Navy_CLEAN_PFAS_FOIA_request_covers.indd

NAVFAC
Naval Facilities Engineering Command

Groundwater Sample Results, Level 4 Laboratory Report, Electronic Data Deliverable, Data Validation Report, and the Sample Location Report, SDG B824213

Naval Air Station Cecil Field
Jacksonville, Florida

July 2019

APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED

N60200_009759
NAS CECIL FIELD, FL
SSIC 5000-33c

LABORATORY DATA PACKAGE B824213 NAS CECIL FIELD FL

03/13/2018

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 #: B824213

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



Table of Contents

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

Table of Contents

Certification Page

1. Project Narrative
2. Sample Management Records

    2.1 Sample Custody

3. Analytical Results

    3.1 Summary Report

    3.2 Sample Chromatograms

4. QA/QC Data
5. Initial Calibration
6. Continuing Calibration

Last Page

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
2018.03.13 11:08:21 -04'00'

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

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

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

Maxxam Job: B824213

Sample Analysis

Samples were initially pre-screened and estimated concentrations were obtained so that appropriate sample volumes could be extracted on QC batches 5393111 (2018/02/13) and 5395679 (2018/02/13-14). Due to high concentrations, reduced sample volumes were extracted for the following samples:

GAD933	*CEF-860-TW01-0118*	*Perfluorooctanesulfonate (PFOS)*
GAD934	*CEF-1820-TW01-0118*	*Perfluorohexanesulfonate (PFHxS), Perfluorooctanesulfonate (PFOS)*
GAD936	*CEF-NG-025-0118*	*Perfluorooctanesulfonate (PFOS)*

In addition, these samples were analyzed by high level analysis with serial dilution for the above selected analytes on QC batches 5393267 (2018/02/14) and 5396269 (2018/02/14). Detection limits were adjusted accordingly.

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						
GAD929	FB-CEF-1820-012618-10	2018/01/26	2018/02/01	2018/02/09	2018/02/13	2018/02/13
GAD930	EB-CEF-1820-012618-14	2018/01/26	2018/02/01	2018/02/09	2018/02/13	2018/02/13
GAD931	EB-CEF-1820-012618-15	2018/01/26	2018/02/01	2018/02/09	2018/02/13	2018/02/13
GAD932	EB-CEF-1820-012618-16	2018/01/26	2018/02/01	2018/02/09	2018/02/13	2018/02/13
GAD933	CEF-860-TW01-0118	2018/01/26	2018/02/01	2018/02/09	2018/02/13	2018/02/13 & 2018/02/14
GAD933 Dup	CEF-860-TW01-0118	2018/01/26	2018/02/01	2018/02/09	2018/02/14	2018/02/13 & 2018/02/14
GAD934	CEF-1820-TW01-0118	2018/01/26	2018/02/01	2018/02/09	2018/02/13	2018/02/13 & 2018/02/14
GAD934 Dup	CEF-1820-TW01-0118	2018/01/26	2018/02/01	2018/02/09	2018/02/14	2018/02/13 & 2018/02/14
GAD935	FB-CEF-NG-012918-11	2018/01/29	2018/02/01	2018/02/12	2018/02/13	2018/02/13-14
GAD936	CEF-NG-025-0118	2018/01/29	2018/02/01	2018/02/12	2018/02/13	2018/02/13-14
GAD936 Dup	CEF-NG-025-0118	2018/01/29	2018/02/01	2018/02/12	2018/02/13	2018/02/13-14
GAD937	CEF-NG-10S-0118	2018/01/29	2018/02/01	2018/02/12	2018/02/13	2018/02/13-14
GAD938	CEF-860-TW02-0118	2018/01/30	2018/02/01	2018/02/12	2018/02/14	2018/02/13-14

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: All FB and EB samples were initially not reported as per client request. Client later requested that these samples be reported.

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 Fallen

Project Manager- Site Assessment and Remediation/ Ultra Trace

2018/03/13
Date



2. Sample Management Records

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



2.1 Sample Custody

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

Tetra Tech, Inc. — **CHAIN OF CUSTODY** — NUMBER No. 3185 — PAGE ___ OF ___

PROJECT NO: JM60	FACILITY: Cecil	PROJECT MANAGER: Megan Vad	PHONE NUMBER: 904.334.7260	LABORATORY NAME AND CONTACT: Maxxam / Stephanie Poodle
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER: Dave Siefken	PHONE NUMBER: 904.334.7260	ADDRESS
		CARRIER/WAYBILL NUMBER: Fed Ex		CITY, STATE

STANDARD TAT ☑ RUSH TAT ☐ ☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

CONTAINER TYPE PLASTIC (P) or GLASS (G): P

PRESERVATIVE USED: –

DATE YEAR 2018	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	TYPE OF ANALYSIS: PFAS	COMMENTS
1/26	1000	FB-CEF-1820-012618-10				QC	2	X		Cool 4°C
1/26	1025	EB-CEF-1820-012618-14				QC	2	X		
1/26	1030	EB-CEF-1820-012618-15				QC	2	X		
1/26	1035	EB-CEF-1820-012618-16				QC	2	X		
1/26	1128	CEF-860-TW01-0118				GW		2	X	
1/24	1420	CEF-1820-TW01-0118				GW		2	X	
1/29	1553	FB-CEF-NG-012918-11				GW	QC	2	X	
1/29	1350	CEF-NG-025-0118				GW		6	X	
1/29	1550	CEF-NG-105-0118				GW		2	X	
1/30	1455	CEF-860-TW02-0118				GW		2	X	

01-Feb-18 14:24
Gemarie Balatico
B824213
GID ENV-1375

1. RELINQUISHED BY: Steven Davis	DATE: 01/31/2018	TIME: 1330	1. RECEIVED BY: FedEx	DATE: 02/01	TIME: 14:29
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) 4.2/2.5/3.2 PINK (FILE COPY) Cust. Acceptance 4/02R FORM NO. TtNUS-001



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
Mississauga, Ontario, Canada
L5N 2L8
1-800-668-0639
www.maxxamanalytics.com

Your Project #: JM10 CECIL
Your C.O.C. #: 3185

Attention: Rick Carr

Earth Toxics Inc
PO Box 3382
Logan, UT
USA 84321

Report Date: 2018/03/09
Report #: R5035730
Version: 3 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

MAXXAM JOB #: B824213
Received: 2018/02/01, 14:24

Sample Matrix: Water
Samples Received: 10

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Reference
PFOS and PFOA in water by SPE/LCMS (1)	6	2018/02/09	2018/02/13	CAM SOP-00894	EPA 537 m
PFOS and PFOA in water by SPE/LCMS (1)	3	2018/02/12	2018/02/13	CAM SOP-00894	EPA 537 m
PFOS and PFOA in water by SPE/LCMS (1)	1	2018/02/12	2018/02/14	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.

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.

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.
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
Your C.O.C. #: 3185

Attention: Rick Carr

Earth Toxics Inc
PO Box 3382
Logan, UT
USA 84321

Report Date: 2018/03/09
Report #: R5035730
Version: 3 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

MAXXAM JOB #: B824213
Received: 2018/02/01, 14:24

Encryption Key

Please direct all questions regarding this Certific 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 #: B824213
Report Date: 2018/03/09

Earth Toxics Inc
Client Project #: JM10 CECIL

RESULTS OF ANALYSES OF WATER

Maxxam ID		GAD929	GAD930	GAD931				
Sampling Date		2018/01/26 10:00	2018/01/26 10:25	2018/01/26 10:30				
COC Number		3185	3185	3185				
	UNITS	FB-CEF-1820-012618-10	EB-CEF-1820-012618-14	EB-CEF-1820-012618-15	DL	LOD	LOQ	QC Batch
Miscellaneous Parameters								
EtFOSAA	ng/L	10 U	10 U	10 U	3.3	10	20	5393111
MeFOSAA	ng/L	10 U	10 U	10 U	2.9	10	20	5393111
Perfluorobutane Sulfonate (PFBS)	ng/L	15 U	15 U	15 U	5.4	15	20	5393111
Perfluoroheptanoic Acid (PFHpA)	ng/L	15 U	15 U	15 U	7.4	15	20	5393111
Perfluorohexanoic Acid (PFHxA)	ng/L	10 U	10 U	10 U	3.5	10	20	5393111
Perfluorohexane Sulfonate (PFHxS)	ng/L	15 U	15 U	15 U	5.6	15	20	5393111
Perfluorononanoic Acid (PFNA)	ng/L	18 U	18 U	18 U	8.7	18	20	5393111
Perfluorotetradecanoic Acid	ng/L	10 U	10 U	10 U	2.7	10	20	5393111
Perfluorotridecanoic Acid	ng/L	10 U	10 U	10 U	3.8	10	20	5393111
Perfluoroundecanoic Acid (PFUnA)	ng/L	10 U	10 U	10 U	2.5	10	20	5393111
Perfluorodecanoic Acid (PFDA)	ng/L	15 U	15 U	15 U	6.1	15	20	5393111
Perfluorododecanoic Acid (PFDoA)	ng/L	10 U	10 U	10 U	5.0	10	20	5393111
Perfluoro-n-Octanoic Acid (PFOA)	ng/L	10 U	10 U	10 U	3.3	10	20	5393111
Perfluorooctane Sulfonate (PFOS)	ng/L	15 U	15 U	23	6.0	15	20	5393111
Surrogate Recovery (%)								
13C2-Perfluorodecanoic acid	%	84	82	83				5393111
13C2-Perfluorododecanoic acid	%	72	85	71				5393111
13C2-Perfluorohexanoic acid	%	90	97	91				5393111
13C2-perfluorotetradecanoic acid	%	105	80	61				5393111
13C2-Perfluoroundecanoic acid	%	76	83	80				5393111
13C4-Perfluoroheptanoic acid	%	87	101	96				5393111
13C4-Perfluorooctanesulfonate	%	91	104	95				5393111
13C4-Perfluorooctanoic acid	%	88	99	90				5393111
13C5-Perfluorononanoic acid	%	91	97	91				5393111
18O2-Perfluorohexanesulfonate	%	94	110	92				5393111
D3-MeFOSAA	%	73	75	67				5393111
D5-EtFOSAA	%	76	79	71				5393111

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

Maxxam Job #: B824213
Report Date: 2018/03/09

Earth Toxics Inc
Client Project #: JM10 CECIL

RESULTS OF ANALYSES OF WATER

Maxxam ID		GAD932					GAD933				
Sampling Date		2018/01/26 10:35					2018/01/26 11:28				
COC Number		3185					3185				
	UNITS	EB-CEF-1820-012618-16	DL	LOD	LOQ	QC Batch	CEF-860-TW01-0118	DL	LOD	LOQ	QC Batch
Miscellaneous Parameters											
EtFOSAA	ng/L	10 U	3.3	10	20	5393111	1000 U (1)	330	1000	2000	5393111
MeFOSAA	ng/L	10 U	2.9	10	20	5393111	1000 U (1)	290	1000	2000	5393111
Perfluorobutane Sulfonate (PFBS)	ng/L	15 U	5.4	15	20	5393111	1500 J (1)	540	1500	2000	5393111
Perfluoroheptanoic Acid (PFHpA)	ng/L	15 U	7.4	15	20	5393111	1200 J (1)	740	1500	2000	5393111
Perfluorohexanoic Acid (PFHxA)	ng/L	10 U	3.5	10	20	5393111	4400 (1)	350	1000	2000	5393111
Perfluorohexane Sulfonate (PFHxS)	ng/L	15 U	5.6	15	20	5393111	32000 (1)	560	1500	2000	5393111
Perfluorononanoic Acid (PFNA)	ng/L	18 U	8.7	18	20	5393111	1800 U (1)	870	1800	2000	5393111
Perfluorotetradecanoic Acid	ng/L	10 U	2.7	10	20	5393111	1000 U (1)	270	1000	2000	5393111
Perfluorotridecanoic Acid	ng/L	10 U	3.8	10	20	5393111	1000 U (1)	380	1000	2000	5393111
Perfluoroundecanoic Acid (PFUnA)	ng/L	10 U	2.5	10	20	5393111	1000 U (1)	250	1000	2000	5393111
Perfluorodecanoic Acid (PFDA)	ng/L	15 U	6.1	15	20	5393111	1500 U (1)	610	1500	2000	5393111
Perfluorododecanoic Acid (PFDoA)	ng/L	10 U	5.0	10	20	5393111	1000 U (1)	500	1000	2000	5393111
Perfluoro-n-Octanoic Acid (PFOA)	ng/L	10 U	3.3	10	20	5393111	5800 (1)	330	1000	2000	5393111
Perfluorooctane Sulfonate (PFOS)	ng/L	15 U	6.0	15	20	5393111	230000 (2)	2300	6000	8000	5393267
Surrogate Recovery (%)											
13C2-Perfluorodecanoic acid	%	83				5393111	80				5393111
13C2-Perfluorododecanoic acid	%	76				5393111	73				5393111
13C2-Perfluorohexanoic acid	%	92				5393111	91				5393111
13C2-perfluorotetradecanoic acid	%	68				5393111	80				5393111
13C2-Perfluoroundecanoic acid	%	76				5393111	74				5393111
13C4-Perfluoroheptanoic acid	%	86				5393111	86				5393111
13C4-Perfluorooctanesulfonate	%	87				5393111	95				5393267
13C4-Perfluorooctanoic acid	%	87				5393111	88				5393111
13C5-Perfluorononanoic acid	%	83				5393111	82				5393111
18O2-Perfluorohexanesulfonate	%	90				5393111	89				5393111
D3-MeFOSAA	%	77				5393111	70				5393111
D5-EtFOSAA	%	76				5393111	70				5393111

DL = Detection Limit

LOD = Limit of Detection

LOQ = Limit of Quantitation

QC Batch = Quality Control Batch

N/A = Not Applicable

(1) Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x).

(2) Due to high concentration of the target analyte, sample required high level analysis with additional serial dilutions. Detection limit was adjusted accordingly.

Post spike sample recovery is not applicable due to native concentration.

Maxxam Job #: B824213
Report Date: 2018/03/09

Earth Toxics Inc
Client Project #: JM10 CECIL

RESULTS OF ANALYSES OF WATER

Maxxam ID		GAD933					GAD934				
Sampling Date		2018/01/26 11:28					2018/01/26 14:20				
COC Number		3185					3185				
	UNITS	CEF-860-TW01-0118 Lab-Dup	DL	LOD	LOQ	QC Batch	CEF-1820-TW01-0118	DL	LOD	LOQ	QC Batch
Miscellaneous Parameters											
EtFOSAA	ng/L	N/A	330	1000	2000	5393111	1000 U (1)	330	1000	2000	5393111
MeFOSAA	ng/L	N/A	290	1000	2000	5393111	1000 U (1)	290	1000	2000	5393111
Perfluorobutane Sulfonate (PFBS)	ng/L	N/A	540	1500	2000	5393111	32000 (1)	540	1500	2000	5393111
Perfluoroheptanoic Acid (PFHpA)	ng/L	N/A	740	1500	2000	5393111	9000 (1)	740	1500	2000	5393111
Perfluorohexanoic Acid (PFHxA)	ng/L	N/A	350	1000	2000	5393111	53000 (1)	350	1000	2000	5393111
Perfluorohexane Sulfonate (PFHxS)	ng/L	N/A	560	1500	2000	5393111	250000 (2)	2400	5000	8000	5393267
Perfluorononanoic Acid (PFNA)	ng/L	N/A	870	1800	2000	5393111	1800 U (1)	870	1800	2000	5393111
Perfluorotetradecanoic Acid	ng/L	N/A	270	1000	2000	5393111	1000 U (1)	270	1000	2000	5393111
Perfluorotridecanoic Acid	ng/L	N/A	380	1000	2000	5393111	1000 U (1)	380	1000	2000	5393111
Perfluoroundecanoic Acid (PFUnA)	ng/L	N/A	250	1000	2000	5393111	1000 U (1)	250	1000	2000	5393111
Perfluorodecanoic Acid (PFDA)	ng/L	N/A	610	1500	2000	5393111	1500 U (1)	610	1500	2000	5393111
Perfluorododecanoic Acid (PFDoA)	ng/L	N/A	500	1000	2000	5393111	1000 U (1)	500	1000	2000	5393111
Perfluoro-n-Octanoic Acid (PFOA)	ng/L	N/A	330	1000	2000	5393111	29000 (1)	330	1000	2000	5393111
Perfluorooctane Sulfonate (PFOS)	ng/L	220000 (3)	2300	6000	8000	5393267	930000 (2)	23000	60000	80000	5393267
Surrogate Recovery (%)											
13C2-Perfluorodecanoic acid	%	N/A				5393111	86				5393111
13C2-Perfluorododecanoic acid	%	N/A	N/A	N/A		5393111	79				5393111
13C2-Perfluorohexanoic acid	%	N/A	N/A	N/A		5393111	94				5393111
13C2-perfluorotetradecanoic acid	%	N/A	N/A	N/A		5393111	54				5393111
13C2-Perfluoroundecanoic acid	%	N/A	N/A	N/A		5393111	82				5393111
13C4-Perfluoroheptanoic acid	%	N/A	N/A	N/A		5393111	88				5393111
13C4-Perfluorooctanesulfonate	%	95				5393267	99				5393267
13C4-Perfluorooctanoic acid	%	N/A	N/A	N/A		5393111	94				5393111
13C5-Perfluorononanoic acid	%	N/A	N/A	N/A		5393111	94				5393111
18O2-Perfluorohexanesulfonate	%	N/A	N/A	N/A		5393111	98				5393267
D3-MeFOSAA	%	N/A	N/A	N/A		5393111	76				5393111

DL = Detection Limit

LOD = Limit of Detection

LOQ = Limit of Quantitation

QC Batch = Quality Control Batch

Lab-Dup = Laboratory Initiated Duplicate

N/A = Not Applicable

(1) Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x).

(2) Due to high concentration of the target analyte, sample required high level analysis with additional serial dilutions. Detection limit was adjusted accordingly.
Post spike sample recovery is not applicable due to native concentration.

(3) Due to high concentration of the target analyte, sample required high level analysis with additional serial dilutions. Detection limit was adjusted accordingly.

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 Analytics

Maxxam Job #: B824213
Report Date: 2018/03/09

Earth Toxics Inc
Client Project #: JM10 CECIL

RESULTS OF ANALYSES OF WATER

Maxxam ID		GAD933					GAD934				
Sampling Date		2018/01/26 11:28					2018/01/26 14:20				
COC Number		3185					3185				
	UNITS	CEF-860-TW01-0118 Lab-Dup	DL	LOD	LOQ	QC Batch	CEF-1820-TW01-0118	DL	LOD	LOQ	QC Batch
D5-EtFOSAA	%	N/A	N/A	N/A		5393111	72				5393111

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable

Maxxam Job #: B824213
Report Date: 2018/03/09

Earth Toxics Inc
Client Project #: JM10 CECIL

RESULTS OF ANALYSES OF WATER

Maxxam ID		GAD934					GAD935				
Sampling Date		2018/01/26 14:20					2018/01/29 15:53				
COC Number		3185					3185				
	UNITS	CEF-1820-TW01-0118 Lab-Dup	DL	LOD	LOQ	QC Batch	FB-CEF-NG-012918-11	DL	LOD	LOQ	QC Batch
Miscellaneous Parameters											
EtFOSAA	ng/L	N/A	330	1000	2000	5393111	10 U	3.3	10	20	5395679
MeFOSAA	ng/L	N/A	290	1000	2000	5393111	10 U	2.9	10	20	5395679
Perfluorobutane Sulfonate (PFBS)	ng/L	N/A	540	1500	2000	5393111	15 U	5.4	15	20	5395679
Perfluoroheptanoic Acid (PFHpA)	ng/L	N/A	740	1500	2000	5393111	15 U	7.4	15	20	5395679
Perfluorohexanoic Acid (PFHxA)	ng/L	N/A	350	1000	2000	5393111	10 U	3.5	10	20	5395679
Perfluorohexane Sulfonate (PFHxS)	ng/L	250000 (1)	2400	5000	8000	5393267	15 U	5.6	15	20	5395679
Perfluorononanoic Acid (PFNA)	ng/L	N/A	870	1800	2000	5393111	18 U	8.7	18	20	5395679
Perfluorotetradecanoic Acid	ng/L	N/A	270	1000	2000	5393111	10 U	2.7	10	20	5395679
Perfluorotridecanoic Acid	ng/L	N/A	380	1000	2000	5393111	10 U	3.8	10	20	5395679
Perfluoroundecanoic Acid (PFUnA)	ng/L	N/A	250	1000	2000	5393111	10 U	2.5	10	20	5395679
Perfluorodecanoic Acid (PFDA)	ng/L	N/A	610	1500	2000	5393111	15 U	6.1	15	20	5395679
Perfluorododecanoic Acid (PFDoA)	ng/L	N/A	500	1000	2000	5393111	10 U	5.0	10	20	5395679
Perfluoro-n-Octanoic Acid (PFOA)	ng/L	N/A	330	1000	2000	5393111	10 U	3.3	10	20	5395679
Perfluorooctane Sulfonate (PFOS)	ng/L	900000 (1)	23000	60000	80000	5393267	15 U	6.0	15	20	5395679
Surrogate Recovery (%)											
13C2-Perfluorodecanoic acid	%	N/A				5393111	91				5395679
13C2-Perfluorododecanoic acid	%	N/A	N/A	N/A		5393111	86				5395679
13C2-Perfluorohexanoic acid	%	N/A	N/A	N/A		5393111	100				5395679
13C2-perfluorotetradecanoic acid	%	N/A	N/A	N/A		5393111	60				5395679
13C2-Perfluoroundecanoic acid	%	N/A	N/A	N/A		5393111	86				5395679
13C4-Perfluoroheptanoic acid	%	N/A	N/A	N/A		5393111	101				5395679
13C4-Perfluorooctanesulfonate	%	96				5393267	88				5395679
13C4-Perfluorooctanoic acid	%	N/A	N/A	N/A		5393111	101				5395679
13C5-Perfluorononanoic acid	%	N/A	N/A	N/A		5393111	98				5395679
18O2-Perfluorohexanesulfonate	%	103				5393267	102				5395679
D3-MeFOSAA	%	N/A	N/A	N/A		5393111	80				5395679
D5-EtFOSAA	%	N/A	N/A	N/A		5393111	77				5395679

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable
(1) Due to high concentration of the target analyte, sample required high level analysis with additional serial dilutions. Detection limit was adjusted accordingly.

RESULTS OF ANALYSES OF WATER

Maxxam ID		GAD936	GAD936				
Sampling Date		2018/01/29 13:50	2018/01/29 13:50				
COC Number		3185	3185				
	UNITS	CEF-NG-025-0118	CEF-NG-025-0118 Lab-Dup	DL	LOD	LOQ	QC Batch
Miscellaneous Parameters							
EtFOSAA	ng/L	1000 U (1)	1000 U (1)	330	1000	2000	5395679
MeFOSAA	ng/L	1000 U (1)	1000 U (1)	290	1000	2000	5395679
Perfluorobutane Sulfonate (PFBS)	ng/L	2700 (1)	2500 (1)	540	1500	2000	5395679
Perfluoroheptanoic Acid (PFHpA)	ng/L	1400 J (1)	1500 J (1)	740	1500	2000	5395679
Perfluorohexanoic Acid (PFHxA)	ng/L	8900 (1)	8200 (1)	350	1000	2000	5395679
Perfluorohexane Sulfonate (PFHxS)	ng/L	54000 (1)	51000 (1)	560	1500	2000	5395679
Perfluorononanoic Acid (PFNA)	ng/L	1800 U (1)	1800 U (1)	870	1800	2000	5395679
Perfluorotetradecanoic Acid	ng/L	1000 U (1)	1000 U (1)	270	1000	2000	5395679
Perfluorotridecanoic Acid	ng/L	1000 U (1)	1000 U (1)	380	1000	2000	5395679
Perfluoroundecanoic Acid (PFUnA)	ng/L	1000 U (1)	1000 U (1)	250	1000	2000	5395679
Perfluorodecanoic Acid (PFDA)	ng/L	1500 U (1)	1500 U (1)	610	1500	2000	5395679
Perfluorododecanoic Acid (PFDoA)	ng/L	1000 U (1)	1000 U (1)	500	1000	2000	5395679
Perfluoro-n-Octanoic Acid (PFOA)	ng/L	8600 (1)	7900 (1)	330	1000	2000	5395679
Perfluorooctane Sulfonate (PFOS)	ng/L	980000 (2)	870000 (3)	23000	60000	80000	5396269
Surrogate Recovery (%)							
13C2-Perfluorodecanoic acid	%	88	94				5395679
13C2-Perfluorododecanoic acid	%	80	85				5395679
13C2-Perfluorohexanoic acid	%	98	95				5395679
13C2-perfluorotetradecanoic acid	%	76	77				5395679
13C2-Perfluoroundecanoic acid	%	87	83				5395679
13C4-Perfluoroheptanoic acid	%	104	96				5395679
13C4-Perfluorooctanesulfonate	%	109	107				5396269
13C4-Perfluorooctanoic acid	%	103	95				5395679
13C5-Perfluorononanoic acid	%	100	95				5395679
18O2-Perfluorohexanesulfonate	%	98	93				5395679
D3-MeFOSAA	%	84	80				5395679

DL = Detection Limit

LOD = Limit of Detection

LOQ = Limit of Quantitation

QC Batch = Quality Control Batch

Lab-Dup = Laboratory Initiated Duplicate

N/A = Not Applicable

(1) Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x).

(2) Due to high concentration of the target analyte, sample required high level analysis with additional serial dilutions. Detection limit was adjusted accordingly.
Post spike sample recovery is not applicable due to native concentration.

(3) Due to high concentration of the target analyte, sample required high level analysis with additional serial dilutions. Detection limit was adjusted accordingly.

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 Analytics
22 of 854

Maxxam Job #: B824213
Report Date: 2018/03/09

Earth Toxics Inc
Client Project #: JM10 CECIL

RESULTS OF ANALYSES OF WATER

Maxxam ID		GAD936	GAD936				
Sampling Date		2018/01/29 13:50	2018/01/29 13:50				
COC Number		3185	3185				
	UNITS	CEF-NG-025-0118	CEF-NG-025-0118 Lab-Dup	DL	LOD	LOQ	QC Batch
D5-EtFOSAA	%	82	77				5395679

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable

Maxxam Job #: B824213
Report Date: 2018/03/09

Earth Toxics Inc
Client Project #: JM10 CECIL

RESULTS OF ANALYSES OF WATER

Maxxam ID		GAD937				GAD938				
Sampling Date		2018/01/29 15:50				2018/01/30 14:55				
COC Number		3185				3185				
	UNITS	CEF-NG-10S-0118	DL	LOD	LOQ	CEF-860-TW02-0118	DL	LOD	LOQ	QC Batch
Miscellaneous Parameters										
EtFOSAA	ng/L	11 J	3.3	10	20	20 U (1)	6.6	20	40	5395679
MeFOSAA	ng/L	8.7 J	2.9	10	20	20 U (1)	5.8	20	40	5395679
Perfluorobutane Sulfonate (PFBS)	ng/L	15 U	5.4	15	20	340 (1)	11	30	40	5395679
Perfluoroheptanoic Acid (PFHpA)	ng/L	15 U	7.4	15	20	330 (1)	15	30	40	5395679
Perfluorohexanoic Acid (PFHxA)	ng/L	10 U	3.5	10	20	1000 (1)	7.0	20	40	5395679
Perfluorohexane Sulfonate (PFHxS)	ng/L	33	5.6	15	20	11000 (2)	140	380	500	5395679
Perfluorononanoic Acid (PFNA)	ng/L	18 U	8.7	18	20	110 (1)	17	36	40	5395679
Perfluorotetradecanoic Acid	ng/L	10 U	2.7	10	20	20 U (1)	5.4	20	40	5395679
Perfluorotridecanoic Acid	ng/L	10 U	3.8	10	20	20 U (1)	7.6	20	40	5395679
Perfluoroundecanoic Acid (PFUnA)	ng/L	10 U	2.5	10	20	20 U (1)	5.0	20	40	5395679
Perfluorodecanoic Acid (PFDA)	ng/L	15 U	6.1	15	20	30 U (1)	12	30	40	5395679
Perfluorododecanoic Acid (PFDoA)	ng/L	10 U	5.0	10	20	20 U (1)	10	20	40	5395679
Perfluoro-n-Octanoic Acid (PFOA)	ng/L	10 U	3.3	10	20	560 (1)	6.6	20	40	5395679
Perfluorooctane Sulfonate (PFOS)	ng/L	30	6.0	15	20	6900 (2)	150	380	500	5395679
Surrogate Recovery (%)										
13C2-Perfluorodecanoic acid	%	100				88				5395679
13C2-Perfluorododecanoic acid	%	90				85				5395679
13C2-Perfluorohexanoic acid	%	101				95				5395679
13C2-perfluorotetradecanoic acid	%	85				71				5395679
13C2-Perfluoroundecanoic acid	%	100				83				5395679
13C4-Perfluoroheptanoic acid	%	107				78				5395679
13C4-Perfluorooctanesulfonate	%	119				110				5395679
13C4-Perfluorooctanoic acid	%	107				90				5395679
13C5-Perfluorononanoic acid	%	109				94				5395679
18O2-Perfluorohexanesulfonate	%	107				116				5395679
D3-MeFOSAA	%	88				82				5395679
D5-EtFOSAA	%	83				81				5395679

DL = Detection Limit

LOD = Limit of Detection

LOQ = Limit of Quantitation

QC Batch = Quality Control Batch

N/A = Not Applicable

(1) Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (2x).

(2) Due to high concentration of the target analyte, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (25x).

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 #: B824213
Report Date: 2018/03/09

Earth Toxics Inc
Client Project #: JM10 CECIL

TEST SUMMARY

Maxxam ID: GAD929
Sample ID: FB-CEF-1820-012618-10
Matrix: Water
Collected: 2018/01/26
Shipped:
Received: 2018/02/01

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5393111	2018/02/09	2018/02/13	Kenneth Chu

Maxxam ID: GAD930
Sample ID: EB-CEF-1820-012618-14
Matrix: Water
Collected: 2018/01/26
Shipped:
Received: 2018/02/01

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5393111	2018/02/09	2018/02/13	Kenneth Chu

Maxxam ID: GAD931
Sample ID: EB-CEF-1820-012618-15
Matrix: Water
Collected: 2018/01/26
Shipped:
Received: 2018/02/01

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5393111	2018/02/09	2018/02/13	Kenneth Chu

Maxxam ID: GAD932
Sample ID: EB-CEF-1820-012618-16
Matrix: Water
Collected: 2018/01/26
Shipped:
Received: 2018/02/01

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5393111	2018/02/09	2018/02/13	Kenneth Chu

Maxxam ID: GAD933
Sample ID: CEF-860-TW01-0118
Matrix: Water
Collected: 2018/01/26
Shipped:
Received: 2018/02/01

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5393111	2018/02/09	2018/02/13	Kenneth Chu

Maxxam ID: GAD933 Dup
Sample ID: CEF-860-TW01-0118
Matrix: Water
Collected: 2018/01/26
Shipped:
Received: 2018/02/01

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5393267	2018/02/09	2018/02/14	Marian Godax

Maxxam ID: GAD934
Sample ID: CEF-1820-TW01-0118
Matrix: Water
Collected: 2018/01/26
Shipped:
Received: 2018/02/01

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5393111	2018/02/09	2018/02/13	Kenneth Chu

TEST SUMMARY

Maxxam ID: GAD934 Dup
Sample ID: CEF-1820-TW01-0118
Matrix: Water
Collected: 2018/01/26
Shipped:
Received: 2018/02/01

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5393267	2018/02/09	2018/02/14	Marian Godax

Maxxam ID: GAD935
Sample ID: FB-CEF-NG-012918-11
Matrix: Water
Collected: 2018/01/29
Shipped:
Received: 2018/02/01

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5395679	2018/02/12	2018/02/13	Daniela Zupu

Maxxam ID: GAD936
Sample ID: CEF-NG-025-0118
Matrix: Water
Collected: 2018/01/29
Shipped:
Received: 2018/02/01

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5395679	2018/02/12	2018/02/13	Daniela Zupu

Maxxam ID: GAD936 Dup
Sample ID: CEF-NG-025-0118
Matrix: Water
Collected: 2018/01/29
Shipped:
Received: 2018/02/01

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5395679	2018/02/12	2018/02/13	Daniela Zupu

Maxxam ID: GAD937
Sample ID: CEF-NG-10S-0118
Matrix: Water
Collected: 2018/01/29
Shipped:
Received: 2018/02/01

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5395679	2018/02/12	2018/02/13	Daniela Zupu

Maxxam ID: GAD938
Sample ID: CEF-860-TW02-0118
Matrix: Water
Collected: 2018/01/30
Shipped:
Received: 2018/02/01

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
PFOS and PFOA in water by SPE/LCMS	LCMS	5395679	2018/02/12	2018/02/14	Daniela Zupu

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

GENERAL COMMENTS

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

Package 1	3.3°C

Revised Report (2018/03/02): Including results for FB samples.

Revised Report (2018/03/09): Including results for EB samples.

Results reported in ng/L as per client request.

Sample GAD933, PFOS and PFOA in water by SPE/LCMS: Test repeated.
Sample GAD934, PFOS and PFOA in water by SPE/LCMS: Test repeated.
Sample GAD936, PFOS and PFOA in water by SPE/LCMS: Test repeated.

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

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
5393111	KC1	Spiked Blank	13C2-Perfluorodecanoic acid	2018/02/13		79	%	50 - 150
			13C2-Perfluorododecanoic acid	2018/02/13		79	%	50 - 150
			13C2-Perfluorohexanoic acid	2018/02/13		89	%	50 - 150
			13C2-perfluorotetradecanoic acid	2018/02/13		78	%	50 - 150
			13C2-Perfluoroundecanoic acid	2018/02/13		81	%	50 - 150
			13C4-Perfluoroheptanoic acid	2018/02/13		89	%	50 - 150
			13C4-Perfluorooctanesulfonate	2018/02/13		93	%	50 - 150
			13C4-Perfluorooctanoic acid	2018/02/13		93	%	50 - 150
			13C5-Perfluorononanoic acid	2018/02/13		95	%	50 - 150
			18O2-Perfluorohexanesulfonate	2018/02/13		84	%	50 - 150
			D3-MeFOSAA	2018/02/13		70	%	50 - 150
			D5-EtFOSAA	2018/02/13		69	%	50 - 150
			EtFOSAA	2018/02/13		104	%	73 - 128
			MeFOSAA	2018/02/13		102	%	77 - 127
			Perfluorobutane Sulfonate (PFBS)	2018/02/13		107	%	65 - 135
			Perfluoroheptanoic Acid (PFHpA)	2018/02/13		102	%	73 - 129
			Perfluorohexanoic Acid (PFHxA)	2018/02/13		101	%	74 - 129
			Perfluorohexane Sulfonate (PFHxS)	2018/02/13		103	%	67 - 132
			Perfluorononanoic Acid (PFNA)	2018/02/13		95	%	72 - 131
			Perfluorotetradecanoic Acid	2018/02/13		102	%	70 - 134
			Perfluorotridecanoic Acid	2018/02/13		100	%	67 - 143
			Perfluoroundecanoic Acid (PFUnA)	2018/02/13		108	%	71 - 133
			Perfluorodecanoic Acid (PFDA)	2018/02/13		115	%	71 - 133
			Perfluorododecanoic Acid (PFDoA)	2018/02/13		96	%	71 - 131
			Perfluoro-n-Octanoic Acid (PFOA)	2018/02/13		98	%	71 - 130
			Perfluorooctane Sulfonate (PFOS)	2018/02/13		98	%	72 - 131
5393111	KC1	Spiked Blank DUP	13C2-Perfluorodecanoic acid	2018/02/13		77	%	50 - 150
			13C2-Perfluorododecanoic acid	2018/02/13		80	%	50 - 150
			13C2-Perfluorohexanoic acid	2018/02/13		85	%	50 - 150
			13C2-perfluorotetradecanoic acid	2018/02/13		79	%	50 - 150
			13C2-Perfluoroundecanoic acid	2018/02/13		76	%	50 - 150
			13C4-Perfluoroheptanoic acid	2018/02/13		83	%	50 - 150
			13C4-Perfluorooctanesulfonate	2018/02/13		88	%	50 - 150
			13C4-Perfluorooctanoic acid	2018/02/13		84	%	50 - 150
			13C5-Perfluorononanoic acid	2018/02/13		86	%	50 - 150
			18O2-Perfluorohexanesulfonate	2018/02/13		83	%	50 - 150
			D3-MeFOSAA	2018/02/13		71	%	50 - 150
			D5-EtFOSAA	2018/02/13		71	%	50 - 150
			EtFOSAA	2018/02/13		105	%	73 - 128
			MeFOSAA	2018/02/13		105	%	77 - 127
			Perfluorobutane Sulfonate (PFBS)	2018/02/13		99	%	65 - 135
			Perfluoroheptanoic Acid (PFHpA)	2018/02/13		105	%	73 - 129
			Perfluorohexanoic Acid (PFHxA)	2018/02/13		94	%	74 - 129
			Perfluorohexane Sulfonate (PFHxS)	2018/02/13		96	%	67 - 132
			Perfluorononanoic Acid (PFNA)	2018/02/13		99	%	72 - 131
			Perfluorotetradecanoic Acid	2018/02/13		99	%	70 - 134
			Perfluorotridecanoic Acid	2018/02/13		99	%	67 - 143
			Perfluoroundecanoic Acid (PFUnA)	2018/02/13		108	%	71 - 133
			Perfluorodecanoic Acid (PFDA)	2018/02/13		109	%	71 - 133
			Perfluorododecanoic Acid (PFDoA)	2018/02/13		97	%	71 - 131
			Perfluoro-n-Octanoic Acid (PFOA)	2018/02/13		100	%	71 - 130
			Perfluorooctane Sulfonate (PFOS)	2018/02/13		92	%	72 - 131
5393111	KC1	RPD	EtFOSAA	2018/02/13	0.91		%	30
			MeFOSAA	2018/02/13	2.7		%	30
			Perfluorobutane Sulfonate (PFBS)	2018/02/13	8.3		%	30

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

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluoroheptanoic Acid (PFHpA)	2018/02/13	2.9		%	30
			Perfluorohexanoic Acid (PFHxA)	2018/02/13	7.4		%	30
			Perfluorohexane Sulfonate (PFHxS)	2018/02/13	7.0		%	30
			Perfluorononanoic Acid (PFNA)	2018/02/13	4.1		%	30
			Perfluorotetradecanoic Acid	2018/02/13	3.0		%	30
			Perfluorotridecanoic Acid	2018/02/13	0.62		%	30
			Perfluoroundecanoic Acid (PFUnA)	2018/02/13	0.0075		%	30
			Perfluorodecanoic Acid (PFDA)	2018/02/13	5.7		%	30
			Perfluorododecanoic Acid (PFDoA)	2018/02/13	1.3		%	30
			Perfluoro-n-Octanoic Acid (PFOA)	2018/02/13	1.7		%	30
			Perfluorooctane Sulfonate (PFOS)	2018/02/13	5.5		%	30
5393111	KC1	Method Blank	13C2-Perfluorodecanoic acid	2018/02/13		77	%	50 - 150
			13C2-Perfluorododecanoic acid	2018/02/13		72	%	50 - 150
			13C2-Perfluorohexanoic acid	2018/02/13		82	%	50 - 150
			13C2-perfluorotetradecanoic acid	2018/02/13		73	%	50 - 150
			13C2-Perfluoroundecanoic acid	2018/02/13		72	%	50 - 150
			13C4-Perfluoroheptanoic acid	2018/02/13		81	%	50 - 150
			13C4-Perfluorooctanesulfonate	2018/02/13		86	%	50 - 150
			13C4-Perfluorooctanoic acid	2018/02/13		82	%	50 - 150
			13C5-Perfluorononanoic acid	2018/02/13		86	%	50 - 150
			18O2-Perfluorohexanesulfonate	2018/02/13		86	%	50 - 150
			D3-MeFOSAA	2018/02/13		70	%	50 - 150
			D5-EtFOSAA	2018/02/13		69	%	50 - 150
			EtFOSAA	2018/02/13	10 U, LOD=10		ng/L	
			MeFOSAA	2018/02/13	10 U, LOD=10		ng/L	
			Perfluorobutane Sulfonate (PFBS)	2018/02/13	15 U, LOD=15		ng/L	
			Perfluoroheptanoic Acid (PFHpA)	2018/02/13	15 U, LOD=15		ng/L	
			Perfluorohexanoic Acid (PFHxA)	2018/02/13	10 U, LOD=10		ng/L	
			Perfluorohexane Sulfonate (PFHxS)	2018/02/13	15 U, LOD=15		ng/L	
			Perfluorononanoic Acid (PFNA)	2018/02/13	18 U, LOD=18		ng/L	
			Perfluorotetradecanoic Acid	2018/02/13	10 U, LOD=10		ng/L	
			Perfluorotridecanoic Acid	2018/02/13	10 U, LOD=10		ng/L	
			Perfluoroundecanoic Acid (PFUnA)	2018/02/13	10 U, LOD=10		ng/L	
			Perfluorodecanoic Acid (PFDA)	2018/02/13	15 U, LOD=15		ng/L	
			Perfluorododecanoic Acid (PFDoA)	2018/02/13	10 U, LOD=10		ng/L	
			Perfluoro-n-Octanoic Acid (PFOA)	2018/02/13	10 U, LOD=10		ng/L	
			Perfluorooctane Sulfonate (PFOS)	2018/02/13	15 U, LOD=15		ng/L	
5393267	M_G	Spiked Blank	13C4-Perfluorooctanesulfonate	2018/02/14		93	%	50 - 150
			18O2-Perfluorohexanesulfonate	2018/02/14		97	%	50 - 150
			Perfluorohexane Sulfonate (PFHxS)	2018/02/14		100	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2018/02/14		94	%	70 - 130

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

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
5393267	M_G	Spiked Blank DUP	13C4-Perfluorooctanesulfonate	2018/02/14		102	%	50 - 150
			18O2-Perfluorohexanesulfonate	2018/02/14		101	%	50 - 150
			Perfluorohexane Sulfonate (PFHxS)	2018/02/14		91	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2018/02/14		86	%	70 - 130
5393267	M_G	RPD	Perfluorohexane Sulfonate (PFHxS)	2018/02/14	8.9		%	30
			Perfluorooctane Sulfonate (PFOS)	2018/02/14	8.5		%	30
5393267	M_G	Method Blank	13C4-Perfluorooctanesulfonate	2018/02/14		100	%	50 - 150
			18O2-Perfluorohexanesulfonate	2018/02/14		103	%	50 - 150
			Perfluorohexane Sulfonate (PFHxS)	2018/02/14	500 U, LOD=500		ng/L	
			Perfluorooctane Sulfonate (PFOS)	2018/02/14	600 U, LOD=600		ng/L	
5393267	M_G	RPD - Sample/Sample Dup	Perfluorohexane Sulfonate (PFHxS)	2018/02/14	2.2 (1)		%	30
			Perfluorooctane Sulfonate (PFOS)	2018/02/14	3.6 (1)		%	30
			Perfluorohexane Sulfonate (PFHxS)	2018/02/14	2.5 (1)		%	30
			Perfluorooctane Sulfonate (PFOS)	2018/02/14	2.4 (1)		%	30
5395679	DZU	Spiked Blank	13C2-Perfluorodecanoic acid	2018/02/13		77	%	50 - 150
			13C2-Perfluorododecanoic acid	2018/02/13		76	%	50 - 150
			13C2-Perfluorohexanoic acid	2018/02/13		86	%	50 - 150
			13C2-perfluorotetradecanoic acid	2018/02/13		73	%	50 - 150
			13C2-Perfluoroundecanoic acid	2018/02/13		75	%	50 - 150
			13C4-Perfluoroheptanoic acid	2018/02/13		80	%	50 - 150
			13C4-Perfluorooctanesulfonate	2018/02/13		88	%	50 - 150
			13C4-Perfluorooctanoic acid	2018/02/13		81	%	50 - 150
			13C5-Perfluorononanoic acid	2018/02/13		80	%	50 - 150
			18O2-Perfluorohexanesulfonate	2018/02/13		77	%	50 - 150
			D3-MeFOSAA	2018/02/13		67	%	50 - 150
			D5-EtFOSAA	2018/02/13		65	%	50 - 150
			EtFOSAA	2018/02/13		104	%	73 - 128
			MeFOSAA	2018/02/13		101	%	77 - 127
			Perfluorobutane Sulfonate (PFBS)	2018/02/13		108	%	65 - 135
			Perfluoroheptanoic Acid (PFHpA)	2018/02/13		102	%	73 - 129
			Perfluorohexanoic Acid (PFHxA)	2018/02/13		91	%	74 - 129
			Perfluorohexane Sulfonate (PFHxS)	2018/02/13		102	%	67 - 132
			Perfluorononanoic Acid (PFNA)	2018/02/13		106	%	72 - 131
			Perfluorotetradecanoic Acid	2018/02/13		103	%	70 - 134
			Perfluorotridecanoic Acid	2018/02/13		100	%	67 - 143
			Perfluoroundecanoic Acid (PFUnA)	2018/02/13		111	%	71 - 133
			Perfluorodecanoic Acid (PFDA)	2018/02/13		111	%	71 - 133
			Perfluorododecanoic Acid (PFDoA)	2018/02/13		100	%	71 - 131
			Perfluoro-n-Octanoic Acid (PFOA)	2018/02/13		105	%	71 - 130
			Perfluorooctane Sulfonate (PFOS)	2018/02/13		93	%	72 - 131
5395679	DZU	Method Blank	13C2-Perfluorodecanoic acid	2018/02/13		91	%	50 - 150
			13C2-Perfluorododecanoic acid	2018/02/13		93	%	50 - 150
			13C2-Perfluorohexanoic acid	2018/02/13		102	%	50 - 150
			13C2-perfluorotetradecanoic acid	2018/02/13		80	%	50 - 150
			13C2-Perfluoroundecanoic acid	2018/02/13		91	%	50 - 150
			13C4-Perfluoroheptanoic acid	2018/02/13		106	%	50 - 150
			13C4-Perfluorooctanesulfonate	2018/02/13		95	%	50 - 150
			13C4-Perfluorooctanoic acid	2018/02/13		101	%	50 - 150
			13C5-Perfluorononanoic acid	2018/02/13		99	%	50 - 150
			18O2-Perfluorohexanesulfonate	2018/02/13		106	%	50 - 150
			D3-MeFOSAA	2018/02/13		82	%	50 - 150
			D5-EtFOSAA	2018/02/13		78	%	50 - 150

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

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			EtFOSAA	2018/02/13	10 U, LOD=10		ng/L	
			MeFOSAA	2018/02/13	10 U, LOD=10		ng/L	
			Perfluorobutane Sulfonate (PFBS)	2018/02/13	15 U, LOD=15		ng/L	
			Perfluoroheptanoic Acid (PFHpA)	2018/02/13	15 U, LOD=15		ng/L	
			Perfluorohexanoic Acid (PFHxA)	2018/02/13	10 U, LOD=10		ng/L	
			Perfluorohexane Sulfonate (PFHxS)	2018/02/13	15 U, LOD=15		ng/L	
			Perfluorononanoic Acid (PFNA)	2018/02/13	18 U, LOD=18		ng/L	
			Perfluorotetradecanoic Acid	2018/02/13	10 U, LOD=10		ng/L	
			Perfluorotridecanoic Acid	2018/02/13	10 U, LOD=10		ng/L	
			Perfluoroundecanoic Acid (PFUnA)	2018/02/13	10 U, LOD=10		ng/L	
			Perfluorodecanoic Acid (PFDA)	2018/02/13	15 U, LOD=15		ng/L	
			Perfluorododecanoic Acid (PFDoA)	2018/02/13	10 U, LOD=10		ng/L	
			Perfluoro-n-Octanoic Acid (PFOA)	2018/02/13	10 U, LOD=10		ng/L	
			Perfluorooctane Sulfonate (PFOS)	2018/02/13	15 U, LOD=15		ng/L	
5395679	DZU	RPD - Sample/Sample Dup	EtFOSAA	2018/02/13	NC (2)		%	30
			MeFOSAA	2018/02/13	NC (2)		%	30
			Perfluorobutane Sulfonate (PFBS)	2018/02/13	9.2 (2)		%	30
			Perfluoroheptanoic Acid (PFHpA)	2018/02/13	NC (2)		%	30
			Perfluorohexanoic Acid (PFHxA)	2018/02/13	8.0 (2)		%	30
			Perfluorohexane Sulfonate (PFHxS)	2018/02/13	6.0 (2)		%	30
			Perfluorononanoic Acid (PFNA)	2018/02/13	NC (2)		%	30
			Perfluorotetradecanoic Acid	2018/02/13	NC (2)		%	30
			Perfluorotridecanoic Acid	2018/02/13	NC (2)		%	30
			Perfluoroundecanoic Acid (PFUnA)	2018/02/13	NC (2)		%	30
			Perfluorodecanoic Acid (PFDA)	2018/02/13	NC (2)		%	30
			Perfluorododecanoic Acid (PFDoA)	2018/02/13	NC (2)		%	30
			Perfluoro-n-Octanoic Acid (PFOA)	2018/02/13	7.5 (2)		%	30
5396269	M_G	Spiked Blank	13C4-Perfluorooctanesulfonate	2018/02/14		96	%	50 - 150
			Perfluorooctane Sulfonate (PFOS)	2018/02/14		91	%	72 - 131
5396269	M_G	Method Blank	13C4-Perfluorooctanesulfonate	2018/02/14		104	%	50 - 150
			Perfluorooctane Sulfonate (PFOS)	2018/02/14	600 U, LOD=600		ng/L	

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

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
5396269	M_G	RPD - Sample/Sample Dup	Perfluorooctane Sulfonate (PFOS)	2018/02/14	11 (1)		%	30

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

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.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Due to high concentration of the target analyte, sample required high level analysis with additional serial dilutions. Detection limit was adjusted accordingly.

(2) Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x).

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 #: B824213
Report Date: 2018/03/09

Earth Toxics Inc
Client Project #: JM10 CECIL

VALIDATION SIGNATURE PAGE

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

Adam Robinson, Supervisor, LC/MS/MS

Sin Chii Chia, Scientific Services

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.

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)

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



3.2 Sample Chromatograms

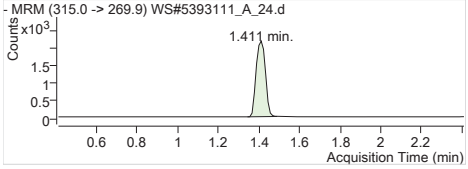
Maxxam Analytics International
6740 Campobello Rd
Mississauga, Ontario, Canada
L5N 2L8
1-800-668-0639
www.maxxamanalytics.com

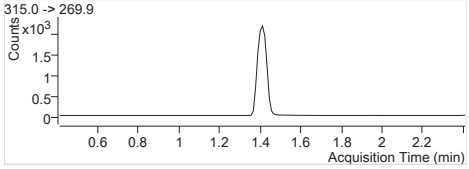
Batch Path	T:\lcms4\PFC\20180212\WS#5393111_A\QuantResults\PFC_Water_Low_180213_WS#5393111_EToxics

Sample Name	**5393111:GAD929-01**	**Instrument**	LCMS04
Data File	WS#5393111_A_24.d	**Operator**	
Sample Type	Sample	**Dilution**	0.024
Acq. Method	PFC_Water_Low.m	**Position**	P2-C4
Acq. Date	2018/02/13 2:59:59 PM	**Injection Volume**	Per Method
Sample Annotation	-		

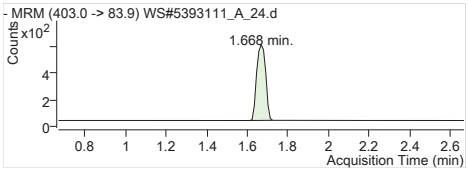
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	6843	1.41	1 µg/L		
MPFHxS	1730	1.67	1 µg/L		
MPFHpA	8376	1.68	1 µg/L		
MPFOA	9079	1.86	1 µg/L		
MPFOS	2034	1.97	1 µg/L		
MPFNA	8971	2.00	1 µg/L		
MPFDA	7420	2.12	1 µg/L		
MPFUnA	7641	2.22	1 µg/L		
MPFDoA	9382	2.31	1 µg/L		
MPFTeDA	10444	2.46	1 µg/L		
13C6-PFHxA IS	26772	1.41	1 µg/L		
13C9-PFDA IS	34716	2.12	1 µg/L		

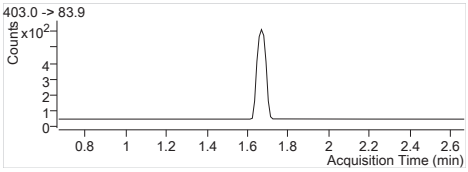
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1			-	ND	-
PFHxA 1			-	ND	-
PFHxS 1			-	ND	-
PFHpA 1			-	ND	-
PFOA 1			-	ND	-
PFOS 1			-	ND	-
PFNA 1			-	ND	-
PFDA 1			-	ND	-
PFUnA 1			-	ND	-
PFDoA 1			-	ND	-
PFTrDA 1			-	ND	-
PFTeDA 1			-	ND	-
13C2-PFHxA	6843	1.41	-	90.33 µg/L	-
18O2-PFHxS	1730	1.67	-	93.56 µg/L	-
13C4-PFHpA	8376	1.68	-	86.57 µg/L	-
13C4-PFOA	9079	1.86	-	88.39 µg/L	-
13C4-PFOS	2034	1.97	-	90.55 µg/L	-
13C5-PFNA	8971	2.00	-	90.56 µg/L	-
13C2-PFDA	7225	2.12	-	84.06 µg/L	-
13C2-PFUnA	7641	2.22	-	76.37 µg/L	-
13C2-PFDoA	9382	2.31	-	72.29 µg/L	-
13C2-PFTeDA	10671	2.46	-	71.63 µg/L	-
13C6-PFHxA	26772	1.41	-	2.75 µg/L	-
13C9-PFDA	34716	2.12	-	2.75 µg/L	-



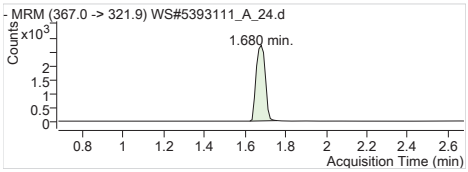


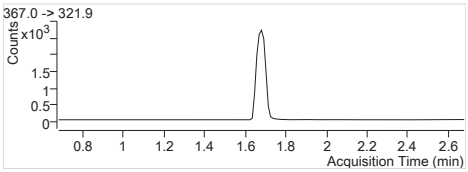
MPFHxA	Internal Standard
RT (Exp. RT):	1.411 (1.411)
Concentration:	1 µg/L
Sample type:	Sample



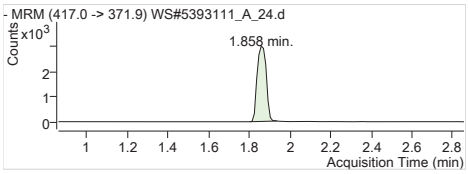


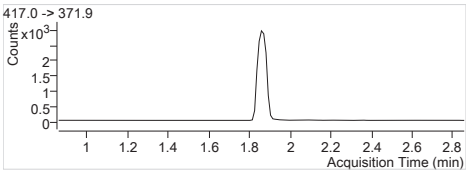
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Sample



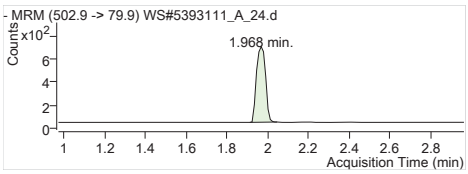


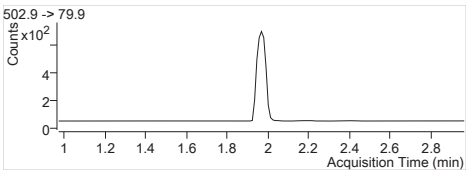
MPFHpA Internal Standard
RT (Exp. RT): 1.680 (1.680)
Concentration: 1 µg/L
Sample type: Sample



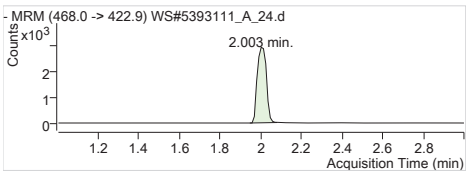


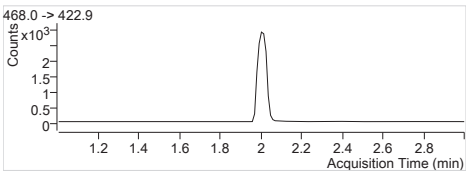
MPFOA Internal Standard
RT (Exp. RT): 1.858 (1.858)
Concentration: 1 µg/L
Sample type: Sample



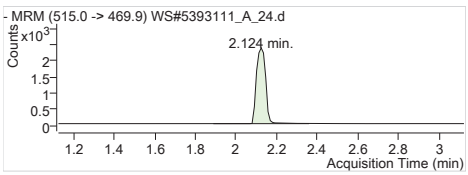


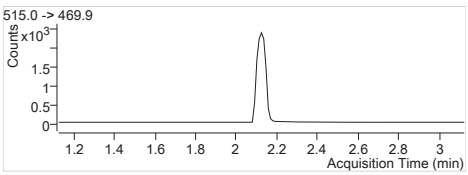
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Sample



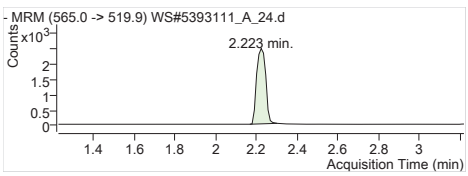


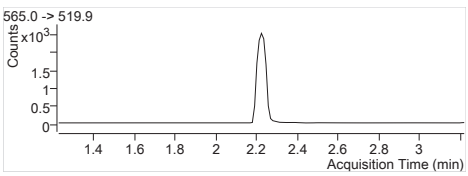
MPFNA Internal Standard
RT (Exp. RT): 2.003 (2.003)
Concentration: 1 µg/L
Sample type: Sample



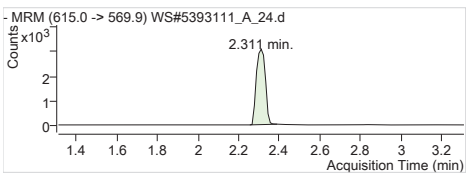


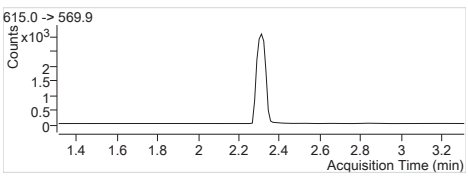
MPFDA Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Sample



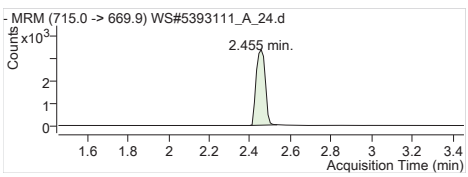


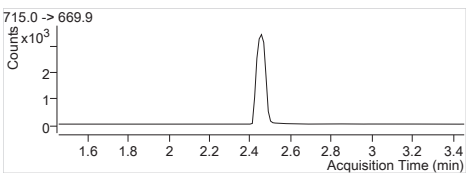
MPFUnA Internal Standard
RT (Exp. RT): 2.223 (2.223)
Concentration: 1 µg/L
Sample type: Sample



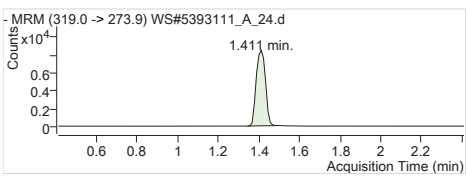


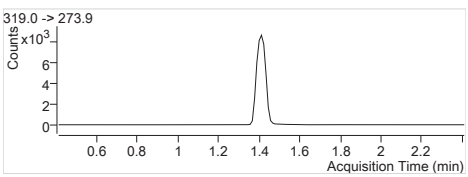
MPFDoA Internal Standard
RT (Exp. RT): 2.311 (2.311)
Concentration: 1 µg/L
Sample type: Sample



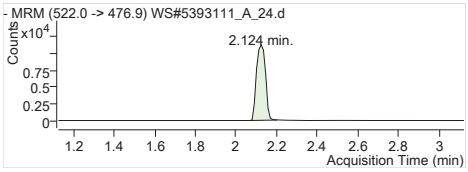


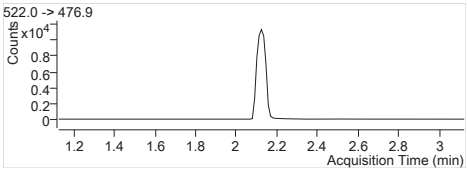
MPFTeDA Internal Standard
RT (Exp. RT): 2.455 (2.455)
Concentration: 1 µg/L
Sample type: Sample



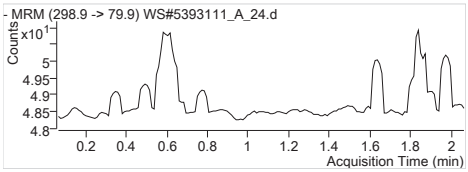


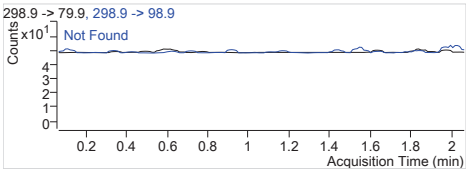
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: Sample



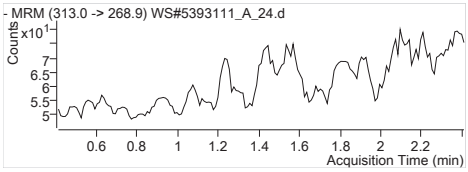


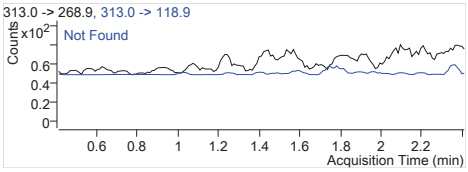
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Sample



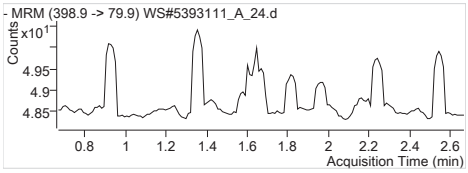


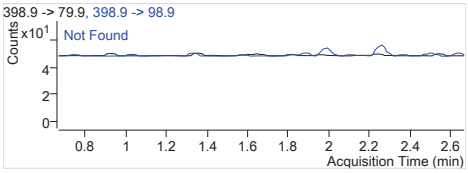
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 0.000 (1.064)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



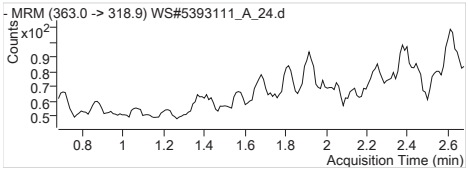


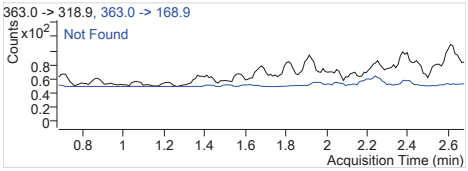
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 0.000 (1.411)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



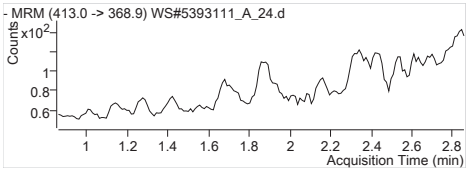


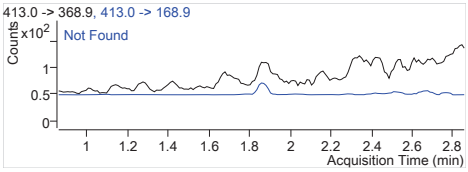
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 0.000 (1.668)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



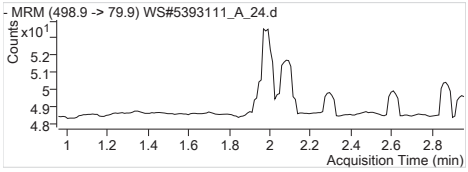


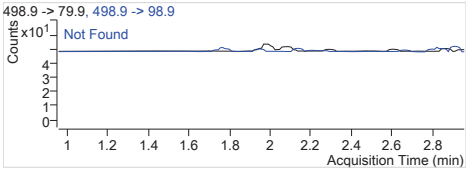
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 0.000 (1.680)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



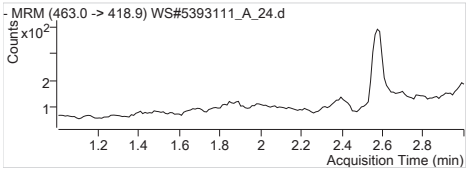


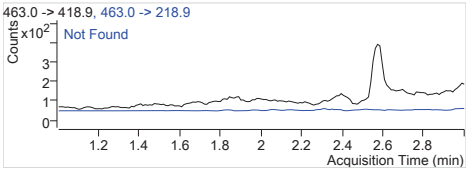
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 0.000 (1.858)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



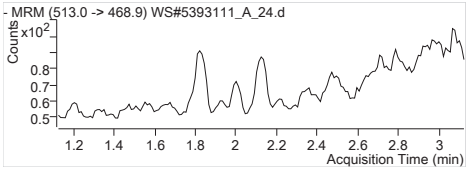


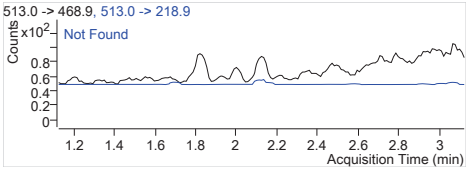
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 0.000 (1.957)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



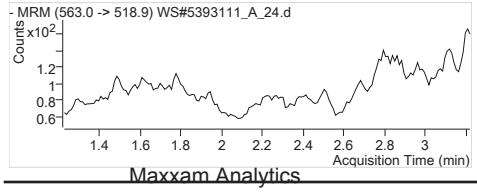


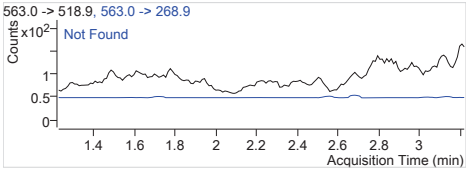
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 0.000 (2.003)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



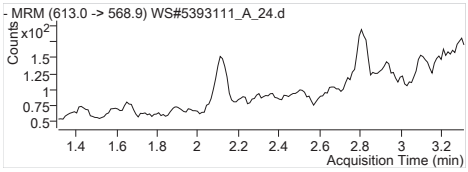


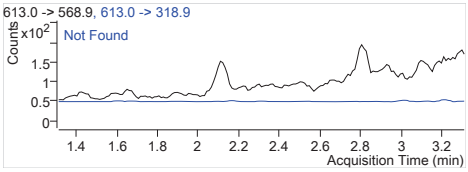
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 0.000 (2.124)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



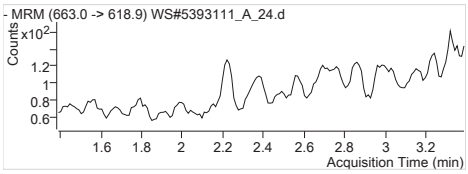


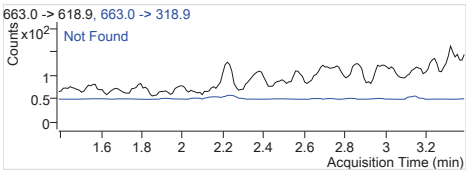
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 0.000 (2.223)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



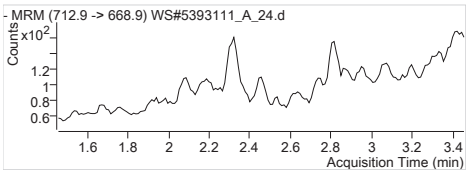


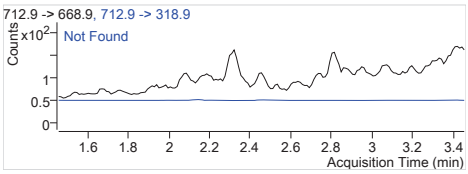
PFDoA 1 613.0 -> 568.9
RT (Exp. RT): 0.000 (2.311)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



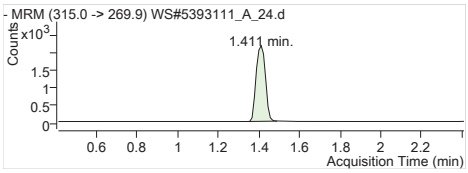


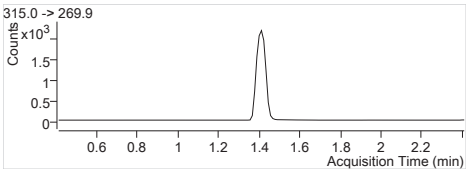
PFTrDA 1 663.0 -> 618.9
RT (Exp. RT): 0.000 (2.389)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



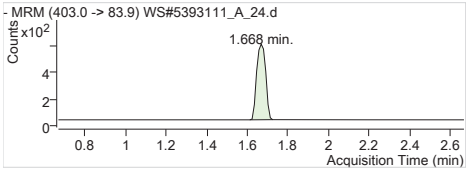


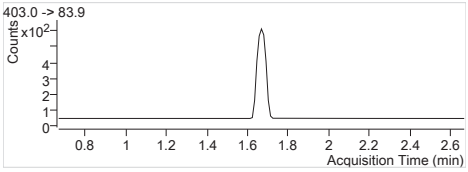
PFTeDA 1 712.9 -> 668.9
RT (Exp. RT): 0.000 (2.456)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



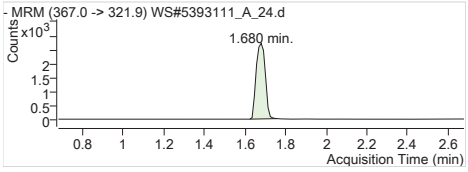


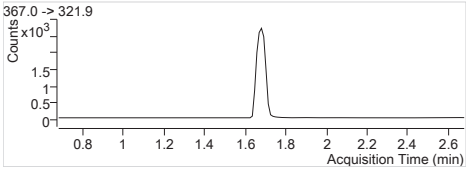
13C2-PFHxA 315.0 -> 269.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 90.33 µg/L
Area ratio: 0.25560
Sample type: Sample



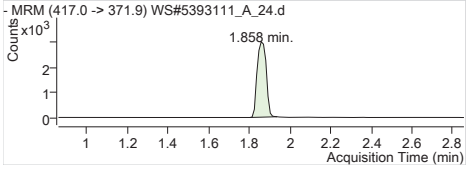


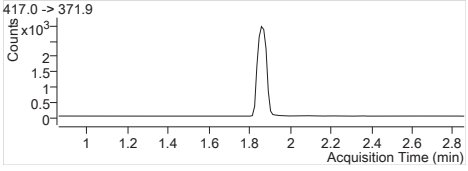
18O2-PFHxS 403.0 -> 83.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 93.56 µg/L
Area ratio: 0.06462
Sample type: Sample



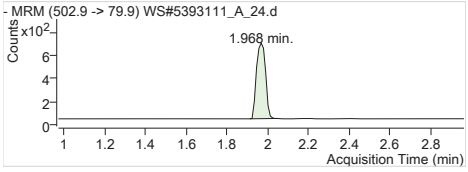


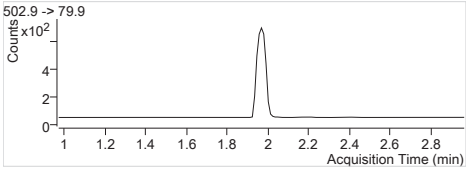
13C4-PFHpA 367.0 -> 321.9
RT (Exp. RT): 1.680 (1.680)
Calc. conc. 86.57 µg/L
Area ratio: 0.31286
Sample type: Sample



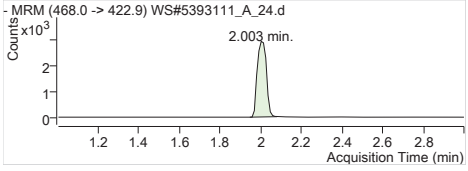


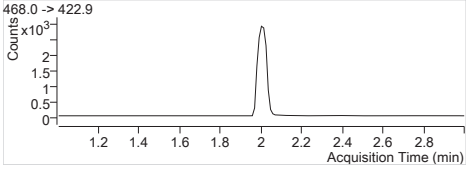
13C4-PFOA 417.0 -> 371.9
RT (Exp. RT): 1.858 (1.858)
Calc. conc. 88.39 µg/L
Area ratio: 0.33912
Sample type: Sample



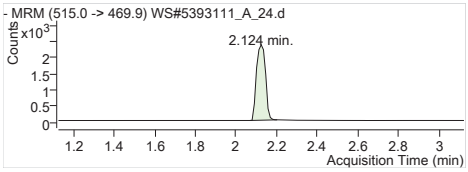


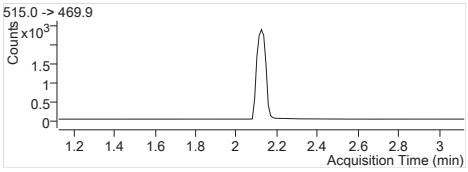
13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.968 (1.968)
Calc. conc. 90.55 µg/L
Area ratio: 0.07597
Sample type: Sample



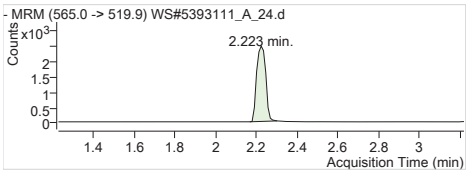


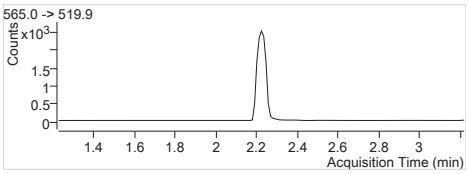
13C5-PFNA 468.0 -> 422.9
RT (Exp. RT): 2.003 (2.003)
Calc. conc. 90.56 µg/L
Area ratio: 0.33509
Sample type: Sample



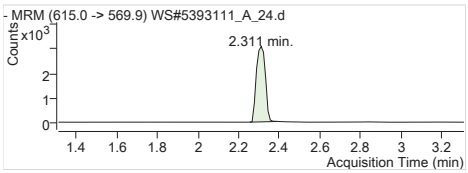


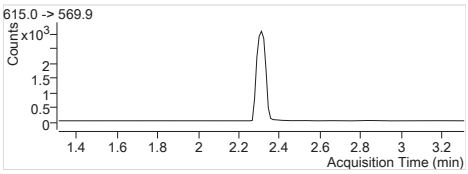
13C2-PFDA 515.0 -> 469.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 84.06 µg/L
Area ratio: 0.20812
Sample type: Sample



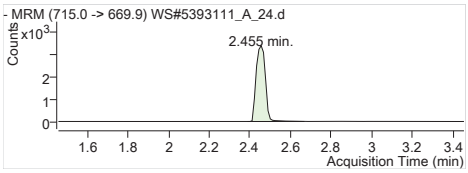


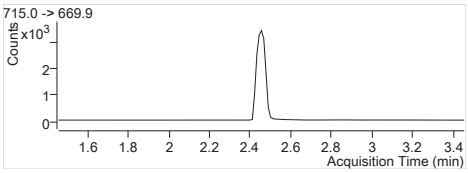
13C2-PFUnA 565.0 -> 519.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 76.37 µg/L
Area ratio: 0.22010
Sample type: Sample



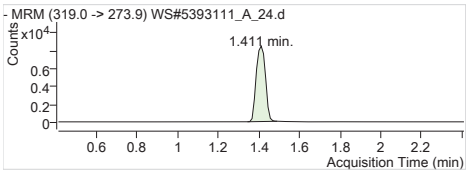


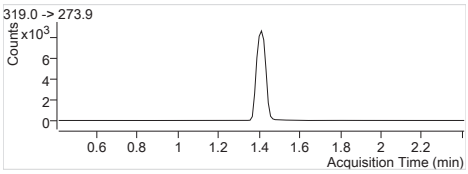
13C2-PFDoA 615.0 -> 569.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 72.29 µg/L
Area ratio: 0.27025
Sample type: Sample



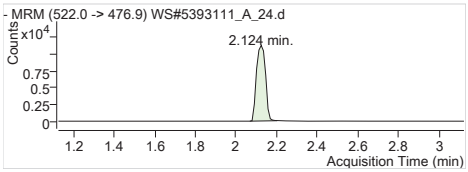


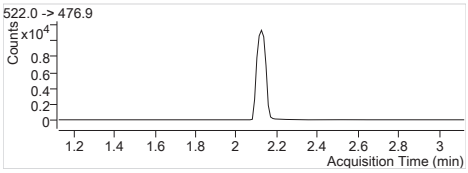
13C2-PFTeDA 715.0 -> 669.9
RT (Exp. RT): 2.455 (2.455)
Calc. conc. 71.63 µg/L
Area ratio: 0.30738
Sample type: Sample





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 2.75 µg/L
Area ratio: 0
Sample type: Sample





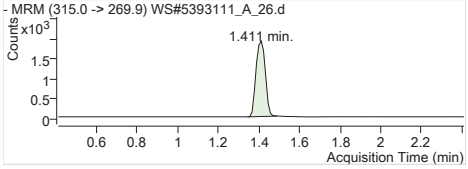
13C9-PFDA 522.0 -> 476.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 2.75 µg/L
Area ratio: 0
Sample type: Sample

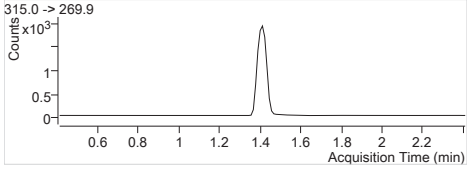
Batch Path T:\lcms4\PFC\20180212\WS#5393111_A\QuantResults\PFC_Water_Low_180213_WS#5393111_EToxics

Sample Name	**5393111:GAD930-01**	**Instrument**	LCMS04
Data File	WS#5393111_A_26.d	**Operator**	
Sample Type	Sample	**Dilution**	0.024
Acq. Method	PFC_Water_Low.m	**Position**	P2-C5
Acq. Date	2018/02/13 3:09:50 PM	**Injection Volume**	Per Method
Sample Annotation	-		

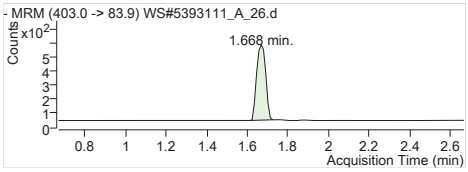
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	6025	1.41	1 µg/L		
MPFHxS	1664	1.67	1 µg/L		
MPFHpA	7990	1.68	1 µg/L		
MPFOA	8348	1.86	1 µg/L		
MPFOS	1909	1.97	1 µg/L		
MPFNA	7860	2.00	1 µg/L		
MPFDA	5584	2.12	1 µg/L		
MPFUnA	6538	2.22	1 µg/L		
MPFDoA	8663	2.31	1 µg/L		
MPFTeDA	9240	2.46	1 µg/L		
13C6-PFHxA IS	21975	1.41	1 µg/L		
13C9-PFDA IS	27304	2.12	1 µg/L		

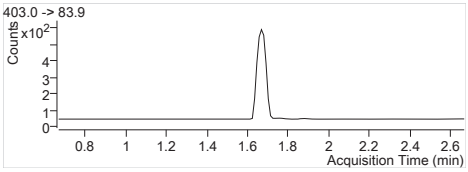
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1			-	ND	-
PFHxA 1			-	ND	-
PFHxS 1			-	ND	-
PFHpA 1			-	ND	-
PFOA 1			-	ND	-
PFOS 1			-	ND	-
PFNA 1			-	ND	-
PFDA 1			-	ND	-
PFUnA 1			-	ND	-
PFDoA 1			-	ND	-
PFTrDA 1			-	ND	-
PFTeDA 1			-	ND	-
13C2-PFHxA	6025	1.41	-	96.90 µg/L	-
18O2-PFHxS	1664	1.67	-	109.63 µg/L	-
13C4-PFHpA	7990	1.68	-	100.60 µg/L	-
13C4-PFOA	8348	1.86	-	99.01 µg/L	-
13C4-PFOS	1909	1.97	-	103.54 µg/L	-
13C5-PFNA	7860	2.00	-	96.66 µg/L	-
13C2-PFDA	5570	2.12	-	82.40 µg/L	-
13C2-PFUnA	6538	2.22	-	83.09 µg/L	-
13C2-PFDoA	8663	2.31	-	84.87 µg/L	-
13C2-PFTeDA	9418	2.46	-	80.38 µg/L	-
13C6-PFHxA	21975	1.41	-	2.26 µg/L	-
13C9-PFDA	27304	2.12	-	2.17 µg/L	-



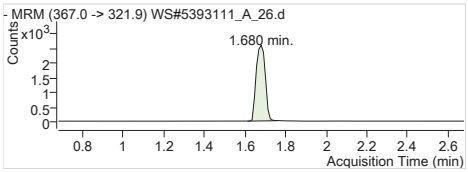


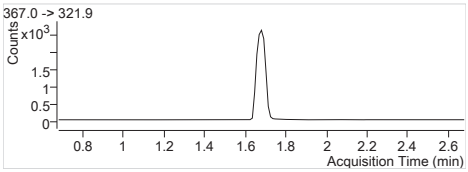
MPFHxA	Internal Standard
RT (Exp. RT):	1.411 (1.411)
Concentration:	1 µg/L
Sample type:	Sample



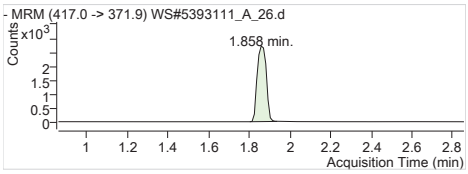


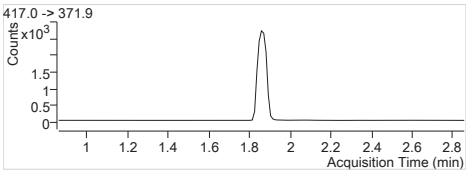
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Sample



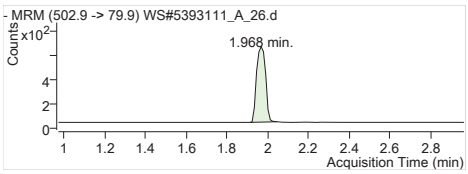


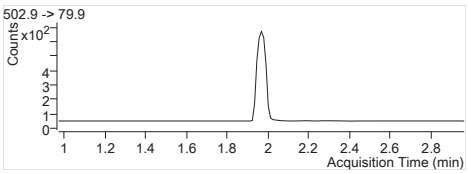
MPFHpA Internal Standard
RT (Exp. RT): 1.680 (1.680)
Concentration: 1 µg/L
Sample type: Sample



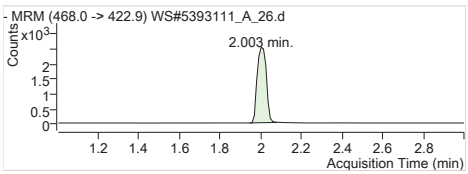


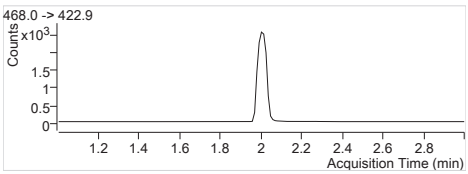
MPFOA Internal Standard
RT (Exp. RT): 1.858 (1.858)
Concentration: 1 µg/L
Sample type: Sample



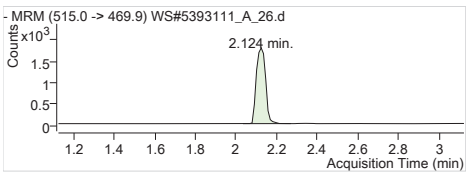


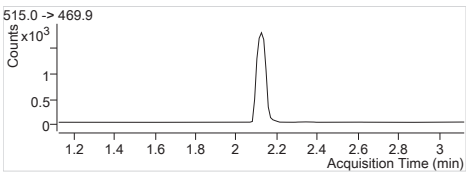
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Sample



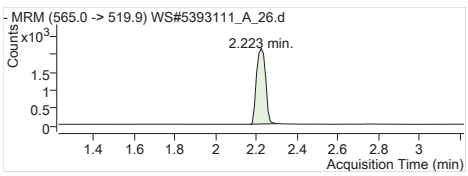


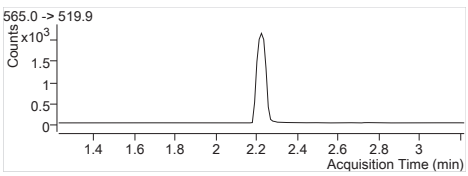
MPFNA Internal Standard
RT (Exp. RT): 2.003 (2.003)
Concentration: 1 µg/L
Sample type: Sample



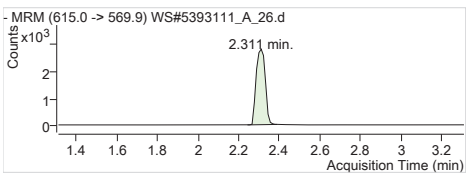


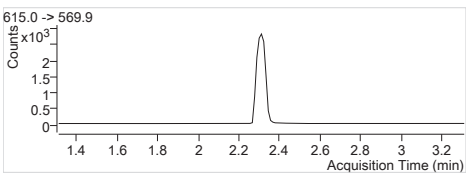
MPFDA Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Sample



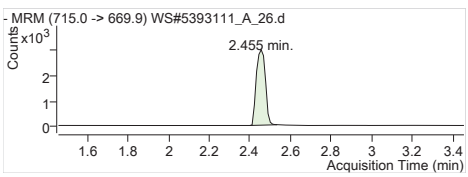


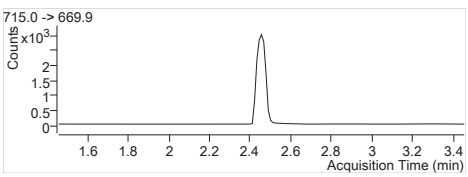
MPFUnA Internal Standard
RT (Exp. RT): 2.223 (2.223)
Concentration: 1 µg/L
Sample type: Sample



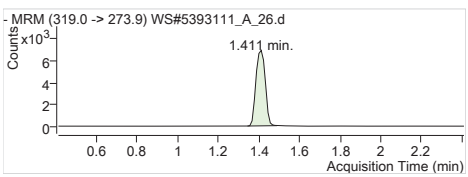


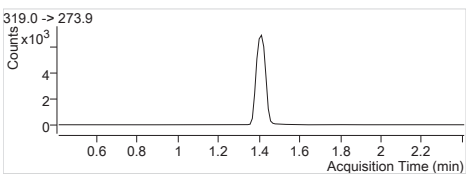
MPFDoA Internal Standard
RT (Exp. RT): 2.311 (2.311)
Concentration: 1 µg/L
Sample type: Sample



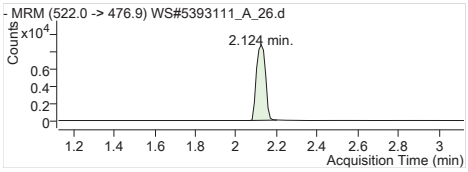


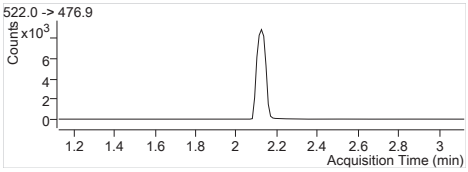
MPFTeDA Internal Standard
RT (Exp. RT): 2.455 (2.455)
Concentration: 1 µg/L
Sample type: Sample



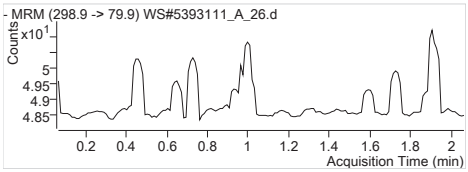


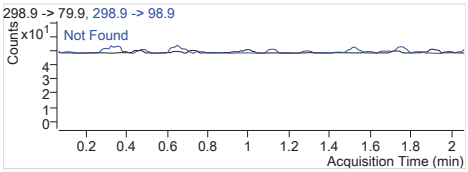
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: Sample



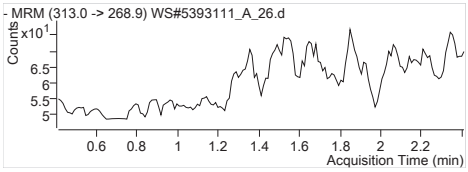


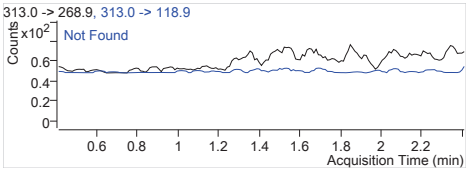
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Sample



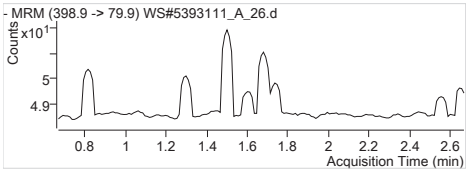


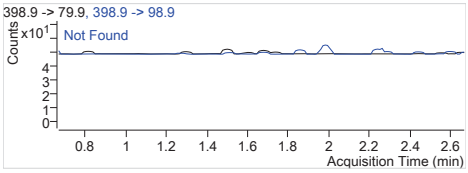
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 0.000 (1.064)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



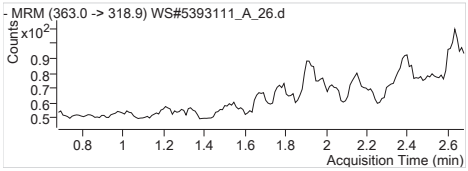


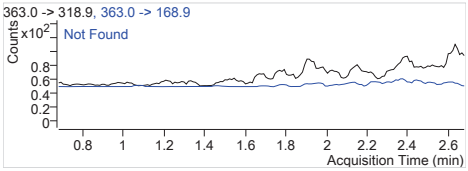
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 0.000 (1.411)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



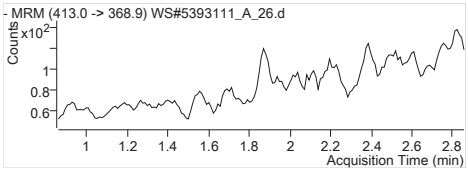


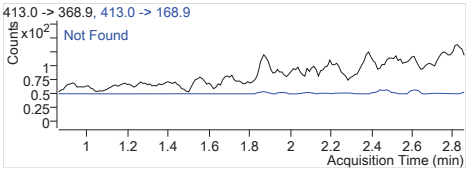
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 0.000 (1.668)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



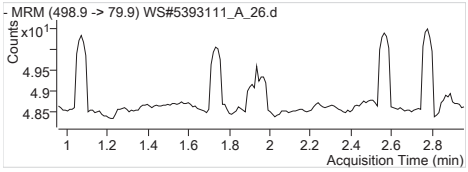


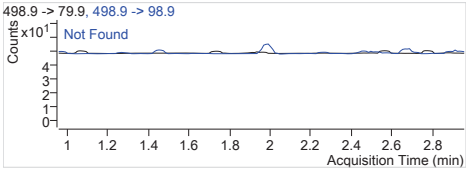
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 0.000 (1.680)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



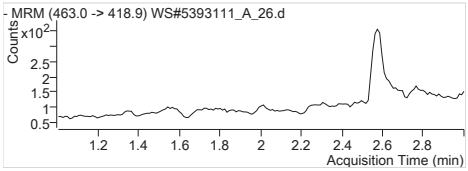


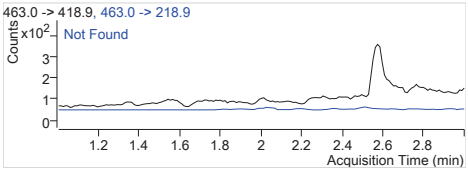
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 0.000 (1.858)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



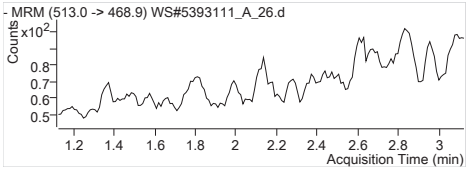


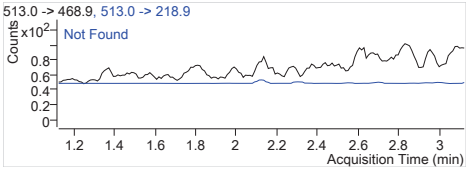
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 0.000 (1.957)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



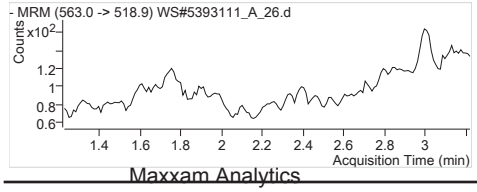


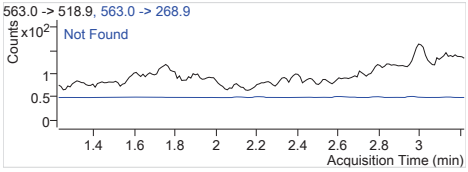
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 0.000 (2.003)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



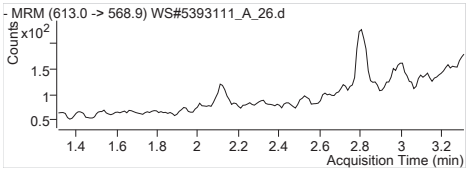


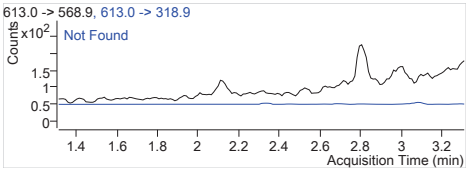
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 0.000 (2.124)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



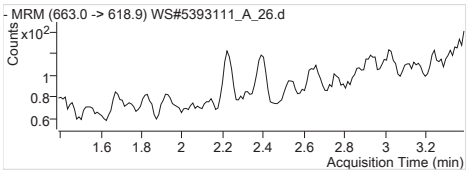


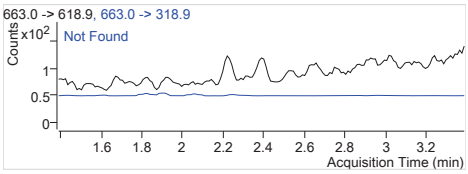
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 0.000 (2.223)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



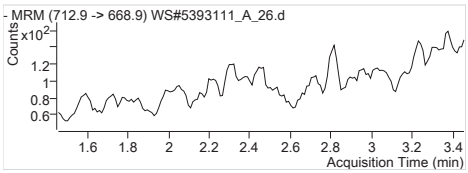


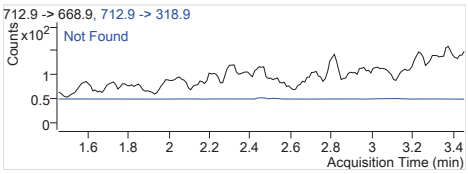
PFDoA 1	613.0 -> 568.9
RT (Exp. RT):	0.000 (2.311)
Calc. conc.	N.D.
Area ratio:	0
Sample type:	Sample



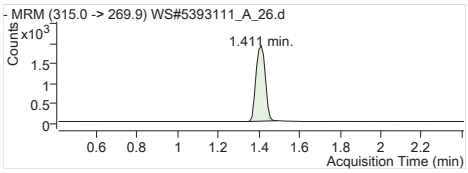


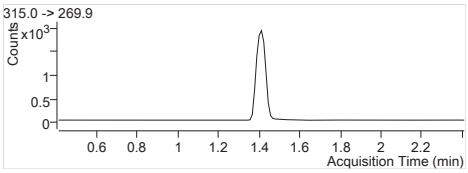
PFTrDA 1	663.0 -> 618.9
RT (Exp. RT):	0.000 (2.389)
Calc. conc.	N.D.
Area ratio:	0
Sample type:	Sample



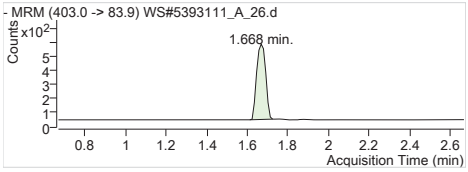


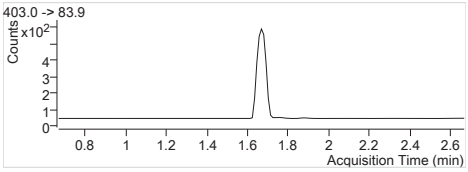
PFTeDA 1	712.9 -> 668.9
RT (Exp. RT):	0.000 (2.456)
Calc. conc.	N.D.
Area ratio:	0
Sample type:	Sample



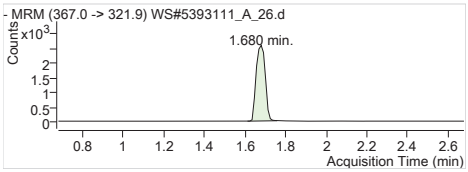


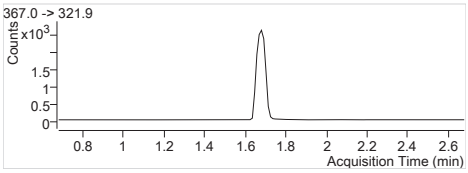
13C2-PFHxA	315.0 -> 269.9
RT (Exp. RT):	1.411 (1.411)
Calc. conc.	96.90 µg/L
Area ratio:	0.27418
Sample type:	Sample



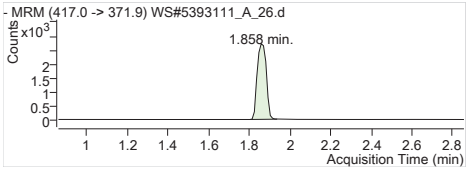


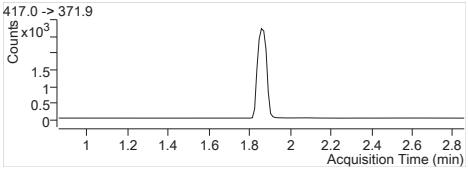
18O2-PFHxS	403.0 -> 83.9
RT (Exp. RT):	1.668 (1.668)
Calc. conc.	109.63 µg/L
Area ratio:	0.07572
Sample type:	Sample



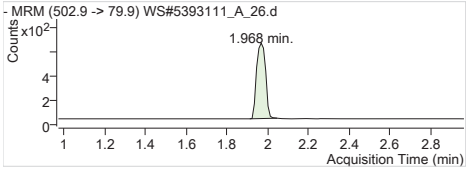


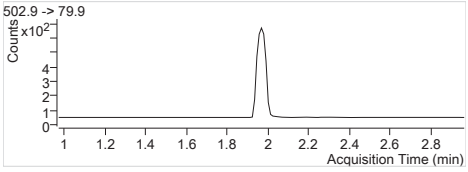
13C4-PFHpA	367.0 -> 321.9
RT (Exp. RT):	1.680 (1.680)
Calc. conc.	100.60 µg/L
Area ratio:	0.36359
Sample type:	Sample



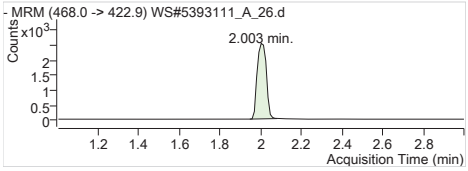


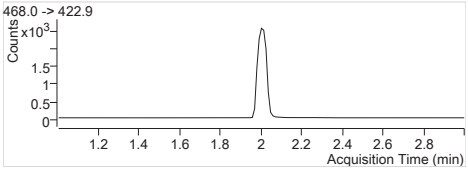
13C4-PFOA	417.0 -> 371.9
RT (Exp. RT):	1.858 (1.858)
Calc. conc.	99.01 µg/L
Area ratio:	0.37989
Sample type:	Sample



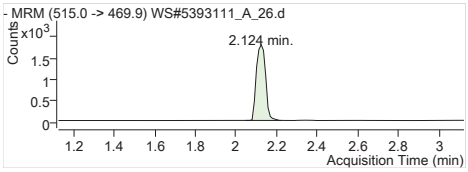


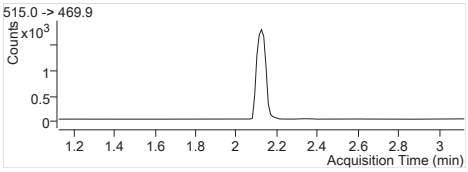
13C4-PFOS	502.9 -> 79.9
RT (Exp. RT):	1.968 (1.968)
Calc. conc.	103.54 µg/L
Area ratio:	0.08687
Sample type:	Sample



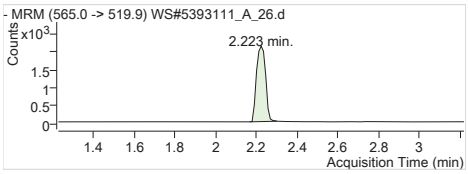


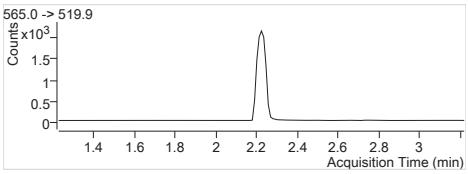
13C5-PFNA	468.0 -> 422.9
RT (Exp. RT):	2.003 (2.003)
Calc. conc.	96.66 µg/L
Area ratio:	0.35768
Sample type:	Sample



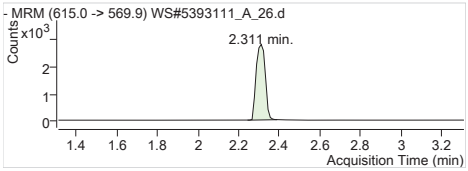


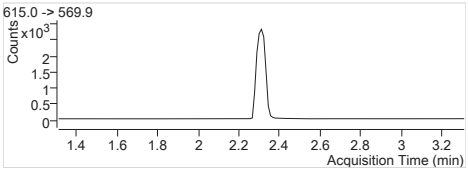
13C2-PFDA 515.0 -> 469.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 82.40 µg/L
Area ratio: 0.20400
Sample type: Sample



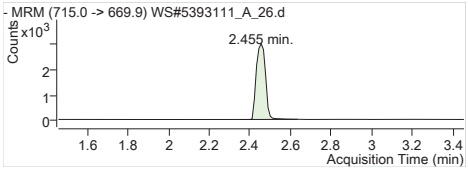


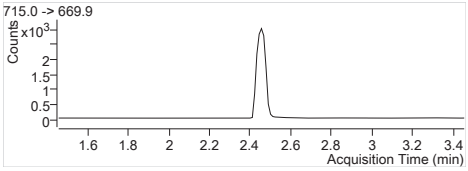
13C2-PFUnA 565.0 -> 519.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 83.09 µg/L
Area ratio: 0.23945
Sample type: Sample



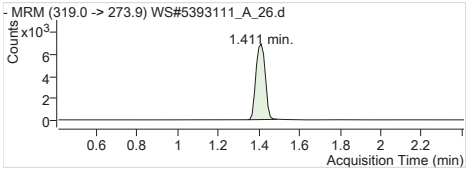


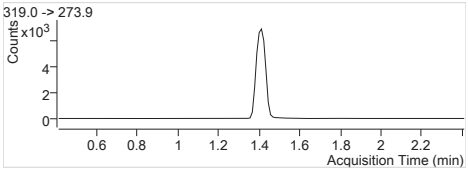
13C2-PFDoA 615.0 -> 569.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 84.87 µg/L
Area ratio: 0.31728
Sample type: Sample



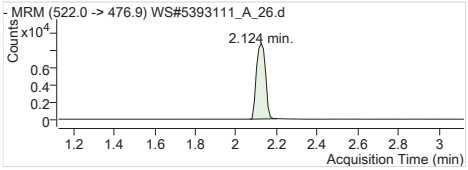


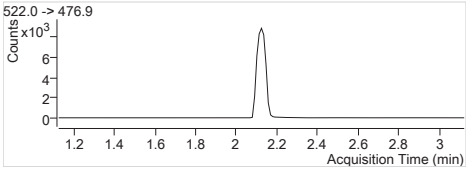
13C2-PFTeDA 715.0 -> 669.9
RT (Exp. RT): 2.455 (2.455)
Calc. conc. 80.38 µg/L
Area ratio: 0.34493
Sample type: Sample





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 2.26 µg/L
Area ratio: 0
Sample type: Sample





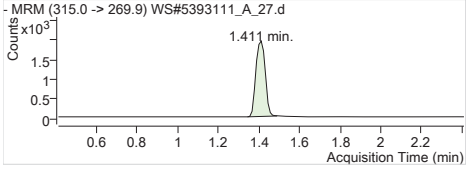
13C9-PFDA 522.0 -> 476.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 2.17 µg/L
Area ratio: 0
Sample type: Sample

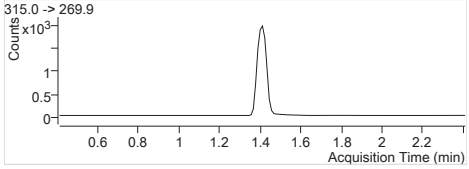
Batch Path T:\lcms4\PFC\20180212\WS#5393111_A\QuantResults\PFC_Water_Low_180213_WS#5393111_EToxics

Sample Name	**5393111:GAD931-01**	**Instrument**	LCMS04
Data File	WS#5393111_A_27.d	**Operator**	
Sample Type	Sample	**Dilution**	0.024
Acq. Method	PFC_Water_Low.m	**Position**	P2-C6
Acq. Date	2018/02/13 3:14:46 PM	**Injection Volume**	Per Method
Sample Annotation	-		

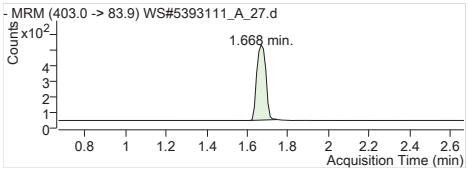
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	6156	1.41	1 µg/L		
MPFHxS	1517	1.67	1 µg/L		
MPFHpA	8266	1.68	1 µg/L		
MPFOA	8251	1.86	1 µg/L		
MPFOS	1905	1.97	1 µg/L		
MPFNA	8073	2.00	1 µg/L		
MPFDA	6488	2.12	1 µg/L		
MPFUnA	7242	2.22	1 µg/L		
MPFDoA	8260	2.31	1 µg/L		
MPFTeDA	7980	2.46	1 µg/L		
13C6-PFHxA IS	23894	1.41	1 µg/L		
13C9-PFDA IS	31328	2.12	1 µg/L		

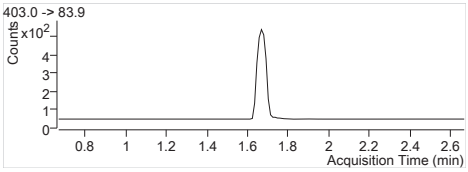
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1			-	ND	-
PFHxA 1			-	ND	-
PFHxS 1			-	ND	-
PFHpA 1			-	ND	-
PFOA 1			-	ND	-
PFOS 1	643	1.97	-	0.02 µg/L	-
PFNA 1			-	ND	-
PFDA 1			-	ND	-
PFUnA 1			-	ND	-
PFDoA 1			-	ND	-
PFTrDA 1			-	ND	-
PFTeDA 1			-	ND	-
13C2-PFHxA	6156	1.41	-	91.05 µg/L	-
18O2-PFHxS	1517	1.67	-	91.92 µg/L	-
13C4-PFHpA	8266	1.68	-	95.72 µg/L	-
13C4-PFOA	8251	1.86	-	90.00 µg/L	-
13C4-PFOS	1905	1.97	-	95.02 µg/L	-
13C5-PFNA	8073	2.00	-	91.31 µg/L	-
13C2-PFDA	6411	2.12	-	82.66 µg/L	-
13C2-PFUnA	7242	2.22	-	80.21 µg/L	-
13C2-PFDoA	8260	2.31	-	70.53 µg/L	-
13C2-PFTeDA	8187	2.46	-	60.90 µg/L	-
13C6-PFHxA	23894	1.41	-	2.46 µg/L	-
13C9-PFDA	31328	2.12	-	2.49 µg/L	-



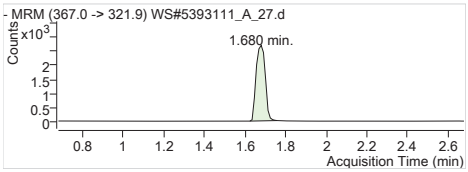


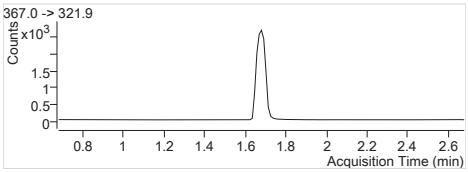
MPFHxA Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: Sample



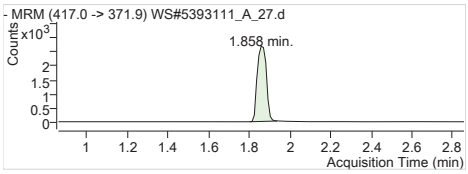


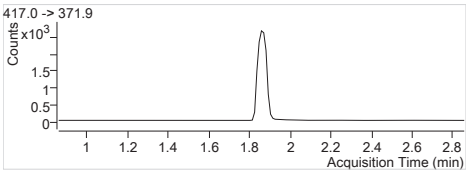
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Sample



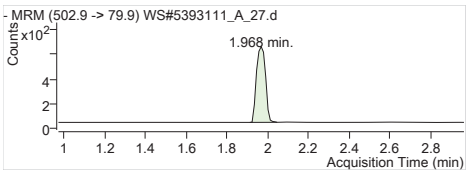


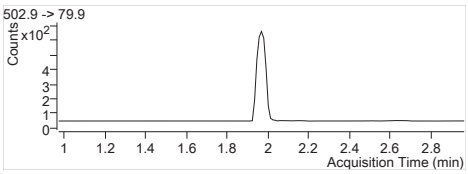
MPFHpA Internal Standard
RT (Exp. RT): 1.680 (1.680)
Concentration: 1 µg/L
Sample type: Sample



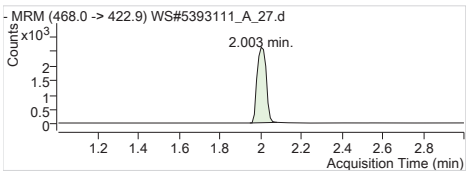


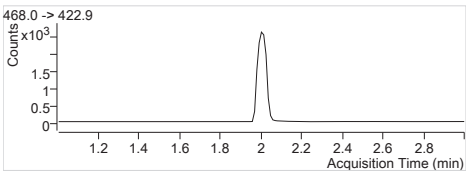
MPFOA Internal Standard
RT (Exp. RT): 1.858 (1.858)
Concentration: 1 µg/L
Sample type: Sample



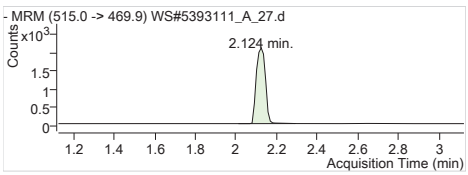


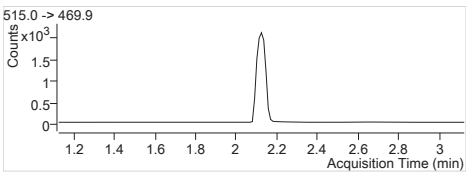
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Sample



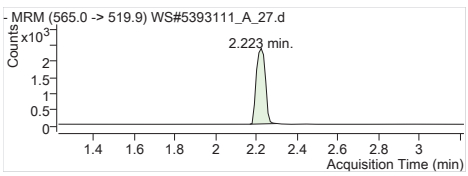


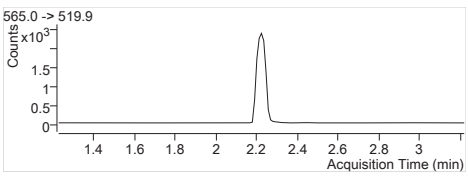
MPFNA Internal Standard
RT (Exp. RT): 2.003 (2.003)
Concentration: 1 µg/L
Sample type: Sample



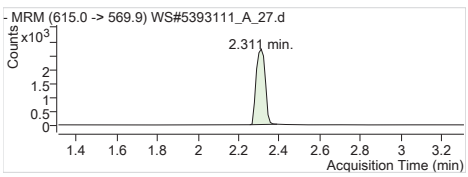


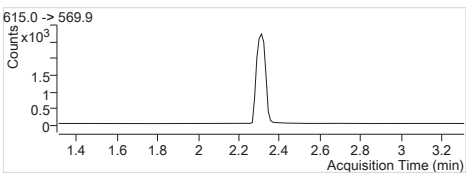
MPFDA Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Sample



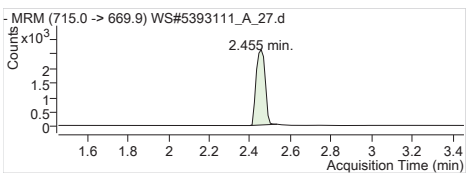


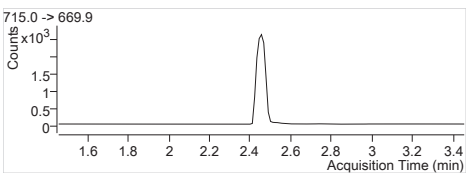
MPFUnA Internal Standard
RT (Exp. RT): 2.223 (2.223)
Concentration: 1 µg/L
Sample type: Sample



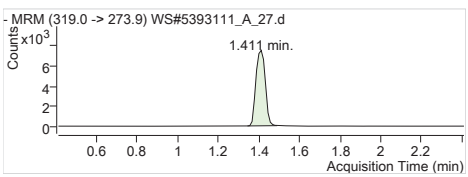


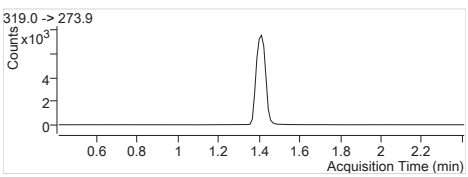
MPFDoA Internal Standard
RT (Exp. RT): 2.311 (2.311)
Concentration: 1 µg/L
Sample type: Sample



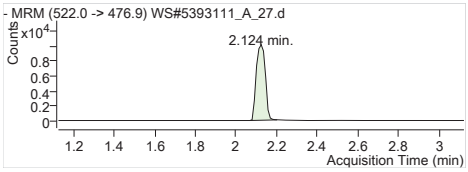


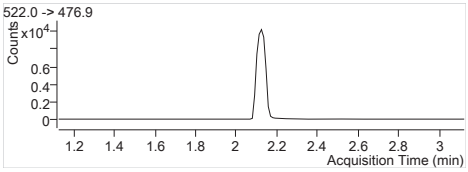
MPFTeDA Internal Standard
RT (Exp. RT): 2.455 (2.455)
Concentration: 1 µg/L
Sample type: Sample



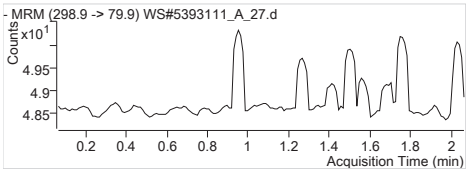


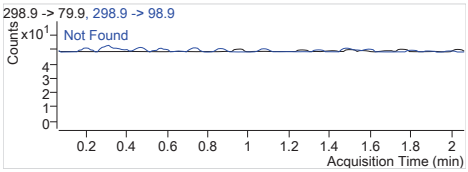
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: Sample



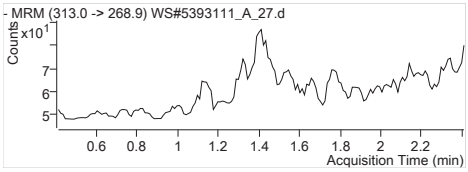


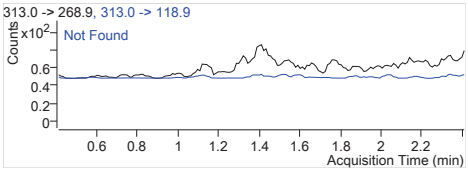
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Sample



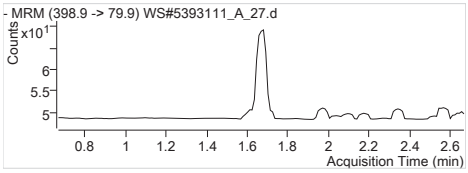


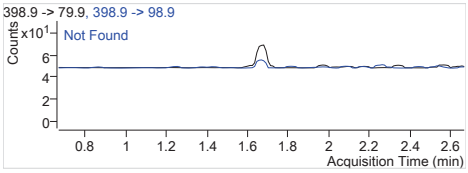
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 0.000 (1.064)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



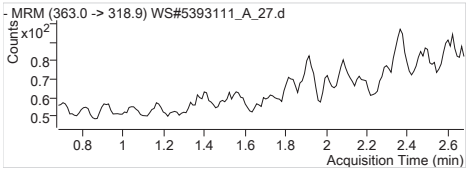


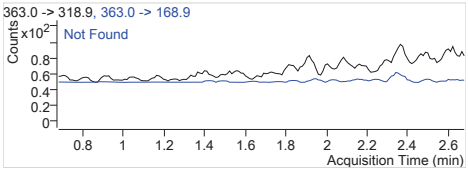
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 0.000 (1.411)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



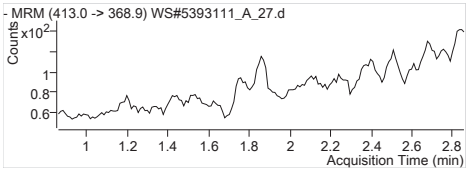


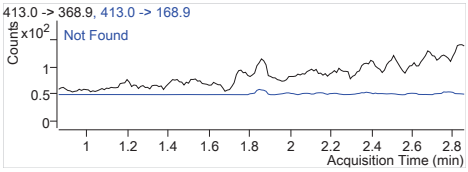
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 0.000 (1.668)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



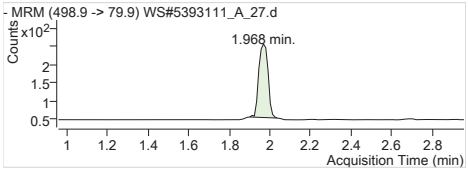


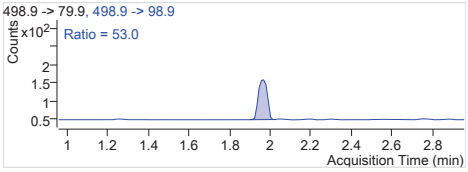
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 0.000 (1.680)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



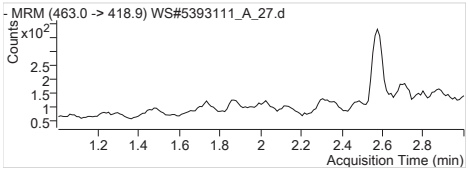


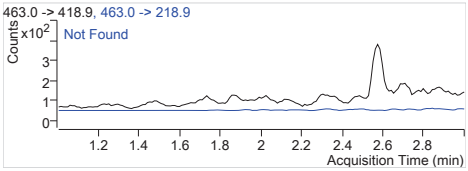
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 0.000 (1.858)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



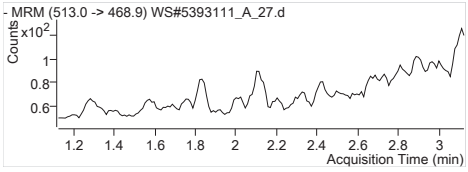


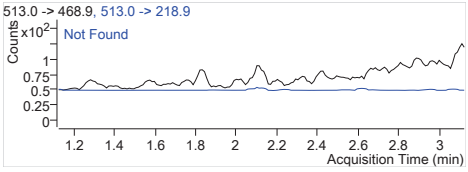
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.968 (1.957)
Calc. conc. 0.02 µg/L
Area ratio: 0.33753
Sample type: Sample



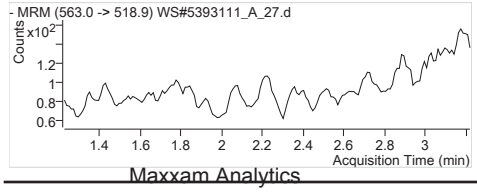


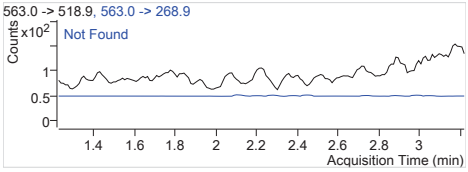
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 0.000 (2.003)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



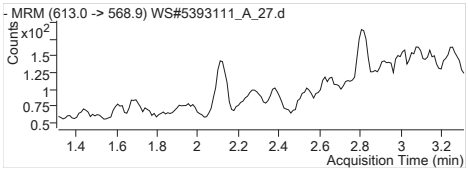


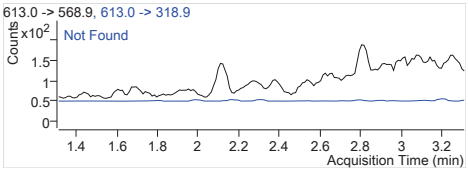
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 0.000 (2.124)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



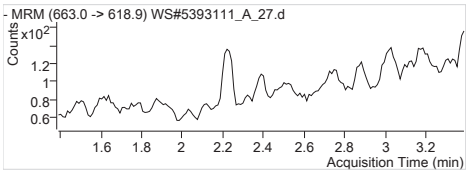


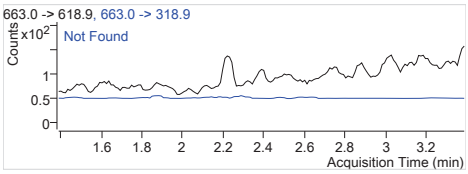
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 0.000 (2.223)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



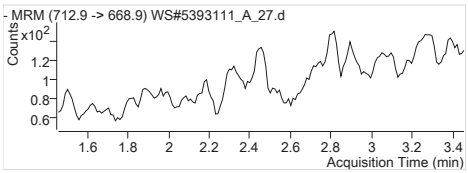


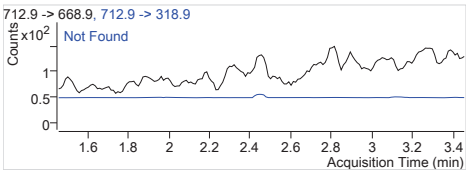
PFDoA 1 613.0 -> 568.9
RT (Exp. RT): 0.000 (2.311)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



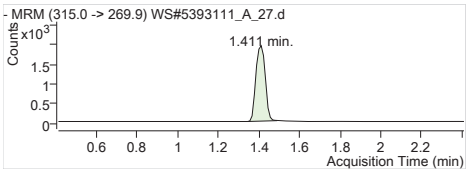


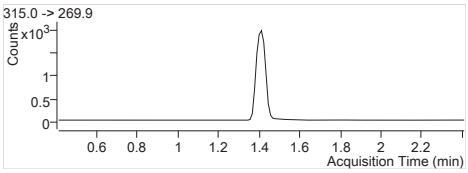
PFTrDA 1 663.0 -> 618.9
RT (Exp. RT): 0.000 (2.389)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



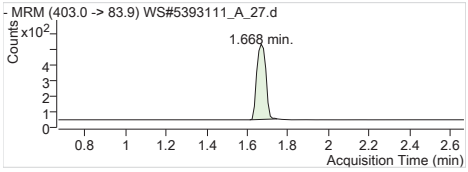


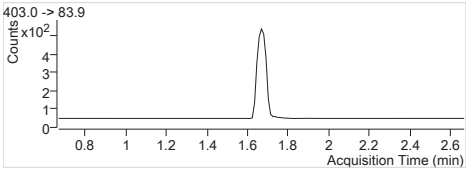
PFTeDA 1 712.9 -> 668.9
RT (Exp. RT): 0.000 (2.456)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



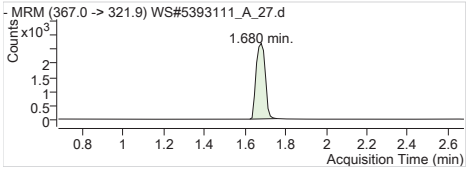


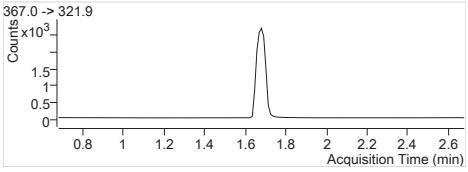
13C2-PFHxA 315.0 -> 269.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 91.05 µg/L
Area ratio: 0.25764
Sample type: Sample



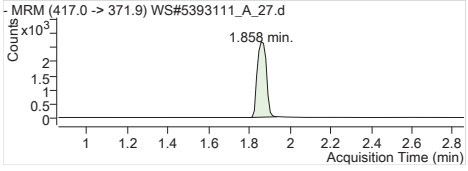


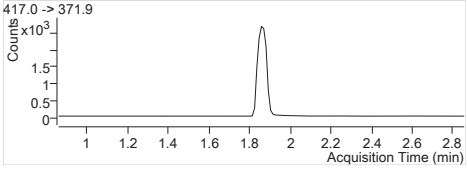
18O2-PFHxS 403.0 -> 83.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 91.92 µg/L
Area ratio: 0.06349
Sample type: Sample



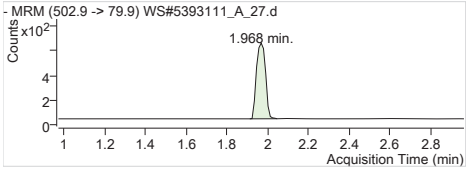


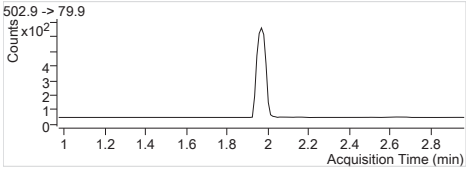
13C4-PFHpA 367.0 -> 321.9
RT (Exp. RT): 1.680 (1.680)
Calc. conc. 95.72 µg/L
Area ratio: 0.34594
Sample type: Sample



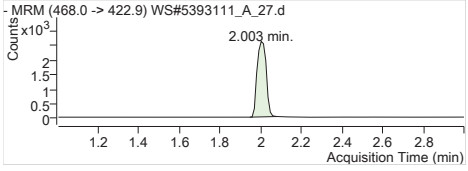


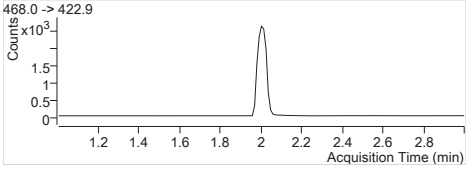
13C4-PFOA 417.0 -> 371.9
RT (Exp. RT): 1.858 (1.858)
Calc. conc. 90.00 µg/L
Area ratio: 0.34532
Sample type: Sample



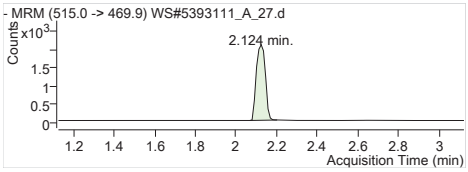


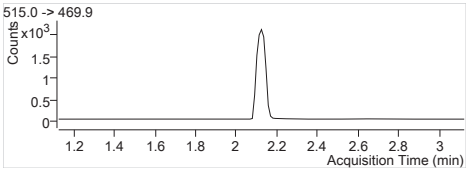
13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.968 (1.968)
Calc. conc. 95.02 µg/L
Area ratio: 0.07973
Sample type: Sample



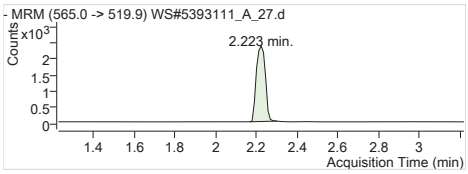


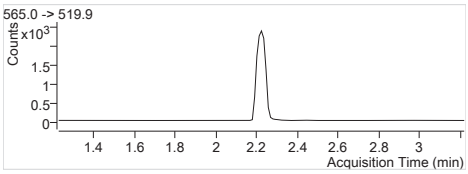
13C5-PFNA 468.0 -> 422.9
RT (Exp. RT): 2.003 (2.003)
Calc. conc. 91.31 µg/L
Area ratio: 0.33787
Sample type: Sample



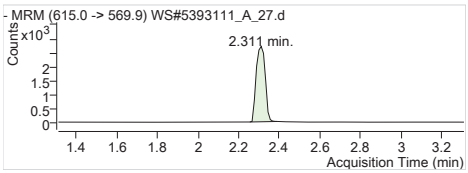


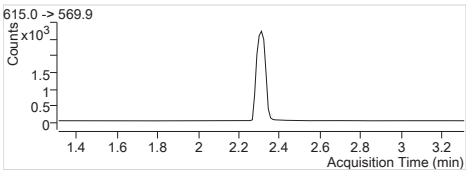
13C2-PFDA	515.0 -> 469.9
RT (Exp. RT):	2.124 (2.124)
Calc. conc.	82.66 µg/L
Area ratio:	0.20464
Sample type:	Sample



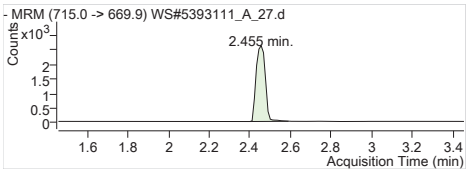


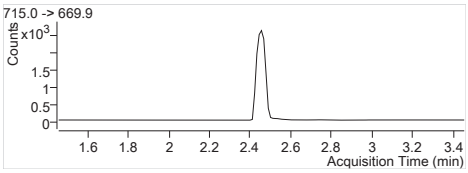
13C2-PFUnA	565.0 -> 519.9
RT (Exp. RT):	2.223 (2.223)
Calc. conc.	80.21 µg/L
Area ratio:	0.23117
Sample type:	Sample



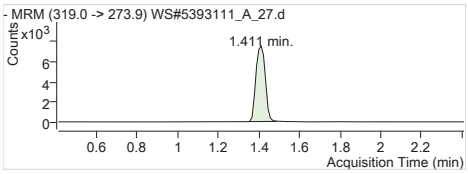


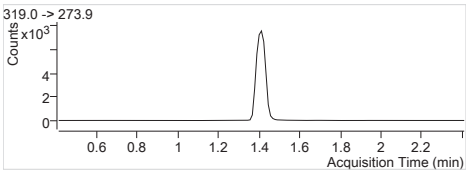
13C2-PFDoA	615.0 -> 569.9
RT (Exp. RT):	2.311 (2.311)
Calc. conc.	70.53 µg/L
Area ratio:	0.26366
Sample type:	Sample



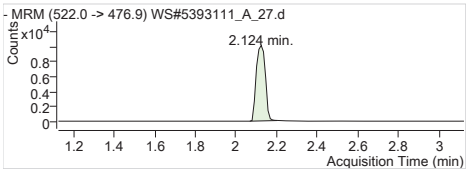


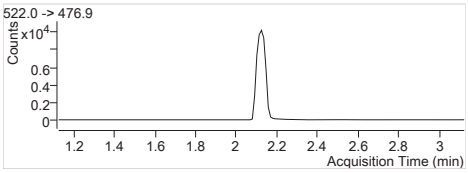
13C2-PFTeDA	715.0 -> 669.9
RT (Exp. RT):	2.455 (2.455)
Calc. conc.	60.90 µg/L
Area ratio:	0.26133
Sample type:	Sample





13C6-PFHxA	319.0 -> 273.9
RT (Exp. RT):	1.411 (1.411)
Calc. conc.	2.46 µg/L
Area ratio:	0
Sample type:	Sample





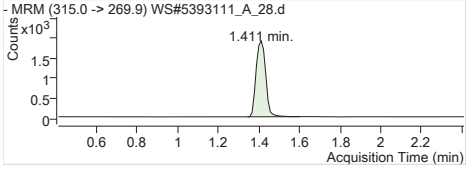
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	2.124 (2.124)
Calc. conc.	2.49 µg/L
Area ratio:	0
Sample type:	Sample

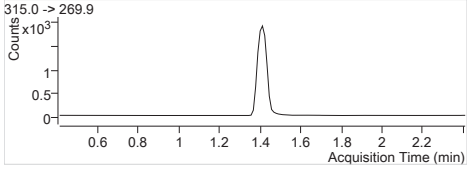
Batch Path T:\lcms4\PFC\20180212\WS#5393111_A\QuantResults\PFC_Water_Low_180213_WS#5393111_EToxics

Sample Name	**5393111:GAD932-01**	**Instrument**	LCMS04
Data File	WS#5393111_A_28.d	**Operator**	
Sample Type	Sample	**Dilution**	0.024
Acq. Method	PFC_Water_Low.m	**Position**	P2-C7
Acq. Date	2018/02/13 3:19:42 PM	**Injection Volume**	Per Method
Sample Annotation	-		

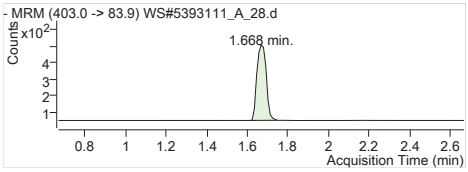
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	6159	1.41	1 µg/L		
MPFHxS	1465	1.67	1 µg/L		
MPFHpA	7390	1.68	1 µg/L		
MPFOA	7870	1.86	1 µg/L		
MPFOS	1726	1.97	1 µg/L		
MPFNA	7248	2.00	1 µg/L		
MPFDA	6406	2.12	1 µg/L		
MPFUnA	6790	2.22	1 µg/L		
MPFDoA	8871	2.31	1 µg/L		
MPFTeDA	8893	2.46	1 µg/L		
13C6-PFHxA IS	23670	1.41	1 µg/L		
13C9-PFDA IS	31124	2.12	1 µg/L		

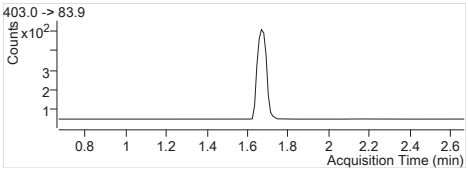
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1			-	ND	-
PFHxA 1			-	ND	-
PFHxS 1			-	ND	-
PFHpA 1			-	ND	-
PFOA 1			-	ND	-
PFOS 1			-	ND	-
PFNA 1			-	ND	-
PFDA 1			-	ND	-
PFUnA 1			-	ND	-
PFDoA 1			-	ND	-
PFTrDA 1			-	ND	-
PFTeDA 1			-	ND	-
13C2-PFHxA	6159	1.41	-	91.96 µg/L	-
18O2-PFHxS	1465	1.67	-	89.61 µg/L	-
13C4-PFHpA	7390	1.68	-	86.38 µg/L	-
13C4-PFOA	7870	1.86	-	86.66 µg/L	-
13C4-PFOS	1726	1.97	-	86.91 µg/L	-
13C5-PFNA	7248	2.00	-	82.75 µg/L	-
13C2-PFDA	6363	2.12	-	82.58 µg/L	-
13C2-PFUnA	6790	2.22	-	75.70 µg/L	-
13C2-PFDoA	8871	2.31	-	76.24 µg/L	-
13C2-PFTeDA	9114	2.46	-	68.24 µg/L	-
13C6-PFHxA	23670	1.41	-	2.43 µg/L	-
13C9-PFDA	31124	2.12	-	2.47 µg/L	-



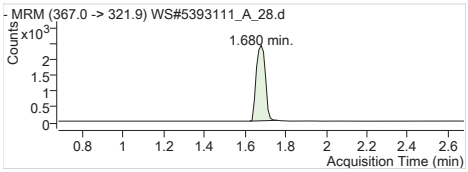


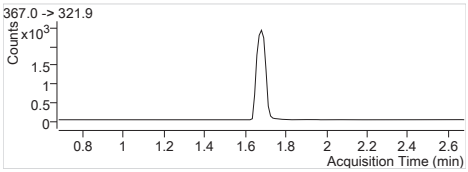
MPFHxA Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: Sample



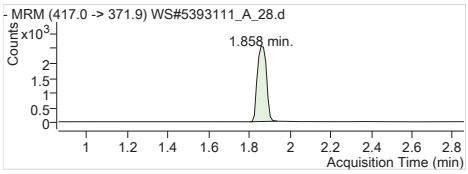


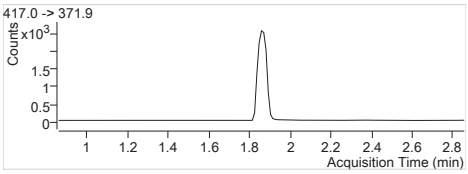
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Sample



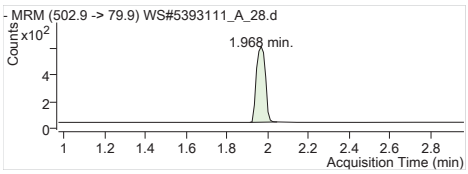


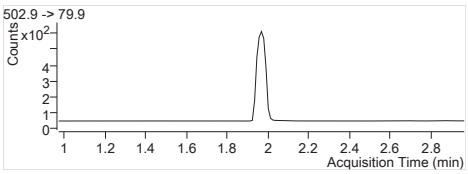
MPFHpA Internal Standard
RT (Exp. RT): 1.680 (1.680)
Concentration: 1 µg/L
Sample type: Sample



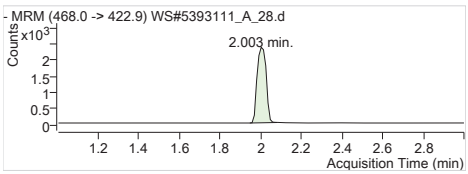


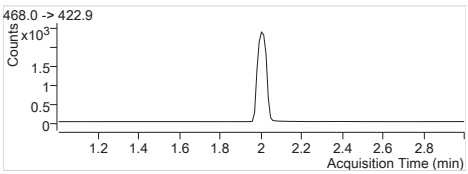
MPFOA Internal Standard
RT (Exp. RT): 1.858 (1.858)
Concentration: 1 µg/L
Sample type: Sample



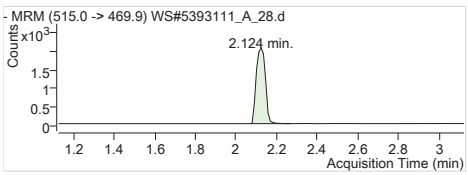


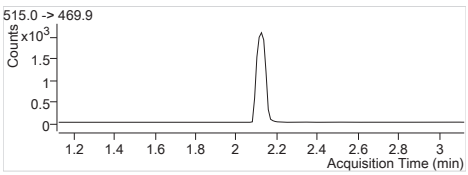
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Sample



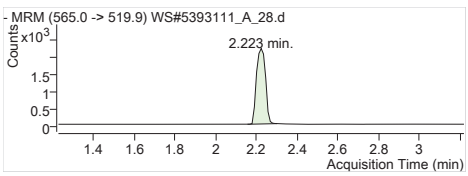


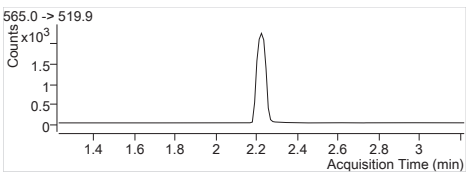
MPFNA Internal Standard
RT (Exp. RT): 2.003 (2.003)
Concentration: 1 µg/L
Sample type: Sample



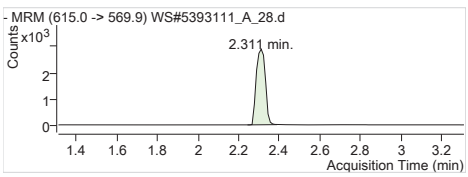


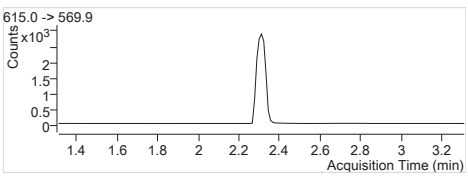
MPFDA Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Sample



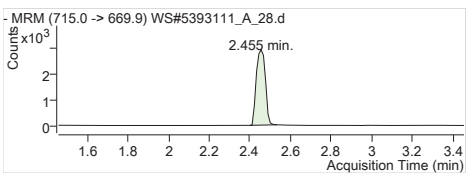


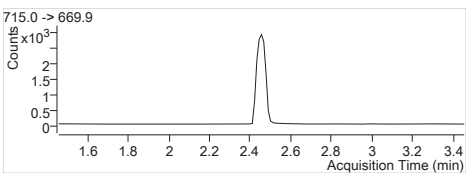
MPFUnA Internal Standard
RT (Exp. RT): 2.223 (2.223)
Concentration: 1 µg/L
Sample type: Sample



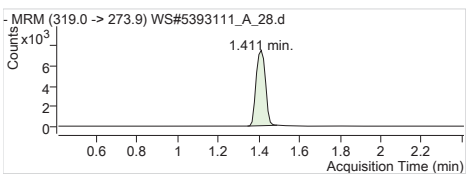


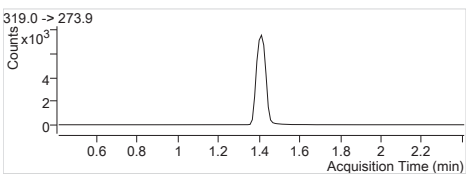
MPFDoA Internal Standard
RT (Exp. RT): 2.311 (2.311)
Concentration: 1 µg/L
Sample type: Sample



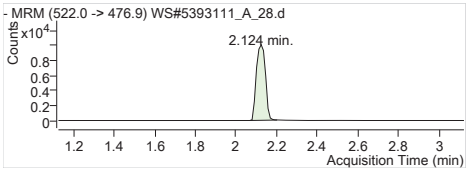


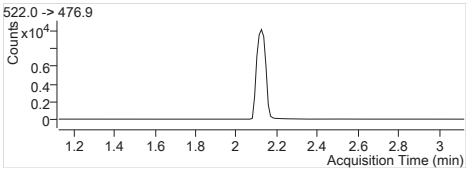
MPFTeDA Internal Standard
RT (Exp. RT): 2.455 (2.455)
Concentration: 1 µg/L
Sample type: Sample



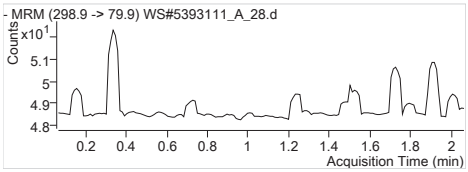


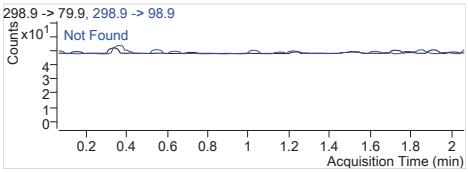
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: Sample



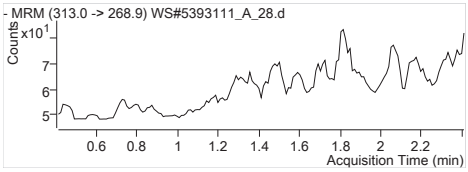


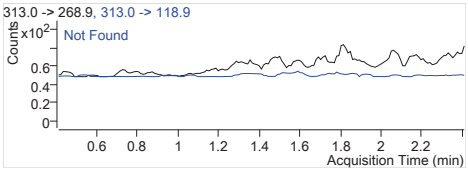
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Sample



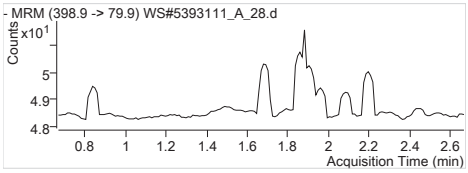


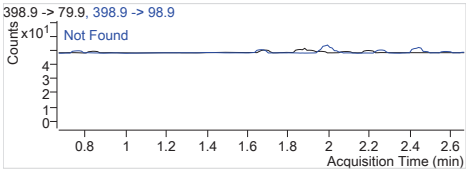
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 0.000 (1.064)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



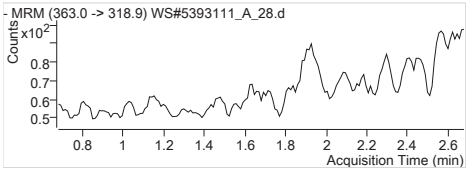


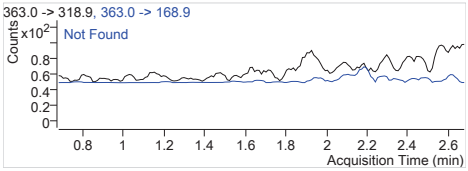
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 0.000 (1.411)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



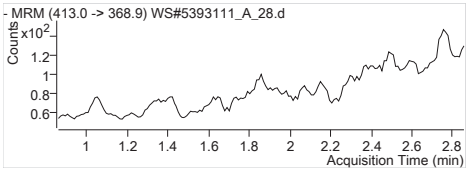


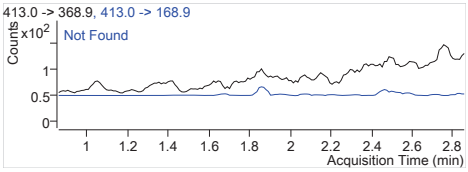
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 0.000 (1.668)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



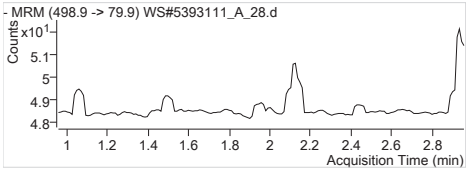


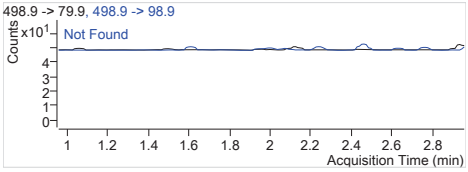
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 0.000 (1.680)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



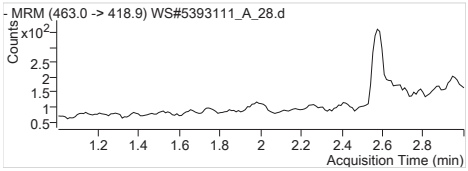


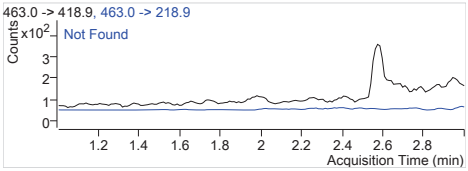
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 0.000 (1.858)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



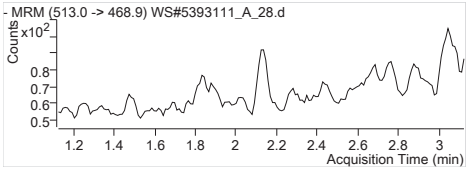


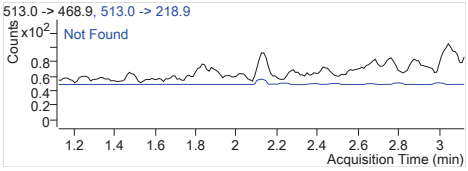
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 0.000 (1.957)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



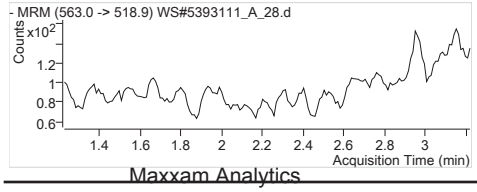


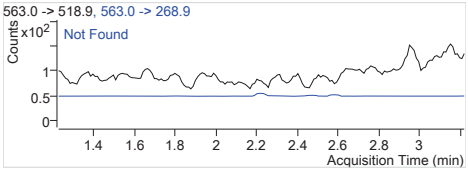
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 0.000 (2.003)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



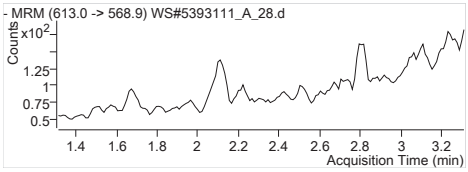


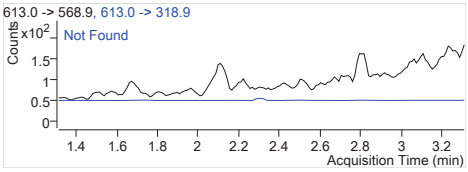
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 0.000 (2.124)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



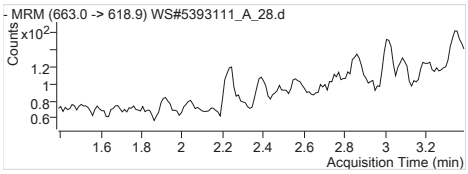


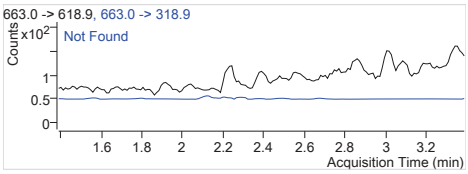
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 0.000 (2.223)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



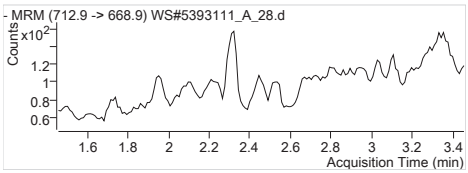


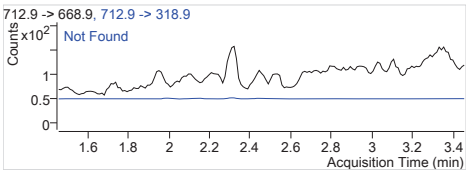
PFDoA 1	613.0 -> 568.9
RT (Exp. RT):	0.000 (2.311)
Calc. conc.	N.D.
Area ratio:	0
Sample type:	Sample



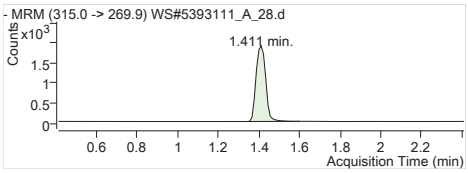


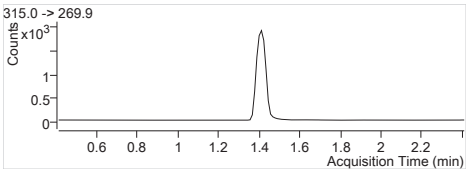
PFTrDA 1	663.0 -> 618.9
RT (Exp. RT):	0.000 (2.389)
Calc. conc.	N.D.
Area ratio:	0
Sample type:	Sample



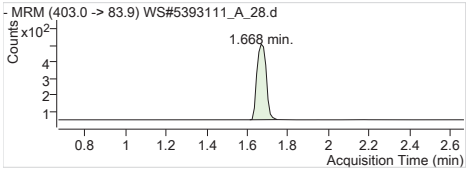


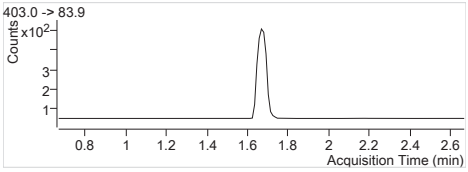
PFTeDA 1	712.9 -> 668.9
RT (Exp. RT):	0.000 (2.456)
Calc. conc.	N.D.
Area ratio:	0
Sample type:	Sample



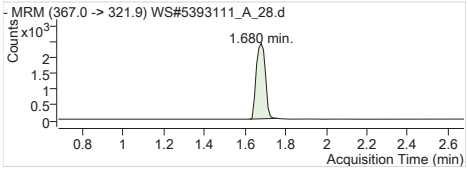


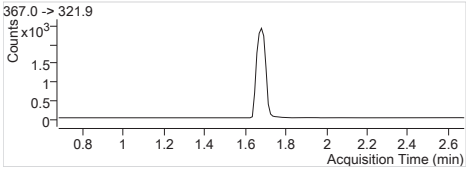
13C2-PFHxA	315.0 -> 269.9
RT (Exp. RT):	1.411 (1.411)
Calc. conc.	91.96 µg/L
Area ratio:	0.26020
Sample type:	Sample



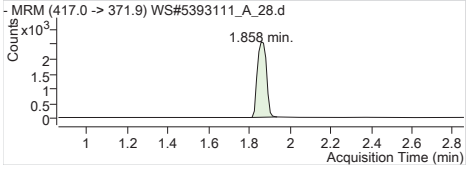


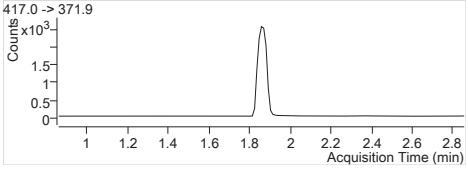
18O2-PFHxS	403.0 -> 83.9
RT (Exp. RT):	1.668 (1.668)
Calc. conc.	89.61 µg/L
Area ratio:	0.06189
Sample type:	Sample



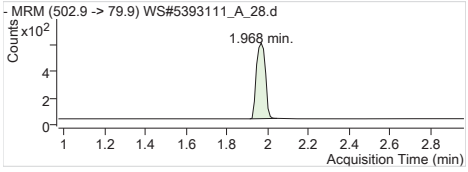


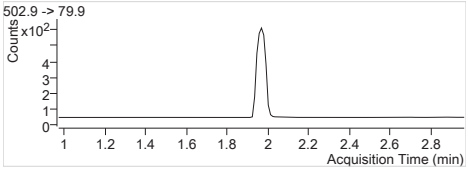
13C4-PFHpA	367.0 -> 321.9
RT (Exp. RT):	1.680 (1.680)
Calc. conc.	86.38 µg/L
Area ratio:	0.31221
Sample type:	Sample



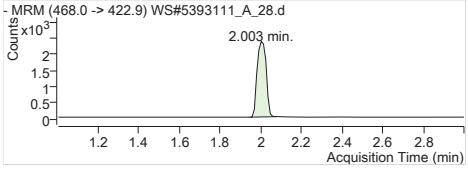


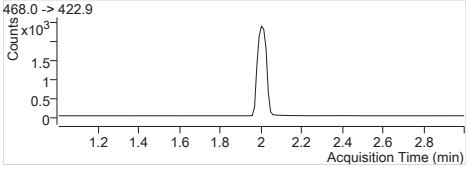
13C4-PFOA	417.0 -> 371.9
RT (Exp. RT):	1.858 (1.858)
Calc. conc.	86.66 µg/L
Area ratio:	0.33249
Sample type:	Sample



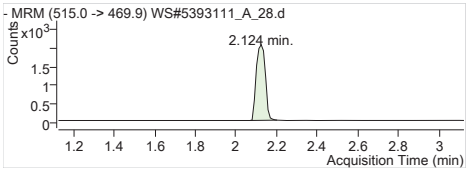


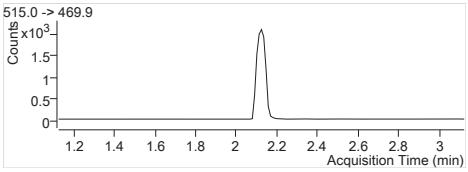
13C4-PFOS	502.9 -> 79.9
RT (Exp. RT):	1.968 (1.968)
Calc. conc.	86.91 µg/L
Area ratio:	0.07292
Sample type:	Sample



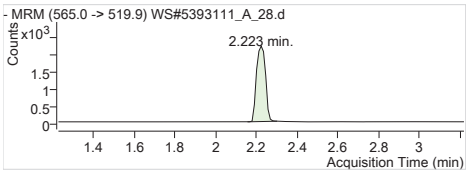


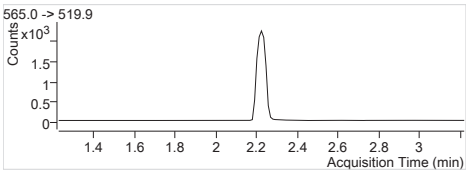
13C5-PFNA	468.0 -> 422.9
RT (Exp. RT):	2.003 (2.003)
Calc. conc.	82.75 µg/L
Area ratio:	0.30621
Sample type:	Sample



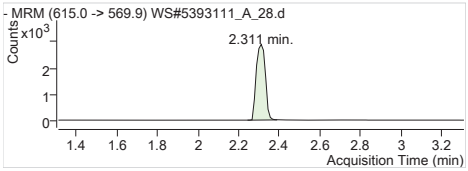


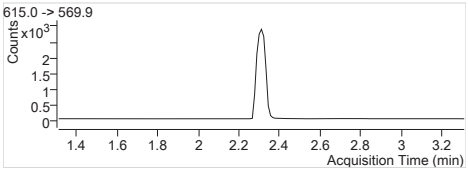
13C2-PFDA 515.0 -> 469.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 82.58 µg/L
Area ratio: 0.20444
Sample type: Sample



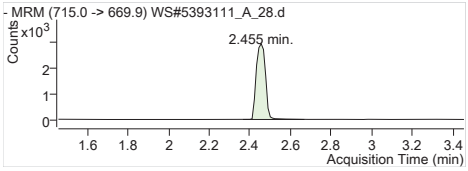


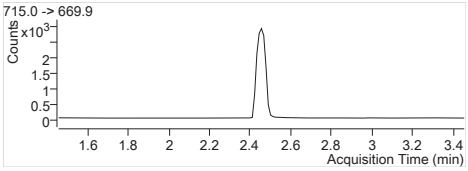
13C2-PFUnA 565.0 -> 519.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 75.70 µg/L
Area ratio: 0.21816
Sample type: Sample



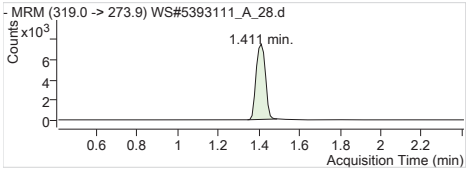


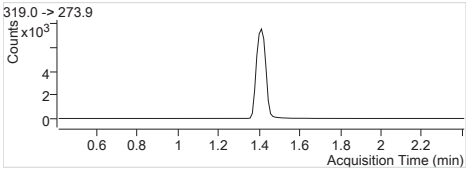
13C2-PFDoA 615.0 -> 569.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 76.24 µg/L
Area ratio: 0.28502
Sample type: Sample



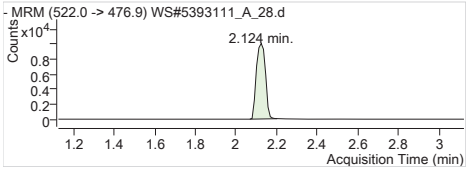


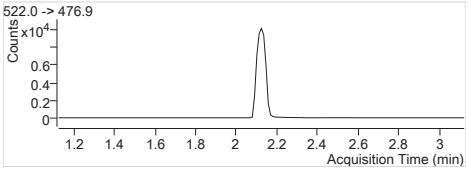
13C2-PFTeDA 715.0 -> 669.9
RT (Exp. RT): 2.455 (2.455)
Calc. conc. 68.24 µg/L
Area ratio: 0.29283
Sample type: Sample





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 2.43 µg/L
Area ratio: 0
Sample type: Sample





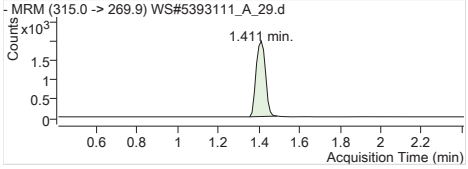
13C9-PFDA 522.0 -> 476.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 2.47 µg/L
Area ratio: 0
Sample type: Sample

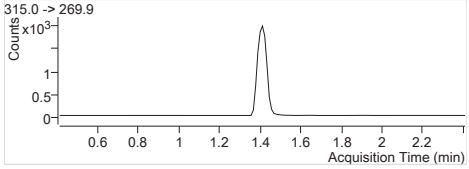
Batch Path	T:\lcms4\PFC\20180212\WS#5393111_A\QuantResults\PFC_Water_Low_180213_WS#5393111_EToxics

Sample Name	**5393111:GAD933-01:100x**	**Instrument**	LCMS04
Data File	WS#5393111_A_29.d	**Operator**	
Sample Type	Sample	**Dilution**	2.4
Acq. Method	PFC_Water_Low.m	**Position**	P2-C8
Acq. Date	2018/02/13 3:24:38 PM	**Injection Volume**	Per Method
Sample Annotation	Reported for all except PFOS.		

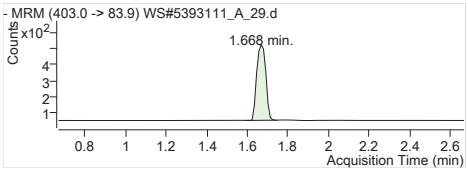
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	6211	1.41	1 µg/L		
MPFHxS	1486	1.67	1 µg/L		
MPFHpA	7463	1.68	1 µg/L		
MPFOA	8183	1.86	1 µg/L		
MPFOS	1593	1.97	1 µg/L		
MPFNA	7331	2.00	1 µg/L		
MPFDA	6161	2.12	1 µg/L		
MPFUnA	6514	2.22	1 µg/L		
MPFDoA	8368	2.31	1 µg/L		
MPFTeDA	10235	2.46	1 µg/L		
13C6-PFHxA IS	24115	1.41	1 µg/L		
13C9-PFDA IS	30477	2.12	1 µg/L		

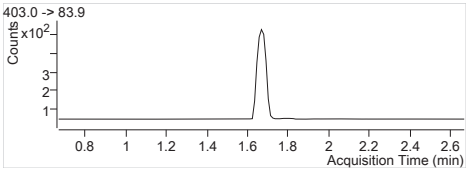
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1	318	1.06	-	1.54 µg/L	-
PFHxA 1	4620	1.41	-	4.40 µg/L	-
PFHxS 1	9998	1.67	-	31.64 µg/L	-
PFHpA 1	1566	1.68	-	1.19 µg/L	-
PFOA 1	8613	1.86	-	5.76 µg/L	-
PFOS 1	63194	1.97	-	240.45 µg/L	-
PFNA 1			-	ND	-
PFDA 1			-	ND	-
PFUnA 1			-	ND	-
PFDoA 1			-	ND	-
PFTrDA 1			-	ND	-
PFTeDA 1			-	ND	-
13C2-PFHxA	6211	1.41	-	91.02 µg/L	-
18O2-PFHxS	1486	1.67	-	89.22 µg/L	-
13C4-PFHpA	7463	1.68	-	85.63 µg/L	-
13C4-PFOA	8183	1.86	-	88.44 µg/L	-
13C4-PFOS	1593	1.97	-	78.73 µg/L	-
13C5-PFNA	7331	2.00	-	82.15 µg/L	-
13C2-PFDA	6013	2.12	-	79.69 µg/L	-
13C2-PFUnA	6514	2.22	-	74.17 µg/L	-
13C2-PFDoA	8368	2.31	-	73.45 µg/L	-
13C2-PFTeDA	10416	2.46	-	79.64 µg/L	-
13C6-PFHxA	24115	1.41	-	247.83 µg/L	-
13C9-PFDA	30477	2.12	-	241.85 µg/L	-



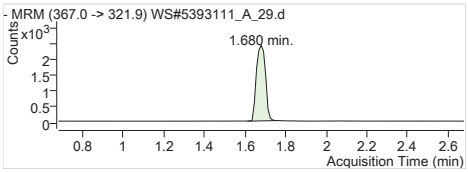


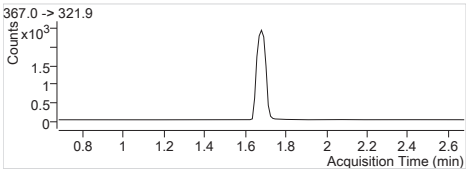
MPFHxA	Internal Standard
RT (Exp. RT):	1.411 (1.411)
Concentration:	1 µg/L
Sample type:	Sample



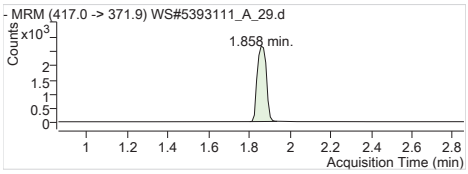


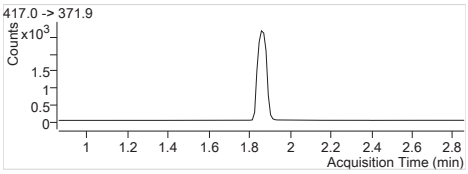
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Sample



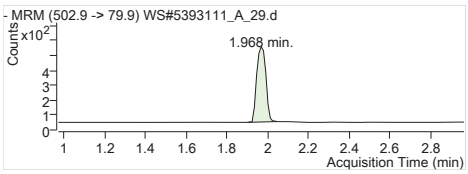


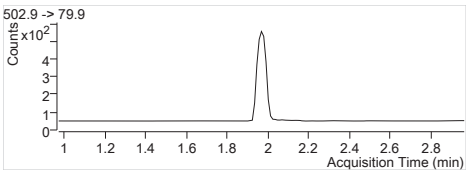
MPFHpA Internal Standard
RT (Exp. RT): 1.680 (1.680)
Concentration: 1 µg/L
Sample type: Sample



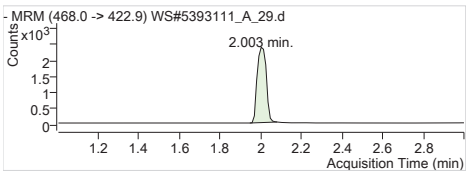


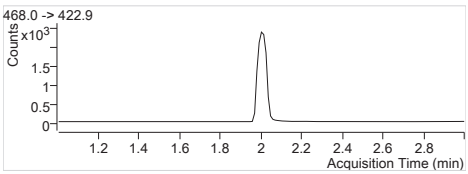
MPFOA Internal Standard
RT (Exp. RT): 1.858 (1.858)
Concentration: 1 µg/L
Sample type: Sample



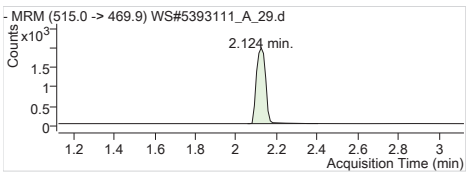


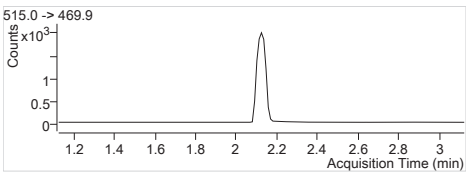
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Sample



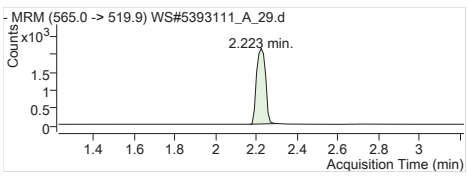


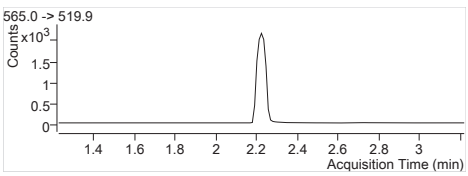
MPFNA Internal Standard
RT (Exp. RT): 2.003 (2.003)
Concentration: 1 µg/L
Sample type: Sample



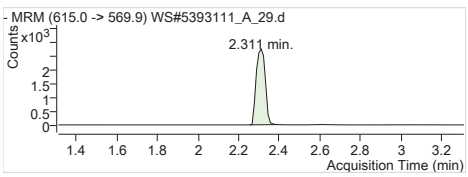


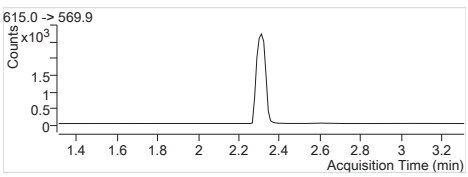
MPFDA Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Sample



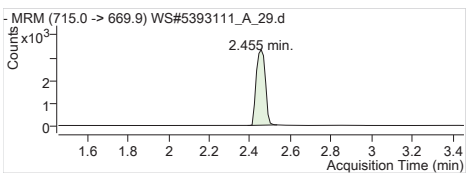


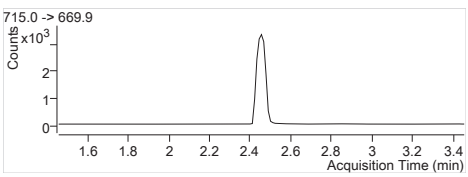
MPFUnA Internal Standard
RT (Exp. RT): 2.223 (2.223)
Concentration: 1 µg/L
Sample type: Sample



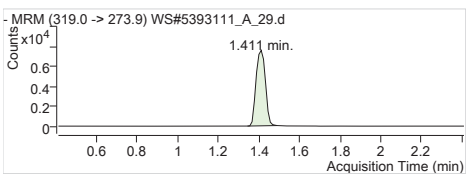


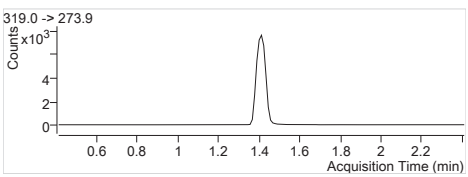
MPFDoA Internal Standard
RT (Exp. RT): 2.311 (2.311)
Concentration: 1 µg/L
Sample type: Sample



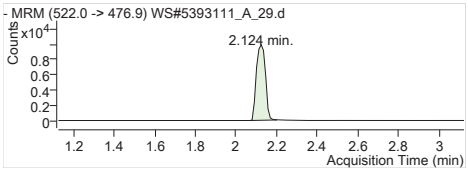


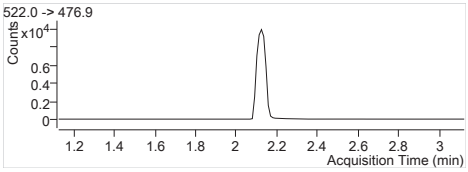
MPFTeDA Internal Standard
RT (Exp. RT): 2.455 (2.455)
Concentration: 1 µg/L
Sample type: Sample



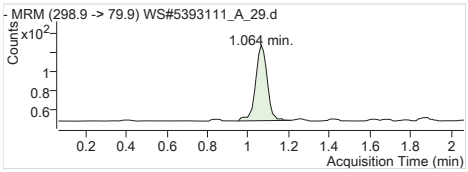


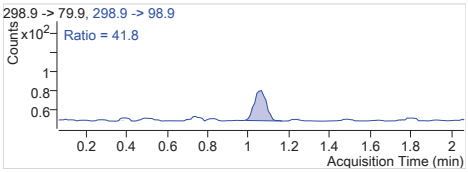
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: Sample



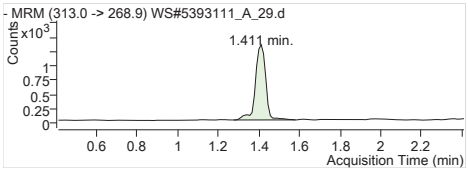


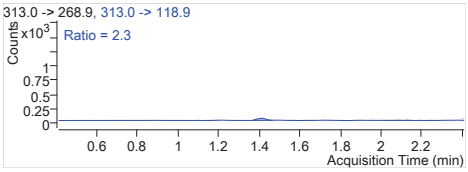
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Sample



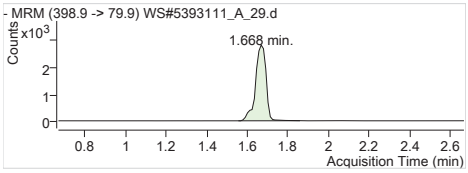


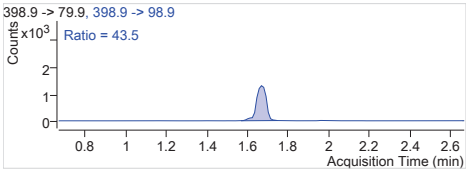
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 1.064 (1.064)
Calc. conc. 1.54 µg/L
Area ratio: 0.21400
Sample type: Sample



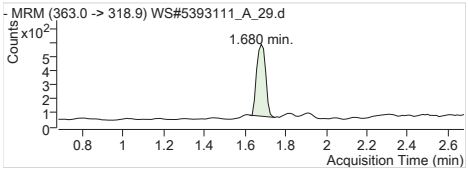


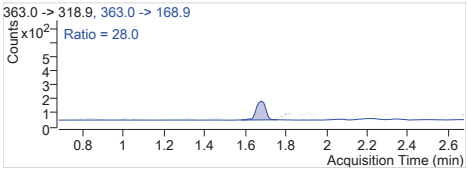
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 4.40 µg/L
Area ratio: 0.74384
Sample type: Sample



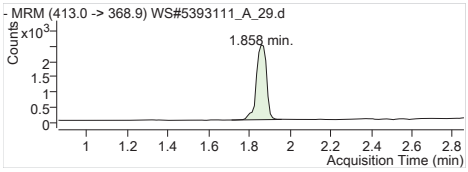


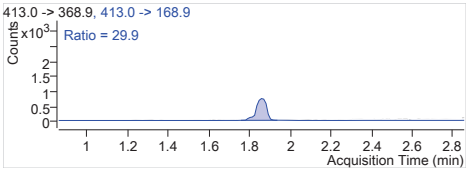
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 31.64 µg/L
Area ratio: 6.72813
Sample type: Sample



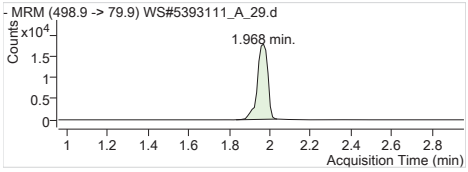


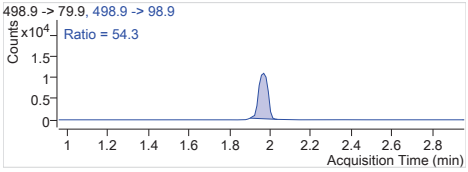
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 1.680 (1.680)
Calc. conc. 1.19 µg/L
Area ratio: 0.20984
Sample type: Sample



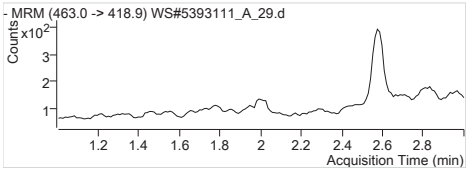


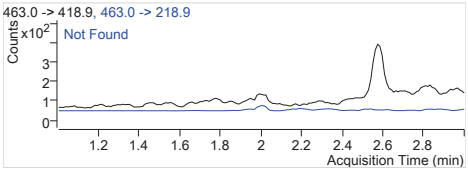
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 1.858 (1.858)
Calc. conc. 5.76 µg/L
Area ratio: 1.05255
Sample type: Sample



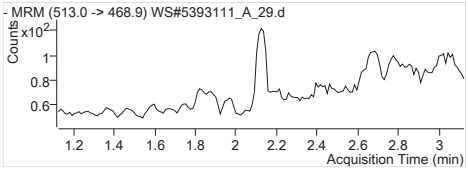


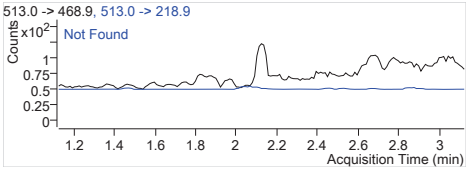
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.968 (1.957)
Calc. conc. 240.45 µg/L
Area ratio: 39.66981
Sample type: Sample



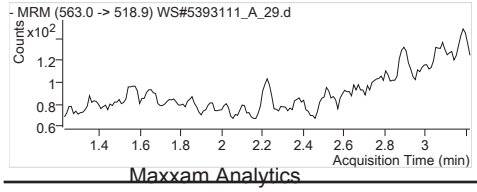


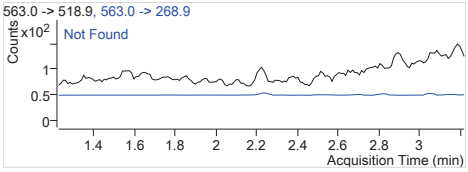
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 0.000 (2.003)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



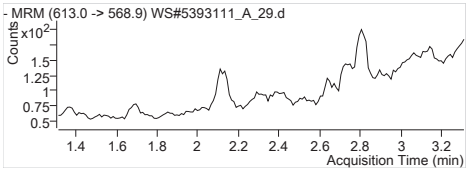


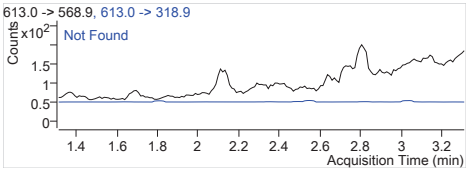
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 0.000 (2.124)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



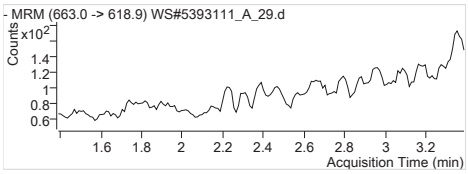


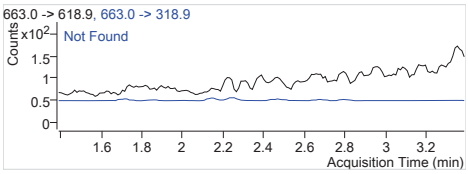
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 0.000 (2.223)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



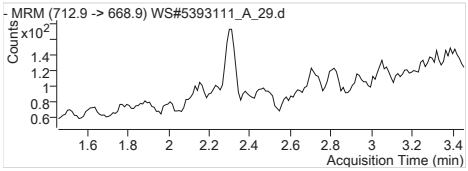


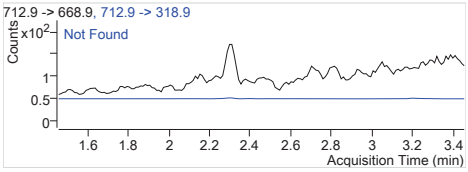
PFDoA 1	613.0 -> 568.9
RT (Exp. RT):	0.000 (2.311)
Calc. conc.	N.D.
Area ratio:	0
Sample type:	Sample



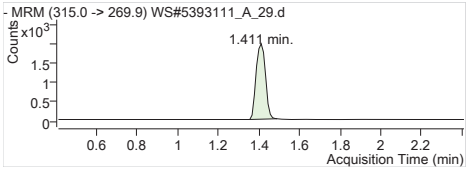


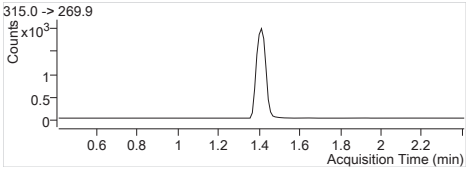
PFTrDA 1	663.0 -> 618.9
RT (Exp. RT):	0.000 (2.389)
Calc. conc.	N.D.
Area ratio:	0
Sample type:	Sample



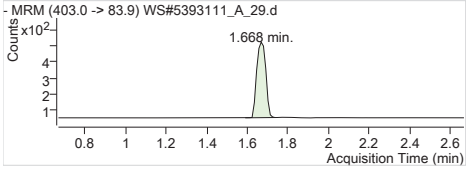


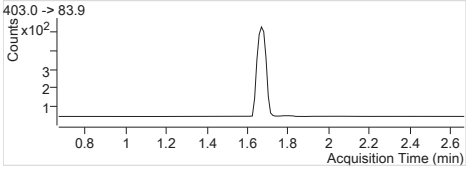
PFTeDA 1	712.9 -> 668.9
RT (Exp. RT):	0.000 (2.456)
Calc. conc.	N.D.
Area ratio:	0
Sample type:	Sample



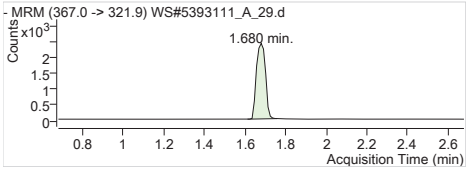


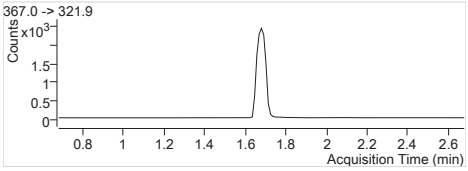
13C2-PFHxA	315.0 -> 269.9
RT (Exp. RT):	1.411 (1.411)
Calc. conc.	91.02 µg/L
Area ratio:	0.25756
Sample type:	Sample



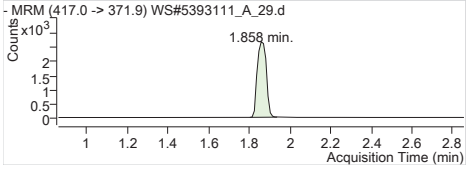


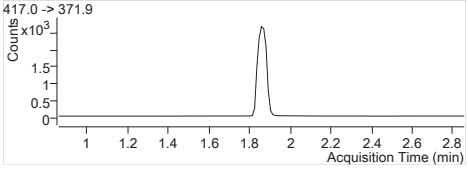
18O2-PFHxS	403.0 -> 83.9
RT (Exp. RT):	1.668 (1.668)
Calc. conc.	89.22 µg/L
Area ratio:	0.06162
Sample type:	Sample



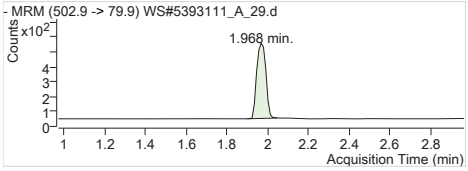


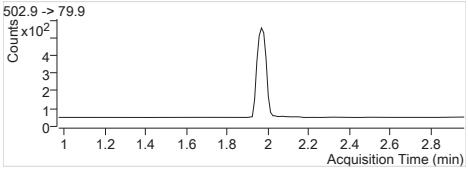
13C4-PFHpA	367.0 -> 321.9
RT (Exp. RT):	1.680 (1.680)
Calc. conc.	85.63 µg/L
Area ratio:	0.30948
Sample type:	Sample



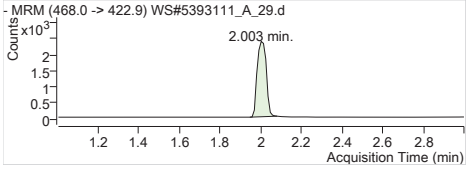


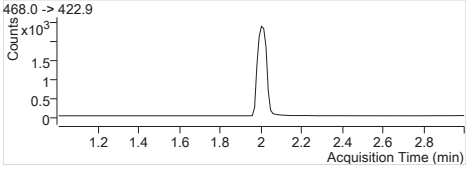
13C4-PFOA	417.0 -> 371.9
RT (Exp. RT):	1.858 (1.858)
Calc. conc.	88.44 µg/L
Area ratio:	0.33933
Sample type:	Sample



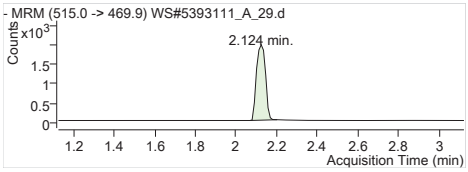


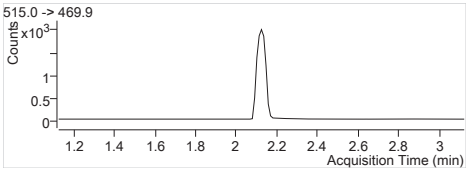
13C4-PFOS	502.9 -> 79.9
RT (Exp. RT):	1.968 (1.968)
Calc. conc.	78.73 µg/L
Area ratio:	0.06606
Sample type:	Sample



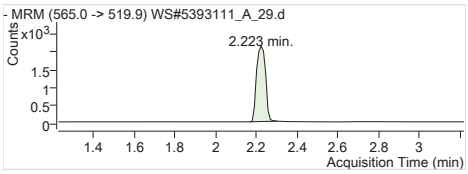


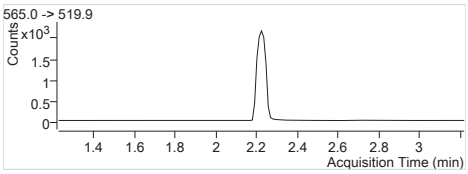
13C5-PFNA	468.0 -> 422.9
RT (Exp. RT):	2.003 (2.003)
Calc. conc.	82.15 µg/L
Area ratio:	0.30400
Sample type:	Sample



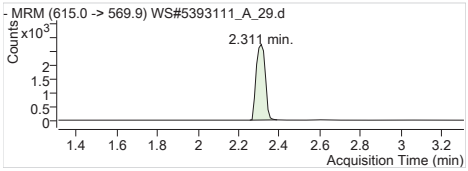


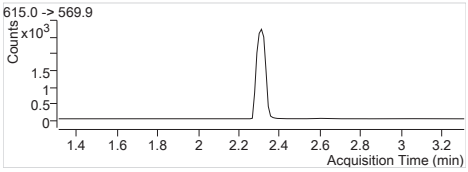
13C2-PFDA 515.0 -> 469.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 79.69 µg/L
Area ratio: 0.19730
Sample type: Sample



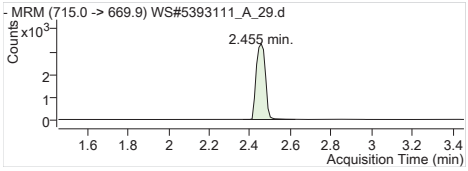


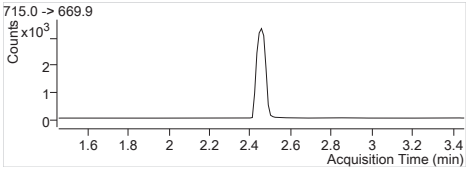
13C2-PFUnA 565.0 -> 519.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 74.17 µg/L
Area ratio: 0.21373
Sample type: Sample



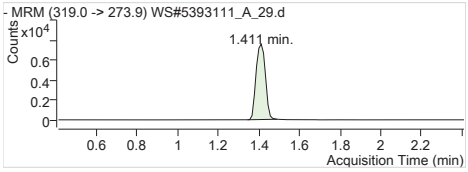


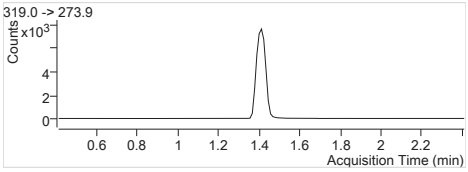
13C2-PFDoA 615.0 -> 569.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 73.45 µg/L
Area ratio: 0.27457
Sample type: Sample



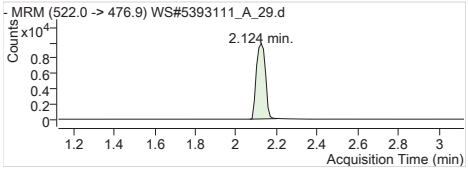


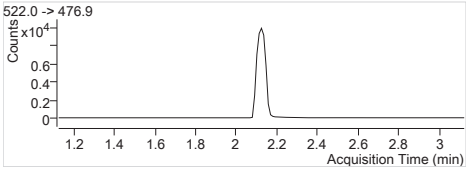
13C2-PFTeDA 715.0 -> 669.9
RT (Exp. RT): 2.455 (2.455)
Calc. conc. 79.64 µg/L
Area ratio: 0.34177
Sample type: Sample





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 247.83 µg/L
Area ratio: 0
Sample type: Sample





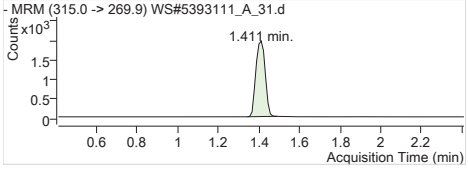
13C9-PFDA 522.0 -> 476.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 241.85 µg/L
Area ratio: 0
Sample type: Sample

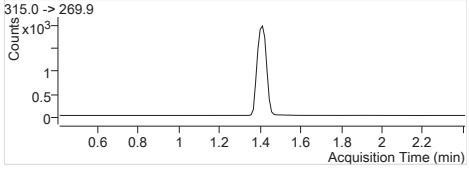
Batch Path	T:\lcms4\PFC\20180212\WS#5393111_A\QuantResults\PFC_Water_Low_180213_WS#5393111_EToxics

Sample Name	**5393111:GAD934-01:100x**	**Instrument**	LCMS04
Data File	WS#5393111_A_31.d	**Operator**	
Sample Type	Sample	**Dilution**	2.4
Acq. Method	PFC_Water_Low.m	**Position**	P2-C9
Acq. Date	2018/02/13 3:34:31 PM	**Injection Volume**	Per Method
Sample Annotation	Reported for all except PFHxS, PFOS.		

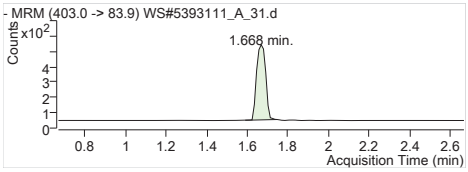
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	6166	1.41	1 µg/L		
MPFHxS	1526	1.67	1 µg/L		
MPFHpA	7353	1.68	1 µg/L		
MPFOA	8383	1.86	1 µg/L		
MPFOS	1299	1.97	1 µg/L		
MPFNA	8093	2.00	1 µg/L		
MPFDA	6811	2.12	1 µg/L		
MPFUnA	7358	2.22	1 µg/L		
MPFDoA	9225	2.31	1 µg/L		
MPFTeDA	7158	2.46	1 µg/L		
13C6-PFHxA IS	23200	1.41	1 µg/L		
13C9-PFDA IS	31287	2.12	1 µg/L		

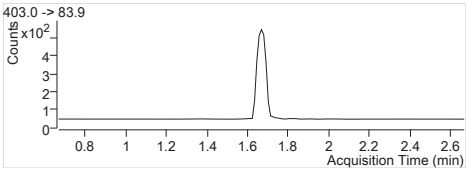
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1	10708	1.06	-	32.17 µg/L	-
PFHxA 1	59598	1.41	-	52.67 µg/L	-
PFHxS 1	73855	1.67	-	226.75 µg/L	-
PFHpA 1	11736	1.68	-	9.01 µg/L	-
PFOA 1	45770	1.86	-	28.87 µg/L	-
PFOS 1	241556	1.96	-	1126.27 µg/L	-
PFNA 1			-	ND	-
PFDA 1			-	ND	-
PFUnA 1			-	ND	-
PFDoA 1			-	ND	-
PFTrDA 1			-	ND	-
PFTeDA 1			-	ND	-
13C2-PFHxA	6166	1.41	-	93.93 µg/L	-
18O2-PFHxS	1526	1.67	-	95.23 µg/L	-
13C4-PFHpA	7353	1.68	-	87.69 µg/L	-
13C4-PFOA	8383	1.86	-	94.18 µg/L	-
13C4-PFOS	1299	1.97	-	66.73 µg/L	-
13C5-PFNA	8092	2.00	-	94.26 µg/L	-
13C2-PFDA	6686	2.12	-	86.32 µg/L	-
13C2-PFUnA	7358	2.22	-	81.61 µg/L	-
13C2-PFDoA	9225	2.31	-	78.87 µg/L	-
13C2-PFTeDA	7222	2.46	-	53.79 µg/L	-
13C6-PFHxA	23200	1.41	-	238.43 µg/L	-
13C9-PFDA	31287	2.12	-	248.28 µg/L	-



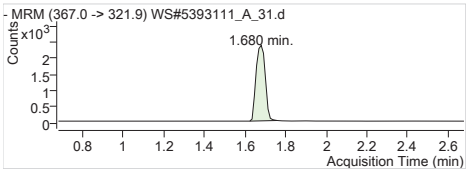


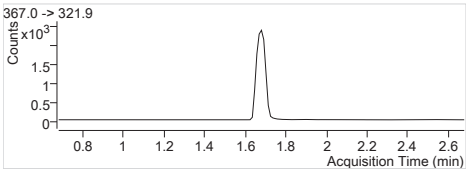
MPFHxA	Internal Standard
RT (Exp. RT):	1.411 (1.411)
Concentration:	1 µg/L
Sample type:	Sample



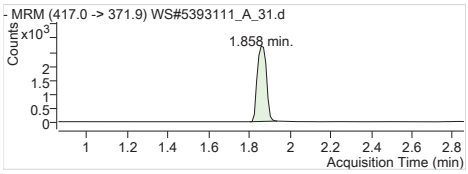


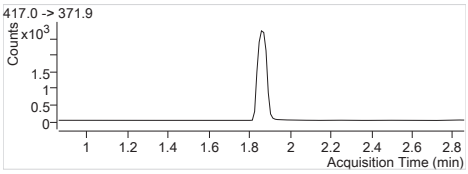
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Sample



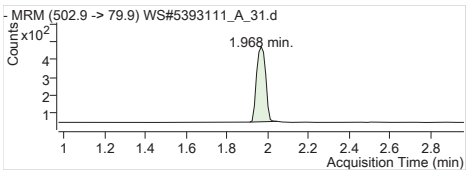


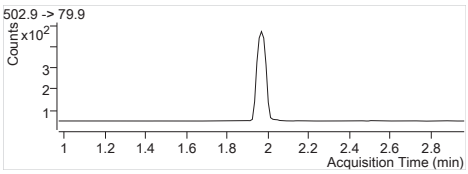
MPFHpA Internal Standard
RT (Exp. RT): 1.680 (1.680)
Concentration: 1 µg/L
Sample type: Sample



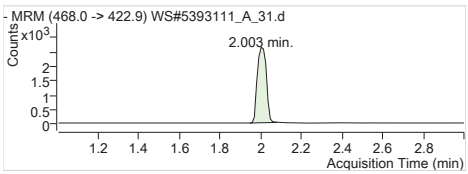


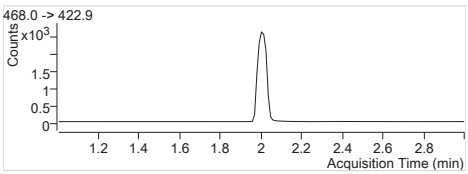
MPFOA Internal Standard
RT (Exp. RT): 1.858 (1.858)
Concentration: 1 µg/L
Sample type: Sample



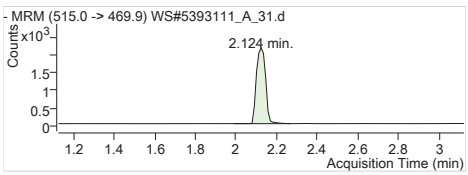


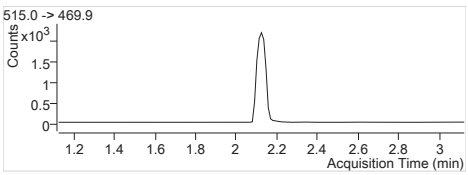
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Sample



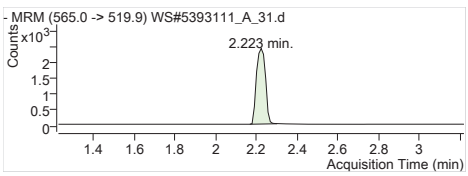


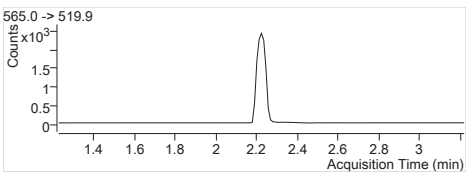
MPFNA Internal Standard
RT (Exp. RT): 2.003 (2.003)
Concentration: 1 µg/L
Sample type: Sample



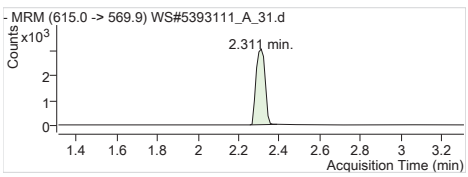


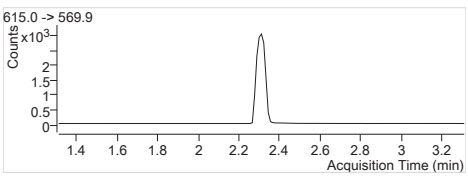
MPFDA Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Sample



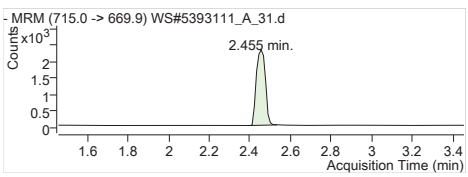


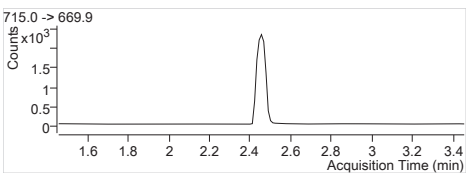
MPFUnA Internal Standard
RT (Exp. RT): 2.223 (2.223)
Concentration: 1 µg/L
Sample type: Sample



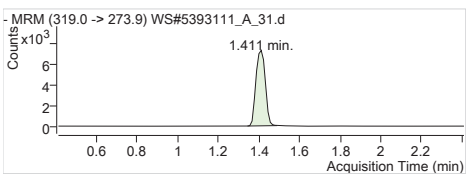


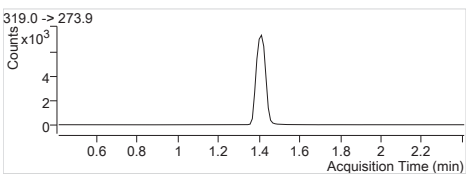
MPFDoA Internal Standard
RT (Exp. RT): 2.311 (2.311)
Concentration: 1 µg/L
Sample type: Sample



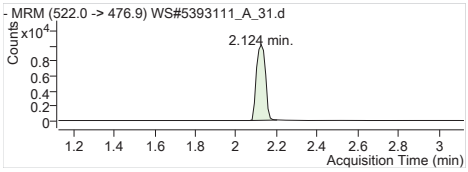


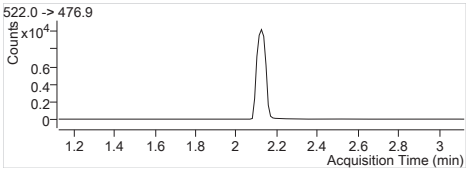
MPFTeDA Internal Standard
RT (Exp. RT): 2.455 (2.455)
Concentration: 1 µg/L
Sample type: Sample



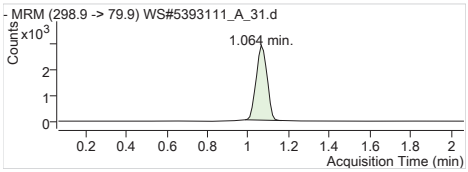


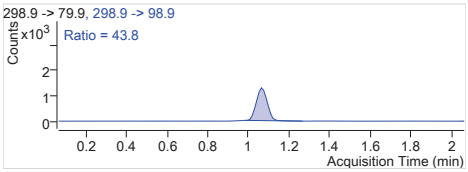
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: Sample



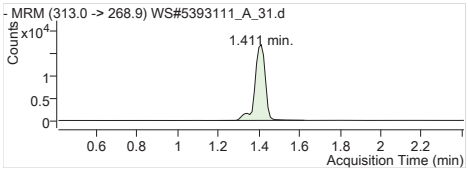


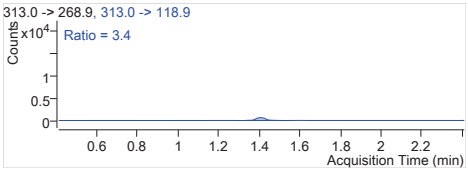
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Sample



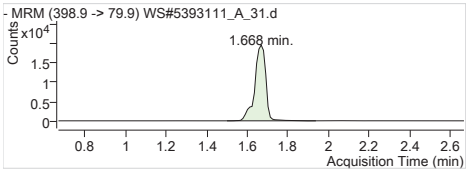


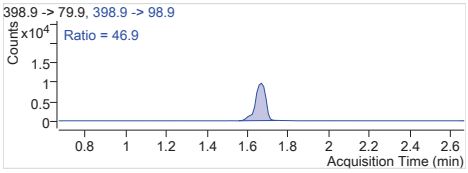
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 1.064 (1.064)
Calc. conc. 32.17 µg/L
Area ratio: 7.01704
Sample type: Sample



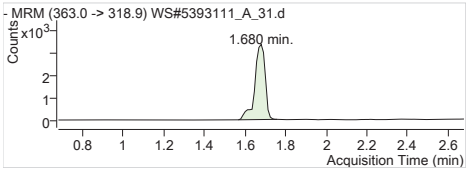


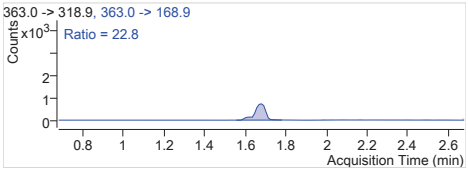
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 52.67 µg/L
Area ratio: 9.66559
Sample type: Sample



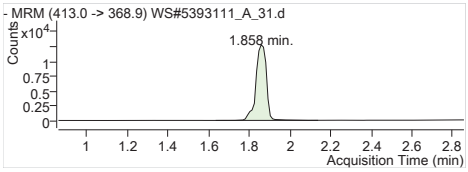


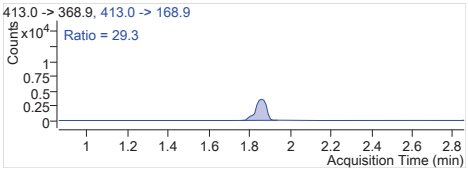
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 226.75 µg/L
Area ratio: 48.39777
Sample type: Sample



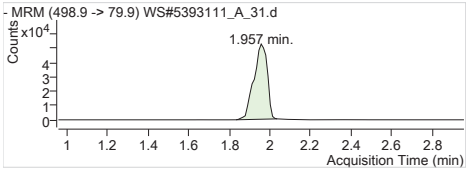


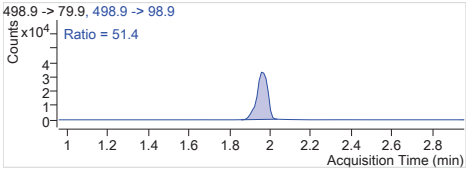
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 1.680 (1.680)
Calc. conc. 9.01 µg/L
Area ratio: 1.59608
Sample type: Sample



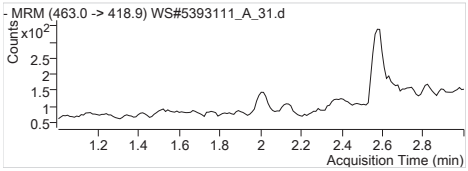


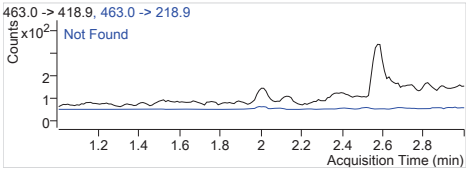
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 1.858 (1.858)
Calc. conc. 28.87 µg/L
Area ratio: 5.45986
Sample type: Sample



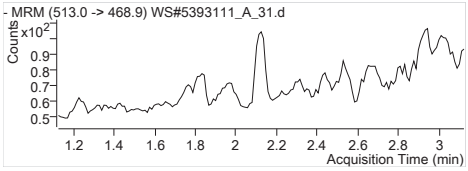


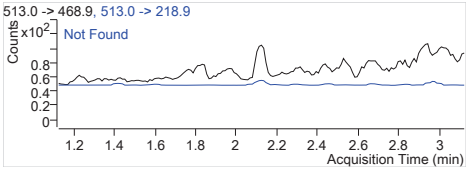
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 1126.27 µg/L
Area ratio: 185.95535
Sample type: Sample



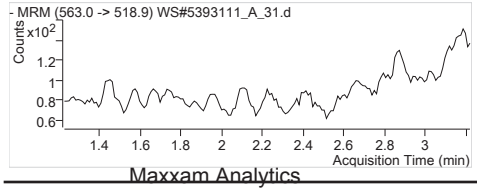


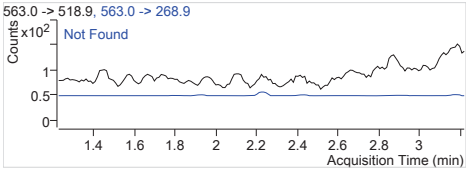
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 0.000 (2.003)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



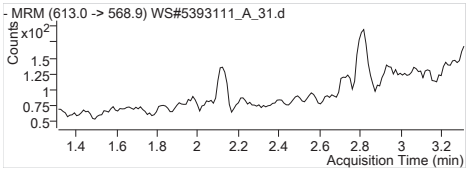


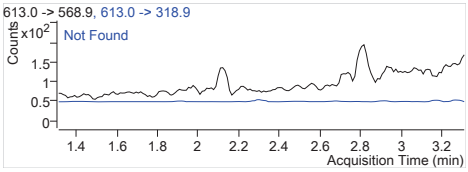
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 0.000 (2.124)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



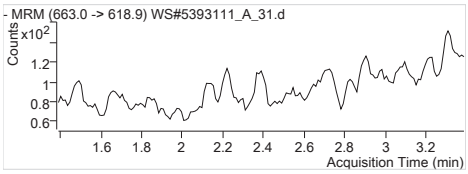


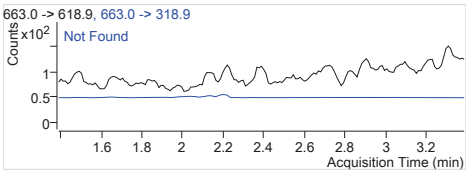
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 0.000 (2.223)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



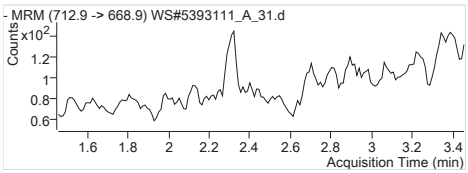


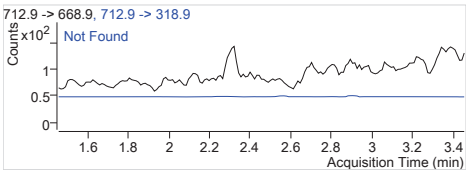
PFDoA 1 613.0 -> 568.9
RT (Exp. RT): 0.000 (2.311)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



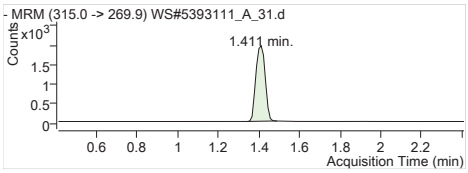


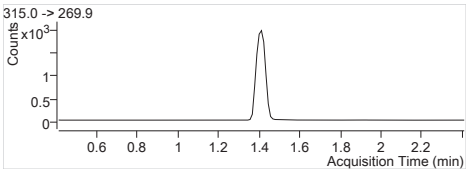
PFTrDA 1 663.0 -> 618.9
RT (Exp. RT): 0.000 (2.389)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



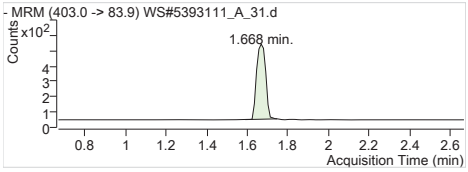


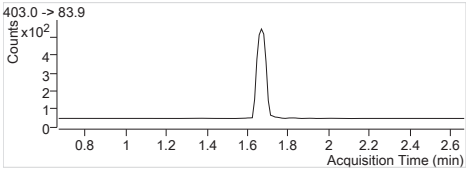
PFTeDA 1 712.9 -> 668.9
RT (Exp. RT): 0.000 (2.456)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



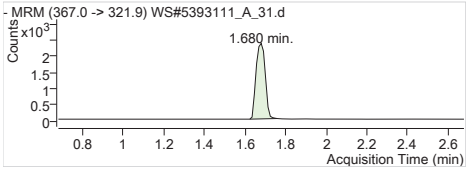


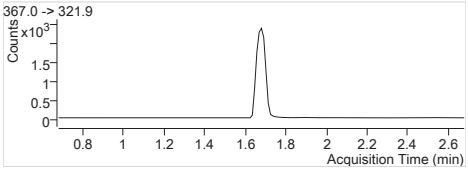
13C2-PFHxA 315.0 -> 269.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 93.93 µg/L
Area ratio: 0.26578
Sample type: Sample



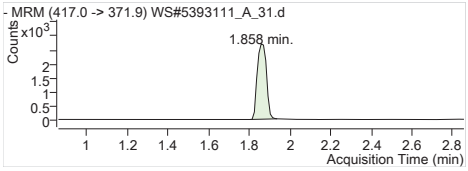


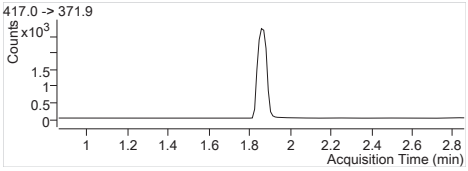
18O2-PFHxS 403.0 -> 83.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 95.23 µg/L
Area ratio: 0.06578
Sample type: Sample



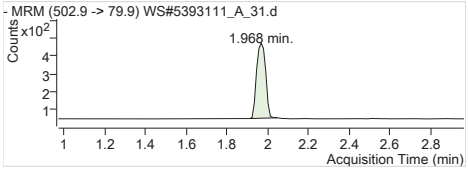


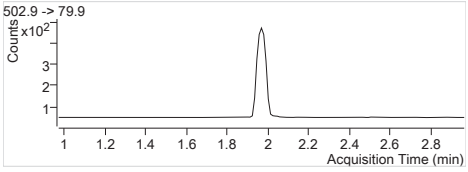
13C4-PFHpA 367.0 -> 321.9
RT (Exp. RT): 1.680 (1.680)
Calc. conc. 87.69 µg/L
Area ratio: 0.31694
Sample type: Sample



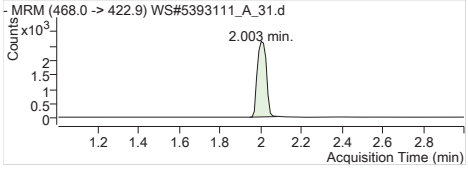


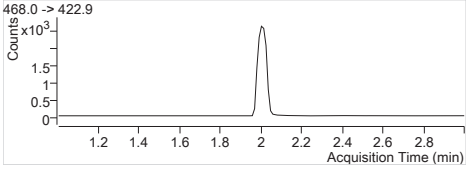
13C4-PFOA 417.0 -> 371.9
RT (Exp. RT): 1.858 (1.858)
Calc. conc. 94.18 µg/L
Area ratio: 0.36134
Sample type: Sample



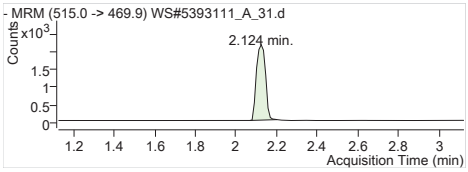


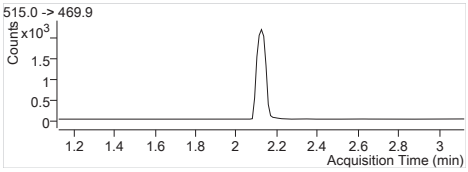
13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.968 (1.968)
Calc. conc. 66.73 µg/L
Area ratio: 0.05599
Sample type: Sample



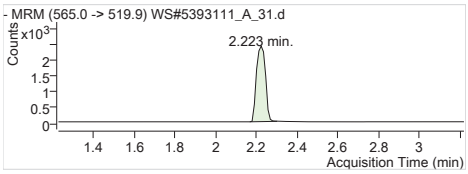


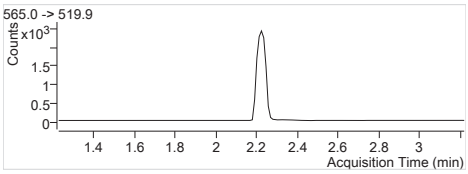
13C5-PFNA 468.0 -> 422.9
RT (Exp. RT): 2.003 (2.003)
Calc. conc. 94.26 µg/L
Area ratio: 0.34879
Sample type: Sample



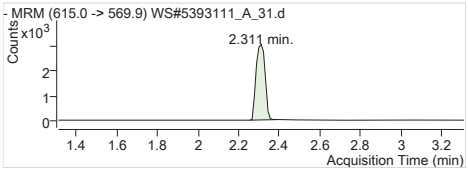


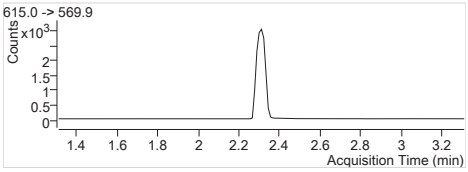
13C2-PFDA 515.0 -> 469.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 86.32 µg/L
Area ratio: 0.21370
Sample type: Sample



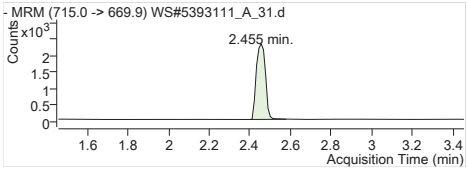


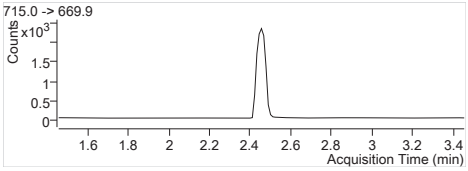
13C2-PFUnA 565.0 -> 519.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 81.61 µg/L
Area ratio: 0.23518
Sample type: Sample



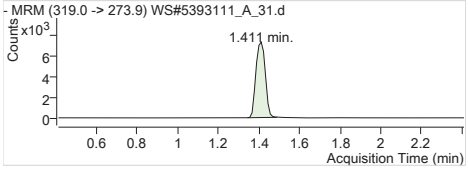


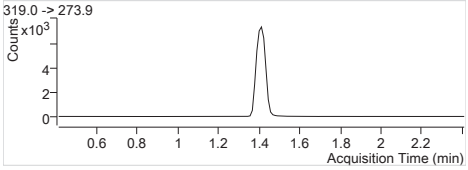
13C2-PFDoA 615.0 -> 569.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 78.87 µg/L
Area ratio: 0.29485
Sample type: Sample



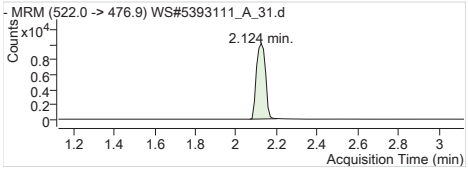


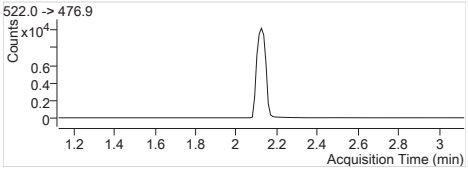
13C2-PFTeDA 715.0 -> 669.9
RT (Exp. RT): 2.455 (2.455)
Calc. conc. 53.79 µg/L
Area ratio: 0.23083
Sample type: Sample





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 238.43 µg/L
Area ratio: 0
Sample type: Sample





13C9-PFDA 522.0 -> 476.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 248.28 µg/L
Area ratio: 0
Sample type: Sample

Quantitation Results

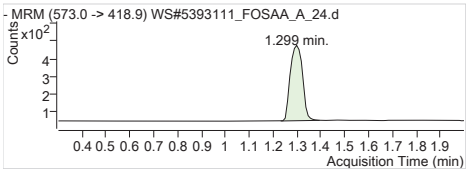
Agilent Technologies

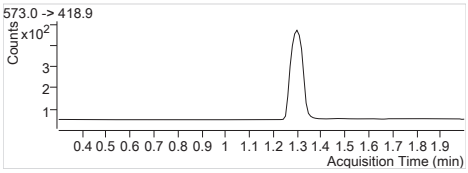
Batch Path	T:\lcms4\PFC\20180212\WS#5393111_FOSAA_A\QuantResults\PFC_Water_Low_180212_WS#5393111_FOSAA_A_EToxics

Sample Name	**5393111:GAD929-01**	**Instrument**	LCMS04
Data File	WS#5393111_FOSAA_A_24.d	**Operator**	
Sample Type	Sample	**Dilution**	0.024
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P2-C4
Acq. Date	2018/02/13 12:22:30 PM	**Injection Volume**	Per Method
Sample Annotation	-		

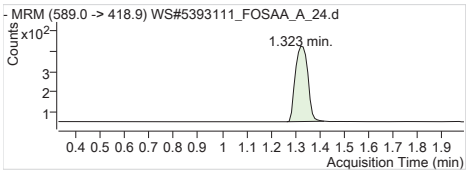
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1514	1.30	1 µg/L		
D5-EtFOSAA IS	1352	1.32	1 µg/L		
13C9-PFDA IS	27675	0.88	1 µg/L		

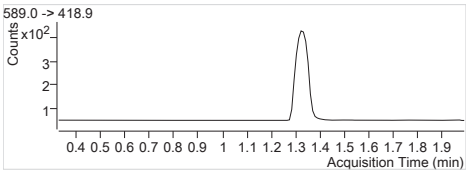
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1			-	ND	-
EtFOSAA 1			-	ND	-
D3-MeFOSAA	1515	1.30	-	73.00 µg/L	-
D5-EtFOSAA	1359	1.32	-	76.42 µg/L	-
13C9-PFDA	26855	0.88	-	2.53 µg/L	-



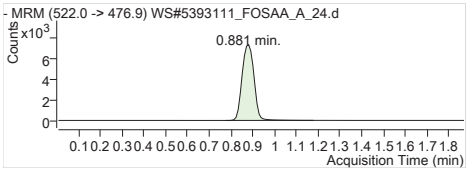


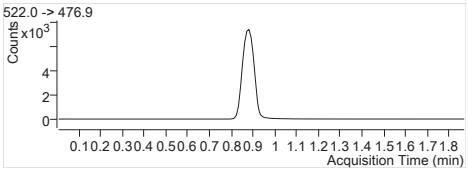
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.299 (1.299)
Concentration: 1 µg/L
Sample type: Sample



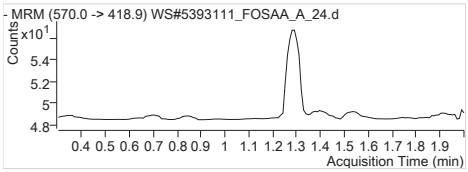


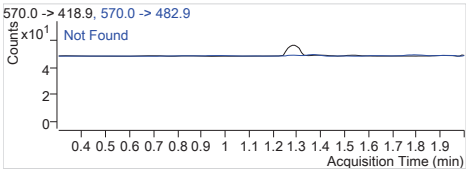
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.323 (1.323)
Concentration: 1 µg/L
Sample type: Sample



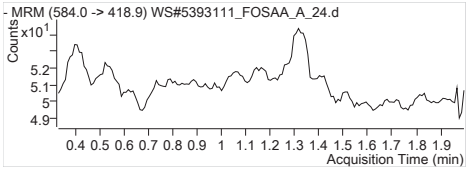


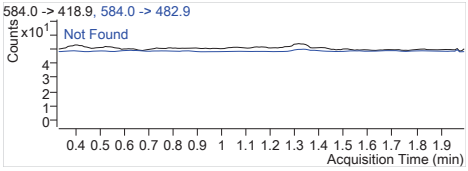
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.881 (0.871)
Concentration: 1 µg/L
Sample type: Sample



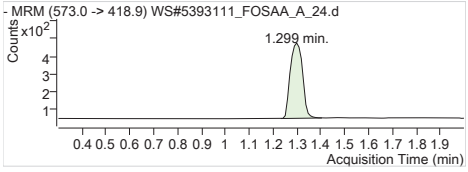


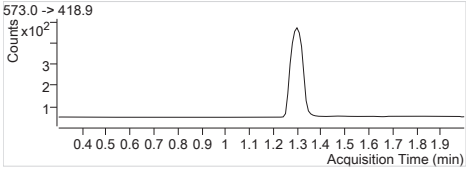
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 0.000 (1.300)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



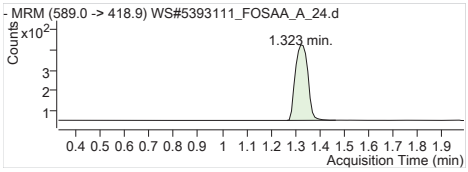


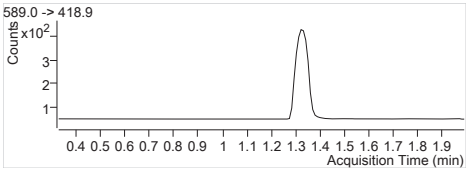
EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 0.000 (1.325)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



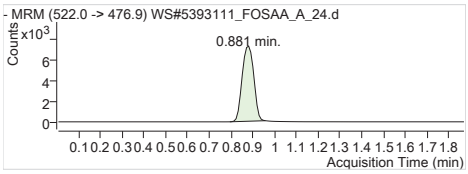


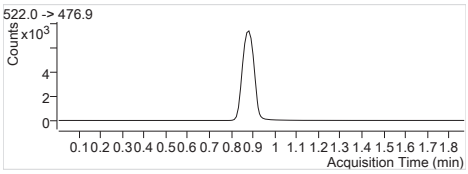
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.299 (1.299)
Calc. conc. 73.00 µg/L
Area ratio: 0.05474
Sample type: Sample





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.323 (1.323)
Calc. conc.	76.42 µg/L
Area ratio:	0.04911
Sample type:	Sample





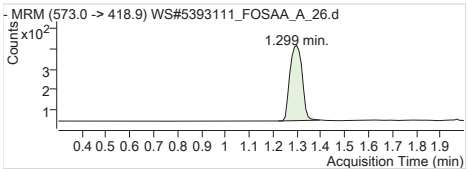
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.881 (0.871)
Calc. conc.	2.53 µg/L
Area ratio:	0
Sample type:	Sample

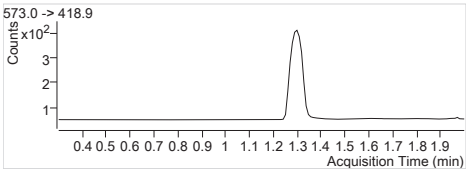
Batch Path	T:\lcms4\PFC\20180212\WS#5393111_FOSAA_A\QuantResults\PFC_Water_Low_180212_WS#5393111_FOSAA_A_EToxics

Sample Name	**5393111:GAD930-01**	**Instrument**	LCMS04
Data File	WS#5393111_FOSAA_A_26.d	**Operator**	
Sample Type	Sample	**Dilution**	0.024
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P2-C5
Acq. Date	2018/02/13 12:27:20 PM	**Injection Volume**	Per Method
Sample Annotation	-		

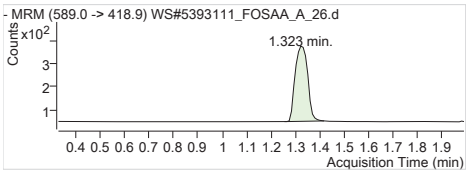
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1296	1.30	1 µg/L		
D5-EtFOSAA IS	1169	1.32	1 µg/L		
13C9-PFDA IS	23268	0.88	1 µg/L		

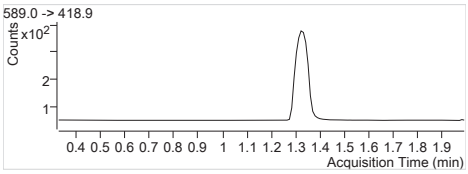
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1			-	ND	-
EtFOSAA 1			-	ND	-
D3-MeFOSAA	1308	1.30	-	74.96 µg/L	-
D5-EtFOSAA	1179	1.32	-	78.85 µg/L	-
13C9-PFDA	22617	0.88	-	2.13 µg/L	-



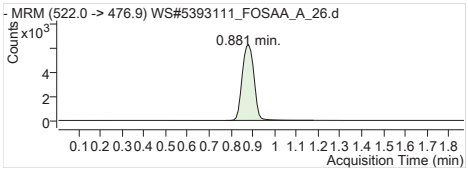


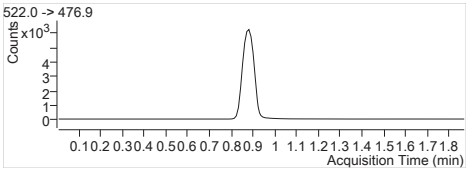
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.299 (1.299)
Concentration: 1 µg/L
Sample type: Sample



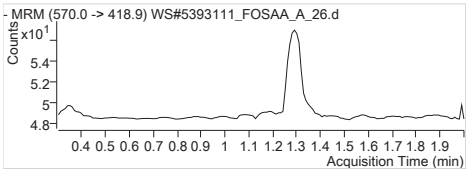


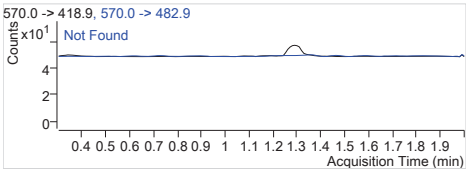
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.323 (1.323)
Concentration: 1 µg/L
Sample type: Sample



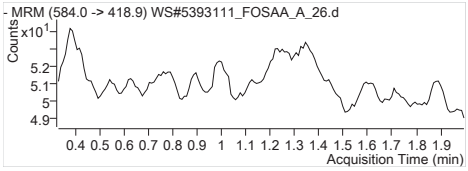


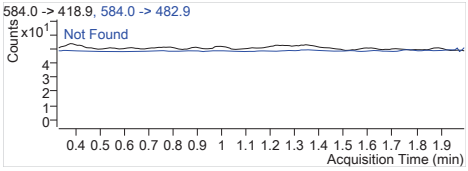
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.881 (0.871)
Concentration: 1 µg/L
Sample type: Sample



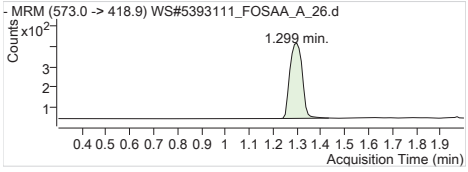


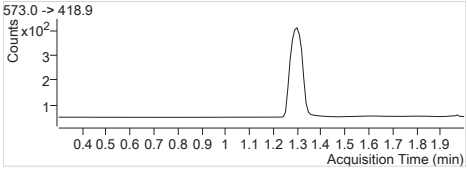
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 0.000 (1.300)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



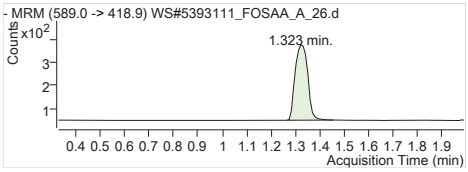


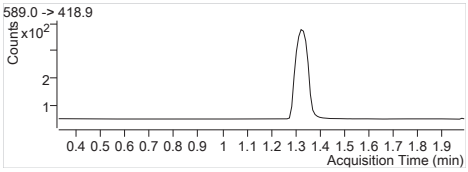
EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 0.000 (1.325)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



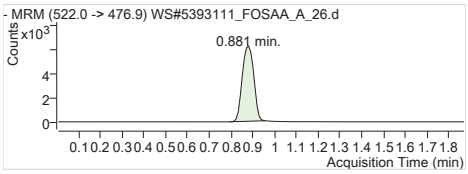


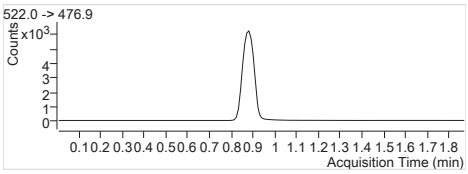
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.299 (1.299)
Calc. conc. 74.96 µg/L
Area ratio: 0.05621
Sample type: Sample





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.323 (1.323)
Calc. conc.	78.85 µg/L
Area ratio:	0.05067
Sample type:	Sample





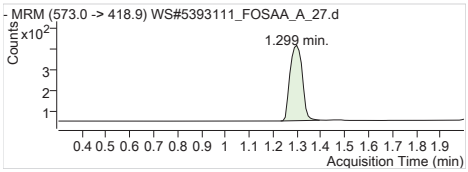
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.881 (0.871)
Calc. conc.	2.13 µg/L
Area ratio:	0
Sample type:	Sample

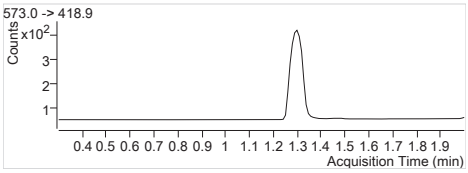
Batch Path	T:\lcms4\PFC\20180212\WS#5393111_FOSAA_A\QuantResults\PFC_Water_Low_180212_WS#5393111_FOSAA_A_EToxics

Sample Name	**5393111:GAD931-01**	**Instrument**	LCMS04
Data File	WS#5393111_FOSAA_A_27.d	**Operator**	
Sample Type	Sample	**Dilution**	0.024
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P2-C6
Acq. Date	2018/02/13 12:29:45 PM	**Injection Volume**	Per Method
Sample Annotation	-		

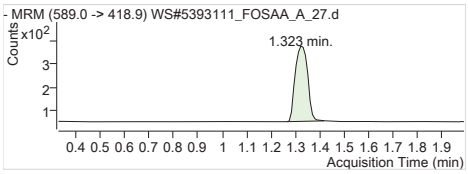
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1311	1.30	1 µg/L		
D5-EtFOSAA IS	1169	1.32	1 µg/L		
13C9-PFDA IS	26192	0.88	1 µg/L		

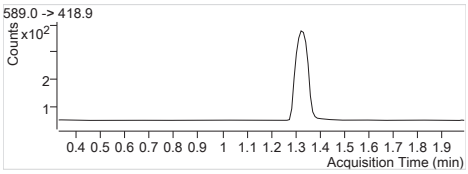
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1			-	ND	-
EtFOSAA 1			-	ND	-
D3-MeFOSAA	1315	1.30	-	66.95 µg/L	-
D5-EtFOSAA	1188	1.32	-	70.59 µg/L	-
13C9-PFDA	25488	0.88	-	2.40 µg/L	-



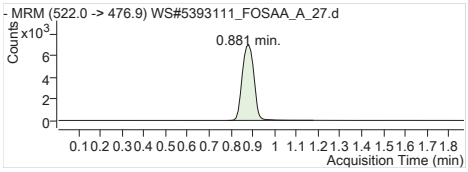


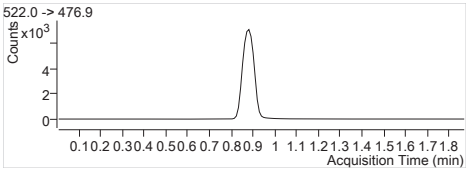
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.299 (1.299)
Concentration: 1 µg/L
Sample type: Sample



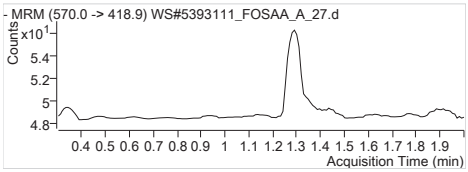


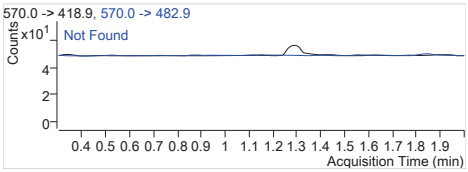
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.323 (1.323)
Concentration: 1 µg/L
Sample type: Sample



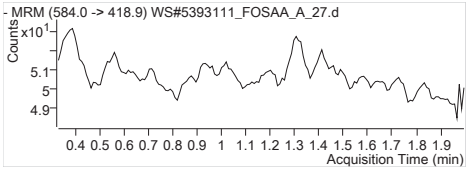


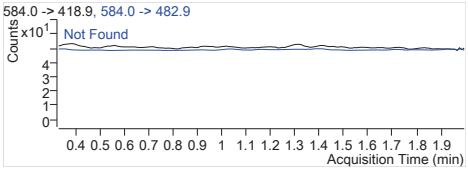
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.881 (0.871)
Concentration: 1 µg/L
Sample type: Sample



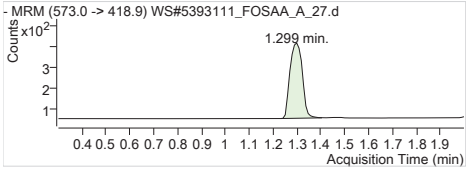


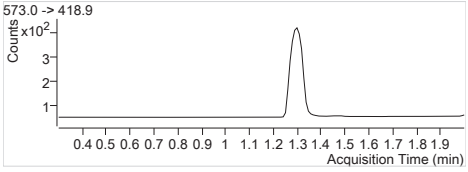
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 0.000 (1.300)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



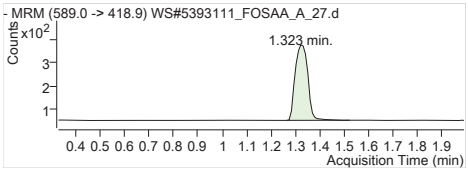


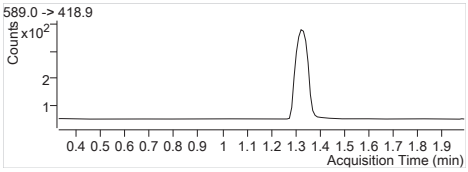
EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 0.000 (1.325)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



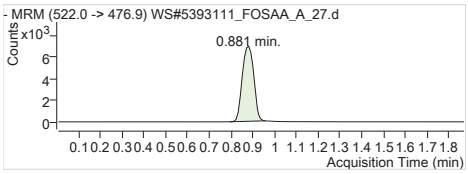


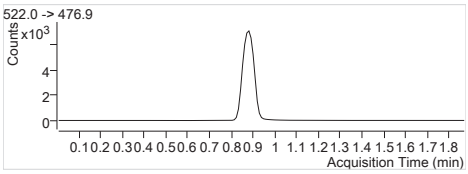
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.299 (1.299)
Calc. conc. 66.95 µg/L
Area ratio: 0.05021
Sample type: Sample





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.323 (1.323)
Calc. conc.	70.59 µg/L
Area ratio:	0.04536
Sample type:	Sample





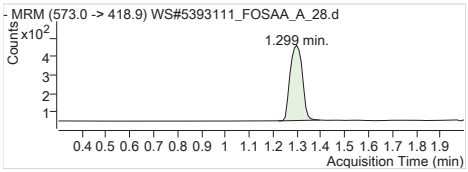
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.881 (0.871)
Calc. conc.	2.40 µg/L
Area ratio:	0
Sample type:	Sample

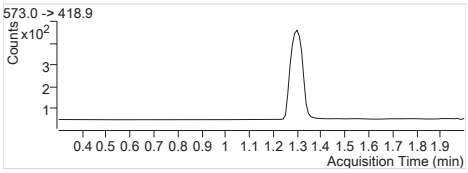
Batch Path	T:\lcms4\PFC\20180212\WS#5393111_FOSAA_A\QuantResults\PFC_Water_Low_180212_WS#5393111_FOSAA_A_EToxics

Sample Name	**5393111:GAD932-01**	**Instrument**	LCMS04
Data File	WS#5393111_FOSAA_A_28.d	**Operator**	
Sample Type	Sample	**Dilution**	0.024
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P2-C7
Acq. Date	2018/02/13 12:32:10 PM	**Injection Volume**	Per Method
Sample Annotation	-		

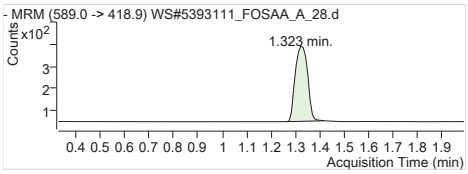
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1457	1.30	1 µg/L		
D5-EtFOSAA IS	1216	1.32	1 µg/L		
13C9-PFDA IS	25389	0.88	1 µg/L		

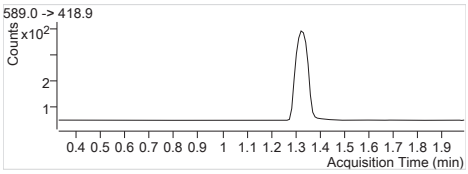
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1			-	ND	-
EtFOSAA 1			-	ND	-
D3-MeFOSAA	1466	1.30	-	77.00 µg/L	-
D5-EtFOSAA	1237	1.32	-	75.82 µg/L	-
13C9-PFDA	24668	0.88	-	2.32 µg/L	-



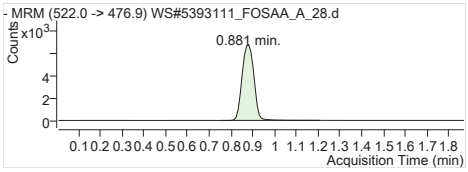


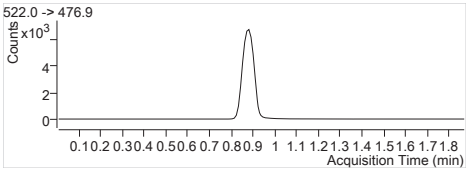
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.299 (1.299)
Concentration: 1 µg/L
Sample type: Sample



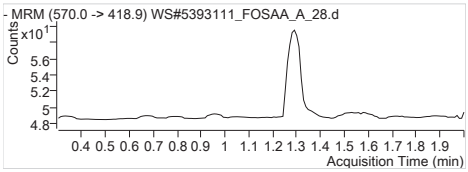


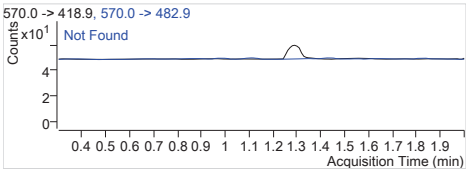
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.323 (1.323)
Concentration: 1 µg/L
Sample type: Sample



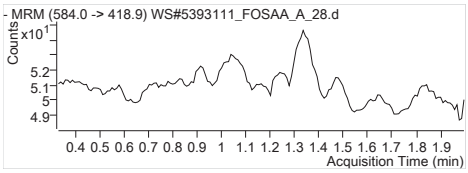


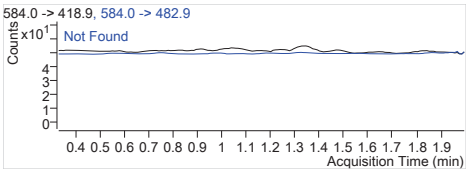
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.881 (0.871)
Concentration: 1 µg/L
Sample type: Sample



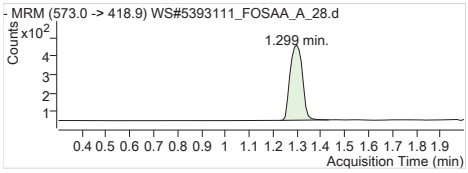


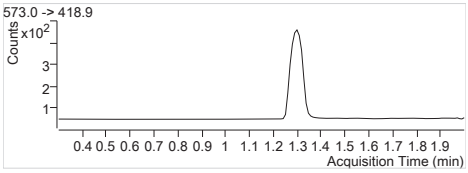
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 0.000 (1.300)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



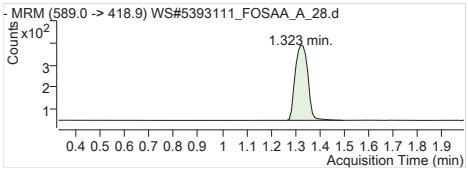


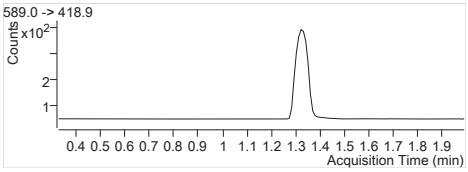
EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 0.000 (1.325)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



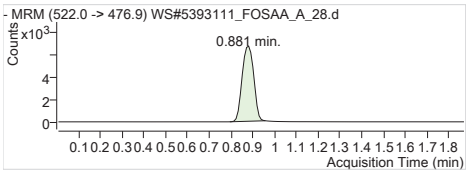


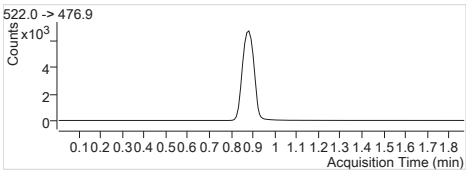
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.299 (1.299)
Calc. conc. 77.00 µg/L
Area ratio: 0.05774
Sample type: Sample





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.323 (1.323)
Calc. conc.	75.82 µg/L
Area ratio:	0.04872
Sample type:	Sample





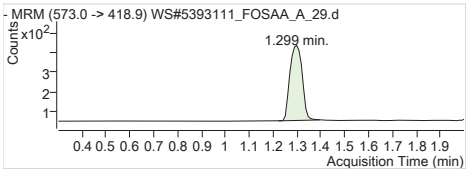
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.881 (0.871)
Calc. conc.	2.32 µg/L
Area ratio:	0
Sample type:	Sample

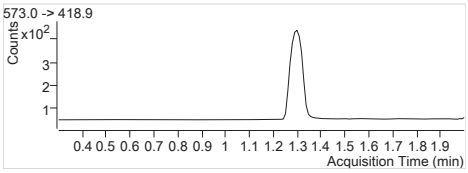
Batch Path	T:\lcms4\PFC\20180212\WS#5393111_FOSAA_A\QuantResults\PFC_Water_Low_180212_WS#5393111_FOSAA_A_EToxics

Sample Name	**5393111:GAD933-01:100x**	**Instrument**	LCMS04
Data File	WS#5393111_FOSAA_A_29.d	**Operator**	
Sample Type	Sample	**Dilution**	2.4
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P2-C8
Acq. Date	2018/02/13 12:34:35 PM	**Injection Volume**	Per Method
Sample Annotation	-		

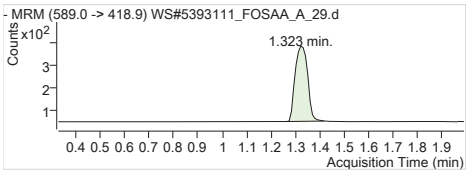
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1380	1.30	1 µg/L		
D5-EtFOSAA IS	1187	1.32	1 µg/L		
13C9-PFDA IS	26594	0.88	1 µg/L		

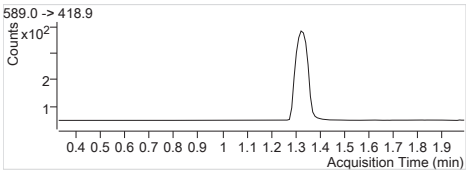
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1			-	ND	-
EtFOSAA 1			-	ND	-
D3-MeFOSAA	1399	1.30	-	70.15 µg/L	-
D5-EtFOSAA	1197	1.32	-	70.05 µg/L	-
13C9-PFDA	25864	0.88	-	243.30 µg/L	-



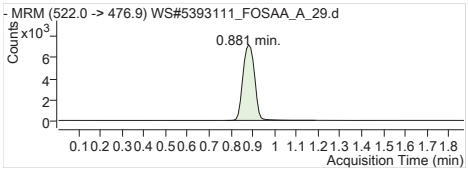


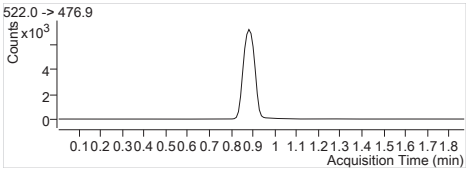
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.299 (1.299)
Concentration: 1 µg/L
Sample type: Sample



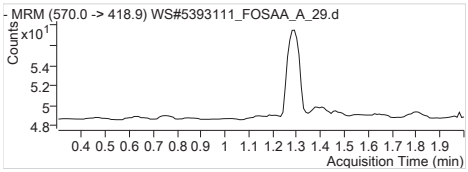


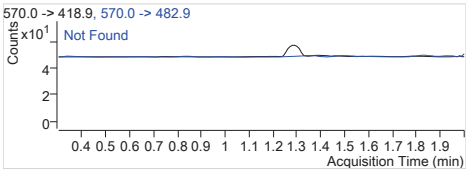
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.323 (1.323)
Concentration: 1 µg/L
Sample type: Sample



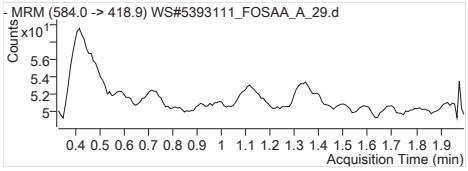


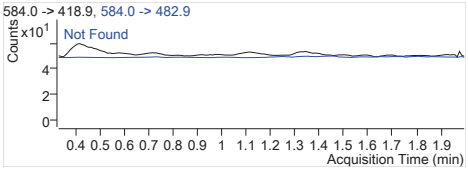
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.881 (0.871)
Concentration: 1 µg/L
Sample type: Sample



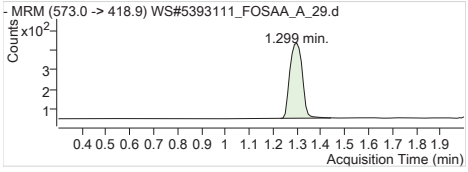


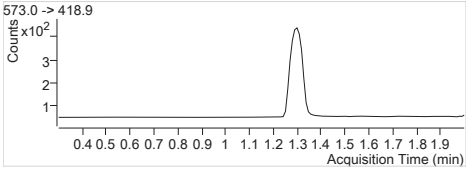
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 0.000 (1.300)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



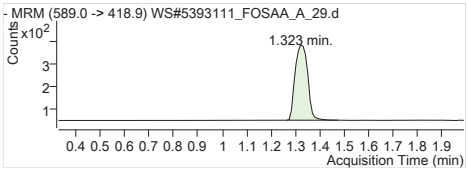


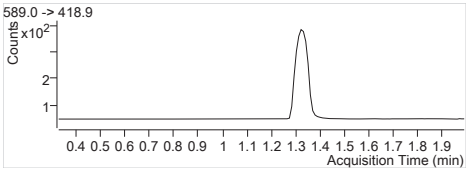
EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 0.000 (1.325)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



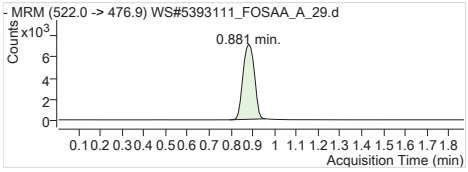


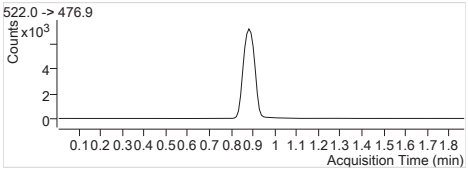
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.299 (1.299)
Calc. conc. 70.15 µg/L
Area ratio: 0.05261
Sample type: Sample





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.323 (1.323)
Calc. conc.	70.05 µg/L
Area ratio:	0.04501
Sample type:	Sample





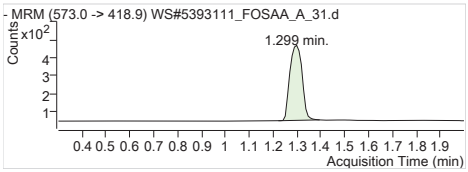
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.881 (0.871)
Calc. conc.	243.30 µg/L
Area ratio:	0
Sample type:	Sample

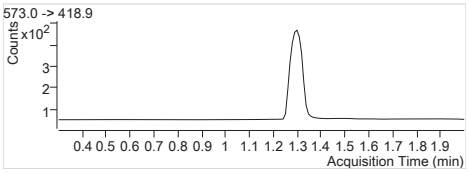
Batch Path	T:\lcms4\PFC\20180212\WS#5393111_FOSAA_A\QuantResults\PFC_Water_Low_180212_WS#5393111_FOSAA_A_EToxics

Sample Name	**5393111:GAD934-01:100x**	**Instrument**	LCMS04
Data File	WS#5393111_FOSAA_A_31.d	**Operator**	
Sample Type	Sample	**Dilution**	2.4
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P2-C9
Acq. Date	2018/02/13 12:39:26 PM	**Injection Volume**	Per Method
Sample Annotation	-		

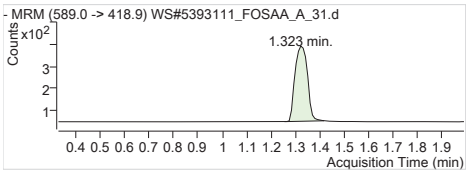
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1489	1.30	1 µg/L		
D5-EtFOSAA IS	1213	1.32	1 µg/L		
13C9-PFDA IS	26498	0.88	1 µg/L		

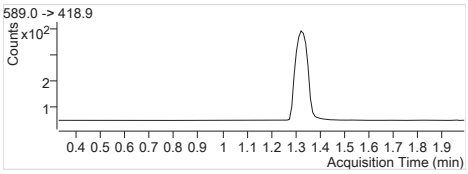
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1			-	ND	-
EtFOSAA 1			-	ND	-
D3-MeFOSAA	1501	1.30	-	75.54 µg/L	-
D5-EtFOSAA	1232	1.32	-	72.36 µg/L	-
13C9-PFDA	25873	0.88	-	243.38 µg/L	-



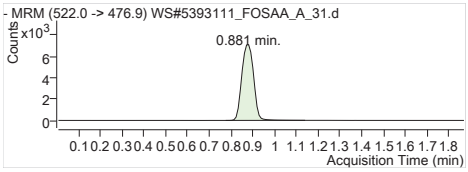


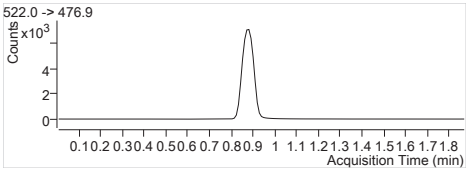
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.299 (1.299)
Concentration: 1 µg/L
Sample type: Sample



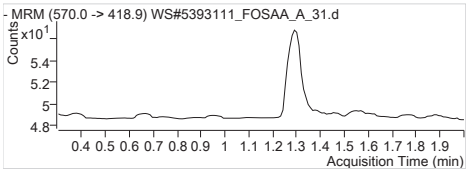


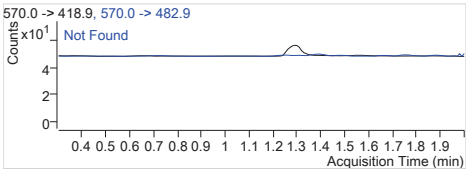
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.323 (1.323)
Concentration: 1 µg/L
Sample type: Sample



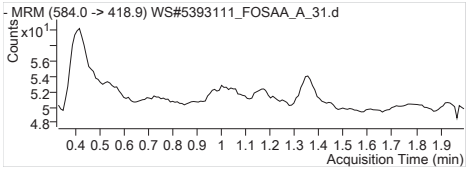


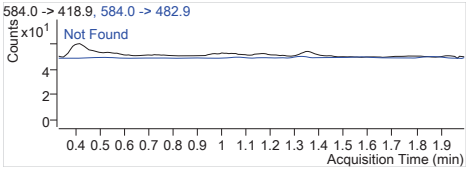
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.881 (0.871)
Concentration: 1 µg/L
Sample type: Sample



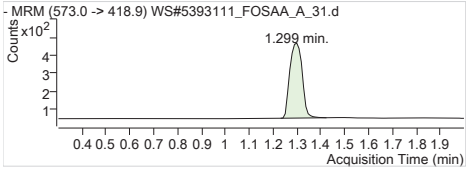


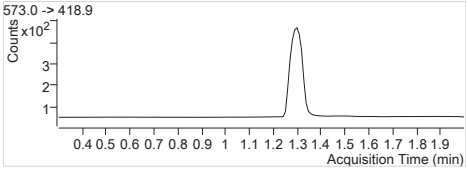
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 0.000 (1.300)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



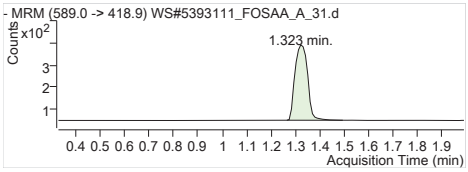


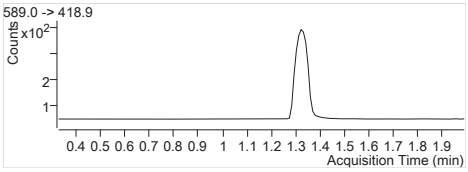
EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 0.000 (1.325)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



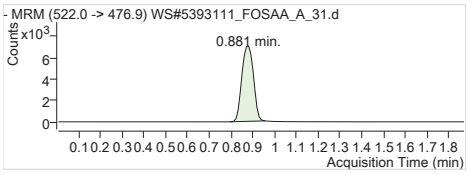


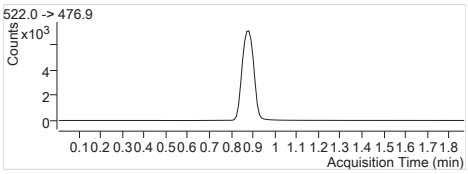
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.299 (1.299)
Calc. conc. 75.54 µg/L
Area ratio: 0.05665
Sample type: Sample





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.323 (1.323)
Calc. conc.	72.36 µg/L
Area ratio:	0.04649
Sample type:	Sample





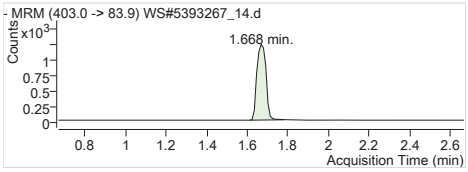
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.881 (0.871)
Calc. conc.	243.38 µg/L
Area ratio:	0
Sample type:	Sample

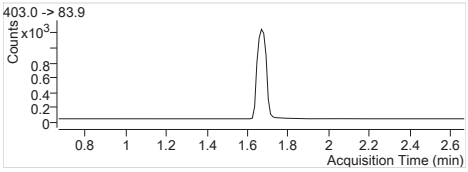
Batch Path	T:\lcms4\PFC\20180213\WS#5393267\QuantResults\PFC_Water_High_180213_WS#5393267_EToxics

Sample Name	**5393267:GAD933-01:10x**	**Instrument**	LCMS04
Data File	WS#5393267_14.d	**Operator**	
Sample Type	Sample	**Dilution**	10
Acq. Method	PFC_Water_High.m	**Position**	P4-D8
Acq. Date	2018/02/14 8:46:55 AM	**Injection Volume**	Per Method
Sample Annotation	Reported for PFOS only.		

