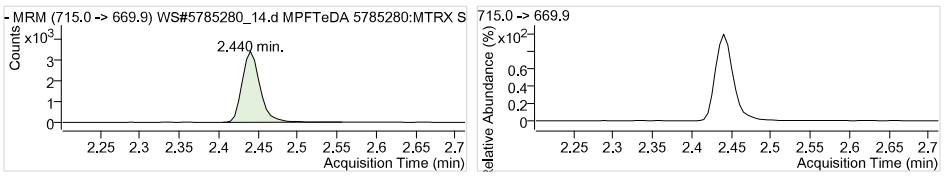
MPFDA Internal Standard
RT (Exp. RT): 2.108 (2.108)
Concentration: 1 µg/L
Sample type: QC



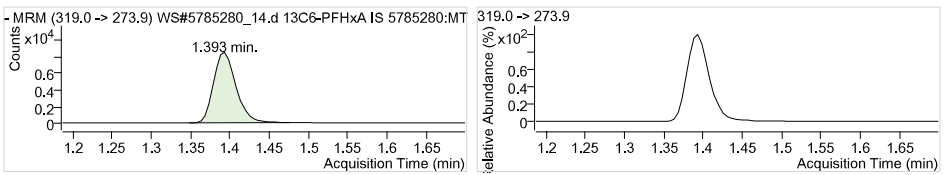
MPFUnA Internal Standard
RT (Exp. RT): 2.210 (2.210)
Concentration: 1 µg/L
Sample type: QC



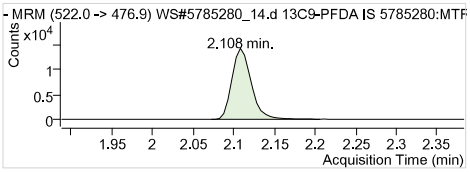
MPFDoA Internal Standard
RT (Exp. RT): 2.295 (2.295)
Concentration: 1 µg/L
Sample type: QC

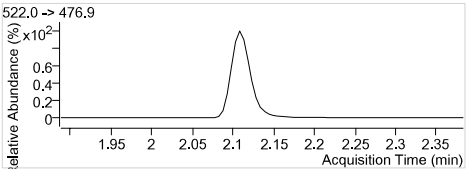


MPFTeDA Internal Standard
RT (Exp. RT): 2.440 (2.440)
Concentration: 1 µg/L
Sample type: QC

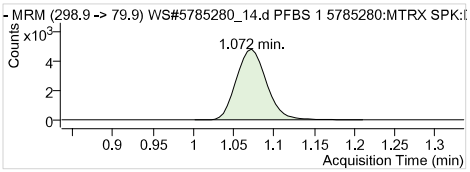


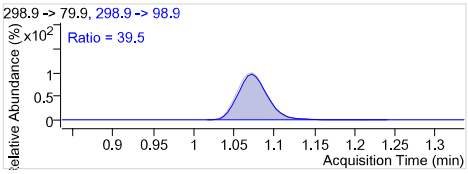
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.393 (1.393)
Concentration: 1 µg/L
Sample type: QC



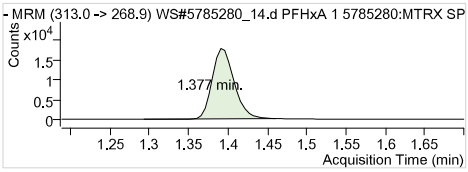


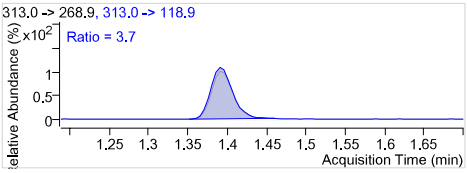
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.108 (2.108)
Concentration: 1 µg/L
Sample type: QC



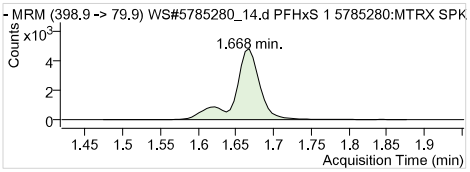


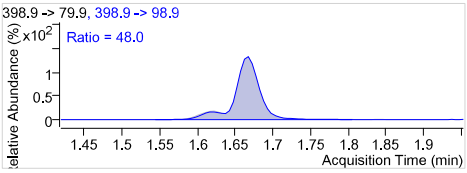
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 1.072 (1.067)
Calc. conc. 0.58 µg/L
Area ratio: 14.32571
Sample type: QC



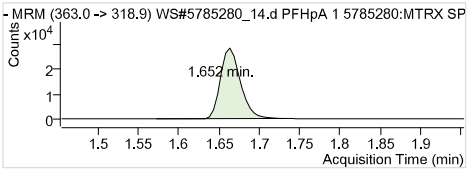


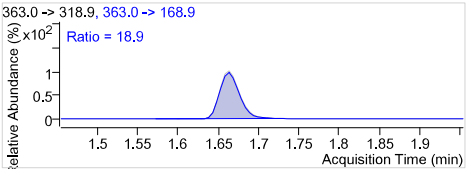
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 1.377 (1.391)
Calc. conc. 0.60 µg/L
Area ratio: 10.19431
Sample type: QC



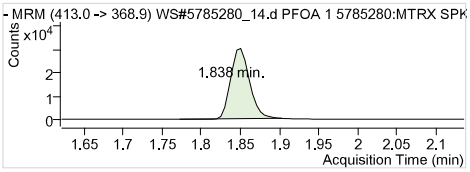


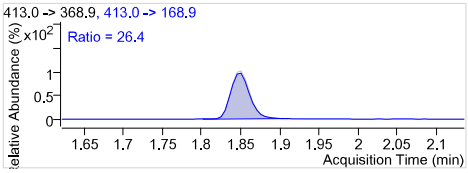
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.663)
Calc. conc. 0.58 µg/L
Area ratio: 12.77829
Sample type: QC



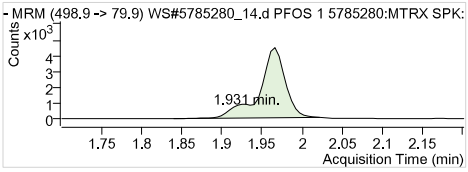


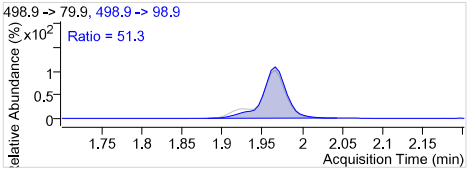
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 1.652 (1.664)
Calc. conc. 0.57 µg/L
Area ratio: 9.39337
Sample type: QC



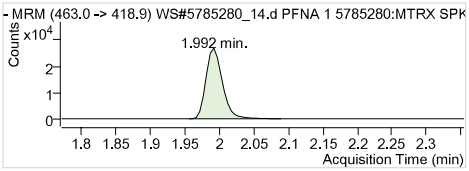


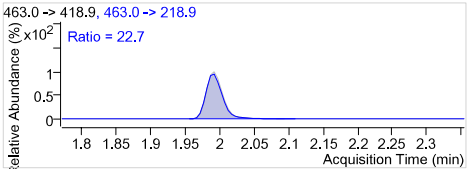
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 1.838 (1.845)
Calc. conc. 0.55 µg/L
Area ratio: 9.52252
Sample type: QC



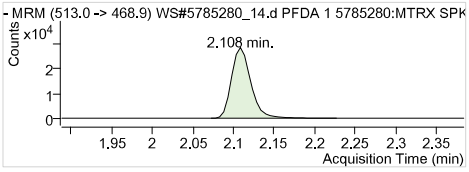


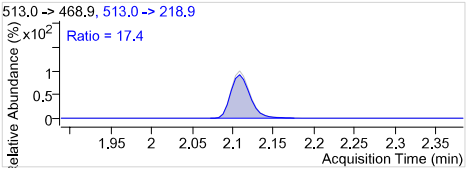
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.931 (1.966)
Calc. conc. 0.59 µg/L
Area ratio: 9.72250
Sample type: QC



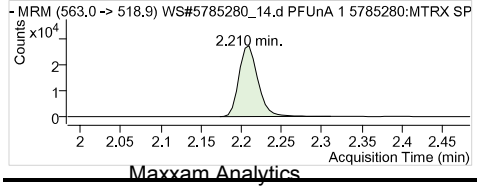


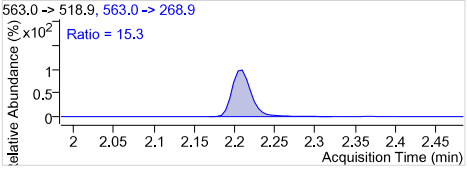
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 1.992 (1.992)
Calc. conc. 0.53 µg/L
Area ratio: 8.82248
Sample type: QC



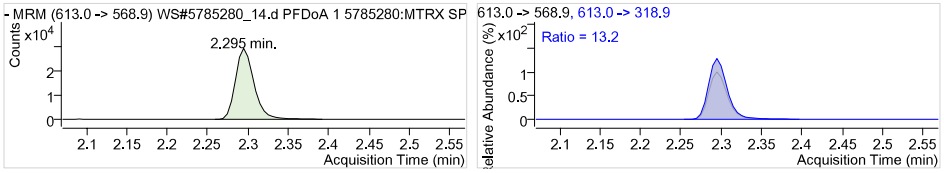


PFDA 1 513.0 -> 468.9
RT (Exp. RT): 2.108 (2.108)
Calc. conc. 0.54 µg/L
Area ratio: 12.63653
Sample type: QC

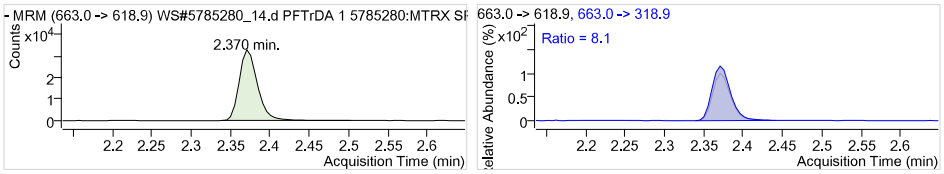




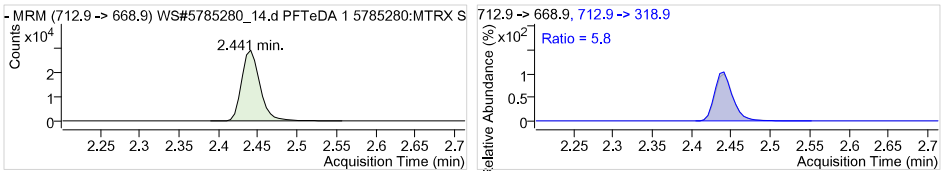
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 2.210 (2.210)
Calc. conc. 0.53 µg/L
Area ratio: 10.33270
Sample type: QC



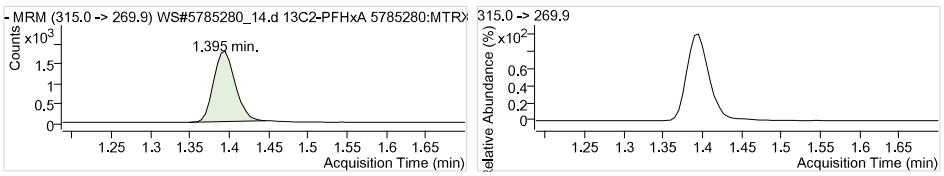
PFDoA 1 613.0 -> 568.9
RT (Exp. RT): 2.295 (2.295)
Calc. conc. 0.57 µg/L
Area ratio: 9.26979
Sample type: QC



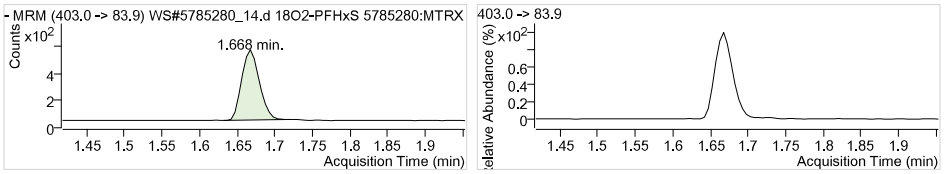
PFTrDA 1 663.0 -> 618.9
RT (Exp. RT): 2.370 (2.370)
Calc. conc. 0.66 µg/L
Area ratio: 9.97349
Sample type: QC



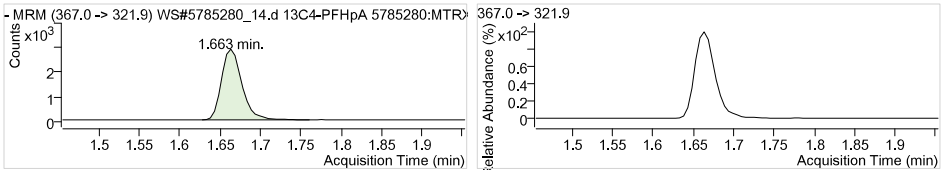
PFTeDA 1 712.9 -> 668.9
RT (Exp. RT): 2.441 (2.441)
Calc. conc. 0.57 µg/L
Area ratio: 8.75748
Sample type: QC



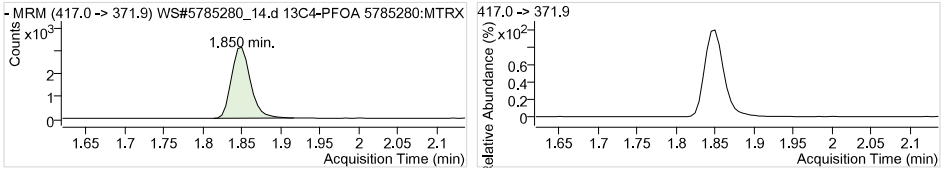
13C2-PFHxA 315.0 -> 269.9
RT (Exp. RT): 1.395 (1.395)
Calc. conc. 84.46 µg/L
Area ratio: 0.19804
Sample type: QC



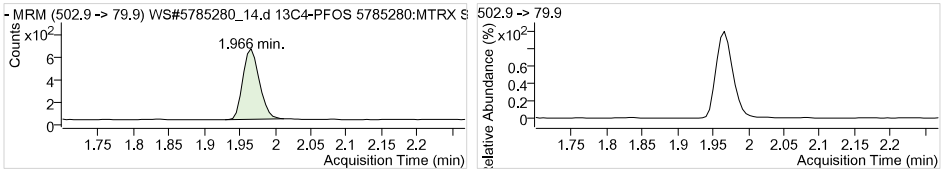
18O2-PFHxS 403.0 -> 83.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 88.34 µg/L
Area ratio: 0.05142
Sample type: QC



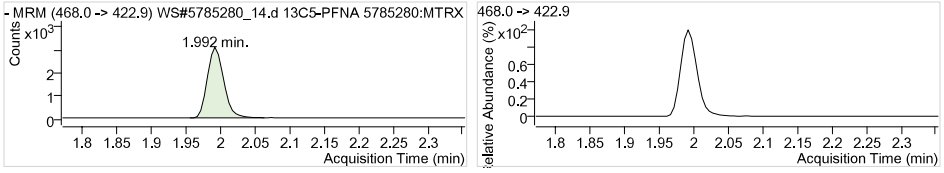
13C4-PFHpA 367.0 -> 321.9
RT (Exp. RT): 1.663 (1.663)
Calc. conc. 90.52 µg/L
Area ratio: 0.30287
Sample type: QC



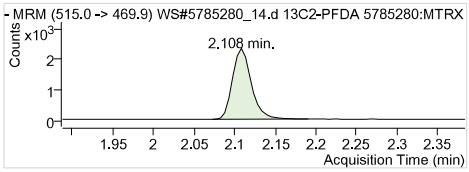
13C4-PFOA 417.0 -> 371.9
RT (Exp. RT): 1.850 (1.845)
Calc. conc. 91.49 µg/L
Area ratio: 0.31104
Sample type: QC

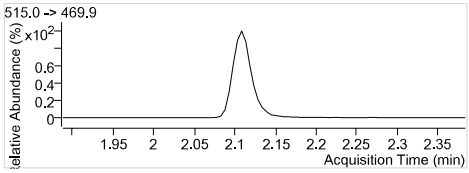


13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.966 (1.966)
Calc. conc. 88.14 µg/L
Area ratio: 0.05947
Sample type: QC

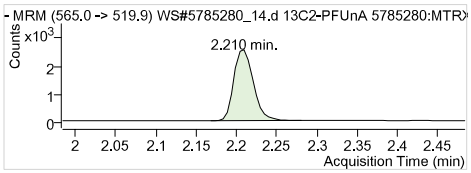


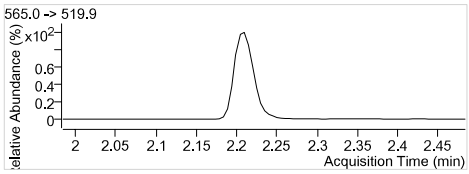
13C5-PFNA 468.0 -> 422.9
RT (Exp. RT): 1.992 (1.992)
Calc. conc. 91.48 µg/L
Area ratio: 0.29694
Sample type: QC



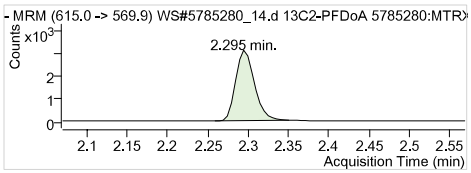


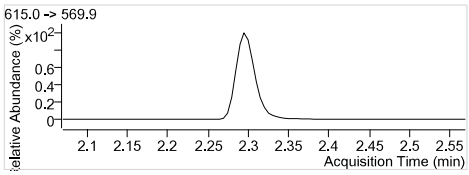
13C2-PFDA	515.0 -> 469.9
RT (Exp. RT):	2.108 (2.108)
Calc. conc.	89.32 µg/L
Area ratio:	0.16066
Sample type:	QC



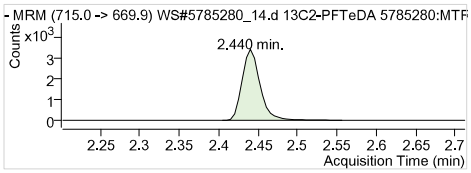


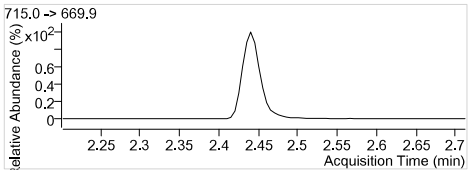
13C2-PFUnA	565.0 -> 519.9
RT (Exp. RT):	2.210 (2.210)
Calc. conc.	90.25 µg/L
Area ratio:	0.18118
Sample type:	QC



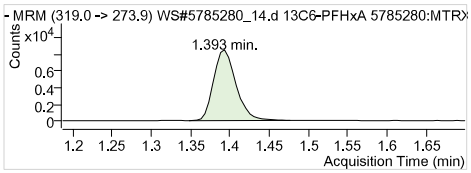


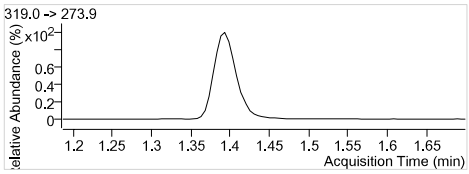
13C2-PFDoA	615.0 -> 569.9
RT (Exp. RT):	2.295 (2.295)
Calc. conc.	80.85 µg/L
Area ratio:	0.21486
Sample type:	QC



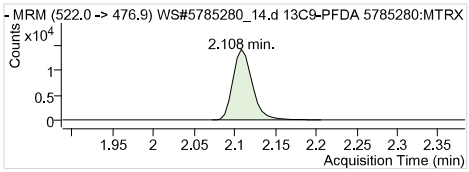


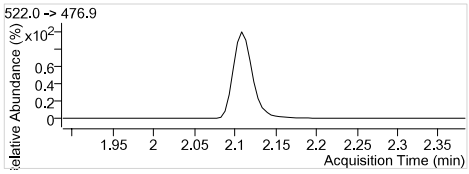
13C2-PFTeDA	715.0 -> 669.9
RT (Exp. RT):	2.440 (2.440)
Calc. conc.	63.32 µg/L
Area ratio:	0.22630
Sample type:	QC





13C6-PFHxA	319.0 -> 273.9
RT (Exp. RT):	1.393 (1.393)
Calc. conc.	2.27 µg/L
Area ratio:	0
Sample type:	QC





13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	2.108 (2.108)
Calc. conc.	2.27 µg/L
Area ratio:	0
Sample type:	QC

Quantitation Results

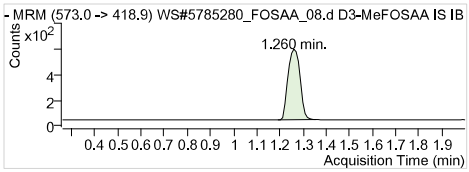
Agilent Technologies

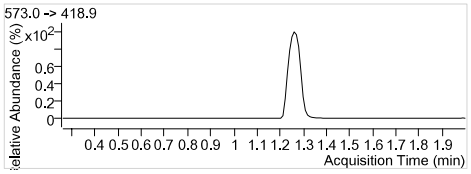
Batch Path	T:\LCMS04\PFC\20181017\WS#5785280_FOSAA\QuantResults\PFC_Water_Low_20181017_WS#5785280_FOSAA_EToxics

Sample Name	**IB**	**Instrument**	LCMS04
Data File	WS#5785280_FOSAA_08.d	**Operator**	
Sample Type	Sample	**Dilution**	1
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P4-A8
Acq. Date	2018/10/17 7:06:56 PM	**Injection Volume**	Per Method
Sample Annotation	-		

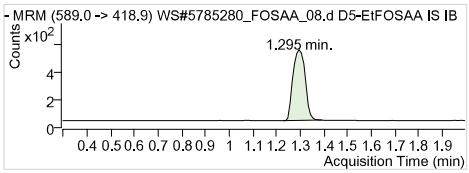
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1969	1.26	1 µg/L		
D5-EtFOSAA IS	1831	1.29	1 µg/L		
13C9-PFDA IS	25253	0.84	1 µg/L		

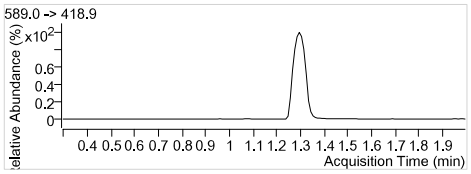
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1			-	ND	-
EtFOSAA 1			-	ND	-
D3-MeFOSAA	1989	1.26	-	100.85 µg/L	-
D5-EtFOSAA	1851	1.29	-	103.04 µg/L	-
13C9-PFDA	24994	0.84	-	100.03 µg/L	-



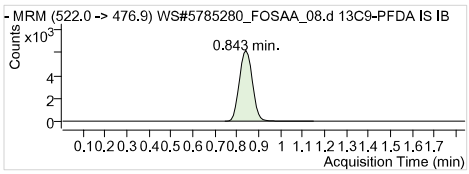


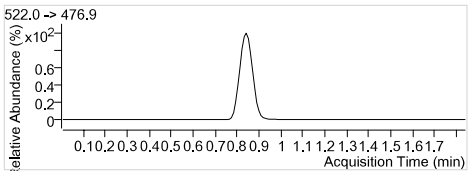
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.260 (1.260)
Concentration: 1 µg/L
Sample type: Sample



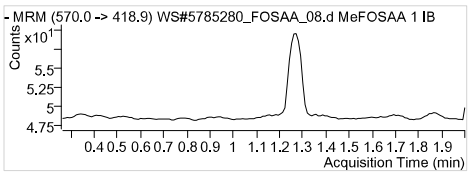


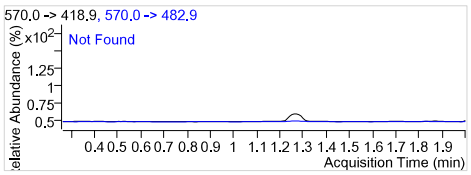
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.295 (1.295)
Concentration: 1 µg/L
Sample type: Sample



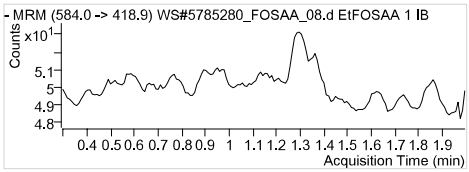


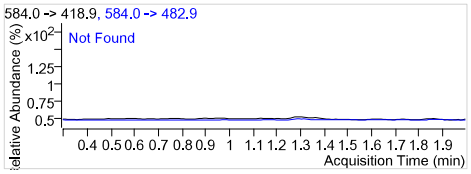
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.843 (0.843)
Concentration: 1 µg/L
Sample type: Sample



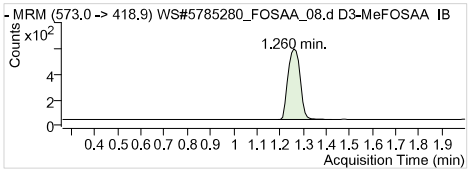


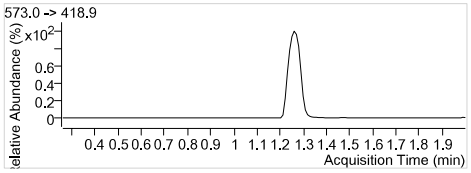
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 0.000 (1.262)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



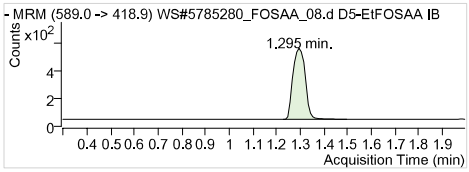


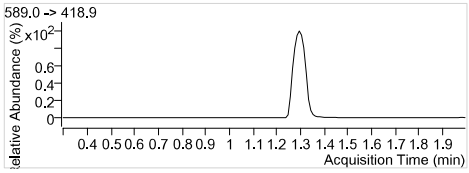
EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 0.000 (1.296)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



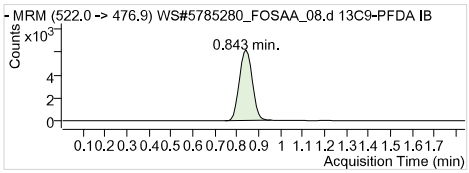


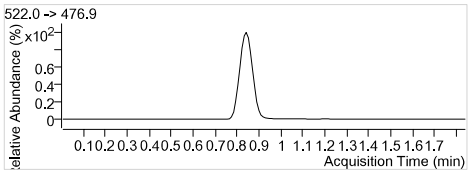
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.260 (1.260)
Calc. conc. 100.85 µg/L
Area ratio: 0.07876
Sample type: Sample





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.295 (1.295)
Calc. conc.	103.04 µg/L
Area ratio:	0.07330
Sample type:	Sample





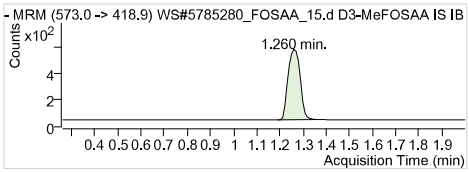
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.843 (0.843)
Calc. conc.	100.03 µg/L
Area ratio:	0
Sample type:	Sample

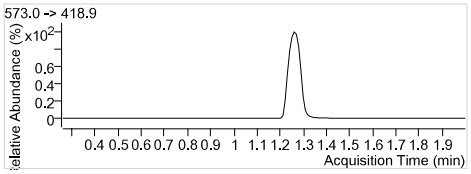
Batch Path	T:\LCMS04\PFC\20181017\WS#5785280_FOSAA\QuantResults\PFC_Water_Low_20181017_WS#5785280_FOSAA_EToxics

Sample Name	**IB**	**Instrument**	LCMS04
Data File	WS#5785280_FOSAA_15.d	**Operator**	
Sample Type	Sample	**Dilution**	0.024
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P4-A8
Acq. Date	2018/10/17 7:23:37 PM	**Injection Volume**	Per Method
Sample Annotation	-		

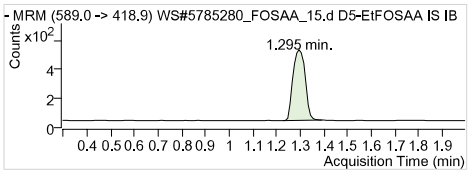
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1907	1.26	1 µg/L		
D5-EtFOSAA IS	1731	1.29	1 µg/L		
13C9-PFDA IS	24252	0.84	1 µg/L		

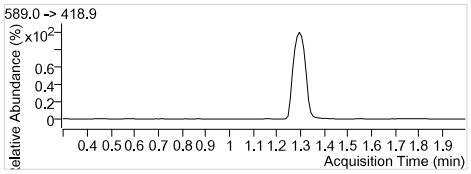
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1			-	ND	-
EtFOSAA 1			-	ND	-
D3-MeFOSAA	1932	1.26	-	102.00 µg/L	-
D5-EtFOSAA	1753	1.29	-	101.62 µg/L	-
13C9-PFDA	24028	0.84	-	2.31 µg/L	-



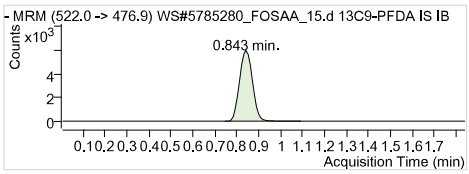


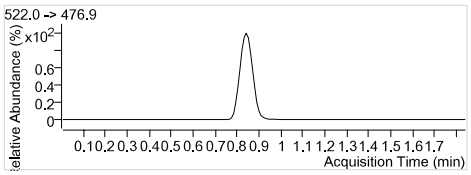
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.260 (1.260)
Concentration: 1 µg/L
Sample type: Sample



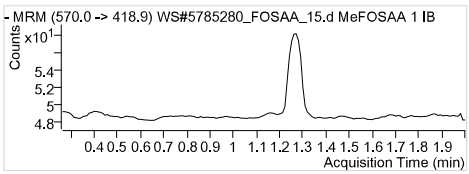


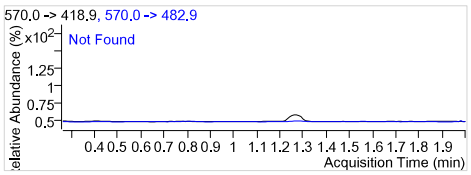
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.295 (1.295)
Concentration: 1 µg/L
Sample type: Sample



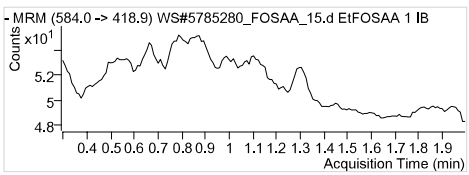


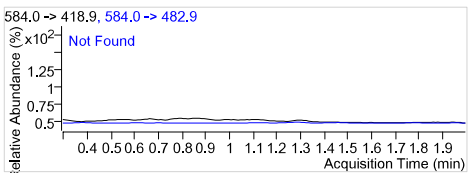
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.843 (0.843)
Concentration: 1 µg/L
Sample type: Sample



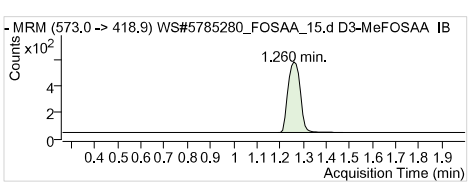


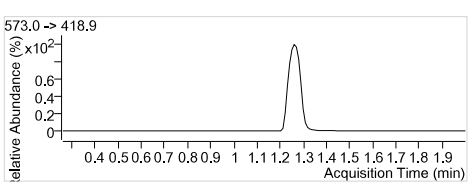
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 0.000 (1.262)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



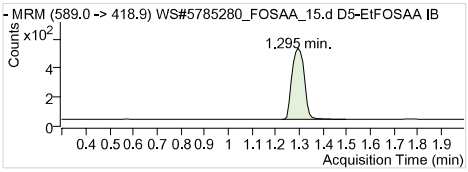


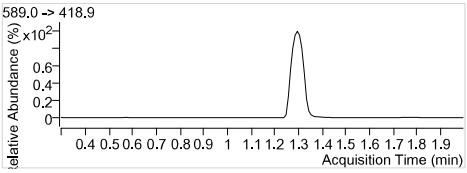
EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 0.000 (1.296)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



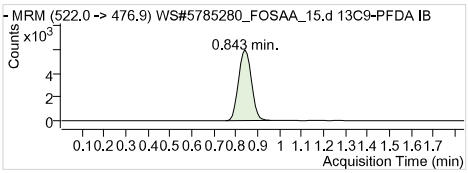


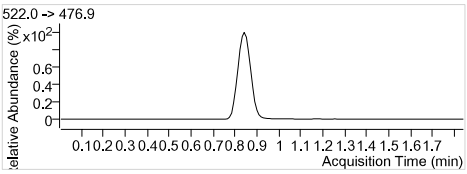
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.260 (1.260)
Calc. conc. 102.00 µg/L
Area ratio: 0.07966
Sample type: Sample





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.295 (1.295)
Calc. conc.	101.62 µg/L
Area ratio:	0.07228
Sample type:	Sample





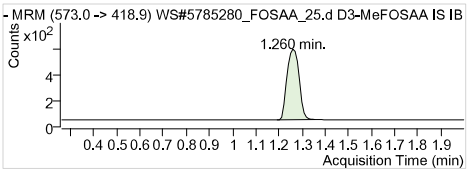
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.843 (0.843)
Calc. conc.	2.31 µg/L
Area ratio:	0
Sample type:	Sample

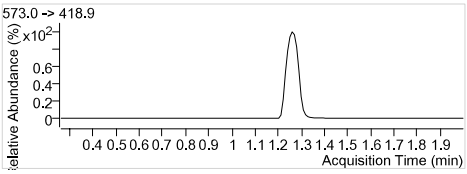
Batch Path	T:\LCMS04\PFC\20181017\WS#5785280_FOSAA\QuantResults\PFC_Water_Low_20181017_WS#5785280_FOSAA_EToxics

Sample Name	**IB**	**Instrument**	LCMS04
Data File	WS#5785280_FOSAA_25.d	**Operator**	
Sample Type	Sample	**Dilution**	0.024
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P4-A8
Acq. Date	2018/10/17 7:47:27 PM	**Injection Volume**	Per Method
Sample Annotation	-		

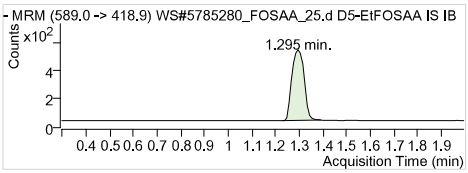
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1958	1.26	1 µg/L		
D5-EtFOSAA IS	1777	1.29	1 µg/L		
13C9-PFDA IS	25529	0.84	1 µg/L		

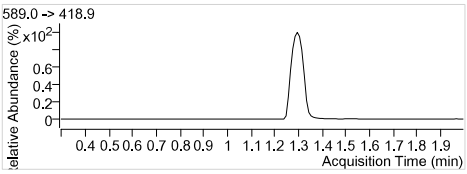
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1			-	ND	-
EtFOSAA 1			-	ND	-
D3-MeFOSAA	1978	1.26	-	99.20 µg/L	-
D5-EtFOSAA	1800	1.29	-	99.12 µg/L	-
13C9-PFDA	25266	0.84	-	2.43 µg/L	-



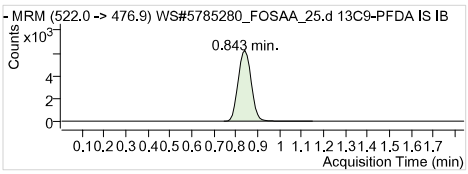


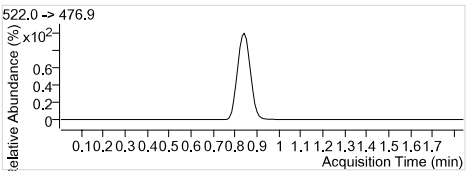
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.260 (1.260)
Concentration: 1 µg/L
Sample type: Sample



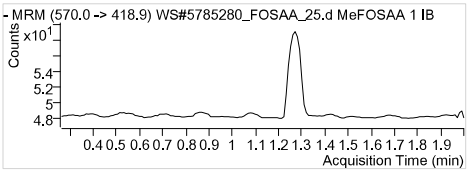


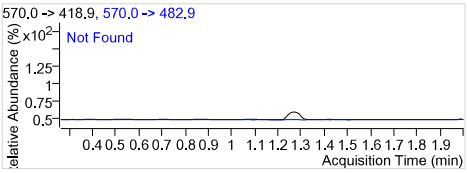
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.295 (1.295)
Concentration: 1 µg/L
Sample type: Sample



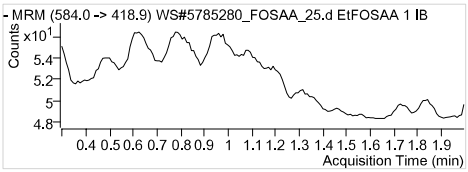


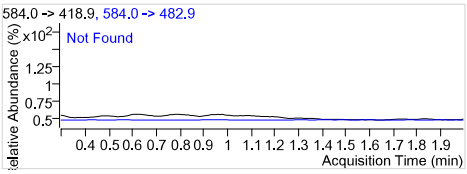
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.843 (0.843)
Concentration: 1 µg/L
Sample type: Sample



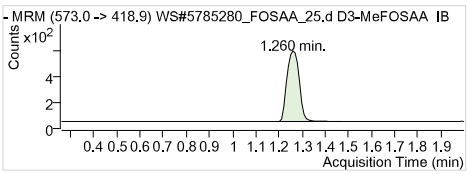


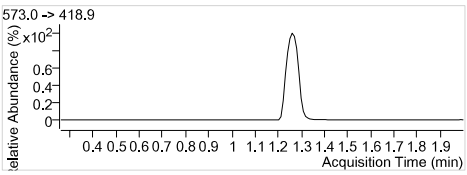
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 0.000 (1.262)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



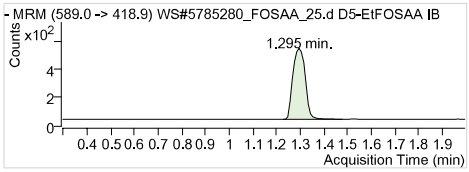


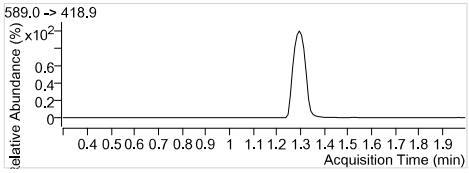
EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 0.000 (1.296)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



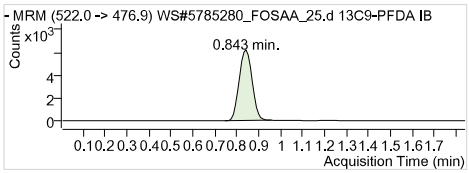


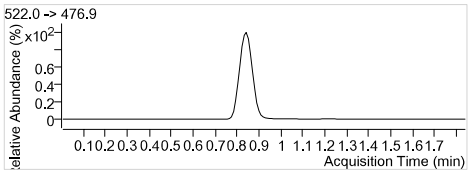
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.260 (1.260)
Calc. conc. 99.20 µg/L
Area ratio: 0.07748
Sample type: Sample





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.295 (1.295)
Calc. conc.	99.12 µg/L
Area ratio:	0.07051
Sample type:	Sample





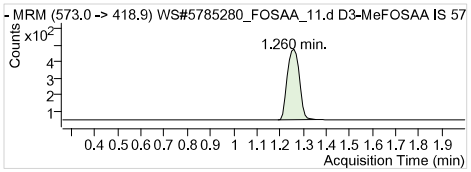
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.843 (0.843)
Calc. conc.	2.43 µg/L
Area ratio:	0
Sample type:	Sample

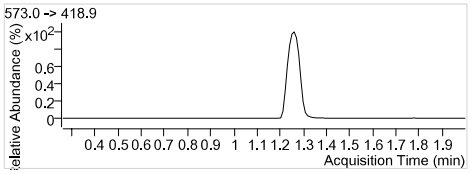
Batch Path	T:\LCMS04\PFC\20181017\WS#5785280_FOSAA\QuantResults\PFC_Water_Low_20181017_WS#5785280_FOSAA_EToxics

Sample Name	**5785280:BLANK**	**Instrument**	LCMS04
Data File	WS#5785280_FOSAA_11.d	**Operator**	
Sample Type	Sample	**Dilution**	0.024
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P4-B1
Acq. Date	2018/10/17 7:14:07 PM	**Injection Volume**	Per Method
Sample Annotation	-		

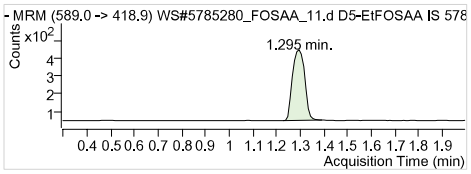
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1542	1.26	1 µg/L		
D5-EtFOSAA IS	1429	1.29	1 µg/L		
13C9-PFDA IS	25750	0.84	1 µg/L		

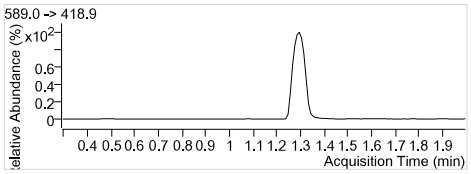
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1			-	ND	-
EtFOSAA 1			-	ND	-
D3-MeFOSAA	1560	1.26	-	77.57 µg/L	-
D5-EtFOSAA	1446	1.29	-	78.94 µg/L	-
13C9-PFDA	25517	0.84	-	2.45 µg/L	-



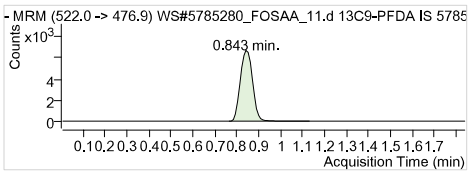


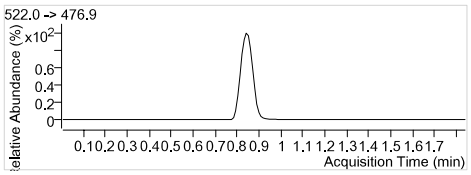
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.260 (1.260)
Concentration: 1 µg/L
Sample type: Sample



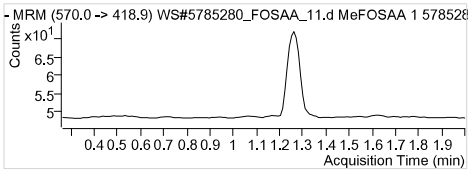


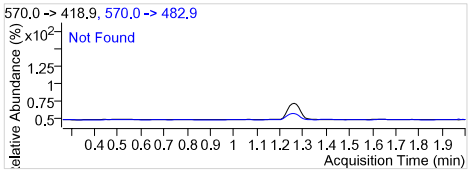
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.295 (1.295)
Concentration: 1 µg/L
Sample type: Sample



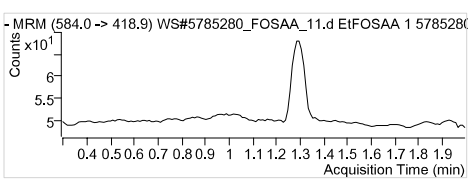


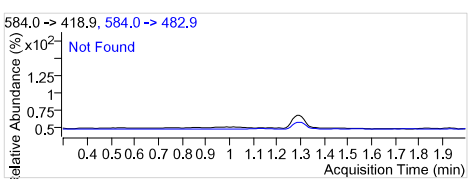
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.843 (0.843)
Concentration: 1 µg/L
Sample type: Sample



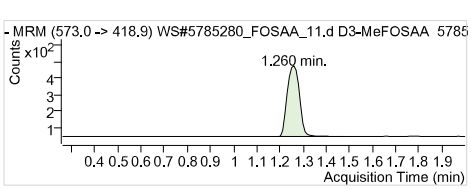


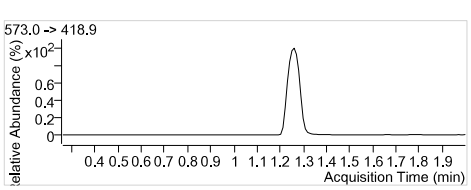
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 0.000 (1.262)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



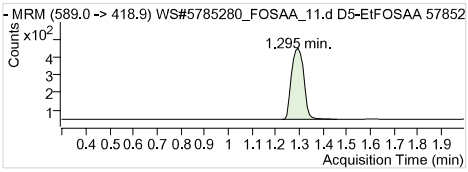


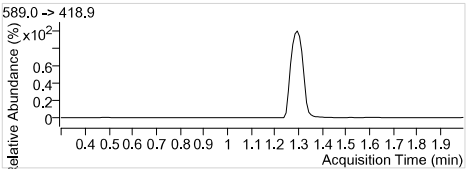
EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 0.000 (1.296)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



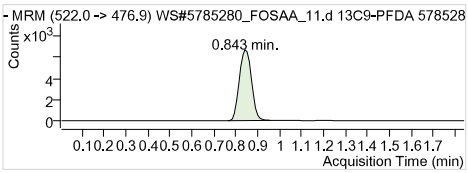


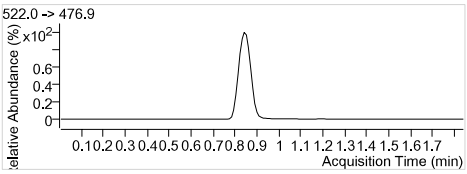
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.260 (1.260)
Calc. conc. 77.57 µg/L
Area ratio: 0.06058
Sample type: Sample





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.295 (1.295)
Calc. conc.	78.94 µg/L
Area ratio:	0.05616
Sample type:	Sample





13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.843 (0.843)
Calc. conc.	2.45 µg/L
Area ratio:	0
Sample type:	Sample

Quantitation Results

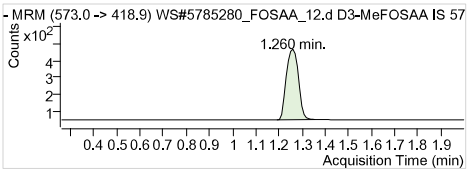
Agilent Technologies

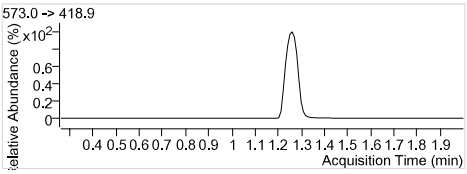
Batch Path	T:\LCMS04\PFC\20181017\WS#5785280_FOSAA\QuantResults\PFC_Water_Low_20181017_WS#5785280_FOSAA_EToxics

Sample Name	**5785280:SPIKE**	**Instrument**	LCMS04
Data File	WS#5785280_FOSAA_12.d	**Operator**	
Sample Type	QC	**Dilution**	0.024
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P4-B2
Acq. Date	2018/10/17 7:16:28 PM	**Injection Volume**	Per Method
Sample Annotation	-		

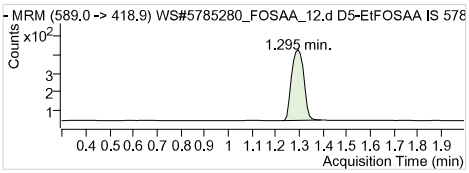
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1517	1.26	1 µg/L		
D5-EtFOSAA IS	1342	1.29	1 µg/L		
13C9-PFDA IS	25333	0.84	1 µg/L		

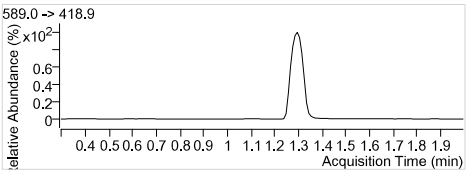
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1	11919	1.26	20.80	0.53 µg/L	106.63
EtFOSAA 1	11674	1.30	20.80	0.51 µg/L	101.53
D3-MeFOSAA	1537	1.26	100.00	77.68 µg/L	77.68
D5-EtFOSAA	1358	1.29	100.00	75.36 µg/L	75.36
13C9-PFDA	25100	0.84	100.00	2.41 µg/L	100.46



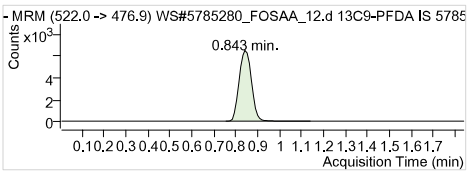


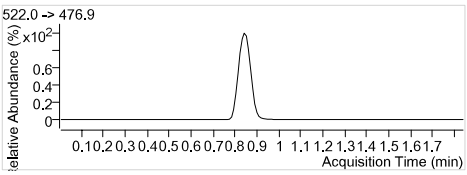
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.260 (1.260)
Concentration: 1 µg/L
Sample type: QC



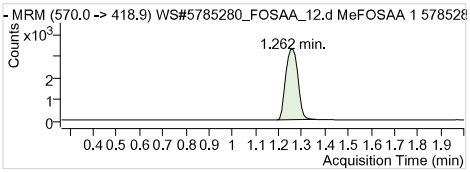


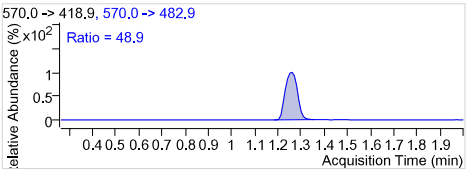
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.295 (1.295)
Concentration: 1 µg/L
Sample type: QC



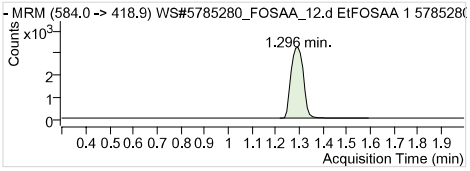


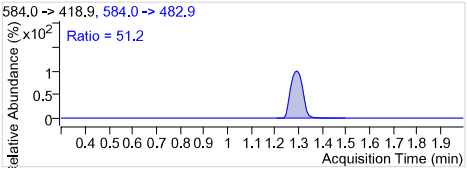
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.843 (0.843)
Concentration: 1 µg/L
Sample type: QC



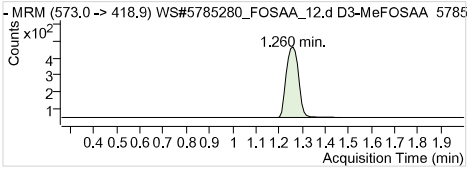


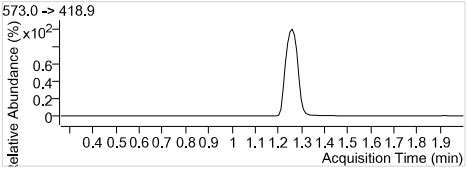
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 1.262 (1.262)
Calc. conc. 0.53 µg/L
Area ratio: 7.85695
Sample type: QC



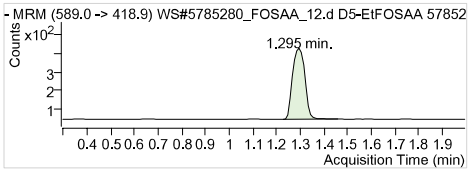


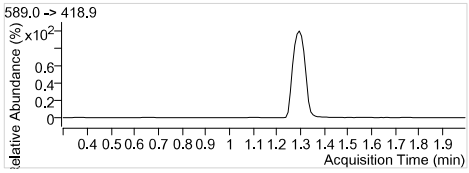
EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 1.296 (1.296)
Calc. conc. 0.51 µg/L
Area ratio: 8.69896
Sample type: QC



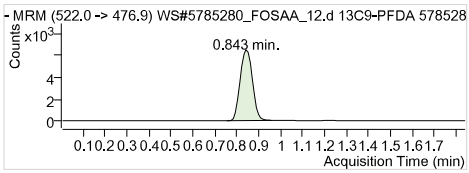


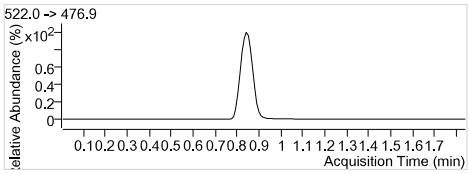
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.260 (1.260)
Calc. conc. 77.68 µg/L
Area ratio: 0.06067
Sample type: QC





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.295 (1.295)
Calc. conc.	75.36 µg/L
Area ratio:	0.05361
Sample type:	QC





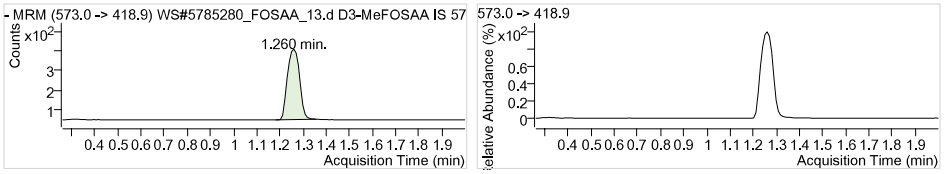
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.843 (0.843)
Calc. conc.	2.41 µg/L
Area ratio:	0
Sample type:	QC

Batch Path	T:\LCMS04\PFC\20181017\WS#5785280_FOSAA\QuantResults\PFC_Water_Low_20181017_WS#5785280_FOSAA_EToxics

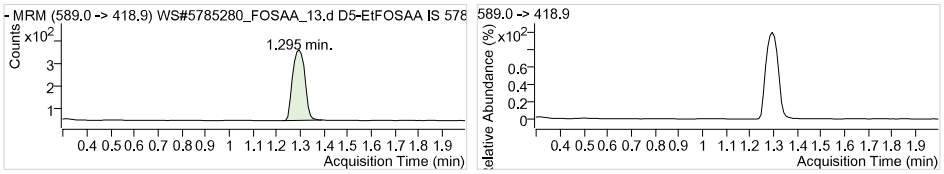
Sample Name	**5785280:MTRX SPK**	**Instrument**	LCMS04
Data File	WS#5785280_FOSAA_13.d	**Operator**	
Sample Type	QC	**Dilution**	0.024
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P4-B3
Acq. Date	2018/10/17 7:18:51 PM	**Injection Volume**	Per Method
Sample Annotation	HYO198		

ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1297	1.26	1 µg/L		
D5-EtFOSAA IS	1119	1.29	1 µg/L		
13C9-PFDA IS	23664	0.84	1 µg/L		

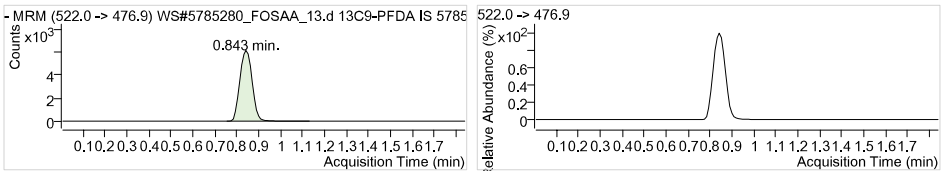
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1	10191	1.26	20.80	0.53 µg/L	106.64
EtFOSAA 1	10132	1.30	20.80	0.53 µg/L	105.66
D3-MeFOSAA	1314	1.26	100.00	71.10 µg/L	71.10
D5-EtFOSAA	1128	1.29	100.00	67.01 µg/L	67.01
13C9-PFDA	23432	0.84	100.00	2.25 µg/L	93.78



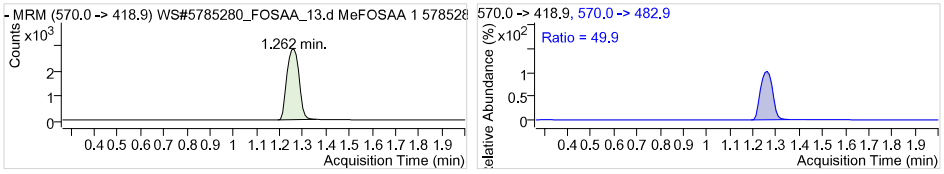
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.260 (1.260)
Concentration: 1 µg/L
Sample type: QC



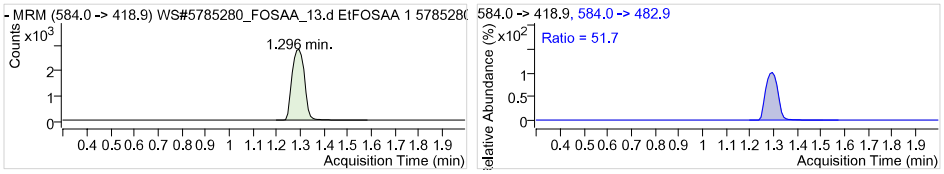
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.295 (1.295)
Concentration: 1 µg/L
Sample type: QC



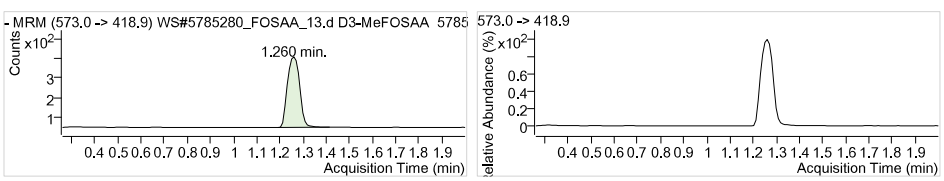
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.843 (0.843)
Concentration: 1 µg/L
Sample type: QC



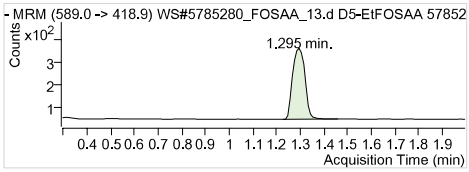
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 1.262 (1.262)
Calc. conc. 0.53 µg/L
Area ratio: 7.85736
Sample type: QC

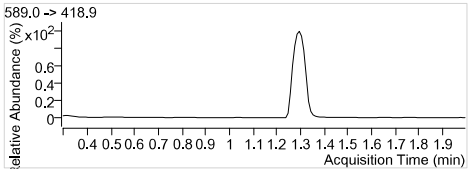


EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 1.296 (1.296)
Calc. conc. 0.53 µg/L
Area ratio: 9.05451
Sample type: QC

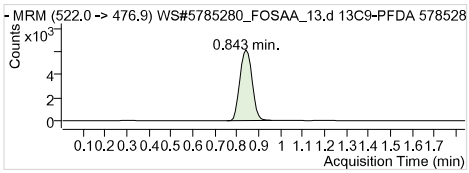


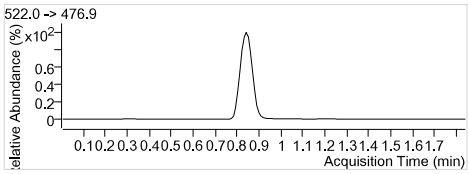
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.260 (1.260)
Calc. conc. 71.10 µg/L
Area ratio: 0.05553
Sample type: QC





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.295 (1.295)
Calc. conc.	67.01 µg/L
Area ratio:	0.04767
Sample type:	QC





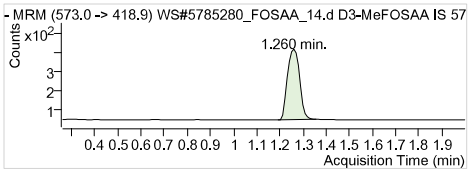
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.843 (0.843)
Calc. conc.	2.25 µg/L
Area ratio:	0
Sample type:	QC

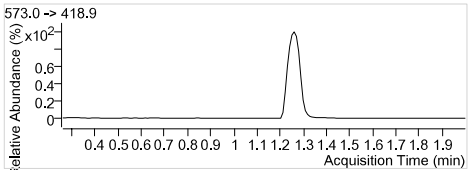
Batch Path	T:\LCMS04\PFC\20181017\WS#5785280_FOSAA\QuantResults\PFC_Water_Low_20181017_WS#5785280_FOSAA_EToxics

Sample Name	**5785280:MTRX SPK:D1**	**Instrument**	LCMS04
Data File	WS#5785280_FOSAA_14.d	**Operator**	
Sample Type	QC	**Dilution**	0.024
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P4-B4
Acq. Date	2018/10/17 7:21:14 PM	**Injection Volume**	Per Method
Sample Annotation	HYO198		

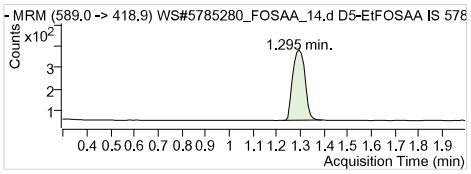
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1335	1.26	1 µg/L		
D5-EtFOSAA IS	1212	1.29	1 µg/L		
13C9-PFDA IS	21063	0.84	1 µg/L		

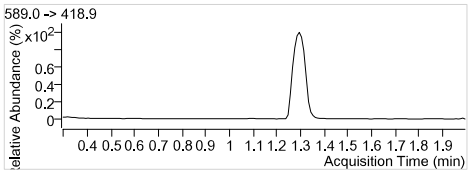
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1	11067	1.26	20.80	0.56 µg/L	112.51
EtFOSAA 1	11235	1.30	20.80	0.54 µg/L	108.16
D3-MeFOSAA	1359	1.26	100.00	82.61 µg/L	82.61
D5-EtFOSAA	1225	1.29	100.00	81.76 µg/L	81.76
13C9-PFDA	20887	0.84	100.00	2.01 µg/L	83.60



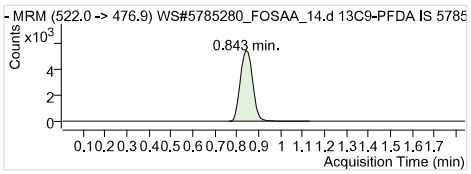


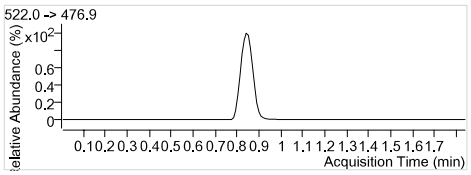
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.260 (1.260)
Concentration: 1 µg/L
Sample type: QC



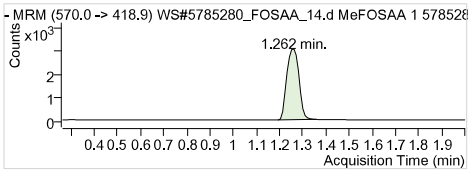


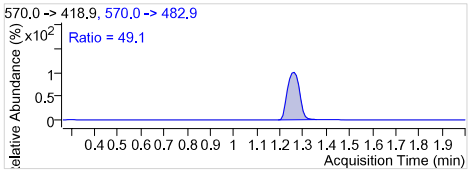
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.295 (1.295)
Concentration: 1 µg/L
Sample type: QC



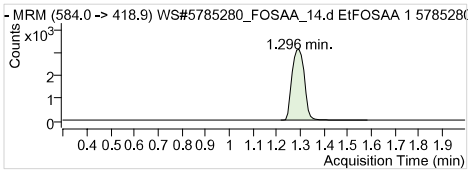


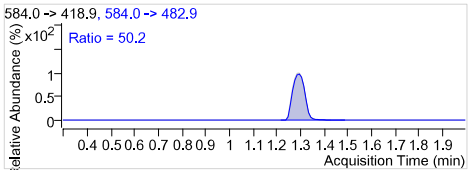
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.843 (0.843)
Concentration: 1 µg/L
Sample type: QC



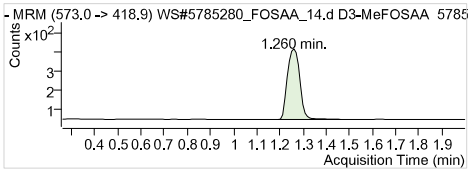


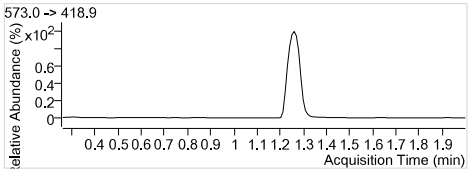
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 1.262 (1.262)
Calc. conc. 0.56 µg/L
Area ratio: 8.28989
Sample type: QC



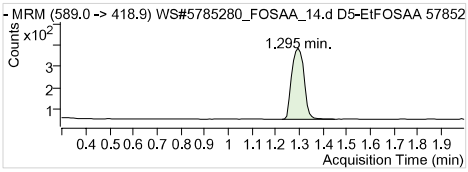


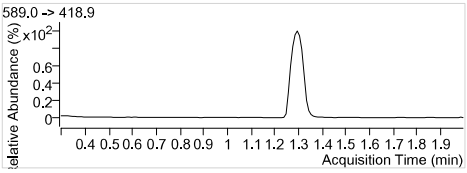
EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 1.296 (1.296)
Calc. conc. 0.54 µg/L
Area ratio: 9.26980
Sample type: QC



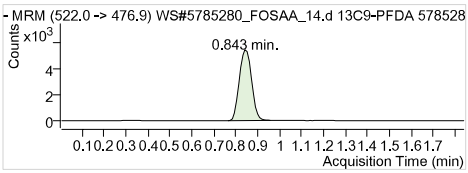


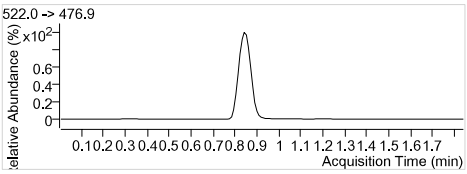
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.260 (1.260)
Calc. conc. 82.61 µg/L
Area ratio: 0.06452
Sample type: QC





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.295 (1.295)
Calc. conc.	81.76 µg/L
Area ratio:	0.05816
Sample type:	QC





13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.843 (0.843)
Calc. conc.	2.01 µg/L
Area ratio:	0
Sample type:	QC

DoD Projects - Internal Data Validation Checklist

Run date: 2018/10/18

Worksheet # (s): 5785280

Analysis: PFOSALCM-W

	Primary review by the analyst - 1st 100 % analysis review	1st 100% review yes	no	n/a	*2nd 100% review
1	Sample analyses meet hold time criteria	✓			✓
2	Analysis set-up meets method criteria	✓			✓
3	Tuning and correct calibration used - criteria meets method criteria	✓			✓
4	SQC/Control Charts updated, analysis in statistical/method control	✓			✓
5	Internal area counts checked (if applicable)	✓			✓
6	LCS, SRM are within acceptance criteria	✓			✓
7	Surrogate Recovery(s) is within acceptance criteria		✓		✓
8	Method Blank meets acceptance criteria	✓			✓
9	Matrix Spike recovery(s) meets acceptance criteria	✓			✓
10	Duplicate precision meets acceptance criteria	✓			✓
11	QC is documented on the run logs	✓			✓
12	Runs checked for carryover	✓			✓
13	Prep log / worksheet(s) are present, signed / dated by a prep / instrument analysts	✓			✓
14	Initial weights, splits, impringer volumes (where applicable) are documented	✓			✓
15	Standards and reagents traceable to Certificates of Analysis	✓			✓
16	Samples above calibration range diluted and reanalyzed	✓			✓
17	Dilution factors (where justified) have been checked for correctness and entered	✓			✓
18	Analytical observations/anomalies documented in LIMS			✓	✓
19	Random calculation checked and in correct units	✓			✓
20	If corrective actions were applied they are documented, initialed & dated			✓	✓
21	Manual integration – before & after data with a reason included, initialed & dated			✓	✓
22	Transferred data is validated in LIMS for correctness	✓			✓
23	Data package assembled (where required)	✓			✓

Reviewed by: AD Date: 2018/10/18

Comments:

	Secondary Supervisor/Qualified Data Review Staff - 2nd 100% verification review	yes	no	n/a
1	Repeats documented and referenced			✓
2	Method and sample deviations noted, anomalies described (if applicable)			✓
3	Data and QC validated in LIMS	✓		
4	Random calculation checked	✓		
5	Benchsheet (s) signed and dated	✓		
6	Data Package (if required) checked for completeness	✓		

Reviewed by: CM Date: 20181018.

Comments:

Note: 2nd 100% verification review documented by secondary qualified data review
Primary and Secondary Internal Data Review Check must be performed by a different person

WS# : 5785280

Page #: 1/2

RUSH

Report Name : Worksheet - (Liquids and Solids)

Assignment Date : Tuesday, October 16, 2018

Assigned to : Shahbaz Ahmad

Test Code : PFOSALCM-W

Instrument Id:

Test Description : PFOS and PFOA in water by LC-MS/MS

sediment g/g ml ml SA 2018/10/16

Job Number	Sample Number	D	Sample ID	F	% Moisture	Wt or Vol	Final Vol	DF or AF	# Cont	Expiry Date	Test DeadLine	Criteria	Extract Date
7,5		MTRX SPK	0	PFOS HYO198-01		10.1	125	3	1X					2018/10/16
7,7		MTRX SPK	1	PFOS HYO198-01		10.1	125	3	1X					2018/10/16
7,3		SPIKE		PFOS		0	125	3	1X					2018/10/16
7,1		BLANK				0	125	3	1X					2018/10/16
7,9	B8Q4471*	*HYO195-01R		CEF-081-25I-20181*		10.1	125	3	1X	2	2018/10/19	2018/10/18 17:00	DOD	2018/10/16
7,11	B8Q4471*	*HYO196-01R		CEF-081-DUP01-20*		10.1	125	3	1X	2	2018/10/19	2018/10/18 17:00	DOD	2018/10/16
7,14	B8Q4471*	*HYO197-01R		CEF-081-FB-20181*		10.1	125	3	1X	2	2018/10/19	2018/10/18 17:00	DOD	2018/10/16
7,16	B8Q4471*	*HYO198-01R		CEF-081-12S-2018*		10.1	125	3	1X	5	2018/10/19	2018/10/18 17:00	DOD	2018/10/16
7,18	B8Q8307*	*HZL772-01R		[redacted]		10.1	125	3	1X	2	2018/10/24	2018/10/18 17:00	DOD	2018/10/16
7,20	B8Q8307*	*HZL773-01R		[redacted]		10.1	125	3	1X	2	2018/10/24	2018/10/18 17:00	DOD	2018/10/16
7,22	B8Q8307*	*HZL774-01R		[redacted]		10.1	125	3	1X	2	2018/10/24	2018/10/18 17:00	DOD	2018/10/16
7,24	B8Q8307*	*HZL775-01R		[redacted]		10.1	125/12.5	3	1X/10X	2	2018/10/24	2018/10/18 17:00	DOD	2018/10/16
7,19	B8Q9850*	*HZT949-01R		[redacted]		10.1	25/2.5	3	5X/50X	2	2018/10/25	2018/10/18 23:00	DOD	2018/10/16
7,21	B8Q9850*	*HZT950-01R		[redacted]		10.1	125/12.5	3	1X/10X	2	2018/10/25	2018/10/18 23:00	DOD	2018/10/16
7,23	B8Q9850*	*HZT951-01R		[redacted]		10.1	125	3	1X	2	2018/10/25	2018/10/18 23:00	DOD	2018/10/16
7,17	B8Q9850*	*HZT954-01R		[redacted]		10.1	125/12.5	3	1X/10X	2	2018/10/25	2018/10/18 23:00	DOD	2018/10/16

SA 2018/10/16

Remarks:

Samples extracted by: Shahbaz Ahmad SA 2018/10/16

Instrumentation performed by: AD Date: 2018/10/17

Calculations performed by: AD Date: 2018/10/18

Validated by: [signature] Date: 2018/10/18

Job No.	Rep / Remarks	Client Name / Contact	Client Tier	National
GB8Q4471	SP8	Earth Toxics Inc / Rick Carr	Tier 5 (Enviro.)	AECOM

NREG. PFOSALCM-W (14 list) *IN HOUSE QC LIMITS REQUIRED MS/MSD required HYO198 Level IV Package and Tetratech EDD required, report in ng/L, PM review prior to reporting BLANK Project #: JM10 CECIL

SAS 2018/10/16

GB8Q8307

GB8Q9850

[redacted]

Job	Sample	Lab Comments
	MTRX SPK	
	MTRX SPK	
	SPIKE	
	BLANK	
B8Q4471	HYO195-01R	
B8Q4471	HYO196-01R	
B8Q4471	HYO197-01R	
B8Q4471	HYO198-01R	
B8Q8307	HZL772-01R	
B8Q8307	HZL773-01R	
B8Q8307	HZL774-01R	
B8Q8307	HZL775-01R	
B8Q9850	HZT949-01R	
B8Q9850	HZT950-01R	
B8Q9850	HZT951-01R	
B8Q9850	HZT954-01R	

Standards

S1	2825	25	SK 8015 3/3
S2	2800	50	
S3	2700	150	
S4	2813	37.5	I-5482 3/3
S5	2775	75	
S6	2725	125	
ICV	2788	62.5	I-5483 3/3
ICB	2850	—	

original Standard

S5 7184 1/4

Folder 2018 Com. 10/16/18

Witnessed By LKP6

Worksheet Reagent Tracking Record Worksheet # 5785280

Surrogate/Spike solutions	√	Solution ID #	Conc.	Blk-Spk Volume (µL)		MS Volume (µL)		Samples Volume (µL)	
				Solid	Liquid	Solid	Liquid	Solid	Liquid
DGT Spike			100 ug/mL	60	30	60	30	NA	NA
Diquat Dibromide			50 ug/mL	NA	350	NA	350	NA	NA
Explosives Spiking solution A			20 ug/mL	250	100	250	100	NA	NA
Explosives Spiking solution B			20/80 ug/mL	250	100	250	100	NA	NA
Formaldehyde Spike			100 ug/mL	25	25	25	25	NA	NA
Glyphosate Spike			25 ug/mL	500	20	500	20	NA	NA
Nonylphenol Ethoxylate Spike			100 ug/mL	100	100	100	100	NA	NA
Nonylphenol Spike			10 ug/mL	100	100	100	100	NA	NA
Paraquat Cl Tetrahydrate			20 ug/mL	NA	125	NA	125	NA	NA
Perchlorate Standard Spike			10 ng/mL	NA	100	NA	100	NA	NA
Perchlorate Standard Spike			500 ng/mL	40	NA	40	NA	NA	NA
Perchlorate O-18 Internal Standard			0.10 ng/uL	20	20	20	20	20	20
Morpholine Second Source Working Std			2500 ug/L	NA	80	NA	80	NA	NA
Morpholine-D8 Internal Standard			10 ug/mL	NA	50	NA	50	NA	50
Steril Second Source Spiking Solution			NA	20	NA	20	NA	NA	NA
Sterilants Comp. IS Working Solution			3 ug/mL	50	NA	50	NA	50	NA
Comp. PFC Working Solution A	✓	I-5483 3/3	1ug/mL	75	21 62.5	75	21 62.5	NA	NA
PFC Internal Standard Solution	✓	SS 7184 1/4 EG1	50/125 ng/mL	200	100 150	200	100 150	200	100/150
PFC Injection IS	✓	SS 7087 1/4 EG1	400 ng/mL	20	20	20	20	20	20
ICV	✓	I-5483 3/3							

Solvent/Reagent	√	Lot No.	Date Opened	Solvent/Reagent	√	Lot No.	Date Opened/ Prepared
DCM				50% NaOH			
Ottawa Sand				o-Phosphoric Acid			
Methanol	✓	SHBK 1913	2018/10/16	Borax			
2-Propanol (IPA)				Calcium Chloride			
Acetonitrile				EDTA			
Sodium Sulfate				Phosphate Buffer			
70:30 Methanol: Water				Sodium Thiosulphate			
60:40 Water: Methanol	✓	PRURE16-505		DNPH			
DCM:Ethyl Ether (75:25)				FMOC			
Hexane:IPA (98:2)				5M Acetate Buffer			
2% Formic Acid	✓	PRURE16-503		0.2% NH_4OH	✓	PRURE16-502	
0.2% Formic Acid				Leachate Fluid			
0.05M KOH				Reagent Water	✓	58207	2018/10/16
0.05M HCl							

*Spiked by: SM

Spike Date 2018-10-16

Spike Syringe/Pipette ID# M23487B

Int. Std Syringe/Pipette ID# J3655/14

*Spiking Witnessed by: EG1

Final pH

Equipment & ID	√	Equipment	ID#	√	Equipment	Lot #
Pipettor M25679G	✓	SPE Cartridge	203938072A		QC Balance ID	
L54280G		Filter			Thermometer ID &Temp	
Dispenser	✓	Centrifuge	42148683			
		Sonicator				

Bottle Tracking ✓

Bottle# 19973

Cap# 19835

Systems plus Lot# 18-10-05

Comments: ENV CART 97224

* - SPIKING OF QC's & SAMPLES MUST BE WITNESSED AT ALL TIMES.

Worksheet Number: **5785280**

PFOS and PFOA in water by SPE/LCMS - Water

ug/L

Parameter Name	Units	MTRX SPK	MTRX SPK Dup1	SPIKE	BLANK	B8Q4471 HYO195	B8Q4471 HYO196
6:2 Fluorotelomer sulfonate	ug/L	112.04176	113.54884	107.93433	0	N/A*******	N/A*******
8:2 Fluorotelomer sulfonate	ug/L	110.35033	106.62136	115.08201	0	N/A*******	N/A*******
EtFOSA	ug/L	99.26836	100.14858	96.37259	0	N/A*******	N/A*******
EtFOSAA	ug/L	105.49514	107.99143	101.37244	0	0	0
EtFOSE	ug/L	100.91065	106.27847	100.48931	0	N/A*******	N/A*******
MeFOSA	ug/L	99.32838	99.40022	94.18751	0	N/A*******	N/A*******
MeFOSAA	ug/L	106.46558	112.32622	106.46005	0	0	0
MeFOSE	ug/L	102.29538	104.74707	103.71773	0	N/A*******	N/A*******
Perfluorobutanoic acid	ug/L	108.85775	112.51584	111.60621	0	N/A*******	N/A*******
Perfluorobutane Sulfonate (PFBS)	ug/L	105.79238	115.65657	102.17290	0	0	0
Perfluorodecane Sulfonate	ug/L	103.06782	101.11061	95.53135	0	N/A*******	N/A*******
Perfluoroheptanoic Acid (PFHpA)	ug/L	107.77569	112.49151	110.92001	0	0.00878708	0.00895915
Perfluoroheptane sulfonate	ug/L	106.75179	110.75963	112.18961	0	N/A*******	N/A*******
Perfluorohexanoic Acid (PFHxA)	ug/L	110.55608	119.44335	112.29342	0	0.01128304	0.01141165
Perfluorohexane Sulfonate (PFHxS)	ug/L	103.15489	113.68168	103.21471	0	0.02420745	0.02579076
Perfluorononanoic Acid (PFNA)	ug/L	101.40657	105.93822	101.09136	0	0.00568841	0
Perfluorooctane Sulfonamide (PFOSA)	ug/L	100.06477	112.88571	103.99093	0	N/A*******	N/A*******
Perfluoropentanoic Acid (PFPeA)	ug/L	112.72926	112.20036	109.90027	0	N/A*******	N/A*******
Perfluorotetradecanoic Acid	ug/L	103.30235	113.07939	106.68499	0	0	0
Perfluorotridecanoic Acid	ug/L	129.49775	131.218	109.92030	0	0	0
Perfluoroundecanoic Acid (PFUnA)	ug/L	104.81135	106.59552	107.03721	0	0	0
Perfluorodecanoic Acid (PFDA)	ug/L	108.98008	108.10296	102.83589	0	0	0
Perfluorododecanoic Acid (PFDoA)	ug/L	102.79759	113.39902	113.16977	0	0	0
Perfluoro-n-Octanoic Acid (PFOA)	ug/L	105.10581	108.13908	110.40420	0	0.00778701	0.00885735
Perfluorooctane Sulfonate (PFOS)	ug/L	106.96403	116.69282	108.40945	0	0.13878832	0.13917252
13C2-6:2 Fluorotelomer sulfonate	ug/L	78.4994466	82.5565815	88.3722693	98.9832303	N/A*******	N/A*******
13C2-8:2 Fluorotelomer sulfonate	ug/L	82.7711493	90.2685886	82.3222823	89.1213419	N/A*******	N/A*******
13C2-perfluorotetradecanoic acid	ug/L	47.9008	63.3232900	78.7093823	80.6962870	61.3595324	63.0883079
13C4-Perfluorobutanoic acid	ug/L	80.0370827	79.9953546	87.5823642	90.7605808	N/A*******	N/A*******
D3-MeFOSAA	ug/L	71.0958803	82.6107293	77.6827286	77.5683569	74.2821461	73.4490363
D5-EtFOSAA	ug/L	67.0117137	81.7608961	75.3603538	78.9443115	75.2674990	72.3593232
D7-MeFOSE	ug/L	70.6371610	81.6912284	74.9608153	78.4413391	N/A*******	N/A*******
D9-EtFOSE	ug/L	72.5589327	78.6843885	76.3761434	75.9536340	N/A*******	N/A*******
13C2-Perfluorodecanoic acid	ug/L	75.8722079	89.3181133	91.6198924	78.9532025	87.0343119	80.3199748
13C2-Perfluorododecanoic acid	ug/L	70.8077983	80.8536625	81.7278569	81.8761399	72.7162256	72.3523599
13C2-Perfluorohexanoic acid	ug/L	86.3041877	84.4575346	88.1078430	89.2846531	89.4575387	84.0037892
13C2-Perfluoroundecanoic acid	ug/L	74.4322655	90.2516945	88.7676344	84.8787253	79.4822828	74.9690746
13C4-Perfluoroheptanoic acid	ug/L	87.6560767	90.5184161	88.0583864	93.1072232	90.3931546	85.7207862
13C5-Perfluorononanoic acid	ug/L	88.7776919	91.4793515	91.4335926	89.1088946	93.0219228	89.2617869
13C4-Perfluorooctanoic acid	ug/L	88.3104265	91.4926044	86.6363076	90.0389619	91.1292376	85.6473566
13C4-Perfluorooctanesulfonate	ug/L	88.2778248	88.1373599	88.7874658	90.0800579	91.6955921	85.8288548
13C5-Perfluoropentanoic acid	ug/L	82.1483086	86.4071077	90.1960466	92.0234078	N/A*******	N/A*******
13C8-Perfluorooctane Sulfonamide	ug/L	77.5171709	86.3283923	79.5824443	80.8143914	N/A*******	N/A*******
18O2-Perfluorohexanesulfonate	ug/L	90.9976905	88.3425097	96.2112535	92.9179076	94.6394591	89.1594463

Worksheet Number: **5785280**

PFOS and PFOA in water by SPE/LCMS - Water

ug/L

Parameter Name	B8Q4471 HYO197	B8Q4471 HYO198	B8Q8307 HZL772	B8Q8307 HZL773	B8Q8307 HZL774	B8Q8307 HZL775	DL
6:2 Fluorotelomer sulfonate	N/A*******	N/A*******	0	0	0	0.00601112	0.02
8:2 Fluorotelomer sulfonate	N/A*******	N/A*******	0	0	0	0	0.02
EtFOSA	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	0.02
EtFOSAA	0	0	0	0	0	0	0.02
EtFOSE	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	0.02
MeFOSA	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	0.02
MeFOSAA	0	0	0	0	0	0	0.02
MeFOSE	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	0.02
Perfluorobutanoic acid	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	0.02
Perfluorobutane Sulfonate (PFBS)	0	0	0	0	0	0.02211332	0.02
Perfluorodecane Sulfonate	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	0.02
Perfluoroheptanoic Acid (PFHpA)	0	0.00620126	0	0	0	0.03621902	0.02
Perfluoroheptane sulfonate	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	0.02
Perfluorohexanoic Acid (PFHxA)	0	0.00763154	0	0	0	0.12149309	0.02
Perfluorohexane Sulfonate (PFHxS)	0	0.01505174	0	0	0	0.21999443	0.02
Perfluorononanoic Acid (PFNA)	0	0	0	0	0	0	0.02
Perfluorooctane Sulfonamide (PFOSA)	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	0.02
Perfluoropentanoic Acid (PFPeA)	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	0.02
Perfluorotetradecanoic Acid	0	0	0	0	0	0	0.02
Perfluorotridecanoic Acid	0	0	0	0	0	0	0.02
Perfluoroundecanoic Acid (PFUnA)	0	0	0	0	0	0	0.02
Perfluorodecanoic Acid (PFDA)	0	0	0	0	0	0	0.02
Perfluorododecanoic Acid (PFDoA)	0	0	0	0	0	0	0.02
Perfluoro-n-Octanoic Acid (PFOA)	0	0.00546164	0	0	0	0.06108431	0.02
Perfluorooctane Sulfonate (PFOS)	0	0.00817409	0	0	0	0.12101538	0.02
13C2-6:2 Fluorotelomer sulfonate	N/A*******	N/A*******	92.0682837	94.5763413	78.2317989	91.0060392	
13C2-8:2 Fluorotelomer sulfonate	N/A*******	N/A*******	83.2083924	86.1703944	77.6282800	82.2110308	
13C2-perfluorotetradecanoic acid	72.7077282	71.1566310	77.0666222	75.4081710	70.1293755	75.3180116	
13C4-Perfluorobutanoic acid	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	
D3-MeFOSAA	79.3037025	90.2443461	74.8038714	72.6050467	67.4779876	71.1034300	
D5-EtFOSAA	79.0121644	89.1578583	72.0421990	76.7384125	66.4976646	70.7419551	
D7-MeFOSE	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	
D9-EtFOSE	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	
13C2-Perfluorodecanoic acid	87.8955258	95.7328644	87.3190601	84.5432371	75.5036637	82.1042386	
13C2-Perfluorododecanoic acid	80.2887288	91.7293440	79.9455733	75.9372290	72.8521625	75.1523455	
13C2-Perfluorohexanoic acid	91.2576894	92.6012521	92.5109296	91.6510750	77.8867334	87.1908531	
13C2-Perfluoroundecanoic acid	83.7227648	95.4708157	83.9483422	80.5651737	70.4131360	79.6501583	
13C4-Perfluoroheptanoic acid	93.4055846	96.1788559	94.9481049	94.9637766	80.8192068	90.6757918	
13C5-Perfluorononanoic acid	89.7085003	96.1318048	92.3664397	90.4753083	80.8918270	86.2348759	
13C4-Perfluorooctanoic acid	88.0556548	95.4403350	87.1527218	90.4773485	80.4285071	89.5974197	
13C4-Perfluorooctanesulfonate	85.1334833	97.3780710	91.2146905	84.9222591	73.7611500	84.6331306	
13C5-Perfluoropentanoic acid	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	
13C8-Perfluorooctane Sulfonamide	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	
18O2-Perfluorohexanesulfonate	89.0567920	100.647318	87.8410638	94.8432309	77.7571190	89.6864403	

Worksheet Number: **5785280**

PFOS and PFOA in water by SPE/LCMS - Water

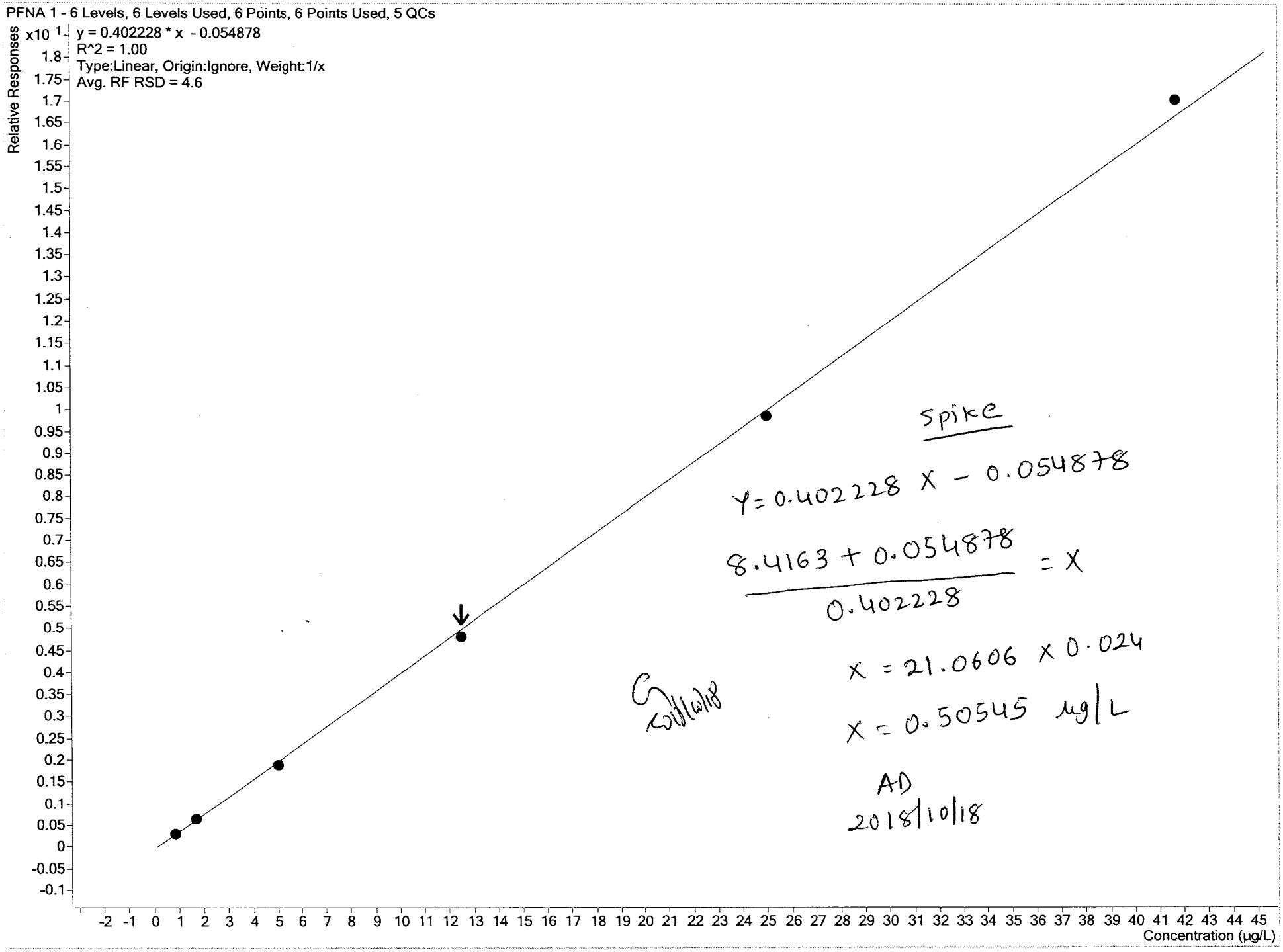
ug/L

Parameter Name	B8Q9850 HZT949	DL	B8Q9850 HZT950	DL	B8Q9850 HZT951	B8Q9850 HZT954	DL
6:2 Fluorotelomer sulfonate	7.18251541	1	1.94721449	0.2	0.00267625	0.03889313	0.02
8:2 Fluorotelomer sulfonate	0.55297497	0.1	0.17727196	0.02	0	0	0.02
EtFOSA	N/A*******	0.1	N/A*******	0.02	N/A*******	N/A*******	0.02
EtFOSAA	N/A*******	0.1	N/A*******	0.02	N/A*******	N/A*******	0.02
EtFOSE	N/A*******	0.1	N/A*******	0.02	N/A*******	N/A*******	0.02
MeFOSA	N/A*******	0.1	N/A*******	0.02	N/A*******	N/A*******	0.02
MeFOSAA	N/A*******	0.1	N/A*******	0.02	N/A*******	N/A*******	0.02
MeFOSE	N/A*******	0.1	N/A*******	0.02	N/A*******	N/A*******	0.02
Perfluorobutanoic acid	0.44634988	0.1	0.34861629	0.02	0.14618112	0	0.02
Perfluorobutane Sulfonate (PFBS)	0.27074070	0.1	0.09748641	0.02	0	0	0.02
Perfluorodecane Sulfonate	N/A*******	0.1	N/A*******	0.02	N/A*******	N/A*******	0.02
Perfluoroheptanoic Acid (PFHpA)	0.76301909	0.1	0.32789046	0.02	0	0	0.02
Perfluoroheptane sulfonate	0.51312854	0.1	0.17023717	0.02	0	0	0.02
Perfluorohexanoic Acid (PFHxA)	2.52860799	0.1	0.93831996	0.2	0	0	0.02
Perfluorohexane Sulfonate (PFHxS)	7.80068992	1	2.00612709	0.2	0	0	0.02
Perfluorononanoic Acid (PFNA)	0.05411138	0.1	0.01837561	0.02	0	0	0.02
Perfluorooctane Sulfonamide (PFOSA)	0.06945792	0.1	0.01896793	0.02	0	0	0.02
Perfluoropentanoic Acid (PFPeA)	1.46498727	0.1	0.82630218	0.02	0.07583899	0	0.02
Perfluorotetradecanoic Acid	N/A*******	0.1	N/A*******	0.02	N/A*******	N/A*******	0.02
Perfluorotridecanoic Acid	N/A*******	0.1	N/A*******	0.02	N/A*******	N/A*******	0.02
Perfluoroundecanoic Acid (PFUnA)	N/A*******	0.1	N/A*******	0.02	N/A*******	N/A*******	0.02
Perfluorodecanoic Acid (PFDA)	N/A*******	0.1	N/A*******	0.02	N/A*******	N/A*******	0.02
Perfluorododecanoic Acid (PFDoA)	N/A*******	0.1	N/A*******	0.02	N/A*******	N/A*******	0.02
Perfluoro-n-Octanoic Acid (PFOA)	4.48099710	0.1	1.39299974	0.2	0	0	0.02
Perfluorooctane Sulfonate (PFOS)	22.8719013	1	6.25352213	0.2	0	0	0.02
13C2-6:2 Fluorotelomer sulfonate	91.4449636		91.0546646		109.146393	92.2668449	
13C2-8:2 Fluorotelomer sulfonate	88.9920149		57.4298558		99.3947212	87.6592375	
13C2-perfluorotetradecanoic acid	N/A*******		N/A*******		N/A*******	N/A*******	
13C4-Perfluorobutanoic acid	87.7204076		61.1151501		110.590808	91.0743277	
D3-MeFOSAA	N/A*******		N/A*******		N/A*******	N/A*******	
D5-EtFOSAA	N/A*******		N/A*******		N/A*******	N/A*******	
D7-MeFOSE	N/A*******		N/A*******		N/A*******	N/A*******	
D9-EtFOSE	N/A*******		N/A*******		N/A*******	N/A*******	
13C2-Perfluorodecanoic acid	N/A*******		N/A*******		N/A*******	N/A*******	
13C2-Perfluorododecanoic acid	N/A*******		N/A*******		N/A*******	N/A*******	
13C2-Perfluorohexanoic acid	88.7305095		90.8760678		112.085988	93.7244085	
13C2-Perfluoroundecanoic acid	N/A*******		N/A*******		N/A*******	N/A*******	
13C4-Perfluoroheptanoic acid	90.3422480		61.4489454		117.757730	97.1193469	
13C5-Perfluorononanoic acid	87.4535056		59.6578697		112.765845	86.7301125	
13C4-Perfluorooctanoic acid	86.0257008		86.3898264		110.026818	90.4080475	
13C4-Perfluorooctanesulfonate	91.1481137		83.2796102		104.635856	84.6165124	
13C5-Perfluoropentanoic acid	89.1779590		61.6486432		113.422692	92.7234637	
13C8-Perfluorooctane Sulfonamide	79.7935732		54.9733886		105.288535	86.1049557	
18O2-Perfluorohexanesulfonate	93.4436757		88.3630119		113.626789	97.6216856	

PFOS and PFOA in water by SPE/LCMS - Water

ug/L

Parameter Name	RDL	MDL	IDL				
6:2 Fluorotelomer sulfonate	0.02	0.0066	0				
8:2 Fluorotelomer sulfonate	0.02	0.0066	0				
EtFOSA	0.02	0.01	0				
EtFOSAA	0.02	0.0033	0				
EtFOSE	0.02	0.0079	0				
MeFOSA	0.02	0.013	0				
MeFOSAA	0.02	0.0029	0				
MeFOSE	0.02	0.012	0				
Perfluorobutanoic acid	0.02	0.0055	0				
Perfluorobutane Sulfonate (PFBS)	0.02	0.0054	0				
Perfluorodecane Sulfonate	0.02	0.006	0				
Perfluoroheptanoic Acid (PFHpA)	0.02	0.0074	0				
Perfluoroheptane sulfonate	0.02	0.008	0				
Perfluorohexanoic Acid (PFHxA)	0.02	0.0035	0				
Perfluorohexane Sulfonate (PFHxS)	0.02	0.0056	0				
Perfluorononanoic Acid (PFNA)	0.02	0.0087	0				
Perfluorooctane Sulfonamide (PFOSA)	0.02	0.0034	0				
Perfluoropentanoic Acid (PFPeA)	0.02	0.0075	0				
Perfluorotetradecanoic Acid	0.02	0.0027	0				
Perfluorotridecanoic Acid	0.02	0.0038	0				
Perfluoroundecanoic Acid (PFUnA)	0.02	0.0025	0				
Perfluorodecanoic Acid (PFDA)	0.02	0.0061	0				
Perfluorododecanoic Acid (PFDoA)	0.02	0.005	0				
Perfluoro-n-Octanoic Acid (PFOA)	0.02	0.0033	0				
Perfluorooctane Sulfonate (PFOS)	0.02	0.006	0				
13C2-6:2 Fluorotelomer sulfonate							
13C2-8:2 Fluorotelomer sulfonate							
13C2-perfluorotetradecanoic acid							
13C4-Perfluorobutanoic acid							
D3-MeFOSAA							
D5-EtFOSAA							
D7-MeFOSE							
D9-EtFOSE							
13C2-Perfluorodecanoic acid							
13C2-Perfluorododecanoic acid							
13C2-Perfluorohexanoic acid							
13C2-Perfluoroundecanoic acid							
13C4-Perfluoroheptanoic acid							
13C5-Perfluorononanoic acid							
13C4-Perfluorooctanoic acid							
13C4-Perfluorooctanesulfonate							
13C5-Perfluoropentanoic acid							
13C8-Perfluorooctane Sulfonamide							
18O2-Perfluorohexanesulfonate							



Maxxam Analytics

spike

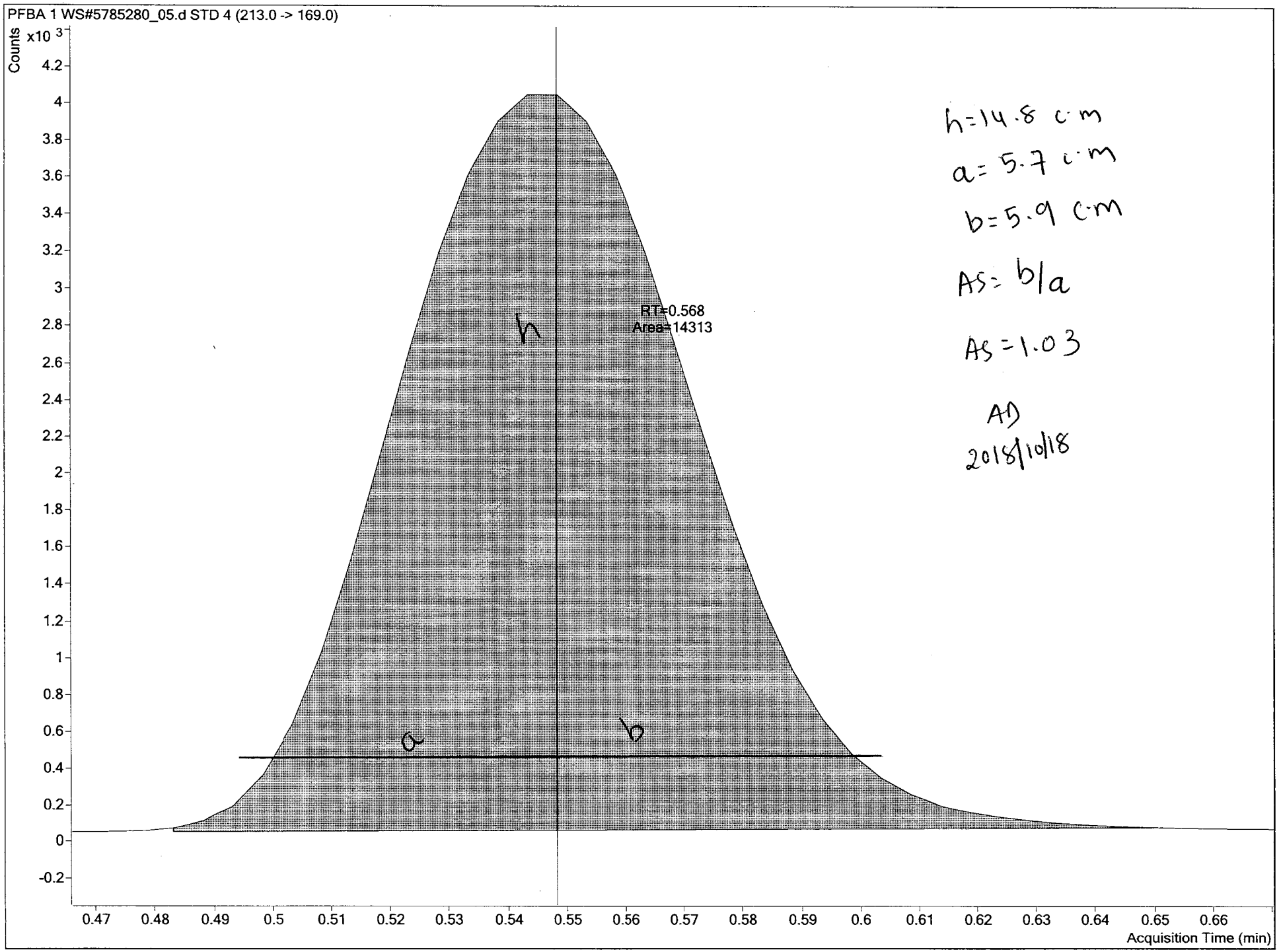
$Y = 0.402228\ X - 0.054878$

$$\frac{8.4163 + 0.054878}{0.402228} = X$$

$X = 21.0606 \times 0.024$

$X = 0.50545\ \mu g/L$

AD
2018/10/18



h=14.8 cm

a=5.7 cm

b=5.9 cm

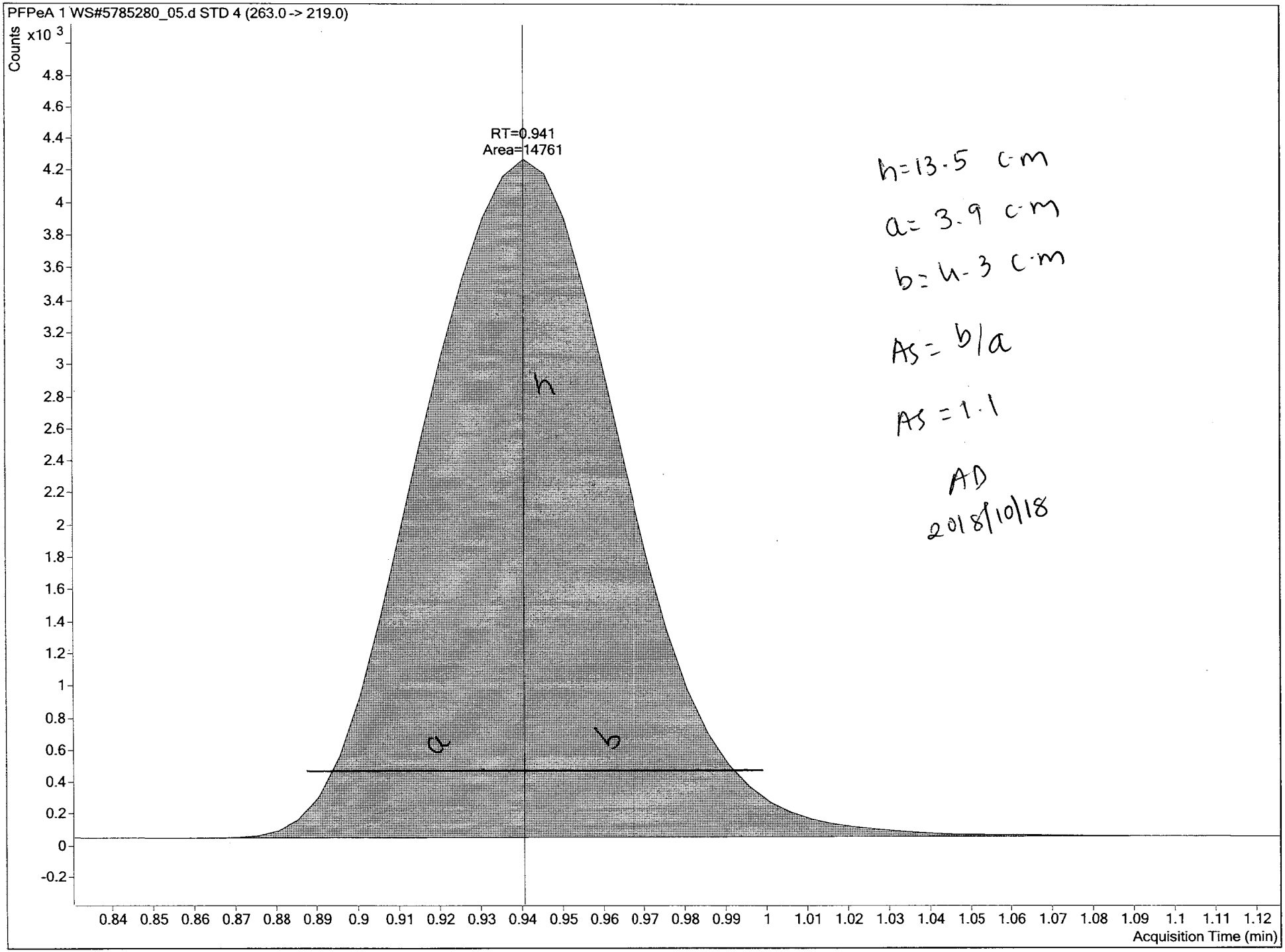
AS= b/a

AS=1.03

AD

2018/10/18

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h=13.5 cm

a=3.9 cm

b=4.3 cm

As=b/a

As=1.1

AD

2018/10/18

Maxxam Analytics

Report Name: Worksheet - Parameter Lists

Report Date: 2018/10/16

Test Code: **PFOSALCM-W**

Worksheet Number: **5785280**

Sample Number	Parameter Code	Parameter	
HYO195-01	ETFOSAA	EtFOSAA	*
HYO196-01	MEFOSAA	MeFOSAA	*
HYO197-01	PFBS	Perfluorobutane Sulfonate (PFBS)	
HYO198-01	PFHPA	Perfluoroheptanoic Acid (PFHpA)	
	PFHXA	Perfluorohexanoic Acid (PFHxA)	
	PFHXS	Perfluorohexane Sulfonate (PFHxS)	
	PFNA	Perfluorononanoic Acid (PFNA)	
	PFTEDA	Perfluorotetradecanoic Acid	
	PFTRDA	Perfluorotridecanoic Acid	
	PFUNA	Perfluoroundecanoic Acid (PFUnA)	
	PFDA	Perfluorodecanoic Acid (PFDA)	
	PFDOA	Perfluorododecanoic Acid (PFDoA)	
	PFOA	Perfluoro-n-Octanoic Acid (PFOA)	
	PFOS	Perfluorooctane Sulfonate (PFOS)	
HZL772-01	6:2FTS	6:2 Fluorotelomer sulfonate	*
HZL773-01	8:2FTS	8:2 Fluorotelomer sulfonate	*
HZL774-01	ETFOSAA	EtFOSAA	*
HZL775-01	MEFOSAA	MeFOSAA	*
	PFBS	Perfluorobutane Sulfonate (PFBS)	
	PFHPA	Perfluoroheptanoic Acid (PFHpA)	
	PFHXA	Perfluorohexanoic Acid (PFHxA)	
	PFHXS	Perfluorohexane Sulfonate (PFHxS)	
	PFNA	Perfluorononanoic Acid (PFNA)	
	PFTEDA	Perfluorotetradecanoic Acid	
	PFTRDA	Perfluorotridecanoic Acid	
	PFUNA	Perfluoroundecanoic Acid	

* - This parameter is usually off, but will be reported for this group of samples!

Report Name: Worksheet - Parameter Lists

Report Date: 2018/10/16

Test Code: **PFOSALCM-W**

Worksheet Number: **5785280**

Sample Number	Parameter Code	Parameter	
		(PFUnA)	
	PFDA	Perfluorodecanoic Acid (PFDA)	
	PFDOA	Perfluorododecanoic Acid (PFDoA)	
	PFOA	Perfluoro-n-Octanoic Acid (PFOA)	
	PFOS	Perfluorooctane Sulfonate (PFOS)	
HZT949-01	6:2FTS	6:2 Fluorotelomer sulfonate	*
HZT950-01	8:2FTS	8:2 Fluorotelomer sulfonate	*
HZT951-01	PFBA	Perfluorobutanoic acid	
HZT954-01	PFBS	Perfluorobutane Sulfonate (PFBS)	
	PFHPA	Perfluoroheptanoic Acid (PFHpA)	
	PFHPS	Perfluoroheptane sulfonate	
	PFHXA	Perfluorohexanoic Acid (PFHxA)	
	PFHXS	Perfluorohexane Sulfonate (PFHxS)	
	PFNA	Perfluorononanoic Acid (PFNA)	
	PFOSA	Perfluorooctane Sulfonamide (PFOSA)	
	PFPEA	Perfluoropentanoic Acid (PFPeA)	
	PFOA	Perfluoro-n-Octanoic Acid (PFOA)	
	PFOS	Perfluorooctane Sulfonate (PFOS)	

* - This parameter is usually off, but will be reported for this group of samples!

WorkSheet 5785280 Instrument Sequences

1.	5785280:MTRX SPK	MTRX SPK
2.	5785280:MTRX SPK:D1	MTRX SPK :D1
3.	5785280:SPIKE	SPIKE
4.	5785280:BLANK	BLANK
5.	5785280:HYO195-01	CEF-081-25I-20181005
6.	5785280:HYO196-01	CEF-081-DUP01-20181005
7.	5785280:HYO197-01	CEF-081-FB-20181005
8.	5785280:HYO198-01	CEF-081-12S-20181005
9.	5785280:HZL772-01	[redacted]
10.	5785280:HZL773-01	[redacted]
11.	5785280:HZL774-01	[redacted]
12.	5785280:HZL775-01	[redacted]
13.	5785280:HZT949-01	[redacted]
14.	5785280:HZT950-01	[redacted]
15.	5785280:HZT951-01	[redacted]
16.	5785280:HZT954-01	[redacted]

Worklist Report

Agilent Technologies

Instrument Name: LCMS04 **Worklist Path:** D:\MassHunter\Worklists\PFCs\PFC_181017_Low_A.wkl

Maxxam Analytics

Operator Name: ---
Run Type: Standard Start
Part of Method to Run: Acquisition Only
Execution of Acquisition-DA: Synchronous
Acquisition Method Path: D:\MassHunter\Acquisition Method
DA Method Path: D:\MassHunter\methods
Data File Path: D:\MassHunter\data\PFC\20181017\WS#5785280
Pre-Worklist Script: ---
Post-Worklist Script: SCP_InstrumentStandby(){MH_Acq_Scripts.exe}
Acquisition Clean Up Script: ---
Overlapped Injection: No
Clear Sample Selection After Run: Yes
Wait Time for Ready(Min): 10
Threshold Disk Value(GB): 10
Comment: Column #338
MP A1: Solution #427 [FSRE18]
MP B1: Methanol lot# SHBK1058, Sigma

AD
2018/10/17
verified by AD
2018/10/17

Plate Barcode:

Plate	Barcode
P4	

Worklist Table

	Sample Name	Sample Position	Method	Data File	Sample Type	Level Name	Inj Vol (µl)	Comment
1	RINSE	P4-A1	PFC_Water_Low.m	WS#5785280_01.d	Sample		As Method	-
2	STD 1	P4-A2	PFC_Water_Low.m	WS#5785280_02.d	Calibration	STD 1	As Method	-
3	STD 2	P4-A3	PFC_Water_Low.m	WS#5785280_03.d	Calibration	STD 2	As Method	-
4	STD 3	P4-A4	PFC_Water_Low.m	WS#5785280_04.d	Calibration	STD 3	As Method	-
5	STD 4	P4-A5	PFC_Water_Low.m	WS#5785280_05.d	Calibration	STD 4	As Method	-
6	STD 5	P4-A6	PFC_Water_Low.m	WS#5785280_06.d	Calibration	STD 5	As Method	-
7	STD 6	P4-A7	PFC_Water_Low.m	WS#5785280_07.d	Calibration	STD 6	As Method	-

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Worklist Report

Agilent Technologies

	Sample Name	Sample Position	Method	Data File	Sample Type	Level Name	Inj Vol (µl)	Comment
8	IB	P4-A8	PFC_Water_Low.m	WS#5785280_08.d	Sample		As Method	-
9	ICV	P4-A9	PFC_Water_Low.m	WS#5785280_09.d	QC	ICV	As Method	-
10	ISC	P4-A2	PFC_Water_Low.m	WS#5785280_10.d	QC	STD 1	As Method	-
11	5785280:BLANK	P4-B1	PFC_Water_Low.m	WS#5785280_11.d	Sample		As Method	-
12	5785280:SPIKE	P4-B2	PFC_Water_Low.m	WS#5785280_12.d	QC	ICV	As Method	-
13	5785280:MTRX SPK	P4-B3	PFC_Water_Low.m	WS#5785280_13.d	QC	ICV	As Method	-
14	5785280:MTRX SPK:D1	P4-B4	PFC_Water_Low.m	WS#5785280_14.d	QC	ICV	As Method	-
15	IB	P4-A8	PFC_Water_Low.m	WS#5785280_15.d	Sample		As Method	-
16	5785280:HYO195-01	P4-B5	PFC_Water_Low.m	WS#5785280_16.d	Sample		As Method	-
17	5785280:HYO196-01	P4-B6	PFC_Water_Low.m	WS#5785280_17.d	Sample		As Method	-
18	5785280:HYO197-01	P4-B7	PFC_Water_Low.m	WS#5785280_18.d	Sample		As Method	-
19	5785280:HYO198-01	P4-B8	PFC_Water_Low.m	WS#5785280_19.d	Sample		As Method	-
20	5785280:HZL772-01	P4-B9	PFC_Water_Low.m	WS#5785280_20.d	Sample		As Method	-
21	5785280:HZL773-01	P4-C1	PFC_Water_Low.m	WS#5785280_21.d	Sample		As Method	-
22	5785280:HZL774-01	P4-C2	PFC_Water_Low.m	WS#5785280_22.d	Sample		As Method	-
23	5785280:HZL775-01:10x	P4-C3	PFC_Water_Low.m	WS#5785280_23.d	Sample		As Method	-
24	5785280:HZL775-01	P4-C4	PFC_Water_Low.m	WS#5785280_24.d	Sample		As Method	-
25	IB	P4-A8	PFC_Water_Low.m	WS#5785280_25.d	Sample		As Method	-
26	CCV	P4-A5	PFC_Water_Low.m	WS#5785280_26.d	ConCal	STD 4	As Method	-
27	5785280:HZT949-01:50x	P4-C5	PFC_Water_Low.m	WS#5785280_27.d	Sample		As Method	-
28	5785280:HZT949-01:5x	P4-C6	PFC_Water_Low.m	WS#5785280_28.d	Sample		As Method	-
29	IB	P4-A8	PFC_Water_Low.m	WS#5785280_29.d	Sample		As Method	-
30	5785280:HZT950-01:10x	P4-C7	PFC_Water_Low.m	WS#5785280_30.d	Sample		As Method	-

D:\MassHunter\Worklists\PFCs\PFC_181017_Low_A.wkl

Report generation date: 17-Oct-2018 11:32:59 AM

Maxxam Analytics

	Sample Name	Sample Position	Method	Data File	Sample Type	Level Name	Inj Vol (µl)	Comment
31	5785280:HZT950-01	P4-C8	PFC_Water_Low.m	WS#5785280_31.d	Sample		As Method	-
32	IB	P4-A8	PFC_Water_Low.m	WS#5785280_32.d	Sample		As Method	-
33	5785280:HZT951-01	P4-C9	PFC_Water_Low.m	WS#5785280_33.d	Sample		As Method	-
34	5785280:HZT954-01:10x	P4-D1	PFC_Water_Low.m	WS#5785280_34.d	Sample		As Method	-
35	5785280:HZT954-01	P4-D2	PFC_Water_Low.m	WS#5785280_35.d	Sample		As Method	-
36	IB	P4-A8	PFC_Water_Low.m	WS#5785280_36.d	Sample		As Method	-
37	CCV	P4-A5	PFC_Water_Low.m	WS#5785280_37.d	ConCal	STD 4	As Method	-

Worklist Report

Agilent Technologies

Instrument Name: LCMS04 **Worklist Path:** D:\MassHunter\Worklists\PFCs\PFC_181017_Low_FOSAA_A.wkl

Maxxam Analytics

Operator Name: ---
Run Type: Standard Start
Part of Method to Run: Acquisition Only
Execution of Acquisition-DA: Synchronous
Acquisition Method Path: D:\MassHunter\Acquisition Method
DA Method Path: D:\MassHunter\methods
Data File Path: D:\MassHunter\data\PFC\20181017\WS#5785280_FOSAA
Pre-Worklist Script: ---
Post-Worklist Script: SCP_InstrumentStandby(){MH_Acq_Scripts.exe}
Acquisition Clean Up Script: ---
Overlapped Injection: No
Clear Sample Selection After Run: Yes
Wait Time for Ready(Min): 10
Threshold Disk Value(GB): 10
Comment: Column #338
MP A1: Solution #427 [FSRE18]
MP B2: Solution #431 [FSRE18]

AD
2018/10/17
verified by MM
2018/10/17

Plate Barcode:

Plate	Barcode
P4	

Worklist Table

	Sample Name	Sample Position	Method	Data File	Sample Type	Level Name	Inj Vol (µl)	Comment
1	RINSE	P4-A1	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_01.d	Sample		As Method	-
2	STD 1	P4-A2	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_02.d	Calibration	STD 1	As Method	-
3	STD 2	P4-A3	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_03.d	Calibration	STD 2	As Method	-
4	STD 3	P4-A4	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_04.d	Calibration	STD 3	As Method	-
5	STD 4	P4-A5	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_05.d	Calibration	STD 4	As Method	-
6	STD 5	P4-A6	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_06.d	Calibration	STD 5	As Method	-
7	STD 6	P4-A7	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_07.d	Calibration	STD 6	As Method	-
8	IB	P4-A8	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_08.d	Sample		As Method	-

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Worklist Report

Agilent Technologies

Maxxam Analytics

	Sample Name	Sample Position	Method	Data File	Sample Type	Level Name	Inj Vol (µl)	Comment
9	ICV	P4-A9	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_09.d	QC	ICV	As Method	-
10	ISC	P4-A2	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_10.d	QC	STD 1	As Method	-
11	5785280:BLANK	P4-B1	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_11.d	Sample		As Method	-
12	5785280:SPIKE	P4-B2	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_12.d	QC	ICV	As Method	-
13	5785280:MTRX SPK	P4-B3	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_13.d	QC	ICV	As Method	-
14	5785280:MTRX SPK:D1	P4-B4	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_14.d	QC	ICV	As Method	-
15	IB	P4-A8	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_15.d	Sample		As Method	-
16	5785280:HYO195-01	P4-B5	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_16.d	Sample		As Method	-
17	5785280:HYO196-01	P4-B6	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_17.d	Sample		As Method	-
18	5785280:HYO197-01	P4-B7	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_18.d	Sample		As Method	-
19	5785280:HYO198-01	P4-B8	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_19.d	Sample		As Method	-
20	5785280:HZL772-01	P4-B9	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_20.d	Sample		As Method	-
21	5785280:HZL773-01	P4-C1	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_21.d	Sample		As Method	-
22	5785280:HZL774-01	P4-C2	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_22.d	Sample		As Method	-
23	5785280:HZL775-01:10x	P4-C3	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_23.d	Sample		As Method	-
24	5785280:HZL775-01	P4-C4	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_24.d	Sample		As Method	-
25	IB	P4-A8	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_25.d	Sample		As Method	-
26	CCV	P4-A5	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_26.d	ConCal	STD 4	As Method	-

FINAL INJECTION SEQUENCE

Sample					
Name	Comment	Acq. Date-Time	Acq. Method File	Data File	Pos.
STD 1	-	2018/10/18 2:12 AM	PFC_Water_Low.m	WS#5785280_02.d	P4-A2
STD 2	-	2018/10/18 2:17 AM	PFC_Water_Low.m	WS#5785280_03.d	P4-A3
STD 3	-	2018/10/18 2:22 AM	PFC_Water_Low.m	WS#5785280_04.d	P4-A4
STD 4	-	2018/10/18 2:27 AM	PFC_Water_Low.m	WS#5785280_05.d	P4-A5
STD 5	-	2018/10/18 2:32 AM	PFC_Water_Low.m	WS#5785280_06.d	P4-A6
STD 6	-	2018/10/18 2:37 AM	PFC_Water_Low.m	WS#5785280_07.d	P4-A7
IB	-	2018/10/18 2:42 AM	PFC_Water_Low.m	WS#5785280_08.d	P4-A8
ICV	-	2018/10/18 2:47 AM	PFC_Water_Low.m	WS#5785280_09.d	P4-A9
ISC	-	2018/10/18 2:52 AM	PFC_Water_Low.m	WS#5785280_10.d	P4-A2
5785280:BLANK	-	2018/10/18 2:57 AM	PFC_Water_Low.m	WS#5785280_11.d	P4-B1
5785280:SPIKE	-	2018/10/18 3:01 AM	PFC_Water_Low.m	WS#5785280_12.d	P4-B2
5785280:MTRX SPK	HYO198	2018/10/18 3:06 AM	PFC_Water_Low.m	WS#5785280_13.d	P4-B3
5785280:MTRX SPK:D1	HYO198	2018/10/18 3:11 AM	PFC_Water_Low.m	WS#5785280_14.d	P4-B4
IB	-	2018/10/18 3:16 AM	PFC_Water_Low.m	WS#5785280_15.d	P4-A8
5785280:HYO195-01	-	2018/10/18 3:21 AM	PFC_Water_Low.m	WS#5785280_16.d	P4-B5
5785280:HYO196-01	-	2018/10/18 3:26 AM	PFC_Water_Low.m	WS#5785280_17.d	P4-B6
5785280:HYO197-01	-	2018/10/18 3:31 AM	PFC_Water_Low.m	WS#5785280_18.d	P4-B7
5785280:HYO198-01	-	2018/10/18 3:36 AM	PFC_Water_Low.m	WS#5785280_19.d	P4-B8
5785280:HZL772-01	-	2018/10/18 3:41 AM	PFC_Water_Low.m	WS#5785280_20.d	P4-B9
5785280:HZL773-01	-	2018/10/18 3:46 AM	PFC_Water_Low.m	WS#5785280_21.d	P4-C1
5785280:HZL774-01	-	2018/10/18 3:51 AM	PFC_Water_Low.m	WS#5785280_22.d	P4-C2
5785280:HZL775-01:10x	Not used	2018/10/18 3:56 AM	PFC_Water_Low.m	WS#5785280_23.d	P4-C3
5785280:HZL775-01	-	2018/10/18 4:00 AM	PFC_Water_Low.m	WS#5785280_24.d	P4-C4
IB	-	2018/10/18 4:05 AM	PFC_Water_Low.m	WS#5785280_25.d	P4-A8
CCV	-	2018/10/18 4:10 AM	PFC_Water_Low.m	WS#5785280_26.d	P4-A5
5785280:HZT949-01:50x	Reported for 6:2-FTS, PFHxS, PFOS	2018/10/18 4:15 AM	PFC_Water_Low.m	WS#5785280_27.d	P4-C5
5785280:HZT949-01:5x	Reported for all except 6:2-FTS, PFHxS, PFOS	2018/10/18 4:20 AM	PFC_Water_Low.m	WS#5785280_28.d	P4-C6
IB	-	2018/10/18 4:25 AM	PFC_Water_Low.m	WS#5785280_29.d	P4-A8
5785280:HZT950-01:10x	Reported for 6:2-FTS, PFHxA, PFHxS, PFOA, PFOS	2018/10/18 4:30 AM	PFC_Water_Low.m	WS#5785280_30.d	P4-C7
5785280:HZT950-01	Reported for all except 6:2-FTS, PFHxA, PFHxS, PFOA, PFOS	2018/10/18 4:35 AM	PFC_Water_Low.m	WS#5785280_31.d	P4-C8
IB	-	2018/10/18 4:40 AM	PFC_Water_Low.m	WS#5785280_32.d	P4-A8
5785280:HZT951-01	-	2018/10/18 4:45 AM	PFC_Water_Low.m	WS#5785280_33.d	P4-C9
5785280:HZT954-01:10x	Not used	2018/10/18 4:50 AM	PFC_Water_Low.m	WS#5785280_34.d	P4-D1

FINAL INJECTION SEQUENCE

Sample					
Name	Comment	Acq. Date-Time	Acq. Method File	Data File	Pos.
5785280:HZT954-01	-	2018/10/18 4:54 AM	PFC_Water_Low.m	WS#5785280_35.d	P4-D2
IB	-	2018/10/18 4:59 AM	PFC_Water_Low.m	WS#5785280_36.d	P4-A8
CCV	-	2018/10/18 5:04 AM	PFC_Water_Low.m	WS#5785280_37.d	P4-A5

FINAL INJECTION SEQUENCE

Sample					
Name	Comment	Acq. Date-Time	Acq. Method File	Data File	Pos.
STD 1	-	2018/10/17 6:52 PM	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_02.d	P4-A2
STD 2	-	2018/10/17 6:55 PM	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_03.d	P4-A3
STD 3	-	2018/10/17 6:57 PM	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_04.d	P4-A4
STD 4	-	2018/10/17 6:59 PM	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_05.d	P4-A5
STD 5	-	2018/10/17 7:02 PM	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_06.d	P4-A6
STD 6	-	2018/10/17 7:04 PM	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_07.d	P4-A7
IB	-	2018/10/17 7:06 PM	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_08.d	P4-A8
ICV	-	2018/10/17 7:09 PM	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_09.d	P4-A9
ISC	-	2018/10/17 7:11 PM	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_10.d	P4-A2
5785280:BLANK	-	2018/10/17 7:14 PM	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_11.d	P4-B1
5785280:SPIKE	-	2018/10/17 7:16 PM	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_12.d	P4-B2
5785280:MTRX SPK	HYO198	2018/10/17 7:18 PM	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_13.d	P4-B3
5785280:MTRX SPK:D1	HYO198	2018/10/17 7:21 PM	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_14.d	P4-B4
IB	-	2018/10/17 7:23 PM	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_15.d	P4-A8
5785280:HYO195-01	-	2018/10/17 7:26 PM	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_16.d	P4-B5
5785280:HYO196-01	-	2018/10/17 7:28 PM	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_17.d	P4-B6
5785280:HYO197-01	-	2018/10/17 7:30 PM	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_18.d	P4-B7
5785280:HYO198-01	-	2018/10/17 7:33 PM	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_19.d	P4-B8
5785280:HZL772-01	-	2018/10/17 7:35 PM	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_20.d	P4-B9
5785280:HZL773-01	-	2018/10/17 7:37 PM	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_21.d	P4-C1
5785280:HZL774-01	-	2018/10/17 7:40 PM	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_22.d	P4-C2
5785280:HZL775-01:10x	Not used	2018/10/17 7:42 PM	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_23.d	P4-C3
5785280:HZL775-01	-	2018/10/17 7:45 PM	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_24.d	P4-C4
IB	-	2018/10/17 7:47 PM	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_25.d	P4-A8
CCV	-	2018/10/17 7:49 PM	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_26.d	P4-A5

INJECTION INTERNAL STANDARD PEAK AREAS

Sample Name	Analyte	13C6-PFHxA	13C9-PFDA
	Mass labeled IS	STD 4	STD 4
	IS Area	18367	25342
	Upper Limit (+50%)	27551	38013
	Lower Limit (-50%)	9184	12671
		IS Peak Area	IS Peak Area
STD 1		17836	24586
STD 2		18301	25413
STD 3		17706	24647
STD 4		18367	25342
STD 5		17735	24194
STD 6		18203	24200
IB		18407	25703
ICV		18067	25353
ISC		18082	24639
5785280:BLANK		18213	24842
5785280:SPIKE		18161	24399
5785280:MTRX SPK		18333	26796
5785280:MTRX SPK:D1		17017	23341
IB		18210	24899
5785280:HYO195-01		17682	24918
5785280:HYO196-01		16784	23561
5785280:HYO197-01		18366	25066
5785280:HYO198-01		16985	23072
5785280:HZL772-01		17564	24251
5785280:HZL773-01		18115	25764
5785280:HZL774-01		21278	29040
5785280:HZL775-01:10x		17291	23836
5785280:HZL775-01		18352	25297
IB		18645	25136
CCV		18940	25986
5785280:HZT949-01:50x		18276	25030
5785280:HZT949-01:5x		18519	25234
IB		18811	24877
5785280:HZT950-01:10x		18063	24878
5785280:HZT950-01		17976	24593
IB		18446	25430
5785280:HZT951-01		18583	25168
5785280:HZT954-01:10x		18397	24662
5785280:HZT954-01		18233	25086
IB		18659	24719
CCV		19297	25828

INJECTION INTERNAL STANDARD PEAK AREAS

Sample Name	Analyte	13C9-PFDA
	Mass labeled IS	STD 4
	IS Area	24916
	Upper Limit (+50%)	37374
	Lower Limit (-50%)	12458
		IS Peak Area
STD 1		24891
STD 2		24984
STD 3		25127
STD 4		24916
STD 5		24898
STD 6		25096
IB		24994
ICV		24992
ISC		25608
5785280:BLANK		25517
5785280:SPIKE		25100
5785280:MTRX SPK		23432
5785280:MTRX SPK:D1		20887
IB		24028
5785280:HYO195-01		22822
5785280:HYO196-01		21889
5785280:HYO197-01		24982
5785280:HYO198-01		21355
5785280:HZL772-01		23713
5785280:HZL773-01		24326
5785280:HZL774-01		29016
5785280:HZL775-01:10x		23654
5785280:HZL775-01		24989
IB		25266
CCV		24857

4 PPL
Date Received:
2018/08/16
S-I

SIGMA-ALDRICH®

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3050 Spruce Street, Saint Louis, MO 63103, USA
Website: www.sigmaaldrich.com
Email USA: techserv@sial.com
Outside USA: eurtechserv@sial.com

Certificate of Analysis

Product Name:
Methanol – for HPLC, ≥99.9%

CH_3OH

Product Number:	**34860**
Batch Number:	**SHBK1658**
Brand:	SIGALD
CAS Number:	67-56-1
MDL Number:	MFCD00004595
Formula:	CH4O
Formula Weight:	32.04 g/mol
Quality Release Date:	18 APR 2018
Expiration Date:	MAR 2023

Test	Specification	Result
Appearance (Color)	Colorless	Colorless
Appearance (Form)	Liquid	Liquid
UV Absorbance 400nm	≤ 0.01	< 0.01
UV Absorbance 280nm	≤ 0.01	< 0.01
UV Absorbance 260nm	≤ 0.04	< 0.01
UV Absorbance 240nm	≤ 0.10	0.03
UV Absorbance 235nm	≤ 0.10	0.05
UV Absorbance 230nm	≤ 0.20	0.08
UV Absorbance 220nm	≤ 0.30	0.17
UV Absorbance 210nm	≤ 0.60	0.37
UV Absorbance 205nm	≤ 1.00	0.68
Fluorescence 254nm	≤ 1.0 ppb	< 0.1 ppb
Fluorescence 365nm	≤ 1.0 ppb	0.1 ppb
Purity (GC)	≥ 99.90 %	100.00 %
Color Test	≤ 10 APHA	< 10 APHA
Water (by Karl Fischer)	≤ 0.05 %	< 0.01 %
Residue on Evaporation	≤ 0.0005 %	< 0.0001 %
Expiration Date Period 1800 Days	----------	----------

Sigma-Aldrich warrants, that at the time of the quality release or subsequent retest date this product conformed to the information contained in this publication. The current Specification sheet may be available at Sigma-Aldrich.com. For further inquiries, please contact Technical Service. Purchaser must determine the suitability of the product for its particular use. See reverse side of invoice or packing slip for additional terms and conditions of sale.

SIGMA-ALDRICH

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3050 Spruce Street, Saint Louis, MO 63103, USA
Website: www.sigmaaldrich.com
Email USA: techserv@sial.com
Outside USA: ourtechserv@sial.com

Certificate of Analysis

Product Number: 34660
Batch Number: SHBK1058

Michael Grady, Manager
Quality Control
Sheboygan Falls, WI US

Date Received: 2018.08.15 - 4 Bottles - HPLC

Certificate of Analysis from other Companies

Product Description: **Methanol**
Catalog # **34860**
LOT # **SHBK1713**
Expiration Date: **04/30/2023**
Supplier Name: **Sigma- aldrich**
Storage Location: Room Temperature

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Website: www.sigmaaldrich.com
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Outside USA: eurtechserv@sial.com

Certificate of Analysis

Product Name:
Methanol - for HPLC, ≥99.9%

CH_3OH

Recd: 2018/09/14
By: OKO
4 x 4L
HPLC-M.L.

Product Number:	34860
Batch Number:	SHBK1713
Brand:	SIGALD
CAS Number:	67-56-1
MDL Number:	MFCD00004595
Formula:	CH4O
Formula Weight:	32.04 g/mol
Quality Release Date:	09 MAY 2018
Expiration Date:	APR 2023

Test	Specification	Result
Appearance (Color)	Colorless	Colorless
Appearance (Form)	Liquid	Liquid
UV Absorbance 400nm	≤ 0.01	< 0.01
UV Absorbance 280nm	≤ 0.01	< 0.01
UV Absorbance 260nm	≤ 0.04	< 0.01
UV Absorbance 240nm	≤ 0.10	0.03
UV Absorbance 235nm	≤ 0.10	0.04
UV Absorbance 230nm	≤ 0.20	0.07
UV Absorbance 220nm	≤ 0.30	0.15
UV Absorbance 210nm	≤ 0.60	0.34
UV Absorbance 205nm	≤ 1.00	0.70
Fluorescence 254nm	≤ 1.0 ppb	< 0.1 ppb
Fluorescence 365nm	≤ 1.0 ppb	< 0.1 ppb
Purity (GC)	≥ 99.90 %	99.93 %
Color Test	≤ 10 APHA	< 5 APHA
Water (by Karl Fischer)	≤ 0.03 %	< 0.01 %
Residue on Evaporation	≤ 0.0005 %	0.0001 %
Expiration Date Period 1800 Days		

Sigma-Aldrich warrants, that at the time of the quality release or subsequent retest date this product conformed to the information contained in this publication. The current Specification sheet may be available at Sigma-Aldrich.com. For further inquiries, please contact Technical Service. Purchaser must determine the suitability of the product for its particular use. See reverse side of invoice or packing slip for additional terms and conditions of sale.

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Certificate of Analysis

Product Number: 34580
Batch Number: SHBK1713

Michael Grady, Manager
Quality Control
Sheboygan Falls, WI US

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Received Date: 2018.09.11 4x4L HPLC

REAGENT PREPARATION FORM

Reagent # 325 Replaced Reagent # 317 Analyst: SAD

Reagent Name: 2% Formic Acid Preparation date: 2018/8/24 Expiry date: 2018/10/24

Final Volume: 1L Oven No. : — Temp. : — Final Conc.: 2% v/v

Balance ID: — Pipette/Syringe/Cylinder ID: 5553 Storage: SAD

CHEMICAL NAME	VOLUME/ WEIGHT	DATE RECEIVED	DATE OPENED	SUPPLIER	LOT NUMBER	EXPIRY DATE
LCMS H2O	980ml	2018/7/6	2018/8/17	Omni Solv	58159	2019/6/30
Formic Acid	20ml	2018/6/8	2018/6/12	Sigma Aldrich	SHBJ 7951	2019/01/31

NOTES:

Reagent # 326 Replaced Reagent # ~~294~~ 306 GSZ 2018/08/21 Analyst: GSZ

Reagent Name: 0.3% NH_4OH in MeOH Preparation date: 2018/08/21 Expiry date: Daily

Final Volume: 500ml Oven No. : — Temp. : — Final Conc.: 0.3 : 99.7 v/v

Balance ID: — Pipette/Syringe/Cylinder ID: J434346 Storage: —

CHEMICAL NAME	VOLUME/ WEIGHT	DATE RECEIVED	DATE OPENED	SUPPLIER	LOT NUMBER	EXPIRY DATE
NH_4OH	1.5 ml	2018/01/09	2018/01/25	Fisher	172996	2020/08/31
MeOH	498.5 ml	2018/07/20	2018/08/21	Sigma	SHBK0449	2023/03/31
			GSZ 2018/08/21			

NOTES: 500 ml class A Vol. Cylinder (3026)

DO NOT WRITE BENEATH ANY INSERTS OR PLACE ANY INSERTS ON TOP OF ANY RAW DATA ENTERED ON THIS PAGE. INITIAL AND DATE ALL ENTRIES, CORRECTIONS AND INSERTS. INCLUDE ALL RELEVANT TRACEABLE REFERENCES ON ALL INSERTS.
ONLY CLASS A GLASSWARE IS USED FOR THE PREPARATION OF REAGENTS WHEN APPLICABLE.

Fisher Scientific
1 Reagent Lane
Fair Lawn, NJ 07410
201.796.7100 tel
201.796.1329 fax

Certificate of Analysis

Fisher Scientific's Quality System has been found to conform to Quality Management System standard ISO9001:2008 etandem by RAI Global Certificate Number CERT - 0056618

This is to certify that units of the lot number below were tested and found to comply with the specifications of the grade listed. Certain data have been supplied by third parties. Fisher Scientific expressly disclaims all warranties, expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose. Certain products [USP/FCC/NF/EP/JP/AJP grades] are sold for use in food, drug, or medical device manufacturing. Fisher does not make registration coverage under 21 CFR nor maintain DMFs with the FDA. The following are the actual analytical results obtained.

Catalog Number	A669	Quality Test / Release Date	8/24/2017
Lot Number	172395	Expiration Date	Aug2020
Description	AMMONIUM HYDROXIDE, CERTIFIED A.C.S. PLUS		
Country of Origin	United States		
Chemical Origin	Inorganic-non animal		

BSE/TSE Comment	This product does not contain and is not manufactured with raw material ingredients derived from any animal products, including countries where Bovine Spongiform Encephalopathy (BSE) is known to exist.
Chemical Comment	This product is free from genetically modified substances and is gluten free.

Result name	Units	Specifications	Test Value
APPEARANCE		REPORT	COLORLESS AND FREE FROM SUSPENDED MATTER
ALUMINUM	ppm	<= 0.3	0.002
ARSENIC AND ANTIMONY	ppm	<= 0.05	<0.050
ASSAY	w/w %	Inclusive Between 28.0 - 30.0	29.2
BORON (B)	ppm	<= 0.1	0.001
CALCIUM (Ca)	ppm	<= 0.3	0.008
CARBON DIOXIDE	%	<= 0.002	<0.0020
CHLORIDE	ppm	<= 0.5	<0.50
CHROMIUM (Cr)	ppm	<= 0.2	0.001
COPPER (Cu)	ppm	<= 0.1	0.001
GOLD (Au)	ppm	<= 0.3	0.001
HEAVY METALS (as Pb)	ppm	<= 0.5	<0.5
IRON (Fe)	ppm	<= 0.1	0.001
LEAD (Pb)	ppm	<= 0.2	0.001
MAGNESIUM (Mg)	ppm	<= 0.3	0.001
MANGANESE (Mn)	ppm	<= 0.2	0.001
NICKEL (Ni)	ppm	<= 0.1	0.001
NITRATE (NO3)	ppm	<= 2	<2.0
PHOSPHATE (PO4)	ppm	<= 0.4	<0.40
POTASSIUM (K)	ppm	<= 0.3	0.002
RESIDUE AFTER IGNITION	ppm	<= 3	<3.00
SODIUM (Na)	ppm	= Report	0.005
SUBSTANCES REDUCING KMNO4	PASS/FAIL	= PASS TEST	PASS TEST
SULFATE (SO4)	ppm	<= 2	<2.0
TIN (Sn)	ppm	<= 0.3	0.001
TITANIUM (Ti)	ppm	<= 0.3	0.001
ZINC (Zn)	ppm	<= 0.3	0.003

CERTIFIED BY

Jessica Bailey-Wyche

Quality Assurance Specialist - Certificate of Analysis BPF

Note: The data listed is valid for all package sizes of this lot of this product, expressed as a extension of this catalog number listed above. If there are any questions with this certificate, please call Chemical Services at (800) 237-6701.
*Based on suggested storage condition.

Date Received: 2017/12/28-RAZ-P2B
Date Received: 2018/01/05-lov-HPLC 1X500ml
Date Received: 2018/01/08-lov-HPLC 1X500ml
Date Received: 2018/01/09-lov-HPLC 1X500ml

[redacted]

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Website: www.sigmaaldrich.com
Email USA: techserv@sial.com
Outside USA: eurtechserv@sial.com

Certificate of Analysis

Product Name:
Methanol - for HPLC, ≥99.9%

Product Number:	34860
Batch Number:	SHBK0449
Brand:	SIGALD
CAS Number:	67-56-1
MDL Number:	MFCD00004695
Formula:	CH4O
Formula Weight:	32.04 g/mol
Quality Release Date:	27 MAR 2018
Expiration Date:	MAR 2023

CH_3OH HPLC

Recd 2018/07/25 SE.

Qty: 4 x 4L

storage: room temp.

Test	Specification	Result
Appearance (Color)	Colorless	Colorless
Appearance (Form)	Liquid	Liquid
UV Absorbance 400nm	≤ 0.01	< 0.01
UV Absorbance 280nm	≤ 0.01	< 0.01
UV Absorbance 260nm	≤ 0.04	< 0.01
UV Absorbance 240nm	≤ 0.10	0.01
UV Absorbance 235nm	≤ 0.10	0.02
UV Absorbance 230nm	≤ 0.20	0.03
UV Absorbance 220nm	≤ 0.30	0.06
UV Absorbance 210nm	≤ 0.60	0.18
UV Absorbance 205nm	≤ 1.00	0.83
Fluorescence 254nm	≤ 1.0 ppb	0.1 ppb
Fluorescence 365nm	≤ 1.0 ppb	0.1 ppb
Purity (GC)	≥ 99.90 %	100.00 %
Color Test	≤ 10 APHA	< 5 APHA
Water (by Karl Fischer)	≤ 0.03 %	< 0.01 %
Residue on Evaporation	≤ 0.0005 %	< 0.0001 %
Expiration Date Period 1800 Days		

Sigma-Aldrich warrants, that at the time of the quality release or subsequent retest date this product conformed to the information contained in this publication. The current Specification sheet may be available at Sigma-Aldrich.com. For further inquiries, please contact Technical Service. Purchaser must determine the suitability of the product for its particular use. See reverse side of invoice or packing slip for additional terms and conditions of sale.

Version Number: 1

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Email USA: techserv@sial.com
Outside USA: eurtechserv@sial.com

Certificate of Analysis

Product Number: 34860
Batch Number: SHBK0449

Michael Grady, Manager
Quality Control
Sheboygan Falls, WI US

Sigma-Aldrich warrants, that at the time of the quality release or subsequent retest date this product conformed to the information contained in this publication. The current Specification sheet may be available at Sigma-Aldrich.com. For further inquiries, please contact Technical Service. Purchaser must determine the suitability of the product for its particular use. See reverse side of invoice or packing slip for additional terms and conditions of sale.

Received 2018/07/17(4x4L):HPLC
Received 2018/07/20(8x4L):HPLC
Received 2018/07/24(8x4L):HPLC
Received 2018/07/25(4x4L):JLE
Received 2018/07/26(4x4L):HPLC
Received 2018/07/30(4x4L):AKH
Received 2018/07/31(4x4L):HPLC
Date Received: 2018.08.07 - 4 bottles - HPLC

REAGENT PREPARATION FORM

Reagent # 431 Replaced Reagent # 419 Analyst: IR

Reagent Name: 0.3% NH4OH in MeOH Preparation date: 2018/09/25 Expiry date: Daily

Final Volume: 100 ml Oven No. : — Temp. : _____ Final Conc.: 0.3 : 99.7

Balance ID: — Pipette/Syringe/Cylinder ID: P424096 Storage: shelf

CHEMICAL NAME	VOLUME/ WEIGHT	DATE RECEIVED	DATE OPENED	SUPPLIER	LOT NUMBER	EXPIRY DATE
NH4OH	0.3 ml	2018/02/01 2018/09/25	2018/09/25	Fisher	166350	2019/12/31
MeOH	99.7 ml	2018/09/25	2018/09/25	Sigma	SHBK1713	2023/04/30
				2018/09/25		

NOTES: 100 ml volumetric cylinder

Reagent # 432 Replaced Reagent # 430 Analyst: TKA

Reagent Name: 0.2% NH_4OH Preparation date: 2018/09/26 Expiry date: Daily

Final Volume: 1L Oven No. : — Temp. : — Final Conc.: 0.2%

Balance ID: — Pipette/Syringe/Cylinder ID: L5 4 2806 Storage: Shelf

CHEMICAL NAME	VOLUME/ WEIGHT	DATE RECEIVED	DATE OPENED	SUPPLIER	LOT NUMBER	EXPIRY DATE
NH_4OH	2.0 ml	2018/02/01 ~~2018/09/25~~ TKA (09/26)	2018/09/25	Fisher	166350	2019/12/31
Methanol	998 ml	2018/09/25	2018/09/26	Sigma	SHBK1713	2023/04/30
		TKA 2018/09/26				

Cylinder used # 6553

NOTES:

1 Reagent Lane
Fair Lawn, NJ 07410
201.796.7100 tel
201.796.1329 fax

Certificate of Analysis

Fisher Scientific Quality System has been found to conform to Quality Management System Standard ISO9001:2008 standard by SAI Global Certificate Number CERT -0009218

This is to certify that each of the lot number listed was tested and found to comply with the specifications of the grade listed. Certain data have been supplied by third parties. Fisher Scientific expressly disclaims all warranties, expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose. Certain products (USP/NF/FCC/REFERENCE grades) are sold for use in food, drug, or medical device manufacturing. Fisher does not claim regulatory coverage under 21 CFR nor maintain DMF's with the FDA. The following are the actual analytical results obtained.

Catalog Number	A669	Quality Test / Release Date	1/10/2017
Lot Number	166350	Expiration Date	Dec/19
Description	AMMONIUM HYDROXIDE, CERTIFIED A.C.S. PLUS		
Country of Origin	United States		
Chemical Origin	Inorganic-non animal		
BSE/TSE Comment	This product does not contain and is not manufactured with raw material ingredients derived from any animal products, including countries where Bovine Spongiform Encephalopathy (BSE) is known to exist.		
Chemical Comment	This product is free from genetically modified substances and is gluten free.		

Result name	Units	Specifications	Test Value
APPEARANCE		REPORT	COLORLESS AND FREE FROM SUSPENDED MATTER
ALUMINUM	ppm	<= 0.3	0.010
ARSENIC AND ANTIMONY	ppm	<= 0.05	<0.050
ASSAY	m/m %	Inclusive Between 28.0 - 30.0	29.2
BORON (B)	ppm	<= 0.1	0.004
CALCIUM (Ca)	ppm	<= 0.3	0.003
CARBON DIOXIDE	%	<= 0.002	<0.0002
CHLORIDE	ppm	<= 0.5	<0.50
CHROMIUM (Cr)	ppm	<= 0.2	0.001
COPPER (Cu)	ppm	<= 0.1	0.001
GOLD (Au)	ppm	<= 0.3	0.001
HEAVY METALS (as Pb)	ppm	<= 0.5	<0.5
IDENTIFICATION	PASS/FAIL	= PASS TEST	PASS TEST
IRON (Fe)	ppm	<= 0.1	0.001
LEAD (Pb)	ppm	<= 0.2	0.001
MAGNESIUM (Mg)	ppm	<= 0.3	0.001
MANGANESE (Mn)	ppm	<= 0.2	0.001
NICKEL (Ni)	ppm	<= 0.1	0.001
NITRATE (NO3)	ppm	<= 2	<2.0
PHOSPHATE (PO4)	ppm	<= 0.4	<0.40
POTASSIUM (K)	ppm	<= 0.3	0.002
RESIDUE AFTER IGNITION	ppm	<= 3	<3.00
SODIUM (Na)	ppm	= Report	0.017
SUBSTANCES REDUCING KMNO4	PASS/FAIL	= PASS TEST	PASS TEST
SULFATE (SO4)	ppm	<= 2	<2.0
TIN (Sn)	ppm	<= 0.3	0.001
TITANIUM (Ti)	ppm	<= 0.3	0.001
ZINC (Zn)	ppm	<= 0.3	0.001



Quality Assurance Specialist - Certificate of Analysis GPF

Date Received: 2018.02.01 - 1 bottle - HPLC

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Certificate of Analysis

Product Name:
Methanol - for HPLC, ≥99.9%

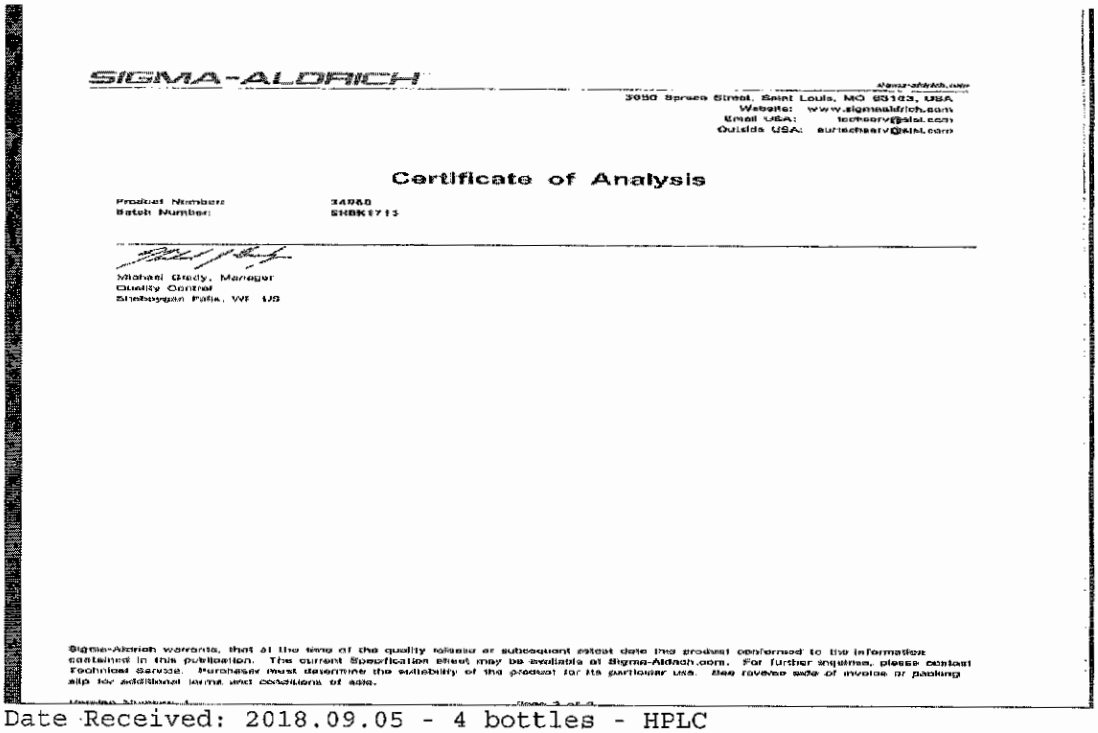
Rec'd: 2018/09/14
BY: OKO
4 x 4 L
HPLC - M.L.

CH_3OH

Product Number:	34860
Batch Number:	SHBK1713
Brand:	SIGALD
CAS Number:	67-56-1
MDL Number:	MFCD00004596
Formula:	CH4O
Formula Weight:	32.04 g/mol
Quality Release Date:	08 MAY 2018
Expiration Date:	APR 2023

Test	Specification	Result
Appearance (Color)	Colorless	Colorless
Appearance (Form)	Liquid	Liquid
UV Absorbance 400nm	≤ 0.01	< 0.01
UV Absorbance 280nm	≤ 0.01	< 0.01
UV Absorbance 260nm	≤ 0.04	< 0.01
UV Absorbance 240nm	≤ 0.10	0.03
UV Absorbance 235nm	≤ 0.10	0.04
UV Absorbance 230nm	≤ 0.20	0.07
UV Absorbance 220nm	≤ 0.30	0.15
UV Absorbance 210nm	≤ 0.60	0.34
UV Absorbance 205nm	≤ 1.00	0.70
Fluorescence 254nm	≤ 1.0 ppb	< 0.1 ppb
Fluorescence 365nm	≤ 1.0 ppb	< 0.1 ppb
Purity (GC)	≥ 99.90 %	99.93 %
Color Test	≤ 10 APHA	< 5 APHA
Water (by Karl Fischer)	≤ 0.03 %	< 0.01 %
Residue on Evaporation	≤ 0.0005 %	0.0001 %
Expiration Date Period 1800 Days	----------	----------

Sigma-Aldrich warrants, that at the time of the quality release or subsequent retest date this product conformed to the information contained in this publication. The current Specification sheet may be available at Sigma-Aldrich.com. For further inquiries, please contact Technical Service. Purchaser must determine the suitability of the product for its particular use. See reverse side of invoice or packing slip for additional terms and conditions of sale.



SIGMA-ALDRICH

3050 Spruce Street, Saint Louis, MO 63103, USA
Website: www.sigmaaldrich.com
Email USA: techserv@sial.com
Outside USA: eurtechserv@sial.com

Certificate of Analysis

Product Number: 34850
Batch Number: SHBK1713

Michael Grady, Manager
Quality Control
Sheboygan Falls, WI US

Sigma-Aldrich warrants, that at the time of the quality release or subsequent retest date this product conformed to the information contained in this publication. The current Specification sheet may be available at Sigma-Aldrich.com. For further inquiries, please contact Technical Service. Purchaser must determine the suitability of the product for its particular use. See reverse side of invoice or packing slip for additional terms and conditions of sale.

Page 2 of 2

Date Received: 2018.09.05 - 4 bottles - HPLC
Date Received: 2018.09.11 - 4 bottles - HPLC
Date Received: 2018.09.14 - 4 bottles - HPLC
Date Received: 2018.09.19 - 4 bottles - HPLC
Date Received: 2018.09.21 - 4 bottles - HPLC
Date Received: 2018.09.25 - 4 bottles - HPLC

REAGENT PREPARATION FORM

Reagent # 481 Replaced Reagent # 460 Analyst: GSZ

Reagent Name: 0.3% NH4OH in MeOH Preparation date: 2018/10/09 Expiry date: Daily

Final Volume: 250ml Oven No. : - Temp. : - Final Conc.: 0.3: 99.7 v/v

Balance ID: - Pipette/Syringe/Cylinder ID: P424056 Storage: -

CHEMICAL NAME	VOLUME/ WEIGHT	DATE RECEIVED	DATE OPENED	SUPPLIER	LOT NUMBER	EXPIRY DATE
NH4OH	0.75ml	2018/02/01	2018/09/25	Fisher	166350	2019/12/31
MeOH	249.25ml	2018/10/03	2018/10/09	Sigma	SHBK1713	2023/04/30

GSZ, 2018/10/09

NOTES:

Reagent # 482 Replaced Reagent # 480 Analyst: GSZ

Reagent Name: 0.2% NH4OH Preparation date: 2018/10/10 Expiry date: Daily

Final Volume: 1L Oven No. : - Temp. : - Final Conc.: 0.2%

Balance ID: - Pipette/Syringe/Cylinder ID: L54280G Storage: Shelf

CHEMICAL NAME	VOLUME/ WEIGHT	DATE RECEIVED	DATE OPENED	SUPPLIER	LOT NUMBER	EXPIRY DATE
MeOH	998ml	2018/10/04	2018/10/10	Sigma	SHBK1058 (~~1713~~)	2023/03/30
NH4OH	2ml	2018/02/01	2018/09/25	Fisher	166350	2019/12/31

GSZ 2018/10/10

NOTES:

DO NOT WRITE BENEATH ANY INSERTS OR PLACE ANY INSERTS ON TOP OF ANY RAW DATA ENTERED ON THIS PAGE. INITIAL AND DATE ALL ENTRIES, CORRECTIONS AND INSERTS. INCLUDE ALL RELEVANT TRACEABLE REFERENCES ON ALL INSERTS.

[redacted]

1 Reagent Lane
Fair Lawn, NJ 07410
201.796.7100 tel
201.796.1329 fax

Certificate of Analysis

Fisher Scientific Quality System has been found to conform to Quality Management System Standard ISO9001:2008 standard by SAI Global Certificate Number CERT - 0080018

This is to certify that units of the lot number below were tested and found to comply with the specifications of the grade listed. Certain data have been supplied by third parties. Fisher Scientific expressly disclaims all warranties, expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose. Certain products (USP/FCC/NF/EP/BP/JP grades) are sold for use in food, drug, or medical device manufacturing. Fisher does not claim regulatory coverage under 21 CFR nor maintain DMF's with the FDA. The following are the actual analytical results obtained:

Catalog Number	A669	Quality Test / Release Date	1/10/2017
Lot Number	186350	Expiration Date	Dec/19
Description	AMMONIUM HYDROXIDE, CERTIFIED A.C.S. PLUS		
Country of Origin	United States		
Chemical Origin	Inorganic-non animal		

BSE/TSE Comment	This product does not contain and is not manufactured with raw material ingredients derived from any animal products, including countries where Bovine Spongiform Encephalopathy (BSE) is known to exist.
Chemical Comment	This product is free from genetically modified substances and is gluten free.

Result name	Units	Specifications	Test Value
APPEARANCE		REPORT	COLORLESS AND FREE FROM SUSPENDED MATTER
ALUMINUM	ppm	<= 0.3	0.010
ARSENIC AND ANTIMONY	ppm	<= 0.05	<0.050
ASSAY	w/w %	Inclusive Between 28.0 - 30.0	29.2
BORON (B)	ppm	<= 0.1	0.004
CALCIUM (Ca)	ppm	<= 0.3	0.003
CARBON DIOXIDE	%	<= 0.002	<0.0002
CHLORIDE	ppm	<= 0.5	<0.50
CHROMIUM (Cr)	ppm	<= 0.2	0.001
COPPER (Cu)	ppm	<= 0.1	0.001
GOLD (Au)	ppm	<= 0.3	0.001
HEAVY METALS (as Pb)	ppm	<= 0.5	<0.5
IDENTIFICATION	PASS/FAIL	= PASS TEST	PASS TEST
IRON (Fe)	ppm	<= 0.1	0.001
LEAD (Pb)	ppm	<= 0.2	0.001
MAGNESIUM (Mg)	ppm	<= 0.3	0.001
MANGANESE (Mn)	ppm	<= 0.2	0.001
NICKEL (Ni)	ppm	<= 0.1	0.001
NITRATE (NO3)	ppm	<= 2	<2.0
PHOSPHATE (PO4)	ppm	<= 0.4	<0.40
POTASSIUM (K)	ppm	<= 0.3	0.002
RESIDUE AFTER IGNITION	ppm	<= 3	<3.00
SODIUM (Na)	ppm	= Report	0.017
SUBSTANCES REDUCING KMNO4	PASS/FAIL	= PASS TEST	PASS TEST
SULFATE (SO4)	ppm	<= 2	<2.0
TIN (Sn)	ppm	<= 0.3	0.001
TITANIUM (Ti)	ppm	<= 0.3	0.001
ZINC (Zn)	ppm	<= 0.3	0.001

CERTIFIED BY

[redacted]

Quality Assurance Specialist - Certificate of Analysis BPF

Date Received: 2018.02.01 - 1 bottle - HPLC
Date Received: 2018.09.25 - 1 bottle - HPLC

SIGMA-ALDRICH
sigma-aldrich.com
3050 Spruce Street, Saint Louis, MO 63103, USA
Website: www.sigmaaldrich.com
Email USA: techserv@sial.com
Outside USA: eurtechserv@sial.com

Certificate of Analysis

Product Name:
Methanol - for HPLC, ≥99.9%

CH_3OH

Recd: 2018/09/14
By: OKO
4x4L
HPLC-M.L.

Product Number:	**34860**
Batch Number:	**SHBK1713**
Brand:	SIGALD
CAS Number:	67-56-1
MDL Number:	MFCD00004595
Formula:	CH4O
Formula Weight:	32.04 g/mol
Quality Release Date:	08 MAY 2018
Expiration Date:	APR 2023

Test	Specification	Result
Appearance (Color)	Colorless	Colorless
Appearance (Form)	Liquid	Liquid
UV Absorbance 400nm	≤ 0.01	< 0.01
UV Absorbance 280nm	≤ 0.01	< 0.01
UV Absorbance 260nm	≤ 0.04	< 0.01
UV Absorbance 240nm	≤ 0.10	0.03
UV Absorbance 235nm	≤ 0.10	0.04
UV Absorbance 230nm	≤ 0.20	0.07
UV Absorbance 220nm	≤ 0.30	0.15
UV Absorbance 210nm	≤ 0.60	0.34
UV Absorbance 205nm	≤ 1.00	0.70
Fluorescence 254nm	≤ 1.0 ppb	< 0.1 ppb
Fluorescence 365nm	≤ 1.0 ppb	< 0.1 ppb
Purity (GC)	≥ 99.90 %	99.93 %
Color Test	≤ 10 APHA	< 5 APHA
Water (by Karl Fischer)	≤ 0.03 %	< 0.01 %
Residue on Evaporation	≤ 0.0005 %	0.0001 %
Expiration Date Period 1800 Days	----------	----------

Sigma-Aldrich warrants, that at the time of the quality release or subsequent retest date this product conformed to the information contained in this publication. The current Specification sheet may be available at Sigma-Aldrich.com. For further inquiries, please contact Technical Service. Purchaser must determine the suitability of the product for its particular use. See reverse side of invoice or packing slip for additional terms and conditions of sale.

Version Number: 1

SIGMA-ALDRICH

sigma-aldrich.com

3050 Spruce Street, Saint Louis, MO 63103, USA
Website: www.sigmaaldrich.com
Email USA: techserv@sial.com
Outside USA: eurtechserv@sial.com

Certificate of Analysis

Product Number: 34860
Batch Number: SHBK1713

Michael Grady, Manager
Quality Control
Sheboygan Falls, WI US

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Date Received: 2018.09.05 - 4 bottles - HPLC
Date Received: 2018.09.14 - 4 bottles - HPLC
Date Received: 2018.09.19 - 4 bottles - HPLC
Date Received: 2018.09.21 - 4 bottles - HPLC
Date Received: 2018.09.25 - 8 bottles - HPLC
Date Received: 2018.10.03 - 4 bottles - HPLC
Date Received: 2018.10.09 - 12 bottles - HPLC
Date Received: 2018.10.10 - 12 bottles - HPLC

REAGENT PREPARATION FORM

Reagent # 501 Replaced Reagent # 499 Analyst: KPG

Reagent Name: 0.2 % NH_4OH Preparation date: 2018/10/15 Expiry date: Daily

Final Volume: 500 ml Oven No. : - Temp. : - Final Conc.: 0.2 %

Balance ID: - Pipette/Syringe/Cylinder ID: P424096 Storage: Shelf

CHEMICAL NAME	VOLUME/ WEIGHT	DATE RECEIVED	DATE OPENED	SUPPLIER	LOT NUMBER	EXPIRY DATE
MeOH	499 ml	2018/10/10	2018/10/15	Sigma	SHBK1713	2023/04/30
NH_4OH	1 ml	2018/02/01	2018/09/25	Fisher	166350	2019/12/31
		KPG 2018/10/15				

NOTES: Cylinder #5553

Reagent # 502 Replaced Reagent # 501 Analyst: SAZ

Reagent Name: 0.2% NH_4OH Preparation date: 2018/10/16 Expiry date: daily

Final Volume: 1L Oven No. : - Temp. : - Final Conc.: 0.2%

Balance ID: - Pipette/Syringe/Cylinder ID: L542806 Storage: Shelf

CHEMICAL NAME	VOLUME/ WEIGHT	DATE RECEIVED	DATE OPENED	SUPPLIER	LOT NUMBER	EXPIRY DATE
MeOH	998ml	2018/10/10	2018/10/15	Sigma	SHBK 1713	2023/4/30
NH_4OH	2ml	2018/2/01	2018/9/25	Fisher	166350	2019/12/31
		SAZ 2018/10/16				

NOTES:

SIGMA-ALDRICH®

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3050 Spruce Street, Saint Louis, MO 63103, USA
Website: www.sigmaaldrich.com
Email USA: techserv@sial.com
Outside USA: eurtechserv@sial.com

Certificate of Analysis

Product Name:
Methanol - for HPLC, ≥99.9%

CH_3OH

Rec'd: 2018/09/14
By: OKO
4x4L
HPLC-M.L.

Product Number:	**34860**
Batch Number:	**SHBK1713**
Brand:	SIGALD
CAS Number:	67-56-1
MDL Number:	MFCD00004595
Formula:	CH4O
Formula Weight:	32.04 g/mol
Quality Release Date:	08 MAY 2018
Expiration Date:	APR 2023

Test	Specification	Result
Appearance (Color)	Colorless	Colorless
Appearance (Form)	Liquid	Liquid
UV Absorbance 400nm	≤ 0.01	< 0.01
UV Absorbance 280nm	≤ 0.01	< 0.01
UV Absorbance 260nm	≤ 0.04	< 0.01
UV Absorbance 240nm	≤ 0.10	0.03
UV Absorbance 235nm	≤ 0.10	0.04
UV Absorbance 230nm	≤ 0.20	0.07
UV Absorbance 220nm	≤ 0.30	0.15
UV Absorbance 210nm	≤ 0.60	0.34
UV Absorbance 205nm	≤ 1.00	0.70
Fluorescence 254nm	≤ 1.0 ppb	< 0.1 ppb
Fluorescence 365nm	≤ 1.0 ppb	< 0.1 ppb
Purity (GC)	≥ 99.90 %	99.93 %
Color Test	≤ 10 APHA	< 5 APHA
Water (by Karl Fischer)	≤ 0.03 %	< 0.01 %
Residue on Evaporation	≤ 0.0005 %	0.0001 %
Expiration Date Period 1800 Days	----------	----------

Sigma-Aldrich warrants, that at the time of the quality release or subsequent retest date this product conformed to the information contained in this publication. The current Specification sheet may be available at Sigma-Aldrich.com. For further inquiries, please contact Technical Service. Purchaser must determine the suitability of the product for its particular use. See reverse side of invoice or packing slip for additional terms and conditions of sale.

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Website: www.sigmaaldrich.com
Email USA: techserv@sial.com
Outside USA: eurtechserv@sial.com

Certificate of Analysis

Product Number: 34860
Batch Number: SHBK1713

Michael Grady, Manager
Quality Control
Sheboygan Falls, WI US

Sigma-Aldrich warrants, that at the time of the quality release or subsequent retest date this product conformed to the information contained in this publication. The current Specification sheet may be available at Sigma-Aldrich.com. For further inquiries, please contact Technical Service. Purchaser must determine the suitability of the product for its particular use. See reverse side of invoice or packing slip for additional terms and conditions of sale.

Date Received: 2018.09.05 - 4 bottles - HPLC
Date Received: 2018.09.14 - 4 bottles - HPLC
Date Received: 2018.09.19 - 4 bottles - HPLC
Date Received: 2018.09.21 - 4 bottles - HPLC
Date Received: 2018.09.25 - 8 bottles - HPLC
Date Received: 2018.10.03 - 4 bottles - HPLC
Date Received: 2018.10.09 - 12 bottles - HPLC
Date Received: 2018.10.10 - 12 bottles - HPLC

[redacted]

1 Reagent Lane
Fair Lawn, NJ 07410
201.796.7100 tel
201.796.1329 fax

Certificate of Analysis

Fisher Scientific's Quality System has been found to conform to Quality Management System Standard ISO9001:2008 standard by SAI Global Certificate Number CERT - 0020018

This is to certify that units of the lot number below were tested and found to comply with the specifications of the grade listed. Certain data have been supplied by third parties. Fisher Scientific expressly disclaims all warranties, expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose. Certain products (USP/FCC/NF/EP/BP/JP grades) are sold for use in food, drug, or medical device manufacturing. Fisher does not claim regulatory coverage under 21 CFR nor maintain DMF's with the FDA. The following are the actual analytical results obtained:

Catalog Number	A669	Quality Test / Release Date	1/10/2017
Lot Number	166350	Expiration Date	Dec/19
Description	AMMONIUM HYDROXIDE, CERTIFIED A.C.S. PLUS		
Country of Origin	United States		
Chemical Origin	Inorganic-non animal		

BSE/TSE Comment	This product does not contain and is not manufactured with raw material ingredients derived from any animal products, including countries where Bovine Spongiform Encephalopathy (BSE) is known to exist.
Chemical Comment	This product is free from genetically modified substances and is gluten free.

Result name	Units	Specifications	Test Value
APPEARANCE		REPORT	COLORLESS AND FREE FROM SUSPENDED MATTER
ALUMINUM	ppm	<= 0.3	0.010
ARSENIC AND ANTIMONY	ppm	<= 0.05	<0.050
ASSAY	w/w %	Inclusive Between 28.0 - 30.0	29.2
BORON (B)	ppm	<= 0.1	0.004
CALCIUM (Ca)	ppm	<= 0.3	0.003
CARBON DIOXIDE	%	<= 0.002	<0.0002
CHLORIDE	ppm	<= 0.5	<0.50
CHROMIUM (Cr)	ppm	<= 0.2	0.001
COPPER (Cu)	ppm	<= 0.1	0.001
GOLD (Au)	ppm	<= 0.3	0.001
HEAVY METALS (as Pb)	ppm	<= 0.5	<0.5
IDENTIFICATION	PASS/FAIL	= PASS TEST	PASS TEST
IRON (Fe)	ppm	<= 0.1	0.001
LEAD (Pb)	ppm	<= 0.2	0.001
MAGNESIUM (Mg)	ppm	<= 0.3	0.001
MANGANESE (Mn)	ppm	<= 0.2	0.001
NICKEL (Ni)	ppm	<= 0.1	0.001
NITRATE (NO3)	ppm	<= 2	<2.0
PHOSPHATE (PO4)	ppm	<= 0.4	<0.40
POTASSIUM (K)	ppm	<= 0.3	0.002
RESIDUE AFTER IGNITION	ppm	<= 3	<3.00
SODIUM (Na)	ppm	= Report	0.017
SUBSTANCES REDUCING KMNO4	PASS/FAIL	= PASS TEST	PASS TEST
SULFATE (SO4)	ppm	<= 2	<2.0
TIN (Sn)	ppm	<= 0.3	0.001
TITANIUM (Ti)	ppm	<= 0.3	0.001
ZINC (Zn)	ppm	<= 0.3	0.001



[redacted]

Quality Assurance Specialist - Certificate of Analysis BPF

Date Received: 2018.02.01 - 1 bottle - HPLC
Date Received: 2018.09.25 - 1 bottle - HPLC

REAGENT PREPARATION FORM

Reagent # 503 Replaced Reagent # 492 Analyst: SAD

Reagent Name: 2% Formic Acid Preparation date: 2018/10/16 Expiry date: 2018/12/16

Final Volume: 1L Oven No. : — Temp. : — Final Conc.: 2% v/v

Balance ID: — Pipette/Syringe/Cylinder ID: 5553 Storage: shelf

CHEMICAL NAME	VOLUME/ WEIGHT	DATE RECEIVED	DATE OPENED	SUPPLIER	LOT NUMBER	EXPIRY DATE
Formic Acid	20ml	2018/6/08	2018/8/28	Sigma	SHBJ 7951	2019/1/31
LCMS H2O	980ml	2018/10/16	2018/10/16	Omni Solv	58201	2019/7/31
			SAD 2018/10/16			

NOTES:

Reagent # 504 Replaced Reagent # 464 Analyst: TK4

Reagent Name: Solution B Preparation date: 2018/10/16 Expiry date: 2019/10/16

Final Volume: 800ml Oven No. : — Temp. : — Final Conc.: —

Balance ID: — Pipette/Syringe/Cylinder ID: IS19865F Storage: shelf

CHEMICAL NAME	VOLUME/ WEIGHT	DATE RECEIVED	DATE OPENED	SUPPLIER	LOT NUMBER	EXPIRY DATE
DI H2O	800ml	—	— In house			
NaOH 50%	160µl	2017/02/15	2017/10/30	VLDF	L7F125004	2022/06/30
			TK4 2018/10/16			

NOTES:

SIGMA-ALDRICH®

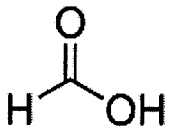
sigma-aldrich.com

3050 Spruce Street, Saint Louis, MO 63103, USA
Website: www.sigmaaldrich.com
Email USA: techserv@sial.com
Outside USA: eurtechserv@sial.com

Certificate of Analysis

Product Name:
Formic acid - reagent grade, ≥95%

Product Number:	**F0507**
Batch Number:	**SHBJ7951**
Brand:	SIGALD
CAS Number:	64-18-6
MDL Number:	MFCD00003297
Formula:	CH2O2
Formula Weight:	46.03 g/mol
Quality Release Date:	02 FEB 2018
Expiration Date:	JAN 2019



Test	Specification	Result
Appearance (Turbidity)	Clear	Clear
Appearance (Color)	Colorless to Very Faint Yellow	Colorless
Appearance (Form)	Liquid	Liquid
Proton NMR Spectrum	Conforms to Structure	Conforms
Solvent Content	≤ 1.0 %	< 0.1 %
Acetic Acid by NMR		
Water (by Karl Fischer)	2.0 - 2.5 %	2.1 %
Titration with NaOH	≥ 95.0 %	97.5 %
Expiration Date Period	----------	----------
1 Year		

Michael Grady, Manager
Quality Control
Sheboygan Falls, WI US

Received
2018/06/08

Sigma-Aldrich warrants, that at the time of the quality release or subsequent retest date this product conformed to the information contained in this publication. The current Specification sheet may be available at Sigma-Aldrich.com. For further inquiries, please contact Technical Service. Purchaser must determine the suitability of the product for its particular use. See reverse side of invoice or packing slip for additional terms and conditions of sale.

Certificate of Analysis

MilliporeSigma

Date of Release: 7/26/2018

Name: Water
OmniSolv®, For LC/MS

Item No: WX0001-1, WX0001-6, WX0001-901

Lot / Batch No: 58201

Country of Origin: USA

Received: 2 (JDA)
2018/08/16
LC 1 mg

Characteristic	Requirement		Results	Units
	Min.	Max.		
#Expiration date			31-JUL-2019	
Evaporation residue		1	0.6	ppm
Filtered through 0.2 µm filter			Passes test	
Fluorescence as quinine at 254 nm		1	< 1	ppb
Fluorescence as quinine at 365 nm		1	< 1	ppb
Gradient at 210 nm		2	0.10	mAU
Gradient at 254 nm		0.5	0.11	mAU
LC/MS Purity (p-nitrophenol)		50	<50	ppb
LC/MS Purity (reserpine)		50	<50	ppb
Metals, suitable for LC/MS			Conforms	
UV Abs. at 200 nm		0.01	< 0.001	AU
UV Abs. at 210 nm		0.01	< 0.001	AU
UV Abs. at 220 nm		0.01	< 0.001	AU
UV Abs. at 230 nm		0.01	< 0.001	AU
UV Abs. at 240 nm		0.01	< 0.001	AU
UV Abs. at 250 nm		0.005	< 0.001	AU
UV Abs. at 270 nm		0.005	< 0.001	AU
UV Abs. at 400-280 nm		0.005	0.001	AU
UV Cut-off		190	187.0	nm

Dr. Oliver Schramel

Quality Control Manager
This document has been produced electronically and is valid without a signature.

EMD Millipore Corporation, an affiliate of Merck KGaA, Darmstadt, Germany
290 Concord Road
Billerica, MA 01821
U.S.A.
The life science business of Merck KGaA, Darmstadt, Germany operates as MilliporeSigma in the U.S. and Canada.

1/1

Date Received: 2018.08.13 - 4 bottles - P12
Date Received: 2018.08.20 - 8 bottles - HPLC
Date Received: 2018.08.15 - 8 bottles - HPLC
Date Received: 2018.08.16 - 8 bottles - HPLC
Date Received: 2018.08.29 - 8 bottles - HPLC
Date Received: 2018.09.05 - 8 bottles - HPLC
Date Received: 2018.09.10 - 8 bottles - HPLC
Date Received: 2018.09.15 - 8 bottles - HPLC
Date Received: 2018.09.17 - 8 bottles - HPLC
Date Received: 2018.09.25 - 4 bottles - HPLC
Date Received: 2018.10.03 - 8 bottles - HPLC
Date Received: 2018.10.11 - 8 bottles - HPLC
Date Received: 2018.10.15 - 8 bottles - HPLC
Date Received: 2018.10.16 - 8 bottles - HPLC
Date Received: 2018.10.18 - 7 bottles - HPLC

REAGENT PREPARATION FORM

Reagent # 505 Replaced Reagent # 491 Analyst: EG1

Reagent Name: 60:40 LCMS:H_2O:MeOH Preparation date: 2018/10/16 Expiry date: 2018/12/16

Final Volume: 1L Oven No.: - Temp.: - Final Conc.: 60:40 %v

Balance ID: - Pipette/Syringe/Cylinder ID: # 5553 Storage: Shelf

CHEMICAL NAME	VOLUME/ WEIGHT	DATE RECEIVED	DATE OPENED	SUPPLIER	LOT NUMBER	EXPIRY DATE
LCMS H_2O	600 ml	2018/10/16	2018/10/16	Omni	58201	2019/07/31
MeOH	400 ml	2018/10/03	2018/10/16	Sigma	SHBK1713	2023/04/30
		EG1	2018/10/16			

NOTES:

Reagent # 506 Replaced Reagent # 408 Analyst: TK4

Reagent Name: Solution C Preparation date: 2018/10/16 Expiry date: 2019/10/16

Final Volume: 100ml Oven No.: - Temp.: - Final Conc.: -

Balance ID: - Pipette/Syringe/Cylinder ID: 5590 Storage: Shelf

CHEMICAL NAME	VOLUME/ WEIGHT	DATE RECEIVED	DATE OPENED	SUPPLIER	LOT NUMBER	EXPIRY DATE
DI H_2O	70 ml	←		Inhouse	→	
6N HCl	30ml	←	PRLRE-108-528	→		
			TK4			
			2018/10/16			

NOTES:

Certificate of Analysis

MilliporeSigma

Date of Release: 7/26/2018

Name: Water
OmniSolv®, For LC/MS

Item No: WX0001-1, WX0001-6, WX0001-901

Lot / Batch No: 58201

Country of Origin: USA

Received: 2 (JDA)
2018/08/16
LC 4 mm

Characteristic	Requirement		Results	Units
	Min.	Max.		
#Expiration date			31-JUL-2019	
Evaporation residue		1	0.5	ppm
Filtered through 0.2 µm filter			Passes test	
Fluorescence as quinine at 254 nm		1	< 1	ppb
Fluorescence as quinine at 365 nm		1	< 1	ppb
Gradient at 210 nm		2	0.10	mAU
Gradient at 254 nm		0.5	0.11	mAU
LC/MS Purity (p-nitrophenol)		50	<50	ppb
LC/MS Purity (reserpine)		50	<50	ppb
Metals, suitable for LC/MS			Conforms	
UV Abs. at 200 nm		0.01	< 0.001	AU
UV Abs. at 210 nm		0.01	< 0.001	AU
UV Abs. at 220 nm		0.01	< 0.001	AU
UV Abs. at 230 nm		0.01	< 0.001	AU
UV Abs. at 240 nm		0.01	< 0.001	AU
UV Abs. at 250 nm		0.005	< 0.001	AU
UV Abs. at 270 nm		0.005	< 0.001	AU
UV Abs. at 400-280 nm		0.005	0.001	AU
UV Cut-off		190	187.0	nm

Dr. Oliver Schramel

Quality Control Manager
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EMD Millipore Corporation, an affiliate of Merck KGaA, Darmstadt, Germany
290 Concord Road
Billerica, MA 01821
U.S.A.
The life science business of Merck KGaA, Darmstadt, Germany operates as MilliporeSigma in the U.S. and Canada.

1/1

Date Received: 2018.08.13 - 4 bottles - P12
Date Received: 2018.08.20 - 8 bottles - HPLC
Date Received: 2018.08.15 - 8 bottles - HPLC
Date Received: 2018.08.16 - 8 bottles - HPLC
Date Received: 2018.08.29 - 8 bottles - HPLC
Date Received: 2018.09.05 - 8 bottles - HPLC
Date Received: 2018.09.10 - 8 bottles - HPLC
Date Received: 2018.09.15 - 8 bottles - HPLC
Date Received: 2018.09.17 - 8 bottles - HPLC
Date Received: 2018.09.25 - 4 bottles - HPLC
Date Received: 2018.10.03 - 8 bottles - HPLC
Date Received: 2018.10.11 - 8 bottles - HPLC
Date Received: 2018.10.15 - 8 bottles - HPLC
Date Received: 2018.10.16 - 8 bottles - HPLC
Date Received: 2018.10.18 - 7 bottles - HPLC

SIGMA-ALDRICH
sigma-aldrich.com
3050 Spruce Street, Saint Louis, MO 63103, USA
Website: www.sigmaaldrich.com
Email USA: techserv@sial.com
Outside USA: eurtechserv@sial.com

Certificate of Analysis

Product Name:
Methanol – for HPLC, ≥99.9%

CH_3OH

Rec'd: 2018/09/14
By: OKO
4x4L
HPLC-M.L.

Product Number:	**34860**
Batch Number:	**SHBK1713**
Brand:	SIGALD
CAS Number:	67-56-1
MDL Number:	MFCD00004595
Formula:	CH4O
Formula Weight:	32.04 g/mol
Quality Release Date:	08 MAY 2018
Expiration Date:	APR 2023

Test	Specification	Result
Appearance (Color)	Colorless	Colorless
Appearance (Form)	Liquid	Liquid
UV Absorbance 400nm	≤ 0.01	< 0.01
UV Absorbance 280nm	≤ 0.01	< 0.01
UV Absorbance 260nm	≤ 0.04	< 0.01
UV Absorbance 240nm	≤ 0.10	0.03
UV Absorbance 235nm	≤ 0.10	0.04
UV Absorbance 230nm	≤ 0.20	0.07
UV Absorbance 220nm	≤ 0.30	0.15
UV Absorbance 210nm	≤ 0.60	0.34
UV Absorbance 205nm	≤ 1.00	0.70
Fluorescence 254nm	≤ 1.0 ppb	< 0.1 ppb
Fluorescence 385nm	≤ 1.0 ppb	< 0.1 ppb
Purity (GC)	≥ 99.90 %	99.93 %
Color Test	≤ 10 APHA	< 5 APHA
Water (by Karl Fischer)	≤ 0.03 %	< 0.01 %
Residue on Evaporation	≤ 0.0005 %	0.0001 %
Expiration Date Period 1800 Days	----------	----------

Sigma-Aldrich warrants, that at the time of the quality release or subsequent retest date this product conformed to the information contained in this publication. The current Specification sheet may be available at Sigma-Aldrich.com. For further inquiries, please contact Technical Service. Purchaser must determine the suitability of the product for its particular use. See reverse side of invoice or packing slip for additional terms and conditions of sale.

SIGMA-ALDRICH

sigma-aldrich.com

3050 Spruce Street, Saint Louis, MO 63103, USA
Website: www.sigmaaldrich.com
Email USA: techserv@sial.com
Outside USA: eurtechserv@sial.com

Certificate of Analysis

Product Number: 34860
Batch Number: SHBK1713

Michael Grady, Manager
Quality Control
Sheboygan Falls, WI US

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Date Received: 2018.09.05 - 4 bottles - HPLC
Date Received: 2018.09.14 - 4 bottles - HPLC
Date Received: 2018.09.19 - 4 bottles - HPLC
Date Received: 2018.09.21 - 4 bottles - HPLC
Date Received: 2018.09.25 - 8 bottles - HPLC
Date Received: 2018.10.03 - 4 bottles - HPLC
Date Received: 2018.10.09 - 12 bottles - HPLC
Date Received: 2018.10.10 - 12 bottles - HPLC

REAGENT PREPARATION FORM

SOLUTION # 426 REAGENT NAME: (95/5) ACN / 0.1% Formic Acid

ANALYST: YPL DATE PREPARED: 2018/10/11 EXPIRY DATE: 2018/12/11

STORAGE: R.T. BALANCE ID: A-B-02 PIPET/SYRINGE ID: FE75

CHEMICAL NAME	VOLUME/ WEIGHT	DATE RECEIVED	DATE OPENED	SUPPLIER	LOT NUMBER	EXPIRY DATE
Formic Acid	(0.05 mL) 50uL	2018/06/21	2018/02/02	Sigma	SHBT7951	2019/01/31
Acetonitrile	950 mL	2018/07/27	2018/07/30	Fisher	181378	2023/04/30
RODi-H2O	50 mL	✓	✓	In-House	✓	✓
		YPL 2018/10/11				

cylinder # 09-730-30

NOTES:

SOLUTION # 427 REAGENT NAME: 20 mM Ammonium Acetate

ANALYST: DAD DATE PREPARED: 2018/10/11 EXPIRY DATE: 2018/12/11

STORAGE: Room temp BALANCE ID: 51068407 PIPET/SYRINGE ID: N/A

CHEMICAL NAME	VOLUME/ WEIGHT	DATE RECEIVED	DATE OPENED	SUPPLIER	LOT NUMBER	EXPIRY DATE
Ammonium Acetate	6.1603gr	2017/08/30	2017/09/18	Sigma	BCBT4732	2019/01/30
Water (LC-MS)	4L	2018/10/11	2018/10/11	Omnisolv	58201	2019/07/30
			2018/10/11 DAD			

NOTES:

SIGMA-ALDRICH

3050 Spruce Street, Saint Louis, MO 63103 USA
Email USA: techserv@sial.com Outside USA: eurtechserv@sial.com

Certificate of Analysis

Product Name:	AMMONIUM ACETATE reagent grade, >= 98 %
Product Number:	A7262
Batch Number:	BCBT4732
Brand:	Sigma-Aldrich
CAS Number:	631-61-8
Formula:	$CH_3CO_2NH_4$
Formula Weight:	77.08
Storage Temperature:	2-8 C
Quality Release Date:	16 JAN 2017
Recommended Retest Date:	JAN 2019

TEST	SPECIFICATION	RESULT
APPEARANCE (COLOR)	WHITE	WHITE
APPEARANCE (FORM)	MOIST CRYSTALS	MOIST CRYSTALS
TITRATION	≥ 98 %	99.6 %
TITRATION (METHOD)	TITRATION WITH NAOH	TITRATION WITH NAOH
SOLUBILITY (COLOR)	COLORLESS	COLORLESS
SOLUBILITY (TURBIDITY)	CLEAR	CLEAR
SOLUBILITY (METHOD)	1 G/ML, H2O	1 G/ML, H2O

Claudia Geilner

Dr. Claudia Geilner
Manager Quality Control
Buchs, Switzerland

Rec'd: J
17/02/03
1 X 500 g
LC group
Storage: FD

Sigma-Aldrich warrants that at the time of the quality release or subsequent retest date this product conformed to the information contained in this publication. The current specification sheet may be available at Sigma-Aldrich.com. For further inquiries, please contact Technical Service. Purchaser must determine the suitability of the product for its particular use. See reverse side of invoice or packing slip for additional terms and conditions of sale.