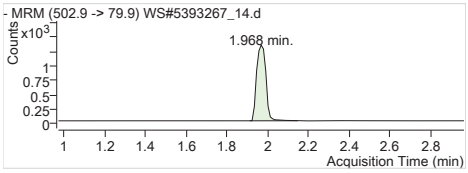
ISTD Compounds	Response	RT	Target conc.		
MPFHxS	3765	1.67	1 µg/L		
MPFOS	4153	1.97	1 µg/L		
13C6-PFHxA IS	33950	1.41	1 µg/L		

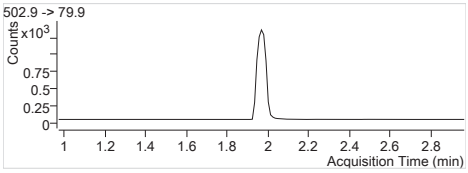
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFHxS 1	1984	1.67	-	33.03 µg/L	-
PFOS 1	14202	1.97	-	232.33 µg/L	-
13C6-PFHxA	33950	1.41	-	995.64 µg/L	-
18O2-PFHxS	3765	1.67	-	107.31 µg/L	-
13C4-PFOS	4153	1.97	-	94.62 µg/L	-



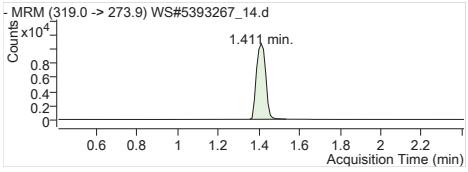


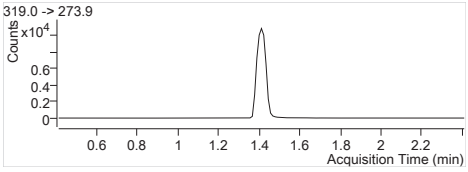
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Sample



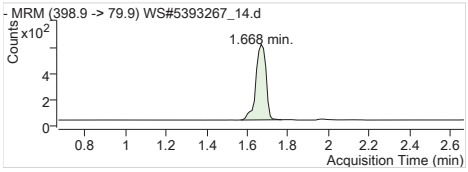


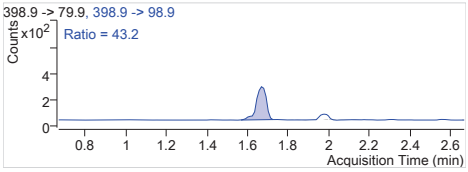
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Sample



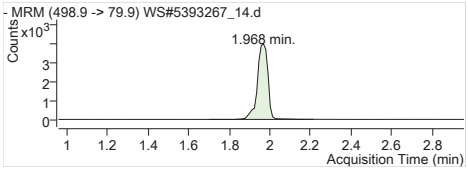


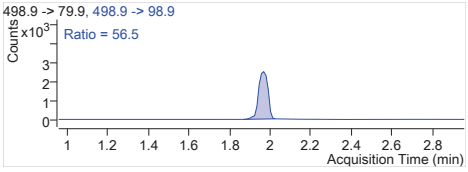
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: Sample



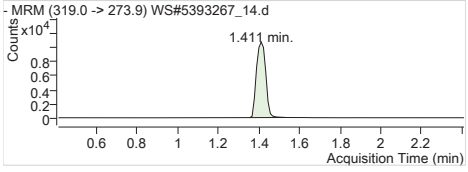


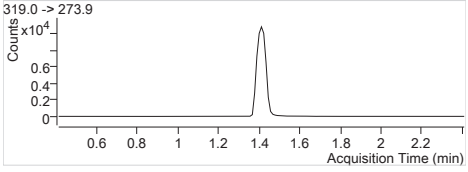
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 33.03 µg/L
Area ratio: 0.52696
Sample type: Sample



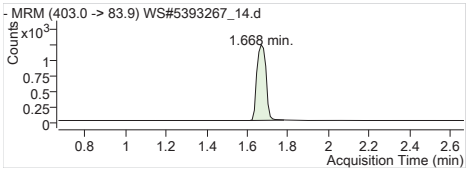


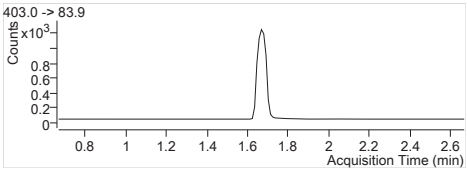
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.968 (1.957)
Calc. conc. 232.33 µg/L
Area ratio: 3.41970
Sample type: Sample



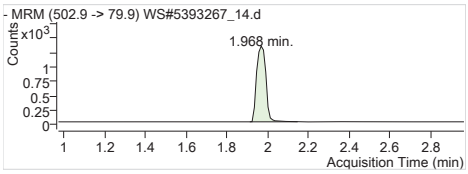


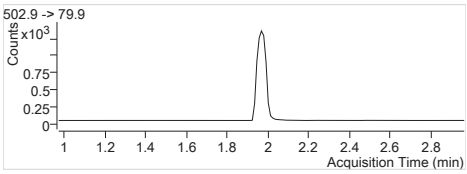
13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 995.64 µg/L
Area ratio: 0
Sample type: Sample





18O2-PFHxS	403.0 -> 83.9
RT (Exp. RT):	1.668 (1.668)
Calc. conc.	107.31 µg/L
Area ratio:	0.11090
Sample type:	Sample





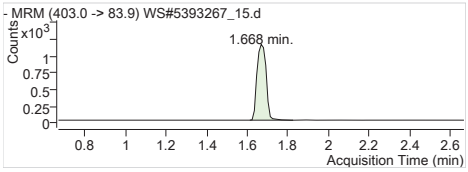
13C4-PFOS	502.9 -> 79.9
RT (Exp. RT):	1.968 (1.968)
Calc. conc.	94.62 µg/L
Area ratio:	0.12233
Sample type:	Sample

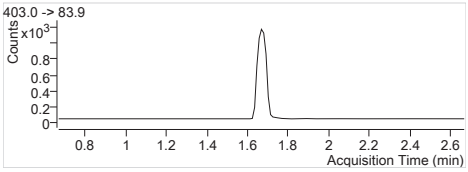
Batch Path	T:\lcms4\PFC\20180213\WS#5393267\QuantResults\PFC_Water_High_180213_WS#5393267_EToxics

Sample Name	**5393267:GAD933-01:D1:10x**	**Instrument**	LCMS04
Data File	WS#5393267_15.d	**Operator**	
Sample Type	Sample	**Dilution**	10
Acq. Method	PFC_Water_High.m	**Position**	P4-D9
Acq. Date	2018/02/14 8:51:51 AM	**Injection Volume**	Per Method
Sample Annotation	Reported for PFOS only.		

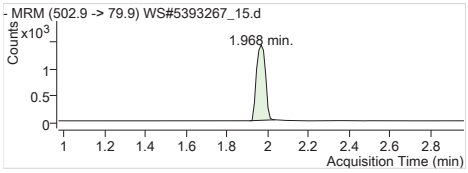
ISTD Compounds	Response	RT	Target conc.		
MPFHxS	3534	1.67	1 µg/L		
MPFOS	4255	1.97	1 µg/L		
13C6-PFHxA IS	34489	1.41	1 µg/L		

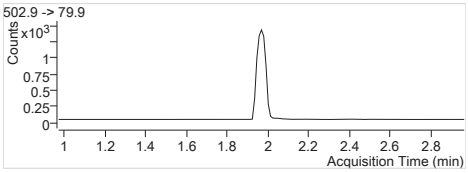
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFHxS 1	2002	1.67	-	35.33 µg/L	-
PFOS 1	14030	1.97	-	224.11 µg/L	-
13C6-PFHxA	34489	1.41	-	1011.44 µg/L	-
18O2-PFHxS	3534	1.67	-	99.16 µg/L	-
13C4-PFOS	4255	1.97	-	95.43 µg/L	-



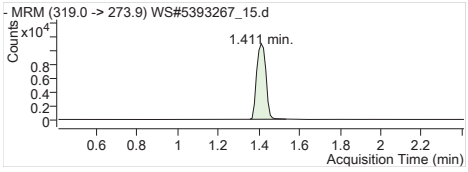


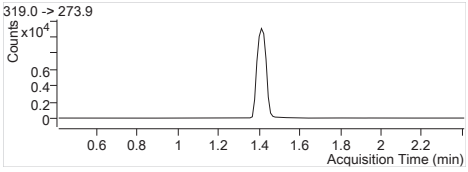
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Sample



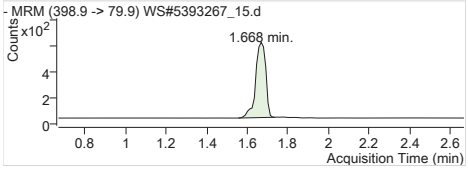


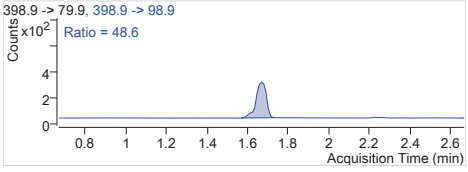
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Sample



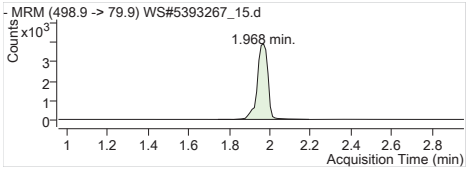


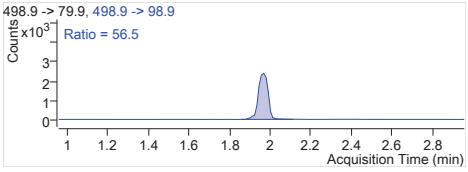
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: Sample



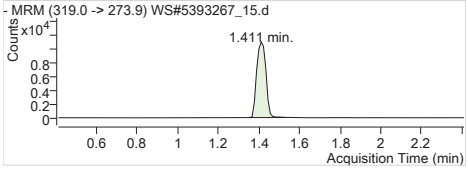


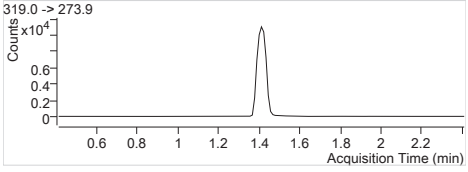
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 35.33 µg/L
Area ratio: 0.56650
Sample type: Sample



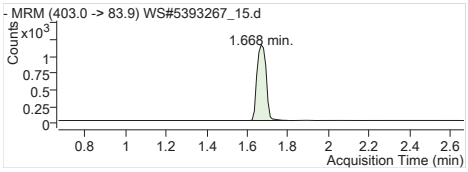


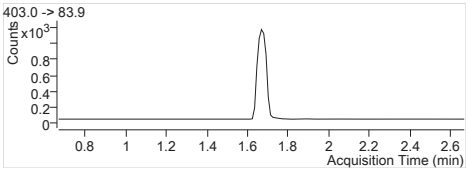
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.968 (1.957)
Calc. conc. 224.11 µg/L
Area ratio: 3.29730
Sample type: Sample



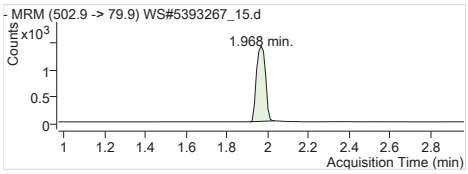


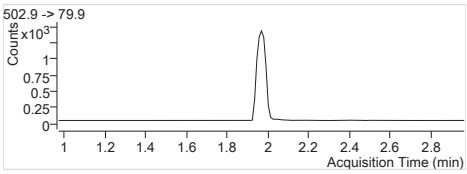
13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 1011.44 µg/L
Area ratio: 0
Sample type: Sample





18O2-PFHxS	403.0 -> 83.9
RT (Exp. RT):	1.668 (1.668)
Calc. conc.	99.16 µg/L
Area ratio:	0.10247
Sample type:	Sample





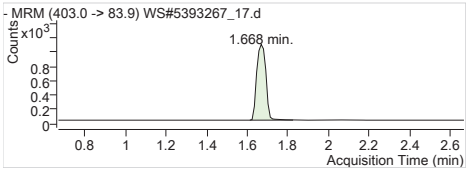
13C4-PFOS	502.9 -> 79.9
RT (Exp. RT):	1.968 (1.968)
Calc. conc.	95.43 µg/L
Area ratio:	0.12337
Sample type:	Sample

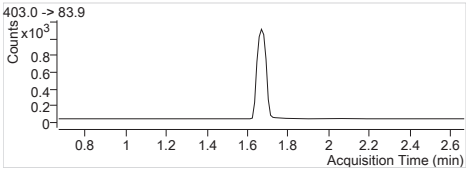
Batch Path	T:\lcms4\PFC\20180213\WS#5393267\QuantResults\PFC_Water_High_180213_WS#5393267_EToxics

Sample Name	**5393267:GAD933-01**	**Instrument**	LCMS04
Data File	WS#5393267_17.d	**Operator**	
Sample Type	Sample	**Dilution**	1
Acq. Method	PFC_Water_High.m	**Position**	P4-E2
Acq. Date	2018/02/14 9:01:41 AM	**Injection Volume**	Per Method
Sample Annotation	not used.		

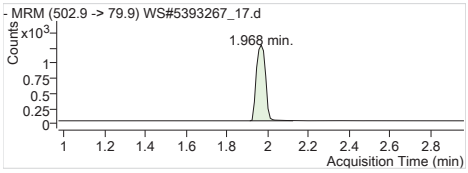
ISTD Compounds	Response	RT	Target conc.		
MPFHxS	3330	1.67	1 µg/L		
MPFOS	3916	1.97	1 µg/L		
13C6-PFHxA IS	24761	1.41	1 µg/L		

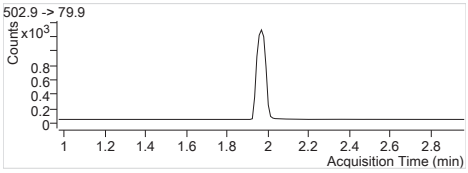
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFHxS 1	17856	1.67	-	31.51 µg/L	-
PFOS 1	120216	1.97	-	206.57 µg/L	-
13C6-PFHxA	24761	1.41	-	72.62 µg/L	-
18O2-PFHxS	3330	1.67	-	130.14 µg/L	-
13C4-PFOS	3916	1.97	-	122.33 µg/L	-



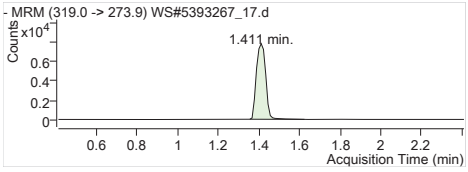


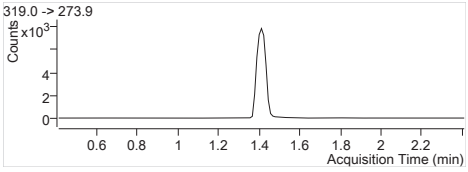
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Sample



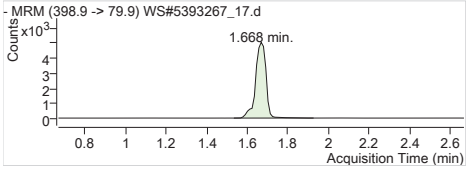


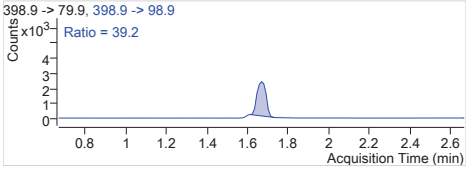
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Sample



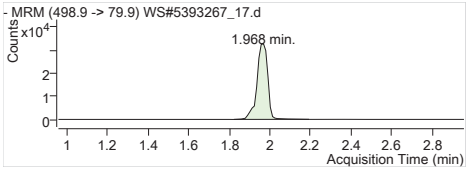


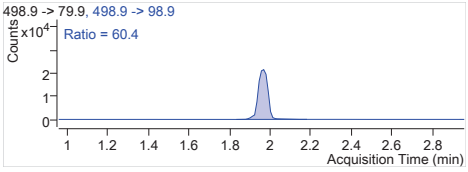
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: Sample



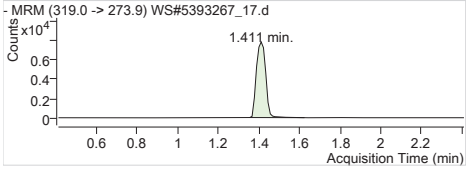


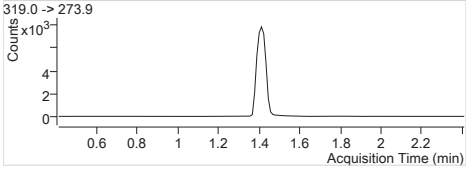
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 31.51 µg/L
Area ratio: 5.36216
Sample type: Sample



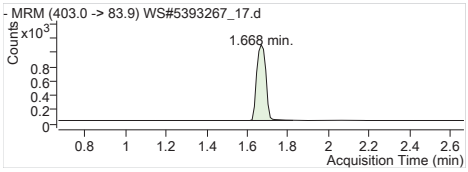


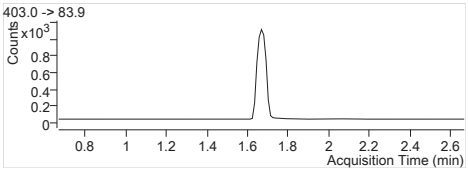
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.968 (1.957)
Calc. conc. 206.57 µg/L
Area ratio: 30.69867
Sample type: Sample



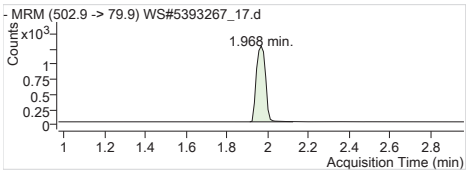


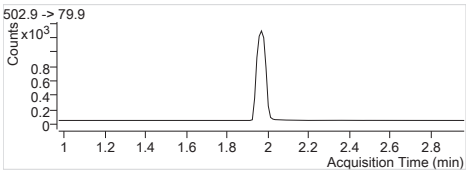
13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 72.62 µg/L
Area ratio: 0
Sample type: Sample





18O2-PFHxS	403.0 -> 83.9
RT (Exp. RT):	1.668 (1.668)
Calc. conc.	130.14 µg/L
Area ratio:	0.13449
Sample type:	Sample





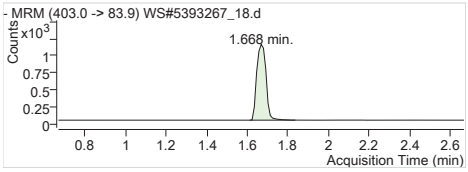
13C4-PFOS	502.9 -> 79.9
RT (Exp. RT):	1.968 (1.968)
Calc. conc.	122.33 µg/L
Area ratio:	0.15815
Sample type:	Sample

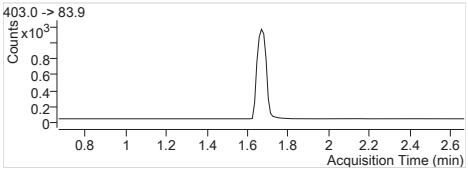
Batch Path	T:\lcms4\PFC\20180213\WS#5393267\QuantResults\PFC_Water_High_180213_WS#5393267_EToxics

Sample Name	**5393267:GAD933-01:D1**	**Instrument**	LCMS04
Data File	WS#5393267_18.d	**Operator**	
Sample Type	Sample	**Dilution**	1
Acq. Method	PFC_Water_High.m	**Position**	P4-E3
Acq. Date	2018/02/14 9:06:35 AM	**Injection Volume**	Per Method
Sample Annotation	not used.		

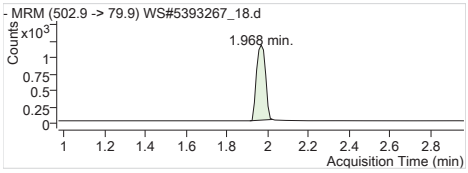
ISTD Compounds	Response	RT	Target conc.		
MPFHxS	3565	1.67	1 µg/L		
MPFOS	3505	1.97	1 µg/L		
13C6-PFHxA IS	22659	1.41	1 µg/L		

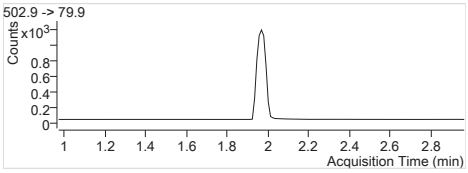
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFHxS 1	18087	1.67	-	29.83 µg/L	-
PFOS 1	120419	1.97	-	231.15 µg/L	-
13C6-PFHxA	22659	1.41	-	66.45 µg/L	-
18O2-PFHxS	3565	1.67	-	152.25 µg/L	-
13C4-PFOS	3505	1.97	-	119.65 µg/L	-



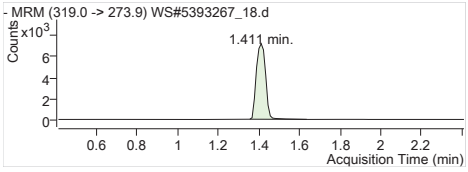


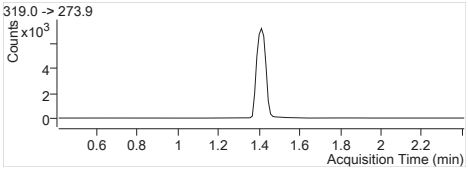
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Sample



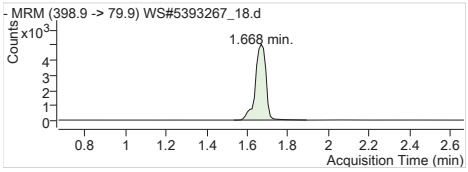


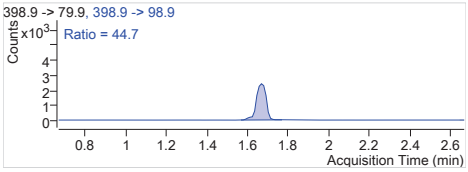
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Sample



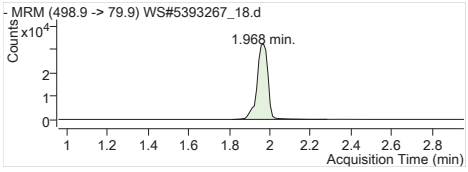


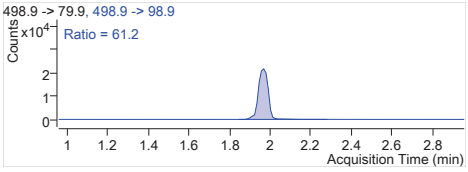
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: Sample



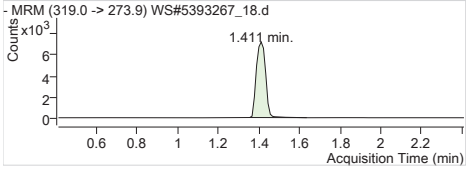


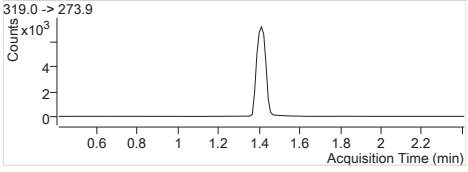
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 29.83 µg/L
Area ratio: 5.07349
Sample type: Sample



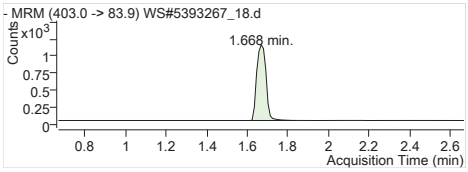


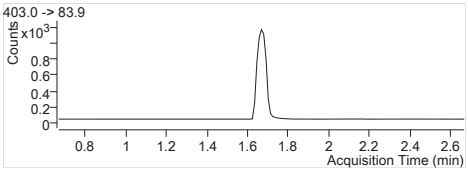
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.968 (1.957)
Calc. conc. 231.15 µg/L
Area ratio: 34.35635
Sample type: Sample



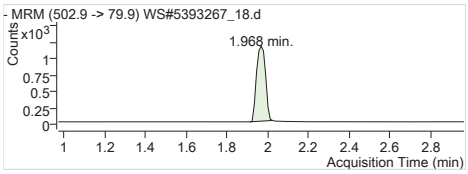


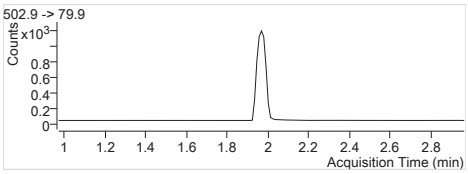
13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 66.45 µg/L
Area ratio: 0
Sample type: Sample





18O2-PFHxS	403.0 -> 83.9
RT (Exp. RT):	1.668 (1.668)
Calc. conc.	152.25 µg/L
Area ratio:	0.15733
Sample type:	Sample





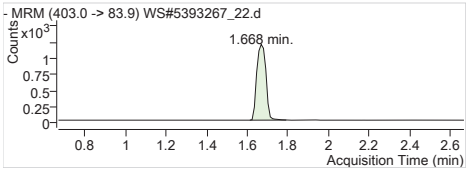
13C4-PFOS	502.9 -> 79.9
RT (Exp. RT):	1.968 (1.968)
Calc. conc.	119.65 µg/L
Area ratio:	0.15468
Sample type:	Sample

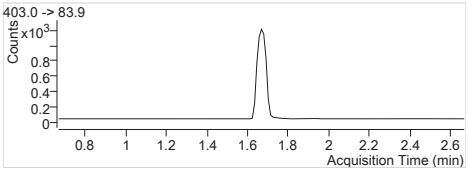
Batch Path	T:\lcms4\PFC\20180213\WS#5393267\QuantResults\PFC_Water_High_180213_WS#5393267_EToxics

Sample Name	**5393267:GAD934-01:100x**	**Instrument**	LCMS04
Data File	WS#5393267_22.d	**Operator**	
Sample Type	Sample	**Dilution**	100
Acq. Method	PFC_Water_High.m	**Position**	P4-E5
Acq. Date	2018/02/14 9:26:13 AM	**Injection Volume**	Per Method
Sample Annotation	Reported for PFOS only.		

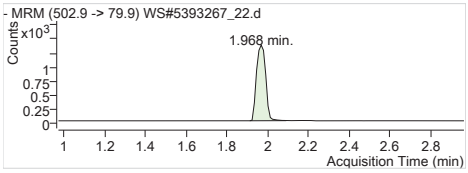
ISTD Compounds	Response	RT	Target conc.		
MPFHxS	3656	1.67	1 µg/L		
MPFOS	4228	1.97	1 µg/L		
13C6-PFHxA IS	32871	1.41	1 µg/L		

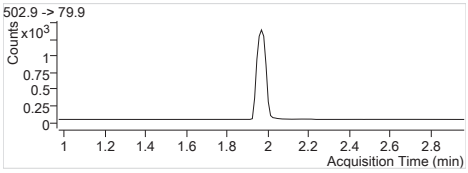
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFHxS 1	1664	1.67	-	288.38 µg/L	-
PFOS 1	5670	1.96	-	926.34 µg/L	-
13C6-PFHxA	32871	1.41	-	9639.92 µg/L	-
18O2-PFHxS	3656	1.67	-	107.63 µg/L	-
13C4-PFOS	4228	1.97	-	99.49 µg/L	-



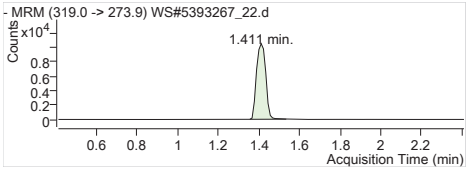


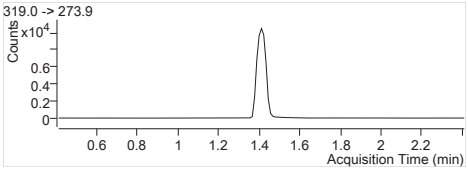
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Sample



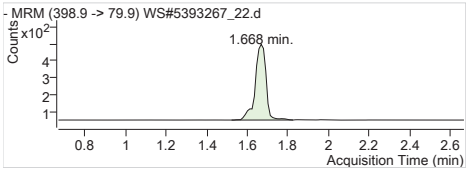


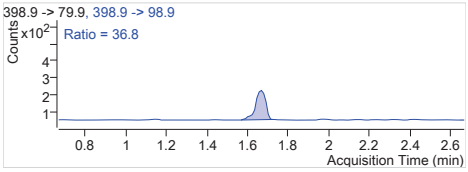
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Sample



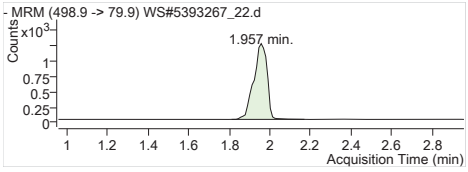


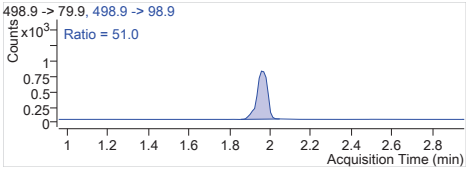
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: Sample



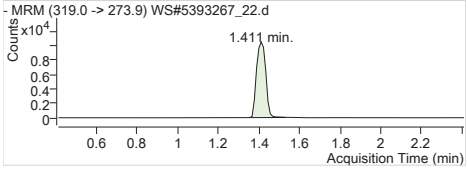


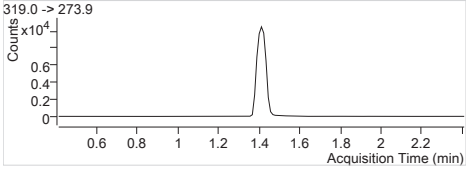
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 288.38 µg/L
Area ratio: 0.45514
Sample type: Sample



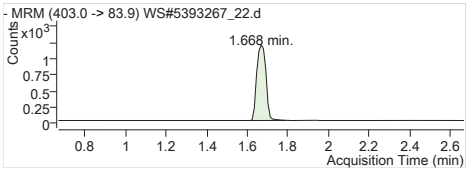


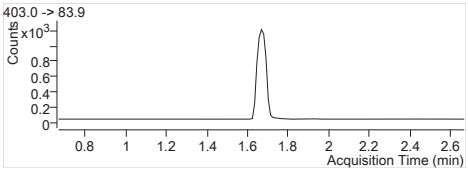
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 926.34 µg/L
Area ratio: 1.34106
Sample type: Sample



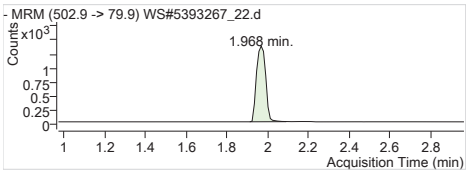


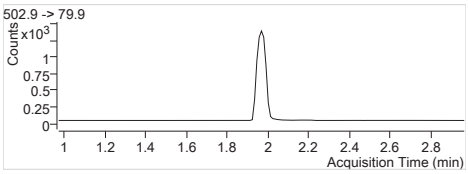
13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 9639.92 µg/L
Area ratio: 0
Sample type: Sample





18O2-PFHxS	403.0 -> 83.9
RT (Exp. RT):	1.668 (1.668)
Calc. conc.	107.63 µg/L
Area ratio:	0.11122
Sample type:	Sample





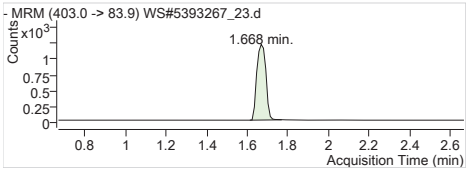
13C4-PFOS	502.9 -> 79.9
RT (Exp. RT):	1.968 (1.968)
Calc. conc.	99.49 µg/L
Area ratio:	0.12862
Sample type:	Sample

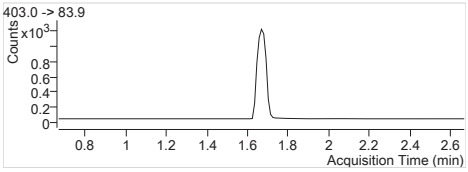
Batch Path	T:\lcms4\PFC\20180213\WS#5393267\QuantResults\PFC_Water_High_180213_WS#5393267_EToxics

Sample Name	**5393267:GAD934-01:D1:100x**	**Instrument**	LCMS04
Data File	WS#5393267_23.d	**Operator**	
Sample Type	Sample	**Dilution**	100
Acq. Method	PFC_Water_High.m	**Position**	P4-E6
Acq. Date	2018/02/14 9:31:08 AM	**Injection Volume**	Per Method
Sample Annotation	Reported for PFOS only.		

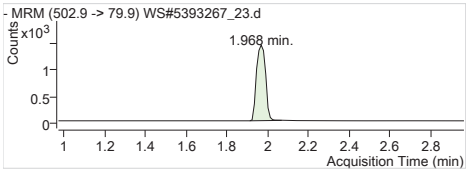
ISTD Compounds	Response	RT	Target conc.		
MPFHxS	3669	1.67	1 µg/L		
MPFOS	4430	1.97	1 µg/L		
13C6-PFHxA IS	35847	1.41	1 µg/L		

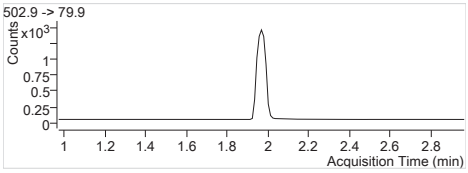
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFHxS 1	1482	1.67	-	258.49 µg/L	-
PFOS 1	5796	1.96	-	904.36 µg/L	-
13C6-PFHxA	35847	1.41	-	10512.68 µg/L	-
18O2-PFHxS	3669	1.67	-	99.04 µg/L	-
13C4-PFOS	4430	1.97	-	95.59 µg/L	-



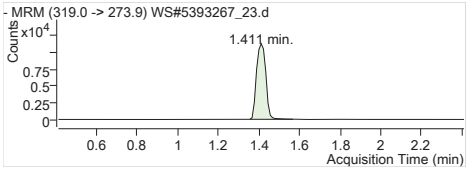


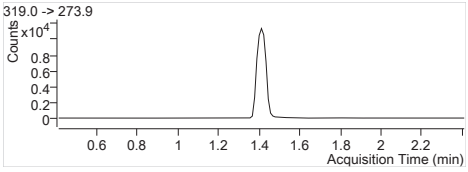
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Sample



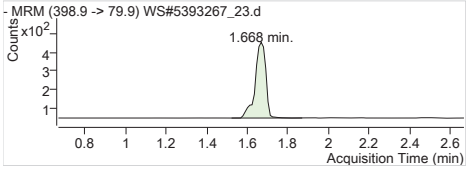


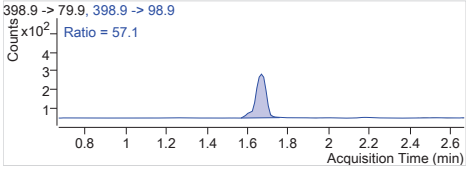
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Sample



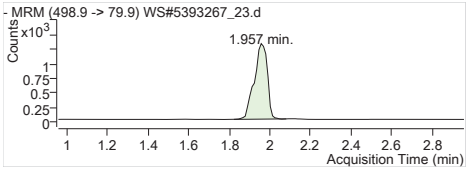


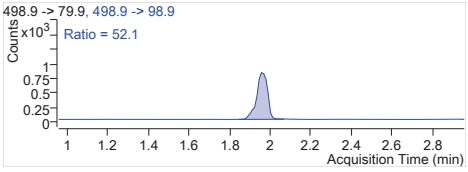
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: Sample



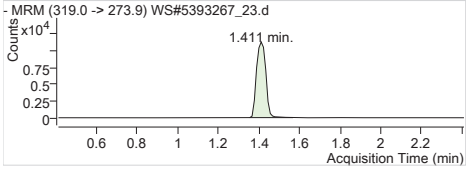


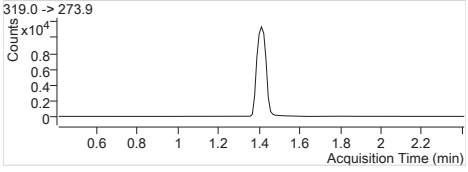
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 258.49 µg/L
Area ratio: 0.40392
Sample type: Sample



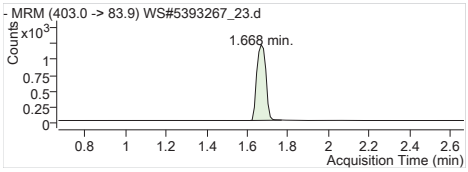


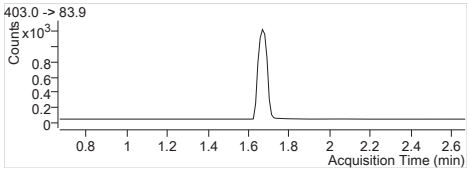
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 904.36 µg/L
Area ratio: 1.30835
Sample type: Sample



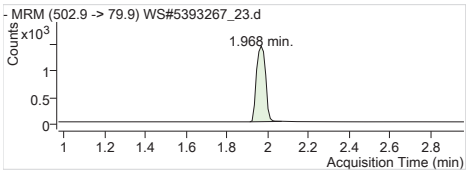


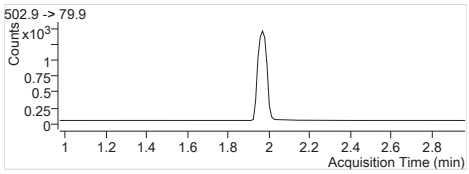
13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 10512.68 µg/L
Area ratio: 0
Sample type: Sample





18O2-PFHxS	403.0 -> 83.9
RT (Exp. RT):	1.668 (1.668)
Calc. conc.	99.04 µg/L
Area ratio:	0.10235
Sample type:	Sample





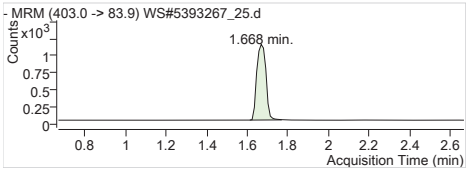
13C4-PFOS	502.9 -> 79.9
RT (Exp. RT):	1.968 (1.968)
Calc. conc.	95.59 µg/L
Area ratio:	0.12358
Sample type:	Sample

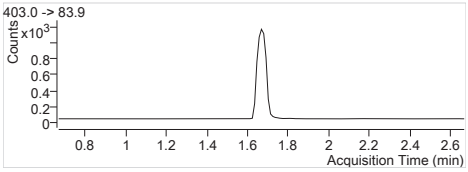
Batch Path	T:\lcms4\PFC\20180213\WS#5393267\QuantResults\PFC_Water_High_180213_WS#5393267_EToxics

Sample Name	**5393267:GAD934-01:10x**	**Instrument**	LCMS04
Data File	WS#5393267_25.d	**Operator**	
Sample Type	Sample	**Dilution**	10
Acq. Method	PFC_Water_High.m	**Position**	P4-E8
Acq. Date	2018/02/14 9:40:58 AM	**Injection Volume**	Per Method
Sample Annotation	Reported for PFHxS only.		

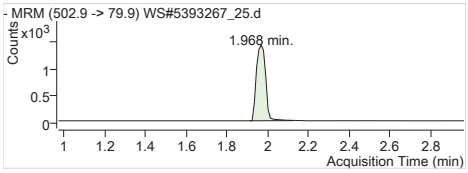
ISTD Compounds	Response	RT	Target conc.		
MPFHxS	3516	1.67	1 µg/L		
MPFOS	4407	1.97	1 µg/L		
13C6-PFHxA IS	34803	1.41	1 µg/L		

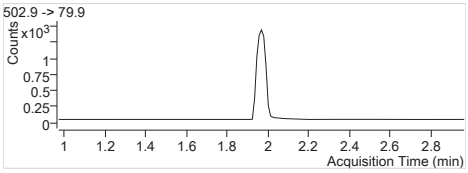
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFHxS 1	15198	1.67	-	254.49 µg/L	-
PFOS 1	55059	1.96	-	842.16 µg/L	-
13C6-PFHxA	34803	1.41	-	1020.65 µg/L	-
18O2-PFHxS	3516	1.67	-	97.76 µg/L	-
13C4-PFOS	4407	1.97	-	97.95 µg/L	-



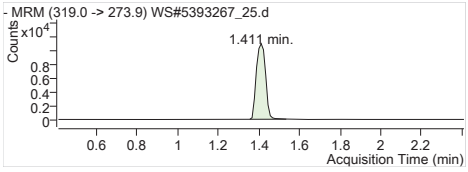


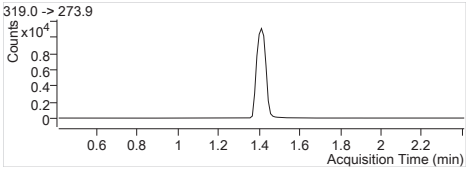
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Sample



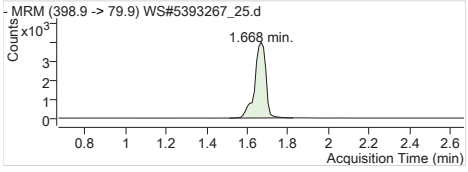


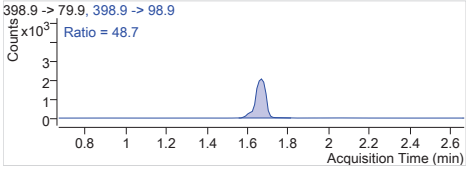
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Sample



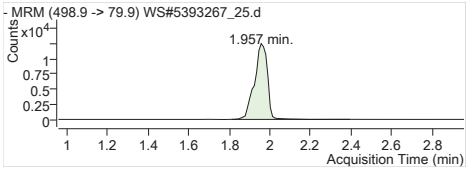


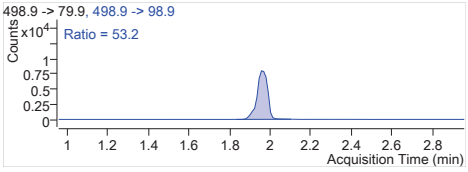
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: Sample



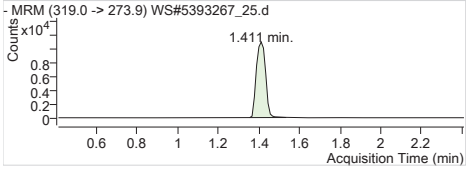


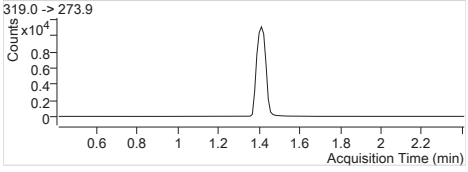
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 254.49 µg/L
Area ratio: 4.32253
Sample type: Sample



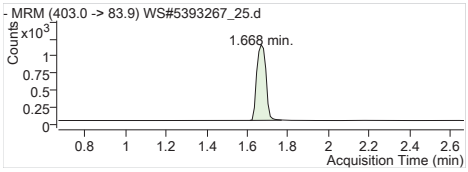


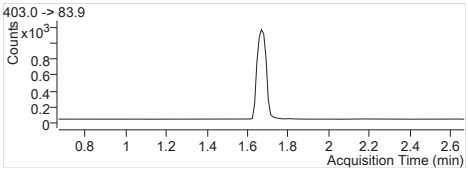
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 842.16 µg/L
Area ratio: 12.49353
Sample type: Sample



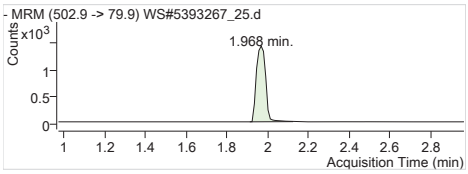


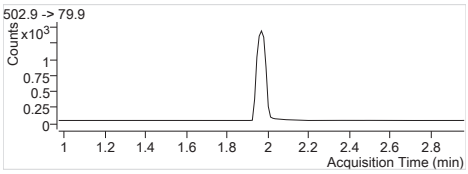
13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 1020.65 µg/L
Area ratio: 0
Sample type: Sample





18O2-PFHxS	403.0 -> 83.9
RT (Exp. RT):	1.668 (1.668)
Calc. conc.	97.76 µg/L
Area ratio:	0.10103
Sample type:	Sample





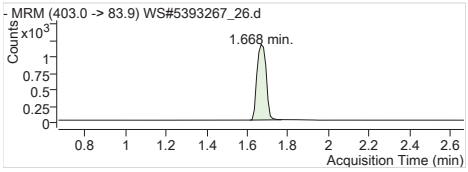
13C4-PFOS	502.9 -> 79.9
RT (Exp. RT):	1.968 (1.968)
Calc. conc.	97.95 µg/L
Area ratio:	0.12663
Sample type:	Sample

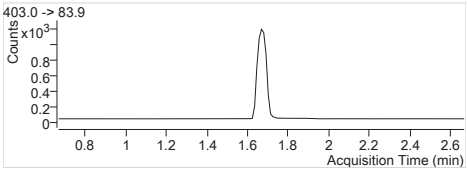
Batch Path	T:\lcms4\PFC\20180213\WS#5393267\QuantResults\PFC_Water_High_180213_WS#5393267_EToxics

Sample Name	**5393267:GAD934-01:D1:10x**	**Instrument**	LCMS04
Data File	WS#5393267_26.d	**Operator**	
Sample Type	Sample	**Dilution**	10
Acq. Method	PFC_Water_High.m	**Position**	P4-E9
Acq. Date	2018/02/14 9:45:54 AM	**Injection Volume**	Per Method
Sample Annotation	Reported for PFHxS only.		

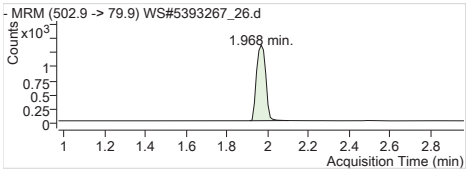
ISTD Compounds	Response	RT	Target conc.		
MPFHxS	3582	1.67	1 µg/L		
MPFOS	4189	1.97	1 µg/L		
13C6-PFHxA IS	33653	1.41	1 µg/L		

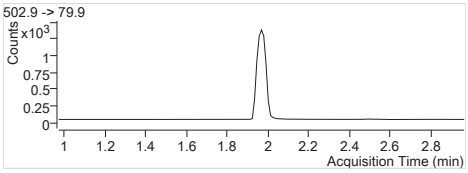
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFHxS 1	15093	1.67	-	248.13 µg/L	-
PFOS 1	56295	1.96	-	905.69 µg/L	-
13C6-PFHxA	33653	1.41	-	986.93 µg/L	-
18O2-PFHxS	3582	1.67	-	103.00 µg/L	-
13C4-PFOS	4189	1.97	-	96.28 µg/L	-



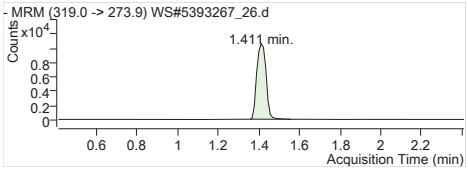


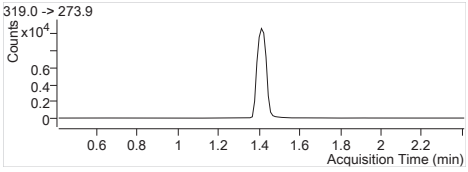
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Sample



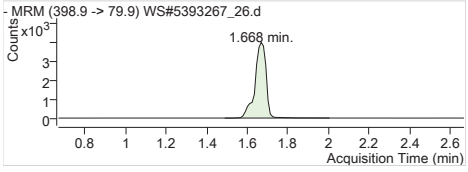


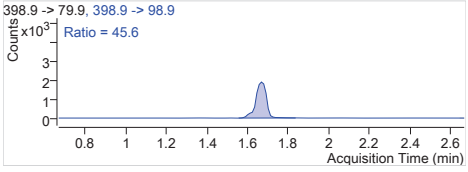
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Sample



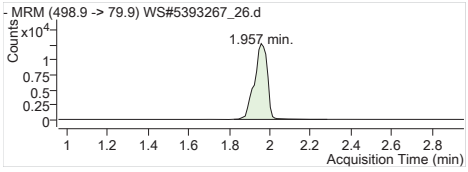


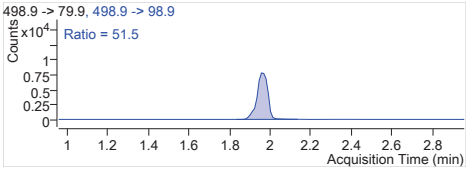
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: Sample



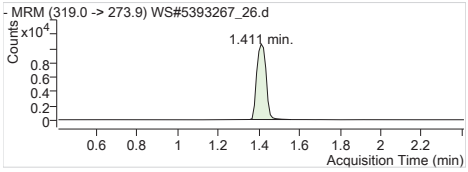


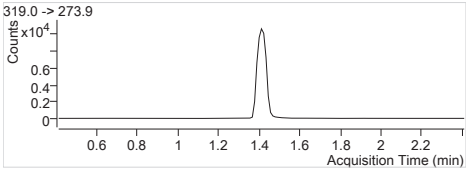
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 248.13 µg/L
Area ratio: 4.21357
Sample type: Sample



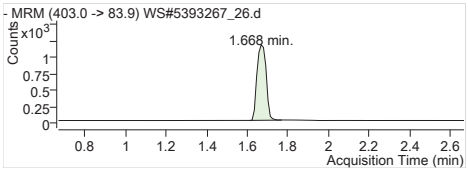


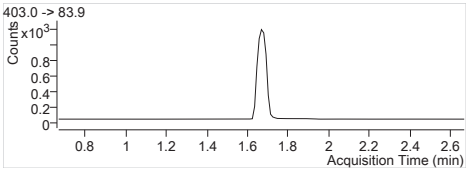
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 905.69 µg/L
Area ratio: 13.43877
Sample type: Sample



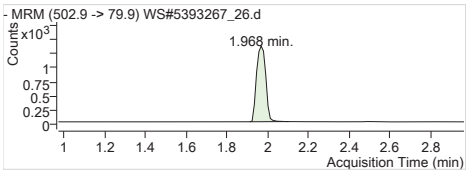


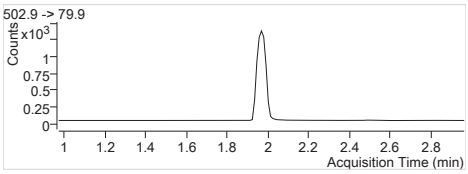
13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 986.93 µg/L
Area ratio: 0
Sample type: Sample





18O2-PFHxS	403.0 -> 83.9
RT (Exp. RT):	1.668 (1.668)
Calc. conc.	103.00 µg/L
Area ratio:	0.10644
Sample type:	Sample





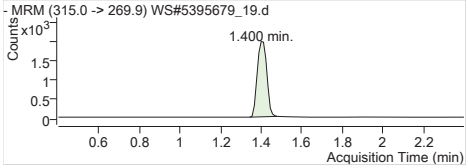
13C4-PFOS	502.9 -> 79.9
RT (Exp. RT):	1.968 (1.968)
Calc. conc.	96.28 µg/L
Area ratio:	0.12448
Sample type:	Sample

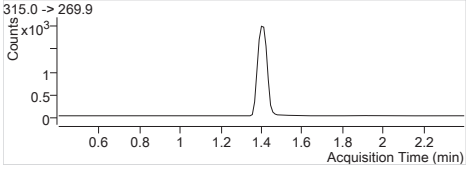
Batch Path	T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics

Sample Name	**5395679:GAD935-01**	**Instrument**	LCMS04
Data File	WS#5395679_19.d	**Operator**	
Sample Type	Sample	**Dilution**	0.024
Acq. Method	PFC_Water_Low.m	**Position**	P3-B7
Acq. Date	2018/02/13 11:24:40 PM	**Injection Volume**	Per Method
Sample Annotation	-		

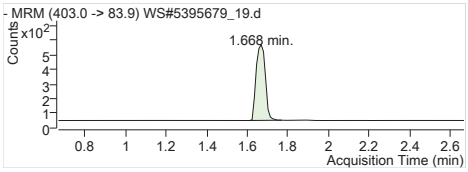
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	6319	1.40	1 µg/L		
MPFHxS	1644	1.67	1 µg/L		
MPFHpA	8394	1.68	1 µg/L		
MPFOA	9071	1.86	1 µg/L		
MPFOS	1692	1.97	1 µg/L		
MPFNA	8557	2.00	1 µg/L		
MPFDA	6849	2.12	1 µg/L		
MPFUnA	7524	2.22	1 µg/L		
MPFDoA	9994	2.31	1 µg/L		
MPFTeDA	8014	2.46	1 µg/L		
13C6-PFHxA IS	20970	1.40	1 µg/L		
13C9-PFDA IS	28391	2.12	1 µg/L		

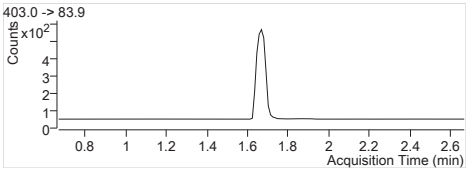
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1			-	ND	-
PFHxA 1			-	ND	-
PFHxS 1			-	ND	-
PFHpA 1			-	ND	-
PFOA 1			-	ND	-
PFOS 1			-	ND	-
PFNA 1			-	ND	-
PFDA 1			-	ND	-
PFUnA 1			-	ND	-
PFDoA 1			-	ND	-
PFTrDA 1			-	ND	-
PFTeDA 1			-	ND	-
13C2-PFHxA	6319	1.40	-	100.07 µg/L	-
18O2-PFHxS	1644	1.67	-	101.99 µg/L	-
13C4-PFHpA	8394	1.68	-	101.49 µg/L	-
13C4-PFOA	9071	1.86	-	101.46 µg/L	-
13C4-PFOS	1692	1.97	-	88.22 µg/L	-
13C5-PFNA	8557	2.00	-	98.22 µg/L	-
13C2-PFDA	6670	2.12	-	90.80 µg/L	-
13C2-PFUnA	7524	2.22	-	85.66 µg/L	-
13C2-PFDoA	9994	2.31	-	86.08 µg/L	-
13C2-PFTeDA	8154	2.46	-	60.05 µg/L	-
13C2-6:2-FTS	2678	1.82	-	105.47 µg/L	-
13C2-8:2 FTS	2376	2.10	-	100.32 µg/L	-
13C6-PFHxA	20970	1.40	-	2.30 µg/L	-
13C9-PFDA	28391	2.12	-	2.35 µg/L	-



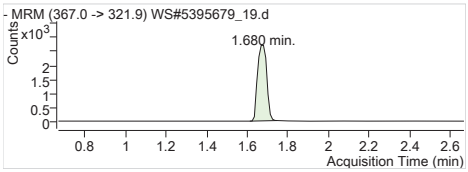


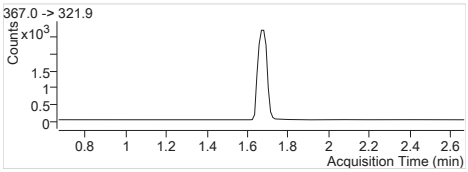
MPFHxA	Internal Standard
RT (Exp. RT):	1.400 (1.400)
Concentration:	1 µg/L
Sample type:	Sample



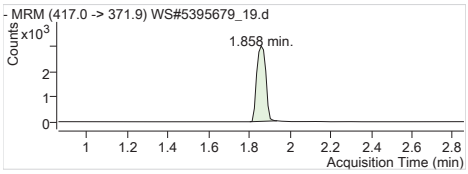


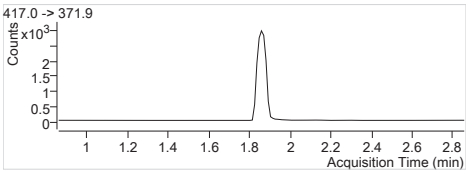
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Sample



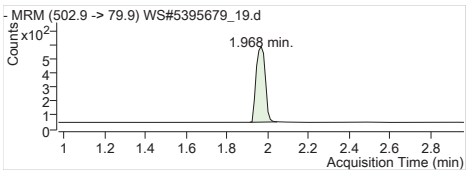


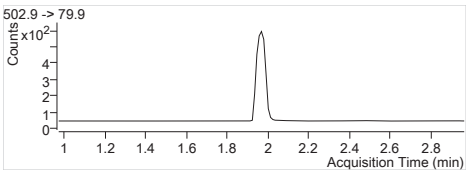
MPFHpA Internal Standard
RT (Exp. RT): 1.680 (1.668)
Concentration: 1 µg/L
Sample type: Sample



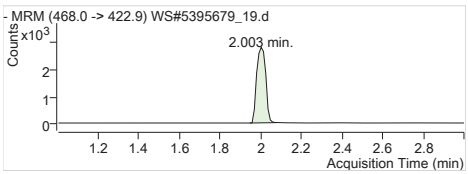


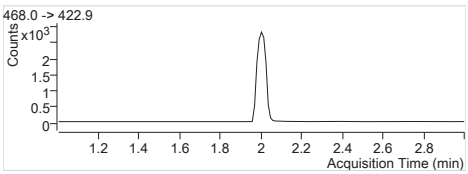
MPFOA Internal Standard
RT (Exp. RT): 1.858 (1.858)
Concentration: 1 µg/L
Sample type: Sample



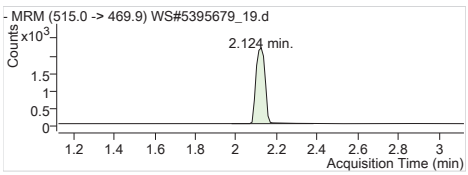


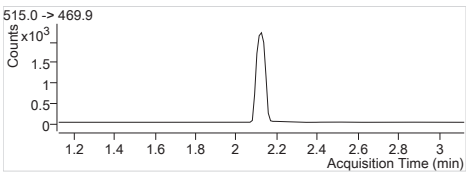
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Sample



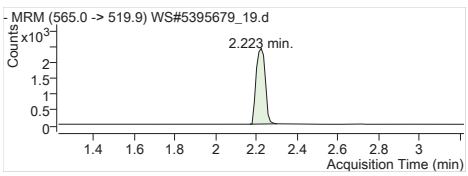


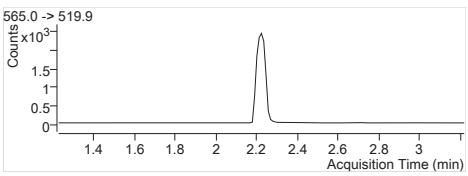
MPFNA Internal Standard
RT (Exp. RT): 2.003 (2.003)
Concentration: 1 µg/L
Sample type: Sample



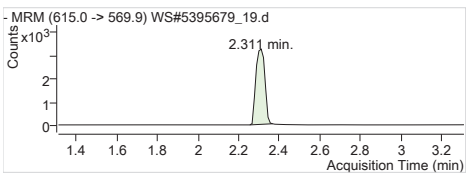


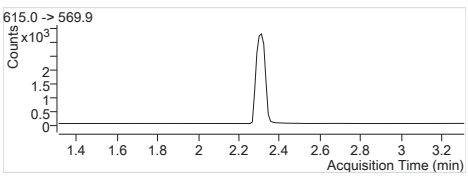
MPFDA Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Sample



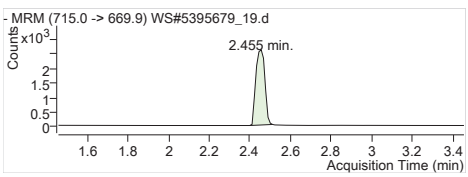


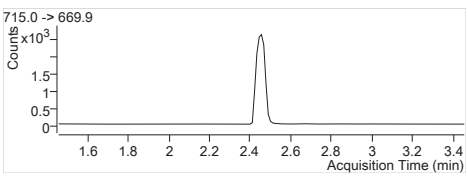
MPFUnA Internal Standard
RT (Exp. RT): 2.223 (2.223)
Concentration: 1 µg/L
Sample type: Sample



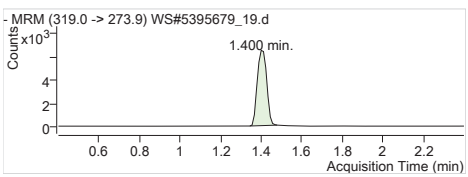


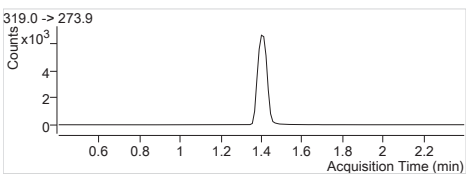
MPFDoA Internal Standard
RT (Exp. RT): 2.311 (2.311)
Concentration: 1 µg/L
Sample type: Sample



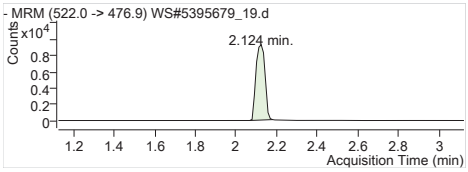


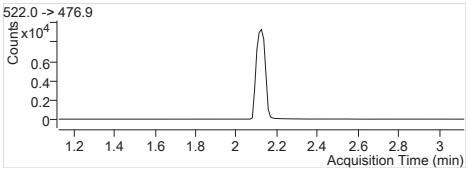
MPFTeDA Internal Standard
RT (Exp. RT): 2.455 (2.455)
Concentration: 1 µg/L
Sample type: Sample



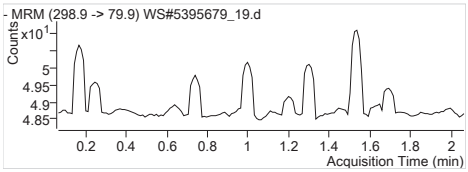


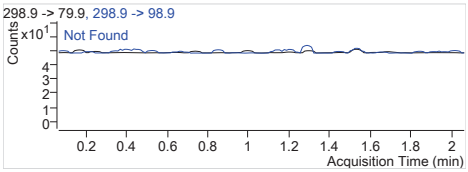
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.400 (1.400)
Concentration: 1 µg/L
Sample type: Sample



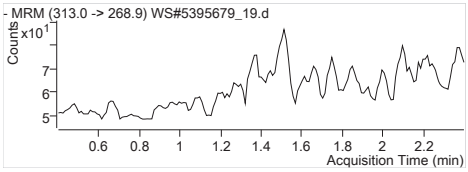


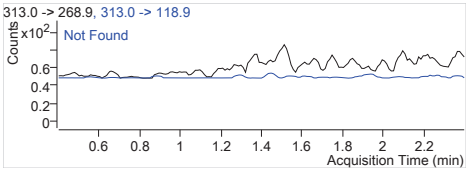
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Sample



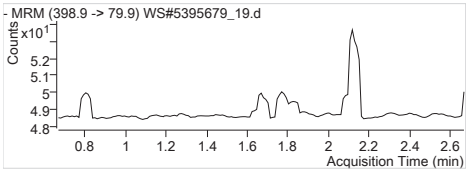


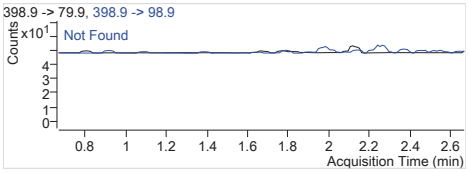
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 0.000 (1.064)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



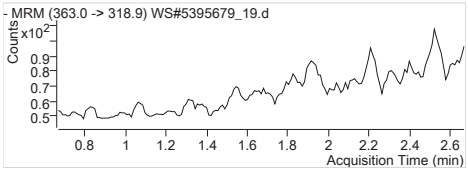


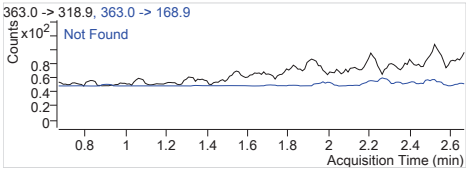
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 0.000 (1.400)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



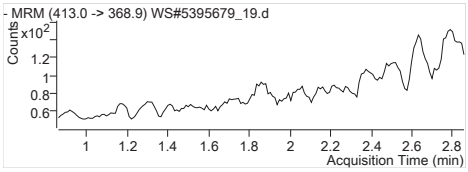


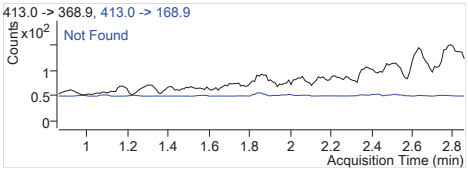
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 0.000 (1.668)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



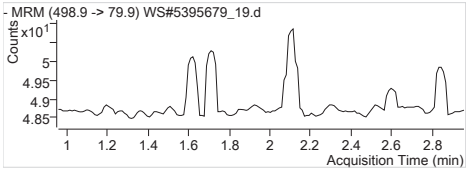


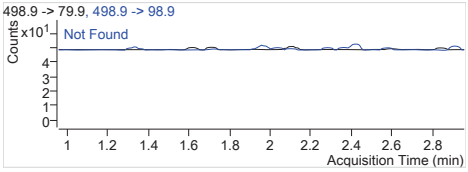
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 0.000 (1.669)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



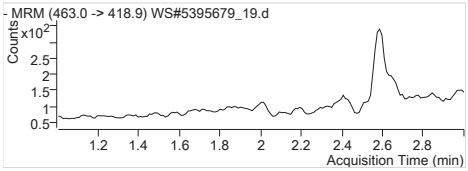


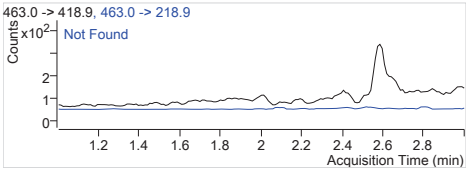
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 0.000 (1.858)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



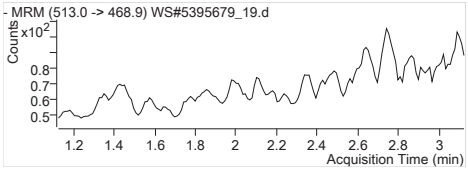


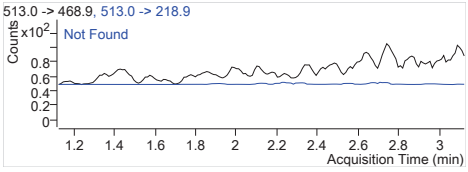
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 0.000 (1.957)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



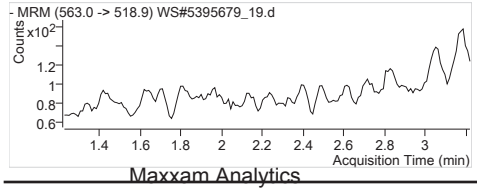


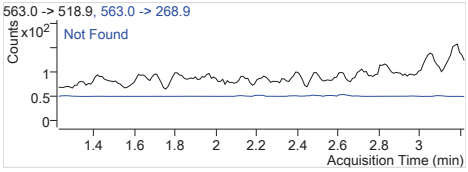
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 0.000 (2.003)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



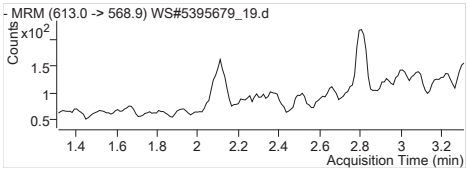


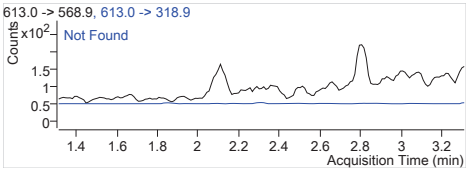
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 0.000 (2.124)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



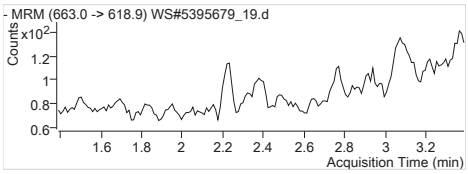


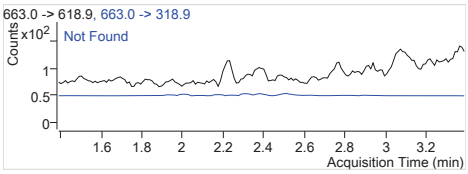
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 0.000 (2.223)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



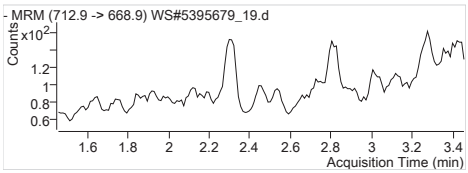


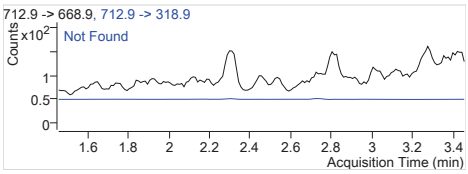
PFDoA 1	613.0 -> 568.9
RT (Exp. RT):	0.000 (2.311)
Calc. conc.	N.D.
Area ratio:	0
Sample type:	Sample



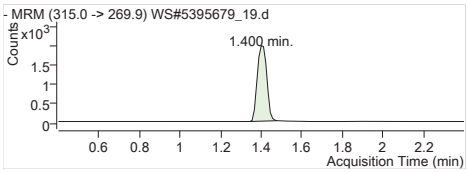


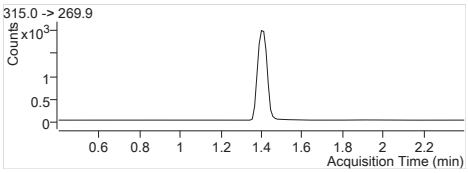
PFTrDA 1	663.0 -> 618.9
RT (Exp. RT):	0.000 (2.389)
Calc. conc.	N.D.
Area ratio:	0
Sample type:	Sample



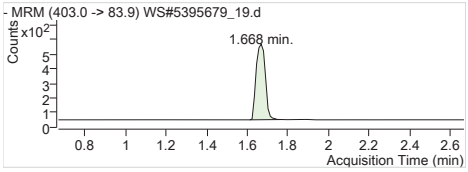


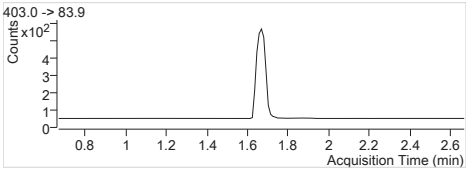
PFTeDA 1	712.9 -> 668.9
RT (Exp. RT):	0.000 (2.456)
Calc. conc.	N.D.
Area ratio:	0
Sample type:	Sample



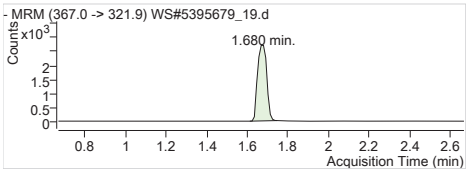


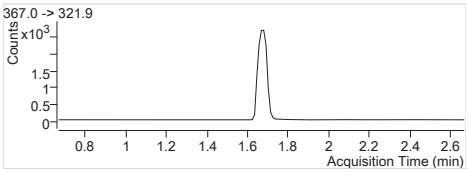
13C2-PFHxA	315.0 -> 269.9
RT (Exp. RT):	1.400 (1.400)
Calc. conc.	100.07 µg/L
Area ratio:	0.30134
Sample type:	Sample



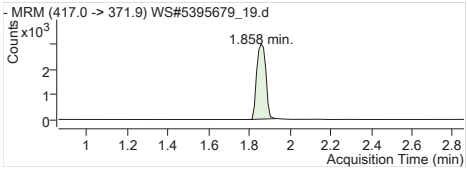


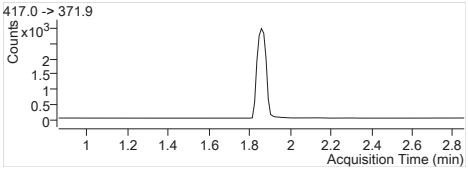
18O2-PFHxS	403.0 -> 83.9
RT (Exp. RT):	1.668 (1.668)
Calc. conc.	101.99 µg/L
Area ratio:	0.07840
Sample type:	Sample



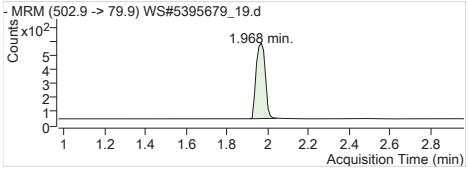


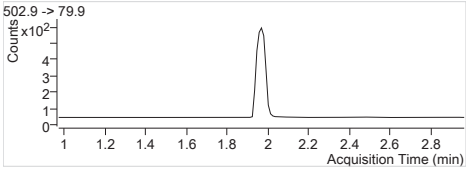
13C4-PFHpA	367.0 -> 321.9
RT (Exp. RT):	1.680 (1.668)
Calc. conc.	101.49 µg/L
Area ratio:	0.40029
Sample type:	Sample



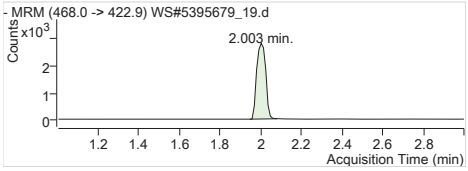


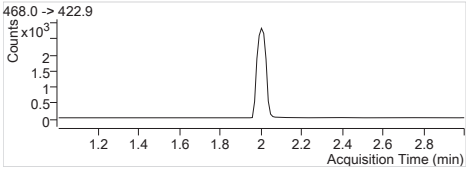
13C4-PFOA	417.0 -> 371.9
RT (Exp. RT):	1.858 (1.858)
Calc. conc.	101.46 µg/L
Area ratio:	0.43257
Sample type:	Sample



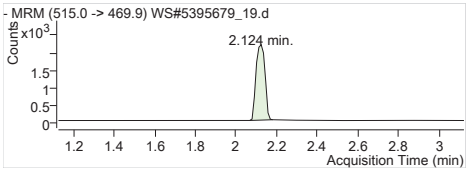


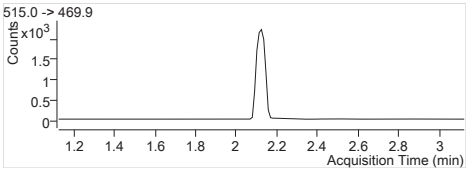
13C4-PFOS	502.9 -> 79.9
RT (Exp. RT):	1.968 (1.968)
Calc. conc.	88.22 µg/L
Area ratio:	0.08069
Sample type:	Sample



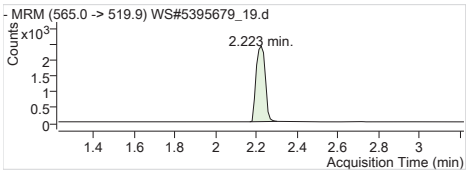


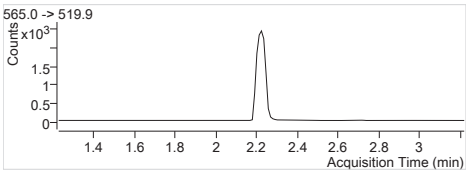
13C5-PFNA	468.0 -> 422.9
RT (Exp. RT):	2.003 (2.003)
Calc. conc.	98.22 µg/L
Area ratio:	0.40806
Sample type:	Sample



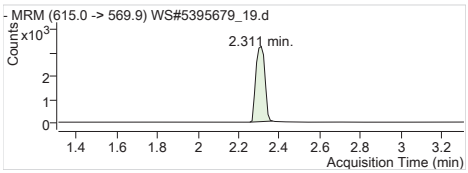


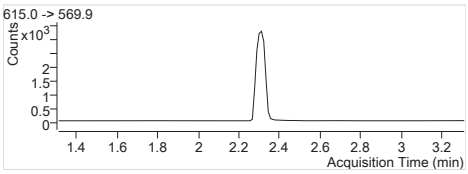
13C2-PFDA 515.0 -> 469.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 90.80 µg/L
Area ratio: 0.23493
Sample type: Sample



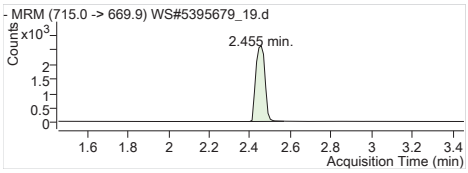


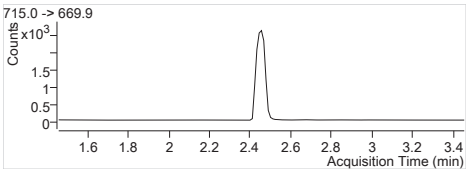
13C2-PFUnA 565.0 -> 519.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 85.66 µg/L
Area ratio: 0.26501
Sample type: Sample



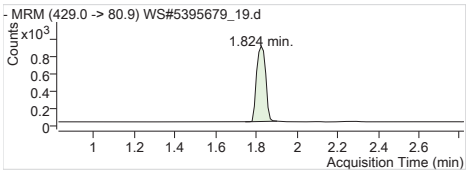


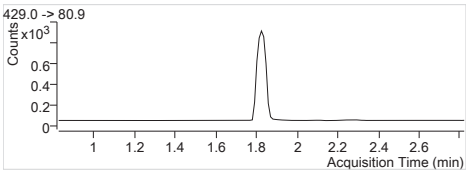
13C2-PFDoA 615.0 -> 569.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 86.08 µg/L
Area ratio: 0.35201
Sample type: Sample



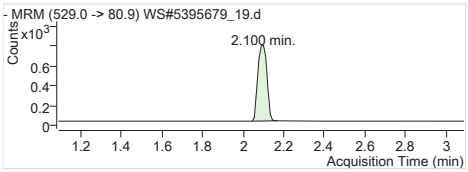


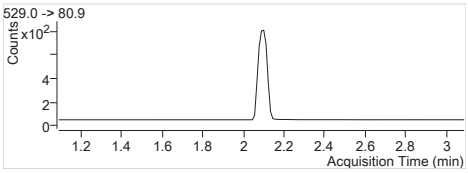
13C2-PFTeDA 715.0 -> 669.9
RT (Exp. RT): 2.455 (2.455)
Calc. conc. 60.05 µg/L
Area ratio: 0.28720
Sample type: Sample



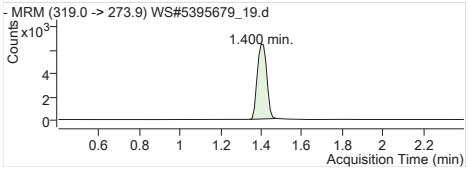


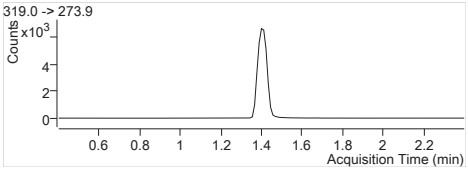
13C2-6:2-FTS 429.0 -> 80.9
RT (Exp. RT): 1.824 (1.824)
Calc. conc. 105.47 µg/L
Area ratio: 0.12771
Sample type: Sample



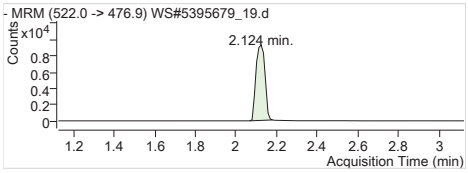


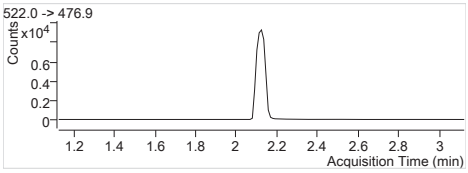
13C2-8:2 FTS 529.0 -> 80.9
RT (Exp. RT): 2.100 (2.089)
Calc. conc. 100.32 µg/L
Area ratio: 0.11330
Sample type: Sample





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.400 (1.400)
Calc. conc. 2.30 µg/L
Area ratio: 0
Sample type: Sample





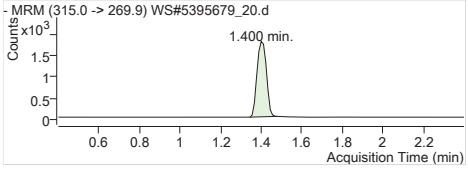
13C9-PFDA 522.0 -> 476.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 2.35 µg/L
Area ratio: 0
Sample type: Sample

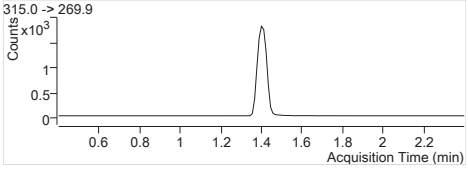
Batch Path	T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics

Sample Name	**5395679:GAD936-01:100x**	**Instrument**	LCMS04
Data File	WS#5395679_20.d	**Operator**	
Sample Type	Sample	**Dilution**	2.4
Acq. Method	PFC_Water_Low.m	**Position**	P3-B8
Acq. Date	2018/02/13 11:29:36 PM	**Injection Volume**	Per Method
Sample Annotation	Report for all, except reanalyzed PFOS		

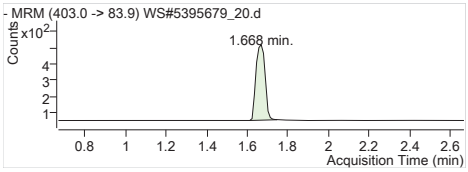
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	5722	1.40	1 µg/L		
MPFHxS	1465	1.67	1 µg/L		
MPFHpA	8024	1.68	1 µg/L		
MPFOA	8582	1.86	1 µg/L		
MPFOS	1605	1.97	1 µg/L		
MPFNA	8082	2.00	1 µg/L		
MPFDA	6493	2.12	1 µg/L		
MPFUnA	7470	2.22	1 µg/L		
MPFDoA	9079	2.31	1 µg/L		
MPFTeDA	9793	2.46	1 µg/L		
13C6-PFHxA IS	19474	1.40	1 µg/L		
13C9-PFDA IS	27717	2.12	1 µg/L		

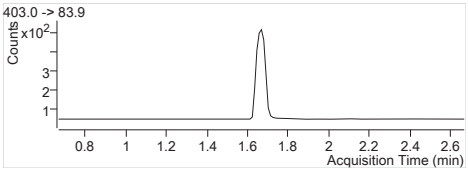
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1	650	1.06	-	2.73 µg/L	-
PFHxA 1	8786	1.40	-	8.89 µg/L	-
PFHxS 1	15213	1.67	-	54.37 µg/L	-
PFHpA 1	1803	1.68	-	1.41 µg/L	-
PFOA 1	12315	1.86	-	8.55 µg/L	-
PFOS 1	253712	1.96	-	1009.17 µg/L	-
PFNA 1			-	ND	-
PFDA 1			-	ND	-
PFUnA 1			-	ND	-
PFDoA 1			-	ND	-
PFTrDA 1			-	ND	-
PFTeDA 1			-	ND	-
13C2-PFHxA	5722	1.40	-	97.58 µg/L	-
18O2-PFHxS	1465	1.67	-	97.87 µg/L	-
13C4-PFHpA	8024	1.68	-	104.46 µg/L	-
13C4-PFOA	8582	1.86	-	103.36 µg/L	-
13C4-PFOS	1605	1.97	-	90.11 µg/L	-
13C5-PFNA	8082	2.00	-	99.89 µg/L	-
13C2-PFDA	6337	2.12	-	88.36 µg/L	-
13C2-PFUnA	7470	2.22	-	87.12 µg/L	-
13C2-PFDoA	9079	2.31	-	80.10 µg/L	-
13C2-PFTeDA	10050	2.46	-	75.82 µg/L	-
13C2-6:2-FTS	2616	1.82	-	110.94 µg/L	-
13C2-8:2 FTS	2401	2.10	-	109.17 µg/L	-
13C6-PFHxA	19474	1.40	-	213.36 µg/L	-
13C9-PFDA	27717	2.12	-	229.65 µg/L	-



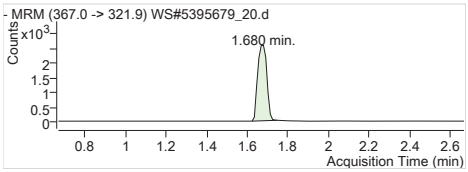


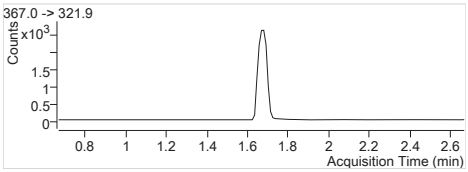
MPFHxA	Internal Standard
RT (Exp. RT):	1.400 (1.400)
Concentration:	1 µg/L
Sample type:	Sample



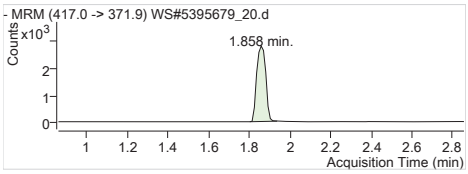


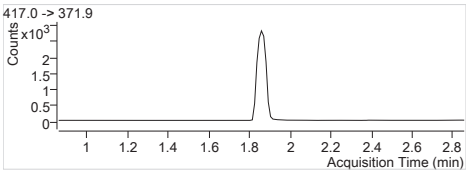
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Sample



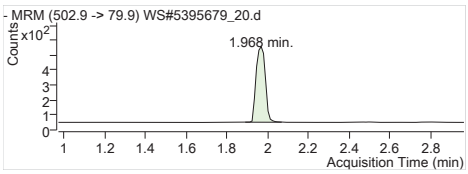


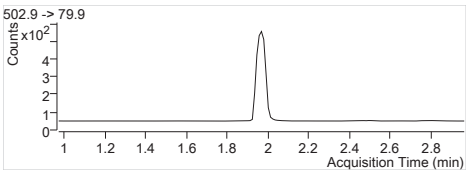
MPFHpA Internal Standard
RT (Exp. RT): 1.680 (1.668)
Concentration: 1 µg/L
Sample type: Sample



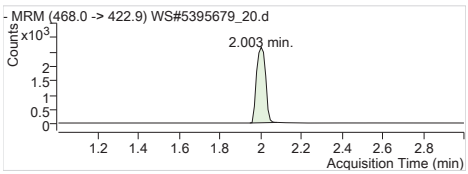


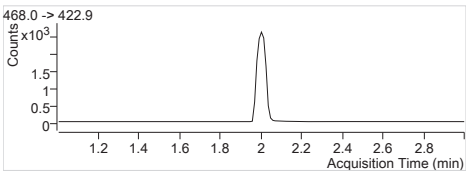
MPFOA Internal Standard
RT (Exp. RT): 1.858 (1.858)
Concentration: 1 µg/L
Sample type: Sample



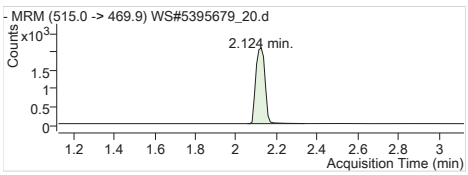


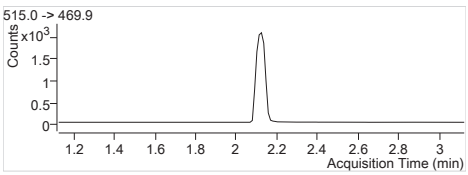
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Sample



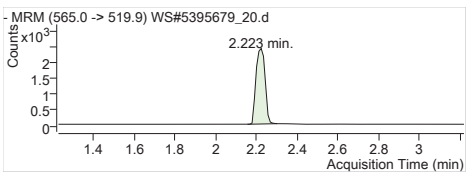


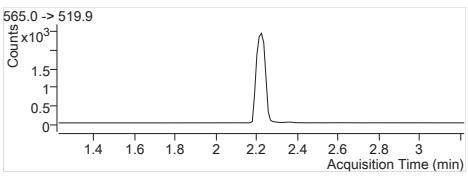
MPFNA Internal Standard
RT (Exp. RT): 2.003 (2.003)
Concentration: 1 µg/L
Sample type: Sample



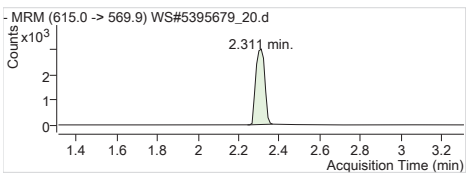


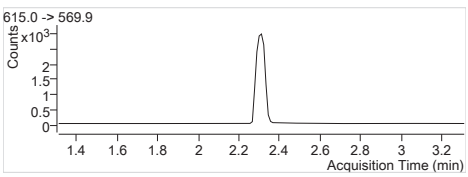
MPFDA Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Sample



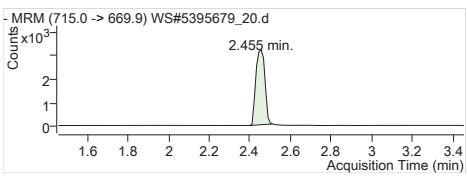


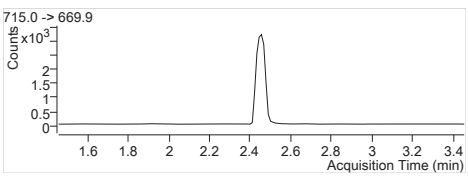
MPFUnA Internal Standard
RT (Exp. RT): 2.223 (2.223)
Concentration: 1 µg/L
Sample type: Sample



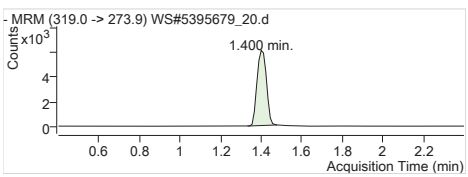


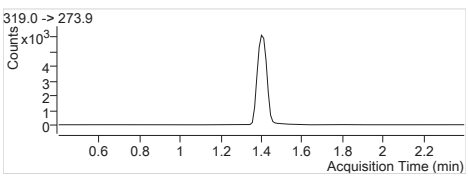
MPFDoA Internal Standard
RT (Exp. RT): 2.311 (2.311)
Concentration: 1 µg/L
Sample type: Sample



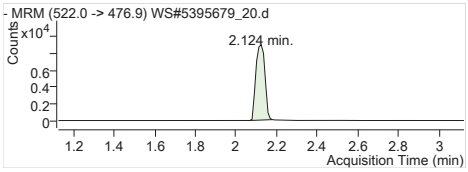


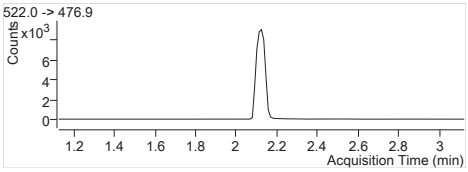
MPFTeDA Internal Standard
RT (Exp. RT): 2.455 (2.455)
Concentration: 1 µg/L
Sample type: Sample



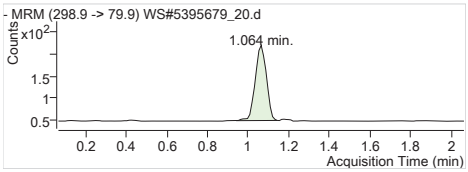


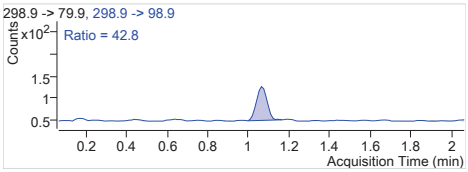
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.400 (1.400)
Concentration: 1 µg/L
Sample type: Sample



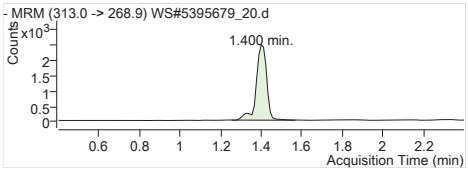


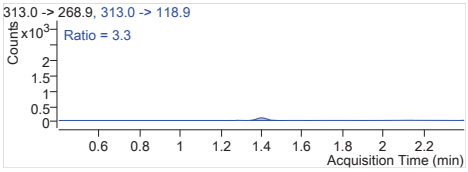
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Sample



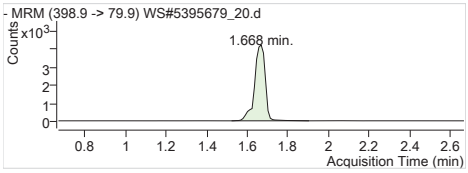


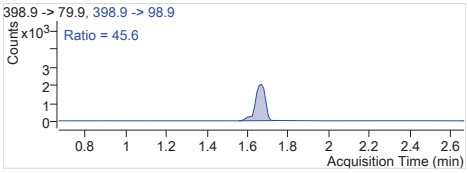
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 1.064 (1.064)
Calc. conc. 2.73 µg/L
Area ratio: 0.44369
Sample type: Sample



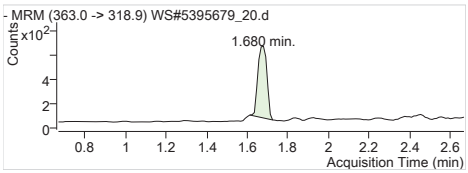


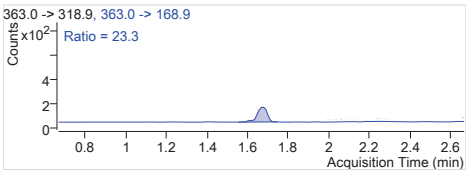
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 1.400 (1.400)
Calc. conc. 8.89 µg/L
Area ratio: 1.53548
Sample type: Sample



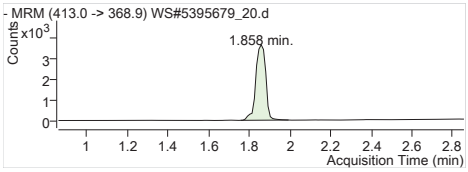


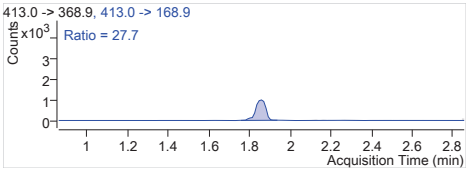
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 54.37 µg/L
Area ratio: 10.38430
Sample type: Sample



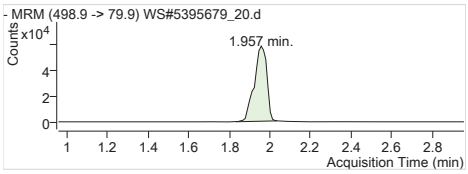


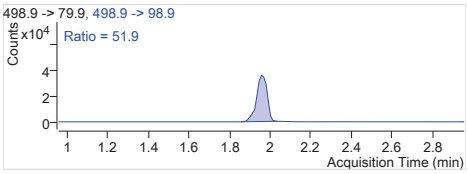
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 1.680 (1.669)
Calc. conc. 1.41 µg/L
Area ratio: 0.22470
Sample type: Sample



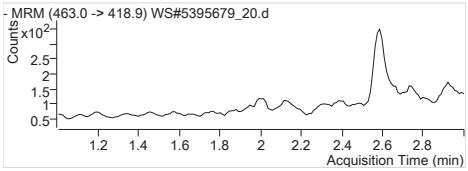


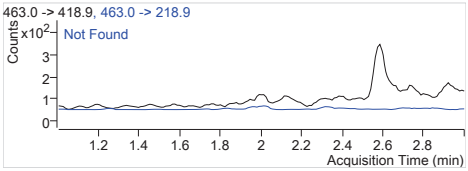
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 1.858 (1.858)
Calc. conc. 8.55 µg/L
Area ratio: 1.43498
Sample type: Sample



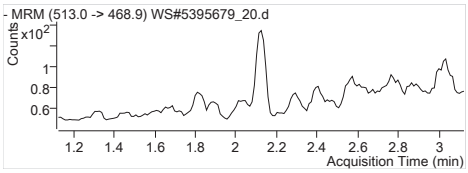


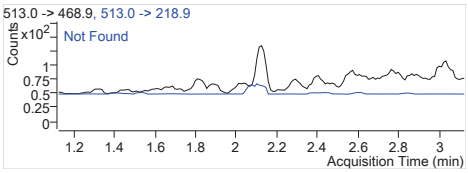
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 1009.17 µg/L
Area ratio: 158.07601
Sample type: Sample



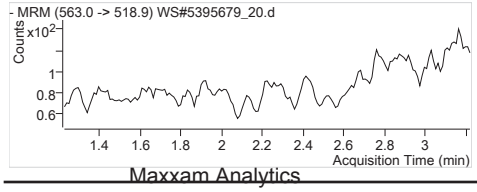


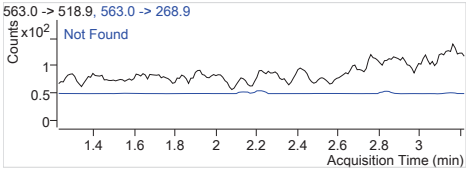
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 0.000 (2.003)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



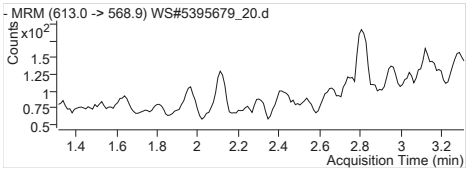


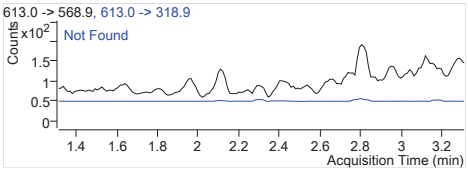
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 0.000 (2.124)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



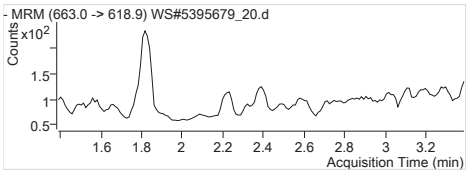


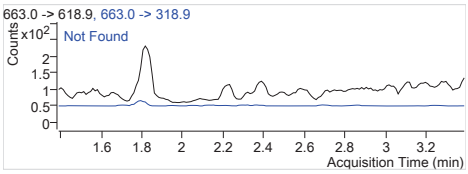
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 0.000 (2.223)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



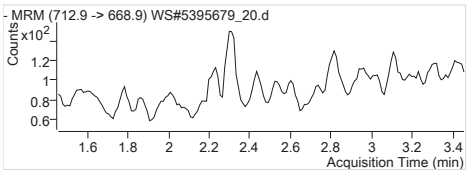


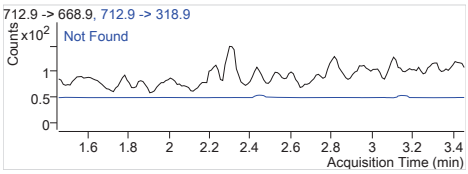
PFDoA 1 613.0 -> 568.9
RT (Exp. RT): 0.000 (2.311)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



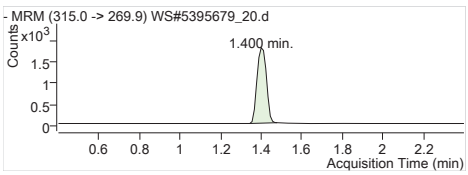


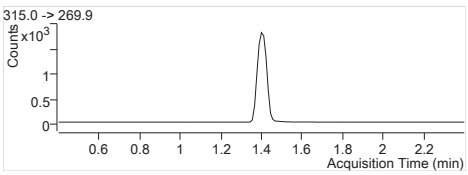
PFTrDA 1 663.0 -> 618.9
RT (Exp. RT): 0.000 (2.389)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



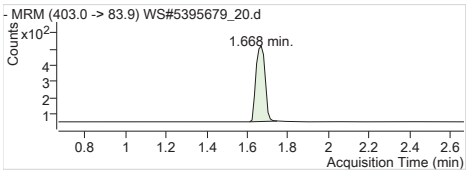


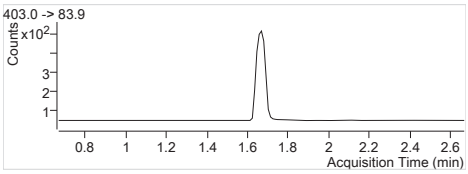
PFTeDA 1 712.9 -> 668.9
RT (Exp. RT): 0.000 (2.456)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



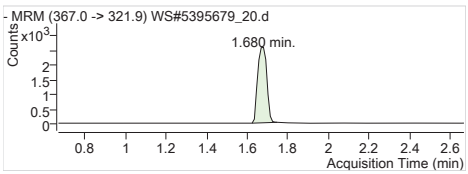


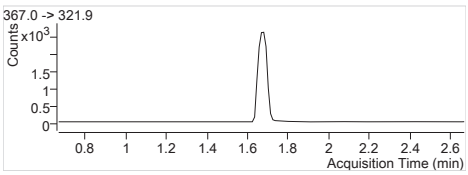
13C2-PFHxA 315.0 -> 269.9
RT (Exp. RT): 1.400 (1.400)
Calc. conc. 97.58 µg/L
Area ratio: 0.29383
Sample type: Sample



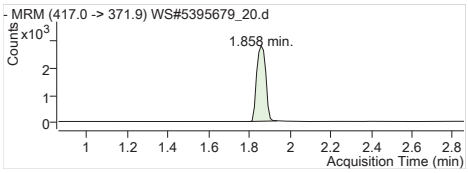


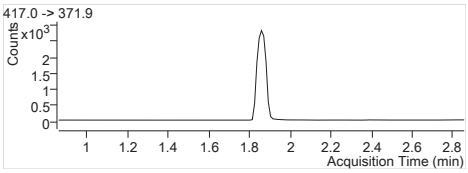
18O2-PFHxS 403.0 -> 83.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 97.87 µg/L
Area ratio: 0.07523
Sample type: Sample



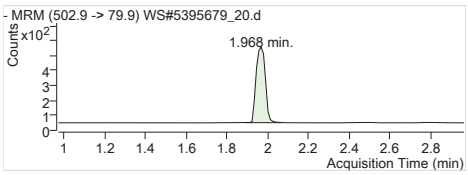


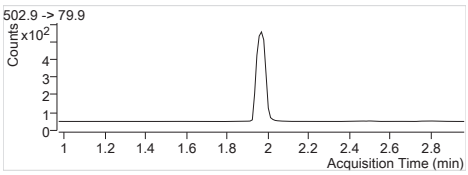
13C4-PFHpA 367.0 -> 321.9
RT (Exp. RT): 1.680 (1.668)
Calc. conc. 104.46 µg/L
Area ratio: 0.41204
Sample type: Sample



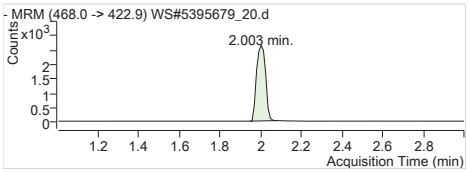


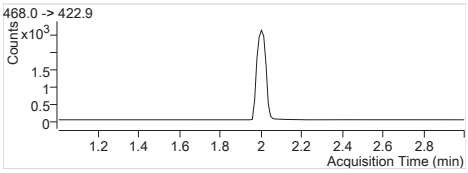
13C4-PFOA 417.0 -> 371.9
RT (Exp. RT): 1.858 (1.858)
Calc. conc. 103.36 µg/L
Area ratio: 0.44069
Sample type: Sample



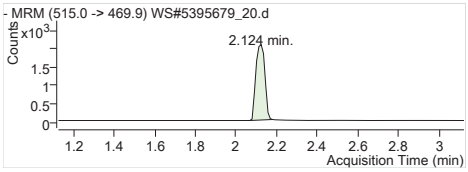


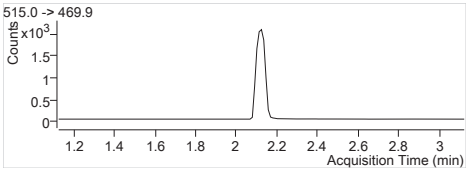
13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.968 (1.968)
Calc. conc. 90.11 µg/L
Area ratio: 0.08242
Sample type: Sample



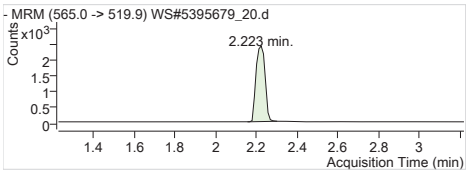


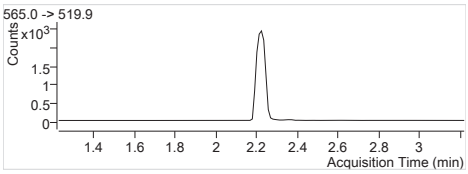
13C5-PFNA 468.0 -> 422.9
RT (Exp. RT): 2.003 (2.003)
Calc. conc. 99.89 µg/L
Area ratio: 0.41501
Sample type: Sample



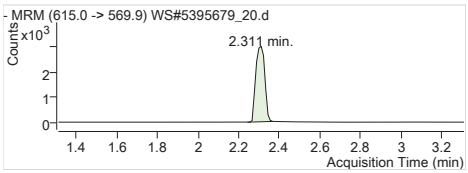


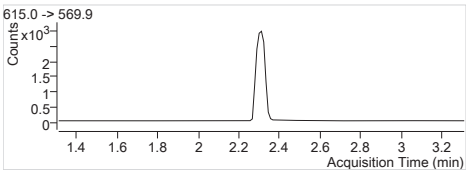
13C2-PFDA 515.0 -> 469.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 88.36 µg/L
Area ratio: 0.22863
Sample type: Sample



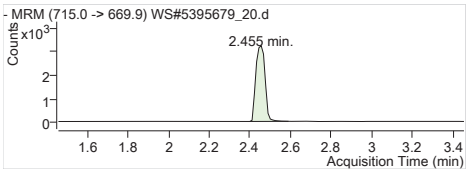


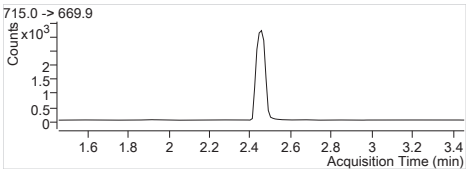
13C2-PFUnA 565.0 -> 519.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 87.12 µg/L
Area ratio: 0.26951
Sample type: Sample



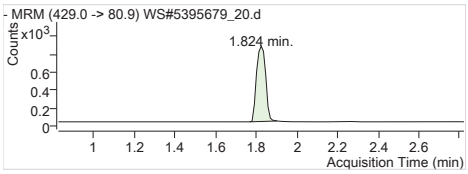


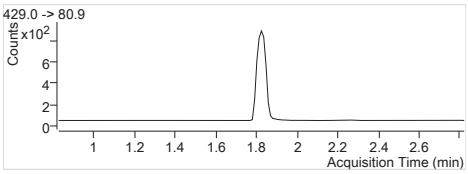
13C2-PFDoA 615.0 -> 569.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 80.10 µg/L
Area ratio: 0.32756
Sample type: Sample



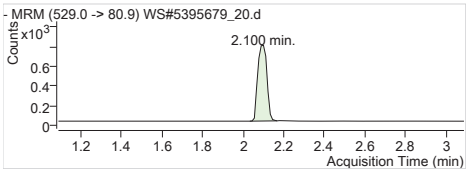


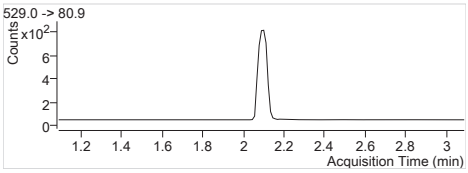
13C2-PFTeDA 715.0 -> 669.9
RT (Exp. RT): 2.455 (2.455)
Calc. conc. 75.82 µg/L
Area ratio: 0.36259
Sample type: Sample



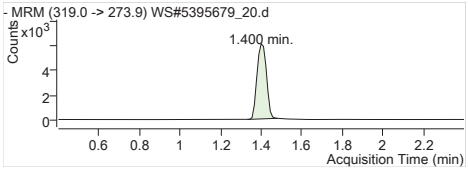


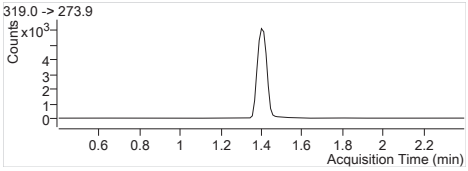
13C2-6:2-FTS 429.0 -> 80.9
RT (Exp. RT): 1.824 (1.824)
Calc. conc. 110.94 µg/L
Area ratio: 0.13433
Sample type: Sample



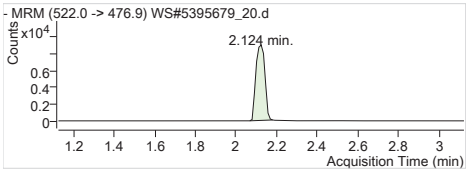


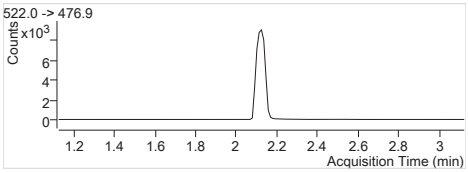
13C2-8:2 FTS 529.0 -> 80.9
RT (Exp. RT): 2.100 (2.089)
Calc. conc. 109.17 µg/L
Area ratio: 0.12329
Sample type: Sample





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.400 (1.400)
Calc. conc. 213.36 µg/L
Area ratio: 0
Sample type: Sample





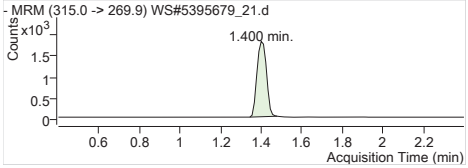
13C9-PFDA 522.0 -> 476.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 229.65 µg/L
Area ratio: 0
Sample type: Sample

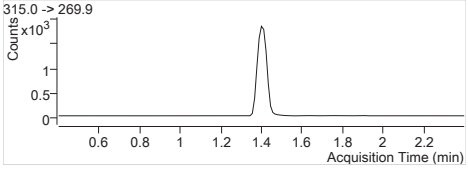
Batch Path	T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics

Sample Name	**5395679:GAD936-01:D1:100x**	**Instrument**	LCMS04
Data File	WS#5395679_21.d	**Operator**	
Sample Type	Sample	**Dilution**	2.4
Acq. Method	PFC_Water_Low.m	**Position**	P3-B9
Acq. Date	2018/02/13 11:34:32 PM	**Injection Volume**	Per Method
Sample Annotation	Report for all, except reanalyzed PFOS		

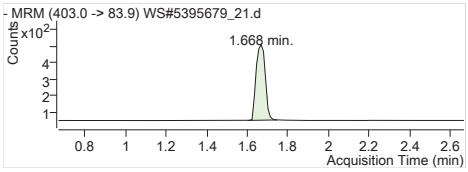
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	5815	1.40	1 µg/L		
MPFHxS	1448	1.67	1 µg/L		
MPFHpA	7670	1.68	1 µg/L		
MPFOA	8193	1.86	1 µg/L		
MPFOS	1531	1.97	1 µg/L		
MPFNA	7962	2.00	1 µg/L		
MPFDA	6760	2.12	1 µg/L		
MPFUnA	7031	2.22	1 µg/L		
MPFDoA	9511	2.31	1 µg/L		
MPFTeDA	9940	2.46	1 µg/L		
13C6-PFHxA IS	20236	1.40	1 µg/L		
13C9-PFDA IS	27517	2.12	1 µg/L		

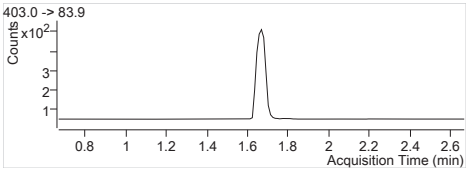
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1	575	1.06	-	2.49 µg/L	-
PFHxA 1	8206	1.40	-	8.21 µg/L	-
PFHxS 1	14150	1.67	-	51.20 µg/L	-
PFHpA 1	1860	1.68	-	1.52 µg/L	-
PFOA 1	10874	1.86	-	7.93 µg/L	-
PFOS 1	250523	1.96	-	1044.64 µg/L	-
PFNA 1			-	ND	-
PFDA 1			-	ND	-
PFUnA 1			-	ND	-
PFDoA 1			-	ND	-
PFTrDA 1			-	ND	-
PFTeDA 1			-	ND	-
13C2-PFHxA	5815	1.40	-	95.43 µg/L	-
18O2-PFHxS	1448	1.67	-	93.09 µg/L	-
13C4-PFHpA	7670	1.68	-	96.10 µg/L	-
13C4-PFOA	8193	1.86	-	94.96 µg/L	-
13C4-PFOS	1531	1.97	-	82.72 µg/L	-
13C5-PFNA	7961	2.00	-	94.69 µg/L	-
13C2-PFDA	6667	2.12	-	93.64 µg/L	-
13C2-PFUnA	7031	2.22	-	82.59 µg/L	-
13C2-PFDoA	9511	2.31	-	84.52 µg/L	-
13C2-PFTeDA	10126	2.46	-	76.95 µg/L	-
13C2-6:2-FTS	2769	1.82	-	113.01 µg/L	-
13C2-8:2 FTS	2317	2.10	-	101.38 µg/L	-
13C6-PFHxA	20236	1.40	-	221.71 µg/L	-
13C9-PFDA	27517	2.12	-	227.99 µg/L	-



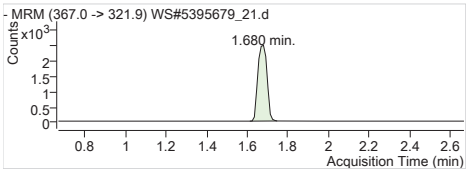


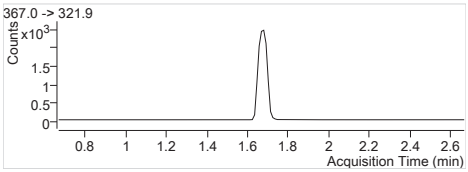
MPFHxA	Internal Standard
RT (Exp. RT):	1.400 (1.400)
Concentration:	1 µg/L
Sample type:	Sample



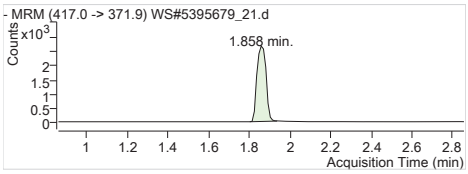


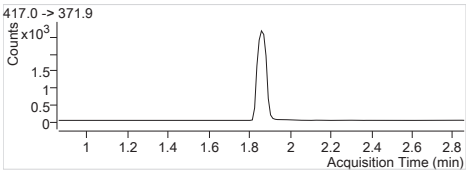
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Sample



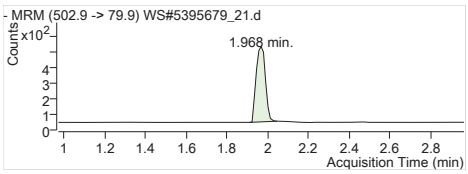


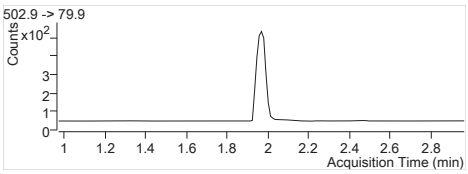
MPFHpA Internal Standard
RT (Exp. RT): 1.680 (1.668)
Concentration: 1 µg/L
Sample type: Sample



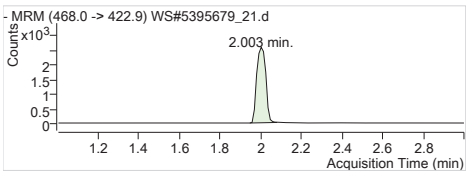


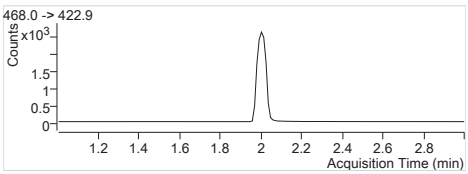
MPFOA Internal Standard
RT (Exp. RT): 1.858 (1.858)
Concentration: 1 µg/L
Sample type: Sample



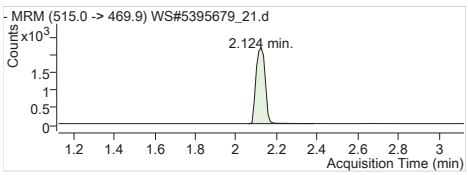


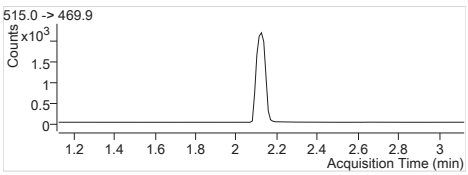
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Sample



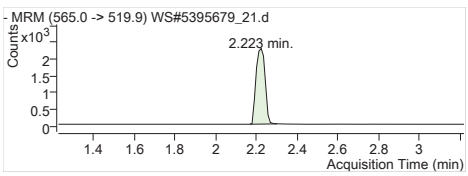


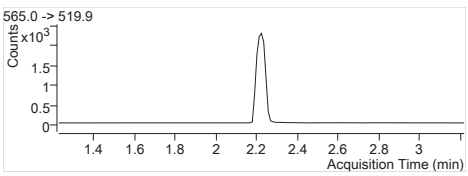
MPFNA Internal Standard
RT (Exp. RT): 2.003 (2.003)
Concentration: 1 µg/L
Sample type: Sample



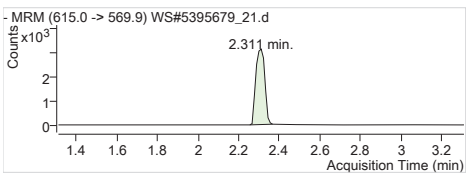


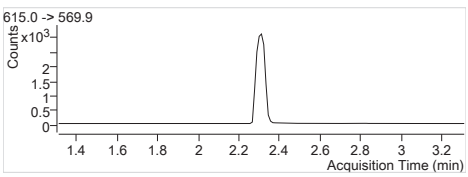
MPFDA Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Sample



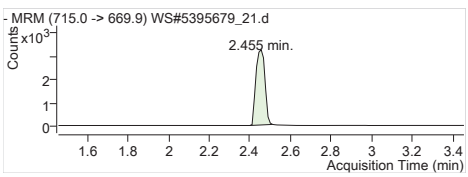


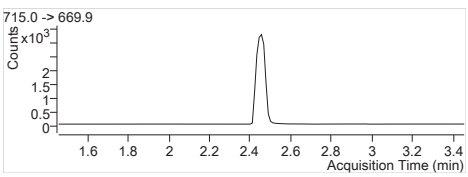
MPFUnA Internal Standard
RT (Exp. RT): 2.223 (2.223)
Concentration: 1 µg/L
Sample type: Sample



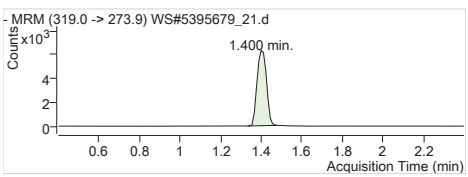


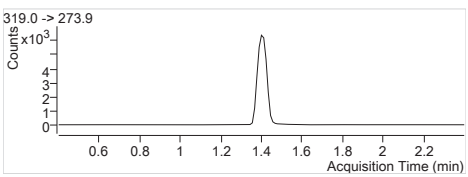
MPFDoA Internal Standard
RT (Exp. RT): 2.311 (2.311)
Concentration: 1 µg/L
Sample type: Sample



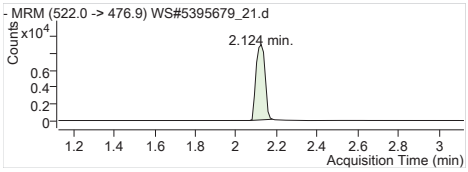


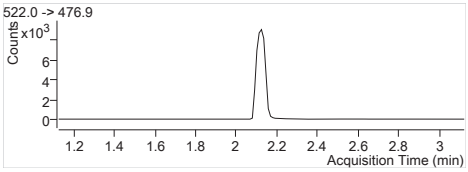
MPFTeDA Internal Standard
RT (Exp. RT): 2.455 (2.455)
Concentration: 1 µg/L
Sample type: Sample



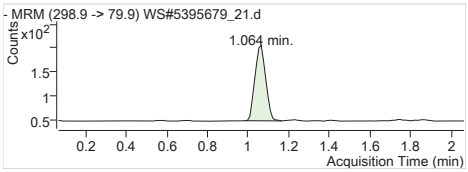


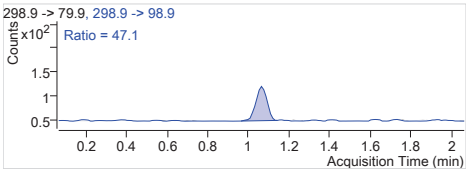
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.400 (1.400)
Concentration: 1 µg/L
Sample type: Sample



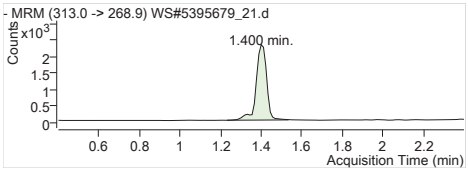


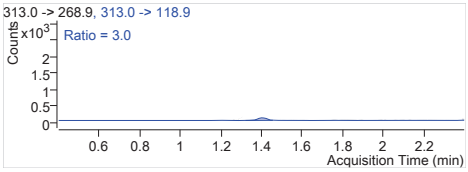
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Sample



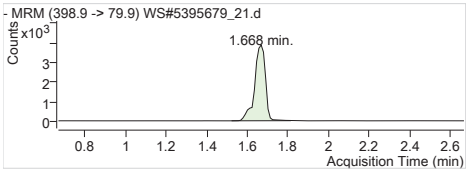


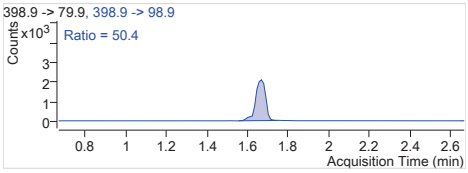
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 1.064 (1.064)
Calc. conc. 2.49 µg/L
Area ratio: 0.39710
Sample type: Sample



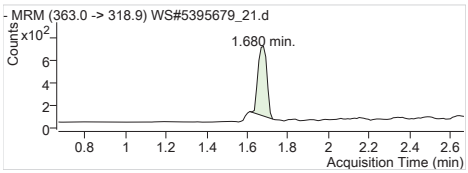


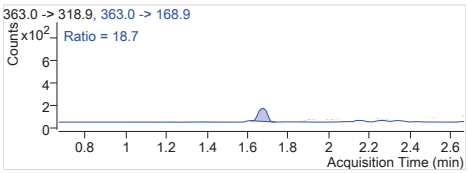
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 1.400 (1.400)
Calc. conc. 8.21 µg/L
Area ratio: 1.41118
Sample type: Sample



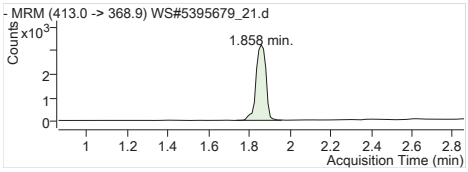


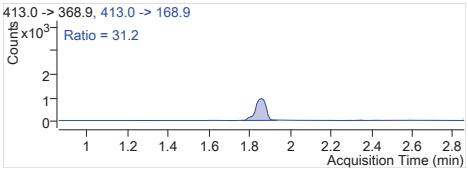
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 51.20 µg/L
Area ratio: 9.77210
Sample type: Sample



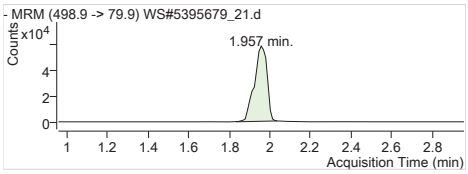


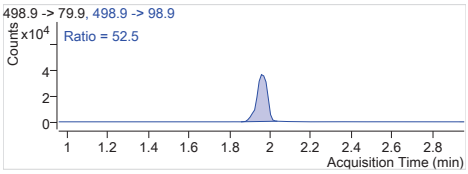
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 1.680 (1.669)
Calc. conc. 1.52 µg/L
Area ratio: 0.24250
Sample type: Sample



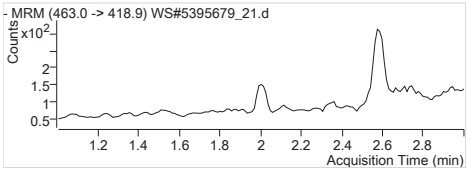


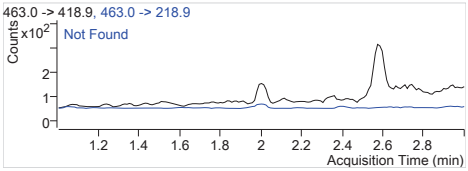
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 1.858 (1.858)
Calc. conc. 7.93 µg/L
Area ratio: 1.32723
Sample type: Sample



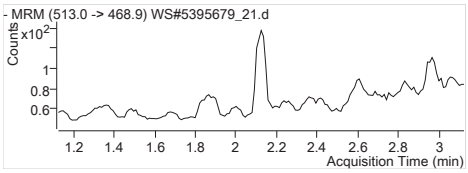


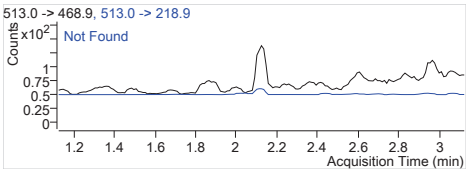
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 1044.64 µg/L
Area ratio: 163.63357
Sample type: Sample



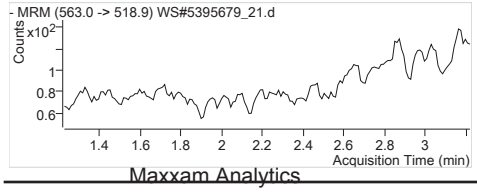


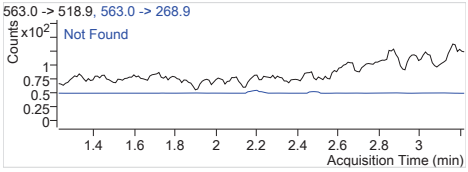
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 0.000 (2.003)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



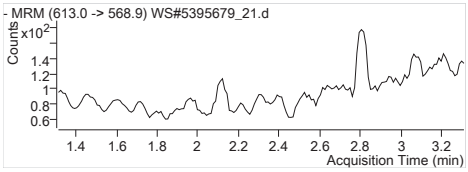


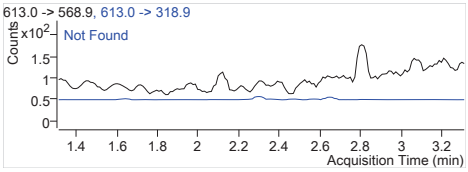
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 0.000 (2.124)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



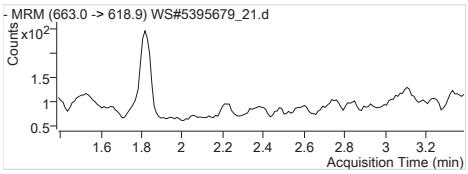


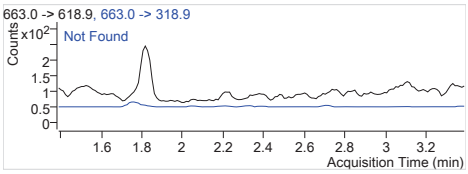
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 0.000 (2.223)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



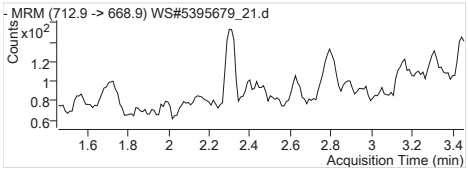


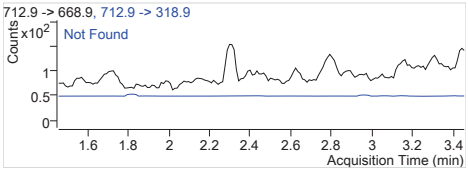
PFDoA 1	613.0 -> 568.9
RT (Exp. RT):	0.000 (2.311)
Calc. conc.	N.D.
Area ratio:	0
Sample type:	Sample



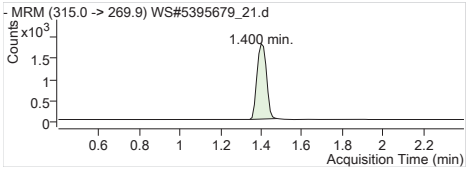


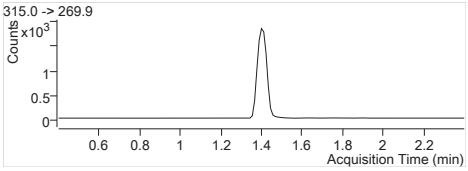
PFTrDA 1	663.0 -> 618.9
RT (Exp. RT):	0.000 (2.389)
Calc. conc.	N.D.
Area ratio:	0
Sample type:	Sample



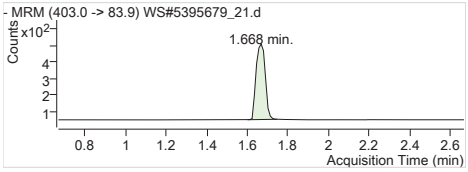


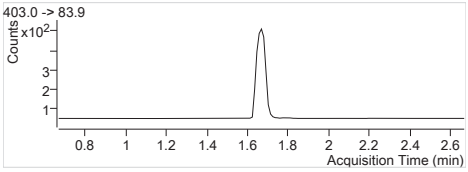
PFTeDA 1	712.9 -> 668.9
RT (Exp. RT):	0.000 (2.456)
Calc. conc.	N.D.
Area ratio:	0
Sample type:	Sample



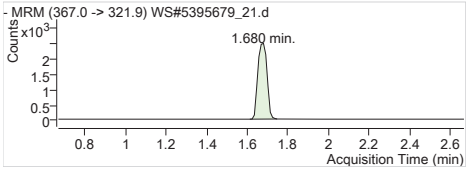


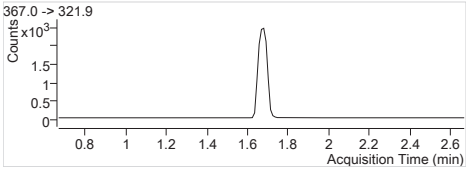
13C2-PFHxA	315.0 -> 269.9
RT (Exp. RT):	1.400 (1.400)
Calc. conc.	95.43 µg/L
Area ratio:	0.28736
Sample type:	Sample



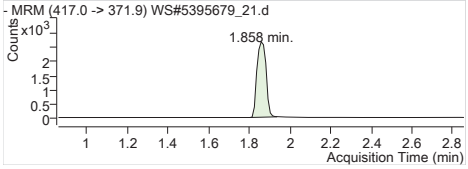


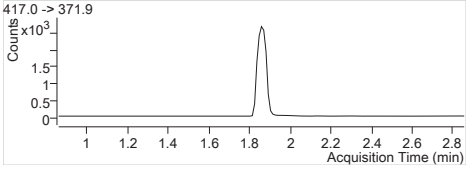
18O2-PFHxS	403.0 -> 83.9
RT (Exp. RT):	1.668 (1.668)
Calc. conc.	93.09 µg/L
Area ratio:	0.07156
Sample type:	Sample



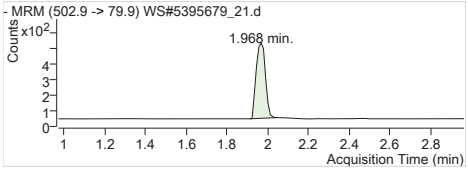


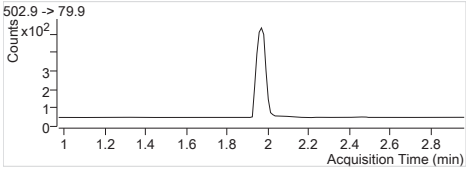
13C4-PFHpA	367.0 -> 321.9
RT (Exp. RT):	1.680 (1.668)
Calc. conc.	96.10 µg/L
Area ratio:	0.37903
Sample type:	Sample



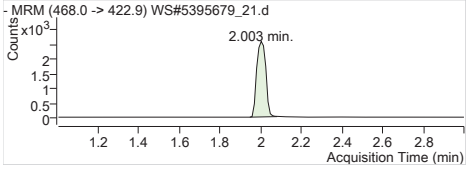


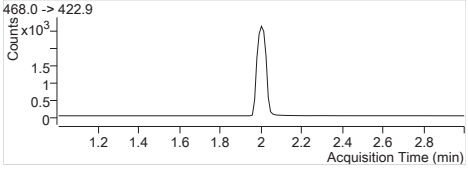
13C4-PFOA	417.0 -> 371.9
RT (Exp. RT):	1.858 (1.858)
Calc. conc.	94.96 µg/L
Area ratio:	0.40487
Sample type:	Sample



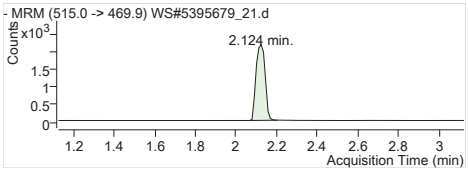


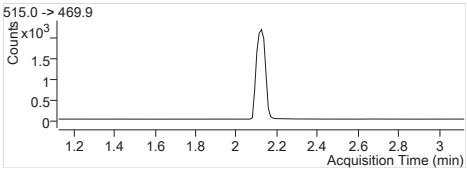
13C4-PFOS	502.9 -> 79.9
RT (Exp. RT):	1.968 (1.968)
Calc. conc.	82.72 µg/L
Area ratio:	0.07566
Sample type:	Sample



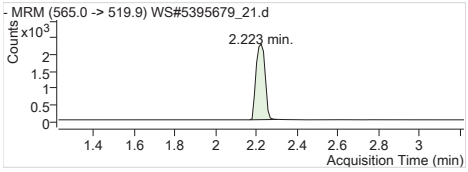


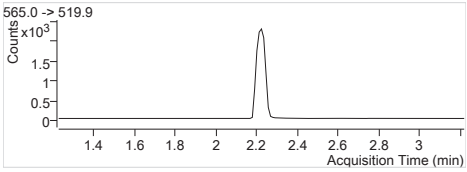
13C5-PFNA	468.0 -> 422.9
RT (Exp. RT):	2.003 (2.003)
Calc. conc.	94.69 µg/L
Area ratio:	0.39341
Sample type:	Sample



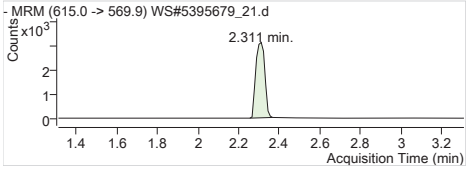


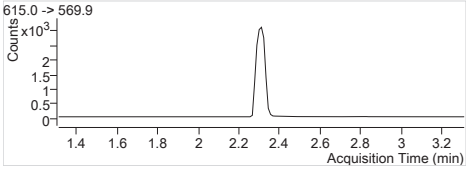
13C2-PFDA 515.0 -> 469.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 93.64 µg/L
Area ratio: 0.24229
Sample type: Sample



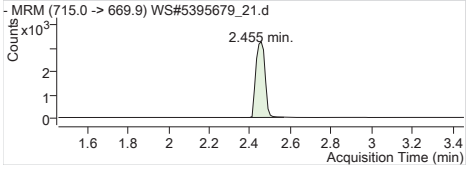


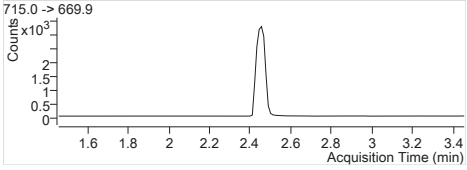
13C2-PFUnA 565.0 -> 519.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 82.59 µg/L
Area ratio: 0.25551
Sample type: Sample



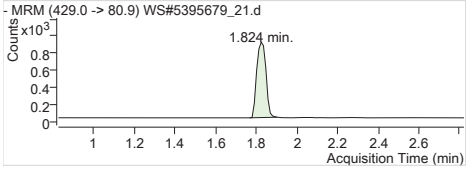


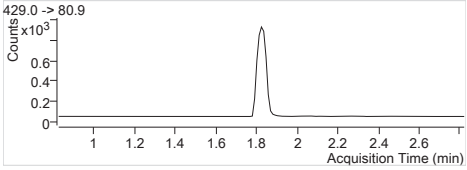
13C2-PFDoA 615.0 -> 569.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 84.52 µg/L
Area ratio: 0.34564
Sample type: Sample



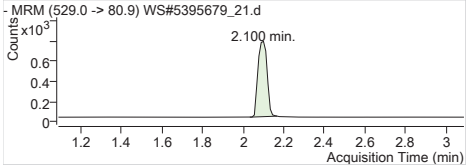


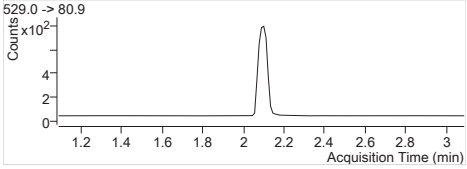
13C2-PFTeDA 715.0 -> 669.9
RT (Exp. RT): 2.455 (2.455)
Calc. conc. 76.95 µg/L
Area ratio: 0.36799
Sample type: Sample



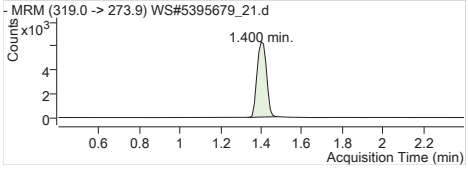


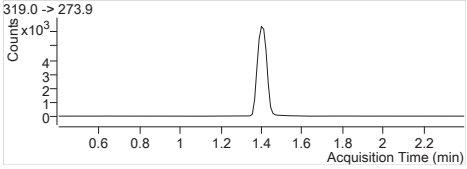
13C2-6:2-FTS 429.0 -> 80.9
RT (Exp. RT): 1.824 (1.824)
Calc. conc. 113.01 µg/L
Area ratio: 0.13684
Sample type: Sample



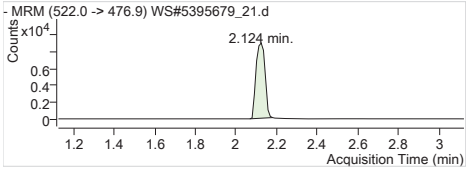


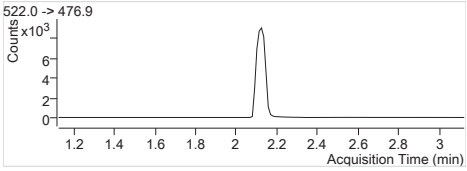
13C2-8:2 FTS 529.0 -> 80.9
RT (Exp. RT): 2.100 (2.089)
Calc. conc. 101.38 µg/L
Area ratio: 0.11450
Sample type: Sample





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.400 (1.400)
Calc. conc. 221.71 µg/L
Area ratio: 0
Sample type: Sample





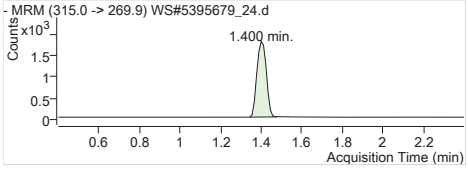
13C9-PFDA 522.0 -> 476.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 227.99 µg/L
Area ratio: 0
Sample type: Sample

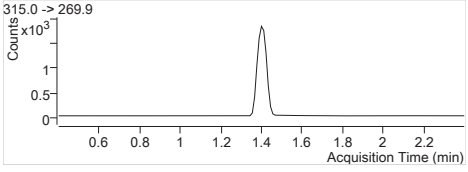
Batch Path	T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics

Sample Name	**5395679:GAD937-01:10x**	**Instrument**	LCMS04
Data File	WS#5395679_24.d	**Operator**	
Sample Type	Sample	**Dilution**	0.24
Acq. Method	PFC_Water_Low.m	**Position**	P3-C1
Acq. Date	2018/02/13 11:49:19 PM	**Injection Volume**	Per Method
Sample Annotation	Not used		

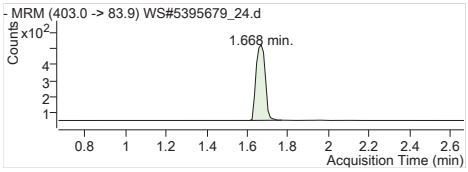
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	5777	1.40	1 µg/L		
MPFHxS	1496	1.67	1 µg/L		
MPFHpA	7310	1.67	1 µg/L		
MPFOA	7836	1.86	1 µg/L		
MPFOS	1721	1.97	1 µg/L		
MPFNA	7885	2.00	1 µg/L		
MPFDA	6676	2.12	1 µg/L		
MPFUnA	7708	2.22	1 µg/L		
MPFDoA	10253	2.31	1 µg/L		
MPFTeDA	11324	2.46	1 µg/L		
13C6-PFHxA IS	19867	1.40	1 µg/L		
13C9-PFDA IS	28187	2.12	1 µg/L		

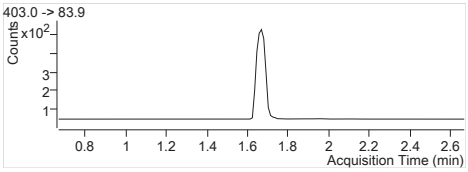
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1			-	ND	-
PFHxA 1			-	ND	-
PFHxS 1			-	ND	-
PFHpA 1			-	ND	-
PFOA 1			-	ND	-
PFOS 1			-	ND	-
PFNA 1			-	ND	-
PFDA 1			-	ND	-
PFUnA 1			-	ND	-
PFDoA 1			-	ND	-
PFTrDA 1			-	ND	-
PFTeDA 1			-	ND	-
13C2-PFHxA	5777	1.40	-	96.57 µg/L	-
18O2-PFHxS	1496	1.67	-	97.97 µg/L	-
13C4-PFHpA	7310	1.67	-	93.29 µg/L	-
13C4-PFOA	7836	1.86	-	92.51 µg/L	-
13C4-PFOS	1721	1.97	-	94.71 µg/L	-
13C5-PFNA	7885	2.00	-	95.53 µg/L	-
13C2-PFDA	6620	2.12	-	90.77 µg/L	-
13C2-PFUnA	7708	2.22	-	88.39 µg/L	-
13C2-PFDoA	10253	2.31	-	88.95 µg/L	-
13C2-PFTeDA	11677	2.46	-	86.62 µg/L	-
13C2-6:2-FTS	2852	1.82	-	118.56 µg/L	-
13C2-8:2 FTS	2164	2.10	-	96.45 µg/L	-
13C6-PFHxA	19867	1.40	-	21.77 µg/L	-
13C9-PFDA	28187	2.12	-	23.35 µg/L	-



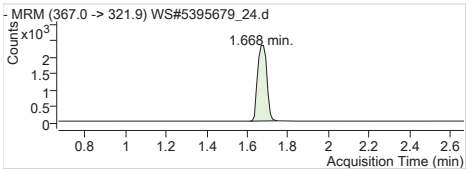


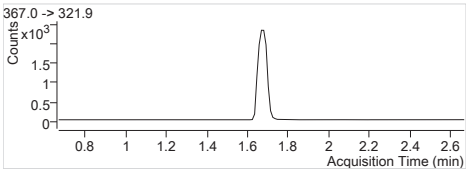
MPFHxA	Internal Standard
RT (Exp. RT):	1.400 (1.400)
Concentration:	1 µg/L
Sample type:	Sample



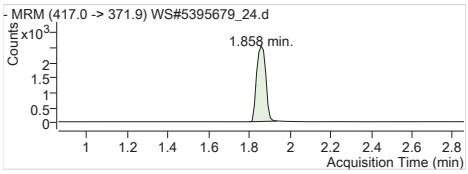


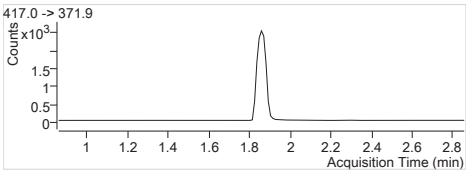
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Sample



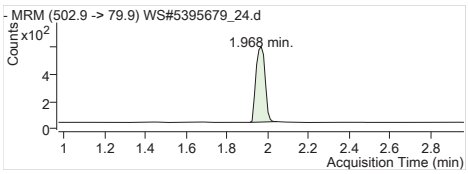


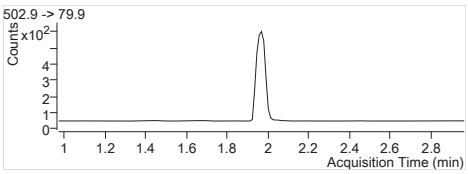
MPFHpA Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Sample



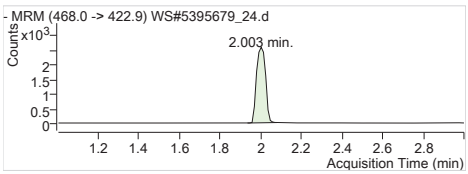


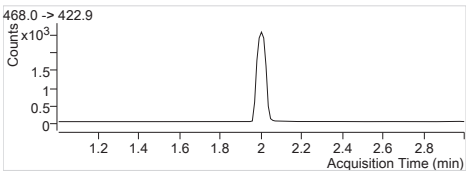
MPFOA Internal Standard
RT (Exp. RT): 1.858 (1.858)
Concentration: 1 µg/L
Sample type: Sample



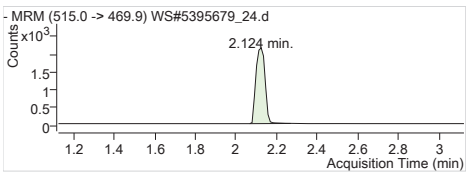


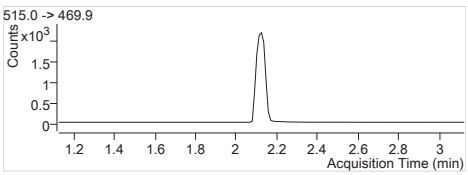
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Sample



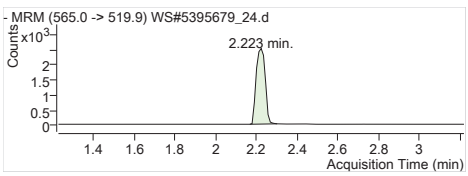


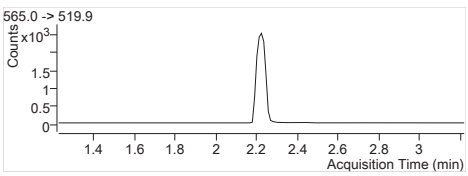
MPFNA Internal Standard
RT (Exp. RT): 2.003 (2.003)
Concentration: 1 µg/L
Sample type: Sample



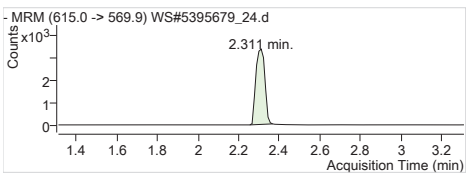


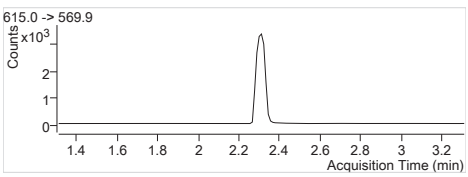
MPFDA Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Sample



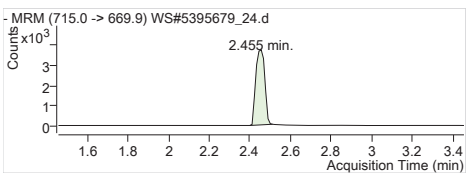


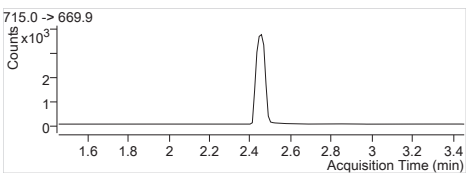
MPFUnA Internal Standard
RT (Exp. RT): 2.223 (2.223)
Concentration: 1 µg/L
Sample type: Sample



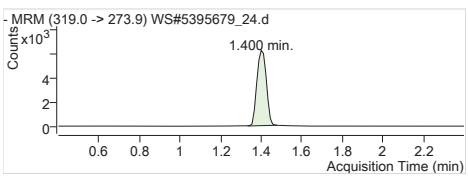


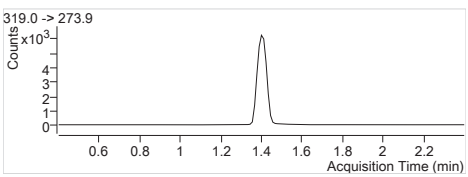
MPFDoA Internal Standard
RT (Exp. RT): 2.311 (2.311)
Concentration: 1 µg/L
Sample type: Sample



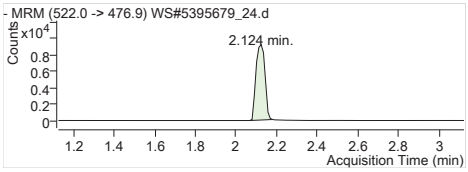


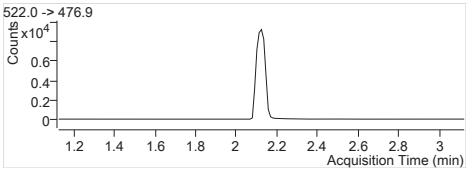
MPFTeDA Internal Standard
RT (Exp. RT): 2.455 (2.455)
Concentration: 1 µg/L
Sample type: Sample



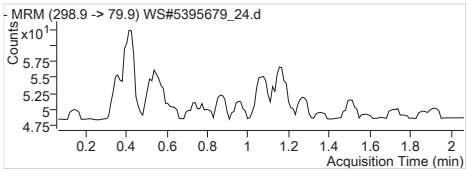


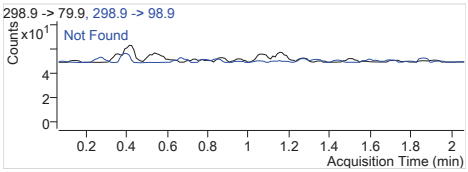
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.400 (1.400)
Concentration: 1 µg/L
Sample type: Sample



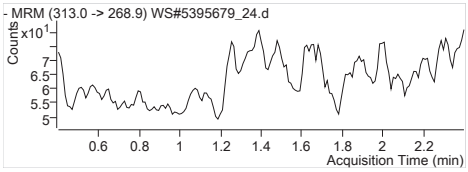


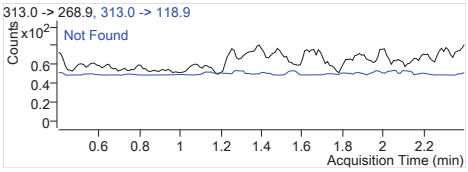
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Sample



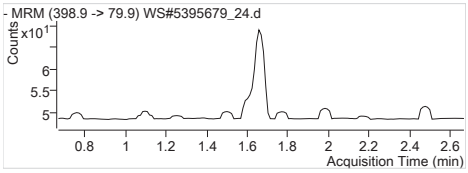


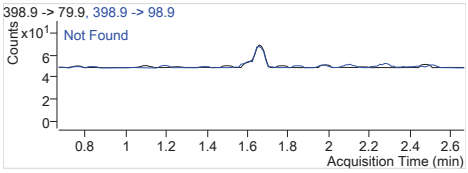
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 0.000 (1.064)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



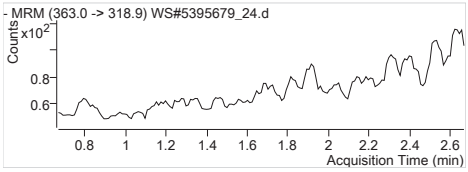


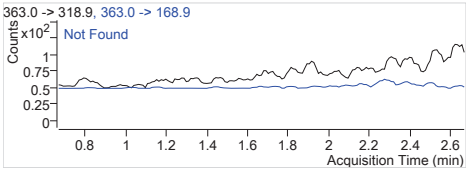
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 0.000 (1.400)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



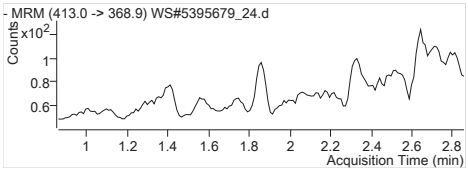


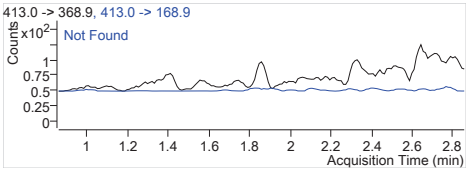
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 0.000 (1.668)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



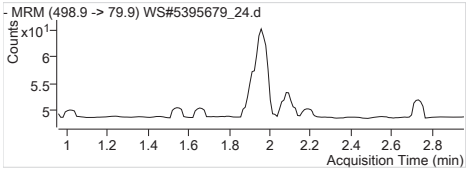


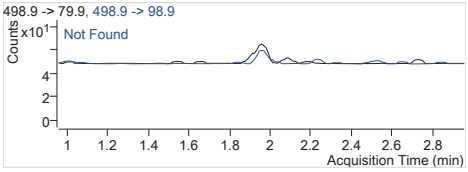
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 0.000 (1.669)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



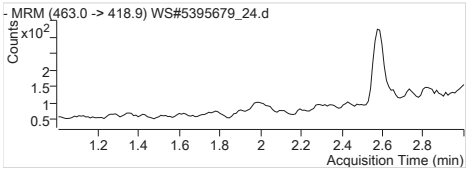


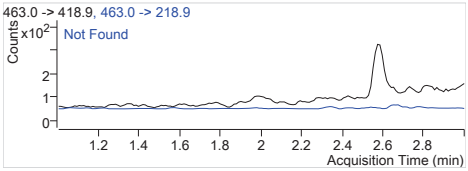
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 0.000 (1.858)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



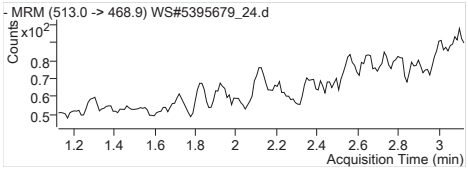


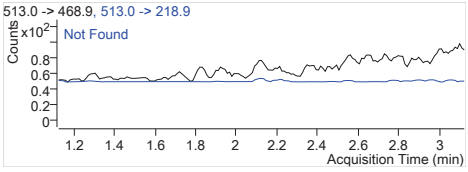
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 0.000 (1.957)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



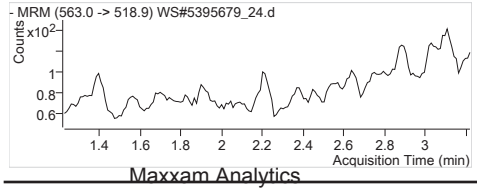


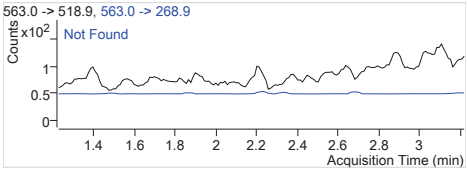
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 0.000 (2.003)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



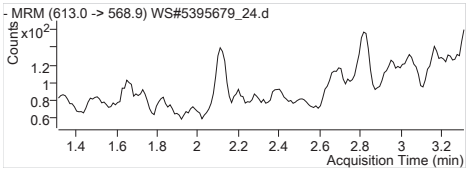


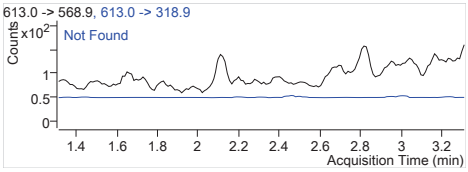
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 0.000 (2.124)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



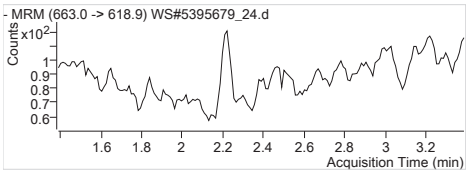


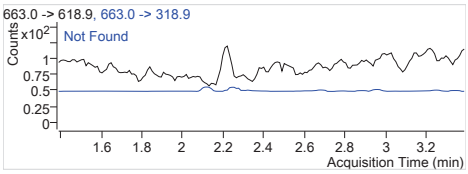
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 0.000 (2.223)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



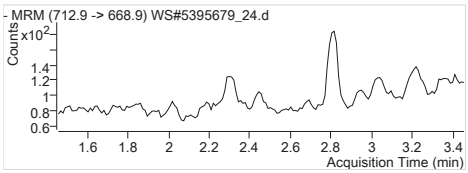


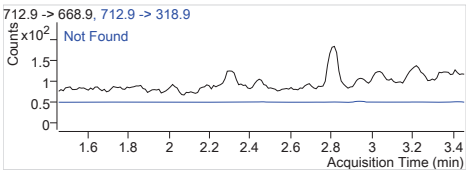
PFDoA 1 613.0 -> 568.9
RT (Exp. RT): 0.000 (2.311)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



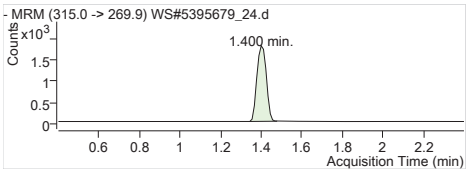


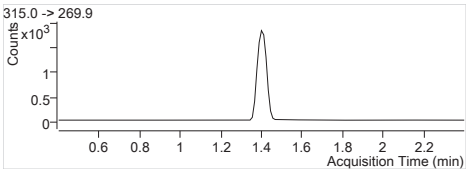
PFTrDA 1 663.0 -> 618.9
RT (Exp. RT): 0.000 (2.389)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



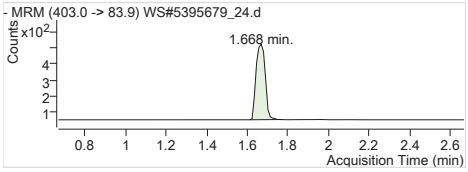


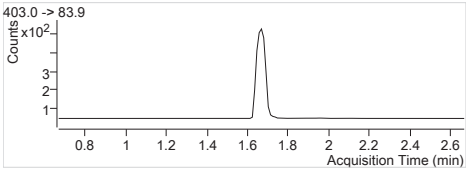
PFTeDA 1 712.9 -> 668.9
RT (Exp. RT): 0.000 (2.456)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



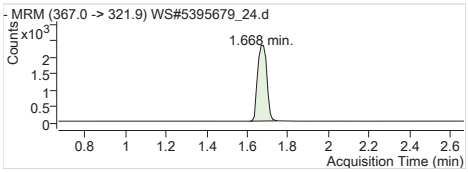


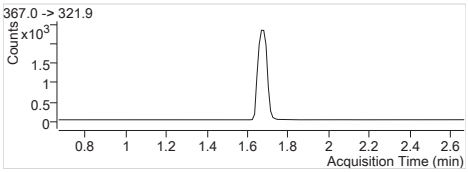
13C2-PFHxA 315.0 -> 269.9
RT (Exp. RT): 1.400 (1.400)
Calc. conc. 96.57 µg/L
Area ratio: 0.29078
Sample type: Sample



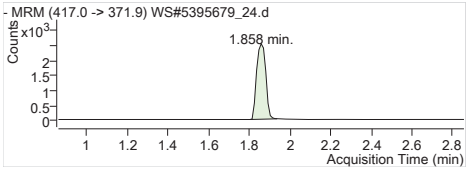


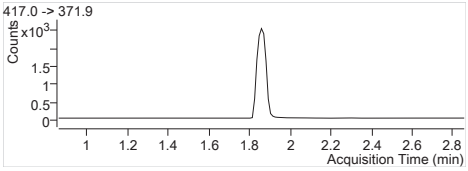
18O2-PFHxS 403.0 -> 83.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 97.97 µg/L
Area ratio: 0.07530
Sample type: Sample



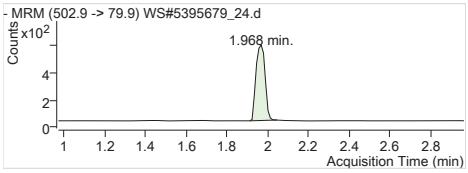


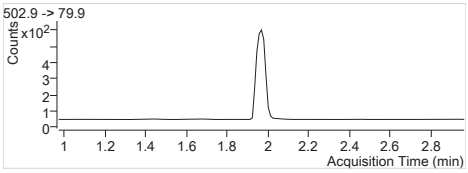
13C4-PFHpA 367.0 -> 321.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 93.29 µg/L
Area ratio: 0.36795
Sample type: Sample



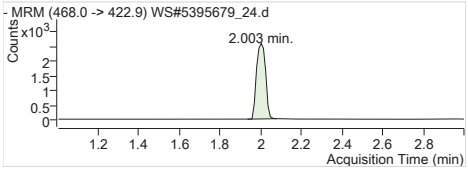


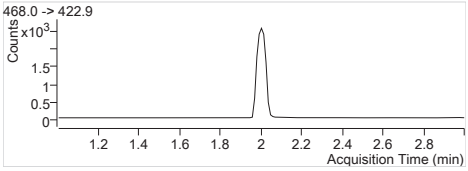
13C4-PFOA 417.0 -> 371.9
RT (Exp. RT): 1.858 (1.858)
Calc. conc. 92.51 µg/L
Area ratio: 0.39442
Sample type: Sample



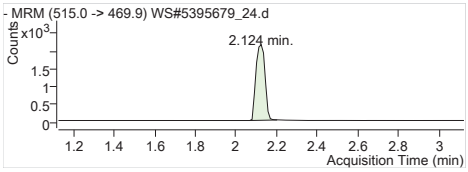


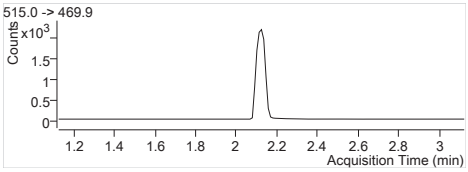
13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.968 (1.968)
Calc. conc. 94.71 µg/L
Area ratio: 0.08663
Sample type: Sample



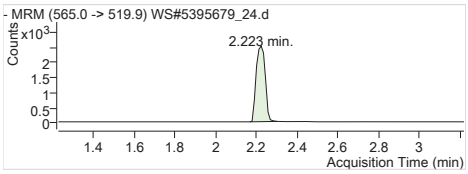


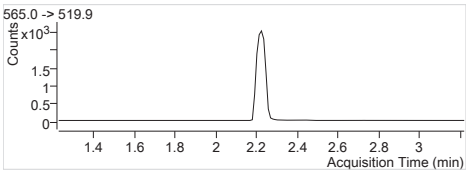
13C5-PFNA 468.0 -> 422.9
RT (Exp. RT): 2.003 (2.003)
Calc. conc. 95.53 µg/L
Area ratio: 0.39689
Sample type: Sample



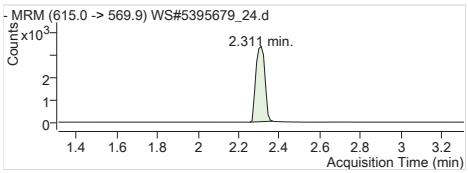


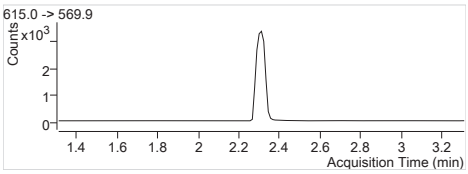
13C2-PFDA 515.0 -> 469.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 90.77 µg/L
Area ratio: 0.23486
Sample type: Sample



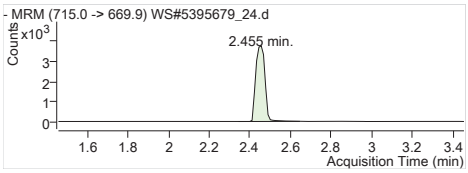


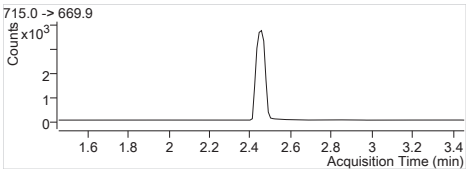
13C2-PFUnA 565.0 -> 519.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 88.39 µg/L
Area ratio: 0.27346
Sample type: Sample



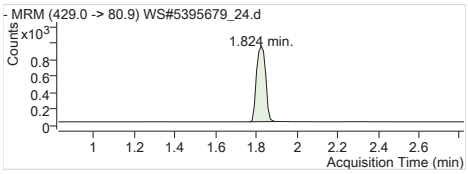


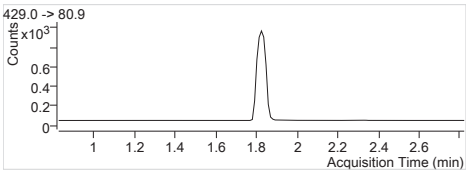
13C2-PFDoA 615.0 -> 569.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 88.95 µg/L
Area ratio: 0.36375
Sample type: Sample



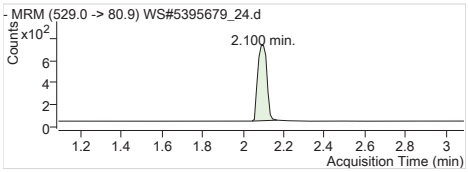


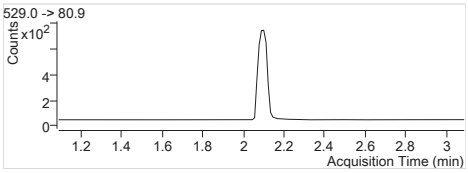
13C2-PFTeDA 715.0 -> 669.9
RT (Exp. RT): 2.455 (2.455)
Calc. conc. 86.62 µg/L
Area ratio: 0.41427
Sample type: Sample



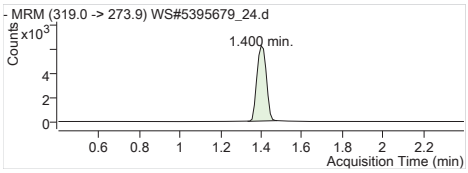


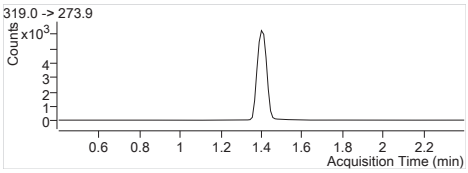
13C2-6:2-FTS 429.0 -> 80.9
RT (Exp. RT): 1.824 (1.824)
Calc. conc. 118.56 µg/L
Area ratio: 0.14355
Sample type: Sample



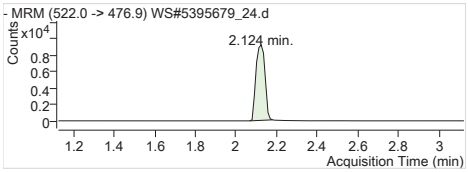


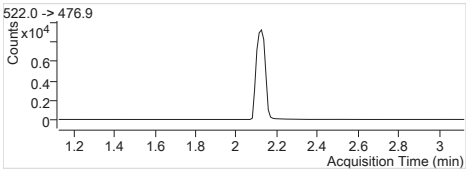
13C2-8:2 FTS 529.0 -> 80.9
RT (Exp. RT): 2.100 (2.089)
Calc. conc. 96.45 µg/L
Area ratio: 0.10892
Sample type: Sample





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.400 (1.400)
Calc. conc. 21.77 µg/L
Area ratio: 0
Sample type: Sample





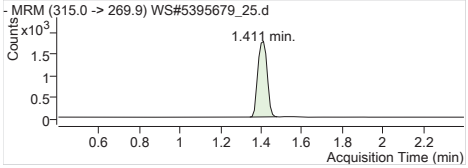
13C9-PFDA 522.0 -> 476.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 23.35 µg/L
Area ratio: 0
Sample type: Sample

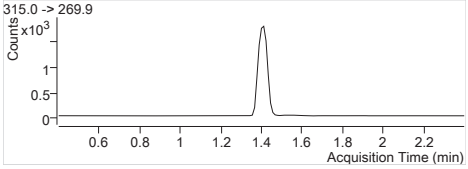
Batch Path	T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics

Sample Name	**5395679:GAD937-01**	**Instrument**	LCMS04
Data File	WS#5395679_25.d	**Operator**	
Sample Type	Sample	**Dilution**	0.024
Acq. Method	PFC_Water_Low.m	**Position**	P3-C2
Acq. Date	2018/02/13 11:54:15 PM	**Injection Volume**	Per Method
Sample Annotation	Report for all		

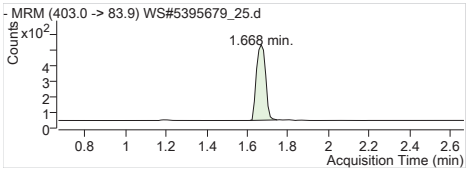
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	5590	1.41	1 µg/L		
MPFHxS	1512	1.67	1 µg/L		
MPFHpA	7709	1.68	1 µg/L		
MPFOA	8376	1.86	1 µg/L		
MPFOS	1985	1.97	1 µg/L		
MPFNA	8260	2.00	1 µg/L		
MPFDA	6804	2.12	1 µg/L		
MPFUnA	7954	2.22	1 µg/L		
MPFDoA	9479	2.31	1 µg/L		
MPFTeDA	10235	2.46	1 µg/L		
13C6-PFHxA IS	18308	1.41	1 µg/L		
13C9-PFDA IS	25749	2.12	1 µg/L		

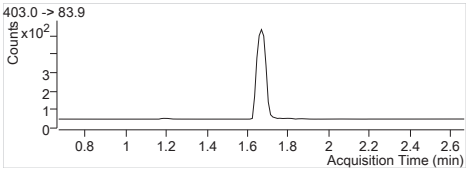
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1			-	ND	-
PFHxA 1			-	ND	-
PFHxS 1	835	1.67	-	0.03 µg/L	-
PFHpA 1			-	ND	-
PFOA 1			-	ND	-
PFOS 1	825	1.96	-	0.03 µg/L	-
PFNA 1			-	ND	-
PFDA 1			-	ND	-
PFUnA 1			-	ND	-
PFDoA 1			-	ND	-
PFTrDA 1			-	ND	-
PFTeDA 1			-	ND	-
13C2-PFHxA	5590	1.41	-	101.40 µg/L	-
18O2-PFHxS	1512	1.67	-	107.44 µg/L	-
13C4-PFHpA	7709	1.68	-	106.76 µg/L	-
13C4-PFOA	8376	1.86	-	107.31 µg/L	-
13C4-PFOS	1985	1.97	-	118.54 µg/L	-
13C5-PFNA	8260	2.00	-	108.59 µg/L	-
13C2-PFDA	6672	2.12	-	100.15 µg/L	-
13C2-PFUnA	7954	2.22	-	99.85 µg/L	-
13C2-PFDoA	9479	2.31	-	90.02 µg/L	-
13C2-PFTeDA	10482	2.46	-	85.12 µg/L	-
13C2-6:2-FTS	2620	1.82	-	118.19 µg/L	-
13C2-8:2 FTS	2510	2.10	-	121.39 µg/L	-
13C6-PFHxA	18308	1.41	-	2.01 µg/L	-
13C9-PFDA	25749	2.12	-	2.13 µg/L	-



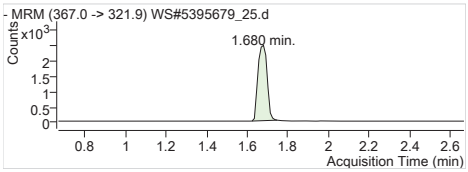


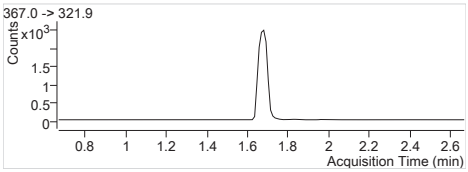
MPFHxA	Internal Standard
RT (Exp. RT):	1.411 (1.400)
Concentration:	1 µg/L
Sample type:	Sample



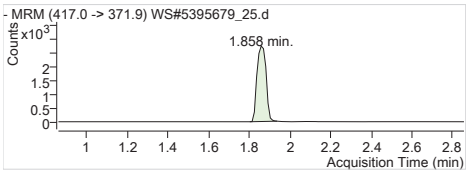


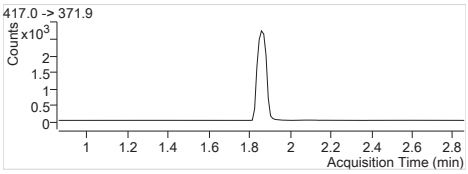
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Sample



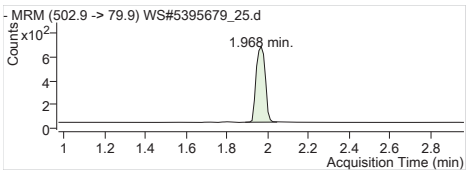


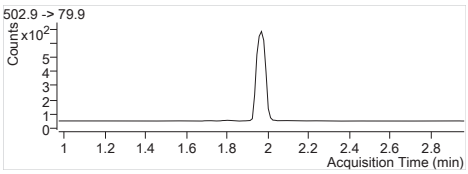
MPFHpA Internal Standard
RT (Exp. RT): 1.680 (1.668)
Concentration: 1 µg/L
Sample type: Sample



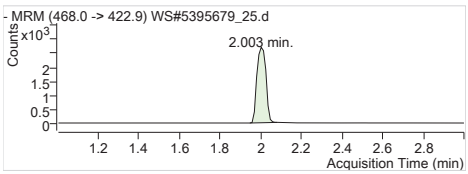


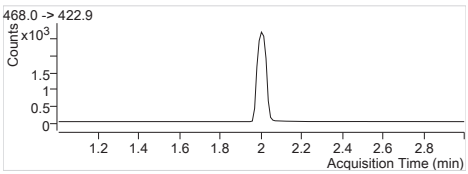
MPFOA Internal Standard
RT (Exp. RT): 1.858 (1.858)
Concentration: 1 µg/L
Sample type: Sample



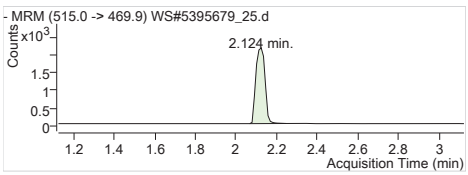


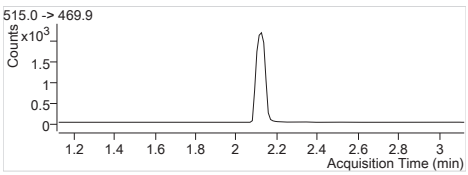
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Sample



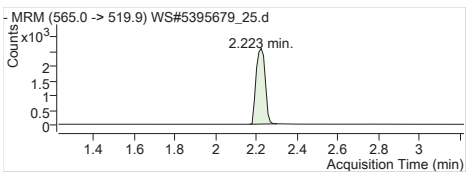


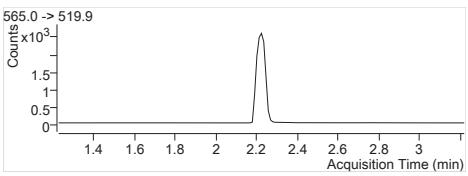
MPFNA Internal Standard
RT (Exp. RT): 2.003 (2.003)
Concentration: 1 µg/L
Sample type: Sample



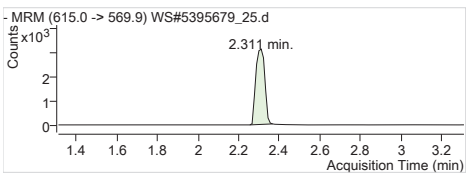


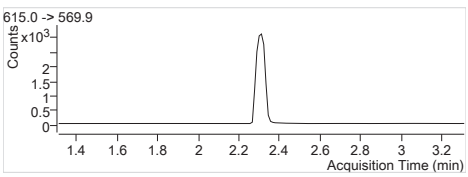
MPFDA Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Sample



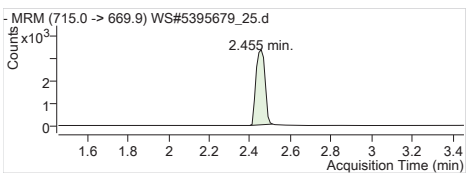


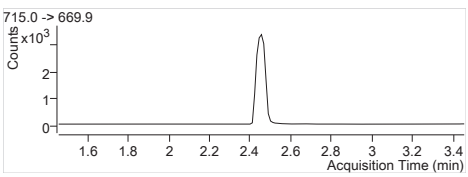
MPFUnA Internal Standard
RT (Exp. RT): 2.223 (2.223)
Concentration: 1 µg/L
Sample type: Sample



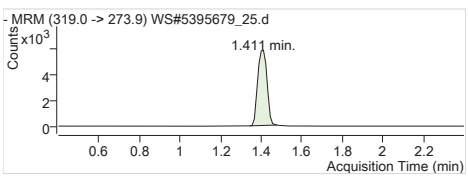


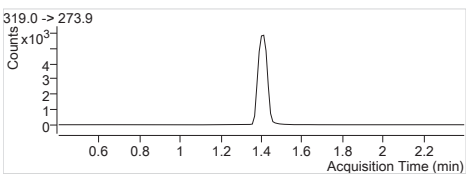
MPFDoA Internal Standard
RT (Exp. RT): 2.311 (2.311)
Concentration: 1 µg/L
Sample type: Sample



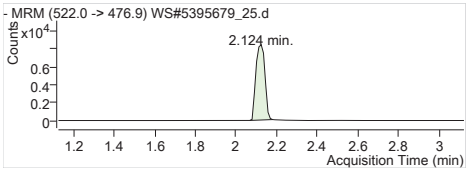


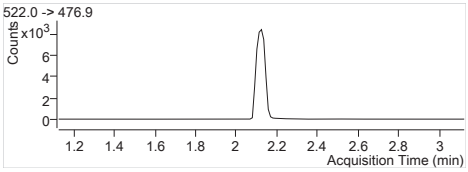
MPFTeDA Internal Standard
RT (Exp. RT): 2.455 (2.455)
Concentration: 1 µg/L
Sample type: Sample



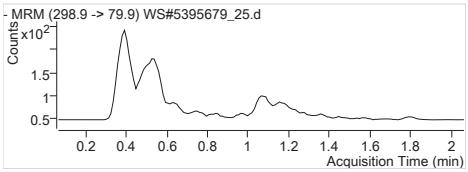


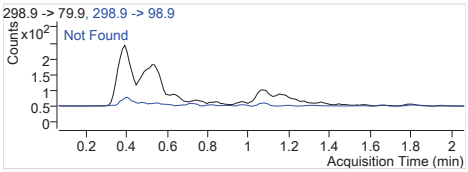
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.400)
Concentration: 1 µg/L
Sample type: Sample



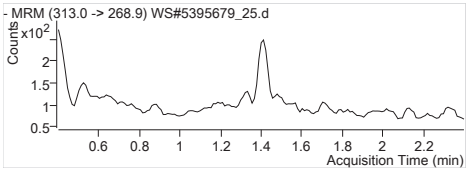


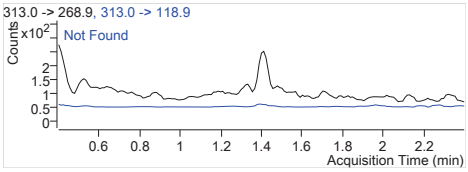
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Sample



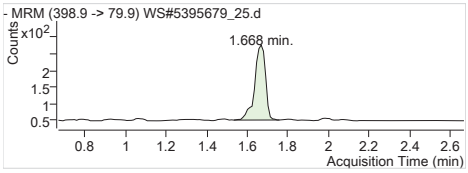


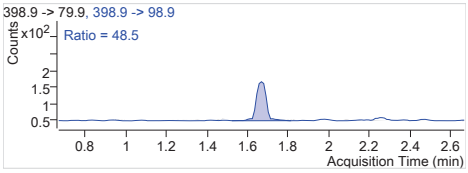
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 0.000 (1.064)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



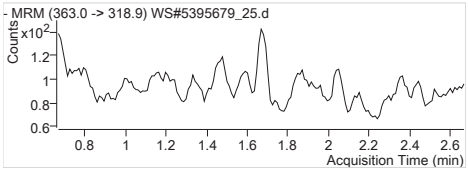


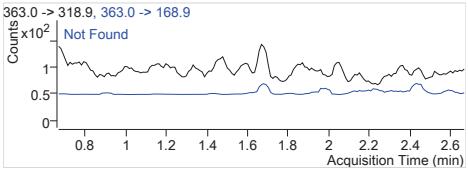
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 0.000 (1.400)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



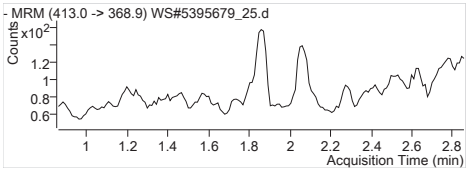


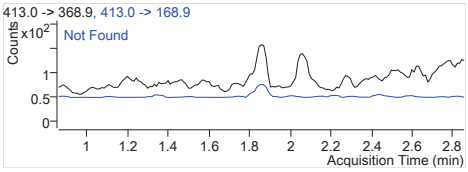
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 0.03 µg/L
Area ratio: 0.55225
Sample type: Sample



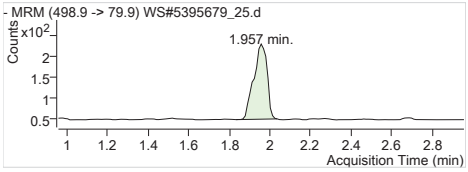


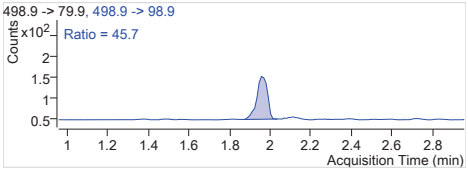
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 0.000 (1.669)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



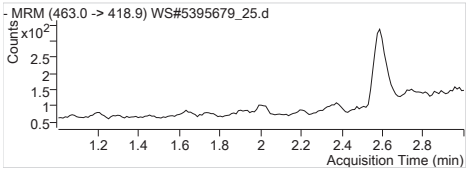


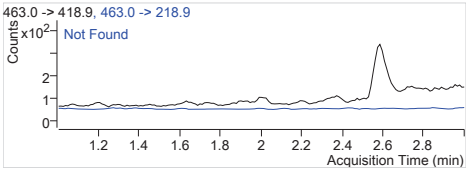
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 0.000 (1.858)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



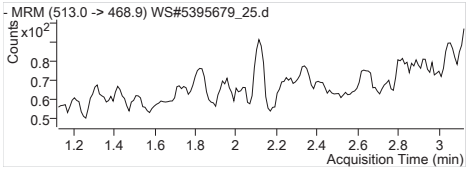


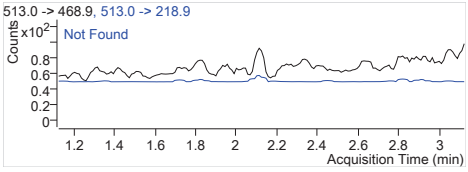
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 0.03 µg/L
Area ratio: 0.41562
Sample type: Sample



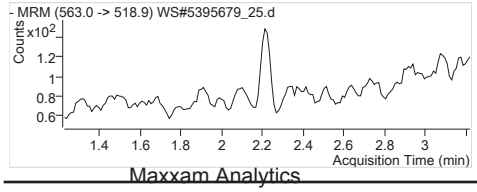


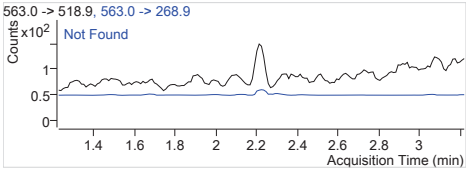
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 0.000 (2.003)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



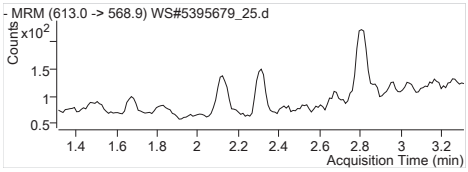


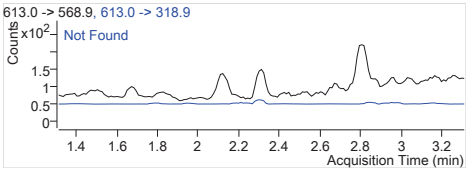
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 0.000 (2.124)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



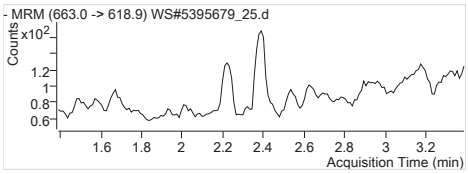


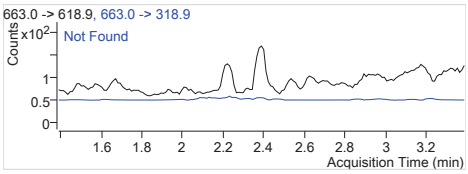
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 0.000 (2.223)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



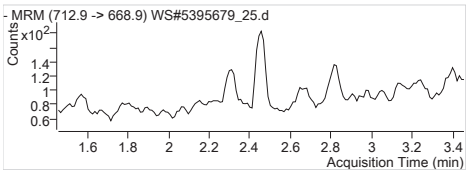


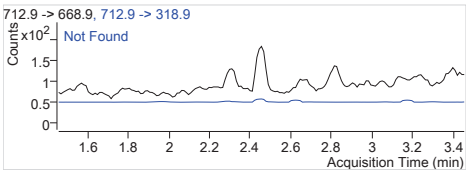
PFDoA 1 613.0 -> 568.9
RT (Exp. RT): 0.000 (2.311)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



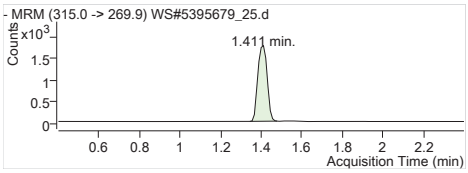


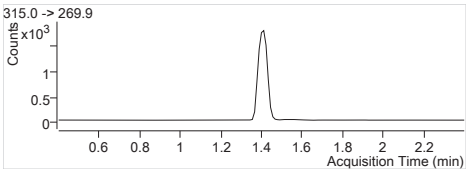
PFTrDA 1 663.0 -> 618.9
RT (Exp. RT): 0.000 (2.389)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



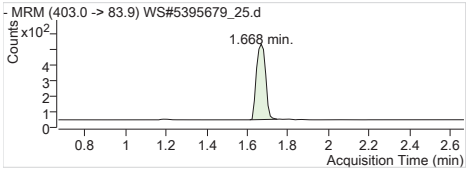


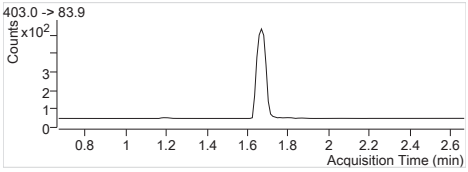
PFTeDA 1 712.9 -> 668.9
RT (Exp. RT): 0.000 (2.456)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



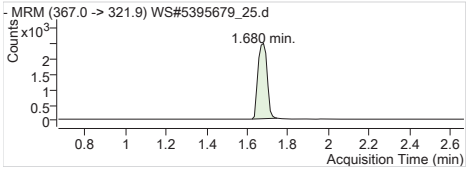


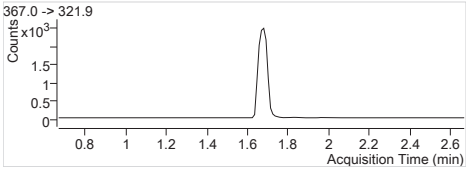
13C2-PFHxA 315.0 -> 269.9
RT (Exp. RT): 1.411 (1.400)
Calc. conc. 101.40 µg/L
Area ratio: 0.30533
Sample type: Sample



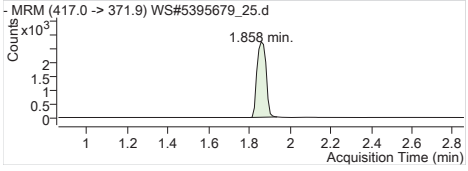


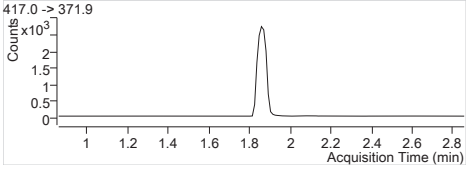
18O2-PFHxS 403.0 -> 83.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 107.44 µg/L
Area ratio: 0.08259
Sample type: Sample



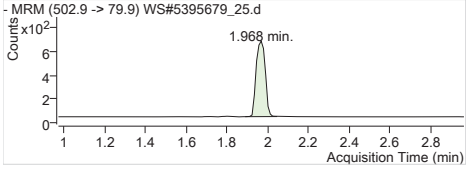


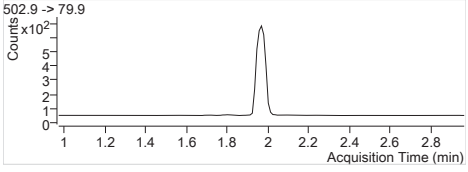
13C4-PFHpA 367.0 -> 321.9
RT (Exp. RT): 1.680 (1.668)
Calc. conc. 106.76 µg/L
Area ratio: 0.42107
Sample type: Sample



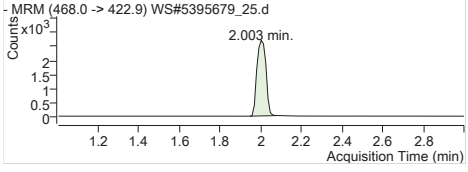


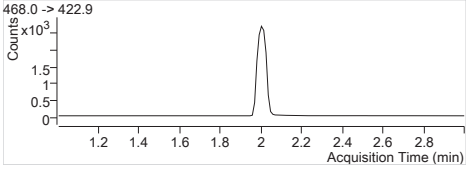
13C4-PFOA 417.0 -> 371.9
RT (Exp. RT): 1.858 (1.858)
Calc. conc. 107.31 µg/L
Area ratio: 0.45750
Sample type: Sample



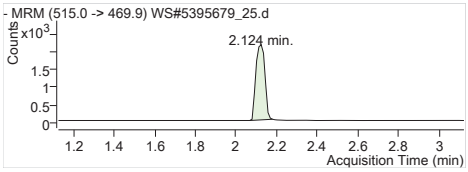


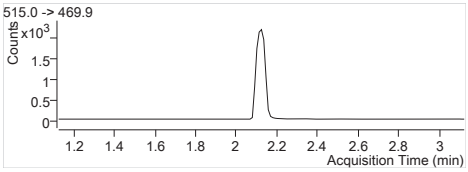
13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.968 (1.968)
Calc. conc. 118.54 µg/L
Area ratio: 0.10842
Sample type: Sample



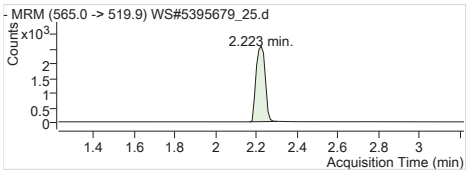


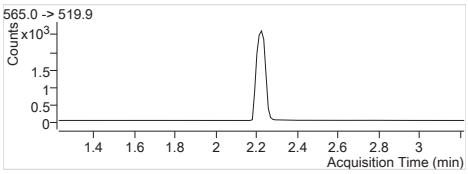
13C5-PFNA 468.0 -> 422.9
RT (Exp. RT): 2.003 (2.003)
Calc. conc. 108.59 µg/L
Area ratio: 0.45117
Sample type: Sample



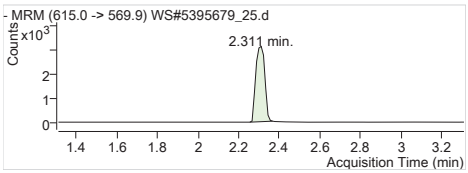


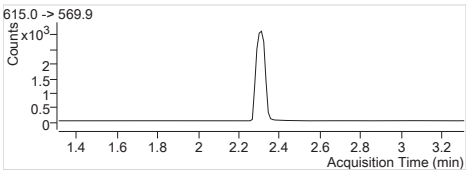
13C2-PFDA 515.0 -> 469.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 100.15 µg/L
Area ratio: 0.25912
Sample type: Sample



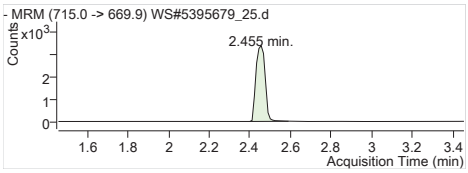


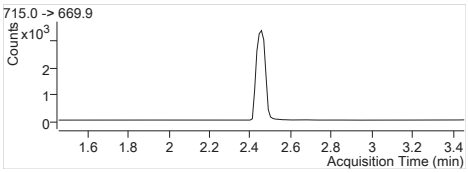
13C2-PFUnA 565.0 -> 519.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 99.85 µg/L
Area ratio: 0.30891
Sample type: Sample



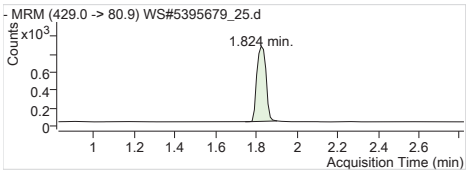


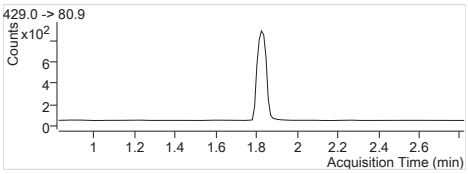
13C2-PFDoA 615.0 -> 569.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 90.02 µg/L
Area ratio: 0.36813
Sample type: Sample



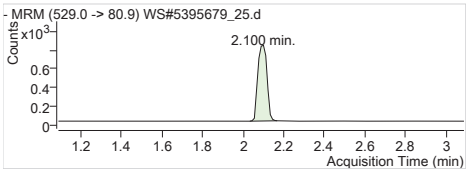


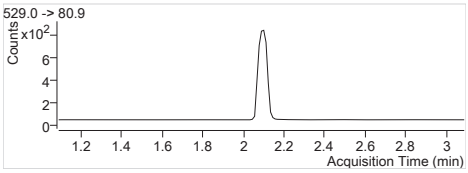
13C2-PFTeDA 715.0 -> 669.9
RT (Exp. RT): 2.455 (2.455)
Calc. conc. 85.12 µg/L
Area ratio: 0.40708
Sample type: Sample



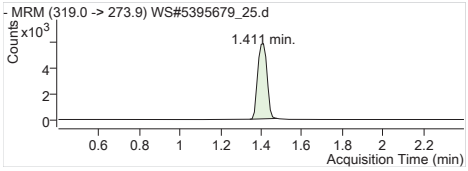


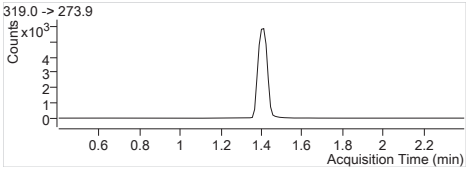
13C2-6:2-FTS 429.0 -> 80.9
RT (Exp. RT): 1.824 (1.824)
Calc. conc. 118.19 µg/L
Area ratio: 0.14311
Sample type: Sample



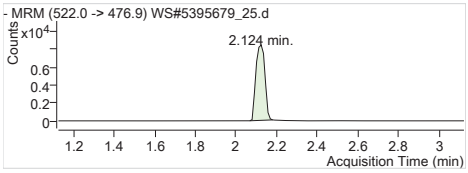


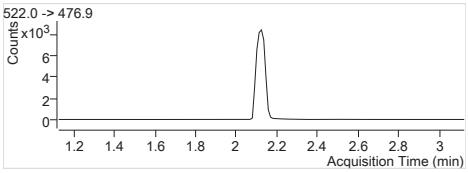
13C2-8:2 FTS 529.0 -> 80.9
RT (Exp. RT): 2.100 (2.089)
Calc. conc. 121.39 µg/L
Area ratio: 0.13710
Sample type: Sample





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.400)
Calc. conc. 2.01 µg/L
Area ratio: 0
Sample type: Sample





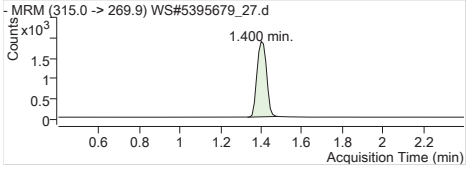
13C9-PFDA 522.0 -> 476.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 2.13 µg/L
Area ratio: 0
Sample type: Sample

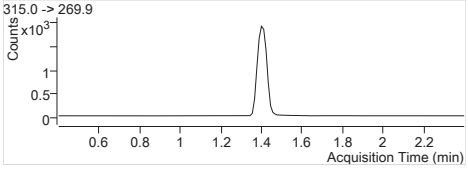
Batch Path	T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics

Sample Name	**5395679:GAD938-01:25x**	**Instrument**	LCMS04
Data File	WS#5395679_27.d	**Operator**	
Sample Type	Sample	**Dilution**	0.6
Acq. Method	PFC_Water_Low.m	**Position**	P3-C3
Acq. Date	2018/02/14 12:04:07 AM	**Injection Volume**	Per Method
Sample Annotation	Report for PFHxS and PFOS		

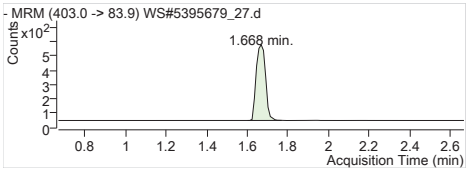
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	6078	1.40	1 µg/L		
MPFHxS	1695	1.67	1 µg/L		
MPFHpA	8483	1.68	1 µg/L		
MPFOA	8803	1.86	1 µg/L		
MPFOS	1928	1.97	1 µg/L		
MPFNA	8308	2.00	1 µg/L		
MPFDA	6752	2.12	1 µg/L		
MPFUnA	8757	2.22	1 µg/L		
MPFDoA	11405	2.31	1 µg/L		
MPFTeDA	11855	2.46	1 µg/L		
13C6-PFHxA IS	19079	1.40	1 µg/L		
13C9-PFDA IS	25393	2.12	1 µg/L		

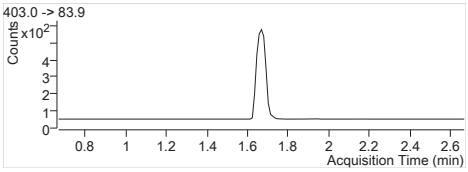
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1	321	1.06	-	0.35 µg/L	-
PFHxA 1	4634	1.40	-	1.16 µg/L	-
PFHxS 1	14415	1.67	-	11.15 µg/L	-
PFHpA 1	1751	1.68	-	0.33 µg/L	-
PFOA 1	3261	1.86	-	0.61 µg/L	-
PFOS 1	8251	1.96	-	6.92 µg/L	-
PFNA 1			-	ND	-
PFDA 1			-	ND	-
PFUnA 1			-	ND	-
PFDoA 1			-	ND	-
PFTrDA 1			-	ND	-
PFTeDA 1			-	ND	-
13C2-PFHxA	6078	1.40	-	105.80 µg/L	-
18O2-PFHxS	1695	1.67	-	115.58 µg/L	-
13C4-PFHpA	8483	1.68	-	112.73 µg/L	-
13C4-PFOA	8803	1.86	-	108.22 µg/L	-
13C4-PFOS	1928	1.97	-	110.49 µg/L	-
13C5-PFNA	8308	2.00	-	104.81 µg/L	-
13C2-PFDA	6601	2.12	-	100.47 µg/L	-
13C2-PFUnA	8757	2.22	-	111.47 µg/L	-
13C2-PFDoA	11405	2.31	-	109.83 µg/L	-
13C2-PFTeDA	12288	2.46	-	101.18 µg/L	-
13C2-6:2-FTS	3085	1.82	-	133.54 µg/L	-
13C2-8:2 FTS	2359	2.10	-	109.48 µg/L	-
13C6-PFHxA	19079	1.40	-	52.26 µg/L	-
13C9-PFDA	25393	2.12	-	52.60 µg/L	-



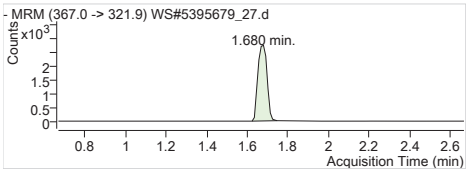


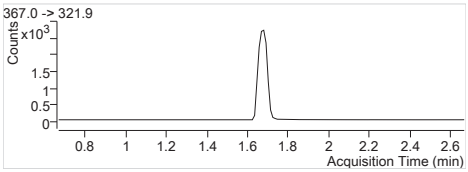
MPFHxA	Internal Standard
RT (Exp. RT):	1.400 (1.400)
Concentration:	1 µg/L
Sample type:	Sample



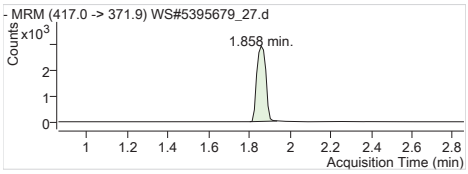


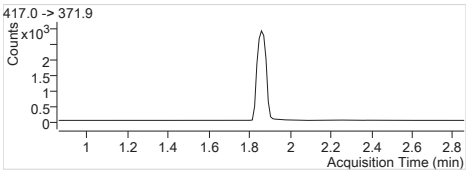
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Sample



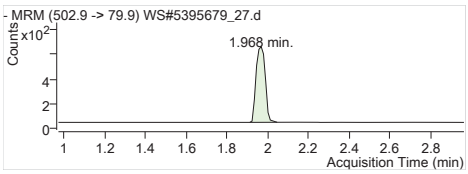


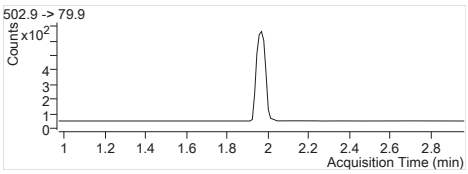
MPFHpA Internal Standard
RT (Exp. RT): 1.680 (1.668)
Concentration: 1 µg/L
Sample type: Sample



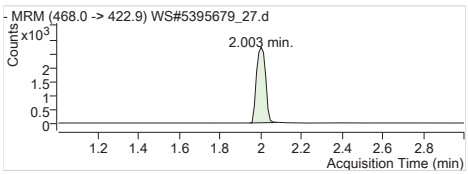


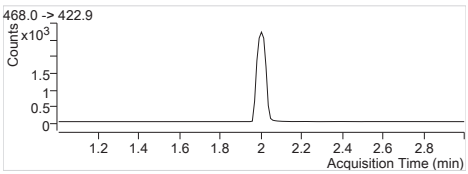
MPFOA Internal Standard
RT (Exp. RT): 1.858 (1.858)
Concentration: 1 µg/L
Sample type: Sample



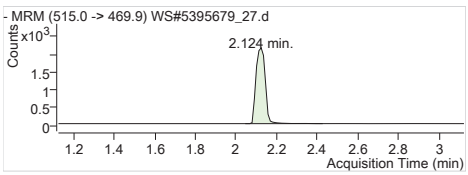


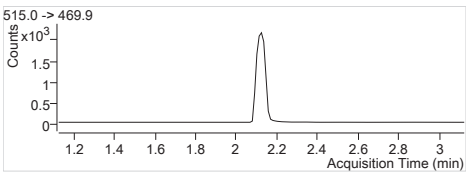
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Sample



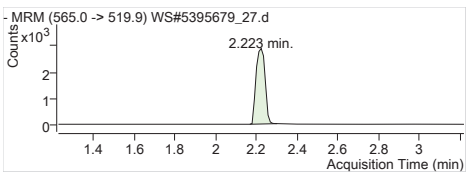


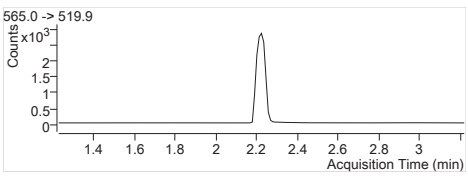
MPFNA Internal Standard
RT (Exp. RT): 2.003 (2.003)
Concentration: 1 µg/L
Sample type: Sample



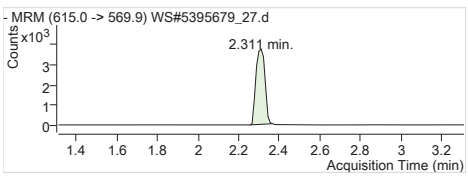


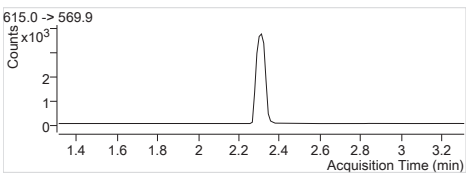
MPFDA Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Sample



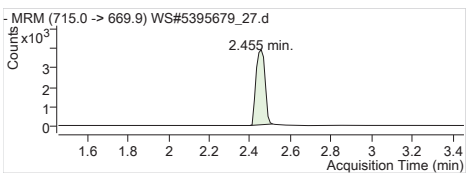


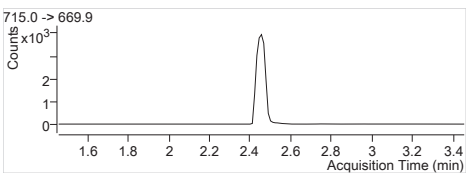
MPFUnA Internal Standard
RT (Exp. RT): 2.223 (2.223)
Concentration: 1 µg/L
Sample type: Sample



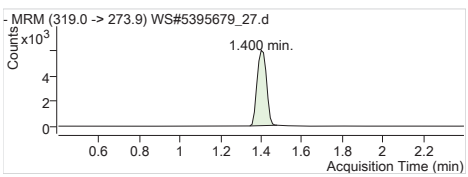


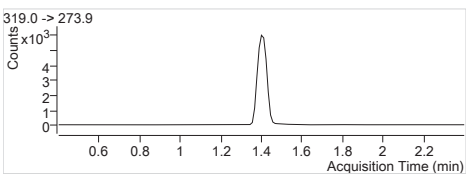
MPFDoA Internal Standard
RT (Exp. RT): 2.311 (2.311)
Concentration: 1 µg/L
Sample type: Sample



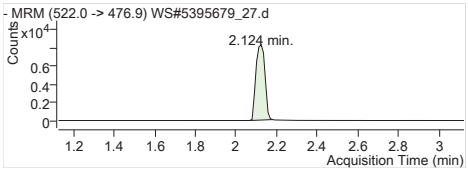


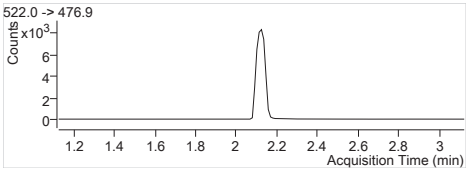
MPFTeDA Internal Standard
RT (Exp. RT): 2.455 (2.455)
Concentration: 1 µg/L
Sample type: Sample



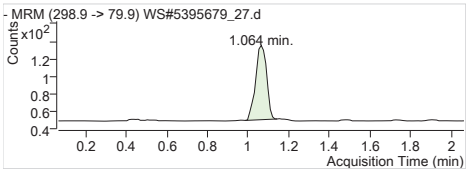


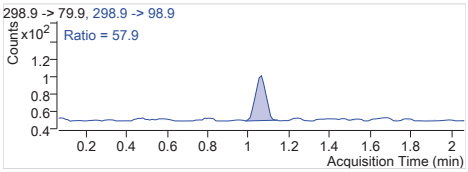
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.400 (1.400)
Concentration: 1 µg/L
Sample type: Sample



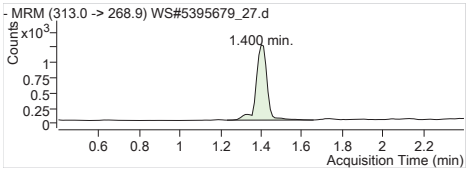


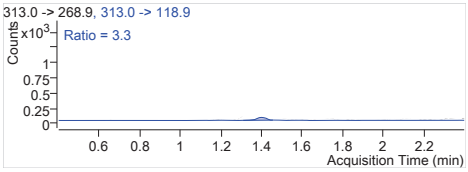
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Sample



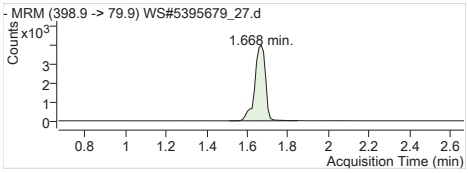


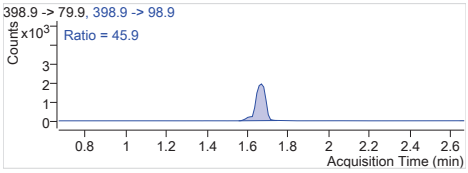
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 1.064 (1.064)
Calc. conc. 0.35 µg/L
Area ratio: 0.18938
Sample type: Sample



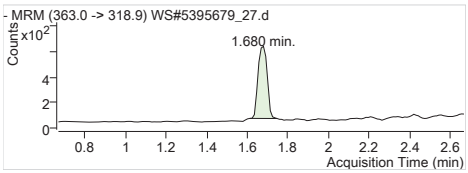


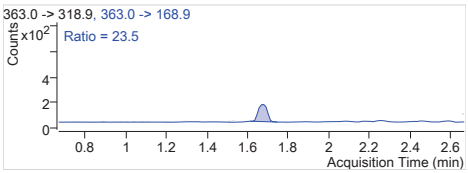
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 1.400 (1.400)
Calc. conc. 1.16 µg/L
Area ratio: 0.76242
Sample type: Sample



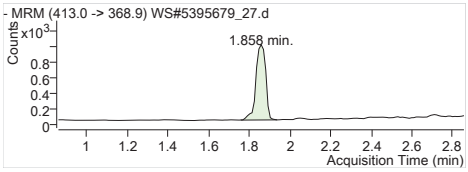


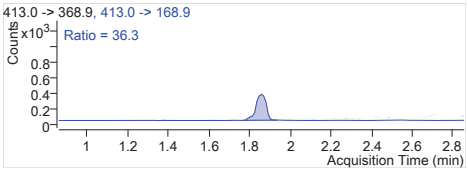
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 11.15 µg/L
Area ratio: 8.50442
Sample type: Sample



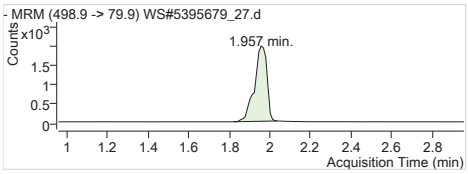


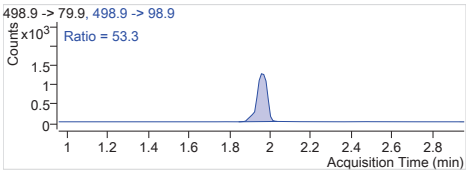
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 1.680 (1.669)
Calc. conc. 0.33 µg/L
Area ratio: 0.20641
Sample type: Sample



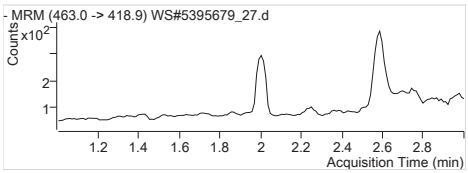


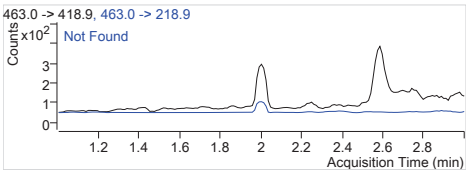
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 1.858 (1.858)
Calc. conc. 0.61 µg/L
Area ratio: 0.37044
Sample type: Sample



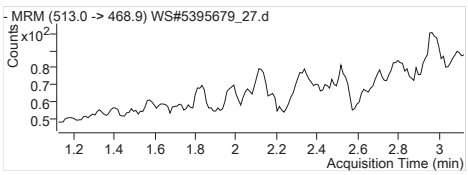


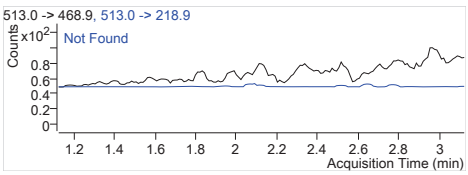
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 6.92 µg/L
Area ratio: 4.27956
Sample type: Sample



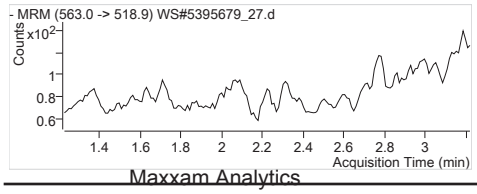


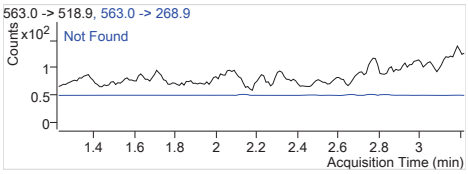
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 0.000 (2.003)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



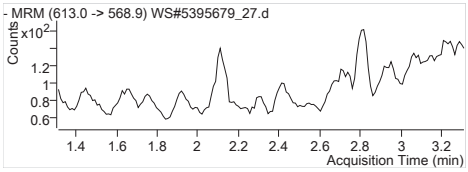


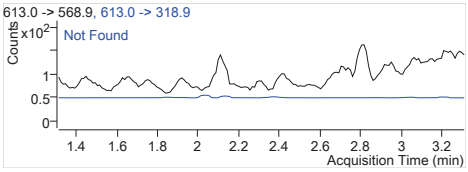
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 0.000 (2.124)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



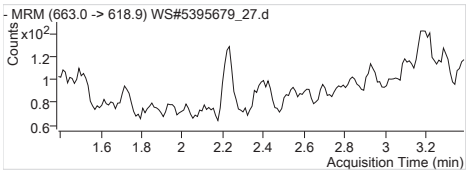


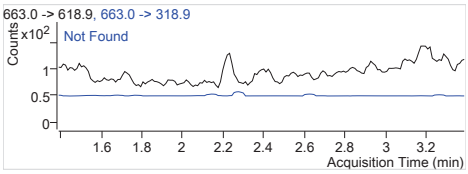
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 0.000 (2.223)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



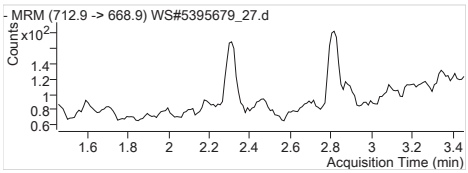


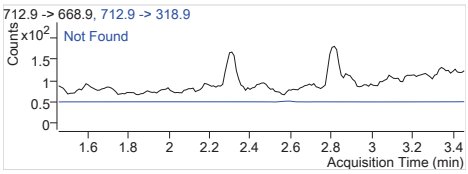
PFDoA 1	613.0 -> 568.9
RT (Exp. RT):	0.000 (2.311)
Calc. conc.	N.D.
Area ratio:	0
Sample type:	Sample



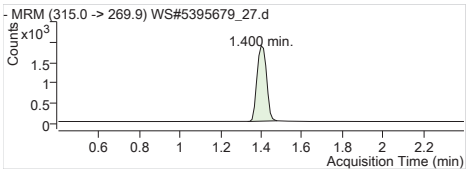


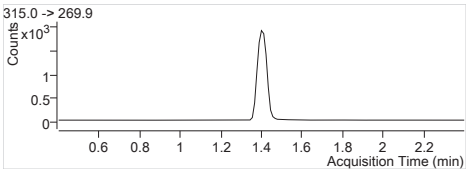
PFTrDA 1	663.0 -> 618.9
RT (Exp. RT):	0.000 (2.389)
Calc. conc.	N.D.
Area ratio:	0
Sample type:	Sample



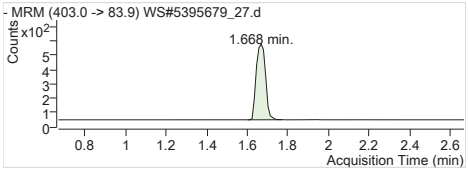


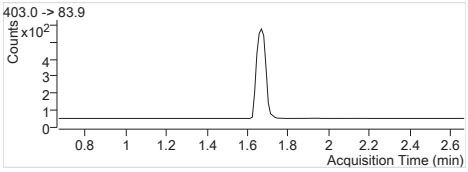
PFTeDA 1	712.9 -> 668.9
RT (Exp. RT):	0.000 (2.456)
Calc. conc.	N.D.
Area ratio:	0
Sample type:	Sample



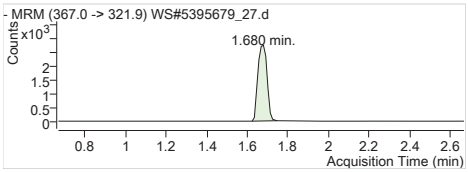


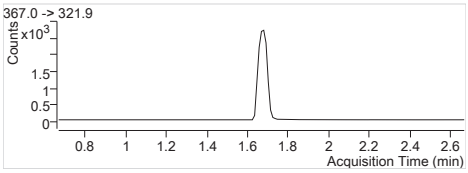
13C2-PFHxA	315.0 -> 269.9
RT (Exp. RT):	1.400 (1.400)
Calc. conc.	105.80 µg/L
Area ratio:	0.31857
Sample type:	Sample



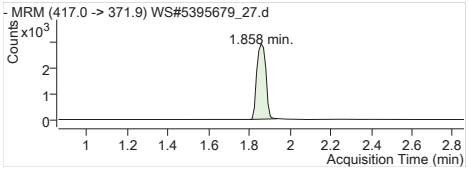


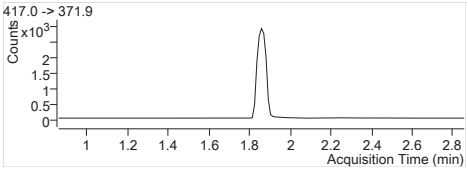
18O2-PFHxS	403.0 -> 83.9
RT (Exp. RT):	1.668 (1.668)
Calc. conc.	115.58 µg/L
Area ratio:	0.08884
Sample type:	Sample



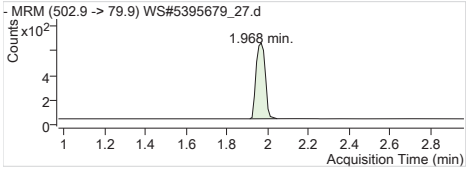


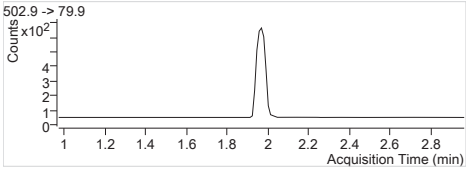
13C4-PFHpA	367.0 -> 321.9
RT (Exp. RT):	1.680 (1.668)
Calc. conc.	112.73 µg/L
Area ratio:	0.44462
Sample type:	Sample



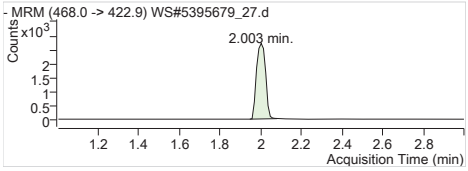


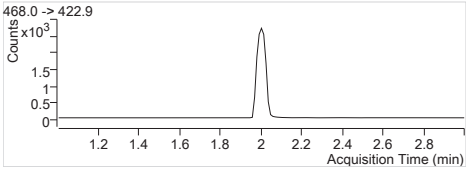
13C4-PFOA	417.0 -> 371.9
RT (Exp. RT):	1.858 (1.858)
Calc. conc.	108.22 µg/L
Area ratio:	0.46140
Sample type:	Sample



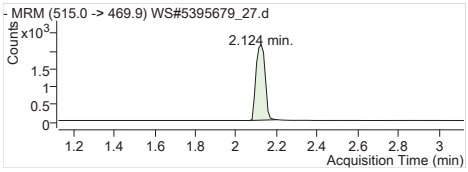


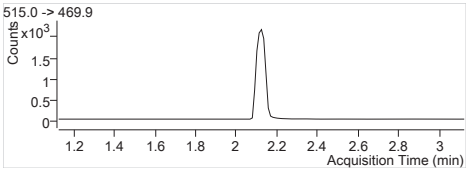
13C4-PFOS	502.9 -> 79.9
RT (Exp. RT):	1.968 (1.968)
Calc. conc.	110.49 µg/L
Area ratio:	0.10105
Sample type:	Sample



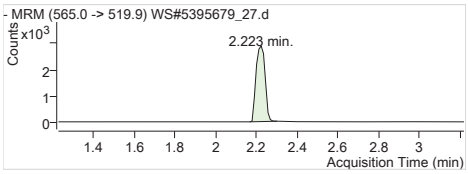


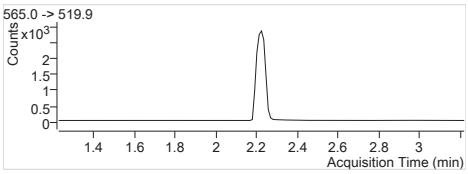
13C5-PFNA	468.0 -> 422.9
RT (Exp. RT):	2.003 (2.003)
Calc. conc.	104.81 µg/L
Area ratio:	0.43545
Sample type:	Sample



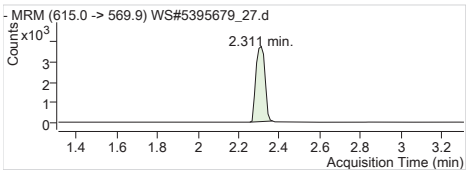


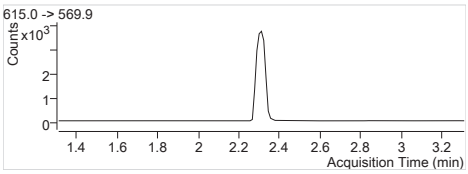
13C2-PFDA 515.0 -> 469.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 100.47 µg/L
Area ratio: 0.25995
Sample type: Sample



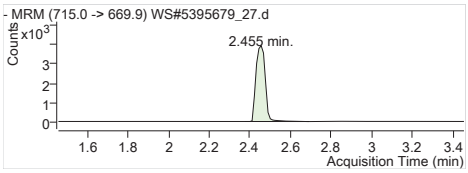


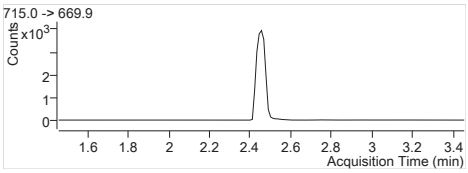
13C2-PFUnA 565.0 -> 519.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 111.47 µg/L
Area ratio: 0.34486
Sample type: Sample



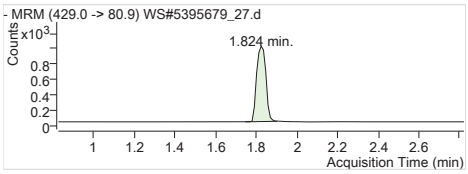


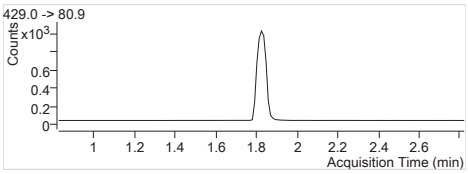
13C2-PFDoA 615.0 -> 569.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 109.83 µg/L
Area ratio: 0.44914
Sample type: Sample



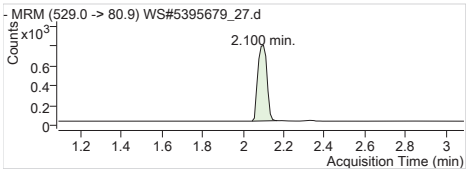


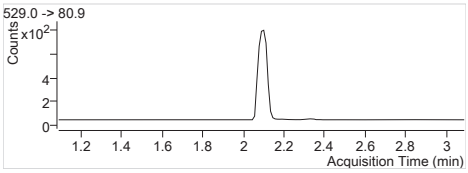
13C2-PFTeDA 715.0 -> 669.9
RT (Exp. RT): 2.455 (2.455)
Calc. conc. 101.18 µg/L
Area ratio: 0.48391
Sample type: Sample



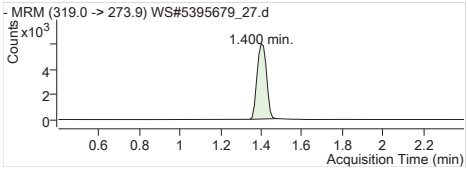


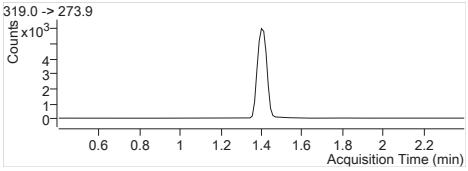
13C2-6:2-FTS 429.0 -> 80.9
RT (Exp. RT): 1.824 (1.824)
Calc. conc. 133.54 µg/L
Area ratio: 0.16170
Sample type: Sample



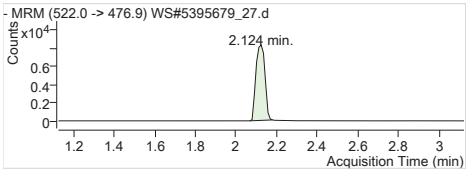


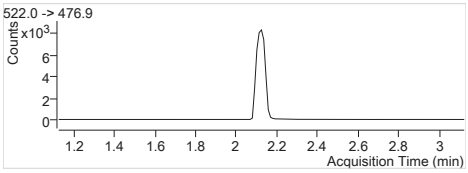
13C2-8:2 FTS 529.0 -> 80.9
RT (Exp. RT): 2.100 (2.089)
Calc. conc. 109.48 µg/L
Area ratio: 0.12364
Sample type: Sample





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.400 (1.400)
Calc. conc. 52.26 µg/L
Area ratio: 0
Sample type: Sample





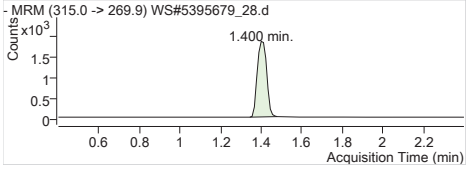
13C9-PFDA 522.0 -> 476.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 52.60 µg/L
Area ratio: 0
Sample type: Sample

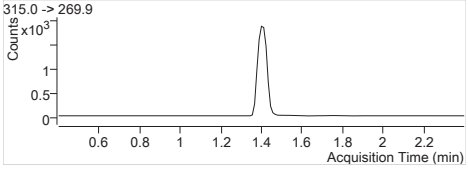
Batch Path	T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics

Sample Name	**5395679:GAD938-01:2x**	**Instrument**	LCMS04
Data File	WS#5395679_28.d	**Operator**	
Sample Type	Sample	**Dilution**	0.048
Acq. Method	PFC_Water_Low.m	**Position**	P3-C4
Acq. Date	2018/02/14 12:09:03 AM	**Injection Volume**	Per Method
Sample Annotation	Report for all, except PFHxS and PFOS		

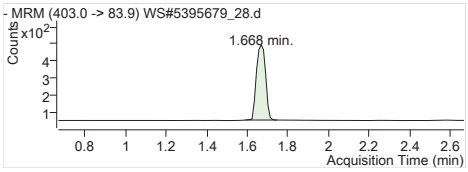
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	5921	1.40	1 µg/L		
MPFHxS	1388	1.67	1 µg/L		
MPFHpA	6361	1.68	1 µg/L		
MPFOA	7899	1.86	1 µg/L		
MPFOS	1834	1.97	1 µg/L		
MPFNA	8050	2.00	1 µg/L		
MPFDA	6550	2.12	1 µg/L		
MPFUnA	7345	2.22	1 µg/L		
MPFDoA	9878	2.31	1 µg/L		
MPFTeDA	9429	2.46	1 µg/L		
13C6-PFHxA IS	20670	1.40	1 µg/L		
13C9-PFDA IS	28508	2.12	1 µg/L		

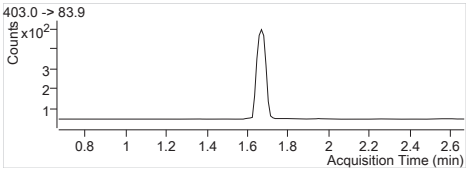
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1	4402	1.06	-	0.34 µg/L	-
PFHxA 1	54041	1.40	-	1.01 µg/L	-
PFHxS 1	151940	1.67	-	11.37 µg/L	-
PFHpA 1	17777	1.68	-	0.33 µg/L	-
PFOA 1	38209	1.86	-	0.56 µg/L	-
PFOS 1	101116	1.96	-	7.04 µg/L	-
PFNA 1	7020	2.00	-	0.11 µg/L	-
PFDA 1			-	ND	-
PFUnA 1			-	ND	-
PFDoA 1			-	ND	-
PFTrDA 1			-	ND	-
PFTeDA 1			-	ND	-
13C2-PFHxA	5921	1.40	-	95.13 µg/L	-
18O2-PFHxS	1388	1.67	-	87.36 µg/L	-
13C4-PFHpA	6361	1.68	-	78.02 µg/L	-
13C4-PFOA	7899	1.86	-	89.63 µg/L	-
13C4-PFOS	1834	1.97	-	97.01 µg/L	-
13C5-PFNA	8050	2.00	-	93.74 µg/L	-
13C2-PFDA	6513	2.12	-	88.30 µg/L	-
13C2-PFUnA	7345	2.22	-	83.28 µg/L	-
13C2-PFDoA	9878	2.31	-	84.73 µg/L	-
13C2-PFTeDA	9733	2.46	-	71.39 µg/L	-
13C2-6:2-FTS	2945	1.82	-	117.67 µg/L	-
13C2-8:2 FTS	2304	2.10	-	98.70 µg/L	-
13C6-PFHxA	20670	1.40	-	4.53 µg/L	-
13C9-PFDA	28508	2.12	-	4.72 µg/L	-



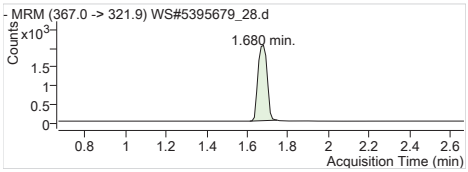


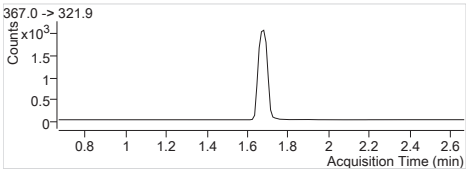
MPFHxA	Internal Standard
RT (Exp. RT):	1.400 (1.400)
Concentration:	1 µg/L
Sample type:	Sample



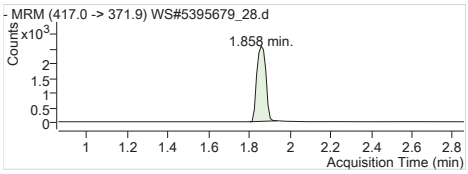


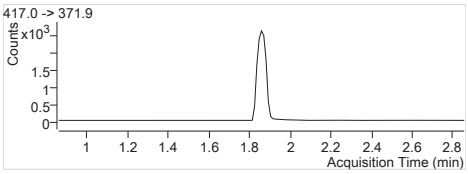
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Sample



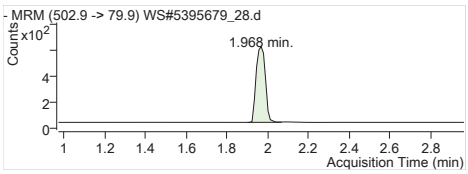


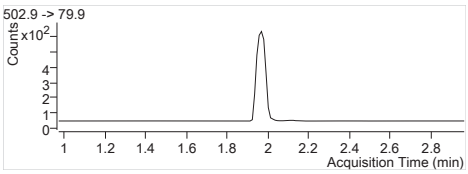
MPFHpA Internal Standard
RT (Exp. RT): 1.680 (1.668)
Concentration: 1 µg/L
Sample type: Sample



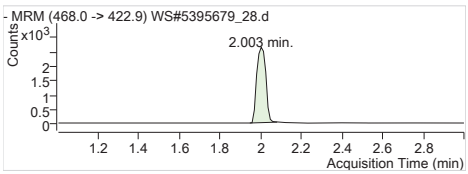


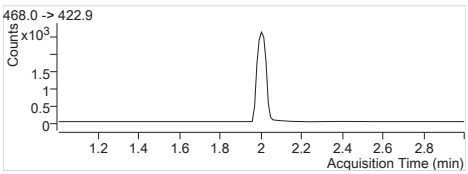
MPFOA Internal Standard
RT (Exp. RT): 1.858 (1.858)
Concentration: 1 µg/L
Sample type: Sample



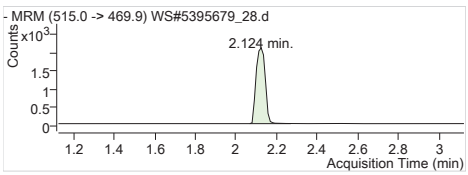


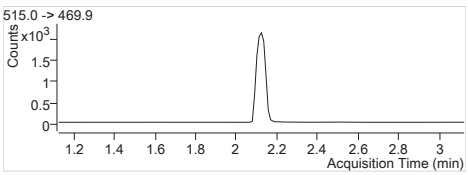
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Sample



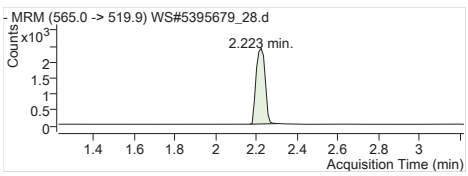


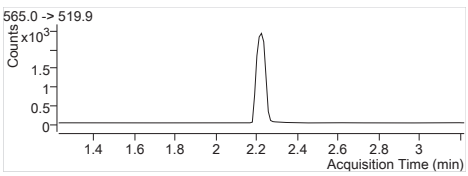
MPFNA Internal Standard
RT (Exp. RT): 2.003 (2.003)
Concentration: 1 µg/L
Sample type: Sample



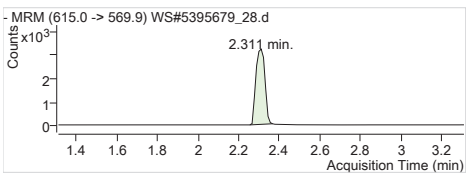


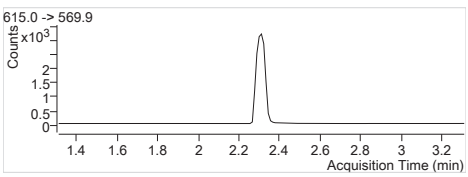
MPFDA Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Sample



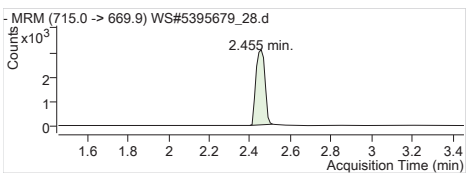


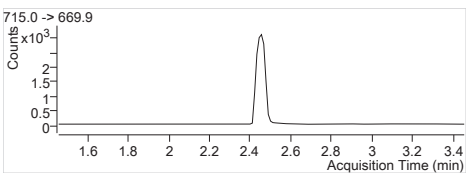
MPFUnA Internal Standard
RT (Exp. RT): 2.223 (2.223)
Concentration: 1 µg/L
Sample type: Sample



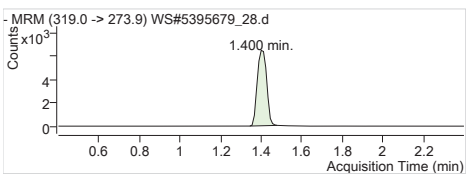


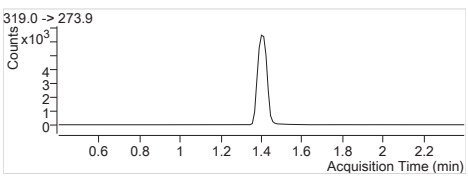
MPFDoA Internal Standard
RT (Exp. RT): 2.311 (2.311)
Concentration: 1 µg/L
Sample type: Sample



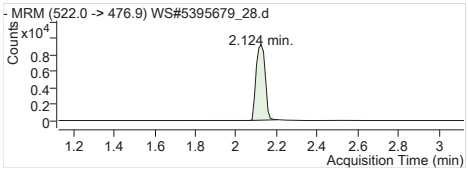


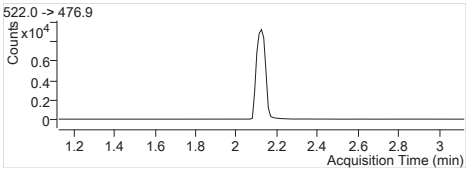
MPFTeDA Internal Standard
RT (Exp. RT): 2.455 (2.455)
Concentration: 1 µg/L
Sample type: Sample



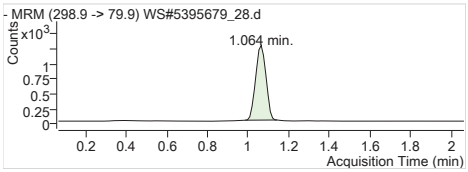


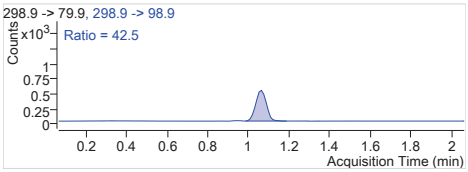
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.400 (1.400)
Concentration: 1 µg/L
Sample type: Sample



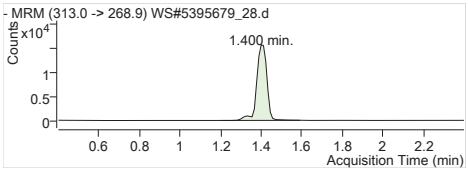


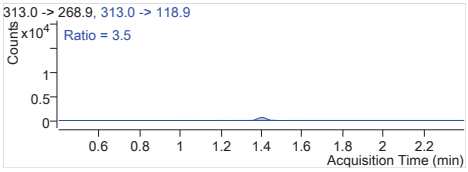
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Sample



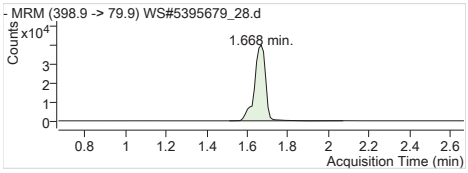


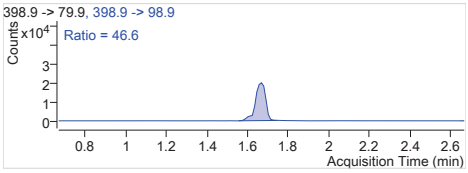
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 1.064 (1.064)
Calc. conc. 0.34 µg/L
Area ratio: 3.17147
Sample type: Sample



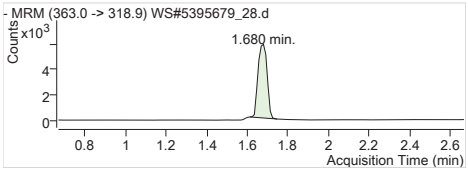


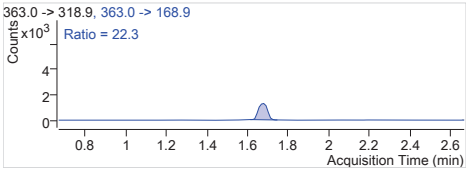
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 1.400 (1.400)
Calc. conc. 1.01 µg/L
Area ratio: 9.12701
Sample type: Sample



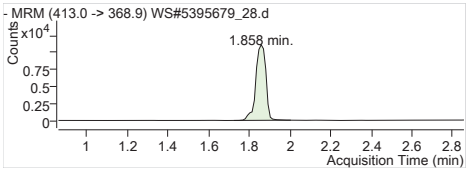


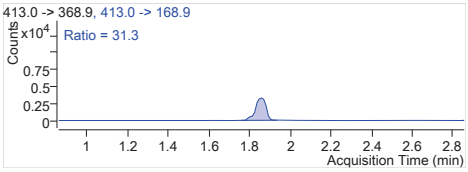
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 11.37 µg/L
Area ratio: 109.46686
Sample type: Sample