Certificate of Analysis

MilliporeSigma

Date of Release: 7/26/2018

Name: Water
OmniSolv®, For LC/MS

Item No: WX0001-1, WX0001-6, WX0001-901

Lot / Batch No: 58201

Country of Origin: USA

Received: 2 (JDA)
2018/08/16
LC 1 mg

Characteristic	Requirement		Results	Units
	Min.	Max.		
#Expiration date			31-JUL-2019	
Evaporation residue		1	0.6	ppm
Filtered through 0.2 µm filter			Passes test	
Fluorescence as quinine at 254 nm		1	< 1	ppb
Fluorescence as quinine at 365 nm		1	< 1	ppb
Gradient at 210 nm		2	0.10	mAU
Gradient at 254 nm		0.5	0.11	mAU
LC/MS Purity (p-nitrophenol)		50	<50	ppb
LC/MS Purity (reserpine)		50	<50	ppb
Metals, suitable for LC/MS			Conforms	
UV Abs. at 200 nm		0.01	< 0.001	AU
UV Abs. at 210 nm		0.01	< 0.001	AU
UV Abs. at 220 nm		0.01	< 0.001	AU
UV Abs. at 230 nm		0.01	< 0.001	AU
UV Abs. at 240 nm		0.01	< 0.001	AU
UV Abs. at 250 nm		0.005	< 0.001	AU
UV Abs. at 270 nm		0.005	< 0.001	AU
UV Abs. at 400-280 nm		0.005	0.001	AU
UV Cut-off		190	187.0	nm

Dr. Oliver Schramel

Quality Control Manager
This document has been produced electronically and is valid without a signature.

EMD Millipore Corporation, an affiliate of Merck KGaA, Darmstadt, Germany
290 Concord Road
Billerica, MA 01821
U.S.A.
The life science business of Merck KGaA, Darmstadt, Germany operates as MilliporeSigma in the U.S. and Canada.

1/1

Date Received: 2018.08.13 - 4 bottles - P12
Date Received: 2018.08.20 - 8 bottles - HPLC
Date Received: 2018.08.15 - 8 bottles - HPLC
Date Received: 2018.08.16 - 8 bottles - HPLC
Date Received: 2018.08.29 - 8 bottles - HPLC
Date Received: 2018.09.05 - 8 bottles - HPLC
Date Received: 2018.09.10 - 8 bottles - HPLC
Date Received: 2018.09.15 - 8 bottles - HPLC
Date Received: 2018.09.17 - 8 bottles - HPLC
Date Received: 2018.10.03 - 8 bottles - HPLC
Date Received: 2018.10.11 - 8 bottles - HPLC

Maxxam

CAM FCD-00595/1
FSRE: 18 PG: 240

REAGENT PREPARATION FORM

SOLUTION # 430 REAGENT NAME: (50)50) ACN/Ammonium Formate, 20mM

ANALYST: YPL DATE PREPARED: 2018/10/15 EXPIRY DATE: 2018/12/15

STORAGE: R.T. BALANCE ID: AB-02 PIPET/SYRINGE ID: N/A

CHEMICAL NAME	VOLUME/ WEIGHT	DATE RECEIVED	DATE OPENED	SUPPLIER	LOT NUMBER	EXPIRY DATE
Ammonium Formate	0.6342	2017/08/03	2017/10/17	Sigma	MKBJ4480V	2022/08/03
RODi-H2O	500mL	/	/	IN-HOUSE	—	/
ACN	500mL	2018/06/07	2018/06/07	Fisher	176933	2022/10/31
			YPL 2018/10/15			

NOTES: Cylinder # 08-557F

SOLUTION # 431 REAGENT NAME: ACN/MeOH (50/50)

ANALYST: DAD DATE PREPARED: 2018/10/16 EXPIRY DATE: 2018/12/16

STORAGE: Room temp BALANCE ID: N/A PIPET/SYRINGE ID: N/A

CHEMICAL NAME	VOLUME/ WEIGHT	DATE RECEIVED	DATE OPENED	SUPPLIER	LOT NUMBER	EXPIRY DATE
MeOH	500mL	2018/10/16	2018/10/16	Sigma	SHBK 1963	2021/03/30
ACN	500mL	2018/10/16 2018/10/16	2018/10/16 2018/10/16 DAD	Honeywell	1032D	2020/01/22
					2018/10/16 DAD	

NOTES:

ONLY CLASS A GLASSWARE IS USED FOR THE PREPARATION OF REAGENTS WHEN APPLICABLE.
RT = Room Temperature

SIGMA-ALDRICH®

sigma-aldrich.com

3050 Spruce Street, Saint Louis, MO 63103, USA
Website: www.sigmaaldrich.com
Email USA: techserv@sial.com
Outside USA: eurtechserv@sial.com

Certificate of Analysis

Product Name:
Methanol - for HPLC, ≥99.9%

CH_3OH

Product Number:	**34860**
Batch Number:	**SHBK1963**
Brand:	SIGALD
CAS Number:	67-56-1
MDL Number:	MFCD00004595
Formula:	CH4O
Formula Weight:	32.04 g/mol
Quality Release Date:	16 MAY 2018
Expiration Date:	APR 2023

Reid : j
2018/10/16
4 x 4 L
LC group

Test	Specification	Result
Appearance (Color)	Colorless	Colorless
Appearance (Form)	Liquid	Liquid
UV Absorbance 400nm	≤ 0.01	< 0.01
UV Absorbance 280nm	≤ 0.01	< 0.01
UV Absorbance 260nm	≤ 0.04	< 0.01
UV Absorbance 240nm	≤ 0.10	0.03
UV Absorbance 235nm	≤ 0.10	0.05
UV Absorbance 230nm	≤ 0.20	0.07
UV Absorbance 220nm	≤ 0.30	0.15
UV Absorbance 210nm	≤ 0.60	0.34
UV Absorbance 205nm	≤ 1.00	0.66
Fluorescence 254nm	≤ 1.0 ppb	0.1 ppb
Fluorescence 365nm	≤ 1.0 ppb	0.1 ppb
Purity (GC)	≥ 99.90 %	99.99 %
Color Test	≤ 10 APHA	< 5 APHA
Water (by Karl Fischer)	≤ 0.03 %	< 0.01 %
Residue on Evaporation	≤ 0.0005 %	0.0001 %
Expiration Date Period 1800 Days		

Sigma-Aldrich warrants, that at the time of the quality release or subsequent retest date this product conformed to the information contained in this publication. The current Specification sheet may be available at Sigma-Aldrich.com. For further inquiries, please contact Technical Service. Purchaser must determine the suitability of the product for its particular use. See reverse side of invoice or packing slip for additional terms and conditions of sale.

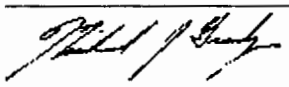
SIGMA-ALDRICH®

sigma-aldrich.com

3050 Spruce Street, Saint Louis, MO 63103, USA
Website: www.sigmaaldrich.com
Email USA: techserv@sial.com
Outside USA: eurtechserv@sial.com

Certificate of Analysis

Product Number: **34860**
Batch Number: **SHBK1963**



Michael Grady, Manager
Quality Control
Sheboygan Falls, WI US

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Date of Receive : 20180801

Page: 1

Qty: 2 x 1L

YPL
20180802

Honeywell

CERTIFICATE OF ANALYSIS

Honeywell Specialty Chemicals Seelze GmbH
Wunstorferstrasse 40
Seelze, 30926
Telefon: +49 5137 999-0
www.lab-honeywell.com

Brand: Honeywell Riedel-de Haën™
Product: 34967
Lot No: I032D
Production date: 01.Feb.2018
Best before: 22.Jan.2020

Acetonitrile LC-MS CHROMASOLV

Parameter	Specification	Units	Result	Units
assay (GC)	min. 99.9	%	>99.99	%
propionitrile (GC)	max. 0.2	%	<0.2	%
non-volatile matter	max. 0.0002	%	<0.0002	%
water (Karl Fischer)	max. 0.01	%	<0.001	%
free acid (as CH3COOH)	max. 0.001	%	0.0006	%
free alkali (as NH3)	max. 0.0001	%	<0.0001	%
silver (Ag)	max. 0.1	ppm	<0.1	ppm
aluminium (Al)	max. 0.5	ppm	<0.5	ppm
barium (Ba)	max. 0.1	ppm	<0.1	ppm
bismuth (Bi)	max. 0.1	ppm	<0.1	ppm
calcium (Ca)	max. 0.05	ppm	<0.05	ppm
cadmium (Cd)	max. 0.05	ppm	<0.05	ppm
cobalt (Co)	max. 0.02	ppm	<0.02	ppm
chromium (Cr)	max. 0.02	ppm	<0.02	ppm
copper (Cu)	max. 0.02	ppm	<0.02	ppm
iron (Fe)	max. 0.02	ppm	<0.02	ppm
potassium (K)	max. 0.05	ppm	<0.05	ppm
lithium (Li)	max. 0.1	ppm	<0.1	ppm
magnesium (Mg)	max. 0.1	ppm	<0.1	ppm
manganese (Mn)	max. 0.02	ppm	<0.02	ppm
molybdenum (Mo)	max. 0.1	ppm	<0.1	ppm
sodium (Na)	max. 0.05	ppm	<0.05	ppm
nickel (Ni)	max. 0.02	ppm	<0.02	ppm
lead (Pb)	max. 0.02	ppm	<0.02	ppm
tin (Sn)	max. 0.1	ppm	<0.1	ppm
strontium (Sr)	max. 0.1	ppm	<0.1	ppm

Honeywell

Acetonitrile LC-MS CHROMASOLV

Parameter	Specification	Units	Result	Units
zinc (Zn)	max. 0.1	ppm	<0.1	ppm
HPLC-gradient at 210 nm	max. 1	mAU	<1	mAU
HPLC-gradient at 254 nm	max. 0.2	mAU	<0.2	mAU
baseline drift at 210 nm	max. 12	mAU	<12	mAU
suitability for the LC-MS	complying		complying	
fluorescence (chinin) at 254 nm	max. 0.5	ppb	<0.5	ppb
fluorescence (chinin) at 365 nm	max. 0.5	ppb	<0.5	ppb
absorbance at 195 nm	max. 0.097		<0.097	
absorbance at 200 nm	max. 0.022		<0.022	
absorbance at 230 nm	max. 0.004		<0.004	

Certificate of Analysis

MilliporeSigma

Date of Release: 7/26/2018

Name: Water
OmniSolv®, For LC/MS

Item No: WX0001-1, WX0001-6, WX0001-901

Lot / Batch No: 58201

Country of Origin: USA

Received: 2018/08/16
LC group

Characteristic	Requirement		Results	Units
	Min.	Max.		
#Expiration date			31-JUL-2019	
Evaporation residue		1	0.5	ppm
Filtered through 0.2 µm filter			Passes test	
Fluorescence as quinine at 254 nm		1	< 1	ppb
Fluorescence as quinine at 365 nm		1	< 1	ppb
Gradient at 210 nm		2	0.10	mAU
Gradient at 254 nm		0.5	0.11	mAU
LC/MS Purity (p-nitrophenol)		50	<50	ppb
LC/MS Purity (reserpine)		50	<50	ppb
Metals, suitable for LC/MS			Conforms	
UV Abs. at 200 nm		0.01	< 0.001	AU
UV Abs. at 210 nm		0.01	< 0.001	AU
UV Abs. at 220 nm		0.01	< 0.001	AU
UV Abs. at 230 nm		0.01	< 0.001	AU
UV Abs. at 240 nm		0.01	< 0.001	AU
UV Abs. at 250 nm		0.005	< 0.001	AU
UV Abs. at 270 nm		0.005	< 0.001	AU
UV Abs. at 400-280 nm		0.005	0.001	AU
UV Cut-off		190	187.0	nm

Dr. Oliver Schramel

Quality Control Manager
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EMD Millipore Corporation, an affiliate of Merck KGaA, Darmstadt, Germany
290 Concord Road
Billerica, MA 01821
U.S.A
The life science business of Merck KGaA, Darmstadt, Germany operates as MilliporeSigma in the U.S. and Canada.

PRLST 150 PG. 31

PREPARATION OF STANDARDS OF INTERMEDIARY CONCENTRATION

Solution No.: I-5482 Date: 2018/09/25 Expiry Date: 2019/09/25 Discard Date: —

Replaces Solution No.: I-5452 Replaced by Solution: _____ Chemist: LV

Compound(s)/Solution Name: Comp. PFC working Soln A

Number of Parent Solution(s): See attached sheet

Concentration of Parent Solution(s): See attached sheet (mg, ug)/mL

Aliquot of Parent Solution(s): See attached sheet mL / uL

Pippette/Syringe ID P42409G

Dilution Solvent: 0.3% NH4OH in MeOH Dilution Volume: 25 mL

Final Concentration(s): 1 (mg, ug)/mL

Solution derivatized (as methyl ester): — As Other (specify): —

Solution Contains Surrogate Compounds: — For mix refer to table on page: —

Solution used for: PFC Volumetric Flask: 25 mL Class A volumetric flask
(identify by serial number or other unique ID)

Solvent Supplier: See PRLRE116-431 Lot No.: See PRLRE116-431

Date Opened: See PRLRE116-431

Storage Location: F2-11 One time Use, Not Stored: —

Ampule Supplier: Wellington Date Opened: See attached sheet

Mix Name: —

Catalogue No.: — Ampule expiry Date: See attached sheet

Lot No.: See attached sheet

Date Received: See attached sheet

Notes/Comments:

I-5482
(PRLST150 Pg. 31)

Compound Name	ID#	Conc. (ug/mL)	Vol.. of Stock standard (uL)	Final Conc. (ug/mL)	Exp. date
PFBA	S4405-A-1	50	500	1	2022/12/14
L-PFBS	S4405-A-2	44.2	565	1	2023/05/04
PFPeA	S4405-A-3	50	500	1	2023/02/16
PFHxA	S4405-A-4	50	500	1	2022/09/27
br-PFHxSk	S4405-A-5	45.5	549	1	2022/01/04
PFHpA	S4405-A-6	50	500	1	2022/09/27
L-PFHpS	S4405-A-7	47.6	525	1	2023/05/04
PFOA	S4405-A-8	50	500	1	2023/02/16
brPFOSK	S4405-A-9	46.4	540	1	2023/04/18
PFNA	S4405-A-10	50	500	1	2022/07/20
PFDA	S4405-A-11	50	500	1	2022/12/14
L-PFDS	S4405-A-12	48.2	518	1	2022/11/08
PFUdA	S4405-A-13	50	500	1	2022/09/21
PFDoA	S4405-A-14	50	500	1	2023/04/18
PFTrDA	S4405-A-15	50	500	1	2023/02/16
PFTeDA	S4405-A-16	50	500	1	2022/09/21
PFOSA (FOSA-I)	S4405-A-17	50	500	1	2022/09/01
N-MeFOSA-M	S4405-A-18	50	500	1	2022/07/05
N-EtFOSA-M	S4405A-19	50	500	1	2022/07/05
N-MeFOSE-M	S4405-A-20	50	500	1	2023/05/17
N-EtFOSE-M	S4405-A-21	50	500	1	2023/06/04
N-MeFOSAA	S4405-A-22	50	500	1	2023/01/24
N-EtFOSAA	S4405-A-23	50	500	1	2023/01/24
6:2FTS	S4405-A-24	47.4	528	1	2023/04/03
8:2FTS	S4405-A-25	47.9	522	1	2023/01/24

PRLST 151 PG ____

PREPARATION OF CONCENTRATED STOCK STANDARDS

Solution No.: [illegible]-A Date: [illegible] Expiry Date: [illegible] Discard Date: [illegible]

Replaces Solution: _____ Replaced by Solution: _____ Chemist: [illegible]

Compound: [illegible]

S-4405-A
(PRLST 151 Pg-4)

Solution ID#	Compound Name	Lot#	Received date	Exp. date	Replaces Solution	Replaced by Solution	Conc. (ug/mL)	Solvent	Storage
S4405-1	PFBA	PFBA1217	2018/06/26	2022/12/14	S4366-1		50	MeOH	FZ-11
S4405-2	L-PFBS	LPFBS0418	2018/06/26	2023/05/04	S4366-2		44.2	MeOH	FZ-11
S4405-3	PFPeA	PFPeA0218	2018/06/26	2023/02/16	S4366-3		50	MeOH	FZ-11
S4405-4	PFHxA	PFHxA0917	2018/06/26	2022/09/27	S4366-4		50	MeOH	FZ-11
S4405-5	br-PFHxSk	brPFHxSK0117	2018/06/26	2022/01/04	S4366-5		45.5	MeOH	FZ-11
S4405-6	PFHpA	PFHpA0917	2018/06/26	2022/09/27	S4366-6		50	MeOH	FZ-11
S4405-7	L-PFHpS	LPFHpS0418	2018/06/26	2023/05/04	S4366-7		47.6	MeOH	FZ-11
S4405-8	PFOA	PFOA0218	2018/06/26	2023/02/16	S4366-8		50	MeOH	FZ-11
S4405-9	brPFOSK	brPFOSK0418	2018/06/26	2023/04/18	S4366-9		46.4	MeOH	FZ-11
S4405-10	PFNA	PFNA0717	2018/06/26	2022/07/20	S4366-10		50	MeOH	FZ-11
S4405-11	PFDA	PFDA1217	2018/06/26	2022/12/14	S4366-11		50	MeOH	FZ-11
S4405-12	L-PFDS	LPFDS1117	2018/06/26	2022/11/08	S4366-12		48.2	MeOH	FZ-11
S4405-13	PFUdA	PFUdA0917	2018/06/26	2022/09/21	S4366-13		50	MeOH	FZ-11
S4405-14	PFDoA	PFDoA0418	2018/06/26	2023/04/18	S4366-14		50	MeOH	FZ-11
S4405-15	PFTrDA	PFTrDA0218	2018/06/26	2023/02/16	S4366-15		50	MeOH	FZ-11
S4405-16	PFTeDA	PFTeDA0917	2018/06/26	2022/09/21	S4366-16		50	MeOH	FZ-11
S4405-17	PFOSA (FOSA-I)	FOSA08171	2018/06/26	2022/09/01	S4366-17		50	IPA	FD-59
S4405-18	N-MeFOSA-M	NMeFOSA0717M	2018/06/26	2022/07/05	S4366-18		50	MeOH	FZ-11
S4405-19	N-EtFOSA-M	NEtFOSA0717M	2018/06/26	2022/07/05	S4366-19		50	MeOH	FZ-11
S4405-20	N-MeFOSE-M	NMeFOSE0418M	2018/06/26	2023/05/17	S4366-20		50	MeOH	FZ-11
S4405-21	N-EtFOSE-M	NEtFOSE0518M	2018/06/26	2023/06/04	S4366-21		50	MeOH	FZ-11
S4405-22	N-MeFOSAA	NMeFOSAA0118	2018/07/18	2023/01/24	S4366-22		50	MeOH	FD-59
S4405-23	N-EtFOSAA	NEtFOSAA0118	2018/07/18	2023/01/24	S4366-23		50	MeOH	FD-59
S4405-24	6:2FTS	62FTS0418	2018/06/26	2023/04/03	S4366-24		47.4	MeOH	FD-59
S4405-25	8:2FTS	82FTS0118	2018/06/26	2023/01/24	S4366-25		47.9	MeOH	FD-59
Date Opened (All compounds): 2018/08/23			Supplier (All compounds) : Wellington				Chemist: [illegible]		

No writing on bottom Page
Selection No → S-4405-A (PRLST 151 Pg 4)
Date prepared → 2018/08/23
Expiry date → as per table

[illegible] 2018/08/23

[illegible] 2018/08/23

All Parameter named S-4405 with Suffix A [illegible] 2018/08/23

Date Opened: _____

Storage Location / Conditions: _____

Notes/Comments

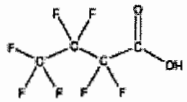
2018/08/23

DO NOT WRITE BENEATH ANY INSERTS ON THIS PAGE. DO NOT PLACE ANY INSERTS ON TOP OF ANY RAW DATA ENTERED ON THIS PAGE. INITIAL AND DATE ALL INSERTS. LOGBOOK, PAGE AND APPROPRIATE SOLUTION NUMBER REFERENCES MUST BE WRITTEN ON ALL INSERTS.

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	PFBA	**LOT NUMBER:**	PFBA1217
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)	12/14/2017		
EXPIRY DATE: (mm/dd/yyyy)	12/14/2022		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

3 ampules

recd: 2018/04/10 DH3

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:** 12/18/2017 (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

Date Received: 2018.06.26 - 2 ampoules - HPLC
Date Received: 2018.07.18 - 1 ampoule - HPLC

Date Received: 2018.07.23 - 1 ampoule - HPLC

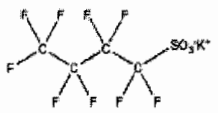
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: L-PFBS
COMPOUND: Potassium perfluoro-1-butanesulfonate

LOT NUMBER: LPFBS0418

STRUCTURE:



CAS #: 29420-49-3

2018/06/26
Tejashwi
2x Ampoules.

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]	05/04/2018		
EXPIRY DATE: [mm/dd/yyyy]	05/04/2023		
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.

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Certified By: _____ **Date:** 05/25/2018 [mm/dd/yyyy]
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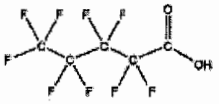
Date Received: 2018.07.18 - 1 ampoule - HPLC

Date Received: 2018.07.23 - 1 ampoule - HPLC

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	PFPeA	**LOT NUMBER:**	PFPeA0218
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)	02/16/2018		
EXPIRY DATE: (mm/dd/yyyy)	02/16/2023		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

2 ampules
rec'd: 2018/04/10 DM3

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 $C_5H_2F_6O_2$ (hydrido - derivative) as measured by ^{19}F NMR.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 02/20/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

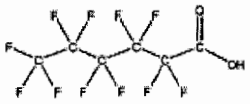
Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Date Received: 2018.06.26 - 2 ampoules - HPLC
Date Received: 2018.07.18 - 1 ampoule - HPLC
Date Received: 2018.07.23 - 1 ampoule - HPLC

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	PFHxA	**LOT NUMBER:**	PFHxA0917
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)	09/27/2017		
EXPIRY DATE: (mm/dd/yyyy)	09/27/2022		
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)

GSZ 2017/11/30
2 ampules

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.

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Certified By: _____ **Date:** 11/01/2017 (mm/dd/yyyy)
B.G. Chittim, General Manager

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Date Received: 2018.02.02 - 2 ampoules - HPLC
Date Received: 2018.04.10 - 2 ampoules - HPLC
Date Received: 2018.06.26 - 2 ampoules - HPLC
Date Received: 2018.07.18 - 1 ampoule - HPLC

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

br-PFHxSK

Potassium Perfluorohexanesulfonate
Solution/Mixture of Linear and
Branched Isomers

PRODUCT CODE:	br-PFHxSK
LOT NUMBER:	brPFHxSK0117
CONCENTRATION:	50.0 ± 2.5 µg/ml (total potassium salt)
	45.6 ± 2.3 µg/ml (total PFHxS anion)
SOLVENT(S):	Methanol
DATE PREPARED: (mm/dd/yyyy)	01/03/2017
LAST TESTED: (mm/dd/yyyy)	01/04/2017
EXPIRY DATE: (mm/dd/yyyy)	01/04/2022
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)

Received: 2017/06/02
- DMSO, 1.2 mL X 1
Fridge

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains ~ 0.5% of perfluoro-1-pentanesulfonate and ~ 0.2% of perfluoro-1-octanesulfonate.
- CAS#: 3871-99-6 (for linear isomer; potassium salt).

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date recieved: 2017/05/29 HPLC
date recieved: 2017/08/30 HPLC
date recieved: 2017/08/09 HPLC
date received: 2017/09/26 HPLC
DATE RECEIVED 2017/09/12 2 ampules HPLC
Date Received: 2018.02.02 - 2 ampoules - HPLC
Date Received: 2018.04.10 - 2 ampoules - HPLC
Date Received: 2018.06.26 - 2 ampoules - HPLC
Date Received: 2018.07.18 - 1 ampoule - HPLC

Date Received: 2018.07.23 - 1 ampoule - HPLC

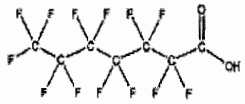
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: PFHpA
COMPOUND: Perfluoro-n-heptanoic acid

LOT NUMBER: PFHpA0917

STRUCTURE:



CAS #: 375-85-9

2018/02/02
2x ampoules
E.G
HPLC

MOLECULAR FORMULA: $C_7HF_{13}O_2$
CONCENTRATION: 50 ± 2.5 µg/ml

MOLECULAR WEIGHT: 364.06
SOLVENT(S): Methanol
Water (<1%)

CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 09/27/2017
EXPIRY DATE: (mm/dd/yyyy) 09/27/2022
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.

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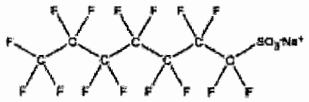
Certified By: B.G. Chittim, General Manager **Date:** 09/29/2017 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
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Date Received: 2018.04.10 - 2 ampoules - HPLC
Date Received: 2018.06.26 - 2 ampoules - HPLC
Date Received: 2018.07.18 - 1 ampoule - HPLC
Date Received: 2018.07.23 - 1 ampoule - HPLC

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	L-PFHpS	**LOT NUMBER:**	LPFHpS0418
COMPOUND:	Sodium perfluoro-1-heptanesulfonate		
STRUCTURE:		**CAS #:**	Not available

2018/06/26
Tejashri
2X Ampoules.

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)	05/04/2018		
EXPIRY DATE: (mm/dd/yyyy)	05/04/2023		
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 ~ 0.2% of L-PFHxS ($C_6F_{13}SO_3Na$) and ~ 0.1% of L-PFOS ($C_8F_{17}SO_3Na$).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 05/17/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

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519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Date Received: 2018.07.18 - 1 ampoule - HPLC

Date Received: 2018.07.23 - 1 ampoule - HPLC

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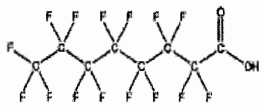
CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: PFOA
COMPOUND: Perfluoro-n-octanoic acid

LOT NUMBER: PFOA0218

STRUCTURE:

CAS #: 335-67-1



MOLECULAR FORMULA: $C_8HF_{15}O_2$
CONCENTRATION: 50 ± 2.5 µg/ml

MOLECULAR WEIGHT: 414.07
SOLVENT(S): Methanol
Water (<1%)

CHEMICAL PURITY: >98%
LAST TESTED: 02/16/2018
EXPIRY DATE: 02/16/2023
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

2 ampules
recd: 2018/04/10 DM3

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:** 02/20/2018
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

Date Received: 2018.06.26 - 2 ampoules - HPLC
Date Received: 2018.07.18 - 1 ampoule - HPLC

Date Received: 2018.07.23 - 1 ampoule - HPLC

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

br-PFOSK

Potassium Perfluorooctanesulfonate Solution/Mixture of Linear and Branched Isomers

2018/06/26
Tyler Hurd
2 x Ampoules

PRODUCT CODE:	br-PFOSK
LOT NUMBER:	brPFOSK0418
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)	04/09/2018
LAST TESTED: (mm/dd/yyyy)	04/18/2018
EXPIRY DATE: (mm/dd/yyyy)	04/18/2023
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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Format:13, Issued 2004-11-10
Revision:5, Revised 2018-01-22

Date Received: 2018.07.18 - 1 ampoule - HPLC

Date Received: 2018.07.23 - 1 ampoule - HPLC

Ampoule: 2 TRW
Date received: 2017/09/12

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	PFNA	**LOT NUMBER:**	PFNA0717
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)	07/20/2017		
EXPIRY DATE: (mm/dd/yyyy)	07/20/2022		
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 ~ 0.1% of perfluoro-n-octanoic acid (PFOA), < 0.1% of perfluoro-n-heptanoic acid (PFHpA), and < 0.1% of perfluoro-n-undecanoic acid (PFUdA).

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Certified By: _____ **Date:** 07/24/2017 (mm/dd/yyyy)
B.G. Chittim, General Manager

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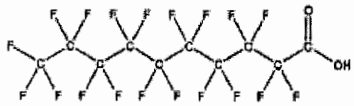
Date Received: 2017.09.26 - 2 ampoules - HPLC
Date Received: 2017.11.30 - 2 ampoules - HPLC
Date Received: 2018.02.02 - 2 ampoules - HPLC
Date Received: 2018.04.10 - 2 ampoules - HPLC
Date Received: 2018.06.26 - 2 ampoules - HPLC

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: PFDA
COMPOUND: Perfluoro-n-decanoic acid
LOT NUMBER: PFDA1217

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) 12/14/2017
EXPIRY DATE: (mm/dd/yyyy) 12/14/2022
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

2 ampules
recd. 2018/04/10 DM3

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: B.G. Chittim, General Manager **Date:** 12/18/2017 (mm/dd/yyyy)

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519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Date Received: 2018.06.26 - 2 ampoules - HPLC
Date Received: 2018.07.18 - 1 ampoule - HPLC

Date Received: 2018.07.23 - 1 ampoule - HPLC

WELLINGTON LABORATORIES

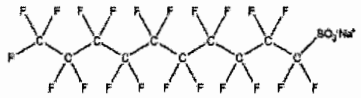
CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: L-PFDS
COMPOUND: Sodium perfluoro-1-decanesulfonate

LOT NUMBER: LPFDS1117

STRUCTURE:

CAS #: 2806-15-7



2018/02/02
2x ampoules
E.G
HPLC

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)	11/08/2017		
EXPIRY DATE: (mm/dd/yyyy)	11/08/2022		
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 ~ 0.9% of sodium perfluoro-1-dodecanesulfonate (L-PFDoS).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 11/16/2017 (mm/dd/yyyy)
B.G. Chittim, General Manager

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519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Date Received: 2018.04.10 - 2 ampoules - HPLC

Date Received: 2018.06.26 - 2 ampoules - HPLC

Date Received: 2018.07.18 - 1 ampoule - HPLC

Date Received: 2018.07.23 - 1 ampoule - HPLC

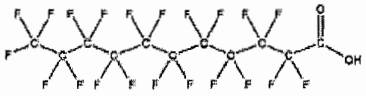
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: PFUdA
COMPOUND: Perfluoro-n-undecanoic acid
LOT NUMBER: PFUdA0917

STRUCTURE:

CAS #: 2058-94-8



MOLECULAR FORMULA: $C_nHF_{21}O_2$
MOLECULAR WEIGHT: 564.09
CONCENTRATION: 50 ± 2.5 µg/ml
SOLVENT(S): Methanol
Water (<1%)

CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 09/21/2017
EXPIRY DATE: (mm/dd/yyyy) 09/21/2022
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)

GSZ 2017/11/30
2 AMPOULES

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:** 09/22/2017 (mm/dd/yyyy)
B.G. Chittim, General Manager

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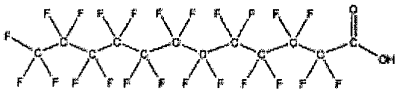
Date Received: 2018.02.02 - 2 ampoules - HPLC
Date Received: 2018.04.10 - 2 ampoules - HPLC
Date Received: 2018.06.26 - 2 ampoules - HPLC
Date Received: 2018.07.18 - 1 ampoule - HPLC
Date Received: 2018.07.23 - 1 ampoule - HPLC

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: PFDoA
COMPOUND: Perfluoro-n-dodecanoic acid
LOT NUMBER: PFDoA0418

STRUCTURE:



CAS #: 307-55-1

20180626
EG1
2 x ampoules

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) 04/18/2018
EXPIRY DATE: (mm/dd/yyyy) 04/18/2023
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (SIR)
Figure 2: LC/MS Data (Mass Spectrum)
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 carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim, General Manager **Date:** 04/24/2018 (mm/dd/yyyy)

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Date Received: 2018.07.23 - 1 ampoule - HPLC

Date Received: 2018.07.18 - 1 ampoule - HPLC

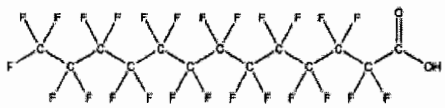
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: PFTrDA
COMPOUND: Perfluoro-n-tridecanoic acid
LOT NUMBER: PFTrDA0218

STRUCTURE:

CAS #: 72629-94-8



2-0s8|06|26
Tajashri
2X ampules.

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)	02/16/2018		
EXPIRY DATE: (mm/dd/yyyy)	02/16/2023		
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 ~ 0.1% 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:** 02/20/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

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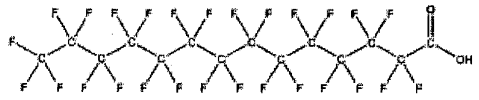
Date Received: 2018.07.18 - 1 ampoule - HPLC

Date Received: 2018.07.23 - 1 ampoule - HPLC

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	PFTeDA	**LOT NUMBER:**	PFTeDA0917
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)	09/21/2017		
EXPIRY DATE: (mm/dd/yyyy)	09/21/2022		
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)

662 2017/11/30
2 ampules

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 PFDoA ($C_{12}HF_{23}O_2$) and ~ 0.2% of PFPeDA ($C_{15}HF_{29}O_2$).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 09/21/2017 (mm/dd/yyyy)
B.G. Chittim, General Manager

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Date Received: 2017.09.26 - 2 ampoules - HPLC
Date Received: 2018.02.02 - 2 ampoules - HPLC
Date Received: 2018.04.10 - 2 ampoules - HPLC
Date Received: 2018.06.26 - 2 ampoules - HPLC
Date Received: 2018.07.18 - 1 ampoule - HPLC

Date Received: 2018.07.23 - 1 ampoule - HPLC

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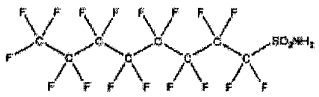
CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: FOSA-I
COMPOUND: Perfluoro-1-octanesulfonamide

LOT NUMBER: FOSA0817I

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)	09/01/2017		
EXPIRY DATE: (mm/dd/yyyy)	09/01/2022		
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:

652 2017/11/30
2 ampoules

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 09/14/2017 (mm/dd/yyyy)
B.G. Chittim, General Manager

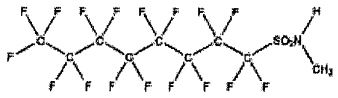
Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
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Date Received: 2017.09.26 - 1 ampoule - HPLC
Date Received: 2018.02.02 - 2 ampoules - HPLC
Date Received: 2018.04.10 - 2 ampoules - HPLC
Date Received: 2018.06.26 - 2 ampoules - HPLC

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CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:	N-MeFOSA-M	**LOT NUMBER:**	NMeFOSA0717M
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)	07/05/2017		
EXPIRY DATE: (mm/dd/yyyy)	07/05/2022		
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)

1 ampoule
2017/08/30 GSZ

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 07/10/2017 (mm/dd/yyyy)
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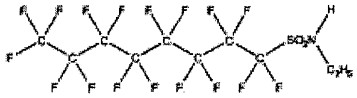
Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
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Date received: 2017.08.09 - 1 ampoule - HPLC
Date Received: 2017.09.26 - 2 ampoules - HPLC
Date received: 2017/11/30 - 1 ampoule - HPLC
Date Received: 2018.02.02 - 2 ampoules - HPLC
Date Received: 2018.04.10 - 2 ampoules - HPLC
Date Received: 2018.06.26 - 2 ampoules - HPLC

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:	N-EtFOSA-M	**LOT NUMBER:**	NEtFOSA0717M
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)	07/05/2017		
EXPIRY DATE: (mm/dd/yyyy)	07/05/2022		
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)

1 ampoule
2017/08/30 GSZ

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 07/18/2017 (mm/dd/yyyy)
B.G. Chittim, General Manager

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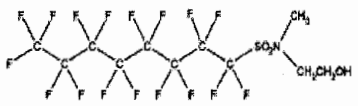
Date Received: 2017.08.09 - 1 ampoule - HPLC
Date Received: 2017.11.30 - 1 ampoule - HPLC
Date Received: 2017.09.26 - 2 ampoules - HPLC
Date Received: 2018.02.02 - 2 ampoules - HPLC
Date Received: 2018.04.10 - 2 ampoules - HPLC
Date Received: 2018.06.26 - 2 ampoules - HPLC

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: N-MeFOSE-M **LOT NUMBER:** NMeFOSE0418M
COMPOUND: 2-(N-methylperfluoro-1-octanesulfonamido)-ethanol

STRUCTURE: **CAS #:** 24448-09-7



2018/06/26
Tyler Shirt
2 x Ampoules

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) 05/17/2018 (HRGC/LRMS)
05/03/2018 (LC/MS)
EXPIRY DATE: (mm/dd/yyyy) 05/17/2023
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: B.G. Chittim, General Manager **Date:** 05/25/2018 (mm/dd/yyyy)

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Date Received: 2018.07.18 - 1 ampoule - HPLC

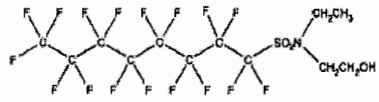
Date Received: 2018.07.23 - 1 ampoule - HPLC

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: N-EtFOSE-M **LOT NUMBER:** NEtFOSE0518M
COMPOUND: 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol

STRUCTURE: **CAS #:** 1691-99-2



2018/06/26
Tajashri
2X Ampoules.

MOLECULAR FORMULA:	$C_{12}H_{18}F_{17}NO_3S$	**MOLECULAR WEIGHT:**	571.25
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	06/04/2018 (HRGC/LRMS) 05/30/2018 (LC/MS)		
EXPIRY DATE: (mm/dd/yyyy)	06/04/2023		
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: B.G. Chittim, General Manager **Date:** 06/04/2018 (mm/dd/yyyy)

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Date Received: 2018.07.18 - 1 ampoule - HPLC

Date Received: 2018.07.23 - 1 ampoule - HPLC

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: N-MeFOSAA **LOT NUMBER:** NMeFOSAA0118
COMPOUND: N-methylperfluoro-1-octanesulfonamidoacetic acid

STRUCTURE: **CAS #:** 2355-31-9



MOLECULAR FORMULA: $C_{11}H_8F_{17}NO_4S$ **MOLECULAR WEIGHT:** 571.21
CONCENTRATION: 50 ± 2.5 µg/ml **SOLVENT(S):** Methanol
Water (<1%)

CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 01/24/2018
EXPIRY DATE: (mm/dd/yyyy) 01/24/2023
RECOMMENDED STORAGE: Refrigerate ampoule

2 ampules
recd: 2018/04/10

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: B.G. Chittim, General Manager **Date:** 01/26/2018 (mm/dd/yyyy)

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Date Received: 2018.06.26 - 2 ampoules - HPLC
Date Received: 2018.07.18 - 1 ampoule - HPLC

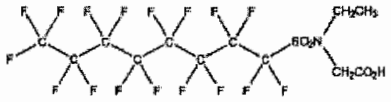
Date Received: 2018.07.23 - 1 ampoule - HPLC

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: N-EtFOSAA **LOT NUMBER:** NEtFOSAA0118
COMPOUND: N-ethylperfluoro-1-octanesulfonamidoacetic acid

STRUCTURE: **CAS #:** 2991-50-6



MOLECULAR FORMULA: $C_{12}H_4F_{17}NO_4S$ **MOLECULAR WEIGHT:** 585.23
CONCENTRATION: 50 ± 2.5 µg/ml **SOLVENT(S):** Methanol
Water (<1%)

CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 01/24/2018
EXPIRY DATE: (mm/dd/yyyy) 01/24/2023
RECOMMENDED STORAGE: Refrigerate ampoule

2 ampules
recd: 2018/04/10

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.
- Contains ~ 0.2% of sodium perfluoro-1-octanesulfonate (L-PFOS).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 02/05/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

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Date Received: 2018.06.26- 2 ampoules - HPLC
Date Received: 2018.07.18 - 1 ampoule - HPLC

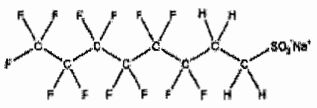
Date Received: 2018.07.23 - 1 ampoule - HPLC

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: 6:2FTS **LOT NUMBER:** 62FTS0418
COMPOUND: Sodium 1H,1H,2H,2H-perfluorooctane sulfonate

STRUCTURE:



CAS #: Not available

2018/06/26
Tajashri
8X Ampoules.

MOLECULAR FORMULA:	$C_8H_5F_{13}SO_3Na$		**MOLECULAR WEIGHT:**	450.15
CONCENTRATION:	60.0 ± 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)	04/03/2018			
EXPIRY DATE: (mm/dd/yyyy)	04/03/2023			
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 ~ 0.3% of sodium 1H,1H,2H,2H-perfluorodecane sulfonate (8:2FTS).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 04/09/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

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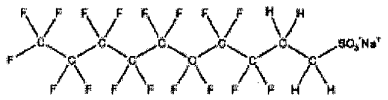
Date Received: 2018.07.18 - 1 ampoule - HPLC

Date Received: 2018.07.23 - 1 ampoule - HPLC

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	8:2FTS	**LOT NUMBER:**	82FTS0118
COMPOUND:	Sodium 1H,1H,2H,2H-perfluorodecane sulfonate		
STRUCTURE:		**CAS #:**	Not available



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)	01/24/2018		
EXPIRY DATE: (mm/dd/yyyy)	01/24/2023		
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)

2 ampoules
recd: 2018/06/10 DM3

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 01/31/2018 (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

Date Received: 2018.06.26 - 2 Ampoules - HPLC
Date Received: 2018.07.18 - 1 ampoule - HPLC

Date Received: 2018.07.23 - 1 ampoule - HPLC

PRLST 150 PG. 32

PREPARATION OF STANDARDS OF INTERMEDIARY CONCENTRATION

Solution No.: I-5483 Date: 2018/09/25 Expiry Date: 2019/09/25 Discard Date: ____

Replaces Solution No.: I-5453 Replaced by Solution: ____ Chemist: 652

Compound(s)/Solution Name: PFC SECOND SOURCE SPIKING SOLUTION A

Number of Parent Solution(s): See attached sheet

Concentration of Parent Solution(s): See attached sheet (mg, ug)/mL

Aliquot of Parent Solution(s): See attached sheet mL / uL

Pippette/Syringe ID P42409C

Dilution Solvent: 0.3% NH_4OH in MeOH Dilution Volume: 25 mL

Final Concentration(s): 1.0 (mg, ug)/mL

Solution derivatized (as methyl ester): -- As Other (specify): --

Solution Contains Surrogate Compounds: -- For mix refer to table on page: --

Solution used for: PFC Volumetric Flask: 25mL class A (5640)
(identify by serial number or other unique ID)

Solvent Supplier: See PRLRE 116-431 Lot No.: See PRLRE 116-431

Date Opened: See PRLRE 116-431

Storage Location: FZ11 One time Use, Not Stored: --

Ampule Supplier: Wellington Date Opened: See attached sheet

Mix Name: --

Catalogue No.: -- Ampule expiry Date: See attached sheet

Lot No.: See attached sheet

Date Received: See attached sheet

Notes/Comments:

I-5483 (PRLST 150 p. 32)

Compound Name	ID#	Conc. (ug/mL)	Vol.. of Stock standard (uL)	Final Conc. (ug/mL)	Exp. date
PFBA	S4406-1	50	500	1	2022/12/14
L-PFBS	S4406-2	44.2	565	1	2023/05/04
PFPeA	S4406-3	50	500	1	2023/02/16
PFHxA	S4406-4	50	500	1	2022/09/27
br-PFHxSk	S4406-5	45.5	549	1	2022/01/04
PFHpA	S4406-6	50	500	1	2022/09/27
L-PFHpS	S4406-7	47.6	525	1	2023/05/04
PFOA	S4406-8	50	500	1	2023/02/16
brPFOSK	S4406-9	46.4	540	1	2023/04/18
PFNA	S4406-10	50	500	1	2022/07/20
PFDA	S4406-11	50	500	1	2022/12/14
L-PFDS	S4406-12	48.2	518	1	2022/11/08
PFUdA	S4406-13	50	500	1	2022/09/21
PFDoA	S4406-14	50	500	1	2023/04/18
PFTrDA	S4406-15	50	500	1	2023/02/16
PFTeDA	S4406-16	50	500	1	2022/09/21
PFOSA (FOSA-I)	S4406-17	50	500	1	2022/09/01
N-MeFOSA-M	S4406-18	50	500	1	2022/07/05
N-EtFOSA-M	S4406-19	50	500	1	2022/07/05
N-MeFOSE-M	S4406-20	50	500	1	2023/05/17
N-EtFOSE-M	S4406-21	50	500	1	2023/06/04
N-MeFOSAA	S4406-22	50	500	1	2023/01/24
N-EtFOSAA	S4406-23	50	500	1	2023/01/24
6:2FTS	S4406-24	47.4	528	1	2023/04/03
8:2FTS	S4406-25	47.9	522	1	2023/01/24

No writing on bottom page.

652 2018/09/25

PRLST 151 PG 5

PREPARATION OF CONCENTRATED STOCK STANDARDS

Solution No.: S-4406 Date: 2018/08/23 Expiry Date: See below Discard Date:

Replaces Solution: _____ Replaced by Solution: _____ Chemist: GSZ

S-4406 (PRLST 151 p.5)

Solution ID#	Compound Name	Lot#	Received date	Exp. date	Replaces Solution	Replaced by Solution	Conc. (ug/mL)	Solvent	Storage
S4406-1	PFBA	PFBA1217	2018/06/26	2022/12/14	S4365-1		50	MeOH	FZ-11
S4406-2	L-PFBS	LPFBS0418	2018/06/26	2023/05/04	S4365-2		44.2	MeOH	FZ-11
S4406-3	PFPeA	PFPeA0218	2018/06/26	2023/02/16	S4365-3		50	MeOH	FZ-11
S4406-4	PFHxA	PFHxA0917	2018/06/26	2022/09/27	S4365-4		50	MeOH	FZ-11
S4406-5	br-PFHxSk	brPFHxSK0117	2018/06/26	2022/01/04	S4365-5		45.5	MeOH	FZ-11
S4406-6	PFHpA	PFHpA0917	2018/06/26	2022/09/27	S4365-6		50	MeOH	FZ-11
S4406-7	L-PFHpS	LPFHpS0418	2018/06/26	2023/05/04	S4365-7		47.6	MeOH	FZ-11
S4406-8	PFOA	PFOA0218	2018/06/26	2023/02/16	S4365-8		50	MeOH	FZ-11
S4406-9	brPFOSK	brPFOSK0418	2018/06/26	2023/04/18	S4365-9		46.4	MeOH	FZ-11
S4406-10	PFNA	PFNA0717	2018/06/26	2022/07/20	S4365-10		50	MeOH	FZ-11
S4406-11	PFDA	PFDA1217	2018/06/26	2022/12/14	S4365-11		50	MeOH	FZ-11
S4406-12	L-PFDS	LPFDS1117	2018/06/26	2022/11/08	S4365-12		48.2	MeOH	FZ-11
S4406-13	PFUdA	PFUdA0917	2018/06/26	2022/09/21	S4365-13		50	MeOH	FZ-11
S4406-14	PFDoA	PFDoA0418	2018/06/26	2023/04/18	S4365-14		50	MeOH	FZ-11
S4406-15	PFTrDA	PFTrDA0218	2018/06/26	2023/02/16	S4365-15		50	MeOH	FZ-11
S4406-16	PFTeDA	PFTeDA0917	2018/06/26	2022/09/21	S4365-16		50	MeOH	FZ-11
S4406-17	PFOSA (FOSA-I)	FOSA08171	2018/06/26	2022/09/01	S4365-17		50	IPA	FD-59
S4406-18	N-MeFOSA-M	NMeFOSA0717M	2018/06/26	2022/07/05	S4365-18		50	MeOH	FZ-11
S4406-19	N-EtFOSA-M	NEtFOSA0717M	2018/06/26	2022/07/05	S4365-19		50	MeOH	FZ-11
S4406-20	N-MeFOSE-M	NMeFOSE0418M	2018/06/26	2023/05/17	S4365-20		50	MeOH	FZ-11
S4406-21	N-EtFOSE-M	NEtFOSE0518M	2018/06/26	2023/06/04	S4365-21		50	MeOH	FZ-11
S4406-22	N-MeFOSAA	NMeFOSAA0118	2018/07/23	2023/01/24	S4365-22		50	MeOH	FD-59
S4406-23	N-EtFOSAA	NEtFOSAA0118	2018/07/23	2023/01/24	S4365-23		50	MeOH	FD-59
S4406-24	6:2FTS	62FTS0418	2018/06/26	2023/04/03	S4365-24		47.4	MeOH	FD-59
S4406-25	8:2FTS	82FTS0118	2018/06/26	2023/01/24	S4365-25		47.9	MeOH	FD-59
Date Opened (All compounds): 2018/08/23			Supplier (All compounds) : Wellington				Chemist: GSZ		

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GSZ, 2018/08/23

Solution No.: S-4406 (PRLST 151 p.5)
Date prepared: 2018/08/23
Expiry date: as per table above

Solvent Used: _____

Solvent Supplier: _____ Lot No(s).: _____

Date Opened: _____

Storage Location / Conditions: _____

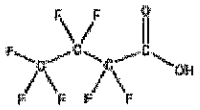
Notes/Comments

DO NOT WRITE BENEATH ANY INSERTS ON THIS PAGE. DO NOT PLACE ANY INSERTS ON TOP OF ANY RAW DATA ENTERED ON THIS PAGE. INITIAL AND DATE ALL INSERTS. LOGBOOK, PAGE AND APPROPRIATE SOLUTION NUMBER REFERENCES MUST BE WRITTEN ON ALL INSERTS.

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	PFBA	**LOT NUMBER:**	PFBA1217
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)	12/14/2017		
EXPIRY DATE: (mm/dd/yyyy)	12/14/2022		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

2 ampoules

recd: 2018/06/10 DH3

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:** 12/18/2017 (mm/dd/yyyy)
E.G. Chittim, General Manager

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519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Date Received: 2018.06.26 - 2 ampoules - HPLC
Date Received: 2018.07.18 - 1 ampoule - HPLC

Date Received: 2018.07.23 - 1 ampoule - HPLC

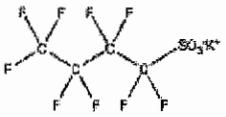
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: L-PFBS
COMPOUND: Potassium perfluoro-1-butanesulfonate

LOT NUMBER: LPFBS0418

STRUCTURE:



CAS #: 29420-49-3

2018/06/26
Tefashul
2X ampoules.

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)	05/04/2018		
EXPIRY DATE: (mm/dd/yyyy)	05/04/2023		
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.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 05/25/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

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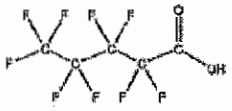
Date Received: 2018.07.18 - 1 ampoule - HPLC

Date Received: 2018.07.23 - 1 ampoule - HPLC

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	PFPeA	**LOT NUMBER:**	PFPeA0218
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)	02/16/2018		
EXPIRY DATE: (mm/dd/yyyy)	02/16/2023		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

2 ampules
rec'd: 2018/04/10 DM3

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:** 02/20/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

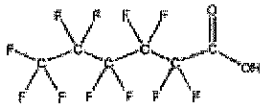
Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2435 • Fax: 519-822-2849 • info@well-labs.com

Date Received: 2018.06.26 - 2 ampoules - HPLC
Date Received: 2018.07.18 - 1 ampoule - HPLC
Date Received: 2018.07.23 - 1 ampoule - HPLC

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	PFHxA	**LOT NUMBER:**	PFHxA0917
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)	09/27/2017		
EXPIRY DATE: (mm/dd/yyyy)	09/27/2022		
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)

GSP 2017/11/30
2 ampoules

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: 11/01/2017 (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

Date Received: 2018.02.02 - 2 ampoules - HPLC
Date Received: 2018.04.10 - 2 ampoules - HPLC
Date Received: 2018.06.26 - 2 ampoules - HPLC
Date Received: 2018.07.18 - 1 ampoule - HPLC

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

br-PFHxSK

**Potassium Perfluorohexanesulfonate
Solution/Mixture of Linear and
Branched Isomers**

PRODUCT CODE:	br-PFHxSK
LOT NUMBER:	brPFHxSK0117
CONCENTRATION:	50.0 ± 2.5 µg/ml (total potassium salt) 46.6 ± 2.3 µg/ml (total PFHxS anion)
SOLVENT(S):	Methanol
DATE PREPARED:	01/03/2017
LAST TESTED:	01/04/2017
EXPIRY DATE:	01/04/2022
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place

DESCRIPTION:

The chemical purity has been determined to be ≥96% 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)

Received: 2017/06/02
BM2, 1.2 ml 2 x 1
Fridge

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains ~ 0.5% of perfluoro-1-pentanesulfonate and ~ 0.2% of perfluoro-1-octanesulfonate.
- CAS#: 3871-99-6 (for linear isomer; potassium salt).

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date recieved: 2017/05/29 HPLC
date recieved: 2017/08/30 HPLC
date recieved: 2017/08/09 HPLC
date received: 2017/09/26 HPLC
DATE RECEIVED 2017/09/12 2 ampules HPLC
Date Received: 2018.02.02 - 2 ampoules - HPLC
Date Received: 2018.04.10 - 2 ampoules - HPLC
Date Received: 2018.06.26 - 2 ampoules - HPLC
Date Received: 2018.07.18 - 1 ampoule - HPLC

Date Received: 2018.07.23 - 1 ampoule - HPLC

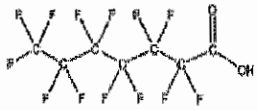
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: PFHpA
COMPOUND: Perfluoro-n-heptanoic acid

LOT NUMBER: PFHpA0917

STRUCTURE:



CAS #: 375-85-9

2018/04/10
2x ampoules
E.G
HPLC

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)	09/27/2017		
EXPIRY DATE: (mm/dd/yyyy)	09/27/2022		
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.

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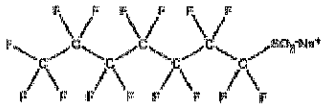
Certified By: _____ Date: 09/29/2017 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Date Received: 2018.04.10 - 2 ampoules - HPLC
Date Received: 2018.06.26 - 2 ampoules - HPLC
Date Received: 2018.07.18 - 1 ampoule - HPLC
Date Received: 2018.07.23 - 1 ampoule - HPLC

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	L-PFHpS	**LOT NUMBER:**	LPFHpS0418
COMPOUND:	Sodium perfluoro-1-heptanesulfonate		
STRUCTURE:		**CAS #:**	Not available

R018 106 R6
Tejashri
2x Ampoules.

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)	05/04/2018		
EXPIRY DATE: (mm/dd/yyyy)	05/04/2023		
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 ~ 0.2% of L-PFHxS ($C_6F_{13}SO_3Na$) and ~ 0.1% of L-PFOS ($C_8F_{17}SO_3Na$).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 05/17/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

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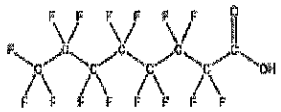
Date Received: 2018.07.18 - 1 ampoule - HPLC

Date Received: 2018.07.23 - 1 ampoule - HPLC

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:	PFOA	**LOT NUMBER:**	PFOA0218
COMPOUND:	Perfluoro-n-octanoic acid		
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:	02/16/2018		
EXPIRY DATE:	02/16/2023		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

2 ampules
recd: 2018/04/10 DM3

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:** 02/20/2018
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

Date Received: 2018.06.26 - 2 ampoules - HPLC
Date Received: 2018.07.18 - 1 ampoule - HPLC

Date Received: 2018.07.23 - 1 ampoule - HPLC

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

br-PFOSK

Potassium Perfluorooctanesulfonate
Solution/Mixture of Linear and Branched Isomers

2018/06/26
2x Ampoules

PRODUCT CODE:	br-PFOSK
LOT NUMBER:	brPFOSK0418
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)	04/09/2018
LAST TESTED: (mm/dd/yyyy)	04/18/2018
EXPIRY DATE: (mm/dd/yyyy)	04/18/2023
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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Date Received: 2018.07.18 - 1 ampoule - HPLC

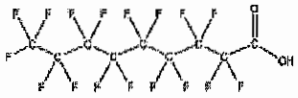
Date Received: 2018.07.23 - 1 ampoule - HPLC

Ampoule: 2 TRW
Date received: 2017/09/12

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CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:	PFNA	**LOT NUMBER:**	PFNA0717
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)	07/20/2017		
EXPIRY DATE: (mm/dd/yyyy)	07/20/2022		
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 ~ 0.1% of perfluoro-n-octanoic acid (PFOA), < 0.1% of perfluoro-n-heptanoic acid (PFHpA), and < 0.1% of perfluoro-n-undecanoic acid (PFUdA).

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Certified By: _____ **Date:** 07/24/2017 (mm/dd/yyyy)
B.G. Chittim, General Manager

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519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Date Received: 2017.09.26 - 2 ampoules - HPLC
Date Received: 2017.11.30 - 2 ampoules - HPLC
Date Received: 2018.02.02 - 2 ampoules - HPLC
Date Received: 2018.04.10 - 2 ampoules - HPLC
Date Received: 2018.06.26 - 2 ampoules - HPLC

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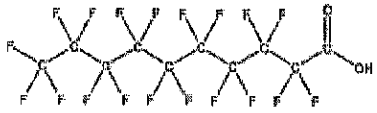
CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: PFDA
COMPOUND: Perfluoro-n-decanoic acid

LOT NUMBER: PFDA1217

STRUCTURE:

CAS #: 335-76-2



MOLECULAR FORMULA: $C_{10}HF_{19}O_2$
CONCENTRATION: 50 ± 2.5 µg/ml

MOLECULAR WEIGHT: 514.08
SOLVENT(S): Methanol
Water (<1%)

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

2 ampules
recvd. 2018/04/10 DMS

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).

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Certified By: B.G. Chittim, General Manager **Date:** 12/18/2017 (mm/dd/yyyy)

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Date Received: 2018.06.26 - 2 ampoules - HPLC
Date Received: 2018.07.18 - 1 ampoule - HPLC

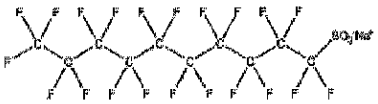
Date Received: 2018.07.23 - 1 ampoule - HPLC

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CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: L-PFDS
COMPOUND: Sodium perfluoro-1-decanesulfonate
LOT NUMBER: LPFDS1117

STRUCTURE:



CAS #: 2806-15-7

2018/02/02
2x ampoules
E.6
HPLC

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:	11/08/2017		
EXPIRY DATE:	11/08/2022		
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 ~ 0.9% of sodium perfluoro-1-dodecanesulfonate (L-PFDoS).

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Certified By: B.G. Chittim, General Manager **Date:** 11/16/2017

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Date Received: 2018.04.10 - 2 ampoules - HPLC

Date Received: 2018.06.26 - 2 ampoules - HPLC

Date Received: 2018.07.18 - 1 ampoule - HPLC

Date Received: 2018.07.23 - 1 ampoule - HPLC

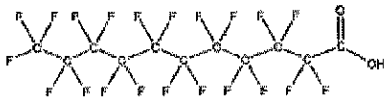
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: PFUdA
COMPOUND: Perfluoro-n-undecanoic acid
LOT NUMBER: PFUdA0917

STRUCTURE:

CAS #: 2058-94-8



MOLECULAR FORMULA: $C_{11}HF_{21}O_2$
CONCENTRATION: 50 ± 2.5 µg/ml
MOLECULAR WEIGHT: 564.09
SOLVENT(S): Methanol
Water (<1%)

CHEMICAL PURITY: >98%
LAST TESTED: 09/21/2017
EXPIRY DATE: 09/21/2022
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)

662 2017/11/30
2 AMPULES

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:** 09/22/2017
B.G. Chittim, General Manager

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519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Date Received: 2018.02.02 - 2 ampoules - HPLC
Date Received: 2018.04.10 - 2 ampoules - HPLC
Date Received: 2018.06.26 - 2 ampoules - HPLC
Date Received: 2018.07.18 - 1 ampoule - HPLC
Date Received: 2018.07.23 - 1 ampoule - HPLC

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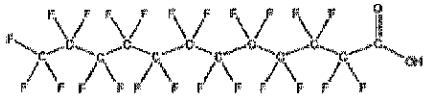
CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: PFDoA
COMPOUND: Perfluoro-n-dodecanoic acid

LOT NUMBER: PFDoA0418

STRUCTURE:

CAS #: 307-55-1



2018/06/26
EGI
2 x ampoules

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)	04/18/2018		
EXPIRY DATE: (mm/dd/yyyy)	04/18/2023		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (SIR)
Figure 2: LC/MS Data (Mass Spectrum)
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 carboxylic acid to the methyl ester.

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Certified By: _____ **Date:** 04/24/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
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Date Received: 2018.07.23 - 1 ampoule - HPLC

Date Received: 2018.07.18 - 1 ampoule - HPLC

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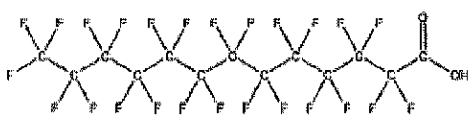
CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: PFTrDA
COMPOUND: Perfluoro-n-tridecanoic acid

LOT NUMBER: PFTrDA0218

STRUCTURE:

CAS #: 72629-94-8



2018/06/26
Tfarshi
2X ampules.

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)	02/16/2018		
EXPIRY DATE: (mm/dd/yyyy)	02/16/2023		
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 ~ 0.1% of PFUdA ($C_{11}HF_{21}O_2$), ~ 0.4% of PFDoA ($C_{12}HF_{23}O_2$), and ~ 0.1% of PFTeDA ($C_{14}HF_{27}O_2$).

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Certified By: _____ **Date:** 02/20/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

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Date Received: 2018.07.18 - 1 ampoule - HPLC

Date Received: 2018.07.23 - 1 ampoule - HPLC

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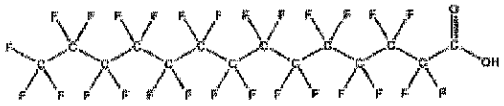
CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: PFTeDA
COMPOUND: Perfluoro-n-tetradecanoic acid

LOT NUMBER: PFTeDA0917

STRUCTURE:

CAS #: 376-06-7



MOLECULAR FORMULA: $C_{14}HF_{27}O_2$
CONCENTRATION: 50 ± 2.5 µg/ml

MOLECULAR WEIGHT: 714.11
SOLVENT(S): Methanol
Water (<1%)

CHEMICAL PURITY: >98%
LAST TESTED: 09/21/2017
EXPIRY DATE: 09/21/2022
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)

662 2017/11/30
2 ampules

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 PFDoA ($C_{12}HF_{23}O_2$) and ~ 0.2% of PFPeDA ($C_{15}HF_{29}O_2$).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim, General Manager **Date:** 09/21/2017

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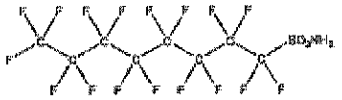
Date Received: 2017.09.26 - 2 ampoules - HPLC
Date Received: 2018.02.02 - 2 ampoules - HPLC
Date Received: 2018.04.10 - 2 ampoules - HPLC
Date Received: 2018.06.26 - 2 ampoules - HPLC
Date Received: 2018.07.18 - 1 ampoule - HPLC

Date Received: 2018.07.23 - 1 ampoule - HPLC

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CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	FOSA-I	**LOT NUMBER:**	FOSA0817I
COMPOUND:	Perfluoro-1-octanesulfonamide		
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:	09/01/2017		
EXPIRY DATE:	09/01/2022		
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:

662 2017/11/30
2 ampoules

- See page 2 for further details.

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Certified By: _____ **Date:** 09/14/2017
B.G. Chittim, General Manager

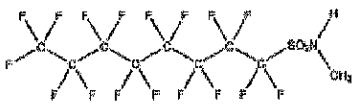
Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Date Received: 2017.09.26 - 1 ampoule - HPLC
Date Received: 2018.02.02 - 2 ampoules - HPLC
Date Received: 2018.04.10 - 2 ampoules - HPLC
Date Received: 2018.06.26 - 2 ampoules - HPLC

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	N-MeFOSA-M	**LOT NUMBER:**	NMeFOSA0717M
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)	07/05/2017		
EXPIRY DATE: (mm/dd/yyyy)	07/05/2022		
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)

1 ampoule
2017/08/30 GSZ

ADDITIONAL INFORMATION:

- See page 2 for further details.

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Certified By: _____ **Date:** 07/10/2017 (mm/dd/yyyy)
B.G. Chittim, General Manager

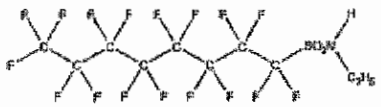
Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
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Date received: 2017.08.09 - 1 ampoule - HPLC
Date Received: 2017.09.26 - 2 ampoules - HPLC
Date received: 2017/11/30 - 1 ampoule - HPLC
Date Received: 2018.02.02 - 2 ampoules - HPLC
Date Received: 2018.04.10 - 2 ampoules - HPLC
Date Received: 2018.06.26 - 2 ampoules - HPLC

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	N-EtFOSA-M	**LOT NUMBER:**	NEtFOSA0717M
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:	>96%		
LAST TESTED: (mm/dd/yyyy)	07/05/2017		
EXPIRY DATE: (mm/dd/yyyy)	07/05/2022		
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)

1 ampoule
2017/08/30 GSZ

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 07/18/2017 (mm/dd/yyyy)
B.G. Chittim, General Manager

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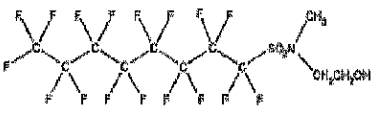
Date Received: 2017.08.09 - 1 ampoule - HPLC
Date Received: 2017.11.30 - 1 ampoule - HPLC
Date Received: 2017.09.26 - 2 ampoules - HPLC
Date Received: 2018.02.02 - 2 ampoules - HPLC
Date Received: 2018.04.10 - 2 ampoules - HPLC
Date Received: 2018.06.26 - 2 ampoules - HPLC

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	N-MeFOSE-M	**LOT NUMBER:**	NMeFOSE0418M
COMPOUND:	2-(N-methylperfluoro-1-octanesulfonamido)-ethanol		

STRUCTURE:



CAS #: 24448-09-7

2018/06/26
Tyco Int
2 x Ampoules

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:	05/17/2018 (HRGC/LRMS) 05/03/2018 (LC/MS)		
EXPIRY DATE:	05/17/2023		
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: 05/26/2018
B.G. Chittim, General Manager

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Date Received: 2018.07.18 - 1 ampoule - HPLC

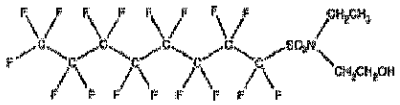
Date Received: 2018.07.23 - 1 ampoule - HPLC

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: N-EtFOSE-M **LOT NUMBER:** NEtFOSE0518M
COMPOUND: 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol

STRUCTURE: **CAS #:** 1691-99-2



2018/06/26
Tiffashni
2X Ampoules.

MOLECULAR FORMULA:	$C_{12}H_8F_{17}NO_3S$	**MOLECULAR WEIGHT:**	571.26
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%		
LAST TESTED:	06/04/2018 (HRGC/LRMS)		
	05/30/2018 (LC/MS)		
EXPIRY DATE:	06/04/2023		
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:** 06/04/2018
E.G. Chitim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

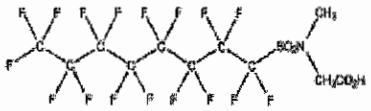
Date Received: 2018.07.18 - 1 ampoule - HPLC

Date Received: 2018.07.23 - 1 ampoule - HPLC

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	N-MeFOSAA	**LOT NUMBER:**	NMeFOSAA0118
COMPOUND:	N-methylperfluoro-1-octanesulfonamidoacetic acid		
STRUCTURE:		**CAS #:**	2355-31-9



MOLECULAR FORMULA:	$C_{11}H_8F_{17}NO_4S$	**MOLECULAR WEIGHT:**	571.21
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	01/24/2018		
EXPIRY DATE: (mm/dd/yyyy)	01/24/2023		
RECOMMENDED STORAGE:	Refrigerate ampoule		

2 ampules
recd: 2018/04/10

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:** 01/26/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
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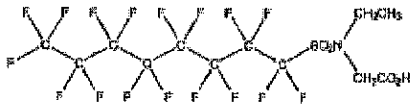
Date Received: 2018.06.26 - 2 ampoules - HPLC
Date Received: 2018.07.18 - 1 ampoule - HPLC

Date Received: 2018.07.23 - 1 ampoule - HPLC

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	N-EtFOSAA	**LOT NUMBER:**	NEtFOSAA0118
COMPOUND:	N-ethylperfluoro-1-octanesulfonamidoacetic acid		
STRUCTURE:		**CAS #:**	2991-50-6



MOLECULAR FORMULA:	$C_{12}H_6F_{17}NO_4S$	**MOLECULAR WEIGHT:**	585.23
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	01/24/2018		
EXPIRY DATE: (mm/dd/yyyy)	01/24/2023		
RECOMMENDED STORAGE:	Refrigerate ampoule		

2 ampules
recd: 2018/04/10

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.
- Contains ~ 0.2% of sodium perfluoro-1-octanesulfonate (L-PFOS).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 02/05/2018 (mm/dd/yyyy)

B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
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Date Received: 2018.06.26- 2 ampoules - HPLC
Date Received: 2018.07.18 - 1 ampoule - HPLC

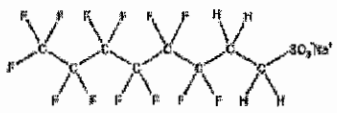
Date Received: 2018.07.23 - 1 ampoule - HPLC

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: 6:2FTS **LOT NUMBER:** 62FTS0418
COMPOUND: Sodium 1H,1H,2H,2H-perfluorooctane sulfonate

STRUCTURE:



CAS #: Not available

2018/06/26
TJ Joshi
8X Ampoules.

MOLECULAR FORMULA:	$C_8H_3F_{13}SO_3Na$	**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)	04/03/2018		
EXPIRY DATE: (mm/dd/yyyy)	04/03/2023		
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 ~ 0.3% of sodium 1H,1H,2H,2H-perfluorodecane sulfonate (8:2FTS).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ Date: 04/09/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

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519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

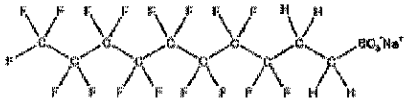
Date Received: 2018.07.18 - 1 ampoule - HPLC

Date Received: 2018.07.23 - 1 ampoule - HPLC

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	8:2FTS	**LOT NUMBER:**	82FTS0118
COMPOUND:	Sodium 1H,1H,2H,2H-perfluorodecane sulfonate		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$C_{10}H_3F_{17}SO_3Na$	**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)	01/24/2018		
EXPIRY DATE: (mm/dd/yyyy)	01/24/2023		
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)

2 ampules
recd: 2018/06/10 DM3

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 01/31/2018 (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

Date Received: 2018.06.26 - 2 Ampoules - HPLC
Date Received: 2018.07.18 - 1 ampoule - HPLC

Date Received: 2018.07.23 - 1 ampoule - HPLC

PREPARATION OF SURROGATE / INTERNAL STANDARD SPIKING SOLUTION

Solution No.: SI - 7087 Prep'n Date: 2018/08/21 Expiry Date: 2019/08/21 Discard Date: _____
Replaces Solution No.: SI - 6926 Replaced by Solution: _____ Chemist: 652
Sol'n. Name: INJ I.S.
Solution Used As: Internal Std: ✓ Surrogate Spike: _____
Spike Volume: 20 (uL) or mL (for I.S. uL per mL) For Instrument/Analysis: LCMS/MS
Solvent(s): 0.3% NH4OH in MeOH Supplier(s): See PRLRE 116-326 Lot No(s).: See PRLRE 116-326
Date Solvent Opened: See PRLRE 116-326
Volumetric Flask Used: 200 mL Class A (5640) Syringe ID: Pipette J434346
Storage Location and Conditions: FR11
Ampule supplier; Mix Name; Catalogue No.; Lot No.; Date Rec'd.; Date Opened, Ampule Expiry Date:

Compound	Parent Solution No.	Parent Solution Conc'n. (ug/mL)	Aliquot Volume (mL (uL))	Dilution Volume (mL)	Final Conc'n. ng/mL (ug/mL)	Absolute Amount Spiked (ug / ng)
$^{13}C_8$ PFDA	S-4347	50	400	200	100	—
$^{13}C_6$ PFHxA	S-4348	50	400	200	100	—

652, 20 R/08/21

Notes:

Solution No.: SI-7088 Prep'n Date: 2018/08/21 Expiry Date: Daily Discard Date: _____
Replaces Solution No.: SI-7083 Replaced by Solution: _____ Chemist: DDA
Sol'n. Name: Acrylamide I.S
Solution Used As: Internal Std: — Surrogate Spike: —
Spike Volume: _____ uL or mL (for I.S. uL per mL) For Instrument/Analysis: —
Solvent(s): DI H2O Supplier(s): _____ Lot No(s).: —
Date Solvent Opened: —
Volumetric Flask Used: 10 mL Class A Syringe ID: J243906
Storage Location and Conditions: _____
Ampule supplier; Mix Name; Catalogue No.; Lot No.; Date Rec'd.; Date Opened, Ampule Expiry Date:

Compound	Parent Solution No.	Parent Solution Conc'n. (ug/mL)	Aliquot Volume (mL (uL))	Dilution Volume (mL)	Final Conc'n. (ug/mL)	Absolute Amount Spiked (ug / ng)
Acrylamide I.S	S-4379	990	25-3	10	2.5	—

Rec'd 08/21 DDA

Notes:

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APPROPRIATE SOLUTION NUMBER REFERENCES MUST BE WRITTEN ON ALL INSERTS.

PRLST 133 PG 196

PREPARATION OF CONCENTRATED STOCK STANDARDS

Solution No.: S-4347 Date: 2018/05/29 Expiry Date: 2028/01/23 Discard Date: _____

Replaces Solution: S-4297 Replaced by Solution: _____ Chemist: GSZ

Compound: $^{13}C_9$ PFDA Purity: _____

Date Received: 2018/02/28 Expiry Date: 2028/01/23 Lot No.: SCID-014

Supplier: CIL

Date Opened: 2018/05/29

Final Gross Weight: - g/mg Dilution Volume: - mL

Tare Weight*: - g/mg Volumetric Flask: -

Net Weight: - g/mg **Concentration:** 50 (ug/mL), mg/mL

Adjusted Net Weight**: - mg Solvent(s): MeOH

Balance Used: -
(specify model and serial no.)

Solvent Used: -

Solvent Supplier: - Lot No(s).: -

Date Opened: -

Storage Location / Conditions: FZ11

Notes/Comments Received as solution in ampule.

Solution No.: S-4348 Date: 2018/05/29 Expiry Date: 2020/09/30 Discard Date: _____

Replaces Solution: S-4298 Replaced by Solution: _____ Chemist: GSZ

Compound: $^{13}C_6$ PFHxA Purity: _____

Date Received: 2018/02/28 Expiry Date: 2020/09/30 Lot No.: SPAA-004

Supplier: CIL

Date Opened: 2018/05/29

Final Gross Weight: - g/mg Dilution Volume: - mL

Tare Weight*: - g/mg Volumetric Flask: -

Net Weight: - g/mg **Concentration:** 50 ug/mL

Adjusted Net Weight**: - mg Solvent(s): MeOH

Balance Used: -
(specify model and serial no.)

Solvent Used: -

Solvent Supplier: - Lot No(s).: -

Date Opened: -

Storage Location / Conditions: FZ11

Notes/Comments Received as solution in ampule.

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Cambridge Isotope Laboratories, Inc.

Certificate of Analysis

Quality Standards:
ISO Guide 34 • ISO/IEC 17025 • ISO 13485 • cGMP

Product Name: (Isotopic Label & Enrichment Specification)	PERFLUORODECANOIC ACID (13C9, 99%) 50 UG/ML IN METHANOL
Lot Number:	SCID-014
Catalog Number:	CLM-8172-S

Product Information

Chemical Purity Specification:	≥ 98%
Labeled CAS Number:	NA
Unlabeled CAS Number:	335-76-2
MW*:	523.02
Chemical Formula:	CF3(*CF2)8*CO2H
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.

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.

* *For isotopically labeled compounds, MW listed is for the fully enriched product.*

Approved by: T. J. Eckersley

Timothy J. Eckersley, Ph.D., Quality Review

Quality Control Tests and Results

QC Release Date		06/20/2008
Expiration Date		06/20/2018
Concentration Based on Gravimetry		50.0 µg/mL
Chemical Purity of Neat Material(s)		>98%
LC/MS for Concentration	Received MMN 2016/11/15 1x 1.2mL HT	46.2 ± 6.4 µg/mL (k=2)

50 Frontage Road, Andover, MA 01810-5413 USA • 1.800.322.1174 (North America) • 1.978.749.8000 (International) • isotope.com

Date Received:2016.8.17 - 1 x 1.2mL - HPLC
Date Received: 2016.09.14 -HPLC - 1 x 1.2ml
Date Received: 2016/11/22 1x 1.2ml MMN HPLC
Date Received:2017.02.15 - 1 x 1mL - HPLC (MMN)
Date received: 2017/06/09 - 1x1.2ml - HPLC
Date received: 2017/07/25 - 1x1.2ml - HPLC
Date received: 2018/02/28 - 1x1.2ml - HPLC

Cambridge Isotope Laboratories, Inc.

Certificate of Analysis

Quality Standards:
ISO Guide 34 • ISO/IEC 17025 • ISO 13485 • cGMP

Product Name: (Isotopic Label & Enrichment Specification)	PERFLUOROHEXANOIC ACID, SODIUM SALT (13C6, 99%) 50 UG/ML IN METHANOL
Lot Number:	SDAA-004
Catalog Number:	CLM-8340-S

Product Information

Chemical Purity Specification:	≥ 98%
Labeled CAS Number:	NA
Unlabeled CAS Number:	307-24-4
MW*:	320.00
Chemical Formula:	*CF3(*CF2)4*COOH
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.

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.

** For isotopically labeled compounds, MW listed is for the fully enriched product.*

Approved by: T. J. Ecksley

Timothy J. Reckseidy, Ph.D., Quality Review

Quality Control Tests and Results

QC Release Date	9/30/2010
Expiration Date	9/30/2020
Concentration Based on Gravimetry	50.4 µg/mL
Chemical Purity of Neat Material(s)	99.2%
LC/MS for Concentration	47.1 ± 2.6 µg/mL (k=2)

Received 2016/10/13 1X1.2mL

50 Frontage Road, Andover, MA 01810-5413 USA • 1.800.322.1174 (North America) • 1.978.749.8000 (International) • isotope.com

Date Received: 2017.07.25 - 1 ampoule -HPLC
Date Received: 2018.02.28 - 1 ampoule -HPLC

155 PG 56

PREPARATION OF SURROGATE / INTERNAL STANDARD SPIKING SOLUTION

Solution No.: SI-7184 Prep'n Date: 2018/10/09 Expiry Date: 2022/05/03 Discard Date: _____
Replaces Solution No.: SI-7173 Replaced by Solution: _____ Chemist: GSZ
Sol'n. Name: PFC INTERNAL STD SPIKING SOLUTION
Solution Used As: Internal Std: ✓ Surrogate Spike: _____
Spike Volume: — uL or mL (for I.S. uL per mL) For Instrument/Analysis: LCMS/MS
Solvent(s): 0.3% NH4OH in MeOH Supplier(s): See PRLRE 116-481 Lot No(s).: See PRLRE 116-481
Date Solvent Opened: See PRLRE 116-481
Volumetric Flask Used: 200mL Class A (5640) Syringe ID: Hamilton MA1011F / P424096
Storage Location and Conditions: FZ11
Ampule supplier; Mix Name; Catalogue No.; Lot No.; Date Rec'd.; Date Opened, Ampule Expiry Date: See attached sheet

SI-7184 (PRLST 155 p. 56)

Compound Name	ID#	Conc. (ug/mL)	Vol. of Stock standard (uL)	Dilution volume (mL)	Final Conc. (ng/mL)	Exp. date
MPFBA	S4428-1	50	200	200	50	2023/02/16
M5PFPeA	S4428-2	50	200	200	50	2022/07/20
MPFHxA	S4428-3	50	200	200	50	2023/05/22
MPFHxS	S4428-4	50	200	200	50	2023/03/22
M4PFHpA	S4428-5	50	200	200	50	2022/05/03
MPFOA	S4428-6	50	200	200	50	2023/05/04
MPFOS	S4428-7	50	200	200	50	2023/06/15
MPFNA	S4428-8	50	200	200	50	2022/12/14
MPFDA	S4428-9	50	200	200	50	2023/02/16
MPFUdA	S4428-10	50	200	200	50	2023/05/11
MPFDoA	S4428-11	50	200	200	50	2023/02/16
M2PFTeDA	S4428-12	50	200	200	50	2022/11/30
MPFOSA	S4428-13	50	200	200	50	2022/10/11
D3-N-MeFOSAA	S4428-14	50	200	200	50	2022/11/08
D5-N-EtFOSAA	S4428-15	50	200	200	50	2022/11/08
D-N-MeFOSA-M	S4431-1	50	500	200	125	2022/11/08
D-N-EtFOSA-M	S4431-2	50	500	200	125	2022/10/11
D7-N-MeFOSE-M	S4431-3	50	500	200	125	2022/10/13
D9-N-EtFOSE-M	S4431-4	50	500	200	125	2022/10/13
M2-6:2FTS	S4431-5	50	500	200	125	2023/02/16
M2-8:2FTS	S4431-6	50	500	200	125	2023/01/24

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PRLST 151 PG 16

PREPARATION OF CONCENTRATED STOCK STANDARDS

Solution No.: S-4427 Date: 2018/09/18 Expiry Date: 2019/10/01 Discard Date: _____

Replaces Solution: ~~S-4388~~ ~~S-4387~~ ~~S-4377~~ Replaced by Solution: _____ Chemist: GSZ 2018/09/18

Compound: 2,6-DIAMINO-4-NITROTOLUENE Purity: -

Date Received: 2018/03/22 Expiry Date: 2019/10/01 Lot No.: 217081488

Supplier: AccuStandard

Date Opened: 2018/09/18

Final Gross Weight: - g/mg Dilution Volume: _____ mL

Tare Weight* : - g/mg Volumetric Flask: _____

Net Weight: - g/mg **Concentration:** 100 (ug/mL), mg/mL

Adjusted Net Weight** : - mg Solvent(s): ACN

Balance Used: - (specify model and serial no.)

Solvent Used: -

Solvent Supplier: - Lot No(s).: -

Date Opened: -

Storage Location / Conditions: FD59

Notes/Comments Received as solution in ampule.

FOR LABORATORY USE ONLY
H225 H315 H332 H319
P338 P352 P340 P233
P260 P262 P202 P264
P284

AccuStandard®
125 Market Street • New Haven, CT 06513 • USA
Tel. 203-786-5290 • www.accustandard.com
M-8330-ADD-13
2,6-Diamino-4-nitrotoluene
0.1 mg/mL in AcCN
Lot: 217081488
Exp: Oct 01, 2019
1 mL
1 comp(s)
Storage: Refrig (0-5 °C)

Solution No.: S-4428 Date: 2018/09/20 Expiry Date: See Below Discard Date: _____

S-4428 (PRLST 151 pg. 16)

Solution ID#	Compound Name	Lot#	Received date	Exp. date	Replaces Solution	Replaced by Solution	Conc (ug/mL)	Solvent	Storage
S4428-1	MPFBA	MPFBA0218	2018/07/12	2023/02/16	S4381-1		50	MeOH	FZ-11
S4428-2	M5PFPeA	M5PFPeA0717	2018/07/12	2022/07/20	S4381-2		50	MeOH	FZ-11
S4428-3	MPFHxA	MPFHxA0518	2018/07/12	2023/05/22	S4381-3		50	MeOH	FZ-11
S4428-4	MPFHxS	MPFHxS0318	2018/07/12	2023/03/22	S4381-4		50	MeOH	FZ-11
S4428-5	M4PFHpA	M4PFHpA0517	2018/07/12	2022/05/03	S4381-5		50	MeOH	FZ-11
S4428-6	MPFOA	MPFOA0418	2018/07/12	2023/05/04	S4381-6		50	MeOH	FZ-11
S4428-7	MPFOS	MPFOS0618	2018/07/12	2023/06/15	S4381-7		50	MeOH	FZ-11
S4428-8	MPFNA	MPFNA1217	2018/07/12	2022/12/14	S4381-8		50	MeOH	FZ-11
S4428-9	MPFDA	MPFDA0218	2018/07/12	2023/02/16	S4381-9		50	MeOH	FZ-11
S4428-10	MPFUdA	MPFUdA0518	2018/07/12	2023/05/11	S4381-10		50	MeOH	FZ-11
S4428-11	MPFDoA	MPFDoA0218	2018/07/12	2023/02/16	S4381-11		50	MeOH	FZ-11
S4428-12	M2PFTeDA	M2PFTeDA1117	2018/07/12	2022/11/30	S4381-12		50	MeOH	FZ-11
S4428-13	MPFOSA	M8FOSA1017I	2018/07/12	2022/10/11	S4381-13		50	IPA	FD-59
S4428-14	D3-N-MeFOSAA	d3NMeFOSAA1117	2018/07/12	2022/11/08	S4381-14		50	MeOH	FD-59
S4428-15	D5-N-EtFOSAA	d5NEtFOSAA1117	2018/07/12	2022/11/08	S4381-15		50	MeOH	FD-59

Date opened (All compounds): 2018/09/20 Supplier: Wellington Chemist: GSZ

No writing on bottom gage.

GSZ, 2018/09/14

Notes/Comments

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PRLST 151 PG 18

PREPARATION OF CONCENTRATED STOCK STANDARDS

Solution No.: S-4431 **Date:** 2018/09/28 **Expiry Date:** See Below **Discard Date:** _____

S-4431 (PRLST 151 p. 18)

Solution ID#	Compound Name	Lot#	Received date	Exp. date	Replaces Solution	Replaced by Solution	Conc (ug/mL)	Solvent	Storage
S4431-1	D-N-MeFOSA-M	dNMeFOSA1117M	2018/09/25	2022/11/08	S4425-1		50	MeOH	FZ-11
S4431-2	D-N-EtFOSA-M	dNEtFOSA1017M	2018/09/25	2022/10/11	S4425-2		50	MeOH	FZ-11
S4431-3	D7-N-MeFOSE-M	d7NMeFOSE1017M	2018/09/25	2022/10/13	S4425-3		50	MeOH	FZ-11
S4431-4	D9-N-EtFOSE-M	d9NEtFOSE1017M	2018/09/25	2022/10/13	S4425-4		50	MeOH	FZ-11
S4431-5	M2-6:2FTS	M262FTS0218	2018/09/18	2023/02/16	S4425-5		50	MeOH	FD-59
S4431-6	M2-8:2FTS	M282FTS0118	2018/09/18	2023/01/24	S4425-6		50	MeOH	FD-59
Date opened (All compounds): 2018/09/28			Supplier: Wellington			Chemist: GSZ			

No writing on bottom page.

GSZ, 2018/09/28

Storage Location / Conditions: _____

Notes/Comments

Solution No.: S-4432 **Date:** 2018/10/05 **Expiry Date:** 2018/12/05 **Discard Date:** —

Replaces Solution: S-4397 Replaced by Solution: _____ Chemist: LV

Compound: Acrylic acid ICV Purity: 99.9-1.

Date Received: 2018/08/10 Expiry Date: 2019/01/31 Lot No.: SHBJ8669

Supplier: Sigma

Date Opened: 2018/10/05

Final Gross Weight: 0.0104 g/mg Dilution Volume: 10 mL

Tare Weight*: — g/mg Volumetric Flask: Class A 5630

Net Weight: 10.3792 g/mg **Concentration:** 1037.92 ug/mL

Adjusted Net Weight**: 10.3792 mg Solvent(s): MeOH

Balance Used: FC-1
(specify model and serial no.)

Solvent Used: Methanol

Solvent Supplier: Sigma Lot No(s).: SHBK1713

Date Opened: 2018/10/05

Storage Location / Conditions: FZ-11

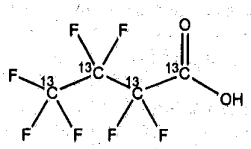
Notes/Comments

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WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	MPFBA	**LOT NUMBER:**	MPFBA0218
COMPOUND:	Perfluoro-n-[1,2,3,4-$^{13}C_4$]butanoic acid		
STRUCTURE:		**CAS #:**	Not available



Received On:
2018/07/12
Tejashri
1 X Ampoule lot...

MOLECULAR FORMULA:	$^{13}C_4HF_7O_2$	**MOLECULAR WEIGHT:**	218.01
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)	02/16/2018		
EXPIRY DATE: (mm/dd/yyyy)	02/16/2023		
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:** 02/22/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

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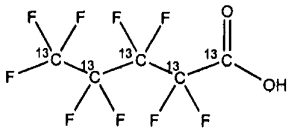
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: M5PFPeA
COMPOUND: Perfluoro-n-[$^{13}C_5$]pentanoic acid

LOT NUMBER: M5PFPeA0717

STRUCTURE:



CAS #: Not available

Received On:
2018/07/12
1x Ampoule.

MOLECULAR FORMULA: $^{13}C_5HF_9O_2$
CONCENTRATION: 50 ± 2.5 µg/ml

MOLECULAR WEIGHT: 269.01
SOLVENT(S): Methanol
Water (<1%)

CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 07/20/2017
EXPIRY DATE: (mm/dd/yyyy) 07/20/2022
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

ISOTOPIC PURITY: ≥99% ^{13}C ($^{13}C_5$)

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-pentanoic acid.

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Certified By: _____ **Date:** 07/26/2017 (mm/dd/yyyy)
B.G. Chittim, General Manager

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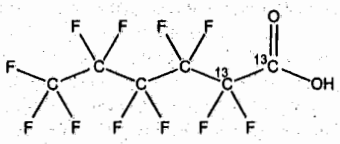
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: MPFHxA
COMPOUND: Perfluoro-n-[1,2-$^{13}C_2$]hexanoic acid

LOT NUMBER: MPFHxA0518

STRUCTURE:



CAS #: Not available

Received on:
2018/07/12
Tajashri
1x Ampoule

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)	05/22/2018		
EXPIRY DATE: (mm/dd/yyyy)	05/22/2023		
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 < 0.1% of perfluoro-n-hexanoic acid.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 05/30/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

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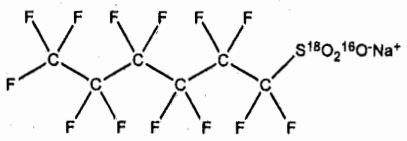
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: MPFHxS
COMPOUND: Sodium perfluoro-1-hexane[$^{18}O_2$]sulfonate

LOT NUMBER: MPFHxS0318

STRUCTURE:



CAS #: 1585941-14-5

Received On:
2018/07/12
Tejeshwini
1 x Ampoule

MOLECULAR FORMULA:	$C_6F_{13}S^{18}O_2{}^{16}ONa$	**MOLECULAR WEIGHT:**	426.10
CONCENTRATION:	50.0 ± 2.5 µg/ml (Na salt) 47.3 ± 2.4 µg/ml (MPFHxS anion)	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	>94% ($^{18}O_2$)
LAST TESTED: (mm/dd/yyyy)	03/22/2018		
EXPIRY DATE: (mm/dd/yyyy)	03/22/2023		
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.
- The response factor for MPFHxS ($C_6F_{13}S^{18}O_2{}^{16}O^-$) has been observed to be up to 10% lower than for PFHxS ($C_6F_{13}S^{16}O_3^-$) when both compounds are injected together. This difference may vary between instruments.
- Contains ~ 1.0% of sodium perfluoro-1-octane[$^{18}O_2$]sulfonate ($^{18}O_2$-PFOS) and ~ 0.3% of sodium perfluoro-1-heptane[$^{18}O_2$]sulfonate ($^{18}O_2$-PFHpS).
- Due to the isotopic purity of the starting material ($^{18}O_2$ >94%), MPFHxS contains ~ 0.3% of PFHxS. This value agrees with the theoretical percent relative abundance that is expected based on the stated isotopic purity.

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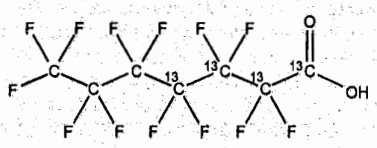
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: M4PFHpA
COMPOUND: Perfluoro-n-[1,2,3,4-$^{13}C_4$]heptanoic acid

LOT NUMBER: M4PFHpA0517

STRUCTURE:



CAS #: Not available

Recived On!
2018/07/12
Tajashri
1x Ampoule

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)	05/03/2017		
EXPIRY DATE: (mm/dd/yyyy)	05/03/2022		
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.

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Certified By: _____ **Date:** 05/11/2017 (mm/dd/yyyy)
B.G. Chittim, General Manager

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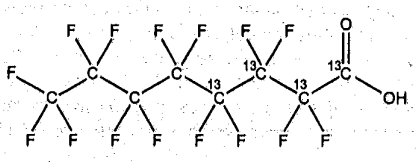
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: MPFOA
COMPOUND: Perfluoro-n-[1,2,3,4-$^{13}C_4$]octanoic acid

LOT NUMBER: MPFOA0418

STRUCTURE:



CAS #: 960315-48-4

Received On:
2018/07/12
Tejashri
1x Ampoule

MOLECULAR FORMULA:	$^{13}C_4{}^{12}C_4HF_{15}O_2$	**MOLECULAR WEIGHT:**	418.04
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2,3,4\text{-}^{13}C_4$)
LAST TESTED: (mm/dd/yyyy)	05/04/2018		
EXPIRY DATE: (mm/dd/yyyy)	05/04/2023		
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 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains ~ 0.1% of native perfluoro-n-octanoic acid (PFOA).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 06/13/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

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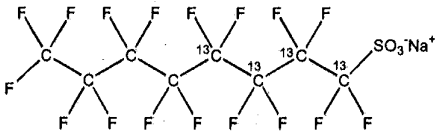
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CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: MPFOS **LOT NUMBER:** MPFOS0618

COMPOUND: Sodium perfluoro-1-[1,2,3,4-$^{13}C_4$]octanesulfonate

STRUCTURE: **CAS #:** Not available



Recived On!
~~2018/07/12~~ 2018/07/12
Tafarini
1 x Ampoule.

MOLECULAR FORMULA:	$^{13}C_4{}^{12}C_4F_{17}SO_3Na$	**MOLECULAR WEIGHT:**	526.08
CONCENTRATION:	50.0 ± 2.5 µg/ml (Na salt) 47.8 ± 2.4 µg/ml (MPFOS anion)	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2,3,4\text{-}^{13}C_4$)
LAST TESTED: (mm/dd/yyyy)	06/15/2018		
EXPIRY DATE: (mm/dd/yyyy)	06/15/2023		
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% Sodium perfluoro-1-[1,2,3-$^{13}C_3$]heptanesulfonate.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 06/18/2018 (mm/dd/yyyy)
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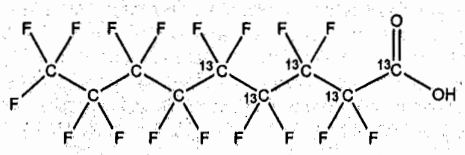
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: MPFNA
COMPOUND: Perfluoro-n-[1,2,3,4,5-$^{13}C_5$]nonanoic acid

LOT NUMBER: MPFNA1217

STRUCTURE:



CAS #: Not available

Received On:
2018/07/12
Tejashri
1x Ampoule

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 ($1,2,3,4,5\text{-}^{13}C_5$)
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.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 12/19/2017 (mm/dd/yyyy)
B.G. Chittim, General Manager

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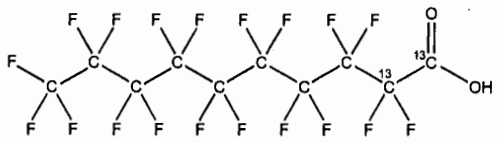
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: MPFDA
COMPOUND: Perfluoro-n-[1,2-$^{13}C_2$]decanoic acid

LOT NUMBER: MPFDA0218

STRUCTURE:



CAS #: Not available

Received On:
2018/07/12
1 x Ampoule.

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)	02/16/2018		
EXPIRY DATE: (mm/dd/yyyy)	02/16/2023		
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 < 0.1% of $^{13}C_1$-PFNA.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 03/07/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

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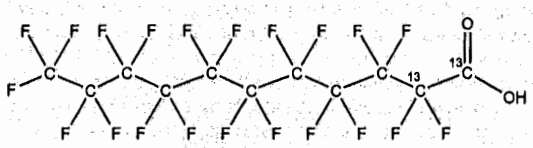
CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: MPFUdA
COMPOUND: Perfluoro-n-[1,2-$^{13}C_2$]undecanoic acid

LOT NUMBER: MPFUdA0518

STRUCTURE:

CAS #: Not available



Recived On:
2018/07/12
Tejashri
1x Ampoule.

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)	05/11/2018		
EXPIRY DATE: (mm/dd/yyyy)	05/11/2023		
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.
- 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:** 05/25/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

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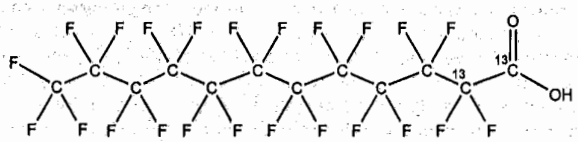
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: MPFDoA
COMPOUND: Perfluoro-n-[1,2-$^{13}C_2$]dodecanoic acid

LOT NUMBER: MPFDoA0218

STRUCTURE:



CAS #: Not available

Recived On:
2018|07|12
Tejashri
1x Ampoule

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)	02/16/2018		
EXPIRY DATE: (mm/dd/yyyy)	02/16/2023		
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:** 02/23/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

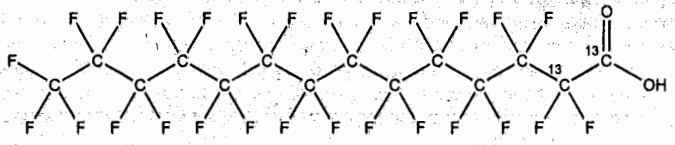
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WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: M2PFTeDA
LOT NUMBER: M2PFTeDA1117
COMPOUND: Perfluoro-n-[1,2-$^{13}C_2$]tetradecanoic acid

STRUCTURE:



CAS #: Not available

Received On:
~~2018/07/12 Lot~~
2018/07/12
Tejashri
1x Ampoule

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)	11/30/2017		
EXPIRY DATE: (mm/dd/yyyy)	11/30/2022		
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.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 12/01/2017 (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

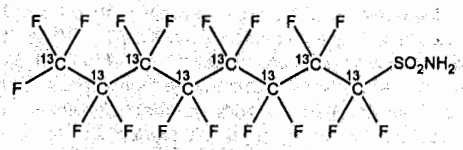
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: M8FOSA-I
COMPOUND: Perfluoro-1-[$^{13}C_8$]octanesulfonamide

LOT NUMBER: M8FOSA1017I

STRUCTURE:



CAS #: Not available

Received On:
2018/07/16
Tajashri
1x Ampoule.

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)	10/11/2017		
EXPIRY DATE: (mm/dd/yyyy)	10/11/2022		
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.
- Contains ~ 1.1% of perfluoro-1-[$^{13}C_4$]octanesulfonamide and ~ 0.01% of perfluoro-1-[$^{13}C_7$]heptanesulfonamide.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 10/20/2017 (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

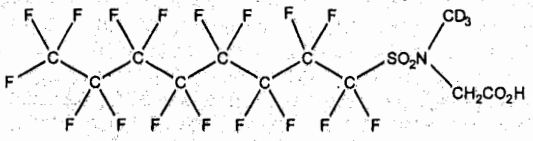
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: d3-N-MeFOSAA **LOT NUMBER:** d3NMeFOSAA1117

COMPOUND: N-methyl-d3-perfluoro-1-octanesulfonamidoacetic acid

STRUCTURE:



CAS #: Not available

Received:
2018/07/12
Tyashad
1X Ampoule

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)	11/08/2017		
EXPIRY DATE: (mm/dd/yyyy)	11/08/2022		
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 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:** 11/16/2017 (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

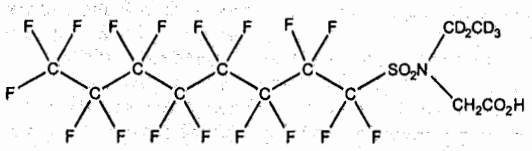
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: d5-N-EtFOSAA **LOT NUMBER:** d5NEtFOSAA1117

COMPOUND: N-ethyl-d5-perfluoro-1-octanesulfonamidoacetic acid

STRUCTURE: **CAS #:** Not available



Recived:
2018/07/12
Tejashri
1X Ampoule

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)	11/08/2017		
EXPIRY DATE: (mm/dd/yyyy)	11/08/2022		
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 4 mole eq. of NaOH to prevent the conversion of the acetic acid moiety to the methyl ester.

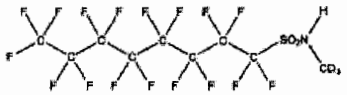
FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 11/16/2017 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
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WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	d-N-MeFOSA-M	**LOT NUMBER:**	dNMeFOSA1117M
COMPOUND:	N-methyl-d_3-perfluoro-1-octanesulfonamide		
STRUCTURE:		**CAS #:**	Not available

2018/01/16
1 ampoule
2.6

MOLECULAR FORMULA:	$C_8O_3HF_{17}NO_3S$	**MOLECULAR WEIGHT:**	516.19
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥98% $^2H_3$
LAST TESTED: (mm/dd/yyyy)	11/08/2017		
EXPIRY DATE: (mm/dd/yyyy)	11/08/2022		
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:** 11/16/2017 (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

Date Received: 2018.03.08 - 2 ampoules - HPLC
Date Received: 2018.05.02 - 2 ampoules - HPLC
Date Received: 2018.06.04 - 2 ampoules - HPLC
Date Received: 2018.07.12 - 2 ampoules - HPLC
Date Received: 2018.09.25 - 2 ampoules - HPLC

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: d-N-EtFOSA-M
COMPOUND: N-ethyl-d_5-perfluoro-1-octanesulfonamide

LOT NUMBER: dNEtFOSA1017M

STRUCTURE:



CAS #: Not available

HPLC
2018/03/08
2x ampoules
E.G

MOLECULAR FORMULA:	$C_{10}D_5HF_{17}NO_2S$	**MOLECULAR WEIGHT:**	532.23
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥98% $^2H_5$
LAST TESTED: (mm/dd/yyyy)	10/11/2017		
EXPIRY DATE: (mm/dd/yyyy)	10/11/2022		
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: B.G. Chittim, General Manager **Date:** 11/06/2017 (mm/dd/yyyy)

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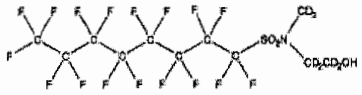
Date Received: 2017.11.07 - 1 ampoule - HPLC
Date Received: 2017.12.06 - 2 ampoules - HPLC
Date Received: 2018.03.08 - 1 ampoule - HPLC
Date Received: 2018.01.16 - 1 ampoule - HPLC
Date Received: 2018.05.02 - 1 ampoule - HPLC
Date Received: 2018.06.04 - 1 ampoule - HPLC
Date Received: 2018.07.12 - 1 ampoule - HPLC
Date Received: 2018.09.25 - 1 ampoule - HPLC

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: d7-N-MeFOSE-M **LOT NUMBER:** d7NMeFOSE1017M
COMPOUND: 2-(N-methyl-d3-perfluoro-1-octanesulfonamido)ethan-d4-ol

STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA:	$C_{11}D_7HF_{17}NO_3S$	**MOLECULAR WEIGHT:**	564.27
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥98% $^2H_7$
LAST TESTED: (mm/dd/yyyy)	10/13/2017 (HRGC/LRMS) 10/12/2017 (LC/MS)		
EXPIRY DATE: (mm/dd/yyyy)	10/13/2022		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

1 ampule
HPLC
2017/11/07

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:** 11/03/2017 (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

Date Received: 2017.12.06 - 1 ampoule - HPLC
Date Received: 2018.01.16 - 1 ampoule - HPLC
Date Received: 2018.03.08 - 2 ampoules - HPLC
Date Received: 2018.05.02 - 1 ampoule - HPLC
Date Received: 2018.06.04 - 1 ampoule - HPLC
Date Received: 2018.07.12 - 1 ampoule - HPLC
Date Received: 2018.09.25 - 1 ampoule - HPLC

Certificate of Analysis from other Companies

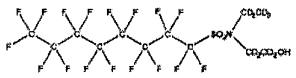
Product Description: **2-(N-ethyl-d5-perfluoro-1-octane sulfonamido)ethan-d4-ol**
Catalog # **d9-N-EtFOSE-M**
LOT # **d9NEtFOSE1017M**
Expiration Date: **10/13/2022**
Supplier Name: **Wellington Laboratories**
Storage Location: Fridge

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: d9-N-EtFOSE-M **LOT NUMBER:** d9NEtFOSE1017M
COMPOUND: 2-(N-ethyl-d5-perfluoro-1-octanesulfonamido)ethan-d4-ol

STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA: $C_{12}D_9HF_{17}NO_3S$ **MOLECULAR WEIGHT:** 580.31
CONCENTRATION: 50 ± 2.5 µg/ml **SOLVENT(S):** Methanol
CHEMICAL PURITY: >98% **ISOTOPIC PURITY:** ≥98% $^2H_4$
LAST TESTED: (mm/dd/yyyy) 10/13/2017 (HRGC/LRMS)
10/12/2017 (LC/MS)
EXPIRY DATE: (mm/dd/yyyy) 10/13/2022
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

1 ampoule HPLC 2017/11/07

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.
- Contains ~ 1.2% of N-ethyl-d5-perfluoro-1-octanesulfonamide.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 10/18/2017 (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

Date Received: 2017.12.06 - 1 ampoule - HPLC
Date Received: 2018.01.16 - 1 ampoule - HPLC
Date Received: 2018.03.08 - 2 ampoules - HPLC
Date Received: 2018.05.02 - 1 ampoule - HPLC
Date Received: 2018.06.04 - 1 ampoules - HPLC
Date Received: 2018.07.12 - 1 ampoules - HPLC
Date Received: 2018.09.25 - 1 ampoule - HPLC

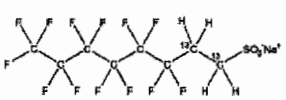
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: M2-6:2FTS **LOT NUMBER:** M262FTS0218

COMPOUND: Sodium 1H,1H,2H,2H-perfluoro-[1,2-$^{13}C_2$]octane sulfonate

STRUCTURE:



CAS #: Not available

Received on:
2018/07/12
Tyasbeck
1 x Ampoule

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)	02/16/2018		
EXPIRY DATE: (mm/dd/yyyy)	02/16/2023		
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:** 03/07/2018 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
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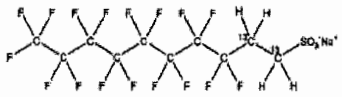
Received date: 2018/06/04 1x1.2 mL HPLC
Received date: 2018/07/12 1x1.2 mL HPLC
Date Received: 2018.09.18 1x1.2 ml HPLC

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: M2-8:2FTS **LOT NUMBER:** M282FTS0118
COMPOUND: Sodium 1H,1H,2H,2H-perfluoro-[1,2-$^{13}C_2$]decane sulfonate

STRUCTURE: **CAS #:** Not available



20181031 08
2 X a-pouls
E.G

MOLECULAR FORMULA:	$^{13}C_2{}^{12}C_4H_2F_{13}SO_3Na$	**MOLECULAR WEIGHT:**	552.15
CONCENTRATION:	50.0 ± 2.5 µg/ml (Na salt)	**SOLVENT(S):**	Methanol
	47.9 ± 2.4 µg/ml (M2-8:2FTS anion)		
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C
LAST TESTED: (mm/dd/yyyy)	01/24/2018		($1,2\text{-}^{13}C_2$)
EXPIRY DATE: (mm/dd/yyyy)	01/24/2023		
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:** 01/26/2018 (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

Date Received: 2018.05.02 - 1 ampule - HPLC
Date Received: 2018.06.04 - 1 ampule - HPLC
Date Received: 2018.07.12 - 1 ampule - HPLC
Date Received: 2018.09.18 - 1 ampoule - HPLC

PREPARATION OF SPIKING STANDARD SOLUTION

Solution No.: SK - 8015 Prep'n Date: 2018/09/25 Expiry Date: 2019/09/25 Discard Date: —

Replaces Solution No.: SK-7888 Replaced by Solution: _____ Chemist: LV

Solution Name: Comp- PFC working Soln C Solvent(s): 0.3% NH4OH in MeOH

Solvent Supplier(s): Aldrich Solvent Lot No(s): See PRLRE116 - 431

Date Opened: See PRLRE116 - 431

Volumetric Flask Used: 25 class A (5640) Volume: 25 mL **Spike Volume:** — uL / mL *

Syringe ID: Pipette L542806

Storage Location and Conditions: F2-11

For extended mix of compounds, refer to table on: _____

Compound	Parent Solution No.	Parent Solution Conc'n. (ug/mL)	Aliquot Volume (uL (mL) *	Final Conc'n. (ug/mL)	Absolute Amount Spiked (ug ng) *
Comp- PFC working Soln A	I-5482	1	2.5	100 ng/mL	—
				2018/09/25	

Notes:

Solution No.: SK-8016 Prep'n Date: 2018.9.25 Expiry Date: 2019.9.25 Discard Date: _____

Replaces Solution No.: SK-7877 Replaced by Solution: _____ Chemist: JYO

Solution Name: BN-3 Solvent(s): Acetone

Solvent Supplier(s): Fisher Solvent Lot No(s): 181822

Date Opened: 2018.9.25

Volumetric Flask Used: CLASS 'A' Volume: 10 mL **Spike Volume:** 50 (uL) mL *

Syringe ID: 1.0mL Lot 4593406-3

Storage Location and Conditions: F2-11, I2-35

For extended mix of compounds, refer to table on: _____

Compound	Parent Solution No.	Parent Solution Conc'n. (ug/mL)	Aliquot Volume (uL (mL) *	Final Conc'n. (ug/mL)	Absolute Amount Spiked (ug ng) *
BN-3	Ampule	2000	1.0	200	10
				2018-9-25	

Part #: SVO-FSL-22
Lot #: LK150921003
Date Opened: 2018-9-25

Notes:

Maxxam Analytics Specify Units

Do not write beneath any inserts or place any inserts on top of any raw data entered on this page. Initial and date all entries, corrections and inserts. Include ALL
references on ALL inserts

TUNE CHECK

Instrument: Agilent 6470 LC/MS/MS

Instrument Serial Number: SG1611G001

Maxxam Instrument Identification: LCMS04

Mass Calibration Performed: June 6, 2018

Tune Check Performed: June 6, 2018

Mass Assignment Reference Table ____ Page 2

Tune Check Summary Table ____ Page 4

Analyte Precursor Ion Verification ____ Page 6

Analyte Product Ion Verification ____ Page 35

Extracted and Injection Internal Standard Precursor Ion Verification ____ Page 65

Extracted and Injection Internal Standard Product Ion Verification ____ Page 89

Reviewed by:

Adam Robinson, Supervisor – Liquid Chromatography

2018/06/20

Date

Mass Assignments – Analytes, Extracted Internal Standards and Injection Internal Standards

Compound	Abbreviation	Precursor Ion (m/z)	Precursor Ion Formula	Quant Ion (m/z)	Quantitation Ion Formula	Confirmation Ion (m/z)	Confirmation Ion Formula
Native Analytes							
Perfluorobutanoic acid	PFBA	213.0	$[CF_3(CF_2)_2CO_2]^-$	169.0	$[CF_3(CF_2)_2]^-$	[1] N/A	N/A
Perfluorobutanesulfonate	PFBS	298.9	$[CF_3(CF_2)_3SO_3]^-$	80.0	$[SO_3]^-$	99.0	$[FSO_3]^-$
Perfluoropentanoic acid	PFPeA	263.0	$[CF_3(CF_2)_3CO_2]^-$	219.0	$[CF_3(CF_2)_3]^-$	[1] N/A	N/A
Perfluorohexanoic acid	PFHxA	313.0	$[CF_3(CF_2)_4CO_2]^-$	269.0	$[CF_3(CF_2)_4]^-$	119.0	$[CF_3(CF_2)]^-$
Perfluorohexanesulfonate	PFHxS	398.9	$[CF_3(CF_2)_5SO_3]^-$	80.0	$[SO_3]^-$	99.0	$[FSO_3]^-$
Perfluoroheptanoic acid	PFHpA	363.0	$[CF_3(CF_2)_5CO_2]^-$	319.0	$[CF_3(CF_2)_5]^-$	169.0	$[CF_3(CF_2)_2]^-$
Perfluoroheptanesulfonate	PFHpS	448.9	$[CF_3(CF_2)_6SO_3]^-$	80.0	$[SO_3]^-$	99.0	$[FSO_3]^-$
Perfluorooctanoic acid	PFOA	413.0	$[CF_3(CF_2)_6CO_2]^-$	369.0	$[CF_3(CF_2)_6]^-$	169.0	$[CF_3(CF_2)_2]^-$
Perfluorooctanesulfonate	PFOS	498.9	$[CF_3(CF_2)_7SO_3]^-$	80.0	$[SO_3]^-$	99.0	$[FSO_3]^-$
Perfluorononanoic acid	PFNA	463.0	$[CF_3(CF_2)_7CO_2]^-$	419.0	$[CF_3(CF_2)_7]^-$	219.0	$[CF_3(CF_2)_3]^-$
Perfluorodecanoic acid	PFDA	513.0	$[CF_3(CF_2)_8CO_2]^-$	469.0	$[CF_3(CF_2)_8]^-$	219.0	$[CF_3(CF_2)_3]^-$
Perfluorodecanesulfonate	PFDS	598.9	$[CF_3(CF_2)_9SO_3]$-	80.0	$[SO_3]^-$	99.0	$[FSO_3]^-$
Perfluoroundecanoic acid	PFUnA	563.0	$[CF_3(CF_2)_9CO_2]^-$	519.0	$[CF_3(CF_2)_9]^-$	269.0	$[CF_3(CF_2)_4]^-$
Perfluorododecanoic acid	PFDoA	613.0	$[CF_3(CF_2)_{10}CO_2]^-$	569.0	$[CF_3(CF_2)_{10}]^-$	319.0	$[CF_3(CF_2)_5]^-$
Perfluorotridecanoic acid	PFTrDA	663.0	$[CF_3(CF_2)_{11}CO_2]^-$	619.0	$[CF_3(CF_2)_{11}]^-$	319.0	$[CF_3(CF_2)_5]^-$
Perfluorotetradecanoic acid	PFTeDA	713.0	$[CF_3(CF_2)_{12}CO_2]^-$	669.0	$[CF_3(CF_2)_{12}]^-$	319.0	$[CF_3(CF_2)_5]^-$
Perfluorooctane sulfonamide	PFOSA	498.0	$[CF_3(CF_2)_7SO_2NH]^-$	78.0	$[SO_2N]^-$	477.9	$[(CF_2)_8SO_2N]^-$
N-methylperfluorooctane sulfonamide	MeFOSA	512.0	$[CF_3(CF_2)_7SO_2N(CH_3)]^-$	169.0	$[CF_3(CF_2)_2]^-$	219.0	$[CF_3(CF_2)_3]^-$
N-ethylperfluorooctane sulfonamide	EtFOSA	526.0	$[CF_3(CF_2)_7SO_2N(C_2H_5)]^-$	169.0	$[CF_3(CF_2)_2]^-$	219.0	$[CF_3(CF_2)_3]^-$
N-methylperfluorooctane sulfonamidoethanol	MeFOSE	616.0	$[CF_3(CF_2)_7SO_2N(CH_3)C_2H_4OH{\cdot}CH_3CO_2]^-$	59.0	$[CH_3CO_2]^-$	[1] N/A	N/A
N-ethylperfluorooctane sulfonamidoethanol	EtFOSE	630.0	$[CF_3(CF_2)_7SO_2N(C_2H_5)C_2H_4OH{\cdot}CH_3CO_2]^-$	59.0	$[CH_3CO_2]^-$	[1] N/A	N/A
N-methylperfluorooctanesufonamidoacetic acid	MeFOSAA	570.0	$[CF_3(CF_2)_7SO_2N(CH_3)CH_2CO_2]^-$	419.0	$[CF_3(CF_2)_7]^-$	482.9	$[CF_3(CF_2)_7SO_2]^-$
N-ethylperfluorooctanesufonamidoacetic acid	EtFOSAA	584.0	$[CF_3(CF_2)_7SO_2N(CH_2CH_3)CH_2CO_2]^-$	419.0	$[CF_3(CF_2)_7]^-$	482.9	$[CF_3(CF_2)_7SO_2]^-$
6:2 Fluorotelomersulfonate	6:2FTS	427.0	$[CF_3(CF_2)_5CH_2CH_2SO_3]^-$	407.0	$[CF_3(CF_2)_4CFCHCH_2SO_3]^-$	81.0	$[SO_2OH]^-$
8:2 Fluorotelomersulfonate	8:2FTS	527.0	$[CF_3(CF_2)_7CH_2CH_2SO_3]^-$	507.0	$[CF_3(CF_2)_6CFCHCH_2SO_3]^-$	81.0	$[SO_2OH]^-$
Mass-labeled Extracted Internal Standards							
$^{13}C_4$-Perfluorobutanoic acid	MPFBA	217.0	$[^{13}CF_3(^{13}CF_2)_2{}^{13}CO_2]^-$	172.0	$[^{13}CF_3(^{13}CF_2)_2]^-$	N/A	N/A

Compound	Abbreviation	Precursor Ion (m/z)	Precursor Ion Formula	Quant Ion (m/z)	Quantitation Ion Formula	Confirmation Ion (m/z)	Confirmation Ion Formula
$^{13}C_5$-Perfluoropentanoic acid	MPFPeA	268.0	$[^{13}CF_3(^{13}CF_2)_3{}^{13}CO_2]^-$	223.0	$[^{13}CF_3(^{13}CF_2)_3]^-$	N/A	N/A
$^{13}C_2$-Perfluorohexanoic acid	MPFHxA	315.0	$[CF_3(CF_2)_3(^{13}CF_2)^{13}CO_2]^-$	270.0	$[CF_3(CF_2)_3{}^{13}CF_2]^-$	N/A	N/A
$^{18}O_2$-Perfluorohexanesulfonate	MPFHxS	402.9	$[CF_3(CF_2)_5S(^{18}O)_2O]^-$	84.0	$[S(^{18}O)_2O]^-$	N/A	N/A
$^{13}C_4$-Perfluoroheptanoic acid	MPFHpA	367.0	$[CF_3CF_2(^{13}CF_2)_3{}^{13}CO_2]^-$	322.0	$[CF_3CF_2(^{13}CF_2)_4]^-$	N/A	N/A
$^{13}C_4$-Perfluorooctanoic acid	MPFOA	417.0	$[CF_3(CF_2)_3(^{13}CF_2)_3{}^{13}CO_2]^-$	372.0	$[CF_3(CF_2)_3(^{13}CF_2)_3]^-$	N/A	N/A
$^{13}C_4$-Perfluorooctanesulfonate	MPFOS	502.9	$[CF_3(CF_2)_3(^{13}CF_2)_4SO_3]^-$	80.0	$[SO_3]^-$	N/A	N/A
$^{13}C_5$-Perfluorononanoic acid	MPFNA	468.0	$[CF_3(CF_2)_3(^{13}CF_2)_4{}^{13}CO_2]^-$	423.0	$[CF_3(CF_2)_3(^{13}CF_2)_4]^-$	N/A	N/A
$^{13}C_2$-Perfluorodecanoic acid	MPFDA	515.0	$[CF_3(CF_2)_7(^{13}CF_2)^{13}CO_2]^-$	470.0	$[CF_3(CF_2)_7{}^{13}CF_2]^-$	N/A	N/A
$^{13}C_2$-Perfluoroundecanoic acid	MPFUnA	565.0	$[CF_3(CF_2)_8(^{13}CF_2)^{13}CO_2]^-$	520.0	$[CF_3(CF_2)_8{}^{13}CF_2]^-$	N/A	N/A
$^{13}C_2$-Perfluorododecanoic acid	MPFDoA	615.0	$[CF_3(CF_2)_9(^{13}CF_2)^{13}CO_2]^-$	570.0	$[CF_3(CF_2)_9{}^{13}CF_2]^-$	N/A	N/A
$^{13}C_2$-Perfluorotetradecanoic acid	MPFTeDA	715.0	$[CF_3(CF_2)_{12}(^{13}CF_2)^{13}CO_2]^-$	669.9	$[CF_3(CF_2)_{12}]^-$	N/A	N/A
$^{13}C_8$-Perfluorooctane sulfonamide	MPFOSA	506.0	$[^{13}CF_3(^{13}CF_2)_7SO_2NH]^-$	78.0	$[SO_2N]^-$	N/A	N/A
N-methyl-d_3-perfluorooctanesulfonamide	D_3-MeFOSA	515.0	$[CF_3(CF_2)_7SO_2N(CD_3)]^-$	169.0	$[CF_3(CF_2)_2]^-$	N/A	N/A
N-ethyl-d_5-perfluorooctanesulfonamide	D_5-EtFOSA	531.0	$[CF_3(CF_2)_7SO_2N(C_2D_5)]^-$	169.0	$[CF_3(CF_2)_2]^-$	N/A	N/A
N-methyl-d_3-perfluorooctanesulfonamidoethanol-d_4	D_7-MeFOSE	623.0	$[CF_3(CF_2)_7SO_2N(CD_3)CD_2CD_2OH \cdot CH_3CO_2]^-$	59.0	$[CH_3CO_2]^-$	N/A	N/A
N-ethyl-d_5-perfluorooctanesulfonamidoethanol-d_4	D_9-EtFOSE	639.0	$[CF_3(CF_2)_7SO_2N(CD_2CD_3)CD_2CD_2OH \cdot CH_3CO_2]^-$	59.0	$[CH_3CO_2]^-$	N/A	N/A
N-methyl-d_3-perfluorooctanesulfonamidoacetic acid	D_3-MeFOSAA	573.0	$[CF_3(CF_2)_7SO_2N(CD_3)CH_2CO_2]^-$	419.0	$[CF_3(CF_2)_7]^-$	N/A	N/A
N-ethyl-d_5-perfluorooctanesulfonamidoacetic acid	D_5-EtFOSAA	589.0	$[CF_3(CF_2)_7SO_2N(CD_2CD_3)CH_2CO_2]^-$	419.0	$[CF_3(CF_2)_7]^-$	N/A	N/A
$^{13}C_2$-Fluorotelomersulfonate (6:2)	M2-6:2FTS	429.0	$[CF_3(CF_2)_5(^{13}CH_2)_2SO_3]^-$	81.0	$[SO_2OH]^-$	N/A	N/A
$^{13}C_2$-Fluorotelomersulfonate (8:2)	M2-8:2FTS	529.0	$[CF_3(CF_2)_7(^{13}CH_2)_2SO_3]^-$	81.0	$[SO_2OH]^-$	N/A	N/A
Injection Internal Standards							
$^{13}C_6$-Perfluorohexanoic acid	$^{13}C_6$-PFHxA	319.0	$[^{13}CF_3(^{13}CF_2)_4{}^{13}CO_2]^-$	274.0	$[^{13}CF_3(^{13}CF_2)_4]^-$	N/A	N/A
$^{13}C_9$-Perfluorodecanoic acid	$^{13}C_9$-PFDA	522.0	$[CF_3(^{13}CF_2)_8{}^{13}CO_2]^-$	477.0	$[CF_3(^{13}CF_2)_8]^-$	N/A	N/A

[1] Confirmation ion not monitored.

m/z = mass-to-charge ratio and represents the mass of the ion divided by its electronic charge.

Tune Check Summary Table

Compound	Abbreviation	Precursor Ion (m/z)			Quantitation Ion (m/z)			Confirmation Ion (m/z)		
		Target	Monitored	±0.5 amu	Target	Monitored	±0.5 amu	Target	Monitored	±0.5 amu
Native Analytes										
Perfluorobutanoic acid	PFBA	213.0	**212.9**	*212.5 – 213.5*	169.0	**169.0**	*168.5 – 169.5*	[1] N/A	N/A	N/A
Perfluorobutanesulfonate	PFBS	298.9	**298.9**	*298.4 – 299.4*	80.0	**79.9**	*79.5 – 80.5*	99.0	**98.9**	*98.5 – 99.5*
Perfluoropentanoic acid	PFPeA	263.0	**262.9**	*268.5 – 269.5*	219.0	**218.9**	*218.5 – 219.5*	[1] N/A	N/A	N/A
Perfluorohexanoic acid	PFHxA	313.0	**312.9**	*312.5 – 313.5*	269.0	**269.0**	*268.5 – 269.5*	119.0	**119.0**	*118.5 – 119.5*
Perfluorohexanesulfonate	PFHxS	398.9	**398.9**	*398.4 – 399.4*	80.0	**79.9**	*79.5 – 80.5*	99.0	**98.9**	*98.5 – 99.5*
Perfluoroheptanoic acid	PFHpA	363.0	**362.9**	*362.5 – 363.5*	319.0	**319.0**	*318.5 – 319.5*	169.0	**168.9**	*168.5 – 169.5*
Perfluoroheptanesulfonate	PFHpS	448.9	**448.9**	*448.4 – 449.4*	80.0	**79.9**	*79.5 – 80.5*	99.0	**98.9**	*98.5 – 99.5*
Perfluorooctanoic acid	PFOA	413.0	**412.9**	*412.5 – 413.5*	369.0	**368.9**	*368.5 – 369.5*	169.0	**168.9**	*168.5 – 169.5*
Perfluorooctanesulfonate	PFOS	498.9	**498.9**	*498.4 – 499.4*	80.0	**80.0**	*79.5 – 80.5*	99.0	**99.0**	*98.5 – 99.5*
Perfluorononanoic acid	PFNA	463.0	**462.9**	*462.5 – 463.5*	419.0	**418.9**	*418.5 – 419.5*	219.0	**218.9**	*218.5 – 219.5*
Perfluorodecanoic acid	PFDA	513.0	**512.9**	*512.5 – 513.5*	469.0	**469.0**	*468.5 – 469.5*	219.0	**218.9**	*218.5 – 219.5*
Perfluorodecanesulfonate	PFDS	598.9	**598.9**	*598.4 – 599.4*	80.0	**79.9**	*79.5 – 80.5*	99.0	**98.9**	*98.5 – 99.5*
Perfluoroundecanoic acid	PFUnA	563.0	**562.9**	*562.5 – 563.5*	519.0	**518.9**	*518.5 – 519.5*	269.0	**268.9**	*268.5 – 269.5*
Perfluorododecanoic acid	PFDoA	613.0	**612.9**	*612.5 – 613.5*	569.0	**568.9**	*568.5 – 569.5*	319.0	**318.9**	*318.5 – 319.5*
Perfluorotridecanoic acid	PFTrDA	663.0	**662.9**	*662.5 – 663.5*	619.0	**618.9**	*618.5 – 619.5*	319.0	**318.9**	*318.5 – 319.5*
Perfluorotetradecanoic acid	PFTeDA	713.0	**712.9**	*712.5 – 713.5*	669.0	**668.9**	*668.5 – 669.5*	319.0	**319.0**	*318.5 – 319.5*
Perfluorooctane sulfonamide	PFOSA	498.0	**497.9**	*497.5 – 498.5*	78.0	**78.0**	*77.5 – 78.5*	477.9	**477.9**	*477.4 – 478.4*
N-methylperfluorooctane sulfonamide	MeFOSA	512.0	**511.9**	*511.5 – 512.5*	169.0	**168.9**	*168.5 – 169.5*	219.0	**219.0**	*218.5 – 219.5*
N-ethylperfluorooctane sulfonamide	EtFOSA	526.0	**525.9**	*525.5 – 526.5*	169.0	**168.9**	*168.5 – 169.5*	219.0	**219.0**	*218.5 – 219.5*
N-methylperfluorooctane sulfonamidoethanol	MeFOSE	616.0	**615.9**	*615.5 – 616.5*	59.0	**59.0**	*58.5 – 59.5*	[1] N/A	N/A	N/A
N-ethylperfluorooctane sulfonamidoethanol	EtFOSE	630.0	**629.9**	*629.5 – 630.5*	59.0	**59.0**	*58.5 – 59.5*	[1] N/A	N/A	N/A
N-methylperfluorooctanesulfonamidoacetic acid	MeFOSAA	570.0	**569.9**	*569.5 – 570.5*	419.0	**419.0**	*418.5 – 419.5*	482.9	**482.9**	*482.4 – 483.4*
N-ethylperfluorooctanesulfonamidoacetic acid	EtFOSAA	584.0	**583.9**	*583.5 – 584.5*	419.0	**418.9**	*418.5 – 419.5*	482.9	**482.9**	*482.4 – 483.4*
6:2 Fluorotelomersulfonate	6:2FTS	427.0	**426.9**	*426.5 – 427.5*	407.0	**406.9**	*406.5 – 407.5*	81.0	**80.9**	*80.5 – 81.5*

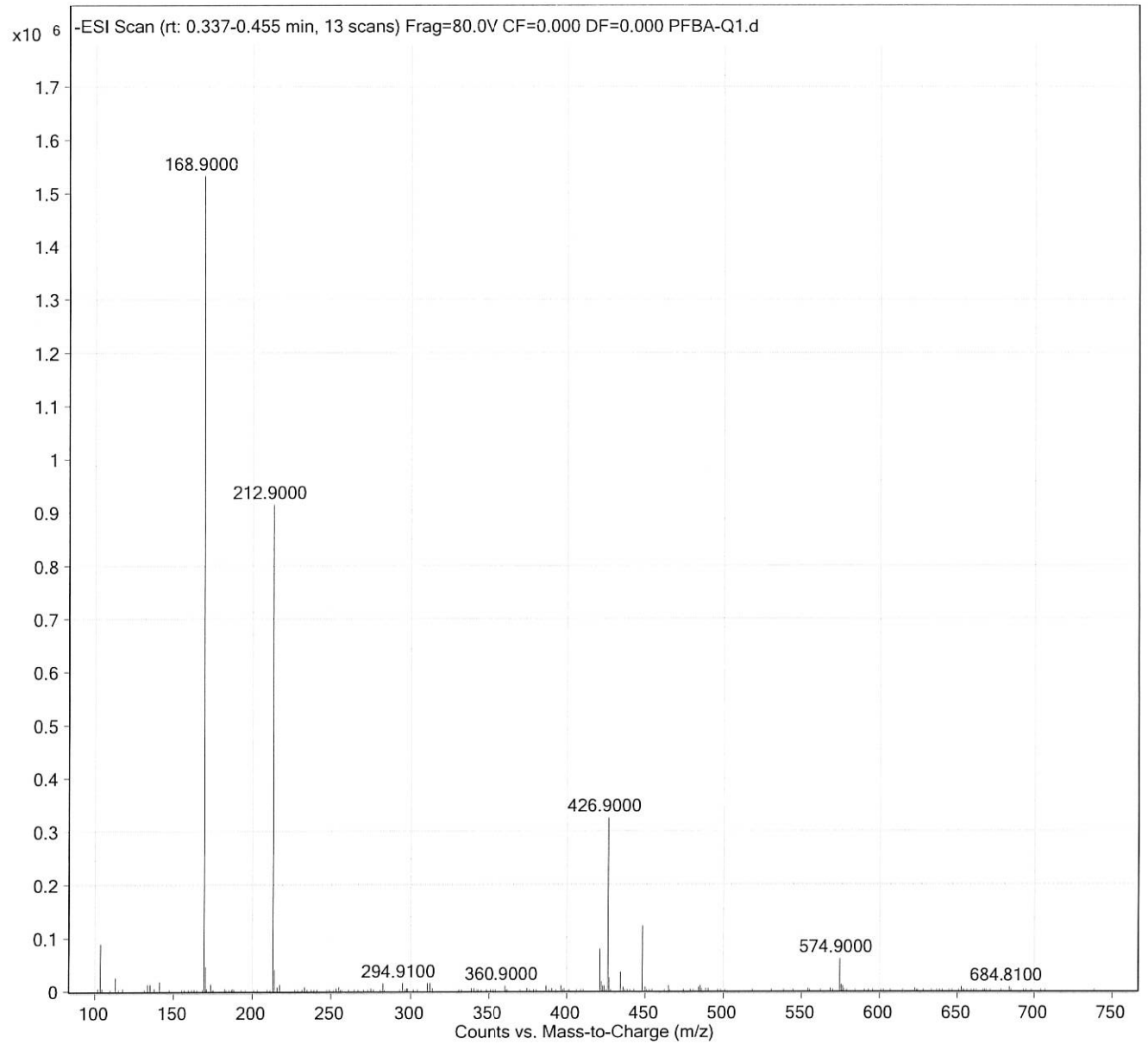
Compound	Abbreviation	Precursor Ion (m/z)			Quantitation Ion (m/z)			Confirmation Ion (m/z)		
		Target	Monitored	±0.5 amu	Target	Monitored	±0.5 amu	Target	Monitored	±0.5 amu
8:2 Fluorotelomersulfonate	8:2FTS	527.0	**526.9**	*526.5 – 527.5*	507.0	**506.9**	*506.5 – 507.5*	81.0	**81.0**	*80.5 – 81.5*
Mass-labeled Extracted Internal Standards										
$^{13}C_4$-Perfluorobutanoic acid	MPFBA	217.0	**216.9**	*216.5 – 217.5*	172.0	**172.0**	*171.5 – 172.5*	N/A	N/A	N/A
$^{13}C_5$-Perfluoropentanoic acid	MPFPeA	268.0	**267.9**	*267.5 – 268.5*	223.0	**223.0**	*222.5 – 223.5*	N/A	N/A	N/A
$^{13}C_2$-Perfluorohexanoic acid	MPFHxA	315.0	**314.9**	*314.5 – 315.5*	270.0	**270.0**	*269.5 – 270.5*	N/A	N/A	N/A
$^{18}O_2$-Perfluorohexanesulfonate	MPFHxS	402.9	**402.9**	*402.4 – 403.4*	84.0	**84.0**	*83.5 – 84.5*	N/A	N/A	N/A
$^{13}C_4$-Perfluoroheptanoic acid	MPFHpA	367.0	**366.9**	*366.5 – 367.5*	322.0	**322.0**	*321.5 – 322.5*	N/A	N/A	N/A
$^{13}C_4$-Perfluorooctanoic acid	MPFOA	417.0	**416.9**	*416.5 – 417.5*	372.0	**372.0**	*371.5 – 372.5*	N/A	N/A	N/A
$^{13}C_4$-Perfluorooctanesulfonate	MPFOS	502.9	**502.9**	*502.4 – 503.4*	80.0	**80.0**	*79.5 – 80.5*	N/A	N/A	N/A
$^{13}C_5$-Perfluorononanoic acid	MPFNA	468.0	**467.9**	*467.5 – 468.5*	423.0	**422.9**	*422.5 – 423.5*	N/A	N/A	N/A
$^{13}C_2$-Perfluorodecanoic acid	MPFDA	515.0	**514.9**	*514.5 – 515.5*	470.0	**470.0**	*469.5 – 470.5*	N/A	N/A	N/A
$^{13}C_2$-Perfluoroundecanoic acid	MPFUnA	565.0	**564.9**	*564.5 – 565.5*	520.0	**519.9**	*519.5 – 520.5*	N/A	N/A	N/A
$^{13}C_2$-Perfluorododecanoic acid	MPFDoA	615.0	**614.9**	*614.5 – 615.5*	570.0	**569.8**	*569.5 – 570.5*	N/A	N/A	N/A
$^{13}C_2$-Perfluorotetradecanoic acid	MPFTeDA	715.0	**714.9**	*714.5 – 715.5*	670.0	**669.9**	*669.5 – 670.5*	N/A	N/A	N/A
$^{13}C_8$-Perfluorooctane sulfonamide	MPFOSA	506.0	**505.9**	*505.5 – 506.5*	78.0	**77.9**	*77.5 – 78.5*	N/A	N/A	N/A
N-methyl-d_3-perfluorooctanesulfonamide	D_3-MeFOSA	515.0	**514.9**	*514.5 – 515.5*	169.0	**168.9**	*168.5 – 169.5*	N/A	N/A	N/A
N-ethyl-d_5-perfluorooctanesulfonamide	D_5-EtFOSA	531.0	**530.9**	*530.5 – 531.5*	169.0	**168.9**	*168.5 – 169.5*	N/A	N/A	N/A
N-methyl-d_3-perfluorooctanesulfonamidoethanol-d_4	D_7-MeFOSE	623.0	**622.9**	*622.5 – 623.5*	59.0	**59.0**	*58.5 – 59.5*	N/A	N/A	N/A
N-ethyl-d_5-perfluorooctanesulfonamidoethanol-d_4	D_9-EtFOSE	639.0	**639.0**	*638.5 – 639.5*	59.0	**59.0**	*58.5 – 59.5*	N/A	N/A	N/A
N-methyl-d_3-perfluorooctanesulfonamidoacetic acid	D_3-MeFOSAA	573.0	**572.9**	*572.5 – 573.5*	419.0	**419.0**	*418.5 – 419.5*	N/A	N/A	N/A
N-ethyl-d_5-perfluorooctanesulfonamidoacetic acid	D_5-EtFOSAA	589.0	**588.9**	*588.5 – 589.5*	419.0	**418.9**	*418.5 – 419.5*	N/A	N/A	N/A
$^{13}C_2$-Fluorotelomersulfonate (6:2)	M2-6:2FTS	429.0	**428.9**	*428.5 – 429.5*	81.0	**80.9**	*80.5 – 81.5*	N/A	N/A	N/A
$^{13}C_2$-Fluorotelomersulfonate (8:2)	M2-8:2FTS	529.0	**528.9**	*528.5 – 529.5*	81.0	**81.0**	*80.5 – 81.5*	N/A	N/A	N/A
Injection Internal Standards										
$^{13}C_6$-Perfluorohexanoic acid	$^{13}C_6$-PFHxA	319.0	**318.9**	*318.5 – 319.5*	274.0	**274.0**	*273.5 – 274.5*	N/A	N/A	N/A
$^{13}C_9$-Perfluorodecanoic acid	$^{13}C_9$-PFDA	522.0	**521.9**	*521.5 – 522.5*	477.0	**477.0**	*476.5 – 477.5*	N/A	N/A	N/A

[1] Confirmation ion not monitored.

m/z = mass-to-charge ratio and represents the mass of the ion divided by its electronic charge.

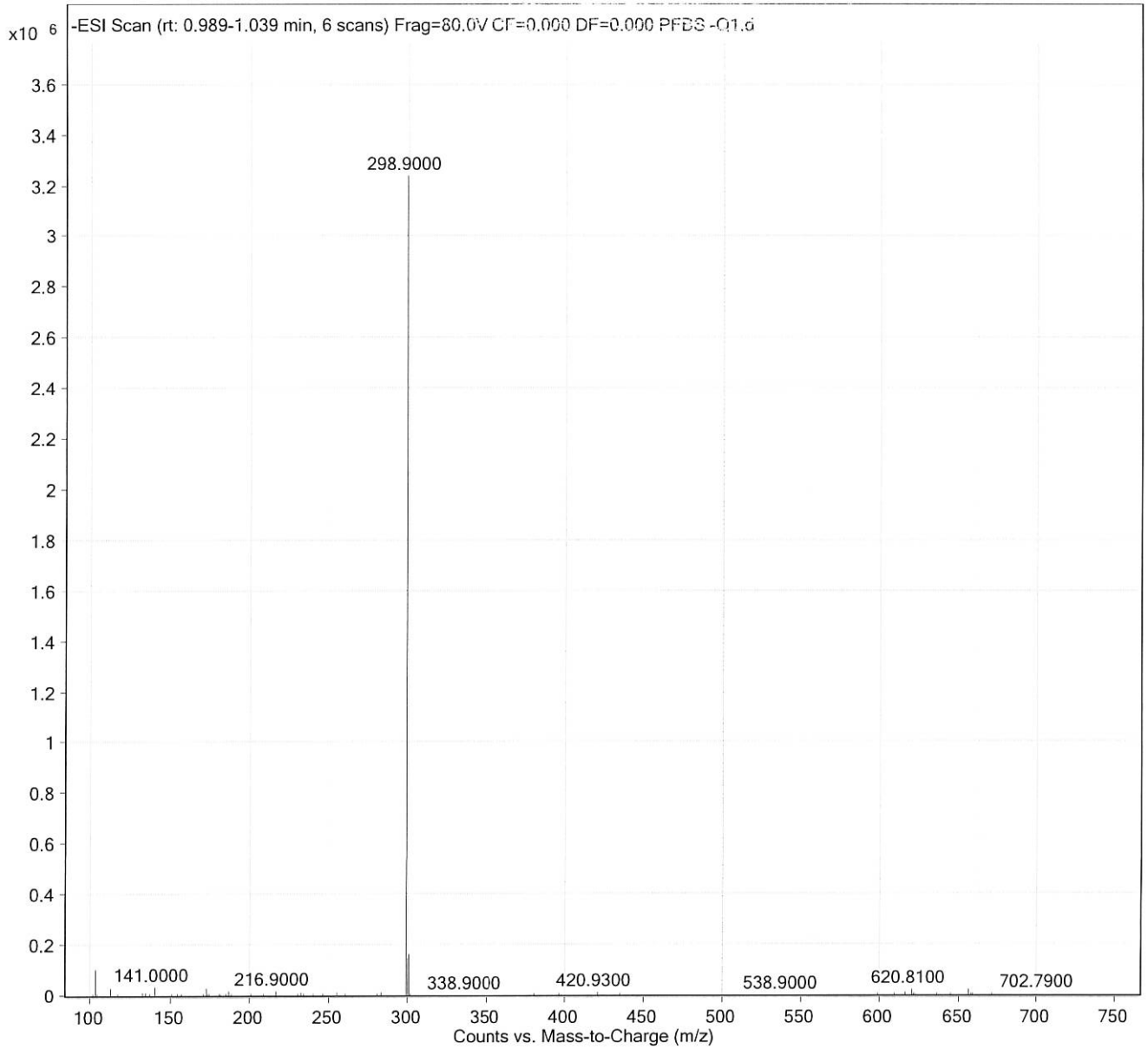
Analyte Precursor Ion Verification

Sample Name	PFBA -Q1	**Position**	P1-A1	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	PFBA-Q1.d
ACQ Method	PFC_MassVerification-Q1.m	**Comment**		**Acquired Time**	6/6/2018 11:53:38 AM



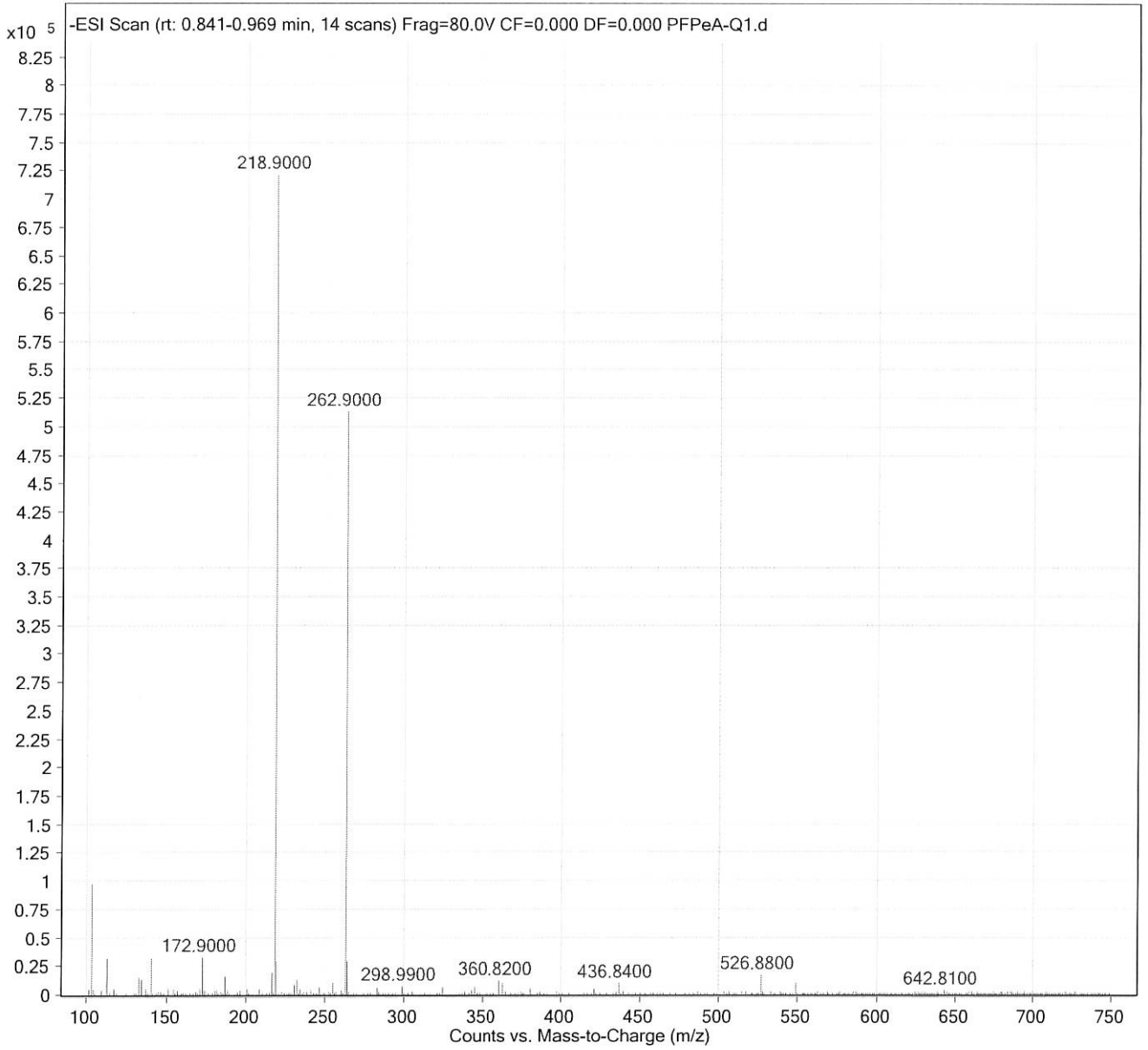
Maxxam Analytics

Sample Name	PFBS -Q1	**Position**	P1-A2	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	PFBS -Q1.d
ACQ Method	PFC_MassVerification-Q1.m	**Comment**		**Acquired Time**	6/6/2018 11:59:09 AM



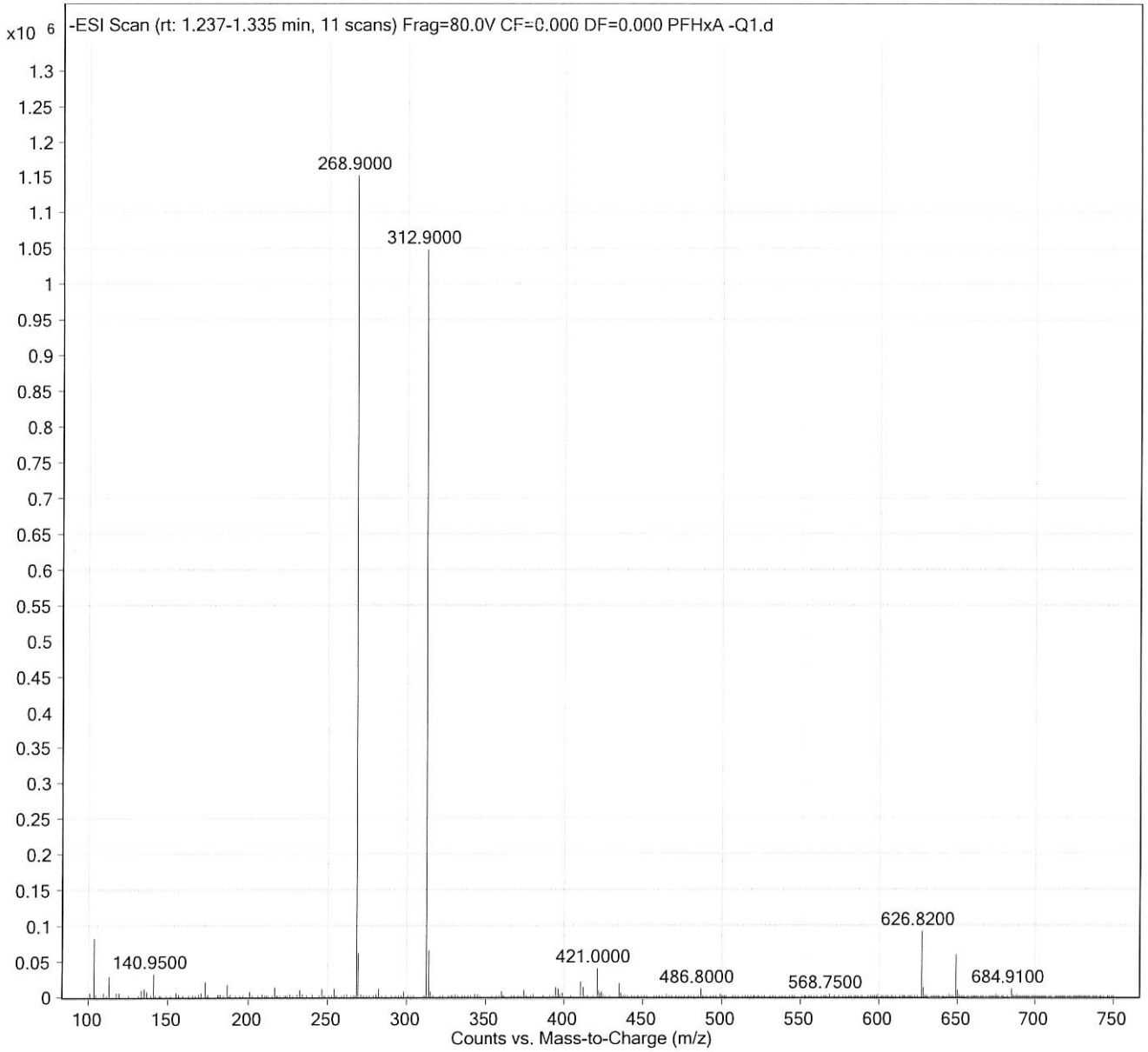
Maxxam Analytics

Sample Name	PFPeA -Q1	**Position**	P1-A3	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	PFPeA-Q1.d
ACQ Method	PFC_MassVerification-Q1.m	**Comment**		**Acquired Time**	6/6/2018 12:04:39 PM



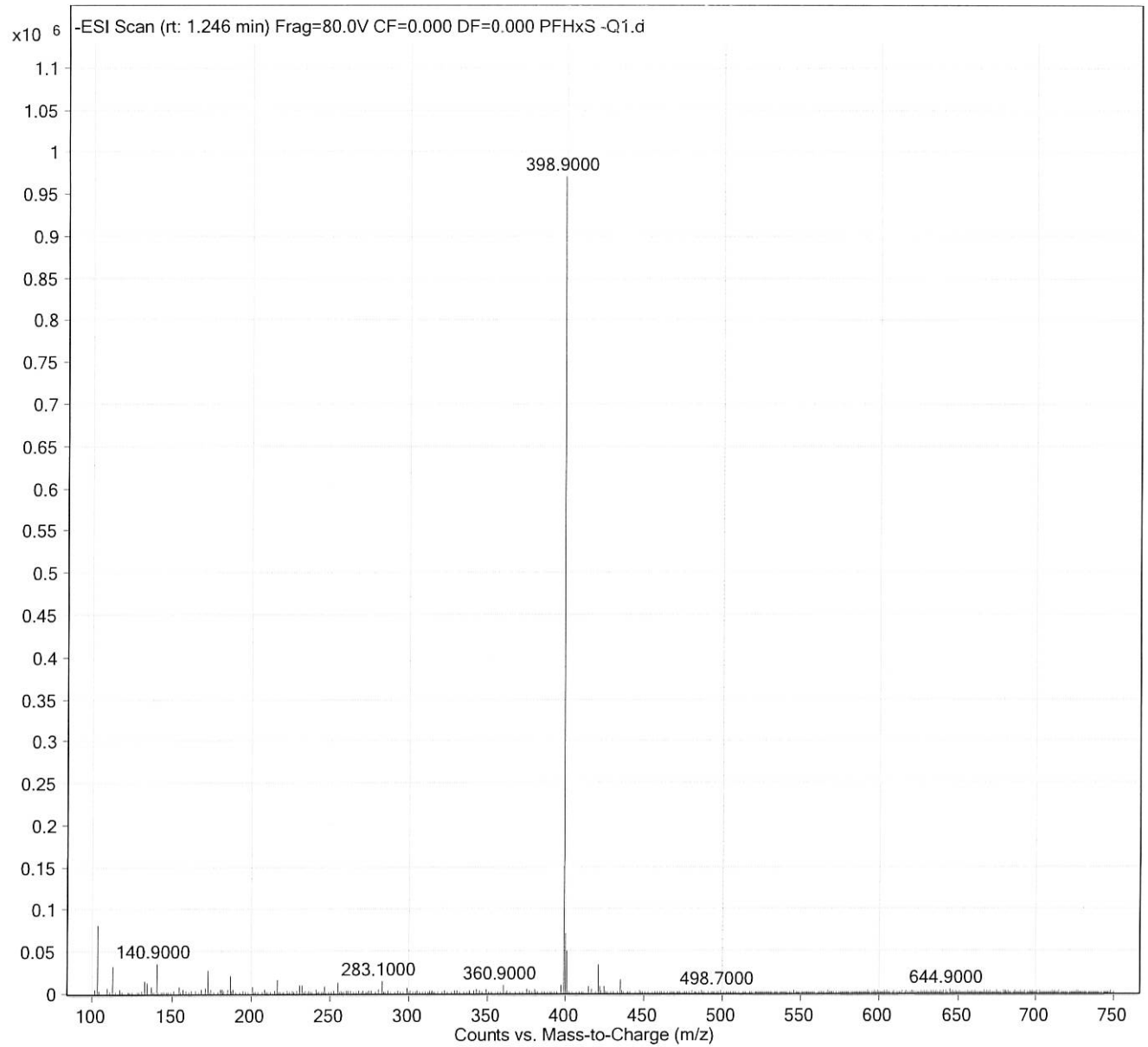
Maxxam Analytics

Sample Name	PFHxA -Q1	**Position**	P1-A4	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	PFHxA -Q1.d
ACQ Method	PFC_MassVerification-Q1.m	**Comment**		**Acquired Time**	6/6/2018 12:10:09 PM



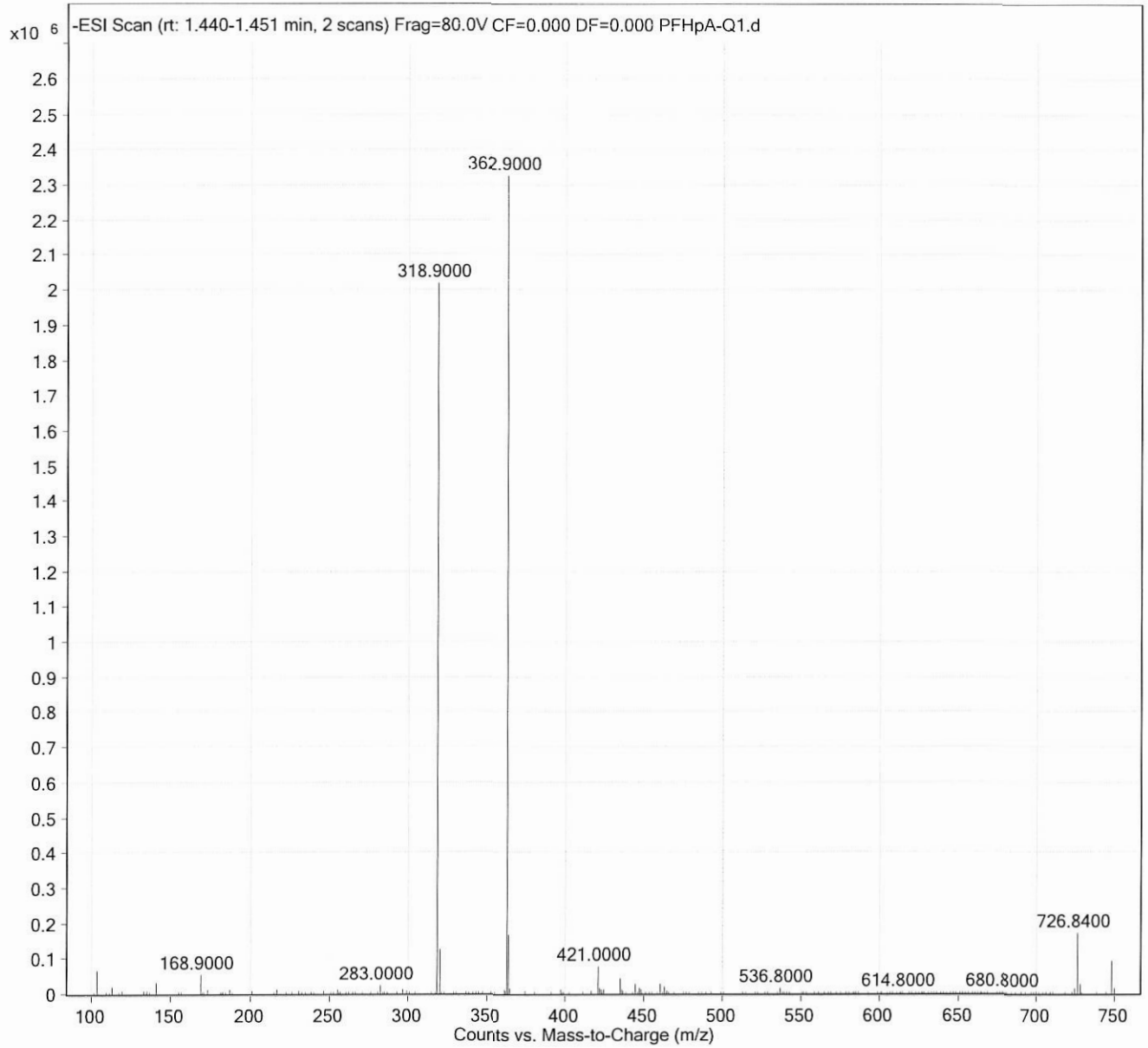
Maxxam Analytics

Sample Name	PFHxS -Q1	**Position**	P1-A5	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	PFHxS -Q1.d
ACQ Method	PFC_MassVerification-Q1.m	**Comment**		**Acquired Time**	6/6/2018 12:15:39 PM



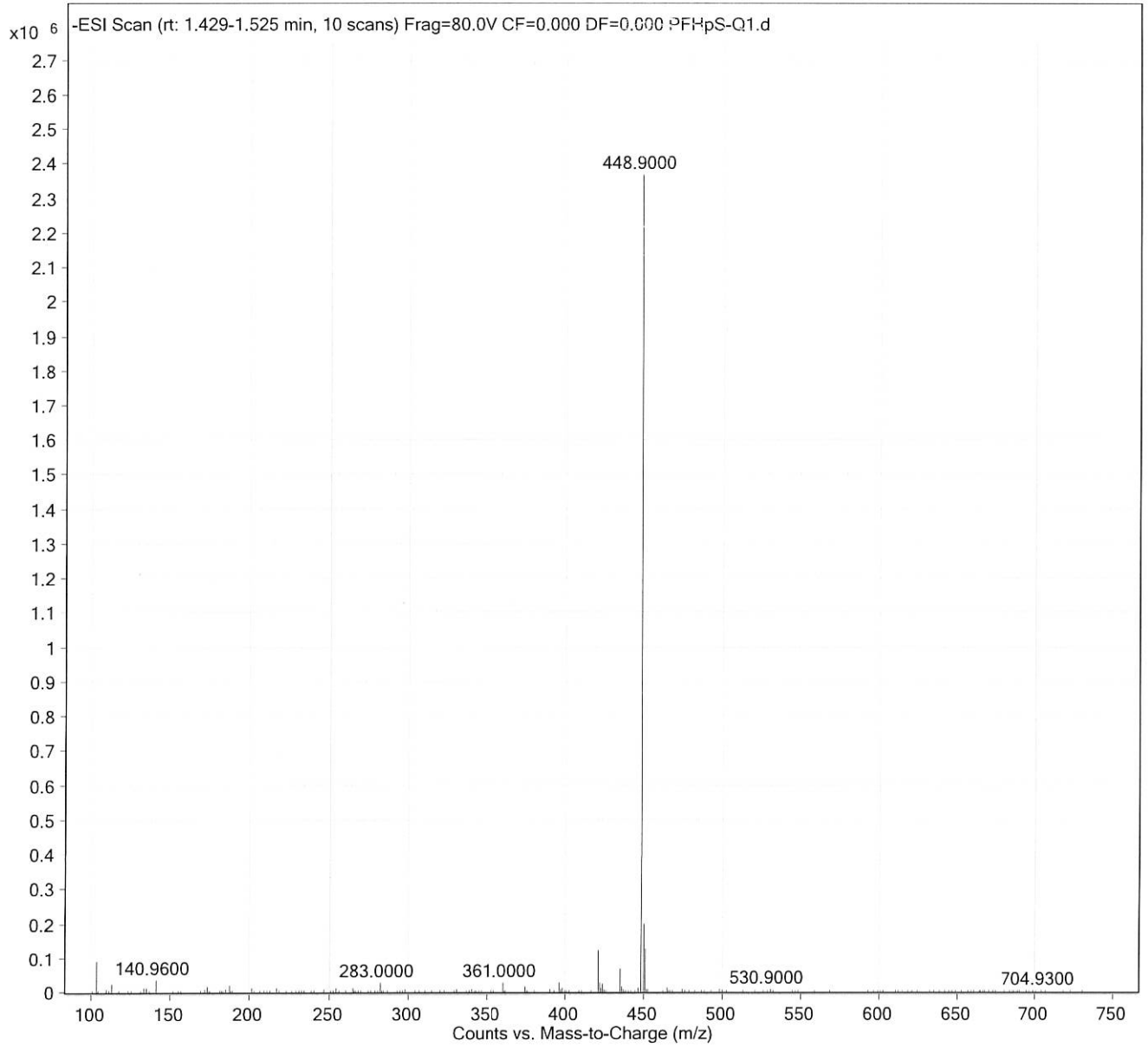
MaxXam Analytics

Sample Name	PFHpA-Q1	**Position**	P1-A6	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	PFHpA-Q1.d
ACQ Method	PFC_MassVerification-Q1.m	**Comment**		**Acquired Time**	6/6/2018 12:21:09 PM



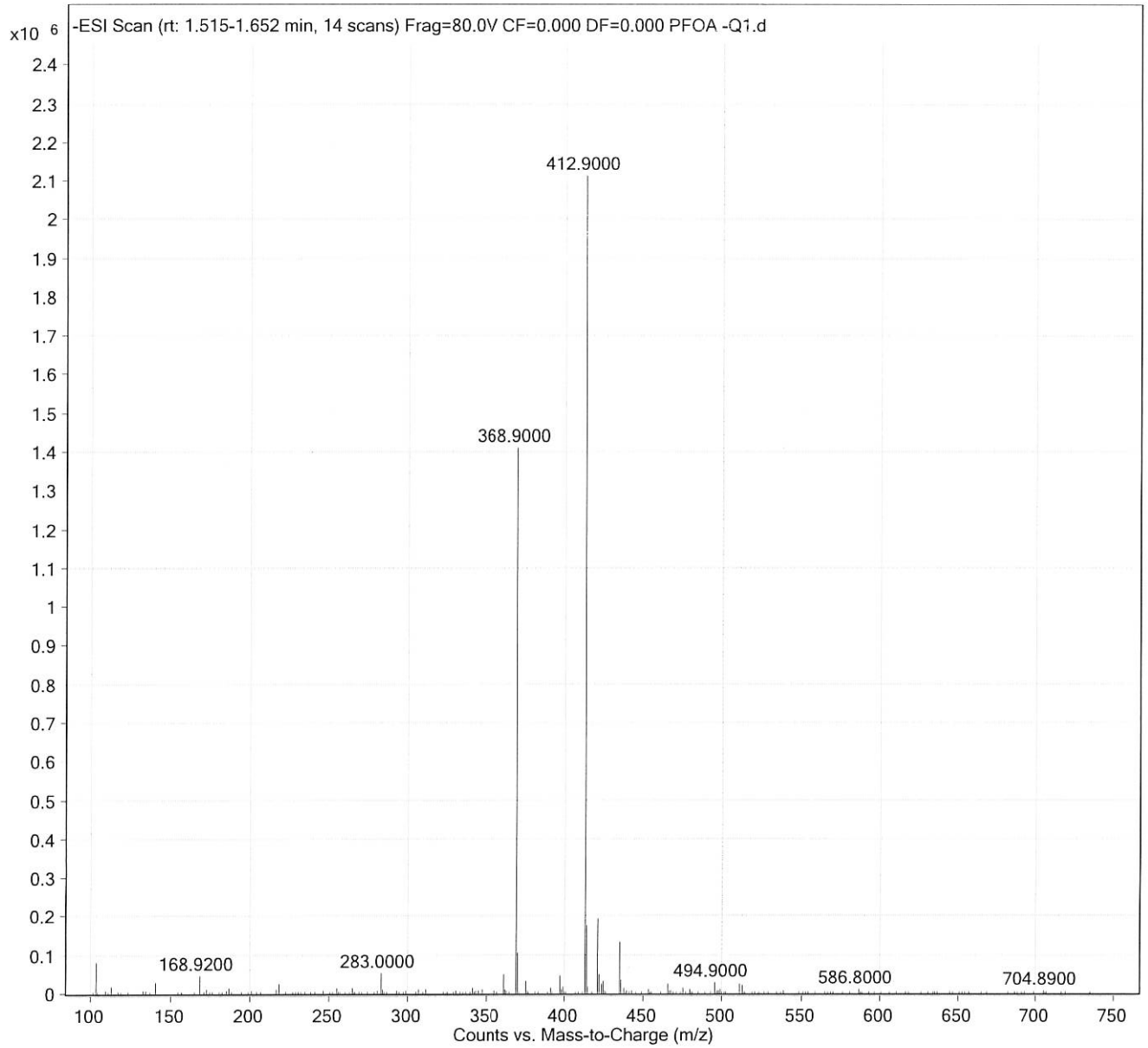
Maxxam Analytics

Sample Name	PFHpS-Q1	**Position**	P1-A7	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	PFHpS-Q1.d
ACQ Method	PFC_MassVerification-Q1.m	**Comment**		**Acquired Time**	6/6/2018 12:26:39 PM



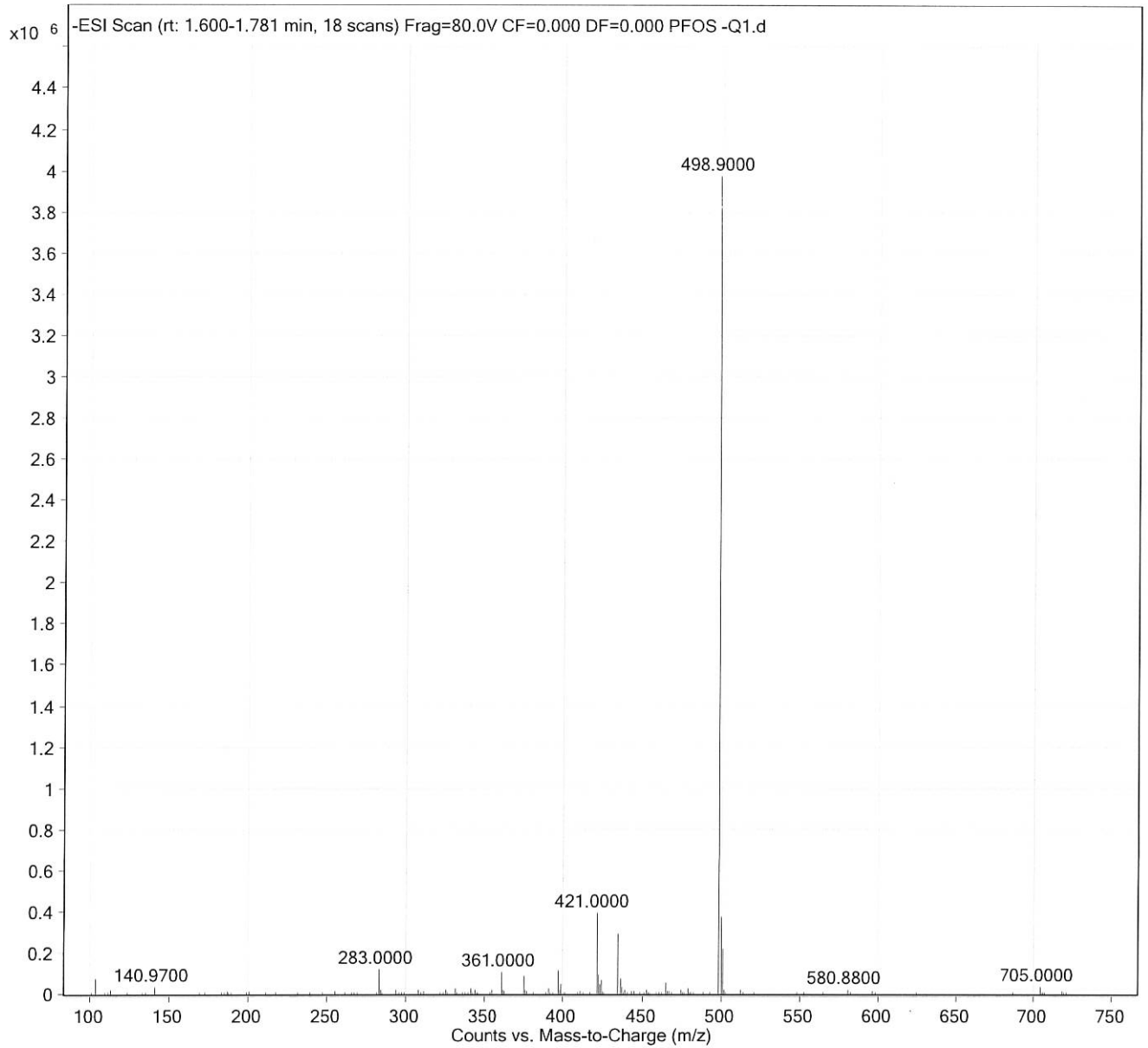
Maxxam Analytics

Sample Name	PFOA -Q1	**Position**	P1-A8	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	PFOA -Q1.d
ACQ Method	PFC_MassVerification-Q1.m	**Comment**		**Acquired Time**	6/6/2018 12:32:10 PM



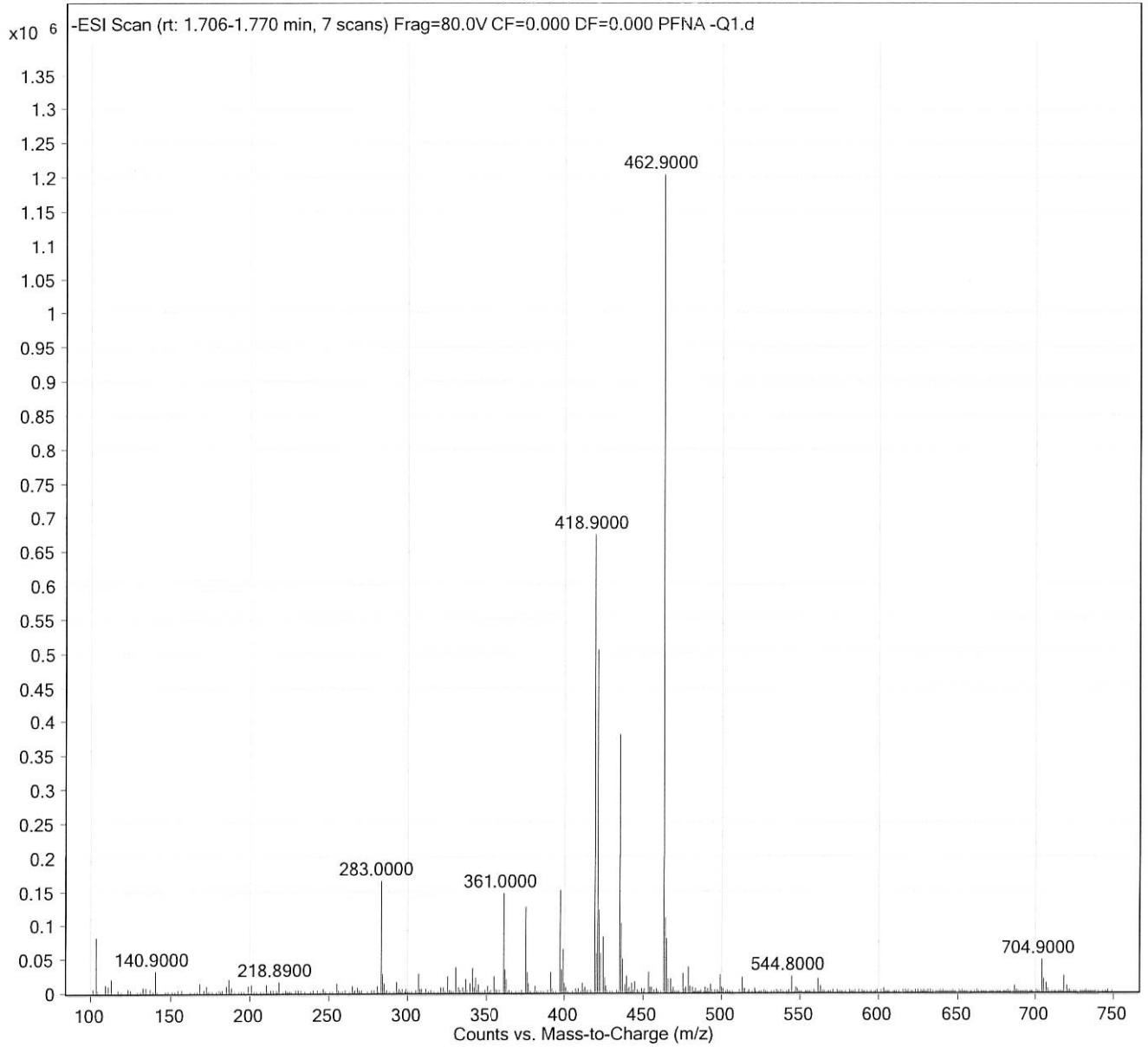
Maxxam Analytics

Sample Name	PFOS -Q1	**Position**	P1-A9	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	PFOS -Q1.d
ACQ Method	PFC_MassVerification-Q1.m	**Comment**		**Acquired Time**	6/6/2018 12:37:40 PM



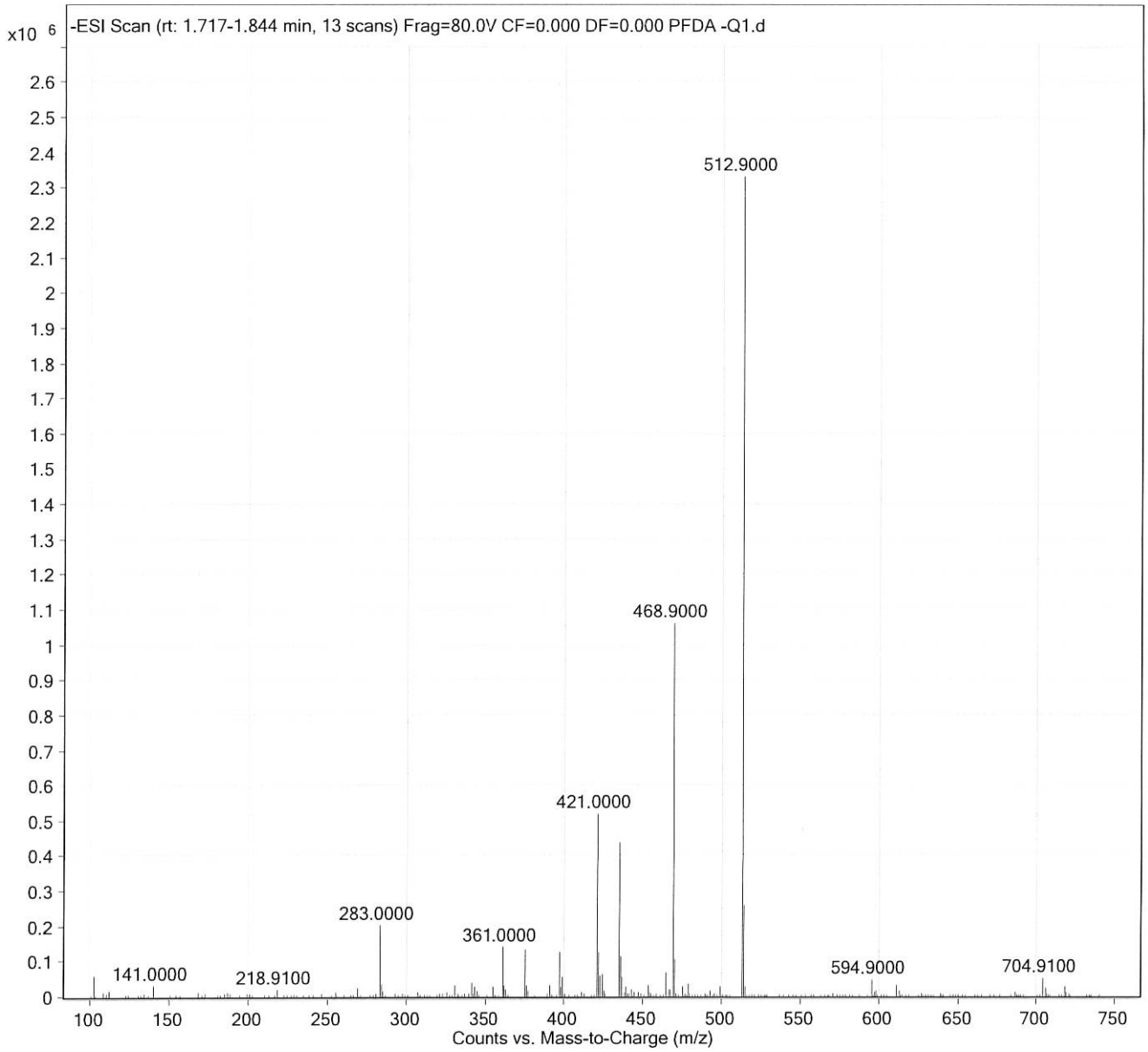
Maxxam Analytics

Sample Name	PFNA -Q1	**Position**	P1-B1	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	PFNA -Q1.d
ACQ Method	PFC_MassVerification-Q1.m	**Comment**		**Acquired Time**	6/6/2018 12:43:09 PM



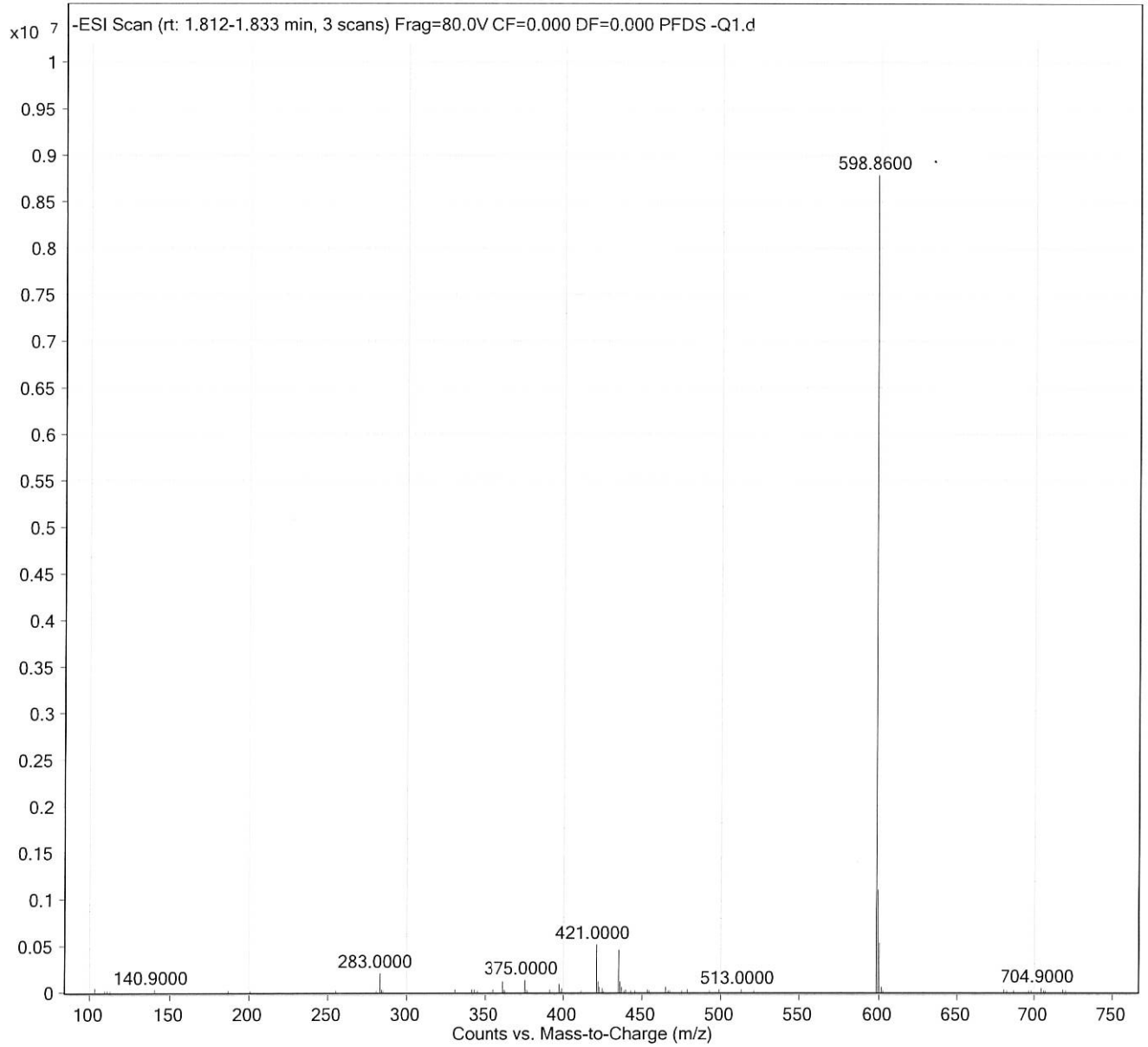
Maxxam Analytics

Sample Name	PFDA -Q1	**Position**	P1-B2	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	PFDA -Q1.d
ACQ Method	PFC_MassVerification-Q1.m	**Comment**		**Acquired Time**	6/6/2018 12:48:39 PM



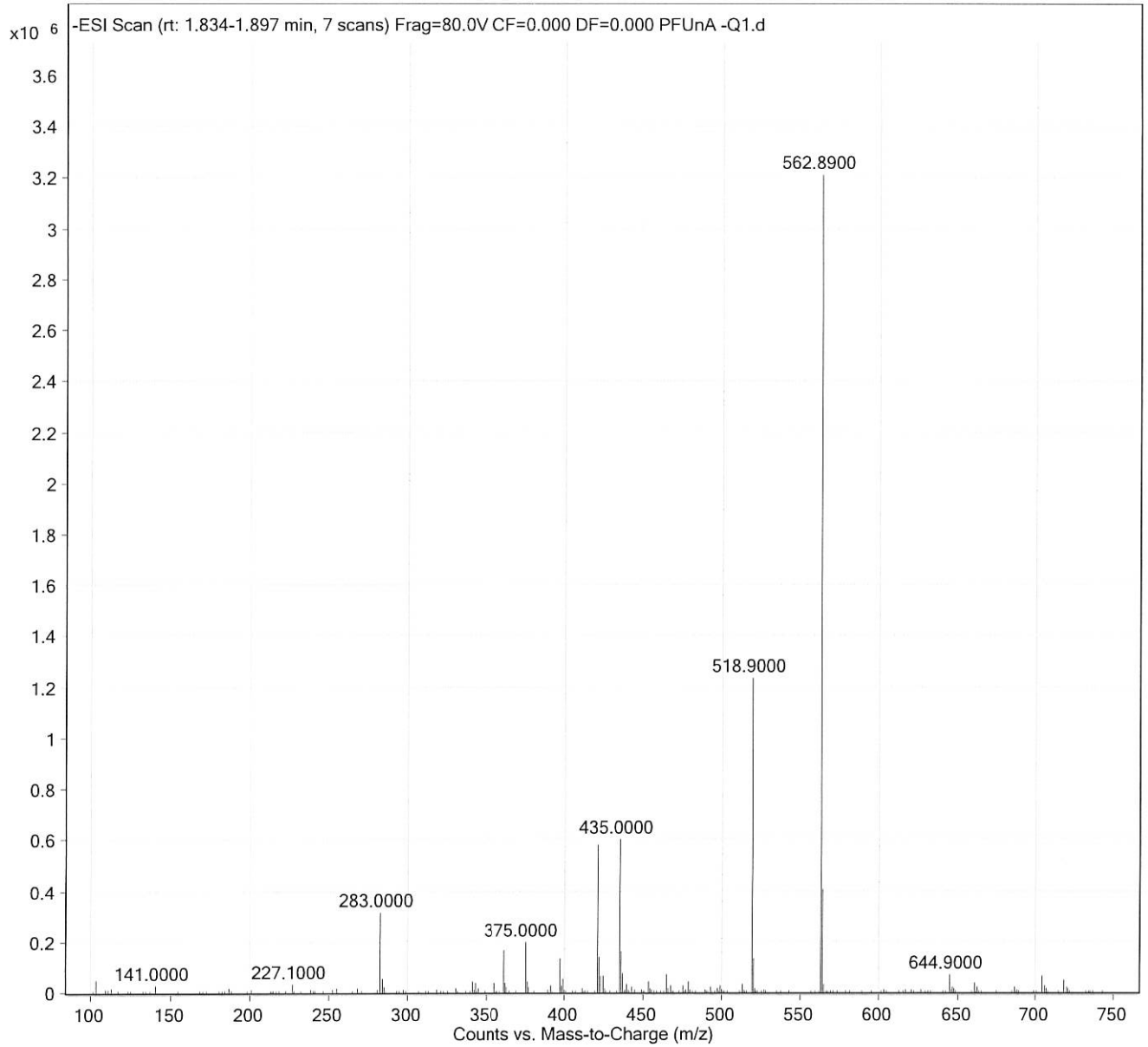
Maxxam Analytics

Sample Name	PFDS -Q1	**Position**	P1-B3	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	PFDS -Q1.d
ACQ Method	PFC_MassVerification-Q1.m	**Comment**		**Acquired Time**	6/6/2018 12:54:09 PM



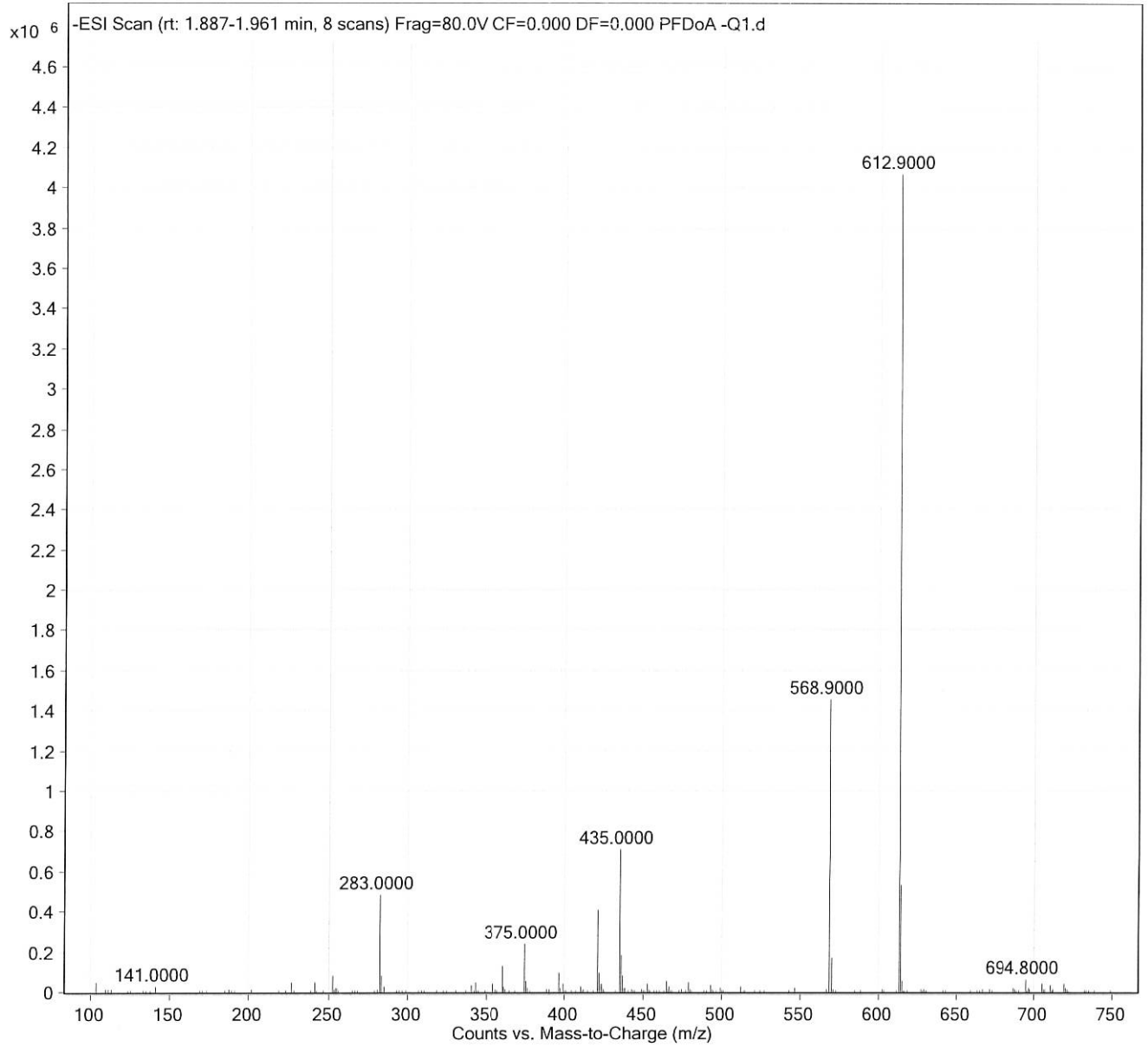
Maxxam Analytics

Sample Name	PFUnA -Q1	**Position**	P1-B4	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	PFUnA -Q1.d
ACQ Method	PFC_MassVerification-Q1.m	**Comment**		**Acquired Time**	6/6/2018 12:59:39 PM



Maxxam Analytics

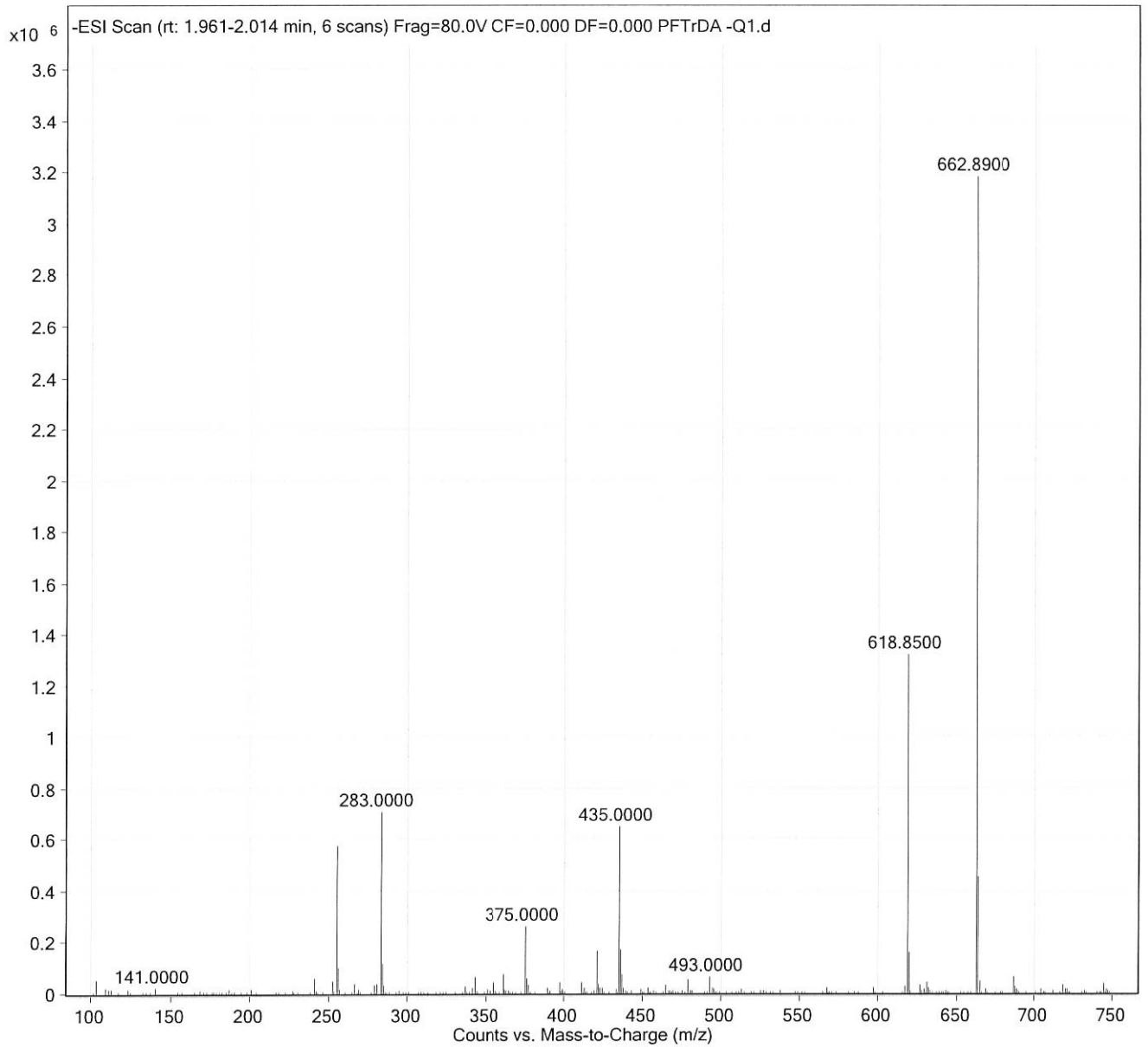
Sample Name	PFDoA -Q1	**Position**	P1-B5	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	PFDoA -Q1.d
ACQ Method	PFC_MassVerification-Q1.m	**Comment**		**Acquired Time**	6/6/2018 1:05:09 PM



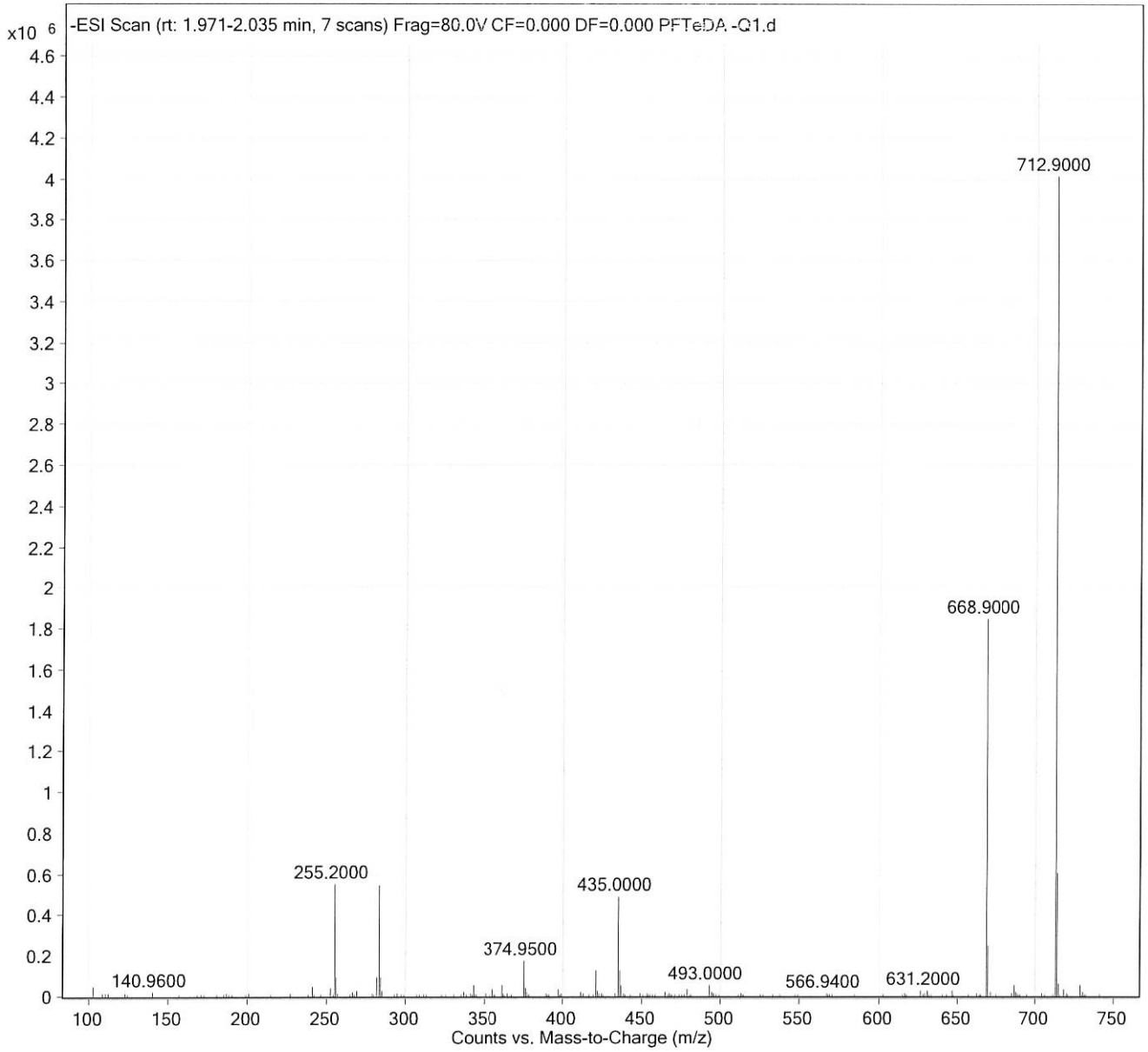
Maxxam Analytics

Sample Name	PFTrDA -Q1	**Position**	P1-B6	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	PFTrDA -Q1.d
ACQ Method	PFC_MassVerification-Q1.m	**Comment**		**Acquired Time**	6/6/2018 1:10:39 PM

MaxxAm Analytics

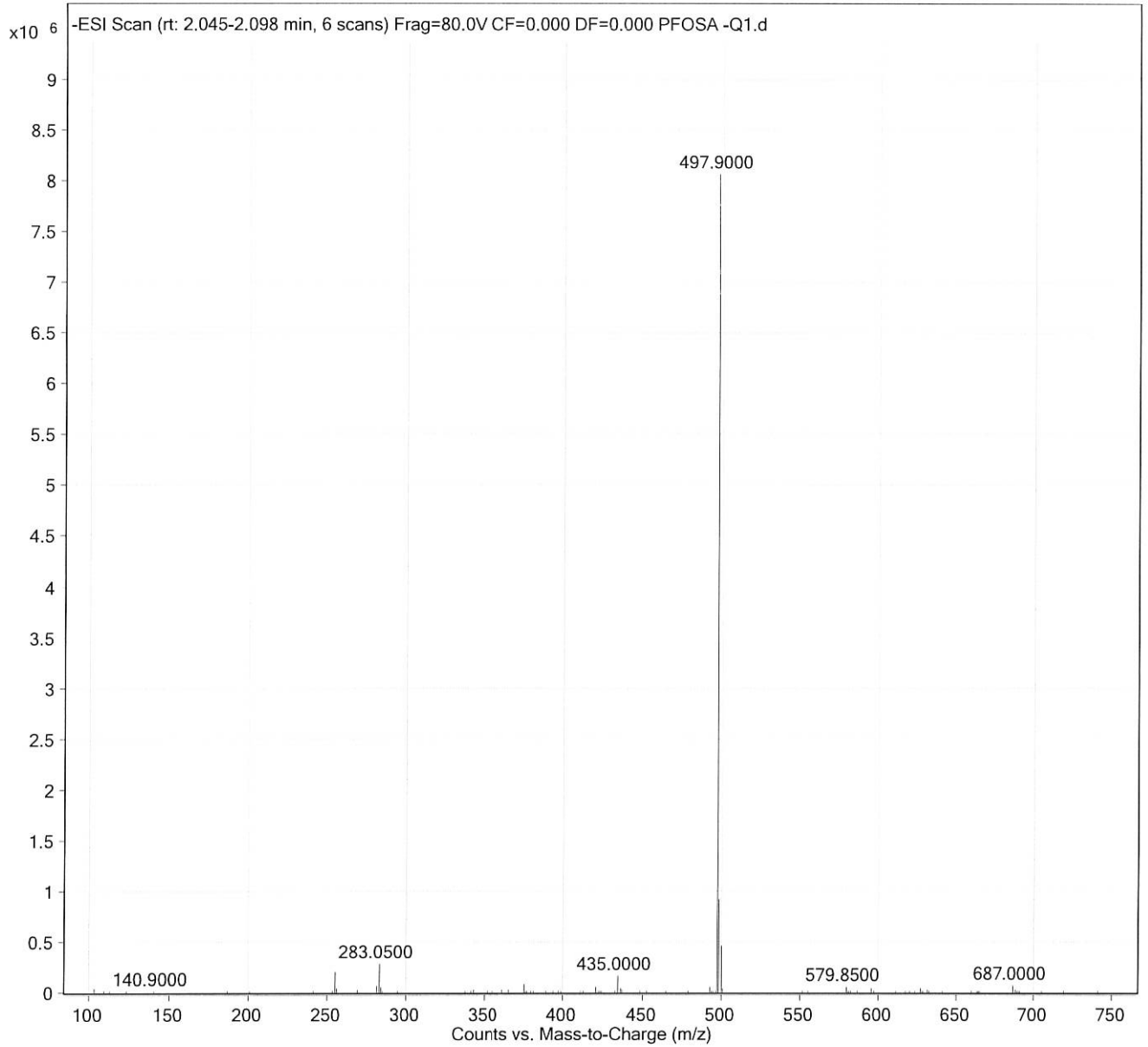


Sample Name	PFTeDA -Q1	**Position**	P1-B7	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	PFTeDA -Q1.d
ACQ Method	PFC_MassVerification-Q1.m	**Comment**		**Acquired Time**	6/6/2018 1:16:09 PM



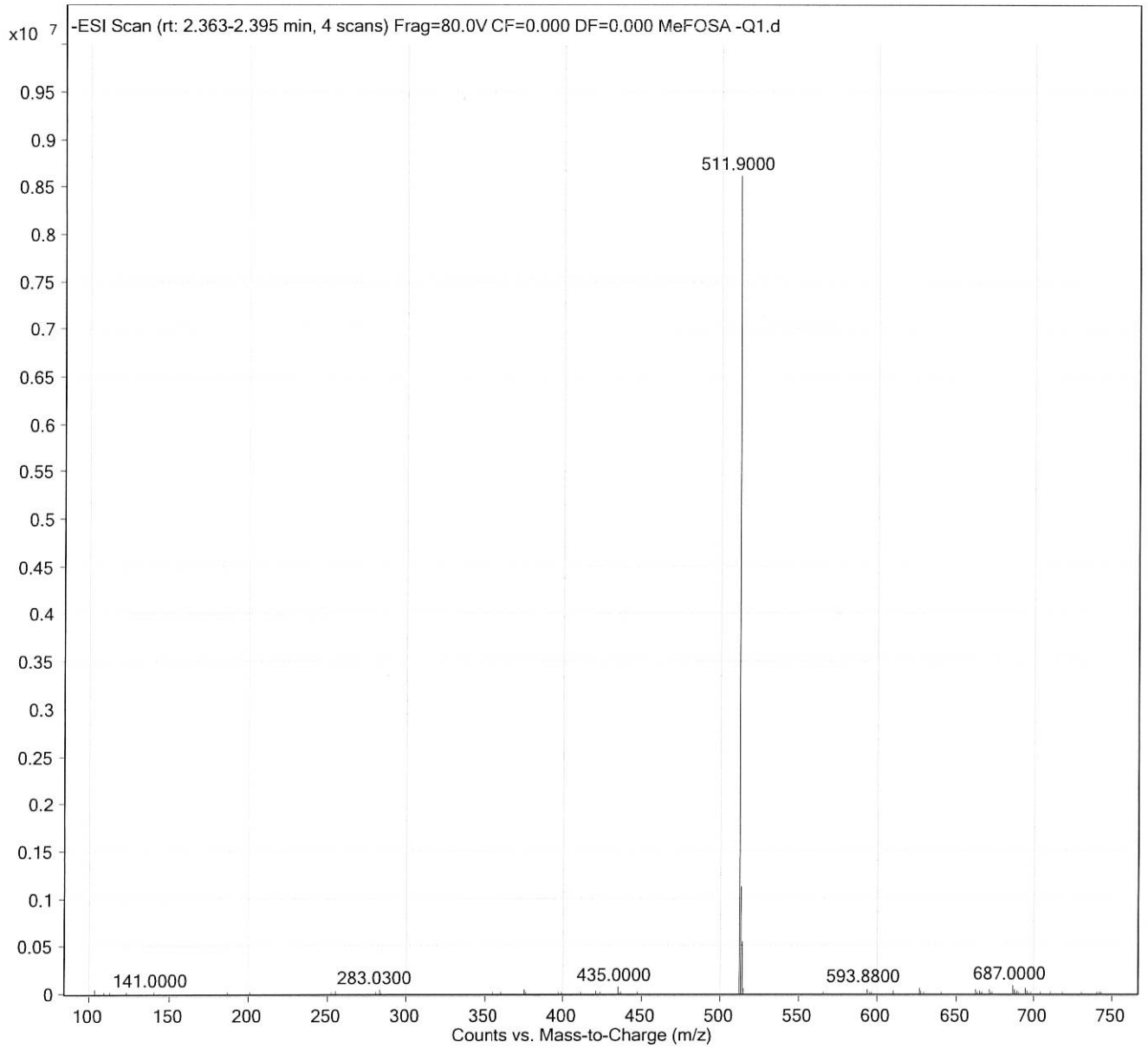
Maxxam Analytics

Sample Name	PFOSA -Q1	**Position**	P1-B8	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	PFOSA -Q1.d
ACQ Method	PFC_MassVerification-Q1.m	**Comment**		**Acquired Time**	6/6/2018 1:21:39 PM



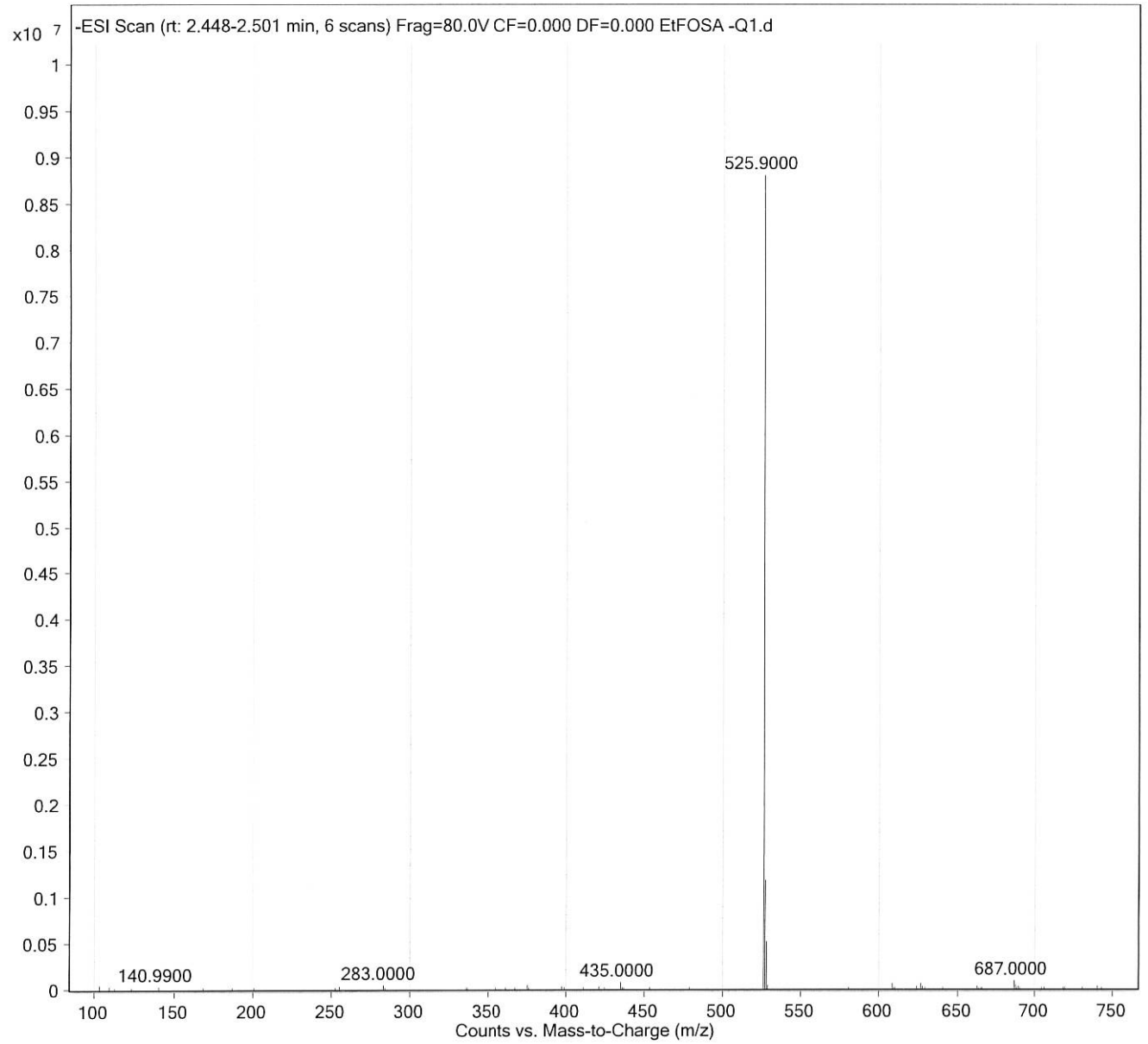
Maxxam Analytics

Sample Name	MeFOSA -Q1	**Position**	P1-B9	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	MeFOSA -Q1.d
ACQ Method	PFC_MassVerification-Q1.m	**Comment**		**Acquired Time**	6/6/2018 1:27:09 PM



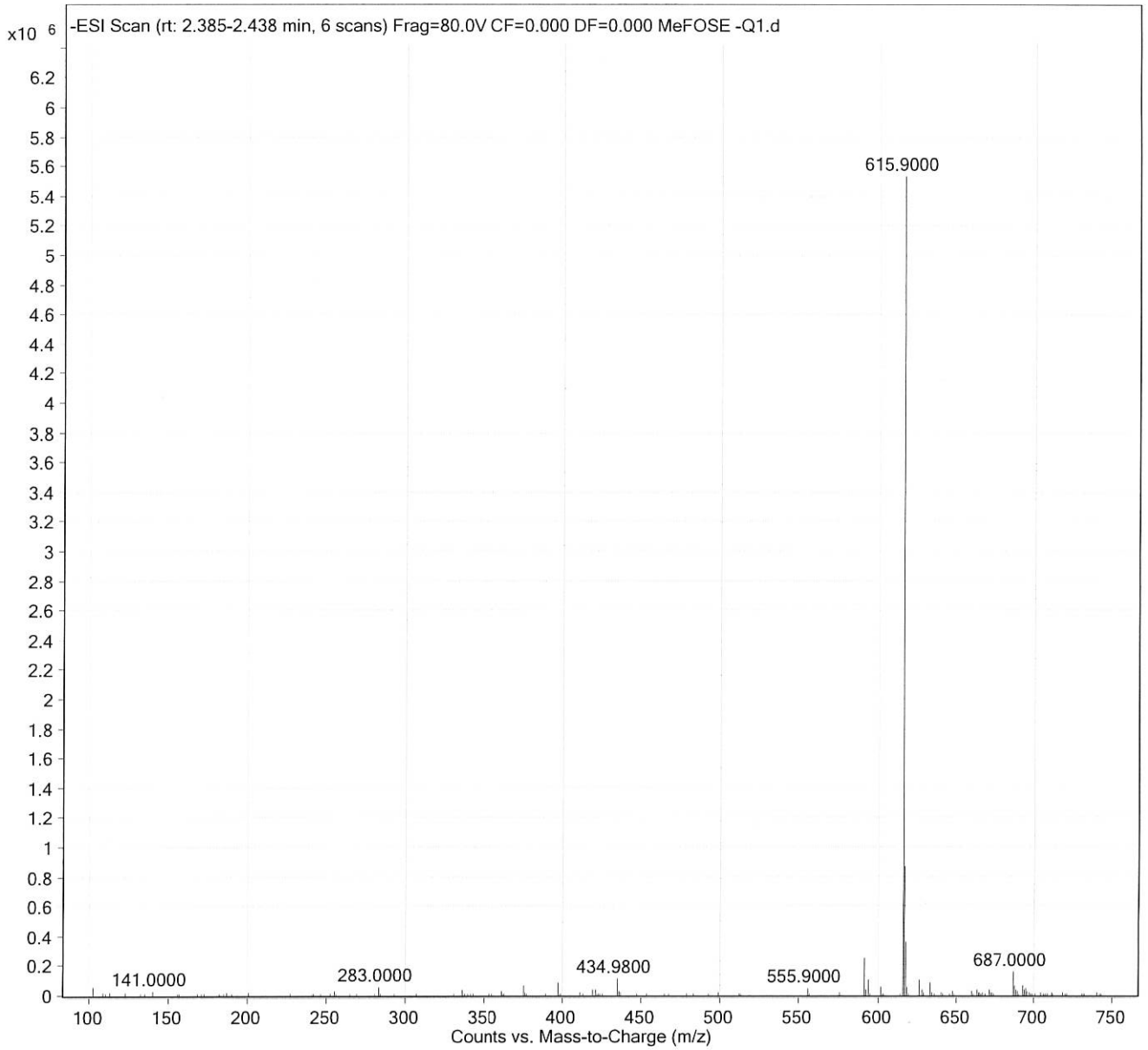
Maxxam Analytics

Sample Name	EtFOSA -Q1	**Position**	P1-C1	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	EtFOSA -Q1.d
ACQ Method	PFC_MassVerification-Q1.m	**Comment**		**Acquired Time**	6/6/2018 1:32:38 PM



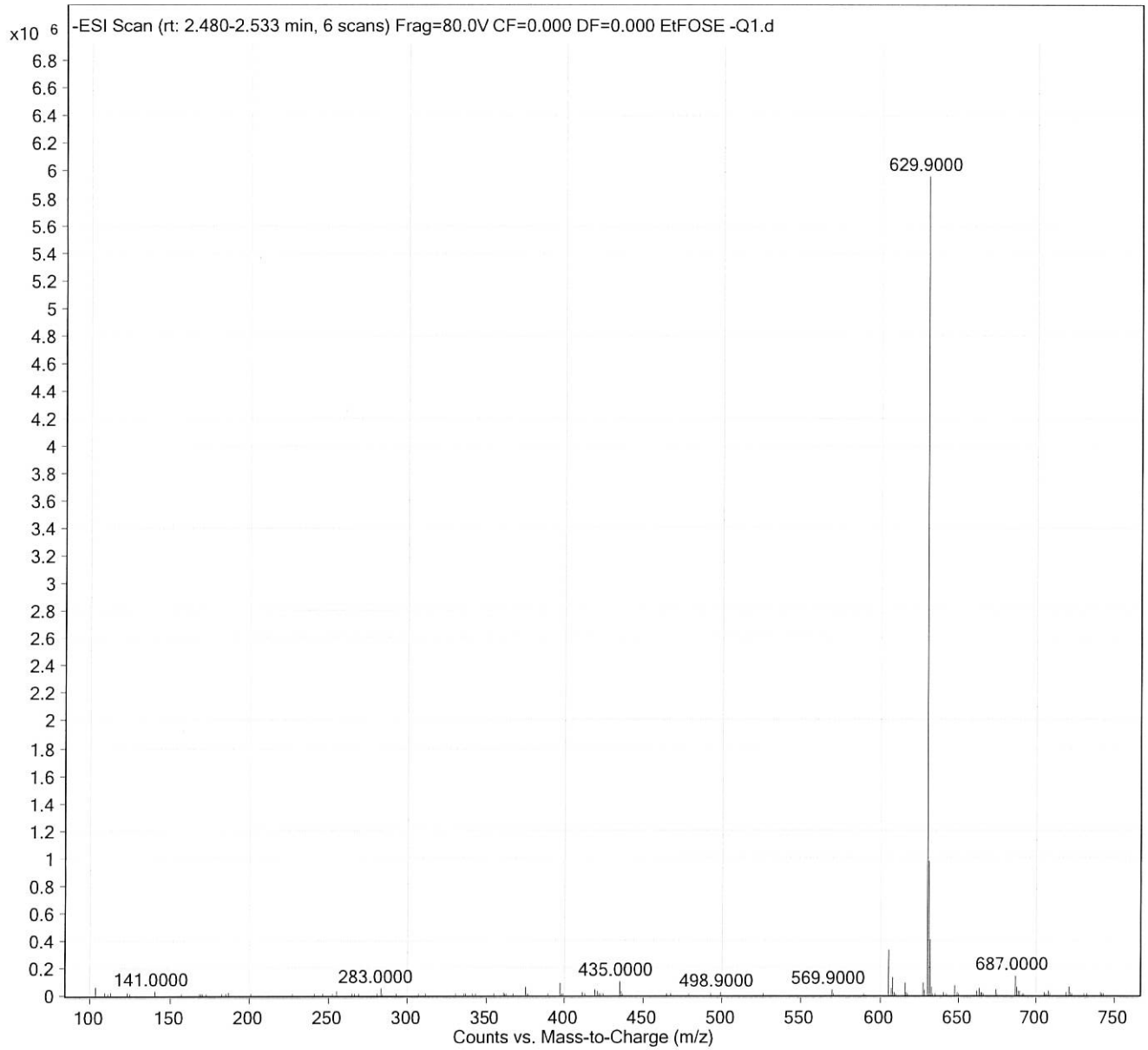
Maxxam Analytics

Sample Name	MeFOSE -Q1	**Position**	P1-C2	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	MeFOSE -Q1.d
ACQ Method	PFC_MassVerification-Q1.m	**Comment**		**Acquired Time**	6/6/2018 1:38:08 PM

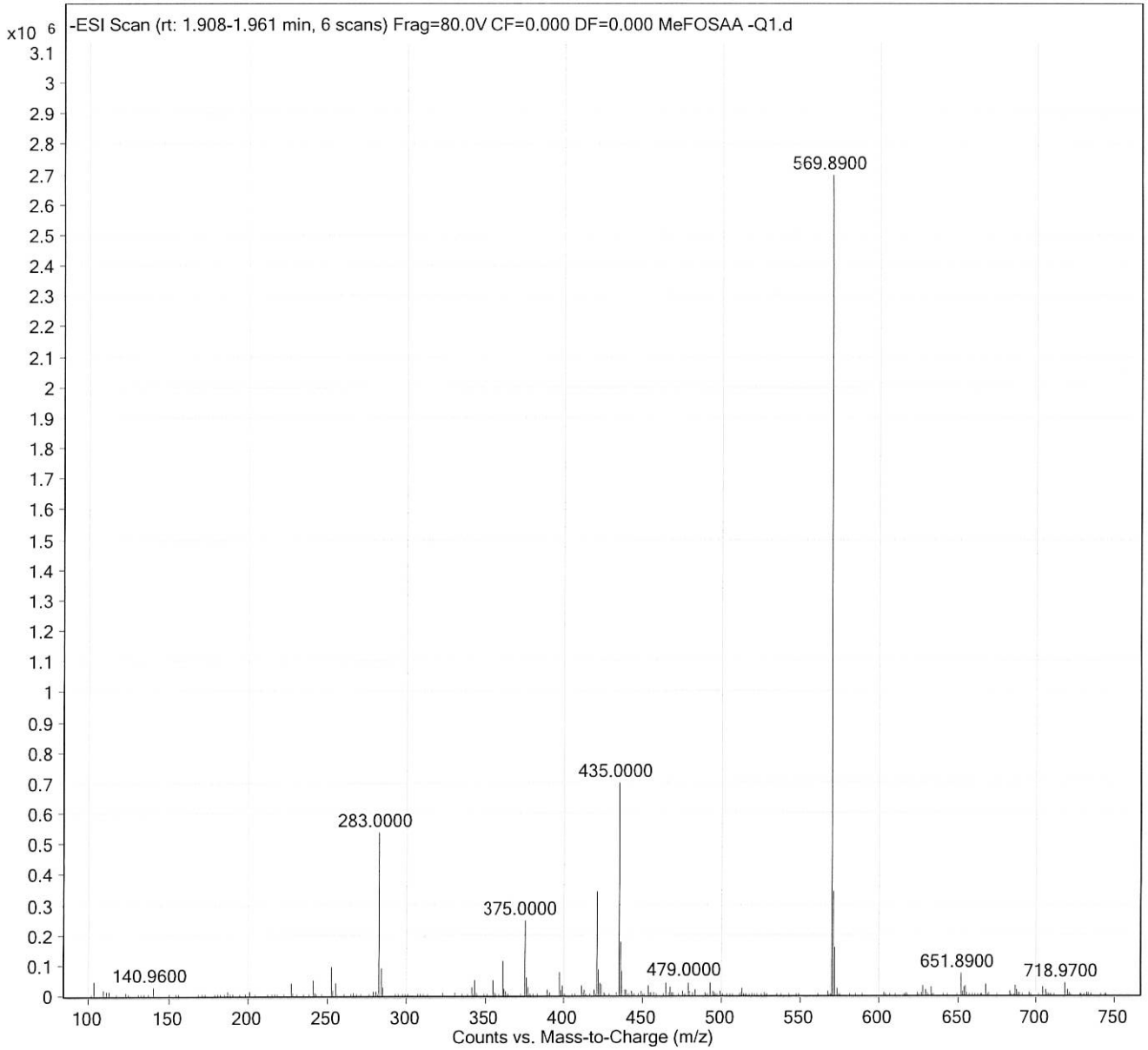


Maxxam Analytics

Sample Name	EtFOSE -Q1	**Position**	P1-C3	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	EtFOSE -Q1.d
ACQ Method	PFC_MassVerification-Q1.m	**Comment**		**Acquired Time**	6/6/2018 1:43:38 PM

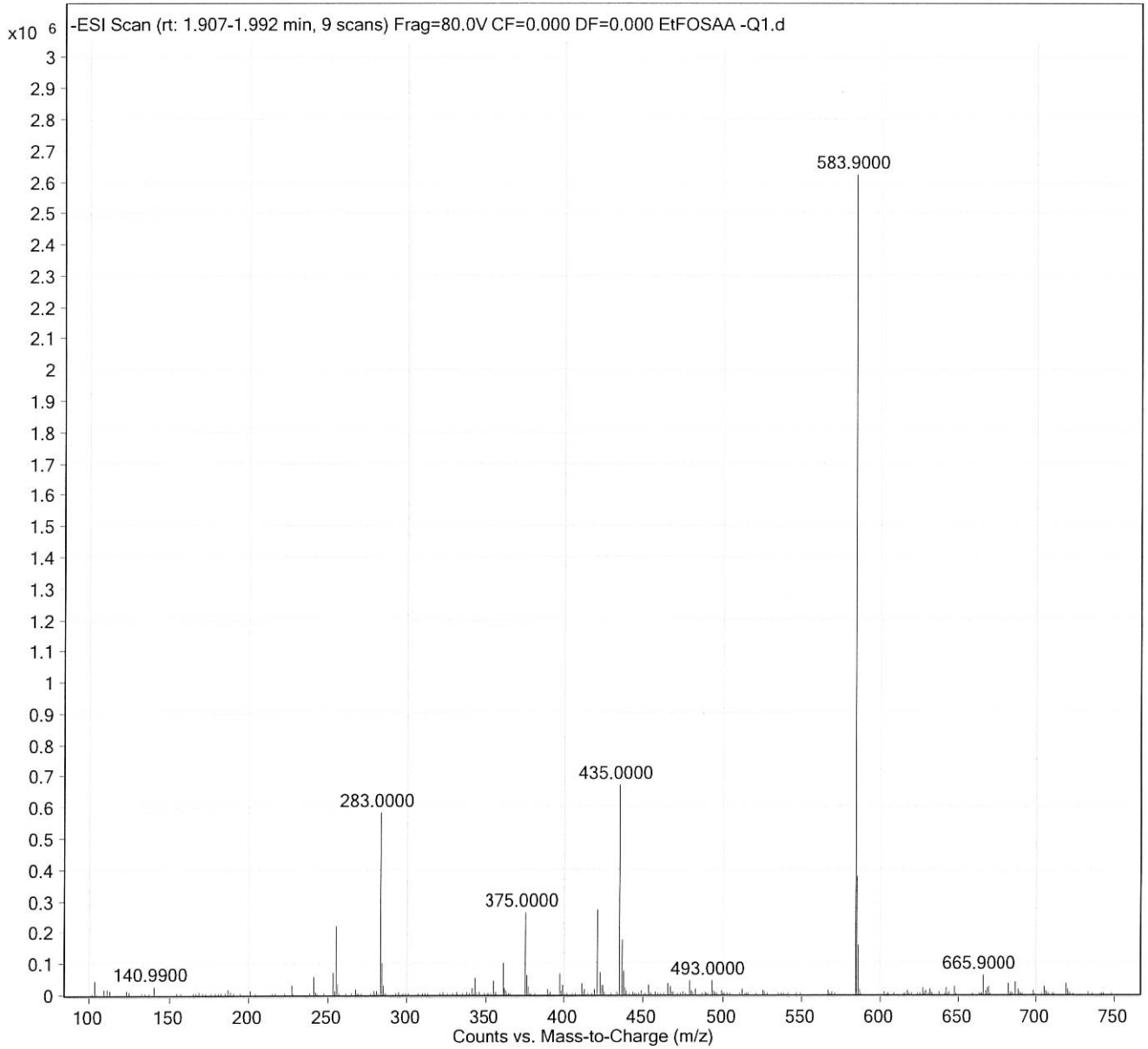


Sample Name	MeFOSAA -Q1	**Position**	P1-C4	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	MeFOSAA -Q1.d
ACQ Method	PFC_MassVerification-Q1.m	**Comment**		**Acquired Time**	6/6/2018 1:49:08 PM

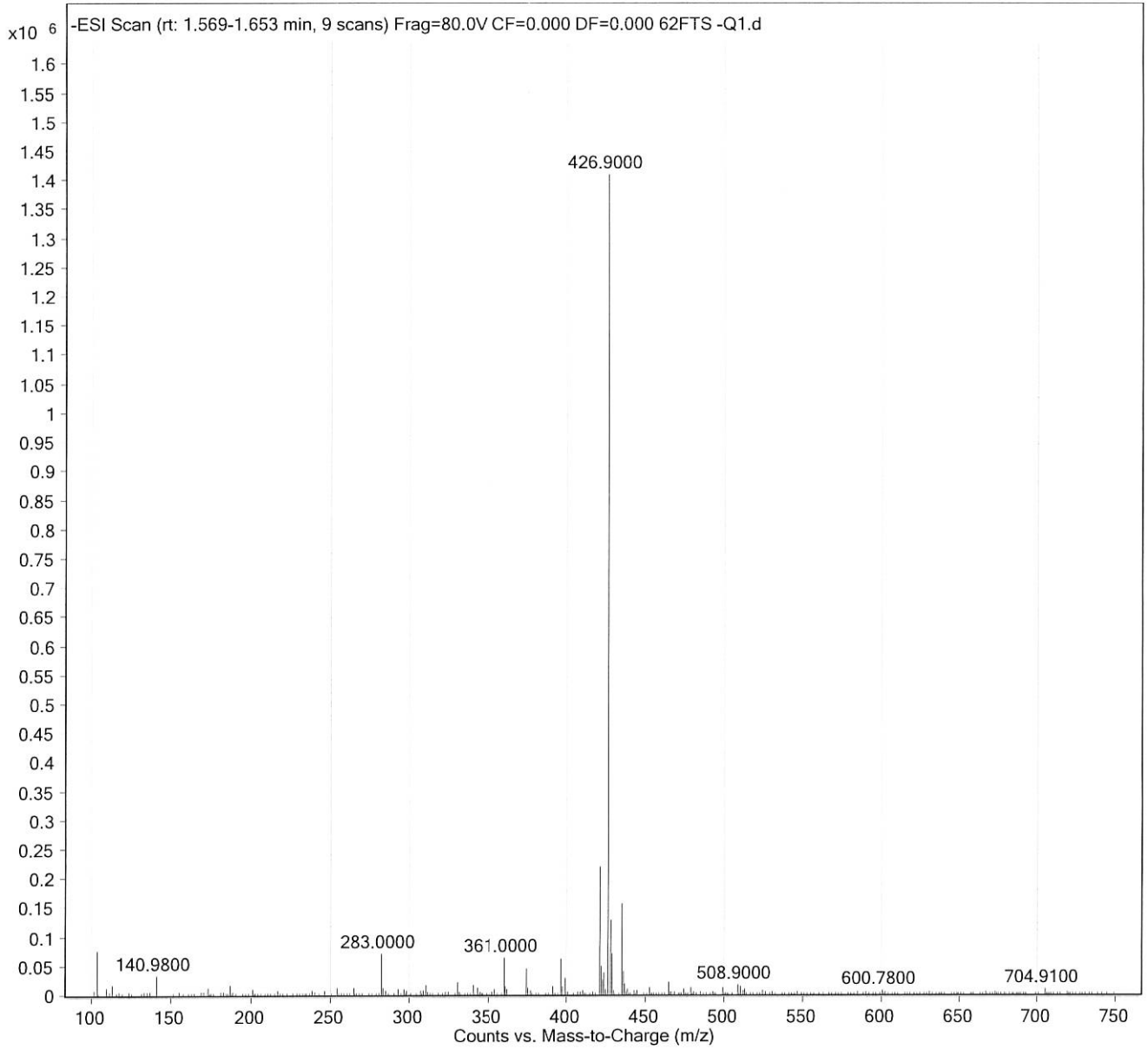


Maxxam Analytics

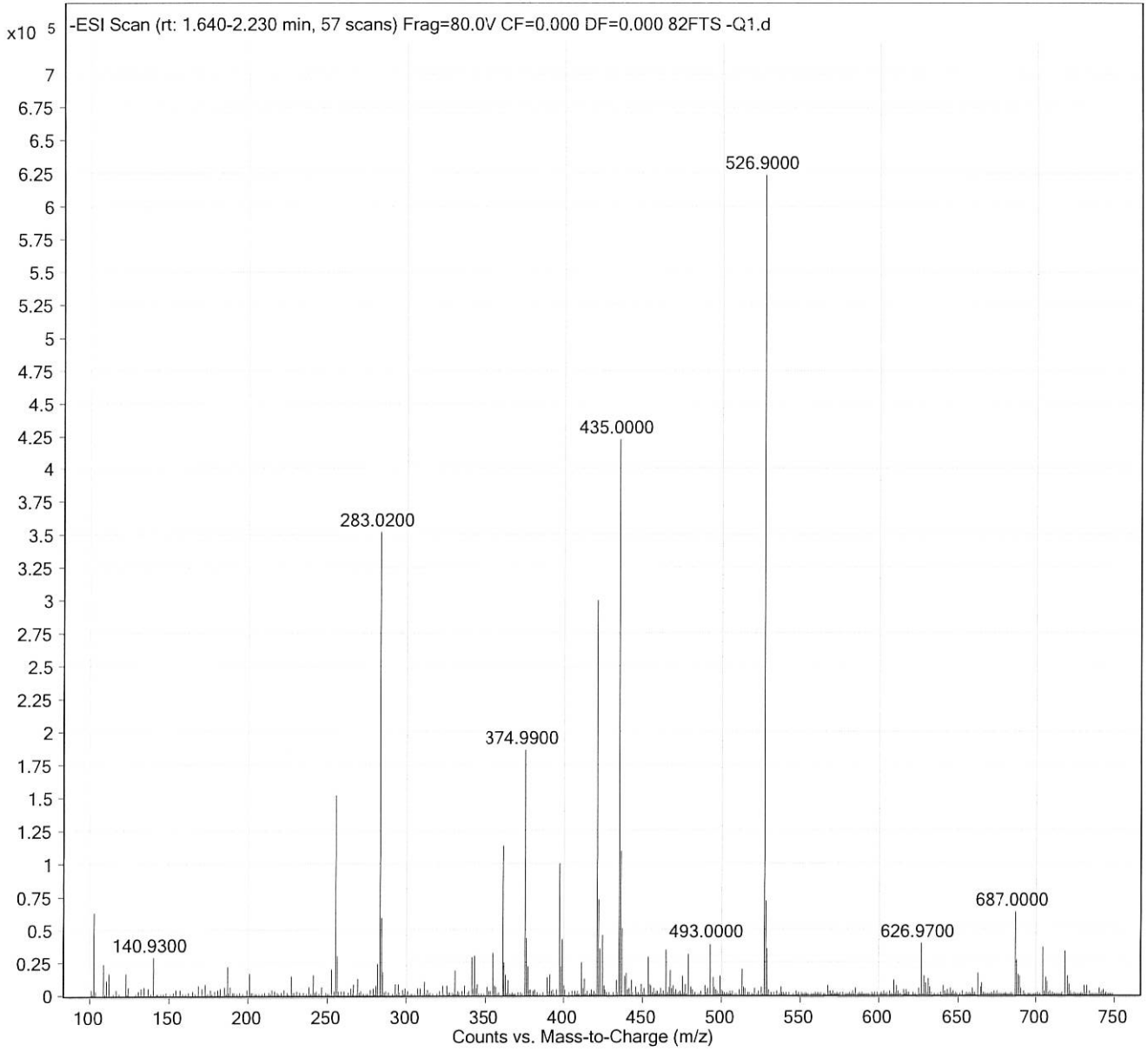
Sample Name	EtFOSAA -Q1	**Position**	P1-C5	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	EtFOSAA -Q1.d
ACQ Method	PFC_MassVerification-Q1.m	**Comment**		**Acquired Time**	6/6/2018 1:54:38 PM



Sample Name	6:2FTS -Q1	**Position**	P1-C6	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	62FTS -Q1.d
ACQ Method	PFC_MassVerification-Q1.m	**Comment**		**Acquired Time**	6/6/2018 2:00:09 PM



Sample Name	8:2FTS -Q1	**Position**	P1-C7	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	82FTS -Q1.d
ACQ Method	PFC_MassVerification-Q1.m	**Comment**		**Acquired Time**	6/6/2018 2:05:39 PM



Maxxam Analytics

Worklist Report

Agilent Technologies

Instrument Name: LCMS04 **Worklist Path:** D:\MassHunter\Worklists\PFCs\Mass Verification_Q1_180606.wkl

Operator Name: M_G
Run Type: Standard Start
Part of Method to Run: Acquisition Only
Execution of Acquisition-DA: Synchronous
Acquisition Method Path: D:\MassHunter\Acquisition Method
DA Method Path: D:\MassHunter\methods
Data File Path: D:\MassHunter\data\Mass Verification\20170710
Pre-Worklist Script: ---
Post-Worklist Script: ---
Acquisition Clean Up Script: ---
Overlapped Injection: Yes
Clear Sample Selection After Run: Yes
Wait Time for Ready(Min): 10
Threshold Disk Value(GB): 10
Comment: ---

Plate Barcode:

Plate	Barcode
P1	

Worklist Table

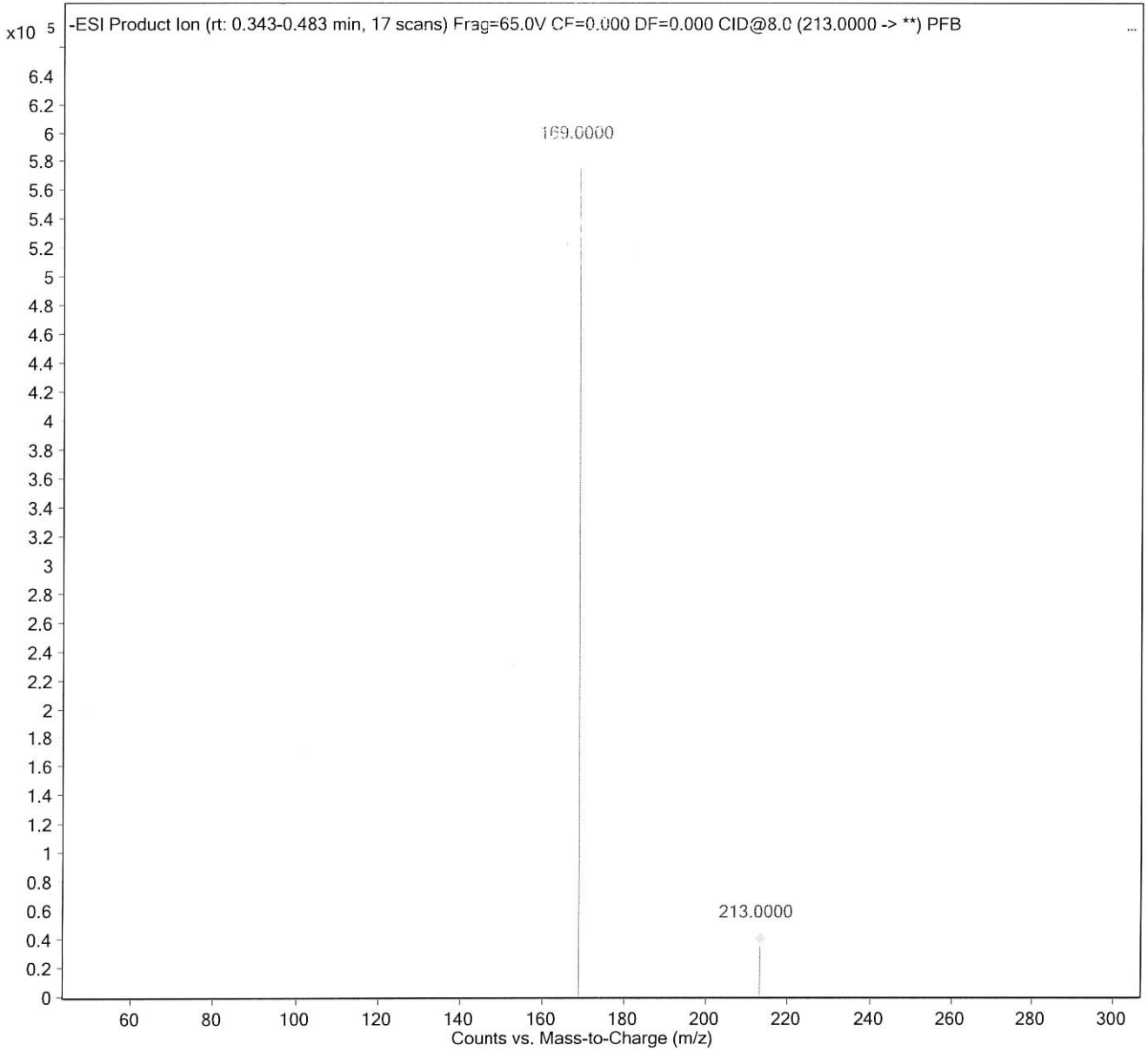
	Sample Name	Sample Position	Method	Data File	Sample Type	Inj Vol (µl)	Sample Group
1	PFBA -Q1	P1-A1	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFBA-Q1.d	Sample	As Method	PFAS-Q1
2	PFBS -Q1	P1-A2	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFBS -Q1.d	Sample	As Method	PFAS-Q1
3	PFPeA -Q1	P1-A3	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFPeA-Q1.d	Sample	As Method	PFAS-Q1
4	PFHxA -Q1	P1-A4	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFHxA -Q1.d	Sample	As Method	PFAS-Q1

	Sample Name	Sample Position	Method	Data File	Sample Type	Inj Vol (µl)	Sample Group
5	PFHxS -Q1	P1-A5	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFHxS -Q1.d	Sample	As Method	PFAS-Q1
6	PFHpA-Q1	P1-A6	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFHpA-Q1.d	Sample	As Method	PFAS-Q1
7	PFHpS-Q1	P1-A7	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFHpS-Q1.d	Sample	As Method	PFAS-Q1
8	PFOA -Q1	P1-A8	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFOA -Q1.d	Sample	As Method	PFAS-Q1
9	PFOS -Q1	P1-A9	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFOS -Q1.d	Sample	As Method	PFAS-Q1
10	PFNA -Q1	P1-B1	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFNA -Q1.d	Sample	As Method	PFAS-Q1
11	PFDA -Q1	P1-B2	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFDA -Q1.d	Sample	As Method	PFAS-Q1
12	PFDS -Q1	P1-B3	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFDS -Q1.d	Sample	As Method	PFAS-Q1
13	PFUnA -Q1	P1-B4	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFUnA -Q1.d	Sample	As Method	PFAS-Q1
14	PFDoA -Q1	P1-B5	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFDoA -Q1.d	Sample	As Method	PFAS-Q1
15	PFTrDA -Q1	P1-B6	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFTrDA -Q1.d	Sample	As Method	PFAS-Q1

	Sample Name	Sample Position	Method	Data File	Sample Type	Inj Vol (µl)	Sample Group
16	PFTeDA -Q1	P1-B7	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFTeDA -Q1.d	Sample	As Method	PFAS-Q1
17	PFOSA -Q1	P1-B8	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFOSA -Q1.d	Sample	As Method	PFAS-Q1
18	MeFOSA -Q1	P1-B9	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\MeFOSA -Q1.d	Sample	As Method	PFAS-Q1
19	EtFOSA -Q1	P1-C1	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\EtFOSA -Q1.d	Sample	As Method	PFAS-Q1
20	MeFOSE -Q1	P1-C2	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\MeFOSE -Q1.d	Sample	As Method	PFAS-Q1
21	EtFOSE -Q1	P1-C3	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\EtFOSE -Q1.d	Sample	As Method	PFAS-Q1
22	MeFOSAA -Q1	P1-C4	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\MeFOSAA -Q1.d	Sample	As Method	PFAS-Q1
23	EtFOSAA -Q1	P1-C5	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\EtFOSAA -Q1.d	Sample	As Method	PFAS-Q1
24	6:2FTS -Q1	P1-C6	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\62FTS -Q1.d	Sample	As Method	PFAS-Q1
25	8:2FTS -Q1	P1-C7	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\82FTS -Q1.d	Sample	As Method	PFAS-Q1

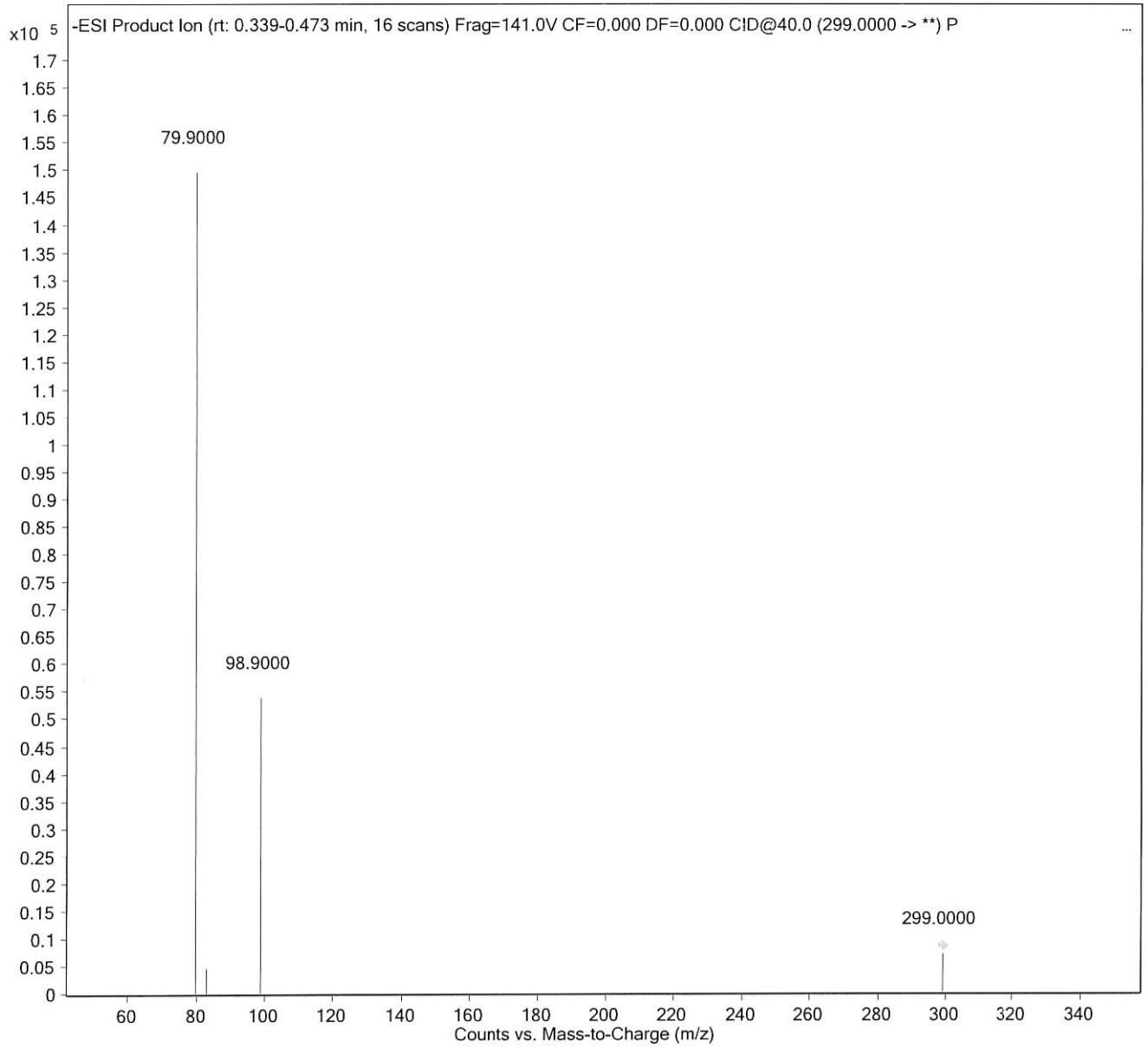
Analyte Product Ion Verification

Sample Name	PFBA -Q3	**Position**	P1-A1	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	PFBA -Q3.d
ACQ Method	PFC_MassVerification-PFBA-Q3.m	**Comment**		**Acquired Time**	6/6/2018 2:11:08 PM



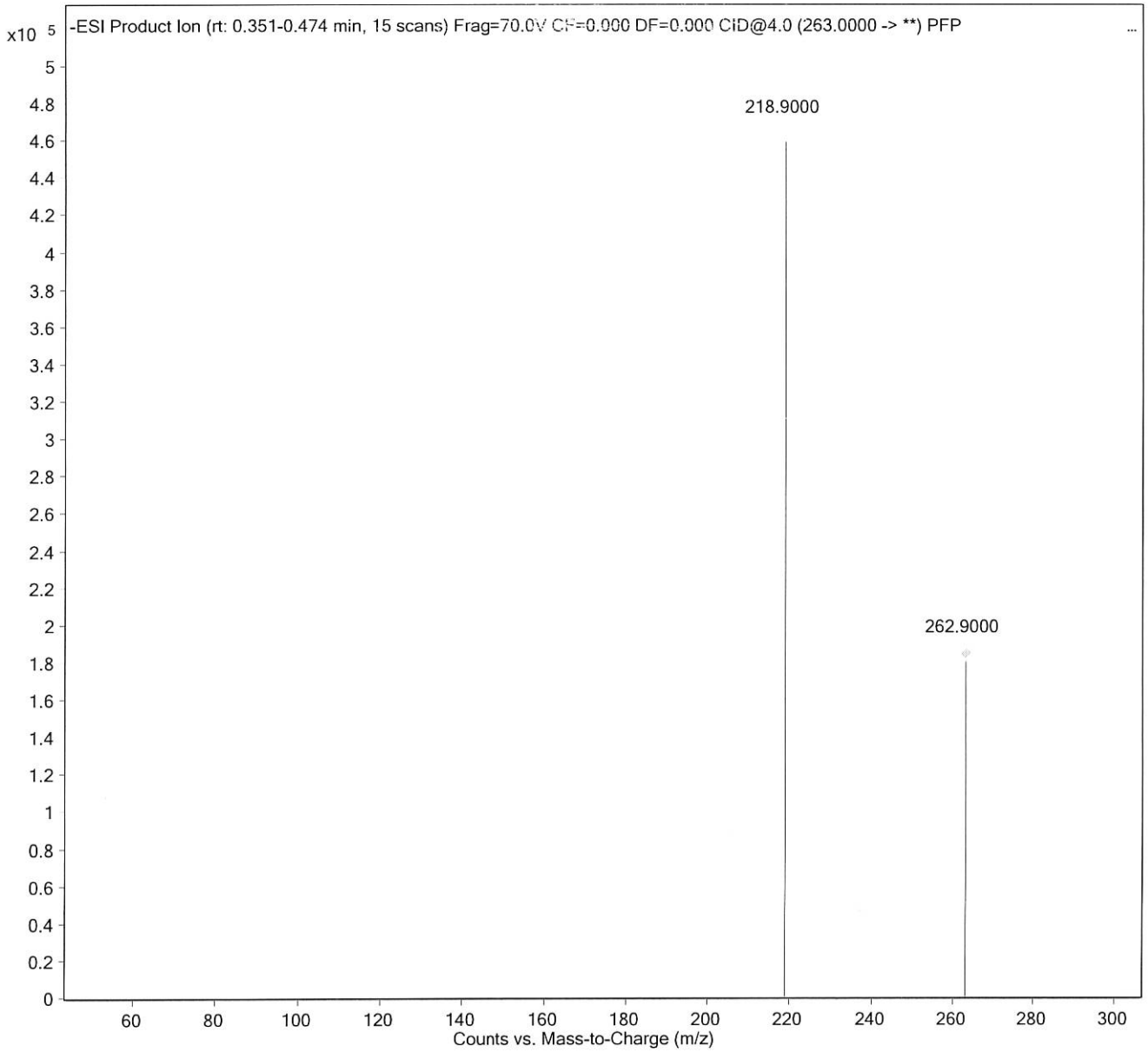
Maxxam Analytics

Sample Name	PFBS -Q3	**Position**	P1-A2	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	PFBS -Q3.d
ACQ Method	PFC_MassVerification-PFBS-Q3.m	**Comment**		**Acquired Time**	6/6/2018 2:16:38 PM

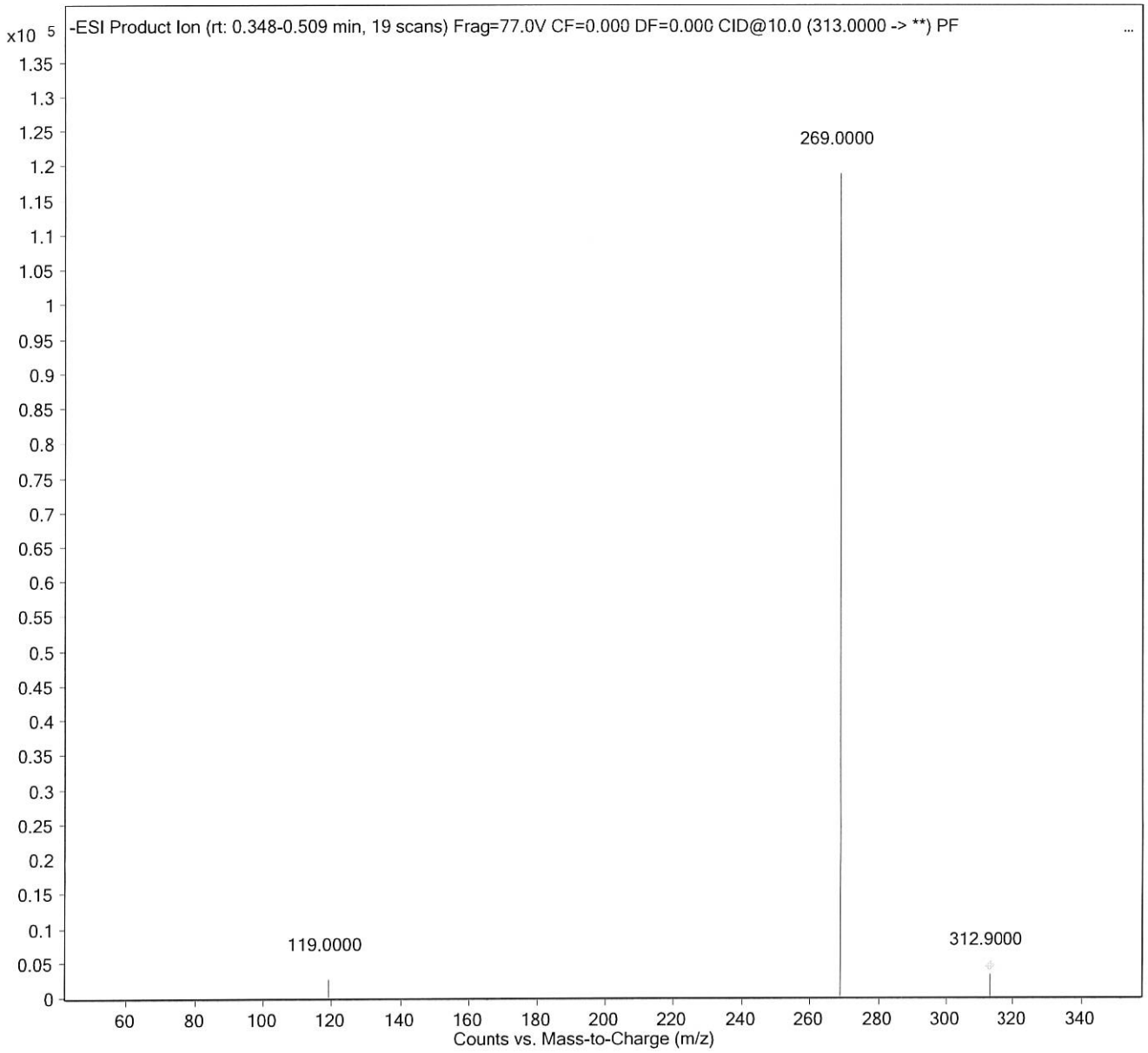


Maxxam Analytics

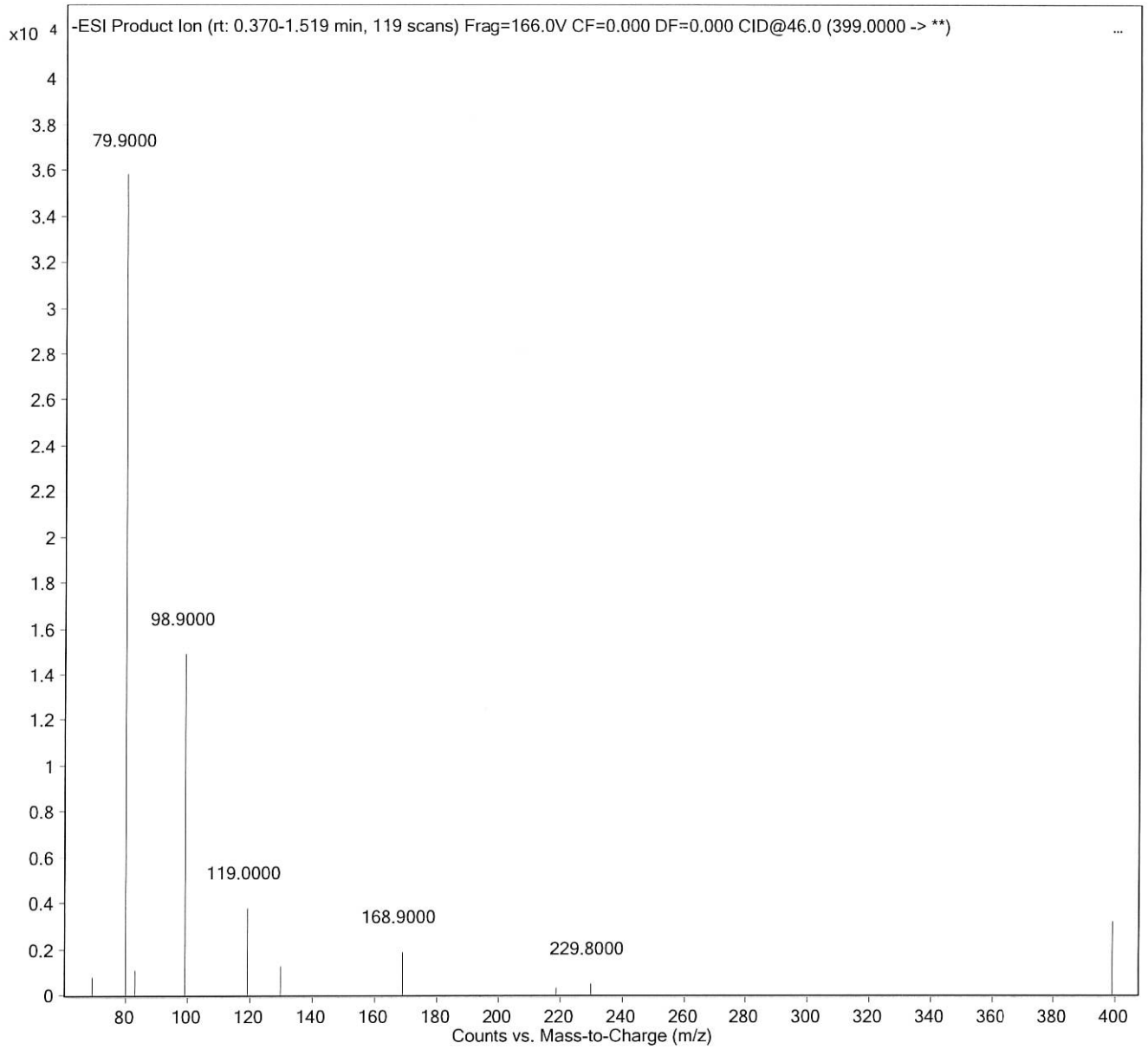
Sample Name	PFPeA -Q3	**Position**	P1-A3	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	PFPeA -Q3.d
ACQ Method	PFC_MassVerification-PFPeA-Q3.m	**Comment**		**Acquired Time**	6/6/2018 2:22:08 PM



Sample Name	PFHxA -Q3	**Position**	P1-A4	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	PFHxA -Q3.d
ACQ Method	PFC_MassVerification-PFHxA-Q3.m	**Comment**		**Acquired Time**	6/6/2018 2:27:38 PM

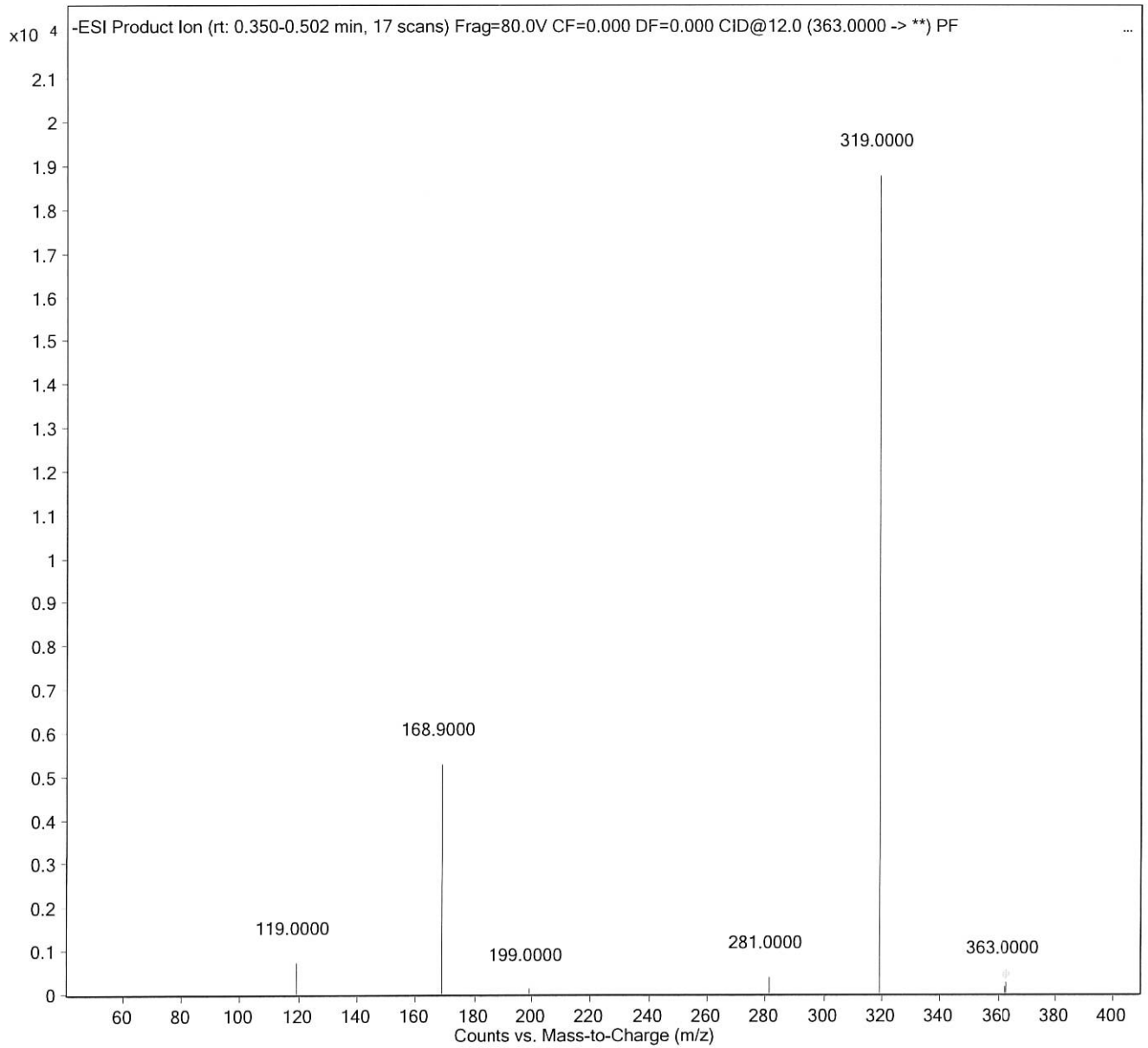


Sample Name	PFHxS -Q3	**Position**	P1-A5	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	PFHxS -Q3.d
ACQ Method	PFC_MassVerification-PFHxS-Q3.m	**Comment**		**Acquired Time**	6/6/2018 2:33:08 PM



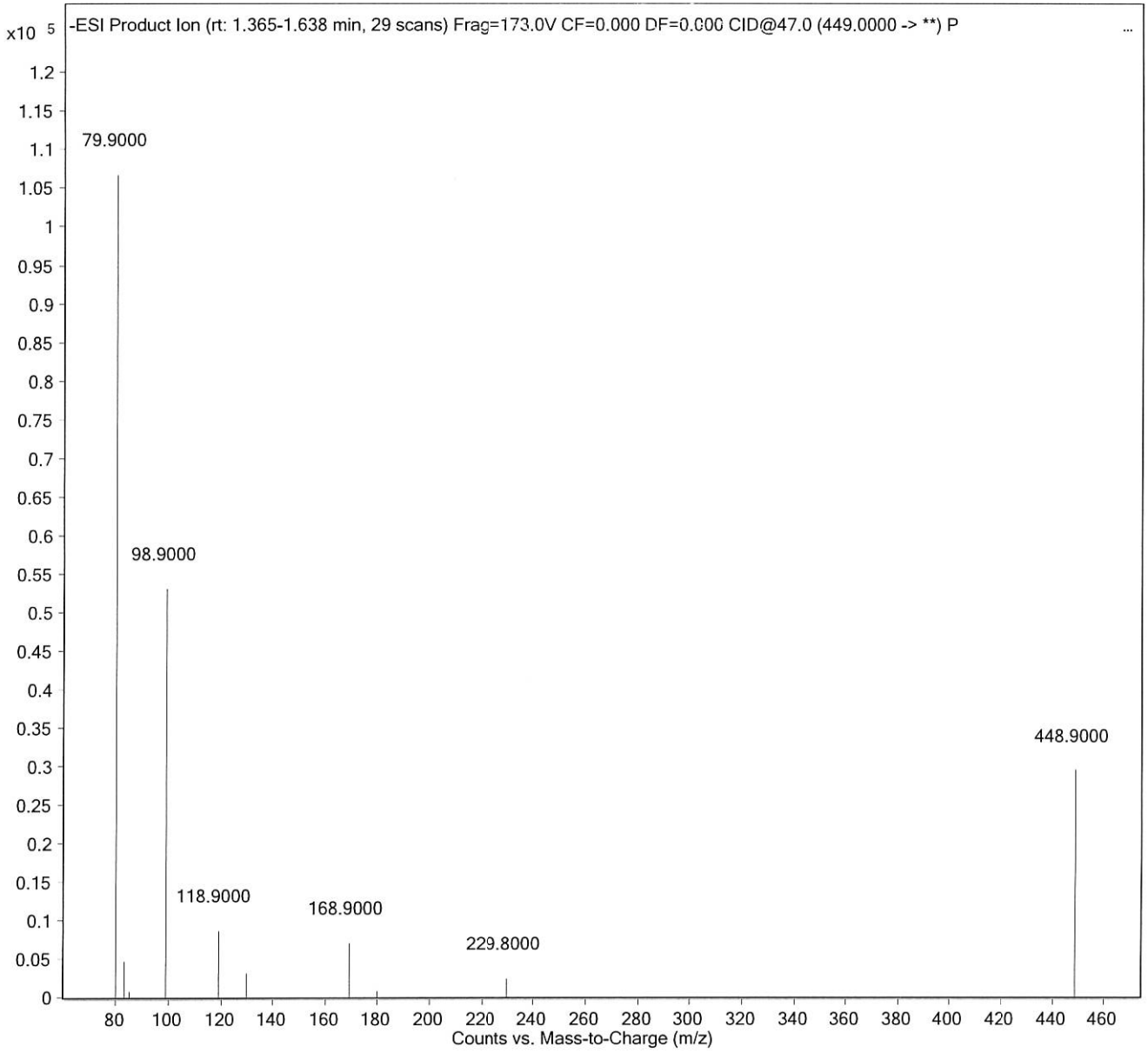
Maxxam Analytics

Sample Name	PFHpA-Q3	**Position**	P1-A6	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	PFHpA-Q3.d
ACQ Method	PFC_MassVerification-PFHpA-Q3.m	**Comment**		**Acquired Time**	6/6/2018 2:38:39 PM



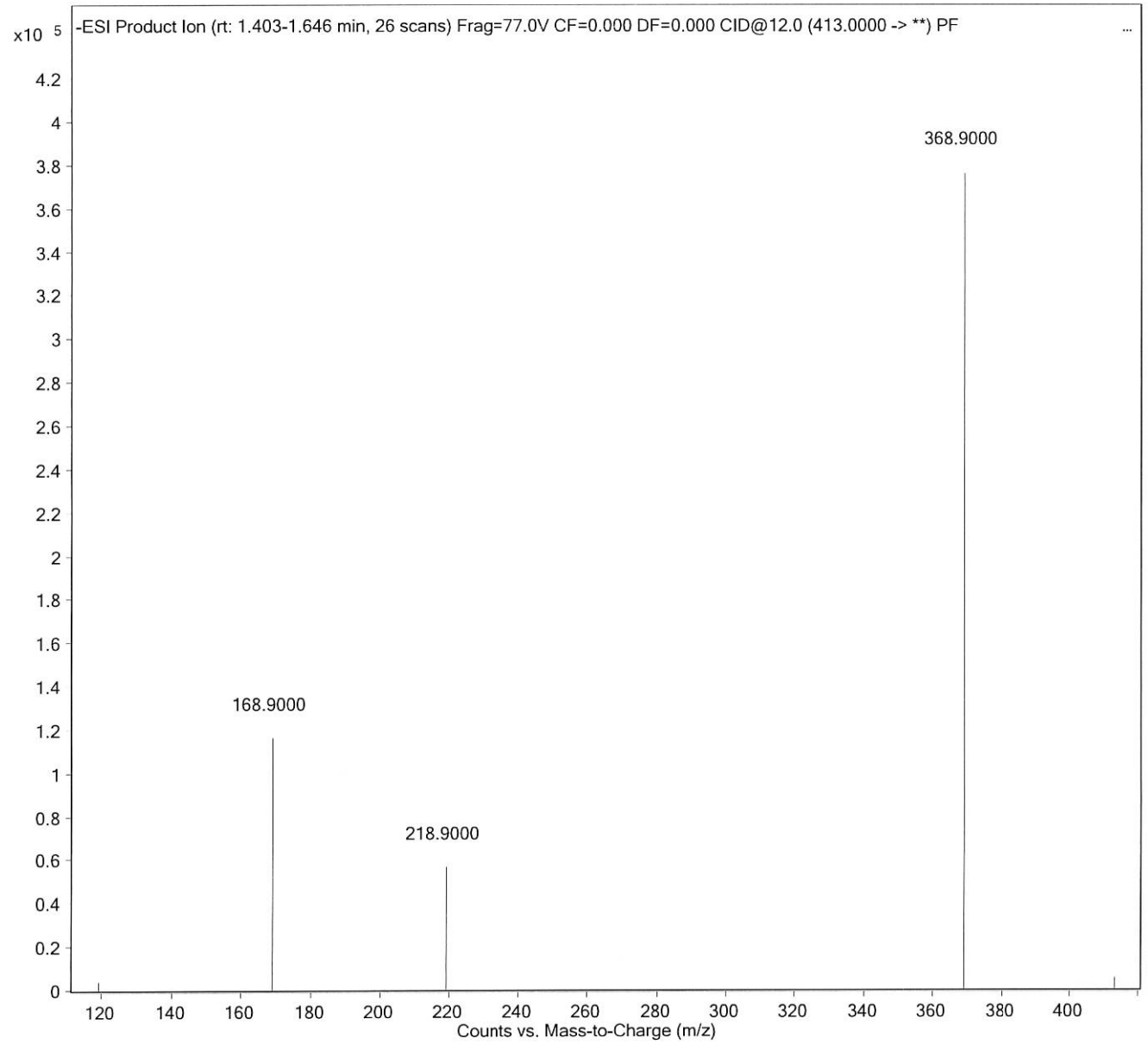
Maxxam Analytics

Sample Name	PFHpS-Q3	**Position**	P1-A7	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	PFHpS-Q3.d
ACQ Method	PFC_MassVerification-PFHpS-Q3.m	**Comment**		**Acquired Time**	6/6/2018 2:44:09 PM



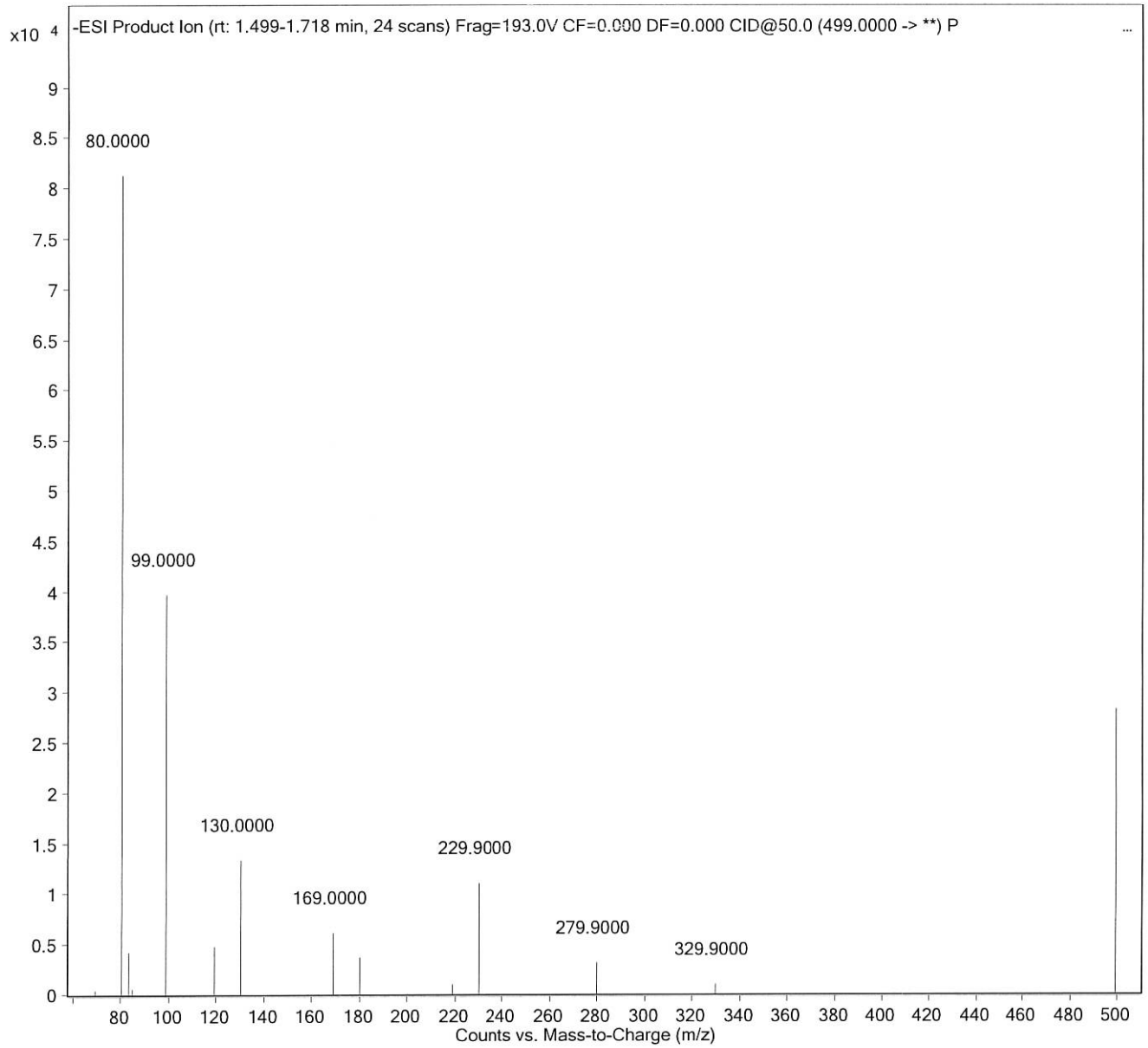
Maxxam Analytics

Sample Name	PFOA -Q3	**Position**	P1-A8	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	PFOA -Q3.d
ACQ Method	PFC_MassVerification-PFOA-Q3.m	**Comment**		**Acquired Time**	6/6/2018 2:49:39 PM



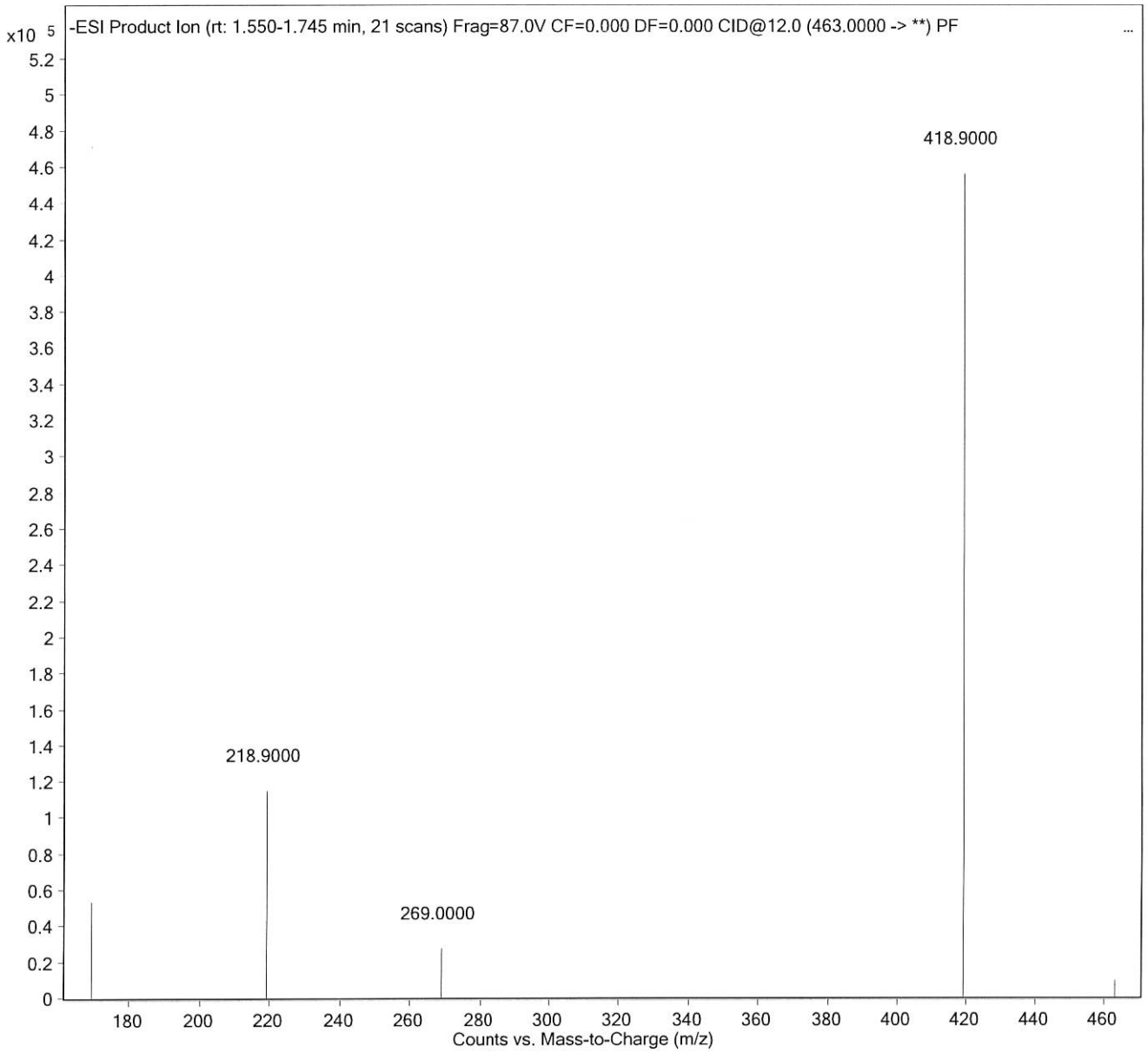
Maxxam Analytics

Sample Name	PFOS -Q3	**Position**	P1-A9	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	PFOS -Q3.d
ACQ Method	PFC_MassVerification-PFOS-Q3.m	**Comment**		**Acquired Time**	6/6/2018 2:55:09 PM



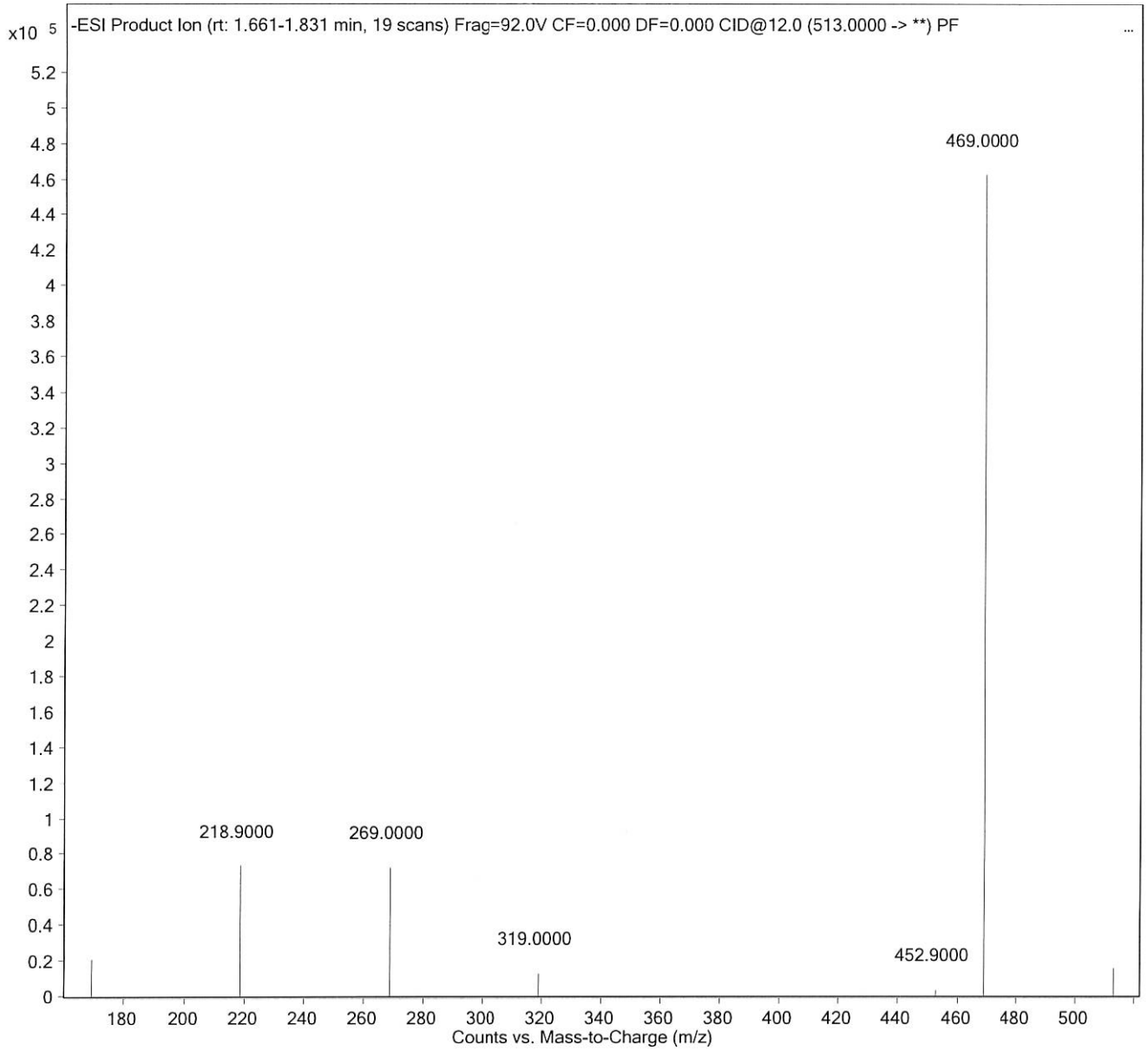
Maxxam Analytics

Sample Name	PFNA -Q3	**Position**	P1-B1	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	PFNA -Q3.d
ACQ Method	PFC_MassVerification-PFNA-Q3.m	**Comment**		**Acquired Time**	6/6/2018 3:00:38 PM

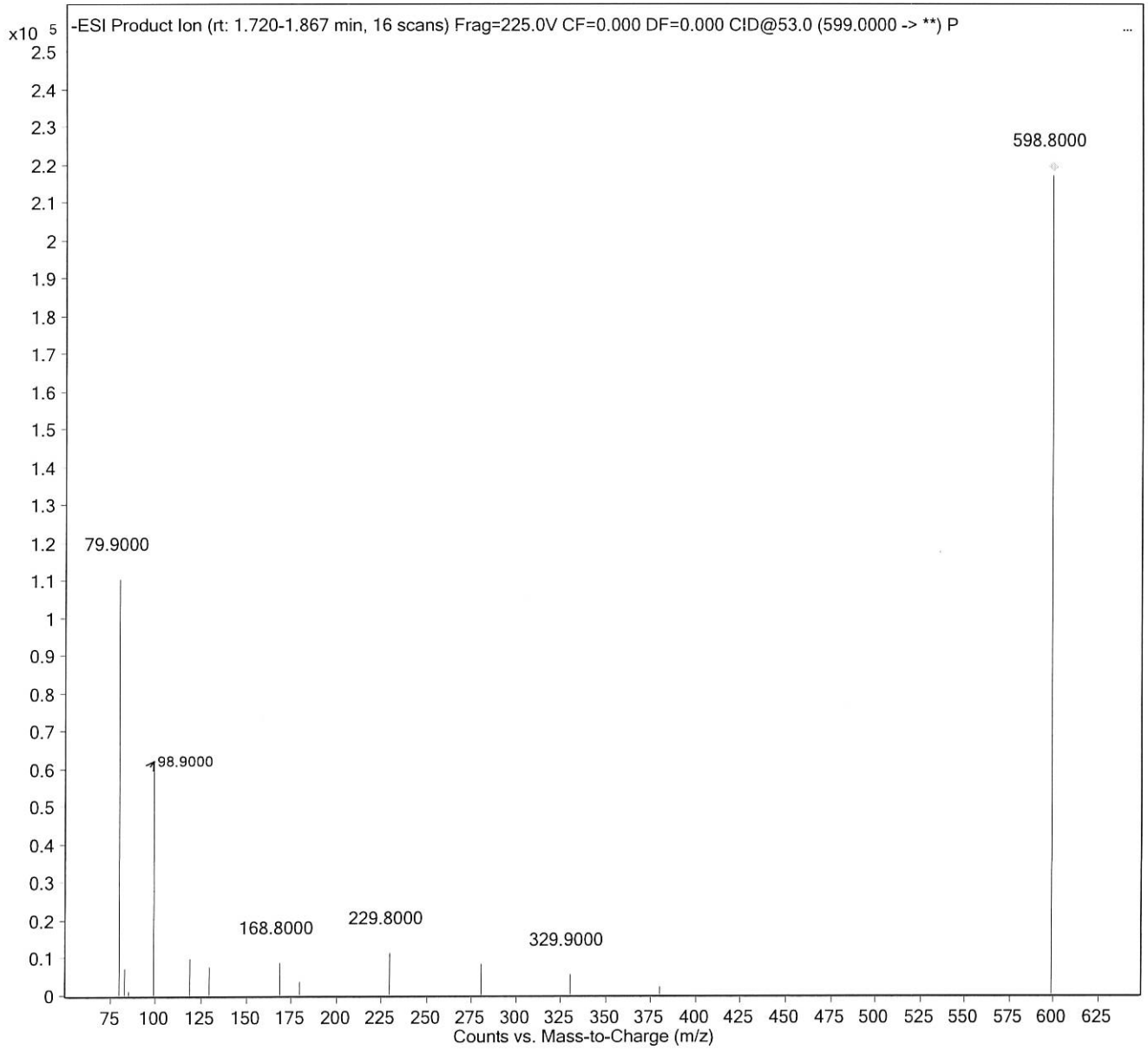


Maxxam Analytics

Sample Name	PFDA -Q3	**Position**	P1-B2	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	PFDA -Q3.d
ACQ Method	PFC_MassVerification-PFDA-Q3.m	**Comment**		**Acquired Time**	6/6/2018 3:06:08 PM

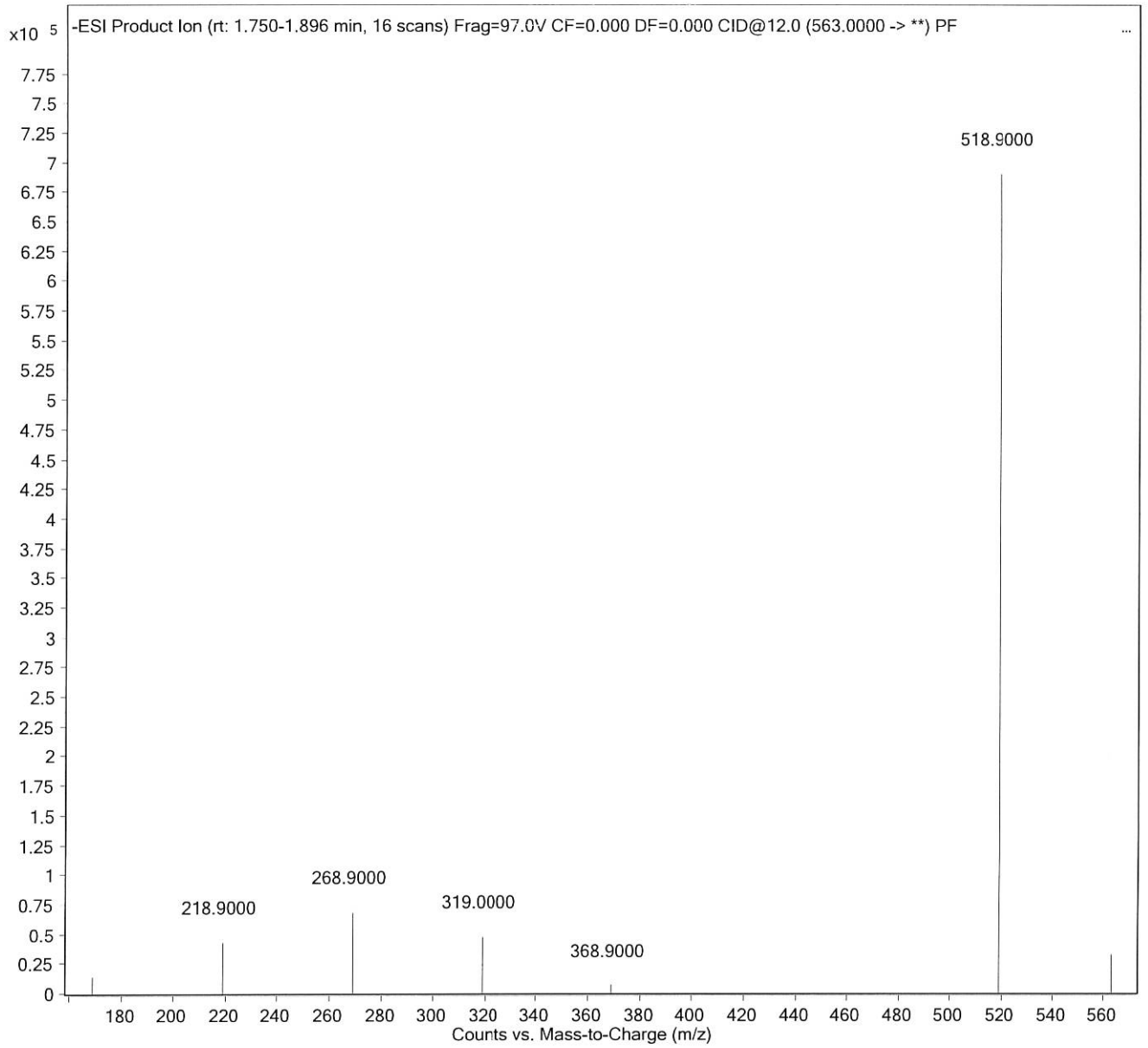


Sample Name	PFDS -Q3	**Position**	P1-B3	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	PFDS -Q3.d
ACQ Method	PFC_MassVerification-PFDS-Q3.m	**Comment**		**Acquired Time**	6/6/2018 3:11:38 PM



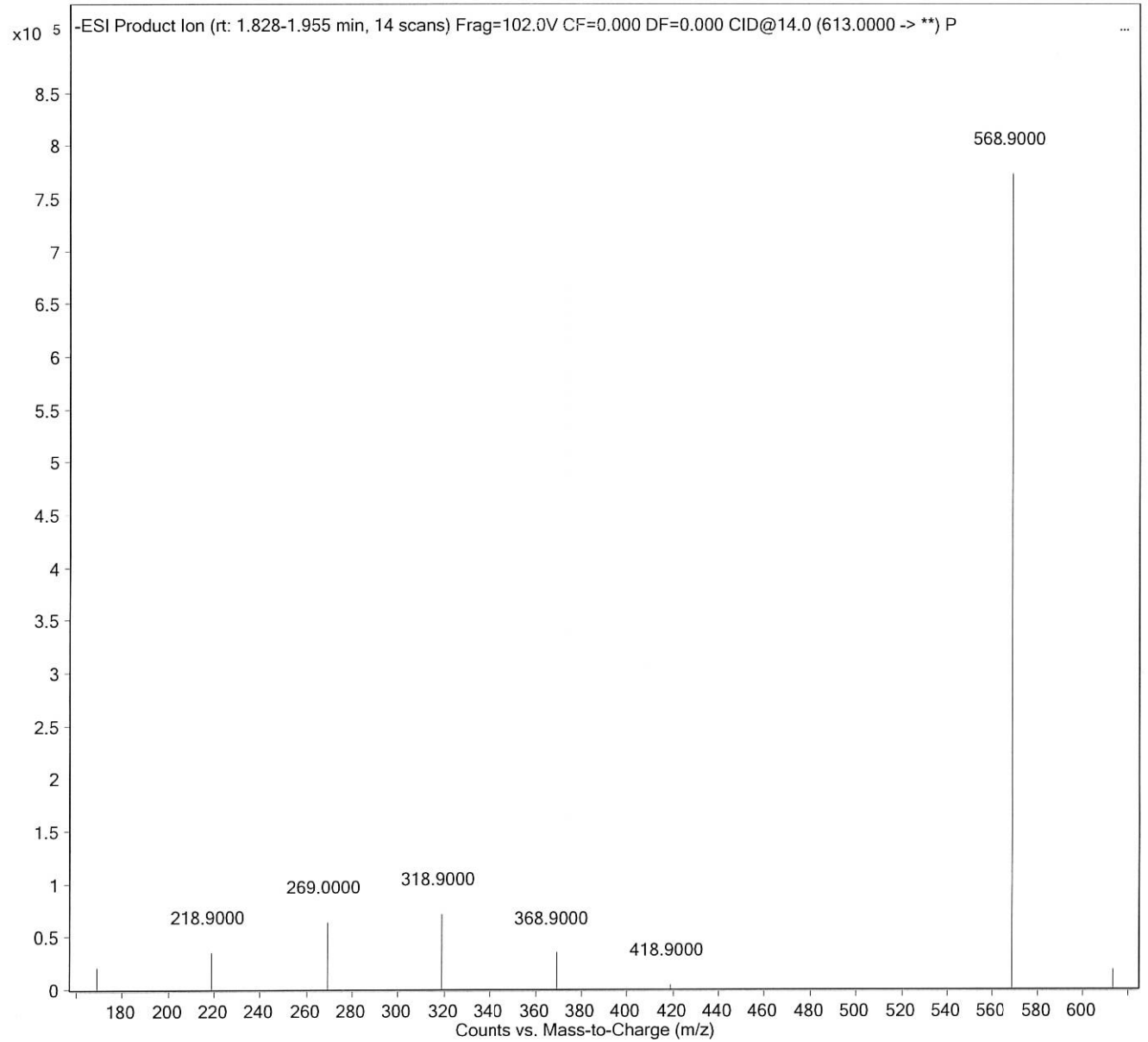
Maxxam Analytics

Sample Name	PFUnA -Q3	**Position**	P1-B4	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	PFUnA -Q3.d
ACQ Method	PFC_MassVerification-PFUnA-Q3.m	**Comment**		**Acquired Time**	6/6/2018 3:17:08 PM

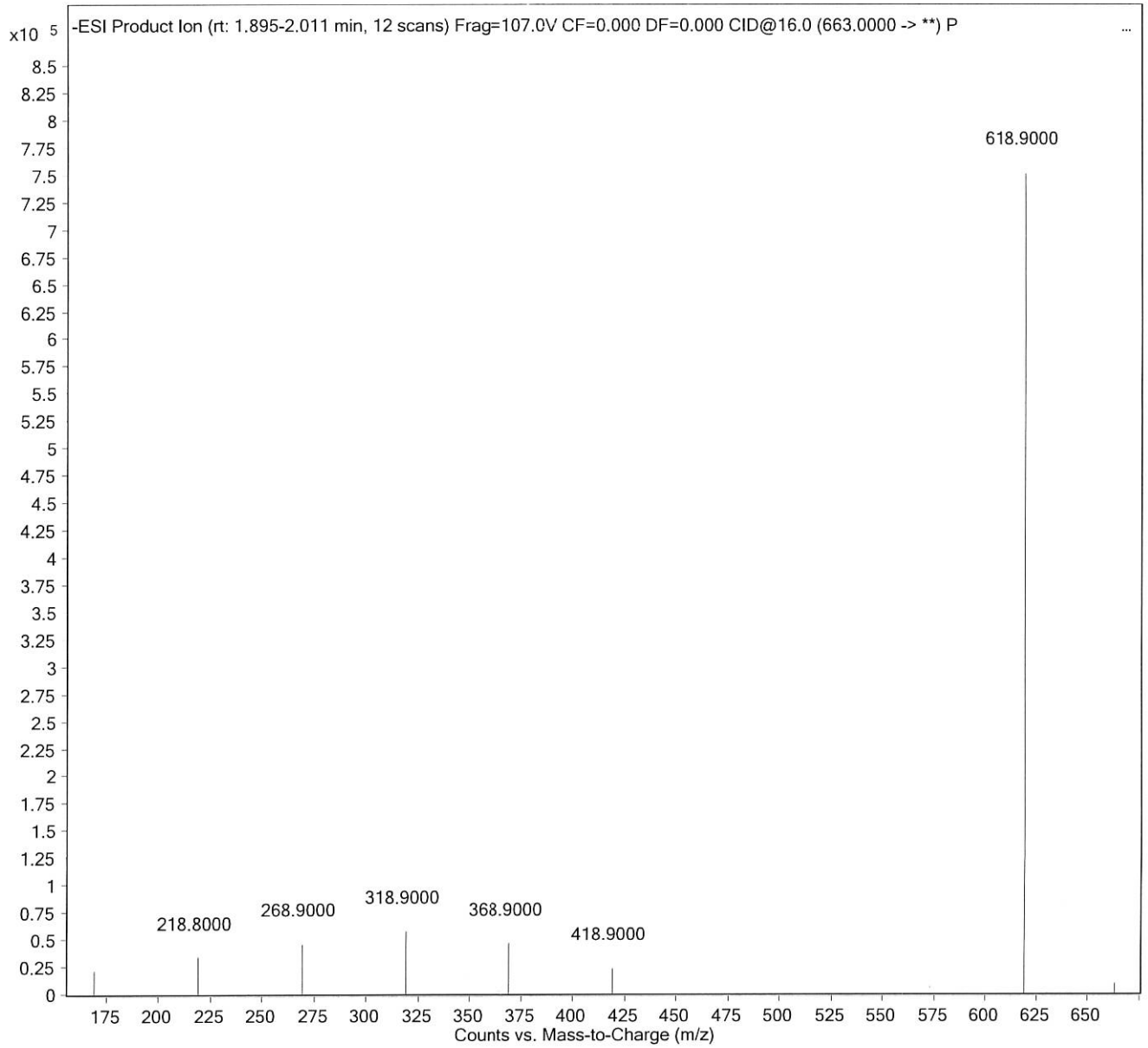


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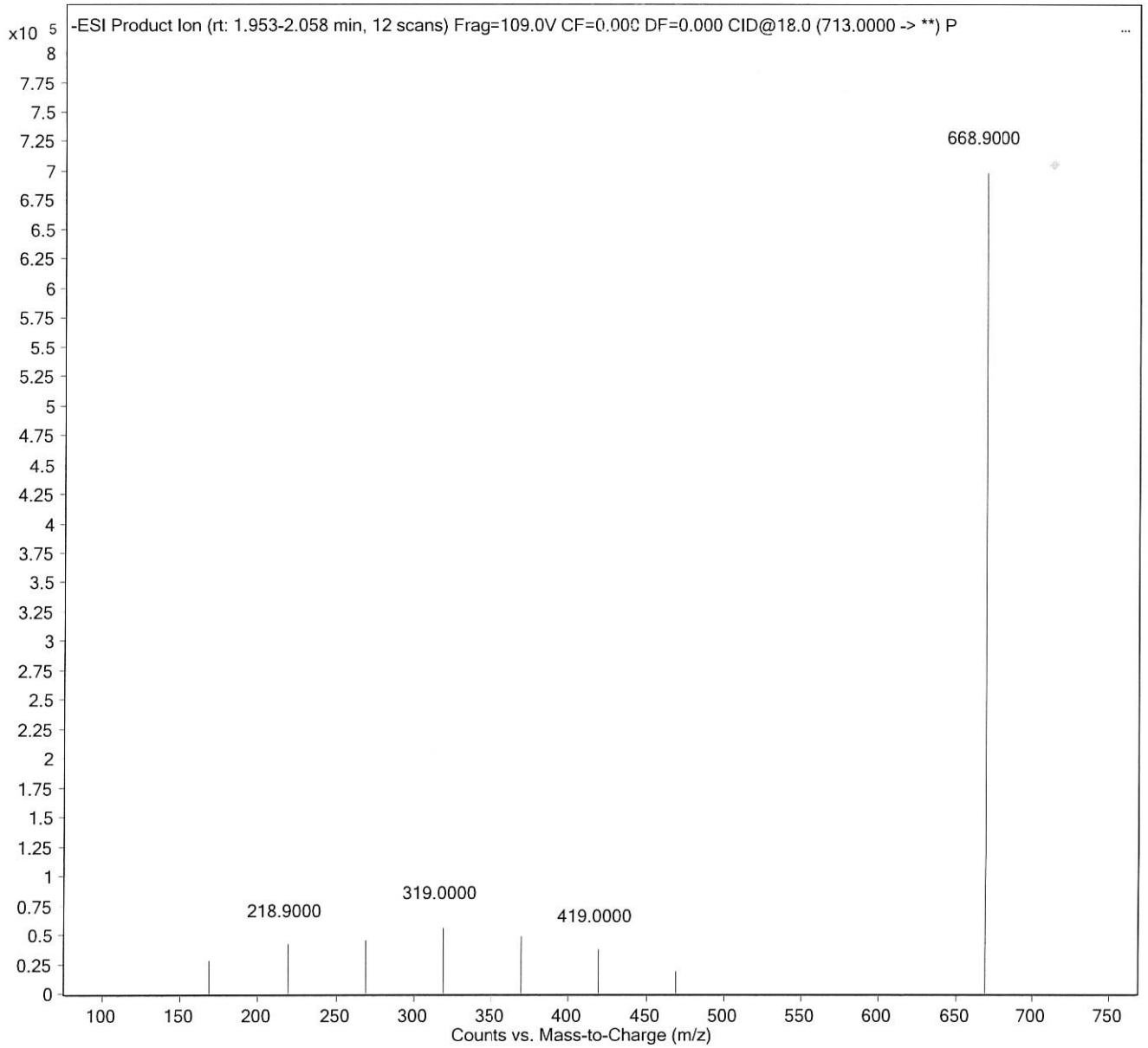
Sample Name	PFDoA -Q3	**Position**	P1-B5	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	PFDoA -Q3.d
ACQ Method	PFC_MassVerification-PFDoA-Q3.m	**Comment**		**Acquired Time**	6/6/2018 3:22:39 PM



Sample Name	PFTrDA -Q3	**Position**	P1-B6	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	PFTrDA -Q3.d
ACQ Method	PFC_MassVerification-PFTrDA-Q3.m	**Comment**		**Acquired Time**	6/6/2018 3:28:09 PM



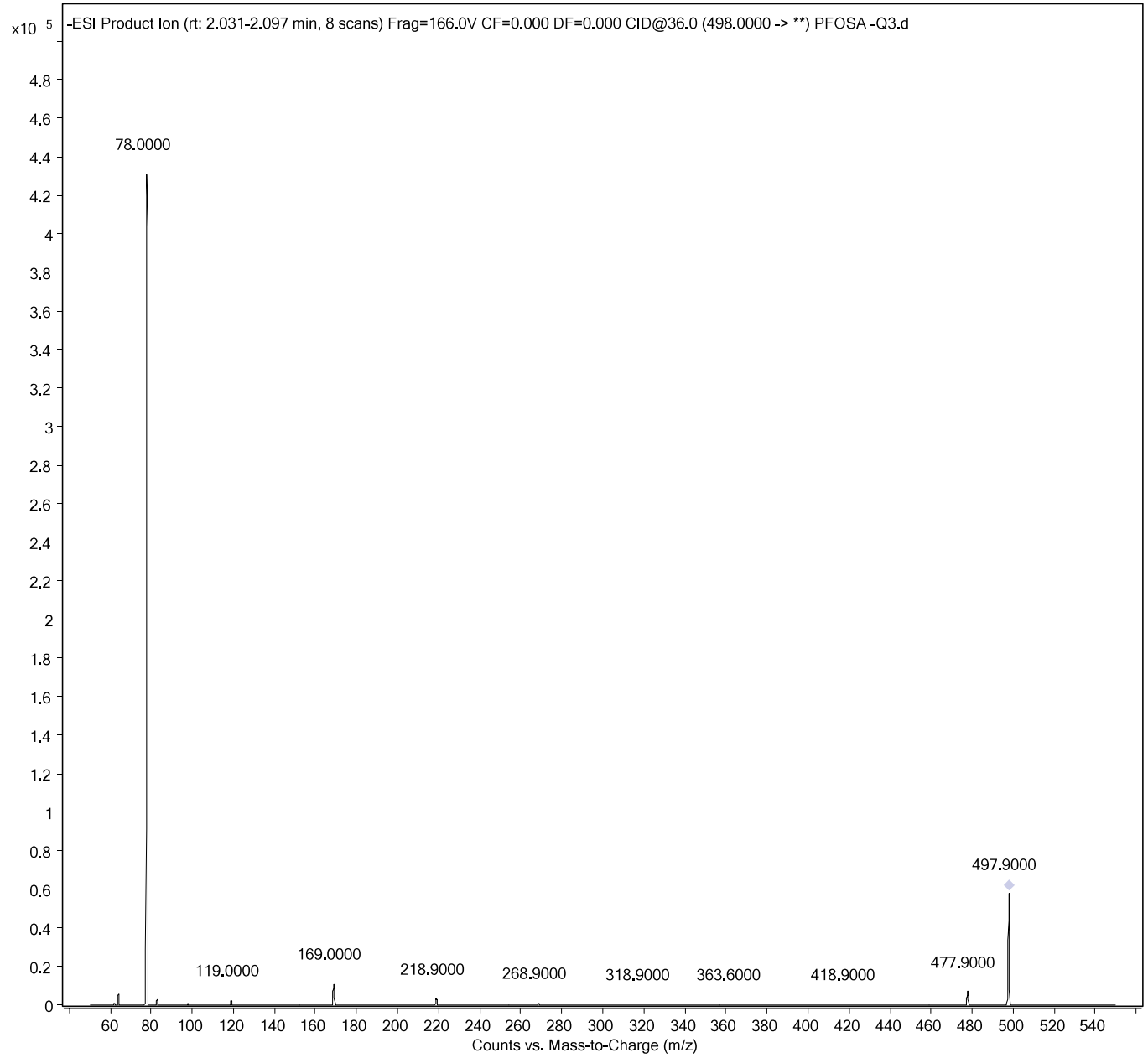
Sample Name	PFTeDA -Q3	**Position**	P1-B7	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	PFTeDA -Q3.d
ACQ Method	PFC_MassVerification-PFTeDA-Q3.m	**Comment**		**Acquired Time**	6/6/2018 3:33:39 PM



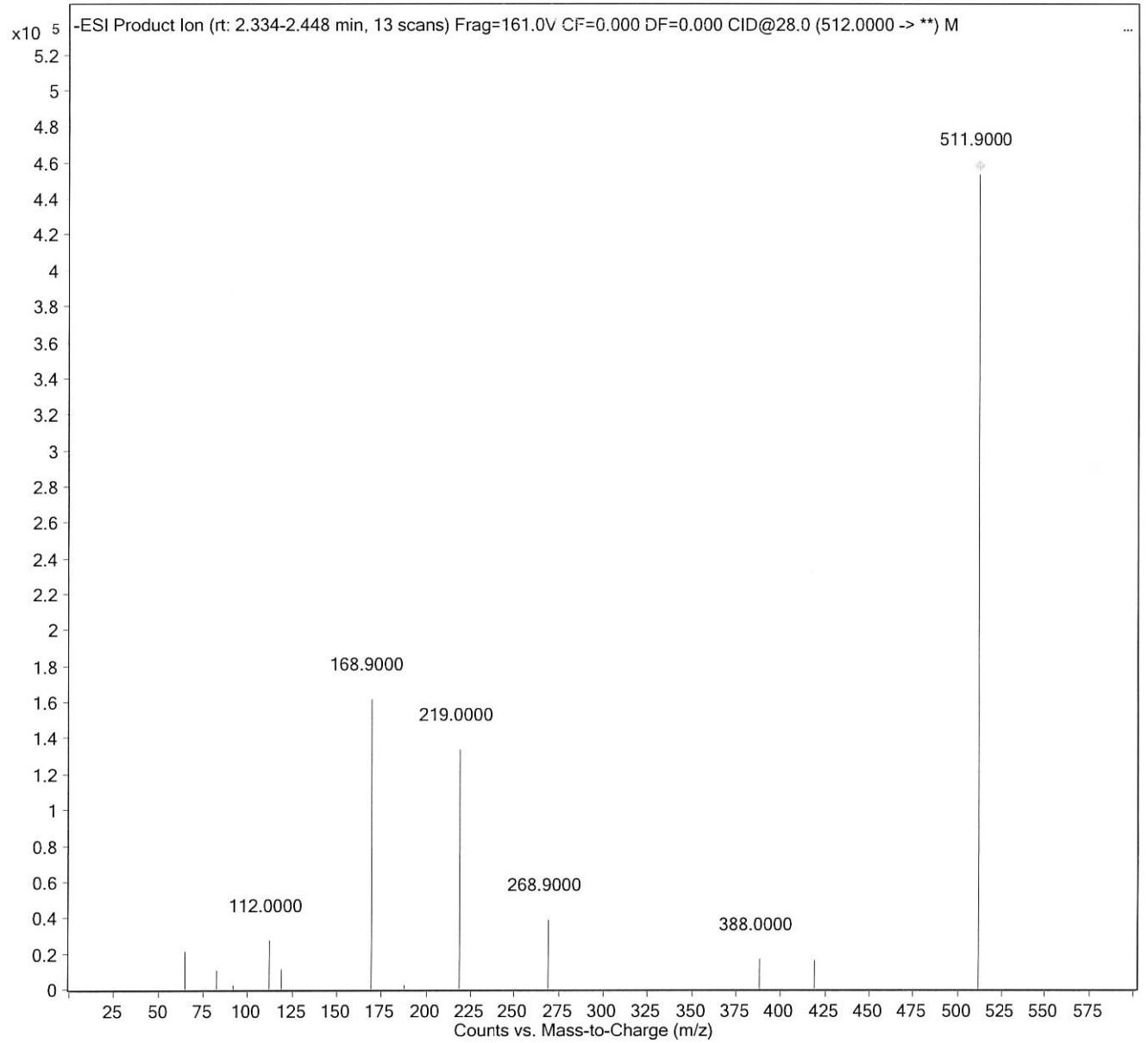
Maxxam Analytics

Sample Name	PFOSA -Q3	**Position**	P1-B8	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	PFOSA -Q3.d
ACQ Method	PFC_MassVerification-PFOSA-Q3.m	**Comment**		**Acquired Time**	6/6/2018 3:39:09 PM

MAXXAM Analytics



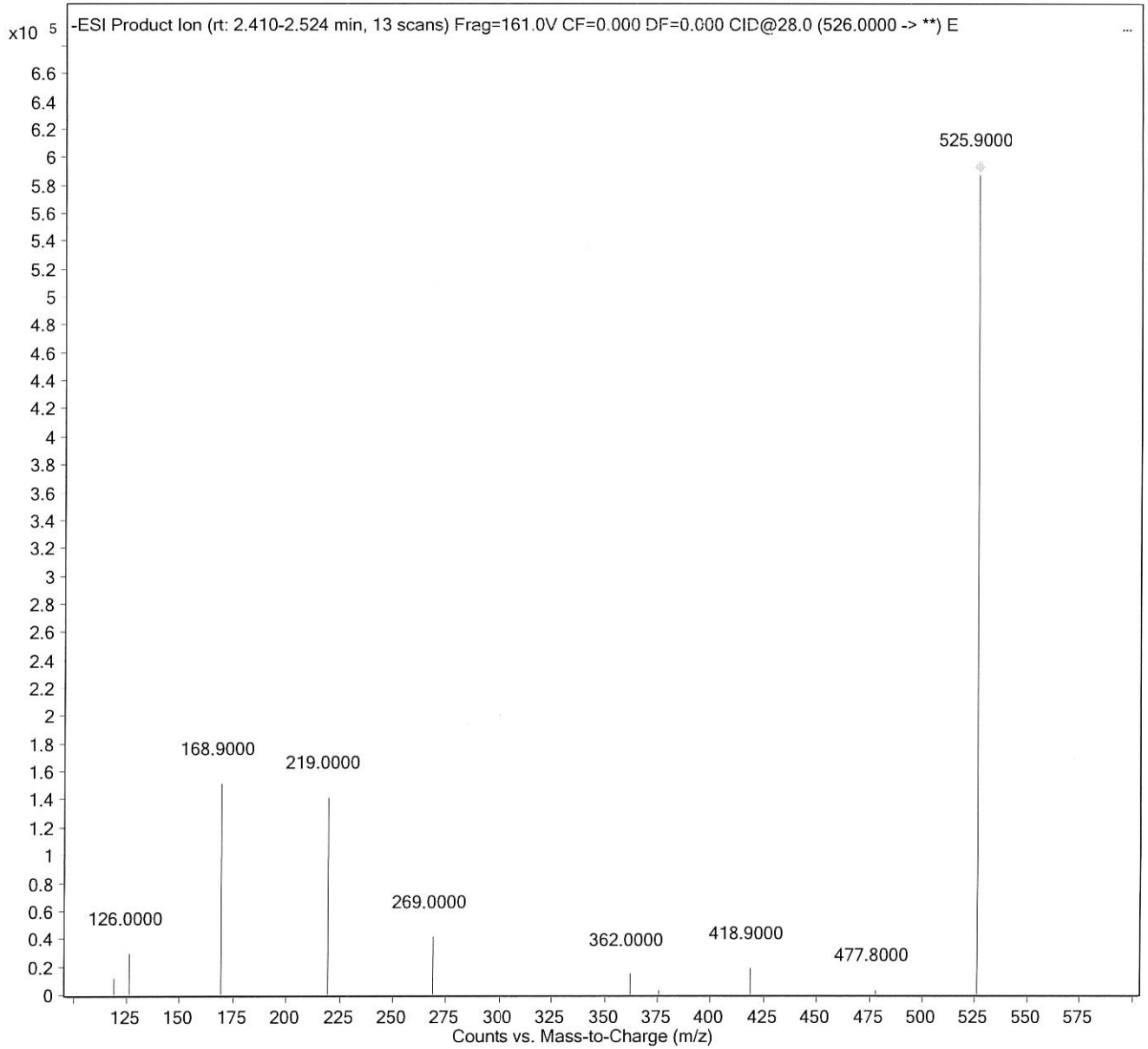
Sample Name	MeFOSA -Q3	**Position**	P1-B9	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	MeFOSA -Q3.d
ACQ Method	PFC_MassVerification-MeFOSA-Q3.m	**Comment**		**Acquired Time**	6/6/2018 3:44:39 PM



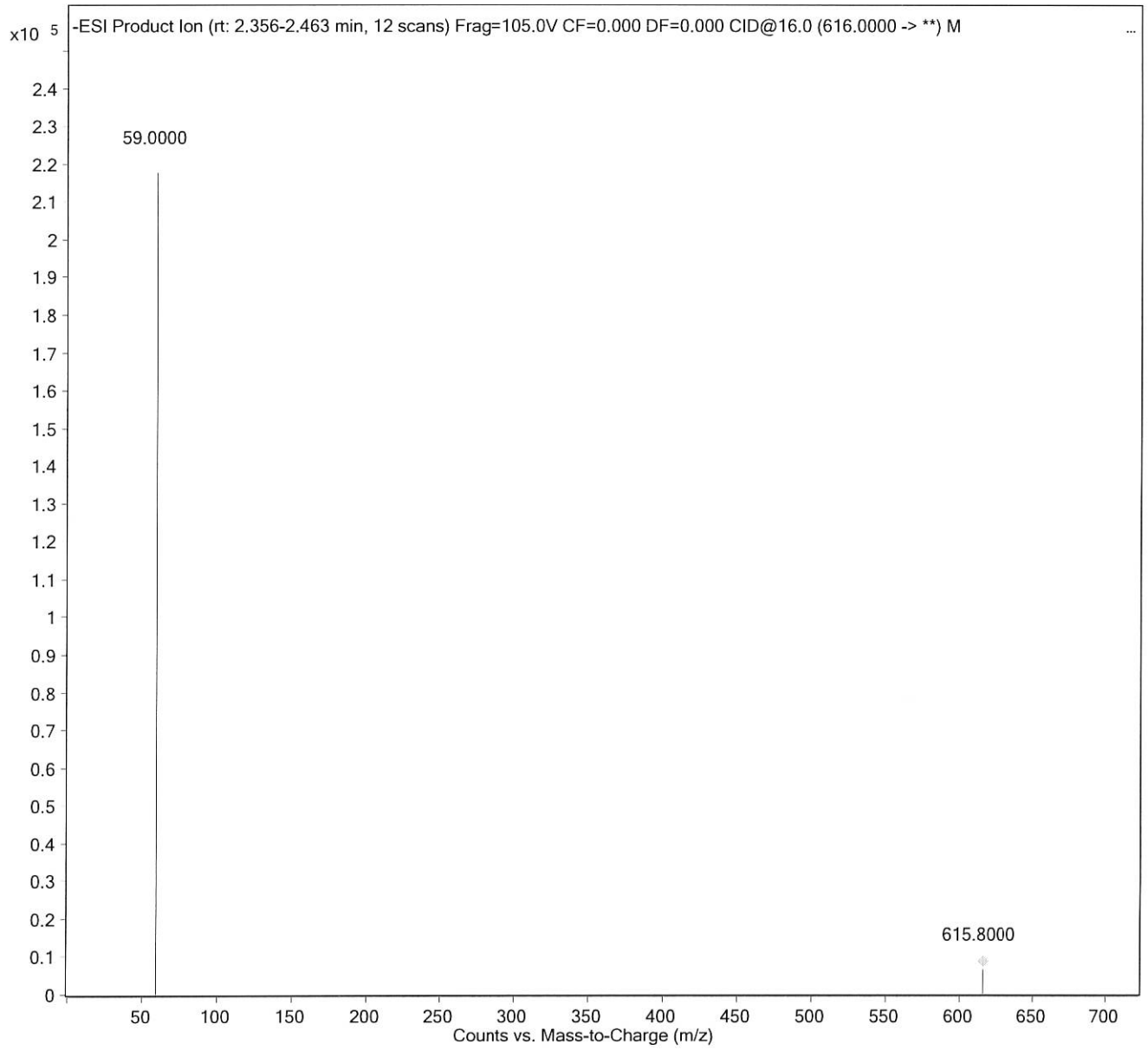
Maxxam Analytics

Sample Name	EtFOSA -Q3	**Position**	P1-C1	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	EtFOSA -Q3.d
ACQ Method	PFC_MassVerification-EtFOSA-Q3.m	**Comment**		**Acquired Time**	6/6/2018 3:50:08 PM

Maxxam Analytics

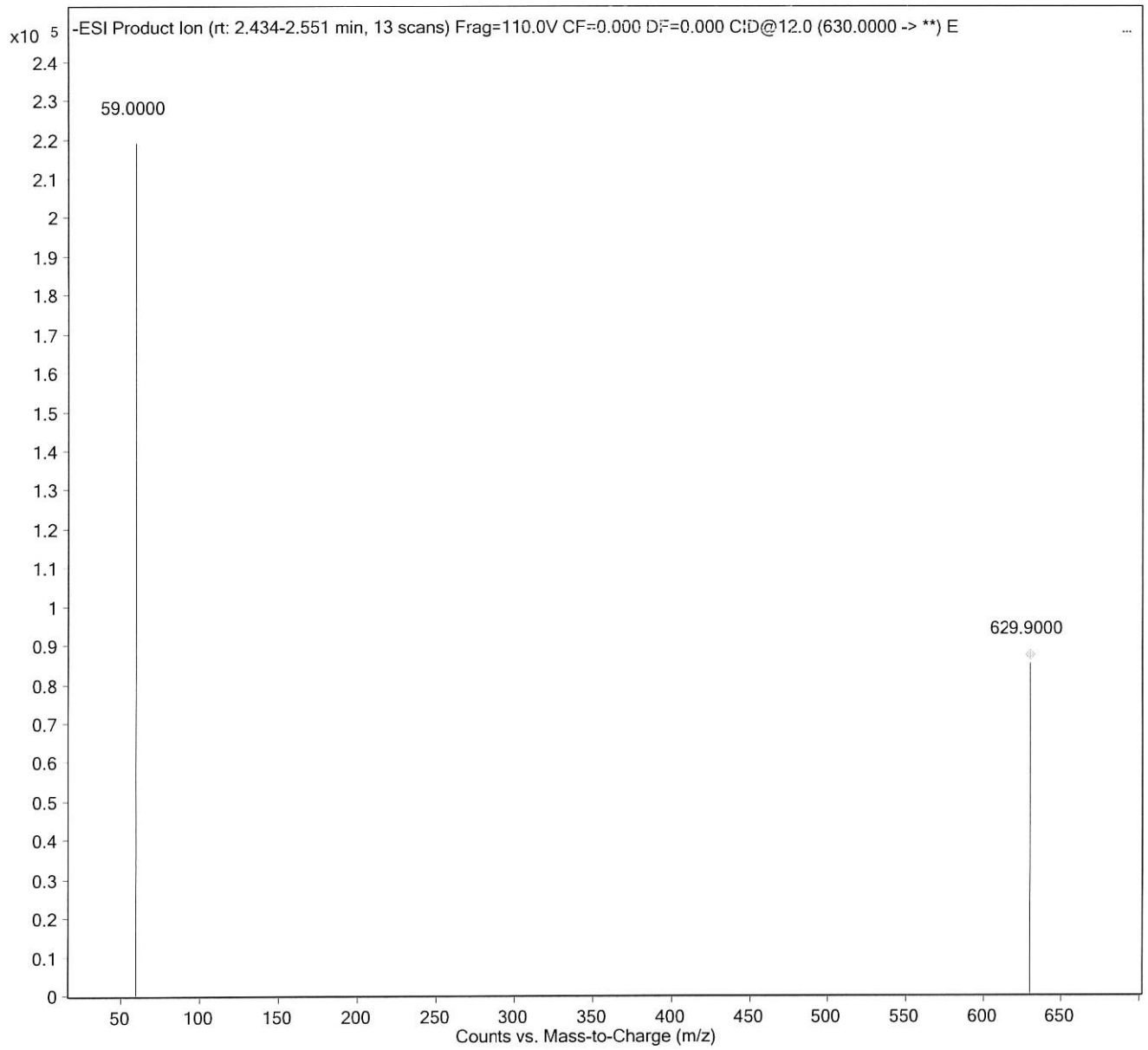


Sample Name	MeFOSE -Q3	**Position**	P1-C2	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	MeFOSE -Q3.d
ACQ Method	PFC_MassVerification-MeFOSE-Q3.m	**Comment**		**Acquired Time**	6/6/2018 3:55:38 PM



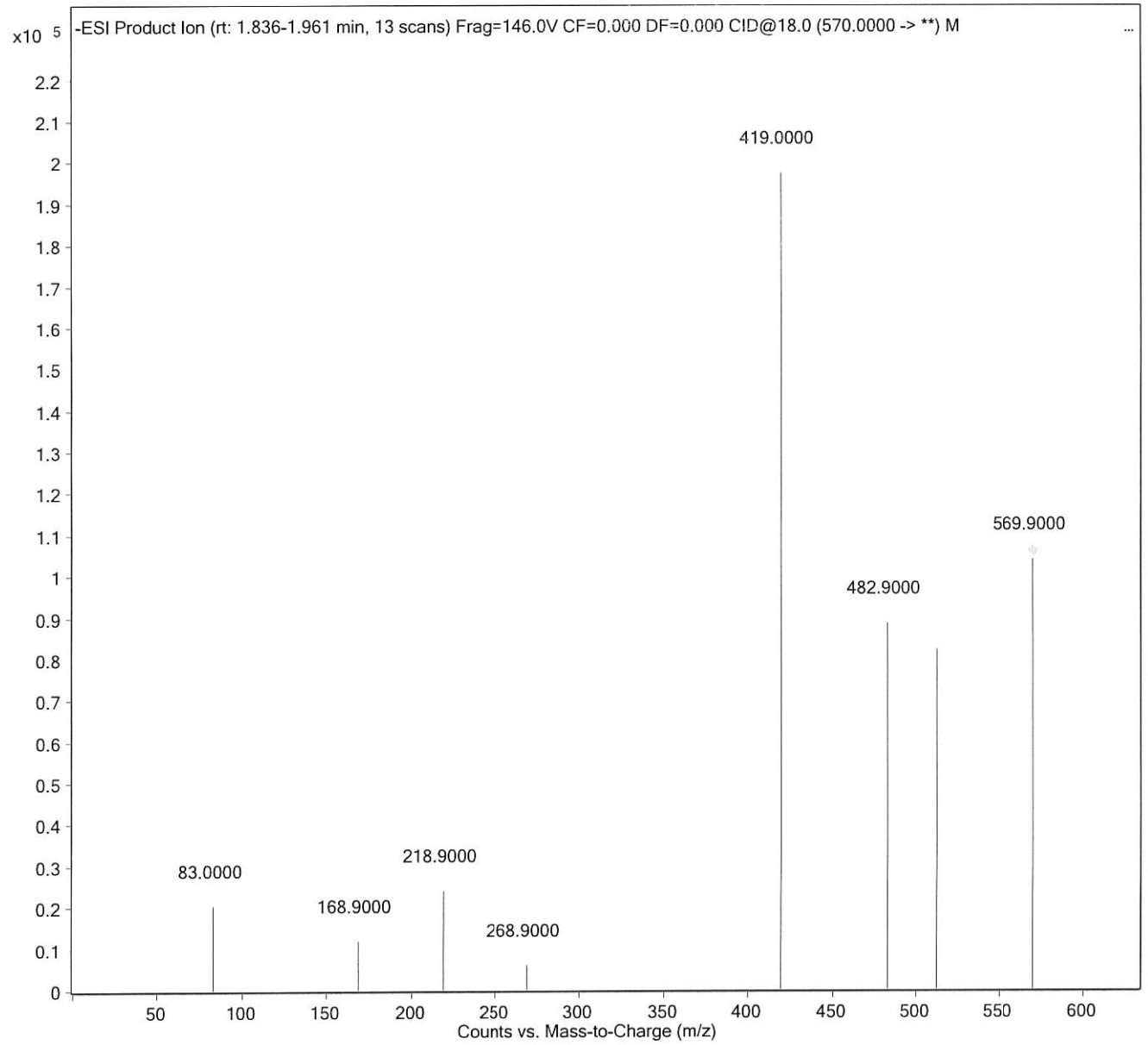
Maxxam Analytics

Sample Name	EtFOSE -Q3	**Position**	P1-C3	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	EtFOSE -Q3.d
ACQ Method	PFC_MassVerification-EtFOSE-Q3.m	**Comment**		**Acquired Time**	6/6/2018 4:01:08 PM



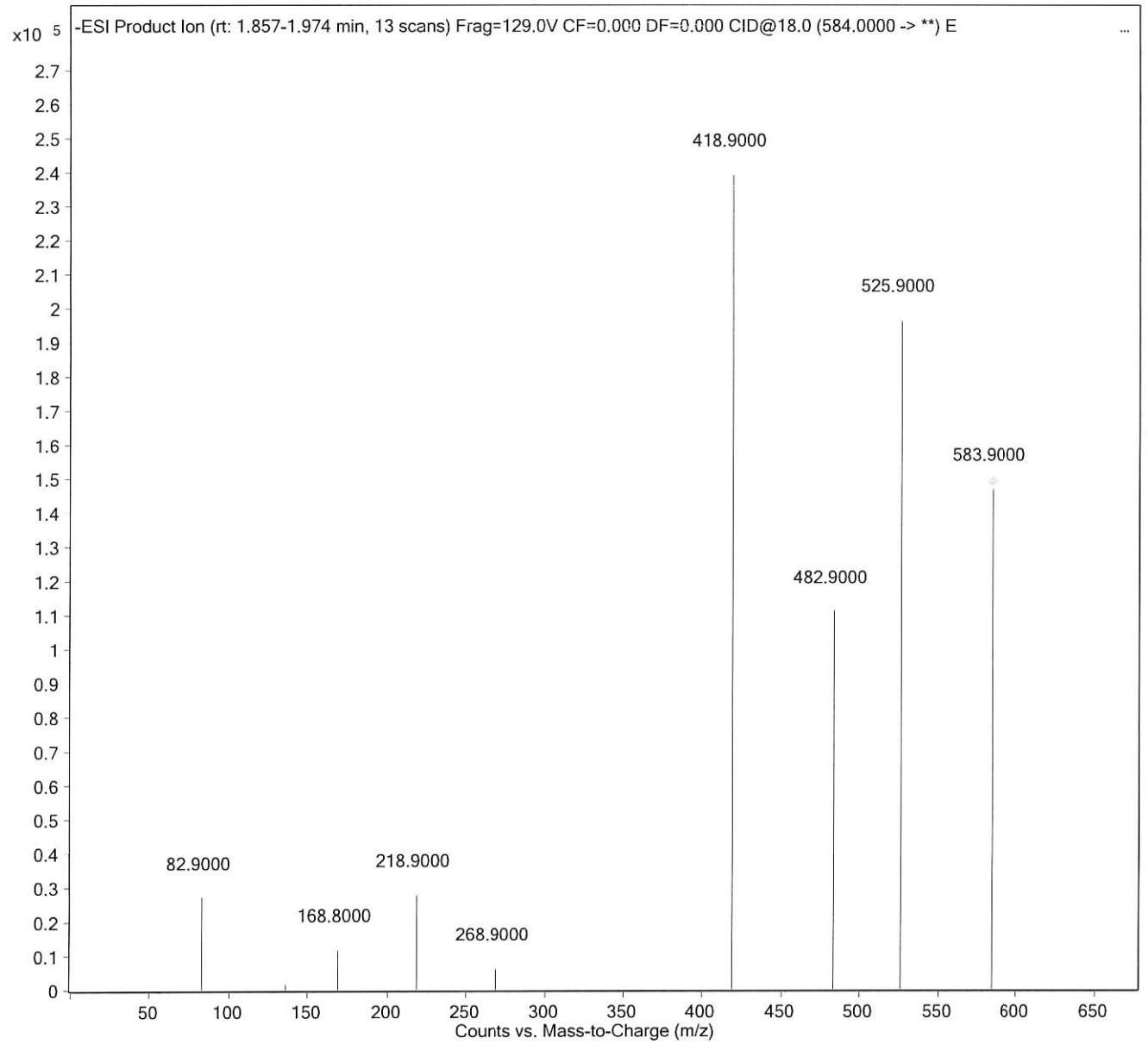
MaxXam Analytics

Sample Name	MeFOSAA -Q3	**Position**	P1-C4	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	MeFOSAA -Q3.d
ACQ Method	PFC_MassVerification-MeFOSAA-Q3.m	**Comment**		**Acquired Time**	6/6/2018 4:06:38 PM



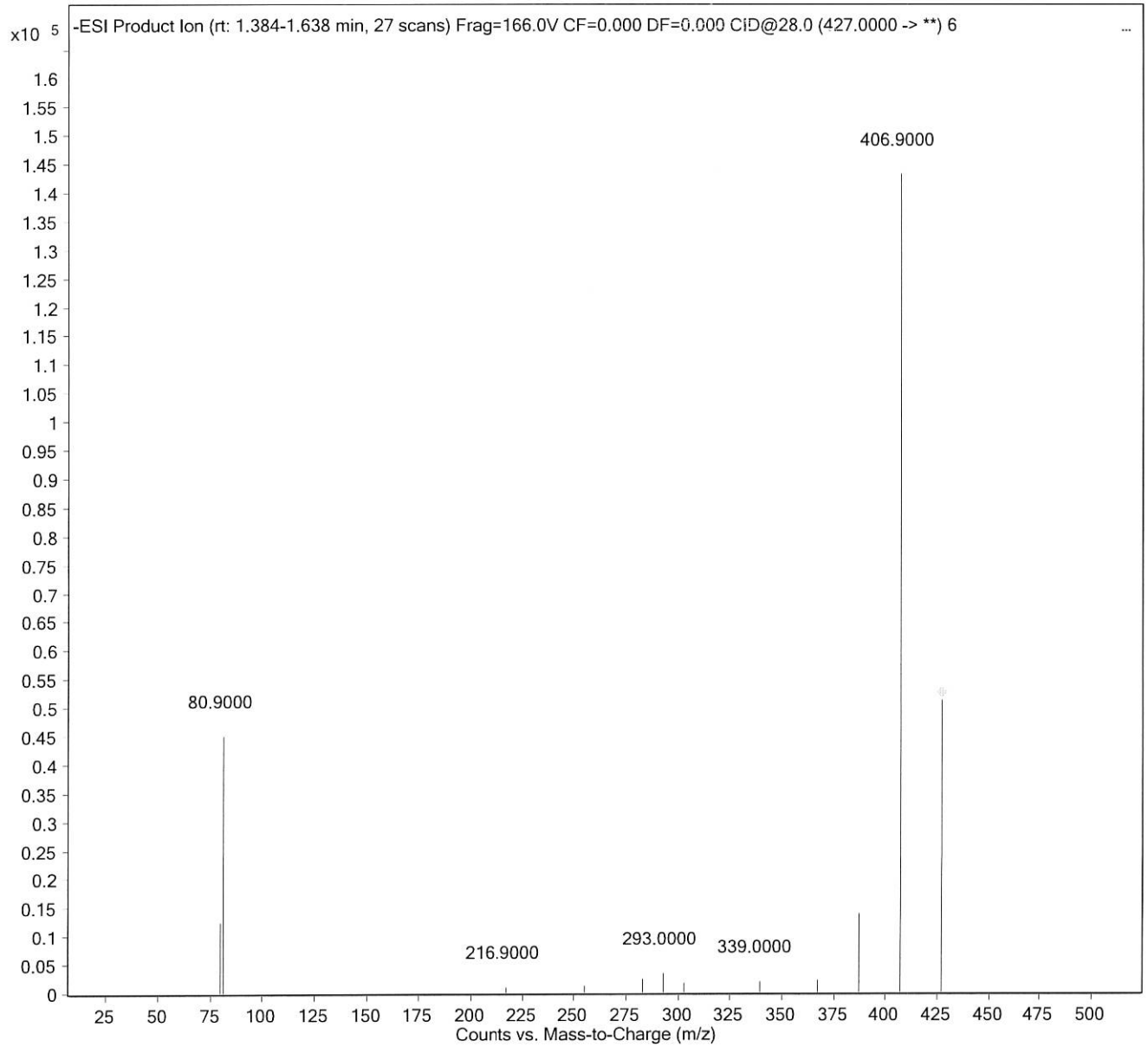
Maxxam Analytics

Sample Name	EtFOSAA -Q3	**Position**	P1-C5	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	EtFOSAA -Q3.d
ACQ Method	PFC_MassVerification-EtFOSAA-Q3.m	**Comment**		**Acquired Time**	6/6/2018 4:12:08 PM



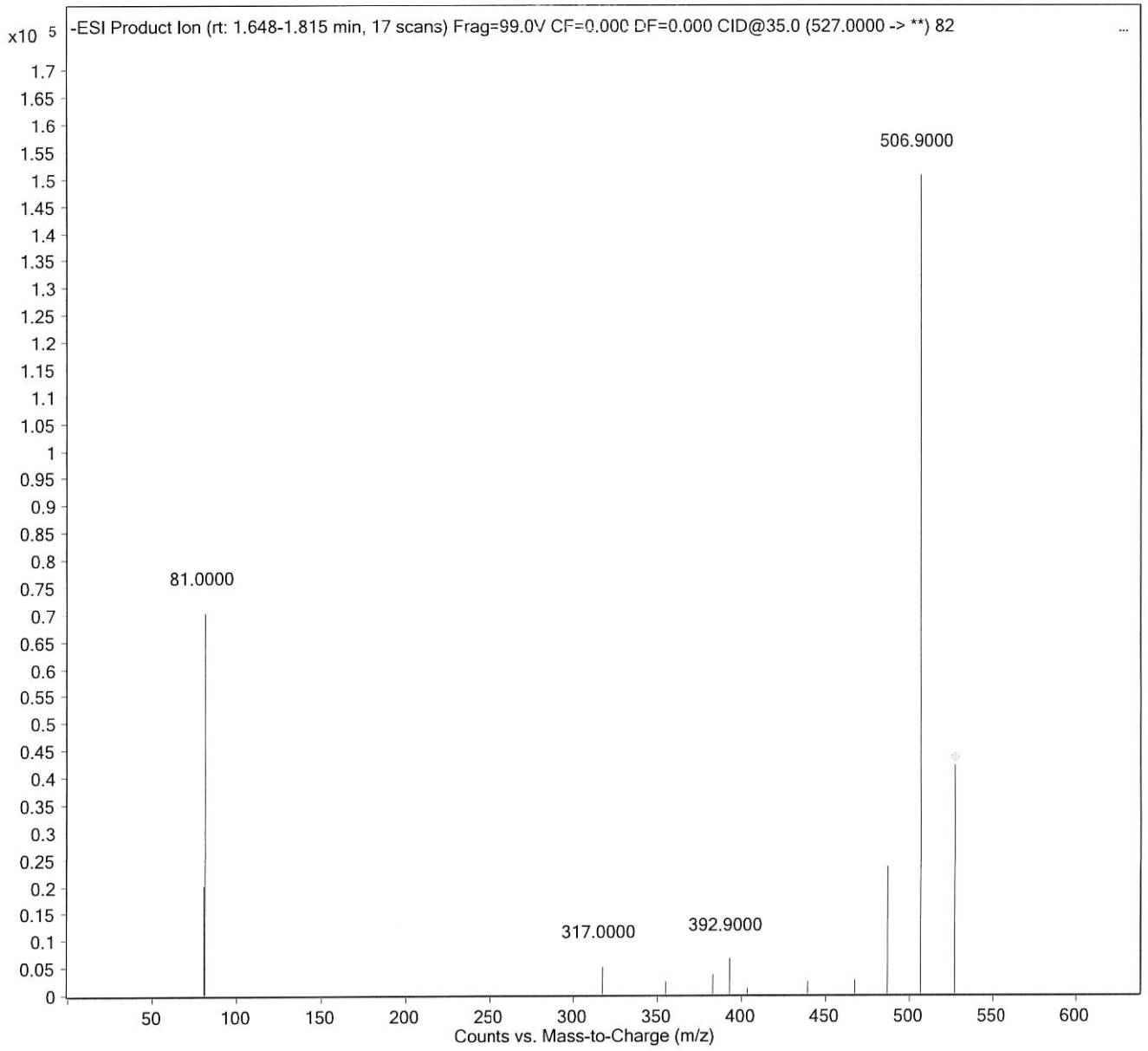
Maxxam Analytics

Sample Name	6:2FTS -Q3	**Position**	P1-C6	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	62FTS -Q3.d
ACQ Method	PFC_MassVerification-6-2FTS-Q3.m	**Comment**		**Acquired Time**	6/6/2018 4:17:39 PM



Maxxam Analytics

Sample Name	8:2FTS -Q3	**Position**	P1-C7	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	82FTS -Q3.d
ACQ Method	PFC_MassVerification-8-2FTS-Q3.m	**Comment**		**Acquired Time**	6/6/2018 4:23:09 PM



MaxxAm Analytics

Worklist Report

Agilent Technologies

Instrument Name: LCMS04 **Worklist Path:** D:\MassHunter\Worklists\PFCs\Mass Verification_Q3_180606.wkl

Operator Name: M_G
Run Type: Standard Start
Part of Method to Run: Acquisition Only
Execution of Acquisition-DA: Synchronous
Acquisition Method Path: D:\MassHunter\Acquisition Method
DA Method Path: D:\MassHunter\methods
Data File Path: D:\MassHunter\data\Mass Verification\20170710_Q3
Pre-Worklist Script: ---
Post-Worklist Script: ---
Acquisition Clean Up Script: ---
Overlapped Injection: Yes
Clear Sample Selection After Run: Yes
Wait Time for Ready(Min): 10
Threshold Disk Value(GB): 10
Comment: ---

Plate Barcode:

Plate	Barcode
P1	

Worklist Table

	Sample Name	Sample Position	Method	Data File	Sample Type	Inj Vol (µl)	Sample Group
1	PFBA -Q3	P1-A1	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-PFBA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFBA -Q3.d	Sample	As Method	PFAS-Q3
2	PFBS -Q3	P1-A2	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-PFBS-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFBS -Q3.d	Sample	As Method	PFAS-Q3
3	PFPeA -Q3	P1-A3	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-PFPeA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFPeA -Q3.d	Sample	As Method	PFAS-Q3

	Sample Name	Sample Position	Method	Data File	Sample Type	Inj Vol (µl)	Sample Group
4	PFHxA -Q3	P1-A4	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-PFHxA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFHxA -Q3.d	Sample	As Method	PFAS-Q3
5	PFHxS -Q3	P1-A5	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-PFHxS-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFHxS -Q3.d	Sample	As Method	PFAS-Q3
6	PFHpA-Q3	P1-A6	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-PFHpA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFHpA-Q3.d	Sample	As Method	PFAS-Q3
7	PFHpS-Q3	P1-A7	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-PFHpS-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFHpS-Q3.d	Sample	As Method	PFAS-Q3
8	PFOA -Q3	P1-A8	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-PFOA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFOA -Q3.d	Sample	As Method	PFAS-Q3
9	PFOS -Q3	P1-A9	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-PFOS-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFOS -Q3.d	Sample	As Method	PFAS-Q3
10	PFNA -Q3	P1-B1	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-PFNA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFNA -Q3.d	Sample	As Method	PFAS-Q3
11	PFDA -Q3	P1-B2	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-PFDA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFDA -Q3.d	Sample	As Method	PFAS-Q3
12	PFDS -Q3	P1-B3	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-PFDS-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFDS -Q3.d	Sample	As Method	PFAS-Q3

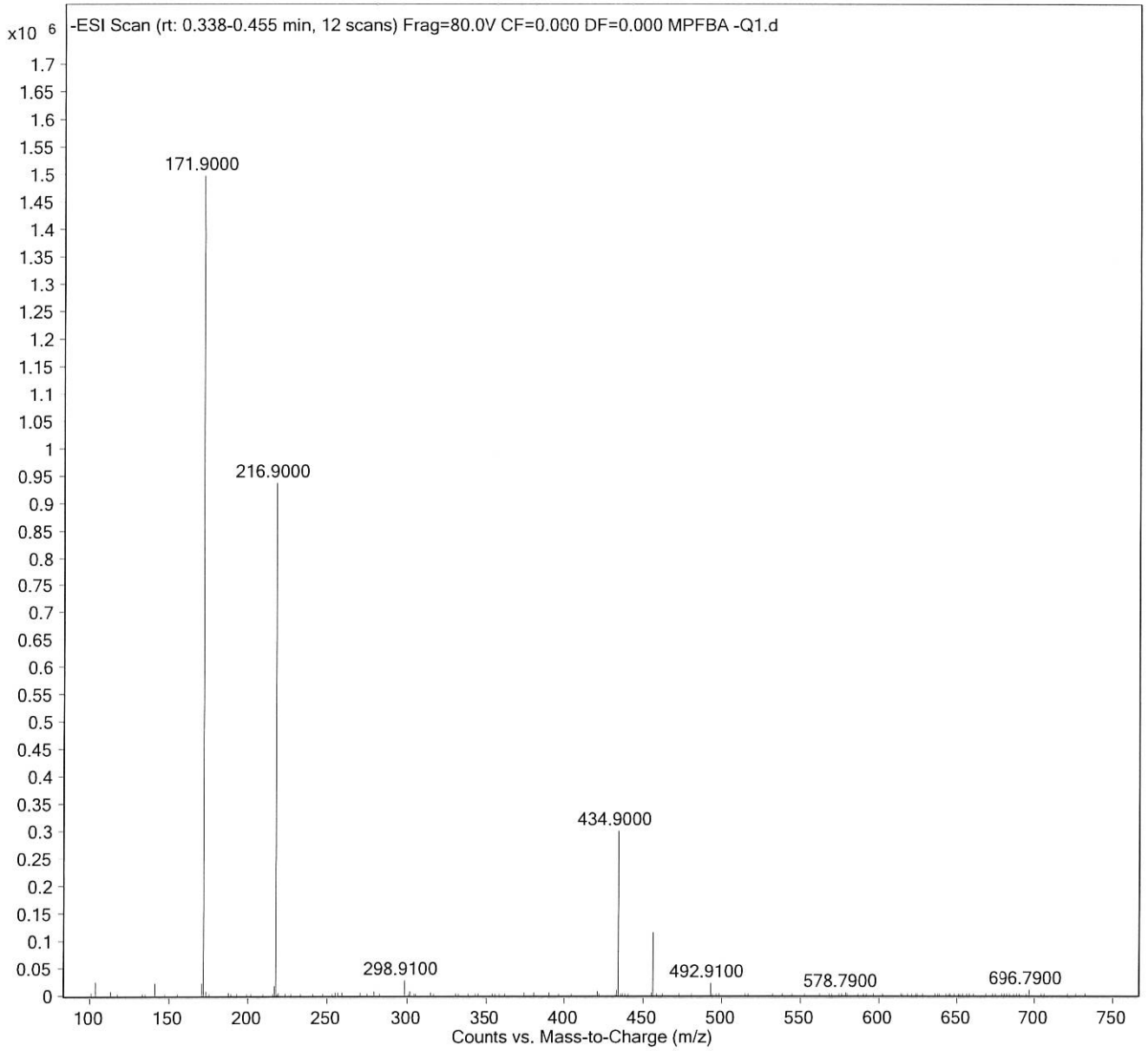
Maxxam Analytics

	Sample Name	Sample Position	Method	Data File	Sample Type	Inj Vol (µl)	Sample Group
13	PFUnA -Q3	P1-B4	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-PFUnA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFUnA -Q3.d	Sample	As Method	PFAS-Q3
14	PFDoA -Q3	P1-B5	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-PFDoA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFDoA -Q3.d	Sample	As Method	PFAS-Q3
15	PFTrDA -Q3	P1-B6	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-PFTrDA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFTrDA -Q3.d	Sample	As Method	PFAS-Q3
16	PFTeDA -Q3	P1-B7	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-PFTeDA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFTeDA -Q3.d	Sample	As Method	PFAS-Q3
17	PFOSA -Q3	P1-B8	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-PFOSA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFOSA -Q3.d	Sample	As Method	PFAS-Q3
18	MeFOSA -Q3	P1-B9	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-MeFOSA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\MeFOSA -Q3.d	Sample	As Method	PFAS-Q3
19	EtFOSA -Q3	P1-C1	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-EtFOSA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\EtFOSA -Q3.d	Sample	As Method	PFAS-Q3
20	MeFOSE -Q3	P1-C2	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-MeFOSE-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\MeFOSE -Q3.d	Sample	As Method	PFAS-Q3
21	EtFOSE -Q3	P1-C3	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-EtFOSE-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\EtFOSE -Q3.d	Sample	As Method	PFAS-Q3

	Sample Name	Sample Position	Method	Data File	Sample Type	Inj Vol (µl)	Sample Group
22	MeFOSAA -Q3	P1-C4	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-MeFOSAA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\MeFOSAA -Q3.d	Sample	As Method	PFAS-Q3
23	EtFOSAA -Q3	P1-C5	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-EtFOSAA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\EtFOSAA -Q3.d	Sample	As Method	PFAS-Q3
24	6:2FTS -Q3	P1-C6	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-6-2FTS-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\62FTS -Q3.d	Sample	As Method	PFAS-Q3
25	8:2FTS -Q3	P1-C7	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-8-2FTS-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\82FTS -Q3.d	Sample	As Method	PFAS-Q3

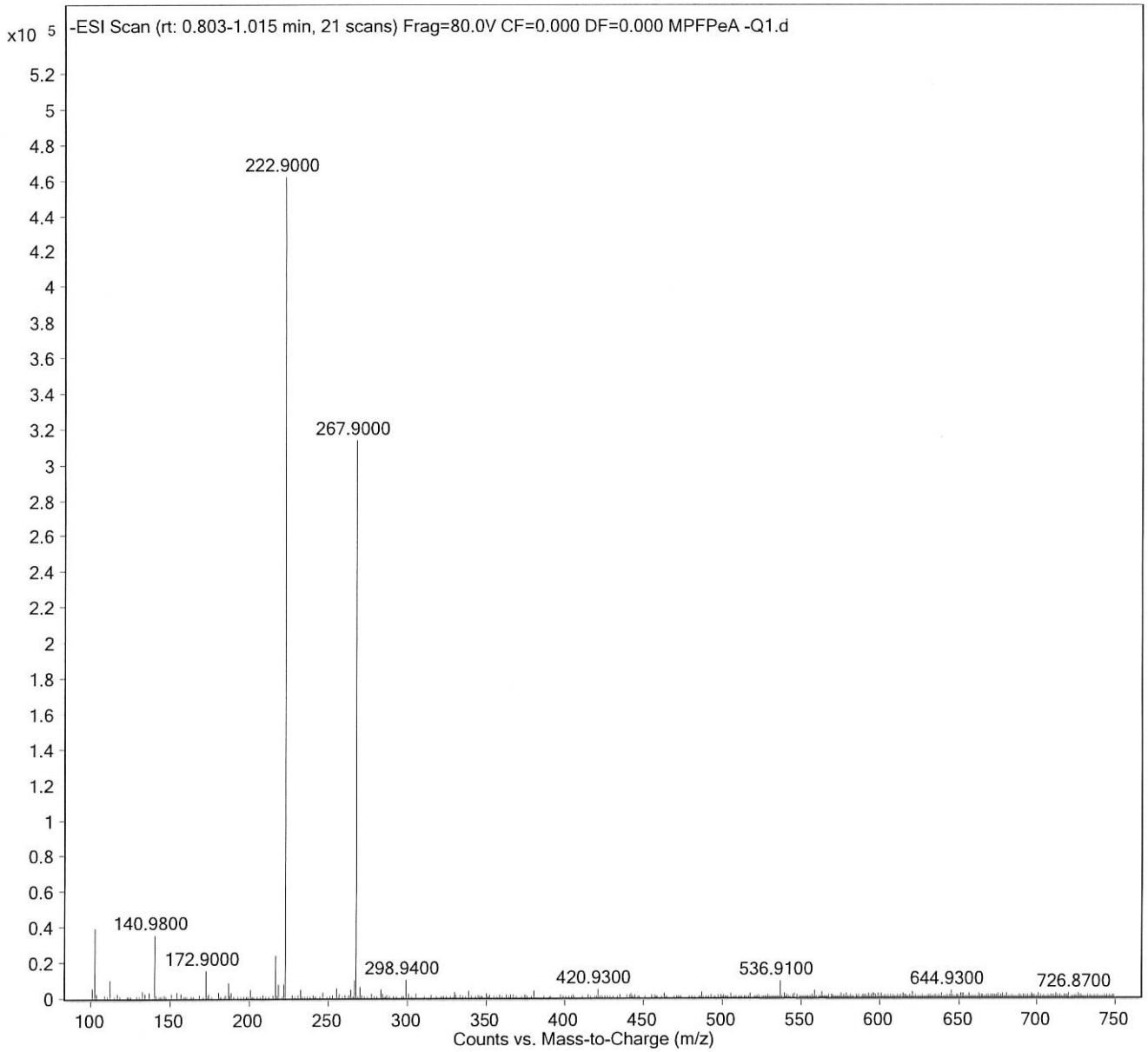
Extracted and Injection Internal Standard Precursor Ion Verification

Sample Name	MPFBA	**Position**	P2-A1	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	MPFBA -Q1.d
ACQ Method	PFC_MassVerification-Q1.m	**Comment**		**Acquired Time**	6/6/2018 4:28:55 PM



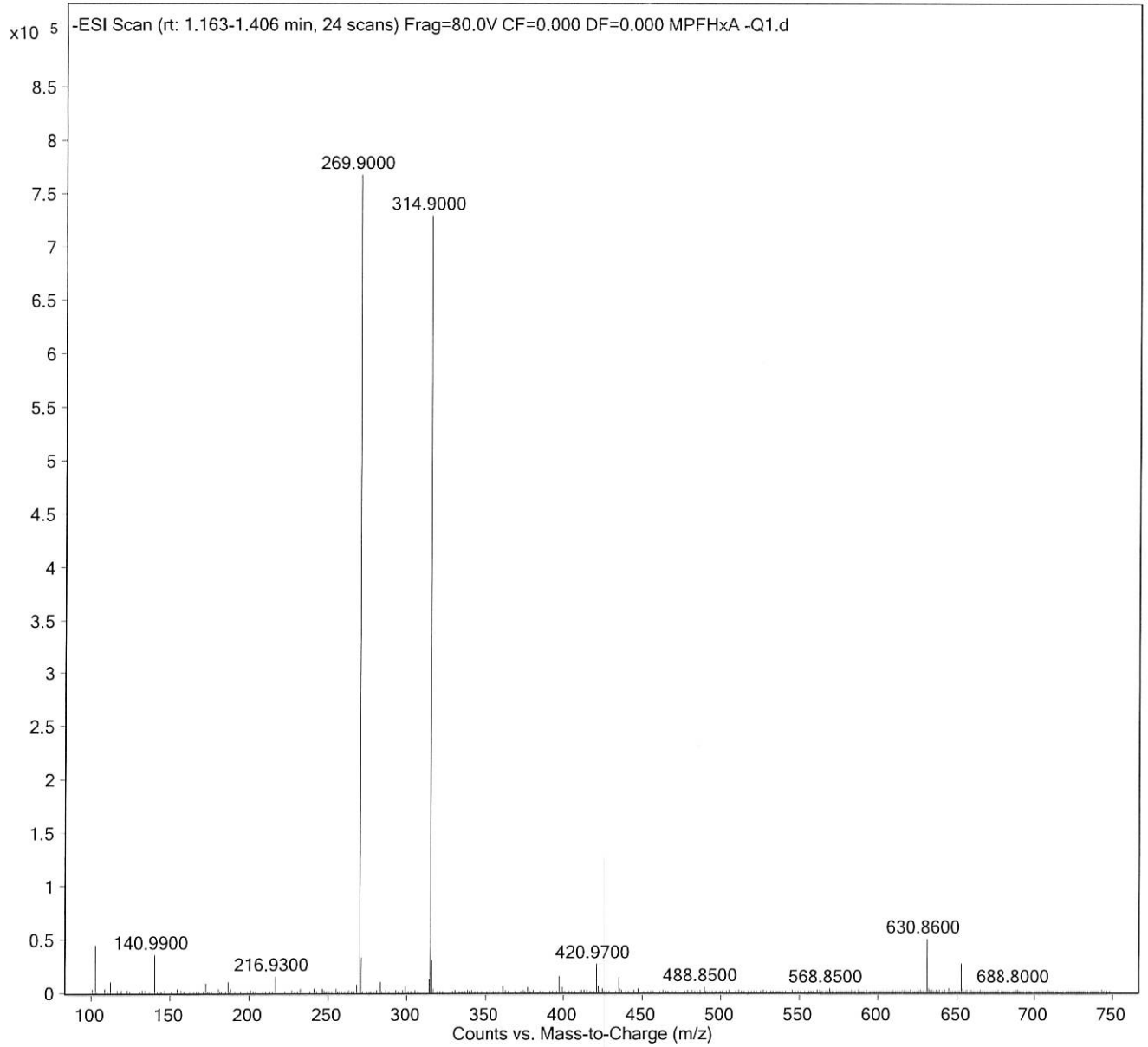
Maxxam Analytics

Sample Name	MPFPeA	**Position**	P2-A2	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	MPFPeA -Q1.d
ACQ Method	PFC_MassVerification-Q1.m	**Comment**		**Acquired Time**	6/6/2018 4:34:25 PM



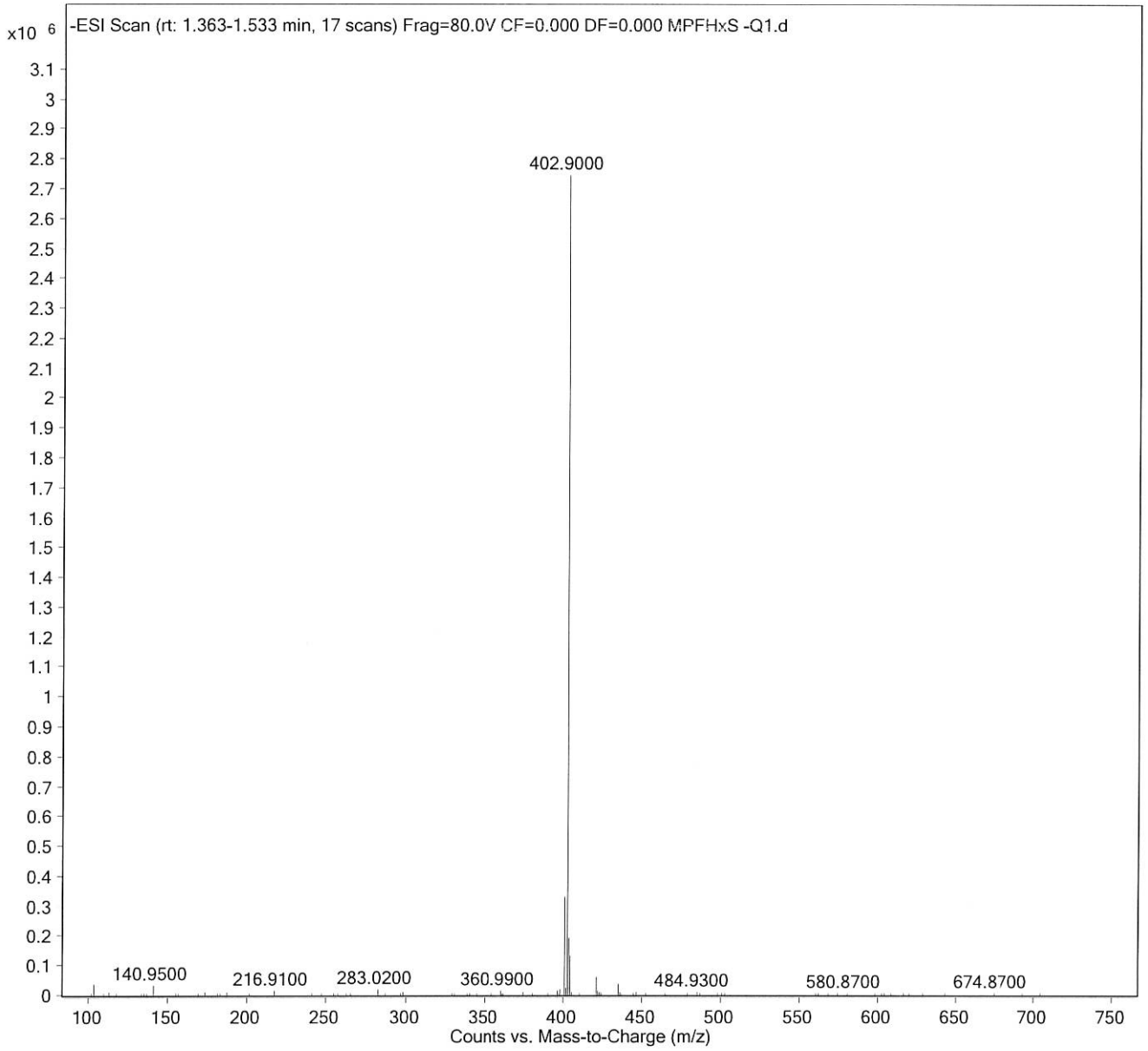
Maxxam Analytics

Sample Name	MPFHxA	**Position**	P2-A3	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	MPFHxA -Q1.d
ACQ Method	PFC_MassVerification-Q1.m	**Comment**		**Acquired Time**	6/6/2018 4:39:55 PM



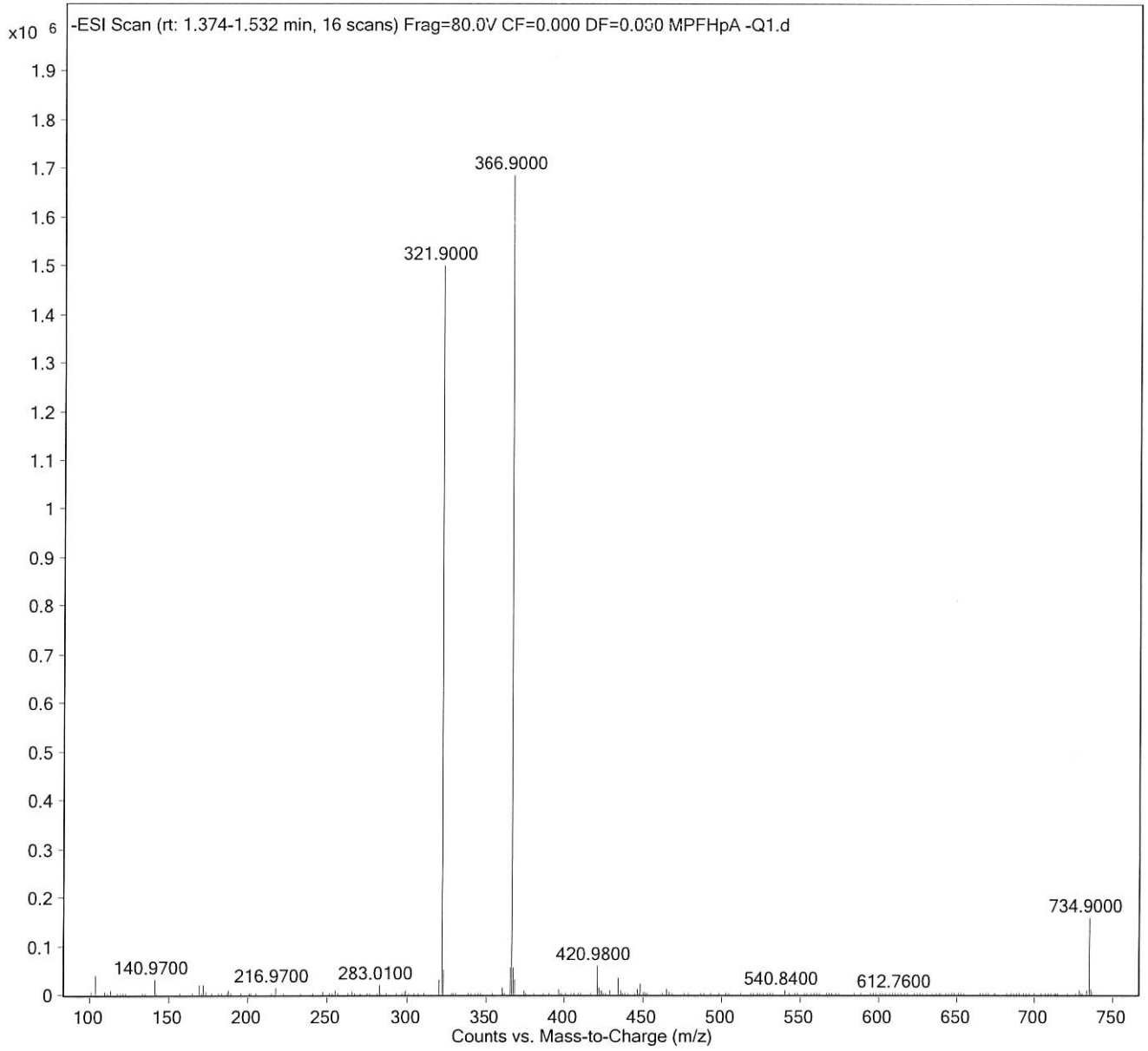
Maxxam Analytics

Sample Name	MPFHxS	**Position**	P2-A4	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	MPFHxS -Q1.d
ACQ Method	PFC_MassVerification-Q1.m	**Comment**		**Acquired Time**	6/6/2018 4:45:25 PM



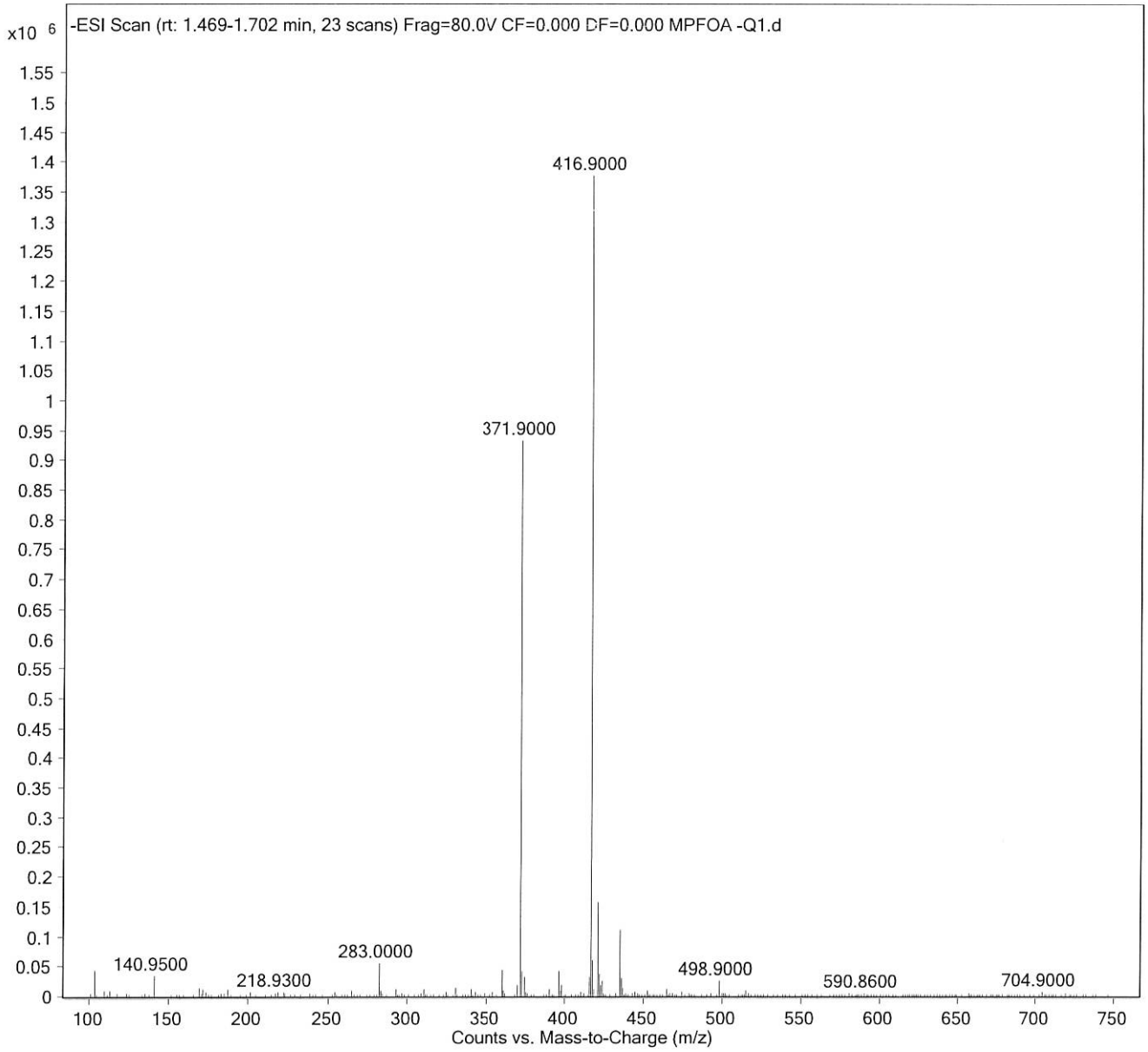
Maxxam Analytics

Sample Name	MPFHpA	**Position**	P2-A5	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	MPFHpA -Q1.d
ACQ Method	PFC_MassVerification-Q1.m	**Comment**		**Acquired Time**	6/6/2018 4:50:55 PM



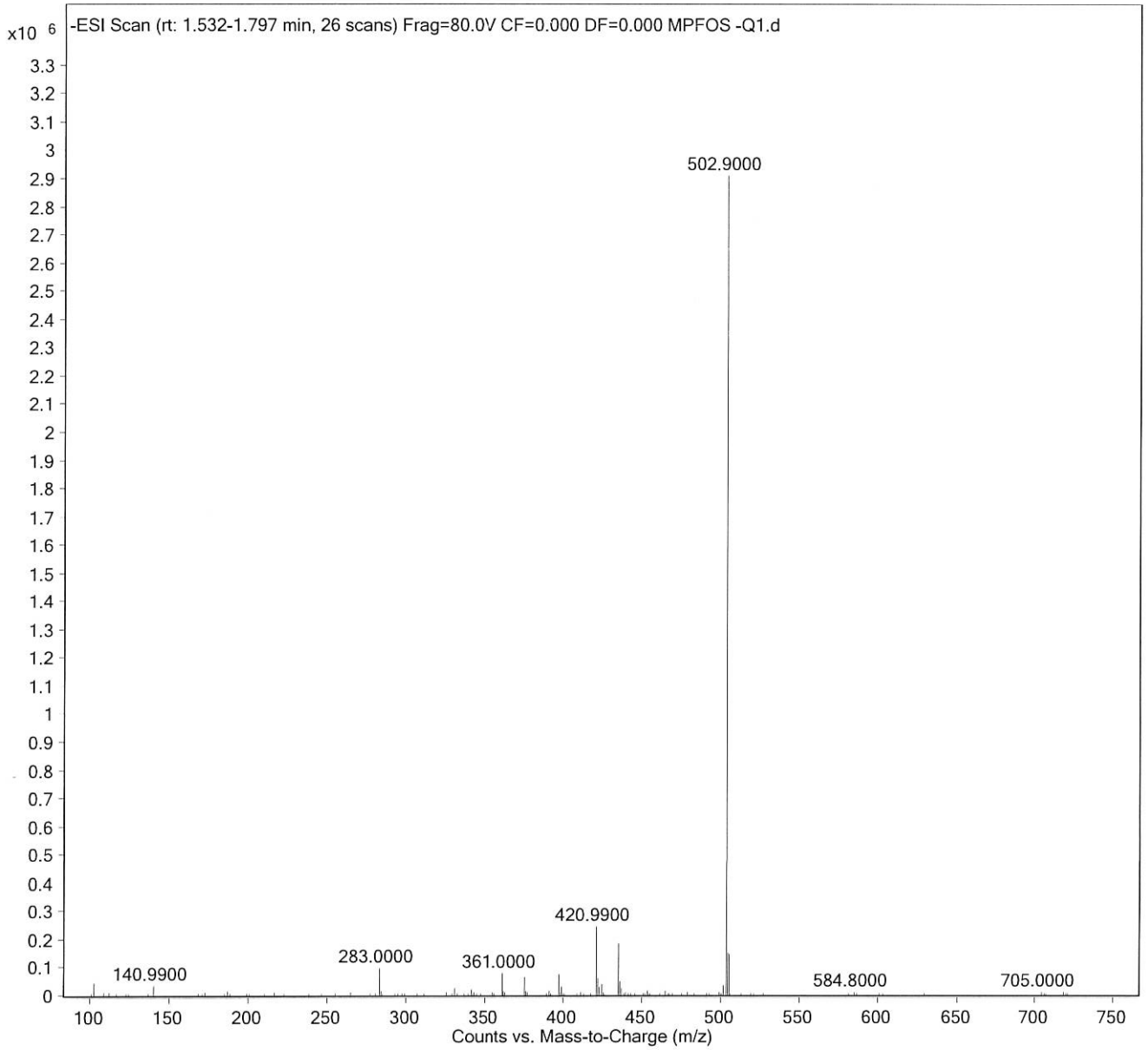
Maxxam Analytics

Sample Name	MPFOA	**Position**	P2-A6	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	MPFOA -Q1.d
ACQ Method	PFC_MassVerification-Q1.m	**Comment**		**Acquired Time**	6/6/2018 4:56:25 PM