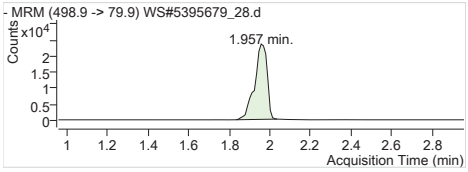


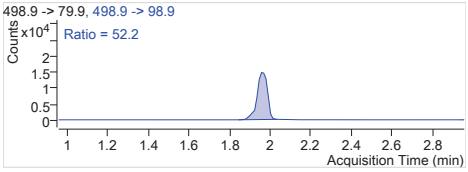
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 1.680 (1.669)
Calc. conc. 0.33 µg/L
Area ratio: 2.79469
Sample type: Sample



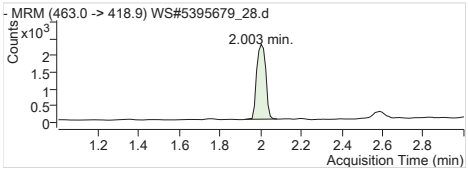


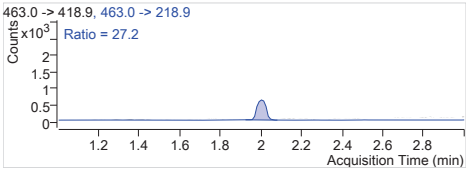
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 1.858 (1.858)
Calc. conc. 0.56 µg/L
Area ratio: 4.83719
Sample type: Sample



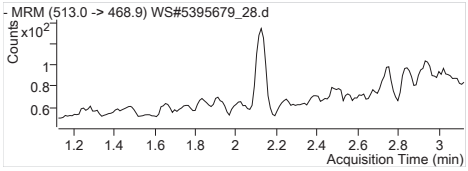


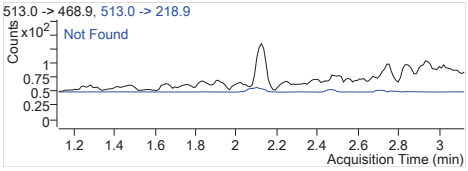
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 7.04 µg/L
Area ratio: 55.13413
Sample type: Sample



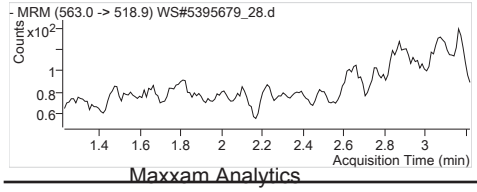


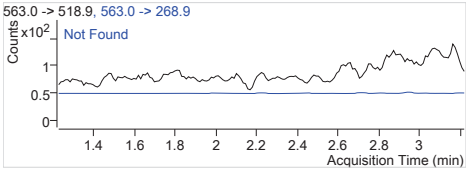
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 2.003 (2.003)
Calc. conc. 0.11 µg/L
Area ratio: 0.87205
Sample type: Sample



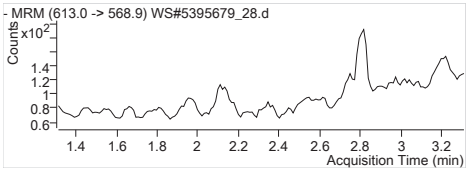


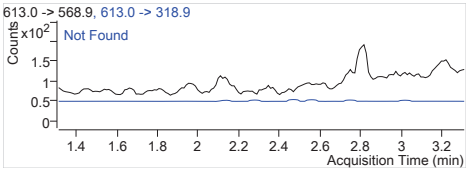
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 0.000 (2.124)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



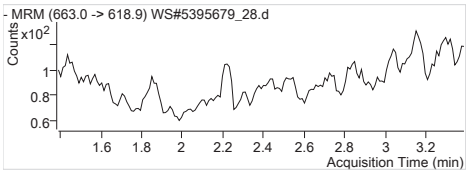


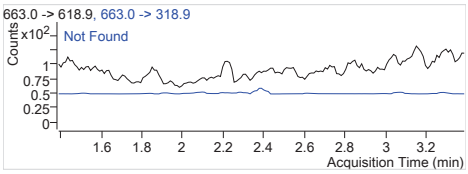
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 0.000 (2.223)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



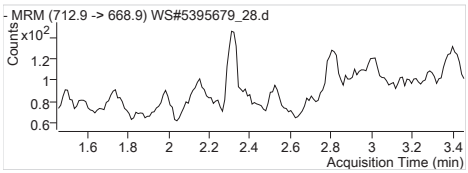


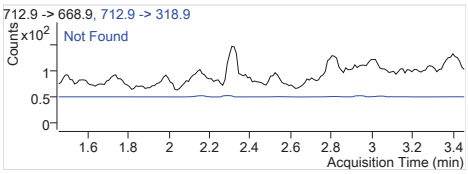
PFDoA 1 613.0 -> 568.9
RT (Exp. RT): 0.000 (2.311)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



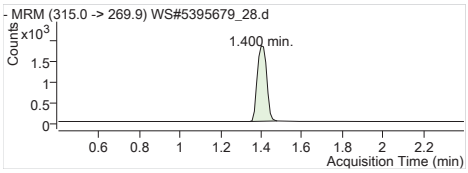


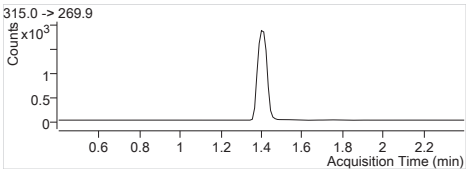
PFTrDA 1 663.0 -> 618.9
RT (Exp. RT): 0.000 (2.389)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



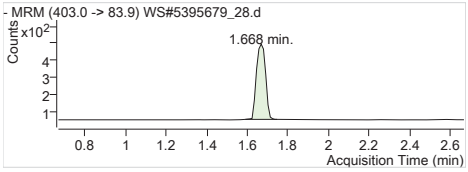


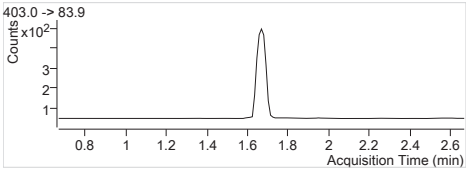
PFTeDA 1 712.9 -> 668.9
RT (Exp. RT): 0.000 (2.456)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



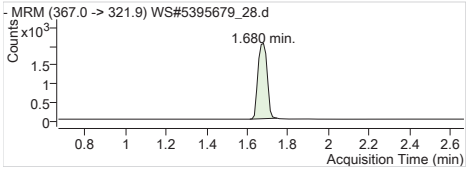


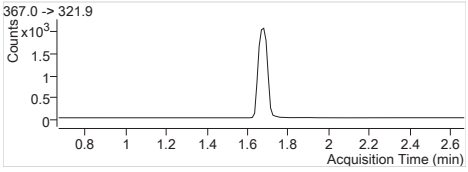
13C2-PFHxA 315.0 -> 269.9
RT (Exp. RT): 1.400 (1.400)
Calc. conc. 95.13 µg/L
Area ratio: 0.28645
Sample type: Sample



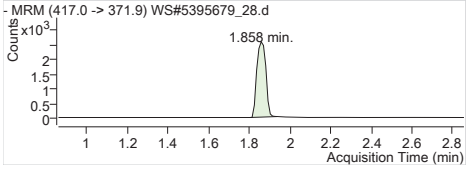


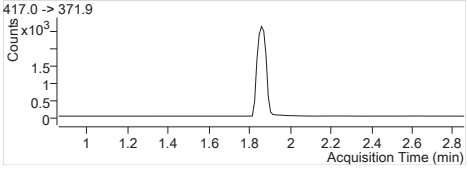
18O2-PFHxS 403.0 -> 83.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 87.36 µg/L
Area ratio: 0.06715
Sample type: Sample



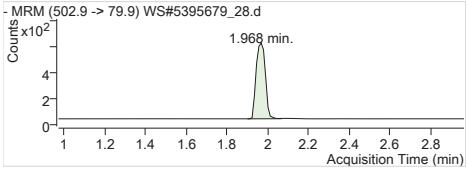


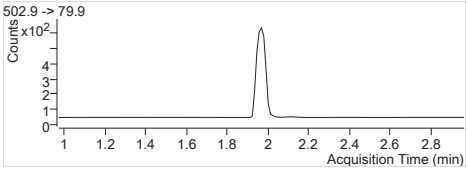
13C4-PFHpA 367.0 -> 321.9
RT (Exp. RT): 1.680 (1.668)
Calc. conc. 78.02 µg/L
Area ratio: 0.30774
Sample type: Sample



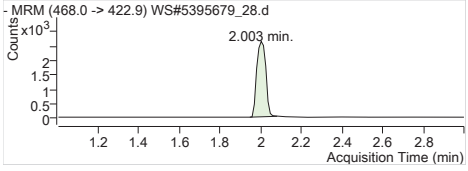


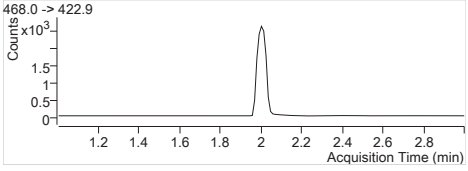
13C4-PFOA 417.0 -> 371.9
RT (Exp. RT): 1.858 (1.858)
Calc. conc. 89.63 µg/L
Area ratio: 0.38215
Sample type: Sample



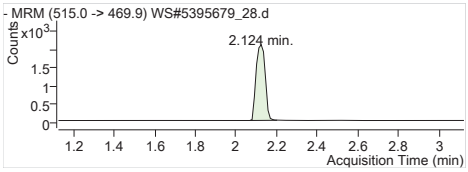


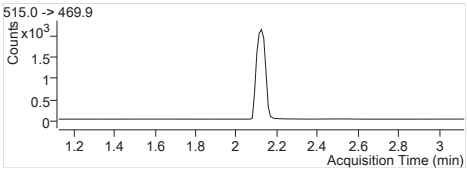
13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.968 (1.968)
Calc. conc. 97.01 µg/L
Area ratio: 0.08873
Sample type: Sample



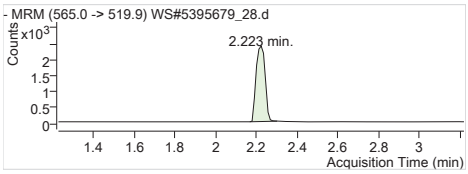


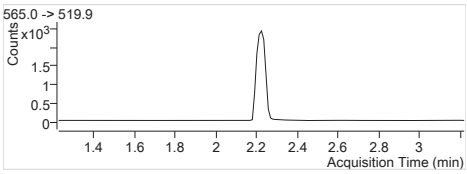
13C5-PFNA 468.0 -> 422.9
RT (Exp. RT): 2.003 (2.003)
Calc. conc. 93.74 µg/L
Area ratio: 0.38945
Sample type: Sample



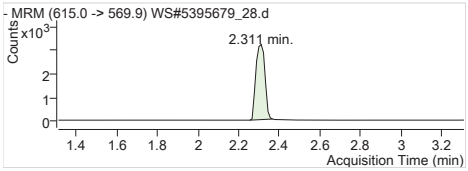


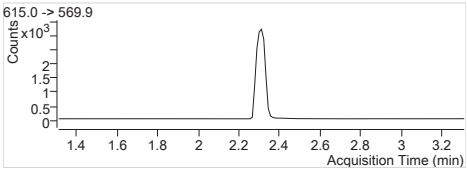
13C2-PFDA 515.0 -> 469.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 88.30 µg/L
Area ratio: 0.22846
Sample type: Sample



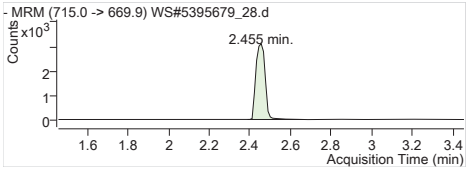


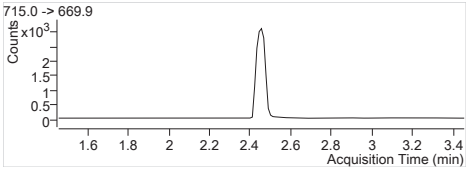
13C2-PFUnA 565.0 -> 519.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 83.28 µg/L
Area ratio: 0.25765
Sample type: Sample



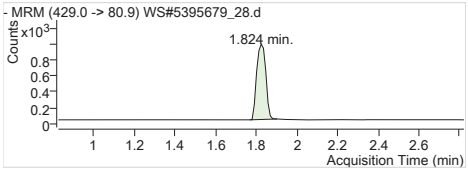


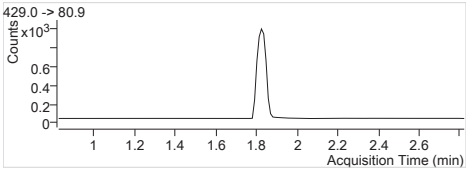
13C2-PFDoA 615.0 -> 569.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 84.73 µg/L
Area ratio: 0.34650
Sample type: Sample



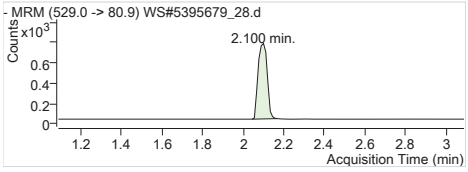


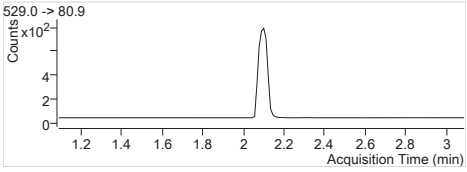
13C2-PFTeDA 715.0 -> 669.9
RT (Exp. RT): 2.455 (2.455)
Calc. conc. 71.39 µg/L
Area ratio: 0.34141
Sample type: Sample



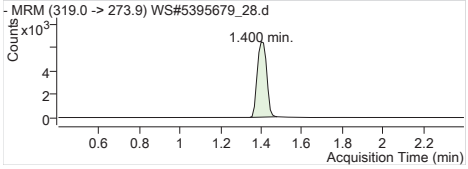


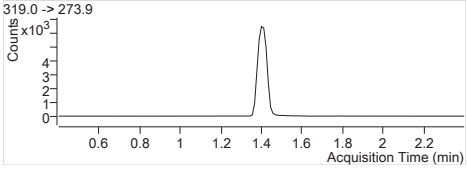
13C2-6:2-FTS 429.0 -> 80.9
RT (Exp. RT): 1.824 (1.824)
Calc. conc. 117.67 µg/L
Area ratio: 0.14248
Sample type: Sample



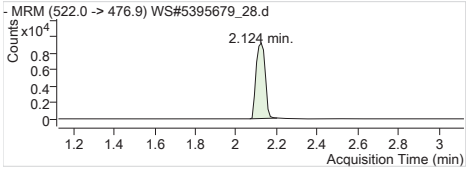


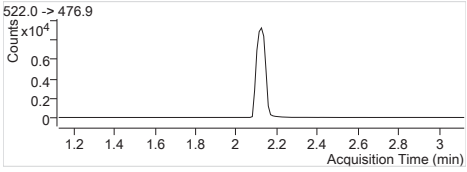
13C2-8:2 FTS 529.0 -> 80.9
RT (Exp. RT): 2.100 (2.089)
Calc. conc. 98.70 µg/L
Area ratio: 0.11147
Sample type: Sample





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.400 (1.400)
Calc. conc. 4.53 µg/L
Area ratio: 0
Sample type: Sample





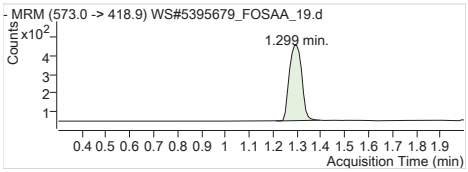
13C9-PFDA 522.0 -> 476.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 4.72 µg/L
Area ratio: 0
Sample type: Sample

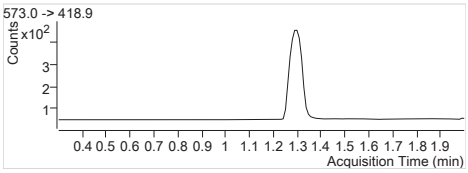
Batch Path	T:\lcms4\PFC\20180213\WS#5395679_FOSAA\QuantResults\PFC_Water_Low_180213_WS#5395679_FOSAA_ETOxics

Sample Name	**5395679:GAD935-01**	**Instrument**	LCMS04
Data File	WS#5395679_FOSAA_19.d	**Operator**	
Sample Type	Sample	**Dilution**	0.024
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P3-B7
Acq. Date	2018/02/13 5:00:09 PM	**Injection Volume**	Per Method
Sample Annotation	-		

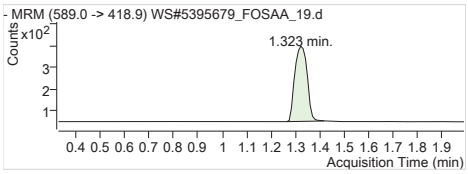
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1469	1.30	1 µg/L		
D5-EtFOSAA IS	1232	1.32	1 µg/L		
13C9-PFDA IS	23123	0.87	1 µg/L		

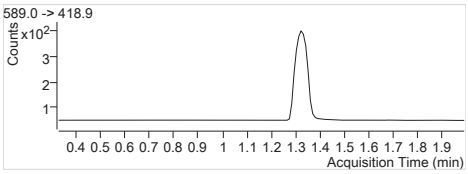
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1			-	ND	-
EtFOSAA 1			-	ND	-
D3-MeFOSAA	1472	1.30	-	80.18 µg/L	-
D5-EtFOSAA	1249	1.32	-	76.60 µg/L	-
13C9-PFDA	22588	0.87	-	2.35 µg/L	-



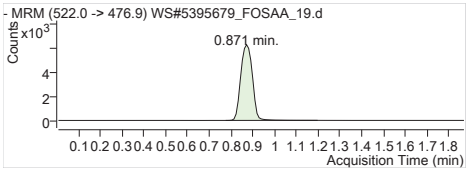


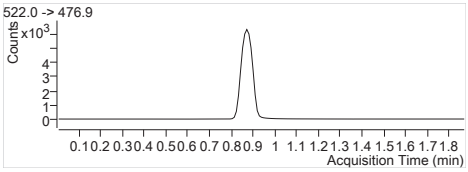
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.299 (1.299)
Concentration: 1 µg/L
Sample type: Sample



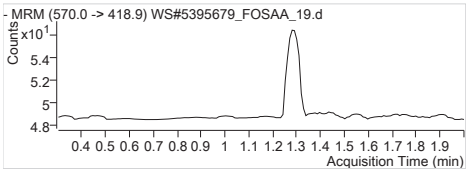


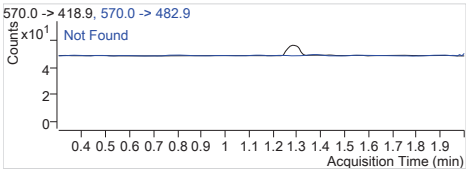
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.323 (1.323)
Concentration: 1 µg/L
Sample type: Sample



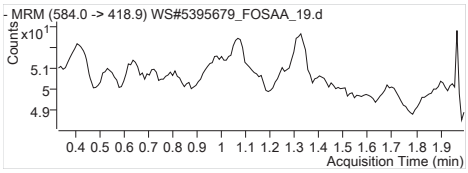


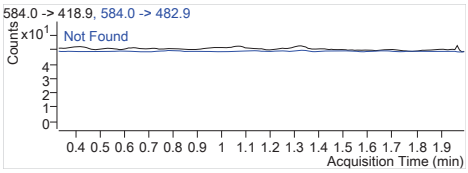
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.871 (0.871)
Concentration: 1 µg/L
Sample type: Sample



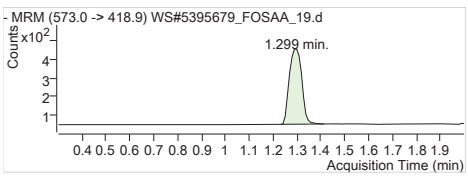


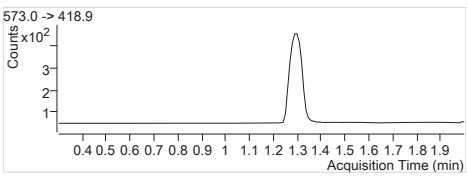
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 0.000 (1.300)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



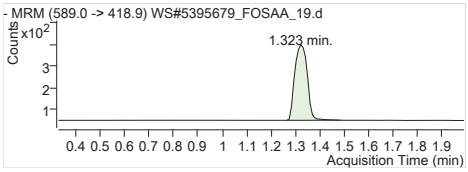


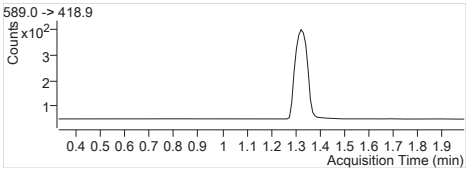
EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 0.000 (1.325)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



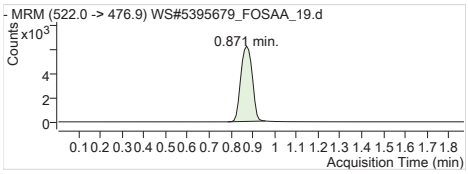


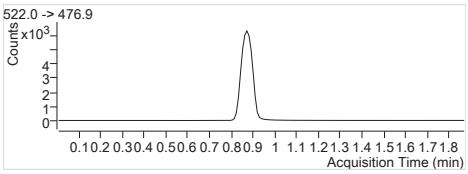
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.299 (1.299)
Calc. conc. 80.18 µg/L
Area ratio: 0.06366
Sample type: Sample





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.323 (1.323)
Calc. conc.	76.60 µg/L
Area ratio:	0.05402
Sample type:	Sample





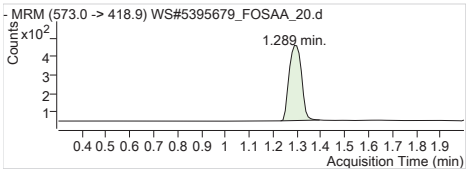
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.871 (0.871)
Calc. conc.	2.35 µg/L
Area ratio:	0
Sample type:	Sample

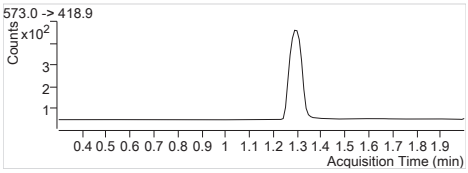
Batch Path	T:\lcms4\PFC\20180213\WS#5395679_FOSAA\QuantResults\PFC_Water_Low_180213_WS#5395679_FOSAA_ETOxics

Sample Name	**5395679:GAD936-01:100x**	**Instrument**	LCMS04
Data File	WS#5395679_FOSAA_20.d	**Operator**	
Sample Type	Sample	**Dilution**	2.4
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P3-B8
Acq. Date	2018/02/13 5:02:34 PM	**Injection Volume**	Per Method
Sample Annotation	-		

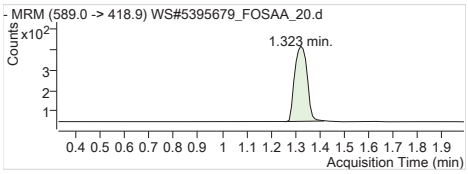
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1481	1.29	1 µg/L		
D5-EtFOSAA IS	1293	1.32	1 µg/L		
13C9-PFDA IS	22449	0.87	1 µg/L		

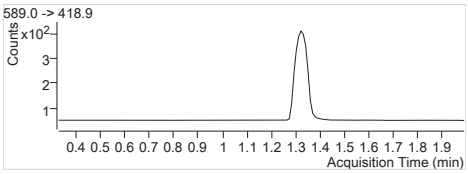
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1			-	ND	-
EtFOSAA 1			-	ND	-
D3-MeFOSAA	1495	1.29	-	83.88 µg/L	-
D5-EtFOSAA	1305	1.32	-	82.44 µg/L	-
13C9-PFDA	21937	0.87	-	228.19 µg/L	-



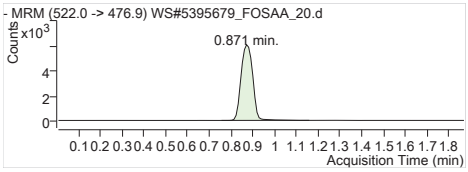


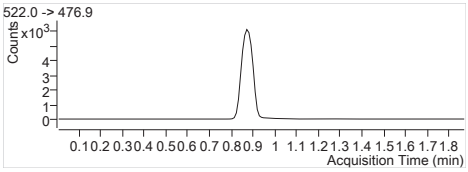
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.289 (1.299)
Concentration: 1 µg/L
Sample type: Sample



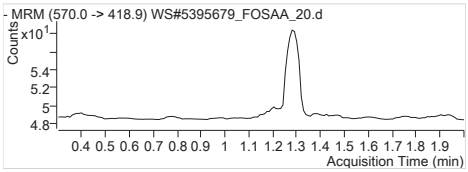


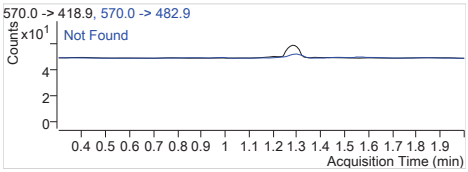
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.323 (1.323)
Concentration: 1 µg/L
Sample type: Sample



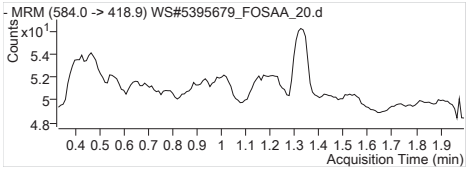


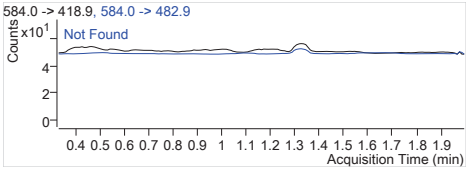
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.871 (0.871)
Concentration: 1 µg/L
Sample type: Sample



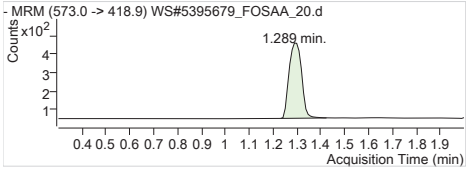


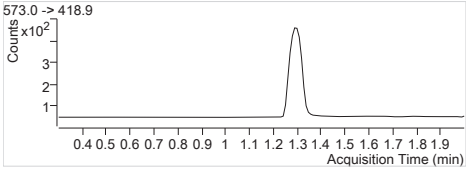
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 0.000 (1.300)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



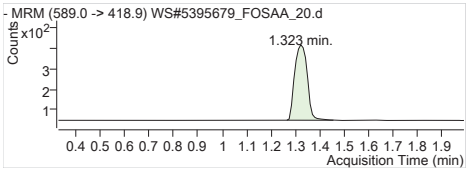


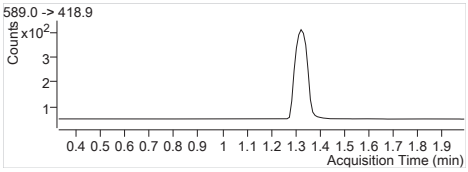
EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 0.000 (1.325)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



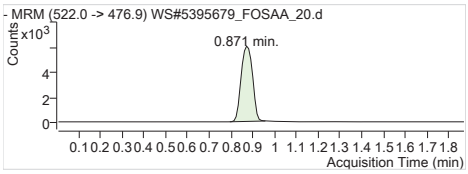


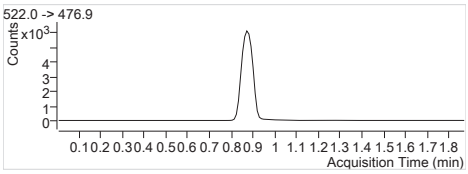
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.289 (1.299)
Calc. conc. 83.88 µg/L
Area ratio: 0.06660
Sample type: Sample





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.323 (1.323)
Calc. conc.	82.44 µg/L
Area ratio:	0.05813
Sample type:	Sample





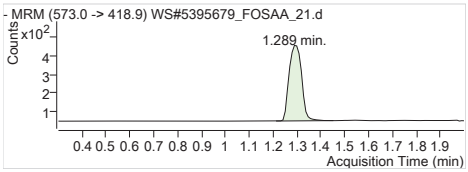
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.871 (0.871)
Calc. conc.	228.19 µg/L
Area ratio:	0
Sample type:	Sample

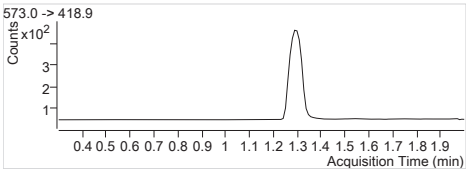
Batch Path	T:\lcms4\PFC\20180213\WS#5395679_FOSAA\QuantResults\PFC_Water_Low_180213_WS#5395679_FOSAA_ETOxics

Sample Name	**5395679:GAD936-01:D1:100x**	**Instrument**	LCMS04
Data File	WS#5395679_FOSAA_21.d	**Operator**	
Sample Type	Sample	**Dilution**	2.4
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P3-B9
Acq. Date	2018/02/13 5:05:00 PM	**Injection Volume**	Per Method
Sample Annotation	-		

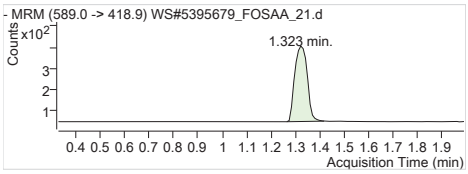
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1493	1.29	1 µg/L		
D5-EtFOSAA IS	1276	1.32	1 µg/L		
13C9-PFDA IS	23486	0.87	1 µg/L		

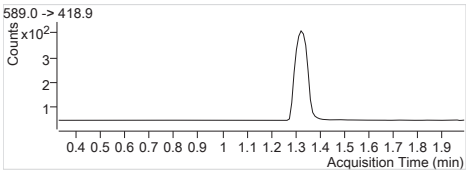
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1			-	ND	-
EtFOSAA 1			-	ND	-
D3-MeFOSAA	1489	1.29	-	79.85 µg/L	-
D5-EtFOSAA	1280	1.32	-	77.29 µg/L	-
13C9-PFDA	23026	0.87	-	239.51 µg/L	-



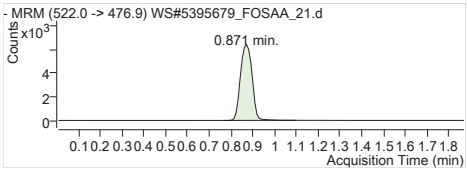


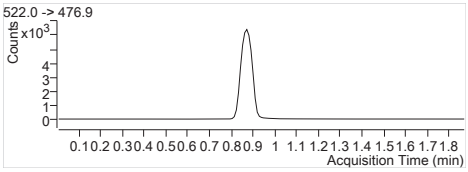
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.289 (1.299)
Concentration: 1 µg/L
Sample type: Sample



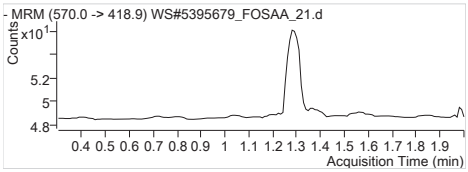


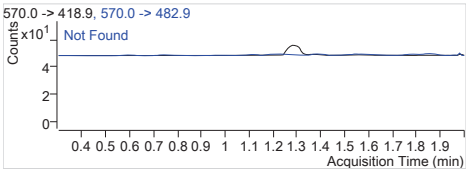
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.323 (1.323)
Concentration: 1 µg/L
Sample type: Sample



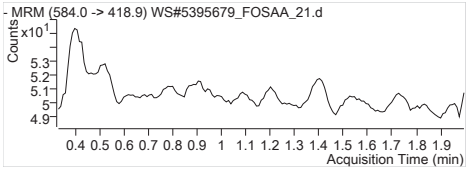


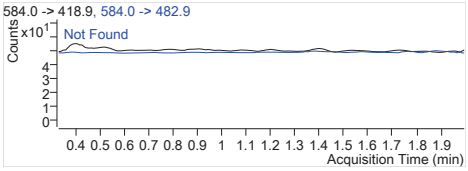
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.871 (0.871)
Concentration: 1 µg/L
Sample type: Sample



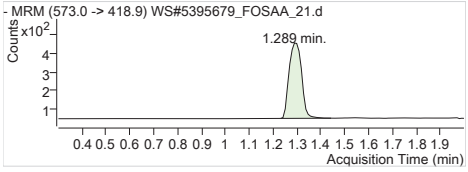


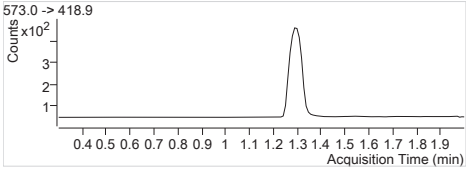
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 0.000 (1.300)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



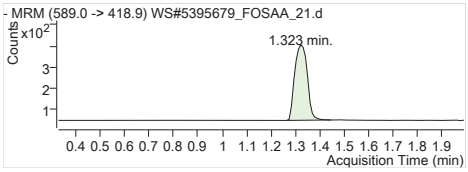


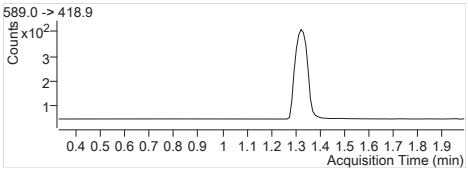
EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 0.000 (1.325)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



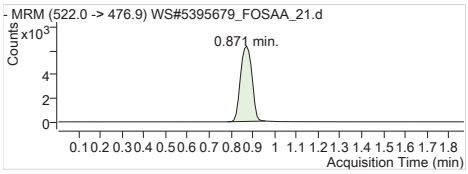


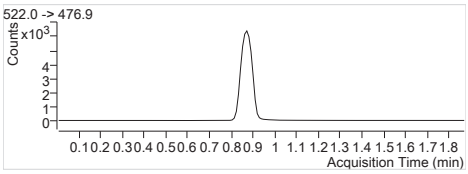
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.289 (1.299)
Calc. conc. 79.85 µg/L
Area ratio: 0.06340
Sample type: Sample





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.323 (1.323)
Calc. conc.	77.29 µg/L
Area ratio:	0.05450
Sample type:	Sample





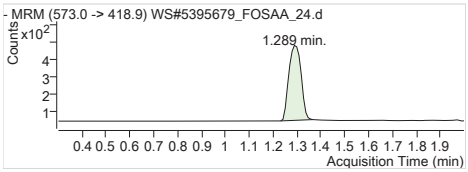
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.871 (0.871)
Calc. conc.	239.51 µg/L
Area ratio:	0
Sample type:	Sample

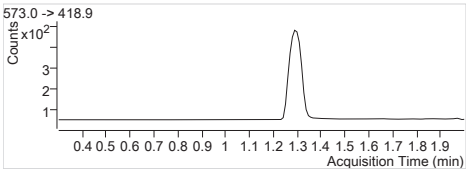
Batch Path	T:\lcms4\PFC\20180213\WS#5395679_FOSAA\QuantResults\PFC_Water_Low_180213_WS#5395679_FOSAA_ETOxics

Sample Name	**5395679:GAD937-01:10x**	**Instrument**	LCMS04
Data File	WS#5395679_FOSAA_24.d	**Operator**	
Sample Type	Sample	**Dilution**	0.24
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P3-C1
Acq. Date	2018/02/13 5:12:15 PM	**Injection Volume**	Per Method
Sample Annotation	Not used		

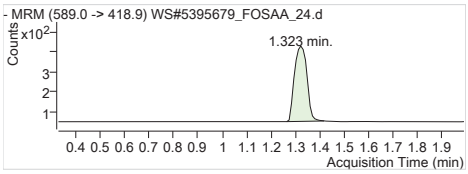
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1547	1.29	1 µg/L		
D5-EtFOSAA IS	1350	1.32	1 µg/L		
13C9-PFDA IS	23939	0.87	1 µg/L		

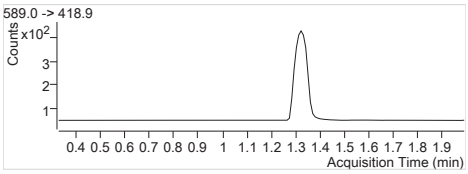
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1			-	ND	-
EtFOSAA 1			-	ND	-
D3-MeFOSAA	1570	1.29	-	82.61 µg/L	-
D5-EtFOSAA	1373	1.32	-	81.34 µg/L	-
13C9-PFDA	23482	0.87	-	24.43 µg/L	-



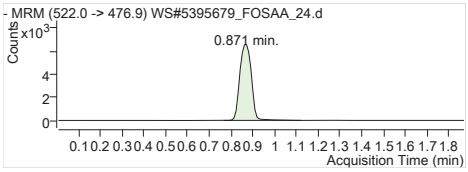


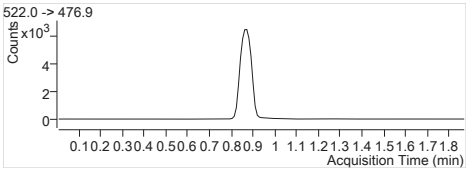
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.289 (1.299)
Concentration: 1 µg/L
Sample type: Sample



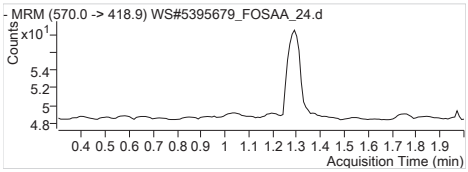


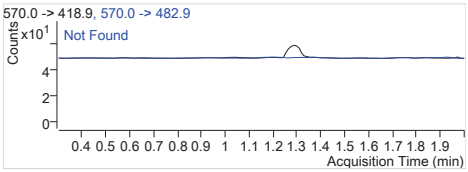
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.323 (1.323)
Concentration: 1 µg/L
Sample type: Sample



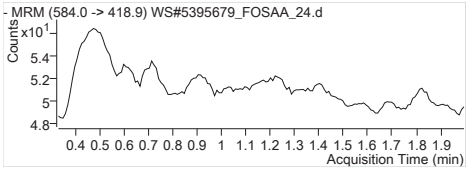


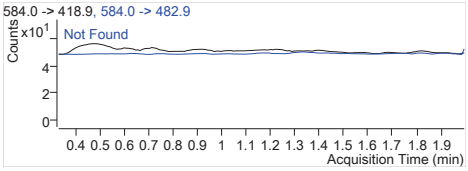
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.871 (0.871)
Concentration: 1 µg/L
Sample type: Sample



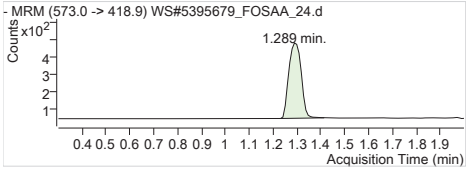


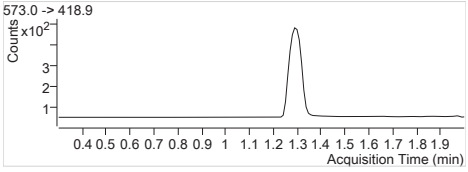
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 0.000 (1.300)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



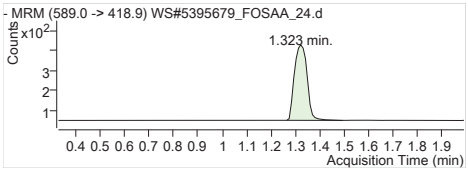


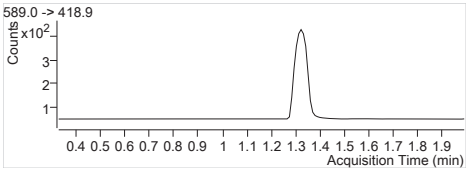
EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 0.000 (1.325)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



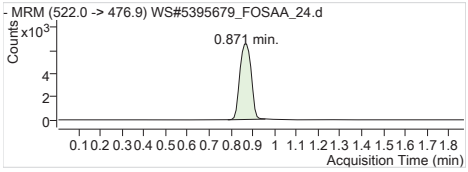


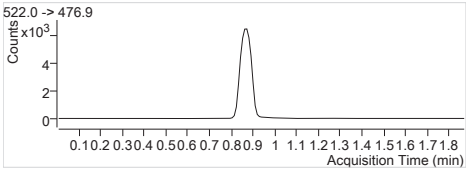
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.289 (1.299)
Calc. conc. 82.61 µg/L
Area ratio: 0.06558
Sample type: Sample





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.323 (1.323)
Calc. conc.	81.34 µg/L
Area ratio:	0.05735
Sample type:	Sample





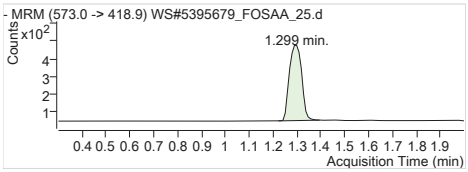
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.871 (0.871)
Calc. conc.	24.43 µg/L
Area ratio:	0
Sample type:	Sample

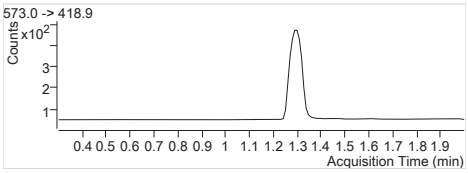
Batch Path	T:\lcms4\PFC\20180213\WS#5395679_FOSAA\QuantResults\PFC_Water_Low_180213_WS#5395679_FOSAA_ETOxics

Sample Name	**5395679:GAD937-01**	**Instrument**	LCMS04
Data File	WS#5395679_FOSAA_25.d	**Operator**	
Sample Type	Sample	**Dilution**	0.024
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P3-C2
Acq. Date	2018/02/13 5:14:38 PM	**Injection Volume**	Per Method
Sample Annotation	-		

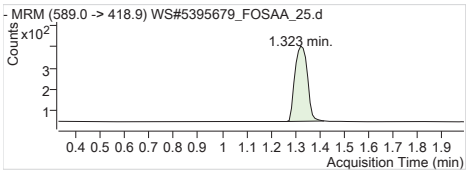
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1532	1.30	1 µg/L		
D5-EtFOSAA IS	1266	1.32	1 µg/L		
13C9-PFDA IS	21798	0.87	1 µg/L		

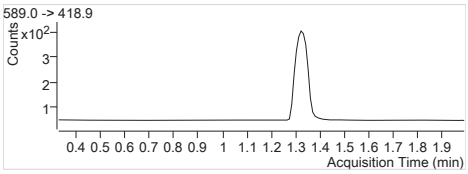
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1	247	1.29	-	0.01 µg/L	-
EtFOSAA 1	233	1.32	-	0.01 µg/L	-
D3-MeFOSAA	1531	1.30	-	88.47 µg/L	-
D5-EtFOSAA	1275	1.32	-	82.95 µg/L	-
13C9-PFDA	21365	0.87	-	2.22 µg/L	-



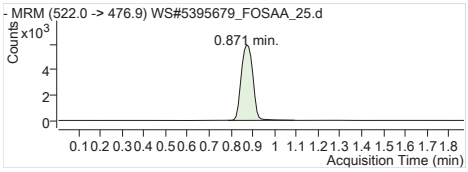


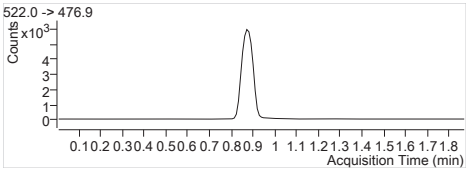
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.299 (1.299)
Concentration: 1 µg/L
Sample type: Sample



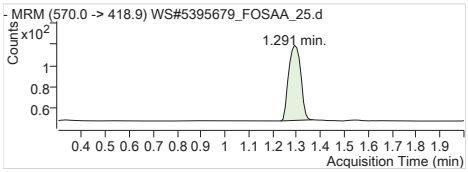


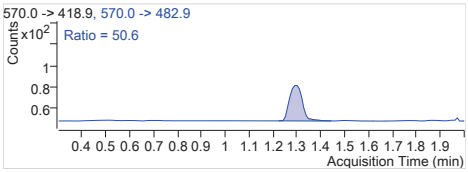
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.323 (1.323)
Concentration: 1 µg/L
Sample type: Sample



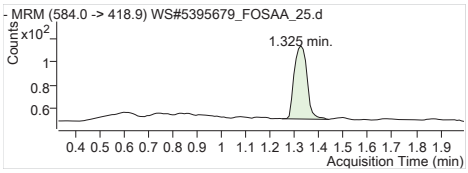


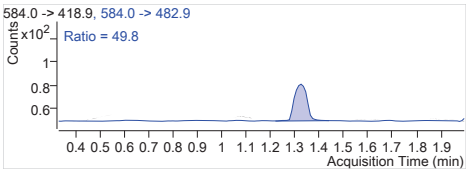
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.871 (0.871)
Concentration: 1 µg/L
Sample type: Sample



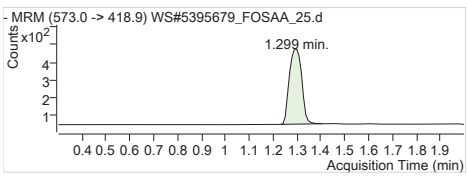


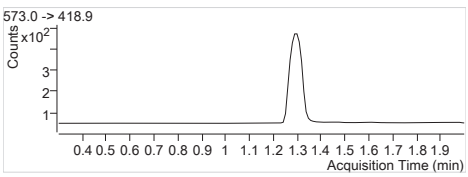
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 1.291 (1.300)
Calc. conc. 0.01 µg/L
Area ratio: 0.16123
Sample type: Sample



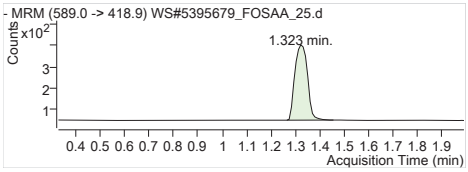


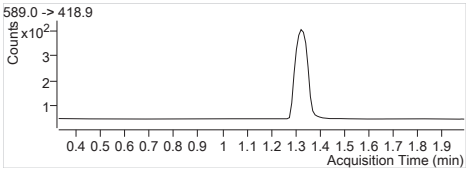
EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 1.325 (1.325)
Calc. conc. 0.01 µg/L
Area ratio: 0.18404
Sample type: Sample



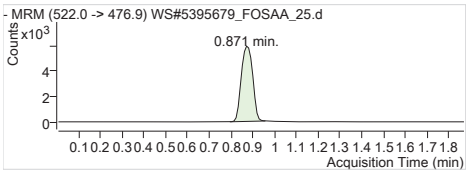


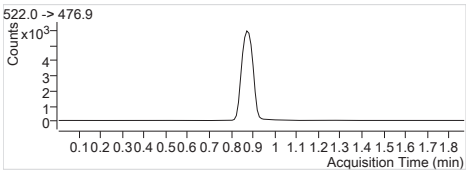
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.299 (1.299)
Calc. conc. 88.47 µg/L
Area ratio: 0.07024
Sample type: Sample





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.323 (1.323)
Calc. conc.	82.95 µg/L
Area ratio:	0.05849
Sample type:	Sample





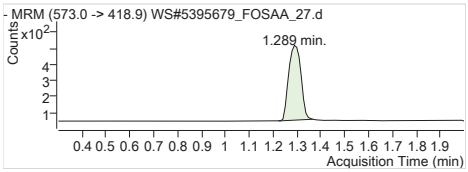
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.871 (0.871)
Calc. conc.	2.22 µg/L
Area ratio:	0
Sample type:	Sample

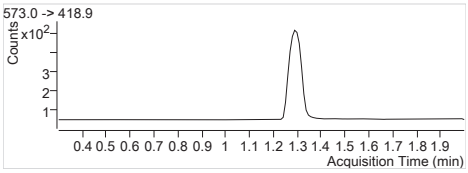
Batch Path	T:\lcms4\PFC\20180213\WS#5395679_FOSAA\QuantResults\PFC_Water_Low_180213_WS#5395679_FOSAA_ETOxics

Sample Name	**5395679:GAD938-01:25x**	**Instrument**	LCMS04
Data File	WS#5395679_FOSAA_27.d	**Operator**	
Sample Type	Sample	**Dilution**	0.6
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P3-C3
Acq. Date	2018/02/13 5:19:26 PM	**Injection Volume**	Per Method
Sample Annotation	Not used		

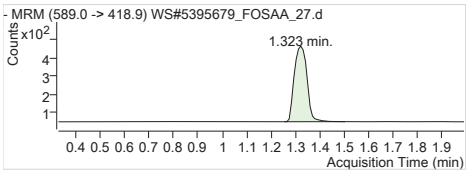
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1654	1.29	1 µg/L		
D5-EtFOSAA IS	1508	1.32	1 µg/L		
13C9-PFDA IS	21441	0.86	1 µg/L		

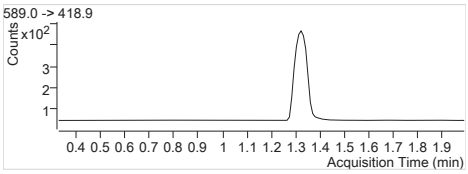
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1			-	ND	-
EtFOSAA 1			-	ND	-
D3-MeFOSAA	1696	1.29	-	99.63 µg/L	-
D5-EtFOSAA	1506	1.32	-	99.61 µg/L	-
13C9-PFDA	21093	0.86	-	54.85 µg/L	-



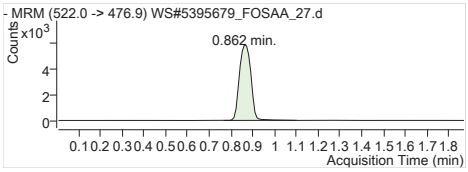


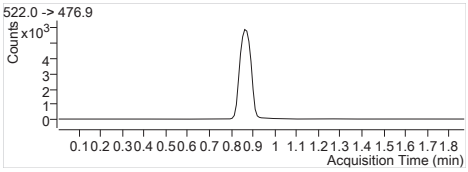
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.289 (1.299)
Concentration: 1 µg/L
Sample type: Sample



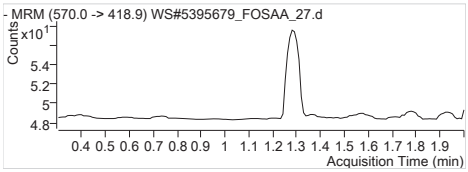


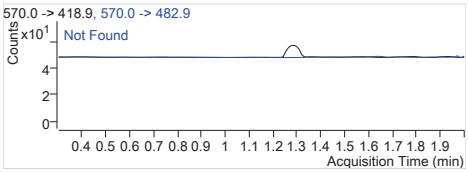
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.323 (1.323)
Concentration: 1 µg/L
Sample type: Sample



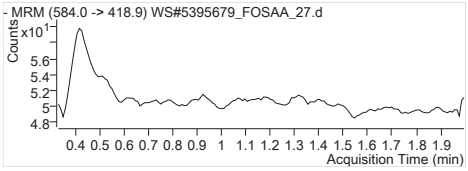


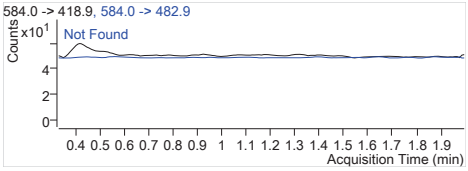
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.862 (0.871)
Concentration: 1 µg/L
Sample type: Sample



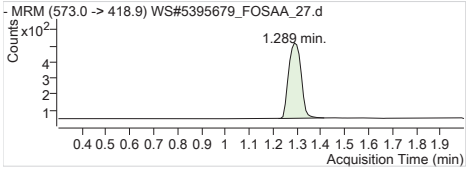


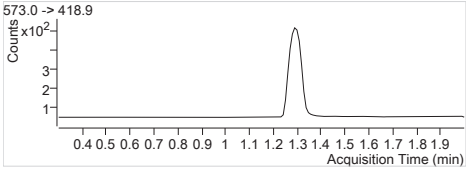
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 0.000 (1.300)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



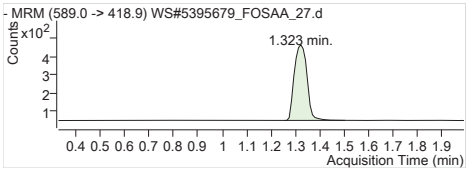


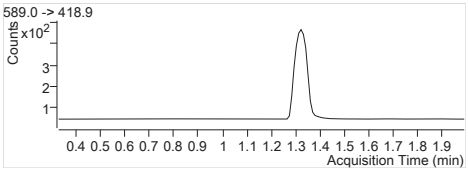
EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 0.000 (1.325)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



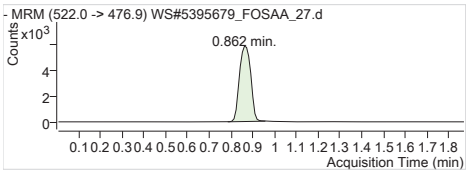


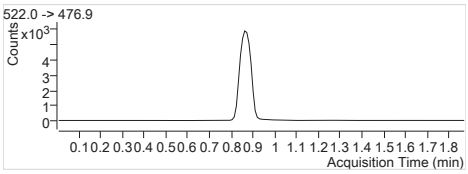
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.289 (1.299)
Calc. conc. 99.63 µg/L
Area ratio: 0.07910
Sample type: Sample





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.323 (1.323)
Calc. conc.	99.61 µg/L
Area ratio:	0.07024
Sample type:	Sample





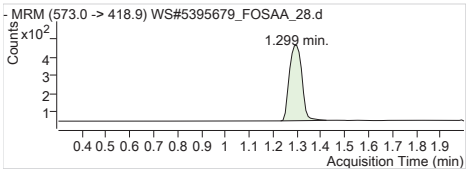
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.862 (0.871)
Calc. conc.	54.85 µg/L
Area ratio:	0
Sample type:	Sample

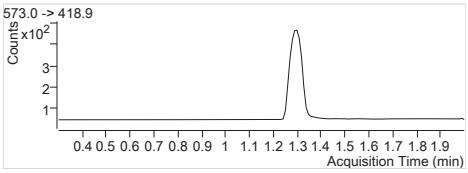
Batch Path	T:\lcms4\PFC\20180213\WS#5395679_FOSAA\QuantResults\PFC_Water_Low_180213_WS#5395679_FOSAA_ETOxics

Sample Name	**5395679:GAD938-01:2x**	**Instrument**	LCMS04
Data File	WS#5395679_FOSAA_28.d	**Operator**	
Sample Type	Sample	**Dilution**	0.048
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P3-C4
Acq. Date	2018/02/13 5:21:51 PM	**Injection Volume**	Per Method
Sample Annotation	-		

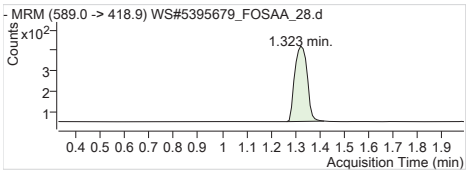
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1516	1.30	1 µg/L		
D5-EtFOSAA IS	1321	1.32	1 µg/L		
13C9-PFDA IS	23421	0.87	1 µg/L		

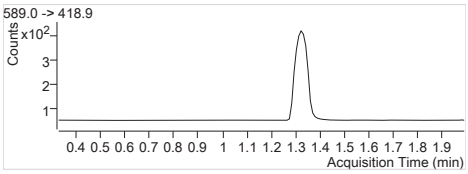
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1			-	ND	-
EtFOSAA 1			-	ND	-
D3-MeFOSAA	1520	1.30	-	81.74 µg/L	-
D5-EtFOSAA	1336	1.32	-	80.90 µg/L	-
13C9-PFDA	22876	0.87	-	4.76 µg/L	-



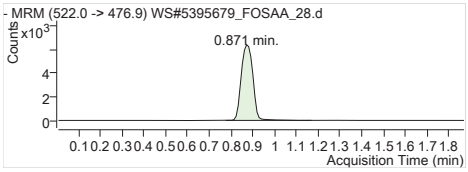


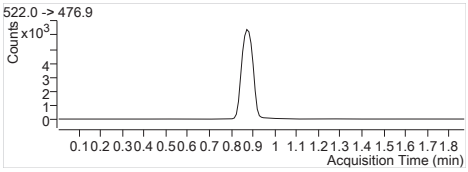
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.299 (1.299)
Concentration: 1 µg/L
Sample type: Sample



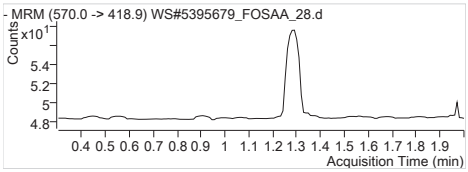


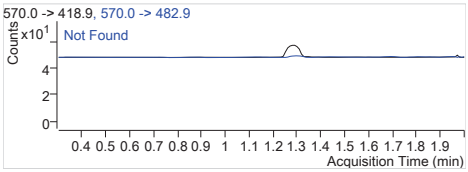
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.323 (1.323)
Concentration: 1 µg/L
Sample type: Sample



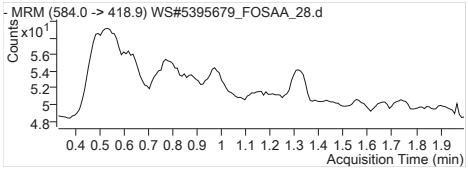


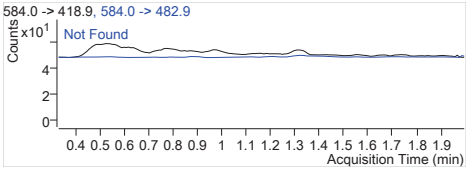
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.871 (0.871)
Concentration: 1 µg/L
Sample type: Sample



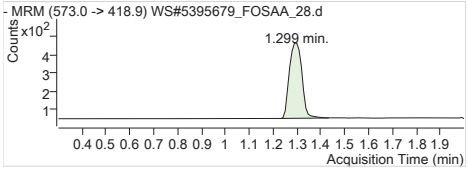


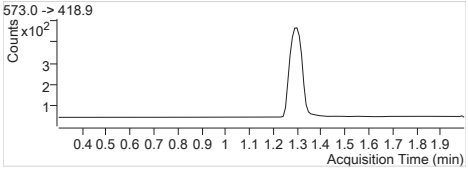
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 0.000 (1.300)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



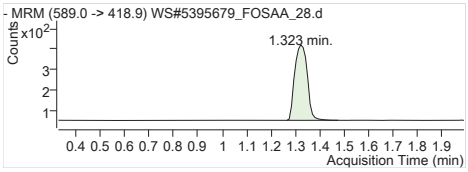


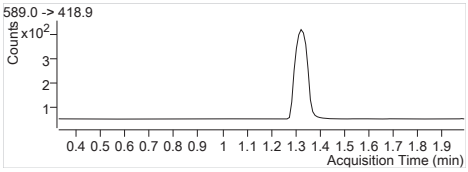
EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 0.000 (1.325)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



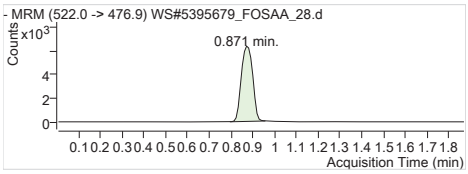


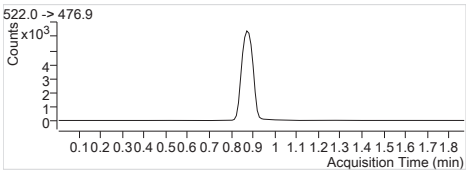
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.299 (1.299)
Calc. conc. 81.74 µg/L
Area ratio: 0.06490
Sample type: Sample





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.323 (1.323)
Calc. conc.	80.90 µg/L
Area ratio:	0.05704
Sample type:	Sample





13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.871 (0.871)
Calc. conc.	4.76 µg/L
Area ratio:	0
Sample type:	Sample

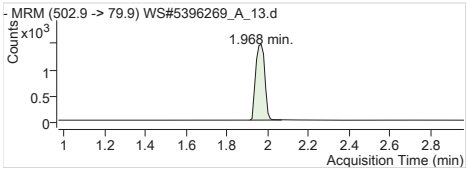
Quantitation Results

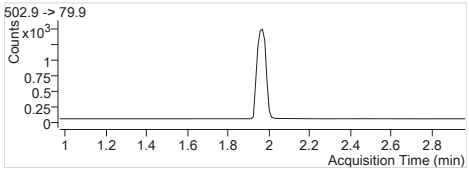
Agilent Technologies

Batch Path	T:\lcms4\PFC\20180213\WS#5396269_A\QuantResults\PFC_Water_High_180213_WS#5396269_A_EToxics		
Sample Name	**5396269:GAD936-01:100x**	**Instrument**	LCMS04
Data File	WS#5396269_A_13.d	**Operator**	
Sample Type	Sample	**Dilution**	100
Acq. Method	PFC_Water_High.m	**Position**	P3-F2
Acq. Date	2018/02/14 6:25:33 PM	**Injection Volume**	Per Method
Sample Annotation	Report for PFOS only.		

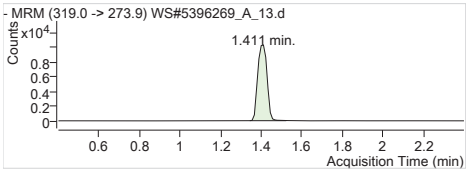
ISTD Compounds	Response	RT	Target conc.		
MPFOS	4473	1.97	1 µg/L		
13C6-PFHxA IS	32640	1.41	1 µg/L		

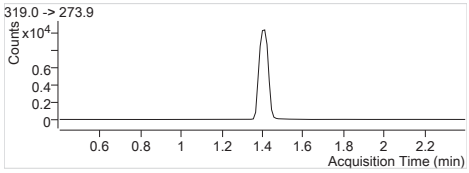
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFOS 1	6006	1.96	-	978.02 µg/L	-
13C6-PFHxA	32640	1.41	-	9361.47 µg/L	-
13C4-PFOS	4473	1.97	-	109.24 µg/L	-



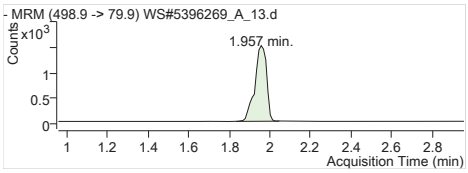


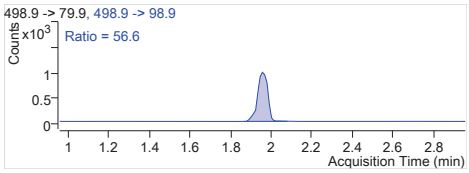
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Sample



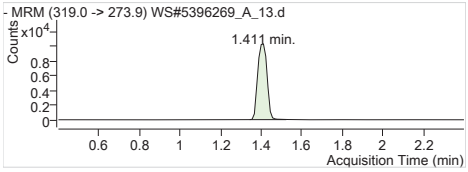


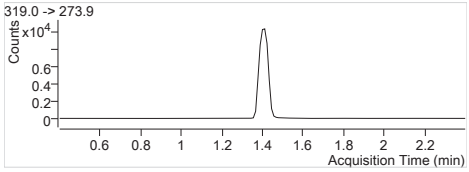
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.400)
Concentration: 1 µg/L
Sample type: Sample



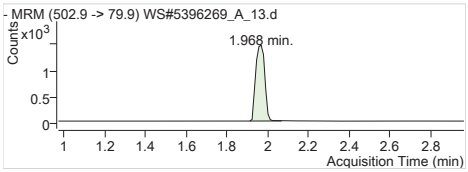


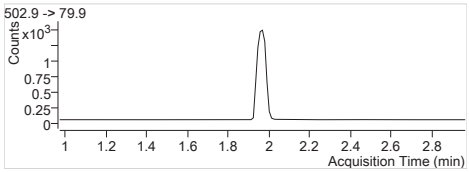
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 978.02 µg/L
Area ratio: 1.34272
Sample type: Sample





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.400)
Calc. conc. 9361.47 µg/L
Area ratio: 0
Sample type: Sample





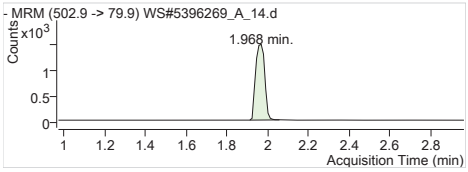
13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.968 (1.968)
Calc. conc. 109.24 µg/L
Area ratio: 0.13704
Sample type: Sample

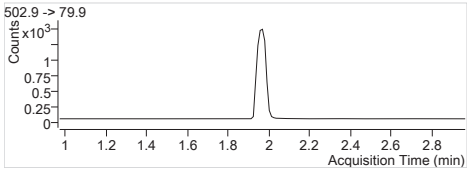
Batch Path	T:\lcms4\PFC\20180213\WS#5396269_A\QuantResults\PFC_Water_High_180213_WS#5396269_A_EToxics

Sample Name	**5396269:GAD936-01:D1:100x**	**Instrument**	LCMS04
Data File	WS#5396269_A_14.d	**Operator**	
Sample Type	Sample	**Dilution**	100
Acq. Method	PFC_Water_High.m	**Position**	P3-F3
Acq. Date	2018/02/14 6:30:27 PM	**Injection Volume**	Per Method
Sample Annotation	Report for PFOS only.		

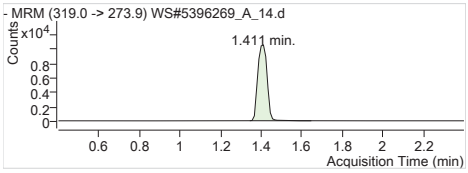
ISTD Compounds	Response	RT	Target conc.		
MPFOS	4524	1.97	1 µg/L		
13C6-PFHxA IS	33712	1.41	1 µg/L		

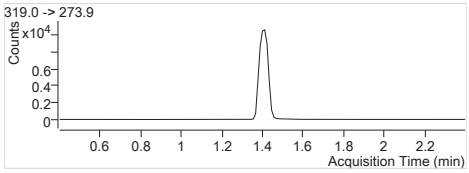
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFOS 1	5414	1.96	-	874.03 µg/L	-
13C6-PFHxA	33712	1.41	-	9668.93 µg/L	-
13C4-PFOS	4524	1.97	-	106.98 µg/L	-



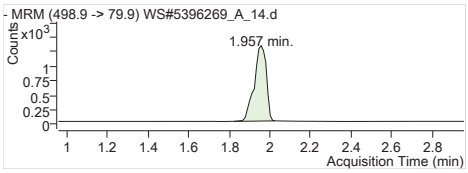


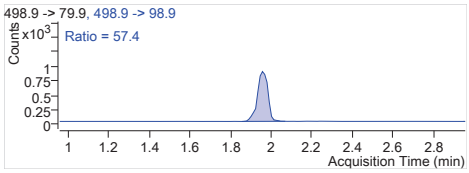
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Sample



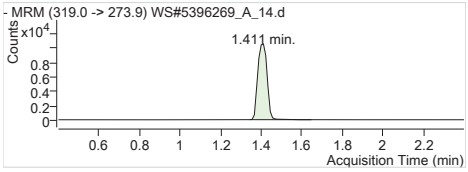


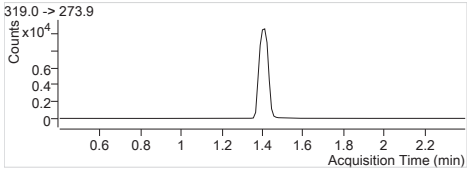
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.400)
Concentration: 1 µg/L
Sample type: Sample



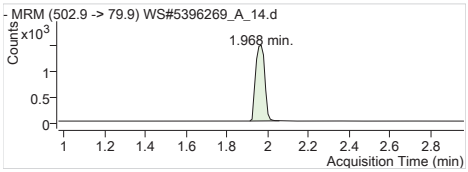


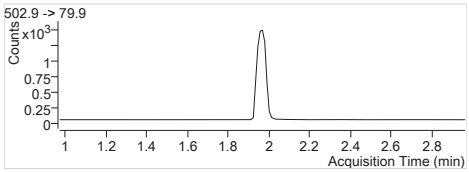
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 874.03 µg/L
Area ratio: 1.19673
Sample type: Sample





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.400)
Calc. conc. 9668.93 µg/L
Area ratio: 0
Sample type: Sample





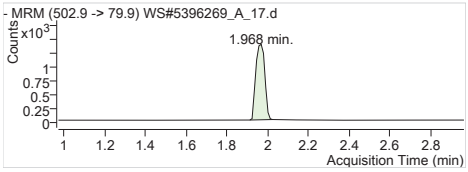
13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.968 (1.968)
Calc. conc. 106.98 µg/L
Area ratio: 0.13420
Sample type: Sample

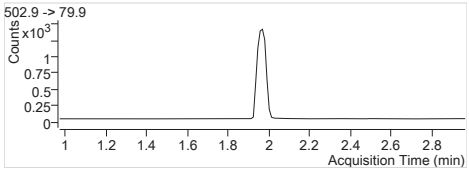
Batch Path	T:\lcms4\PFC\20180213\WS#5396269_A\QuantResults\PFC_Water_High_180213_WS#5396269_A_EToxics

Sample Name	**5396269:GAD936-01:10x**	**Instrument**	LCMS04
Data File	WS#5396269_A_17.d	**Operator**	
Sample Type	Sample	**Dilution**	10
Acq. Method	PFC_Water_High.m	**Position**	P3-F5
Acq. Date	2018/02/14 6:45:13 PM	**Injection Volume**	Per Method
Sample Annotation	not used.		

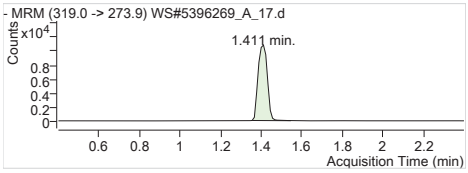
ISTD Compounds	Response	RT	Target conc.		
MPFOS	4230	1.97	1 µg/L		
13C6-PFHxA IS	34059	1.41	1 µg/L		

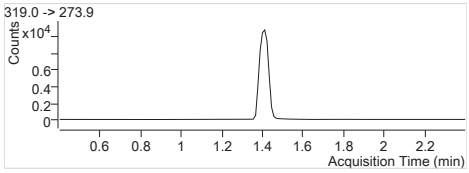
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFOS 1	59857	1.96	-	1010.16 µg/L	-
13C6-PFHxA	34059	1.41	-	976.84 µg/L	-
13C4-PFOS	4230	1.97	-	99.00 µg/L	-



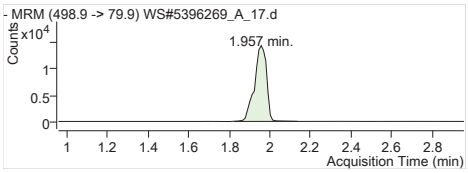


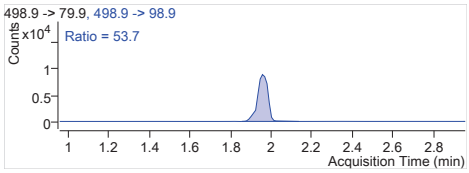
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Sample



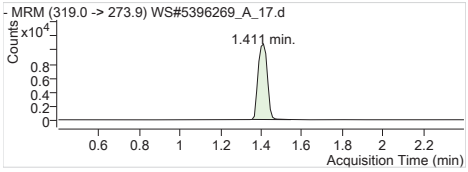


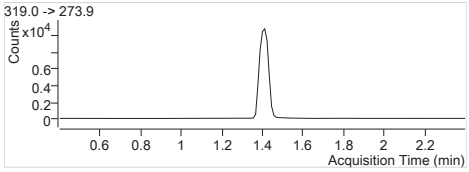
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.400)
Concentration: 1 µg/L
Sample type: Sample



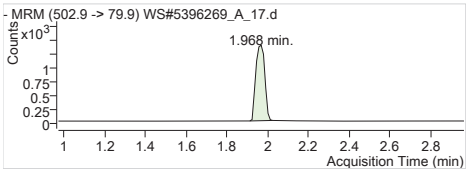


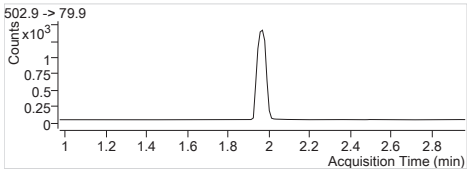
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 1010.16 µg/L
Area ratio: 14.15059
Sample type: Sample





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.400)
Calc. conc. 976.84 µg/L
Area ratio: 0
Sample type: Sample





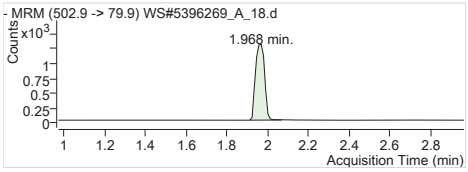
13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.968 (1.968)
Calc. conc. 99.00 µg/L
Area ratio: 0.12420
Sample type: Sample

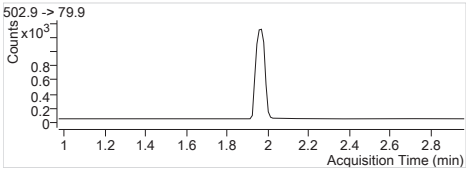
Batch Path	T:\lcms4\PFC\20180213\WS#5396269_A\QuantResults\PFC_Water_High_180213_WS#5396269_A_EToxics

Sample Name	**5396269:GAD936-01:D1:10x**	**Instrument**	LCMS04
Data File	WS#5396269_A_18.d	**Operator**	
Sample Type	Sample	**Dilution**	10
Acq. Method	PFC_Water_High.m	**Position**	P3-F6
Acq. Date	2018/02/14 6:50:09 PM	**Injection Volume**	Per Method
Sample Annotation	not used.		

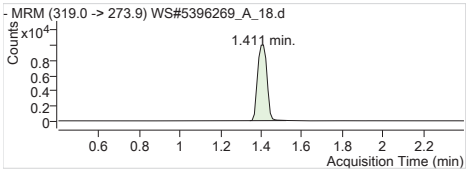
ISTD Compounds	Response	RT	Target conc.		
MPFOS	3985	1.97	1 µg/L		
13C6-PFHxA IS	31943	1.41	1 µg/L		

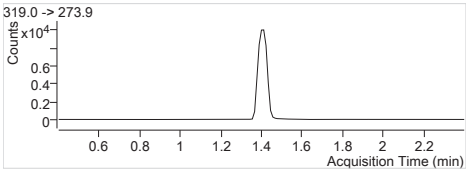
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFOS 1	56730	1.96	-	1016.23 µg/L	-
13C6-PFHxA	31943	1.41	-	916.16 µg/L	-
13C4-PFOS	3985	1.97	-	99.45 µg/L	-



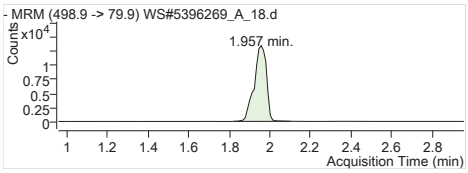


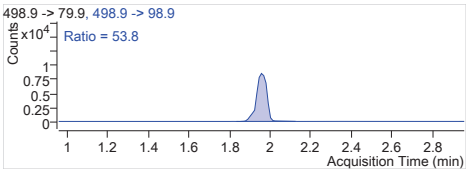
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Sample



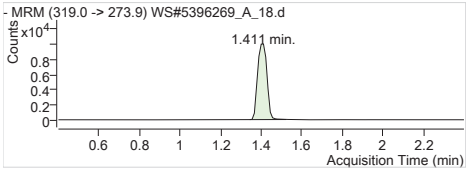


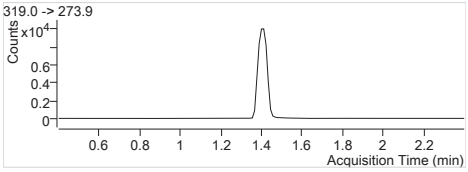
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.400)
Concentration: 1 µg/L
Sample type: Sample



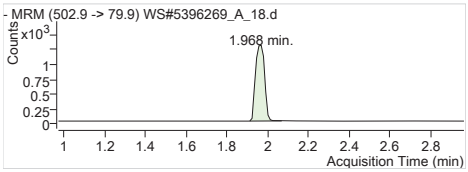


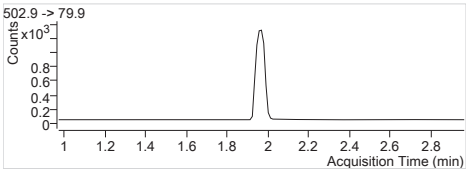
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 1016.23 µg/L
Area ratio: 14.23588
Sample type: Sample





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.400)
Calc. conc. 916.16 µg/L
Area ratio: 0
Sample type: Sample





13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.968 (1.968)
Calc. conc. 99.45 µg/L
Area ratio: 0.12475
Sample type: Sample



4. QA/QC Data

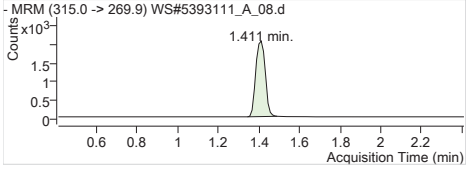
Maxxam Analytics International
6740 Campobello Rd
Mississauga, Ontario, Canada
L5N 2L8
1-800-668-0639
www.maxxamanalytics.com

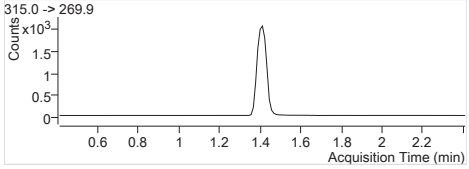
Batch Path T:\lcms4\PFC\20180212\WS#5393111_A\QuantResults\PFC_Water_Low_180213_WS#5393111_EToxics

Sample Name	**IB**	**Instrument**	LCMS04
Data File	WS#5393111_A_08.d	**Operator**	
Sample Type	Sample	**Dilution**	1
Acq. Method	PFC_Water_Low.m	**Position**	P2-A8
Acq. Date	2018/02/13 1:41:02 PM	**Injection Volume**	Per Method
Sample Annotation	-		

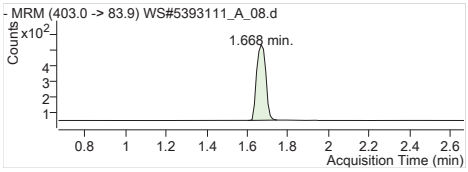
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	6619	1.41	1 µg/L		
MPFHxS	1517	1.67	1 µg/L		
MPFHpA	8673	1.68	1 µg/L		
MPFOA	9288	1.86	1 µg/L		
MPFOS	2053	1.97	1 µg/L		
MPFNA	9085	2.00	1 µg/L		
MPFDA	7658	2.12	1 µg/L		
MPFUnA	9079	2.22	1 µg/L		
MPFDoA	11058	2.31	1 µg/L		
MPFTeDA	12491	2.46	1 µg/L		
13C6-PFHxA IS	21095	1.41	1 µg/L		
13C9-PFDA IS	26482	2.12	1 µg/L		

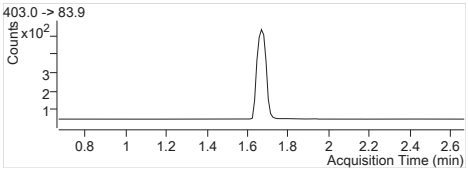
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1			-	ND	-
PFHxA 1			-	ND	-
PFHxS 1			-	ND	-
PFHpA 1			-	ND	-
PFOA 1			-	ND	-
PFOS 1			-	ND	-
PFNA 1			-	ND	-
PFDA 1			-	ND	-
PFUnA 1			-	ND	-
PFDoA 1			-	ND	-
PFTrDA 1			-	ND	-
PFTeDA 1			-	ND	-
13C2-PFHxA	6619	1.41	-	110.89 µg/L	-
18O2-PFHxS	1517	1.67	-	104.12 µg/L	-
13C4-PFHpA	8673	1.68	-	113.76 µg/L	-
13C4-PFOA	9288	1.86	-	114.76 µg/L	-
13C4-PFOS	2053	1.97	-	115.99 µg/L	-
13C5-PFNA	9085	2.00	-	116.39 µg/L	-
13C2-PFDA	7574	2.12	-	115.52 µg/L	-
13C2-PFUnA	9079	2.22	-	118.96 µg/L	-
13C2-PFDoA	11058	2.31	-	111.70 µg/L	-
13C2-PFTeDA	12495	2.46	-	109.95 µg/L	-
13C6-PFHxA	21095	1.41	-	90.33 µg/L	-
13C9-PFDA	26482	2.12	-	87.56 µg/L	-



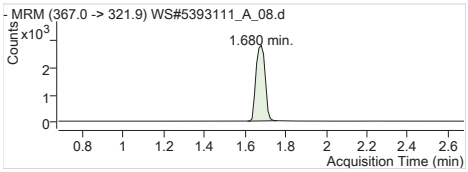


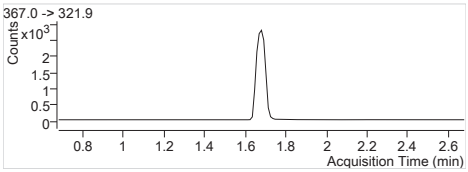
MPFHxA	Internal Standard
RT (Exp. RT):	1.411 (1.411)
Concentration:	1 µg/L
Sample type:	Sample



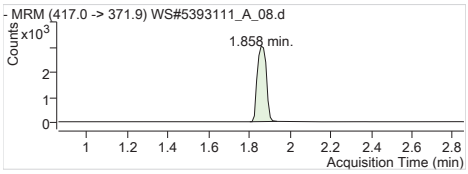


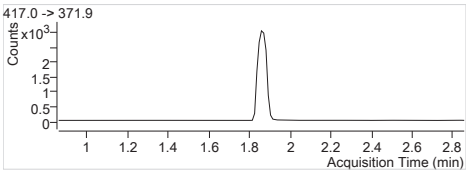
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Sample



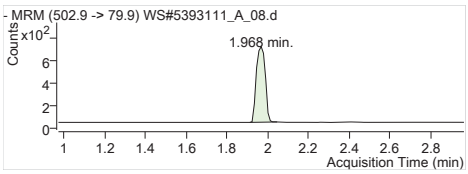


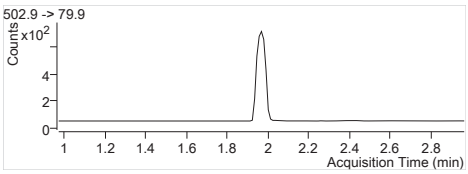
MPFHpA Internal Standard
RT (Exp. RT): 1.680 (1.680)
Concentration: 1 µg/L
Sample type: Sample



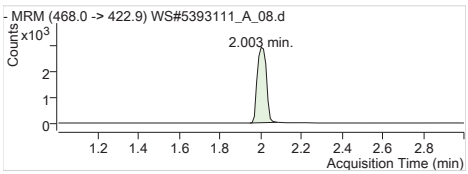


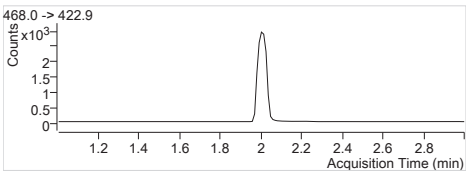
MPFOA Internal Standard
RT (Exp. RT): 1.858 (1.858)
Concentration: 1 µg/L
Sample type: Sample



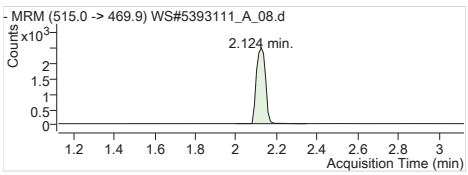


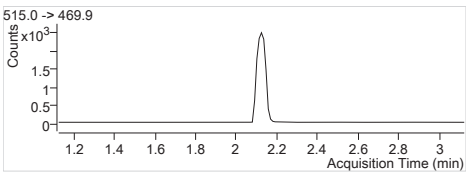
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Sample



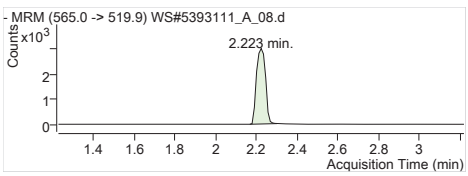


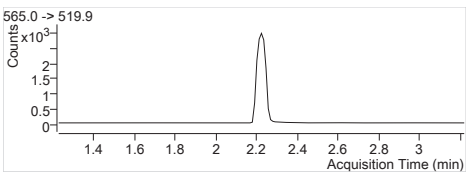
MPFNA Internal Standard
RT (Exp. RT): 2.003 (2.003)
Concentration: 1 µg/L
Sample type: Sample



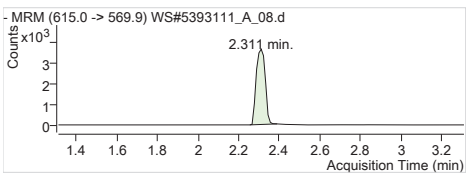


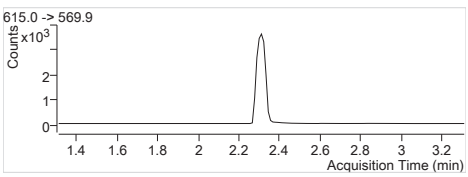
MPFDA Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Sample



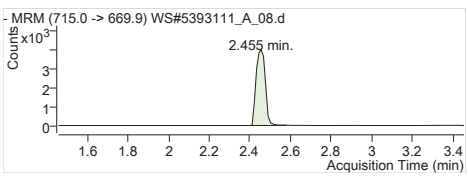


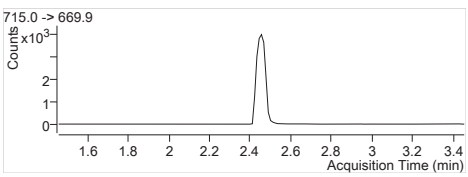
MPFUnA Internal Standard
RT (Exp. RT): 2.223 (2.223)
Concentration: 1 µg/L
Sample type: Sample



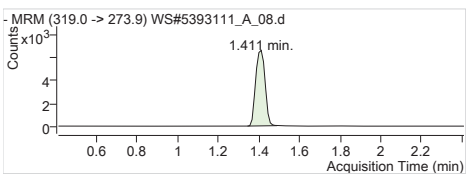


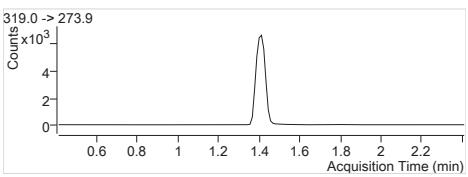
MPFDoA Internal Standard
RT (Exp. RT): 2.311 (2.311)
Concentration: 1 µg/L
Sample type: Sample



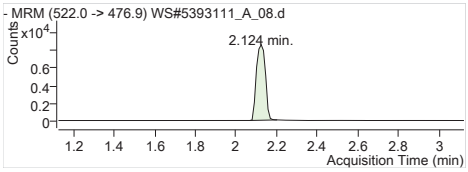


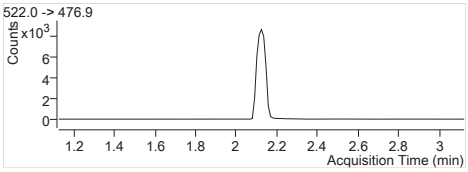
MPFTeDA Internal Standard
RT (Exp. RT): 2.455 (2.455)
Concentration: 1 µg/L
Sample type: Sample



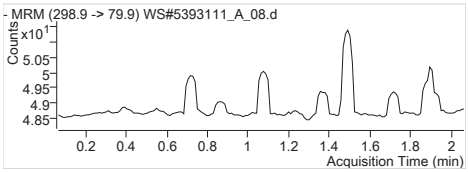


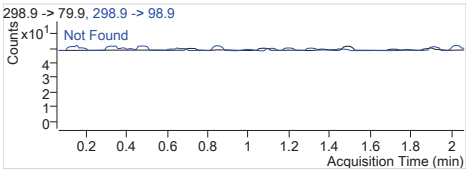
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: Sample



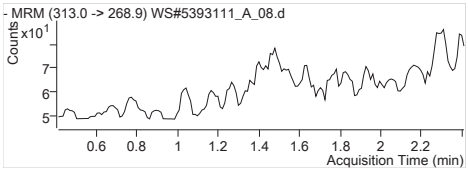


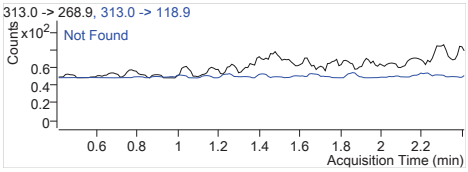
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Sample



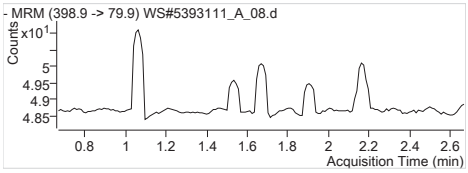


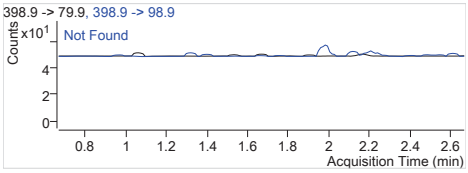
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 0.000 (1.064)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



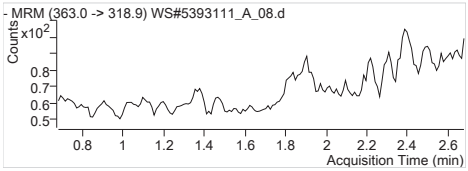


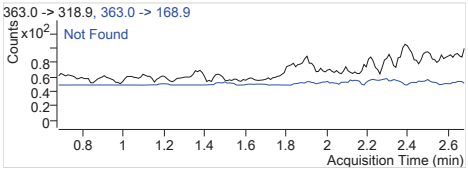
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 0.000 (1.411)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



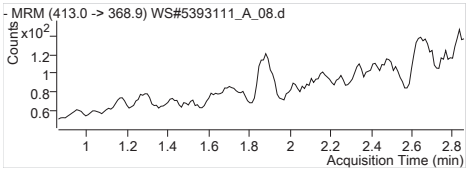


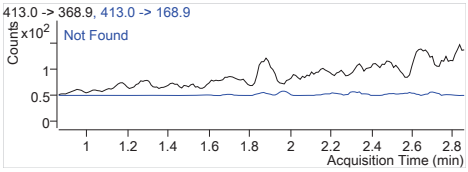
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 0.000 (1.668)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



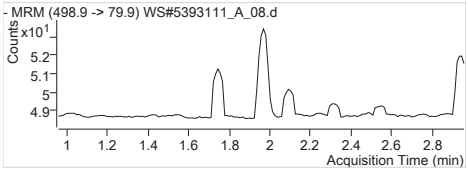


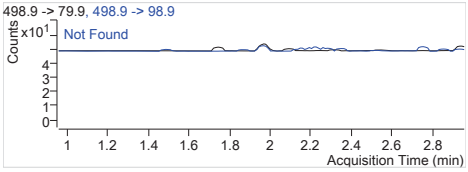
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 0.000 (1.680)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



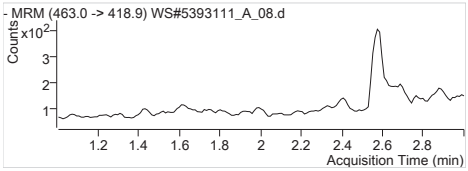


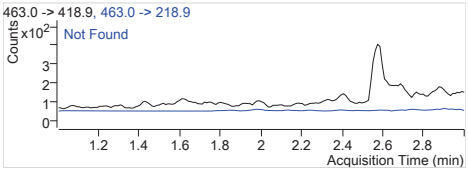
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 0.000 (1.858)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



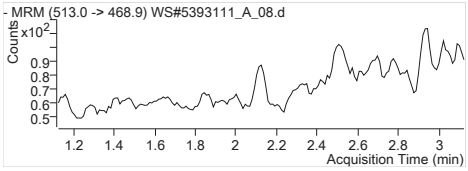


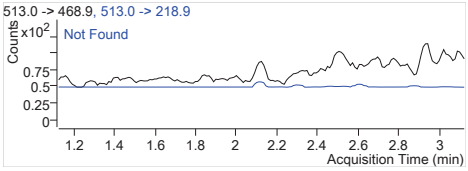
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 0.000 (1.957)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



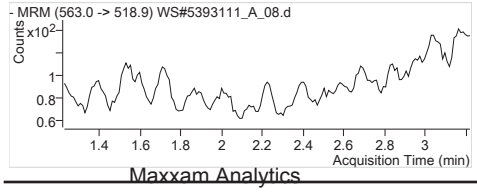


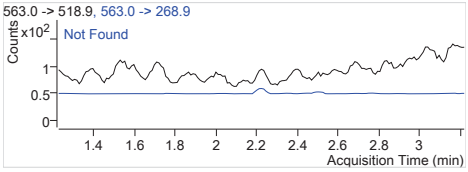
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 0.000 (2.003)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



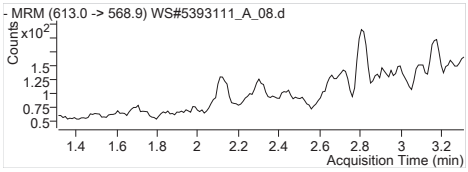


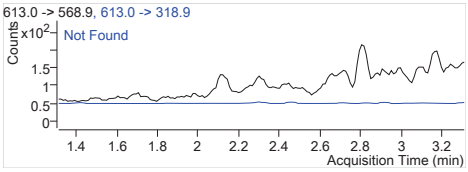
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 0.000 (2.124)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



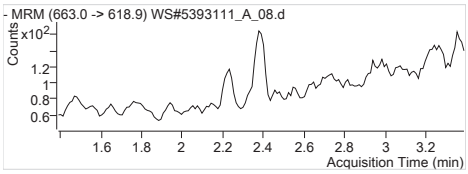


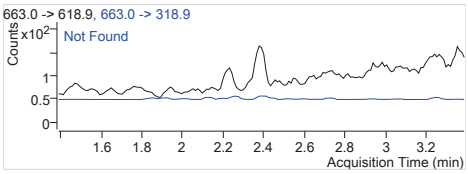
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 0.000 (2.223)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



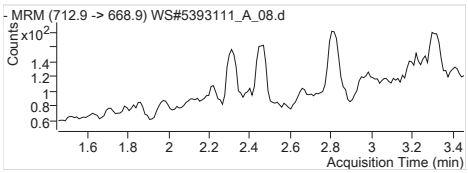


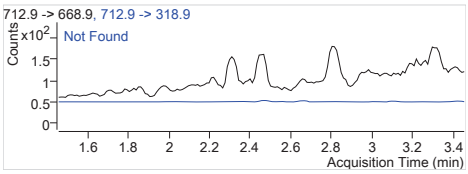
PFDoA 1	613.0 -> 568.9
RT (Exp. RT):	0.000 (2.311)
Calc. conc.	N.D.
Area ratio:	0
Sample type:	Sample



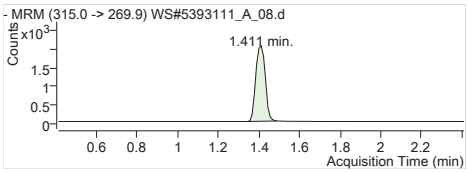


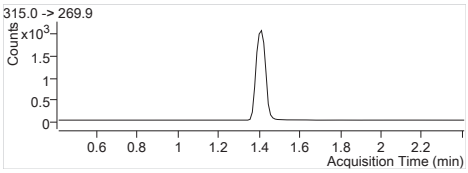
PFTrDA 1	663.0 -> 618.9
RT (Exp. RT):	0.000 (2.389)
Calc. conc.	N.D.
Area ratio:	0
Sample type:	Sample



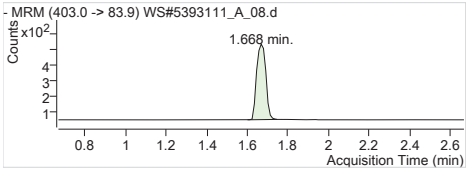


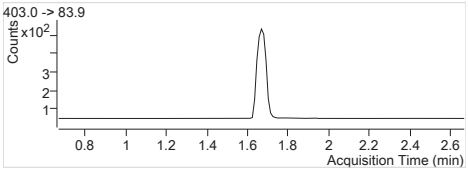
PFTeDA 1	712.9 -> 668.9
RT (Exp. RT):	0.000 (2.456)
Calc. conc.	N.D.
Area ratio:	0
Sample type:	Sample



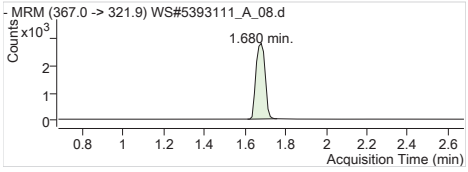


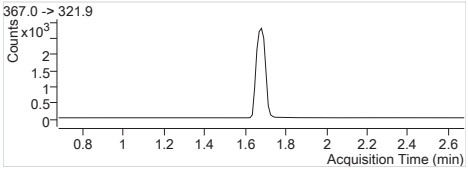
13C2-PFHxA	315.0 -> 269.9
RT (Exp. RT):	1.411 (1.411)
Calc. conc.	110.89 µg/L
Area ratio:	0.31377
Sample type:	Sample



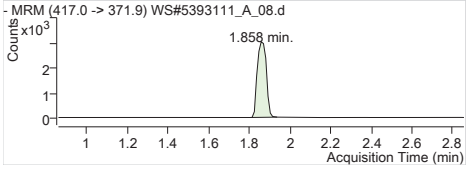


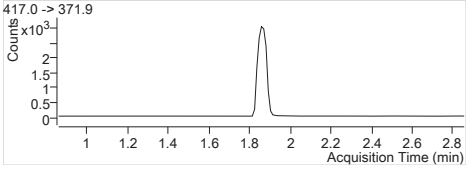
18O2-PFHxS	403.0 -> 83.9
RT (Exp. RT):	1.668 (1.668)
Calc. conc.	104.12 µg/L
Area ratio:	0.07191
Sample type:	Sample



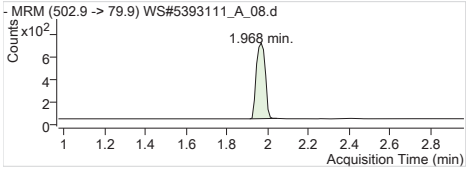


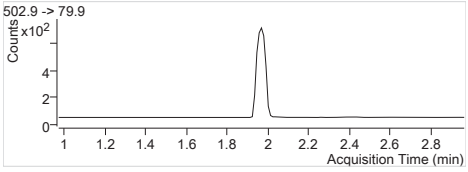
13C4-PFHpA	367.0 -> 321.9
RT (Exp. RT):	1.680 (1.680)
Calc. conc.	113.76 µg/L
Area ratio:	0.41114
Sample type:	Sample



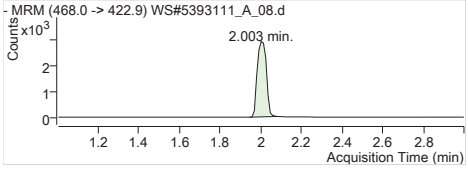


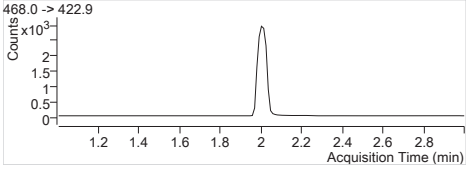
13C4-PFOA	417.0 -> 371.9
RT (Exp. RT):	1.858 (1.858)
Calc. conc.	114.76 µg/L
Area ratio:	0.44029
Sample type:	Sample



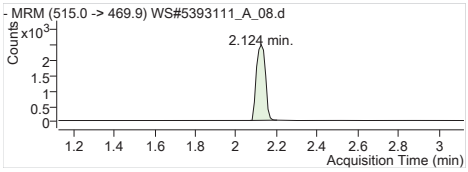


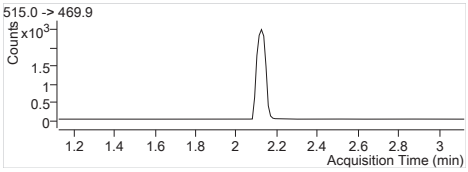
13C4-PFOS	502.9 -> 79.9
RT (Exp. RT):	1.968 (1.968)
Calc. conc.	115.99 µg/L
Area ratio:	0.09732
Sample type:	Sample



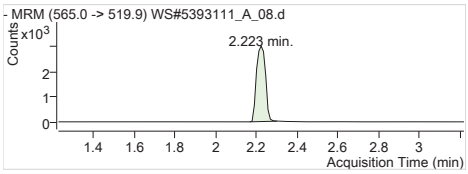


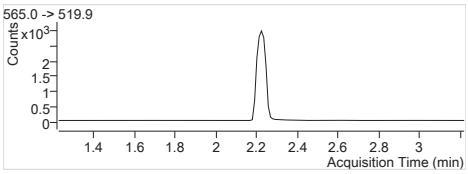
13C5-PFNA	468.0 -> 422.9
RT (Exp. RT):	2.003 (2.003)
Calc. conc.	116.39 µg/L
Area ratio:	0.43067
Sample type:	Sample



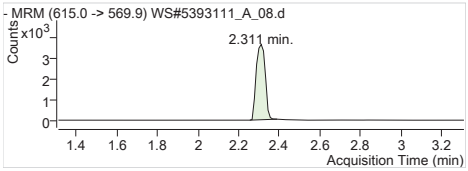


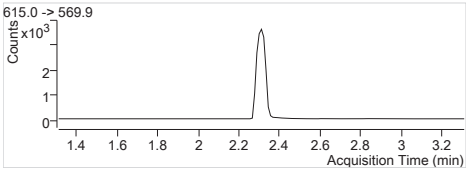
13C2-PFDA 515.0 -> 469.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 115.52 µg/L
Area ratio: 0.28601
Sample type: Sample



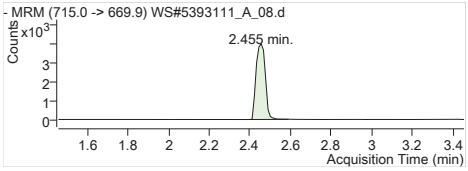


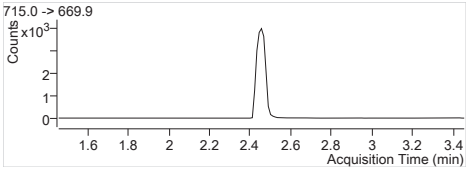
13C2-PFUnA 565.0 -> 519.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 118.96 µg/L
Area ratio: 0.34284
Sample type: Sample



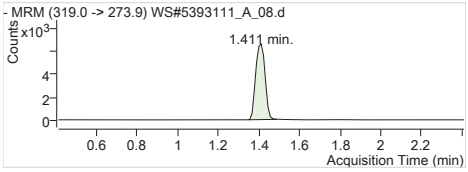


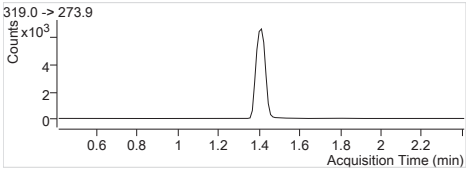
13C2-PFDoA 615.0 -> 569.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 111.70 µg/L
Area ratio: 0.41757
Sample type: Sample



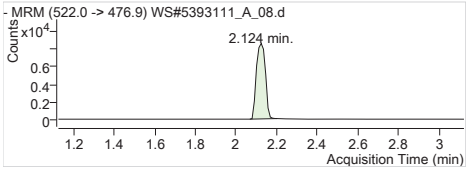


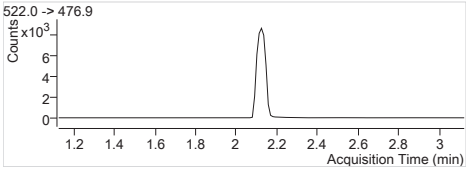
13C2-PFTeDA 715.0 -> 669.9
RT (Exp. RT): 2.455 (2.455)
Calc. conc. 109.95 µg/L
Area ratio: 0.47183
Sample type: Sample





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 90.33 µg/L
Area ratio: 0
Sample type: Sample





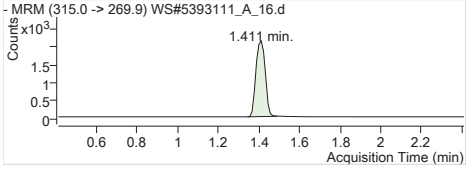
13C9-PFDA 522.0 -> 476.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 87.56 µg/L
Area ratio: 0
Sample type: Sample

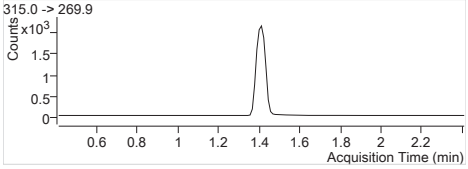
Batch Path T:\lcms4\PFC\20180212\WS#5393111_A\QuantResults\PFC_Water_Low_180213_WS#5393111_EToxics

Sample Name	**IB**	**Instrument**	LCMS04
Data File	WS#5393111_A_16.d	**Operator**	
Sample Type	Sample	**Dilution**	0.024
Acq. Method	PFC_Water_Low.m	**Position**	P2-A8
Acq. Date	2018/02/13 2:20:30 PM	**Injection Volume**	Per Method
Sample Annotation	-		

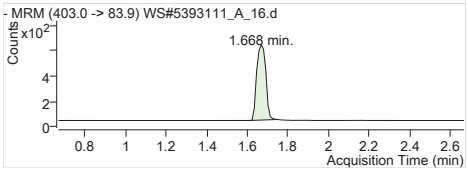
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	6729	1.41	1 µg/L		
MPFHxS	1852	1.67	1 µg/L		
MPFHpA	8975	1.68	1 µg/L		
MPFOA	9393	1.86	1 µg/L		
MPFOS	2071	1.97	1 µg/L		
MPFNA	9030	2.00	1 µg/L		
MPFDA	7514	2.12	1 µg/L		
MPFUnA	8684	2.22	1 µg/L		
MPFDoA	11828	2.31	1 µg/L		
MPFTeDA	12820	2.46	1 µg/L		
13C6-PFHxA IS	21822	1.41	1 µg/L		
13C9-PFDA IS	27149	2.12	1 µg/L		

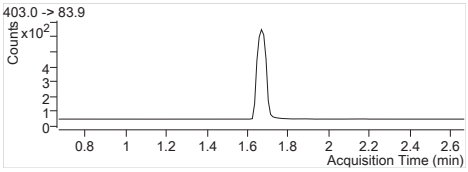
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1			-	ND	-
PFHxA 1			-	ND	-
PFHxS 1			-	ND	-
PFHpA 1			-	ND	-
PFOA 1			-	ND	-
PFOS 1			-	ND	-
PFNA 1			-	ND	-
PFDA 1			-	ND	-
PFUnA 1			-	ND	-
PFDoA 1			-	ND	-
PFTrDA 1			-	ND	-
PFTeDA 1			-	ND	-
13C2-PFHxA	6729	1.41	-	108.98 µg/L	-
18O2-PFHxS	1852	1.67	-	122.87 µg/L	-
13C4-PFHpA	8975	1.68	-	113.80 µg/L	-
13C4-PFOA	9393	1.86	-	112.19 µg/L	-
13C4-PFOS	2071	1.97	-	113.11 µg/L	-
13C5-PFNA	9030	2.00	-	111.83 µg/L	-
13C2-PFDA	7422	2.12	-	110.42 µg/L	-
13C2-PFUnA	8684	2.22	-	110.99 µg/L	-
13C2-PFDoA	11828	2.31	-	116.54 µg/L	-
13C2-PFTeDA	13059	2.46	-	112.09 µg/L	-
13C6-PFHxA	21822	1.41	-	2.24 µg/L	-
13C9-PFDA	27149	2.12	-	2.15 µg/L	-



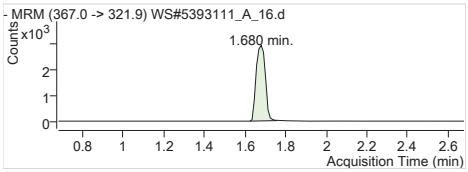


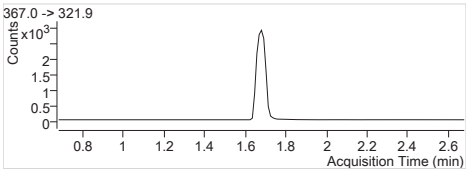
MPFHxA Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: Sample



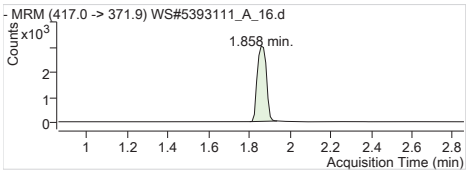


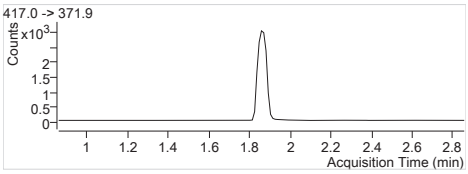
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Sample



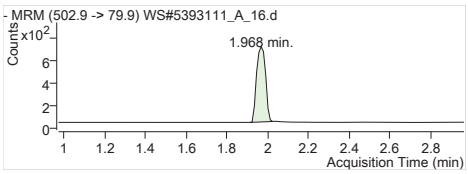


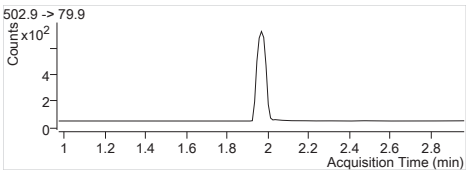
MPFHpA Internal Standard
RT (Exp. RT): 1.680 (1.680)
Concentration: 1 µg/L
Sample type: Sample



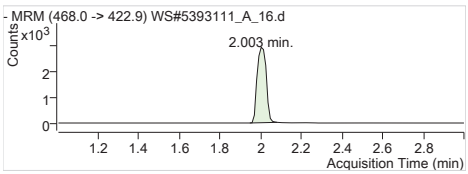


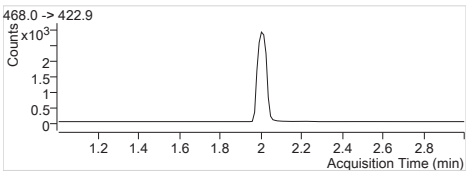
MPFOA Internal Standard
RT (Exp. RT): 1.858 (1.858)
Concentration: 1 µg/L
Sample type: Sample



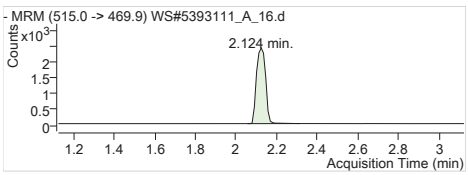


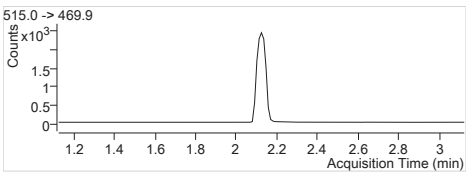
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Sample



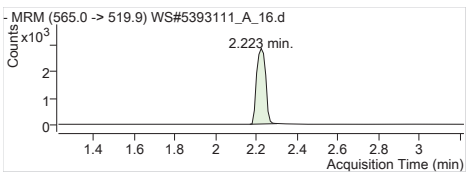


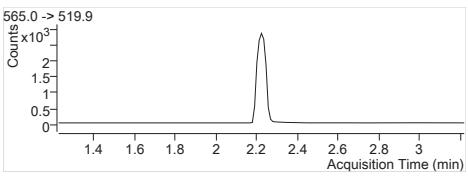
MPFNA Internal Standard
RT (Exp. RT): 2.003 (2.003)
Concentration: 1 µg/L
Sample type: Sample



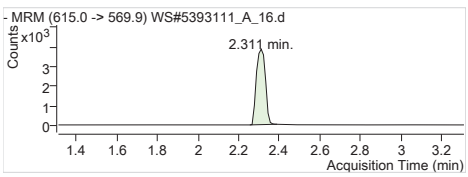


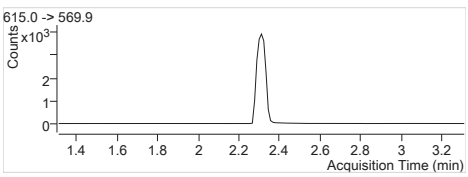
MPFDA Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Sample



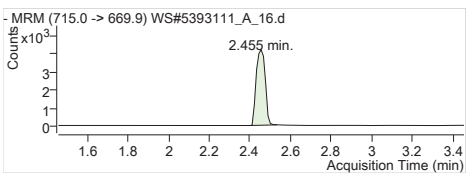


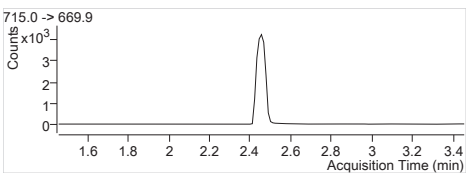
MPFUnA Internal Standard
RT (Exp. RT): 2.223 (2.223)
Concentration: 1 µg/L
Sample type: Sample



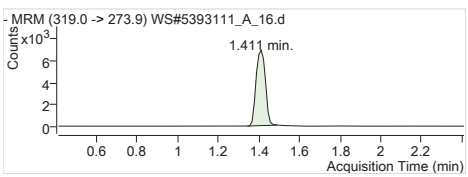


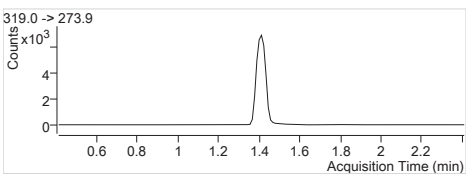
MPFDoA Internal Standard
RT (Exp. RT): 2.311 (2.311)
Concentration: 1 µg/L
Sample type: Sample



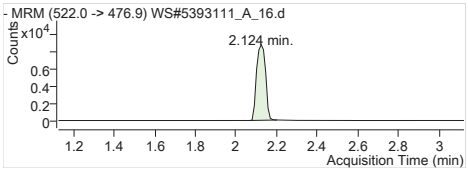


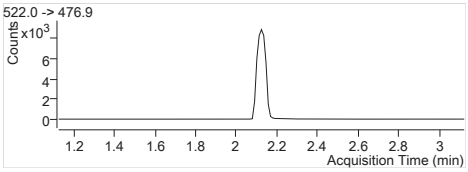
MPFTeDA Internal Standard
RT (Exp. RT): 2.455 (2.455)
Concentration: 1 µg/L
Sample type: Sample



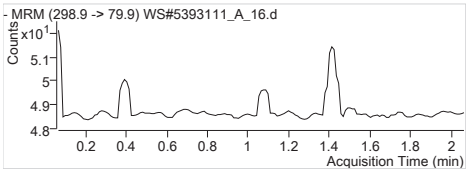


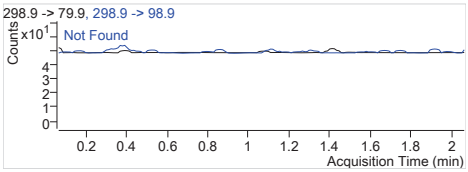
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: Sample



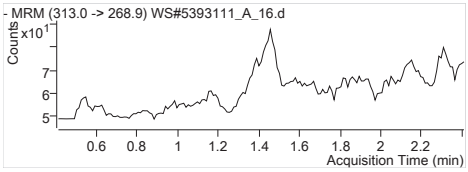


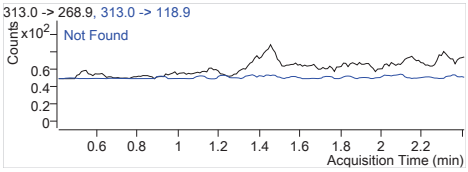
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Sample



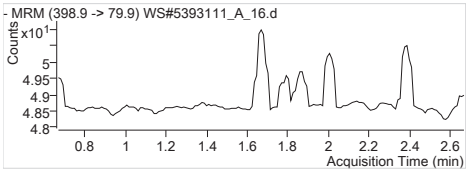


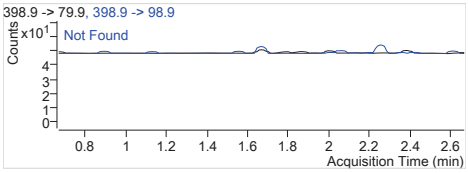
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 0.000 (1.064)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



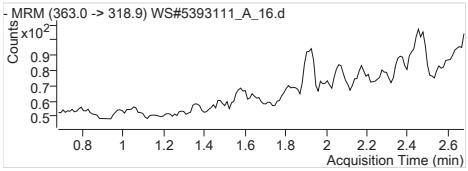


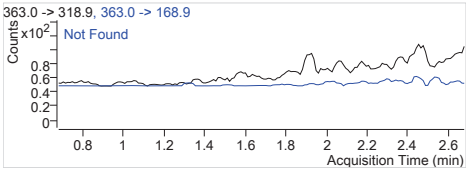
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 0.000 (1.411)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



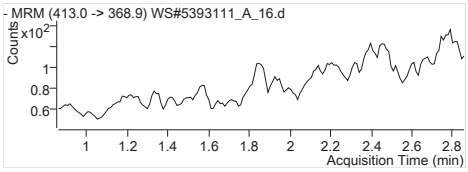


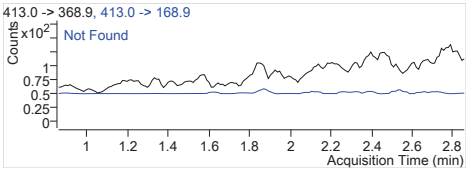
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 0.000 (1.668)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



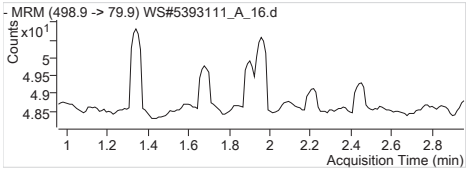


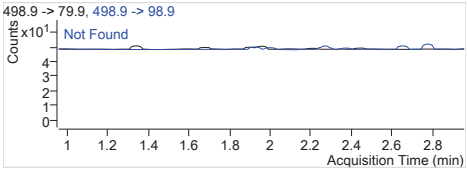
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 0.000 (1.680)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



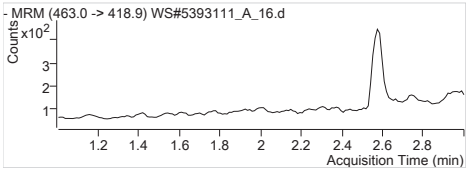


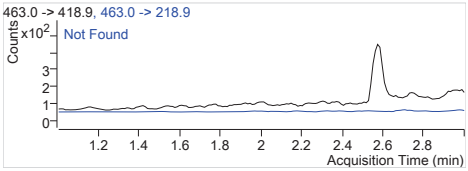
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 0.000 (1.858)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



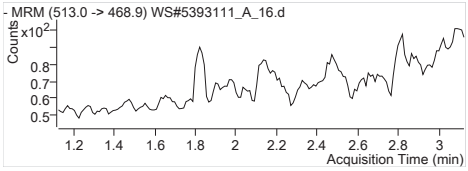


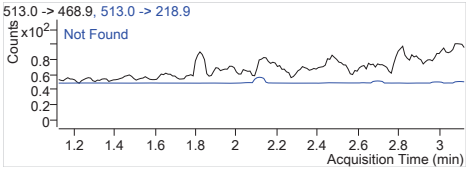
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 0.000 (1.957)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



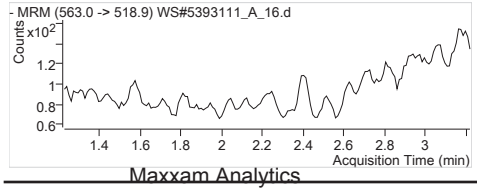


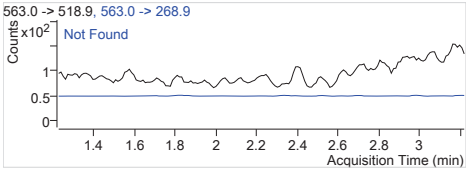
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 0.000 (2.003)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



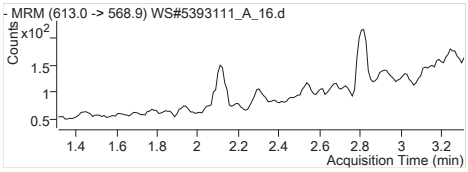


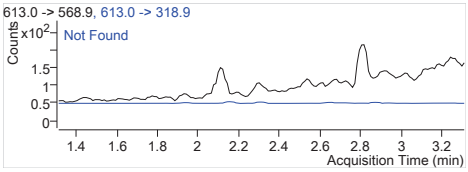
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 0.000 (2.124)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



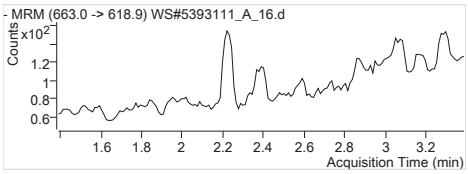


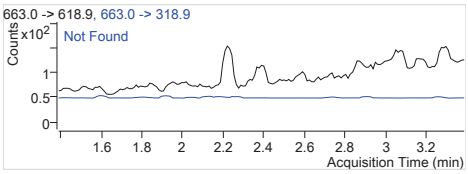
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 0.000 (2.223)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



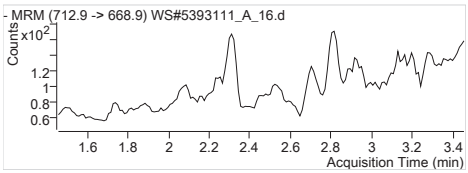


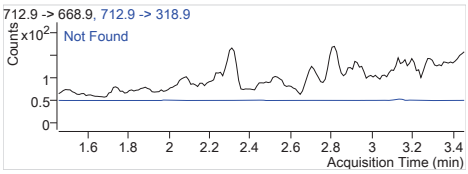
PFDoA 1 613.0 -> 568.9
RT (Exp. RT): 0.000 (2.311)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



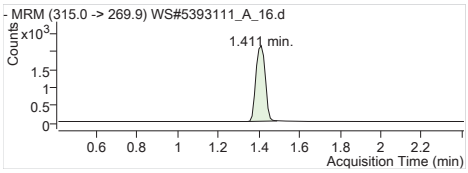


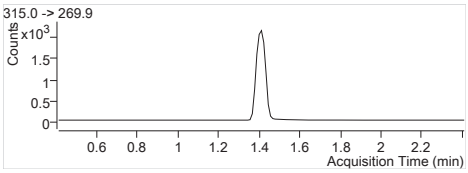
PFTrDA 1 663.0 -> 618.9
RT (Exp. RT): 0.000 (2.389)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



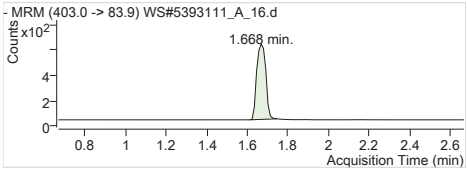


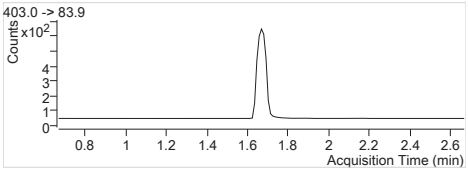
PFTeDA 1 712.9 -> 668.9
RT (Exp. RT): 0.000 (2.456)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



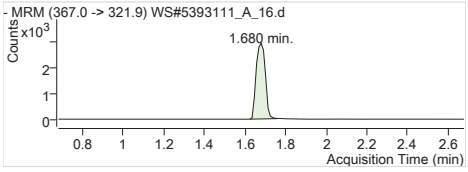


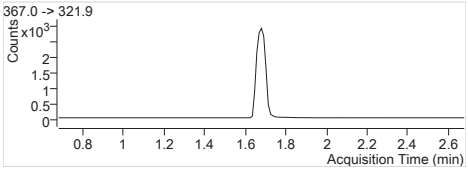
13C2-PFHxA 315.0 -> 269.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 108.98 µg/L
Area ratio: 0.30836
Sample type: Sample



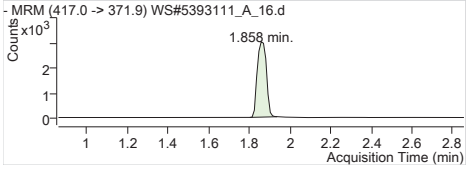


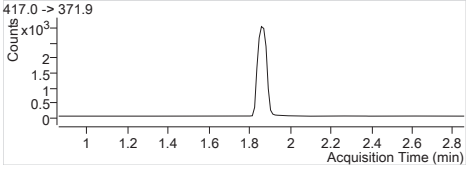
18O2-PFHxS 403.0 -> 83.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 122.87 µg/L
Area ratio: 0.08487
Sample type: Sample



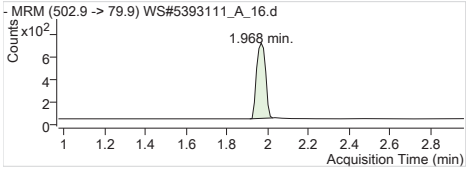


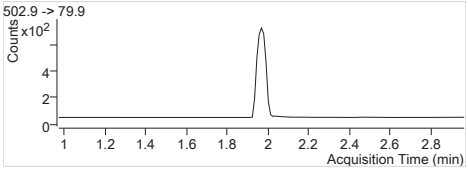
13C4-PFHpA 367.0 -> 321.9
RT (Exp. RT): 1.680 (1.680)
Calc. conc. 113.80 µg/L
Area ratio: 0.41128
Sample type: Sample



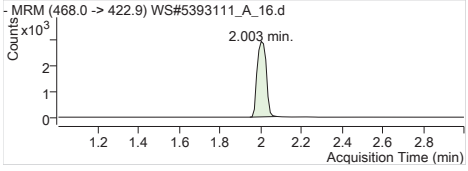


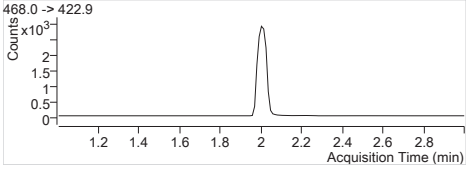
13C4-PFOA 417.0 -> 371.9
RT (Exp. RT): 1.858 (1.858)
Calc. conc. 112.19 µg/L
Area ratio: 0.43044
Sample type: Sample



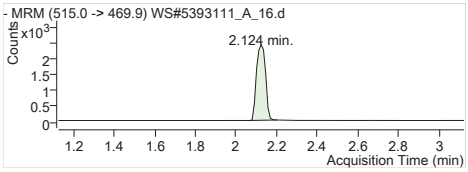


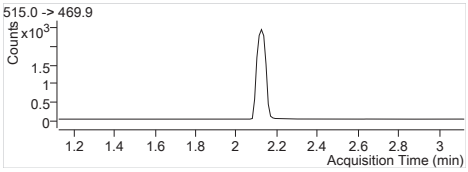
13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.968 (1.968)
Calc. conc. 113.11 µg/L
Area ratio: 0.09490
Sample type: Sample



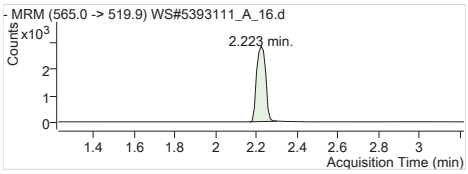


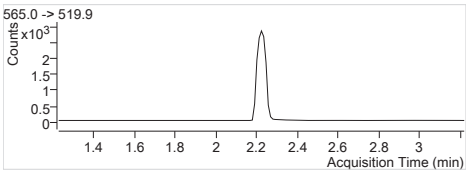
13C5-PFNA 468.0 -> 422.9
RT (Exp. RT): 2.003 (2.003)
Calc. conc. 111.83 µg/L
Area ratio: 0.41380
Sample type: Sample



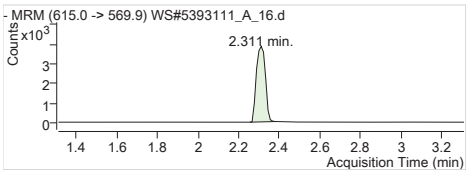


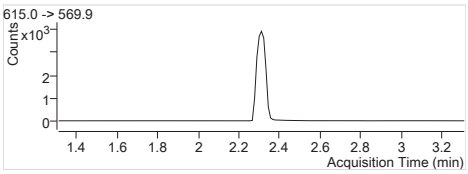
13C2-PFDA 515.0 -> 469.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 110.42 µg/L
Area ratio: 0.27338
Sample type: Sample



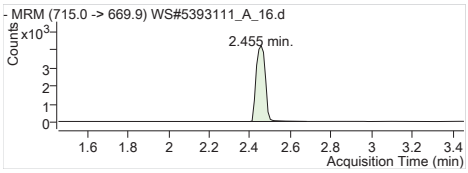


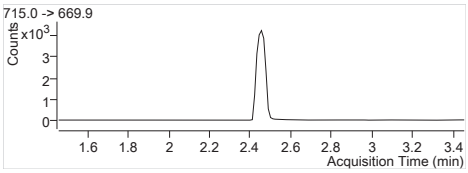
13C2-PFUnA 565.0 -> 519.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 110.99 µg/L
Area ratio: 0.31986
Sample type: Sample



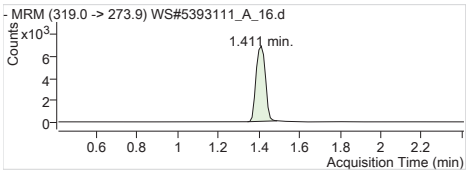


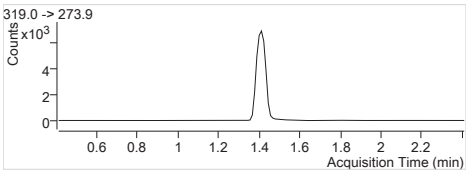
13C2-PFDoA 615.0 -> 569.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 116.54 µg/L
Area ratio: 0.43567
Sample type: Sample



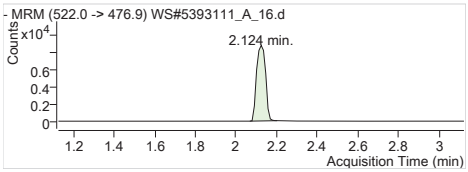


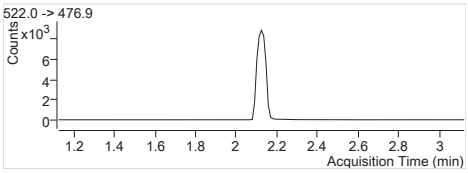
13C2-PFTeDA 715.0 -> 669.9
RT (Exp. RT): 2.455 (2.455)
Calc. conc. 112.09 µg/L
Area ratio: 0.48101
Sample type: Sample





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 2.24 µg/L
Area ratio: 0
Sample type: Sample





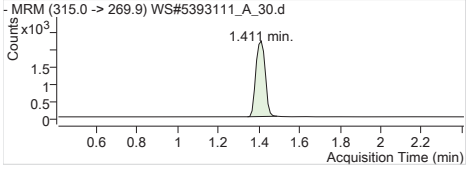
13C9-PFDA 522.0 -> 476.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 2.15 µg/L
Area ratio: 0
Sample type: Sample

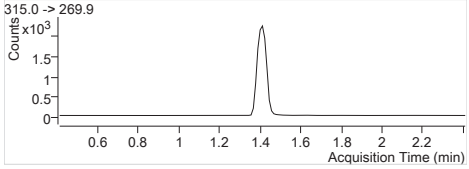
Batch Path	T:\lcms4\PFC\20180212\WS#5393111_A\QuantResults\PFC_Water_Low_180213_WS#5393111_EToxics

Sample Name	**IB**	**Instrument**	LCMS04
Data File	WS#5393111_A_30.d	**Operator**	
Sample Type	Sample	**Dilution**	0.024
Acq. Method	PFC_Water_Low.m	**Position**	P2-A8
Acq. Date	2018/02/13 3:29:34 PM	**Injection Volume**	Per Method
Sample Annotation	-		

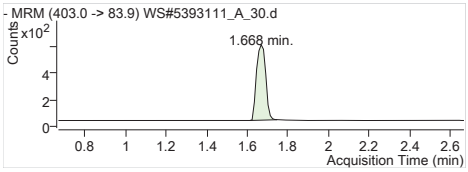
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	7088	1.41	1 µg/L		
MPFHxS	1757	1.67	1 µg/L		
MPFHpA	8347	1.68	1 µg/L		
MPFOA	9143	1.86	1 µg/L		
MPFOS	1974	1.97	1 µg/L		
MPFNA	9189	2.00	1 µg/L		
MPFDA	7835	2.12	1 µg/L		
MPFUnA	8533	2.22	1 µg/L		
MPFDoA	12094	2.31	1 µg/L		
MPFTeDA	13249	2.46	1 µg/L		
13C6-PFHxA IS	21391	1.41	1 µg/L		
13C9-PFDA IS	27144	2.12	1 µg/L		

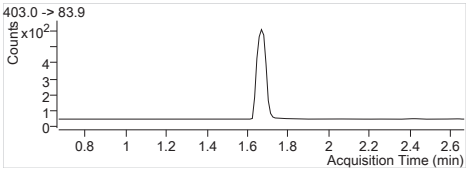
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1			-	ND	-
PFHxA 1			-	ND	-
PFHxS 1			-	ND	-
PFHpA 1			-	ND	-
PFOA 1			-	ND	-
PFOS 1			-	ND	-
PFNA 1			-	ND	-
PFDA 1			-	ND	-
PFUnA 1			-	ND	-
PFDoA 1			-	ND	-
PFTrDA 1			-	ND	-
PFTeDA 1			-	ND	-
13C2-PFHxA	7088	1.41	-	117.10 µg/L	-
18O2-PFHxS	1757	1.67	-	118.92 µg/L	-
13C4-PFHpA	8347	1.68	-	107.97 µg/L	-
13C4-PFOA	9143	1.86	-	111.40 µg/L	-
13C4-PFOS	1974	1.97	-	109.98 µg/L	-
13C5-PFNA	9188	2.00	-	116.08 µg/L	-
13C2-PFDA	7736	2.12	-	115.12 µg/L	-
13C2-PFUnA	8533	2.22	-	109.08 µg/L	-
13C2-PFDoA	12094	2.31	-	119.18 µg/L	-
13C2-PFTeDA	13408	2.46	-	115.11 µg/L	-
13C6-PFHxA	21391	1.41	-	2.20 µg/L	-
13C9-PFDA	27144	2.12	-	2.15 µg/L	-



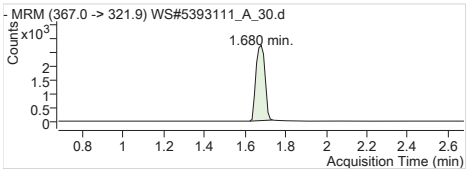


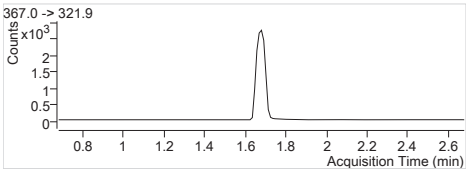
MPFHxA	Internal Standard
RT (Exp. RT):	1.411 (1.411)
Concentration:	1 µg/L
Sample type:	Sample



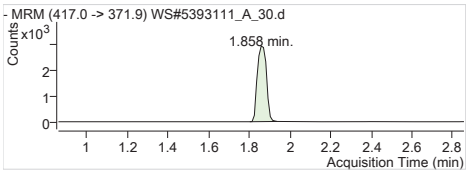


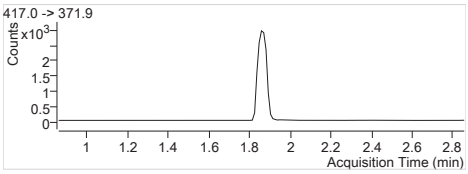
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Sample



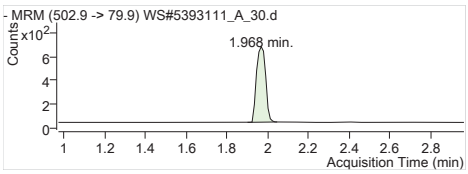


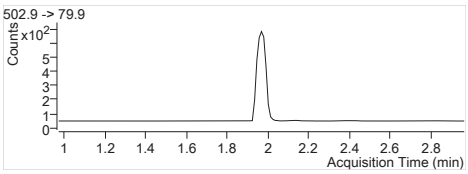
MPFHpA Internal Standard
RT (Exp. RT): 1.680 (1.680)
Concentration: 1 µg/L
Sample type: Sample



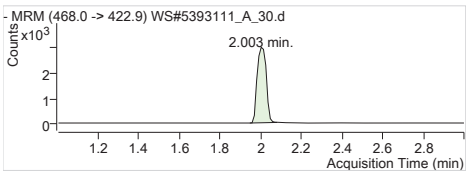


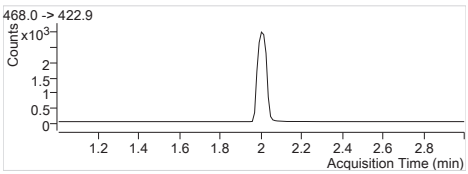
MPFOA Internal Standard
RT (Exp. RT): 1.858 (1.858)
Concentration: 1 µg/L
Sample type: Sample



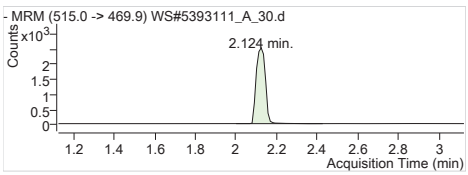


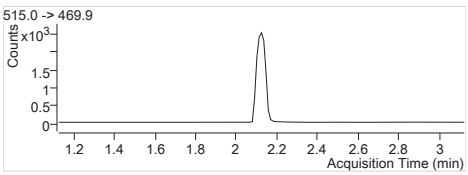
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Sample



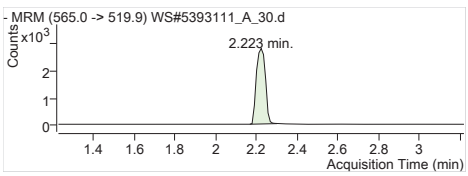


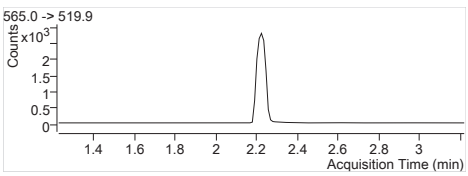
MPFNA Internal Standard
RT (Exp. RT): 2.003 (2.003)
Concentration: 1 µg/L
Sample type: Sample



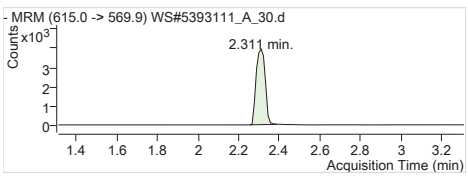


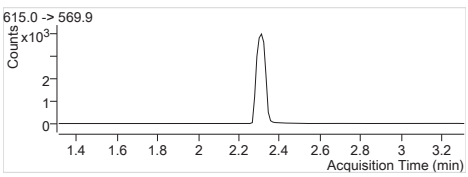
MPFDA Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Sample



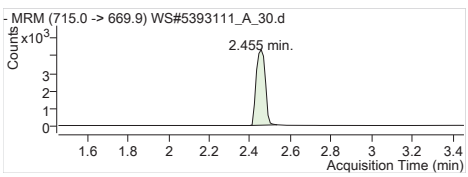


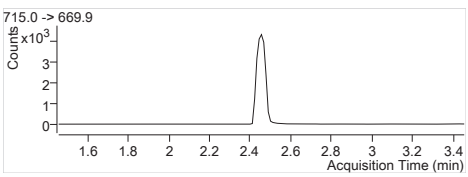
MPFUnA Internal Standard
RT (Exp. RT): 2.223 (2.223)
Concentration: 1 µg/L
Sample type: Sample



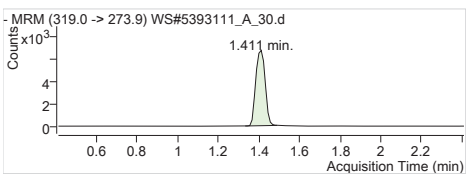


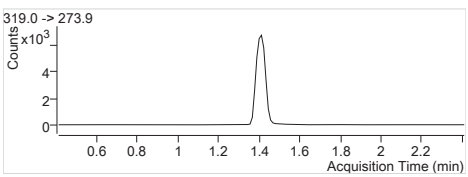
MPFDoA Internal Standard
RT (Exp. RT): 2.311 (2.311)
Concentration: 1 µg/L
Sample type: Sample



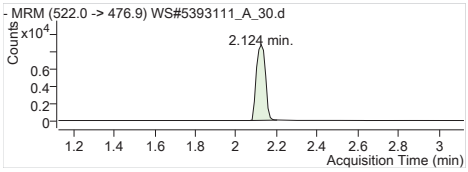


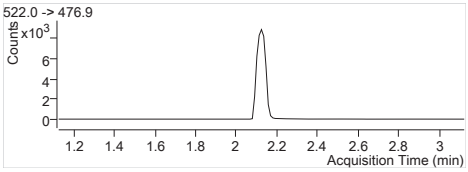
MPFTeDA Internal Standard
RT (Exp. RT): 2.455 (2.455)
Concentration: 1 µg/L
Sample type: Sample



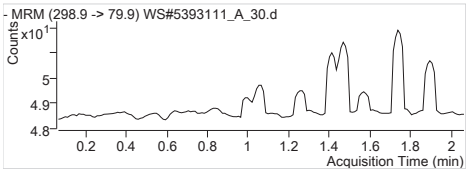


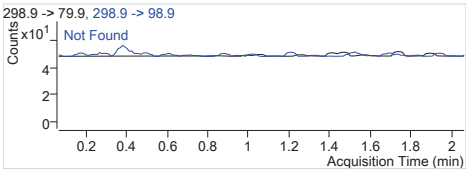
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: Sample



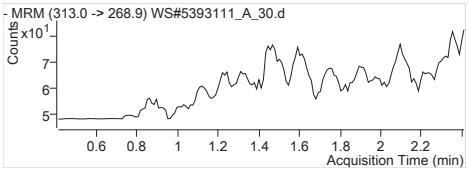


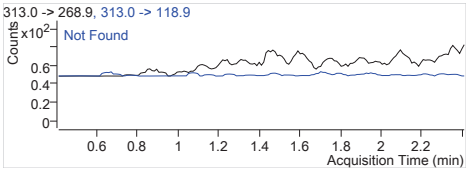
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Sample



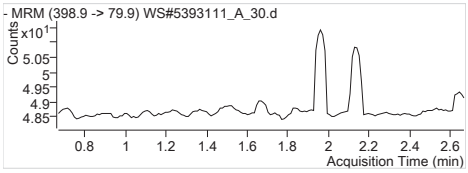


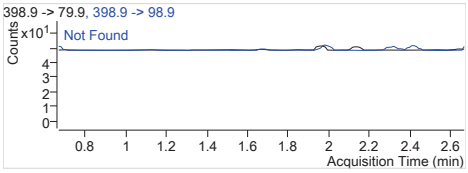
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 0.000 (1.064)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



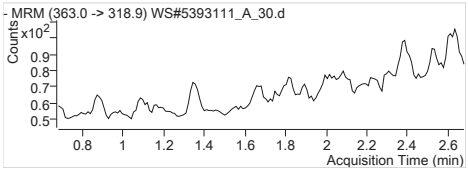


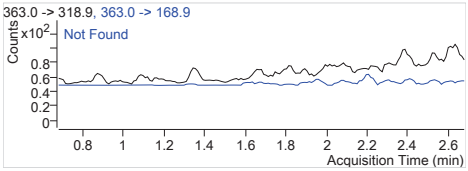
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 0.000 (1.411)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



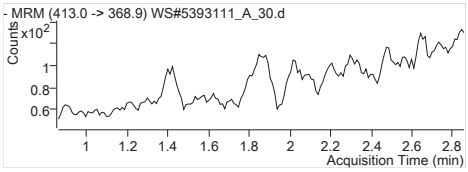


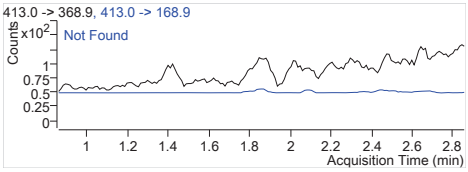
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 0.000 (1.668)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



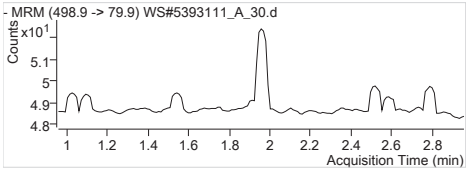


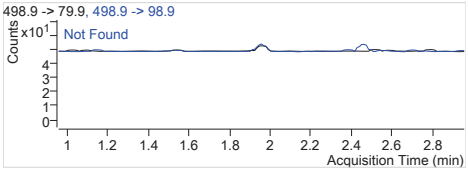
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 0.000 (1.680)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



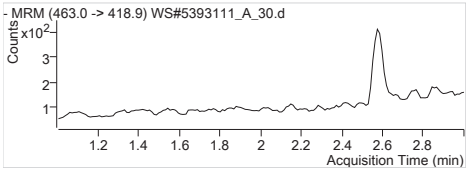


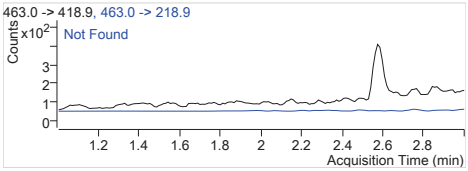
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 0.000 (1.858)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



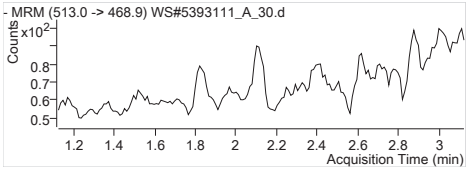


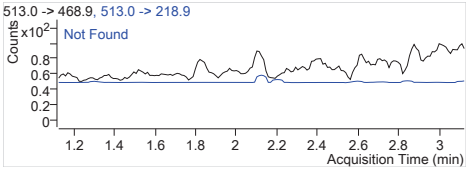
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 0.000 (1.957)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



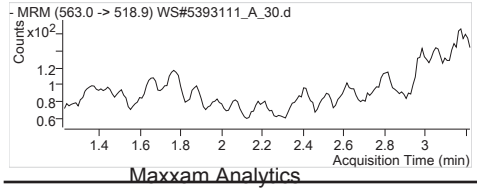


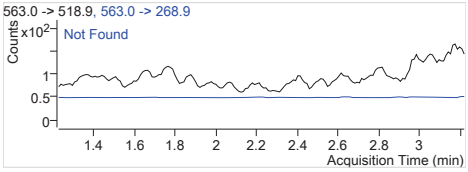
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 0.000 (2.003)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



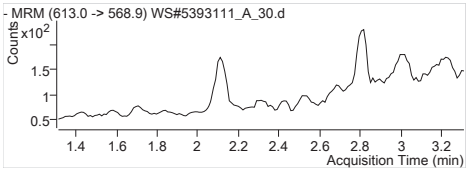


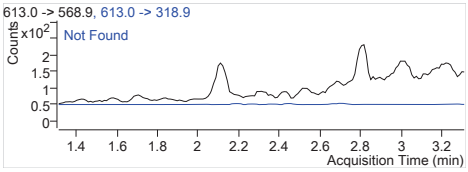
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 0.000 (2.124)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



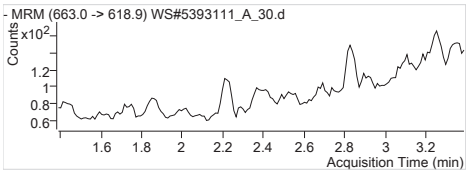


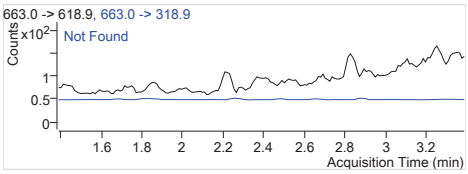
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 0.000 (2.223)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



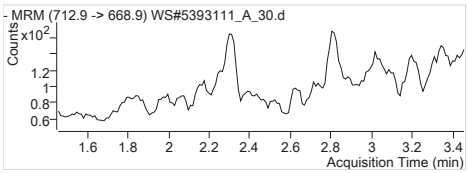


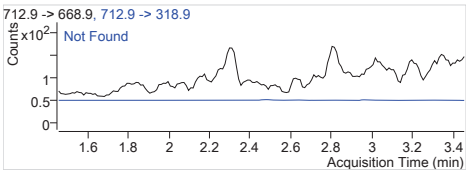
PFDoA 1 613.0 -> 568.9
RT (Exp. RT): 0.000 (2.311)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



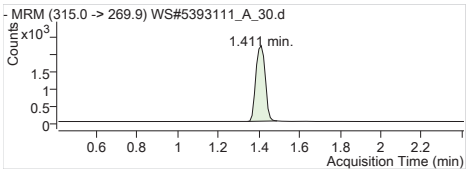


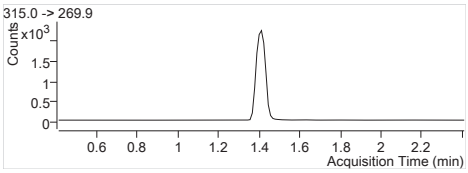
PFTrDA 1 663.0 -> 618.9
RT (Exp. RT): 0.000 (2.389)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



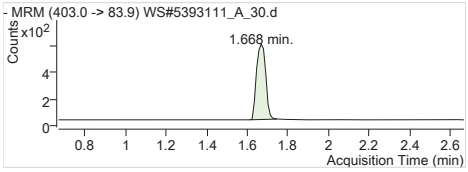


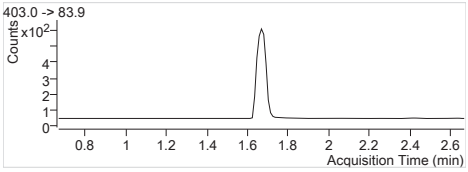
PFTeDA 1 712.9 -> 668.9
RT (Exp. RT): 0.000 (2.456)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



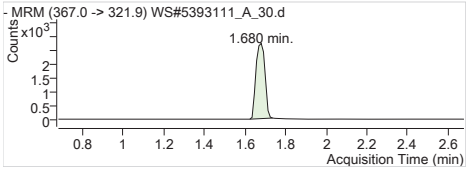


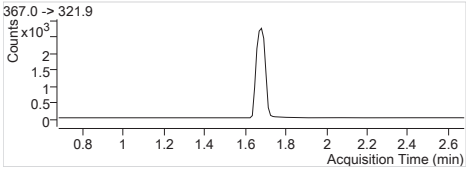
13C2-PFHxA 315.0 -> 269.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 117.10 µg/L
Area ratio: 0.33135
Sample type: Sample



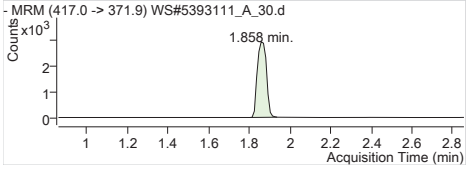


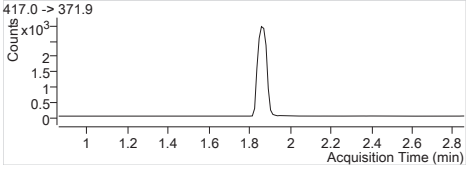
18O2-PFHxS 403.0 -> 83.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 118.92 µg/L
Area ratio: 0.08214
Sample type: Sample



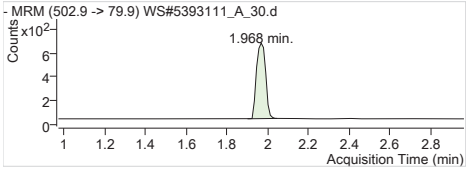


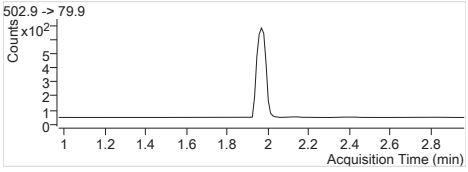
13C4-PFHpA 367.0 -> 321.9
RT (Exp. RT): 1.680 (1.680)
Calc. conc. 107.97 µg/L
Area ratio: 0.39021
Sample type: Sample



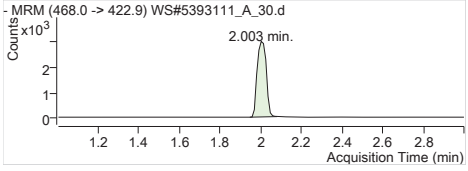


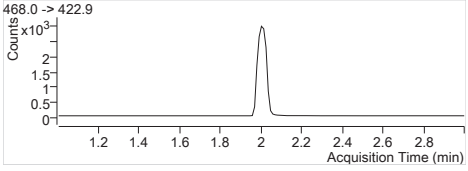
13C4-PFOA 417.0 -> 371.9
RT (Exp. RT): 1.858 (1.858)
Calc. conc. 111.40 µg/L
Area ratio: 0.42742
Sample type: Sample



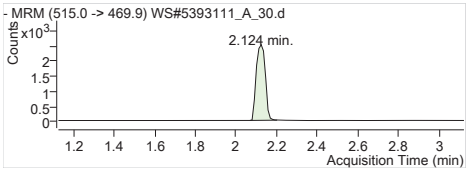


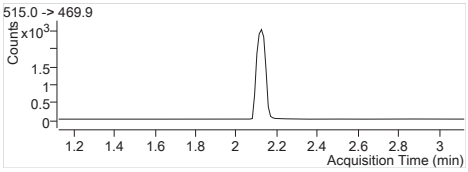
13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.968 (1.968)
Calc. conc. 109.98 µg/L
Area ratio: 0.09228
Sample type: Sample



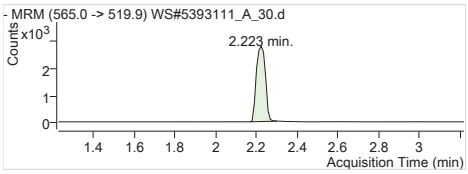


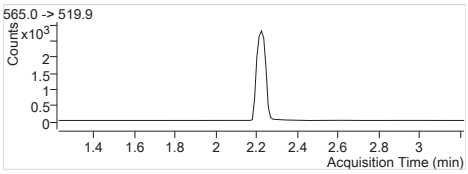
13C5-PFNA 468.0 -> 422.9
RT (Exp. RT): 2.003 (2.003)
Calc. conc. 116.08 µg/L
Area ratio: 0.42953
Sample type: Sample



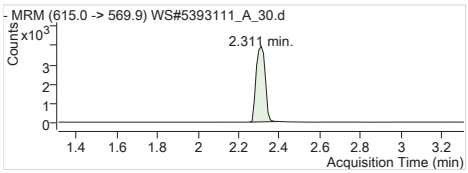


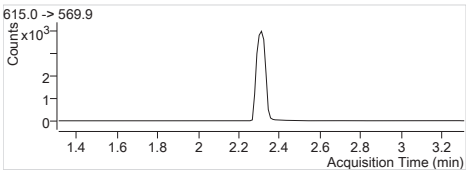
13C2-PFDA 515.0 -> 469.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 115.12 µg/L
Area ratio: 0.28500
Sample type: Sample



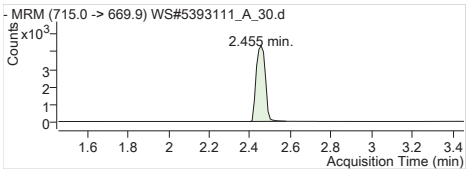


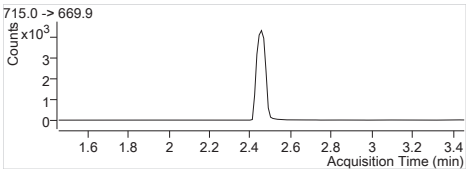
13C2-PFUnA 565.0 -> 519.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 109.08 µg/L
Area ratio: 0.31436
Sample type: Sample



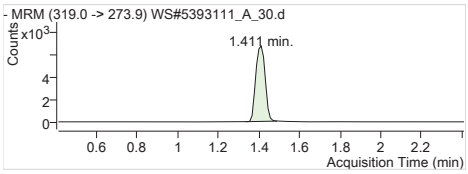


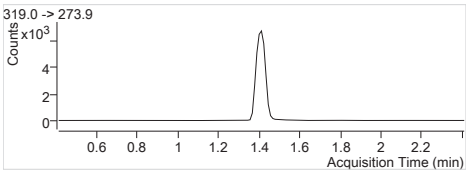
13C2-PFDoA 615.0 -> 569.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 119.18 µg/L
Area ratio: 0.44555
Sample type: Sample



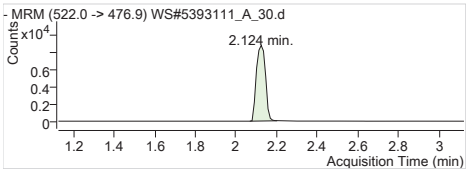


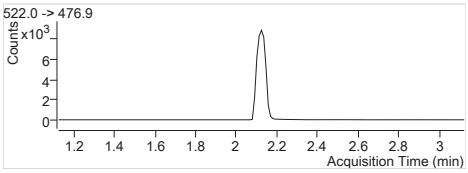
13C2-PFTeDA 715.0 -> 669.9
RT (Exp. RT): 2.455 (2.455)
Calc. conc. 115.11 µg/L
Area ratio: 0.49396
Sample type: Sample





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 2.20 µg/L
Area ratio: 0
Sample type: Sample





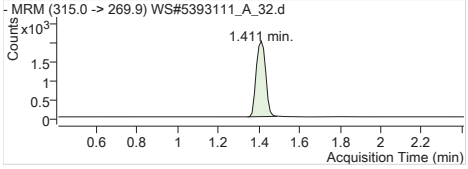
13C9-PFDA 522.0 -> 476.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 2.15 µg/L
Area ratio: 0
Sample type: Sample

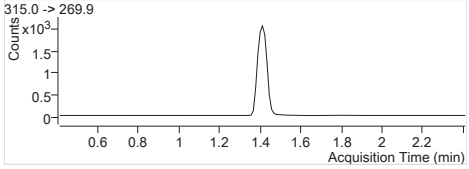
Batch Path	T:\lcms4\PFC\20180212\WS#5393111_A\QuantResults\PFC_Water_Low_180213_WS#5393111_EToxics

Sample Name	**IB**	**Instrument**	LCMS04
Data File	WS#5393111_A_32.d	**Operator**	
Sample Type	Sample	**Dilution**	0.024
Acq. Method	PFC_Water_Low.m	**Position**	P2-A8
Acq. Date	2018/02/13 3:39:27 PM	**Injection Volume**	Per Method
Sample Annotation	-		

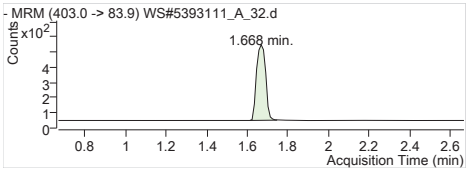
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	6467	1.41	1 µg/L		
MPFHxS	1559	1.67	1 µg/L		
MPFHpA	8062	1.68	1 µg/L		
MPFOA	9317	1.86	1 µg/L		
MPFOS	2104	1.97	1 µg/L		
MPFNA	8780	2.00	1 µg/L		
MPFDA	7341	2.12	1 µg/L		
MPFUnA	8332	2.22	1 µg/L		
MPFDoA	11460	2.31	1 µg/L		
MPFTeDA	12833	2.46	1 µg/L		
13C6-PFHxA IS	20837	1.41	1 µg/L		
13C9-PFDA IS	26749	2.12	1 µg/L		

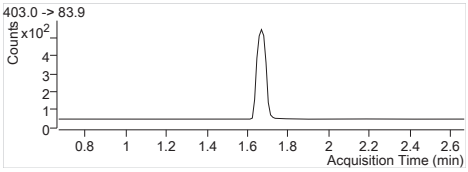
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1			-	ND	-
PFHxA 1			-	ND	-
PFHxS 1			-	ND	-
PFHpA 1			-	ND	-
PFOA 1			-	ND	-
PFOS 1			-	ND	-
PFNA 1			-	ND	-
PFDA 1			-	ND	-
PFUnA 1			-	ND	-
PFDoA 1			-	ND	-
PFTrDA 1			-	ND	-
PFTeDA 1			-	ND	-
13C2-PFHxA	6467	1.41	-	109.68 µg/L	-
18O2-PFHxS	1559	1.67	-	108.32 µg/L	-
13C4-PFHpA	8062	1.68	-	107.05 µg/L	-
13C4-PFOA	9317	1.86	-	116.54 µg/L	-
13C4-PFOS	2104	1.97	-	120.34 µg/L	-
13C5-PFNA	8781	2.00	-	113.88 µg/L	-
13C2-PFDA	7243	2.12	-	109.37 µg/L	-
13C2-PFUnA	8332	2.22	-	108.09 µg/L	-
13C2-PFDoA	11460	2.31	-	114.60 µg/L	-
13C2-PFTeDA	13151	2.46	-	114.57 µg/L	-
13C6-PFHxA	20837	1.41	-	2.14 µg/L	-
13C9-PFDA	26749	2.12	-	2.12 µg/L	-



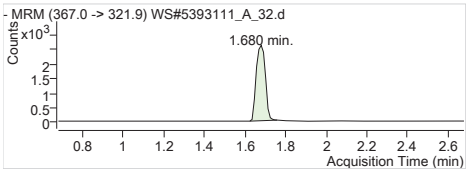


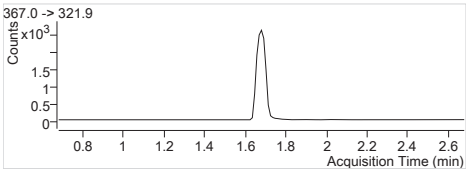
MPFHxA	Internal Standard
RT (Exp. RT):	1.411 (1.411)
Concentration:	1 µg/L
Sample type:	Sample



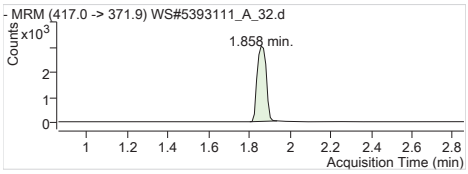


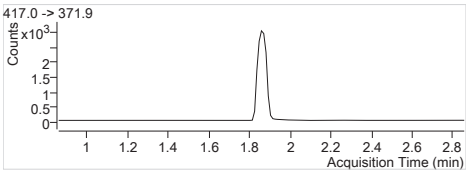
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Sample



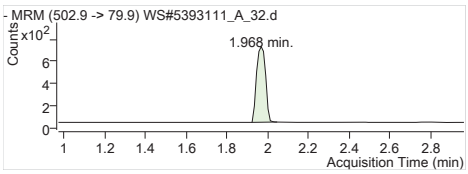


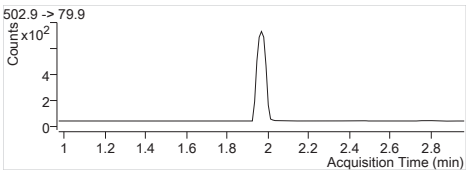
MPFHpA Internal Standard
RT (Exp. RT): 1.680 (1.680)
Concentration: 1 µg/L
Sample type: Sample



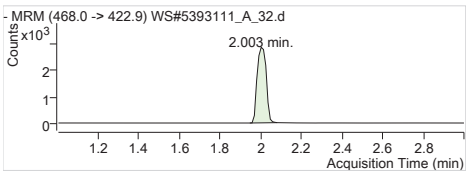


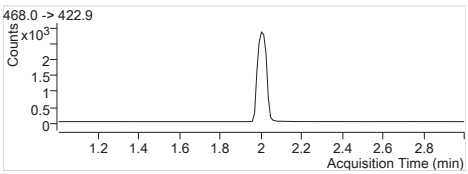
MPFOA Internal Standard
RT (Exp. RT): 1.858 (1.858)
Concentration: 1 µg/L
Sample type: Sample



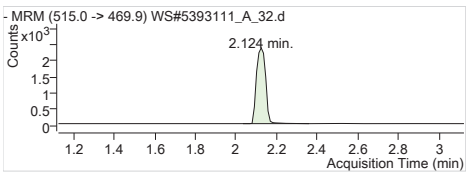


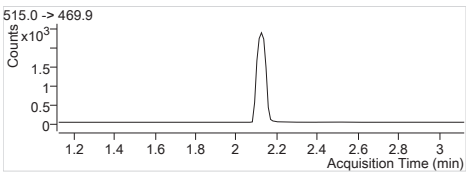
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Sample



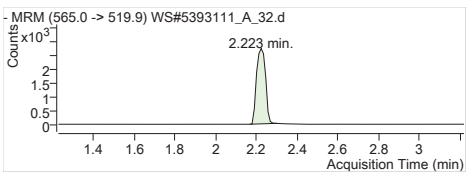


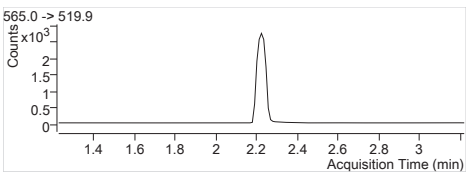
MPFNA Internal Standard
RT (Exp. RT): 2.003 (2.003)
Concentration: 1 µg/L
Sample type: Sample



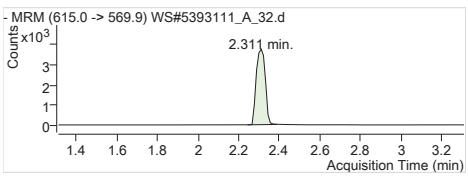


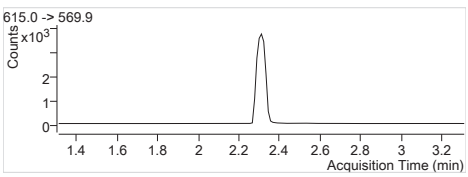
MPFDA Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Sample



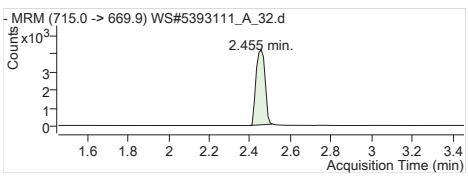


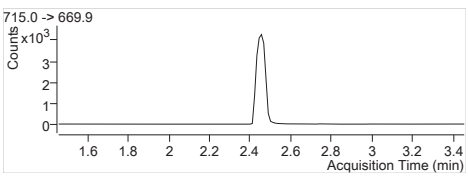
MPFUnA Internal Standard
RT (Exp. RT): 2.223 (2.223)
Concentration: 1 µg/L
Sample type: Sample



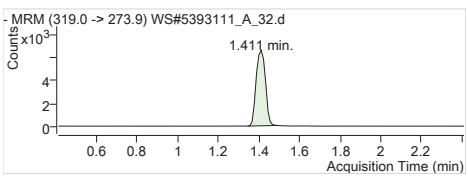


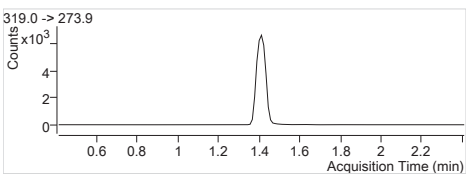
MPFDoA Internal Standard
RT (Exp. RT): 2.311 (2.311)
Concentration: 1 µg/L
Sample type: Sample



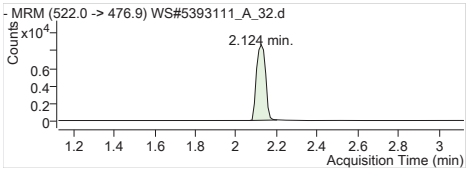


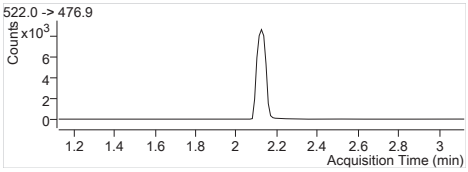
MPFTeDA Internal Standard
RT (Exp. RT): 2.455 (2.455)
Concentration: 1 µg/L
Sample type: Sample



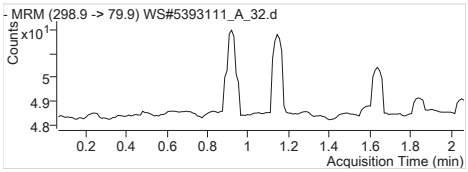


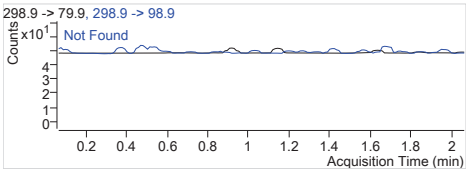
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: Sample



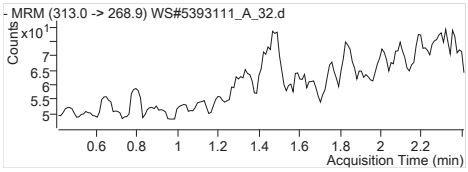


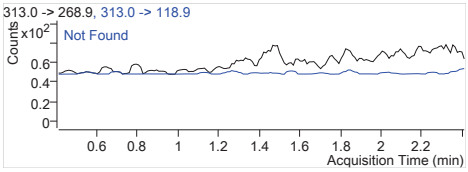
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Sample



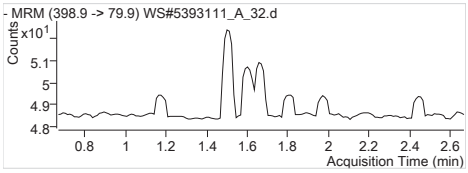


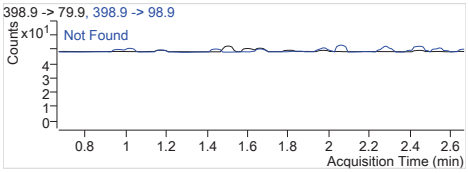
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 0.000 (1.064)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



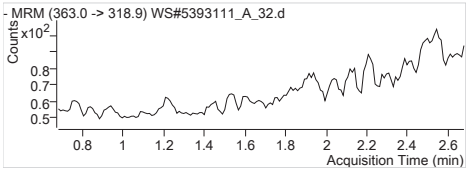


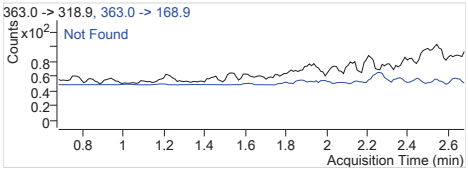
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 0.000 (1.411)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



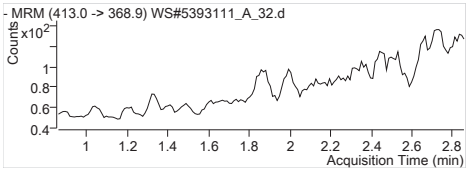


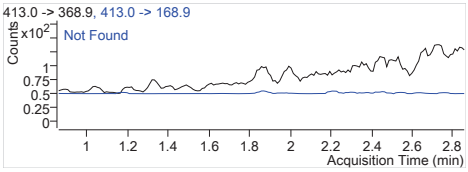
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 0.000 (1.668)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



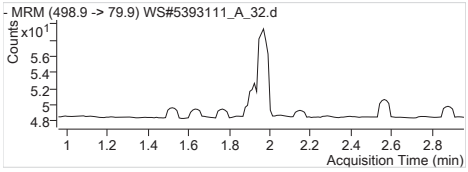


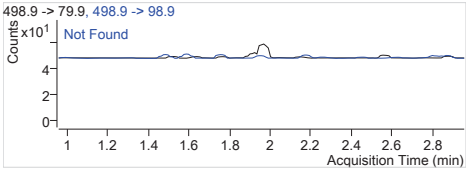
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 0.000 (1.680)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



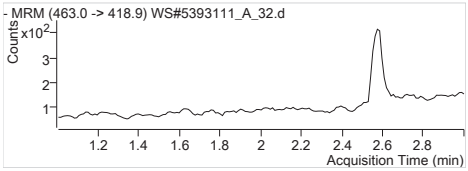


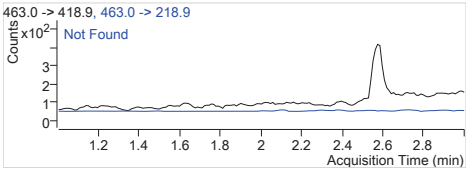
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 0.000 (1.858)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



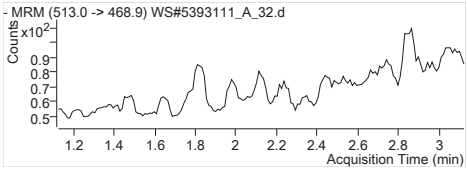


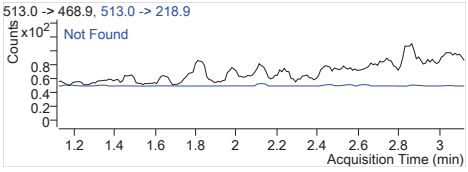
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 0.000 (1.957)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



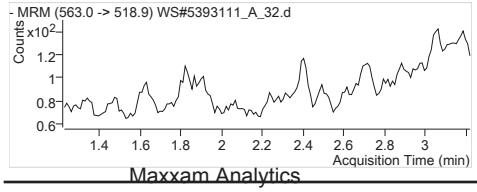


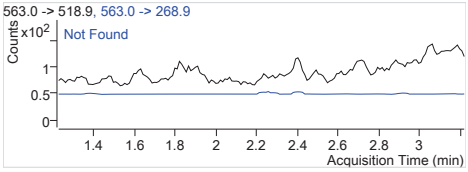
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 0.000 (2.003)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



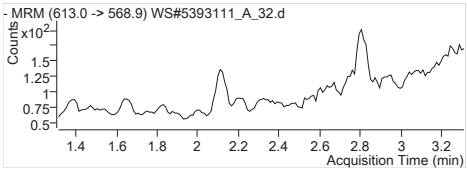


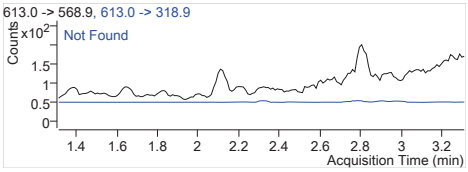
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 0.000 (2.124)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



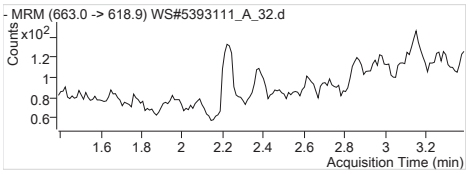


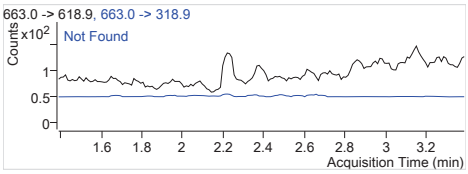
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 0.000 (2.223)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



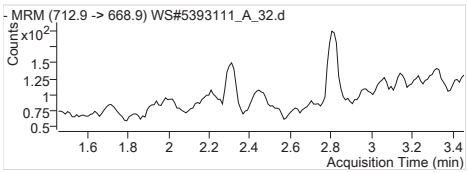


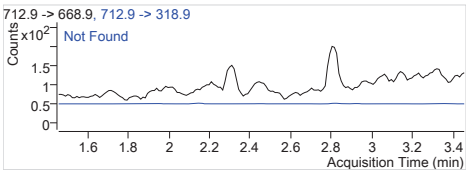
PFDoA 1 613.0 -> 568.9
RT (Exp. RT): 0.000 (2.311)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



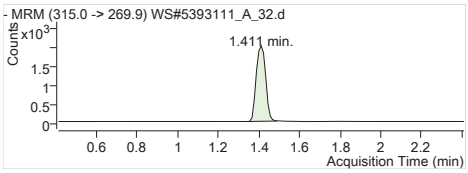


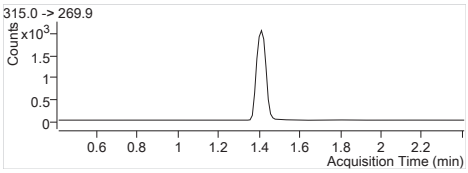
PFTrDA 1 663.0 -> 618.9
RT (Exp. RT): 0.000 (2.389)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



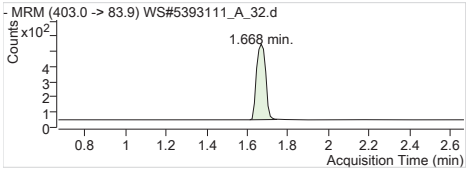


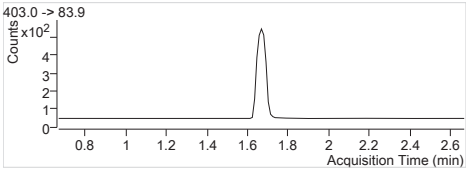
PFTeDA 1 712.9 -> 668.9
RT (Exp. RT): 0.000 (2.456)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



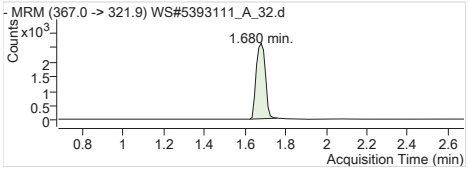


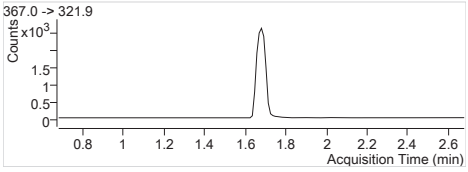
13C2-PFHxA 315.0 -> 269.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 109.68 µg/L
Area ratio: 0.31036
Sample type: Sample



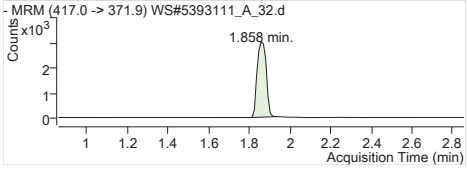


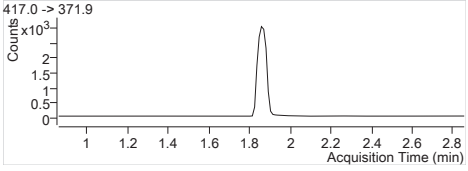
18O2-PFHxS 403.0 -> 83.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 108.32 µg/L
Area ratio: 0.07482
Sample type: Sample



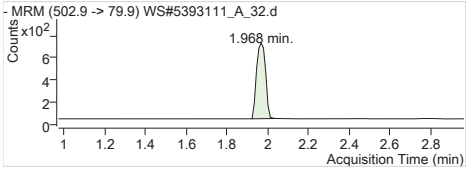


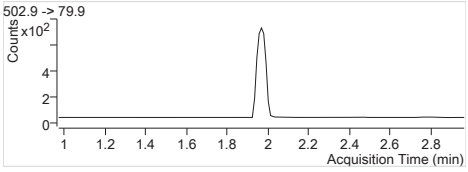
13C4-PFHpA 367.0 -> 321.9
RT (Exp. RT): 1.680 (1.680)
Calc. conc. 107.05 µg/L
Area ratio: 0.38691
Sample type: Sample



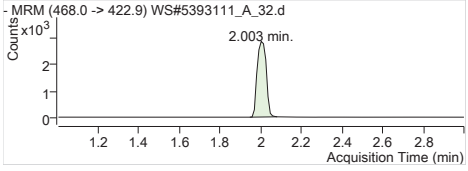


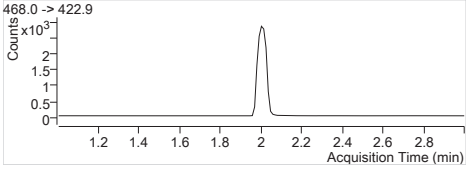
13C4-PFOA 417.0 -> 371.9
RT (Exp. RT): 1.858 (1.858)
Calc. conc. 116.54 µg/L
Area ratio: 0.44714
Sample type: Sample



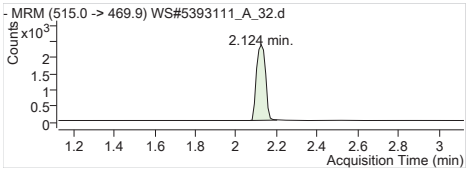


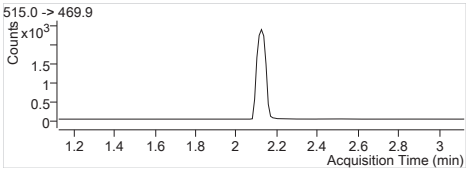
13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.968 (1.968)
Calc. conc. 120.34 µg/L
Area ratio: 0.10097
Sample type: Sample



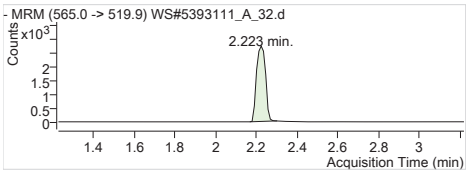


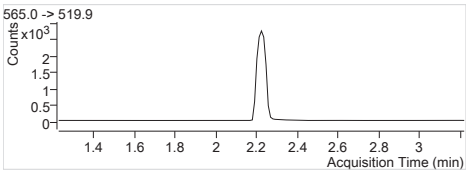
13C5-PFNA 468.0 -> 422.9
RT (Exp. RT): 2.003 (2.003)
Calc. conc. 113.88 µg/L
Area ratio: 0.42141
Sample type: Sample



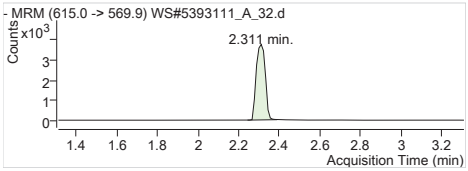


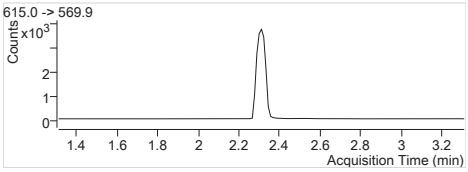
13C2-PFDA 515.0 -> 469.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 109.37 µg/L
Area ratio: 0.27078
Sample type: Sample



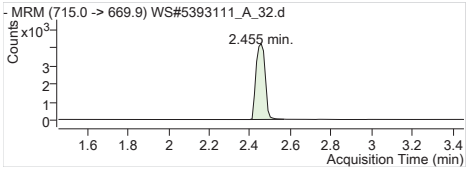


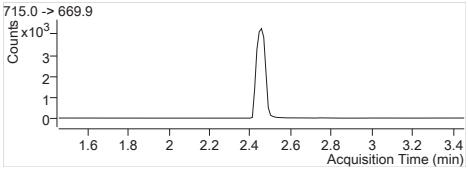
13C2-PFUnA 565.0 -> 519.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 108.09 µg/L
Area ratio: 0.31149
Sample type: Sample



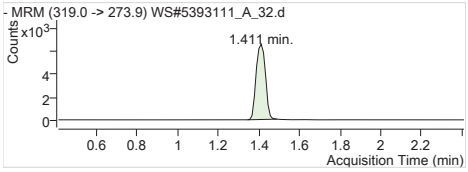


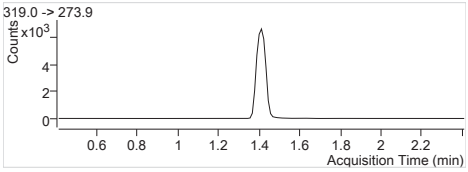
13C2-PFDoA 615.0 -> 569.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 114.60 µg/L
Area ratio: 0.42843
Sample type: Sample



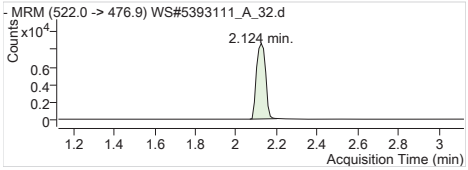


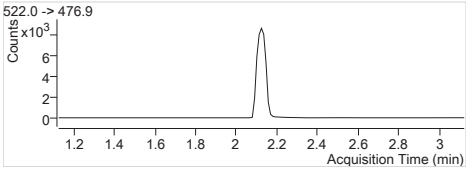
13C2-PFTeDA 715.0 -> 669.9
RT (Exp. RT): 2.455 (2.455)
Calc. conc. 114.57 µg/L
Area ratio: 0.49164
Sample type: Sample





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 2.14 µg/L
Area ratio: 0
Sample type: Sample





13C9-PFDA 522.0 -> 476.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 2.12 µg/L
Area ratio: 0
Sample type: Sample

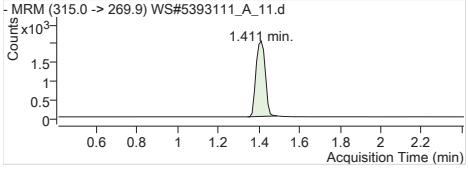
Quantitation Results

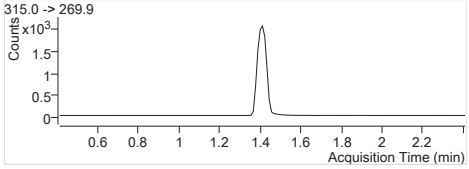
Agilent Technologies

Batch Path	T:\lcms4\PFC\20180212\WS#5393111_A\QuantResults\PFC_Water_Low_180213_WS#5393111_EToxics		
Sample Name	**5393111:BLANK**	**Instrument**	LCMS04
Data File	WS#5393111_A_11.d	**Operator**	
Sample Type	Sample	**Dilution**	0.024
Acq. Method	PFC_Water_Low.m	**Position**	P2-B1
Acq. Date	2018/02/13 1:55:50 PM	**Injection Volume**	Per Method
Sample Annotation	-		

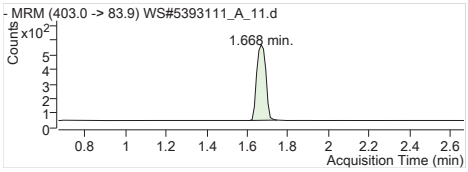
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	6346	1.41	1 µg/L		
MPFHxS	1630	1.67	1 µg/L		
MPFHpA	8070	1.68	1 µg/L		
MPFOA	8608	1.86	1 µg/L		
MPFOS	1980	1.97	1 µg/L		
MPFNA	8715	2.00	1 µg/L		
MPFDA	6971	2.12	1 µg/L		
MPFUnA	7483	2.22	1 µg/L		
MPFDoA	9682	2.31	1 µg/L		
MPFTeDA	11221	2.46	1 µg/L		
13C6-PFHxA IS	27425	1.41	1 µg/L		
13C9-PFDA IS	36016	2.12	1 µg/L		

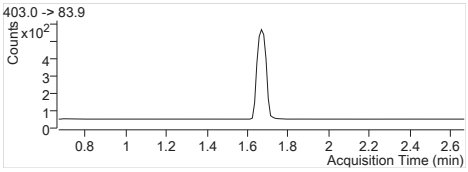
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1			-	ND	-
PFHxA 1			-	ND	-
PFHxS 1			-	ND	-
PFHpA 1			-	ND	-
PFOA 1			-	ND	-
PFOS 1			-	ND	-
PFNA 1			-	ND	-
PFDA 1			-	ND	-
PFUnA 1			-	ND	-
PFDoA 1			-	ND	-
PFTrDA 1			-	ND	-
PFTeDA 1			-	ND	-
13C2-PFHxA	6346	1.41	-	81.78 µg/L	-
18O2-PFHxS	1630	1.67	-	86.05 µg/L	-
13C4-PFHpA	8070	1.68	-	81.42 µg/L	-
13C4-PFOA	8608	1.86	-	81.81 µg/L	-
13C4-PFOS	1980	1.97	-	86.05 µg/L	-
13C5-PFNA	8716	2.00	-	85.89 µg/L	-
13C2-PFDA	6895	2.12	-	77.33 µg/L	-
13C2-PFUnA	7483	2.22	-	72.10 µg/L	-
13C2-PFDoA	9682	2.31	-	71.91 µg/L	-
13C2-PFTeDA	11227	2.46	-	72.64 µg/L	-
13C6-PFHxA	27425	1.41	-	2.82 µg/L	-
13C9-PFDA	36016	2.12	-	2.86 µg/L	-



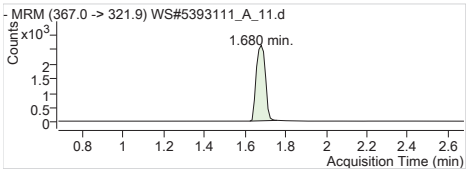


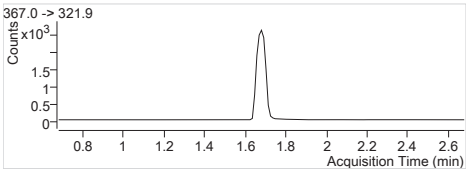
MPFHxA	Internal Standard
RT (Exp. RT):	1.411 (1.411)
Concentration:	1 µg/L
Sample type:	Sample



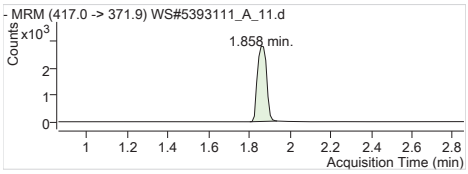


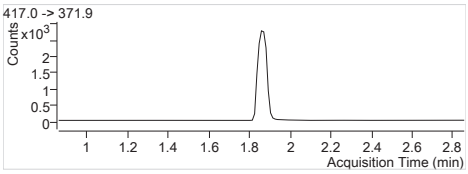
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Sample



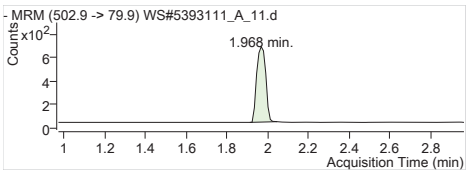


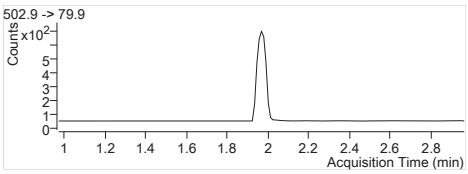
MPFHpA Internal Standard
RT (Exp. RT): 1.680 (1.680)
Concentration: 1 µg/L
Sample type: Sample



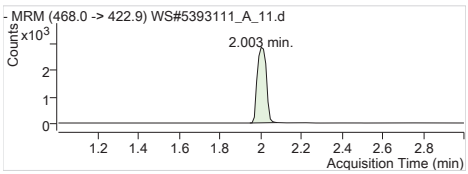


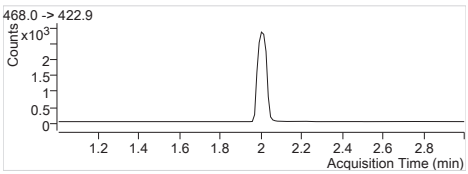
MPFOA Internal Standard
RT (Exp. RT): 1.858 (1.858)
Concentration: 1 µg/L
Sample type: Sample



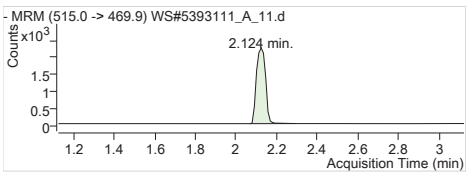


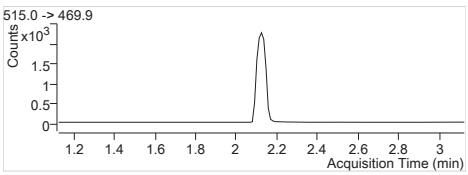
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Sample



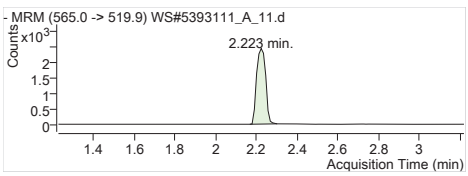


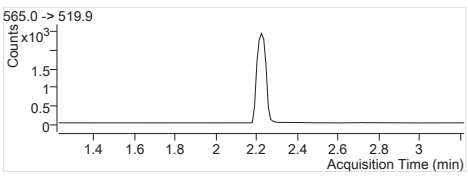
MPFNA Internal Standard
RT (Exp. RT): 2.003 (2.003)
Concentration: 1 µg/L
Sample type: Sample



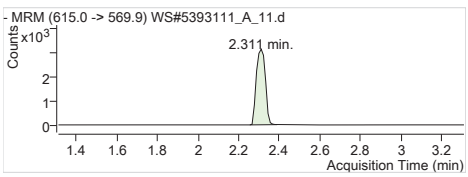


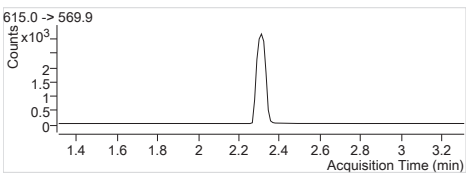
MPFDA Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Sample



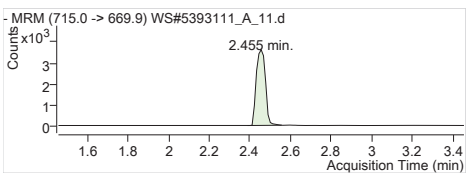


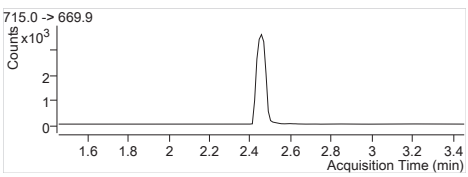
MPFUnA Internal Standard
RT (Exp. RT): 2.223 (2.223)
Concentration: 1 µg/L
Sample type: Sample



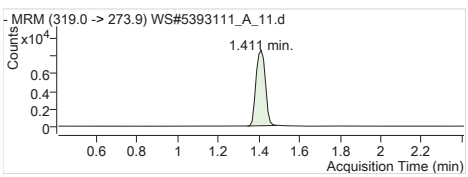


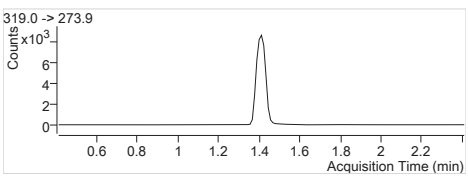
MPFDoA Internal Standard
RT (Exp. RT): 2.311 (2.311)
Concentration: 1 µg/L
Sample type: Sample



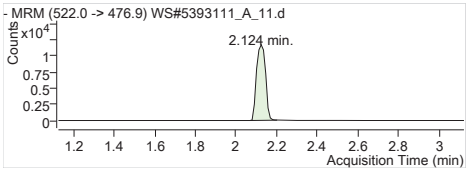


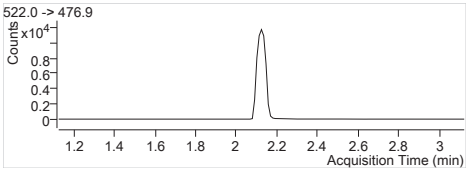
MPFTeDA Internal Standard
RT (Exp. RT): 2.455 (2.455)
Concentration: 1 µg/L
Sample type: Sample



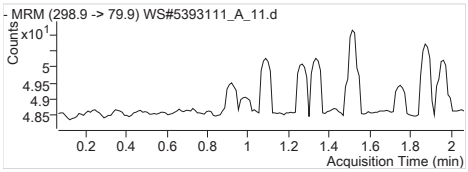


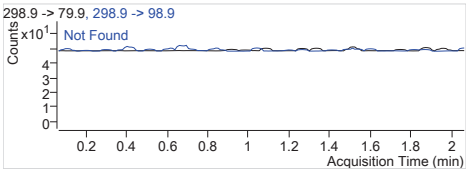
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: Sample



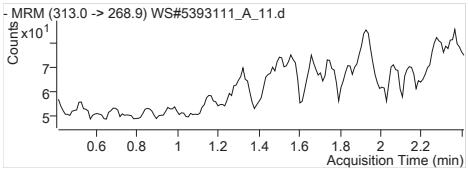


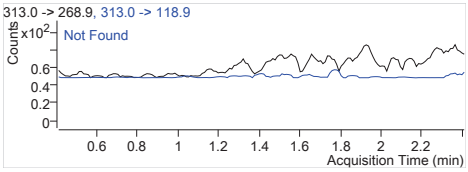
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Sample



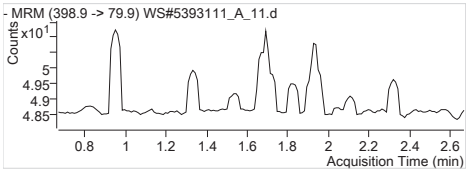


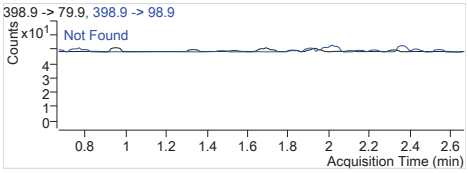
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 0.000 (1.064)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



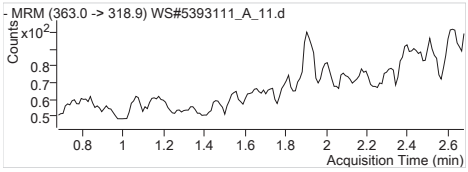


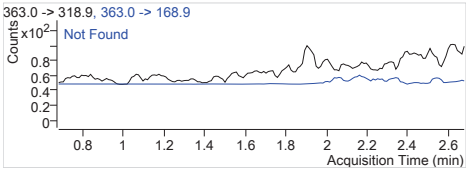
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 0.000 (1.411)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



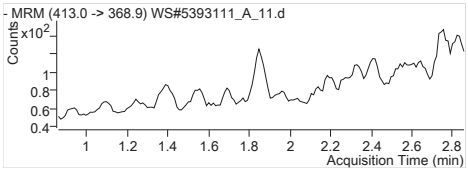


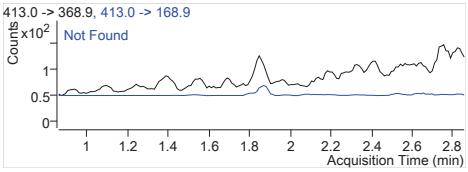
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 0.000 (1.668)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



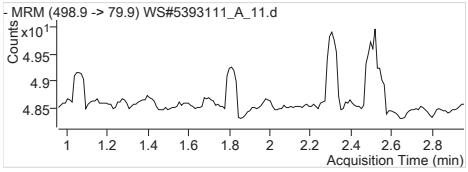


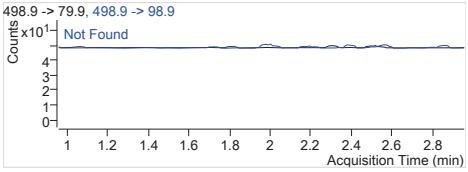
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 0.000 (1.680)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



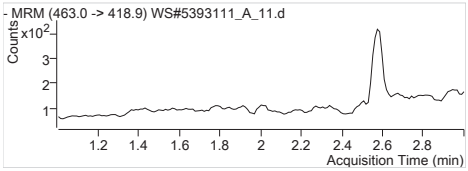


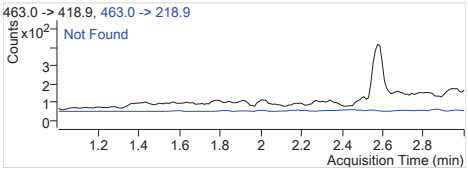
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 0.000 (1.858)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



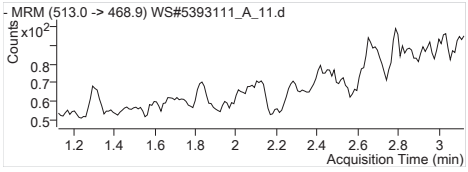


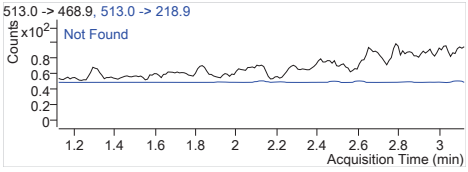
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 0.000 (1.957)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



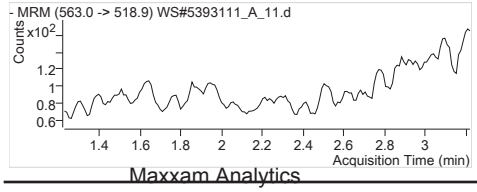


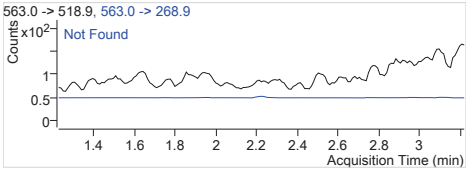
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 0.000 (2.003)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



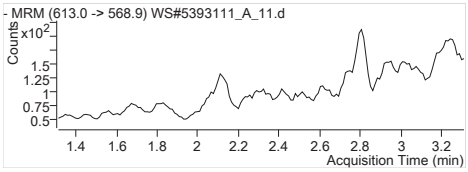


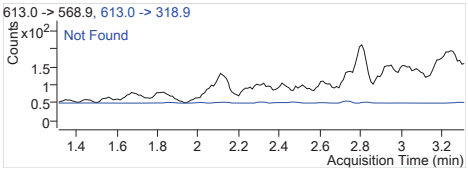
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 0.000 (2.124)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



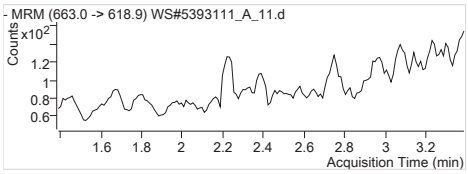


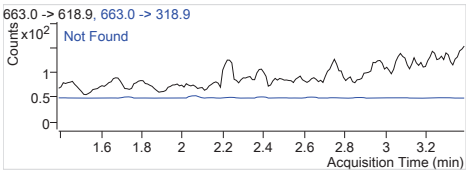
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 0.000 (2.223)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



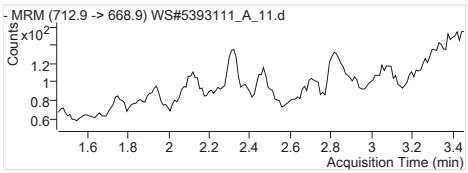


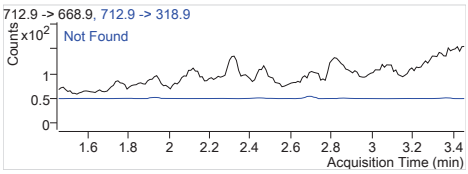
PFDoA 1	613.0 -> 568.9
RT (Exp. RT):	0.000 (2.311)
Calc. conc.	N.D.
Area ratio:	0
Sample type:	Sample



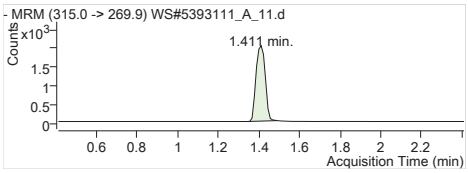


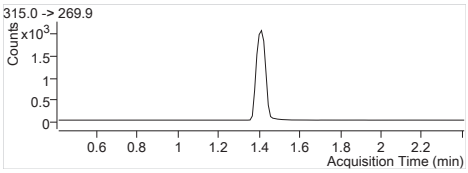
PFTrDA 1	663.0 -> 618.9
RT (Exp. RT):	0.000 (2.389)
Calc. conc.	N.D.
Area ratio:	0
Sample type:	Sample



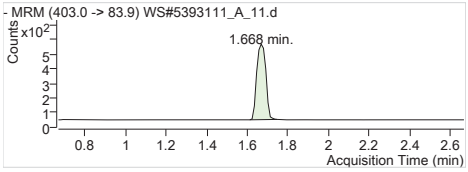


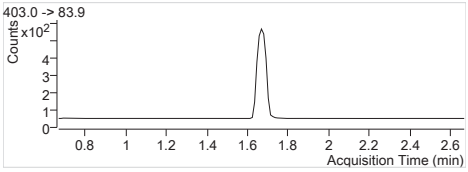
PFTeDA 1	712.9 -> 668.9
RT (Exp. RT):	0.000 (2.456)
Calc. conc.	N.D.
Area ratio:	0
Sample type:	Sample



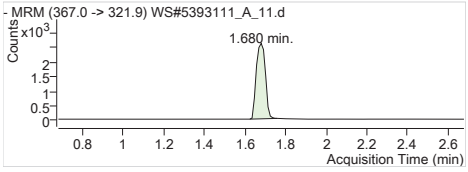


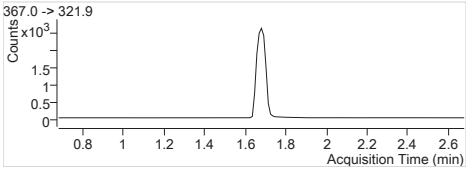
13C2-PFHxA	315.0 -> 269.9
RT (Exp. RT):	1.411 (1.411)
Calc. conc.	81.78 µg/L
Area ratio:	0.23139
Sample type:	Sample



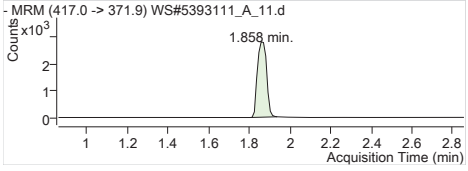


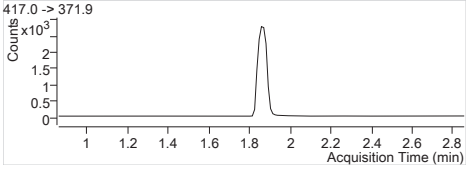
18O2-PFHxS	403.0 -> 83.9
RT (Exp. RT):	1.668 (1.668)
Calc. conc.	86.05 µg/L
Area ratio:	0.05943
Sample type:	Sample



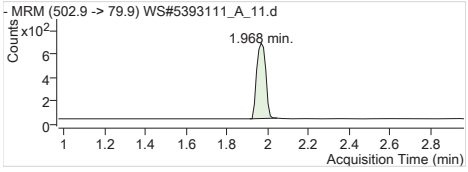


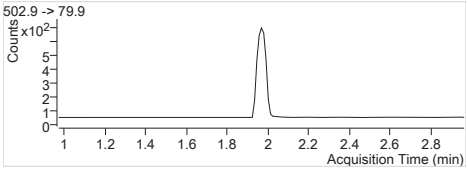
13C4-PFHpA	367.0 -> 321.9
RT (Exp. RT):	1.680 (1.680)
Calc. conc.	81.42 µg/L
Area ratio:	0.29426
Sample type:	Sample



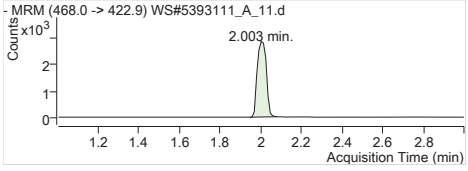


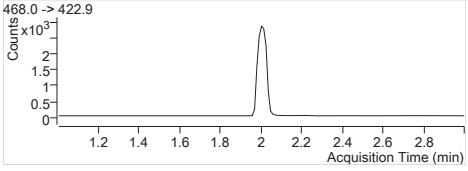
13C4-PFOA	417.0 -> 371.9
RT (Exp. RT):	1.858 (1.858)
Calc. conc.	81.81 µg/L
Area ratio:	0.31387
Sample type:	Sample



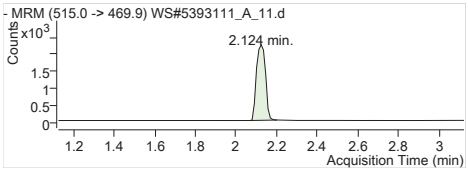


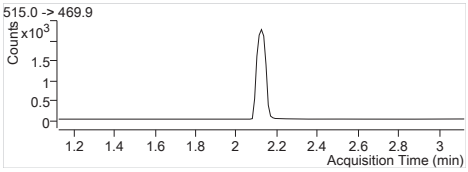
13C4-PFOS	502.9 -> 79.9
RT (Exp. RT):	1.968 (1.968)
Calc. conc.	86.05 µg/L
Area ratio:	0.07220
Sample type:	Sample



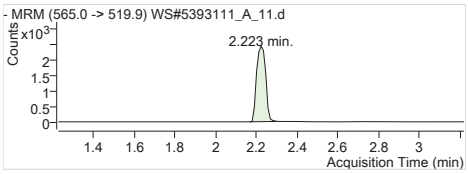


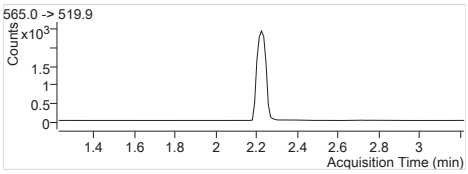
13C5-PFNA	468.0 -> 422.9
RT (Exp. RT):	2.003 (2.003)
Calc. conc.	85.89 µg/L
Area ratio:	0.31781
Sample type:	Sample



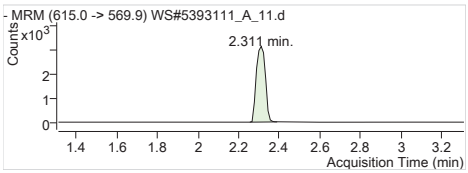


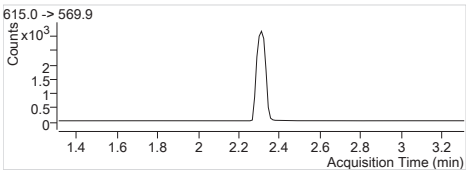
13C2-PFDA 515.0 -> 469.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 77.33 µg/L
Area ratio: 0.19144
Sample type: Sample



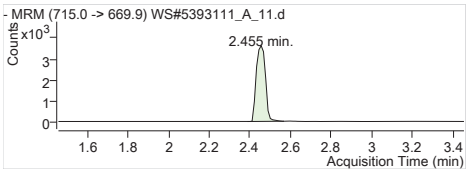


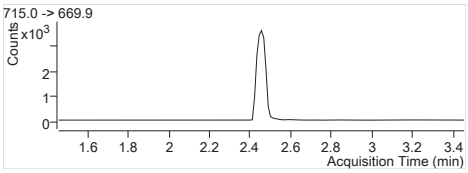
13C2-PFUnA 565.0 -> 519.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 72.10 µg/L
Area ratio: 0.20777
Sample type: Sample



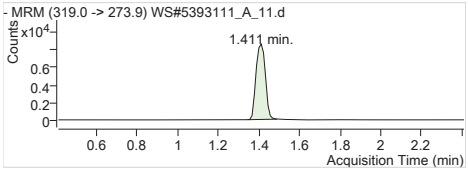


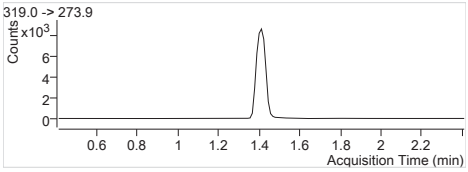
13C2-PFDoA 615.0 -> 569.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 71.91 µg/L
Area ratio: 0.26882
Sample type: Sample



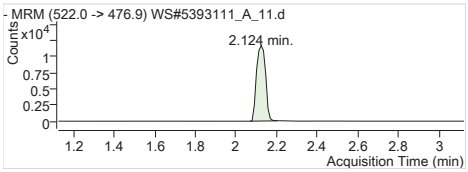


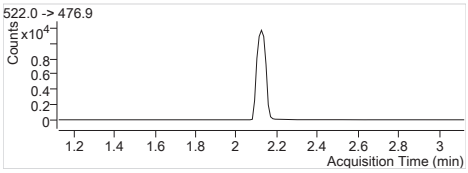
13C2-PFTeDA 715.0 -> 669.9
RT (Exp. RT): 2.455 (2.455)
Calc. conc. 72.64 µg/L
Area ratio: 0.31172
Sample type: Sample





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 2.82 µg/L
Area ratio: 0
Sample type: Sample





13C9-PFDA 522.0 -> 476.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 2.86 µg/L
Area ratio: 0
Sample type: Sample

Quantitation Results

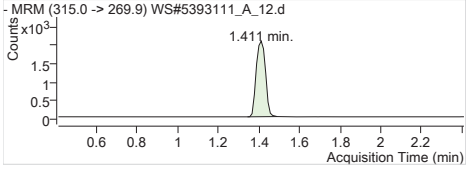
Agilent Technologies

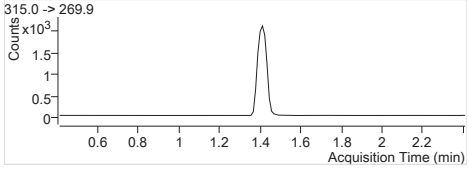
Batch Path	T:\lcms4\PFC\20180212\WS#5393111_A\QuantResults\PFC_Water_Low_180213_WS#5393111_EToxics

Sample Name	**5393111:SPIKE**	**Instrument**	LCMS04
Data File	WS#5393111_A_12.d	**Operator**	
Sample Type	QC	**Dilution**	0.024
Acq. Method	PFC_Water_Low.m	**Position**	P2-B2
Acq. Date	2018/02/13 2:00:46 PM	**Injection Volume**	Per Method
Sample Annotation	-		

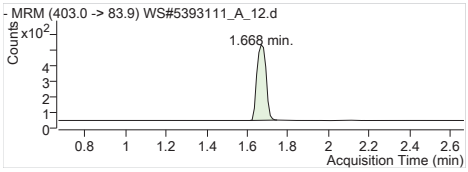
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	6562	1.41	1 µg/L		
MPFHxS	1518	1.67	1 µg/L		
MPFHpA	8414	1.68	1 µg/L		
MPFOA	9269	1.86	1 µg/L		
MPFOS	2028	1.97	1 µg/L		
MPFNA	9204	2.00	1 µg/L		
MPFDA	6683	2.12	1 µg/L		
MPFUnA	7993	2.22	1 µg/L		
MPFDoA	10099	2.31	1 µg/L		
MPFTeDA	11318	2.46	1 µg/L		
13C6-PFHxA IS	26060	1.41	1 µg/L		
13C9-PFDA IS	34077	2.12	1 µg/L		

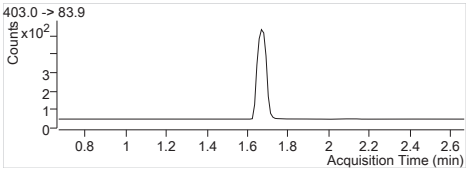
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1	17847	1.06	20.80	0.54 µg/L	107.18
PFHxA 1	61071	1.41	20.80	0.51 µg/L	101.61
PFHxS 1	16581	1.67	20.80	0.51 µg/L	102.73
PFHpA 1	75897	1.68	20.80	0.51 µg/L	101.98
PFOA 1	86395	1.86	20.80	0.49 µg/L	98.37
PFOS 1	16258	1.96	20.80	0.49 µg/L	97.71
PFNA 1	75448	2.00	20.80	0.47 µg/L	94.74
PFDA 1	79145	2.12	20.80	0.58 µg/L	115.53
PFUnA 1	83128	2.22	20.80	0.54 µg/L	108.00
PFDoA 1	93833	2.31	20.80	0.48 µg/L	96.01
PFTrDA 1	105648	2.39	20.80	0.50 µg/L	99.95
PFTeDA 1	88445	2.46	20.80	0.51 µg/L	102.36
13C2-PFHxA	6562	1.41	100.00	88.99 µg/L	88.99
18O2-PFHxS	1518	1.67	100.00	84.34 µg/L	84.34
13C4-PFHpA	8414	1.68	100.00	89.33 µg/L	89.33
13C4-PFOA	9269	1.86	100.00	92.70 µg/L	92.70
13C4-PFOS	2028	1.97	100.00	92.75 µg/L	92.75
13C5-PFNA	9204	2.00	100.00	95.45 µg/L	95.45
13C2-PFDA	6673	2.12	100.00	79.10 µg/L	79.10
13C2-PFUnA	7993	2.22	100.00	81.39 µg/L	81.39
13C2-PFDoA	10099	2.31	100.00	79.28 µg/L	79.28
13C2-PFTeDA	11402	2.46	100.00	77.97 µg/L	77.97
13C6-PFHxA	26060	1.41	100.00	2.68 µg/L	111.59
13C9-PFDA	34077	2.12	100.00	2.70 µg/L	112.67



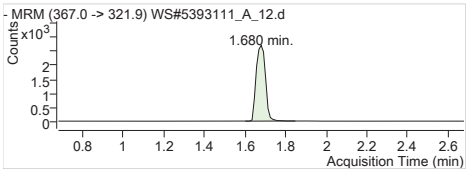


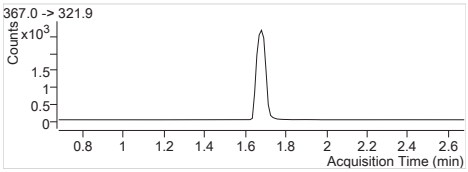
MPFHxA	Internal Standard
RT (Exp. RT):	1.411 (1.411)
Concentration:	1 µg/L
Sample type:	QC



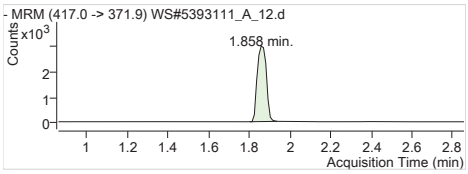


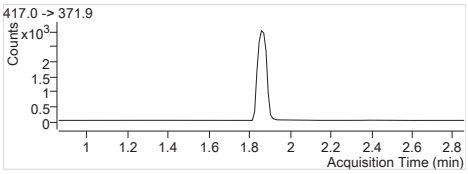
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: QC



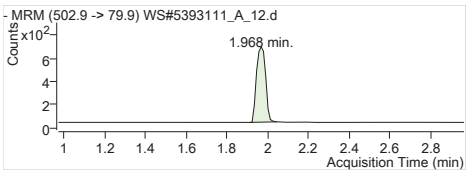


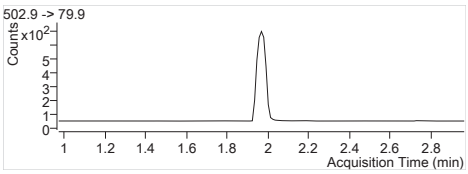
MPFHpA Internal Standard
RT (Exp. RT): 1.680 (1.680)
Concentration: 1 µg/L
Sample type: QC



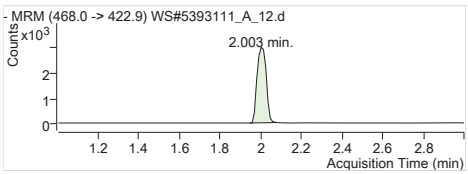


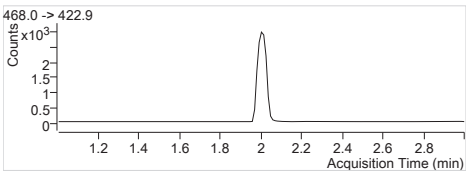
MPFOA Internal Standard
RT (Exp. RT): 1.858 (1.858)
Concentration: 1 µg/L
Sample type: QC



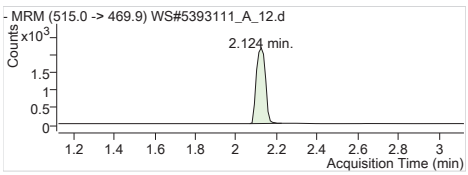


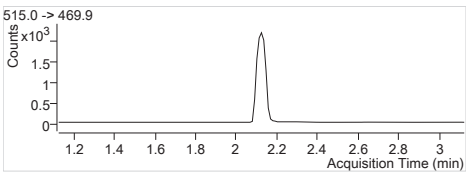
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: QC



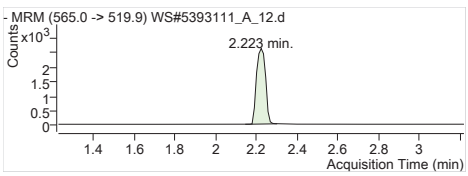


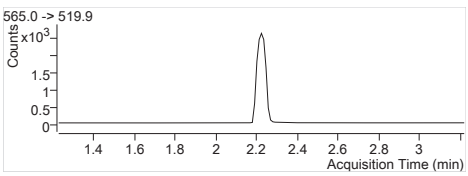
MPFNA Internal Standard
RT (Exp. RT): 2.003 (2.003)
Concentration: 1 µg/L
Sample type: QC



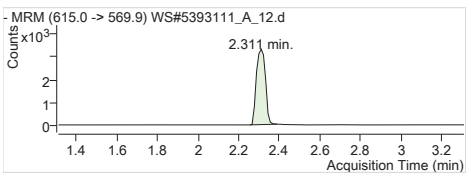


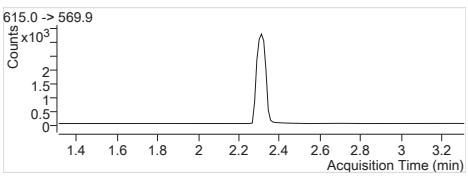
MPFDA Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: QC



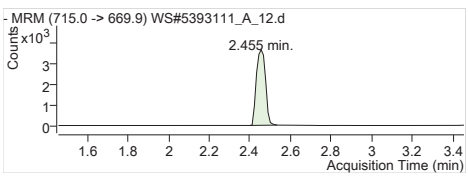


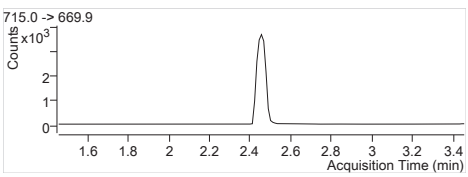
MPFUnA Internal Standard
RT (Exp. RT): 2.223 (2.223)
Concentration: 1 µg/L
Sample type: QC



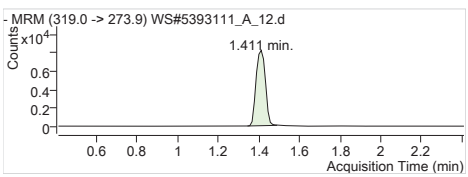


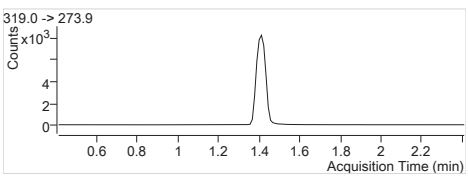
MPFDoA Internal Standard
RT (Exp. RT): 2.311 (2.311)
Concentration: 1 µg/L
Sample type: QC



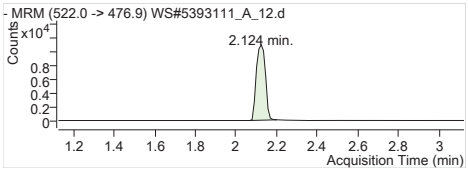


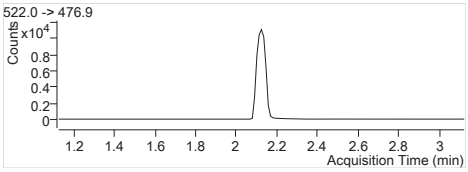
MPFTeDA Internal Standard
RT (Exp. RT): 2.455 (2.455)
Concentration: 1 µg/L
Sample type: QC



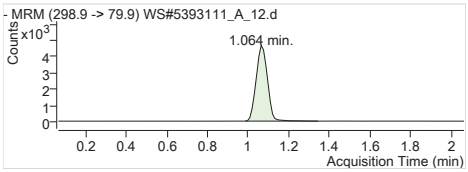


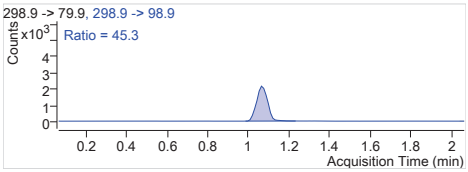
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: QC



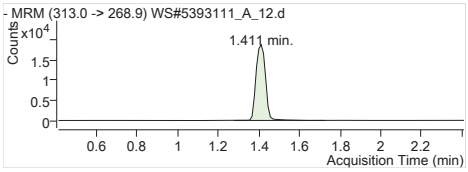


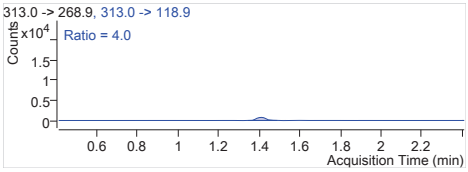
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: QC



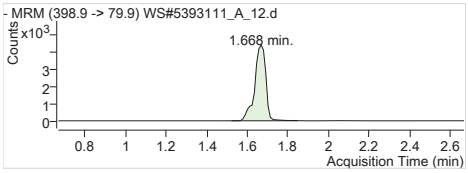


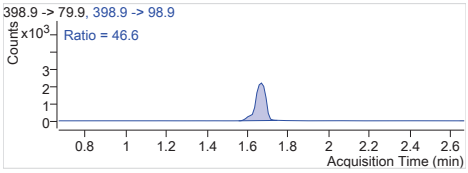
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 1.064 (1.064)
Calc. conc. 0.54 µg/L
Area ratio: 11.75692
Sample type: QC



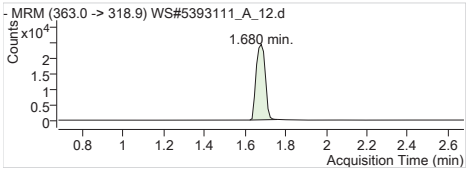


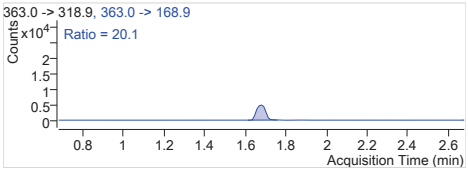
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 0.51 µg/L
Area ratio: 9.30677
Sample type: QC



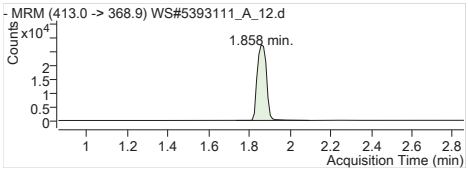


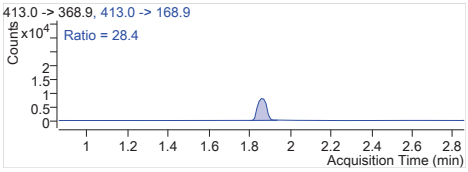
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 0.51 µg/L
Area ratio: 10.92292
Sample type: QC



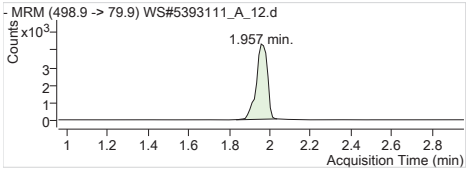


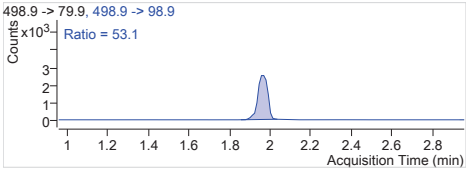
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 1.680 (1.680)
Calc. conc. 0.51 µg/L
Area ratio: 9.02032
Sample type: QC



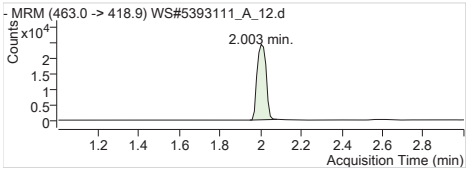


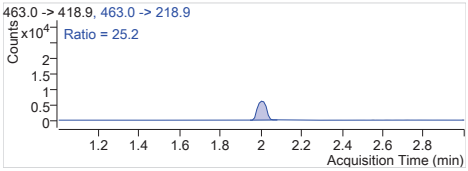
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 1.858 (1.858)
Calc. conc. 0.49 µg/L
Area ratio: 9.32085
Sample type: QC



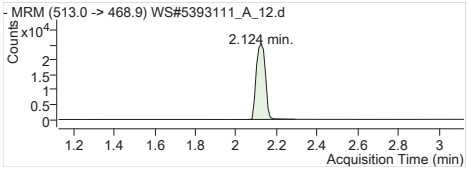


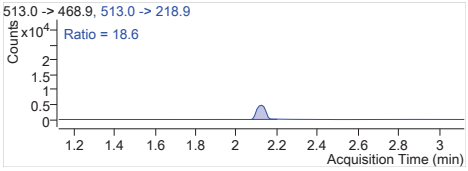
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 0.49 µg/L
Area ratio: 8.01677
Sample type: QC



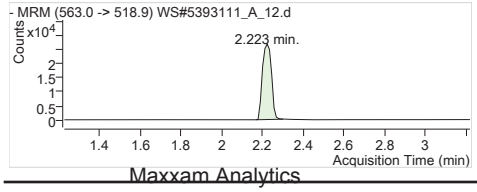


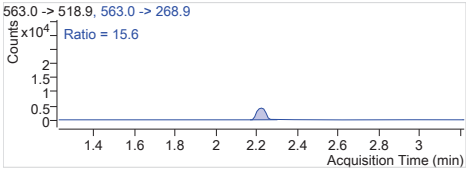
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 2.003 (2.003)
Calc. conc. 0.47 µg/L
Area ratio: 8.19731
Sample type: QC



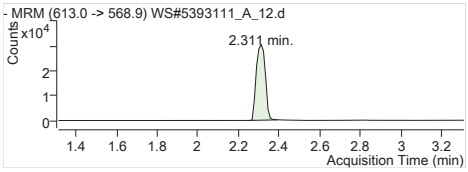


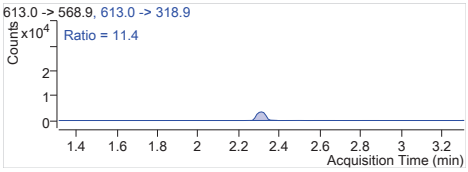
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 0.58 µg/L
Area ratio: 11.84274
Sample type: QC



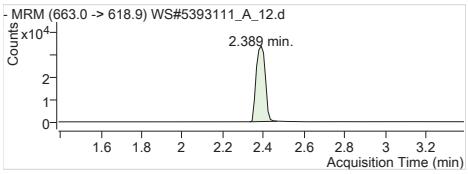


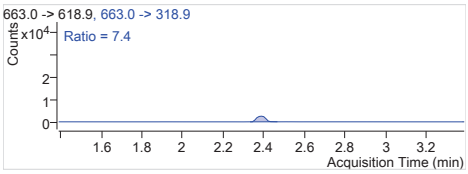
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 0.54 µg/L
Area ratio: 10.40010
Sample type: QC



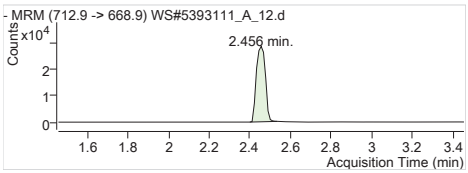


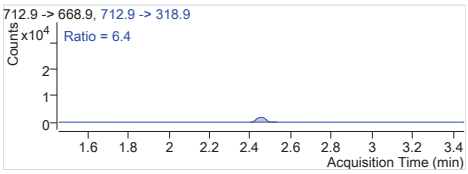
PFDoA 1 613.0 -> 568.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 0.48 µg/L
Area ratio: 9.29132
Sample type: QC



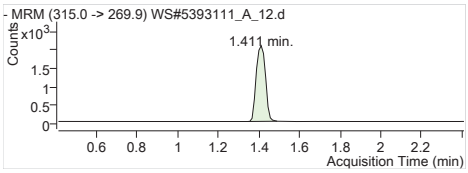


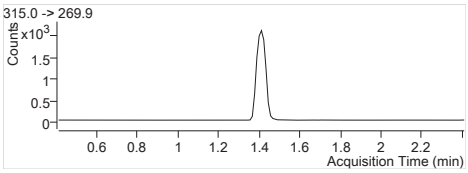
PFTrDA 1 663.0 -> 618.9
RT (Exp. RT): 2.389 (2.389)
Calc. conc. 0.50 µg/L
Area ratio: 9.33451
Sample type: QC



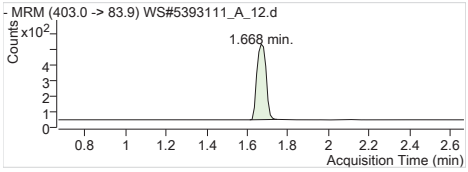


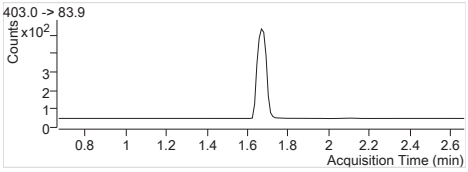
PFTeDA 1 712.9 -> 668.9
RT (Exp. RT): 2.456 (2.456)
Calc. conc. 0.51 µg/L
Area ratio: 7.81454
Sample type: QC



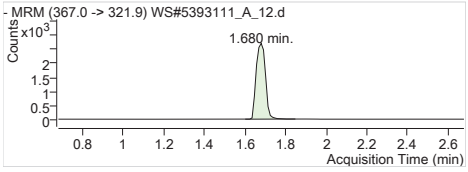


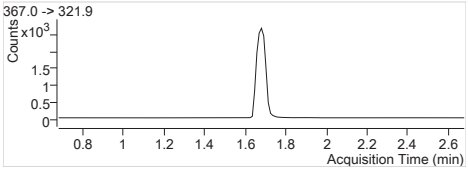
13C2-PFHxA 315.0 -> 269.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 88.99 µg/L
Area ratio: 0.25180
Sample type: QC



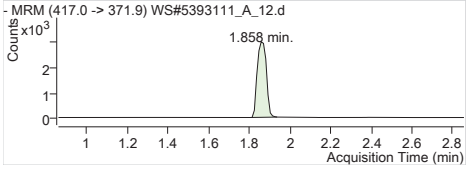


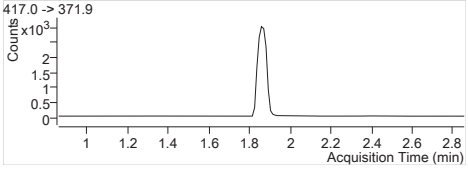
18O2-PFHxS 403.0 -> 83.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 84.34 µg/L
Area ratio: 0.05825
Sample type: QC



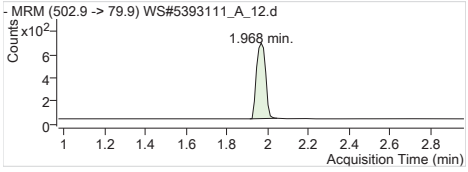


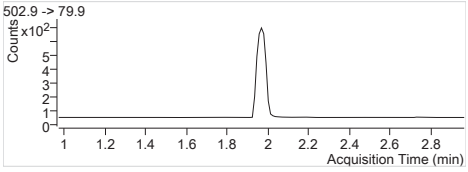
13C4-PFHpA 367.0 -> 321.9
RT (Exp. RT): 1.680 (1.680)
Calc. conc. 89.33 µg/L
Area ratio: 0.32287
Sample type: QC



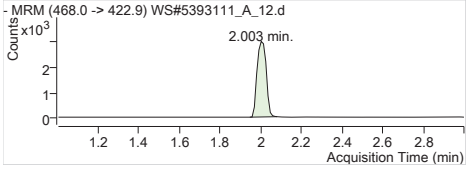


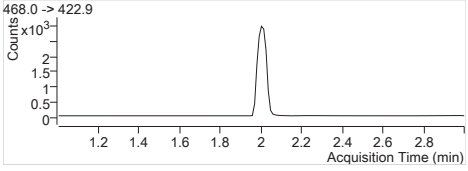
13C4-PFOA 417.0 -> 371.9
RT (Exp. RT): 1.858 (1.858)
Calc. conc. 92.70 µg/L
Area ratio: 0.35568
Sample type: QC



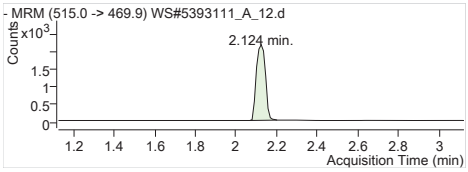


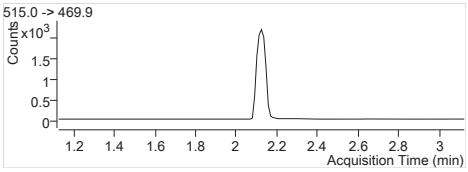
13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.968 (1.968)
Calc. conc. 92.75 µg/L
Area ratio: 0.07782
Sample type: QC



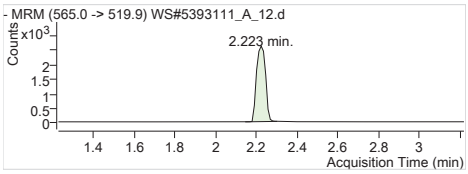


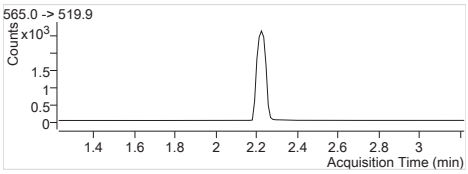
13C5-PFNA 468.0 -> 422.9
RT (Exp. RT): 2.003 (2.003)
Calc. conc. 95.45 µg/L
Area ratio: 0.35318
Sample type: QC



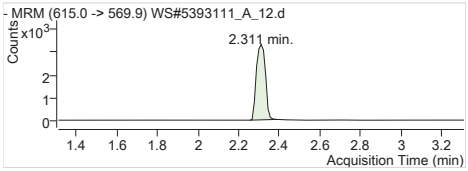


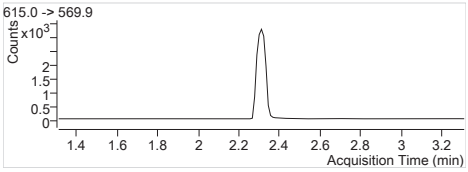
13C2-PFDA 515.0 -> 469.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 79.10 µg/L
Area ratio: 0.19582
Sample type: QC



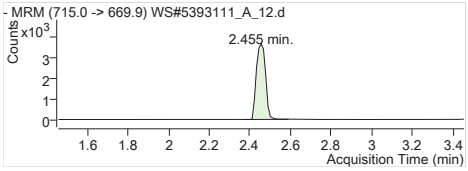


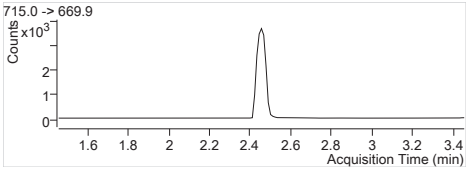
13C2-PFUnA 565.0 -> 519.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 81.39 µg/L
Area ratio: 0.23456
Sample type: QC



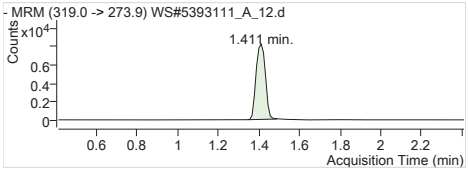


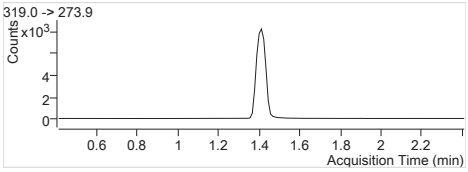
13C2-PFDoA 615.0 -> 569.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 79.28 µg/L
Area ratio: 0.29636
Sample type: QC



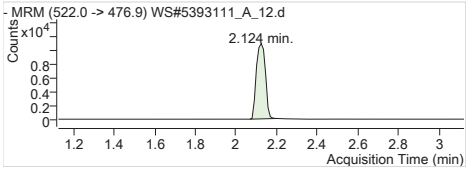


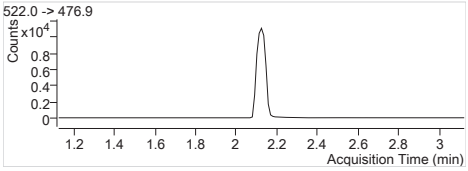
13C2-PFTeDA 715.0 -> 669.9
RT (Exp. RT): 2.455 (2.455)
Calc. conc. 77.97 µg/L
Area ratio: 0.33460
Sample type: QC





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 2.68 µg/L
Area ratio: 0
Sample type: QC





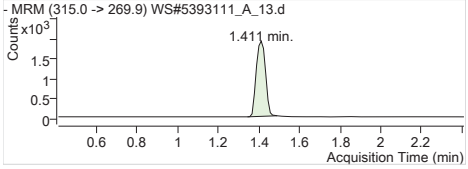
13C9-PFDA 522.0 -> 476.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 2.70 µg/L
Area ratio: 0
Sample type: QC

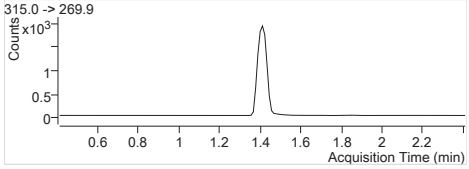
Batch Path T:\lcms4\PFC\20180212\WS#5393111_A\QuantResults\PFC_Water_Low_180213_WS#5393111_EToxics

Sample Name	**5393111:SPIKE:D1**	**Instrument**	LCMS04
Data File	WS#5393111_A_13.d	**Operator**	
Sample Type	QC	**Dilution**	0.024
Acq. Method	PFC_Water_Low.m	**Position**	P2-B3
Acq. Date	2018/02/13 2:05:42 PM	**Injection Volume**	Per Method
Sample Annotation	-		

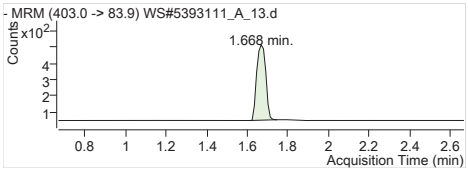
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	5995	1.41	1 µg/L		
MPFHxS	1440	1.67	1 µg/L		
MPFHpA	7545	1.68	1 µg/L		
MPFOA	8062	1.86	1 µg/L		
MPFOS	1845	1.97	1 µg/L		
MPFNA	7924	2.00	1 µg/L		
MPFDA	6171	2.12	1 µg/L		
MPFUnA	7062	2.22	1 µg/L		
MPFDoA	9581	2.31	1 µg/L		
MPFTeDA	10761	2.46	1 µg/L		
13C6-PFHxA IS	25038	1.41	1 µg/L		
13C9-PFDA IS	32181	2.12	1 µg/L		

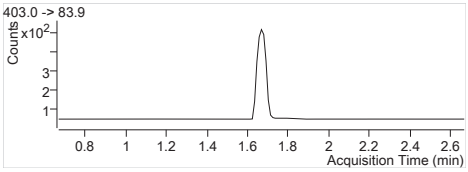
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1	15573	1.06	20.80	0.49 µg/L	98.68
PFHxA 1	51758	1.41	20.80	0.47 µg/L	94.32
PFHxS 1	14655	1.67	20.80	0.48 µg/L	95.74
PFHpA 1	70072	1.68	20.80	0.52 µg/L	105.00
PFOA 1	76451	1.86	20.80	0.50 µg/L	100.07
PFOS 1	13998	1.96	20.80	0.46 µg/L	92.50
PFNA 1	67669	2.00	20.80	0.49 µg/L	98.67
PFDA 1	69019	2.12	20.80	0.54 µg/L	109.14
PFUnA 1	73440	2.22	20.80	0.54 µg/L	107.99
PFDoA 1	90195	2.31	20.80	0.49 µg/L	97.27
PFTrDA 1	99831	2.39	20.80	0.50 µg/L	99.33
PFTeDA 1	81573	2.46	20.80	0.50 µg/L	99.30
13C2-PFHxA	5995	1.41	100.00	84.62 µg/L	84.62
18O2-PFHxS	1440	1.67	100.00	83.27 µg/L	83.27
13C4-PFHpA	7545	1.68	100.00	83.38 µg/L	83.38
13C4-PFOA	8062	1.86	100.00	83.92 µg/L	83.92
13C4-PFOS	1845	1.97	100.00	87.82 µg/L	87.82
13C5-PFNA	7925	2.00	100.00	85.54 µg/L	85.54
13C2-PFDA	6120	2.12	100.00	76.81 µg/L	76.81
13C2-PFUnA	7062	2.22	100.00	76.15 µg/L	76.15
13C2-PFDoA	9581	2.31	100.00	79.64 µg/L	79.64
13C2-PFTeDA	10883	2.46	100.00	78.81 µg/L	78.81
13C6-PFHxA	25038	1.41	100.00	2.57 µg/L	107.22
13C9-PFDA	32181	2.12	100.00	2.55 µg/L	106.41



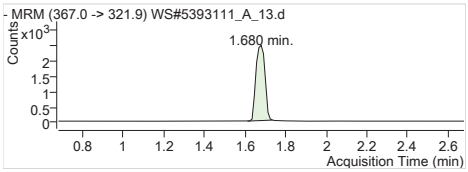


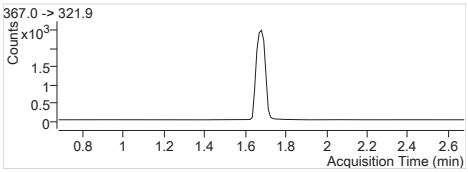
MPFHxA Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: QC



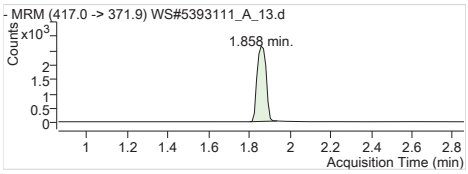


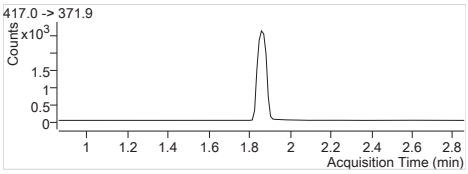
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: QC



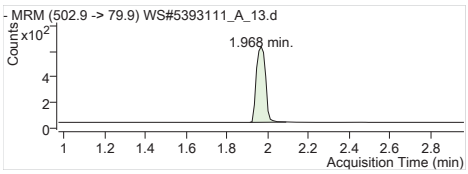


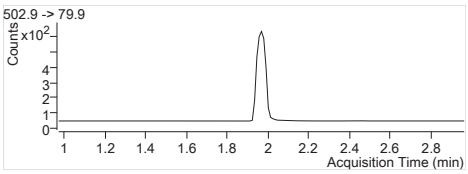
MPFHpA Internal Standard
RT (Exp. RT): 1.680 (1.680)
Concentration: 1 µg/L
Sample type: QC