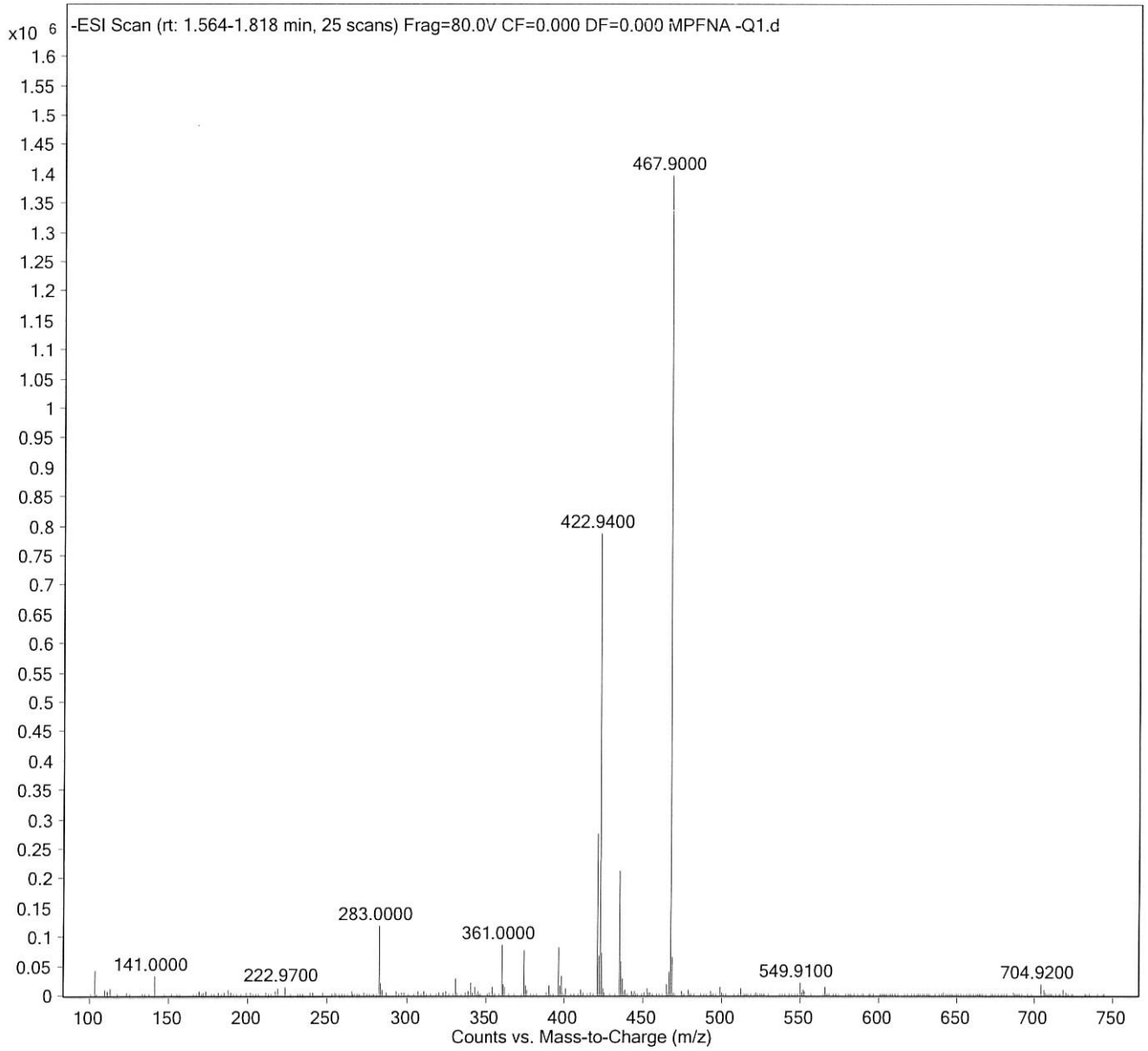
Maxxam Analytics

Sample Name	MPFOS	**Position**	P2-A7	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	MPFOS -Q1.d
ACQ Method	PFC_MassVerification-Q1.m	**Comment**		**Acquired Time**	6/6/2018 5:01:55 PM

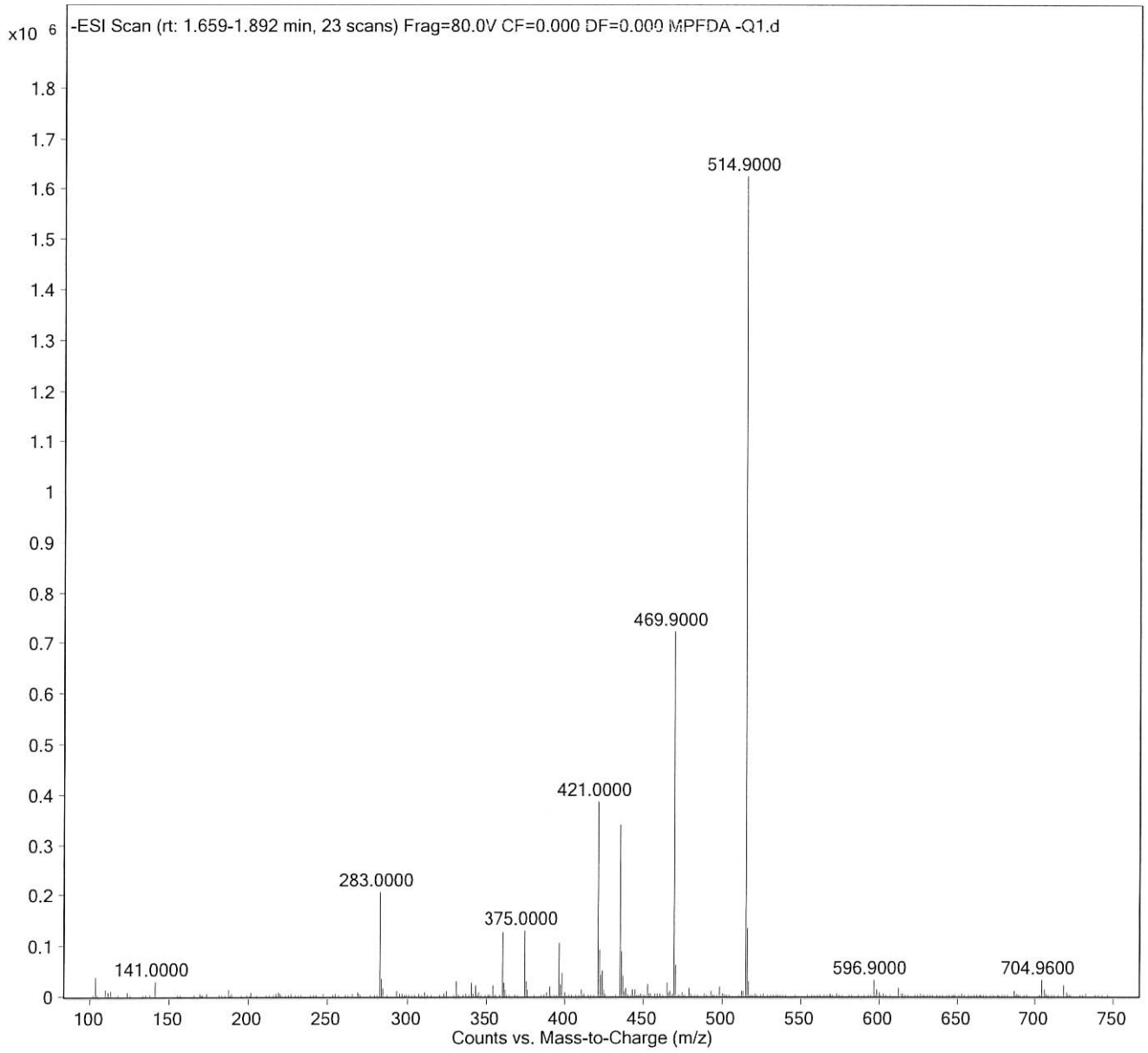


Maxxam Analytics

Sample Name	MPFNA	**Position**	P2-A8	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	MPFNA -Q1.d
ACQ Method	PFC_MassVerification-Q1.m	**Comment**		**Acquired Time**	6/6/2018 5:07:25 PM

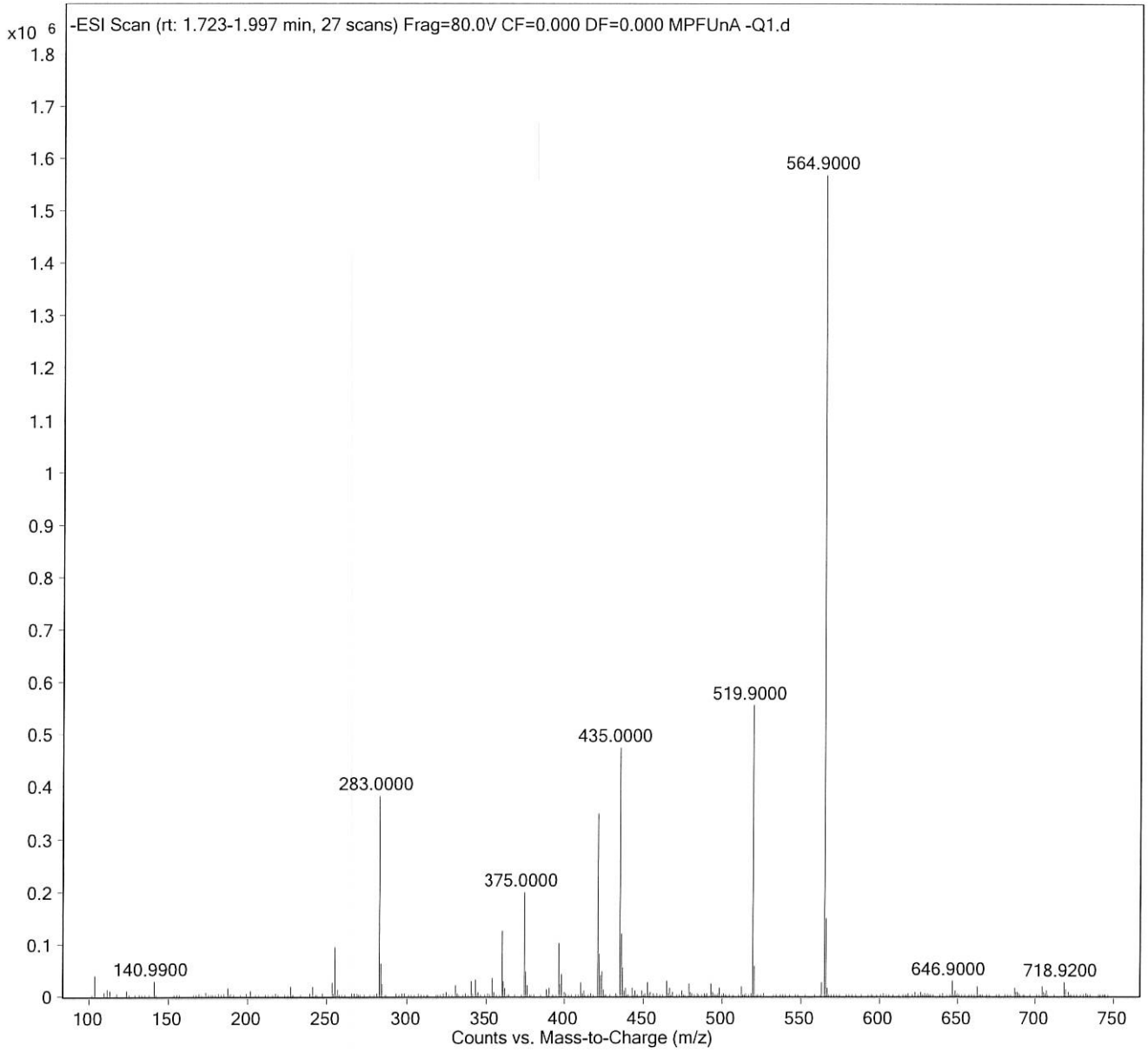


Sample Name	MPFDA	**Position**	P2-A9	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	MPFDA -Q1.d
ACQ Method	PFC_MassVerification-Q1.m	**Comment**		**Acquired Time**	6/6/2018 5:12:55 PM



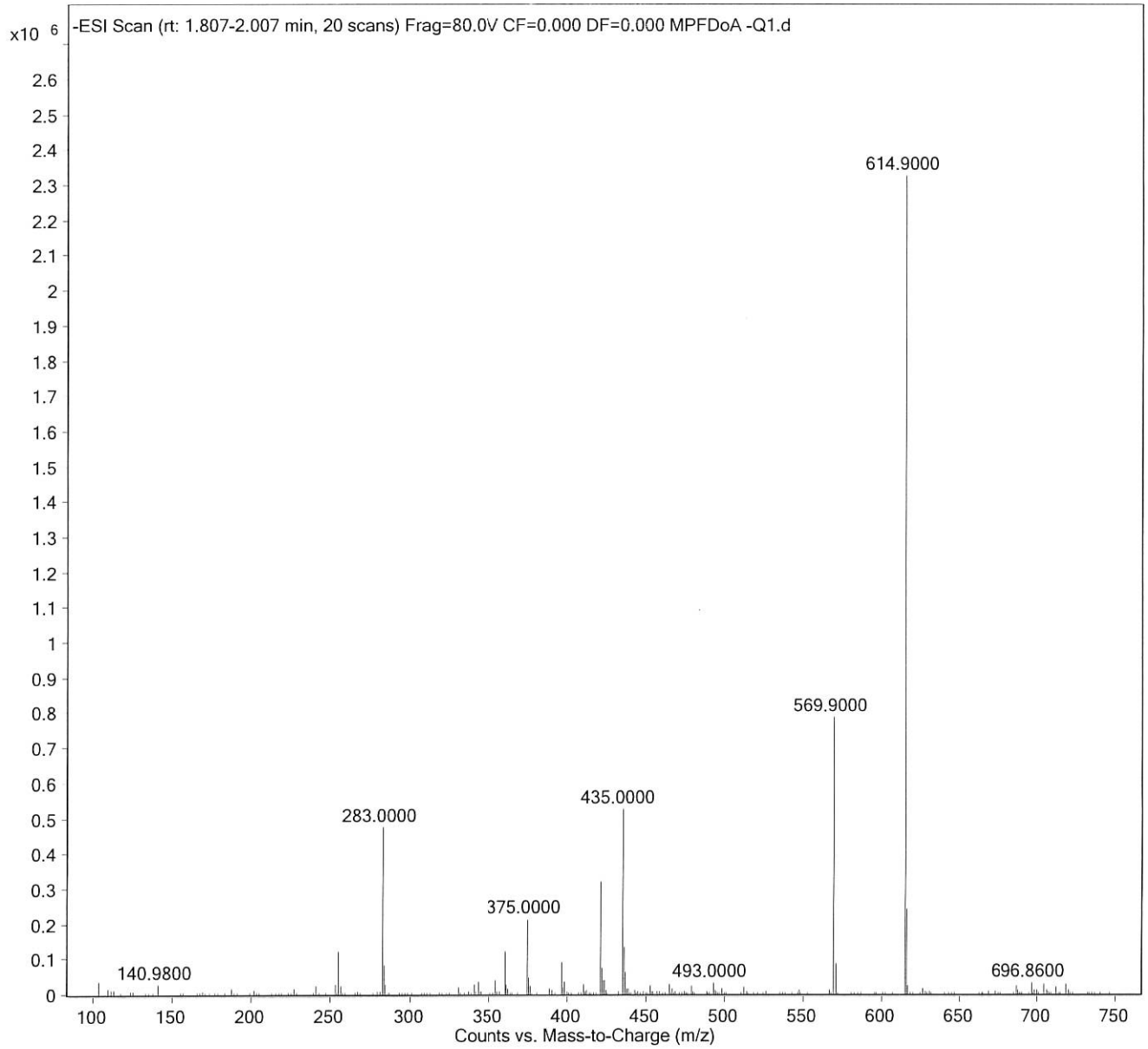
Maxxam Analytics

Sample Name	MPFUnA	**Position**	P2-B1	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	MPFUnA -Q1.d
ACQ Method	PFC_MassVerification-Q1.m	**Comment**		**Acquired Time**	6/6/2018 5:18:24 PM

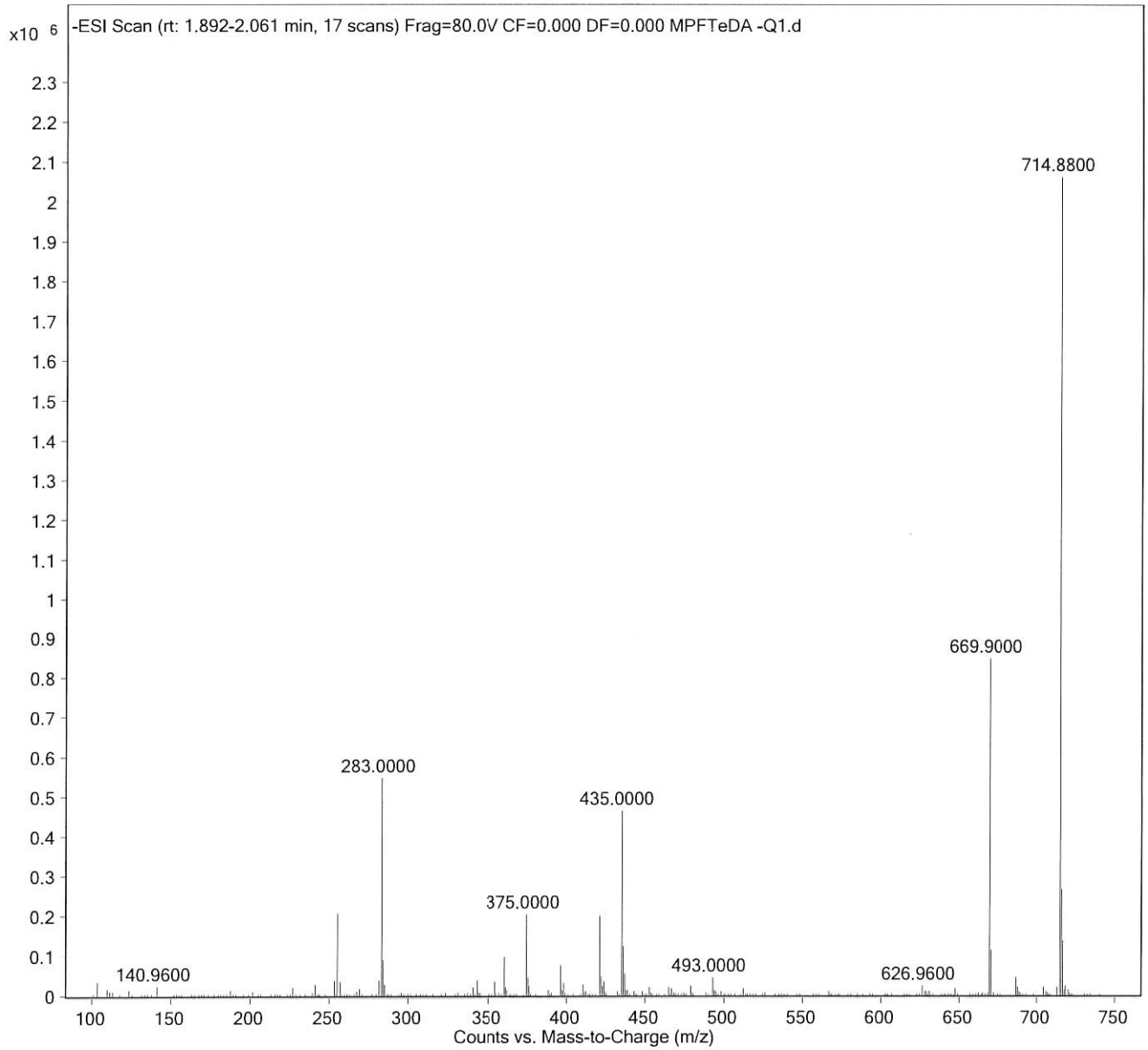


Maxxam Analytics

Sample Name	MPFDoA	**Position**	P2-B2	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	MPFDoA -Q1.d
ACQ Method	PFC_MassVerification-Q1.m	**Comment**		**Acquired Time**	6/6/2018 5:23:55 PM

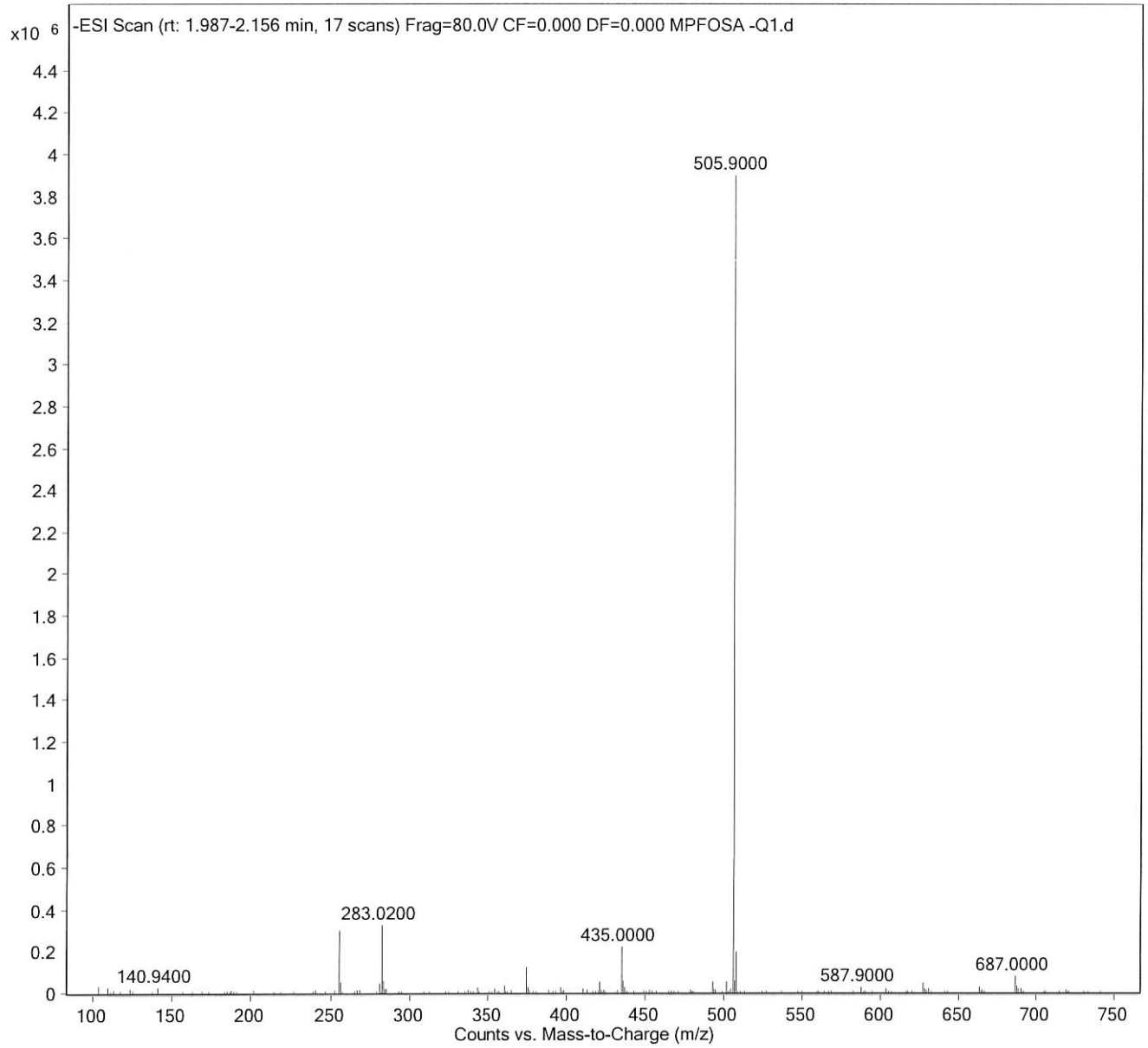


Sample Name	MPFTeDA	**Position**	P2-B3	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	MPFTeDA -Q1.d
ACQ Method	PFC_MassVerification-Q1.m	**Comment**		**Acquired Time**	6/6/2018 5:29:24 PM



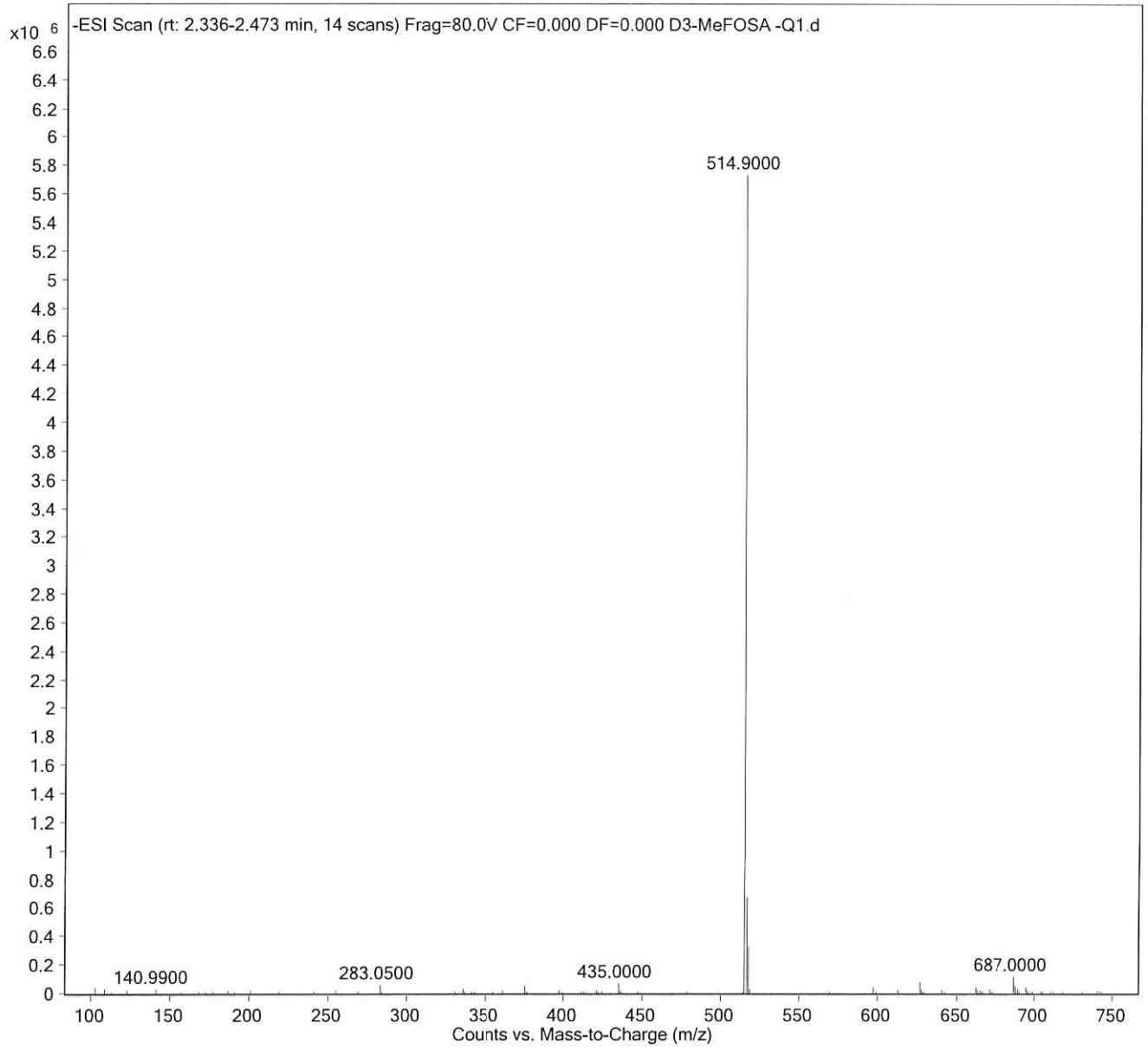
Maxxam Analytics

Sample Name	MPFOSA	**Position**	P2-B4	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	MPFOSA -Q1.d
ACQ Method	PFC_MassVerification-Q1.m	**Comment**		**Acquired Time**	6/6/2018 5:34:55 PM



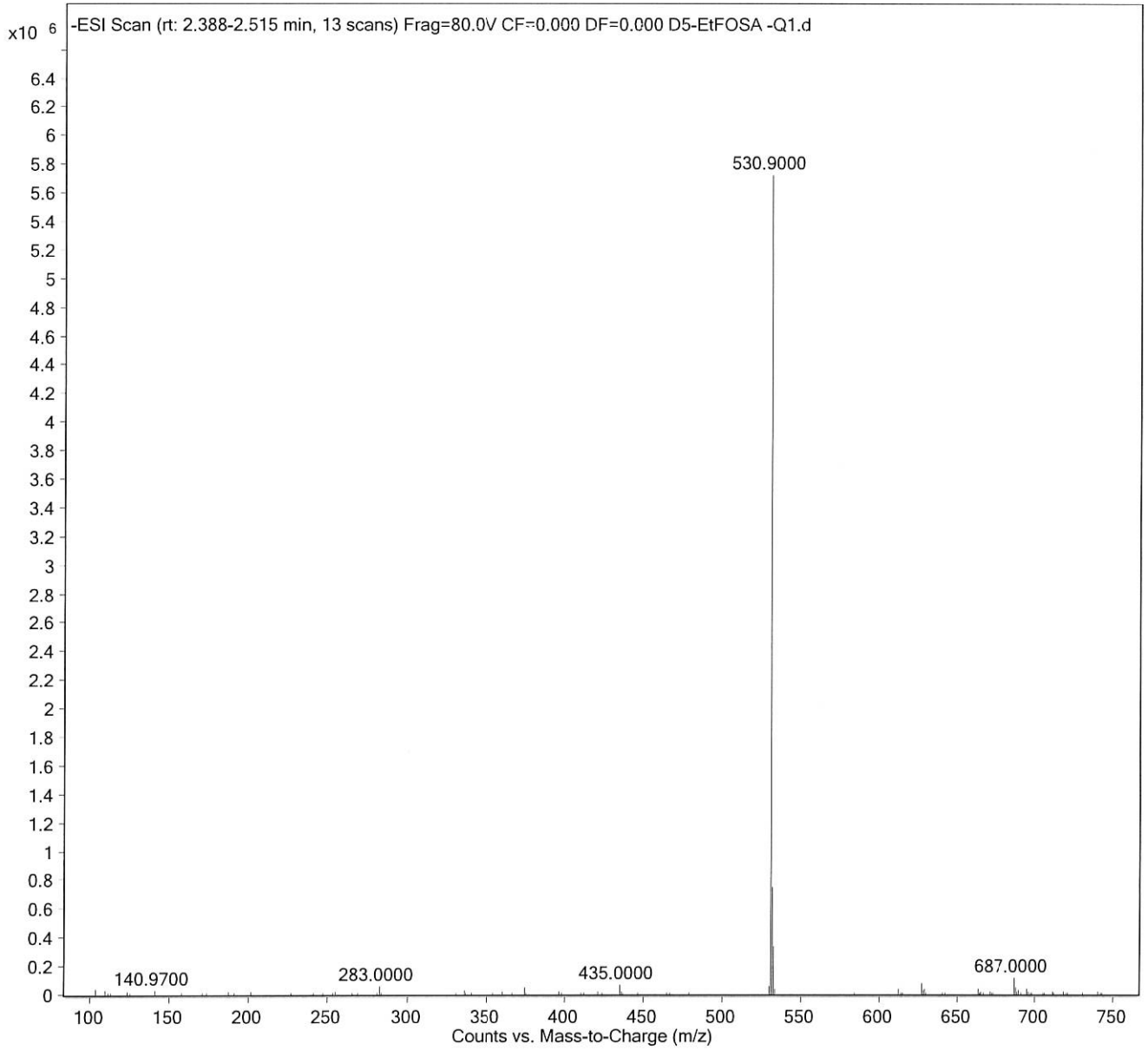
Maxxam Analytics

Sample Name	D3-MeFOSA	**Position**	P2-B5	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	D3-MeFOSA -Q1.d
ACQ Method	PFC_MassVerification-Q1.m	**Comment**		**Acquired Time**	6/6/2018 5:40:25 PM



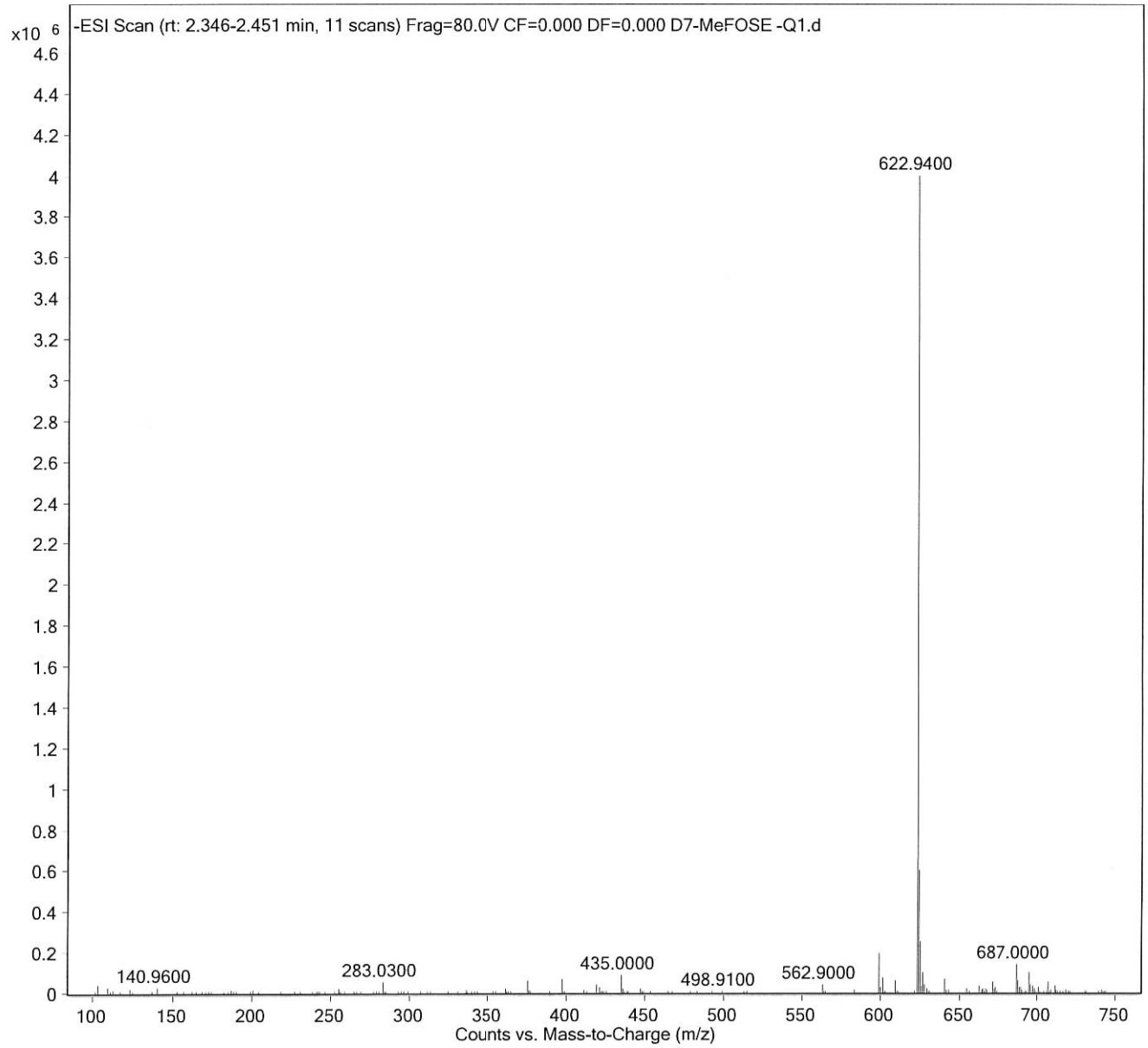
Maxxam Analytics

Sample Name	D5-EtFOSA	**Position**	P2-B6	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	D5-EtFOSA -Q1.d
ACQ Method	PFC_MassVerification-Q1.m	**Comment**		**Acquired Time**	6/6/2018 5:45:55 PM

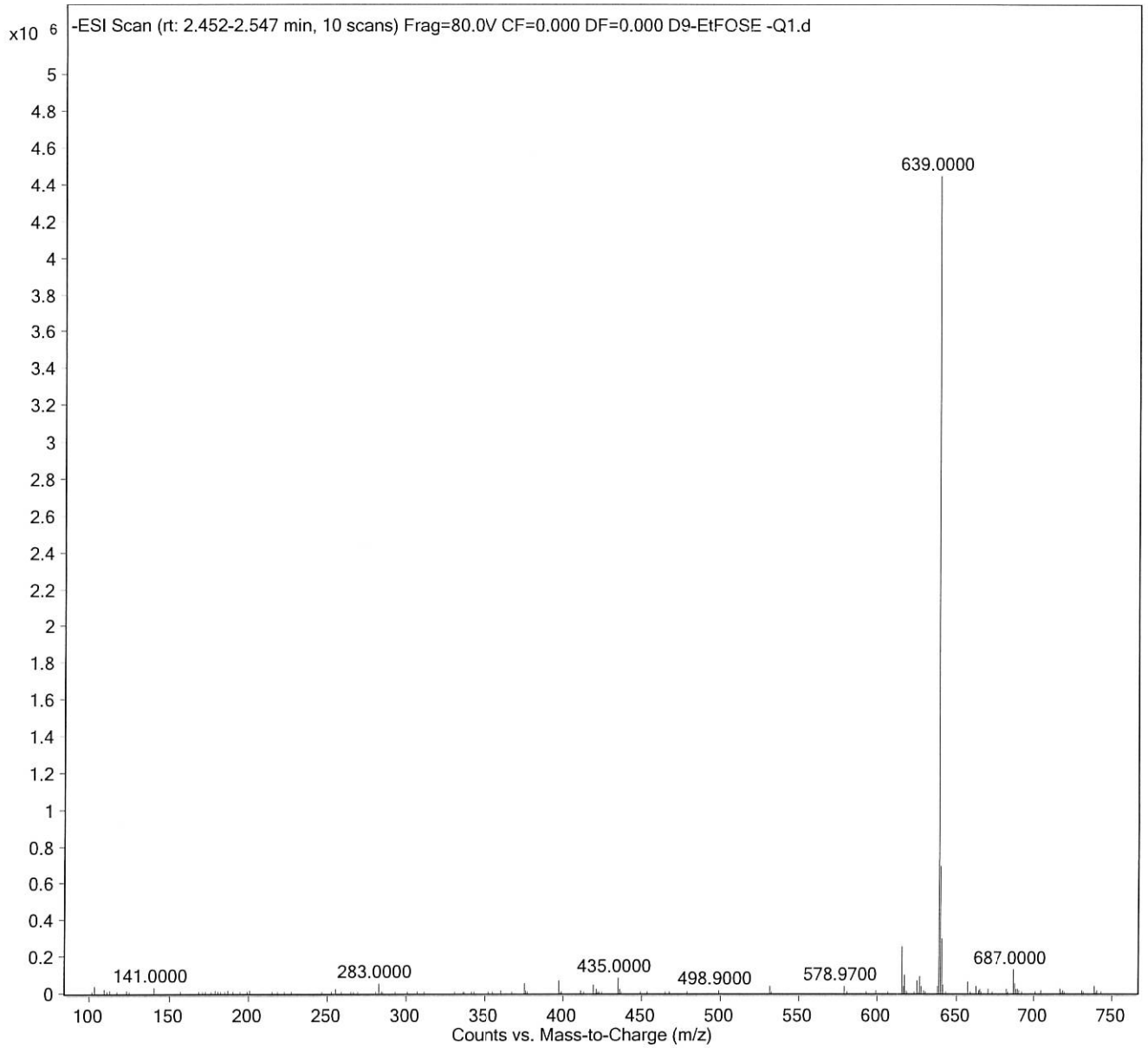


Maxxam Analytics

Sample Name	D7-MeFOSE	**Position**	P2-B7	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	D7-MeFOSE -Q1.d
ACQ Method	PFC_MassVerification-Q1.m	**Comment**		**Acquired Time**	6/6/2018 5:51:25 PM

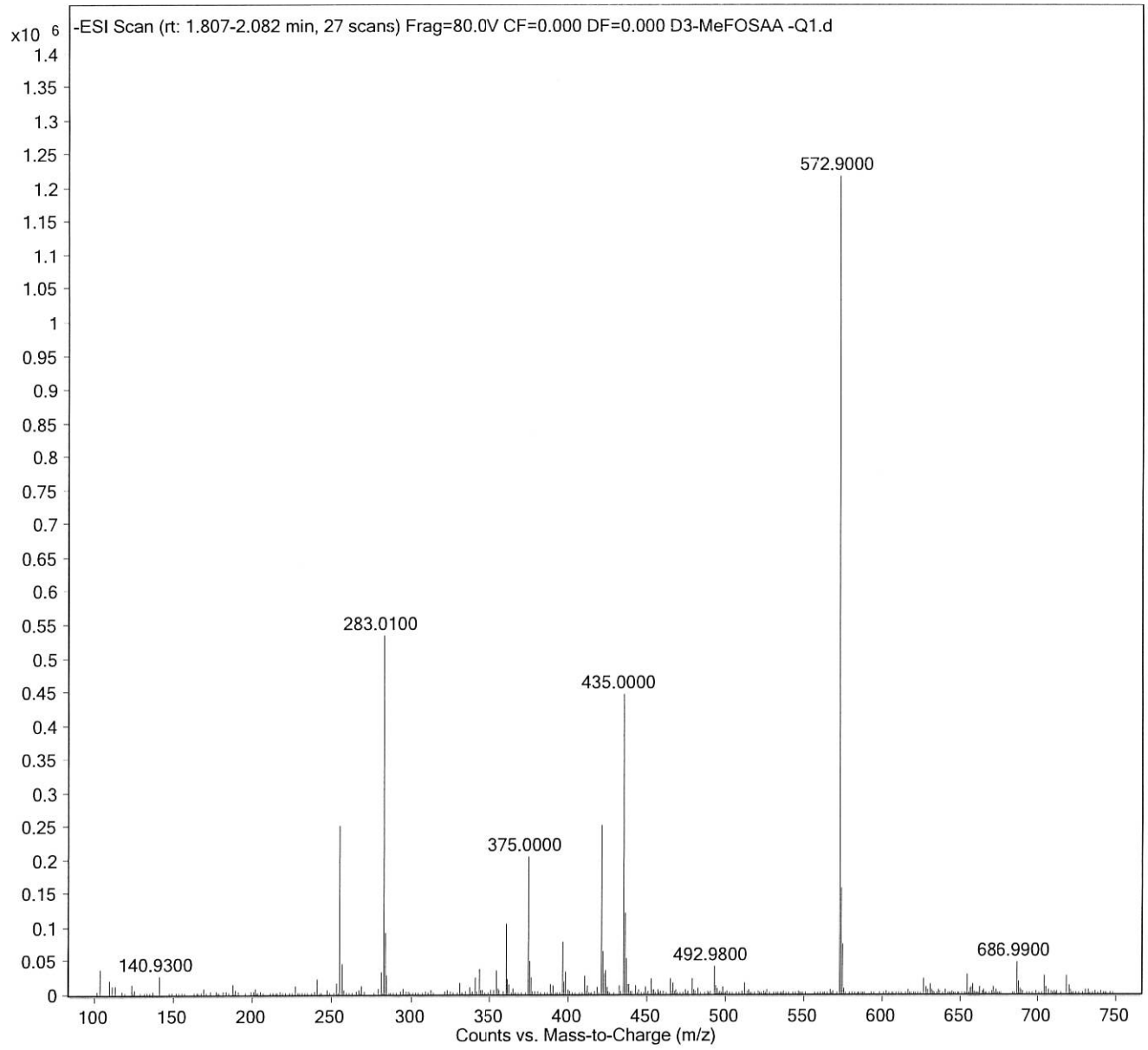


Sample Name	D9-EtFOSE	**Position**	P2-B8	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	D9-EtFOSE -Q1.d
ACQ Method	PFC_MassVerification-Q1.m	**Comment**		**Acquired Time**	6/6/2018 5:56:55 PM



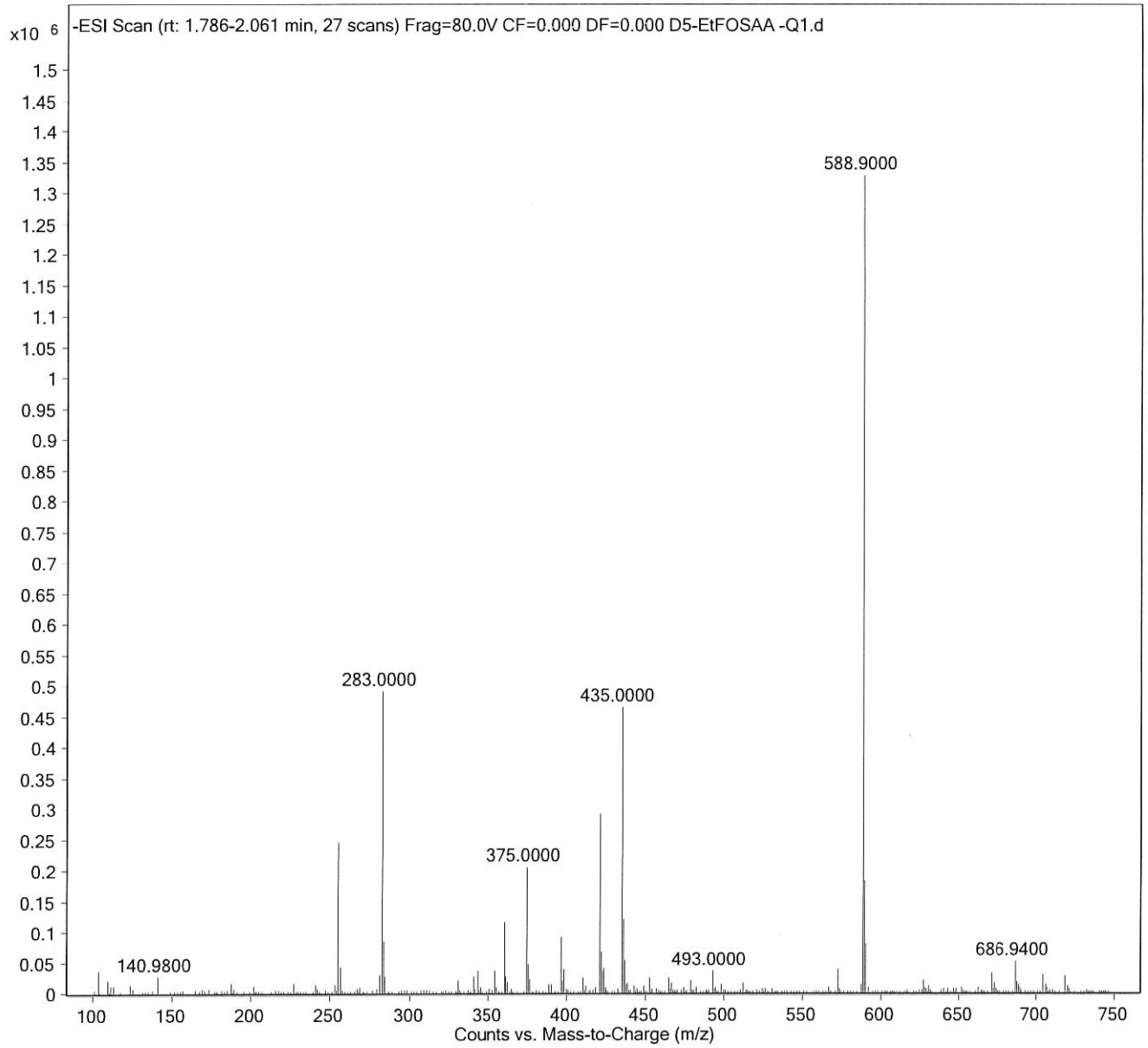
Maxxam Analytics

Sample Name	D3-MeFOSAA	**Position**	P2-B9	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	D3-MeFOSAA -Q1.d
ACQ Method	PFC_MassVerification-Q1.m	**Comment**		**Acquired Time**	6/6/2018 6:02:25 PM

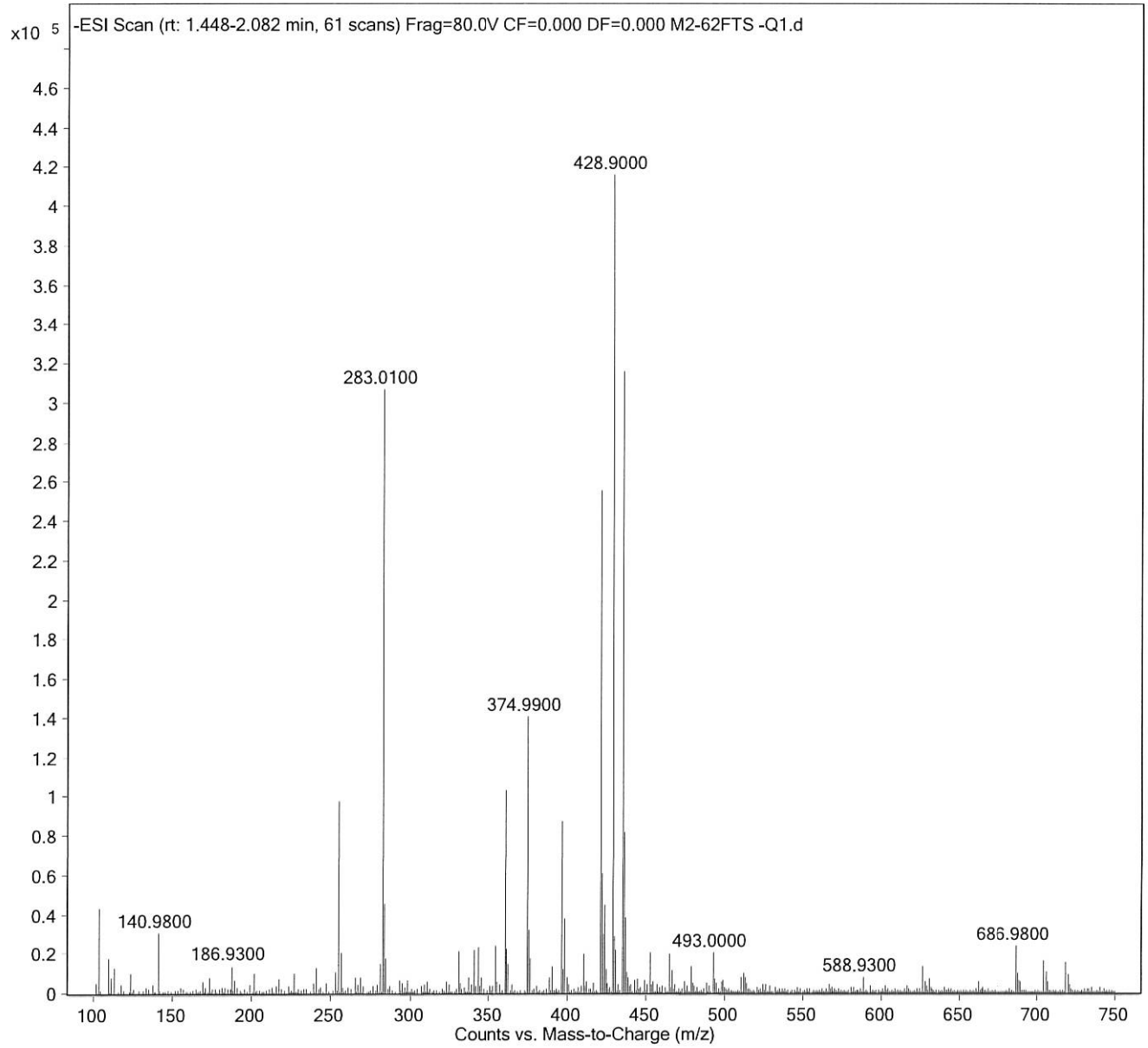


Maxxam Analytics

Sample Name	D5-EtFOSAA	**Position**	P2-C1	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	D5-EtFOSAA -Q1.d
ACQ Method	PFC_MassVerification-Q1.m	**Comment**		**Acquired Time**	6/6/2018 6:07:55 PM



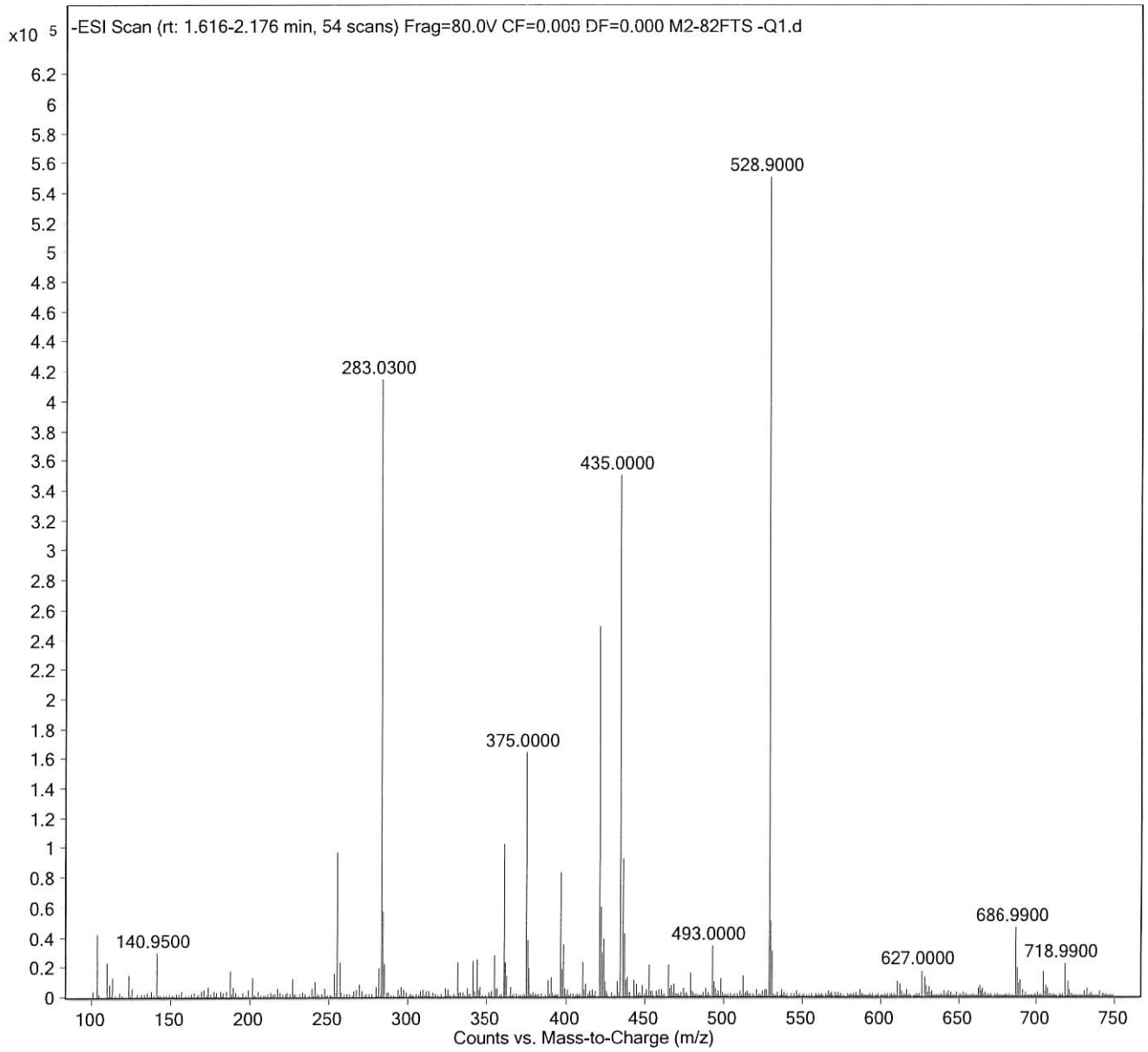
Sample Name	M2-6:2FTS	**Position**	P2-C2	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	M2-62FTS -Q1.d
ACQ Method	PFC_MassVerification-Q1.m	**Comment**		**Acquired Time**	6/6/2018 6:13:25 PM



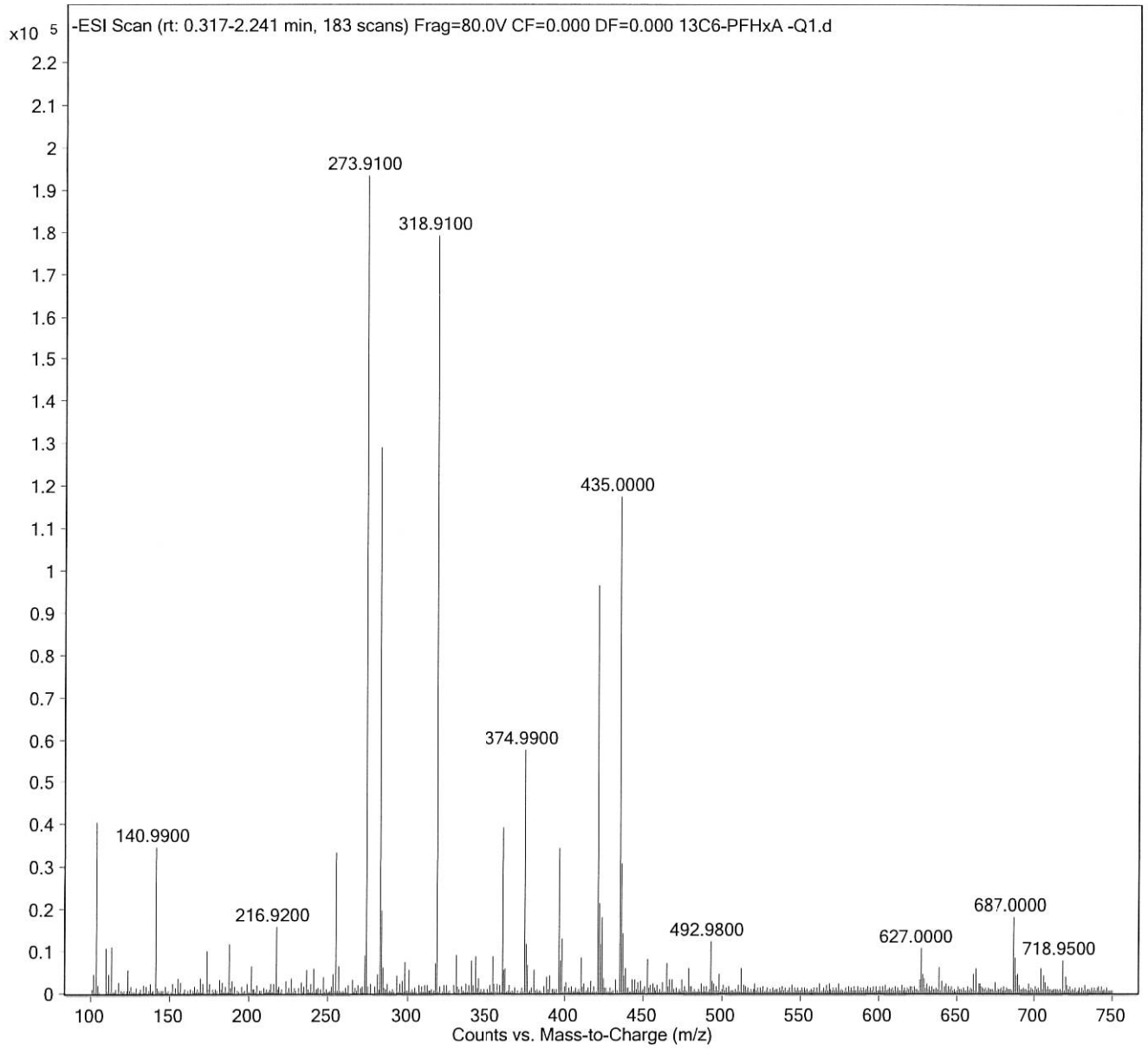
Maxxam Analytics

Sample Name	M2-8:2FTS	**Position**	P2-C3	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	M2-82FTS -Q1.d
ACQ Method	PFC_MassVerification-Q1.m	**Comment**		**Acquired Time**	6/6/2018 6:18:55 PM

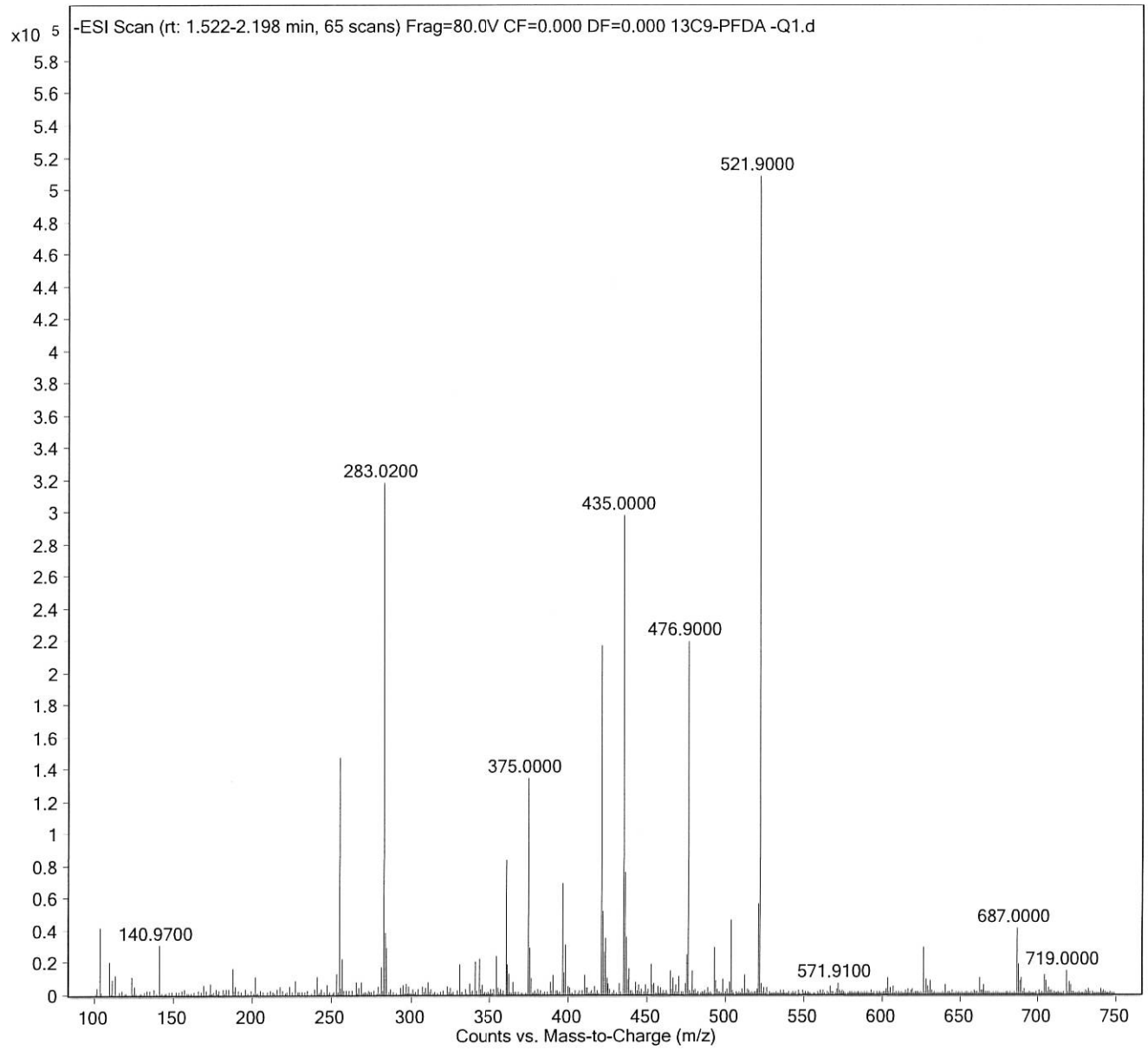
Maxxam Analytics



Sample Name	13C6-PFHxA	**Position**	P2-C4	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	13C6-PFHxA -Q1.d
ACQ Method	PFC_MassVerification-Q1.m	**Comment**		**Acquired Time**	6/6/2018 6:24:25 PM

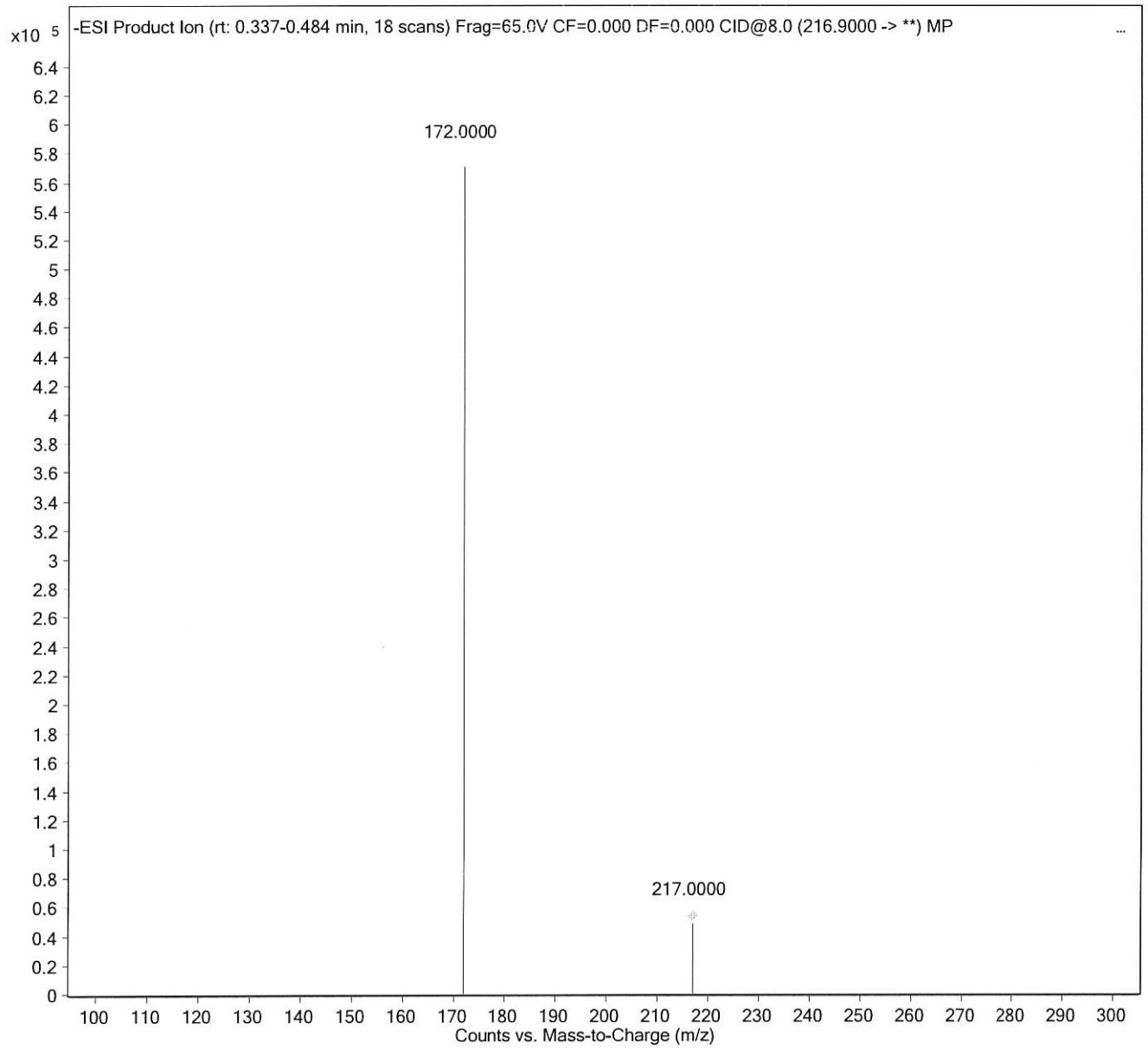


Sample Name	13C9-PFDA	**Position**	P2-C5	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	13C9-PFDA -Q1.d
ACQ Method	PFC_MassVerification-Q1.m	**Comment**		**Acquired Time**	6/6/2018 6:29:55 PM



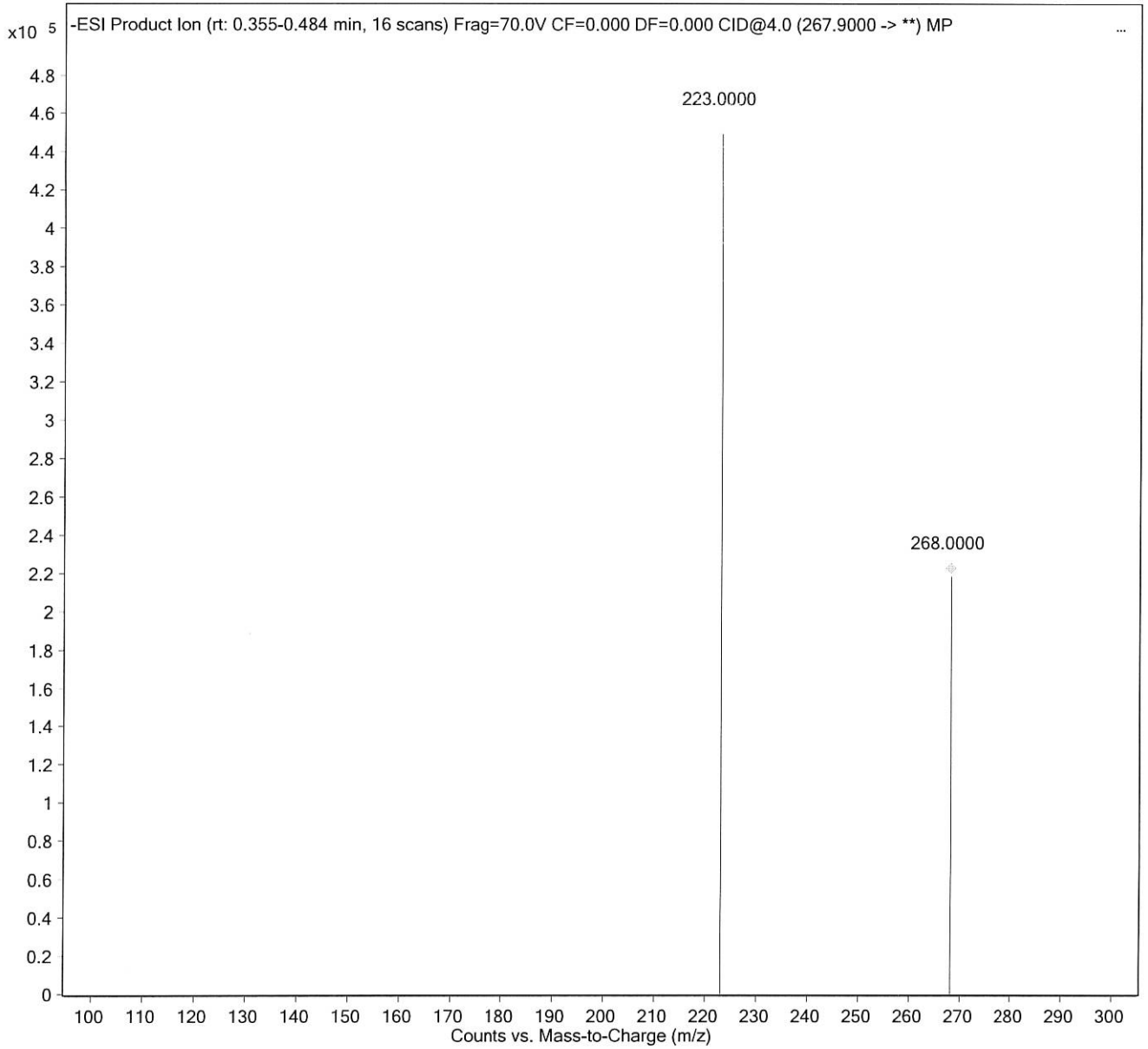
Extracted and Injection Internal Standard Product Ion Verification

Sample Name	MPFBA -Q3	**Position**	P2-A1	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	MPFBA -Q3.d
ACQ Method	PFC_MassVerification-MPFBA-Q3.m	**Comment**		**Acquired Time**	6/6/2018 6:35:25 PM



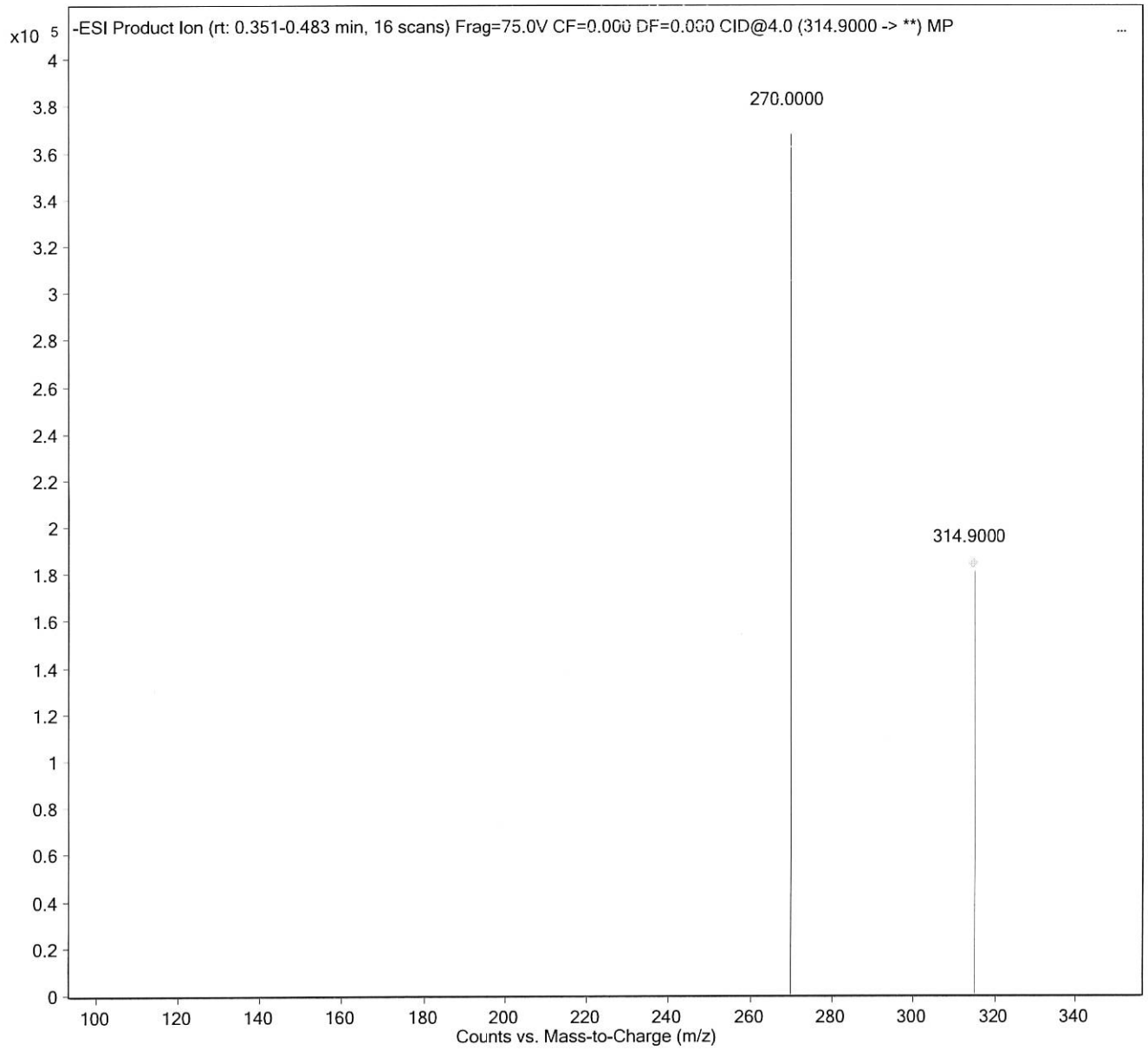
Maxxam Analytics

Sample Name	MPFPeA -Q3	**Position**	P2-A2	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	MPFPeA -Q3.d
ACQ Method	PFC_MassVerification-MPFPeA-Q3.m	**Comment**		**Acquired Time**	6/6/2018 6:40:55 PM



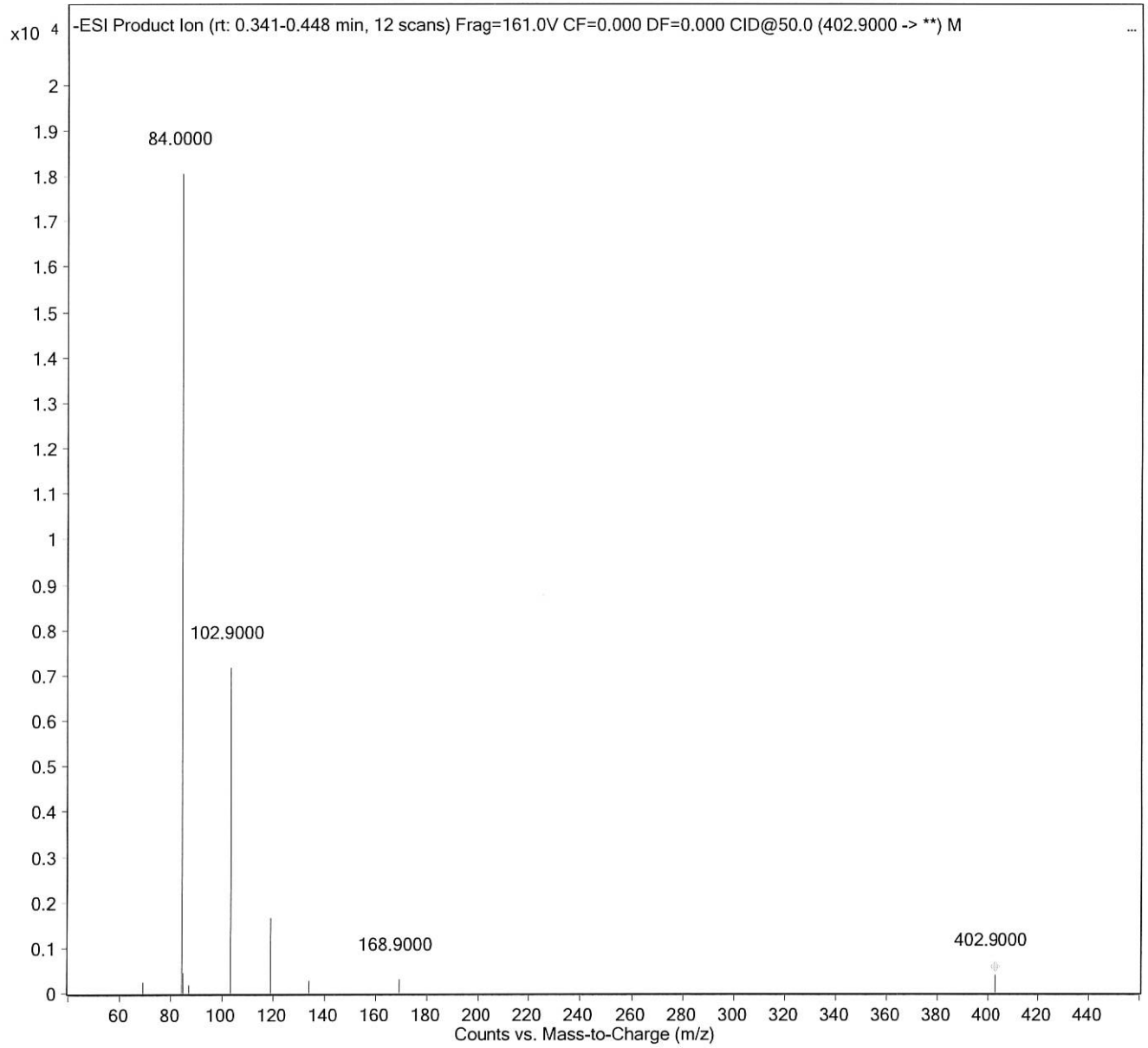
Maxxam Analytics

Sample Name	MPFHxA -Q3	**Position**	P2-A3	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	MPFHxA -Q3.d
ACQ Method	PFC_MassVerification-MPFHxA-Q3.m	**Comment**		**Acquired Time**	6/6/2018 6:46:25 PM

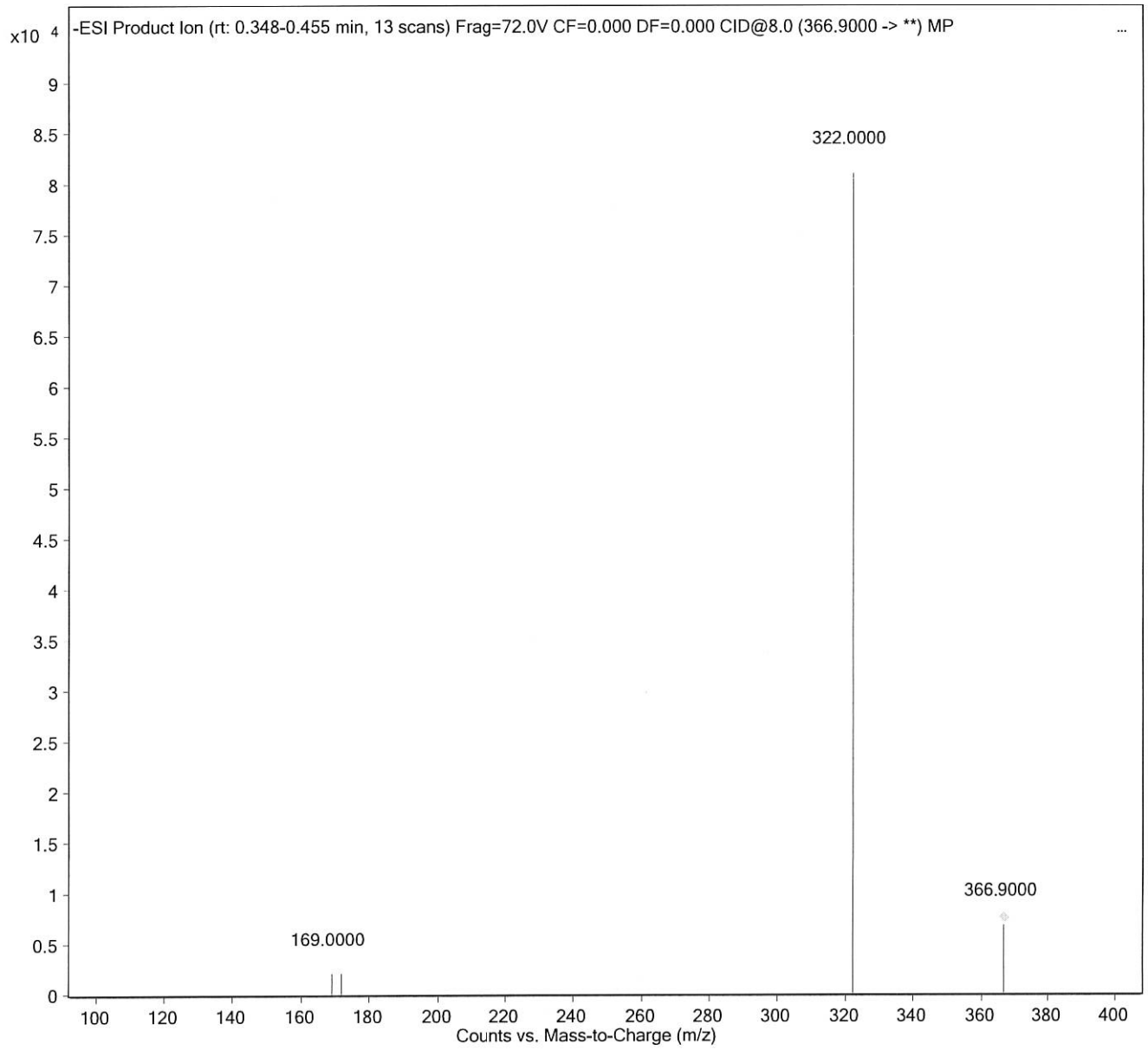


Maxxam Analytics

Sample Name	MPFHxS -Q3	**Position**	P2-A4	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	MPFHxS -Q3.d
ACQ Method	PFC_MassVerification-MPFHxS-Q3.m	**Comment**		**Acquired Time**	6/6/2018 6:51:55 PM

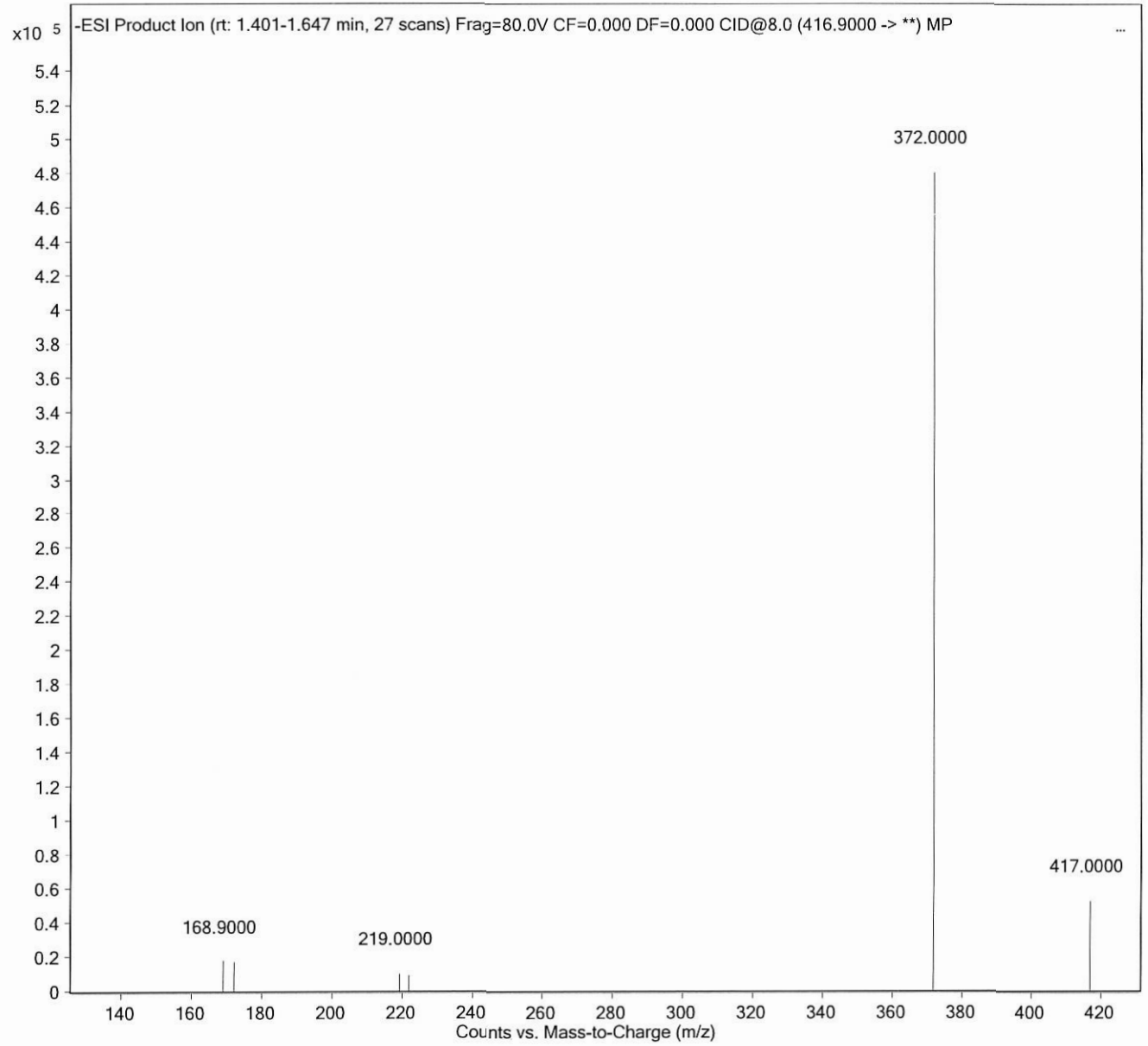


Sample Name	MPFHpA -Q3	**Position**	P2-A5	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	MPFHpA -Q3.d
ACQ Method	PFC_MassVerification-MPFHpA-Q3.m	**Comment**		**Acquired Time**	6/6/2018 6:57:25 PM



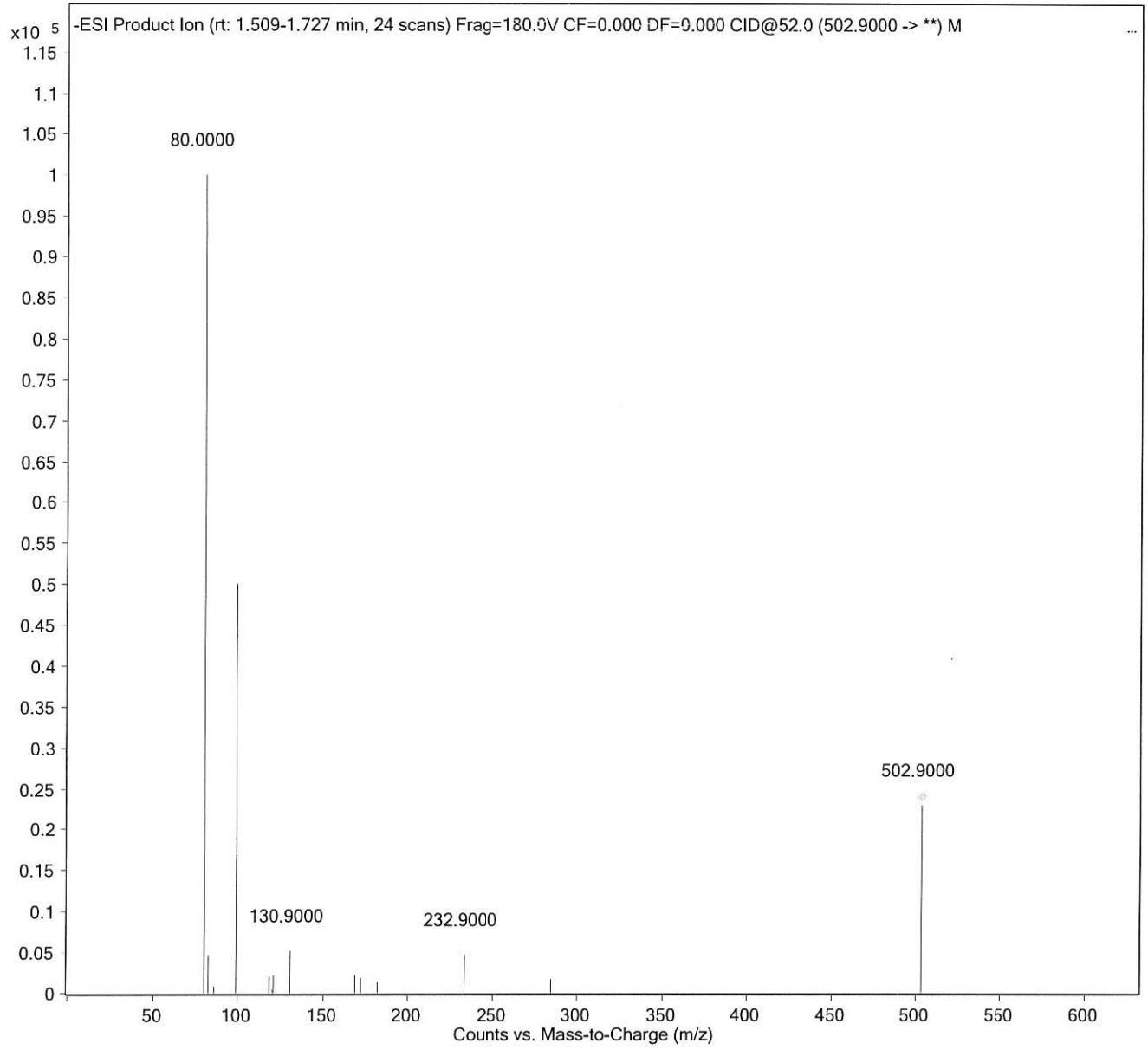
Maxxam Analytics

Sample Name	MPFOA -Q3	**Position**	P2-A6	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	MPFOA -Q3.d
ACQ Method	PFC_MassVerification-MPFOA-Q3.m	**Comment**		**Acquired Time**	6/6/2018 7:02:55 PM

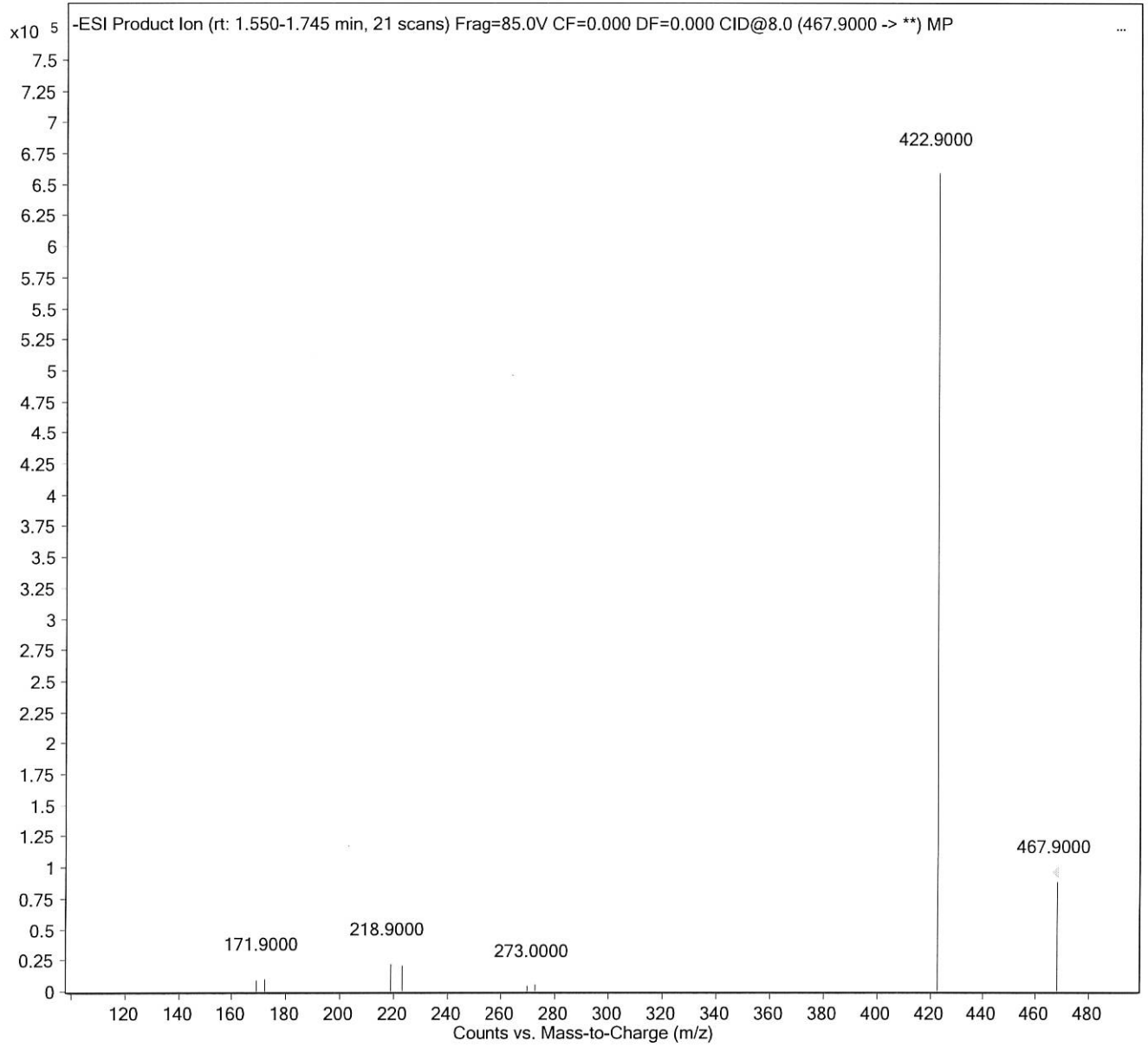


Maxxam Analytics

Sample Name	MPFOS -Q3	**Position**	P2-A7	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	MPFOS -Q3.d
ACQ Method	PFC_MassVerification-MPFOS-Q3.m	**Comment**		**Acquired Time**	6/6/2018 7:08:25 PM

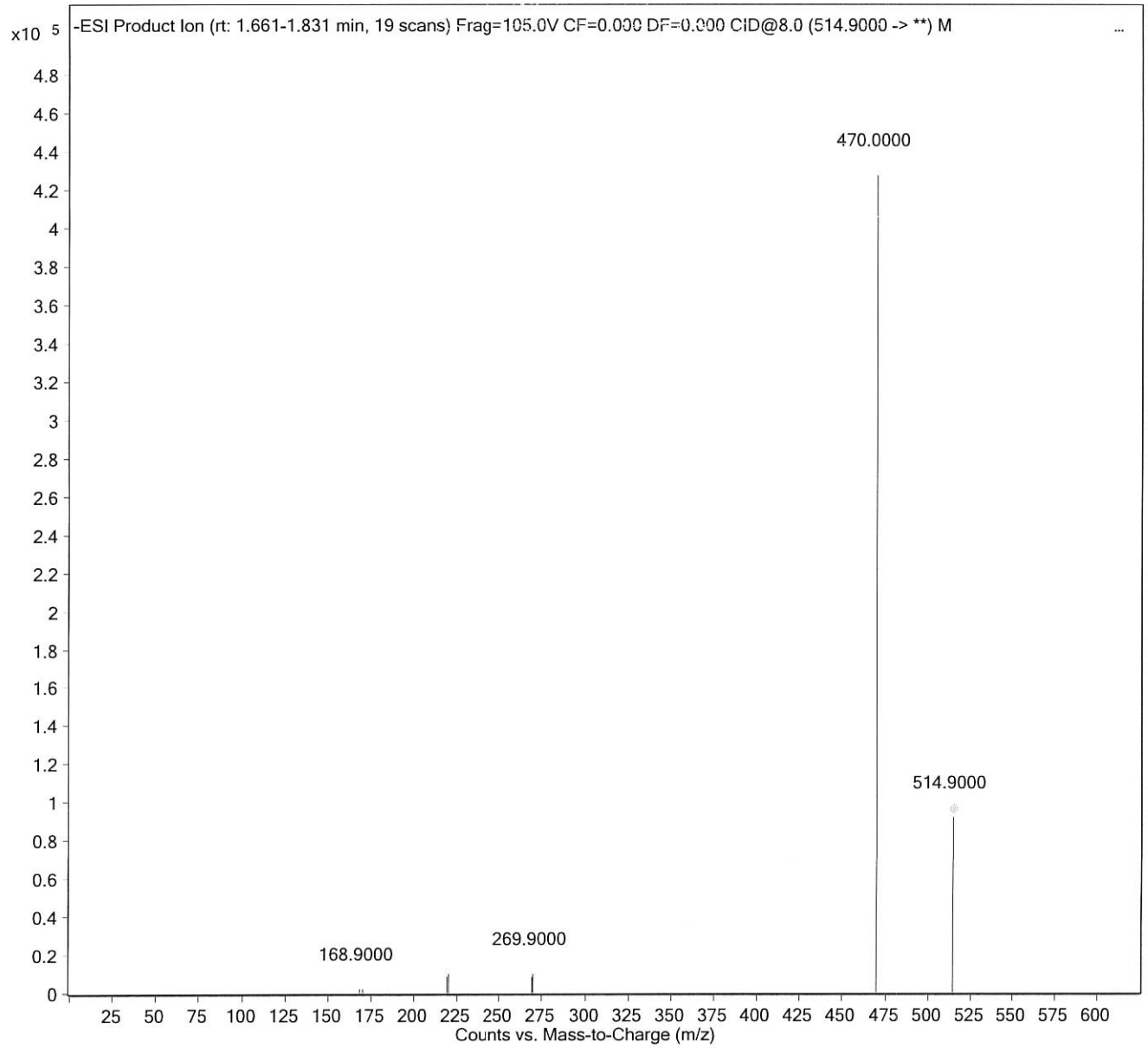


Sample Name	MPFNA -Q3	**Position**	P2-A8	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	MPFNA -Q3.d
ACQ Method	PFC_MassVerification-MPFNA-Q3.m	**Comment**		**Acquired Time**	6/6/2018 7:13:55 PM



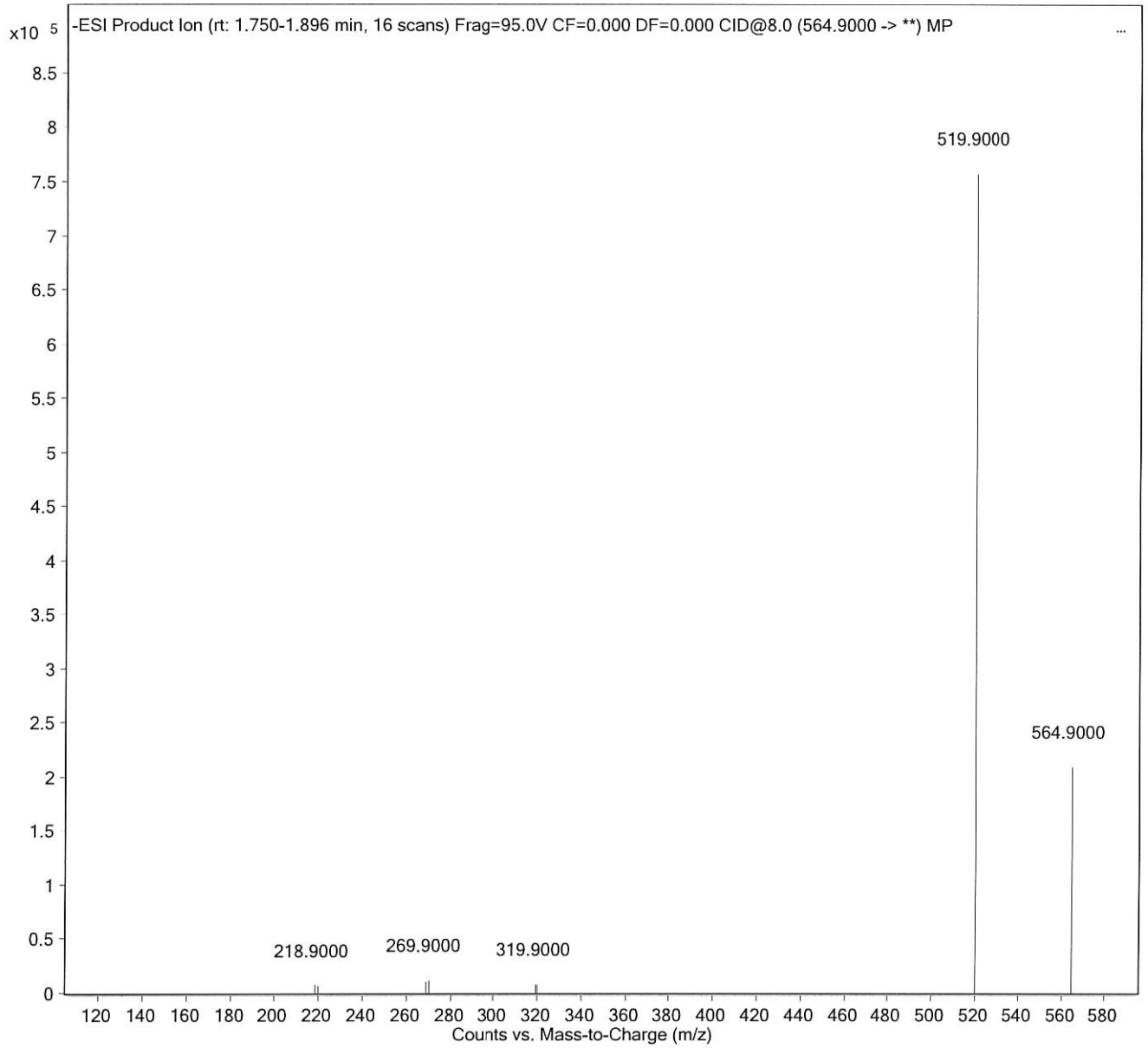
Maxxam Analytics

Sample Name	MPFDA -Q3	**Position**	P2-A9	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	MPFDA -Q3.d
ACQ Method	PFC_MassVerification-MPFDA-Q3.m	**Comment**		**Acquired Time**	6/6/2018 7:19:25 PM



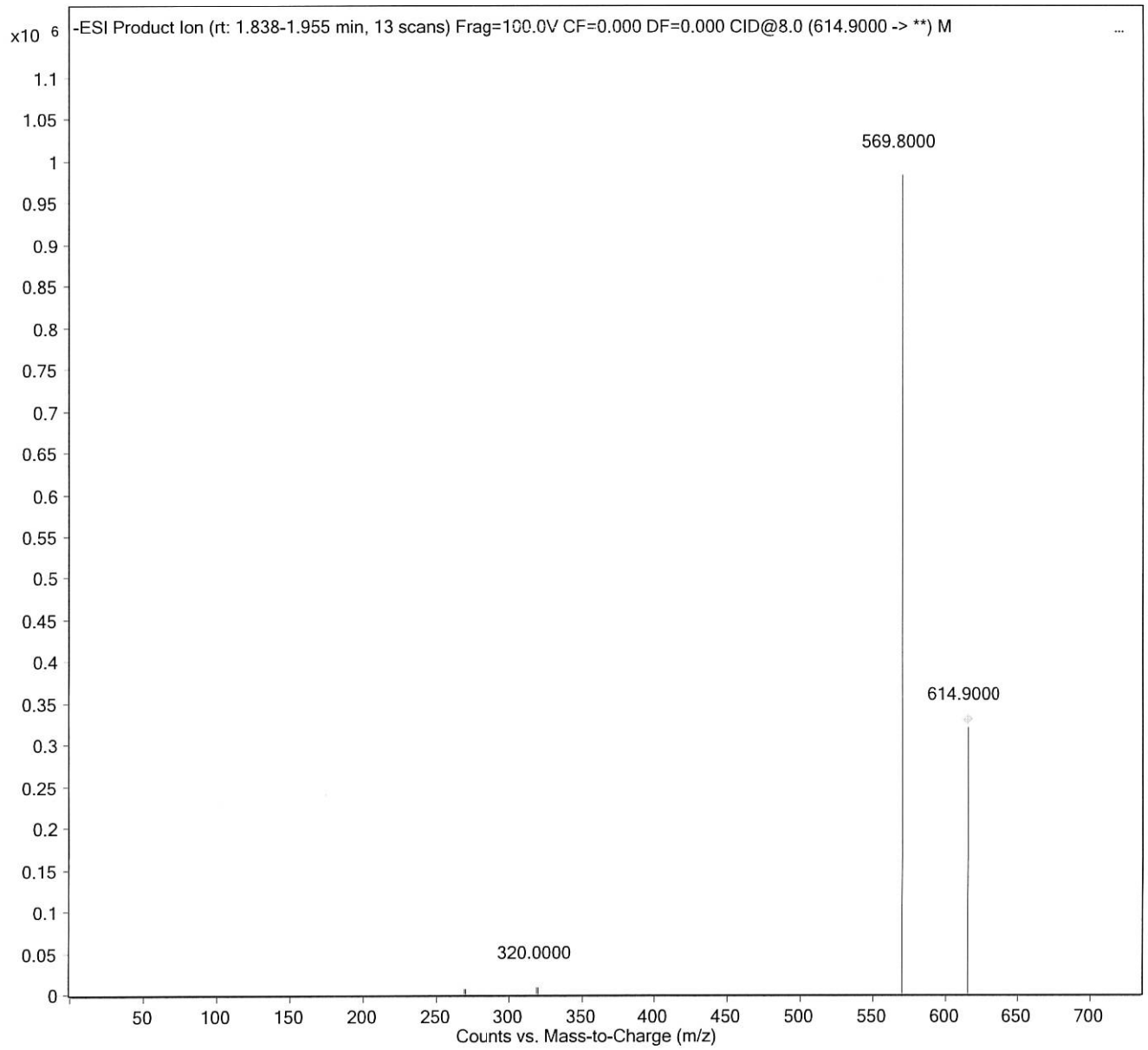
Maxxam Analytics

Sample Name	MPFUnA -Q3	**Position**	P2-B1	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	MPFUnA -Q3.d
ACQ Method	PFC_MassVerification-MPFUnA-Q3.m	**Comment**		**Acquired Time**	6/6/2018 7:24:55 PM



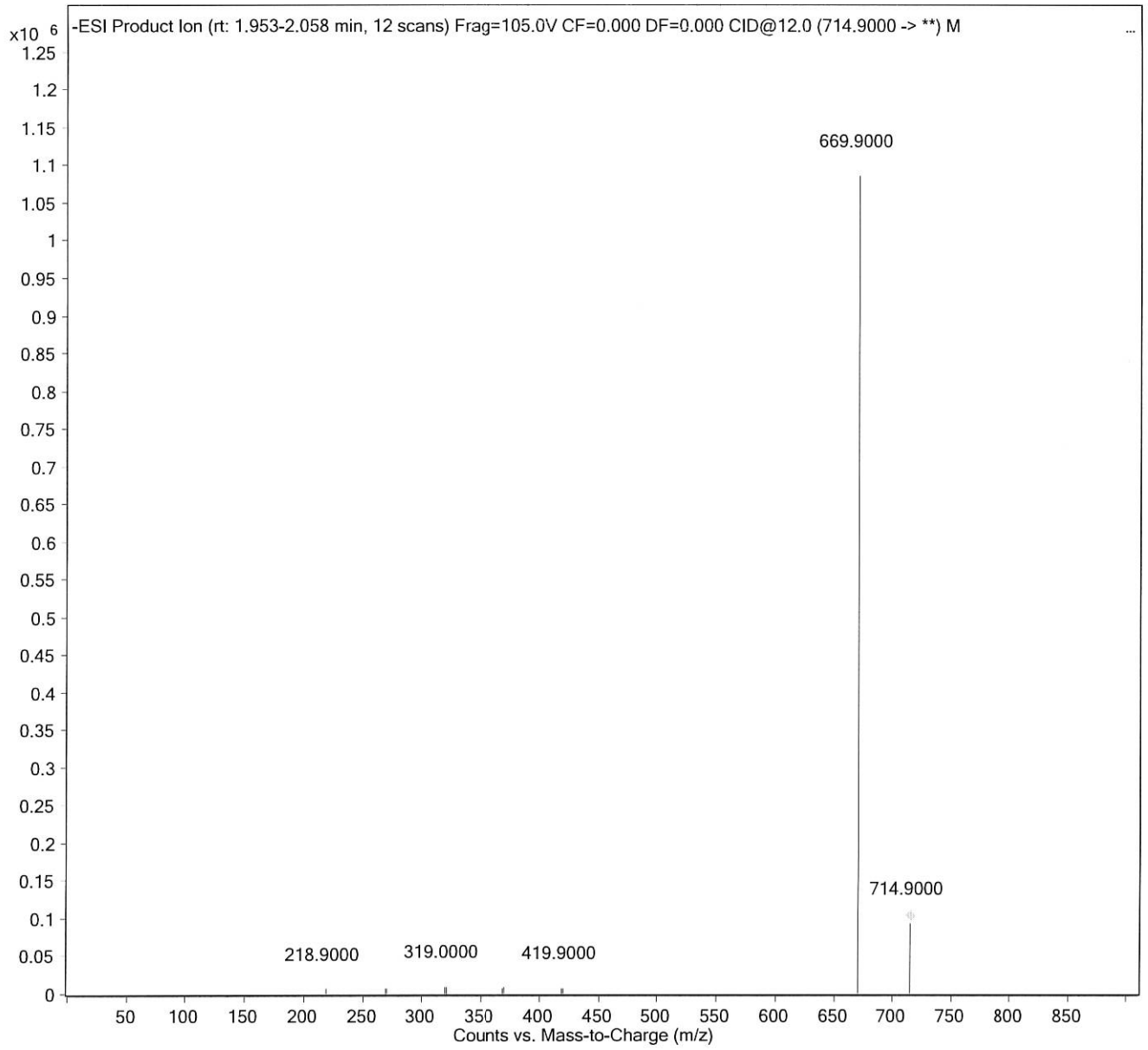
Maxxam Analytics

Sample Name	MPFDoA -Q3	**Position**	P2-B2	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	MPFDoA -Q3.d
ACQ Method	PFC_MassVerification-MPFDoA-Q3.m	**Comment**		**Acquired Time**	6/6/2018 7:30:25 PM



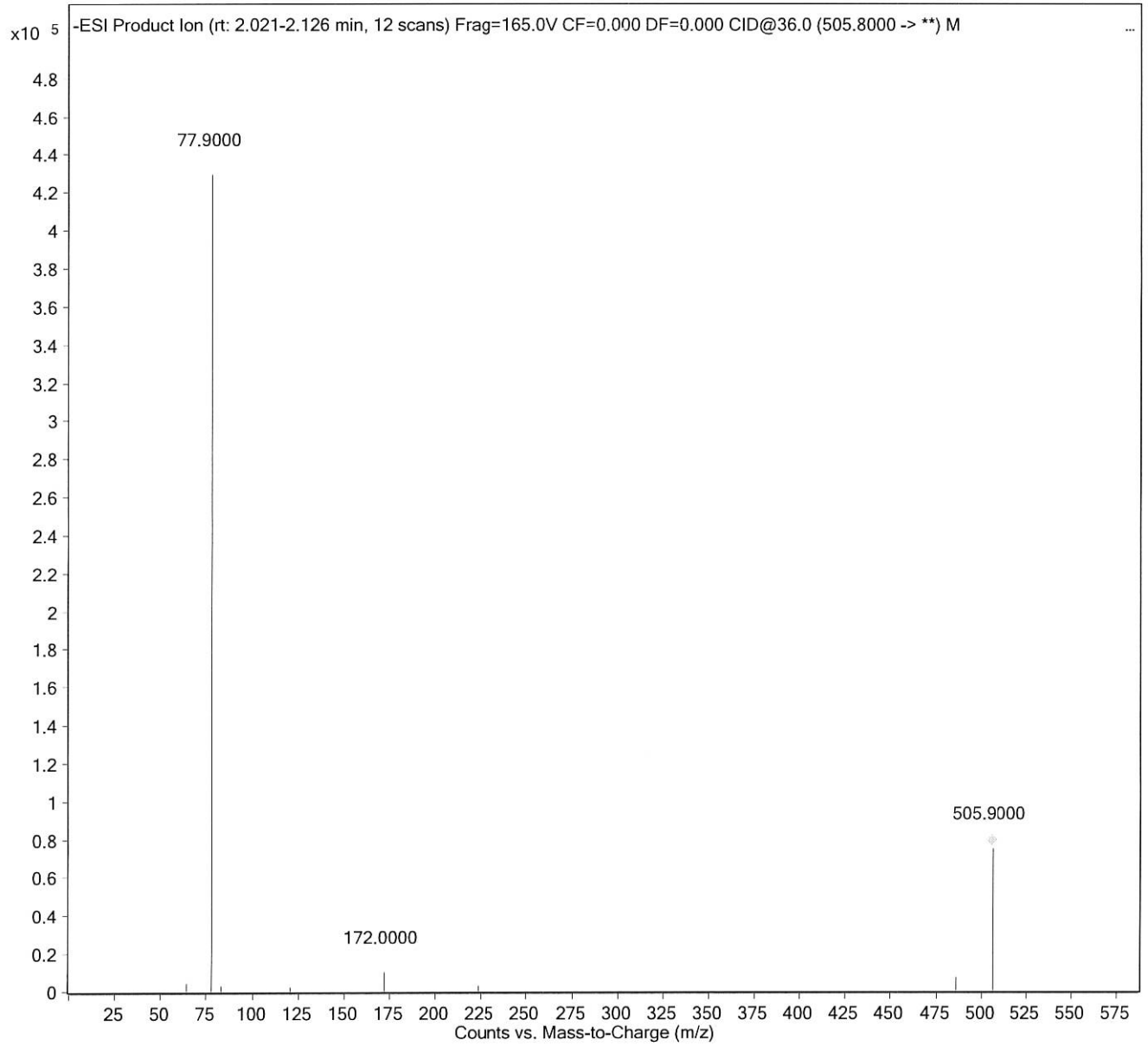
Maxxam Analytics

Sample Name	MPFTeDA -Q3	**Position**	P2-B3	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	MPFTeDA -Q3.d
ACQ Method	PFC_MassVerification-MPFTeDA-Q3.m	**Comment**		**Acquired Time**	6/6/2018 7:35:55 PM



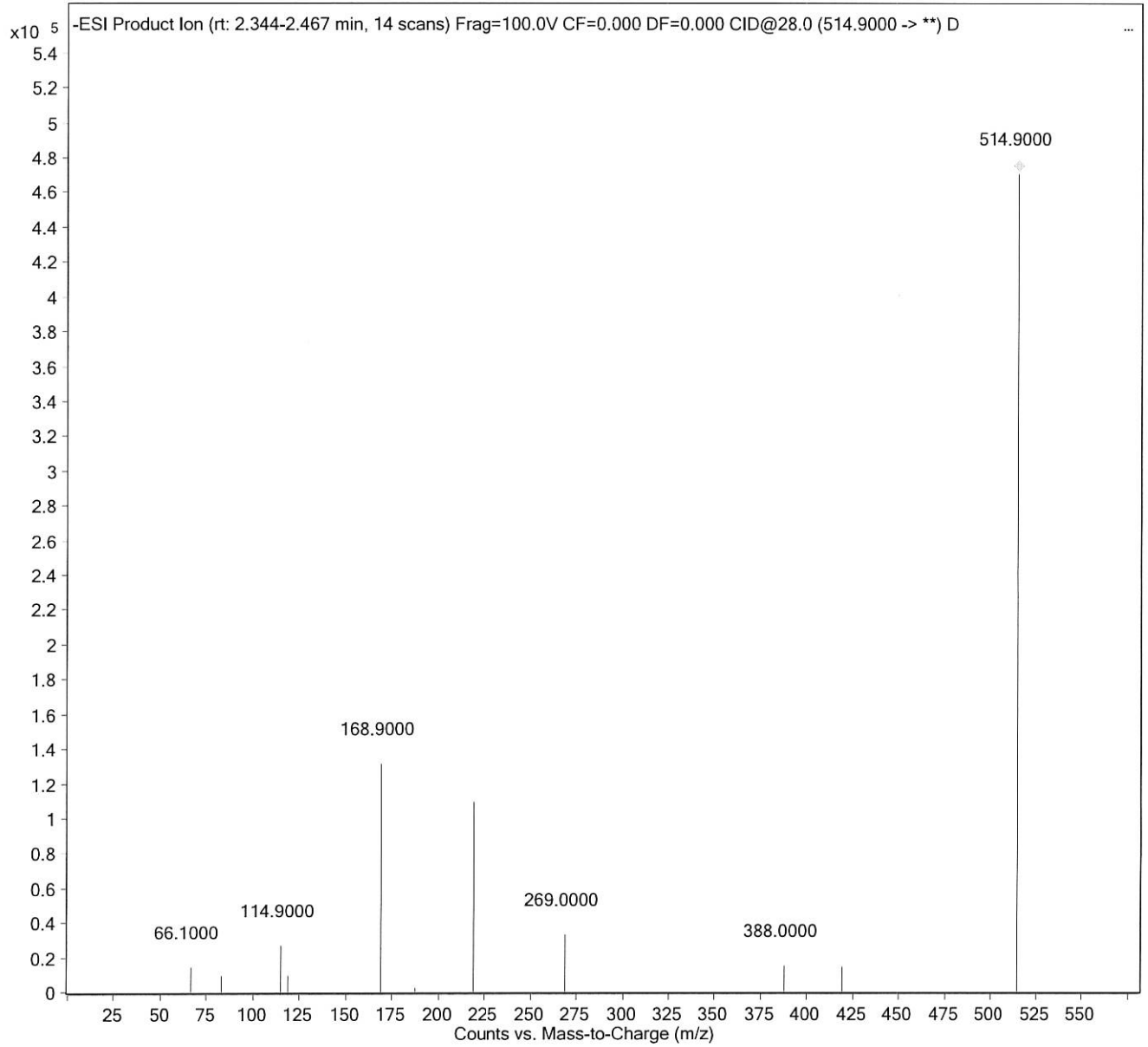
Maxxam Analytics

Sample Name	MPFOSA -Q3	**Position**	P2-B4	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	MPFOSA -Q3.d
ACQ Method	PFC_MassVerification-MPFOSA-Q3.m	**Comment**		**Acquired Time**	6/6/2018 7:41:25 PM

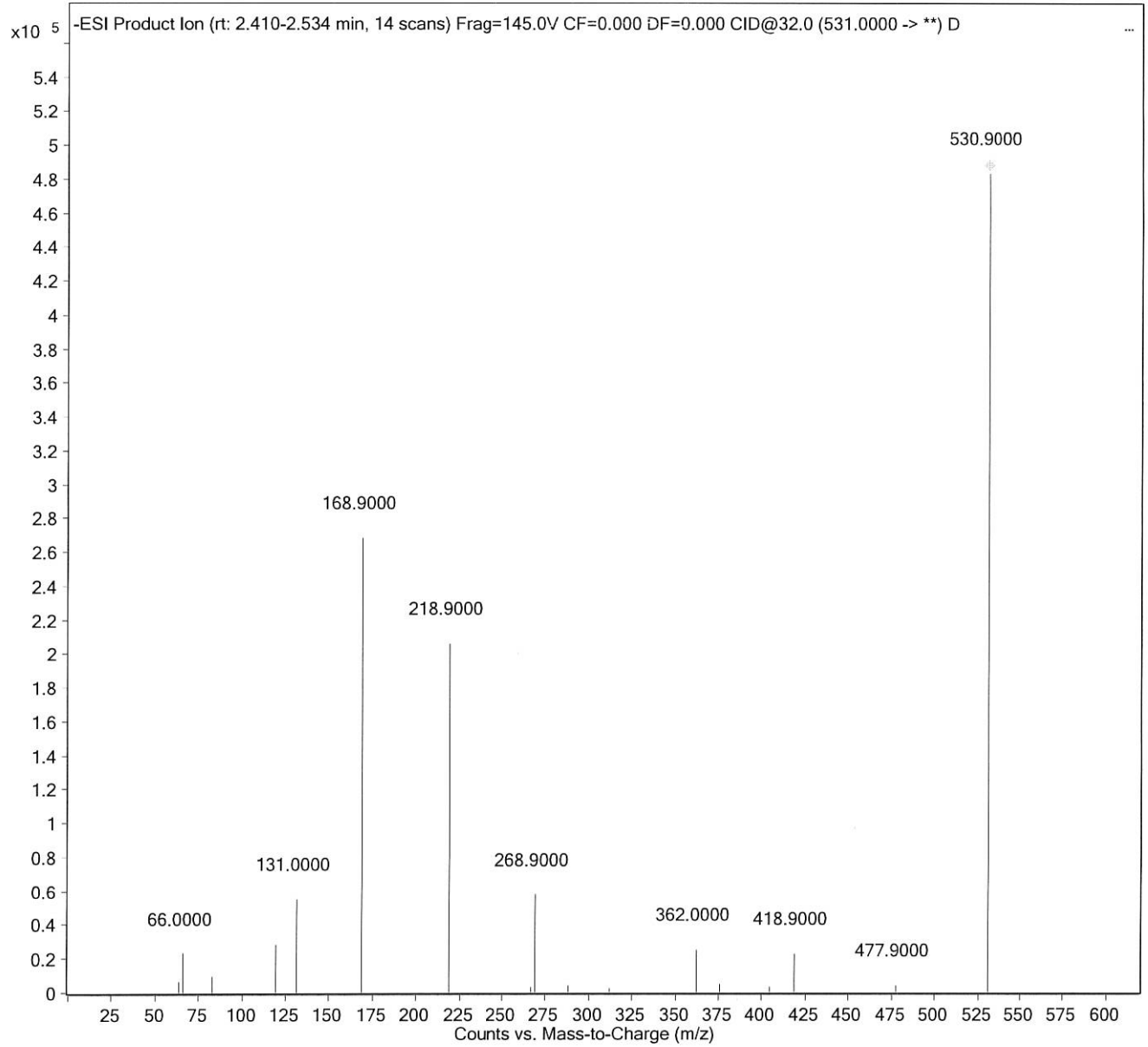


Maxxam Analytics

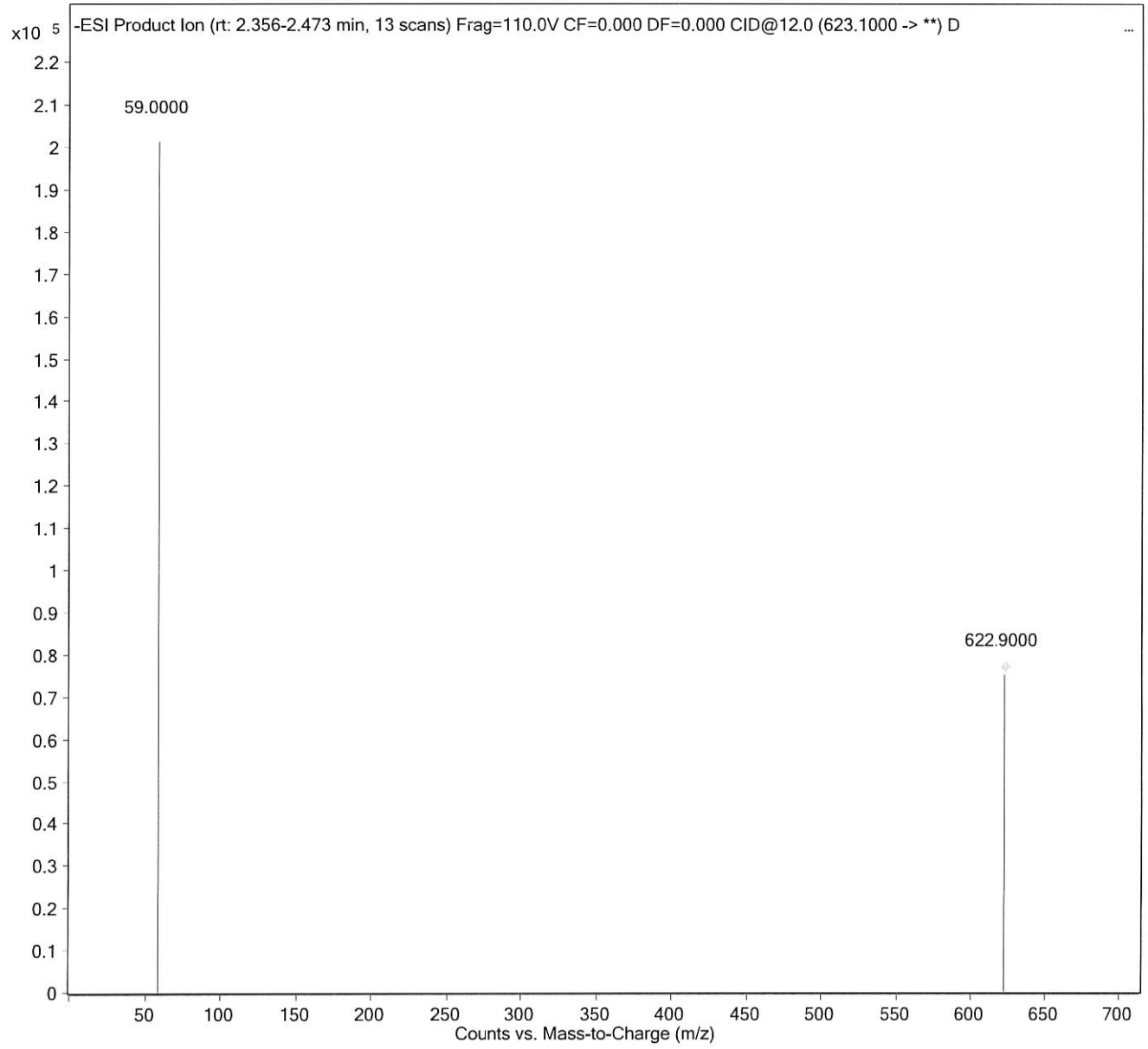
Sample Name	D3-MeFOSA -Q3	**Position**	P2-B5	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	D3-MeFOSA -Q3.d
ACQ Method	PFC_MassVerification-D3-MeFOSA-Q3.m	**Comment**		**Acquired Time**	6/6/2018 7:46:55 PM



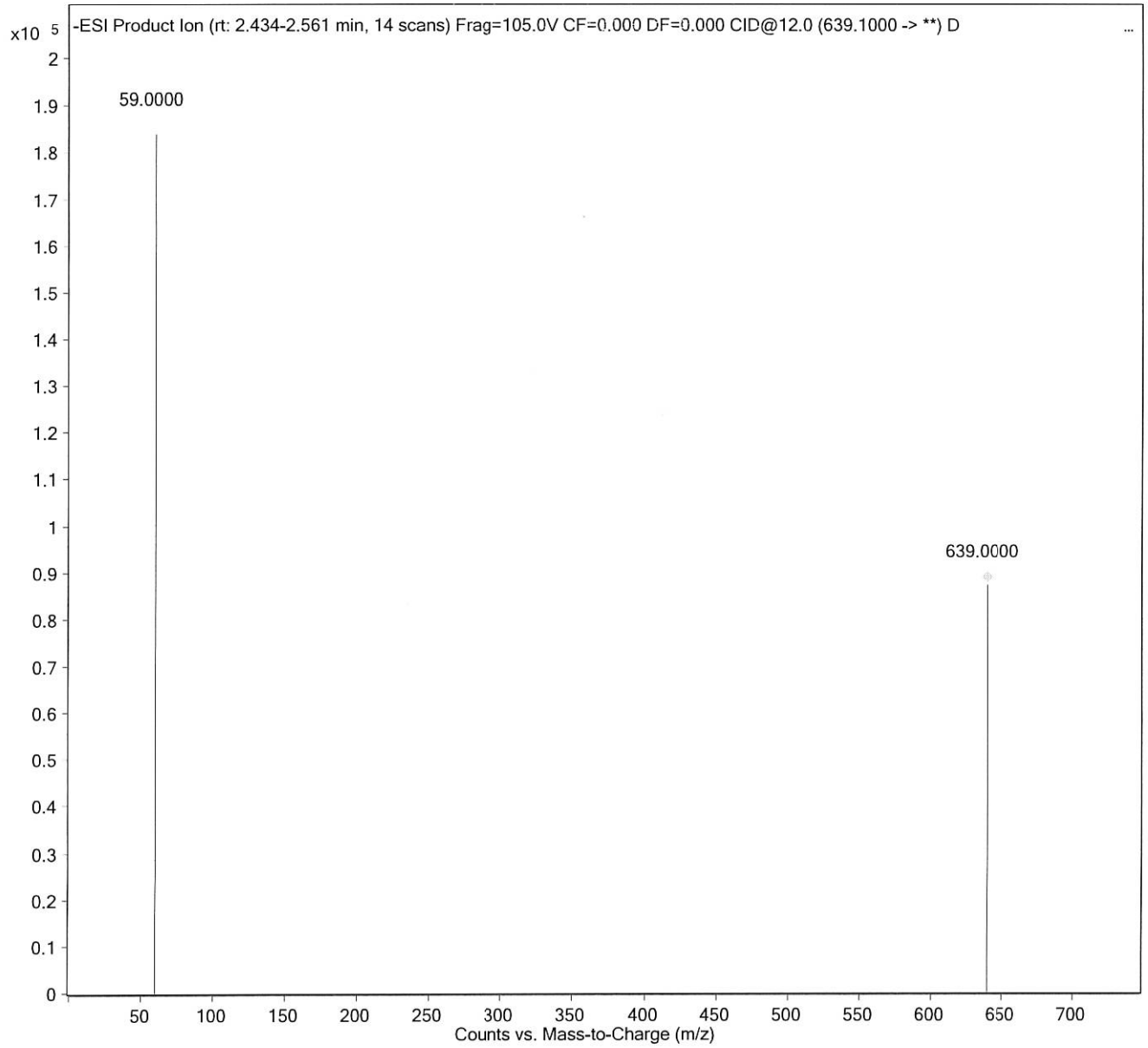
Sample Name	D5-EtFOSA -Q3	**Position**	P2-B6	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	D5-EtFOSA -Q3.d
ACQ Method	PFC_MassVerification-D5-EtFOSA-Q3.m	**Comment**		**Acquired Time**	6/6/2018 7:52:25 PM



Sample Name	D7-MeFOSE -Q3	**Position**	P2-B7	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	D7-MeFOSE -Q3.d
ACQ Method	PFC_MassVerification-D7-MeFOSE-Q3.m	**Comment**		**Acquired Time**	6/6/2018 7:57:55 PM

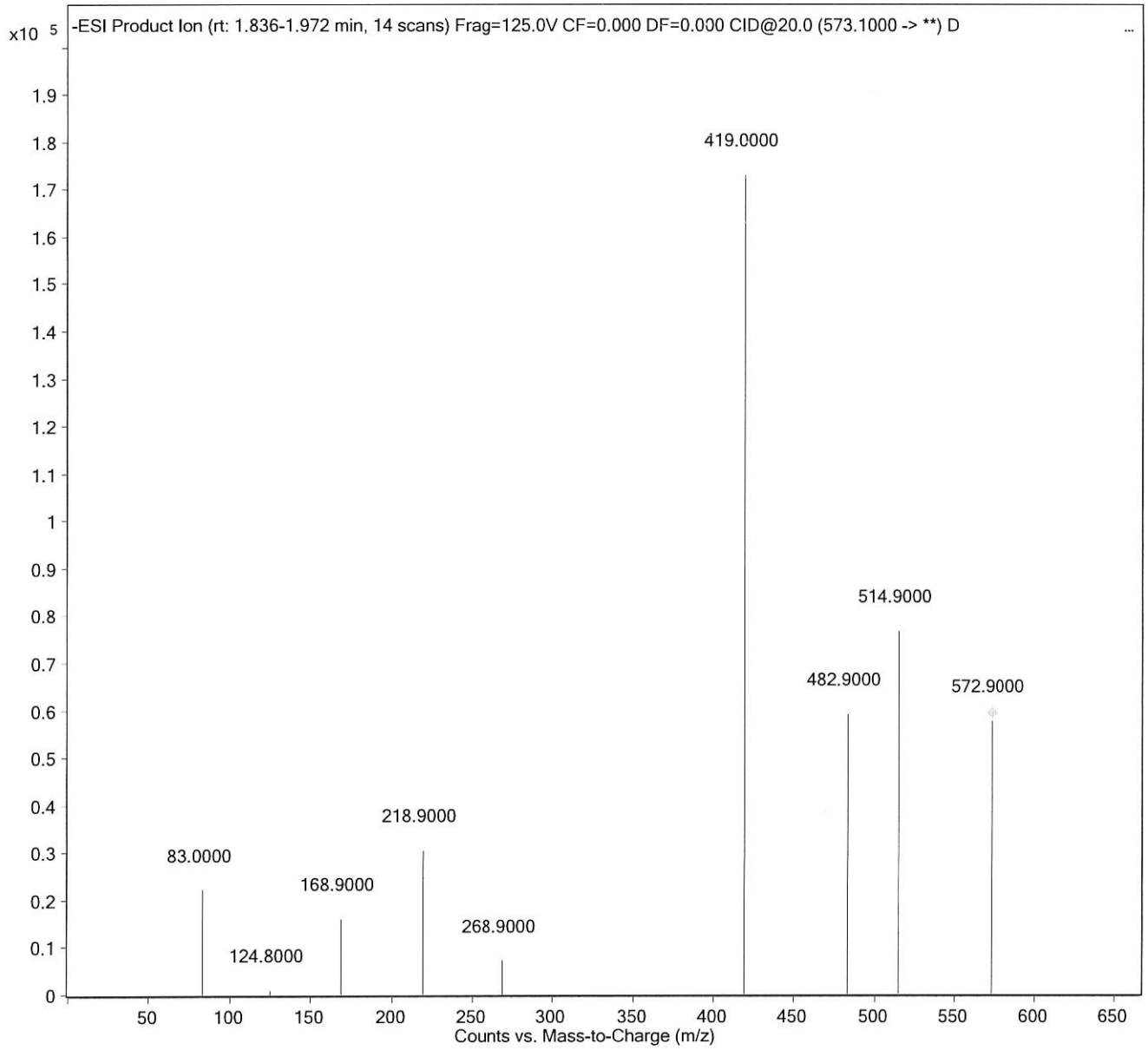


Sample Name	D9-EtFOSE -Q3	**Position**	P2-B8	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	D9-EtFOSE -Q3.d
ACQ Method	PFC_MassVerification-D9-EtFOSE-Q3.m	**Comment**		**Acquired Time**	6/6/2018 8:03:25 PM



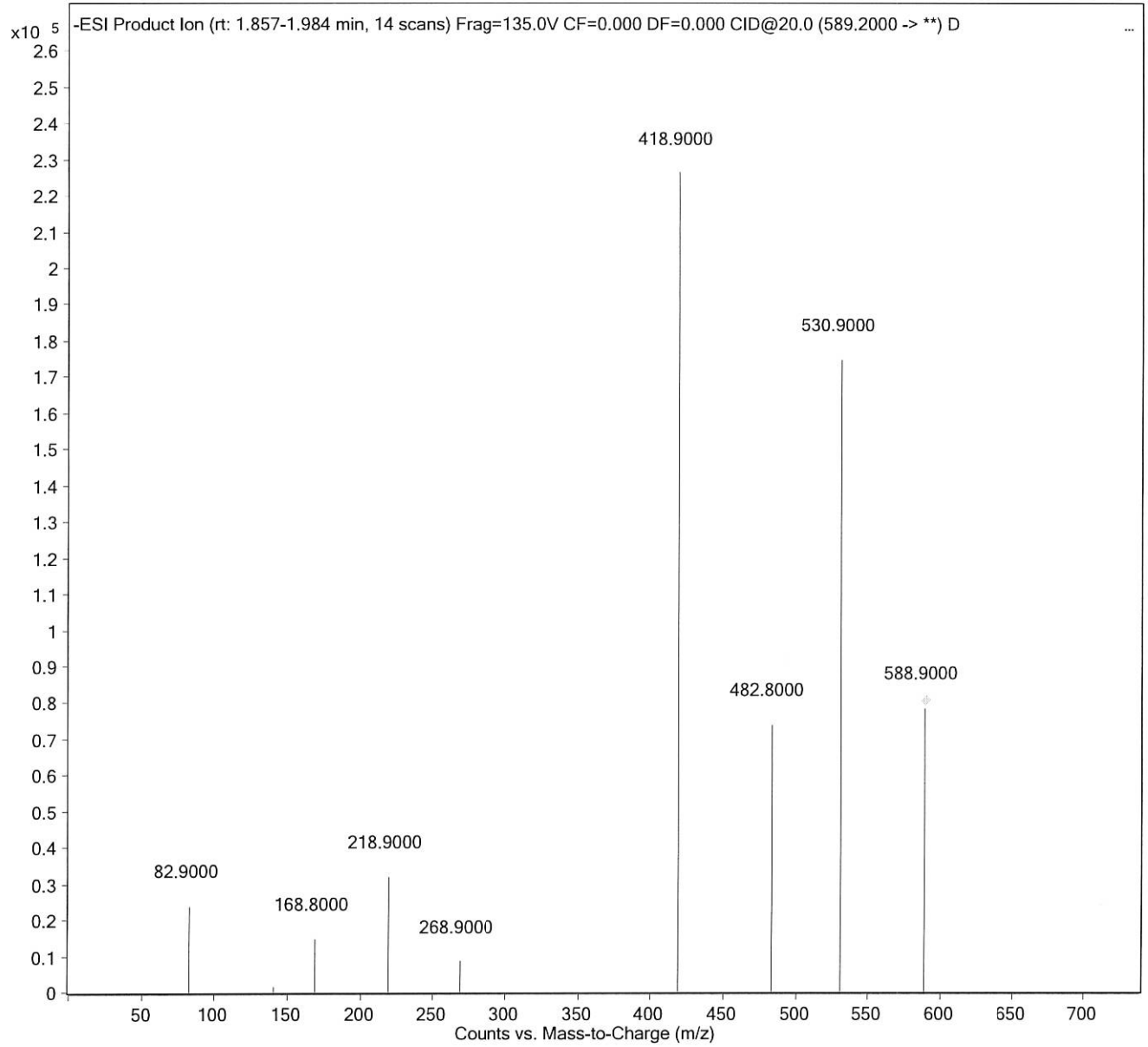
Maxxam Analytics

Sample Name	D3-MeFOSAA -Q3	**Position**	P2-B9	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	D3-MeFOSAA -Q3.d
ACQ Method	PFC_MassVerification-D3-MeFOSAA-Q3.m	**Comment**		**Acquired Time**	6/6/2018 8:08:55 PM

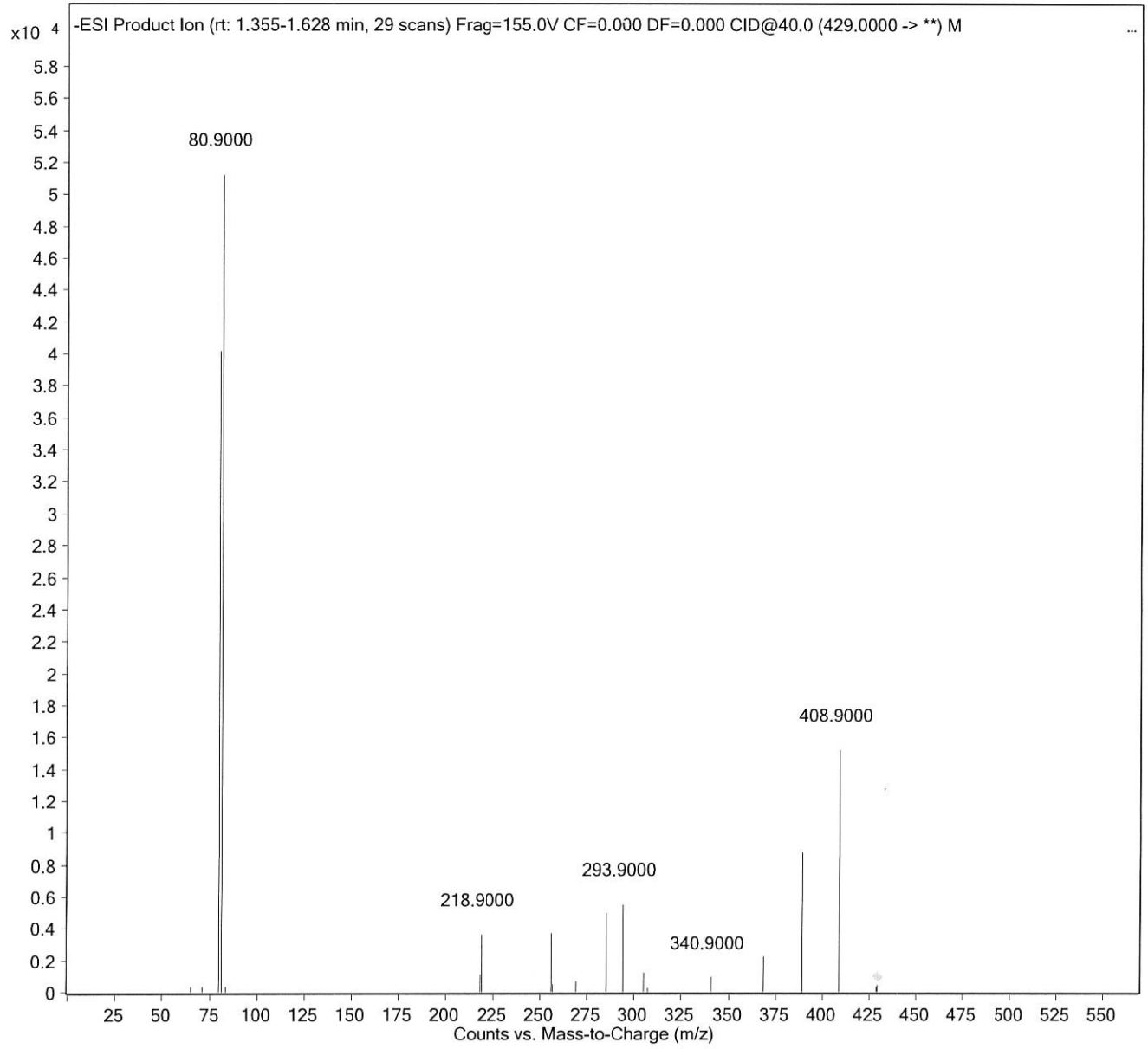


Maxxam Analytics

Sample Name	D5-EtFOSAA -Q3	**Position**	P2-C1	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	D5-EtFOSAA -Q3.d
ACQ Method	PFC_MassVerification-D5-EtFOSAA-Q3.m	**Comment**		**Acquired Time**	6/6/2018 8:14:25 PM

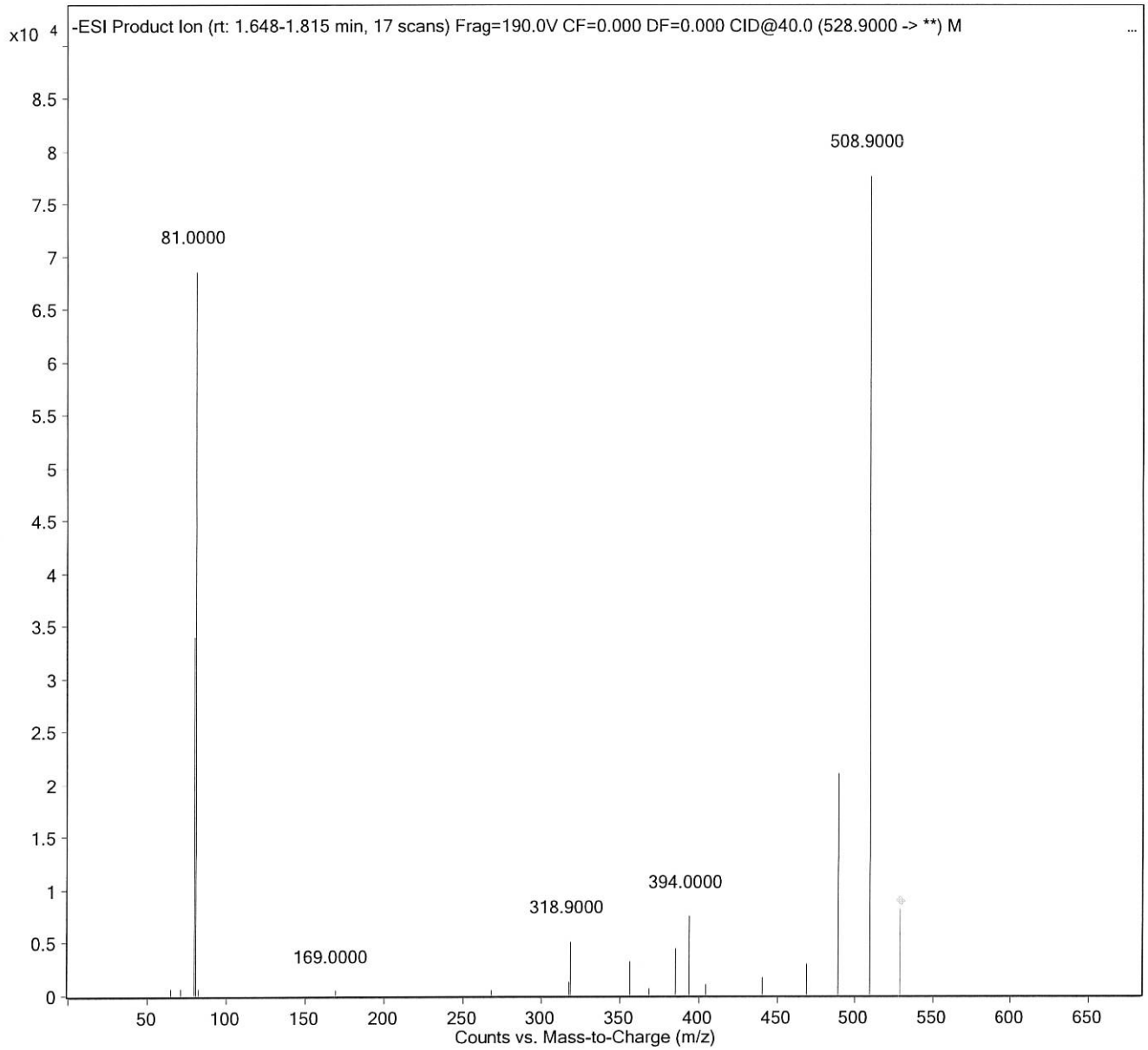


Sample Name	M2-6:2FTS -Q3	**Position**	P2-C2	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	M2-62FTS -Q3.d
ACQ Method	PFC_MassVerification-M26-2FTS-Q3.m	**Comment**		**Acquired Time**	6/6/2018 8:19:55 PM



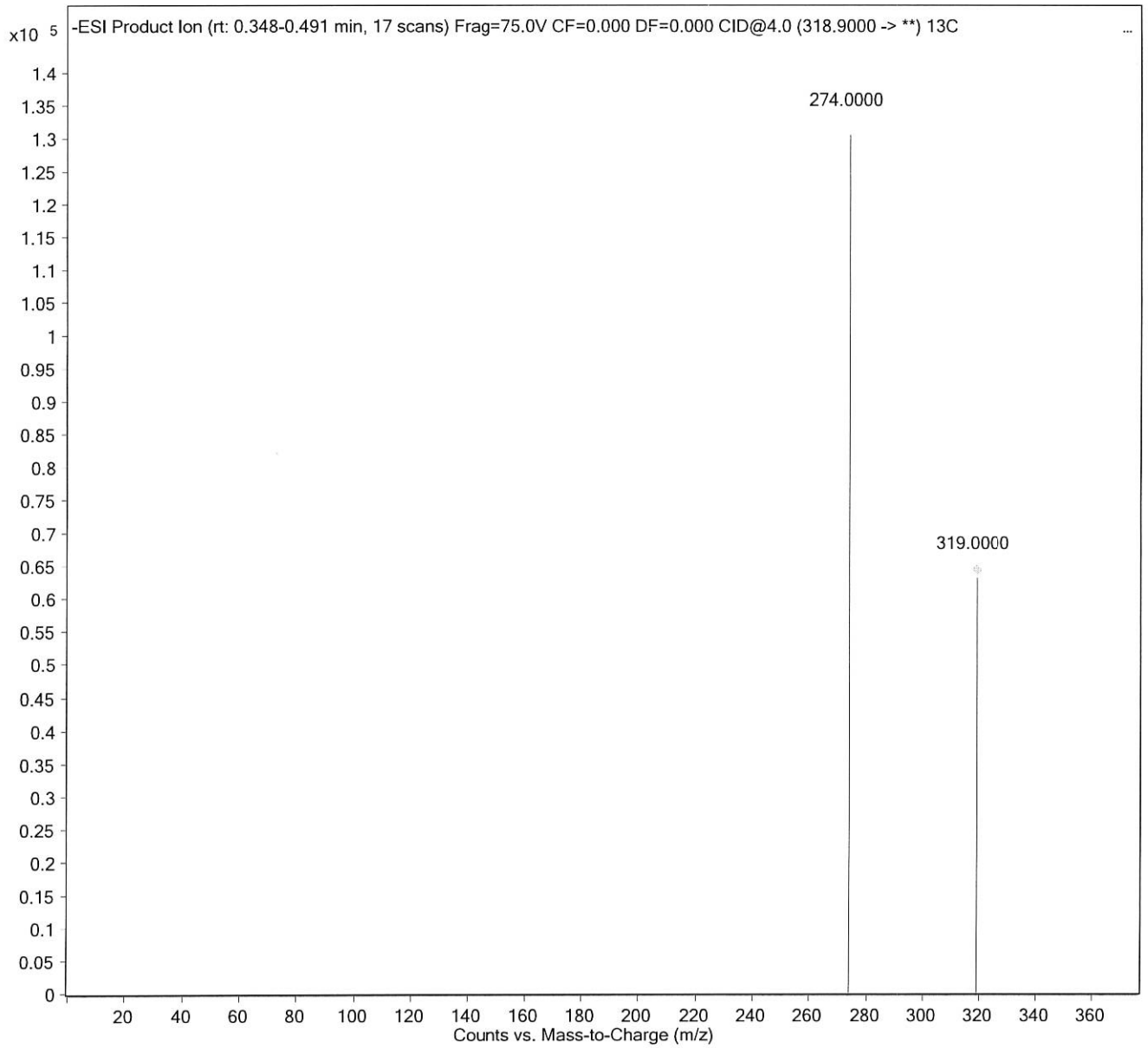
Maxxam Analytics

Sample Name	M2-8:2FTS -Q3	**Position**	P2-C3	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	M2-82FTS -Q3.d
ACQ Method	PFC_MassVerification-M2-8-2FTS-Q3.m	**Comment**		**Acquired Time**	6/6/2018 8:25:25 PM

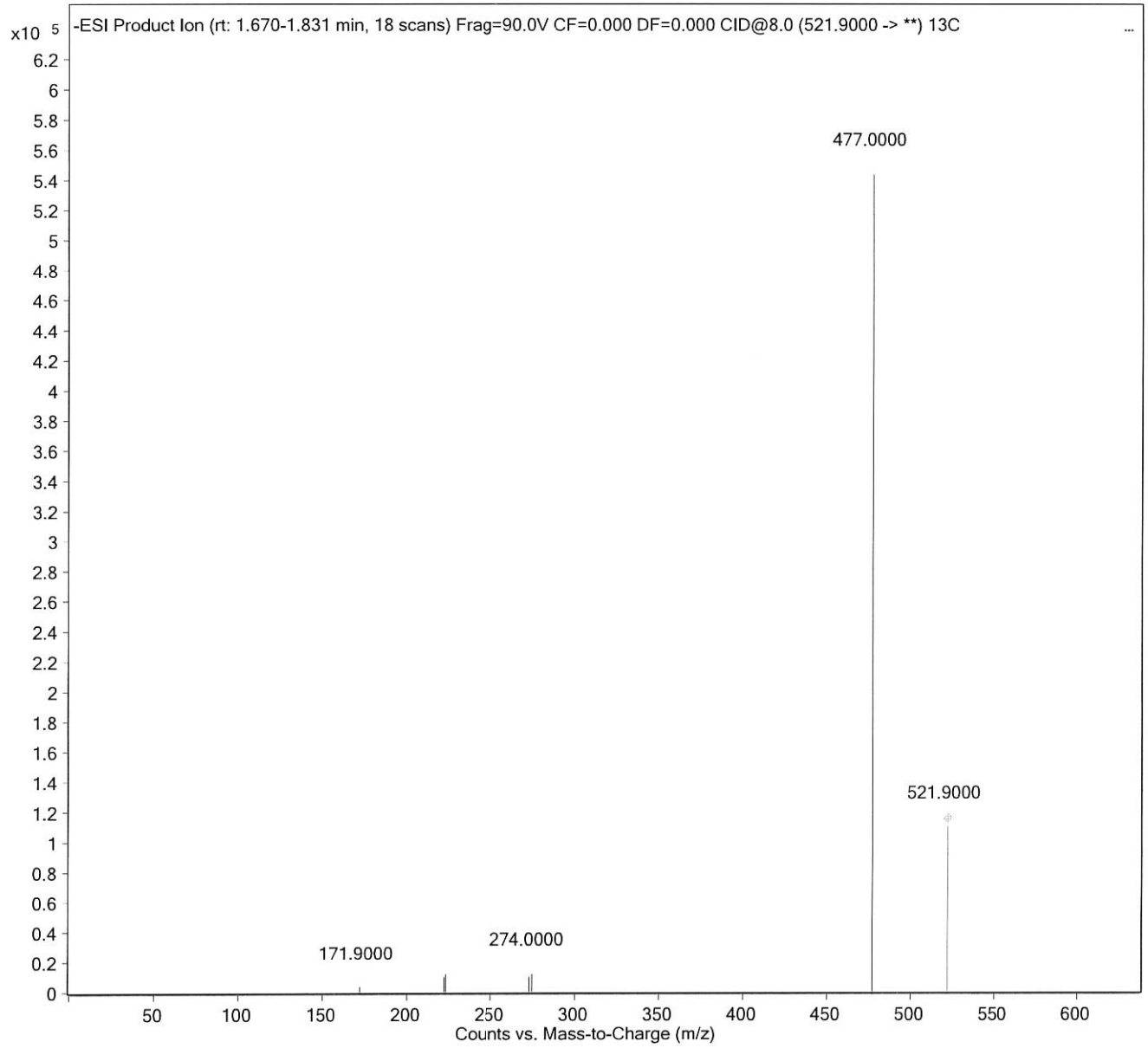


Maxxam Analytics

Sample Name	13C6-PFHxA -Q3	**Position**	P2-C4	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	13C6-PFHxA -Q3.d
ACQ Method	PFC_MassVerification-13C6-PFHxA-Q3.m	**Comment**		**Acquired Time**	6/6/2018 8:30:55 PM



Sample Name	13C9-PFDA -Q3	**Position**	P2-C5	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	13C9-PFDA -Q3.d
ACQ Method	PFC_MassVerification-13C9-PFDA-Q3.m	**Comment**		**Acquired Time**	6/6/2018 8:36:25 PM



Worklist Report

Agilent Technologies

Instrument Name: LCMS04 **Worklist Path:** D:\MassHunter\Worklists\PFCs\Mass Verification_IS_Q1&Q3_180606.wkl

Operator Name: AD
Run Type: Standard Start
Part of Method to Run: Acquisition Only
Execution of Acquisition-DA: Synchronous
Acquisition Method Path: D:\MassHunter\Acquisition Method
DA Method Path: D:\MassHunter\methods
Data File Path: D:\MassHunter\data\Mass Verification\20170711_IS
Pre-Worklist Script: ---
Post-Worklist Script: ---
Acquisition Clean Up Script: ---
Overlapped Injection: Yes
Clear Sample Selection After Run: Yes
Wait Time for Ready(Min): 10
Threshold Disk Value(GB): 10
Comment: ---

Plate Barcode:

Plate	Barcode
P1	

Worklist Table

	Sample Name	Sample Position	Method	Data File	Sample Type	Inj Vol (µl)	Sample Group
1	MPFBA	P2-A1	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\MPFBA -Q1.d	Sample	As Method	PFAS-Q1
2	MPFPeA	P2-A2	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\MPFPeA -Q1.d	Sample	As Method	PFAS-Q1
3	MPFHxA	P2-A3	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\MPFHxA -Q1.d	Sample	As Method	PFAS-Q1
4	MPFHxS	P2-A4	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\MPFHxS -Q1.d	Sample	As Method	PFAS-Q1

	Sample Name	Sample Position	Method	Data File	Sample Type	Inj Vol (µl)	Sample Group
5	MPFHpA	P2-A5	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\MPFHpA -Q1.d	Sample	As Method	PFAS-Q1
6	MPFOA	P2-A6	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\MPFOA -Q1.d	Sample	As Method	PFAS-Q1
7	MPFOS	P2-A7	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\MPFOS -Q1.d	Sample	As Method	PFAS-Q1
8	MPFNA	P2-A8	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\MPFNA -Q1.d	Sample	As Method	PFAS-Q1
9	MPFDA	P2-A9	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\MPFDA -Q1.d	Sample	As Method	PFAS-Q1
10	MPFUnA	P2-B1	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\MPFUnA -Q1.d	Sample	As Method	PFAS-Q1
11	MPFDoA	P2-B2	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\MPFDoA -Q1.d	Sample	As Method	PFAS-Q1
12	MPFTeDA	P2-B3	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\MPFTeDA -Q1.d	Sample	As Method	PFAS-Q1
13	MPFOSA	P2-B4	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\MPFOSA -Q1.d	Sample	As Method	PFAS-Q1
14	D3-MeFOSA	P2-B5	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\D3-MeFOSA -Q1.d	Sample	As Method	PFAS-Q1
15	D5-EtFOSA	P2-B6	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\D5-EtFOSA -Q1.d	Sample	As Method	PFAS-Q1

	Sample Name	Sample Position	Method	Data File	Sample Type	Inj Vol (µl)	Sample Group
16	D7-MeFOSE	P2-B7	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\D7-MeFOSE - Q1.d	Sample	As Method	PFAS-Q1
17	D9-EtFOSE	P2-B8	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\D9-EtFOSE - Q1.d	Sample	As Method	PFAS-Q1
18	D3-MeFOSAA	P2-B9	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\D3-MeFOSAA - Q1.d	Sample	As Method	PFAS-Q1
19	D5-EtFOSAA	P2-C1	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\D5-EtFOSAA - Q1.d	Sample	As Method	PFAS-Q1
20	M2-6:2FTS	P2-C2	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\M2-62FTS - Q1.d	Sample	As Method	PFAS-Q1
21	M2-8:2FTS	P2-C3	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\M2-82FTS - Q1.d	Sample	As Method	PFAS-Q1
22	13C6-PFHxA	P2-C4	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\13C6-PFHxA - Q1.d	Sample	As Method	PFAS-Q1
23	13C9-PFDA	P2-C5	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\13C9-PFDA - Q1.d	Sample	As Method	PFAS-Q1
24	MPFBA -Q3	P2-A1	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-MPFBA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\MPFBA -Q3.d	Sample	As Method	PFAS-Q3
25	MPFPeA -Q3	P2-A2	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-MPFPeA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\MPFPeA -Q3.d	Sample	As Method	PFAS-Q3

	Sample Name	Sample Position	Method	Data File	Sample Type	Inj Vol (µl)	Sample Group
26	MPFHxA -Q3	P2-A3	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-MPFHxA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\MPFHxA -Q3.d	Sample	As Method	PFAS-Q3
27	MPFHxS -Q3	P2-A4	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-MPFHxS-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\MPFHxS -Q3.d	Sample	As Method	PFAS-Q3
28	MPFHpA -Q3	P2-A5	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-MPFHpA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\MPFHpA -Q3.d	Sample	As Method	PFAS-Q3
29	MPFOA -Q3	P2-A6	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-MPFOA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\MPFOA -Q3.d	Sample	As Method	PFAS-Q3
30	MPFOS -Q3	P2-A7	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-MPFOS-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\MPFOS -Q3.d	Sample	As Method	PFAS-Q3
31	MPFNA -Q3	P2-A8	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-MPFNA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\MPFNA -Q3.d	Sample	As Method	PFAS-Q3
32	MPFDA -Q3	P2-A9	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-MPFDA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\MPFDA -Q3.d	Sample	As Method	PFAS-Q3
33	MPFUnA -Q3	P2-B1	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-MPFUnA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\MPFUnA -Q3.d	Sample	As Method	PFAS-Q3
34	MPFDoA -Q3	P2-B2	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-MPFDoA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\MPFDoA -Q3.d	Sample	As Method	PFAS-Q3

	Sample Name	Sample Position	Method	Data File	Sample Type	Inj Vol (µl)	Sample Group
35	MPFTeDA -Q3	P2-B3	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-MPFTeDA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\MPFTeDA -Q3.d	Sample	As Method	PFAS-Q3
36	MPFOSA -Q3	P2-B4	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-MPFOSA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\MPFOSA -Q3.d	Sample	As Method	PFAS-Q3
37	D3-MeFOSA -Q3	P2-B5	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-D3-MeFOSA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\D3-MeFOSA -Q3.d	Sample	As Method	PFAS-Q3
38	D5-EtFOSA -Q3	P2-B6	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-D5-EtFOSA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\D5-EtFOSA -Q3.d	Sample	As Method	PFAS-Q3
39	D7-MeFOSE -Q3	P2-B7	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-D7-MeFOSE-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\D7-MeFOSE -Q3.d	Sample	As Method	PFAS-Q3
40	D9-EtFOSE -Q3	P2-B8	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-D9-EtFOSE-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\D9-EtFOSE -Q3.d	Sample	As Method	PFAS-Q3
41	D3-MeFOSAA -Q3	P2-B9	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-D3-MeFOSAA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\D3-MeFOSAA -Q3.d	Sample	As Method	PFAS-Q3
42	D5-EtFOSAA -Q3	P2-C1	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-D5-EtFOSAA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\D5-EtFOSAA -Q3.d	Sample	As Method	PFAS-Q3
43	M2-6:2FTS -Q3	P2-C2	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-M26-2FTS-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\M2-62FTS -Q3.d	Sample	As Method	PFAS-Q3

	Sample Name	Sample Position	Method	Data File	Sample Type	Inj Vol (µl)	Sample Group
44	M2-8:2FTS -Q3	P2-C3	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-M2-8-2FTS-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\M2-82FTS -Q3.d	Sample	As Method	PFAS-Q3
45	13C6-PFHxA -Q3	P2-C4	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-13C6-PFHxA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\13C6-PFHxA -Q3.d	Sample	As Method	PFAS-Q3
46	13C9-PFDA -Q3	P2-C5	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-13C9-PFDA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\13C9-PFDA -Q3.d	Sample	As Method	PFAS-Q3
47	SCP_InstrumentStandby() {MH_Acq_Scripts.exe}						



5. Initial Calibration

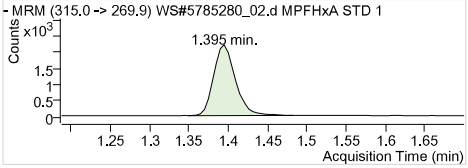
Maxxam Analytics International
6740 Campobello Rd
Mississauga, Ontario, Canada
L5N 2L8
1-800-668-0639
www.maxxamanalytics.com

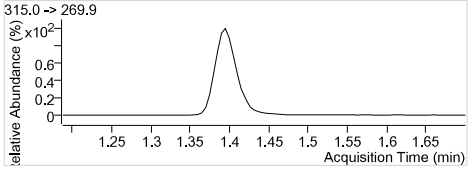
Batch Path	T:\LCMS04\PFC\20181017\WS#5785280\QuantResults\PFC_Water_Low_20181017_WS#5785280_ETOxics

Sample Name	**STD 1**	**Instrument**	LCMS04
Data File	WS#5785280_02.d	**Operator**	
Sample Type	Cal	**Dilution**	1
Acq. Method	PFC_Water_Low.m	**Position**	P4-A2
Acq. Date	2018/10/18 2:12:53 AM	**Injection Volume**	Per Method
Sample Annotation	-		

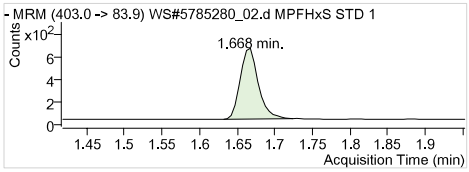
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	4226	1.39	1 µg/L		
MPFHxS	1066	1.67	1 µg/L		
MPFHpA	5978	1.66	1 µg/L		
MPFOA	6176	1.85	1 µg/L		
MPFOS	1179	1.97	1 µg/L		
MPFNA	5874	1.99	1 µg/L		
MPFDA	4559	2.11	1 µg/L		
MPFUnA	4850	2.21	1 µg/L		
MPFDoA	6403	2.29	1 µg/L		
MPFTeDA	8546	2.44	1 µg/L		
13C6-PFHxA IS	17836	1.39	1 µg/L		
13C9-PFDA IS	24586	2.11	1 µg/L		

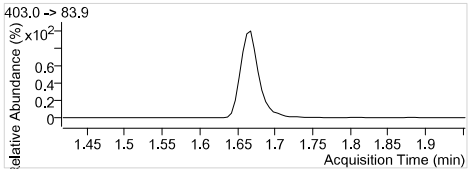
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1	460	1.07	0.83	0.90 µg/L	108.36
PFHxA 1	1281	1.38	0.83	0.86 µg/L	104.02
PFHxS 1	406	1.66	0.83	0.86 µg/L	103.50
PFHpA 1	1881	1.65	0.83	0.91 µg/L	109.45
PFOA 1	2121	1.84	0.83	0.91 µg/L	109.11
PFOS 1	423	1.93	0.83	0.91 µg/L	109.64
PFNA 1	1754	1.99	0.83	0.88 µg/L	105.88
PFDA 1	2013	2.11	0.83	0.92 µg/L	110.40
PFUnA 1	1774	2.21	0.83	0.93 µg/L	111.97
PFDoA 1	1949	2.29	0.83	0.85 µg/L	102.14
PFTrDA 1	2408	2.37	0.83	0.88 µg/L	106.01
PFTeDA 1	2467	2.44	0.83	0.91 µg/L	109.54
13C2-PFHxA	4226	1.39	100.00	101.05 µg/L	101.05
18O2-PFHxS	1066	1.67	100.00	102.68 µg/L	102.68
13C4-PFHpA	5978	1.66	100.00	100.17 µg/L	100.17
13C4-PFOA	6176	1.85	100.00	101.85 µg/L	101.85
13C4-PFOS	1179	1.97	100.00	97.97 µg/L	97.97
13C5-PFNA	5874	1.99	100.00	101.46 µg/L	101.46
13C2-PFDA	4559	2.11	100.00	103.09 µg/L	103.09
13C2-PFUnA	4850	2.21	100.00	98.26 µg/L	98.26
13C2-PFDoA	6403	2.29	100.00	98.00 µg/L	98.00
13C2-PFTeDA	8546	2.44	100.00	97.27 µg/L	97.27
13C6-PFHxA	17836	1.39	100.00	98.95 µg/L	98.95
13C9-PFDA	24586	2.11	100.00	99.42 µg/L	99.42



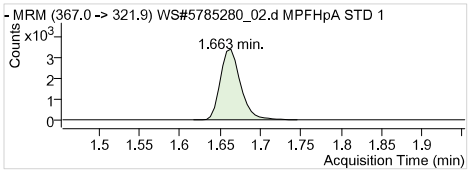


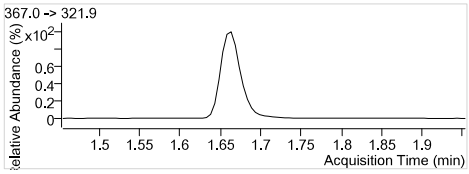
MPFHxA	Internal Standard
RT (Exp. RT):	1.395 (1.395)
Concentration:	1 µg/L
Sample type:	Calibration



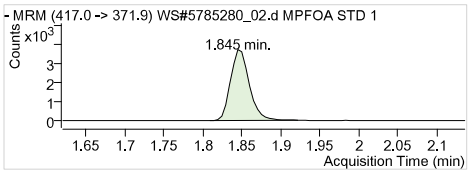


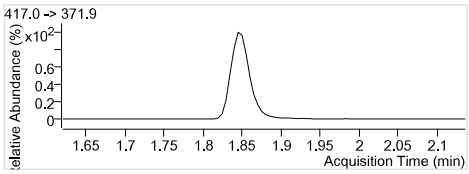
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Calibration



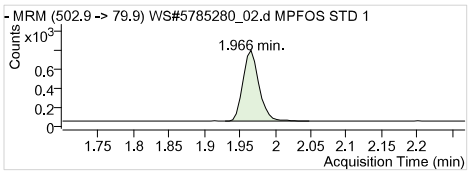


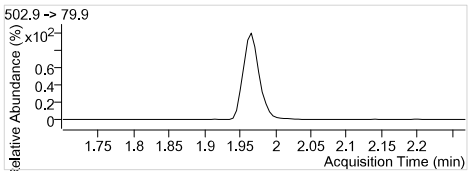
MPFHpA Internal Standard
RT (Exp. RT): 1.663 (1.663)
Concentration: 1 µg/L
Sample type: Calibration



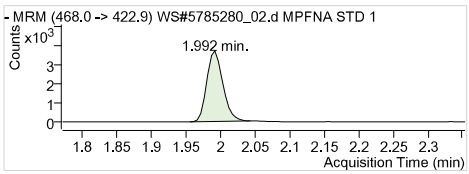


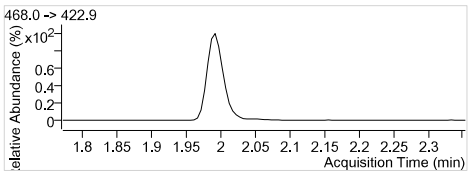
MPFOA Internal Standard
RT (Exp. RT): 1.845 (1.845)
Concentration: 1 µg/L
Sample type: Calibration



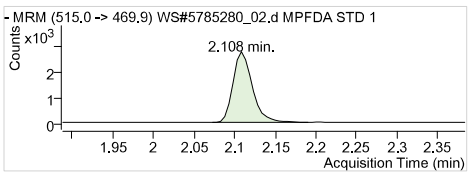


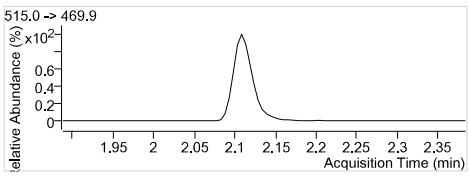
MPFOS Internal Standard
RT (Exp. RT): 1.966 (1.966)
Concentration: 1 µg/L
Sample type: Calibration



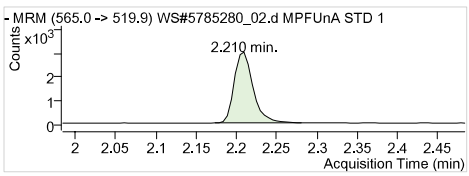


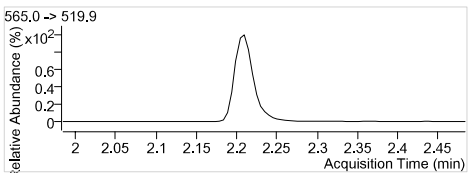
MPFNA Internal Standard
RT (Exp. RT): 1.992 (1.992)
Concentration: 1 µg/L
Sample type: Calibration



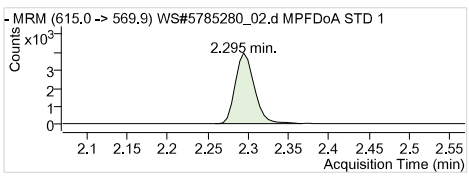


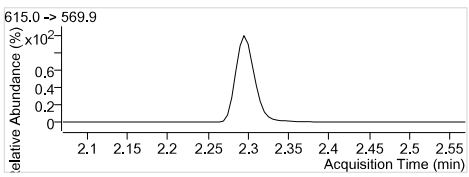
MPFDA Internal Standard
RT (Exp. RT): 2.108 (2.108)
Concentration: 1 µg/L
Sample type: Calibration



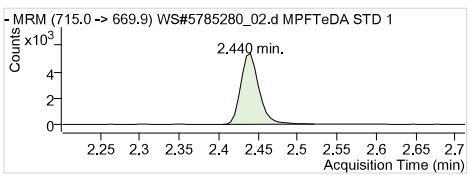


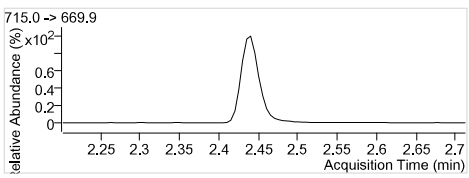
MPFUnA Internal Standard
RT (Exp. RT): 2.210 (2.210)
Concentration: 1 µg/L
Sample type: Calibration



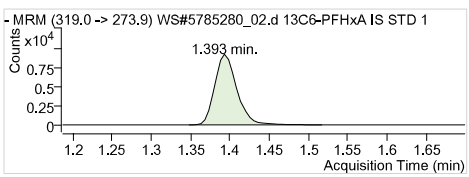


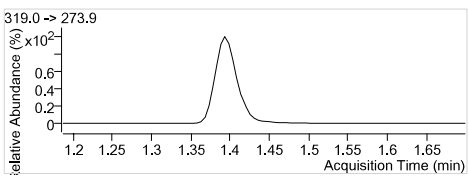
MPFDoA Internal Standard
RT (Exp. RT): 2.295 (2.295)
Concentration: 1 µg/L
Sample type: Calibration



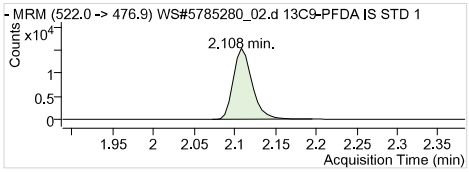


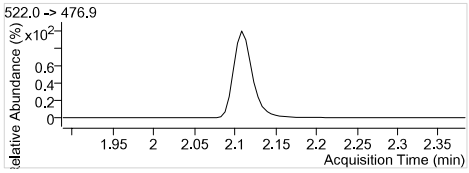
MPFTeDA Internal Standard
RT (Exp. RT): 2.440 (2.440)
Concentration: 1 µg/L
Sample type: Calibration



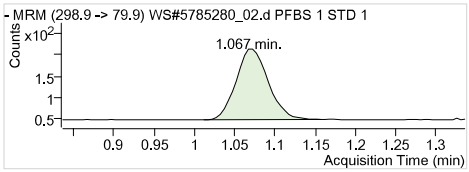


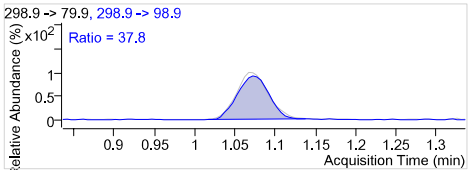
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.393 (1.393)
Concentration: 1 µg/L
Sample type: Calibration



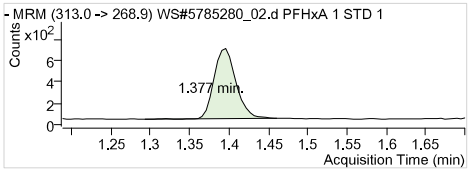


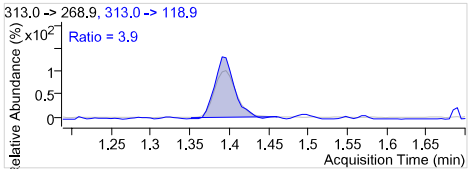
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.108 (2.108)
Concentration: 1 µg/L
Sample type: Calibration



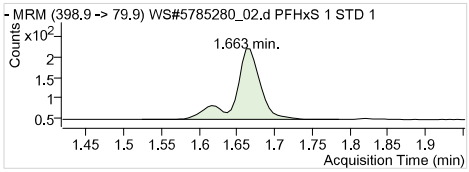


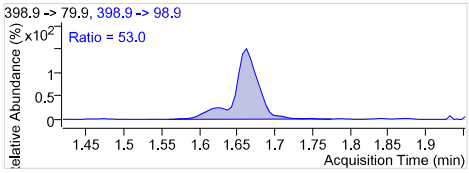
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 1.067 (1.067)
Calc. conc. 0.90 µg/L
Area ratio: 0.43152
Sample type: Calibration



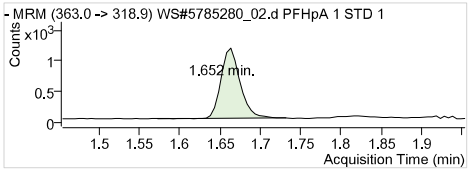


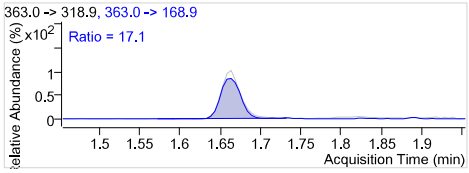
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 1.377 (1.391)
Calc. conc. 0.86 µg/L
Area ratio: 0.30318
Sample type: Calibration



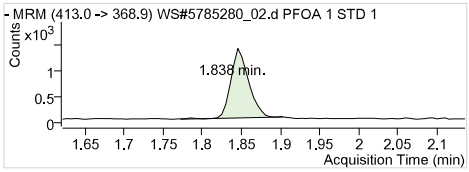


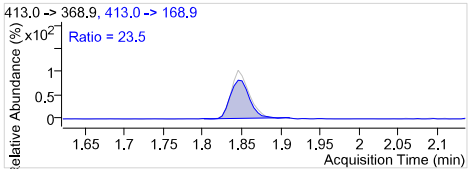
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.663 (1.663)
Calc. conc. 0.86 µg/L
Area ratio: 0.38086
Sample type: Calibration



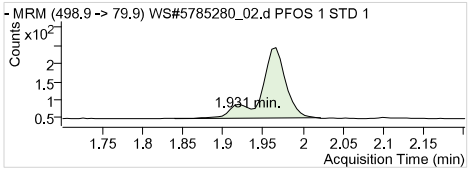


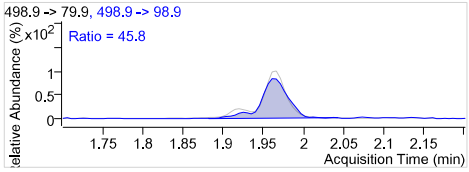
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 1.652 (1.664)
Calc. conc. 0.91 µg/L
Area ratio: 0.31467
Sample type: Calibration



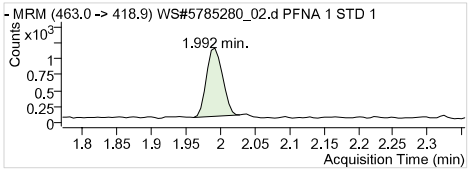


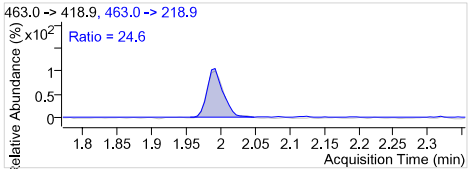
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 1.838 (1.845)
Calc. conc. 0.91 µg/L
Area ratio: 0.34343
Sample type: Calibration



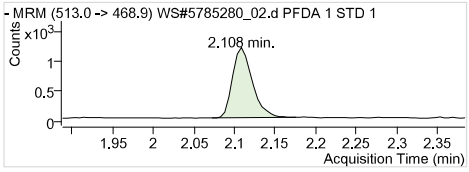


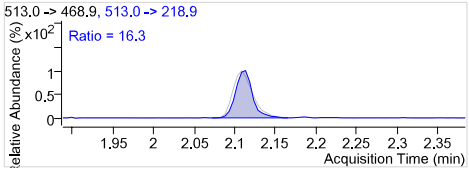
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.931 (1.966)
Calc. conc. 0.91 µg/L
Area ratio: 0.35879
Sample type: Calibration



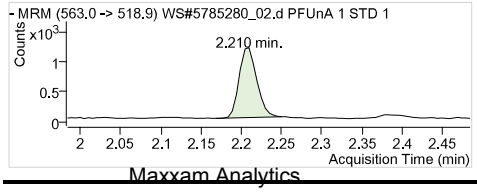


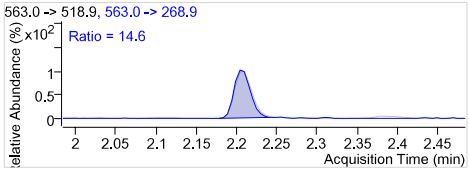
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 1.992 (1.992)
Calc. conc. 0.88 µg/L
Area ratio: 0.29860
Sample type: Calibration



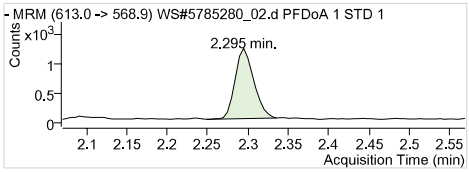


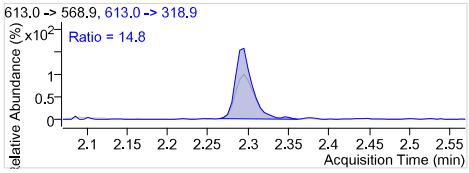
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 2.108 (2.108)
Calc. conc. 0.92 µg/L
Area ratio: 0.44154
Sample type: Calibration



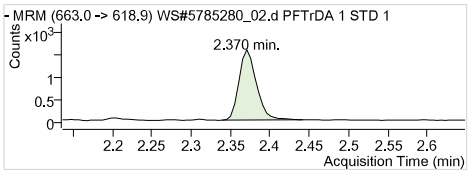


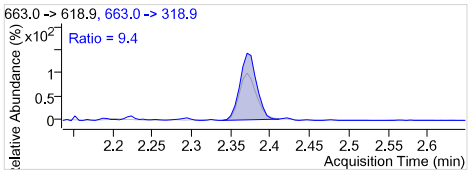
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 2.210 (2.210)
Calc. conc. 0.93 µg/L
Area ratio: 0.36577
Sample type: Calibration



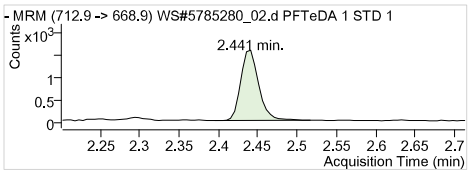


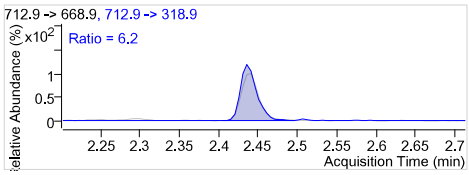
PFDoA 1 613.0 -> 568.9
RT (Exp. RT): 2.295 (2.295)
Calc. conc. 0.85 µg/L
Area ratio: 0.30439
Sample type: Calibration



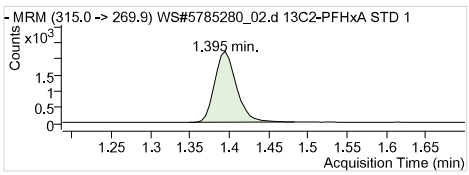


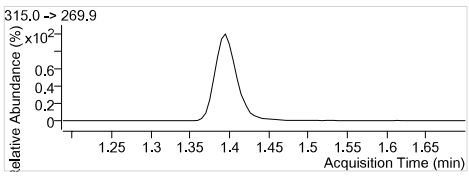
PFTrDA 1 663.0 -> 618.9
RT (Exp. RT): 2.370 (2.370)
Calc. conc. 0.88 µg/L
Area ratio: 0.28177
Sample type: Calibration



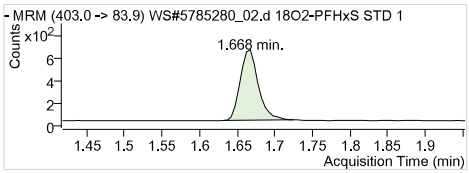


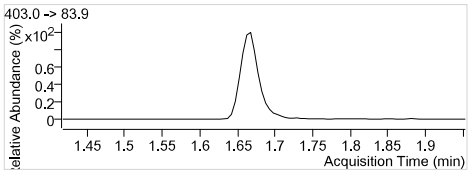
PFTeDA 1 712.9 -> 668.9
RT (Exp. RT): 2.441 (2.441)
Calc. conc. 0.91 µg/L
Area ratio: 0.28867
Sample type: Calibration



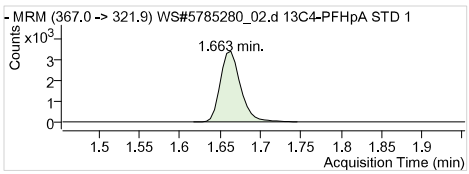


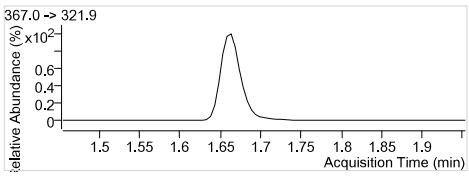
13C2-PFHxA 315.0 -> 269.9
RT (Exp. RT): 1.395 (1.395)
Calc. conc. 101.05 µg/L
Area ratio: 0.23694
Sample type: Calibration



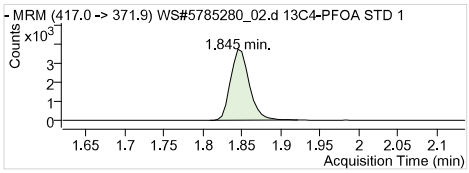


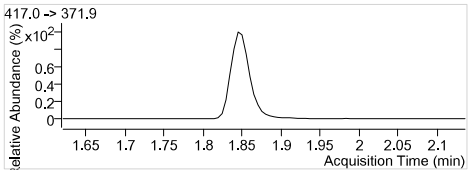
18O2-PFHxS 403.0 -> 83.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 102.68 µg/L
Area ratio: 0.05977
Sample type: Calibration



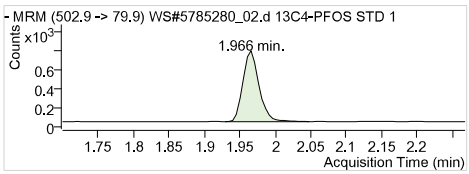


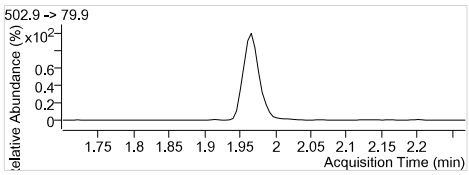
13C4-PFHpA 367.0 -> 321.9
RT (Exp. RT): 1.663 (1.663)
Calc. conc. 100.17 µg/L
Area ratio: 0.33516
Sample type: Calibration



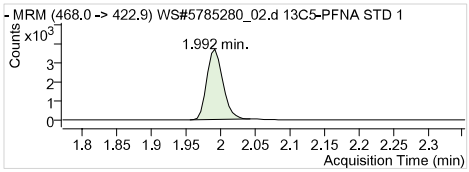


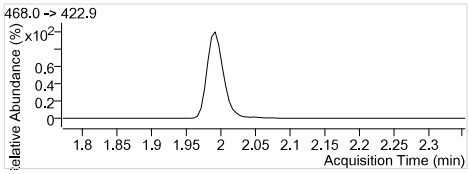
13C4-PFOA 417.0 -> 371.9
RT (Exp. RT): 1.845 (1.845)
Calc. conc. 101.85 µg/L
Area ratio: 0.34627
Sample type: Calibration



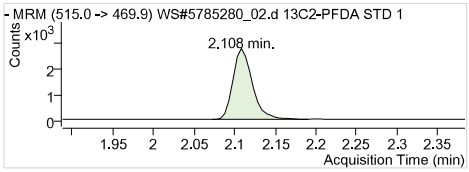


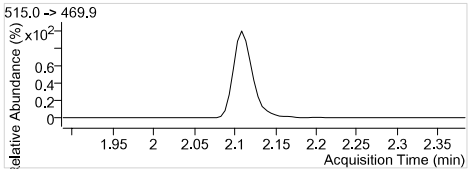
13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.966 (1.966)
Calc. conc. 97.97 µg/L
Area ratio: 0.06610
Sample type: Calibration



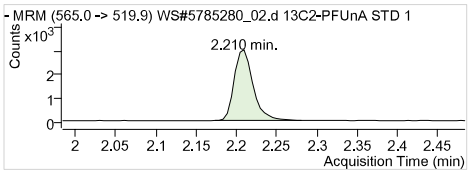


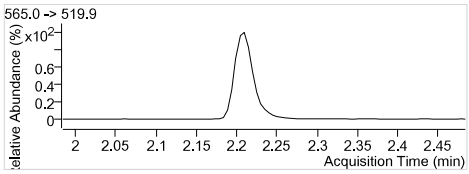
13C5-PFNA 468.0 -> 422.9
RT (Exp. RT): 1.992 (1.992)
Calc. conc. 101.46 µg/L
Area ratio: 0.32933
Sample type: Calibration



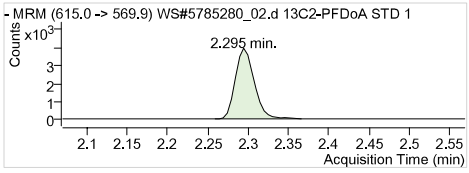


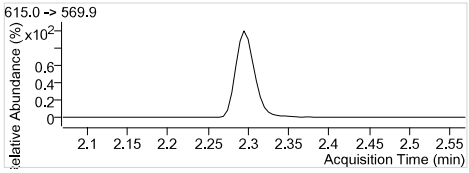
13C2-PFDA	515.0 -> 469.9
RT (Exp. RT):	2.108 (2.108)
Calc. conc.	103.09 µg/L
Area ratio:	0.18543
Sample type:	Calibration



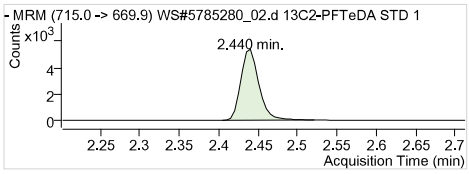


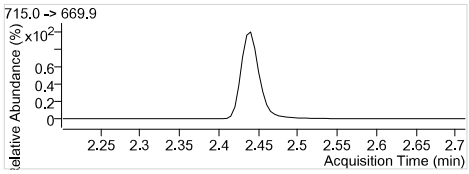
13C2-PFUnA	565.0 -> 519.9
RT (Exp. RT):	2.210 (2.210)
Calc. conc.	98.26 µg/L
Area ratio:	0.19727
Sample type:	Calibration



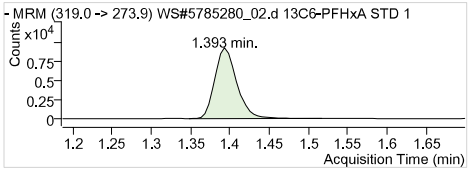


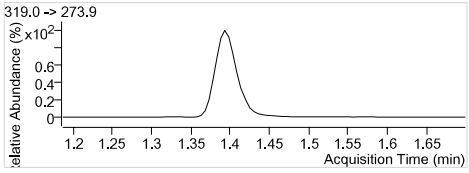
13C2-PFDoA	615.0 -> 569.9
RT (Exp. RT):	2.295 (2.295)
Calc. conc.	98.00 µg/L
Area ratio:	0.26043
Sample type:	Calibration



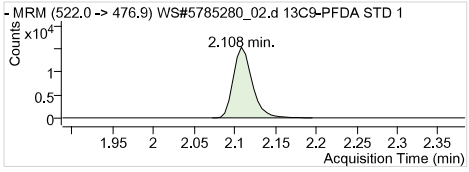


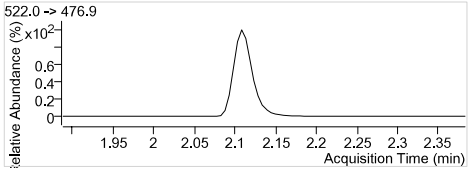
13C2-PFTeDA	715.0 -> 669.9
RT (Exp. RT):	2.440 (2.440)
Calc. conc.	97.27 µg/L
Area ratio:	0.34760
Sample type:	Calibration





13C6-PFHxA	319.0 -> 273.9
RT (Exp. RT):	1.393 (1.393)
Calc. conc.	98.95 µg/L
Area ratio:	0
Sample type:	Calibration





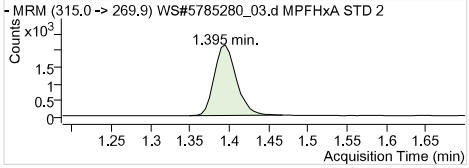
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	2.108 (2.108)
Calc. conc.	99.42 µg/L
Area ratio:	0
Sample type:	Calibration

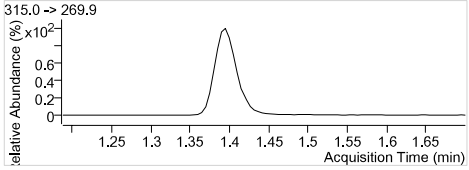
Batch Path T:\LCMS04\PFC\20181017\WS#5785280\QuantResults\PFC_Water_Low_20181017_WS#5785280_EToxics

Sample Name	**STD 2**	**Instrument**	LCMS04
Data File	WS#5785280_03.d	**Operator**	
Sample Type	Cal	**Dilution**	1
Acq. Method	PFC_Water_Low.m	**Position**	P4-A3
Acq. Date	2018/10/18 2:17:48 AM	**Injection Volume**	Per Method
Sample Annotation	-		

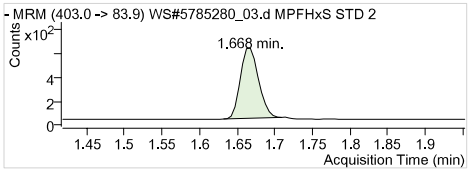
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	4168	1.39	1 µg/L		
MPFHxS	1015	1.67	1 µg/L		
MPFHpA	6114	1.66	1 µg/L		
MPFOA	6173	1.85	1 µg/L		
MPFOS	1161	1.97	1 µg/L		
MPFNA	5733	1.99	1 µg/L		
MPFDA	4365	2.11	1 µg/L		
MPFUnA	5046	2.21	1 µg/L		
MPFDoA	6370	2.29	1 µg/L		
MPFTeDA	8787	2.44	1 µg/L		
13C6-PFHxA IS	18301	1.39	1 µg/L		
13C9-PFDA IS	25413	2.11	1 µg/L		

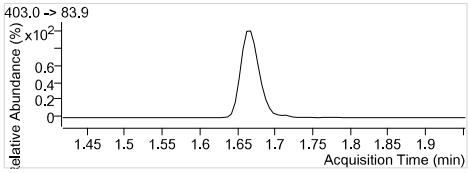
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1	938	1.07	1.70	1.72 µg/L	101.28
PFHxA 1	2702	1.38	1.70	1.71 µg/L	100.72
PFHxS 1	903	1.67	1.70	1.82 µg/L	107.15
PFHpA 1	3770	1.65	1.70	1.67 µg/L	98.01
PFOA 1	4057	1.84	1.70	1.65 µg/L	97.21
PFOS 1	766	1.93	1.70	1.67 µg/L	98.36
PFNA 1	3638	1.99	1.70	1.71 µg/L	100.83
PFDA 1	3766	2.11	1.70	1.66 µg/L	97.80
PFUnA 1	3563	2.21	1.70	1.66 µg/L	97.41
PFDoA 1	4095	2.29	1.70	1.71 µg/L	100.45
PFTrDA 1	5094	2.37	1.70	1.69 µg/L	99.60
PFTeDA 1	5004	2.44	1.70	1.66 µg/L	97.66
13C2-PFHxA	4168	1.39	100.00	97.13 µg/L	97.13
18O2-PFHxS	1015	1.67	100.00	95.29 µg/L	95.29
13C4-PFHpA	6114	1.66	100.00	99.84 µg/L	99.84
13C4-PFOA	6173	1.85	100.00	99.22 µg/L	99.22
13C4-PFOS	1161	1.97	100.00	94.02 µg/L	94.02
13C5-PFNA	5733	1.99	100.00	96.51 µg/L	96.51
13C2-PFDA	4365	2.11	100.00	95.49 µg/L	95.49
13C2-PFUnA	5046	2.21	100.00	98.91 µg/L	98.91
13C2-PFDoA	6370	2.29	100.00	94.33 µg/L	94.33
13C2-PFTeDA	8787	2.44	100.00	96.75 µg/L	96.75
13C6-PFHxA	18301	1.39	100.00	101.53 µg/L	101.53
13C9-PFDA	25413	2.11	100.00	102.76 µg/L	102.76



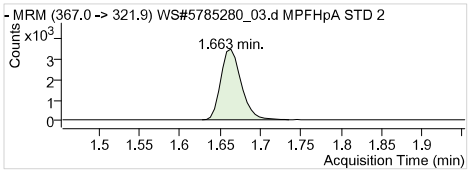


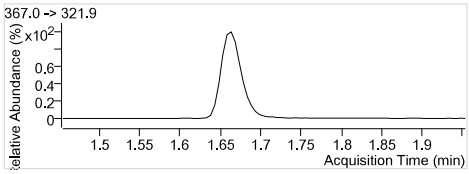
MPFHxA Internal Standard
RT (Exp. RT): 1.395 (1.395)
Concentration: 1 µg/L
Sample type: Calibration



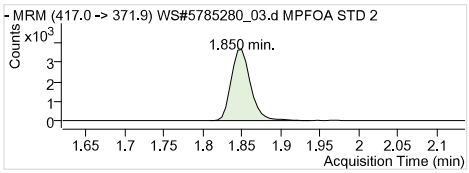


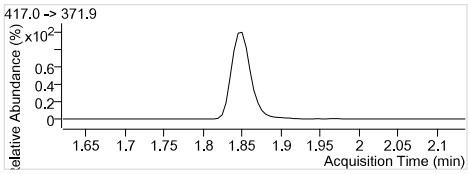
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Calibration



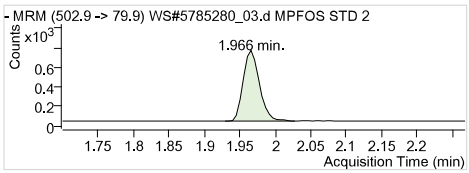


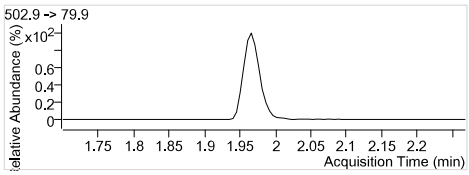
MPFHpA Internal Standard
RT (Exp. RT): 1.663 (1.663)
Concentration: 1 µg/L
Sample type: Calibration



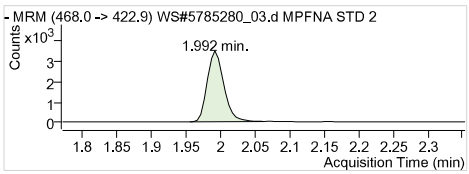


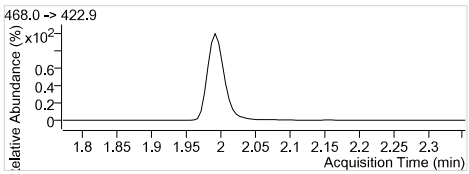
MPFOA Internal Standard
RT (Exp. RT): 1.850 (1.845)
Concentration: 1 µg/L
Sample type: Calibration



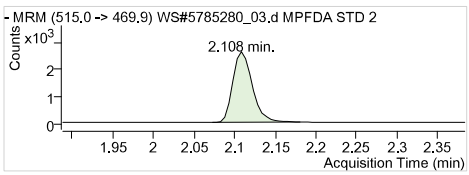


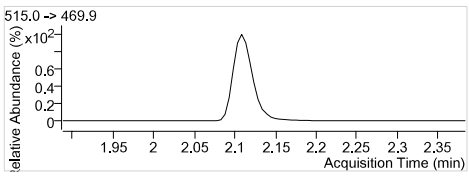
MPFOS Internal Standard
RT (Exp. RT): 1.966 (1.966)
Concentration: 1 µg/L
Sample type: Calibration



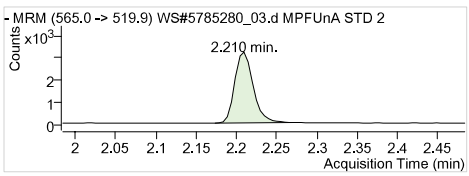


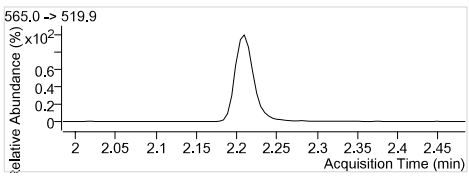
MPFNA Internal Standard
RT (Exp. RT): 1.992 (1.992)
Concentration: 1 µg/L
Sample type: Calibration



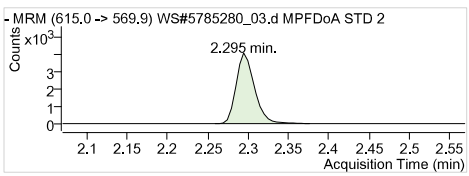


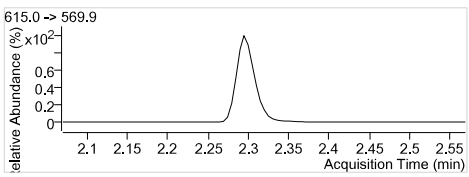
MPFDA Internal Standard
RT (Exp. RT): 2.108 (2.108)
Concentration: 1 µg/L
Sample type: Calibration



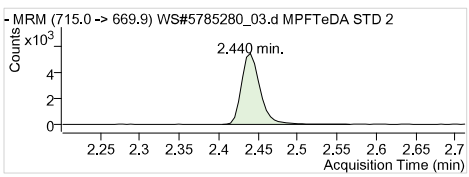


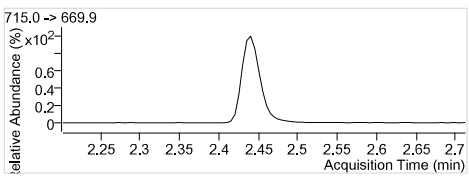
MPFUnA Internal Standard
RT (Exp. RT): 2.210 (2.210)
Concentration: 1 µg/L
Sample type: Calibration



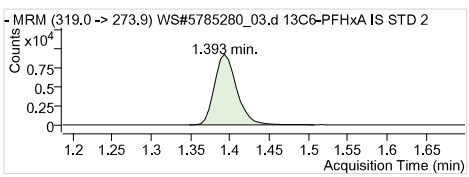


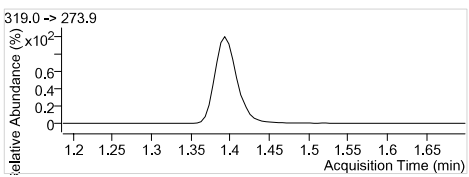
MPFDoA Internal Standard
RT (Exp. RT): 2.295 (2.295)
Concentration: 1 µg/L
Sample type: Calibration



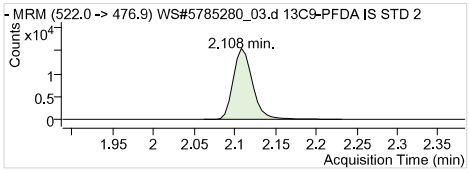


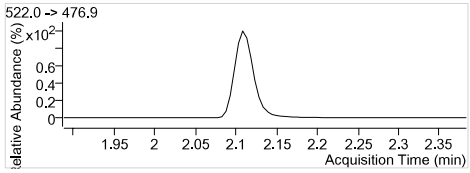
MPFTeDA Internal Standard
RT (Exp. RT): 2.440 (2.440)
Concentration: 1 µg/L
Sample type: Calibration



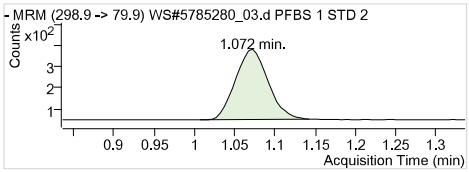


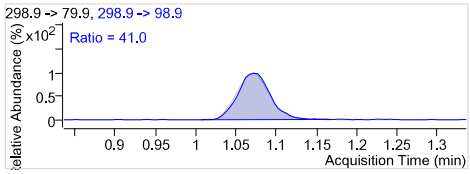
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.393 (1.393)
Concentration: 1 µg/L
Sample type: Calibration



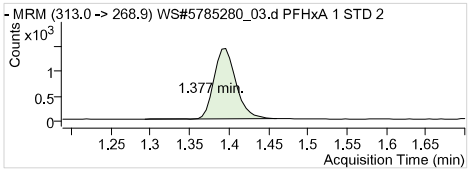


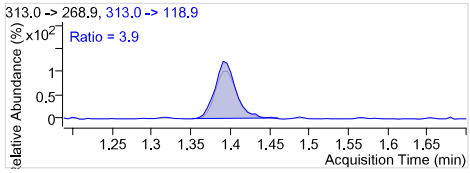
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.108 (2.108)
Concentration: 1 µg/L
Sample type: Calibration



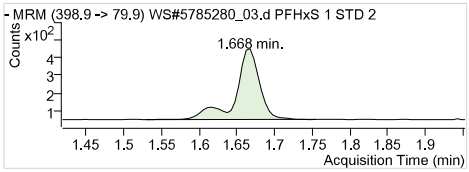


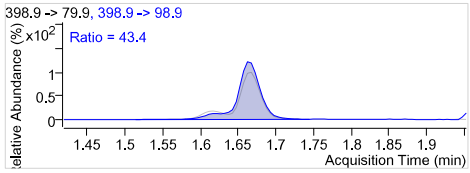
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 1.072 (1.067)
Calc. conc. 1.72 µg/L
Area ratio: 0.92414
Sample type: Calibration



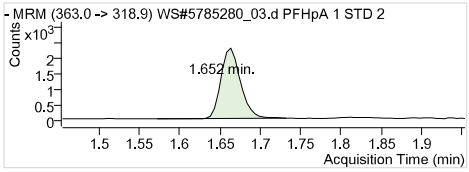


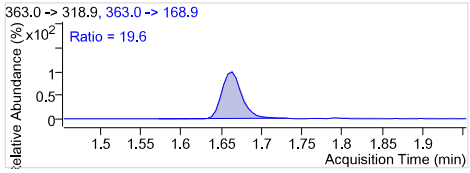
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 1.377 (1.391)
Calc. conc. 1.71 µg/L
Area ratio: 0.64816
Sample type: Calibration



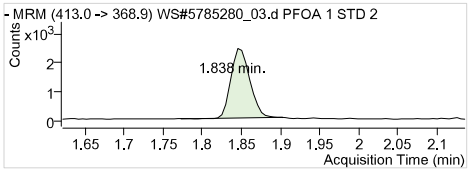


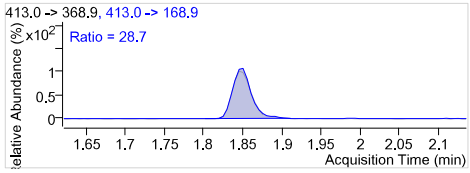
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.663)
Calc. conc. 1.82 µg/L
Area ratio: 0.88966
Sample type: Calibration



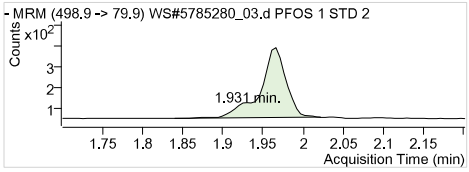


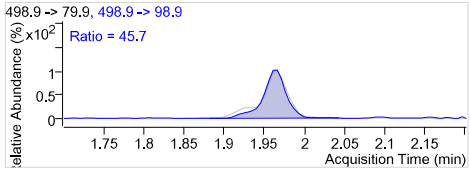
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 1.652 (1.664)
Calc. conc. 1.67 µg/L
Area ratio: 0.61662
Sample type: Calibration



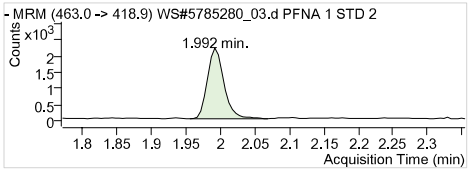


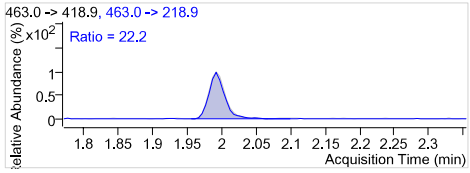
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 1.838 (1.845)
Calc. conc. 1.65 µg/L
Area ratio: 0.65722
Sample type: Calibration



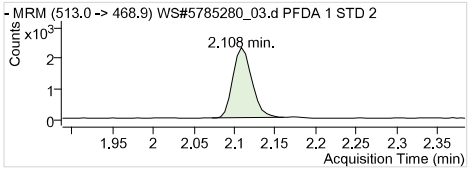


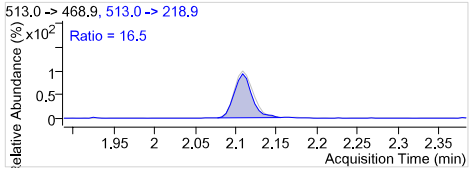
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.931 (1.966)
Calc. conc. 1.67 µg/L
Area ratio: 0.65936
Sample type: Calibration



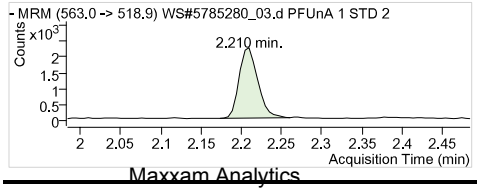


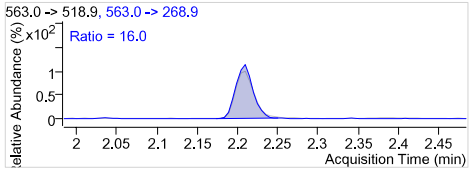
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 1.992 (1.992)
Calc. conc. 1.71 µg/L
Area ratio: 0.63457
Sample type: Calibration



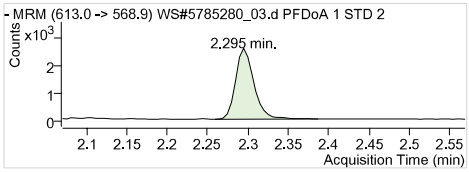


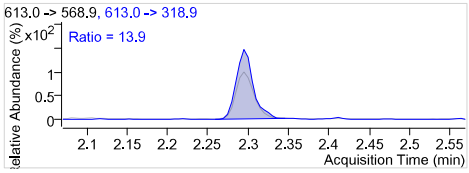
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 2.108 (2.108)
Calc. conc. 1.66 µg/L
Area ratio: 0.86277
Sample type: Calibration



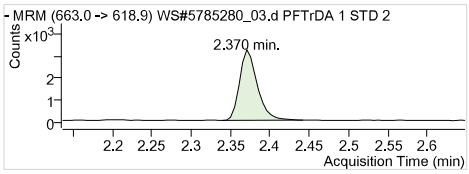


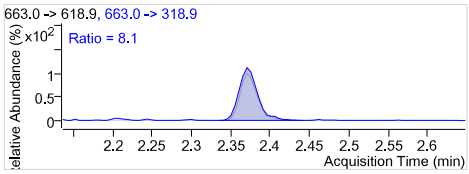
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 2.210 (2.210)
Calc. conc. 1.66 µg/L
Area ratio: 0.70610
Sample type: Calibration



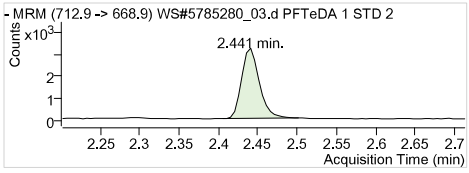


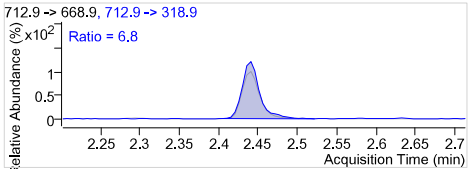
PFDoA 1 613.0 -> 568.9
RT (Exp. RT): 2.295 (2.295)
Calc. conc. 1.71 µg/L
Area ratio: 0.64286
Sample type: Calibration



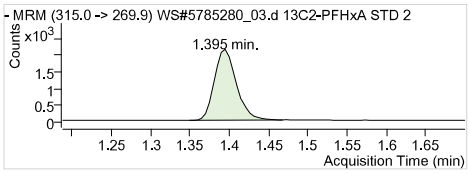


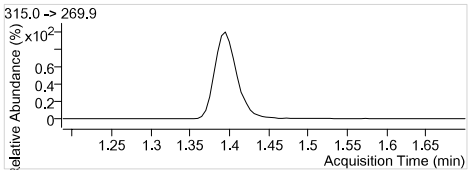
PFTrDA 1 663.0 -> 618.9
RT (Exp. RT): 2.370 (2.370)
Calc. conc. 1.69 µg/L
Area ratio: 0.57972
Sample type: Calibration



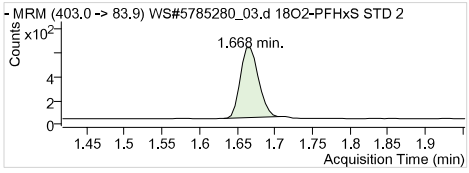


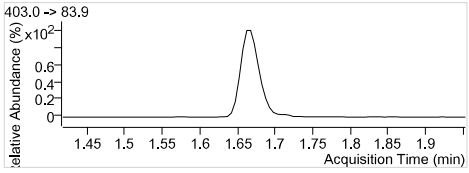
PFTeDA 1 712.9 -> 668.9
RT (Exp. RT): 2.441 (2.441)
Calc. conc. 1.66 µg/L
Area ratio: 0.56948
Sample type: Calibration



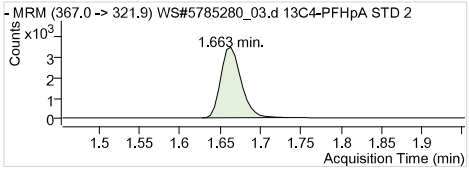


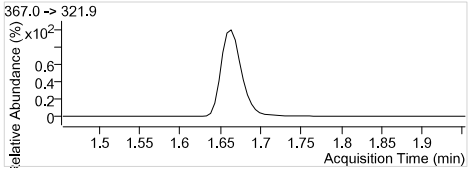
13C2-PFHxA 315.0 -> 269.9
RT (Exp. RT): 1.395 (1.395)
Calc. conc. 97.13 µg/L
Area ratio: 0.22775
Sample type: Calibration



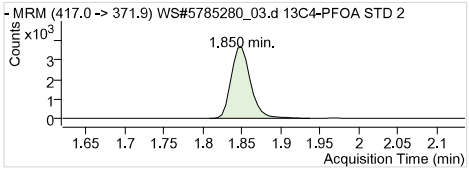


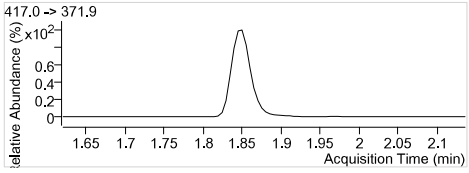
18O2-PFHxS 403.0 -> 83.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 95.29 µg/L
Area ratio: 0.05546
Sample type: Calibration



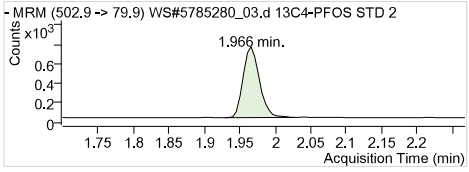


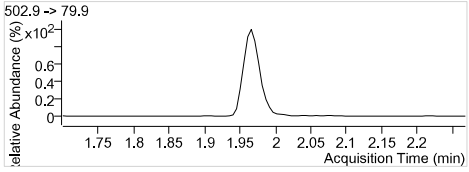
13C4-PFHpA 367.0 -> 321.9
RT (Exp. RT): 1.663 (1.663)
Calc. conc. 99.84 µg/L
Area ratio: 0.33408
Sample type: Calibration



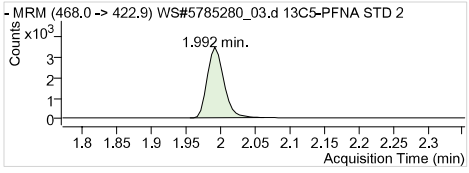


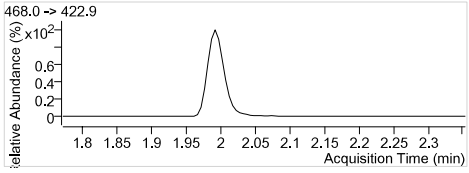
13C4-PFOA 417.0 -> 371.9
RT (Exp. RT): 1.850 (1.845)
Calc. conc. 99.22 µg/L
Area ratio: 0.33730
Sample type: Calibration



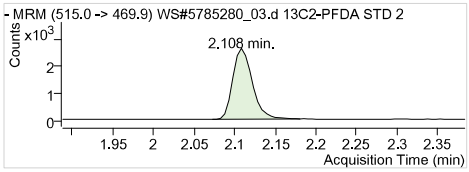


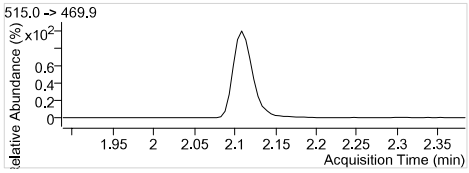
13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.966 (1.966)
Calc. conc. 94.02 µg/L
Area ratio: 0.06344
Sample type: Calibration



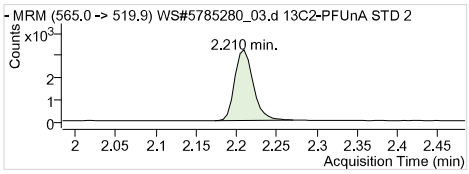


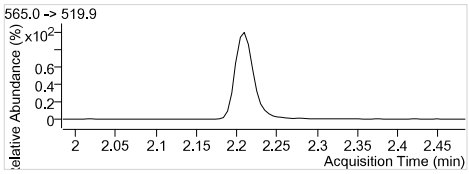
13C5-PFNA 468.0 -> 422.9
RT (Exp. RT): 1.992 (1.992)
Calc. conc. 96.51 µg/L
Area ratio: 0.31326
Sample type: Calibration



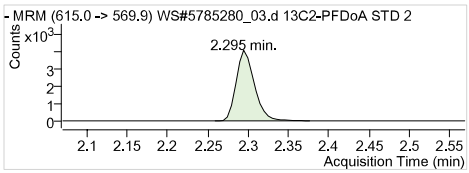


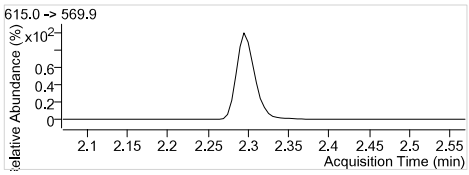
13C2-PFDA	515.0 -> 469.9
RT (Exp. RT):	2.108 (2.108)
Calc. conc.	95.49 µg/L
Area ratio:	0.17176
Sample type:	Calibration



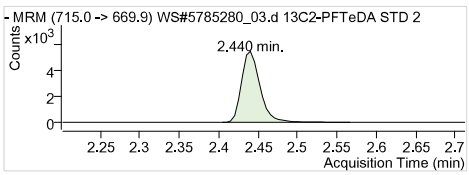


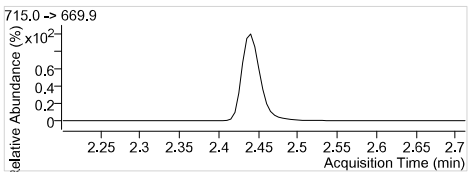
13C2-PFUnA	565.0 -> 519.9
RT (Exp. RT):	2.210 (2.210)
Calc. conc.	98.91 µg/L
Area ratio:	0.19856
Sample type:	Calibration



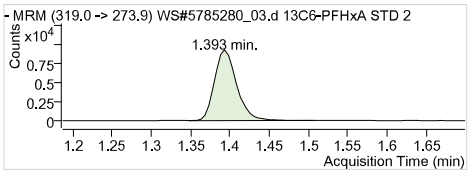


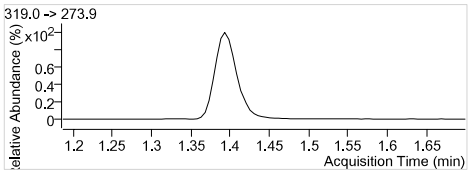
13C2-PFDoA	615.0 -> 569.9
RT (Exp. RT):	2.295 (2.295)
Calc. conc.	94.33 µg/L
Area ratio:	0.25066
Sample type:	Calibration



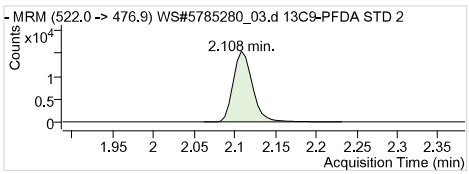


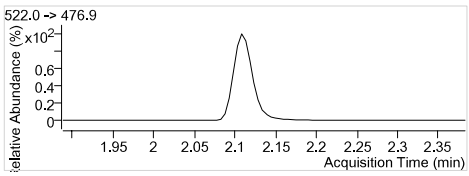
13C2-PFTeDA	715.0 -> 669.9
RT (Exp. RT):	2.440 (2.440)
Calc. conc.	96.75 µg/L
Area ratio:	0.34577
Sample type:	Calibration





13C6-PFHxA	319.0 -> 273.9
RT (Exp. RT):	1.393 (1.393)
Calc. conc.	101.53 µg/L
Area ratio:	0
Sample type:	Calibration





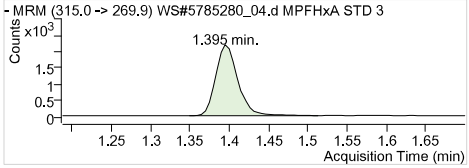
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	2.108 (2.108)
Calc. conc.	102.76 µg/L
Area ratio:	0
Sample type:	Calibration

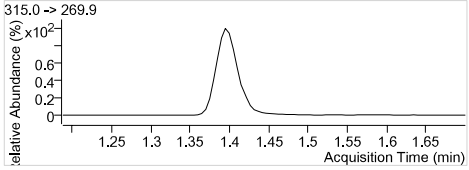
Batch Path	T:\LCMS04\PFC\20181017\WS#5785280\QuantResults\PFC_Water_Low_20181017_WS#5785280_EToxics

Sample Name	**STD 3**	**Instrument**	LCMS04
Data File	WS#5785280_04.d	**Operator**	
Sample Type	Cal	**Dilution**	1
Acq. Method	PFC_Water_Low.m	**Position**	P4-A4
Acq. Date	2018/10/18 2:22:42 AM	**Injection Volume**	Per Method
Sample Annotation	-		

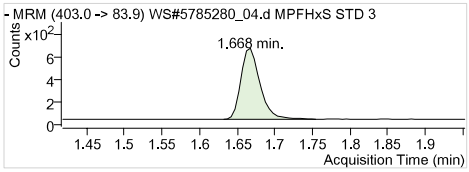
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	4213	1.39	1 µg/L		
MPFHxS	1119	1.67	1 µg/L		
MPFHpA	6060	1.66	1 µg/L		
MPFOA	6189	1.85	1 µg/L		
MPFOS	1220	1.97	1 µg/L		
MPFNA	5830	1.99	1 µg/L		
MPFDA	4483	2.11	1 µg/L		
MPFUnA	5064	2.21	1 µg/L		
MPFDoA	6737	2.29	1 µg/L		
MPFTeDA	9087	2.44	1 µg/L		
13C6-PFHxA IS	17706	1.39	1 µg/L		
13C9-PFDA IS	24647	2.11	1 µg/L		

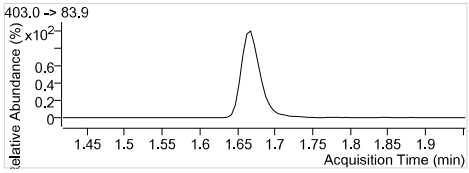
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1	2913	1.07	5.00	4.52 µg/L	90.50
PFHxA 1	7952	1.38	5.00	4.76 µg/L	95.23
PFHxS 1	2606	1.67	5.00	4.54 µg/L	90.88
PFHpA 1	10986	1.65	5.00	4.67 µg/L	93.37
PFOA 1	11875	1.84	5.00	4.66 µg/L	93.11
PFOS 1	2300	1.93	5.00	4.78 µg/L	95.61
PFNA 1	10927	1.99	5.00	4.80 µg/L	95.92
PFDA 1	11728	2.11	5.00	4.77 µg/L	95.38
PFUnA 1	10422	2.21	5.00	4.54 µg/L	90.84
PFDoA 1	12437	2.29	5.00	4.76 µg/L	95.29
PFTrDA 1	15091	2.37	5.00	4.64 µg/L	92.88
PFTeDA 1	15322	2.44	5.00	4.65 µg/L	92.93
13C2-PFHxA	4213	1.39	100.00	101.48 µg/L	101.48
18O2-PFHxS	1119	1.67	100.00	108.58 µg/L	108.58
13C4-PFHpA	6060	1.66	100.00	102.29 µg/L	102.29
13C4-PFOA	6189	1.85	100.00	102.82 µg/L	102.82
13C4-PFOS	1220	1.97	100.00	102.12 µg/L	102.12
13C5-PFNA	5830	1.99	100.00	101.44 µg/L	101.44
13C2-PFDA	4483	2.11	100.00	101.12 µg/L	101.12
13C2-PFUnA	5064	2.21	100.00	102.35 µg/L	102.35
13C2-PFDoA	6737	2.29	100.00	102.86 µg/L	102.86
13C2-PFTeDA	9087	2.44	100.00	103.17 µg/L	103.17
13C6-PFHxA	17706	1.39	100.00	98.23 µg/L	98.23
13C9-PFDA	24647	2.11	100.00	99.66 µg/L	99.66



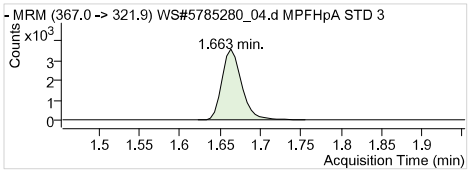


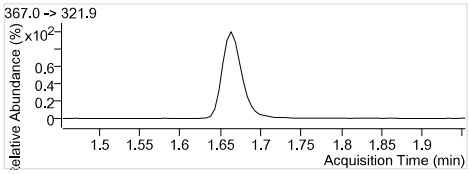
MPFHxA	Internal Standard
RT (Exp. RT):	1.395 (1.395)
Concentration:	1 µg/L
Sample type:	Calibration



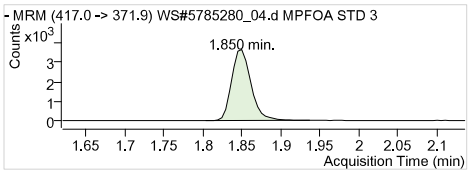


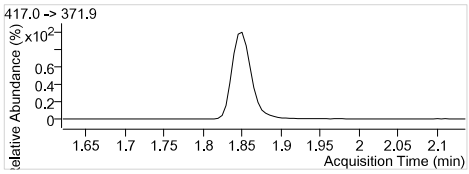
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Calibration



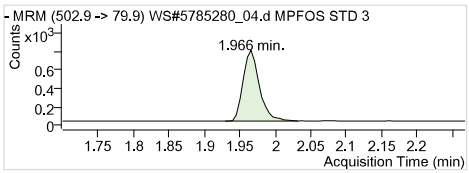


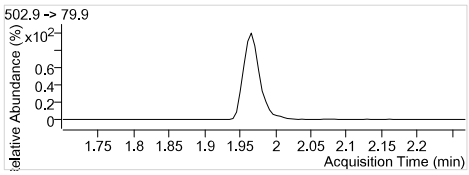
MPFHpA Internal Standard
RT (Exp. RT): 1.663 (1.663)
Concentration: 1 µg/L
Sample type: Calibration



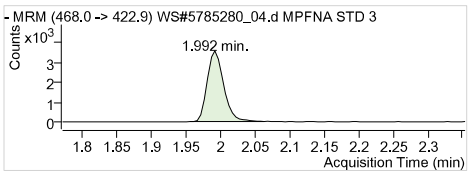


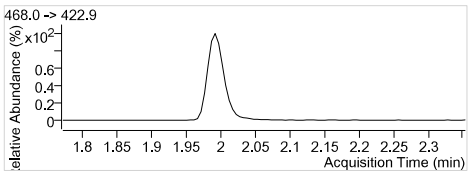
MPFOA Internal Standard
RT (Exp. RT): 1.850 (1.845)
Concentration: 1 µg/L
Sample type: Calibration



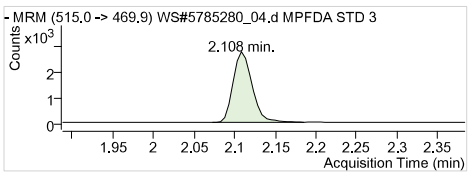


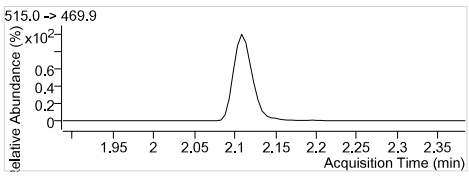
MPFOS Internal Standard
RT (Exp. RT): 1.966 (1.966)
Concentration: 1 µg/L
Sample type: Calibration



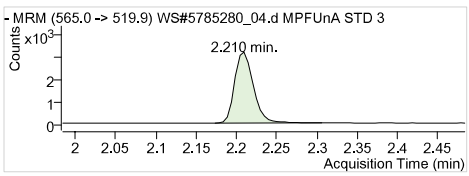


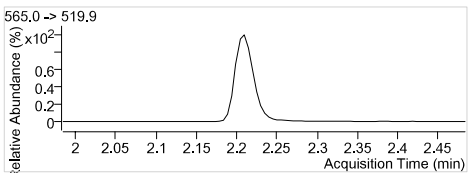
MPFNA Internal Standard
RT (Exp. RT): 1.992 (1.992)
Concentration: 1 µg/L
Sample type: Calibration



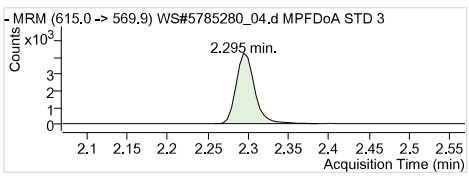


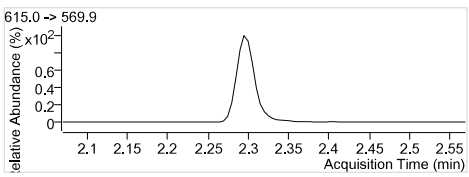
MPFDA Internal Standard
RT (Exp. RT): 2.108 (2.108)
Concentration: 1 µg/L
Sample type: Calibration



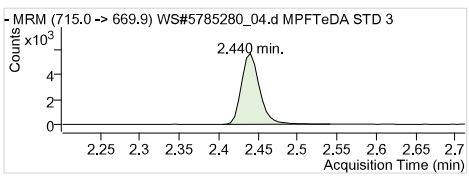


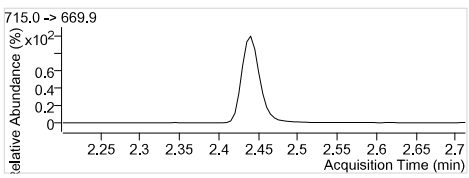
MPFUnA Internal Standard
RT (Exp. RT): 2.210 (2.210)
Concentration: 1 µg/L
Sample type: Calibration



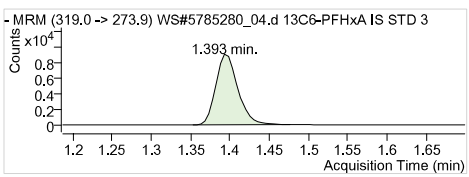


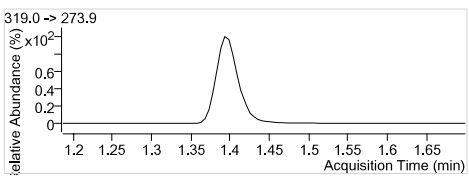
MPFDoA Internal Standard
RT (Exp. RT): 2.295 (2.295)
Concentration: 1 µg/L
Sample type: Calibration



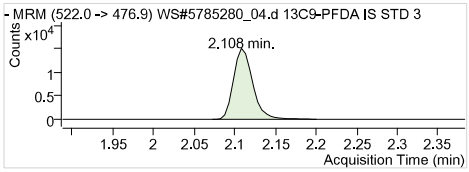


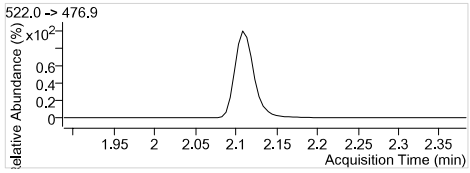
MPFTeDA Internal Standard
RT (Exp. RT): 2.440 (2.440)
Concentration: 1 µg/L
Sample type: Calibration



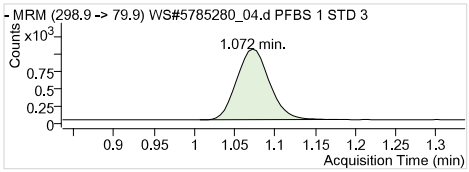


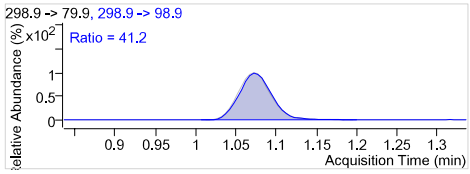
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.393 (1.393)
Concentration: 1 µg/L
Sample type: Calibration



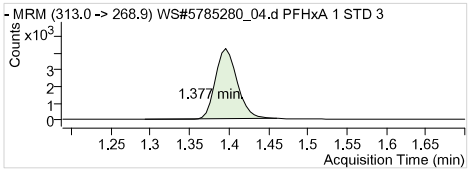


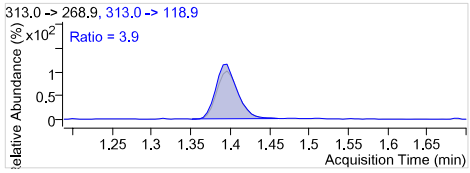
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.108 (2.108)
Concentration: 1 µg/L
Sample type: Calibration



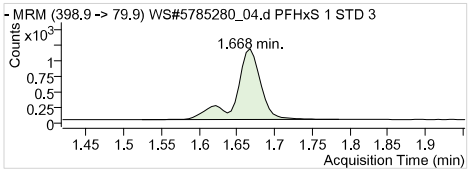


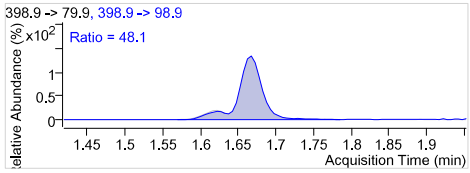
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 1.072 (1.067)
Calc. conc. 4.52 µg/L
Area ratio: 2.60322
Sample type: Calibration



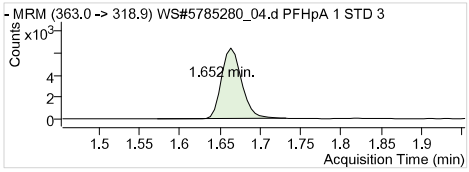


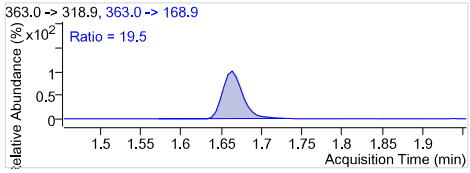
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 1.377 (1.391)
Calc. conc. 4.76 µg/L
Area ratio: 1.88744
Sample type: Calibration



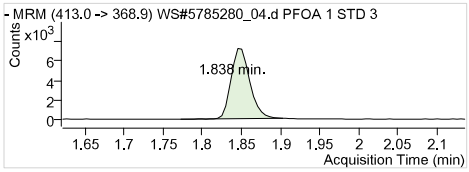


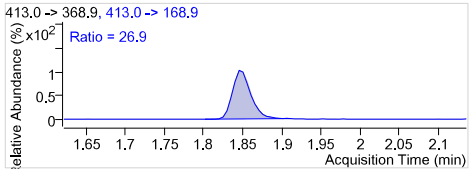
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.663)
Calc. conc. 4.54 µg/L
Area ratio: 2.32887
Sample type: Calibration



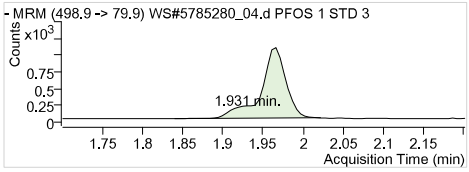


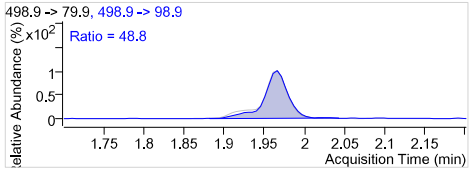
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 1.652 (1.664)
Calc. conc. 4.67 µg/L
Area ratio: 1.81285
Sample type: Calibration



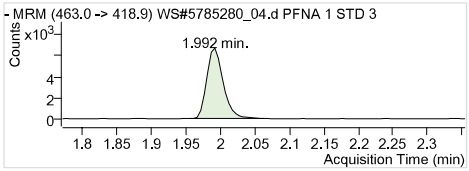


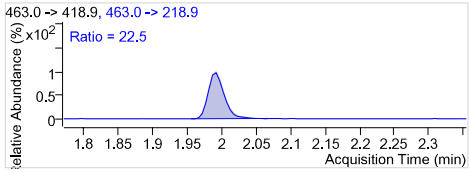
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 1.838 (1.845)
Calc. conc. 4.66 µg/L
Area ratio: 1.91867
Sample type: Calibration



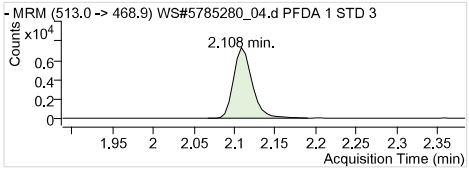


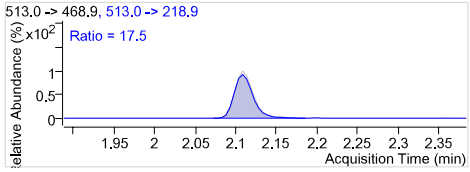
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.931 (1.966)
Calc. conc. 4.78 µg/L
Area ratio: 1.88537
Sample type: Calibration



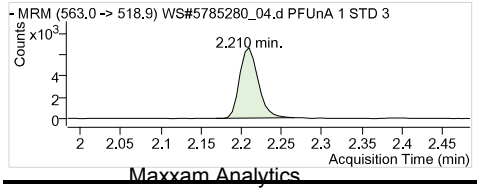


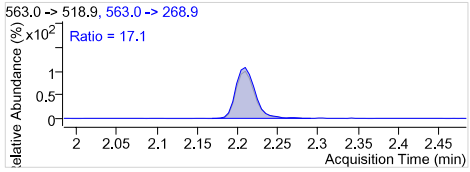
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 1.992 (1.992)
Calc. conc. 4.80 µg/L
Area ratio: 1.87427
Sample type: Calibration



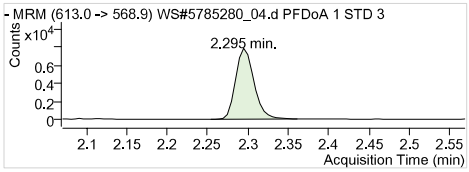


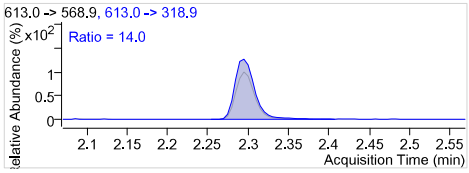
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 2.108 (2.108)
Calc. conc. 4.77 µg/L
Area ratio: 2.61611
Sample type: Calibration



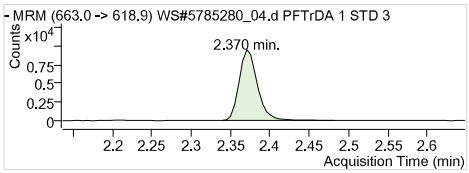


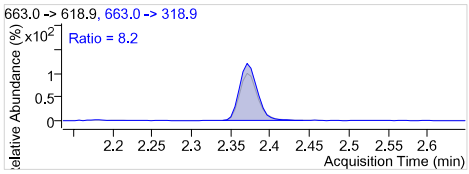
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 2.210 (2.210)
Calc. conc. 4.54 µg/L
Area ratio: 2.05806
Sample type: Calibration



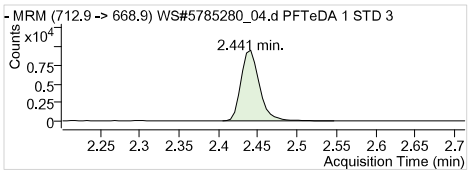


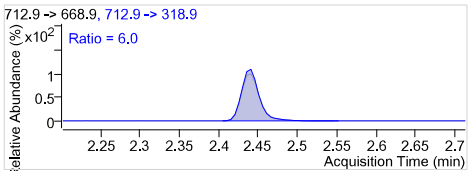
PFDoA 1	613.0 -> 568.9
RT (Exp. RT):	2.295 (2.295)
Calc. conc.	4.76 µg/L
Area ratio:	1.84607
Sample type:	Calibration



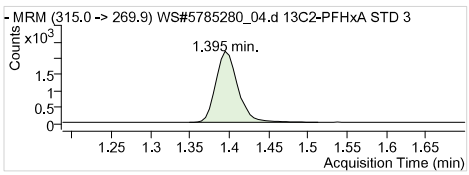


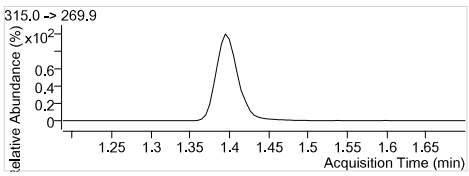
PFTrDA 1	663.0 -> 618.9
RT (Exp. RT):	2.370 (2.370)
Calc. conc.	4.64 µg/L
Area ratio:	1.66072
Sample type:	Calibration



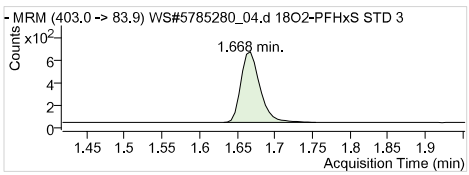


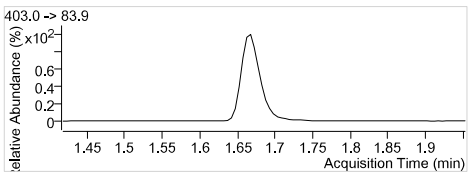
PFTeDA 1	712.9 -> 668.9
RT (Exp. RT):	2.441 (2.441)
Calc. conc.	4.65 µg/L
Area ratio:	1.68615
Sample type:	Calibration



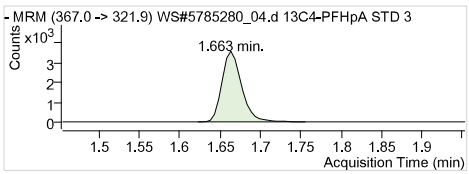


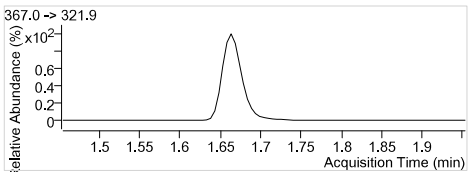
13C2-PFHxA	315.0 -> 269.9
RT (Exp. RT):	1.395 (1.395)
Calc. conc.	101.48 µg/L
Area ratio:	0.23794
Sample type:	Calibration



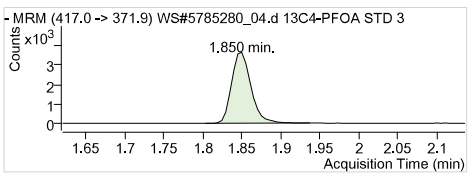


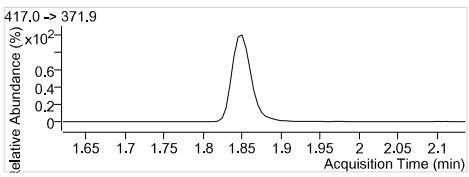
18O2-PFHxS	403.0 -> 83.9
RT (Exp. RT):	1.668 (1.668)
Calc. conc.	108.58 µg/L
Area ratio:	0.06320
Sample type:	Calibration



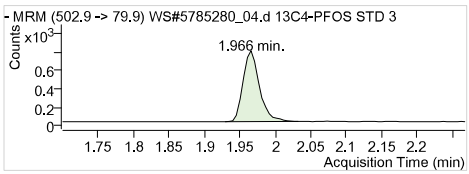


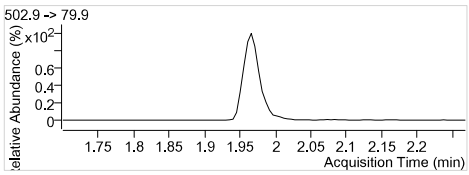
13C4-PFHpA	367.0 -> 321.9
RT (Exp. RT):	1.663 (1.663)
Calc. conc.	102.29 µg/L
Area ratio:	0.34226
Sample type:	Calibration



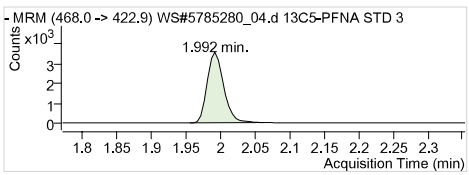


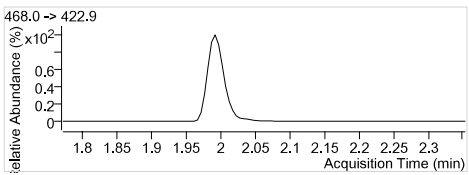
13C4-PFOA	417.0 -> 371.9
RT (Exp. RT):	1.850 (1.845)
Calc. conc.	102.82 µg/L
Area ratio:	0.34954
Sample type:	Calibration



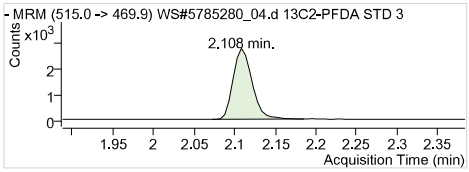


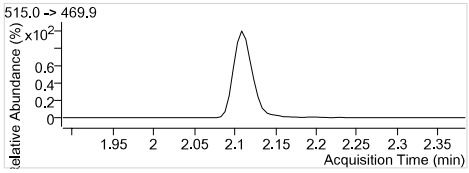
13C4-PFOS	502.9 -> 79.9
RT (Exp. RT):	1.966 (1.966)
Calc. conc.	102.12 µg/L
Area ratio:	0.06890
Sample type:	Calibration



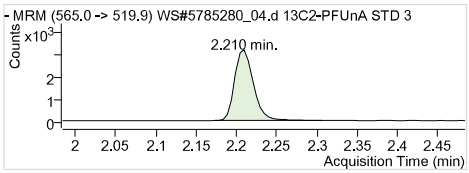


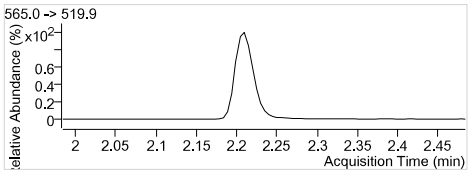
13C5-PFNA	468.0 -> 422.9
RT (Exp. RT):	1.992 (1.992)
Calc. conc.	101.44 µg/L
Area ratio:	0.32927
Sample type:	Calibration



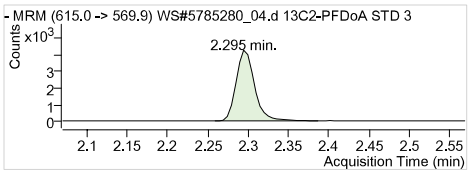


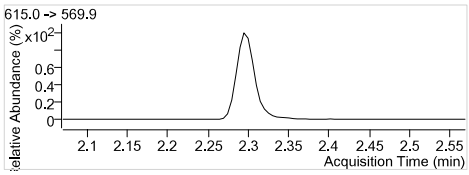
13C2-PFDA	515.0 -> 469.9
RT (Exp. RT):	2.108 (2.108)
Calc. conc.	101.12 µg/L
Area ratio:	0.18189
Sample type:	Calibration



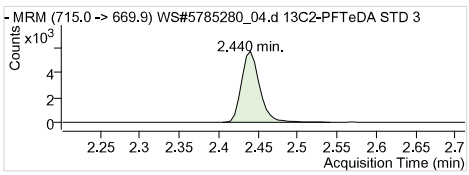


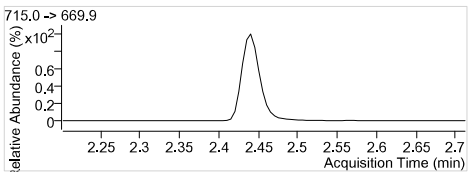
13C2-PFUnA	565.0 -> 519.9
RT (Exp. RT):	2.210 (2.210)
Calc. conc.	102.35 µg/L
Area ratio:	0.20546
Sample type:	Calibration



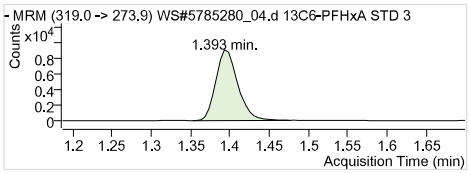


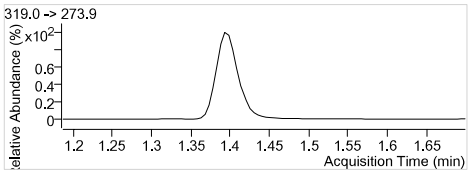
13C2-PFDoA	615.0 -> 569.9
RT (Exp. RT):	2.295 (2.295)
Calc. conc.	102.86 µg/L
Area ratio:	0.27334
Sample type:	Calibration



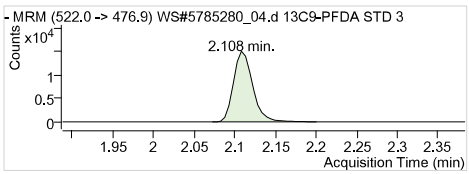


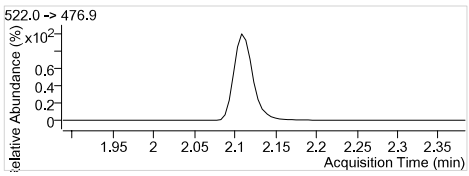
13C2-PFTeDA	715.0 -> 669.9
RT (Exp. RT):	2.440 (2.440)
Calc. conc.	103.17 µg/L
Area ratio:	0.36869
Sample type:	Calibration





13C6-PFHxA	319.0 -> 273.9
RT (Exp. RT):	1.393 (1.393)
Calc. conc.	98.23 µg/L
Area ratio:	0
Sample type:	Calibration





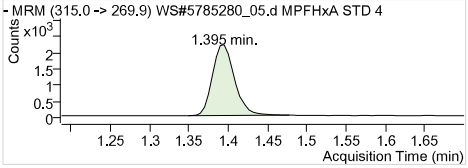
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	2.108 (2.108)
Calc. conc.	99.66 µg/L
Area ratio:	0
Sample type:	Calibration

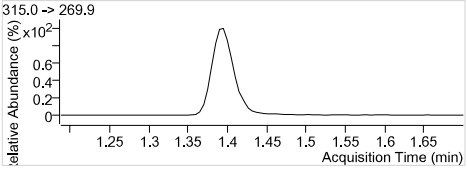
Batch Path	T:\LCMS04\PFC\20181017\WS#5785280\QuantResults\PFC_Water_Low_20181017_WS#5785280_EToxics

Sample Name	**STD 4**	**Instrument**	LCMS04
Data File	WS#5785280_05.d	**Operator**	
Sample Type	Cal	**Dilution**	1
Acq. Method	PFC_Water_Low.m	**Position**	P4-A5
Acq. Date	2018/10/18 2:27:37 AM	**Injection Volume**	Per Method
Sample Annotation	-		

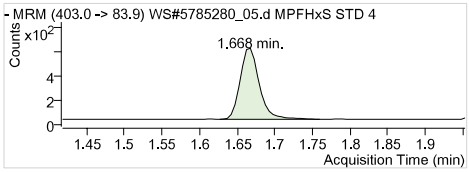
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	4335	1.39	1 µg/L		
MPFHxS	1043	1.67	1 µg/L		
MPFHpA	6192	1.66	1 µg/L		
MPFOA	6297	1.85	1 µg/L		
MPFOS	1324	1.97	1 µg/L		
MPFNA	6175	1.99	1 µg/L		
MPFDA	4746	2.11	1 µg/L		
MPFUnA	5059	2.21	1 µg/L		
MPFDoA	6743	2.29	1 µg/L		
MPFTeDA	9164	2.44	1 µg/L		
13C6-PFHxA IS	18367	1.39	1 µg/L		
13C9-PFDA IS	25342	2.11	1 µg/L		

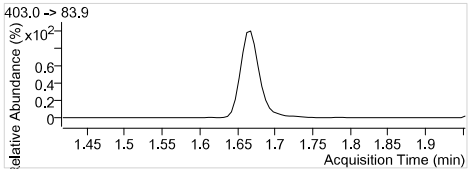
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1	7575	1.07	12.50	12.30 µg/L	98.43
PFHxA 1	21433	1.38	12.50	12.28 µg/L	98.27
PFHxS 1	6602	1.66	12.50	12.11 µg/L	96.90
PFHpA 1	29543	1.65	12.50	12.09 µg/L	96.75
PFOA 1	32070	1.84	12.50	12.21 µg/L	97.69
PFOS 1	5945	1.93	12.50	11.38 µg/L	91.08
PFNA 1	29629	1.99	12.50	12.07 µg/L	96.52
PFDA 1	30316	2.11	12.50	11.45 µg/L	91.61
PFUnA 1	28456	2.21	12.50	12.16 µg/L	97.25
PFDoA 1	32968	2.29	12.50	12.50 µg/L	99.97
PFTrDA 1	41157	2.37	12.50	12.37 µg/L	98.97
PFTeDA 1	41052	2.44	12.50	12.12 µg/L	96.94
13C2-PFHxA	4335	1.39	100.00	100.66 µg/L	100.66
18O2-PFHxS	1043	1.67	100.00	97.56 µg/L	97.56
13C4-PFHpA	6192	1.66	100.00	100.76 µg/L	100.76
13C4-PFOA	6297	1.85	100.00	100.85 µg/L	100.85
13C4-PFOS	1324	1.97	100.00	106.83 µg/L	106.83
13C5-PFNA	6175	1.99	100.00	103.58 µg/L	103.58
13C2-PFDA	4746	2.11	100.00	104.12 µg/L	104.12
13C2-PFUnA	5059	2.21	100.00	99.44 µg/L	99.44
13C2-PFDoA	6743	2.29	100.00	100.13 µg/L	100.13
13C2-PFTeDA	9164	2.44	100.00	101.19 µg/L	101.19
13C6-PFHxA	18367	1.39	100.00	101.90 µg/L	101.90
13C9-PFDA	25342	2.11	100.00	102.47 µg/L	102.47



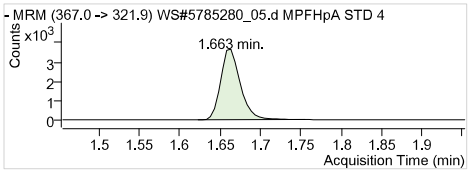


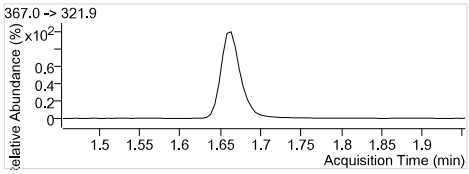
MPFHxA	Internal Standard
RT (Exp. RT):	1.395 (1.395)
Concentration:	1 µg/L
Sample type:	Calibration



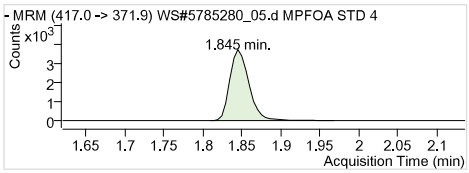


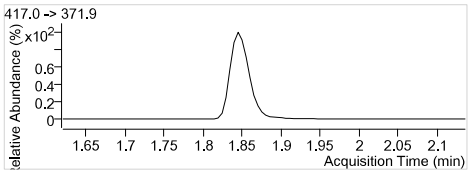
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Calibration



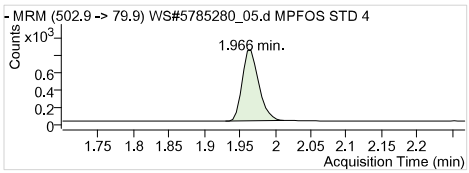


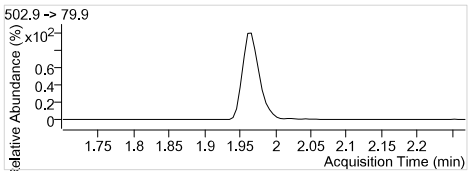
MPFHpA Internal Standard
RT (Exp. RT): 1.663 (1.663)
Concentration: 1 µg/L
Sample type: Calibration



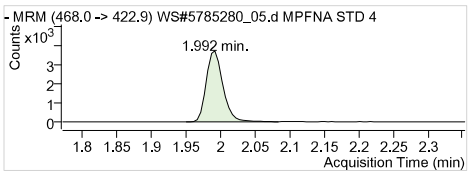


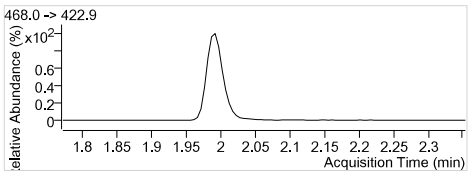
MPFOA Internal Standard
RT (Exp. RT): 1.845 (1.845)
Concentration: 1 µg/L
Sample type: Calibration



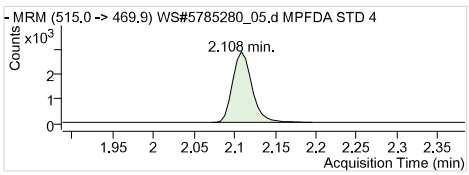


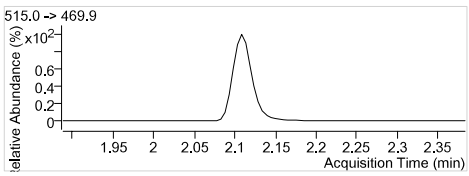
MPFOS Internal Standard
RT (Exp. RT): 1.966 (1.966)
Concentration: 1 µg/L
Sample type: Calibration



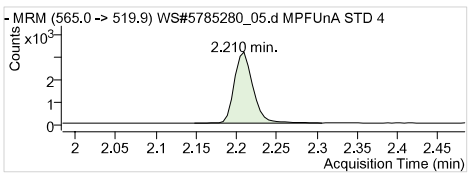


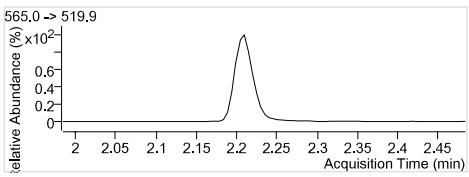
MPFNA Internal Standard
RT (Exp. RT): 1.992 (1.992)
Concentration: 1 µg/L
Sample type: Calibration



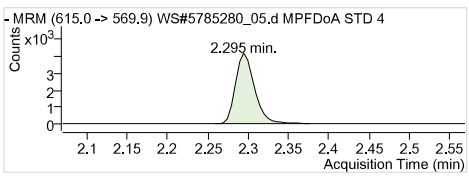


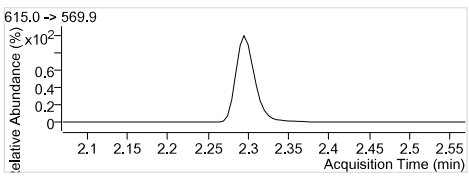
MPFDA Internal Standard
RT (Exp. RT): 2.108 (2.108)
Concentration: 1 µg/L
Sample type: Calibration



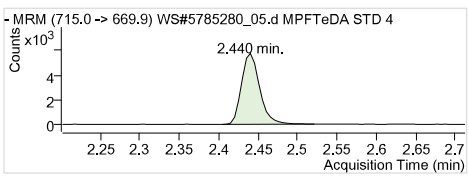


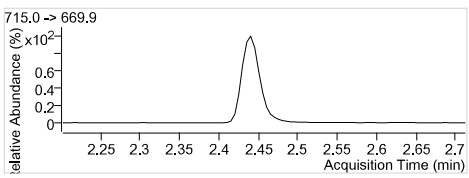
MPFUnA Internal Standard
RT (Exp. RT): 2.210 (2.210)
Concentration: 1 µg/L
Sample type: Calibration



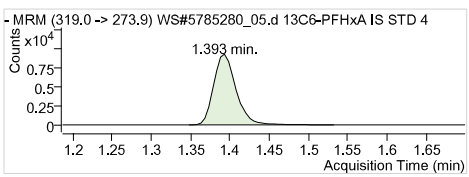


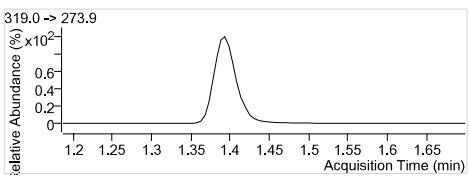
MPFDoA Internal Standard
RT (Exp. RT): 2.295 (2.295)
Concentration: 1 µg/L
Sample type: Calibration



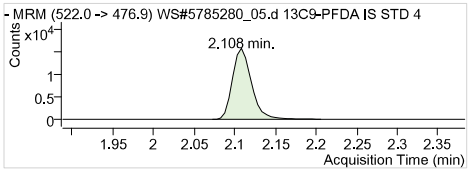


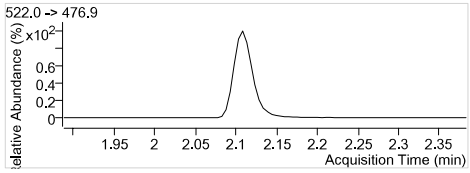
MPFTeDA Internal Standard
RT (Exp. RT): 2.440 (2.440)
Concentration: 1 µg/L
Sample type: Calibration



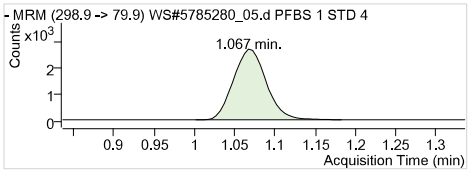


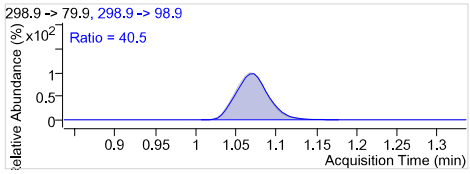
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.393 (1.393)
Concentration: 1 µg/L
Sample type: Calibration



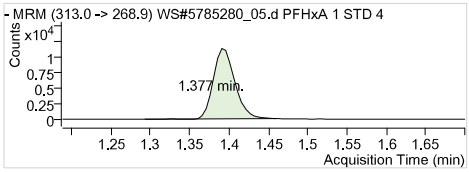


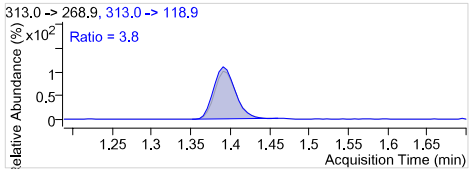
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.108 (2.108)
Concentration: 1 µg/L
Sample type: Calibration



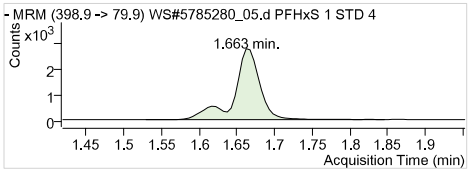


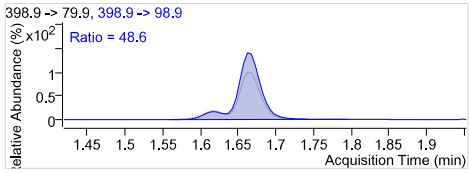
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 1.067 (1.067)
Calc. conc. 12.30 µg/L
Area ratio: 7.26270
Sample type: Calibration



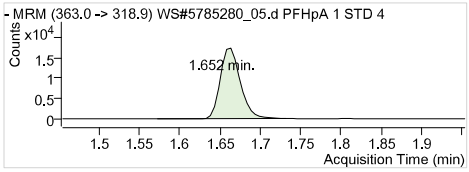


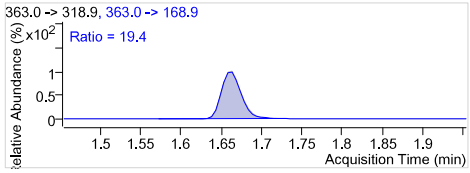
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 1.377 (1.391)
Calc. conc. 12.28 µg/L
Area ratio: 4.94421
Sample type: Calibration



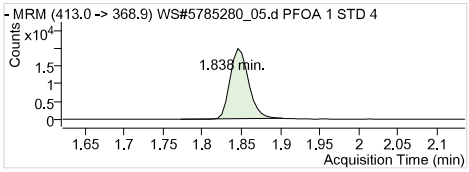


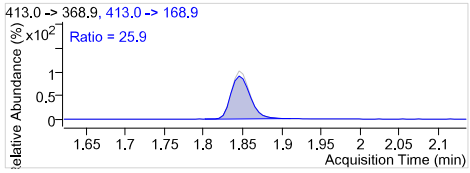
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.663 (1.663)
Calc. conc. 12.11 µg/L
Area ratio: 6.32982
Sample type: Calibration



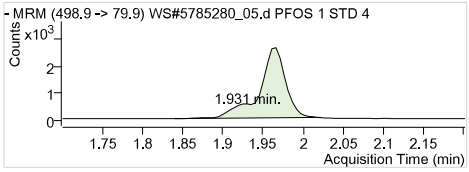


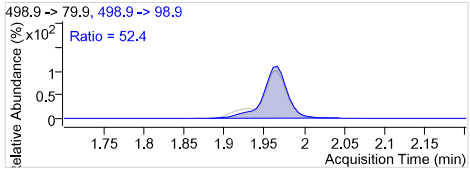
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 1.652 (1.664)
Calc. conc. 12.09 µg/L
Area ratio: 4.77116
Sample type: Calibration



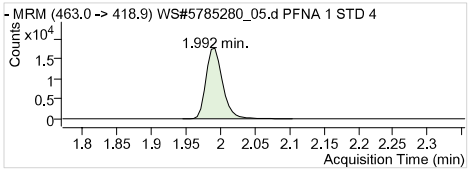


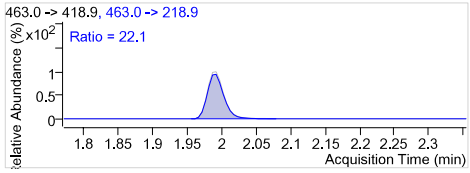
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 1.838 (1.845)
Calc. conc. 12.21 µg/L
Area ratio: 5.09289
Sample type: Calibration



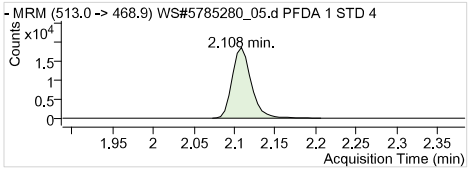


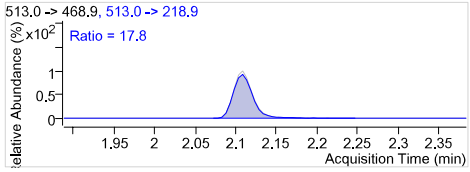
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.931 (1.966)
Calc. conc. 11.38 µg/L
Area ratio: 4.48999
Sample type: Calibration



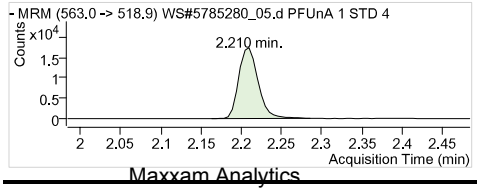


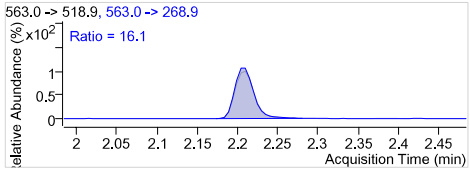
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 1.992 (1.992)
Calc. conc. 12.07 µg/L
Area ratio: 4.79822
Sample type: Calibration



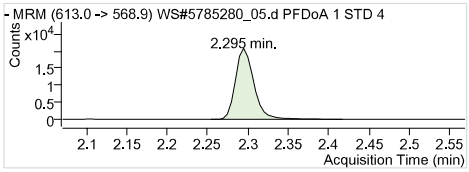


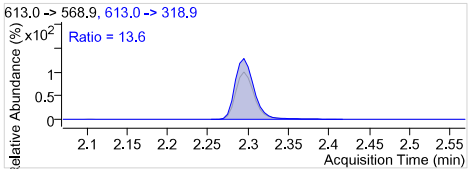
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 2.108 (2.108)
Calc. conc. 11.45 µg/L
Area ratio: 6.38769
Sample type: Calibration



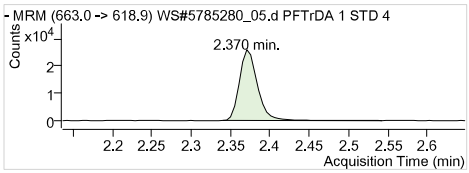


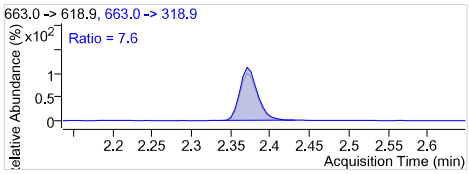
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 2.210 (2.210)
Calc. conc. 12.16 µg/L
Area ratio: 5.62483
Sample type: Calibration



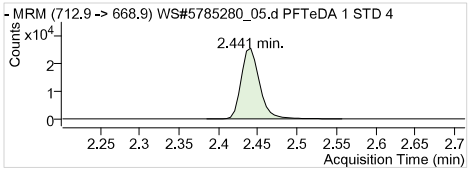


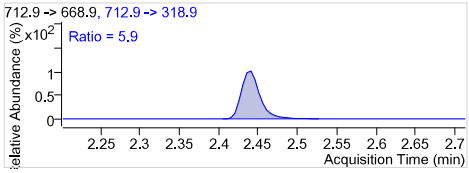
PFDoA 1	613.0 -> 568.9
RT (Exp. RT):	2.295 (2.295)
Calc. conc.	12.50 µg/L
Area ratio:	4.88922
Sample type:	Calibration



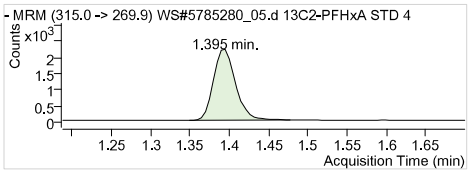


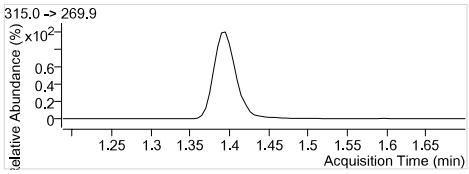
PFTrDA 1	663.0 -> 618.9
RT (Exp. RT):	2.370 (2.370)
Calc. conc.	12.37 µg/L
Area ratio:	4.49116
Sample type:	Calibration



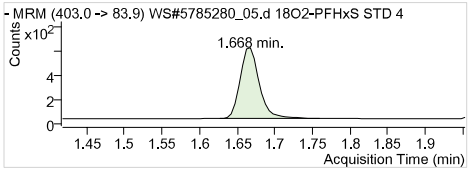


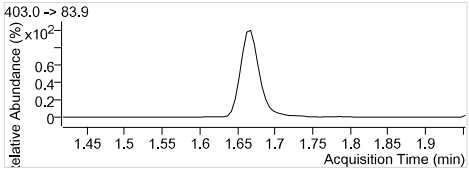
PFTeDA 1	712.9 -> 668.9
RT (Exp. RT):	2.441 (2.441)
Calc. conc.	12.12 µg/L
Area ratio:	4.47970
Sample type:	Calibration



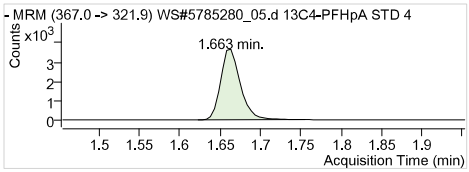


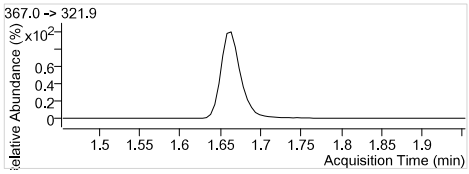
13C2-PFHxA	315.0 -> 269.9
RT (Exp. RT):	1.395 (1.395)
Calc. conc.	100.66 µg/L
Area ratio:	0.23602
Sample type:	Calibration



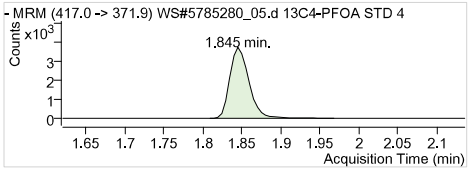


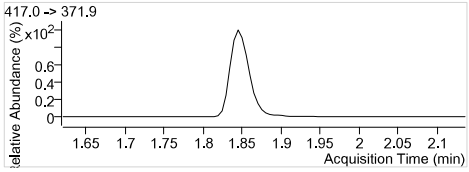
18O2-PFHxS	403.0 -> 83.9
RT (Exp. RT):	1.668 (1.668)
Calc. conc.	97.56 µg/L
Area ratio:	0.05679
Sample type:	Calibration



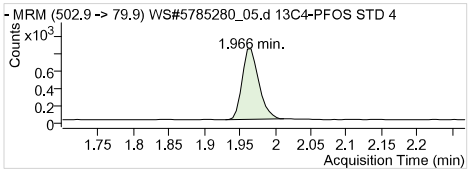


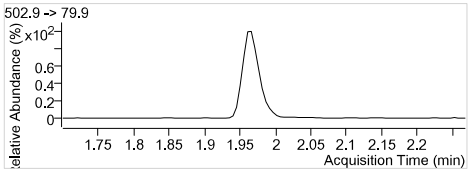
13C4-PFHpA	367.0 -> 321.9
RT (Exp. RT):	1.663 (1.663)
Calc. conc.	100.76 µg/L
Area ratio:	0.33713
Sample type:	Calibration



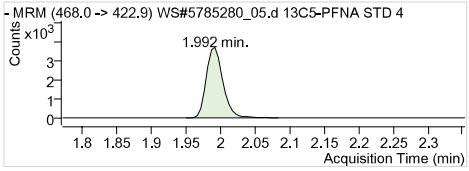


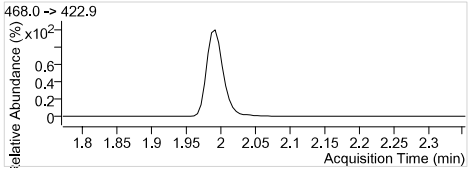
13C4-PFOA	417.0 -> 371.9
RT (Exp. RT):	1.845 (1.845)
Calc. conc.	100.85 µg/L
Area ratio:	0.34284
Sample type:	Calibration



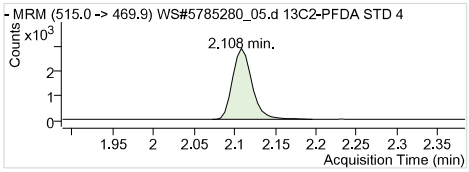


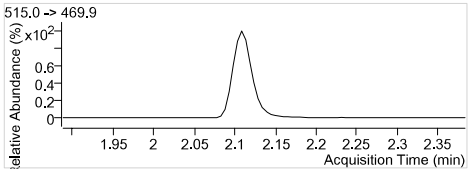
13C4-PFOS	502.9 -> 79.9
RT (Exp. RT):	1.966 (1.966)
Calc. conc.	106.83 µg/L
Area ratio:	0.07209
Sample type:	Calibration



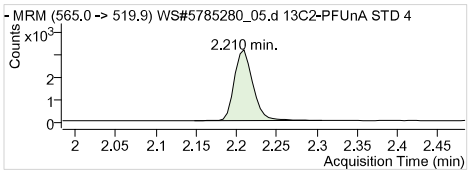


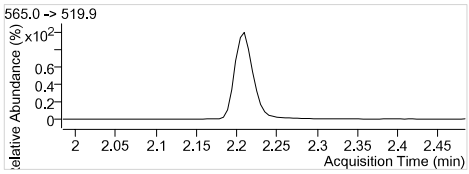
13C5-PFNA	468.0 -> 422.9
RT (Exp. RT):	1.992 (1.992)
Calc. conc.	103.58 µg/L
Area ratio:	0.33620
Sample type:	Calibration



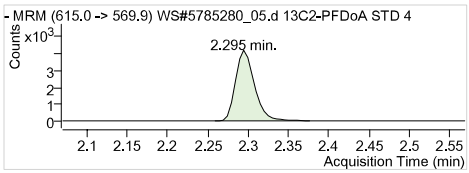


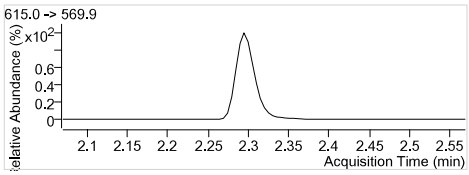
13C2-PFDA	515.0 -> 469.9
RT (Exp. RT):	2.108 (2.108)
Calc. conc.	104.12 µg/L
Area ratio:	0.18728
Sample type:	Calibration



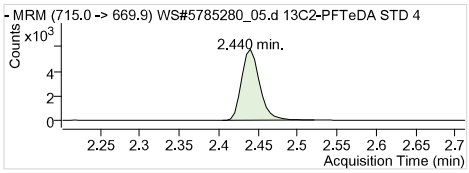


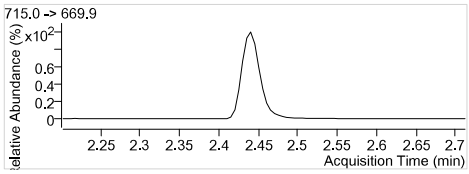
13C2-PFUnA	565.0 -> 519.9
RT (Exp. RT):	2.210 (2.210)
Calc. conc.	99.44 µg/L
Area ratio:	0.19963
Sample type:	Calibration



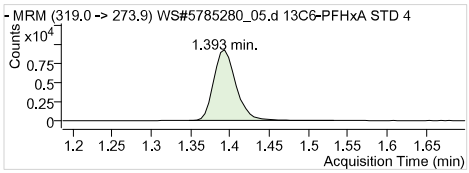


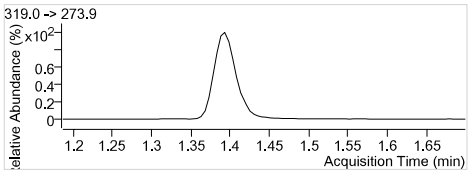
13C2-PFDoA	615.0 -> 569.9
RT (Exp. RT):	2.295 (2.295)
Calc. conc.	100.13 µg/L
Area ratio:	0.26608
Sample type:	Calibration



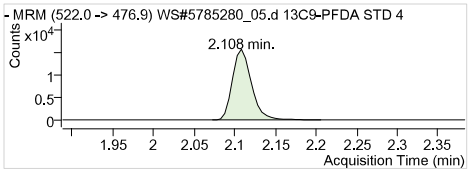


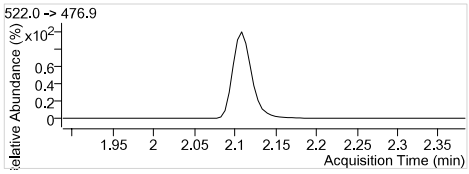
13C2-PFTeDA	715.0 -> 669.9
RT (Exp. RT):	2.440 (2.440)
Calc. conc.	101.19 µg/L
Area ratio:	0.36161
Sample type:	Calibration





13C6-PFHxA	319.0 -> 273.9
RT (Exp. RT):	1.393 (1.393)
Calc. conc.	101.90 µg/L
Area ratio:	0
Sample type:	Calibration





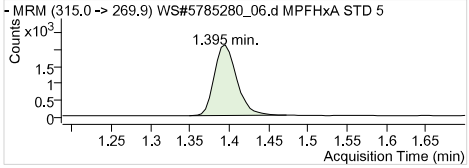
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	2.108 (2.108)
Calc. conc.	102.47 µg/L
Area ratio:	0
Sample type:	Calibration

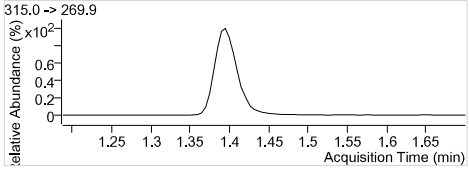
Batch Path	T:\LCMS04\PFC\20181017\WS#5785280\QuantResults\PFC_Water_Low_20181017_WS#5785280_EToxics

Sample Name	**STD 5**	**Instrument**	LCMS04
Data File	WS#5785280_06.d	**Operator**	
Sample Type	Cal	**Dilution**	1
Acq. Method	PFC_Water_Low.m	**Position**	P4-A6
Acq. Date	2018/10/18 2:32:32 AM	**Injection Volume**	Per Method
Sample Annotation	-		

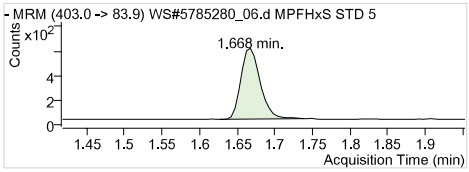
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	4184	1.39	1 µg/L		
MPFHxS	1037	1.67	1 µg/L		
MPFHpA	5917	1.66	1 µg/L		
MPFOA	5899	1.85	1 µg/L		
MPFOS	1172	1.97	1 µg/L		
MPFNA	5838	1.99	1 µg/L		
MPFDA	4184	2.11	1 µg/L		
MPFUnA	4863	2.21	1 µg/L		
MPFDoA	6505	2.29	1 µg/L		
MPFTeDA	8725	2.44	1 µg/L		
13C6-PFHxA IS	17735	1.39	1 µg/L		
13C9-PFDA IS	24194	2.11	1 µg/L		

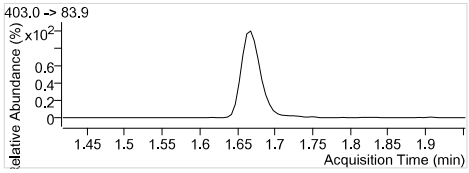
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1	15430	1.07	25.00	25.02 µg/L	100.08
PFHxA 1	43135	1.38	25.00	25.49 µg/L	101.94
PFHxS 1	13600	1.67	25.00	24.95 µg/L	99.79
PFHpA 1	59777	1.65	25.00	25.47 µg/L	101.90
PFOA 1	63947	1.84	25.00	25.89 µg/L	103.57
PFOS 1	12201	1.93	25.00	26.40 µg/L	105.58
PFNA 1	57599	1.99	25.00	24.67 µg/L	98.66
PFDA 1	61469	2.11	25.00	26.16 µg/L	104.65
PFUnA 1	57648	2.21	25.00	25.46 µg/L	101.82
PFDoA 1	66431	2.29	25.00	26.02 µg/L	104.08
PFTrDA 1	82503	2.37	25.00	25.92 µg/L	103.70
PFTeDA 1	83686	2.44	25.00	25.79 µg/L	103.16
13C2-PFHxA	4184	1.39	100.00	100.61 µg/L	100.61
18O2-PFHxS	1037	1.67	100.00	100.46 µg/L	100.46
13C4-PFHpA	5917	1.66	100.00	99.71 µg/L	99.71
13C4-PFOA	5899	1.85	100.00	97.84 µg/L	97.84
13C4-PFOS	1172	1.97	100.00	97.94 µg/L	97.94
13C5-PFNA	5838	1.99	100.00	101.41 µg/L	101.41
13C2-PFDA	4184	2.11	100.00	96.14 µg/L	96.14
13C2-PFUnA	4863	2.21	100.00	100.12 µg/L	100.12
13C2-PFDoA	6505	2.29	100.00	101.18 µg/L	101.18
13C2-PFTeDA	8725	2.44	100.00	100.91 µg/L	100.91
13C6-PFHxA	17735	1.39	100.00	98.39 µg/L	98.39
13C9-PFDA	24194	2.11	100.00	97.83 µg/L	97.83



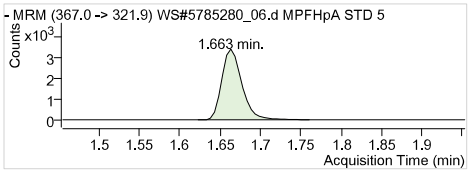


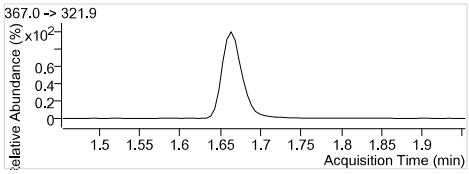
MPFHxA	Internal Standard
RT (Exp. RT):	1.395 (1.395)
Concentration:	1 µg/L
Sample type:	Calibration



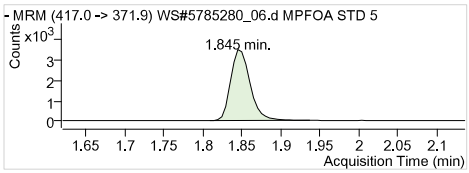


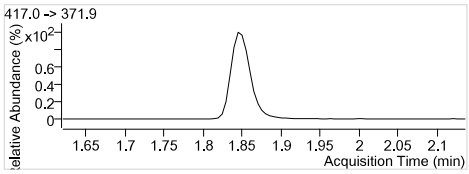
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Calibration



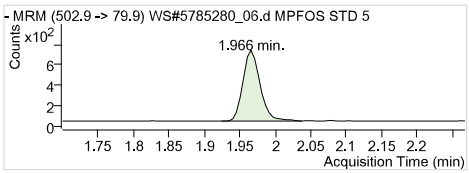


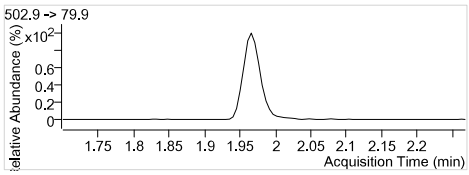
MPFHpA Internal Standard
RT (Exp. RT): 1.663 (1.663)
Concentration: 1 µg/L
Sample type: Calibration



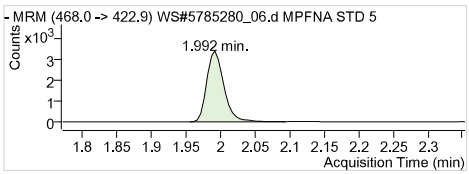


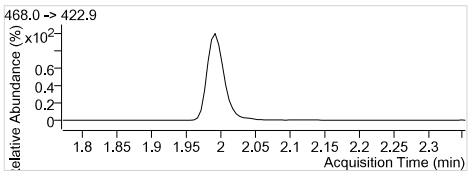
MPFOA Internal Standard
RT (Exp. RT): 1.845 (1.845)
Concentration: 1 µg/L
Sample type: Calibration



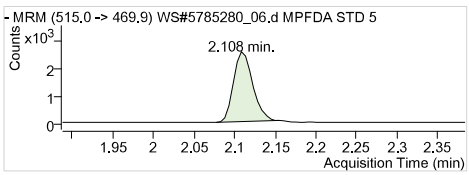


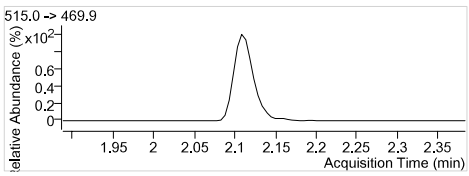
MPFOS Internal Standard
RT (Exp. RT): 1.966 (1.966)
Concentration: 1 µg/L
Sample type: Calibration



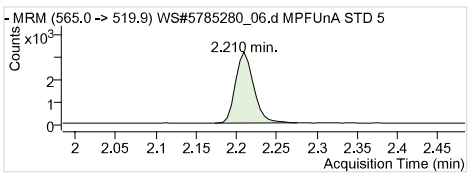


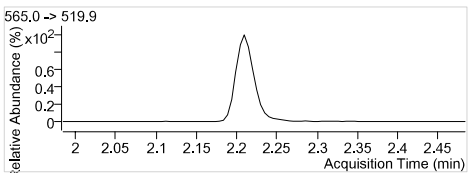
MPFNA Internal Standard
RT (Exp. RT): 1.992 (1.992)
Concentration: 1 µg/L
Sample type: Calibration



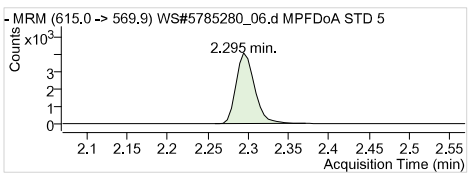


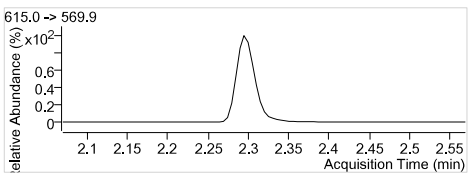
MPFDA Internal Standard
RT (Exp. RT): 2.108 (2.108)
Concentration: 1 µg/L
Sample type: Calibration



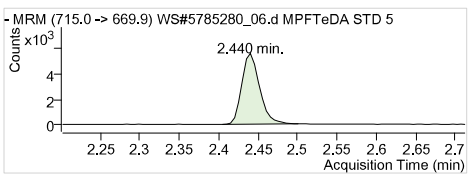


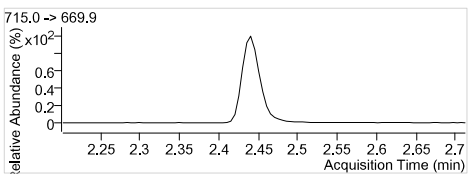
MPFUnA Internal Standard
RT (Exp. RT): 2.210 (2.210)
Concentration: 1 µg/L
Sample type: Calibration



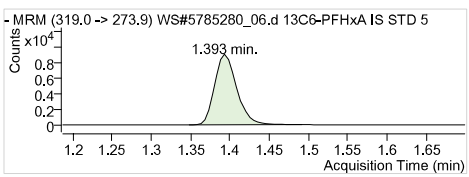


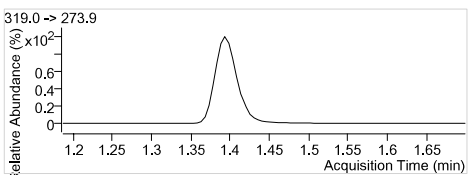
MPFDoA Internal Standard
RT (Exp. RT): 2.295 (2.295)
Concentration: 1 µg/L
Sample type: Calibration



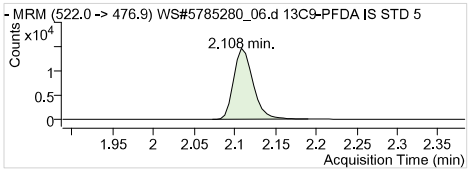


MPFTeDA Internal Standard
RT (Exp. RT): 2.440 (2.440)
Concentration: 1 µg/L
Sample type: Calibration

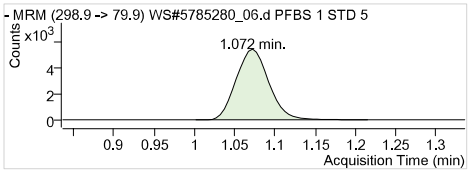




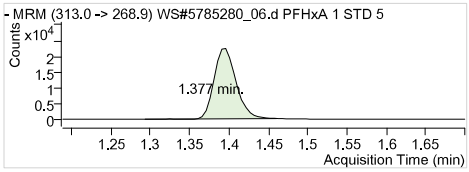
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.393 (1.393)
Concentration: 1 µg/L
Sample type: Calibration



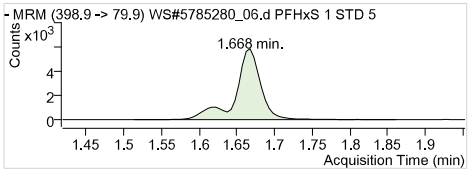
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.108 (2.108)
Concentration: 1 µg/L
Sample type: Calibration



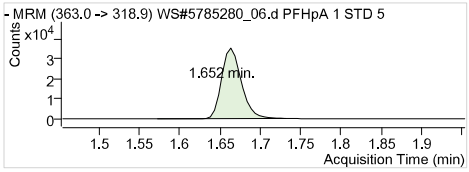
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 1.072 (1.067)
Calc. conc. 25.02 µg/L
Area ratio: 14.87946
Sample type: Calibration



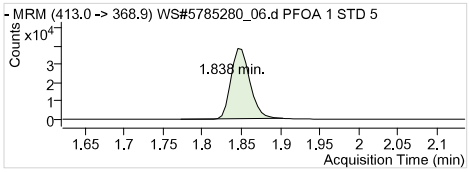
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 1.377 (1.391)
Calc. conc. 25.49 µg/L
Area ratio: 10.30942
Sample type: Calibration



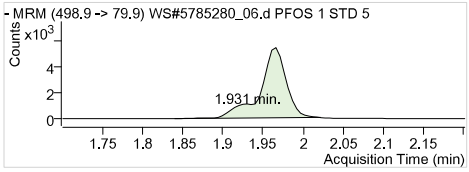
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.663)
Calc. conc. 24.95 µg/L
Area ratio: 13.11475
Sample type: Calibration



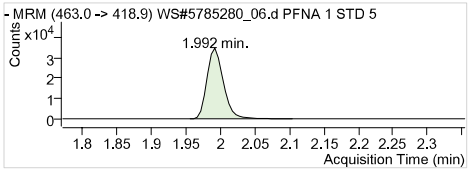
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 1.652 (1.664)
Calc. conc. 25.47 µg/L
Area ratio: 10.10253
Sample type: Calibration



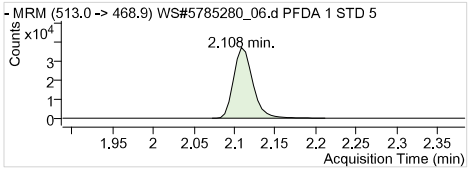
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 1.838 (1.845)
Calc. conc. 25.89 µg/L
Area ratio: 10.84025
Sample type: Calibration



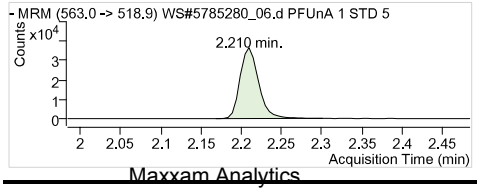
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.931 (1.966)
Calc. conc. 26.40 µg/L
Area ratio: 10.41018
Sample type: Calibration



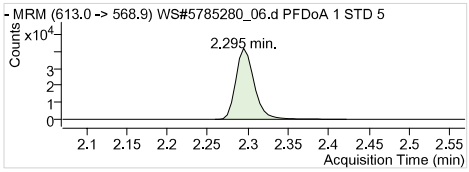
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 1.992 (1.992)
Calc. conc. 24.67 µg/L
Area ratio: 9.86622
Sample type: Calibration

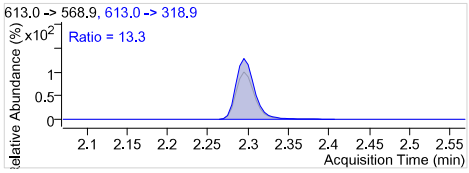


PFDA 1 513.0 -> 468.9
RT (Exp. RT): 2.108 (2.108)
Calc. conc. 26.16 µg/L
Area ratio: 14.69144
Sample type: Calibration

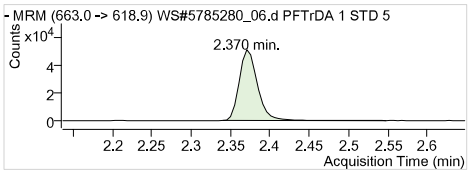


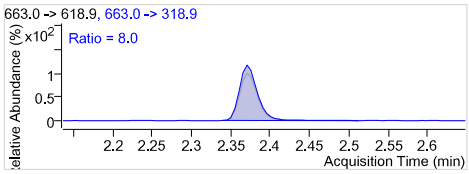
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 2.210 (2.210)
Calc. conc. 25.46 µg/L
Area ratio: 11.85441
Sample type: Calibration



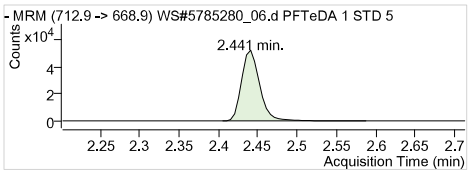


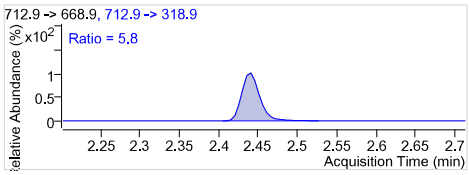
PFDoA 1	613.0 -> 568.9
RT (Exp. RT):	2.295 (2.295)
Calc. conc.	26.02 µg/L
Area ratio:	10.21230
Sample type:	Calibration



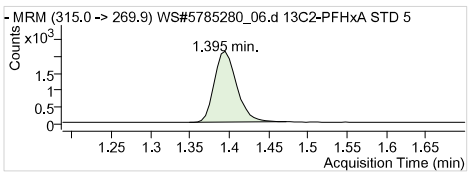


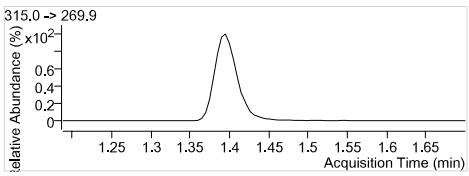
PFTrDA 1	663.0 -> 618.9
RT (Exp. RT):	2.370 (2.370)
Calc. conc.	25.92 µg/L
Area ratio:	9.45593
Sample type:	Calibration



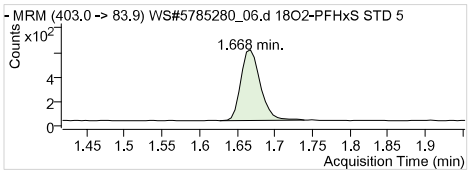


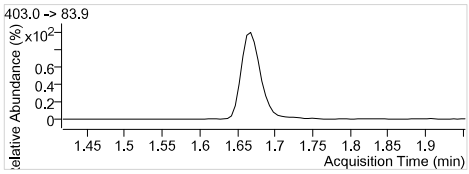
PFTeDA 1	712.9 -> 668.9
RT (Exp. RT):	2.441 (2.441)
Calc. conc.	25.79 µg/L
Area ratio:	9.59152
Sample type:	Calibration



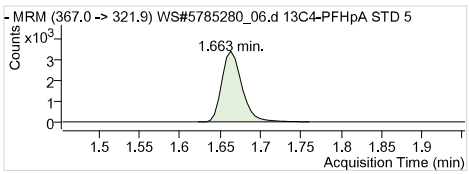


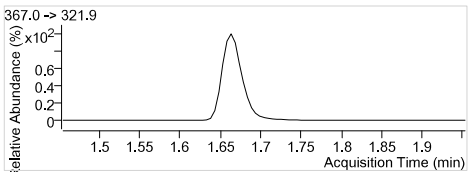
13C2-PFHxA	315.0 -> 269.9
RT (Exp. RT):	1.395 (1.395)
Calc. conc.	100.61 µg/L
Area ratio:	0.23592
Sample type:	Calibration



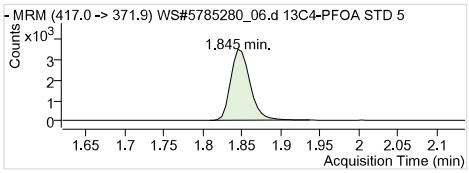


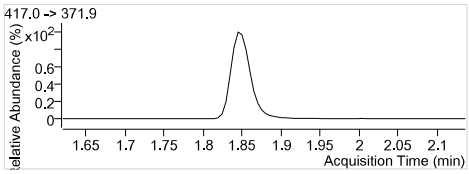
18O2-PFHxS	403.0 -> 83.9
RT (Exp. RT):	1.668 (1.668)
Calc. conc.	100.46 µg/L
Area ratio:	0.05847
Sample type:	Calibration



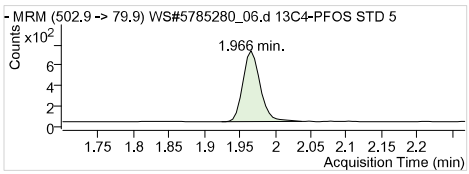


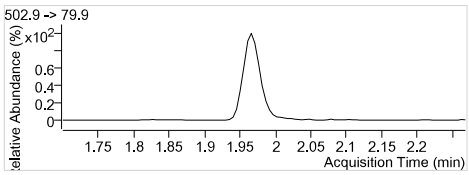
13C4-PFHpA	367.0 -> 321.9
RT (Exp. RT):	1.663 (1.663)
Calc. conc.	99.71 µg/L
Area ratio:	0.33363
Sample type:	Calibration



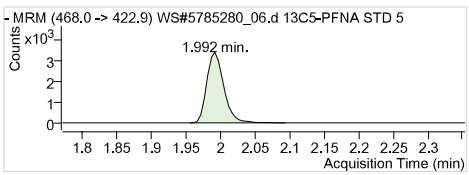


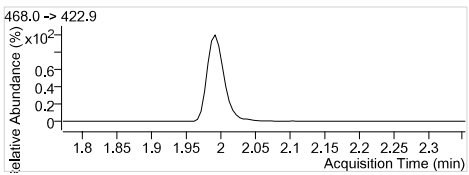
13C4-PFOA	417.0 -> 371.9
RT (Exp. RT):	1.845 (1.845)
Calc. conc.	97.84 µg/L
Area ratio:	0.33262
Sample type:	Calibration



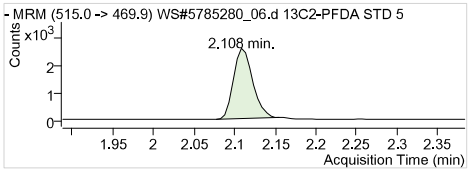


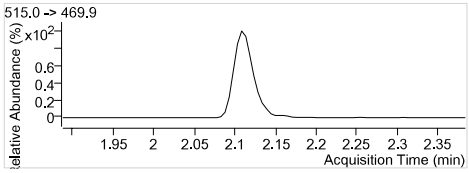
13C4-PFOS	502.9 -> 79.9
RT (Exp. RT):	1.966 (1.966)
Calc. conc.	97.94 µg/L
Area ratio:	0.06608
Sample type:	Calibration



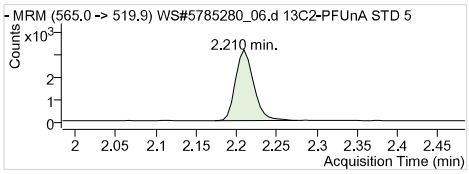


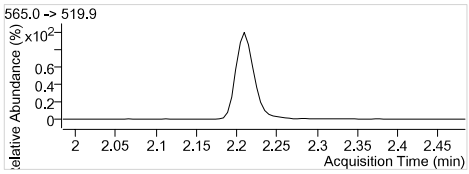
13C5-PFNA	468.0 -> 422.9
RT (Exp. RT):	1.992 (1.992)
Calc. conc.	101.41 µg/L
Area ratio:	0.32918
Sample type:	Calibration



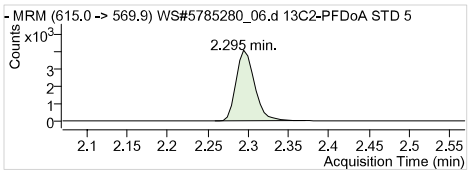


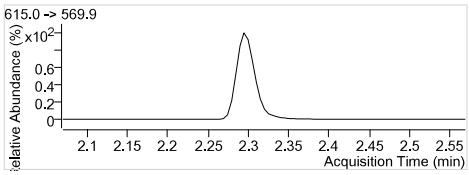
13C2-PFDA	515.0 -> 469.9
RT (Exp. RT):	2.108 (2.108)
Calc. conc.	96.14 µg/L
Area ratio:	0.17294
Sample type:	Calibration



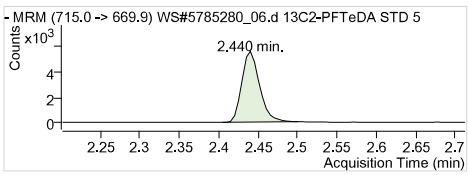


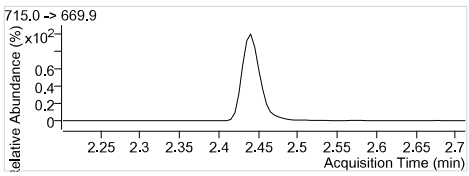
13C2-PFUnA	565.0 -> 519.9
RT (Exp. RT):	2.210 (2.210)
Calc. conc.	100.12 µg/L
Area ratio:	0.20100
Sample type:	Calibration



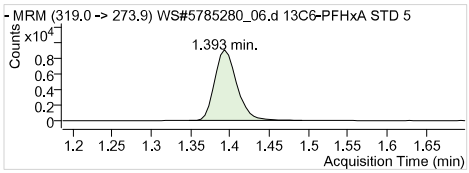


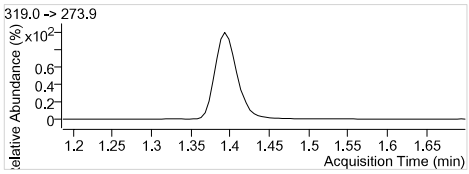
13C2-PFDoA	615.0 -> 569.9
RT (Exp. RT):	2.295 (2.295)
Calc. conc.	101.18 µg/L
Area ratio:	0.26887
Sample type:	Calibration



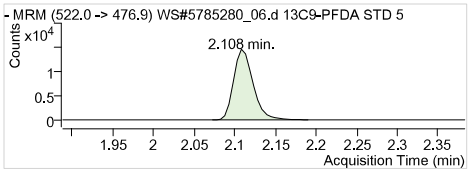


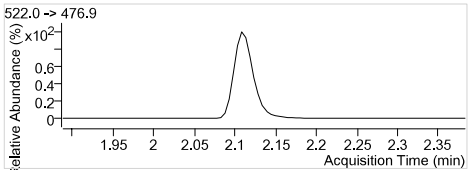
13C2-PFTeDA	715.0 -> 669.9
RT (Exp. RT):	2.440 (2.440)
Calc. conc.	100.91 µg/L
Area ratio:	0.36063
Sample type:	Calibration





13C6-PFHxA	319.0 -> 273.9
RT (Exp. RT):	1.393 (1.393)
Calc. conc.	98.39 µg/L
Area ratio:	0
Sample type:	Calibration





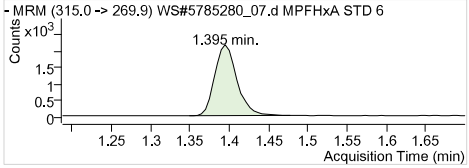
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	2.108 (2.108)
Calc. conc.	97.83 µg/L
Area ratio:	0
Sample type:	Calibration

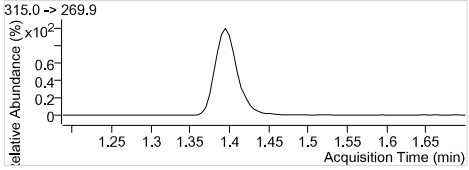
Batch Path	T:\LCMS04\PFC\20181017\WS#5785280\QuantResults\PFC_Water_Low_20181017_WS#5785280_ETOxics

Sample Name	**STD 6**	**Instrument**	LCMS04
Data File	WS#5785280_07.d	**Operator**	
Sample Type	Cal	**Dilution**	1
Acq. Method	PFC_Water_Low.m	**Position**	P4-A7
Acq. Date	2018/10/18 2:37:26 AM	**Injection Volume**	Per Method
Sample Annotation	-		

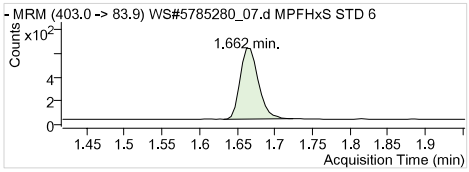
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	4229	1.39	1 µg/L		
MPFHxS	1011	1.66	1 µg/L		
MPFHpA	5922	1.66	1 µg/L		
MPFOA	6029	1.85	1 µg/L		
MPFOS	1242	1.97	1 µg/L		
MPFNA	5649	1.99	1 µg/L		
MPFDA	4355	2.11	1 µg/L		
MPFUnA	4903	2.21	1 µg/L		
MPFDoA	6656	2.29	1 µg/L		
MPFTeDA	8710	2.44	1 µg/L		
13C6-PFHxA IS	18203	1.39	1 µg/L		
13C9-PFDA IS	24200	2.11	1 µg/L		

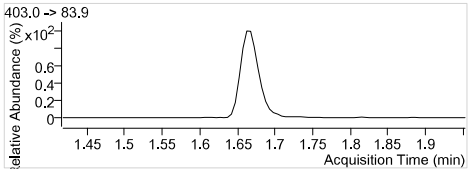
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1	25484	1.07	41.70	42.26 µg/L	101.34
PFHxA 1	71336	1.38	41.70	41.62 µg/L	99.82
PFHxS 1	22611	1.67	41.70	42.45 µg/L	101.79
PFHpA 1	98632	1.65	41.70	41.92 µg/L	100.53
PFOA 1	104657	1.84	41.70	41.41 µg/L	99.31
PFOS 1	20371	1.93	41.70	41.59 µg/L	99.73
PFNA 1	96508	1.99	41.70	42.61 µg/L	102.18
PFDA 1	102347	2.11	41.70	41.77 µg/L	100.17
PFUnA 1	96094	2.21	41.70	41.99 µg/L	100.69
PFDoA 1	106946	2.29	41.70	40.89 µg/L	98.07
PFTrDA 1	131155	2.37	41.70	41.22 µg/L	98.84
PFTeDA 1	135061	2.44	41.70	41.61 µg/L	99.78
13C2-PFHxA	4229	1.39	100.00	99.08 µg/L	99.08
18O2-PFHxS	1011	1.66	100.00	95.42 µg/L	95.42
13C4-PFHpA	5922	1.66	100.00	97.23 µg/L	97.23
13C4-PFOA	6029	1.85	100.00	97.42 µg/L	97.42
13C4-PFOS	1242	1.97	100.00	101.12 µg/L	101.12
13C5-PFNA	5649	1.99	100.00	95.61 µg/L	95.61
13C2-PFDA	4355	2.11	100.00	100.05 µg/L	100.05
13C2-PFUnA	4903	2.21	100.00	100.92 µg/L	100.92
13C2-PFDoA	6656	2.29	100.00	103.50 µg/L	103.50
13C2-PFTeDA	8710	2.44	100.00	100.71 µg/L	100.71
13C6-PFHxA	18203	1.39	100.00	100.99 µg/L	100.99
13C9-PFDA	24200	2.11	100.00	97.86 µg/L	97.86



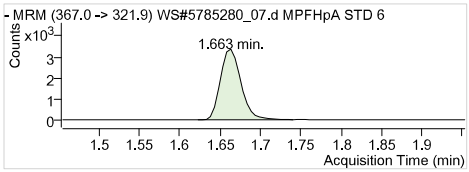


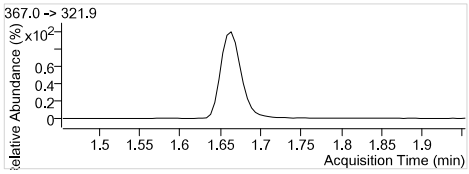
MPFHxA	Internal Standard
RT (Exp. RT):	1.395 (1.395)
Concentration:	1 µg/L
Sample type:	Calibration



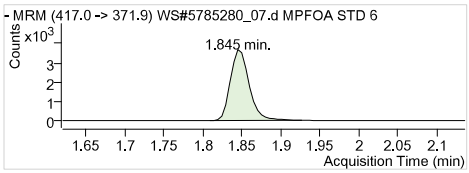


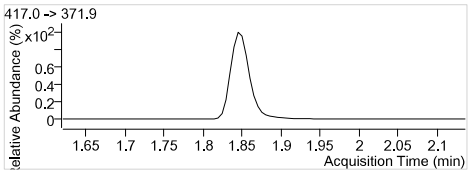
MPFHxS Internal Standard
RT (Exp. RT): 1.662 (1.668)
Concentration: 1 µg/L
Sample type: Calibration



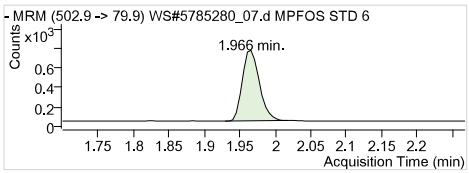


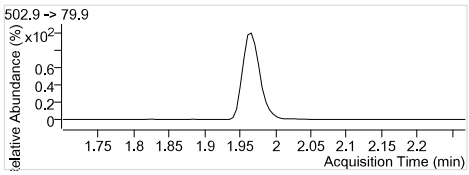
MPFHpA Internal Standard
RT (Exp. RT): 1.663 (1.663)
Concentration: 1 µg/L
Sample type: Calibration



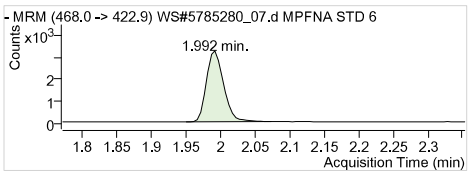


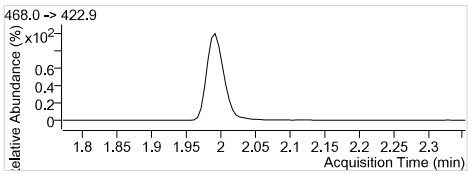
MPFOA Internal Standard
RT (Exp. RT): 1.845 (1.845)
Concentration: 1 µg/L
Sample type: Calibration



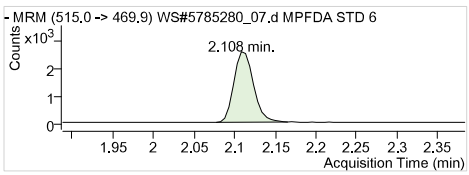


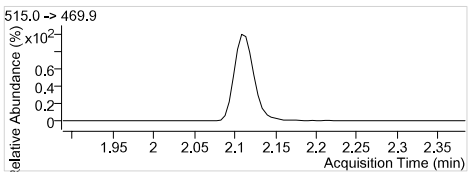
MPFOS Internal Standard
RT (Exp. RT): 1.966 (1.966)
Concentration: 1 µg/L
Sample type: Calibration



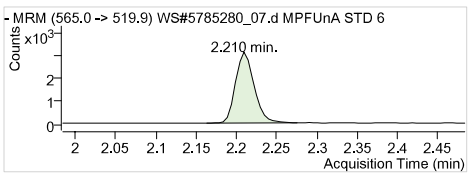


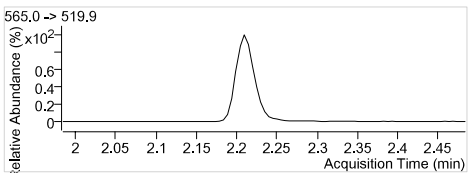
MPFNA Internal Standard
RT (Exp. RT): 1.992 (1.992)
Concentration: 1 µg/L
Sample type: Calibration



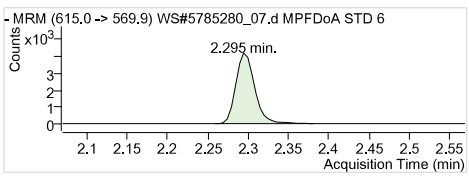


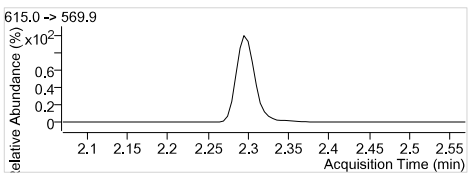
MPFDA Internal Standard
RT (Exp. RT): 2.108 (2.108)
Concentration: 1 µg/L
Sample type: Calibration



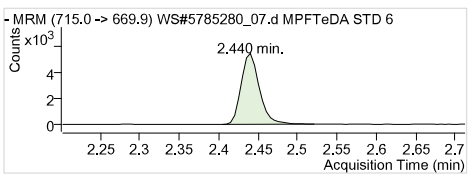


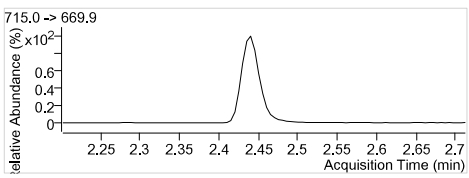
MPFUnA Internal Standard
RT (Exp. RT): 2.210 (2.210)
Concentration: 1 µg/L
Sample type: Calibration



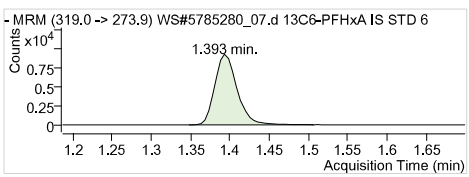


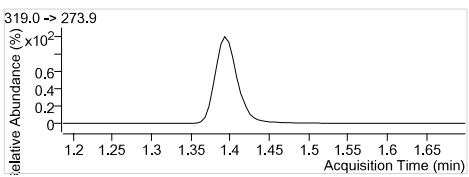
MPFDoA Internal Standard
RT (Exp. RT): 2.295 (2.295)
Concentration: 1 µg/L
Sample type: Calibration



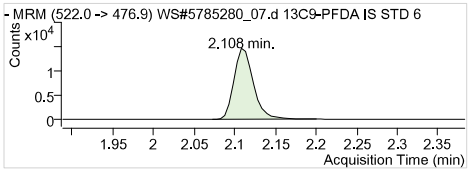


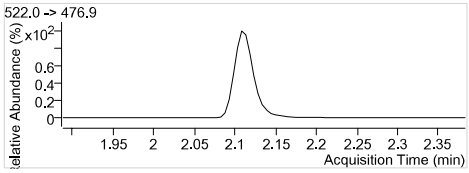
MPFTeDA Internal Standard
RT (Exp. RT): 2.440 (2.440)
Concentration: 1 µg/L
Sample type: Calibration



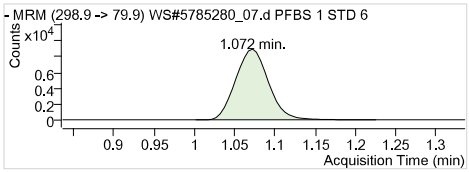


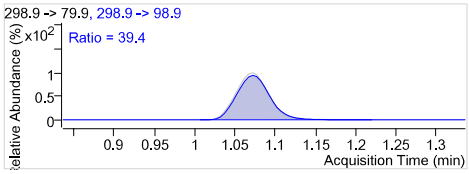
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.393 (1.393)
Concentration: 1 µg/L
Sample type: Calibration



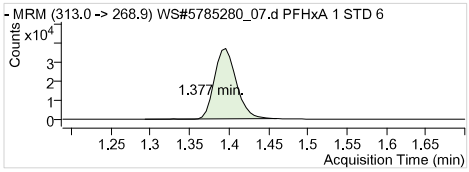


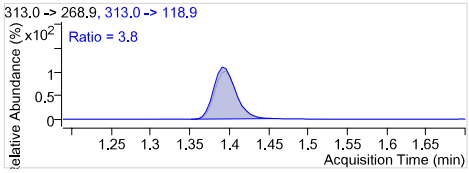
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.108 (2.108)
Concentration: 1 µg/L
Sample type: Calibration



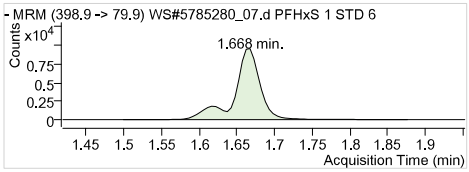


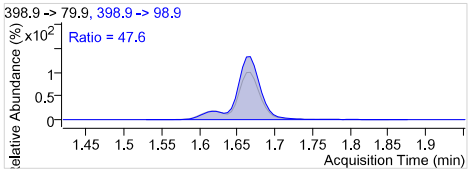
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 1.072 (1.067)
Calc. conc. 42.26 µg/L
Area ratio: 25.20673
Sample type: Calibration



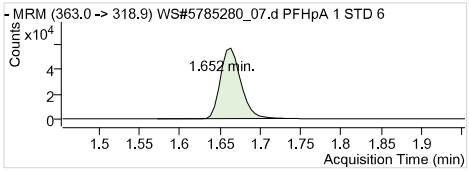


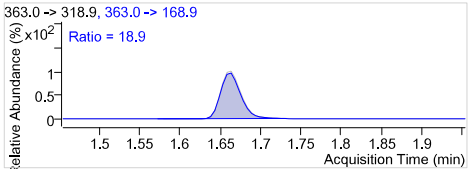
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 1.377 (1.391)
Calc. conc. 41.62 µg/L
Area ratio: 16.86819
Sample type: Calibration



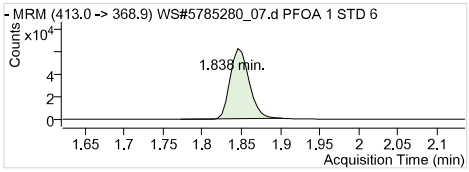


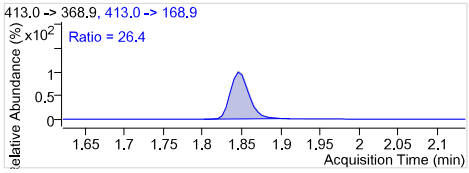
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.663)
Calc. conc. 42.45 µg/L
Area ratio: 22.36499
Sample type: Calibration



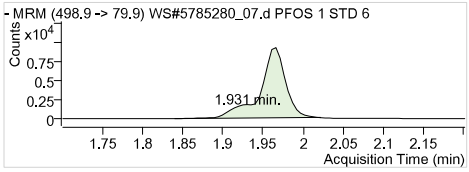


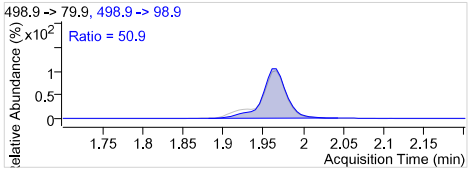
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 1.652 (1.664)
Calc. conc. 41.92 µg/L
Area ratio: 16.65510
Sample type: Calibration



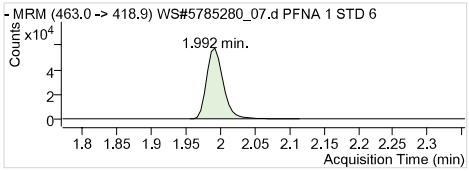


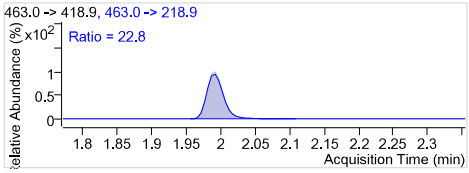
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 1.838 (1.845)
Calc. conc. 41.41 µg/L
Area ratio: 17.35895
Sample type: Calibration



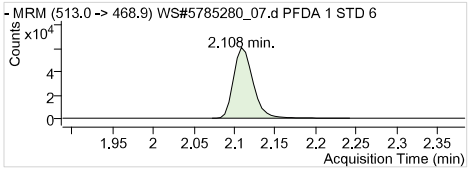


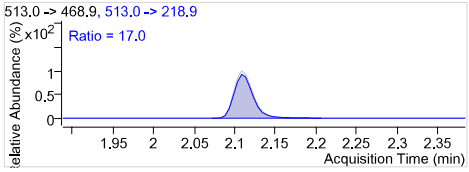
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.931 (1.966)
Calc. conc. 41.59 µg/L
Area ratio: 16.40202
Sample type: Calibration



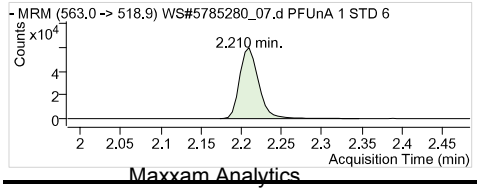


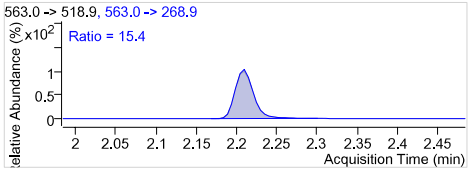
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 1.992 (1.992)
Calc. conc. 42.61 µg/L
Area ratio: 17.08409
Sample type: Calibration



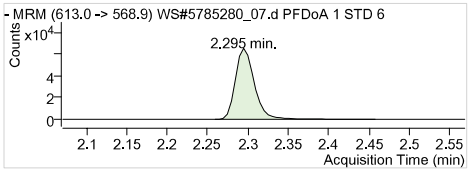


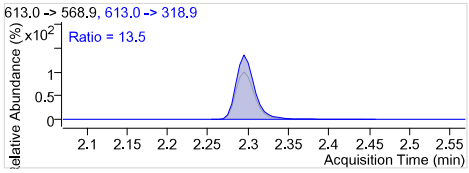
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 2.108 (2.108)
Calc. conc. 41.77 µg/L
Area ratio: 23.50103
Sample type: Calibration



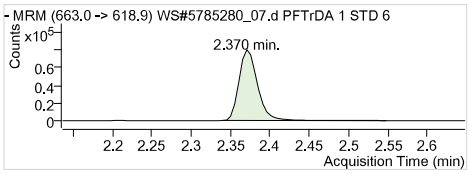


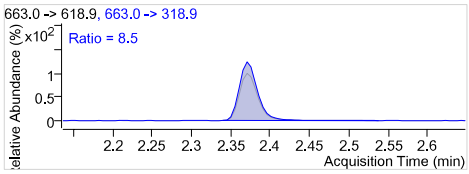
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 2.210 (2.210)
Calc. conc. 41.99 µg/L
Area ratio: 19.59902
Sample type: Calibration



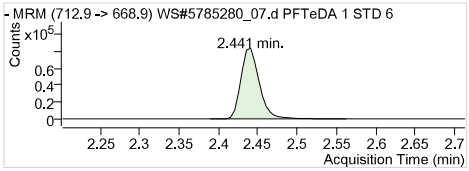


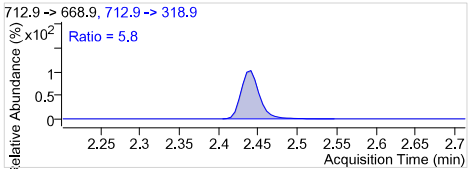
PFDoA 1 613.0 -> 568.9
RT (Exp. RT): 2.295 (2.295)
Calc. conc. 40.89 µg/L
Area ratio: 16.06761
Sample type: Calibration



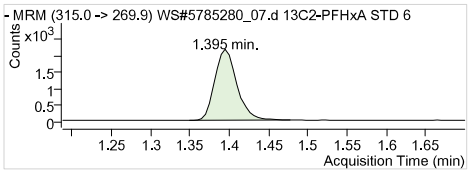


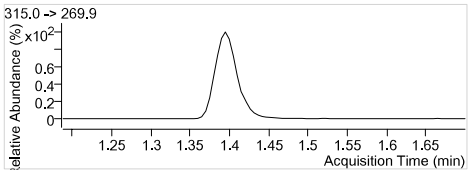
PFTrDA 1 663.0 -> 618.9
RT (Exp. RT): 2.370 (2.370)
Calc. conc. 41.22 µg/L
Area ratio: 15.05798
Sample type: Calibration



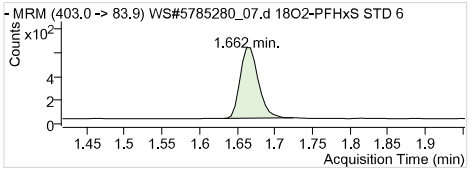


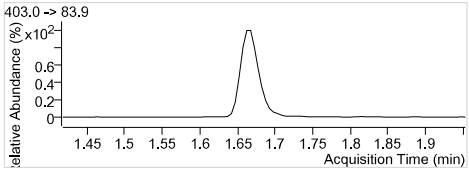
PFTeDA 1 712.9 -> 668.9
RT (Exp. RT): 2.441 (2.441)
Calc. conc. 41.61 µg/L
Area ratio: 15.50643
Sample type: Calibration



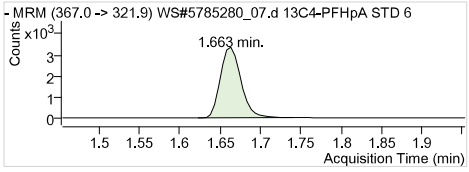


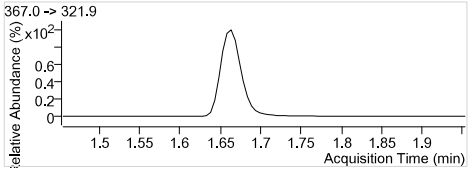
13C2-PFHxA 315.0 -> 269.9
RT (Exp. RT): 1.395 (1.395)
Calc. conc. 99.08 µg/L
Area ratio: 0.23232
Sample type: Calibration



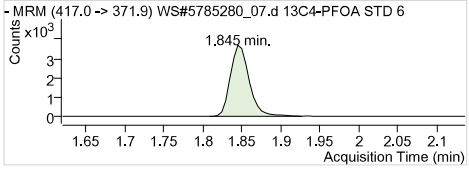


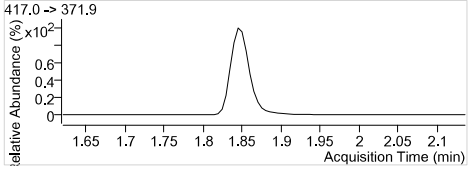
18O2-PFHxS 403.0 -> 83.9
RT (Exp. RT): 1.662 (1.668)
Calc. conc. 95.42 µg/L
Area ratio: 0.05554
Sample type: Calibration



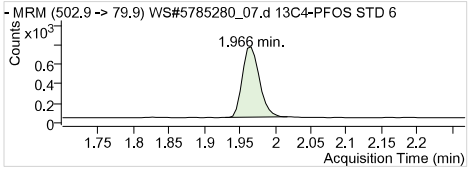


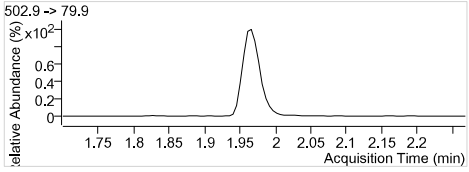
13C4-PFHpA 367.0 -> 321.9
RT (Exp. RT): 1.663 (1.663)
Calc. conc. 97.23 µg/L
Area ratio: 0.32533
Sample type: Calibration



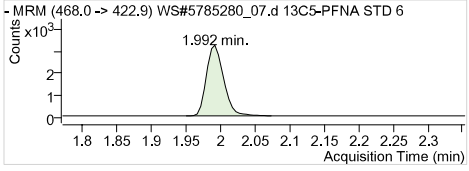


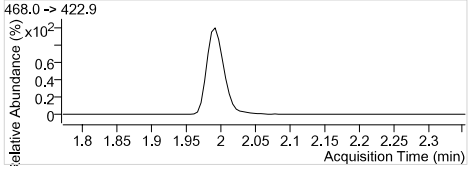
13C4-PFOA 417.0 -> 371.9
RT (Exp. RT): 1.845 (1.845)
Calc. conc. 97.42 µg/L
Area ratio: 0.33121
Sample type: Calibration



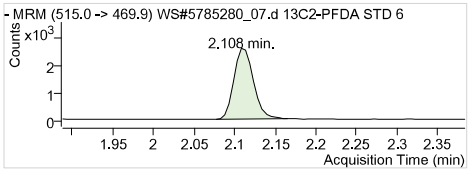


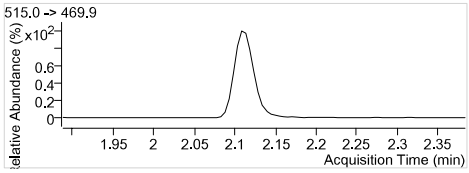
13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.966 (1.966)
Calc. conc. 101.12 µg/L
Area ratio: 0.06823
Sample type: Calibration



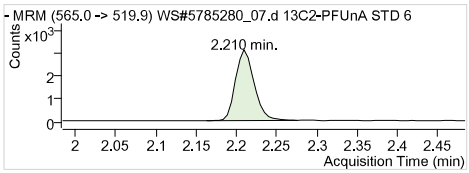


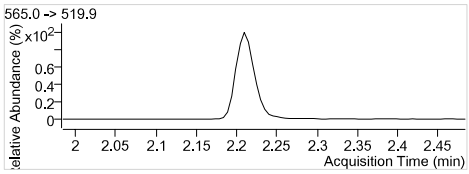
13C5-PFNA 468.0 -> 422.9
RT (Exp. RT): 1.992 (1.992)
Calc. conc. 95.61 µg/L
Area ratio: 0.31033
Sample type: Calibration



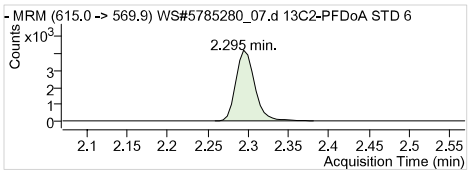


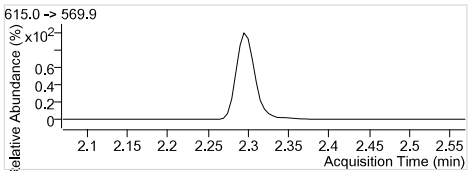
13C2-PFDA	515.0 -> 469.9
RT (Exp. RT):	2.108 (2.108)
Calc. conc.	100.05 µg/L
Area ratio:	0.17996
Sample type:	Calibration



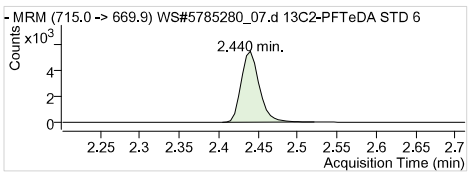


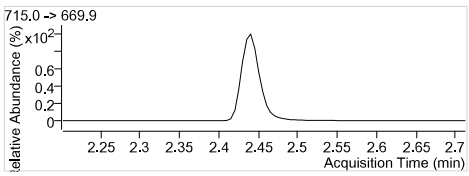
13C2-PFUnA	565.0 -> 519.9
RT (Exp. RT):	2.210 (2.210)
Calc. conc.	100.92 µg/L
Area ratio:	0.20260
Sample type:	Calibration



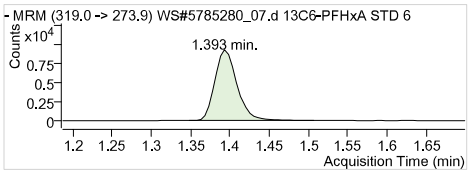


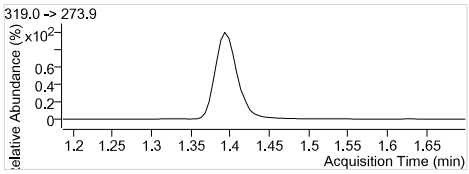
13C2-PFDoA	615.0 -> 569.9
RT (Exp. RT):	2.295 (2.295)
Calc. conc.	103.50 µg/L
Area ratio:	0.27504
Sample type:	Calibration



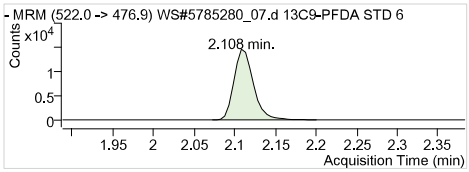


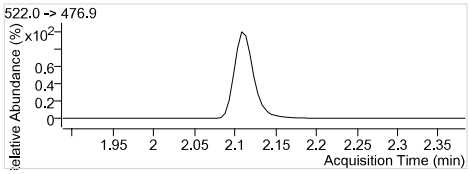
13C2-PFTeDA	715.0 -> 669.9
RT (Exp. RT):	2.440 (2.440)
Calc. conc.	100.71 µg/L
Area ratio:	0.35992
Sample type:	Calibration





13C6-PFHxA	319.0 -> 273.9
RT (Exp. RT):	1.393 (1.393)
Calc. conc.	100.99 µg/L
Area ratio:	0
Sample type:	Calibration





13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	2.108 (2.108)
Calc. conc.	97.86 µg/L
Area ratio:	0
Sample type:	Calibration

Quantitation Results

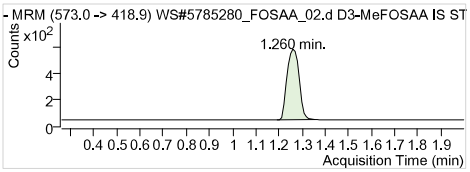
Agilent Technologies

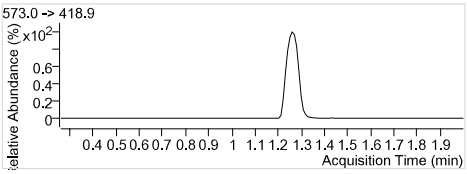
Batch Path	T:\LCMS04\PFC\20181017\WS#5785280_FOSAA\QuantResults\PFC_Water_Low_20181017_WS#5785280_FOSAA_EToxics

Sample Name	**STD 1**	**Instrument**	LCMS04
Data File	WS#5785280_FOSAA_02.d	**Operator**	
Sample Type	Cal	**Dilution**	1
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P4-A2
Acq. Date	2018/10/17 6:52:38 PM	**Injection Volume**	Per Method
Sample Annotation	-		

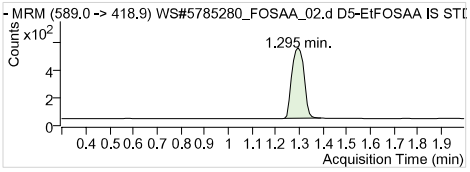
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1945	1.26	1 µg/L		
D5-EtFOSAA IS	1809	1.29	1 µg/L		
13C9-PFDA IS	25166	0.84	1 µg/L		

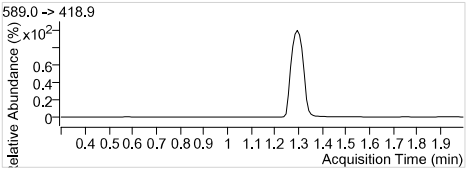
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1	597	1.26	0.83	0.87 µg/L	104.38
EtFOSAA 1	600	1.30	0.83	0.91 µg/L	109.26
D3-MeFOSAA	1959	1.26	100.00	99.67 µg/L	99.67
D5-EtFOSAA	1829	1.29	100.00	102.17 µg/L	102.17
13C9-PFDA	24891	0.84	100.00	99.62 µg/L	99.62



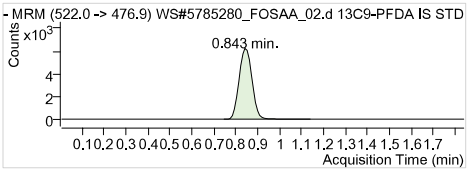


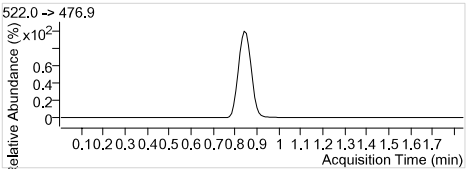
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.260 (1.260)
Concentration: 1 µg/L
Sample type: Calibration



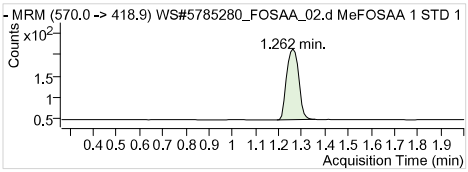


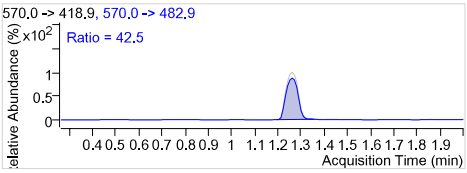
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.295 (1.295)
Concentration: 1 µg/L
Sample type: Calibration



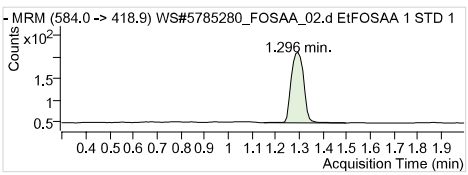


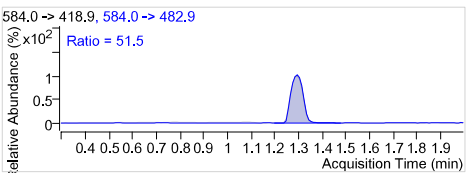
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.843 (0.843)
Concentration: 1 µg/L
Sample type: Calibration



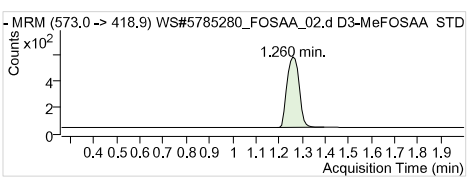


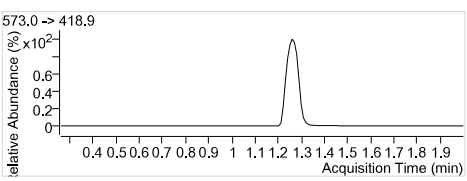
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 1.262 (1.262)
Calc. conc. 0.87 µg/L
Area ratio: 0.30694
Sample type: Calibration



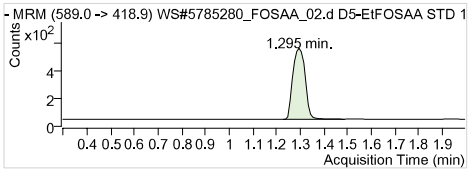


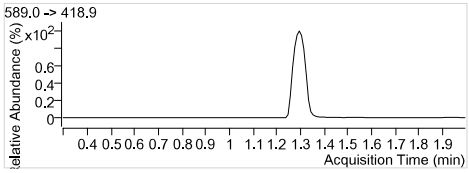
EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 1.296 (1.296)
Calc. conc. 0.91 µg/L
Area ratio: 0.33167
Sample type: Calibration



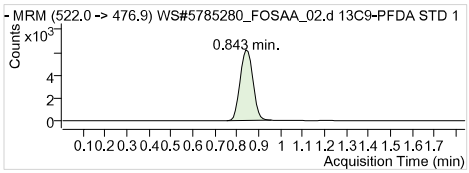


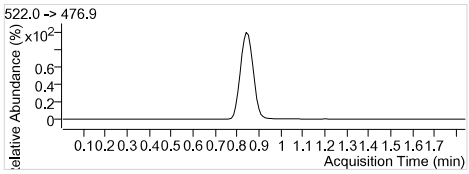
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.260 (1.260)
Calc. conc. 99.67 µg/L
Area ratio: 0.07784
Sample type: Calibration





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.295 (1.295)
Calc. conc.	102.17 µg/L
Area ratio:	0.07268
Sample type:	Calibration





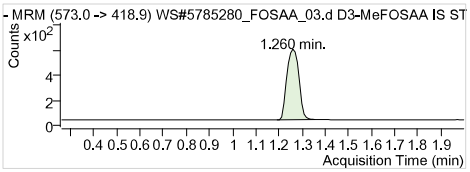
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.843 (0.843)
Calc. conc.	99.62 µg/L
Area ratio:	0
Sample type:	Calibration

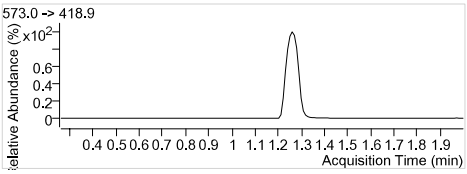
Batch Path	T:\LCMS04\PFC\20181017\WS#5785280_FOSAA\QuantResults\PFC_Water_Low_20181017_WS#5785280_FOSAA_EToxics

Sample Name	**STD 2**	**Instrument**	LCMS04
Data File	WS#5785280_FOSAA_03.d	**Operator**	
Sample Type	Cal	**Dilution**	1
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P4-A3
Acq. Date	2018/10/17 6:55:01 PM	**Injection Volume**	Per Method
Sample Annotation	-		

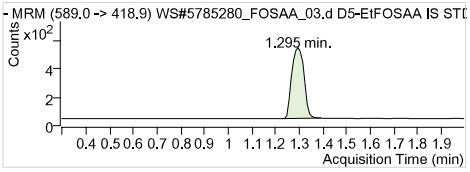
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	2007	1.26	1 µg/L		
D5-EtFOSAA IS	1796	1.29	1 µg/L		
13C9-PFDA IS	25235	0.84	1 µg/L		

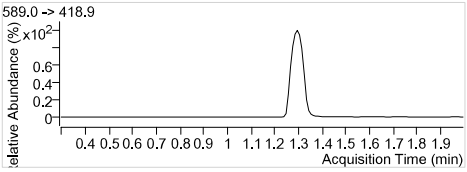
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1	1235	1.26	1.70	1.74 µg/L	102.17
EtFOSAA 1	1155	1.30	1.70	1.66 µg/L	97.60
D3-MeFOSAA	2034	1.26	100.00	103.20 µg/L	103.20
D5-EtFOSAA	1806	1.29	100.00	100.61 µg/L	100.61
13C9-PFDA	24984	0.84	100.00	99.99 µg/L	99.99



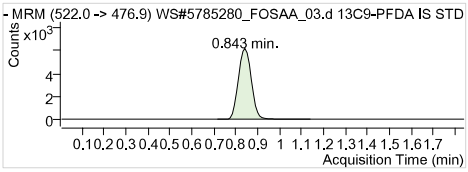


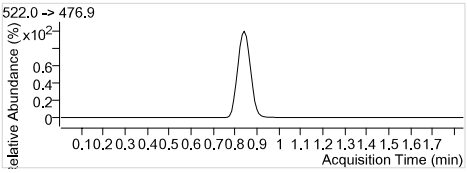
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.260 (1.260)
Concentration: 1 µg/L
Sample type: Calibration



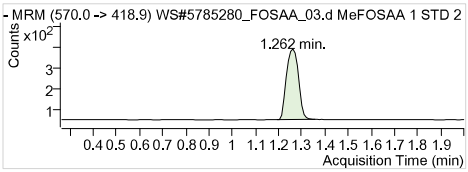


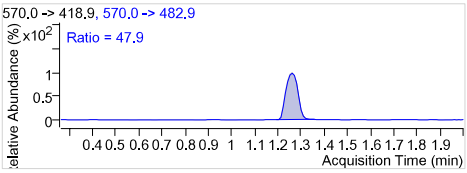
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.295 (1.295)
Concentration: 1 µg/L
Sample type: Calibration



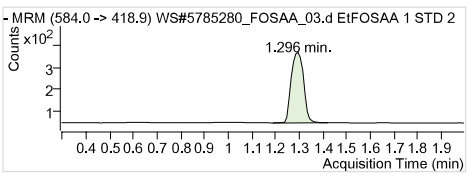


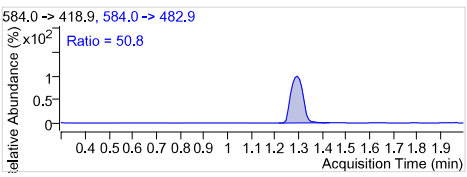
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.843 (0.843)
Concentration: 1 µg/L
Sample type: Calibration



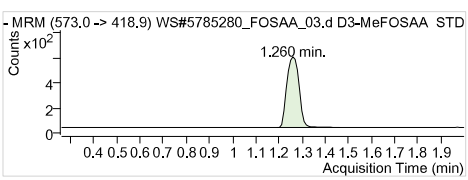


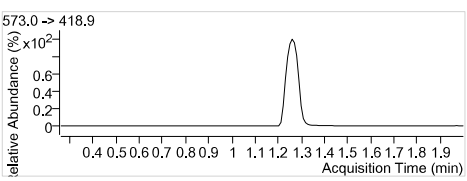
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 1.262 (1.262)
Calc. conc. 1.74 µg/L
Area ratio: 0.61535
Sample type: Calibration



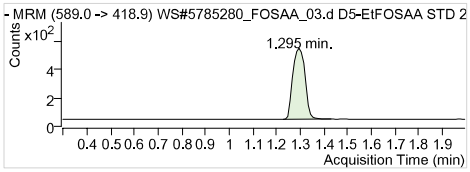


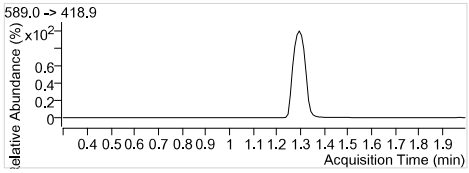
EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 1.296 (1.296)
Calc. conc. 1.66 µg/L
Area ratio: 0.64310
Sample type: Calibration



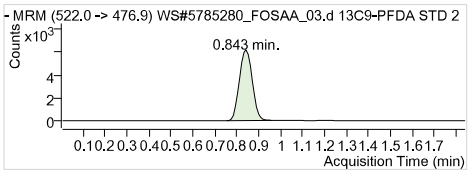


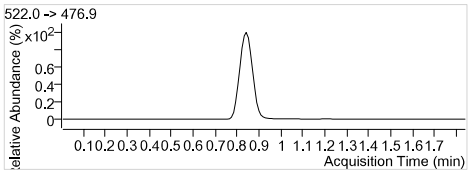
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.260 (1.260)
Calc. conc. 103.20 µg/L
Area ratio: 0.08060
Sample type: Calibration





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.295 (1.295)
Calc. conc.	100.61 µg/L
Area ratio:	0.07157
Sample type:	Calibration





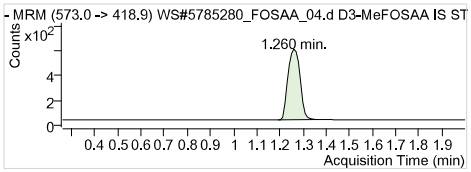
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.843 (0.843)
Calc. conc.	99.99 µg/L
Area ratio:	0
Sample type:	Calibration

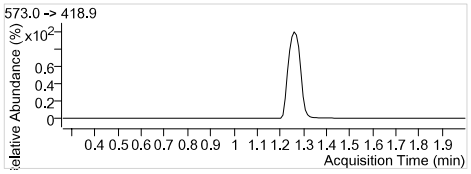
Batch Path	T:\LCMS04\PFC\20181017\WS#5785280_FOSAA\QuantResults\PFC_Water_Low_20181017_WS#5785280_FOSAA_EToxics

Sample Name	**STD 3**	**Instrument**	LCMS04
Data File	WS#5785280_FOSAA_04.d	**Operator**	
Sample Type	Cal	**Dilution**	1
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P4-A4
Acq. Date	2018/10/17 6:57:24 PM	**Injection Volume**	Per Method
Sample Annotation	-		

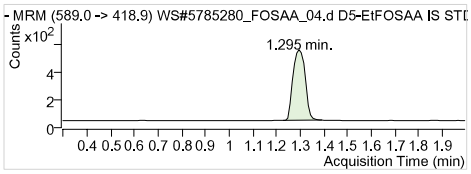
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	2034	1.26	1 µg/L		
D5-EtFOSAA IS	1822	1.29	1 µg/L		
13C9-PFDA IS	25357	0.84	1 µg/L		

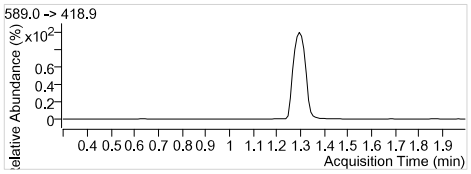
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1	3351	1.26	5.00	4.65 µg/L	93.01
EtFOSAA 1	3479	1.30	5.00	4.72 µg/L	94.36
D3-MeFOSAA	2068	1.26	100.00	104.42 µg/L	104.42
D5-EtFOSAA	1840	1.29	100.00	102.01 µg/L	102.01
13C9-PFDA	25127	0.84	100.00	100.57 µg/L	100.57



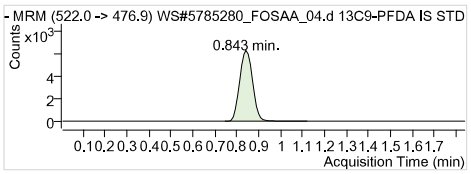


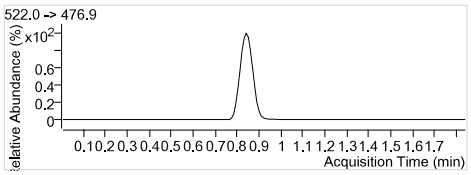
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.260 (1.260)
Concentration: 1 µg/L
Sample type: Calibration



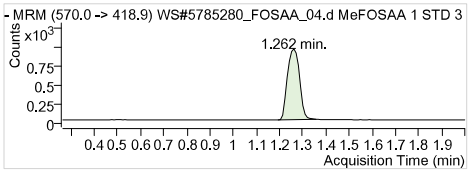


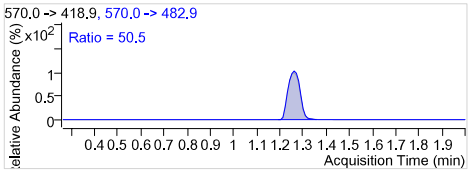
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.295 (1.295)
Concentration: 1 µg/L
Sample type: Calibration



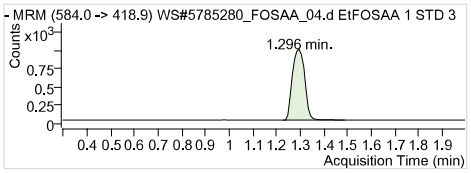


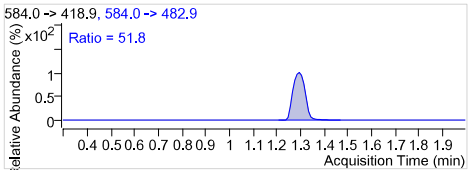
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.843 (0.843)
Concentration: 1 µg/L
Sample type: Calibration



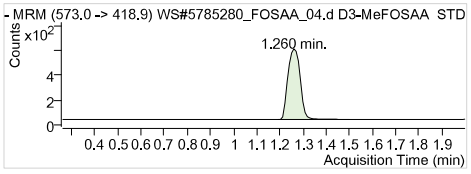


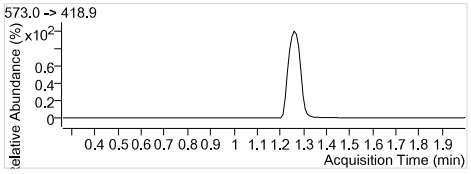
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 1.262 (1.262)
Calc. conc. 4.65 µg/L
Area ratio: 1.64749
Sample type: Calibration



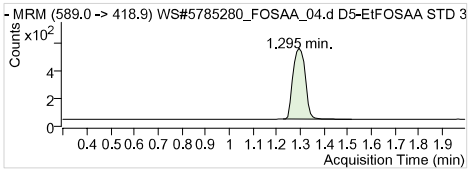


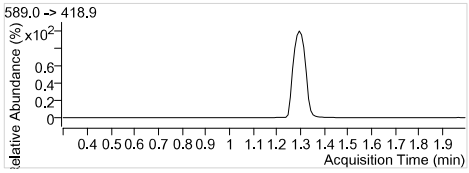
EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 1.296 (1.296)
Calc. conc. 4.72 µg/L
Area ratio: 1.90944
Sample type: Calibration



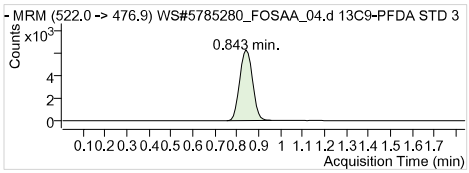


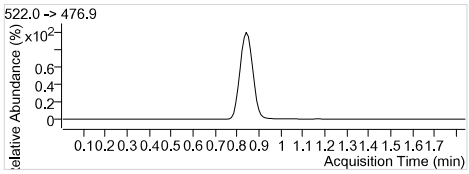
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.260 (1.260)
Calc. conc. 104.42 µg/L
Area ratio: 0.08156
Sample type: Calibration





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.295 (1.295)
Calc. conc.	102.01 µg/L
Area ratio:	0.07256
Sample type:	Calibration





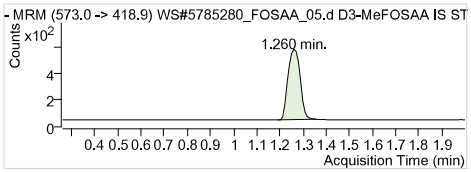
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.843 (0.843)
Calc. conc.	100.57 µg/L
Area ratio:	0
Sample type:	Calibration

Batch Path	T:\LCMS04\PFC\20181017\WS#5785280_FOSAA\QuantResults\PFC_Water_Low_20181017_WS#5785280_FOSAA_EToxics

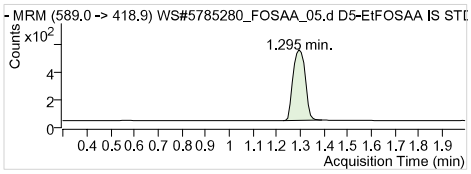
Sample Name	**STD 4**	**Instrument**	LCMS04
Data File	WS#5785280_FOSAA_05.d	**Operator**	
Sample Type	Cal	**Dilution**	1
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P4-A5
Acq. Date	2018/10/17 6:59:47 PM	**Injection Volume**	Per Method
Sample Annotation	-		

ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1957	1.26	1 µg/L		
D5-EtFOSAA IS	1814	1.29	1 µg/L		
13C9-PFDA IS	25167	0.84	1 µg/L		

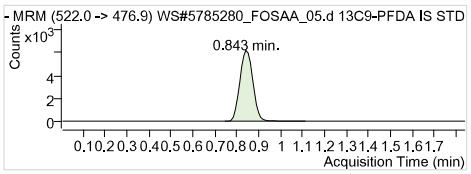
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1	8568	1.26	12.50	12.36 µg/L	98.87
EtFOSAA 1	8872	1.30	12.50	11.92 µg/L	95.36
D3-MeFOSAA	1982	1.26	100.00	100.83 µg/L	100.83
D5-EtFOSAA	1835	1.29	100.00	102.50 µg/L	102.50
13C9-PFDA	24916	0.84	100.00	99.72 µg/L	99.72



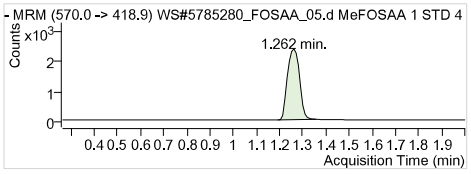
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.260 (1.260)
Concentration: 1 µg/L
Sample type: Calibration



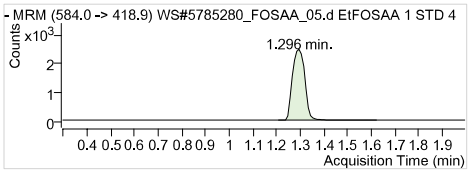
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.295 (1.295)
Concentration: 1 µg/L
Sample type: Calibration



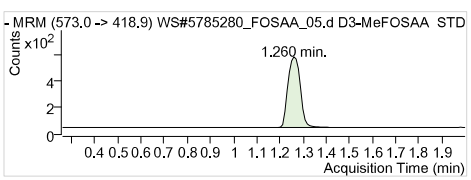
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.843 (0.843)
Concentration: 1 µg/L
Sample type: Calibration



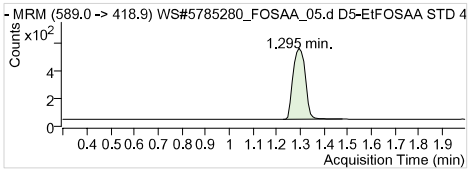
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 1.262 (1.262)
Calc. conc. 12.36 µg/L
Area ratio: 4.37813
Sample type: Calibration

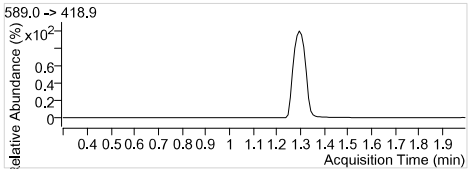


EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 1.296 (1.296)
Calc. conc. 11.92 µg/L
Area ratio: 4.89085
Sample type: Calibration

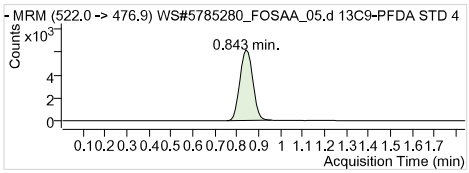


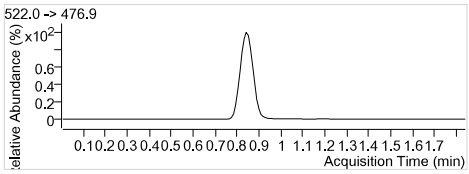
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.260 (1.260)
Calc. conc. 100.83 µg/L
Area ratio: 0.07875
Sample type: Calibration





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.295 (1.295)
Calc. conc.	102.50 µg/L
Area ratio:	0.07291
Sample type:	Calibration





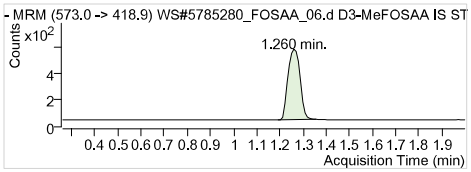
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.843 (0.843)
Calc. conc.	99.72 µg/L
Area ratio:	0
Sample type:	Calibration

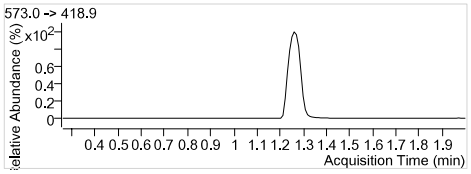
Batch Path	T:\LCMS04\PFC\20181017\WS#5785280_FOSAA\QuantResults\PFC_Water_Low_20181017_WS#5785280_FOSAA_EToxics

Sample Name	**STD 5**	**Instrument**	LCMS04
Data File	WS#5785280_FOSAA_06.d	**Operator**	
Sample Type	Cal	**Dilution**	1
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P4-A6
Acq. Date	2018/10/17 7:02:10 PM	**Injection Volume**	Per Method
Sample Annotation	-		

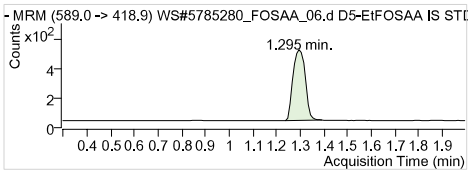
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1919	1.26	1 µg/L		
D5-EtFOSAA IS	1719	1.29	1 µg/L		
13C9-PFDA IS	25098	0.84	1 µg/L		

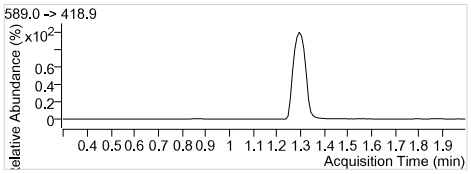
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1	17232	1.26	25.00	25.35 µg/L	101.39
EtFOSAA 1	18351	1.30	25.00	25.89 µg/L	103.57
D3-MeFOSAA	1948	1.26	100.00	99.38 µg/L	99.38
D5-EtFOSAA	1736	1.29	100.00	97.24 µg/L	97.24
13C9-PFDA	24898	0.84	100.00	99.65 µg/L	99.65



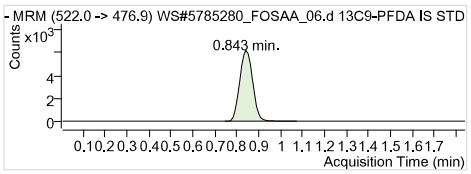


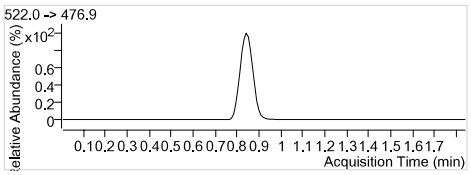
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.260 (1.260)
Concentration: 1 µg/L
Sample type: Calibration



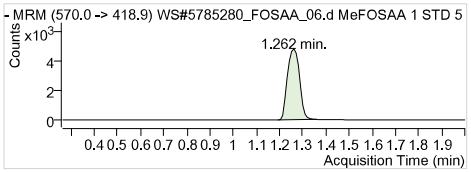


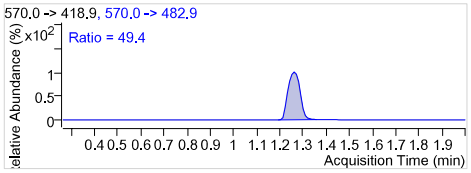
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.295 (1.295)
Concentration: 1 µg/L
Sample type: Calibration



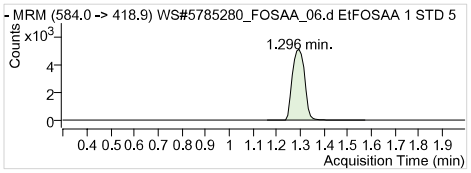


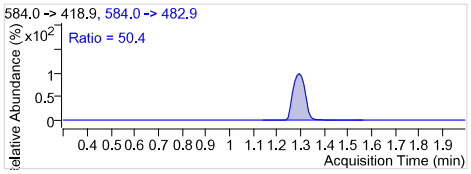
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.843 (0.843)
Concentration: 1 µg/L
Sample type: Calibration



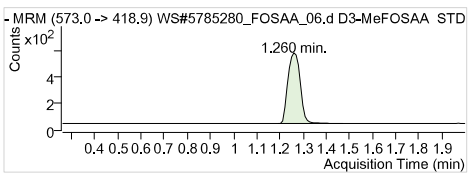


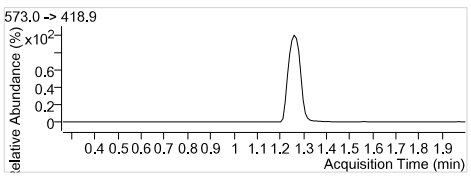
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 1.262 (1.262)
Calc. conc. 25.35 µg/L
Area ratio: 8.97968
Sample type: Calibration



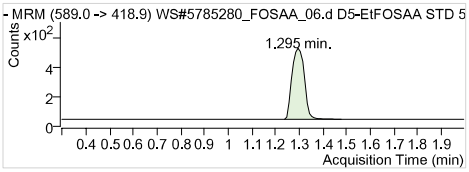


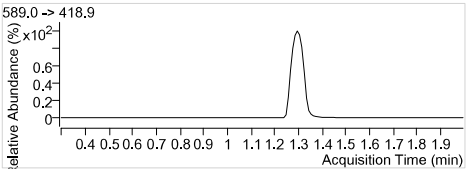
EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 1.296 (1.296)
Calc. conc. 25.89 µg/L
Area ratio: 10.67539
Sample type: Calibration



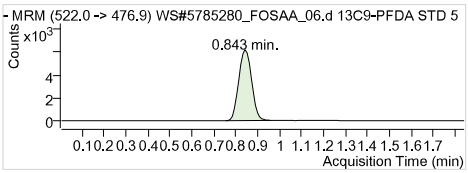


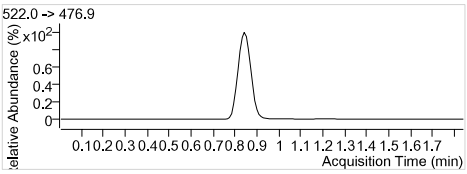
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.260 (1.260)
Calc. conc. 99.38 µg/L
Area ratio: 0.07762
Sample type: Calibration





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.295 (1.295)
Calc. conc.	97.24 µg/L
Area ratio:	0.06917
Sample type:	Calibration





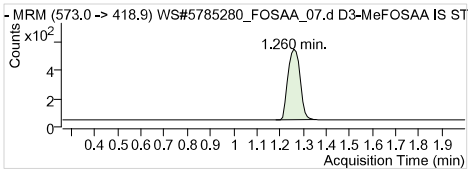
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.843 (0.843)
Calc. conc.	99.65 µg/L
Area ratio:	0
Sample type:	Calibration

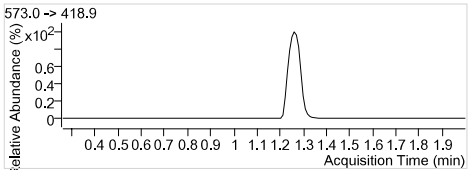
Batch Path	T:\LCMS04\PFC\20181017\WS#5785280_FOSAA\QuantResults\PFC_Water_Low_20181017_WS#5785280_FOSAA_EToxics

Sample Name	**STD 6**	**Instrument**	LCMS04
Data File	WS#5785280_FOSAA_07.d	**Operator**	
Sample Type	Cal	**Dilution**	1
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P4-A7
Acq. Date	2018/10/17 7:04:33 PM	**Injection Volume**	Per Method
Sample Annotation	-		

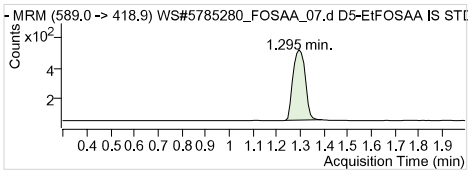
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1828	1.26	1 µg/L		
D5-EtFOSAA IS	1690	1.29	1 µg/L		
13C9-PFDA IS	25373	0.84	1 µg/L		

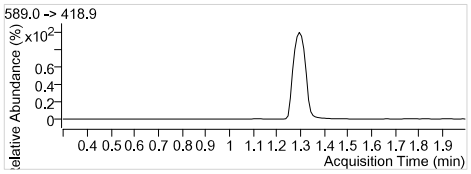
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1	27048	1.26	41.70	41.77 µg/L	100.16
EtFOSAA 1	29052	1.30	41.70	41.63 µg/L	99.84
D3-MeFOSAA	1833	1.26	100.00	92.50 µg/L	92.50
D5-EtFOSAA	1723	1.29	100.00	95.46 µg/L	95.46
13C9-PFDA	25096	0.84	100.00	100.44 µg/L	100.44