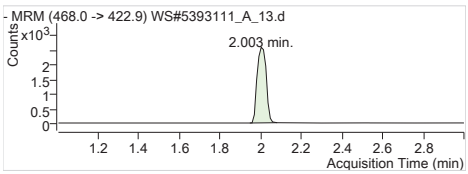


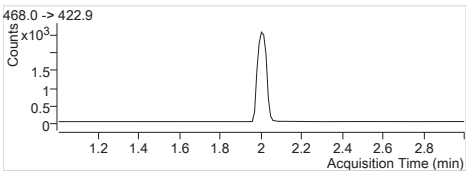
MPFOA Internal Standard
RT (Exp. RT): 1.858 (1.858)
Concentration: 1 µg/L
Sample type: QC



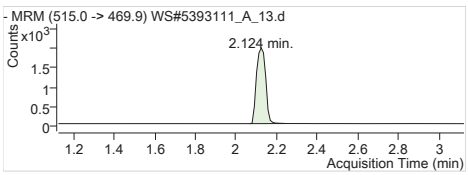


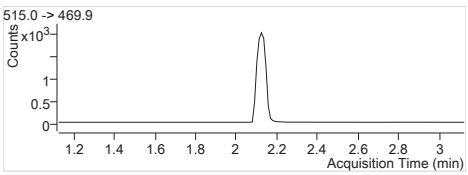
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: QC



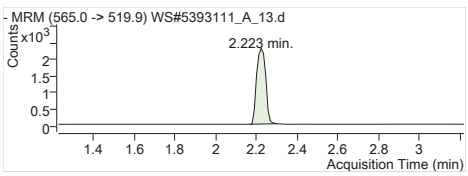


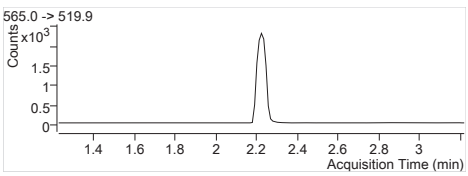
MPFNA Internal Standard
RT (Exp. RT): 2.003 (2.003)
Concentration: 1 µg/L
Sample type: QC



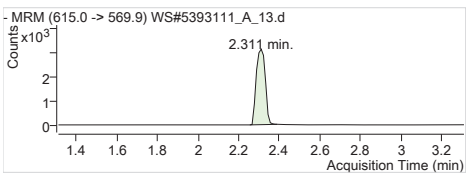


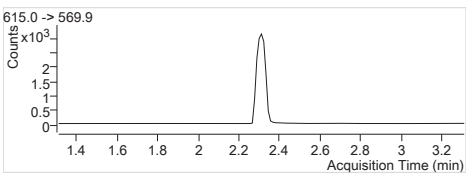
MPFDA Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: QC



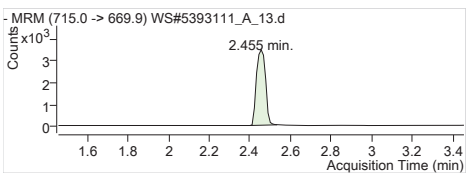


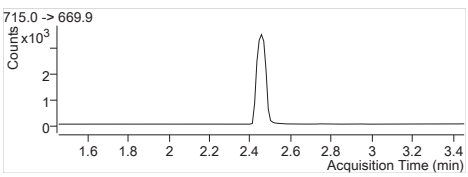
MPFUnA Internal Standard
RT (Exp. RT): 2.223 (2.223)
Concentration: 1 µg/L
Sample type: QC



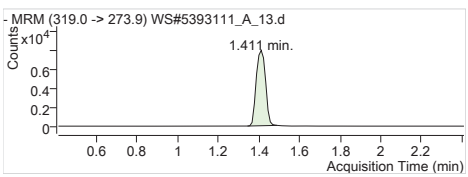


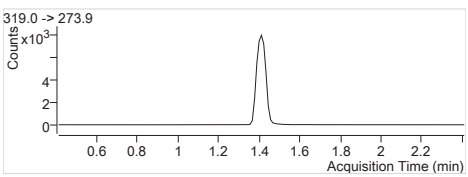
MPFDoA Internal Standard
RT (Exp. RT): 2.311 (2.311)
Concentration: 1 µg/L
Sample type: QC



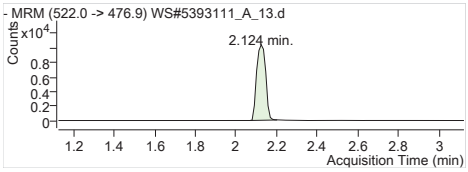


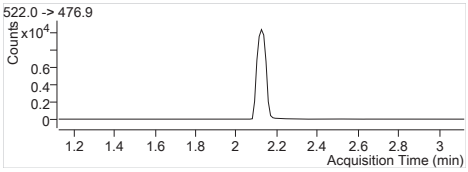
MPFTeDA Internal Standard
RT (Exp. RT): 2.455 (2.455)
Concentration: 1 µg/L
Sample type: QC



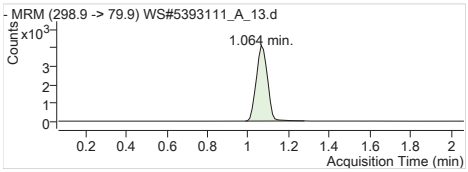


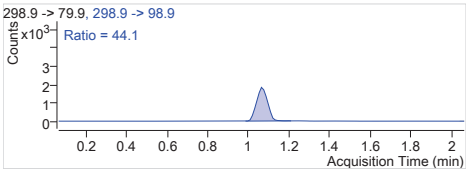
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: QC



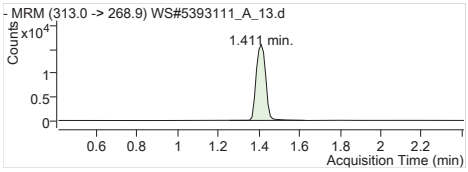


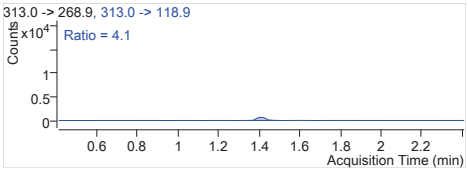
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: QC



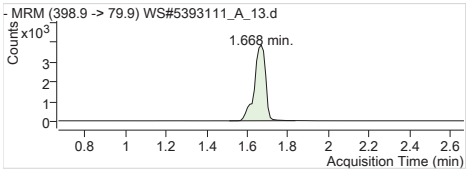


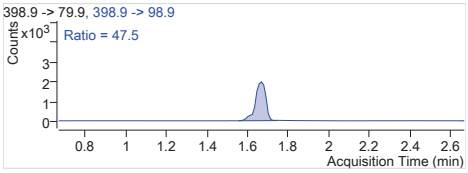
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 1.064 (1.064)
Calc. conc. 0.49 µg/L
Area ratio: 10.81458
Sample type: QC



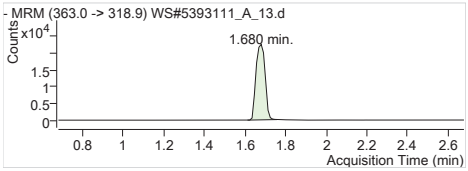


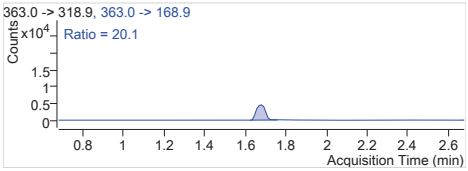
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 0.47 µg/L
Area ratio: 8.63353
Sample type: QC



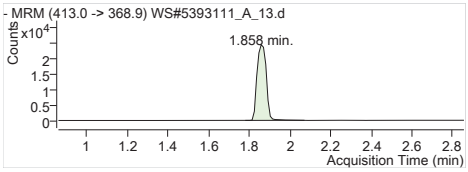


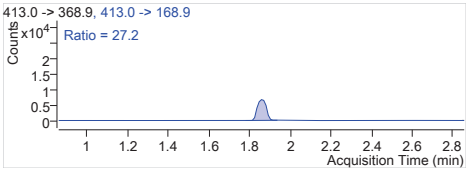
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 0.48 µg/L
Area ratio: 10.17708
Sample type: QC



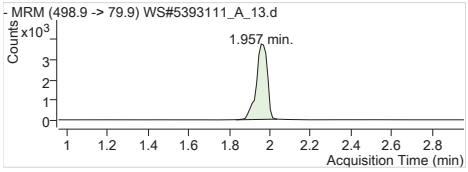


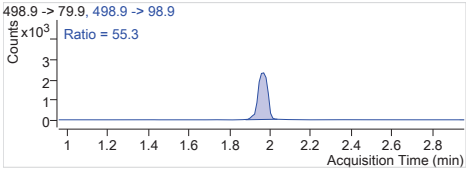
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 1.680 (1.680)
Calc. conc. 0.52 µg/L
Area ratio: 9.28721
Sample type: QC



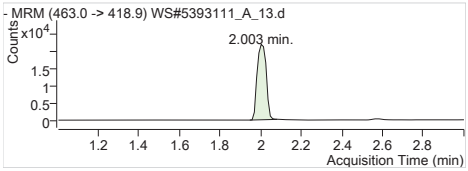


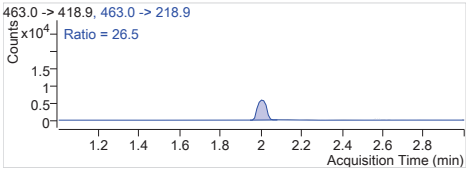
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 1.858 (1.858)
Calc. conc. 0.50 µg/L
Area ratio: 9.48288
Sample type: QC



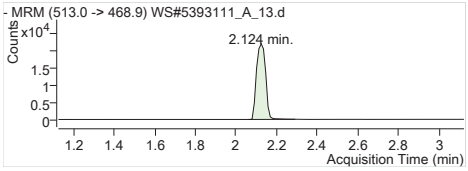


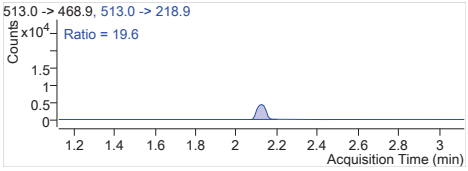
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 0.46 µg/L
Area ratio: 7.58699
Sample type: QC



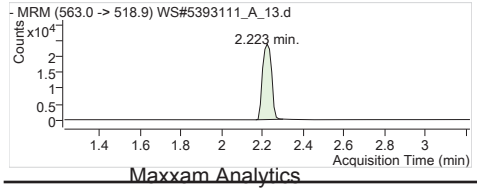


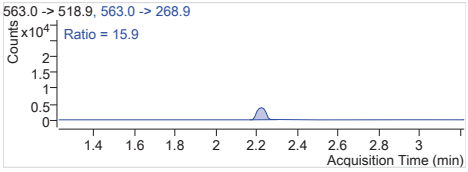
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 2.003 (2.003)
Calc. conc. 0.49 µg/L
Area ratio: 8.53975
Sample type: QC



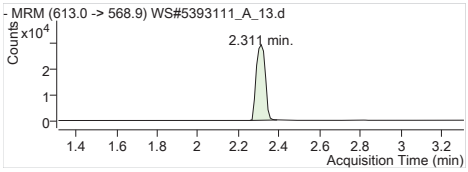


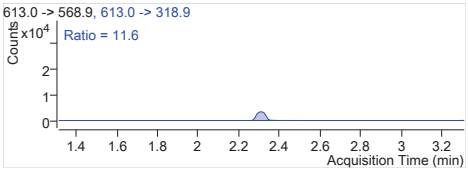
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 0.54 µg/L
Area ratio: 11.18441
Sample type: QC



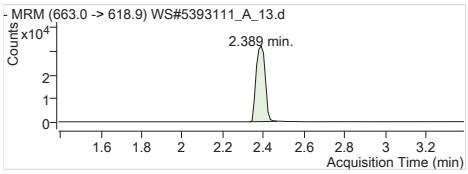


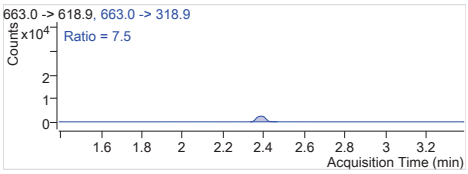
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 0.54 µg/L
Area ratio: 10.39932
Sample type: QC



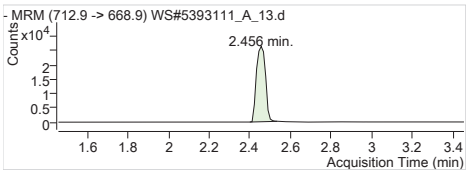


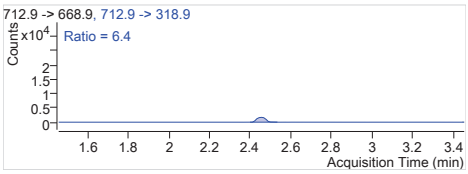
PFDoA 1	613.0 -> 568.9
RT (Exp. RT):	2.311 (2.311)
Calc. conc.	0.49 µg/L
Area ratio:	9.41394
Sample type:	QC



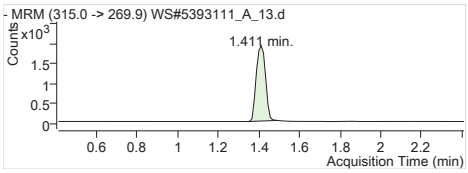


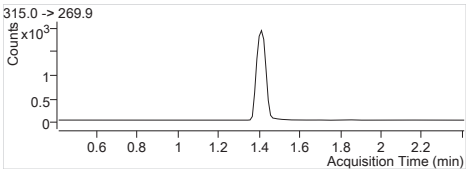
PFTrDA 1	663.0 -> 618.9
RT (Exp. RT):	2.389 (2.389)
Calc. conc.	0.50 µg/L
Area ratio:	9.27711
Sample type:	QC



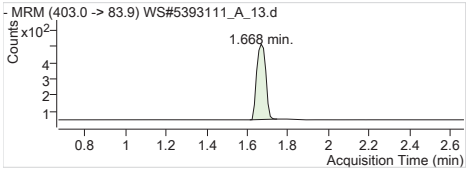


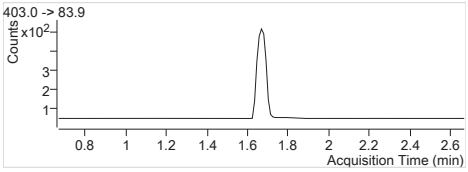
PFTeDA 1	712.9 -> 668.9
RT (Exp. RT):	2.456 (2.456)
Calc. conc.	0.50 µg/L
Area ratio:	7.58043
Sample type:	QC



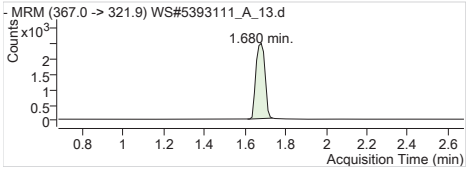


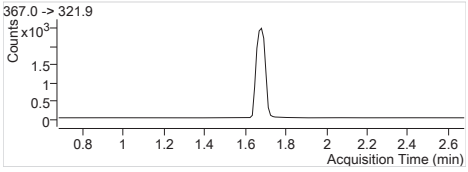
13C2-PFHxA	315.0 -> 269.9
RT (Exp. RT):	1.411 (1.411)
Calc. conc.	84.62 µg/L
Area ratio:	0.23944
Sample type:	QC



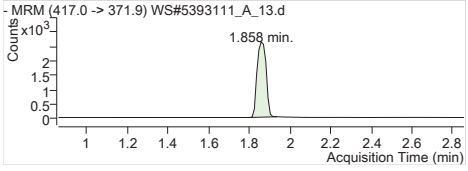


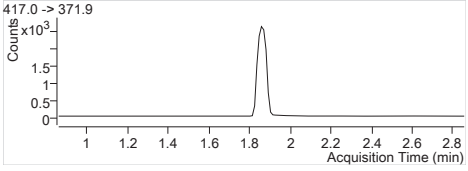
18O2-PFHxS	403.0 -> 83.9
RT (Exp. RT):	1.668 (1.668)
Calc. conc.	83.27 µg/L
Area ratio:	0.05751
Sample type:	QC



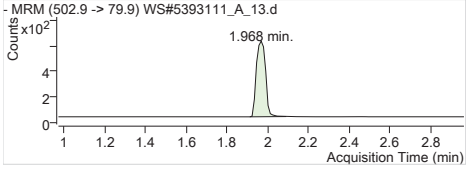


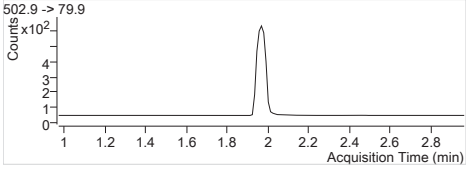
13C4-PFHpA	367.0 -> 321.9
RT (Exp. RT):	1.680 (1.680)
Calc. conc.	83.38 µg/L
Area ratio:	0.30134
Sample type:	QC



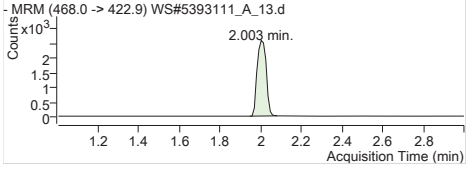


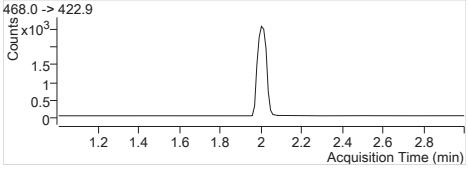
13C4-PFOA	417.0 -> 371.9
RT (Exp. RT):	1.858 (1.858)
Calc. conc.	83.92 µg/L
Area ratio:	0.32199
Sample type:	QC



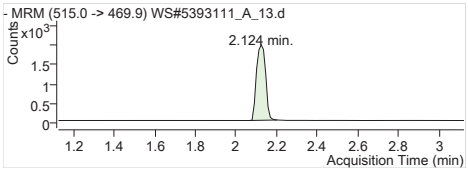


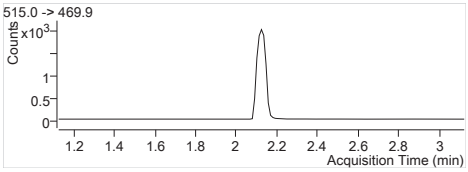
13C4-PFOS	502.9 -> 79.9
RT (Exp. RT):	1.968 (1.968)
Calc. conc.	87.82 µg/L
Area ratio:	0.07369
Sample type:	QC



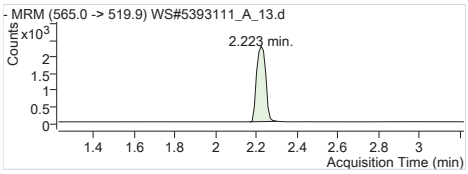


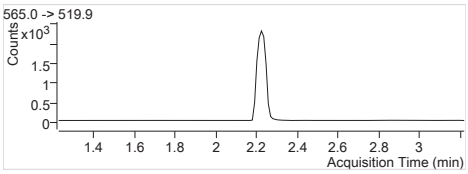
13C5-PFNA	468.0 -> 422.9
RT (Exp. RT):	2.003 (2.003)
Calc. conc.	85.54 µg/L
Area ratio:	0.31652
Sample type:	QC



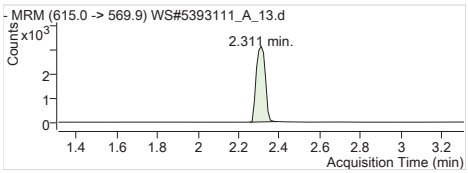


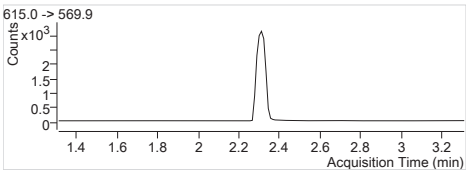
13C2-PFDA 515.0 -> 469.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 76.81 µg/L
Area ratio: 0.19017
Sample type: QC



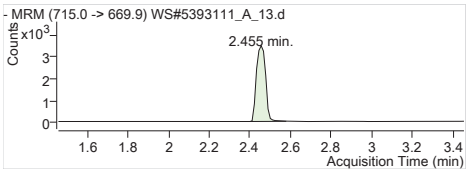


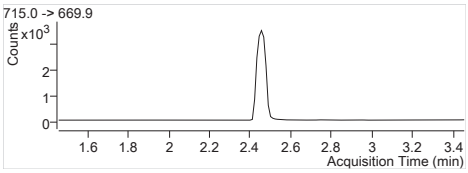
13C2-PFUnA 565.0 -> 519.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 76.15 µg/L
Area ratio: 0.21945
Sample type: QC



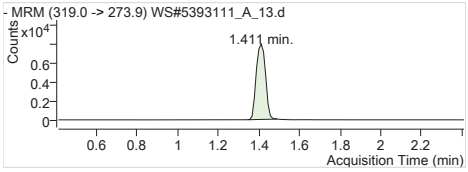


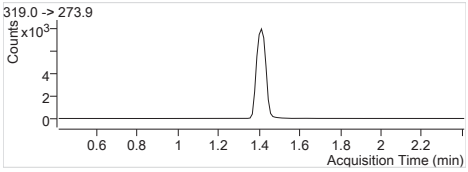
13C2-PFDoA 615.0 -> 569.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 79.64 µg/L
Area ratio: 0.29772
Sample type: QC



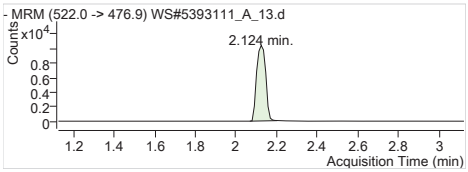


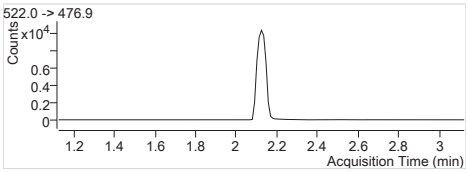
13C2-PFTeDA 715.0 -> 669.9
RT (Exp. RT): 2.455 (2.455)
Calc. conc. 78.81 µg/L
Area ratio: 0.33818
Sample type: QC





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 2.57 µg/L
Area ratio: 0
Sample type: QC





13C9-PFDA 522.0 -> 476.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 2.55 µg/L
Area ratio: 0
Sample type: QC

Quantitation Results

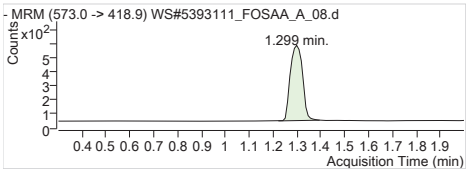
Agilent Technologies

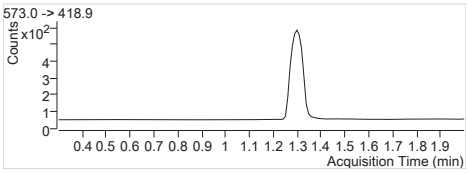
Batch Path	T:\lcms4\PFC\20180212\WS#5393111_FOSAA_A\QuantResults\PFC_Water_Low_180212_WS#5393111_FOSAA_A_EToxics

Sample Name	**IB**	**Instrument**	LCMS04
Data File	WS#5393111_FOSAA_A_08.d	**Operator**	
Sample Type	Sample	**Dilution**	1
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P2-A8
Acq. Date	2018/02/13 11:43:56 AM	**Injection Volume**	Per Method
Sample Annotation	-		

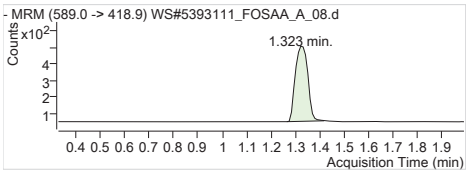
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1902	1.30	1 µg/L		
D5-EtFOSAA IS	1634	1.32	1 µg/L		
13C9-PFDA IS	23133	0.87	1 µg/L		

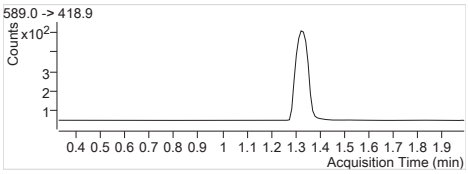
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1			-	ND	-
EtFOSAA 1			-	ND	-
D3-MeFOSAA	1909	1.30	-	110.05 µg/L	-
D5-EtFOSAA	1660	1.32	-	111.67 µg/L	-
13C9-PFDA	22474	0.87	-	88.09 µg/L	-



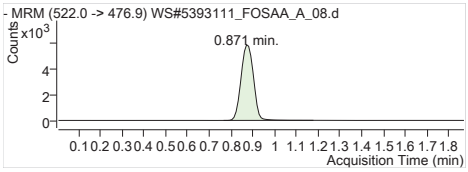


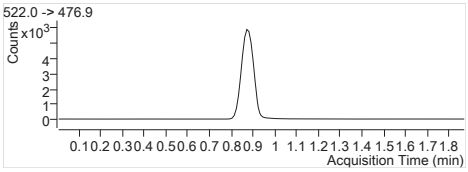
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.299 (1.299)
Concentration: 1 µg/L
Sample type: Sample



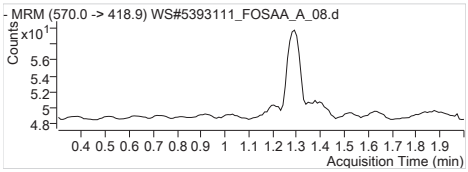


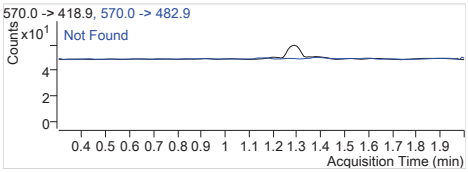
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.323 (1.323)
Concentration: 1 µg/L
Sample type: Sample



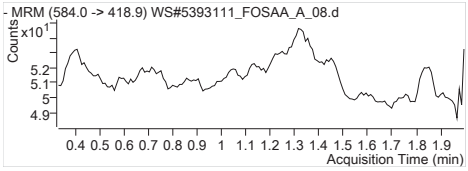


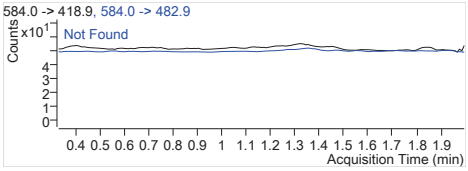
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.871 (0.871)
Concentration: 1 µg/L
Sample type: Sample



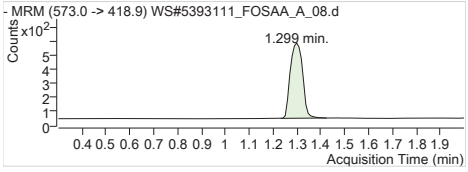


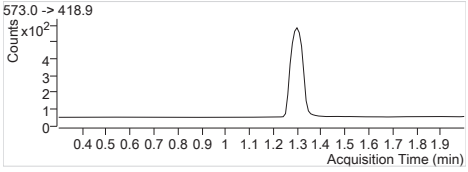
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 0.000 (1.300)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



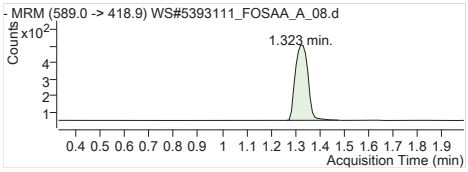


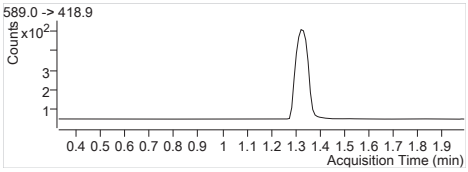
EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 0.000 (1.325)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



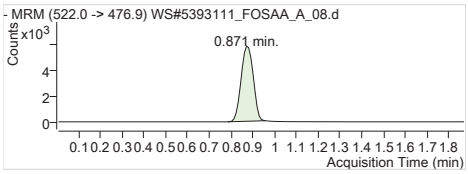


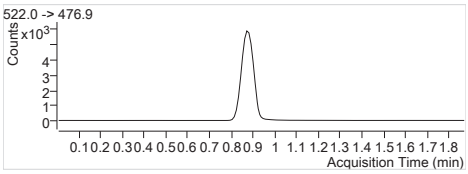
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.299 (1.299)
Calc. conc. 110.05 µg/L
Area ratio: 0.08252
Sample type: Sample





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.323 (1.323)
Calc. conc.	111.67 µg/L
Area ratio:	0.07176
Sample type:	Sample





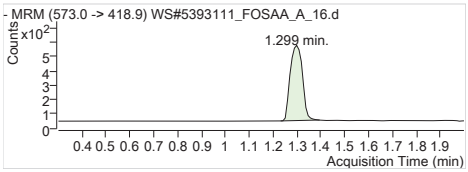
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.871 (0.871)
Calc. conc.	88.09 µg/L
Area ratio:	0
Sample type:	Sample

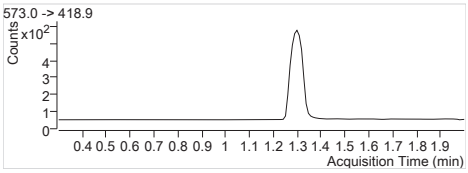
Batch Path	T:\lcms4\PFC\20180212\WS#5393111_FOSAA_A\QuantResults\PFC_Water_Low_180212_WS#5393111_FOSAA_A_EToxics

Sample Name	**IB**	**Instrument**	LCMS04
Data File	WS#5393111_FOSAA_A_16.d	**Operator**	
Sample Type	Sample	**Dilution**	0.024
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P2-A8
Acq. Date	2018/02/13 12:03:14 PM	**Injection Volume**	Per Method
Sample Annotation	-		

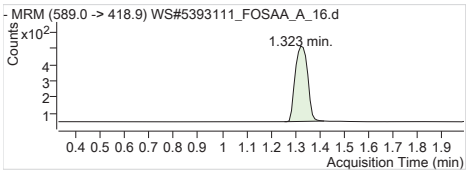
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1874	1.30	1 µg/L		
D5-EtFOSAA IS	1656	1.32	1 µg/L		
13C9-PFDA IS	23243	0.87	1 µg/L		

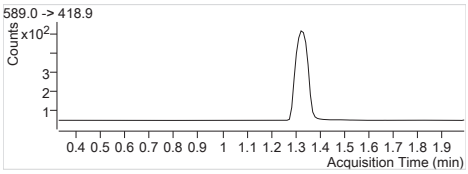
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1			-	ND	-
EtFOSAA 1			-	ND	-
D3-MeFOSAA	1896	1.30	-	108.78 µg/L	-
D5-EtFOSAA	1667	1.32	-	111.61 µg/L	-
13C9-PFDA	23228	0.87	-	2.19 µg/L	-



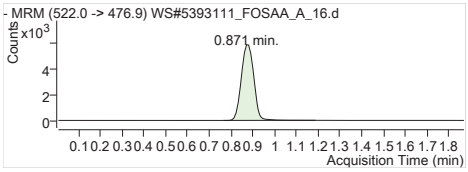


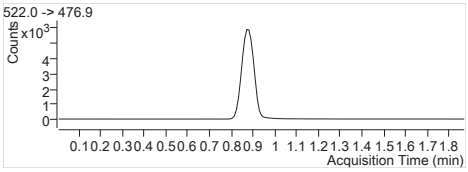
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.299 (1.299)
Concentration: 1 µg/L
Sample type: Sample



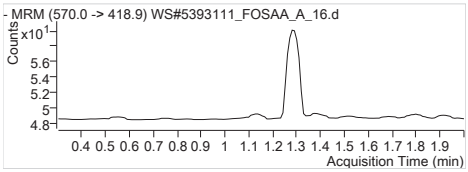


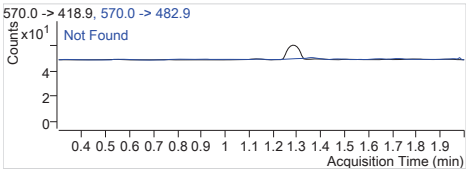
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.323 (1.323)
Concentration: 1 µg/L
Sample type: Sample



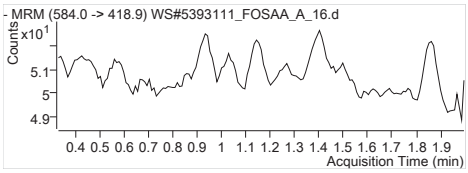


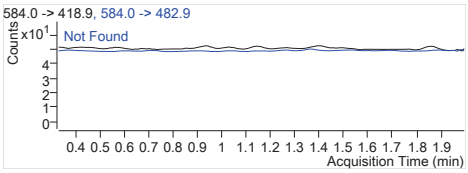
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.871 (0.871)
Concentration: 1 µg/L
Sample type: Sample



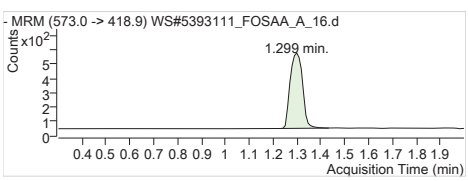


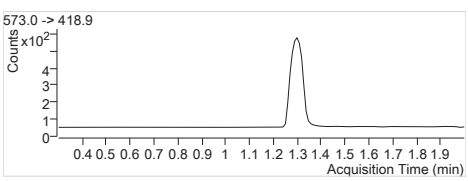
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 0.000 (1.300)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



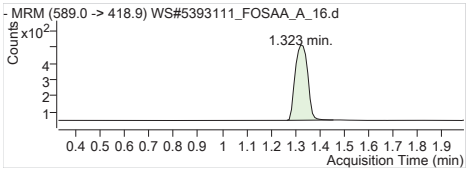


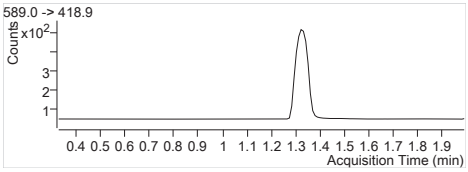
EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 0.000 (1.325)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



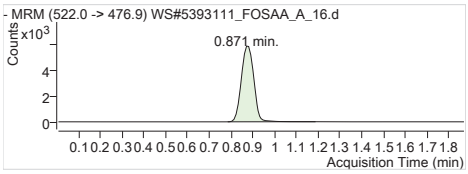


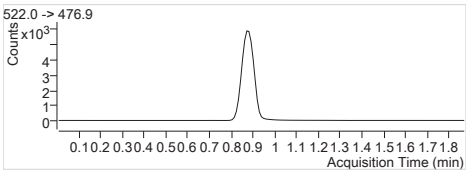
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.299 (1.299)
Calc. conc. 108.78 µg/L
Area ratio: 0.08157
Sample type: Sample





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.323 (1.323)
Calc. conc.	111.61 µg/L
Area ratio:	0.07172
Sample type:	Sample





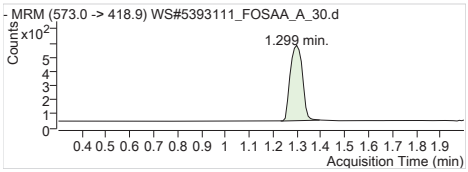
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.871 (0.871)
Calc. conc.	2.19 µg/L
Area ratio:	0
Sample type:	Sample

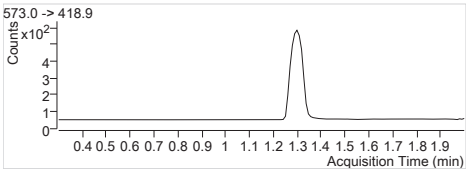
Batch Path	T:\lcms4\PFC\20180212\WS#5393111_FOSAA_A\QuantResults\PFC_Water_Low_180212_WS#5393111_FOSAA_A_EToxics

Sample Name	**IB**	**Instrument**	LCMS04
Data File	WS#5393111_FOSAA_A_30.d	**Operator**	
Sample Type	Sample	**Dilution**	0.024
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P2-A8
Acq. Date	2018/02/13 12:37:01 PM	**Injection Volume**	Per Method
Sample Annotation	-		

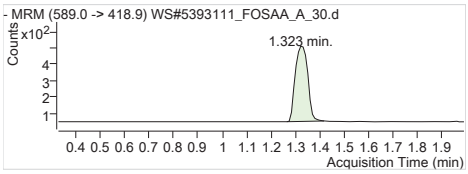
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1891	1.30	1 µg/L		
D5-EtFOSAA IS	1648	1.32	1 µg/L		
13C9-PFDA IS	23271	0.87	1 µg/L		

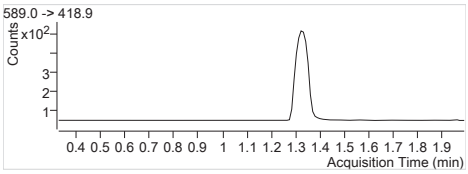
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1			-	ND	-
EtFOSAA 1			-	ND	-
D3-MeFOSAA	1913	1.30	-	109.62 µg/L	-
D5-EtFOSAA	1664	1.32	-	111.28 µg/L	-
13C9-PFDA	22609	0.87	-	2.13 µg/L	-



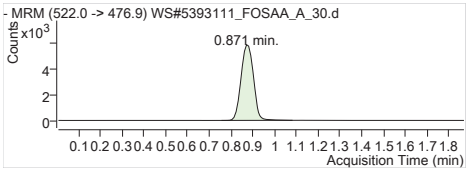


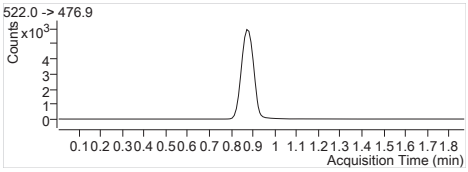
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.299 (1.299)
Concentration: 1 µg/L
Sample type: Sample



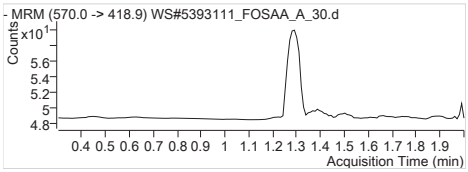


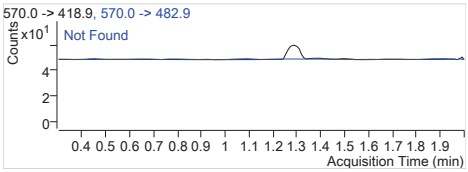
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.323 (1.323)
Concentration: 1 µg/L
Sample type: Sample



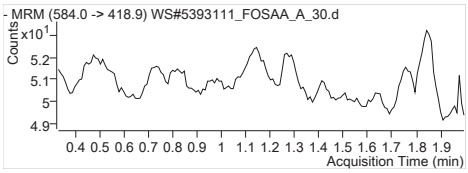


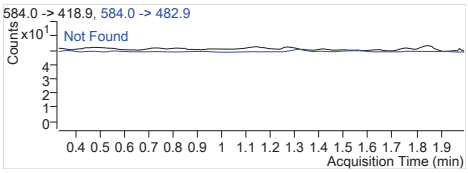
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.871 (0.871)
Concentration: 1 µg/L
Sample type: Sample



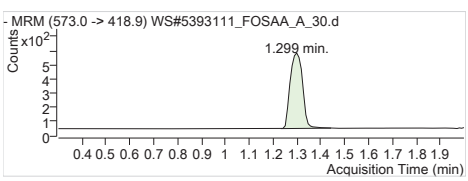


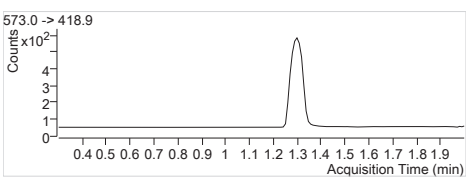
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 0.000 (1.300)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



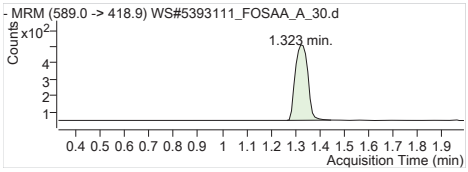


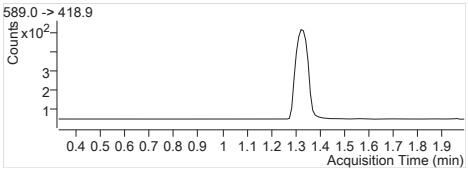
EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 0.000 (1.325)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



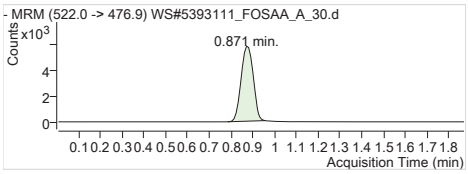


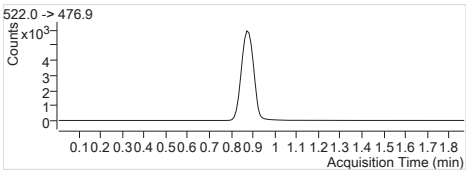
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.299 (1.299)
Calc. conc. 109.62 µg/L
Area ratio: 0.08221
Sample type: Sample





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.323 (1.323)
Calc. conc.	111.28 µg/L
Area ratio:	0.07151
Sample type:	Sample





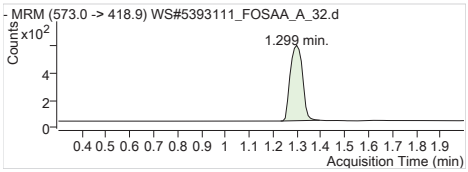
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.871 (0.871)
Calc. conc.	2.13 µg/L
Area ratio:	0
Sample type:	Sample

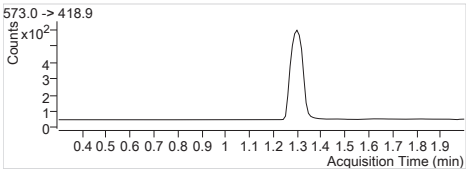
Batch Path	T:\lcms4\PFC\20180212\WS#5393111_FOSAA_A\QuantResults\PFC_Water_Low_180212_WS#5393111_FOSAA_A_EToxics

Sample Name	**IB**	**Instrument**	LCMS04
Data File	WS#5393111_FOSAA_A_32.d	**Operator**	
Sample Type	Sample	**Dilution**	0.024
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P2-A8
Acq. Date	2018/02/13 12:41:51 PM	**Injection Volume**	Per Method
Sample Annotation	-		

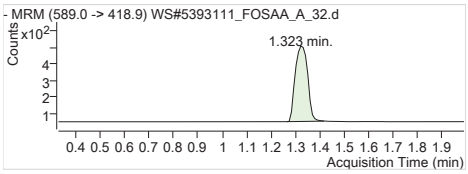
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1955	1.30	1 µg/L		
D5-EtFOSAA IS	1633	1.32	1 µg/L		
13C9-PFDA IS	23555	0.87	1 µg/L		

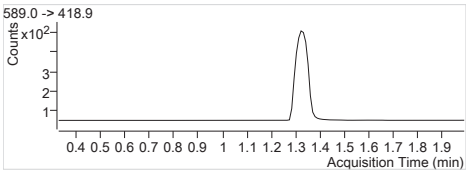
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1			-	ND	-
EtFOSAA 1			-	ND	-
D3-MeFOSAA	1973	1.30	-	111.70 µg/L	-
D5-EtFOSAA	1656	1.32	-	109.41 µg/L	-
13C9-PFDA	22892	0.87	-	2.15 µg/L	-



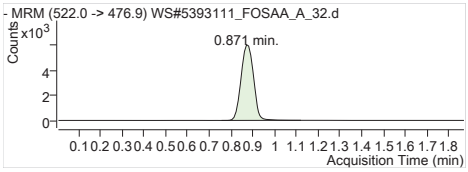


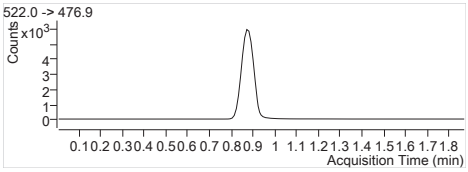
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.299 (1.299)
Concentration: 1 µg/L
Sample type: Sample



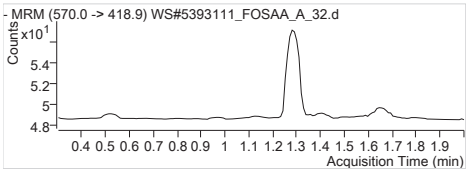


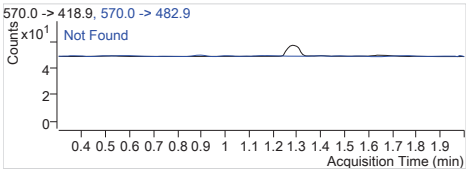
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.323 (1.323)
Concentration: 1 µg/L
Sample type: Sample



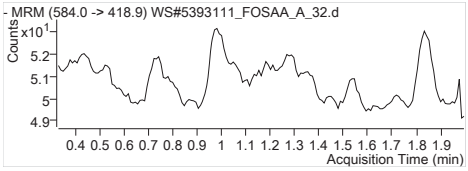


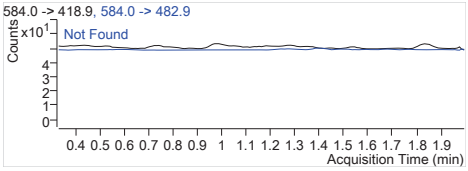
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.871 (0.871)
Concentration: 1 µg/L
Sample type: Sample



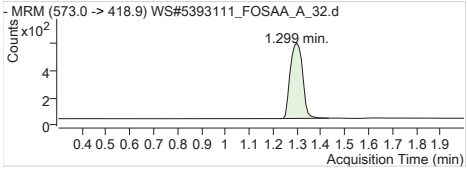


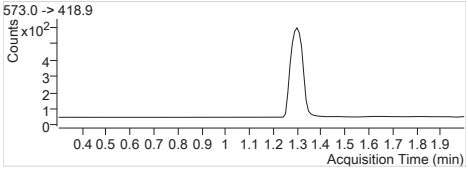
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 0.000 (1.300)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



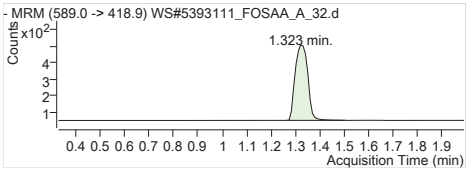


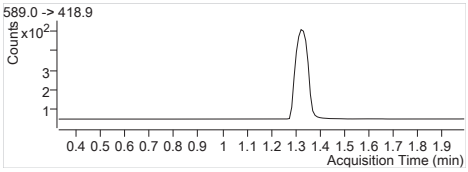
EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 0.000 (1.325)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



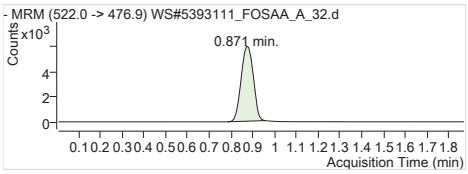


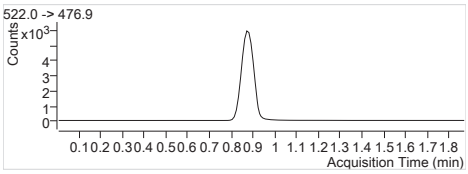
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.299 (1.299)
Calc. conc. 111.70 µg/L
Area ratio: 0.08376
Sample type: Sample





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.323 (1.323)
Calc. conc.	109.41 µg/L
Area ratio:	0.07030
Sample type:	Sample





13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.871 (0.871)
Calc. conc.	2.15 µg/L
Area ratio:	0
Sample type:	Sample

Quantitation Results

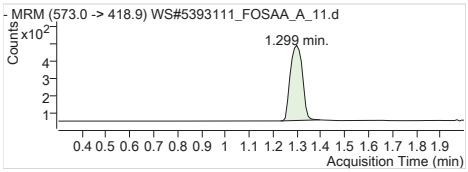
Agilent Technologies

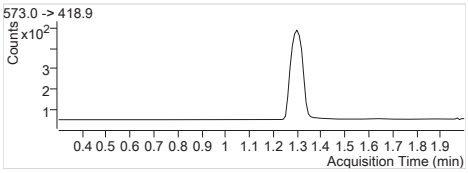
Batch Path	T:\lcms4\PFC\20180212\WS#5393111_FOSAA_A\QuantResults\PFC_Water_Low_180212_WS#5393111_FOSAA_A_EToxics

Sample Name	**5393111:BLANK**	**Instrument**	LCMS04
Data File	WS#5393111_FOSAA_A_11.d	**Operator**	
Sample Type	Sample	**Dilution**	0.024
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P2-B1
Acq. Date	2018/02/13 11:51:11 AM	**Injection Volume**	Per Method
Sample Annotation	-		

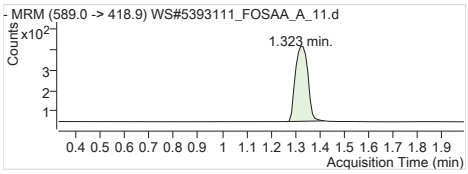
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1554	1.30	1 µg/L		
D5-EtFOSAA IS	1306	1.32	1 µg/L		
13C9-PFDA IS	30049	0.88	1 µg/L		

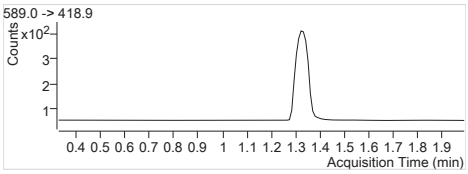
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1			-	ND	-
EtFOSAA 1			-	ND	-
D3-MeFOSAA	1577	1.30	-	69.99 µg/L	-
D5-EtFOSAA	1325	1.32	-	68.62 µg/L	-
13C9-PFDA	29227	0.88	-	2.75 µg/L	-



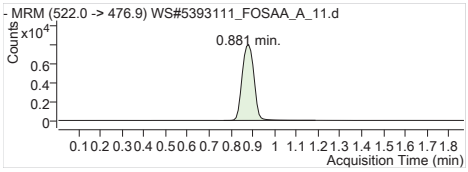


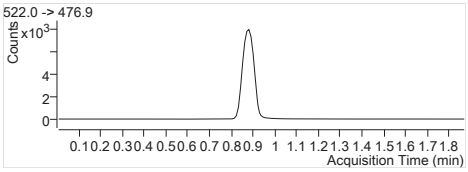
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.299 (1.299)
Concentration: 1 µg/L
Sample type: Sample



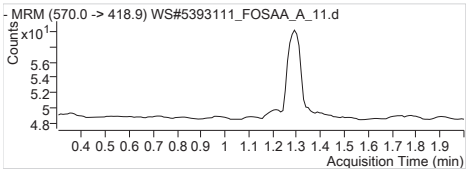


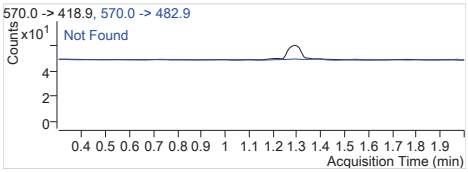
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.323 (1.323)
Concentration: 1 µg/L
Sample type: Sample



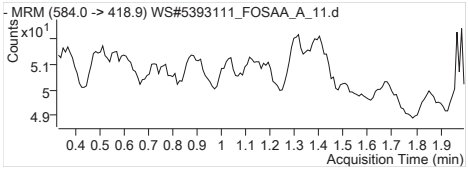


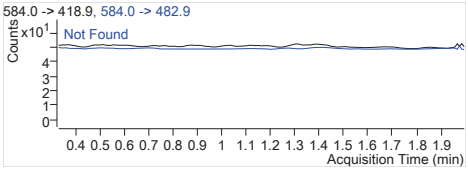
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.881 (0.871)
Concentration: 1 µg/L
Sample type: Sample



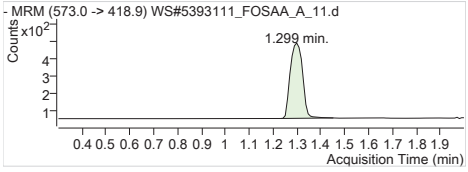


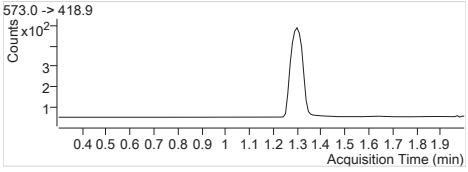
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 0.000 (1.300)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



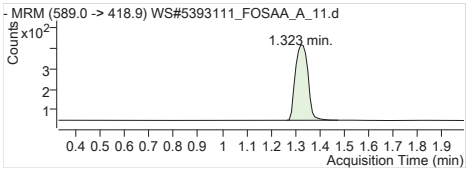


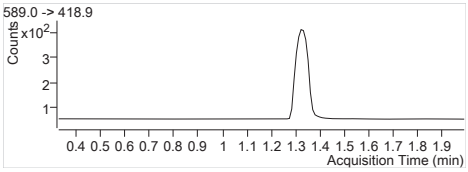
EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 0.000 (1.325)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



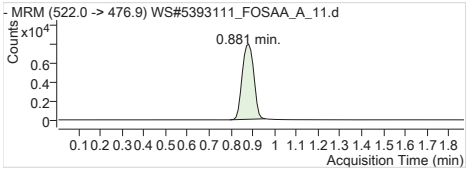


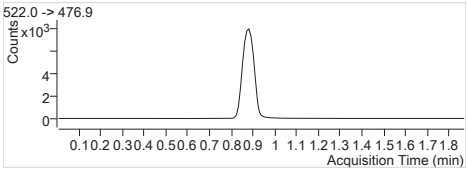
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.299 (1.299)
Calc. conc. 69.99 µg/L
Area ratio: 0.05248
Sample type: Sample





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.323 (1.323)
Calc. conc.	68.62 µg/L
Area ratio:	0.04409
Sample type:	Sample





13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.881 (0.871)
Calc. conc.	2.75 µg/L
Area ratio:	0
Sample type:	Sample

Quantitation Results

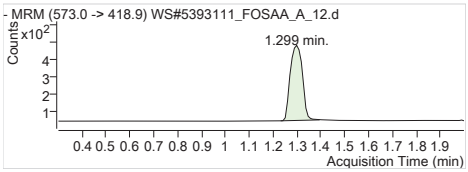
Agilent Technologies

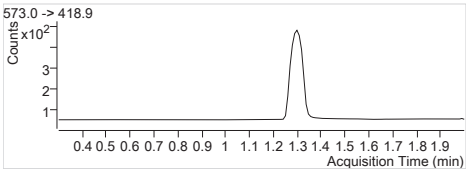
Batch Path	T:\lcms4\PFC\20180212\WS#5393111_FOSAA_A\QuantResults\PFC_Water_Low_180212_WS#5393111_FOSAA_A_EToxics

Sample Name	**5393111:SPIKE**	**Instrument**	LCMS04
Data File	WS#5393111_FOSAA_A_12.d	**Operator**	
Sample Type	QC	**Dilution**	0.024
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P2-B2
Acq. Date	2018/02/13 11:53:36 AM	**Injection Volume**	Per Method
Sample Annotation	-		

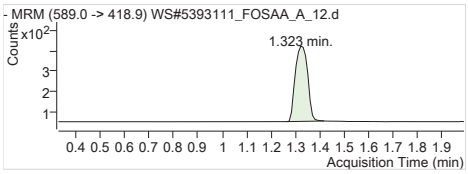
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1529	1.30	1 µg/L		
D5-EtFOSAA IS	1319	1.32	1 µg/L		
13C9-PFDA IS	29721	0.88	1 µg/L		

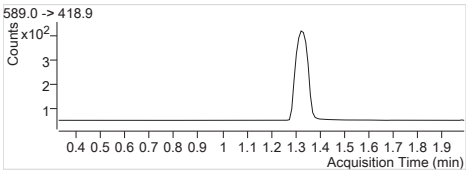
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1	12617	1.30	20.80	0.51 µg/L	102.07
EtFOSAA 1	12986	1.32	20.80	0.52 µg/L	104.32
D3-MeFOSAA	1553	1.30	100.00	69.68 µg/L	69.68
D5-EtFOSAA	1323	1.32	100.00	69.27 µg/L	69.27
13C9-PFDA	28877	0.88	100.00	2.72 µg/L	113.18



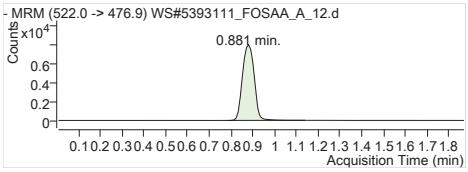


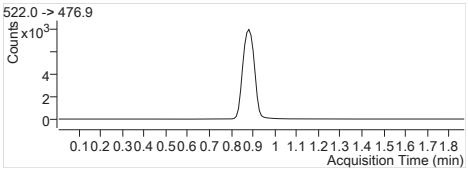
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.299 (1.299)
Concentration: 1 µg/L
Sample type: QC



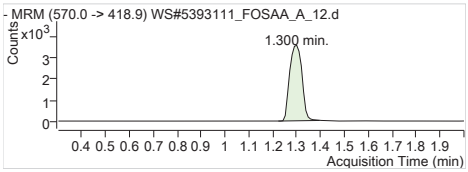


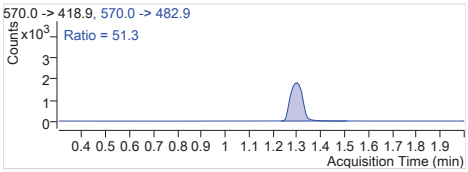
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.323 (1.323)
Concentration: 1 µg/L
Sample type: QC



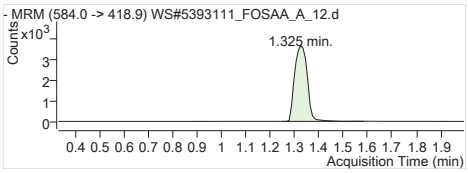


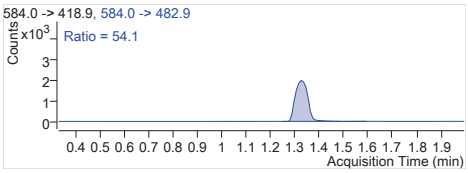
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.881 (0.871)
Concentration: 1 µg/L
Sample type: QC



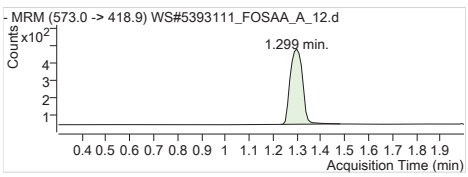


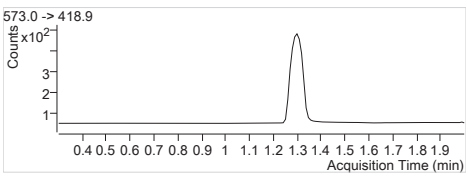
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 1.300 (1.300)
Calc. conc. 0.51 µg/L
Area ratio: 8.25180
Sample type: QC



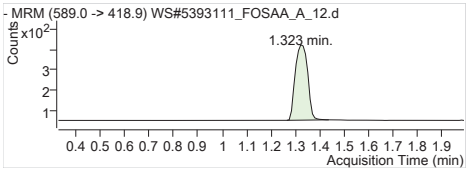


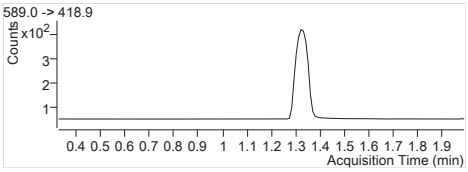
EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 1.325 (1.325)
Calc. conc. 0.52 µg/L
Area ratio: 9.84534
Sample type: QC



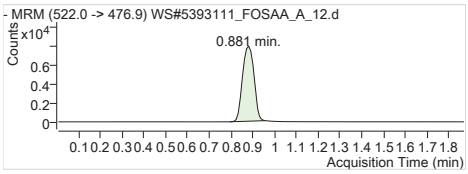


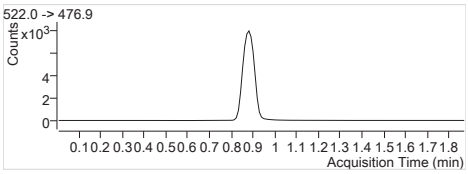
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.299 (1.299)
Calc. conc. 69.68 µg/L
Area ratio: 0.05225
Sample type: QC





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.323 (1.323)
Calc. conc.	69.27 µg/L
Area ratio:	0.04451
Sample type:	QC





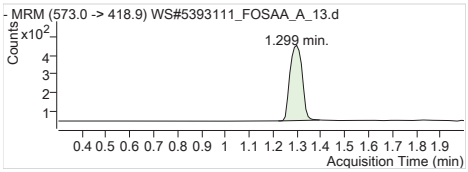
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.881 (0.871)
Calc. conc.	2.72 µg/L
Area ratio:	0
Sample type:	QC

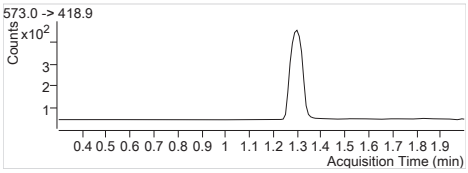
Batch Path	T:\lcms4\PFC\20180212\WS#5393111_FOSAA_A\QuantResults\PFC_Water_Low_180212_WS#5393111_FOSAA_A_EToxics

Sample Name	**5393111:SPIKE:D1**	**Instrument**	LCMS04
Data File	WS#5393111_FOSAA_A_13.d	**Operator**	
Sample Type	QC	**Dilution**	0.024
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P2-B3
Acq. Date	2018/02/13 11:56:01 AM	**Injection Volume**	Per Method
Sample Annotation	-		

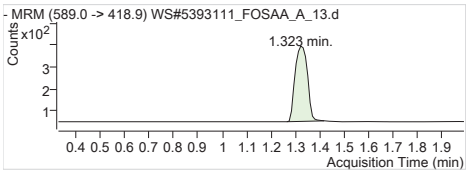
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1428	1.30	1 µg/L		
D5-EtFOSAA IS	1221	1.32	1 µg/L		
13C9-PFDA IS	27367	0.87	1 µg/L		

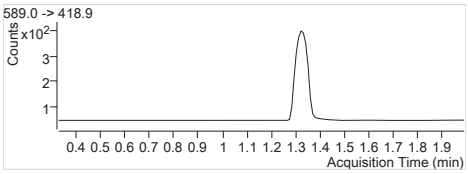
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1	12104	1.30	20.80	0.52 µg/L	104.84
EtFOSAA 1	12131	1.32	20.80	0.53 µg/L	105.27
D3-MeFOSAA	1448	1.30	100.00	70.56 µg/L	70.56
D5-EtFOSAA	1242	1.32	100.00	70.63 µg/L	70.63
13C9-PFDA	26603	0.87	100.00	2.50 µg/L	104.27



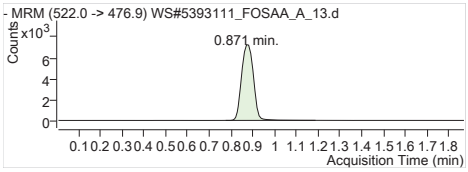


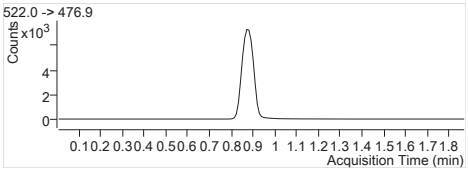
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.299 (1.299)
Concentration: 1 µg/L
Sample type: QC



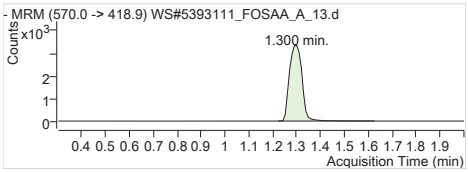


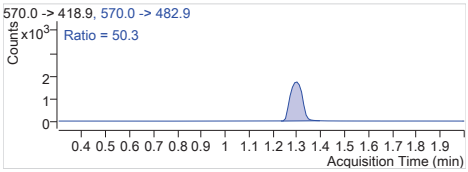
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.323 (1.323)
Concentration: 1 µg/L
Sample type: QC



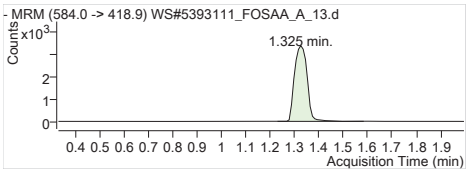


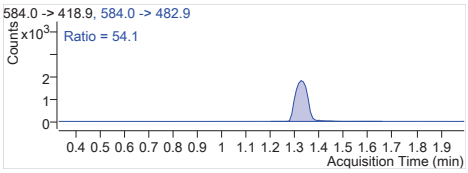
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.871 (0.871)
Concentration: 1 µg/L
Sample type: QC



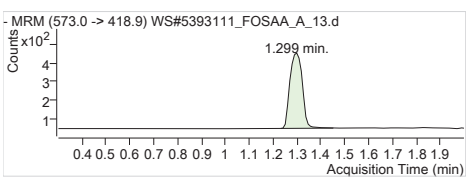


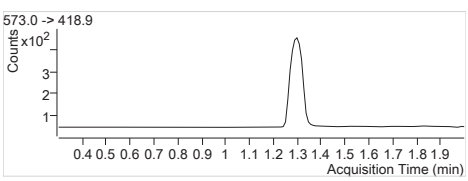
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 1.300 (1.300)
Calc. conc. 0.52 µg/L
Area ratio: 8.47619
Sample type: QC



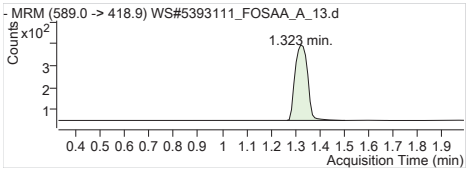


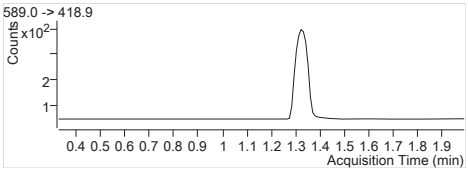
EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 1.325 (1.325)
Calc. conc. 0.53 µg/L
Area ratio: 9.93530
Sample type: QC



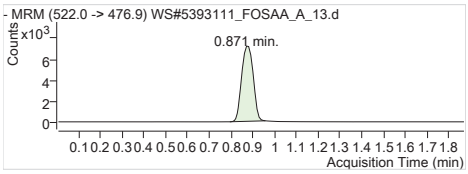


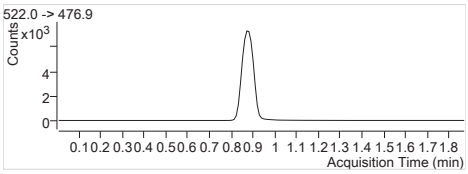
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.299 (1.299)
Calc. conc. 70.56 µg/L
Area ratio: 0.05291
Sample type: QC





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.323 (1.323)
Calc. conc.	70.63 µg/L
Area ratio:	0.04538
Sample type:	QC





13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.871 (0.871)
Calc. conc.	2.50 µg/L
Area ratio:	0
Sample type:	QC

Quantitation Results

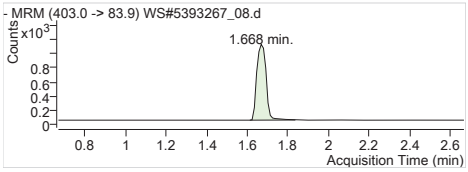
Agilent Technologies

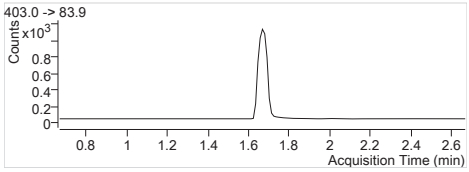
Batch Path	T:\lcms4\PFC\20180213\WS#5393267\QuantResults\PFC_Water_High_180213_WS#5393267_EToxics

Sample Name	**IB**	**Instrument**	LCMS04
Data File	WS#5393267_08.d	**Operator**	
Sample Type	Sample	**Dilution**	1
Acq. Method	PFC_Water_High.m	**Position**	P4-D3
Acq. Date	2018/02/14 8:17:25 AM	**Injection Volume**	Per Method
Sample Annotation	-		

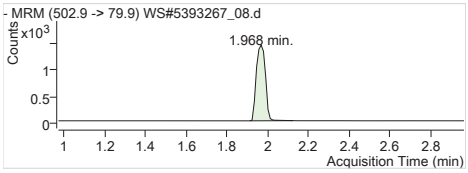
ISTD Compounds	Response	RT	Target conc.		
MPFHxS	3485	1.67	1 µg/L		
MPFOS	4401	1.97	1 µg/L		
13C6-PFHxA IS	33405	1.41	1 µg/L		

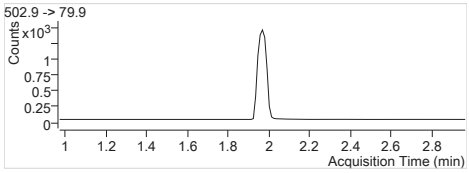
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFHxS 1			-	ND	-
PFOS 1			-	ND	-
13C6-PFHxA	33405	1.41	-	97.97 µg/L	-
18O2-PFHxS	3485	1.67	-	100.95 µg/L	-
13C4-PFOS	4401	1.97	-	101.91 µg/L	-



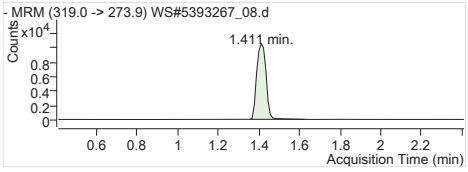


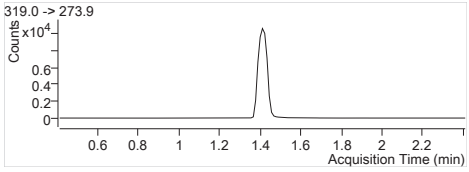
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Sample



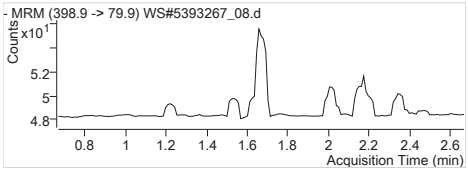


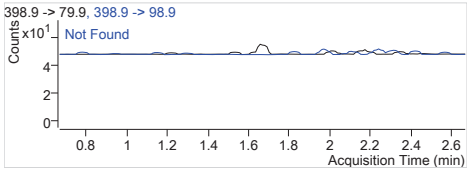
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Sample



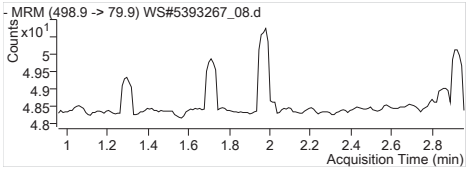


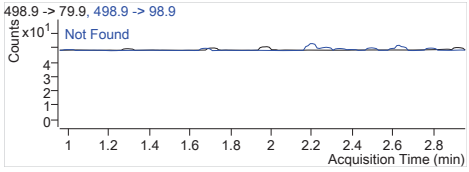
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: Sample



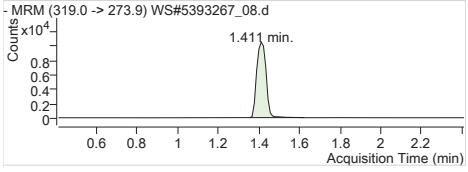


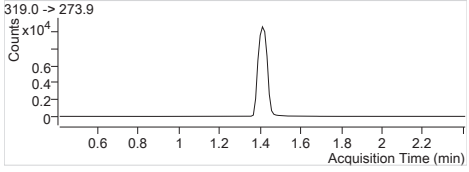
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 0.000 (1.668)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



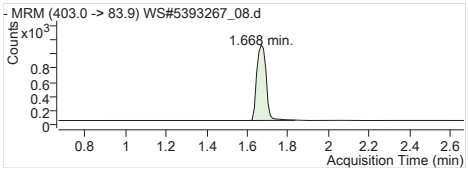


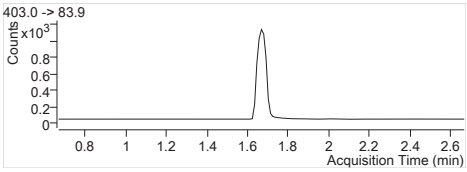
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 0.000 (1.957)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



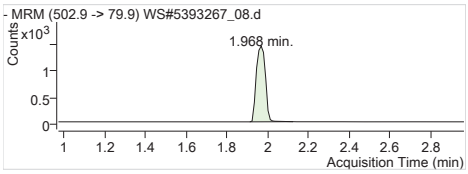


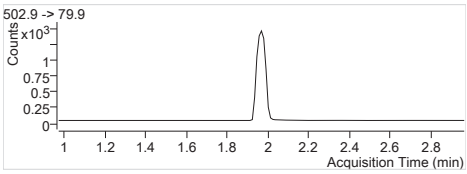
13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 97.97 µg/L
Area ratio: 0
Sample type: Sample





18O2-PFHxS	403.0 -> 83.9
RT (Exp. RT):	1.668 (1.668)
Calc. conc.	100.95 µg/L
Area ratio:	0.10433
Sample type:	Sample





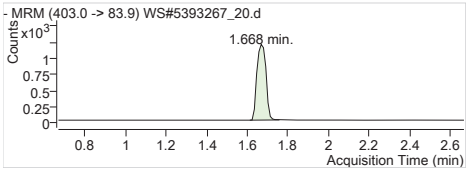
13C4-PFOS	502.9 -> 79.9
RT (Exp. RT):	1.968 (1.968)
Calc. conc.	101.91 µg/L
Area ratio:	0.13175
Sample type:	Sample

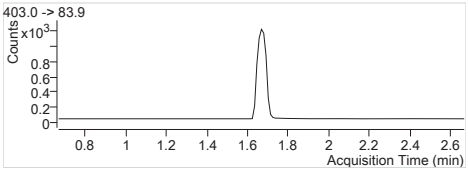
Batch Path	T:\lcms4\PFC\20180213\WS#5393267\QuantResults\PFC_Water_High_180213_WS#5393267_EToxics

Sample Name	**IB**	**Instrument**	LCMS04
Data File	WS#5393267_20.d	**Operator**	
Sample Type	Sample	**Dilution**	1
Acq. Method	PFC_Water_High.m	**Position**	P4-D3
Acq. Date	2018/02/14 9:16:23 AM	**Injection Volume**	Per Method
Sample Annotation	-		

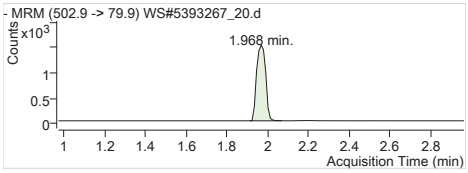
ISTD Compounds	Response	RT	Target conc.		
MPFHxS	3643	1.67	1 µg/L		
MPFOS	4664	1.97	1 µg/L		
13C6-PFHxA IS	33133	1.41	1 µg/L		

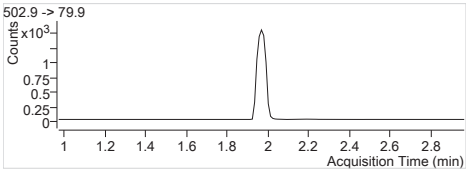
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFHxS 1			-	ND	-
PFOS 1			-	ND	-
13C6-PFHxA	33133	1.41	-	97.17 µg/L	-
18O2-PFHxS	3643	1.67	-	106.40 µg/L	-
13C4-PFOS	4664	1.97	-	108.88 µg/L	-



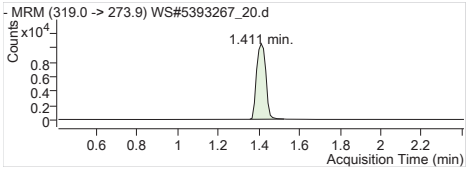


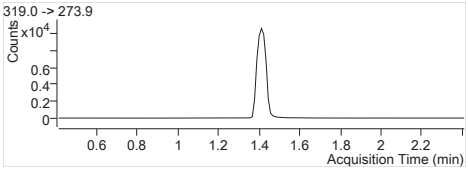
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Sample



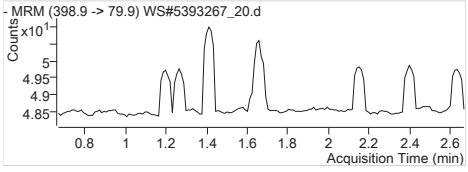


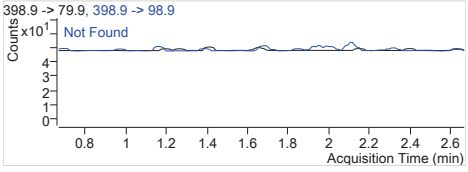
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Sample



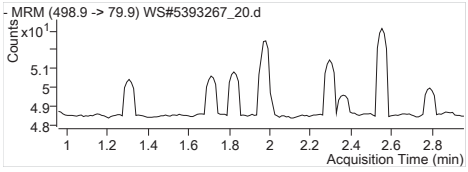


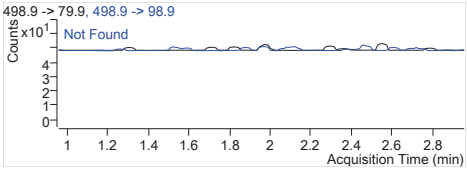
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: Sample



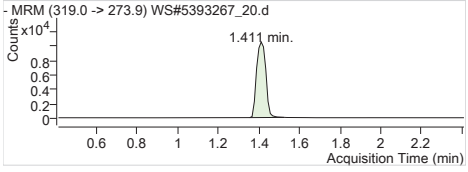


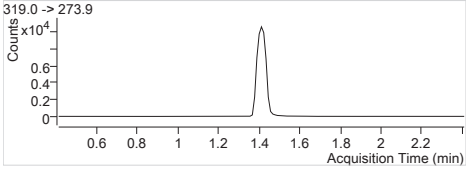
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 0.000 (1.668)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



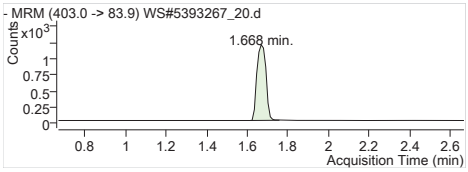


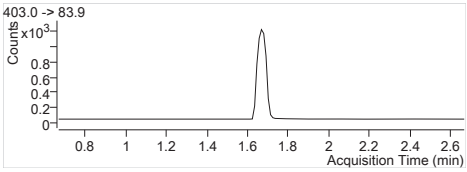
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 0.000 (1.957)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



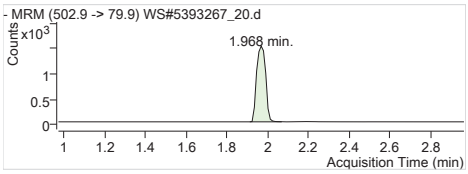


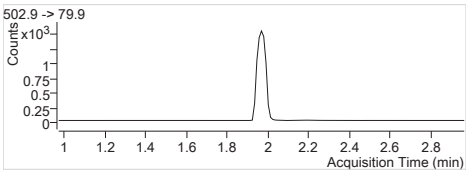
13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 97.17 µg/L
Area ratio: 0
Sample type: Sample





18O2-PFHxS	403.0 -> 83.9
RT (Exp. RT):	1.668 (1.668)
Calc. conc.	106.40 µg/L
Area ratio:	0.10995
Sample type:	Sample





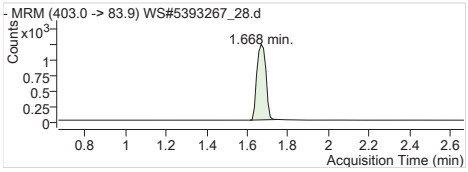
13C4-PFOS	502.9 -> 79.9
RT (Exp. RT):	1.968 (1.968)
Calc. conc.	108.88 µg/L
Area ratio:	0.14077
Sample type:	Sample

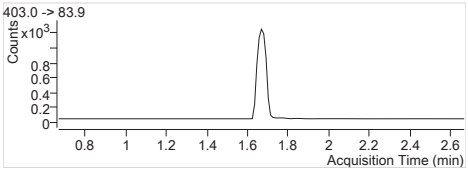
Batch Path	T:\lcms4\PFC\20180213\WS#5393267\QuantResults\PFC_Water_High_180213_WS#5393267_EToxics

Sample Name	**IB**	**Instrument**	LCMS04
Data File	WS#5393267_28.d	**Operator**	
Sample Type	Sample	**Dilution**	1
Acq. Method	PFC_Water_High.m	**Position**	P4-D3
Acq. Date	2018/02/14 9:55:44 AM	**Injection Volume**	Per Method
Sample Annotation	-		

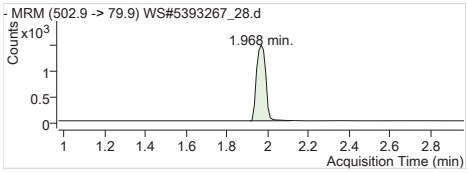
ISTD Compounds	Response	RT	Target conc.		
MPFHxS	3717	1.67	1 µg/L		
MPFOS	4600	1.97	1 µg/L		
13C6-PFHxA IS	34150	1.41	1 µg/L		

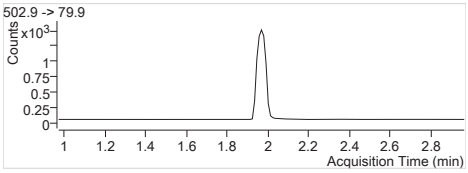
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFHxS 1			-	ND	-
PFOS 1			-	ND	-
13C6-PFHxA	34150	1.41	-	100.15 µg/L	-
18O2-PFHxS	3717	1.67	-	105.33 µg/L	-
13C4-PFOS	4600	1.97	-	104.19 µg/L	-



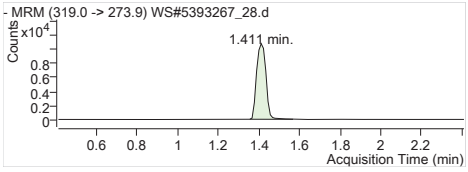


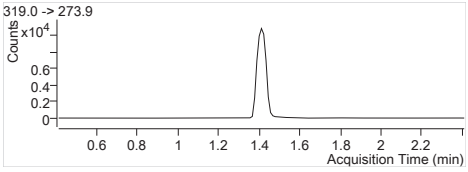
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Sample



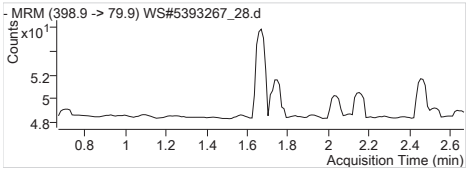


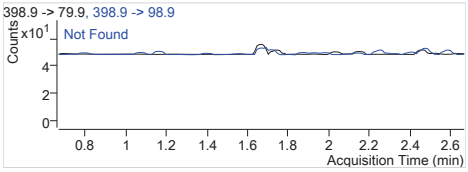
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Sample



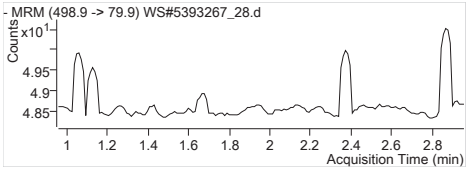


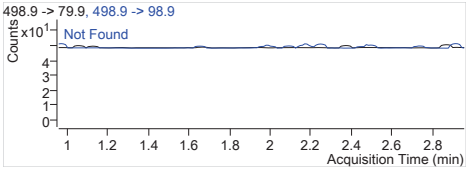
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: Sample



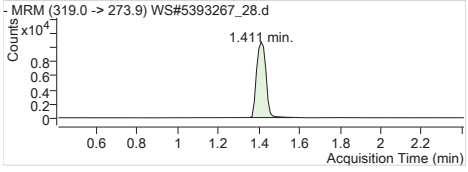


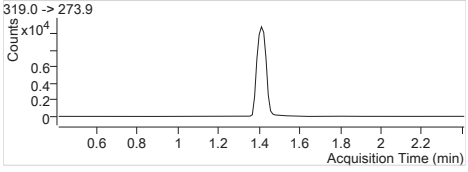
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 0.000 (1.668)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



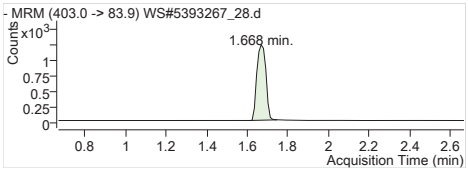


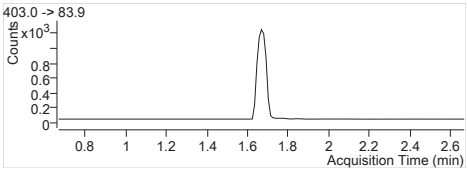
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 0.000 (1.957)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



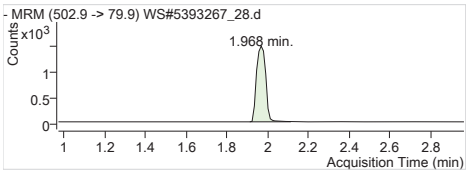


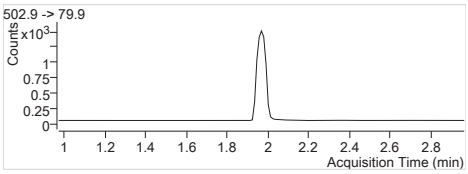
13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 100.15 µg/L
Area ratio: 0
Sample type: Sample





18O2-PFHxS	403.0 -> 83.9
RT (Exp. RT):	1.668 (1.668)
Calc. conc.	105.33 µg/L
Area ratio:	0.10884
Sample type:	Sample





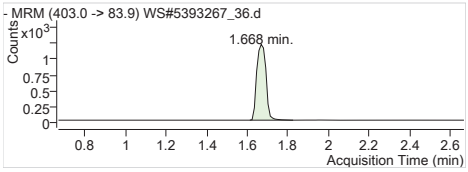
13C4-PFOS	502.9 -> 79.9
RT (Exp. RT):	1.968 (1.968)
Calc. conc.	104.19 µg/L
Area ratio:	0.13470
Sample type:	Sample

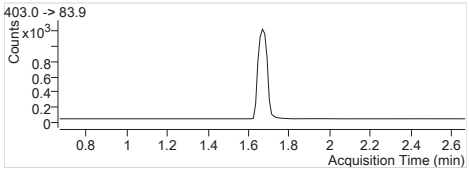
Batch Path	T:\lcms4\PFC\20180213\WS#5393267\QuantResults\PFC_Water_High_180213_WS#5393267_EToxics

Sample Name	**IB**	**Instrument**	LCMS04
Data File	WS#5393267_36.d	**Operator**	
Sample Type	Sample	**Dilution**	1
Acq. Method	PFC_Water_High.m	**Position**	P4-D3
Acq. Date	2018/02/14 10:34:59 AM	**Injection Volume**	Per Method
Sample Annotation	-		

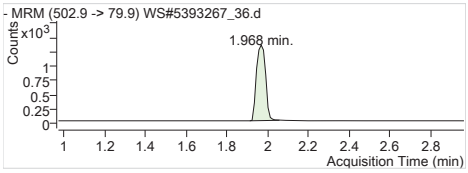
ISTD Compounds	Response	RT	Target conc.		
MPFHxS	3743	1.67	1 µg/L		
MPFOS	4122	1.97	1 µg/L		
13C6-PFHxA IS	32370	1.41	1 µg/L		

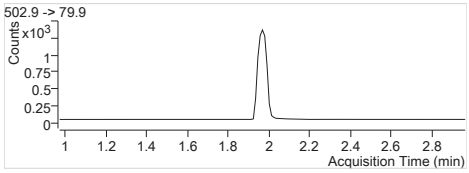
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFHxS 1			-	ND	-
PFOS 1			-	ND	-
13C6-PFHxA	32370	1.41	-	94.93 µg/L	-
18O2-PFHxS	3743	1.67	-	111.89 µg/L	-
13C4-PFOS	4122	1.97	-	98.50 µg/L	-



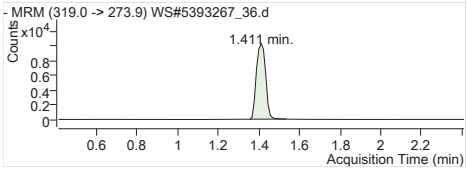


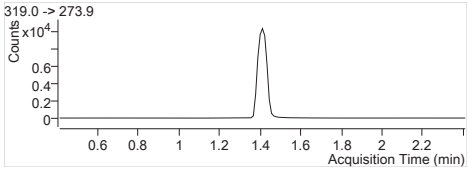
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Sample



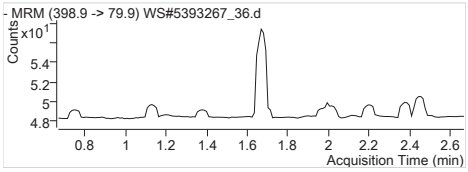


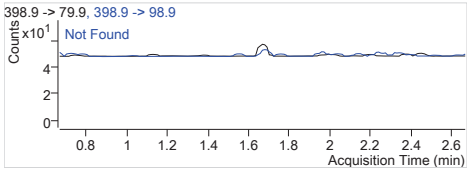
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Sample



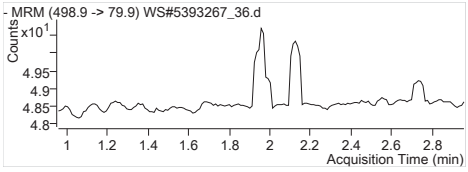


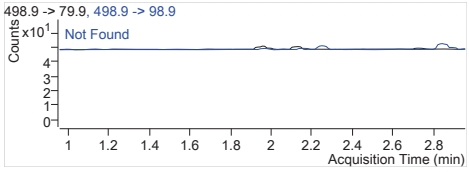
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: Sample



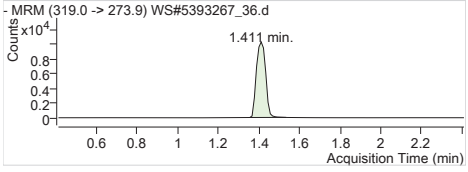


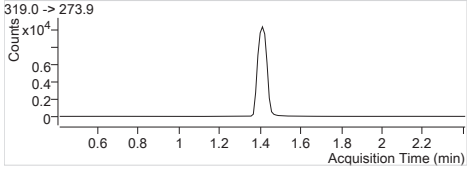
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 0.000 (1.668)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



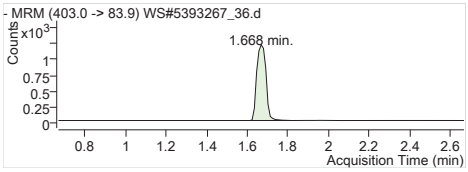


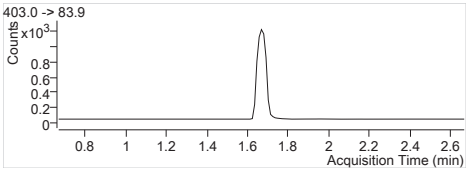
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 0.000 (1.957)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



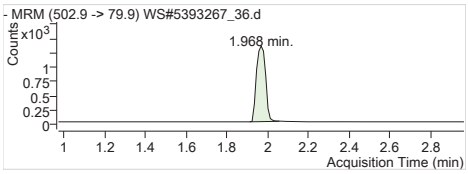


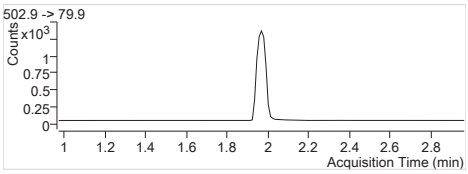
13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 94.93 µg/L
Area ratio: 0
Sample type: Sample





18O2-PFHxS	403.0 -> 83.9
RT (Exp. RT):	1.668 (1.668)
Calc. conc.	111.89 µg/L
Area ratio:	0.11563
Sample type:	Sample





13C4-PFOS	502.9 -> 79.9
RT (Exp. RT):	1.968 (1.968)
Calc. conc.	98.50 µg/L
Area ratio:	0.12734
Sample type:	Sample

Quantitation Results

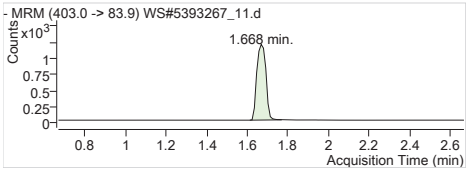
Agilent Technologies

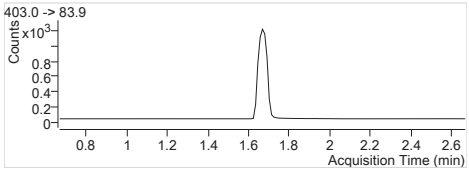
Batch Path	T:\lcms4\PFC\20180213\WS#5393267\QuantResults\PFC_Water_High_180213_WS#5393267_EToxics

Sample Name	**5393267:BLANK**	**Instrument**	LCMS04
Data File	WS#5393267_11.d	**Operator**	
Sample Type	Sample	**Dilution**	1
Acq. Method	PFC_Water_High.m	**Position**	P4-D5
Acq. Date	2018/02/14 8:32:09 AM	**Injection Volume**	Per Method
Sample Annotation	-		

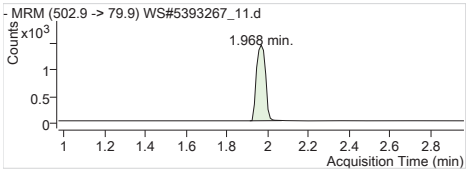
ISTD Compounds	Response	RT	Target conc.		
MPFHxS	3639	1.67	1 µg/L		
MPFOS	4413	1.97	1 µg/L		
13C6-PFHxA IS	34242	1.41	1 µg/L		

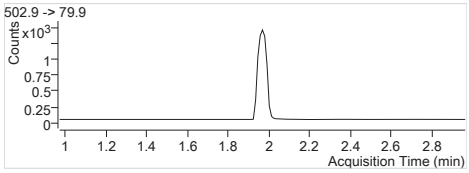
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFHxS 1			-	ND	-
PFOS 1			-	ND	-
13C6-PFHxA	34242	1.41	-	100.42 µg/L	-
18O2-PFHxS	3639	1.67	-	102.84 µg/L	-
13C4-PFOS	4413	1.97	-	99.69 µg/L	-



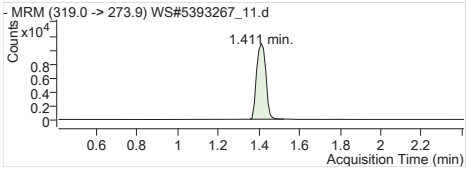


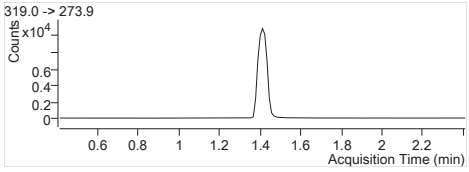
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Sample



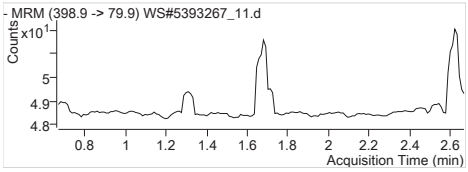


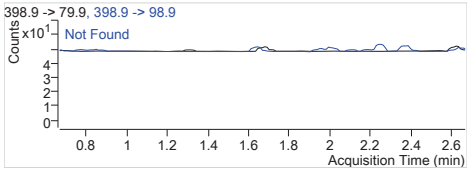
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Sample



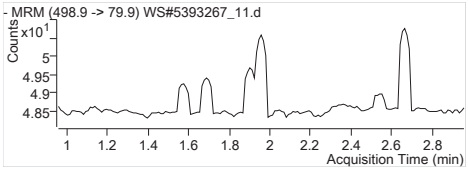


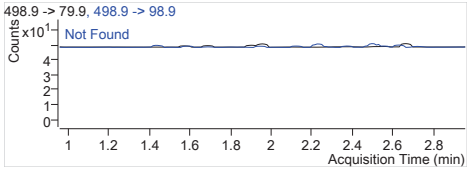
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: Sample



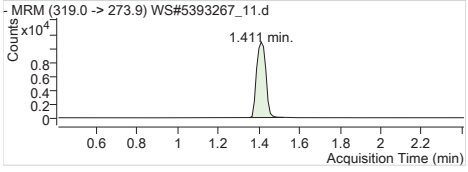


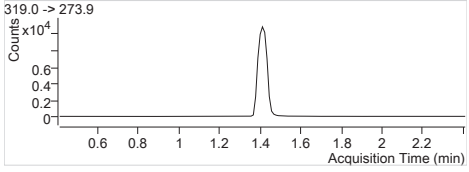
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 0.000 (1.668)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



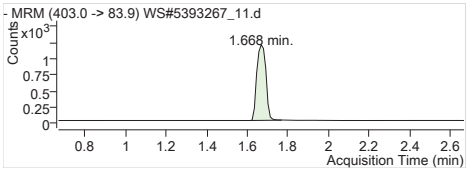


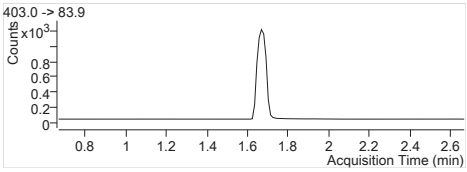
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 0.000 (1.957)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



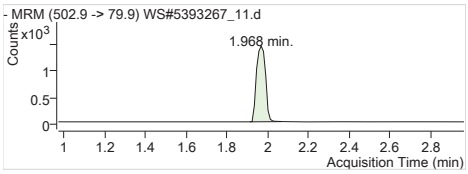


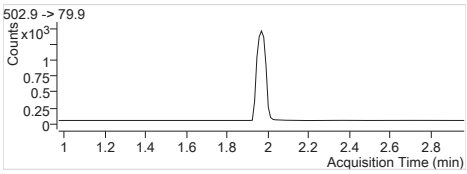
13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 100.42 µg/L
Area ratio: 0
Sample type: Sample





18O2-PFHxS	403.0 -> 83.9
RT (Exp. RT):	1.668 (1.668)
Calc. conc.	102.84 µg/L
Area ratio:	0.10627
Sample type:	Sample





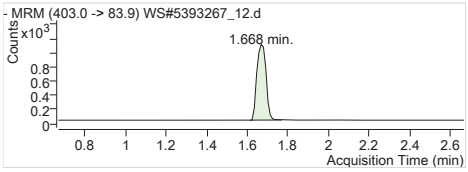
13C4-PFOS	502.9 -> 79.9
RT (Exp. RT):	1.968 (1.968)
Calc. conc.	99.69 µg/L
Area ratio:	0.12888
Sample type:	Sample

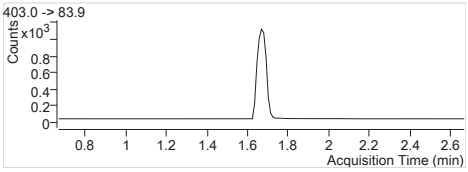
Batch Path	T:\lcms4\PFC\20180213\WS#5393267\QuantResults\PFC_Water_High_180213_WS#5393267_EToxics

Sample Name	**5393267:SPIKE**	**Instrument**	LCMS04
Data File	WS#5393267_12.d	**Operator**	
Sample Type	QC	**Dilution**	1
Acq. Method	PFC_Water_High.m	**Position**	P4-D6
Acq. Date	2018/02/14 8:37:03 AM	**Injection Volume**	Per Method
Sample Annotation	-		

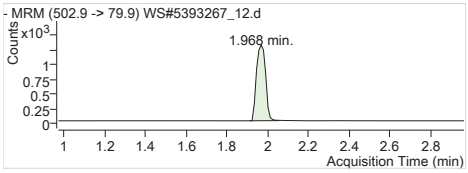
ISTD Compounds	Response	RT	Target conc.		
MPFHxS	3359	1.67	1 µg/L		
MPFOS	4021	1.97	1 µg/L		
13C6-PFHxA IS	33599	1.41	1 µg/L		

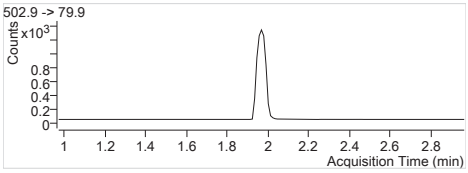
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFHxS 1	13669	1.67	24.00	23.97 µg/L	99.88
PFOS 1	13276	1.96	24.00	22.44 µg/L	93.50
13C6-PFHxA	33599	1.41	100.00	98.53 µg/L	98.53
18O2-PFHxS	3359	1.67	100.00	96.74 µg/L	96.74
13C4-PFOS	4021	1.97	100.00	92.57 µg/L	92.57



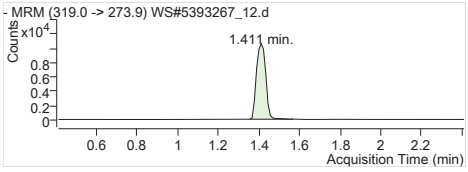


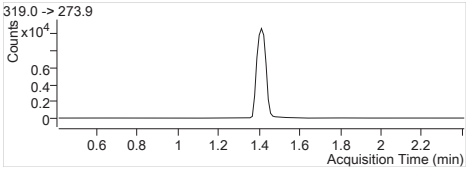
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: QC



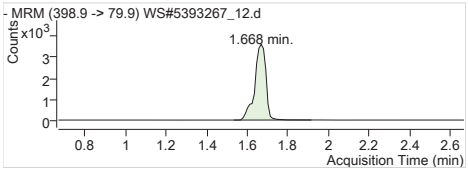


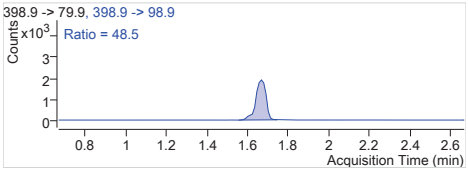
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: QC



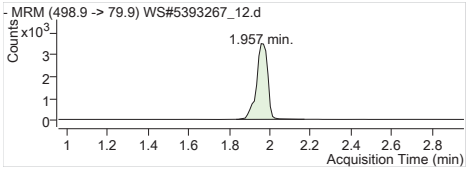


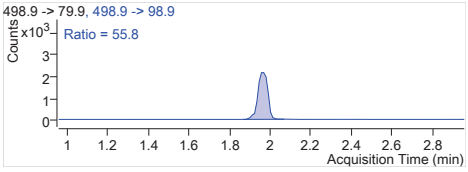
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: QC



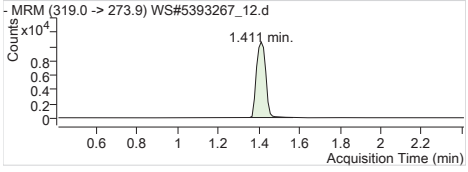


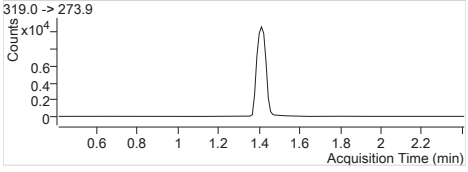
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 23.97 µg/L
Area ratio: 4.06937
Sample type: QC



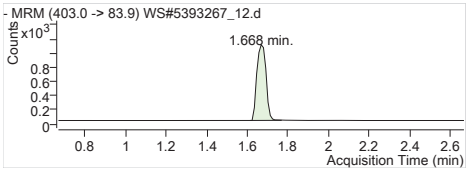


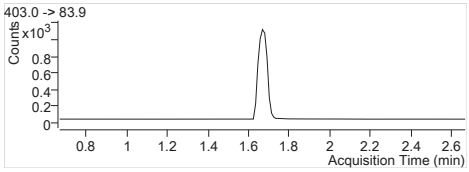
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 22.44 µg/L
Area ratio: 3.30167
Sample type: QC



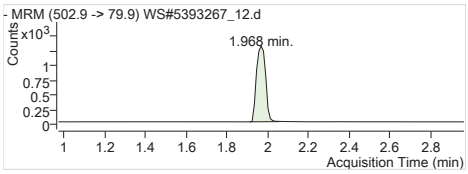


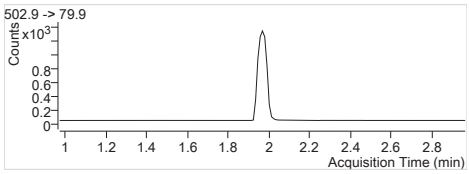
13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 98.53 µg/L
Area ratio: 0
Sample type: QC





18O2-PFHxS	403.0 -> 83.9
RT (Exp. RT):	1.668 (1.668)
Calc. conc.	96.74 µg/L
Area ratio:	0.09997
Sample type:	QC





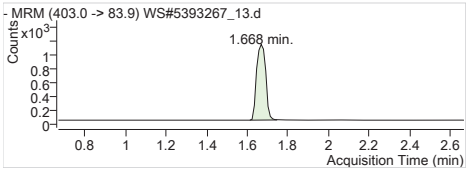
13C4-PFOS	502.9 -> 79.9
RT (Exp. RT):	1.968 (1.968)
Calc. conc.	92.57 µg/L
Area ratio:	0.11968
Sample type:	QC

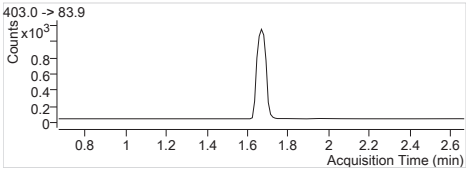
Batch Path	T:\lcms4\PFC\20180213\WS#5393267\QuantResults\PFC_Water_High_180213_WS#5393267_EToxics

Sample Name	**5393267:SPIKE:D1**	**Instrument**	LCMS04
Data File	WS#5393267_13.d	**Operator**	
Sample Type	QC	**Dilution**	1
Acq. Method	PFC_Water_High.m	**Position**	P4-D7
Acq. Date	2018/02/14 8:41:59 AM	**Injection Volume**	Per Method
Sample Annotation	-		

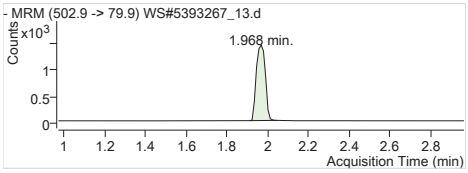
ISTD Compounds	Response	RT	Target conc.		
MPFHxS	3451	1.67	1 µg/L		
MPFOS	4363	1.97	1 µg/L		
13C6-PFHxA IS	33031	1.41	1 µg/L		

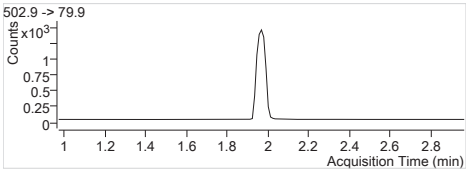
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFHxS 1	12834	1.67	24.00	21.93 µg/L	91.36
PFOS 1	13222	1.96	24.00	20.62 µg/L	85.91
13C6-PFHxA	33031	1.41	100.00	96.87 µg/L	96.87
18O2-PFHxS	3451	1.67	100.00	101.10 µg/L	101.10
13C4-PFOS	4363	1.97	100.00	102.17 µg/L	102.17



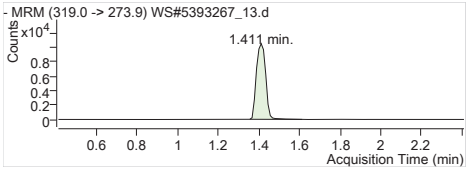


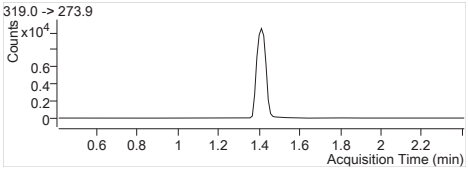
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: QC



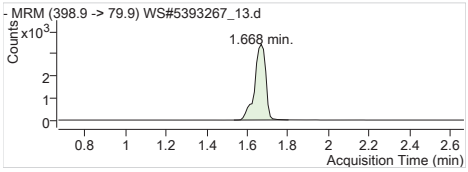


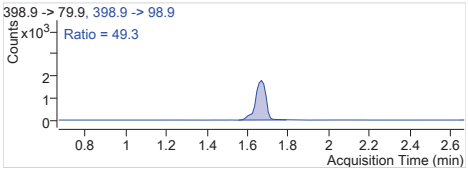
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: QC



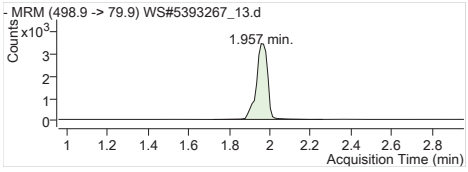


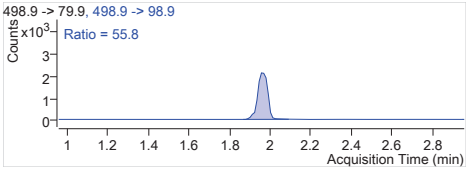
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: QC



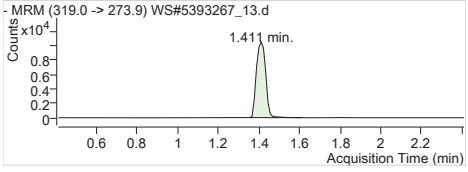


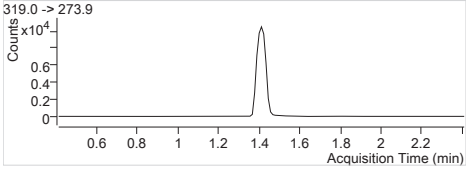
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 21.93 µg/L
Area ratio: 3.71892
Sample type: QC



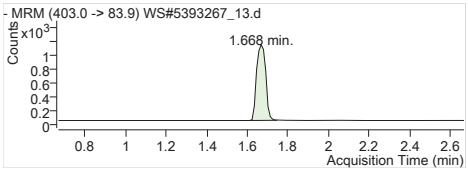


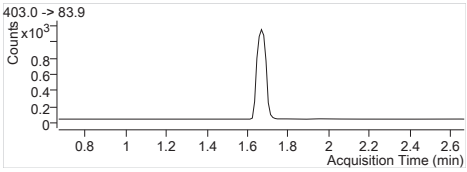
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 20.62 µg/L
Area ratio: 3.03048
Sample type: QC



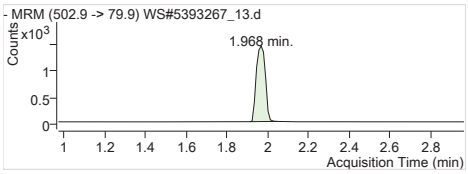


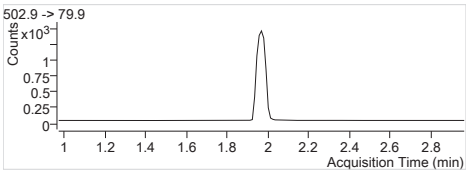
13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 96.87 µg/L
Area ratio: 0
Sample type: QC





18O2-PFHxS	403.0 -> 83.9
RT (Exp. RT):	1.668 (1.668)
Calc. conc.	101.10 µg/L
Area ratio:	0.10448
Sample type:	QC





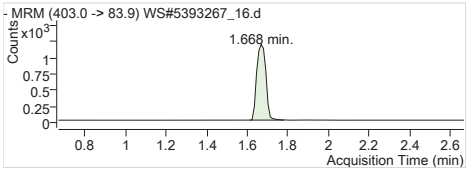
13C4-PFOS	502.9 -> 79.9
RT (Exp. RT):	1.968 (1.968)
Calc. conc.	102.17 µg/L
Area ratio:	0.13209
Sample type:	QC

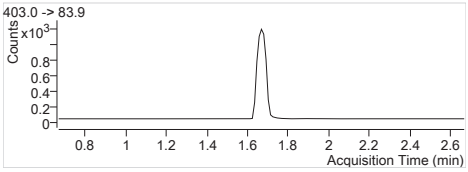
Batch Path	T:\lcms4\PFC\20180213\WS#5393267\QuantResults\PFC_Water_High_180213_WS#5393267_EToxics

Sample Name	**5393267:GAD933-01:D1:10x PS**	**Instrument**	LCMS04
Data File	WS#5393267_16.d	**Operator**	
Sample Type	Sample	**Dilution**	10
Acq. Method	PFC_Water_High.m	**Position**	P4-E1
Acq. Date	2018/02/14 8:56:47 AM	**Injection Volume**	Per Method
Sample Annotation	-		

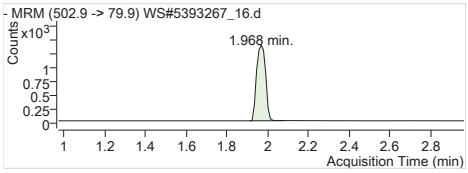
ISTD Compounds	Response	RT	Target conc.		
MPFHxS	3609	1.67	1 µg/L		
MPFOS	4195	1.97	1 µg/L		
13C6-PFHxA IS	33895	1.41	1 µg/L		

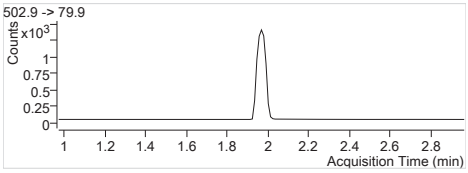
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFHxS 1	2464	1.67	-	42.12 µg/L	-
PFOS 1	13908	1.97	-	225.32 µg/L	-
13C6-PFHxA	33895	1.41	-	994.02 µg/L	-
18O2-PFHxS	3609	1.67	-	103.03 µg/L	-
13C4-PFOS	4195	1.97	-	95.73 µg/L	-



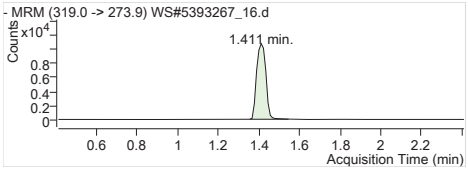


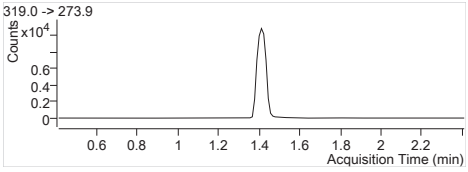
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Sample



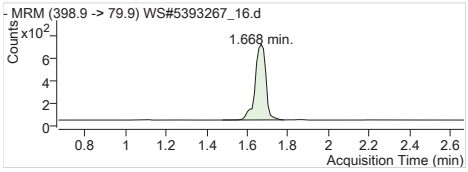


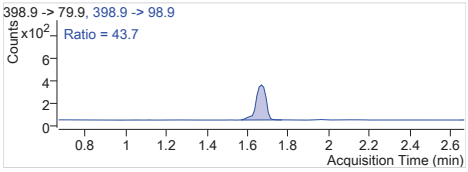
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Sample



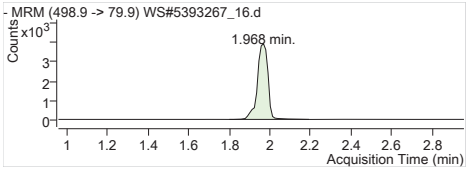


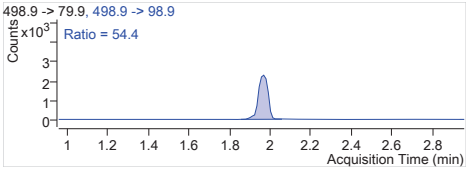
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: Sample



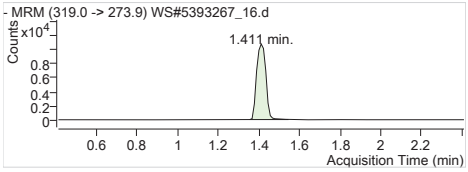


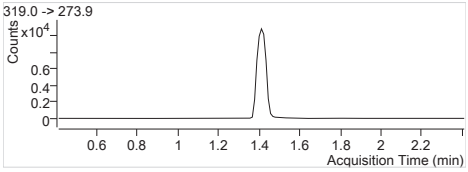
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 42.12 µg/L
Area ratio: 0.68274
Sample type: Sample



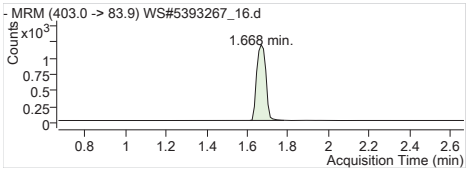


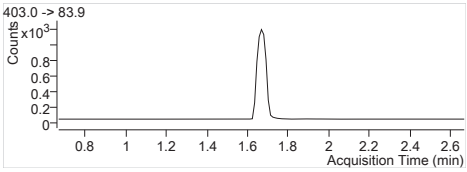
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.968 (1.957)
Calc. conc. 225.32 µg/L
Area ratio: 3.31538
Sample type: Sample



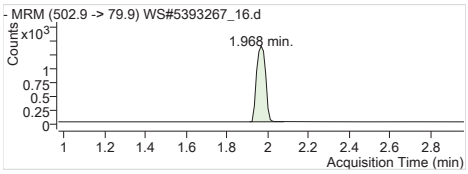


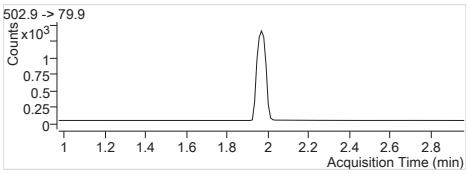
13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 994.02 µg/L
Area ratio: 0
Sample type: Sample





18O2-PFHxS	403.0 -> 83.9
RT (Exp. RT):	1.668 (1.668)
Calc. conc.	103.03 µg/L
Area ratio:	0.10648
Sample type:	Sample





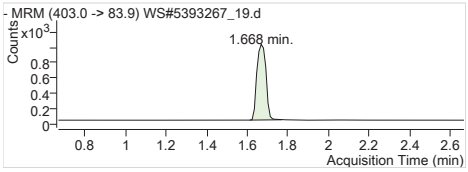
13C4-PFOS	502.9 -> 79.9
RT (Exp. RT):	1.968 (1.968)
Calc. conc.	95.73 µg/L
Area ratio:	0.12376
Sample type:	Sample

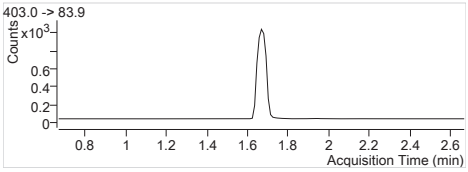
Batch Path	T:\lcms4\PFC\20180213\WS#5393267\QuantResults\PFC_Water_High_180213_WS#5393267_EToxics

Sample Name	**5393267:GAD933-01:D1 PS**	**Instrument**	LCMS04
Data File	WS#5393267_19.d	**Operator**	
Sample Type	Sample	**Dilution**	1
Acq. Method	PFC_Water_High.m	**Position**	P4-E4
Acq. Date	2018/02/14 9:11:29 AM	**Injection Volume**	Per Method
Sample Annotation	-		

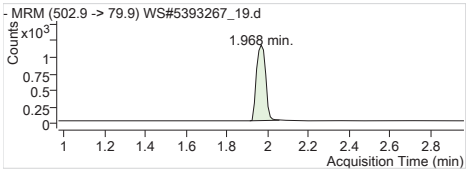
ISTD Compounds	Response	RT	Target conc.		
MPFHxS	3072	1.67	1 µg/L		
MPFOS	3547	1.97	1 µg/L		
13C6-PFHxA IS	21850	1.41	1 µg/L		

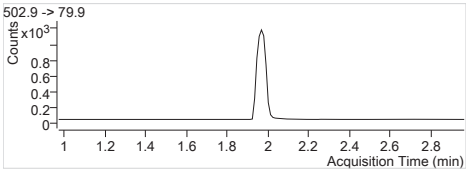
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFHxS 1	17351	1.67	-	33.18 µg/L	-
PFOS 1	122535	1.97	-	232.43 µg/L	-
13C6-PFHxA	21850	1.41	-	64.08 µg/L	-
18O2-PFHxS	3072	1.67	-	136.05 µg/L	-
13C4-PFOS	3547	1.97	-	125.57 µg/L	-



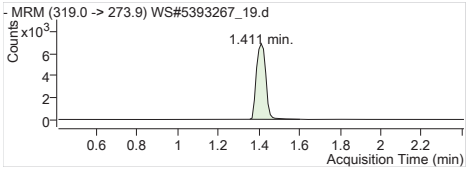


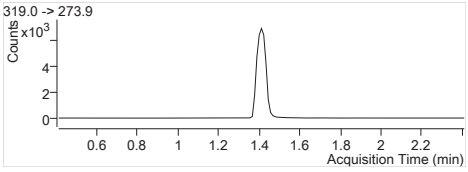
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Sample



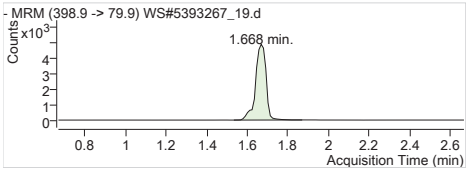


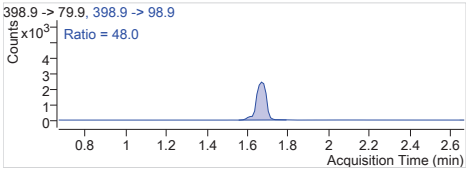
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Sample



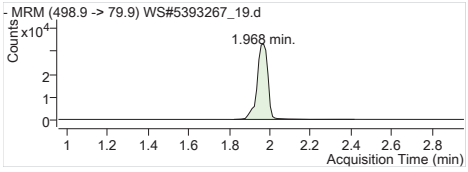


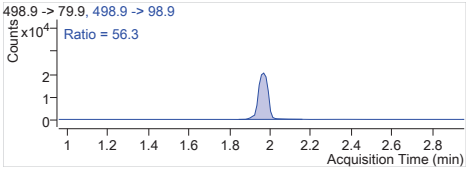
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: Sample



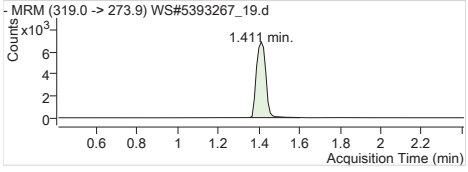


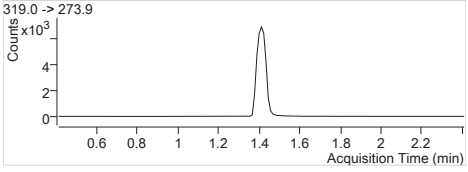
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 33.18 µg/L
Area ratio: 5.64811
Sample type: Sample



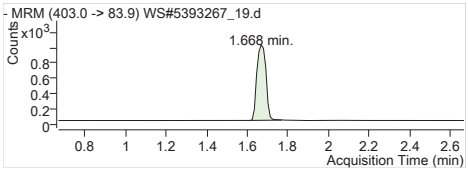


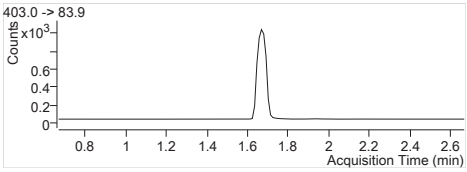
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.968 (1.957)
Calc. conc. 232.43 µg/L
Area ratio: 34.54610
Sample type: Sample



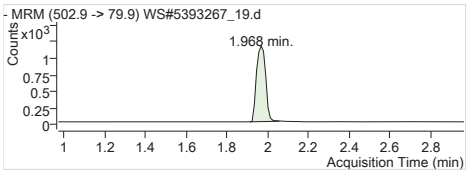


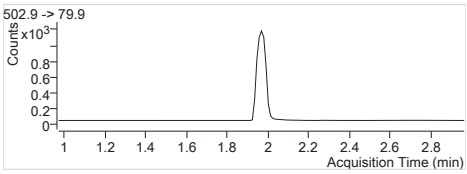
13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 64.08 µg/L
Area ratio: 0
Sample type: Sample





18O2-PFHxS	403.0 -> 83.9
RT (Exp. RT):	1.668 (1.668)
Calc. conc.	136.05 µg/L
Area ratio:	0.14059
Sample type:	Sample





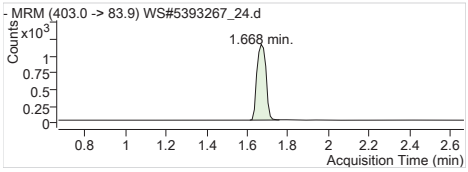
13C4-PFOS	502.9 -> 79.9
RT (Exp. RT):	1.968 (1.968)
Calc. conc.	125.57 µg/L
Area ratio:	0.16233
Sample type:	Sample

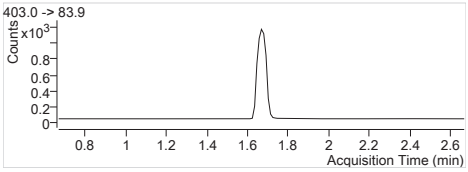
Batch Path	T:\lcms4\PFC\20180213\WS#5393267\QuantResults\PFC_Water_High_180213_WS#5393267_EToxics

Sample Name	**5393267:GAD934-01:D1:100x PS**	**Instrument**	LCMS04
Data File	WS#5393267_24.d	**Operator**	
Sample Type	Sample	**Dilution**	100
Acq. Method	PFC_Water_High.m	**Position**	P4-E7
Acq. Date	2018/02/14 9:36:04 AM	**Injection Volume**	Per Method
Sample Annotation	-		

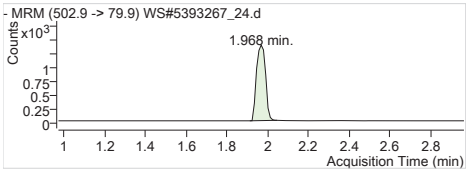
ISTD Compounds	Response	RT	Target conc.		
MPFHxS	3505	1.67	1 µg/L		
MPFOS	4248	1.97	1 µg/L		
13C6-PFHxA IS	34027	1.41	1 µg/L		

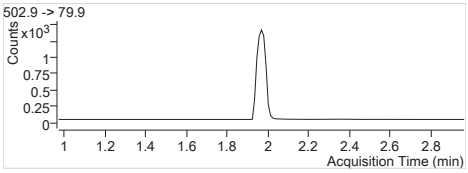
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFHxS 1	1956	1.67	-	348.43 µg/L	-
PFOS 1	5985	1.96	-	971.93 µg/L	-
13C6-PFHxA	34027	1.41	-	9978.93 µg/L	-
18O2-PFHxS	3505	1.67	-	99.68 µg/L	-
13C4-PFOS	4248	1.97	-	96.57 µg/L	-



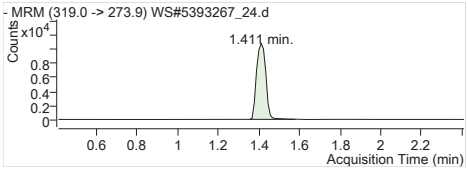


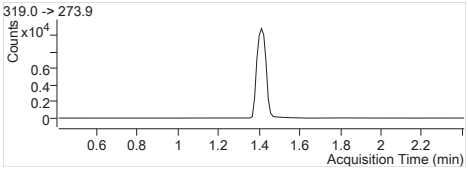
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Sample



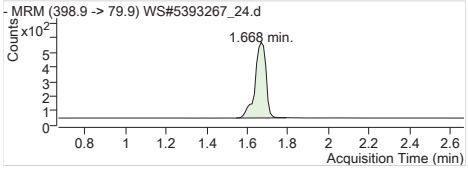


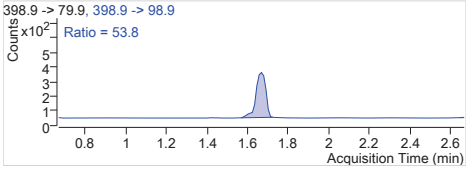
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Sample



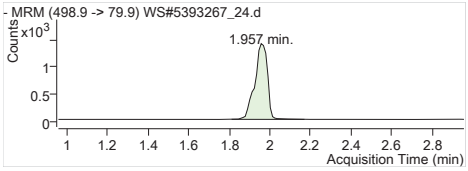


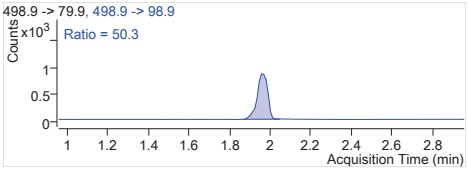
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: Sample



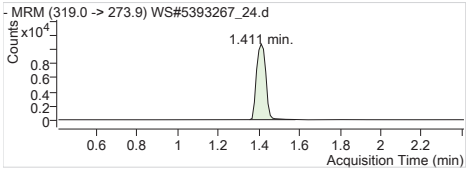


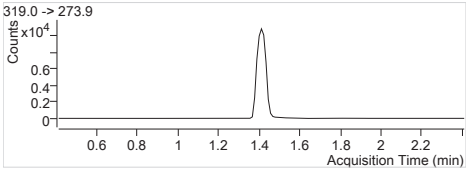
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 348.43 µg/L
Area ratio: 0.55806
Sample type: Sample



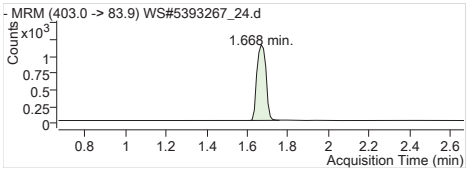


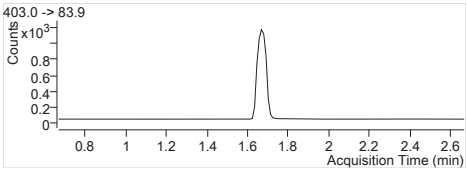
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 971.93 µg/L
Area ratio: 1.40890
Sample type: Sample



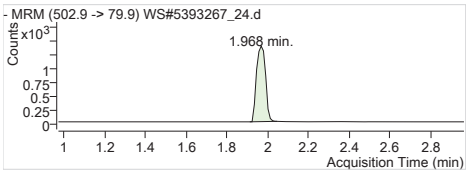


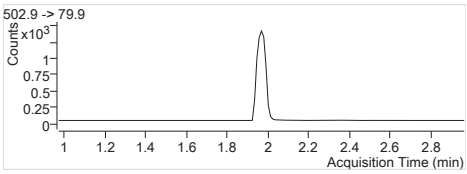
13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 9978.93 µg/L
Area ratio: 0
Sample type: Sample





18O2-PFHxS	403.0 -> 83.9
RT (Exp. RT):	1.668 (1.668)
Calc. conc.	99.68 µg/L
Area ratio:	0.10301
Sample type:	Sample





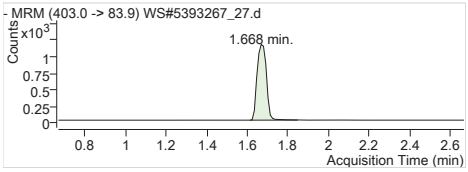
13C4-PFOS	502.9 -> 79.9
RT (Exp. RT):	1.968 (1.968)
Calc. conc.	96.57 µg/L
Area ratio:	0.12484
Sample type:	Sample

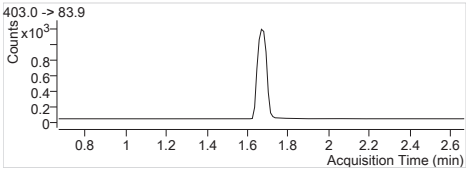
Batch Path	T:\lcms4\PFC\20180213\WS#5393267\QuantResults\PFC_Water_High_180213_WS#5393267_EToxics

Sample Name	**5393267:GAD934-01:D1:10x PS**	**Instrument**	LCMS04
Data File	WS#5393267_27.d	**Operator**	
Sample Type	Sample	**Dilution**	10
Acq. Method	PFC_Water_High.m	**Position**	P4-F1
Acq. Date	2018/02/14 9:50:49 AM	**Injection Volume**	Per Method
Sample Annotation	-		

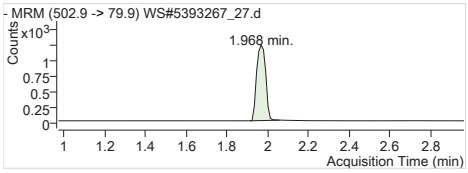
ISTD Compounds	Response	RT	Target conc.		
MPFHxS	3622	1.67	1 µg/L		
MPFOS	3720	1.97	1 µg/L		
13C6-PFHxA IS	34954	1.41	1 µg/L		

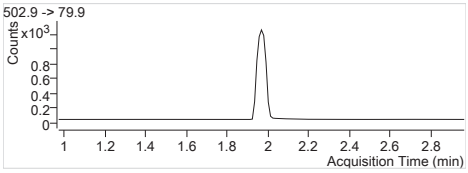
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFHxS 1	16600	1.67	-	269.69 µg/L	-
PFOS 1	56369	1.96	-	1020.90 µg/L	-
13C6-PFHxA	34954	1.41	-	1025.08 µg/L	-
18O2-PFHxS	3622	1.67	-	100.27 µg/L	-
13C4-PFOS	3720	1.97	-	82.32 µg/L	-



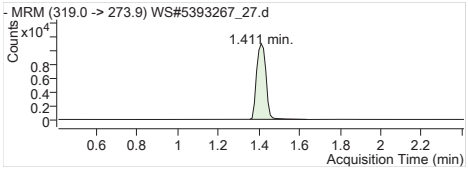


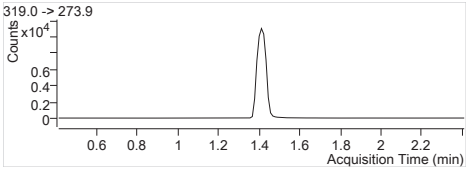
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Sample



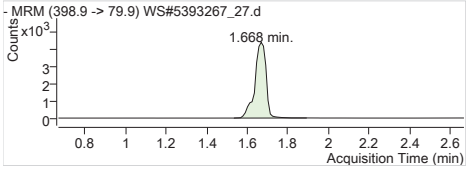


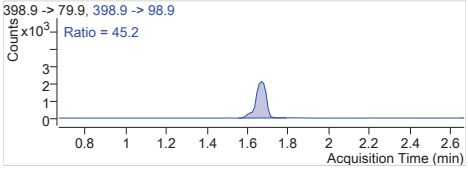
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Sample



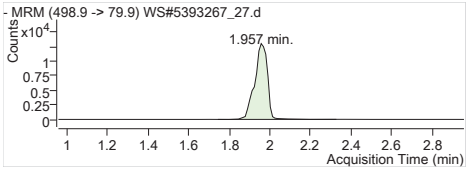


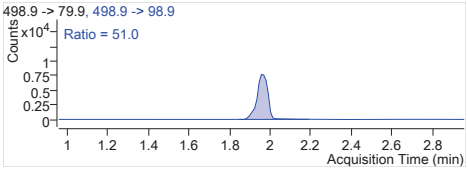
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: Sample



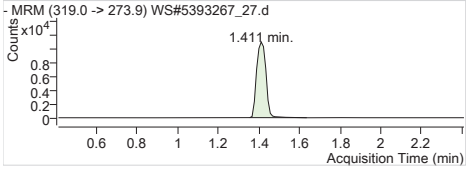


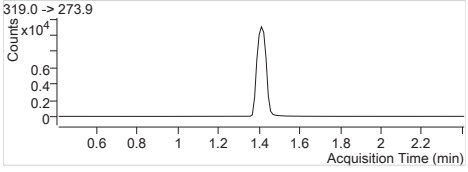
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 269.69 µg/L
Area ratio: 4.58310
Sample type: Sample



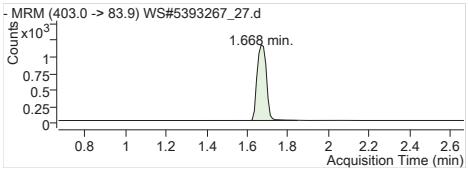


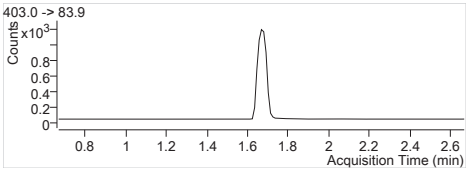
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 1020.90 µg/L
Area ratio: 15.15296
Sample type: Sample



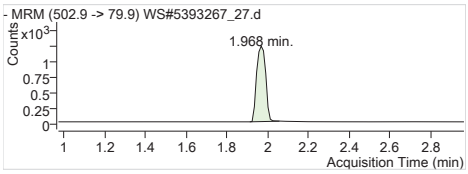


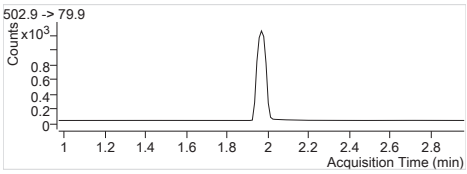
13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 1025.08 µg/L
Area ratio: 0
Sample type: Sample





18O2-PFHxS	403.0 -> 83.9
RT (Exp. RT):	1.668 (1.668)
Calc. conc.	100.27 µg/L
Area ratio:	0.10362
Sample type:	Sample





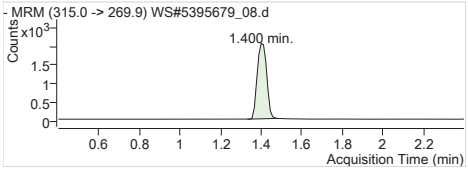
13C4-PFOS	502.9 -> 79.9
RT (Exp. RT):	1.968 (1.968)
Calc. conc.	82.32 µg/L
Area ratio:	0.10643
Sample type:	Sample

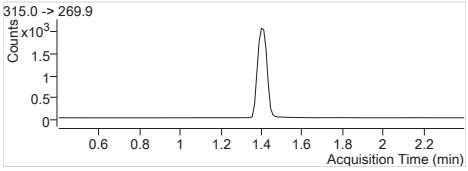
Batch Path T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics

Sample Name	**IB**	**Instrument**	LCMS04
Data File	WS#5395679_08.d	**Operator**	
Sample Type	Sample	**Dilution**	0.024
Acq. Method	PFC_Water_Low.m	**Position**	P3-A8
Acq. Date	2018/02/13 10:30:24 PM	**Injection Volume**	Per Method
Sample Annotation	-		

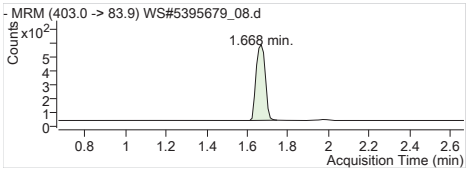
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	6531	1.40	1 µg/L		
MPFHxS	1710	1.67	1 µg/L		
MPFHpA	8959	1.68	1 µg/L		
MPFOA	9410	1.86	1 µg/L		
MPFOS	2029	1.97	1 µg/L		
MPFNA	9356	2.00	1 µg/L		
MPFDA	7716	2.12	1 µg/L		
MPFUnA	8826	2.22	1 µg/L		
MPFDoA	12030	2.31	1 µg/L		
MPFTeDA	14650	2.46	1 µg/L		
13C6-PFHxA IS	22975	1.40	1 µg/L		
13C9-PFDA IS	30714	2.12	1 µg/L		

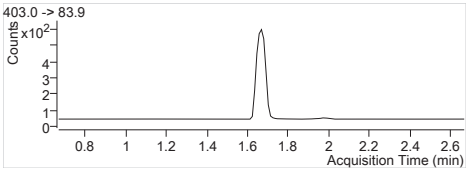
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1			-	ND	-
PFHxA 1			-	ND	-
PFHxS 1			-	ND	-
PFHpA 1			-	ND	-
PFOA 1			-	ND	-
PFOS 1			-	ND	-
PFNA 1			-	ND	-
PFDA 1			-	ND	-
PFUnA 1			-	ND	-
PFDoA 1			-	ND	-
PFTrDA 1			-	ND	-
PFTeDA 1			-	ND	-
13C2-PFHxA	6531	1.40	-	94.40 µg/L	-
18O2-PFHxS	1710	1.67	-	96.83 µg/L	-
13C4-PFHpA	8959	1.68	-	98.86 µg/L	-
13C4-PFOA	9410	1.86	-	96.06 µg/L	-
13C4-PFOS	2029	1.97	-	96.56 µg/L	-
13C5-PFNA	9356	2.00	-	98.02 µg/L	-
13C2-PFDA	7602	2.12	-	95.66 µg/L	-
13C2-PFUnA	8826	2.22	-	92.89 µg/L	-
13C2-PFDoA	12030	2.31	-	95.78 µg/L	-
13C2-PFTeDA	14654	2.46	-	99.76 µg/L	-
13C2-6:2-FTS	2933	1.82	-	105.43 µg/L	-
13C2-8:2 FTS	2620	2.10	-	100.97 µg/L	-
13C6-PFHxA	22975	1.40	-	2.52 µg/L	-
13C9-PFDA	30714	2.12	-	2.54 µg/L	-



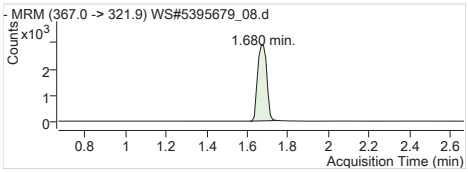


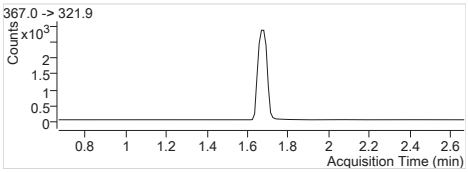
MPFHxA Internal Standard
RT (Exp. RT): 1.400 (1.400)
Concentration: 1 µg/L
Sample type: Sample



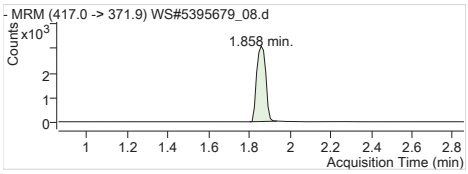


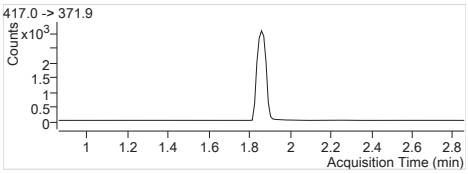
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Sample



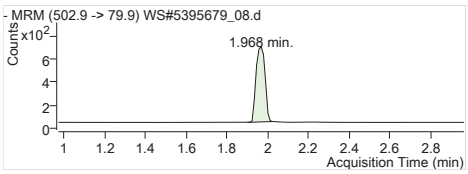


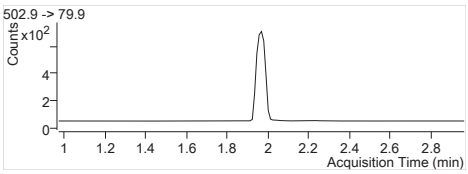
MPFHpA Internal Standard
RT (Exp. RT): 1.680 (1.668)
Concentration: 1 µg/L
Sample type: Sample



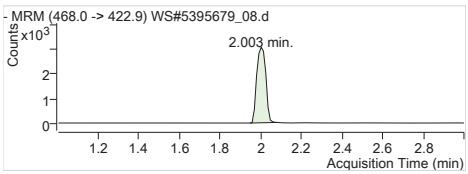


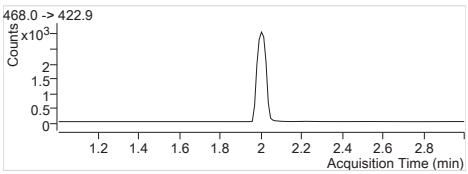
MPFOA Internal Standard
RT (Exp. RT): 1.858 (1.858)
Concentration: 1 µg/L
Sample type: Sample



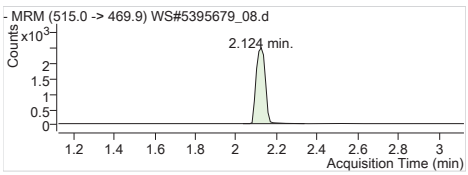


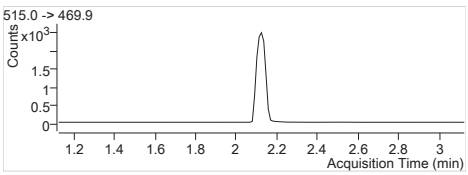
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Sample



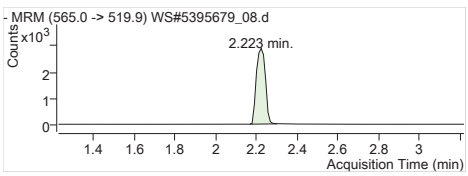


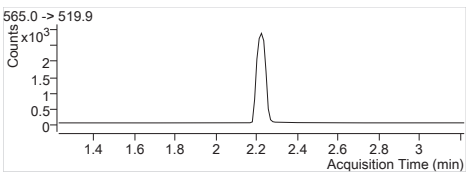
MPFNA Internal Standard
RT (Exp. RT): 2.003 (2.003)
Concentration: 1 µg/L
Sample type: Sample



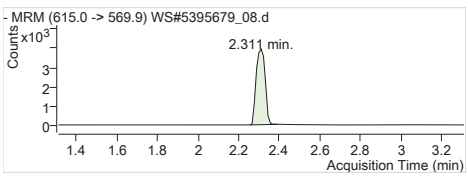


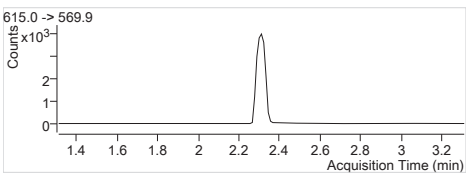
MPFDA Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Sample



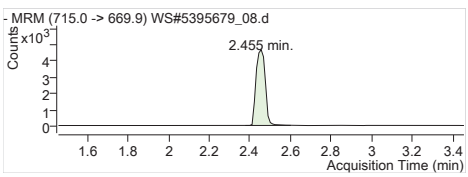


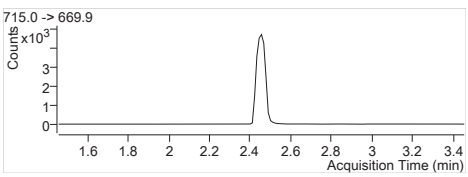
MPFUnA Internal Standard
RT (Exp. RT): 2.223 (2.223)
Concentration: 1 µg/L
Sample type: Sample



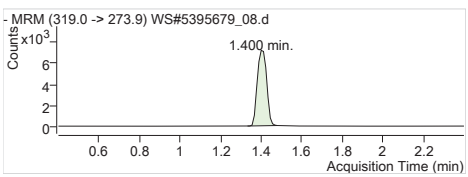


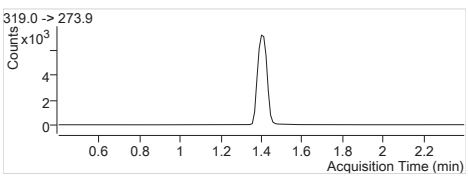
MPFDoA Internal Standard
RT (Exp. RT): 2.311 (2.311)
Concentration: 1 µg/L
Sample type: Sample



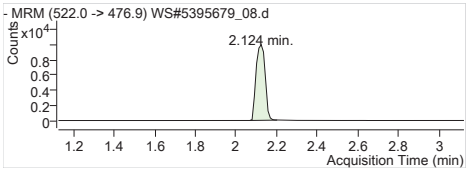


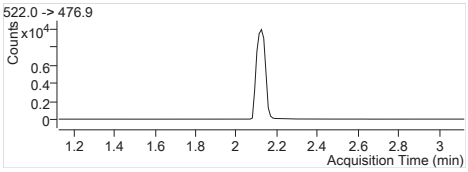
MPFTeDA Internal Standard
RT (Exp. RT): 2.455 (2.455)
Concentration: 1 µg/L
Sample type: Sample



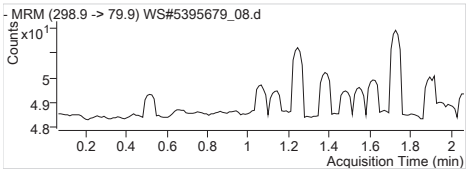


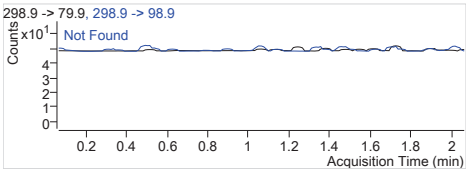
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.400 (1.400)
Concentration: 1 µg/L
Sample type: Sample



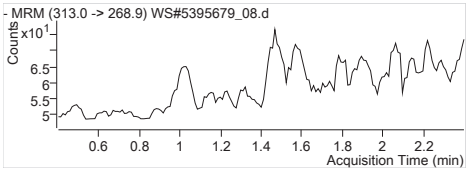


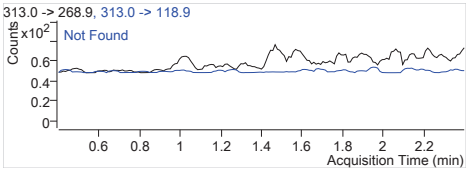
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Sample



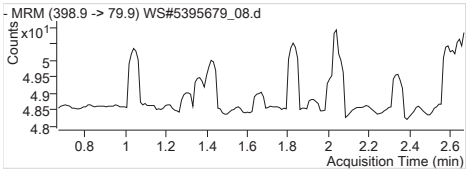


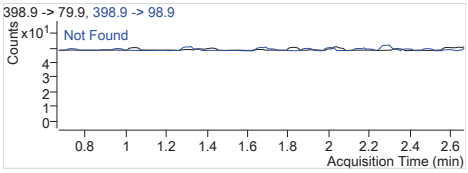
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 0.000 (1.064)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



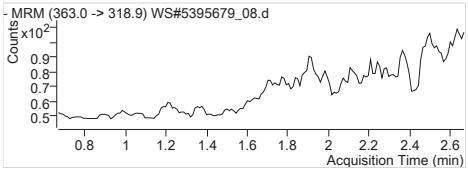


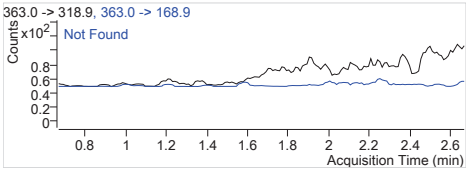
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 0.000 (1.400)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



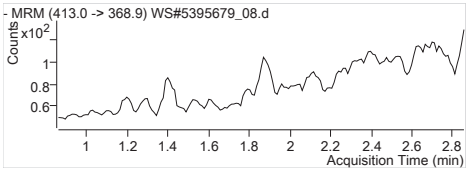


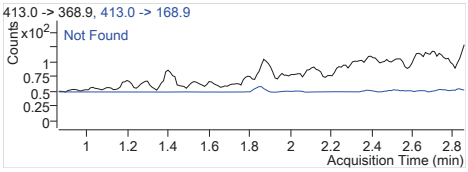
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 0.000 (1.668)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



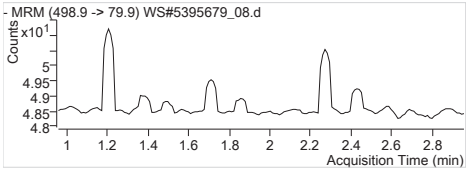


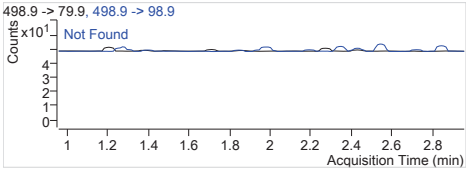
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 0.000 (1.669)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



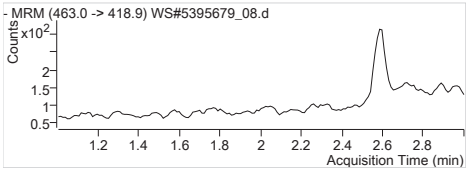


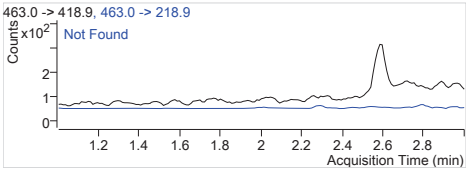
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 0.000 (1.858)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



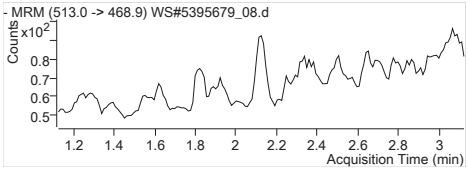


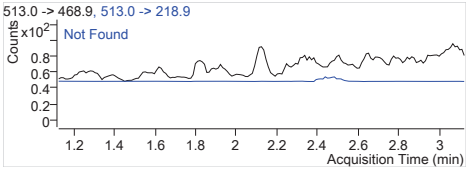
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 0.000 (1.957)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



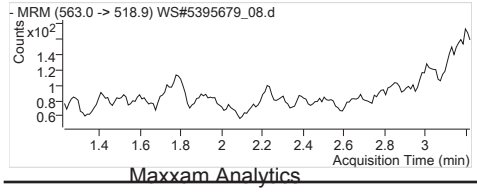


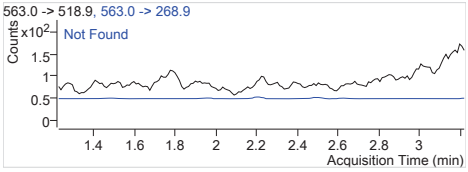
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 0.000 (2.003)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



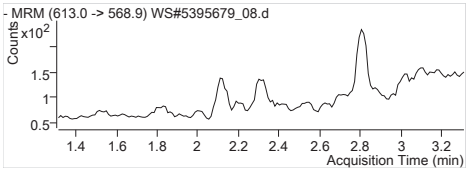


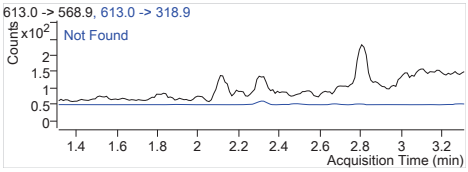
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 0.000 (2.124)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



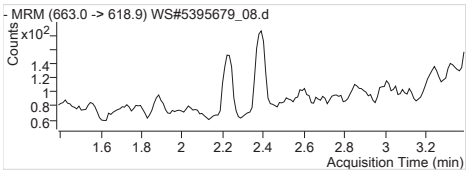


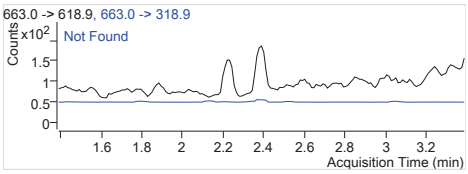
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 0.000 (2.223)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



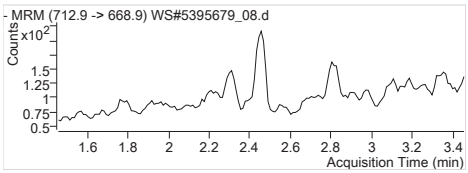


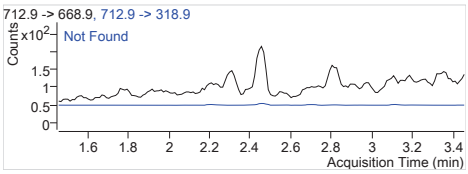
PFDoA 1 613.0 -> 568.9
RT (Exp. RT): 0.000 (2.311)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



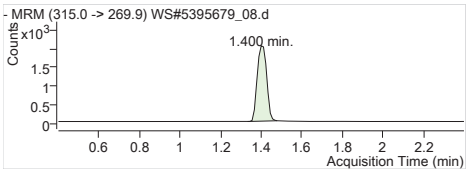


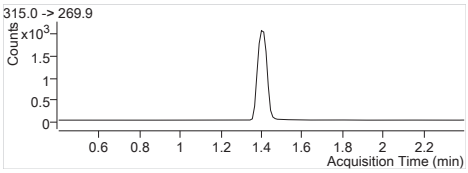
PFTrDA 1 663.0 -> 618.9
RT (Exp. RT): 0.000 (2.389)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



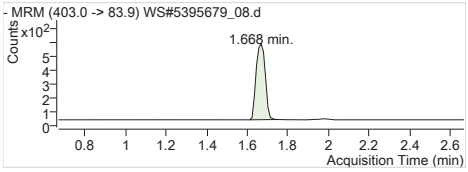


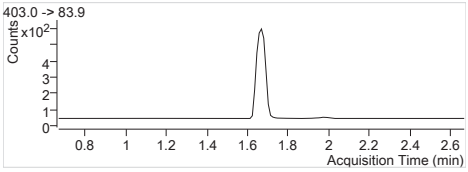
PFTeDA 1 712.9 -> 668.9
RT (Exp. RT): 0.000 (2.456)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



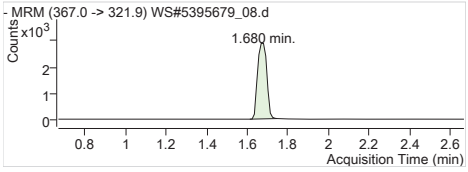


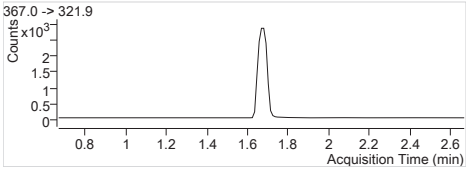
13C2-PFHxA 315.0 -> 269.9
RT (Exp. RT): 1.400 (1.400)
Calc. conc. 94.40 µg/L
Area ratio: 0.28427
Sample type: Sample



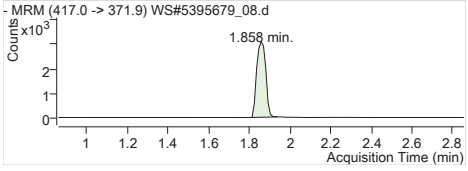


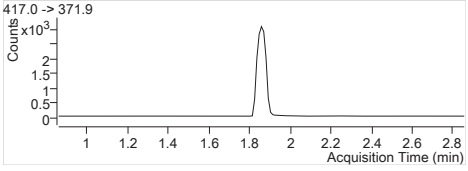
18O2-PFHxS 403.0 -> 83.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 96.83 µg/L
Area ratio: 0.07443
Sample type: Sample



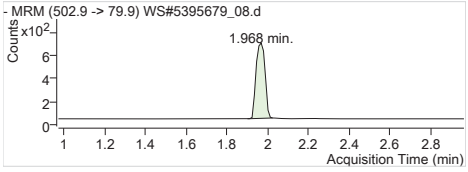


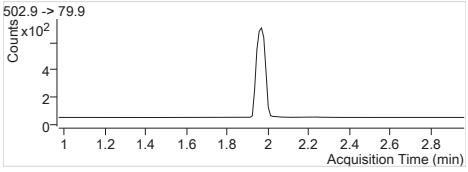
13C4-PFHpA 367.0 -> 321.9
RT (Exp. RT): 1.680 (1.668)
Calc. conc. 98.86 µg/L
Area ratio: 0.38995
Sample type: Sample



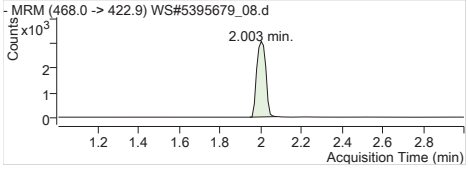


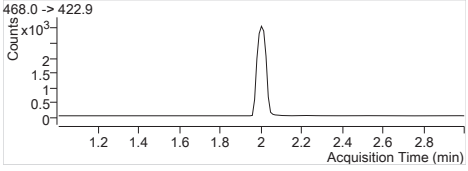
13C4-PFOA 417.0 -> 371.9
RT (Exp. RT): 1.858 (1.858)
Calc. conc. 96.06 µg/L
Area ratio: 0.40958
Sample type: Sample



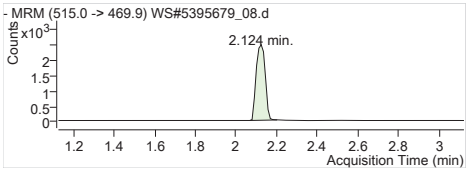


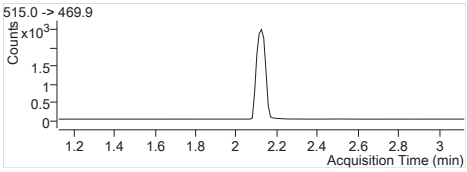
13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.968 (1.968)
Calc. conc. 96.56 µg/L
Area ratio: 0.08831
Sample type: Sample



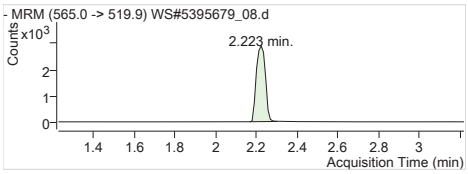


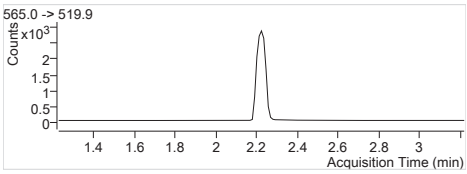
13C5-PFNA 468.0 -> 422.9
RT (Exp. RT): 2.003 (2.003)
Calc. conc. 98.02 µg/L
Area ratio: 0.40723
Sample type: Sample



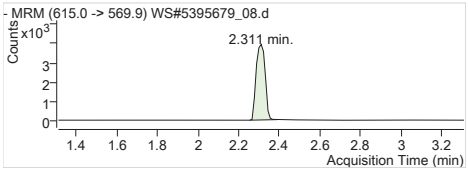


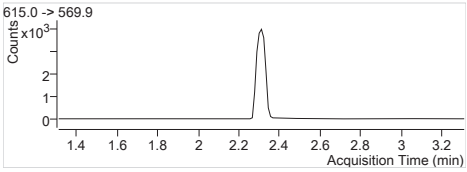
13C2-PFDA 515.0 -> 469.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 95.66 µg/L
Area ratio: 0.24751
Sample type: Sample



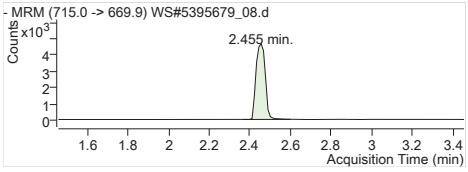


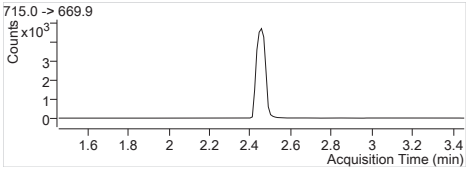
13C2-PFUnA 565.0 -> 519.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 92.89 µg/L
Area ratio: 0.28736
Sample type: Sample



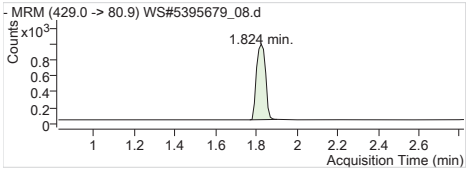


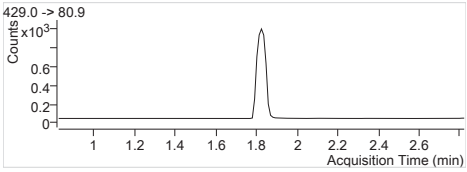
13C2-PFDoA 615.0 -> 569.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 95.78 µg/L
Area ratio: 0.39168
Sample type: Sample



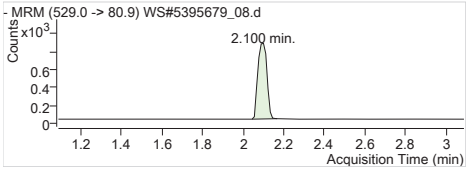


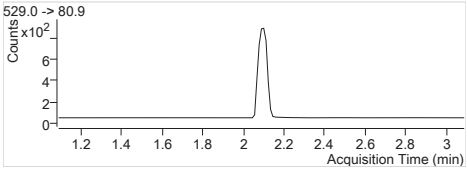
13C2-PFTeDA 715.0 -> 669.9
RT (Exp. RT): 2.455 (2.455)
Calc. conc. 99.76 µg/L
Area ratio: 0.47711
Sample type: Sample



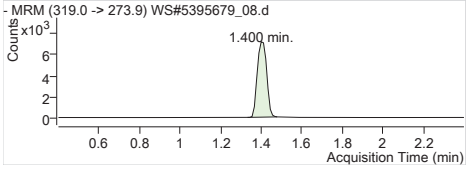


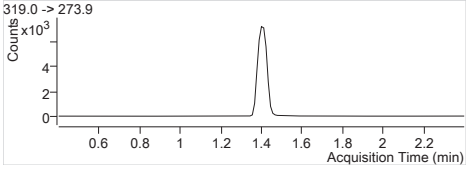
13C2-6:2-FTS 429.0 -> 80.9
RT (Exp. RT): 1.824 (1.824)
Calc. conc. 105.43 µg/L
Area ratio: 0.12766
Sample type: Sample



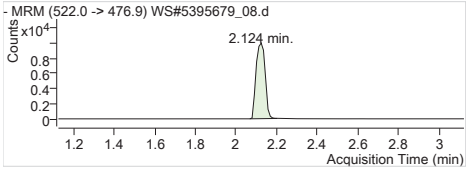


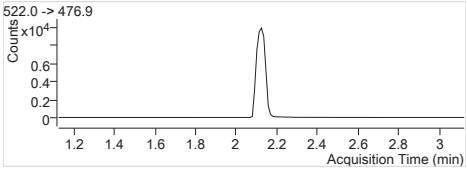
13C2-8:2 FTS 529.0 -> 80.9
RT (Exp. RT): 2.100 (2.089)
Calc. conc. 100.97 µg/L
Area ratio: 0.11404
Sample type: Sample





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.400 (1.400)
Calc. conc. 2.52 µg/L
Area ratio: 0
Sample type: Sample





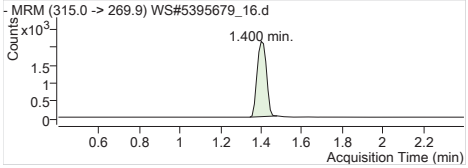
13C9-PFDA 522.0 -> 476.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 2.54 µg/L
Area ratio: 0
Sample type: Sample

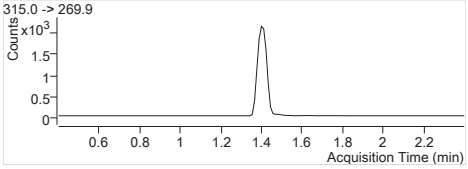
Batch Path T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics

Sample Name	**IB**	**Instrument**	LCMS04
Data File	WS#5395679_16.d	**Operator**	
Sample Type	Sample	**Dilution**	0.024
Acq. Method	PFC_Water_Low.m	**Position**	P3-A8
Acq. Date	2018/02/13 11:09:52 PM	**Injection Volume**	Per Method
Sample Annotation	-		

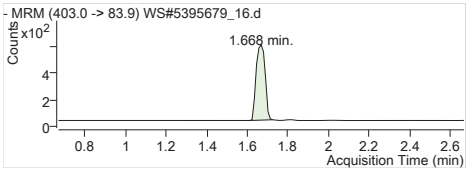
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	6688	1.40	1 µg/L		
MPFHxS	1728	1.67	1 µg/L		
MPFHpA	9051	1.67	1 µg/L		
MPFOA	9204	1.86	1 µg/L		
MPFOS	1973	1.97	1 µg/L		
MPFNA	9773	2.00	1 µg/L		
MPFDA	7769	2.12	1 µg/L		
MPFUnA	9214	2.22	1 µg/L		
MPFDoA	12592	2.31	1 µg/L		
MPFTeDA	13712	2.46	1 µg/L		
13C6-PFHxA IS	24025	1.40	1 µg/L		
13C9-PFDA IS	32057	2.12	1 µg/L		

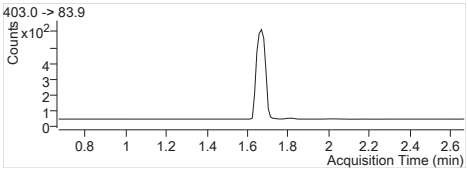
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1			-	ND	-
PFHxA 1			-	ND	-
PFHxS 1			-	ND	-
PFHpA 1			-	ND	-
PFOA 1			-	ND	-
PFOS 1			-	ND	-
PFNA 1			-	ND	-
PFDA 1			-	ND	-
PFUnA 1			-	ND	-
PFDoA 1			-	ND	-
PFTrDA 1			-	ND	-
PFTeDA 1			-	ND	-
13C2-PFHxA	6688	1.40	-	92.45 µg/L	-
18O2-PFHxS	1728	1.67	-	93.57 µg/L	-
13C4-PFHpA	9051	1.67	-	95.51 µg/L	-
13C4-PFOA	9204	1.86	-	89.86 µg/L	-
13C4-PFOS	1973	1.97	-	89.79 µg/L	-
13C5-PFNA	9773	2.00	-	97.91 µg/L	-
13C2-PFDA	7669	2.12	-	92.46 µg/L	-
13C2-PFUnA	9214	2.22	-	92.91 µg/L	-
13C2-PFDoA	12592	2.31	-	96.06 µg/L	-
13C2-PFTeDA	13975	2.46	-	91.15 µg/L	-
13C2-6:2-FTS	2902	1.82	-	99.76 µg/L	-
13C2-8:2 FTS	2542	2.10	-	93.68 µg/L	-
13C6-PFHxA	24025	1.40	-	2.63 µg/L	-
13C9-PFDA	32057	2.12	-	2.66 µg/L	-



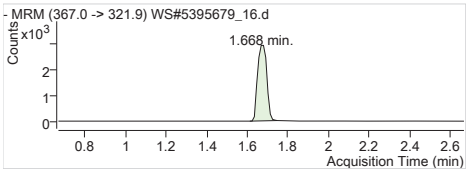


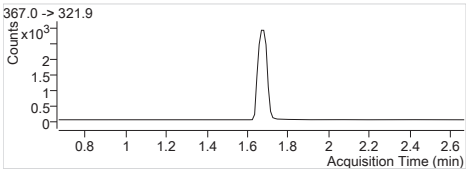
MPFHxA	Internal Standard
RT (Exp. RT):	1.400 (1.400)
Concentration:	1 µg/L
Sample type:	Sample



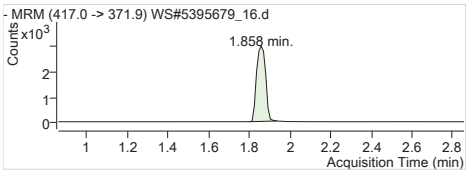


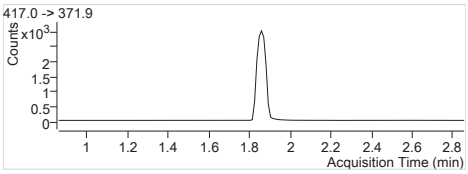
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Sample



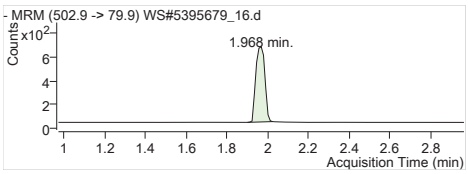


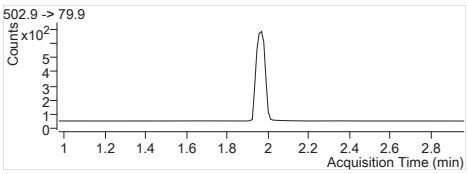
MPFHpA Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Sample



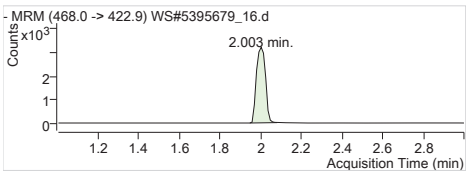


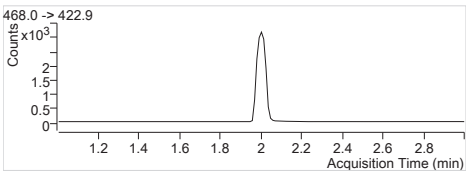
MPFOA Internal Standard
RT (Exp. RT): 1.858 (1.858)
Concentration: 1 µg/L
Sample type: Sample



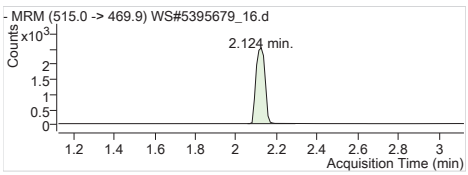


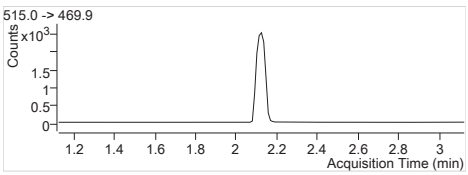
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Sample



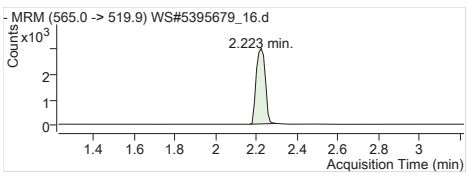


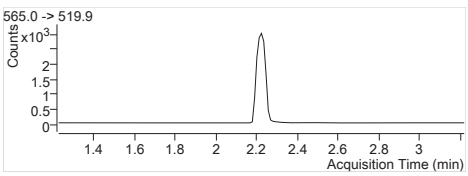
MPFNA Internal Standard
RT (Exp. RT): 2.003 (2.003)
Concentration: 1 µg/L
Sample type: Sample



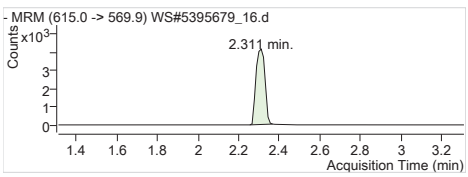


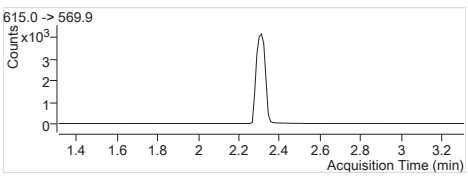
MPFDA Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Sample



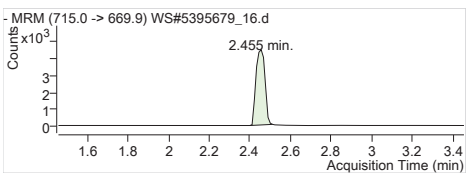


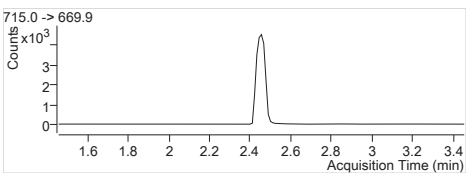
MPFUnA Internal Standard
RT (Exp. RT): 2.223 (2.223)
Concentration: 1 µg/L
Sample type: Sample



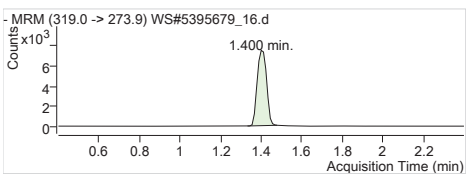


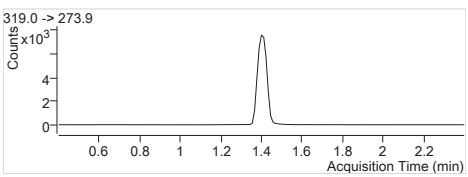
MPFDoA Internal Standard
RT (Exp. RT): 2.311 (2.311)
Concentration: 1 µg/L
Sample type: Sample



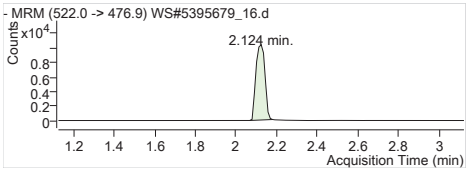


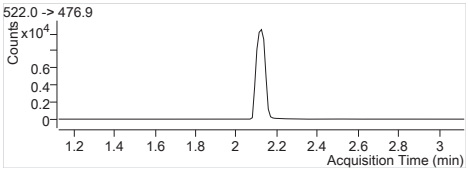
MPFTeDA Internal Standard
RT (Exp. RT): 2.455 (2.455)
Concentration: 1 µg/L
Sample type: Sample



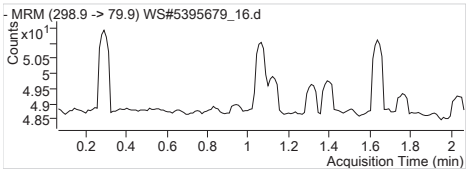


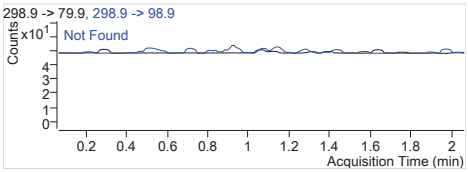
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.400 (1.400)
Concentration: 1 µg/L
Sample type: Sample



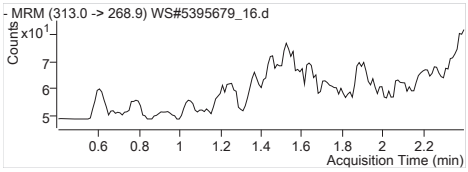


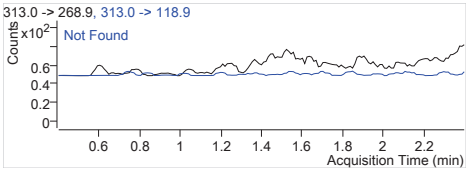
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Sample



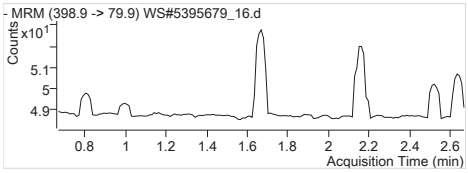


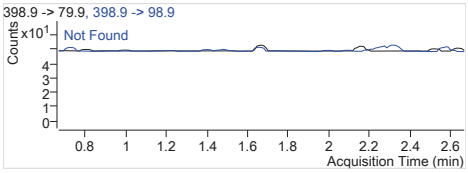
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 0.000 (1.064)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



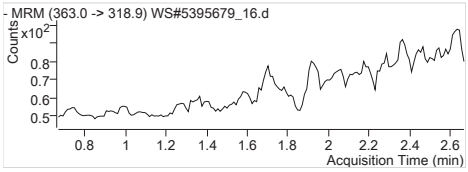


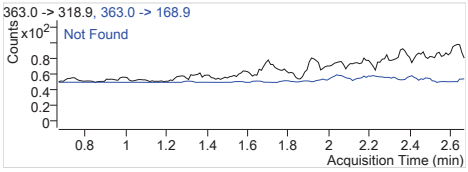
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 0.000 (1.400)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



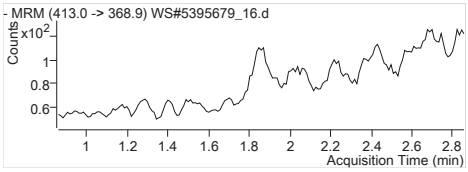


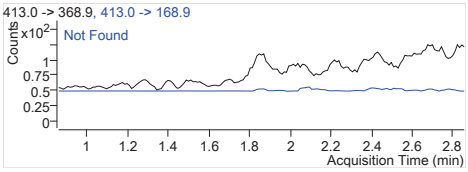
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 0.000 (1.668)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



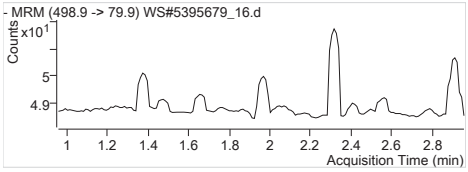


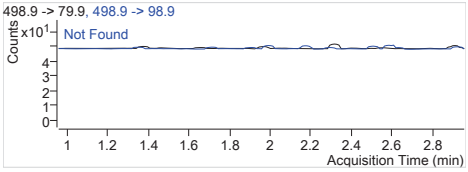
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 0.000 (1.669)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



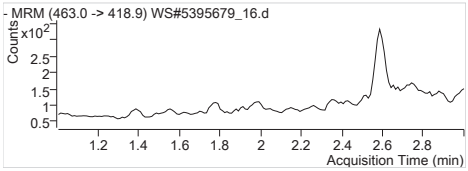


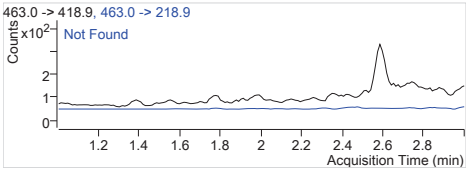
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 0.000 (1.858)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



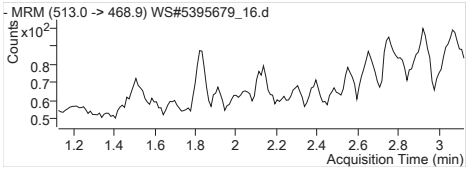


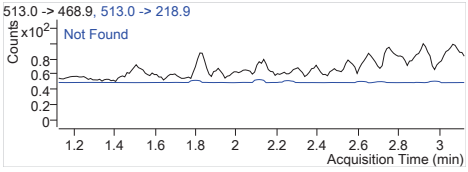
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 0.000 (1.957)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



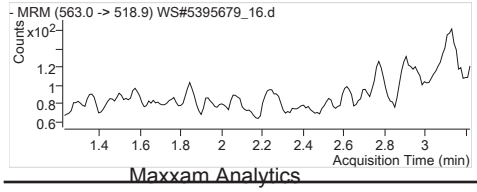


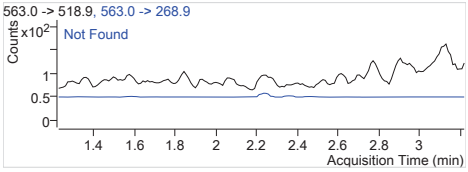
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 0.000 (2.003)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



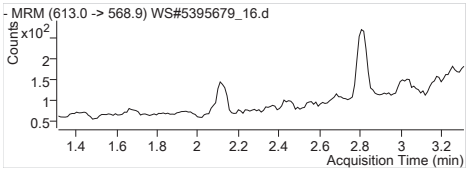


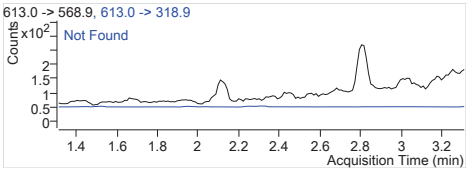
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 0.000 (2.124)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



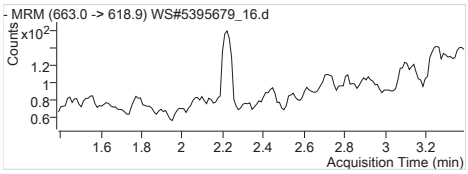


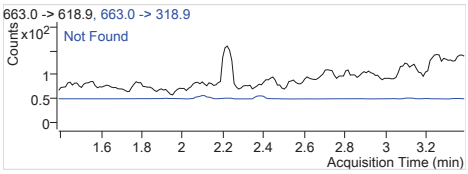
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 0.000 (2.223)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



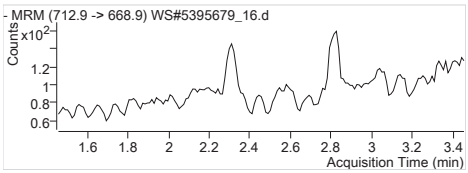


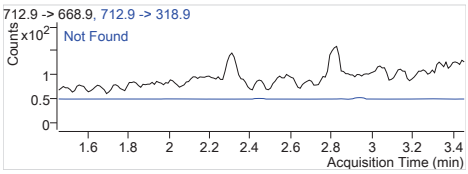
PFDoA 1 613.0 -> 568.9
RT (Exp. RT): 0.000 (2.311)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



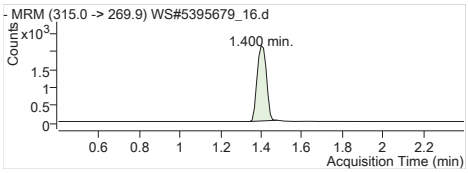


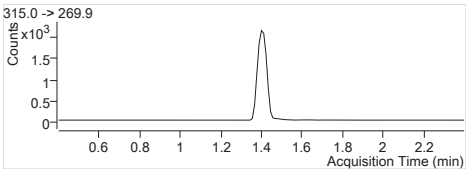
PFTrDA 1 663.0 -> 618.9
RT (Exp. RT): 0.000 (2.389)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



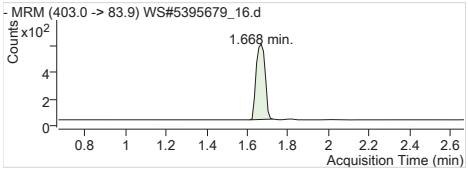


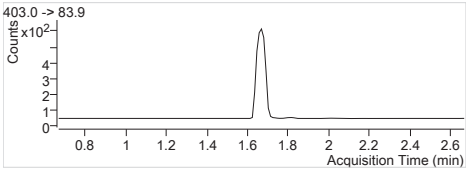
PFTeDA 1 712.9 -> 668.9
RT (Exp. RT): 0.000 (2.456)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



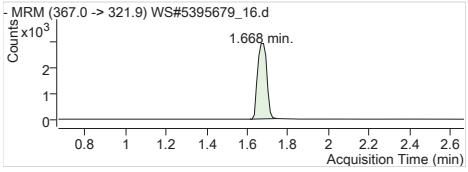


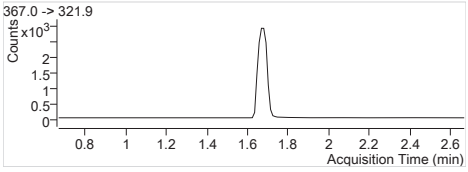
13C2-PFHxA 315.0 -> 269.9
RT (Exp. RT): 1.400 (1.400)
Calc. conc. 92.45 µg/L
Area ratio: 0.27838
Sample type: Sample



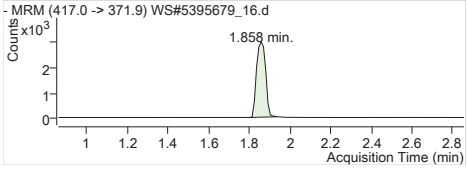


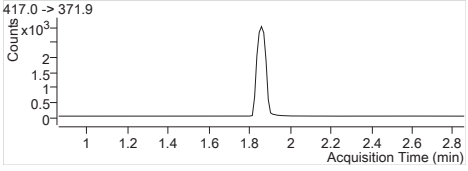
18O2-PFHxS 403.0 -> 83.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 93.57 µg/L
Area ratio: 0.07193
Sample type: Sample



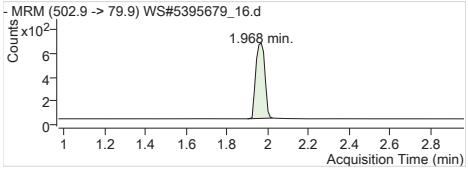


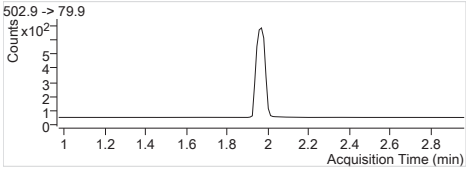
13C4-PFHpA 367.0 -> 321.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 95.51 µg/L
Area ratio: 0.37673
Sample type: Sample



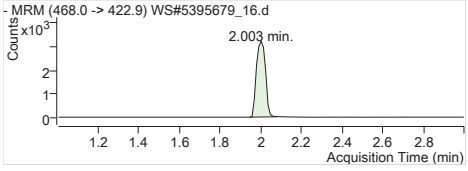


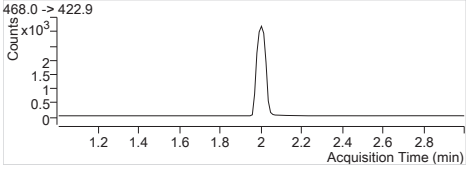
13C4-PFOA 417.0 -> 371.9
RT (Exp. RT): 1.858 (1.858)
Calc. conc. 89.86 µg/L
Area ratio: 0.38310
Sample type: Sample



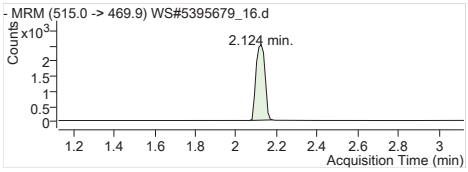


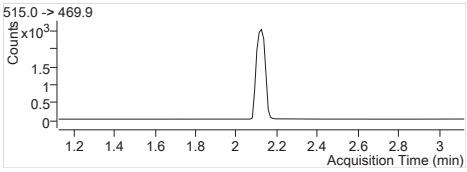
13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.968 (1.968)
Calc. conc. 89.79 µg/L
Area ratio: 0.08212
Sample type: Sample



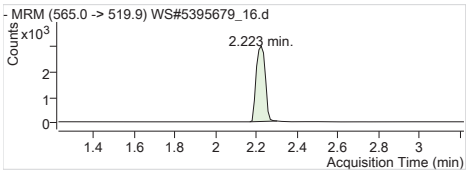


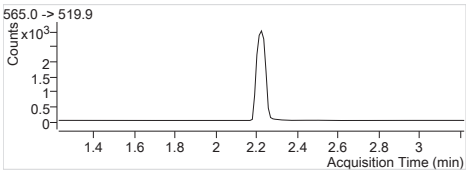
13C5-PFNA 468.0 -> 422.9
RT (Exp. RT): 2.003 (2.003)
Calc. conc. 97.91 µg/L
Area ratio: 0.40678
Sample type: Sample



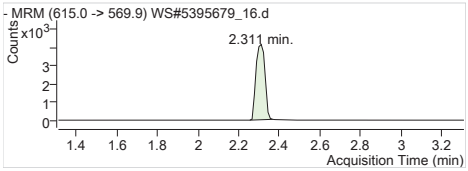


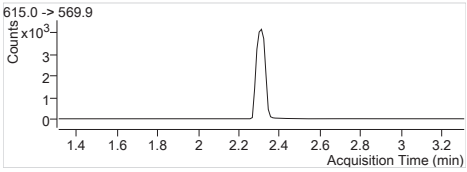
13C2-PFDA 515.0 -> 469.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 92.46 µg/L
Area ratio: 0.23923
Sample type: Sample



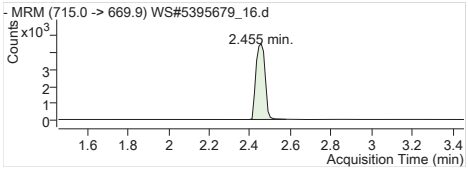


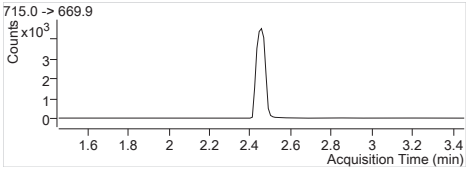
13C2-PFUnA 565.0 -> 519.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 92.91 µg/L
Area ratio: 0.28743
Sample type: Sample



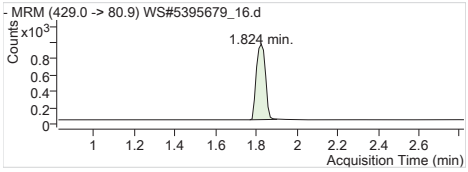


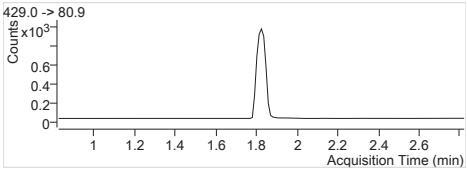
13C2-PFDoA 615.0 -> 569.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 96.06 µg/L
Area ratio: 0.39280
Sample type: Sample



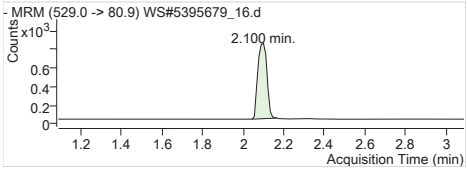


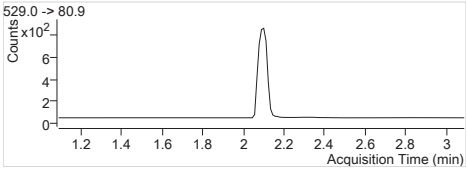
13C2-PFTeDA 715.0 -> 669.9
RT (Exp. RT): 2.455 (2.455)
Calc. conc. 91.15 µg/L
Area ratio: 0.43594
Sample type: Sample



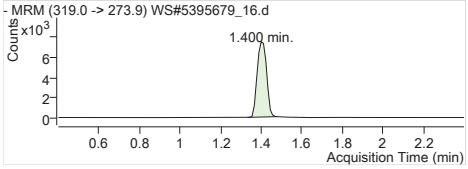


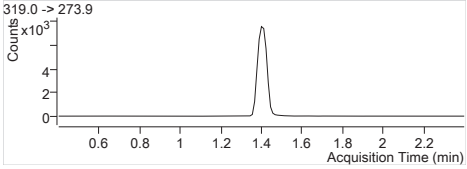
13C2-6:2-FTS 429.0 -> 80.9
RT (Exp. RT): 1.824 (1.824)
Calc. conc. 99.76 µg/L
Area ratio: 0.12079
Sample type: Sample



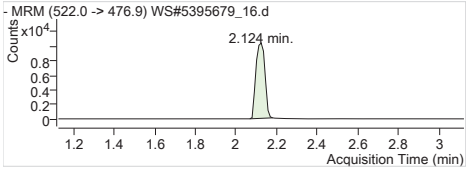


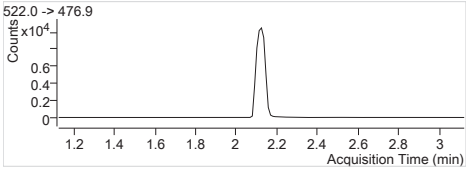
13C2-8:2 FTS 529.0 -> 80.9
RT (Exp. RT): 2.100 (2.089)
Calc. conc. 93.68 µg/L
Area ratio: 0.10581
Sample type: Sample





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.400 (1.400)
Calc. conc. 2.63 µg/L
Area ratio: 0
Sample type: Sample





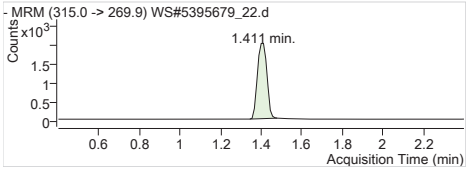
13C9-PFDA 522.0 -> 476.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 2.66 µg/L
Area ratio: 0
Sample type: Sample

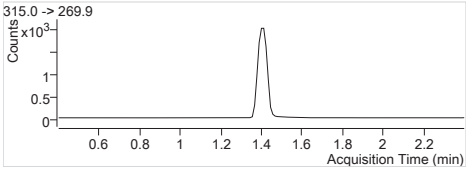
Batch Path	T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics

Sample Name	**IB**	**Instrument**	LCMS04
Data File	WS#5395679_22.d	**Operator**	
Sample Type	Sample	**Dilution**	0.024
Acq. Method	PFC_Water_Low.m	**Position**	P3-A8
Acq. Date	2018/02/13 11:39:28 PM	**Injection Volume**	Per Method
Sample Annotation	-		

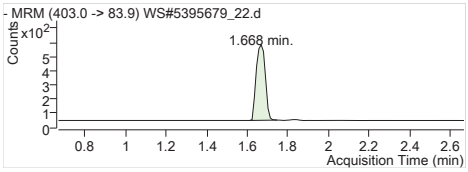
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	6416	1.41	1 µg/L		
MPFHxS	1663	1.67	1 µg/L		
MPFHpA	8629	1.68	1 µg/L		
MPFOA	9573	1.86	1 µg/L		
MPFOS	2180	1.97	1 µg/L		
MPFNA	9744	2.00	1 µg/L		
MPFDA	7921	2.12	1 µg/L		
MPFUnA	9250	2.22	1 µg/L		
MPFDoA	12005	2.31	1 µg/L		
MPFTeDA	13624	2.46	1 µg/L		
13C6-PFHxA IS	22168	1.40	1 µg/L		
13C9-PFDA IS	29613	2.12	1 µg/L		

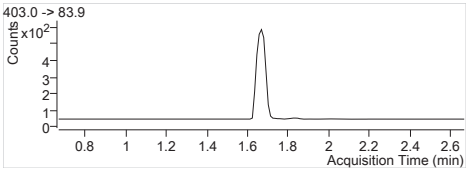
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1			-	ND	-
PFHxA 1			-	ND	-
PFHxS 1			-	ND	-
PFHpA 1			-	ND	-
PFOA 1			-	ND	-
PFOS 1			-	ND	-
PFNA 1			-	ND	-
PFDA 1			-	ND	-
PFUnA 1			-	ND	-
PFDoA 1			-	ND	-
PFTrDA 1			-	ND	-
PFTeDA 1			-	ND	-
13C2-PFHxA	6416	1.41	-	96.12 µg/L	-
18O2-PFHxS	1663	1.67	-	97.60 µg/L	-
13C4-PFHpA	8629	1.68	-	98.69 µg/L	-
13C4-PFOA	9573	1.86	-	101.29 µg/L	-
13C4-PFOS	2180	1.97	-	107.52 µg/L	-
13C5-PFNA	9744	2.00	-	105.80 µg/L	-
13C2-PFDA	7760	2.12	-	101.28 µg/L	-
13C2-PFUnA	9250	2.22	-	100.97 µg/L	-
13C2-PFDoA	12005	2.31	-	99.14 µg/L	-
13C2-PFTeDA	14132	2.46	-	99.79 µg/L	-
13C2-6:2-FTS	3332	1.82	-	124.13 µg/L	-
13C2-8:2 FTS	2679	2.09	-	107.00 µg/L	-
13C6-PFHxA	22168	1.40	-	2.43 µg/L	-
13C9-PFDA	29613	2.12	-	2.45 µg/L	-



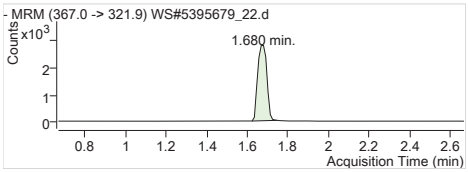


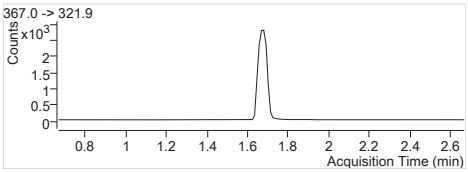
MPFHxA	Internal Standard
RT (Exp. RT):	1.411 (1.400)
Concentration:	1 µg/L
Sample type:	Sample



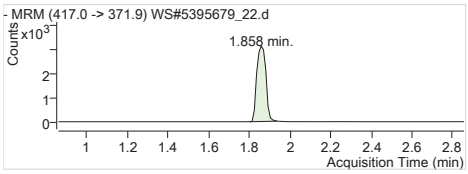


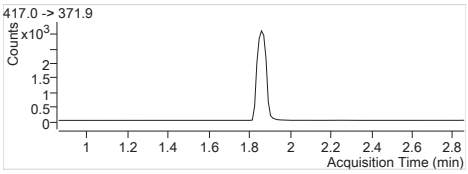
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Sample



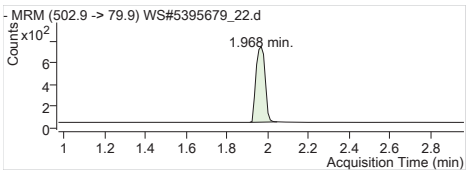


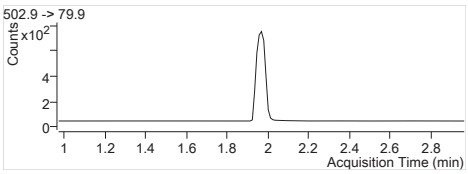
MPFHpA Internal Standard
RT (Exp. RT): 1.680 (1.668)
Concentration: 1 µg/L
Sample type: Sample



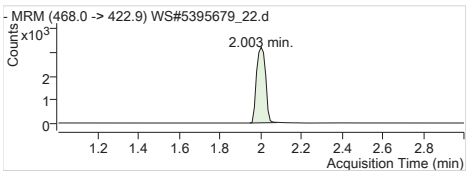


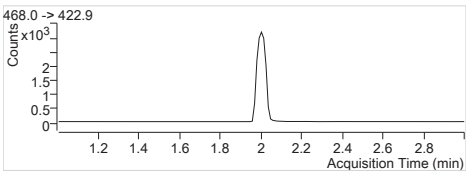
MPFOA Internal Standard
RT (Exp. RT): 1.858 (1.858)
Concentration: 1 µg/L
Sample type: Sample



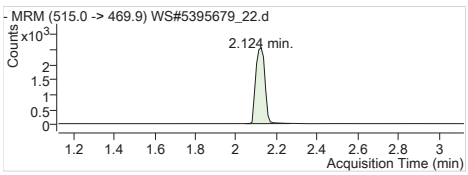


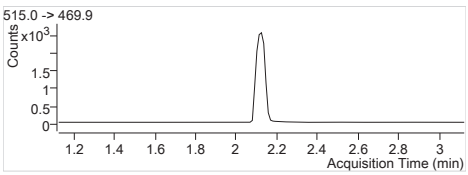
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Sample



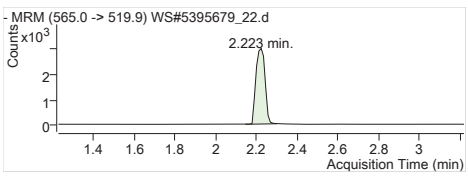


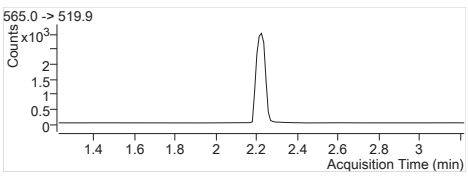
MPFNA Internal Standard
RT (Exp. RT): 2.003 (2.003)
Concentration: 1 µg/L
Sample type: Sample



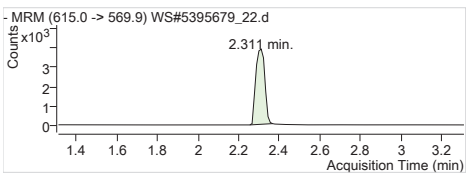


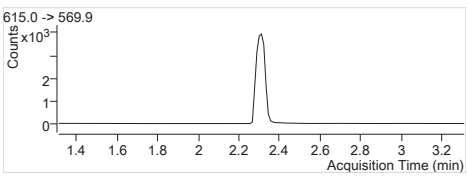
MPFDA Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Sample



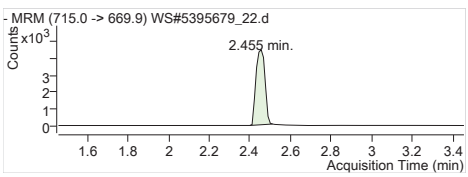


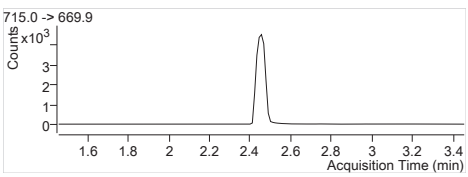
MPFUnA Internal Standard
RT (Exp. RT): 2.223 (2.223)
Concentration: 1 µg/L
Sample type: Sample



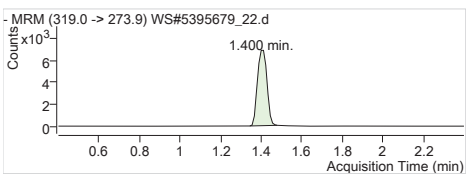


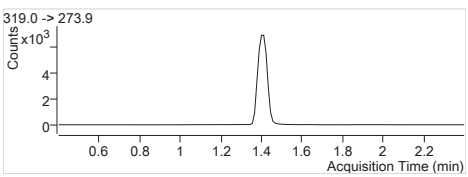
MPFDoA Internal Standard
RT (Exp. RT): 2.311 (2.311)
Concentration: 1 µg/L
Sample type: Sample



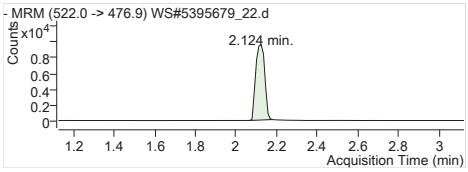


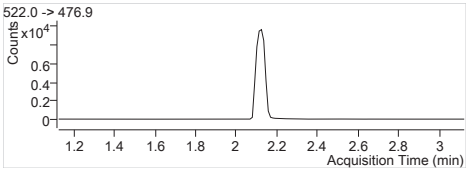
MPFTeDA Internal Standard
RT (Exp. RT): 2.455 (2.455)
Concentration: 1 µg/L
Sample type: Sample



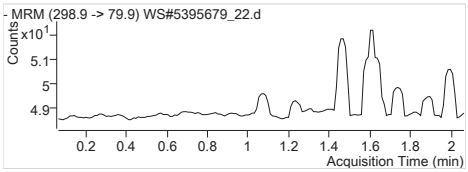


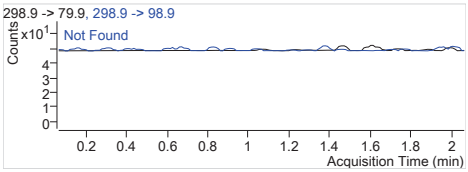
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.400 (1.400)
Concentration: 1 µg/L
Sample type: Sample



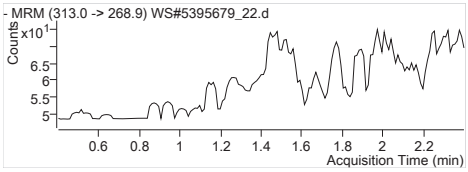


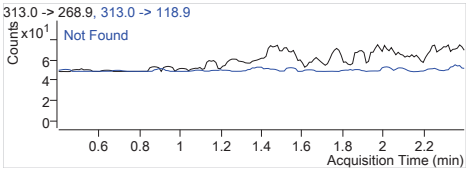
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Sample



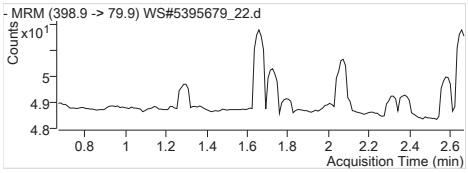


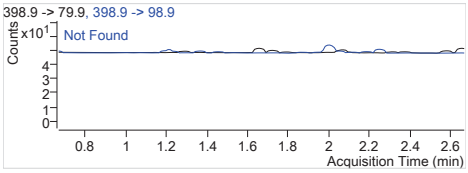
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 0.000 (1.064)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



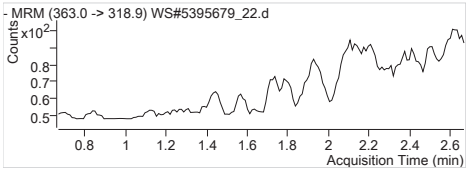


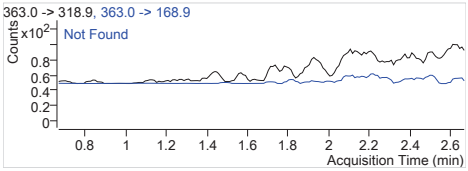
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 0.000 (1.400)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



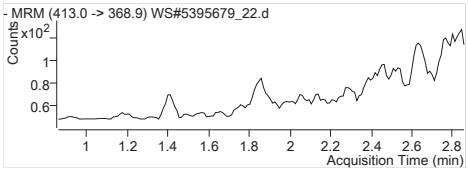


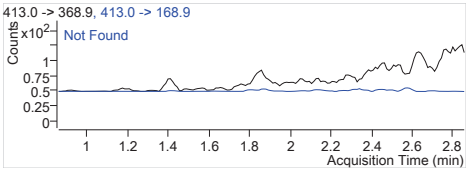
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 0.000 (1.668)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



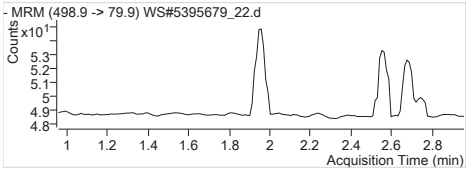


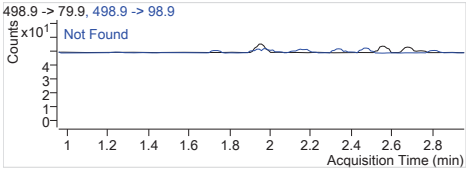
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 0.000 (1.669)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



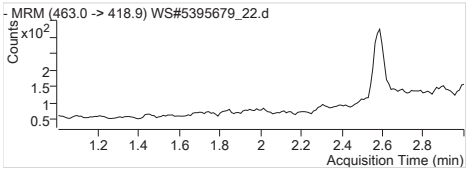


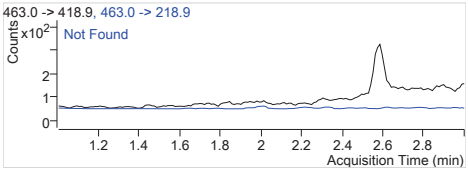
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 0.000 (1.858)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



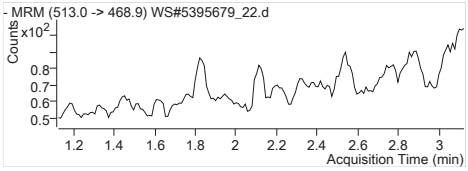


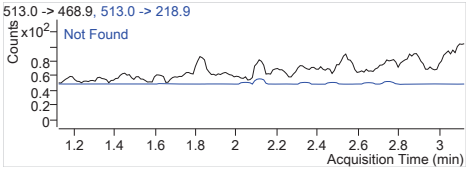
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 0.000 (1.957)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



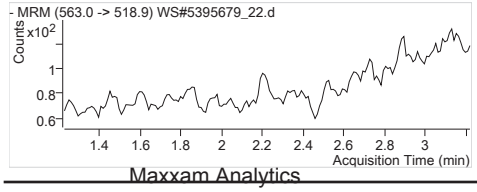


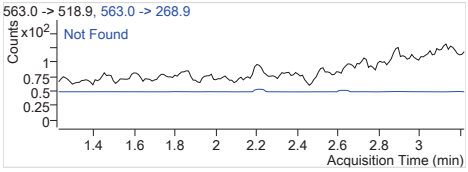
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 0.000 (2.003)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



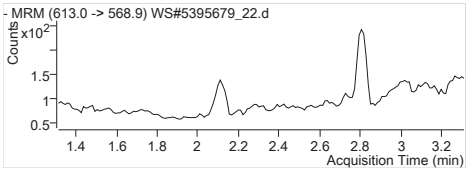


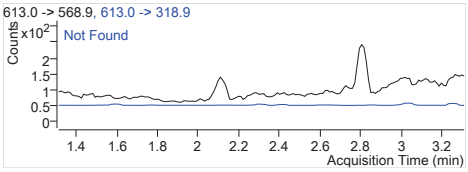
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 0.000 (2.124)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



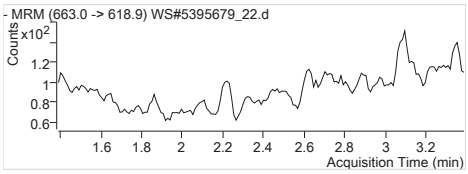


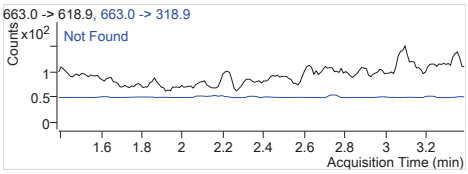
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 0.000 (2.223)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



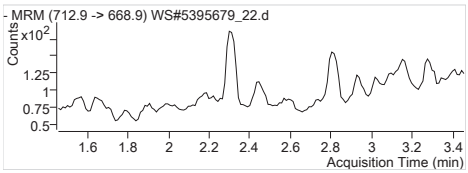


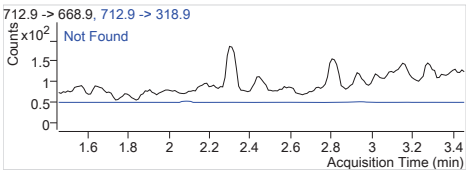
PFDoA 1	613.0 -> 568.9
RT (Exp. RT):	0.000 (2.311)
Calc. conc.	N.D.
Area ratio:	0
Sample type:	Sample



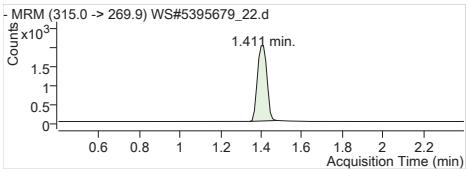


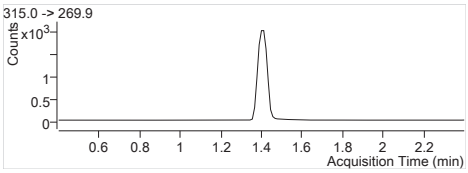
PFTrDA 1	663.0 -> 618.9
RT (Exp. RT):	0.000 (2.389)
Calc. conc.	N.D.
Area ratio:	0
Sample type:	Sample



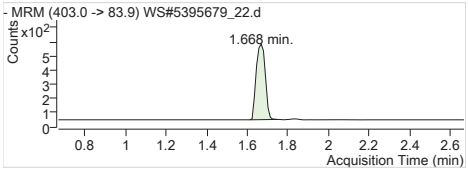


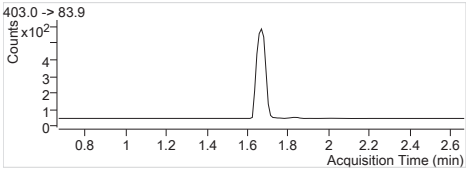
PFTeDA 1	712.9 -> 668.9
RT (Exp. RT):	0.000 (2.456)
Calc. conc.	N.D.
Area ratio:	0
Sample type:	Sample



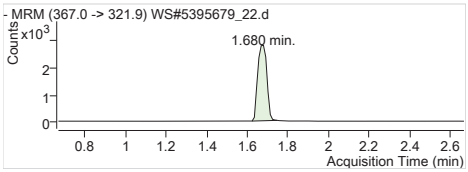


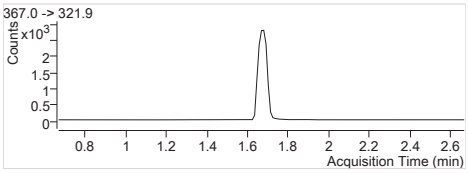
13C2-PFHxA	315.0 -> 269.9
RT (Exp. RT):	1.411 (1.400)
Calc. conc.	96.12 µg/L
Area ratio:	0.28943
Sample type:	Sample



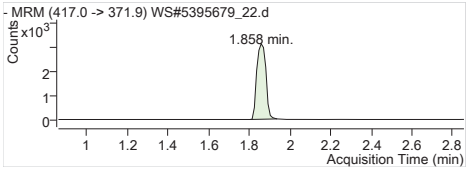


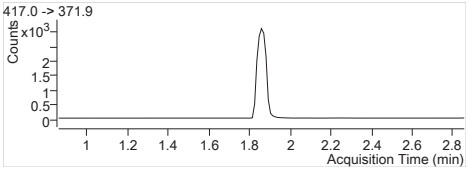
18O2-PFHxS	403.0 -> 83.9
RT (Exp. RT):	1.668 (1.668)
Calc. conc.	97.60 µg/L
Area ratio:	0.07502
Sample type:	Sample



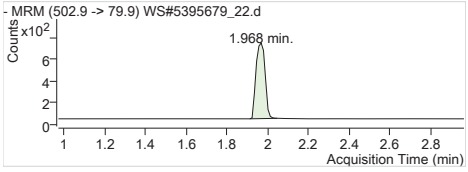


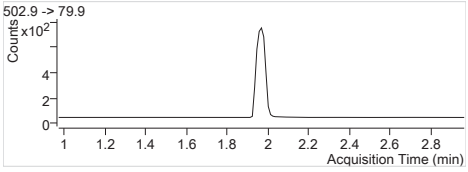
13C4-PFHpA	367.0 -> 321.9
RT (Exp. RT):	1.680 (1.668)
Calc. conc.	98.69 µg/L
Area ratio:	0.38925
Sample type:	Sample



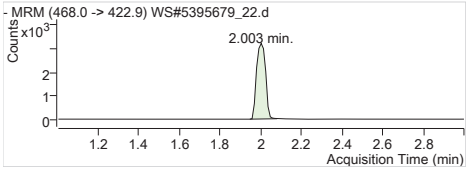


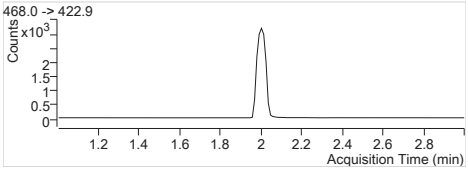
13C4-PFOA	417.0 -> 371.9
RT (Exp. RT):	1.858 (1.858)
Calc. conc.	101.29 µg/L
Area ratio:	0.43184
Sample type:	Sample



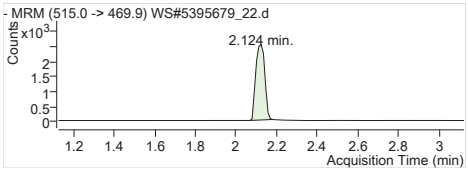


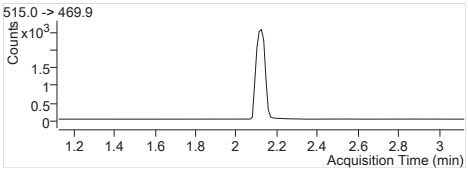
13C4-PFOS	502.9 -> 79.9
RT (Exp. RT):	1.968 (1.968)
Calc. conc.	107.52 µg/L
Area ratio:	0.09834
Sample type:	Sample



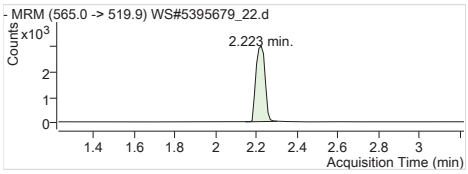


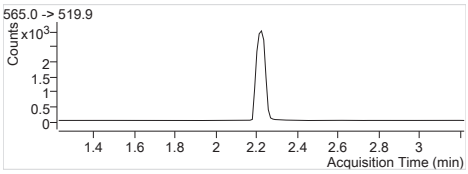
13C5-PFNA	468.0 -> 422.9
RT (Exp. RT):	2.003 (2.003)
Calc. conc.	105.80 µg/L
Area ratio:	0.43955
Sample type:	Sample



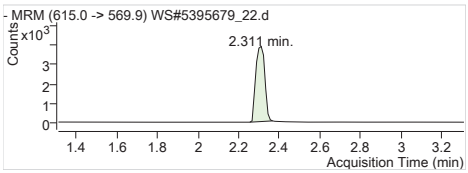


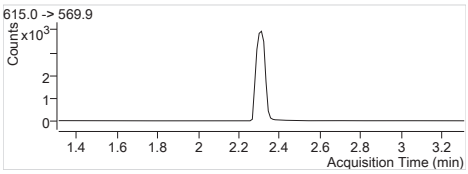
13C2-PFDA 515.0 -> 469.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 101.28 µg/L
Area ratio: 0.26205
Sample type: Sample



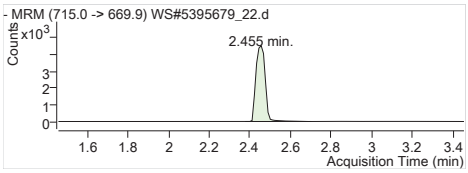


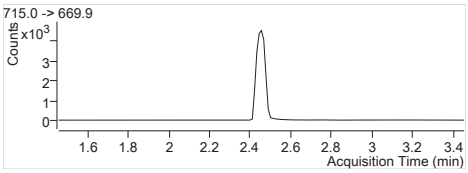
13C2-PFUnA 565.0 -> 519.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 100.97 µg/L
Area ratio: 0.31236
Sample type: Sample



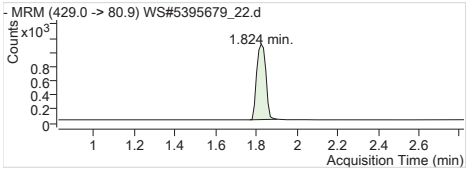


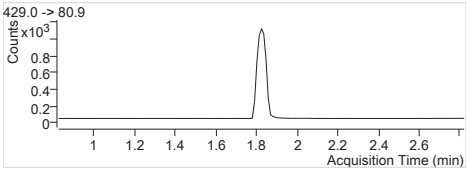
13C2-PFDoA 615.0 -> 569.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 99.14 µg/L
Area ratio: 0.40540
Sample type: Sample



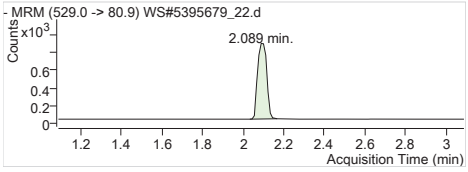


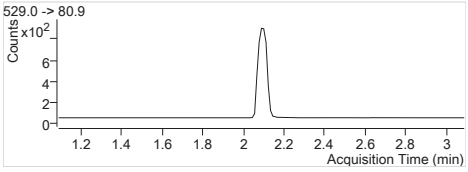
13C2-PFTeDA 715.0 -> 669.9
RT (Exp. RT): 2.455 (2.455)
Calc. conc. 99.79 µg/L
Area ratio: 0.47722
Sample type: Sample



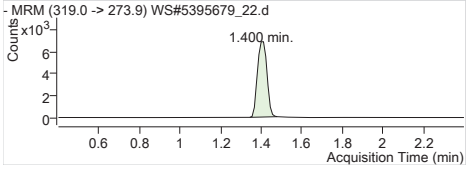


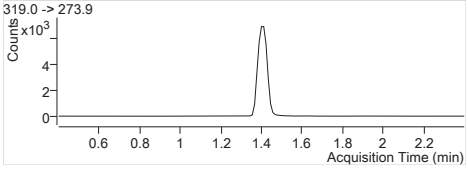
13C2-6:2-FTS 429.0 -> 80.9
RT (Exp. RT): 1.824 (1.824)
Calc. conc. 124.13 µg/L
Area ratio: 0.15031
Sample type: Sample



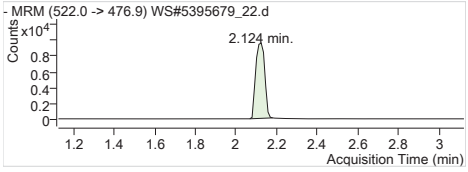


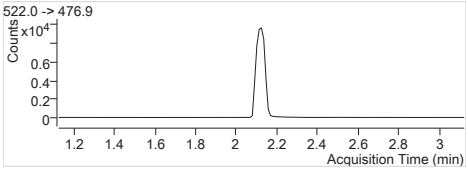
13C2-8:2 FTS 529.0 -> 80.9
RT (Exp. RT): 2.089 (2.089)
Calc. conc. 107.00 µg/L
Area ratio: 0.12085
Sample type: Sample





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.400 (1.400)
Calc. conc. 2.43 µg/L
Area ratio: 0
Sample type: Sample





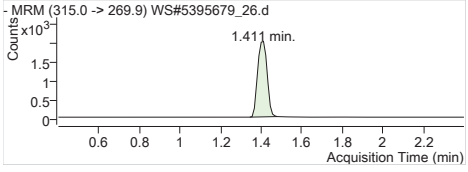
13C9-PFDA 522.0 -> 476.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 2.45 µg/L
Area ratio: 0
Sample type: Sample

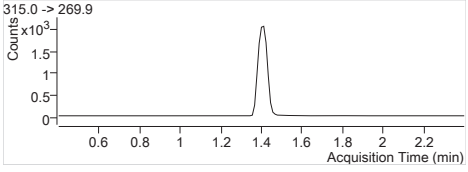
Batch Path T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics

Sample Name	**IB**	**Instrument**	LCMS04
Data File	WS#5395679_26.d	**Operator**	
Sample Type	Sample	**Dilution**	0.024
Acq. Method	PFC_Water_Low.m	**Position**	P3-A8
Acq. Date	2018/02/13 11:59:12 PM	**Injection Volume**	Per Method
Sample Annotation	-		

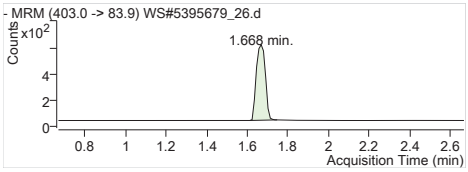
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	6509	1.41	1 µg/L		
MPFHxS	1771	1.67	1 µg/L		
MPFHpA	9036	1.68	1 µg/L		
MPFOA	10024	1.86	1 µg/L		
MPFOS	1945	1.97	1 µg/L		
MPFNA	9354	2.00	1 µg/L		
MPFDA	8166	2.12	1 µg/L		
MPFUnA	8887	2.22	1 µg/L		
MPFDoA	12375	2.31	1 µg/L		
MPFTeDA	13887	2.46	1 µg/L		
13C6-PFHxA IS	23517	1.41	1 µg/L		
13C9-PFDA IS	30278	2.12	1 µg/L		

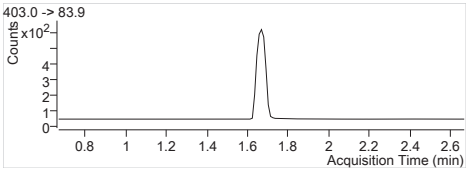
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1			-	ND	-
PFHxA 1			-	ND	-
PFHxS 1			-	ND	-
PFHpA 1			-	ND	-
PFOA 1			-	ND	-
PFOS 1			-	ND	-
PFNA 1			-	ND	-
PFDA 1			-	ND	-
PFUnA 1			-	ND	-
PFDoA 1			-	ND	-
PFTrDA 1			-	ND	-
PFTeDA 1			-	ND	-
13C2-PFHxA	6509	1.41	-	91.92 µg/L	-
18O2-PFHxS	1771	1.67	-	97.97 µg/L	-
13C4-PFHpA	9036	1.68	-	97.42 µg/L	-
13C4-PFOA	10024	1.86	-	99.97 µg/L	-
13C4-PFOS	1945	1.97	-	90.43 µg/L	-
13C5-PFNA	9353	2.00	-	95.73 µg/L	-
13C2-PFDA	8116	2.12	-	103.60 µg/L	-
13C2-PFUnA	8887	2.22	-	94.88 µg/L	-
13C2-PFDoA	12375	2.31	-	99.95 µg/L	-
13C2-PFTeDA	14240	2.46	-	98.34 µg/L	-
13C2-6:2-FTS	3412	1.82	-	119.82 µg/L	-
13C2-8:2 FTS	2707	2.10	-	101.92 µg/L	-
13C6-PFHxA	23517	1.41	-	2.58 µg/L	-
13C9-PFDA	30278	2.12	-	2.51 µg/L	-



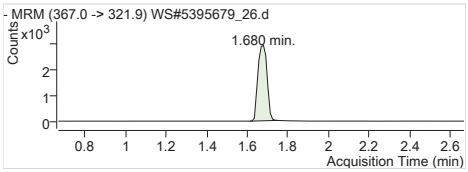


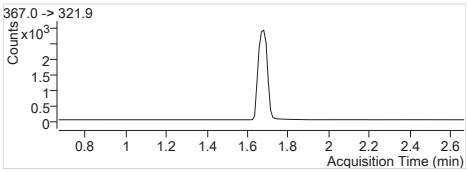
MPFHxA Internal Standard
RT (Exp. RT): 1.411 (1.400)
Concentration: 1 µg/L
Sample type: Sample



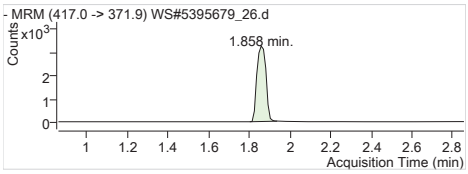


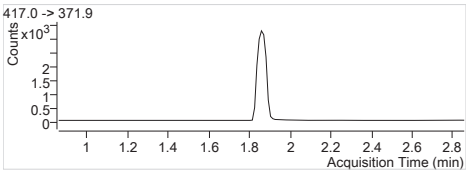
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Sample



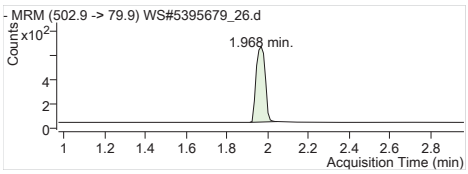


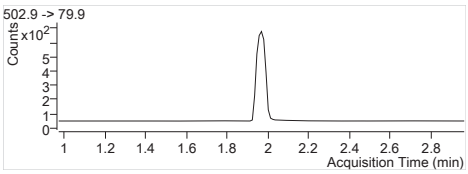
MPFHpA Internal Standard
RT (Exp. RT): 1.680 (1.668)
Concentration: 1 µg/L
Sample type: Sample



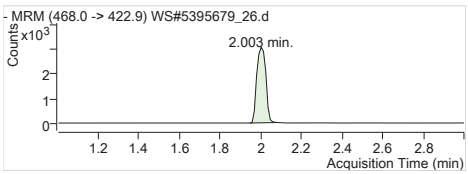


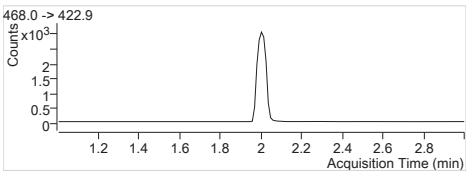
MPFOA Internal Standard
RT (Exp. RT): 1.858 (1.858)
Concentration: 1 µg/L
Sample type: Sample



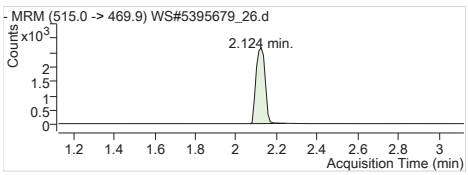


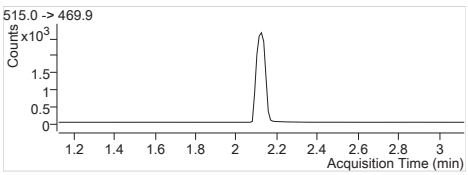
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Sample



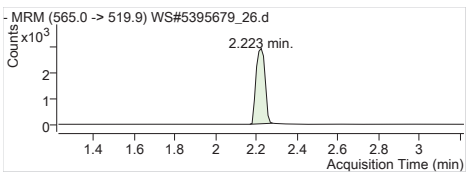


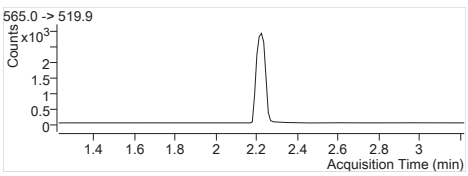
MPFNA Internal Standard
RT (Exp. RT): 2.003 (2.003)
Concentration: 1 µg/L
Sample type: Sample



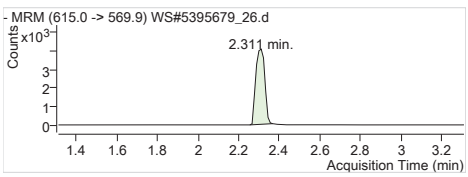


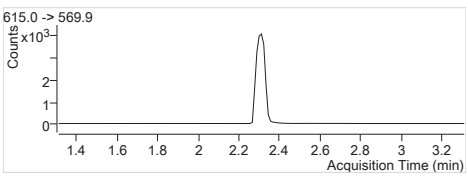
MPFDA Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Sample



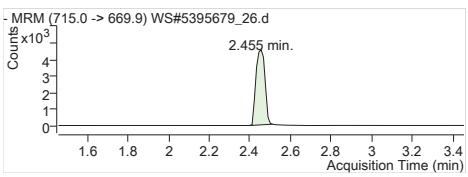


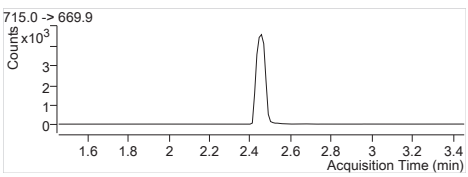
MPFUnA Internal Standard
RT (Exp. RT): 2.223 (2.223)
Concentration: 1 µg/L
Sample type: Sample



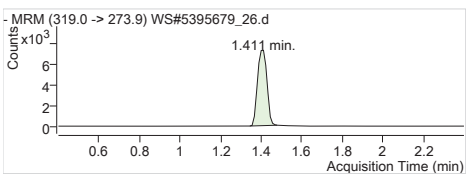


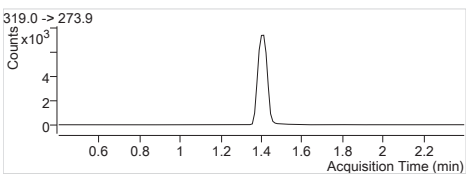
MPFDoA Internal Standard
RT (Exp. RT): 2.311 (2.311)
Concentration: 1 µg/L
Sample type: Sample



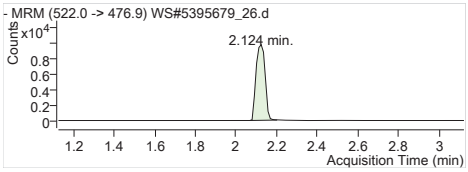


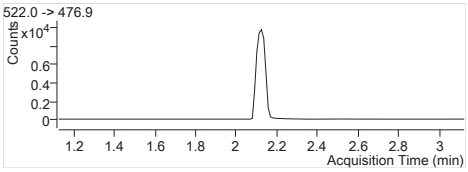
MPFTeDA Internal Standard
RT (Exp. RT): 2.455 (2.455)
Concentration: 1 µg/L
Sample type: Sample



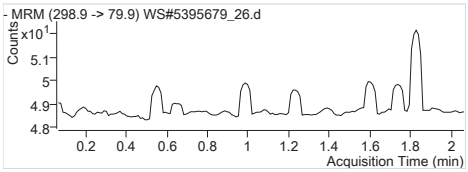


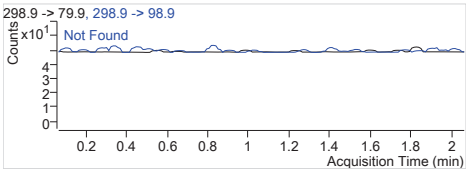
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.400)
Concentration: 1 µg/L
Sample type: Sample



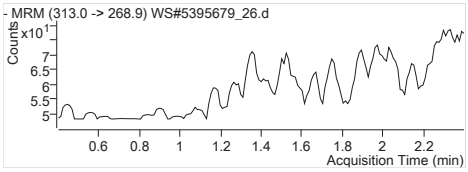


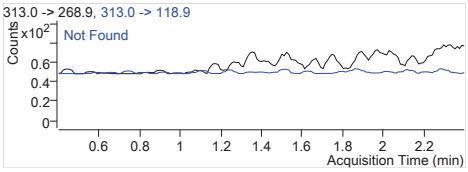
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Sample



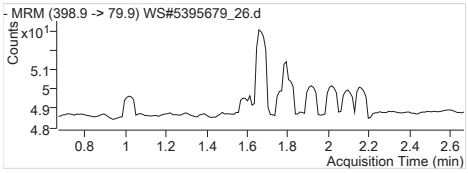


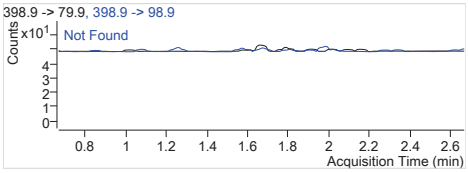
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 0.000 (1.064)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



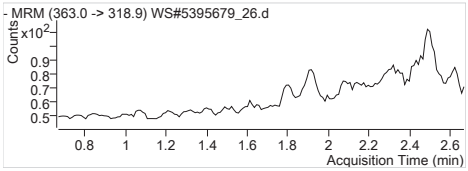


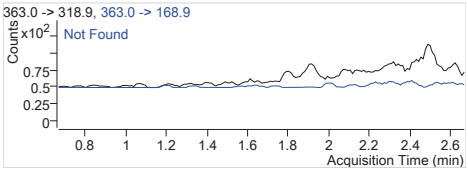
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 0.000 (1.400)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



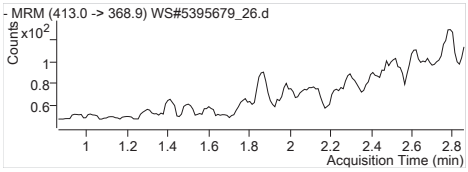


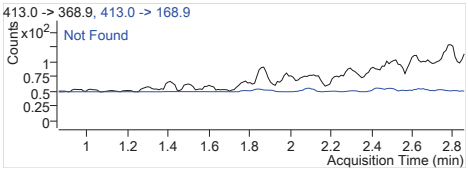
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 0.000 (1.668)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



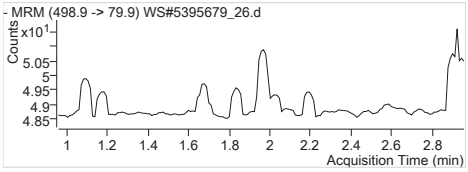


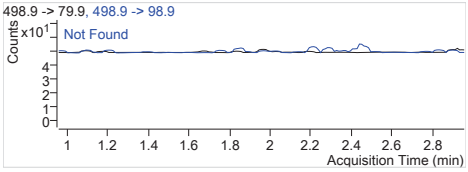
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 0.000 (1.669)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



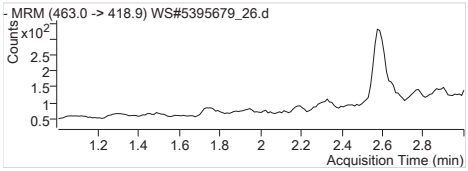


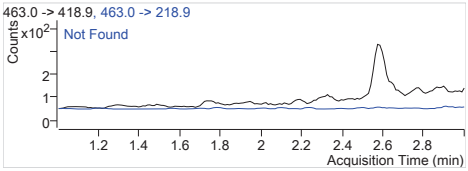
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 0.000 (1.858)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



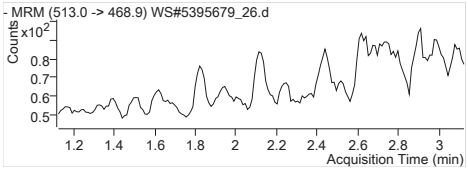


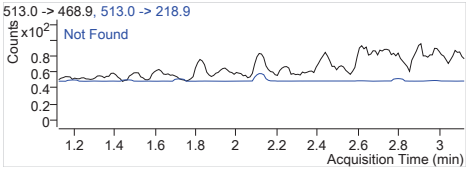
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 0.000 (1.957)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



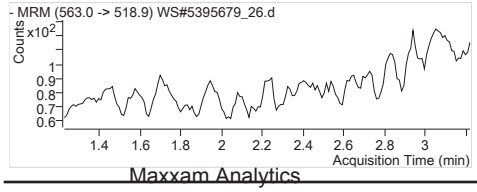


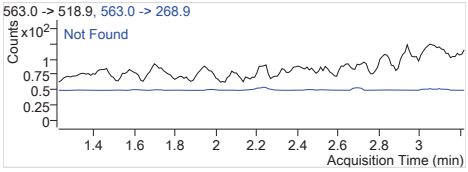
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 0.000 (2.003)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



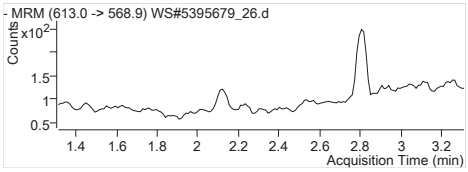


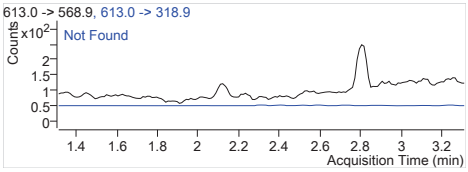
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 0.000 (2.124)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



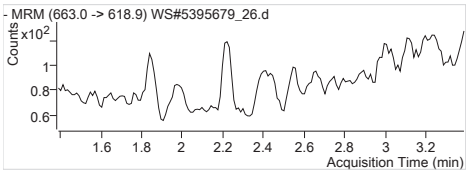


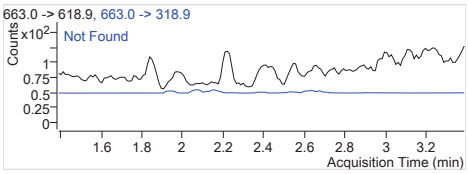
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 0.000 (2.223)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



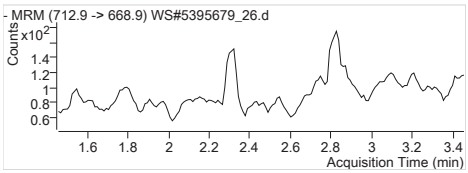


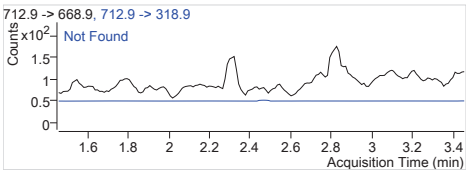
PFDoA 1	613.0 -> 568.9
RT (Exp. RT):	0.000 (2.311)
Calc. conc.	N.D.
Area ratio:	0
Sample type:	Sample



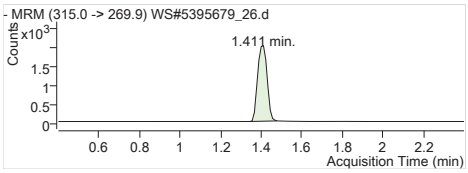


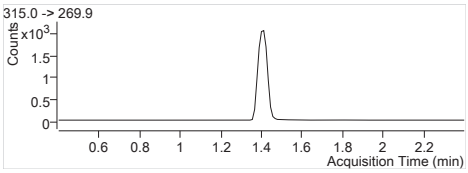
PFTrDA 1	663.0 -> 618.9
RT (Exp. RT):	0.000 (2.389)
Calc. conc.	N.D.
Area ratio:	0
Sample type:	Sample



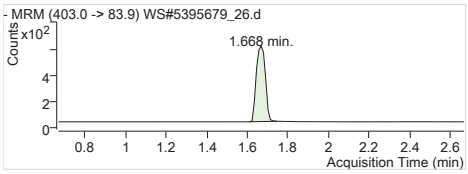


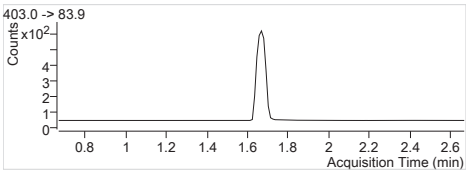
PFTeDA 1	712.9 -> 668.9
RT (Exp. RT):	0.000 (2.456)
Calc. conc.	N.D.
Area ratio:	0
Sample type:	Sample



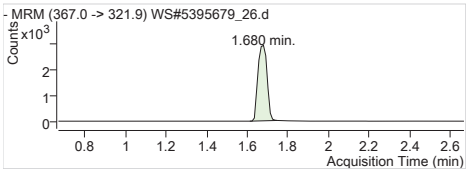


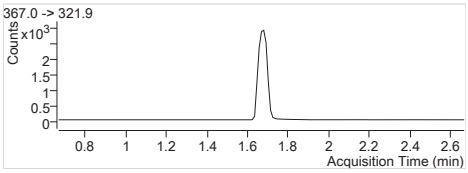
13C2-PFHxA	315.0 -> 269.9
RT (Exp. RT):	1.411 (1.400)
Calc. conc.	91.92 µg/L
Area ratio:	0.27678
Sample type:	Sample



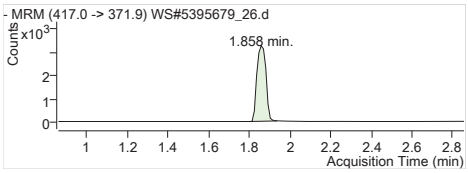


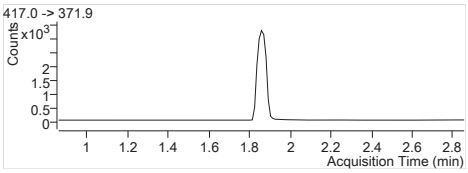
18O2-PFHxS	403.0 -> 83.9
RT (Exp. RT):	1.668 (1.668)
Calc. conc.	97.97 µg/L
Area ratio:	0.07531
Sample type:	Sample



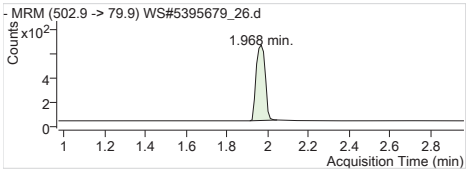


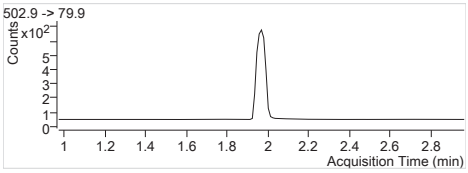
13C4-PFHpA	367.0 -> 321.9
RT (Exp. RT):	1.680 (1.668)
Calc. conc.	97.42 µg/L
Area ratio:	0.38423
Sample type:	Sample



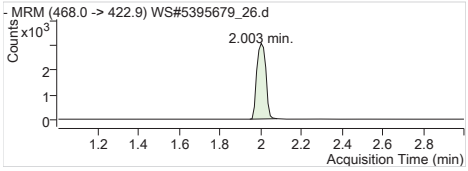


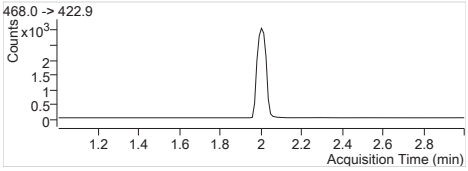
13C4-PFOA	417.0 -> 371.9
RT (Exp. RT):	1.858 (1.858)
Calc. conc.	99.97 µg/L
Area ratio:	0.42624
Sample type:	Sample



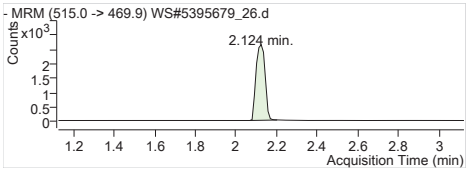


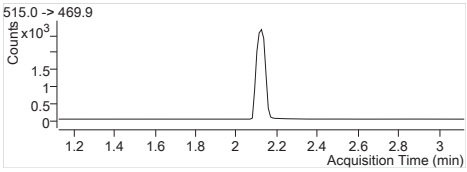
13C4-PFOS	502.9 -> 79.9
RT (Exp. RT):	1.968 (1.968)
Calc. conc.	90.43 µg/L
Area ratio:	0.08271
Sample type:	Sample