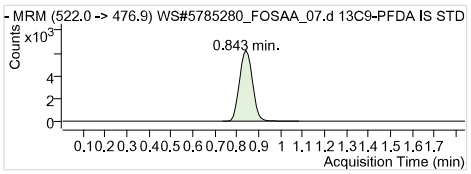


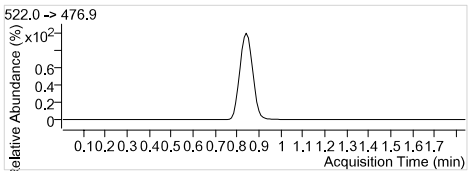
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.260 (1.260)
Concentration: 1 µg/L
Sample type: Calibration



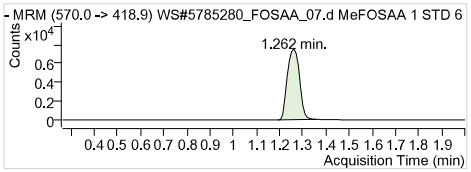


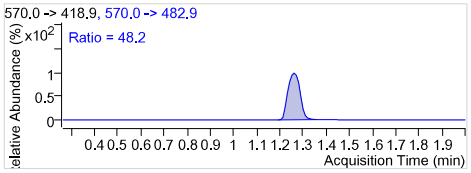
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.295 (1.295)
Concentration: 1 µg/L
Sample type: Calibration



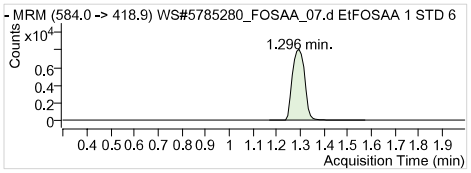


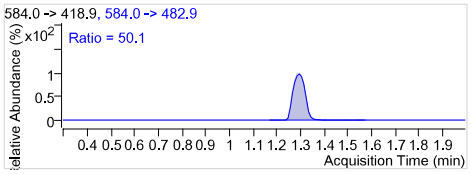
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.843 (0.843)
Concentration: 1 µg/L
Sample type: Calibration



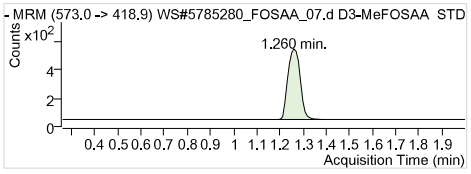


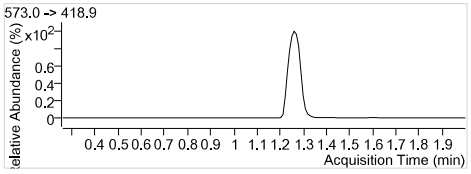
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 1.262 (1.262)
Calc. conc. 41.77 µg/L
Area ratio: 14.79650
Sample type: Calibration



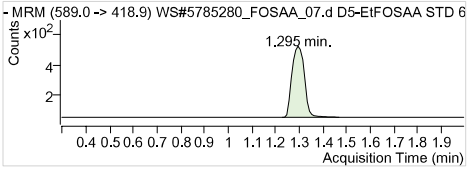


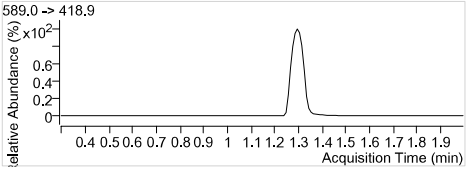
EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 1.296 (1.296)
Calc. conc. 41.63 µg/L
Area ratio: 17.19053
Sample type: Calibration



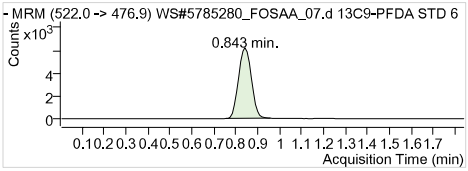


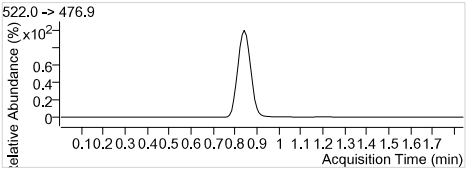
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.260 (1.260)
Calc. conc. 92.50 µg/L
Area ratio: 0.07224
Sample type: Calibration





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.295 (1.295)
Calc. conc.	95.46 µg/L
Area ratio:	0.06791
Sample type:	Calibration





13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.843 (0.843)
Calc. conc.	100.44 µg/L
Area ratio:	0
Sample type:	Calibration

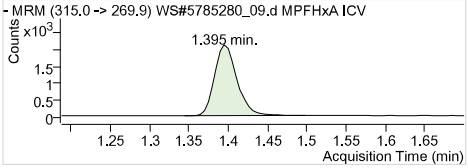
Quantitation Results

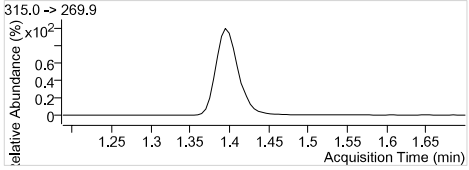
Agilent Technologies

Batch Path	T:\LCMS04\PFC\20181017\WS#5785280\QuantResults\PFC_Water_Low_20181017_WS#5785280_EToxics		
Sample Name	**ICV**	**Instrument**	LCMS04
Data File	WS#5785280_09.d	**Operator**	
Sample Type	QC	**Dilution**	1
Acq. Method	PFC_Water_Low.m	**Position**	P4-A9
Acq. Date	2018/10/18 2:47:16 AM	**Injection Volume**	Per Method
Sample Annotation	-		

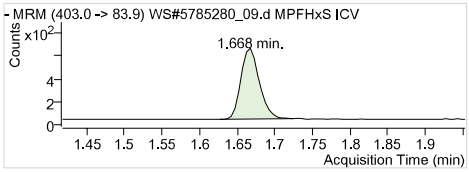
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	4191	1.39	1 µg/L		
MPFHxS	1065	1.67	1 µg/L		
MPFHpA	6094	1.66	1 µg/L		
MPFOA	6211	1.85	1 µg/L		
MPFOS	1208	1.96	1 µg/L		
MPFNA	5759	1.99	1 µg/L		
MPFDA	4343	2.11	1 µg/L		
MPFUnA	4779	2.21	1 µg/L		
MPFDoA	6504	2.29	1 µg/L		
MPFTeDA	8876	2.44	1 µg/L		
13C6-PFHxA IS	18067	1.39	1 µg/L		
13C9-PFDA IS	25353	2.11	1 µg/L		

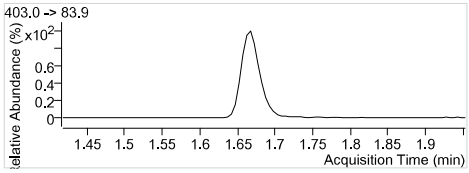
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1	14295	1.07	20.80	22.59 µg/L	108.59
PFHxA 1	39230	1.38	20.80	23.15 µg/L	111.30
PFHxS 1	12316	1.67	20.80	22.01 µg/L	105.84
PFHpA 1	54937	1.65	20.80	22.74 µg/L	109.35
PFOA 1	56949	1.84	20.80	21.91 µg/L	105.36
PFOS 1	10781	1.93	20.80	22.63 µg/L	108.80
PFNA 1	49979	1.99	20.80	21.71 µg/L	104.39
PFDA 1	53379	2.11	20.80	21.91 µg/L	105.33
PFUnA 1	52231	2.21	20.80	23.48 µg/L	112.89
PFDoA 1	60304	2.29	20.80	23.63 µg/L	113.61
PFTrDA 1	73027	2.37	20.80	22.57 µg/L	108.51
PFTeDA 1	73258	2.44	20.80	22.21 µg/L	106.78
13C2-PFHxA	4191	1.39	100.00	98.93 µg/L	98.93
18O2-PFHxS	1065	1.67	100.00	101.28 µg/L	101.28
13C4-PFHpA	6094	1.66	100.00	100.81 µg/L	100.81
13C4-PFOA	6211	1.85	100.00	101.12 µg/L	101.12
13C4-PFOS	1208	1.96	100.00	99.09 µg/L	99.09
13C5-PFNA	5759	1.99	100.00	98.20 µg/L	98.20
13C2-PFDA	4343	2.11	100.00	95.23 µg/L	95.23
13C2-PFUnA	4779	2.21	100.00	93.90 µg/L	93.90
13C2-PFDoA	6504	2.29	100.00	96.54 µg/L	96.54
13C2-PFTeDA	8876	2.44	100.00	97.97 µg/L	97.97
13C6-PFHxA	18067	1.39	100.00	100.23 µg/L	100.23
13C9-PFDA	25353	2.11	100.00	102.52 µg/L	102.52



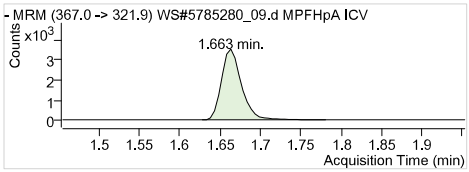


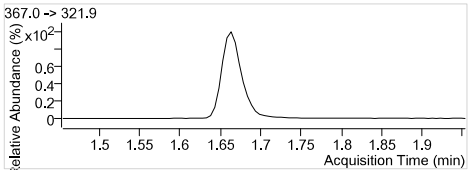
MPFHxA	Internal Standard
RT (Exp. RT):	1.395 (1.395)
Concentration:	1 µg/L
Sample type:	QC



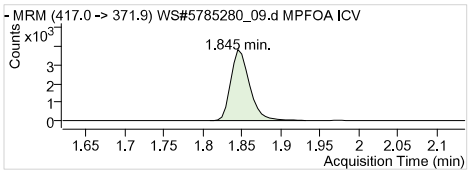


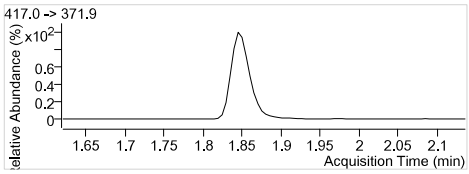
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: QC



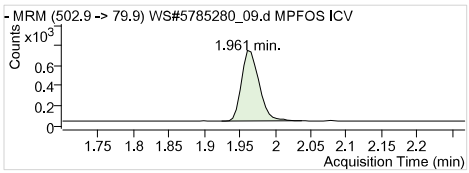


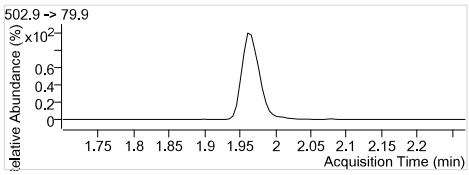
MPFHpA Internal Standard
RT (Exp. RT): 1.663 (1.663)
Concentration: 1 µg/L
Sample type: QC



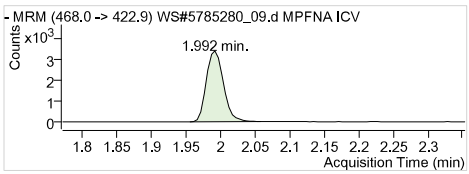


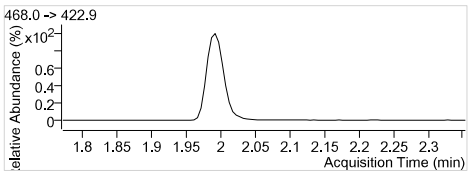
MPFOA Internal Standard
RT (Exp. RT): 1.845 (1.845)
Concentration: 1 µg/L
Sample type: QC



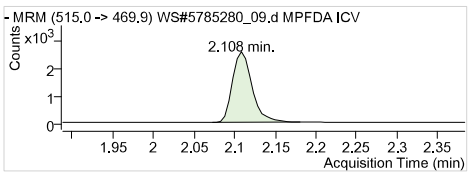


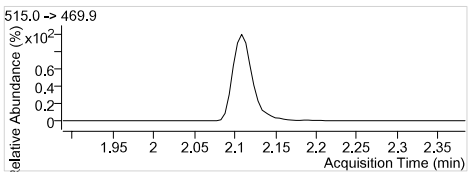
MPFOS Internal Standard
RT (Exp. RT): 1.961 (1.966)
Concentration: 1 µg/L
Sample type: QC



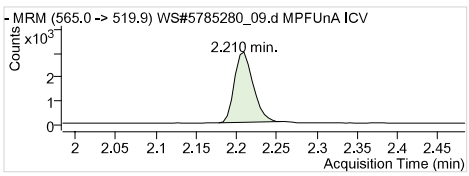


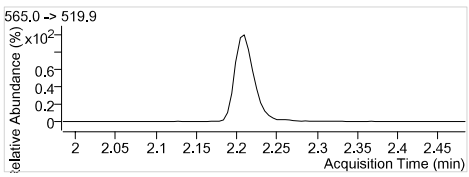
MPFNA Internal Standard
RT (Exp. RT): 1.992 (1.992)
Concentration: 1 µg/L
Sample type: QC



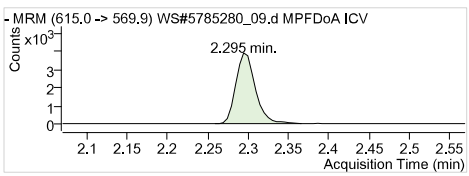


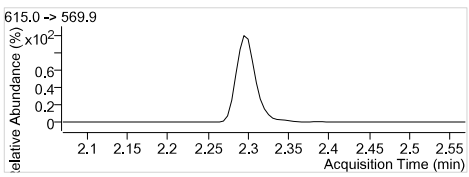
MPFDA Internal Standard
RT (Exp. RT): 2.108 (2.108)
Concentration: 1 µg/L
Sample type: QC



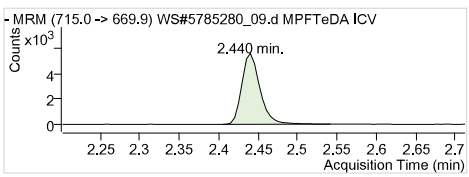


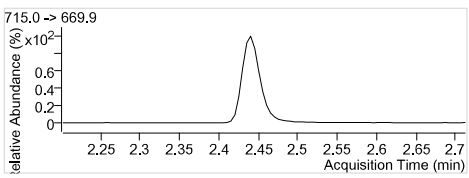
MPFUnA Internal Standard
RT (Exp. RT): 2.210 (2.210)
Concentration: 1 µg/L
Sample type: QC



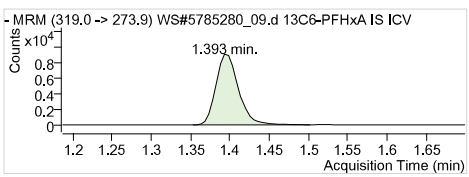


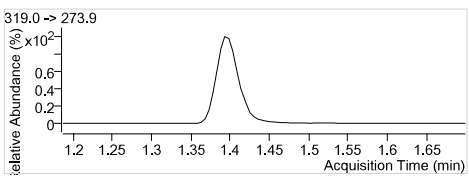
MPFDoA Internal Standard
RT (Exp. RT): 2.295 (2.295)
Concentration: 1 µg/L
Sample type: QC



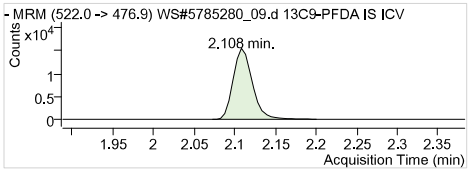


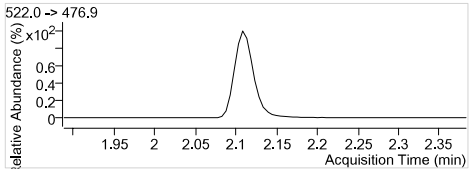
MPFTeDA Internal Standard
RT (Exp. RT): 2.440 (2.440)
Concentration: 1 µg/L
Sample type: QC



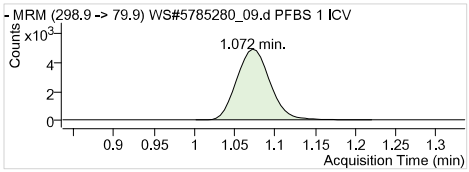


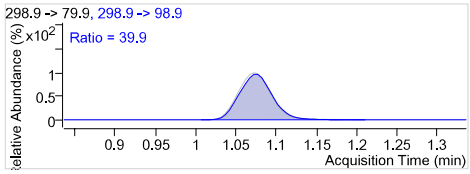
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.393 (1.393)
Concentration: 1 µg/L
Sample type: QC



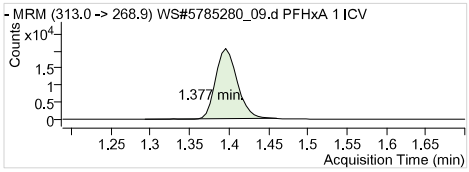


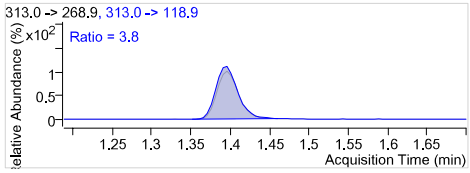
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.108 (2.108)
Concentration: 1 µg/L
Sample type: QC



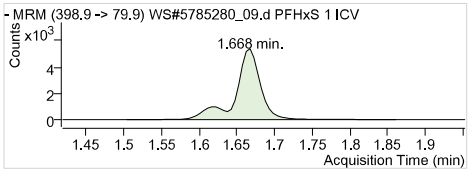


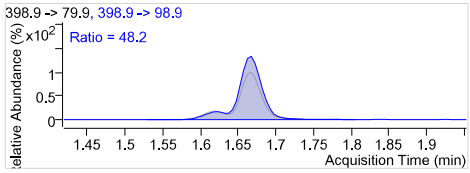
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 1.072 (1.067)
Calc. conc. 22.59 µg/L
Area ratio: 13.42254
Sample type: QC



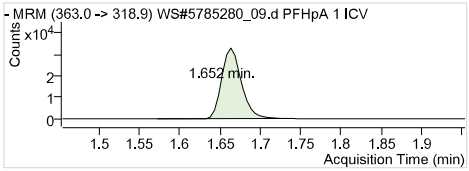


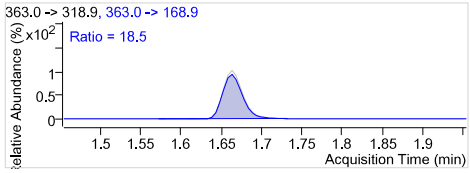
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 1.377 (1.391)
Calc. conc. 23.15 µg/L
Area ratio: 9.36043
Sample type: QC



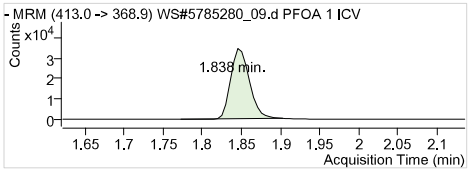


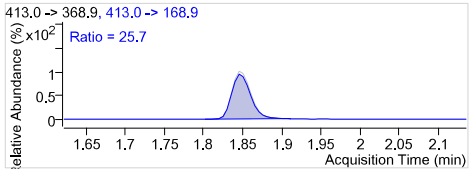
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.663)
Calc. conc. 22.01 µg/L
Area ratio: 11.56432
Sample type: QC



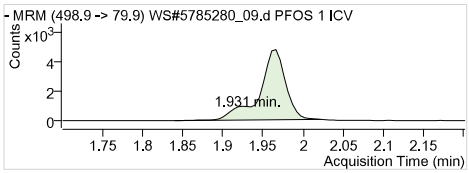


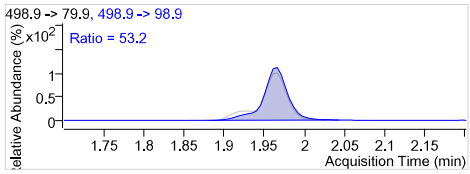
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 1.652 (1.664)
Calc. conc. 22.74 µg/L
Area ratio: 9.01498
Sample type: QC



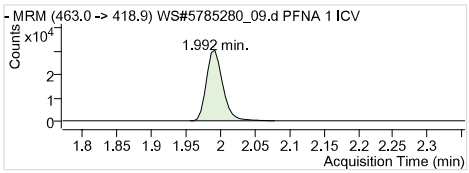


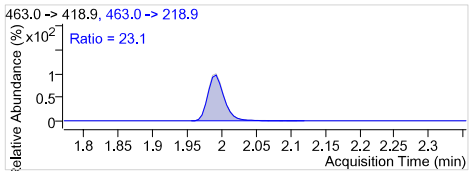
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 1.838 (1.845)
Calc. conc. 21.91 µg/L
Area ratio: 9.16899
Sample type: QC



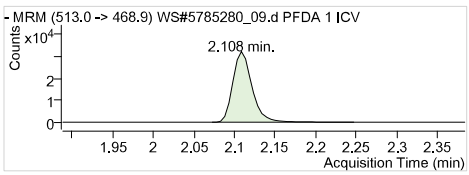


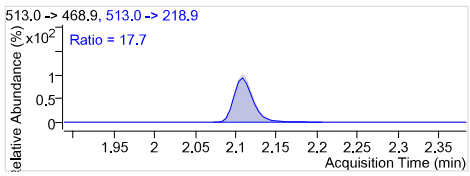
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.931 (1.966)
Calc. conc. 22.63 µg/L
Area ratio: 8.92506
Sample type: QC



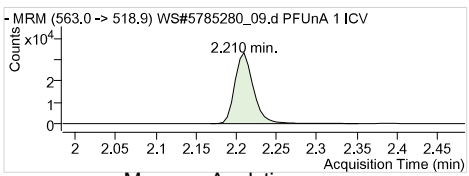


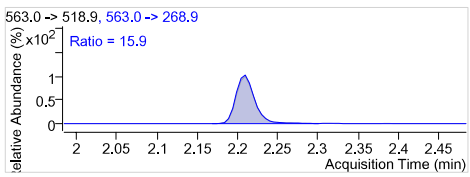
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 1.992 (1.992)
Calc. conc. 21.71 µg/L
Area ratio: 8.67842
Sample type: QC



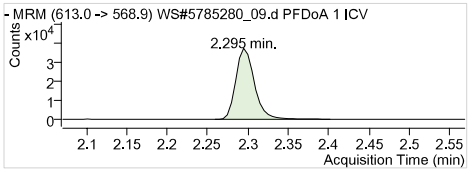


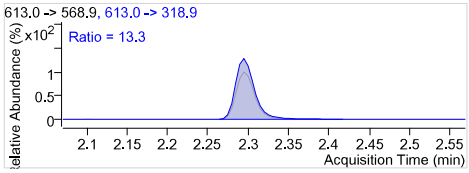
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 2.108 (2.108)
Calc. conc. 21.91 µg/L
Area ratio: 12.29081
Sample type: QC



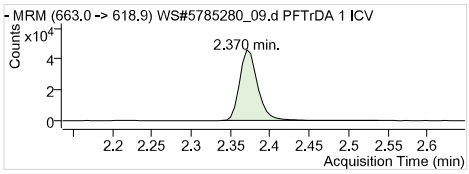


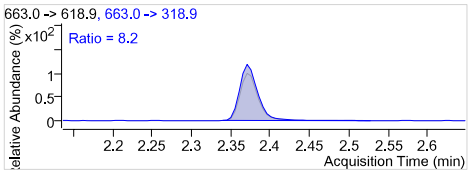
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 2.210 (2.210)
Calc. conc. 23.48 µg/L
Area ratio: 10.92927
Sample type: QC



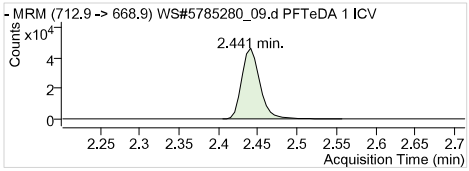


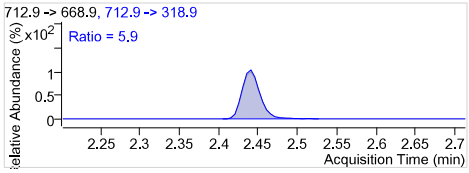
PFDoA 1	613.0 -> 568.9
RT (Exp. RT):	2.295 (2.295)
Calc. conc.	23.63 µg/L
Area ratio:	9.27183
Sample type:	QC



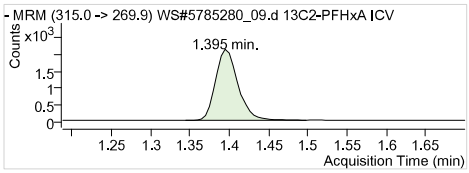


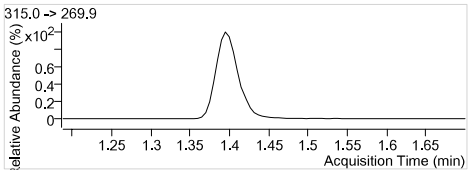
PFTrDA 1	663.0 -> 618.9
RT (Exp. RT):	2.370 (2.370)
Calc. conc.	22.57 µg/L
Area ratio:	8.22747
Sample type:	QC



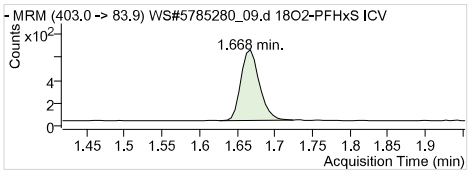


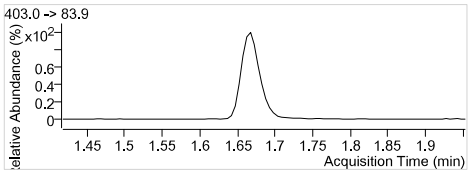
PFTeDA 1	712.9 -> 668.9
RT (Exp. RT):	2.441 (2.441)
Calc. conc.	22.21 µg/L
Area ratio:	8.25349
Sample type:	QC



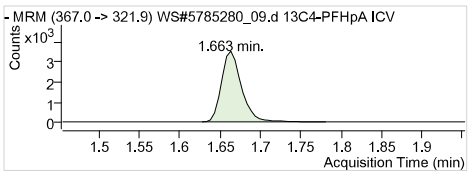


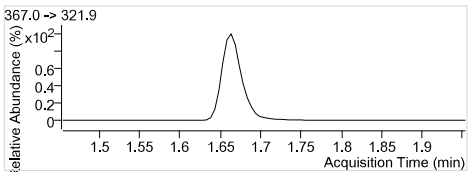
13C2-PFHxA	315.0 -> 269.9
RT (Exp. RT):	1.395 (1.395)
Calc. conc.	98.93 µg/L
Area ratio:	0.23197
Sample type:	QC



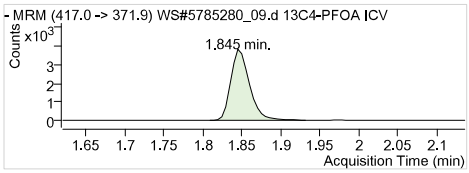


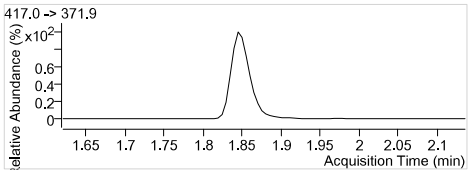
18O2-PFHxS	403.0 -> 83.9
RT (Exp. RT):	1.668 (1.668)
Calc. conc.	101.28 µg/L
Area ratio:	0.05895
Sample type:	QC



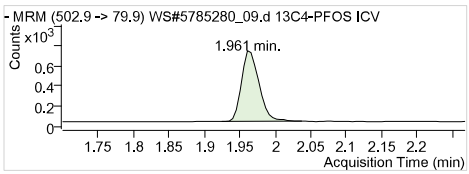


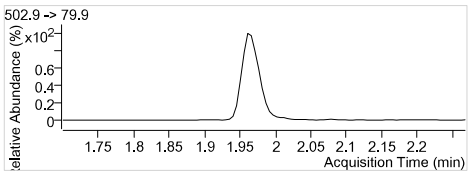
13C4-PFHpA	367.0 -> 321.9
RT (Exp. RT):	1.663 (1.663)
Calc. conc.	100.81 µg/L
Area ratio:	0.33730
Sample type:	QC



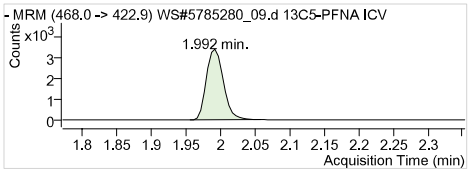


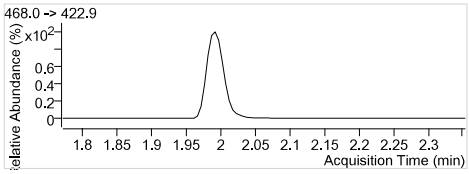
13C4-PFOA	417.0 -> 371.9
RT (Exp. RT):	1.845 (1.845)
Calc. conc.	101.12 µg/L
Area ratio:	0.34378
Sample type:	QC



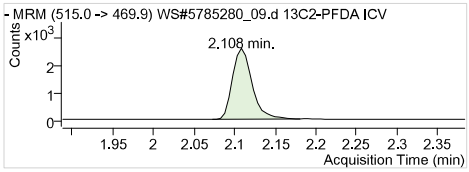


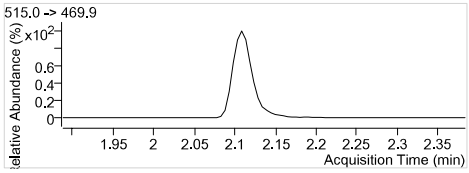
13C4-PFOS	502.9 -> 79.9
RT (Exp. RT):	1.961 (1.966)
Calc. conc.	99.09 µg/L
Area ratio:	0.06686
Sample type:	QC



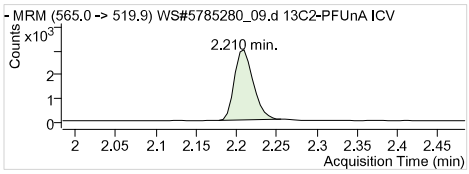


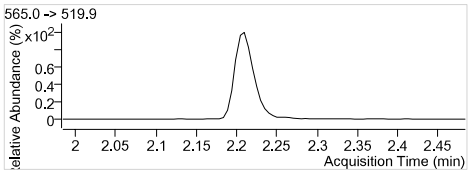
13C5-PFNA	468.0 -> 422.9
RT (Exp. RT):	1.992 (1.992)
Calc. conc.	98.20 µg/L
Area ratio:	0.31876
Sample type:	QC



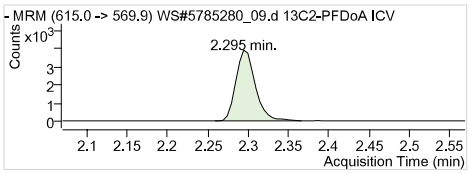


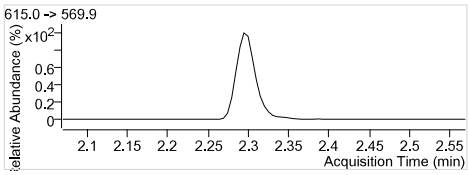
13C2-PFDA	515.0 -> 469.9
RT (Exp. RT):	2.108 (2.108)
Calc. conc.	95.23 µg/L
Area ratio:	0.17130
Sample type:	QC



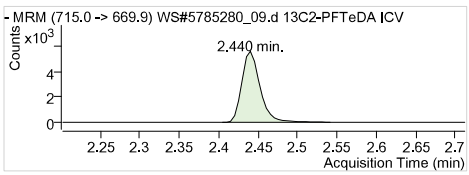


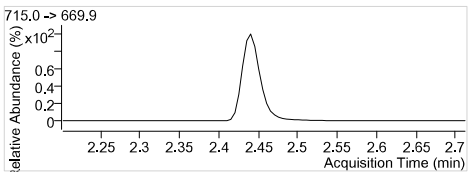
13C2-PFUnA	565.0 -> 519.9
RT (Exp. RT):	2.210 (2.210)
Calc. conc.	93.90 µg/L
Area ratio:	0.18850
Sample type:	QC



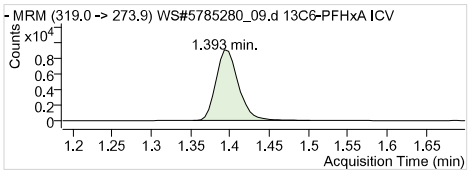


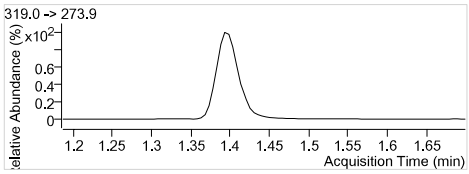
13C2-PFDoA	615.0 -> 569.9
RT (Exp. RT):	2.295 (2.295)
Calc. conc.	96.54 µg/L
Area ratio:	0.25654
Sample type:	QC



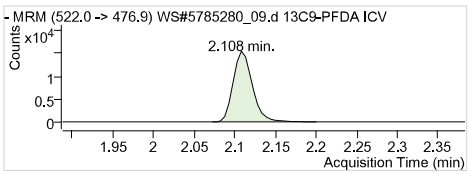


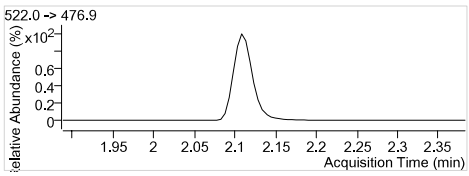
13C2-PFTeDA	715.0 -> 669.9
RT (Exp. RT):	2.440 (2.440)
Calc. conc.	97.97 µg/L
Area ratio:	0.35010
Sample type:	QC





13C6-PFHxA	319.0 -> 273.9
RT (Exp. RT):	1.393 (1.393)
Calc. conc.	100.23 µg/L
Area ratio:	0
Sample type:	QC





13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	2.108 (2.108)
Calc. conc.	102.52 µg/L
Area ratio:	0
Sample type:	QC

Quantitation Results

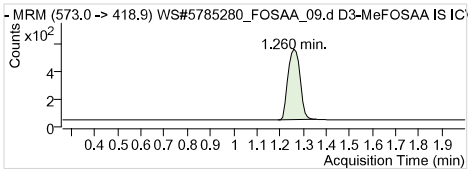
Agilent Technologies

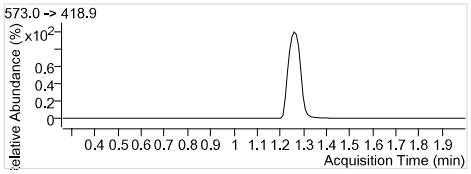
Batch Path	T:\LCMS04\PFC\20181017\WS#5785280_FOSAA\QuantResults\PFC_Water_Low_20181017_WS#5785280_FOSAA_ETOxics

Sample Name	**ICV**	**Instrument**	LCMS04
Data File	WS#5785280_FOSAA_09.d	**Operator**	
Sample Type	QC	**Dilution**	1
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P4-A9
Acq. Date	2018/10/17 7:09:19 PM	**Injection Volume**	Per Method
Sample Annotation	-		

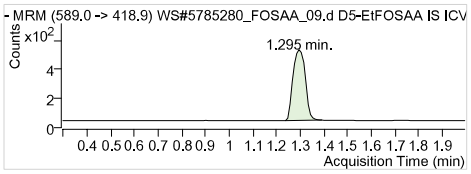
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1865	1.26	1 µg/L		
D5-EtFOSAA IS	1742	1.29	1 µg/L		
13C9-PFDA IS	25257	0.84	1 µg/L		

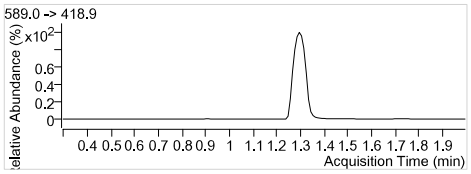
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1	15872	1.26	20.80	24.02 µg/L	115.50
EtFOSAA 1	16189	1.30	20.80	22.56 µg/L	108.44
D3-MeFOSAA	1889	1.26	100.00	95.76 µg/L	95.76
D5-EtFOSAA	1754	1.29	100.00	97.63 µg/L	97.63
13C9-PFDA	24992	0.84	100.00	100.03 µg/L	100.03



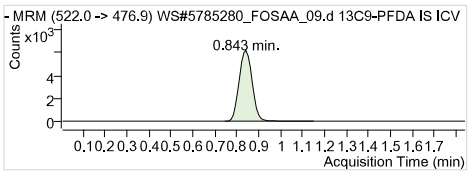


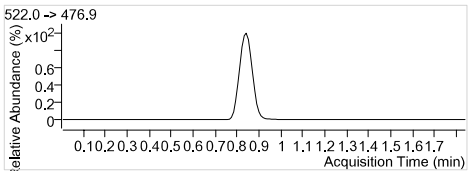
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.260 (1.260)
Concentration: 1 µg/L
Sample type: QC



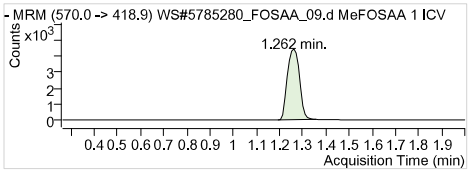


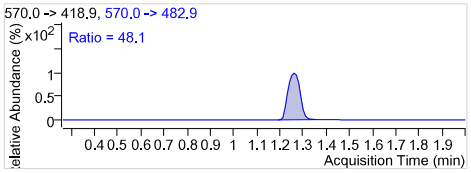
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.295 (1.295)
Concentration: 1 µg/L
Sample type: QC



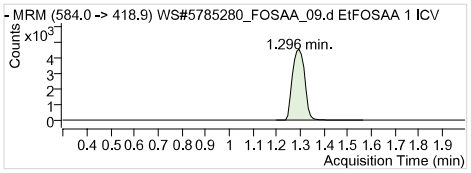


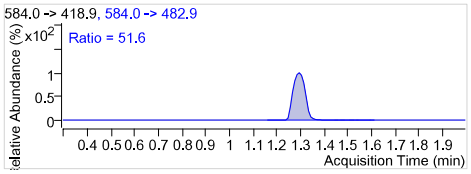
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.843 (0.843)
Concentration: 1 µg/L
Sample type: QC



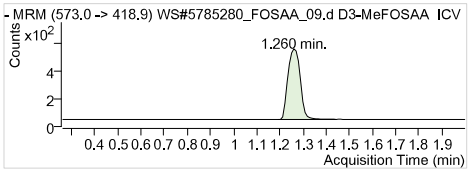


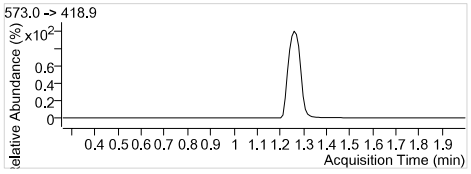
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 1.262 (1.262)
Calc. conc. 24.02 µg/L
Area ratio: 8.51046
Sample type: QC



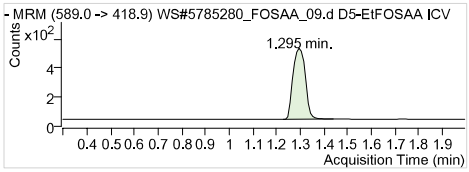


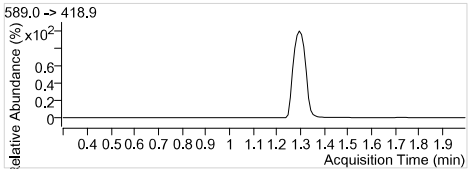
EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 1.296 (1.296)
Calc. conc. 22.56 µg/L
Area ratio: 9.29334
Sample type: QC



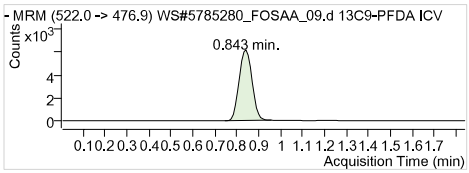


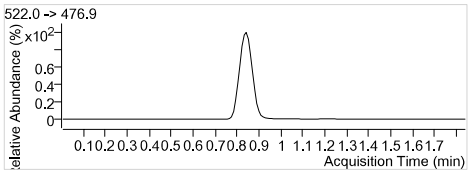
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.260 (1.260)
Calc. conc. 95.76 µg/L
Area ratio: 0.07479
Sample type: QC





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.295 (1.295)
Calc. conc.	97.63 µg/L
Area ratio:	0.06945
Sample type:	QC

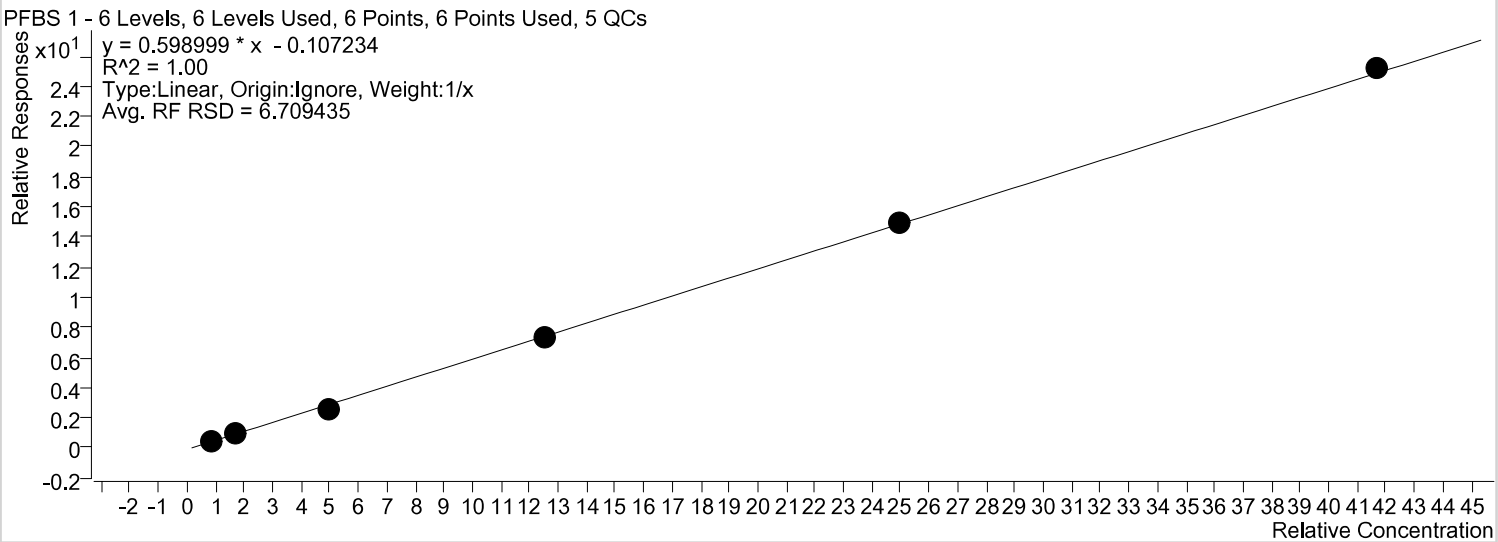




13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.843 (0.843)
Calc. conc.	100.03 µg/L
Area ratio:	0
Sample type:	QC

Batch Path T:\LCMS04\PFC\20181017\WS#5785280\QuantResults\PFC_Water_Low_20181017_WS#5785280_EToxics.batch.bin
Last Calib Update 2018/10/23 10:16:30 AM
Instrument: LCMS04

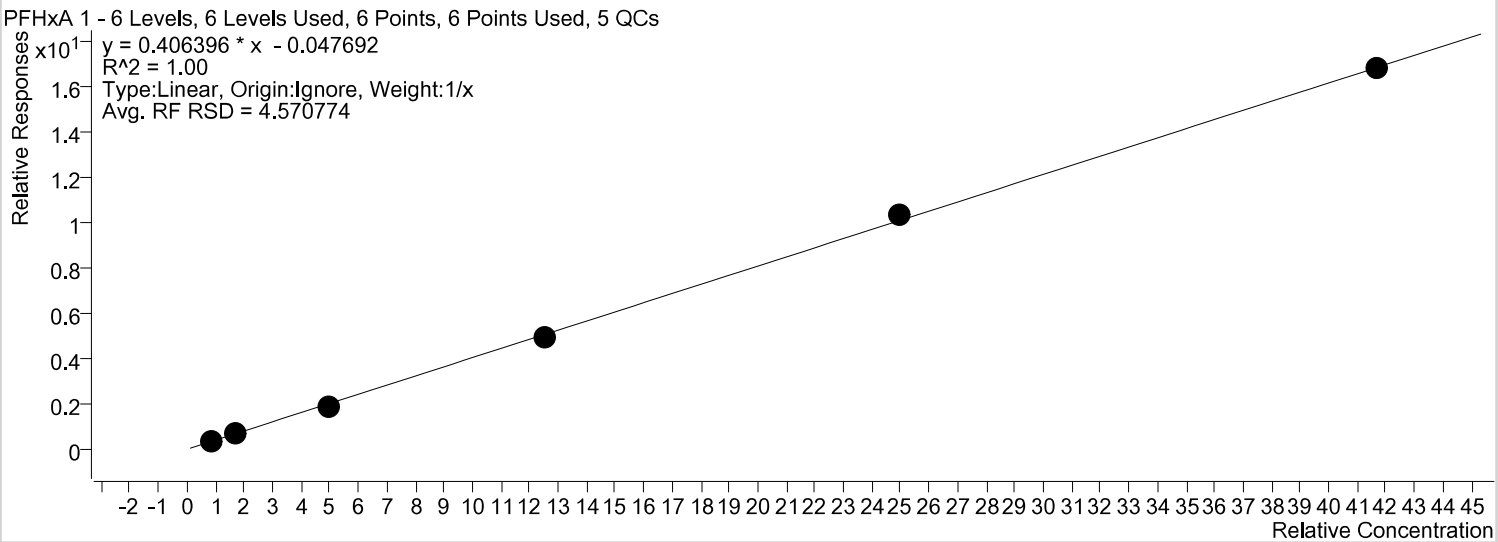
Analyte: PFBS 1
Internal Standard: MPFHxS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/10/18 2:12:53 AM	0.83	0.90	460	0.5199	71	108.4
STD 2	STD 2	x	2018/10/18 2:17:48 AM	1.70	1.72	938	0.5436	166	101.3
STD 3	STD 3	x	2018/10/18 2:22:42 AM	5.00	4.52	2913	0.5206	300	90.5
STD 4	STD 4	x	2018/10/18 2:27:37 AM	12.50	12.30	7575	0.5810	740	98.4
STD 5	STD 5	x	2018/10/18 2:32:32 AM	25.00	25.02	15430	0.5952	1893	100.1
STD 6	STD 6	x	2018/10/18 2:37:26 AM	41.70	42.26	25484	0.6045	1404	101.3

Batch Path T:\LCMS04\PFC\20181017\WS#5785280\QuantResults\PFC_Water_Low_20181017_WS#5785280_EToxics.batch.bin
Last Calib Update 2018/10/23 10:16:30 AM
Instrument: LCMS04

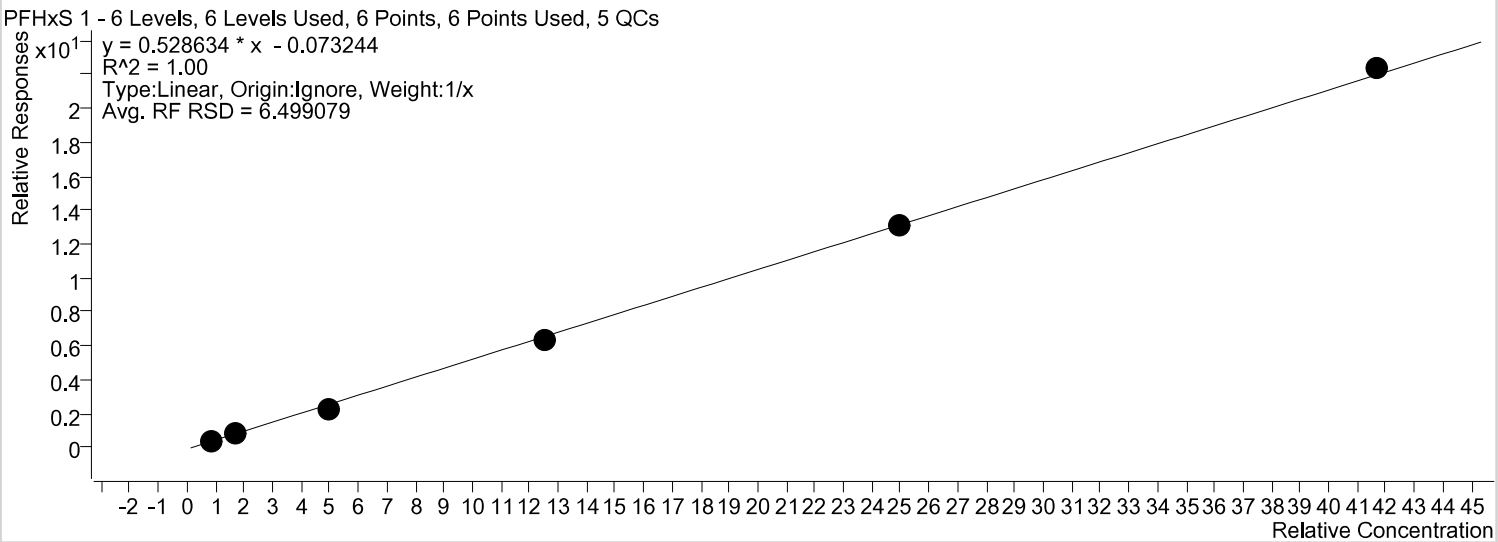
Analyte: PFHxA 1
Internal Standard: MPFHxA



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/10/18 2:12:53 AM	0.83	0.86	1281	0.3653	76	104.0
STD 2	STD 2	x	2018/10/18 2:17:48 AM	1.70	1.71	2702	0.3813	135	100.7
STD 3	STD 3	x	2018/10/18 2:22:42 AM	5.00	4.76	7952	0.3775	203	95.2
STD 4	STD 4	x	2018/10/18 2:27:37 AM	12.50	12.28	21433	0.3955	380	98.3
STD 5	STD 5	x	2018/10/18 2:32:32 AM	25.00	25.49	43135	0.4124	262	101.9
STD 6	STD 6	x	2018/10/18 2:37:26 AM	41.70	41.62	71336	0.4045	331	99.8

Batch Path T:\LCMS04\PFC\20181017\WS#5785280\QuantResults\PFC_Water_Low_20181017_WS#5785280_EToxics.batch.bin
Last Calib Update 2018/10/23 10:16:30 AM
Instrument: LCMS04

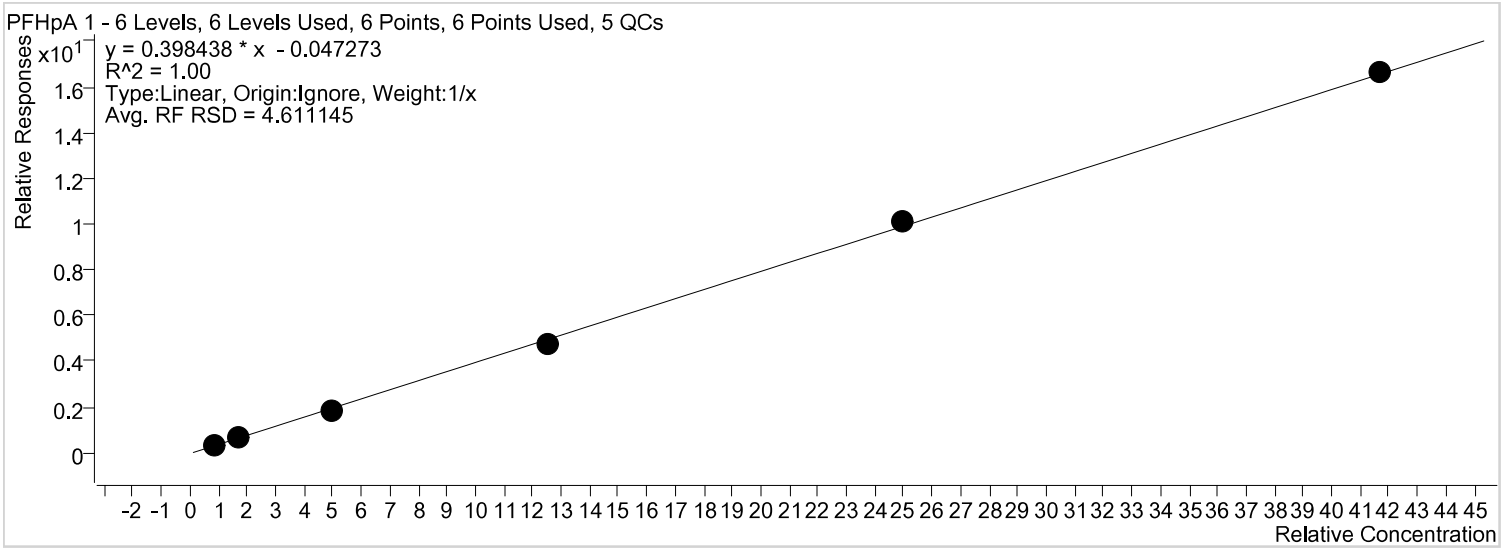
Analyte: PFHxS 1
Internal Standard: MPFHxS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/10/18 2:12:53 AM	0.83	0.86	406	0.4589	105	103.5
STD 2	STD 2	x	2018/10/18 2:17:48 AM	1.70	1.82	903	0.5233	143	107.1
STD 3	STD 3	x	2018/10/18 2:22:42 AM	5.00	4.54	2606	0.4658	336	90.9
STD 4	STD 4	x	2018/10/18 2:27:37 AM	12.50	12.11	6602	0.5064	1069	96.9
STD 5	STD 5	x	2018/10/18 2:32:32 AM	25.00	24.95	13600	0.5246	1135	99.8
STD 6	STD 6	x	2018/10/18 2:37:26 AM	41.70	42.45	22611	0.5363	3553	101.8

Batch Path T:\LCMS04\PFC\20181017\WS#5785280\QuantResults\PFC_Water_Low_20181017_WS#5785280_EToxics.batch.bin
Last Calib Update 2018/10/23 10:16:30 AM
Instrument: LCMS04

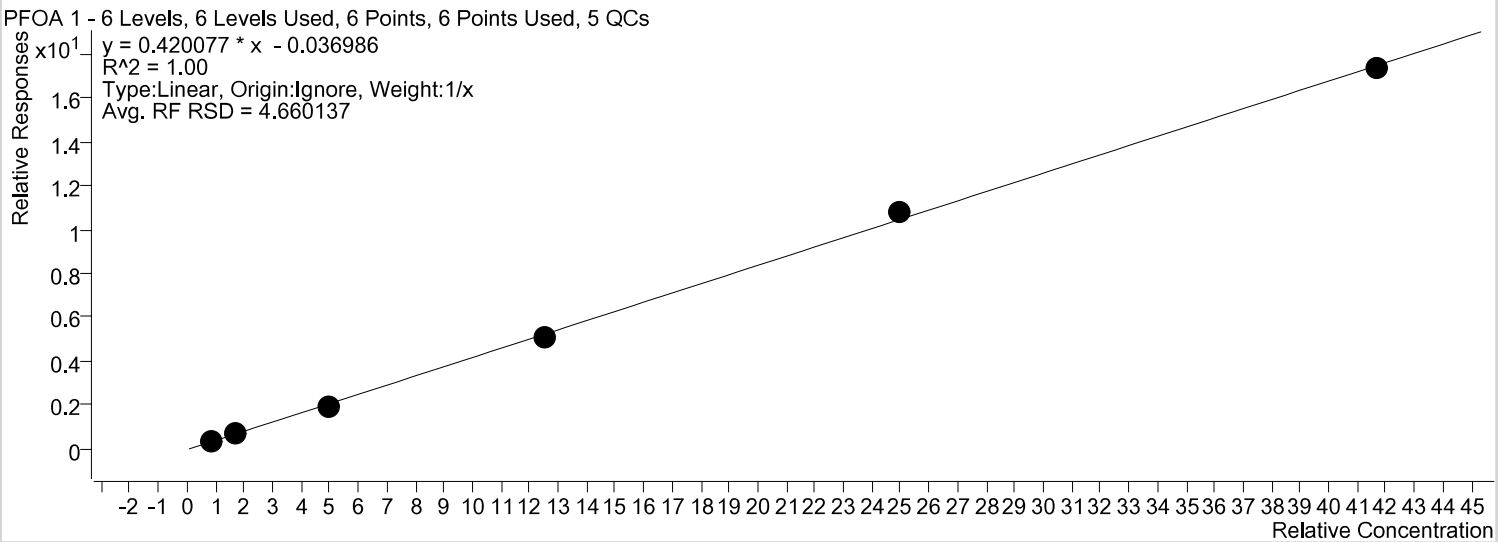
Analyte: PFHpA 1
Internal Standard: MPFHpA



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/10/18 2:12:53 AM	0.83	0.91	1881	0.3791	36	109.4
STD 2	STD 2	x	2018/10/18 2:17:48 AM	1.70	1.67	3770	0.3627	74	98.0
STD 3	STD 3	x	2018/10/18 2:22:42 AM	5.00	4.67	10986	0.3626	197	93.4
STD 4	STD 4	x	2018/10/18 2:27:37 AM	12.50	12.09	29543	0.3817	520	96.7
STD 5	STD 5	x	2018/10/18 2:32:32 AM	25.00	25.47	59777	0.4041	425	101.9
STD 6	STD 6	x	2018/10/18 2:37:26 AM	41.70	41.92	98632	0.3994	483	100.5

Batch Path T:\LCMS04\PFC\20181017\WS#5785280\QuantResults\PFC_Water_Low_20181017_WS#5785280_EToxics.batch.bin
Last Calib Update 2018/10/23 10:16:30 AM
Instrument: LCMS04

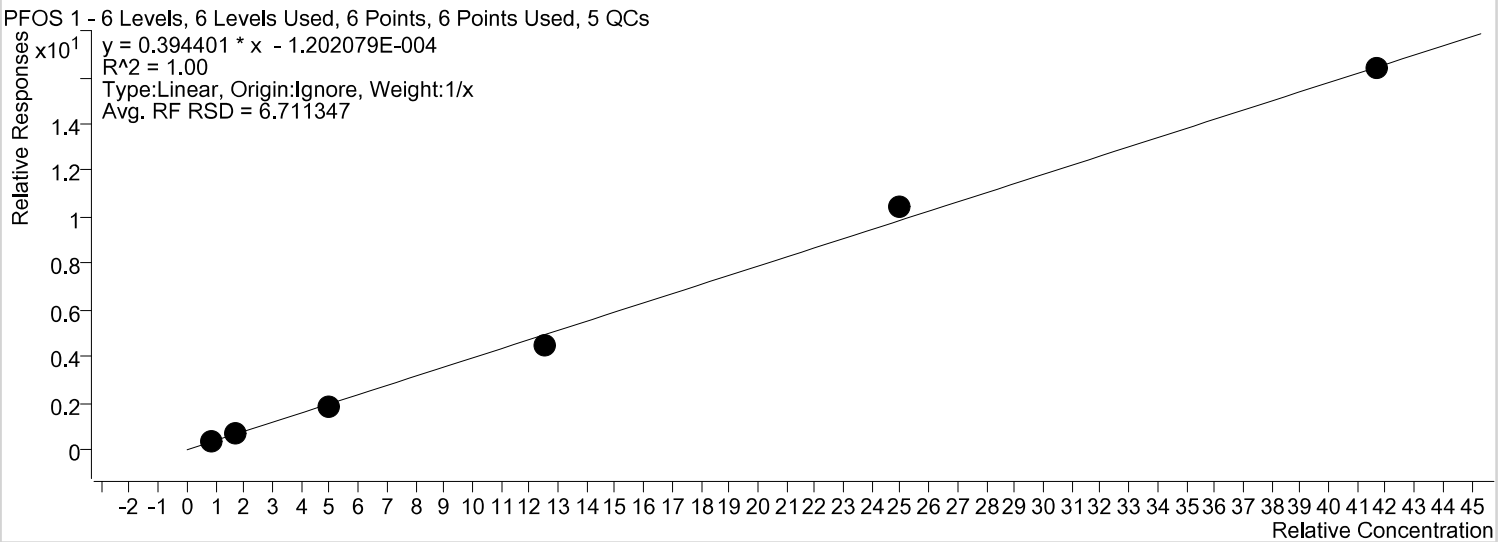
Analyte: PFOA 1
Internal Standard: MPFOA



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/10/18 2:12:53 AM	0.83	0.91	2121	0.4138	55	109.1
STD 2	STD 2	x	2018/10/18 2:17:48 AM	1.70	1.65	4057	0.3866	63	97.2
STD 3	STD 3	x	2018/10/18 2:22:42 AM	5.00	4.66	11875	0.3837	140	93.1
STD 4	STD 4	x	2018/10/18 2:27:37 AM	12.50	12.21	32070	0.4074	197	97.7
STD 5	STD 5	x	2018/10/18 2:32:32 AM	25.00	25.89	63947	0.4336	204	103.6
STD 6	STD 6	x	2018/10/18 2:37:26 AM	41.70	41.41	104657	0.4163	239	99.3

Batch Path T:\LCMS04\PFC\20181017\WS#5785280\QuantResults\PFC_Water_Low_20181017_WS#5785280_EToxics.batch.bin
Last Calib Update 2018/10/23 10:16:30 AM
Instrument: LCMS04

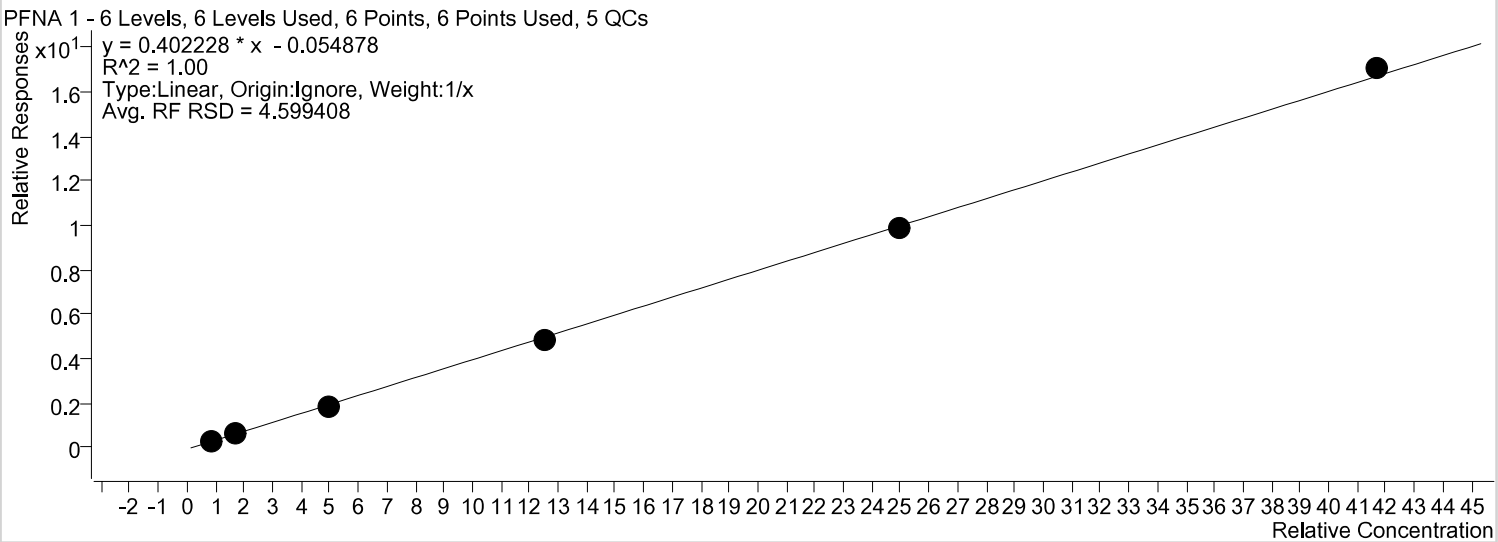
Analyte: PFOS 1
Internal Standard: MPFOS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/10/18 2:12:53 AM	0.83	0.91	423	0.4323	80	109.6
STD 2	STD 2	x	2018/10/18 2:17:48 AM	1.70	1.67	766	0.3879	91	98.4
STD 3	STD 3	x	2018/10/18 2:22:42 AM	5.00	4.78	2300	0.3771	188	95.6
STD 4	STD 4	x	2018/10/18 2:27:37 AM	12.50	11.38	5945	0.3592	202	91.1
STD 5	STD 5	x	2018/10/18 2:32:32 AM	25.00	26.40	12201	0.4164	182	105.6
STD 6	STD 6	x	2018/10/18 2:37:26 AM	41.70	41.59	20371	0.3933	221	99.7

Batch Path T:\LCMS04\PFC\20181017\WS#5785280\QuantResults\PFC_Water_Low_20181017_WS#5785280_EToxics.batch.bin
Last Calib Update 2018/10/23 10:16:30 AM
Instrument: LCMS04

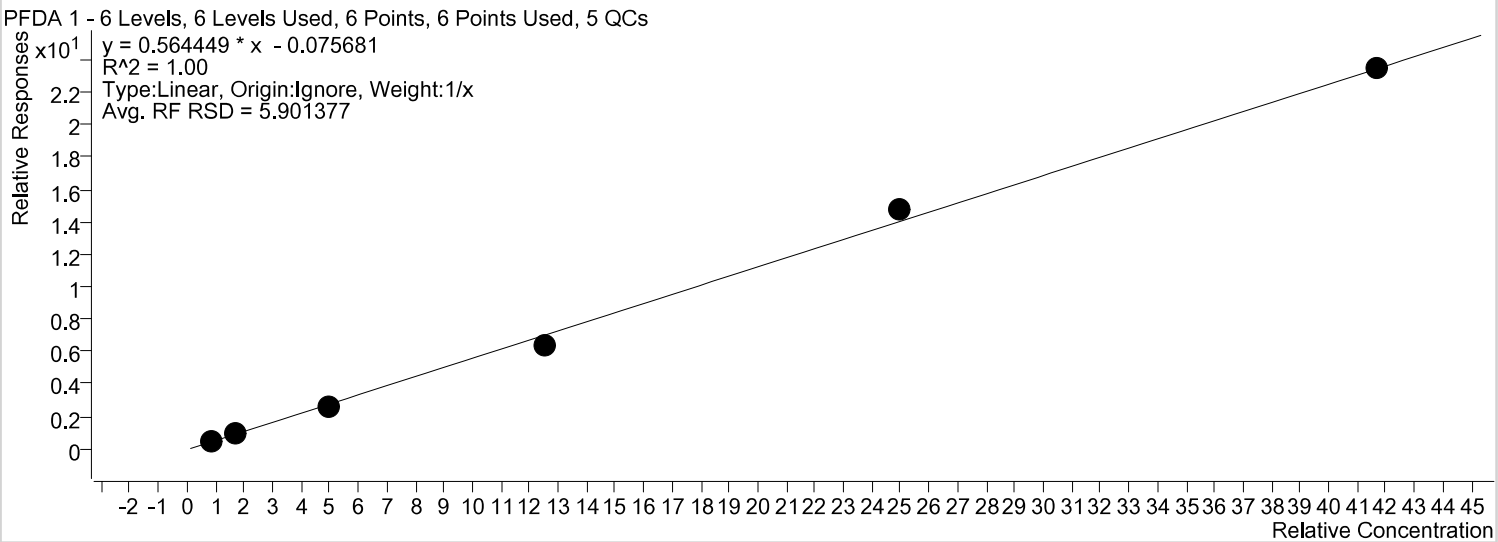
Analyte: PFNA 1
Internal Standard: MPFNA



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/10/18 2:12:53 AM	0.83	0.88	1754	0.3598	24	105.9
STD 2	STD 2	x	2018/10/18 2:17:48 AM	1.70	1.71	3638	0.3733	51	100.8
STD 3	STD 3	x	2018/10/18 2:22:42 AM	5.00	4.80	10927	0.3749	155	95.9
STD 4	STD 4	x	2018/10/18 2:27:37 AM	12.50	12.07	29629	0.3839	448	96.5
STD 5	STD 5	x	2018/10/18 2:32:32 AM	25.00	24.67	57599	0.3946	909	98.7
STD 6	STD 6	x	2018/10/18 2:37:26 AM	41.70	42.61	96508	0.4097	1353	102.2

Batch Path T:\LCMS04\PFC\20181017\WS#5785280\QuantResults\PFC_Water_Low_20181017_WS#5785280_EToxics.batch.bin
Last Calib Update 2018/10/23 10:16:30 AM
Instrument: LCMS04

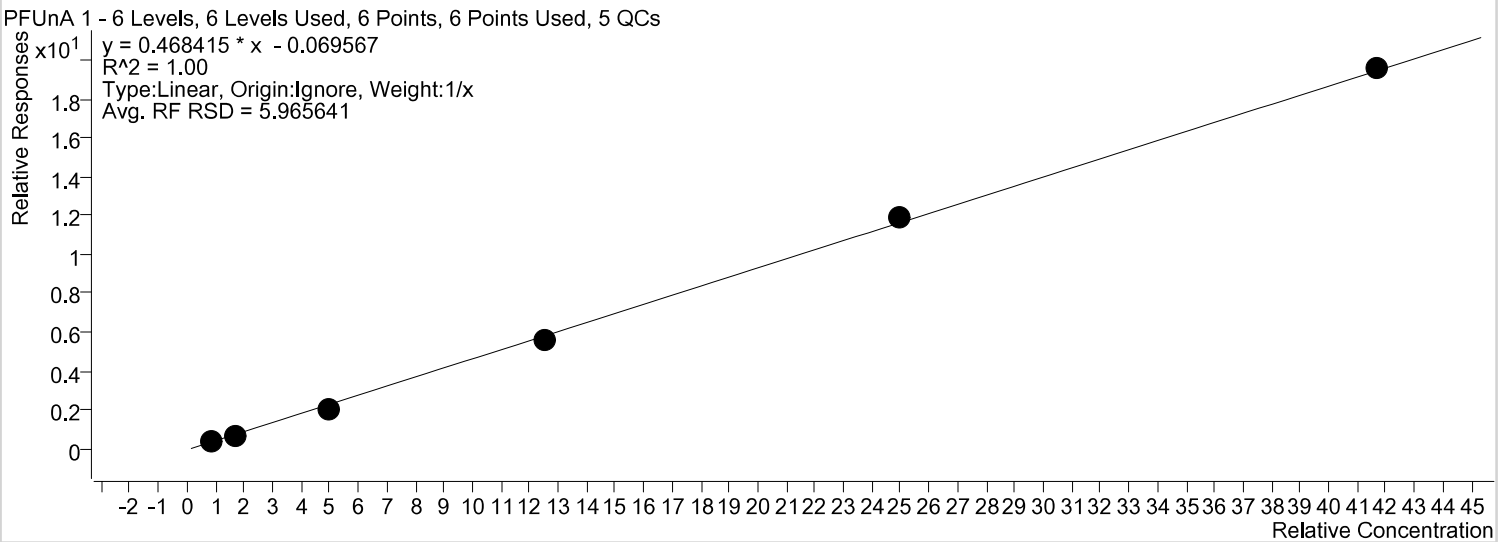
Analyte: PFDA 1
Internal Standard: MPFDA



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/10/18 2:12:53 AM	0.83	0.92	2013	0.5320	58	110.4
STD 2	STD 2	x	2018/10/18 2:17:48 AM	1.70	1.66	3766	0.5075	97	97.8
STD 3	STD 3	x	2018/10/18 2:22:42 AM	5.00	4.77	11728	0.5232	319	95.4
STD 4	STD 4	x	2018/10/18 2:27:37 AM	12.50	11.45	30316	0.5110	784	91.6
STD 5	STD 5	x	2018/10/18 2:32:32 AM	25.00	26.16	61469	0.5877	1458	104.6
STD 6	STD 6	x	2018/10/18 2:37:26 AM	41.70	41.77	102347	0.5636	2223	100.2

Batch Path T:\LCMS04\PFC\20181017\WS#5785280\QuantResults\PFC_Water_Low_20181017_WS#5785280_EToxics.batch.bin
Last Calib Update 2018/10/23 10:16:30 AM
Instrument: LCMS04

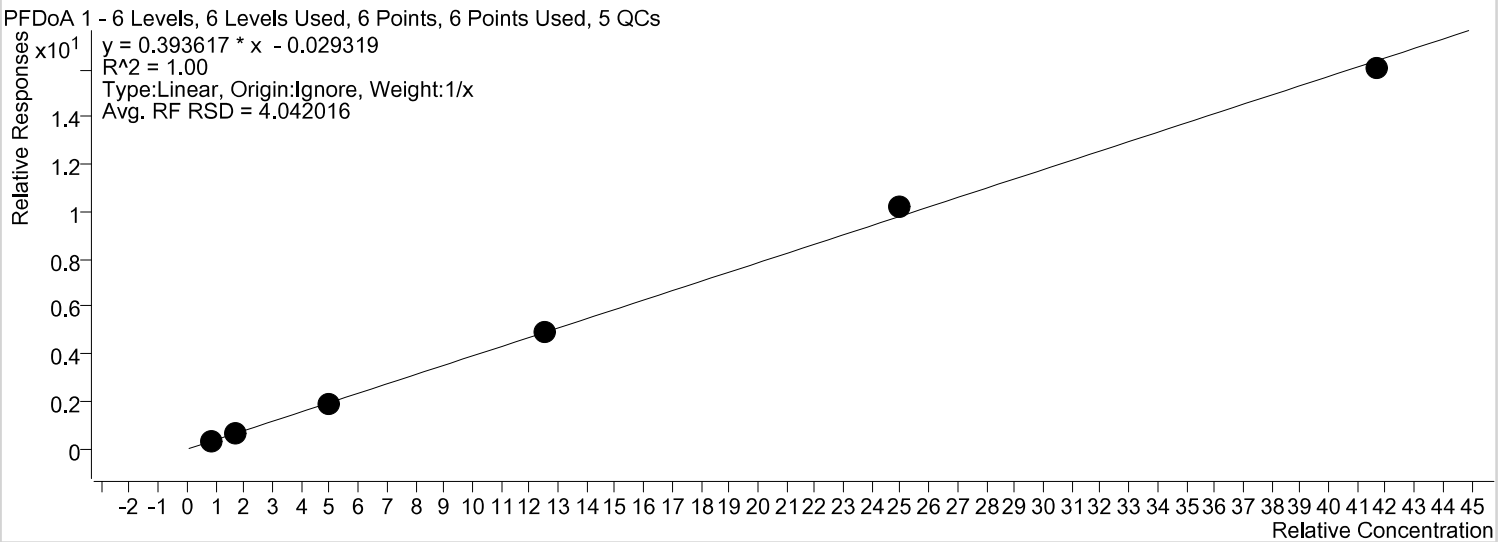
Analyte: PFUnA 1
Internal Standard: MPFUnA



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/10/18 2:12:53 AM	0.83	0.93	1774	0.4407	27	112.0
STD 2	STD 2	x	2018/10/18 2:17:48 AM	1.70	1.66	3563	0.4154	64	97.4
STD 3	STD 3	x	2018/10/18 2:22:42 AM	5.00	4.54	10422	0.4116	139	90.8
STD 4	STD 4	x	2018/10/18 2:27:37 AM	12.50	12.16	28456	0.4500	460	97.3
STD 5	STD 5	x	2018/10/18 2:32:32 AM	25.00	25.46	57648	0.4742	1181	101.8
STD 6	STD 6	x	2018/10/18 2:37:26 AM	41.70	41.99	96094	0.4700	1221	100.7

Batch Path T:\LCMS04\PFC\20181017\WS#5785280\QuantResults\PFC_Water_Low_20181017_WS#5785280_EToxics.batch.bin
Last Calib Update 2018/10/23 10:16:30 AM
Instrument: LCMS04

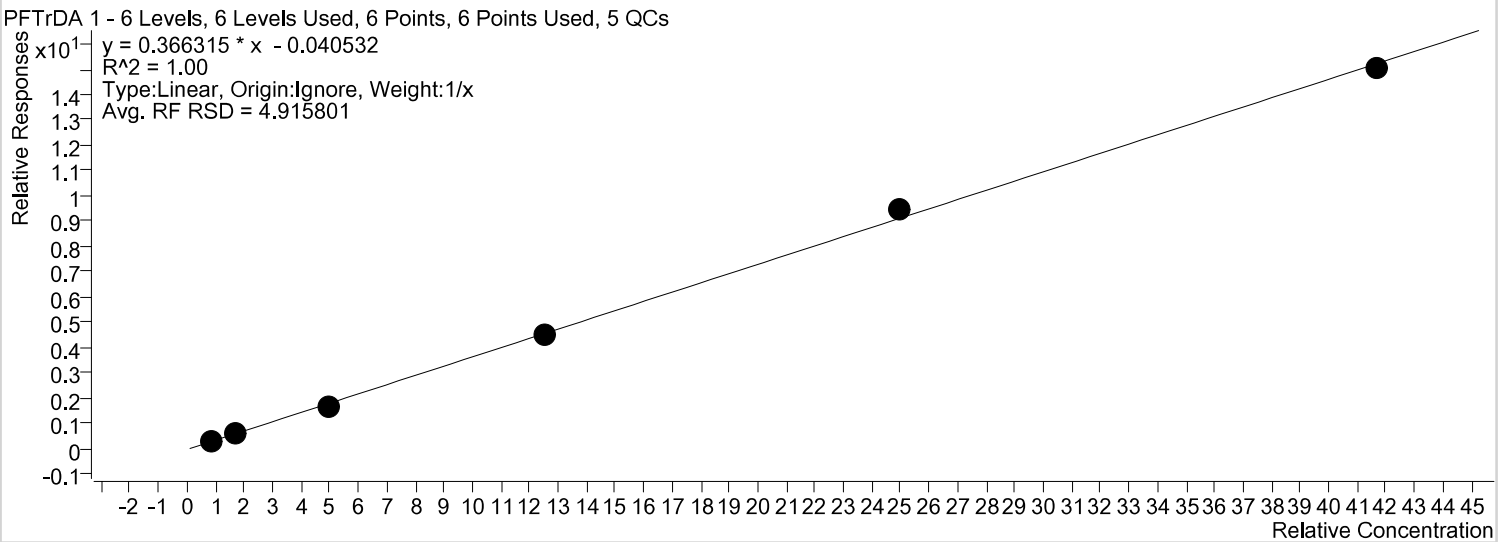
Analyte: PFDoA 1
Internal Standard: MPFDoA



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/10/18 2:12:53 AM	0.83	0.85	1949	0.3667	29	102.1
STD 2	STD 2	x	2018/10/18 2:17:48 AM	1.70	1.71	4095	0.3782	77	100.5
STD 3	STD 3	x	2018/10/18 2:22:42 AM	5.00	4.76	12437	0.3692	136	95.3
STD 4	STD 4	x	2018/10/18 2:27:37 AM	12.50	12.50	32968	0.3911	435	100.0
STD 5	STD 5	x	2018/10/18 2:32:32 AM	25.00	26.02	66431	0.4085	814	104.1
STD 6	STD 6	x	2018/10/18 2:37:26 AM	41.70	40.89	106946	0.3853	1298	98.1

Batch Path T:\LCMS04\PFC\20181017\WS#5785280\QuantResults\PFC_Water_Low_20181017_WS#5785280_EToxics.batch.bin
Last Calib Update 2018/10/23 10:16:30 AM
Instrument: LCMS04

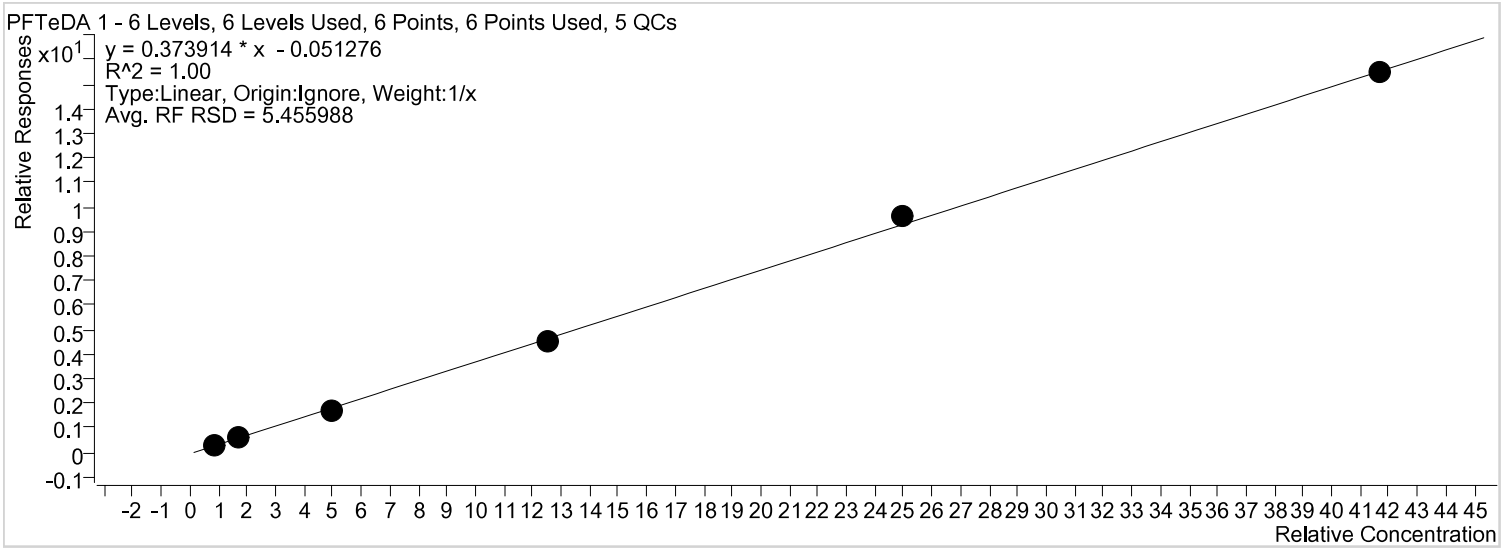
Analyte: PFTrDA 1
Internal Standard: MPFTeDA



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/10/18 2:12:53 AM	0.83	0.88	2408	0.3395	41	106.0
STD 2	STD 2	x	2018/10/18 2:17:48 AM	1.70	1.69	5094	0.3410	101	99.6
STD 3	STD 3	x	2018/10/18 2:22:42 AM	5.00	4.64	15091	0.3321	269	92.9
STD 4	STD 4	x	2018/10/18 2:27:37 AM	12.50	12.37	41157	0.3593	670	99.0
STD 5	STD 5	x	2018/10/18 2:32:32 AM	25.00	25.92	82503	0.3782	1246	103.7
STD 6	STD 6	x	2018/10/18 2:37:26 AM	41.70	41.22	131155	0.3611	1458	98.8

Batch Path T:\LCMS04\PFC\20181017\WS#5785280\QuantResults\PFC_Water_Low_20181017_WS#5785280_EToxics.batch.bin
Last Calib Update 2018/10/23 10:16:30 AM
Instrument: LCMS04

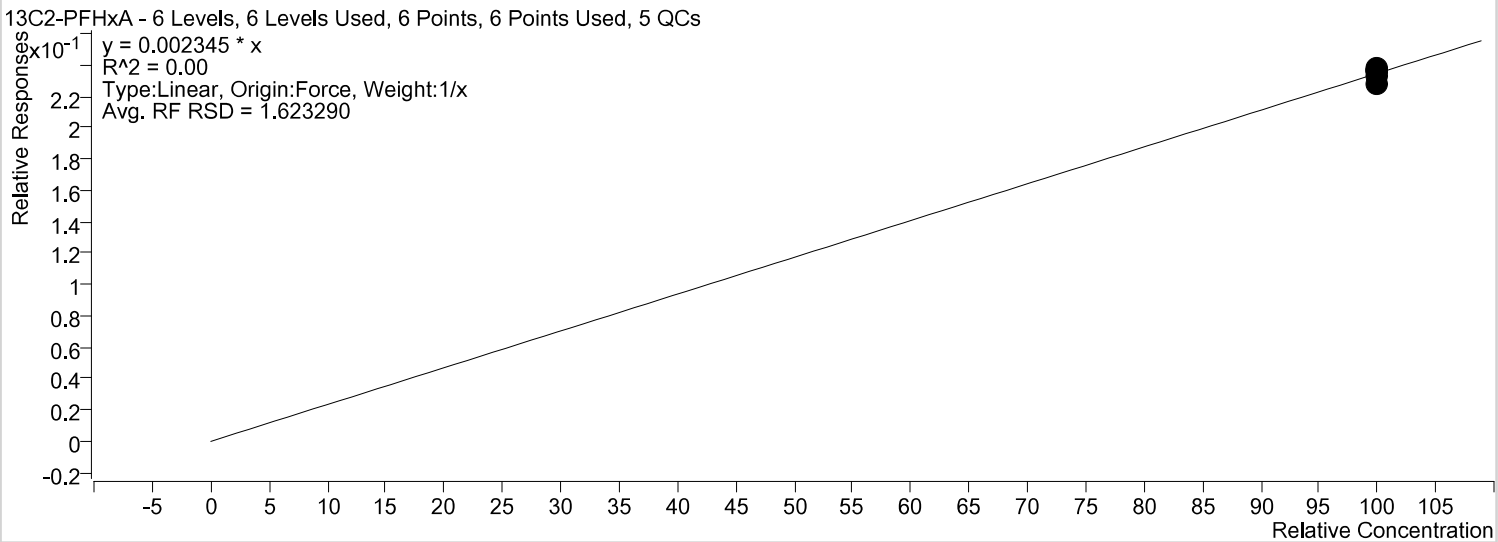
Analyte: PFTeDA 1
Internal Standard: MPFTeDA



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/10/18 2:12:53 AM	0.83	0.91	2467	0.3478	30	109.5
STD 2	STD 2	x	2018/10/18 2:17:48 AM	1.70	1.66	5004	0.3350	63	97.7
STD 3	STD 3	x	2018/10/18 2:22:42 AM	5.00	4.65	15322	0.3372	277	92.9
STD 4	STD 4	x	2018/10/18 2:27:37 AM	12.50	12.12	41052	0.3584	423	96.9
STD 5	STD 5	x	2018/10/18 2:32:32 AM	25.00	25.79	83686	0.3837	857	103.2
STD 6	STD 6	x	2018/10/18 2:37:26 AM	41.70	41.61	135061	0.3719	1171	99.8

Batch Path T:\LCMS04\PFC\20181017\WS#5785280\QuantResults\PFC_Water_Low_20181017_WS#5785280_EToxics.batch.bin
Last Calib Update 2018/10/23 10:16:30 AM
Instrument: LCMS04

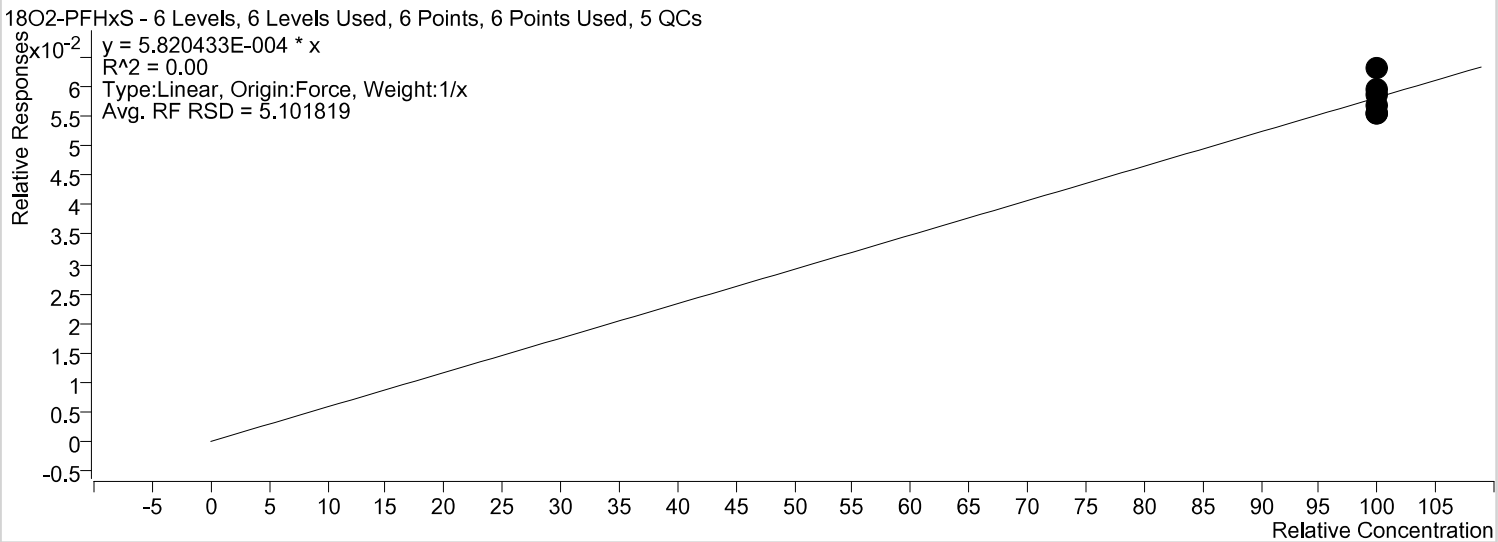
Analyte: 13C2-PFHxA
Internal Standard: 13C6-PFHxA IS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/10/18 2:12:53 AM	100.00	101.05	4226	0.0024	636	101.0
STD 2	STD 2	x	2018/10/18 2:17:48 AM	100.00	97.13	4168	0.0023	355	97.1
STD 3	STD 3	x	2018/10/18 2:22:42 AM	100.00	101.48	4213	0.0024	727	101.5
STD 4	STD 4	x	2018/10/18 2:27:37 AM	100.00	100.66	4335	0.0024	424	100.7
STD 5	STD 5	x	2018/10/18 2:32:32 AM	100.00	100.61	4184	0.0024	331	100.6
STD 6	STD 6	x	2018/10/18 2:37:26 AM	100.00	99.08	4229	0.0023	479	99.1

Batch Path T:\LCMS04\PFC\20181017\WS#5785280\QuantResults\PFC_Water_Low_20181017_WS#5785280_EToxics.batch.bin
Last Calib Update 2018/10/23 10:16:30 AM
Instrument: LCMS04

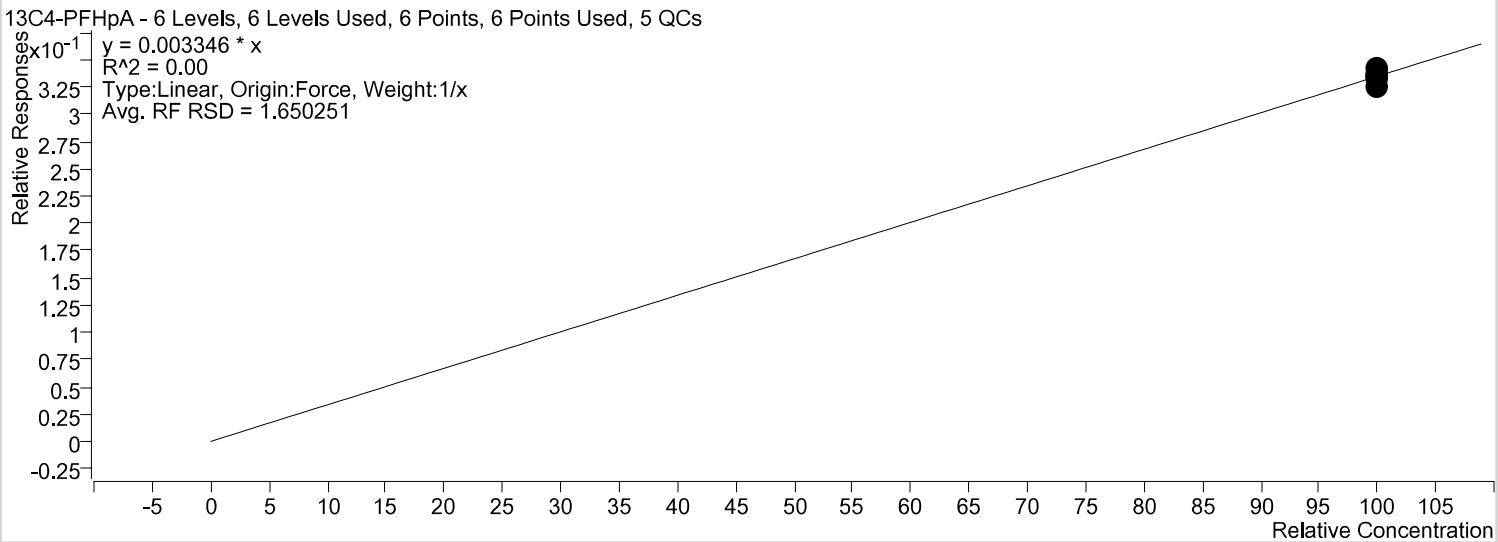
Analyte: 18O2-PFHxS
Internal Standard: 13C6-PFHxA IS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/10/18 2:12:53 AM	100.00	102.68	1066	0.0006	178	102.7
STD 2	STD 2	x	2018/10/18 2:17:48 AM	100.00	95.29	1015	0.0006	70	95.3
STD 3	STD 3	x	2018/10/18 2:22:42 AM	100.00	108.58	1119	0.0006	439	108.6
STD 4	STD 4	x	2018/10/18 2:27:37 AM	100.00	97.56	1043	0.0006	98	97.6
STD 5	STD 5	x	2018/10/18 2:32:32 AM	100.00	100.46	1037	0.0006	151	100.5
STD 6	STD 6	x	2018/10/18 2:37:26 AM	100.00	95.42	1011	0.0006	172	95.4

Batch Path T:\LCMS04\PFC\20181017\WS#5785280\QuantResults\PFC_Water_Low_20181017_WS#5785280_EToxics.batch.bin
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Instrument: LCMS04

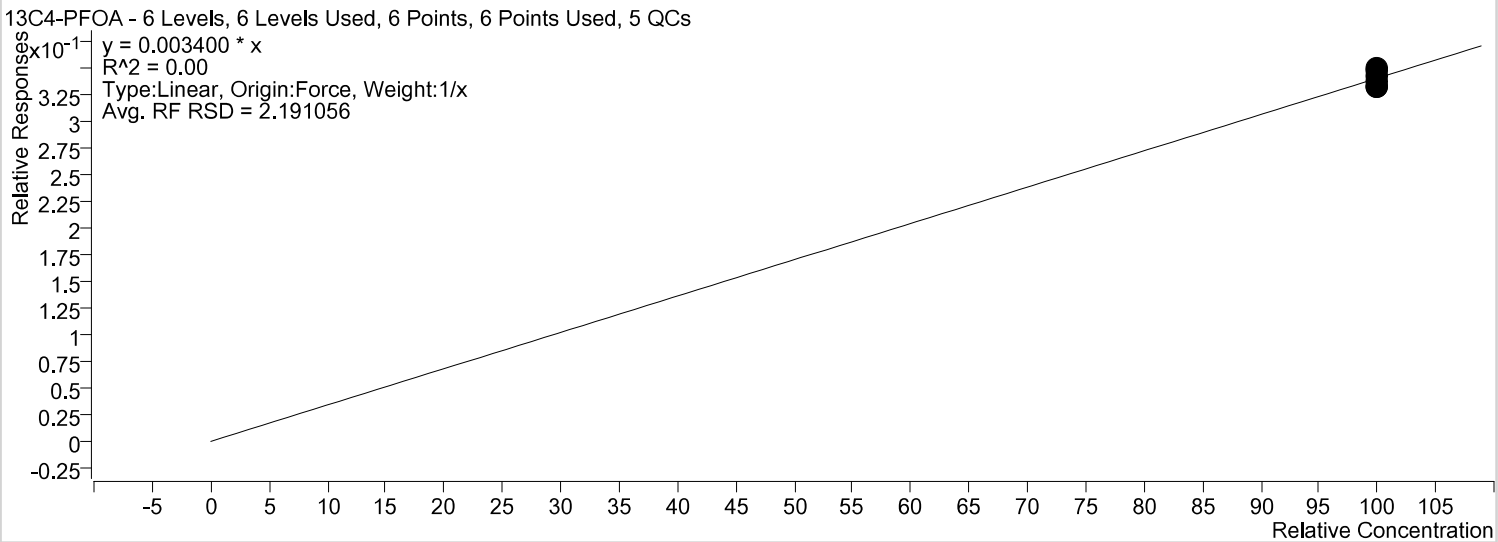
Analyte: 13C4-PFHpA
Internal Standard: 13C6-PFHxA IS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/10/18 2:12:53 AM	100.00	100.17	5978	0.0034	764	100.2
STD 2	STD 2	x	2018/10/18 2:17:48 AM	100.00	99.84	6114	0.0033	534	99.8
STD 3	STD 3	x	2018/10/18 2:22:42 AM	100.00	102.29	6060	0.0034	720	102.3
STD 4	STD 4	x	2018/10/18 2:27:37 AM	100.00	100.76	6192	0.0034	468	100.8
STD 5	STD 5	x	2018/10/18 2:32:32 AM	100.00	99.71	5917	0.0033	872	99.7
STD 6	STD 6	x	2018/10/18 2:37:26 AM	100.00	97.23	5922	0.0033	394	97.2

Batch Path T:\LCMS04\PFC\20181017\WS#5785280\QuantResults\PFC_Water_Low_20181017_WS#5785280_EToxics.batch.bin
Last Calib Update 2018/10/23 10:16:30 AM
Instrument: LCMS04

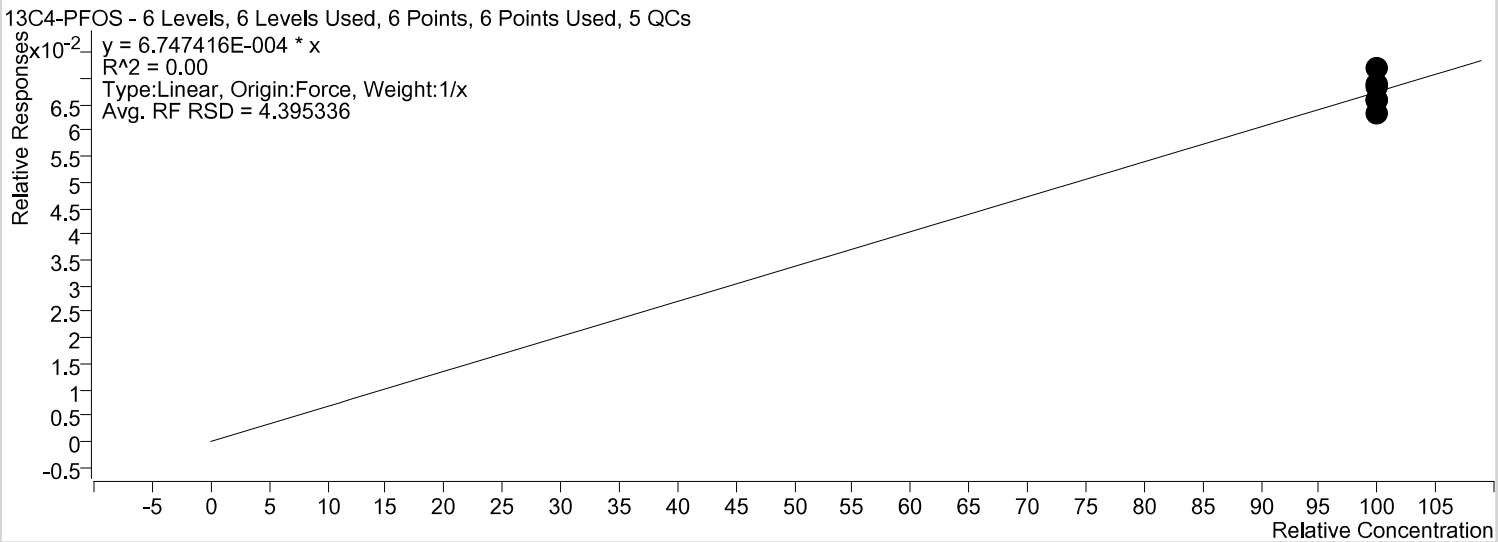
Analyte: 13C4-PFOA
Internal Standard: 13C6-PFHxA IS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/10/18 2:12:53 AM	100.00	101.85	6176	0.0035	343	101.9
STD 2	STD 2	x	2018/10/18 2:17:48 AM	100.00	99.22	6173	0.0034	537	99.2
STD 3	STD 3	x	2018/10/18 2:22:42 AM	100.00	102.82	6189	0.0035	445	102.8
STD 4	STD 4	x	2018/10/18 2:27:37 AM	100.00	100.85	6297	0.0034	666	100.8
STD 5	STD 5	x	2018/10/18 2:32:32 AM	100.00	97.84	5899	0.0033	651	97.8
STD 6	STD 6	x	2018/10/18 2:37:26 AM	100.00	97.42	6029	0.0033	627	97.4

Batch Path T:\LCMS04\PFC\20181017\WS#5785280\QuantResults\PFC_Water_Low_20181017_WS#5785280_EToxics.batch.bin
Last Calib Update 2018/10/23 10:16:30 AM
Instrument: LCMS04

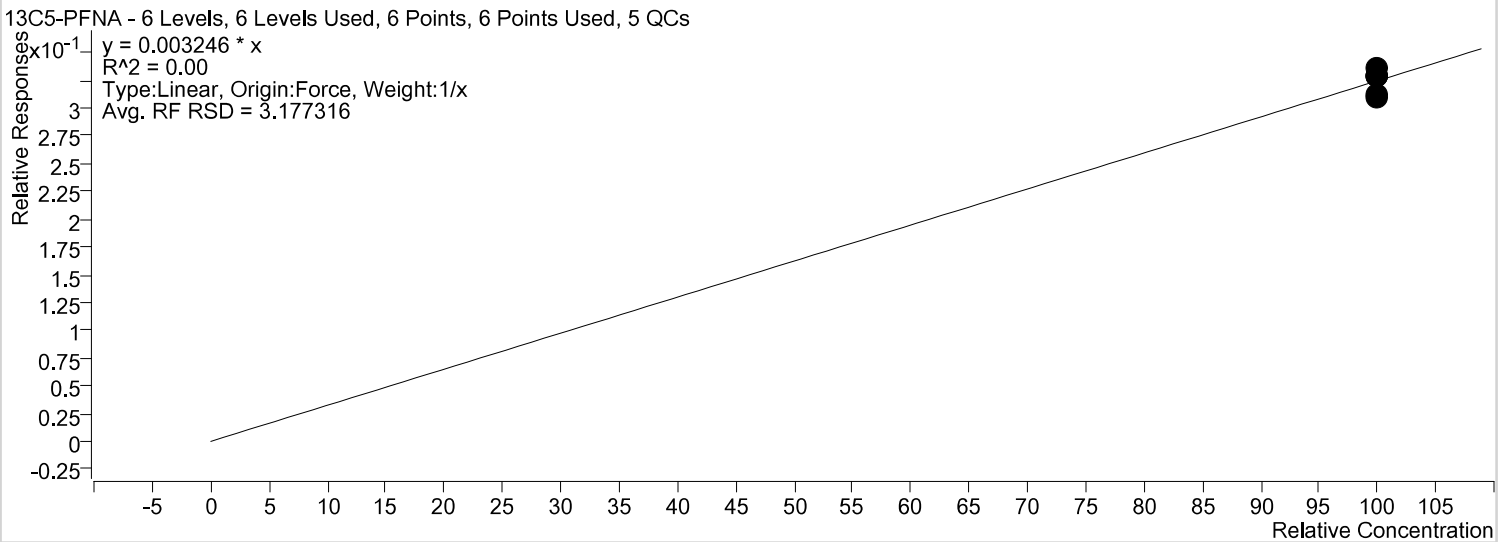
Analyte: 13C4-PFOS
Internal Standard: 13C6-PFHxA IS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/10/18 2:12:53 AM	100.00	97.97	1179	0.0007	211	98.0
STD 2	STD 2	x	2018/10/18 2:17:48 AM	100.00	94.02	1161	0.0006	299	94.0
STD 3	STD 3	x	2018/10/18 2:22:42 AM	100.00	102.12	1220	0.0007	368	102.1
STD 4	STD 4	x	2018/10/18 2:27:37 AM	100.00	106.83	1324	0.0007	158	106.8
STD 5	STD 5	x	2018/10/18 2:32:32 AM	100.00	97.94	1172	0.0007	147	97.9
STD 6	STD 6	x	2018/10/18 2:37:26 AM	100.00	101.12	1242	0.0007	133	101.1

Batch Path T:\LCMS04\PFC\20181017\WS#5785280\QuantResults\PFC_Water_Low_20181017_WS#5785280_EToxics.batch.bin
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Instrument: LCMS04

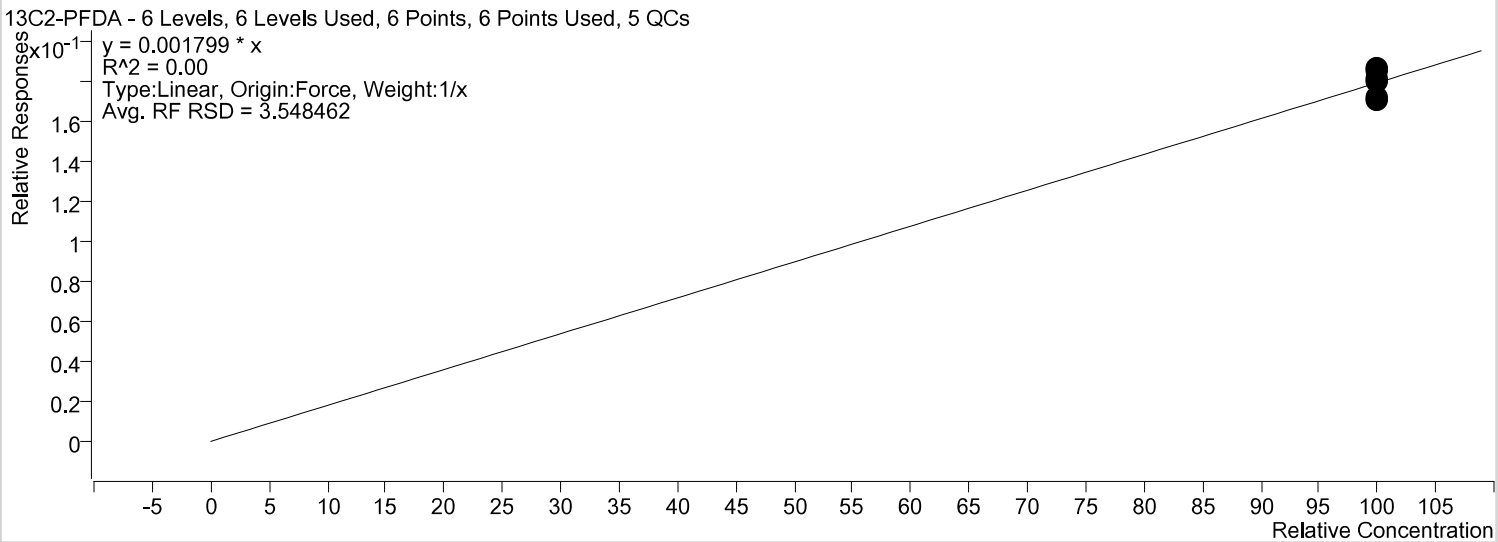
Analyte: 13C5-PFNA
Internal Standard: 13C6-PFHxA IS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/10/18 2:12:53 AM	100.00	101.46	5874	0.0033	140	101.5
STD 2	STD 2	x	2018/10/18 2:17:48 AM	100.00	96.51	5733	0.0031	251	96.5
STD 3	STD 3	x	2018/10/18 2:22:42 AM	100.00	101.44	5830	0.0033	295	101.4
STD 4	STD 4	x	2018/10/18 2:27:37 AM	100.00	103.58	6175	0.0034	821	103.6
STD 5	STD 5	x	2018/10/18 2:32:32 AM	100.00	101.41	5838	0.0033	478	101.4
STD 6	STD 6	x	2018/10/18 2:37:26 AM	100.00	95.61	5649	0.0031	441	95.6

Batch Path T:\LCMS04\PFC\20181017\WS#5785280\QuantResults\PFC_Water_Low_20181017_WS#5785280_EToxics.batch.bin
Last Calib Update 2018/10/23 10:16:30 AM
Instrument: LCMS04

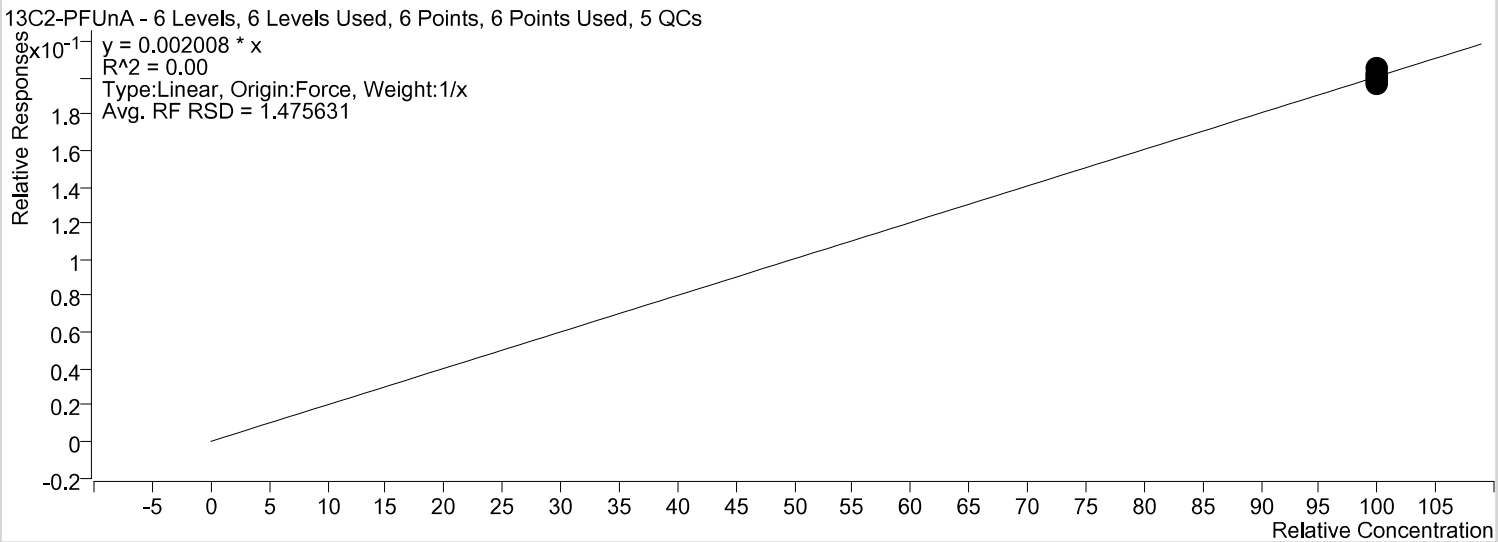
Analyte: 13C2-PFDA
Internal Standard: 13C9-PFDA IS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/10/18 2:12:53 AM	100.00	103.09	4559	0.0019	401	103.1
STD 2	STD 2	x	2018/10/18 2:17:48 AM	100.00	95.49	4365	0.0017	330	95.5
STD 3	STD 3	x	2018/10/18 2:22:42 AM	100.00	101.12	4483	0.0018	292	101.1
STD 4	STD 4	x	2018/10/18 2:27:37 AM	100.00	104.12	4746	0.0019	688	104.1
STD 5	STD 5	x	2018/10/18 2:32:32 AM	100.00	96.14	4184	0.0017	78	96.1
STD 6	STD 6	x	2018/10/18 2:37:26 AM	100.00	100.05	4355	0.0018	191	100.0

Batch Path T:\LCMS04\PFC\20181017\WS#5785280\QuantResults\PFC_Water_Low_20181017_WS#5785280_EToxics.batch.bin
Last Calib Update 2018/10/23 10:16:30 AM
Instrument: LCMS04

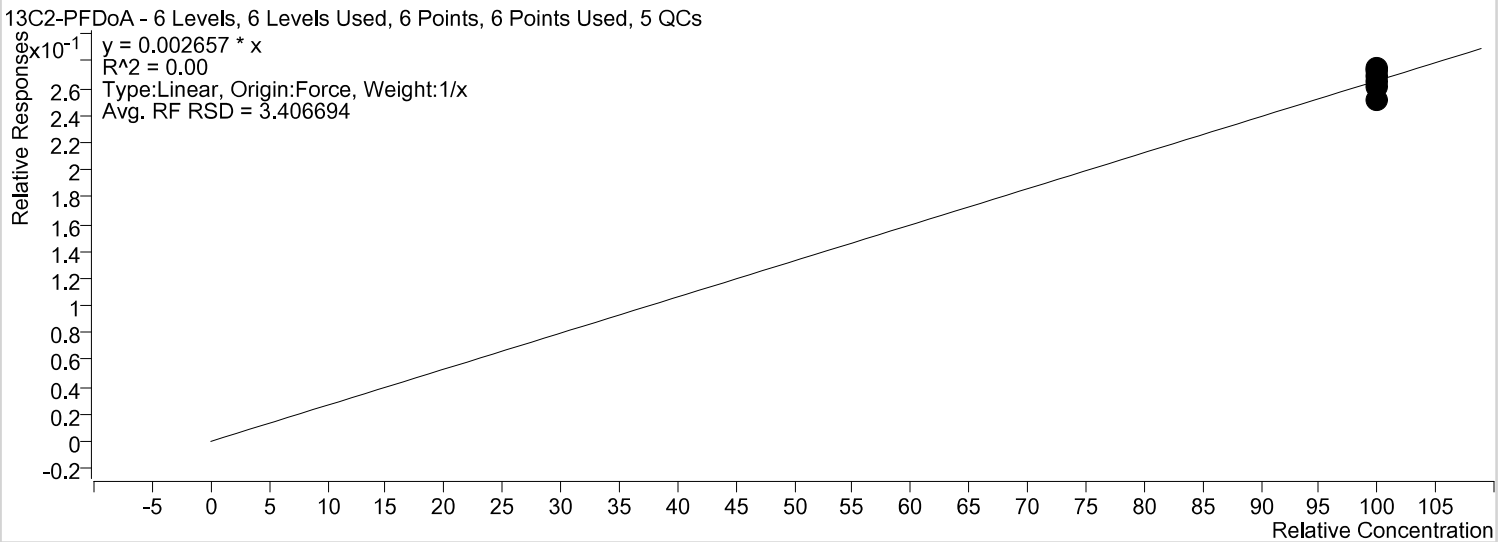
Analyte: 13C2-PFUnA
Internal Standard: 13C9-PFDA IS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/10/18 2:12:53 AM	100.00	98.26	4850	0.0020	412	98.3
STD 2	STD 2	x	2018/10/18 2:17:48 AM	100.00	98.91	5046	0.0020	210	98.9
STD 3	STD 3	x	2018/10/18 2:22:42 AM	100.00	102.35	5064	0.0021	590	102.3
STD 4	STD 4	x	2018/10/18 2:27:37 AM	100.00	99.44	5059	0.0020	756	99.4
STD 5	STD 5	x	2018/10/18 2:32:32 AM	100.00	100.12	4863	0.0020	352	100.1
STD 6	STD 6	x	2018/10/18 2:37:26 AM	100.00	100.92	4903	0.0020	385	100.9

Batch Path T:\LCMS04\PFC\20181017\WS#5785280\QuantResults\PFC_Water_Low_20181017_WS#5785280_EToxics.batch.bin
Last Calib Update 2018/10/23 10:16:30 AM
Instrument: LCMS04

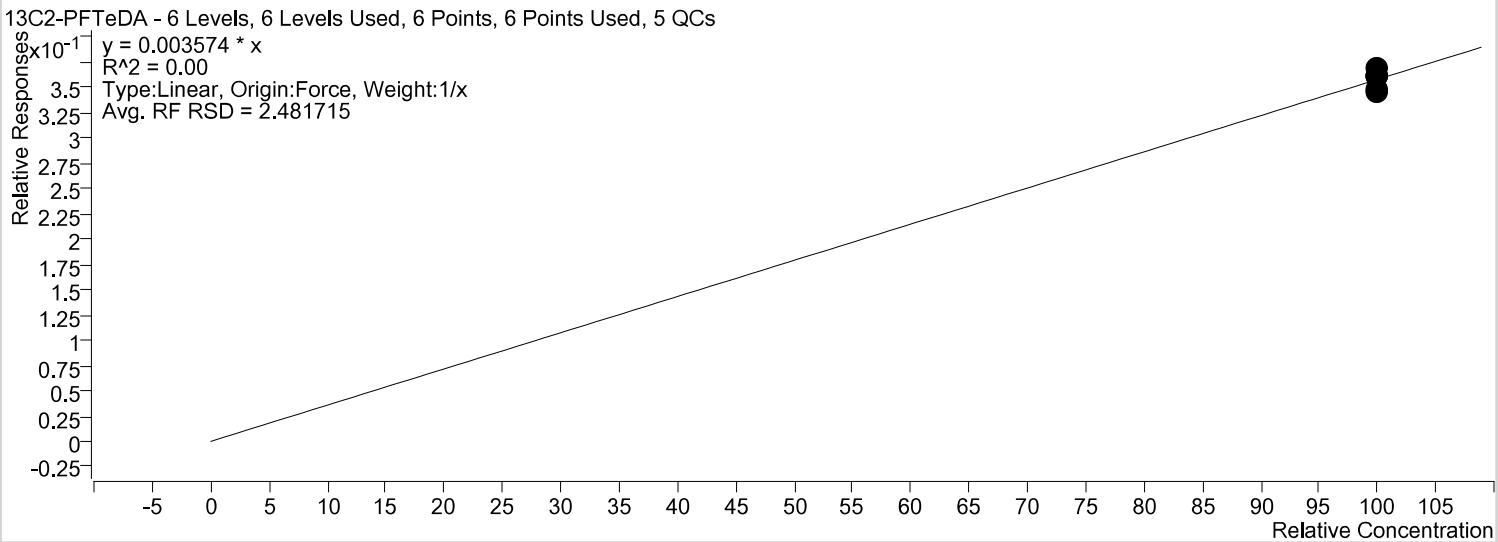
Analyte: 13C2-PFDoA
Internal Standard: 13C9-PFDA IS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/10/18 2:12:53 AM	100.00	98.00	6403	0.0026	870	98.0
STD 2	STD 2	x	2018/10/18 2:17:48 AM	100.00	94.33	6370	0.0025	770	94.3
STD 3	STD 3	x	2018/10/18 2:22:42 AM	100.00	102.86	6737	0.0027	372	102.9
STD 4	STD 4	x	2018/10/18 2:27:37 AM	100.00	100.13	6743	0.0027	931	100.1
STD 5	STD 5	x	2018/10/18 2:32:32 AM	100.00	101.18	6505	0.0027	486	101.2
STD 6	STD 6	x	2018/10/18 2:37:26 AM	100.00	103.50	6656	0.0028	1229	103.5

Batch Path T:\LCMS04\PFC\20181017\WS#5785280\QuantResults\PFC_Water_Low_20181017_WS#5785280_EToxics.batch.bin
Last Calib Update 2018/10/23 10:16:30 AM
Instrument: LCMS04

Analyte: 13C2-PFTeDA
Internal Standard: 13C9-PFDA IS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/10/18 2:12:53 AM	100.00	97.27	8546	0.0035	476	97.3
STD 2	STD 2	x	2018/10/18 2:17:48 AM	100.00	96.75	8787	0.0035	1106	96.8
STD 3	STD 3	x	2018/10/18 2:22:42 AM	100.00	103.17	9087	0.0037	795	103.2
STD 4	STD 4	x	2018/10/18 2:27:37 AM	100.00	101.19	9164	0.0036	423	101.2
STD 5	STD 5	x	2018/10/18 2:32:32 AM	100.00	100.91	8725	0.0036	282	100.9
STD 6	STD 6	x	2018/10/18 2:37:26 AM	100.00	100.71	8710	0.0036	406	100.7

By Compound Report

Agilent Technologies

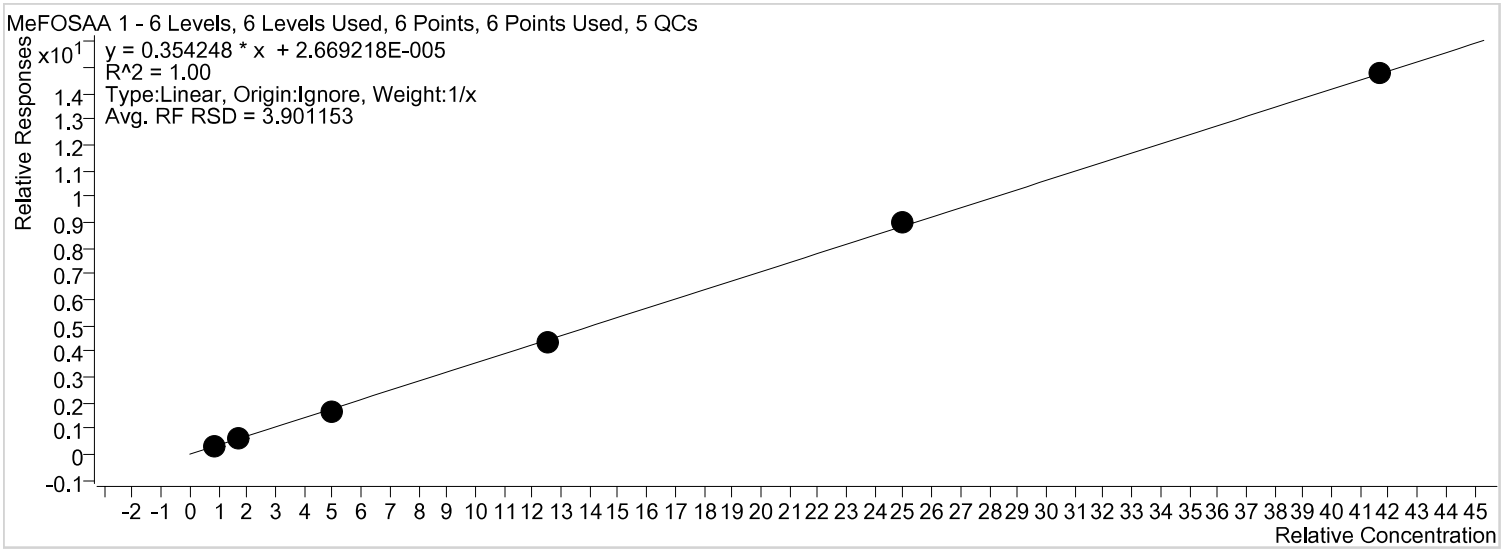
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Last Calib Update 2018/10/18 11:51:01 AM

Instrument: LCMS04

Analyte: MeFOSAA 1

Internal Standard: D3-MeFOSAA IS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/10/17 6:52:38 PM	0.83	0.87	597	0.3698	198	104.4
STD 2	STD 2	x	2018/10/17 6:55:01 PM	1.70	1.74	1235	0.3620	204	102.2
STD 3	STD 3	x	2018/10/17 6:57:24 PM	5.00	4.65	3351	0.3295	237	93.0
STD 4	STD 4	x	2018/10/17 6:59:47 PM	12.50	12.36	8568	0.3503	278	98.9
STD 5	STD 5	x	2018/10/17 7:02:10 PM	25.00	25.35	17232	0.3592	364	101.4
STD 6	STD 6	x	2018/10/17 7:04:33 PM	41.70	41.77	27048	0.3548	306	100.2

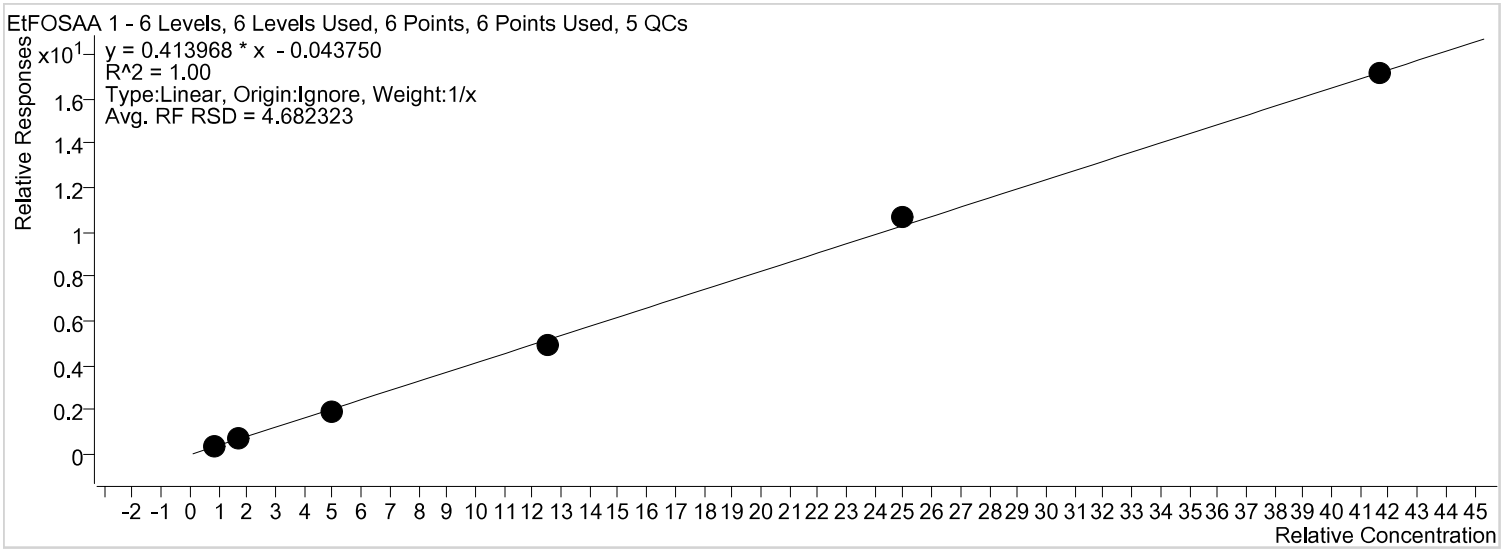
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Last Calib Update 2018/10/18 11:51:01 AM

Instrument: LCMS04

Analyte: EtFOSAA 1

Internal Standard: D5-EtFOSAA IS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/10/17 6:52:38 PM	0.83	0.91	600	0.3996	69	109.3
STD 2	STD 2	x	2018/10/17 6:55:01 PM	1.70	1.66	1155	0.3783	125	97.6
STD 3	STD 3	x	2018/10/17 6:57:24 PM	5.00	4.72	3479	0.3819	385	94.4
STD 4	STD 4	x	2018/10/17 6:59:47 PM	12.50	11.92	8872	0.3913	1116	95.4
STD 5	STD 5	x	2018/10/17 7:02:10 PM	25.00	25.89	18351	0.4270	1644	103.6
STD 6	STD 6	x	2018/10/17 7:04:33 PM	41.70	41.63	29052	0.4122	2829	99.8

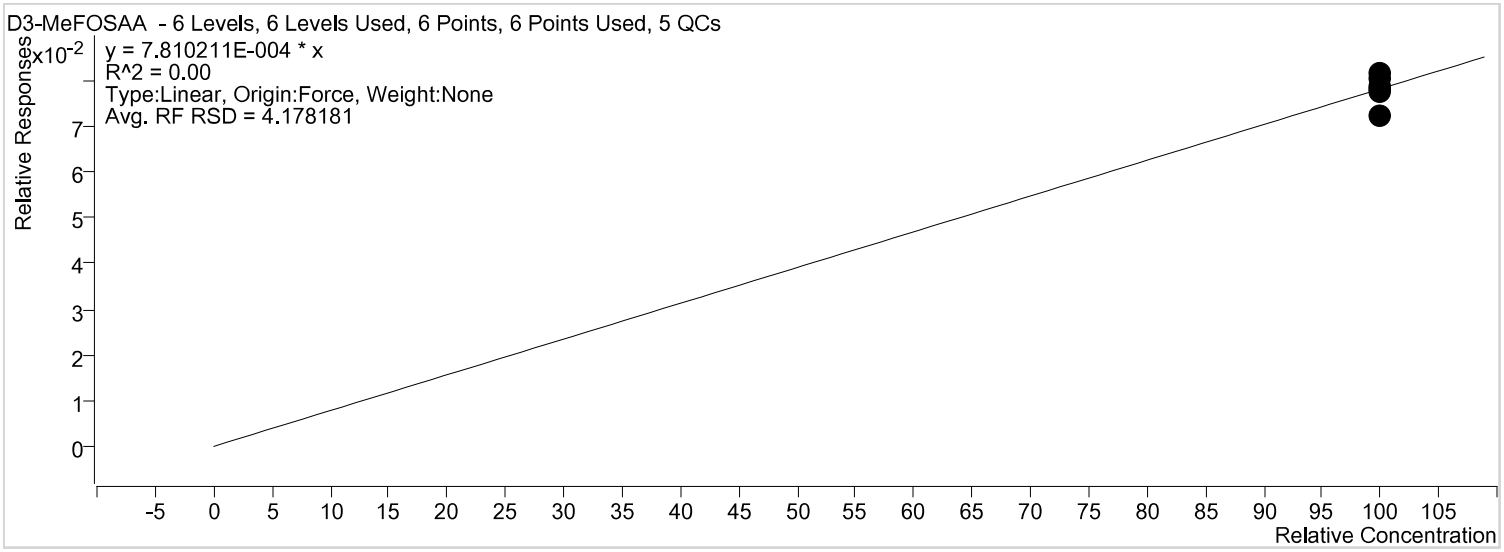
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Last Calib Update 2018/10/18 11:51:01 AM

Instrument: LCMS04

Analyte: D3-MeFOSAA

Internal Standard: 13C9-PFDA IS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/10/17 6:52:38 PM	100.00	99.67	1959	0.0008	281	99.7
STD 2	STD 2	x	2018/10/17 6:55:01 PM	100.00	103.20	2034	0.0008	293	103.2
STD 3	STD 3	x	2018/10/17 6:57:24 PM	100.00	104.42	2068	0.0008	442	104.4
STD 4	STD 4	x	2018/10/17 6:59:47 PM	100.00	100.83	1982	0.0008	363	100.8
STD 5	STD 5	x	2018/10/17 7:02:10 PM	100.00	99.38	1948	0.0008	284	99.4
STD 6	STD 6	x	2018/10/17 7:04:33 PM	100.00	92.50	1833	0.0007	344	92.5

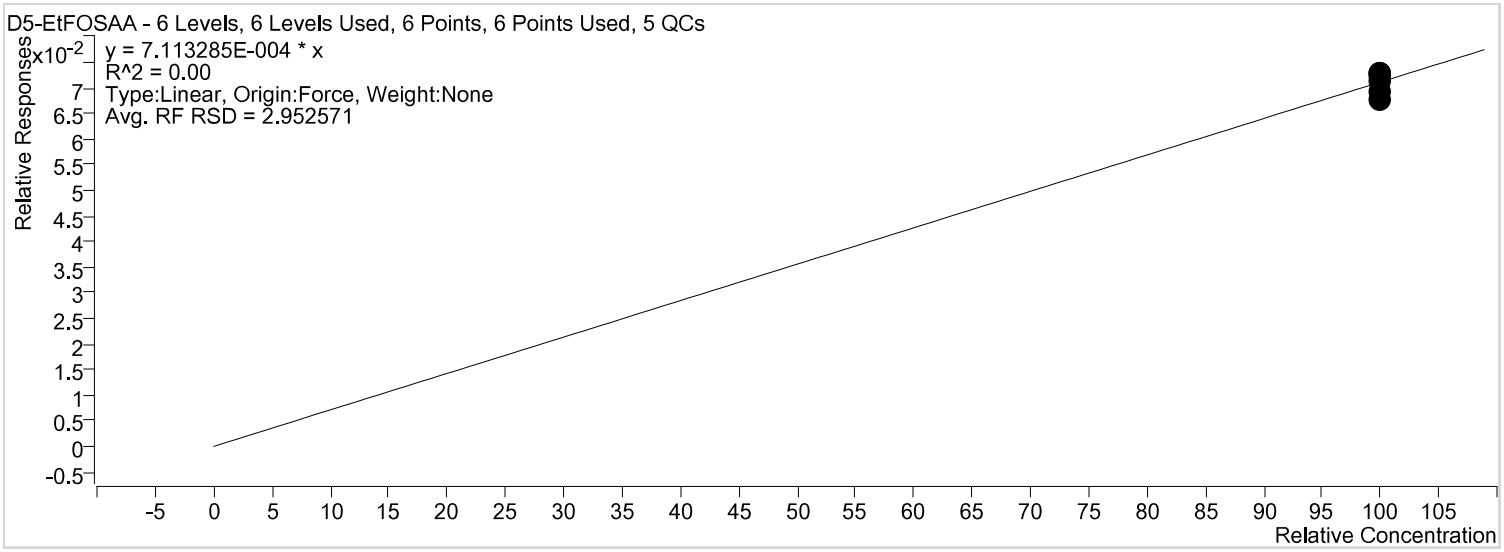
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Last Calib Update 2018/10/18 11:51:01 AM

Instrument: LCMS04

Analyte: D5-EtFOSAA

Internal Standard: 13C9-PFDA IS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/10/17 6:52:38 PM	100.00	102.17	1829	0.0007	196	102.2
STD 2	STD 2	x	2018/10/17 6:55:01 PM	100.00	100.61	1806	0.0007	299	100.6
STD 3	STD 3	x	2018/10/17 6:57:24 PM	100.00	102.01	1840	0.0007	322	102.0
STD 4	STD 4	x	2018/10/17 6:59:47 PM	100.00	102.50	1835	0.0007	394	102.5
STD 5	STD 5	x	2018/10/17 7:02:10 PM	100.00	97.24	1736	0.0007	530	97.2
STD 6	STD 6	x	2018/10/17 7:04:33 PM	100.00	95.46	1723	0.0007	519	95.5



6. Continuing Calibration

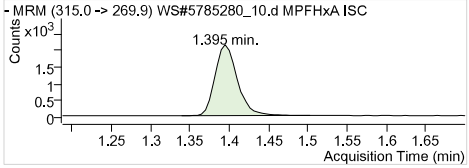
Maxxam Analytics International
6740 Campobello Rd
Mississauga, Ontario, Canada
L5N 2L8
1-800-668-0639
www.maxxamanalytics.com

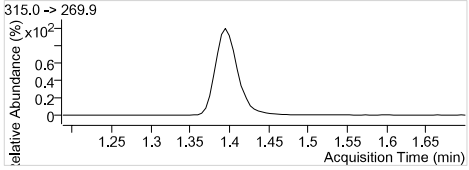
Batch Path	T:\LCMS04\PFC\20181017\WS#5785280\QuantResults\PFC_Water_Low_20181017_WS#5785280_EToxics

Sample Name	**ISC**	**Instrument**	LCMS04
Data File	WS#5785280_10.d	**Operator**	
Sample Type	QC	**Dilution**	1
Acq. Method	PFC_Water_Low.m	**Position**	P4-A2
Acq. Date	2018/10/18 2:52:10 AM	**Injection Volume**	Per Method
Sample Annotation	-		

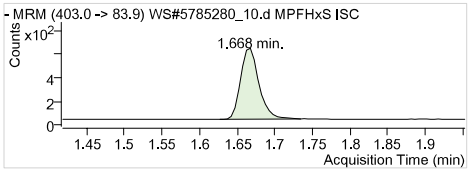
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	4207	1.39	1 µg/L		
MPFHxS	1031	1.67	1 µg/L		
MPFHpA	6177	1.66	1 µg/L		
MPFOA	6033	1.85	1 µg/L		
MPFOS	1183	1.97	1 µg/L		
MPFNA	5822	1.99	1 µg/L		
MPFDA	4240	2.11	1 µg/L		
MPFUnA	4917	2.21	1 µg/L		
MPFDoA	6389	2.29	1 µg/L		
MPFTeDA	8879	2.44	1 µg/L		
13C6-PFHxA IS	18082	1.39	1 µg/L		
13C9-PFDA IS	24639	2.11	1 µg/L		

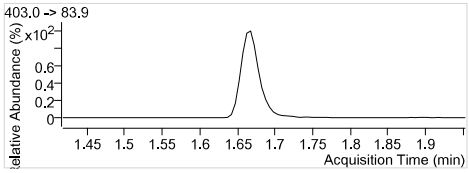
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1	446	1.07	0.83	0.90 µg/L	108.58
PFHxA 1	1297	1.38	0.83	0.88 µg/L	105.55
PFHxS 1	439	1.67	0.83	0.94 µg/L	113.74
PFHpA 1	1932	1.65	0.83	0.90 µg/L	108.90
PFOA 1	2046	1.84	0.83	0.90 µg/L	107.87
PFOS 1	354	1.93	0.83	0.76 µg/L	91.37
PFNA 1	1875	1.99	0.83	0.94 µg/L	112.90
PFDA 1	1921	2.11	0.83	0.94 µg/L	112.86
PFUnA 1	1857	2.21	0.83	0.95 µg/L	115.03
PFDoA 1	2033	2.29	0.83	0.88 µg/L	106.37
PFTrDA 1	2486	2.37	0.83	0.87 µg/L	105.42
PFTeDA 1	2607	2.44	0.83	0.92 µg/L	111.13
13C2-PFHxA	4207	1.39	100.00	99.22 µg/L	99.22
18O2-PFHxS	1031	1.67	100.00	97.96 µg/L	97.96
13C4-PFHpA	6177	1.66	100.00	102.10 µg/L	102.10
13C4-PFOA	6033	1.85	100.00	98.14 µg/L	98.14
13C4-PFOS	1183	1.97	100.00	96.96 µg/L	96.96
13C5-PFNA	5822	1.99	100.00	99.19 µg/L	99.19
13C2-PFDA	4240	2.11	100.00	95.67 µg/L	95.67
13C2-PFUnA	4917	2.21	100.00	99.41 µg/L	99.41
13C2-PFDoA	6389	2.29	100.00	97.58 µg/L	97.58
13C2-PFTeDA	8879	2.44	100.00	100.84 µg/L	100.84
13C6-PFHxA	18082	1.39	100.00	100.32 µg/L	100.32
13C9-PFDA	24639	2.11	100.00	99.63 µg/L	99.63



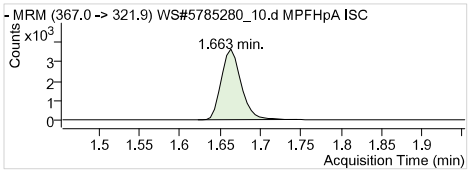


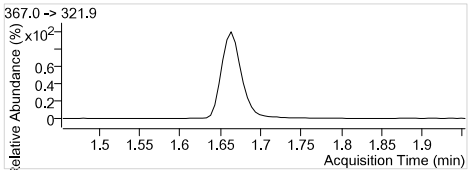
MPFHxA	Internal Standard
RT (Exp. RT):	1.395 (1.395)
Concentration:	1 µg/L
Sample type:	QC



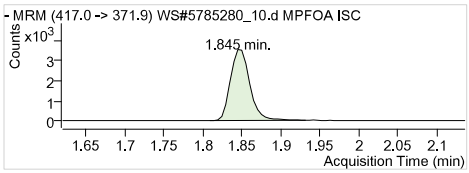


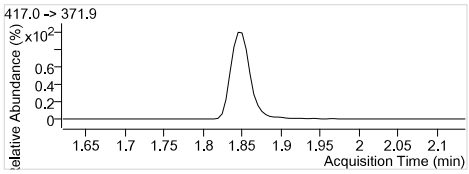
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: QC



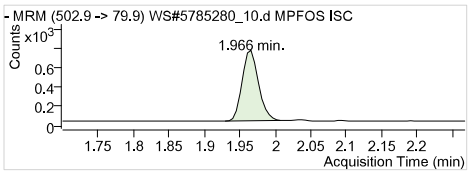


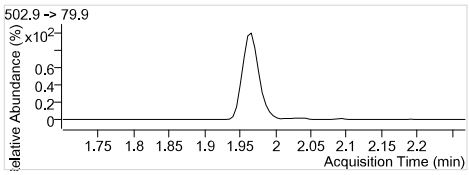
MPFHpA Internal Standard
RT (Exp. RT): 1.663 (1.663)
Concentration: 1 µg/L
Sample type: QC



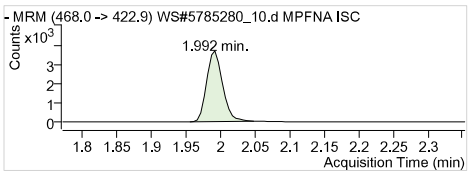


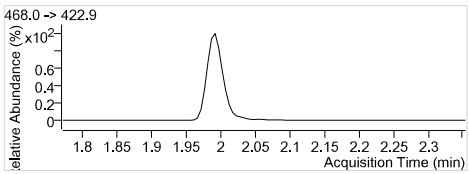
MPFOA Internal Standard
RT (Exp. RT): 1.845 (1.845)
Concentration: 1 µg/L
Sample type: QC



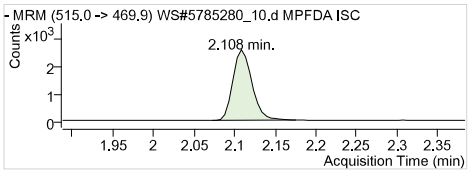


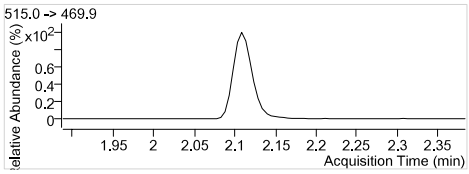
MPFOS Internal Standard
RT (Exp. RT): 1.966 (1.966)
Concentration: 1 µg/L
Sample type: QC



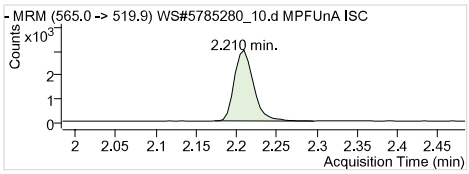


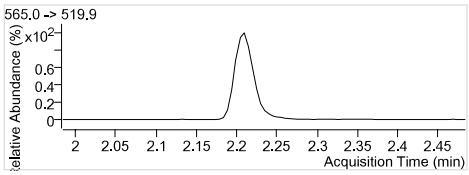
MPFNA Internal Standard
RT (Exp. RT): 1.992 (1.992)
Concentration: 1 µg/L
Sample type: QC



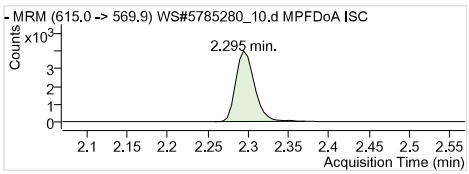


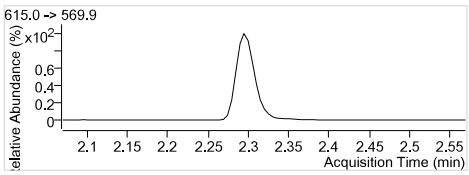
MPFDA Internal Standard
RT (Exp. RT): 2.108 (2.108)
Concentration: 1 µg/L
Sample type: QC



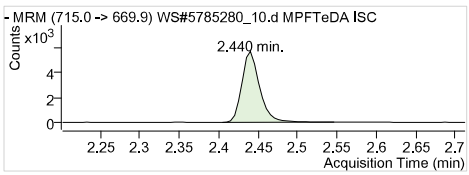


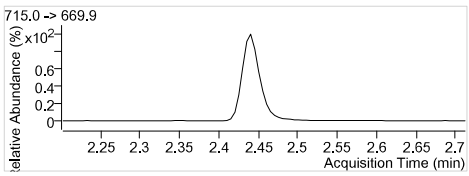
MPFUnA Internal Standard
RT (Exp. RT): 2.210 (2.210)
Concentration: 1 µg/L
Sample type: QC



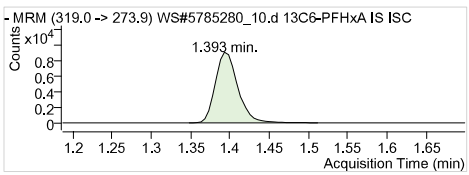


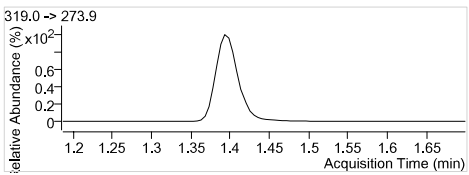
MPFDoA Internal Standard
RT (Exp. RT): 2.295 (2.295)
Concentration: 1 µg/L
Sample type: QC



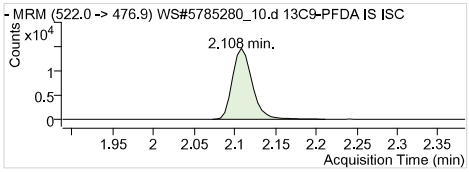


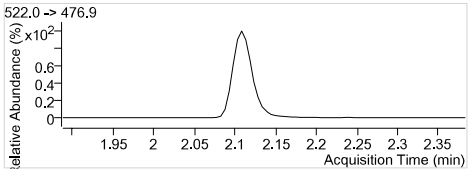
MPFTeDA Internal Standard
RT (Exp. RT): 2.440 (2.440)
Concentration: 1 µg/L
Sample type: QC



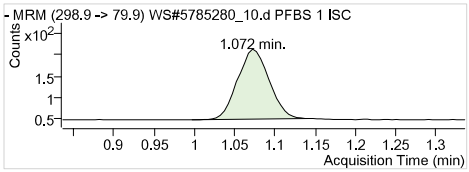


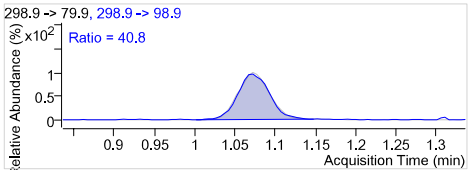
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.393 (1.393)
Concentration: 1 µg/L
Sample type: QC



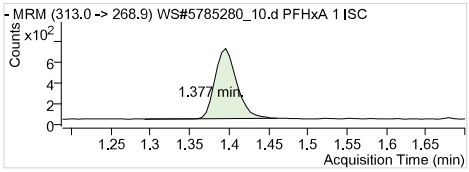


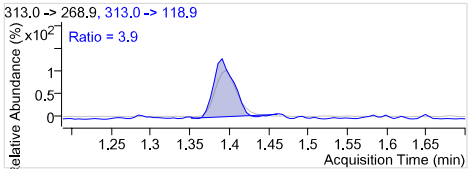
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.108 (2.108)
Concentration: 1 µg/L
Sample type: QC



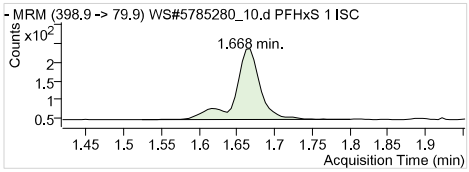


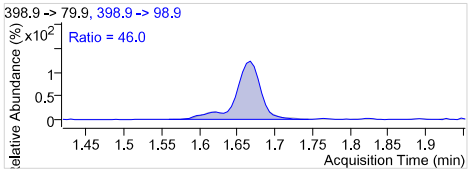
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 1.072 (1.067)
Calc. conc. 0.90 µg/L
Area ratio: 0.43259
Sample type: QC



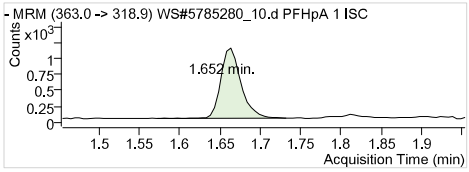


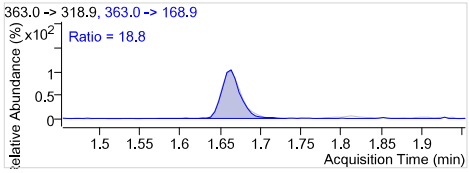
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 1.377 (1.391)
Calc. conc. 0.88 µg/L
Area ratio: 0.30834
Sample type: QC



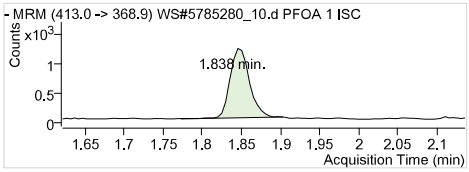


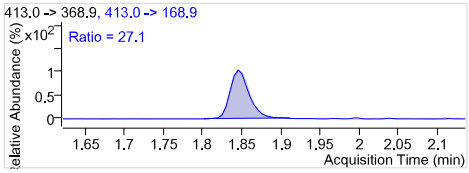
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.663)
Calc. conc. 0.94 µg/L
Area ratio: 0.42580
Sample type: QC



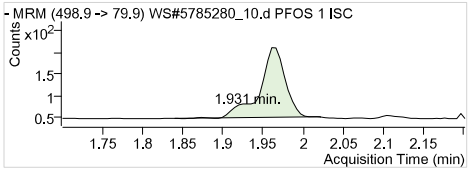


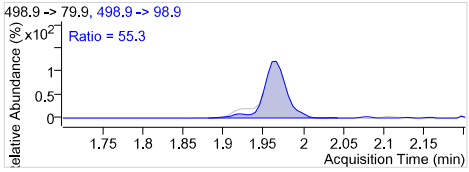
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 1.652 (1.664)
Calc. conc. 0.90 µg/L
Area ratio: 0.31285
Sample type: QC



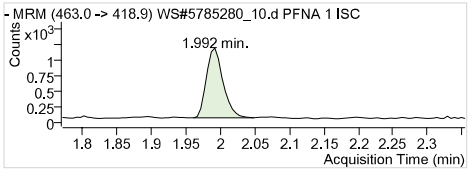


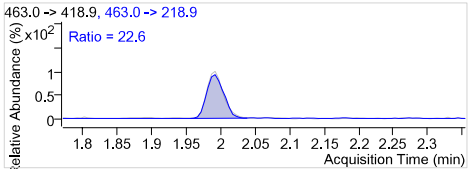
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 1.838 (1.845)
Calc. conc. 0.90 µg/L
Area ratio: 0.33911
Sample type: QC



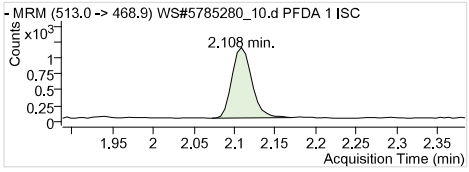


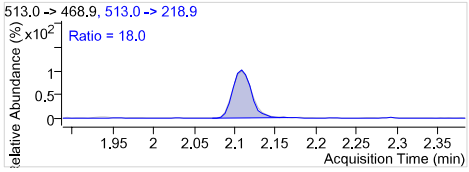
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.931 (1.966)
Calc. conc. 0.76 µg/L
Area ratio: 0.29898
Sample type: QC



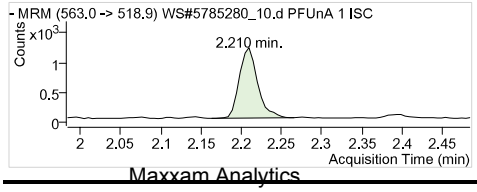


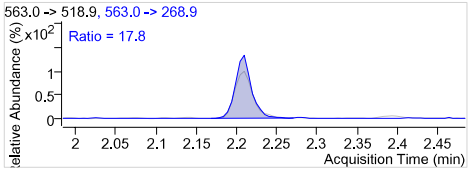
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 1.992 (1.992)
Calc. conc. 0.94 µg/L
Area ratio: 0.32205
Sample type: QC



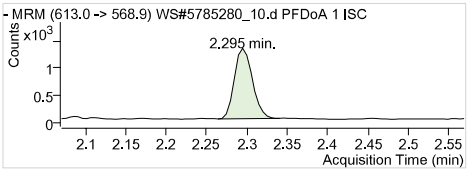


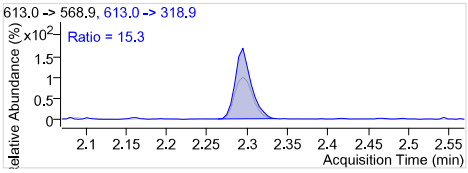
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 2.108 (2.108)
Calc. conc. 0.94 µg/L
Area ratio: 0.45307
Sample type: QC



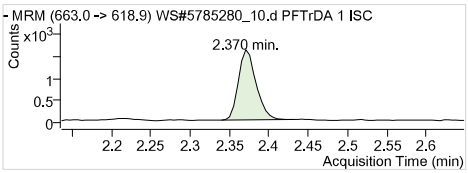


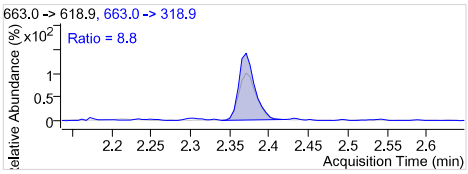
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 2.210 (2.210)
Calc. conc. 0.95 µg/L
Area ratio: 0.37767
Sample type: QC



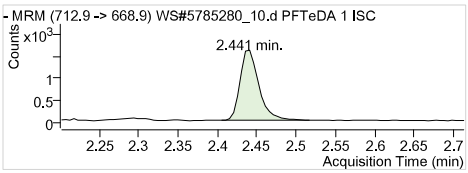


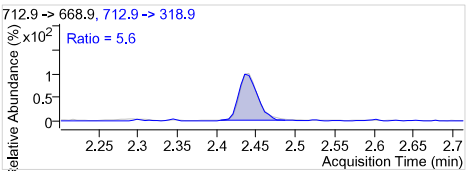
PFDoA 1	613.0 -> 568.9
RT (Exp. RT):	2.295 (2.295)
Calc. conc.	0.88 µg/L
Area ratio:	0.31820
Sample type:	QC



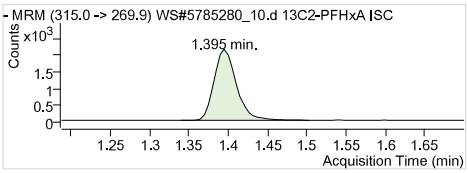


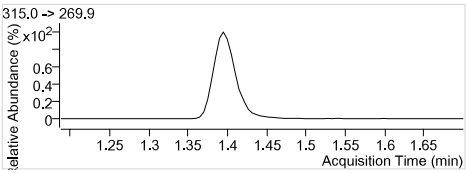
PFTrDA 1	663.0 -> 618.9
RT (Exp. RT):	2.370 (2.370)
Calc. conc.	0.87 µg/L
Area ratio:	0.27999
Sample type:	QC



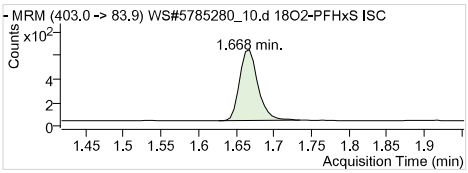


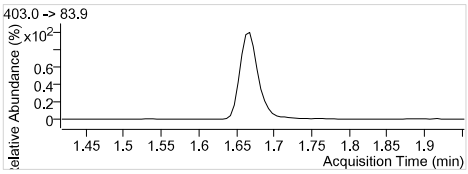
PFTeDA 1	712.9 -> 668.9
RT (Exp. RT):	2.441 (2.441)
Calc. conc.	0.92 µg/L
Area ratio:	0.29361
Sample type:	QC



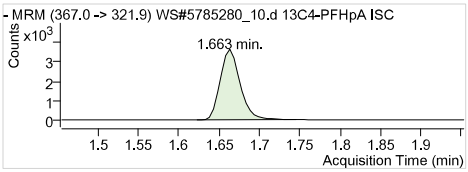


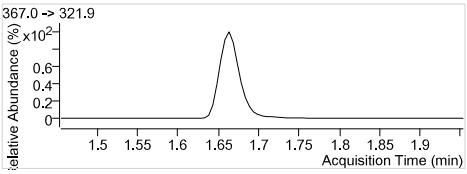
13C2-PFHxA	315.0 -> 269.9
RT (Exp. RT):	1.395 (1.395)
Calc. conc.	99.22 µg/L
Area ratio:	0.23266
Sample type:	QC



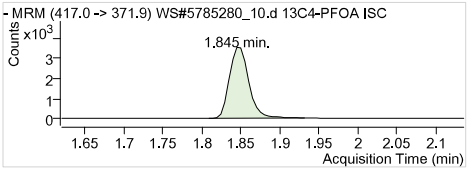


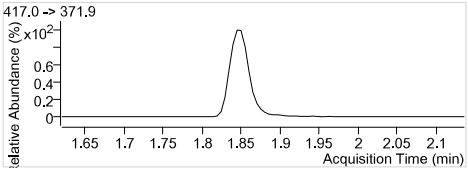
18O2-PFHxS	403.0 -> 83.9
RT (Exp. RT):	1.668 (1.668)
Calc. conc.	97.96 µg/L
Area ratio:	0.05702
Sample type:	QC



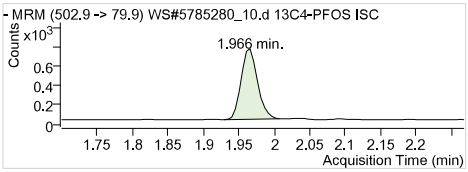


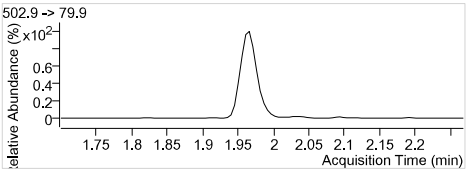
13C4-PFHpA	367.0 -> 321.9
RT (Exp. RT):	1.663 (1.663)
Calc. conc.	102.10 µg/L
Area ratio:	0.34161
Sample type:	QC



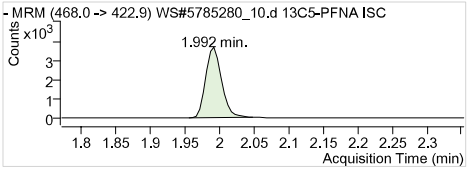


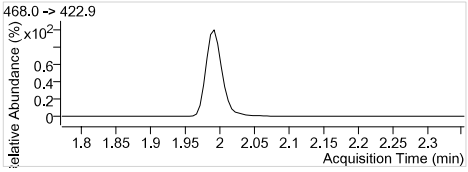
13C4-PFOA	417.0 -> 371.9
RT (Exp. RT):	1.845 (1.845)
Calc. conc.	98.14 µg/L
Area ratio:	0.33365
Sample type:	QC



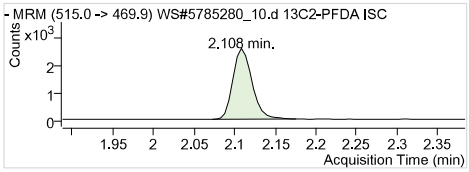


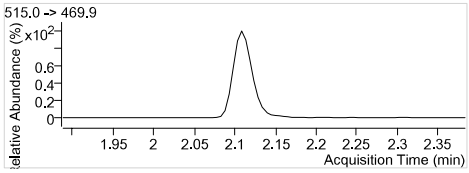
13C4-PFOS	502.9 -> 79.9
RT (Exp. RT):	1.966 (1.966)
Calc. conc.	96.96 µg/L
Area ratio:	0.06542
Sample type:	QC



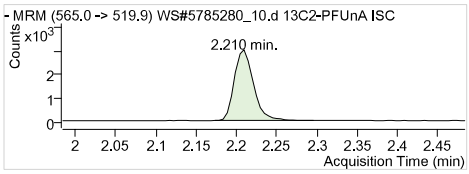


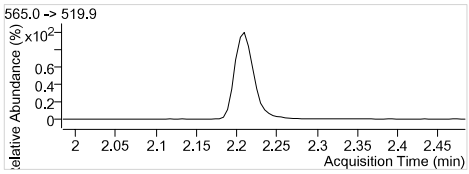
13C5-PFNA	468.0 -> 422.9
RT (Exp. RT):	1.992 (1.992)
Calc. conc.	99.19 µg/L
Area ratio:	0.32198
Sample type:	QC



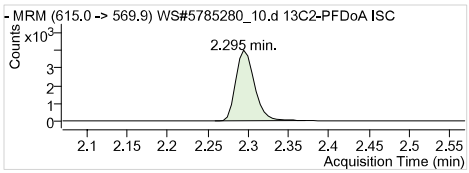


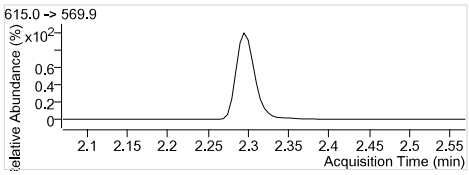
13C2-PFDA	515.0 -> 469.9
RT (Exp. RT):	2.108 (2.108)
Calc. conc.	95.67 µg/L
Area ratio:	0.17208
Sample type:	QC



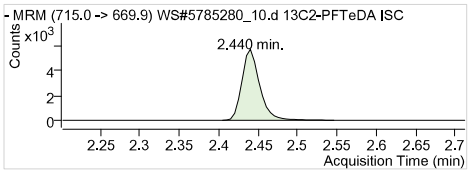


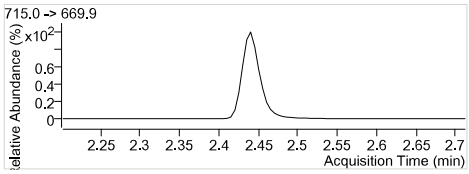
13C2-PFUnA	565.0 -> 519.9
RT (Exp. RT):	2.210 (2.210)
Calc. conc.	99.41 µg/L
Area ratio:	0.19956
Sample type:	QC



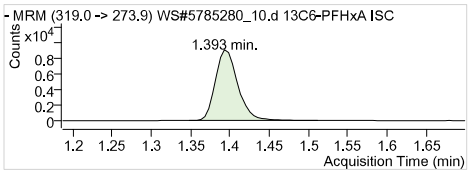


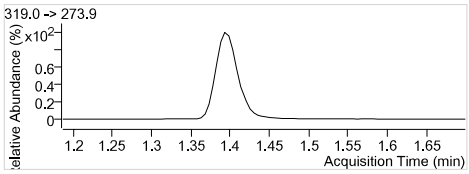
13C2-PFDoA	615.0 -> 569.9
RT (Exp. RT):	2.295 (2.295)
Calc. conc.	97.58 µg/L
Area ratio:	0.25930
Sample type:	QC



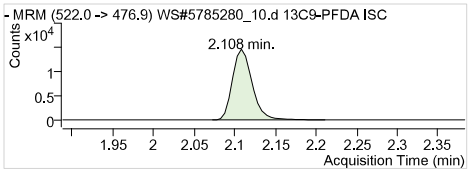


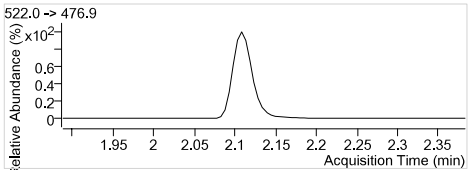
13C2-PFTeDA	715.0 -> 669.9
RT (Exp. RT):	2.440 (2.440)
Calc. conc.	100.84 µg/L
Area ratio:	0.36036
Sample type:	QC





13C6-PFHxA	319.0 -> 273.9
RT (Exp. RT):	1.393 (1.393)
Calc. conc.	100.32 µg/L
Area ratio:	0
Sample type:	QC





13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	2.108 (2.108)
Calc. conc.	99.63 µg/L
Area ratio:	0
Sample type:	QC

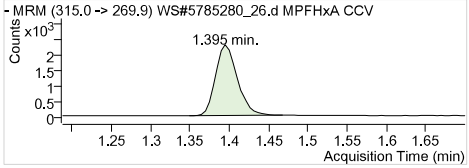
Quantitation Results

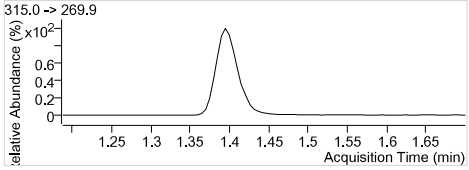
Agilent Technologies

Batch Path	T:\LCMS04\PFC\20181017\WS#5785280\QuantResults\PFC_Water_Low_20181017_WS#5785280_EToxics		
Sample Name	**CCV**	**Instrument**	LCMS04
Data File	WS#5785280_26.d	**Operator**	
Sample Type	CC	**Dilution**	1
Acq. Method	PFC_Water_Low.m	**Position**	P4-A5
Acq. Date	2018/10/18 4:10:45 AM	**Injection Volume**	Per Method
Sample Annotation	-		

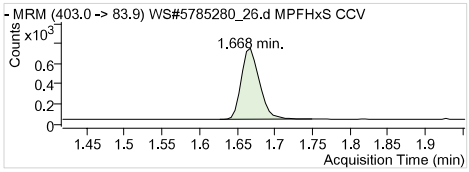
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	4443	1.39	1 µg/L		
MPFHxS	1192	1.67	1 µg/L		
MPFHpA	6338	1.66	1 µg/L		
MPFOA	6446	1.85	1 µg/L		
MPFOS	1316	1.96	1 µg/L		
MPFNA	6230	1.99	1 µg/L		
MPFDA	4600	2.11	1 µg/L		
MPFUnA	5368	2.21	1 µg/L		
MPFDoA	6710	2.29	1 µg/L		
MPFTeDA	9383	2.44	1 µg/L		
13C6-PFHxA IS	18940	1.39	1 µg/L		
13C9-PFDA IS	25986	2.11	1 µg/L		

Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1	7677	1.07	12.50	10.93 µg/L	87.45
PFHxA 1	21986	1.38	12.50	12.29 µg/L	98.35
PFHxS 1	6880	1.67	12.50	11.06 µg/L	88.46
PFHpA 1	30856	1.65	12.50	12.34 µg/L	98.70
PFOA 1	32486	1.84	12.50	12.09 µg/L	96.68
PFOS 1	6042	1.93	12.50	11.64 µg/L	93.14
PFNA 1	29409	1.99	12.50	11.87 µg/L	94.98
PFDA 1	30657	2.11	12.50	11.94 µg/L	95.53
PFUnA 1	30089	2.21	12.50	12.11 µg/L	96.92
PFDoA 1	33225	2.29	12.50	12.65 µg/L	101.23
PFTrDA 1	42168	2.37	12.50	12.38 µg/L	99.03
PFTeDA 1	42082	2.44	12.50	12.13 µg/L	97.05
13C2-PFHxA	4443	1.39	100.00	100.04 µg/L	100.04
18O2-PFHxS	1192	1.67	100.00	108.13 µg/L	108.13
13C4-PFHpA	6338	1.66	100.00	100.01 µg/L	100.01
13C4-PFOA	6446	1.85	100.00	100.11 µg/L	100.11
13C4-PFOS	1316	1.96	100.00	102.98 µg/L	102.98
13C5-PFNA	6230	1.99	100.00	101.34 µg/L	101.34
13C2-PFDA	4600	2.11	100.00	98.41 µg/L	98.41
13C2-PFUnA	5368	2.21	100.00	102.90 µg/L	102.90
13C2-PFDoA	6710	2.29	100.00	97.17 µg/L	97.17
13C2-PFTeDA	9383	2.44	100.00	101.04 µg/L	101.04
13C6-PFHxA	18940	1.39	100.00	105.08 µg/L	105.08
13C9-PFDA	25986	2.11	100.00	105.08 µg/L	105.08

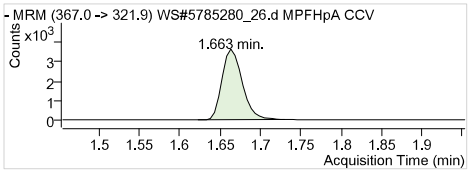




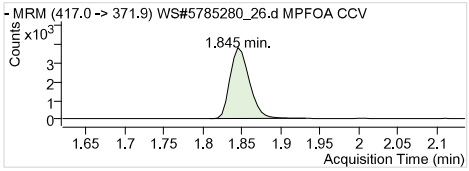
MPFHxA	Internal Standard
RT (Exp. RT):	1.395 (1.395)
Concentration:	1 µg/L
Sample type:	CC



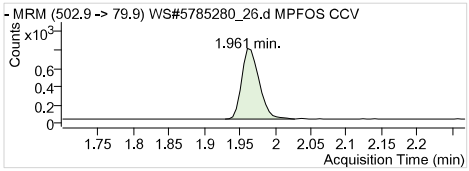
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: CC



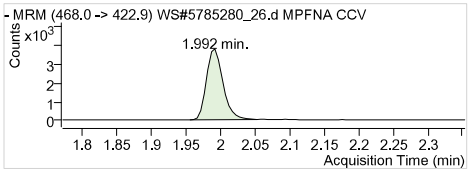
MPFHpA Internal Standard
RT (Exp. RT): 1.663 (1.663)
Concentration: 1 µg/L
Sample type: CC



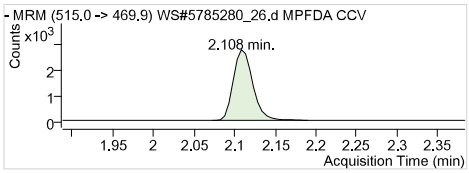
MPFOA Internal Standard
RT (Exp. RT): 1.845 (1.845)
Concentration: 1 µg/L
Sample type: CC



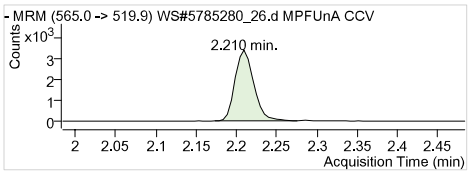
MPFOS Internal Standard
RT (Exp. RT): 1.961 (1.966)
Concentration: 1 µg/L
Sample type: CC



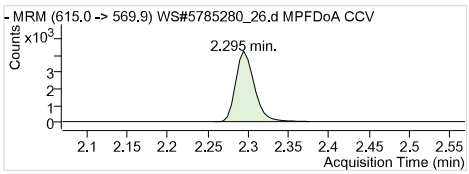
MPFNA Internal Standard
RT (Exp. RT): 1.992 (1.992)
Concentration: 1 µg/L
Sample type: CC



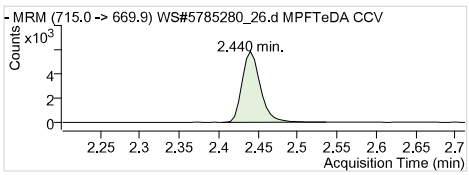
MPFDA Internal Standard
RT (Exp. RT): 2.108 (2.108)
Concentration: 1 µg/L
Sample type: CC



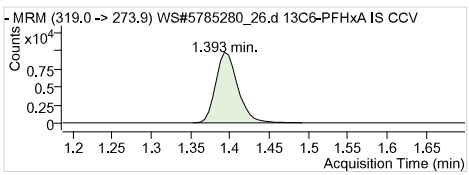
MPFUnA Internal Standard
RT (Exp. RT): 2.210 (2.210)
Concentration: 1 µg/L
Sample type: CC



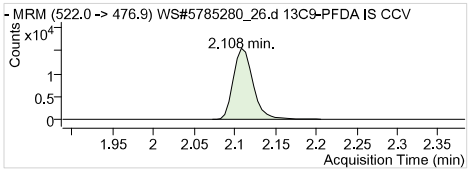
MPFDoA Internal Standard
RT (Exp. RT): 2.295 (2.295)
Concentration: 1 µg/L
Sample type: CC

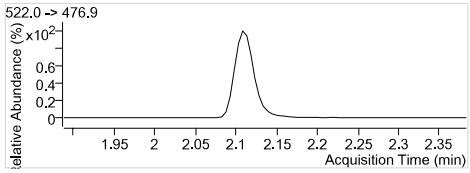


MPFTeDA Internal Standard
RT (Exp. RT): 2.440 (2.440)
Concentration: 1 µg/L
Sample type: CC

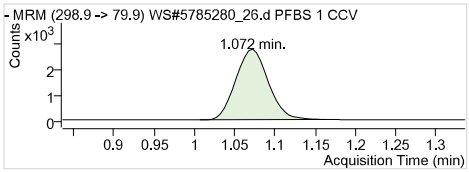


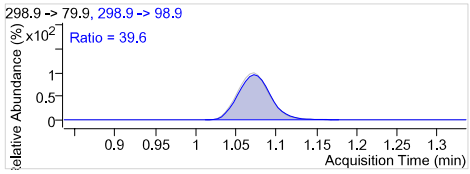
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.393 (1.393)
Concentration: 1 µg/L
Sample type: CC



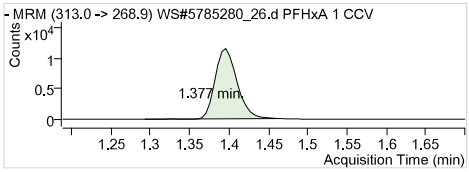


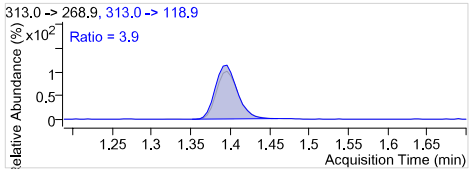
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.108 (2.108)
Concentration: 1 µg/L
Sample type: CC



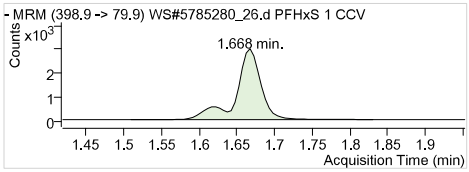


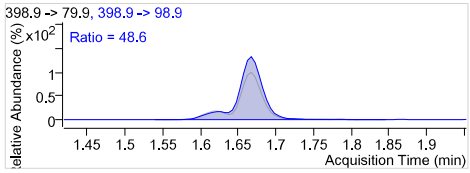
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 1.072 (1.067)
Calc. conc. 10.93 µg/L
Area ratio: 6.44044
Sample type: CC



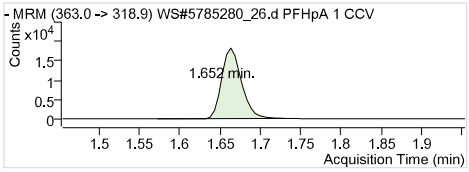


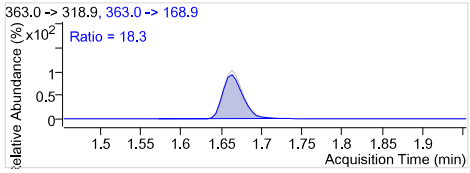
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 1.377 (1.391)
Calc. conc. 12.29 µg/L
Area ratio: 4.94845
Sample type: CC



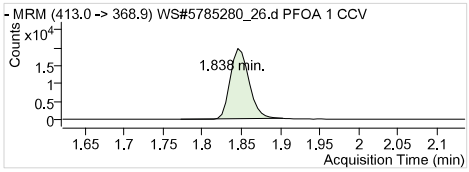


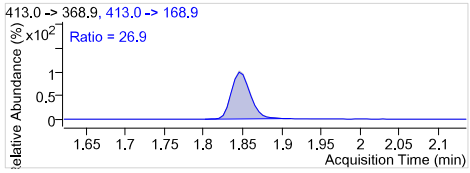
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.663)
Calc. conc. 11.06 µg/L
Area ratio: 5.77181
Sample type: CC



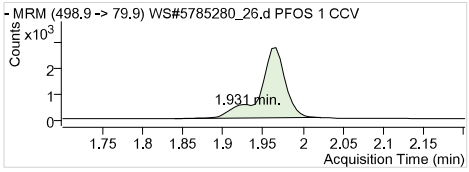


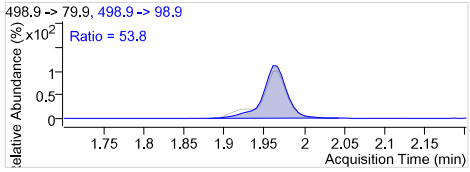
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 1.652 (1.664)
Calc. conc. 12.34 µg/L
Area ratio: 4.86846
Sample type: CC



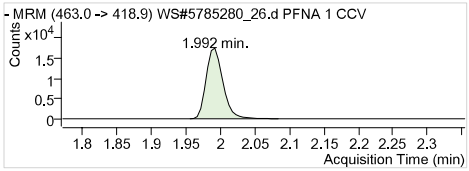


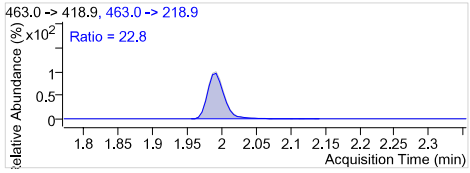
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 1.838 (1.845)
Calc. conc. 12.09 µg/L
Area ratio: 5.03972
Sample type: CC



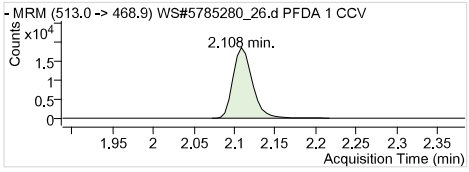


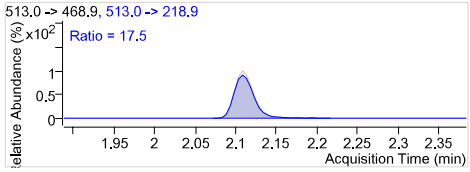
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.931 (1.966)
Calc. conc. 11.64 µg/L
Area ratio: 4.59149
Sample type: CC



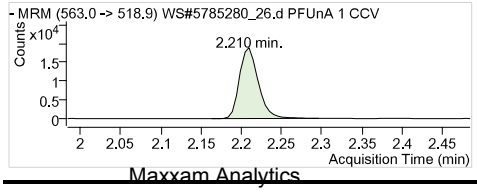


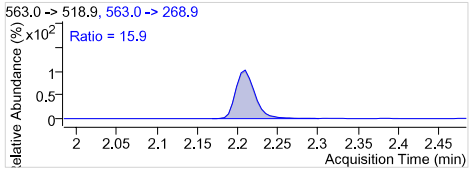
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 1.992 (1.992)
Calc. conc. 11.87 µg/L
Area ratio: 4.72055
Sample type: CC



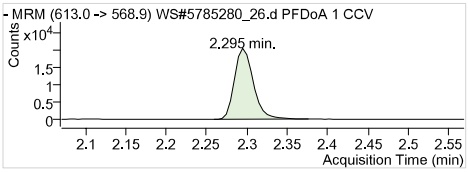


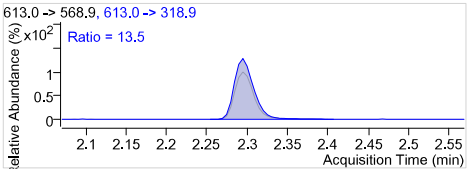
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 2.108 (2.108)
Calc. conc. 11.94 µg/L
Area ratio: 6.66457
Sample type: CC



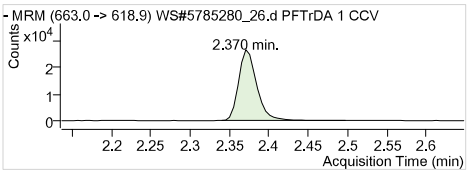


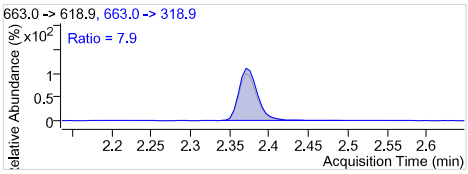
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 2.210 (2.210)
Calc. conc. 12.11 µg/L
Area ratio: 5.60525
Sample type: CC



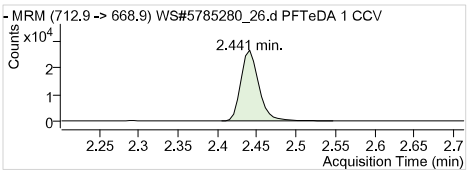


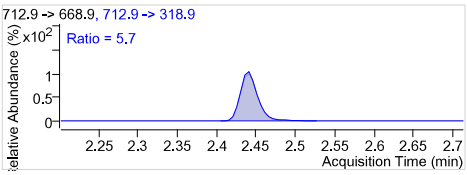
PFDoA 1 613.0 -> 568.9
RT (Exp. RT): 2.295 (2.295)
Calc. conc. 12.65 µg/L
Area ratio: 4.95156
Sample type: CC



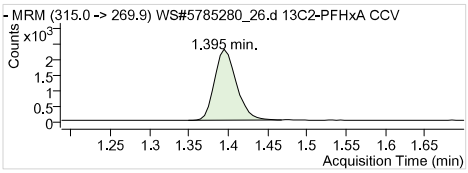


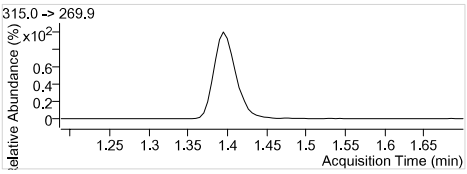
PFTrDA 1 663.0 -> 618.9
RT (Exp. RT): 2.370 (2.370)
Calc. conc. 12.38 µg/L
Area ratio: 4.49409
Sample type: CC



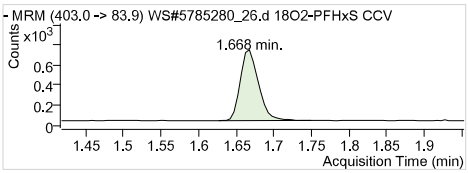


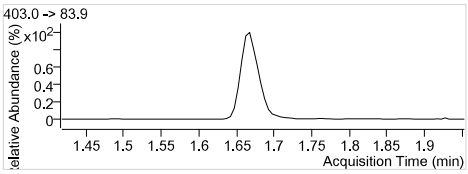
PFTeDA 1 712.9 -> 668.9
RT (Exp. RT): 2.441 (2.441)
Calc. conc. 12.13 µg/L
Area ratio: 4.48492
Sample type: CC



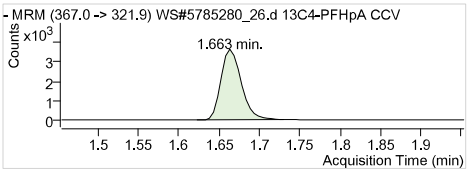


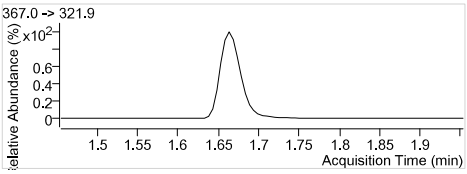
13C2-PFHxA 315.0 -> 269.9
RT (Exp. RT): 1.395 (1.395)
Calc. conc. 100.04 µg/L
Area ratio: 0.23458
Sample type: CC



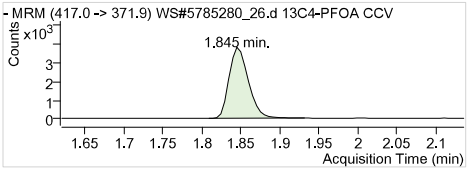


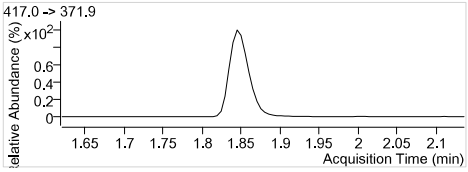
18O2-PFHxS 403.0 -> 83.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 108.13 µg/L
Area ratio: 0.06294
Sample type: CC



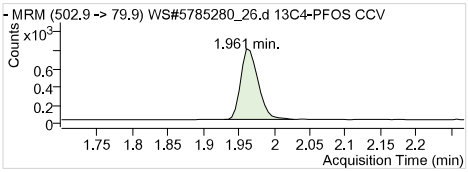


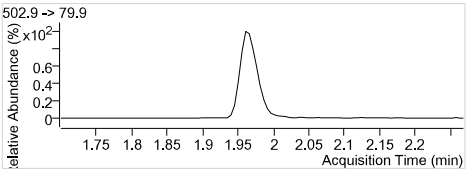
13C4-PFHpA 367.0 -> 321.9
RT (Exp. RT): 1.663 (1.663)
Calc. conc. 100.01 µg/L
Area ratio: 0.33464
Sample type: CC



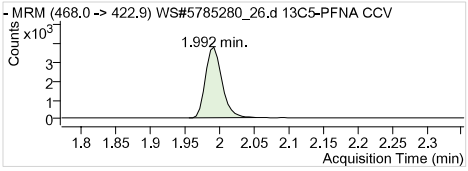


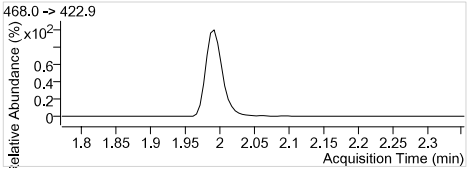
13C4-PFOA 417.0 -> 371.9
RT (Exp. RT): 1.845 (1.845)
Calc. conc. 100.11 µg/L
Area ratio: 0.34034
Sample type: CC



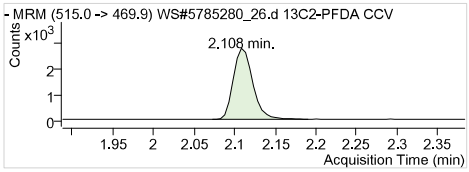


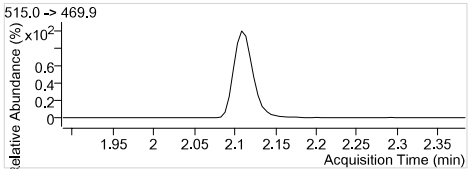
13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.961 (1.966)
Calc. conc. 102.98 µg/L
Area ratio: 0.06948
Sample type: CC



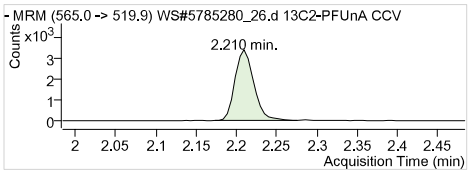


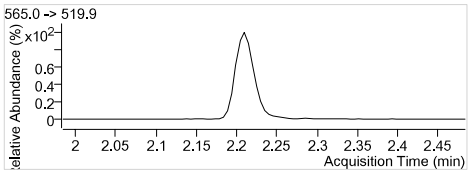
13C5-PFNA 468.0 -> 422.9
RT (Exp. RT): 1.992 (1.992)
Calc. conc. 101.34 µg/L
Area ratio: 0.32893
Sample type: CC



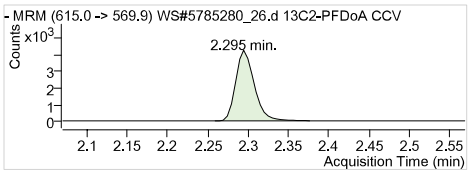


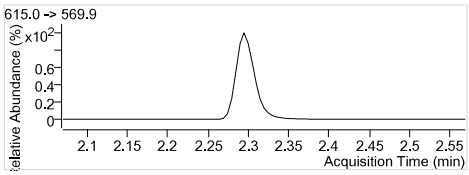
13C2-PFDA	515.0 -> 469.9
RT (Exp. RT):	2.108 (2.108)
Calc. conc.	98.41 µg/L
Area ratio:	0.17702
Sample type:	CC



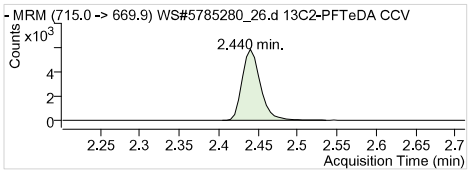


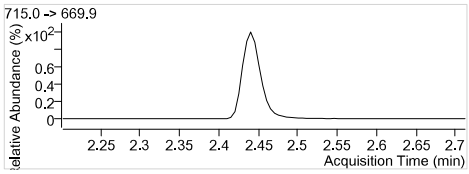
13C2-PFUnA	565.0 -> 519.9
RT (Exp. RT):	2.210 (2.210)
Calc. conc.	102.90 µg/L
Area ratio:	0.20657
Sample type:	CC



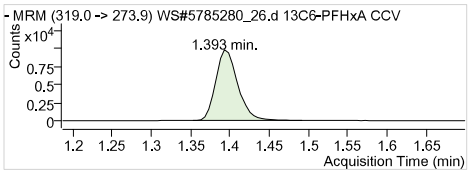


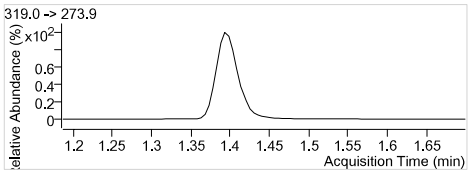
13C2-PFDoA	615.0 -> 569.9
RT (Exp. RT):	2.295 (2.295)
Calc. conc.	97.17 µg/L
Area ratio:	0.25822
Sample type:	CC



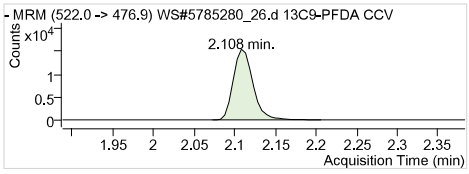


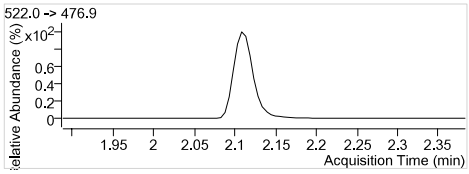
13C2-PFTeDA	715.0 -> 669.9
RT (Exp. RT):	2.440 (2.440)
Calc. conc.	101.04 µg/L
Area ratio:	0.36108
Sample type:	CC





13C6-PFHxA	319.0 -> 273.9
RT (Exp. RT):	1.393 (1.393)
Calc. conc.	105.08 µg/L
Area ratio:	0
Sample type:	CC





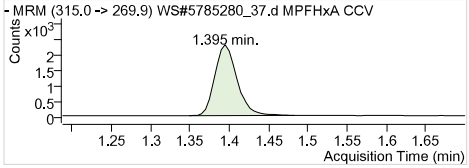
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	2.108 (2.108)
Calc. conc.	105.08 µg/L
Area ratio:	0
Sample type:	CC

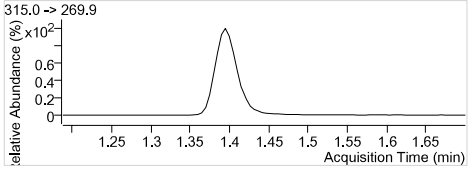
Batch Path	T:\LCMS04\PFC\20181017\WS#5785280\QuantResults\PFC_Water_Low_20181017_WS#5785280_EToxics

Sample Name	**CCV**	**Instrument**	LCMS04
Data File	WS#5785280_37.d	**Operator**	
Sample Type	CC	**Dilution**	1
Acq. Method	PFC_Water_Low.m	**Position**	P4-A5
Acq. Date	2018/10/18 5:04:46 AM	**Injection Volume**	Per Method
Sample Annotation	-		

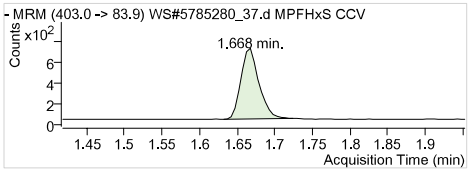
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	4508	1.39	1 µg/L		
MPFHxS	1148	1.67	1 µg/L		
MPFHpA	6772	1.66	1 µg/L		
MPFOA	6424	1.85	1 µg/L		
MPFOS	1287	1.97	1 µg/L		
MPFNA	6698	1.99	1 µg/L		
MPFDA	4696	2.11	1 µg/L		
MPFUnA	5490	2.21	1 µg/L		
MPFDoA	7170	2.29	1 µg/L		
MPFTeDA	9401	2.44	1 µg/L		
13C6-PFHxA IS	19297	1.39	1 µg/L		
13C9-PFDA IS	25828	2.11	1 µg/L		

Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1	7773	1.07	12.50	11.48 µg/L	91.86
PFHxA 1	22035	1.38	12.50	12.14 µg/L	97.16
PFHxS 1	7027	1.67	12.50	11.72 µg/L	93.74
PFHpA 1	30512	1.65	12.50	11.43 µg/L	91.41
PFOA 1	32941	1.84	12.50	12.29 µg/L	98.36
PFOS 1	6252	1.93	12.50	12.32 µg/L	98.54
PFNA 1	29696	1.99	12.50	11.16 µg/L	89.27
PFDA 1	31518	2.11	12.50	12.02 µg/L	96.20
PFUnA 1	29900	2.20	12.50	11.78 µg/L	94.20
PFDoA 1	34276	2.29	12.50	12.22 µg/L	97.76
PFTrDA 1	42609	2.37	12.50	12.48 µg/L	99.87
PFTeDA 1	42733	2.44	12.50	12.29 µg/L	98.35
13C2-PFHxA	4508	1.39	100.00	99.63 µg/L	99.63
18O2-PFHxS	1148	1.67	100.00	102.21 µg/L	102.21
13C4-PFHpA	6772	1.66	100.00	104.88 µg/L	104.88
13C4-PFOA	6424	1.85	100.00	97.92 µg/L	97.92
13C4-PFOS	1287	1.97	100.00	98.84 µg/L	98.84
13C5-PFNA	6698	1.99	100.00	106.93 µg/L	106.93
13C2-PFDA	4696	2.11	100.00	101.08 µg/L	101.08
13C2-PFUnA	5490	2.21	100.00	105.88 µg/L	105.88
13C2-PFDoA	7170	2.29	100.00	104.47 µg/L	104.47
13C2-PFTeDA	9401	2.44	100.00	101.85 µg/L	101.85
13C6-PFHxA	19297	1.39	100.00	107.06 µg/L	107.06
13C9-PFDA	25828	2.11	100.00	104.44 µg/L	104.44

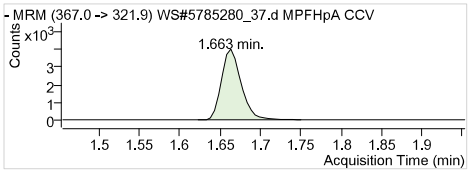




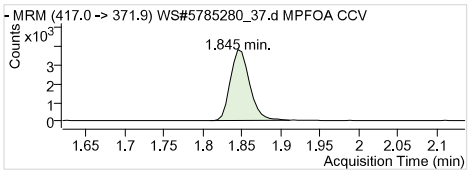
MPFHxA	Internal Standard
RT (Exp. RT):	1.395 (1.395)
Concentration:	1 µg/L
Sample type:	CC



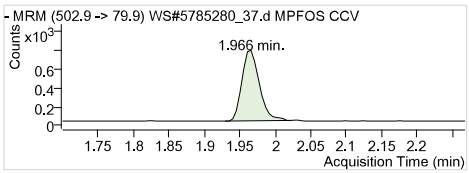
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: CC



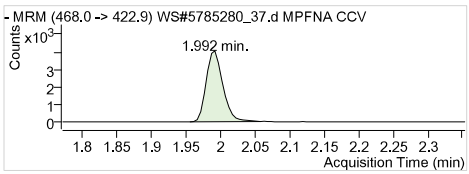
MPFHpA Internal Standard
RT (Exp. RT): 1.663 (1.663)
Concentration: 1 µg/L
Sample type: CC



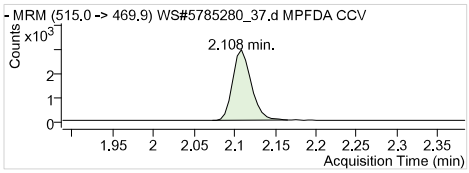
MPFOA Internal Standard
RT (Exp. RT): 1.845 (1.845)
Concentration: 1 µg/L
Sample type: CC



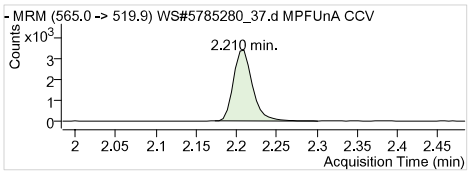
MPFOS Internal Standard
RT (Exp. RT): 1.966 (1.966)
Concentration: 1 µg/L
Sample type: CC



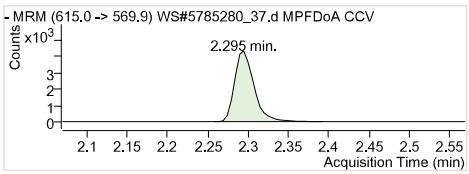
MPFNA Internal Standard
RT (Exp. RT): 1.992 (1.992)
Concentration: 1 µg/L
Sample type: CC



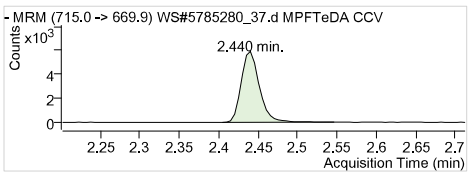
MPFDA Internal Standard
RT (Exp. RT): 2.108 (2.108)
Concentration: 1 µg/L
Sample type: CC



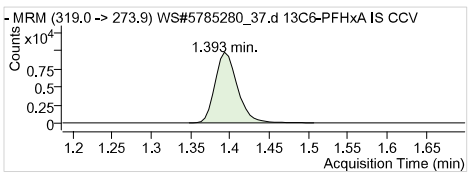
MPFUnA Internal Standard
RT (Exp. RT): 2.210 (2.210)
Concentration: 1 µg/L
Sample type: CC



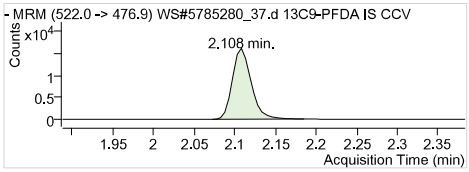
MPFDoA Internal Standard
RT (Exp. RT): 2.295 (2.295)
Concentration: 1 µg/L
Sample type: CC

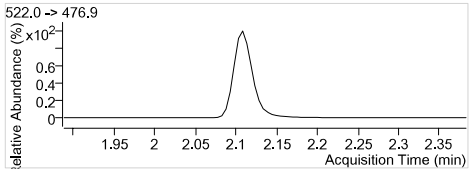


MPFTeDA Internal Standard
RT (Exp. RT): 2.440 (2.440)
Concentration: 1 µg/L
Sample type: CC

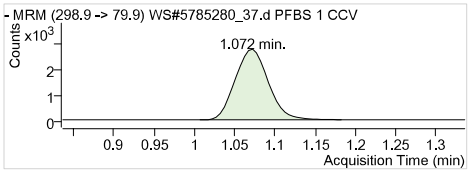


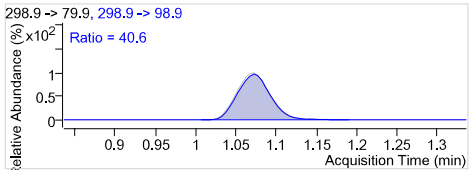
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.393 (1.393)
Concentration: 1 µg/L
Sample type: CC



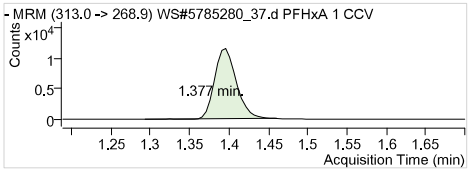


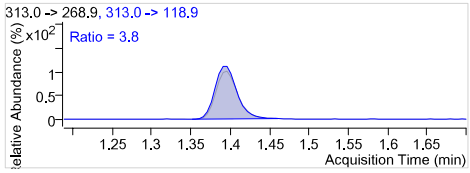
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.108 (2.108)
Concentration: 1 µg/L
Sample type: CC



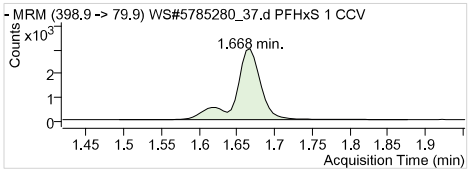


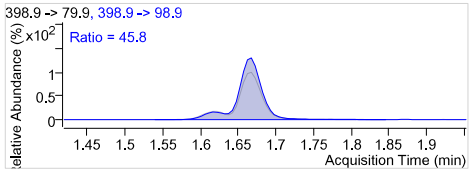
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 1.072 (1.067)
Calc. conc. 11.48 µg/L
Area ratio: 6.77091
Sample type: CC



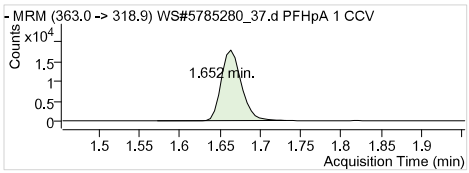


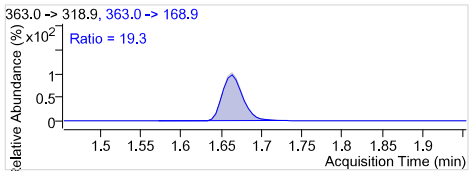
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 1.377 (1.391)
Calc. conc. 12.14 µg/L
Area ratio: 4.88792
Sample type: CC



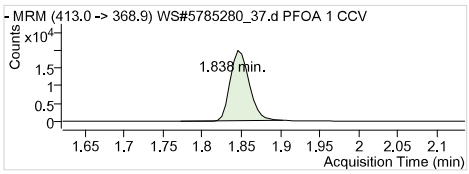


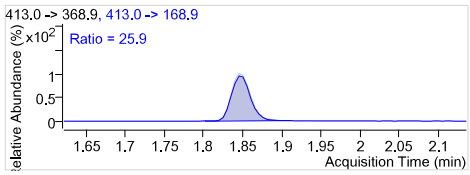
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.663)
Calc. conc. 11.72 µg/L
Area ratio: 6.12108
Sample type: CC



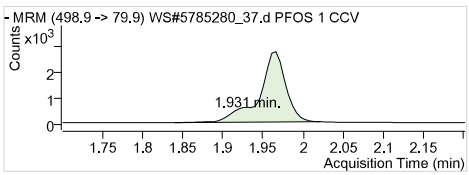


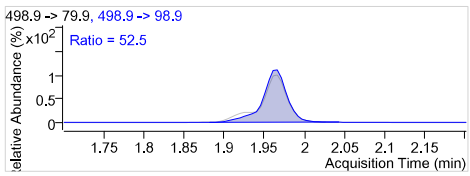
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 1.652 (1.664)
Calc. conc. 11.43 µg/L
Area ratio: 4.50558
Sample type: CC



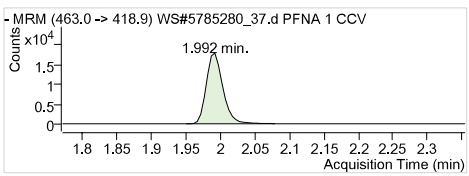


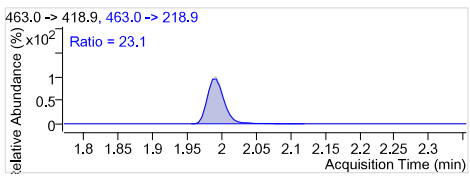
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 1.838 (1.845)
Calc. conc. 12.29 µg/L
Area ratio: 5.12776
Sample type: CC



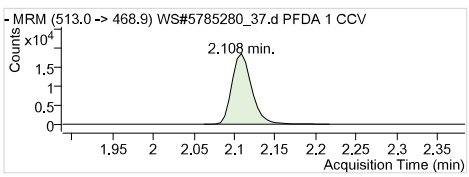


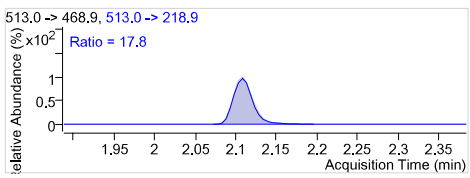
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.931 (1.966)
Calc. conc. 12.32 µg/L
Area ratio: 4.85806
Sample type: CC



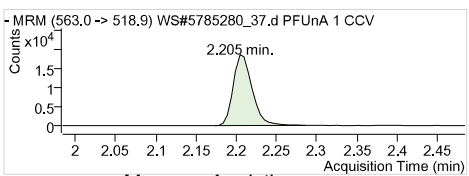


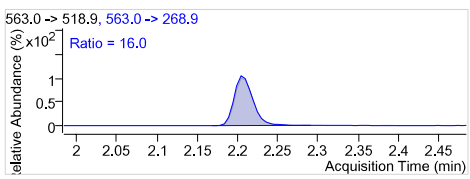
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 1.992 (1.992)
Calc. conc. 11.16 µg/L
Area ratio: 4.43356
Sample type: CC



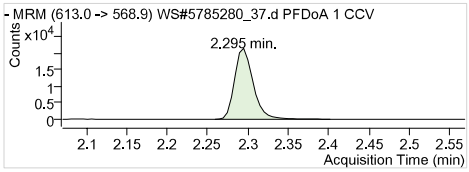


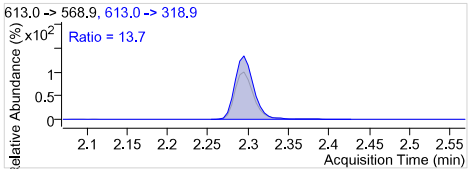
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 2.108 (2.108)
Calc. conc. 12.02 µg/L
Area ratio: 6.71167
Sample type: CC



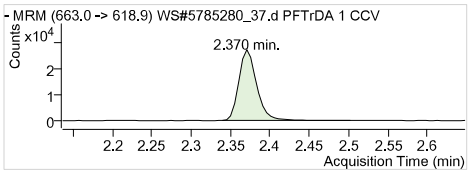


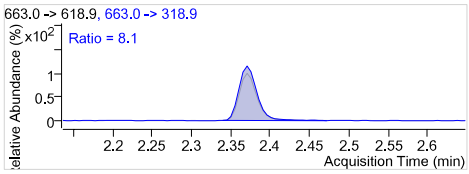
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 2.205 (2.210)
Calc. conc. 11.78 µg/L
Area ratio: 5.44627
Sample type: CC



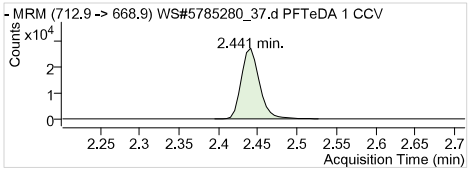


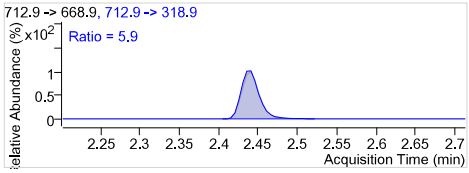
PFDoA 1 613.0 -> 568.9
RT (Exp. RT): 2.295 (2.295)
Calc. conc. 12.22 µg/L
Area ratio: 4.78047
Sample type: CC



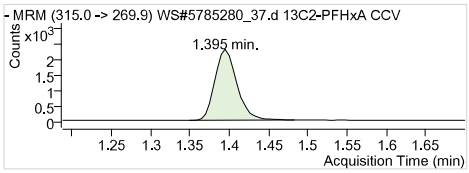


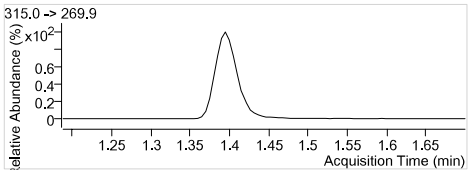
PFTrDA 1 663.0 -> 618.9
RT (Exp. RT): 2.370 (2.370)
Calc. conc. 12.48 µg/L
Area ratio: 4.53239
Sample type: CC



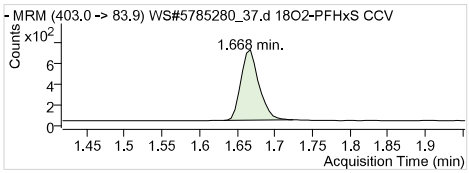


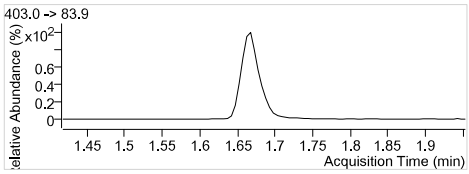
PFTeDA 1 712.9 -> 668.9
RT (Exp. RT): 2.441 (2.441)
Calc. conc. 12.29 µg/L
Area ratio: 4.54558
Sample type: CC



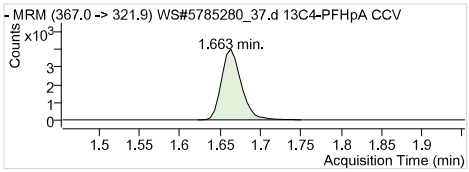


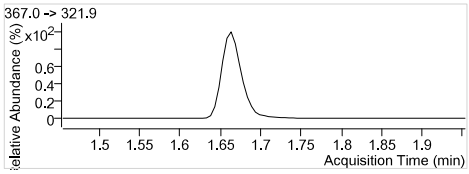
13C2-PFHxA 315.0 -> 269.9
RT (Exp. RT): 1.395 (1.395)
Calc. conc. 99.63 µg/L
Area ratio: 0.23361
Sample type: CC



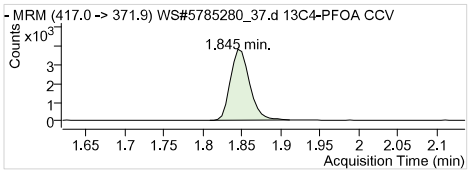


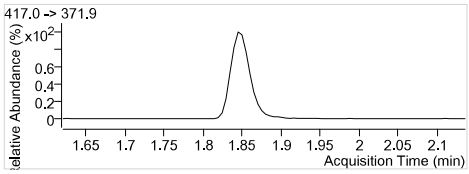
18O2-PFHxS 403.0 -> 83.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 102.21 µg/L
Area ratio: 0.05949
Sample type: CC



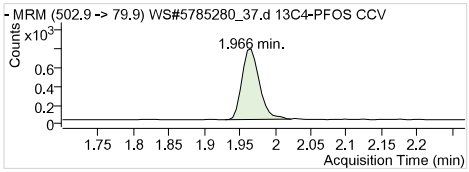


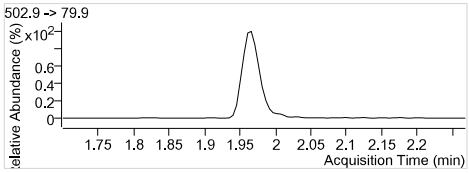
13C4-PFHpA 367.0 -> 321.9
RT (Exp. RT): 1.663 (1.663)
Calc. conc. 104.88 µg/L
Area ratio: 0.35094
Sample type: CC



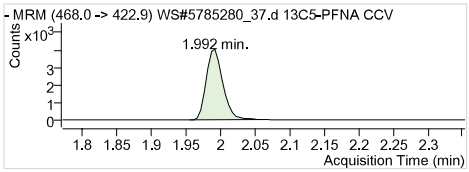


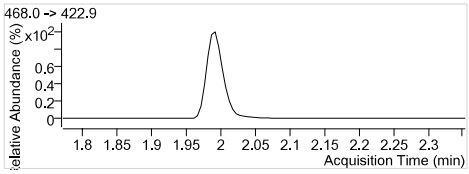
13C4-PFOA 417.0 -> 371.9
RT (Exp. RT): 1.845 (1.845)
Calc. conc. 97.92 µg/L
Area ratio: 0.33290
Sample type: CC



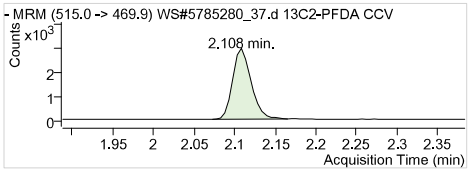


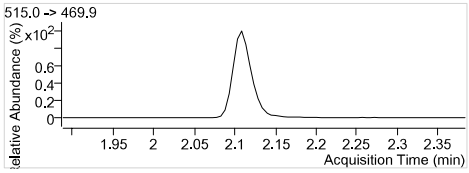
13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.966 (1.966)
Calc. conc. 98.84 µg/L
Area ratio: 0.06669
Sample type: CC



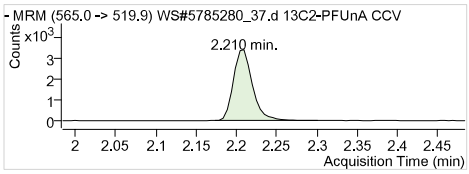


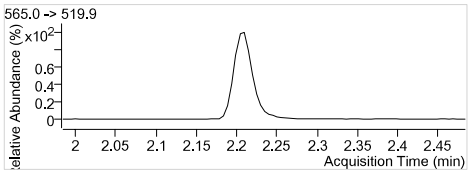
13C5-PFNA 468.0 -> 422.9
RT (Exp. RT): 1.992 (1.992)
Calc. conc. 106.93 µg/L
Area ratio: 0.34710
Sample type: CC



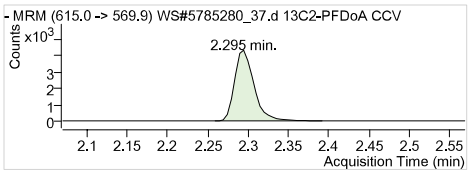


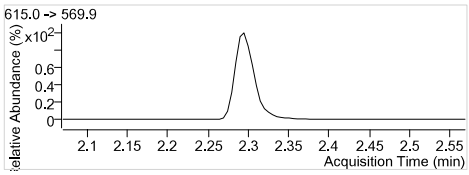
13C2-PFDA	515.0 -> 469.9
RT (Exp. RT):	2.108 (2.108)
Calc. conc.	101.08 µg/L
Area ratio:	0.18182
Sample type:	CC



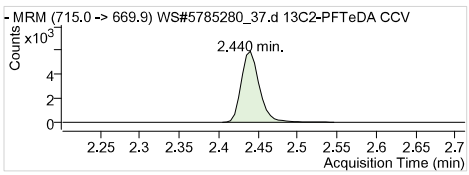


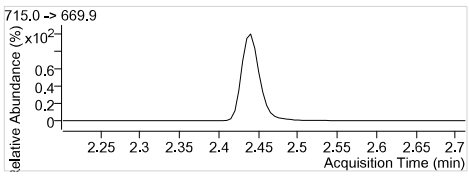
13C2-PFUnA	565.0 -> 519.9
RT (Exp. RT):	2.210 (2.210)
Calc. conc.	105.88 µg/L
Area ratio:	0.21256
Sample type:	CC



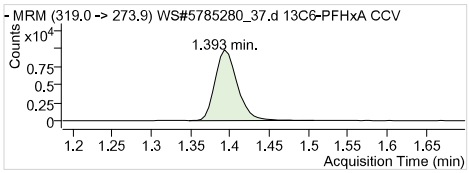


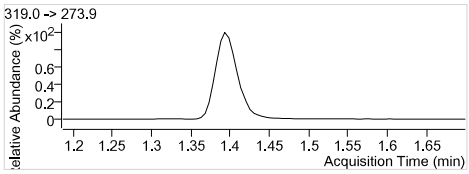
13C2-PFDoA	615.0 -> 569.9
RT (Exp. RT):	2.295 (2.295)
Calc. conc.	104.47 µg/L
Area ratio:	0.27761
Sample type:	CC



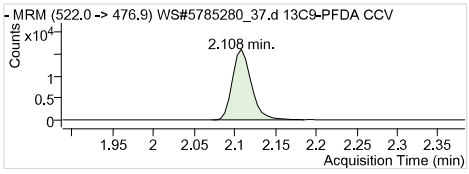


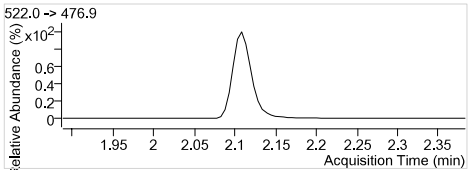
13C2-PFTeDA	715.0 -> 669.9
RT (Exp. RT):	2.440 (2.440)
Calc. conc.	101.85 µg/L
Area ratio:	0.36398
Sample type:	CC





13C6-PFHxA	319.0 -> 273.9
RT (Exp. RT):	1.393 (1.393)
Calc. conc.	107.06 µg/L
Area ratio:	0
Sample type:	CC





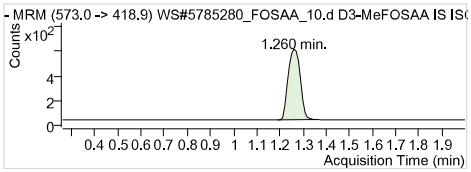
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	2.108 (2.108)
Calc. conc.	104.44 µg/L
Area ratio:	0
Sample type:	CC

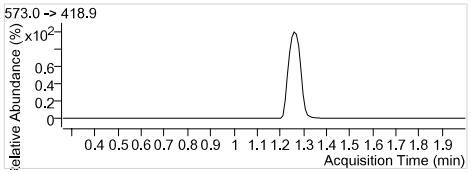
Batch Path	T:\LCMS04\PFC\20181017\WS#5785280_FOSAA\QuantResults\PFC_Water_Low_20181017_WS#5785280_FOSAA_EToxics

Sample Name	**ISC**	**Instrument**	LCMS04
Data File	WS#5785280_FOSAA_10.d	**Operator**	
Sample Type	QC	**Dilution**	1
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P4-A2
Acq. Date	2018/10/17 7:11:44 PM	**Injection Volume**	Per Method
Sample Annotation	-		

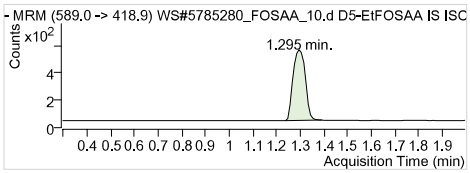
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	2054	1.26	1 µg/L		
D5-EtFOSAA IS	1863	1.29	1 µg/L		
13C9-PFDA IS	25876	0.84	1 µg/L		

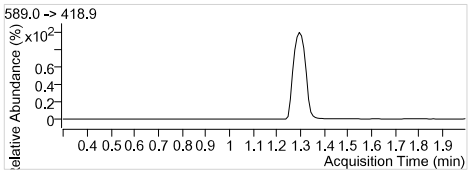
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1	588	1.26	0.83	0.81 µg/L	97.35
EtFOSAA 1	613	1.30	0.83	0.90 µg/L	108.50
D3-MeFOSAA	2073	1.26	100.00	102.57 µg/L	102.57
D5-EtFOSAA	1873	1.29	100.00	101.76 µg/L	101.76
13C9-PFDA	25608	0.84	100.00	102.49 µg/L	102.49



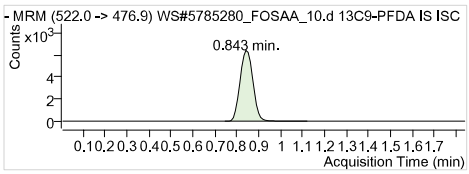


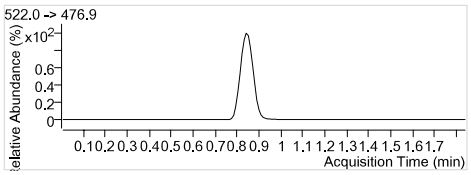
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.260 (1.260)
Concentration: 1 µg/L
Sample type: QC



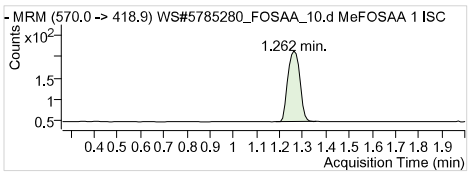


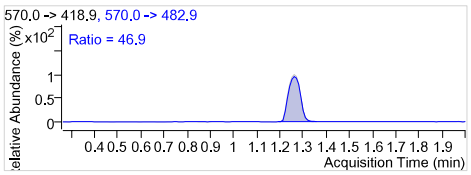
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.295 (1.295)
Concentration: 1 µg/L
Sample type: QC



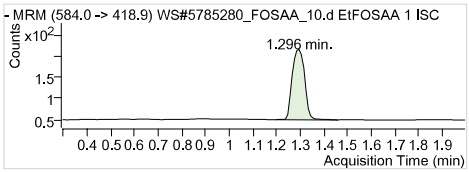


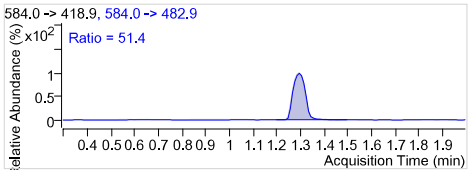
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.843 (0.843)
Concentration: 1 µg/L
Sample type: QC



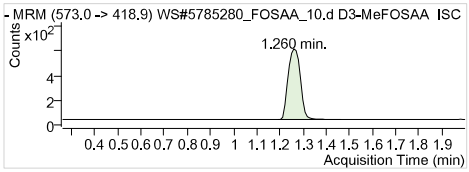


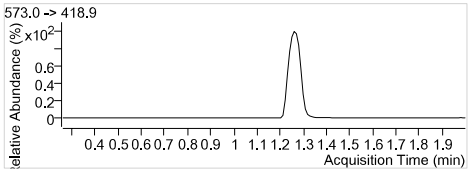
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 1.262 (1.262)
Calc. conc. 0.81 µg/L
Area ratio: 0.28627
Sample type: QC



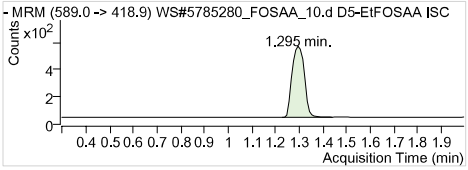


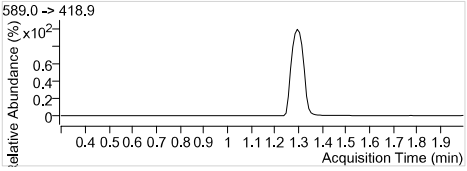
EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 1.296 (1.296)
Calc. conc. 0.90 µg/L
Area ratio: 0.32904
Sample type: QC



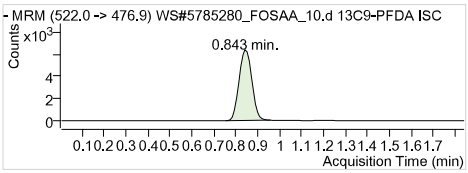


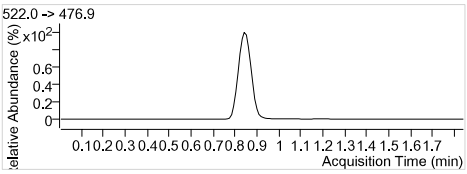
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.260 (1.260)
Calc. conc. 102.57 µg/L
Area ratio: 0.08011
Sample type: QC





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.295 (1.295)
Calc. conc.	101.76 µg/L
Area ratio:	0.07238
Sample type:	QC





13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.843 (0.843)
Calc. conc.	102.49 µg/L
Area ratio:	0
Sample type:	QC

Quantitation Results

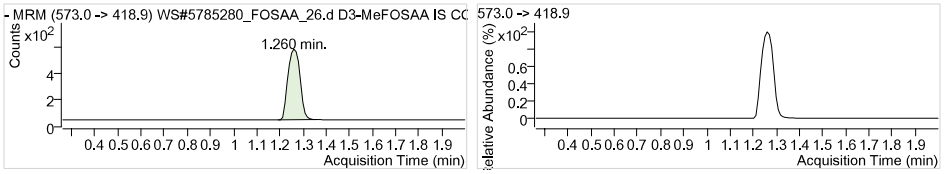
Agilent Technologies

Batch Path	T:\LCMS04\PFC\20181017\WS#5785280_FOSAA\QuantResults\PFC_Water_Low_20181017_WS#5785280_FOSAA_EToxics

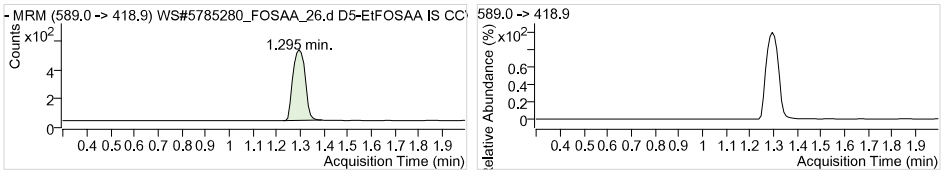
Sample Name	**CCV**	**Instrument**	LCMS04
Data File	WS#5785280_FOSAA_26.d	**Operator**	
Sample Type	CC	**Dilution**	1
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P4-A5
Acq. Date	2018/10/17 7:49:52 PM	**Injection Volume**	Per Method
Sample Annotation	-		

ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1933	1.26	1 µg/L		
D5-EtFOSAA IS	1772	1.29	1 µg/L		
13C9-PFDA IS	25094	0.84	1 µg/L		

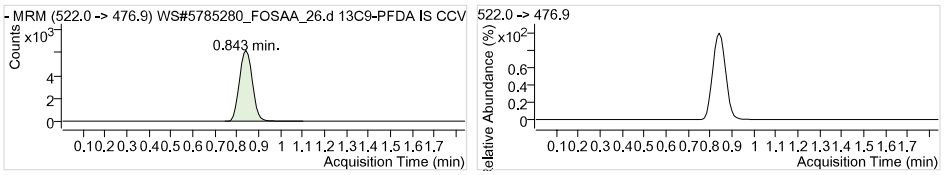
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1	8383	1.26	12.50	12.24 µg/L	97.94
EtFOSAA 1	8745	1.30	12.50	12.03 µg/L	96.22
D3-MeFOSAA	1946	1.26	100.00	99.29 µg/L	99.29
D5-EtFOSAA	1790	1.29	100.00	100.28 µg/L	100.28
13C9-PFDA	24857	0.84	100.00	99.49 µg/L	99.49



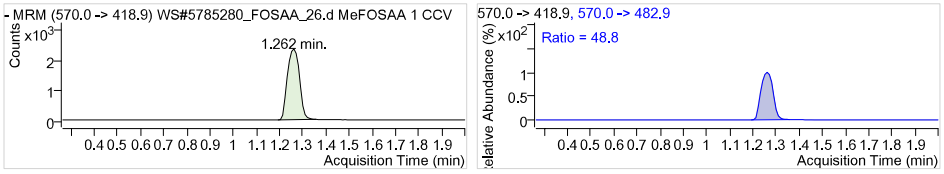
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.260 (1.260)
Concentration: 1 µg/L
Sample type: CC



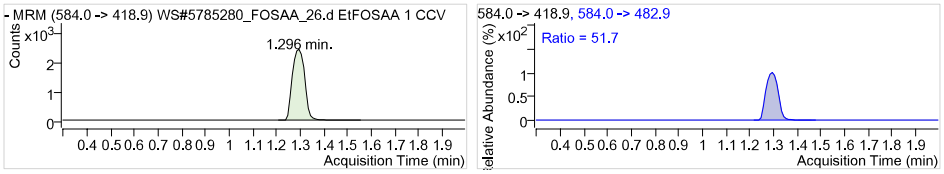
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.295 (1.295)
Concentration: 1 µg/L
Sample type: CC



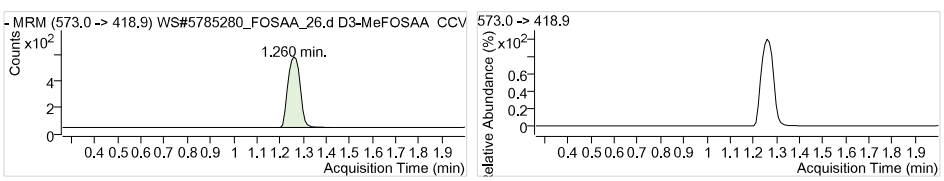
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.843 (0.843)
Concentration: 1 µg/L
Sample type: CC



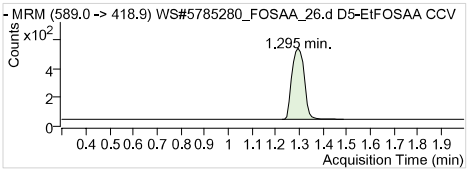
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 1.262 (1.262)
Calc. conc. 12.24 µg/L
Area ratio: 4.33678
Sample type: CC

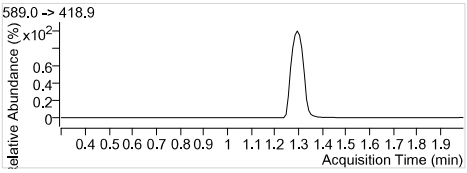


EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 1.296 (1.296)
Calc. conc. 12.03 µg/L
Area ratio: 4.93510
Sample type: CC

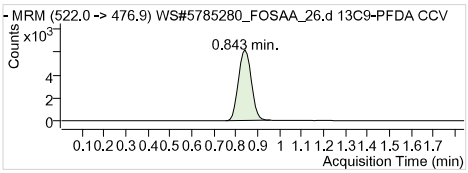


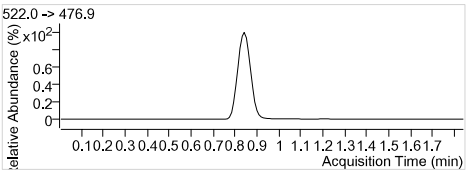
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.260 (1.260)
Calc. conc. 99.29 µg/L
Area ratio: 0.07755
Sample type: CC





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.295 (1.295)
Calc. conc.	100.28 µg/L
Area ratio:	0.07133
Sample type:	CC





13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.843 (0.843)
Calc. conc.	99.49 µg/L
Area ratio:	0
Sample type:	CC



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Mississauga, Ontario, Canada
L5N 2L8
1-800-668-0639
www.maxxamanalytics.com

"CEF-081-25I-20181005","E537","IN","HYO195","MAXXAM","13C2PFDA","13C2-Perfluorodecanoic acid","87","%","","-99","NA","","SUR","87","","-99","NA","YES","-99","","1","1","-99","TEST"
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"CEF-081-DUP01-20181005","E537","IN","HYO196","MAXXAM","13C2PFTDA","13C2-Perfluorotetradecanoic acid","63","%","","-99","NA","","SUR","63","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-081-DUP01-20181005","E537","IN","HYO196","MAXXAM","13C2PFUA","13C2-Perfluoroundecanoic acid","75","%","","-99","NA","","SUR","75","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-081-DUP01-20181005","E537","IN","HYO196","MAXXAM","13C4PFHPA","13C4-Perfluoroheptanoic acid","86","%","","-99","NA","","SUR","86","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-081-DUP01-20181005","E537","IN","HYO196","MAXXAM","1763-23-1_13","13C4-Perfluorooctanesulfonate","86","%","","-99","NA","","SUR","86","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-081-DUP01-20181005","E537","IN","HYO196","MAXXAM","335-67-1_13C","13C4-Perfluorooctanoic acid","86","%","","-99","NA","","SUR","86","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-081-DUP01-20181005","E537","IN","HYO196","MAXXAM","13C4PFNA","13C5-Perfluorononanoic acid","89","%","","-99","NA","","SUR","89","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-081-DUP01-20181005","E537","IN","HYO196","MAXXAM","18O2PFHXS","18O2-Perfluorohexanesulfonate","89","%","","-99","NA","","SUR","89","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-081-DUP01-20181005","E537","IN","HYO196","MAXXAM","D3-MEFOSAA","N-METHYL-D3-PERFLUOROOCTANESULFONAMIDOACETIC ACID","73","%","","-99","NA","","SUR","73","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-081-DUP01-20181005","E537","IN","HYO196","MAXXAM","D5-ETFOSAA","D5-ETFOSAA","72","%","","-99","NA","","SUR","72","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-081-DUP01-20181005","E537","IN","HYO196","MAXXAM","2991-50-6","EtFOSAA","3.3","ng/L","U","3.3","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"CEF-081-DUP01-20181005","E537","IN","HYO196","MAXXAM","2355-31-9","MeFOSAA","2.9","ng/L","U","2.9","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"CEF-081-DUP01-20181005","E537","IN","HYO196","MAXXAM","375-73-5","Perfluorobutanesulfonic acid","5.4","ng/L","U","5.4","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"CEF-081-DUP01-20181005","E537","IN","HYO196","MAXXAM","335-76-2","Perfluorodecanoic acid","6.1","ng/L","U","6.1","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"CEF-081-DUP01-20181005","E537","IN","HYO196","MAXXAM","307-55-1","Perfluorododecanoic acid","5.0","ng/L","U","5.0","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"CEF-081-DUP01-20181005","E537","IN","HYO196","MAXXAM","375-85-9","Perfluoroheptanoic acid","9.0","ng/L","J","7.4","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"CEF-081-DUP01-20181005","E537","IN","HYO196","MAXXAM","355-46-4","Perfluorohexanesulfonic acid","26","ng/L","","5.6","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"CEF-081-DUP01-20181005","E537","IN","HYO196","MAXXAM","307-24-4","Perfluorohexanoic acid","11","ng/L","J","3.5","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"CEF-081-DUP01-20181005","E537","IN","HYO196","MAXXAM","335-67-1","Perfluorooctanoic acid","8.9","ng/L","J","3.3","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"CEF-081-DUP01-20181005","E537","IN","HYO196","MAXXAM","375-95-1","Perfluorononanoic acid","8.7","ng/L","U","8.7","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"CEF-081-DUP01-20181005","E537","IN","HYO196","MAXXAM","1763-23-1","Perfluorooctanesulfonic acid","140","ng/L","","6.0","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"CEF-081-DUP01-20181005","E537","IN","HYO196","MAXXAM","376-06-7","Perfluorotetradecanoic acid","2.7","ng/L","U","2.7","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"CEF-081-DUP01-20181005","E537","IN","HYO196","MAXXAM","72629-94-8","Perfluorotridecanoic acid","3.8","ng/L","U","3.8","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"CEF-081-DUP01-20181005","E537","IN","HYO196","MAXXAM","2058-94-8","Perfluoroundecanoic acid","2.5","ng/L","U","2.5","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"CEF-081-FB-20181005","E537","IN","HYO197","MAXXAM","13C2PFDA","13C2-Perfluorodecanoic

acid","88","%","","-99","NA","","SUR","88","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-081-FB-20181005","E537","IN","HYO197","MAXXAM","13C2PFDOA","13C2-Perfluorododecanoic
acid","80","%","","-99","NA","","SUR","80","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-081-FB-20181005","E537","IN","HYO197","MAXXAM","13C2PFHXA","13C2-Perfluorohexanoic
acid","91","%","","-99","NA","","SUR","91","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-081-FB-20181005","E537","IN","HYO197","MAXXAM","13C2PFTDA","13C2-Perfluorotetradecanoic
acid","73","%","","-99","NA","","SUR","73","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-081-FB-20181005","E537","IN","HYO197","MAXXAM","13C2PFUA","13C2-Perfluoroundecanoic
acid","84","%","","-99","NA","","SUR","84","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-081-FB-20181005","E537","IN","HYO197","MAXXAM","13C4PFHPA","13C4-Perfluoroheptanoic
acid","93","%","","-99","NA","","SUR","93","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-081-FB-20181005","E537","IN","HYO197","MAXXAM","1763-23-1_13","13C4-
Perfluorooctanesulfonate","85","%","","-99","NA","","SUR","85","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-081-FB-20181005","E537","IN","HYO197","MAXXAM","335-67-1_13C","13C4-Perfluorooctanoic
acid","88","%","","-99","NA","","SUR","88","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-081-FB-20181005","E537","IN","HYO197","MAXXAM","13C4PFNA","13C5-Perfluorononanoic
acid","90","%","","-99","NA","","SUR","90","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-081-FB-20181005","E537","IN","HYO197","MAXXAM","18O2PFHXS","18O2-
Perfluorohexanesulfonate","89","%","","-99","NA","","SUR","89","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-081-FB-20181005","E537","IN","HYO197","MAXXAM","D3-MEFOSAA","N-METHYL-D3-
PERFLUOROOCTANESULFONAMIDOACETIC
ACID","79","%","","-99","NA","","SUR","79","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-081-FB-20181005","E537","IN","HYO197","MAXXAM","D5-ETFOSAA","D5-
ETFOSAA","79","%","","-99","NA","","SUR","79","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-081-FB-20181005","E537","IN","HYO197","MAXXAM","2991-50-
6","EtFOSAA","3.3","ng/L","U","3.3","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"CEF-081-FB-20181005","E537","IN","HYO197","MAXXAM","2355-31-
9","MeFOSAA","2.9","ng/L","U","2.9","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"CEF-081-FB-20181005","E537","IN","HYO197","MAXXAM","375-73-5","Perfluorobutanesulfonic
acid","5.4","ng/L","U","5.4","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"CEF-081-FB-20181005","E537","IN","HYO197","MAXXAM","335-76-2","Perfluorodecanoic
acid","6.1","ng/L","U","6.1","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"CEF-081-FB-20181005","E537","IN","HYO197","MAXXAM","307-55-1","Perfluorododecanoic
acid","5.0","ng/L","U","5.0","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"CEF-081-FB-20181005","E537","IN","HYO197","MAXXAM","375-85-9","Perfluoroheptanoic
acid","7.4","ng/L","U","7.4","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"CEF-081-FB-20181005","E537","IN","HYO197","MAXXAM","355-46-4","Perfluorohexanesulfonic
acid","5.6","ng/L","U","5.6","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"CEF-081-FB-20181005","E537","IN","HYO197","MAXXAM","307-24-4","Perfluorohexanoic
acid","3.5","ng/L","U","3.5","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"CEF-081-FB-20181005","E537","IN","HYO197","MAXXAM","335-67-1","Perfluorooctanoic
acid","3.3","ng/L","U","3.3","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"CEF-081-FB-20181005","E537","IN","HYO197","MAXXAM","375-95-1","Perfluorononanoic
acid","8.7","ng/L","U","8.7","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"CEF-081-FB-20181005","E537","IN","HYO197","MAXXAM","1763-23-1","Perfluorooctanesulfonic
acid","6.0","ng/L","U","6.0","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"CEF-081-FB-20181005","E537","IN","HYO197","MAXXAM","376-06-7","Perfluorotetradecanoic
acid","2.7","ng/L","U","2.7","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"CEF-081-FB-20181005","E537","IN","HYO197","MAXXAM","72629-94-8","Perfluorotridecanoic
acid","3.8","ng/L","U","3.8","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"CEF-081-FB-20181005","E537","IN","HYO197","MAXXAM","2058-94-8","Perfluoroundecanoic
acid","2.5","ng/L","U","2.5","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"CEF-081-12S-20181005","E537","IN","HYO198","MAXXAM","13C2PFDA","13C2-Perfluorodecanoic
acid","96","%","","-99","NA","","SUR","96","","-99","NA","YES","-99","","1","1","-99","TEST"

"CEF-081-12S-20181005","E537","IN","HYO198","MAXXAM","13C2PFDOA","13C2-Perfluorododecanoic acid","92","%","","-99","NA","","SUR","92","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-081-12S-20181005","E537","IN","HYO198","MAXXAM","13C2PFHXA","13C2-Perfluorohexanoic acid","93","%","","-99","NA","","SUR","93","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-081-12S-20181005","E537","IN","HYO198","MAXXAM","13C2PFTDA","13C2-Perfluorotetradecanoic acid","71","%","","-99","NA","","SUR","71","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-081-12S-20181005","E537","IN","HYO198","MAXXAM","13C2PFUA","13C2-Perfluoroundecanoic acid","95","%","","-99","NA","","SUR","95","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-081-12S-20181005","E537","IN","HYO198","MAXXAM","13C4PFHPA","13C4-Perfluoroheptanoic acid","96","%","","-99","NA","","SUR","96","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-081-12S-20181005","E537","IN","HYO198","MAXXAM","1763-23-1_13","13C4-Perfluorooctanesulfonate","97","%","","-99","NA","","SUR","97","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-081-12S-20181005","E537","IN","HYO198","MAXXAM","335-67-1_13C","13C4-Perfluorooctanoic acid","95","%","","-99","NA","","SUR","95","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-081-12S-20181005","E537","IN","HYO198","MAXXAM","13C4PFNA","13C5-Perfluorononanoic acid","96","%","","-99","NA","","SUR","96","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-081-12S-20181005","E537","IN","HYO198","MAXXAM","18O2PFHXS","18O2-Perfluorohexanesulfonate","101","%","","-99","NA","","SUR","101","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-081-12S-20181005","E537","IN","HYO198","MAXXAM","D3-MEFOSAA","N-METHYL-D3-PERFLUOROOCTANESULFONAMIDOACETIC ACID","90","%","","-99","NA","","SUR","90","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-081-12S-20181005","E537","IN","HYO198","MAXXAM","D5-ETFOSAA","D5-ETFOSAA","89","%","","-99","NA","","SUR","89","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-081-12S-20181005","E537","IN","HYO198","MAXXAM","2991-50-6","EtFOSAA","3.3","ng/L","U","3.3","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"CEF-081-12S-20181005","E537","IN","HYO198","MAXXAM","2355-31-9","MeFOSAA","2.9","ng/L","U","2.9","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"CEF-081-12S-20181005","E537","IN","HYO198","MAXXAM","375-73-5","Perfluorobutanesulfonic acid","5.4","ng/L","U","5.4","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"CEF-081-12S-20181005","E537","IN","HYO198","MAXXAM","335-76-2","Perfluorodecanoic acid","6.1","ng/L","U","6.1","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"CEF-081-12S-20181005","E537","IN","HYO198","MAXXAM","307-55-1","Perfluorododecanoic acid","5.0","ng/L","U","5.0","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"CEF-081-12S-20181005","E537","IN","HYO198","MAXXAM","375-85-9","Perfluoroheptanoic acid","7.4","ng/L","U","7.4","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"CEF-081-12S-20181005","E537","IN","HYO198","MAXXAM","355-46-4","Perfluorohexanesulfonic acid","15","ng/L","J","5.6","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"CEF-081-12S-20181005","E537","IN","HYO198","MAXXAM","307-24-4","Perfluorohexanoic acid","7.6","ng/L","J","3.5","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"CEF-081-12S-20181005","E537","IN","HYO198","MAXXAM","335-67-1","Perfluorooctanoic acid","5.5","ng/L","J","3.3","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"CEF-081-12S-20181005","E537","IN","HYO198","MAXXAM","375-95-1","Perfluorononanoic acid","8.7","ng/L","U","8.7","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"CEF-081-12S-20181005","E537","IN","HYO198","MAXXAM","1763-23-1","Perfluorooctanesulfonic acid","8.2","ng/L","J","6.0","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"CEF-081-12S-20181005","E537","IN","HYO198","MAXXAM","376-06-7","Perfluorotetradecanoic acid","2.7","ng/L","U","2.7","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"CEF-081-12S-20181005","E537","IN","HYO198","MAXXAM","72629-94-8","Perfluorotridecanoic acid","3.8","ng/L","U","3.8","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"CEF-081-12S-20181005","E537","IN","HYO198","MAXXAM","2058-94-8","Perfluoroundecanoic acid","2.5","ng/L","U","2.5","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"CEF-081-12S-20181005MS","E537","IN","5785280:Matrix Spike","MAXXAM","2991-50-6","EtFOSAA","105","ng/L","","3.3","MDL","","PDSPK","105","","20","PQL","YES","0.0005","CEF-081-12S-

20181005","1","1","20","TEST"
"CEF-081-12S-20181005MS","E537","IN","5785280:Matrix Spike","MAXXAM","2355-31-
9","MeFOSAA","106","ng/L","","2.9","MDL","","PDSPK","106","","20","PQL","YES","0.0005","CEF-081-12S-
20181005","1","1","20","TEST"
"CEF-081-12S-20181005MS","E537","IN","5785280:Matrix Spike","MAXXAM","375-73-
5","Perfluorobutanesulfonic
acid","106","ng/L","","5.4","MDL","","PDSPK","106","","20","PQL","YES","0.0005","CEF-081-12S-
20181005","1","1","20","TEST"
"CEF-081-12S-20181005MS","E537","IN","5785280:Matrix Spike","MAXXAM","335-76-2","Perfluorodecanoic
acid","109","ng/L","","6.1","MDL","","PDSPK","109","","20","PQL","YES","0.0005","CEF-081-12S-
20181005","1","1","20","TEST"
"CEF-081-12S-20181005MS","E537","IN","5785280:Matrix Spike","MAXXAM","307-55-1","Perfluorododecanoic
acid","103","ng/L","","5.0","MDL","","PDSPK","103","","20","PQL","YES","0.0005","CEF-081-12S-
20181005","1","1","20","TEST"
"CEF-081-12S-20181005MS","E537","IN","5785280:Matrix Spike","MAXXAM","375-85-9","Perfluoroheptanoic
acid","108","ng/L","","7.4","MDL","","PDSPK","108","","20","PQL","YES","0.0005","CEF-081-12S-
20181005","1","1","20","TEST"
"CEF-081-12S-20181005MS","E537","IN","5785280:Matrix Spike","MAXXAM","355-46-
4","Perfluorohexanesulfonic
acid","103","ng/L","","5.6","MDL","","PDSPK","103","","20","PQL","YES","0.0005","CEF-081-12S-
20181005","1","1","20","TEST"
"CEF-081-12S-20181005MS","E537","IN","5785280:Matrix Spike","MAXXAM","307-24-4","Perfluorohexanoic
acid","111","ng/L","","3.5","MDL","","PDSPK","111","","20","PQL","YES","0.0005","CEF-081-12S-
20181005","1","1","20","TEST"
"CEF-081-12S-20181005MS","E537","IN","5785280:Matrix Spike","MAXXAM","335-67-1","Perfluorooctanoic
acid","105","ng/L","","3.3","MDL","","PDSPK","105","","20","PQL","YES","0.0005","CEF-081-12S-
20181005","1","1","20","TEST"
"CEF-081-12S-20181005MS","E537","IN","5785280:Matrix Spike","MAXXAM","375-95-1","Perfluorononanoic
acid","101","ng/L","","8.7","MDL","","PDSPK","101","","20","PQL","YES","0.0005","CEF-081-12S-
20181005","1","1","20","TEST"
"CEF-081-12S-20181005MS","E537","IN","5785280:Matrix Spike","MAXXAM","1763-23-
1","Perfluorooctanesulfonic
acid","107","ng/L","","6.0","MDL","","PDSPK","107","","20","PQL","YES","0.0005","CEF-081-12S-
20181005","1","1","20","TEST"
"CEF-081-12S-20181005MS","E537","IN","5785280:Matrix Spike","MAXXAM","376-06-7","Perfluorotetradecanoic
acid","103","ng/L","","2.7","MDL","","PDSPK","103","","20","PQL","YES","0.0005","CEF-081-12S-
20181005","1","1","20","TEST"
"CEF-081-12S-20181005MS","E537","IN","5785280:Matrix Spike","MAXXAM","72629-94-8","Perfluorotridecanoic
acid","129","ng/L","","3.8","MDL","","PDSPK","129","","20","PQL","YES","0.0005","CEF-081-12S-
20181005","1","1","20","TEST"
"CEF-081-12S-20181005MS","E537","IN","5785280:Matrix Spike","MAXXAM","2058-94-8","Perfluoroundecanoic
acid","105","ng/L","","2.5","MDL","","PDSPK","105","","20","PQL","YES","0.0005","CEF-081-12S-
20181005","1","1","20","TEST"
"CEF-081-12S-20181005MSD","E537","IN","5785280:MSD","MAXXAM","2991-50-
6","EtFOSAA","108","ng/L","","3.3","MDL","","PDSPK","108","2.3","20","PQL","YES","0.0005","CEF-081-12S-
20181005","1","1","20","TEST"
"CEF-081-12S-20181005MSD","E537","IN","5785280:MSD","MAXXAM","2355-31-
9","MeFOSAA","112","ng/L","","2.9","MDL","","PDSPK","112","5.4","20","PQL","YES","0.0005","CEF-081-12S-
20181005","1","1","20","TEST"
"CEF-081-12S-20181005MSD","E537","IN","5785280:MSD","MAXXAM","375-73-5","Perfluorobutanesulfonic
acid","116","ng/L","","5.4","MDL","","PDSPK","116","8.9","20","PQL","YES","0.0005","CEF-081-12S-
20181005","1","1","20","TEST"
"CEF-081-12S-20181005MSD","E537","IN","5785280:MSD","MAXXAM","335-76-2","Perfluorodecanoic
acid","108","ng/L","","6.1","MDL","","PDSPK","108","0.81","20","PQL","YES","0.0005","CEF-081-12S-

20181005","1","1","20","TEST"
"CEF-081-12S-20181005MSD","E537","IN","5785280:MSD","MAXXAM","307-55-1","Perfluorododecanoic acid","113","ng/L","","5.0","MDL","","PDSPK","113","9.8","20","PQL","YES","0.0005","CEF-081-12S-20181005","1","1","20","TEST"
"CEF-081-12S-20181005MSD","E537","IN","5785280:MSD","MAXXAM","375-85-9","Perfluoroheptanoic acid","112","ng/L","","7.4","MDL","","PDSPK","112","4.3","20","PQL","YES","0.0005","CEF-081-12S-20181005","1","1","20","TEST"
"CEF-081-12S-20181005MSD","E537","IN","5785280:MSD","MAXXAM","355-46-4","Perfluorohexanesulfonic acid","114","ng/L","","5.6","MDL","","PDSPK","114","9.7","20","PQL","YES","0.0005","CEF-081-12S-20181005","1","1","20","TEST"
"CEF-081-12S-20181005MSD","E537","IN","5785280:MSD","MAXXAM","307-24-4","Perfluorohexanoic acid","119","ng/L","","3.5","MDL","","PDSPK","119","7.7","20","PQL","YES","0.0005","CEF-081-12S-20181005","1","1","20","TEST"
"CEF-081-12S-20181005MSD","E537","IN","5785280:MSD","MAXXAM","335-67-1","Perfluorooctanoic acid","108","ng/L","","3.3","MDL","","PDSPK","108","2.8","20","PQL","YES","0.0005","CEF-081-12S-20181005","1","1","20","TEST"
"CEF-081-12S-20181005MSD","E537","IN","5785280:MSD","MAXXAM","375-95-1","Perfluorononanoic acid","106","ng/L","","8.7","MDL","","PDSPK","106","4.4","20","PQL","YES","0.0005","CEF-081-12S-20181005","1","1","20","TEST"
"CEF-081-12S-20181005MSD","E537","IN","5785280:MSD","MAXXAM","1763-23-1","Perfluorooctanesulfonic acid","117","ng/L","","6.0","MDL","","PDSPK","117","8.7","20","PQL","YES","0.0005","CEF-081-12S-20181005","1","1","20","TEST"
"CEF-081-12S-20181005MSD","E537","IN","5785280:MSD","MAXXAM","376-06-7","Perfluorotetradecanoic acid","113","ng/L","","2.7","MDL","","PDSPK","113","9.0","20","PQL","YES","0.0005","CEF-081-12S-20181005","1","1","20","TEST"
"CEF-081-12S-20181005MSD","E537","IN","5785280:MSD","MAXXAM","72629-94-8","Perfluorotridecanoic acid","131","ng/L","","3.8","MDL","","PDSPK","131","1.3","20","PQL","YES","0.0005","CEF-081-12S-20181005","1","1","20","Recovery of the matrix spike was above the upper control limit. Laboratory spiked water resulted in satisfactory recovery of the compound of interest. When considered together, these QC data suggest"
"CEF-081-12S-20181005MSD","E537","IN","5785280:MSD","MAXXAM","2058-94-8","Perfluoroundecanoic acid","107","ng/L","","2.5","MDL","","PDSPK","107","1.7","20","PQL","YES","0.0005","CEF-081-12S-20181005","1","1","20","TEST"
"5785280:Spiked Blank","E537","IN","5785280:Spiked Blank","MAXXAM","13C2PFDA","13C2-Perfluorodecanoic acid","92","%","","-99","NA","","SUR","92","","-99","NA","YES","-99","","1","1","-99","TEST"
"5785280:Spiked Blank","E537","IN","5785280:Spiked Blank","MAXXAM","13C2PFDOA","13C2-Perfluorododecanoic acid","82","%","","-99","NA","","SUR","82","","-99","NA","YES","-99","","1","1","-99","TEST"
"5785280:Spiked Blank","E537","IN","5785280:Spiked Blank","MAXXAM","13C2PFHXA","13C2-Perfluorohexanoic acid","88","%","","-99","NA","","SUR","88","","-99","NA","YES","-99","","1","1","-99","TEST"
"5785280:Spiked Blank","E537","IN","5785280:Spiked Blank","MAXXAM","13C2PFTDA","13C2-Perfluorotetradecanoic acid","79","%","","-99","NA","","SUR","79","","-99","NA","YES","-99","","1","1","-99","TEST"
"5785280:Spiked Blank","E537","IN","5785280:Spiked Blank","MAXXAM","13C2PFUA","13C2-Perfluoroundecanoic acid","89","%","","-99","NA","","SUR","89","","-99","NA","YES","-99","","1","1","-99","TEST"
"5785280:Spiked Blank","E537","IN","5785280:Spiked Blank","MAXXAM","13C4PFHPA","13C4-Perfluoroheptanoic acid","88","%","","-99","NA","","SUR","88","","-99","NA","YES","-99","","1","1","-99","TEST"
"5785280:Spiked Blank","E537","IN","5785280:Spiked Blank","MAXXAM","1763-23-1_13","13C4-Perfluorooctanesulfonate","89","%","","-99","NA","","SUR","89","","-99","NA","YES","-99","","1","1","-99","TEST"
"5785280:Spiked Blank","E537","IN","5785280:Spiked Blank","MAXXAM","335-67-1_13C","13C4-Perfluorooctanoic acid","87","%","","-99","NA","","SUR","87","","-99","NA","YES","-99","","1","1","-99","TEST"
"5785280:Spiked Blank","E537","IN","5785280:Spiked Blank","MAXXAM","13C4PFNA","13C5-Perfluorononanoic acid","91","%","","-99","NA","","SUR","91","","-99","NA","YES","-99","","1","1","-99","TEST"
"5785280:Spiked Blank","E537","IN","5785280:Spiked Blank","MAXXAM","18O2PFHXS","18O2-Perfluorohexanesulfonate","96","%","","-99","NA","","SUR","96","","-99","NA","YES","-99","","1","1","-99","TEST"
"5785280:Spiked Blank","E537","IN","5785280:Spiked Blank","MAXXAM","D3-MEFOSAA","N-METHYL-D3-

PERFLUOROOCTANESULFONAMIDOACETIC
ACID","78","%","","-99","NA","","SUR","78","","-99","NA","YES","-99","","1","1","-99","TEST"
"5785280:Spiked Blank","E537","IN","5785280:Spiked Blank","MAXXAM","D5-ETFOSAA","D5-
ETFOSAA","75","%","","-99","NA","","SUR","75","","-99","NA","YES","-99","","1","1","-99","TEST"
"5785280:Spiked Blank","E537","IN","5785280:Spiked Blank","MAXXAM","2991-50-
6","EtFOSAA","101","ng/L","","3.3","MDL","","PDSPK","101","","20","PQL","YES","-99","","1","1","20","TEST"
"5785280:Spiked Blank","E537","IN","5785280:Spiked Blank","MAXXAM","2355-31-
9","MeFOSAA","106","ng/L","","2.9","MDL","","PDSPK","106","","20","PQL","YES","-99","","1","1","20","TEST"
"5785280:Spiked Blank","E537","IN","5785280:Spiked Blank","MAXXAM","375-73-5","Perfluorobutanesulfonic
acid","102","ng/L","","5.4","MDL","","PDSPK","102","","20","PQL","YES","-99","","1","1","20","TEST"
"5785280:Spiked Blank","E537","IN","5785280:Spiked Blank","MAXXAM","335-76-2","Perfluorodecanoic
acid","103","ng/L","","6.1","MDL","","PDSPK","103","","20","PQL","YES","-99","","1","1","20","TEST"
"5785280:Spiked Blank","E537","IN","5785280:Spiked Blank","MAXXAM","307-55-1","Perfluorododecanoic
acid","113","ng/L","","5.0","MDL","","PDSPK","113","","20","PQL","YES","-99","","1","1","20","TEST"
"5785280:Spiked Blank","E537","IN","5785280:Spiked Blank","MAXXAM","375-85-9","Perfluoroheptanoic
acid","111","ng/L","","7.4","MDL","","PDSPK","111","","20","PQL","YES","-99","","1","1","20","TEST"
"5785280:Spiked Blank","E537","IN","5785280:Spiked Blank","MAXXAM","355-46-4","Perfluorohexanesulfonic
acid","103","ng/L","","5.6","MDL","","PDSPK","103","","20","PQL","YES","-99","","1","1","20","TEST"
"5785280:Spiked Blank","E537","IN","5785280:Spiked Blank","MAXXAM","307-24-4","Perfluorohexanoic
acid","112","ng/L","","3.5","MDL","","PDSPK","112","","20","PQL","YES","-99","","1","1","20","TEST"
"5785280:Spiked Blank","E537","IN","5785280:Spiked Blank","MAXXAM","335-67-1","Perfluorooctanoic
acid","110","ng/L","","3.3","MDL","","PDSPK","110","","20","PQL","YES","-99","","1","1","20","TEST"
"5785280:Spiked Blank","E537","IN","5785280:Spiked Blank","MAXXAM","375-95-1","Perfluorononanoic
acid","101","ng/L","","8.7","MDL","","PDSPK","101","","20","PQL","YES","-99","","1","1","20","TEST"
"5785280:Spiked Blank","E537","IN","5785280:Spiked Blank","MAXXAM","1763-23-1","Perfluorooctanesulfonic
acid","108","ng/L","","6.0","MDL","","PDSPK","108","","20","PQL","YES","-99","","1","1","20","TEST"
"5785280:Spiked Blank","E537","IN","5785280:Spiked Blank","MAXXAM","376-06-7","Perfluorotetradecanoic
acid","107","ng/L","","2.7","MDL","","PDSPK","107","","20","PQL","YES","-99","","1","1","20","TEST"
"5785280:Spiked Blank","E537","IN","5785280:Spiked Blank","MAXXAM","72629-94-8","Perfluorotridecanoic
acid","110","ng/L","","3.8","MDL","","PDSPK","110","","20","PQL","YES","-99","","1","1","20","TEST"
"5785280:Spiked Blank","E537","IN","5785280:Spiked Blank","MAXXAM","2058-94-8","Perfluoroundecanoic
acid","107","ng/L","","2.5","MDL","","PDSPK","107","","20","PQL","YES","-99","","1","1","20","TEST"
"5785280:Method Blank","E537","IN","5785280:Method Blank","MAXXAM","13C2PFDA","13C2-Perfluorodecanoic
acid","79","%","","-99","NA","","SUR","79","","-99","NA","YES","-99","","1","1","-99","TEST"
"5785280:Method Blank","E537","IN","5785280:Method Blank","MAXXAM","13C2PFDOA","13C2-
Perfluorododecanoic acid","82","%","","-99","NA","","SUR","82","","-99","NA","YES","-99","","1","1","-99","TEST"
"5785280:Method Blank","E537","IN","5785280:Method Blank","MAXXAM","13C2PFHXA","13C2-
Perfluorohexanoic acid","89","%","","-99","NA","","SUR","89","","-99","NA","YES","-99","","1","1","-99","TEST"
"5785280:Method Blank","E537","IN","5785280:Method Blank","MAXXAM","13C2PFTDA","13C2-
Perfluorotetradecanoic
acid","81","%","","-99","NA","","SUR","81","","-99","NA","YES","-99","","1","1","-99","TEST"
"5785280:Method Blank","E537","IN","5785280:Method Blank","MAXXAM","13C2PFUA","13C2-
Perfluoroundecanoic acid","85","%","","-99","NA","","SUR","85","","-99","NA","YES","-99","","1","1","-99","TEST"
"5785280:Method Blank","E537","IN","5785280:Method Blank","MAXXAM","13C4PFHPA","13C4-
Perfluoroheptanoic acid","93","%","","-99","NA","","SUR","93","","-99","NA","YES","-99","","1","1","-99","TEST"
"5785280:Method Blank","E537","IN","5785280:Method Blank","MAXXAM","1763-23-1_13","13C4-
Perfluorooctanesulfonate","90","%","","-99","NA","","SUR","90","","-99","NA","YES","-99","","1","1","-99","TEST"
"5785280:Method Blank","E537","IN","5785280:Method Blank","MAXXAM","335-67-1_13C","13C4-
Perfluorooctanoic acid","90","%","","-99","NA","","SUR","90","","-99","NA","YES","-99","","1","1","-99","TEST"
"5785280:Method Blank","E537","IN","5785280:Method Blank","MAXXAM","13C4PFNA","13C5-
Perfluorononanoic acid","89","%","","-99","NA","","SUR","89","","-99","NA","YES","-99","","1","1","-99","TEST"
"5785280:Method Blank","E537","IN","5785280:Method Blank","MAXXAM","18O2PFHXS","18O2-
Perfluorohexanesulfonate","93","%","","-99","NA","","SUR","93","","-99","NA","YES","-99","","1","1","-99","TEST"
"5785280:Method Blank","E537","IN","5785280:Method Blank","MAXXAM","D3-MEFOSAA","N-METHYL-D3-

PERFLUOROOCTANESULFONAMIDOACETIC
ACID","78","%","","-99","NA","","SUR","78","","-99","NA","YES","-99","","1","1","-99","TEST"
"5785280:Method Blank","E537","IN","5785280:Method Blank","MAXXAM","D5-ETFOSAA","D5-
ETFOSAA","79","%","","-99","NA","","SUR","79","","-99","NA","YES","-99","","1","1","-99","TEST"
"5785280:Method Blank","E537","IN","5785280:Method Blank","MAXXAM","2991-50-
6","EtFOSAA","3.3","ng/L","U","3.3","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"5785280:Method Blank","E537","IN","5785280:Method Blank","MAXXAM","2355-31-
9","MeFOSAA","2.9","ng/L","U","2.9","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"5785280:Method Blank","E537","IN","5785280:Method Blank","MAXXAM","375-73-5","Perfluorobutanesulfonic
acid","5.4","ng/L","U","5.4","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"5785280:Method Blank","E537","IN","5785280:Method Blank","MAXXAM","335-76-2","Perfluorodecanoic
acid","6.1","ng/L","U","6.1","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"5785280:Method Blank","E537","IN","5785280:Method Blank","MAXXAM","307-55-1","Perfluorododecanoic
acid","5.0","ng/L","U","5.0","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"5785280:Method Blank","E537","IN","5785280:Method Blank","MAXXAM","375-85-9","Perfluoroheptanoic
acid","7.4","ng/L","U","7.4","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"5785280:Method Blank","E537","IN","5785280:Method Blank","MAXXAM","355-46-4","Perfluorohexanesulfonic
acid","5.6","ng/L","U","5.6","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"5785280:Method Blank","E537","IN","5785280:Method Blank","MAXXAM","307-24-4","Perfluorohexanoic
acid","3.5","ng/L","U","3.5","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"5785280:Method Blank","E537","IN","5785280:Method Blank","MAXXAM","335-67-1","Perfluorooctanoic
acid","3.3","ng/L","U","3.3","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"5785280:Method Blank","E537","IN","5785280:Method Blank","MAXXAM","375-95-1","Perfluorononanoic
acid","8.7","ng/L","U","8.7","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"5785280:Method Blank","E537","IN","5785280:Method Blank","MAXXAM","1763-23-1","Perfluorooctanesulfonic
acid","6.0","ng/L","U","6.0","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"5785280:Method Blank","E537","IN","5785280:Method Blank","MAXXAM","376-06-7","Perfluorotetradecanoic
acid","2.7","ng/L","U","2.7","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"5785280:Method Blank","E537","IN","5785280:Method Blank","MAXXAM","72629-94-8","Perfluorotridecanoic
acid","3.8","ng/L","U","3.8","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"5785280:Method Blank","E537","IN","5785280:Method Blank","MAXXAM","2058-94-8","Perfluoroundecanoic
acid","2.5","ng/L","U","2.5","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"JM10 CECIL","JM10 CECIL","CEF-081-25I-20181005","10/05/2018 13:00","W","HYO195","NM","686693-01-
01","2.409","E537","E537","IN","10/16/2018 10:03","10/18/2018
03:21","MAXXAM","COA","NA","NA","1","NA","NA","00/00/0000
00:00","-99","5785280","5785280","1","10182018","B8Q4471","10/06/2018 12:30","10/18/2018 16:04",""
"JM10 CECIL","JM10 CECIL","CEF-081-DUP01-20181005","10/05/2018 13:00","W","HYO196","NM","686693-01-
01","2.409","E537","E537","IN","10/16/2018 10:03","10/18/2018
03:26","MAXXAM","COA","NA","NA","1","NA","NA","00/00/0000
00:00","-99","5785280","5785280","1","10182018","B8Q4471","10/06/2018 12:30","10/18/2018 16:04",""
"JM10 CECIL","JM10 CECIL","CEF-081-FB-20181005","10/05/2018 13:10","W","HYO197","NM","686693-01-
01","2.409","E537","E537","IN","10/16/2018 10:03","10/18/2018
03:31","MAXXAM","COA","NA","NA","1","NA","NA","00/00/0000
00:00","-99","5785280","5785280","1","10182018","B8Q4471","10/06/2018 12:30","10/18/2018 16:04",""
"JM10 CECIL","JM10 CECIL","CEF-081-12S-20181005","10/05/2018 14:10","W","HYO198","NM","686693-01-
01","2.409","E537","E537","IN","10/16/2018 10:03","10/18/2018
03:36","MAXXAM","COA","NA","NA","1","NA","NA","00/00/0000
00:00","-99","5785280","5785280","1","10182018","B8Q4471","10/06/2018 12:30","10/18/2018 16:04",""
"JM10 CECIL","JM10 CECIL","CEF-081-12S-20181005MS","10/05/2018 14:10","WQ","5785280:Matrix
Spike","MS","686693-01-01","2.409","E537","E537","IN","10/16/2018 10:03","10/18/2018
03:06","MAXXAM","COA","NA","NA","1","NA","NA","00/00/0000
00:00","-99","5785280","5785280","1","10182018","B8Q4471","10/06/2018 12:30","10/18/2018 16:04",""
"JM10 CECIL","JM10 CECIL","CEF-081-12S-20181005MSD","10/05/2018
14:10","WQ","5785280:MSD","MSD","686693-01-01","2.409","E537","E537","IN","10/16/2018 10:03","10/18/2018

03:11","MAXXAM","COA","NA","NA","1","NA","NA","00/00/0000
00:00","-99","5785280","5785280","1","10182018","B8Q4471","10/06/2018 12:30","10/18/2018 16:04",""
"JM10 CECIL","JM10 CECIL","5785280:Spiked Blank","00/00/0000 00:00","WQ","5785280:Spiked
Blank","LCS","686693-01-01","2.409","E537","E537","IN","10/16/2018 10:03","10/18/2018
03:01","MAXXAM","COA","NA","NA","1","NA","NA","00/00/0000
00:00","-99","5785280","5785280","1","10182018","B8Q4471","10/06/2018 12:30","10/18/2018 16:04",""
"JM10 CECIL","JM10 CECIL","5785280:Method Blank","00/00/0000 00:00","WQ","5785280:Method
Blank","MB","686693-01-01","2.409","E537","E537","IN","10/16/2018 10:03","10/18/2018
02:57","MAXXAM","COA","NA","NA","1","NA","NA","00/00/0000
00:00","-99","5785280","5785280","1","10182018","B8Q4471","10/06/2018 12:30","10/18/2018 16:04",""

TETRA TECH

INTERNAL CORRESPONDENCE

TO: **M. VED** **DATE:** **NOVEMBER 28, 2018**

FROM: **MICHELLE L. WOEBER** **COPIES:** **DV FILE**

SUBJECT: **ORGANIC DATA VALIDATION – POLYFLUOROALKYL SUBSTANCES (PFAS)**
NAVAL AIR STATION (NAS), CECIL FIELD
SAMPLE DELIVERY GROUP (SDG) B8Q4471

SAMPLES: 4/Aqueous/PFAS

CEF-081-12S-20181005 CEF-081-25I-20181005 CEF-081-DUP01-20181005
CEF-081-FB-20181005

Overview

The sample set for NAS Cecil Field, SDG B8Q4471 consisted of three (3) aqueous environmental samples and one (1) Field Reagent Blank (FRB). All four (4) samples were analyzed for polyfluoroalkyl substances (PFAS). One field duplicate sample pair was included in this SDG: CEF-081-25I-20181005/CEF-081-DUP01-20181005.

The samples were collected by Tetra Tech, Inc. on October 5, 2018 and analyzed by Maxxam Analytics. All analyses were conducted in accordance with Department of Defense Version 5.1 PFAS using LC/MS/MS Appendix B Table B-15 (July 2017) The data contained in this SDG was validated with regard to the following parameters:

* • Data completeness
* • Hold times/Sample Preservation
* • Mass Calibration
* • LC/MS/MS System Tuning and Performance
* • Mass Spectral Acquisition Rate
* • Instrument Sensitivity Check
* • Ion Transition Check
* • Initial/Continuing Calibrations
* • Laboratory Method Blank Results
* • Field Reagent Blank Results
* • Extraction Internal Standard Recoveries
* • Injection Internal Standard Recoveries
* • Laboratory Control Sample Recoveries
* • Matrix Spike/Matrix Spike Sample Duplicate Results
* • Field Duplicate Precision
* • Compound Identification
* • Compound Quantitation
* • Detection Limits

The symbol (*) indicates that all quality control criteria were met for this parameter. Qualified analytical results are presented in Appendix A, results as reported by the laboratory are presented in Appendix B, and documentation supporting these findings is presented in Appendix C.

PFAS

No issues were identified.

Additional Comments

Detected results reported below the Limit of Quantitation (LOQ) but above the Method Detection Limit (MDL) were qualified as estimated, (J). Non-detected results were reported to the MDL in the database.

Executive Summary

Laboratory Performance Issues: None.

Other Factors Affecting Data Quality: Detected results below the LOQ were estimated.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Organic Superfund Methods Data Review" (January 2017), EPA Method 537 Modified, and the Department of Defense (DoD) document entitled "Quality Systems Manual (QSM) for Environmental Laboratories" (2017). The text of this report has been formulated to address only those areas affecting data quality.

Michelle L. Woeber

Tetra Tech, Inc.
Michelle L. Woeber
Chemist/Data Validator

Joseph A. Samchuck

Tetra Tech, Inc.
Joseph A. Samchuck
Data Validation Manager

Attachments:
Appendix A - Qualified Analytical Results
Appendix B – Results as Reported by the Laboratory
Appendix C – Support Documentation

Data Qualifier Definitions

The following definitions provide brief explanations of the validation qualifiers assigned to results in the data review process.

U	The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the adjusted detection limit.
J	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample (due either to the quality of the data generated because certain quality control criteria were not met, or the concentration of the analyte was below the reporting limit).
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
UJ	The analyte was analyzed for, but was not detected. The reported detection limit is approximate and may be inaccurate or imprecise.
NJ	The analyte has been “tentatively identified” or “presumptively” as present and the associated numerical value is the estimated concentration in the sample.
R	The sample result (detected) is unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.
UR	The sample result (nondetected) is unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and 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.

APPENDIX A

QUALIFIED ANALYTICAL RESULTS

Qualifier Codes:

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration Noncompliance (i.e., % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
C01 = GC/MS Tuning Noncompliance
D = MS/MSD Recovery Noncompliance
E = LCS/LCSD Recovery Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = ICP PDS Recovery Noncompliance; MSA's r < 0.995
K = ICP Interference - includes ICS % R Noncompliance
L = Instrument Calibration Range Exceedance
M = Sample Preservation Noncompliance
N = Internal Standard Noncompliance
N01 = Internal Standard Recovery Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (i.e., base-time drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues; i.e.chromatography,interferences, etc.)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = RPD between columns/detectors >40% for positive results determined via GC/HPLC
V = Non-linear calibrations; correlation coefficient r < 0.995
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 standard deviations is greater than sample activity
Z1 = Tentatively Identified Compound considered presumptively present
Z2 = Tentatively Identified Compound column bleed
Z3 = Tentatively Identified Compound aldol condensate
Z4 = Sample activity is less than the at uncertainty at 3 standard deviations and greater than the MDC
Z5 = Sample activity is less than the at uncertainty at 3 standard deviations and less than the MDC

PROJ_NO: 08005-JM10	NSAMPLE	CEF-081-12S-20181005			CEF-081-25I-20181005			CEF-081-DUP01-20181005			CEF-081-FB-20181005		
SDG: B8Q4471	LAB_ID	HYO198			HYO195			HYO196			HYO197		
FRACTION: PFAS	SAMP_DATE	10/5/2018			10/5/2018			10/5/2018			10/5/2018		
MEDIA: WATER	QC_TYPE	NM			NM			NM			NM		
	UNITS	NG/L			NG/L			NG/L			NG/L		
	PCT_SOLIDS	0.0			0.0			0.0			0.0		
	DUP_OF							CEF-081-25I-20181005					
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
N-ETHYLPERFLUOROOCTANE SULFONAMIDOACETATE(NEFOSA)		3.3	U		3.3	U		3.3	U		3.3	U	
N-METHYLPERFLUOROOCTANE SULFONAMIDOACETATE(NMFOSA)		2.9	U		2.9	U		2.9	U		2.9	U	
PENTADECAFLUOROOCTANOIC ACID (PFOA)		5.5	J	P	7.8	J	P	8.9	J	P	3.3	U	
PERFLUOROBUTANESULFONIC ACID (PFBS)		5.4	U		5.4	U		5.4	U		5.4	U	
PERFLUORODECANOIC ACID (PFDA)		6.1	U		6.1	U		6.1	U		6.1	U	
PERFLUORODODECANOIC ACID (PFDOA)		5	U		5	U		5	U		5	U	
PERFLUOROHEPTANOIC ACID (PFHPA)		7.4	U		8.8	J	P	9	J	P	7.4	U	
PERFLUOROHEXANESULFONIC ACID (PFHXS)		15	J	P	24			26			5.6	U	
PERFLUOROHEXANOIC ACID (PFHXA)		7.6	J	P	11	J	P	11	J	P	3.5	U	
PERFLUORONONANOIC ACID (PFNA)		8.7	U		8.7	U		8.7	U		8.7	U	
PERFLUOROOCTANESULFONIC ACID (PFOS)		8.2	J	P	140			140			6	U	
PERFLUOROTETRADECANOIC ACID (PFTEA)		2.7	U		2.7	U		2.7	U		2.7	U	
PERFLUOROTRIDECANOIC ACID (PFTRIA)		3.8	U		3.8	U		3.8	U		3.8	U	
PERFLUOROUNDECANOIC ACID (PFUNA)		2.5	U		2.5	U		2.5	U		2.5	U	

APPENDIX B

RESULTS AS REPORTED BY THE LABORATORY

Maxxam Job #: B8Q4471
Report Date: 2018/10/18

Earth Toxics Inc
Client Project #: JM10 CECIL
Site Location: JM10 CECIL

RESULTS OF ANALYSES OF WATER

Maxxam ID		HYO195	HYO196	HYO197				
Sampling Date		2018/10/05 13:00	2018/10/05 13:00	2018/10/05 13:10				
COC Number		686693-01-01	686693-01-01	686693-01-01				
	UNITS	CEF-081-25I-20181005	CEF-081-DUP01-20181005	CEF-081-FB-20181005	DL	LOD	LOQ	QC Batch
Miscellaneous Parameters								
EtFOSAA	ng/L	10 U	10 U	10 U	3.3	10	20	5785280
MeFOSAA	ng/L	10 U	10 U	10 U	2.9	10	20	5785280
Perfluorobutane Sulfonate (PFBS)	ng/L	15 U	15 U	15 U	5.4	15	20	5785280
Perfluoroheptanoic Acid (PFHpA)	ng/L	8.8 J	9.0 J	15 U	7.4	15	20	5785280
Perfluorohexanoic Acid (PFHxA)	ng/L	11 J	11 J	10 U	3.5	10	20	5785280
Perfluorohexane Sulfonate (PFHxS)	ng/L	24	26	15 U	5.6	15	20	5785280
Perfluorononanoic Acid (PFNA)	ng/L	18 U	18 U	18 U	8.7	18	20	5785280
Perfluorotetradecanoic Acid	ng/L	10 U	10 U	10 U	2.7	10	20	5785280
Perfluorotridecanoic Acid	ng/L	10 U	10 U	10 U	3.8	10	20	5785280
Perfluoroundecanoic Acid (PFUnA)	ng/L	10 U	10 U	10 U	2.5	10	20	5785280
Perfluorodecanoic Acid (PFDA)	ng/L	15 U	15 U	15 U	6.1	15	20	5785280
Perfluorododecanoic Acid (PFDoA)	ng/L	10 U	10 U	10 U	5.0	10	20	5785280
Perfluoro-n-Octanoic Acid (PFOA)	ng/L	7.8 J	8.9 J	10 U	3.3	10	20	5785280
Perfluorooctane Sulfonate (PFOS)	ng/L	140	140	15 U	6.0	15	20	5785280
Surrogate Recovery (%)								
13C2-Perfluorodecanoic acid	%	87	80	88				5785280
13C2-Perfluorododecanoic acid	%	73	72	80				5785280
13C2-Perfluorohexanoic acid	%	89	84	91				5785280
13C2-perfluorotetradecanoic acid	%	61	63	73				5785280
13C2-Perfluoroundecanoic acid	%	79	75	84				5785280
13C4-Perfluoroheptanoic acid	%	90	86	93				5785280
13C4-Perfluorooctanesulfonate	%	92	86	85				5785280
13C4-Perfluorooctanoic acid	%	91	86	88				5785280
13C5-Perfluorononanoic acid	%	93	89	90				5785280
18O2-Perfluorohexanesulfonate	%	95	89	89				5785280
D3-MeFOSAA	%	74	73	79				5785280
D5-EtFOSAA	%	75	72	79				5785280

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Analytics

Maxxam Job #: B8Q4471
Report Date: 2018/10/18

Earth Toxics Inc
Client Project #: JM10 CECIL
Site Location: JM10 CECIL

RESULTS OF ANALYSES OF WATER

Maxxam ID		HYO198				
Sampling Date		2018/10/05 14:10				
COC Number		686693-01-01				
	UNITS	CEF-081-12S-20181005	DL	LOD	LOQ	QC Batch
Miscellaneous Parameters						
EtFOSAA	ng/L	10 U	3.3	10	20	5785280
MeFOSAA	ng/L	10 U	2.9	10	20	5785280
Perfluorobutane Sulfonate (PFBS)	ng/L	15 U	5.4	15	20	5785280
Perfluoroheptanoic Acid (PFHpA)	ng/L	15 U	7.4	15	20	5785280
Perfluorohexanoic Acid (PFHxA)	ng/L	7.6 J	3.5	10	20	5785280
Perfluorohexane Sulfonate (PFHxS)	ng/L	15 J	5.6	15	20	5785280
Perfluorononanoic Acid (PFNA)	ng/L	18 U	8.7	18	20	5785280
Perfluorotetradecanoic Acid	ng/L	10 U	2.7	10	20	5785280
Perfluorotridecanoic Acid	ng/L	10 U	3.8	10	20	5785280
Perfluoroundecanoic Acid (PFUnA)	ng/L	10 U	2.5	10	20	5785280
Perfluorodecanoic Acid (PFDA)	ng/L	15 U	6.1	15	20	5785280
Perfluorododecanoic Acid (PFDoA)	ng/L	10 U	5.0	10	20	5785280
Perfluoro-n-Octanoic Acid (PFOA)	ng/L	5.5 J	3.3	10	20	5785280
Perfluorooctane Sulfonate (PFOS)	ng/L	8.2 J	6.0	15	20	5785280
Surrogate Recovery (%)						
13C2-Perfluorodecanoic acid	%	96				5785280
13C2-Perfluorododecanoic acid	%	92				5785280
13C2-Perfluorohexanoic acid	%	93				5785280
13C2-perfluorotetradecanoic acid	%	71				5785280
13C2-Perfluoroundecanoic acid	%	95				5785280
13C4-Perfluoroheptanoic acid	%	96				5785280
13C4-Perfluorooctanesulfonate	%	97				5785280
13C4-Perfluorooctanoic acid	%	95				5785280
13C5-Perfluorononanoic acid	%	96				5785280
18O2-Perfluorohexanesulfonate	%	101				5785280
D3-MeFOSAA	%	90				5785280
D5-EtFOSAA	%	89				5785280

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
N/A = Not Applicable

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Maxxam Analytics

APPENDIX C

SUPPORT DOCUMENTATION

NAS CECIL FIELD
SDG B8Q4471

SAMPLE IDENTIFICATION	CEF-081-25I-20181005	
COMPOUND	PERFLUOROOCTANESULFONIC ACID (PFOS)	
EXTRACTION	3ml/125ml	
INTERNAL STANDARD CONCENTRATION	1	

CONCENTRATION USING CALIBRATION CURVE

AREA*(IS CONCENTRATION/IS AREA)

2495*(1/1094) = 2.280621572

CALIBRATION CURVE y = 0.394401 * x - 1.202079E-4

2.28062157221207 = 0.394401*x - 1.202079E-4

x = 5.782799182

PFOS RESULT CONC = x/EXTRACTION	0.14	µg/L
DILUTION FACTOR	1	
FINAL RESULT	0.14	µg/L
	138.8	ng/L

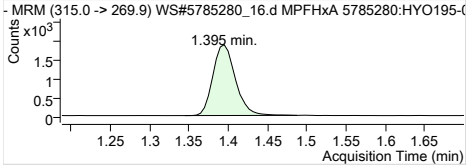
Quantitation Results

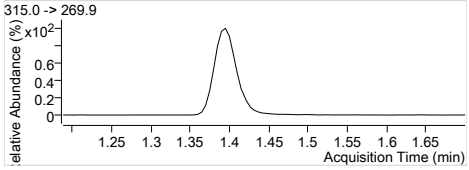
Agilent Technologies

Batch Path	T:\LCMS04\PFC\20181017\WS#5785280\QuantResults\PFC_Water_Low_20181017_WS#5785280_EToxics		
Sample Name	**5785280:HYO195-01**	**Instrument**	LCMS04
Data File	WS#5785280_16.d	**Operator**	
Sample Type	Sample	**Dilution**	0.024
Acq. Method	PFC_Water_Low.m	**Position**	P4-B5
Acq. Date	2018/10/18 3:21:38 AM	**Injection Volume**	Per Method
Sample Annotation	-		

ISTD Compounds	Response	RT	Target conc.		
MPFHxA	3709	1.39	1 µg/L		
MPFHxS	974	1.67	1 µg/L		
MPFHpA	5348	1.66	1 µg/L		
MPFOA	5478	1.85	1 µg/L		
MPFOS	1094	1.97	1 µg/L		
MPFNA	5339	1.99	1 µg/L		
MPFDA	3901	2.11	1 µg/L		
MPFUnA	3976	2.21	1 µg/L		
MPFDoA	4815	2.29	1 µg/L		
MPFTeDA	5464	2.44	1 µg/L		
13C6-PFHxA IS	17682	1.39	1 µg/L		
13C9-PFDA IS	24918	2.11	1 µg/L		

Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1			-	ND	-
PFHxA 1	532	1.38	-	0.01 µg/L	-
PFHxS 1	448	1.67	-	0.02 µg/L	-
PFHpA 1	527	1.65	-	0.01 µg/L	-
PFOA 1	544	1.84	-	0.01 µg/L	-
PFOS 1	2495	1.93	-	0.14 µg/L	-
PFNA 1	216	2.00	-	0.01 µg/L	-
PFDA 1			-	ND	-
PFUnA 1			-	ND	-
PFDoA 1			-	ND	-
PFTrDA 1			-	ND	-
PFTeDA 1			-	ND	-
13C2-PFHxA	3709	1.39	-	89.46 µg/L	-
18O2-PFHxS	974	1.67	-	94.64 µg/L	-
13C4-PFHpA	5348	1.66	-	90.39 µg/L	-
13C4-PFOA	5478	1.85	-	91.13 µg/L	-
13C4-PFOS	1094	1.97	-	91.70 µg/L	-
13C5-PFNA	5339	1.99	-	93.02 µg/L	-
13C2-PFDA	3901	2.11	-	87.03 µg/L	-
13C2-PFUnA	3976	2.21	-	79.48 µg/L	-
13C2-PFDoA	4815	2.29	-	72.72 µg/L	-
13C2-PFTeDA	5464	2.44	-	61.36 µg/L	-
13C6-PFHxA	17682	1.39	-	2.35 µg/L	-
13C9-PFDA	24918	2.11	-	2.42 µg/L	-





MPFHxA	Internal Standard
RT (Exp. RT):	1.395 (1.395)
Concentration:	1 µg/L
Sample type:	Sample

ANALYTE	ORIGINAL	DUPLICATE	RL	RPD	RPD > 30%	ORIGINAL SAMPLE CONC >2xRL	DUPLICATE SAMPLE CONC >2xRL	DIFFERENCE >2xRL
PENTADECAFLUOROOCTANOIC ACID (PFOA)	7.8	8.9	20	13.17	FALSE	FALSE	FALSE	FALSE
PERFLUOROHEPTANOIC ACID (PFHPA)	8.8	9	20	2.25	FALSE	FALSE	FALSE	FALSE
PERFLUOROHEXANESULFONIC ACID (PFHXS)	24	26	20	8.00	FALSE	FALSE	FALSE	FALSE
PERFLUOROHEXANOIC ACID (PFHXA)	11	11	20	0.00	FALSE	FALSE	FALSE	FALSE
PERFLUOROOCTANESULFONIC ACID (PFOS)	140	140	20	0.00	FALSE	TRUE	TRUE	FALSE

SDG B8Q4471

CEF-081-25I-20181005/CEF-081-DUP01-20181005

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06-Oct-18 12:30

Page of

Stephanie Pollen

B8Q4471

Bottle Order #: 386693

URE ENV-411

Project Manager: Stephanie Pollen

C#386693-01-01

INVOICE TO:		REPORT TO:		PROJECT INFORMATION:	
Company Name	#31688 Earth Toxics Inc	Company Name	Tetra Tech Mogen Boero - Ved Pittsburgh, PA	Quotation #	
Attention	Accounts Payable	Attention		P.O. #	
Address	PO Box 3382 Logan UT 84321	Address		Project	
				Project Name	
Tel	(781) 455-0653 Fax	Tel	Fax	Site #	
Email	rcarr@earthtoxics.com	Email		Sampled By	

MOE REGULATED DRINKING WATER OR WATER INTENDED FOR HUMAN CONSUMPTION MUST BE SUBMITTED ON THE MAXXAM DRINKING WATER CHAIN OF CUSTODY

Regulation 153 (2011)	Other Regulations	Special Instructions
☐ Table 1 ☐ Res/Park ☐ Medium/Fine	☐ CCME ☐ Sanitary Sewer Bylaw	
☐ Table 2 ☐ Ind/Comm ☐ Coarse	☐ Reg 558 ☐ Storm Sewer Bylaw	
☐ Table 3 ☐ Agri/Other ☐ For RSC	☐ MISA Municipality	
☐ Table	☐ PWQO	
	☐ Other	

Include Criteria on Certificate of Analysis (Y/N)?

ANALYSIS REQUESTED (PLEASE BE SPECIFIC):

Turnaround Time (TAT) Required:

Please provide advance notice for rush projects

Regular (Standard) TAT: ☐
(will be applied if Rush TAT is not specified)
Standard TAT = 5-7 Working days for most tests.
Please note: Standard TAT for certain tests such as BOD and Dioxin/Furans are > 5 days - contact your Project Manager for details.

Job Specific Rush TAT (if applies to entire submission)
Date Required: Time Required: ☐
Rush Confirmation Number:
(call lab for #)

	Sample Barcode Label	Sample Identification	Date Sampled	Time Sampled	Matrix	Field Filtered (please circle): Metals / Hg / Cr VI									# of Bottles	Comments
1		CEF-081-25I-2018 1005		1300	GW	2	X								2	Bottles 19926
2		CEF-081-DUP01-2018 1005		1300	GW	2	X								2	CAP 19959
3		CEF-081-FB-2018 10 05		1310	QC	2	X								2	
4		CEF-081-12S-2018 1005		1410	GW	5	X	← MS/MSD							5	Cool 4°C.
5																
6																
7																
8																
9																
10																

* RELINQUISHED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	RECEIVED BY: (Signature/Print)	Date: (YY/MM/DD)	Time	# jars used and not submitted
David Sefton				2018/10/05	12:30	

Laboratory Use Only				
Time Sensitive	Temperature (°C) on Receipt 2.9, 3.4	Custody Seal Present/Intact	Yes ✓	No

* UNLESS OTHERWISE AGREED TO IN WRITING, WORK SUBMITTED ON THIS CHAIN OF CUSTODY IS SUBJECT TO MAXXAM'S STANDARD TERMS AND CONDITIONS. SIGNING OF THIS CHAIN OF CUSTODY DOCUMENT IS ACKNOWLEDGMENT AND ACCEPTANCE OF OUR TERMS WHICH ARE AVAILABLE FOR VIEWING AT WWW.MAXXAM.CA/TERMS.

* IT IS THE RESPONSIBILITY OF THE RELINQUISHER TO ENSURE THE ACCURACY OF THE CHAIN OF CUSTODY RECORD. AN INCOMPLETE CHAIN OF CUSTODY MAY RESULT IN ANALYTICAL TAT DELAYS.

** SAMPLE CONTAINER, PRESERVATION, HOLD TIME AND PACKAGE INFORMATION CAN BE VIEWED AT HTTP://MAXXAM.CA/WP-CONTENT/UPLOADS/ONTARIO-COC.PDF

SAMPLES MUST BE KEPT COOL (< 10° C.) FROM TIME OF SAMPLING UNTIL DELIVERY TO MAXXAM

White: Maxxam Yellow: Client

2.0

PROJECT NARRATIVE

Maxxam Analytics
Client Project #: JM10 CECIL

Client: Earth Toxics Inc
Client Project: JM10 CECIL

I. SAMPLE RECEIPT/ANALYSIS

a) Sample Listing

Maxxam ID	Client Sample ID	Date Sampled	Date Received	Date Prepped	Date Run	Initial Calibration
PFOS and PFOA in water by SPE/LCMS						
HYO195	CEF-081-25I-20181005	2018/10/05	2018/10/06	2018/10/16	2018/10/18	2018/10/17-18
HYO196	CEF-081-DUP01-20181005	2018/10/05	2018/10/06	2018/10/16	2018/10/18	2018/10/17-18
HYO197	CEF-081-FB-20181005	2018/10/05	2018/10/06	2018/10/16	2018/10/18	2018/10/17-18
HYO198	CEF-081-12S-20181005	2018/10/05	2018/10/06	2018/10/16	2018/10/18	2018/10/17-18

Run Date is defined as the date of injection of the last calibration standard (12 hours or less) prior to the samples analyzed within that run sequence. Therefore the time of calibration injection that defines the run date is always within 12 hours of the time of sample injection.

b) Shipping Problems: none encountered

c) Documentation Problems: Sample "CEF-081-25I-20181005" received with bottle lids labelled as DUP. Client confirmed to proceed with ID as per the COC.

II. SAMPLE PREP:

No problems encountered

III. SAMPLE ANALYSIS:

See also comments within the appropriate Certificate of Analysis

a) Hold Times: all within recommended hold times

b) Instrument Calibration: all within control limits

c) Quality Control: All applicable QC meets control criteria, except where otherwise noted.

d) All analytes requiring manual intergration(s) are noted on the sample chromatograms

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for other than the conditions detailed above.

In addition, I certify, that to the best of my knowledge and belief, the data as reported are true and accurate. Release of the data contained in this data package has been authorized by the cognizant laboratory official or his/her designee, as verified by this signature.

Steph Fallon

Project Manager- Site Assessment and Remediation/ Ultra Trace

2018/10/25
Date

Maxxam Job: B8Q4471

Sample Analysis

Samples were analyzed on QC batch 5785280 (2018/10/17-18). No analytical difficulties were encountered.

Data Qualifiers

U – Analyte was not detected and is reported as less than the LOD or as defined by the customer. The LOD has been adjusted for any dilution or concentration of the sample.

J – The reported result is an estimated value (e.g., matrix interference was observed, or the analyte was detected at a concentration outside the calibration range).

Sin Chii Chia, B.Sc.
schia@maxxam.ca
Office 905 817 5700

Glossary of Terms

- ***Detection Limit (DL)*** this can also be called ***Method Detection Limit (MDL***): The lowest concentration or amount of the target analyte that can be identified, measured, and reported with confidence that the analyte concentration is not a false positive value. (Clarification): The smallest analyte concentration that can be demonstrated to be different from zero or a blank concentration at the 99% level of confidence. At the DL, the false positive rate (Type I error) is 1%.

- ***Limit of Detection (LOD*)**: An estimate of the minimum amount of a substance that an analytical process can reliably detect. An LOD is analyte- and matrix-specific and may be laboratory-dependent. (Clarification): The smallest amount or concentration of a substance that must be present in a sample in order to be detected at a high level of confidence (99%). At the LOD, the false negative rate (Type II error) is 1%.

- ***Limits of Quantitation (LOQ)*** this can also be called ***Reporting Detection Limit (RDL)***: The minimum levels, concentrations, or quantities of a target variable (e.g., target analyte) that can be reported with a specified degree of confidence. (Clarification): The lowest concentration that produces a quantitative result within specified limits of precision and bias. For DoD projects, the LOQ shall be set at or above the concentration of the lowest initial calibration standard.

- ***Acceptance Criteria*** are values used by the laboratory to determine that a process is in control.

- ***Accuracy*** is the degree of agreement of a measured value with the true or expected value.

- ***Calibration Standards*** are a set of solutions containing the analytes of interest at a specified concentration.

- ***Calibration Verification Standard*** consists of a calibration standard solution of intermediate concentration (mid-point initial calibration level) used to access whether the initial calibration is still valid

- ***Certified Reference Material*** is a stable homogenous material that is certified by repetitive analysis from a supplier who is certified to generate said materials.

- ***Internal Standard*** a deuterated or ^{13}C-labelled analyte that is added to a sample extract prior to instrumental analysis to compensate for injection variability.

- ***Isomer*** is a member of a group of compounds that differ from each other only in the locations of a specific number of common substituent atoms or groups of atoms on the parent compound.

- ***Method Blank*** is a laboratory control sample using reagents that are known to be free of contamination.

- ***Precision*** is the degree of agreement between the data generated from repetitive measurements under specific conditions.

- ***Quality Assurance*** is a system of activities whose purpose is to provide the producer or user of a product with the assurance that the product meets a defined standard of quality.

- ***Quality Control*** is the overall system of activities whose purpose is to control the quality of a product so that it meets the needs of the end user.

- ***RSD*** is the relative standard deviation.

- ***Blank Spike*** is a laboratory control sample that has been fortified with native analytes of interest.

- ***Window Defining Mixture*** is a solution containing only the earliest and latest eluting congeners within each homologous group of target analytes on a specified GC column.

- ***RPD*** or Relative Percent Difference. A measure used to compare duplicate sample analysis.

- ***EMPC/NDR –*** Peak detected does not meet ratio criteria and has resulted in a higher detection limit.

Maxxam Job #: B8Q4471
Report Date: 2018/10/18

Earth Toxics Inc
Client Project #: JM10 CECIL
Site Location: JM10 CECIL

TEST SUMMARY

Maxxam ID: HYO195 **Collected:** 2018/10/05
Sample ID: CEF-081-25I-20181005 **Shipped:**
Matrix: Water **Received:** 2018/10/06

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5785280	2018/10/16	2018/10/18	Anjan Desai

Maxxam ID: HYO196 **Collected:** 2018/10/05
Sample ID: CEF-081-DUP01-20181005 **Shipped:**
Matrix: Water **Received:** 2018/10/06

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5785280	2018/10/16	2018/10/18	Anjan Desai

Maxxam ID: HYO197 **Collected:** 2018/10/05
Sample ID: CEF-081-FB-20181005 **Shipped:**
Matrix: Water **Received:** 2018/10/06

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5785280	2018/10/16	2018/10/18	Anjan Desai

Maxxam ID: HYO198 **Collected:** 2018/10/05
Sample ID: CEF-081-12S-20181005 **Shipped:**
Matrix: Water **Received:** 2018/10/06

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5785280	2018/10/16	2018/10/18	Anjan Desai

Maxxam Job #: B8Q4471
Report Date: 2018/10/18

Earth Toxics Inc
Client Project #: JM10 CECIL
Site Location: JM10 CECIL

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	2.4°C

Results reported in ng/L as per client request.

Results relate only to the items tested.

Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

Maxxam
A Bureau Veritas Group Company

Your Project #: JM10 CECIL
Site#: JM10 CECIL
Site Location: JM10 CECIL
Your C.O.C. #: 686693-01-01

Attention: Rick Carr

Earth Toxics Inc
PO Box 3382
Logan, UT
USA 84321

Report Date: 2018/10/18
Report #: R5446371
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B8Q4471
Received: 2018/10/06, 12:30

Sample Matrix: Water
Samples Received: 4

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
PFOS and PFOA in water by SPE/LCMS (1)	4	2018/10/16	2018/10/18	CAM SOP-00894	EPA 537 m

Remarks:

Maxxam Analytics' laboratories are accredited to ISO/IEC 17025:2005 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Maxxam are based upon recognized Provincial, Federal or US method compendia such as CCME, MDDELCC, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Maxxam's profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Maxxam in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Maxxam Analytics' liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Maxxam has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Maxxam, unless otherwise agreed in writing. Maxxam is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Maxxam, results relate to the supplied samples tested.
This Certificate shall not be reproduced except in full, without the written approval of the laboratory.

Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.

(1) Per- and polyfluoroalkyl substances (PFAS) identified as surrogates on the certificate of analysis represent the extracted internal standard.

Your Project #: JM10 CECIL
Site#: JM10 CECIL
Site Location: JM10 CECIL
Your C.O.C. #: 686693-01-01

Attention: Rick Carr

Earth Toxics Inc
PO Box 3382
Logan, UT
USA 84321

Report Date: 2018/10/18
Report #: R5446371
Version: 1 - Final

CERTIFICATE OF ANALYSIS

MAXXAM JOB #: B8Q4471
Received: 2018/10/06, 12:30

Encryption Key



Stephanie Pollen
Project Manager
18 Oct 2018 13:57:41

Please direct all questions regarding this Certificate of Analysis to your Project Manager.
Stephanie Pollen, Project Manager
Email: SPollen@maxxam.ca
Phone# (905) 817-5700

==========

Maxxam has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per section 5.10.2 of ISO/IEC 17025:2005(E), signing the reports. For Service Group specific validation please refer to the Validation Signature Page.

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Maxxam Job #: B8Q4471
Report Date: 2018/10/18

Earth Toxics Inc
Client Project #: JM10 CECIL
Site Location: JM10 CECIL

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
5785280	AD9	Matrix Spike(HYO198)	13C2-Perfluorodecanoic acid	2018/10/18		76	%	50 - 150
			13C2-Perfluorododecanoic acid	2018/10/18		71	%	50 - 150
			13C2-Perfluorohexanoic acid	2018/10/18		86	%	50 - 150
			13C2-perfluorotetradecanoic acid	2018/10/18		48 (1)	%	50 - 150
			13C2-Perfluoroundecanoic acid	2018/10/18		74	%	50 - 150
			13C4-Perfluoroheptanoic acid	2018/10/18		88	%	50 - 150
			13C4-Perfluorooctanesulfonate	2018/10/18		88	%	50 - 150
			13C4-Perfluorooctanoic acid	2018/10/18		88	%	50 - 150
			13C5-Perfluorononanoic acid	2018/10/18		89	%	50 - 150
			18O2-Perfluorohexanesulfonate	2018/10/18		91	%	50 - 150
			D3-MeFOSAA	2018/10/18		71	%	50 - 150
			D5-EtFOSAA	2018/10/18		67	%	50 - 150
			EtFOSAA	2018/10/18		105	%	73 - 128
			MeFOSAA	2018/10/18		106	%	77 - 127
			Perfluorobutane Sulfonate (PFBS)	2018/10/18		106	%	65 - 135
			Perfluoroheptanoic Acid (PFHpA)	2018/10/18		108	%	73 - 129
			Perfluorohexanoic Acid (PFHxA)	2018/10/18		111	%	74 - 129
			Perfluorohexane Sulfonate (PFHxS)	2018/10/18		103	%	67 - 132
			Perfluorononanoic Acid (PFNA)	2018/10/18		101	%	72 - 131
			Perfluorotetradecanoic Acid	2018/10/18		103	%	70 - 134
			Perfluorotridecanoic Acid	2018/10/18		129	%	67 - 143
			Perfluoroundecanoic Acid (PFUnA)	2018/10/18		105	%	71 - 133
			Perfluorodecanoic Acid (PFDA)	2018/10/18		109	%	71 - 133
			Perfluorododecanoic Acid (PFDoA)	2018/10/18		103	%	71 - 131
			Perfluoro-n-Octanoic Acid (PFOA)	2018/10/18		105	%	71 - 130
			Perfluorooctane Sulfonate (PFOS)	2018/10/18		107	%	72 - 131
5785280	AD9	Matrix Spike DUP(HYO198)	13C2-Perfluorodecanoic acid	2018/10/18		89	%	50 - 150
			13C2-Perfluorododecanoic acid	2018/10/18		81	%	50 - 150
			13C2-Perfluorohexanoic acid	2018/10/18		84	%	50 - 150
			13C2-perfluorotetradecanoic acid	2018/10/18		63	%	50 - 150
			13C2-Perfluoroundecanoic acid	2018/10/18		90	%	50 - 150
			13C4-Perfluoroheptanoic acid	2018/10/18		91	%	50 - 150
			13C4-Perfluorooctanesulfonate	2018/10/18		88	%	50 - 150
			13C4-Perfluorooctanoic acid	2018/10/18		91	%	50 - 150
			13C5-Perfluorononanoic acid	2018/10/18		91	%	50 - 150
			18O2-Perfluorohexanesulfonate	2018/10/18		88	%	50 - 150
			D3-MeFOSAA	2018/10/18		83	%	50 - 150
			D5-EtFOSAA	2018/10/18		82	%	50 - 150
			EtFOSAA	2018/10/18		108	%	73 - 128
			MeFOSAA	2018/10/18		112	%	77 - 127
			Perfluorobutane Sulfonate (PFBS)	2018/10/18		116	%	65 - 135
			Perfluoroheptanoic Acid (PFHpA)	2018/10/18		112	%	73 - 129
			Perfluorohexanoic Acid (PFHxA)	2018/10/18		119	%	74 - 129
			Perfluorohexane Sulfonate (PFHxS)	2018/10/18		114	%	67 - 132
			Perfluorononanoic Acid (PFNA)	2018/10/18		106	%	72 - 131
			Perfluorotetradecanoic Acid	2018/10/18		113	%	70 - 134
			Perfluorotridecanoic Acid	2018/10/18		131	%	67 - 143
			Perfluoroundecanoic Acid (PFUnA)	2018/10/18		107	%	71 - 133
			Perfluorodecanoic Acid (PFDA)	2018/10/18		108	%	71 - 133
			Perfluorododecanoic Acid (PFDoA)	2018/10/18		113	%	71 - 131
			Perfluoro-n-Octanoic Acid (PFOA)	2018/10/18		108	%	71 - 130
			Perfluorooctane Sulfonate (PFOS)	2018/10/18		117	%	72 - 131
5785280	AD9	MS/MSD RPD	EtFOSAA	2018/10/18	2.3		%	30

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			MeFOSAA	2018/10/18	5.4		%	30
			Perfluorobutane Sulfonate (PFBS)	2018/10/18	8.9		%	30
			Perfluoroheptanoic Acid (PFHpA)	2018/10/18	4.3		%	30
			Perfluorohexanoic Acid (PFHxA)	2018/10/18	7.7		%	30
			Perfluorohexane Sulfonate (PFHxS)	2018/10/18	9.7		%	30
			Perfluorononanoic Acid (PFNA)	2018/10/18	4.4		%	30
			Perfluorotetradecanoic Acid	2018/10/18	9.0		%	30
			Perfluorotridecanoic Acid	2018/10/18	1.3		%	30
			Perfluoroundecanoic Acid (PFUnA)	2018/10/18	1.7		%	30
			Perfluorodecanoic Acid (PFDA)	2018/10/18	0.81		%	30
			Perfluorododecanoic Acid (PFDoA)	2018/10/18	9.8		%	30
			Perfluoro-n-Octanoic Acid (PFOA)	2018/10/18	2.8		%	30
			Perfluorooctane Sulfonate (PFOS)	2018/10/18	8.7		%	30
5785280	AD9	Spiked Blank	13C2-Perfluorodecanoic acid	2018/10/18		92	%	50 - 150
			13C2-Perfluorododecanoic acid	2018/10/18		82	%	50 - 150
			13C2-Perfluorohexanoic acid	2018/10/18		88	%	50 - 150
			13C2-perfluorotetradecanoic acid	2018/10/18		79	%	50 - 150
			13C2-Perfluoroundecanoic acid	2018/10/18		89	%	50 - 150
			13C4-Perfluoroheptanoic acid	2018/10/18		88	%	50 - 150
			13C4-Perfluorooctanesulfonate	2018/10/18		89	%	50 - 150
			13C4-Perfluorooctanoic acid	2018/10/18		87	%	50 - 150
			13C5-Perfluorononanoic acid	2018/10/18		91	%	50 - 150
			18O2-Perfluorohexanesulfonate	2018/10/18		96	%	50 - 150
			D3-MeFOSAA	2018/10/18		78	%	50 - 150
			D5-EtFOSAA	2018/10/18		75	%	50 - 150
			EtFOSAA	2018/10/18		101	%	73 - 128
			MeFOSAA	2018/10/18		106	%	77 - 127
			Perfluorobutane Sulfonate (PFBS)	2018/10/18		102	%	65 - 135
			Perfluoroheptanoic Acid (PFHpA)	2018/10/18		111	%	73 - 129
			Perfluorohexanoic Acid (PFHxA)	2018/10/18		112	%	74 - 129
			Perfluorohexane Sulfonate (PFHxS)	2018/10/18		103	%	67 - 132
			Perfluorononanoic Acid (PFNA)	2018/10/18		101	%	72 - 131
			Perfluorotetradecanoic Acid	2018/10/18		107	%	70 - 134
			Perfluorotridecanoic Acid	2018/10/18		110	%	67 - 143
			Perfluoroundecanoic Acid (PFUnA)	2018/10/18		107	%	71 - 133
			Perfluorodecanoic Acid (PFDA)	2018/10/18		103	%	71 - 133
			Perfluorododecanoic Acid (PFDoA)	2018/10/18		113	%	71 - 131
			Perfluoro-n-Octanoic Acid (PFOA)	2018/10/18		110	%	71 - 130
			Perfluorooctane Sulfonate (PFOS)	2018/10/18		108	%	72 - 131
5785280	AD9	Method Blank	13C2-Perfluorodecanoic acid	2018/10/18		79	%	50 - 150
			13C2-Perfluorododecanoic acid	2018/10/18		82	%	50 - 150
			13C2-Perfluorohexanoic acid	2018/10/18		89	%	50 - 150
			13C2-perfluorotetradecanoic acid	2018/10/18		81	%	50 - 150
			13C2-Perfluoroundecanoic acid	2018/10/18		85	%	50 - 150
			13C4-Perfluoroheptanoic acid	2018/10/18		93	%	50 - 150
			13C4-Perfluorooctanesulfonate	2018/10/18		90	%	50 - 150
			13C4-Perfluorooctanoic acid	2018/10/18		90	%	50 - 150
			13C5-Perfluorononanoic acid	2018/10/18		89	%	50 - 150
			18O2-Perfluorohexanesulfonate	2018/10/18		93	%	50 - 150
			D3-MeFOSAA	2018/10/18		78	%	50 - 150
			D5-EtFOSAA	2018/10/18		79	%	50 - 150
			EtFOSAA	2018/10/18	10 U, LOD=10		ng/L	

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			MeFOSAA	2018/10/18	10 U, LOD=10		ng/L	
			Perfluorobutane Sulfonate (PFBS)	2018/10/18	15 U, LOD=15		ng/L	
			Perfluoroheptanoic Acid (PFHpA)	2018/10/18	15 U, LOD=15		ng/L	
			Perfluorohexanoic Acid (PFHxA)	2018/10/18	10 U, LOD=10		ng/L	
			Perfluorohexane Sulfonate (PFHxS)	2018/10/18	15 U, LOD=15		ng/L	
			Perfluorononanoic Acid (PFNA)	2018/10/18	18 U, LOD=18		ng/L	
			Perfluorotetradecanoic Acid	2018/10/18	10 U, LOD=10		ng/L	
			Perfluorotridecanoic Acid	2018/10/18	10 U, LOD=10		ng/L	
			Perfluoroundecanoic Acid (PFUnA)	2018/10/18	10 U, LOD=10		ng/L	
			Perfluorodecanoic Acid (PFDA)	2018/10/18	15 U, LOD=15		ng/L	
			Perfluorododecanoic Acid (PFDoA)	2018/10/18	10 U, LOD=10		ng/L	
			Perfluoro-n-Octanoic Acid (PFOA)	2018/10/18	10 U, LOD=10		ng/L	
			Perfluorooctane Sulfonate (PFOS)	2018/10/18	15 U, LOD=15		ng/L	

Matrix Spike: A sample to which a known amount of the analyte of interest has been added. Used to evaluate sample matrix interference.

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

Surrogate: A pure or isotopically labeled compound whose behavior mirrors the analytes of interest. Used to evaluate extraction efficiency.

(1) Extracted internal standard analyte recovery was below the defined lower control limit (LCL). Because quantitation is performed using isotope dilution techniques, any losses of the native compound that may occur during any of the sample preparation, extraction, cleanup or determinative steps will be mirrored by a similar loss of the labeled standard, and as such can be accounted for and corrected. Therefore, the quantification of these target compounds is not affected by the low extracted internal standard analyte recovery.

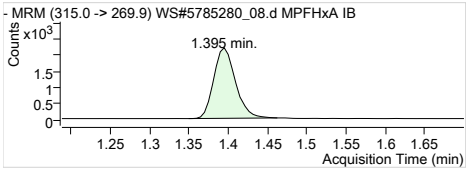
Maxxam Analytics International Corporation o/a Maxxam Analytics 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.maxxam.ca

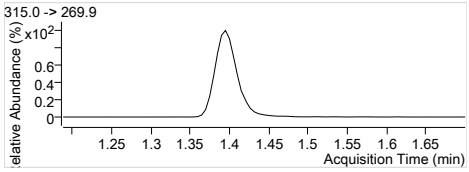
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Sample Name	**IB**	**Instrument**	LCMS04
Data File	WS#5785280_08.d	**Operator**	
Sample Type	Sample	**Dilution**	1
Acq. Method	PFC_Water_Low.m	**Position**	P4-A8
Acq. Date	2018/10/18 2:42:21 AM	**Injection Volume**	Per Method
Sample Annotation	-		

ISTD Compounds	Response	RT	Target conc.		
MPFHxA	4224	1.39	1 µg/L		
MPFHxS	1124	1.66	1 µg/L		
MPFHpA	6052	1.66	1 µg/L		
MPFOA	6125	1.85	1 µg/L		
MPFOS	1160	1.97	1 µg/L		
MPFNA	5881	1.99	1 µg/L		
MPFDA	4640	2.11	1 µg/L		
MPFUnA	5019	2.21	1 µg/L		
MPFDoA	6714	2.29	1 µg/L		
MPFTeDA	9271	2.44	1 µg/L		
13C6-PFHxA IS	18407	1.39	1 µg/L		
13C9-PFDA IS	25703	2.11	1 µg/L		

Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1			-	ND	-
PFHxA 1			-	ND	-
PFHxS 1			-	ND	-
PFHpA 1			-	ND	-
PFOA 1			-	ND	-
PFOS 1			-	ND	-
PFNA 1			-	ND	-
PFDA 1			-	ND	-
PFUnA 1			-	ND	-
PFDoA 1			-	ND	-
PFTrDA 1			-	ND	-
PFTeDA 1			-	ND	-
13C2-PFHxA	4224	1.39	-	97.87 µg/L	-
18O2-PFHxS	1124	1.66	-	104.91 µg/L	-
13C4-PFHpA	6052	1.66	-	98.26 µg/L	-
13C4-PFOA	6125	1.85	-	97.88 µg/L	-
13C4-PFOS	1160	1.97	-	93.40 µg/L	-
13C5-PFNA	5881	1.99	-	98.43 µg/L	-
13C2-PFDA	4640	2.11	-	100.36 µg/L	-
13C2-PFUnA	5019	2.21	-	97.27 µg/L	-
13C2-PFDoA	6714	2.29	-	98.30 µg/L	-
13C2-PFTeDA	9271	2.44	-	100.93 µg/L	-
13C6-PFHxA	18407	1.39	-	102.12 µg/L	-
13C9-PFDA	25703	2.11	-	103.93 µg/L	-





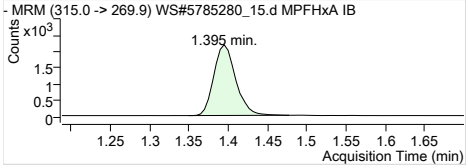
MPFHxA	Internal Standard
RT (Exp. RT):	1.395 (1.395)
Concentration:	1 µg/L
Sample type:	Sample

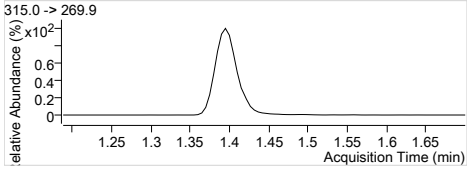
Batch Path	T:\LCMS04\PFC\20181017\WS#5785280\QuantResults\PFC_Water_Low_20181017_WS#5785280_EToxics

Sample Name	**IB**	**Instrument**	LCMS04
Data File	WS#5785280_15.d	**Operator**	
Sample Type	Sample	**Dilution**	0.024
Acq. Method	PFC_Water_Low.m	**Position**	P4-A8
Acq. Date	2018/10/18 3:16:44 AM	**Injection Volume**	Per Method
Sample Annotation	-		

ISTD Compounds	Response	RT	Target conc.		
MPFHxA	4208	1.39	1 µg/L		
MPFHxS	1072	1.67	1 µg/L		
MPFHpA	6129	1.66	1 µg/L		
MPFOA	6304	1.85	1 µg/L		
MPFOS	1249	1.97	1 µg/L		
MPFNA	5986	1.99	1 µg/L		
MPFDA	4532	2.11	1 µg/L		
MPFUnA	5044	2.21	1 µg/L		
MPFDoA	6602	2.29	1 µg/L		
MPFTeDA	8997	2.44	1 µg/L		
13C6-PFHxA IS	18210	1.39	1 µg/L		
13C9-PFDA IS	24899	2.11	1 µg/L		

Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1			-	ND	-
PFHxA 1			-	ND	-
PFHxS 1			-	ND	-
PFHpA 1			-	ND	-
PFOA 1			-	ND	-
PFOS 1			-	ND	-
PFNA 1			-	ND	-
PFDA 1			-	ND	-
PFUnA 1			-	ND	-
PFDoA 1			-	ND	-
PFTrDA 1			-	ND	-
PFTeDA 1			-	ND	-
13C2-PFHxA	4208	1.39	-	98.55 µg/L	-
18O2-PFHxS	1072	1.67	-	101.14 µg/L	-
13C4-PFHpA	6129	1.66	-	100.59 µg/L	-
13C4-PFOA	6304	1.85	-	101.83 µg/L	-
13C4-PFOS	1249	1.97	-	101.65 µg/L	-
13C5-PFNA	5986	1.99	-	101.27 µg/L	-
13C2-PFDA	4532	2.11	-	101.19 µg/L	-
13C2-PFUnA	5044	2.21	-	100.91 µg/L	-
13C2-PFDoA	6602	2.29	-	99.78 µg/L	-
13C2-PFTeDA	8997	2.44	-	101.11 µg/L	-
13C6-PFHxA	18210	1.39	-	2.42 µg/L	-
13C9-PFDA	24899	2.11	-	2.42 µg/L	-





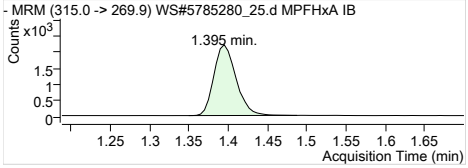
MPFHxA	Internal Standard
RT (Exp. RT):	1.395 (1.395)
Concentration:	1 µg/L
Sample type:	Sample

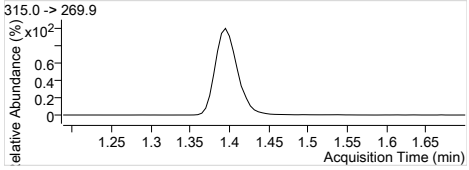
Batch Path	T:\LCMS04\PFC\20181017\WS#5785280\QuantResults\PFC_Water_Low_20181017_WS#5785280_EToxics

Sample Name	**IB**	**Instrument**	LCMS04
Data File	WS#5785280_25.d	**Operator**	
Sample Type	Sample	**Dilution**	0.024
Acq. Method	PFC_Water_Low.m	**Position**	P4-A8
Acq. Date	2018/10/18 4:05:51 AM	**Injection Volume**	Per Method
Sample Annotation	-		

ISTD Compounds	Response	RT	Target conc.		
MPFHxA	4311	1.39	1 µg/L		
MPFHxS	1057	1.67	1 µg/L		
MPFHpA	6292	1.66	1 µg/L		
MPFOA	6327	1.85	1 µg/L		
MPFOS	1174	1.97	1 µg/L		
MPFNA	6203	1.99	1 µg/L		
MPFDA	4444	2.11	1 µg/L		
MPFUnA	5135	2.21	1 µg/L		
MPFDoA	6218	2.29	1 µg/L		
MPFTeDA	8943	2.44	1 µg/L		
13C6-PFHxA IS	18645	1.39	1 µg/L		
13C9-PFDA IS	25136	2.11	1 µg/L		

Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1			-	ND	-
PFHxA 1			-	ND	-
PFHxS 1			-	ND	-
PFHpA 1			-	ND	-
PFOA 1			-	ND	-
PFOS 1			-	ND	-
PFNA 1			-	ND	-
PFDA 1			-	ND	-
PFUnA 1			-	ND	-
PFDoA 1			-	ND	-
PFTrDA 1			-	ND	-
PFTeDA 1			-	ND	-
13C2-PFHxA	4311	1.39	-	98.61 µg/L	-
18O2-PFHxS	1057	1.67	-	97.40 µg/L	-
13C4-PFHpA	6292	1.66	-	100.86 µg/L	-
13C4-PFOA	6327	1.85	-	99.82 µg/L	-
13C4-PFOS	1174	1.97	-	93.32 µg/L	-
13C5-PFNA	6203	1.99	-	102.49 µg/L	-
13C2-PFDA	4444	2.11	-	98.29 µg/L	-
13C2-PFUnA	5135	2.21	-	101.76 µg/L	-
13C2-PFDoA	6218	2.29	-	93.09 µg/L	-
13C2-PFTeDA	8943	2.44	-	99.56 µg/L	-
13C6-PFHxA	18645	1.39	-	2.48 µg/L	-
13C9-PFDA	25136	2.11	-	2.44 µg/L	-





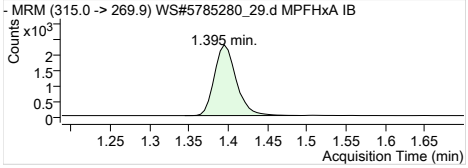
MPFHxA	Internal Standard
RT (Exp. RT):	1.395 (1.395)
Concentration:	1 µg/L
Sample type:	Sample

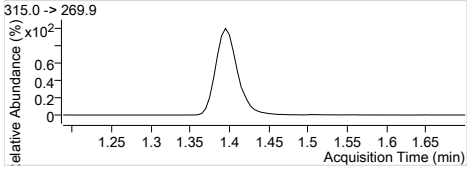
Batch Path T:\LCMS04\PFC\20181017\WS#5785280\QuantResults\PFC_Water_Low_20181017_WS#5785280_EToxics

Sample Name	**IB**	**Instrument**	LCMS04
Data File	WS#5785280_29.d	**Operator**	
Sample Type	Sample	**Dilution**	0.024
Acq. Method	PFC_Water_Low.m	**Position**	P4-A8
Acq. Date	2018/10/18 4:25:29 AM	**Injection Volume**	Per Method
Sample Annotation	-		

ISTD Compounds	Response	RT	Target conc.		
MPFHxA	4420	1.39	1 µg/L		
MPFHxS	1068	1.67	1 µg/L		
MPFHpA	6290	1.66	1 µg/L		
MPFOA	6210	1.85	1 µg/L		
MPFOS	1252	1.97	1 µg/L		
MPFNA	5824	1.99	1 µg/L		
MPFDA	4802	2.11	1 µg/L		
MPFUnA	5279	2.21	1 µg/L		
MPFDoA	6627	2.29	1 µg/L		
MPFTeDA	9102	2.44	1 µg/L		
13C6-PFHxA IS	18811	1.39	1 µg/L		
13C9-PFDA IS	24877	2.11	1 µg/L		

Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1			-	ND	-
PFHxA 1			-	ND	-
PFHxS 1			-	ND	-
PFHpA 1			-	ND	-
PFOA 1			-	ND	-
PFOS 1			-	ND	-
PFNA 1			-	ND	-
PFDA 1			-	ND	-
PFUnA 1			-	ND	-
PFDoA 1			-	ND	-
PFTrDA 1			-	ND	-
PFTeDA 1			-	ND	-
13C2-PFHxA	4420	1.39	-	100.21 µg/L	-
18O2-PFHxS	1068	1.67	-	97.54 µg/L	-
13C4-PFHpA	6290	1.66	-	99.93 µg/L	-
13C4-PFOA	6210	1.85	-	97.11 µg/L	-
13C4-PFOS	1252	1.97	-	98.64 µg/L	-
13C5-PFNA	5824	1.99	-	95.38 µg/L	-
13C2-PFDA	4802	2.11	-	107.31 µg/L	-
13C2-PFUnA	5279	2.21	-	105.70 µg/L	-
13C2-PFDoA	6627	2.29	-	100.25 µg/L	-
13C2-PFTeDA	9102	2.44	-	102.38 µg/L	-
13C6-PFHxA	18811	1.39	-	2.50 µg/L	-
13C9-PFDA	24877	2.11	-	2.41 µg/L	-





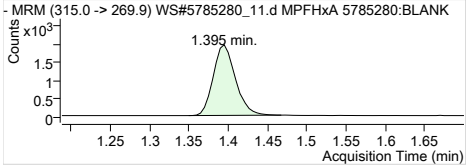
MPFHxA Internal Standard
RT (Exp. RT): 1.395 (1.395)
Concentration: 1 µg/L
Sample type: Sample

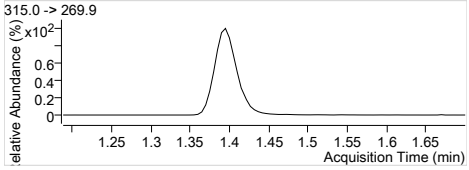
Batch Path	T:\LCMS04\PFC\20181017\WS#5785280\QuantResults\PFC_Water_Low_20181017_WS#5785280_EToxics

Sample Name	**5785280:BLANK**	**Instrument**	LCMS04
Data File	WS#5785280_11.d	**Operator**	
Sample Type	Sample	**Dilution**	0.024
Acq. Method	PFC_Water_Low.m	**Position**	P4-B1
Acq. Date	2018/10/18 2:57:05 AM	**Injection Volume**	Per Method
Sample Annotation	-		

ISTD Compounds	Response	RT	Target conc.		
MPFHxA	3813	1.39	1 µg/L		
MPFHxS	985	1.67	1 µg/L		
MPFHpA	5674	1.66	1 µg/L		
MPFOA	5575	1.85	1 µg/L		
MPFOS	1107	1.97	1 µg/L		
MPFNA	5268	1.99	1 µg/L		
MPFDA	3528	2.11	1 µg/L		
MPFUnA	4233	2.21	1 µg/L		
MPFDoA	5405	2.29	1 µg/L		
MPFTeDA	7164	2.44	1 µg/L		
13C6-PFHxA IS	18213	1.39	1 µg/L		
13C9-PFDA IS	24842	2.11	1 µg/L		

Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1			-	ND	-
PFHxA 1			-	ND	-
PFHxS 1			-	ND	-
PFHpA 1			-	ND	-
PFOA 1			-	ND	-
PFOS 1			-	ND	-
PFNA 1			-	ND	-
PFDA 1			-	ND	-
PFUnA 1			-	ND	-
PFDoA 1			-	ND	-
PFTrDA 1			-	ND	-
PFTeDA 1			-	ND	-
13C2-PFHxA	3813	1.39	-	89.28 µg/L	-
18O2-PFHxS	985	1.67	-	92.92 µg/L	-
13C4-PFHpA	5674	1.66	-	93.11 µg/L	-
13C4-PFOA	5575	1.85	-	90.04 µg/L	-
13C4-PFOS	1107	1.97	-	90.08 µg/L	-
13C5-PFNA	5268	1.99	-	89.11 µg/L	-
13C2-PFDA	3528	2.11	-	78.95 µg/L	-
13C2-PFUnA	4233	2.21	-	84.88 µg/L	-
13C2-PFDoA	5405	2.29	-	81.88 µg/L	-
13C2-PFTeDA	7164	2.44	-	80.70 µg/L	-
13C6-PFHxA	18213	1.39	-	2.43 µg/L	-
13C9-PFDA	24842	2.11	-	2.41 µg/L	-





MPFHxA	Internal Standard
RT (Exp. RT):	1.395 (1.395)
Concentration:	1 µg/L
Sample type:	Sample

Quantitation Results

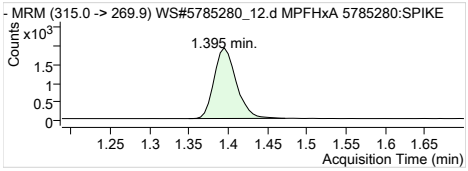
Agilent Technologies

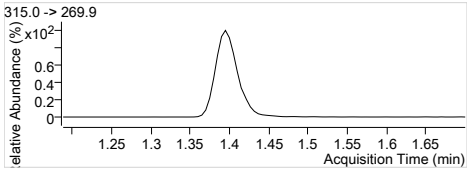
Batch Path	T:\LCMS04\PFC\20181017\WS#5785280\QuantResults\PFC_Water_Low_20181017_WS#5785280_EToxics

Sample Name	**5785280:SPIKE**	**Instrument**	LCMS04
Data File	WS#5785280_12.d	**Operator**	
Sample Type	QC	**Dilution**	0.024
Acq. Method	PFC_Water_Low.m	**Position**	P4-B2
Acq. Date	2018/10/18 3:01:59 AM	**Injection Volume**	Per Method
Sample Annotation	-		

ISTD Compounds	Response	RT	Target conc.		
MPFHxA	3752	1.39	1 µg/L		
MPFHxS	1017	1.67	1 µg/L		
MPFHpA	5351	1.66	1 µg/L		
MPFOA	5349	1.85	1 µg/L		
MPFOS	1088	1.97	1 µg/L		
MPFNA	5390	1.99	1 µg/L		
MPFDA	4021	2.11	1 µg/L		
MPFUnA	4348	2.21	1 µg/L		
MPFDoA	5299	2.29	1 µg/L		
MPFTeDA	6863	2.44	1 µg/L		
13C6-PFHxA IS	18161	1.39	1 µg/L		
13C9-PFDA IS	24399	2.11	1 µg/L		

Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1	12858	1.08	20.80	0.51 µg/L	102.34
PFHxA 1	35493	1.38	20.80	0.56 µg/L	112.47
PFHxS 1	11486	1.67	20.80	0.52 µg/L	103.38
PFHpA 1	49015	1.65	20.80	0.55 µg/L	111.10
PFOA 1	51485	1.84	20.80	0.55 µg/L	110.58
PFOS 1	9691	1.93	20.80	0.54 µg/L	108.58
PFNA 1	45364	1.99	20.80	0.51 µg/L	101.25
PFDA 1	48321	2.11	20.80	0.51 µg/L	103.00
PFUnA 1	45114	2.21	20.80	0.54 µg/L	107.21
PFDoA 1	49021	2.29	20.80	0.57 µg/L	113.35
PFTrDA 1	57293	2.37	20.80	0.55 µg/L	110.10
PFTeDA 1	56684	2.44	20.80	0.53 µg/L	106.86
13C2-PFHxA	3752	1.39	100.00	88.11 µg/L	88.11
18O2-PFHxS	1017	1.67	100.00	96.21 µg/L	96.21
13C4-PFHpA	5351	1.66	100.00	88.06 µg/L	88.06
13C4-PFOA	5349	1.85	100.00	86.64 µg/L	86.64
13C4-PFOS	1088	1.97	100.00	88.79 µg/L	88.79
13C5-PFNA	5390	1.99	100.00	91.43 µg/L	91.43
13C2-PFDA	4021	2.11	100.00	91.62 µg/L	91.62
13C2-PFUnA	4348	2.21	100.00	88.77 µg/L	88.77
13C2-PFDoA	5299	2.29	100.00	81.73 µg/L	81.73
13C2-PFTeDA	6863	2.44	100.00	78.71 µg/L	78.71
13C6-PFHxA	18161	1.39	100.00	2.42 µg/L	100.76
13C9-PFDA	24399	2.11	100.00	2.37 µg/L	98.66





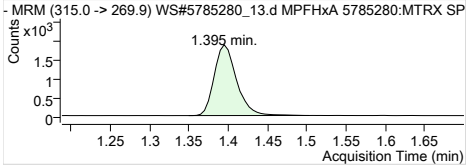
MPFHxA	Internal Standard
RT (Exp. RT):	1.395 (1.395)
Concentration:	1 µg/L
Sample type:	QC

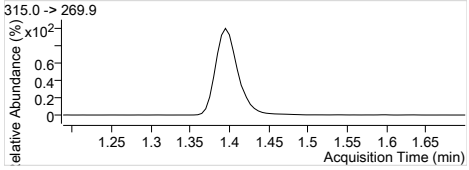
Batch Path	T:\LCMS04\PFC\20181017\WS#5785280\QuantResults\PFC_Water_Low_20181017_WS#5785280_EToxics

Sample Name	**5785280:MTRX SPK**	**Instrument**	LCMS04
Data File	WS#5785280_13.d	**Operator**	
Sample Type	QC	**Dilution**	0.024
Acq. Method	PFC_Water_Low.m	**Position**	P4-B3
Acq. Date	2018/10/18 3:06:54 AM	**Injection Volume**	Per Method
Sample Annotation	HYO198		

ISTD Compounds	Response	RT	Target conc.		
MPFHxA	3710	1.39	1 µg/L		
MPFHxS	971	1.67	1 µg/L		
MPFHpA	5377	1.66	1 µg/L		
MPFOA	5504	1.85	1 µg/L		
MPFOS	1092	1.97	1 µg/L		
MPFNA	5283	1.99	1 µg/L		
MPFDA	3657	2.11	1 µg/L		
MPFUnA	4004	2.21	1 µg/L		
MPFDoA	5042	2.29	1 µg/L		
MPFTeDA	4587	2.44	1 µg/L		
13C6-PFHxA IS	18333	1.39	1 µg/L		
13C9-PFDA IS	26796	2.11	1 µg/L		

Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1	12715	1.07	20.80	0.53 µg/L	105.96
PFHxA 1	35029	1.38	20.80	0.56 µg/L	112.26
PFHxS 1	11282	1.67	20.80	0.53 µg/L	106.34
PFHpA 1	48403	1.65	20.80	0.55 µg/L	109.19
PFOA 1	50951	1.84	20.80	0.53 µg/L	106.37
PFOS 1	9744	1.93	20.80	0.54 µg/L	108.77
PFNA 1	44603	1.99	20.80	0.51 µg/L	101.57
PFDA 1	46589	2.11	20.80	0.54 µg/L	109.15
PFUnA 1	40675	2.21	20.80	0.52 µg/L	104.98
PFDoA 1	42355	2.29	20.80	0.51 µg/L	102.96
PFTrDA 1	45146	2.37	20.80	0.65 µg/L	129.71
PFTeDA 1	36677	2.44	20.80	0.52 µg/L	103.47
13C2-PFHxA	3710	1.39	100.00	86.30 µg/L	86.30
18O2-PFHxS	971	1.67	100.00	91.00 µg/L	91.00
13C4-PFHpA	5377	1.66	100.00	87.66 µg/L	87.66
13C4-PFOA	5504	1.85	100.00	88.31 µg/L	88.31
13C4-PFOS	1092	1.97	100.00	88.28 µg/L	88.28
13C5-PFNA	5283	1.99	100.00	88.78 µg/L	88.78
13C2-PFDA	3657	2.11	100.00	75.87 µg/L	75.87
13C2-PFUnA	4004	2.21	100.00	74.43 µg/L	74.43
13C2-PFDoA	5042	2.29	100.00	70.81 µg/L	70.81
13C2-PFTeDA	4587	2.44	100.00	47.90 µg/L	47.90
13C6-PFHxA	18333	1.39	100.00	2.44 µg/L	101.71
13C9-PFDA	26796	2.11	100.00	2.60 µg/L	108.35





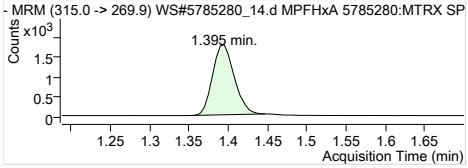
MPFHxA	Internal Standard
RT (Exp. RT):	1.395 (1.395)
Concentration:	1 µg/L
Sample type:	QC

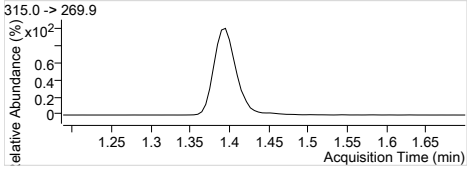
Batch Path	T:\LCMS04\PFC\20181017\WS#5785280\QuantResults\PFC_Water_Low_20181017_WS#5785280_EToxics

Sample Name	**5785280:MTRX SPK:D1**	**Instrument**	LCMS04
Data File	WS#5785280_14.d	**Operator**	
Sample Type	QC	**Dilution**	0.024
Acq. Method	PFC_Water_Low.m	**Position**	P4-B4
Acq. Date	2018/10/18 3:11:49 AM	**Injection Volume**	Per Method
Sample Annotation	HYO198		

ISTD Compounds	Response	RT	Target conc.		
MPFHxA	3370	1.39	1 µg/L		
MPFHxS	875	1.67	1 µg/L		
MPFHpA	5154	1.66	1 µg/L		
MPFOA	5293	1.85	1 µg/L		
MPFOS	1012	1.97	1 µg/L		
MPFNA	5053	1.99	1 µg/L		
MPFDA	3750	2.11	1 µg/L		
MPFUnA	4229	2.21	1 µg/L		
MPFDoA	5015	2.29	1 µg/L		
MPFTeDA	5282	2.44	1 µg/L		
13C6-PFHxA IS	17017	1.39	1 µg/L		
13C9-PFDA IS	23341	2.11	1 µg/L		

Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1	12535	1.07	20.80	0.58 µg/L	115.84
PFHxA 1	34355	1.38	20.80	0.60 µg/L	121.16
PFHxS 1	11181	1.67	20.80	0.58 µg/L	116.88
PFHpA 1	48413	1.65	20.80	0.57 µg/L	113.91
PFOA 1	50403	1.84	20.80	0.55 µg/L	109.41
PFOS 1	9839	1.93	20.80	0.59 µg/L	118.52
PFNA 1	44580	1.99	20.80	0.53 µg/L	106.11
PFDA 1	47387	2.11	20.80	0.54 µg/L	108.28
PFUnA 1	43697	2.21	20.80	0.53 µg/L	106.77
PFDoA 1	46488	2.29	20.80	0.57 µg/L	113.58
PFTrDA 1	52680	2.37	20.80	0.66 µg/L	131.43
PFTeDA 1	46257	2.44	20.80	0.57 µg/L	113.26
13C2-PFHxA	3370	1.39	100.00	84.46 µg/L	84.46
18O2-PFHxS	875	1.67	100.00	88.34 µg/L	88.34
13C4-PFHpA	5154	1.66	100.00	90.52 µg/L	90.52
13C4-PFOA	5293	1.85	100.00	91.49 µg/L	91.49
13C4-PFOS	1012	1.97	100.00	88.14 µg/L	88.14
13C5-PFNA	5053	1.99	100.00	91.48 µg/L	91.48
13C2-PFDA	3750	2.11	100.00	89.32 µg/L	89.32
13C2-PFUnA	4229	2.21	100.00	90.25 µg/L	90.25
13C2-PFDoA	5015	2.29	100.00	80.85 µg/L	80.85
13C2-PFTeDA	5282	2.44	100.00	63.32 µg/L	63.32
13C6-PFHxA	17017	1.39	100.00	2.27 µg/L	94.41
13C9-PFDA	23341	2.11	100.00	2.27 µg/L	94.38





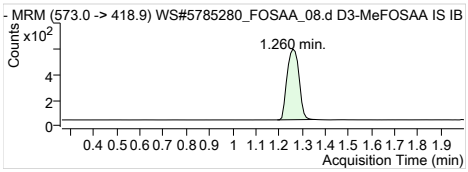
MPFHxA	Internal Standard
RT (Exp. RT):	1.395 (1.395)
Concentration:	1 µg/L
Sample type:	QC

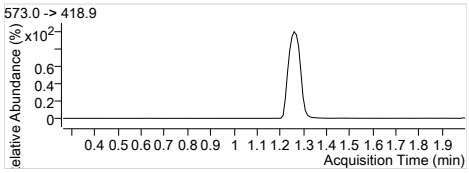
Batch Path	T:\LCMS04\PFC\20181017\WS#5785280_FOSAA\QuantResults\PFC_Water_Low_20181017_WS#5785280_FOSAA_EToxics

Sample Name	**IB**	**Instrument**	LCMS04
Data File	WS#5785280_FOSAA_08.d	**Operator**	
Sample Type	Sample	**Dilution**	1
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P4-A8
Acq. Date	2018/10/17 7:06:56 PM	**Injection Volume**	Per Method
Sample Annotation	-		

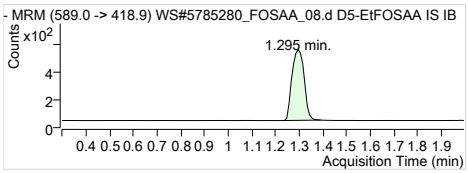
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1969	1.26	1 µg/L		
D5-EtFOSAA IS	1831	1.29	1 µg/L		
13C9-PFDA IS	25253	0.84	1 µg/L		

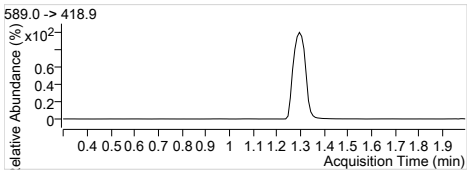
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1			-	ND	-
EtFOSAA 1			-	ND	-
D3-MeFOSAA	1989	1.26	-	100.85 µg/L	-
D5-EtFOSAA	1851	1.29	-	103.04 µg/L	-
13C9-PFDA	24994	0.84	-	100.03 µg/L	-



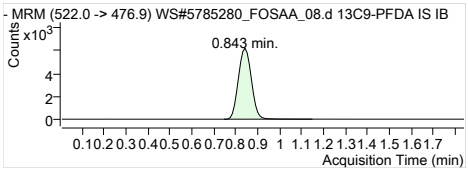


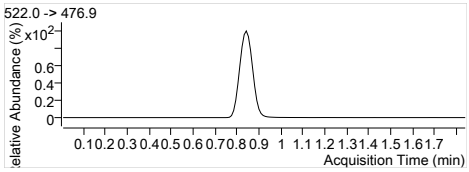
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.260 (1.260)
Concentration: 1 µg/L
Sample type: Sample



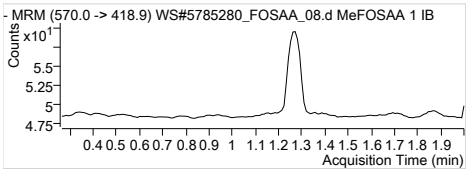


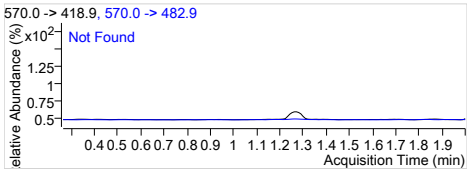
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.295 (1.295)
Concentration: 1 µg/L
Sample type: Sample



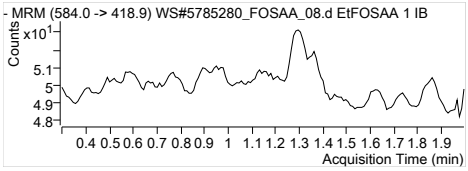


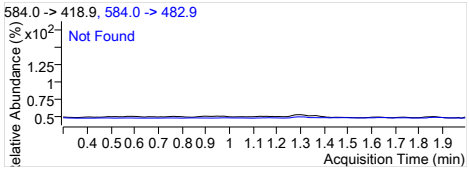
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.843 (0.843)
Concentration: 1 µg/L
Sample type: Sample



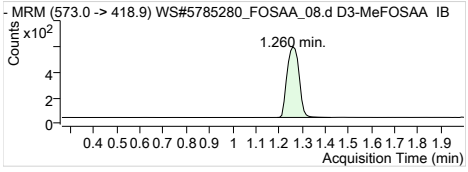


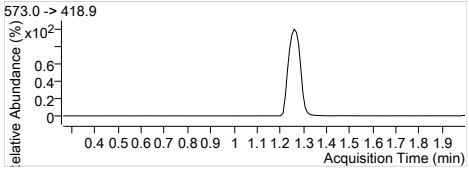
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 0.000 (1.262)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample





EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 0.000 (1.296)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample





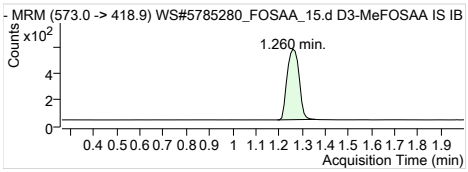
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.260 (1.260)
Calc. conc. 100.85 µg/L
Area ratio: 0.07876
Sample type: Sample

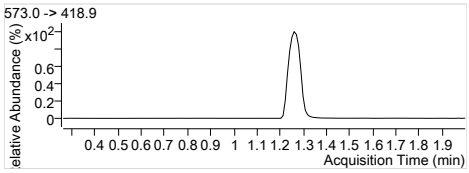
Batch Path	T:\LCMS04\PFC\20181017\WS#5785280_FOSAA\QuantResults\PFC_Water_Low_20181017_WS#5785280_FOSAA_EToxics

Sample Name	**IB**	**Instrument**	LCMS04
Data File	WS#5785280_FOSAA_15.d	**Operator**	
Sample Type	Sample	**Dilution**	0.024
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P4-A8
Acq. Date	2018/10/17 7:23:37 PM	**Injection Volume**	Per Method
Sample Annotation	-		

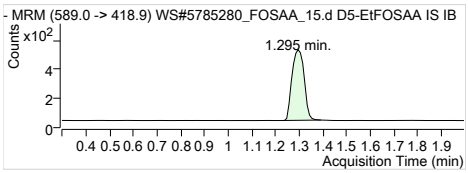
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1907	1.26	1 µg/L		
D5-EtFOSAA IS	1731	1.29	1 µg/L		
13C9-PFDA IS	24252	0.84	1 µg/L		

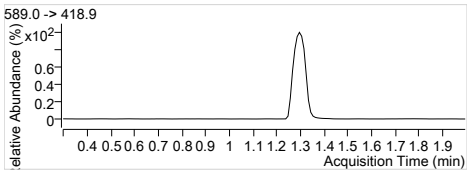
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1			-	ND	-
EtFOSAA 1			-	ND	-
D3-MeFOSAA	1932	1.26	-	102.00 µg/L	-
D5-EtFOSAA	1753	1.29	-	101.62 µg/L	-
13C9-PFDA	24028	0.84	-	2.31 µg/L	-



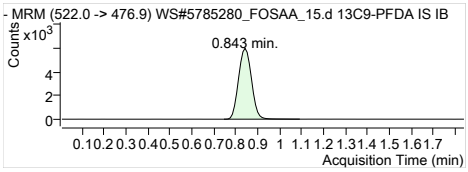


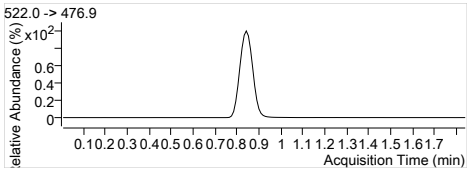
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.260 (1.260)
Concentration: 1 µg/L
Sample type: Sample



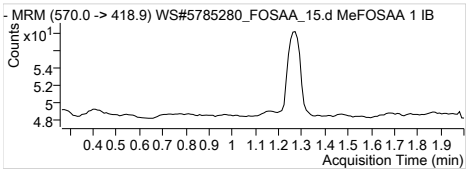


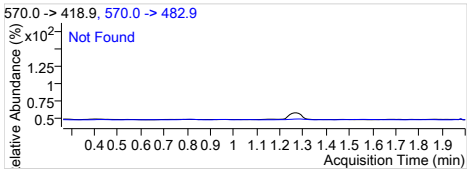
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.295 (1.295)
Concentration: 1 µg/L
Sample type: Sample



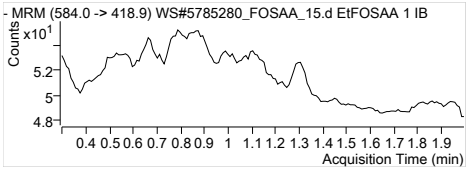


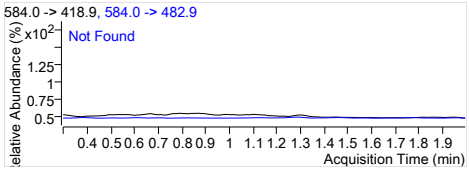
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.843 (0.843)
Concentration: 1 µg/L
Sample type: Sample



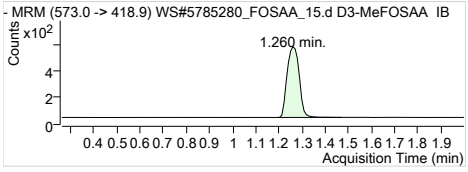


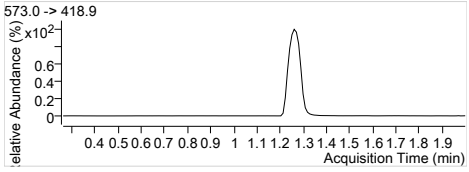
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 0.000 (1.262)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample





EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 0.000 (1.296)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample





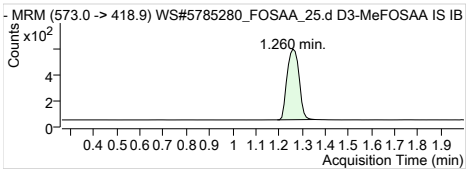
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.260 (1.260)
Calc. conc. 102.00 µg/L
Area ratio: 0.07966
Sample type: Sample

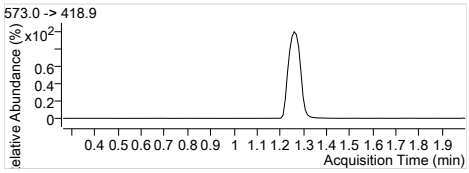
Batch Path	T:\LCMS04\PFC\20181017\WS#5785280_FOSAA\QuantResults\PFC_Water_Low_20181017_WS#5785280_FOSAA_EToxics

Sample Name	**IB**	**Instrument**	LCMS04
Data File	WS#5785280_FOSAA_25.d	**Operator**	
Sample Type	Sample	**Dilution**	0.024
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P4-A8
Acq. Date	2018/10/17 7:47:27 PM	**Injection Volume**	Per Method
Sample Annotation	-		

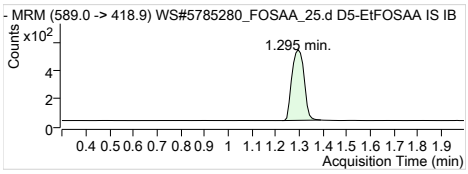
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1958	1.26	1 µg/L		
D5-EtFOSAA IS	1777	1.29	1 µg/L		
13C9-PFDA IS	25529	0.84	1 µg/L		

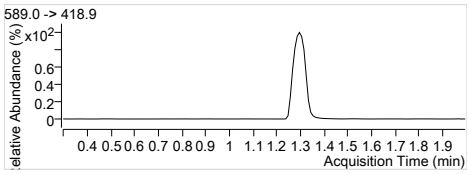
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1			-	ND	-
EtFOSAA 1			-	ND	-
D3-MeFOSAA	1978	1.26	-	99.20 µg/L	-
D5-EtFOSAA	1800	1.29	-	99.12 µg/L	-
13C9-PFDA	25266	0.84	-	2.43 µg/L	-



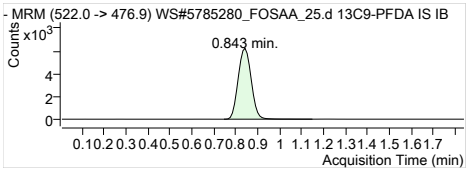


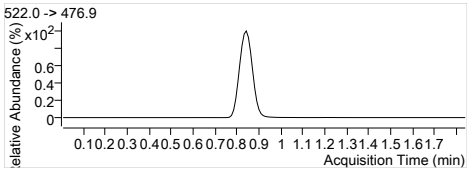
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.260 (1.260)
Concentration: 1 µg/L
Sample type: Sample



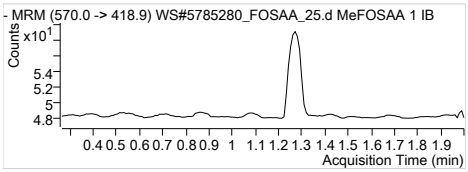


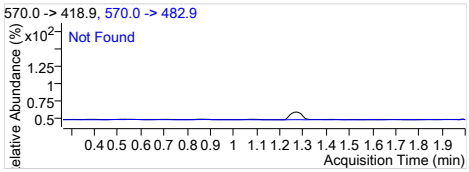
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.295 (1.295)
Concentration: 1 µg/L
Sample type: Sample



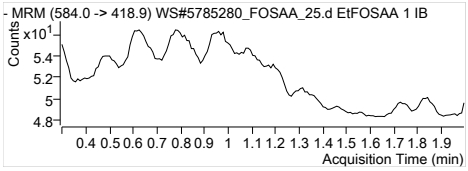


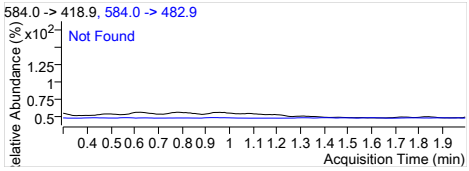
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.843 (0.843)
Concentration: 1 µg/L
Sample type: Sample



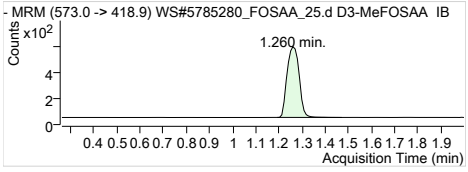


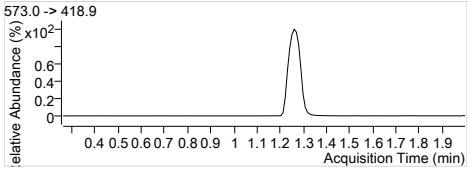
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 0.000 (1.262)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample





EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 0.000 (1.296)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample





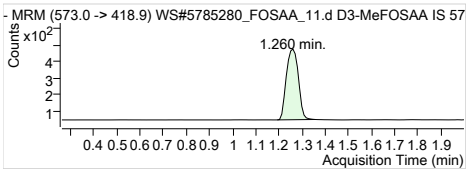
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.260 (1.260)
Calc. conc. 99.20 µg/L
Area ratio: 0.07748
Sample type: Sample

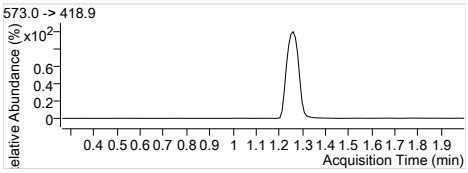
Batch Path	T:\LCMS04\PFC\20181017\WS#5785280_FOSAA\QuantResults\PFC_Water_Low_20181017_WS#5785280_FOSAA_EToxics

Sample Name	**5785280:BLANK**	**Instrument**	LCMS04
Data File	WS#5785280_FOSAA_11.d	**Operator**	
Sample Type	Sample	**Dilution**	0.024
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P4-B1
Acq. Date	2018/10/17 7:14:07 PM	**Injection Volume**	Per Method
Sample Annotation	-		

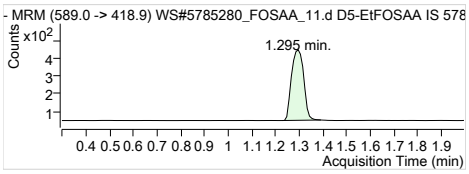
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1542	1.26	1 µg/L		
D5-EtFOSAA IS	1429	1.29	1 µg/L		
13C9-PFDA IS	25750	0.84	1 µg/L		

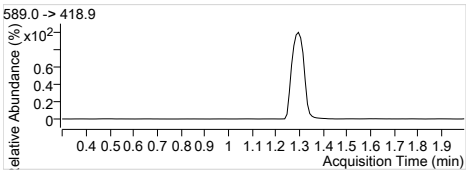
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1			-	ND	-
EtFOSAA 1			-	ND	-
D3-MeFOSAA	1560	1.26	-	77.57 µg/L	-
D5-EtFOSAA	1446	1.29	-	78.94 µg/L	-
13C9-PFDA	25517	0.84	-	2.45 µg/L	-



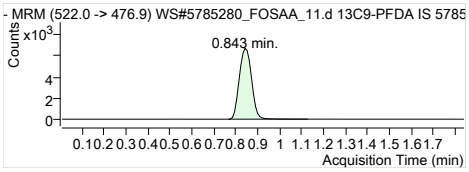


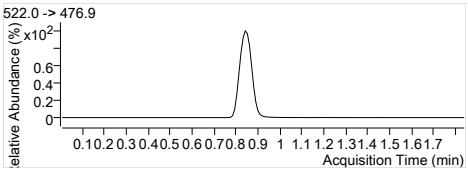
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.260 (1.260)
Concentration: 1 µg/L
Sample type: Sample



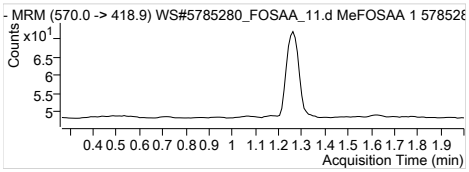


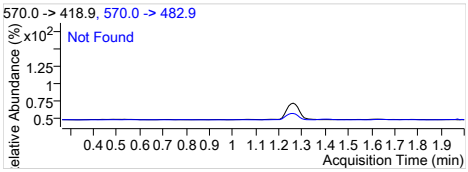
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.295 (1.295)
Concentration: 1 µg/L
Sample type: Sample



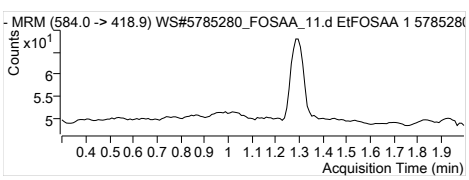


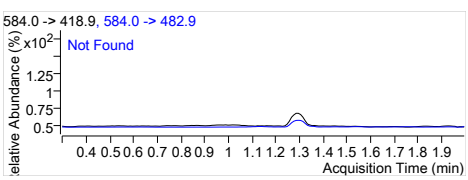
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.843 (0.843)
Concentration: 1 µg/L
Sample type: Sample



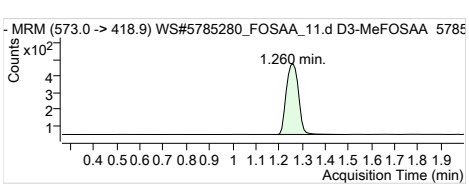


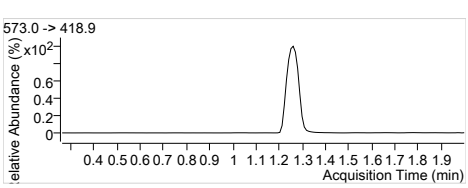
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 0.000 (1.262)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample





EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 0.000 (1.296)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample





D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.260 (1.260)
Calc. conc. 77.57 µg/L
Area ratio: 0.06058
Sample type: Sample

Quantitation Results

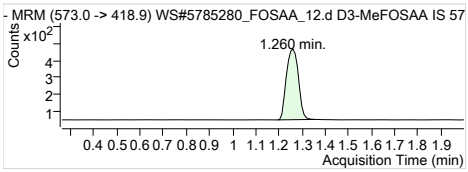
Agilent Technologies

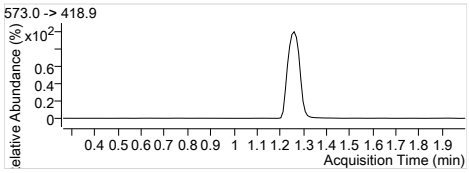
Batch Path	T:\LCMS04\PFC\20181017\WS#5785280_FOSAA\QuantResults\PFC_Water_Low_20181017_WS#5785280_FOSAA_EToxics

Sample Name	**5785280:SPIKE**	**Instrument**	LCMS04
Data File	WS#5785280_FOSAA_12.d	**Operator**	
Sample Type	QC	**Dilution**	0.024
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P4-B2
Acq. Date	2018/10/17 7:16:28 PM	**Injection Volume**	Per Method
Sample Annotation	-		

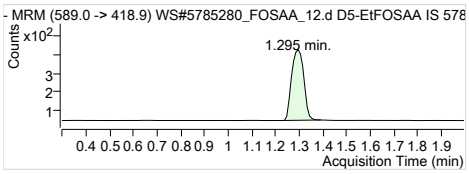
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1517	1.26	1 µg/L		
D5-EtFOSAA IS	1342	1.29	1 µg/L		
13C9-PFDA IS	25333	0.84	1 µg/L		

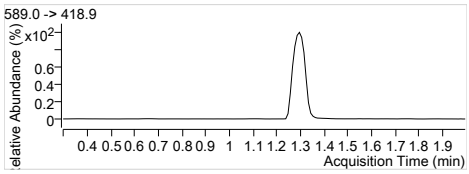
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1	11919	1.26	20.80	0.53 µg/L	106.63
EtFOSAA 1	11674	1.30	20.80	0.51 µg/L	101.53
D3-MeFOSAA	1537	1.26	100.00	77.68 µg/L	77.68
D5-EtFOSAA	1358	1.29	100.00	75.36 µg/L	75.36
13C9-PFDA	25100	0.84	100.00	2.41 µg/L	100.46



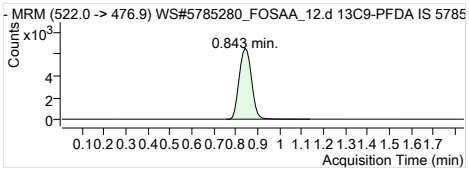


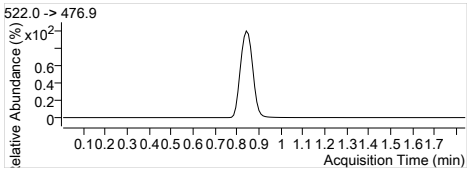
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.260 (1.260)
Concentration: 1 µg/L
Sample type: QC



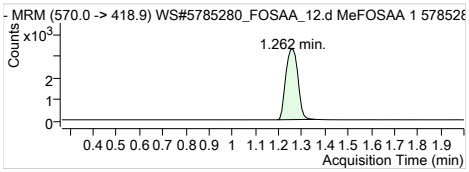


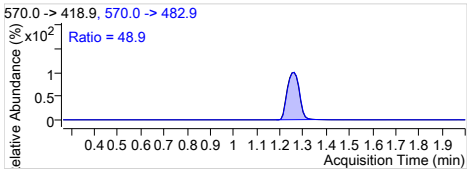
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.295 (1.295)
Concentration: 1 µg/L
Sample type: QC



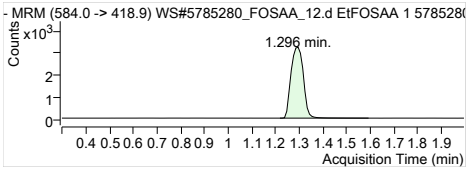


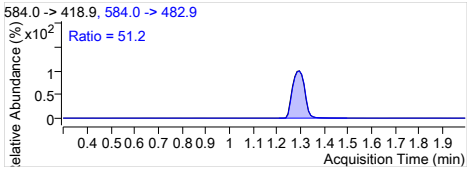
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.843 (0.843)
Concentration: 1 µg/L
Sample type: QC



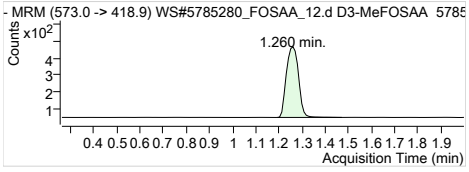


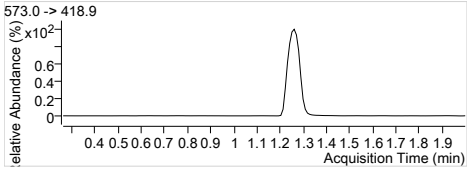
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 1.262 (1.262)
Calc. conc. 0.53 µg/L
Area ratio: 7.85695
Sample type: QC





EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 1.296 (1.296)
Calc. conc. 0.51 µg/L
Area ratio: 8.69896
Sample type: QC





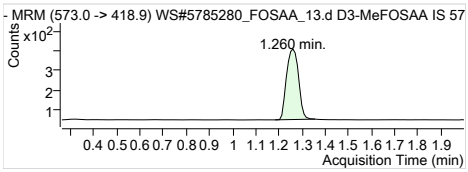
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.260 (1.260)
Calc. conc. 77.68 µg/L
Area ratio: 0.06067
Sample type: QC

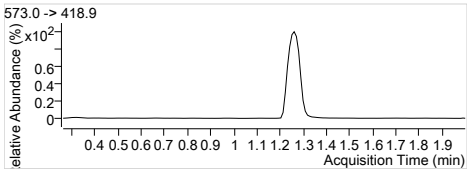
Batch Path	T:\LCMS04\PFC\20181017\WS#5785280_FOSAA\QuantResults\PFC_Water_Low_20181017_WS#5785280_FOSAA_EToxics

Sample Name	**5785280:MTRX SPK**	**Instrument**	LCMS04
Data File	WS#5785280_FOSAA_13.d	**Operator**	
Sample Type	QC	**Dilution**	0.024
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P4-B3
Acq. Date	2018/10/17 7:18:51 PM	**Injection Volume**	Per Method
Sample Annotation	HYO198		

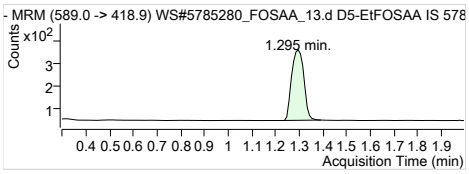
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1297	1.26	1 µg/L		
D5-EtFOSAA IS	1119	1.29	1 µg/L		
13C9-PFDA IS	23664	0.84	1 µg/L		

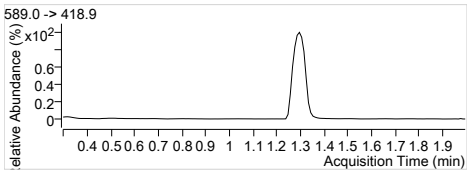
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1	10191	1.26	20.80	0.53 µg/L	106.64
EtFOSAA 1	10132	1.30	20.80	0.53 µg/L	105.66
D3-MeFOSAA	1314	1.26	100.00	71.10 µg/L	71.10
D5-EtFOSAA	1128	1.29	100.00	67.01 µg/L	67.01
13C9-PFDA	23432	0.84	100.00	2.25 µg/L	93.78



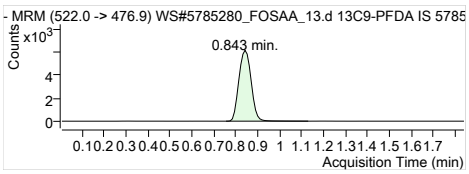


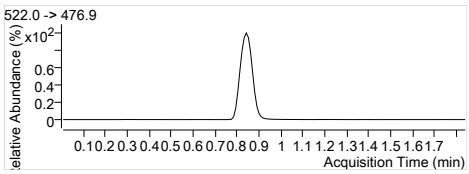
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.260 (1.260)
Concentration: 1 µg/L
Sample type: QC



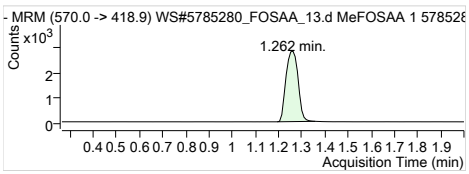


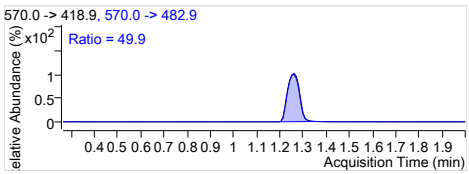
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.295 (1.295)
Concentration: 1 µg/L
Sample type: QC



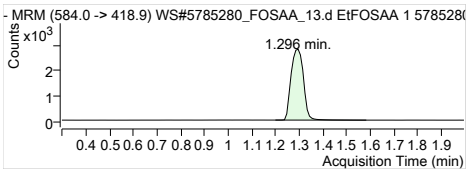


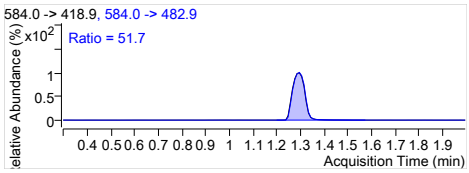
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.843 (0.843)
Concentration: 1 µg/L
Sample type: QC



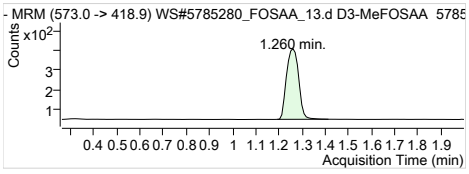


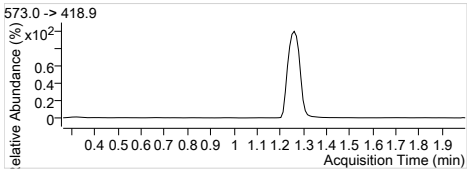
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 1.262 (1.262)
Calc. conc. 0.53 µg/L
Area ratio: 7.85736
Sample type: QC





EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 1.296 (1.296)
Calc. conc. 0.53 µg/L
Area ratio: 9.05451
Sample type: QC





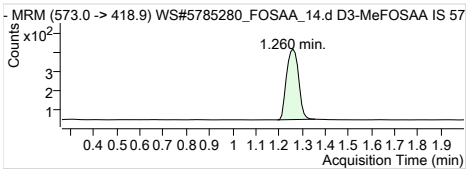
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.260 (1.260)
Calc. conc. 71.10 µg/L
Area ratio: 0.05553
Sample type: QC

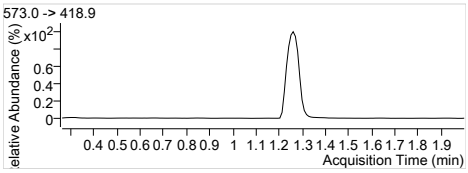
Batch Path	T:\LCMS04\PFC\20181017\WS#5785280_FOSAA\QuantResults\PFC_Water_Low_20181017_WS#5785280_FOSAA_EToxics

Sample Name	**5785280:MTRX SPK:D1**	**Instrument**	LCMS04
Data File	WS#5785280_FOSAA_14.d	**Operator**	
Sample Type	QC	**Dilution**	0.024
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P4-B4
Acq. Date	2018/10/17 7:21:14 PM	**Injection Volume**	Per Method
Sample Annotation	HYO198		

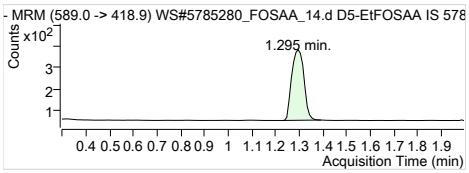
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1335	1.26	1 µg/L		
D5-EtFOSAA IS	1212	1.29	1 µg/L		
13C9-PFDA IS	21063	0.84	1 µg/L		

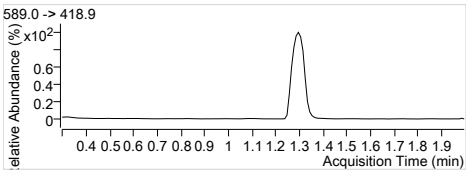
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1	11067	1.26	20.80	0.56 µg/L	112.51
EtFOSAA 1	11235	1.30	20.80	0.54 µg/L	108.16
D3-MeFOSAA	1359	1.26	100.00	82.61 µg/L	82.61
D5-EtFOSAA	1225	1.29	100.00	81.76 µg/L	81.76
13C9-PFDA	20887	0.84	100.00	2.01 µg/L	83.60



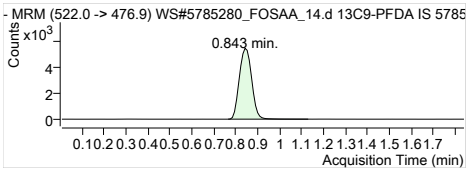


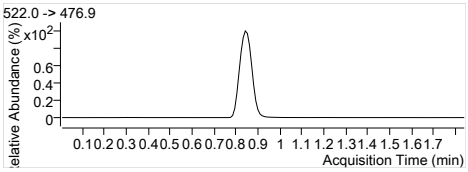
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.260 (1.260)
Concentration: 1 µg/L
Sample type: QC



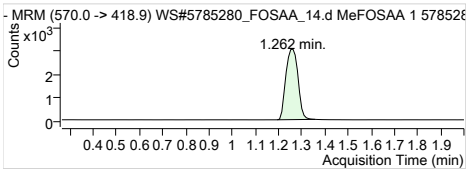


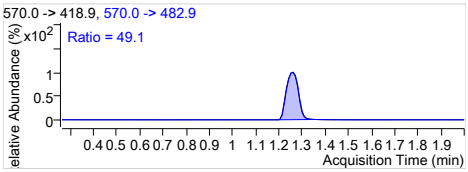
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.295 (1.295)
Concentration: 1 µg/L
Sample type: QC



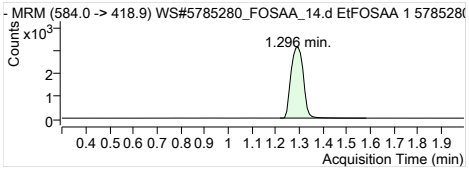


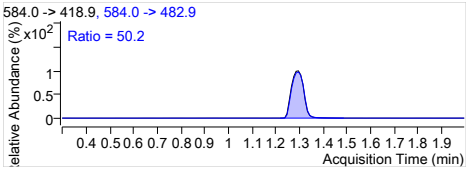
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.843 (0.843)
Concentration: 1 µg/L
Sample type: QC



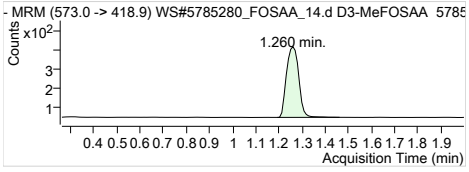


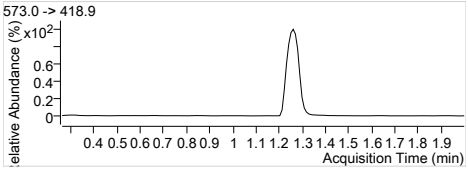
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 1.262 (1.262)
Calc. conc. 0.56 µg/L
Area ratio: 8.28989
Sample type: QC





EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 1.296 (1.296)
Calc. conc. 0.54 µg/L
Area ratio: 9.26980
Sample type: QC





D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.260 (1.260)
Calc. conc. 82.61 µg/L
Area ratio: 0.06452
Sample type: QC

DoD Projects - Internal Data Validation Checklist

Run date: 2018/10/18

Worksheet # (s): 5785280

Analysis: PFOSALCM-W

	Primary review by the analyst - 1st 100 % analysis review	1st 100% review yes	no	n/a	*2nd 100% review
1	Sample analyses meet hold time criteria	✓			✓
2	Analysis set-up meets method criteria	✓			✓
3	Tuning and correct calibration used - criteria meets method criteria	✓			✓
4	SQC/Control Charts updated, analysis in statistical/method control	✓			✓
5	Internal area counts checked (if applicable)	✓			✓
6	LCS, SRM are within acceptance criteria	✓			✓
7	Surrogate Recovery(s) is within acceptance criteria		✓		✓
8	Method Blank meets acceptance criteria	✓			✓
9	Matrix Spike recovery(s) meets acceptance criteria	✓			✓
10	Duplicate precision meets acceptance criteria	✓			✓
11	QC is documented on the run logs	✓			✓
12	Runs checked for carryover	✓			✓
13	Prep log / worksheet(s) are present, signed / dated by a prep / instrument analysts	✓			✓
14	Initial weights, splits, impringer volumes (where applicable) are documented	✓			✓
15	Standards and reagents traceable to Certificates of Analysis	✓			✓
16	Samples above calibration range diluted and reanalyzed	✓			✓
17	Dilution factors (where justified) have been checked for correctness and entered	✓			✓
18	Analytical observations/anomalies documented in LIMS			✓	✓
19	Random calculation checked and in correct units	✓			✓
20	If corrective actions were applied they are documented, initialed & dated			✓	✓
21	Manual integration – before & after data with a reason included, initialed & dated			✓	✓
22	Transferred data is validated in LIMS for correctness	✓			✓
23	Data package assembled (where required)	✓			✓

Reviewed by: AD Date: 2018/10/18

Comments:

	Secondary Supervisor/Qualified Data Review Staff - 2nd 100% verification review	yes	no	n/a
1	Repeats documented and referenced			✓
2	Method and sample deviations noted, anomalies described (if applicable)			✓
3	Data and QC validated in LIMS	✓		
4	Random calculation checked	✓		
5	Benchsheet (s) signed and dated	✓		
6	Data Package (if required) checked for completeness	✓		

Reviewed by: CM Date: 20181018.