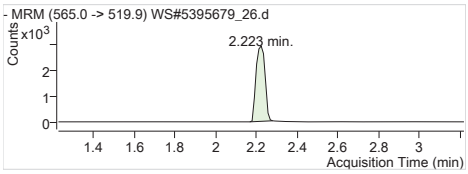


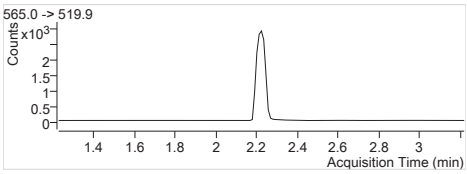
13C5-PFNA	468.0 -> 422.9
RT (Exp. RT):	2.003 (2.003)
Calc. conc.	95.73 µg/L
Area ratio:	0.39771
Sample type:	Sample



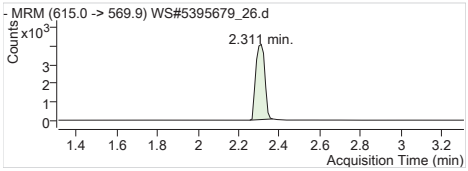


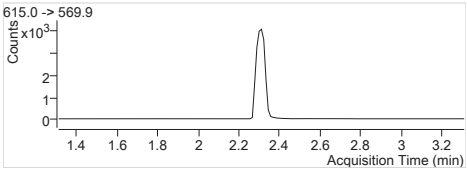
13C2-PFDA 515.0 -> 469.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 103.60 µg/L
Area ratio: 0.26805
Sample type: Sample



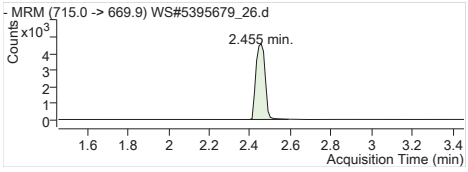


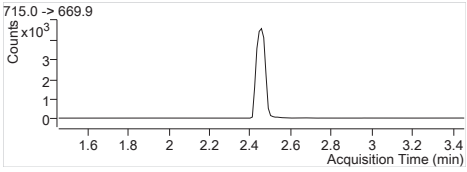
13C2-PFUnA 565.0 -> 519.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 94.88 µg/L
Area ratio: 0.29351
Sample type: Sample



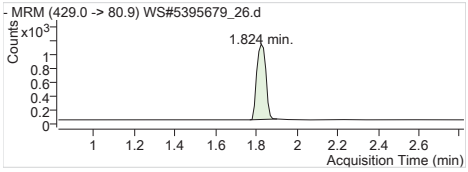


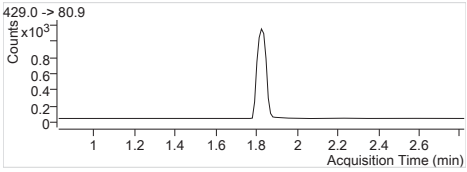
13C2-PFDoA 615.0 -> 569.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 99.95 µg/L
Area ratio: 0.40871
Sample type: Sample



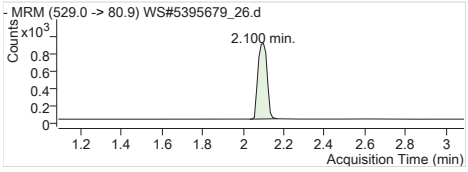


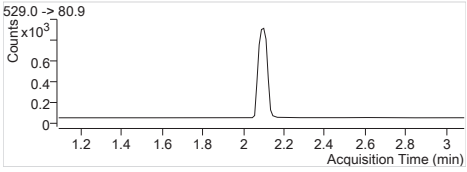
13C2-PFTeDA 715.0 -> 669.9
RT (Exp. RT): 2.455 (2.455)
Calc. conc. 98.34 µg/L
Area ratio: 0.47031
Sample type: Sample



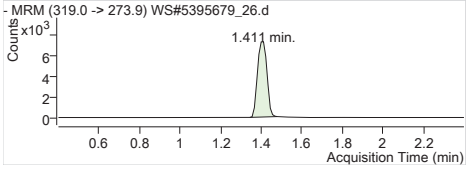


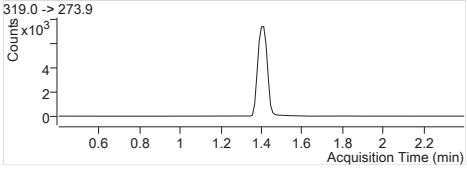
13C2-6:2-FTS 429.0 -> 80.9
RT (Exp. RT): 1.824 (1.824)
Calc. conc. 119.82 µg/L
Area ratio: 0.14509
Sample type: Sample



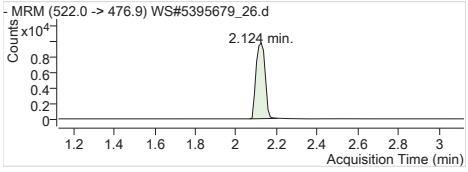


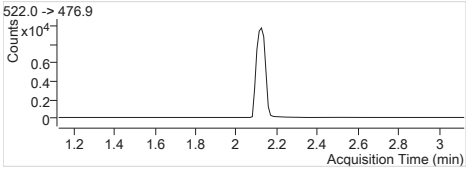
13C2-8:2 FTS 529.0 -> 80.9
RT (Exp. RT): 2.100 (2.089)
Calc. conc. 101.92 µg/L
Area ratio: 0.11511
Sample type: Sample





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.400)
Calc. conc. 2.58 µg/L
Area ratio: 0
Sample type: Sample





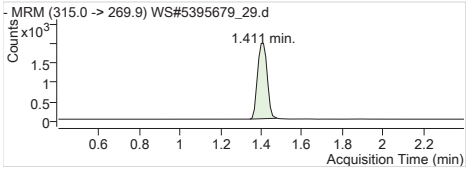
13C9-PFDA 522.0 -> 476.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 2.51 µg/L
Area ratio: 0
Sample type: Sample

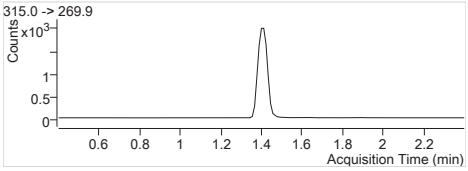
Batch Path T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics

Sample Name	**IB**	**Instrument**	LCMS04
Data File	WS#5395679_29.d	**Operator**	
Sample Type	Sample	**Dilution**	0.024
Acq. Method	PFC_Water_Low.m	**Position**	P3-A8
Acq. Date	2018/02/14 12:14:00 AM	**Injection Volume**	Per Method
Sample Annotation	-		

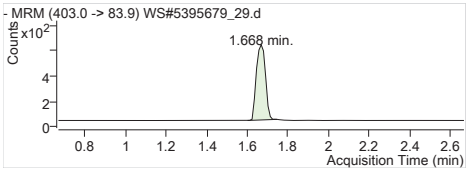
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	6420	1.41	1 µg/L		
MPFHxS	1850	1.67	1 µg/L		
MPFHpA	8828	1.68	1 µg/L		
MPFOA	9370	1.86	1 µg/L		
MPFOS	2074	1.97	1 µg/L		
MPFNA	9021	2.00	1 µg/L		
MPFDA	7909	2.12	1 µg/L		
MPFUnA	8977	2.22	1 µg/L		
MPFDoA	12474	2.31	1 µg/L		
MPFTeDA	13637	2.46	1 µg/L		
13C6-PFHxA IS	23039	1.40	1 µg/L		
13C9-PFDA IS	31338	2.12	1 µg/L		

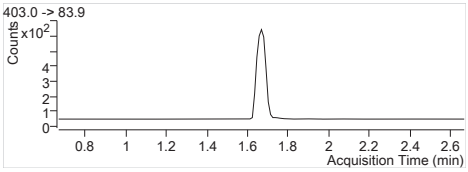
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1			-	ND	-
PFHxA 1			-	ND	-
PFHxS 1			-	ND	-
PFHpA 1			-	ND	-
PFOA 1			-	ND	-
PFOS 1			-	ND	-
PFNA 1			-	ND	-
PFDA 1			-	ND	-
PFUnA 1			-	ND	-
PFDoA 1			-	ND	-
PFTrDA 1			-	ND	-
PFTeDA 1			-	ND	-
13C2-PFHxA	6420	1.41	-	92.54 µg/L	-
18O2-PFHxS	1850	1.67	-	104.47 µg/L	-
13C4-PFHpA	8828	1.68	-	97.15 µg/L	-
13C4-PFOA	9370	1.86	-	95.39 µg/L	-
13C4-PFOS	2074	1.97	-	98.43 µg/L	-
13C5-PFNA	9021	2.00	-	94.24 µg/L	-
13C2-PFDA	7762	2.12	-	95.73 µg/L	-
13C2-PFUnA	8977	2.22	-	92.59 µg/L	-
13C2-PFDoA	12474	2.31	-	97.34 µg/L	-
13C2-PFTeDA	14099	2.46	-	94.07 µg/L	-
13C2-6:2-FTS	3303	1.82	-	118.40 µg/L	-
13C2-8:2 FTS	2579	2.10	-	99.12 µg/L	-
13C6-PFHxA	23039	1.40	-	2.52 µg/L	-
13C9-PFDA	31338	2.12	-	2.60 µg/L	-



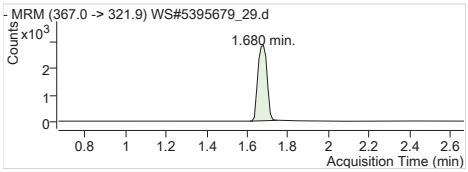


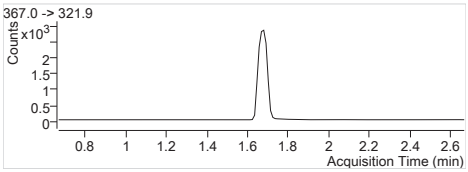
MPFHxA Internal Standard
RT (Exp. RT): 1.411 (1.400)
Concentration: 1 µg/L
Sample type: Sample



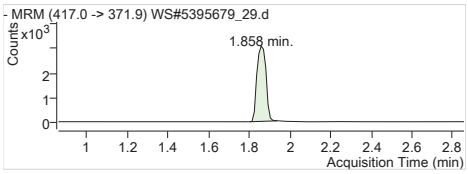


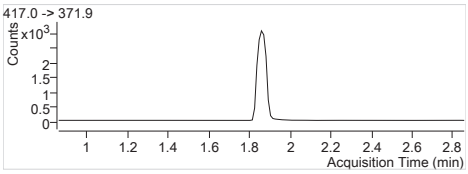
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Sample



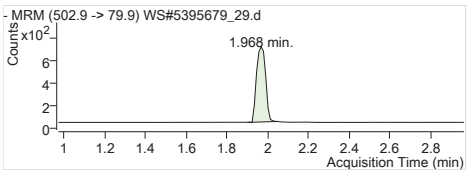


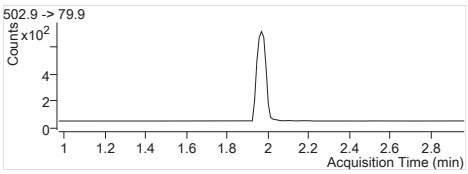
MPFHpA Internal Standard
RT (Exp. RT): 1.680 (1.668)
Concentration: 1 µg/L
Sample type: Sample



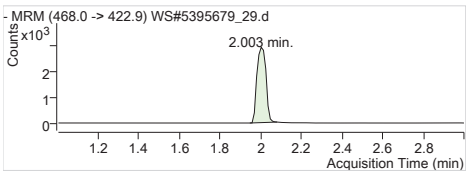


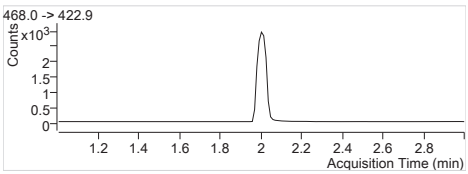
MPFOA Internal Standard
RT (Exp. RT): 1.858 (1.858)
Concentration: 1 µg/L
Sample type: Sample



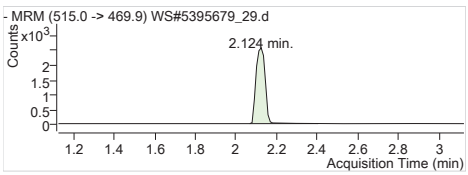


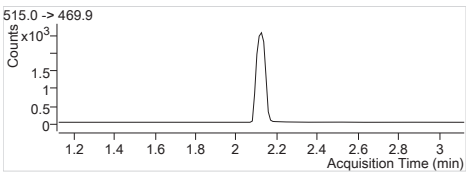
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Sample



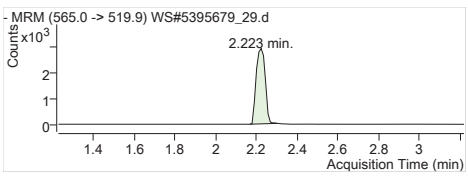


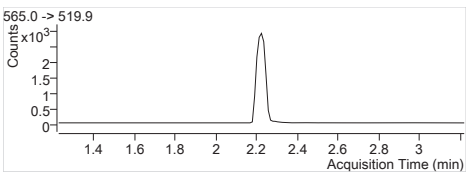
MPFNA Internal Standard
RT (Exp. RT): 2.003 (2.003)
Concentration: 1 µg/L
Sample type: Sample



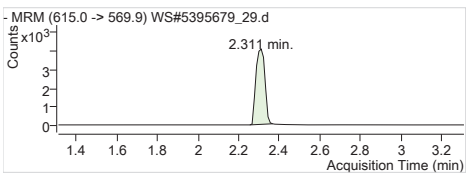


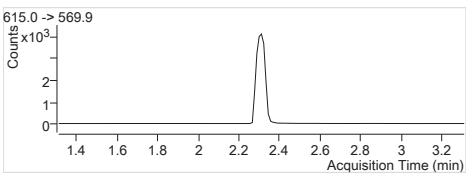
MPFDA Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Sample



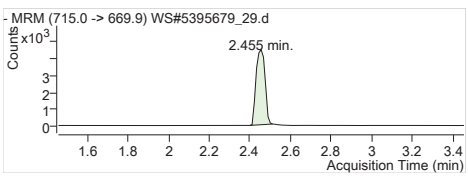


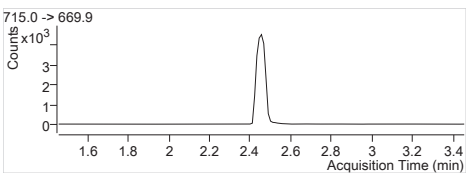
MPFUnA Internal Standard
RT (Exp. RT): 2.223 (2.223)
Concentration: 1 µg/L
Sample type: Sample



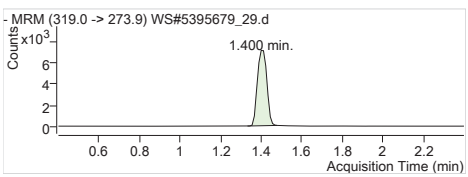


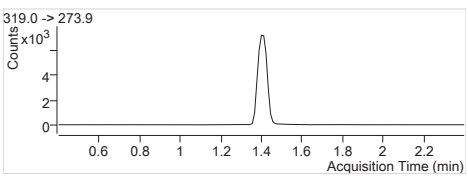
MPFDoA Internal Standard
RT (Exp. RT): 2.311 (2.311)
Concentration: 1 µg/L
Sample type: Sample



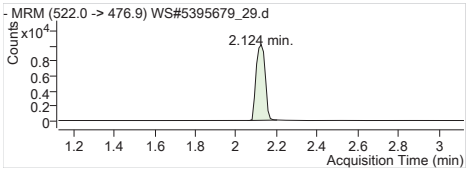


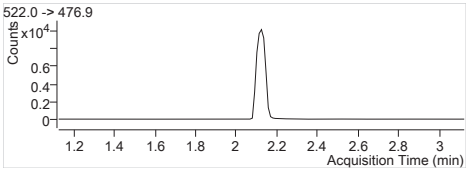
MPFTeDA Internal Standard
RT (Exp. RT): 2.455 (2.455)
Concentration: 1 µg/L
Sample type: Sample



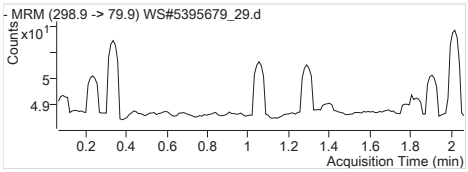


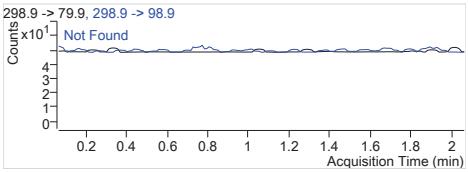
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.400 (1.400)
Concentration: 1 µg/L
Sample type: Sample



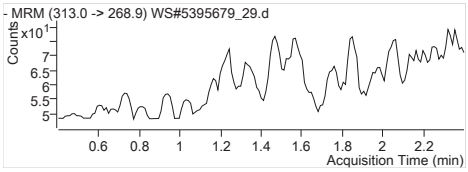


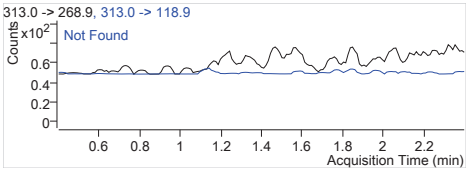
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Sample



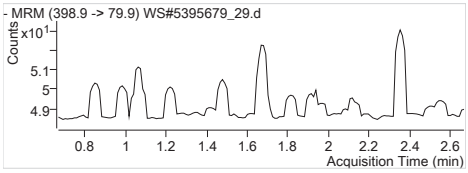


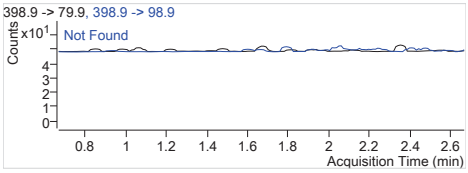
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 0.000 (1.064)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



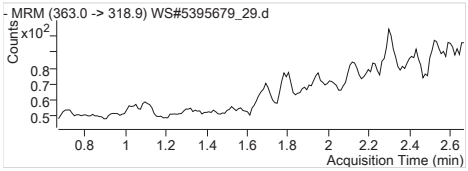


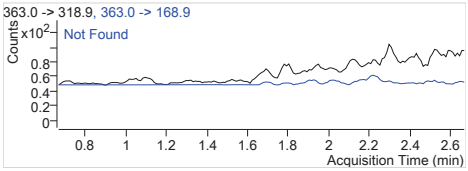
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 0.000 (1.400)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



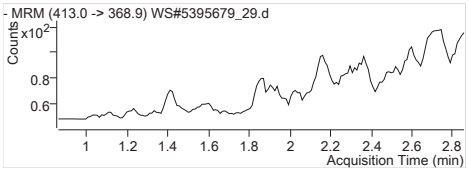


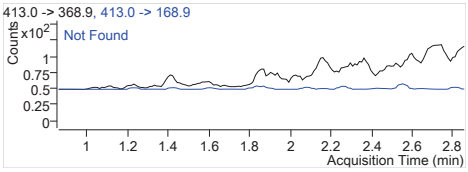
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 0.000 (1.668)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



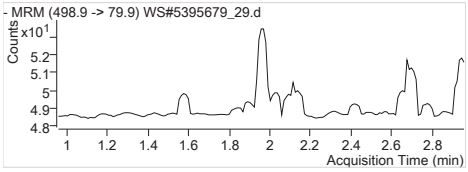


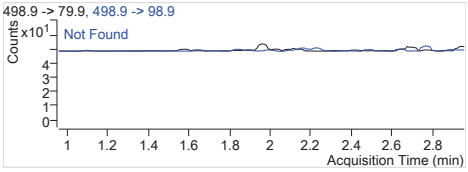
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 0.000 (1.669)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



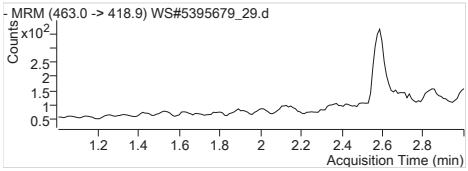


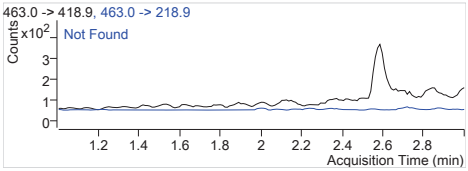
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 0.000 (1.858)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



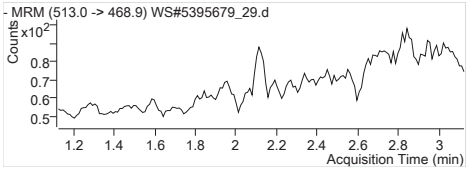


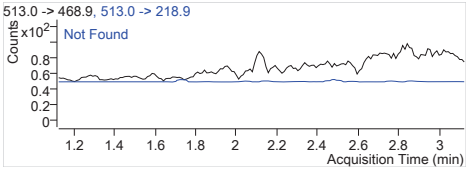
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 0.000 (1.957)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



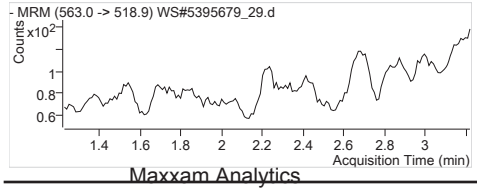


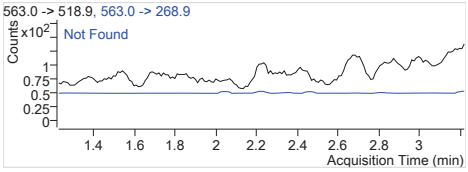
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 0.000 (2.003)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



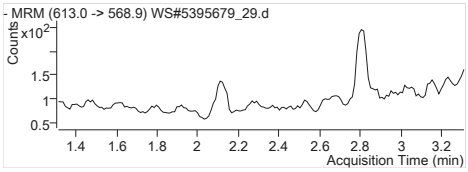


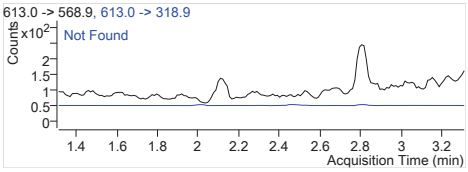
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 0.000 (2.124)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



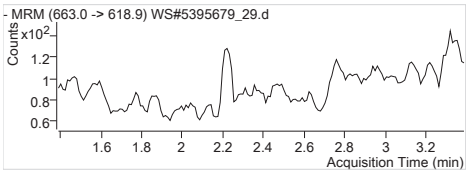


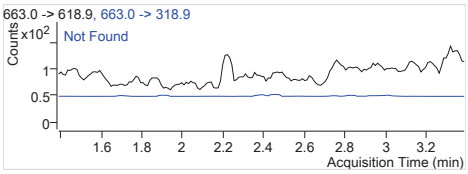
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 0.000 (2.223)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



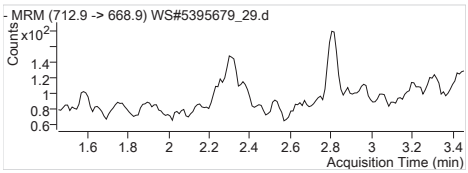


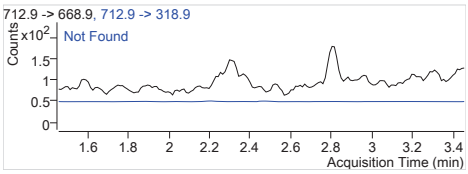
PFDoA 1 613.0 -> 568.9
RT (Exp. RT): 0.000 (2.311)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



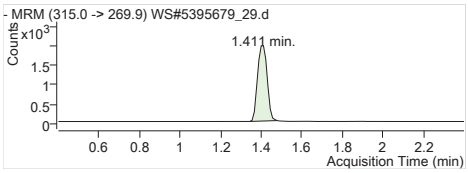


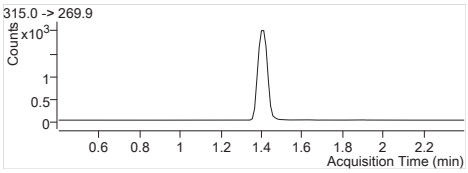
PFTrDA 1 663.0 -> 618.9
RT (Exp. RT): 0.000 (2.389)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



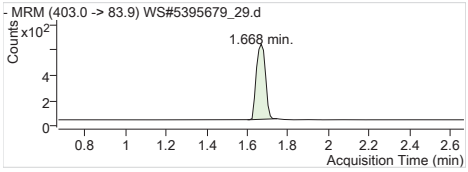


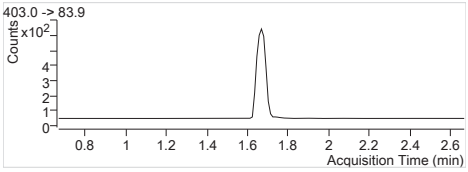
PFTeDA 1 712.9 -> 668.9
RT (Exp. RT): 0.000 (2.456)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



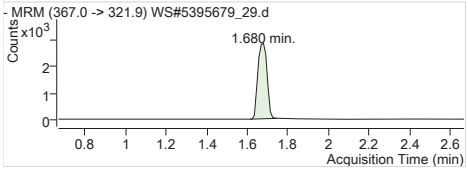


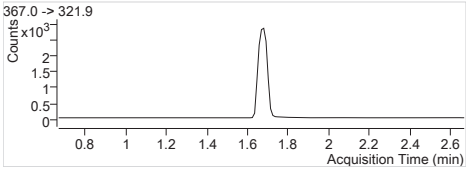
13C2-PFHxA 315.0 -> 269.9
RT (Exp. RT): 1.411 (1.400)
Calc. conc. 92.54 µg/L
Area ratio: 0.27866
Sample type: Sample



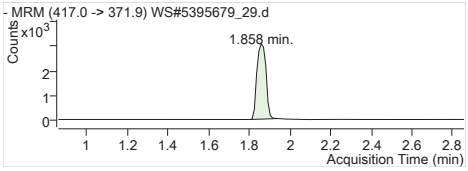


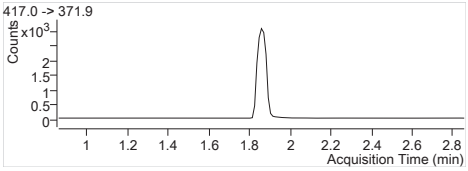
18O2-PFHxS 403.0 -> 83.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 104.47 µg/L
Area ratio: 0.08030
Sample type: Sample



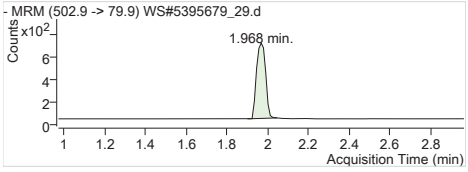


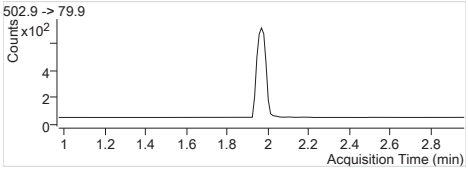
13C4-PFHpA 367.0 -> 321.9
RT (Exp. RT): 1.680 (1.668)
Calc. conc. 97.15 µg/L
Area ratio: 0.38318
Sample type: Sample



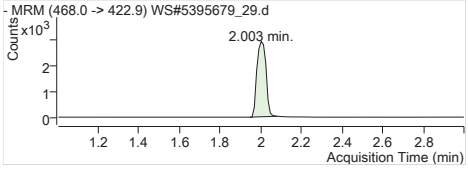


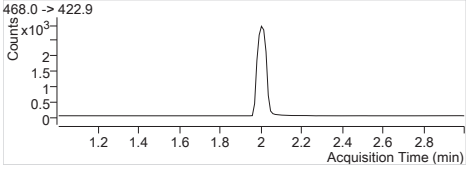
13C4-PFOA 417.0 -> 371.9
RT (Exp. RT): 1.858 (1.858)
Calc. conc. 95.39 µg/L
Area ratio: 0.40670
Sample type: Sample



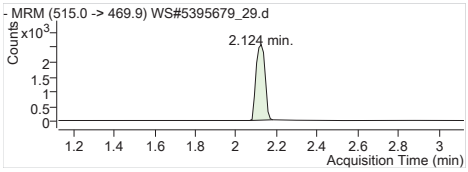


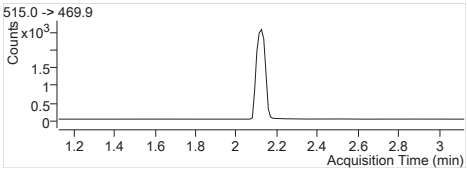
13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.968 (1.968)
Calc. conc. 98.43 µg/L
Area ratio: 0.09002
Sample type: Sample



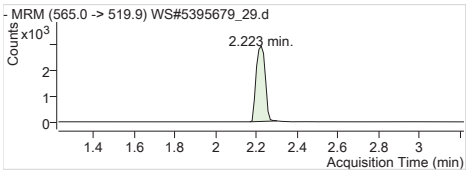


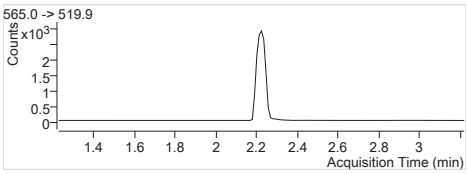
13C5-PFNA 468.0 -> 422.9
RT (Exp. RT): 2.003 (2.003)
Calc. conc. 94.24 µg/L
Area ratio: 0.39155
Sample type: Sample



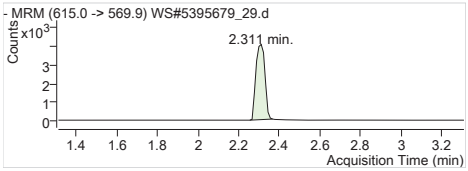


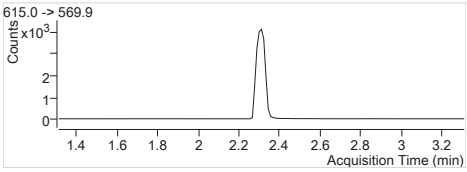
13C2-PFDA 515.0 -> 469.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 95.73 µg/L
Area ratio: 0.24769
Sample type: Sample



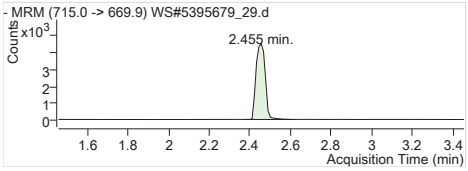


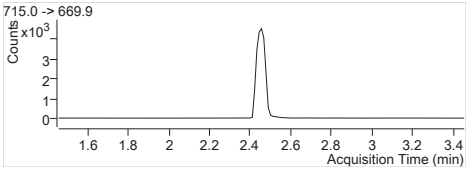
13C2-PFUnA 565.0 -> 519.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 92.59 µg/L
Area ratio: 0.28646
Sample type: Sample



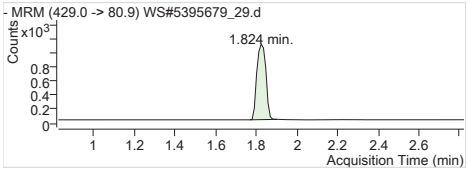


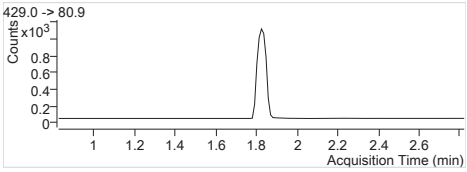
13C2-PFDoA 615.0 -> 569.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 97.34 µg/L
Area ratio: 0.39805
Sample type: Sample



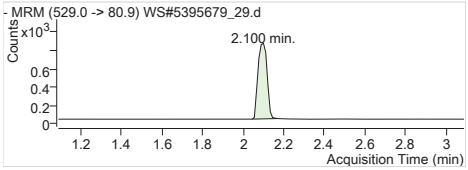


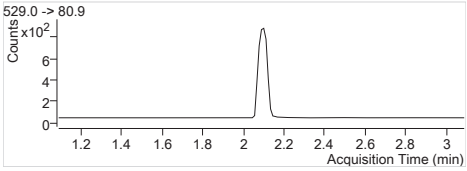
13C2-PFTeDA 715.0 -> 669.9
RT (Exp. RT): 2.455 (2.455)
Calc. conc. 94.07 µg/L
Area ratio: 0.44990
Sample type: Sample



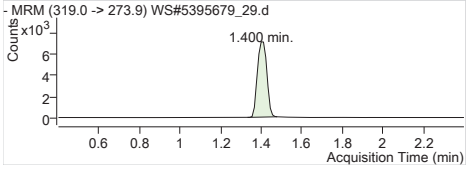


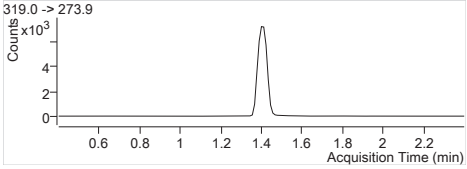
13C2-6:2-FTS 429.0 -> 80.9
RT (Exp. RT): 1.824 (1.824)
Calc. conc. 118.40 µg/L
Area ratio: 0.14337
Sample type: Sample



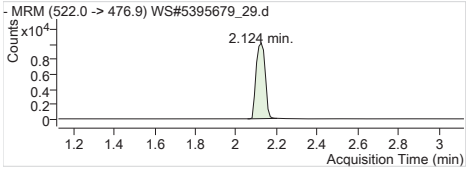


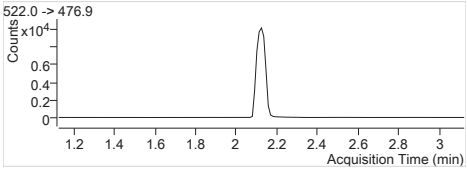
13C2-8:2 FTS 529.0 -> 80.9
RT (Exp. RT): 2.100 (2.089)
Calc. conc. 99.12 µg/L
Area ratio: 0.11194
Sample type: Sample





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.400 (1.400)
Calc. conc. 2.52 µg/L
Area ratio: 0
Sample type: Sample





13C9-PFDA 522.0 -> 476.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 2.60 µg/L
Area ratio: 0
Sample type: Sample

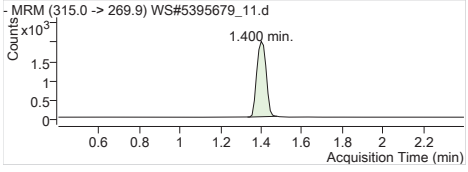
Quantitation Results

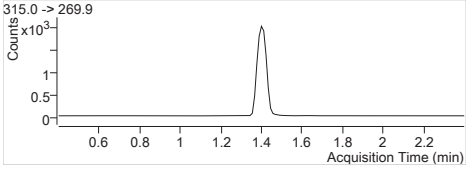
Agilent Technologies

Batch Path	T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics		
Sample Name	**5395679:BLANK**	**Instrument**	LCMS04
Data File	WS#5395679_11.d	**Operator**	
Sample Type	Sample	**Dilution**	0.024
Acq. Method	PFC_Water_Low.m	**Position**	P3-B1
Acq. Date	2018/02/13 10:45:11 PM	**Injection Volume**	Per Method
Sample Annotation	-		

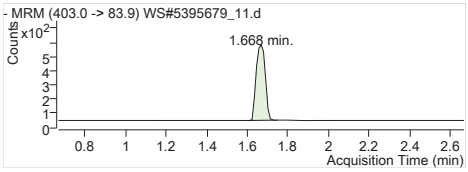
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	6286	1.40	1 µg/L		
MPFHxS	1661	1.67	1 µg/L		
MPFHpA	8565	1.68	1 µg/L		
MPFOA	8821	1.86	1 µg/L		
MPFOS	1782	1.97	1 µg/L		
MPFNA	8357	2.00	1 µg/L		
MPFDA	6500	2.12	1 µg/L		
MPFUnA	7647	2.22	1 µg/L		
MPFDoA	10309	2.31	1 µg/L		
MPFTeDA	9937	2.46	1 µg/L		
13C6-PFHxA IS	20404	1.40	1 µg/L		
13C9-PFDA IS	27099	2.12	1 µg/L		

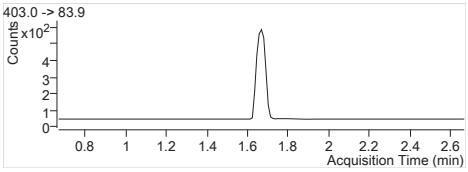
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1			-	ND	-
PFHxA 1			-	ND	-
PFHxS 1			-	ND	-
PFHpA 1			-	ND	-
PFOA 1			-	ND	-
PFOS 1			-	ND	-
PFNA 1			-	ND	-
PFDA 1			-	ND	-
PFUnA 1			-	ND	-
PFDoA 1			-	ND	-
PFTrDA 1			-	ND	-
PFTeDA 1			-	ND	-
13C2-PFHxA	6286	1.40	-	102.31 µg/L	-
18O2-PFHxS	1661	1.67	-	105.91 µg/L	-
13C4-PFHpA	8565	1.68	-	106.43 µg/L	-
13C4-PFOA	8821	1.86	-	101.40 µg/L	-
13C4-PFOS	1782	1.97	-	95.49 µg/L	-
13C5-PFNA	8357	2.00	-	98.58 µg/L	-
13C2-PFDA	6401	2.12	-	91.29 µg/L	-
13C2-PFUnA	7647	2.22	-	91.21 µg/L	-
13C2-PFDoA	10309	2.31	-	93.03 µg/L	-
13C2-PFTeDA	10370	2.46	-	80.02 µg/L	-
13C2-6:2-FTS	2568	1.82	-	103.94 µg/L	-
13C2-8:2 FTS	2367	2.09	-	102.72 µg/L	-
13C6-PFHxA	20404	1.40	-	2.24 µg/L	-
13C9-PFDA	27099	2.12	-	2.25 µg/L	-



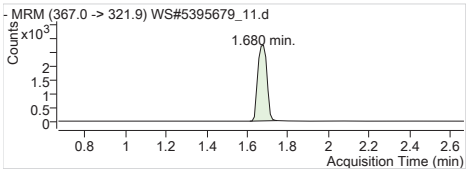


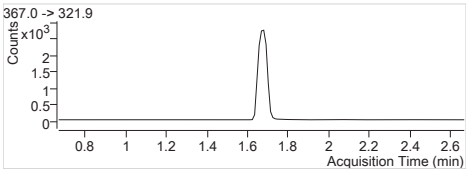
MPFHxA	Internal Standard
RT (Exp. RT):	1.400 (1.400)
Concentration:	1 µg/L
Sample type:	Sample



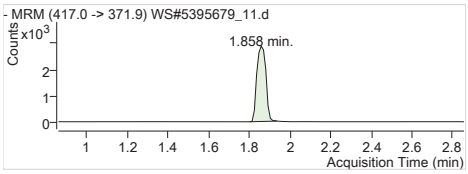


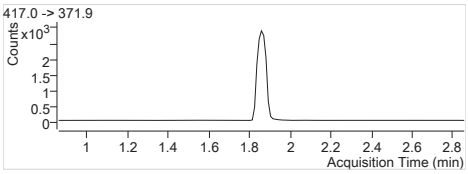
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Sample



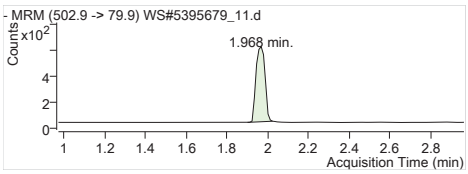


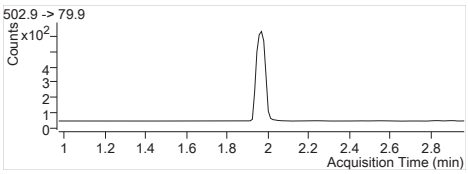
MPFHpA Internal Standard
RT (Exp. RT): 1.680 (1.668)
Concentration: 1 µg/L
Sample type: Sample



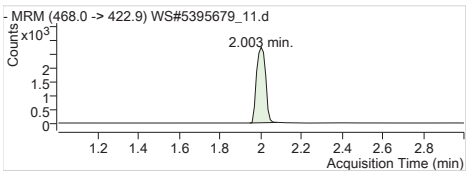


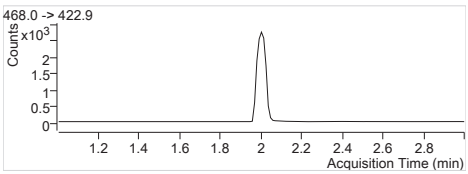
MPFOA Internal Standard
RT (Exp. RT): 1.858 (1.858)
Concentration: 1 µg/L
Sample type: Sample



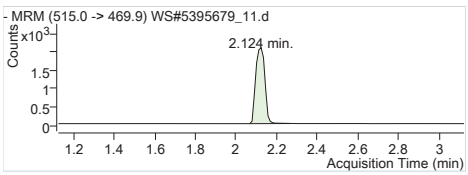


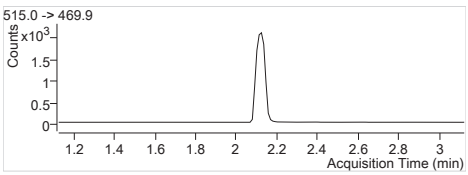
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Sample



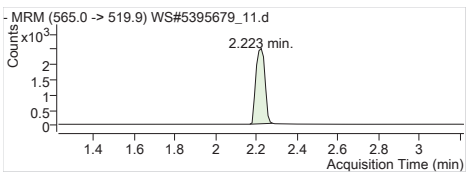


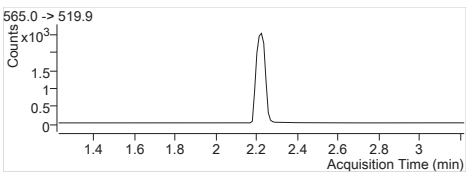
MPFNA Internal Standard
RT (Exp. RT): 2.003 (2.003)
Concentration: 1 µg/L
Sample type: Sample



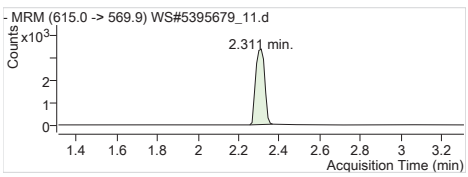


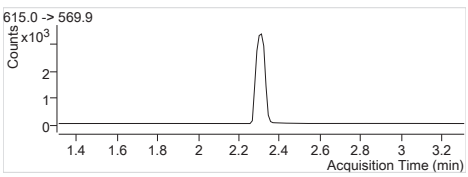
MPFDA Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Sample



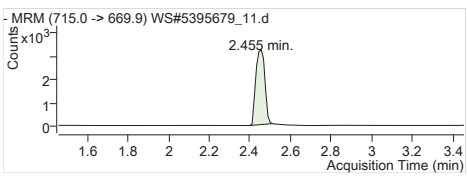


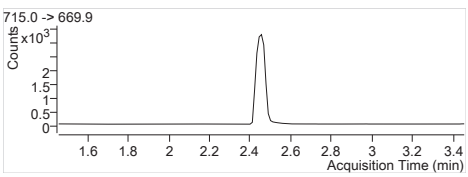
MPFUnA Internal Standard
RT (Exp. RT): 2.223 (2.223)
Concentration: 1 µg/L
Sample type: Sample



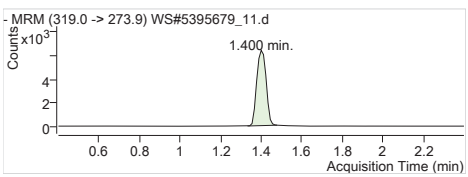


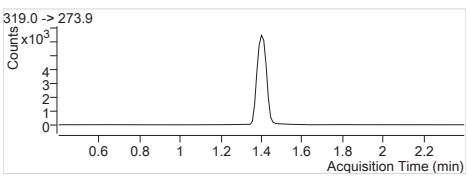
MPFDoA Internal Standard
RT (Exp. RT): 2.311 (2.311)
Concentration: 1 µg/L
Sample type: Sample



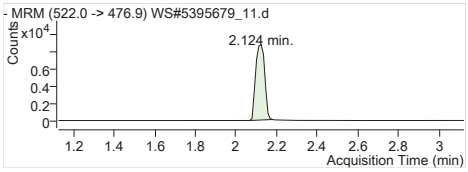


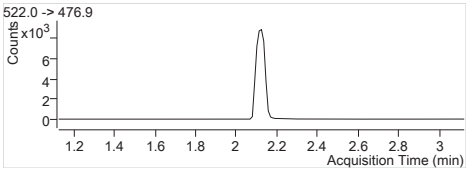
MPFTeDA Internal Standard
RT (Exp. RT): 2.455 (2.455)
Concentration: 1 µg/L
Sample type: Sample



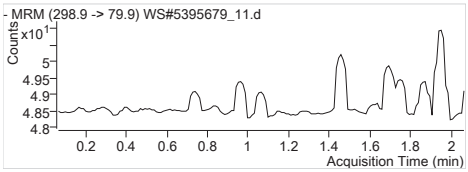


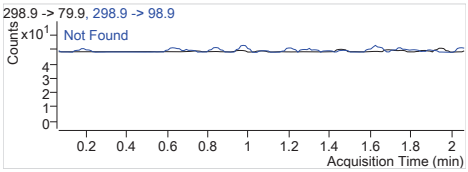
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.400 (1.400)
Concentration: 1 µg/L
Sample type: Sample



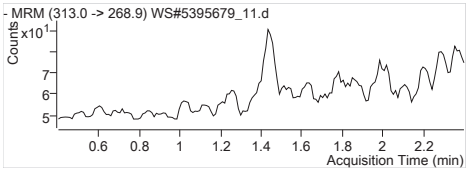


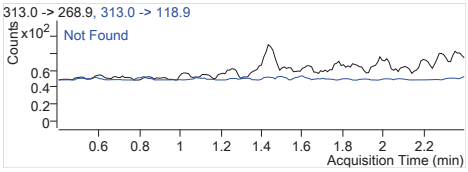
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Sample



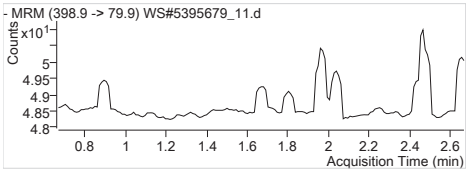


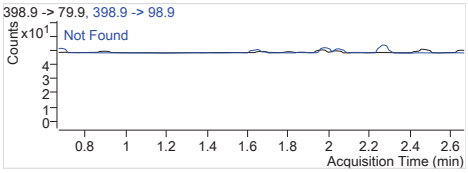
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 0.000 (1.064)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



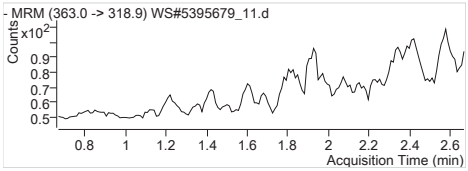


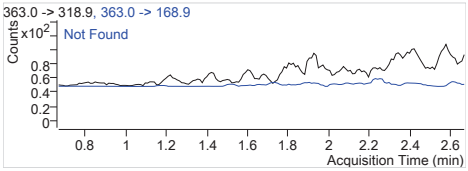
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 0.000 (1.400)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



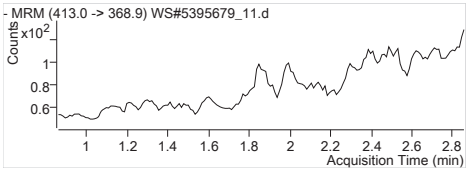


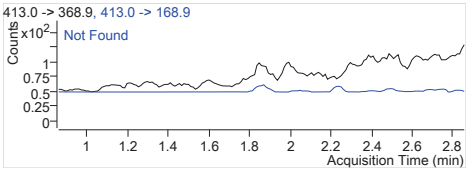
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 0.000 (1.668)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



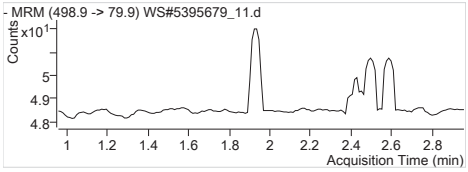


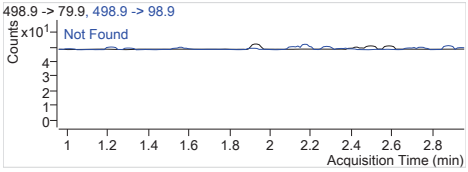
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 0.000 (1.669)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



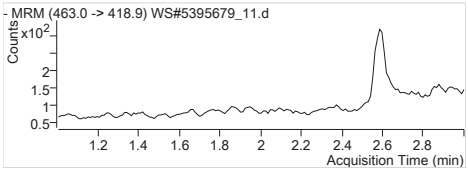


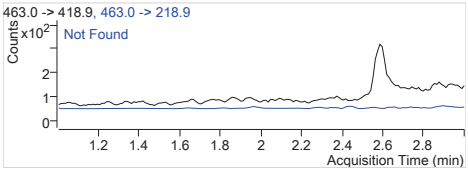
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 0.000 (1.858)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



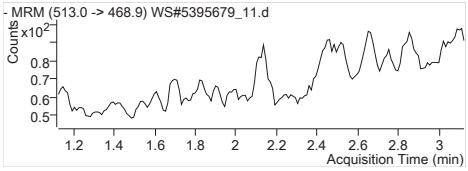


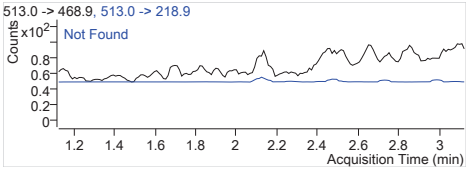
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 0.000 (1.957)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



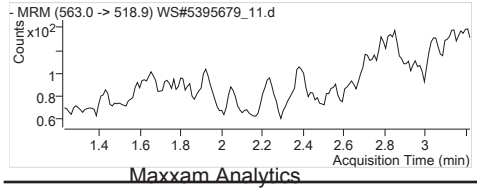


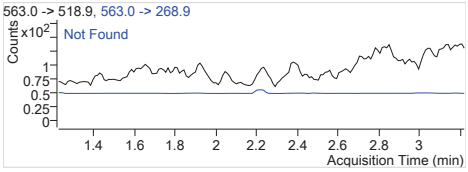
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 0.000 (2.003)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



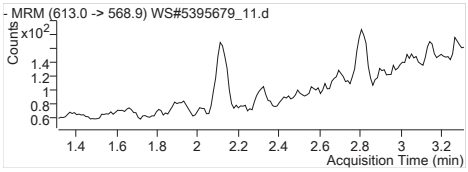


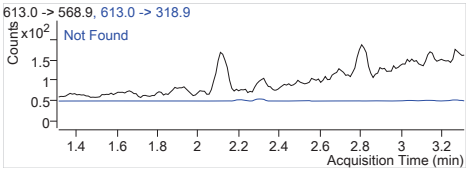
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 0.000 (2.124)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



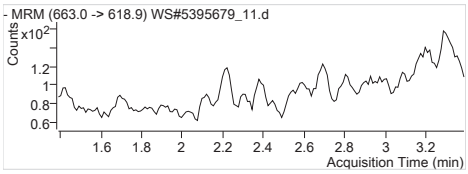


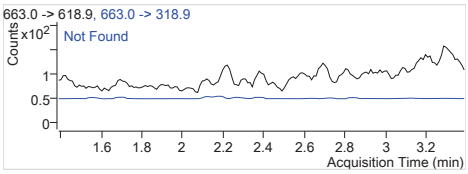
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 0.000 (2.223)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



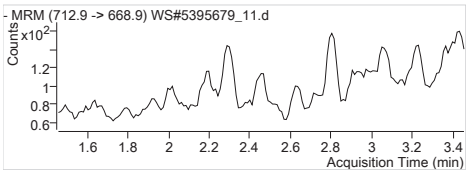


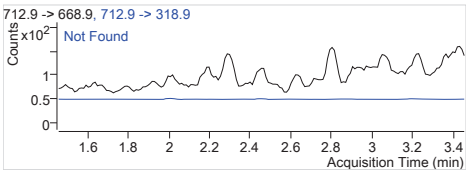
PFDoA 1 613.0 -> 568.9
RT (Exp. RT): 0.000 (2.311)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



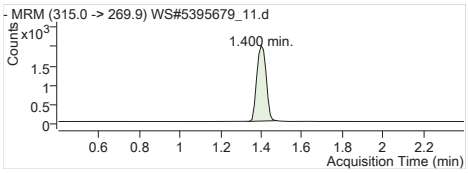


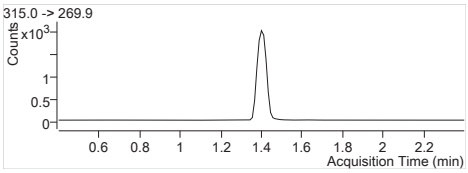
PFTrDA 1 663.0 -> 618.9
RT (Exp. RT): 0.000 (2.389)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



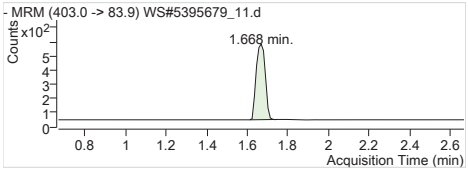


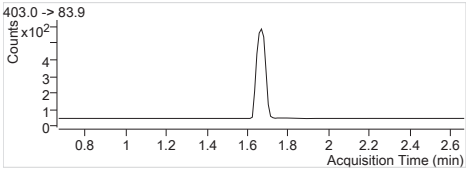
PFTeDA 1 712.9 -> 668.9
RT (Exp. RT): 0.000 (2.456)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



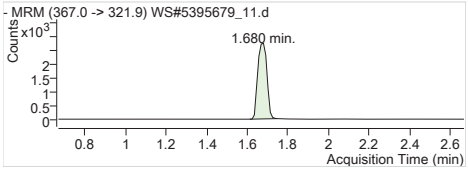


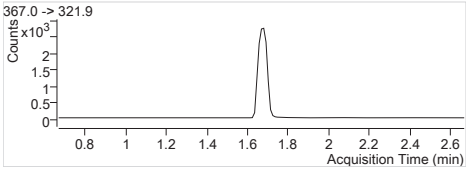
13C2-PFHxA 315.0 -> 269.9
RT (Exp. RT): 1.400 (1.400)
Calc. conc. 102.31 µg/L
Area ratio: 0.30808
Sample type: Sample



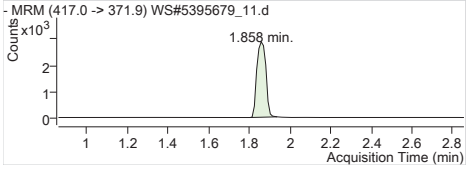


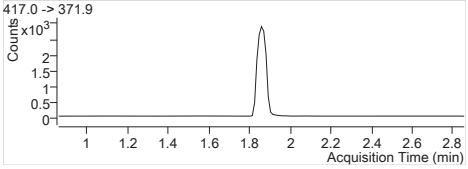
18O2-PFHxS 403.0 -> 83.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 105.91 µg/L
Area ratio: 0.08141
Sample type: Sample



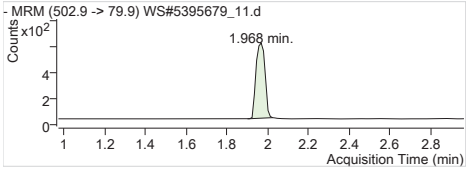


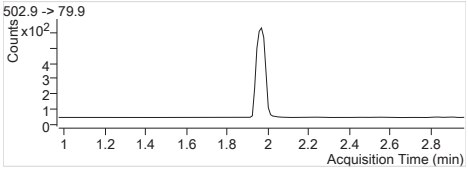
13C4-PFHpA 367.0 -> 321.9
RT (Exp. RT): 1.680 (1.668)
Calc. conc. 106.43 µg/L
Area ratio: 0.41977
Sample type: Sample



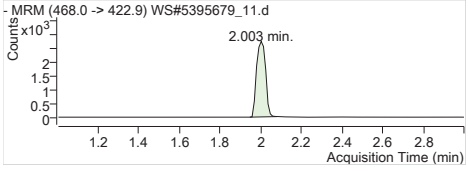


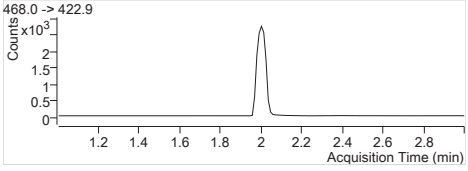
13C4-PFOA 417.0 -> 371.9
RT (Exp. RT): 1.858 (1.858)
Calc. conc. 101.40 µg/L
Area ratio: 0.43232
Sample type: Sample



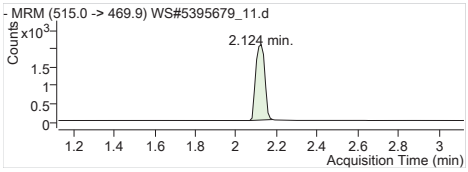


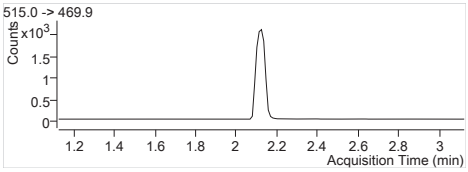
13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.968 (1.968)
Calc. conc. 95.49 µg/L
Area ratio: 0.08734
Sample type: Sample



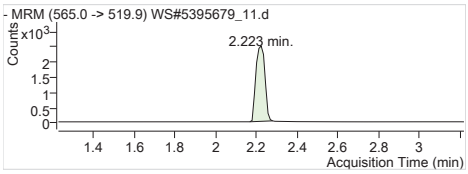


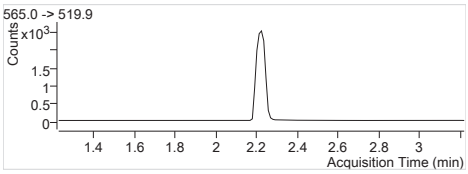
13C5-PFNA 468.0 -> 422.9
RT (Exp. RT): 2.003 (2.003)
Calc. conc. 98.58 µg/L
Area ratio: 0.40958
Sample type: Sample



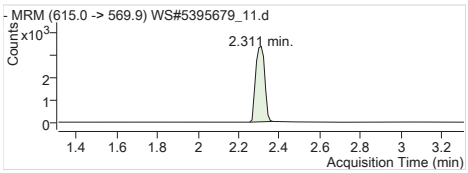


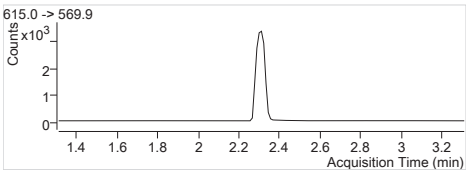
13C2-PFDA 515.0 -> 469.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 91.29 µg/L
Area ratio: 0.23621
Sample type: Sample



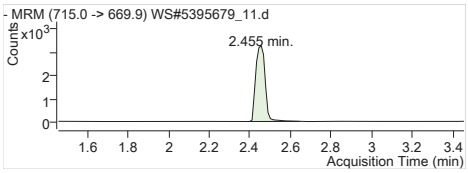


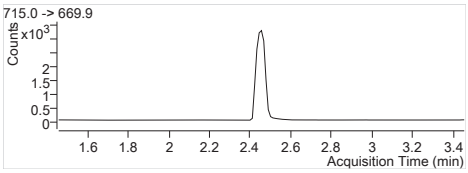
13C2-PFUnA 565.0 -> 519.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 91.21 µg/L
Area ratio: 0.28219
Sample type: Sample



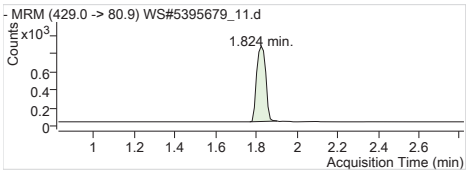


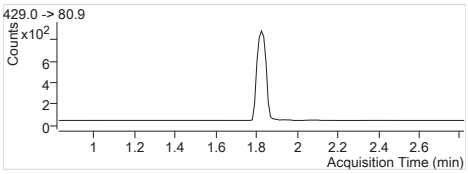
13C2-PFDoA 615.0 -> 569.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 93.03 µg/L
Area ratio: 0.38042
Sample type: Sample



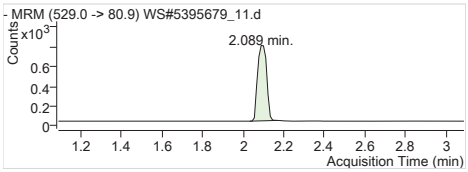


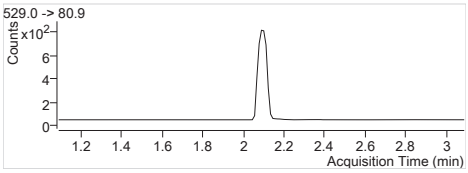
13C2-PFTeDA 715.0 -> 669.9
RT (Exp. RT): 2.455 (2.455)
Calc. conc. 80.02 µg/L
Area ratio: 0.38267
Sample type: Sample



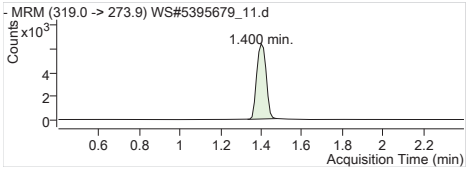


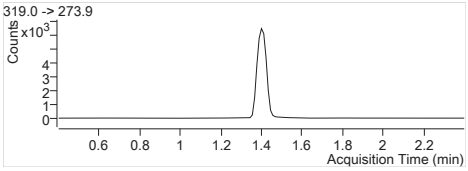
13C2-6:2-FTS 429.0 -> 80.9
RT (Exp. RT): 1.824 (1.824)
Calc. conc. 103.94 µg/L
Area ratio: 0.12586
Sample type: Sample



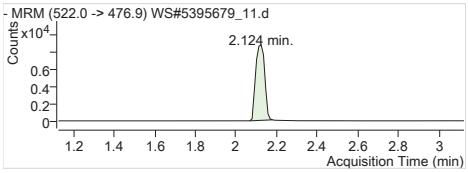


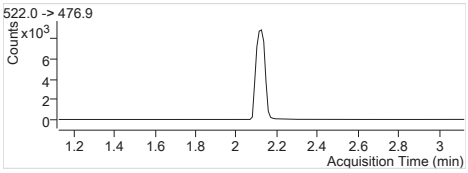
13C2-8:2 FTS 529.0 -> 80.9
RT (Exp. RT): 2.089 (2.089)
Calc. conc. 102.72 µg/L
Area ratio: 0.11601
Sample type: Sample





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.400 (1.400)
Calc. conc. 2.24 µg/L
Area ratio: 0
Sample type: Sample





13C9-PFDA 522.0 -> 476.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 2.25 µg/L
Area ratio: 0
Sample type: Sample

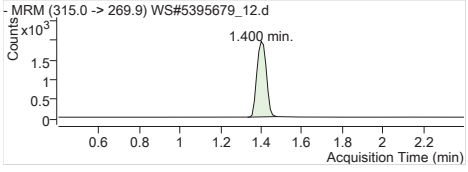
Quantitation Results

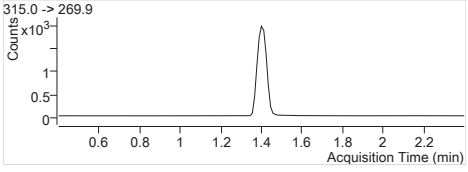
Agilent Technologies

Batch Path	T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics		
Sample Name	**5395679:SPIKE**	**Instrument**	LCMS04
Data File	WS#5395679_12.d	**Operator**	
Sample Type	QC	**Dilution**	0.024
Acq. Method	PFC_Water_Low.m	**Position**	P3-B2
Acq. Date	2018/02/13 10:50:08 PM	**Injection Volume**	Per Method
Sample Annotation	-		

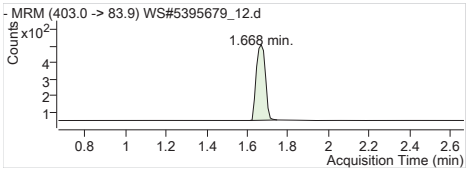
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	6224	1.40	1 µg/L		
MPFHxS	1426	1.67	1 µg/L		
MPFHpA	7609	1.68	1 µg/L		
MPFOA	8242	1.86	1 µg/L		
MPFOS	1919	1.97	1 µg/L		
MPFNA	7945	2.00	1 µg/L		
MPFDA	6425	2.12	1 µg/L		
MPFUnA	7330	2.22	1 µg/L		
MPFDoA	9855	2.31	1 µg/L		
MPFTeDA	10746	2.46	1 µg/L		
13C6-PFHxA IS	23976	1.40	1 µg/L		
13C9-PFDA IS	31674	2.12	1 µg/L		

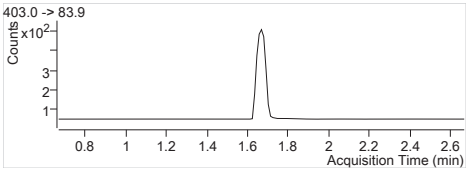
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1	14827	1.06	20.80	0.54 µg/L	108.58
PFHxA 1	50933	1.40	20.80	0.45 µg/L	91.14
PFHxS 1	13856	1.67	20.80	0.51 µg/L	101.98
PFHpA 1	64950	1.68	20.80	0.51 µg/L	102.18
PFOA 1	75301	1.86	20.80	0.53 µg/L	105.50
PFOS 1	13834	1.96	20.80	0.46 µg/L	92.90
PFNA 1	67874	2.00	20.80	0.53 µg/L	105.76
PFDA 1	73411	2.12	20.80	0.56 µg/L	111.37
PFUnA 1	77542	2.22	20.80	0.55 µg/L	110.99
PFDoA 1	86959	2.31	20.80	0.50 µg/L	99.94
PFTrDA 1	95349	2.39	20.80	0.50 µg/L	99.75
PFTeDA 1	80425	2.46	20.80	0.51 µg/L	102.67
13C2-PFHxA	6224	1.40	100.00	86.21 µg/L	86.21
18O2-PFHxS	1426	1.67	100.00	77.38 µg/L	77.38
13C4-PFHpA	7609	1.68	100.00	80.46 µg/L	80.46
13C4-PFOA	8242	1.86	100.00	80.63 µg/L	80.63
13C4-PFOS	1919	1.97	100.00	87.51 µg/L	87.51
13C5-PFNA	7944	2.00	100.00	79.75 µg/L	79.75
13C2-PFDA	6324	2.12	100.00	77.17 µg/L	77.17
13C2-PFUnA	7330	2.22	100.00	74.80 µg/L	74.80
13C2-PFDoA	9855	2.31	100.00	76.09 µg/L	76.09
13C2-PFTeDA	10985	2.46	100.00	72.52 µg/L	72.52
13C2-6:2-FTS	2065	1.82	100.00	71.13 µg/L	71.13
13C2-8:2 FTS	2061	2.10	100.00	76.11 µg/L	76.11
13C6-PFHxA	23976	1.40	100.00	2.63 µg/L	109.45
13C9-PFDA	31674	2.12	100.00	2.62 µg/L	109.35



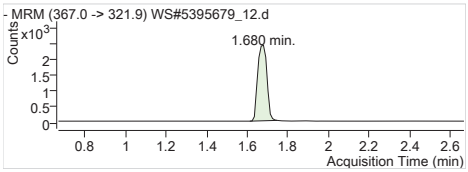


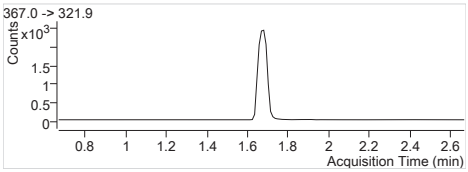
MPFHxA	Internal Standard
RT (Exp. RT):	1.400 (1.400)
Concentration:	1 µg/L
Sample type:	QC



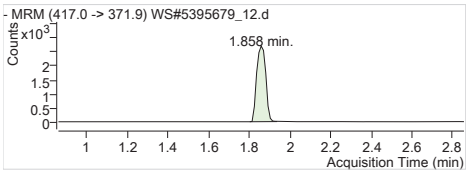


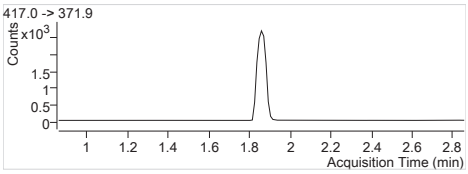
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: QC



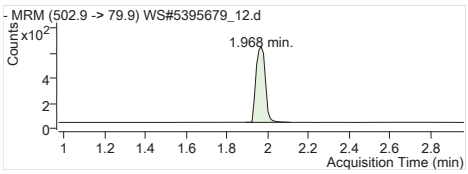


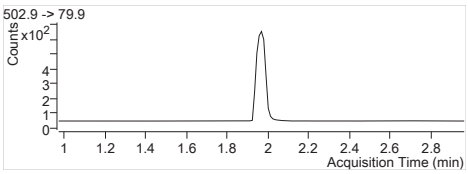
MPFHpA Internal Standard
RT (Exp. RT): 1.680 (1.668)
Concentration: 1 µg/L
Sample type: QC



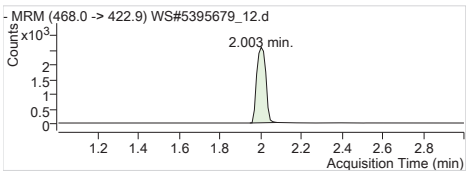


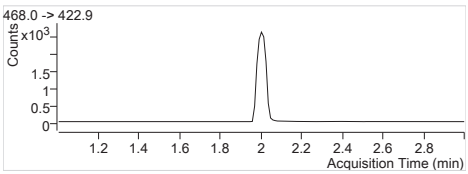
MPFOA Internal Standard
RT (Exp. RT): 1.858 (1.858)
Concentration: 1 µg/L
Sample type: QC



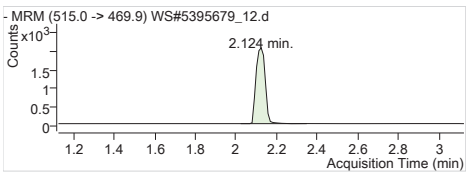


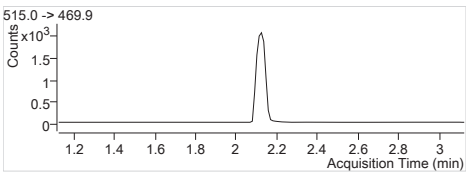
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: QC



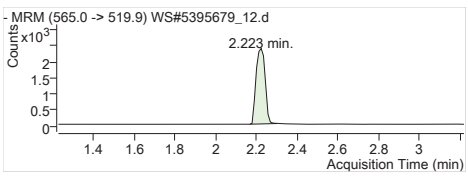


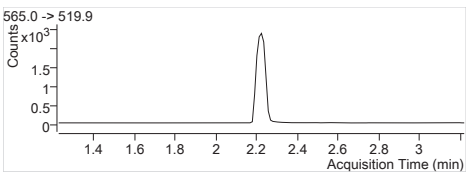
MPFNA Internal Standard
RT (Exp. RT): 2.003 (2.003)
Concentration: 1 µg/L
Sample type: QC



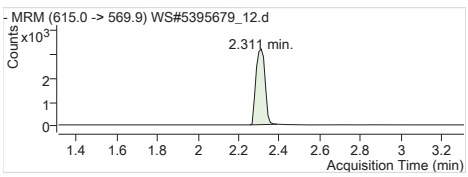


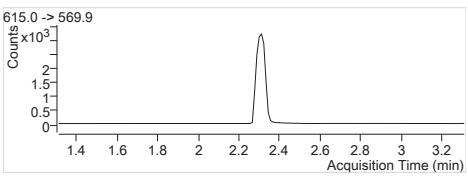
MPFDA Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: QC



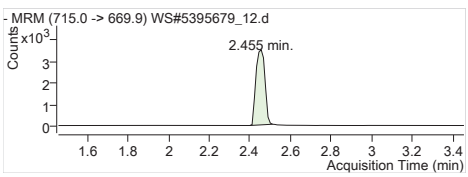


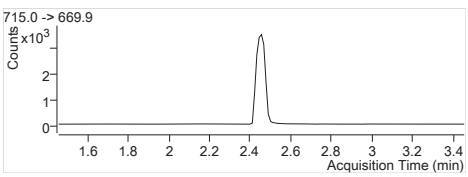
MPFUnA Internal Standard
RT (Exp. RT): 2.223 (2.223)
Concentration: 1 µg/L
Sample type: QC



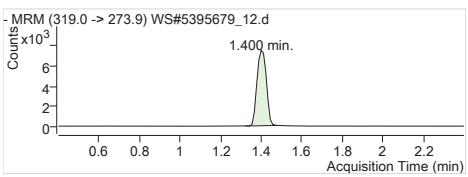


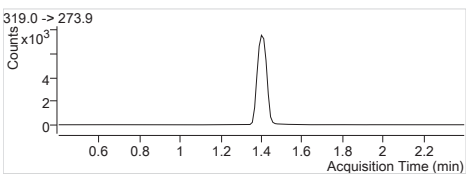
MPFDoA Internal Standard
RT (Exp. RT): 2.311 (2.311)
Concentration: 1 µg/L
Sample type: QC



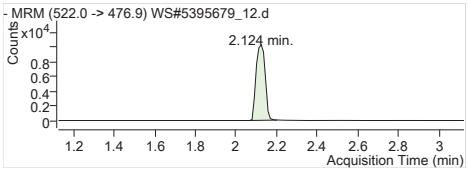


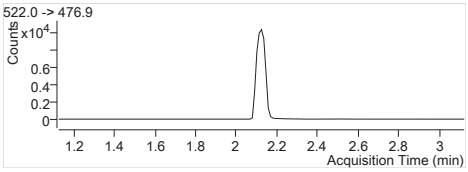
MPFTeDA Internal Standard
RT (Exp. RT): 2.455 (2.455)
Concentration: 1 µg/L
Sample type: QC



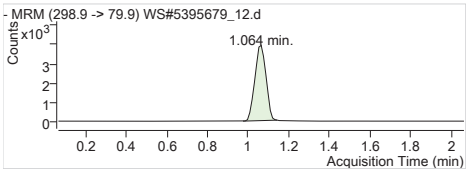


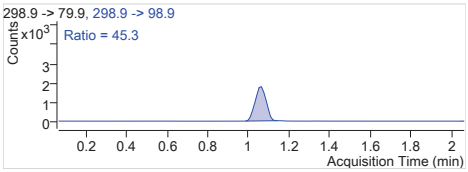
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.400 (1.400)
Concentration: 1 µg/L
Sample type: QC



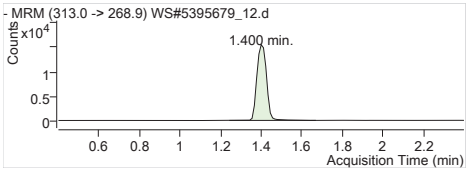


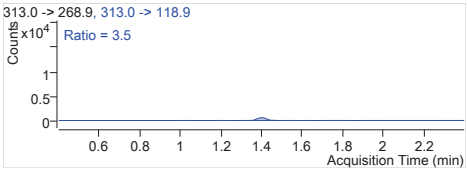
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: QC



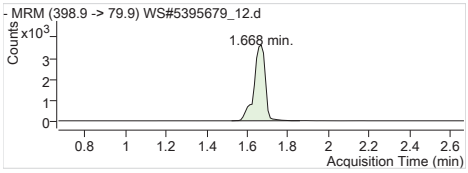


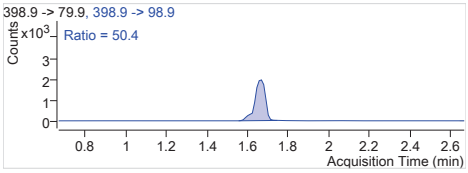
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 1.064 (1.064)
Calc. conc. 0.54 µg/L
Area ratio: 10.39762
Sample type: QC



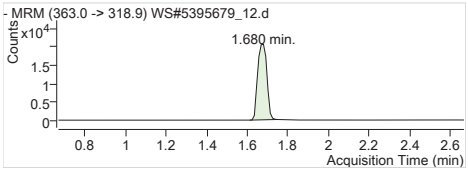


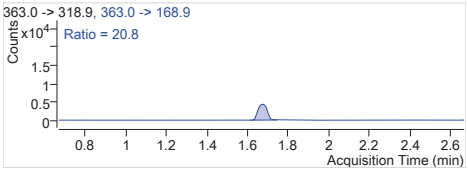
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 1.400 (1.400)
Calc. conc. 0.45 µg/L
Area ratio: 8.18332
Sample type: QC



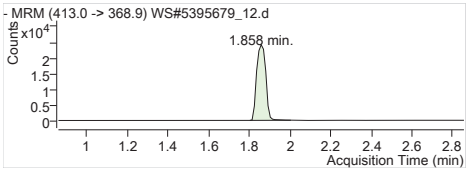


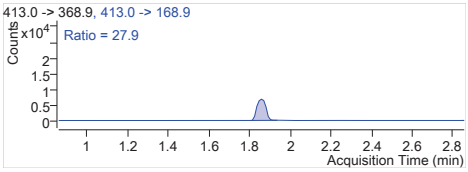
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 0.51 µg/L
Area ratio: 9.71669
Sample type: QC



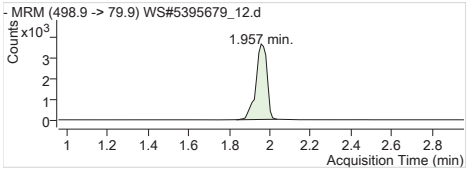


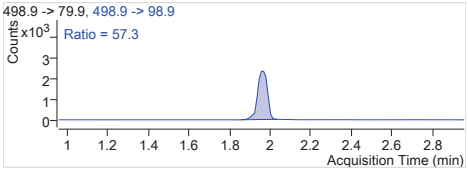
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 1.680 (1.669)
Calc. conc. 0.51 µg/L
Area ratio: 8.53594
Sample type: QC



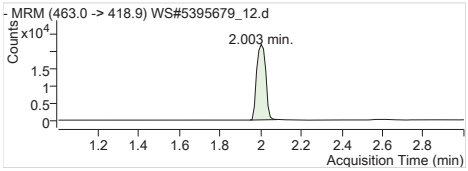


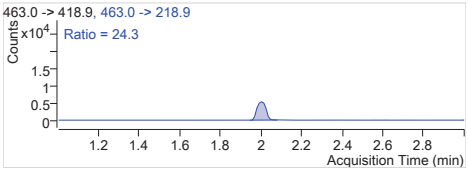
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 1.858 (1.858)
Calc. conc. 0.53 µg/L
Area ratio: 9.13625
Sample type: QC



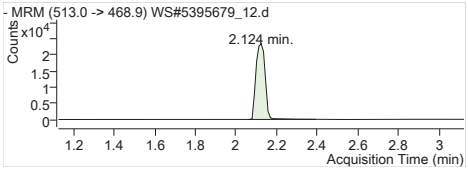


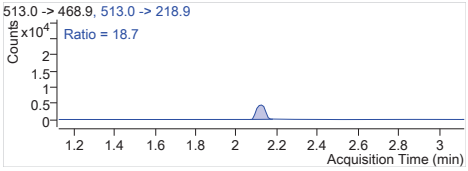
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 0.46 µg/L
Area ratio: 7.20896
Sample type: QC



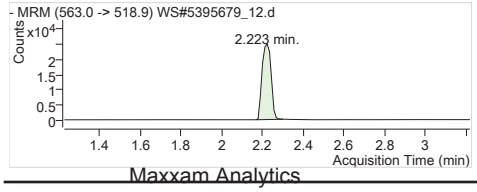


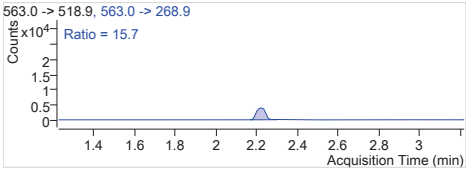
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 2.003 (2.003)
Calc. conc. 0.53 µg/L
Area ratio: 8.54298
Sample type: QC



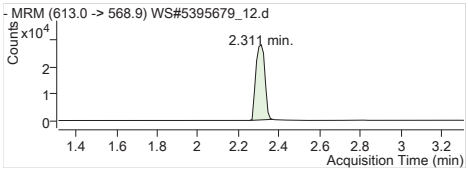


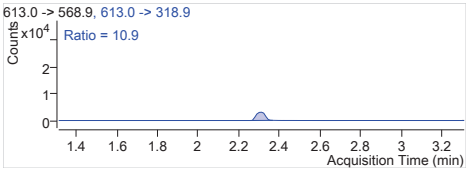
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 0.56 µg/L
Area ratio: 11.42584
Sample type: QC



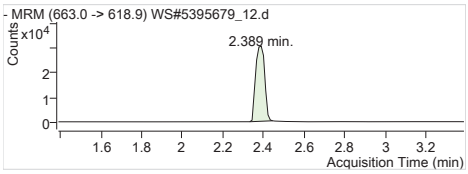


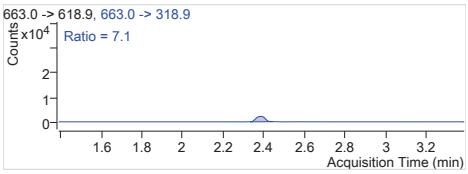
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 0.55 µg/L
Area ratio: 10.57872
Sample type: QC



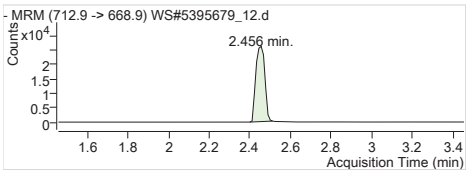


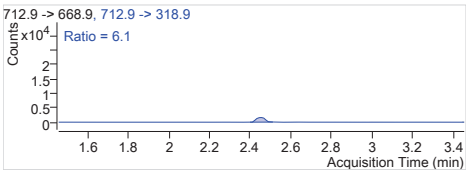
PFDoA 1 613.0 -> 568.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 0.50 µg/L
Area ratio: 8.82385
Sample type: QC



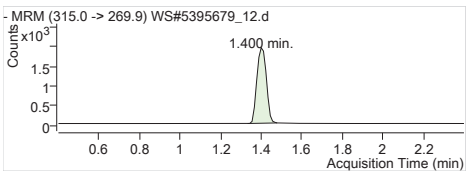


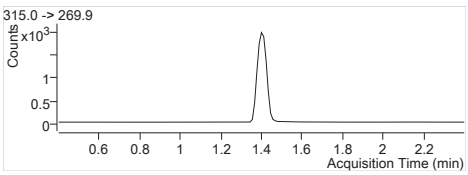
PFTrDA 1 663.0 -> 618.9
RT (Exp. RT): 2.389 (2.389)
Calc. conc. 0.50 µg/L
Area ratio: 8.87298
Sample type: QC



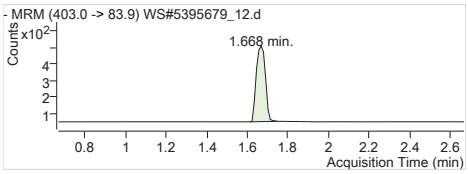


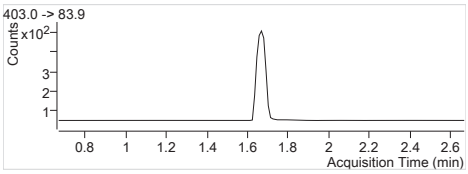
PFTeDA 1 712.9 -> 668.9
RT (Exp. RT): 2.456 (2.456)
Calc. conc. 0.51 µg/L
Area ratio: 7.48418
Sample type: QC



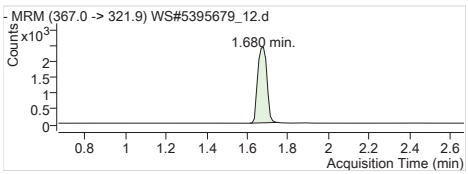


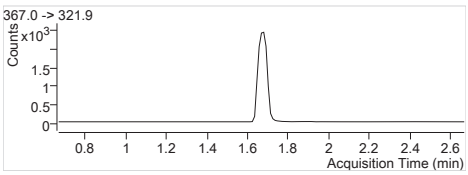
13C2-PFHxA 315.0 -> 269.9
RT (Exp. RT): 1.400 (1.400)
Calc. conc. 86.21 µg/L
Area ratio: 0.25959
Sample type: QC



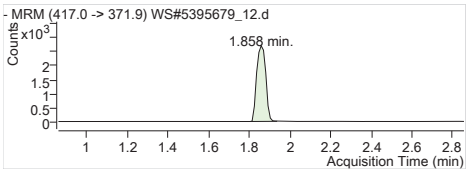


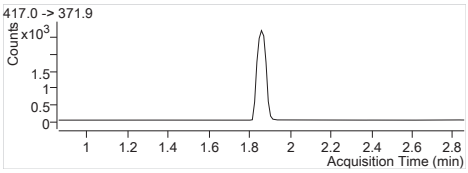
18O2-PFHxS 403.0 -> 83.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 77.38 µg/L
Area ratio: 0.05948
Sample type: QC



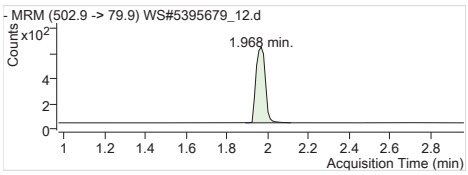


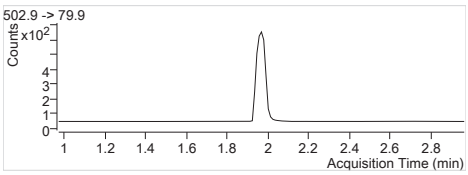
13C4-PFHpA 367.0 -> 321.9
RT (Exp. RT): 1.680 (1.668)
Calc. conc. 80.46 µg/L
Area ratio: 0.31736
Sample type: QC



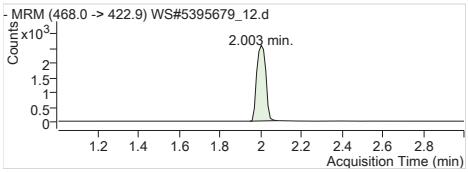


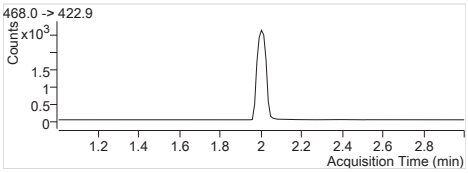
13C4-PFOA 417.0 -> 371.9
RT (Exp. RT): 1.858 (1.858)
Calc. conc. 80.63 µg/L
Area ratio: 0.34376
Sample type: QC



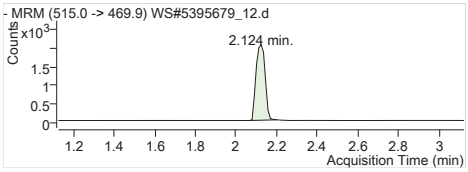


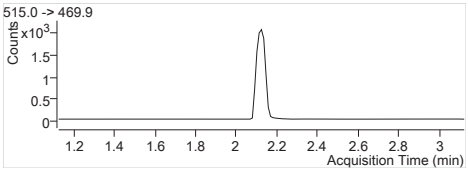
13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.968 (1.968)
Calc. conc. 87.51 µg/L
Area ratio: 0.08004
Sample type: QC



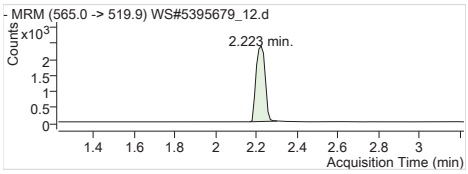


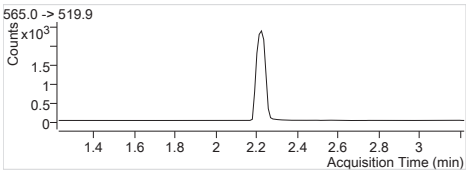
13C5-PFNA 468.0 -> 422.9
RT (Exp. RT): 2.003 (2.003)
Calc. conc. 79.75 µg/L
Area ratio: 0.33133
Sample type: QC



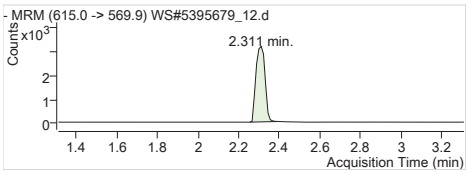


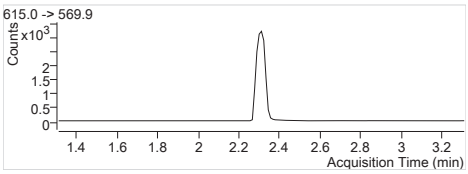
13C2-PFDA 515.0 -> 469.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 77.17 µg/L
Area ratio: 0.19966
Sample type: QC



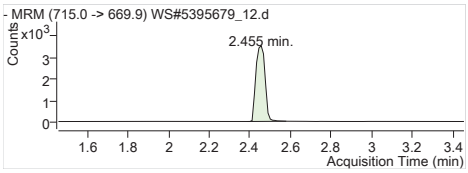


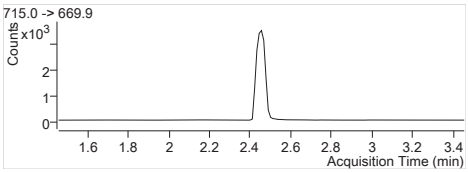
13C2-PFUnA 565.0 -> 519.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 74.80 µg/L
Area ratio: 0.23142
Sample type: QC



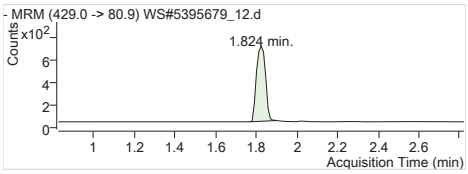


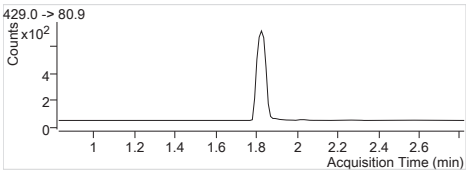
13C2-PFDoA 615.0 -> 569.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 76.09 µg/L
Area ratio: 0.31114
Sample type: QC



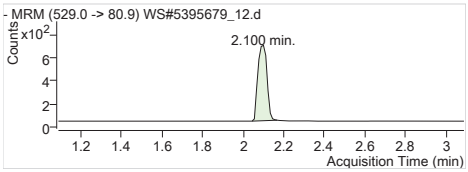


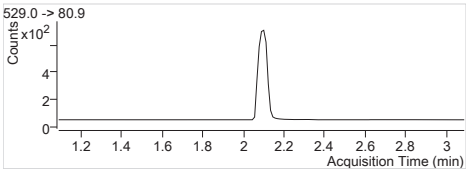
13C2-PFTeDA 715.0 -> 669.9
RT (Exp. RT): 2.455 (2.455)
Calc. conc. 72.52 µg/L
Area ratio: 0.34681
Sample type: QC



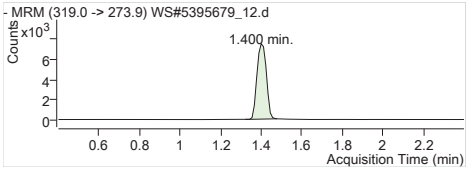


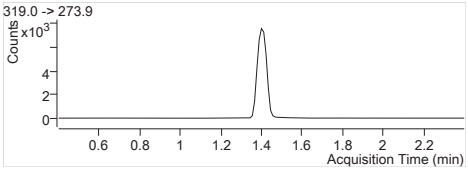
13C2-6:2-FTS 429.0 -> 80.9
RT (Exp. RT): 1.824 (1.824)
Calc. conc. 71.13 µg/L
Area ratio: 0.08613
Sample type: QC



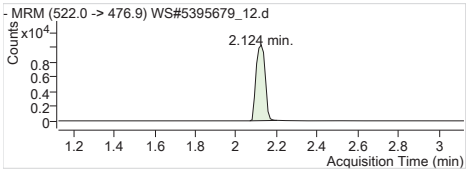


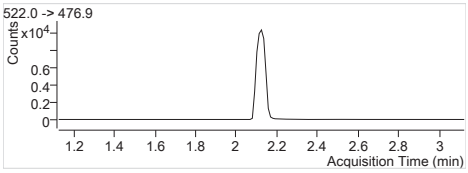
13C2-8:2 FTS 529.0 -> 80.9
RT (Exp. RT): 2.100 (2.089)
Calc. conc. 76.11 µg/L
Area ratio: 0.08596
Sample type: QC





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.400 (1.400)
Calc. conc. 2.63 µg/L
Area ratio: 0
Sample type: QC





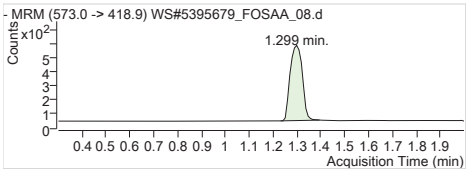
13C9-PFDA 522.0 -> 476.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 2.62 µg/L
Area ratio: 0
Sample type: QC

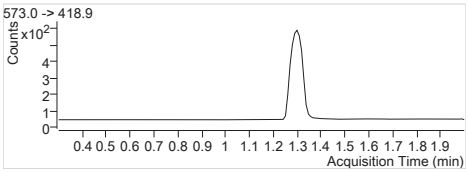
Batch Path	T:\lcms4\PFC\20180213\WS#5395679_FOSAA\QuantResults\PFC_Water_Low_180213_WS#5395679_FOSAA_ETOxics

Sample Name	**IB**	**Instrument**	LCMS04
Data File	WS#5395679_FOSAA_08.d	**Operator**	
Sample Type	Sample	**Dilution**	0.024
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P3-A8
Acq. Date	2018/02/13 4:33:39 PM	**Injection Volume**	Per Method
Sample Annotation	-		

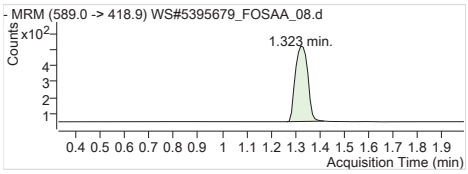
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1908	1.30	1 µg/L		
D5-EtFOSAA IS	1681	1.32	1 µg/L		
13C9-PFDA IS	24913	0.87	1 µg/L		

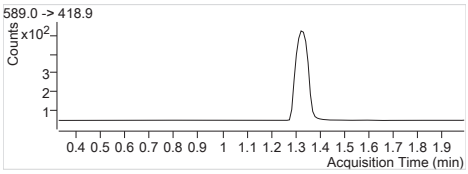
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1			-	ND	-
EtFOSAA 1			-	ND	-
D3-MeFOSAA	1931	1.30	-	97.63 µg/L	-
D5-EtFOSAA	1701	1.32	-	96.83 µg/L	-
13C9-PFDA	24224	0.87	-	2.52 µg/L	-



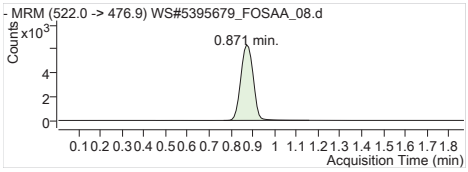


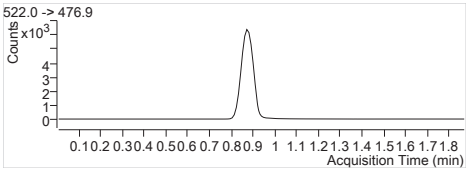
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.299 (1.299)
Concentration: 1 µg/L
Sample type: Sample



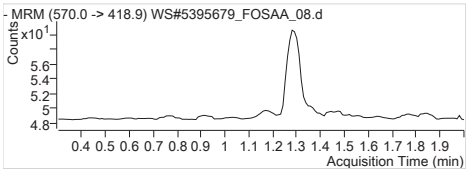


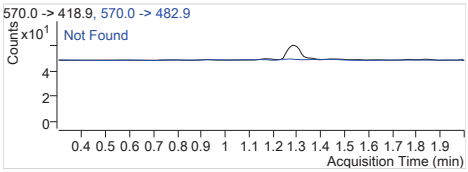
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.323 (1.323)
Concentration: 1 µg/L
Sample type: Sample



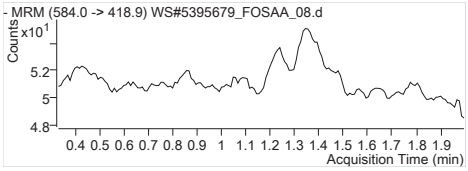


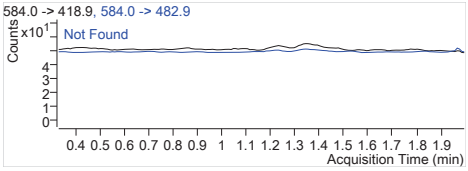
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.871 (0.871)
Concentration: 1 µg/L
Sample type: Sample



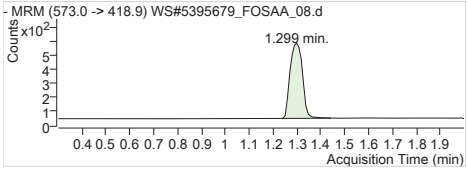


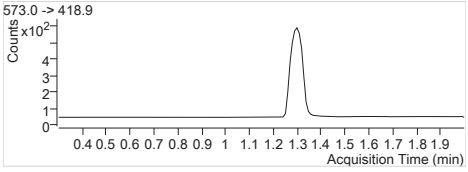
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 0.000 (1.300)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



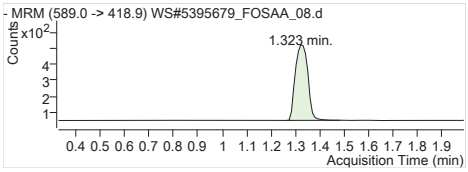


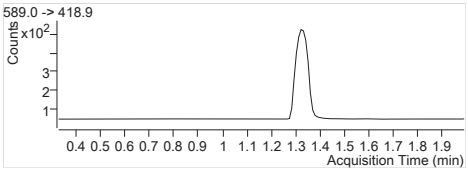
EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 0.000 (1.325)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



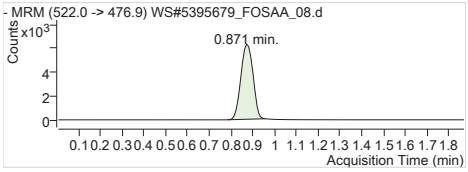


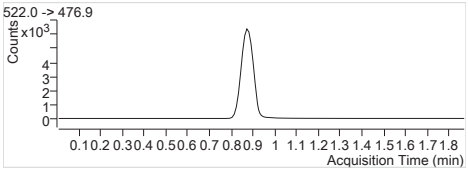
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.299 (1.299)
Calc. conc. 97.63 µg/L
Area ratio: 0.07751
Sample type: Sample





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.323 (1.323)
Calc. conc.	96.83 µg/L
Area ratio:	0.06828
Sample type:	Sample





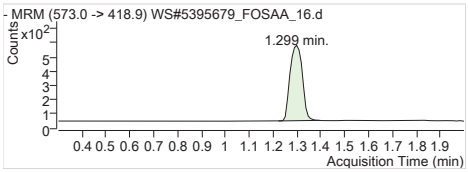
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.871 (0.871)
Calc. conc.	2.52 µg/L
Area ratio:	0
Sample type:	Sample

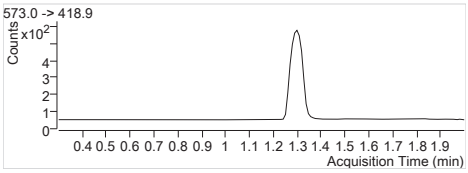
Batch Path	T:\lcms4\PFC\20180213\WS#5395679_FOSAA\QuantResults\PFC_Water_Low_180213_WS#5395679_FOSAA_ETOxics

Sample Name	**IB**	**Instrument**	LCMS04
Data File	WS#5395679_FOSAA_16.d	**Operator**	
Sample Type	Sample	**Dilution**	0.024
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P3-A8
Acq. Date	2018/02/13 4:52:54 PM	**Injection Volume**	Per Method
Sample Annotation	-		

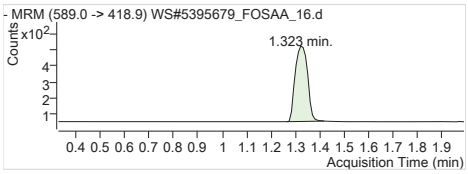
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1900	1.30	1 µg/L		
D5-EtFOSAA IS	1683	1.32	1 µg/L		
13C9-PFDA IS	25063	0.87	1 µg/L		

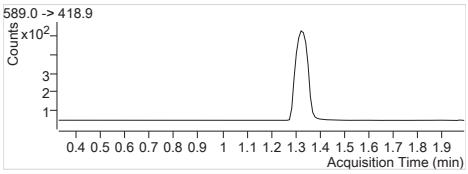
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1			-	ND	-
EtFOSAA 1			-	ND	-
D3-MeFOSAA	1914	1.30	-	96.19 µg/L	-
D5-EtFOSAA	1708	1.32	-	96.65 µg/L	-
13C9-PFDA	24412	0.87	-	2.54 µg/L	-



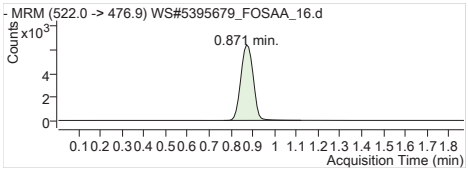


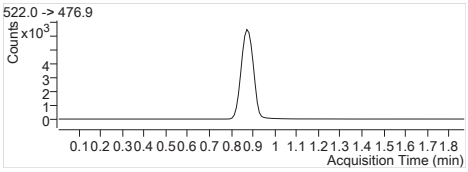
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.299 (1.299)
Concentration: 1 µg/L
Sample type: Sample



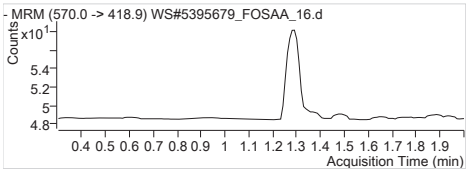


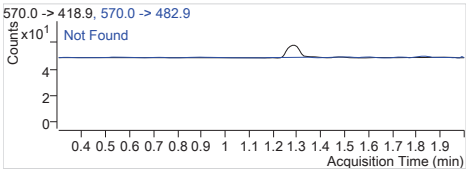
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.323 (1.323)
Concentration: 1 µg/L
Sample type: Sample



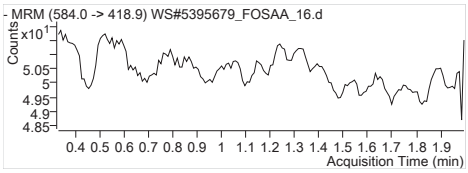


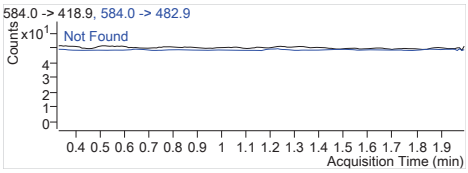
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.871 (0.871)
Concentration: 1 µg/L
Sample type: Sample



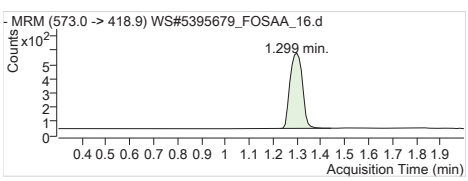


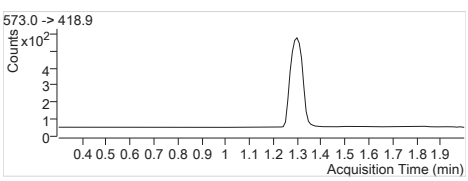
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 0.000 (1.300)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



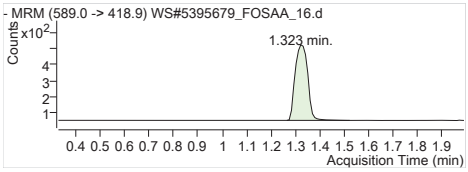


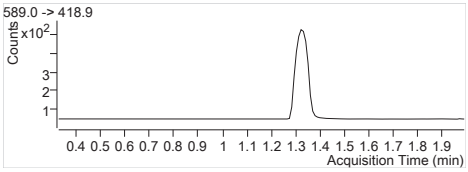
EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 0.000 (1.325)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



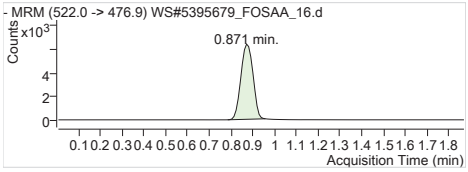


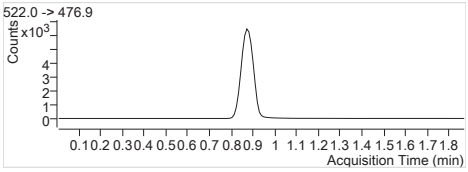
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.299 (1.299)
Calc. conc. 96.19 µg/L
Area ratio: 0.07637
Sample type: Sample





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.323 (1.323)
Calc. conc.	96.65 µg/L
Area ratio:	0.06815
Sample type:	Sample





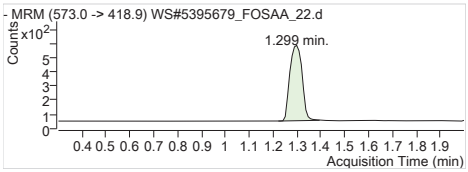
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.871 (0.871)
Calc. conc.	2.54 µg/L
Area ratio:	0
Sample type:	Sample

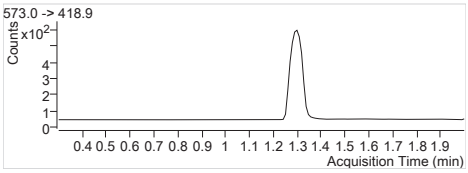
Batch Path	T:\lcms4\PFC\20180213\WS#5395679_FOSAA\QuantResults\PFC_Water_Low_180213_WS#5395679_FOSAA_ETOxics

Sample Name	**IB**	**Instrument**	LCMS04
Data File	WS#5395679_FOSAA_22.d	**Operator**	
Sample Type	Sample	**Dilution**	0.024
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P3-A8
Acq. Date	2018/02/13 5:07:24 PM	**Injection Volume**	Per Method
Sample Annotation	-		

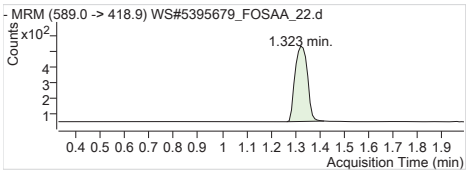
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1938	1.30	1 µg/L		
D5-EtFOSAA IS	1707	1.32	1 µg/L		
13C9-PFDA IS	25466	0.87	1 µg/L		

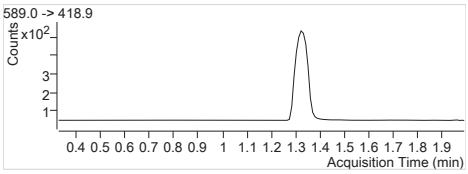
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1			-	ND	-
EtFOSAA 1			-	ND	-
D3-MeFOSAA	1956	1.30	-	96.74 µg/L	-
D5-EtFOSAA	1719	1.32	-	95.73 µg/L	-
13C9-PFDA	24786	0.87	-	2.58 µg/L	-



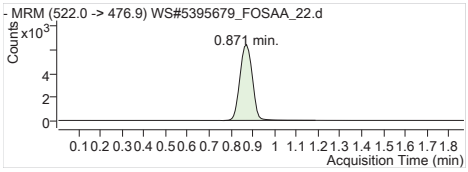


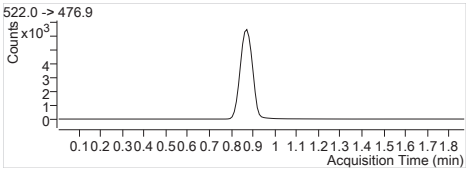
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.299 (1.299)
Concentration: 1 µg/L
Sample type: Sample



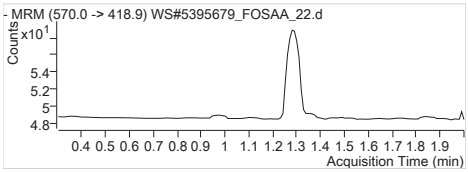


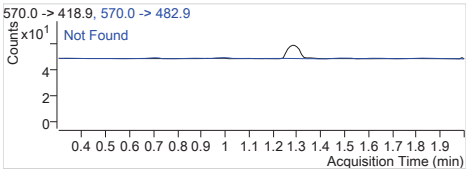
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.323 (1.323)
Concentration: 1 µg/L
Sample type: Sample



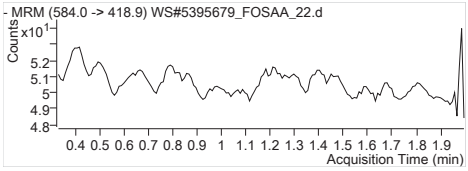


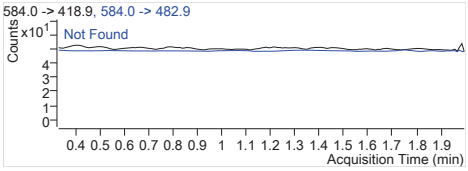
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.871 (0.871)
Concentration: 1 µg/L
Sample type: Sample



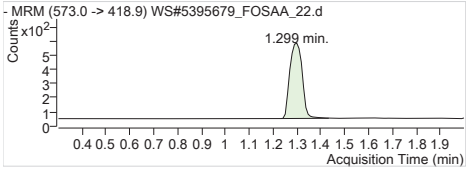


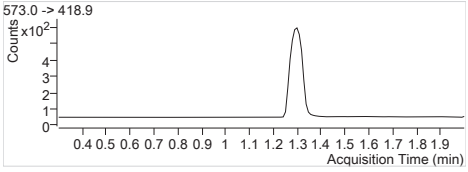
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 0.000 (1.300)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



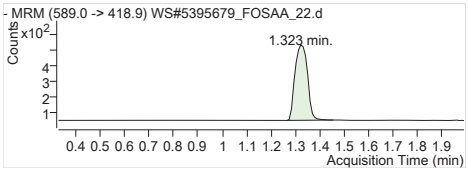


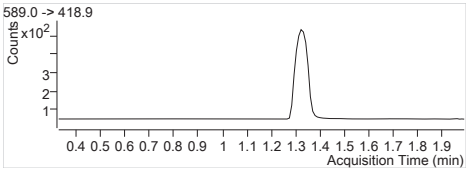
EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 0.000 (1.325)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



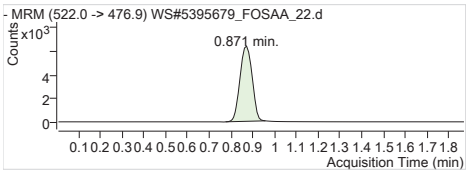


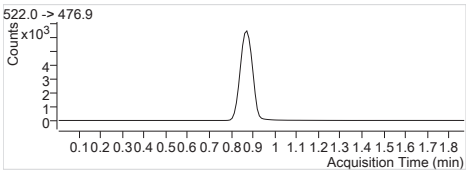
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.299 (1.299)
Calc. conc. 96.74 µg/L
Area ratio: 0.07681
Sample type: Sample





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.323 (1.323)
Calc. conc.	95.73 µg/L
Area ratio:	0.06750
Sample type:	Sample





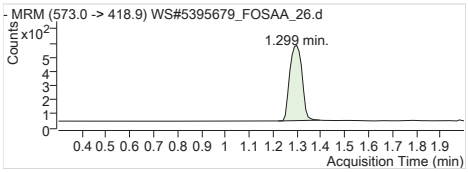
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.871 (0.871)
Calc. conc.	2.58 µg/L
Area ratio:	0
Sample type:	Sample

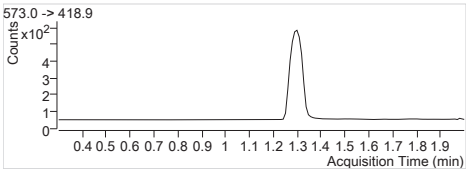
Batch Path	T:\lcms4\PFC\20180213\WS#5395679_FOSAA\QuantResults\PFC_Water_Low_180213_WS#5395679_FOSAA_ETOxics

Sample Name	**IB**	**Instrument**	LCMS04
Data File	WS#5395679_FOSAA_26.d	**Operator**	
Sample Type	Sample	**Dilution**	0.024
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P3-A8
Acq. Date	2018/02/13 5:17:01 PM	**Injection Volume**	Per Method
Sample Annotation	-		

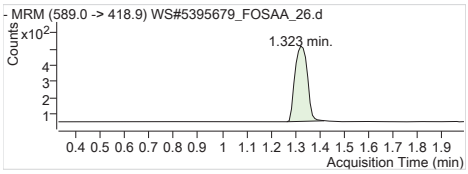
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1901	1.30	1 µg/L		
D5-EtFOSAA IS	1659	1.32	1 µg/L		
13C9-PFDA IS	25384	0.87	1 µg/L		

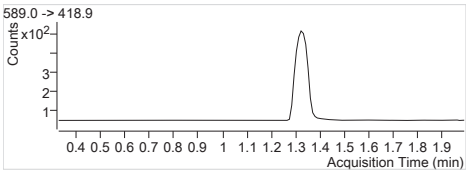
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1			-	ND	-
EtFOSAA 1			-	ND	-
D3-MeFOSAA	1923	1.30	-	95.42 µg/L	-
D5-EtFOSAA	1695	1.32	-	94.70 µg/L	-
13C9-PFDA	24763	0.87	-	2.58 µg/L	-



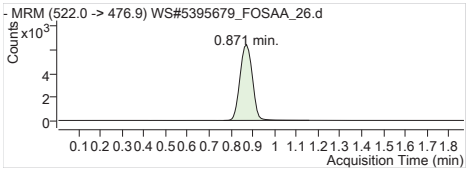


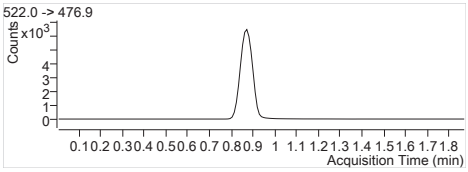
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.299 (1.299)
Concentration: 1 µg/L
Sample type: Sample



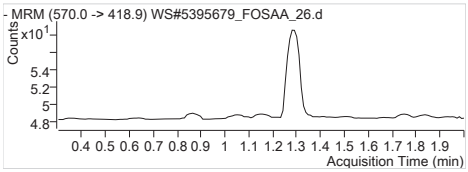


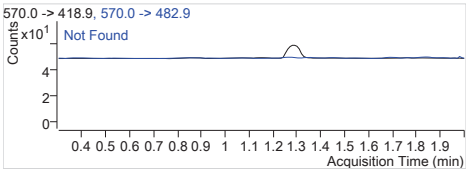
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.323 (1.323)
Concentration: 1 µg/L
Sample type: Sample



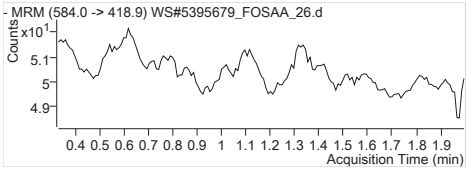


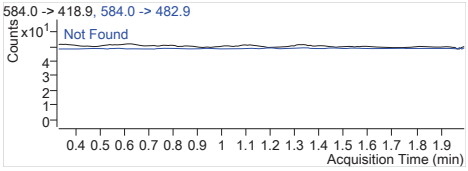
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.871 (0.871)
Concentration: 1 µg/L
Sample type: Sample



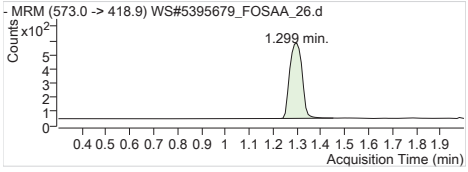


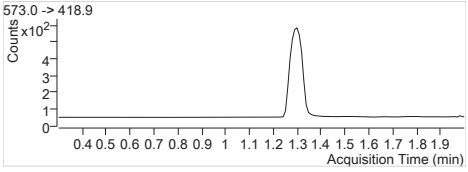
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 0.000 (1.300)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



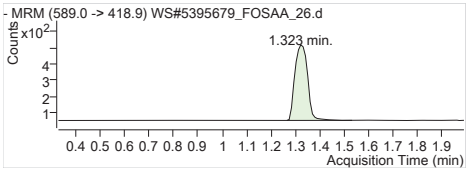


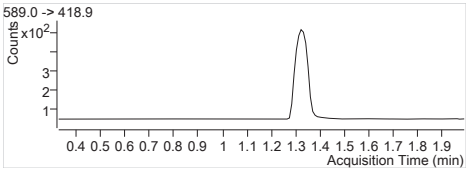
EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 0.000 (1.325)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



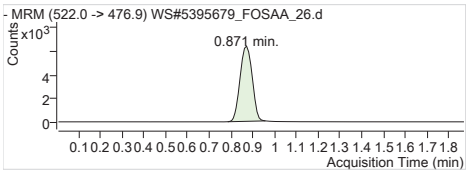


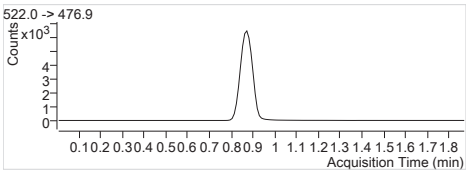
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.299 (1.299)
Calc. conc. 95.42 µg/L
Area ratio: 0.07576
Sample type: Sample





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.323 (1.323)
Calc. conc.	94.70 µg/L
Area ratio:	0.06677
Sample type:	Sample





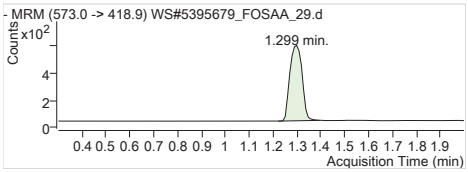
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.871 (0.871)
Calc. conc.	2.58 µg/L
Area ratio:	0
Sample type:	Sample

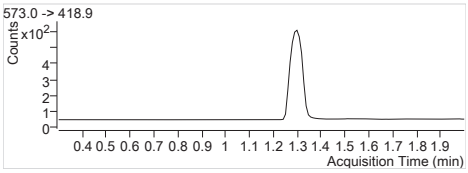
Batch Path	T:\lcms4\PFC\20180213\WS#5395679_FOSAA\QuantResults\PFC_Water_Low_180213_WS#5395679_FOSAA_ETOxics

Sample Name	**IB**	**Instrument**	LCMS04
Data File	WS#5395679_FOSAA_29.d	**Operator**	
Sample Type	Sample	**Dilution**	0.024
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P3-A8
Acq. Date	2018/02/13 5:24:16 PM	**Injection Volume**	Per Method
Sample Annotation	-		

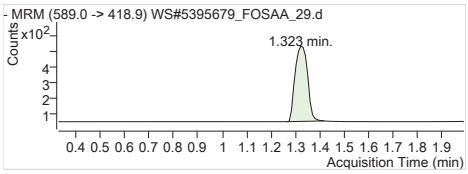
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1983	1.30	1 µg/L		
D5-EtFOSAA IS	1720	1.32	1 µg/L		
13C9-PFDA IS	25409	0.87	1 µg/L		

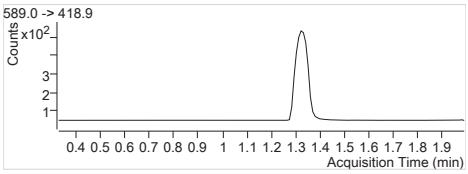
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1			-	ND	-
EtFOSAA 1			-	ND	-
D3-MeFOSAA	1998	1.30	-	99.04 µg/L	-
D5-EtFOSAA	1745	1.32	-	97.39 µg/L	-
13C9-PFDA	24792	0.87	-	2.58 µg/L	-



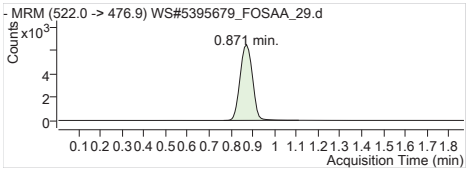


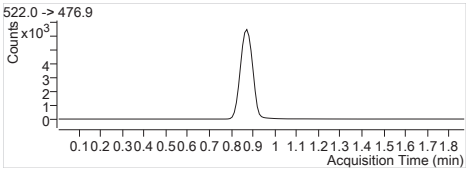
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.299 (1.299)
Concentration: 1 µg/L
Sample type: Sample



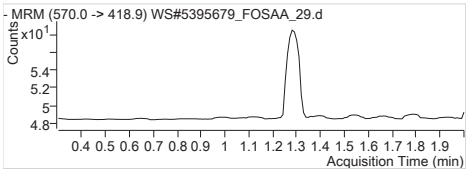


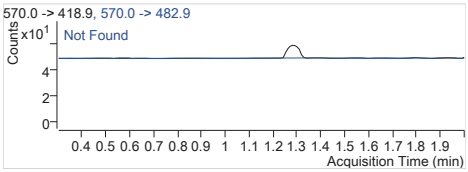
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.323 (1.323)
Concentration: 1 µg/L
Sample type: Sample



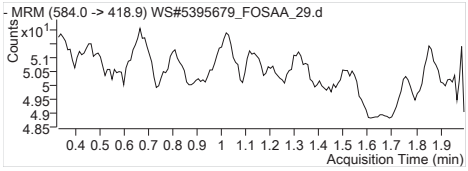


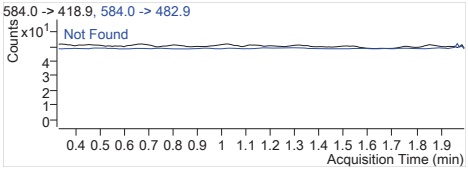
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.871 (0.871)
Concentration: 1 µg/L
Sample type: Sample



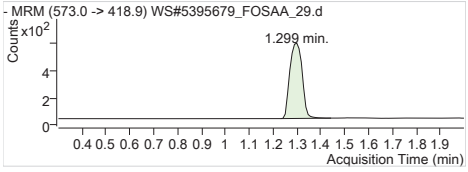


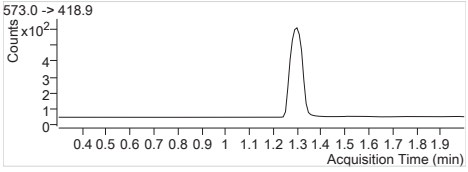
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 0.000 (1.300)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



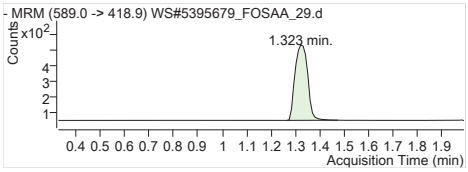


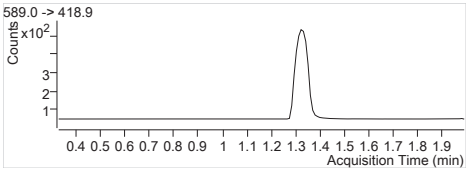
EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 0.000 (1.325)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



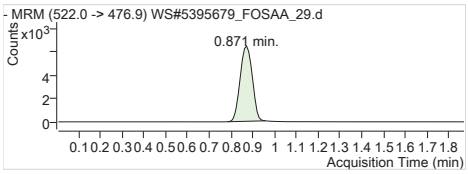


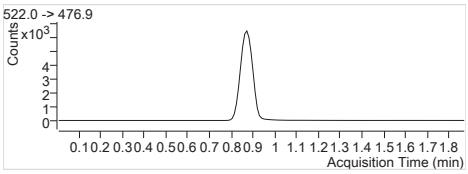
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.299 (1.299)
Calc. conc. 99.04 µg/L
Area ratio: 0.07863
Sample type: Sample





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.323 (1.323)
Calc. conc.	97.39 µg/L
Area ratio:	0.06868
Sample type:	Sample





13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.871 (0.871)
Calc. conc.	2.58 µg/L
Area ratio:	0
Sample type:	Sample

Quantitation Results

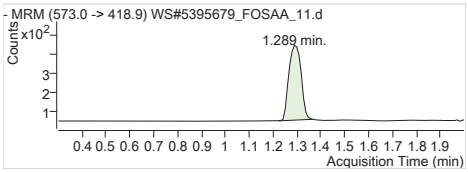
Agilent Technologies

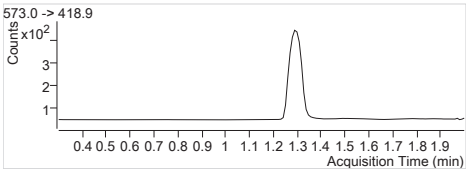
Batch Path	T:\lcms4\PFC\20180213\WS#5395679_FOSAA\QuantResults\PFC_Water_Low_180213_WS#5395679_FOSAA_ETOxics

Sample Name	**5395679:BLANK**	**Instrument**	LCMS04
Data File	WS#5395679_FOSAA_11.d	**Operator**	
Sample Type	Sample	**Dilution**	0.024
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P3-B1
Acq. Date	2018/02/13 4:40:52 PM	**Injection Volume**	Per Method
Sample Annotation	-		

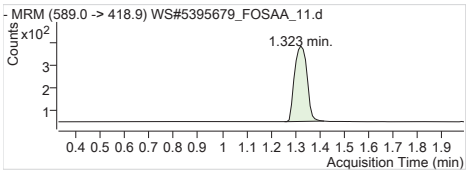
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1399	1.29	1 µg/L		
D5-EtFOSAA IS	1208	1.32	1 µg/L		
13C9-PFDA IS	22083	0.87	1 µg/L		

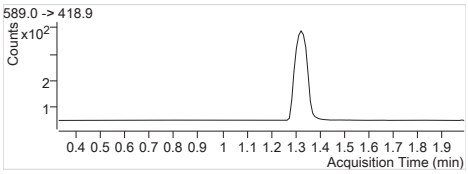
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1			-	ND	-
EtFOSAA 1			-	ND	-
D3-MeFOSAA	1438	1.29	-	82.02 µg/L	-
D5-EtFOSAA	1219	1.32	-	78.28 µg/L	-
13C9-PFDA	21749	0.87	-	2.26 µg/L	-



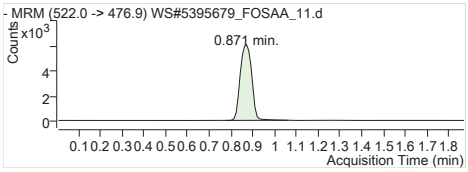


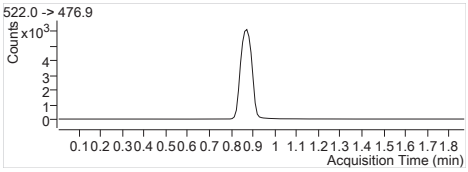
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.289 (1.299)
Concentration: 1 µg/L
Sample type: Sample



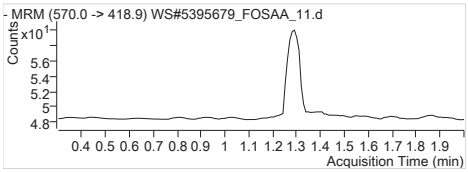


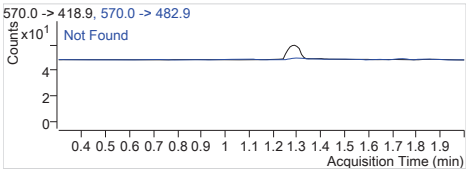
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.323 (1.323)
Concentration: 1 µg/L
Sample type: Sample



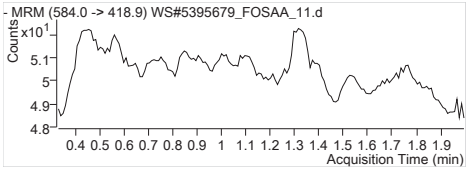


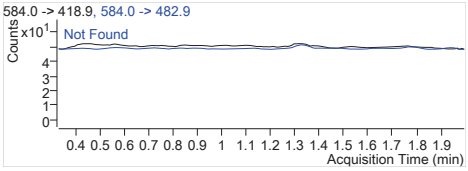
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.871 (0.871)
Concentration: 1 µg/L
Sample type: Sample



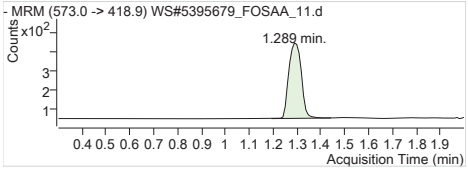


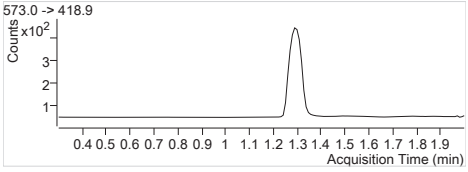
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 0.000 (1.300)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



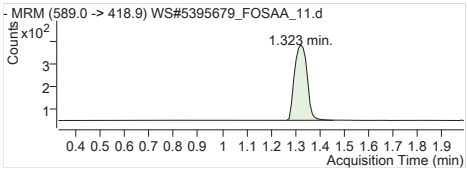


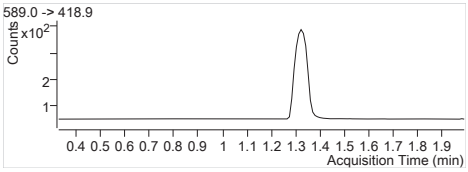
EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 0.000 (1.325)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample



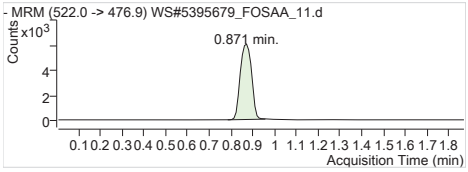


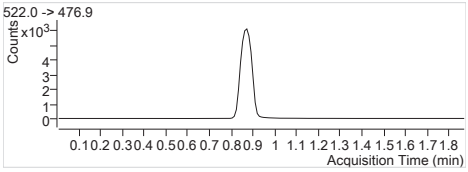
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.289 (1.299)
Calc. conc. 82.02 µg/L
Area ratio: 0.06512
Sample type: Sample





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.323 (1.323)
Calc. conc.	78.28 µg/L
Area ratio:	0.05520
Sample type:	Sample





13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.871 (0.871)
Calc. conc.	2.26 µg/L
Area ratio:	0
Sample type:	Sample

Quantitation Results

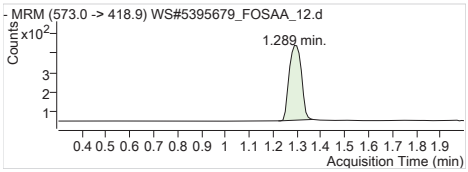
Agilent Technologies

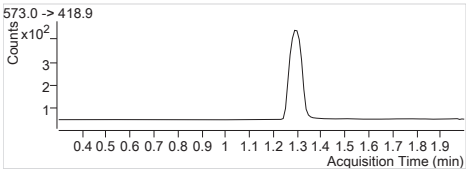
Batch Path	T:\lcms4\PFC\20180213\WS#5395679_FOSAA\QuantResults\PFC_Water_Low_180213_WS#5395679_FOSAA_ETOxics

Sample Name	**5395679:SPIKE**	**Instrument**	LCMS04
Data File	WS#5395679_FOSAA_12.d	**Operator**	
Sample Type	QC	**Dilution**	0.024
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P3-B2
Acq. Date	2018/02/13 4:43:15 PM	**Injection Volume**	Per Method
Sample Annotation	-		

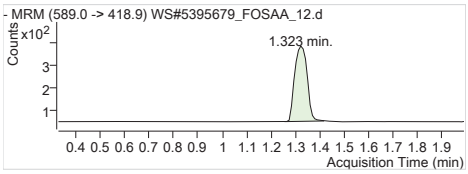
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1382	1.29	1 µg/L		
D5-EtFOSAA IS	1195	1.32	1 µg/L		
13C9-PFDA IS	26373	0.87	1 µg/L		

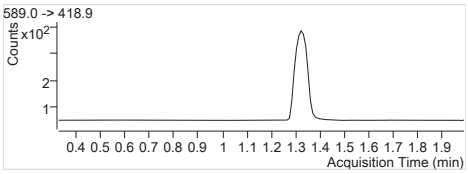
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1	10673	1.29	20.80	0.51 µg/L	101.23
EtFOSAA 1	10971	1.32	20.80	0.52 µg/L	104.14
D3-MeFOSAA	1412	1.29	100.00	67.44 µg/L	67.44
D5-EtFOSAA	1212	1.32	100.00	65.17 µg/L	65.17
13C9-PFDA	25834	0.87	100.00	2.69 µg/L	111.97



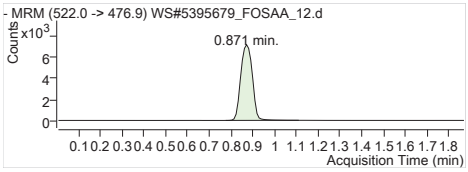


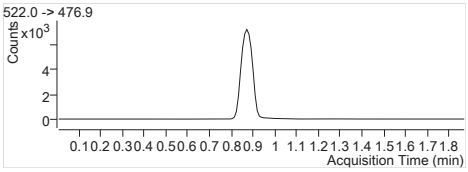
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.289 (1.299)
Concentration: 1 µg/L
Sample type: QC



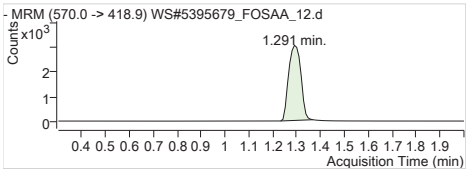


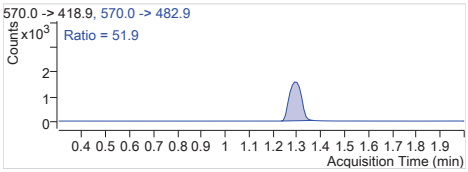
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.323 (1.323)
Concentration: 1 µg/L
Sample type: QC



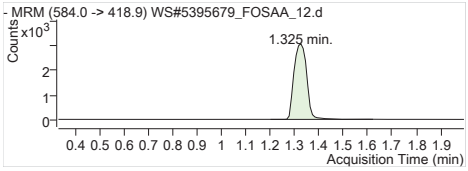


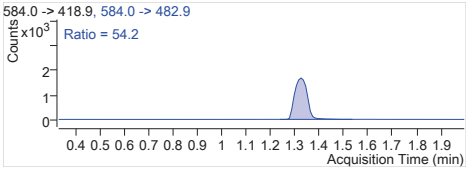
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.871 (0.871)
Concentration: 1 µg/L
Sample type: QC



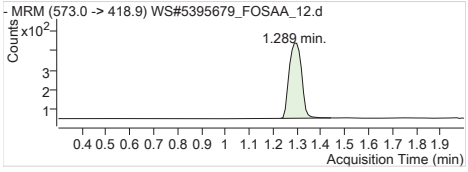


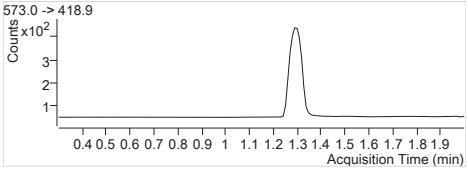
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 1.291 (1.300)
Calc. conc. 0.51 µg/L
Area ratio: 7.72287
Sample type: QC



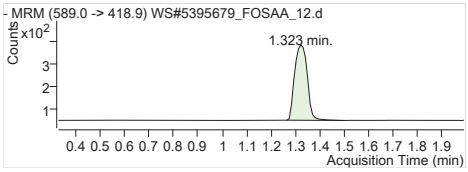


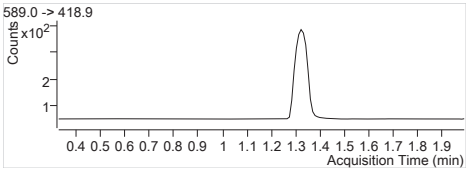
EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 1.325 (1.325)
Calc. conc. 0.52 µg/L
Area ratio: 9.18075
Sample type: QC



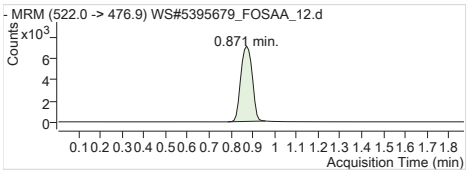


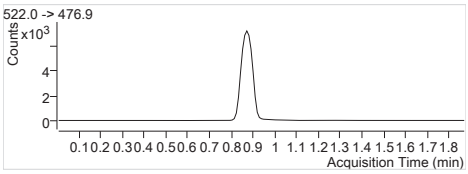
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.289 (1.299)
Calc. conc. 67.44 µg/L
Area ratio: 0.05354
Sample type: QC





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.323 (1.323)
Calc. conc.	65.17 µg/L
Area ratio:	0.04596
Sample type:	QC





13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.871 (0.871)
Calc. conc.	2.69 µg/L
Area ratio:	0
Sample type:	QC

Quantitation Results

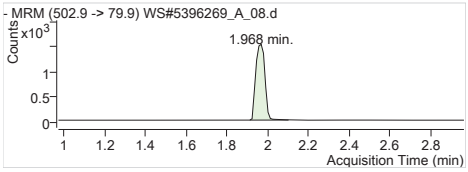
Agilent Technologies

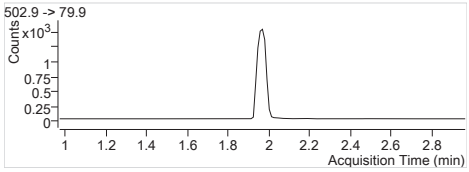
Batch Path	T:\lcms4\PFC\20180213\WS#5396269_A\QuantResults\PFC_Water_High_180213_WS#5396269_A_EToxics

Sample Name	**IB**	**Instrument**	LCMS04
Data File	WS#5396269_A_08.d	**Operator**	
Sample Type	Sample	**Dilution**	1
Acq. Method	PFC_Water_High.m	**Position**	P3-E7
Acq. Date	2018/02/14 6:00:57 PM	**Injection Volume**	Per Method
Sample Annotation	-		

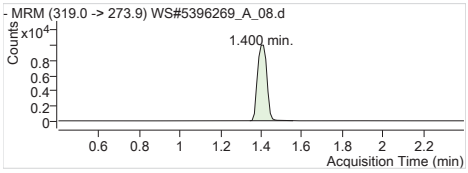
ISTD Compounds	Response	RT	Target conc.		
MPFOS	4702	1.97	1 µg/L		
13C6-PFHxA IS	32089	1.40	1 µg/L		

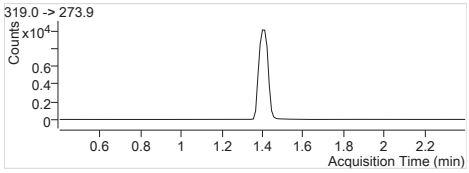
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFOS 1			-	ND	-
13C6-PFHxA	32089	1.40	-	92.03 µg/L	-
13C4-PFOS	4702	1.97	-	116.81 µg/L	-



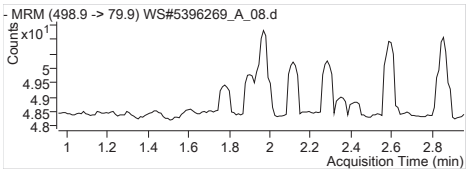


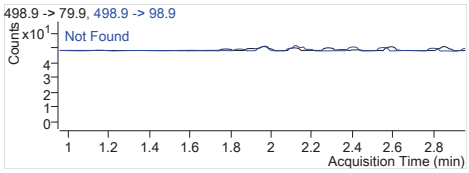
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Sample



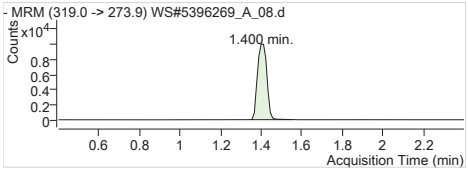


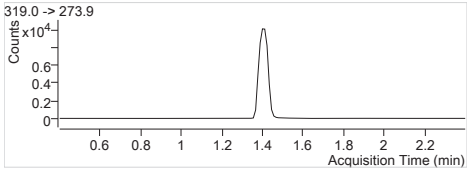
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.400 (1.400)
Concentration: 1 µg/L
Sample type: Sample



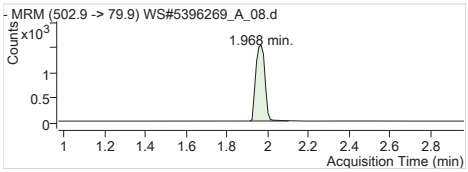


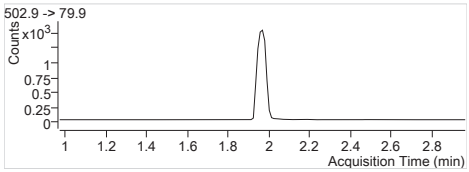
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 0.000 (1.957)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.400 (1.400)
Calc. conc. 92.03 µg/L
Area ratio: 0
Sample type: Sample





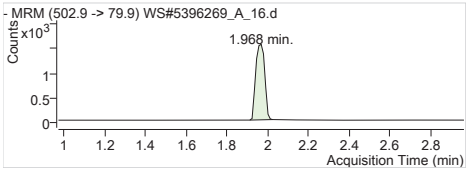
13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.968 (1.968)
Calc. conc. 116.81 µg/L
Area ratio: 0.14653
Sample type: Sample

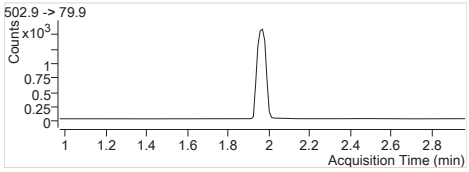
Batch Path	T:\lcms4\PFC\20180213\WS#5396269_A\QuantResults\PFC_Water_High_180213_WS#5396269_A_EToxics

Sample Name	**IB**	**Instrument**	LCMS04
Data File	WS#5396269_A_16.d	**Operator**	
Sample Type	Sample	**Dilution**	1
Acq. Method	PFC_Water_High.m	**Position**	P3-E7
Acq. Date	2018/02/14 6:40:17 PM	**Injection Volume**	Per Method
Sample Annotation	-		

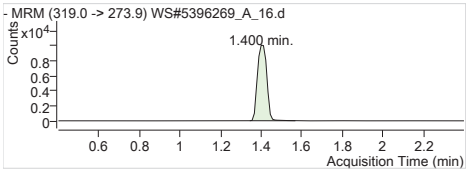
ISTD Compounds	Response	RT	Target conc.		
MPFOS	4747	1.97	1 µg/L		
13C6-PFHxA IS	32143	1.40	1 µg/L		

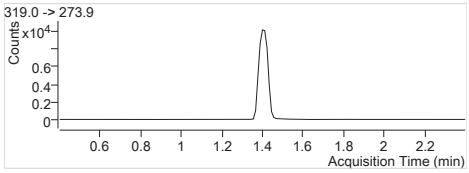
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFOS 1			-	ND	-
13C6-PFHxA	32143	1.40	-	92.19 µg/L	-
13C4-PFOS	4747	1.97	-	117.73 µg/L	-



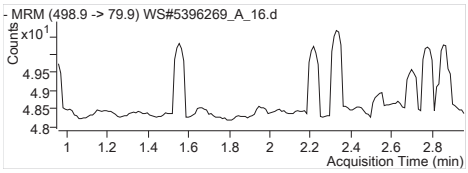


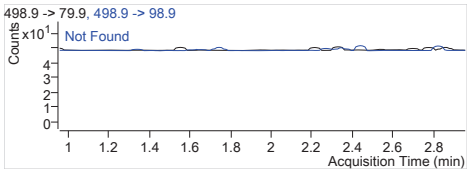
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Sample



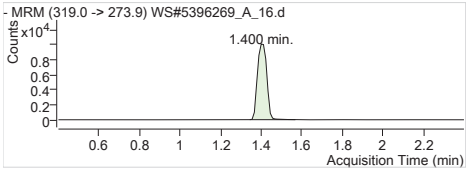


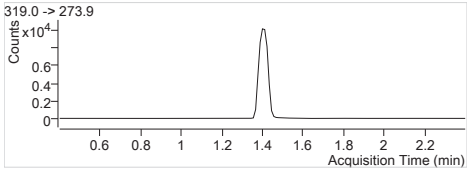
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.400 (1.400)
Concentration: 1 µg/L
Sample type: Sample



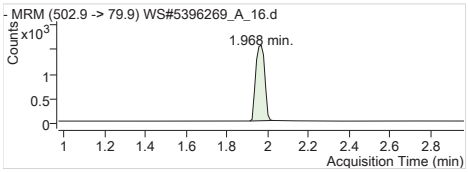


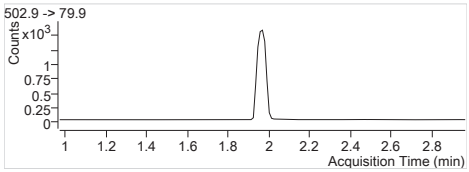
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 0.000 (1.957)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.400 (1.400)
Calc. conc. 92.19 µg/L
Area ratio: 0
Sample type: Sample





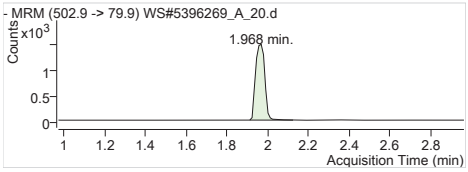
13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.968 (1.968)
Calc. conc. 117.73 µg/L
Area ratio: 0.14768
Sample type: Sample

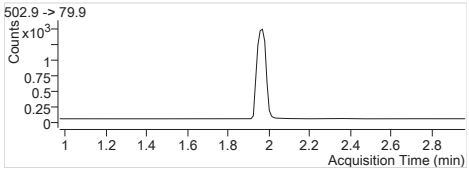
Batch Path	T:\lcms4\PFC\20180213\WS#5396269_A\QuantResults\PFC_Water_High_180213_WS#5396269_A_EToxics

Sample Name	**IB**	**Instrument**	LCMS04
Data File	WS#5396269_A_20.d	**Operator**	
Sample Type	Sample	**Dilution**	1
Acq. Method	PFC_Water_High.m	**Position**	P3-E7
Acq. Date	2018/02/14 7:00:01 PM	**Injection Volume**	Per Method
Sample Annotation	-		

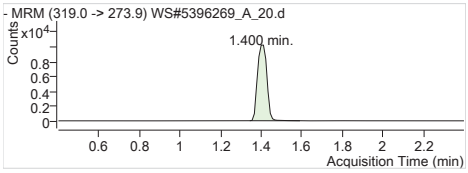
ISTD Compounds	Response	RT	Target conc.		
MPFOS	4612	1.97	1 µg/L		
13C6-PFHxA IS	32717	1.40	1 µg/L		

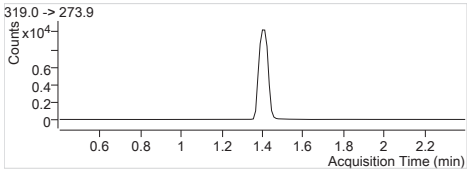
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFOS 1			-	ND	-
13C6-PFHxA	32717	1.40	-	93.84 µg/L	-
13C4-PFOS	4612	1.97	-	112.37 µg/L	-



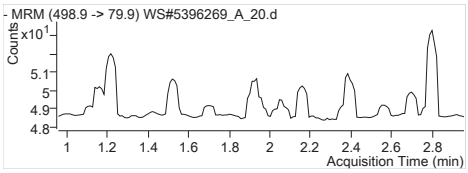


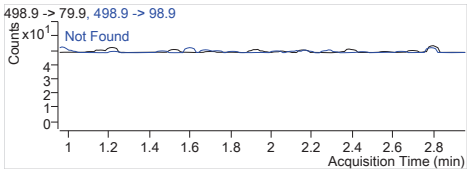
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Sample



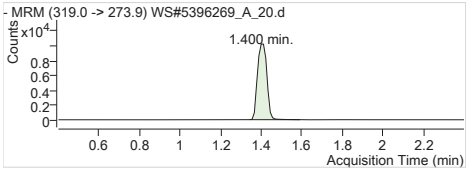


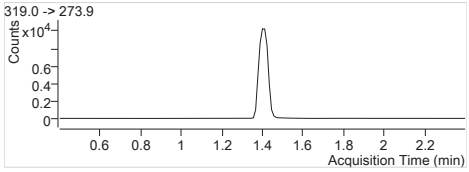
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.400 (1.400)
Concentration: 1 µg/L
Sample type: Sample



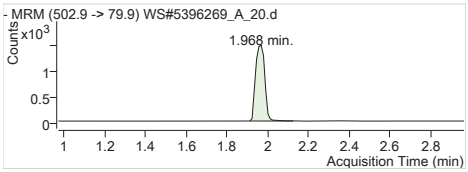


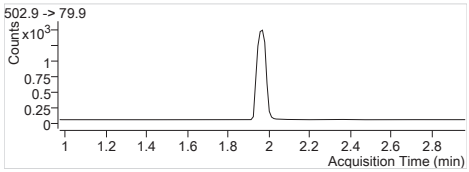
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 0.000 (1.957)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.400 (1.400)
Calc. conc. 93.84 µg/L
Area ratio: 0
Sample type: Sample





13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.968 (1.968)
Calc. conc. 112.37 µg/L
Area ratio: 0.14097
Sample type: Sample

Quantitation Results

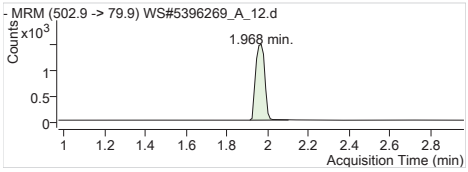
Agilent Technologies

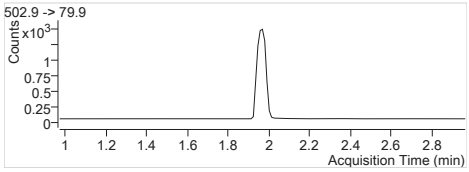
Batch Path	T:\lcms4\PFC\20180213\WS#5396269_A\QuantResults\PFC_Water_High_180213_WS#5396269_A_EToxics

Sample Name	**5396269:SPIKE**	**Instrument**	LCMS04
Data File	WS#5396269_A_12.d	**Operator**	
Sample Type	QC	**Dilution**	1
Acq. Method	PFC_Water_High.m	**Position**	P3-F1
Acq. Date	2018/02/14 6:20:39 PM	**Injection Volume**	Per Method
Sample Annotation	-		

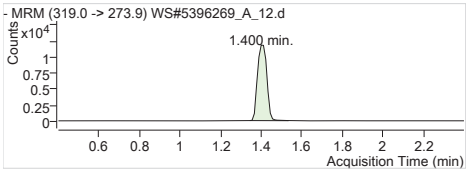
ISTD Compounds	Response	RT	Target conc.		
MPFOS	4559	1.97	1 µg/L		
13C6-PFHxA IS	37705	1.40	1 µg/L		

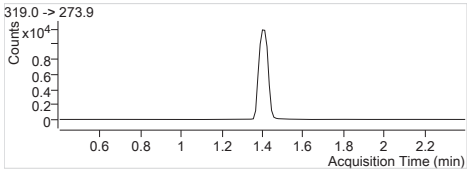
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFOS 1	13823	1.96	24.00	21.81 µg/L	90.89
13C6-PFHxA	37705	1.40	100.00	108.14 µg/L	108.14
13C4-PFOS	4559	1.97	100.00	96.39 µg/L	96.39



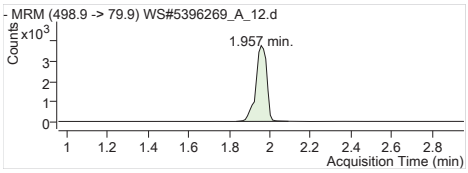


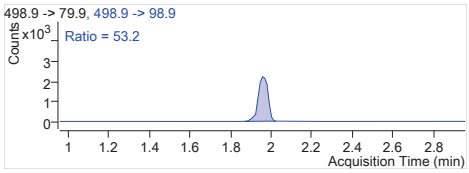
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: QC



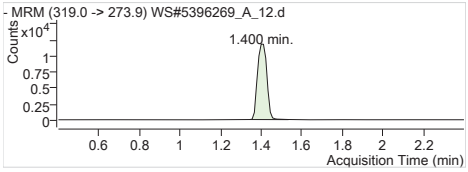


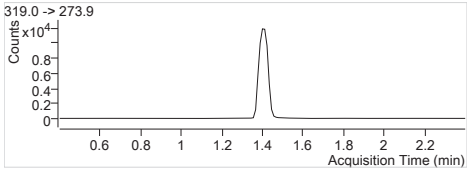
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.400 (1.400)
Concentration: 1 µg/L
Sample type: QC



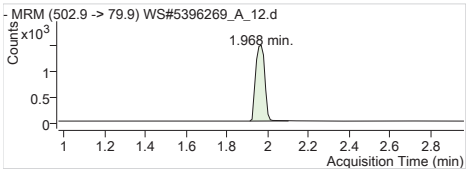


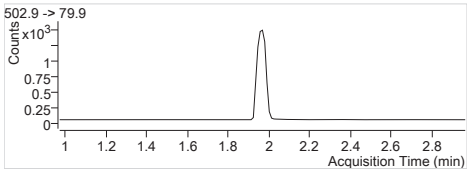
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 21.81 µg/L
Area ratio: 3.03202
Sample type: QC





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.400 (1.400)
Calc. conc. 108.14 µg/L
Area ratio: 0
Sample type: QC





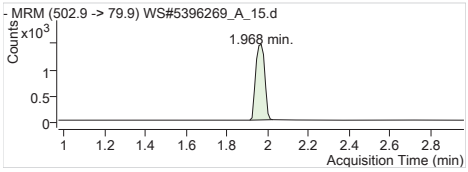
13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.968 (1.968)
Calc. conc. 96.39 µg/L
Area ratio: 0.12091
Sample type: QC

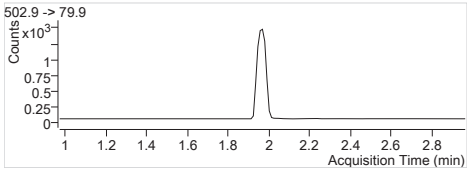
Batch Path	T:\lcms4\PFC\20180213\WS#5396269_A\QuantResults\PFC_Water_High_180213_WS#5396269_A_EToxics

Sample Name	**5396269:GAD936-01:D1:100x PS**	**Instrument**	LCMS04
Data File	WS#5396269_A_15.d	**Operator**	
Sample Type	Sample	**Dilution**	100
Acq. Method	PFC_Water_High.m	**Position**	P3-F4
Acq. Date	2018/02/14 6:35:21 PM	**Injection Volume**	Per Method
Sample Annotation	-		

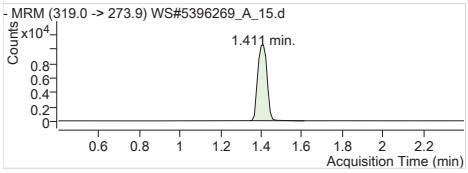
ISTD Compounds	Response	RT	Target conc.		
MPFOS	4427	1.97	1 µg/L		
13C6-PFHxA IS	33487	1.41	1 µg/L		

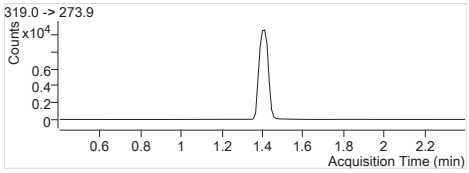
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFOS 1	6078	1.96	-	999.55 µg/L	-
13C6-PFHxA	33487	1.41	-	9604.39 µg/L	-
13C4-PFOS	4427	1.97	-	105.39 µg/L	-



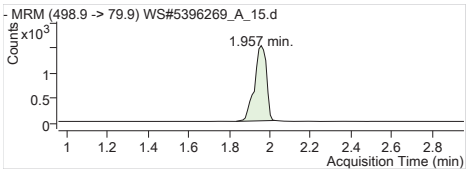


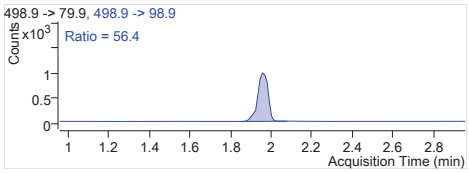
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Sample



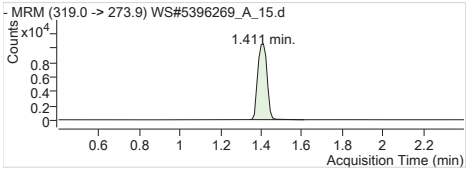


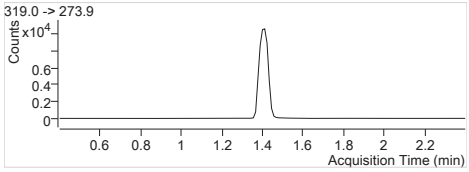
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.400)
Concentration: 1 µg/L
Sample type: Sample



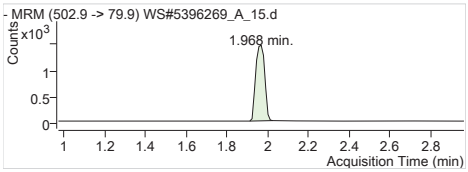


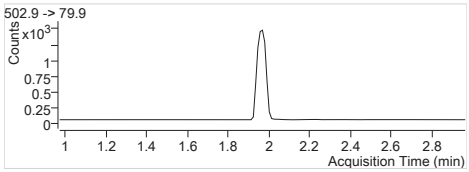
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 999.55 µg/L
Area ratio: 1.37294
Sample type: Sample





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.400)
Calc. conc. 9604.39 µg/L
Area ratio: 0
Sample type: Sample





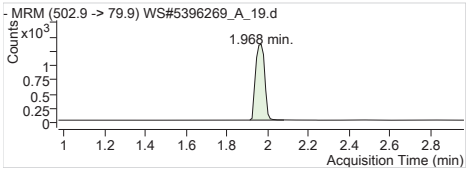
13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.968 (1.968)
Calc. conc. 105.39 µg/L
Area ratio: 0.13220
Sample type: Sample

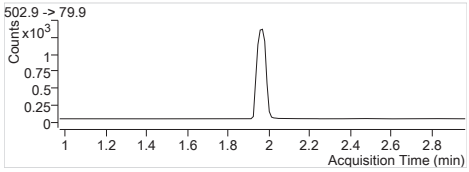
Batch Path	T:\lcms4\PFC\20180213\WS#5396269_A\QuantResults\PFC_Water_High_180213_WS#5396269_A_EToxics

Sample Name	**5396269:GAD936-01:D1:10x PS**	**Instrument**	LCMS04
Data File	WS#5396269_A_19.d	**Operator**	
Sample Type	Sample	**Dilution**	10
Acq. Method	PFC_Water_High.m	**Position**	P3-F7
Acq. Date	2018/02/14 6:55:05 PM	**Injection Volume**	Per Method
Sample Annotation	not used.		

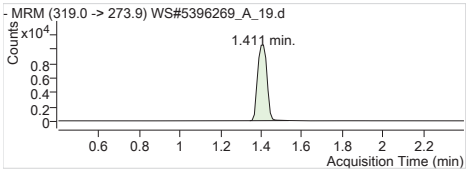
ISTD Compounds	Response	RT	Target conc.		
MPFOS	4138	1.97	1 µg/L		
13C6-PFHxA IS	33719	1.41	1 µg/L		

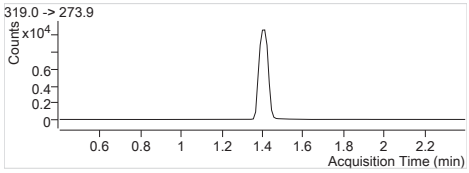
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFOS 1	59133	1.96	-	1020.10 µg/L	-
13C6-PFHxA	33719	1.41	-	967.09 µg/L	-
13C4-PFOS	4138	1.97	-	97.83 µg/L	-



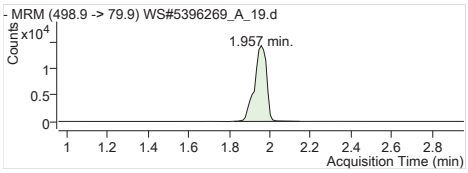


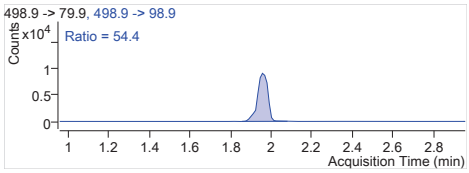
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Sample



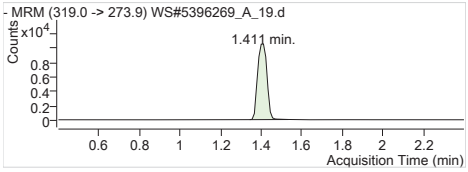


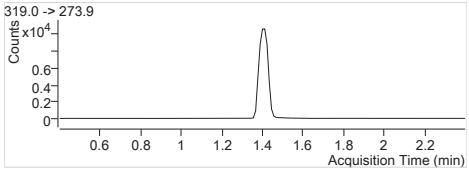
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.400)
Concentration: 1 µg/L
Sample type: Sample



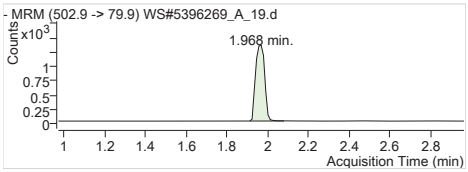


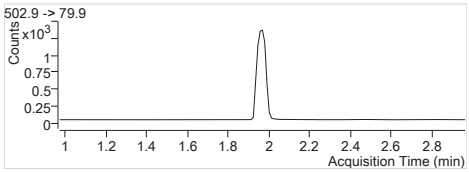
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 1020.10 µg/L
Area ratio: 14.29024
Sample type: Sample





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.400)
Calc. conc. 967.09 µg/L
Area ratio: 0
Sample type: Sample





13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.968 (1.968)
Calc. conc. 97.83 µg/L
Area ratio: 0.12272
Sample type: Sample

Quantitation Results

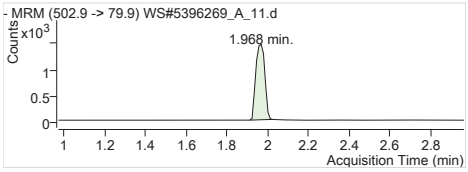
Agilent Technologies

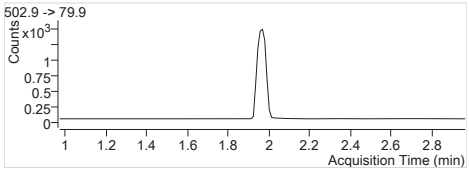
Batch Path	T:\lcms4\PFC\20180213\WS#5396269_A\QuantResults\PFC_Water_High_180213_WS#5396269_A_EToxics

Sample Name	**5396269:BLANK**	**Instrument**	LCMS04
Data File	WS#5396269_A_11.d	**Operator**	
Sample Type	Sample	**Dilution**	1
Acq. Method	PFC_Water_High.m	**Position**	P3-E9
Acq. Date	2018/02/14 6:15:43 PM	**Injection Volume**	Per Method
Sample Annotation	-		

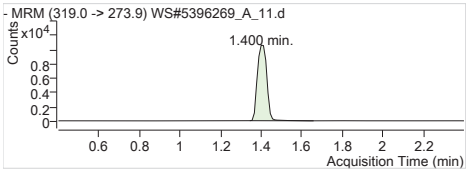
ISTD Compounds	Response	RT	Target conc.		
MPFOS	4434	1.97	1 µg/L		
13C6-PFHxA IS	34058	1.40	1 µg/L		

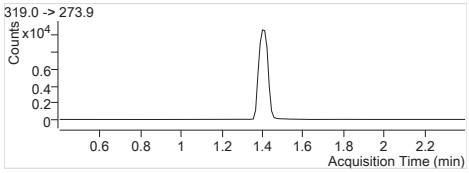
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFOS 1			-	ND	-
13C6-PFHxA	34058	1.40	-	97.68 µg/L	-
13C4-PFOS	4434	1.97	-	103.78 µg/L	-



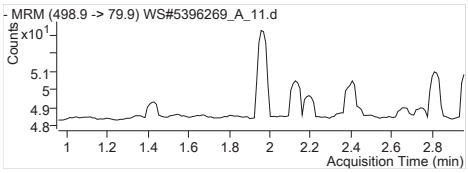


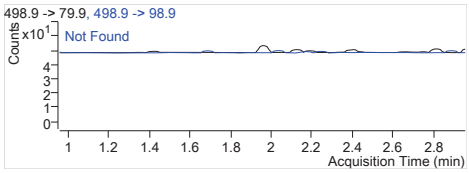
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Sample



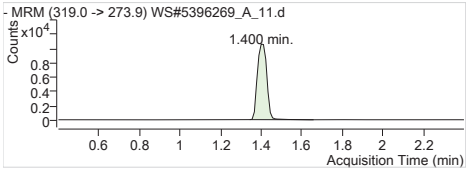


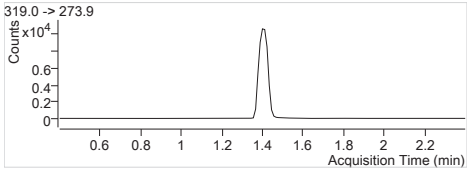
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.400 (1.400)
Concentration: 1 µg/L
Sample type: Sample



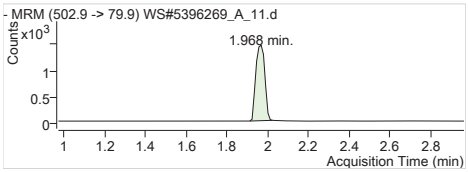


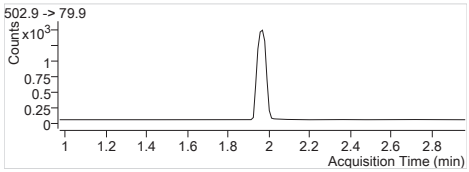
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 0.000 (1.957)
Calc. conc. N.D.
Area ratio: 0
Sample type: Sample





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.400 (1.400)
Calc. conc. 97.68 µg/L
Area ratio: 0
Sample type: Sample





13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.968 (1.968)
Calc. conc. 103.78 µg/L
Area ratio: 0.13019
Sample type: Sample

DoD Projects - Internal Data Validation Checklist

Run date: 2018/02/13

Worksheet # (s): 5393111

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: MCP Date: 2018/02/13

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: 2018/02/14

Comments: GFAD933 + 934 sent for rework to high level analysis due to high levels of analytes in 2018/02/14

*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

Worksheet Data Validation Checklist - Extractable Organics

Worksheet # 5393111 Testcode: PFOSACM-W

Sample Preparation		yes	no	n/a
1	Samples extracted within hold time	✓		
2	Client sample ID verified against Lab ID (waters & oils)	✓		
3	Parameter list and Client comments reviewed, (Spiking solutions matched to parameter list)	✓		
4	Height of sediment or if sample was decanted, recorded on worksheet	✓		
5	Method required QC processed with samples, maximum batch size = 20 client samples.	✓		
6	Sample, duplicate, matrix spike appear similar, initial sample as well as final extract	✓		
7	Sample weight or initial volume and extract final volume, aliquot factor clearly recorded.	✓		
8	If performed any additional dilution clearly recorded	✓		
9	Matrix spike / Duplicate performed on IOL samples if present			✓
10	Spiking solutions valid (haven't expired), ID and volume used clearly identified on worksheet	✓		
11	Spiking process witnessed and signed off	✓		
12	Extraction type recorded (N3A2B = neutral, 3 x acidic, 2 x basic)			✓
13	Sample prep deviations documented within CompliantPro as a Policy Deviation			✓
14	Job Remarks reviewed on 2nd page of worksheet.	✓		
15	Worksheet and reagent tracking record completed and authorized.	✓		

Reviewed by: SSV Date: 2018/02/09

Comments:

Worksheet Approval		yes	no	n/a
1	Verified the position of the vials in autosampler against sequence list; signed off sequence list			
2	Calibration and CCV standards valid (haven't expired)			
3	Initial calibration curve and DFTPP tune (if applicable) acceptable			
4	Continuing and Final CCV and DFTPP tune (if applicable) acceptable			
5	System performance check acceptable (if applicable)			
6	Internal standard responses acceptable			
7	Method blank meets acceptance criteria			
8	Lab Control Samples recoveries meets acceptance criteria			
9	Duplicate RPD meets acceptance criteria			
10	Matrix spike recoveries meets acceptance criteria			
11	Surrogate recoveries meets acceptance criteria			
12	Appropriate control charts updated			
13	Samples above calibration range diluted and reanalyzed			
14	Dilutions clearly documented on tracking record, inst file and verified during data upload			
15	Samples following high level samples checked for carryover.			
16	Mass spectra ion ratios acceptable for positive results, hardcopy in file.			
17	Analytical observations / anomalies documented			
18	DQW comments entered in LIMS, hardcopy in file			
19	Sample Prep section (above) reviewed and verified.			
20	WS Approval performed in LIMS			

Reviewed by: Date:

Comments:

Worksheet Validation		yes	no	n/a
1	Calibration, QC and sample results reviewed and determined acceptable			
2	Manual integrations verified			
3	Random calculation checked			
4	Data and QC validated in LIMS			
5	Comments reviewed for appropriateness			
6	Reworks / relogs documented in file			
7	Worksheet signed and dated,			
8	Worksheet approved and validated within LIMS			

Reviewed by: Date:

Comments:

Refer to FCD-01126 BL 2018/02/12

WS# : 5393111

Page #: 1/2

RUSH

Report Name : Worksheet - (Liquids and Solids)

Assignment Date : Friday, February 09, 2018

Assigned to : Shivani Shivani

Test Code : PFOSALCM-W

Instrument Id:

Test Description : PFOS and PFOA in water by LC-MS/MS

	Job Number	Sample Number	D	Sample ID	F	% Moisture	Wt or Vol (sediment 5gm, fmc)	Final Vol (fmc)	DF or AF	# Cont	Expiry Date	Test DeadLine	Criteria	Extract Date (mg)
7-3		SPIKE	0	PFOS		0	125	3	1X					2018/02/09 27
7-2		SPIKE	1	PFOS		0	125	3	1X					2018/02/09 29
7-1		BLANK				0	125	3	1X					2018/02/09 30
7-4	B820260	*FZJ946-01R		[redacted]		0	125	3	1X	2	2018/02/09	2018/02/09 23:00	DOD	2018/02/09 31
7-5	B821961	*FZT426-01R		[redacted]		<0.1	12.5	3	10X	2	2018/02/09	2018/02/12 23:00	DOD	2018/02/09 32
7-7	B821961	*FZT427-01R		[redacted]		<0.1	125	3	1X	2	2018/02/09	2018/02/12 23:00	DOD	2018/02/09 25
7-9	B821961	*FZT428-01R		[redacted]		0	125	3	1X	2	2018/02/09	2018/02/12 23:00	DOD	2018/02/09 26
7-10	B821961	*FZT430-01R		[redacted]		0	125	3	1X	2	2018/02/09	2018/02/12 23:00	DOD	2018/02/09 28
7-12	B821961	*FZT431-01R		[redacted]		0	125	3	1X	2	2018/02/09	2018/02/12 23:00	DOD	2018/02/09 29
7-14	B823886*	*GAC647-01R		[redacted]		0	125	3	1X	2	2018/02/13	2018/02/08 17:00	DOD	2018/02/09 32
7-16	B823886*	*GAC649-01R		[redacted]		0	125	3	1X	2	2018/02/13	2018/02/08 17:00	DOD	2018/02/09 31
7-18	B823886*	*GAC651-01R		[redacted]		0	125	3	1X	2	2018/02/13	2018/02/08 17:00	DOD	2018/02/09 30
7-19	B824213	*GAD929-01R		FB-CEF-1820-0126*		0	125	3	1X	2	2018/02/09	2018/02/14 23:00	DOD	2018/02/09 28
7-20	B824213	*GAD930-01R		EB-CEF-1820-0126*		0	125	3	1X	2	2018/02/09	2018/02/14 23:00	DOD	2018/02/09 26
7-21	B824213	*GAD931-01R		EB-CEF-1820-0126*		<0.1	125	3	1X	2	2018/02/09	2018/02/14 23:00	DOD	2018/02/09 27
7-22	B824213	*GAD932-01R		EB-CEF-1820-0126*		0	125	3	1X	2	2018/02/09	2018/02/14 23:00	DOD	2018/02/09 29
7-23	B824213	*GAD933-01R		CEF-860-TW01-01*		<0.1	1.25	3	100X	2	2018/02/09	2018/02/14 23:00	DOD	2018/02/09 32
7-24	B824213	*GAD934-01R		CEF-1820-TW01-0*		<0.1	1.25	3	100X	2	2018/02/09	2018/02/14 23:00	DOD	2018/02/09 30

2018/02/09 SSV.

Remarks: • Carbon clean up done.
• 9 did 10x for FZT426 because sample is very bad. dark brown in colour and Turbid.

Samples extracted by: Shivani Shivani

Instrumentation performed by: FC Date: 2018/02/12

Calculations performed by: MP Date: 2018/02/13

Validated by: CM Date: 2018/02/14

Job No.	Rep / Client Name / Remarks	Contact	Client Tier	National
GB820260	[redacted]			
GB821961				
GB823886				
GB824213	SP8 Earth Toxics Inc	Rick Carr	Tier 5 (Enviro.) AECOM	

nreg, PFOSALCM-W Level IV Data Package and TetraTech EDD required The following samples will not be reported: GAD929, GAD930, GAD931, GAD932, GAD935 F/C by NGV - 2018/02/09 Project #: JM10 CECIL

Job	Sample	Lab Comments
	SPIKE	Spk/Spk Dup prepared due to insufficient amount of sample
	SPIKE	
	BLANK	
B820260	FZJ946-01R	
B821961	FZT426-01R	
B821961	FZT427-01R	Centrifuged at 4000 rpm.
B821961	FZT428-01R	
B821961	FZT430-01R	
B821961	FZT431-01R	
B823886	GAC647-01R	"
B823886	GAC649-01R	"
B823886	GAC651-01R	
B824213	GAD929-01R	
B824213	GAD930-01R	
B824213	GAD931-01R	"
B824213	GAD932-01R	
B824213	GAD933-01R	Sample we are dosing as a high also.
B824213	GAD934-01R	"

Calibration Standard Preparation #

	Mean (ue)	Spk (ue)	IS
S_1	2825	25	SK7377
S_2	2800	50	
S_3	2700	150	
S_4	2813	37.5	I-5297
S_5	2775	75	
S_6	2725	125	
ICV	2788	62.5	I-5299
IB	2850		150 (ue)

JMS 2018/02/09

Worksheet Reagent Tracking Record Worksheet # 539311

Surrogate/Spike solutions	√	Solution ID #	Conc.	Volume (µL) Blk-Spk Solid	Blk-Spk Liquid	MS Solid	MS Liquid	Samples Solid	Samples Liquid
OGT 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
Sterli 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-5299(1/3)	1ug/mL	75	21 62.5	75	21 62.5	NA	NA
PFC Internal Standard Solution	✓	SI-6763(4/4) JPS	50/125 ng/mL	200	100 150	200	100 150	200	100 150
PFC Injection IS	✓	SI-6770(1/2) JPS	~~400~~ 100 ng/mL	20	20	20	20	20	20
ICV	✓	I-5299(1/3)	1ug/mL		62.5				

Solvent/Reagent	√	Lot No.	Date Opened	Solvent/Reagent	√	Lot No.	Date Opened/ Prepared
DCM				50% NaOH			
Ottawa Sand				o-Phosphoric Acid			
Methanol	✓	SHBO545	2018/02/09	Borax			
2-Propanol (IPA)				Calcium Chloride			
Acetonitrile				EDTA			
Sodium Sulfate				Phosphate Buffer			
70:30 Methanol: Water				Sodium Thiosulphate			
60:40 Water: Methanol	✓	PRURF	108-348	DNPH			
DCM:Ethyl Ether (75:25)				FMOC			
Hexane:IPA (98:2)				5M Acetate Buffer			
2% Formic Acid	✓	PRURF	108-342	0.2% NH_4OH	✓	PRURF 108349	
0.2% Formic Acid				Leachate Fluid			
0.05M KOH				Reagent Water	✓	572972018/02/09	
0.05M HCl							

*Spiked by: SSV

Spike Date: 2018/02/09

Spike Syringe/Pipette ID#: G243906

Int. Std Syringe/Pipette ID#: Inland Stock 19865f
Injection IS #G243906

*Spiking Witnessed by: JPS

Final pH:

Equipment & ID	√	Equipment	ID#	√	Equipment	Lot #
Pipettor K557916 K39732F	✓	SPE Cartridge	0034372477A	✓	QC Balance ID	FC-1
	✓	Filter			Thermometer ID &Temp	
Dispenser		Centrifuge	4214B683	9:30-9:35		
		Sonicator				

Bottle Tracking
Bottle# 18801
Cap# 18778
Systems plus Lot#: 18/01/31

Comments: 850 mL volumetric Cylinder #3026
Envi Carb # 928065

* - SPIKING OF QC's & SAMPLES MUST BE WITNESSED AT ALL TIMES.

Worksheet: 5393111 **Dilution and Column Cleanup Worksheet**

Maxxam Analytics

Job Number	Sample ID	Sample: Initial Final Volume	Dilution Required	Sample added mL	Solvent Added mL	Int Stan Added uL	New Effective Final Volume	INITIAL SSV. DATE	Column Clean Up
B821961	FZT426	1—	10X	12.5	-	150	125	218/02/04	—
B824213	GAD933	—	100X	1.25	123.75	150	125	218/02/05	—
	GAD934	—	100x	1.25	123.75	150	125	218/02/05	—

218/02/04 SSV

10ml # K551915

250ml volumetric cylinder # 3026

LCMS4_0 # 57297

Worksheet Number: **5393111**

PFOS and PFOA in water by SPE/LCMS - Water

ug/L

Parameter Name	Units	SPIKE	SPIKE Dup1	BLANK	B820260 FZJ946	DL	B821961 FZT426
6:2 Fluorotelomer sulfonate	ug/L	105.69287	106.76411	0	0	0.02	N/A*******
8:2 Fluorotelomer sulfonate	ug/L	101.42034	104.21074	0	0	0.02	N/A*******
N-ethylperfluorooctane sulfonamide	ug/L	N/A*******	N/A*******	N/A*******	N/A*******	0.02	N/A*******
EtFOSAA	ug/L	104.15328	105.10459	0	N/A*******	0.02	0
N-ethylperfluorooctane sulfonamidoe	ug/L	N/A*******	N/A*******	N/A*******	N/A*******	0.02	N/A*******
N-methylperfluorooctane sulfonamide	ug/L	N/A*******	N/A*******	N/A*******	N/A*******	0.02	N/A*******
MeFOSAA	ug/L	101.90288	104.67266	0	N/A*******	0.02	0
N-methylperfluorooctanesulfonamidol	ug/L	N/A*******	N/A*******	N/A*******	N/A*******	0.02	N/A*******
Perfluorobutanoic acid	ug/L	96.81029	104.98966	0	0	0.02	N/A*******
Perfluorobutane Sulfonate (PFBS)	ug/L	107.00695	98.52294	0	0	0.02	0
Perfluorodecane Sulfonate	ug/L	104.79485	102.96079	0	0	0.02	N/A*******
Perfluoroheptanoic Acid (PFHpA)	ug/L	101.81802	104.83022	0	0	0.02	0
Perfluoroheptane sulfonate	ug/L	99.40149	96.84953	0	N/A*******	0.02	N/A*******
Perfluorohexanoic Acid (PFHxA)	ug/L	101.44902	94.16447	0	0	0.02	0
Perfluorohexane Sulfonate (PFHxS)	ug/L	102.56776	95.58329	0	0	0.02	0
Perfluorononanoic Acid (PFNA)	ug/L	94.58887	98.51440	0	0	0.02	0
Perfluorooctane Sulfonamide (PFOSA)	ug/L	98.01192	97.80571	0	0	0.02	N/A*******
Perfluoropentanoic Acid (PFPeA)	ug/L	111.45918	107.15878	0	0	0.02	N/A*******
Perfluorotetradecanoic Acid	ug/L	102.19269	99.13740	0	0	0.02	0
Perfluorotridecanoic Acid	ug/L	99.78780	99.17589	0	0	0.02	0
Perfluoroundecanoic Acid (PFUnA)	ug/L	107.82925	107.82118	0	0	0.02	0
Perfluorodecanoic Acid (PFDA)	ug/L	115.34391	108.96260	0	0	0.02	0
Perfluorododecanoic Acid (PFDoA)	ug/L	95.85328	97.10967	0	0	0.02	0
Perfluoro-n-Octanoic Acid (PFOA)	ug/L	98.21271	99.91137	0	0	0.02	0
Perfluorooctane Sulfonate (PFOS)	ug/L	97.55814	92.35321	0	0	0.02	0
13C2-6:2 Fluorotelomer sulfonate	ug/L	86.6777179	80.6630225	89.7940994	104.654840		N/A*******
13C2-8:2 Fluorotelomer sulfonate	ug/L	83.2276206	77.0906257	85.9065722	100.954615		N/A*******
13C2-perfluorotetradecanoic acid	ug/L	77.9719025	78.8074986	72.6418162	80.5230889		103.135320
13C4-Perfluorobutanoic acid	ug/L	95.7828537	81.8678722	82.5117476	104.013416		N/A*******
D3-MeFOSAA	ug/L	69.6808388	70.5580714	69.9853279	N/A*******		91.0947184
D5-EtFOSAA	ug/L	69.2740254	70.6266166	68.6214440	N/A*******		95.0929083
N-methyl-d3-perfluorooctane sulfona	ug/L	N/A*******	N/A*******	N/A*******	N/A*******		N/A*******
N-ethyl-d5-perfluorooctane sulfonam	ug/L	N/A*******	N/A*******	N/A*******	N/A*******		N/A*******
13C2-Perfluorodecanoic acid	ug/L	79.0950256	76.8141603	77.3264715	91.3326560		97.5437155
13C2-Perfluorododecanoic acid	ug/L	79.2750111	79.6398802	71.9099347	88.4543326		100.711089
13C2-Perfluorohexanoic acid	ug/L	88.9887591	84.6180257	81.7761702	100.356479		98.0923416
13C2-Perfluoroundecanoic acid	ug/L	81.3910058	76.1475850	72.0955109	83.8490214		96.2276267
13C4-Perfluoroheptanoic acid	ug/L	89.3336735	83.3770847	81.4167937	102.482051		103.934368
13C5-Perfluorononanoic acid	ug/L	95.4453505	85.5366455	85.8861557	104.385366		101.137320
13C4-Perfluorooctanoic acid	ug/L	92.7042064	83.9236045	81.8081538	101.300808		103.433938
13C4-Perfluorooctanesulfonate	ug/L	92.7490334	87.8238736	86.0467372	90.3489945		102.541223
13C5-Perfluoropentanoic acid	ug/L	87.0563413	83.7976020	86.4858595	99.2311615		N/A*******
13C8-Perfluorooctane Sulfonamide	ug/L	84.8568322	81.0758076	76.2852142	92.8788435		N/A*******
18O2-Perfluorohexanesulfonate	ug/L	84.3361519	83.2682194	86.0512907	111.590941		101.148786

Worksheet Number: **5393111**

PFOS and PFOA in water by SPE/LCMS - Water

ug/L

Parameter Name	DL	B821961 FZT427	B821961 FZT428	B821961 FZT430	B821961 FZT431	B823886 GAC647	B823886 GAC649
6:2 Fluorotelomer sulfonate	0.2	N/A*******	N/A*******	N/A*******	N/A*******	0	0
8:2 Fluorotelomer sulfonate	0.2	N/A*******	N/A*******	N/A*******	N/A*******	0	0
N-ethylperfluorooctane sulfonamide	0.2	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******
EtFOSAA	0.2	0	0	0	0	N/A*******	N/A*******
N-ethylperfluorooctane sulfonamidoe	0.2	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******
N-methylperfluorooctane sulfonamide	0.2	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******
MeFOSAA	0.2	0	0	0	0	N/A*******	N/A*******
N-methylperfluorooctanesulfonamidol	0.2	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******
Perfluorobutanoic acid	0.2	N/A*******	N/A*******	N/A*******	N/A*******	0	0
Perfluorobutane Sulfonate (PFBS)	0.2	0	0	0	0	0	0
Perfluorodecane Sulfonate	0.2	N/A*******	N/A*******	N/A*******	N/A*******	0	0
Perfluoroheptanoic Acid (PFHpA)	0.2	0	0	0	0	0	0
Perfluoroheptane sulfonate	0.2	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******
Perfluorohexanoic Acid (PFHxA)	0.2	0	0	0	0	0	0
Perfluorohexane Sulfonate (PFHxS)	0.2	0	0	0	0	0	0
Perfluorononanoic Acid (PFNA)	0.2	0	0	0	0	0	0
Perfluorooctane Sulfonamide (PFOSA)	0.2	N/A*******	N/A*******	N/A*******	N/A*******	0	0
Perfluoropentanoic Acid (PFPeA)	0.2	N/A*******	N/A*******	N/A*******	N/A*******	0	0
Perfluorotetradecanoic Acid	0.2	0	0	0	0	0	0
Perfluorotridecanoic Acid	0.2	0	0	0	0	0	0
Perfluoroundecanoic Acid (PFUnA)	0.2	0	0	0	0	0	0
Perfluorodecanoic Acid (PFDA)	0.2	0	0	0	0	0	0
Perfluorododecanoic Acid (PFDoA)	0.2	0	0	0	0	0	0
Perfluoro-n-Octanoic Acid (PFOA)	0.2	0	0	0	0	0	0
Perfluorooctane Sulfonate (PFOS)	0.2	0	0	0	0	0	0
13C2-6:2 Fluorotelomer sulfonate		N/A*******	N/A*******	N/A*******	N/A*******	116.517392	81.2705514
13C2-8:2 Fluorotelomer sulfonate		N/A*******	N/A*******	N/A*******	N/A*******	122.094329	76.1050920
13C2-perfluorotetradecanoic acid		64.1128099	78.3443888	70.3914851	73.6783156	111.444959	77.3155084
13C4-Perfluorobutanoic acid		N/A*******	N/A*******	N/A*******	N/A*******	76.3475598	63.2048365
D3-MeFOSAA		77.7432242	76.2251821	73.7251123	75.0092066	N/A*******	N/A*******
D5-EtFOSAA		77.1035814	75.6644729	74.2104118	72.9664901	N/A*******	N/A*******
N-methyl-d3-perfluorooctane sulfona		N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******
N-ethyl-d5-perfluorooctane sulfonam		N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******
13C2-Perfluorodecanoic acid		93.4515519	82.9247189	81.0760738	84.8227009	114.758855	86.3140535
13C2-Perfluorododecanoic acid		89.4800847	81.0991644	70.3717362	79.6903254	109.573159	78.9507751
13C2-Perfluorohexanoic acid		93.2477634	93.6197216	87.0079188	95.2841229	124.954541	88.9701396
13C2-Perfluoroundecanoic acid		81.9605712	74.9965870	75.5501112	74.5941791	114.496458	85.0631486
13C4-Perfluoroheptanoic acid		96.5532240	88.3975993	93.1177153	90.9481709	125.097886	83.1060895
13C5-Perfluorononanoic acid		92.9035897	89.6257384	83.1882254	91.1526005	125.640415	88.8856718
13C4-Perfluorooctanoic acid		98.7533050	90.8016729	86.5821224	90.1970791	124.769560	87.4776965
13C4-Perfluorooctanesulfonate		103.625548	94.2519294	88.8359476	82.7354861	121.308951	91.4718284
13C5-Perfluoropentanoic acid		N/A*******	N/A*******	N/A*******	N/A*******	119.713803	81.8153443
13C8-Perfluorooctane Sulfonamide		N/A*******	N/A*******	N/A*******	N/A*******	127.853116	84.8445384
18O2-Perfluorohexanesulfonate		90.4038486	98.9841635	91.4490289	85.7293043	134.709157	92.3903242

Worksheet Number: **5393111**

PFOS and PFOA in water by SPE/LCMS - Water

ug/L

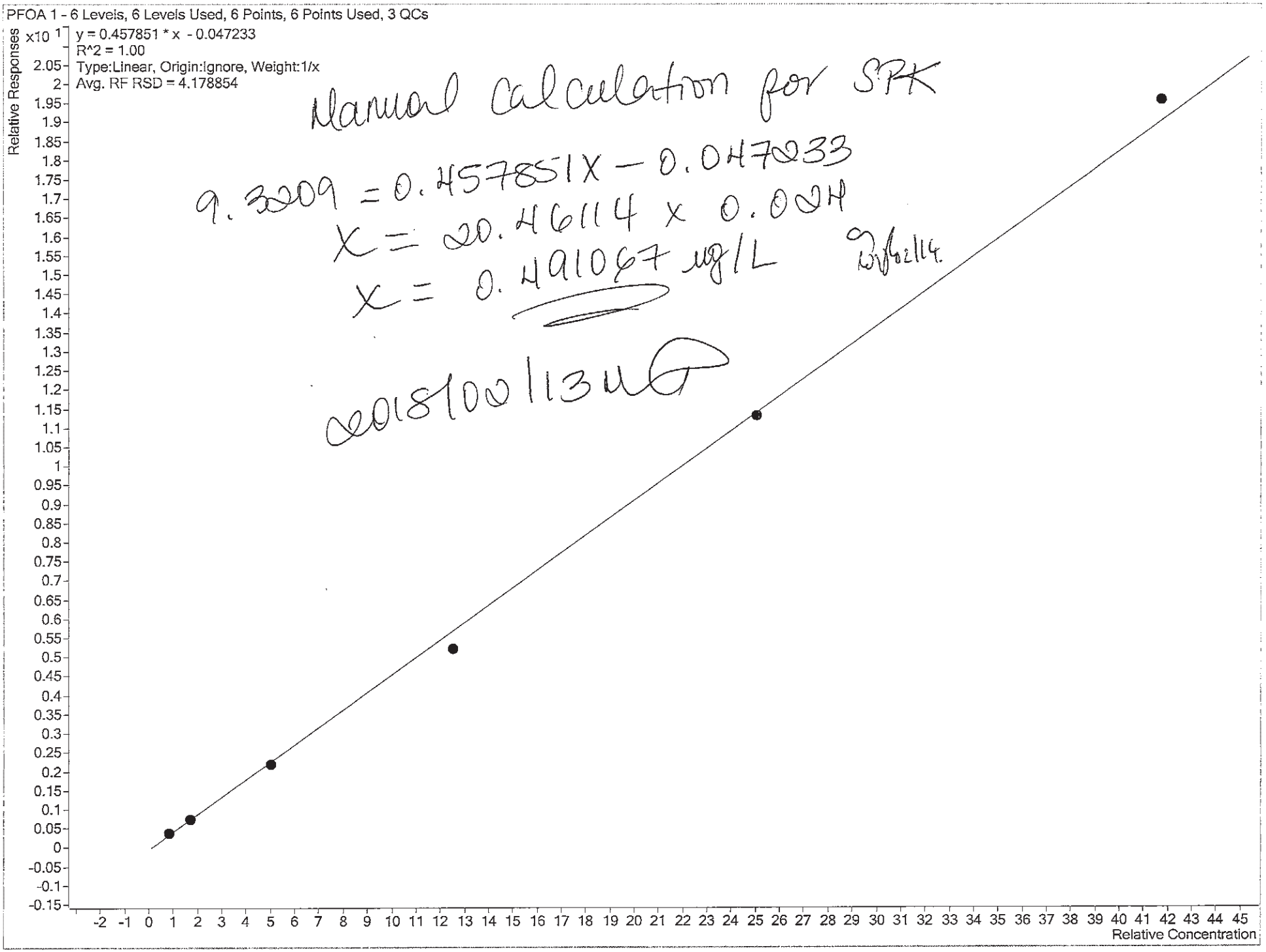
Parameter Name	B823886 GAC651	B824213 GAD929	B824213 GAD930	B824213 GAD931	B824213 GAD932	DL	B824213 GAD933
6:2 Fluorotelomer sulfonate	0	0	0	0	0	0.02	N/A*******
8:2 Fluorotelomer sulfonate	0	0	0	0	0	0.02	N/A*******
N-ethylperfluorooctane sulfonamide	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	0.02	N/A*******
EtFOSAA	N/A*******	0	0	0	0	0.02	0
N-ethylperfluorooctane sulfonamidoe	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	0.02	N/A*******
N-methylperfluorooctane sulfonamide	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	0.02	N/A*******
MeFOSAA	N/A*******	0	0	0	0	0.02	0
N-methylperfluorooctanesulfonamidol	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	0.02	N/A*******
Perfluorobutanoic acid	0	0	0	0	0	0.02	N/A*******
Perfluorobutane Sulfonate (PFBS)	0	0	0	0	0	0.02	1.54195164
Perfluorodecane Sulfonate	0	0	0	0	0	0.02	N/A*******
Perfluoroheptanoic Acid (PFHpA)	0	0	0	0	0	0.02	1.18944524
Perfluoroheptane sulfonate	N/A*******	0	0	0	0	0.02	N/A*******
Perfluorohexanoic Acid (PFHxA)	0	0	0	0	0	0.02	4.39839741
Perfluorohexane Sulfonate (PFHxS)	0	0	0	0	0	0.02	31.6427107
Perfluorononanoic Acid (PFNA)	0	0	0	0	0	0.02	0
Perfluorooctane Sulfonamide (PFOSA)	0	0	0	0	0	0.02	N/A*******
Perfluoropentanoic Acid (PFPeA)	0	0	0	0	0	0.02	N/A*******
Perfluorotetradecanoic Acid	0	0	0	0	0	0.02	0
Perfluorotridecanoic Acid	0	0	0	0	0	0.02	0
Perfluoroundecanoic Acid (PFUnA)	0	0	0	0	0	0.02	0
Perfluorodecanoic Acid (PFDA)	0	0	0	0	0	0.02	0
Perfluorododecanoic Acid (PFDoA)	0	0	0	0	0	0.02	0
Perfluoro-n-Octanoic Acid (PFOA)	0	0	0	0	0	0.02	5.76491697
Perfluorooctane Sulfonate (PFOS)	0	0	0	0.02278008	0	0.02	240.451900
13C2-6:2 Fluorotelomer sulfonate	104.575378	91.5911860	99.5687772	99.8204014	100.886305		N/A*******
13C2-8:2 Fluorotelomer sulfonate	94.0289644	80.6138466	95.9500274	89.9974499	89.7788706		N/A*******
13C2-perfluorotetradecanoic acid	78.4003134	71.6298248	80.3805289	60.8990572	68.2389077		79.6429256
13C4-Perfluorobutanoic acid	95.5756973	84.5243044	97.2382628	93.5251213	96.3160936		85.6527749
D3-MeFOSAA	N/A*******	73.0012565	74.9642190	66.9518255	77.0005286		70.1518910
D5-EtFOSAA	N/A*******	76.4197875	78.8549114	70.5865209	75.8225004		70.0461846
N-methyl-d3-perfluorooctane sulfona	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******		N/A*******
N-ethyl-d5-perfluorooctane sulfonam	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******		N/A*******
13C2-Perfluorodecanoic acid	85.7828367	84.0615846	82.3983130	82.6575460	82.5763946		79.6908372
13C2-Perfluorododecanoic acid	84.8939026	72.2911348	84.8713935	70.5288286	76.2423837		73.4461017
13C2-Perfluorohexanoic acid	92.9808857	90.3314663	96.8950305	91.0506578	91.9571033		91.0222568
13C2-Perfluoroundecanoic acid	89.9132019	76.3745169	83.0895864	80.2146710	75.7011233		74.1657675
13C4-Perfluoroheptanoic acid	98.7676559	86.5651227	100.601624	95.7180050	86.3839934		85.6275015
13C5-Perfluorononanoic acid	98.2143785	90.5550384	96.6598776	91.3058643	82.7508580		82.1539656
13C4-Perfluorooctanoic acid	96.3986447	88.3889896	99.0135260	90.0033548	86.6597525		88.4435680
13C4-Perfluorooctanesulfonate	94.5377183	90.5494851	103.536361	95.0215201	86.9077260		N/A*******
13C5-Perfluoropentanoic acid	97.0517626	86.3602265	97.1930848	91.2605374	91.8654017		N/A*******
13C8-Perfluorooctane Sulfonamide	88.5105163	85.4631847	95.4302078	82.8952047	93.7823091		N/A*******
18O2-Perfluorohexanesulfonate	98.9561350	93.5581677	109.632889	91.9206618	89.6098577		89.2170716

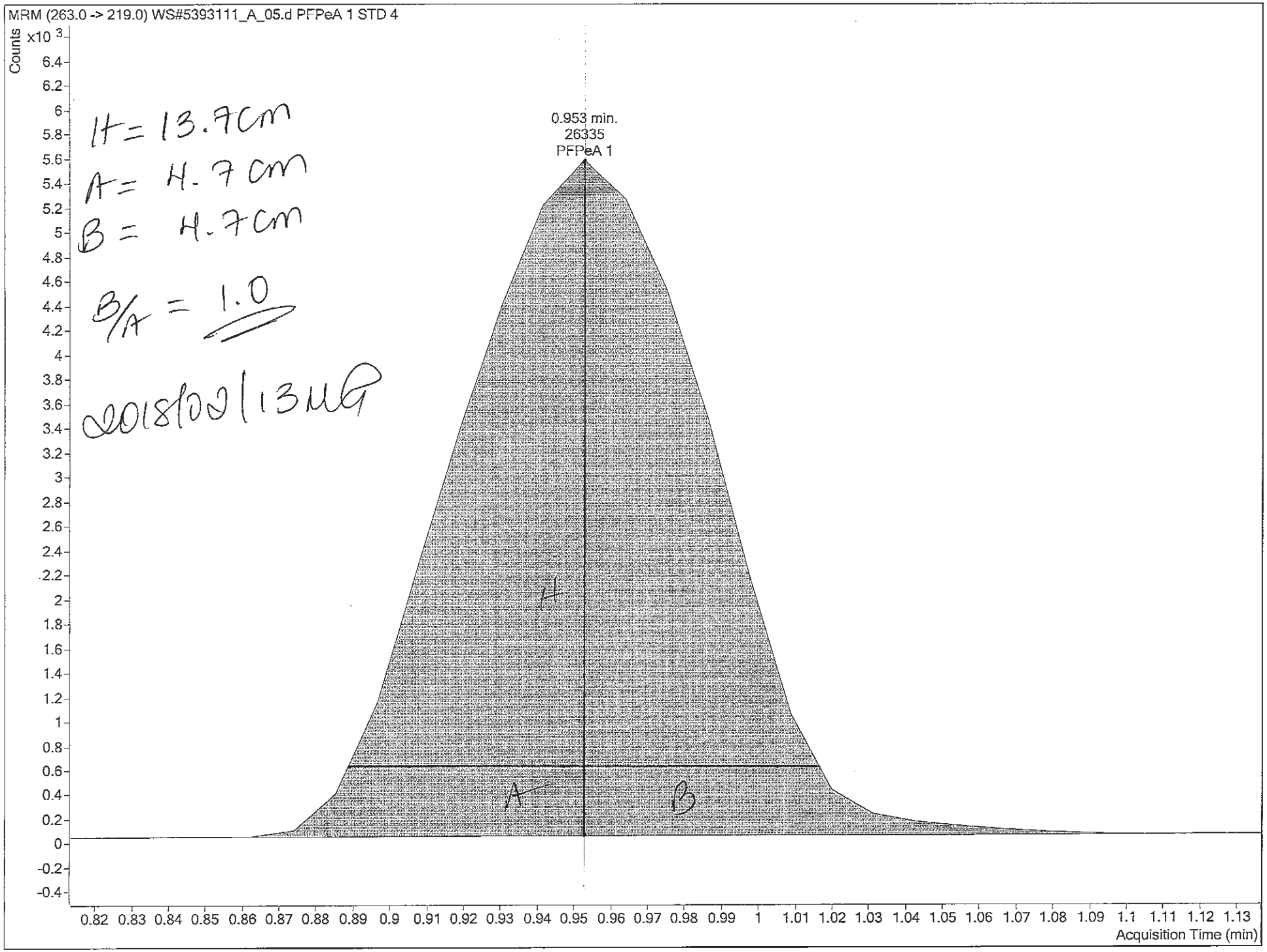
Worksheet Number: **5393111**

PFOS and PFOA in water by SPE/LCMS - Water

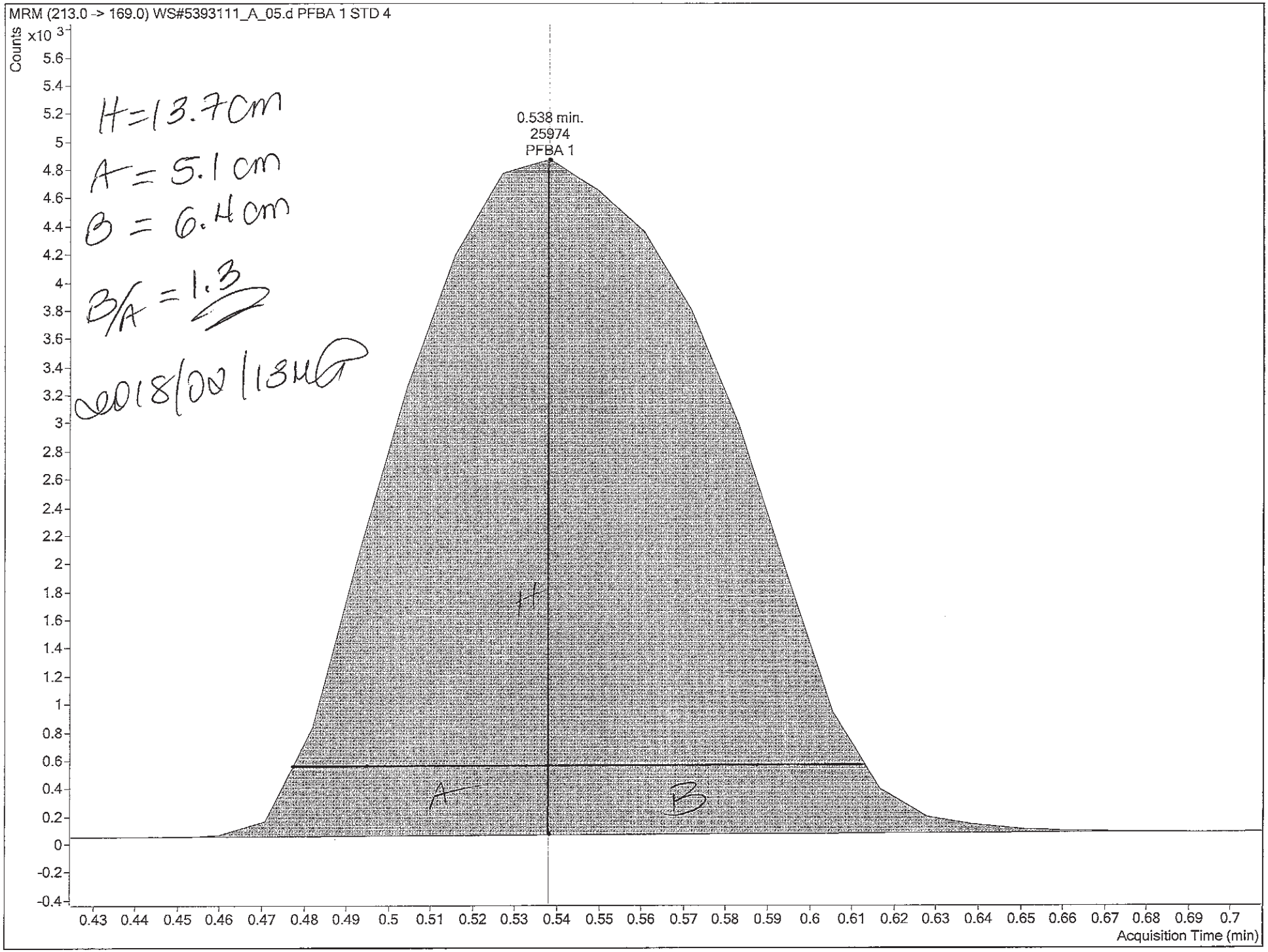
ug/L

Parameter Name	B824213 GAD934	DL	RDL	MDL	IDL		
6:2 Fluorotelomer sulfonate	N/A*******	2	0.02	0.0066	0		
8:2 Fluorotelomer sulfonate	N/A*******	2	0.02	0.0066	0		
N-ethylperfluorooctane sulfonamide	N/A*******	2	0.02	0.01	0		
EtFOSAA	0	2	0.02	0.0033	0		
N-ethylperfluorooctane sulfonamidoe	N/A*******	2	0.02	0.0079	0		
N-methylperfluorooctane sulfonamide	N/A*******	2	0.02	0.013	0		
MeFOSAA	0	2	0.02	0.0029	0		
N-methylperfluorooctanesulfonamidol	N/A*******	2	0.02	0.012	0		
Perfluorobutanoic acid	N/A*******	2	0.02	0.0055	0		
Perfluorobutane Sulfonate (PFBS)	32.1664698	2	0.02	0.0054	0		
Perfluorodecane Sulfonate	N/A*******	2	0.02	0.006	0		
Perfluoroheptanoic Acid (PFHpA)	9.01235455	2	0.02	0.0074	0		
Perfluoroheptane sulfonate	N/A*******	2	0.02	0.008	0		
Perfluorohexanoic Acid (PFHxA)	52.6657501	2	0.02	0.0035	0		
Perfluorohexane Sulfonate (PFHxS)	226.751200	2	0.02	0.0056	0		
Perfluorononanoic Acid (PFNA)	0	2	0.02	0.0087	0		
Perfluorooctane Sulfonamide (PFOSA)	N/A*******	2	0.02	0.0034	0		
Perfluoropentanoic Acid (PFPeA)	N/A*******	2	0.02	0.0075	0		
Perfluorotetradecanoic Acid	0	2	0.02	0.0027	0		
Perfluorotridecanoic Acid	0	2	0.02	0.0038	0		
Perfluoroundecanoic Acid (PFUnA)	0	2	0.02	0.0025	0		
Perfluorodecanoic Acid (PFDA)	0	2	0.02	0.0061	0		
Perfluorododecanoic Acid (PFDoA)	0	2	0.02	0.005	0		
Perfluoro-n-Octanoic Acid (PFOA)	28.8674964	2	0.02	0.0033	0		
Perfluorooctane Sulfonate (PFOS)	1126.27380	2	0.02	0.006	0		
13C2-6:2 Fluorotelomer sulfonate	N/A*******						
13C2-8:2 Fluorotelomer sulfonate	N/A*******						
13C2-perfluorotetradecanoic acid	53.7912963						
13C4-Perfluorobutanoic acid	95.9061312						
D3-MeFOSAA	75.5392952						
D5-EtFOSAA	72.3555102						
N-methyl-d3-perfluorooctane sulfona	N/A*******						
N-ethyl-d5-perfluorooctane sulfonam	N/A*******						
13C2-Perfluorodecanoic acid	86.3161082						
13C2-Perfluorododecanoic acid	78.8717989						
13C2-Perfluorohexanoic acid	93.9266583						
13C2-Perfluoroundecanoic acid	81.6063245						
13C4-Perfluoroheptanoic acid	87.6927476						
13C5-Perfluorononanoic acid	94.2584877						
13C4-Perfluorooctanoic acid	94.1786479						
13C4-Perfluorooctanesulfonate	N/A*******						
13C5-Perfluoropentanoic acid	N/A*******						
13C8-Perfluorooctane Sulfonamide	N/A*******						
18O2-Perfluorohexanesulfonate	N/A*******						


PFOA 1 - 6 Levels, 6 Levels Used, 6 Points, 6 Points Used, 3 QCs
y = 0.457851 * x - 0.047233
R^2 = 1.00
Type:Linear, Origin:Ignore, Weight:1/x
Avg. RF RSD = 4.178854
Relative Responses
x10 1
Relative Concentration
Manual calculation for SPK
9.3209 = 0.457851X − 0.047233
X = 20.46114 x 0.02H
X = 0.491067 ng/L
20.46114
20/100/113 mL



Maxxam Analytics



Maxxam Analytics

Report Name: Worksheet - Parameter Lists

Report Date: 2018/02/09

Test Code: **PFOSALCM-W**

Worksheet Number: **5393111**

Sample Number	Parameter Code	Parameter	
FZJ946-01	6:2FTS	6:2 Fluorotelomer sulfonate	*
GAC647-01	8:2FTS	8:2 Fluorotelomer sulfonate	*
GAC649-01	PFBA	Perfluorobutanoic acid	
GAC651-01	PFBS	Perfluorobutane Sulfonate (PFBS)	
	PFDS	Perfluorodecane Sulfonate	
	PFHPA	Perfluoroheptanoic Acid (PFHpA)	
	PFHXA	Perfluorohexanoic Acid (PFHxA)	
	PFHXS	Perfluorohexane Sulfonate (PFHxS)	
	PFNA	Perfluorononanoic Acid (PFNA)	
	PFOSA	Perfluorooctane Sulfonamide (PFOSA)	
	PFPEA	Perfluoropentanoic Acid (PFPeA)	
	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)	
FZT426-01	ETFOSAA	EtFOSAA	*
FZT427-01	MEFOSAA	MeFOSAA	*
FZT428-01	PFBS	Perfluorobutane Sulfonate (PFBS)	
FZT430-01	PFHPA	Perfluoroheptanoic Acid (PFHpA)	
FZT431-01	PFHXA	Perfluorohexanoic Acid (PFHxA)	
GAD933-01	PFHXS	Perfluorohexane Sulfonate (PFHxS)	
GAD934-01	PFNA	Perfluorononanoic Acid	

* - This parameter is usually off, but will be reported for this group of samples!

Report Name: Worksheet - Parameter Lists

Report Date: 2018/02/09

Test Code: **PFOSALCM-W**

Worksheet Number: **5393111**

Sample Number	Parameter Code	Parameter
		(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)
GAD929-01	NONE	NONE
GAD930-01		
GAD931-01		
GAD932-01		

* - This parameter is usually off, but will be reported for this group of samples!

WorkSheet 5393111 Instrument Sequences

1.	5393111:SPIKE	SPIKE
2.	5393111:SPIKE:D1	SPIKE :D1
3.	5393111:BLANK	BLANK
4.	5393111:FZJ946-01	[redacted]
5.	5393111:FZT426-01	
6.	5393111:FZT427-01	
7.	5393111:FZT428-01	
8.	5393111:FZT430-01	
9.	5393111:FZT431-01	
10.	5393111:GAC647-01	
11.	5393111:GAC649-01	
12.	5393111:GAC651-01	
13.	5393111:GAD929-01	FB-CEF-1820-012618-10
14.	5393111:GAD930-01	EB-CEF-1820-012618-14
15.	5393111:GAD931-01	EB-CEF-1820-012618-15
16.	5393111:GAD932-01	EB-CEF-1820-012618-16
17.	5393111:GAD933-01	CEF-860-TW01-0118
18.	5393111:GAD934-01	CEF-1820-TW01-0118

Worklist Report

Agilent Technologies

Instrument Name: LCMS04 **Worklist Path:** D:\MassHunter\Worklists\PFCs\PFC_180212_Low.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\20180212\WS#5393111
Pre-Worklist Script: ---
Post-Worklist Script: SCP_InstrumentStandby(){MH_Acq_Scripts.exe}
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: Column #198
MP A1: Solution# 280 (FSRE18)
MP B1: Methanol lot# SHBJ5451, Sigma

FC 2018/02/12

Plate Barcode:

Plate	Barcode
P2	

Worklist Table

	Sample Name	Sample Position	Method	Data File	Sample Type	Level Name	Inj Vol (µl)	Comment
1	Solvent	P2-A1	PFC_Water_Low.m	WS#5393111_01.d	Sample		As Method	-
2	STD 1	P2-A2	PFC_Water_Low.m	WS#5393111_02.d	Calibration	STD 1	As Method	-
3	STD 2	P2-A3	PFC_Water_Low.m	WS#5393111_03.d	Calibration	STD 2	As Method	-
4	STD 3	P2-A4	PFC_Water_Low.m	WS#5393111_04.d	Calibration	STD 3	As Method	-
5	STD 4	P2-A5	PFC_Water_Low.m	WS#5393111_05.d	Calibration	STD 4	As Method	-
6	STD 5	P2-A6	PFC_Water_Low.m	WS#5393111_06.d	Calibration	STD 5	As Method	-
7	STD 6	P2-A7	PFC_Water_Low.m	WS#5393111_07.d	Calibration	STD 6	As Method	-

291 of 854

Worklist Report

Agilent Technologies

	Sample Name	Sample Position	Method	Data File	Sample Type	Level Name	Inj Vol (µl)	Comment
8	IB	P2-A8	PFC_Water_Low.m	WS#5393111_08.d	Sample		As Method	-
9	ICV	P2-A9	PFC_Water_Low.m	WS#5393111_09.d	QC	ICV	As Method	-
10	ISC	P2-A2	PFC_Water_Low.m	WS#5393111_10.d	ConCal	STD 1	As Method	-
11	5393111:BLANK	P2-B1	PFC_Water_Low.m	WS#5393111_11.d	Sample		As Method	-
12	5393111:SPIKE	P2-B2	PFC_Water_Low.m	WS#5393111_12.d	QC	ICV	As Method	-
13	5393111:SPIKE:D1	P2-B3	PFC_Water_Low.m	WS#5393111_13.d	QC	ICV	As Method	-
14	5393111:FZJ946-01	P2-B4	PFC_Water_Low.m	WS#5393111_14.d	Sample		As Method	-
15	5393111:FZT426-01:10x	P2-B5	PFC_Water_Low.m	WS#5393111_15.d	Sample		As Method	-
16	IB	P2-A8	PFC_Water_Low.m	WS#5393111_16.d	Sample		As Method	-
17	5393111:FZT427-01	P2-B6	PFC_Water_Low.m	WS#5393111_17.d	Sample		As Method	-
18	5393111:FZT428-01	P2-B7	PFC_Water_Low.m	WS#5393111_18.d	Sample		As Method	-
19	5393111:FZT430-01	P2-B8	PFC_Water_Low.m	WS#5393111_19.d	Sample		As Method	-
20	5393111:FZT431-01	P2-B9	PFC_Water_Low.m	WS#5393111_20.d	Sample		As Method	-
21	5393111:GAC647-01	P2-C1	PFC_Water_Low.m	WS#5393111_21.d	Sample		As Method	-
22	5393111:GAC649-01	P2-C2	PFC_Water_Low.m	WS#5393111_22.d	Sample		As Method	-
23	5393111:GAC651-01	P2-C3	PFC_Water_Low.m	WS#5393111_23.d	Sample		As Method	-
24	5393111:GAD929-01	P2-C4	PFC_Water_Low.m	WS#5393111_24.d	Sample		As Method	-
25	CCV	P2-A5	PFC_Water_Low.m	WS#5393111_25.d	ConCal	STD 4	As Method	-
26	5393111:GAD930-01	P2-C5	PFC_Water_Low.m	WS#5393111_26.d	Sample		As Method	-
27	5393111:GAD931-01	P2-C6	PFC_Water_Low.m	WS#5393111_27.d	Sample		As Method	-
28	5393111:GAD932-01	P2-C7	PFC_Water_Low.m	WS#5393111_28.d	Sample		As Method	-
29	5393111:GAD933-01:100x	P2-C8	PFC_Water_Low.m	WS#5393111_29.d	Sample		As Method	-
30	IB	P2-A8	PFC_Water_Low.m	WS#5393111_30.d	Sample		As Method	-

Maxxam Analytics

292 of 854

	Sample Name	Sample Position	Method	Data File	Sample Type	Level Name	Inj Vol (µl)	Comment
31	5393111:GAD934-01:100x	P2-C9	PFC_Water_Low.m	WS#5393111_31.d	Sample		As Method	-
32	IB	P2-A8	PFC_Water_Low.m	WS#5393111_32.d	Sample		As Method	-
33	CCV	P2-A5	PFC_Water_Low.m	WS#5393111_33.d	ConCal	STD 4	As Method	-

Maxxam Analytics

Worklist Report

Agilent Technologies

Instrument Name: LCMS04 **Worklist Path:** D:\MassHunter\Worklists\PFCs\PFC_180212_Low_FOSAA.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\20180212\WS#5393111_FOSAA
Pre-Worklist Script: ---
Post-Worklist Script: SCP_InstrumentStandby(){MH_Acq_Scripts.exe}
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: Column #198
MP A1: Solution# 280 (FSRE18)
MP B2: Solution# 272 (FSRE18)

cc 20180212

Plate Barcode:

Plate	Barcode
P2	

Worklist Table

	Sample Name	Sample Position	Method	Data File	Sample Type	Level Name	Inj Vol (µl)	Comment
1	Solvent	P2-A1	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_01.d	Sample		As Method	-
2	STD 1	P2-A2	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_02.d	Calibration	STD 1	As Method	-
3	STD 2	P2-A3	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_03.d	Calibration	STD 2	As Method	-
4	STD 3	P2-A4	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_04.d	Calibration	STD 3	As Method	-
5	STD 4	P2-A5	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_05.d	Calibration	STD 4	As Method	-
6	STD 5	P2-A6	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_06.d	Calibration	STD 5	As Method	-
7	STD 6	P2-A7	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_07.d	Calibration	STD 6	As Method	-
8	IB	P2-A8	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_08.d	Sample		As Method	-

294 of 854

Worklist Report

Agilent Technologies

	Sample Name	Sample Position	Method	Data File	Sample Type	Level Name	Inj Vol (µl)	Comment
9	ICV	P2-A9	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_09.d	QC	ICV	As Method	-
10	ISC	P2-A2	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_10.d	ConCal	STD 1	As Method	-
11	5393111:BLANK	P2-B1	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_11.d	Sample		As Method	-
12	5393111:SPIKE	P2-B2	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_12.d	QC	ICV	As Method	-
13	5393111:SPIKE:D1	P2-B3	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_13.d	QC	ICV	As Method	-
14	5393111:FZJ946-01	P2-B4	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_14.d	Sample		As Method	-
15	5393111:FZT426-01:10x	P2-B5	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_15.d	Sample		As Method	-
16	IB	P2-A8	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_16.d	Sample		As Method	-
17	5393111:FZT427-01	P2-B6	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_17.d	Sample		As Method	-
18	5393111:FZT428-01	P2-B7	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_18.d	Sample		As Method	-
19	5393111:FZT430-01	P2-B8	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_19.d	Sample		As Method	-
20	5393111:FZT431-01	P2-B9	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_20.d	Sample		As Method	-
21	5393111:GAC647-01	P2-C1	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_21.d	Sample		As Method	-
22	5393111:GAC649-01	P2-C2	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_22.d	Sample		As Method	-
23	5393111:GAC651-01	P2-C3	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_23.d	Sample		As Method	-
24	5393111:GAD929-01	P2-C4	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_24.d	Sample		As Method	-
25	CCV	P2-A5	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_25.d	ConCal	STD 4	As Method	-
26	5393111:GAD930-01	P2-C5	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_26.d	Sample		As Method	-
27	5393111:GAD931-01	P2-C6	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_27.d	Sample		As Method	-
28	5393111:GAD932-01	P2-C7	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_28.d	Sample		As Method	-
29	5393111:GAD933-01:100x	P2-C8	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_29.d	Sample		As Method	-
30	IB	P2-A8	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_30.d	Sample		As Method	-
31	5393111:GAD934-01:100x	P2-C9	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_31.d	Sample		As Method	-
32	IB	P2-A8	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_32.d	Sample		As Method	-
33	CCV	P2-A5	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_33.d	ConCal	STD 4	As Method	-

Maxxam Analytics

FINAL INJECTION SEQUENCE

Sample					
Name	Comment	Acq. Date-Time	Acq. Method File	Data File	Pos.
STD 1	-	2018/02/13 1:11 PM	PFC_Water_Low.m	WS#5393111_A_02.d	P2-A2
STD 2	-	2018/02/13 1:16 PM	PFC_Water_Low.m	WS#5393111_A_03.d	P2-A3
STD 3	-	2018/02/13 1:21 PM	PFC_Water_Low.m	WS#5393111_A_04.d	P2-A4
STD 4	-	2018/02/13 1:26 PM	PFC_Water_Low.m	WS#5393111_A_05.d	P2-A5
STD 5	-	2018/02/13 1:31 PM	PFC_Water_Low.m	WS#5393111_A_06.d	P2-A6
STD 6	-	2018/02/13 1:36 PM	PFC_Water_Low.m	WS#5393111_A_07.d	P2-A7
IB	-	2018/02/13 1:41 PM	PFC_Water_Low.m	WS#5393111_A_08.d	P2-A8
ICV	-	2018/02/13 1:45 PM	PFC_Water_Low.m	WS#5393111_A_09.d	P2-A9
ISC	-	2018/02/13 1:50 PM	PFC_Water_Low.m	WS#5393111_A_10.d	P2-A2
5393111:BLANK	-	2018/02/13 1:55 PM	PFC_Water_Low.m	WS#5393111_A_11.d	P2-B1
5393111:SPIKE	-	2018/02/13 2:00 PM	PFC_Water_Low.m	WS#5393111_A_12.d	P2-B2
5393111:SPIKE:D1	-	2018/02/13 2:05 PM	PFC_Water_Low.m	WS#5393111_A_13.d	P2-B3
5393111:FZJ946-01	-	2018/02/13 2:10 PM	PFC_Water_Low.m	WS#5393111_A_14.d	P2-B4
5393111:FZT426-01:10x	-	2018/02/13 2:15 PM	PFC_Water_Low.m	WS#5393111_A_15.d	P2-B5
IB	-	2018/02/13 2:20 PM	PFC_Water_Low.m	WS#5393111_A_16.d	P2-A8
5393111:FZT427-01	-	2018/02/13 2:25 PM	PFC_Water_Low.m	WS#5393111_A_17.d	P2-B6
5393111:FZT428-01	-	2018/02/13 2:30 PM	PFC_Water_Low.m	WS#5393111_A_18.d	P2-B7
5393111:FZT430-01	-	2018/02/13 2:35 PM	PFC_Water_Low.m	WS#5393111_A_19.d	P2-B8
5393111:FZT431-01	-	2018/02/13 2:40 PM	PFC_Water_Low.m	WS#5393111_A_20.d	P2-B9
5393111:GAC647-01	-	2018/02/13 2:45 PM	PFC_Water_Low.m	WS#5393111_A_21.d	P2-C1
5393111:GAC649-01	-	2018/02/13 2:50 PM	PFC_Water_Low.m	WS#5393111_A_22.d	P2-C2
5393111:GAC651-01	-	2018/02/13 2:55 PM	PFC_Water_Low.m	WS#5393111_A_23.d	P2-C3
5393111:GAD929-01	-	2018/02/13 2:59 PM	PFC_Water_Low.m	WS#5393111_A_24.d	P2-C4
CCV	-	2018/02/13 3:04 PM	PFC_Water_Low.m	WS#5393111_A_25.d	P2-A5
5393111:GAD930-01	-	2018/02/13 3:09 PM	PFC_Water_Low.m	WS#5393111_A_26.d	P2-C5
5393111:GAD931-01	-	2018/02/13 3:14 PM	PFC_Water_Low.m	WS#5393111_A_27.d	P2-C6
5393111:GAD932-01	-	2018/02/13 3:19 PM	PFC_Water_Low.m	WS#5393111_A_28.d	P2-C7
5393111:GAD933-01:100x	Reported for all except PFOS.	2018/02/13 3:24 PM	PFC_Water_Low.m	WS#5393111_A_29.d	P2-C8
IB	-	2018/02/13 3:29 PM	PFC_Water_Low.m	WS#5393111_A_30.d	P2-A8
5393111:GAD934-01:100x	Reported for all except PFHxS, PFOS.	2018/02/13 3:34 PM	PFC_Water_Low.m	WS#5393111_A_31.d	P2-C9
IB	-	2018/02/13 3:39 PM	PFC_Water_Low.m	WS#5393111_A_32.d	P2-A8
CCV	-	2018/02/13 3:44 PM	PFC_Water_Low.m	WS#5393111_A_33.d	P2-A5

FINAL INJECTION SEQUENCE

Sample					
Name	Comment	Acq. Date-Time	Acq. Method File	Data File	Pos.
STD 1	-	2018/02/13 11:29 AM	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_A_02.d	P2-A2
STD 2	-	2018/02/13 11:31 AM	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_A_03.d	P2-A3
STD 3	-	2018/02/13 11:34 AM	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_A_04.d	P2-A4
STD 4	-	2018/02/13 11:36 AM	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_A_05.d	P2-A5
STD 5	-	2018/02/13 11:39 AM	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_A_06.d	P2-A6
STD 6	-	2018/02/13 11:41 AM	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_A_07.d	P2-A7
IB	-	2018/02/13 11:43 AM	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_A_08.d	P2-A8
ICV	-	2018/02/13 11:46 AM	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_A_09.d	P2-A9
ISC	-	2018/02/13 11:48 AM	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_A_10.d	P2-A2
5393111:BLANK	-	2018/02/13 11:51 AM	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_A_11.d	P2-B1
5393111:SPIKE	-	2018/02/13 11:53 AM	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_A_12.d	P2-B2
5393111:SPIKE:D1	-	2018/02/13 11:56 AM	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_A_13.d	P2-B3
5393111:FZJ946-01	-	2018/02/13 11:58 AM	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_A_14.d	P2-B4
5393111:FZT426-01:10x	-	2018/02/13 12:00 PM	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_A_15.d	P2-B5
IB	-	2018/02/13 12:03 PM	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_A_16.d	P2-A8
5393111:FZT427-01	-	2018/02/13 12:05 PM	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_A_17.d	P2-B6
5393111:FZT428-01	-	2018/02/13 12:08 PM	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_A_18.d	P2-B7
5393111:FZT430-01	-	2018/02/13 12:10 PM	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_A_19.d	P2-B8
5393111:FZT431-01	-	2018/02/13 12:12 PM	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_A_20.d	P2-B9
5393111:GAC647-01	-	2018/02/13 12:15 PM	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_A_21.d	P2-C1
5393111:GAC649-01	-	2018/02/13 12:17 PM	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_A_22.d	P2-C2
5393111:GAC651-01	-	2018/02/13 12:20 PM	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_A_23.d	P2-C3
5393111:GAD929-01	-	2018/02/13 12:22 PM	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_A_24.d	P2-C4
CCV	-	2018/02/13 12:24 PM	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_A_25.d	P2-A5
5393111:GAD930-01	-	2018/02/13 12:27 PM	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_A_26.d	P2-C5
5393111:GAD931-01	-	2018/02/13 12:29 PM	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_A_27.d	P2-C6
5393111:GAD932-01	-	2018/02/13 12:32 PM	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_A_28.d	P2-C7
5393111:GAD933-01:100x	-	2018/02/13 12:34 PM	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_A_29.d	P2-C8
IB	-	2018/02/13 12:37 PM	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_A_30.d	P2-A8
5393111:GAD934-01:100x	-	2018/02/13 12:39 PM	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_A_31.d	P2-C9
IB	-	2018/02/13 12:41 PM	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_A_32.d	P2-A8
CCV	-	2018/02/13 12:44 PM	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_A_33.d	P2-A5

DoD Projects - Internal Data Validation Checklist

Run date: 2018/02/14

Worksheet # (s): 5393267

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: MEP Date: 2018/02/15

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: [signature] Date: 2018/02/15

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

Worksheet Data Validation Checklist - Extractable Organics

Worksheet # 5393267 | Testcode: PFOSACCM-W

Sample Preparation		yes	no	n/a
1	Samples extracted within hold time	✓		
2	Client sample ID verified against Lab ID (waters & oils)	✓		
3	Parameter list and Client comments reviewed, (Spiking solutions matched to parameter list)	✓		
4	Height of sediment or if sample was decanted, recorded on worksheet	✓		
5	Method required QC processed with samples, maximum batch size = 20 client samples.	✓		
6	Sample, duplicate, matrix spike appear similar, initial sample as well as final extract	✓		
7	Sample weight or initial volume and extract final volume, aliquot factor clearly recorded.	✓		
8	If performed any additional dilution clearly recorded	✓		
9	Matrix spike / Duplicate performed on IOL samples if present			✓
10	Spiking solutions valid (haven't expired), ID and volume used clearly identified on worksheet	✓		
11	Spiking process witnessed and signed off	✓		
12	Extraction type recorded (N3A2B = neutral, 3 x acidic, 2 x basic)			✓
13	Sample prep deviations documented within CompliantPro as a Policy Deviation			✓
14	Job Remarks reviewed on 2nd page of worksheet.	✓		
15	Worksheet and reagent tracking record completed and authorized.	✓		

Reviewed by: SSV | Date: 2018/02/09

Comments:

Worksheet Approval		yes	no	n/a
1	Verified the position of the vials in autosampler against sequence list; signed off sequence list			
2	Calibration and CCV standards valid (haven't expired)			
3	Initial calibration curve and DFTPP tune (if applicable) acceptable			
4	Continuing and Final CCV and DFTPP tune (if applicable) acceptable			
5	System performance check acceptable (if applicable)			
6	Internal standard responses acceptable			
7	Method blank meets acceptance criteria			
8	Lab Control Samples recoveries meets acceptance criteria			
9	Duplicate RPD meets acceptance criteria			
10	Matrix spike recoveries meets acceptance criteria			
11	Surrogate recoveries meets acceptance criteria			
12	Appropriate control charts updated			
13	Samples above calibration range diluted and reanalyzed			
14	Dilutions clearly documented on tracking record, inst file and verified during data upload			
15	Samples following high level samples checked for carryover.			
16	Mass spectra ion ratios acceptable for positive results, hardcopy in file.			
17	Analytical observations / anomalies documented			
18	DQW comments entered in LIMS, hardcopy in file			
19	Sample Prep section (above) reviewed and verified.			
20	WS Approval performed in LIMS			

Reviewed by: | Date:

Comments:

Refer to BFL_FCD-01126 20180215MD

Worksheet Validation		yes	no	n/a
1	Calibration, QC and sample results reviewed and determined acceptable			
2	Manual integrations verified			
3	Random calculation checked			
4	Data and QC validated in LIMS			
5	Comments reviewed for appropriateness			
6	Reworks / relogs documented in file			
7	Worksheet signed and dated,			
8	Worksheet approved and validated within LIMS			

Reviewed by: | Date:

Comments:

WS# : 5393267

Page #: 1/2

Report Name : Worksheet - (Liquids and Solids)

Assignment Date : Friday, February 09, 2018

Assigned to : Shivani Shivani

Test Code : PFOSALCM-W

Instrument Id:

Test Description : PFOS and PFOA in water by LC-MS/MS

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
	SPIKE	0	PFOS		0	750	1.25	1X					2018/02/09
	SPIKE	1	PFOS		0	750	1.25	1X					2018/02/09
	BLANK				0	750	1.25	1X					2018/02/09
B824213	*GAD933-01R	0	CEF-860-TW01-01*		<0.1	750	1.25	1X/10X	2	2018/02/09	2018/02/14 23:00	DOD	2018/02/09
B824213	*GAD933-01R	1	CEF-860-TW01-01*		<0.1	750	1.25	1X/10X	2	2018/02/09	2018/02/14 23:00	DOD	2018/02/09
B824213	*GAD934-01R	0	CEF-1820-TW01-0*		<0.1	750	1.25	10X/100X	2	2018/02/09	2018/02/14 23:00	DOD	2018/02/09
B824213	*GAD934-01R	1	CEF-1820-TW01-0*		<0.1	750	1.25	10X/100X	2	2018/02/09	2018/02/14 23:00	DOD	2018/02/09
B823124	F2Y5530				<0.1	750	1.25	1X/10					
	F2Y5530 Dup				<0.1	750	1.25	1X/10X					

Q. 18/02/05. SSV.

Shivani 2.18/02/05

Remarks: High level analysis

Above mentioned sample we extracted through SPE.

Samples extracted by: Shivani Shivani

Instrumentation performed by: MR Date: 2018/02/13

Calculations performed by: MS Date: 2018/02/15

Validated by: Date: 2018/02/15

Job No.	Rep / Remarks	Client Name / Contact	Client Tier	National
GB824213	SP8	Earth Toxics Inc / Rick Carr	Tier 5 (Enviro.)	AECOM

nreg, PFOSALCM-W Level IV Data Package and TetraTech EDD required The following samples will not be reported: GAD929, GAD930, GAD931, GAD932, GAD935 F/C by NGV - 2018/02/09 Project #: JM10 CECIL

Job	Sample	Lab Comments
	SPIKE	
	SPIKE	
	BLANK	
B824213	GAD933-01R	
B824213	GAD933-01R:DUP	
B824213	GAD934-01R	
B824213	GAD934-01R:DUP	

Callibration standard Repration#

	mean(ul)	Spk(ul)	IS
S_1	480	20	SK-7401
S_2	463	37.5	
S_3	485	15	SK-7400
S_4	463	37.5	
S_5	478	22.5	I-5297
S_6	468	37.5	
ICV	500	18 — I-5299	
IB	500		

JPOS 2018/02/09

100(ul)

150(ul) SSV 2018/02/09

Post spike extraction dilution #
on all duplicates
675(ul) + SK7411 (10ul)

WS# : 5393267

Page #: 1/2

Report Name : Worksheet - (Liquids and Solids

Assignment Date : Friday, February 09, 2018

Assigned to : Shivani Shivani

Test Code : PFOSALCM-W

Instrument Id:

Test Description : PFOS and PFOA in water by LC-MS/MS

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
	SPIKE	0	PFOS										2018/02/09
	SPIKE	1	PFOS										2018/02/09
	BLANK												2018/02/09
B823124	*FZY553-01R	0	[redacted]*						2	2018/02/11	2018/02/13 23:00	DOD	2018/02/09
B823124	*FZY553-01R	1	[redacted]						2	2018/02/11	2018/02/13 23:00	DOD	2018/02/09
B824213	*GAD933-01R	0	CEF-860-TW01-01*						2	2018/02/09	2018/02/14 23:00	DOD	2018/02/09
B824213	*GAD933-01R	1	CEF-860-TW01-01*						2	2018/02/09	2018/02/14 23:00	DOD	2018/02/09
B824213	*GAD934-01R	0	CEF-1820-TW01-0*						2	2018/02/09	2018/02/14 23:00	DOD	2018/02/09
B824213	*GAD934-01R	1	CEF-1820-TW01-0*						2	2018/02/09	2018/02/14 23:00	DOD	2018/02/09

Remarks: High level analysis

Samples extracted by: Shivani Shivani

Instrumentation performed by: Marian Godax Date:

Calculations performed by: Marian Godax Date: 2018/02/15

Validated by: For sample traceability purposes only Date:

2018/02/15

Job No.	Rep / Client Name / Remarks	Contact	Client Tier	National
GB823124	[redacted]			
GB824213	SP8 Earth Toxics Inc	Rick Carr	Tier 5 (Enviro.)	AECOM

nreg, PFOSALCM-W Level IV Data Package and TetraTech EDD required The following samples will not be reported: GAD929, GAD930, GAD931, GAD932, GAD935 F/C by NGV - 2018/02/09 Project #: JM10 CECIL

Job	Sample	Lab Comments
	SPIKE	
	SPIKE	
	BLANK	
B823124	FZY533-01R	
B823124	FZY533-01R:DUP	
B824213	GAD933-01R	
B824213	GAD933-01R:DUP	
B824213	GAD934-01R	
B824213	GAD934-01R:DUP	

Folder: 2018/02/13

Worksheet Reagent Tracking Record Worksheet # 5393267

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-5299(1/3)	1ug/mL	75	21 ~~62.5~~ 18	75	21 62.5	NA	NA
PFC Internal Standard Solution	✓	SI6763(4/4) HB	50/125 ng/mL	200	100 150	200	100 150	200	100/150
PFC Injection IS	✓	SI6770(1/3) HB	~~400~~ 100 ng/mL	20	20	20	20	20	20
ICV	✓	I-5299(1/3)	1ug/mL		18				

Solvent/Reagent	√	Lot No.	Date Opened	Solvent/Reagent	√	Lot No.	Date Opened/ Prepared
DCM				50% NaOH			
Ottawa Sand				o-Phosphoric Acid			
Methanol	✓	SHB5545	2018/02/09	Borax			
2-Propanol (IPA)				Calcium Chloride			
Acetonitrile				EDTA			
Sodium Sulfate				Phosphate Buffer			
70:30 Methanol: Water				Sodium Thiosulphate			
60:40 Water: Methanol				DNPH			
DCM:Ethyl Ether (75:25)				FMOC			
Hexane:IPA (98:2)				5M Acetate Buffer			
2% Formic Acid				0.2% NH_4OH			
0.2% Formic Acid				Leachate Fluid			
0.05M KOH				Reagent Water	✓	57297	2018/02/05
0.05M HCl							

*Spiked by: SSU

Spike Date: 2018/02/09

Spike Syringe/Pipette ID#: G243906

Int. Std Syringe/Pipette ID#: Internal Std# Injection IS# G243906

*Spiking Witnessed by: HB

Final pH:

Equipment & ID	√	Equipment	ID#	√	Equipment	Lot #
Pipettor G243906, G243945, K19865F	✓	SPE Cartridge			QC Balance ID	
	✓	Filter			Thermometer ID &Temp	
Dispenser		Centrifuge				
		Sonicator				

Bottle Tracking
Bottle#
Cap#
Systems plus Lot#

Comments:

* - SPIKING OF QC's & SAMPLES MUST BE WITNESSED AT ALL TIMES.