Comments:

Note: 2nd 100% verification review documented by secondary qualified data review
Primary and Secondary Internal Data Review Check must be performed by a different person

WS# : 5785280

Page #: 1/2

RUSH

Report Name : Worksheet - (Liquids and Solids)

Assignment Date : Tuesday, October 16, 2018

Assigned to : Shahbaz Ahmad

Test Code : PFOSALCM-W

Instrument Id:

Test Description : PFOS and PFOA in water by LC-MS/MS

sediment dry ml ml SA 2018/10/16

	Job Number	Sample Number	D	Sample ID	F	% Moisture	Wt or Vol	Final Vol	DF or AF	# Cont	Expiry Date	Test DeadLine	Criteria	Extract Date
7,5		MTRX SPK	0	PFOS HYO198-01		0.1	125	3	1X					2018/10/16
7,7		MTRX SPK	1	PFOS HYO198-01		0.1	125	3	1X					2018/10/16
7,3		SPIKE		PFOS		0	125	3	1X					2018/10/16
7,1		BLANK				0	125	3	1X					2018/10/16
7,9	B8Q4471*	*HYO195-01R		CEF-081-25I-20181*		0.1	125	3	1X	2	2018/10/19	2018/10/18 17:00	DOD	2018/10/16
7,11	B8Q4471*	*HYO196-01R		CEF-081-DUP01-20*		0.1	125	3	1X	2	2018/10/19	2018/10/18 17:00	DOD	2018/10/16
7,14	B8Q4471*	*HYO197-01R		CEF-081-FB-20181*		0.1	125	3	1X	2	2018/10/19	2018/10/18 17:00	DOD	2018/10/16
7,16	B8Q4471*	*HYO198-01R		CEF-081-12S-2018*		0.1	125	3	1X	5	2018/10/19	2018/10/18 17:00	DOD	2018/10/16
7,18	B8Q8307*	*HZL772-01R		[redacted]		0.1	125	3	1X	2	2018/10/24	2018/10/18 17:00	DOD	2018/10/16
7,20	B8Q8307*	*HZL773-01R		[redacted]		0.1	125	3	1X	2	2018/10/24	2018/10/18 17:00	DOD	2018/10/16
7,22	B8Q8307*	*HZL774-01R		[redacted]		0.1	125	3	1X	2	2018/10/24	2018/10/18 17:00	DOD	2018/10/16
7,24	B8Q8307*	*HZL775-01R		[redacted]		0.1	125/12.5	3	1X/10X	2	2018/10/24	2018/10/18 17:00	DOD	2018/10/16
7,19	B8Q9850*	*HZT949-01R		[redacted]		0.1	25/2.5	3	5X/50X	2	2018/10/25	2018/10/18 23:00	DOD	2018/10/16
7,21	B8Q9850*	*HZT950-01R		[redacted]		0.1	125/12.5	3	1X/10X	2	2018/10/25	2018/10/18 23:00	DOD	2018/10/16
7,23	B8Q9850*	*HZT951-01R		[redacted]		0.1	125	3	1X	2	2018/10/25	2018/10/18 23:00	DOD	2018/10/16
7,17	B8Q9850*	*HZT954-01R		[redacted]		0.1	125/12.5	3	1X/10X	2	2018/10/25	2018/10/18 23:00	DOD	2018/10/16

SA 2018/10/16

Remarks:

Samples extracted by: Shahbaz Ahmad SA 2018/10/16

Instrumentation performed by: AD Date: 2018/10/17

Calculations performed by: AD Date: 2018/10/18

Validated by: CM Date: 2018/10/18

Job No.	Rep / Remarks	Client Name / Contact	Client Tier	National
GB8Q4471	SP8	Earth Toxics Inc / Rick Carr	Tier 5 (Enviro.)	AECOM

NREG. PFOSALCM-W (14 list) *IN HOUSE QC LIMITS REQUIRED MS/MSD required HYO198 Level IV Package and Tetratech EDD required, report in ng/L, PM review prior to reporting BLANK Project #: JM10 CECIL

SAS 2018/10/26

GB8Q8307

GB8Q9850

[redacted]

Job	Sample	Lab Comments
	MTRX SPK	
	MTRX SPK	
	SPIKE	
	BLANK	
B8Q4471	HYO195-01R	
B8Q4471	HYO196-01R	
B8Q4471	HYO197-01R	
B8Q4471	HYO198-01R	
B8Q8307	HZL772-01R	
B8Q8307	HZL773-01R	
B8Q8307	HZL774-01R	
B8Q8307	HZL775-01R	
B8Q9850	HZT949-01R	
B8Q9850	HZT950-01R	
B8Q9850	HZT951-01R	
B8Q9850	HZT954-01R	

Standards

S1	2825	25	SK 8015 3/3
S2	2800	50	
S3	2700	150	
S4	2813	37.5	I-5482 3/3
S5	2775	75	
S6	2725	125	
ICV	2788	62.5	I-5483 3/3
ICB	2850	—	

original Standard
S5 7184 1/4

Folder 2018 Com. Sig to 18

Witnessed By LKP6

Worksheet Reagent Tracking Record Worksheet # 5785280

Surrogate/Spike solutions	√	Solution ID #	Conc.	Volume (µL) Blk-Spk Solid	Blk-Spk Liquid	MS Solid	MS Liquid	Samples Solid	Samples Liquid
DGT Spike			100 ug/mL	60	30	60	30	NA	NA
Diquat Dibromide			50 ug/mL	NA	350	NA	350	NA	NA
Explosives Spiking solution A			20 ug/mL	250	100	250	100	NA	NA
Explosives Spiking solution B			20/80 ug/mL	250	100	250	100	NA	NA
Formaldehyde Spike			100 ug/mL	25	25	25	25	NA	NA
Glyphosate Spike			25 ug/mL	500	20	500	20	NA	NA
Nonylphenol Ethoxylate Spike			100 ug/mL	100	100	100	100	NA	NA
Nonylphenol Spike			10 ug/mL	100	100	100	100	NA	NA
Paraquat Cl Tetrahydrate			20 ug/mL	NA	125	NA	125	NA	NA
Perchlorate Standard Spike			10 ng/mL	NA	100	NA	100	NA	NA
Perchlorate Standard Spike			500 ng/mL	40	NA	40	NA	NA	NA
Perchlorate O-18 Internal Standard			0.10 ng/uL	20	20	20	20	20	20
Morpholine Second Source Working Std			2500 ug/L	NA	80	NA	80	NA	NA
Morpholine-D8 Internal Standard			10 ug/mL	NA	50	NA	50	NA	50
Steril Second Source Spiking Solution			NA	20	NA	20	NA	NA	NA
Sterilants Comp. IS Working Solution			3 ug/mL	50	NA	50	NA	50	NA
Comp. PFC Working Solution A	✓	I-5483 3/3	1ug/mL	75	21 62.5	75	21 62.5	NA	NA
PFC Internal Standard Solution	✓	SS 7184 1/4 EG1	50/125 ng/mL	200	100 150	200	100 150	200	100/150
PFC Injection IS	✓	SS 7087 1/4 EG1	400 ng/mL	20	20	20	20	20	20
ICV	✓	I-5483 3/3							

Solvent/Reagent	√	Lot No.	Date Opened	Solvent/Reagent	√	Lot No.	Date Opened/ Prepared
DCM				50% NaOH			
Ottawa Sand				o-Phosphoric Acid			
Methanol	✓	SHBK 1913	2018/10/16	Borax			
2-Propanol (IPA)				Calcium Chloride			
Acetonitrile				EDTA			
Sodium Sulfate				Phosphate Buffer			
70:30 Methanol: Water				Sodium Thiosulphate			
60:40 Water: Methanol	✓	PRURE16-505		DNPH			
DCM:Ethyl Ether (75:25)				FMOC			
Hexane:IPA (98:2)				5M Acetate Buffer			
2% Formic Acid	✓	PRURE16-503		0.2% NH_4OH	✓	PRURE16-502	
0.2% Formic Acid				Leachate Fluid			
0.05M KOH				Reagent Water	✓	58201	2018/10/16
0.05M HCl							

*Spiked by: SM

Spike Date 2018-10-16

Spike Syringe/Pipette ID# M23487B

Int. Std Syringe/Pipette ID# J3655/M

*Spiking Witnessed by: EG1

Final pH

Equipment & ID	√	Equipment	ID#	√	Equipment	Lot #
Pipettor M25679G	✓	SPE Cartridge	0039380724		QC Balance ID	
E54280G		Filter			Thermometer ID &Temp	
Dispenser	✓	Centrifuge	42148683			
		Sonicator				

Bottle Tracking ✓

Bottle# 19973

Cap# 19835

Systems plus Lot# 18-10-05

Comments: ENV CAM 97224

* - SPIKING OF QC's & SAMPLES MUST BE WITNESSED AT ALL TIMES.

Worksheet Number: **5785280**

PFOS and PFOA in water by SPE/LCMS - Water

ug/L

Parameter Name	Units	MTRX SPK	MTRX SPK Dup1	SPIKE	BLANK	B8Q4471 HYO195	B8Q4471 HYO196
6:2 Fluorotelomer sulfonate	ug/L	112.04176	113.54884	107.93433	0	N/A*******	N/A*******
8:2 Fluorotelomer sulfonate	ug/L	110.35033	106.62136	115.08201	0	N/A*******	N/A*******
EtFOSA	ug/L	99.26836	100.14858	96.37259	0	N/A*******	N/A*******
EtFOSAA	ug/L	105.49514	107.99143	101.37244	0	0	0
EtFOSE	ug/L	100.91065	106.27847	100.48931	0	N/A*******	N/A*******
MeFOSA	ug/L	99.32838	99.40022	94.18751	0	N/A*******	N/A*******
MeFOSAA	ug/L	106.46558	112.32622	106.46005	0	0	0
MeFOSE	ug/L	102.29538	104.74707	103.71773	0	N/A*******	N/A*******
Perfluorobutanoic acid	ug/L	108.85775	112.51584	111.60621	0	N/A*******	N/A*******
Perfluorobutane Sulfonate (PFBS)	ug/L	105.79238	115.65657	102.17290	0	0	0
Perfluorodecane Sulfonate	ug/L	103.06782	101.11061	95.53135	0	N/A*******	N/A*******
Perfluoroheptanoic Acid (PFHpA)	ug/L	107.77569	112.49151	110.92001	0	0.00878708	0.00895915
Perfluoroheptane sulfonate	ug/L	106.75179	110.75963	112.18961	0	N/A*******	N/A*******
Perfluorohexanoic Acid (PFHxA)	ug/L	110.55608	119.44335	112.29342	0	0.01128304	0.01141165
Perfluorohexane Sulfonate (PFHxS)	ug/L	103.15489	113.68168	103.21471	0	0.02420745	0.02579076
Perfluorononanoic Acid (PFNA)	ug/L	101.40657	105.93822	101.09136	0	0.00568841	0
Perfluorooctane Sulfonamide (PFOSA)	ug/L	100.06477	112.88571	103.99093	0	N/A*******	N/A*******
Perfluoropentanoic Acid (PFPeA)	ug/L	112.72926	112.20036	109.90027	0	N/A*******	N/A*******
Perfluorotetradecanoic Acid	ug/L	103.30235	113.07939	106.68499	0	0	0
Perfluorotridecanoic Acid	ug/L	129.49775	131.218	109.92030	0	0	0
Perfluoroundecanoic Acid (PFUnA)	ug/L	104.81135	106.59552	107.03721	0	0	0
Perfluorodecanoic Acid (PFDA)	ug/L	108.98008	108.10296	102.83589	0	0	0
Perfluorododecanoic Acid (PFDoA)	ug/L	102.79759	113.39902	113.16977	0	0	0
Perfluoro-n-Octanoic Acid (PFOA)	ug/L	105.10581	108.13908	110.40420	0	0.00778701	0.00885735
Perfluorooctane Sulfonate (PFOS)	ug/L	106.96403	116.69282	108.40945	0	0.13878832	0.13917252
13C2-6:2 Fluorotelomer sulfonate	ug/L	78.4994466	82.5565815	88.3722693	98.9832303	N/A*******	N/A*******
13C2-8:2 Fluorotelomer sulfonate	ug/L	82.7711493	90.2685886	82.3222823	89.1213419	N/A*******	N/A*******
13C2-perfluorotetradecanoic acid	ug/L	!! 47.9008	63.3232900	78.7093823	80.6962870	61.3595324	63.0883079
13C4-Perfluorobutanoic acid	ug/L	80.0370827	79.9953546	87.5823642	90.7605808	N/A*******	N/A*******
D3-MeFOSAA	ug/L	71.0958803	82.6107293	77.6827286	77.5683569	74.2821461	73.4490363
D5-EtFOSAA	ug/L	67.0117137	81.7608961	75.3603538	78.9443115	75.2674990	72.3593232
D7-MeFOSE	ug/L	70.6371610	81.6912284	74.9608153	78.4413391	N/A*******	N/A*******
D9-EtFOSE	ug/L	72.5589327	78.6843885	76.3761434	75.9536340	N/A*******	N/A*******
13C2-Perfluorodecanoic acid	ug/L	75.8722079	89.3181133	91.6198924	78.9532025	87.0343119	80.3199748
13C2-Perfluorododecanoic acid	ug/L	70.8077983	80.8536625	81.7278569	81.8761399	72.7162256	72.3523599
13C2-Perfluorohexanoic acid	ug/L	86.3041877	84.4575346	88.1078430	89.2846531	89.4575387	84.0037892
13C2-Perfluoroundecanoic acid	ug/L	74.4322655	90.2516945	88.7676344	84.8787253	79.4822828	74.9690746
13C4-Perfluoroheptanoic acid	ug/L	87.6560767	90.5184161	88.0583864	93.1072232	90.3931546	85.7207862
13C5-Perfluorononanoic acid	ug/L	88.7776919	91.4793515	91.4335926	89.1088946	93.0219228	89.2617869
13C4-Perfluorooctanoic acid	ug/L	88.3104265	91.4926044	86.6363076	90.0389619	91.1292376	85.6473566
13C4-Perfluorooctanesulfonate	ug/L	88.2778248	88.1373599	88.7874658	90.0800579	91.6955921	85.8288548
13C5-Perfluoropentanoic acid	ug/L	82.1483086	86.4071077	90.1960466	92.0234078	N/A*******	N/A*******
13C8-Perfluorooctane Sulfonamide	ug/L	77.5171709	86.3283923	79.5824443	80.8143914	N/A*******	N/A*******
18O2-Perfluorohexanesulfonate	ug/L	90.9976905	88.3425097	96.2112535	92.9179076	94.6394591	89.1594463

Worksheet Number: **5785280**

PFOS and PFOA in water by SPE/LCMS - Water

ug/L

Parameter Name	B8Q4471 HYO197	B8Q4471 HYO198	B8Q8307 HZL772	B8Q8307 HZL773	B8Q8307 HZL774	B8Q8307 HZL775	DL
6:2 Fluorotelomer sulfonate	N/A*******	N/A*******	0	0	0	0.00601112	0.02
8:2 Fluorotelomer sulfonate	N/A*******	N/A*******	0	0	0	0	0.02
EtFOSA	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	0.02
EtFOSAA	0	0	0	0	0	0	0.02
EtFOSE	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	0.02
MeFOSA	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	0.02
MeFOSAA	0	0	0	0	0	0	0.02
MeFOSE	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	0.02
Perfluorobutanoic acid	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	0.02
Perfluorobutane Sulfonate (PFBS)	0	0	0	0	0	0.02211332	0.02
Perfluorodecane Sulfonate	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	0.02
Perfluoroheptanoic Acid (PFHpA)	0	0.00620126	0	0	0	0.03621902	0.02
Perfluoroheptane sulfonate	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	0.02
Perfluorohexanoic Acid (PFHxA)	0	0.00763154	0	0	0	0.12149309	0.02
Perfluorohexane Sulfonate (PFHxS)	0	0.01505174	0	0	0	0.21999443	0.02
Perfluorononanoic Acid (PFNA)	0	0	0	0	0	0	0.02
Perfluorooctane Sulfonamide (PFOSA)	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	0.02
Perfluoropentanoic Acid (PFPeA)	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	0.02
Perfluorotetradecanoic Acid	0	0	0	0	0	0	0.02
Perfluorotridecanoic Acid	0	0	0	0	0	0	0.02
Perfluoroundecanoic Acid (PFUnA)	0	0	0	0	0	0	0.02
Perfluorodecanoic Acid (PFDA)	0	0	0	0	0	0	0.02
Perfluorododecanoic Acid (PFDoA)	0	0	0	0	0	0	0.02
Perfluoro-n-Octanoic Acid (PFOA)	0	0.00546164	0	0	0	0.06108431	0.02
Perfluorooctane Sulfonate (PFOS)	0	0.00817409	0	0	0	0.12101538	0.02
13C2-6:2 Fluorotelomer sulfonate	N/A*******	N/A*******	92.0682837	94.5763413	78.2317989	91.0060392	
13C2-8:2 Fluorotelomer sulfonate	N/A*******	N/A*******	83.2083924	86.1703944	77.6282800	82.2110308	
13C2-perfluorotetradecanoic acid	72.7077282	71.1566310	77.0666222	75.4081710	70.1293755	75.3180116	
13C4-Perfluorobutanoic acid	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	
D3-MeFOSAA	79.3037025	90.2443461	74.8038714	72.6050467	67.4779876	71.1034300	
D5-EtFOSAA	79.0121644	89.1578583	72.0421990	76.7384125	66.4976646	70.7419551	
D7-MeFOSE	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	
D9-EtFOSE	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	
13C2-Perfluorodecanoic acid	87.8955258	95.7328644	87.3190601	84.5432371	75.5036637	82.1042386	
13C2-Perfluorododecanoic acid	80.2887288	91.7293440	79.9455733	75.9372290	72.8521625	75.1523455	
13C2-Perfluorohexanoic acid	91.2576894	92.6012521	92.5109296	91.6510750	77.8867334	87.1908531	
13C2-Perfluoroundecanoic acid	83.7227648	95.4708157	83.9483422	80.5651737	70.4131360	79.6501583	
13C4-Perfluoroheptanoic acid	93.4055846	96.1788559	94.9481049	94.9637766	80.8192068	90.6757918	
13C5-Perfluorononanoic acid	89.7085003	96.1318048	92.3664397	90.4753083	80.8918270	86.2348759	
13C4-Perfluorooctanoic acid	88.0556548	95.4403350	87.1527218	90.4773485	80.4285071	89.5974197	
13C4-Perfluorooctanesulfonate	85.1334833	97.3780710	91.2146905	84.9222591	73.7611500	84.6331306	
13C5-Perfluoropentanoic acid	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	
13C8-Perfluorooctane Sulfonamide	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	
18O2-Perfluorohexanesulfonate	89.0567920	100.647318	87.8410638	94.8432309	77.7571190	89.6864403	

Worksheet Number: **5785280**

PFOS and PFOA in water by SPE/LCMS - Water

ug/L

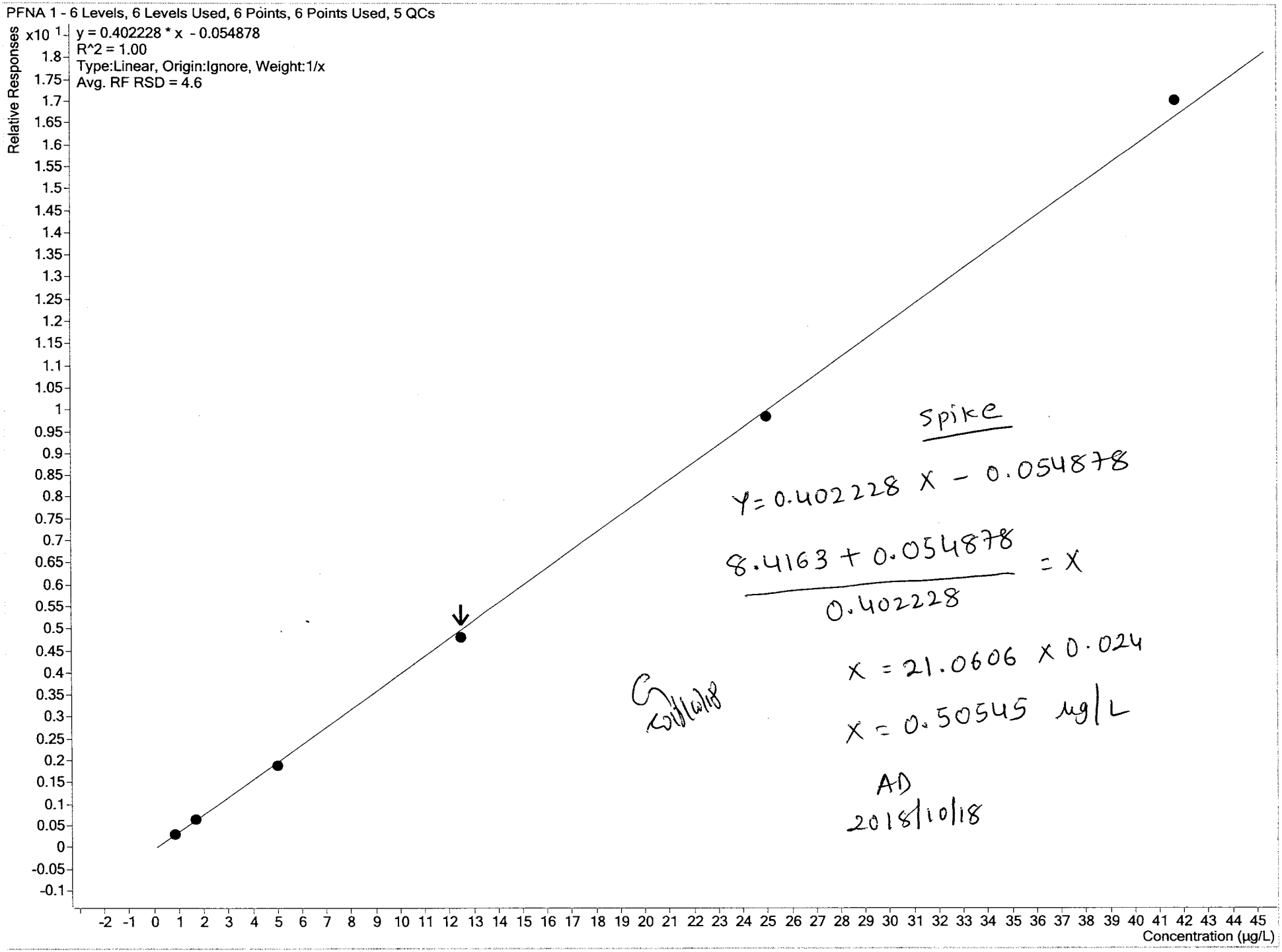
Parameter Name	B8Q9850 HZT949	DL	B8Q9850 HZT950	DL	B8Q9850 HZT951	B8Q9850 HZT954	DL
6:2 Fluorotelomer sulfonate	7.18251541	1	1.94721449	0.2	0.00267625	0.03889313	0.02
8:2 Fluorotelomer sulfonate	0.55297497	0.1	0.17727196	0.02	0	0	0.02
EtFOSA	N/A*******	0.1	N/A*******	0.02	N/A*******	N/A*******	0.02
EtFOSAA	N/A*******	0.1	N/A*******	0.02	N/A*******	N/A*******	0.02
EtFOSE	N/A*******	0.1	N/A*******	0.02	N/A*******	N/A*******	0.02
MeFOSA	N/A*******	0.1	N/A*******	0.02	N/A*******	N/A*******	0.02
MeFOSAA	N/A*******	0.1	N/A*******	0.02	N/A*******	N/A*******	0.02
MeFOSE	N/A*******	0.1	N/A*******	0.02	N/A*******	N/A*******	0.02
Perfluorobutanoic acid	0.44634988	0.1	0.34861629	0.02	0.14618112	0	0.02
Perfluorobutane Sulfonate (PFBS)	0.27074070	0.1	0.09748641	0.02	0	0	0.02
Perfluorodecane Sulfonate	N/A*******	0.1	N/A*******	0.02	N/A*******	N/A*******	0.02
Perfluoroheptanoic Acid (PFHpA)	0.76301909	0.1	0.32789046	0.02	0	0	0.02
Perfluoroheptane sulfonate	0.51312854	0.1	0.17023717	0.02	0	0	0.02
Perfluorohexanoic Acid (PFHxA)	2.52860799	0.1	0.93831996	0.2	0	0	0.02
Perfluorohexane Sulfonate (PFHxS)	7.80068992	1	2.00612709	0.2	0	0	0.02
Perfluorononanoic Acid (PFNA)	0.05411138	0.1	0.01837561	0.02	0	0	0.02
Perfluorooctane Sulfonamide (PFOSA)	0.06945792	0.1	0.01896793	0.02	0	0	0.02
Perfluoropentanoic Acid (PFPeA)	1.46498727	0.1	0.82630218	0.02	0.07583899	0	0.02
Perfluorotetradecanoic Acid	N/A*******	0.1	N/A*******	0.02	N/A*******	N/A*******	0.02
Perfluorotridecanoic Acid	N/A*******	0.1	N/A*******	0.02	N/A*******	N/A*******	0.02
Perfluoroundecanoic Acid (PFUnA)	N/A*******	0.1	N/A*******	0.02	N/A*******	N/A*******	0.02
Perfluorodecanoic Acid (PFDA)	N/A*******	0.1	N/A*******	0.02	N/A*******	N/A*******	0.02
Perfluorododecanoic Acid (PFDoA)	N/A*******	0.1	N/A*******	0.02	N/A*******	N/A*******	0.02
Perfluoro-n-Octanoic Acid (PFOA)	4.48099710	0.1	1.39299974	0.2	0	0	0.02
Perfluorooctane Sulfonate (PFOS)	22.8719013	1	6.25352213	0.2	0	0	0.02
13C2-6:2 Fluorotelomer sulfonate	91.4449636		91.0546646		109.146393	92.2668449	
13C2-8:2 Fluorotelomer sulfonate	88.9920149		57.4298558		99.3947212	87.6592375	
13C2-perfluorotetradecanoic acid	N/A*******		N/A*******		N/A*******	N/A*******	
13C4-Perfluorobutanoic acid	87.7204076		61.1151501		110.590808	91.0743277	
D3-MeFOSAA	N/A*******		N/A*******		N/A*******	N/A*******	
D5-EtFOSAA	N/A*******		N/A*******		N/A*******	N/A*******	
D7-MeFOSE	N/A*******		N/A*******		N/A*******	N/A*******	
D9-EtFOSE	N/A*******		N/A*******		N/A*******	N/A*******	
13C2-Perfluorodecanoic acid	N/A*******		N/A*******		N/A*******	N/A*******	
13C2-Perfluorododecanoic acid	N/A*******		N/A*******		N/A*******	N/A*******	
13C2-Perfluorohexanoic acid	88.7305095		90.8760678		112.085988	93.7244085	
13C2-Perfluoroundecanoic acid	N/A*******		N/A*******		N/A*******	N/A*******	
13C4-Perfluoroheptanoic acid	90.3422480		61.4489454		117.757730	97.1193469	
13C5-Perfluorononanoic acid	87.4535056		59.6578697		112.765845	86.7301125	
13C4-Perfluorooctanoic acid	86.0257008		86.3898264		110.026818	90.4080475	
13C4-Perfluorooctanesulfonate	91.1481137		83.2796102		104.635856	84.6165124	
13C5-Perfluoropentanoic acid	89.1779590		61.6486432		113.422692	92.7234637	
13C8-Perfluorooctane Sulfonamide	79.7935732		54.9733886		105.288535	86.1049557	
18O2-Perfluorohexanesulfonate	93.4436757		88.3630119		113.626789	97.6216856	

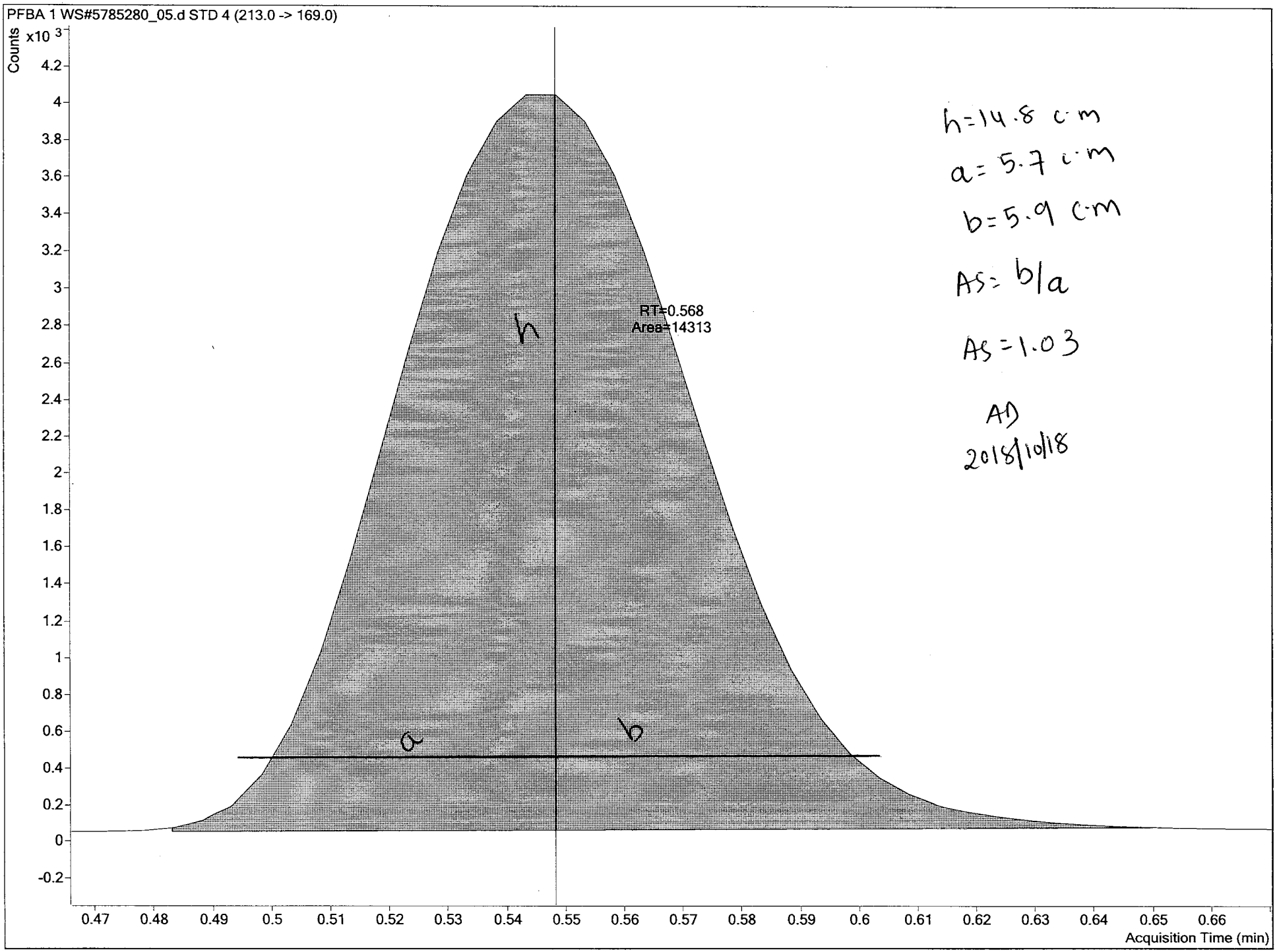
Worksheet Number: **5785280**

PFOS and PFOA in water by SPE/LCMS - Water

ug/L

Parameter Name	RDL	MDL	IDL				
6:2 Fluorotelomer sulfonate	0.02	0.0066	0				
8:2 Fluorotelomer sulfonate	0.02	0.0066	0				
EtFOSA	0.02	0.01	0				
EtFOSAA	0.02	0.0033	0				
EtFOSE	0.02	0.0079	0				
MeFOSA	0.02	0.013	0				
MeFOSAA	0.02	0.0029	0				
MeFOSE	0.02	0.012	0				
Perfluorobutanoic acid	0.02	0.0055	0				
Perfluorobutane Sulfonate (PFBS)	0.02	0.0054	0				
Perfluorodecane Sulfonate	0.02	0.006	0				
Perfluoroheptanoic Acid (PFHpA)	0.02	0.0074	0				
Perfluoroheptane sulfonate	0.02	0.008	0				
Perfluorohexanoic Acid (PFHxA)	0.02	0.0035	0				
Perfluorohexane Sulfonate (PFHxS)	0.02	0.0056	0				
Perfluorononanoic Acid (PFNA)	0.02	0.0087	0				
Perfluorooctane Sulfonamide (PFOSA)	0.02	0.0034	0				
Perfluoropentanoic Acid (PFPeA)	0.02	0.0075	0				
Perfluorotetradecanoic Acid	0.02	0.0027	0				
Perfluorotridecanoic Acid	0.02	0.0038	0				
Perfluoroundecanoic Acid (PFUnA)	0.02	0.0025	0				
Perfluorodecanoic Acid (PFDA)	0.02	0.0061	0				
Perfluorododecanoic Acid (PFDoA)	0.02	0.005	0				
Perfluoro-n-Octanoic Acid (PFOA)	0.02	0.0033	0				
Perfluorooctane Sulfonate (PFOS)	0.02	0.006	0				
13C2-6:2 Fluorotelomer sulfonate							
13C2-8:2 Fluorotelomer sulfonate							
13C2-perfluorotetradecanoic acid							
13C4-Perfluorobutanoic acid							
D3-MeFOSAA							
D5-EtFOSAA							
D7-MeFOSE							
D9-EtFOSE							
13C2-Perfluorodecanoic acid							
13C2-Perfluorododecanoic acid							
13C2-Perfluorohexanoic acid							
13C2-Perfluoroundecanoic acid							
13C4-Perfluoroheptanoic acid							
13C5-Perfluorononanoic acid							
13C4-Perfluorooctanoic acid							
13C4-Perfluorooctanesulfonate							
13C5-Perfluoropentanoic acid							
13C8-Perfluorooctane Sulfonamide							
18O2-Perfluorohexanesulfonate							


PFNA 1 - 6 Levels, 6 Levels Used, 6 Points, 6 Points Used, 5 QCs
y = 0.402228 * x - 0.054878
R^2 = 1.00
Type:Linear, Origin:Ignore, Weight:1/x
Avg. RF RSD = 4.6
Relative Responses
x10 1
Concentration (µg/L)
spike
Y = 0.402228 X - 0.054878
8.4163 + 0.054878 / 0.402228 = X
X = 21.0606 X 0.024
X = 0.50545 µg/L
AD
2018/10/18



h=14.8 cm

a=5.7 cm

b=5.9 cm

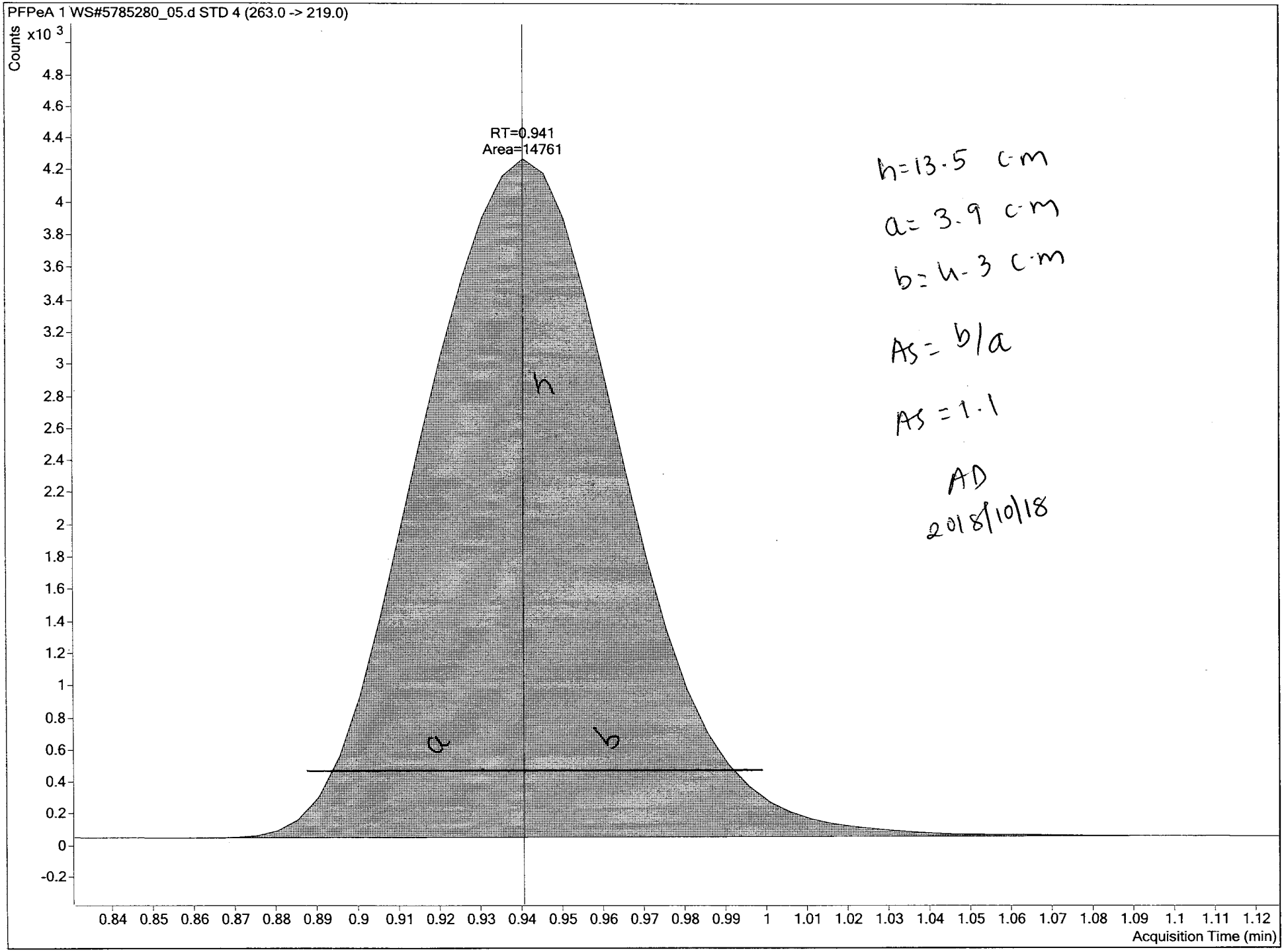
AS= b/a

AS=1.03

AD

2018/10/18

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h=13.5 cm

a=3.9 cm

b=4.3 cm

As=b/a

As=1.1

AD

2018/10/18

Maxxam Analytics

Report Name: Worksheet - Parameter Lists

Report Date: 2018/10/16

Test Code: **PFOSALCM-W**

Worksheet Number: **5785280**

Sample Number	Parameter Code	Parameter	
HYO195-01	ETFOSAA	EtFOSAA	*
HYO196-01	MEFOSAA	MeFOSAA	*
HYO197-01	PFBS	Perfluorobutane Sulfonate (PFBS)	
HYO198-01	PFHPA	Perfluoroheptanoic Acid (PFHpA)	
	PFHXA	Perfluorohexanoic Acid (PFHxA)	
	PFHXS	Perfluorohexane Sulfonate (PFHxS)	
	PFNA	Perfluorononanoic Acid (PFNA)	
	PFTEDA	Perfluorotetradecanoic Acid	
	PFTRDA	Perfluorotridecanoic Acid	
	PFUNA	Perfluoroundecanoic Acid (PFUnA)	
	PFDA	Perfluorodecanoic Acid (PFDA)	
	PFDOA	Perfluorododecanoic Acid (PFDoA)	
	PFOA	Perfluoro-n-Octanoic Acid (PFOA)	
	PFOS	Perfluorooctane Sulfonate (PFOS)	
HZL772-01	6:2FTS	6:2 Fluorotelomer sulfonate	*
HZL773-01	8:2FTS	8:2 Fluorotelomer sulfonate	*
HZL774-01	ETFOSAA	EtFOSAA	*
HZL775-01	MEFOSAA	MeFOSAA	*
	PFBS	Perfluorobutane Sulfonate (PFBS)	
	PFHPA	Perfluoroheptanoic Acid (PFHpA)	
	PFHXA	Perfluorohexanoic Acid (PFHxA)	
	PFHXS	Perfluorohexane Sulfonate (PFHxS)	
	PFNA	Perfluorononanoic Acid (PFNA)	
	PFTEDA	Perfluorotetradecanoic Acid	
	PFTRDA	Perfluorotridecanoic Acid	
	PFUNA	Perfluoroundecanoic Acid	

* - This parameter is usually off, but will be reported for this group of samples!

Report Name: Worksheet - Parameter Lists

Report Date: 2018/10/16

Test Code: **PFOSALCM-W**

Worksheet Number: **5785280**

Sample Number	Parameter Code	Parameter	
		(PFUnA)	
	PFDA	Perfluorodecanoic Acid (PFDA)	
	PFDOA	Perfluorododecanoic Acid (PFDoA)	
	PFOA	Perfluoro-n-Octanoic Acid (PFOA)	
	PFOS	Perfluorooctane Sulfonate (PFOS)	
HZT949-01	6:2FTS	6:2 Fluorotelomer sulfonate	*
HZT950-01	8:2FTS	8:2 Fluorotelomer sulfonate	*
HZT951-01	PFBA	Perfluorobutanoic acid	
HZT954-01	PFBS	Perfluorobutane Sulfonate (PFBS)	
	PFHPA	Perfluoroheptanoic Acid (PFHpA)	
	PFHPS	Perfluoroheptane sulfonate	
	PFHXA	Perfluorohexanoic Acid (PFHxA)	
	PFHXS	Perfluorohexane Sulfonate (PFHxS)	
	PFNA	Perfluorononanoic Acid (PFNA)	
	PFOSA	Perfluorooctane Sulfonamide (PFOSA)	
	PFPEA	Perfluoropentanoic Acid (PFPeA)	
	PFOA	Perfluoro-n-Octanoic Acid (PFOA)	
	PFOS	Perfluorooctane Sulfonate (PFOS)	

* - This parameter is usually off, but will be reported for this group of samples!

WorkSheet 5785280 Instrument Sequences

1.	5785280:MTRX SPK	MTRX SPK
2.	5785280:MTRX SPK:D1	MTRX SPK :D1
3.	5785280:SPIKE	SPIKE
4.	5785280:BLANK	BLANK
5.	5785280:HYO195-01	CEF-081-25I-20181005
6.	5785280:HYO196-01	CEF-081-DUP01-20181005
7.	5785280:HYO197-01	CEF-081-FB-20181005
8.	5785280:HYO198-01	CEF-081-12S-20181005
9.	5785280:HZL772-01	[redacted]
10.	5785280:HZL773-01	[redacted]
11.	5785280:HZL774-01	[redacted]
12.	5785280:HZL775-01	[redacted]
13.	5785280:HZT949-01	[redacted]
14.	5785280:HZT950-01	[redacted]
15.	5785280:HZT951-01	[redacted]
16.	5785280:HZT954-01	[redacted]

Worklist Report

Agilent Technologies

Maxxam Analytics

Instrument Name: LCMS04 **Worklist Path:** D:\MassHunter\Worklists\PFCs\PFC_181017_Low_A.wkl

Operator Name: ---
Run Type: Standard Start
Part of Method to Run: Acquisition Only
Execution of Acquisition-DA: Synchronous
Acquisition Method Path: D:\MassHunter\Acquisition Method
DA Method Path: D:\MassHunter\methods
Data File Path: D:\MassHunter\data\PFC\20181017\WS#5785280
Pre-Worklist Script: ---
Post-Worklist Script: SCP_InstrumentStandby(){MH_Acq_Scripts.exe}
Acquisition Clean Up Script: ---
Overlapped Injection: No
Clear Sample Selection After Run: Yes
Wait Time for Ready(Min): 10
Threshold Disk Value(GB): 10
Comment: Column #338
MP A1: Solution #427 [FSRE18]
MP B1: Methanol lot# SHBK1058, Sigma

AD
2018/10/17
verified by AD
2018/10/17

Plate Barcode:

Plate	Barcode
P4	

Worklist Table

	Sample Name	Sample Position	Method	Data File	Sample Type	Level Name	Inj Vol (µl)	Comment
1	RINSE	P4-A1	PFC_Water_Low.m	WS#5785280_01.d	Sample		As Method	-
2	STD 1	P4-A2	PFC_Water_Low.m	WS#5785280_02.d	Calibration	STD 1	As Method	-
3	STD 2	P4-A3	PFC_Water_Low.m	WS#5785280_03.d	Calibration	STD 2	As Method	-
4	STD 3	P4-A4	PFC_Water_Low.m	WS#5785280_04.d	Calibration	STD 3	As Method	-
5	STD 4	P4-A5	PFC_Water_Low.m	WS#5785280_05.d	Calibration	STD 4	As Method	-
6	STD 5	P4-A6	PFC_Water_Low.m	WS#5785280_06.d	Calibration	STD 5	As Method	-
7	STD 6	P4-A7	PFC_Water_Low.m	WS#5785280_07.d	Calibration	STD 6	As Method	-

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Worklist Report

Agilent Technologies

	Sample Name	Sample Position	Method	Data File	Sample Type	Level Name	Inj Vol (µl)	Comment
8	IB	P4-A8	PFC_Water_Low.m	WS#5785280_08.d	Sample		As Method	-
9	ICV	P4-A9	PFC_Water_Low.m	WS#5785280_09.d	QC	ICV	As Method	-
10	ISC	P4-A2	PFC_Water_Low.m	WS#5785280_10.d	QC	STD 1	As Method	-
11	5785280:BLANK	P4-B1	PFC_Water_Low.m	WS#5785280_11.d	Sample		As Method	-
12	5785280:SPIKE	P4-B2	PFC_Water_Low.m	WS#5785280_12.d	QC	ICV	As Method	-
13	5785280:MTRX SPK	P4-B3	PFC_Water_Low.m	WS#5785280_13.d	QC	ICV	As Method	-
14	5785280:MTRX SPK:D1	P4-B4	PFC_Water_Low.m	WS#5785280_14.d	QC	ICV	As Method	-
15	IB	P4-A8	PFC_Water_Low.m	WS#5785280_15.d	Sample		As Method	-
16	5785280:HYO195-01	P4-B5	PFC_Water_Low.m	WS#5785280_16.d	Sample		As Method	-
17	5785280:HYO196-01	P4-B6	PFC_Water_Low.m	WS#5785280_17.d	Sample		As Method	-
18	5785280:HYO197-01	P4-B7	PFC_Water_Low.m	WS#5785280_18.d	Sample		As Method	-
19	5785280:HYO198-01	P4-B8	PFC_Water_Low.m	WS#5785280_19.d	Sample		As Method	-
20	5785280:HZL772-01	P4-B9	PFC_Water_Low.m	WS#5785280_20.d	Sample		As Method	-
21	5785280:HZL773-01	P4-C1	PFC_Water_Low.m	WS#5785280_21.d	Sample		As Method	-
22	5785280:HZL774-01	P4-C2	PFC_Water_Low.m	WS#5785280_22.d	Sample		As Method	-
23	5785280:HZL775-01:10x	P4-C3	PFC_Water_Low.m	WS#5785280_23.d	Sample		As Method	-
24	5785280:HZL775-01	P4-C4	PFC_Water_Low.m	WS#5785280_24.d	Sample		As Method	-
25	IB	P4-A8	PFC_Water_Low.m	WS#5785280_25.d	Sample		As Method	-
26	CCV	P4-A5	PFC_Water_Low.m	WS#5785280_26.d	ConCal	STD 4	As Method	-
27	5785280:HZT949-01:50x	P4-C5	PFC_Water_Low.m	WS#5785280_27.d	Sample		As Method	-
28	5785280:HZT949-01:5x	P4-C6	PFC_Water_Low.m	WS#5785280_28.d	Sample		As Method	-
29	IB	P4-A8	PFC_Water_Low.m	WS#5785280_29.d	Sample		As Method	-
30	5785280:HZT950-01:10x	P4-C7	PFC_Water_Low.m	WS#5785280_30.d	Sample		As Method	-

Maxxam Analytics

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Worklist Report

Agilent Technologies

Maxxam Analytics

	Sample Name	Sample Position	Method	Data File	Sample Type	Level Name	Inj Vol (µl)	Comment
31	5785280:HZT950-01	P4-C8	PFC_Water_Low.m	WS#5785280_31.d	Sample		As Method	-
32	IB	P4-A8	PFC_Water_Low.m	WS#5785280_32.d	Sample		As Method	-
33	5785280:HZT951-01	P4-C9	PFC_Water_Low.m	WS#5785280_33.d	Sample		As Method	-
34	5785280:HZT954-01:10x	P4-D1	PFC_Water_Low.m	WS#5785280_34.d	Sample		As Method	-
35	5785280:HZT954-01	P4-D2	PFC_Water_Low.m	WS#5785280_35.d	Sample		As Method	-
36	IB	P4-A8	PFC_Water_Low.m	WS#5785280_36.d	Sample		As Method	-
37	CCV	P4-A5	PFC_Water_Low.m	WS#5785280_37.d	ConCal	STD 4	As Method	-

Worklist Report

Agilent Technologies

Maxxam Analytics

Instrument Name: LCMS04 **Worklist Path:** D:\MassHunter\Worklists\PFCs\PFC_181017_Low_FOSAA_A.wkl

Operator Name: ---
Run Type: Standard Start
Part of Method to Run: Acquisition Only
Execution of Acquisition-DA: Synchronous
Acquisition Method Path: D:\MassHunter\Acquisition Method
DA Method Path: D:\MassHunter\methods
Data File Path: D:\MassHunter\data\PFC\20181017\WS#5785280_FOSAA
Pre-Worklist Script: ---
Post-Worklist Script: SCP_InstrumentStandby(){MH_Acq_Scripts.exe}
Acquisition Clean Up Script: ---
Overlapped Injection: No
Clear Sample Selection After Run: Yes
Wait Time for Ready(Min): 10
Threshold Disk Value(GB): 10
Comment: Column #338
MP A1: Solution #427 [FSRE18]
MP B2: Solution #431 [FSRE18]

AD
2018/10/17
verified by MM
2018/10/17

Plate Barcode:

Plate	Barcode
P4	

Worklist Table

	Sample Name	Sample Position	Method	Data File	Sample Type	Level Name	Inj Vol (µl)	Comment
1	RINSE	P4-A1	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_01.d	Sample		As Method	-
2	STD 1	P4-A2	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_02.d	Calibration	STD 1	As Method	-
3	STD 2	P4-A3	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_03.d	Calibration	STD 2	As Method	-
4	STD 3	P4-A4	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_04.d	Calibration	STD 3	As Method	-
5	STD 4	P4-A5	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_05.d	Calibration	STD 4	As Method	-
6	STD 5	P4-A6	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_06.d	Calibration	STD 5	As Method	-
7	STD 6	P4-A7	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_07.d	Calibration	STD 6	As Method	-
8	IB	P4-A8	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_08.d	Sample		As Method	-

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Worklist Report

Agilent Technologies

Maxxam Analytics

	Sample Name	Sample Position	Method	Data File	Sample Type	Level Name	Inj Vol (µl)	Comment
9	ICV	P4-A9	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_09.d	QC	ICV	As Method	-
10	ISC	P4-A2	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_10.d	QC	STD 1	As Method	-
11	5785280:BLANK	P4-B1	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_11.d	Sample		As Method	-
12	5785280:SPIKE	P4-B2	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_12.d	QC	ICV	As Method	-
13	5785280:MTRX SPK	P4-B3	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_13.d	QC	ICV	As Method	-
14	5785280:MTRX SPK:D1	P4-B4	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_14.d	QC	ICV	As Method	-
15	IB	P4-A8	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_15.d	Sample		As Method	-
16	5785280:HYO195-01	P4-B5	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_16.d	Sample		As Method	-
17	5785280:HYO196-01	P4-B6	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_17.d	Sample		As Method	-
18	5785280:HYO197-01	P4-B7	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_18.d	Sample		As Method	-
19	5785280:HYO198-01	P4-B8	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_19.d	Sample		As Method	-
20	5785280:HZL772-01	P4-B9	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_20.d	Sample		As Method	-
21	5785280:HZL773-01	P4-C1	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_21.d	Sample		As Method	-
22	5785280:HZL774-01	P4-C2	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_22.d	Sample		As Method	-
23	5785280:HZL775-01:10x	P4-C3	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_23.d	Sample		As Method	-
24	5785280:HZL775-01	P4-C4	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_24.d	Sample		As Method	-
25	IB	P4-A8	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_25.d	Sample		As Method	-
26	CCV	P4-A5	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_26.d	ConCal	STD 4	As Method	-

FINAL INJECTION SEQUENCE

Sample					
Name	Comment	Acq. Date-Time	Acq. Method File	Data File	Pos.
STD 1	-	2018/10/18 2:12 AM	PFC_Water_Low.m	WS#5785280_02.d	P4-A2
STD 2	-	2018/10/18 2:17 AM	PFC_Water_Low.m	WS#5785280_03.d	P4-A3
STD 3	-	2018/10/18 2:22 AM	PFC_Water_Low.m	WS#5785280_04.d	P4-A4
STD 4	-	2018/10/18 2:27 AM	PFC_Water_Low.m	WS#5785280_05.d	P4-A5
STD 5	-	2018/10/18 2:32 AM	PFC_Water_Low.m	WS#5785280_06.d	P4-A6
STD 6	-	2018/10/18 2:37 AM	PFC_Water_Low.m	WS#5785280_07.d	P4-A7
IB	-	2018/10/18 2:42 AM	PFC_Water_Low.m	WS#5785280_08.d	P4-A8
ICV	-	2018/10/18 2:47 AM	PFC_Water_Low.m	WS#5785280_09.d	P4-A9
ISC	-	2018/10/18 2:52 AM	PFC_Water_Low.m	WS#5785280_10.d	P4-A2
5785280:BLANK	-	2018/10/18 2:57 AM	PFC_Water_Low.m	WS#5785280_11.d	P4-B1
5785280:SPIKE	-	2018/10/18 3:01 AM	PFC_Water_Low.m	WS#5785280_12.d	P4-B2
5785280:MTRX SPK	HYO198	2018/10/18 3:06 AM	PFC_Water_Low.m	WS#5785280_13.d	P4-B3
5785280:MTRX SPK:D1	HYO198	2018/10/18 3:11 AM	PFC_Water_Low.m	WS#5785280_14.d	P4-B4
IB	-	2018/10/18 3:16 AM	PFC_Water_Low.m	WS#5785280_15.d	P4-A8
5785280:HYO195-01	-	2018/10/18 3:21 AM	PFC_Water_Low.m	WS#5785280_16.d	P4-B5
5785280:HYO196-01	-	2018/10/18 3:26 AM	PFC_Water_Low.m	WS#5785280_17.d	P4-B6
5785280:HYO197-01	-	2018/10/18 3:31 AM	PFC_Water_Low.m	WS#5785280_18.d	P4-B7
5785280:HYO198-01	-	2018/10/18 3:36 AM	PFC_Water_Low.m	WS#5785280_19.d	P4-B8
5785280:HZL772-01	-	2018/10/18 3:41 AM	PFC_Water_Low.m	WS#5785280_20.d	P4-B9
5785280:HZL773-01	-	2018/10/18 3:46 AM	PFC_Water_Low.m	WS#5785280_21.d	P4-C1
5785280:HZL774-01	-	2018/10/18 3:51 AM	PFC_Water_Low.m	WS#5785280_22.d	P4-C2
5785280:HZL775-01:10x	Not used	2018/10/18 3:56 AM	PFC_Water_Low.m	WS#5785280_23.d	P4-C3
5785280:HZL775-01	-	2018/10/18 4:00 AM	PFC_Water_Low.m	WS#5785280_24.d	P4-C4
IB	-	2018/10/18 4:05 AM	PFC_Water_Low.m	WS#5785280_25.d	P4-A8
CCV	-	2018/10/18 4:10 AM	PFC_Water_Low.m	WS#5785280_26.d	P4-A5
5785280:HZT949-01:50x	Reported for 6:2-FTS, PFHxS, PFOS	2018/10/18 4:15 AM	PFC_Water_Low.m	WS#5785280_27.d	P4-C5
5785280:HZT949-01:5x	Reported for all except 6:2-FTS, PFHxS, PFOS	2018/10/18 4:20 AM	PFC_Water_Low.m	WS#5785280_28.d	P4-C6
IB	-	2018/10/18 4:25 AM	PFC_Water_Low.m	WS#5785280_29.d	P4-A8
5785280:HZT950-01:10x	Reported for 6:2-FTS, PFHxA, PFHxS, PFOA, PFOS	2018/10/18 4:30 AM	PFC_Water_Low.m	WS#5785280_30.d	P4-C7
5785280:HZT950-01	Reported for all except 6:2-FTS, PFHxA, PFHxS, PFOA, PFOS	2018/10/18 4:35 AM	PFC_Water_Low.m	WS#5785280_31.d	P4-C8
IB	-	2018/10/18 4:40 AM	PFC_Water_Low.m	WS#5785280_32.d	P4-A8
5785280:HZT951-01	-	2018/10/18 4:45 AM	PFC_Water_Low.m	WS#5785280_33.d	P4-C9
5785280:HZT954-01:10x	Not used	2018/10/18 4:50 AM	PFC_Water_Low.m	WS#5785280_34.d	P4-D1

FINAL INJECTION SEQUENCE

Sample					
Name	Comment	Acq. Date-Time	Acq. Method File	Data File	Pos.
5785280:HZT954-01	-	2018/10/18 4:54 AM	PFC_Water_Low.m	WS#5785280_35.d	P4-D2
IB	-	2018/10/18 4:59 AM	PFC_Water_Low.m	WS#5785280_36.d	P4-A8
CCV	-	2018/10/18 5:04 AM	PFC_Water_Low.m	WS#5785280_37.d	P4-A5

FINAL INJECTION SEQUENCE

Sample					
Name	Comment	Acq. Date-Time	Acq. Method File	Data File	Pos.
STD 1	-	2018/10/17 6:52 PM	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_02.d	P4-A2
STD 2	-	2018/10/17 6:55 PM	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_03.d	P4-A3
STD 3	-	2018/10/17 6:57 PM	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_04.d	P4-A4
STD 4	-	2018/10/17 6:59 PM	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_05.d	P4-A5
STD 5	-	2018/10/17 7:02 PM	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_06.d	P4-A6
STD 6	-	2018/10/17 7:04 PM	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_07.d	P4-A7
IB	-	2018/10/17 7:06 PM	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_08.d	P4-A8
ICV	-	2018/10/17 7:09 PM	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_09.d	P4-A9
ISC	-	2018/10/17 7:11 PM	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_10.d	P4-A2
5785280:BLANK	-	2018/10/17 7:14 PM	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_11.d	P4-B1
5785280:SPIKE	-	2018/10/17 7:16 PM	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_12.d	P4-B2
5785280:MTRX SPK	HYO198	2018/10/17 7:18 PM	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_13.d	P4-B3
5785280:MTRX SPK:D1	HYO198	2018/10/17 7:21 PM	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_14.d	P4-B4
IB	-	2018/10/17 7:23 PM	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_15.d	P4-A8
5785280:HYO195-01	-	2018/10/17 7:26 PM	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_16.d	P4-B5
5785280:HYO196-01	-	2018/10/17 7:28 PM	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_17.d	P4-B6
5785280:HYO197-01	-	2018/10/17 7:30 PM	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_18.d	P4-B7
5785280:HYO198-01	-	2018/10/17 7:33 PM	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_19.d	P4-B8
5785280:HZL772-01	-	2018/10/17 7:35 PM	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_20.d	P4-B9
5785280:HZL773-01	-	2018/10/17 7:37 PM	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_21.d	P4-C1
5785280:HZL774-01	-	2018/10/17 7:40 PM	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_22.d	P4-C2
5785280:HZL775-01:10x	Not used	2018/10/17 7:42 PM	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_23.d	P4-C3
5785280:HZL775-01	-	2018/10/17 7:45 PM	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_24.d	P4-C4
IB	-	2018/10/17 7:47 PM	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_25.d	P4-A8
CCV	-	2018/10/17 7:49 PM	PFC_Water_Low_FOSAA.m	WS#5785280_FOSAA_26.d	P4-A5

INJECTION INTERNAL STANDARD PEAK AREAS

Sample Name	Analyte	13C6-PFHxA	13C9-PFDA
	Mass labeled IS	STD 4	STD 4
	IS Area	18367	25342
	Upper Limit (+50%)	27551	38013
	Lower Limit (-50%)	9184	12671
		IS Peak Area	IS Peak Area
STD 1		17836	24586
STD 2		18301	25413
STD 3		17706	24647
STD 4		18367	25342
STD 5		17735	24194
STD 6		18203	24200
IB		18407	25703
ICV		18067	25353
ISC		18082	24639
5785280:BLANK		18213	24842
5785280:SPIKE		18161	24399
5785280:MTRX SPK		18333	26796
5785280:MTRX SPK:D1		17017	23341
IB		18210	24899
5785280:HYO195-01		17682	24918
5785280:HYO196-01		16784	23561
5785280:HYO197-01		18366	25066
5785280:HYO198-01		16985	23072
5785280:HZL772-01		17564	24251
5785280:HZL773-01		18115	25764
5785280:HZL774-01		21278	29040
5785280:HZL775-01:10x		17291	23836
5785280:HZL775-01		18352	25297
IB		18645	25136
CCV		18940	25986
5785280:HZT949-01:50x		18276	25030
5785280:HZT949-01:5x		18519	25234
IB		18811	24877
5785280:HZT950-01:10x		18063	24878
5785280:HZT950-01		17976	24593
IB		18446	25430
5785280:HZT951-01		18583	25168
5785280:HZT954-01:10x		18397	24662
5785280:HZT954-01		18233	25086
IB		18659	24719
CCV		19297	25828

INJECTION INTERNAL STANDARD PEAK AREAS

Sample Name	Analyte	13C9-PFDA
	Mass labeled IS	STD 4
	IS Area	24916
	Upper Limit (+50%)	37374
	Lower Limit (-50%)	12458
		IS Peak Area
STD 1		24891
STD 2		24984
STD 3		25127
STD 4		24916
STD 5		24898
STD 6		25096
IB		24994
ICV		24992
ISC		25608
5785280:BLANK		25517
5785280:SPIKE		25100
5785280:MTRX SPK		23432
5785280:MTRX SPK:D1		20887
IB		24028
5785280:HYO195-01		22822
5785280:HYO196-01		21889
5785280:HYO197-01		24982
5785280:HYO198-01		21355
5785280:HZL772-01		23713
5785280:HZL773-01		24326
5785280:HZL774-01		29016
5785280:HZL775-01:10x		23654
5785280:HZL775-01		24989
IB		25266
CCV		24857

TUNE CHECK

Instrument: Agilent 6470 LC/MS/MS

Instrument Serial Number: SG1611G001

Maxxam Instrument Identification: LCMS04

Mass Calibration Performed: June 6, 2018

Tune Check Performed: June 6, 2018

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Extracted and Injection Internal Standard Product Ion Verification ____ Page 89

Reviewed by:

Adam Robinson, Supervisor – Liquid Chromatography

2018/06/20

Date

Mass Assignments – Analytes, Extracted Internal Standards and Injection Internal Standards

Compound	Abbreviation	Precursor Ion (m/z)	Precursor Ion Formula	Quant Ion (m/z)	Quantitation Ion Formula	Confirmation Ion (m/z)	Confirmation Ion Formula
Native Analytes							
Perfluorobutanoic acid	PFBA	213.0	$[CF_3(CF_2)_2CO_2]^-$	169.0	$[CF_3(CF_2)_2]^-$	[1] N/A	N/A
Perfluorobutanesulfonate	PFBS	298.9	$[CF_3(CF_2)_3SO_3]^-$	80.0	$[SO_3]^-$	99.0	$[FSO_3]^-$
Perfluoropentanoic acid	PFPeA	263.0	$[CF_3(CF_2)_3CO_2]^-$	219.0	$[CF_3(CF_2)_3]^-$	[1] N/A	N/A
Perfluorohexanoic acid	PFHxA	313.0	$[CF_3(CF_2)_4CO_2]^-$	269.0	$[CF_3(CF_2)_4]^-$	119.0	$[CF_3(CF_2)]^-$
Perfluorohexanesulfonate	PFHxS	398.9	$[CF_3(CF_2)_5SO_3]^-$	80.0	$[SO_3]^-$	99.0	$[FSO_3]^-$
Perfluoroheptanoic acid	PFHpA	363.0	$[CF_3(CF_2)_5CO_2]^-$	319.0	$[CF_3(CF_2)_5]^-$	169.0	$[CF_3(CF_2)_2]^-$
Perfluoroheptanesulfonate	PFHpS	448.9	$[CF_3(CF_2)_6SO_3]^-$	80.0	$[SO_3]^-$	99.0	$[FSO_3]^-$
Perfluorooctanoic acid	PFOA	413.0	$[CF_3(CF_2)_6CO_2]^-$	369.0	$[CF_3(CF_2)_6]^-$	169.0	$[CF_3(CF_2)_2]^-$
Perfluorooctanesulfonate	PFOS	498.9	$[CF_3(CF_2)_7SO_3]^-$	80.0	$[SO_3]^-$	99.0	$[FSO_3]^-$
Perfluorononanoic acid	PFNA	463.0	$[CF_3(CF_2)_7CO_2]^-$	419.0	$[CF_3(CF_2)_7]^-$	219.0	$[CF_3(CF_2)_3]^-$
Perfluorodecanoic acid	PFDA	513.0	$[CF_3(CF_2)_8CO_2]^-$	469.0	$[CF_3(CF_2)_8]^-$	219.0	$[CF_3(CF_2)_3]^-$
Perfluorodecanesulfonate	PFDS	598.9	$[CF_3(CF_2)_9SO_3]$-	80.0	$[SO_3]^-$	99.0	$[FSO_3]^-$
Perfluoroundecanoic acid	PFUnA	563.0	$[CF_3(CF_2)_9CO_2]^-$	519.0	$[CF_3(CF_2)_9]^-$	269.0	$[CF_3(CF_2)_4]^-$
Perfluorododecanoic acid	PFDoA	613.0	$[CF_3(CF_2)_{10}CO_2]^-$	569.0	$[CF_3(CF_2)_{10}]^-$	319.0	$[CF_3(CF_2)_5]^-$
Perfluorotridecanoic acid	PFTrDA	663.0	$[CF_3(CF_2)_{11}CO_2]^-$	619.0	$[CF_3(CF_2)_{11}]^-$	319.0	$[CF_3(CF_2)_5]^-$
Perfluorotetradecanoic acid	PFTeDA	713.0	$[CF_3(CF_2)_{12}CO_2]^-$	669.0	$[CF_3(CF_2)_{12}]^-$	319.0	$[CF_3(CF_2)_5]^-$
Perfluorooctane sulfonamide	PFOSA	498.0	$[CF_3(CF_2)_7SO_2NH]^-$	78.0	$[SO_2N]^-$	477.9	$[(CF_2)_8SO_2N]^-$
N-methylperfluorooctane sulfonamide	MeFOSA	512.0	$[CF_3(CF_2)_7SO_2N(CH_3)]^-$	169.0	$[CF_3(CF_2)_2]^-$	219.0	$[CF_3(CF_2)_3]^-$
N-ethylperfluorooctane sulfonamide	EtFOSA	526.0	$[CF_3(CF_2)_7SO_2N(C_2H_5)]^-$	169.0	$[CF_3(CF_2)_2]^-$	219.0	$[CF_3(CF_2)_3]^-$
N-methylperfluorooctane sulfonamidoethanol	MeFOSE	616.0	$[CF_3(CF_2)_7SO_2N(CH_3)C_2H_4OH{\cdot}CH_3CO_2]^-$	59.0	$[CH_3CO_2]^-$	[1] N/A	N/A
N-ethylperfluorooctane sulfonamidoethanol	EtFOSE	630.0	$[CF_3(CF_2)_7SO_2N(C_2H_5)C_2H_4OH{\cdot}CH_3CO_2]^-$	59.0	$[CH_3CO_2]^-$	[1] N/A	N/A
N-methylperfluorooctanesufonamidoacetic acid	MeFOSAA	570.0	$[CF_3(CF_2)_7SO_2N(CH_3)CH_2CO_2]^-$	419.0	$[CF_3(CF_2)_7]^-$	482.9	$[CF_3(CF_2)_7SO_2]^-$
N-ethylperfluorooctanesufonamidoacetic acid	EtFOSAA	584.0	$[CF_3(CF_2)_7SO_2N(CH_2CH_3)CH_2CO_2]^-$	419.0	$[CF_3(CF_2)_7]^-$	482.9	$[CF_3(CF_2)_7SO_2]^-$
6:2 Fluorotelomersulfonate	6:2FTS	427.0	$[CF_3(CF_2)_5CH_2CH_2SO_3]^-$	407.0	$[CF_3(CF_2)_4CFCHCH_2SO_3]^-$	81.0	$[SO_2OH]^-$
8:2 Fluorotelomersulfonate	8:2FTS	527.0	$[CF_3(CF_2)_7CH_2CH_2SO_3]^-$	507.0	$[CF_3(CF_2)_6CFCHCH_2SO_3]^-$	81.0	$[SO_2OH]^-$
Mass-labeled Extracted Internal Standards							
$^{13}C_4$-Perfluorobutanoic acid	MPFBA	217.0	$[^{13}CF_3(^{13}CF_2)_2{}^{13}CO_2]^-$	172.0	$[^{13}CF_3(^{13}CF_2)_2]^-$	N/A	N/A

Compound	Abbreviation	Precursor Ion (m/z)	Precursor Ion Formula	Quant Ion (m/z)	Quantitation Ion Formula	Confirmation Ion (m/z)	Confirmation Ion Formula
$^{13}C_5$-Perfluoropentanoic acid	MPFPeA	268.0	$[^{13}CF_3(^{13}CF_2)_3{}^{13}CO_2]^-$	223.0	$[^{13}CF_3(^{13}CF_2)_3]^-$	N/A	N/A
$^{13}C_2$-Perfluorohexanoic acid	MPFHxA	315.0	$[CF_3(CF_2)_3(^{13}CF_2)^{13}CO_2]^-$	270.0	$[CF_3(CF_2)_3{}^{13}CF_2]^-$	N/A	N/A
$^{18}O_2$-Perfluorohexanesulfonate	MPFHxS	402.9	$[CF_3(CF_2)_5S(^{18}O)_2O]^-$	84.0	$[S(^{18}O)_2O]^-$	N/A	N/A
$^{13}C_4$-Perfluoroheptanoic acid	MPFHpA	367.0	$[CF_3CF_2(^{13}CF_2)_3{}^{13}CO_2]^-$	322.0	$[CF_3CF_2(^{13}CF_2)_4]^-$	N/A	N/A
$^{13}C_4$-Perfluorooctanoic acid	MPFOA	417.0	$[CF_3(CF_2)_3(^{13}CF_2)_3{}^{13}CO_2]^-$	372.0	$[CF_3(CF_2)_3(^{13}CF_2)_3]^-$	N/A	N/A
$^{13}C_4$-Perfluorooctanesulfonate	MPFOS	502.9	$[CF_3(CF_2)_3(^{13}CF_2)_4SO_3]^-$	80.0	$[SO_3]^-$	N/A	N/A
$^{13}C_5$-Perfluorononanoic acid	MPFNA	468.0	$[CF_3(CF_2)_3(^{13}CF_2)_4{}^{13}CO_2]^-$	423.0	$[CF_3(CF_2)_3(^{13}CF_2)_4]^-$	N/A	N/A
$^{13}C_2$-Perfluorodecanoic acid	MPFDA	515.0	$[CF_3(CF_2)_7(^{13}CF_2)^{13}CO_2]^-$	470.0	$[CF_3(CF_2)_7{}^{13}CF_2]^-$	N/A	N/A
$^{13}C_2$-Perfluoroundecanoic acid	MPFUnA	565.0	$[CF_3(CF_2)_8(^{13}CF_2)^{13}CO_2]^-$	520.0	$[CF_3(CF_2)_8{}^{13}CF_2]^-$	N/A	N/A
$^{13}C_2$-Perfluorododecanoic acid	MPFDoA	615.0	$[CF_3(CF_2)_9(^{13}CF_2)^{13}CO_2]^-$	570.0	$[CF_3(CF_2)_9{}^{13}CF_2]^-$	N/A	N/A
$^{13}C_2$-Perfluorotetradecanoic acid	MPFTeDA	715.0	$[CF_3(CF_2)_{12}(^{13}CF_2)^{13}CO_2]^-$	669.9	$[CF_3(CF_2)_{12}]^-$	N/A	N/A
$^{13}C_8$-Perfluorooctane sulfonamide	MPFOSA	506.0	$[^{13}CF_3(^{13}CF_2)_7SO_2NH]^-$	78.0	$[SO_2N]^-$	N/A	N/A
N-methyl-d_3-perfluorooctanesulfonamide	D_3-MeFOSA	515.0	$[CF_3(CF_2)_7SO_2N(CD_3)]^-$	169.0	$[CF_3(CF_2)_2]^-$	N/A	N/A
N-ethyl-d_5-perfluorooctanesulfonamide	D_5-EtFOSA	531.0	$[CF_3(CF_2)_7SO_2N(C_2D_5)]^-$	169.0	$[CF_3(CF_2)_2]^-$	N/A	N/A
N-methyl-d_3-perfluorooctanesulfonamidoethanol-d_4	D_7-MeFOSE	623.0	$[CF_3(CF_2)_7SO_2N(CD_3)CD_2CD_2OH \cdot CH_3CO_2]^-$	59.0	$[CH_3CO_2]^-$	N/A	N/A
N-ethyl-d_5-perfluorooctanesulfonamidoethanol-d_4	D_9-EtFOSE	639.0	$[CF_3(CF_2)_7SO_2N(CD_2CD_3)CD_2CD_2OH \cdot CH_3CO_2]^-$	59.0	$[CH_3CO_2]^-$	N/A	N/A
N-methyl-d_3-perfluorooctanesulfonamidoacetic acid	D_3-MeFOSAA	573.0	$[CF_3(CF_2)_7SO_2N(CD_3)CH_2CO_2]^-$	419.0	$[CF_3(CF_2)_7]^-$	N/A	N/A
N-ethyl-d_5-perfluorooctanesulfonamidoacetic acid	D_5-EtFOSAA	589.0	$[CF_3(CF_2)_7SO_2N(CD_2CD_3)CH_2CO_2]^-$	419.0	$[CF_3(CF_2)_7]^-$	N/A	N/A
$^{13}C_2$-Fluorotelomersulfonate (6:2)	M2-6:2FTS	429.0	$[CF_3(CF_2)_5(^{13}CH_2)_2SO_3]^-$	81.0	$[SO_2OH]^-$	N/A	N/A
$^{13}C_2$-Fluorotelomersulfonate (8:2)	M2-8:2FTS	529.0	$[CF_3(CF_2)_7(^{13}CH_2)_2SO_3]^-$	81.0	$[SO_2OH]^-$	N/A	N/A
Injection Internal Standards							
$^{13}C_6$-Perfluorohexanoic acid	$^{13}C_6$-PFHxA	319.0	$[^{13}CF_3(^{13}CF_2)_4{}^{13}CO_2]^-$	274.0	$[^{13}CF_3(^{13}CF_2)_4]^-$	N/A	N/A
$^{13}C_9$-Perfluorodecanoic acid	$^{13}C_9$-PFDA	522.0	$[CF_3(^{13}CF_2)_8{}^{13}CO_2]^-$	477.0	$[CF_3(^{13}CF_2)_8]^-$	N/A	N/A

[1] Confirmation ion not monitored.

m/z = mass-to-charge ratio and represents the mass of the ion divided by its electronic charge.

Tune Check Summary Table

Compound	Abbreviation	Precursor Ion (m/z)			Quantitation Ion (m/z)			Confirmation Ion (m/z)		
		Target	Monitored	±0.5 amu	Target	Monitored	±0.5 amu	Target	Monitored	±0.5 amu
Native Analytes										
Perfluorobutanoic acid	PFBA	213.0	**212.9**	*212.5 – 213.5*	169.0	**169.0**	*168.5 – 169.5*	[1] N/A	N/A	N/A
Perfluorobutanesulfonate	PFBS	298.9	**298.9**	*298.4 – 299.4*	80.0	**79.9**	*79.5 – 80.5*	99.0	**98.9**	*98.5 – 99.5*
Perfluoropentanoic acid	PFPeA	263.0	**262.9**	*268.5 – 269.5*	219.0	**218.9**	*218.5 – 219.5*	[1] N/A	N/A	N/A
Perfluorohexanoic acid	PFHxA	313.0	**312.9**	*312.5 – 313.5*	269.0	**269.0**	*268.5 – 269.5*	119.0	**119.0**	*118.5 – 119.5*
Perfluorohexanesulfonate	PFHxS	398.9	**398.9**	*398.4 – 399.4*	80.0	**79.9**	*79.5 – 80.5*	99.0	**98.9**	*98.5 – 99.5*
Perfluoroheptanoic acid	PFHpA	363.0	**362.9**	*362.5 – 363.5*	319.0	**319.0**	*318.5 – 319.5*	169.0	**168.9**	*168.5 – 169.5*
Perfluoroheptanesulfonate	PFHpS	448.9	**448.9**	*448.4 – 449.4*	80.0	**79.9**	*79.5 – 80.5*	99.0	**98.9**	*98.5 – 99.5*
Perfluorooctanoic acid	PFOA	413.0	**412.9**	*412.5 – 413.5*	369.0	**368.9**	*368.5 – 369.5*	169.0	**168.9**	*168.5 – 169.5*
Perfluorooctanesulfonate	PFOS	498.9	**498.9**	*498.4 – 499.4*	80.0	**80.0**	*79.5 – 80.5*	99.0	**99.0**	*98.5 – 99.5*
Perfluorononanoic acid	PFNA	463.0	**462.9**	*462.5 – 463.5*	419.0	**418.9**	*418.5 – 419.5*	219.0	**218.9**	*218.5 – 219.5*
Perfluorodecanoic acid	PFDA	513.0	**512.9**	*512.5 – 513.5*	469.0	**469.0**	*468.5 – 469.5*	219.0	**218.9**	*218.5 – 219.5*
Perfluorodecanesulfonate	PFDS	598.9	**598.9**	*598.4 – 599.4*	80.0	**79.9**	*79.5 – 80.5*	99.0	**98.9**	*98.5 – 99.5*
Perfluoroundecanoic acid	PFUnA	563.0	**562.9**	*562.5 – 563.5*	519.0	**518.9**	*518.5 – 519.5*	269.0	**268.9**	*268.5 – 269.5*
Perfluorododecanoic acid	PFDoA	613.0	**612.9**	*612.5 – 613.5*	569.0	**568.9**	*568.5 – 569.5*	319.0	**318.9**	*318.5 – 319.5*
Perfluorotridecanoic acid	PFTrDA	663.0	**662.9**	*662.5 – 663.5*	619.0	**618.9**	*618.5 – 619.5*	319.0	**318.9**	*318.5 – 319.5*
Perfluorotetradecanoic acid	PFTeDA	713.0	**712.9**	*712.5 – 713.5*	669.0	**668.9**	*668.5 – 669.5*	319.0	**319.0**	*318.5 – 319.5*
Perfluorooctane sulfonamide	PFOSA	498.0	**497.9**	*497.5 – 498.5*	78.0	**78.0**	*77.5 – 78.5*	477.9	**477.9**	*477.4 – 478.4*
N-methylperfluorooctane sulfonamide	MeFOSA	512.0	**511.9**	*511.5 – 512.5*	169.0	**168.9**	*168.5 – 169.5*	219.0	**219.0**	*218.5 – 219.5*
N-ethylperfluorooctane sulfonamide	EtFOSA	526.0	**525.9**	*525.5 – 526.5*	169.0	**168.9**	*168.5 – 169.5*	219.0	**219.0**	*218.5 – 219.5*
N-methylperfluorooctane sulfonamidoethanol	MeFOSE	616.0	**615.9**	*615.5 – 616.5*	59.0	**59.0**	*58.5 – 59.5*	[1] N/A	N/A	N/A
N-ethylperfluorooctane sulfonamidoethanol	EtFOSE	630.0	**629.9**	*629.5 – 630.5*	59.0	**59.0**	*58.5 – 59.5*	[1] N/A	N/A	N/A
N-methylperfluorooctanesulfonamidoacetic acid	MeFOSAA	570.0	**569.9**	*569.5 – 570.5*	419.0	**419.0**	*418.5 – 419.5*	482.9	**482.9**	*482.4 – 483.4*
N-ethylperfluorooctanesulfonamidoacetic acid	EtFOSAA	584.0	**583.9**	*583.5 – 584.5*	419.0	**418.9**	*418.5 – 419.5*	482.9	**482.9**	*482.4 – 483.4*
6:2 Fluorotelomersulfonate	6:2FTS	427.0	**426.9**	*426.5 – 427.5*	407.0	**406.9**	*406.5 – 407.5*	81.0	**80.9**	*80.5 – 81.5*

Compound	Abbreviation	Precursor Ion (m/z)			Quantitation Ion (m/z)			Confirmation Ion (m/z)		
		Target	Monitored	±0.5 amu	Target	Monitored	±0.5 amu	Target	Monitored	±0.5 amu
8:2 Fluorotelomersulfonate	8:2FTS	527.0	**526.9**	*526.5 – 527.5*	507.0	**506.9**	*506.5 – 507.5*	81.0	**81.0**	*80.5 – 81.5*
Mass-labeled Extracted Internal Standards										
$^{13}C_4$-Perfluorobutanoic acid	MPFBA	217.0	**216.9**	*216.5 – 217.5*	172.0	**172.0**	*171.5 – 172.5*	N/A	N/A	N/A
$^{13}C_5$-Perfluoropentanoic acid	MPFPeA	268.0	**267.9**	*267.5 – 268.5*	223.0	**223.0**	*222.5 – 223.5*	N/A	N/A	N/A
$^{13}C_2$-Perfluorohexanoic acid	MPFHxA	315.0	**314.9**	*314.5 – 315.5*	270.0	**270.0**	*269.5 – 270.5*	N/A	N/A	N/A
$^{18}O_2$-Perfluorohexanesulfonate	MPFHxS	402.9	**402.9**	*402.4 – 403.4*	84.0	**84.0**	*83.5 – 84.5*	N/A	N/A	N/A
$^{13}C_4$-Perfluoroheptanoic acid	MPFHpA	367.0	**366.9**	*366.5 – 367.5*	322.0	**322.0**	*321.5 – 322.5*	N/A	N/A	N/A
$^{13}C_4$-Perfluorooctanoic acid	MPFOA	417.0	**416.9**	*416.5 – 417.5*	372.0	**372.0**	*371.5 – 372.5*	N/A	N/A	N/A
$^{13}C_4$-Perfluorooctanesulfonate	MPFOS	502.9	**502.9**	*502.4 – 503.4*	80.0	**80.0**	*79.5 – 80.5*	N/A	N/A	N/A
$^{13}C_5$-Perfluorononanoic acid	MPFNA	468.0	**467.9**	*467.5 – 468.5*	423.0	**422.9**	*422.5 – 423.5*	N/A	N/A	N/A
$^{13}C_2$-Perfluorodecanoic acid	MPFDA	515.0	**514.9**	*514.5 – 515.5*	470.0	**470.0**	*469.5 – 470.5*	N/A	N/A	N/A
$^{13}C_2$-Perfluoroundecanoic acid	MPFUnA	565.0	**564.9**	*564.5 – 565.5*	520.0	**519.9**	*519.5 – 520.5*	N/A	N/A	N/A
$^{13}C_2$-Perfluorododecanoic acid	MPFDoA	615.0	**614.9**	*614.5 – 615.5*	570.0	**569.8**	*569.5 – 570.5*	N/A	N/A	N/A
$^{13}C_2$-Perfluorotetradecanoic acid	MPFTeDA	715.0	**714.9**	*714.5 – 715.5*	670.0	**669.9**	*669.5 – 670.5*	N/A	N/A	N/A
$^{13}C_8$-Perfluorooctane sulfonamide	MPFOSA	506.0	**505.9**	*505.5 – 506.5*	78.0	**77.9**	*77.5 – 78.5*	N/A	N/A	N/A
N-methyl-d_3-perfluorooctanesulfonamide	D_3-MeFOSA	515.0	**514.9**	*514.5 – 515.5*	169.0	**168.9**	*168.5 – 169.5*	N/A	N/A	N/A
N-ethyl-d_5-perfluorooctanesulfonamide	D_5-EtFOSA	531.0	**530.9**	*530.5 – 531.5*	169.0	**168.9**	*168.5 – 169.5*	N/A	N/A	N/A
N-methyl-d_3-perfluorooctanesulfonamidoethanol-d_4	D_7-MeFOSE	623.0	**622.9**	*622.5 – 623.5*	59.0	**59.0**	*58.5 – 59.5*	N/A	N/A	N/A
N-ethyl-d_5-perfluorooctanesulfonamidoethanol-d_4	D_9-EtFOSE	639.0	**639.0**	*638.5 – 639.5*	59.0	**59.0**	*58.5 – 59.5*	N/A	N/A	N/A
N-methyl-d_3-perfluorooctanesulfonamidoacetic acid	D_3-MeFOSAA	573.0	**572.9**	*572.5 – 573.5*	419.0	**419.0**	*418.5 – 419.5*	N/A	N/A	N/A
N-ethyl-d_5-perfluorooctanesulfonamidoacetic acid	D_5-EtFOSAA	589.0	**588.9**	*588.5 – 589.5*	419.0	**418.9**	*418.5 – 419.5*	N/A	N/A	N/A
$^{13}C_2$-Fluorotelomersulfonate (6:2)	M2-6:2FTS	429.0	**428.9**	*428.5 – 429.5*	81.0	**80.9**	*80.5 – 81.5*	N/A	N/A	N/A
$^{13}C_2$-Fluorotelomersulfonate (8:2)	M2-8:2FTS	529.0	**528.9**	*528.5 – 529.5*	81.0	**81.0**	*80.5 – 81.5*	N/A	N/A	N/A
Injection Internal Standards										
$^{13}C_6$-Perfluorohexanoic acid	$^{13}C_6$-PFHxA	319.0	**318.9**	*318.5 – 319.5*	274.0	**274.0**	*273.5 – 274.5*	N/A	N/A	N/A
$^{13}C_9$-Perfluorodecanoic acid	$^{13}C_9$-PFDA	522.0	**521.9**	*521.5 – 522.5*	477.0	**477.0**	*476.5 – 477.5*	N/A	N/A	N/A

[1] Confirmation ion not monitored.

m/z = mass-to-charge ratio and represents the mass of the ion divided by its electronic charge.

Worklist Report

Agilent Technologies

Instrument Name: LCMS04 **Worklist Path:** D:\MassHunter\Worklists\PFCs\Mass Verification_Q1_180606.wkl

Operator Name: M_G
Run Type: Standard Start
Part of Method to Run: Acquisition Only
Execution of Acquisition-DA: Synchronous
Acquisition Method Path: D:\MassHunter\Acquisition Method
DA Method Path: D:\MassHunter\methods
Data File Path: D:\MassHunter\data\Mass Verification\20170710
Pre-Worklist Script: ---
Post-Worklist Script: ---
Acquisition Clean Up Script: ---
Overlapped Injection: Yes
Clear Sample Selection After Run: Yes
Wait Time for Ready(Min): 10
Threshold Disk Value(GB): 10
Comment: ---

Plate Barcode:

Plate	Barcode
P1	

Worklist Table

	Sample Name	Sample Position	Method	Data File	Sample Type	Inj Vol (µl)	Sample Group
1	PFBA -Q1	P1-A1	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFBA-Q1.d	Sample	As Method	PFAS-Q1
2	PFBS -Q1	P1-A2	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFBS -Q1.d	Sample	As Method	PFAS-Q1
3	PFPeA -Q1	P1-A3	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFPeA-Q1.d	Sample	As Method	PFAS-Q1
4	PFHxA -Q1	P1-A4	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFHxA -Q1.d	Sample	As Method	PFAS-Q1

Maxxam Analytics

	Sample Name	Sample Position	Method	Data File	Sample Type	Inj Vol (µl)	Sample Group
5	PFHxS -Q1	P1-A5	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFHxS -Q1.d	Sample	As Method	PFAS-Q1
6	PFHpA-Q1	P1-A6	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFHpA-Q1.d	Sample	As Method	PFAS-Q1
7	PFHpS-Q1	P1-A7	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFHpS-Q1.d	Sample	As Method	PFAS-Q1
8	PFOA -Q1	P1-A8	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFOA -Q1.d	Sample	As Method	PFAS-Q1
9	PFOS -Q1	P1-A9	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFOS -Q1.d	Sample	As Method	PFAS-Q1
10	PFNA -Q1	P1-B1	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFNA -Q1.d	Sample	As Method	PFAS-Q1
11	PFDA -Q1	P1-B2	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFDA -Q1.d	Sample	As Method	PFAS-Q1
12	PFDS -Q1	P1-B3	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFDS -Q1.d	Sample	As Method	PFAS-Q1
13	PFUnA -Q1	P1-B4	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFUnA -Q1.d	Sample	As Method	PFAS-Q1
14	PFDoA -Q1	P1-B5	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFDoA -Q1.d	Sample	As Method	PFAS-Q1
15	PFTrDA -Q1	P1-B6	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFTrDA -Q1.d	Sample	As Method	PFAS-Q1

Maxxam Analytics

	Sample Name	Sample Position	Method	Data File	Sample Type	Inj Vol (µl)	Sample Group
16	PFTeDA -Q1	P1-B7	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFTeDA -Q1.d	Sample	As Method	PFAS-Q1
17	PFOSA -Q1	P1-B8	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFOSA -Q1.d	Sample	As Method	PFAS-Q1
18	MeFOSA -Q1	P1-B9	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\MeFOSA -Q1.c	Sample	As Method	PFAS-Q1
19	EtFOSA -Q1	P1-C1	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\EtFOSA -Q1.d	Sample	As Method	PFAS-Q1
20	MeFOSE -Q1	P1-C2	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\MeFOSE -Q1.c	Sample	As Method	PFAS-Q1
21	EtFOSE -Q1	P1-C3	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\EtFOSE -Q1.d	Sample	As Method	PFAS-Q1
22	MeFOSAA -Q1	P1-C4	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\MeFOSAA -Q1.d	Sample	As Method	PFAS-Q1
23	EtFOSAA -Q1	P1-C5	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\EtFOSAA -Q1.d	Sample	As Method	PFAS-Q1
24	6:2FTS -Q1	P1-C6	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\62FTS -Q1.d	Sample	As Method	PFAS-Q1
25	8:2FTS -Q1	P1-C7	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\82FTS -Q1.d	Sample	As Method	PFAS-Q1

Worklist Report

Agilent Technologies

Instrument Name: LCMS04 **Worklist Path:** D:\MassHunter\Worklists\PFCs\Mass Verification_Q3_180606.wkl

Operator Name: M_G
Run Type: Standard Start
Part of Method to Run: Acquisition Only
Execution of Acquisition-DA: Synchronous
Acquisition Method Path: D:\MassHunter\Acquisition Method
DA Method Path: D:\MassHunter\methods
Data File Path: D:\MassHunter\data\Mass Verification\20170710_Q3
Pre-Worklist Script: ---
Post-Worklist Script: ---
Acquisition Clean Up Script: ---
Overlapped Injection: Yes
Clear Sample Selection After Run: Yes
Wait Time for Ready(Min): 10
Threshold Disk Value(GB): 10
Comment: ---

Plate Barcode:

Plate	Barcode
P1	

Worklist Table

	Sample Name	Sample Position	Method	Data File	Sample Type	Inj Vol (µl)	Sample Group
1	PFBA -Q3	P1-A1	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-PFBA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFBA -Q3.d	Sample	As Method	PFAS-Q3
2	PFBS -Q3	P1-A2	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-PFBS-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFBS -Q3.d	Sample	As Method	PFAS-Q3
3	PFPeA -Q3	P1-A3	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-PFPeA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFPeA -Q3.d	Sample	As Method	PFAS-Q3

Worklist Report

Agilent Technologies

	Sample Name	Sample Position	Method	Data File	Sample Type	Inj Vol (µl)	Sample Group
4	PFHxA -Q3	P1-A4	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-PFHxA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFHxA -Q3.d	Sample	As Method	PFAS-Q3
5	PFHxS -Q3	P1-A5	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-PFHxS-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFHxS -Q3.d	Sample	As Method	PFAS-Q3
6	PFHpA-Q3	P1-A6	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-PFHpA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFHpA-Q3.d	Sample	As Method	PFAS-Q3
7	PFHpS-Q3	P1-A7	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-PFHpS-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFHpS-Q3.d	Sample	As Method	PFAS-Q3
8	PFOA -Q3	P1-A8	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-PFOA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFOA -Q3.d	Sample	As Method	PFAS-Q3
9	PFOS -Q3	P1-A9	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-PFOS-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFOS -Q3.d	Sample	As Method	PFAS-Q3
10	PFNA -Q3	P1-B1	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-PFNA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFNA -Q3.d	Sample	As Method	PFAS-Q3
11	PFDA -Q3	P1-B2	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-PFDA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFDA -Q3.d	Sample	As Method	PFAS-Q3
12	PFDS -Q3	P1-B3	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-PFDS-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFDS -Q3.d	Sample	As Method	PFAS-Q3

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	Sample Name	Sample Position	Method	Data File	Sample Type	Inj Vol (µl)	Sample Group
13	PFUnA -Q3	P1-B4	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-PFUnA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFUnA -Q3.d	Sample	As Method	PFAS-Q3
14	PFDoA -Q3	P1-B5	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-PFDoA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFDoA -Q3.d	Sample	As Method	PFAS-Q3
15	PFTrDA -Q3	P1-B6	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-PFTrDA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFTrDA -Q3.d	Sample	As Method	PFAS-Q3
16	PFTeDA -Q3	P1-B7	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-PFTeDA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFTeDA -Q3.d	Sample	As Method	PFAS-Q3
17	PFOSA -Q3	P1-B8	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-PFOSA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\PFOSA -Q3.d	Sample	As Method	PFAS-Q3
18	MeFOSA -Q3	P1-B9	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-MeFOSA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\MeFOSA -Q3.d	Sample	As Method	PFAS-Q3
19	EtFOSA -Q3	P1-C1	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-EtFOSA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\EtFOSA -Q3.d	Sample	As Method	PFAS-Q3
20	MeFOSE -Q3	P1-C2	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-MeFOSE-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\MeFOSE -Q3.d	Sample	As Method	PFAS-Q3
21	EtFOSE -Q3	P1-C3	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-EtFOSE-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\EtFOSE -Q3.d	Sample	As Method	PFAS-Q3

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	Sample Name	Sample Position	Method	Data File	Sample Type	Inj Vol (µl)	Sample Group
22	MeFOSAA -Q3	P1-C4	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-MeFOSAA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\MeFOSAA -Q3.d	Sample	As Method	PFAS-Q3
23	EtFOSAA -Q3	P1-C5	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-EtFOSAA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\EtFOSAA -Q3.d	Sample	As Method	PFAS-Q3
24	6:2FTS -Q3	P1-C6	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-6-2FTS-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\62FTS -Q3.d	Sample	As Method	PFAS-Q3
25	8:2FTS -Q3	P1-C7	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-8-2FTS-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\82FTS -Q3.d	Sample	As Method	PFAS-Q3

Worklist Report

Agilent Technologies

Instrument Name: LCMS04 **Worklist Path:** D:\MassHunter\Worklists\PFCs\Mass Verification_IS_Q1&Q3_180606.wkl

Operator Name: AD
Run Type: Standard Start
Part of Method to Run: Acquisition Only
Execution of Acquisition-DA: Synchronous
Acquisition Method Path: D:\MassHunter\Acquisition Method
DA Method Path: D:\MassHunter\methods
Data File Path: D:\MassHunter\data\Mass Verification\20170711_IS
Pre-Worklist Script: ---
Post-Worklist Script: ---
Acquisition Clean Up Script: ---
Overlapped Injection: Yes
Clear Sample Selection After Run: Yes
Wait Time for Ready(Min): 10
Threshold Disk Value(GB): 10
Comment: ---

Plate Barcode:

Plate	Barcode
P1	

Worklist Table

	Sample Name	Sample Position	Method	Data File	Sample Type	Inj Vol (µl)	Sample Group
1	MPFBA	P2-A1	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\MPFBA -Q1.d	Sample	As Method	PFAS-Q1
2	MPFPeA	P2-A2	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\MPFPeA -Q1.d	Sample	As Method	PFAS-Q1
3	MPFHxA	P2-A3	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\MPFHxA -Q1.d	Sample	As Method	PFAS-Q1
4	MPFHxS	P2-A4	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\MPFHxS -Q1.d	Sample	As Method	PFAS-Q1

Worklist Report

Agilent Technologies

	Sample Name	Sample Position	Method	Data File	Sample Type	Inj Vol (µl)	Sample Group
5	MPFHpA	P2-A5	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\MPFHpA -Q1.d	Sample	As Method	PFAS-Q1
6	MPFOA	P2-A6	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\MPFOA -Q1.d	Sample	As Method	PFAS-Q1
7	MPFOS	P2-A7	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\MPFOS -Q1.d	Sample	As Method	PFAS-Q1
8	MPFNA	P2-A8	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\MPFNA -Q1.d	Sample	As Method	PFAS-Q1
9	MPFDA	P2-A9	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\MPFDA -Q1.d	Sample	As Method	PFAS-Q1
10	MPFUnA	P2-B1	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\MPFUnA -Q1.d	Sample	As Method	PFAS-Q1
11	MPFDoA	P2-B2	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\MPFDoA -Q1.d	Sample	As Method	PFAS-Q1
12	MPFTeDA	P2-B3	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\MPFTeDA -Q1.d	Sample	As Method	PFAS-Q1
13	MPFOSA	P2-B4	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\MPFOSA -Q1.d	Sample	As Method	PFAS-Q1
14	D3-MeFOSA	P2-B5	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\D3-MeFOSA -Q1.d	Sample	As Method	PFAS-Q1
15	D5-EtFOSA	P2-B6	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\D5-EtFOSA -Q1.d	Sample	As Method	PFAS-Q1

	Sample Name	Sample Position	Method	Data File	Sample Type	Inj Vol (µl)	Sample Group
16	D7-MeFOSE	P2-B7	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\D7-MeFOSE - Q1.d	Sample	As Method	PFAS-Q1
17	D9-EtFOSE	P2-B8	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\D9-EtFOSE - Q1.d	Sample	As Method	PFAS-Q1
18	D3-MeFOSAA	P2-B9	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\D3-MeFOSAA - Q1.d	Sample	As Method	PFAS-Q1
19	D5-EtFOSAA	P2-C1	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\D5-EtFOSAA - Q1.d	Sample	As Method	PFAS-Q1
20	M2-6:2FTS	P2-C2	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\M2-62FTS - Q1.d	Sample	As Method	PFAS-Q1
21	M2-8:2FTS	P2-C3	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\M2-82FTS - Q1.d	Sample	As Method	PFAS-Q1
22	13C6-PFHxA	P2-C4	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\13C6-PFHxA - Q1.d	Sample	As Method	PFAS-Q1
23	13C9-PFDA	P2-C5	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-Q1.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\13C9-PFDA - Q1.d	Sample	As Method	PFAS-Q1
24	MPFBA -Q3	P2-A1	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-MPFBA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\MPFBA -Q3.d	Sample	As Method	PFAS-Q3
25	MPFPeA -Q3	P2-A2	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-MPFPeA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\MPFPeA -Q3.d	Sample	As Method	PFAS-Q3

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	Sample Name	Sample Position	Method	Data File	Sample Type	Inj Vol (µl)	Sample Group
26	MPFHxA -Q3	P2-A3	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-MPFHxA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\MPFHxA -Q3.d	Sample	As Method	PFAS-Q3
27	MPFHxS -Q3	P2-A4	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-MPFHxS-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\MPFHxS -Q3.d	Sample	As Method	PFAS-Q3
28	MPFHpA -Q3	P2-A5	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-MPFHpA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\MPFHpA -Q3.d	Sample	As Method	PFAS-Q3
29	MPFOA -Q3	P2-A6	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-MPFOA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\MPFOA -Q3.d	Sample	As Method	PFAS-Q3
30	MPFOS -Q3	P2-A7	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-MPFOS-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\MPFOS -Q3.d	Sample	As Method	PFAS-Q3
31	MPFNA -Q3	P2-A8	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-MPFNA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\MPFNA -Q3.d	Sample	As Method	PFAS-Q3
32	MPFDA -Q3	P2-A9	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-MPFDA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\MPFDA -Q3.d	Sample	As Method	PFAS-Q3
33	MPFUnA -Q3	P2-B1	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-MPFUnA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\MPFUnA -Q3.d	Sample	As Method	PFAS-Q3
34	MPFDoA -Q3	P2-B2	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-MPFDoA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\MPFDoA -Q3.d	Sample	As Method	PFAS-Q3

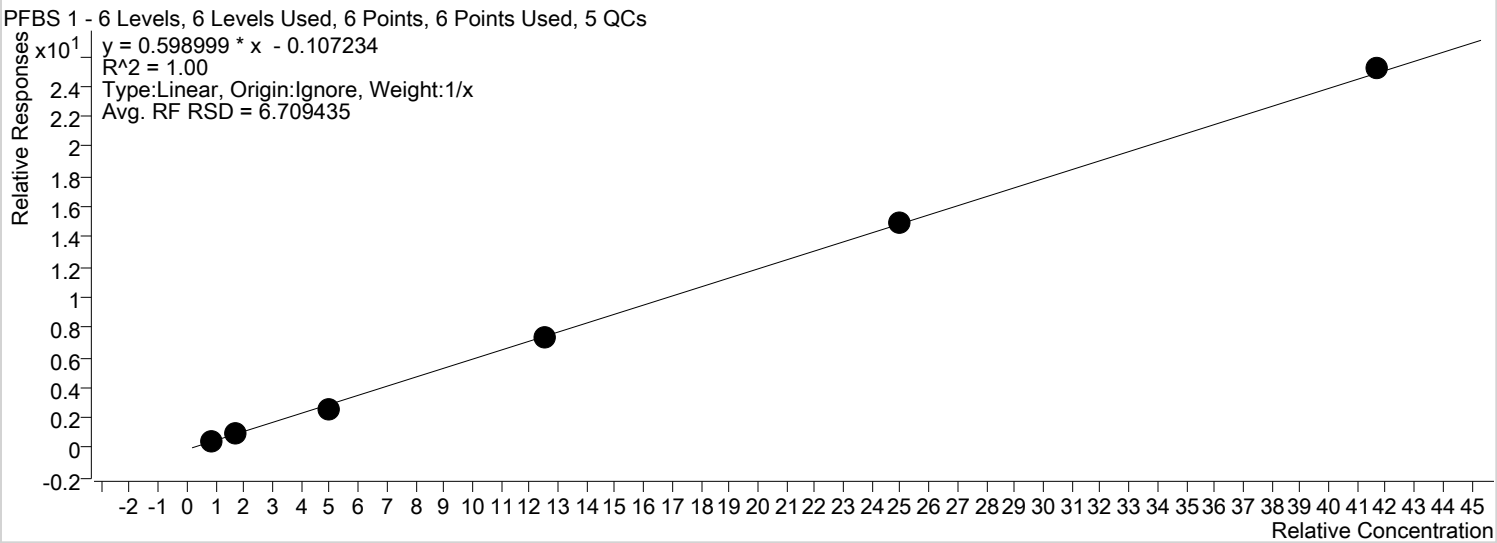
Maxxam Analytics

	Sample Name	Sample Position	Method	Data File	Sample Type	Inj Vol (µl)	Sample Group
35	MPFTeDA -Q3	P2-B3	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-MPFTeDA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\MPFTeDA -Q3.d	Sample	As Method	PFAS-Q3
36	MPFOSA -Q3	P2-B4	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-MPFOSA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\MPFOSA -Q3.d	Sample	As Method	PFAS-Q3
37	D3-MeFOSA -Q3	P2-B5	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-D3-MeFOSA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\D3-MeFOSA -Q3.d	Sample	As Method	PFAS-Q3
38	D5-EtFOSA -Q3	P2-B6	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-D5-EtFOSA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\D5-EtFOSA -Q3.d	Sample	As Method	PFAS-Q3
39	D7-MeFOSE -Q3	P2-B7	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-D7-MeFOSE-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\D7-MeFOSE -Q3.d	Sample	As Method	PFAS-Q3
40	D9-EtFOSE -Q3	P2-B8	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-D9-EtFOSE-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\D9-EtFOSE -Q3.d	Sample	As Method	PFAS-Q3
41	D3-MeFOSAA -Q3	P2-B9	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-D3-MeFOSAA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\D3-MeFOSAA -Q3.d	Sample	As Method	PFAS-Q3
42	D5-EtFOSAA -Q3	P2-C1	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-D5-EtFOSAA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\D5-EtFOSAA -Q3.d	Sample	As Method	PFAS-Q3
43	M2-6:2FTS -Q3	P2-C2	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-M26-2FTS-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\M2-62FTS -Q3.d	Sample	As Method	PFAS-Q3

	Sample Name	Sample Position	Method	Data File	Sample Type	Inj Vol (µl)	Sample Group
44	M2-8:2FTS -Q3	P2-C3	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-M2-8-2FTS-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\M2-82FTS -Q3.d	Sample	As Method	PFAS-Q3
45	13C6-PFHxA -Q3	P2-C4	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-13C6-PFHxA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\13C6-PFHxA -Q3.d	Sample	As Method	PFAS-Q3
46	13C9-PFDA -Q3	P2-C5	D:\MassHunter\Acquisition Method\PFC_Mass Verification\PFC_MassVerification-13C9-PFDA-Q3.m	D:\MassHunter\Data\PFC\MASS VERIFICATION\20180606\13C9-PFDA -Q3.d	Sample	As Method	PFAS-Q3
47	SCP_InstrumentStandby() {MH_Acq_Scripts.exe}						

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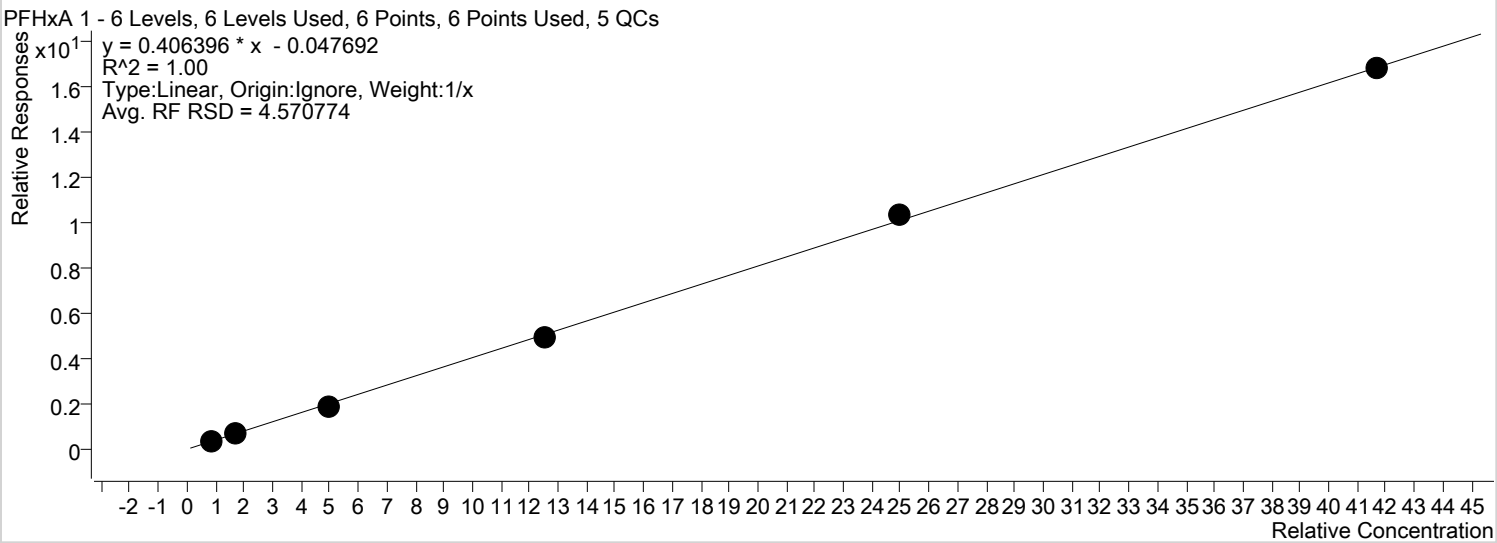
Analyte: PFBS 1
Internal Standard: MPFHxS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/10/18 2:12:53 AM	0.83	0.90	460	0.5199	71	108.4
STD 2	STD 2	x	2018/10/18 2:17:48 AM	1.70	1.72	938	0.5436	166	101.3
STD 3	STD 3	x	2018/10/18 2:22:42 AM	5.00	4.52	2913	0.5206	300	90.5
STD 4	STD 4	x	2018/10/18 2:27:37 AM	12.50	12.30	7575	0.5810	740	98.4
STD 5	STD 5	x	2018/10/18 2:32:32 AM	25.00	25.02	15430	0.5952	1893	100.1
STD 6	STD 6	x	2018/10/18 2:37:26 AM	41.70	42.26	25484	0.6045	1404	101.3

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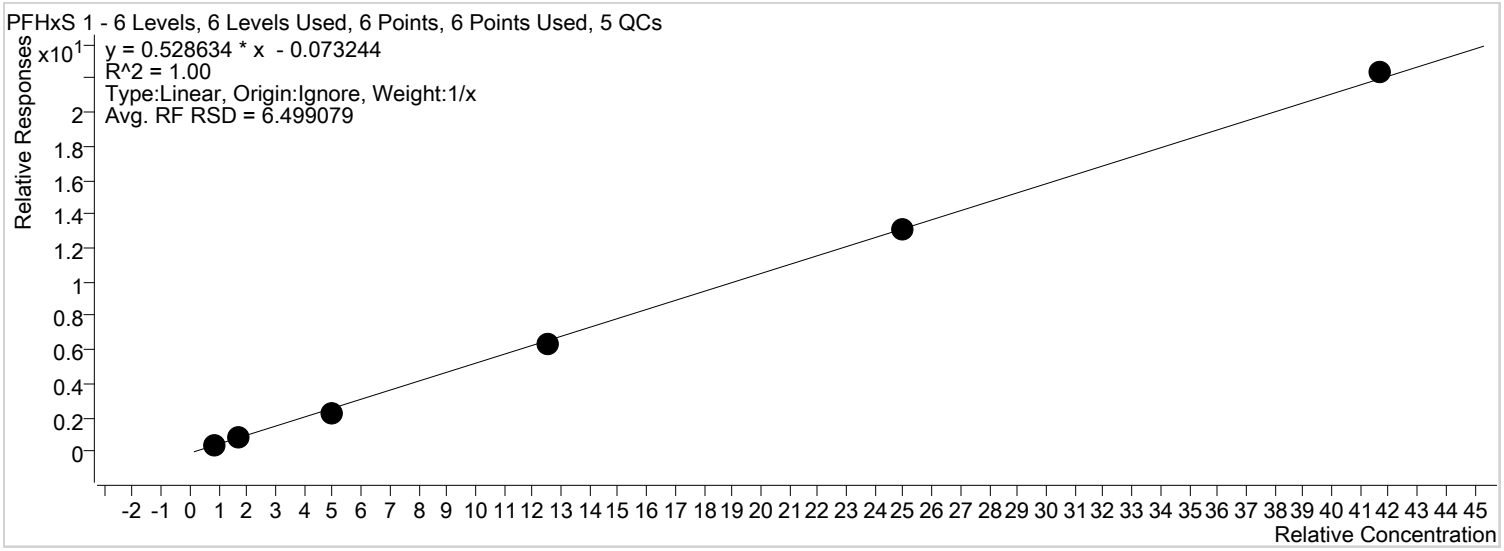
Analyte: PFHxA 1
Internal Standard: MPFHxA



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/10/18 2:12:53 AM	0.83	0.86	1281	0.3653	76	104.0
STD 2	STD 2	x	2018/10/18 2:17:48 AM	1.70	1.71	2702	0.3813	135	100.7
STD 3	STD 3	x	2018/10/18 2:22:42 AM	5.00	4.76	7952	0.3775	203	95.2
STD 4	STD 4	x	2018/10/18 2:27:37 AM	12.50	12.28	21433	0.3955	380	98.3
STD 5	STD 5	x	2018/10/18 2:32:32 AM	25.00	25.49	43135	0.4124	262	101.9
STD 6	STD 6	x	2018/10/18 2:37:26 AM	41.70	41.62	71336	0.4045	331	99.8

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Instrument: LCMS04

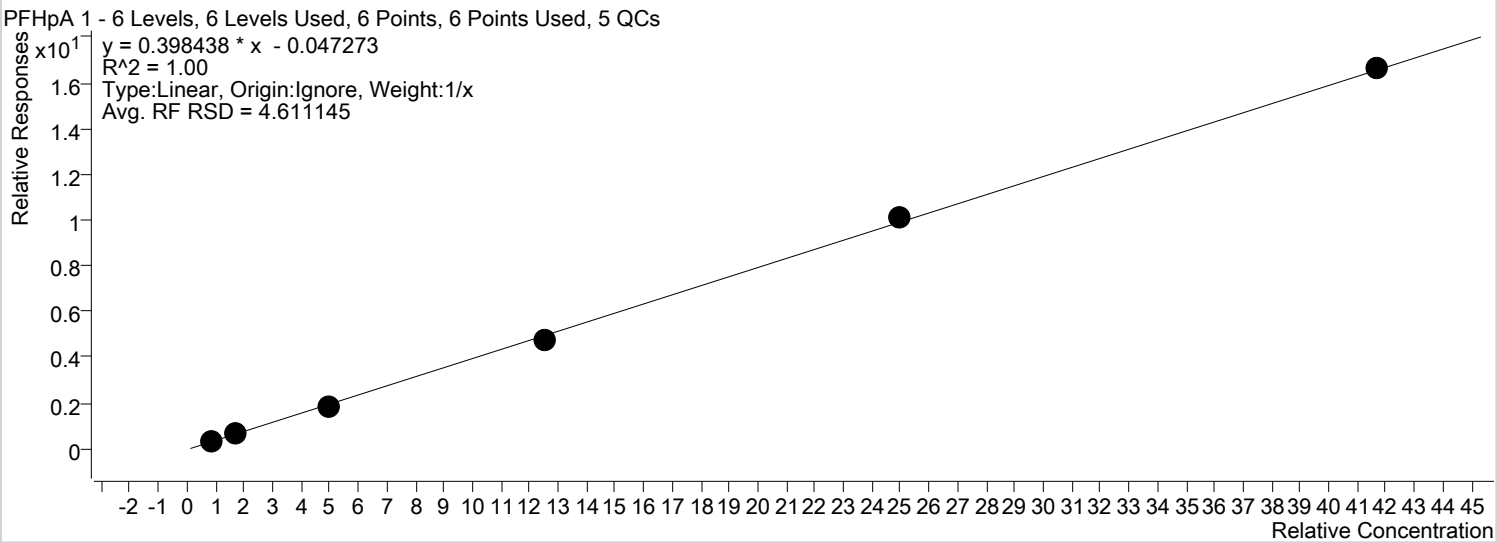
Analyte: PFHxS 1
Internal Standard: MPFHxS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/10/18 2:12:53 AM	0.83	0.86	406	0.4589	105	103.5
STD 2	STD 2	x	2018/10/18 2:17:48 AM	1.70	1.82	903	0.5233	143	107.1
STD 3	STD 3	x	2018/10/18 2:22:42 AM	5.00	4.54	2606	0.4658	336	90.9
STD 4	STD 4	x	2018/10/18 2:27:37 AM	12.50	12.11	6602	0.5064	1069	96.9
STD 5	STD 5	x	2018/10/18 2:32:32 AM	25.00	24.95	13600	0.5246	1135	99.8
STD 6	STD 6	x	2018/10/18 2:37:26 AM	41.70	42.45	22611	0.5363	3553	101.8

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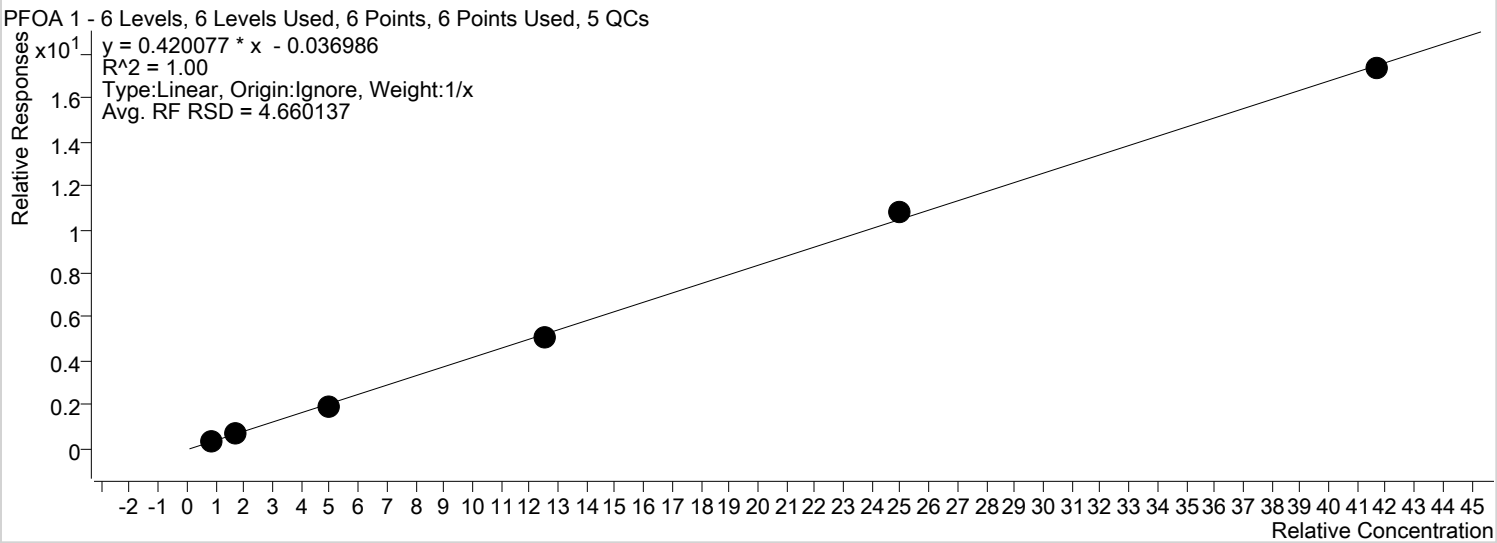
Analyte: PFHpA 1
Internal Standard: MPFHpA



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/10/18 2:12:53 AM	0.83	0.91	1881	0.3791	36	109.4
STD 2	STD 2	x	2018/10/18 2:17:48 AM	1.70	1.67	3770	0.3627	74	98.0
STD 3	STD 3	x	2018/10/18 2:22:42 AM	5.00	4.67	10986	0.3626	197	93.4
STD 4	STD 4	x	2018/10/18 2:27:37 AM	12.50	12.09	29543	0.3817	520	96.7
STD 5	STD 5	x	2018/10/18 2:32:32 AM	25.00	25.47	59777	0.4041	425	101.9
STD 6	STD 6	x	2018/10/18 2:37:26 AM	41.70	41.92	98632	0.3994	483	100.5

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Instrument: LCMS04

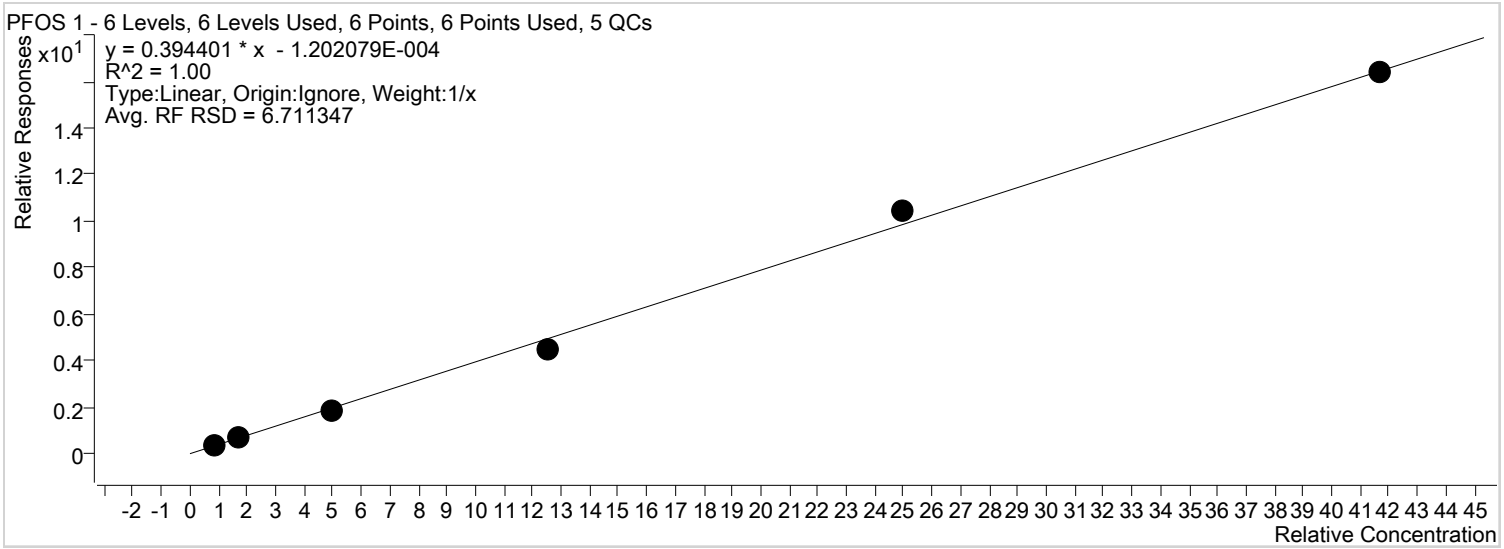
Analyte: PFOA 1
Internal Standard: MPFOA



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/10/18 2:12:53 AM	0.83	0.91	2121	0.4138	55	109.1
STD 2	STD 2	x	2018/10/18 2:17:48 AM	1.70	1.65	4057	0.3866	63	97.2
STD 3	STD 3	x	2018/10/18 2:22:42 AM	5.00	4.66	11875	0.3837	140	93.1
STD 4	STD 4	x	2018/10/18 2:27:37 AM	12.50	12.21	32070	0.4074	197	97.7
STD 5	STD 5	x	2018/10/18 2:32:32 AM	25.00	25.89	63947	0.4336	204	103.6
STD 6	STD 6	x	2018/10/18 2:37:26 AM	41.70	41.41	104657	0.4163	239	99.3

Batch Path T:\LCMS04\PFC\20181017\WS#5785280\QuantResults\PFC_Water_Low_20181017_WS#5785280_EToxics.batch.bin
Last Calib Update 2018/10/23 10:16:30 AM
Instrument: LCMS04

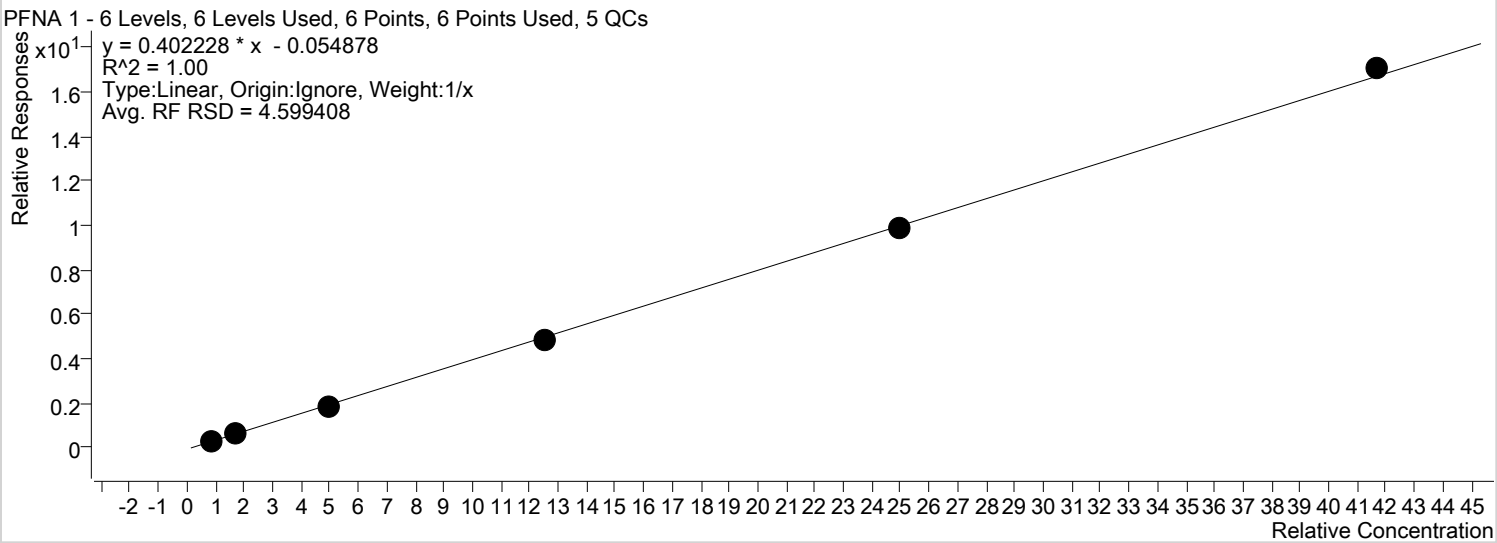
Analyte: PFOS 1
Internal Standard: MPFOS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/10/18 2:12:53 AM	0.83	0.91	423	0.4323	80	109.6
STD 2	STD 2	x	2018/10/18 2:17:48 AM	1.70	1.67	766	0.3879	91	98.4
STD 3	STD 3	x	2018/10/18 2:22:42 AM	5.00	4.78	2300	0.3771	188	95.6
STD 4	STD 4	x	2018/10/18 2:27:37 AM	12.50	11.38	5945	0.3592	202	91.1
STD 5	STD 5	x	2018/10/18 2:32:32 AM	25.00	26.40	12201	0.4164	182	105.6
STD 6	STD 6	x	2018/10/18 2:37:26 AM	41.70	41.59	20371	0.3933	221	99.7

Batch Path T:\LCMS04\PFC\20181017\WS#5785280\QuantResults\PFC_Water_Low_20181017_WS#5785280_EToxics.batch.bin
Last Calib Update 2018/10/23 10:16:30 AM
Instrument: LCMS04

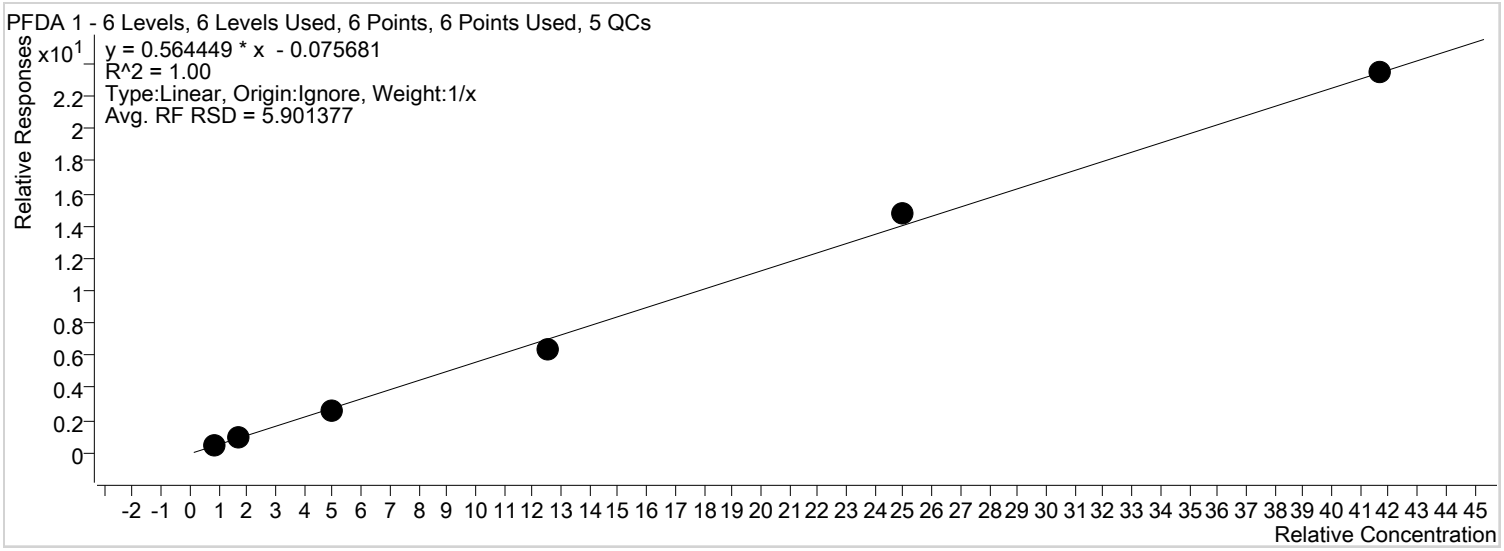
Analyte: PFNA 1
Internal Standard: MPFNA



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/10/18 2:12:53 AM	0.83	0.88	1754	0.3598	24	105.9
STD 2	STD 2	x	2018/10/18 2:17:48 AM	1.70	1.71	3638	0.3733	51	100.8
STD 3	STD 3	x	2018/10/18 2:22:42 AM	5.00	4.80	10927	0.3749	155	95.9
STD 4	STD 4	x	2018/10/18 2:27:37 AM	12.50	12.07	29629	0.3839	448	96.5
STD 5	STD 5	x	2018/10/18 2:32:32 AM	25.00	24.67	57599	0.3946	909	98.7
STD 6	STD 6	x	2018/10/18 2:37:26 AM	41.70	42.61	96508	0.4097	1353	102.2

Batch Path T:\LCMS04\PFC\20181017\WS#5785280\QuantResults\PFC_Water_Low_20181017_WS#5785280_EToxics.batch.bin
Last Calib Update 2018/10/23 10:16:30 AM
Instrument: LCMS04

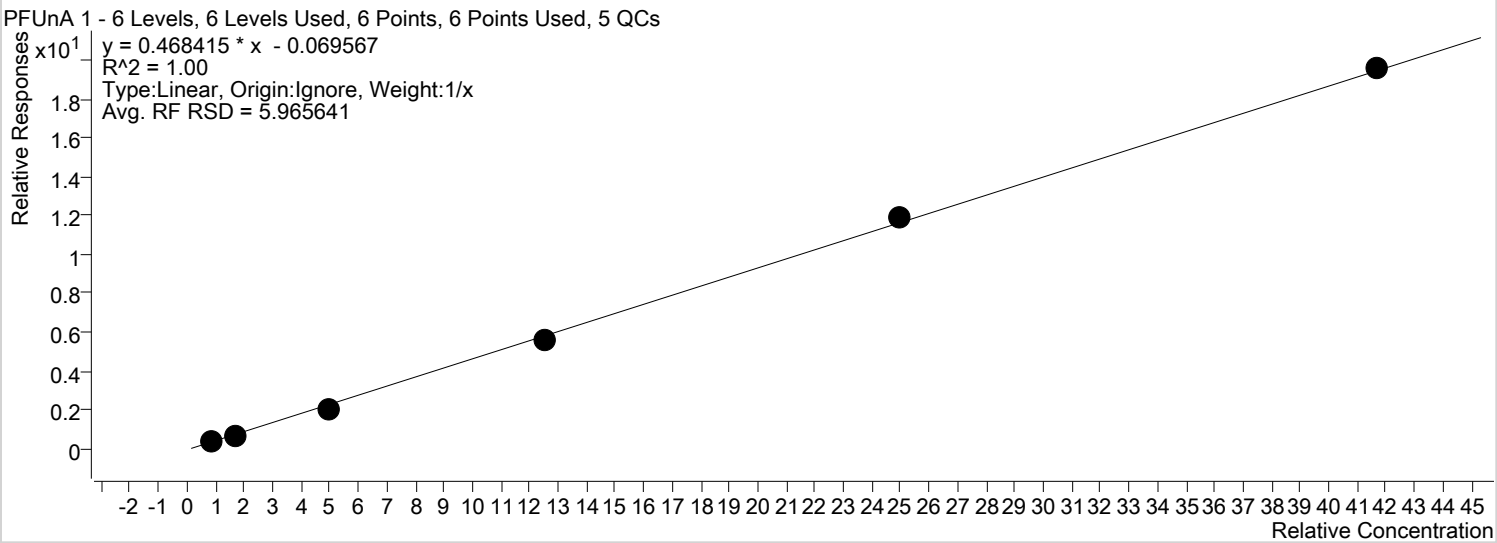
Analyte: PFDA 1
Internal Standard: MPFDA



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/10/18 2:12:53 AM	0.83	0.92	2013	0.5320	58	110.4
STD 2	STD 2	x	2018/10/18 2:17:48 AM	1.70	1.66	3766	0.5075	97	97.8
STD 3	STD 3	x	2018/10/18 2:22:42 AM	5.00	4.77	11728	0.5232	319	95.4
STD 4	STD 4	x	2018/10/18 2:27:37 AM	12.50	11.45	30316	0.5110	784	91.6
STD 5	STD 5	x	2018/10/18 2:32:32 AM	25.00	26.16	61469	0.5877	1458	104.6
STD 6	STD 6	x	2018/10/18 2:37:26 AM	41.70	41.77	102347	0.5636	2223	100.2

Batch Path T:\LCMS04\PFC\20181017\WS#5785280\QuantResults\PFC_Water_Low_20181017_WS#5785280_EToxics.batch.bin
Last Calib Update 2018/10/23 10:16:30 AM
Instrument: LCMS04

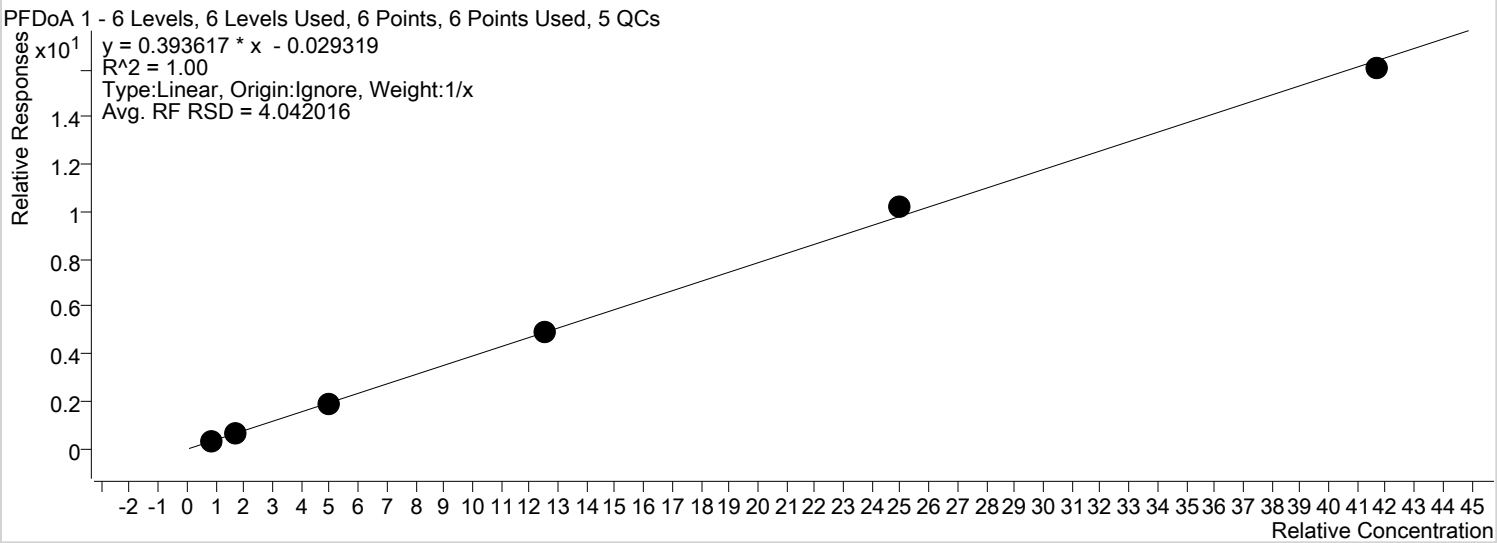
Analyte: PFUnA 1
Internal Standard: MPFUnA



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/10/18 2:12:53 AM	0.83	0.93	1774	0.4407	27	112.0
STD 2	STD 2	x	2018/10/18 2:17:48 AM	1.70	1.66	3563	0.4154	64	97.4
STD 3	STD 3	x	2018/10/18 2:22:42 AM	5.00	4.54	10422	0.4116	139	90.8
STD 4	STD 4	x	2018/10/18 2:27:37 AM	12.50	12.16	28456	0.4500	460	97.3
STD 5	STD 5	x	2018/10/18 2:32:32 AM	25.00	25.46	57648	0.4742	1181	101.8
STD 6	STD 6	x	2018/10/18 2:37:26 AM	41.70	41.99	96094	0.4700	1221	100.7

Batch Path T:\LCMS04\PFC\20181017\WS#5785280\QuantResults\PFC_Water_Low_20181017_WS#5785280_EToxics.batch.bin
Last Calib Update 2018/10/23 10:16:30 AM
Instrument: LCMS04

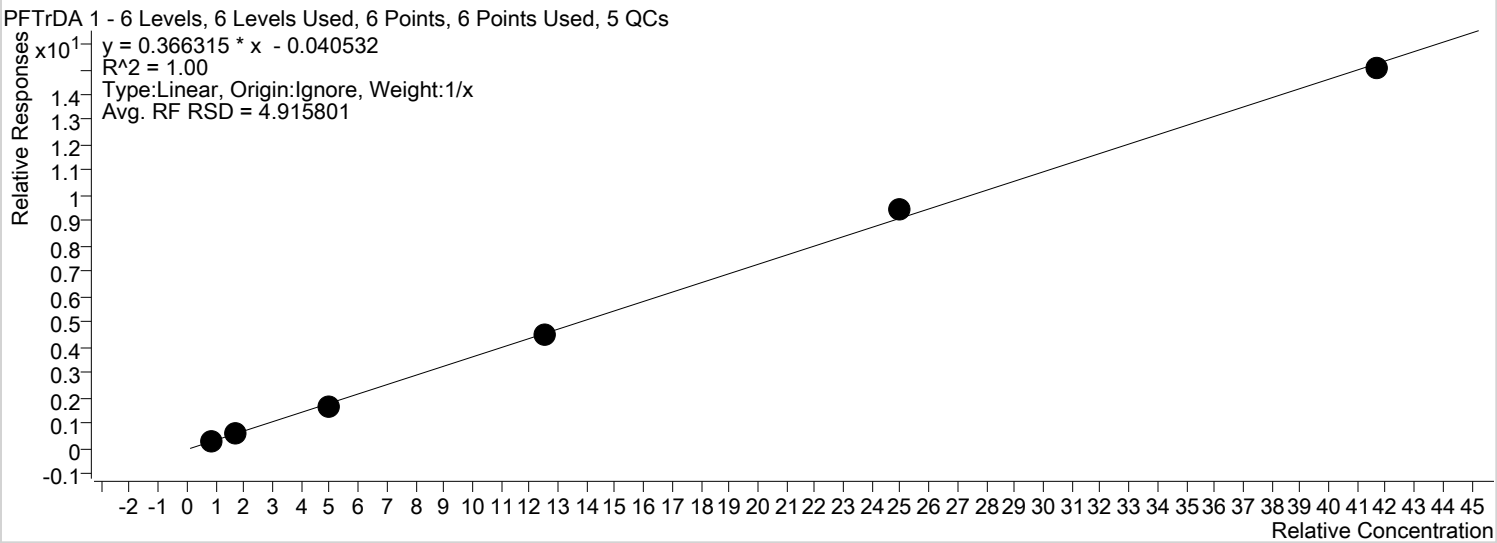
Analyte: PFDoA 1
Internal Standard: MPFDoA



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/10/18 2:12:53 AM	0.83	0.85	1949	0.3667	29	102.1
STD 2	STD 2	x	2018/10/18 2:17:48 AM	1.70	1.71	4095	0.3782	77	100.5
STD 3	STD 3	x	2018/10/18 2:22:42 AM	5.00	4.76	12437	0.3692	136	95.3
STD 4	STD 4	x	2018/10/18 2:27:37 AM	12.50	12.50	32968	0.3911	435	100.0
STD 5	STD 5	x	2018/10/18 2:32:32 AM	25.00	26.02	66431	0.4085	814	104.1
STD 6	STD 6	x	2018/10/18 2:37:26 AM	41.70	40.89	106946	0.3853	1298	98.1

Batch Path T:\LCMS04\PFC\20181017\WS#5785280\QuantResults\PFC_Water_Low_20181017_WS#5785280_EToxics.batch.bin
Last Calib Update 2018/10/23 10:16:30 AM
Instrument: LCMS04

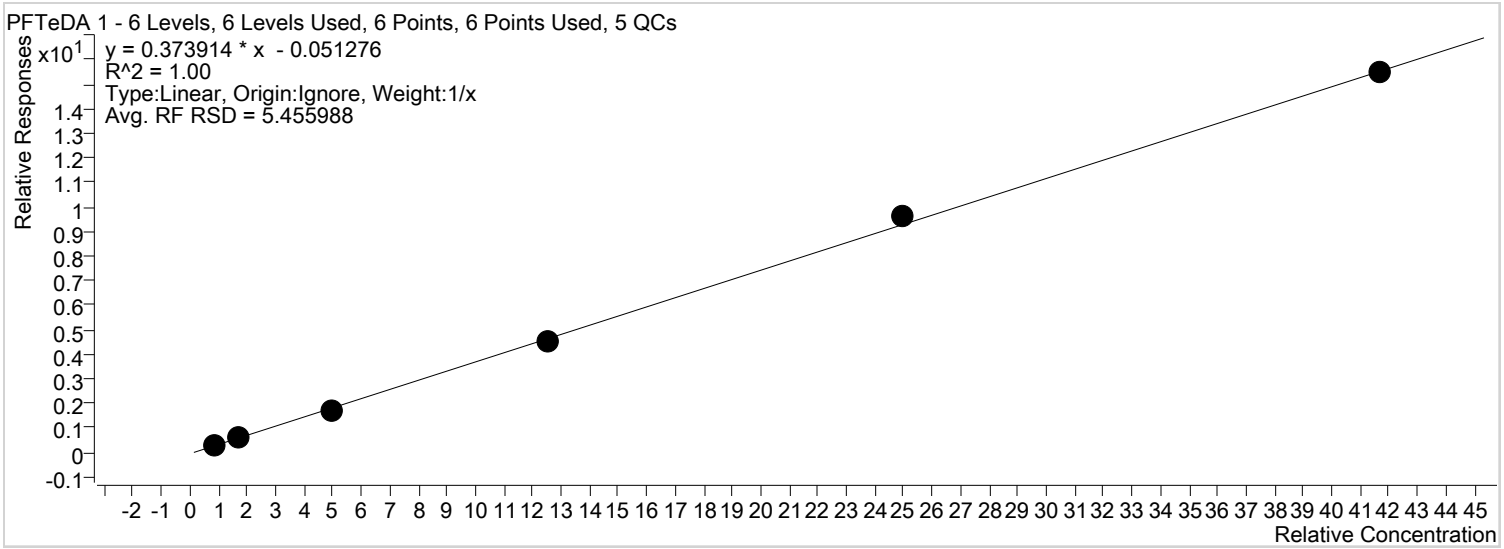
Analyte: PFTrDA 1
Internal Standard: MPFTeDA



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/10/18 2:12:53 AM	0.83	0.88	2408	0.3395	41	106.0
STD 2	STD 2	x	2018/10/18 2:17:48 AM	1.70	1.69	5094	0.3410	101	99.6
STD 3	STD 3	x	2018/10/18 2:22:42 AM	5.00	4.64	15091	0.3321	269	92.9
STD 4	STD 4	x	2018/10/18 2:27:37 AM	12.50	12.37	41157	0.3593	670	99.0
STD 5	STD 5	x	2018/10/18 2:32:32 AM	25.00	25.92	82503	0.3782	1246	103.7
STD 6	STD 6	x	2018/10/18 2:37:26 AM	41.70	41.22	131155	0.3611	1458	98.8

Batch Path T:\LCMS04\PFC\20181017\WS#5785280\QuantResults\PFC_Water_Low_20181017_WS#5785280_EToxics.batch.bin
Last Calib Update 2018/10/23 10:16:30 AM
Instrument: LCMS04

Analyte: PFTeDA 1
Internal Standard: MPFTeDA



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/10/18 2:12:53 AM	0.83	0.91	2467	0.3478	30	109.5
STD 2	STD 2	x	2018/10/18 2:17:48 AM	1.70	1.66	5004	0.3350	63	97.7
STD 3	STD 3	x	2018/10/18 2:22:42 AM	5.00	4.65	15322	0.3372	277	92.9
STD 4	STD 4	x	2018/10/18 2:27:37 AM	12.50	12.12	41052	0.3584	423	96.9
STD 5	STD 5	x	2018/10/18 2:32:32 AM	25.00	25.79	83686	0.3837	857	103.2
STD 6	STD 6	x	2018/10/18 2:37:26 AM	41.70	41.61	135061	0.3719	1171	99.8

By Compound Report

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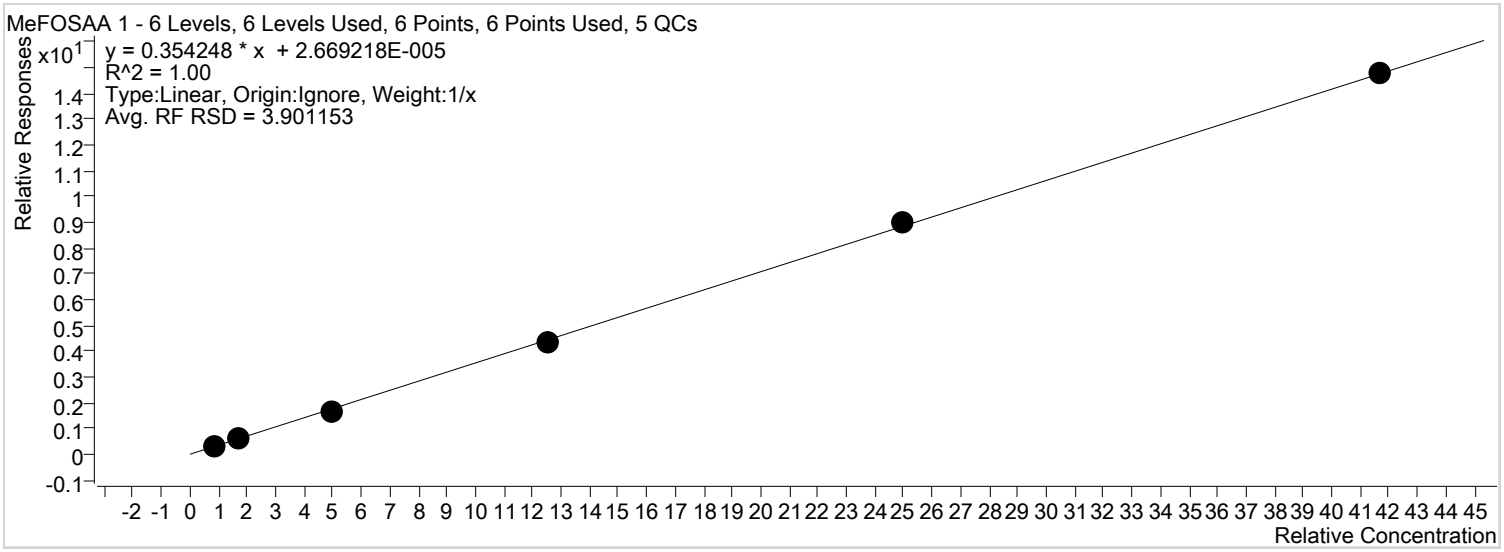
Batch Path T:\LCMS04\PFC\20181017\WS#5785280_FOSAA\QuantResults\PFC_Water_Low_20181017_WS#5785280_FOSAA_ETo xics.batch.bin

Last Calib Update 2018/10/18 11:51:01 AM

Instrument: LCMS04

Analyte: MeFOSAA 1

Internal Standard: D3-MeFOSAA IS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/10/17 6:52:38 PM	0.83	0.87	597	0.3698	198	104.4
STD 2	STD 2	x	2018/10/17 6:55:01 PM	1.70	1.74	1235	0.3620	204	102.2
STD 3	STD 3	x	2018/10/17 6:57:24 PM	5.00	4.65	3351	0.3295	237	93.0
STD 4	STD 4	x	2018/10/17 6:59:47 PM	12.50	12.36	8568	0.3503	278	98.9
STD 5	STD 5	x	2018/10/17 7:02:10 PM	25.00	25.35	17232	0.3592	364	101.4
STD 6	STD 6	x	2018/10/17 7:04:33 PM	41.70	41.77	27048	0.3548	306	100.2

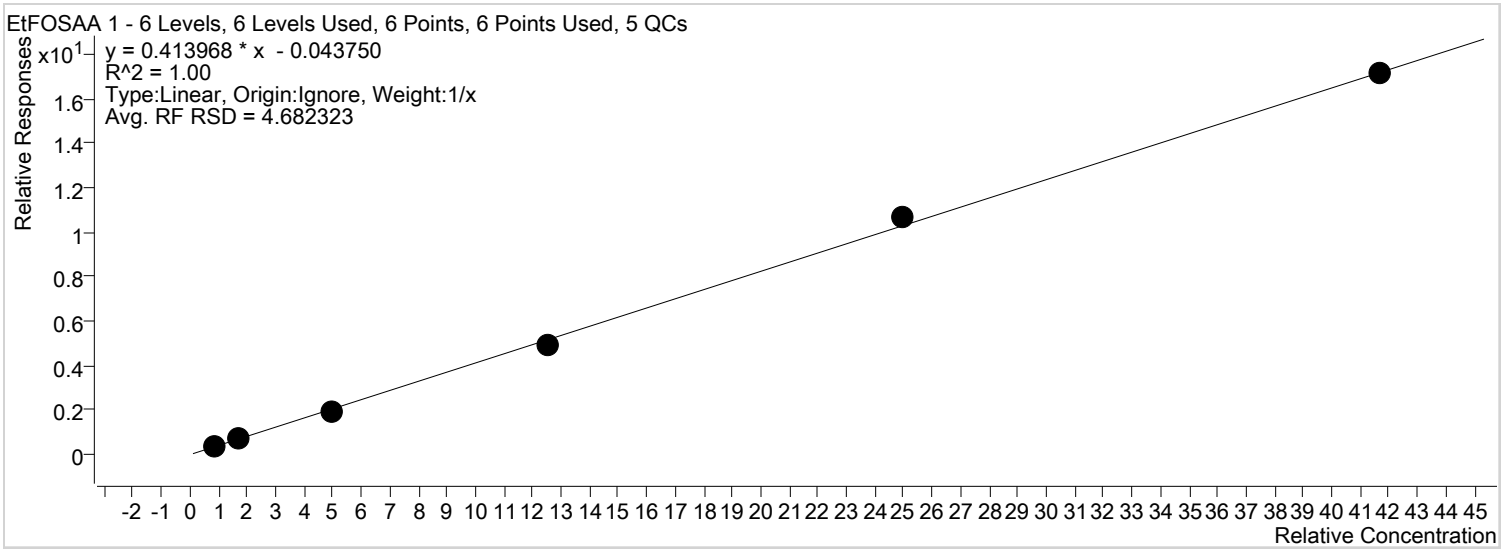
Batch Path T:\LCMS04\PFC\20181017\WS#5785280_FOSAA\QuantResults\PFC_Water_Low_20181017_WS#5785280_FOSAA_ETo xics.batch.bin

Last Calib Update 2018/10/18 11:51:01 AM

Instrument: LCMS04

Analyte: EtFOSAA 1

Internal Standard: D5-EtFOSAA IS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/10/17 6:52:38 PM	0.83	0.91	600	0.3996	69	109.3
STD 2	STD 2	x	2018/10/17 6:55:01 PM	1.70	1.66	1155	0.3783	125	97.6
STD 3	STD 3	x	2018/10/17 6:57:24 PM	5.00	4.72	3479	0.3819	385	94.4
STD 4	STD 4	x	2018/10/17 6:59:47 PM	12.50	11.92	8872	0.3913	1116	95.4
STD 5	STD 5	x	2018/10/17 7:02:10 PM	25.00	25.89	18351	0.4270	1644	103.6
STD 6	STD 6	x	2018/10/17 7:04:33 PM	41.70	41.63	29052	0.4122	2829	99.8

Quantitation Results

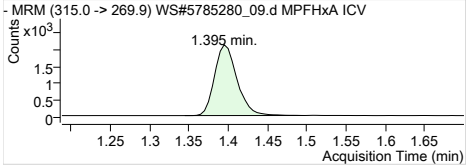
Agilent Technologies

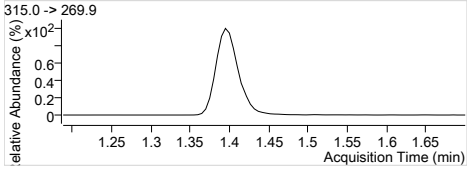
Batch Path	T:\LCMS04\PFC\20181017\WS#5785280\QuantResults\PFC_Water_Low_20181017_WS#5785280_EToxics

Sample Name	**ICV**	**Instrument**	LCMS04
Data File	WS#5785280_09.d	**Operator**	
Sample Type	QC	**Dilution**	1
Acq. Method	PFC_Water_Low.m	**Position**	P4-A9
Acq. Date	2018/10/18 2:47:16 AM	**Injection Volume**	Per Method
Sample Annotation	-		

ISTD Compounds	Response	RT	Target conc.		
MPFHxA	4191	1.39	1 µg/L		
MPFHxS	1065	1.67	1 µg/L		
MPFHpA	6094	1.66	1 µg/L		
MPFOA	6211	1.85	1 µg/L		
MPFOS	1208	1.96	1 µg/L		
MPFNA	5759	1.99	1 µg/L		
MPFDA	4343	2.11	1 µg/L		
MPFUnA	4779	2.21	1 µg/L		
MPFDoA	6504	2.29	1 µg/L		
MPFTeDA	8876	2.44	1 µg/L		
13C6-PFHxA IS	18067	1.39	1 µg/L		
13C9-PFDA IS	25353	2.11	1 µg/L		

Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1	14295	1.07	20.80	22.59 µg/L	108.59
PFHxA 1	39230	1.38	20.80	23.15 µg/L	111.30
PFHxS 1	12316	1.67	20.80	22.01 µg/L	105.84
PFHpA 1	54937	1.65	20.80	22.74 µg/L	109.35
PFOA 1	56949	1.84	20.80	21.91 µg/L	105.36
PFOS 1	10781	1.93	20.80	22.63 µg/L	108.80
PFNA 1	49979	1.99	20.80	21.71 µg/L	104.39
PFDA 1	53379	2.11	20.80	21.91 µg/L	105.33
PFUnA 1	52231	2.21	20.80	23.48 µg/L	112.89
PFDoA 1	60304	2.29	20.80	23.63 µg/L	113.61
PFTrDA 1	73027	2.37	20.80	22.57 µg/L	108.51
PFTeDA 1	73258	2.44	20.80	22.21 µg/L	106.78
13C2-PFHxA	4191	1.39	100.00	98.93 µg/L	98.93
18O2-PFHxS	1065	1.67	100.00	101.28 µg/L	101.28
13C4-PFHpA	6094	1.66	100.00	100.81 µg/L	100.81
13C4-PFOA	6211	1.85	100.00	101.12 µg/L	101.12
13C4-PFOS	1208	1.96	100.00	99.09 µg/L	99.09
13C5-PFNA	5759	1.99	100.00	98.20 µg/L	98.20
13C2-PFDA	4343	2.11	100.00	95.23 µg/L	95.23
13C2-PFUnA	4779	2.21	100.00	93.90 µg/L	93.90
13C2-PFDoA	6504	2.29	100.00	96.54 µg/L	96.54
13C2-PFTeDA	8876	2.44	100.00	97.97 µg/L	97.97
13C6-PFHxA	18067	1.39	100.00	100.23 µg/L	100.23
13C9-PFDA	25353	2.11	100.00	102.52 µg/L	102.52





MPFHxA	Internal Standard
RT (Exp. RT):	1.395 (1.395)
Concentration:	1 µg/L
Sample type:	QC

Quantitation Results

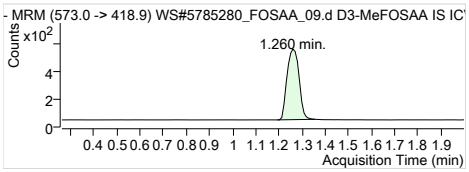
Agilent Technologies

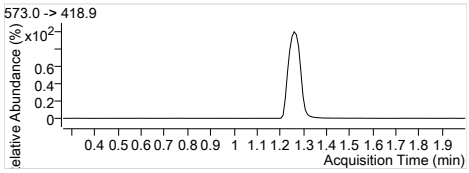
Batch Path	T:\LCMS04\PFC\20181017\WS#5785280_FOSAA\QuantResults\PFC_Water_Low_20181017_WS#5785280_FOSAA_EToxics

Sample Name	**ICV**	**Instrument**	LCMS04
Data File	WS#5785280_FOSAA_09.d	**Operator**	
Sample Type	QC	**Dilution**	1
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P4-A9
Acq. Date	2018/10/17 7:09:19 PM	**Injection Volume**	Per Method
Sample Annotation	-		

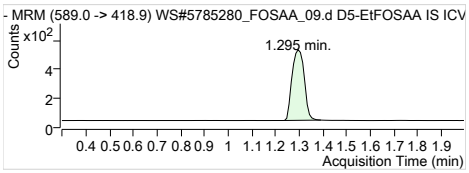
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1865	1.26	1 µg/L		
D5-EtFOSAA IS	1742	1.29	1 µg/L		
13C9-PFDA IS	25257	0.84	1 µg/L		

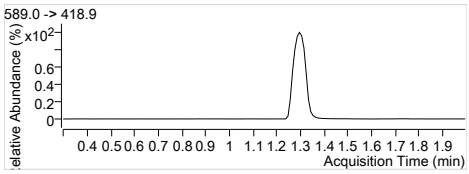
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1	15872	1.26	20.80	24.02 µg/L	115.50
EtFOSAA 1	16189	1.30	20.80	22.56 µg/L	108.44
D3-MeFOSAA	1889	1.26	100.00	95.76 µg/L	95.76
D5-EtFOSAA	1754	1.29	100.00	97.63 µg/L	97.63
13C9-PFDA	24992	0.84	100.00	100.03 µg/L	100.03



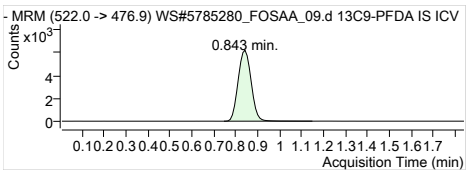


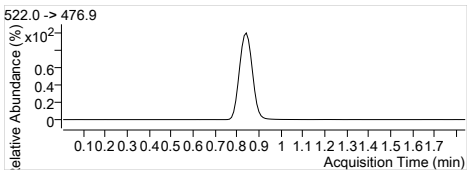
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.260 (1.260)
Concentration: 1 µg/L
Sample type: QC



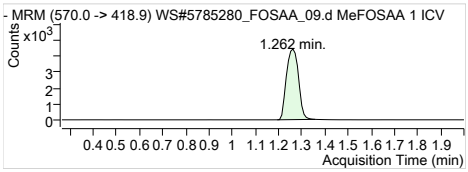


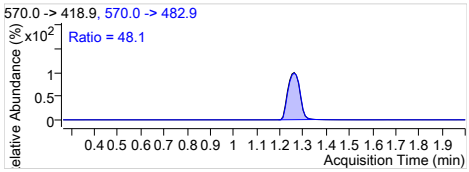
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.295 (1.295)
Concentration: 1 µg/L
Sample type: QC



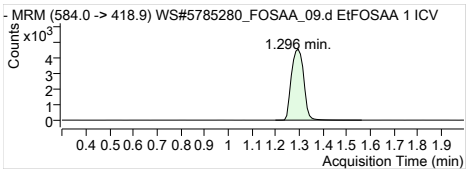


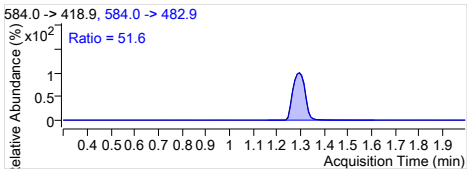
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.843 (0.843)
Concentration: 1 µg/L
Sample type: QC



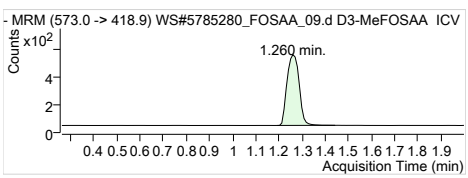


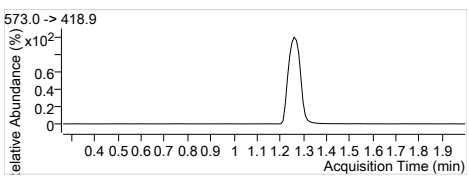
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 1.262 (1.262)
Calc. conc. 24.02 µg/L
Area ratio: 8.51046
Sample type: QC





EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 1.296 (1.296)
Calc. conc. 22.56 µg/L
Area ratio: 9.29334
Sample type: QC





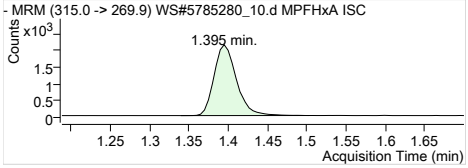
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.260 (1.260)
Calc. conc. 95.76 µg/L
Area ratio: 0.07479
Sample type: QC

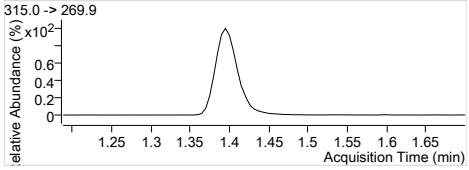
Batch Path T:\LCMS04\PFC\20181017\WS#5785280\QuantResults\PFC_Water_Low_20181017_WS#5785280_EToxics

Sample Name	**ISC**	**Instrument**	LCMS04
Data File	WS#5785280_10.d	**Operator**	
Sample Type	QC	**Dilution**	1
Acq. Method	PFC_Water_Low.m	**Position**	P4-A2
Acq. Date	2018/10/18 2:52:10 AM	**Injection Volume**	Per Method
Sample Annotation	-		

ISTD Compounds	Response	RT	Target conc.		
MPFHxA	4207	1.39	1 µg/L		
MPFHxS	1031	1.67	1 µg/L		
MPFHpA	6177	1.66	1 µg/L		
MPFOA	6033	1.85	1 µg/L		
MPFOS	1183	1.97	1 µg/L		
MPFNA	5822	1.99	1 µg/L		
MPFDA	4240	2.11	1 µg/L		
MPFUnA	4917	2.21	1 µg/L		
MPFDoA	6389	2.29	1 µg/L		
MPFTeDA	8879	2.44	1 µg/L		
13C6-PFHxA IS	18082	1.39	1 µg/L		
13C9-PFDA IS	24639	2.11	1 µg/L		

Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1	446	1.07	0.83	0.90 µg/L	108.58
PFHxA 1	1297	1.38	0.83	0.88 µg/L	105.55
PFHxS 1	439	1.67	0.83	0.94 µg/L	113.74
PFHpA 1	1932	1.65	0.83	0.90 µg/L	108.90
PFOA 1	2046	1.84	0.83	0.90 µg/L	107.87
PFOS 1	354	1.93	0.83	0.76 µg/L	91.37
PFNA 1	1875	1.99	0.83	0.94 µg/L	112.90
PFDA 1	1921	2.11	0.83	0.94 µg/L	112.86
PFUnA 1	1857	2.21	0.83	0.95 µg/L	115.03
PFDoA 1	2033	2.29	0.83	0.88 µg/L	106.37
PFTrDA 1	2486	2.37	0.83	0.87 µg/L	105.42
PFTeDA 1	2607	2.44	0.83	0.92 µg/L	111.13
13C2-PFHxA	4207	1.39	100.00	99.22 µg/L	99.22
18O2-PFHxS	1031	1.67	100.00	97.96 µg/L	97.96
13C4-PFHpA	6177	1.66	100.00	102.10 µg/L	102.10
13C4-PFOA	6033	1.85	100.00	98.14 µg/L	98.14
13C4-PFOS	1183	1.97	100.00	96.96 µg/L	96.96
13C5-PFNA	5822	1.99	100.00	99.19 µg/L	99.19
13C2-PFDA	4240	2.11	100.00	95.67 µg/L	95.67
13C2-PFUnA	4917	2.21	100.00	99.41 µg/L	99.41
13C2-PFDoA	6389	2.29	100.00	97.58 µg/L	97.58
13C2-PFTeDA	8879	2.44	100.00	100.84 µg/L	100.84
13C6-PFHxA	18082	1.39	100.00	100.32 µg/L	100.32
13C9-PFDA	24639	2.11	100.00	99.63 µg/L	99.63





MPFHxA	Internal Standard
RT (Exp. RT):	1.395 (1.395)
Concentration:	1 µg/L
Sample type:	QC

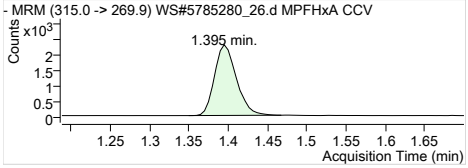
Quantitation Results

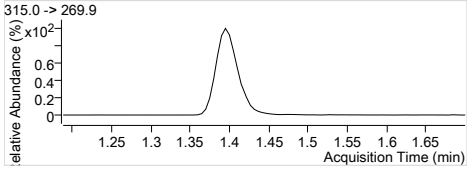
Agilent Technologies

Batch Path	T:\LCMS04\PFC\20181017\WS#5785280\QuantResults\PFC_Water_Low_20181017_WS#5785280_EToxics		
Sample Name	**CCV**	**Instrument**	LCMS04
Data File	WS#5785280_26.d	**Operator**	
Sample Type	CC	**Dilution**	1
Acq. Method	PFC_Water_Low.m	**Position**	P4-A5
Acq. Date	2018/10/18 4:10:45 AM	**Injection Volume**	Per Method
Sample Annotation	-		

ISTD Compounds	Response	RT	Target conc.		
MPFHxA	4443	1.39	1 µg/L		
MPFHxS	1192	1.67	1 µg/L		
MPFHpA	6338	1.66	1 µg/L		
MPFOA	6446	1.85	1 µg/L		
MPFOS	1316	1.96	1 µg/L		
MPFNA	6230	1.99	1 µg/L		
MPFDA	4600	2.11	1 µg/L		
MPFUnA	5368	2.21	1 µg/L		
MPFDoA	6710	2.29	1 µg/L		
MPFTeDA	9383	2.44	1 µg/L		
13C6-PFHxA IS	18940	1.39	1 µg/L		
13C9-PFDA IS	25986	2.11	1 µg/L		

Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1	7677	1.07	12.50	10.93 µg/L	87.45
PFHxA 1	21986	1.38	12.50	12.29 µg/L	98.35
PFHxS 1	6880	1.67	12.50	11.06 µg/L	88.46
PFHpA 1	30856	1.65	12.50	12.34 µg/L	98.70
PFOA 1	32486	1.84	12.50	12.09 µg/L	96.68
PFOS 1	6042	1.93	12.50	11.64 µg/L	93.14
PFNA 1	29409	1.99	12.50	11.87 µg/L	94.98
PFDA 1	30657	2.11	12.50	11.94 µg/L	95.53
PFUnA 1	30089	2.21	12.50	12.11 µg/L	96.92
PFDoA 1	33225	2.29	12.50	12.65 µg/L	101.23
PFTrDA 1	42168	2.37	12.50	12.38 µg/L	99.03
PFTeDA 1	42082	2.44	12.50	12.13 µg/L	97.05
13C2-PFHxA	4443	1.39	100.00	100.04 µg/L	100.04
18O2-PFHxS	1192	1.67	100.00	108.13 µg/L	108.13
13C4-PFHpA	6338	1.66	100.00	100.01 µg/L	100.01
13C4-PFOA	6446	1.85	100.00	100.11 µg/L	100.11
13C4-PFOS	1316	1.96	100.00	102.98 µg/L	102.98
13C5-PFNA	6230	1.99	100.00	101.34 µg/L	101.34
13C2-PFDA	4600	2.11	100.00	98.41 µg/L	98.41
13C2-PFUnA	5368	2.21	100.00	102.90 µg/L	102.90
13C2-PFDoA	6710	2.29	100.00	97.17 µg/L	97.17
13C2-PFTeDA	9383	2.44	100.00	101.04 µg/L	101.04
13C6-PFHxA	18940	1.39	100.00	105.08 µg/L	105.08
13C9-PFDA	25986	2.11	100.00	105.08 µg/L	105.08





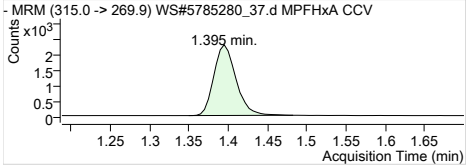
MPFHxA	Internal Standard
RT (Exp. RT):	1.395 (1.395)
Concentration:	1 µg/L
Sample type:	CC

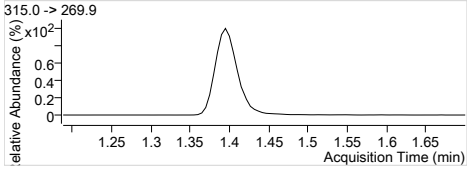
Batch Path	T:\LCMS04\PFC\20181017\WS#5785280\QuantResults\PFC_Water_Low_20181017_WS#5785280_EToxics

Sample Name	**CCV**	**Instrument**	LCMS04
Data File	WS#5785280_37.d	**Operator**	
Sample Type	CC	**Dilution**	1
Acq. Method	PFC_Water_Low.m	**Position**	P4-A5
Acq. Date	2018/10/18 5:04:46 AM	**Injection Volume**	Per Method
Sample Annotation	-		

ISTD Compounds	Response	RT	Target conc.		
MPFHxA	4508	1.39	1 µg/L		
MPFHxS	1148	1.67	1 µg/L		
MPFHpA	6772	1.66	1 µg/L		
MPFOA	6424	1.85	1 µg/L		
MPFOS	1287	1.97	1 µg/L		
MPFNA	6698	1.99	1 µg/L		
MPFDA	4696	2.11	1 µg/L		
MPFUnA	5490	2.21	1 µg/L		
MPFDoA	7170	2.29	1 µg/L		
MPFTeDA	9401	2.44	1 µg/L		
13C6-PFHxA IS	19297	1.39	1 µg/L		
13C9-PFDA IS	25828	2.11	1 µg/L		

Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1	7773	1.07	12.50	11.48 µg/L	91.86
PFHxA 1	22035	1.38	12.50	12.14 µg/L	97.16
PFHxS 1	7027	1.67	12.50	11.72 µg/L	93.74
PFHpA 1	30512	1.65	12.50	11.43 µg/L	91.41
PFOA 1	32941	1.84	12.50	12.29 µg/L	98.36
PFOS 1	6252	1.93	12.50	12.32 µg/L	98.54
PFNA 1	29696	1.99	12.50	11.16 µg/L	89.27
PFDA 1	31518	2.11	12.50	12.02 µg/L	96.20
PFUnA 1	29900	2.20	12.50	11.78 µg/L	94.20
PFDoA 1	34276	2.29	12.50	12.22 µg/L	97.76
PFTrDA 1	42609	2.37	12.50	12.48 µg/L	99.87
PFTeDA 1	42733	2.44	12.50	12.29 µg/L	98.35
13C2-PFHxA	4508	1.39	100.00	99.63 µg/L	99.63
18O2-PFHxS	1148	1.67	100.00	102.21 µg/L	102.21
13C4-PFHpA	6772	1.66	100.00	104.88 µg/L	104.88
13C4-PFOA	6424	1.85	100.00	97.92 µg/L	97.92
13C4-PFOS	1287	1.97	100.00	98.84 µg/L	98.84
13C5-PFNA	6698	1.99	100.00	106.93 µg/L	106.93
13C2-PFDA	4696	2.11	100.00	101.08 µg/L	101.08
13C2-PFUnA	5490	2.21	100.00	105.88 µg/L	105.88
13C2-PFDoA	7170	2.29	100.00	104.47 µg/L	104.47
13C2-PFTeDA	9401	2.44	100.00	101.85 µg/L	101.85
13C6-PFHxA	19297	1.39	100.00	107.06 µg/L	107.06
13C9-PFDA	25828	2.11	100.00	104.44 µg/L	104.44





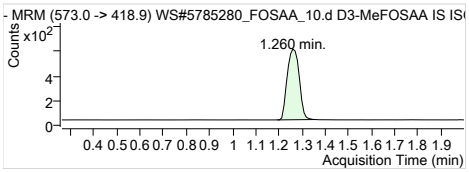
MPFHxA	Internal Standard
RT (Exp. RT):	1.395 (1.395)
Concentration:	1 µg/L
Sample type:	CC

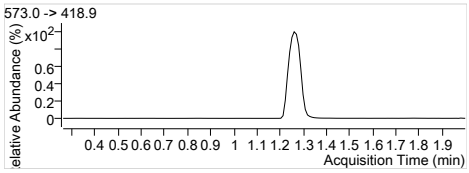
Batch Path	T:\LCMS04\PFC\20181017\WS#5785280_FOSAA\QuantResults\PFC_Water_Low_20181017_WS#5785280_FOSAA_EToxics

Sample Name	**ISC**	**Instrument**	LCMS04
Data File	WS#5785280_FOSAA_10.d	**Operator**	
Sample Type	QC	**Dilution**	1
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P4-A2
Acq. Date	2018/10/17 7:11:44 PM	**Injection Volume**	Per Method
Sample Annotation	-		

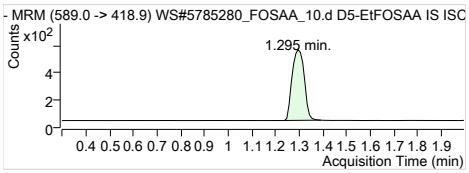
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	2054	1.26	1 µg/L		
D5-EtFOSAA IS	1863	1.29	1 µg/L		
13C9-PFDA IS	25876	0.84	1 µg/L		

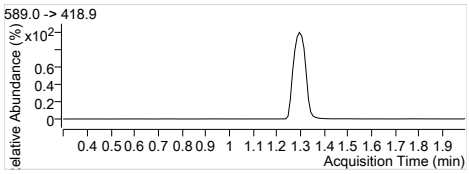
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1	588	1.26	0.83	0.81 µg/L	97.35
EtFOSAA 1	613	1.30	0.83	0.90 µg/L	108.50
D3-MeFOSAA	2073	1.26	100.00	102.57 µg/L	102.57
D5-EtFOSAA	1873	1.29	100.00	101.76 µg/L	101.76
13C9-PFDA	25608	0.84	100.00	102.49 µg/L	102.49



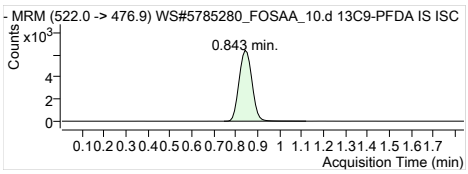


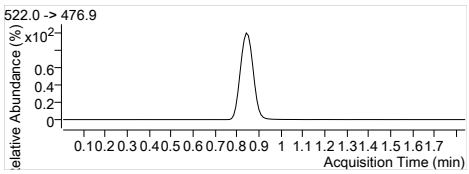
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.260 (1.260)
Concentration: 1 µg/L
Sample type: QC



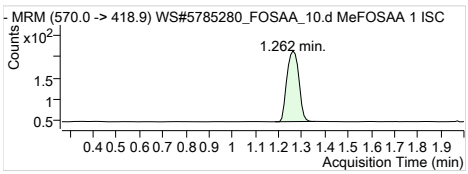


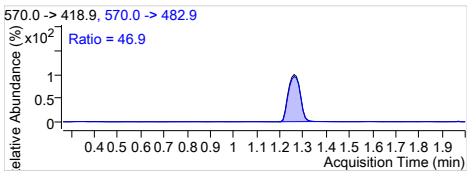
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.295 (1.295)
Concentration: 1 µg/L
Sample type: QC



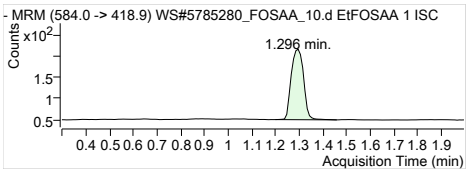


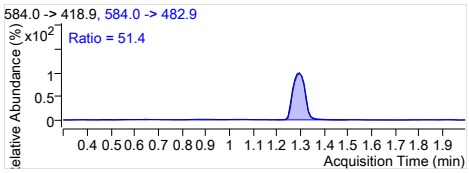
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.843 (0.843)
Concentration: 1 µg/L
Sample type: QC



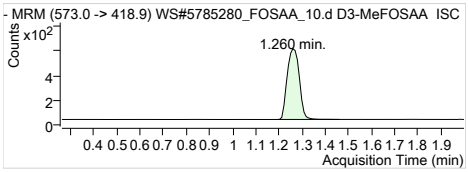


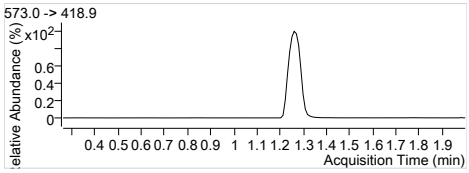
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 1.262 (1.262)
Calc. conc. 0.81 µg/L
Area ratio: 0.28627
Sample type: QC





EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 1.296 (1.296)
Calc. conc. 0.90 µg/L
Area ratio: 0.32904
Sample type: QC





D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.260 (1.260)
Calc. conc. 102.57 µg/L
Area ratio: 0.08011
Sample type: QC

Quantitation Results

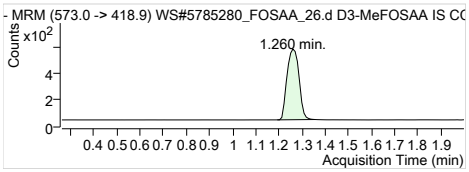
Agilent Technologies

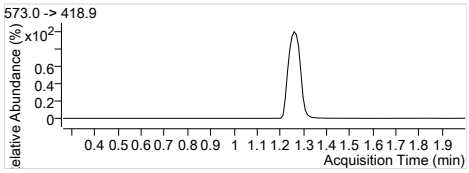
Batch Path	T:\LCMS04\PFC\20181017\WS#5785280_FOSAA\QuantResults\PFC_Water_Low_20181017_WS#5785280_FOSAA_EToxics

Sample Name	**CCV**	**Instrument**	LCMS04
Data File	WS#5785280_FOSAA_26.d	**Operator**	
Sample Type	CC	**Dilution**	1
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P4-A5
Acq. Date	2018/10/17 7:49:52 PM	**Injection Volume**	Per Method
Sample Annotation	-		

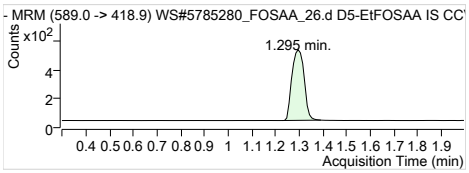
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1933	1.26	1 µg/L		
D5-EtFOSAA IS	1772	1.29	1 µg/L		
13C9-PFDA IS	25094	0.84	1 µg/L		

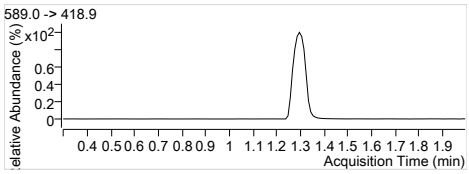
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1	8383	1.26	12.50	12.24 µg/L	97.94
EtFOSAA 1	8745	1.30	12.50	12.03 µg/L	96.22
D3-MeFOSAA	1946	1.26	100.00	99.29 µg/L	99.29
D5-EtFOSAA	1790	1.29	100.00	100.28 µg/L	100.28
13C9-PFDA	24857	0.84	100.00	99.49 µg/L	99.49



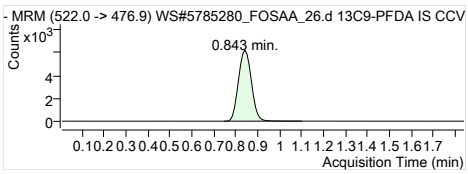


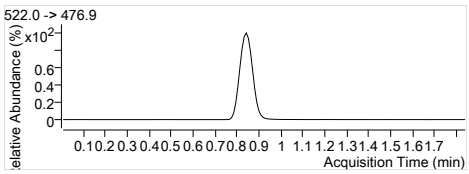
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.260 (1.260)
Concentration: 1 µg/L
Sample type: CC



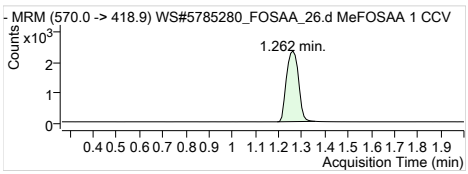


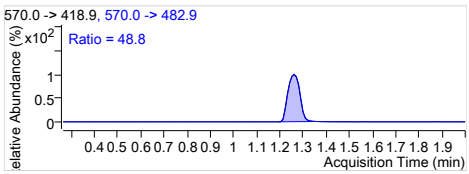
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.295 (1.295)
Concentration: 1 µg/L
Sample type: CC



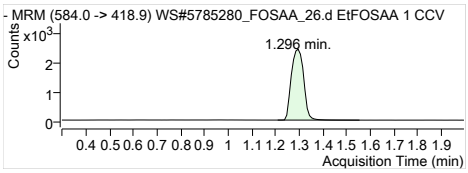


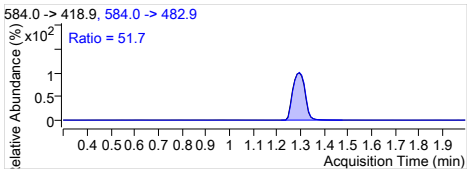
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.843 (0.843)
Concentration: 1 µg/L
Sample type: CC



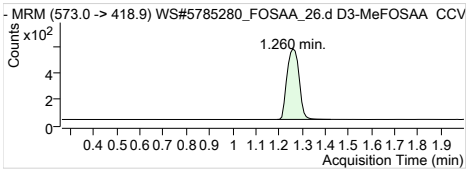


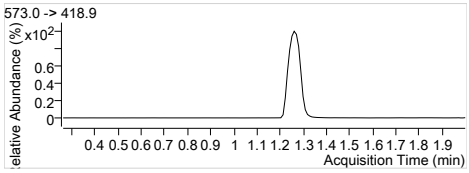
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 1.262 (1.262)
Calc. conc. 12.24 µg/L
Area ratio: 4.33678
Sample type: CC





EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 1.296 (1.296)
Calc. conc. 12.03 µg/L
Area ratio: 4.93510
Sample type: CC





D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.260 (1.260)
Calc. conc. 99.29 µg/L
Area ratio: 0.07755
Sample type: CC

DODCMD_ID	INSTALLATION_ID	SDG	SITE_NAME	NORM_SITE_NAME	LOCATION_NAME	LOCATION_TYPE_DESC	COORD_X	COORD_Y	CONTRACT_ID	DO_CTO_NUMBER	CONTR_NAME	SAMPLE_NAME	SAMPLE_MATRIX_DESC	SAMPLE_TYPE_DESC	COLLECT_DATE	ANALYTICAL_METHOD	ANALYTICAL_METHOD_GRP_DESC	RES_META_ID
SOUTHEAST	CECIL_FIELD_NAS	B8Q4471	BLDG 00081	SITE 00003	CEF-081-12S	Monitoring well	375876.82	2146403.345	N6247008D1001	JM10	TETRA TECH NUS, INC.	CEF-081-12S-20181005	Ground water	Normal (Regular)	5-Oct-18	537	Perfluoroalkyl Compounds	20190422111716.00
SOUTHEAST	CECIL_FIELD_NAS	B8Q4471	BLDG 00081	SITE 00003	CEF-081-25I	Monitoring well	375641.4961	2146673.375	N6247008D1001	JM10	TETRA TECH NUS, INC.	CEF-081-25I-20181005-D	Ground water	Field duplicate	5-Oct-18	537	Perfluoroalkyl Compounds	20190422111716.00
SOUTHEAST	CECIL_FIELD_NAS	B8Q4471	BLDG 00081	SITE 00003	CEF-081-25I	Monitoring well	375641.4961	2146673.375	N6247008D1001	JM10	TETRA TECH NUS, INC.	CEF-081-25I-20181005	Ground water	Normal (Regular)	5-Oct-18	537	Perfluoroalkyl Compounds	20190422111716.00
SOUTHEAST	CECIL_FIELD_NAS	B8Q4471							N6247008D1001	JM10	TETRA TECH NUS, INC.	CEF-081-FB-20181005	Water for QC samples	QC Sample	5-Oct-18	537	Perfluoroalkyl Compounds	20190422111716.00