Worksheet: 5393267

Dilution and Column Cleanup Worksheet

Job Number	Sample ID	Sample: Initial Final Volume	Dilution Required	Sample added mL (uL)	(Diluent) Solvent Added mL	Int Stan Added uL	New Effective Final Volume	INITIAL SSU DATE	Column Clean Up
B824213	GAD933	1X	10X	200	1.8	–	2	2/18/02/05	–
	GAD933 Dup	1X	10X	200	1.8	–	2	2/18/02/05	–
	GAD934	1X	10X	200	1.8	–	2	2/18/02/05	–
	GAD934 Dup	1X	10X	200	1.8	–	2	2/18/02/05	–
	GAD934	10X	100X	200	1.8	–	2	2/18/02/05	–
	GAD934 Dup	10X	100X	200	1.8	–	2	2/18/02/05	–
B823124	F24553	1X to SSV	10X	200	1.8	–	2	2/18/02/05	–
	F24553 Dup	1X	10X	200	1.8 1.9 2/18/02/05	– SSV.	2	2/18/02/05	–

5mL pipette # K39372L
Diluent # 9mL LCMS not 6mL meant 1.2 I.S.
200 (uL) # K19865F

Worksheet Number: **5393267**

PFOS and PFOA in water by SPE/LCMS - Water

ug/L

Parameter Name	Units	SPIKE	SPIKE Dup1	BLANK	DL	B823124 FZY553 ReWork	B823124 FZY553 Dup1 ReWork
6:2 Fluorotelomer sulfonate	ug/L	94.56712	91.12677	0	0.8	213.138819	213.931030
8:2 Fluorotelomer sulfonate	ug/L	N/A*******	N/A*******	N/A*******	0.8	N/A*******	N/A*******
N-ethylperfluorooctane sulfonamide	ug/L	N/A*******	N/A*******	N/A*******	0.8	N/A*******	N/A*******
EtFOSAA	ug/L	N/A*******	N/A*******	N/A*******	0.8	N/A*******	N/A*******
N-ethylperfluorooctane sulfonamidoe	ug/L	N/A*******	N/A*******	N/A*******	0.8	N/A*******	N/A*******
N-methylperfluorooctane sulfonamide	ug/L	N/A*******	N/A*******	N/A*******	0.8	N/A*******	N/A*******
MeFOSAA	ug/L	N/A*******	N/A*******	N/A*******	0.8	N/A*******	N/A*******
N-methylperfluorooctanesulfonamidol	ug/L	N/A*******	N/A*******	N/A*******	0.8	N/A*******	N/A*******
Perfluorobutanoic acid	ug/L	N/A*******	N/A*******	N/A*******	0.8	N/A*******	N/A*******
Perfluorobutane Sulfonate (PFBS)	ug/L	N/A*******	N/A*******	N/A*******	0.8	N/A*******	N/A*******
Perfluorodecanoic Acid (PFDA)	ug/L	N/A*******	N/A*******	N/A*******	0.8	N/A*******	N/A*******
Perfluorododecanoic Acid (PFDoA)	ug/L	N/A*******	N/A*******	N/A*******	0.8	N/A*******	N/A*******
Perfluorodecane Sulfonate	ug/L	N/A*******	N/A*******	N/A*******	0.8	N/A*******	N/A*******
Perfluoroheptanoic Acid (PFHpA)	ug/L	N/A*******	N/A*******	N/A*******	0.8	N/A*******	N/A*******
Perfluoroheptane sulfonate	ug/L	N/A*******	N/A*******	N/A*******	0.8	N/A*******	N/A*******
Perfluorohexanoic Acid (PFHxA)	ug/L	98.71718	96.99813	0	0.8	N/A*******	N/A*******
Perfluorohexane Sulfonate (PFHxS)	ug/L	99.88155	91.36186	0	0.8	100.933350	98.7692547
Perfluorononanoic Acid (PFNA)	ug/L	N/A*******	N/A*******	N/A*******	0.8	N/A*******	N/A*******
Perfluoro-n-Octanoic Acid (PFOA)	ug/L	100.29023	93.57573	0	0.8	N/A*******	N/A*******
Perfluorooctane Sulfonate (PFOS)	ug/L	93.50053	85.90656	0	0.8	N/A*******	N/A*******
Perfluorooctane Sulfonamide (PFOSA)	ug/L	93.60261	94.14602	0	0.8	N/A*******	N/A*******
Perfluoropentanoic Acid (PFPeA)	ug/L	N/A*******	N/A*******	N/A*******	0.8	N/A*******	N/A*******
Perfluorotetradecanoic Acid	ug/L	N/A*******	N/A*******	N/A*******	0.8	N/A*******	N/A*******
Perfluorotridecanoic Acid	ug/L	N/A*******	N/A*******	N/A*******	0.8	N/A*******	N/A*******
Perfluoroundecanoic Acid (PFUnA)	ug/L	N/A*******	N/A*******	N/A*******	0.8	N/A*******	N/A*******
13C2-6:2 Fluorotelomer sulfonate	ug/L	98.0186274	100.698707	108.430127		101.863665	103.264208
13C2-8:2 Fluorotelomer sulfonate	ug/L	N/A*******	N/A*******	N/A*******		N/A*******	N/A*******
13C2-Perfluorodecanoic acid	ug/L	N/A*******	N/A*******	N/A*******		N/A*******	N/A*******
13C2-Perfluorododecanoic acid	ug/L	N/A*******	N/A*******	N/A*******		N/A*******	N/A*******
13C2-Perfluorohexanoic acid	ug/L	N/A*******	N/A*******	N/A*******		N/A*******	N/A*******
13C2-perfluorotetradecanoic acid	ug/L	N/A*******	N/A*******	N/A*******		N/A*******	N/A*******
13C2-Perfluoroundecanoic acid	ug/L	N/A*******	N/A*******	N/A*******		N/A*******	N/A*******
13C4-Perfluorobutanoic acid	ug/L	N/A*******	N/A*******	N/A*******		N/A*******	N/A*******
13C4-Perfluoroheptanoic acid	ug/L	N/A*******	N/A*******	N/A*******		N/A*******	N/A*******
13C5-Perfluorononanoic acid	ug/L	N/A*******	N/A*******	N/A*******		N/A*******	N/A*******
13C4-Perfluorooctanoic acid	ug/L	96.8484462	101.014387	103.978925		N/A*******	N/A*******
13C4-Perfluorooctanesulfonate	ug/L	92.5710093	102.171735	99.6878161		N/A*******	N/A*******
13C5-Perfluoropentanoic acid	ug/L	N/A*******	N/A*******	N/A*******		N/A*******	N/A*******
13C8-Perfluorooctane Sulfonamide	ug/L	99.6675961	94.6408170	99.0540751		N/A*******	N/A*******
18O2-Perfluorohexanesulfonate	ug/L	96.7417879	101.100591	102.837945		98.8292111	106.751435
D3-MeFOSAA	ug/L	N/A*******	N/A*******	N/A*******		N/A*******	N/A*******
D5-EtFOSAA	ug/L	N/A*******	N/A*******	N/A*******		N/A*******	N/A*******
N-methyl-d3-perfluorooctane sulfona	ug/L	N/A*******	N/A*******	N/A*******		N/A*******	N/A*******
N-ethyl-d5-perfluorooctane sulfonam	ug/L	N/A*******	N/A*******	N/A*******		N/A*******	N/A*******

20181021/15

Worksheet Number: **5393267**

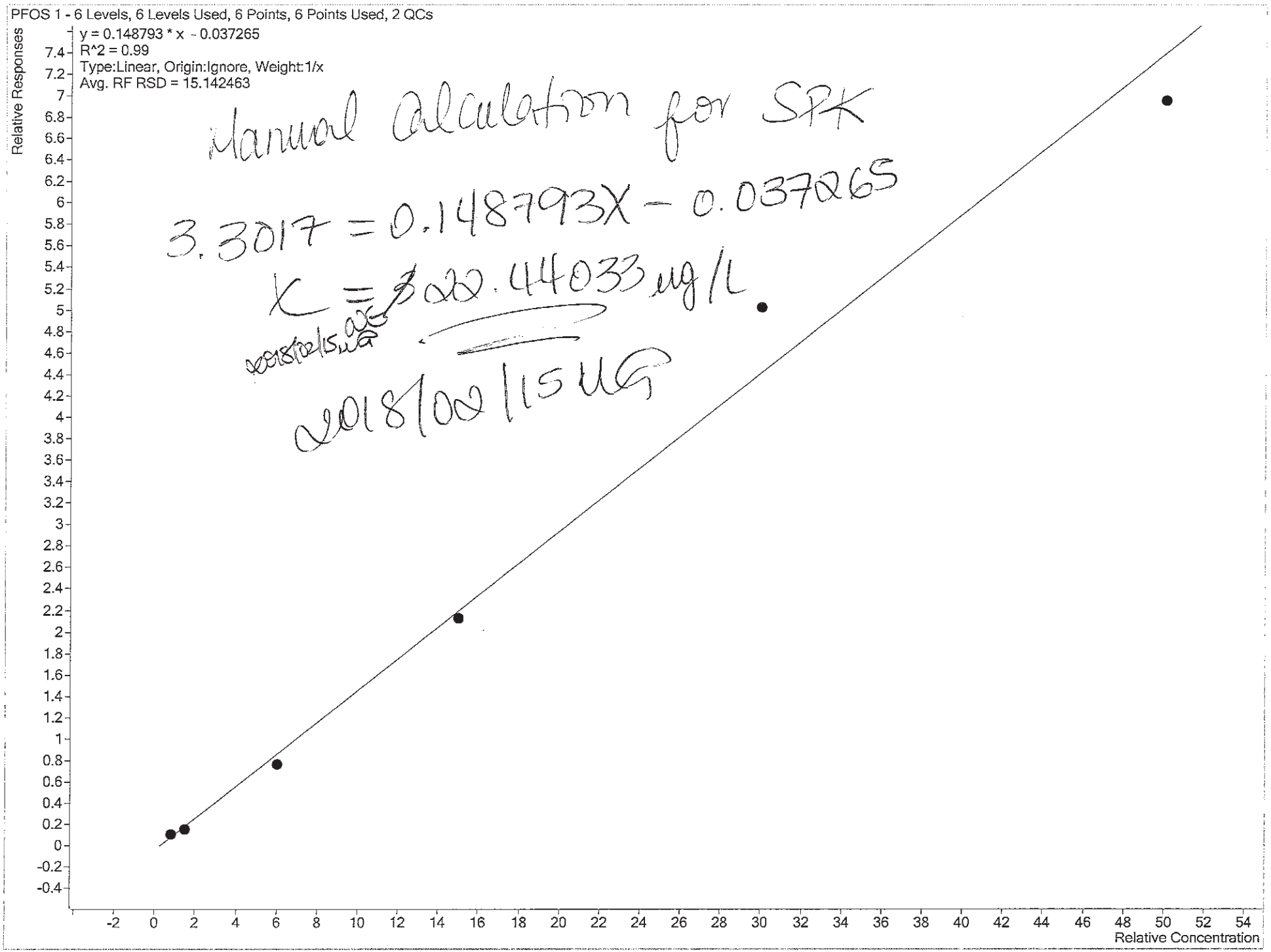
PFOS and PFOA in water by SPE/LCMS - Water

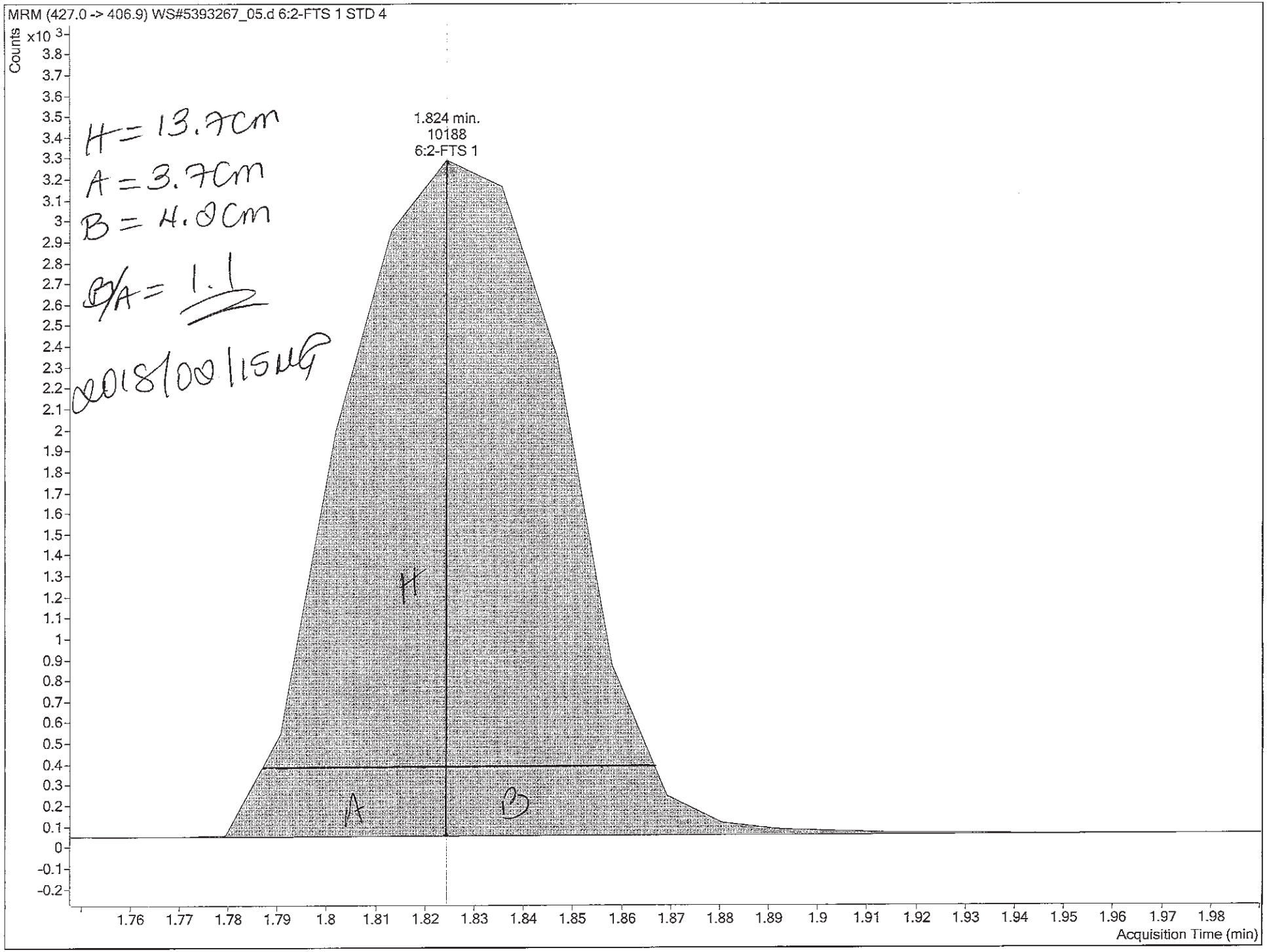
ug/L

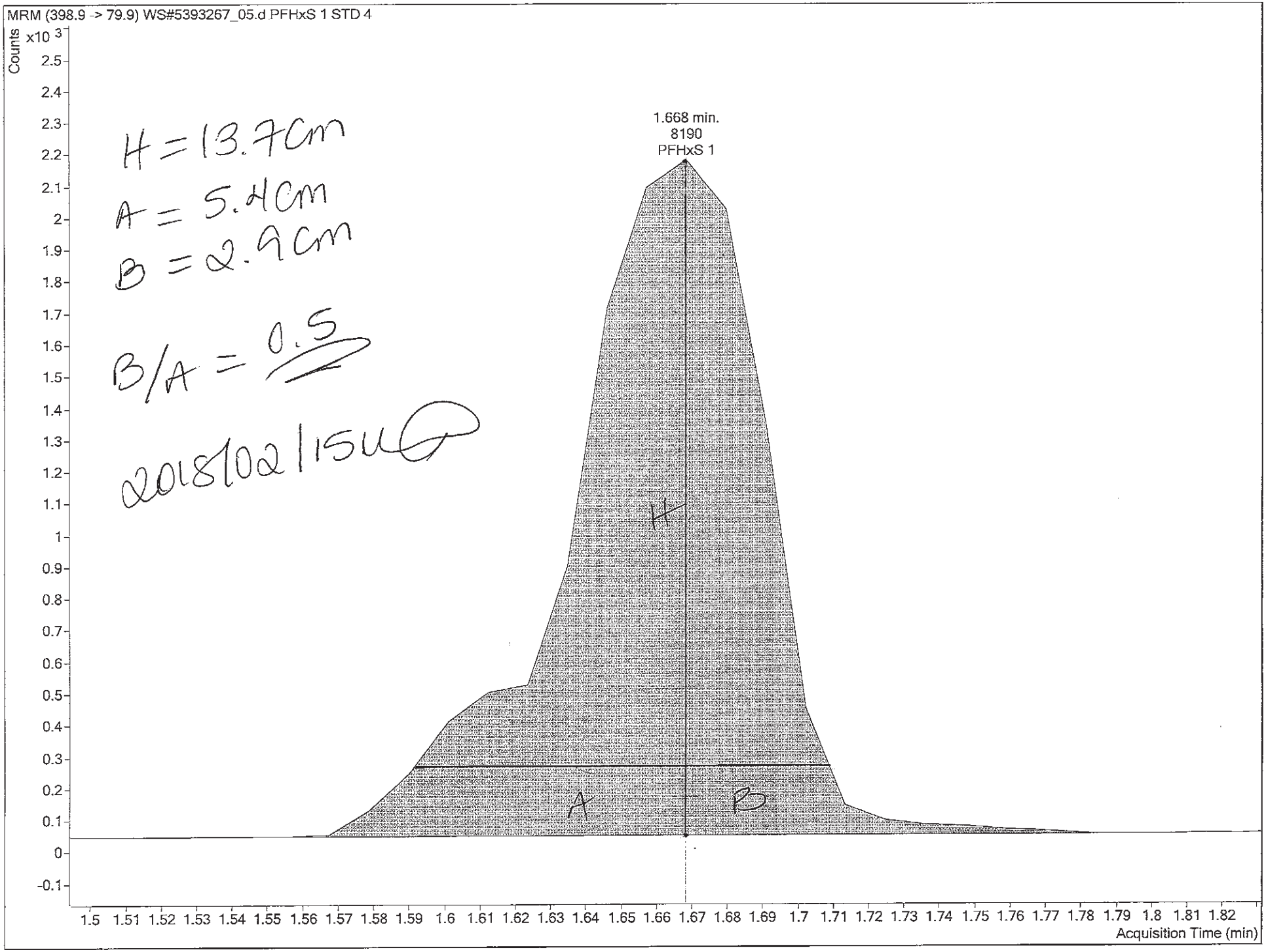
Parameter Name	DL	B824213 GAD933 ReWork	B824213 GAD933 Dup1 ReWork	DL	B824213 GAD934 ReWork	B824213 GAD934 Dup1 ReWork	DL
6:2 Fluorotelomer sulfonate	8	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
8:2 Fluorotelomer sulfonate	0.8	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
N-ethylperfluorooctane sulfonamide	0.8	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
EtFOSAA	0.8	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
N-ethylperfluorooctane sulfonamidoe	0.8	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
N-methylperfluorooctane sulfonamide	0.8	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
MeFOSAA	0.8	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
N-methylperfluorooctanesulfonamidol	0.8	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
Perfluorobutanoic acid	0.8	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
Perfluorobutane Sulfonate (PFBS)	0.8	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
Perfluorodecanoic Acid (PFDA)	0.8	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
Perfluorododecanoic Acid (PFDoA)	0.8	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
Perfluorodecane Sulfonate	0.8	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
Perfluoroheptanoic Acid (PFHpA)	0.8	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
Perfluoroheptane sulfonate	0.8	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
Perfluorohexanoic Acid (PFHxA)	0.8	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
Perfluorohexane Sulfonate (PFHxS)	8	N/A*******	N/A*******	0.8	254.486764	248.129435	8
Perfluorononanoic Acid (PFNA)	0.8	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
Perfluoro-n-Octanoic Acid (PFOA)	0.8	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
Perfluorooctane Sulfonate (PFOS)	0.8	232.333792	224.107639	8	926.337704	904.355835	80
Perfluorooctane Sulfonamide (PFOSA)	0.8	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
Perfluoropentanoic Acid (PFPeA)	0.8	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
Perfluorotetradecanoic Acid	0.8	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
Perfluorotridecanoic Acid	0.8	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
Perfluoroundecanoic Acid (PFUnA)	0.8	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
13C2-6:2 Fluorotelomer sulfonate		N/A*******	N/A*******		N/A*******	N/A*******	
13C2-8:2 Fluorotelomer sulfonate		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		N/A*******	N/A*******		N/A*******	N/A*******	
13C2-perfluorotetradecanoic acid		N/A*******	N/A*******		N/A*******	N/A*******	
13C2-Perfluoroundecanoic acid		N/A*******	N/A*******		N/A*******	N/A*******	
13C4-Perfluorobutanoic acid		N/A*******	N/A*******		N/A*******	N/A*******	
13C4-Perfluoroheptanoic acid		N/A*******	N/A*******		N/A*******	N/A*******	
13C5-Perfluorononanoic acid		N/A*******	N/A*******		N/A*******	N/A*******	
13C4-Perfluorooctanoic acid		N/A*******	N/A*******		N/A*******	N/A*******	
13C4-Perfluorooctanesulfonate		94.6214131	95.4302891		99.4922700	95.5912603	
13C5-Perfluoropentanoic acid		N/A*******	N/A*******		N/A*******	N/A*******	
13C8-Perfluorooctane Sulfonamide		N/A*******	N/A*******		N/A*******	N/A*******	
18O2-Perfluorohexanesulfonate		N/A*******	N/A*******		97.7603263	102.998821	
D3-MeFOSAA		N/A*******	N/A*******		N/A*******	N/A*******	
D5-EtFOSAA		N/A*******	N/A*******		N/A*******	N/A*******	
N-methyl-d3-perfluorooctane sulfona		N/A*******	N/A*******		N/A*******	N/A*******	
N-ethyl-d5-perfluorooctane sulfonam		N/A*******	N/A*******		N/A*******	N/A*******	

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				
N-ethylperfluorooctane sulfonamide	0.02	0.01	0				
EtFOSAA	0.02	0.0033	0				
N-ethylperfluorooctane sulfonamidoe	0.02	0.0079	0				
N-methylperfluorooctane sulfonamide	0.02	0.013	0				
MeFOSAA	0.02	0.0029	0				
N-methylperfluorooctanesulfonamidol	0.02	0.012	0				
Perfluorobutanoic acid	0.02	0.0055	0				
Perfluorobutane Sulfonate (PFBS)	0.02	0.0054	0				
Perfluorodecanoic Acid (PFDA)	0.02	0.0061	0				
Perfluorododecanoic Acid (PFDoA)	0.02	0.005	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				
Perfluoro-n-Octanoic Acid (PFOA)	0.02	0.0033	0				
Perfluorooctane Sulfonate (PFOS)	0.02	0.006	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				
13C2-6:2 Fluorotelomer sulfonate							
13C2-8:2 Fluorotelomer sulfonate							
13C2-Perfluorodecanoic acid							
13C2-Perfluorododecanoic acid							
13C2-Perfluorohexanoic acid							
13C2-perfluorotetradecanoic acid							
13C2-Perfluoroundecanoic acid							
13C4-Perfluorobutanoic acid							
13C4-Perfluoroheptanoic acid							
13C5-Perfluorononanoic acid							
13C4-Perfluorooctanoic acid							
13C4-Perfluorooctanesulfonate							
13C5-Perfluoropentanoic acid							
13C8-Perfluorooctane Sulfonamide							
18O2-Perfluorohexanesulfonate							
D3-MeFOSAA							
D5-EtFOSAA							
N-methyl-d3-perfluorooctane sulfona							
N-ethyl-d5-perfluorooctane sulfonam							


PFOS 1 - 6 Levels, 6 Levels Used, 6 Points, 6 Points Used, 2 QCs
y = 0.148793 * x - 0.037265
R^2 = 0.99
Type:Linear, Origin:Ignore, Weight:1/x
Avg. RF RSD = 15.142463
Relative Responses
Relative Concentration
Manual calculation for SPK
3.3017 = 0.148793X - 0.037265
X = 22.44033 ng/L
2018/02/15 UG


MRM (427.0 -> 406.9) WS#5393267_05.d 6:2-FTS 1 STD 4
Counts
x10 3
1.824 min.
10188
6:2-FTS 1
H = 13.7cm
A = 3.7cm
B = 4.0cm
B/A = 1.1
20180001.15MG
H
A
B
Acquisition Time (min)


MRM (398.9 -> 79.9) WS#5393267_05.d PFHxS 1 STD 4
Counts
x10 3
1.668 min.
8190
PFHxS 1
H = 13.7cm
A = 5.4cm
B = 2.9cm
B/A = 0.5
20181021 ISU
H
A
B
Acquisition Time (min)

Report Name: Worksheet - Parameter Lists

Report Date: 2018/02/15

Test Code: **PFOSALCM-W**

Worksheet Number: **5393267**

Sample Number	Parameter Code	Parameter	
FZY553-01	6:2FTS	6:2 Fluorotelomer sulfonate	*
	PFHXS	Perfluorohexane Sulfonate (PFHxS)	
GAD933-01	PFOS	Perfluorooctane Sulfonate (PFOS)	
GAD934-01	PFHXS	Perfluorohexane Sulfonate (PFHxS)	
	PFOS	Perfluorooctane Sulfonate (PFOS)	

* - This parameter is usually off, but will be reported for this group of samples!

WorkSheet 5393267 Instrument Sequences

1.	 5393267:SPIKE	SPIKE
2.	 5393267:SPIKE:D1	SPIKE :D1
3.	 5393267:BLANK	BLANK
4.	 5393267:FZY553-01	[redacted]
5.	 5393267:FZY553-01:D1	[redacted]
6.	 5393267:GAD933-01	CEF-860-TW01-0118
7.	 5393267:GAD933-01:D1	CEF-860-TW01-0118 :D1
8.	 5393267:GAD934-01	CEF-1820-TW01-0118
9.	 5393267:GAD934-01:D1	CEF-1820-TW01-0118 :D1

Worklist Report

Agilent Technologies

Maxxam Analytics

Instrument Name: LCMS04 **Worklist Path:** D:\MassHunter\Worklists\PFCs\PFC_180213_High_B.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\20180213\WS#5393267
Pre-Worklist Script: ---
Post-Worklist Script: SCP_InstrumentStandby(){MH_Acq_Scripts.exe}
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: Column #198
MP A1: Solution# 280 (FSRE18)
MP B1: Methanol lot# SHBJ5451, Sigma

2018/02/13

Plate Barcode:

Plate	Barcode
P4	

2018/02/13

Worklist Table

	Sample Name	Sample Position	Method	Data File	Sample Type	Level Name	Inj Vol (µl)	Comment
1	Solvent	P4-A1	PFC_Water_High.m	WS#5393267_01.d	Sample		As Method	-
2	STD 1	P4-C6	PFC_Water_High.m	WS#5393267_02.d	Calibration	STD 1	As Method	-
3	STD 2	P4-C7	PFC_Water_High.m	WS#5393267_03.d	Calibration	STD 2	As Method	-
4	STD 3	P4-C8	PFC_Water_High.m	WS#5393267_04.d	Calibration	STD 3	As Method	-
5	STD 4	P4-C9	PFC_Water_High.m	WS#5393267_05.d	Calibration	STD 4	As Method	-
6	STD 5	P4-D1	PFC_Water_High.m	WS#5393267_06.d	Calibration	STD 5	As Method	-
7	STD 6	P4-D2	PFC_Water_High.m	WS#5393267_07.d	Calibration	STD 6	As Method	-
8	IB	P4-D3	PFC_Water_High.m	WS#5393267_08.d	Sample		As Method	-
9	ICV	P4-D4	PFC_Water_High.m	WS#5393267_09.d	QC	ICV	As Method	-
10	ISC	P4-C6	PFC_Water_High.m	WS#5393267_10.d	ConCal	STD 1	As Method	-
11	5393267:BLANK	P4-D5	PFC_Water_High.m	WS#5393267_11.d	Sample		As Method	-
12	5393267:SPIKE	P4-D6	PFC_Water_High.m	WS#5393267_12.d	QC	ICV	As Method	-
13	5393267:SPIKE:D1	P4-D7	PFC_Water_High.m	WS#5393267_13.d	Sample		As Method	-

2018/02/13

314 of 854

Worklist Report

Agilent Technologies

Maxxam Analytics

	Sample Name	Sample Position	Method	Data File	Sample Type	Level Name	Inj Vol (µl)	Comment
14	5393267:GAD933-01:10x	P4-D8	PFC_Water_High.m	WS#5393267_14.d	Sample		As Method	-
15	5393267:GAD933-01:D1:10x	P4-D9	PFC_Water_High.m	WS#5393267_15.d	Sample		As Method	-
16	5393267:GAD933-01:D1:10x PS	P4-E1	PFC_Water_High.m	WS#5393267_16.d	Sample		As Method	-
17	5393267:GAD933-01	P4-E2	PFC_Water_High.m	WS#5393267_17.d	Sample		As Method	-
18	5393267:GAD933-01:D1	P4-E3	PFC_Water_High.m	WS#5393267_18.d	Sample		As Method	-
19	5393267:GAD933-01:D1 PS	P4-E4	PFC_Water_High.m	WS#5393267_19.d	Sample		As Method	-
20	IB	P4-D3	PFC_Water_High.m	WS#5393267_20.d	Sample		As Method	-
21	CCV	P4-C9	PFC_Water_High.m	WS#5393267_21.d	ConCal	STD 4	As Method	-
22	5393267:GAD934-01:100x	P4-E5	PFC_Water_High.m	WS#5393267_22.d	Sample		As Method	-
23	5393267:GAD934-01:D1:100x	P4-E6	PFC_Water_High.m	WS#5393267_23.d	Sample		As Method	-
24	5393267:GAD934-01:D1:100x PS	P4-E7	PFC_Water_High.m	WS#5393267_24.d	Sample		As Method	-
25	5393267:GAD934-01:10x	P4-E8	PFC_Water_High.m	WS#5393267_25.d	Sample		As Method	-
26	5393267:GAD934-01:D1:10x	P4-E9	PFC_Water_High.m	WS#5393267_26.d	Sample		As Method	-
27	5393267:GAD934-01:D1:10x PS	P4-F1	PFC_Water_High.m	WS#5393267_27.d	Sample		As Method	-
28	IB	P4-D3	PFC_Water_High.m	WS#5393267_28.d	Sample		As Method	-
29	CCV	P4-C9	PFC_Water_High.m	WS#5393267_29.d	ConCal	STD 4	As Method	-
30	5393267:FZY553-01:10x	P4-F2	PFC_Water_High.m	WS#5393267_30.d	Sample		As Method	-
31	5393267:FZY553-01:D1:10x	P4-F3	PFC_Water_High.m	WS#5393267_31.d	Sample		As Method	-
32	5393267:FZY553-01:D1:10x PS	P4-F4	PFC_Water_High.m	WS#5393267_32.d	Sample		As Method	-
33	5393267:FZY553-01	P4-F5	PFC_Water_High.m	WS#5393267_33.d	Sample		As Method	-
34	5393267:FZY553-01:D1	P4-F6	PFC_Water_High.m	WS#5393267_34.d	Sample		As Method	-
35	5393267:FZY553-01:D1 PS	P4-F7	PFC_Water_High.m	WS#5393267_35.d	Sample		As Method	-
36	IB	P4-D3	PFC_Water_High.m	WS#5393267_36.d	Sample		As Method	-
37	CCV	P4-C9	PFC_Water_High.m	WS#5393267_37.d	ConCal	STD 4	As Method	-

FINAL INJECTION SEQUENCE

Sample					
Name	Comment	Acq. Date-Time	Acq. Method File	Data File	Pos.
STD 1	-	2018/02/14 7:47 AM	PFC_Water_High.m	WS#5393267_02.d	P4-C6
STD 2	-	2018/02/14 7:52 AM	PFC_Water_High.m	WS#5393267_03.d	P4-C7
STD 3	-	2018/02/14 7:57 AM	PFC_Water_High.m	WS#5393267_04.d	P4-C8
STD 4	-	2018/02/14 8:02 AM	PFC_Water_High.m	WS#5393267_05.d	P4-C9
STD 5	-	2018/02/14 8:07 AM	PFC_Water_High.m	WS#5393267_06.d	P4-D1
STD 6	-	2018/02/14 8:12 AM	PFC_Water_High.m	WS#5393267_07.d	P4-D2
IB	-	2018/02/14 8:17 AM	PFC_Water_High.m	WS#5393267_08.d	P4-D3
ICV	-	2018/02/14 8:22 AM	PFC_Water_High.m	WS#5393267_09.d	P4-D4
ISC	-	2018/02/14 8:27 AM	PFC_Water_High.m	WS#5393267_10.d	P4-C6
5393267:BLANK	-	2018/02/14 8:32 AM	PFC_Water_High.m	WS#5393267_11.d	P4-D5
5393267:SPIKE	-	2018/02/14 8:37 AM	PFC_Water_High.m	WS#5393267_12.d	P4-D6
5393267:SPIKE:D1	-	2018/02/14 8:41 AM	PFC_Water_High.m	WS#5393267_13.d	P4-D7
5393267:GAD933-01:10x	Reported for PFOS only.	2018/02/14 8:46 AM	PFC_Water_High.m	WS#5393267_14.d	P4-D8
5393267:GAD933-01:D1:10x	Reported for PFOS only.	2018/02/14 8:51 AM	PFC_Water_High.m	WS#5393267_15.d	P4-D9
5393267:GAD933-01:D1:10x PS	-	2018/02/14 8:56 AM	PFC_Water_High.m	WS#5393267_16.d	P4-E1
5393267:GAD933-01	not used.	2018/02/14 9:01 AM	PFC_Water_High.m	WS#5393267_17.d	P4-E2
5393267:GAD933-01:D1	not used.	2018/02/14 9:06 AM	PFC_Water_High.m	WS#5393267_18.d	P4-E3
5393267:GAD933-01:D1 PS	-	2018/02/14 9:11 AM	PFC_Water_High.m	WS#5393267_19.d	P4-E4
IB	-	2018/02/14 9:16 AM	PFC_Water_High.m	WS#5393267_20.d	P4-D3
CCV	-	2018/02/14 9:21 AM	PFC_Water_High.m	WS#5393267_21.d	P4-C9
5393267:GAD934-01:100x	Reported for PFOS only.	2018/02/14 9:26 AM	PFC_Water_High.m	WS#5393267_22.d	P4-E5
5393267:GAD934-01:D1:100x	Reported for PFOS only.	2018/02/14 9:31 AM	PFC_Water_High.m	WS#5393267_23.d	P4-E6
5393267:GAD934-01:D1:100x PS	-	2018/02/14 9:36 AM	PFC_Water_High.m	WS#5393267_24.d	P4-E7
5393267:GAD934-01:10x	Reported for PFHxS only.	2018/02/14 9:40 AM	PFC_Water_High.m	WS#5393267_25.d	P4-E8
5393267:GAD934-01:D1:10x	Reported for PFHxS only.	2018/02/14 9:45 AM	PFC_Water_High.m	WS#5393267_26.d	P4-E9
5393267:GAD934-01:D1:10x PS	-	2018/02/14 9:50 AM	PFC_Water_High.m	WS#5393267_27.d	P4-F1
IB	-	2018/02/14 9:55 AM	PFC_Water_High.m	WS#5393267_28.d	P4-D3
CCV	-	2018/02/14 10:00 AM	PFC_Water_High.m	WS#5393267_29.d	P4-C9
5393267:FZY553-01:10x	Reported for 6:2-FTS, PFHxS only.	2018/02/14 10:05 AM	PFC_Water_High.m	WS#5393267_30.d	P4-F2
5393267:FZY553-01:D1:10x	Reported for 6:2-FTS, PFHxS only.	2018/02/14 10:10 AM	PFC_Water_High.m	WS#5393267_31.d	P4-F3
5393267:FZY553-01:D1:10x PS	-	2018/02/14 10:15 AM	PFC_Water_High.m	WS#5393267_32.d	P4-F4
5393267:FZY553-01	not used.	2018/02/14 10:20 AM	PFC_Water_High.m	WS#5393267_33.d	P4-F5
5393267:FZY553-01:D1	not used.	2018/02/14 10:25 AM	PFC_Water_High.m	WS#5393267_34.d	P4-F6

FINAL INJECTION SEQUENCE

Sample					
Name	Comment	Acq. Date-Time	Acq. Method File	Data File	Pos.
5393267:FZY553-01:D1 PS	-	2018/02/14 10:30 AM	PFC_Water_High.m	WS#5393267_35.d	P4-F7
IB	-	2018/02/14 10:34 AM	PFC_Water_High.m	WS#5393267_36.d	P4-D3
CCV	-	2018/02/14 10:39 AM	PFC_Water_High.m	WS#5393267_37.d	P4-C9

DoD Projects - Internal Data Validation Checklist

Run date: 2018/02/13

Worksheet # (s): 539567 9

Analysis: PFOSAACM-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: LE Date: 2018/02/14

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: [illegible] Date: 20180214

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

Worksheet Data Validation Checklist - Extractable Organics

Worksheet # 5395879 Testcode: PFOSACCM-W

Sample Preparation		yes	no	n/a
1	Samples extracted within hold time		✓	
2	Client sample ID verified against Lab ID (waters & oils)	✓		
3	Parameter list and Client comments reviewed, (Spiking solutions matched to parameter list)	✓		
4	Height of sediment or if sample was decanted, recorded on worksheet	✓		
5	Method required QC processed with samples, maximum batch size = 20 client samples.	✓		
6	Sample, duplicate, matrix spike appear similar, initial sample as well as final extract	✓		
7	Sample weight or initial volume and extract final volume, aliquot factor clearly recorded.	✓		
8	If performed any additional dilution clearly recorded	✓		
9	Matrix spike / Duplicate performed on IOL samples if present			✓
10	Spiking solutions valid (haven't expired), ID and volume used clearly identified on worksheet	✓		
11	Spiking process witnessed and signed off	✓		
12	Extraction type recorded (N3A2B = neutral, 3 x acidic, 2 x basic)			✓
13	Sample prep deviations documented within CompliantPro as a Policy Deviation			✓
14	Job Remarks reviewed on 2nd page of worksheet.	✓		
15	Worksheet and reagent tracking record completed and authorized.	✓		

Reviewed by: SSV Date: 2018-11-12

Comments:

Worksheet Approval		yes	no	n/a
1	Verified the position of the vials in autosampler against sequence list; signed off sequence list			
2	Calibration and CCV standards valid (haven't expired)			
3	Initial calibration curve and DFTPP tune (if applicable) acceptable			
4	Continuing and Final CCV and DFTPP tune (if applicable) acceptable			
5	System performance check acceptable (if applicable)			
6	Internal standard responses acceptable			
7	Method blank meets acceptance criteria			
8	Lab Control Samples recoveries meets acceptance criteria			
9	Duplicate RPD meets acceptance criteria			
10	Matrix spike recoveries meets acceptance criteria			
11	Surrogate recoveries meets acceptance criteria			
12	Appropriate control charts updated			
13	Samples above calibration range diluted and reanalyzed			
14	Dilutions clearly documented on tracking record, inst file and verified during data upload			
15	Samples following high level samples checked for carryover.			
16	Mass spectra ion ratios acceptable for positive results, hardcopy in file.			
17	Analytical observations / anomalies documented			
18	DQW comments entered in LIMS, hardcopy in file			
19	Sample Prep section (above) reviewed and verified.			
20	WS Approval performed in LIMS			

Reviewed by: Date:

Comments:

Worksheet Validation		yes	no	n/a
1	Calibration, QC and sample results reviewed and determined acceptable			
2	Manual integrations verified			
3	Random calculation checked			
4	Data and QC validated in LIMS			
5	Comments reviewed for appropriateness			
6	Reworks / relogs documented in file			
7	Worksheet signed and dated,			
8	Worksheet approved and validated within LIMS			

Reviewed by: Date:

Comments:

WS# : 5395679

Page #: 1/2

RUSH

Report Name : Worksheet - (Liquids and Solids)

Assignment Date : Monday, February 12, 2018

Assigned to : Shivani Shivani

Test Code : PFOSALCM-W

Instrument Id:

Test Description : PFOS and PFOA in water by LC-MS/MS

Job Number	Sample Number	D	Sample ID	R	Moisture	Wt or Vol	Final Vol	DF or AF	# Cont	Expiry Date	Test DeadLine	Criteria	Extract Date	mg
	SPIKE		PFC-W		0	125	3	1X					2018/02/12	25
	BLANK				0	125	3	1X					2018/02/12	26
B820260	*FZJ957-01R		[redacted]		<0.1	100/125	3	1X/10X	2	2018/02/08	2018/02/09 23:00	DOD	2018/02/12	27
B823896*	*GAC702-01R		[redacted]		<0.1	125	3	1X	2	2018/02/12	2018/02/08 17:00	DOD	2018/02/12	29
B823896*	*GAC704-01R		[redacted]		<0.1	125	3	1X	2	2018/02/12	2018/02/08 17:00	DOD	2018/02/12	30
B824213	*GAD935-01R		FB-CEF-NG-01291*		0	125	3	1X	2	2018/02/12	2018/02/14 23:00	DOD	2018/02/12	32
B824213	*GAD936-01R	0	CEF-NG-025-0118		0	1.25	3	100X	6	2018/02/12	2018/02/14 23:00	DOD	2018/02/12	31
B824213	*GAD936-01R	1	CEF-NG-025-0118		0	1.25	3	100X	6	2018/02/12	2018/02/14 23:00	DOD	2018/02/12	26
B824213	*GAD937-01R		CEF-NG-10S-0118		0	125/125	3	1X/10X	2	2018/02/12	2018/02/14 23:00	DOD	2018/02/12	28
B824213	*GAD938-01R		CEF-860-TW02-01*		<0.1	62.5/5	3	2X/25X	2	2018/02/13	2018/02/14 23:00	DOD	2018/02/12	27
B827777*	*GAU809-01R		[redacted]		0	280	6	1X	1		2018/02/13 23:00		2018/02/12	30

Shivani 2018/02/12.

Remarks: • Carbon-clean up done. All standards Cross Reference to 5395873
• Sample GAD936 is high sample we have to do (100X) High level analysis also, so I made sample (sample Dup for this.

Samples extracted by: Shivani Shivani

Instrumentation performed by: Date: 2018/02/13

Calculations performed by: Date: 2018/02/14

Validated by: Date: 2018/02/14

Job No.	Rep / Client Name / Remarks	Contact	Client Tier	National
GB820260	[redacted]			
GB823896				
GB824213	SP8 Earth Toxics Inc	Rick Carr	Tier 5 (Enviro.)	AECOM

nreg, PFOSALCM-W Level IV Data Package and TetraTech EDD required The following samples will not be reported: GAD929, GAD930, GAD931, GAD932, GAD935 F/C by NGV - 2018/02/09 Project #: JM10 CECIL

MB827777 [redacted]

Job	Sample	Lab Comments
	SPIKE	
	BLANK	
B820260	FZJ957-01R	9 centrifuge sample at 4000 rpm.
B823896	GAC702-01R	〃
B823896	GAC704-01R	〃
B824213	GAD935-01R	
B824213	GAD936-01R	
B824213	GAD936-01R:DUP	
B824213	GAD937-01R	
B824213	GAD938-01R	
B827777	GAU809-01R	

Folder: 20180213 on 2018/02/14

Job No.	Rep	Client Name	Contact	Client Tier	National
GB824253	Remarks	[redacted]			
MB827765					

Job	Sample	Lab Comments
	SPIKE	
	SPIKE	
	BLANK	
B824253	GAE032-01R	
B827765	GAU785-01R	

ICAL and ICV info only.

Calibration standard Preparation. MC 2018/02/26

	mean(cue)	spb(cue)	IS
S_1	2825	25	SK7377
S_2	2800	50	
S_3	2700	150	
S_4	2813	37.5	I-5297
S_5	2775	75	
S_6	2725	125	
ICV	2788	62.5	I-5299
IB	2850		150 (cue)

JC3 2018/02/12

Folder: 20180213

Folder: 20180213_5395873_PFBS

Worksheet Reagent Tracking Record Worksheet # 5395879

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-5299(1/3)	1ug/mL	75	21 (62.5)	75	21 62.5	NA	NA
PFC Internal Standard Solution	✓	SI-6763(4/4)	50/125 ng/mL	200	100 (150)	200	100 150	200	100/150 300
PFC Injection IS	✓	SI-6770(1/2)	~~400 ng/mL~~ 190	20	(20)	20	20	20	(20)
ICV	✓	I-5299(1/3)	ICV		62.5				

Solvent/Reagent	√	Lot No.	Date Opened	Solvent/Reagent	√	Lot No.	Date Opened/ Prepared
DCM				50% NaOH			
Ottawa Sand				o-Phosphoric Acid			
Methanol	✓	SHBB545	2018/02/12	Borax			
2-Propanol (IPA)				Calcium Chloride			
Acetonitrile				EDTA			
Sodium Sulfate				Phosphate Buffer			
70:30 Methanol: Water				Sodium Thiosulphate			
60:40 Water: Methanol	✓	PRREF 108-348		DNPH			
DCM:Ethyl Ether (75:25)				FMOC			
Hexane:IPA (98:2)				5M Acetate Buffer			
2% Formic Acid	✓	PRREF 108-342		0.2% NH_4OH	✓	PRREF 108-354	
0.2% Formic Acid				Leachate Fluid			
0.05M KOH				Reagent Water	✓	57797	2018/02/12
0.05M HCl							

*Spiked by: SSV

Spike Date: 2018/02/12

Spike Syringe/Pipette ID#: G24590G

Int. Std Syringe/Pipette ID#: Internal Std# K19865F/J43434G
Injection IS# G24590G

*Spiking Witnessed by: JP3

Final pH:

Equipment & ID	√	Equipment	ID#	√	Equipment	Lot #
Pipettor K19865F K39372F K55191G	✓	SPE Cartridge	0034372474	✓	QC Balance ID	FC-1
		Filter			Thermometer ID &Temp	
Dispenser		Centrifuge	42148683	10.00-10.05		
		Sonicator				

Bottle Tracking
Bottle# 1880
Cap# 1877B
Systems plus Lot#: 18/01/31

Comments: 250ml Volumetric Cylinder # 3026
Enviro Carb # 92806V

* - SPIKING OF MAXXAM SAMPLES MUST BE WITNESSED AT ALL TIMES.

Worksheet: 5395679 **Dilution and Column Cleanup Worksheet**

Maxxam Analytics

Job Number	Sample ID	Sample: Initial Final Volume	Dilution Required	Sample added mL	Solvent Added mL	Int Stan Added uL	New Effective Final Volume	INITIAL SSV DATE	Column Clean Up
B826260	F20957	—	10X	12.5	—	150	12.5	2 18/02/12	—
B824213	GAD936	—	100X	1.25	123.75	150	125	2 18/02/12	—
	GAD936RP	—	100X	1.25	123.75	150	125	2 18/02/12	—
	GAD937	—	10X	12.5	—	150	12.5	2 18/02/12	—
	GAD938	—	2X	62.5	—	150	62.5	2 18/02/12	—
	GAD938	—	25X	5	—	150	5	2 18/02/12	—
					2 18/02/12 SSV				

10mL # K551916
250mL volumetric cylinder #3026
CCMS mL # 57297

Worksheet Number: **5395679**

PFOS and PFOA in water by SPE/LCMS - Water

ug/L

Parameter Name	Units	SPIKE	DL	BLANK	DL	B820260 FZJ957 ReWork	DL
6:2 Fluorotelomer sulfonate	ug/L	110.75808	0.02	0	0.02	N/A*******	0.025
8:2 Fluorotelomer sulfonate	ug/L	107.35836	0.02	0	0.02	N/A*******	0.025
N-ethylperfluorooctane sulfonamide	ug/L	97.76149	0.02	0	0.02	N/A*******	0.025
EtFOSAA	ug/L	103.97722	0.02	0	0.02	N/A*******	0.025
N-ethylperfluorooctane sulfonamidoe	ug/L	105.75614	0.02	0	0.02	N/A*******	0.025
N-methylperfluorooctane sulfonamide	ug/L	97.88539	0.02	0	0.02	N/A*******	0.025
MeFOSAA	ug/L	101.06429	0.02	0	0.02	N/A*******	0.025
N-methylperfluorooctanesulfonamidol	ug/L	92.33202	0.02	0	0.02	N/A*******	0.025
Perfluorobutanoic acid	ug/L	112.65704	0.02	0	0.02	N/A*******	0.025
Perfluorobutane Sulfonate (PFBS)	ug/L	108.40467	0.02	0	0.02	N/A*******	0.025
Perfluorodecane Sulfonate	ug/L	106.56791	0.02	0	0.02	N/A*******	0.025
Perfluoroheptanoic Acid (PFHpA)	ug/L	102.01586	0.02	0	0.02	N/A*******	0.025
Perfluoroheptane sulfonate	ug/L	101.56074	0.02	0	0.02	N/A*******	0.025
Perfluorohexanoic Acid (PFHxA)	ug/L	90.99459	0.02	0	0.02	N/A*******	0.025
Perfluorohexane Sulfonate (PFHxS)	ug/L	101.81817	0.02	0	0.02	N/A*******	0.025
Perfluorononanoic Acid (PFNA)	ug/L	105.58995	0.02	0	0.02	N/A*******	0.025
Perfluorooctane Sulfonamide (PFOSA)	ug/L	106.70387	0.02	0	0.02	N/A*******	0.025
Perfluoropentanoic Acid (PFPeA)	ug/L	102.21755	0.02	0	0.02	N/A*******	0.025
Perfluorotetradecanoic Acid	ug/L	102.50910	0.02	0	0.02	0	0.025
Perfluorotridecanoic Acid	ug/L	99.58902	0.02	0	0.02	0	0.025
Perfluoroundecanoic Acid (PFUnA)	ug/L	110.80869	0.02	0	0.02	N/A*******	0.025
Perfluorodecanoic Acid (PFDA)	ug/L	111.18910	0.02	0	0.02	N/A*******	0.025
Perfluorododecanoic Acid (PFDoA)	ug/L	99.77674	0.02	0	0.02	N/A*******	0.025
Perfluoro-n-Octanoic Acid (PFOA)	ug/L	105.32950	0.02	0	0.02	N/A*******	0.025
Perfluorooctane Sulfonate (PFOS)	ug/L	92.75460	0.02	0	0.02	N/A*******	0.025
13C2-6:2 Fluorotelomer sulfonate	ug/L	71.1298407		103.941316		N/A*******	
13C2-8:2 Fluorotelomer sulfonate	ug/L	76.1125401		102.715952		N/A*******	
13C2-perfluorotetradecanoic acid	ug/L	72.5176556		80.0151268		57.5106789	
13C4-Perfluorobutanoic acid	ug/L	79.8665756		99.3083085		N/A*******	
D3-MeFOSAA	ug/L	67.4358767		82.0194136		N/A*******	
D5-EtFOSAA	ug/L	65.1733127		78.2838803		N/A*******	
N-methyl-d3-perfluorooctane sulfona	ug/L	74.1659803		77.2118807		N/A*******	
N-ethyl-d5-perfluorooctane sulfonam	ug/L	69.6269195		87.5772759		N/A*******	
13C2-Perfluorodecanoic acid	ug/L	77.1658132		91.2915437		N/A*******	
13C2-Perfluorododecanoic acid	ug/L	76.0858135		93.0279063		N/A*******	
13C2-Perfluorohexanoic acid	ug/L	86.2109213		102.312452		N/A*******	
13C2-Perfluoroundecanoic acid	ug/L	74.8042177		91.2142830		N/A*******	
13C4-Perfluoroheptanoic acid	ug/L	80.4607556		106.425403		N/A*******	
13C5-Perfluorononanoic acid	ug/L	79.7492693		98.5823790		N/A*******	
13C4-Perfluorooctanoic acid	ug/L	80.6281825		101.398959		N/A*******	
13C4-Perfluorooctanesulfonate	ug/L	87.5105571		95.4892733		N/A*******	
13C5-Perfluoropentanoic acid	ug/L	84.5046799		103.706794		N/A*******	
13C8-Perfluorooctane Sulfonamide	ug/L	72.3642273		94.3892553		N/A*******	
18O2-Perfluorohexanesulfonate	ug/L	77.3776152		105.907535		N/A*******	

Worksheet Number: **5395679**

PFOS and PFOA in water by SPE/LCMS - Water

ug/L

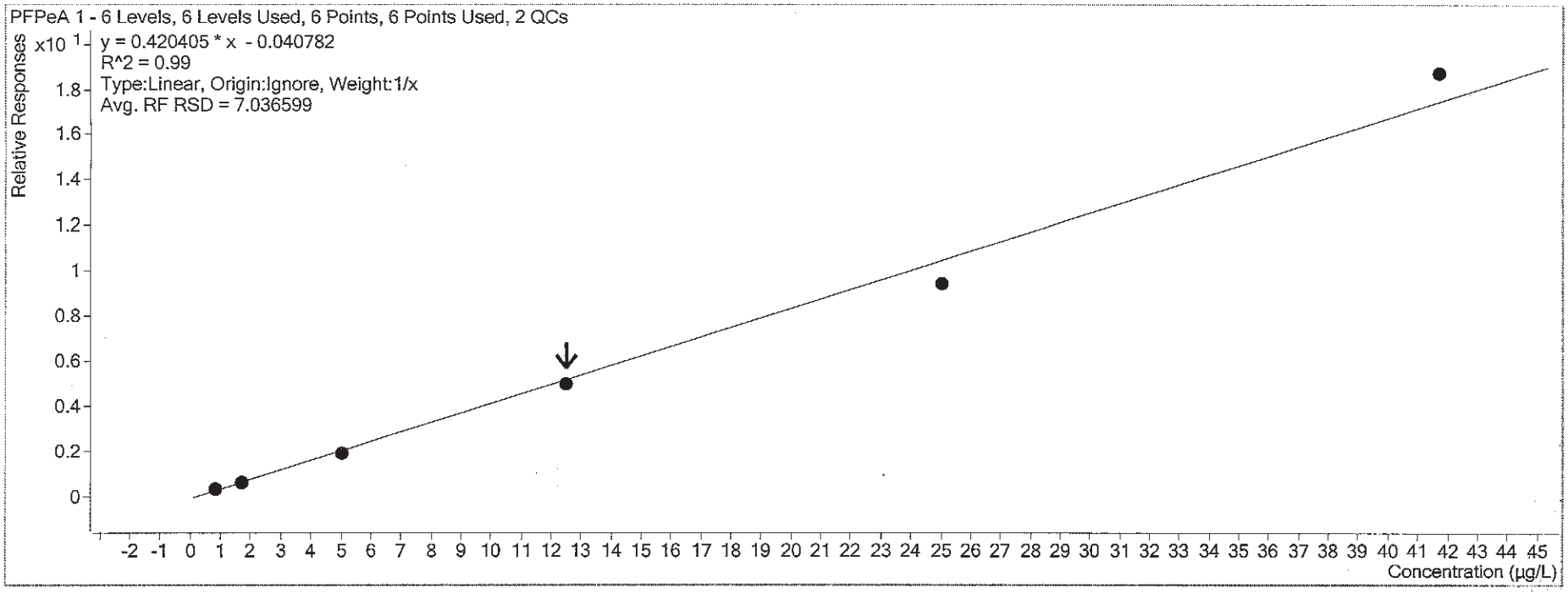
Parameter Name	B823896 GAC702 ReWork	DL	B823896 GAC704 ReWork	DL	B824213 GAD935	DL	B824213 GAD936
6:2 Fluorotelomer sulfonate	N/A*******	0.02	N/A*******	0.02	0	0.02	N/A*******
8:2 Fluorotelomer sulfonate	N/A*******	0.02	N/A*******	0.02	0	0.02	N/A*******
N-ethylperfluorooctane sulfonamide	N/A*******	0.02	N/A*******	0.02	0	0.02	N/A*******
EtFOSAA	N/A*******	0.02	N/A*******	0.02	0	0.02	0
N-ethylperfluorooctane sulfonamidoe	N/A*******	0.02	N/A*******	0.02	0	0.02	N/A*******
N-methylperfluorooctane sulfonamide	N/A*******	0.02	N/A*******	0.02	0	0.02	N/A*******
MeFOSAA	N/A*******	0.02	N/A*******	0.02	0	0.02	0
N-methylperfluorooctanesulfonamidol	N/A*******	0.02	N/A*******	0.02	N/A*******	0.02	N/A*******
Perfluorobutanoic acid	N/A*******	0.02	0	0.02	N/A*******	0.02	N/A*******
Perfluorobutane Sulfonate (PFBS)	N/A*******	0.02	N/A*******	0.02	0	0.02	2.72797980
Perfluorodecane Sulfonate	N/A*******	0.02	N/A*******	0.02	N/A*******	0.02	N/A*******
Perfluoroheptanoic Acid (PFHpA)	N/A*******	0.02	N/A*******	0.02	0	0.02	1.41229200
Perfluoroheptane sulfonate	N/A*******	0.02	N/A*******	0.02	N/A*******	0.02	9.51894043
Perfluorohexanoic Acid (PFHxA)	N/A*******	0.02	N/A*******	0.02	0	0.02	8.88955839
Perfluorohexane Sulfonate (PFHxS)	N/A*******	0.02	N/A*******	0.02	0	0.02	54.3738409
Perfluorononanoic Acid (PFNA)	0	0.02	N/A*******	0.02	0	0.02	0
Perfluorooctane Sulfonamide (PFOSA)	N/A*******	0.02	N/A*******	0.02	N/A*******	0.02	2.32515023
Perfluoropentanoic Acid (PFPeA)	N/A*******	0.02	N/A*******	0.02	N/A*******	0.02	2.31703575
Perfluorotetradecanoic Acid	N/A*******	0.02	N/A*******	0.02	0	0.02	0
Perfluorotridecanoic Acid	N/A*******	0.02	N/A*******	0.02	0	0.02	0
Perfluoroundecanoic Acid (PFUnA)	N/A*******	0.02	N/A*******	0.02	0	0.02	0
Perfluorodecanoic Acid (PFDA)	N/A*******	0.02	N/A*******	0.02	0	0.02	0
Perfluorododecanoic Acid (PFDoA)	N/A*******	0.02	N/A*******	0.02	0	0.02	0
Perfluoro-n-Octanoic Acid (PFOA)	N/A*******	0.02	N/A*******	0.02	0	0.02	8.55206223
Perfluorooctane Sulfonate (PFOS)	N/A*******	0.02	N/A*******	0.02	0	0.02	1009.17285
13C2-6:2 Fluorotelomer sulfonate	N/A*******		N/A*******		N/A*******		N/A*******
13C2-8:2 Fluorotelomer sulfonate	N/A*******		N/A*******		N/A*******		N/A*******
13C2-perfluorotetradecanoic acid	N/A*******		N/A*******		60.0532649		75.8169739
13C4-Perfluorobutanoic acid	N/A*******		73.2420085		97.6285493		102.992929
D3-MeFOSAA	N/A*******		N/A*******		80.182500		83.8803123
D5-EtFOSAA	N/A*******		N/A*******		76.602900		82.4404252
N-methyl-d3-perfluorooctane sulfona	N/A*******		N/A*******		N/A*******		N/A*******
N-ethyl-d5-perfluorooctane sulfonam	N/A*******		N/A*******		N/A*******		N/A*******
13C2-Perfluorodecanoic acid	N/A*******		N/A*******		90.7990141		88.3636148
13C2-Perfluorododecanoic acid	N/A*******		N/A*******		86.0812624		80.1017061
13C2-Perfluorohexanoic acid	N/A*******		N/A*******		100.073561		97.5802935
13C2-Perfluoroundecanoic acid	N/A*******		N/A*******		85.6629686		87.1162963
13C4-Perfluoroheptanoic acid	N/A*******		N/A*******		101.485451		104.464566
13C5-Perfluorononanoic acid	143.7940		N/A*******		98.2171456		99.8913511
13C4-Perfluorooctanoic acid	N/A*******		N/A*******		101.458333		103.362816
13C4-Perfluorooctanesulfonate	N/A*******		N/A*******		88.2194065		90.1118850
13C5-Perfluoropentanoic acid	N/A*******		N/A*******		N/A*******		N/A*******
13C8-Perfluorooctane Sulfonamide	N/A*******		N/A*******		N/A*******		N/A*******
18O2-Perfluorohexanesulfonate	N/A*******		N/A*******		101.994306		97.8712205

PFOS and PFOA in water by SPE/LCMS - Water
ug/L

Parameter Name	DL	B824213 GAD936 Dup1	DL	B824213 GAD937	DL	B824213 GAD938	DL
6:2 Fluorotelomer sulfonate	2.0	N/A*******	2.0	N/A*******	0.02	N/A*******	0.04
8:2 Fluorotelomer sulfonate	2.0	N/A*******	2.0	N/A*******	0.02	N/A*******	0.04
N-ethylperfluorooctane sulfonamide	2.0	N/A*******	2.0	N/A*******	0.02	N/A*******	0.04
EtFOSAA	2.0	0	2.0	0.01067758	0.02	0	0.04
N-ethylperfluorooctane sulfonamidoe	2.0	N/A*******	2.0	N/A*******	0.02	N/A*******	0.04
N-methylperfluorooctane sulfonamide	2.0	N/A*******	2.0	N/A*******	0.02	N/A*******	0.04
MeFOSAA	2.0	0	2.0	0.00867881	0.02	0	0.04
N-methylperfluorooctanesulfonamidol	2.0	N/A*******	2.0	N/A*******	0.02	N/A*******	0.04
Perfluorobutanoic acid	2.0	N/A*******	2.0	N/A*******	0.02	N/A*******	0.04
Perfluorobutane Sulfonate (PFBS)	2.0	2.48706861	2.0	0	0.02	0.33668115	0.04
Perfluorodecane Sulfonate	2.0	N/A*******	2.0	N/A*******	0.02	N/A*******	0.04
Perfluoroheptanoic Acid (PFHpA)	2.0	1.51852394	2.0	0	0.02	0.33496305	0.04
Perfluoroheptane sulfonate	2.0	N/A*******	2.0	N/A*******	0.02	N/A*******	0.04
Perfluorohexanoic Acid (PFHxA)	2.0	8.20507957	2.0	0	0.02	1.01387762	0.04
Perfluorohexane Sulfonate (PFHxS)	2.0	51.1966496	2.0	0.03347602	0.02	11.1544225	0.5
Perfluorononanoic Acid (PFNA)	2.0	0	2.0	0	0.02	0.11324078	0.04
Perfluorooctane Sulfonamide (PFOSA)	2.0	N/A*******	2.0	N/A*******	0.02	N/A*******	0.04
Perfluoropentanoic Acid (PFPeA)	2.0	N/A*******	2.0	N/A*******	0.02	N/A*******	0.04
Perfluorotetradecanoic Acid	2.0	0	2.0	0	0.02	0	0.04
Perfluorotridecanoic Acid	2.0	0	2.0	0	0.02	0	0.04
Perfluoroundecanoic Acid (PFUnA)	2.0	0	2.0	0	0.02	0	0.04
Perfluorodecanoic Acid (PFDA)	2.0	0	2.0	0	0.02	0	0.04
Perfluorododecanoic Acid (PFDoA)	2.0	0	2.0	0	0.02	0	0.04
Perfluoro-n-Octanoic Acid (PFOA)	2.0	7.93487520	2.0	0	0.02	0.56079713	0.04
Perfluorooctane Sulfonate (PFOS)	2.0	1044.63981	2.0	0.03023874	0.02	6.92065345	0.5
13C2-6:2 Fluorotelomer sulfonate		N/A*******		N/A*******		N/A*******	
13C2-8:2 Fluorotelomer sulfonate		N/A*******		N/A*******		N/A*******	
13C2-perfluorotetradecanoic acid		76.9455389		85.1197608		71.3882243	
13C4-Perfluorobutanoic acid		95.9849238		99.5703055		86.5310004	
D3-MeFOSAA		79.8548848		88.4655921		81.7436451	
D5-EtFOSAA		77.2907683		82.9507367		80.8961280	
N-methyl-d3-perfluorooctane sulfona		N/A*******		N/A*******		N/A*******	
N-ethyl-d5-perfluorooctane sulfonam		N/A*******		N/A*******		N/A*******	
13C2-Perfluorodecanoic acid		93.6408527		100.145550		88.2978882	
13C2-Perfluorododecanoic acid		84.5230324		90.0227194		84.7329338	
13C2-Perfluorohexanoic acid		95.4321000		101.400556		95.1314282	
13C2-Perfluoroundecanoic acid		82.5925809		99.8504997		83.2817943	
13C4-Perfluoroheptanoic acid		96.0956980		106.755533		78.0221963	
13C5-Perfluorononanoic acid		94.6906636		108.593379		93.7388477	
13C4-Perfluorooctanoic acid		94.9618735		107.306679		89.6319051	
13C4-Perfluorooctanesulfonate		82.7204186		118.544609		110.487621	
13C5-Perfluoropentanoic acid		N/A*******		N/A*******		N/A*******	
13C8-Perfluorooctane Sulfonamide		N/A*******		N/A*******		N/A*******	
18O2-Perfluorohexanesulfonate		93.0928736		107.444312		115.581051	

PFOS and PFOA in water by SPE/LCMS - Water
ug/L

Parameter Name	B827777 GAU809	DL	RDL	MDL	IDL		
6:2 Fluorotelomer sulfonate	0	0.02	0.02	0.0066	0		
8:2 Fluorotelomer sulfonate	0	0.02	0.02	0.0066	0		
N-ethylperfluorooctane sulfonamide	0	0.02	0.02	0.01	0		
EtFOSAA	0	0.02	0.02	0.0033	0		
N-ethylperfluorooctane sulfonamidoe	0	0.02	0.02	0.0079	0		
N-methylperfluorooctane sulfonamide	0	0.02	0.02	0.013	0		
MeFOSAA	0	0.02	0.02	0.0029	0		
N-methylperfluorooctanesulfonamidol	0	0.02	0.02	0.012	0		
Perfluorobutanoic acid	0	0.02	0.02	0.0055	0		
Perfluorobutane Sulfonate (PFBS)	0	0.02	0.02	0.0054	0		
Perfluorodecane Sulfonate	0	0.02	0.02	0.006	0		
Perfluoroheptanoic Acid (PFHpA)	0	0.02	0.02	0.0074	0		
Perfluoroheptane sulfonate	0	0.02	0.02	0.008	0		
Perfluorohexanoic Acid (PFHxA)	0	0.02	0.02	0.0035	0		
Perfluorohexane Sulfonate (PFHxS)	0	0.02	0.02	0.0056	0		
Perfluorononanoic Acid (PFNA)	0	0.02	0.02	0.0087	0		
Perfluorooctane Sulfonamide (PFOSA)	0	0.02	0.02	0.0034	0		
Perfluoropentanoic Acid (PFPeA)	0	0.02	0.02	0.0075	0		
Perfluorotetradecanoic Acid	0	0.02	0.02	0.0027	0		
Perfluorotridecanoic Acid	0	0.02	0.02	0.0038	0		
Perfluoroundecanoic Acid (PFUnA)	0	0.02	0.02	0.0025	0		
Perfluorodecanoic Acid (PFDA)	0	0.02	0.02	0.0061	0		
Perfluorododecanoic Acid (PFDoA)	0	0.02	0.02	0.005	0		
Perfluoro-n-Octanoic Acid (PFOA)	0	0.02	0.02	0.0033	0		
Perfluorooctane Sulfonate (PFOS)	0	0.02	0.02	0.006	0		
13C2-6:2 Fluorotelomer sulfonate	101.696687						
13C2-8:2 Fluorotelomer sulfonate	87.9986115						
13C2-perfluorotetradecanoic acid	82.6307476						
13C4-Perfluorobutanoic acid	98.7265168						
D3-MeFOSAA	78.2559823						
D5-EtFOSAA	75.9173137						
N-methyl-d3-perfluorooctane sulfona	90.8723171						
N-ethyl-d5-perfluorooctane sulfonam	86.4477990						
13C2-Perfluorodecanoic acid	100.032016						
13C2-Perfluorododecanoic acid	82.4078881						
13C2-Perfluorohexanoic acid	104.692472						
13C2-Perfluoroundecanoic acid	87.2564003						
13C4-Perfluoroheptanoic acid	99.0871877						
13C5-Perfluorononanoic acid	97.6852994						
13C4-Perfluorooctanoic acid	92.4052131						
13C4-Perfluorooctanesulfonate	97.7302828						
13C5-Perfluoropentanoic acid	97.0819102						
13C8-Perfluorooctane Sulfonamide	94.5091901						
18O2-Perfluorohexanesulfonate	102.058458						



Manual calculation for Spike:

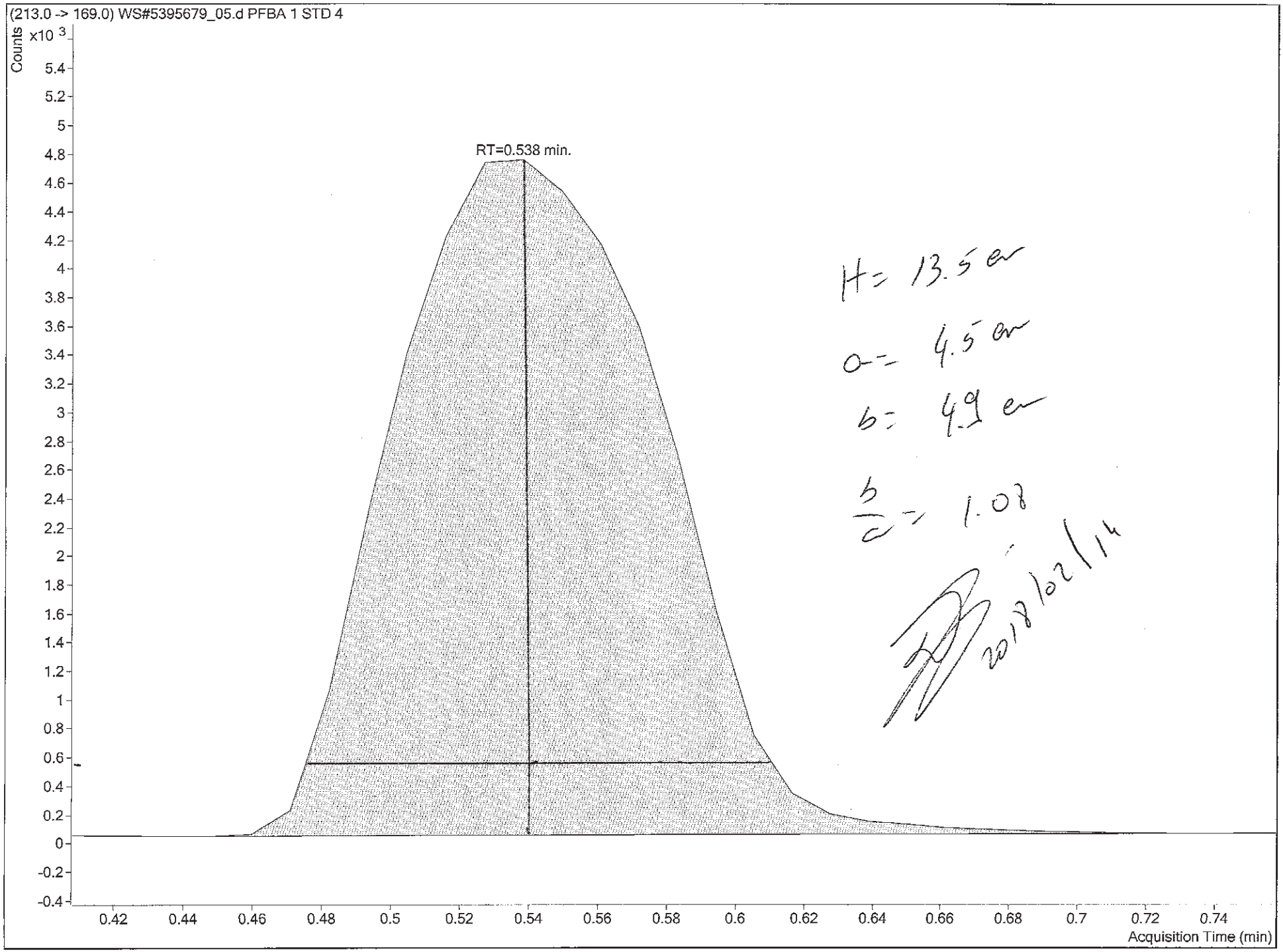
$8.9119 = 0.420405x - 0.040782$

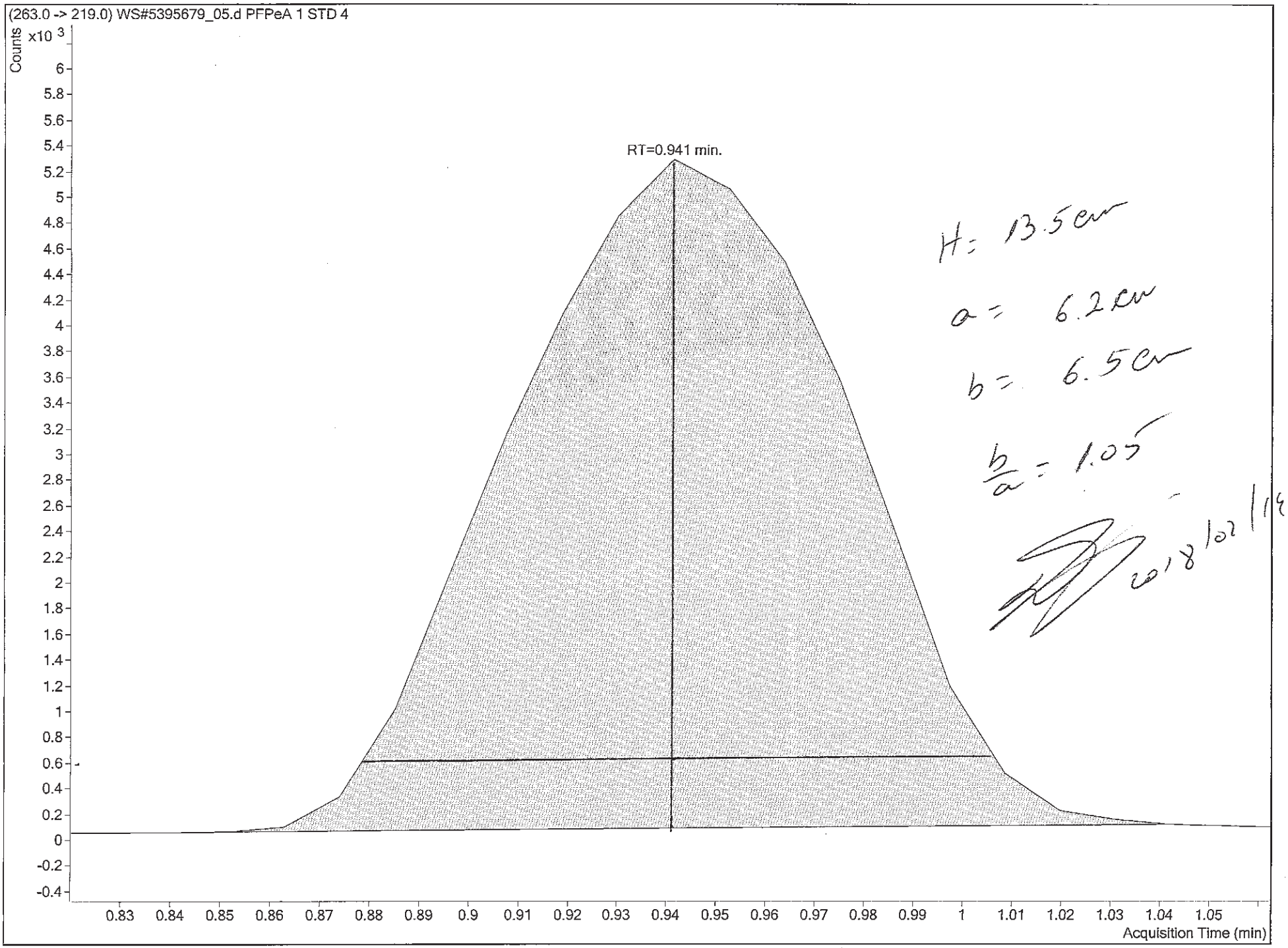
$x = 21.295537 \times 0.024$

$= 0.511089 \text{ µg/L}$

$\frac{0.511089 \text{ µg/L}}{0.5} \times 100 = 102.2\%$

2018/02/14


(213.0 -> 169.0) WS#5395679_05.d PFBA 1 STD 4
Counts
x10 3
RT=0.538 min.
Acquisition Time (min)
H= 13.5 cm
a= 4.5 cm
b= 4.9 cm
b/a= 1.08
2018/02/14



H: 13.5 cm

a = 6.2 cm

b = 6.5 cm

$\frac{b}{a}$ = 1.05

2018/02/14

Maxxam Analytics

Report Name: Worksheet - Parameter Lists

Report Date: 2018/02/12

Test Code: **PFOSALCM-W**

Worksheet Number: **5395679**

Sample Number	Parameter Code	Parameter	
FZJ957-01	PFTEDA	Perfluorotetradecanoic Acid	
	PFTRDA	Perfluorotridecanoic Acid	
GAC702-01	PFNA	Perfluorononanoic Acid (PFNA)	
GAC704-01	PFBA	Perfluorobutanoic acid	
GAD935-01	NONE	NONE	
GAD936-01	ETFOSAA	EtFOSAA	*
GAD937-01	MEFOSAA	MeFOSAA	*
GAD938-01	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 (PFUnA)	
	PFDA	Perfluorodecanoic Acid (PFDA)	
	PFDOA	Perfluorododecanoic Acid (PFDoA)	
	PFOA	Perfluoro-n-Octanoic Acid (PFOA)	
	PFOS	Perfluorooctane Sulfonate (PFOS)	
GAU809-01	6:2FTS	6:2 Fluorotelomer sulfonate	*
	8:2FTS	8:2 Fluorotelomer sulfonate	*
	ETFOSA	N-ethylperfluorooctane sulfonamide	*
	ETFOSAA	EtFOSAA	*
	ETFOSE	N-ethylperfluorooctane sulfonamidoe	*

* - This parameter is usually off, but will be reported for this group of samples!

Report Name: Worksheet - Parameter Lists

Report Date: 2018/02/12

Test Code: **PFOSALCM-W**

Worksheet Number: **5395679**

Sample Number	Parameter Code	Parameter	
	MEFOSA	N-methylperfluorooctane sulfonamide	*
	MEFOSAA	MeFOSAA	*
	MEFOSE	N-methylperfluorooctanesulfonamidol	*
	PFBA	Perfluorobutanoic acid	
	PFBS	Perfluorobutane Sulfonate (PFBS)	
	PFDS	Perfluorodecane Sulfonate	
	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)	
	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)	

* - This parameter is usually off, but will be reported for this group of samples!

WorkSheet 5395679 Instrument Sequences

1.	 5395679:SPIKE	SPIKE
2.	 5395679:BLANK	BLANK
3.	 5395679:FZJ957-01	[redacted]
4.	 5395679:GAC702-01	[redacted]
5.	 5395679:GAC704-01	[redacted]
6.	 5395679:GAD935-01	FB-CEF-NG-012918-11
7.	 5395679:GAD936-01	CEF-NG-025-0118
8.	 5395679:GAD936-01:D1	CEF-NG-025-0118 :D1
9.	 5395679:GAD937-01	CEF-NG-10S-0118
10.	 5395679:GAD938-01	CEF-860-TW02-0118
11.	 5395679:GAU809-01	[redacted]

Worklist Report

Agilent Technologies

Instrument Name: LCMS04 **Worklist Path:** D:\MassHunter\Worklists\PFCs\PFC_180213_Low.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\20180213\WS#5395679
Pre-Worklist Script: ---
Post-Worklist Script: SCP_InstrumentStandby(){MH_Acq_Scripts.exe}
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: Column #198
MP A1: Solution# 280 (FSRE18)
MP B1: Methanol lot# SHBJ5451, Sigma

Plate Barcode: None

20180213

2018/02/13

Worklist Table

	Sample Name	Sample Position	Method	Data File	Sample Type	Level Name	Inj Vol (µl)	Comment
1	Solvent	P3-A1	PFC_Water_Low.m	WS#5395679_01.d	Sample		As Method	-
2	STD 1	P3-A2	PFC_Water_Low.m	WS#5395679_02.d	Calibration	STD 1	As Method	-
3	STD 2	P3-A3	PFC_Water_Low.m	WS#5395679_03.d	Calibration	STD 2	As Method	-
4	STD 3	P3-A4	PFC_Water_Low.m	WS#5395679_04.d	Calibration	STD 3	As Method	-
5	STD 4	P3-A5	PFC_Water_Low.m	WS#5395679_05.d	Calibration	STD 4	As Method	-
6	STD 5	P3-A6	PFC_Water_Low.m	WS#5395679_06.d	Calibration	STD 5	As Method	-
7	STD 6	P3-A7	PFC_Water_Low.m	WS#5395679_07.d	Calibration	STD 6	As Method	-

335 of 854

Worklist Report

Agilent Technologies

	Sample Name	Sample Position	Method	Data File	Sample Type	Level Name	Inj Vol (µl)	Comment
8	IB	P3-A8	PFC_Water_Low.m	WS#5395679_08.d	Sample		As Method	-
9	ICV	P3-A9	PFC_Water_Low.m	WS#5395679_09.d	QC	ICV	As Method	-
10	ISC	P3-A2	PFC_Water_Low.m	WS#5395679_10.d	ConCal	STD 1	As Method	-
11	5395679:BLANK	P3-B1	PFC_Water_Low.m	WS#5395679_11.d	Sample		As Method	-
12	5395679:SPIKE	P3-B2	PFC_Water_Low.m	WS#5395679_12.d	QC	ICV	As Method	-
13	5395679:GAU809-01	P3-C5	PFC_Water_Low.m	WS#5395679_13.d	Sample		As Method	-
14	5395679:FZJ957-01:10x	P3-B3	PFC_Water_Low.m	WS#5395679_14.d	Sample		As Method	-
15	5395679:FZJ957-01	P3-B4	PFC_Water_Low.m	WS#5395679_15.d	Sample		As Method	-
16	IB	P3-A8	PFC_Water_Low.m	WS#5395679_16.d	Sample		As Method	-
17	5395679:GAC702-01	P3-B5	PFC_Water_Low.m	WS#5395679_17.d	Sample		As Method	-
18	5395679:GAC704-01	P3-B6	PFC_Water_Low.m	WS#5395679_18.d	Sample		As Method	-
19	5395679:GAD935-01	P3-B7	PFC_Water_Low.m	WS#5395679_19.d	Sample		As Method	-
20	5395679:GAD936-01:100x	P3-B8	PFC_Water_Low.m	WS#5395679_20.d	Sample		As Method	-
21	5395679:GAD936-01:D1:100x	P3-B9	PFC_Water_Low.m	WS#5395679_21.d	Sample		As Method	-
22	IB	P3-A8	PFC_Water_Low.m	WS#5395679_22.d	Sample		As Method	-
23	CCV	P3-A5	PFC_Water_Low.m	WS#5395679_23.d	ConCal	STD 4	As Method	-
24	5395679:GAD937-01:10x	P3-C1	PFC_Water_Low.m	WS#5395679_24.d	Sample		As Method	-
25	5395679:GAD937-01	P3-C2	PFC_Water_Low.m	WS#5395679_25.d	Sample		As Method	-
26	IB	P3-A8	PFC_Water_Low.m	WS#5395679_26.d	Sample		As Method	-
27	5395679:GAD938-01:25x	P3-C3	PFC_Water_Low.m	WS#5395679_27.d	Sample		As Method	-
28	5395679:GAD938-01:2x	P3-C4	PFC_Water_Low.m	WS#5395679_28.d	Sample		As Method	-
29	IB	P3-A8	PFC_Water_Low.m	WS#5395679_29.d	Sample		As Method	-
30	CCV	P3-A5	PFC_Water_Low.m	WS#5395679_30.d	ConCal	STD 4	As Method	-

Maxxam Analytics

336 of 854

Worklist Report

Agilent Technologies

Instrument Name: LCMS04 **Worklist Path:** D:\MassHunter\Worklists\PFCs\PFC_180213_Low_FOSAA.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\20180213\WS#5395679_FOSAA
Pre-Worklist Script: ---
Post-Worklist Script: SCP_InstrumentStandby(){MH_Acq_Scripts.exe}
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: Column #198
MP A1: Solution# 280 (FSRE18)
MP B2:Solution# 284 (FSRE18)

2018/02/13

2018/2/13

Plate Barcode:

Plate	Barcode
P3	

Worklist Table

	Sample Name	Sample Position	Method	Data File	Sample Type	Level Name	Inj Vol (µl)	Comment
1	Solvent	P3-A1	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_01.d	Sample		As Method	-
2	STD 1	P3-A2	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_02.d	Calibration	STD 1	As Method	-
3	STD 2	P3-A3	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_03.d	Calibration	STD 2	As Method	-
4	STD 3	P3-A4	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_04.d	Calibration	STD 3	As Method	-
5	STD 4	P3-A5	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_05.d	Calibration	STD 4	As Method	-
6	STD 5	P3-A6	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_06.d	Calibration	STD 5	As Method	-
7	STD 6	P3-A7	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_07.d	Calibration	STD 6	As Method	-
8	IB	P3-A8	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_08.d	Sample		As Method	-

337 of 654

Maxxam Analytics

	Sample Name	Sample Position	Method	Data File	Sample Type	Level Name	Inj Vol (µl)	Comment
9	ICV	P3-A9	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_09.d	QC	ICV	As Method	-
10	ISC	P3-A2	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_10.d	ConCal	STD 1	As Method	-
11	5395679:BLANK	P3-B1	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_11.d	Sample		As Method	-
12	5395679:SPIKE	P3-B2	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_12.d	QC	ICV	As Method	-
13	5395679:GAU809-01	P3-C5	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_13.d	Sample		As Method	-
14	5395679:FZJ957-01:10x	P3-B3	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_14.d	Sample		As Method	-
15	5395679:FZJ957-01	P3-B4	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_15.d	Sample		As Method	-
16	IB	P3-A8	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_16.d	Sample		As Method	-
17	5395679:GAC702-01	P3-B5	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_17.d	Sample		As Method	-
18	5395679:GAC704-01	P3-B6	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_18.d	Sample		As Method	-
19	5395679:GAD935-01	P3-B7	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_19.d	Sample		As Method	-
20	5395679:GAD936-01:100x	P3-B8	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_20.d	Sample		As Method	-
21	5395679:GAD936-01:D1:100x	P3-B9	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_21.d	Sample		As Method	-
22	IB	P3-A8	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_22.d	Sample		As Method	-
23	CCV	P3-A5	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_23.d	ConCal	STD 4	As Method	-
24	5395679:GAD937-01:10x	P3-C1	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_24.d	Sample		As Method	-
25	5395679:GAD937-01	P3-C2	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_25.d	Sample		As Method	-
26	IB	P3-A8	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_26.d	Sample		As Method	-
27	5395679:GAD938-01:25x	P3-C3	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_27.d	Sample		As Method	-
28	5395679:GAD938-01:2x	P3-C4	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_28.d	Sample		As Method	-
29	IB	P3-A8	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_29.d	Sample		As Method	-
30	CCV	P3-A5	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_30.d	ConCal	STD 4	As Method	-

FINAL INJECTION SEQUENCE

Sample					
Name	Comment	Acq. Date-Time	Acq. Method File	Data File	Pos.
STD 1	-	2018/02/13 10:00 PM	PFC_Water_Low.m	WS#5395679_02.d	P3-A2
STD 2	-	2018/02/13 10:05 PM	PFC_Water_Low.m	WS#5395679_03.d	P3-A3
STD 3	-	2018/02/13 10:10 PM	PFC_Water_Low.m	WS#5395679_04.d	P3-A4
STD 4	-	2018/02/13 10:15 PM	PFC_Water_Low.m	WS#5395679_05.d	P3-A5
STD 5	-	2018/02/13 10:20 PM	PFC_Water_Low.m	WS#5395679_06.d	P3-A6
STD 6	-	2018/02/13 10:25 PM	PFC_Water_Low.m	WS#5395679_07.d	P3-A7
IB	-	2018/02/13 10:30 PM	PFC_Water_Low.m	WS#5395679_08.d	P3-A8
ICV	-	2018/02/13 10:35 PM	PFC_Water_Low.m	WS#5395679_09.d	P3-A9
ISC	-	2018/02/13 10:40 PM	PFC_Water_Low.m	WS#5395679_10.d	P3-A2
5395679:BLANK	-	2018/02/13 10:45 PM	PFC_Water_Low.m	WS#5395679_11.d	P3-B1
5395679:SPIKE	-	2018/02/13 10:50 PM	PFC_Water_Low.m	WS#5395679_12.d	P3-B2
5395679:GAU809-01	-	2018/02/13 10:55 PM	PFC_Water_Low.m	WS#5395679_13.d	P3-C5
5395679:FZJ957-01:10x	Not used	2018/02/13 11:00 PM	PFC_Water_Low.m	WS#5395679_14.d	P3-B3
5395679:FZJ957-01	Reported for PFTrDA and PFTeDA	2018/02/13 11:04 PM	PFC_Water_Low.m	WS#5395679_15.d	P3-B4
IB	-	2018/02/13 11:09 PM	PFC_Water_Low.m	WS#5395679_16.d	P3-A8
5395679:GAC702-01	Reported for PFNA only	2018/02/13 11:14 PM	PFC_Water_Low.m	WS#5395679_17.d	P3-B5
5395679:GAC704-01	Reported for PFBA only	2018/02/13 11:19 PM	PFC_Water_Low.m	WS#5395679_18.d	P3-B6
5395679:GAD935-01	-	2018/02/13 11:24 PM	PFC_Water_Low.m	WS#5395679_19.d	P3-B7
5395679:GAD936-01:100x	Report for all, except reanalyzed PFOS	2018/02/13 11:29 PM	PFC_Water_Low.m	WS#5395679_20.d	P3-B8
5395679:GAD936-01:D1:100x	Report for all, except reanalyzed PFOS	2018/02/13 11:34 PM	PFC_Water_Low.m	WS#5395679_21.d	P3-B9
IB	-	2018/02/13 11:39 PM	PFC_Water_Low.m	WS#5395679_22.d	P3-A8
CCV	-	2018/02/13 11:44 PM	PFC_Water_Low.m	WS#5395679_23.d	P3-A5
5395679:GAD937-01:10x	Not used	2018/02/13 11:49 PM	PFC_Water_Low.m	WS#5395679_24.d	P3-C1
5395679:GAD937-01	Report for all	2018/02/13 11:54 PM	PFC_Water_Low.m	WS#5395679_25.d	P3-C2
IB	-	2018/02/13 11:59 PM	PFC_Water_Low.m	WS#5395679_26.d	P3-A8
5395679:GAD938-01:25x	Report for PFHxS and PFOS	2018/02/14 12:04 AM	PFC_Water_Low.m	WS#5395679_27.d	P3-C3
5395679:GAD938-01:2x	Report for all, except PFHxS and PFOS	2018/02/14 12:09 AM	PFC_Water_Low.m	WS#5395679_28.d	P3-C4
IB	-	2018/02/14 12:14 AM	PFC_Water_Low.m	WS#5395679_29.d	P3-A8
CCV	-	2018/02/14 12:18 AM	PFC_Water_Low.m	WS#5395679_30.d	P3-A5
ISC	-	2018/02/14 10:45 AM	PFC_Water_Low.m	WS#5395679_31.d	P3-A2
5395679:GAC702-01:R	Reinjection to confirm recovery, not used	2018/02/14 10:50 AM	PFC_Water_Low.m	WS#5395679_32.d	P3-B5
5395679:GAC704-01:R	Reinjection to confirm recovery, not used	2018/02/14 10:55 AM	PFC_Water_Low.m	WS#5395679_33.d	P3-B6
CCV	-	2018/02/14 10:59 AM	PFC_Water_Low.m	WS#5395679_34.d	P3-A5

FINAL INJECTION SEQUENCE

Sample					
Name	Comment	Acq. Date-Time	Acq. Method File	Data File	Pos.
STD 1	-	2018/02/13 4:19 PM	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_02.d	P3-A2
STD 2	-	2018/02/13 4:21 PM	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_03.d	P3-A3
STD 3	-	2018/02/13 4:24 PM	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_04.d	P3-A4
STD 4	-	2018/02/13 4:26 PM	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_05.d	P3-A5
STD 5	-	2018/02/13 4:28 PM	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_06.d	P3-A6
STD 6	-	2018/02/13 4:31 PM	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_07.d	P3-A7
IB	-	2018/02/13 4:33 PM	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_08.d	P3-A8
ICV	-	2018/02/13 4:36 PM	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_09.d	P3-A9
ISC	-	2018/02/13 4:38 PM	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_10.d	P3-A2
5395679:BLANK	-	2018/02/13 4:40 PM	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_11.d	P3-B1
5395679:SPIKE	-	2018/02/13 4:43 PM	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_12.d	P3-B2
5395679:GAU809-01	-	2018/02/13 4:45 PM	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_13.d	P3-C5
5395679:FZJ957-01:10x	Not used	2018/02/13 4:48 PM	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_14.d	P3-B3
5395679:FZJ957-01	-	2018/02/13 4:50 PM	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_15.d	P3-B4
IB	-	2018/02/13 4:52 PM	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_16.d	P3-A8
5395679:GAC702-01	-	2018/02/13 4:55 PM	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_17.d	P3-B5
5395679:GAC704-01	-	2018/02/13 4:57 PM	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_18.d	P3-B6
5395679:GAD935-01	-	2018/02/13 5:00 PM	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_19.d	P3-B7
5395679:GAD936-01:100x	-	2018/02/13 5:02 PM	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_20.d	P3-B8
5395679:GAD936-01:D1:100x	-	2018/02/13 5:05 PM	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_21.d	P3-B9
IB	-	2018/02/13 5:07 PM	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_22.d	P3-A8
CCV	-	2018/02/13 5:09 PM	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_23.d	P3-A5
5395679:GAD937-01:10x	Not used	2018/02/13 5:12 PM	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_24.d	P3-C1
5395679:GAD937-01	-	2018/02/13 5:14 PM	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_25.d	P3-C2
IB	-	2018/02/13 5:17 PM	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_26.d	P3-A8
5395679:GAD938-01:25x	Not used	2018/02/13 5:19 PM	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_27.d	P3-C3
5395679:GAD938-01:2x	-	2018/02/13 5:21 PM	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_28.d	P3-C4
IB	-	2018/02/13 5:24 PM	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_29.d	P3-A8
CCV	-	2018/02/13 5:26 PM	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_30.d	P3-A5

DoD Projects - Internal Data Validation Checklist

Run date: 2018/02/14

Worksheet # (s): 539606 9

Analysis: PFOSALCML-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: WG Date: 2018/02/15

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)	✓		✓	AM 2018/02/15
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: AM Date: 2018/02/15

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

Worksheet Data Validation Checklist - Extractable Organics

Worksheet # 5396269 Testcode: PFOSALCM - W

Sample Preparation		yes	no	n/a
1	Samples extracted within hold time	✓		
2	Client sample ID verified against Lab ID (waters & oils)	✓		
3	Parameter list and Client comments reviewed, (Spiking solutions matched to parameter list)	✓		
4	Height of sediment or if sample was decanted, recorded on worksheet	✓		
5	Method required QC processed with samples, maximum batch size = 20 client samples.	✓		
6	Sample, duplicate, matrix spike appear similar, initial sample as well as final extract	✓		
7	Sample weight or initial volume and extract final volume, aliquot factor clearly recorded.	✓		
8	If performed any additional dilution clearly recorded	✓		
9	Matrix spike / Duplicate performed on IOL samples if present			✓
10	Spiking solutions valid (haven't expired), ID and volume used clearly identified on worksheet	✓		
11	Spiking process witnessed and signed off	✓		
12	Extraction type recorded (N3A2B = neutral, 3 x acidic, 2 x basic)			✓
13	Sample prep deviations documented within CompliantPro as a Policy Deviation			✓
14	Job Remarks reviewed on 2nd page of worksheet.	✓		
15	Worksheet and reagent tracking record completed and authorized.	✓		

Reviewed by: GSZ Date: 2018/02/12

Comments:

Worksheet Approval		yes	no	n/a
1	Verified the position of the vials in autosampler against sequence list; signed off sequence list			
2	Calibration and CCV standards valid (haven't expired)			
3	Initial calibration curve and DFTPP tune (if applicable) acceptable			
4	Continuing and Final CCV and DFTPP tune (if applicable) acceptable			
5	System performance check acceptable (if applicable)			
6	Internal standard responses acceptable			
7	Method blank meets acceptance criteria			
8	Lab Control Samples recoveries meets acceptance criteria			
9	Duplicate RPD meets acceptance criteria			
10	Matrix spike recoveries meets acceptance criteria			
11	Surrogate recoveries meets acceptance criteria			
12	Appropriate control charts updated			
13	Samples above calibration range diluted and reanalyzed			
14	Dilutions clearly documented on tracking record, inst file and verified during data upload			
15	Samples following high level samples checked for carryover.			
16	Mass spectra ion ratios acceptable for positive results, hardcopy in file.			
17	Analytical observations / anomalies documented			
18	DQW comments entered in LIMS, hardcopy in file			
19	Sample Prep section (above) reviewed and verified.			
20	WS Approval performed in LIMS			

Reviewed by: Date:

Comments:

Worksheet Validation		yes	no	n/a
1	Calibration, QC and sample results reviewed and determined acceptable			
2	Manual integrations verified			
3	Random calculation checked			
4	Data and QC validated in LIMS			
5	Comments reviewed for appropriateness			
6	Reworks / relogs documented in file			
7	Worksheet signed and dated,			
8	Worksheet approved and validated within LIMS			

Reviewed by: Date:

Comments:

Refer to BEL-FDS-0002
2018/02/15 GSZ

WS# : 5396269

Page #: 1/2

Report Name : Worksheet - (Liquids and Solids)

Assignment Date : Monday, February 12, 2018

Assigned to : Geoffrey Sanchez

Test Code : PFOSALCM-W

Instrument Id:

Test Description : PFOS and PFOA in water by LC-MS/MS

Sediment (gm) mL mL

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
	SPIKE		PFOSH		~~0~~	0.75	1.25	1X					2018/02/12
	BLANK				~~0~~	0.75	1.25	1X					2018/02/12
B824213	*GAD936-01R	0	CEF-NG-025-0118		~~0~~	0.75	1.25	1X	6	2018/02/12	2018/02/14 23:00	DOD	2018/02/12
B824213	*GAD936-01R	1	CEF-NG-025-0118		~~0~~	0.75	1.25	1X	6	2018/02/12	2018/02/14 23:00	DOD	2018/02/12

GSZ 2018/02/12

Remarks: High level analysis Plus Post-Spike

Sample also extracted By SPE (WS# 5395679)

10x & 100x dilutions

Samples extracted by: Geoffrey Sanchez, GSZ 2018/02/12

Instrumentation performed by: MG Date: 2018/02/13

Calculations performed by: MG Date: 2018/02/15

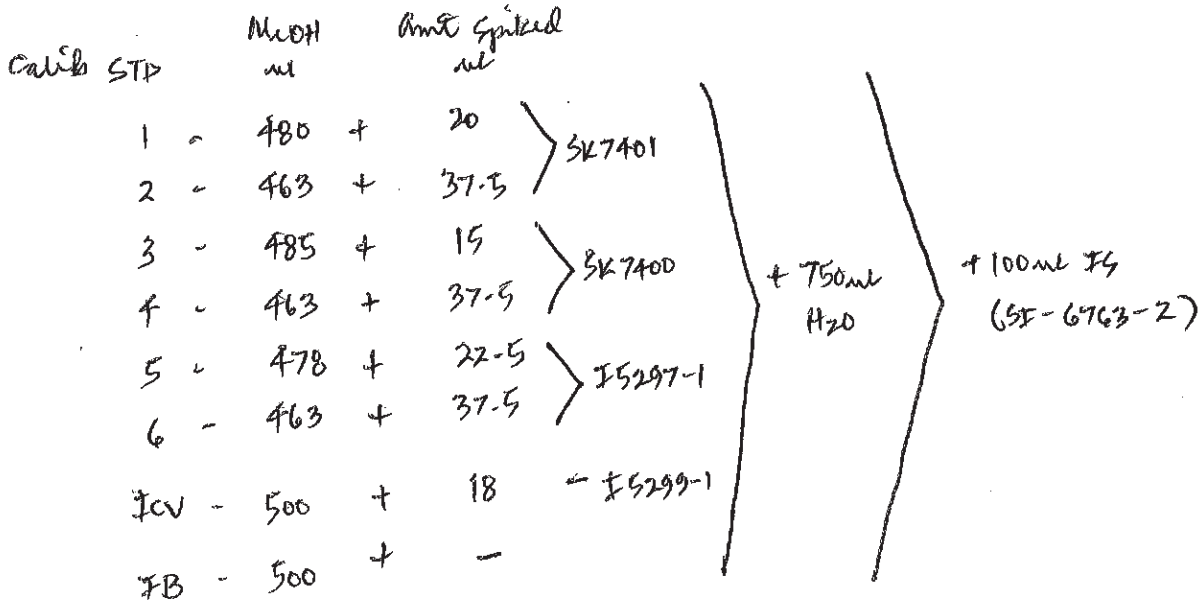
Validated by: JH Date: 2018/02/15

652, 2018/02/12

Job No.	Rep / Client Name	Contact	Client Tier	National
	Remarks			
GB824213	SP8 Earth Toxics Inc	Rick Carr	Tier 5 (Enviro.)	AECOM

nreg, PFOSALCM-W Level IV Data Package and TetraTech EDD required The following samples will not be reported: GAD929, GAD930, GAD931, GAD932, GAD935 F/C by NGV - 2018/02/09 Project #: JM10 CECIL

Job	Sample	Lab Comments
	SPIKE	
	BLANK	
B824213	GAD936-01R	
B824213	GAD936-01R:DUP	



Post Spike : Duplicate (10x & 100x)

675ml Sample DUP + 10ml Spike D SK-7411

Worksheet Reagent Tracking Record

Worksheet # 5396269

Volume (µL)

Surrogate/Spike solutions	√	Solution ID #	Conc.	Blk-Spk		MS		Samples	
				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 (18)	50	NA	50	NA
Comp. PFC Working Solution A	✓	F-5299-1	1ug/mL	75	21 (18) 62.5	75	21 62.5	NA	NA
PFC Internal Standard Solution	✓	SF-6763-2 JPB	50/125 ng/mL	200	100 (150)	200	100 150	200	100 (150)
PFC Injection IS H32773F	✓	SF-6770-1 JPB	100400 ng/mL	20	20	20	20	20	20
ICV	✓	F-5299-1	1 mg/mL		(18)			GSZ 2018/02/12	

Solvent/Reagent	√	Lot No.	Date Opened	Solvent/Reagent	√	Lot No.	Date Opened/ Prepared
DCM				50% NaOH			
Ottawa Sand				o-Phosphoric Acid			
Methanol	✓	SHBJ5451	2018/02/12	Borax			
2-Propanol (IPA)				Calcium Chloride			
Acetonitrile				EDTA			
Sodium Sulfate				Phosphate Buffer			
70:30 Methanol: Water				Sodium Thiosulphate			
60:40 Water: Methanol				DNPH			
DCM:Ethyl Ether (75:25)				FMOC			
Hexane:IPA (98:2)				5M Acetate Buffer			
2% Formic Acid				0.2% NH_4OH			
0.2% Formic Acid				Leachate Fluid			
0.05M KOH				Reagent Water	✓	57297	2018/02/09
0.05M HCl							

*Spiked by: GSZ

Spike Date: 2018/02/12

Spike Syringe/Pipette ID#: H32773F

Int. Std Syringe/Pipette ID#: H32773F

*Spiking Witnessed by: JPB

Final pH:

Equipment & ID	√	Equipment	ID#	√	Equipment	Lot #	Bottle Tracking
Pipettor K551916, K39732F, M4011F	✓	SPE Cartridge			QC Balance ID		Bottle#
	✓	Filter			Thermometer ID &Temp		Cap#
Dispenser		Centrifuge					Systems plus Lot#
		Sonicator					

Comments:

* - SPIKING OF QC & SAMPLES MUST BE WITNESSED AT ALL TIMES.

Worksheet: 5396269 PFOSALCM-W HIGH

Dilution and Column Cleanup Worksheet

Maxxam Analytics

Job Number	Sample ID	Sample: Initial Final Volume (mL)	Dilution Required	Sample added mL	Solvent* Added mL	Int Stan Added uL	New Effective Final Volume (mL)	INITIAL DATE	Column Clean Up
B824213	GAD936-01R	1.25 (1X)	10X	0.1	0.9	—	1.0	GSZ 2018/02/12	—
B824213	GAD936-01R	1.0 (10X)	100X	0.1	0.9	—	1.0	GSZ 2018/02/12	—

GSZ 2018/02/12

DILUENT: 9.0mL LCMS H2O + 6.0mL MeOH + 1.2mL IS

Refer to WS Tracking Sheet for reagent ID & glassware ID (Lot #)

Bench Level Planned Deviation / Non-Conformance Form

Date: 2018/02/15
Affected SOP #, and/or WI /section(s): CAM SOP-00894/13 Section 15
Affected Job(s) / WS(s): B824213 / WS 5396269
Affected samples ID: GAD936
Initiated by (print name) Marian Godax (sign) 2018/02/15

DESCRIPTION:

Peak asymmetry factor for 1st eluting peak (PFOS) was below the lower control limit.

INVESTIGATION/CAUSE:

The analytical standard for PFOS contains both linear and branched isomers. These appear as a merged peak in the chromatogram, with the branched isomers eluting slightly before the linear isomers.

RATIONALE & ACTION TAKEN:

Because the calculated peak asymmetry factor was a result of isomers present in the analytical standard and not due to poor column performance, data was accepted and no further action was taken. Peak symmetry is not a QC requirement for DoD QSM 5.1 (table B-15).

EFFECT ON DATA QUALITY (Evaluation of the significance):

There is no impact on the data quality. All other QC acceptance criteria were met.

STEPS TAKEN TO PREVENT FURTHER OCCURRENCE:

None.

(Check one box only)

☐ Bench Level Planned Deviation ☒ Bench Level Non-Conformance

Manager or Supervisor or Section Head : Adam Robinson
(PRINT NAME)

SIGNATURE: _____ **DATE:** 2018/02/15

Definitions:
Bench Level Planned Deviation: Changes to approved process/SOP are planned before their implementation
Bench Level Non-Conformance: Changes to approved process/SOP discovered after their implementation

Worksheet Number: **5396269**

PFOS and PFOA in water by SPE/LCMS - Water

ug/L

Parameter Name	Units	SPIKE	BLANK	DL	B824213 GAD936 ReWork	B824213 GAD936 Dup1 ReWork	DL
6:2 Fluorotelomer sulfonate	ug/L	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
8:2 Fluorotelomer sulfonate	ug/L	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
N-ethylperfluorooctane sulfonamide	ug/L	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
EtFOSAA	ug/L	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
N-ethylperfluorooctane sulfonamidoe	ug/L	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
N-methylperfluorooctane sulfonamide	ug/L	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
MeFOSAA	ug/L	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
N-methylperfluorooctanesulfonamidol	ug/L	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
Perfluorobutanoic acid	ug/L	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
Perfluorobutane Sulfonate (PFBS)	ug/L	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
Perfluorodecane Sulfonate	ug/L	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
Perfluoroheptanoic Acid (PFHpA)	ug/L	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
Perfluoroheptane sulfonate	ug/L	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
Perfluorohexanoic Acid (PFHxA)	ug/L	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
Perfluorohexane Sulfonate (PFHxS)	ug/L	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
Perfluorononanoic Acid (PFNA)	ug/L	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
Perfluorooctane Sulfonamide (PFOSA)	ug/L	94.84464	0	0.8	N/A*******	N/A*******	8
Perfluoropentanoic Acid (PFPeA)	ug/L	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
Perfluorotetradecanoic Acid	ug/L	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
Perfluorotridecanoic Acid	ug/L	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
Perfluoroundecanoic Acid (PFUnA)	ug/L	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
Perfluorodecanoic Acid (PFDA)	ug/L	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
Perfluorododecanoic Acid (PFDoA)	ug/L	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
Perfluoro-n-Octanoic Acid (PFOA)	ug/L	100.36511	0	0.8	N/A*******	N/A*******	8
Perfluorooctane Sulfonate (PFOS)	ug/L	90.89080	0	0.8	978.023812	874.026270	80
13C2-6:2 Fluorotelomer sulfonate	ug/L	N/A*******	N/A*******		N/A*******	N/A*******	
13C2-8:2 Fluorotelomer sulfonate	ug/L	N/A*******	N/A*******		N/A*******	N/A*******	
13C2-perfluorotetradecanoic acid	ug/L	N/A*******	N/A*******		N/A*******	N/A*******	
13C4-Perfluorobutanoic acid	ug/L	N/A*******	N/A*******		N/A*******	N/A*******	
D3-MeFOSAA	ug/L	N/A*******	N/A*******		N/A*******	N/A*******	
D5-EtFOSAA	ug/L	N/A*******	N/A*******		N/A*******	N/A*******	
N-methyl-d3-perfluorooctane sulfona	ug/L	N/A*******	N/A*******		N/A*******	N/A*******	
N-ethyl-d5-perfluorooctane sulfonam	ug/L	N/A*******	N/A*******		N/A*******	N/A*******	
13C2-Perfluorodecanoic acid	ug/L	N/A*******	N/A*******		N/A*******	N/A*******	
13C2-Perfluorododecanoic acid	ug/L	N/A*******	N/A*******		N/A*******	N/A*******	
13C2-Perfluorohexanoic acid	ug/L	N/A*******	N/A*******		N/A*******	N/A*******	
13C2-Perfluoroundecanoic acid	ug/L	N/A*******	N/A*******		N/A*******	N/A*******	
13C4-Perfluoroheptanoic acid	ug/L	N/A*******	N/A*******		N/A*******	N/A*******	
13C5-Perfluorononanoic acid	ug/L	N/A*******	N/A*******		N/A*******	N/A*******	
13C4-Perfluorooctanoic acid	ug/L	92.8033966	105.304649		114.252335	104.574353	
13C4-Perfluorooctanesulfonate	ug/L	96.3866926	103.782225		109.243392	106.975545	
13C5-Perfluoropentanoic acid	ug/L	N/A*******	N/A*******		N/A*******	N/A*******	
13C8-Perfluorooctane Sulfonamide	ug/L	89.3271795	104.463456		117.562695	107.800517	
18O2-Perfluorohexanesulfonate	ug/L	N/A*******	N/A*******		N/A*******	N/A*******	

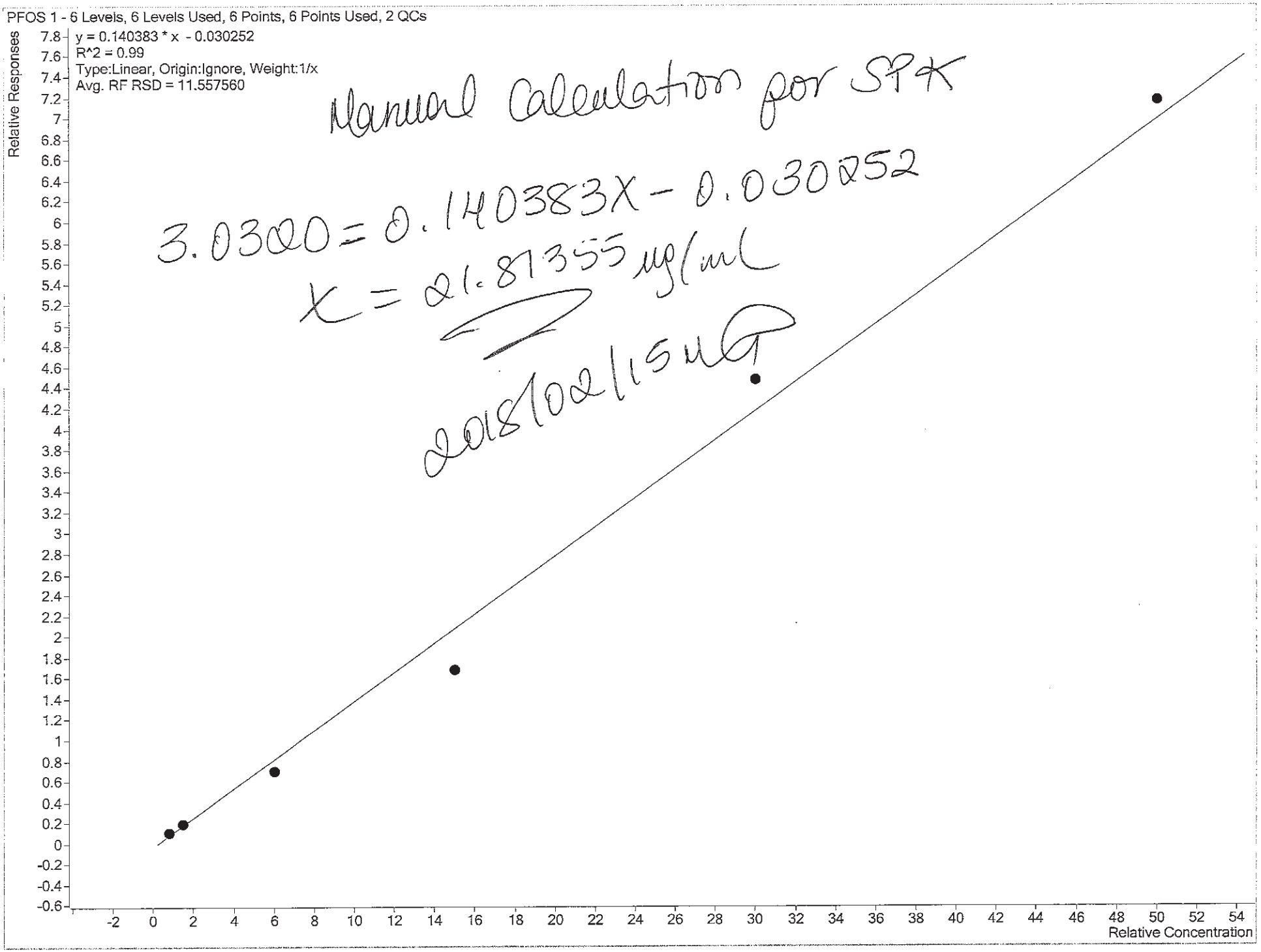
20181201 ISUD

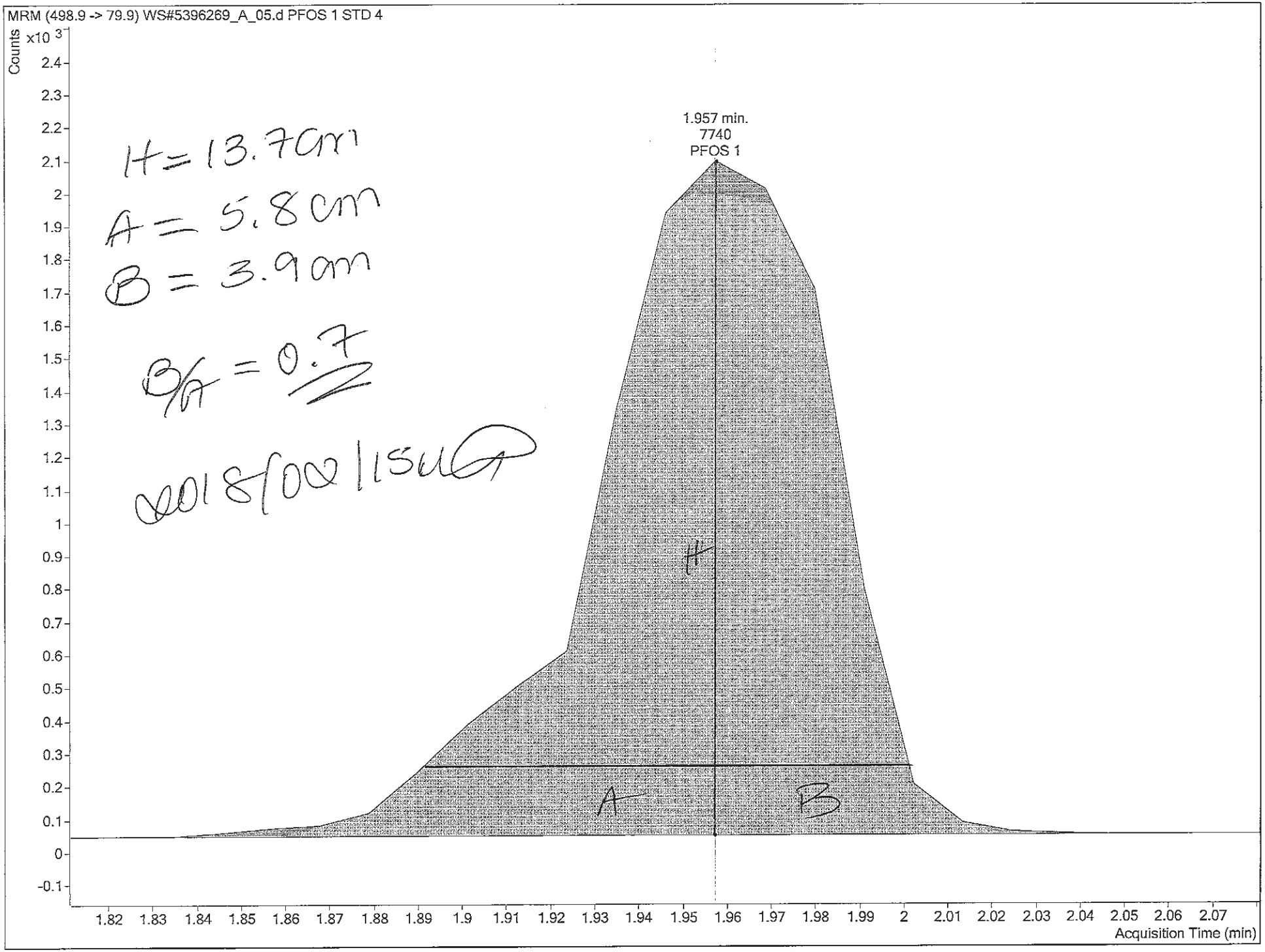
Worksheet Number: **5396269**

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				
N-ethylperfluorooctane sulfonamide	0.02	0.01	0				
EtFOSAA	0.02	0.0033	0				
N-ethylperfluorooctane sulfonamidoe	0.02	0.0079	0				
N-methylperfluorooctane sulfonamide	0.02	0.013	0				
MeFOSAA	0.02	0.0029	0				
N-methylperfluorooctanesulfonamidol	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							
N-methyl-d3-perfluorooctane sulfona							
N-ethyl-d5-perfluorooctane sulfonam							
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							


PFOS 1 - 6 Levels, 6 Levels Used, 6 Points, 6 Points Used, 2 QCs
y = 0.140383 * x - 0.030252
R^2 = 0.99
Type:Linear, Origin:Ignore, Weight:1/x
Avg. RF RSD = 11.557560
Relative Responses
Relative Concentration
Manual Calculation for SPK
3.0300 = 0.140383X - 0.030252
X = 21.81355 ng/mL
20181021SMQ


MRM (498.9 -> 79.9) WS#5396269_A_05.d PFOS 1 STD 4
Counts
x10 3
1.957 min.
7740
PFOS 1
H = 13.7 cm
A = 5.8 cm
B = 3.9 cm
B/A = 0.7
0.018/0.026 ISTD
H
A
B
Acquisition Time (min)

Report Name: Worksheet - Parameter Lists

Report Date: 2018/02/14

Test Code: **PFOSALCM-W**

Worksheet Number: **5396269**

Sample Number	Parameter Code	Parameter
GAD936-01	PFOS	Perfluorooctane Sulfonate (PFOS)

WorkSheet 5396269 Instrument Sequences

1. 
5396269:SPIKE — SPIKE

2. 
5396269:BLANK — BLANK

3. 
5396269:GAD936-01 — CEF-NG-025-0118

4. 
5396269:GAD936-01:D1 — CEF-NG-025-0118 :D1

Worklist Report

Agilent Technologies

Maxxam Analytics

Instrument Name: LCMS04 **Worklist Path:** D:\MassHunter\Worklists\PFCs\PFC_180213_High.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\20180213\WS#5396269
Pre-Worklist Script: ---
Post-Worklist Script: SCP_InstrumentStandby(){MH_Acq_Scripts.exe}
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: Column #198
MP A1: Solution# 280 (FSRE18)
MP B1: Methanol lot# SHBJ5451, Sigma

20180213MLQ

2/13/18

Plate Barcode:

Plate	Barcode
P3	

Worklist Table

	Sample Name	Sample Position	Method	Data File	Sample Type	Level Name	Inj Vol (µl)	Comment
1	Solvent	P3-A1	PFC_Water_High.m	WS#5396269_01.d	Sample		As Method	-
2	STD 1	P3-E1	PFC_Water_High.m	WS#5396269_02.d	Calibration	STD 1	As Method	-
3	STD 2	P3-E2	PFC_Water_High.m	WS#5396269_03.d	Calibration	STD 2	As Method	-
4	STD 3	P3-E3	PFC_Water_High.m	WS#5396269_04.d	Calibration	STD 3	As Method	-
5	STD 4	P3-E4	PFC_Water_High.m	WS#5396269_05.d	Calibration	STD 4	As Method	-
6	STD 5	P3-E5	PFC_Water_High.m	WS#5396269_06.d	Calibration	STD 5	As Method	-
7	STD 6	P3-E6	PFC_Water_High.m	WS#5396269_07.d	Calibration	STD 6	As Method	-
8	IB	P3-E7	PFC_Water_High.m	WS#5396269_08.d	Sample		As Method	-
9	ICV	P3-E8	PFC_Water_High.m	WS#5396269_09.d	QC	ICV	As Method	-
10	ISC	P3-E1	PFC_Water_High.m	WS#5396269_10.d	ConCal	STD 1	As Method	-
11	5396269:BLANK	P3-E9	PFC_Water_High.m	WS#5396269_11.d	Sample		As Method	-
12	5396269:SPIKE	P3-F1	PFC_Water_High.m	WS#5396269_12.d	QC	ICV	As Method	-
13	5396269:GAD936-01:100x	P3-F2	PFC_Water_High.m	WS#5396269_13.d	Sample		As Method	-

954 of 864

Worklist Report

Agilent Technologies

	Sample Name	Sample Position	Method	Data File	Sample Type	Level Name	Inj Vol (µl)	Comment
14	5396269:GAD936-01:D1:100x	P3-F3	PFC_Water_High.m	WS#5396269_14.d	Sample		As Method	-
15	5396269:GAD936-01:D1:100x PS	P3-F4	PFC_Water_High.m	WS#5396269_15.d	Sample		As Method	-
16	IB	P3-E7	PFC_Water_High.m	WS#5396269_16.d	Sample		As Method	-
17	5396269:GAD936-01:10x	P3-F5	PFC_Water_High.m	WS#5396269_17.d	Sample		As Method	-
18	5396269:GAD936-01:D1:10x	P3-F6	PFC_Water_High.m	WS#5396269_18.d	Sample		As Method	-
19	5396269:GAD936-01:D1:10x PS	P3-F7	PFC_Water_High.m	WS#5396269_19.d	Sample		As Method	-
20	IB	P3-E7	PFC_Water_High.m	WS#5396269_20.d	Sample		As Method	-
21	CCV	P3-E4	PFC_Water_High.m	WS#5396269_21.d	ConCal	STD 4	As Method	-

Maxxam Analytics

FINAL INJECTION SEQUENCE

Sample					
Name	Comment	Acq. Date-Time	Acq. Method File	Data File	Pos.
STD 1	-	2018/02/14 5:31 PM	PFC_Water_High.m	WS#5396269_A_02.d	P3-E1
STD 2	-	2018/02/14 5:36 PM	PFC_Water_High.m	WS#5396269_A_03.d	P3-E2
STD 3	-	2018/02/14 5:41 PM	PFC_Water_High.m	WS#5396269_A_04.d	P3-E3
STD 4	-	2018/02/14 5:46 PM	PFC_Water_High.m	WS#5396269_A_05.d	P3-E4
STD 5	-	2018/02/14 5:51 PM	PFC_Water_High.m	WS#5396269_A_06.d	P3-E5
STD 6	-	2018/02/14 5:56 PM	PFC_Water_High.m	WS#5396269_A_07.d	P3-E6
IB	-	2018/02/14 6:00 PM	PFC_Water_High.m	WS#5396269_A_08.d	P3-E7
ICV	-	2018/02/14 6:05 PM	PFC_Water_High.m	WS#5396269_A_09.d	P3-E8
ISC	-	2018/02/14 6:10 PM	PFC_Water_High.m	WS#5396269_A_10.d	P3-E1
5396269:BLANK	-	2018/02/14 6:15 PM	PFC_Water_High.m	WS#5396269_A_11.d	P3-E9
5396269:SPIKE	-	2018/02/14 6:20 PM	PFC_Water_High.m	WS#5396269_A_12.d	P3-F1
5396269:GAD936-01:100x	Report for PFOS only.	2018/02/14 6:25 PM	PFC_Water_High.m	WS#5396269_A_13.d	P3-F2
5396269:GAD936-01:D1:100x	Report for PFOS only.	2018/02/14 6:30 PM	PFC_Water_High.m	WS#5396269_A_14.d	P3-F3
5396269:GAD936-01:D1:100x PS	-	2018/02/14 6:35 PM	PFC_Water_High.m	WS#5396269_A_15.d	P3-F4
IB	-	2018/02/14 6:40 PM	PFC_Water_High.m	WS#5396269_A_16.d	P3-E7
5396269:GAD936-01:10x	not used.	2018/02/14 6:45 PM	PFC_Water_High.m	WS#5396269_A_17.d	P3-F5
5396269:GAD936-01:D1:10x	not used.	2018/02/14 6:50 PM	PFC_Water_High.m	WS#5396269_A_18.d	P3-F6
5396269:GAD936-01:D1:10x PS	not used.	2018/02/14 6:55 PM	PFC_Water_High.m	WS#5396269_A_19.d	P3-F7
IB	-	2018/02/14 7:00 PM	PFC_Water_High.m	WS#5396269_A_20.d	P3-E7
CCV	-	2018/02/14 7:05 PM	PFC_Water_High.m	WS#5396269_A_21.d	P3-E4

INJECTION INTERNAL STANDARD PEAK AREAS

Sample Name	Analyte	13C6-PFHxA	13C9-PFDA
	Mass labeled IS	STD 4	STD 4
	IS Area	23942	30523
		IS Peak Area	IS Peak Area
STD 1		22616	31562
STD 2		24047	29599
STD 3		23970	31810
STD 4		23942	30523
STD 5		23146	29646
STD 6		22396	28323
IB		21095	26482
ICV		20366	26857
ISC		24665	32190
5393111:BLANK		27425	36016
5393111:SPIKE		26060	34077
5393111:SPIKE:D1		25038	32181
5393111:FZJ946-01		21291	27574
5393111:FZT426-01:10x		22258	27193
IB		21822	27149
5393111:FZT427-01		21220	27515
5393111:FZT428-01		22774	29834
5393111:FZT430-01		24793	32238
5393111:FZT431-01		24201	30395
5393111:GAC647-01		17046	22445
5393111:GAC649-01		24274	30656
5393111:GAC651-01		23512	29890
5393111:GAD929-01		26772	34716
CCV		24562	32675
5393111:GAD930-01		21975	27304
5393111:GAD931-01		23894	31328
5393111:GAD932-01		23670	31124
5393111:GAD933-01:100x		24115	30477
IB		21391	27144
5393111:GAD934-01:100x		23200	31287
IB		20837	26749
CCV		24980	31567

INJECTION INTERNAL STANDARD PEAK AREAS

Sample Name	Analyte	13C9-PFDA
	Mass labeled IS	STD 4
	IS Area	27486
		IS Peak Area
STD 1		27159
STD 2		26366
STD 3		26149
STD 4		27486
STD 5		25687
STD 6		24440
IB		23133
ICV		22491
ISC		27258
5393111:BLANK		30049
5393111:SPIKE		29721
5393111:SPIKE:D1		27367
5393111:FZJ946-01		23186
5393111:FZT426-01:10x		24008
IB		23243
5393111:FZT427-01		23191
5393111:FZT428-01		24825
5393111:FZT430-01		26318
5393111:FZT431-01		25423
5393111:GAC647-01		18893
5393111:GAC649-01		24794
5393111:GAC651-01		25501
5393111:GAD929-01		27675
CCV		27346
5393111:GAD930-01		23268
5393111:GAD931-01		26192
5393111:GAD932-01		25389
5393111:GAD933-01:100x		26594
IB		23271
5393111:GAD934-01:100x		26498
IB		23555
CCV		27597

INJECTION INTERNAL STANDARD PEAK AREAS

Sample Name	Analyte	13C6-PFHxA
	Mass labeled IS	STD 4
	IS Area	34274
		IS Peak Area
STD 1		34593
STD 2		35089
STD 3		34475
STD 4		34274
STD 5		32926
STD 6		33236
IB		33405
ICV		32945
ISC		33956
5393267:BLANK		34242
5393267:SPIKE		33599
5393267:SPIKE:D1		33031
5393267:GAD933-01:10x		33950
5393267:GAD933-01:D1:10x		34489
393267:GAD933-01:D1:10x PS		33895
5393267:GAD933-01		24761
5393267:GAD933-01:D1		22659
5393267:GAD933-01:D1 PS		21850
IB		33133
CCV		33101
5393267:GAD934-01:100x		32871
393267:GAD934-01:D1:100x		35847
93267:GAD934-01:D1:100x PS		34027
5393267:GAD934-01:10x		34803
5393267:GAD934-01:D1:10x		33653
393267:GAD934-01:D1:10x PS		34954
IB		34150
CCV		33609
5393267:FZY553-01:10x		34642
5393267:FZY553-01:D1:10x		34709
393267:FZY553-01:D1:10x PS		33966
5393267:FZY553-01		32628
5393267:FZY553-01:D1		33627
5393267:FZY553-01:D1 PS		33245
IB		32370
CCV		32665

INJECTION INTERNAL STANDARD PEAK AREAS

Sample Name	Analyte	13C6-PFHxA	13C6-PFHxA	13C9-PFDA	13C9-PFDA
	Mass labeled IS	STD 4	ISC/CCV	STD 4	ISC/CCV
	IS Area	23346	20248	30996	27315
		IS Peak Area	IS Peak Area	IS Peak Area	IS Peak Area
STD 1		19796		26441	
STD 2		21679		30280	
STD 3		24035		30220	
STD 4		23346		30996	
STD 5		22078		29476	
STD 6		20500		26385	
IB		22975		30714	
ICV		21703		30242	
ISC		19421		26982	
5395679:BLANK		20404		27099	
5395679:SPIKE		23976		31674	
5395679:GAU809-01		21301		27428	
5395679:FZJ957-01:10x		20967		26547	
5395679:FZJ957-01		21265		29668	
IB		24025		32057	
5395679:GAC702-01		22149		23176	
5395679:GAC704-01		21248		28250	
5395679:GAD935-01		20970		28391	
5395679:GAD936-01:100x		19474		27717	
5395679:GAD936-01:D1:100x		20236		27517	
IB		22168		29613	
CCV		21360		28652	
5395679:GAD937-01:10x		19867		28187	
5395679:GAD937-01		18308		25749	
IB		23517		30278	
5395679:GAD938-01:25x		19079		25393	
5395679:GAD938-01:2x		20670		28508	
IB		23039		31338	
CCV		21627		29319	
ISC			20248		27315
5395679:GAC702-01:R			22219		23790
5395679:GAC704-01:R			22399		30041
CCV			24038		30702

INJECTION INTERNAL STANDARD PEAK AREAS

Sample Name	Analyte	13C9-PFDA
	Mass labeled IS	STD 4
	IS Area	24288
		IS Peak Area
STD 1		21115
STD 2		23377
STD 3		24407
STD 4		24288
STD 5		23671
STD 6		21578
IB		24224
ICV		23298
ISC		21086
5395679:BLANK		21749
5395679:SPIKE		25834
5395679:GAU809-01		22549
5395679:FZJ957-01:10x		20976
5395679:FZJ957-01		21760
IB		24412
5395679:GAC702-01		24496
5395679:GAC704-01		24043
5395679:GAD935-01		22588
5395679:GAD936-01:100x		21937
395679:GAD936-01:D1:100x		23026
IB		24786
CCV		24602
5395679:GAD937-01:10x		23482
5395679:GAD937-01		21365
IB		24763
5395679:GAD938-01:25x		21093
5395679:GAD938-01:2x		22876
IB		24792
CCV		24450

INJECTION INTERNAL STANDARD PEAK AREAS

Sample Name	Analyte	13C6-PFHxA
	Mass labeled IS	STD 4
	IS Area	33723
		IS Peak Area
STD 1		34949
STD 2		37267
STD 3		33517
STD 4		33723
STD 5		35394
STD 6		34348
IB		32089
ICV		35861
ISC		34097
5396269:BLANK		34058
5396269:SPIKE		37705
5396269:GAD936-01:100x		32640
396269:GAD936-01:D1:100x		33712
96269:GAD936-01:D1:100x PS		33487
IB		32143
5396269:GAD936-01:10x		34059
5396269:GAD936-01:D1:10x		31943
396269:GAD936-01:D1:10x PS		33719
IB		32717
CCV		32820

INJECTION INTERNAL STANDARD PEAK AREAS

13C9-PFDA
STD 4
0
IS Peak Area
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0

Make sure cells D3 & F3 are referencing the correct ISC/CCV cel



Sample Name
STD 1
STD 2
STD 3
STD 4
STD 5
STD 6
IB
ICV
ISC
5396269:BLANK
5396269:SPIKE
5396269:GAD936-01:100x
5396269:GAD936-01:D1:10
5396269:GAD936-01:D1:10
IB
5396269:GAD936-01:10x
5396269:GAD936-01:D1:10
5396269:GAD936-01:D1:10
IB
CCV

INJECTION INTERNAL STANDARD PEAK AREAS

Analyte	13C6-PFHxA	13C9-PFDA
Mass labeled IS	STD 4	STD 4
IS Area	33723	0
	IS Peak Area	IS Peak Area
	34949	
	37267	
	33517	
	33723	
	35394	
	34348	
	32089	
	35861	
	34097	
	34058	
	37705	
	32640	
0x	33712	
0x PS	33487	
	32143	
	34059	
x	31943	
x PS	33719	
	32717	
	32820	

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%

Product Number:	**34860**
Batch Number:	**SHBJ5451**
Brand:	SIGALD
CAS Number:	67-56-1
MDL Number:	MFCD00004595
Formula:	CH4O
Formula Weight:	32.04 g/mol
Quality Release Date:	27 SEP 2017
Expiration Date:	SEP 2022

CH_3OH

Rec'd: 2
2017/11/20
4 x 4 L
LC grade

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	0.02
UV Absorbance 235nm	≤ 0.10	0.03
UV Absorbance 230nm	≤ 0.20	0.05
UV Absorbance 220nm	≤ 0.30	0.11
UV Absorbance 210nm	≤ 0.60	0.28
UV Absorbance 205nm	≤ 1.00	0.65
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)	≤ 0.03 %	< 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.

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: **SHBJ5451**

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.

REAGENT PREPARATION FORM

Reagent # 277 Replaced Reagent # 266 Analyst: la

Reagent Name: DNPH Solution Preparation date: 2018/01/10 Expiry date: Daily

Final Volume: 10 ml Oven No. : — Temp. : — Final Conc.: —

Balance ID: FC-1 Pipette/Syringe/Cylinder ID: K 551916 Storage: Shelf

CHEMICAL NAME	VOLUME/ WEIGHT	DATE RECEIVED	DATE OPENED	SUPPLIER	LOT NUMBER	EXPIRY DATE
DNPH	0.05010 la	2016/07/15	2016/07/15	Spectar	ZEK0212	2022/05/31
ACN	10 ml	2017/09/20	2018/01/09	Fisher	172966	2024/05/31
				2018/01/10 la		

NOTES:

Reagent # 278 Replaced Reagent # 274 Analyst: GSZ

Reagent Name: 0.3% NH4OH in MeOH Preparation date: 2018/01/10 Expiry date: Daily

Final Volume: 250ml Oven No. : — Temp. : — Final Conc.: 0.3 : 99.7 v/v

Balance ID: — Pipette/Syringe/Cylinder ID: N31477F Storage: —

CHEMICAL NAME	VOLUME/ WEIGHT	DATE RECEIVED	DATE OPENED	SUPPLIER	LOT NUMBER	EXPIRY DATE
NH4OH	0.75 ml	2017/08/15 ~~2016/12/16~~	2017/12/22	Fisher	166631	2020/01/31
MeOH	249.25 ml	GSZ 2018/01/10 2018/01/09	2018/01/10	Sigma	SHBJ5451	2022/09/30
		GSZ 2018/01/10				

NOTES: 250ml 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.

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 - 0000019

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 make regulatory coverage under 21 CFR nor maintain DMF's with the FDA. The following are the actual analytical results obtained.

Catalog Number	A563	Quality Test / Release Date	1/17/2017
Lot Number	166551	Expiration Date	Jan/20
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	0.012
ARSENIC AND ANTIMONY	ppm	<= 0.05	<0.050
ASSAY	w/w %	Inclusive Between 28.0 - 30.0	29.5
BORON (B)	ppm	<= 0.1	0.001
CALCIUM (Ca)	ppm	<= 0.3	0.006
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
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	0.044
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	0.015
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



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 the catalog number listed above. If there are any questions with this certificate, please call Chemical Services at (800) 227-8701.
*Based on suggested storage conditions.

Date Received: 2017.08.15 - 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%

Product Number:	**34860**
Batch Number:	**SHBJ5451**
Brand:	SIGALD
CAS Number:	67-56-1
MDL Number:	MFCD00004595
Formula:	CH4O
Formula Weight:	32.04 g/mol
Quality Release Date:	27 SEP 2017
Expiration Date:	SEP 2022

CH_3OH

Rec'd: 2
2017/11/20
4 x 4 L
LC supply

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	0.02
UV Absorbance 236nm	≤ 0.10	0.03
UV Absorbance 230nm	≤ 0.20	0.05
UV Absorbance 220nm	≤ 0.30	0.11
UV Absorbance 210nm	≤ 0.60	0.28
UV Absorbance 205nm	≤ 1.00	0.65
Fluorescence 254nm	≤ 1.0 ppb	< 0.1 ppb
Fluorescence 365nm	≤ 1.0 ppb	0.1 ppb
Purity (GC)	≥ 99.80 %	100.00 %
Color Test	≤ 10 APHA	< 10 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: SHBJ5451

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: 2017/11/10 4x4L
Date Received: 2017/11/27 4x4L
Date Received: 2017/12/01 4x4L
Date Received: 2017/12/04 4x4L
Date Received: 2017/12/07 4x4L
Date Received: 2017/12/09 4x4L
Date Received: 2017/12/12 4x4L
Date Received: 2017/12/16 4x4L
Date Received: 2017/12/17 4x4L
Date Received: 2017/12/19 4x4L
Date Received: 2018/01/04 4x4L
Date Received: 2018/01/09 4x4L
Date Received: 2018/01/19 4x4L

REAGENT PREPARATION FORM

Reagent # 287 Replaced Reagent # 280 Analyst: GSZ

Reagent Name: 0.3% NH4OH in MeOH Preparation date: 2018/01/12 Expiry date: Daily

Final Volume: 250mL Oven No. : — Temp. : — Final Conc.: 0.3 : 99.7 v/v

Balance ID: — Pipette/Syringe/Cylinder ID: N31477F Storage: —

CHEMICAL NAME	VOLUME/ WEIGHT	DATE RECEIVED	DATE OPENED	SUPPLIER	LOT NUMBER	EXPIRY DATE
NH4OH	0.75 mL	2017/08/15	2017/12/22	Fisher	166631	2020/01/31
MeOH	249.25mL	2018/01/09	2018/01/12	Sigma	SHBJ5451	2022/09/30
			GSZ 2018/01/12			

NOTES: 250mL Class A Vol. Cylinder (3026)

Reagent # 288 Replaced Reagent # 279 Analyst: SSV

Reagent Name: 0.2% NH4OH in MeOH Preparation date: 2018/01/12 Expiry date: Daily

Final Volume: 250mL Oven No. : — Temp. : — Final Conc.: 0.2 : 99.8 v/v

Balance ID: — Pipette/Syringe/Cylinder ID: N31477F Storage: —

CHEMICAL NAME	VOLUME/ WEIGHT	DATE RECEIVED	DATE OPENED	SUPPLIER	LOT NUMBER	EXPIRY DATE
NH4OH	0.5mL	2017/08/15	2017/12/22	Fisher	166631	2020/01/31
MeOH	249.5mL	2018/01/09	2018/01/12	Sigma	SHBJ 5451	2022/09/30
			SSV 2018/01/12			

NOTES: 250 mL class A vol. cylinder # 3026

1 Reagent Lane
Fair Lawn, NJ 07410
201.796.7100 tel
201.796.1329 fax

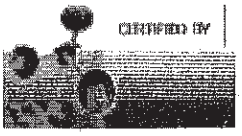
Certificate of Analysis

Fisher Scientific Quality System has been found to conform to Quality Management System standard ISO 9001:2008 issued by SAI Global Certificate Number CERT - 0000618

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/FCC/NF/EP/BP grades) are sold for use in food, drug, or medical device manufacturing. Fisher does not derive regulatory 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	1/17/2017
Lot Number	166631	Expiration Date	Jan/20
Description	AMMONIUM HYDROXIDE, CERTIFIED A.C.S. PLUS		
Country of Origin	United States		
Chemical Origin	Inorganic-non animal		
B&E/T&E 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	0.012
ARSENIC AND ANTIMONY	ppm	<= 0.05	<0.050
ASSAY	w/w %	Inclusive Between 28.0 - 30.0	29.5
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
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	0.044
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	0.015
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



Quality Assurance Specialist - Certificate of Analysis BPF

Note: The date listed is valid for all package sizes of the 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) 227-4701.
*Based on suggested storage condition.

Date Received: 2017.08.15 - 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

Product Number:	34860
Batch Number:	SHBJ5451
Brand:	SIGALD
CAS Number:	67-56-1
MDL Number:	MFCD00004695
Formula:	CH4O
Formula Weight:	32.04 g/mol
Quality Release Date:	27 SEP 2017
Expiration Date:	SEP 2022

Rec'd: 2
2017/11/20
4 x 4 L
LC pump

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	0.02
UV Absorbance 235nm	≤ 0.10	0.03
UV Absorbance 230nm	≤ 0.20	0.05
UV Absorbance 220nm	≤ 0.30	0.11
UV Absorbance 210nm	≤ 0.60	0.28
UV Absorbance 205nm	≤ 1.00	0.65
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)	≤ 0.03 %	< 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: 34886
Batch Number: SHBJ5451

Michael Gredy, 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: 2017/11/10 4x4L
Date Received: 2017/11/27 4x4L
Date Received: 2017/12/01 4x4L
Date Received: 2017/12/04 4x4L
Date Received: 2017/12/07 4x4L
Date Received: 2017/12/09 4x4L
Date Received: 2017/12/12 4x4L
Date Received: 2017/12/16 4x4L
Date Received: 2017/12/17 4x4L
Date Received: 2017/12/19 4x4L
Date Received: 2018/01/04 4x4L
Date Received: 2018/01/06 4x4L
Date Received: 2018/01/09 4x4L
Date Received: 2018/01/19 4x4L
Date Received: 2018/02/07 4x4L

REAGENT PREPARATION FORM

Reagent # 327 Replaced Reagent # 287 Analyst: LR

Reagent Name: 0.3% NH4OH in MeOH Preparation date: 2018/01/30 Expiry date: Daily

Final Volume: 100 ml Oven No. : — Temp. : — Final Conc.: 0.3-99.7 v/v

Balance ID: — Pipette/Syringe/Cylinder ID: J4343461 Storage: Shelf

CHEMICAL NAME	VOLUME/ WEIGHT	DATE RECEIVED	DATE OPENED	SUPPLIER	LOT NUMBER	EXPIRY DATE
NH4OH	0.3 ml	2018/01/09	2018/01/25	Fisher	172996	2020/08/31
MeOH	99.7 ml	2018/01/19	2018/01/30	Sigma	SHBJ5451	2022/09/30
				2018/01/30 LR		

NOTES: Cylinder # 6394

Reagent # 328 Replaced Reagent # 323 Analyst: DMB

Reagent Name: 0.2% NH4OH in MeOH Preparation date: 2018/01/30 Expiry date: Daily

Final Volume: 1L Oven No. : — Temp. : — Final Conc.: 0.2: 99.8 v/v

Balance ID: — Pipette/Syringe/Cylinder ID: N3M77F Storage: —

CHEMICAL NAME	VOLUME/ WEIGHT	DATE RECEIVED	DATE OPENED	SUPPLIER	LOT NUMBER	EXPIRY DATE
NH4OH	2 ml	2018/01/09	2018/01/25	Fisher	172996	2020/08/31
MeOH	998 mL	2018/01/19	2018/01/30	Sigma	SHBJ5451	2022/09/30
	2018/01/30					

NOTES: 1L cylinder # 5553

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

Fisher Scientific
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 ISO/IEC 9001:2008 standard by SAI Global Certification Number QMS 11000016

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 (ASTM, CAP/NCCLS, Reagent, or product specific) are sold for one method only, and is provided "as is". Fisher does not claim reagent/kit coverage under 21 CFR Part 809(a)(3) with this COA. The Scientific and clinical analytical results obtained

Catalog Number	A669	Quality Test / Release Date	6/24/2017
Lot Number	172996	Expiration Date	Aug/2020
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.

Test Name	Units	Specifications	Test Value
APPEARANCE		REPORT	COLORLESS AND FREE FROM SUSPENDED MATTER
ALUMINUM	ppm	-= 5.3	0.002
ARSENIC AND ANTIMONY	ppm	-= 5.05	<0.050
ASSAY	w/w %	Inclusive Between 28.0 - 30.0	29.2
BORON (B)	ppm	-= 5.1	0.001
CALCIUM (Ca)	ppm	-= 5.3	0.008
CARBON DIOXIDE	%	-= 5.052	<0.0021
CHLORIDE	ppm	-= 5.5	<0.50
CHROMIUM (Cr)	ppm	-= 5.2	0.001
COPPER (Cu)	ppm	-= 5.1	0.001
GOLD (Au)	ppm	-= 5.3	0.001
HEAVY METALS (as Pb)	ppm	-= 5.5	<0.5
IRON (Fe)	ppm	-= 5.1	0.001
LEAD (Pb)	ppm	-= 5.2	0.001
MAGNESIUM (Mg)	ppm	-= 5.3	0.001
MANGANESE (Mn)	ppm	-= 5.2	0.001
NICKEL (Ni)	ppm	-= 5.1	0.001
NITRATE (NO3)	ppm	-= 2	<2.0
PHOSPHATE (PO4)	ppm	-= 5.4	<5.40
POTASSIUM (K)	ppm	-= 5.3	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	-= 5.3	0.001
TITANIUM (Ti)	ppm	-= 5.3	0.001
ZINC (Zn)	ppm	-= 5.3	0.003

Quality Assurance Specialist - Certificate of Analysis EPF

Note: The data listed is valid for all package sizes of this lot of this product, unless noted as a subset of the catalog number listed above. If there are any questions with this certificate, please see Chemical Services at (800) 926-6161
Printed on supported Windows computer

Date Received: 2017/12/28-RAZ-P2B
Date Received: 2018/01/09-lov-HPLC 1X500ml

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%

Product Number:	**34860**
Batch Number:	**SHBJ5451**
Brand:	SIGALD
CAS Number:	67-56-1
MDL Number:	MFCD00004595
Formula:	CH4O
Formula Weight:	32.04 g/mol
Quality Release Date:	27 SEP 2017
Expiration Date:	SEP 2022

CH_3OH

Rec'd: 9
2017/11/20
4 x 4 L
LC samp

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	0.02
UV Absorbance 235nm	≤ 0.10	0.03
UV Absorbance 230nm	≤ 0.20	0.05
UV Absorbance 220nm	≤ 0.30	0.11
UV Absorbance 210nm	≤ 0.60	0.28
UV Absorbance 205nm	≤ 1.00	0.65
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)	≤ 0.03 %	< 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: SHBJ5451

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: 2017/11/10 4x4L
Date Received: 2017/11/27 4x4L
Date Received: 2017/12/01 4x4L
Date Received: 2017/12/04 4x4L
Date Received: 2017/12/07 4x4L
Date Received: 2017/12/09 4x4L
Date Received: 2017/12/12 4x4L
Date Received: 2017/12/16 4x4L
Date Received: 2017/12/17 4x4L
Date Received: 2017/12/19 4x4L
Date Received: 2018/01/04 4x4L
Date Received: 2018/01/06 4x4L
Date Received: 2018/01/09 4x4L
Date Received: 2018/01/19 4x4L

REAGENT PREPARATION FORM

Reagent # 331 Replaced Reagent # 327 Analyst: GSZ

Reagent Name: 0.3% NH_4OH in MeOH Preparation date: 2018/01/31 Expiry date: Daily

Final Volume: 100ml Oven No. : — Temp. : — Final Conc.: 0.3 : 99.7 v/v

Balance ID: — Pipette/Syringe/Cylinder ID: V434346 Storage: —

CHEMICAL NAME	VOLUME/ WEIGHT	DATE RECEIVED	DATE OPENED	SUPPLIER	LOT NUMBER	EXPIRY DATE
NH_4OH	0.3 ml	2018/01/09	2018/01/25	Fisher	172996	2020/08/31
MeOH	99.7 ml	2018/01/19	2018/01/30	Sigma	SHBJ5451	2022/09/30
			GSZ, 2018/01/31			

NOTES: 100ml Class A Vol. Cylinder (6394)

Reagent # 332 Replaced Reagent # 325 Analyst: SSV

Reagent Name: FMOC Preparation date: 2018/01/31 Expiry date: Daily

Final Volume: ~~25ml~~ 50ml Oven No. : SSV 2018/01/31 Temp. : Final Conc.:

Balance ID: FC-1 Pipette/Syringe/Cylinder ID: 0603 Storage: Shelf

CHEMICAL NAME	VOLUME/ WEIGHT	DATE RECEIVED	DATE OPENED	SUPPLIER	LOT NUMBER	EXPIRY DATE
FMOC	0.0752g	2017/04/06	2018/01/09	Aldrich	WXBC3138V	2022/04/06
ACN	50ml	2017/09/20	2018/01/09	Fisher	172966	2022/05/31
			SSV 2018/01/31			

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.
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 Quality System has been found to conform to Quality Management System Standard ISO/IEC 9001:2008 standards by SAI Global Certificate Number CL001 - 000818

This is to certify that units of the lot number below were tested and found to comply with the specifications of this grade listed. Certain data have been supplied by third parties. Fisher Scientific assumes no responsibility for warranties, guarantees or liabilities, including the implied warranties of merchantability and fitness for a particular purpose. Certain products may have limited shelf life or stability and are sold for use at their own risk. Use in medical devices manufactured by Fisher does not constitute acceptance of orders under 21 CFR 820 medical device QSR as set forth by the FDA. This warranty and the stated analytical results contained

Catalog Number	A669	Quality Test / Release Date	6/24/2017
Lot Number	172396	Expiration Date	Aug/2020
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.		

Test Name	Units	Specifications	Test Value
APPEARANCE		REPORT	COLORLESS AND FREE FROM SUSPENDED MATTER
ALUMINUM	ppm	<= 5.3	0.002
ARSENIC AND ANTIMONY	ppm	<= 5.05	<0.050
ASSAY	w/w %	Inclusive Between 28.0 - 30.0	29.2
BORON (B)	ppm	<= 5.1	0.001
CALCIUM (Ca)	ppm	<= 5.3	0.003
CARBON DIOXIDE	%	<= 5.002	<0.0020
CHLORIDE	ppm	<= 5.5	<5.50
CHROMIUM (Cr)	ppm	<= 5.2	0.001
COPPER (Cu)	ppm	<= 5.1	0.001
GOLD (Au)	ppm	<= 5.3	0.001
HEAVY METALS (as Pb)	ppm	<= 5.5	<0.5
IRON (Fe)	ppm	<= 5.1	0.001
LEAD (Pb)	ppm	<= 5.2	0.001
MAGNESIUM (Mg)	ppm	<= 5.3	0.001
MANGANESE (Mn)	ppm	<= 5.2	0.001
NICKEL (Ni)	ppm	<= 5.1	0.001
NITRATE (NO3)	ppm	<= 2	<2.0
PHOSPHATE (PO4)	ppm	<= 5.4	<0.40
POTASSIUM (K)	ppm	<= 5.3	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	<= 5.3	0.001
TITANIUM (Ti)	ppm	<= 5.3	0.001
ZINC (Zn)	ppm	<= 5.3	0.003

Quality Assurance Specialist - Certificate of Analysis EPF

Note: The data listed is valid for all package sizes of this lot of this product, unless noted on a subsequent line of the catalog number listed above. If there are any questions with this certificate, please call Customer Service at (800) 926-4161.
Toward full suggested storage conditions

Date Received: 2017/12/28-RAZ-P2B
Date Received: 2018/01/09-lov-HPLC 1X500ml

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%

Product Number:	34860
Batch Number:	SHBJ5451
Brand:	SIGALD
CAS Number:	67-56-1
MDL Number:	MFCD00004595
Formula:	CH4O
Formula Weight:	32.04 g/mol
Quality Release Date:	27 SEP 2017
Expiration Date:	SEP 2022

CH_3OH

Rec'd: 9
2017/11/20
4 x 4 L
LC pump

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	0.02
UV Absorbance 235nm	≤ 0.10	0.03
UV Absorbance 230nm	≤ 0.20	0.05
UV Absorbance 220nm	≤ 0.30	0.11
UV Absorbance 210nm	≤ 0.60	0.28
UV Absorbance 205nm	≤ 1.00	0.65
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)	≤ 0.03 %	< 0.01 %
Residue on Evaporation	≤ 0.0005 %	0.0001 %
Expiration Date Period 1300 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: SHBJ5451

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.

Version Number: 1

Date Received: 2017/11/10 4x4L
Date Received: 2017/11/27 4x4L
Date Received: 2017/12/01 4x4L
Date Received: 2017/12/04 4x4L
Date Received: 2017/12/07 4x4L
Date Received: 2017/12/09 4x4L
Date Received: 2017/12/12 4x4L
Date Received: 2017/12/16 4x4L
Date Received: 2017/12/17 4x4L
Date Received: 2017/12/19 4x4L
Date Received: 2018/01/04 4x4L
Date Received: 2018/01/06 4x4L
Date Received: 2018/01/09 4x4L
Date Received: 2018/01/19 4x4L

REAGENT PREPARATION FORM

Reagent # 337 Replaced Reagent # 335 Analyst: SAD

Reagent Name: 0.2% NH4OH Preparation date: 2018/02/03 Expiry date: Daily

Final Volume: 1L Oven No. : — Temp. : — Final Conc.: 0.2%

Balance ID: — Pipette/Syringe/Cylinder ID: K39876 F Storage: Shelf

CHEMICAL NAME	VOLUME/ WEIGHT	DATE RECEIVED	DATE OPENED	SUPPLIER	LOT NUMBER	EXPIRY DATE
MeOH	998	2018/01/18	2018/02/01	Sigma	SHBJ5451	2022/9/30
NH4OH	2ml	2017/08/15	2017/12/22	Fisher	166631	2020/01/31
		SAD				

NOTES:

Reagent # 338 Replaced Reagent # 331 Analyst: LR

Reagent Name: 0.3% NH4OH in MeOH Preparation date: 2018/01/05 Expiry date: Daily

Final Volume: 100ml Oven No. : — Temp. : — Final Conc.: 0.3:99.7 v/v

Balance ID: — Pipette/Syringe/Cylinder ID: J43434G Storage: —

CHEMICAL NAME	VOLUME/ WEIGHT	DATE RECEIVED	DATE OPENED	SUPPLIER	LOT NUMBER	EXPIRY DATE
NH4OH	0.3ml	2018/01/09	2018/01/25	Fisher	172496	2020/05/31
MeOH	99.7ml	2018/01/31	2018/02/05	Sigma	SHBJ 7527	2022/11/30
			LR 2018/02/05			

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.
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 for Items Issued is conform to Quality Management System Standard ISO/IEC 9001:2008 Standard by SAI Global Certificate Number 0001 - 2008/0

This is to certify that lot(s) of the listed material has been tested and found to comply with the specifications of the grade listed. Product data have been established by Fisher Scientific. Fisher Scientific expressly disclaims all warranties, expressed or implied, including the implied warranties of merchantability and fitness for a particular purpose. Certain products [redacted] product are sold for research use only, are not intended for human, drug, or medical device use and may not meet requirements of the Food, Drug, & Cosmetic Act. Fisher Scientific does not claim responsibility for usage under 21 CFR or other applicable GMP's within the U.S. The following are the actual analytical results obtained.

Catalog Number	A669	Quality Test / Release Date	8/24/2017
Lot Number	172896	Expiration Date	Aug/2020
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.

Analysis	Units	Specifications	Test Value
APPEARANCE		REPORT	COLORLESS AND FREE FROM SUSPENDED MATTER
ALUMINUM	ppm	-<= 5.3	0.002
ARSENIC AND ANTIMONY	ppm	-<= 5.05	<0.050
ASSAY	Wt%	Inclusive Between 25.0 - 30.0	29.2
BORON (B)	ppm	-<= 5.1	0.001
CALCIUM (Ca)	ppm	-<= 5.3	0.003
CARBON DIOXIDE	%	-<= 5.052	<0.0020
CHLORIDE	ppm	-<= 5.5	<0.50
CHROMIUM (Cr)	ppm	-<= 5.2	0.001
COPPER (Cu)	ppm	-<= 5.1	0.001
GOLD (Au)	ppm	-<= 5.3	0.001
HEAVY METALS (as Pb)	ppm	-<= 5.5	<0.5
IRON (Fe)	ppm	-<= 5.1	0.001
LEAD (Pb)	ppm	-<= 5.2	0.001
MAGNESIUM (Mg)	ppm	-<= 5.3	0.001
MANGANESE (Mn)	ppm	-<= 5.2	0.001
NICKEL (Ni)	ppm	-<= 5.1	0.001
NITRATE (NO3)	ppm	-<= 2	<2.0
PHOSPHATE (PO4)	ppm	-<= 5.4	<0.40
POTASSIUM (K)	ppm	-<= 5.3	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	-<= 5.3	0.001
TITANIUM (Ti)	ppm	-<= 5.3	0.001
ZINC (Zn)	ppm	-<= 5.3	0.003

Quality Assurance Specialist - Certificate of Analysis BPF

Note: The date listed is valid for all package sizes of this lot of this product, unless noted as a subversion of this catalog number listed above. If there are any questions with this certificate, please call Chemical Services at (800) 926-6361
Viewed on supported browsers only.

Date Received: 2017/12/28-RAZ-P2B
Date Received: 2018/01/09-lov-HPLC 1X500ml

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:	SHBJ7527
Brand:	SIGALD
CAS Number:	67-56-1
MDL Number:	MFCD00004595
Formula:	CH4O
Formula Weight:	32.04 g/mol
Quality Release Date:	18 DEC 2017
Expiration Date:	NOV 2022

HPLC
3B ottles
2018 10 1 17
E. G

Test	Specification	Result
Appearance (Color)	Colorless	Colorless
Appearance (Form)	Liquid	Liquid
UV Absorbance 400nm	≤ 0.01	< 0.01
UV Absorbance 380nm	≤ 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	0.14
UV Absorbance 210nm	≤ 0.60	0.33
UV Absorbance 205nm	≤ 1.00	0.64
Fluorescence 254nm	≤ 1.0 ppb	< 0.1 ppb
Fluorescence 365nm	≤ 1.0 ppb	< 0.1 ppb
Purity (GC)	≥ 99.90 %	99.94 %
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

REAGENT PREPARATION FORM

Reagent # 341 Replaced Reagent # 339 Analyst: DM3

Reagent Name: 60:40 H_2O:MeOH Preparation date: 2018/02/06 Expiry date: 2018/04/06

Final Volume: 1L Oven No. : — Temp. : — Final Conc.: 60:40 V/V

Balance ID: — Pipette/Syringe/Cylinder ID: 5553 Storage: shelf

CHEMICAL NAME	VOLUME/ WEIGHT	DATE RECEIVED	DATE OPENED	SUPPLIER	LOT NUMBER	EXPIRY DATE
H_2O 2018/02/06 600ml DM3	600mL	2018/01/31	2018/02/05	Omni	57297	2018/10/31
MeOH	400mL	2018/01/31	2018/02/06	Sig	SHBS7527	2022/11/30

2018/02/06

NOTES: 1L cylinder # 5553

Reagent # 342 Replaced Reagent # 334 Analyst: DM3

Reagent Name: 2% Formic acid Preparation date: 2018/02/06 Expiry date: 2018/04/06

Final Volume: 1L Oven No. : — Temp. : — Final Conc.: 2%

Balance ID: — Pipette/Syringe/Cylinder ID: K551916 Storage: shelf

CHEMICAL NAME	VOLUME/ WEIGHT	DATE RECEIVED	DATE OPENED	SUPPLIER	LOT NUMBER	EXPIRY DATE
Formic Acid	20ml	2018/01/30	2018/02/06	Sigma	SHBJ 2924	2018/07/31
LCMS H_2O	980mL	2018/01/31	2018/02/05	Omni	57297	2018/10/31

2018/02/06

NOTES: 1L cylinder # 5553

DO NOT WRITE ON 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.

SIGMA-ALDRICH®

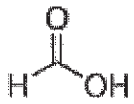
sigma-aldrich.com

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:	SHBJ2924
Brand:	SIGALD
CAS Number:	64-18-6
MDL Number:	MFCD00003297
Formula:	CH2O2
Formula Weight:	46.03 g/mol
Quality Release Date:	17 JUL 2017
Expiration Date:	JUL 2018



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 %	97.6 %
Expiration Date Period		
1 Year		

Michael Grady, Manager
Quality Control
Sheboygan Falls, WI US

Rec'd:
2017/09/22
1X, 100 mL
LC grade

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

Date Received: 2017/11/29-SSB- 1(500ml)-P2A
Date Received: 2018.01.30 - 2 bottles - HPLC

Certificate of Analysis

MilliporeSigma

Date of Release: 10/27/2017

Name: Water
OmniSolv®, For LC/MS

Item No: WX0001-1, WX0001-8, WX0001-901

Lot / Batch No: 57297

Country of Origin: USA

Characteristic	Requirement		Results	Units
	Min.	Max.		
#Expiration date			31-OCT-2018	
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	0.22	mAU
Gradient at 254 nm		0.5	0.09	mAU
LC/MS Purity (n-Butylbenzene)		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	<190	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.

Date Received: 2017/12/01 1 x 4L LCMS
Date Received: 2017/12/04 4 x 4L LCMS
Date Received: 2017/12/06 4 x 4L LCMS
Date Received: 2017/12/07 4 x 4L LCMS
Date Received: 2017/12/10 4 x 4L LCMS
Date Received: 2017/12/19 4 x 4L LCMS
Date Received: 2017.12.28 - 8 x 4L - HPLC
Date Received: 2017.12.29 - 8 x 4L - HPLC
Date Received: 2018.01.04 - 8 x 4L - HPLC
Date Received: 2018.01.19 - 8 x 4L - HPLC
Date Received: 2018.01.31 - 8 x 4L - HPLC
Date Received: 2018.02.07 - 4 x 4L - HPLC
Date Received: 2018.02.07 - 4 x 4L - HPLC

REAGENT PREPARATION FORM

Reagent # 347 Replaced Reagent # 346 Analyst: SAD

Reagent Name: 0.4% NH4OH Preparation date: 2018/02/08 Expiry date: Daily

Final Volume: 1L Oven No. : — Temp. : — Final Conc.: 0.2%

Balance ID: — Pipette/Syringe/Cylinder ID: N314775 Storage: —

CHEMICAL NAME	VOLUME/ WEIGHT	DATE RECEIVED	DATE OPENED	SUPPLIER	LOT NUMBER	EXPIRY DATE
NH4OH	1 mL	2018/01/08	2018/01/25	Fisher	172496	2020/08/31
MeOH	499mL	2018/09/07	2018/2/8	Sigma	SHBJ5451	2022/09/30
		SAD	2018/02/08			

NOTES:

Reagent # 348 Replaced Reagent # 341 Analyst: SAD

Reagent Name: H2O:MeOH 60:40 Preparation date: 2018/02/08 Expiry date: 2018/04/08

Final Volume: 1L Oven No. : — Temp. : — Final Conc.: 60:40 v/v

Balance ID: — Pipette/Syringe/Cylinder ID: 5553 Storage: Shelf

CHEMICAL NAME	VOLUME/ WEIGHT	DATE RECEIVED	DATE OPENED	SUPPLIER	LOT NUMBER	EXPIRY DATE
MeOH	400	2018/02/07	2018/2/8	Sigma	SHBJ5451	2022/9/30
H2O	600	2018/01/12	2018/2/8	Omni	57297	2018/10/31
		SAD	2018/02/08			

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.
ONLY CLASS A GLASSWARE IS USED FOR THE PREPARATION OF REAGENTS WHEN APPLICABLE.
Maxxam Analytics

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:	**SHBJ5451**
Brand:	SIGALD
CAS Number:	67-56-1
MDL Number:	MFCD00004595
Formula:	CH4O
Formula Weight:	32.04 g/mol
Quality Release Date:	27 SEP 2017
Expiration Date:	SEP 2022

Recd: 2017/11/20
4 x 4 L
LC syrup

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	0.02
UV Absorbance 235nm	≤ 0.10	0.03
UV Absorbance 230nm	≤ 0.20	0.05
UV Absorbance 220nm	≤ 0.30	0.11
UV Absorbance 210nm	≤ 0.60	0.28
UV Absorbance 205nm	≤ 1.00	0.65
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)	≤ 0.03 %	< 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: SHBJ5451

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: 2017/11/10 4x4L
Date Received: 2017/11/27 4x4L
Date Received: 2017/12/01 4x4L
Date Received: 2017/12/04 4x4L
Date Received: 2017/12/07 4x4L
Date Received: 2017/12/09 4x4L
Date Received: 2017/12/12 4x4L
Date Received: 2017/12/16 4x4L
Date Received: 2017/12/17 4x4L
Date Received: 2017/12/19 4x4L
Date Received: 2018/01/04 4x4L
Date Received: 2018/01/06 4x4L
Date Received: 2018/01/09 4x4L
Date Received: 2018/01/19 4x4L
Date Received: 2018/02/07 4x4L

Certificate of Analysis

MilliPORE SIGMA

Date of Release: 10/27/2017

Name: Water
OmniSolv®, For LC/MS

Item No: WX0001-1, WX0001-3, WX0001-901

Lot / Batch No: 57297

Country of Origin: USA

Characteristic	Requirement		Results	Units
	Min.	Max.		
Appearance			Clear	
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	0.22	mAU
Gradient at 254 nm		0.5	0.09	mAU
LC/MS Purity (p-cresol content)		50	<50	ppb
LC/MS Purity (resorcinol content)		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 400-210 nm		0.005	< 0.001	AU
UV Cut-off		190	<190	nm

Dr. Oliver Schumann
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.

Date Received: 2017/12/01 1 x 4L LCMS
Date Received: 2017/12/04 4 x 4L LCMS
Date Received: 2017/12/06 4 x 4L LCMS
Date Received: 2017/12/07 4 x 4L LCMS
Date Received: 2017/12/10 4 x 4L LCMS
Date Received: 2017/12/19 4 x 4L LCMS
Date Received: 2017.12.28 - 8 x 4L - HPLC
Date Received: 2017.12.29 - 8 x 4L - HPLC
Date Received: 2018.01.04 - 8 x 4L - HPLC
Date Received: 2018.01.19 - 8 x 4L - HPLC
Date Received: 2018.01.31 - 8 x 4L - HPLC
Date Received: 2018.02.07 - 4 x 4L - HPLC
Date Received: 2018.02.07 - 4 x 4L - HPLC

REAGENT PREPARATION FORM

Reagent # 349 Replaced Reagent # 347 Analyst: LQ

Reagent Name: 0.2% NH4OH in meOH Preparation date: 2018/02/09 Expiry date: Daily

Final Volume: 1L Oven No. : — Temp. : — Final Conc.: 0.2 ± 99.8 v/v

Balance ID: — Pipette/Syringe/Cylinder ID: I 479879 Storage: Shelf

CHEMICAL NAME	VOLUME/ WEIGHT	DATE RECEIVED	DATE OPENED	SUPPLIER	LOT NUMBER	EXPIRY DATE
NH4OH	2 ml	2018/01/09	2018/01/25	Fisher	172996	2020/08/31
meOH	998ml	2018/02/07	2018/02/09	Sigma	SHBJ 5451	2022/09/30
				2018/02/09		

NOTES: 1L volumetric Cylinder # 5553

Reagent # 350 Replaced Reagent # 338 Analyst: HD3

Reagent Name: 0.3% NH4OH Preparation date: 2018/02/09 Expiry date: Daily

Final Volume: 50ml Oven No. : — Temp. : — Final Conc.: 0.3%

Balance ID: — Pipette/Syringe/Cylinder ID: M41011F, CLASSA VOL. FLASK Storage: Shelf

CHEMICAL NAME	VOLUME/ WEIGHT	DATE RECEIVED	DATE OPENED	SUPPLIER	LOT NUMBER	EXPIRY DATE
NH4OH	150 ml	2018/01/01	2018/01/25	Fisher	172996	2020/08/31
MeOH	49.85ml	2018/02/07	2018/02/09	Sigma	SHBJ5451	2022/09/30
		HD3	2018/02/09			

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.
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
201.796.4329 fax

Certificate of Analysis

Fisher Scientific Quality Systems has been found to conform to Quality Management System Standard ISO/IEC 17025:2005 issued by SAI Global Certificate Number QSR1 - 30003.12

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, conditions or liability, including the implied warranties of merchantability and fitness for a particular purpose. Certain products are not for use in food, drug, or medical devices manufacturing. Fisher does not claim equivalent coverage under 21 CFR for raw materials GMP's with the FDA. The following are the actual analytical results obtained.

Catalog Number	A663	Quality Test / Release Date	6/24/2017
Lot Number	172596	Expiration Date	Aug/2020
Description	AMMONIUM HYDROXIDE, CERTIFIED A.C.S. PLUS		
Country of Origin	United States		
Chemical Origin	Inorganic-iron 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.		

Test Name	Units	Specification	Test Value
APPEARANCE		REPORT	COLORLESS AND FREE FROM SUSPENDED MATTER
ALUMINUM	ppm	<= 5.3	0.002
ARSENIC AND ANTIMONY	ppm	<= 5.05	<0.050
ASSAY	wt/ wt %	Inclusive Between 28.0 - 30.0	29.2
BORON (B)	ppm	<= 5.1	0.001
CALCIUM (Ca)	ppm	<= 5.3	0.006
CARBON DIOXIDE	%	<= 5.052	<0.0020
CHLORIDE	ppm	<= 5.5	<0.50
CHROMIUM (Cr)	ppm	<= 5.2	0.001
COPPER (Cu)	ppm	<= 5.1	0.001
GOLD (Au)	ppm	<= 5.3	0.001
HEAVY METALS (as Pb)	ppm	<= 5.5	<5.5
IRON (Fe)	ppm	<= 5.1	0.001
LEAD (Pb)	ppm	<= 5.2	0.001
MAGNESIUM (Mg)	ppm	<= 5.3	0.001
MANGANESE (Mn)	ppm	<= 5.2	0.001
NICKEL (Ni)	ppm	<= 5.1	0.001
NITRATE (NO3)	ppm	<= 2	<2.0
PHOSPHATE (PO4)	ppm	<= 5.4	<0.40
POTASSIUM (K)	ppm	<= 5.3	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	<= 5.3	0.001
TITANIUM (Ti)	ppm	<= 5.3	0.001
ZINC (Zn)	ppm	<= 5.3	0.003

Quality Assurance Specialist - Certificate of Analysis BPF

Note: The date listed is valid for 60 days(or more if the lot of the product, documented as a reference of the validity number listed above. If there are any questions with this certificate, please call Chemical Services at (800) 225-1521. Please list suggested storage conditions.

Date Received: 2017/12/28-RAZ-P2B
Date Received: 2018/01/09-lov-HPLC 1X500ml

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%

Product Number:	**34860**
Batch Number:	**SHBJ5451**
Brand:	SIGALD
CAS Number:	67-56-1
MDL Number:	MFCD00004595
Formula:	CH4O
Formula Weight:	32.04 g/mol
Quality Release Date:	27 SEP 2017
Expiration Date:	SEP 2022

CH_3OH

Rec'd: 2017/11/20
4 x 4 L
LC pump

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	0.02
UV Absorbance 235nm	≤ 0.10	0.03
UV Absorbance 230nm	≤ 0.20	0.05
UV Absorbance 220nm	≤ 0.30	0.11
UV Absorbance 210nm	≤ 0.60	0.28
UV Absorbance 205nm	≤ 1.00	0.65
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)	≤ 0.03 %	< 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: SHBJ5481

Michael Grady, Manager
Quality Control
Sheboygen 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.

Version Number: 1

Date Received: 2017/11/10 4x4L
Date Received: 2017/11/27 4x4L
Date Received: 2017/12/01 4x4L
Date Received: 2017/12/04 4x4L
Date Received: 2017/12/07 4x4L
Date Received: 2017/12/09 4x4L
Date Received: 2017/12/12 4x4L
Date Received: 2017/12/16 4x4L
Date Received: 2017/12/17 4x4L
Date Received: 2017/12/19 4x4L
Date Received: 2018/01/04 4x4L
Date Received: 2018/01/06 4x4L
Date Received: 2018/01/09 4x4L
Date Received: 2018/01/19 4x4L
Date Received: 2018/02/07 4x4L

REAGENT PREPARATION FORM

Reagent # 351 Replaced Reagent # 272 Dup3 Analyst: JHB
JHB 2018/02/09 2018/04/12
Reagent Name: ~~1:39 DiH2O/ACN~~ 5% NH4OH in H2O Preparation date: 2018/02/09 Expiry date: Daily
Final Volume: 200 mL Oven No. : — Temp. : — Final Conc.: 5%
Balance ID: — Pipette/Syringe/Cylinder ID: #20028W Storage: Shelf

CHEMICAL NAME	VOLUME/ WEIGHT	DATE RECEIVED	DATE OPENED	SUPPLIER	LOT NUMBER	EXPIRY DATE
NH4OH	10 mL	2018/01/09	2018/01/25	Fisher	172996	2020/07/31
DiH2O	190 mL	—	—	—	—	—
		JHB				
			2018/02/09			

NOTES:

Reagent # 352 Replaced Reagent # 349 Analyst: JHB
Reagent Name: 0.2% NH4OH Preparation date: 2018/02/10 Expiry date: Daily
Final Volume: 1L Oven No. : — Temp. : — Final Conc.: 0.2%
Balance ID: — Pipette/Syringe/Cylinder ID: # 5553 Storage: Shelf

CHEMICAL NAME	VOLUME/ WEIGHT	DATE RECEIVED	DATE OPENED	SUPPLIER	LOT NUMBER	EXPIRY DATE
NH4OH	2 mL	2018/01/09	2018/01/25	Fisher	172996	2020/07/31
MeOH	1L	2018/02/07	2018/02/09	Sigma	SHBE 5451	22/09/30
		JHB				
			2018/02/10			

NOTES:

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 Systems Standard ISO/IEC 9001:2008 registered by SAI Global Certification Services (SAIT - 0000018)

This is to certify that each of the substances listed and found to comply with the specifications of the grade listed. Verify data have been supplied by Fisher Scientific Limited, its corporate affiliates, subsidiaries or divisions, including those formerly trading as Acros Organics and Fisher Scientific Company, (USA/FSC/CAA/JP/Kyoto/Organics) are used for use in food, drug, or medical device manufacturing. Metal items and plastic materials in contact with the product are not tested unless specified.

Catalog Number	A669	Quality Test / Release Date	8/24/2017
Lot Number	172566	Expiration Date	Aug/2020
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	=< 0.5	0.002
ARSENIC AND ANTIMONY	ppm	=< 0.05	<0.050
ASSAY	Wt/ %	Inclusive Between 28.0 - 30.0	29.2
BORON (B)	ppm	=< 0.1	0.001
CALCIUM (Ca)	ppm	=< 0.5	0.003
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

Quality Assurance Specialist - Certificate of Analysis EPF

Note: The data listed is valid for all packages shown in Part 3a of this product, manufactured on a continuous basis unless otherwise noted. If there are any questions with this certificate, please call Customer Services at (800) 225-6301. Fisher is not responsible for changes made to this certificate.

Date Received: 2017/12/28-RAZ-P2B
Date Received: 2018/01/09-lov-HPLC 1X500ml

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%

Product Number:	34860
Batch Number:	SHBJ5451
Brand:	SIGALD
CAS Number:	67-56-1
MDL Number:	MFCD00004595
Formula:	CH4O
Formula Weight:	32.04 g/mol
Quality Release Date:	27 SEP 2017
Expiration Date:	SEP 2022

CH_3OH

Rec'd: 7
2017/11/20
4 x 4 L
LC pump

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	0.02
UV Absorbance 235nm	≤ 0.10	0.03
UV Absorbance 230nm	≤ 0.20	0.05
UV Absorbance 220nm	≤ 0.30	0.11
UV Absorbance 210nm	≤ 0.60	0.28
UV Absorbance 205nm	≤ 1.00	0.65
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)	≤ 0.03 %	< 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: SHBJ5451

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.

Version Number: 1

Date Received: 2017/11/10 4x4L
Date Received: 2017/11/27 4x4L
Date Received: 2017/12/01 4x4L
Date Received: 2017/12/04 4x4L
Date Received: 2017/12/07 4x4L
Date Received: 2017/12/09 4x4L
Date Received: 2017/12/12 4x4L
Date Received: 2017/12/16 4x4L
Date Received: 2017/12/17 4x4L
Date Received: 2017/12/19 4x4L
Date Received: 2018/01/04 4x4L
Date Received: 2018/01/06 4x4L
Date Received: 2018/01/09 4x4L
Date Received: 2018/01/19 4x4L
Date Received: 2018/02/07 4x4L

REAGENT PREPARATION FORM

SOLUTION # 271 **REAGENT NAME:** 25mM Ammonium Bicarbonate pH 10

ANALYST: JI **DATE PREPARED:** 2018/01/26 **EXPIRY DATE:** 2018/02/26

STORAGE: RT **BALANCE ID:** AB-02 **PIPET/SYRINGE ID:** —

CHEMICAL NAME	VOLUME/ WEIGHT	DATE RECEIVED	DATE OPENED	SUPPLIER	LOT NUMBER	EXPIRY DATE
Ammonium Hydrogen Carbonate	3.9501g	2017/10/17	2017/10/20	Merck	K47547305	2019/01/31
RODI H2O	top up to 2L	—	—	in-house	—	—
Ammonium Hydroxide	drop wise up to pH 10	2017/10/17	2018/01/15	Fisher	7217070	2020/08/23
			JI 2018/01/26			

NOTES: pH meter Account Fisher AP-61 S/N 342908

SOLUTION # 272 **REAGENT NAME:** 50:50 MeOH: ACN

ANALYST: KEL **DATE PREPARED:** 2018/01/29 **EXPIRY DATE:** 2018/03/29

STORAGE: RT **BALANCE ID:** - **PIPET/SYRINGE ID:** -

CHEMICAL NAME	VOLUME/ WEIGHT	DATE RECEIVED	DATE OPENED	SUPPLIER	LOT NUMBER	EXPIRY DATE
Methanol	500 mL	2018/01/09	2018/01/16	Fisher	171027	2022/05/31
Acetonitrile	500 mL	2018/01/09	2018/01/29	Honeywell	H0848	2019/03/15
		KL 2018/01/29				

NOTES:

ONLY CLASS A GLASSWARE IS USED FOR THE PREPARATION OF REAGENTS WHEN APPLICABLE.
RT = Room Temperature

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 standard by SAI Global Certificate Number CERT - 0000010

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	A454	Quality Test / Release Date	5/14/2017
Lot Number	171027		
Description	METHANOL, OPTIMA, A.C.S.		
Country of Origin	Trinidad	* Suggested Retest Date	May-2022
Chemical Origin	Organic - synthetic		
BSE/TSE Comment	No animal products are used as starting raw material ingredients, or used in processing, including lubricants, processing aids, or any other material that might migrate to the finished product.		

Recd: 3
2017/08/21
4 x 4L

Result name	Units	Specifications	Test Value
APPEARANCE		REPORT	CLEAR, COLORLESS LIQUID
ASSAY	%	>= 99.9	99.9
CARBONYL COMPOUNDS	%	<= 0.001	0.0003
COLOR	APHA	<= 5	5
EVAPORATION RESIDUE	ppm	<= 1	0.4
FLUORESCENCE BACKGROUND	ppb	<= 1	<1
IDENTIFICATION	PASS/FAIL	= PASS TEST	PASS TEST
LC GRADIENT SUITABILITY	PASS/FAIL	= PASS TEST	PASS TEST
OPTICAL ABS AT 205 NM	ABSORBANCE UNITS	<= 1.00	0.93
OPTICAL ABS AT 220 NM	ABSORBANCE UNITS	<= 0.23	0.23
OPTICAL ABS AT 230 NM	ABSORBANCE UNITS	<= 0.11	0.10
OPTICAL ABS AT 254 NM	ABSORBANCE UNITS	<= 0.01	0.010
REFRACTIVE INDEX @ 25 DEG C		Inclusive Between 1.3260 - 1.3300	1.3284
SOLUBILITY IN WATER	PASS/FAIL	= PASS TEST	PASS TEST
SUBSTANCES DARKENED BY H2SO4	PASS/FAIL	= PASS TEST	PASS TEST
SUBSTANCES REDUCING KMNO4	PASS/FAIL	= PASS TEST	PASS TEST
TITRATABLE ACID	mEq/g	<= 0.0003	0.00020
TITRATABLE BASE	mEq/g	<= 0.0002	0.00003
WATER (H2O)	%	<= 0.07	0.01

CERTIFIED BY

Teresa Bailey-Wojcik

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 the catalog number listed above. If there are any questions with this certificate, please call Chemical Services at (800) 227-5701.
*Based on suggested storage condition.

Date Received: 2017.09.01- 4 bottles - P2A
Date Received:2017/10/17-4 x 4L - LC
Date Received: 2017/10/19-JT- 2 bottles-P1
Date Received: 2017/11/23-PBE-1x4L
Date Received: 2018.01.09 - 4 x 4L - HPLC Main Lab
Date Received: 2018.01.10 - 4 x 4L - HPLC Main Lab

Rec'd: 2018/01/09 by: AR
2 x 1L
Storage: ML - Flamm Cabinet.

Honeywell Specialty Chemicals Seelze GmbH
Wunstorferstrasse 40
Seelze, 30926
Telefon: +49 5137 8238-0
www.lab-honeywell.com

Honeywell

CERTIFICATE OF ANALYSIS

Brand:	Honeywell Riedel-de Haën™
Product:	34967
Lot No:	H084B
Production date:	25.Mar.2017
Best before:	15.Mar.2019

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	%	0.0008	%
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	

REAGENT PREPARATION FORM

SOLUTION # 280 REAGENT NAME: 20 mM Ammonium acetate

ANALYST: KCl DATE PREPARED: 2018/02/06 EXPIRY DATE: 2018/04/06

STORAGE: RT BALANCE ID: MS204S PIPET/SYRINGE ID: -

CHEMICAL NAME	VOLUME/ WEIGHT	DATE RECEIVED	DATE OPENED	SUPPLIER	LOT NUMBER	EXPIRY DATE
Ammonium acetate	6.1658g	2017/08/03	2017/09/18	Sigma	BCBT4732	2019/01/30
Water	4L	2017/12/06	2018/02/06	Millipore	57297	2018/10/31
		KC 2018/02/06				

NOTES:

SOLUTION # 281 REAGENT NAME: 20 mM Ammonium Acetate

ANALYST: [illegible] DATE PREPARED: 2018/02/09 EXPIRY DATE: 2018/04/10

STORAGE: RT BALANCE ID: AB02 PIPET/SYRINGE ID:

CHEMICAL NAME	VOLUME/ WEIGHT	DATE RECEIVED	DATE OPENED	SUPPLIER	LOT NUMBER	EXPIRY DATE
Ammonium Acetate	3.0804g	2017/08/03	2017/09/18	Sigma	BCBT4732	2019/01/30
LCMS Water	2L	2017/12/28	2018/02/09	(Omni Solv) EMD Millipore	57297	2018/10/31
	[illegible] 2018/02/09					

NOTES:

ONLY CLASS A GLASSWARE IS USED FOR THE PREPARATION OF REAGENTS WHEN APPLICABLE.
RT = Room Temperature

SIGMA-ALDRICH

3050 Spruce Street, Saint Louis, MO 63103 USA
Email USA: techserv@sial.com Outside USA: eurtechserv@sial.com

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 Geitner

Dr. Claudia Geitner
Manager Quality Control
Buchs, Switzerland

Rec'd: 3
20 JAN 2017
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

MilliPORE SIGMA

Date of Release: 10/27/2017

Name: Water
Chromasolv, For LC/MS

Item No: WX0001-1, WX0001-3, WX0001-901

Lot / Batch No: 57297

Country of Origin: USA

Characteristic	Requirement		Results	Units
	Min.	Max.		
Expiration date			31-OCT-2018	
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	0.33	mAU
Gradient at 254 nm		0.5	0.09	mAU
LC/MS Purity (n-nitrosamines)		50	<50	ppb
LC/MS Purity (preservatives)		50	<50	ppb
Metals, solitaire for LC/MS			Conforms	
UV Abs. at 205 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 400-200 nm		0.005	< 0.001	AU
UV Cut-off		190	<190	nm

Dr. Oliver Schrumpf
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.

Date Received: 2017/12/01 1 x 4L LCMS
Date Received: 2017/12/04 4 x 4L LCMS
Date Received: 2017/12/06 4 x 4L LCMS
Date Received: 2017/12/07 4 x 4L LCMS
Date Received: 2017/12/10 4 x 4L LCMS
Date Received: 2017/12/19 4 x 4L LCMS
Date Received: 2017.12.28 - 8 x 4L - HPLC
Date Received: 2017.12.29 - 8 x 4L - HPLC
Date Received: 2018.01.04 - 8 x 4L - HPLC
Date Received: 2018.01.19 - 8 x 4L - HPLC
Date Received: 2018.01.31 - 8 x 4L - HPLC
Date Received: 2018.02.07 - 4 x 4L - HPLC
Date Received: 2018.02.07 - 4 x 4L - HPLC

REAGENT PREPARATION FORM

SOLUTION # 284 REAGENT NAME: 50:50 MeOH: ACN

ANALYST: KC DATE PREPARED: 2018/02/12 EXPIRY DATE: 2018/04/12

STORAGE: RT BALANCE ID: - PIPET/SYRINGE ID: -

CHEMICAL NAME	VOLUME/ WEIGHT	DATE RECEIVED	DATE OPENED	SUPPLIER	LOT NUMBER	EXPIRY DATE
Methanol	500 mL	2018/01/09	2018/01/30	Fisher	171027	2022/05/31
Acetonitrile	500 mL	2018/01/09	2018/01/29	Honeywell	#0846	2019/03/15

KC 2018/02/12

NOTES:

SOLUTION # 285 REAGENT NAME: 1/39 H2O / Acetonitrile

ANALYST: SM DATE PREPARED: 2018/02/12 EXPIRY DATE:

STORAGE: RT BALANCE ID: — PIPET/SYRINGE ID: FE-8-68

CHEMICAL NAME	VOLUME/ WEIGHT	DATE RECEIVED	DATE OPENED	SUPPLIER	LOT NUMBER	EXPIRY DATE
RO D1 Water	10 mL	—	—	In-house	—	—
Acetonitrile	390 mL	2018/02/12	2018/02/12	Fisher	176083	2024/09/31

SM 2018/02/12

NOTES:

ONLY CLASS A GLASSWARE IS USED FOR THE PREPARATION OF REAGENTS WHEN APPLICABLE.
RT = Room Temperature

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 standard by SAI Global Certificate Number CERT - 0009910

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, aforesaid or implied, including the implied warranties of merchantability and fitness for a particular purpose. Certain products (USP/FCC/NF/EP/JP/RJP grades) are sold for use in food, drug, or medical device manufacturing. Fisher does not claim regulatory coverage under 21 CFR not maintain DMFs with the FDA. The following are the actual analytical results obtained:

Catalog Number	A454	Quality Test / Release Date	6/16/2017
Lot Number	171027		
Description	METHANOL, OPTIMA, A.C.S.		
Country of Origin	Trinidad	* Suggested Retest Date	May-2022
Chemical Origin	Organic - synthetic		
BSE/TSE Comment	No animal products are used as starting raw material ingredients, or used in processing, including lubricants, processing aids, or any other material that might migrate to the finished product.		

Rec'd: 9
2017/08/21
4 x 4L

Result name	Units	Specification	Test Value
APPEARANCE		REPORT	CLEAR, COLORLESS LIQUID
ASSAY	%	>= 99.9	99.9
CARBONYL COMPOUNDS	%	<= 0.001	0.0008
COLOR	APHA	<= 5	5
EVAPORATION REBIDUE	ppm	<= 1	0.4
FLUORESCENCE BACKGROUND	ppb	<= 1	<1
IDENTIFICATION	PASS/FAIL	= PASS TEST	PASS TEST
LC GRADIENT SUITABILITY	PASS/FAIL	= PASS TEST	PASS TEST
OPTICAL ABS AT 205 NM	ABSORBANCE UNITS	<= 1.00	0.83
OPTICAL ABS AT 220 NM	ABSORBANCE UNITS	<= 0.23	0.23
OPTICAL ABS AT 230 NM	ABSORBANCE UNITS	<= 0.11	0.10
OPTICAL ABS AT 254 NM	ABSORBANCE UNITS	<= 0.01	0.010
REFRACTIVE INDEX @ 25 DEG C		Inclusive Between 1.3260 - 1.3300	1.3284
SOLUBILITY IN WATER	PASS/FAIL	= PASS TEST	PASS TEST
SUBSTANCES DARKENED BY H2SO4	PASS/FAIL	= PASS TEST	PASS TEST
SUBSTANCES REDUCING KMNO4	PASS/FAIL	= PASS TEST	PASS TEST
TITRATABLE ACID	mEq/g	<= 0.0003	0.00020
TITRATABLE BASE	mEq/g	<= 0.0002	0.00003
WATER (H2O)	%	<= 0.07	0.01

CERTIFIED BY

Quality Assurance Specialist - Certificate of Analysis BPF

Note: The date listed is valid for all package sizes of this lot of this product, expressed as a extension of the catalog number listed above. If there are any questions with this certificate, please call Chemical Services at (800) 227-6701.
*Based on suggested storage condition.

Date Received: 2017.09.01- 4 bottles - P2A
Date Received:2017/10/17-4 x 4L - LC
Date Received: 2017/10/19-JT- 2 bottles-P1
Date Received: 2017/11/23-PBE-1x4L
Date Received: 2018.01.09 - 4 x 4L - HPLC Main Lab
Date Received: 2018.01.10 - 4 x 4L - HPLC Main Lab

Rec'd: 2018/01/09 by: AR
2 x 1L
Storage: ML - Flamm Cabinet.

Honeywell

CERTIFICATE OF ANALYSIS

Honeywell Specialty Chemicals Seelze GmbH
Wunstorferstrasse 40
Seelze, 30926
Telefon: +49 5137 8238-0
www.lab-honeywell.com

Brand:	Honeywell Riedel-de Haën™
Product:	34967
Lot No:	H084B
Production date:	25.Mar.2017
Best before:	15.Mar.2019

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	%	0.0008	%
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

Date of Release: 10/27/2017

Name: Water
OmniSolv®, For LC/MS

Item No: WX0001...1, WX0001...6, WX0001...901

Lot / Batch No: 57297

Country of Origin: USA

Characteristic	Requirement		Results	Units
	Min.	Max.		
#Expiration date			31-OCT-2019	
Evaporative 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	0.22	mAU
Gradient at 254 nm		0.5	0.09	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 400–250 nm		0.005	< 0.001	AU
UV Cut-off		190	<190	nm

Dr. Oliver Schrunk

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.

Date Received: 2017/12/01 1 x 4L LCMS
Date Received: 2017/12/06 4 x 4L LCMS

PRLST 142 PG. 172

PREPARATION OF STANDARDS OF INTERMEDIARY CONCENTRATION

Solution No.: I-5297 Date: 2018/01/30 Expiry Date: 2019/01/30 Discard Date: —

Replaces Solution No.: I-5244 Replaced by Solution: _____ Chemist: LaV

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 N31477F (1ml)

Dilution Solvent: 0.3% NH4OH 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: 25 ml Class A 5640
(identify by serial number or other unique ID)

Solvent Supplier: See PRLRE108-327 Lot No.: See PRLRE108-327

Date Opened: See PRLRE108-327

Storage Location: F2-11 One time Use, Not Stored: —

Ampule Supplier: Wellington Date Opened: —

Mix Name: —

Catalogue No.: — Ampule expiry Date: See attached sheet

Lot No.: See attached sheet

Date Received: See attached sheet

Notes/Comments:

I-5297 (PRLST 142 Pg. 172)

Compound Name	ID#	Conc. (ug/mL)	Vol.. of Stock standard (uL)	Final Conc. (ug/mL)	Exp. date
PFBA	S4269-1	50	500	1	2022/05/29
L-PFBS	S4269-2	44.2	565	1	2022/09/21
PFPeA	S4269-3	50	500	1	2022/06/14
PFHxA	S4269-4	50	500	1	2022/09/27
br-PFHxSk	S4269-5	45.5	549	1	2022/01/04
PFHpA	S4269-6	50	500	1	2021/12/02
L-PFHpS	S4269-7	47.6	525	1	2022/09/01
PFOA	S4269-8	50	500	1	2022/02/17
brPFOSK	S4269-9	46.4	540	1	2022/01/12
PFNA	S4269-10	50	500	1	2022/07/20
PFDA	S4269-11	50	500	1	2022/05/29
L-PFDS	S4269-12	48.2	518	1	2022/02/17
PFUdA	S4269-13	50	500	1	2022/09/21
PFDoA	S4269-14	50	500	1	2022/05/29
PFTrDA	S4269-15	50	500	1	2022/05/02
PFTeDA	S4269-16	50	500	1	2022/09/21
PFOSA (FOSA-I)	S4269-17	50	500	1	2022/09/01
N-MeFOSA-M	S4269-18	50	500	1	2022/07/05
N-EtFOSA-M	S4269-19	50	500	1	2022/07/05
N-MeFOSE-M	S4269-20	50	500	1	2022/04/24
N-EtFOSE-M	S4269-21	50	500	1	2022/04/24
N-MeFOSAA	S4269-22	50	500	1	2022/01/11
N-EtFOSAA	S4269-23	50	500	1	2022/01/11
6:2FTS	S4269-24	47.4	528	1	2022/04/20
8:2FTS	S4269-25	47.9	522	1	2021/12/12

No writting on bottom Page

La, 2018/01/30

PRLST 133 PG 150

PREPARATION OF CONCENTRATED STOCK STANDARDS

Solution No.: S-4269 Date: 2018/01/03 Expiry Date: See Below Discard Date: _____

Replaces Solution: _____ Replaced by Solution: _____ Chemist: LV

S-4269 (PRLST133 p. 150)

Solution ID#	Compound Name	Lot#	Received date	Exp. date	Replaces Solution	Replaced by Solution	Conc. (ug/mL)	Solvent	Storage
S4269-1	PFBA	PFBA0517	2017/11/30	2022/05/29	S4240-1		50	MeOH	FZ-11
S4269-2	L-PFBS	LPFBS0917	2017/11/30	2022/09/21	S4240-2		44.2	MeOH	FZ-11
S4269-3	PFPeA	PFPeA0617	2017/11/30	2022/06/14	S4240-3		50	MeOH	FZ-11
S4269-4	PFHxA	PFHxA0917	2017/11/30	2022/09/27	S4240-4		50	MeOH	FZ-11
S4269-5	br-PFHxSk	brPFHxSK0117	2017/11/30	2022/01/04	S4240-5		45.5	MeOH	FZ-11
S4269-6	PFHpA	PFHpA1216	2017/11/30	2021/12/02	S4240-6		50	MeOH	FZ-11
S4269-7	L-PFHpS	LPFHpS0817	2017/11/30	2022/09/01	S4240-7		47.6	MeOH	FZ-11
S4269-8	PFOA	PFOA0217	2017/09/26	2022/02/17	S4240-8		50	MeOH	FZ-11
S4269-9	brPFOSK	brPFOSK0117	2017/11/30	2022/01/12	S4240-9		46.4	MeOH	FZ-11
S4269-10	PFNA	PFNA0717	2017/11/30	2022/07/20	S4240-10		50	MeOH	FZ-11
S4269-11	PFDA	PFDA0517	2017/11/30	2022/05/29	S4240-11		50	MeOH	FZ-11
S4269-12	L-PFDS	LPFDS0217	2017/11/30	2022/02/17	S4240-12		48.2	MeOH	FZ-11
S4269-13	PFUdA	PFUdA0917	2017/11/30	2022/09/21	S4240-13		50	MeOH	FZ-11
S4269-14	PFDoA	PFDoA0517	2017/11/30	2022/05/29	S4240-14		50	MeOH	FZ-11
S4269-15	PFTrDA	PFTrDA0517	2017/11/30	2022/05/02	S4240-15		50	MeOH	FZ-11
S4269-16	PFTeDA	PFTeDA0917	2017/11/30	2022/09/21	S4240-16		50	MeOH	FZ-11
S4269-17	PFOSA (FOSA-I)	FOSA08171	2017/11/30	2022/09/01	S4240-17		50	IPA	FD-59
S4269-18	N-MeFOSA-M	NMeFOSA0717M	2017/11/30	2022/07/05	S4240-18		50	MeOH	FZ-11
S4269-19	N-EtFOSA-M	NEtFOSA0717M	2017/11/30	2022/07/05	S4240-19		50	MeOH	FZ-11
S4269-20	N-MeFOSE-M	NMeFOSE0417M	2017/11/30	2022/04/24	S4240-20		50	MeOH	FZ-11
S4269-21	N-EtFOSE-M	NEtFOSE0417M	2017/11/30	2022/04/24	S4240-21		50	MeOH	FZ-11
S4269-22	N-MeFOSAA	NMeFOSAA0117	2017/11/30	2022/01/11	S4240-22		50	MeOH	FD-59
S4269-23	N-EtFOSAA	NEtFOSAA0117	2017/11/30	2022/01/11	S4240-23		50	MeOH	FD-59
S4269-24	6:2FTS	62FTS0417	2017/11/30	2022/04/20	S4240-24		47.4	MeOH	FD-59
S4269-25	8:2FTS	82FTS1216	2017/11/30	2021/12/12	S4240-25		47.9	MeOH	FD-59
Date Opened (All compounds): 2018/01/03			Supplier (All compounds) : Wellington				Chemist: LV		

NO writting on bottom Page

LV, 2018/01/03

_____
(specify model and serial no.)

Solvent Used: _____

Solvent Supplier: _____ Lot No(s).: _____

Date Opened: _____

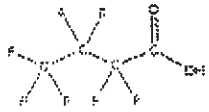
Storage Location / Conditions: _____

Notes/Comments _____

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	PFBA	**LOT NUMBER:**	PFBA0517
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/yyyy)	05/29/2017		
EXPIRY DATE: (mm/yyyy)	05/29/2022		
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)

697 2017/11/30
Z. Angulo

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

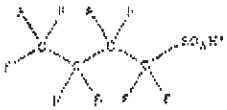
Certified By: _____ Date: 05/30/2017 (mm/dd/yyyy)
B.G. Ohlsen, General Manager

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:	L-PFBS	**LOT NUMBER:**	LPFBS0917
COMPOUND:	Potassium perfluoro-1-butanesulfonate		
STRUCTURE:		**CAS #:**	29420-49-3



MOLECULAR FORMULA:	$C_4F_9SO_3K$	**MOLECULAR WEIGHT:**	338.19
CONCENTRATION:	50.0 ± 2.5 µg/ml (K salt) 44.2 ± 2.2 µg/ml (PFBS anion)	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%		
LAST TESTED:	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)

692 2017/11/30
L. Mangubia

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

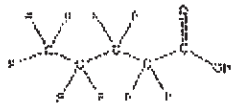
Certified By: _____ **Date:** 09/22/2017
B.G Chalm, General Manager

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:	PFPeA	LOT NUMBER:	PFPeA0617
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:	06/14/2017		
EXPIRY DATE:	06/14/2022		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

1 ampoule
2017/06/30 GSZ

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-heptenoic acid (PFHpA) and ~ 0.2% of $C_7H_2F_{12}O_2$ (hydrido - derivative) as measured by ^{19}F NMR

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ Date: 06/16/2017
D.G. Chittim, General Manager

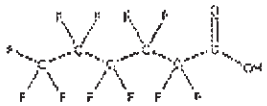
Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Date Received: 2017.11.30 - 2 ampoules - HPLC

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	PFHxA	**LOT NUMBER:**	PFHxA0617
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)

SS- 2017/11/30
2 originals

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
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

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)
	45.5 ± 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 ≥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)

652 2017/01/30
Z. Ampulski

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).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@wellabs.com

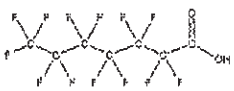
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: PFHpA
COMPOUND: Perfluoro-n-heptanoic acid

LOT NUMBER: PFHpA1216

STRUCTURE:



CAS #: 375-85-9

Received from
2016-12-16
2 x 1.2 mL
FZ-11

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:	12/02/2016		
EXPIRY DATE:	12/02/2021		
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: B.G. Chittim Date: 12/12/2016

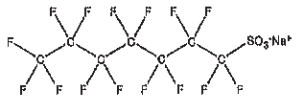
Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Received 2016/12/23 1 x 1.2mL MMN FZ-11
Received 2016/12/29 1 x 1.2mL MMN FZ-11
Received 2017/05/25 2 x 1.2mL MMN FZ-11
Received 2017/05/29 2 x 1.2mL MMN FZ-11
Date Received: 2017/06/02-DMZ-1.2ml-FD
Date Received: 2017/08/09 1X1.2ml HPLC
Received 2016/12/23 1 x 1.2mL MMN FZ-11
Received 2016/12/29 1 x 1.2mL MMN FZ-11
Received 2017/05/25 2 x 1.2mL MMN FZ-11
Received 2017/05/29 2 x 1.2mL MMN FZ-11
Date Received: 2017/06/02-DMZ-1.2ml-FD
Date Received: 2017/08/09 1X1.2ml HPLC
Date Received: 2017/08/30 1X1.2ml HPLC
Date received 2017/09/26 1x2 ampules HPLC
DATE RECEIVED 2017/09/12 2 ampules HPLC
Date Received: 2017.11.30 - 2 ampoules - HPLC

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	L-PFHpS	**LOT NUMBER:**	LPFHpS0817
COMPOUND:	Sodium perfluoro-1-heptanesulfonate		
STRUCTURE:		**CAS #:**	Not available



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)	09/01/2017		
EXPIRY DATE: (mm/dd/yyyy)	09/01/2022		
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 x 2 ampules
GSZ 2017/09/26

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:** 09/07/2017 (mm/dd/yyyy)
B.G. Chittim, General Manager

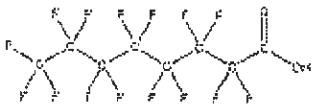
Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Date Received: 2017/11/30 1x2 ampoules - HPLC

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	PFOA	**LOT NUMBER:**	PFOA0217
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:	02/17/2017		
EXPIRY DATE:	02/17/2022		
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)

Received: 2017/06/02
DMZ, 1.2mL x 1
Fridge

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. Criddle Date: 02/22/2017

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2435 • Fax: 519-822-2849 • info@well-labs.com

date recieved:2017/05/29 1.2x1 - HPLC
date recieved:2017/05/29 1.2x1 - HPLC
Date Received:2017/06/02-1.2 x 1-HPLC
date recieved:2017/08/09 1.2x1 - HPLC
date recieved:2017/08/30 1.2x1 - HPLC
date received 2017/09/26 1x4 ampules HPLC
date received 2017/09/12 2 ampules HPLC
date received 2017/09/26 2 ampules HPLC

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

br-PFOSK

Potassium Perfluorooctanesulfonate
Solution/Mixture of Linear and
Branched Isomers

PRODUCT CODE:	br-PFOSK
LOT NUMBER:	brPFOSK0117
CONCENTRATION:	50 ± 2.5 µg/ml (total potassium salt)
	46.4 ± 2.3 µg/ml (total PFOS anion)
SOLVENT(S):	Methanol
DATE PREPARED:	01/03/2017
LAST TESTED:	01/12/2017
EXPIRY DATE:	01/12/2022
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)

Received: 6/7/06/02
DM2, 1.2 mL x 1
Fridge

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).

FOR LABORATORY USE ONLY. NOT FOR HUMAN OR DRUG USE

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

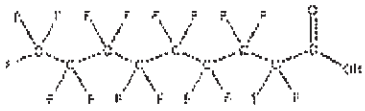
date recieved:2017/05/29 1.2x1- HPLC
date received: 2017/08/09 1 ampule HPLC
date received: 2017/08/30 1 ampule HPLC
date eceived: 2017/09/26 1.2x1ampule HPLC
date received 2017/09/12 2 ampules
Date Received: 2017.11.30 - 2 ampoules -HPLC

Ampoule: 2 mL
Date received: 2017.11.12

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:	07/20/2017		
EXPIRY DATE:	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).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ Date: 07/24/2017
B.G Chittim, General Manager

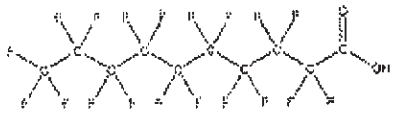
Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2496 • Fax: 519-822-2849 • info@well-labs.com

Date Received: 2017.11.30 - 2 ampoules - HPLC

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	PFDA	**LOT NUMBER:**	PFDA0517
COMPOUND:	Perfluoro-n-decanoic acid		
STRUCTURE:		**CAS #:**	335-76-2



MOLECULAR FORMULA:	$C_{10}HF_{19}O_2$	**MOLECULAR WEIGHT:**	514.08
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	05/26/2017		
EXPIRY DATE: (mm/dd/yyyy)	05/26/2022		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

1 ampoule
2017/06/20 GS2

DOCUMENTATION/DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains ~ 0.2% of perfluoro-n-nonanoic acid (PFNA).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ Date: 06/30/2017 (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: 2017.11.30 - 2 ampoules - HPLC

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:	L-PFDS	**LOT NUMBER:**	LPFDS0217
COMPOUND:	Sodium perfluoro-1-decanesulfonate		
STRUCTURE:		**CAS #:**	2806-15-7
MOLECULAR FORMULA:	$C_{10}F_{21}SO_3Na$	**MOLECULAR WEIGHT:**	622.13
CONCENTRATION:	50.0 ± 2.5 µg/ml (Na salt) 48.2 ± 2.4 µg/ml (PFDS anion)	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%		
LAST TESTED:	02/17/2017		
EXPIRY DATE:	02/17/2022		
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)

Date received
2017/05/10
11 2 Ampules
HPLC
SS V

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: B.G. Chittim Date: 02/22/2017

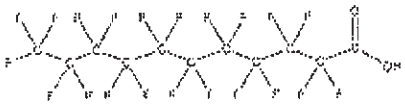
Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Received 2017/05/25 2 x 1.2mL MMN FZ-11
Received 2017/05/29 2 x 1.2mL MMN FZ-11
Date REceived: 2017/06/02-DMZ-1.2ml-FD
date received: 2017/08/30 1 ampule HPLC
DATE RECEIVED: 2017/09/26 1X2 AMPULES HPLC
Date Received: 2017.11.30 - 2 ampoules - HPLC

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	PFUdA	**LOT NUMBER:**	PFUdA0917
COMPOUND:	Perfluoro-n-undecanoic acid		
STRUCTURE:		**CAS #:**	2058-94-8



MOLECULAR FORMULA:	$C_{11}HF_{21}O_2$	**MOLECULAR WEIGHT:**	564.09
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	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)

GSC 3417/NJ/20
2-AMP 09/19

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

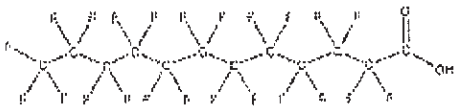
Wellington Laboratories Inc., 345 Southgate Dr, Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Ampoule 2 TRad
Date received: 2017.08.30

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	PFDoA	LOT NUMBER:	PFDoA05c7
COMPOUND:	Perfluoro-n-dodecanoic acid		
STRUCTURE:		CAS #:	307-55-1



MOLECULAR FORMULA:	$C_{12}HF_{23}O_2$	MOLECULAR WEIGHT:	614.10
CONCENTRATION:	50 ± 2.5 µg/ml	SOLVENT(S):	Methanol Water (<1%)
CHEMICAL PURITY:	>98%		
LAST TESTED:	05/29/2017		
EXPIRY DATE:	05/29/2022		
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: 05/30/2017
B.S. 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

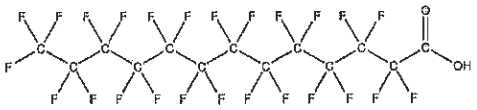
Date Received: 2017.11.30 - 2 ampoules - HPLC

Date Received: 2017.08.30 - 1 ampoule - HPLC

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	PFTrDA	**LOT NUMBER:**	PFTrDA0517
COMPOUND:	Perfluoro-n-tridecanoic acid		
STRUCTURE:		**CAS #:**	72629-94-8



MOLECULAR FORMULA:	$C_{13}HF_{25}O_2$	**MOLECULAR WEIGHT:**	664.11
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	05/02/2017		
EXPIRY DATE: (mm/dd/yyyy)	05/02/2022		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

HPLC (1)
2017/08/09

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:** 05/04/2017 (mm/dd/yyyy)
B.G. Chittim, General Manager

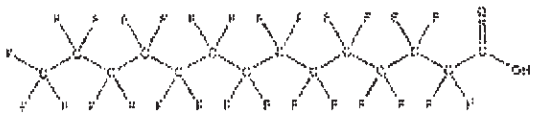
Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Received 2017/05/29 1 x 1.2mL HPLC
Received 2017/08/09 1 x 1.2mL HPLC
Received 2017/08/30 1 x 1.2mL HPLC
Received 2017/09/26 1 x 2 ampules HPLC
Received 2017/09/12 2 ampules HPLC
Date Received: 2017.11.30 - 2 ampoules - 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:	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)

642 set/in/30
2. ampules

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 equiv. 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

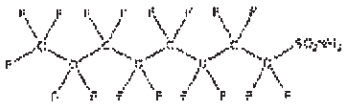
Certified By: _____ Date: 09/21/2017
S.G. Chelim, General Manager

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:	FOSA-I	**LOT NUMBER:**	FOSA08171
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:

667 2017/11/30
2 originals

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ Date: 09/14/2017
S.C. Chitra, Quality Manager

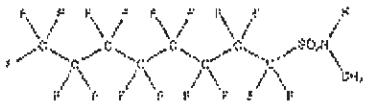
Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Copyright, Wellington Laboratories Inc., 2013-2017

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:	07/05/2017		
EXPIRY DATE:	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 GG

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY; NOT FOR HUMAN OR DRUG USE

Certified By: _____ Date: 07/10/2017
S.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

Format #1, Issued 2004-12-10
Supersedes, Revised 2012-03-06

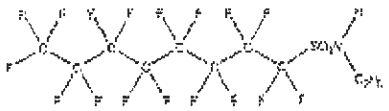
NMeFOSA0717M (1 of 4)
REV2

Date received: 2017/11/30 1 ampoule - 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:	07/05/2017		
EXPIRY DATE:	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 64%

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ Date: 07/18/2017
B.C. Chittim, General Manager

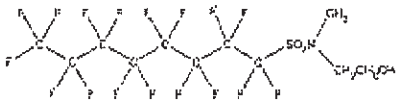
Wellington Laboratories Inc., 345 Southgate Dr, Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Date Received: 2017.11.30 - 1 ampoule - HPLC

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:	N-MeFOSE-M	**LOT NUMBER:**	NMeFOSE0417M
COMPOUND:	2-(N-methylperfluoro-1-octanesulfonamido)-ethanol		
STRUCTURE:		**CAS #:**	24448-09-7



MOLECULAR FORMULA:	$C_{11}H_8F_{17}NO_3S$	**MOLECULAR WEIGHT:**	557.22
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%		
LAST TESTED:	04/24/2017 (HRGC/LRMS)		
	04/21/2017 (LC/MS)		
EXPIRY DATE:	04/24/2022		
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)

Received: 2017/06/02
DM2 ; 1.2 mL X 1
[illegible]

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: 06/05/2017
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 recieved: 2017/05/29 1x1.2 HPLC
date recieved: 2017/06/02 1x1.2 HPLC
date recieved: 2017/08/09 1x1.2 HPLC
date recieved: 2017/08/30 1x1.2 HPLC
date received: 2017/09/26 1x1.2 HPLC
Date Received: 2017.08.09 - 1 ampoule - HPLC
Date Received: 2017.11.30 - 2 ampoules - HPLC

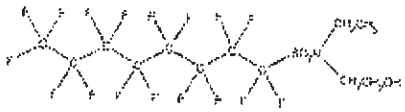
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: N-EtFOSE-M
COMPOUND: 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol
LOT NUMBER: NEtFOSE04175

STRUCTURE:

CAS #: 1691-99-2



MOLECULAR FORMULA: $C_{12}H_{10}F_{17}NO_3S$
MOLECULAR WEIGHT: 571.25
CONCENTRATION: 50 ± 2.5 µg/mL
SOLVENT(S): Methanol
CHEMICAL PURITY: >98%
LAST TESTED: 04/24/2017 (HRGC/LRMS)
04/21/2017 (LC/MS)
EXPIRY DATE: 04/24/2022
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)

Received: 2017/06/02
DMZ, 1.2 mL x 1
Fridge

ADDITIONAL INFORMATION:

- See page 2 for further details.
- In order to see the molecular ion (adduct free), the LC mobile phase should be free of ammonium acetate buffer

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ Date: 04/26/2017
B.G. Cobbin, General Manager

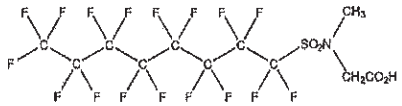
Wellington Laboratories Inc., 345 Southgate Dr, Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

date recieved:2017/05/29 1x1.2 HPLC
date recieved:2017/08/09 1x1.2 HPLC
date recieved:2017/08/30 1x1.2 HPLC
date received:2017/08/09 1x1.2 HPLC
date received: 2017/09/26 1x1.2 HPLC
Date received: 2017.08.09 - 1 ampoule - HPLC
Date Received: 2017.11.30 - 2 ampoules - HPLC

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	N-MeFOSAA	**LOT NUMBER:**	NMeFOSAA0117
COMPOUND:	N-methylperfluoro-1-octanesulfonamidoacetic acid		
STRUCTURE:		**CAS #:**	2355-31-9



MOLECULAR FORMULA:	$C_{11}H_9F_{17}NO_4S$	**MOLECULAR WEIGHT:**	571.21
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	01/11/2017		
EXPIRY DATE: (mm/dd/yyyy)	01/11/2022		
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)

178 LC(1) 2016.8.25

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent the conversion of the acetic acid molety to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 01/12/2017 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • Info@well-labs.com

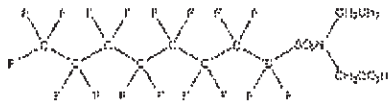
Received date 2017/05/25 1 x 1.2mL HPLC
Received date 2017/08/09 1 x 1.2mL HPLC
Received date 2017/08/30 1 x 1.2mL HPLC
RECEIVED DATE: 2017/09/26 1X1.2 mL HPLC
received date 2017-09-12 2 ampules HPLC
Date Received: 2017.11.30 - 2 ampoules - HPLC

Ampoule: 2 mL
Date received: 2017/09/12

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	N-EtFOSAA	**LOT NUMBER:**	NEtFOSAA0117
COMPOUND:	N-ethylperfluoro-1-octanesulfonamidoacetic acid		
STRUCTURE:		**CAS #:**	2991-50-6



MOLECULAR FORMULA:	$C_{12}H_8F_{17}NO_4S$	**MOLECULAR WEIGHT:**	585.23
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%		
LAST TESTED:	01/11/2017		
EXPIRY DATE:	01/11/2022		
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 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.Q. Chittim Date: 01/12/2017

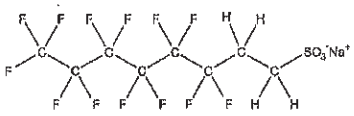
Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Received : 20170525HPLC,
RECEIVED:2017/09/26 HPLC
Date Received: 2017.08.09 - 1 ampoule - HPLC
Date Received: 2017.11.30 - 2 ampoules - HPLC

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	6:2FTS	**LOT NUMBER:**	62FTS0417
COMPOUND:	Sodium 1H,1H,2H,2H-perfluorooctane sulfonate		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$C_8H_4F_{13}SO_3Na$	**MOLECULAR WEIGHT:**	450.15
CONCENTRATION:	50.0 ± 2.5 µg/ml (Na salt)	**SOLVENT(S):**	Methanol
	47.4 ± 2.4 µg/ml (6:2FTS anion)		
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	04/20/2017		
EXPIRY DATE: (mm/dd/yyyy)	04/20/2022		
RECOMMENDED STORAGE:	Refrigerate ampoule		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 04/24/2017 (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

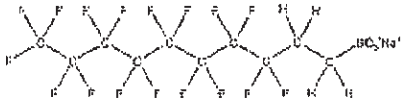
Date Recieved: 2017/05/25 1x1.2 HPLC
Date Recieved: 2017/08/09 1x1.2 HPLC
Date Recieved: 2017/08/30 1x1.2 HPLC
Date Recieved: 2017/09/26 1x1.2 HPLC
Date Recieved: 2017/11/30 1x1.2 HPLC

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: 8:2FTS **LOT NUMBER:** 82FTS1218
COMPOUND: Sodium 1H,1H,2H,2H-perfluorodecane sulfonate

STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA: $C_8H_4F_{13}SO_3Na$ **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: 12/12/2016
EXPIRY DATE: 12/12/2021
RECOMMENDED STORAGE: Refrigerate ampoule

Date received
2017/03/10
2 Ampoules
HPLC
SSV

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 Date: 12/21/2016

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Received 2017/05/25 2 x 1.2mL MMN FD-59
Received 2017/05/29 2 x 1.2mL MMN FD-59
Received 2017/08/09 2 x 1.2mL MMN FD-59
Received 2017/08/30 2 x 1.2mL MMN FD-59
Received 2017/09/26 2 x 1.2nL HPLC
Date Received: 2017.11.30 - 2 ampoules - HPLC

PREPARATION OF STANDARDS OF INTERMEDIARY CONCENTRATION

Solution No.: I-5299 Date: 2018/01/31 Expiry Date: 2019/01/31 Discard Date: _____

Replaces Solution No.: I-5239 Replaced by Solution: _____ Chemist: GSZ

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 J434346 (1mL)

Dilution Solvent: 0.3% NH4OH in MeOH Dilution Volume: 25 mL

Final Concentration(s): 1.C (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 108-331 Lot No.: See PRLRE 108-331

Date Opened: See PRLRE 108-331

Storage Location: F211 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-5299 (PRLST 140-174)

Compound Name	ID#	Conc. (ug/mL)	Vol.. of Stock standard (uL)	Final Conc. (ug/mL)	Exp. date
PFBA	S4261-1	50	500	1	2022/05/29
L-PFBS	S4261-2	44.2	565	1	2022/09/21
PFPeA	S4261-3	50	500	1	2022/06/14
PFHxA	S4261-4	50	500	1	2022/09/27
br-PFHxSk	S4261-5	45.5	549	1	2022/01/04
PFHpA	S4261-6	50	500	1	2021/12/02
L-PFHpS	S4261-7	47.6	525	1	2022/09/01
PFOA	S4261-8	50	500	1	2022/02/17
brPFOSK	S4261-9	46.4	540	1	2022/01/12
PFNA	S4261-10	50	500	1	2022/07/20
PFDA	S4261-11	50	500	1	2022/05/29
L-PFDS	S4261-12	48.2	518	1	2022/02/17
PFUdA	S4261-13	50	500	1	2022/09/21
PFDoA	S4261-14	50	500	1	2022/05/29
PFTrDA	S4261-15	50	500	1	2022/05/02
PFTeDA	S4261-16	50	500	1	2022/09/21
PFOSA (FOSA-I)	S4261-17	50	500	1	2022/09/01
N-MeFOSA-M	S4261-18	50	500	1	2022/07/05
N-EtFOSA-M	S4261-19	50	500	1	2022/07/05
N-MeFOSE-M	S4261-20	50	500	1	2022/04/24
N-EtFOSE-M	S4261-21	50	500	1	2022/04/24
N-MeFOSAA	S4261-22	50	500	1	2022/01/11
N-EtFOSAA	S4261-23	50	500	1	2022/01/11
6:2FTS	S4261-24	47.4	528	1	2022/04/20
8:2FTS	S4261-25	47.9	522	1	2021/12/12

No writing on bottom page.

GSZ, 2018/01/31

PRLST 133 PG 145

PREPARATION OF CONCENTRATED STOCK STANDARDS

Solution No.: S-4261 Date: 2017/12/15 Expiry Date: See Below Discard Date: _____

Replaces Solution: _____ Replaced by Solution: _____ Chemist: GSZ

S-4261 (PRLST 133 p. 145)

Solution ID#	Compound Name	Lot#	Received date	Exp. date	Replaces Solution	Replaced by Solution	Conc. (ug/mL)	Solvent	Storage
S4261-1	PFBA	PFBA0517	2017/11/30	2022/05/29	S4240-1		50	MeOH	FZ-11
S4261-2	L-PFBS	LPFBS0917	2017/11/30	2022/09/21	S4240-2		44.2	MeOH	FZ-11
S4261-3	PFPeA	PFPeA0617	2017/11/30	2022/06/14	S4240-3		50	MeOH	FZ-11
S4261-4	PFHxA	PFHxA0917	2017/11/30	2022/09/27	S4240-4		50	MeOH	FZ-11
S4261-5	br-PFHxSk	brPFHxSK0117	2017/11/30	2022/01/04	S4240-5		45.5	MeOH	FZ-11
S4261-6	PFHpA	PFHpA1216	2017/11/30	2021/12/02	S4240-6		50	MeOH	FZ-11
S4261-7	L-PFHpS	LPFHpS0817	2017/11/30	2022/09/01	S4240-7		47.6	MeOH	FZ-11
S4261-8	PFOA	PFOA0217	2017/09/26	2022/02/17	S4240-8		50	MeOH	FZ-11
S4261-9	brPFOSK	brPFOSK0117	2017/11/30	2022/01/12	S4240-9		46.4	MeOH	FZ-11
S4261-10	PFNA	PFNA0717	2017/11/30	2022/07/20	S4240-10		50	MeOH	FZ-11
S4261-11	PFDA	PFDA0517	2017/11/30	2022/05/29	S4240-11		50	MeOH	FZ-11
S4261-12	L-PFDS	LPFDS0217	2017/11/30	2022/02/17	S4240-12		48.2	MeOH	FZ-11
S4261-13	PFUdA	PFUdA0917	2017/11/30	2022/09/21	S4240-13		50	MeOH	FZ-11
S4261-14	PFDoA	PFDoA0517	2017/11/30	2022/05/29	S4240-14		50	MeOH	FZ-11
S4261-15	PFTrDA	PFTrDA0517	2017/11/30	2022/05/02	S4240-15		50	MeOH	FZ-11
S4261-16	PFTeDA	PFTeDA0917	2017/11/30	2022/09/21	S4240-16		50	MeOH	FZ-11
S4261-17	PFOSA (FOSA-I)	FOSA08171	2017/11/30	2022/09/01	S4240-17		50	IPA	FD-59
S4261-18	N-MeFOSA-M	NMeFOSA0717M	2017/11/30	2022/07/05	S4240-18		50	MeOH	FZ-11
S4261-19	N-EtFOSA-M	NEtFOSA0717M	2017/11/30	2022/07/05	S4240-19		50	MeOH	FZ-11
S4261-20	N-MeFOSE-M	NMeFOSE0417M	2017/11/30	2022/04/24	S4240-20		50	MeOH	FZ-11
S4261-21	N-EtFOSE-M	NEtFOSE0417M	2017/11/30	2022/04/24	S4240-21		50	MeOH	FZ-11
S4261-22	N-MeFOSAA	NMeFOSAA0117	2017/11/30	2022/01/11	S4240-22		50	MeOH	FD-59
S4261-23	N-EtFOSAA	NEtFOSAA0117	2017/11/30	2022/01/11	S4240-23		50	MeOH	FD-59
S4261-24	6:2FTS	62FTS0417	2017/11/30	2022/04/20	S4240-24		47.4	MeOH	FD-59
S4261-25	8:2FTS	82FTS1216	2017/11/30	2021/12/12	S4240-25		47.9	MeOH	FD-59
Date Opened (All compounds): 2017/12/15			Supplier (All compounds) : Wellington				Chemist: GSZ		

No writing on bottom page.

GSZ, 2017/12/15

Solvent Used: _____

Solvent Supplier: _____ Lot No(s).: _____

Date Opened: _____

Storage Location / Conditions: GSZ, 2017/12/15

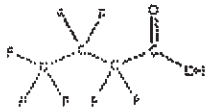
Notes/Comments

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:**	PFBA0517
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:	05/29/2017		
EXPIRY DATE:	05/29/2022		
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)

697 2017/11/30
Z. Arquilla

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

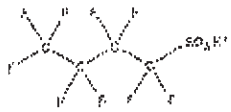
Certified By: _____ Date: 05/30/2017
B.E. Chattin, General Manager

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:	L-PFBS	**LOT NUMBER:**	LPFBS2017
COMPOUND:	Potassium perfluoro-1-butanesulfonate		
STRUCTURE:		**CAS #:**	29420-49-3



MOLECULAR FORMULA:	$C_4F_9SO_3K$	**MOLECULAR WEIGHT:**	338.19
CONCENTRATION:	50.0 ± 2.5 µg/ml (K salt) 44.2 ± 2.2 µg/ml (PFBS anion)	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%		
LAST TESTED:	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)

692 2017/11/30
2 congeners

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

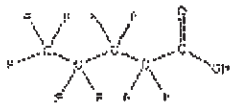
Certified By: _____ **Date:** 09/22/2017
B.G Chelim, General Manager

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:	PFPeA	LOT NUMBER:	PFPeA0617
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:	06/14/2017		
EXPIRY DATE:	06/14/2022		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

1 ampoule
2017/06/30 692

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 $C_5H_2F_8O_2$ (hydride - derivative) as measured by ^{19}F NMR

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ Date: 06/16/2017
B.G. Chittim, General Manager

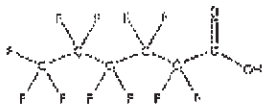
Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Date Received: 2017.11.30 - 2 ampoules - 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)

657 - 2017/21/32
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.

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: 519-822-3849 • info@well-labs.com

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)
	45.5 ± 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 ≥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 (S/R)
Figure 3: LC/MS/MS Data (Selected MRM Transitions)

652 2017/01/30
Z. Mingelis

ADDITIONAL INFORMATION:

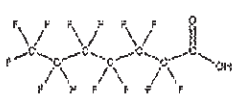
- See page 2 for further details.
- Contains ~ 0.5% of perfluoro-1-pentanesulfonate and ~ 0.2% of perfluoro-1-octanesulfonate.
- CAS#: 3871-99-6 (for linear isomer; potassium salt).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@wellabs.com

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	PFHpA	**LOT NUMBER:**	PFHpA1216
COMPOUND:	Perfluoro-n-heptanoic acid		
STRUCTURE:		**CAS #:**	375-85-9

Received 2016-12-16 2x1.2 mL FZ-11

MOLECULAR FORMULA:	$C_7HF_{13}O_2$	**MOLECULAR WEIGHT:**	364.08
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%		
LAST TESTED:	12/02/2016		
EXPIRY DATE:	12/02/2021		
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: B.Q. Chellm Date: 12/12/2016

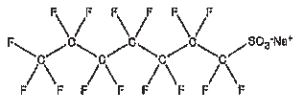
Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Received 2016/12/23 1 x 1.2mL MMN FZ-11
Received 2016/12/29 1 x 1.2mL MMN FZ-11
Received 2017/05/25 2 x 1.2mL MMN FZ-11
Received 2017/05/29 2 x 1.2mL MMN FZ-11
Date Received: 2017/06/02-DMZ-1.2ml-FD
Date Received: 2017/08/09 1X1.2ml HPLC
Received 2016/12/23 1 x 1.2mL MMN FZ-11
Received 2016/12/29 1 x 1.2mL MMN FZ-11
Received 2017/05/25 2 x 1.2mL MMN FZ-11
Received 2017/05/29 2 x 1.2mL MMN FZ-11
Date Received: 2017/06/02-DMZ-1.2ml-FD
Date Received: 2017/08/09 1X1.2ml HPLC
Date Received: 2017/08/30 1X1.2ml HPLC
Date received 2017/09/26 1x2 ampules HPLC
DATE RECEIVED 2017/09/12 2 ampules HPLC
Date Received: 2017.11.30 - 2 ampoules - HPLC

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	L-PFHpS	**LOT NUMBER:**	LPFHpS0817
COMPOUND:	Sodium perfluoro-1-heptanesulfonate		
STRUCTURE:		**CAS #:**	Not available



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)	09/01/2017		
EXPIRY DATE: (mm/dd/yyyy)	09/01/2022		
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 x 2 ampules
GSZ 2017/09/26

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:** 09/07/2017 (mm/dd/yyyy)
B.G. Chittim, General Manager

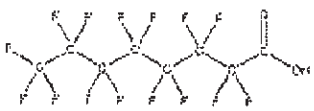
Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Date Received: 2017/11/30 1x2 ampoules - HPLC

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	PFOA	**LOT NUMBER:**	PFOA0217
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:	02/17/2017		
EXPIRY DATE:	02/17/2022		
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)

Received: 2017/06/02
DMS, 1.2mL x 1
Fridge

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. Griffin Date: 02/22/2017

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2435 • Fax: 519-822-2849 • info@well-labs.com

date recieved:2017/05/29 1.2x1 - HPLC
date recieved:2017/05/29 1.2x1 - HPLC
Date Received:2017/06/02-1.2 x 1-HPLC
date recieved:2017/08/09 1.2x1 - HPLC
date recieved:2017/08/30 1.2x1 - HPLC
date received 2017/09/26 1x4 ampules HPLC
date received 2017/09/12 2 ampules HPLC
date received 2017/09/26 2 ampules HPLC

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

br-PFOSK

Potassium Perfluorooctanesulfonate
Solution/Mixture of Linear and
Branched Isomers

PRODUCT CODE:	br-PFOSK
LOT NUMBER:	brPFOSK011?
CONCENTRATION:	50 ± 2.5 µg/ml (total potassium salt)
	46.4 ± 2.3 µg/ml (total PFOS anion)
SOLVENT(S):	Methanol
DATE PREPARED:	01/08/2017
LAST TESTED:	01/12/2017
EXPIRY DATE:	01/12/2022
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)

Received: 2017/06/02
DM2, 1.2 mL x 1
Fridge

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).

FOR LABORATORY USE ONLY; NOT FOR HUMAN OR DRUG USE

Wellington Laboratories Inc., 345 Southgate Dr, Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

date recieved:2017/05/29 1.2x1- HPLC
date received: 2017/08/09 1 ampule HPLC
date received: 2017/08/30 1 ampule HPLC
date eceived: 2017/09/26 1.2x1ampule HPLC
date received 2017/09/12 2 ampules
Date Received: 2017.11.30 - 2 ampoules -HPLC

Ampoule: 2 mL
Date received: 2017/11/30

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).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 07/24/2017
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: 2017.11.30 - 2 ampoules - HPLC

WELLINGTON LABORATORIES

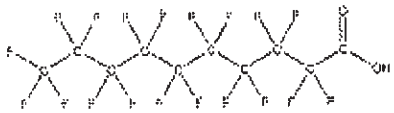
CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: PFDA
COMPOUND: Perfluoro-n-decanoic acid

LOT NUMBER: PFDA0517

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) 05/26/2017
EXPIRY DATE: (mm/dd/yyyy) 05/26/2022
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

DOCUMENTATION/ DATA ATTACHED:

1 ampoule
2017/06/30 GAZ

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.
- Contains ~ 0.2% of perfluoro-n-nonanoic acid (PFNA).

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ Date: 06/30/2017 (mm/dd/yyyy)
S.G. Chittim, General Manager

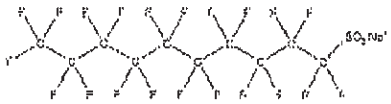
Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Date Received: 2017.11.30 - 2 ampoules - HPLC

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:	L-PFDS	**LOT NUMBER:**	LPFDS0217
COMPOUND:	Sodium perfluoro-1-decanesulfonate		
STRUCTURE:		**CAS #:**	2806-15-7



MOLECULAR FORMULA:	$C_{10}F_{21}SO_3Na$	**MOLECULAR WEIGHT:**	622.13
CONCENTRATION:	50.0 ± 2.5 µg/ml (Na salt) 48.2 ± 2.4 µg/ml (PFDS anion)	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%		
LAST TESTED:	02/17/2017		
EXPIRY DATE:	02/17/2022		
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)

Date received
2017/05/10
2 Ampules
HPLC
SSV

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: B.G. Chittim Date: 02/28/2017

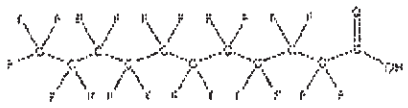
Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Received 2017/05/25 2 x 1.2mL MMN FZ-11
Received 2017/05/29 2 x 1.2mL MMN FZ-11
Date REceived: 2017/06/02-DMZ-1.2ml-FD
date received: 2017/08/30 1 ampule HPLC
DATE RECEIVED: 2017/09/26 1X2 AMPULES HPLC
Date Received: 2017.11.30 - 2 ampoules - HPLC

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:	PFUdA	**LOT NUMBER:**	PFUdA0917
COMPOUND:	Perfluoro-n-undecanoic acid		
STRUCTURE:		**CAS #:**	2058-94-8



MOLECULAR FORMULA:	$C_{11}HF_{21}O_2$	**MOLECULAR WEIGHT:**	564.09
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%		
LAST TESTED: mm/dd/yyyy	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)

GSE 3417/11/30
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

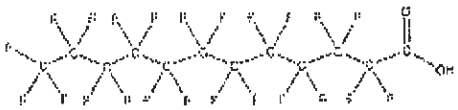
Wellington Laboratories Inc., 345 Southgate Dr, Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Ampoule Q. TRAC
Date Received: 2017/08/30

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	PFDoA	**LOT NUMBER:**	PFDoA05017
COMPOUND:	Perfluoro-n-dodecanoic acid		
STRUCTURE:		**CAS #:**	307-55-1



MOLECULAR FORMULA:	$C_{12}HF_{23}O_2$	**MOLECULAR WEIGHT:**	614.10
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%		
LAST TESTED:	05/26/2017		
EXPIRY DATE:	05/29/2022		
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:** 05/30/2017
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

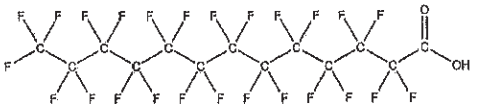
Date Received: 2017.11.30 - 2 ampoules - HPLC

Date Received: 2017.08.30 - 1 ampoule - HPLC

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	PFTrDA	**LOT NUMBER:**	PFTrDA0517
COMPOUND:	Perfluoro-n-tridecanoic acid		
STRUCTURE:		**CAS #:**	72629-94-8



MOLECULAR FORMULA:	$C_{13}HF_{25}O_2$	**MOLECULAR WEIGHT:**	664.11
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	05/02/2017		
EXPIRY DATE: (mm/dd/yyyy)	05/02/2022		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

HPLC ✓
2017/08/09

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:** 05/04/2017 (mm/dd/yyyy)
B.G. Chittim, General Manager

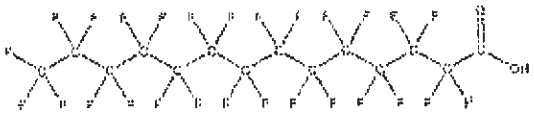
Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Received 2017/05/29 1 x 1.2mL HPLC
Received 2017/08/09 1 x 1.2mL HPLC
Received 2017/08/30 1 x 1.2mL HPLC
Received 2017/09/26 1 x 2 ampules HPLC
Received 2017/09/12 2 ampules HPLC
Date Received: 2017.11.30 - 2 ampoules - 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:	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)

652 2017/11/30
2. ampules

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the perfluoroalkyl 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

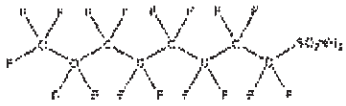
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@wellabs.com

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:	FOSA-I	**LOT NUMBER:**	FOSA08171
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:

- See page 2 for further details.

652 2017/11/30
Z. Angelica

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

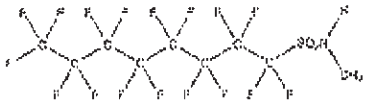
Certified By: _____ Date: 09/14/2017
S.C. Chitem, General Manager

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:	N-MeFOSA-M	**LOT NUMBER:**	NMeFOSA0717M
COMPOUND:	N-methylperfluoro-1-octanesulfonamide		
STRUCTURE:		**CAS #:**	31506-32-8



MOLECULAR FORMULA:	$C_9HF_{17}NO_2S$	**MOLECULAR WEIGHT:**	513.17
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%		
LAST TESTED:	07/05/2017		
EXPIRY DATE:	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 GG

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY; NOT FOR HUMAN OR DRUG USE

Certified By: _____ Date: 07/10/2017
B.G. Chittim, General Manager

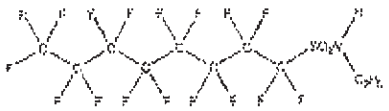
Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Date received: 2017/11/30 1 ampoule - HPLC

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	N-EtFOSA-M	LOT NUMBER:	NEtFOSA07?17M
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:	07/05/2017		
EXPIRY DATE:	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 GZ

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ Date: 07/15/2017
B.G. Chittim, General Manager

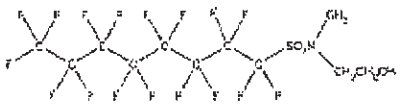
Wellington Laboratories Inc., 345 Southgate Dr, Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Date Received: 2017.11.30 - 1 ampoule - HPLC

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	N-MeFOSE-M	**LOT NUMBER:**	NMeFOSE0417M
COMPOUND:	2-(N-methylperfluoro-1-octanesulfonamido)-ethanol		
STRUCTURE:		**CAS #:**	24448-09-7



MOLECULAR FORMULA:	$C_{11}H_8F_{17}NO_3S$	**MOLECULAR WEIGHT:**	557.22
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%		
LAST TESTED:	04/24/2017 (HRGC/LRMS)		
	04/21/2017 (LC/MS)		
EXPIRY DATE:	04/24/2022		
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)

received: 2017/06/02
DMSO: 1.2 mL X 1
[illegible]

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: 06/05/2017
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 recieved: 2017/05/29 1x1.2 HPLC
date recieved: 2017/06/02 1x1.2 HPLC
date recieved: 2017/08/09 1x1.2 HPLC
date recieved: 2017/08/30 1x1.2 HPLC
date received: 2017/09/26 1x1.2 HPLC
Date Received: 2017.08.09 - 1 ampoule - HPLC
Date Received: 2017.11.30 - 2 ampoules - HPLC

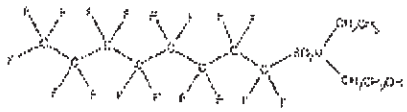
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: N-EtFOSE-M
COMPOUND: 2-(N-ethylperfluoro-1-octanesulfonamido)-ethanol
LOT NUMBER: NEtFOSE041705

STRUCTURE:

CAS #: 1691-99-2



MOLECULAR FORMULA: $C_{10}H_6F_{17}NO_3S$
CONCENTRATION: 50 ± 2.5 µg/ml
CHEMICAL PURITY: >98%
LAST TESTED: 04/24/2017 (HRGC/LRMS)
04/21/2017 (LC/MS)
EXPIRY DATE: 04/04/2022
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

MOLECULAR WEIGHT: 571.25
SOLVENT(S): Methanol

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)

Received: 2017/06/02
QMS, 1.2 mL x 1
Fridge.

ADDITIONAL INFORMATION:

- See page 2 for further details.
- In order to see the molecular ion (adduct free), the LC mobile phase should be free of ammonium acetate buffer

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 04/26/2017
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 recieved:2017/05/29 1x1.2 HPLC
date recieved:2017/08/09 1x1.2 HPLC
date recieved:2017/08/30 1x1.2 HPLC
date received:2017/08/09 1x1.2 HPLC
date received: 2017/09/26 1x1.2 HPLC
Date received: 2017.08.09 - 1 ampoule - HPLC
Date Received: 2017.11.30 - 2 ampoules - HPLC

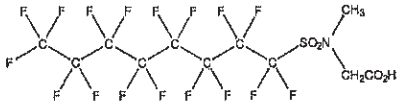
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: N-MeFOSAA **LOT NUMBER:** NMeFOSAA0117

COMPOUND: N-methylperfluoro-1-octanesulfonamidoacetic acid

STRUCTURE: **CAS #:** 2355-31-9



MOLECULAR FORMULA:	$C_{11}H_9F_{17}NO_4S$	**MOLECULAR WEIGHT:**	571.21
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	01/11/2017		
EXPIRY DATE: (mm/dd/yyyy)	01/11/2022		
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)

HPLC(1) 20.76.8 bs

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent the conversion of the acetic acid molety to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 01/12/2017 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

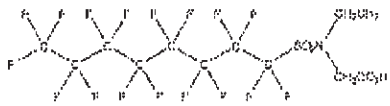
Received date 2017/05/25 1 x 1.2mL HPLC
Received date 2017/08/09 1 x 1.2mL HPLC
Received date 2017/08/30 1 x 1.2mL HPLC
RECEIVED DATE: 2017/09/26 1X1.2 mL HPLC
received date 2017-09-12 2 ampules HPLC
Date Received: 2017.11.30 - 2 ampoules - HPLC

Ampoule: 2 TBD
Date received: 20170912

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	N-EtFOSAA	**LOT NUMBER:**	NEtFOSAA0117
COMPOUND:	N-ethylperfluoro-1-octanesulfonamidoacetic acid		
STRUCTURE:		**CAS #:**	2991-50-6



MOLECULAR FORMULA:	$C_{10}H_6F_{17}NO_4S$	**MOLECULAR WEIGHT:**	585.23
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%		
LAST TESTED:	01/11/2017		
EXPIRY DATE:	01/11/2022		
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 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 **Date:** 01/12/2017

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

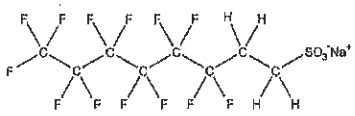
Issued 27 Jan 2014 Rev 01
Replaces 3 Revised 2015-05-14

Received : 20170525HPLC,
RECEIVED:2017/09/26 HPLC
Date Received: 2017.08.09 - 1 ampoule - HPLC
Date Received: 2017.11.30 - 2 ampoules - HPLC

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	6:2FTS	**LOT NUMBER:**	62FTS0417
COMPOUND:	Sodium 1H,1H,2H,2H-perfluorooctane sulfonate		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$C_8H_4F_{13}SO_3Na$	**MOLECULAR WEIGHT:**	450.15
CONCENTRATION:	50.0 ± 2.5 µg/ml (Na salt)	**SOLVENT(S):**	Methanol
	47.4 ± 2.4 µg/ml (6:2FTS anion)		
CHEMICAL PURITY:	>98%		
LAST TESTED: (mm/dd/yyyy)	04/20/2017		
EXPIRY DATE: (mm/dd/yyyy)	04/20/2022		
RECOMMENDED STORAGE:	Refrigerate ampoule		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 04/24/2017 (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

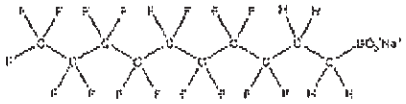
Date Recieved: 2017/05/25 1x1.2 HPLC
Date Recieved: 2017/08/09 1x1.2 HPLC
Date Recieved: 2017/08/30 1x1.2 HPLC
Date Recieved: 2017/09/26 1x1.2 HPLC
Date Recieved: 2017/11/30 1x1.2 HPLC

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: 8:2FTS **LOT NUMBER:** 82FTS1216
COMPOUND: Sodium 1H,1H,2H,2H-perfluorodecane sulfonate

STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA: $C_8H_3F_{13}SO_3Na$ **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: 12/12/2016
EXPIRY DATE: 12/12/2021
RECOMMENDED STORAGE: Refrigerate ampoule

Date received
2017/03/10
2 Ampules
HPLC
SSV

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 Date: 12/21/2016

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Received 2017/05/25 2 x 1.2mL MMN FD-59
Received 2017/05/29 2 x 1.2mL MMN FD-59
Received 2017/08/09 2 x 1.2mL MMN FD-59
Received 2017/08/30 2 x 1.2mL MMN FD-59
Received 2017/09/26 2 x 1.2nL HPLC
Date Received: 2017.11.30 - 2 ampoules - HPLC

144 PG 94

PREPARATION OF SURROGATE / INTERNAL STANDARD SPIKING SOLUTION

Solution No.: SI-6763 Prep'n Date: 2018/01/10 Expiry Date: 2021/09/30 Discard Date: _____
Replaces Solution No.: SI-6753 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): Su PRLRE 108-278 Lot No(s).: Su PRLRE 108-278
Date Solvent Opened: Su PRLRE 108-278
Volumetric Flask Used: 200mL Class A (5640) Syringe ID: Hamilton K19865F/N31477F
Storage Location and Conditions: FZ11
Ampule supplier; Mix Name; Catalogue No.; Lot No.; Date Rec'd.; Date Opened, Ampule Expiry Date: Su attached sheet

SI-6763 (PRLST-144 pg. 94)

Compound Name	ID#	Conc. (ug/mL)	Vol.. of Stock standard (uL)	Dilution volume (mL)	Final Conc. (ng/mL)	Exp. date
MPFBA	S4250-1	50	200	200	50	2022/04/12
M5PFPeA	S4250-2	50	200	200	50	2022/07/20
MPFHxA	S4255-1	50	200	200	50	2021/11/22
MPFHxS	S4250-3	50	200	200	50	2022/02/17
M4PFHpA	S4250-4	50	200	200	50	2022/05/03
MPFOA	S4250-5	50	200	200	50	2021/10/18
MPFOS	S4250-6	50	200	200	50	2022/10/17
MPFNA	S4250-7	50	200	200	50	2021/09/30
MPFDA	S4250-8	50	200	200	50	2021/09/30
MPFUdA	S4242-1	50	200	200	50	2021/11/22
MPFDoA	S4250-9	50	200	200	50	2022/05/23
M2PFTeDA	S4250-10	50	200	200	50	2022/03/01
MPFOSA	S4250-11	50	200	200	50	2022/04/20
D3-N-MeFOSAA	S4260-1	50	200	200	50	2021/11/22
D5-N-EtFOSAA	S4260-2	50	200	200	50	2021/11/22
D-N-MeFOSA-M	S4266-1	50	500	200	125	2022/04/20
D-N-EtFOSA-M	S4266-2	50	500	200	125	2022/10/11
D7-N-MeFOSE-M	S4266-3	50	500	200	125	2022/10/13
D9-N-EtFOSE-M	S4266-4	50	500	200	125	2022/10/13
M2-6:2FTS	S4266-5	50	500	200	125	2022/02/17
M2-8:2FTS	S4266-6	50	500	200	125	2022/07/05

No writing on bottom page.

2018/01/10
GSZ ~~2017/12/27~~

Notes:

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.

PRLST 133 PG 139

PREPARATION OF CONCENTRATED STOCK STANDARDS

Solution No.: S-4250 Date: 2017/12/01 Expiry Date: See Below Discard Date: _____

Replaces Solution: _____ Replaced by Solution: _____ Chemist: GSZ

S-4250 (PRLST 133 p. 139)

Solution ID#	Compound Name	Lot#	Received date	Exp. date	Replaces Solution	Replaced by Solution	Conc (ug/mL)	Solvent	Storage
S4250-1	MPFBA	MPFBA0417	2017/10/25	2022/04/12	S4204-1		50	MeOH	FZ-11
S4250-2	M5PFPeA	M5PFPeA0717	2017/10/25	2022/07/20	S4204-2		50	MeOH	FZ-11
S4250-3	MPFHxS	MPFHxS0217	2017/10/25	2022/02/17	S4204-3		50	MeOH	FZ-11
S4250-4	M4PFHpA	M4PFHpA0517	2017/10/25	2022/05/03	S4204-4		50	MeOH	FZ-11
S4250-5	MPFOA	MPFOA1016	2017/02/22	2021/10/18	S4204-5		50	MeOH	FZ-11
S4250-6	MPFOS	MPFOS1017	2017/10/25	2022/10/17	S4204-6		50	MeOH	FZ-11
S4250-7	MPFNA	MPFNA0916	2017/10/25	2021/09/30	S4204-7		50	MeOH	FZ-11
S4250-8	MPFDA	MPFDA0916	2017/02/22	2021/09/30	S4204-8		50	MeOH	FZ-11
S4250-9	MPFDoA	MPFDoA0517	2017/10/25	2022/05/23	S4204-9		50	MeOH	FZ-11
S4250-10	M2PFTeDA	M2PFTeDA0217	2017/10/25	2022/03/01	S4204-10		50	MeOH	FZ-11
S4250-11	MPFOSA	M8FOSA0417I	2017/05/31	2022/04/20	S4204-11		50	IPA	FD-59
Date opened (All compounds): 2017/12/01			Supplier: Wellington			Chemist: GSZ			

No writing on bottom page.

Solution No.: S-4251 Date: 2017/12/05 Expiry Date: 2018/01/05 Discard Date: —

Replaces Solution: S-4249 Replaced by Solution: S-4252 Chemist: DPS

Compound: Morpholine Stock Std Purity: 99.9%

Date Received: 2016/09/07 Expiry Date: 2020/01/31 Lot No.: STBC 2152 V

Supplier: Sigma-Aldrich

Date Opened: 2016/09/06

Final Gross Weight: 0.0110 g/mg Dilution Volume: 10 mL

Tare Weight*: — g/mg Volumetric Flask: 10mL Class A

Net Weight: — g/mg **Concentration:** 1098.9 ug/mL

Adjusted Net Weight**: 0.010989 mg Solvent(s): —

Balance Used: FC-1
(specify model and serial no.)

Solvent Used: DI H2O

Solvent Supplier: — Lot No(s).: —

Date Opened: —

Storage Location / Conditions: FD-59

Notes/Comments Liquid in Bottle

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.

PRLST 133 PG 141

PREPARATION OF CONCENTRATED STOCK STANDARDS

Solution No.: S-4254 Date: 2017/12/06 Expiry Date: 2018/12/06 Discard Date: _____

Replaces Solution: S-4214 Replaced by Solution: _____ Chemist: GSZ

Compound: MORPHOLINE 2,2,3,3,5,5,6,6-d8 Purity: 98.9%

Date Received: 2016/08/16 Expiry Date: 2019/08/16 Lot No.: M-346

Supplier: CDN

Date Opened: 2016/08/23

Final Gross Weight: 0.0123 g/mg Dilution Volume: 10 mL

Tare Weight*: _____ g/mg Volumetric Flask: 10ml Class A (5636)

Net Weight: _____ g/mg **Concentration:** 1,216.5 ug/mL, mg/mL

Adjusted Net Weight**: 0.012165 g mg Solvent(s): DI H_2O

Balance Used: FC-1
(specify model and serial no.)

Solvent Used: DI H_2O

Solvent Supplier: — Lot No(s).: —

Date Opened: —

Storage Location / Conditions: FD59

Notes/Comments

Solution No.: S-4255 Date: 2017/12/07 Expiry Date: See Below Discard Date: _____

Replaces Solution: _____ Replaced by Solution: _____ Chemist: GSZ

S-4255 (PRLST 133 p. 141)

Solution ID#	Compound Name	Lot#	Received date	Exp. date	Replaces Solution	Replaced by Solution	Conc (ug/mL)	Solvent	Storage
S4255-1	MPFHxA	MPFHxA1116	2017/11/07	2021/11/22	S4226-1		50	MeOH	FZ11
S4255-2	D-N-MeFOSA-M	dNMeFOSA0417M	2017/11/07	2022/04/20	S4242-2		50	MeOH	FZ11
S4255-3	D-N-EtFOSA-M	dNEtFOSA0417M	2017/11/07	2022/10/11	S4242-3		50	MeOH	FZ11
S4255-4	D7-N-MeFOSE-M	d7NMeFOSE1017M	2017/11/07	2022/10/13	S4242-4		50	MeOH	FZ11
S4255-5	D9-N-EtFOSE-M	d9NEtFOSE1017M	2017/11/07	2022/10/13	S4242-5		50	MeOH	FZ11
S4255-6	M2-6:2FTS	M262FTS0217	2017/11/07	2022/02/17	S4242-6		50	MeOH	FD59
S4255-7	M2-8:2FTS	M282FTS0717	2017/11/07	2022/07/05	S4242-7		50	MeOH	FD59
Date opened (All compounds): 2017/12/07			Supplier: Wellington			Chemist: GSZ			

No writing on bottom page.

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.

PRLST 133 PG 135

PREPARATION OF CONCENTRATED STOCK STANDARDS

Solution No.: S-4242 Date: 2017/11/24 Expiry Date: See Below Discard Date: _____

Replaces Solution: _____ Replaced by Solution: _____ Chemist: GSZ

S-4242 (PRLST 133 pg 135)

Solution ID#	Compound Name	Lot#	Received date	Exp. date	Replaces Solution	Replaced by Solution	Conc (ug/mL)	Solvent	Storage
S4242-1	MPFUdA	MPFUdA1116	2017/09/07	2021/11/22	S4196		50	MeOH	FZ11
S4242-2	D-N-MeFOSA-M	dNMeFOSA0417M	2017/10/25	2022/04/20	S4226-4		50	MeOH	FZ11
S4242-3	D-N-EtFOSA-M	dNEtFOSA0417M	2017/10/25	2022/04/20	S4226-5		50	MeOH	FZ11
S4242-4	D7-N-MeFOSE-M	d7NMeFOSE0217M	2017/10/25	2022/03/23	S4226-6		50	MeOH	FZ11
S4242-5	D9-N-EtFOSE-M	d9NEtFOSE0317M	2017/10/25	2022/03/23	S4226-7		50	MeOH	FZ11
S4242-6	M2-6:2FTS	M262FTS0217	2017/10/25	2022/02/17	S4226-8		50	MeOH	FD59
S4242-7	M2-8:2FTS	M282FTS0717	2017/10/25	2022/07/05	S4226-9		50	MeOH	FD59
Date opened (All compounds):		2017/11/24	Supplier:	Wellington		Chemist:	GSZ		

No writing on bottom page.

Notes/Comments

Solution No.: S4243 Date: 2017/11/29 Expiry Date: 2018/11/29 Discard Date: _____

Replaces Solution: — Replaced by Solution: — Chemist: TH.

Compound: Metolachlor ESA Sodium salt Purity: _____

Date Received: 2017/11/23 Expiry Date: ~~2017/11/29~~ Lot No.: BCBT3582

Supplier: Sigma - Aldrich.

Date Opened: 2017/11/29

Final Gross Weight: 0.0024 (g)/mg Dilution Volume: 2 mL

Tare Weight*: _____ g/mg Volumetric Flask: Class A.

Net Weight: _____ g/mg Concentration: 1000 ug/mL

Adjusted Net Weight**: _____ mg Solvent(s): _____

Balance Used: Sartorius Serial # 00 31 304817.
(specify model and serial no.)

Solvent Used: Methanol.

Solvent Supplier: Sigma aldrich Lot No(s).: SHBJ5451

Date Opened: 2017/11/29

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.

PRLST 133 PG 144

PREPARATION OF CONCENTRATED STOCK STANDARDS

Solution No.: S-4260 Date: 2017/12/14 Expiry Date: See Below Discard Date: _____

Replaces Solution: _____ Replaced by Solution: _____ Chemist: 652

S-4260 (PRLST133 p. 144)

Solution ID#	Compound Name	Lot#	Received date	Exp. date	Replaces Solution	Replaced by Solution	Conc (ug/mL)	Solvent	Storage
S4260-1	D3-N-MeFOSAA	d3NMeFOSAA1116	2017/05/31	2021/11/22	S4226-2		50	MeOH	FD59
S4260-2	D5-N-EtFOSAA	d3NEtFOSAA1116	2017/05/31	2021/11/22	S4226-3		50	MeOH	FD59
Date opened (All compounds): 2017/12/14			Supplier: Wellington			Chemist: 652			

No writing on bottom page.

Storage Location / Conditions: _____

Notes/Comments

Solution No.: _____ Date: _____ Expiry Date: _____ Discard Date: _____

Replaces Solution: _____ Replaced by Solution: _____ Chemist: _____

Compound: _____ Purity: _____

Date Received: _____ Expiry Date: _____ Lot No.: _____

Supplier: _____

Date Opened: _____

652, 2017/12/15

Final Gross Weight: _____ g/mg Dilution Volume: _____ mL

Tare Weight* : _____ g/mg Volumetric Flask: _____

Net Weight: _____ g/mg **Concentration:** _____ ug/mL

Adjusted Net Weight** : _____ mg Solvent(s): _____

Balance Used: _____
(specify model and serial no.)

Solvent Used: _____

Solvent Supplier: _____ Lot No(s).: _____

Date Opened: _____

Storage Location / Conditions: _____

Notes/Comments

PRLST 133 PG 148

PREPARATION OF CONCENTRATED STOCK STANDARDS

Solution No.: S-4266 Date: 2017/12/22 Expiry Date: _____ Discard Date: _____

Replaces Solution: _____ Replaced by Solution: _____ Chemist: GSZ

S-4266
(PRLST 133 p. 148)

Solution ID#	Compound Name	Lot#	Received date	Exp. date	Replaces Solution	Replaced by Solution	Conc (ug/mL)	Solvent	Storage
S4266-1	D-N-MeFOSA-M	dNMeFOSA0417M	2017/12/06	2022/04/20	S4255-2		50	MeOH	FZ11
S4266-2	D-N-EtFOSA-M	dNEtFOSA1017M	2017/12/06	2022/10/11	S4255-3		50	MeOH	FZ11
S4266-3	D7-N-MeFOSE-M	d7NMeFOSE1017M	2017/12/06	2022/10/13	S4255-4		50	MeOH	FZ11
S4266-4	D9-N-EtFOSE-M	d9NEtFOSE1017M	2017/12/06	2022/10/13	S4255-5		50	MeOH	FZ11
S4266-5	M2-6:2FTS	M262FTS0217	2017/12/06	2022/02/17	S4255-6		50	MeOH	FD59
S4266-6	M2-8:2FTS	M282FTS0717	2017/12/06	2022/07/05	S4255-7		50	MeOH	FD59
Date opened (All compounds): 2017/12/22			Supplier: Wellington			Chemist: GSZ			

No writing on bottom page.

Notes/Comments

Solution No.: S-4267 Date: 2017/12/27 Expiry Date: 2018/02/27 Discard Date: _____

Replaces Solution: S-4261 Replaced by Solution: _____ Chemist: GSZ

Compound: ACRYLAMIDE STOCK SOLUTION Purity: 100%

Date Received: 2016/11/02 Expiry Date: 2018/06/30 Lot No.: SLBN3158V

Supplier: Sigma

Date Opened: 2016/11/07

Final Gross Weight: 0.0106 g/mg Dilution Volume: 10 mL GSZ 2017/12/27

Tare Weight*: _____ g/mg Volumetric Flask: 10ml Class A S/N (5640)

Net Weight: 0.0106 g/mg Concentration: 1060 ug/mL

Adjusted Net Weight**: 10.6 mg Solvent(s): MeOH

Balance Used: OHAUS AP2105 SN N01360
(specify model and serial no.)

Solvent Used: MeOH

Solvent Supplier: Sigma Lot No(s).: SHBJ5451

Date Opened: 2017/12/27

Storage Location / Conditions: FZ 09

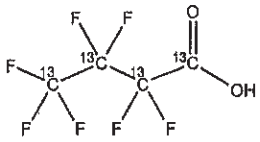
Notes/Comments

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE: MPFBA
LOT NUMBER: MPFBA0417
COMPOUND: Perfluoro-n-[1,2,3,4-$^{13}C_4$]butanoic acid

STRUCTURE:



CAS #: Not available

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)	04/12/2017		
EXPIRY DATE: (mm/dd/yyyy)	04/12/2022		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

1 ampoule
2017/09/07 ✓
1 ampoule
2014/10/25 65%

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:** 04/20/2017 (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

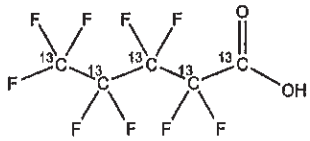
CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: M5PFPeA
COMPOUND: Perfluoro-n-[$^{13}C_5$]pentanoic acid

LOT NUMBER: M5PFPeA0717

STRUCTURE:

CAS #: Not available



MOLECULAR FORMULA:	$^{13}C_5HF_9O_2$	**MOLECULAR WEIGHT:**	269.01
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($^{13}C_5$)
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		

1 ampoule
2017/09/07 -
1 ampoule
2017/10/25 GSZ

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.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

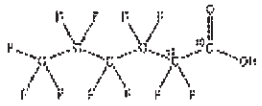
Certified By: _____ **Date:** 07/26/2017 (mm/dd/yyyy)
B.G. Chittim, General Manager

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:	MPFHxA	**LOT NUMBER:**	MPFHxA1118
COMPOUND:	Perfluoro-n-[1,2-$^{13}C_2$]hexanoic acid		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_2{}^{12}C_4HF_{11}O_2$	**MOLECULAR WEIGHT:**	316.04
CONCENTRATION:	50 ± 2.5 µg/mL	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C (1,2-$^{13}C_2$)
LAST TESTED:	11/22/2016		
EXPIRY DATE:	11/22/2021		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place (Freezer)		

HPLC (1)
2017/02/02
SSV

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 and ~ 0.3% of perfluoro-n-octanoic acid.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Chittim **Date:** 12/13/2016

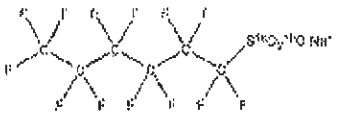
Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Received date: 2017/02/22 1x1.2 mL MMN
Received date: 2017/02/14 1x1.2 mL MMN
Received date: 2017/02/02 2x1.2 mL MZH
Received date: 2017/05/02 1x1.2 mL SSV
Received date: 2017/05/31 2x1.2 mL ssv
Date Received: 2017.05.02 - 1 x 1.2ml - HPLC
Date Received: 2017/09/12 - 1 ampule HPLC
Date Received: 2017/11/07 - 1 ampule HPLC

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:	MPFHxS	**LOT NUMBER:**	MPFHxS0217
COMPOUND:	Sodium perfluoro-1-hexane[$^{18}O_2$]sulfonate		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$C_6F_{13}S^{18}O_2{}^{18}ONa$	**MOLECULAR WEIGHT:**	425.10
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:	02/17/2017		
EXPIRY DATE:	02/17/2022		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

F2
1 ampule
HPLC
2017/05/02
JPS

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 ($C_6F_{13}S^{18}O_2{}^{18}O$) has been observed to be up to 10% lower than for PFHxS ($C_6F_{13}S^{18}O_3$) 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).
- 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.

FOR LABORATORY USE ONLY; NOT FOR HUMAN OR DRUG USE

Certified By: _____ B.G. Chittim **Date:** 03/02/2017

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Date received 2017/09/07 1 ampule HPLC
Date received 2017/10/25 1 ampule HPLC

WELLINGTON LABORATORIES

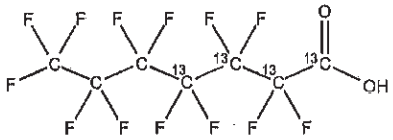
CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: M4PFHpA
COMPOUND: Perfluoro-n-[1,2,3,4-$^{13}C_4$]heptanoic acid

LOT NUMBER: M4PFHpA0517

STRUCTURE:

CAS #: Not available



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		

1 ampoule
2017/09/07
1 ampoule
2017/10/25 GSZ

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

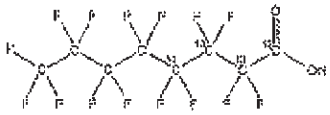
Certified By: _____ **Date:** 05/11/2017 (mm/dd/yyyy)
B.G. Chittim, General Manager

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:	MPFOA	LOT NUMBER:	MPFOA1016
COMPOUND:	Perfluoro-n-[1,2,3,4-$^{13}C_4$]octanoic acid		
STRUCTURE:		CAS #:	Not available



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-$^{13}C_4$)
LAST TESTED: (mm/dd/yyyy)	10/18/2016		
EXPIRY DATE: (mm/dd/yyyy)	10/18/2021		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

Received
2016-12-12
1X1.2 mL
F2-11

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: B.G. Chittim Date: 10/19/2016 (dd/mm/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2549 • info@well-labs.com

Date Received: 2017.02.02 - 1 x 1.2ml - HPLC
Received date: 2017/02/14 1x1.2 mL MMN
Received date: 2017/02/22 2x1.2 mL MZH

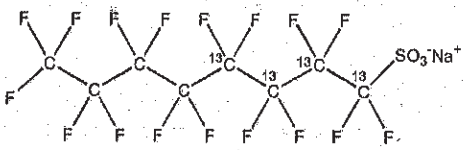
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: MPFOS **LOT NUMBER:** MPFOS1017

COMPOUND: Sodium perfluoro-1-[1,2,3,4-$^{13}C_4$]octanesulfonate

STRUCTURE: **CAS #:** Not available



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)	10/17/2017		
EXPIRY DATE: (mm/dd/yyyy)	10/17/2022		
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 ampule
2017/10/25 652

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains ~ 0.4% Sodium perfluoro-1-[1,2,3-$^{13}C_3$]heptanesulfonate.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

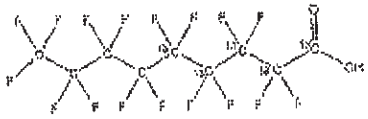
Certified By: _____ **Date:** 10/18/2017 (mm/dd/yyyy)
B.G. Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	MPFNA	LOT NUMBER:	MPFNA0918
COMPOUND:	Perfluoro-n-(1,2,3,4,5-$^{13}C_5$)nonanoic acid		
STRUCTURE:		CAS #:	Not available



MOLECULAR FORMULA:	$^{13}C_5{}^{12}C_4HF_{17}O_2$	MOLECULAR WEIGHT:	469.04
CONCENTRATION:	50 ± 2.5 µg/ml	SOLVENT(S):	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	ISOTOPIC PURITY:	≥99% ^{13}C (1,2,3,4,5-$^{13}C_5$)
LAST TESTED:	09/30/2018		
EXPIRY DATE:	09/30/2021		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

Received mw
2016-12-12
1x1.2 mL
F2-11

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: B.G. Chittim Date: 10/11/2018 (mm/dd/yyyy)

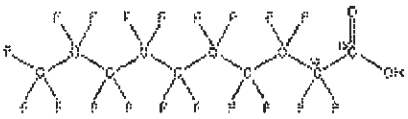
Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Received date: 2017/02/22 2x1.2 mL MZ
Received date: 2017/05/02 1x1.2 mL ssv
Received date: 2017/05/31 2x1.2 mL ssv
Received date: 2017/09/07 2x1.2 mL TRW
Received date: 2017/10/25 2x1.2 mL

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS DOCUMENTATION

PRODUCT CODE:	MPFDA	LOT NUMBER:	MPFDA0916
COMPOUND:	Perfluoro-n-[1,2-$^{13}C_2$]decanoic acid		
STRUCTURE:		CAS #:	Not available



MOLECULAR FORMULA:	$^{13}C_2{}^{12}C_8HF_{19}O_2$	MOLECULAR WEIGHT:	516.07
CONCENTRATION:	50 ± 2.5 µg/ml	SOLVENT(S):	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	ISOTOPIC PURITY:	≥99% ^{13}C (1,2-$^{13}C_2$)
LAST TESTED:	09/30/2016		
EXPIRY DATE:	09/30/2021		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

Received/mmd
2016-12-12
1x1.2 mL
F2-11

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 $^{13}C_4$-PFNA.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ Date: 10/07/2016
S.G. Chittim

Wellington Laboratories Inc., 345 Southgate Dr, Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Form:CP, Issued: 2004-11-15
Updated: 2, Revised: 2013-03-04

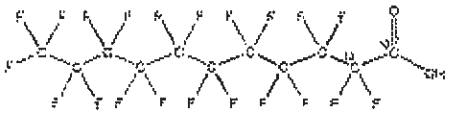
MPFDA2016 [1 of 1]
rev0

Date Received: 2017.02.02 - 1 x 1.2ml - HPLC
Received date: 2017/02/14 1x1.2 mL MMN
Date Received: 2017.02.22 - 2 x 1.2ml - HPLC,
Date Received: 2017.05.02 - 1 x 1.2ml - HPLC
Date Received: 2017.05.31 - 2 x 1.2ml - HPLC

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	MPFUdA	LOT NUMBER:	MPFUdA1116
COMPOUND:	Perfluoro-n-[1,2-$^{13}C_2$]undecanoic acid		
STRUCTURE:		CAS #:	Not available



MOLECULAR FORMULA:	$^{13}C_2{}^{12}C_9HF_{21}O_2$	MOLECULAR WEIGHT:	566.08
CONCENTRATION:	50 ± 2.5 µg/ml	SOLVENT(S):	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	ISOTOPIC PURITY:	≥99% ^{13}C ($1,2\text{-}^{13}C_2$)
LAST TESTED:	11/22/2016		
EXPIRY DATE:	11/22/2021		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

Received 2017/02/22
2 x 1.2 mL (TZ-H)

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-$^{13}C_2$-PFUdA (~1%; see Figure 2), 2-$^{13}C_2$-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: B.G. Chittim Date: 12/07/2016

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Received 2017/05/02 2x1.2 mL HPLC
Date Received: 2017.05.02 - 1 x 1.2ml - HPLC
Date Received: 2017.06.29 - 1 x 1.2ml - HPLC
Date Received: 2017.09/07 - 1 x 1.2ml - HPLC
Date Received: 2017.02/22 - 1 x 1.2ml - HPLC

WELLINGTON LABORATORIES

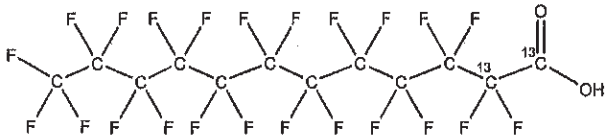
CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: MPFDoA
COMPOUND: Perfluoro-n-[1,2-$^{13}C_2$]dodecanoic acid

LOT NUMBER: MPFDoA0517

STRUCTURE:

CAS #: Not available



MOLECULAR FORMULA: $^{13}C_2{}^{12}C_{10}HF_{23}O_2$
CONCENTRATION: 50 ± 2.5 µg/ml

MOLECULAR WEIGHT: 616.08
SOLVENT(S): Methanol
Water (<1%)

CHEMICAL PURITY: >98%
LAST TESTED: (mm/dd/yyyy) 05/23/2017
EXPIRY DATE: (mm/dd/yyyy) 05/23/2022
RECOMMENDED STORAGE: Store ampoule in a cool, dark place

ISOTOPIC PURITY: ≥99% ^{13}C ($1,2\text{-}^{13}C_2$)

1 ampule
2017/09/07 ;
1 ampule
2017/10/25, GSZ

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

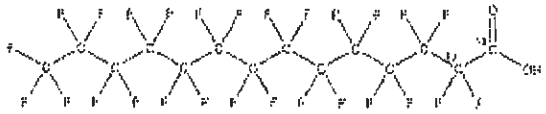
Certified By: _____ **Date:** 05/26/2017 (mm/dd/yyyy)
B.G. Chittim, General Manager

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:	M2PFTeDA	**LOT NUMBER:**	M2PFTeDA0217
COMPOUND:	Perfluoro-n-[1,2-$^{13}C_2$]tetradecanoic acid		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$^{13}C_2{}^{12}C_{12}HF_{27}O_2$	**MOLECULAR WEIGHT:**	716.10
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C (1,2-$^{13}C_2$)
LAST TESTED:	03/01/2017		
EXPIRY DATE:	03/01/2022		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

RV
1 ampule
MPLC
2017/10/25
DD

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

ADDITIONAL INFORMATION:

- See page 2 for further details.
- Contains 4 mole eq. of NaOH to prevent conversion of the carboxylic acid to the methyl ester.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 03/07/2017
B.G Chittim, General Manager

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@wellabs.com

Date received 2017/09/07 1 ampule HPLC
Date received 2017/10/25 1 ampule HPLC

WELLINGTON LABORATORIES

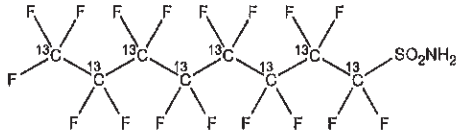
CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: M8FOSA-I
COMPOUND: Perfluoro-1-[$^{13}C_8$]octanesulfonamide

LOT NUMBER: M8FOSA0417I

STRUCTURE:

CAS #: Not available



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 ($^{13}C_6$)
LAST TESTED: (mm/dd/yyyy)	04/20/2017		
EXPIRY DATE: (mm/dd/yyyy)	04/20/2022		
RECOMMENDED STORAGE:	Refrigerate ampoule		

DOCUMENTATION/ DATA ATTACHED:

Figure 1: LC/MS Data (TIC and Mass Spectrum)
Figure 2: LC/MS/MS Data (Selected MRM Transitions)

Date received
2017/05/31

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

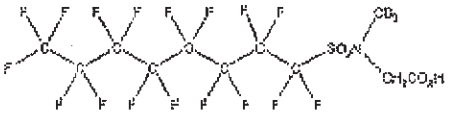
Certified By: _____ **Date:** 05/04/2017 (mm/dd/yyyy)
B.G. Chittim, General Manager

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:**	d3NMeFOSAA111[illegible]6
COMPOUND:	N-methyl-d3-perfluoro-1-octanesulfonamidoacetic acid		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$C_{10}D_3H_2F_{17}NO_4S$	**MOLECULAR WEIGHT:**	574.23
CONCENTRATION:	50 ± 2.5 µg/ml	**SOLVENT(S):**	Methanol Water (<1%)
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥98% $^2H_1$
LAST TESTED: (dd/mm/yyyy)	11/22/2016		
EXPIRY DATE: (dd/mm/yyyy)	11/22/2021		
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.

received 2x1.2mL 2017-12-22 [illegible]

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: B.G. Griffin **Date:** 12/07/2016 (dd/mm/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

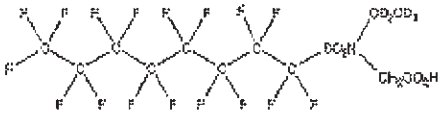
Copyright Issued 2004-11-12
Reissued Revised 2015-03-24

date recieved 2017/05/31 2x1`.2

WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE:	d5-N-EtFOSAA	**LOT NUMBER:**	dBNEtFOSAA1116
COMPOUND:	N-ethyl-d5-perfluoro-1-octanesulfonamidoacetic acid		
STRUCTURE:		**CAS #:**	Not available



MOLECULAR FORMULA:	$C_{10}D_5H_2F_{17}NO_4S$	**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)	11/22/2016		
EXPIRY DATE: (mm/dd/yyyy)	11/22/2021		
RECOMMENDED STORAGE:	Refrigerate ampoule		

received 12/12/16

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 **Date:** 12/01/2016 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

Received date: 2017/02/22 2x1.2 mL MZH
Received date: 2017/05/31 2x1.2 mL ssv

WELLINGTON LABORATORIES

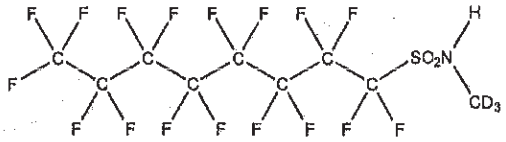
CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: d-N-MeFOSA-M
COMPOUND: N-methyl-d_3-perfluoro-1-octanesulfonamide

LOT NUMBER: dNMeFOSA0417M

STRUCTURE:

CAS #: Not available



MOLECULAR FORMULA:	$C_9D_3HF_{17}NO_2S$	**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)	04/20/2017		
EXPIRY DATE: (mm/dd/yyyy)	04/20/2022		
RECOMMENDED STORAGE:	Store ampoule in a cool, dark place		

Date Received
2017/12/06
2 Ampoules

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:** 04/24/2017
(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

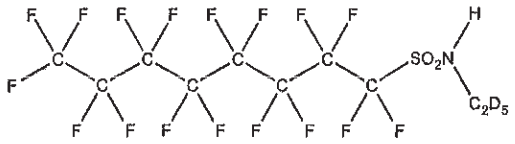
CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: d-N-EtFOSA-M
COMPOUND: N-ethyl-d_5-perfluoro-1-octanesulfonamide

LOT NUMBER: dNEtFOSA1017M

STRUCTURE:

CAS #: Not available



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)

Date received
2017/12/06
2 Ampules

ADDITIONAL INFORMATION:

- See page 2 for further details.

FOR LABORATORY USE ONLY: NOT FOR HUMAN OR DRUG USE

Certified By: _____ **Date:** 11/06/2017 (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

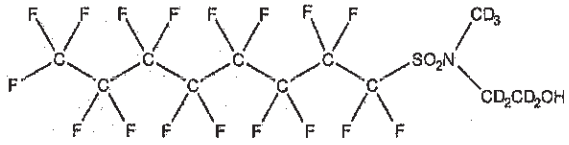
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: 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		

Date Reaived
2017/12/06
2 Ampoules

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

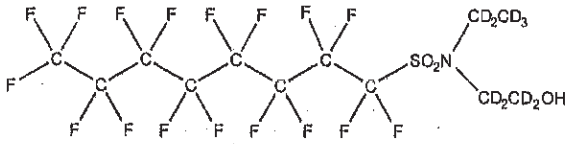
Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

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% $^2H_9$
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		

Date Received
2017/12/06
2 Ampoules

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

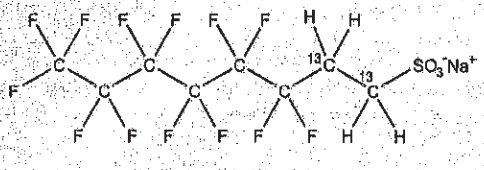
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: M2-6:2FTS **LOT NUMBER:** M262FTS0217

COMPOUND: Sodium 1H,1H,2H,2H-perfluoro-[1,2-$^{13}C_2$]octane sulfonate

STRUCTURE:



CAS #: Not available

MOLECULAR FORMULA:	$^{13}C_2{}^{12}C_6H_4F_{13}SO_3Na$	**MOLECULAR WEIGHT:**	452.13
CONCENTRATION:	50.0 ± 2.5 µg/ml (Na salt) 47.5 ± 2.4 µg/ml (M2-6:2FTS anion)	**SOLVENT(S):**	Methanol
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2\text{-}^{13}C_2$)
LAST TESTED: (mm/dd/yyyy)	02/17/2017		
EXPIRY DATE: (mm/dd/yyyy)	02/17/2022		
RECOMMENDED STORAGE:	Refrigerate ampoule		

D.L. Recvd
2017/12/06
2 Ampoules

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: B.G. Chittim **Date:** 02/24/2017 (mm/dd/yyyy)

Wellington Laboratories Inc., 345 Southgate Dr. Guelph ON N1G 3M5 CANADA
519-822-2436 • Fax: 519-822-2849 • info@well-labs.com

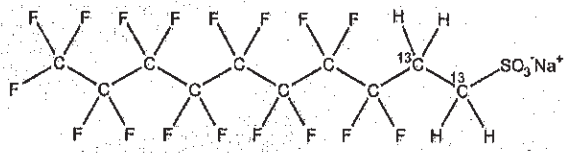
WELLINGTON LABORATORIES

CERTIFICATE OF ANALYSIS
DOCUMENTATION

PRODUCT CODE: M2-8:2FTS **LOT NUMBER:** M282FTS0717

COMPOUND: Sodium 1H,1H,2H,2H-perfluoro-[1,2-$^{13}C_2$]decane sulfonate

STRUCTURE: **CAS #:** Not available



MOLECULAR FORMULA:	$^{13}C_2{}^{12}C_8H_4F_{17}SO_3Na$	**MOLECULAR WEIGHT:**	552.15
CONCENTRATION:	50.0 ± 2.5 µg/ml (Na salt)	**SOLVENT(S):**	Methanol
	47.9 ± 2.4 µg/ml (M2-8:2FTS anion)		
CHEMICAL PURITY:	>98%	**ISOTOPIC PURITY:**	≥99% ^{13}C ($1,2\text{-}^{13}C_2$)
LAST TESTED: (mm/dd/yyyy)	07/05/2017		
EXPIRY DATE: (mm/dd/yyyy)	07/05/2022		
RECOMMENDED STORAGE:	Refrigerate ampoule		

Date Received
2017/12/06
2 Ampoules

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:** 07/07/2017 (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

144 PG 98

PREPARATION OF SURROGATE / INTERNAL STANDARD SPIKING SOLUTION

Solution No.: SI-6770 Prep'n Date: 2018/01/12 Expiry Date: 2018/06/20 Discard Date:
Replaces Solution No.: SI-6716 Replaced by Solution: Chemist: GSZ
Sol'n. Name: FNA. F.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): Su PRLRE 108-287 Lot No(s).: Su PRLRE 108-287
Date Solvent Opened: Su PRLRE 108-287
Volumetric Flask Used: 100mL Class A (5640) Syringe ID: Pipette M4101IF
Storage Location and Conditions: FZ11
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 C9 PFDA	S-4194	50	200	100	100	—
13 C6 PFHxA	S-4195	50	200	100	100	—

GSZ 2018/01/12

Notes:

DPG 2018/01/16

Solution No.: SI-6771 Prep'n Date: 2018/01/16 Expiry Date: 2018/03/05 Discard Date: —
Replaces Solution No.: SI-6703 Replaced by Solution: — Chemist: DPG
Sol'n. Name: 2,3 Dibromopropionic Acid Surrogate
Solution Used As: Internal Std: — Surrogate Spike: ✓
Spike Volume: 40 (ul) or mL (for I.S. uL per mL) For Instrument/Analysis: GC-ECD
Solvent(s): MTBE Supplier(s): Fisher Lot No(s).: 161432
Date Solvent Opened: 2017/05/15
Volumetric Flask Used: 5630 [10ml] class A Syringe ID: 579089-2
Storage Location and Conditions: FD-135 [1°C to 6°C]
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)
2,3 Dibromopropionic Acid	T-5091	1000	100	10	10	—

DPG 2018/01/16

Notes:

DO NOT WRITE BENEATH ANY INSERTS ON THIS PAGE. DO NOT PLACE ANY INSERTS ON TOP OF ANY RAW DATA ENTERED ON THIS
LOGBOOK, PAGE AND APPROPRIATE SOLUTION

PRLST 133 PG 108

PREPARATION OF CONCENTRATED STOCK STANDARDS

Solution No.: S-4194 Date: 2017/09/18 Expiry Date: 2018/06/20 Discard Date: _____

Replaces Solution: S-4142 Replaced by Solution: _____ Chemist: GSZ

Compound: $^{13}C_9$ PFDA Purity: _____

Date Received: 2017/06/09 Expiry Date: 2018/06/20 Lot No.: SCID-014

Supplier: CIL

Date Opened: 2017/09/18

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: FZ 11

Notes/Comments
Received as solution in ampule.

Solution No.: S-4195 Date: 2017/09/18 Expiry Date: 2020/09/30 Discard Date: _____

Replaces Solution: S-4143 Replaced by Solution: _____ Chemist: GSZ

Compound: $^{13}C_6$ PFHxA Purity: _____

Date Received: 2017/06/09 Expiry Date: 2020/09/30 Lot No.: SDAA-004

Supplier: CIL

Date Opened: 2017/09/18

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: FZ 11

Notes/Comments
Received as solution in ampule.

Cambridge Isotope Laboratories, Inc.

Certificate of Analysis

Quality Standards:
ISO Guide 34 • ISO/IEC 17025 • ISO 13485 • cGMP

Product Name: (Isotopic Label & Derivation 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 wherever 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/NCSL 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, -1.0, 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	46.2 ± 6.4 µg/mL (k=2)

Received June 20 in 01/15 1x 1.2mL RT

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

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%
MW*: *For isotopically labeled compounds, MW Formula is for the fully enriched product.	320.00
Labeled CAS Number:	NA
Unlabeled CAS Number:	307-24-4
Chemical Formula:	*CF3(*CF2)4*COOH
Storage:	Store at room temperature away from light and moisture.
Stability:	See storage and expiration date.

Received from 2016/08/30 1x1.2ml RT

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/NCSL Z540-1-1994, NCR Document 10CFR50 Appendix B, and applicable subdocuments.

This COA references the bulk catalog number before packaging. The COA also applies to the CIL finished good catalog number. Some possible packaging sizes and their corresponding suffix are -1.2, -1, -0.5, -10, or -0.1.

Approved by: T. J. Eckersley

Timothy J. Eckersley, Ph.D., Quality Review

Quality Control Tests and Results

QC Release Date	9/30/2016
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)

50 Frontage Road, Andover, MA 01810-5413 | TEL + 1 800 322 1174 (North America) + 1 978 749 8000 | cilsales@cil.isotope.com

Date Received: 2016/08/17 1x 1.2ml MMN HPLC
Date Received: 2016/09/14 1x 1.2ml MMN HPLC
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 - 1 x 1.2ml - HPLC

PREPARATION OF SPIKING STANDARD SOLUTION

Solution No.: SK-7377 Prep'n Date: 2018/01/30 Expiry Date: 2019/01/30 Discard Date: —

Replaces Solution No.: SK-7277 Replaced by Solution: _____ Chemist: LaV

Solution Name: Comp. PFC working Sol'n C Solvent(s): 0.3% NH4OH in MeOH

Solvent Supplier(s): Aldrich Solvent Lot No(s): See PRLRE108-327

Date Opened: See PRLRE108-327

Volumetric Flask Used: 25 mL Class A (5640) Volume: 25 mL **Spike Volume:** — uL / mL*

Syringe ID: Pipette K39876F

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 Sol'n A	I-5297	1	2.5	100 ng/ml	—
				2018/01/30	

Notes:

Solution No.: SK-7378 Prep'n Date: 2018/01/30 Expiry Date: 2018/04/07 Discard Date: 2018/04/08

Replaces Solution No.: SK-7088 Replaced by Solution: — Chemist: K

Solution Name: Glyphosate Solvent(s): LC-MS Grade Water

Solvent Supplier(s): EMD Millipore Corp. Solvent Lot No(s): 57297

Date Opened: 2018/01/29

Volumetric Flask Used: Class A (#5640) Volume: 50 mL **Spike Volume:** — uL / mL*

Syringe ID: G434346

Storage Location and Conditions: FD-59

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)*
N-(Phosphonomethyl) glycine	S4212	3264 µg/ml	0.383	25 µg/ml	—
			K	2018/01/30	

Notes: Second source (for spiking and ICV)

K 2018/01/30

* = 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 relevant traceable references on ALL inserts.

PREPARATION OF SPIKING STANDARD SOLUTION

Solution No.: SK-7399 Prep'n Date: 2018/02/02 Expiry Date: 2018/08/02 Discard Date: 2018/08/03.

Replaces Solution No.: SK-7088 Replaced by Solution: — Chemist: [illegible]

Solution Name: Glyphosate Solvent(s): LC-MS Grade Water

Solvent Supplier(s): EMD Millipore Corp. Solvent Lot No(s): _____

Date Opened: 2018/02/02

Volumetric Flask Used: 50 ml (class A #5640) Volume: 50 mL **Spike Volume:** — uL / mL*

Syringe ID: _____

Storage Location and Conditions: _____

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)*
Glyphosate	S4283	3360	0.372	25 µg/mL	

[illegible] 2018/02/02

Notes: Second Source (for spiking) [illegible] 2018/02/02

Solution No.: SK-7400 Prep'n Date: 2018/02/05 Expiry Date: 2019/02/05 Discard Date: —

Replaces Solution No.: SK-7294 Replaced by Solution: _____ Chemist: lw

Solution Name: Comp. PFC working Solⁿ B Solvent(s): 0.3% NH4OH in MeOH

Solvent Supplier(s): Aldrich Solvent Lot No(s): See PRLRE108-338

Date Opened: See PRLRE108-338

Volumetric Flask Used: 5ml class A C5640 Volume: 5 mL **Spike Volume:** — uL / mL*

Syringe ID: Pipette ~~K39876F~~ K39732F lw 2018/02/05

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. ng/mL (ug/mL)	Absolute Amount Spiked (ug ng)*
Comp. PFC working Solⁿ A	I-5297(4)	1	1.5 mL	300	—
			lw 2018/02/05		

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.

PREPARATION OF SPIKING STANDARD SOLUTION

Solution No.: SK-7401 Prep'n Date: 2018/02/05 Expiry Date: 2019/02/05 Discard Date: —

Replaces Solution No.: SK-7295 Replaced by Solution: _____ Chemist: LR

Solution Name: Comp. PFC working Solⁿ D Solvent(s): 0.3% NH4OH in MeOH

Solvent Supplier(s): Aldrich Solvent Lot No(s): See PRLRE108-338

Date Opened: See PRLRE108-338

Volumetric Flask Used: 10 ml Volume: 10 mL **Spike Volume:** — uL / mL *

Syringe ID: N31477F

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 B	SK-7400	300	1	30	—
			2018/02/05	LR	

Notes:

SK7402

Solution No.: ~~2018/02/07 JL~~ 2018/02/07 Prep'n Date: 2018/02/07 Expiry Date: 2019/02/07 Discard Date: _____

Replaces Solution No.: SK7201 Replaced by Solution: SK7403 Chemist: WBM

Solution Name: Benzidine mix Solvent(s): Acetone

Solvent Supplier(s): Fisher Solvent Lot No(s): 174411

Date Opened: 2018/02/07

Volumetric Flask Used: Class A Volume: 10 mL **Spike Volume:** 50 uL mL *

Syringe ID: 1.0ml Lot # 593406-3

Storage Location and Conditions: F2-11, F2-35

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)*
Benzidine mix	Ampule	2,000	1.0	200	10
Lot # EN170519006			2018/02/07		

Notes:

Part # : SVO-FSL-129
Lot # : EN170519006
Date Opened: 2018/02/07

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.

TUNE CHECK

Instrument: Agilent 6470 LC/MS/MS

Instrument Serial Number: SG1611G001

Maxxam Instrument Identification: LCMS04

Mass Calibration Performed: July 7, 2017

Tune Check Performed: July 10 & 11, 2017

Mass Assignment Reference Table_____Page 2

Analyte Precursor Ion Verification_____Page 4

Analyte Product Ion Verification_____Page 31

Extracted and Injection Internal Standard Precursor Ion Verification_____Page 59

Extracted and Injection Internal Standard Product Ion Verification_____Page 83

Reviewed by:

Adam Robinson, Supervisor – Liquid Chromatography

July 12 /2017
Date

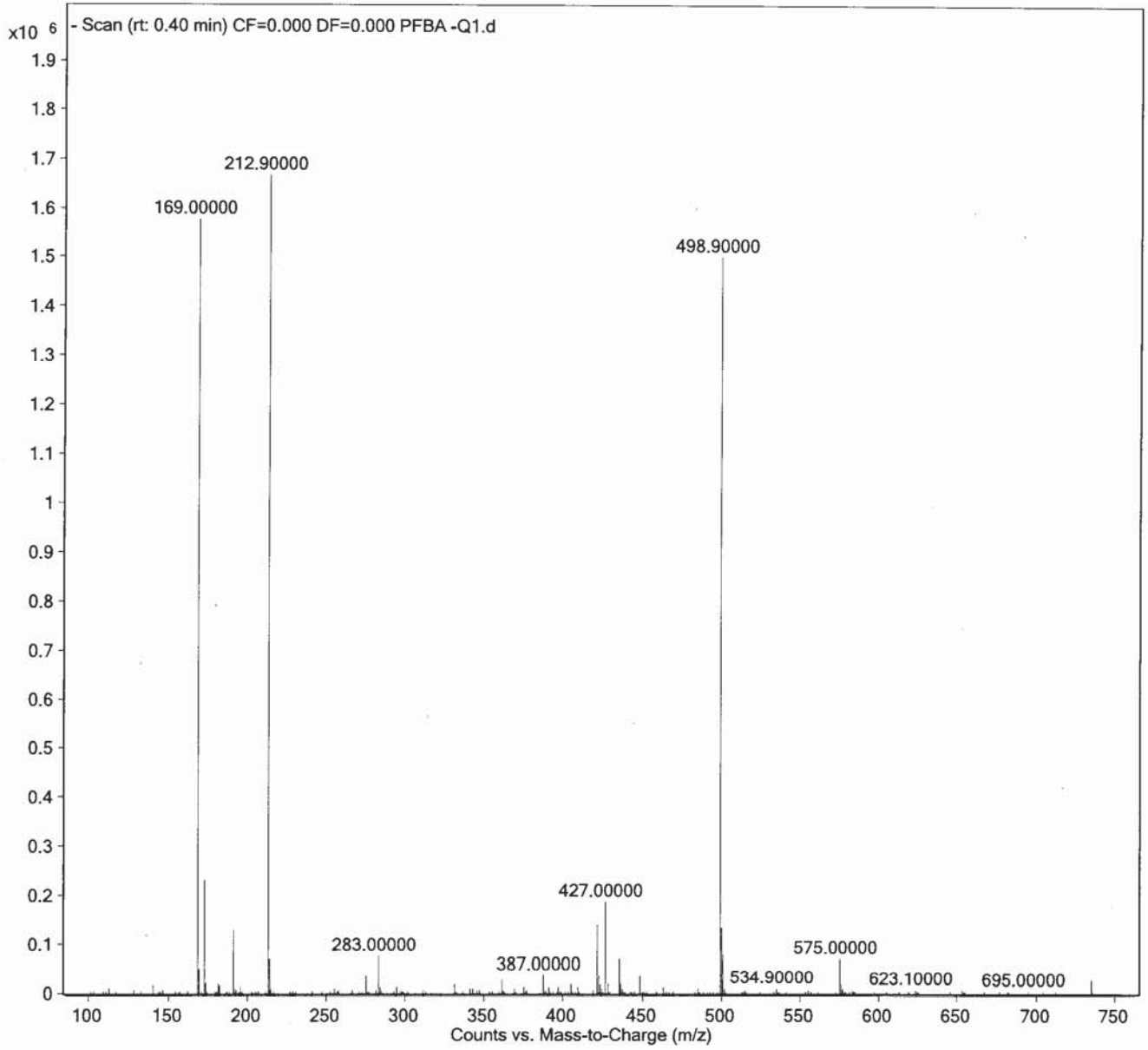
Mass Assignments – Analytes, Extracted Internal Standards and Injection Internal Standards

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	212.9	$[CF_3(CF_2)_2CO_2]^-$	169.0	$[CF_3(CF_2)_2]^-$	[1] N/A	N/A
Perfluorobutanesulfonate	PFBS	298.9	$[CF_3(CF_2)_3SO_3]^-$	79.9	$[SO_3]^-$	98.9	$[FSO_3]^-$
Perfluoropentanoic acid	PFPeA	262.9	$[CF_3(CF_2)_3CO_2]^-$	218.9	$[CF_3(CF_2)_3]^-$	[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	$[CF_3(CF_2)_5SO_3]^-$	79.9	$[SO_3]^-$	98.9	$[FSO_3]^-$
Perfluoroheptanoic acid	PFHpA	363.0	$[CF_3(CF_2)_5CO_2]^-$	319.0	$[CF_3(CF_2)_5]^-$	169.2	$[CF_3(CF_2)_2]^-$
Perfluoroheptanesulfonate	PFHpS	448.9	$[CF_3(CF_2)_6SO_3]^-$	79.9	$[SO_3]^-$	99.0	$[FSO_3]^-$
Perfluorooctanoic acid	PFOA	413.1	$[CF_3(CF_2)_6CO_2]^-$	369.0	$[CF_3(CF_2)_6]^-$	169.0	$[CF_3(CF_2)_2]^-$
Perfluorooctanesulfonate	PFOS	498.8	$[CF_3(CF_2)_7SO_3]^-$	79.9	$[SO_3]^-$	98.9	$[FSO_3]^-$
Perfluorononanoic acid	PFNA	462.9	$[CF_3(CF_2)_7CO_2]^-$	419.0	$[CF_3(CF_2)_7]^-$	219.1	$[CF_3(CF_2)_3]^-$
Perfluorodecanoic acid	PFDA	513.0	$[CF_3(CF_2)_8CO_2]^-$	469.1	$[CF_3(CF_2)_8]^-$	218.9	$[CF_3(CF_2)_3]^-$
Perfluorodecanesulfonate	PFDS	598.9	$[CF_3(CF_2)_9SO_3]$-	79.9	$[SO_3]^-$	98.8	$[FSO_3]^-$
Perfluoroundecanoic acid	PFUnA	562.9	$[CF_3(CF_2)_9CO_2]^-$	519.0	$[CF_3(CF_2)_9]^-$	269.2	$[CF_3(CF_2)_4]^-$
Perfluorododecanoic acid	PFDoA	612.9	$[CF_3(CF_2)_{10}CO_2]^-$	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	$[CF_3(CF_2)_{11}]^-$	318.9	$[CF_3(CF_2)_5]^-$
Perfluorotetradecanoic acid	PFTeDA	713.0	$[CF_3(CF_2)_{12}CO_2]^-$	669.0	$[CF_3(CF_2)_{12}]^-$	319.2	$[CF_3(CF_2)_5]^-$
Perfluorooctane sulfonamide	PFOSA	497.9	$[CF_3(CF_2)_7SO_2NH]^-$	78.0	$[SO_2N]^-$	478.0	$[(CF_2)_8SO_2N]^-$
N-methylperfluorooctane sulfonamide	MeFOSA	511.9	$[CF_3(CF_2)_7SO_2N(CH_3)]^-$	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	570.1	$[CF_3(CF_2)_7SO_2N(CH_3)CH_2CO_2]^-$	419.1	$[CF_3(CF_2)_7]^-$	483.0	$[CF_3(CF_2)_7SO_2]^-$
N-ethylperfluorooctanesufonamidoacetic acid	EtFOSAA	584.1	$[CF_3(CF_2)_7SO_2N(CH_2CH_3)CH_2CO_2]^-$	419.1	$[CF_3(CF_2)_7]^-$	483.0	$[CF_3(CF_2)_7SO_2]^-$
6:2 Fluorotelomersulfonate	6:2FTS	427.0	$[CF_3(CF_2)_5CH_2CH_2SO_3]^-$	407.0	$[CF_3(CF_2)_4CFCHCH_2SO_3]^-$	80.9	$[SO_2OH]^-$
8:2 Fluorotelomersulfonate	8:2FTS	526.9	$[CF_3(CF_2)_7CH_2CH_2SO_3]^-$	507.0	$[CF_3(CF_2)_6CFCHCH_2SO_3]^-$	80.9	$[SO_2OH]^-$
Mass-labeled Extracted Internal Standards							
$^{13}C_4$-Perfluorobutanoic acid	MPFBA	216.9	$[^{13}CF_3(^{13}CF_2)_2{}^{13}CO_2]^-$	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	267.9	$[^{13}CF_3(^{13}CF_2)_3{}^{13}CO_2]^-$	223.0	$[^{13}CF_3(^{13}CF_2)_3]^-$	N/A	N/A
$^{13}C_2$-Perfluorohexanoic acid	MPFHxA	314.9	$[CF_3(CF_2)_3(^{13}CF_2){}^{13}CO_2]^-$	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	366.9	$[CF_3CF_2(^{13}CF_2)_3{}^{13}CO_2]^-$	322.0	$[CF_3CF_2(^{13}CF_2)_4]^-$	N/A	N/A
$^{13}C_4$-Perfluorooctanoic acid	MPFOA	416.9	$[CF_3(CF_2)_3(^{13}CF_2)_3{}^{13}CO_2]^-$	372.0	$[CF_3(CF_2)_3(^{13}CF_2)_3]^-$	N/A	N/A
$^{13}C_4$-Perfluorooctanesulfonate	MPFOS	502.9	$[CF_3(CF_2)_3(^{13}CF_2)_4SO_3]^-$	79.9	$[SO_3]^-$	N/A	N/A
$^{13}C_5$-Perfluorononanoic acid	MPFNA	467.9	$[CF_3(CF_2)_3(^{13}CF_2)_4{}^{13}CO_2]^-$	423.0	$[CF_3(CF_2)_3(^{13}CF_2)_4]^-$	N/A	N/A
$^{13}C_2$-Perfluorodecanoic acid	MPFDA	514.9	$[CF_3(CF_2)_7(^{13}CF_2){}^{13}CO_2]^-$	470.0	$[CF_3(CF_2)_7{}^{13}CF_2]^-$	N/A	N/A
$^{13}C_2$-Perfluoroundecanoic acid	MPFUnA	564.9	$[CF_3(CF_2)_8(^{13}CF_2){}^{13}CO_2]^-$	520.0	$[CF_3(CF_2)_8{}^{13}CF_2]^-$	N/A	N/A
$^{13}C_2$-Perfluorododecanoic acid	MPFDoA	614.9	$[CF_3(CF_2)_9(^{13}CF_2){}^{13}CO_2]^-$	570.0	$[CF_3(CF_2)_9{}^{13}CF_2]^-$	N/A	N/A
$^{13}C_2$-Perfluorotetradecanoic acid	MPFTeDA	714.9	$[CF_3(CF_2)_{12}(^{13}CF_2){}^{13}CO_2]^-$	669.9	$[CF_3(CF_2)_{12}]^-$	N/A	N/A
$^{13}C_8$-Perfluorooctane sulfonamide	MPFOSA	505.8	$[^{13}CF_3(^{13}CF_2)_7SO_2NH]^-$	77.9	$[SO_2N]^-$	N/A	N/A
N-methyl-d_3-perfluorooctanesulfonamide	D_3-MeFOSA	514.9	$[CF_3(CF_2)_7SO_2N(CD_3)]^-$	168.9	$[CF_3(CF_2)_2]^-$	N/A	N/A
N-ethyl-d_5-perfluorooctanesulfonamide	D_5-EtFOSA	531.0	$[CF_3(CF_2)_7SO_2N(C_2D_5)]^-$	168.9	$[CF_3(CF_2)_2]^-$	N/A	N/A
N-methyl-d_3-perfluorooctanesulfonamidoethanol-d_4	D_7-MeFOSE	623.1	$[CF_3(CF_2)_7SO_2N(CD_3)CD_2CD_2OH \cdot CH_3CO_2]^-$	59.0	$[CH_3CO_2]^-$	N/A	N/A
N-ethyl-d_5-perfluorooctanesulfonamidoethanol-d_4	D_9-EtFOSE	639.1	$[CF_3(CF_2)_7SO_2N(CD_2CD_3)CD_2CD_2OH \cdot CH_3CO_2]^-$	59.0	$[CH_3CO_2]^-$	N/A	N/A
N-methyl-d_3-perfluorooctanesulfonamidoacetic acid	D_3-MeFOSAA	573.1	$[CF_3(CF_2)_7SO_2N(CD_3)CH_2CO_2]^-$	419.1	$[CF_3(CF_2)_7]^-$	N/A	N/A
N-ethyl-d_5-perfluorooctanesulfonamidoacetic acid	D_5-EtFOSAA	589.2	$[CF_3(CF_2)_7SO_2N(CD_2CD_3)CH_2CO_2]^-$	419.0	$[CF_3(CF_2)_7]^-$	N/A	N/A
$^{13}C_2$-Fluorotelomersulfonate (6:2)	M2-6:2FTS	429.0	$[CF_3(CF_2)_5(^{13}CH_2)_2SO_3]^-$	80.9	$[SO_2OH]^-$	N/A	N/A
$^{13}C_2$-Fluorotelomersulfonate (8:2)	M2-8:2FTS	528.9	$[CF_3(CF_2)_7(^{13}CH_2)_2SO_3]^-$	80.9	$[SO_2OH]^-$	N/A	N/A
Injection Internal Standards							
$^{13}C_6$-Perfluorohexanoic acid	$^{13}C_6$-PFHxA	318.9	$[^{13}CF_3(^{13}CF_2)_4{}^{13}CO_2]^-$	274.0	$[^{13}CF_3(^{13}CF_2)_4]^-$	N/A	N/A
$^{13}C_9$-Perfluorodecanoic acid	$^{13}C_9$-PFDA	521.9	$[CF_3(^{13}CF_2)_8{}^{13}CO_2]^-$	477.1	$[CF_3(^{13}CF_2)_8]^-$	N/A	N/A

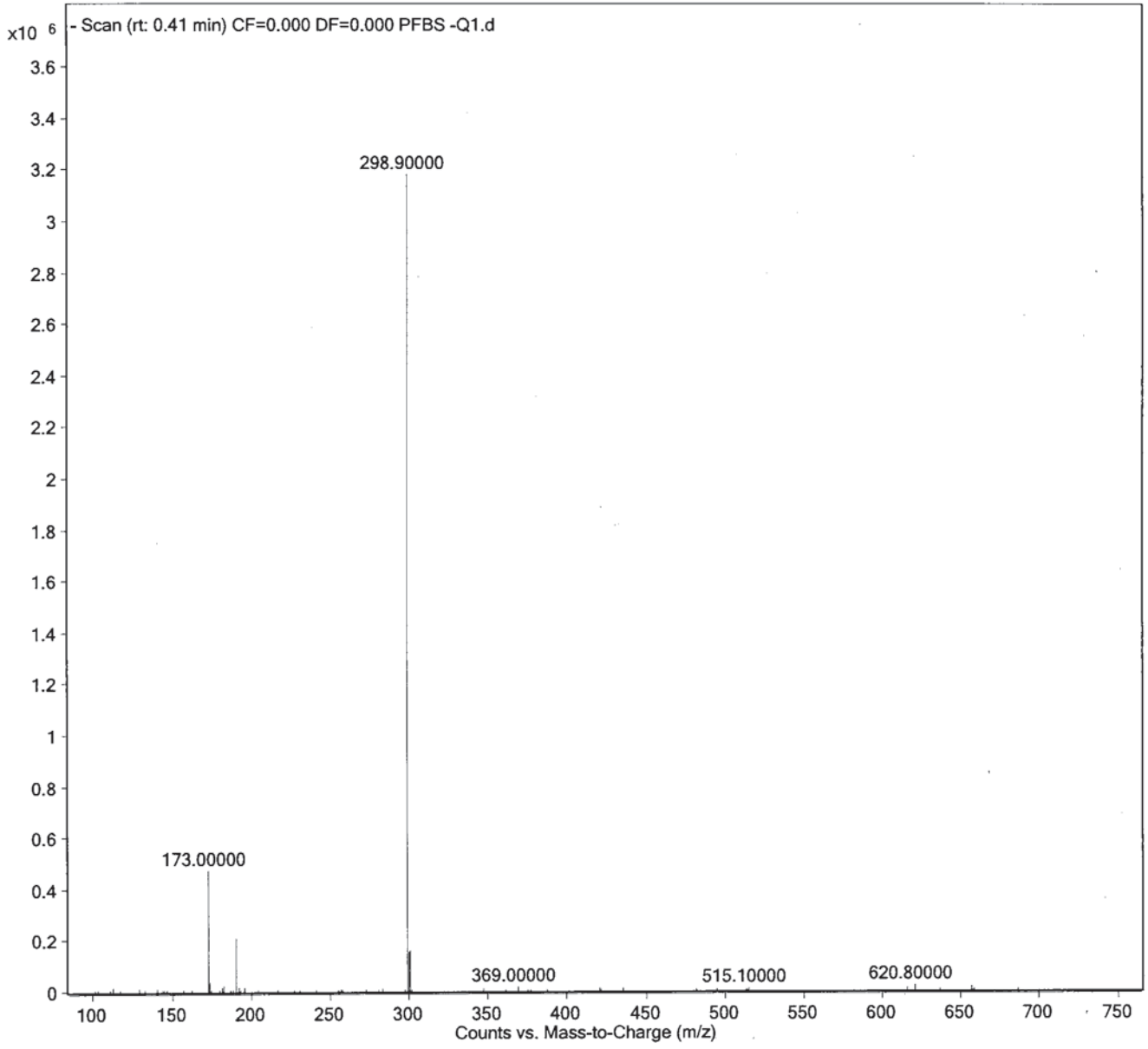
Analyte Precursor Ion Verification

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**	2017/07/10 4:37:04 PM



MaxXam Analytics

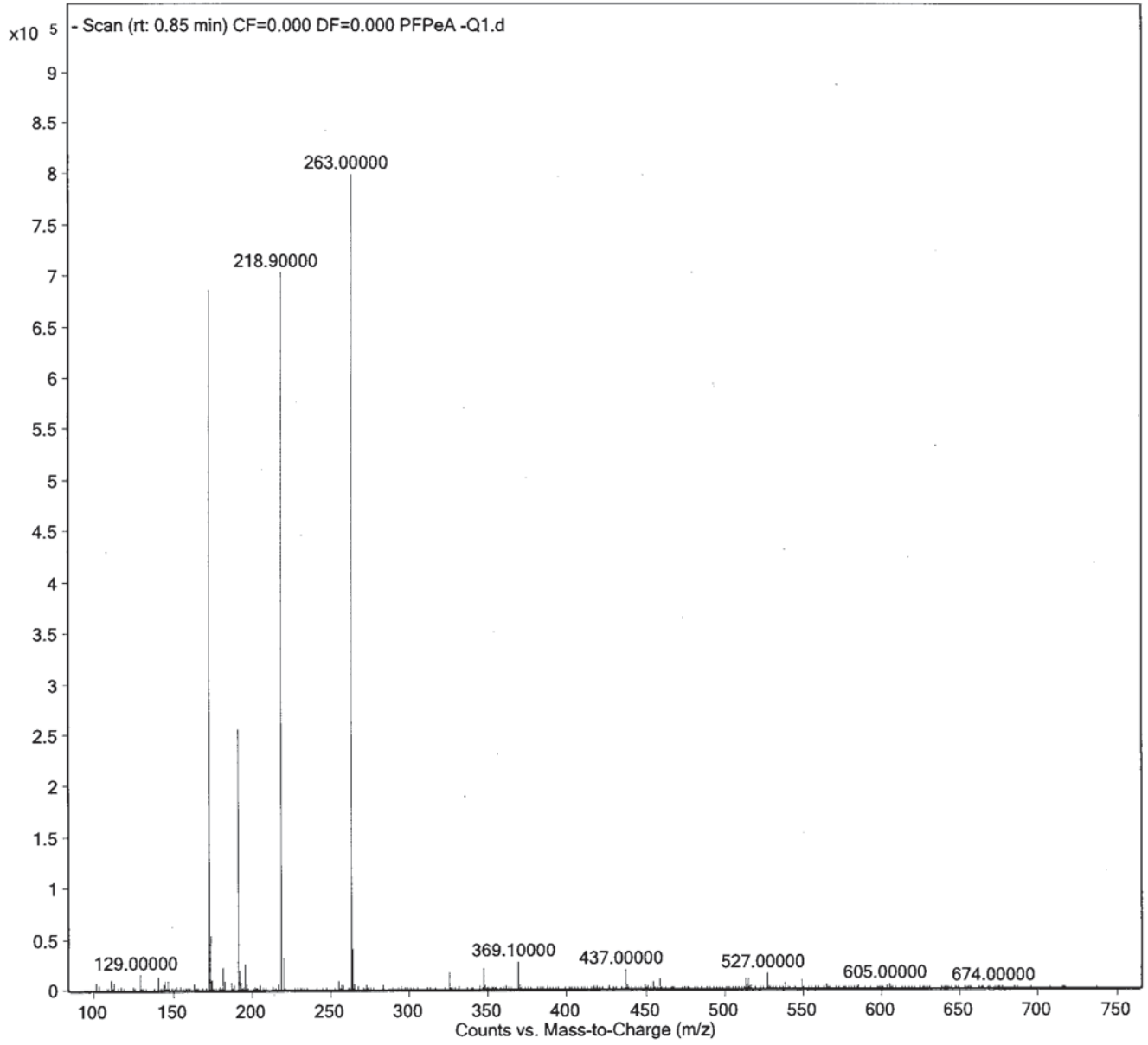
Sample Name	PFBS -Q1	**Position**	P1-A2	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	PFBS -Q1.d
ACQ Method	PFC_MassVerification-Q1.m	**Comment**		**Acquired Time**	2017/07/10 4:42:36 PM



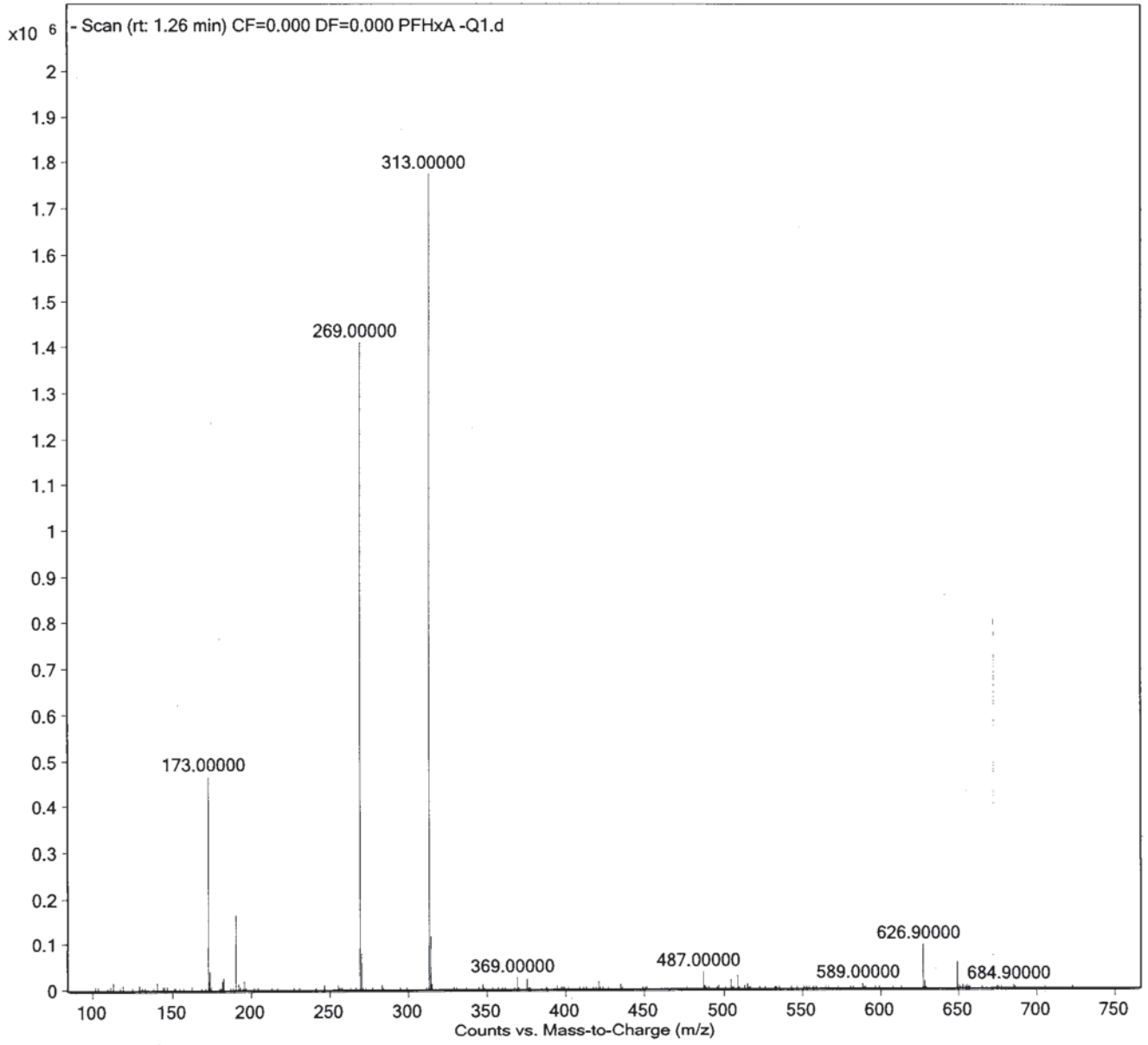
SGS AXYS Analytics

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**	2017/07/10 4:48:06 PM

MaxXam Analytics

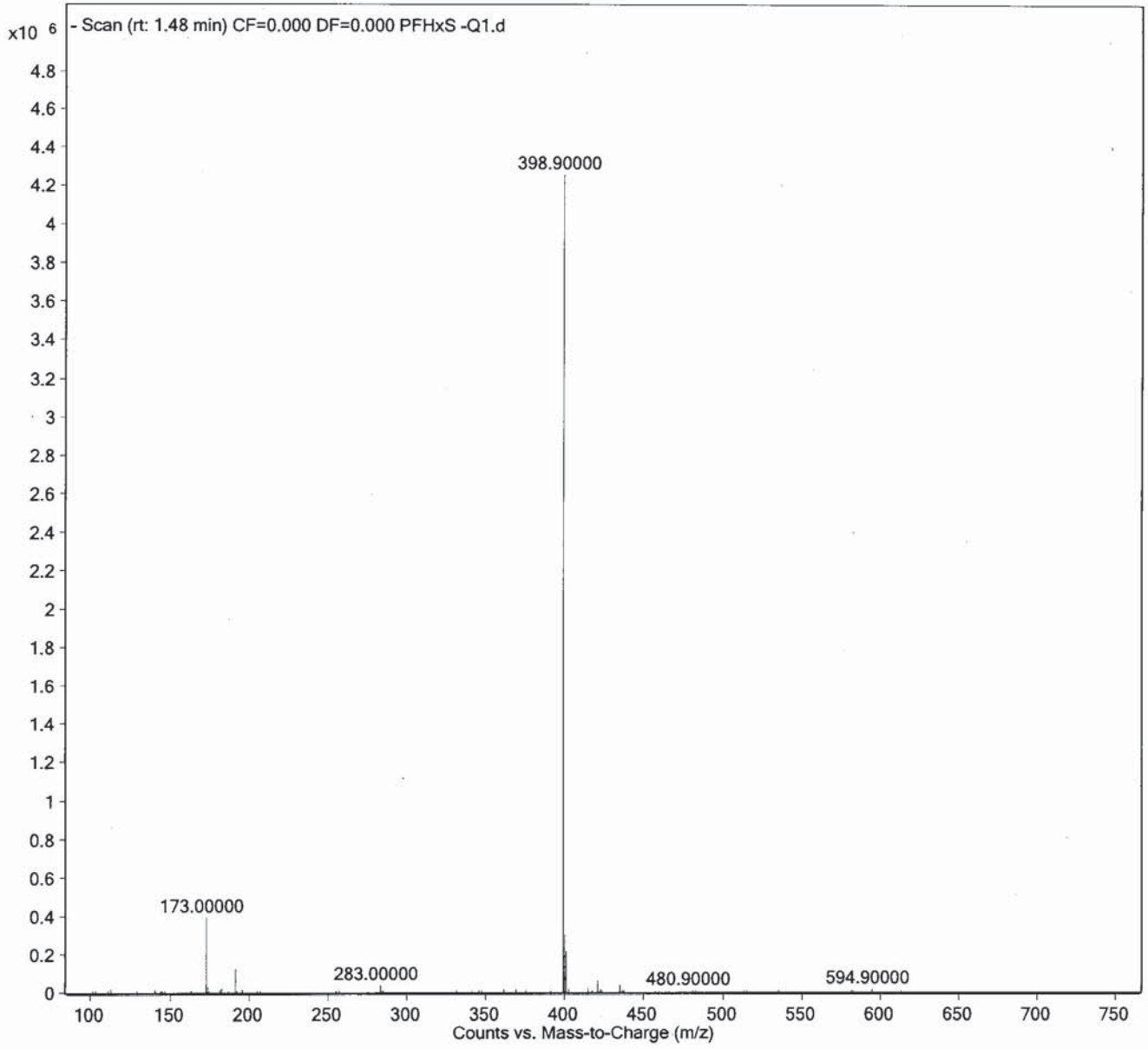


Sample Name	PFHxA -Q1	**Position**	P1-A4	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	PFHxA -Q1.d
ACQ Method	PFC_MassVerification-Q1.m	**Comment**		**Acquired Time**	2017/07/10 4:53:36 PM



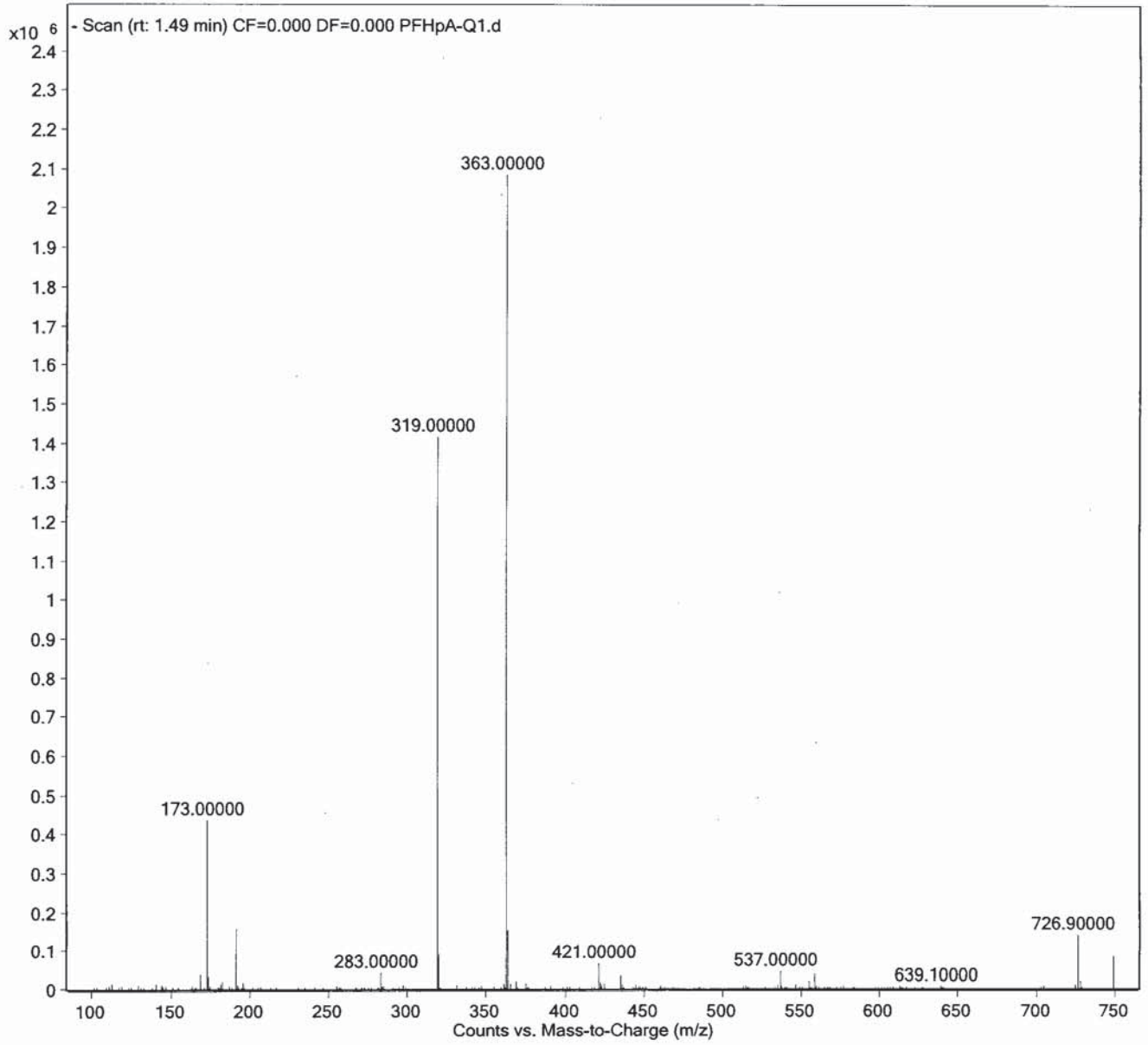
MaxXam Analytics

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**	2017/07/10 4:59:06 PM



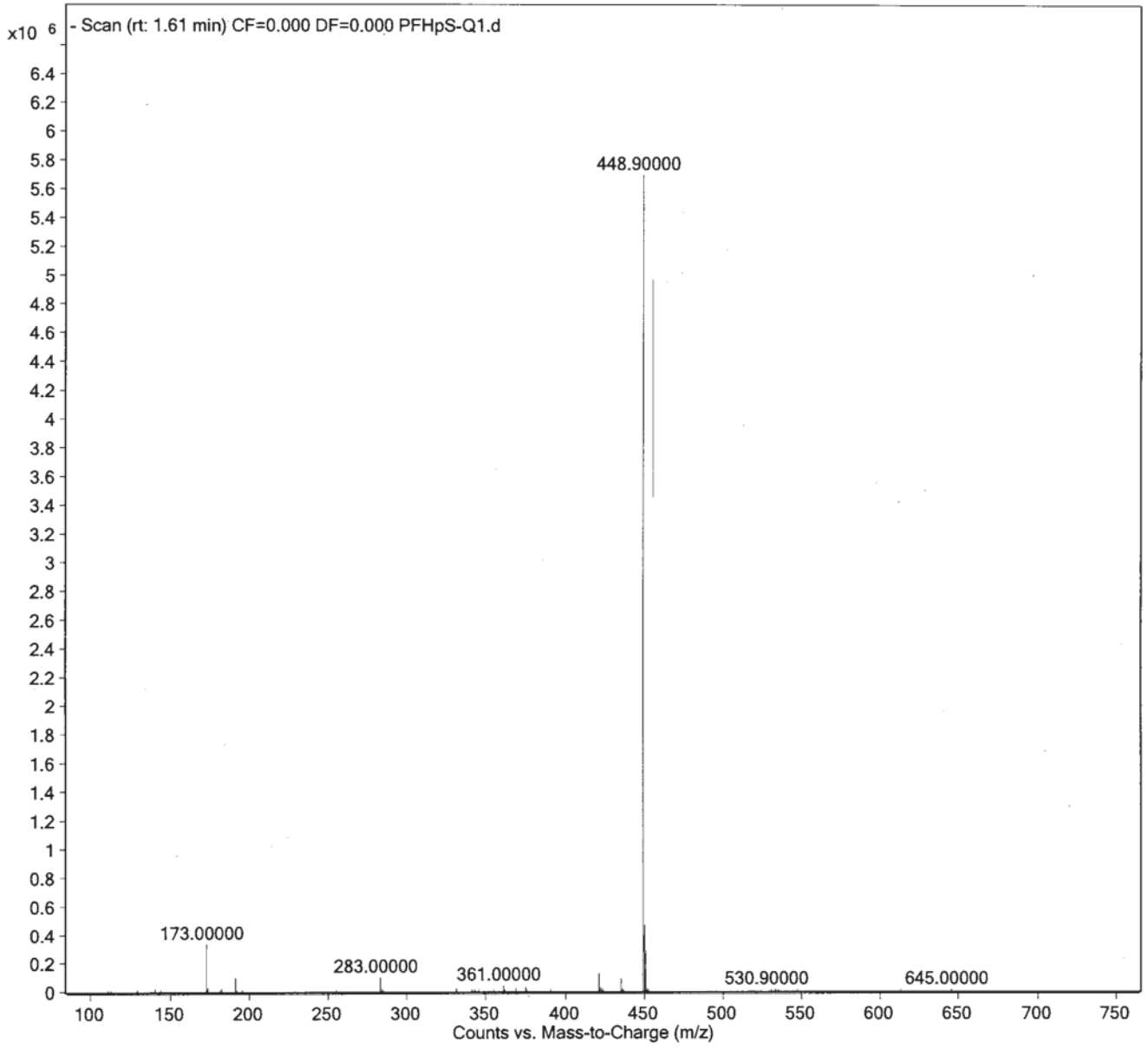
Maxxam Analytics

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**	2017/07/10 5:04:36 PM



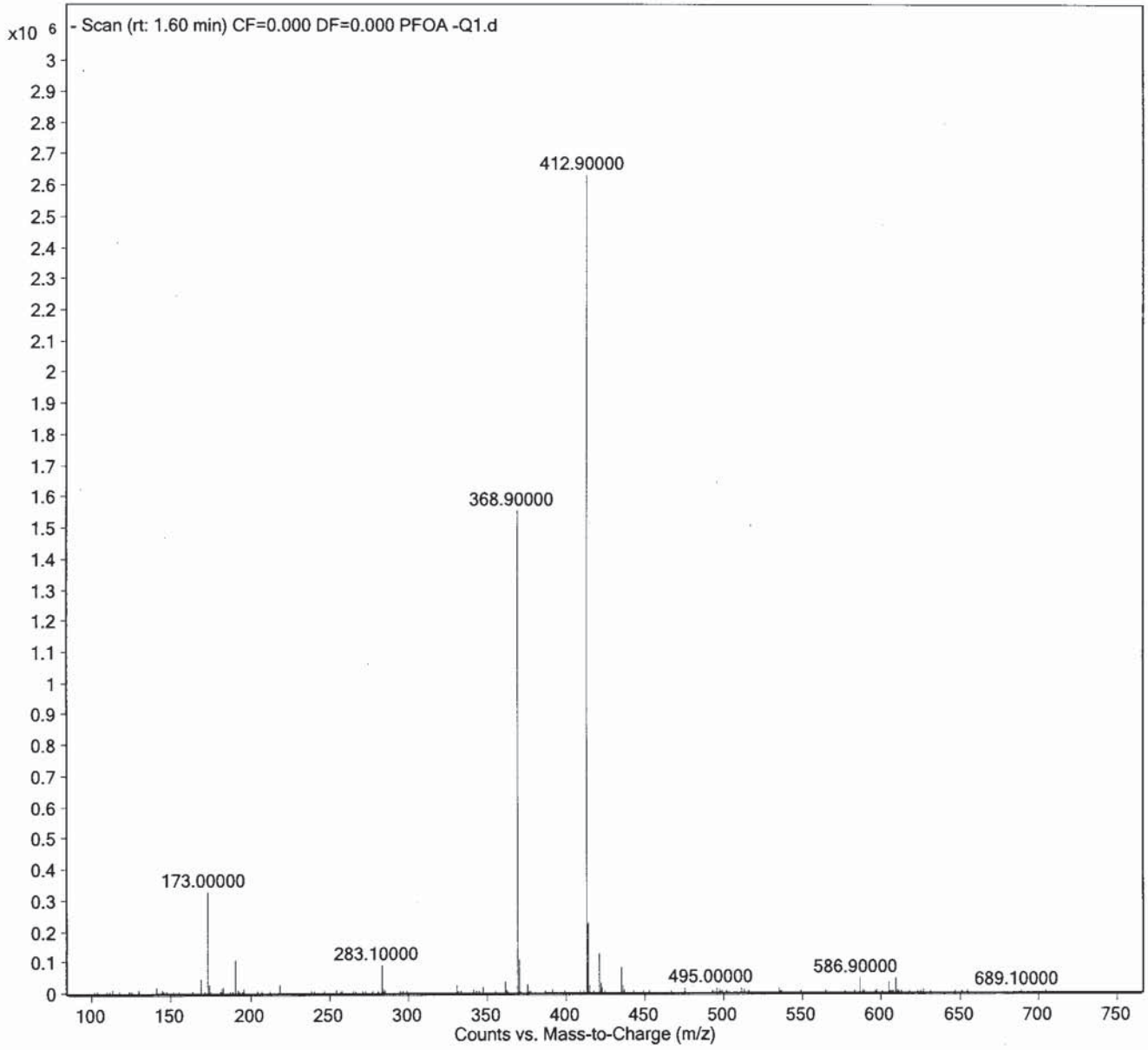
MaxXam Analytics

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**	2017/07/10 5:10:06 PM



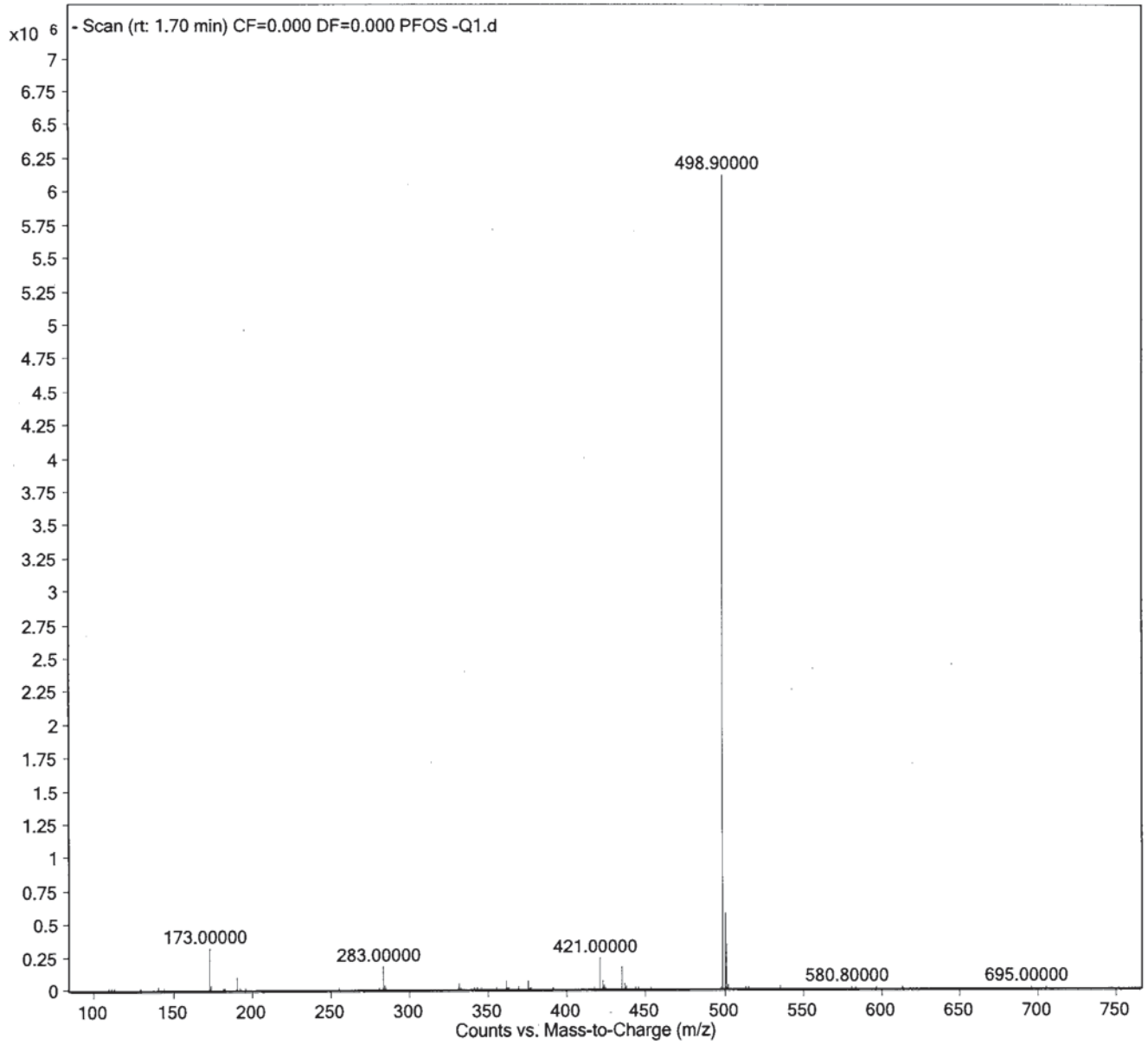
Maxxam Analytics

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**	2017/07/10 5:15:38 PM



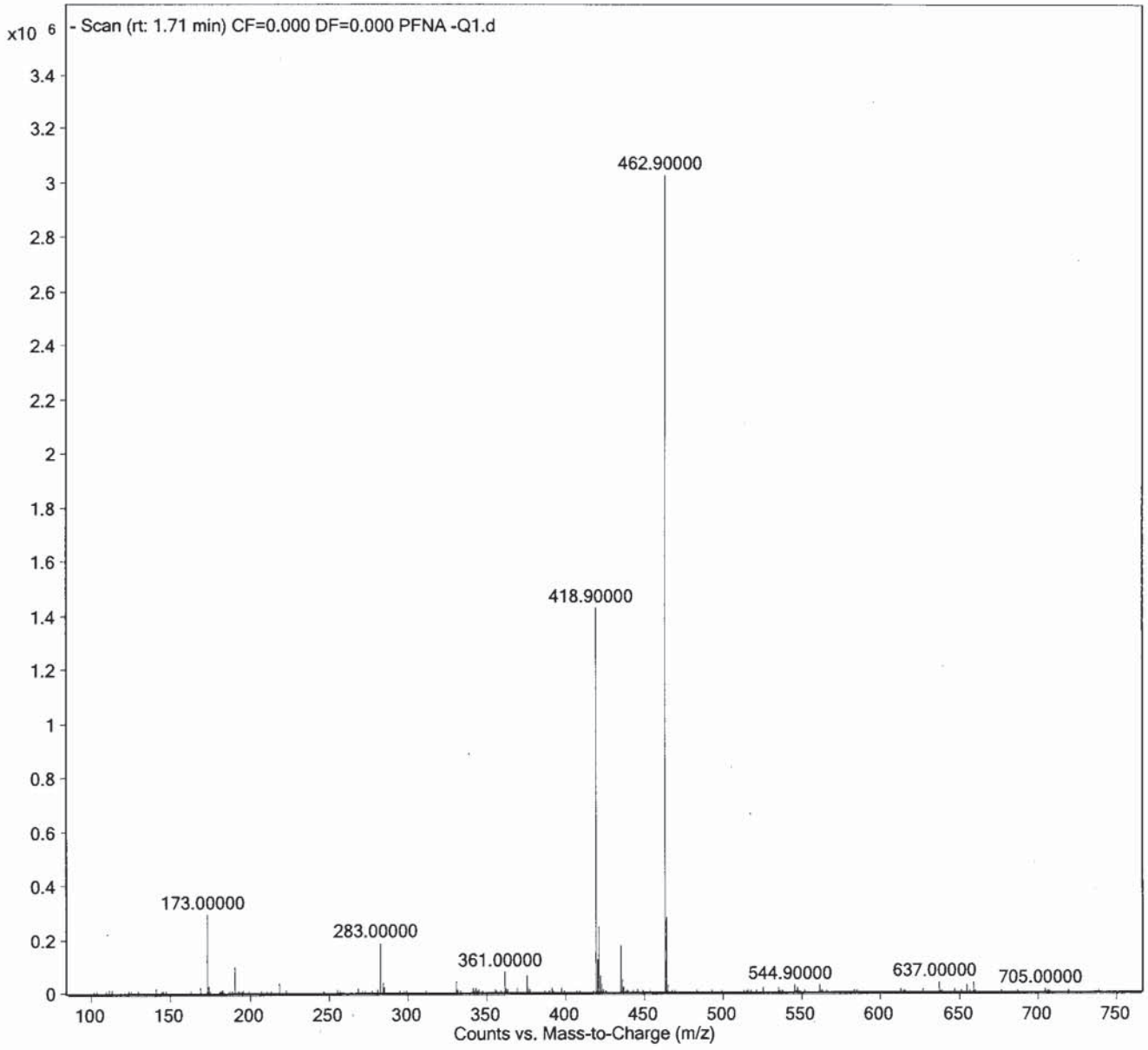
Maxxam Analytics

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**	2017/07/10 5:21:10 PM



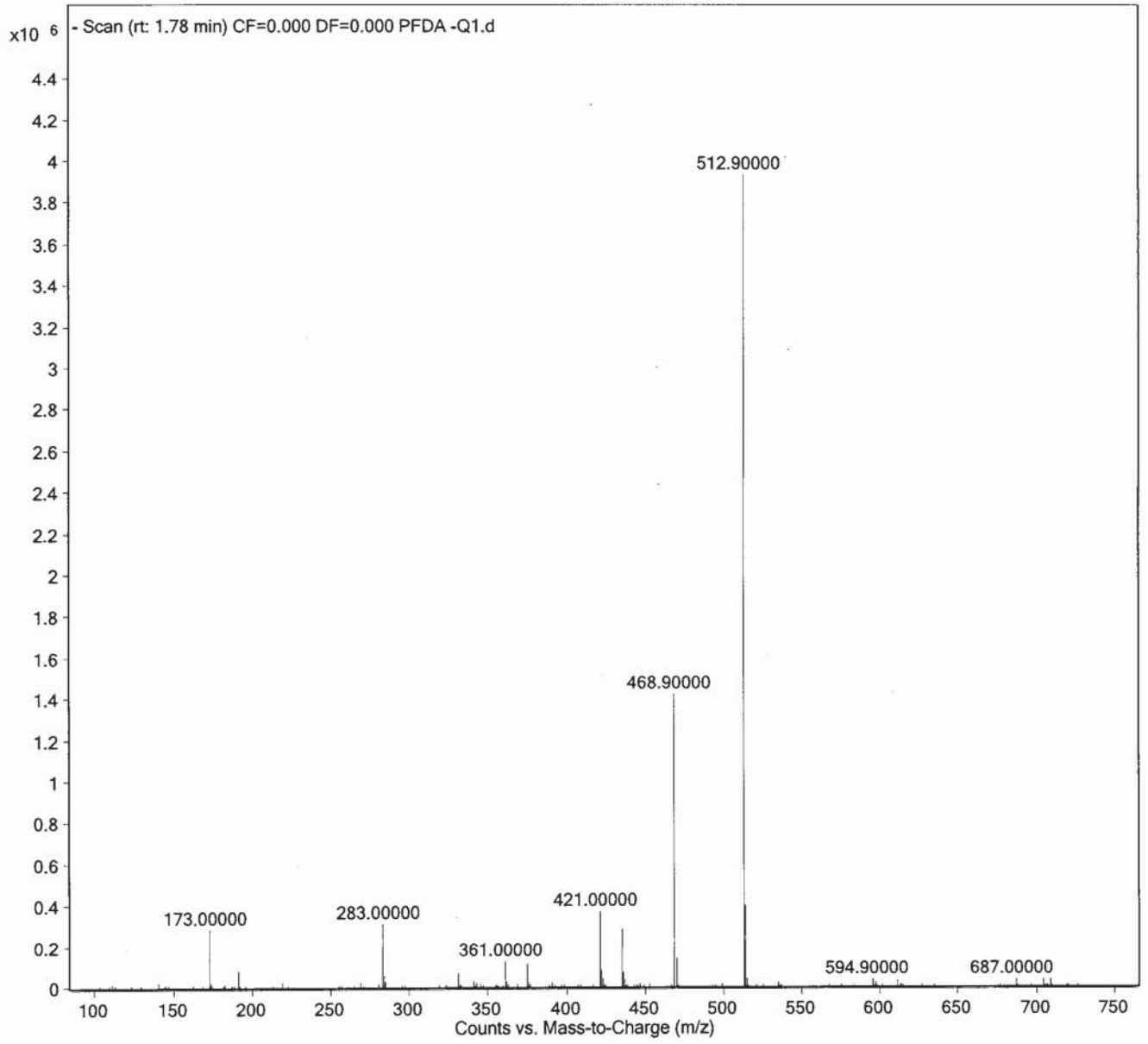
MaxXam Analytics

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**	2017/07/10 5:26:42 PM



Jaakam Analytics

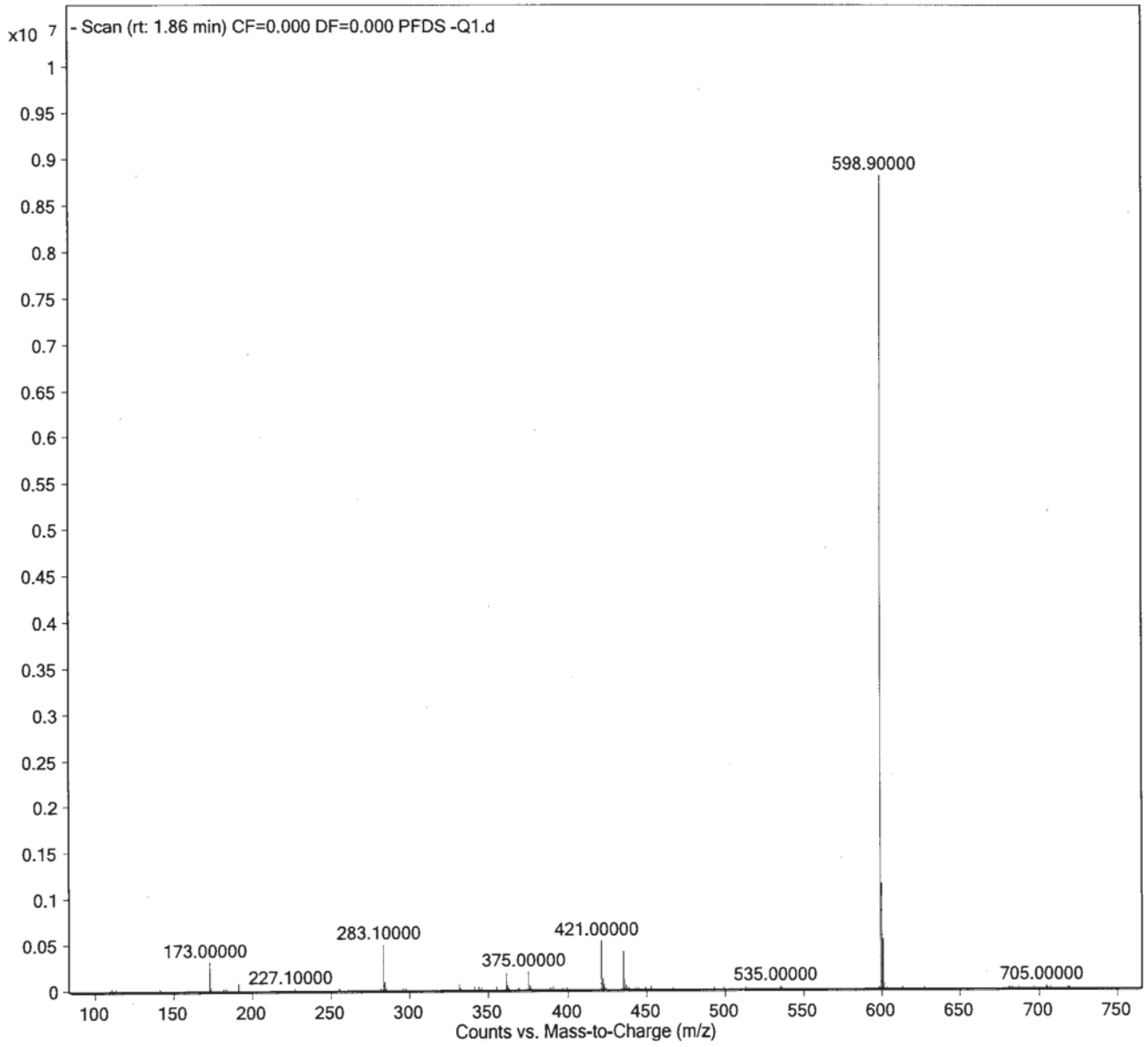
Sample Name	PFDA -Q1	**Position**	P1-B2	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	PFDA -Q1.d
ACQ Method	PFC_MassVerification-Q1.m	**Comment**		**Acquired Time**	2017/07/10 5:32:12 PM



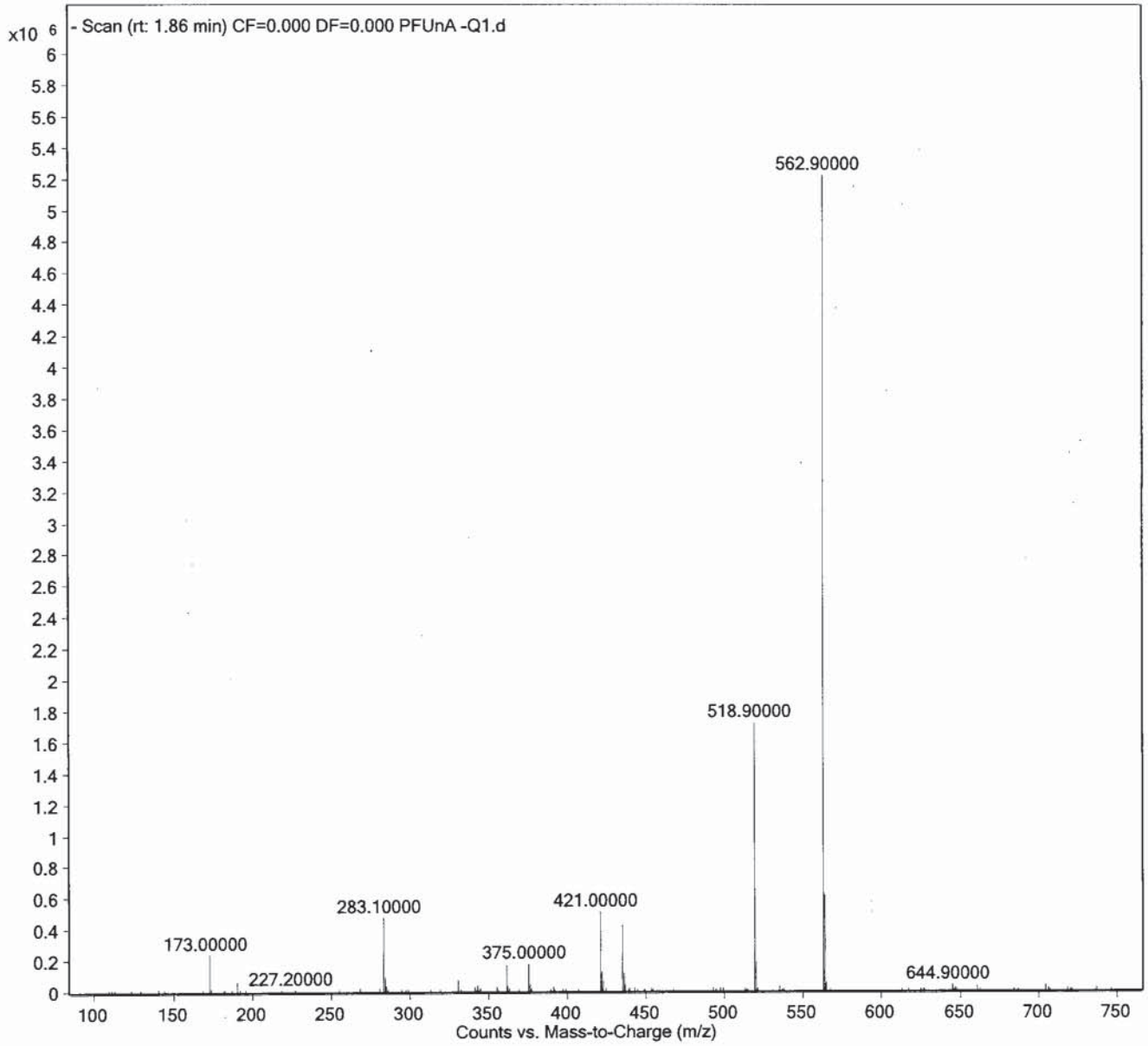
MaxXam Analytics

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**	2017/07/10 5:37:42 PM

Maxxam Analytics

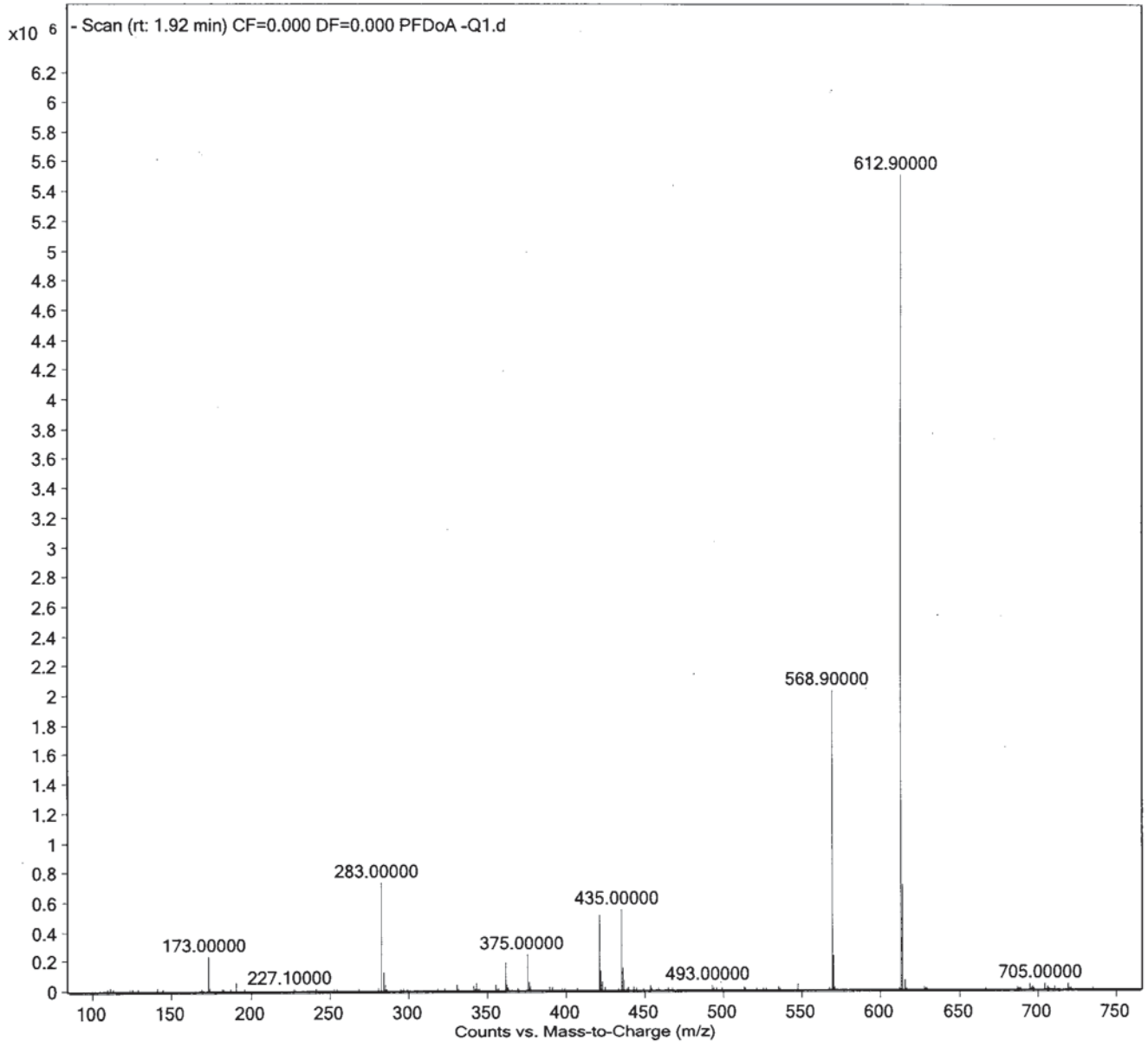


Sample Name	PFUnA -Q1	**Position**	P1-B4	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	PFUnA -Q1.d
ACQ Method	PFC_MassVerification-Q1.m	**Comment**		**Acquired Time**	2017/07/10 5:43:12 PM



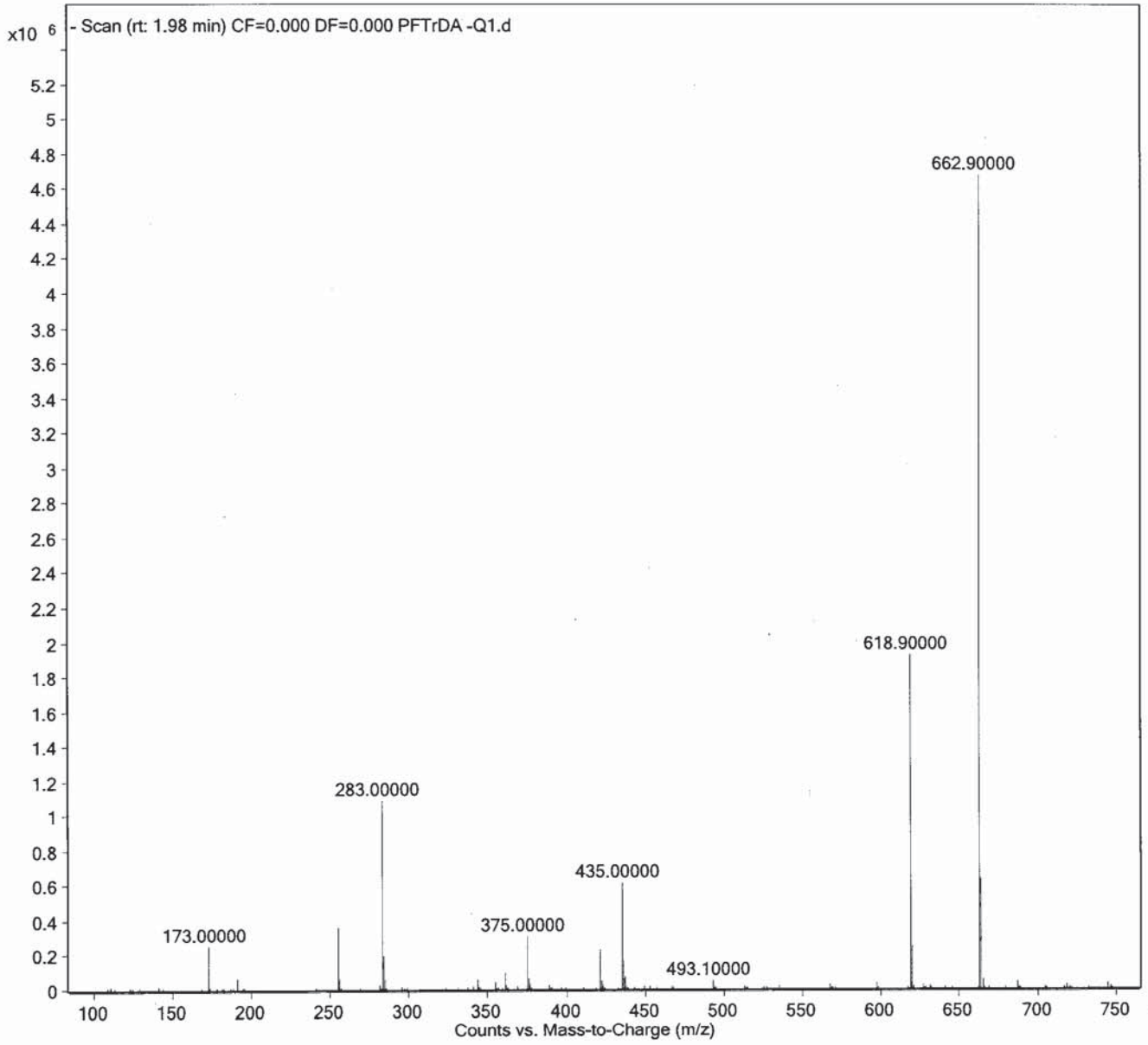
Maxam Analytics

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**	2017/07/10 5:48:42 PM



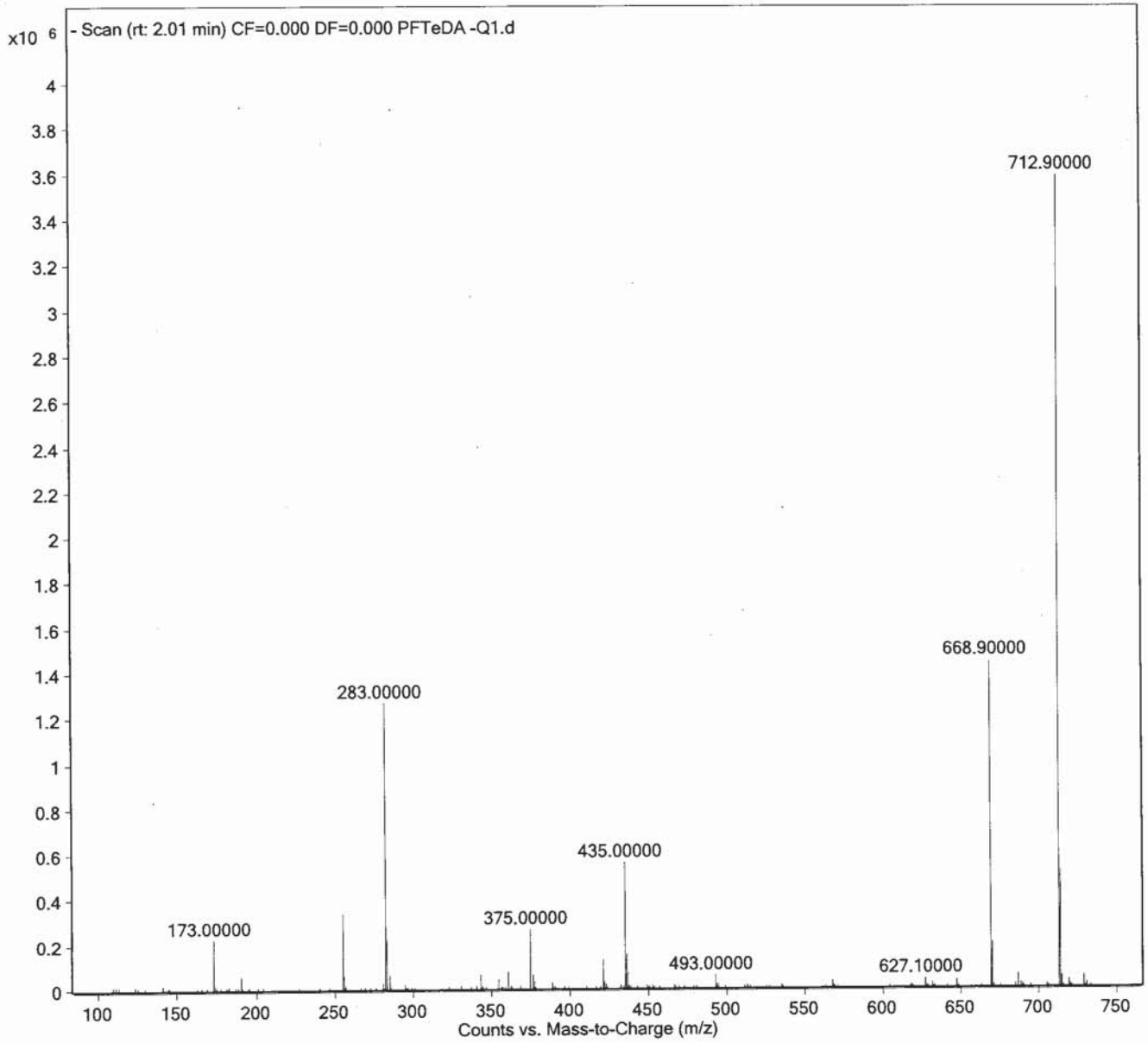
Jaxam Analytics

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**	2017/07/10 5:54:12 PM



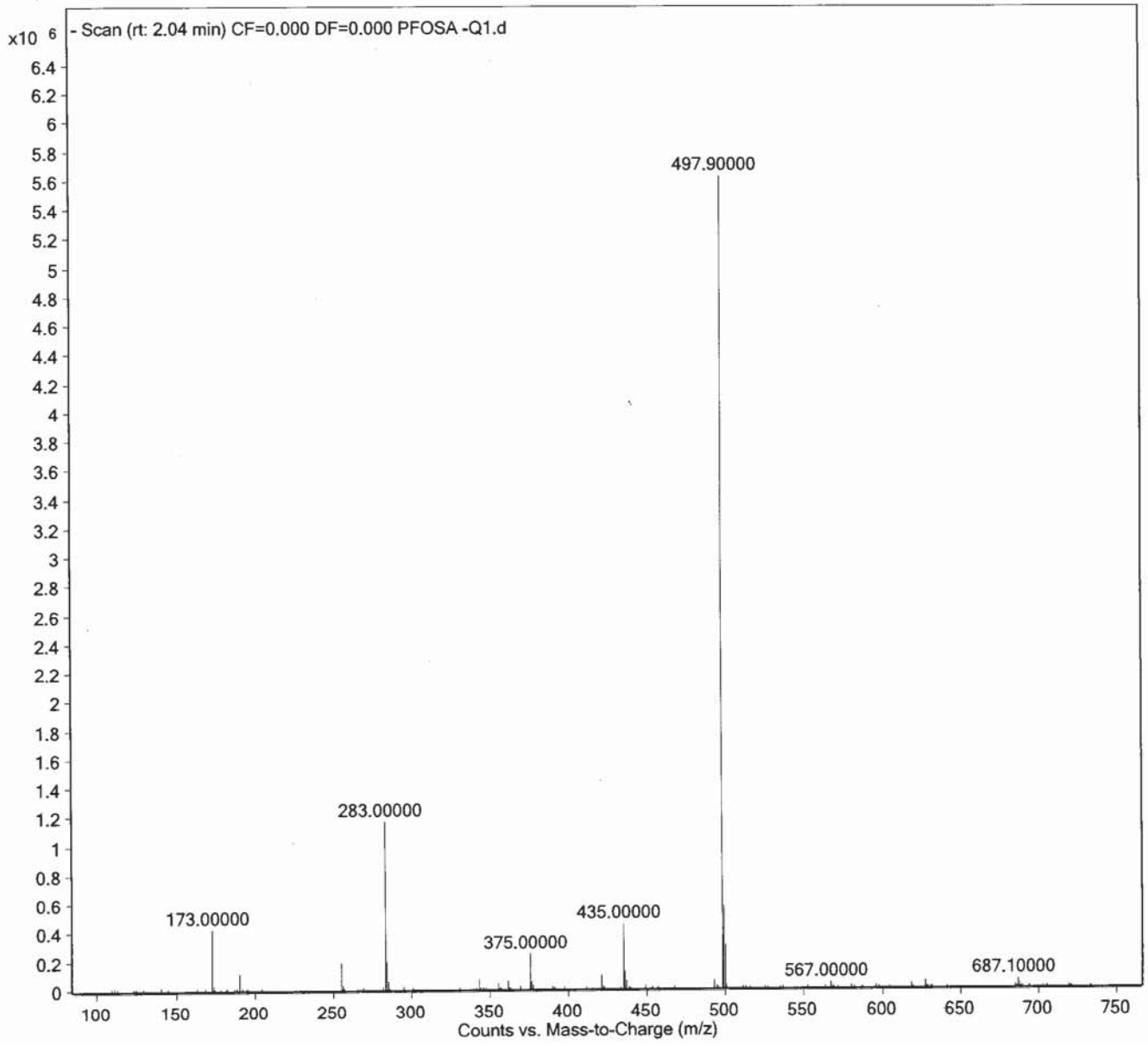
Eurofins Lancaster Laboratories Environmental

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**	2017/07/10 5:59:42 PM



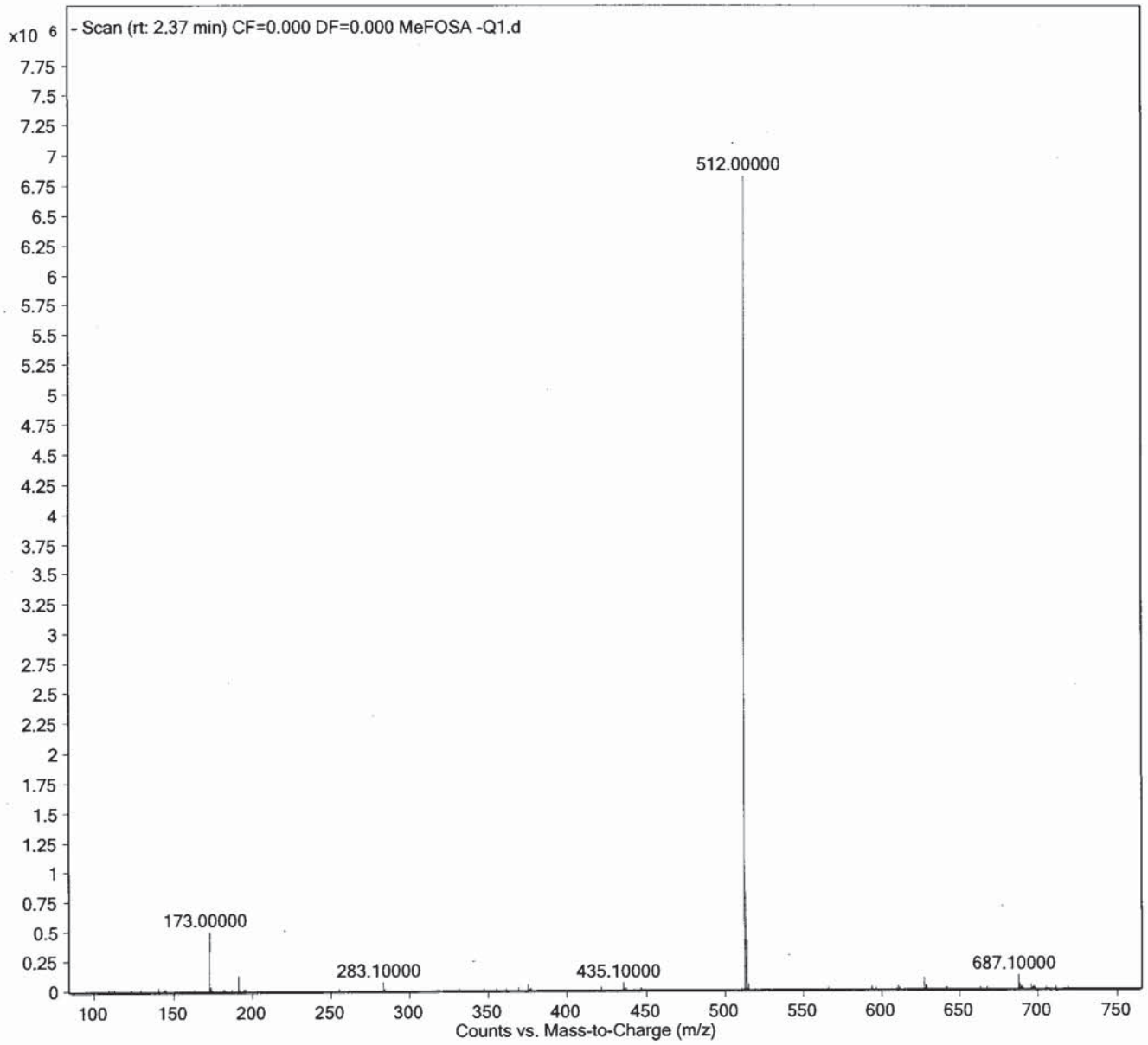
SaraKam Analytics

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**	2017/07/10 6:05:13 PM



SaxAm Analytics

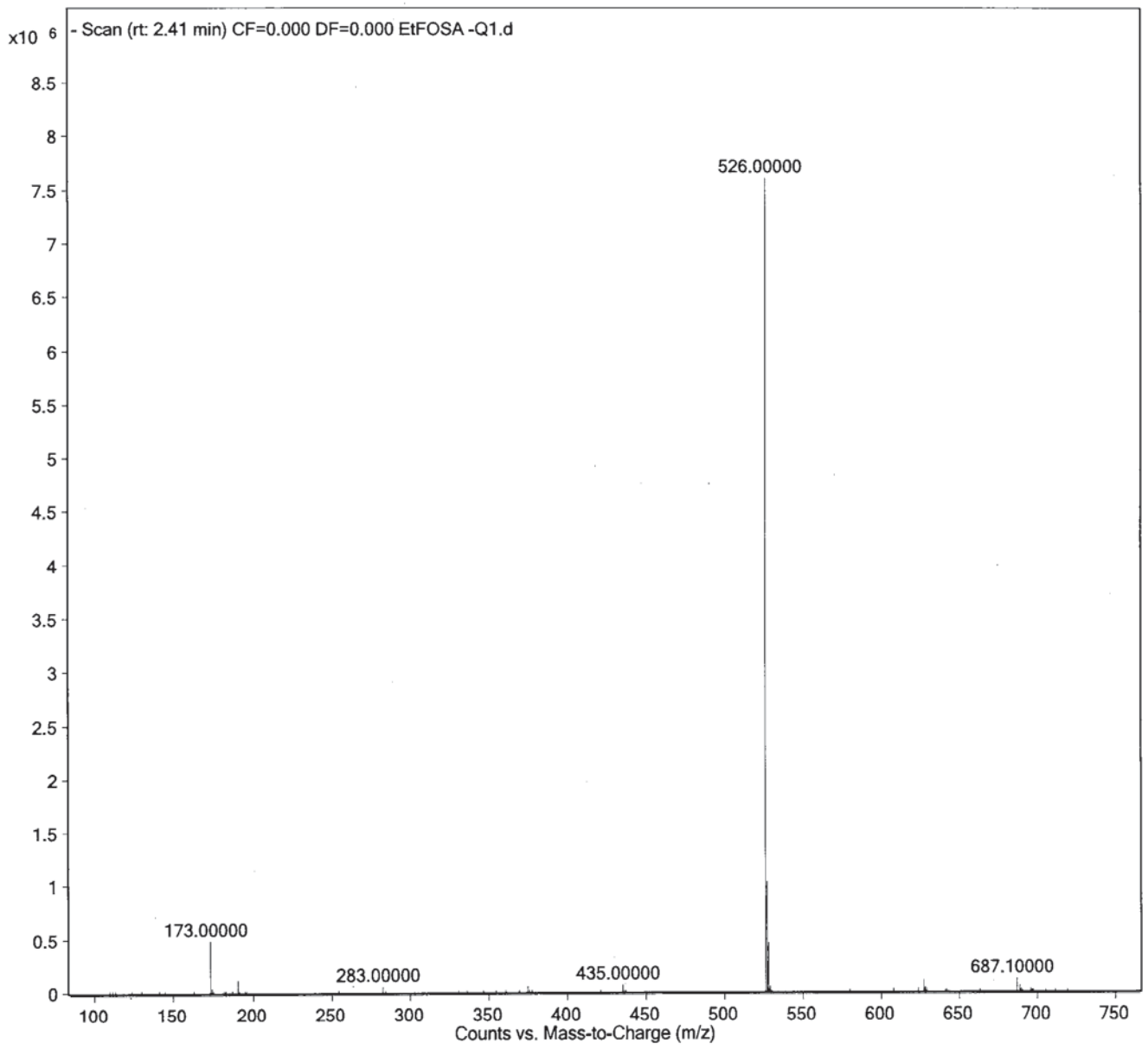
Sample Name	MeFOSA -Q1	**Position**	P1-B9	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	MeFOSA -Q1.d
ACQ Method	PFC_MassVerification-Q1.m	**Comment**		**Acquired Time**	2017/07/10 6:10:45 PM



MaxxAm Analytics

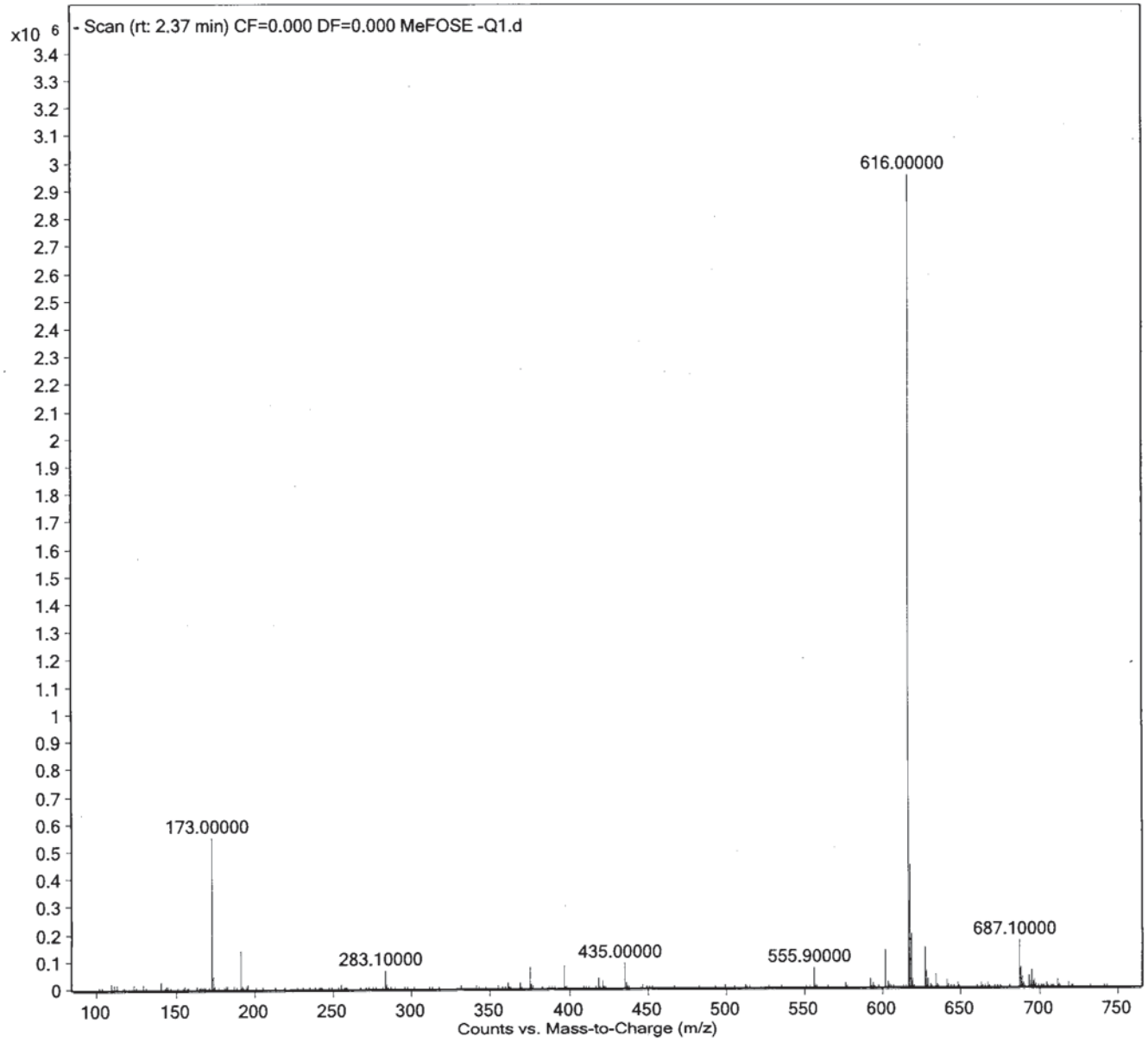
Sample Name	EtFOSA -Q1	**Position**	P1-C1	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	EtFOSA -Q1.d
ACQ Method	PFC_MassVerification-Q1.m	**Comment**		**Acquired Time**	2017/07/10 6:16:16 PM

Maxxam Analytics



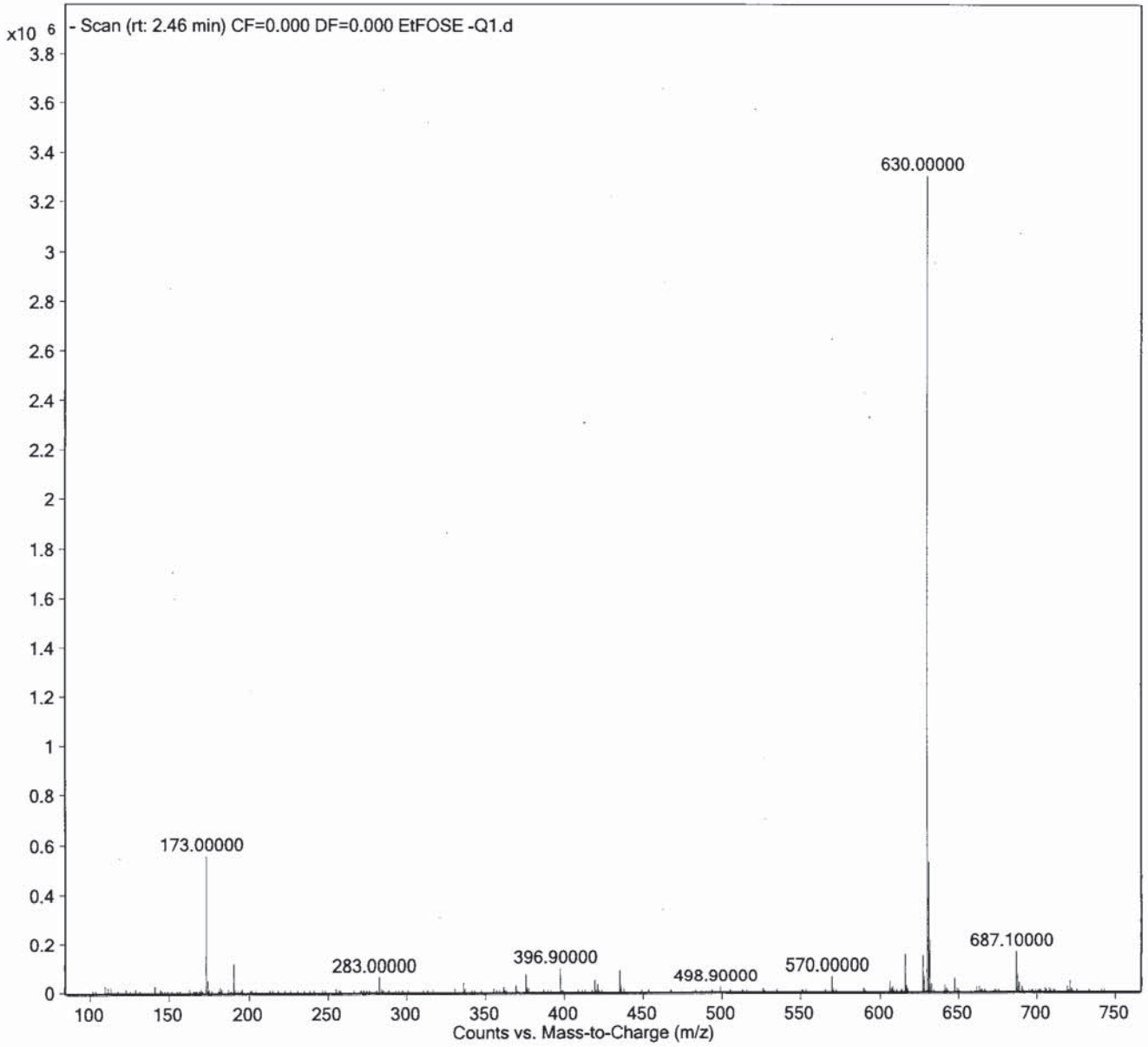
Sample Name	MeFOSE -Q1	**Position**	P1-C2	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	MeFOSE -Q1.d
ACQ Method	PFC_MassVerification-Q1.m	**Comment**		**Acquired Time**	2017/07/10 6:21:46 PM

Battelle Analytics



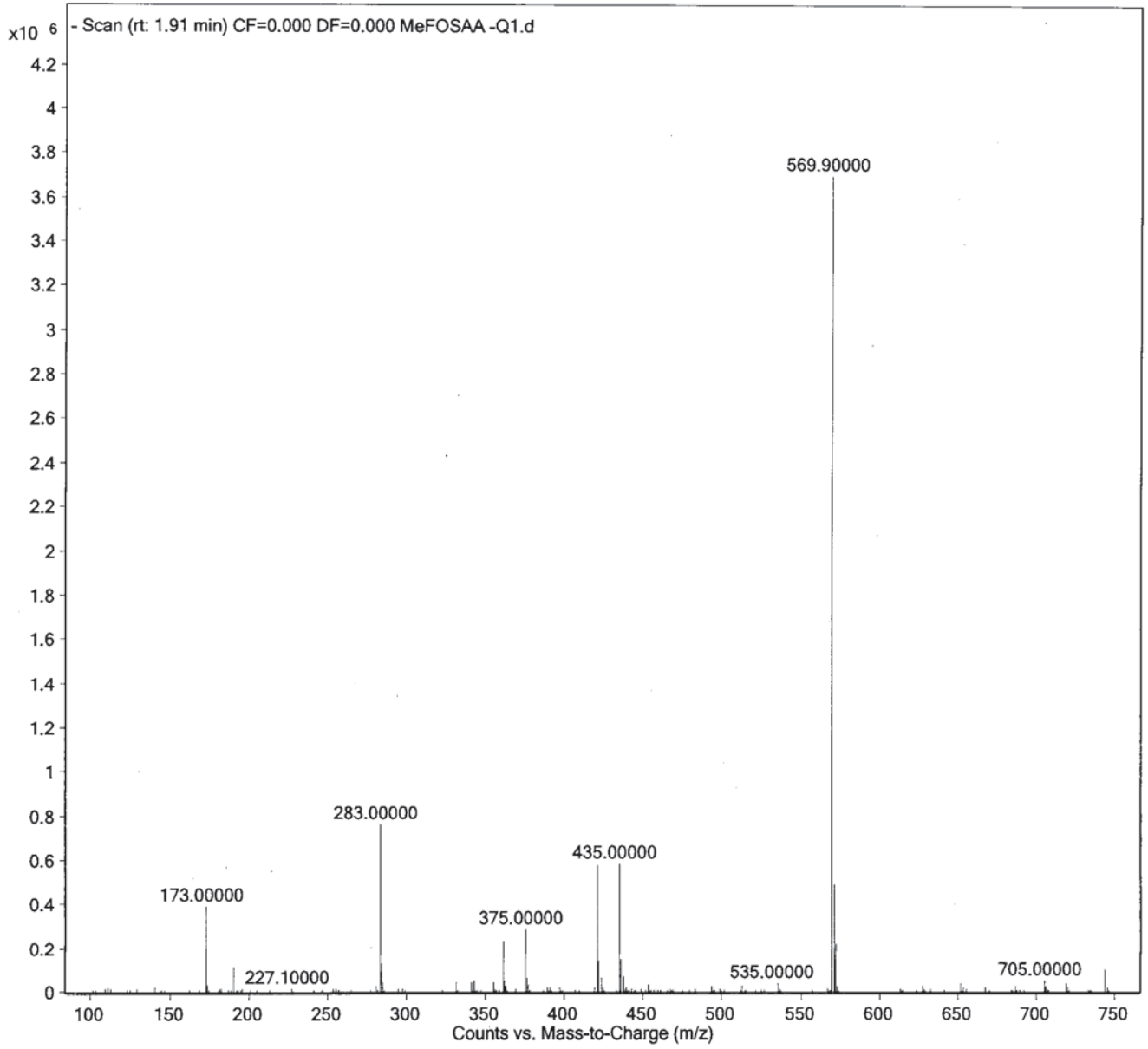
Sample Name	EtFOSE -Q1	**Position**	P1-C3	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	EtFOSE -Q1.d
ACQ Method	PFC_MassVerification-Q1.m	**Comment**		**Acquired Time**	2017/07/10 6:27:16 PM

Maxxam Analytics

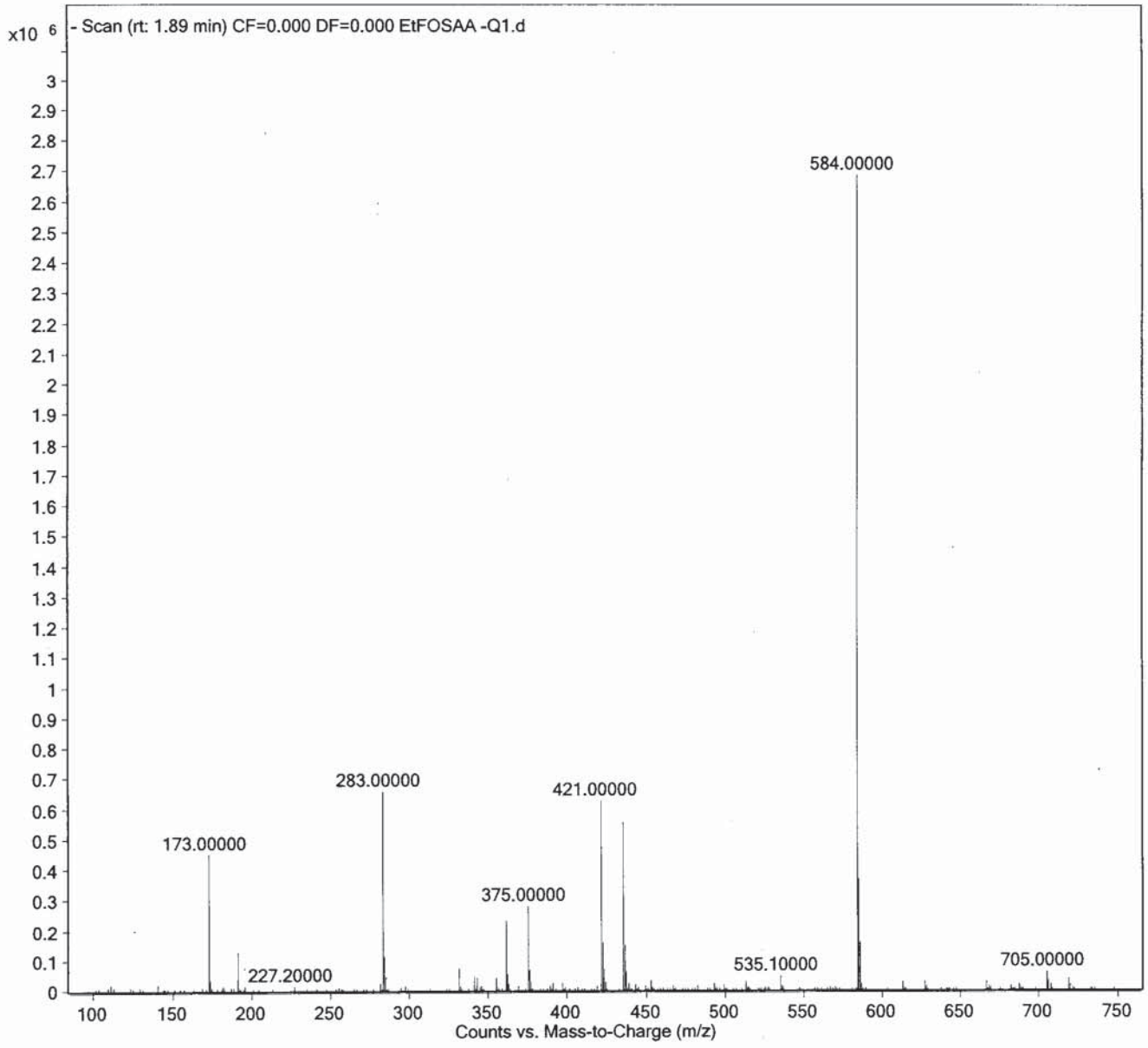


Sample Name	MeFOSAA -Q1	**Position**	P1-C4	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	MeFOSAA -Q1.d
ACQ Method	PFC_MassVerification-Q1.m	**Comment**		**Acquired Time**	2017/07/10 6:32:46 PM

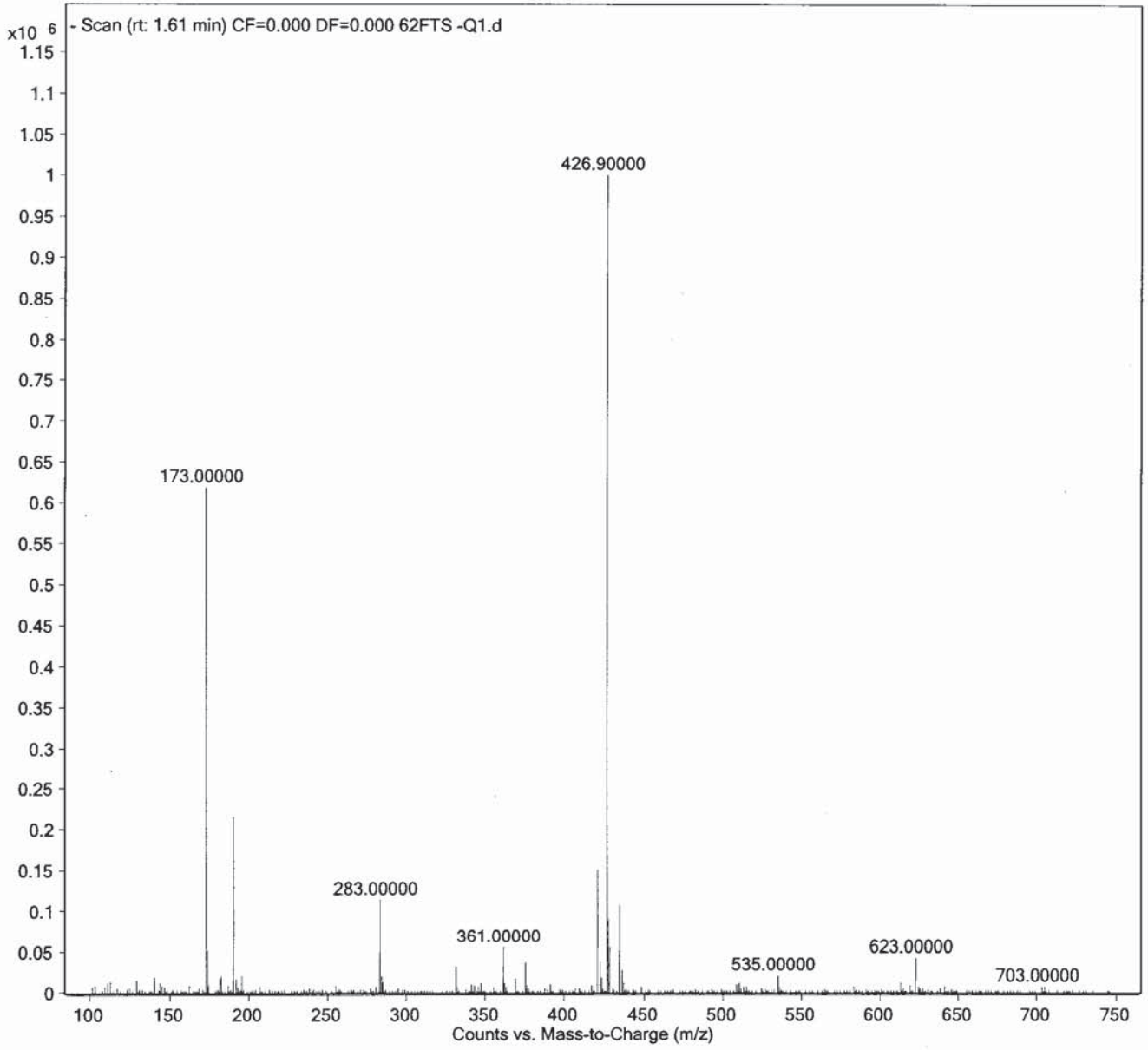
Maxxam Analytics



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**	2017/07/10 6:38:16 PM

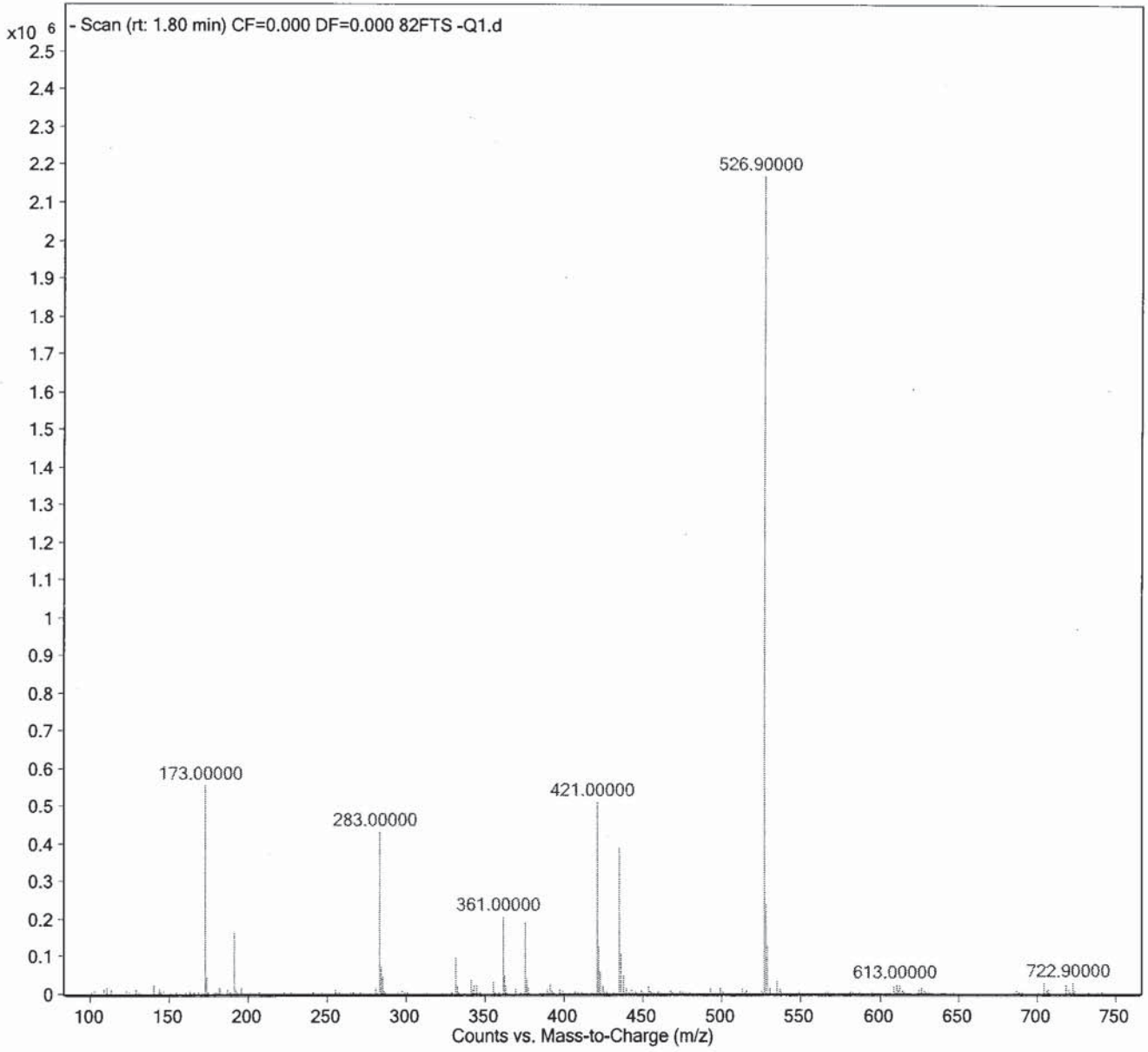


Sample Name	6:2FTS -Q1	**Position**	P1-C6	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	62FTS -Q1.d
ACQ Method	PFC_MassVerification-Q1.m	**Comment**		**Acquired Time**	2017/07/10 6:43:46 PM



Maxxam Analytics

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**	2017/07/10 6:49:16 PM



Maxxam Analytics

Worklist Report

Agilent Technologies

Maxxam Analytics

Instrument Name: LCMS04 **Worklist Path:** D:\MassHunter\Worklists\PFCs\PFAS_MASSVER_170710.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: None

Worklist Table

	Sample Name	Sample Position	Method	Data File	Sample Type	Inj Vol (µl)	Sample Group
1	PFBA -Q1	P1-A1	PFC_MassVerification-Q1.m	PFBA -Q1.d	Sample	As Method	PFAS-Q1
2	PFBS -Q1	P1-A2	PFC_MassVerification-Q1.m	PFBS -Q1.d	Sample	As Method	PFAS-Q1
3	PFPeA -Q1	P1-A3	PFC_MassVerification-Q1.m	PFPeA -Q1.d	Sample	As Method	PFAS-Q1
4	PFHxA -Q1	P1-A4	PFC_MassVerification-Q1.m	PFHxA -Q1.d	Sample	As Method	PFAS-Q1
5	PFHxS -Q1	P1-A5	PFC_MassVerification-Q1.m	PFHxS -Q1.d	Sample	As Method	PFAS-Q1
6	PFHpA-Q1	P1-A6	PFC_MassVerification-Q1.m	PFHpA-Q1.d	Sample	As Method	PFAS-Q1
7	PFHpS-Q1	P1-A7	PFC_MassVerification-Q1.m	PFHpS-Q1.d	Sample	As Method	PFAS-Q1
8	PFOA -Q1	P1-A8	PFC_MassVerification-Q1.m	PFOA -Q1.d	Sample	As Method	PFAS-Q1
9	PFOS -Q1	P1-A9	PFC_MassVerification-Q1.m	PFOS -Q1.d	Sample	As Method	PFAS-Q1

590 of 854

Worklist Report

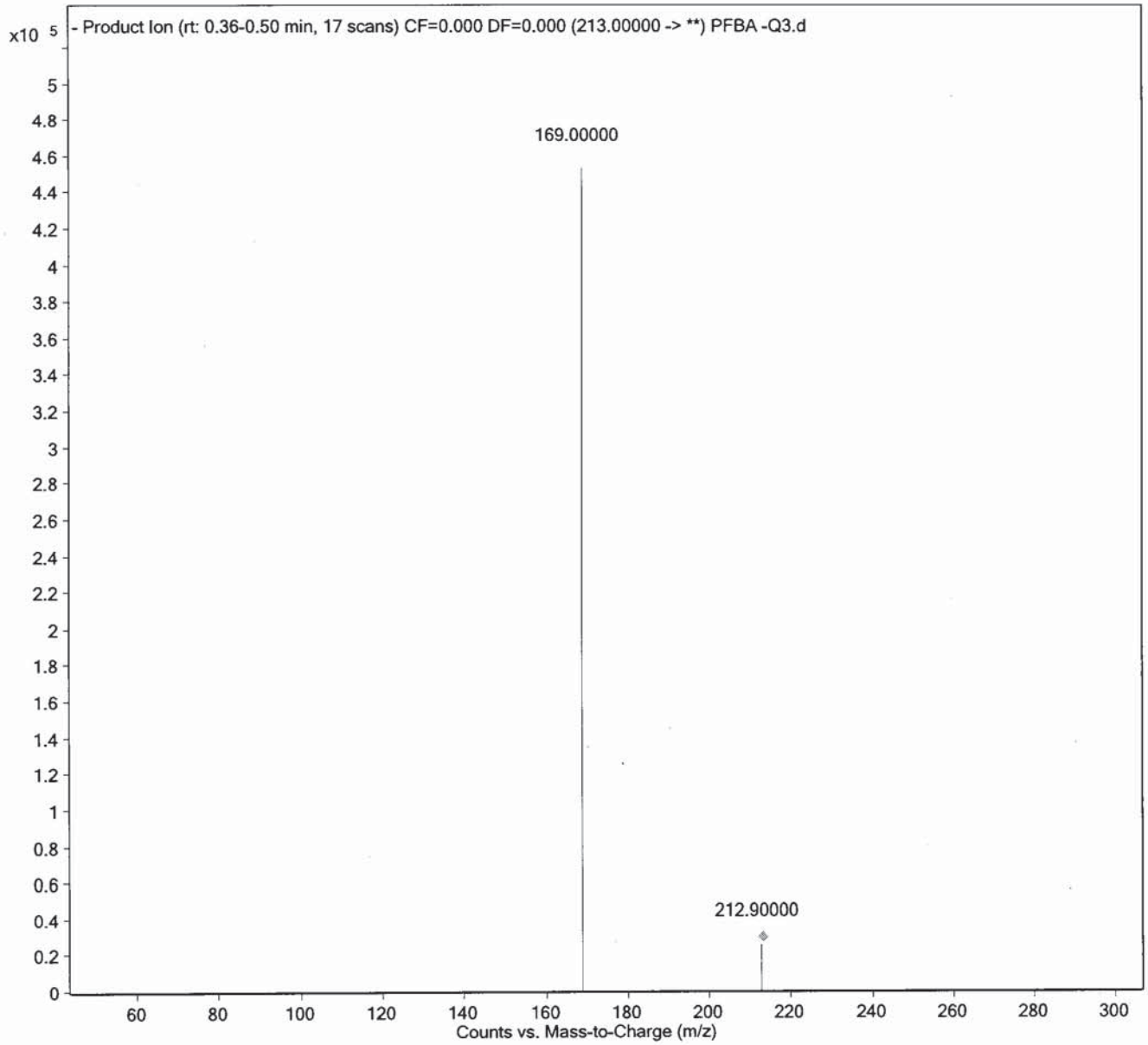
Agilent Technologies

	Sample Name	Sample Position	Method	Data File	Sample Type	Inj Vol (µl)	Sample Group
10	PFNA -Q1	P1-B1	PFC_MassVerification-Q1.m	PFNA -Q1.d	Sample	As Method	PFAS-Q1
11	PFDA -Q1	P1-B2	PFC_MassVerification-Q1.m	PFDA -Q1.d	Sample	As Method	PFAS-Q1
12	PFDS -Q1	P1-B3	PFC_MassVerification-Q1.m	PFDS -Q1.d	Sample	As Method	PFAS-Q1
13	PFUnA -Q1	P1-B4	PFC_MassVerification-Q1.m	PFUnA -Q1.d	Sample	As Method	PFAS-Q1
14	PFDoA -Q1	P1-B5	PFC_MassVerification-Q1.m	PFDoA -Q1.d	Sample	As Method	PFAS-Q1
15	PFTrDA -Q1	P1-B6	PFC_MassVerification-Q1.m	PFTrDA -Q1.d	Sample	As Method	PFAS-Q1
16	PFTeDA -Q1	P1-B7	PFC_MassVerification-Q1.m	PFTeDA -Q1.d	Sample	As Method	PFAS-Q1
17	PFOSA -Q1	P1-B8	PFC_MassVerification-Q1.m	PFOSA -Q1.d	Sample	As Method	PFAS-Q1
18	MeFOSA -Q1	P1-B9	PFC_MassVerification-Q1.m	MeFOSA -Q1.d	Sample	As Method	PFAS-Q1
19	EtFOSA -Q1	P1-C1	PFC_MassVerification-Q1.m	EtFOSA -Q1.d	Sample	As Method	PFAS-Q1
20	MeFOSE -Q1	P1-C2	PFC_MassVerification-Q1.m	MeFOSE -Q1.d	Sample	As Method	PFAS-Q1
21	EtFOSE -Q1	P1-C3	PFC_MassVerification-Q1.m	EtFOSE -Q1.d	Sample	As Method	PFAS-Q1
22	MeFOSAA -Q1	P1-C4	PFC_MassVerification-Q1.m	MeFOSAA -Q1.d	Sample	As Method	PFAS-Q1
23	EtFOSAA -Q1	P1-C5	PFC_MassVerification-Q1.m	EtFOSAA -Q1.d	Sample	As Method	PFAS-Q1
24	6:2FTS -Q1	P1-C6	PFC_MassVerification-Q1.m	62FTS -Q1.d	Sample	As Method	PFAS-Q1
25	8:2FTS -Q1	P1-C7	PFC_MassVerification-Q1.m	82FTS -Q1.d	Sample	As Method	PFAS-Q1

Maxxam Analytics

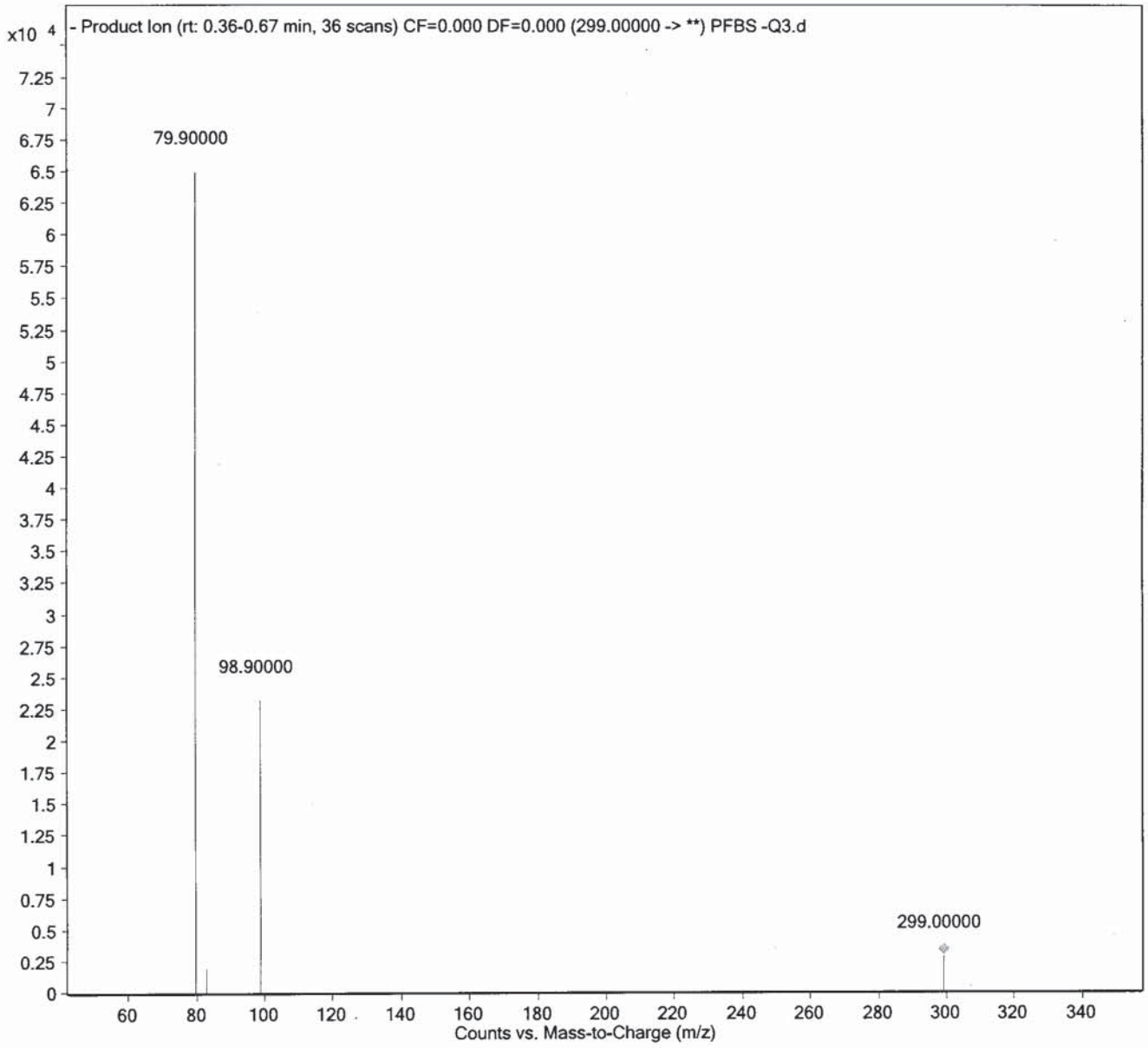
Analyte Product Ion Verification

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**	2017/07/10 6:54:46 PM

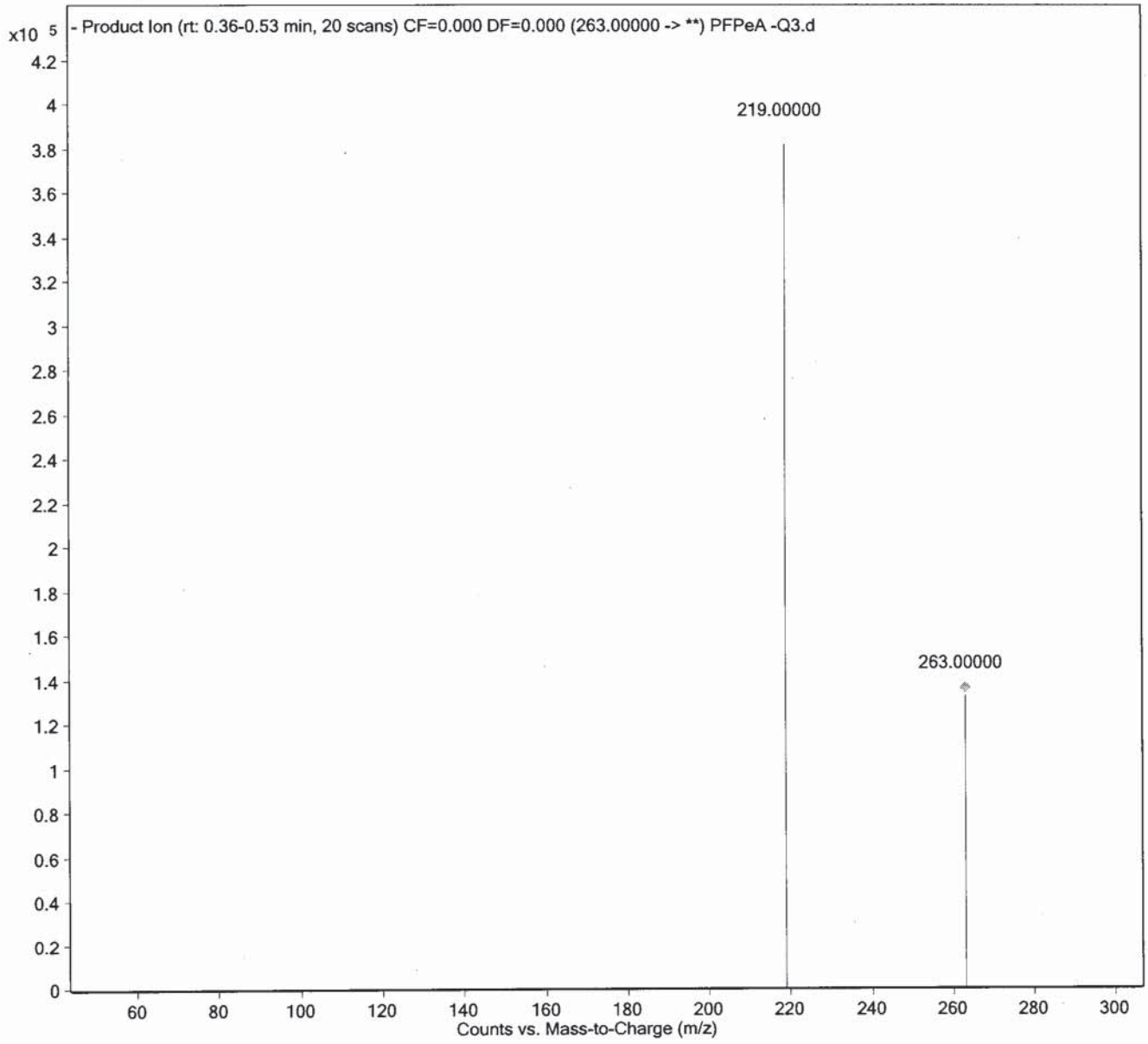


SAExam Analytics

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**	2017/07/10 7:00:16 PM

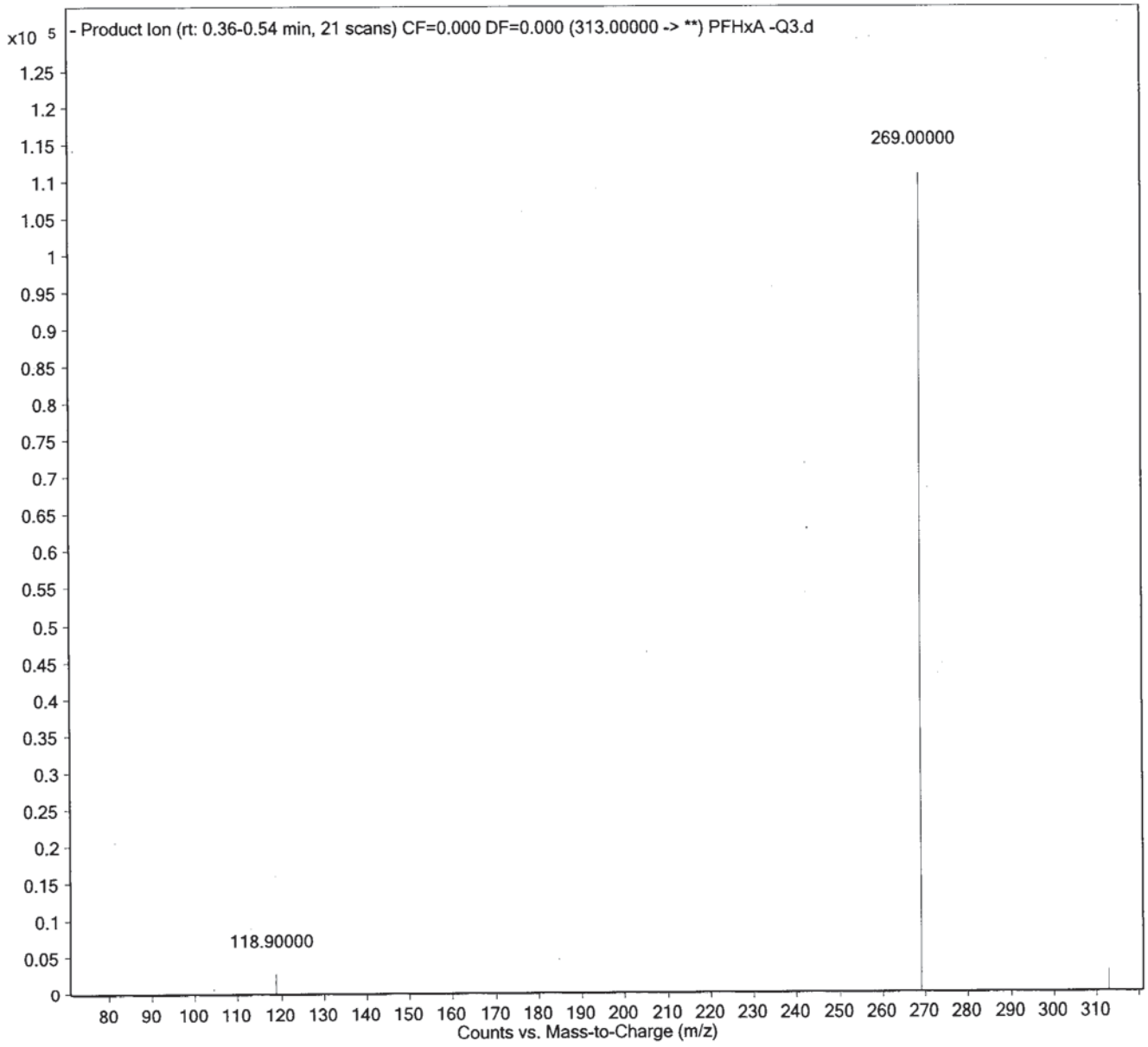


Sample Name	PFPeA -Q3	**Position**	P1-A3	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	PFPeA -Q3.d
ACQ Method	PFC_MassVerification-PFPeA-Q3.m	**Comment**		**Acquired Time**	2017/07/10 7:05:46 PM



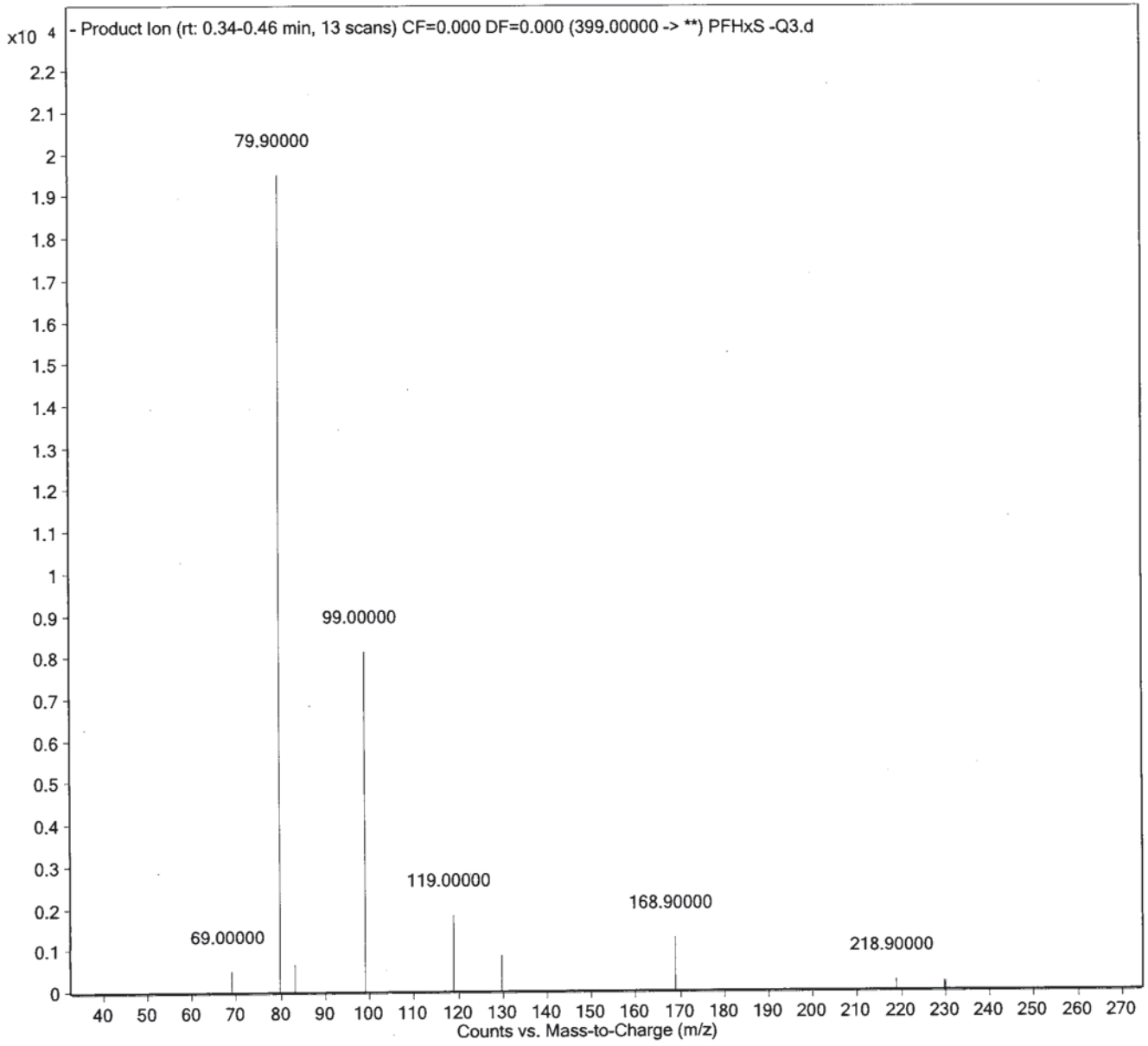
Eurofins Eaton Analytics

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**	2017/07/10 7:11:16 PM



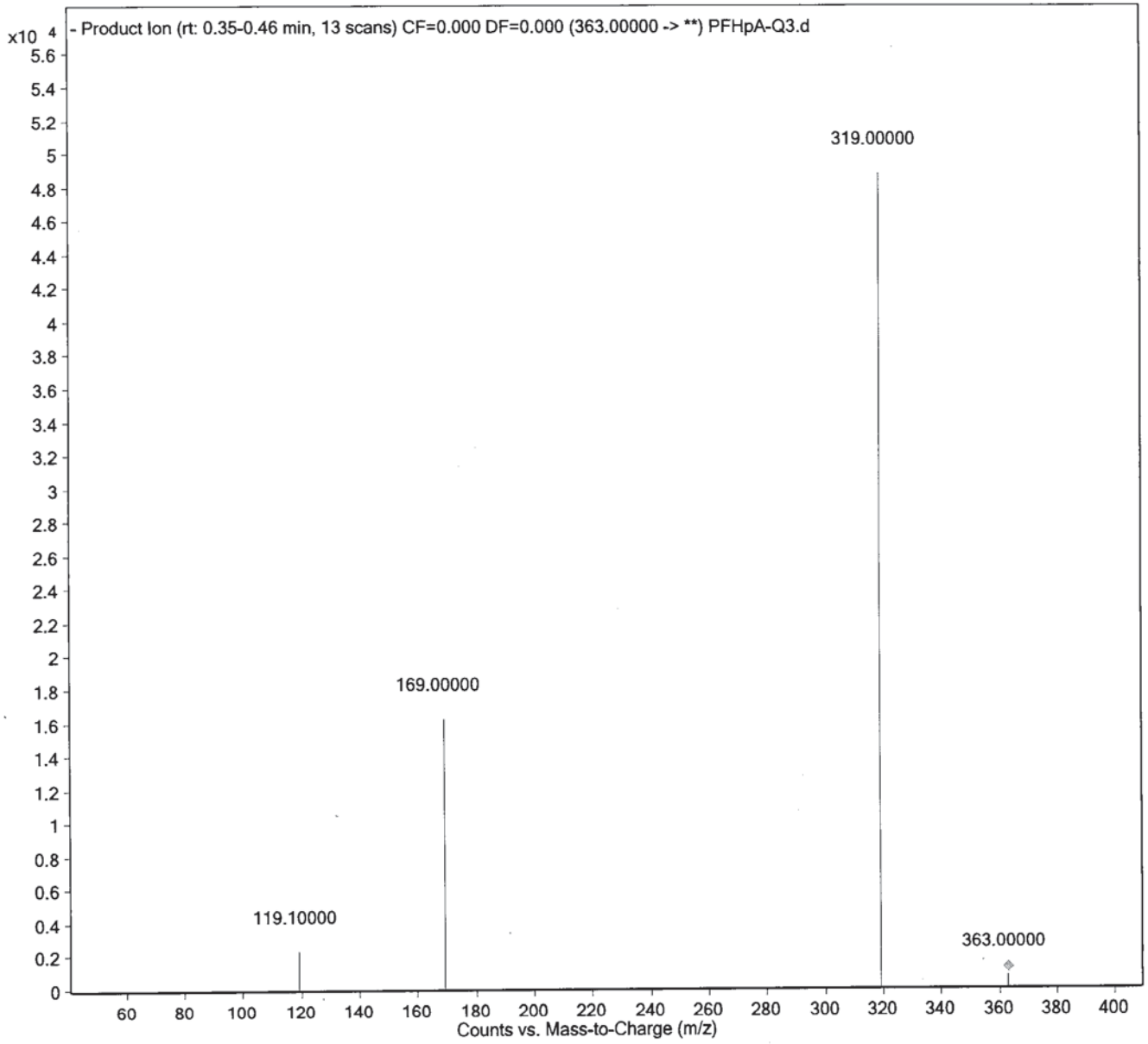
SaxKam Analytics

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**	2017/07/10 7:16:46 PM



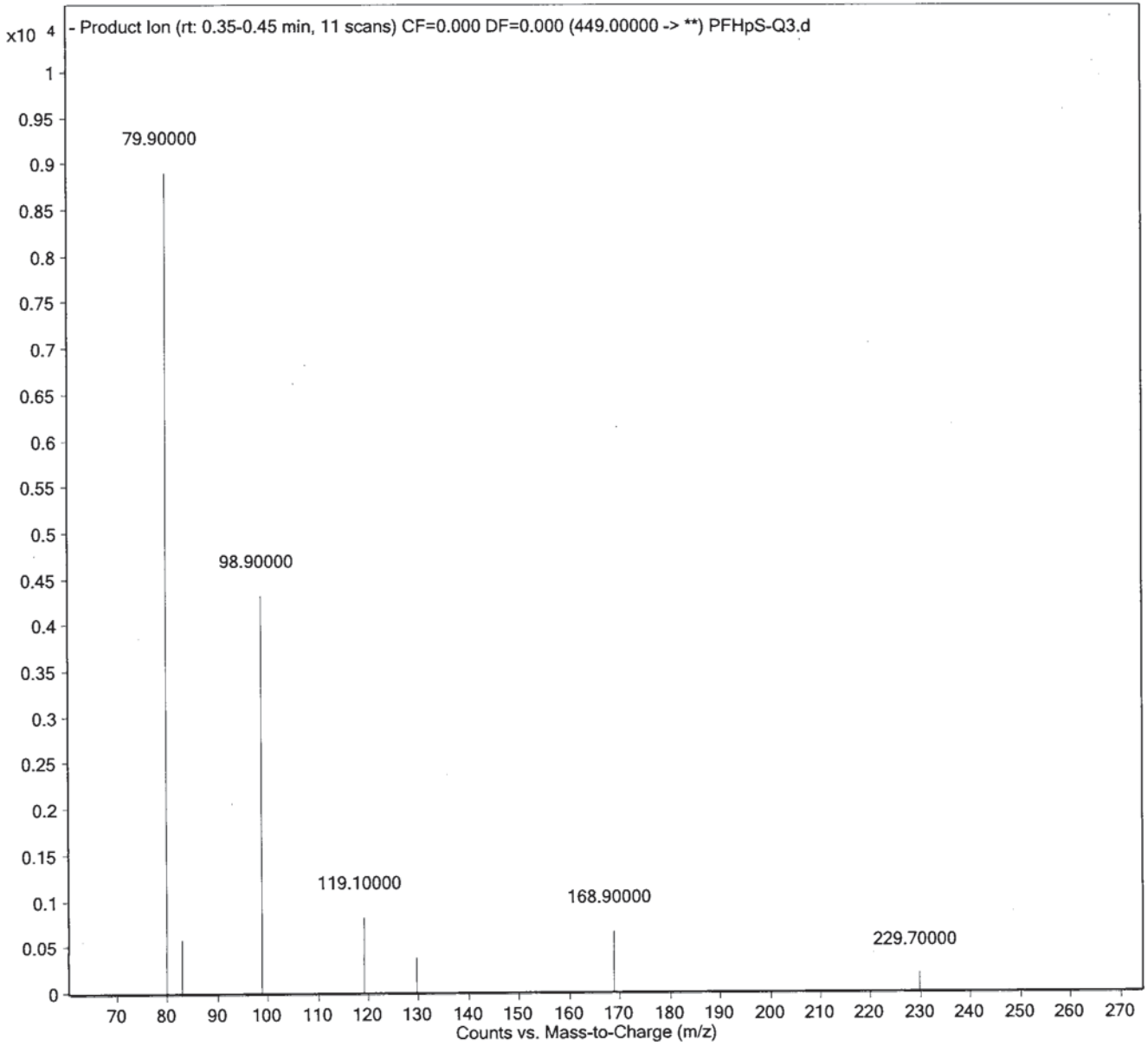
SaxKam Analytics

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**	2017/07/10 7:22:16 PM



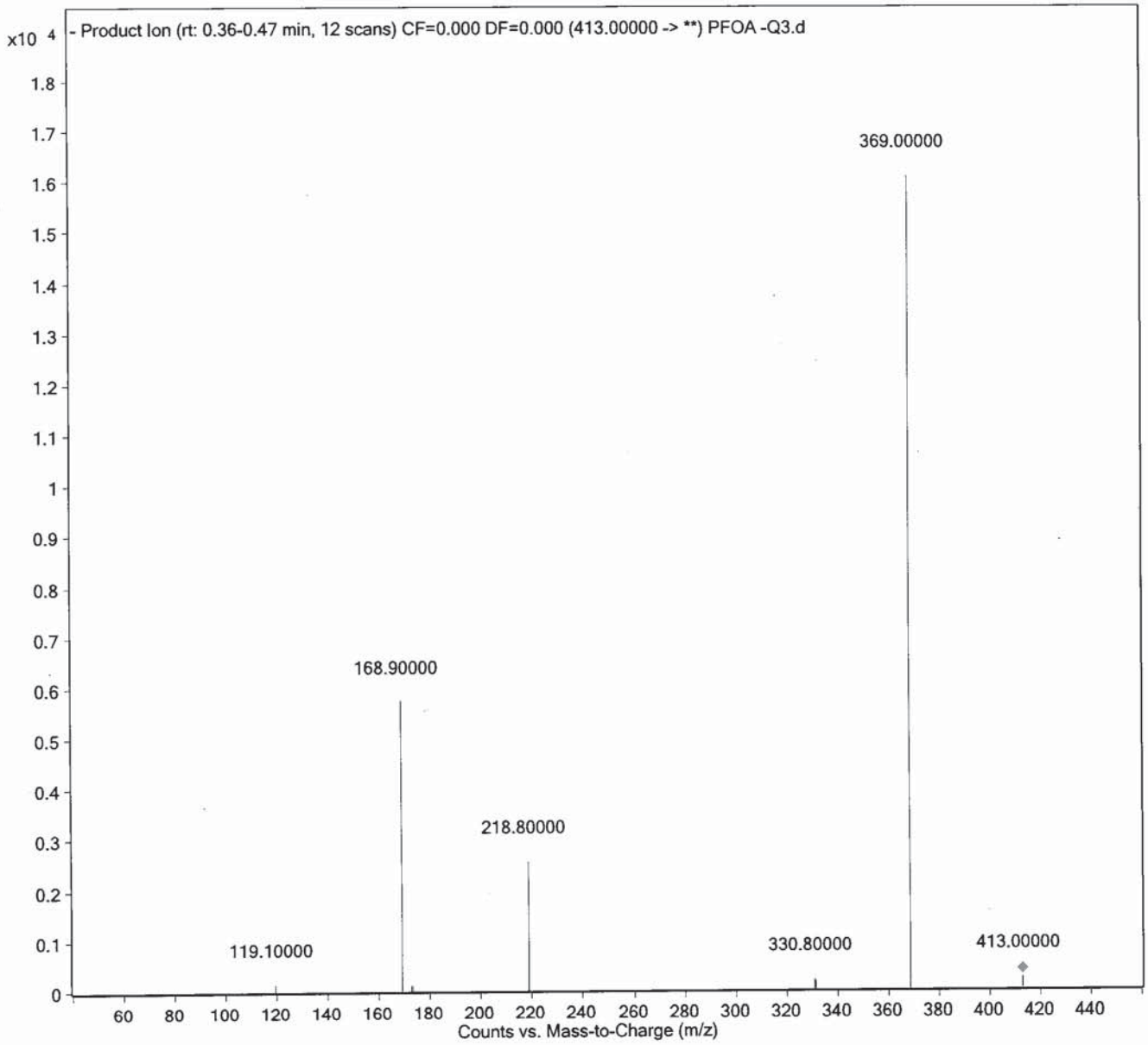
Maxxam Analytics

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**	2017/07/10 7:27:47 PM



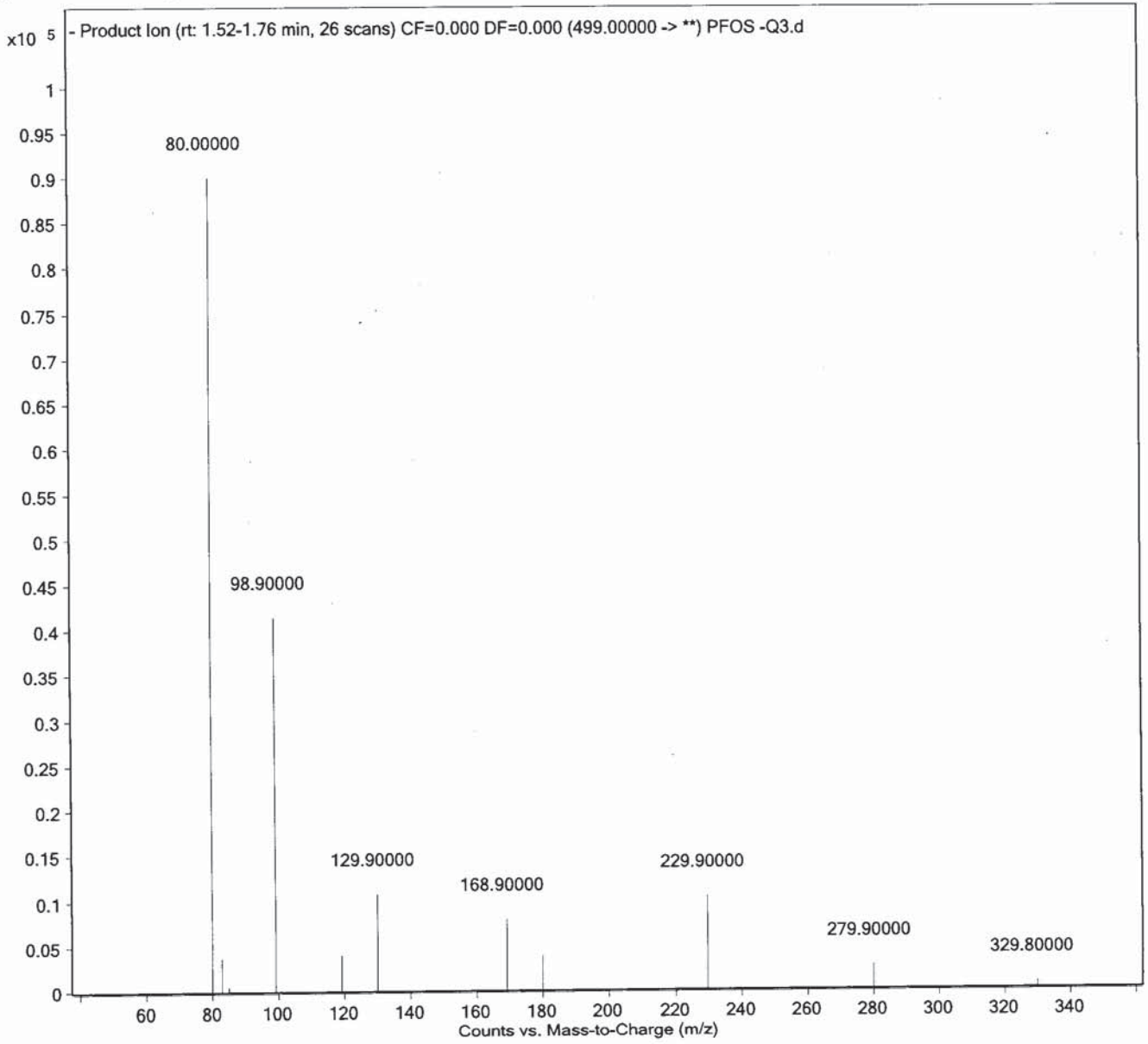
Eurofins Eaton Analytics

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**	2017/07/10 7:33:19 PM



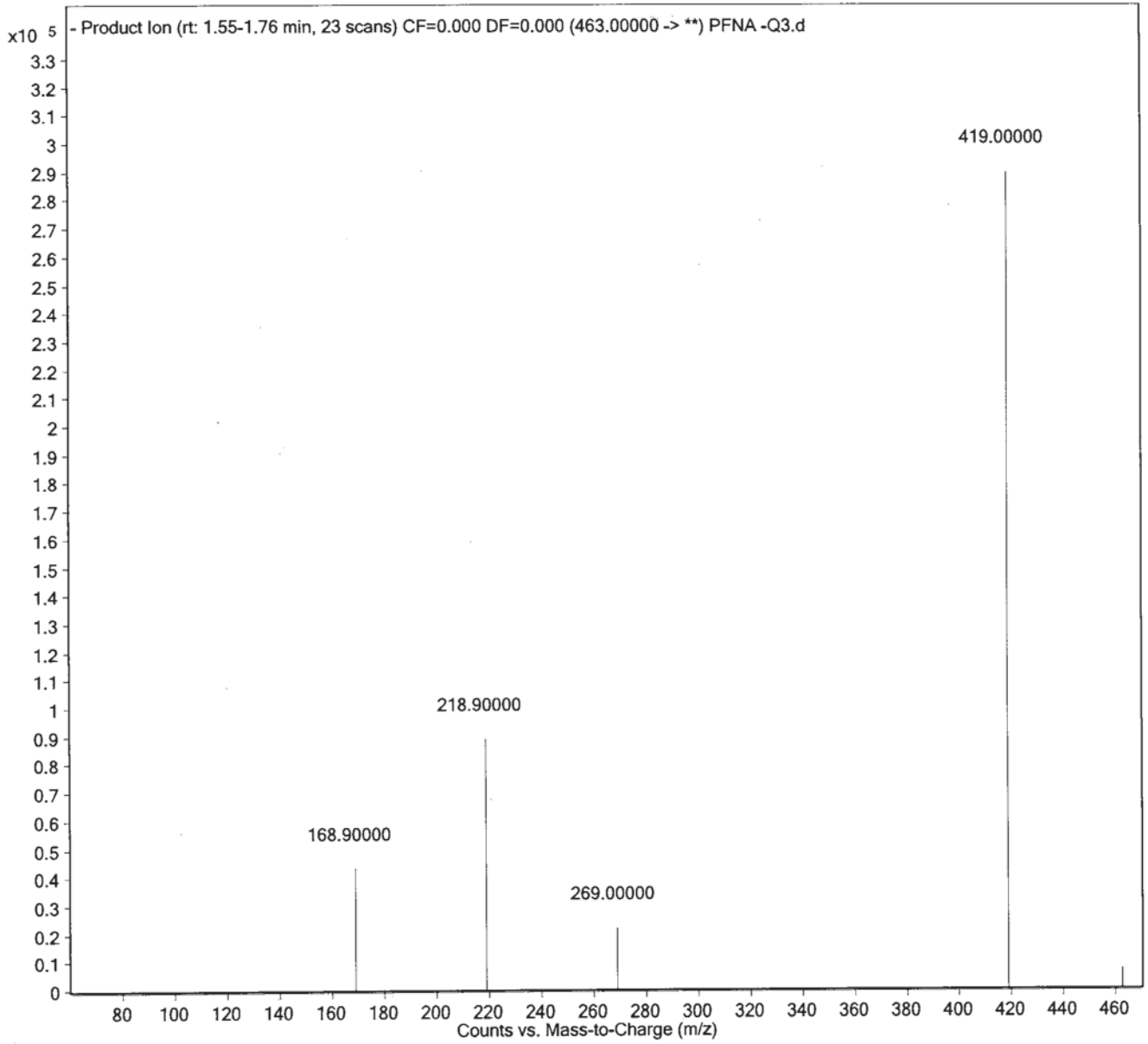
Eurofins Lancaster Laboratories Environmental, LLC
Eurofins Lancaster Laboratories Analytics

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
CQ Method	PFC_MassVerification-PFOS-Q3.m	**Comment**		**Acquired Time**	2017/07/10 7:38:51 PM



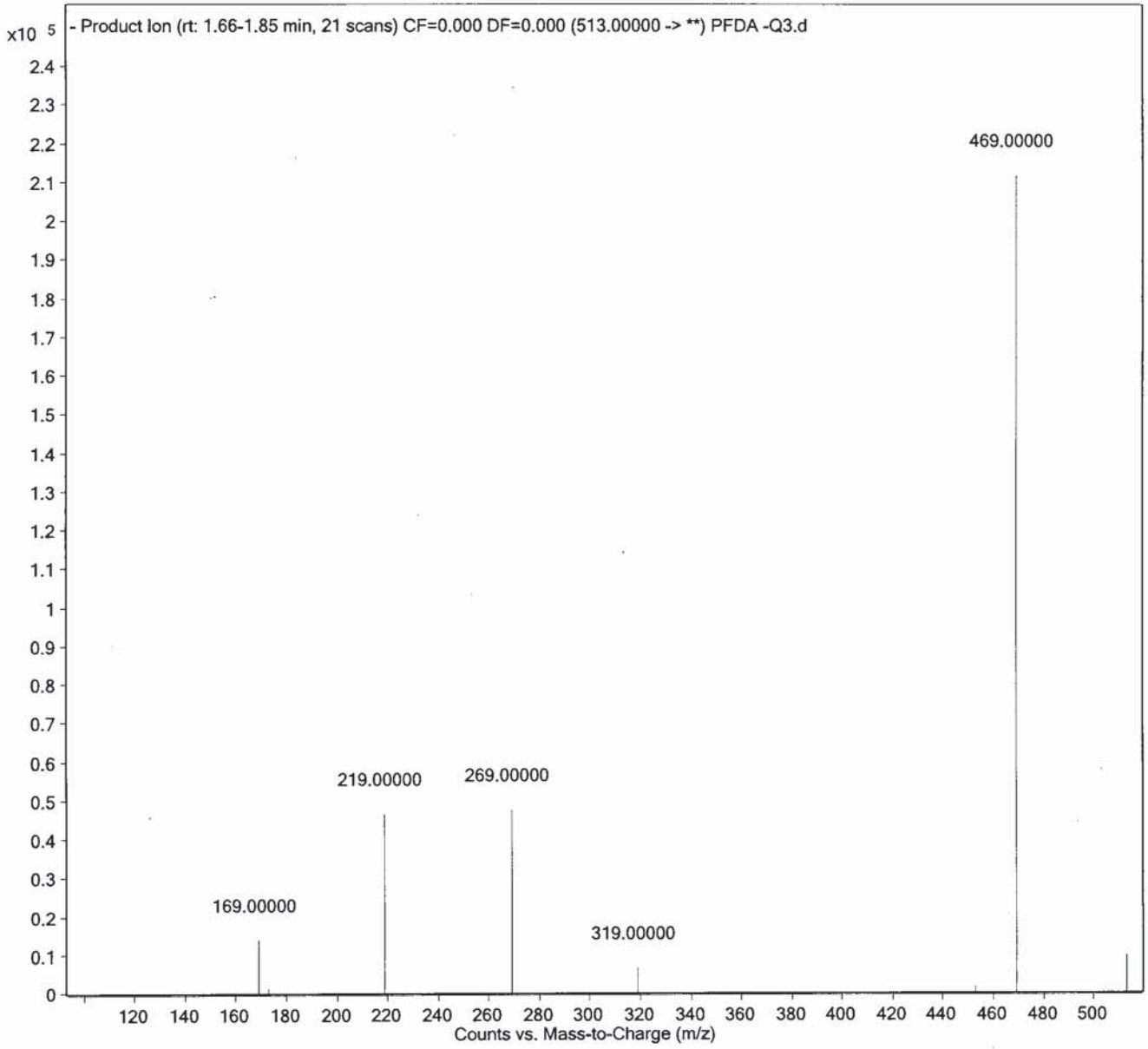
Maxxam Analytics

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
CQ Method	PFC_MassVerification-PFNA-Q3.m	**Comment**		**Acquired Time**	2017/07/10 7:44:22 PM



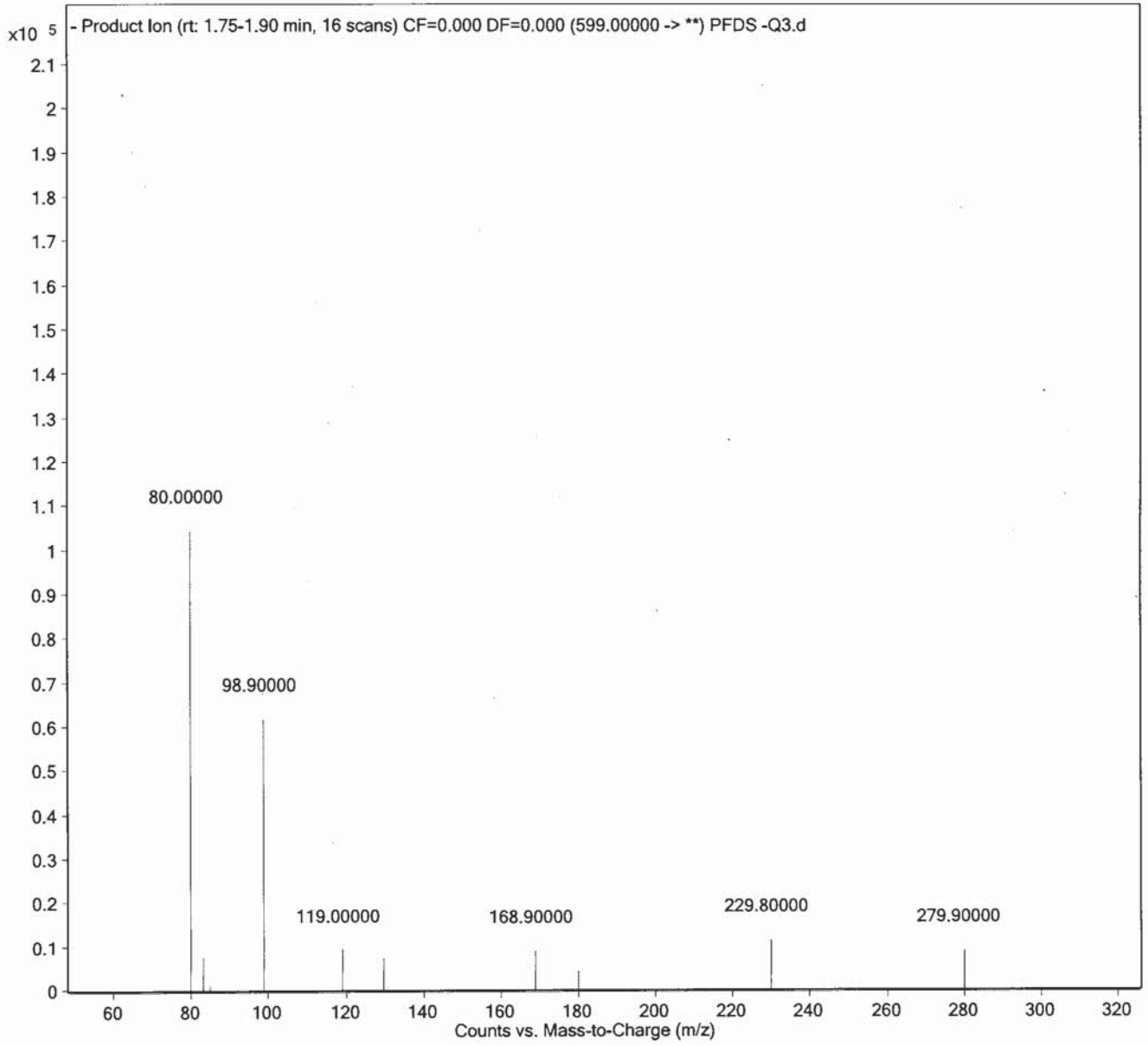
Saxam Analytics

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**	2017/07/10 7:49:52 PM



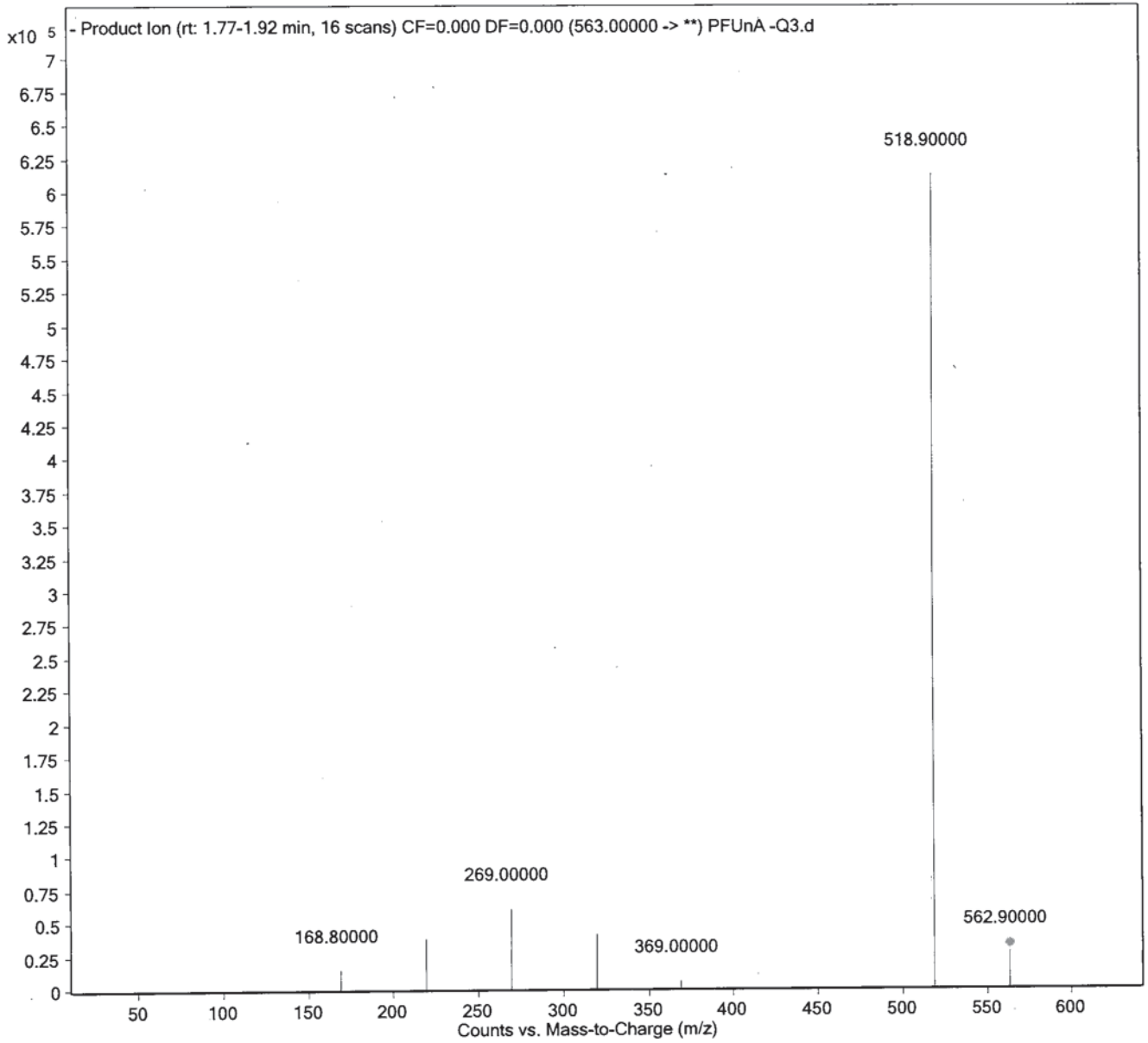
Jaxam Analytics

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**	2017/07/10 7:55:22 PM



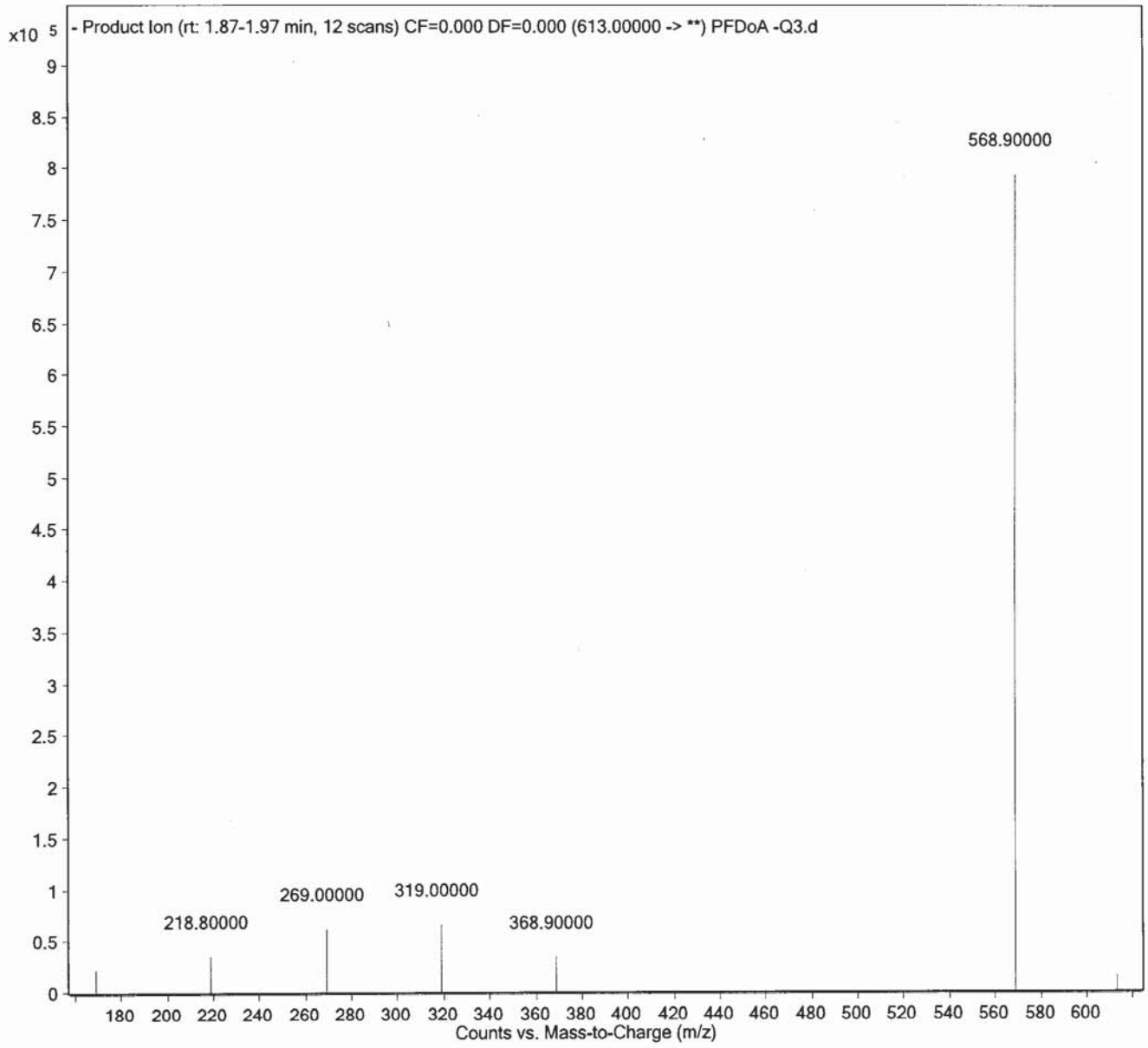
Alaskan Analytics

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**	2017/07/10 8:00:52 PM



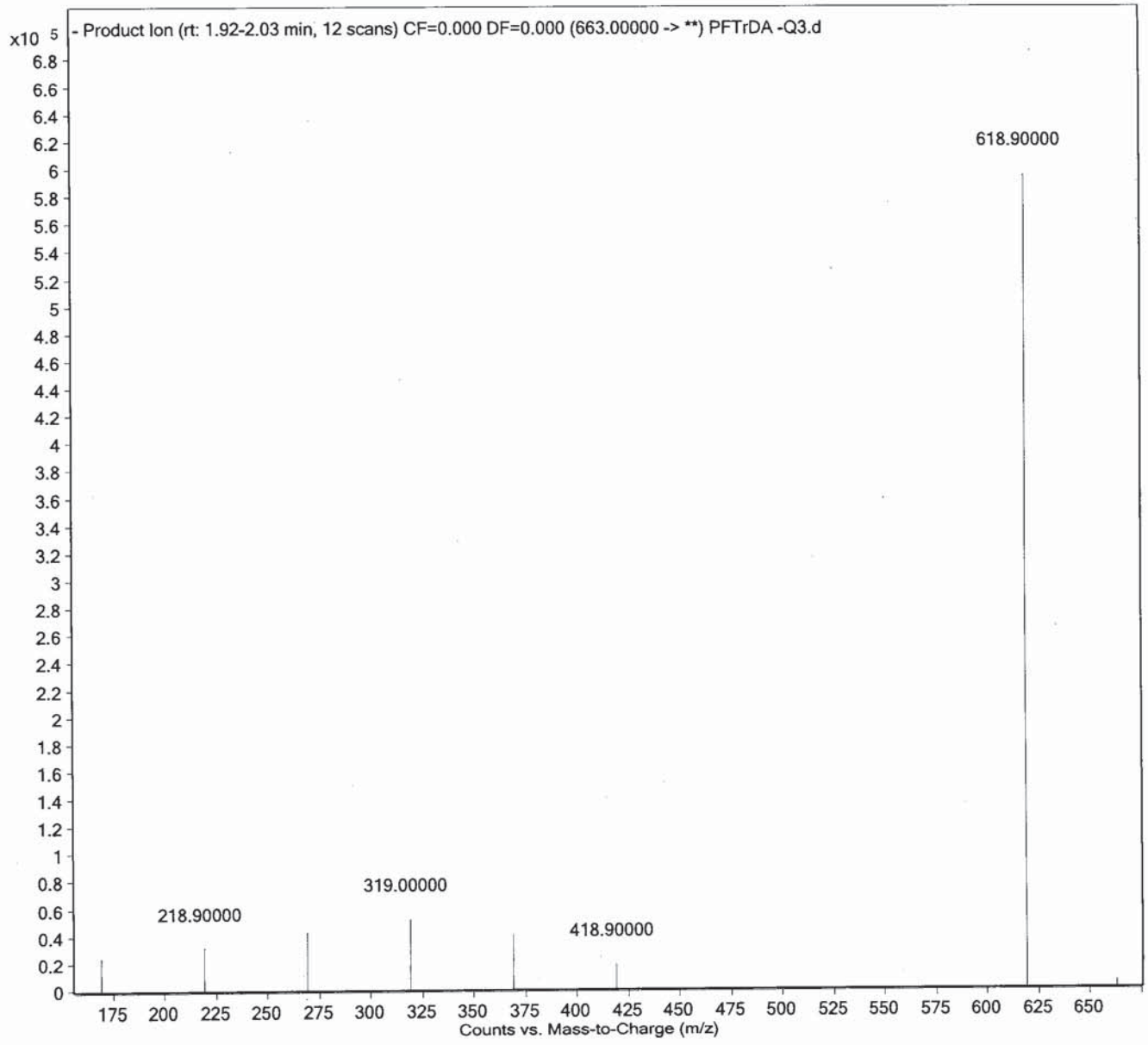
Maxxam Analytics

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**	2017/07/10 8:06:23 PM



Saram Analytics

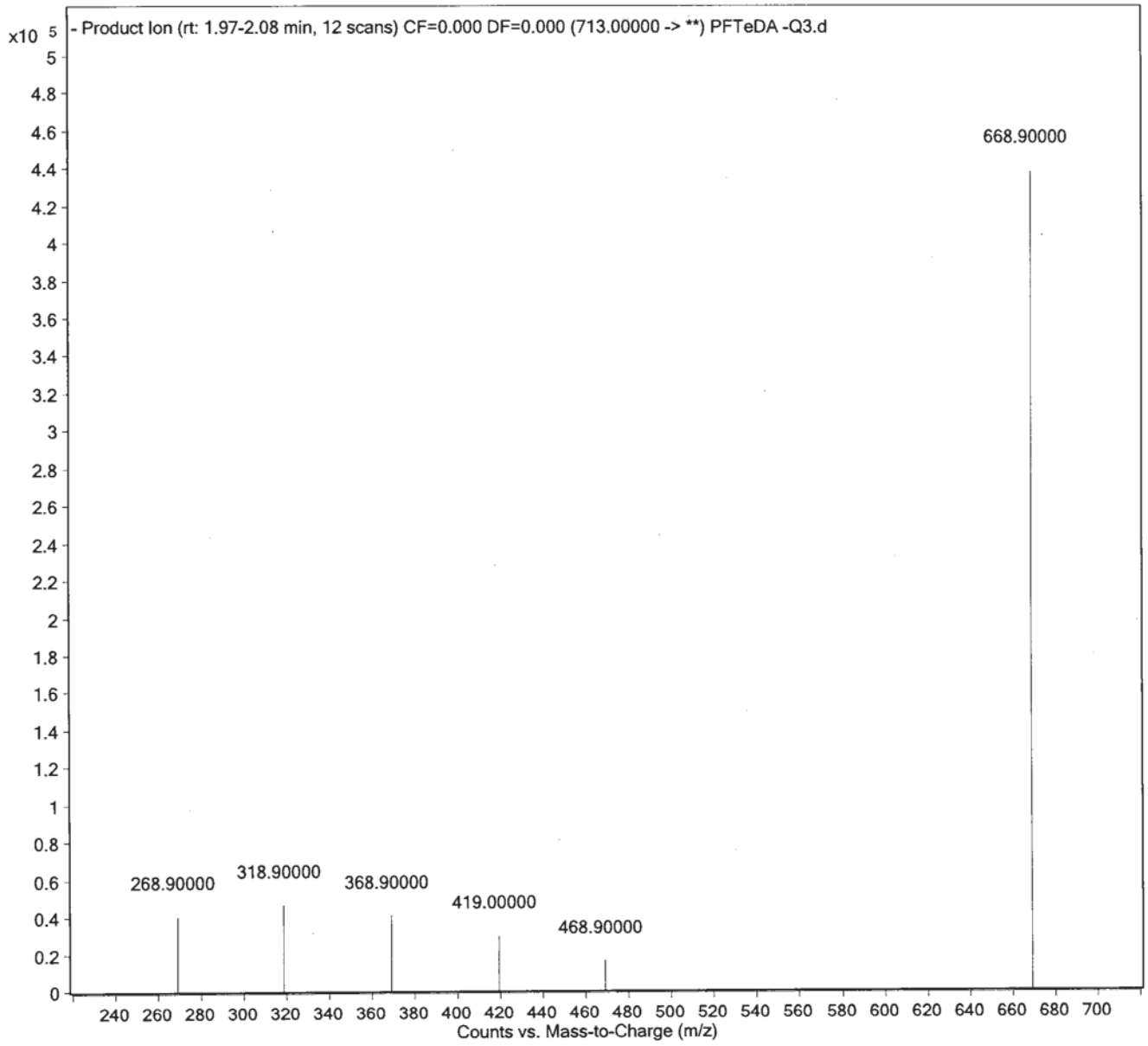
Sample Name	PFTrDA -Q3	**Position**	P1-B6	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	PFTrDA -Q3.d
ACQ Method	PFC_MassVerification-PFTrDA-Q3.m	**Comment**		**Acquired Time**	2017/07/10 8:11:53 PM



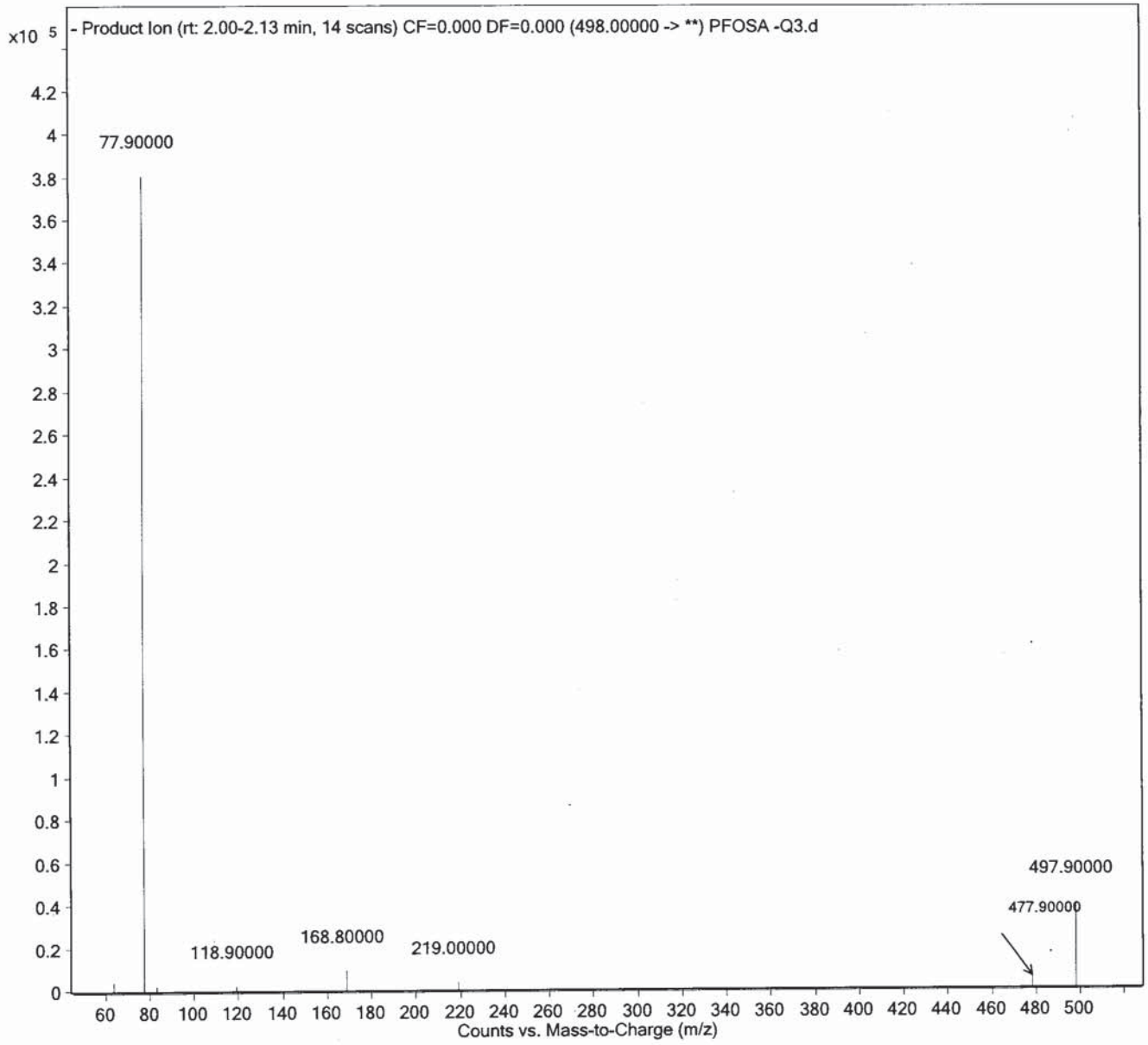
Maxxam Analytics

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**	2017/07/10 8:17:23 PM

SAIC Axiam Analytics

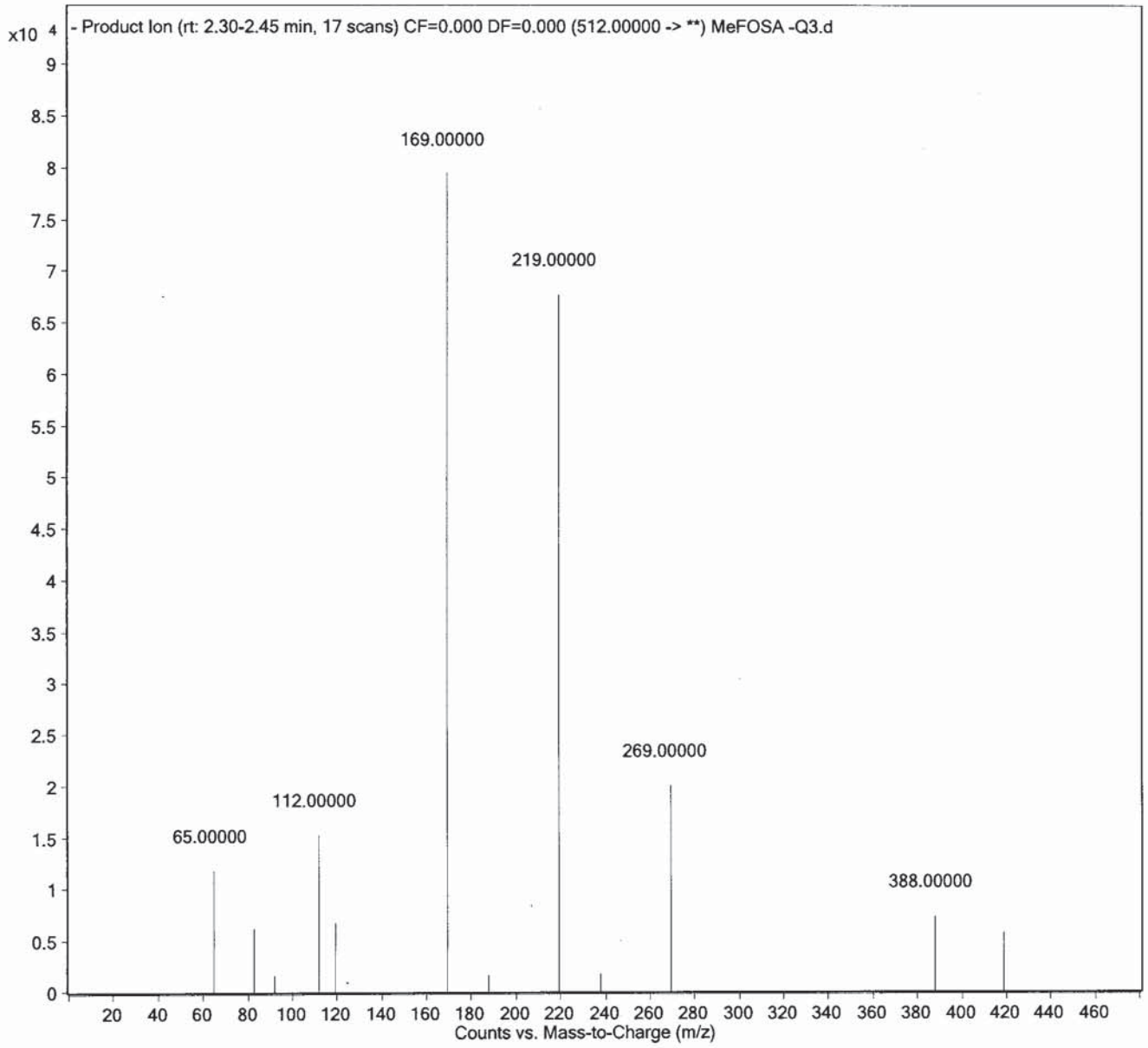


Sample Name	PFOSA -Q3	**Position**	P1-B8	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	PFOSA -Q3.d
ACQ Method	PFC_MassVerification-PFOSA-Q3.m	**Comment**		**Acquired Time**	2017/07/10 8:22:55 PM



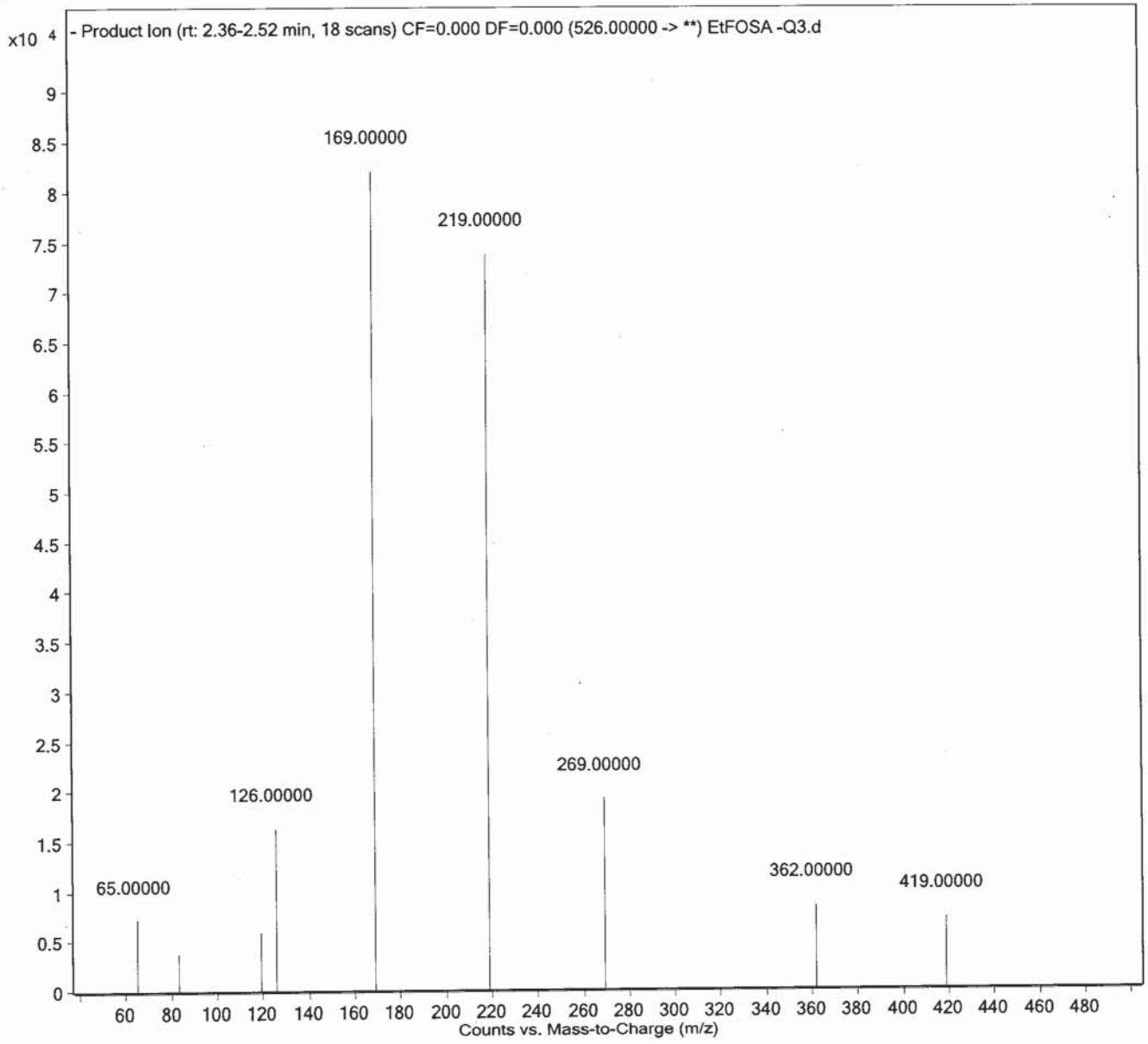
Maxxam Analytics

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**	2017/07/10 8:28:25 PM



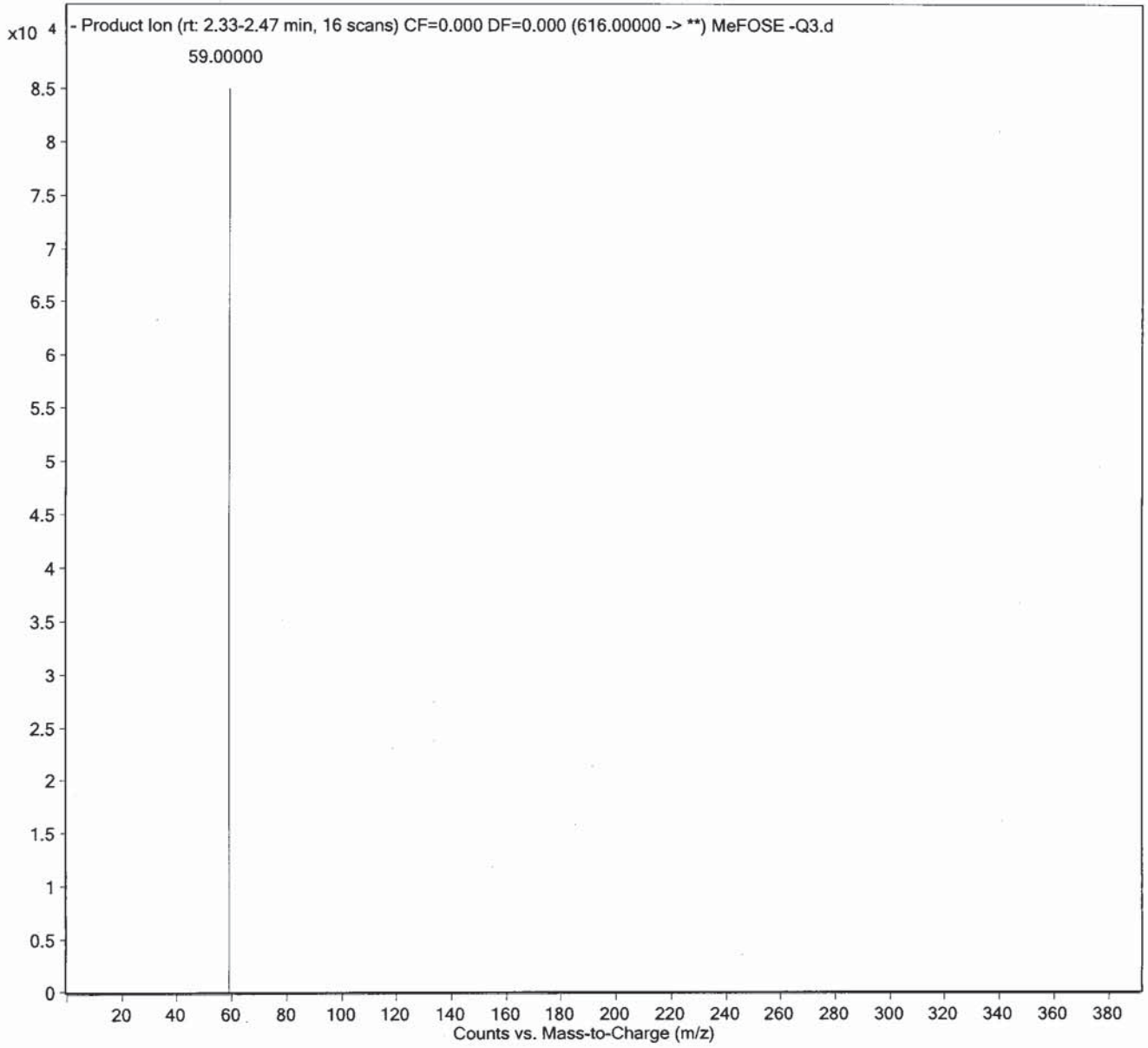
Maxxam Analytics

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
CQ Method	PFC_MassVerification-EtFOSA-Q3.m	**Comment**		**Acquired Time**	2017/07/10 8:33:57 PM



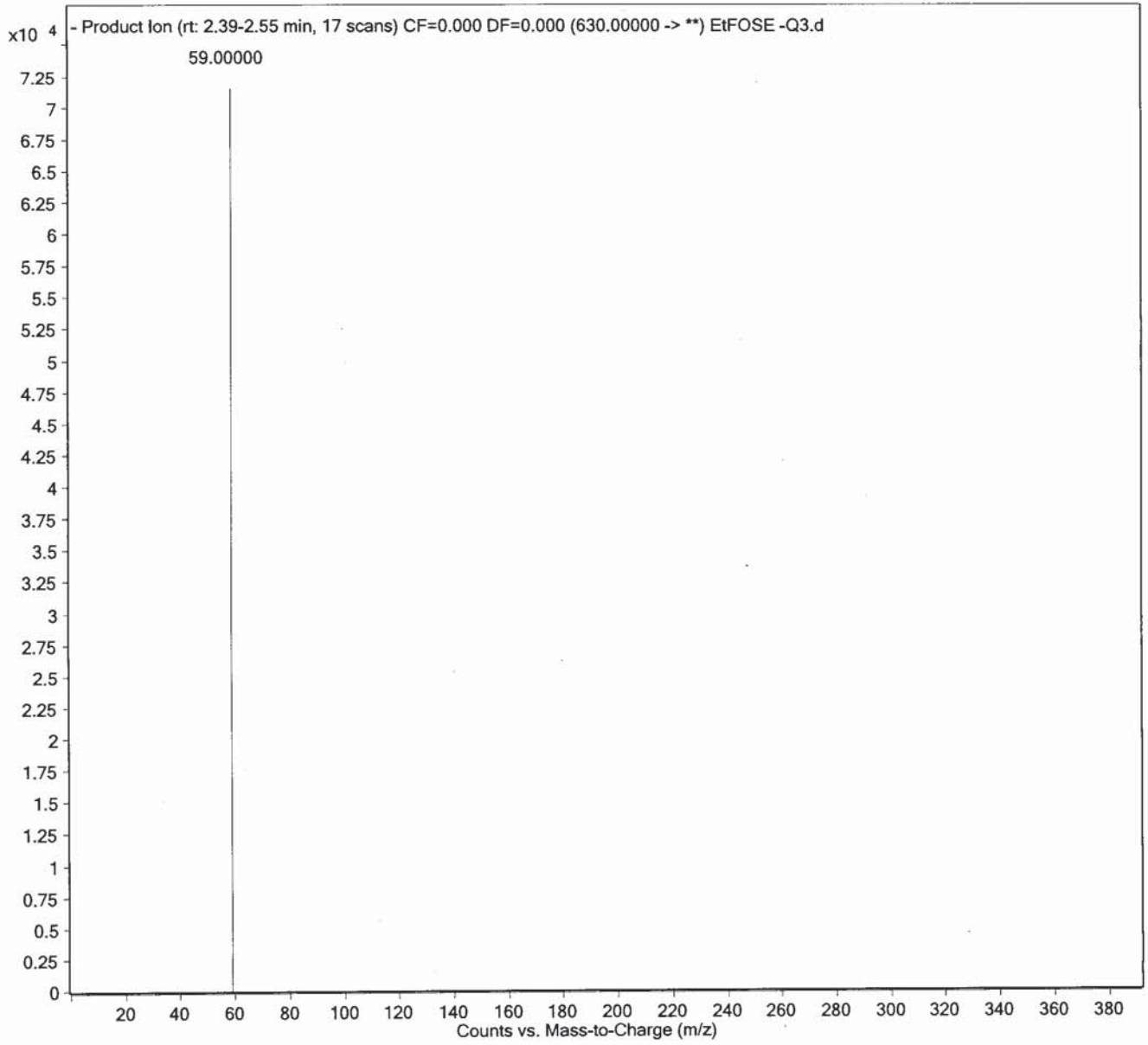
Maxxam Analytics

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**	2017/07/10 8:39:26 PM



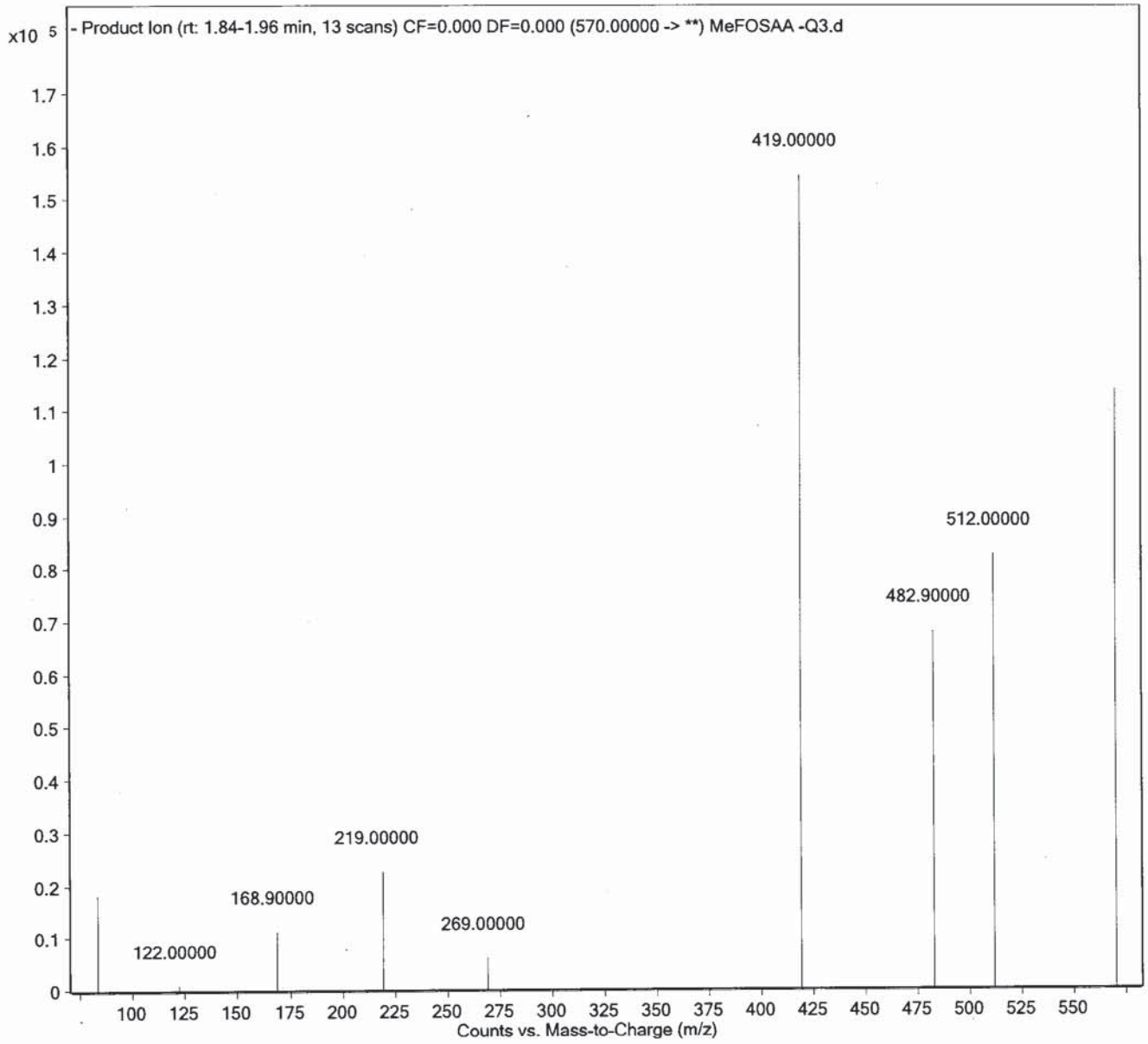
Maxxam Analytics

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**	2017/07/10 8:44:57 PM



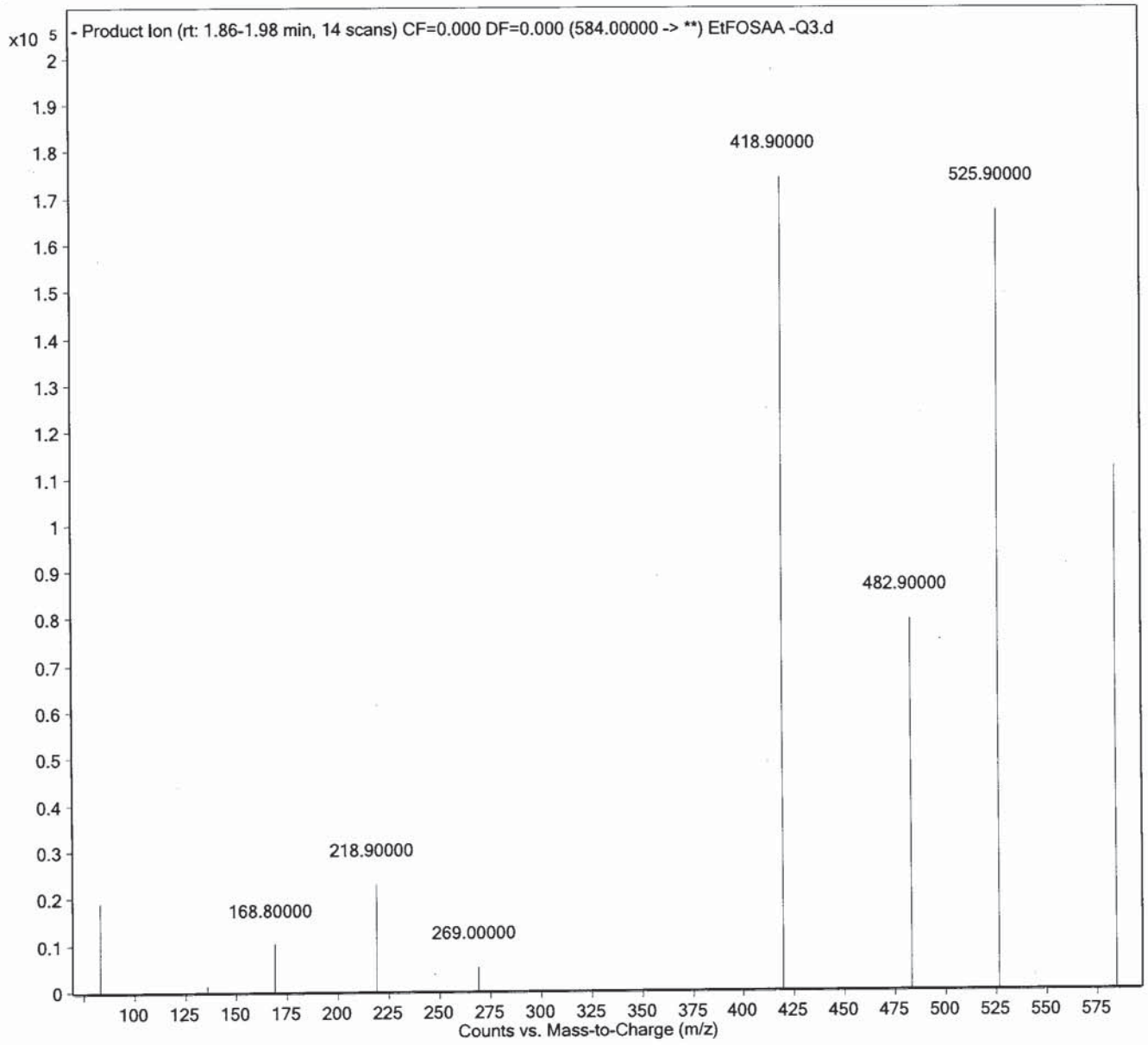
Eurofins Eaton Analytics

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**	2017/07/10 8:50:27 PM

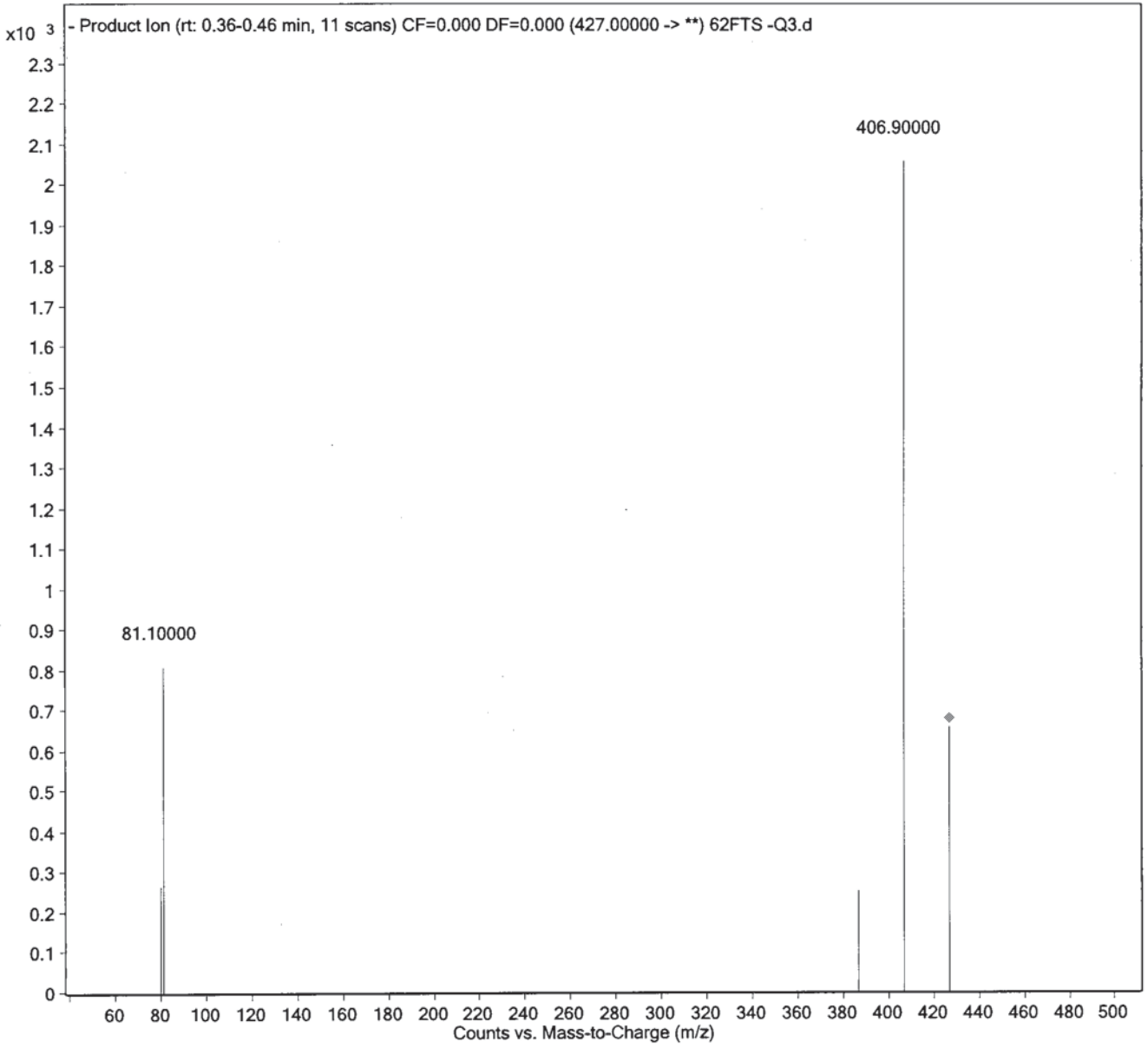


SaxAm Analytics

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
CQ Method	PFC_MassVerification-EtFOSAA-Q3.m	**Comment**		**Acquired Time**	2017/07/10 8:55:57 PM

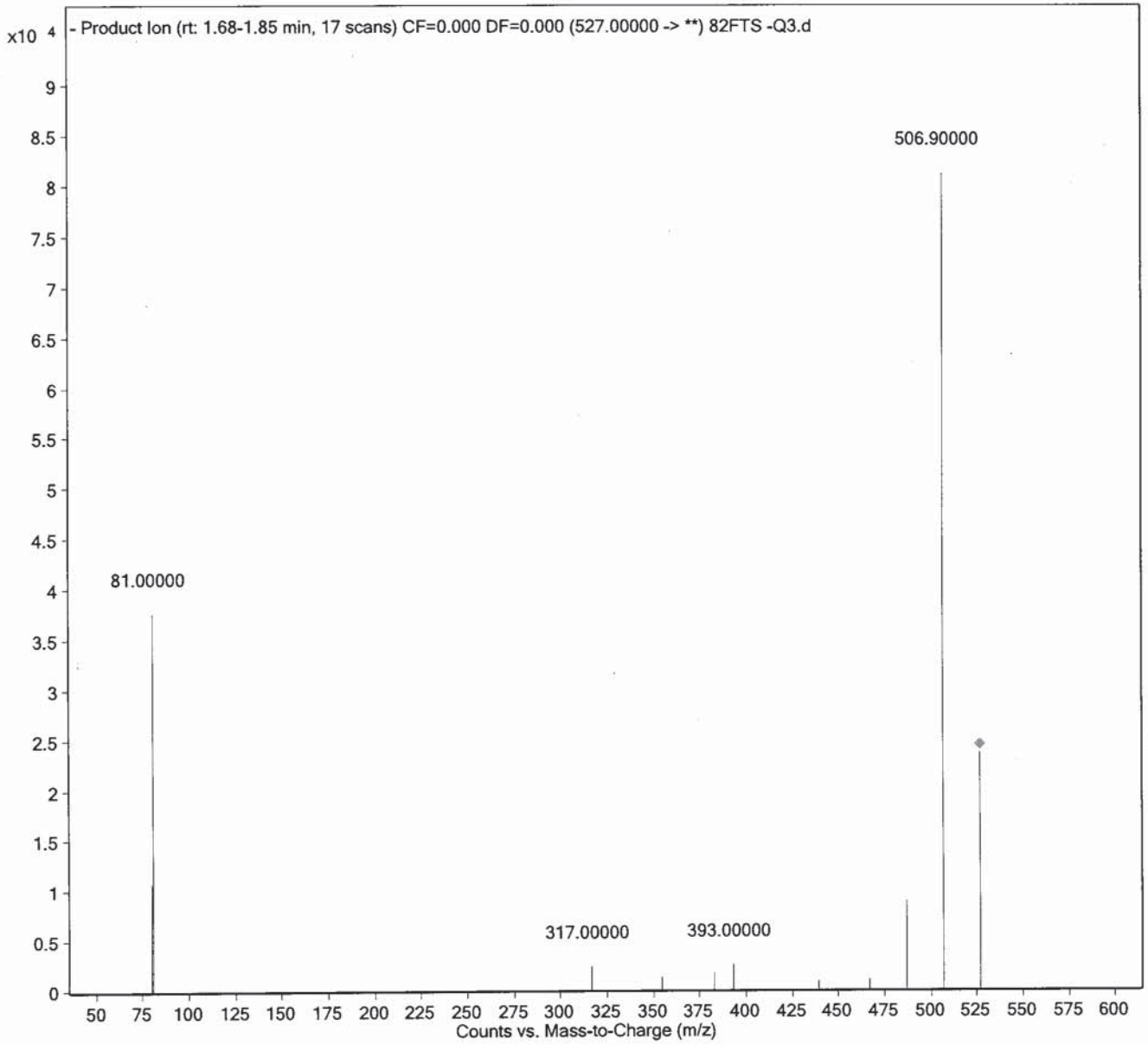


Sample Name	6:2FTS -Q3	**Position**	P1-C6	**Instrument Name**	LCMS04
User Name	M_G	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	62FTS -Q3.d
ACQ Method	PFC_MassVerification-6-2FTS-Q3.m	**Comment**		**Acquired Time**	2017/07/10 9:01:27 PM



SGS AXYS 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**	2017/07/10 9:06:57 PM



Maxxam Analytics

Worklist Report

Agilent Technologies

Maxxam Analytics

Instrument Name: LCMS04 **Worklist Path:** D:\MassHunter\Worklists\PFCs\PFAS_MASSVER_170710_Q3.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	PFC_MassVerification-PFBA-Q3.m	PFBA -Q3.d	Sample	As Method	PFAS-Q3
2	PFBS -Q3	P1-A2	PFC_MassVerification-PFBS-Q3.m	PFBS -Q3.d	Sample	As Method	PFAS-Q3
3	PFPeA -Q3	P1-A3	PFC_MassVerification-PFPeA-Q3.m	PFPeA -Q3.d	Sample	As Method	PFAS-Q3
4	PFHxA -Q3	P1-A4	PFC_MassVerification-PFHxA-Q3.m	PFHxA -Q3.d	Sample	As Method	PFAS-Q3
5	PFHxS -Q3	P1-A5	PFC_MassVerification-PFHxS-Q3.m	PFHxS -Q3.d	Sample	As Method	PFAS-Q3
6	PFHpA-Q3	P1-A6	PFC_MassVerification-PFHpA-Q3.m	PFHpA-Q3.d	Sample	As Method	PFAS-Q3
7	PFHpS-Q3	P1-A7	PFC_MassVerification-PFHpS-Q3.m	PFHpS-Q3.d	Sample	As Method	PFAS-Q3
8	PFOA -Q3	P1-A8	PFC_MassVerification-PFOA-Q3.m	PFOA -Q3.d	Sample	As Method	PFAS-Q3
9	PFOS -Q3	P1-A9	PFC_MassVerification-PFOS-Q3.m	PFOS -Q3.d	Sample	As Method	PFAS-Q3

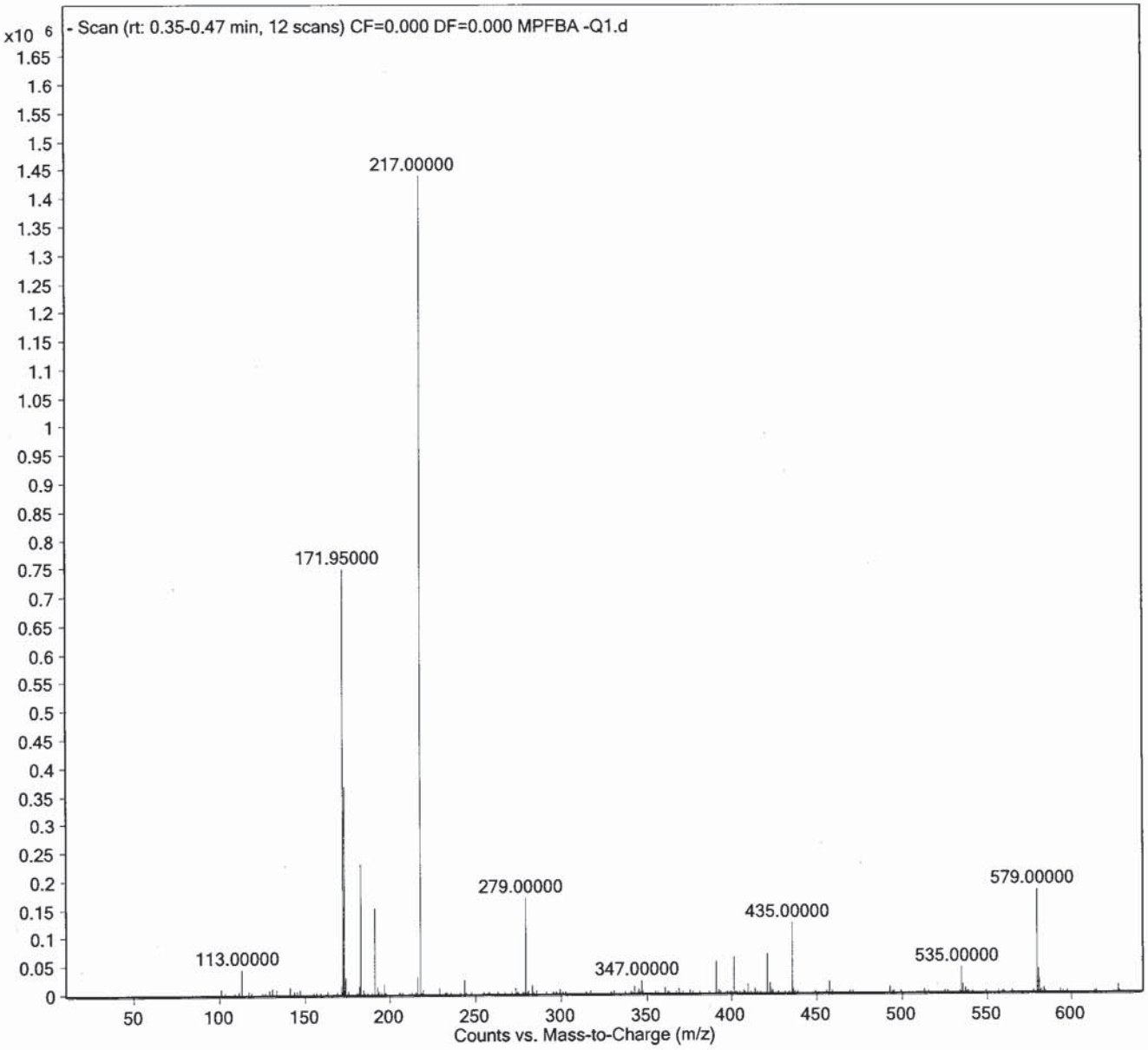
589 of 854

Maxxam Analytics

	Sample Name	Sample Position	Method	Data File	Sample Type	Inj Vol (µl)	Sample Group
10	PFNA -Q3	P1-B1	PFC_MassVerification-PFNA-Q3.m	PFNA -Q3.d	Sample	As Method	PFAS-Q3
11	PFDA -Q3	P1-B2	PFC_MassVerification-PFDA-Q3.m	PFDA -Q3.d	Sample	As Method	PFAS-Q3
12	PFDS -Q3	P1-B3	PFC_MassVerification-PFDS-Q3.m	PFDS -Q3.d	Sample	As Method	PFAS-Q3
13	PFUnA -Q3	P1-B4	PFC_MassVerification-PFUnA-Q3.m	PFUnA -Q3.d	Sample	As Method	PFAS-Q3
14	PFDoA -Q3	P1-B5	PFC_MassVerification-PFDoA-Q3.m	PFDoA -Q3.d	Sample	As Method	PFAS-Q3
15	PFTrDA -Q3	P1-B6	PFC_MassVerification-PFTrDA-Q3.m	PFTrDA -Q3.d	Sample	As Method	PFAS-Q3
16	PFTeDA -Q3	P1-B7	PFC_MassVerification-PFTeDA-Q3.m	PFTeDA -Q3.d	Sample	As Method	PFAS-Q3
17	PFOSA -Q3	P1-B8	PFC_MassVerification-PFOSA-Q3.m	PFOSA -Q3.d	Sample	As Method	PFAS-Q3
18	MeFOSA -Q3	P1-B9	PFC_MassVerification-MeFOSA-Q3.m	MeFOSA -Q3.d	Sample	As Method	PFAS-Q3
19	EtFOSA -Q3	P1-C1	PFC_MassVerification-EtFOSA-Q3.m	EtFOSA -Q3.d	Sample	As Method	PFAS-Q3
20	MeFOSE -Q3	P1-C2	PFC_MassVerification-MeFOSE-Q3.m	MeFOSE -Q3.d	Sample	As Method	PFAS-Q3
21	EtFOSE -Q3	P1-C3	PFC_MassVerification-EtFOSE-Q3.m	EtFOSE -Q3.d	Sample	As Method	PFAS-Q3
22	MeFOSAA -Q3	P1-C4	PFC_MassVerification-MeFOSAA-Q3.m	MeFOSAA -Q3.d	Sample	As Method	PFAS-Q3
23	EtFOSAA -Q3	P1-C5	PFC_MassVerification-EtFOSAA-Q3.m	EtFOSAA -Q3.d	Sample	As Method	PFAS-Q3
24	6:2FTS -Q3	P1-C6	PFC_MassVerification-6-2FTS-Q3.m	62FTS -Q3.d	Sample	As Method	PFAS-Q3
25	8:2FTS -Q3	P1-C7	PFC_MassVerification-8-2FTS-Q3.m	82FTS -Q3.d	Sample	As Method	PFAS-Q3

Extracted and Injection Internal Standard Precursor Ion Verification

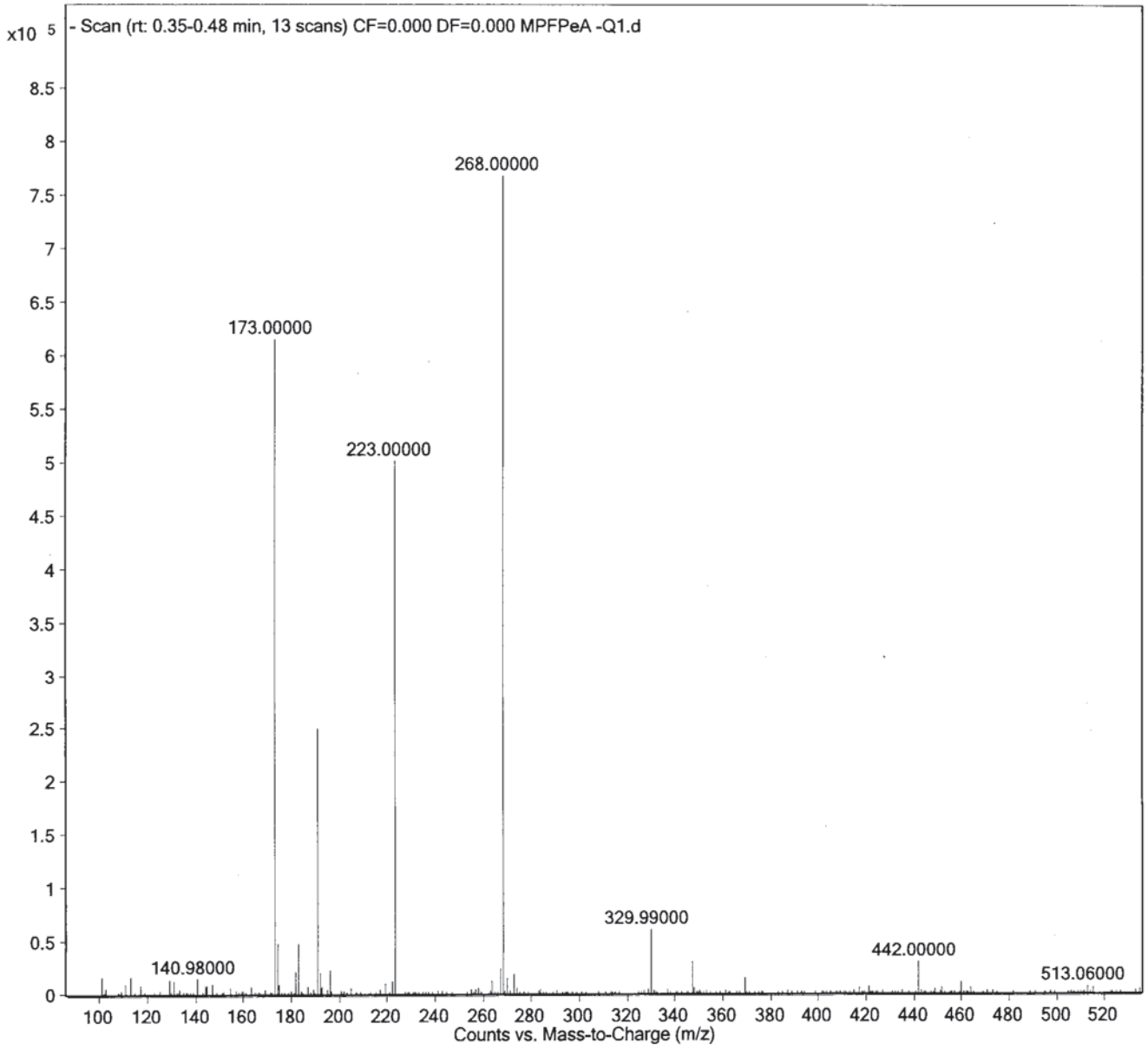
Sample Name	MPFBA	**Position**	P2-A1	**Instrument Name**	LCMS04
User Name	AD	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	MPFBA -Q1.d
ACQ Method	PFC_MassVerification-Q1.m	**Comment**		**Acquired Time**	2017/07/11 1:00:45 PM



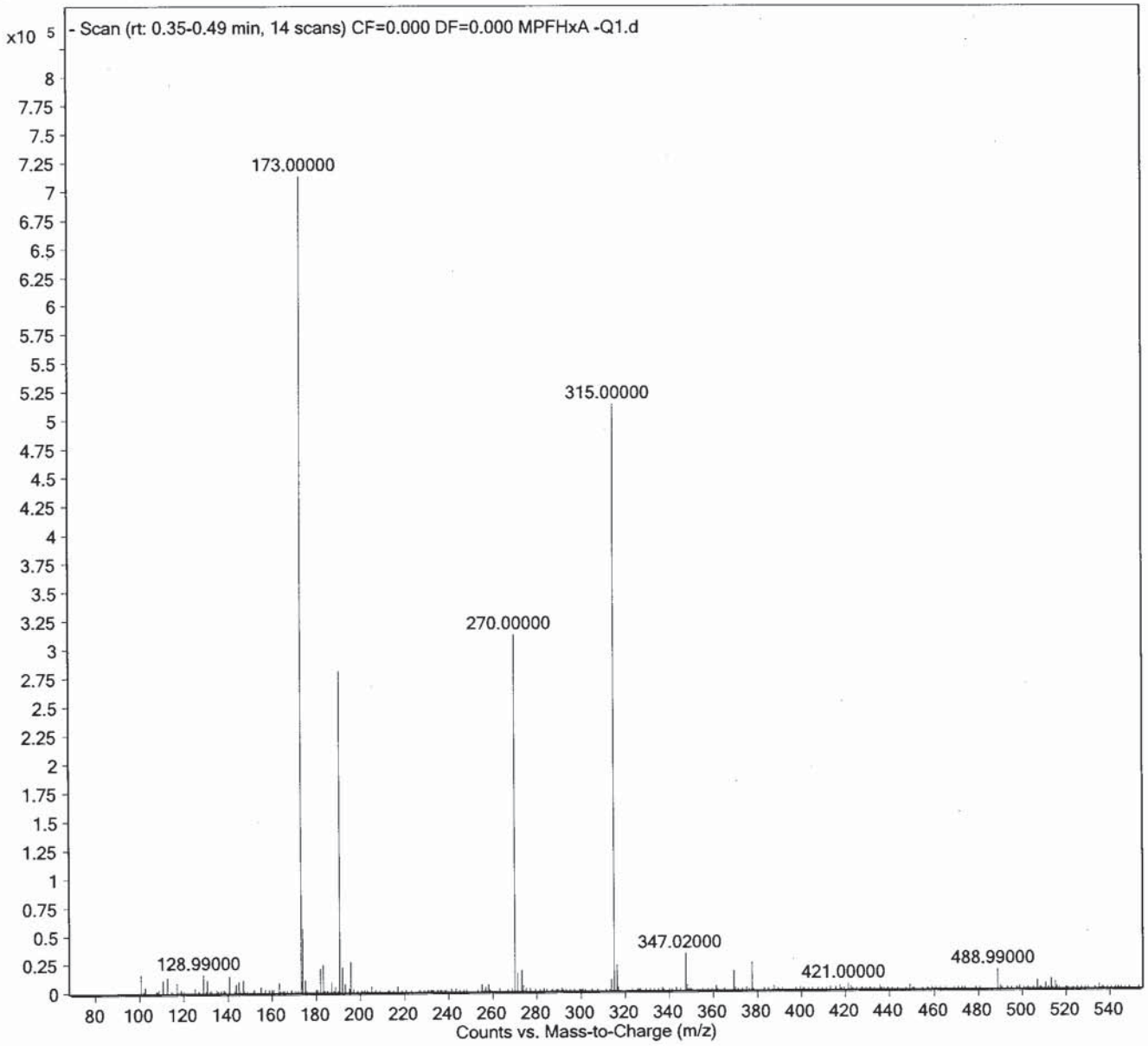
Eurofins Lancaster Laboratories Environmental, LLC, 2425 New Holland Pike, Lancaster, PA 17601 Phone: 717-656-2300 Fax: 717-656-2681

Sample Name	MPFPeA	**Position**	P2-A2	**Instrument Name**	LCMS04
User Name	AD	**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**	2017/07/11 1:06:18 PM

Eurofins Lancaster Laboratories Environmental, Lancaster Analytics

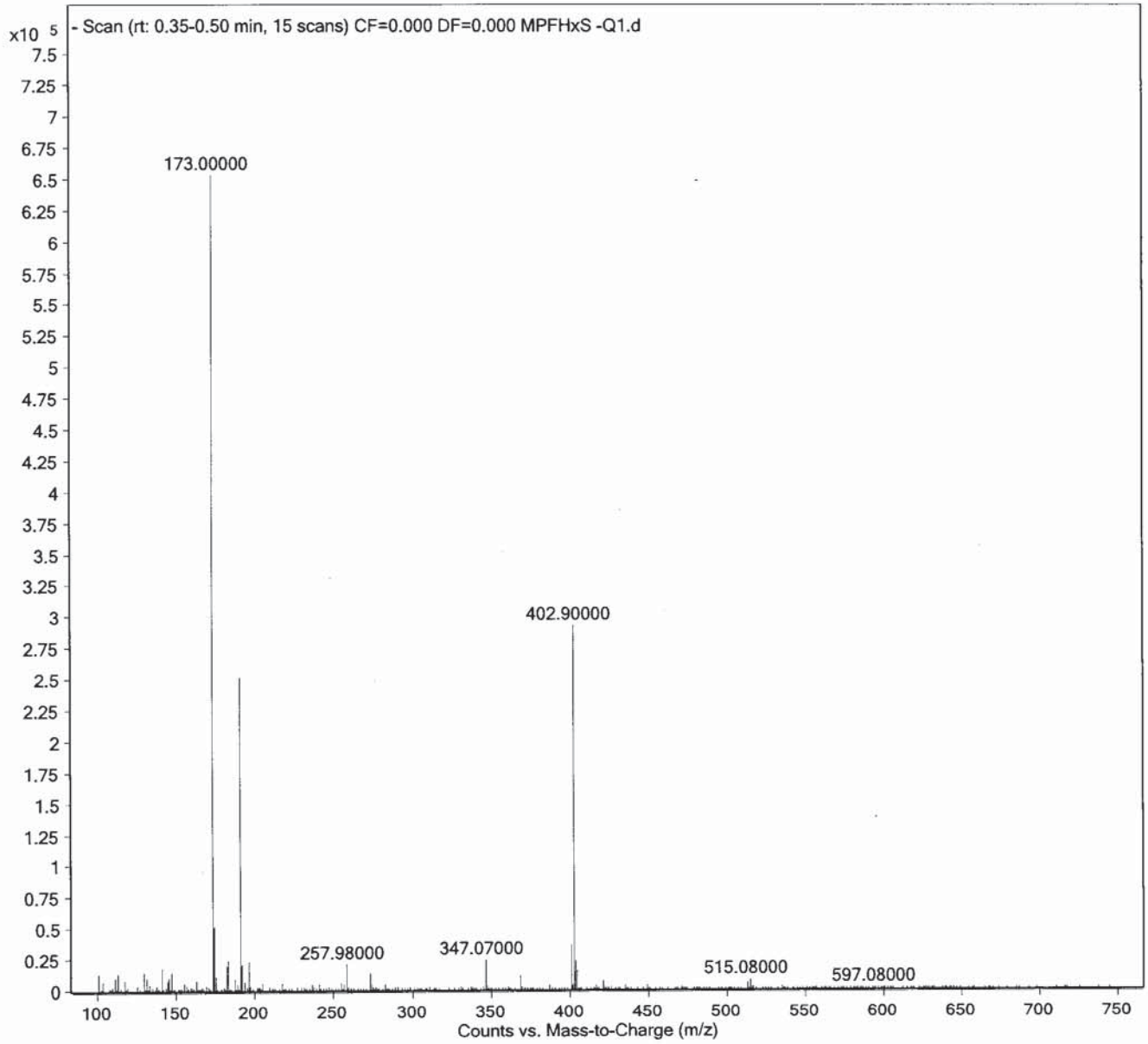


Sample Name	MPFHxA	**Position**	P2-A3	**Instrument Name**	LCMS04
User Name	AD	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	MPFHxA -Q1.d
AcQ Method	PFC_MassVerification-Q1.m	**Comment**		**Acquired Time**	2017/07/11 1:11:48 PM



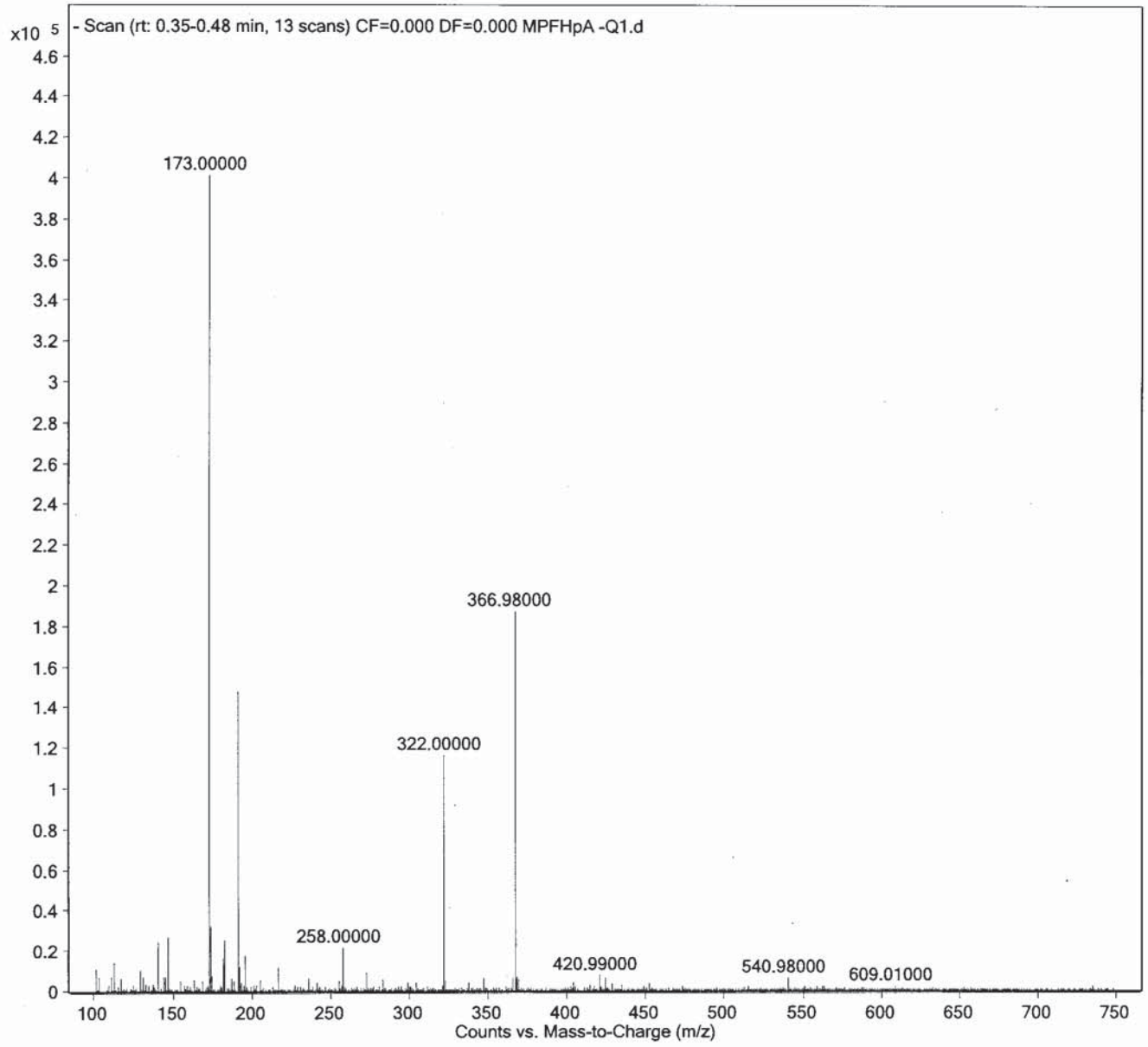
Maxxam Analytics

Sample Name	MPFHxS	**Position**	P2-A4	**Instrument Name**	LCMS04
User Name	AD	**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**	2017/07/11 1:17:18 PM



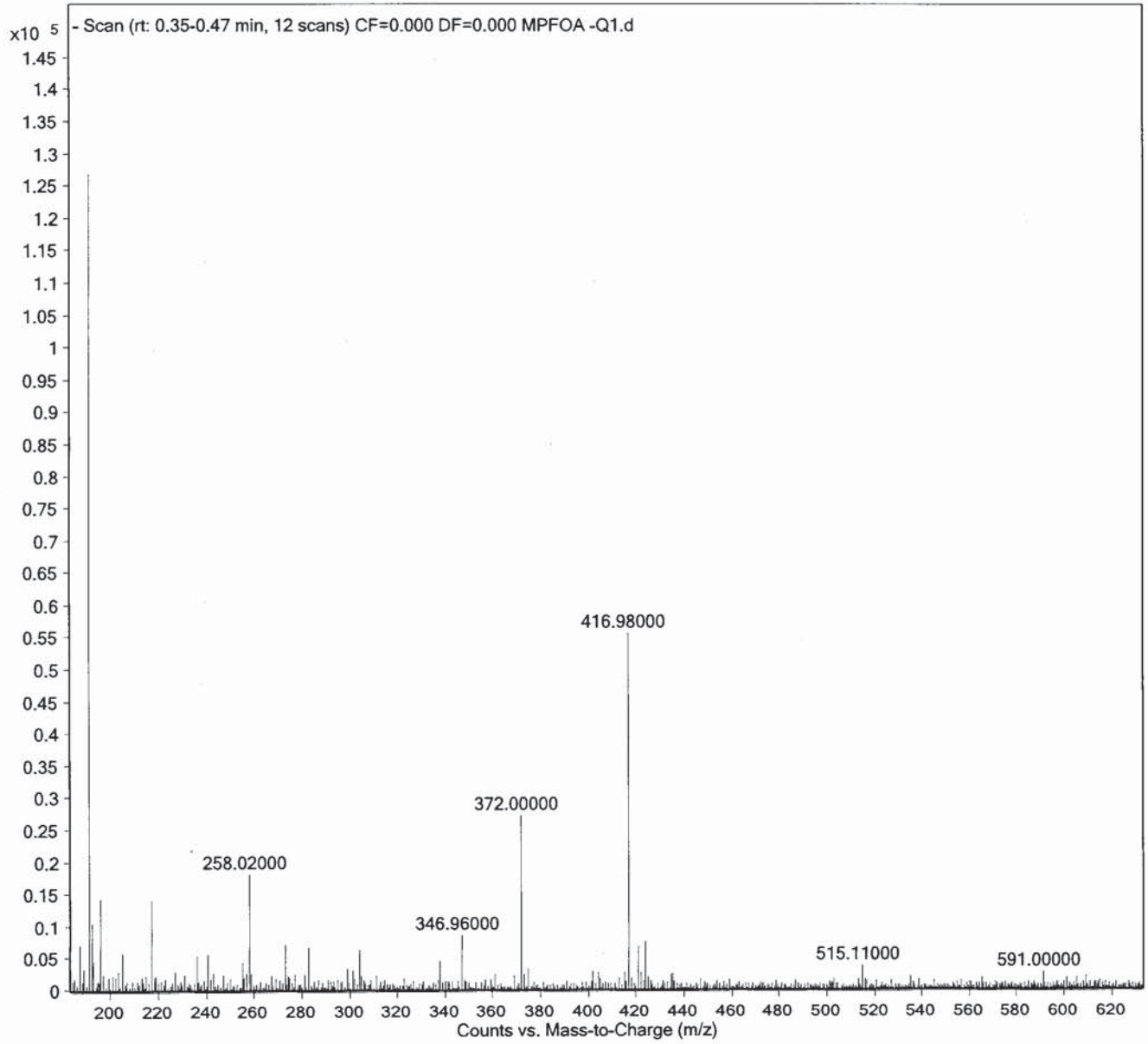
Alaska Analytics

Sample Name	MPFHpA	**Position**	P2-A5	**Instrument Name**	LCMS04
User Name	AD	**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**	2017/07/11 1:22:48 PM



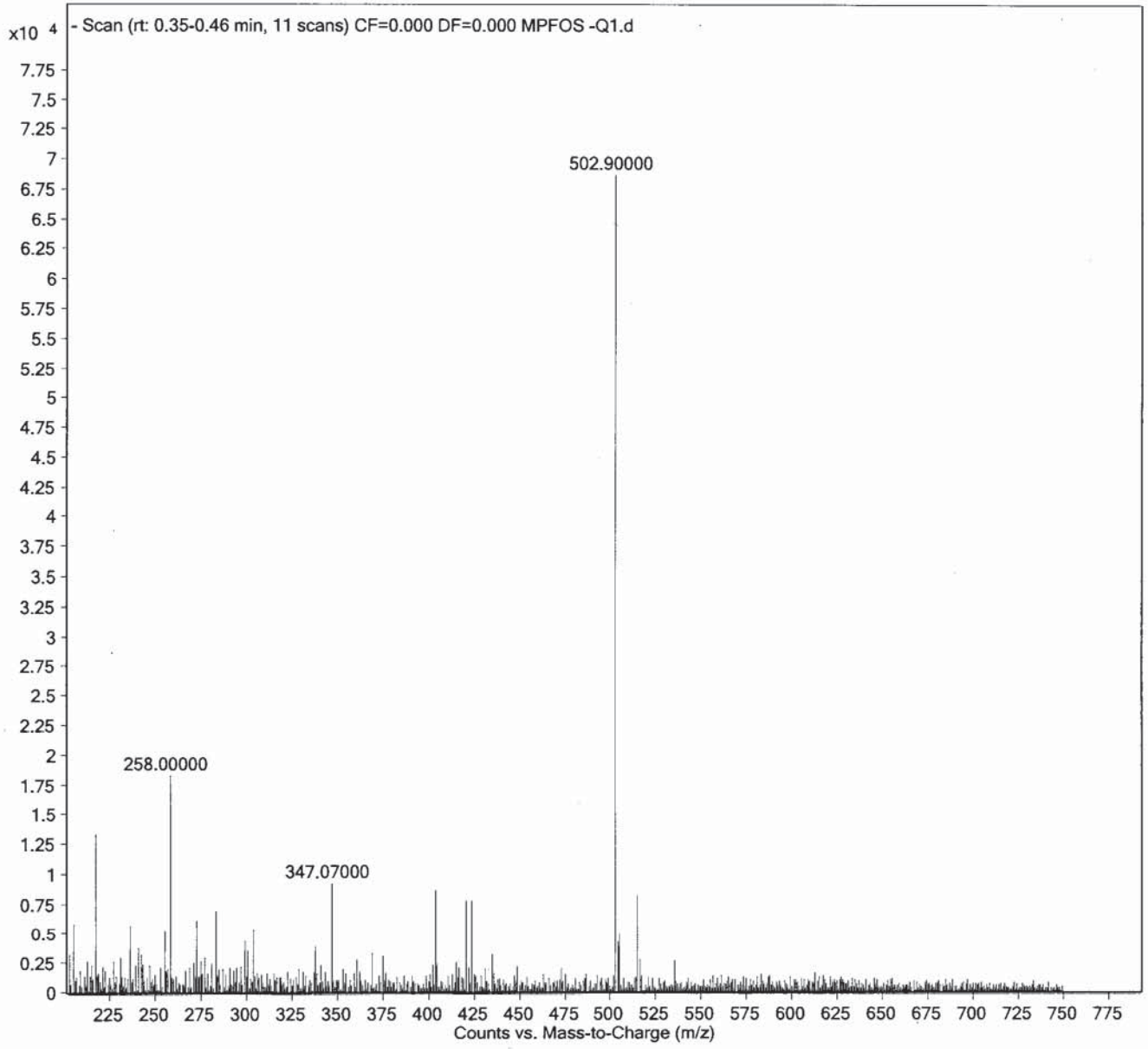
MaxXam Analytics

Sample Name	MPFOA	**Position**	P2-A6	**Instrument Name**	LCMS04
User Name	AD	**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**	2017/07/11 1:28:18 PM



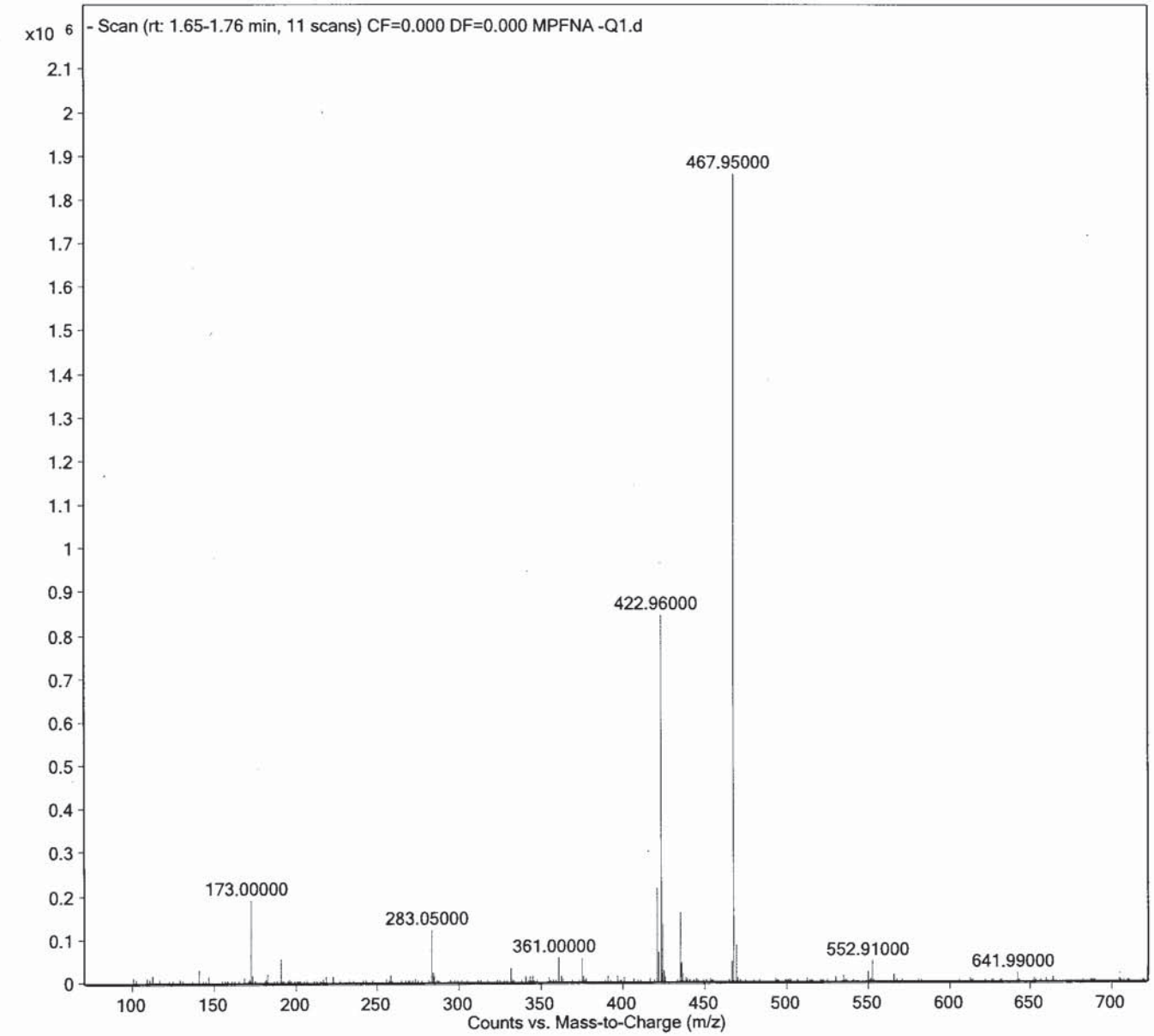
Eurofins Lancaster Laboratories Environmental, LLC, 2425 New Holland Pike, Lancaster, PA 17601 Phone: 717-656-2300 Fax: 717-656-2681

Sample Name	MPFOS	**Position**	P2-A7	**Instrument Name**	LCMS04
User Name	AD	**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**	2017/07/11 1:33:49 PM



Maxxam Analytics

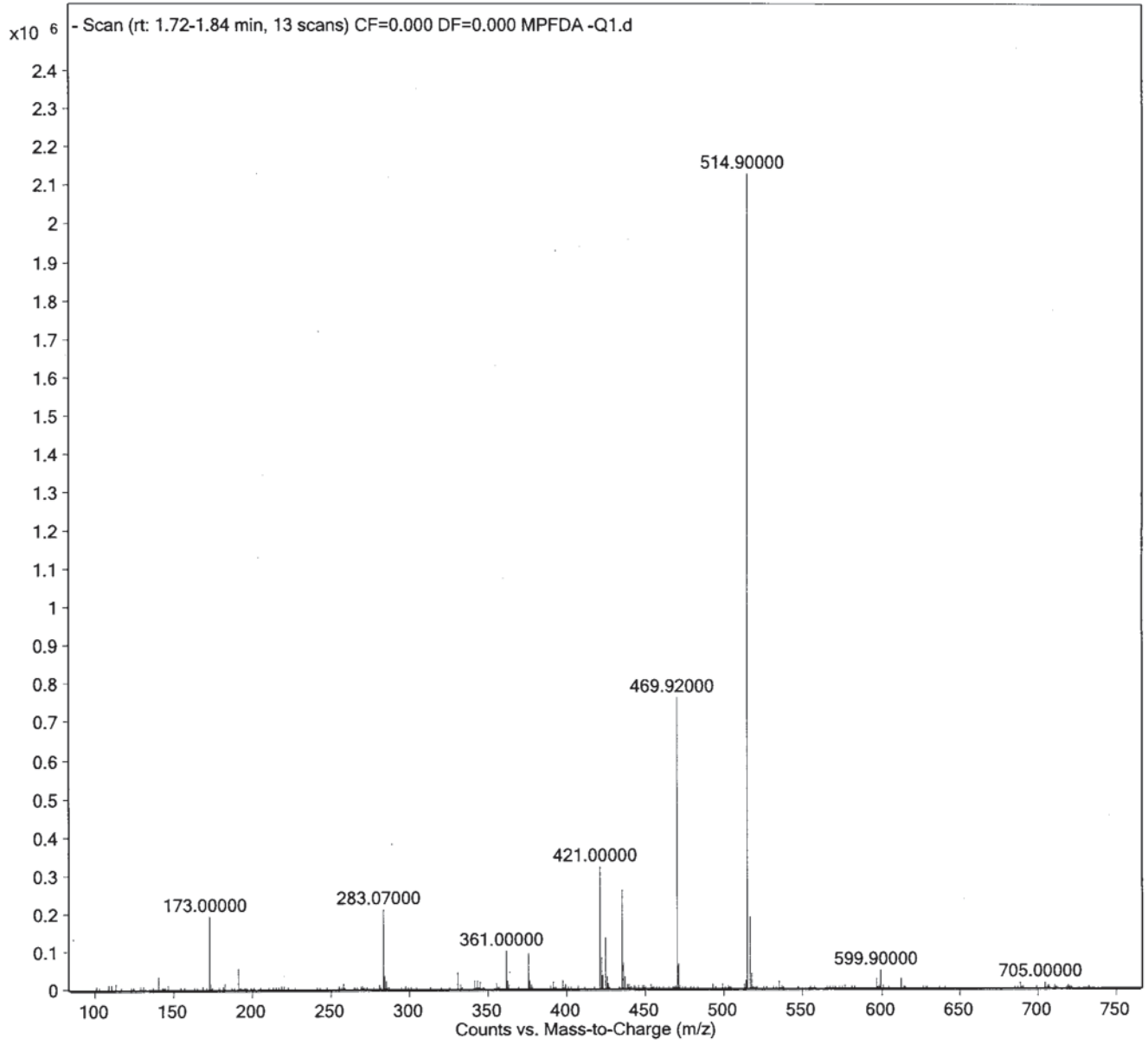
Sample Name	MPFNA	**Position**	P2-A8	**Instrument Name**	LCMS04
User Name	AD	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	MPFNA -Q1.d
ACQ Method	PFC_MassVerification-Q1.m	**Comment**		**Acquired Time**	2017/07/11 1:39:21 PM



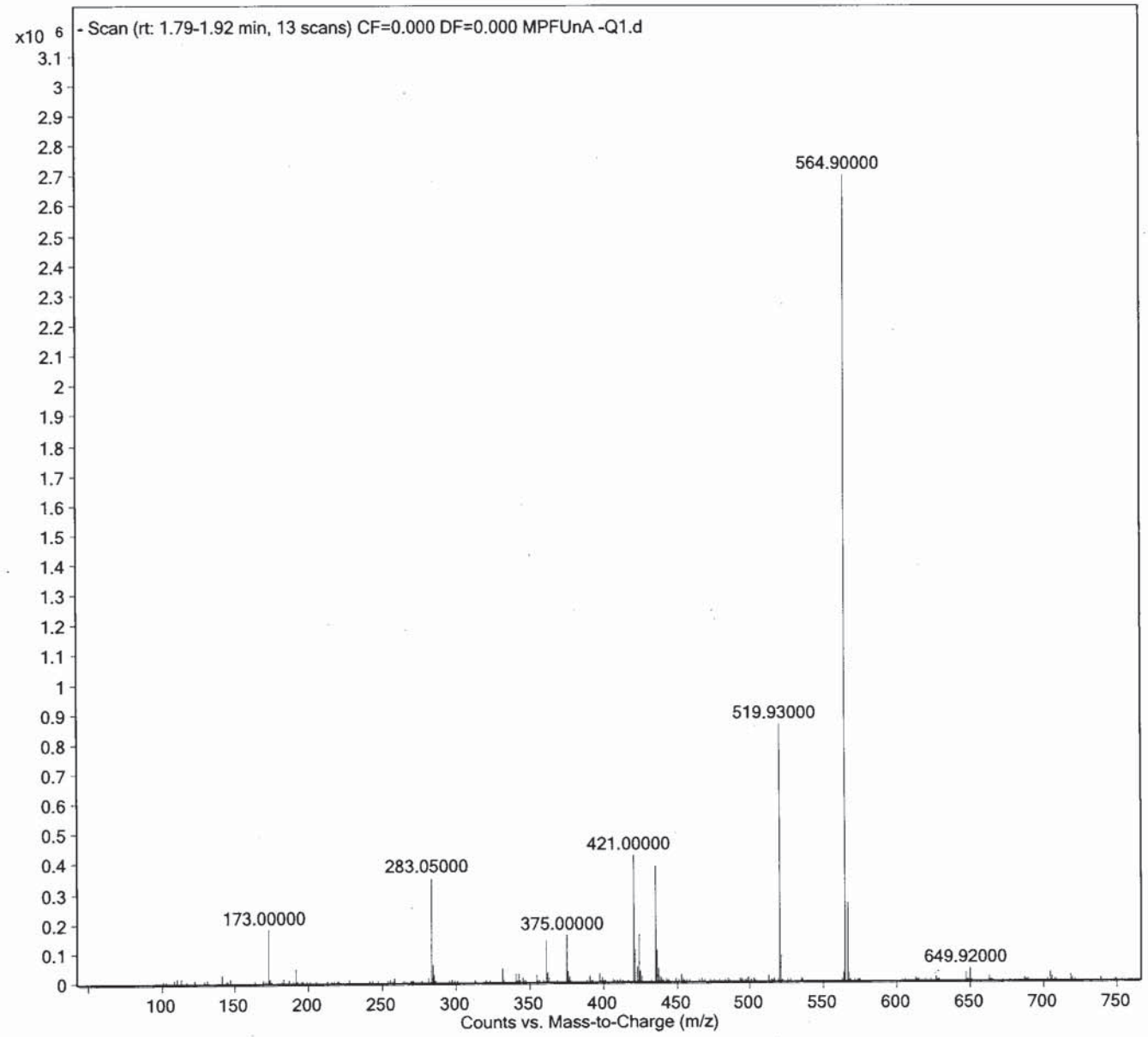
Alaxam Analytics

Sample Name	MPFDA	**Position**	P2-A9	**Instrument Name**	LCMS04
User Name	AD	**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**	2017/07/11 1:44:52 PM

Alaskan Analytics

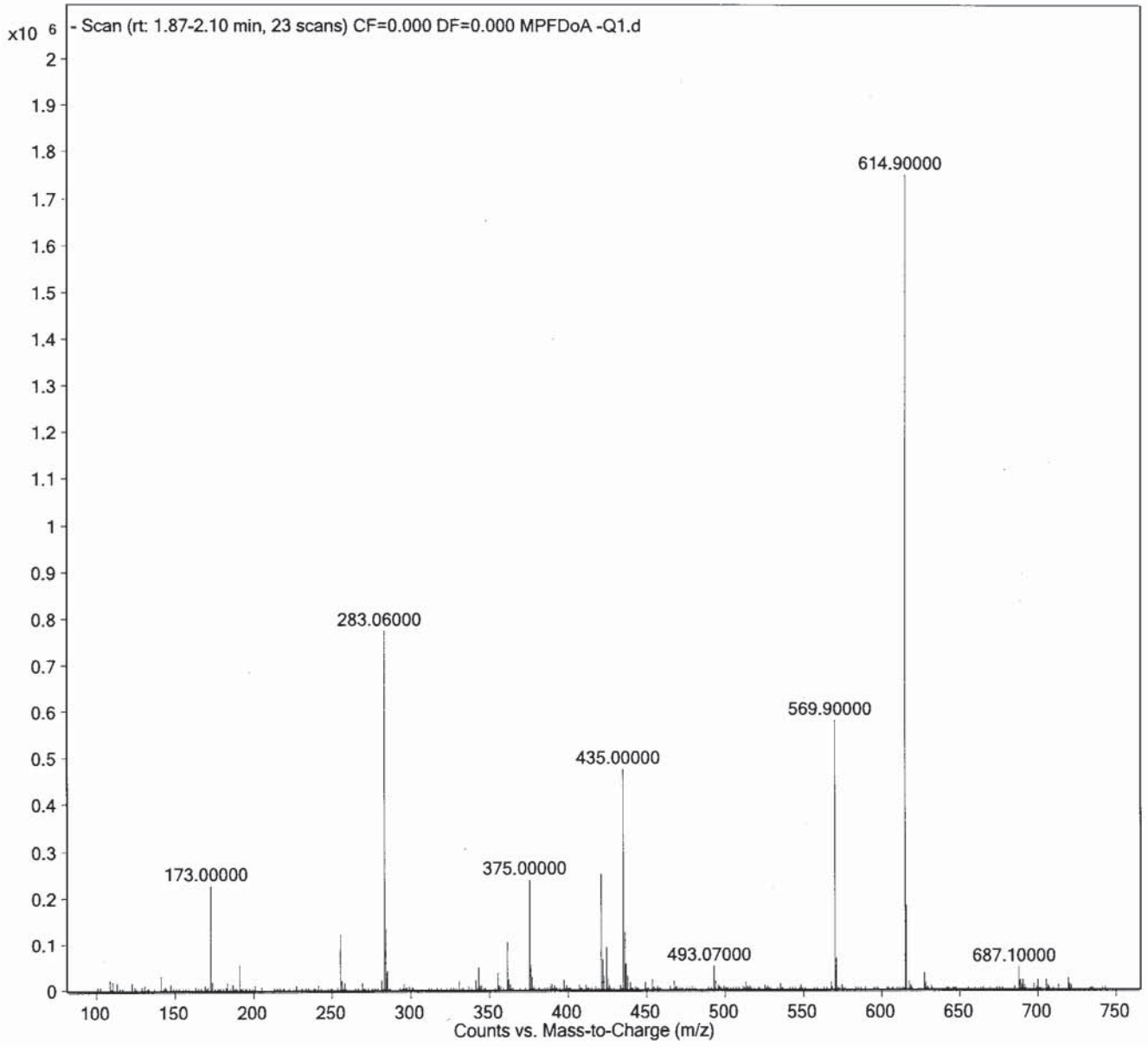


Sample Name	MPFUnA	**Position**	P2-B1	**Instrument Name**	LCMS04
User Name	AD	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	MPFUnA -Q1.d
ACQ Method	PFC_MassVerification-Q1.m	**Comment**		**Acquired Time**	2017/07/11 1:50:23 PM



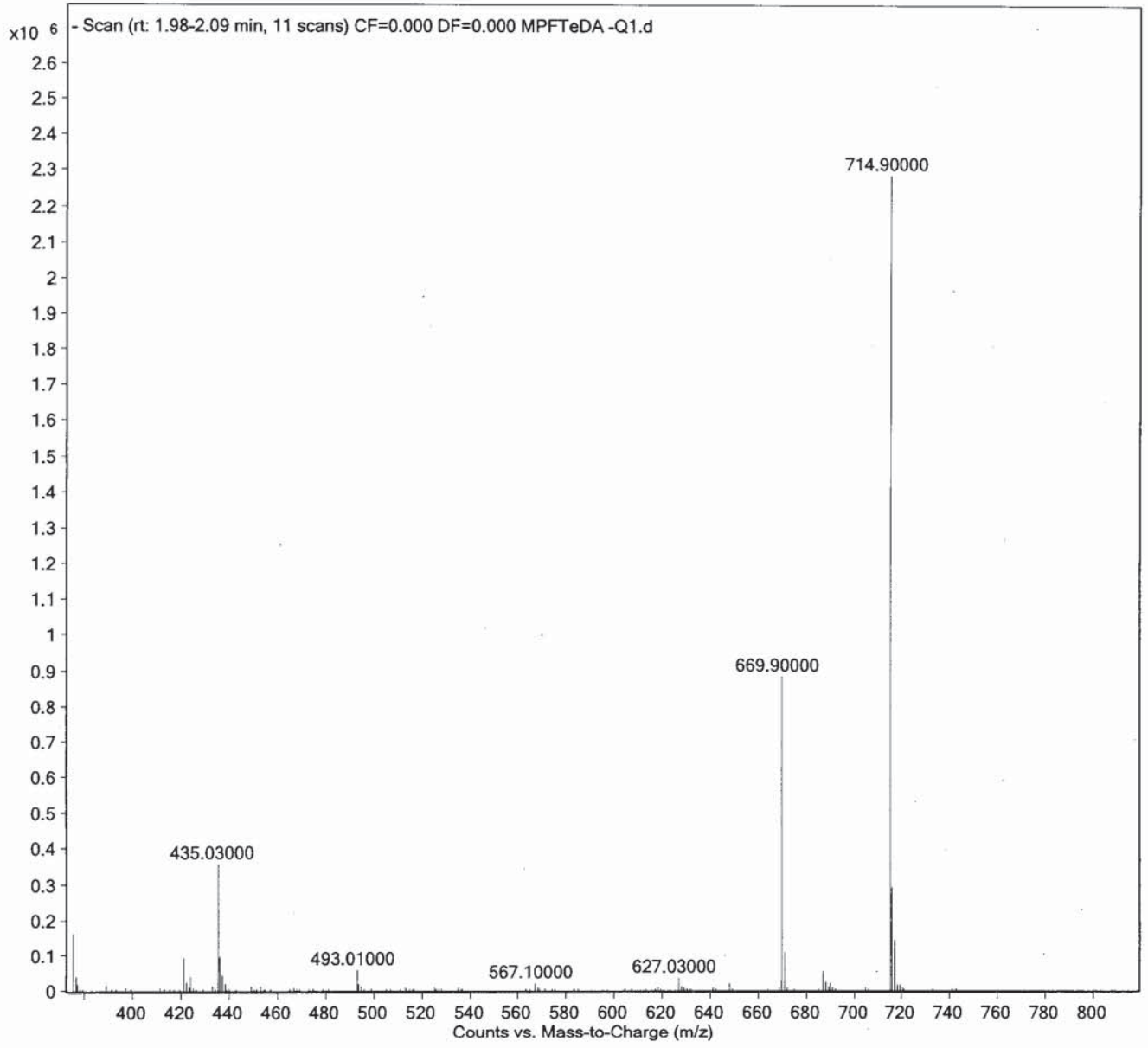
Eurofins Lancaster Laboratories Environmental, LLC, 2425 New Holland Pike, Lancaster, PA 17601 Phone: 717-656-2300 Fax: 717-656-2681

Sample Name	MPFDoA	**Position**	P2-B2	**Instrument Name**	LCMS04
User Name	AD	**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**	2017/07/11 1:55:53 PM



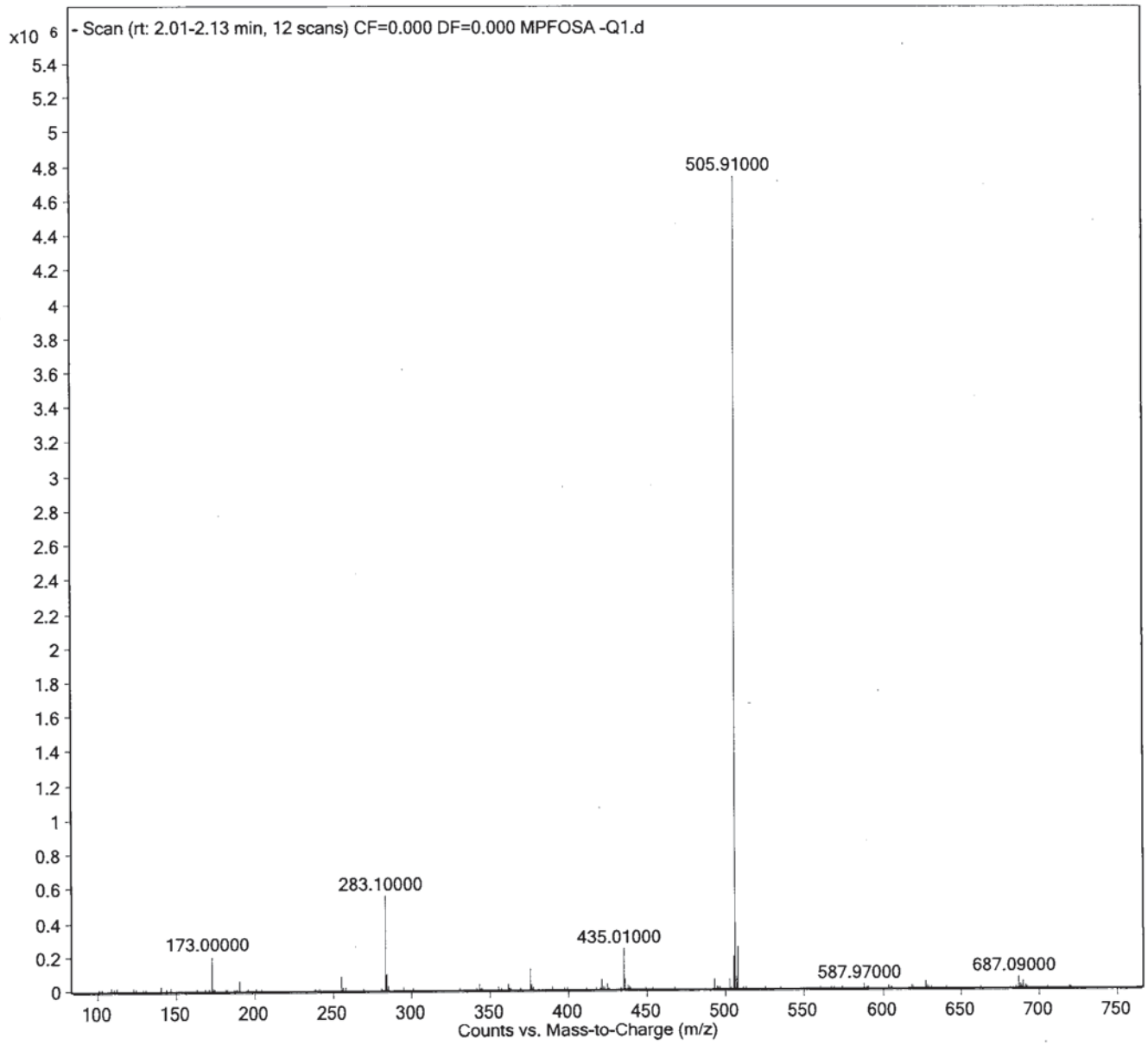
Alcami Analytics

Sample Name	MPFTeDA	**Position**	P2-B3	**Instrument Name**	LCMS04
User Name	AD	**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**	2017/07/11 2:01:23 PM



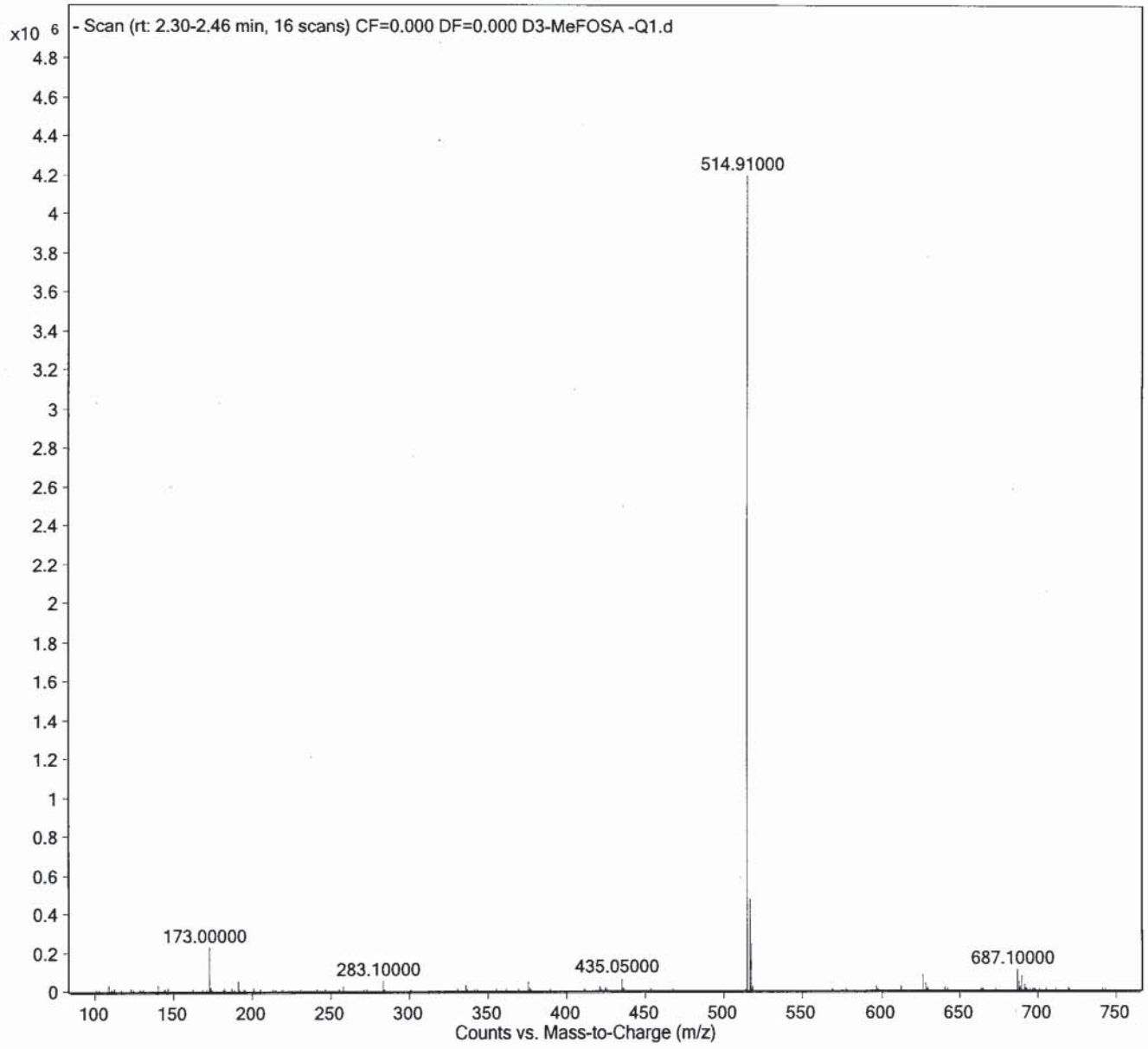
Maxam Analytics

Sample Name	MPFOSA	**Position**	P2-B4	**Instrument Name**	LCMS04
User Name	AD	**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**	2017/07/11 2:06:53 PM



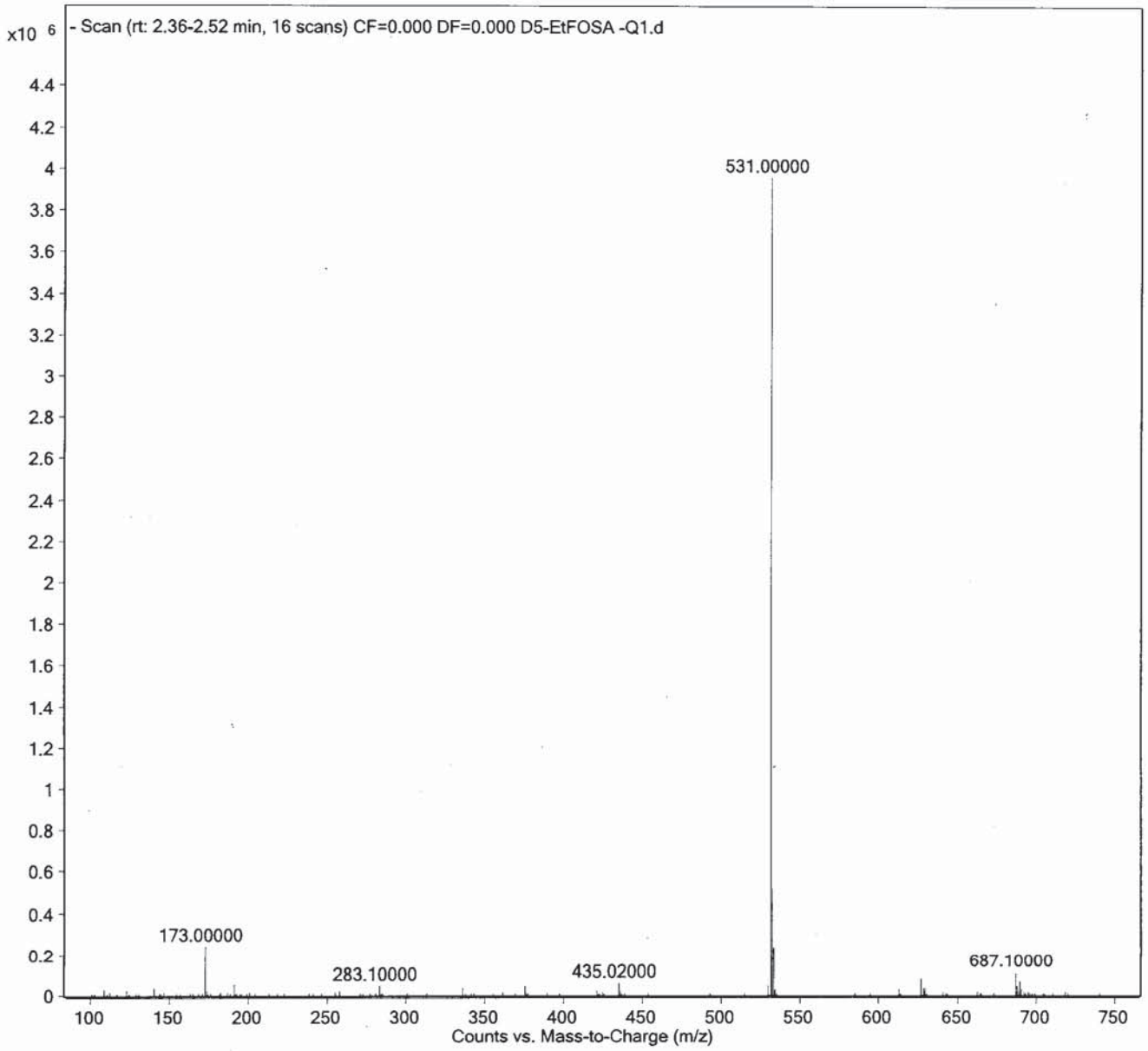
SanAm Analytics

Sample Name	D3-MeFOSA	**Position**	P2-B5	**Instrument Name**	LCMS04
User Name	AD	**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**	2017/07/11 2:12:24 PM



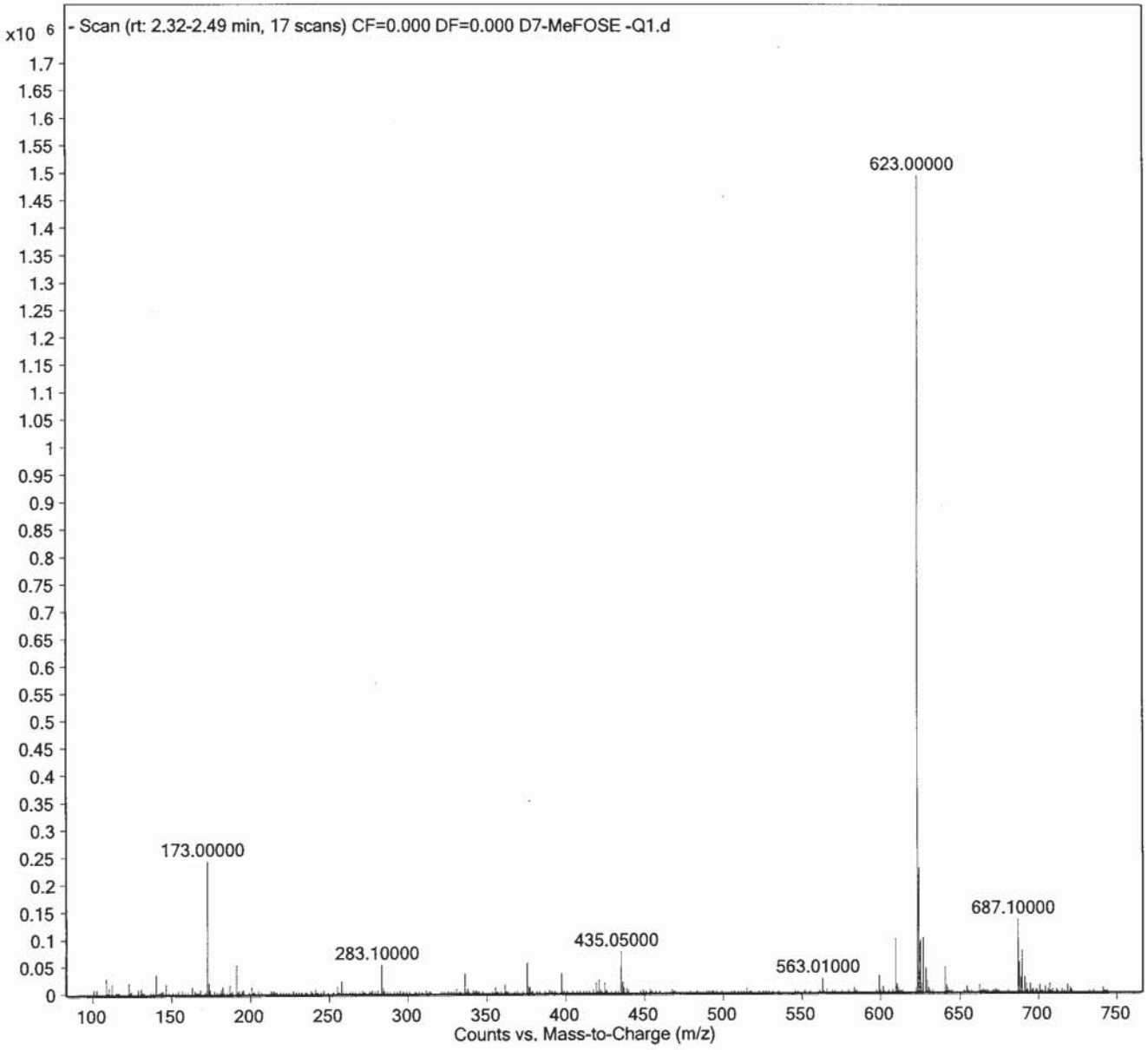
SGS AXAM Analytics

Sample Name	D5-EtFOSA	**Position**	P2-B6	**Instrument Name**	LCMS04
User Name	AD	**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**	2017/07/11 2:17:53 PM



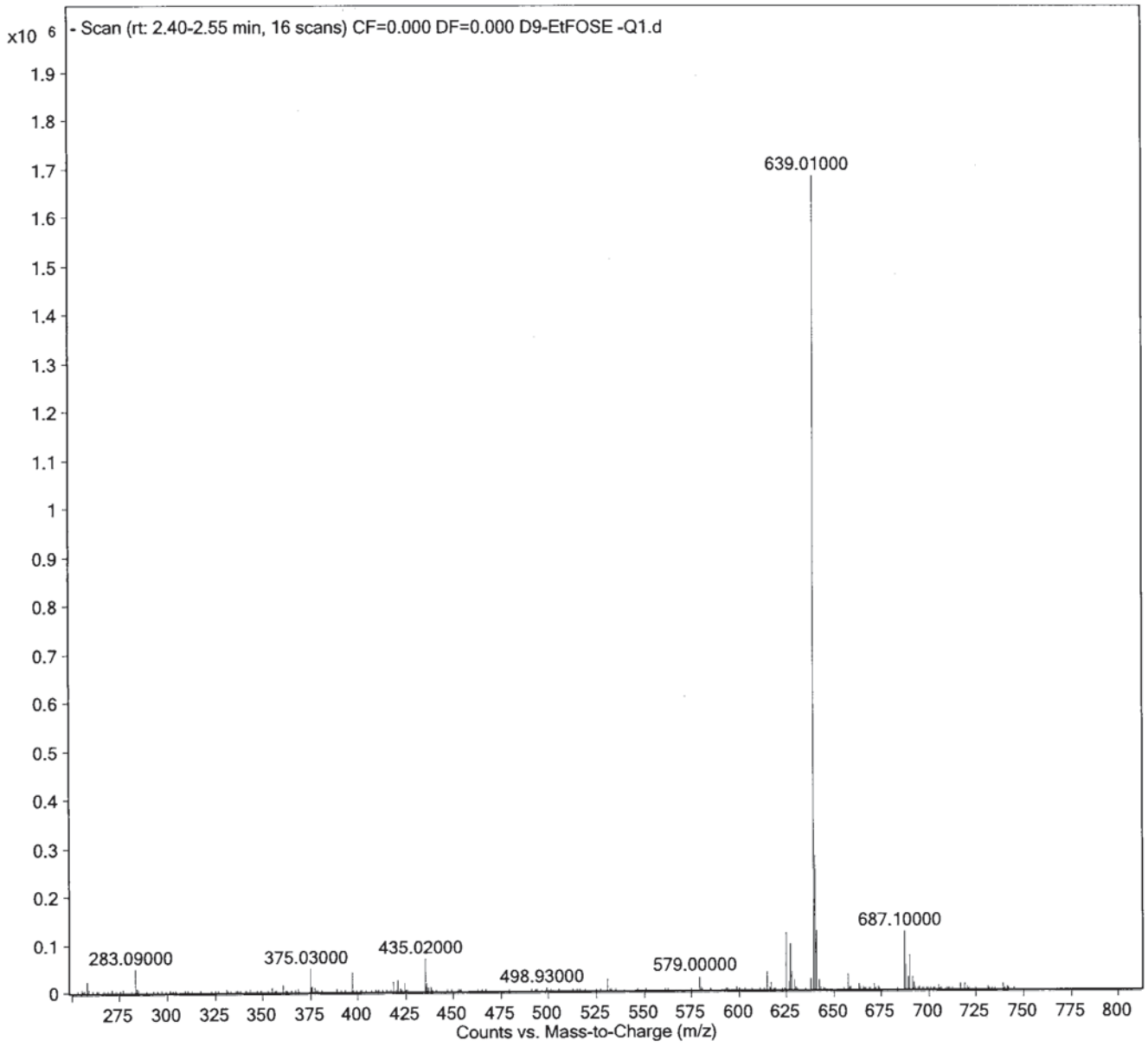
Maxam Analytics

Sample Name	D7-MeFOSE	**Position**	P2-B7	**Instrument Name**	LCMS04
User Name	AD	**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**	2017/07/11 2:23:24 PM



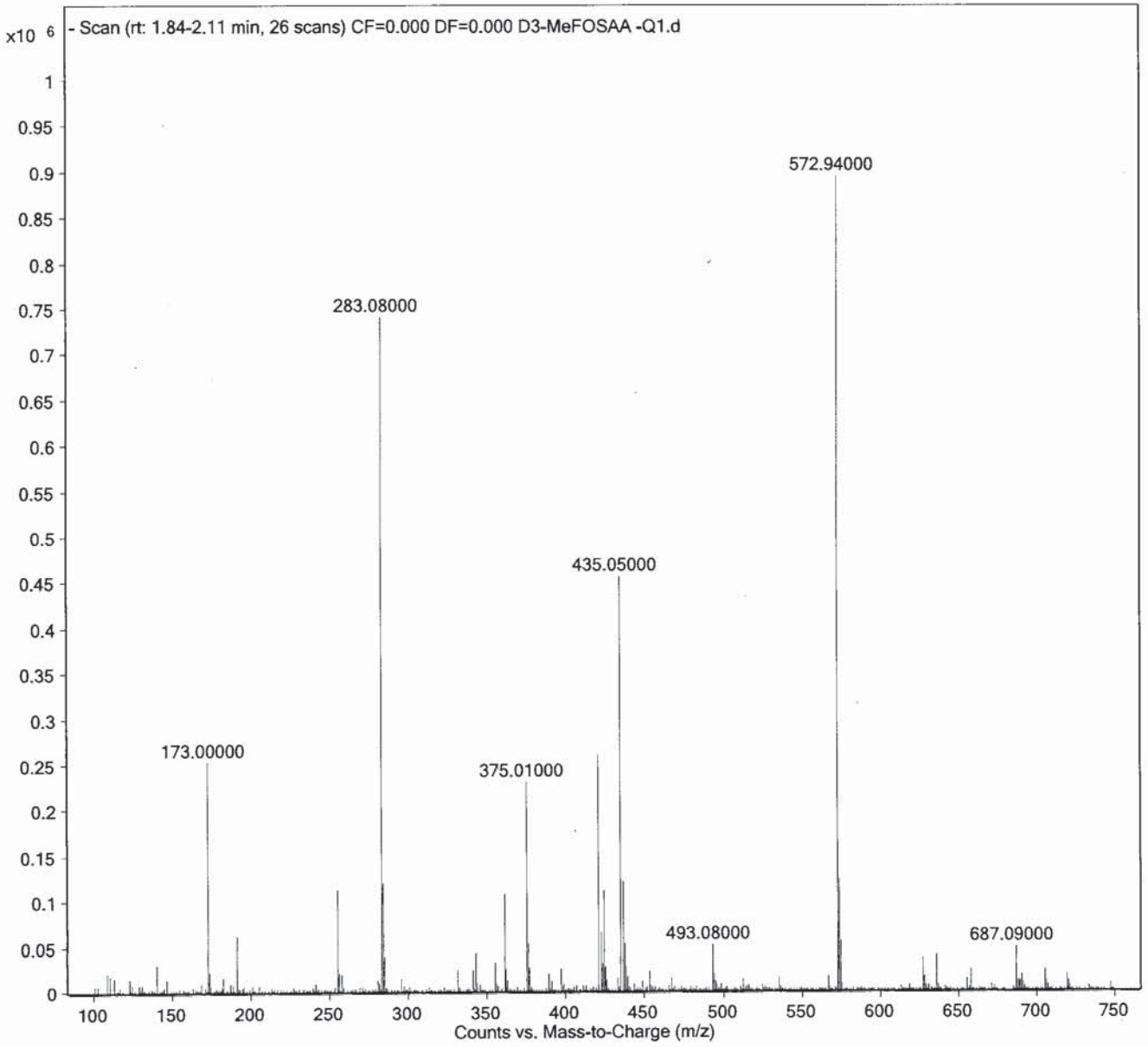
SaanAxam Analytics

Sample Name	D9-EtFOSE	**Position**	P2-B8	**Instrument Name**	LCMS04
User Name	AD	**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**	2017/07/11 2:28:56 PM



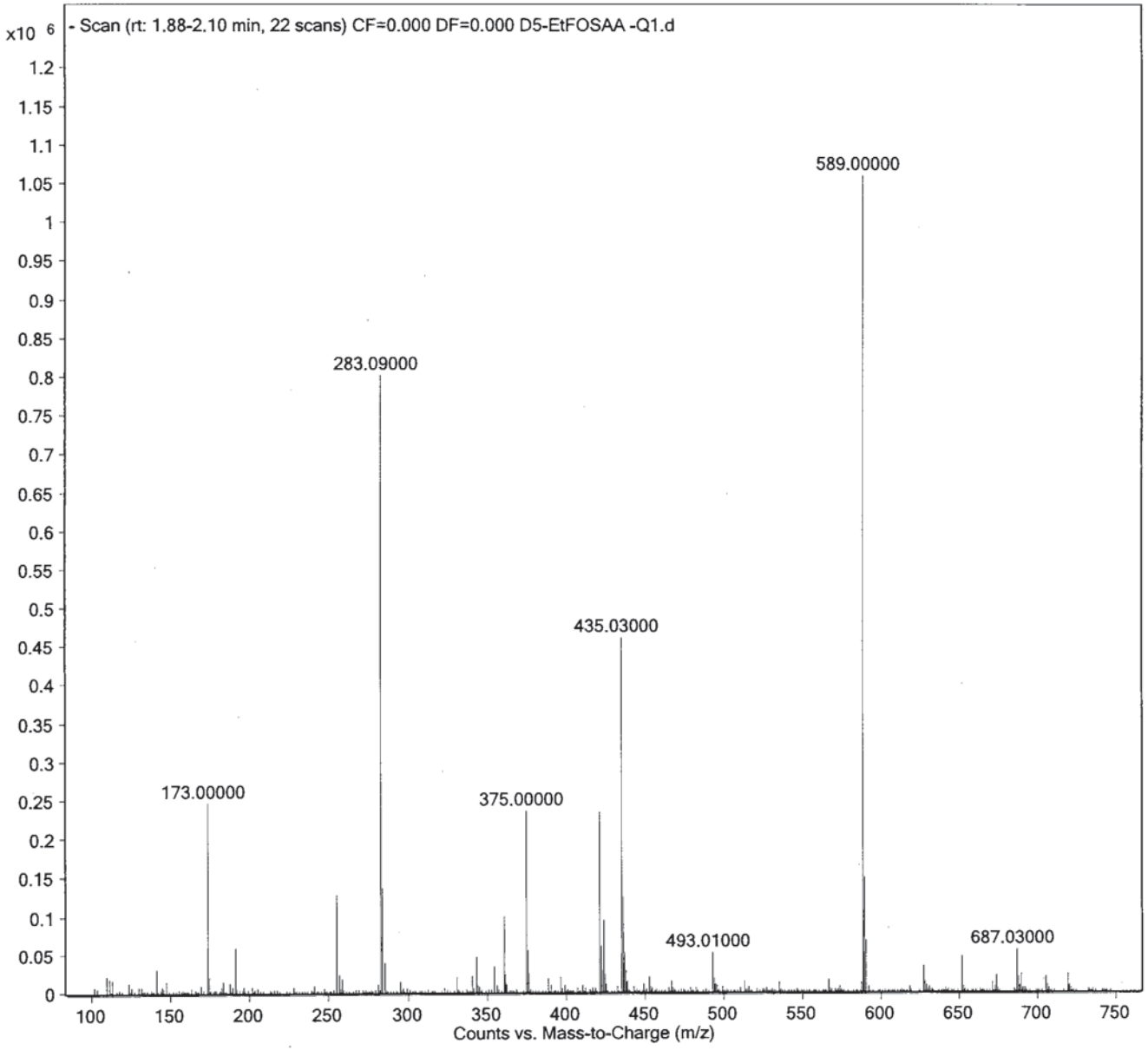
SafeAm Analytics

Sample Name	D3-MeFOSAA	**Position**	P2-B9	**Instrument Name**	LCMS04
User Name	AD	**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**	2017/07/11 2:34:28 PM



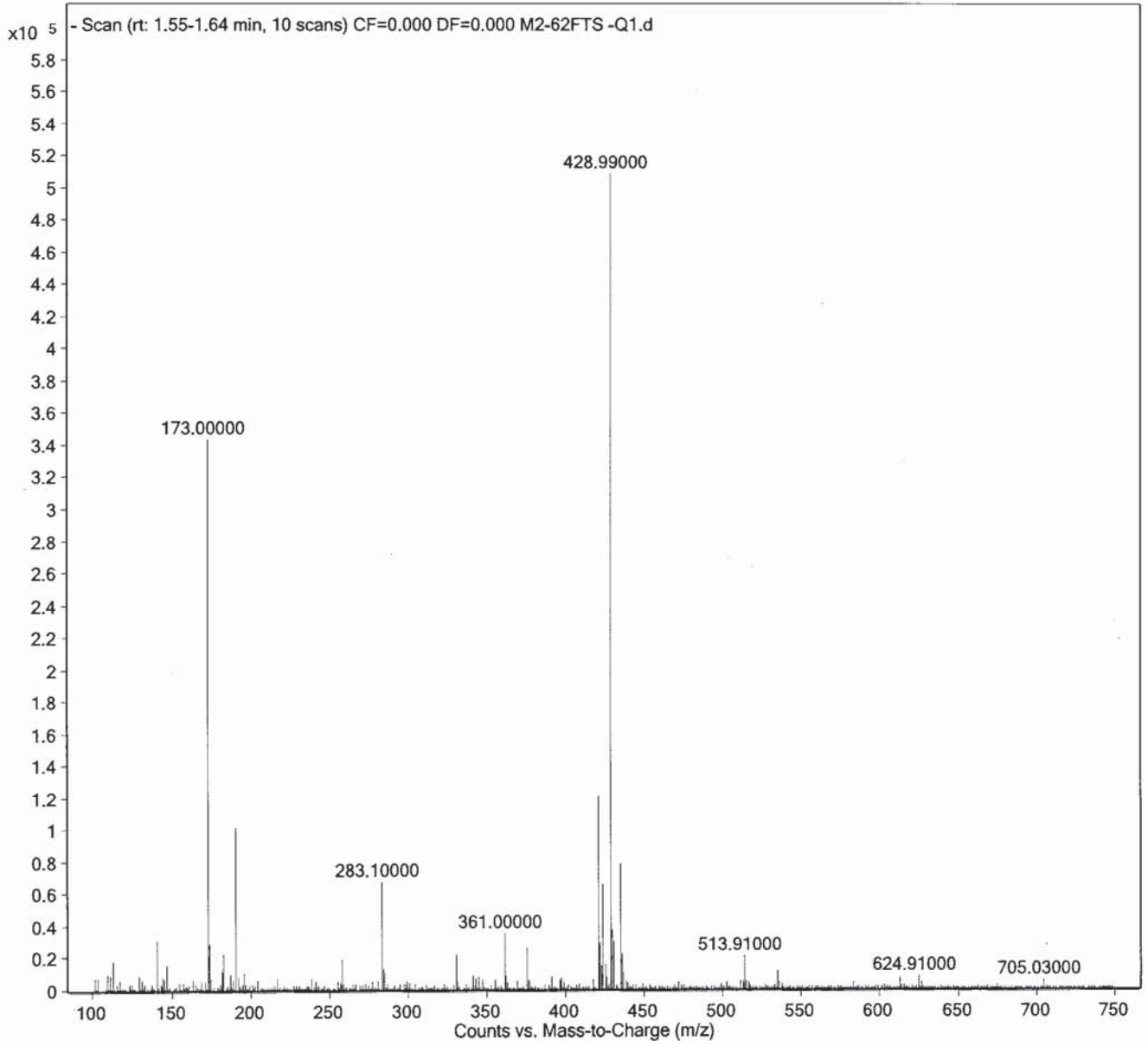
SGS AXYS Analytical

Sample Name	D5-EtFOSAA	**Position**	P2-C1	**Instrument Name**	LCMS04
User Name	AD	**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**	2017/07/11 2:39:59 PM



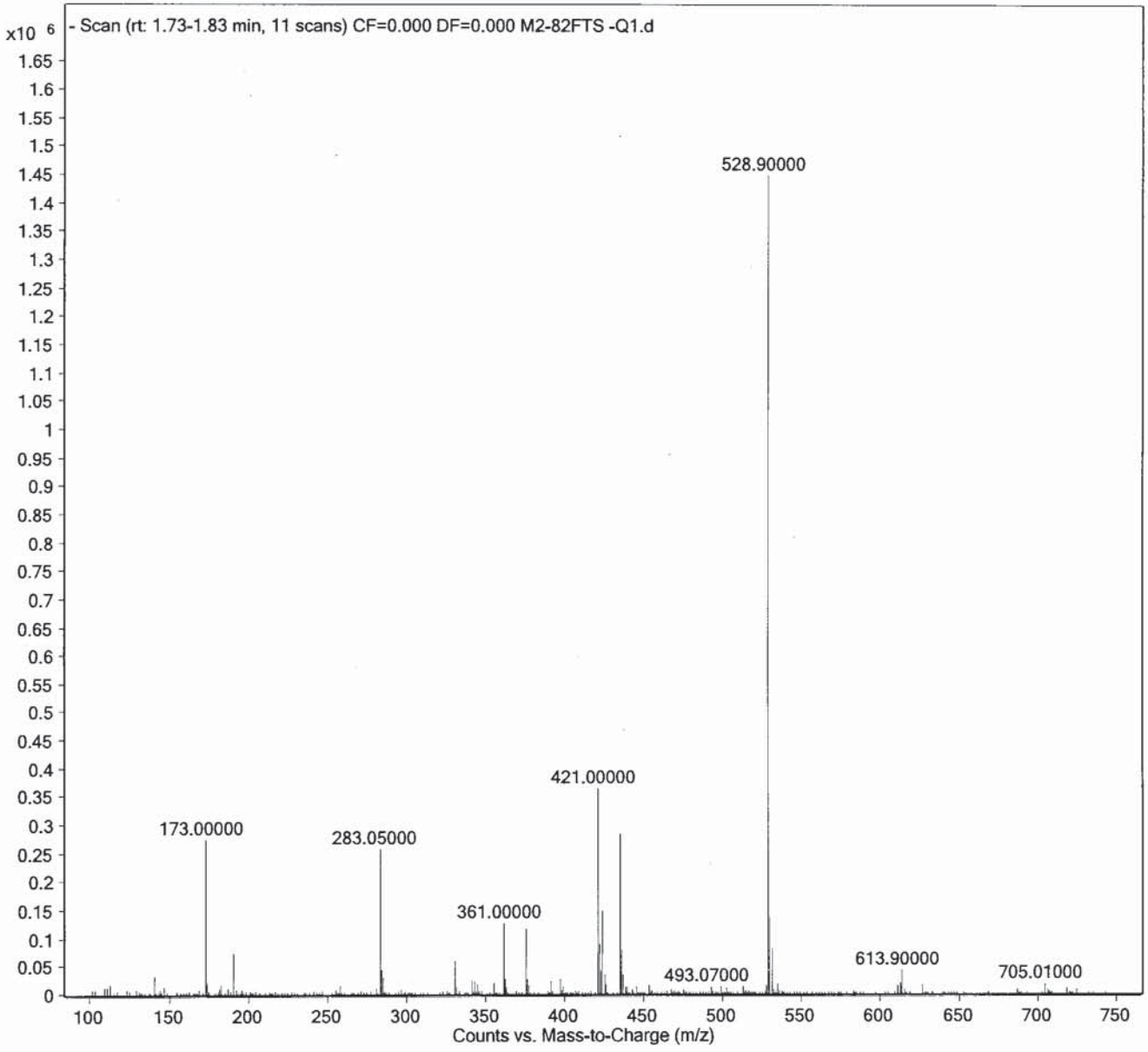
SGS AXAM Analytics

Sample Name	M2-6:2FTS	**Position**	P2-C2	**Instrument Name**	LCMS04
User Name	AD	**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**	2017/07/11 2:45:29 PM



SGS AXYS Analytics

Sample Name	M2-8:2FTS	**Position**	P2-C3	**Instrument Name**	LCMS04
User Name	AD	**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**	2017/07/11 2:50:59 PM

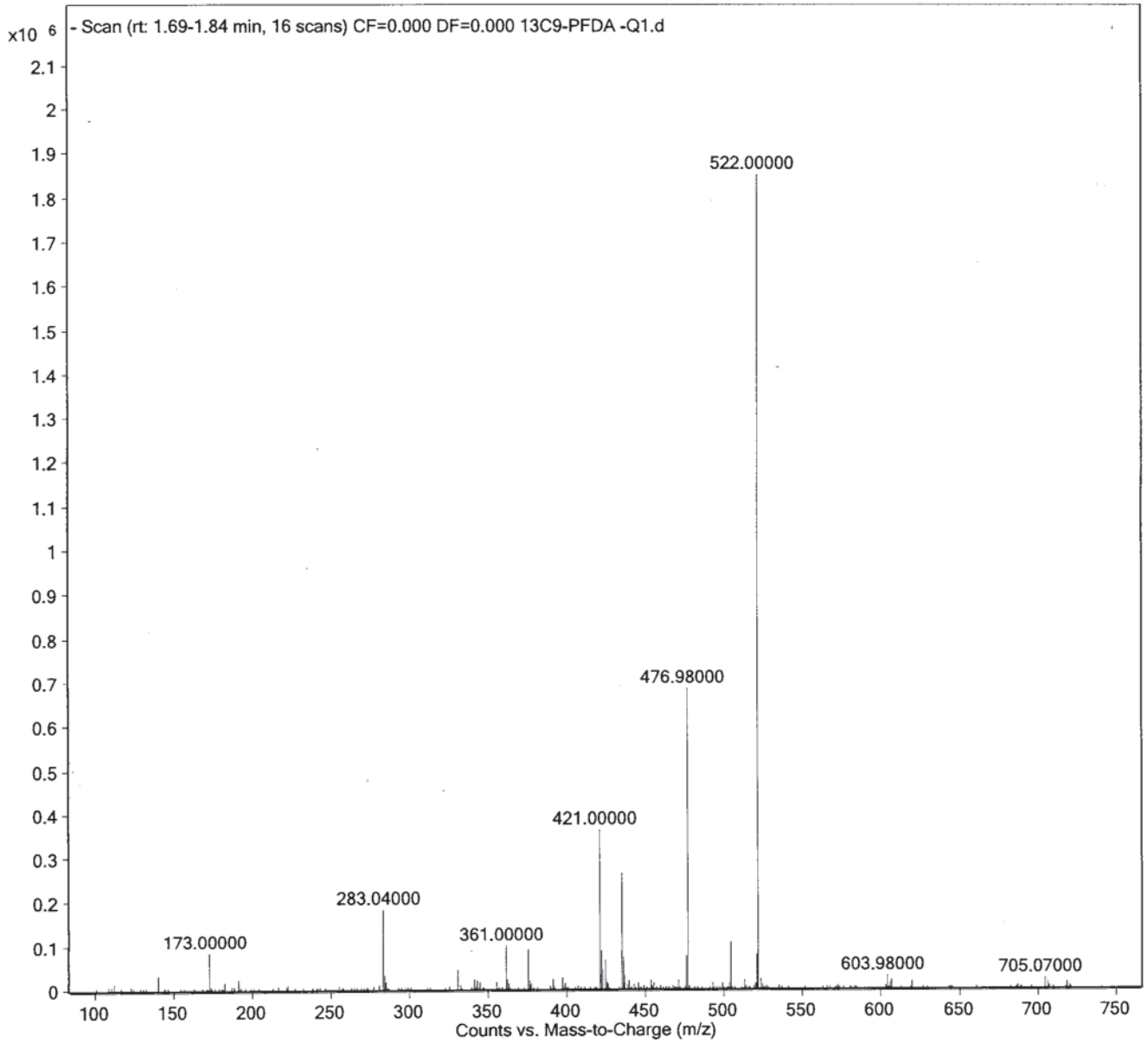


MaxXam Analytics

Sample Name	13C6-PFHxA	**Position**	P2-C4	**Instrument Name**	LCMS04
User Name	AD	**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**	2017/07/11 2:56:30 PM

Eurofins Lancaster Laboratories Environmental, Lancaster Laboratories Environmental, Eurofins Air Toxics, Eurofins Calscience, Eurofins Canton, Eurofins Edison, Eurofins Knoxville, Eurofins Sacramento, Eurofins Seattle, Eurofins Spokane, Eurofins Xenco, Eurofins Air Toxics, Eurofins Denver, Eurofins Kansas City, Eurofins Lancaster Laboratories Environmental, Eurofins Orange, Eurofins Pittsburgh, Eurofins Savannah, Eurofins Sunnyvale

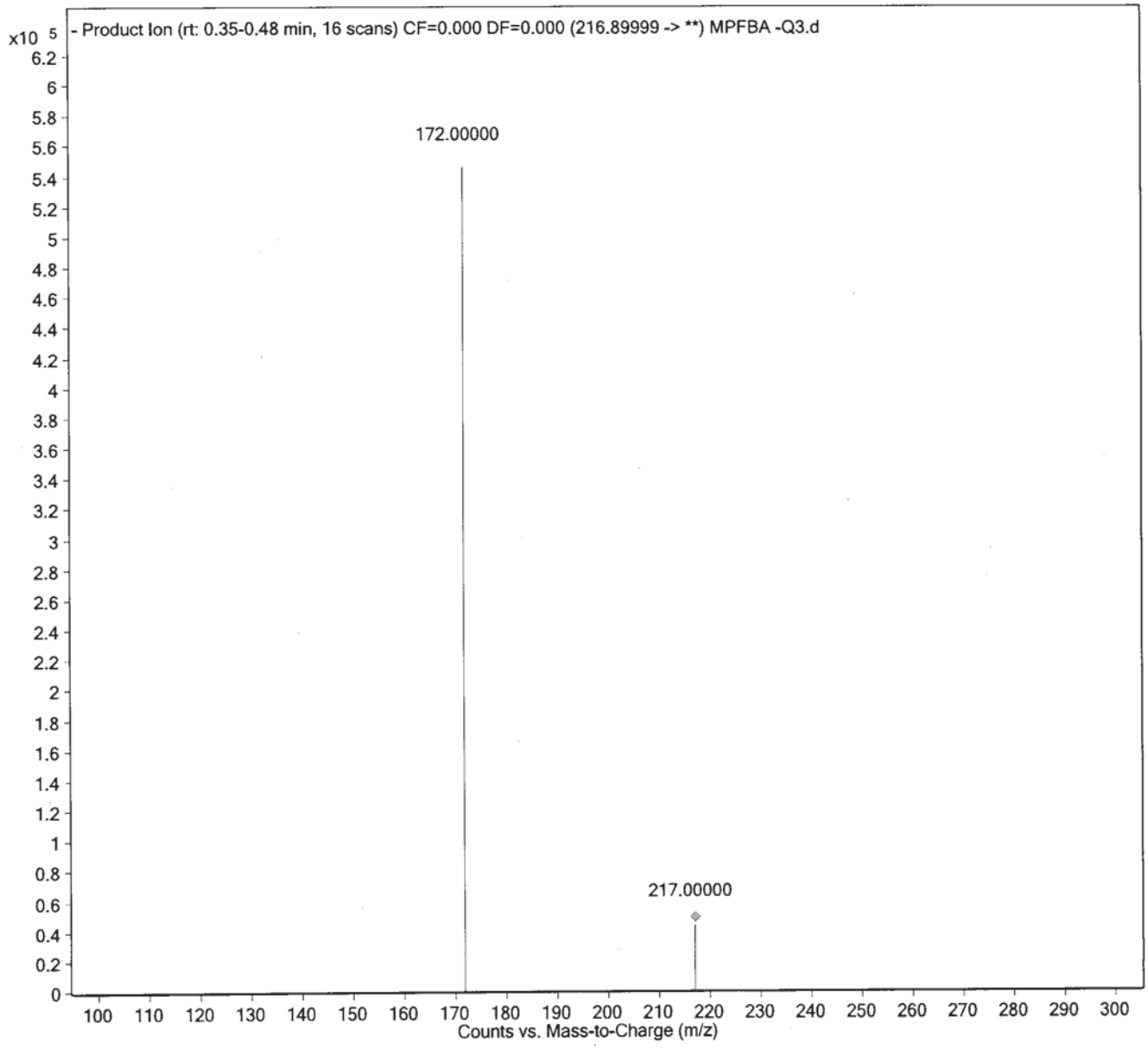
Sample Name	13C9-PFDA	**Position**	P2-C5	**Instrument Name**	LCMS04
User Name	AD	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	13C9-PFDA -Q1.d
ACQ Method	PFC_MassVerification-Q1.m	**Comment**		**Acquired Time**	2017/07/11 3:01:59 PM



SaxKam Analytics

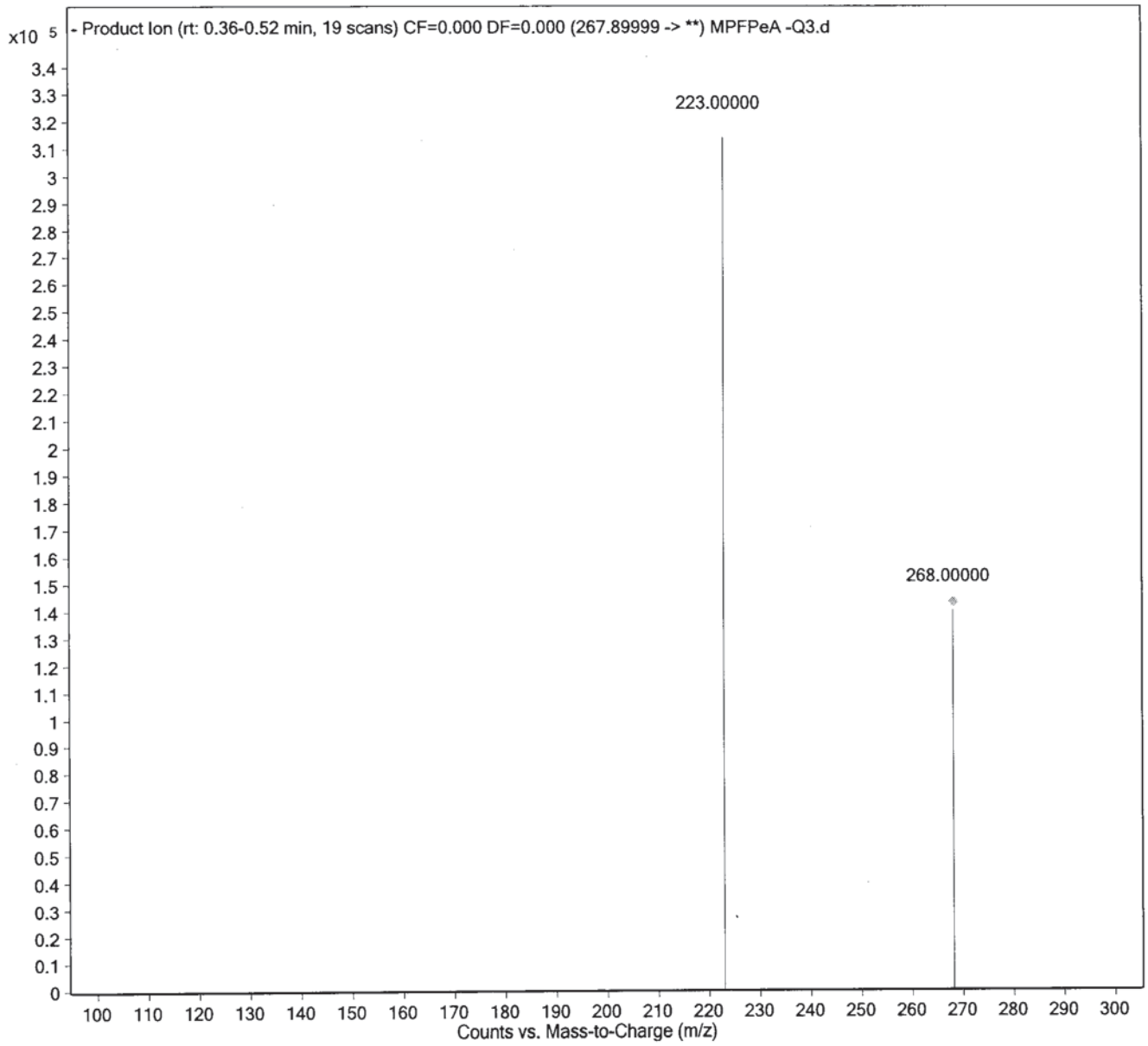
Extracted and Injection Internal Standard Product Ion Verification

Sample Name	MPFBA -Q3	**Position**	P2-A1	**Instrument Name**	LCMS04
User Name	AD	**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**	2017/07/11 3:07:29 PM



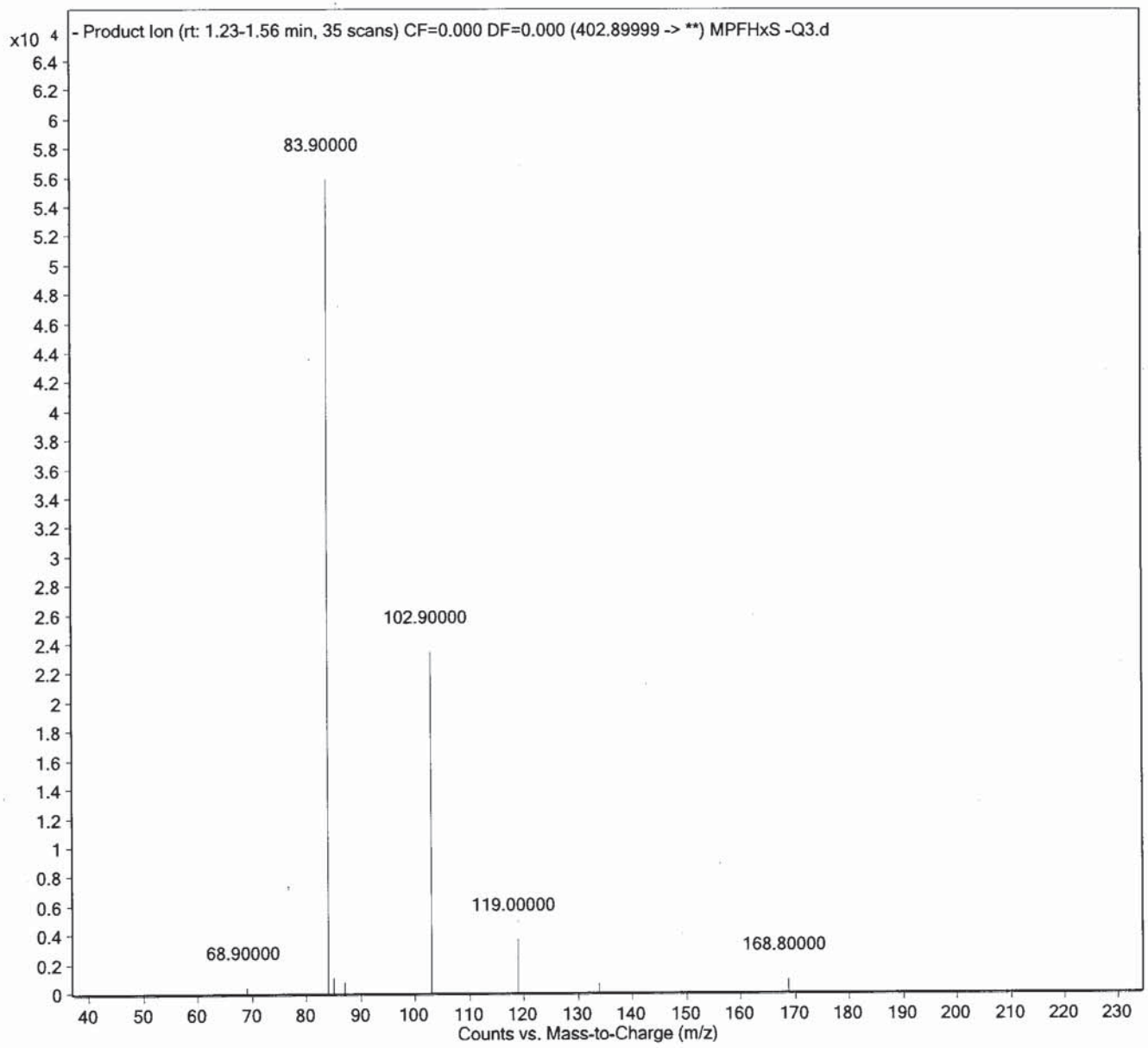
Eurofins Eaton Analytics

Sample Name	MPFPeA -Q3	**Position**	P2-A2	**Instrument Name**	LCMS04
User Name	AD	**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**	2017/07/11 3:12:59 PM



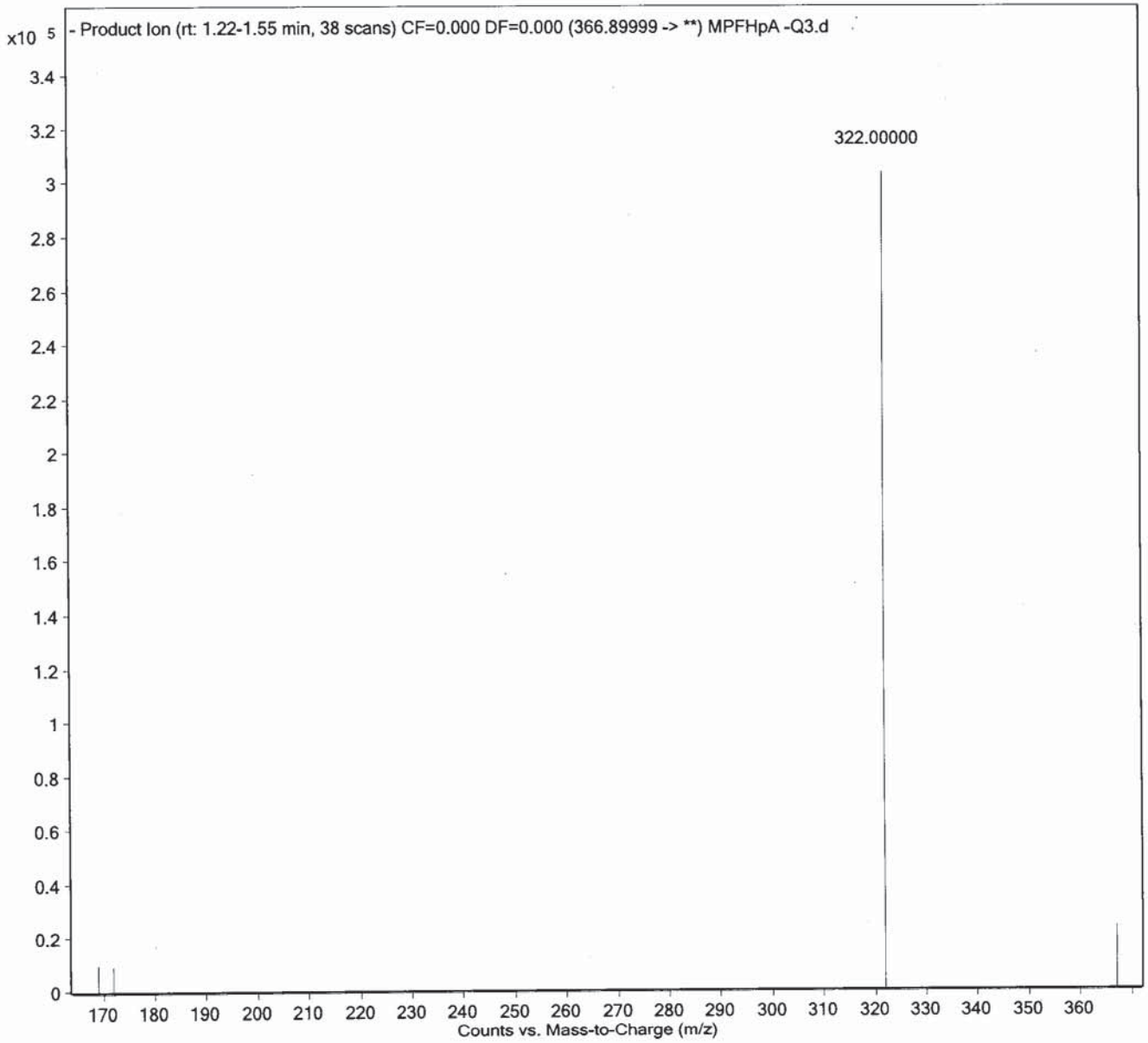
Maxxam Analytics

Sample Name	MPFHxS -Q3	**Position**	P2-A4	**Instrument Name**	LCMS04
User Name	AD	**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**	2017/07/11 3:24:00 PM



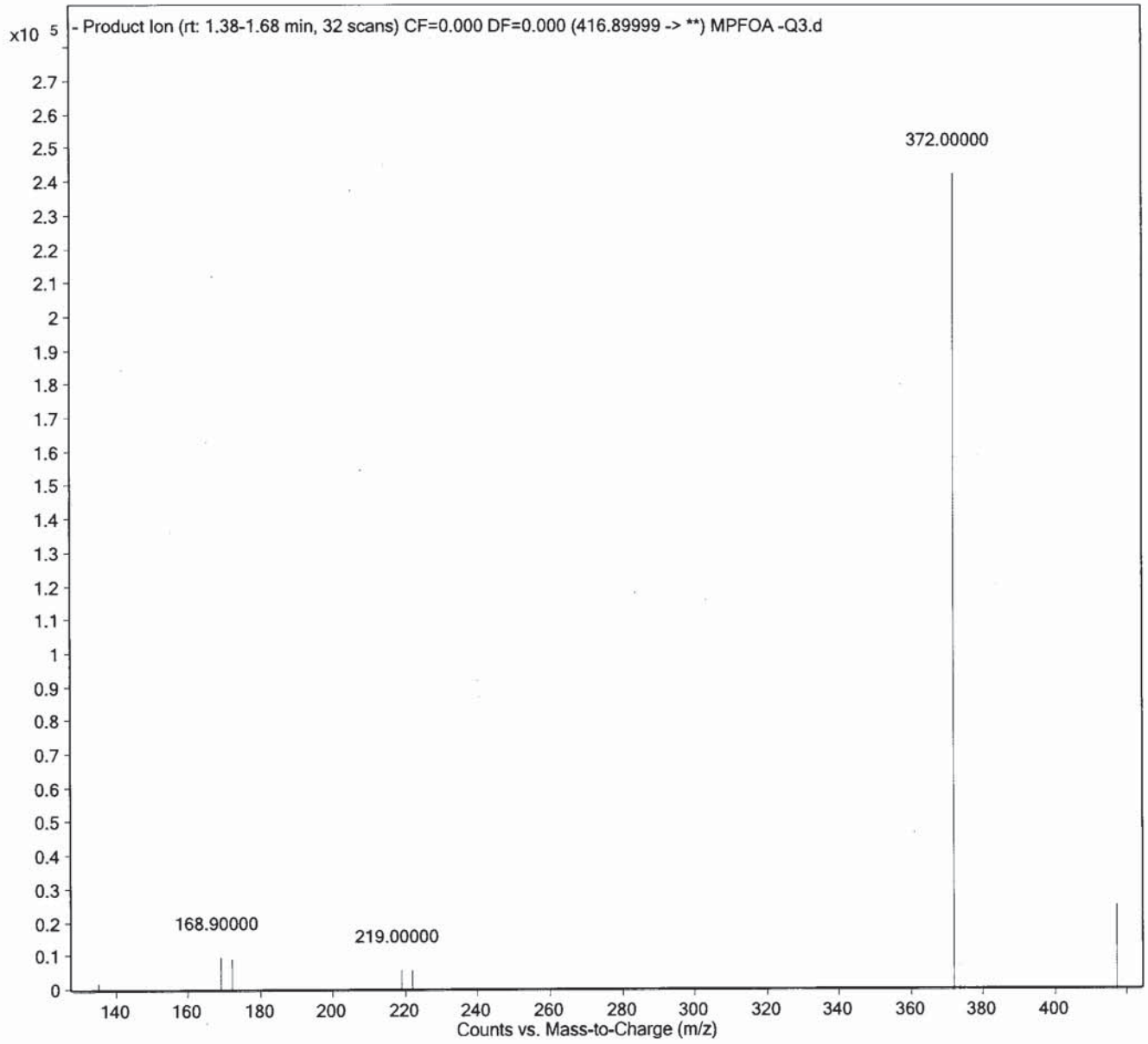
SaxAm Analytics

Sample Name	MPFHpA -Q3	**Position**	P2-A5	**Instrument Name**	LCMS04
User Name	AD	**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**	2017/07/11 3:29:30 PM



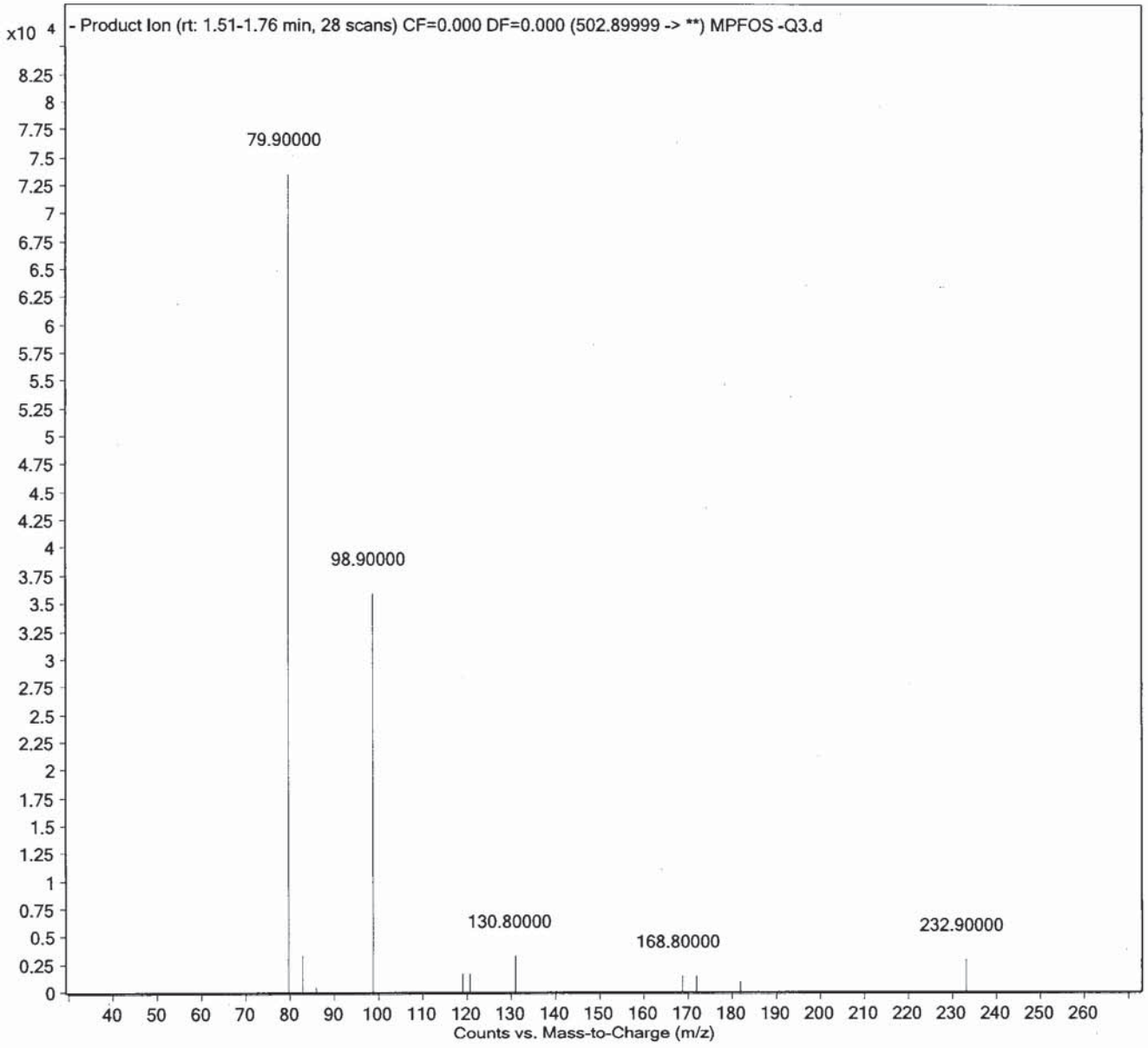
SaraTam Analytics

Sample Name	MPFOA -Q3	**Position**	P2-A6	**Instrument Name**	LCMS04
User Name	AD	**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**	2017/07/11 3:35:00 PM



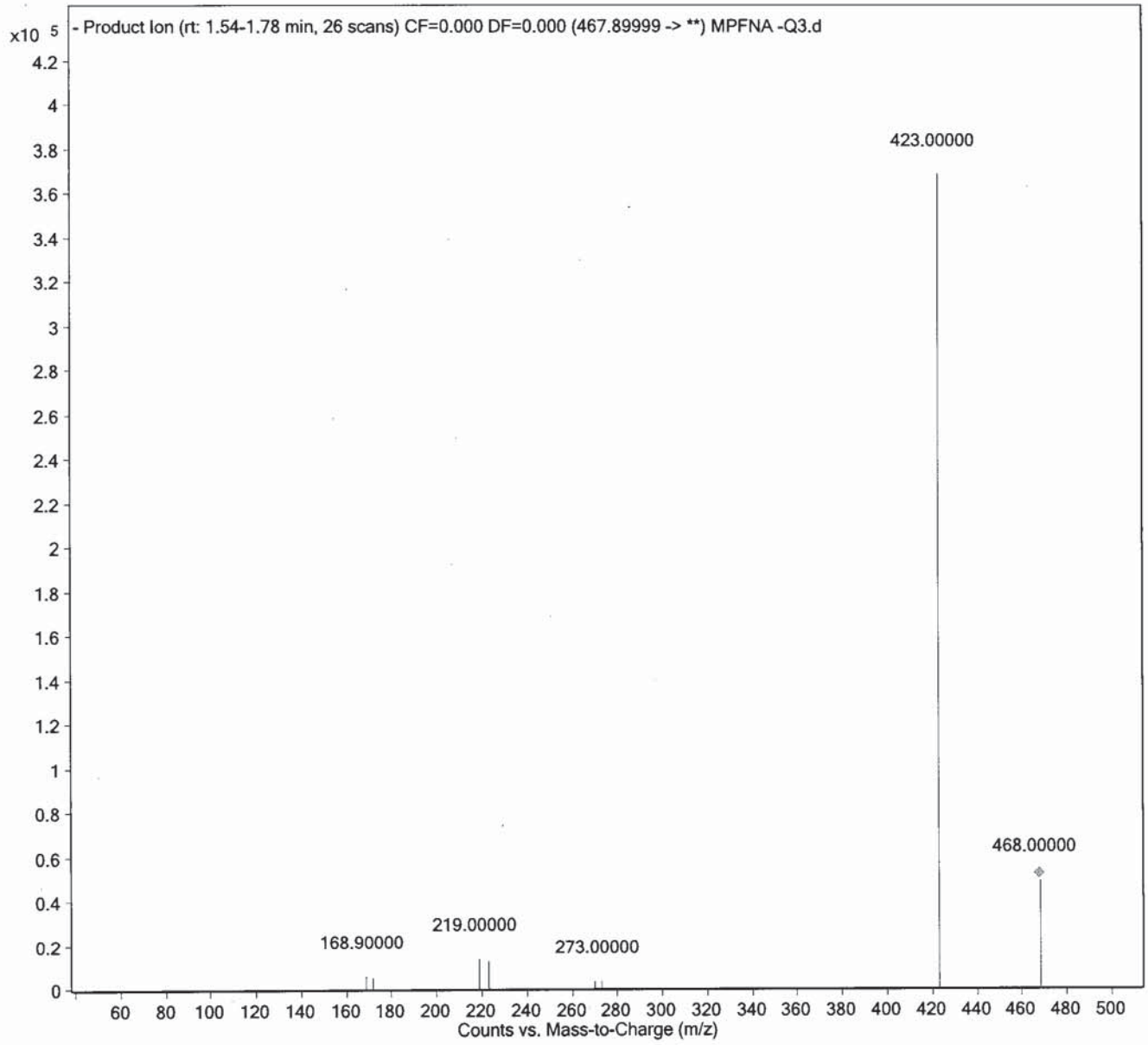
Saram Analytics

Sample Name	MPFOS -Q3	**Position**	P2-A7	**Instrument Name**	LCMS04
User Name	AD	**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**	2017/07/11 3:40:32 PM



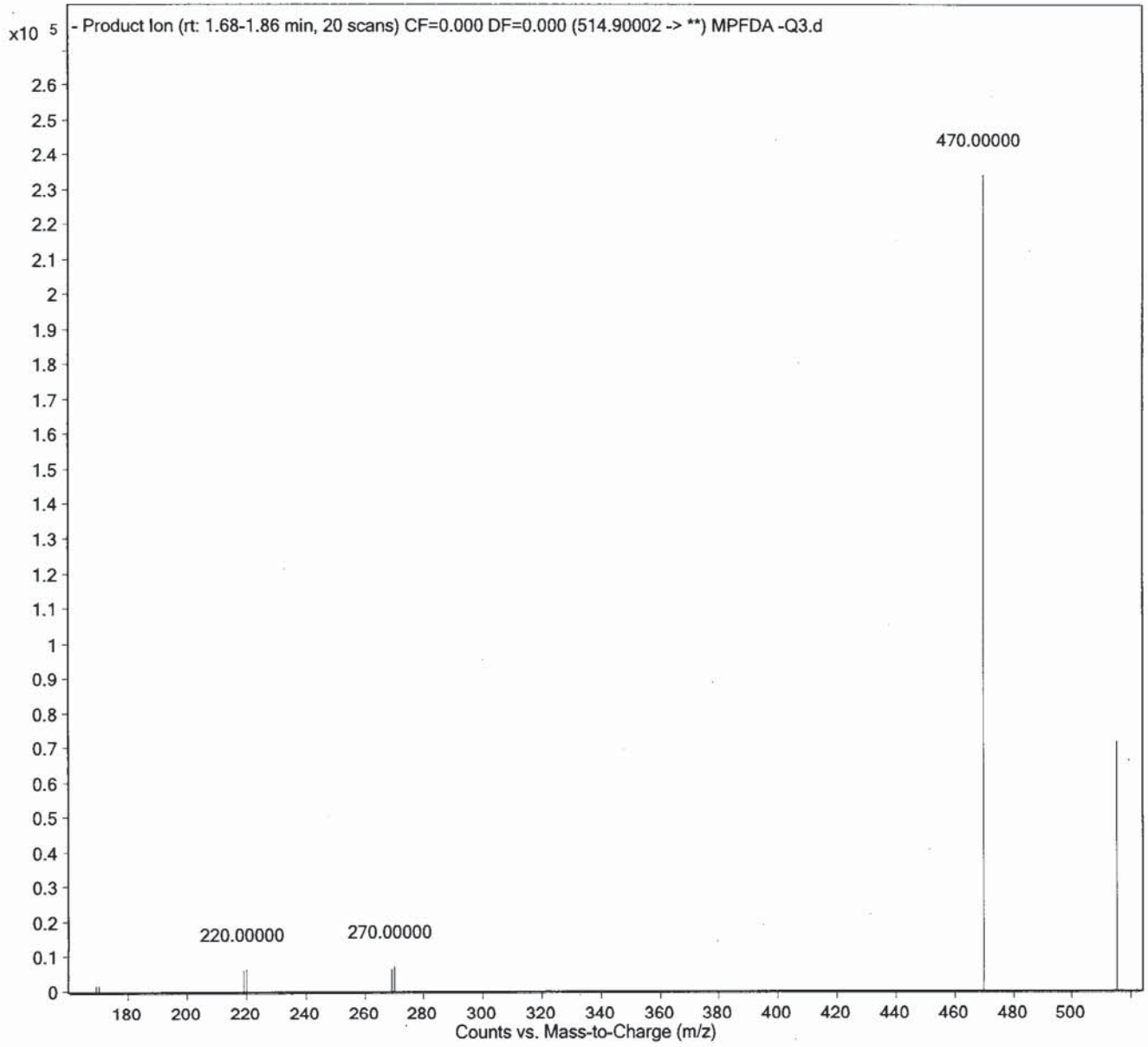
SGS AXAM Analytics

Sample Name	MPFNA -Q3	**Position**	P2-A8	**Instrument Name**	LCMS04
User Name	AD	**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**	2017/07/11 3:46:04 PM



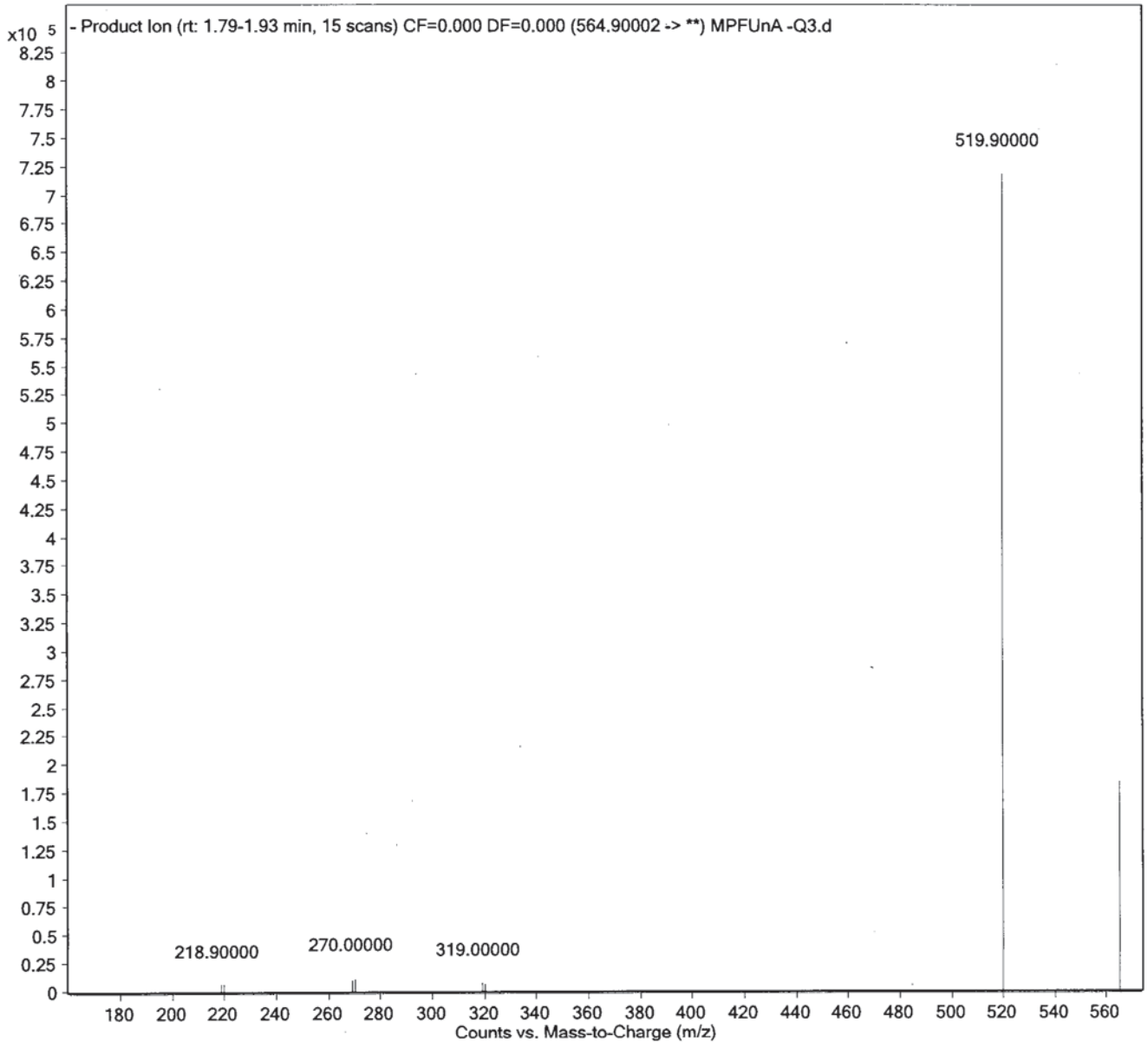
Saram Analytics

Sample Name	MPFDA -Q3	**Position**	P2-A9	**Instrument Name**	LCMS04
User Name	AD	**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**	2017/07/11 3:51:36 PM



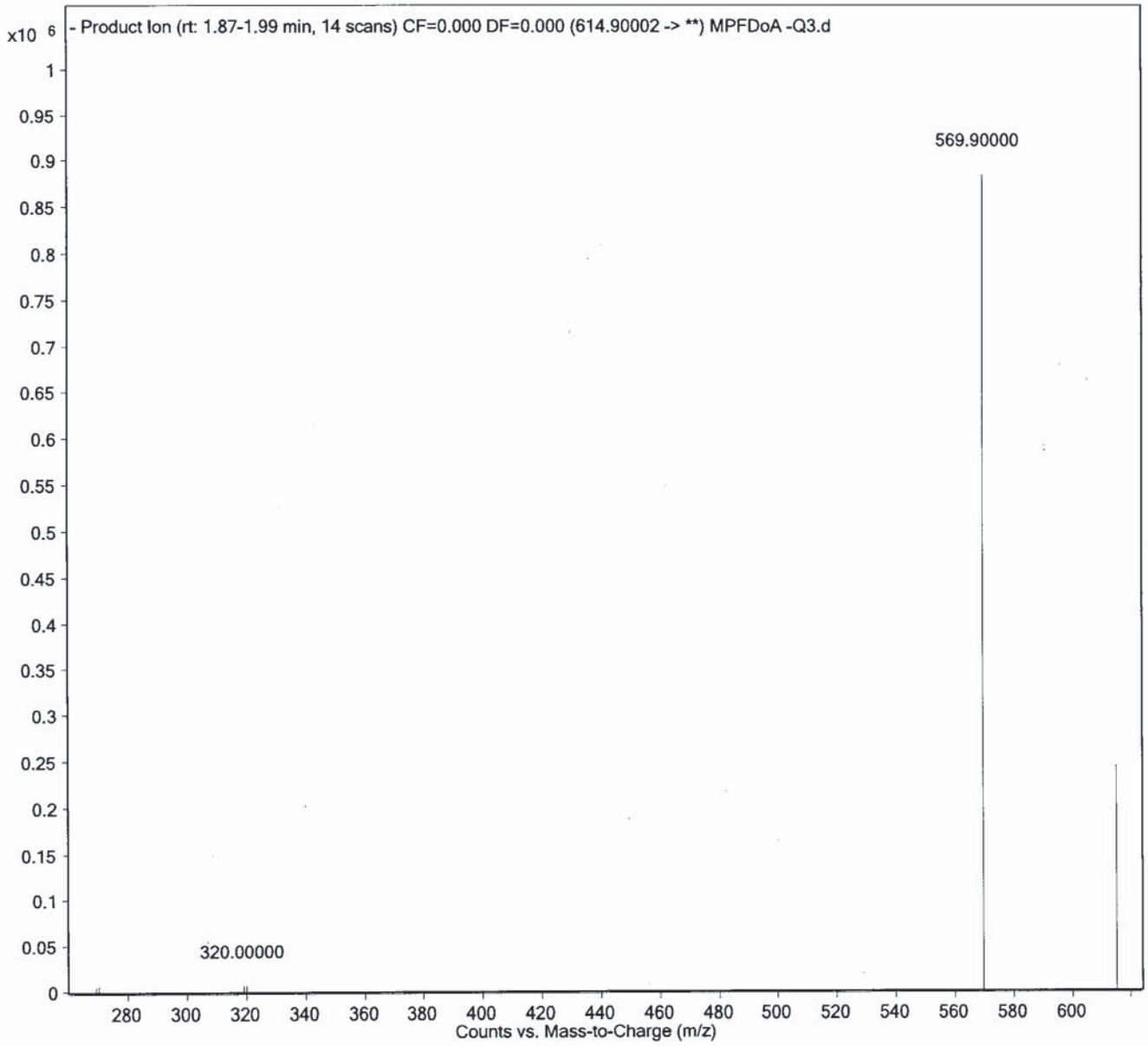
Saram Analytics

Sample Name	MPFUnA -Q3	**Position**	P2-B1	**Instrument Name**	LCMS04
User Name	AD	**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**	2017/07/11 3:57:07 PM



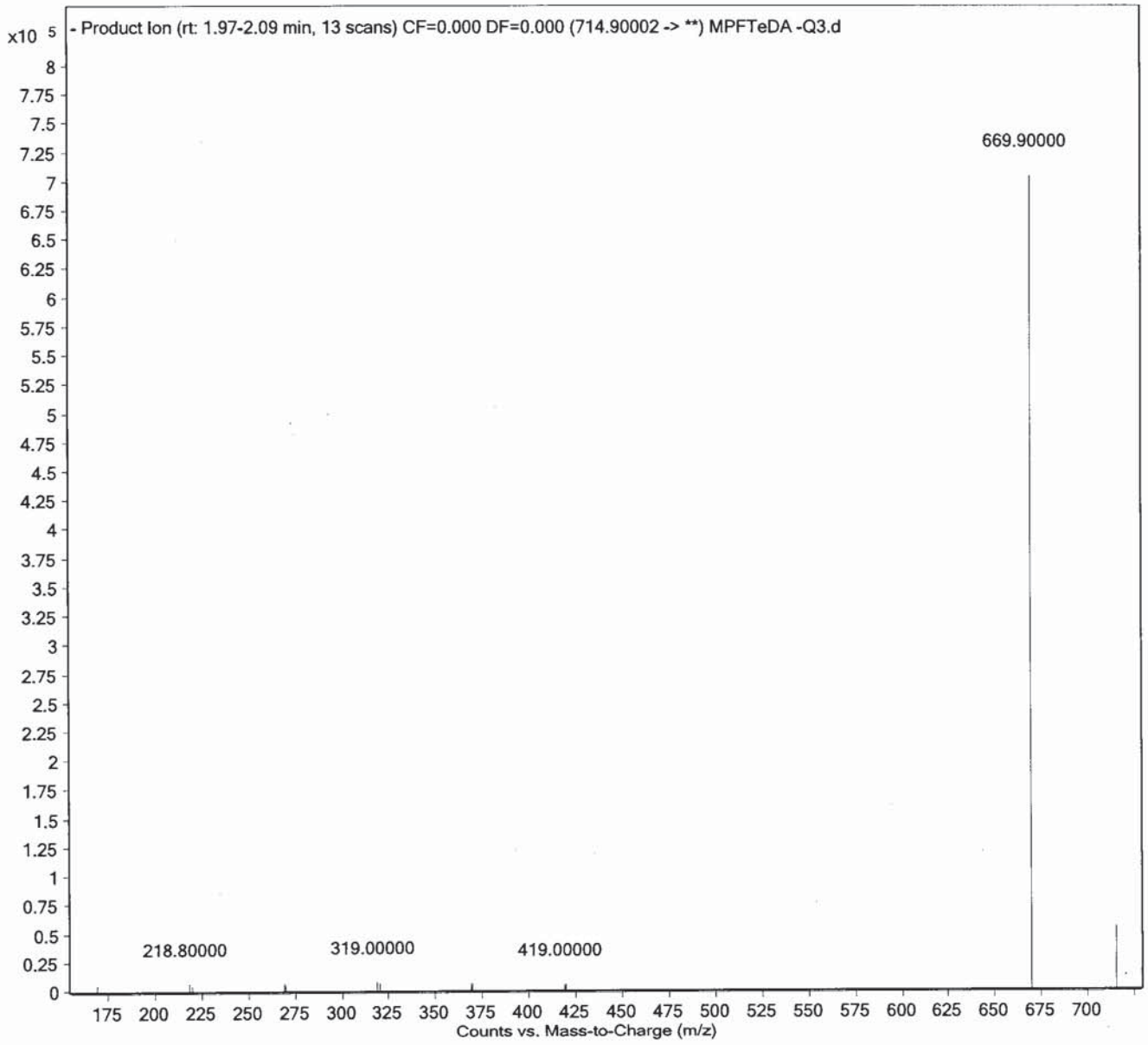
SaxAm Analytics

Sample Name	MPFDoA -Q3	**Position**	P2-B2	**Instrument Name**	LCMS04
User Name	AD	**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**	2017/07/11 4:02:38 PM



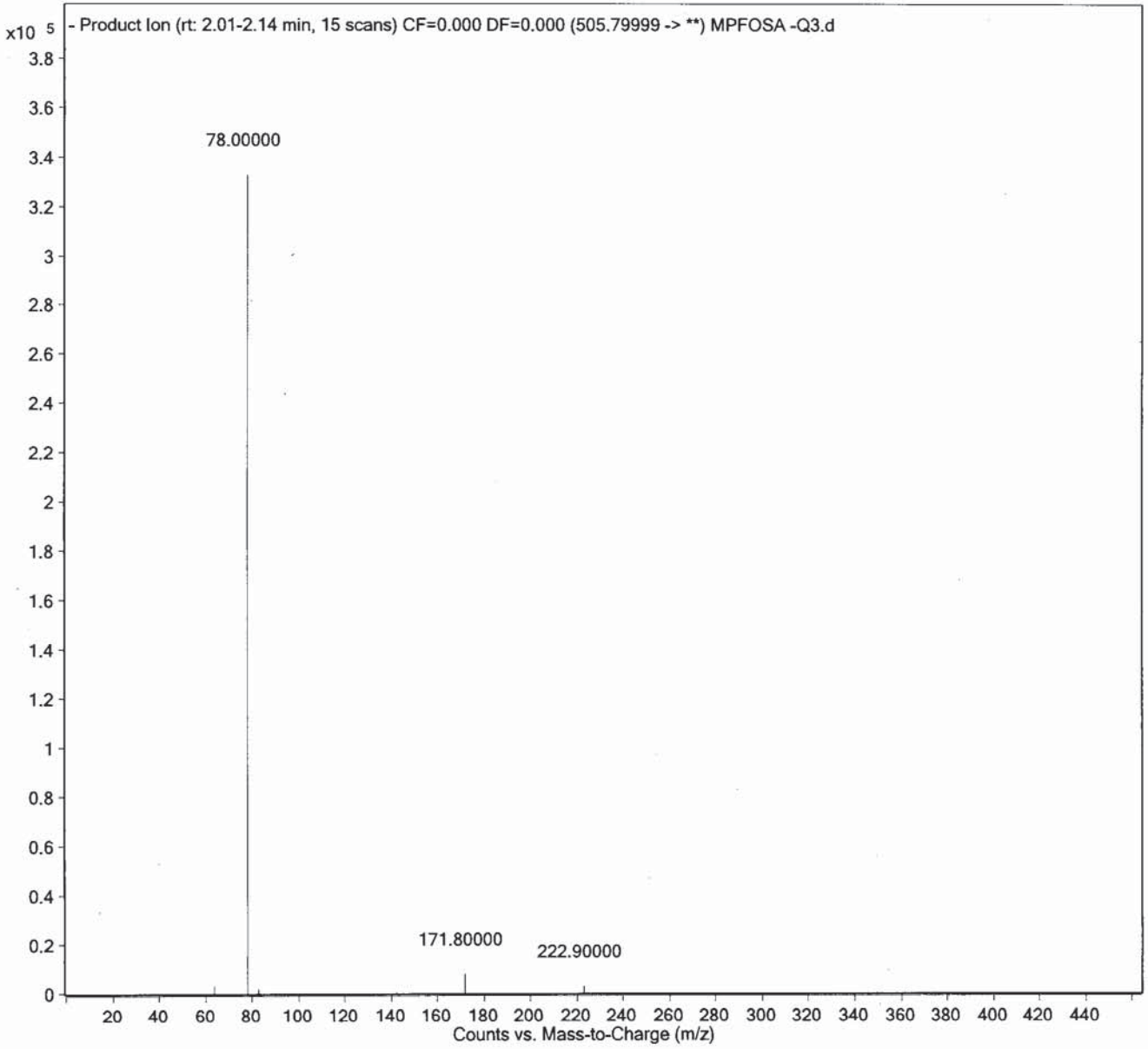
Saram Analytics

Sample Name	MPFTeDA -Q3	**Position**	P2-B3	**Instrument Name**	LCMS04
User Name	AD	**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**	2017/07/11 4:08:08 PM



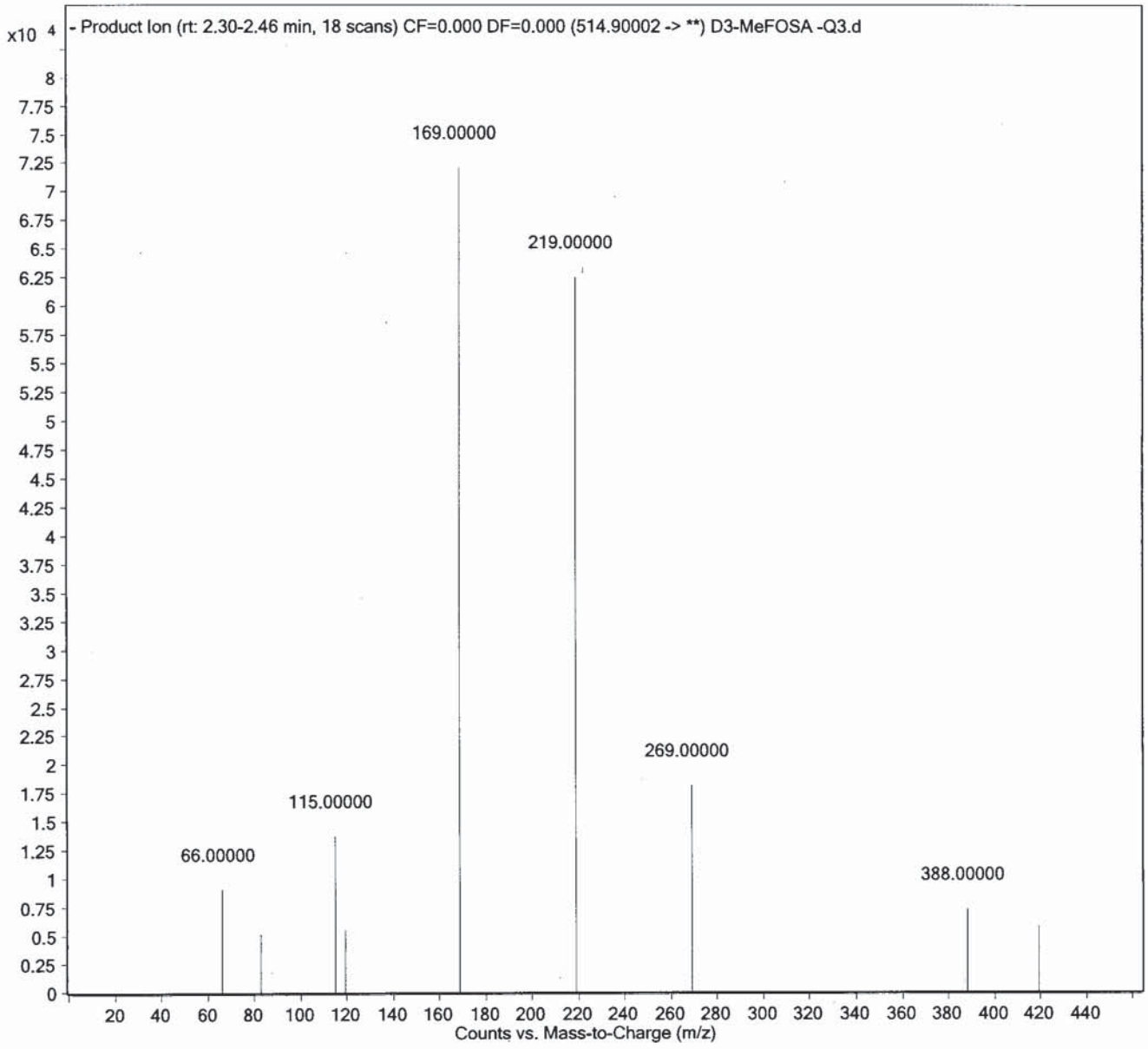
Saram Analytics

Sample Name	MPFOSA -Q3	**Position**	P2-B4	**Instrument Name**	LCMS04
User Name	AD	**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**	2017/07/11 4:13:38 PM

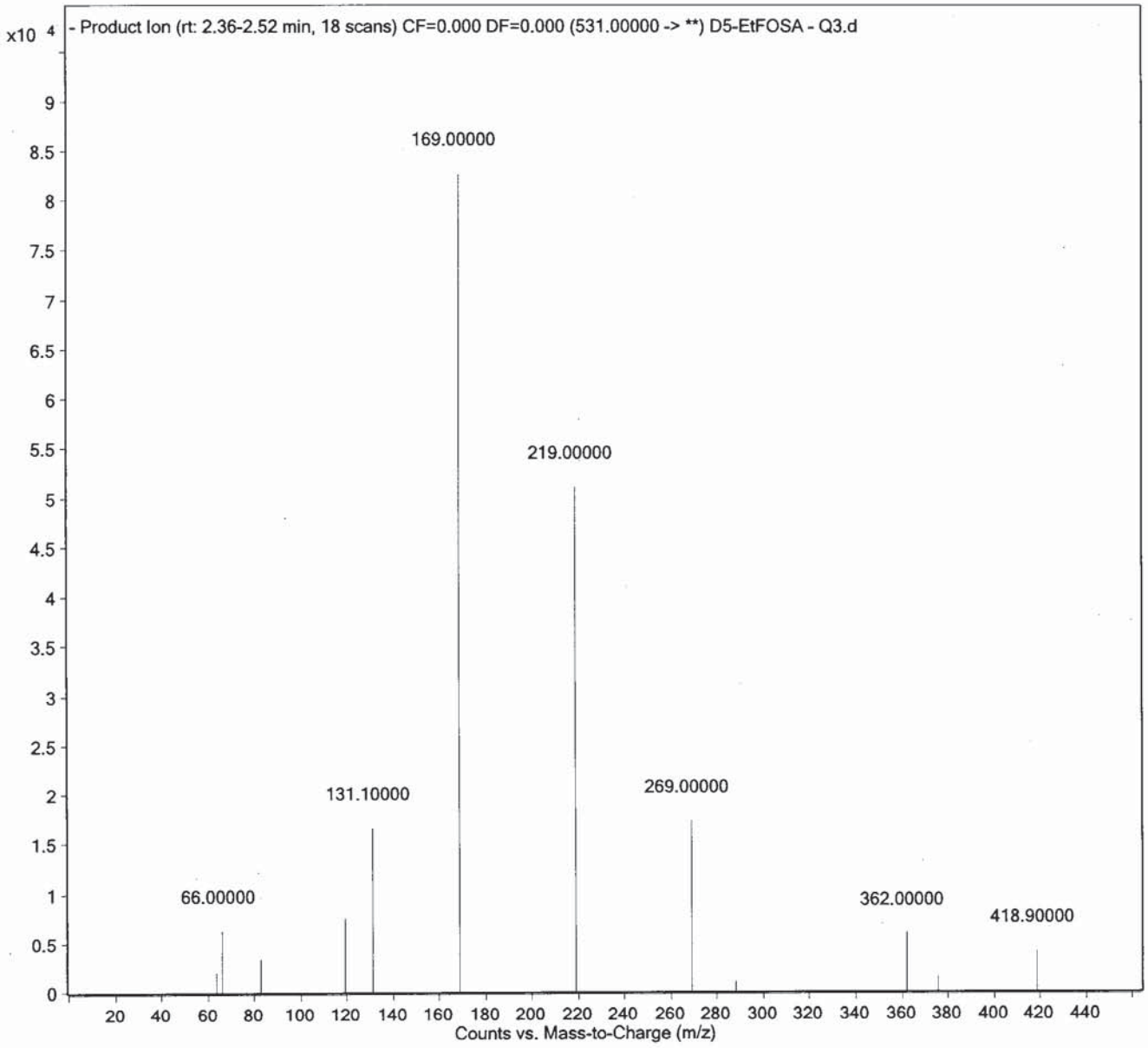


MaxXam Analytics

Sample Name	D3-MeFOSA -Q3	**Position**	P2-B5	**Instrument Name**	LCMS04
User Name	AD	**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**	2017/07/11 4:19:08 PM

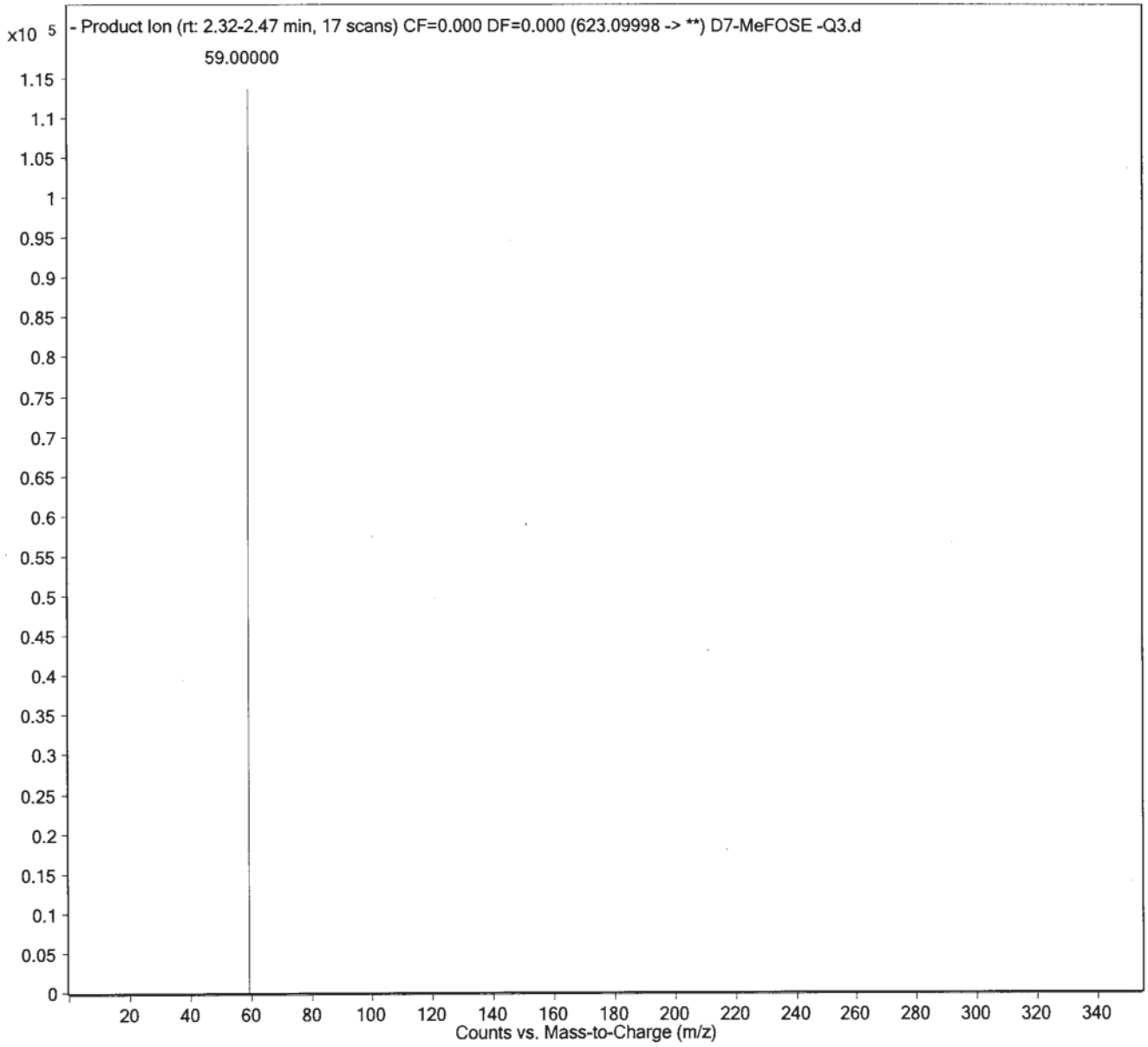


Sample Name	D5-EtFOSA -Q3	**Position**	P2-B6	**Instrument Name**	LCMS04
User Name	AD	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	D5-EtFOSA - Q3.d
ACQ Method	PFC_MassVerification-D5-EtFOSA-Q3.m	**Comment**		**Acquired Time**	2017/07/11 4:24:38 PM

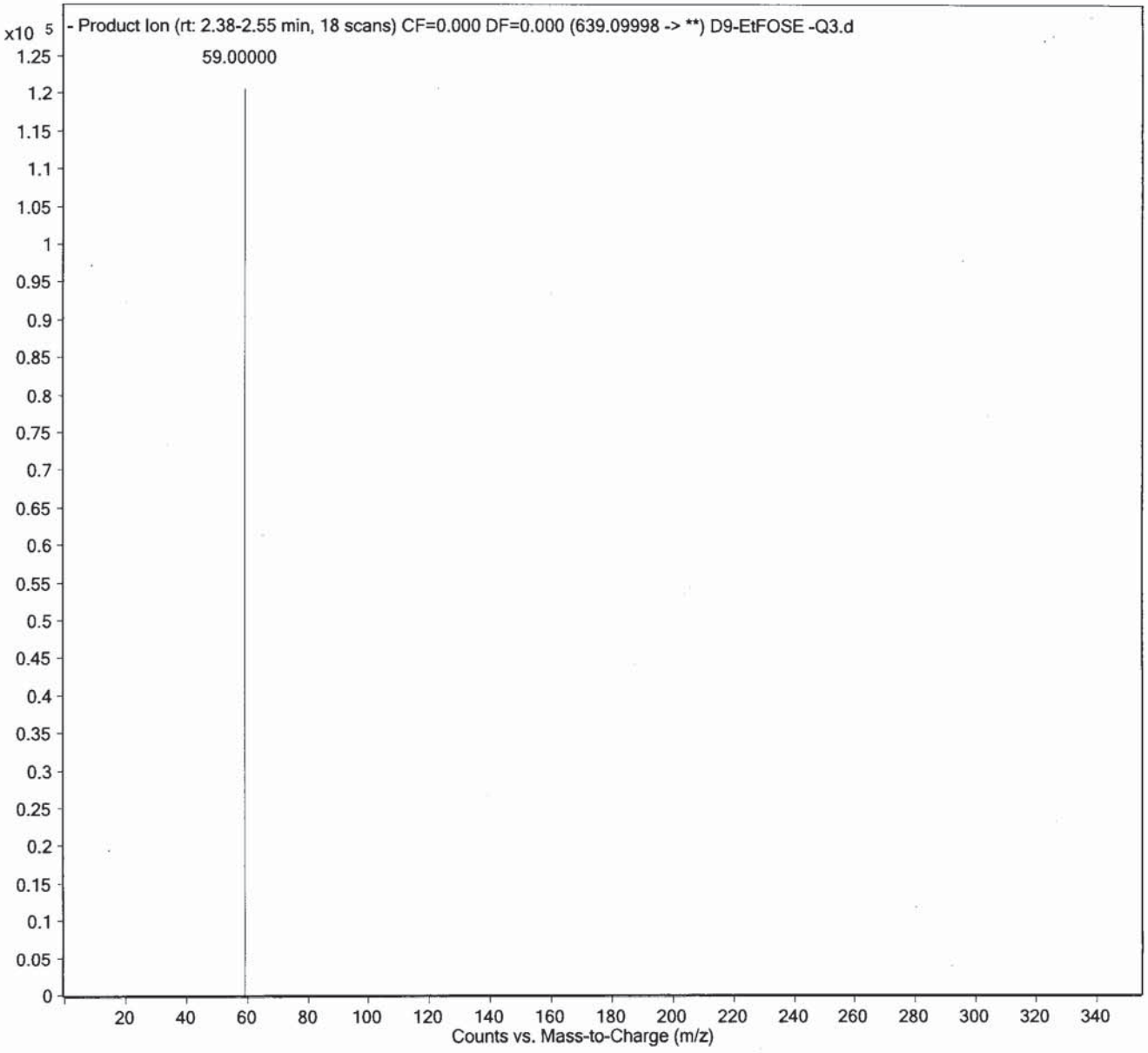


Saram Analytics

Sample Name	D7-MeFOSE -Q3	**Position**	P2-B7	**Instrument Name**	LCMS04
User Name	AD	**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**	2017/07/11 4:30:08 PM

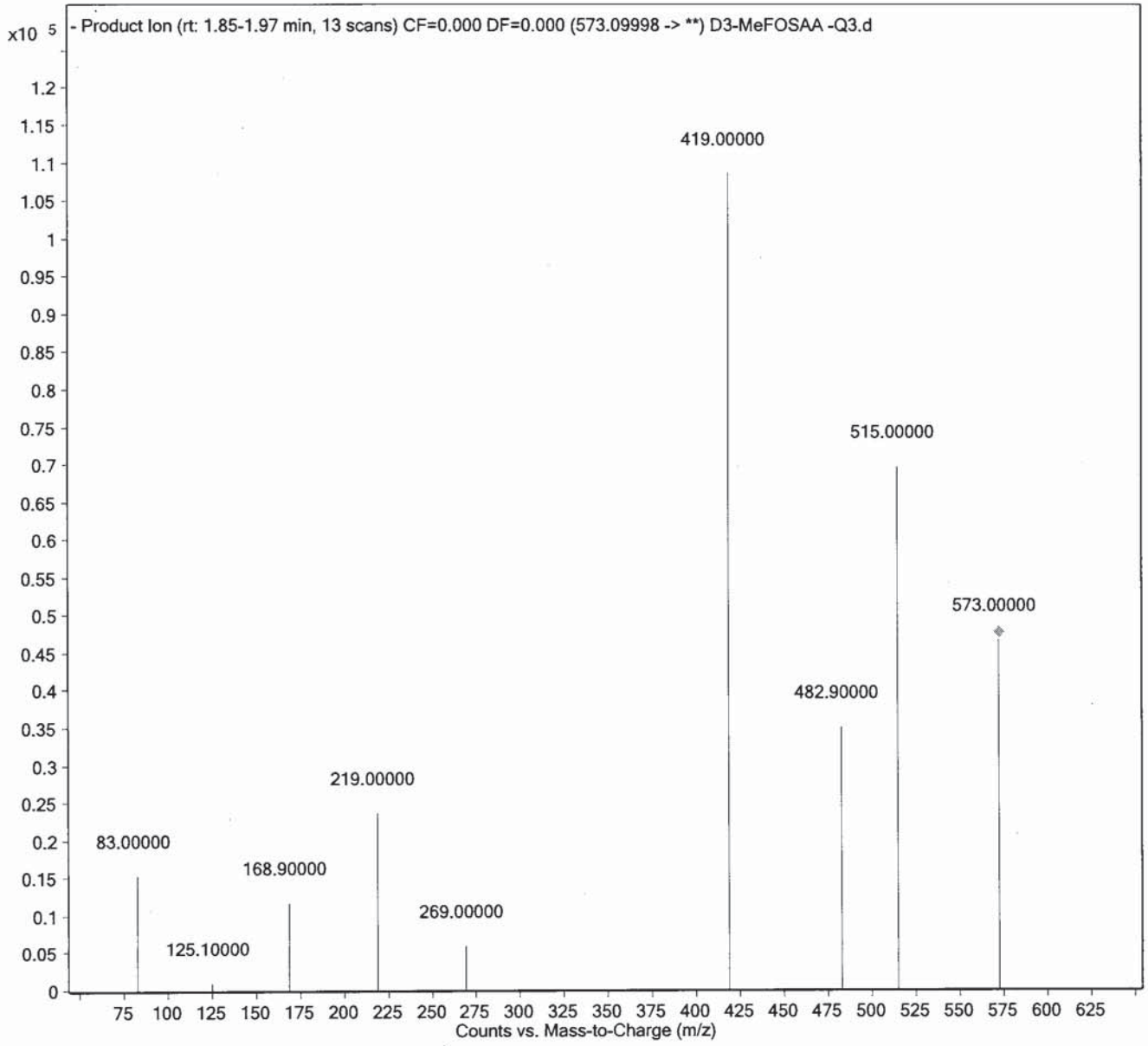


Sample Name	D9-EtFOSE -Q3	**Position**	P2-B8	**Instrument Name**	LCMS04
User Name	AD	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	D9-EtFOSE -Q3.d
ACQ Method	PFC_MassVerification-D9-EtFOSE-Q3.m	**Comment**		**Acquired Time**	2017/07/11 4:35:38 PM



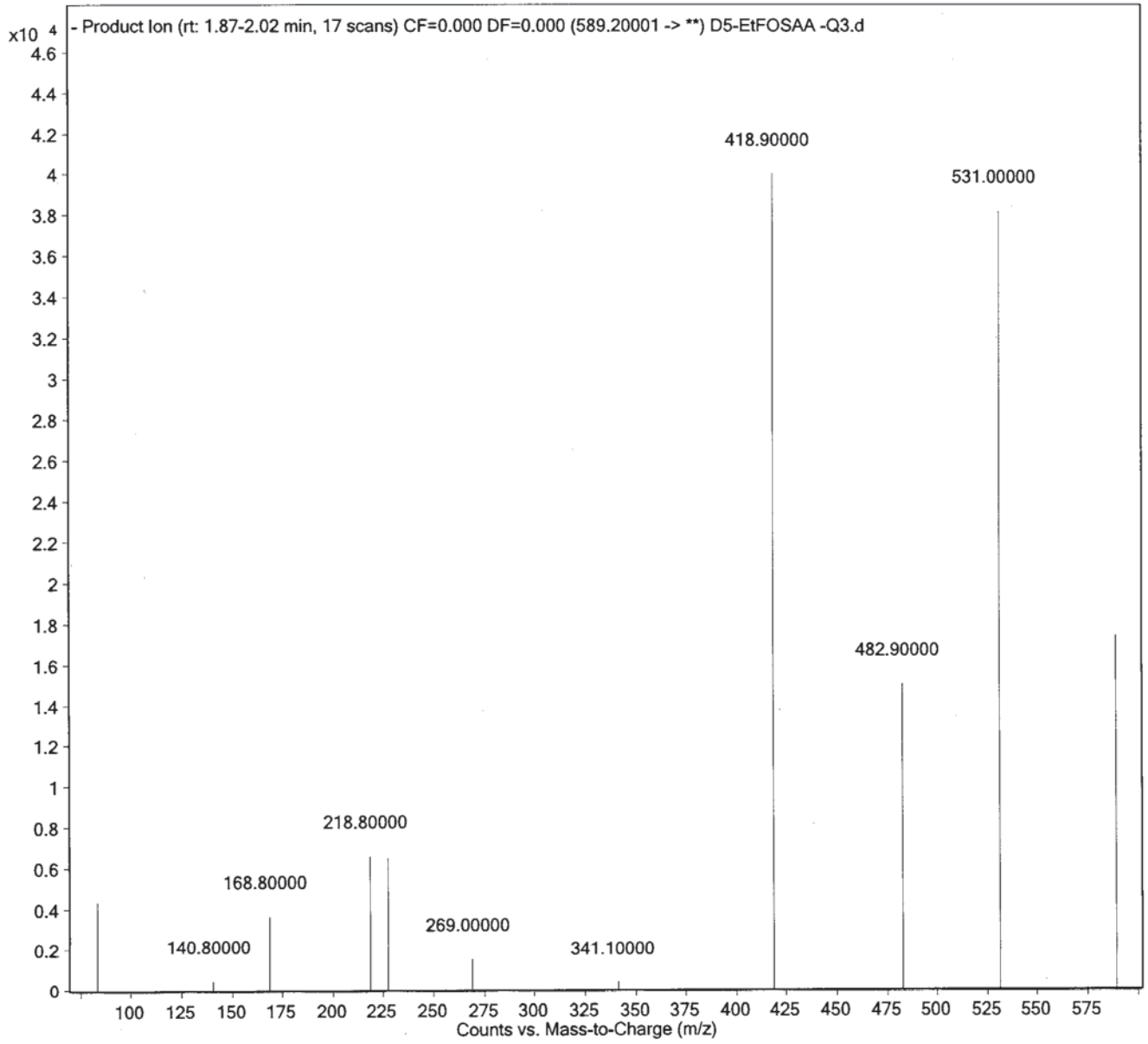
Alaxam Analytics

Sample Name	D3-MeFOSAA -Q3	**Position**	P2-B9	**Instrument Name**	LCMS04
User Name	AD	**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**	2017/07/11 4:41:10 PM



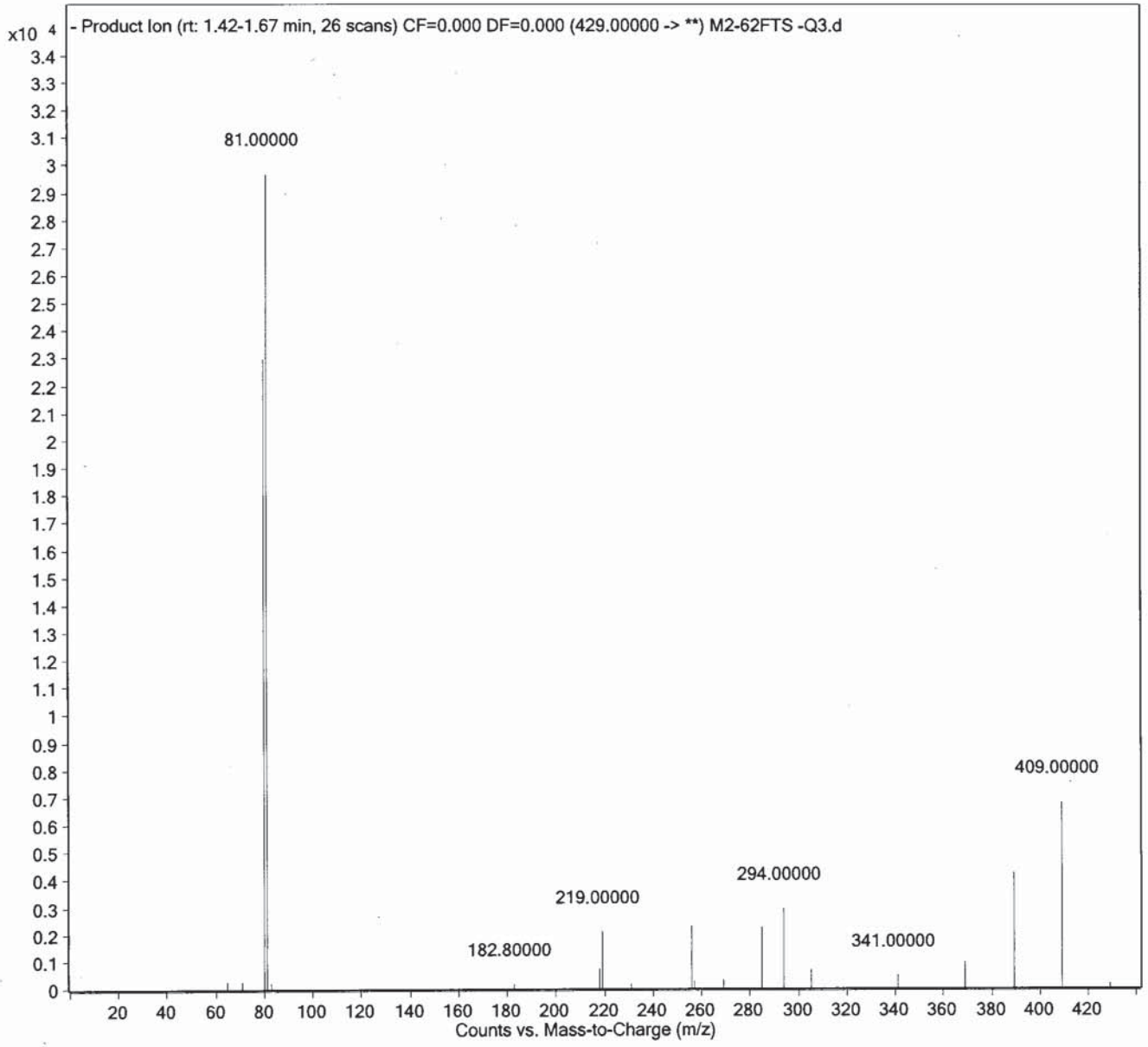
SAExam Analytics

Sample Name	D5-EtFOSAA -Q3	**Position**	P2-C1	**Instrument Name**	LCMS04
User Name	AD	**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**	2017/07/12 8:41:07 AM



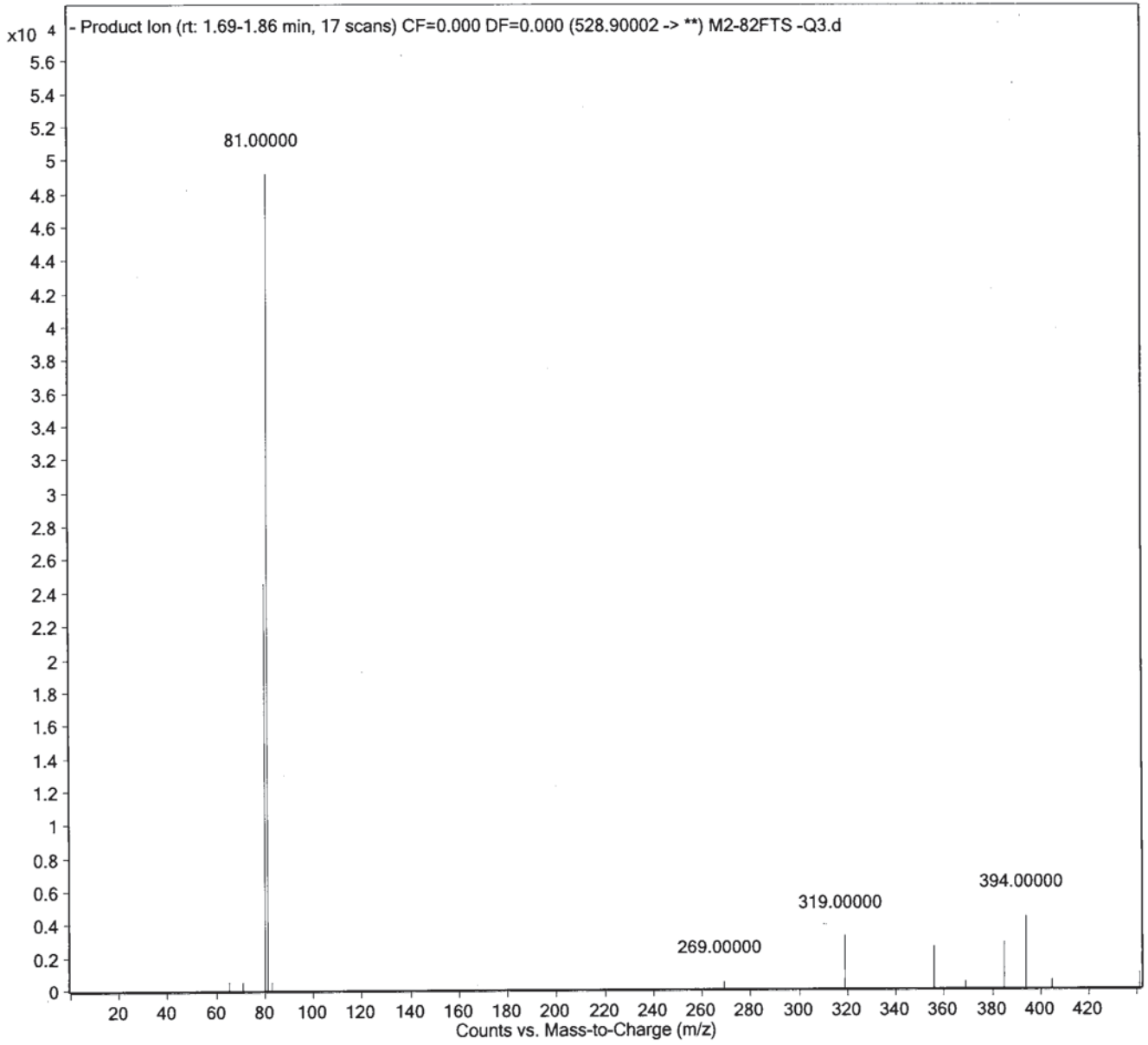
SGS AXAM Analytics

Sample Name	M2-6:2FTS -Q3	**Position**	P2-C2	**Instrument Name**	LCMS04
User Name	AD	**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**	2017/07/11 4:52:12 PM



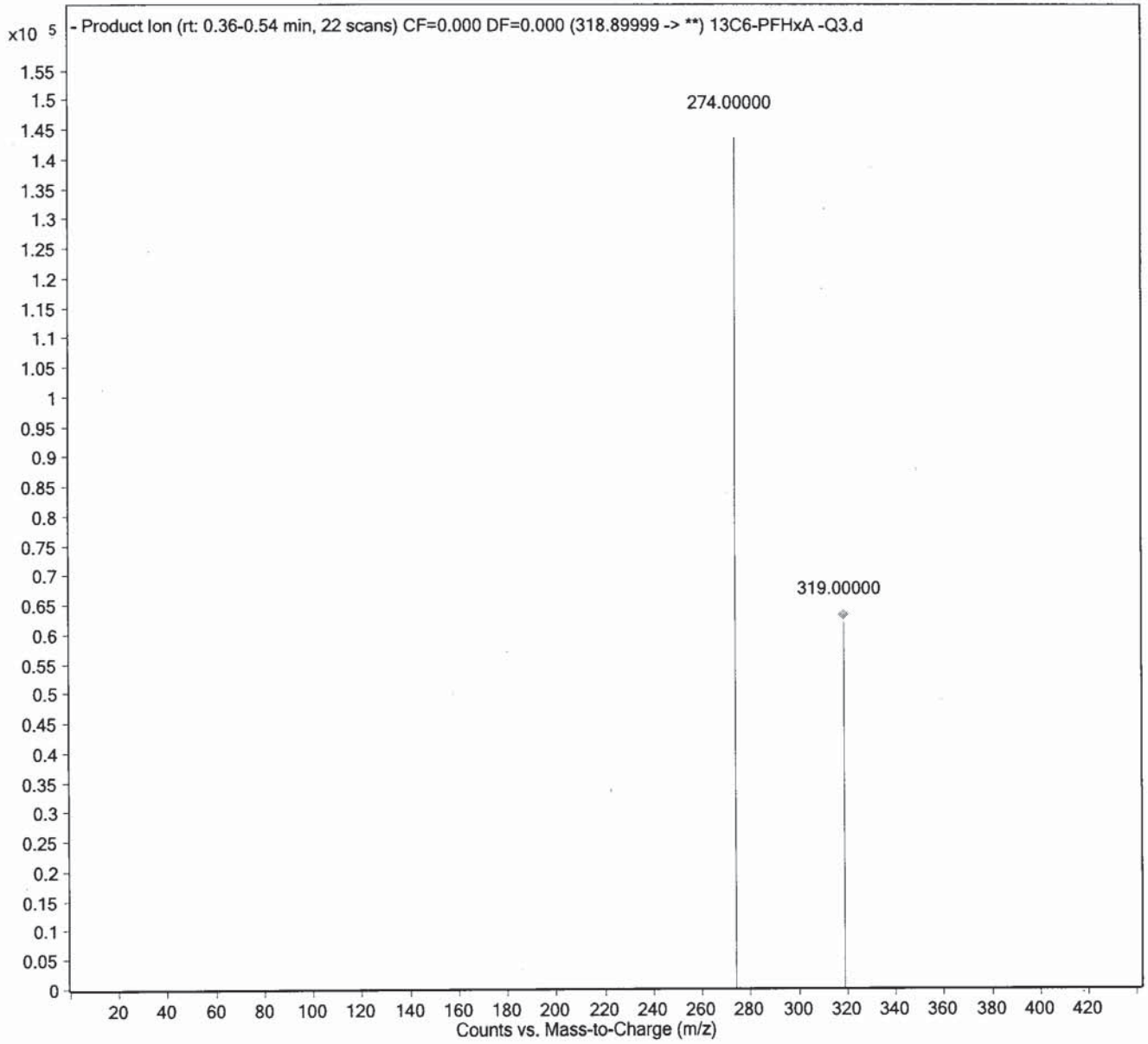
Alaskan Analytics

Sample Name	M2-8:2FTS -Q3	**Position**	P2-C3	**Instrument Name**	LCMS04
User Name	AD	**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**	2017/07/11 4:57:42 PM



SaxKam Analytics

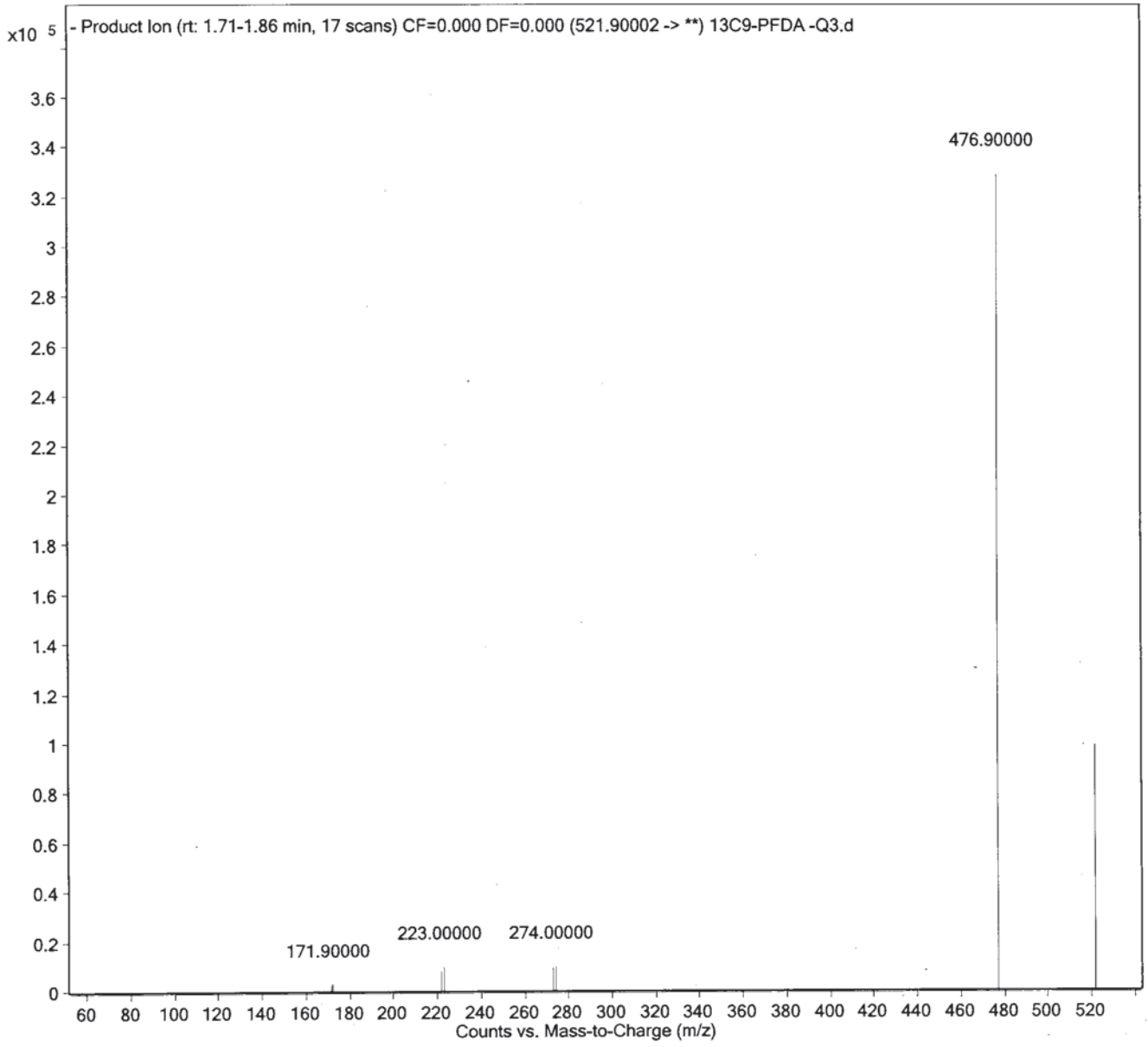
Sample Name	13C6-PFHxA -Q3	**Position**	P2-C4	**Instrument Name**	LCMS04
User Name	AD	**Inj Vol**	10	**InjPosition**	
Sample Type	Sample	**IRM Calibration Status**	Not Applicable	**Data Filename**	13C6-PFHxA -Q3.d
ACQ Method	PFC_MassVerification-13C6-PFHxA-Q3.m	**Comment**		**Acquired Time**	2017/07/11 5:03:12 PM



Maxxam Analytics

Sample Name	13C9-PFDA -Q3	**Position**	P2-C5	**Instrument Name**	LCMS04
User Name	AD	**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**	2017/07/11 5:08:42 PM

Maxxam Analytics



Worklist Report

Agilent Technologies

Maxxam Analytics

Instrument Name: LCMS04 **Worklist Path:** D:\MassHunter\Worklists\PFCs\PFAS_MASSVER_IS_170711.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	PFC_MassVerification-Q1.m	D:\MassHunter\Data\Mass Verification\20170711_IS\MPFBA -Q1.d	Sample	As Method	PFAS-Q1
2	MPFPeA	P2-A2	PFC_MassVerification-Q1.m	MPFPeA -Q1.d	Sample	As Method	PFAS-Q1
3	MPFHxA	P2-A3	PFC_MassVerification-Q1.m	MPFHxA -Q1.d	Sample	As Method	PFAS-Q1
4	MPFHxS	P2-A4	PFC_MassVerification-Q1.m	MPFHxS -Q1.d	Sample	As Method	PFAS-Q1
5	MPFHpA	P2-A5	PFC_MassVerification-Q1.m	MPFHpA -Q1.d	Sample	As Method	PFAS-Q1
6	MPFOA	P2-A6	PFC_MassVerification-Q1.m	MPFOA -Q1.d	Sample	As Method	PFAS-Q1
7	MPFOS	P2-A7	PFC_MassVerification-Q1.m	MPFOS -Q1.d	Sample	As Method	PFAS-Q1
8	MPFNA	P2-A8	PFC_MassVerification-Q1.m	MPFNA -Q1.d	Sample	As Method	PFAS-Q1

607 of 854

Worklist Report

Agilent Technologies

	Sample Name	Sample Position	Method	Data File	Sample Type	Inj Vol (µl)	Sample Group
9	MPFDA	P2-A9	PFC_MassVerification-Q1.m	MPFDA -Q1.d	Sample	As Method	PFAS-Q1
10	MPFUnA	P2-B1	PFC_MassVerification-Q1.m	MPFUnA -Q1.d	Sample	As Method	PFAS-Q1
11	MPFDoA	P2-B2	PFC_MassVerification-Q1.m	MPFDoA -Q1.d	Sample	As Method	PFAS-Q1
12	MPFTeDA	P2-B3	PFC_MassVerification-Q1.m	MPFTeDA -Q1.d	Sample	As Method	PFAS-Q1
13	MPFOSA	P2-B4	PFC_MassVerification-Q1.m	MPFOSA -Q1.d	Sample	As Method	PFAS-Q1
14	D3-MeFOSA	P2-B5	PFC_MassVerification-Q1.m	D3-MeFOSA -Q1.d	Sample	As Method	PFAS-Q1
15	D5-EtFOSA	P2-B6	PFC_MassVerification-Q1.m	D5-EtFOSA -Q1.d	Sample	As Method	PFAS-Q1
16	D7-MeFOSE	P2-B7	PFC_MassVerification-Q1.m	D7-MeFOSE -Q1.d	Sample	As Method	PFAS-Q1
17	D9-EtFOSE	P2-B8	PFC_MassVerification-Q1.m	D9-EtFOSE -Q1.d	Sample	As Method	PFAS-Q1
18	D3-MeFOSAA	P2-B9	PFC_MassVerification-Q1.m	D3-MeFOSAA -Q1.d	Sample	As Method	PFAS-Q1
19	D5-EtFOSAA	P2-C1	PFC_MassVerification-Q1.m	D5-EtFOSAA -Q1.d	Sample	As Method	PFAS-Q1
20	M2-6:2FTS	P2-C2	PFC_MassVerification-Q1.m	M2-62FTS -Q1.d	Sample	As Method	PFAS-Q1
21	M2-8:2FTS	P2-C3	PFC_MassVerification-Q1.m	M2-82FTS -Q1.d	Sample	As Method	PFAS-Q1
22	13C6-PFHxA	P2-C4	PFC_MassVerification-Q1.m	13C6-PFHxA -Q1.d	Sample	As Method	PFAS-Q1
23	13C9-PFDA	P2-C5	PFC_MassVerification-Q1.m	13C9-PFDA -Q1.d	Sample	As Method	PFAS-Q1
24	MPFBA -Q3	P2-A1	PFC_MassVerification-MPFBA-Q3.m	D:\MassHunter\Data\Mass Verification\20170711_IS\MPFBA -Q3.d	Sample	As Method	PFAS-Q3
25	MPFPeA -Q3	P2-A2	PFC_MassVerification-MPFPeA-Q3.m	D:\MassHunter\Data\Mass Verification\20170711_IS\MPFPeA -Q3.d	Sample	As Method	PFAS-Q3
26	MPFHxA -Q3	P2-A3	PFC_MassVerification-MPFHxA-Q3.m	D:\MassHunter\Data\Mass Verification\20170711_IS\MPFHxA -Q3.d	Sample	As Method	PFAS-Q3
27	MPFHxS -Q3	P2-A4	PFC_MassVerification-MPFHxS-Q3.m	D:\MassHunter\Data\Mass Verification\20170711_IS\MPFHxS -Q3.d	Sample	As Method	PFAS-Q3
28	MPFHpA -Q3	P2-A5	PFC_MassVerification-MPFHpA-Q3.m	D:\MassHunter\Data\Mass Verification\20170711_IS\MPFHpA -Q3.d	Sample	As Method	PFAS-Q3

Maxxam Analytics

	Sample Name	Sample Position	Method	Data File	Sample Type	Inj Vol (µl)	Sample Group
29	MPFOA -Q3	P2-A6	PFC_MassVerification-MPFOA-Q3.m	D:\MassHunter\Data\Mass Verification\20170711_IS\MPFOA -Q3.d	Sample	As Method	PFAS-Q3
30	MPFOS -Q3	P2-A7	PFC_MassVerification-MPFOS-Q3.m	D:\MassHunter\Data\Mass Verification\20170711_IS\MPFOS -Q3.d	Sample	As Method	PFAS-Q3
31	MPFNA -Q3	P2-A8	PFC_MassVerification-MPFNA-Q3.m	D:\MassHunter\Data\Mass Verification\20170711_IS\MPFNA -Q3.d	Sample	As Method	PFAS-Q3
32	MPFDA -Q3	P2-A9	PFC_MassVerification-MPFDA-Q3.m	D:\MassHunter\Data\Mass Verification\20170711_IS\MPFDA -Q3.d	Sample	As Method	PFAS-Q3
33	MPFUnA -Q3	P2-B1	PFC_MassVerification-MPFUnA-Q3.m	D:\MassHunter\Data\Mass Verification\20170711_IS\MPFUnA -Q3.d	Sample	As Method	PFAS-Q3
34	MPFDoA -Q3	P2-B2	PFC_MassVerification-MPFDoA-Q3.m	D:\MassHunter\Data\Mass Verification\20170711_IS\MPFDoA -Q3.d	Sample	As Method	PFAS-Q3
35	MPFTeDA -Q3	P2-B3	PFC_MassVerification-MPFTeDA-Q3.m	D:\MassHunter\Data\Mass Verification\20170711_IS\MPFTeDA -Q3.d	Sample	As Method	PFAS-Q3
36	MPFOSA -Q3	P2-B4	PFC_MassVerification-MPFOSA-Q3.m	D:\MassHunter\Data\Mass Verification\20170711_IS\MPFOSA -Q3.d	Sample	As Method	PFAS-Q3
37	D3-MeFOSA -Q3	P2-B5	PFC_MassVerification-D3-MeFOSA-Q3.m	D:\MassHunter\Data\Mass Verification\20170711_IS\D3-MeFOSA -Q3.d	Sample	As Method	PFAS-Q3
38	D5-EtFOSA -Q3	P2-B6	PFC_MassVerification-D5-EtFOSA-Q3.m	D:\MassHunter\Data\Mass Verification\20170711_IS\D5-EtFOSA -Q3.d	Sample	As Method	PFAS-Q3
39	D7-MeFOSE -Q3	P2-B7	PFC_MassVerification-D7-MeFOSE-Q3.m	D:\MassHunter\Data\Mass Verification\20170711_IS\D7-MeFOSE -Q3.d	Sample	As Method	PFAS-Q3
40	D9-EtFOSE -Q3	P2-B8	PFC_MassVerification-D9-EtFOSE-Q3.m	D:\MassHunter\Data\Mass Verification\20170711_IS\D9-EtFOSE -Q3.d	Sample	As Method	PFAS-Q3
41	D3-MeFOSAA -Q3	P2-B9	PFC_MassVerification-D3-MeFOSAA-Q3.m	D:\MassHunter\Data\Mass Verification\20170711_IS\D3-MeFOSAA -Q3.d	Sample	As Method	PFAS-Q3

609 of 854

	Sample Name	Sample Position	Method	Data File	Sample Type	Inj Vol (µl)	Sample Group
42	D5-EtFOSA -Q3	P2-C1	PFC_MassVerification-D5-EtFOSA-Q3.m	D:\MassHunter\Data\Mass Verification\20170711_IS\D5-EtFOSA -Q3.d	Sample	As Method	PFAS-Q3
43	M2-6:2FTS -Q3	P2-C2	PFC_MassVerification-M26-2FTS-Q3.m	D:\MassHunter\Data\Mass Verification\20170711_IS\M2-62FTS -Q3.d	Sample	As Method	PFAS-Q3
44	M2-8:2FTS -Q3	P2-C3	PFC_MassVerification-M2-8-2FTS-Q3.m	D:\MassHunter\Data\Mass Verification\20170711_IS\M2-82FTS -Q3.d	Sample	As Method	PFAS-Q3
45	13C6-PFHxA -Q3	P2-C4	PFC_MassVerification-13C6-PFHxA-Q3.m	D:\MassHunter\Data\Mass Verification\20170711_IS\13C6-PFHxA -Q3.d	Sample	As Method	PFAS-Q3
46	13C9-PFDA -Q3	P2-C5	PFC_MassVerification-13C9-PFDA-Q3.m	D:\MassHunter\Data\Mass Verification\20170711_IS\13C9-PFDA -Q3.d	Sample	As Method	PFAS-Q3
47	SCP_InstrumentStandby() {MH_Acq_Scripts.exe}						

Maxxam Analytics



5. Initial Calibration

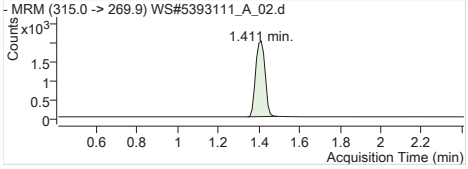
Maxxam Analytics International
6740 Campobello Rd
Mississauga, Ontario, Canada
L5N 2L8
1-800-668-0639
www.maxxamanalytics.com

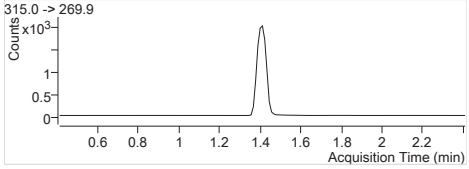
Batch Path T:\lcms4\PFC\20180212\WS#5393111_A\QuantResults\PFC_Water_Low_180213_WS#5393111_EToxics

Sample Name	**STD 1**	**Instrument**	LCMS04
Data File	WS#5393111_A_02.d	**Operator**	
Sample Type	Cal	**Dilution**	1
Acq. Method	PFC_Water_Low.m	**Position**	P2-A2
Acq. Date	2018/02/13 1:11:26 PM	**Injection Volume**	Per Method
Sample Annotation	-		

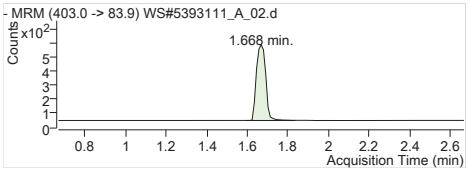
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	6392	1.41	1 µg/L		
MPFHxS	1717	1.67	1 µg/L		
MPFHpA	8247	1.68	1 µg/L		
MPFOA	8747	1.86	1 µg/L		
MPFOS	1957	1.97	1 µg/L		
MPFNA	8445	2.00	1 µg/L		
MPFDA	7148	2.12	1 µg/L		
MPFUnA	8479	2.22	1 µg/L		
MPFDoA	10865	2.31	1 µg/L		
MPFTeDA	12432	2.46	1 µg/L		
13C6-PFHxA IS	22616	1.41	1 µg/L		
13C9-PFDA IS	31562	2.12	1 µg/L		

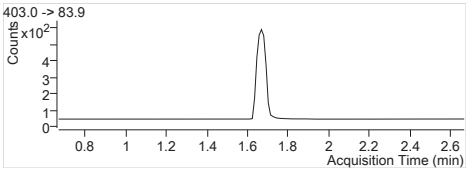
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1	645	1.05	0.83	0.95 µg/L	113.94
PFHxA 1	2199	1.41	0.83	0.93 µg/L	112.22
PFHxS 1	765	1.67	0.83	0.93 µg/L	111.74
PFHpA 1	2910	1.68	0.83	0.83 µg/L	100.23
PFOA 1	3151	1.86	0.83	0.89 µg/L	107.22
PFOS 1	495	1.96	0.83	0.74 µg/L	88.64
PFNA 1	2710	2.00	0.83	0.90 µg/L	107.94
PFDA 1	2544	2.12	0.83	0.83 µg/L	100.38
PFUnA 1	2954	2.22	0.83	0.79 µg/L	95.64
PFDoA 1	3878	2.31	0.83	0.90 µg/L	108.32
PFTrDA 1	4216	2.39	0.83	0.81 µg/L	97.70
PFTeDA 1	3463	2.46	0.83	0.80 µg/L	96.50
13C2-PFHxA	6392	1.41	100.00	99.88 µg/L	99.88
18O2-PFHxS	1717	1.67	100.00	109.92 µg/L	109.92
13C4-PFHpA	8247	1.68	100.00	100.89 µg/L	100.89
13C4-PFOA	8747	1.86	100.00	100.81 µg/L	100.81
13C4-PFOS	1957	1.97	100.00	103.13 µg/L	103.13
13C5-PFNA	8444	2.00	100.00	100.90 µg/L	100.90
13C2-PFDA	7026	2.12	100.00	89.92 µg/L	89.92
13C2-PFUnA	8479	2.22	100.00	93.22 µg/L	93.22
13C2-PFDoA	10865	2.31	100.00	92.08 µg/L	92.08
13C2-PFTeDA	12616	2.46	100.00	93.15 µg/L	93.15
13C6-PFHxA	22616	1.41	100.00	96.84 µg/L	96.84
13C9-PFDA	31562	2.12	100.00	104.36 µg/L	104.36



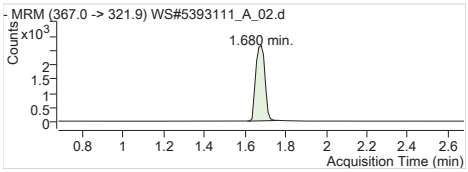


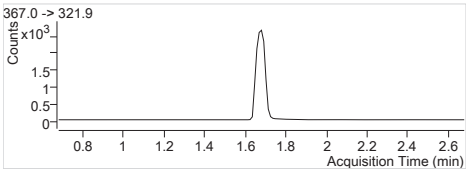
MPFHxA Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: Calibration



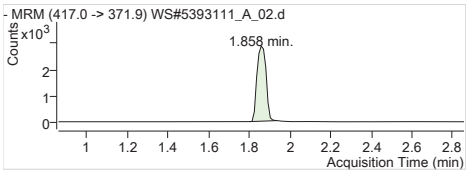


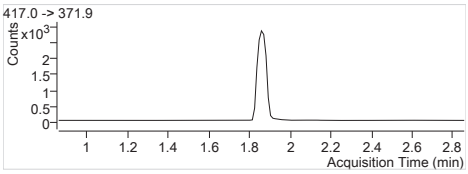
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Calibration



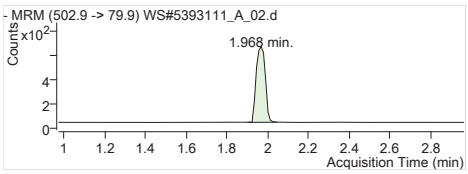


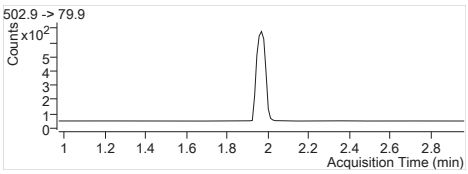
MPFHpA Internal Standard
RT (Exp. RT): 1.680 (1.680)
Concentration: 1 µg/L
Sample type: Calibration



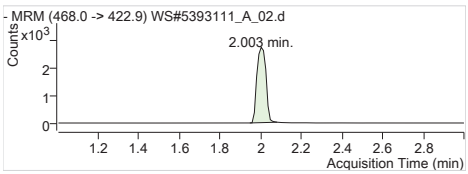


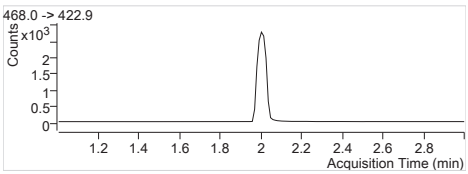
MPFOA Internal Standard
RT (Exp. RT): 1.858 (1.858)
Concentration: 1 µg/L
Sample type: Calibration



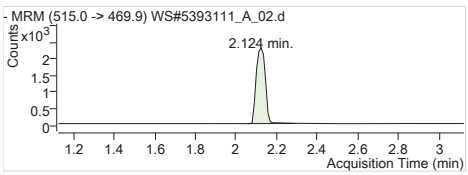


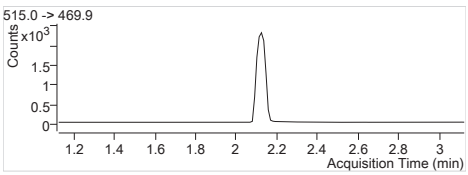
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Calibration



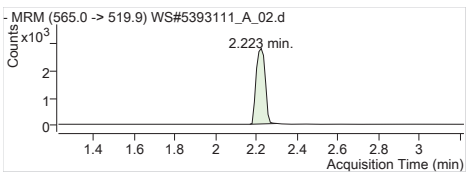


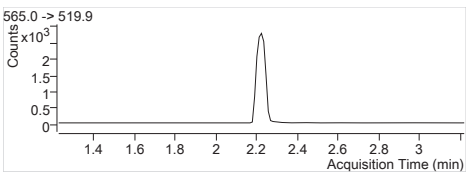
MPFNA Internal Standard
RT (Exp. RT): 2.003 (2.003)
Concentration: 1 µg/L
Sample type: Calibration



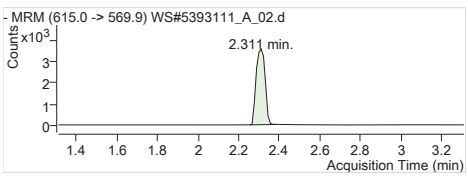


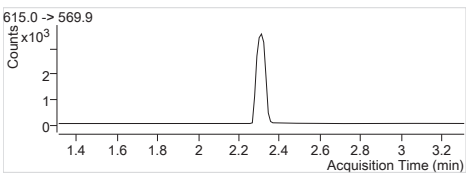
MPFDA Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Calibration



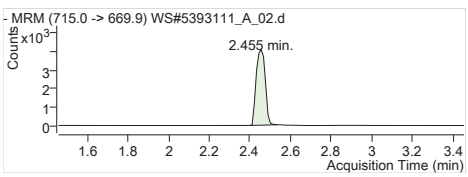


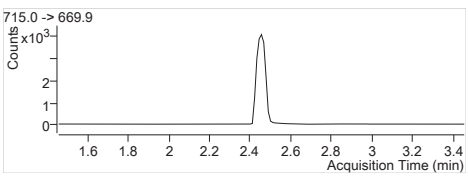
MPFUnA Internal Standard
RT (Exp. RT): 2.223 (2.223)
Concentration: 1 µg/L
Sample type: Calibration



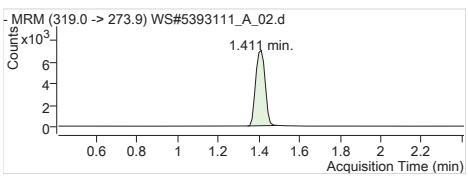


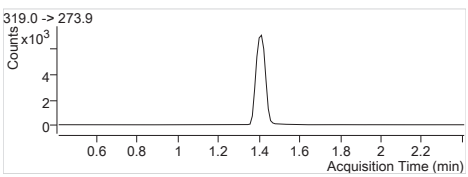
MPFDoA Internal Standard
RT (Exp. RT): 2.311 (2.311)
Concentration: 1 µg/L
Sample type: Calibration



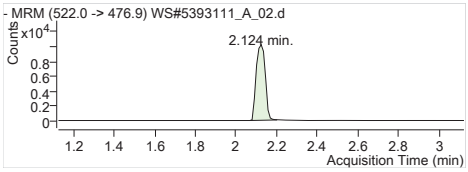


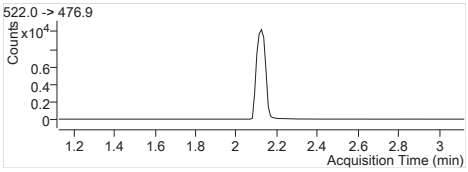
MPFTeDA Internal Standard
RT (Exp. RT): 2.455 (2.455)
Concentration: 1 µg/L
Sample type: Calibration



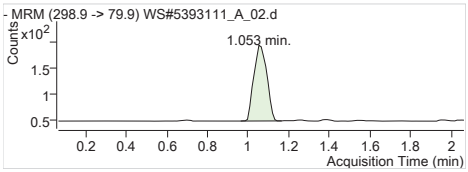


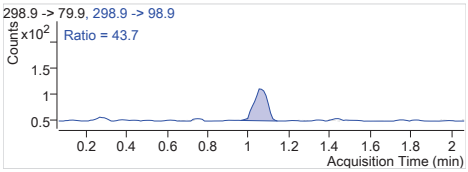
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: Calibration



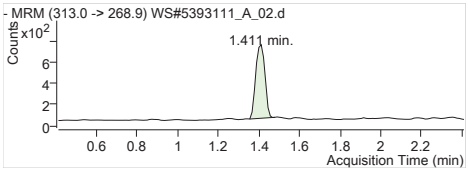


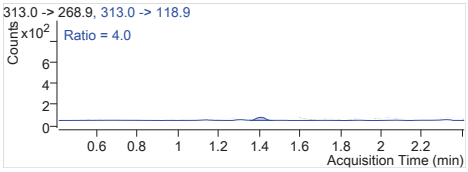
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Calibration



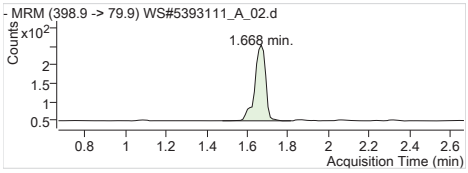


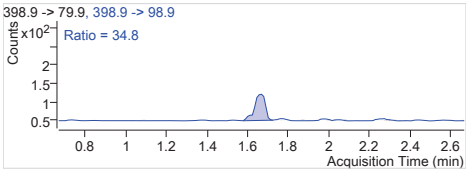
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 1.053 (1.064)
Calc. conc. 0.95 µg/L
Area ratio: 0.37566
Sample type: Calibration



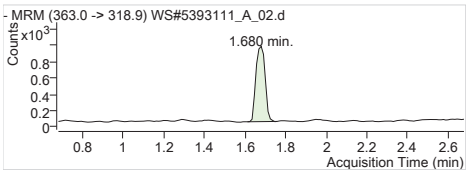


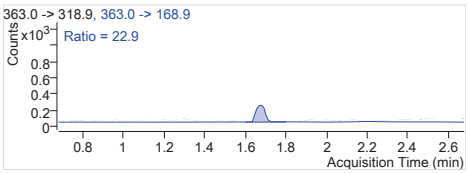
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 0.93 µg/L
Area ratio: 0.34402
Sample type: Calibration



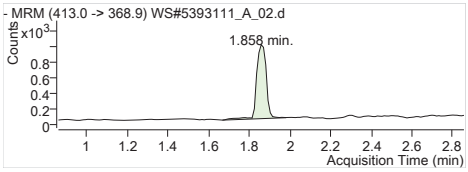


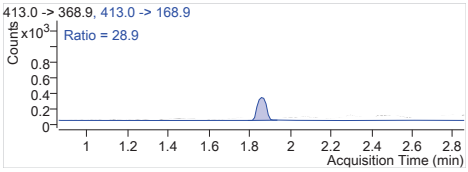
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 0.93 µg/L
Area ratio: 0.44554
Sample type: Calibration



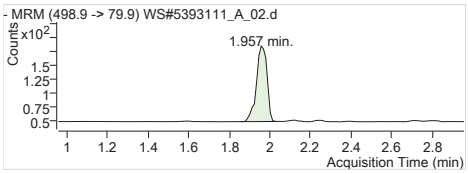


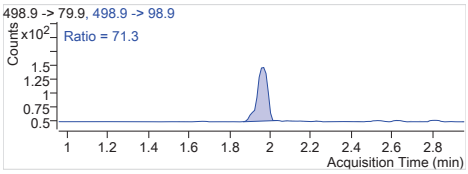
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 1.680 (1.680)
Calc. conc. 0.83 µg/L
Area ratio: 0.35286
Sample type: Calibration



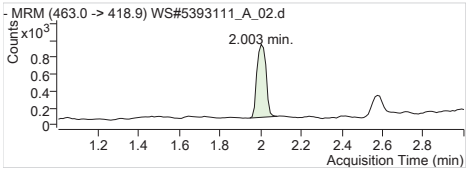


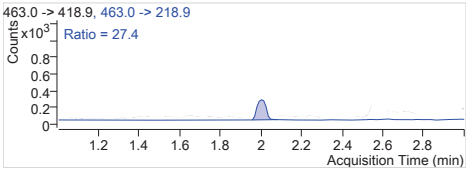
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 1.858 (1.858)
Calc. conc. 0.89 µg/L
Area ratio: 0.36024
Sample type: Calibration



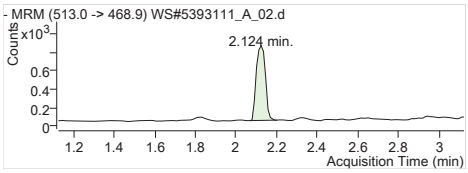


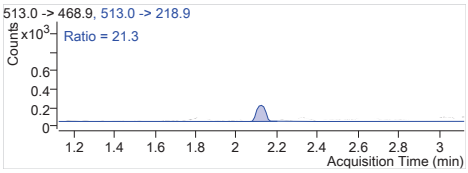
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 0.74 µg/L
Area ratio: 0.25294
Sample type: Calibration



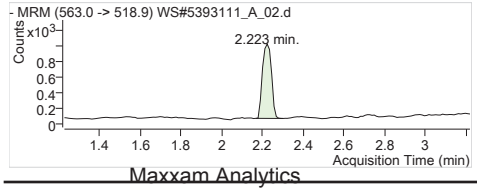


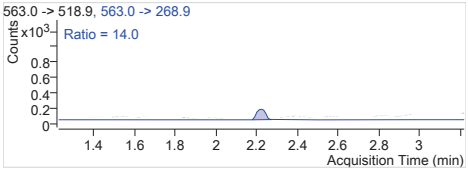
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 2.003 (2.003)
Calc. conc. 0.90 µg/L
Area ratio: 0.32090
Sample type: Calibration



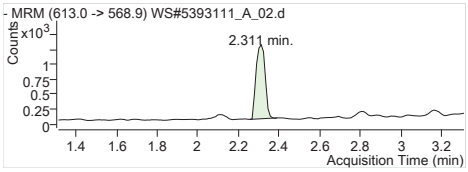


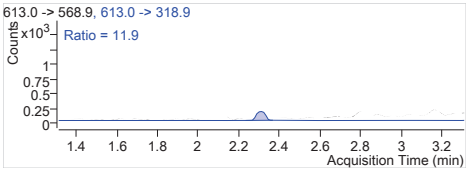
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 0.83 µg/L
Area ratio: 0.35590
Sample type: Calibration



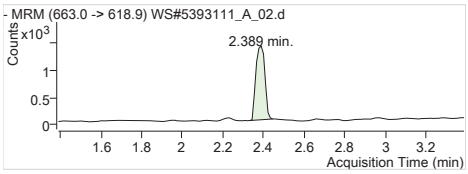


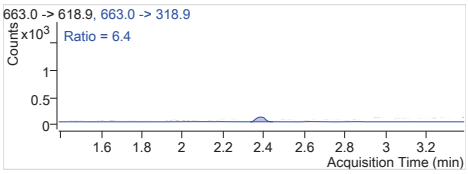
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 0.79 µg/L
Area ratio: 0.34839
Sample type: Calibration



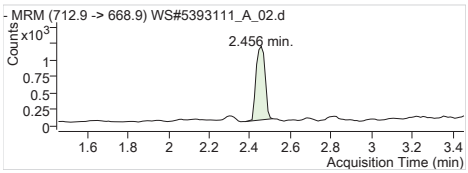


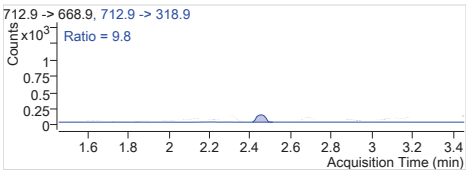
PFDoA 1	613.0 -> 568.9
RT (Exp. RT):	2.311 (2.311)
Calc. conc.	0.90 µg/L
Area ratio:	0.35693
Sample type:	Calibration



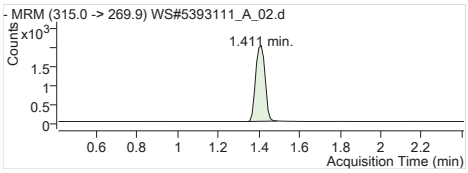


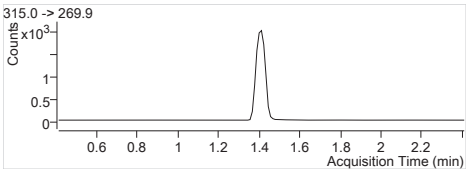
PFTrDA 1	663.0 -> 618.9
RT (Exp. RT):	2.389 (2.389)
Calc. conc.	0.81 µg/L
Area ratio:	0.33912
Sample type:	Calibration



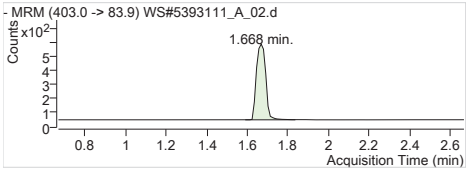


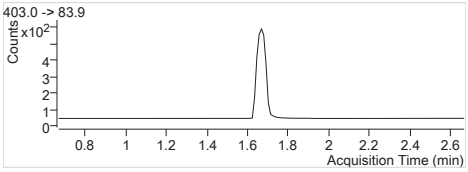
PFTeDA 1	712.9 -> 668.9
RT (Exp. RT):	2.456 (2.456)
Calc. conc.	0.80 µg/L
Area ratio:	0.27856
Sample type:	Calibration



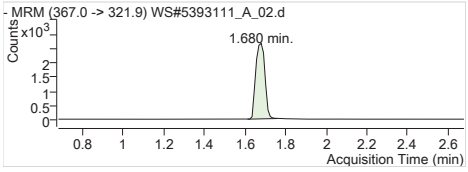


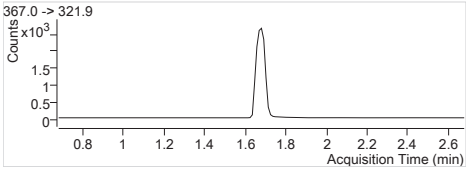
13C2-PFHxA	315.0 -> 269.9
RT (Exp. RT):	1.411 (1.411)
Calc. conc.	99.88 µg/L
Area ratio:	0.28263
Sample type:	Calibration



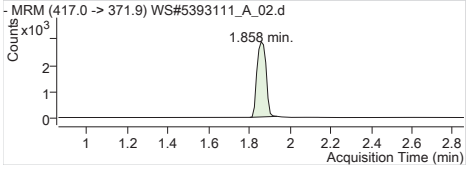


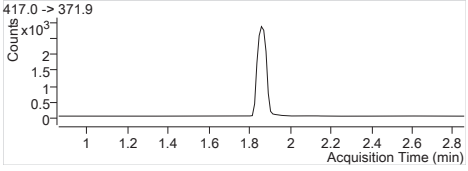
18O2-PFHxS	403.0 -> 83.9
RT (Exp. RT):	1.668 (1.668)
Calc. conc.	109.92 µg/L
Area ratio:	0.07592
Sample type:	Calibration



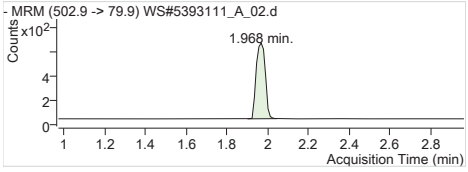


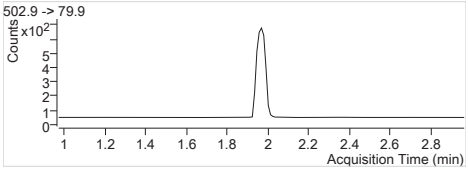
13C4-PFHpA	367.0 -> 321.9
RT (Exp. RT):	1.680 (1.680)
Calc. conc.	100.89 µg/L
Area ratio:	0.36465
Sample type:	Calibration



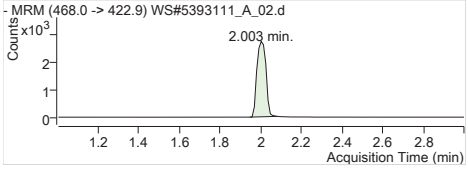


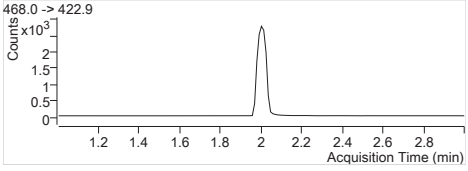
13C4-PFOA	417.0 -> 371.9
RT (Exp. RT):	1.858 (1.858)
Calc. conc.	100.81 µg/L
Area ratio:	0.38676
Sample type:	Calibration



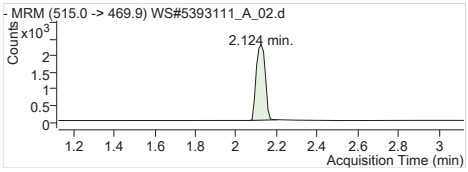


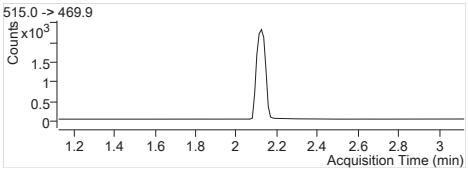
13C4-PFOS	502.9 -> 79.9
RT (Exp. RT):	1.968 (1.968)
Calc. conc.	103.13 µg/L
Area ratio:	0.08653
Sample type:	Calibration



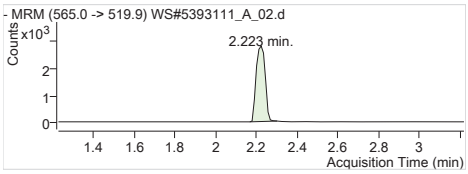


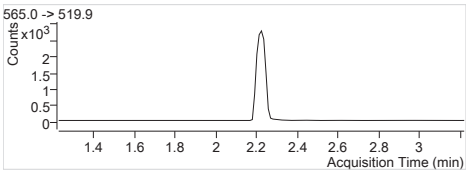
13C5-PFNA	468.0 -> 422.9
RT (Exp. RT):	2.003 (2.003)
Calc. conc.	100.90 µg/L
Area ratio:	0.37336
Sample type:	Calibration



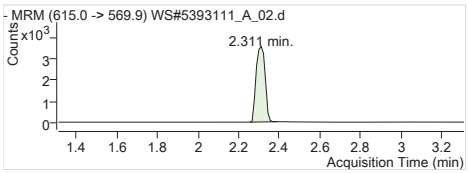


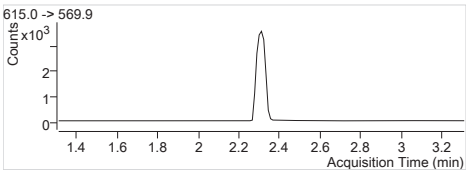
13C2-PFDA 515.0 -> 469.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 89.92 µg/L
Area ratio: 0.22261
Sample type: Calibration



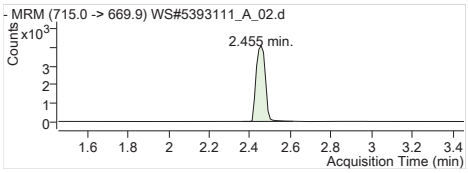


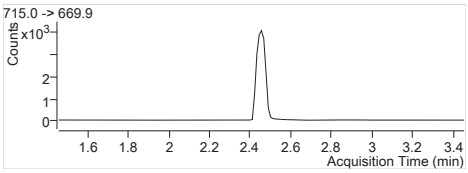
13C2-PFUnA 565.0 -> 519.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 93.22 µg/L
Area ratio: 0.26865
Sample type: Calibration



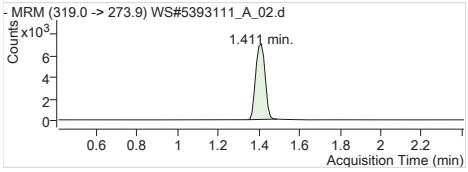


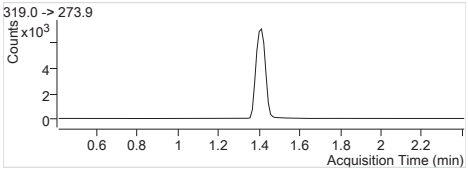
13C2-PFDoA 615.0 -> 569.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 92.08 µg/L
Area ratio: 0.34424
Sample type: Calibration



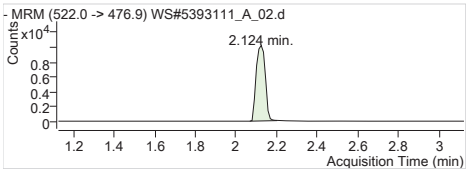


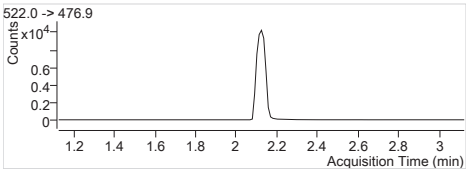
13C2-PFTeDA 715.0 -> 669.9
RT (Exp. RT): 2.455 (2.455)
Calc. conc. 93.15 µg/L
Area ratio: 0.39972
Sample type: Calibration





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 96.84 µg/L
Area ratio: 0
Sample type: Calibration





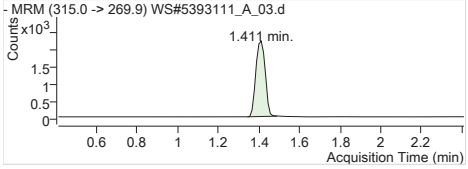
13C9-PFDA 522.0 -> 476.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 104.36 µg/L
Area ratio: 0
Sample type: Calibration

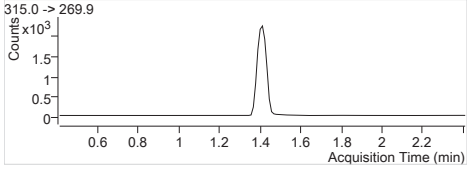
Batch Path T:\lcms4\PFC\20180212\WS#5393111_A\QuantResults\PFC_Water_Low_180213_WS#5393111_EToxics

Sample Name	**STD 2**	**Instrument**	LCMS04
Data File	WS#5393111_A_03.d	**Operator**	
Sample Type	Cal	**Dilution**	1
Acq. Method	PFC_Water_Low.m	**Position**	P2-A3
Acq. Date	2018/02/13 1:16:22 PM	**Injection Volume**	Per Method
Sample Annotation	-		

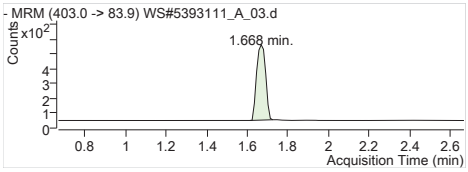
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	7030	1.41	1 µg/L		
MPFHxS	1576	1.67	1 µg/L		
MPFHpA	8738	1.68	1 µg/L		
MPFOA	9165	1.86	1 µg/L		
MPFOS	2029	1.97	1 µg/L		
MPFNA	8946	2.00	1 µg/L		
MPFDA	7693	2.12	1 µg/L		
MPFUnA	8612	2.22	1 µg/L		
MPFDoA	11957	2.31	1 µg/L		
MPFTeDA	12823	2.46	1 µg/L		
13C6-PFHxA IS	24047	1.41	1 µg/L		
13C9-PFDA IS	29599	2.12	1 µg/L		

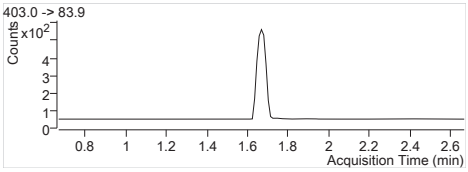
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1	1309	1.06	1.70	1.80 µg/L	105.82
PFHxA 1	4661	1.41	1.70	1.65 µg/L	97.09
PFHxS 1	1264	1.67	1.70	1.62 µg/L	95.47
PFHpA 1	6372	1.68	1.70	1.72 µg/L	100.99
PFOA 1	6828	1.86	1.70	1.73 µg/L	101.79
PFOS 1	1317	1.96	1.70	1.74 µg/L	102.07
PFNA 1	6137	2.00	1.70	1.77 µg/L	103.99
PFDA 1	6095	2.12	1.70	1.71 µg/L	100.85
PFUnA 1	6714	2.22	1.70	1.72 µg/L	101.38
PFDoA 1	8135	2.31	1.70	1.59 µg/L	93.50
PFTrDA 1	9538	2.39	1.70	1.71 µg/L	100.57
PFTeDA 1	7730	2.46	1.70	1.68 µg/L	98.98
13C2-PFHxA	7030	1.41	100.00	103.32 µg/L	103.32
18O2-PFHxS	1576	1.67	100.00	94.89 µg/L	94.89
13C4-PFHpA	8738	1.68	100.00	100.54 µg/L	100.54
13C4-PFOA	9165	1.86	100.00	99.34 µg/L	99.34
13C4-PFOS	2029	1.97	100.00	100.56 µg/L	100.56
13C5-PFNA	8945	2.00	100.00	100.52 µg/L	100.52
13C2-PFDA	7582	2.12	100.00	103.47 µg/L	103.47
13C2-PFUnA	8612	2.22	100.00	100.96 µg/L	100.96
13C2-PFDoA	11957	2.31	100.00	108.06 µg/L	108.06
13C2-PFTeDA	13001	2.46	100.00	102.36 µg/L	102.36
13C6-PFHxA	24047	1.41	100.00	102.97 µg/L	102.97
13C9-PFDA	29599	2.12	100.00	97.87 µg/L	97.87



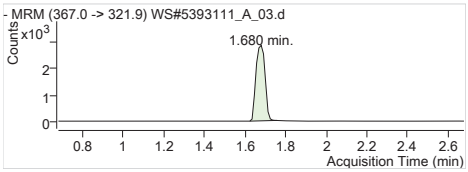


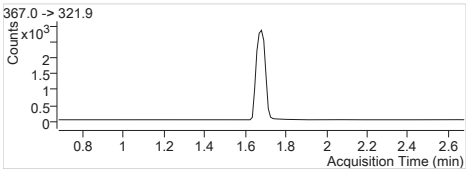
MPFHxA Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: Calibration



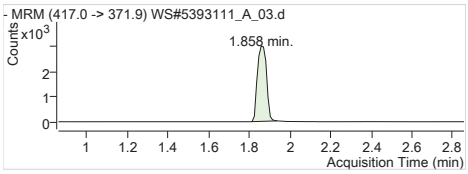


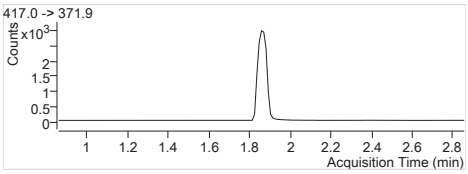
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Calibration



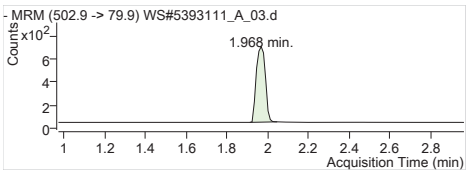


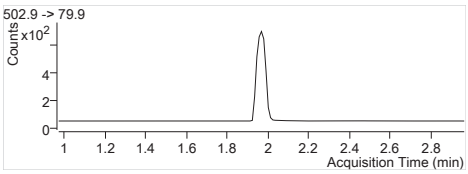
MPFHpA Internal Standard
RT (Exp. RT): 1.680 (1.680)
Concentration: 1 µg/L
Sample type: Calibration



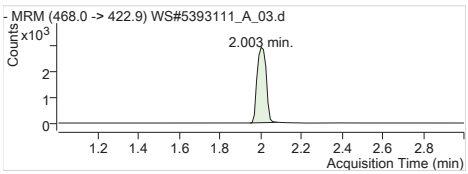


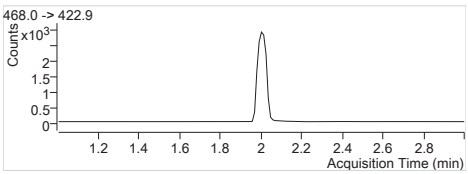
MPFOA Internal Standard
RT (Exp. RT): 1.858 (1.858)
Concentration: 1 µg/L
Sample type: Calibration



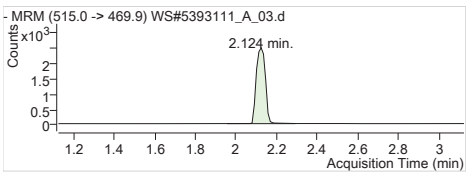


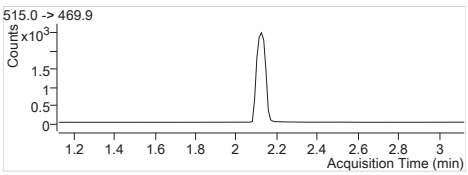
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Calibration



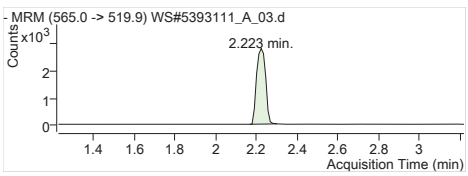


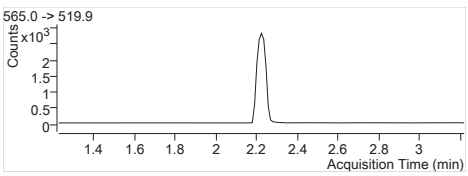
MPFNA Internal Standard
RT (Exp. RT): 2.003 (2.003)
Concentration: 1 µg/L
Sample type: Calibration



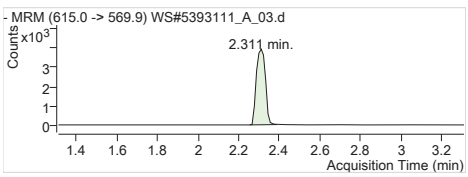


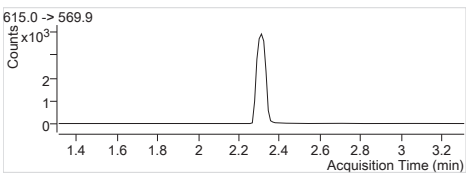
MPFDA Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Calibration



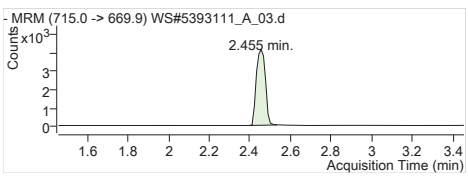


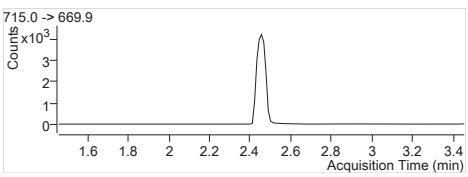
MPFUnA Internal Standard
RT (Exp. RT): 2.223 (2.223)
Concentration: 1 µg/L
Sample type: Calibration



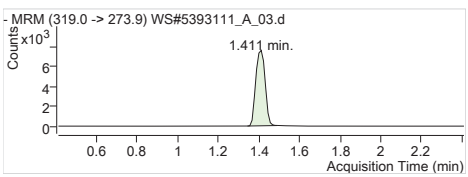


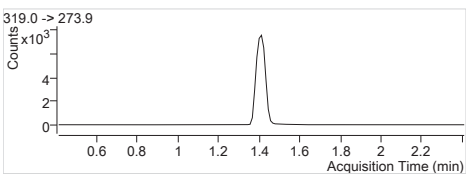
MPFDoA Internal Standard
RT (Exp. RT): 2.311 (2.311)
Concentration: 1 µg/L
Sample type: Calibration



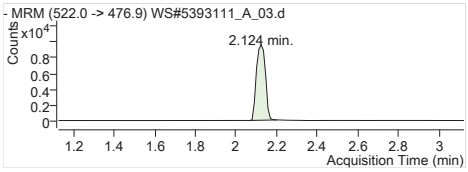


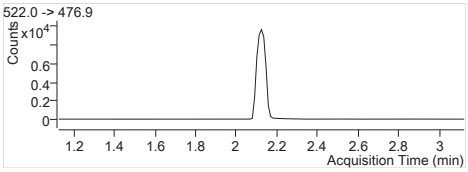
MPFTeDA Internal Standard
RT (Exp. RT): 2.455 (2.455)
Concentration: 1 µg/L
Sample type: Calibration



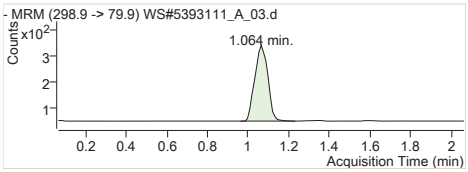


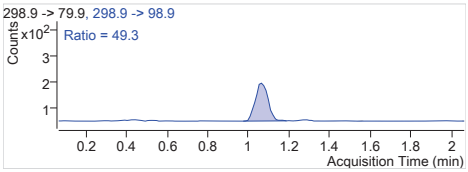
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: Calibration



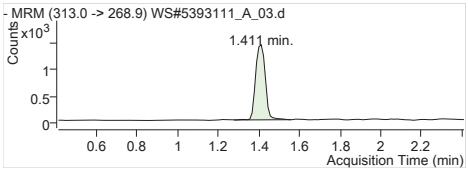


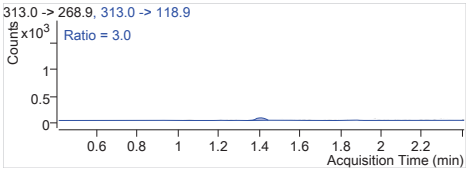
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Calibration



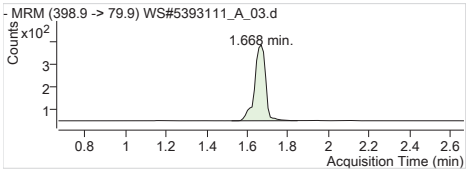


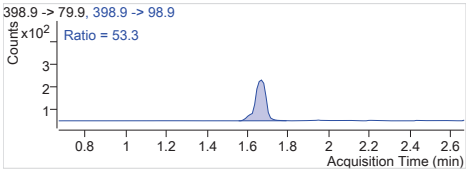
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 1.064 (1.064)
Calc. conc. 1.80 µg/L
Area ratio: 0.83058
Sample type: Calibration



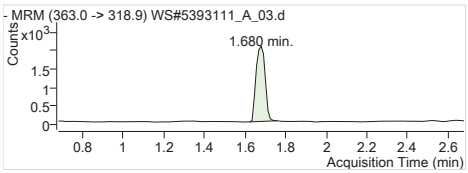


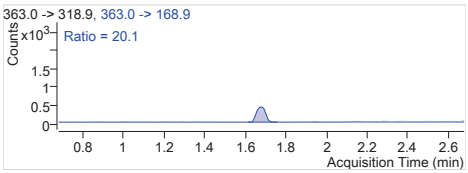
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 1.65 µg/L
Area ratio: 0.66302
Sample type: Calibration



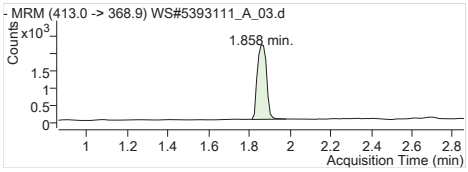


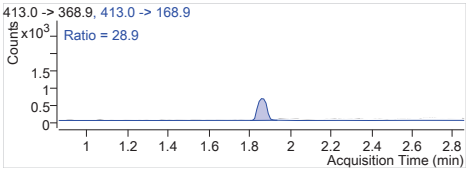
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 1.62 µg/L
Area ratio: 0.80203
Sample type: Calibration



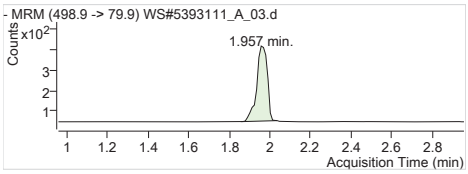


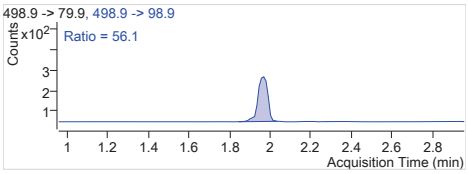
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 1.680 (1.680)
Calc. conc. 1.72 µg/L
Area ratio: 0.72923
Sample type: Calibration



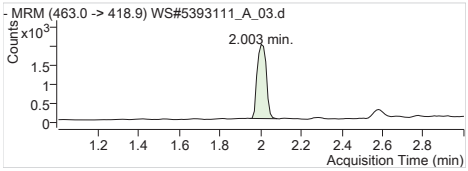


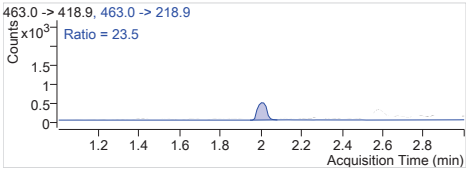
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 1.858 (1.858)
Calc. conc. 1.73 µg/L
Area ratio: 0.74501
Sample type: Calibration



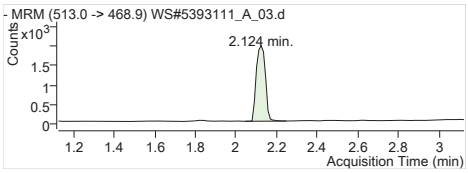


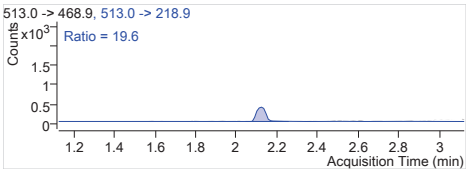
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 1.74 µg/L
Area ratio: 0.64909
Sample type: Calibration



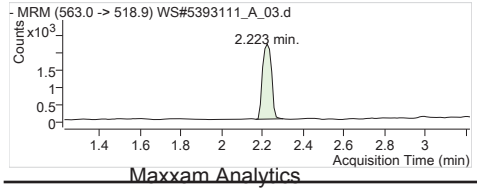


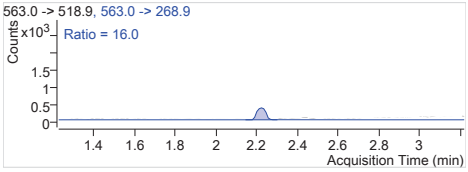
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 2.003 (2.003)
Calc. conc. 1.77 µg/L
Area ratio: 0.68600
Sample type: Calibration



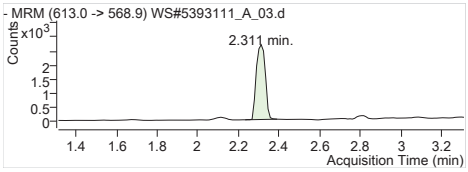


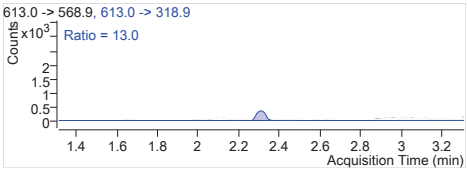
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 1.71 µg/L
Area ratio: 0.79228
Sample type: Calibration



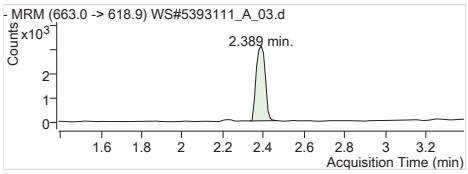


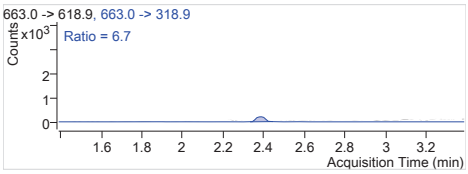
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 1.72 µg/L
Area ratio: 0.77961
Sample type: Calibration



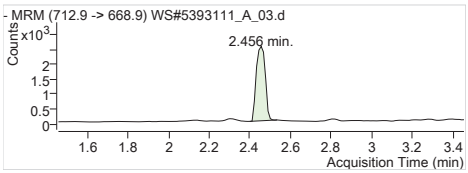


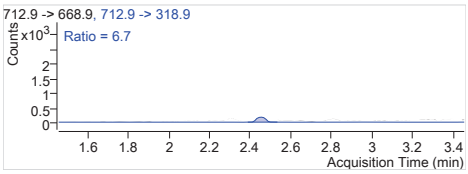
PFDoA 1	613.0 -> 568.9
RT (Exp. RT):	2.311 (2.311)
Calc. conc.	1.59 µg/L
Area ratio:	0.68035
Sample type:	Calibration



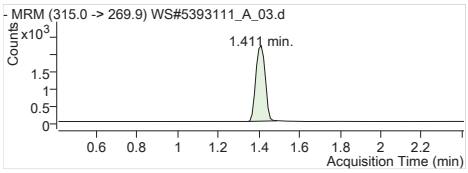


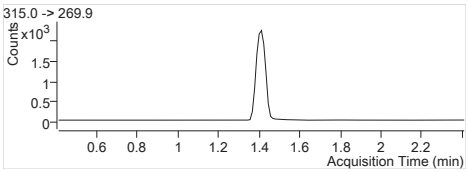
PFTrDA 1	663.0 -> 618.9
RT (Exp. RT):	2.389 (2.389)
Calc. conc.	1.71 µg/L
Area ratio:	0.74382
Sample type:	Calibration



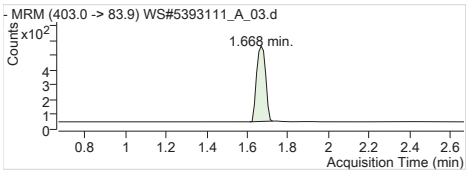


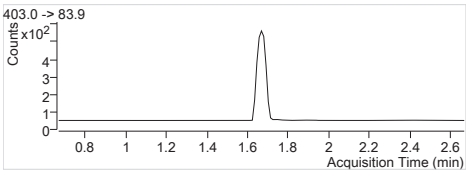
PFTeDA 1	712.9 -> 668.9
RT (Exp. RT):	2.456 (2.456)
Calc. conc.	1.68 µg/L
Area ratio:	0.60282
Sample type:	Calibration



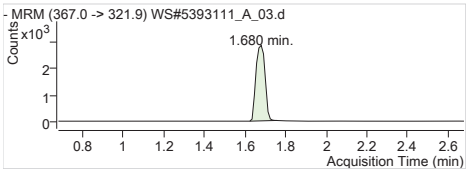


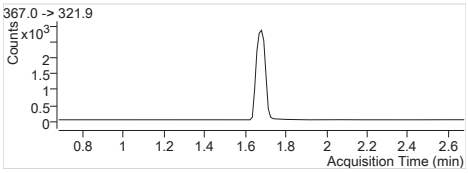
13C2-PFHxA	315.0 -> 269.9
RT (Exp. RT):	1.411 (1.411)
Calc. conc.	103.32 µg/L
Area ratio:	0.29234
Sample type:	Calibration



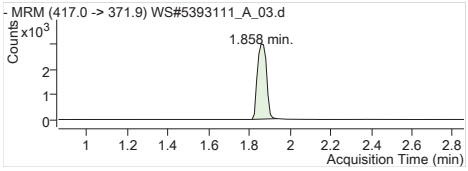


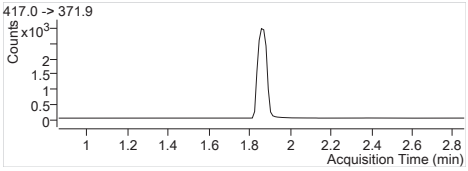
18O2-PFHxS	403.0 -> 83.9
RT (Exp. RT):	1.668 (1.668)
Calc. conc.	94.89 µg/L
Area ratio:	0.06554
Sample type:	Calibration



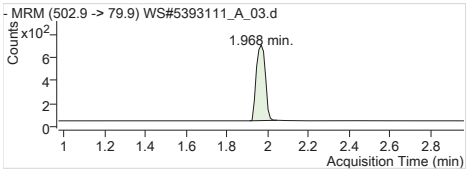


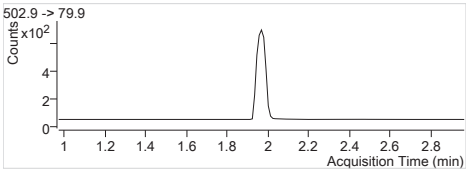
13C4-PFHpA	367.0 -> 321.9
RT (Exp. RT):	1.680 (1.680)
Calc. conc.	100.54 µg/L
Area ratio:	0.36337
Sample type:	Calibration



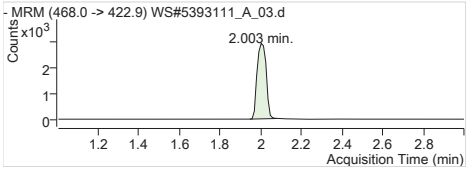


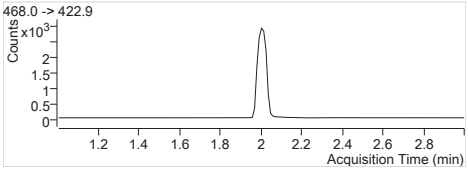
13C4-PFOA	417.0 -> 371.9
RT (Exp. RT):	1.858 (1.858)
Calc. conc.	99.34 µg/L
Area ratio:	0.38113
Sample type:	Calibration



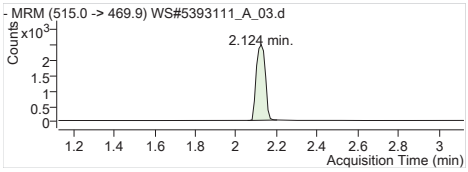


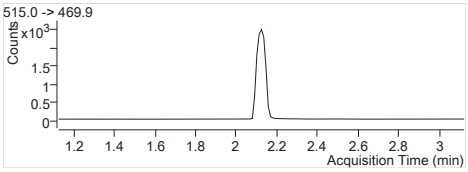
13C4-PFOS	502.9 -> 79.9
RT (Exp. RT):	1.968 (1.968)
Calc. conc.	100.56 µg/L
Area ratio:	0.08438
Sample type:	Calibration



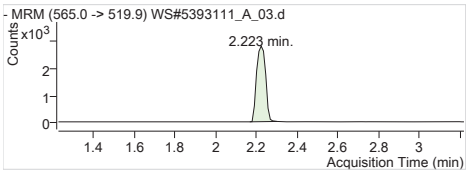


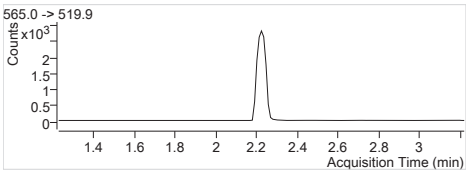
13C5-PFNA	468.0 -> 422.9
RT (Exp. RT):	2.003 (2.003)
Calc. conc.	100.52 µg/L
Area ratio:	0.37198
Sample type:	Calibration



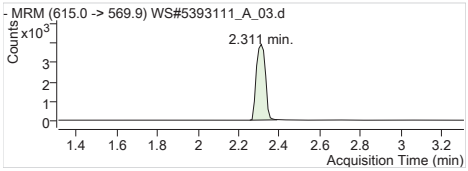


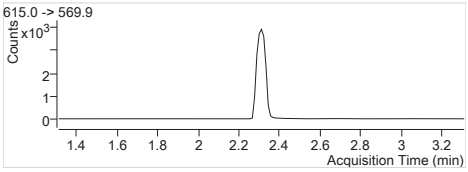
13C2-PFDA 515.0 -> 469.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 103.47 µg/L
Area ratio: 0.25616
Sample type: Calibration



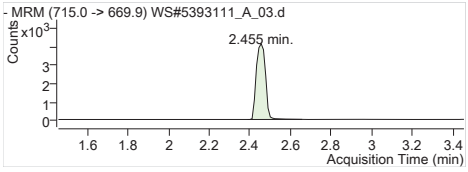


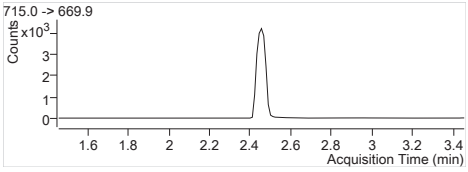
13C2-PFUnA 565.0 -> 519.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 100.96 µg/L
Area ratio: 0.29096
Sample type: Calibration



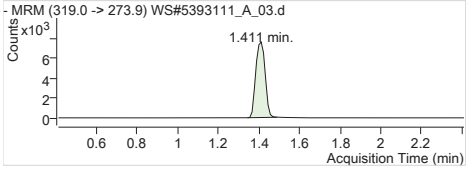


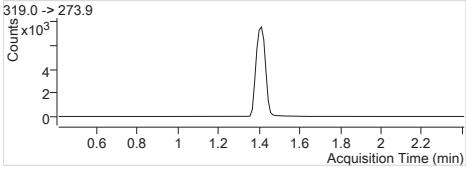
13C2-PFDoA 615.0 -> 569.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 108.06 µg/L
Area ratio: 0.40397
Sample type: Calibration



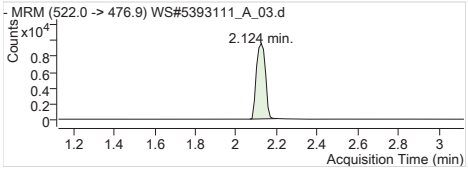


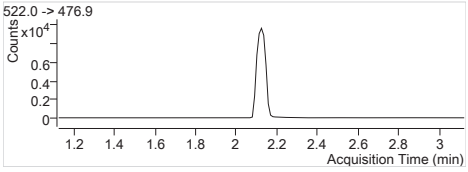
13C2-PFTeDA 715.0 -> 669.9
RT (Exp. RT): 2.455 (2.455)
Calc. conc. 102.36 µg/L
Area ratio: 0.43924
Sample type: Calibration





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 102.97 µg/L
Area ratio: 0
Sample type: Calibration





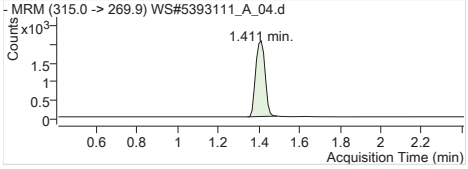
13C9-PFDA 522.0 -> 476.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 97.87 µg/L
Area ratio: 0
Sample type: Calibration

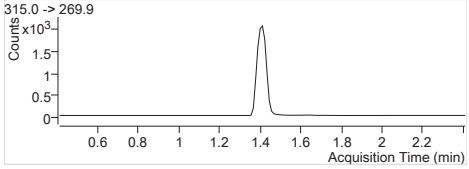
Batch Path T:\lcms4\PFC\20180212\WS#5393111_A\QuantResults\PFC_Water_Low_180213_WS#5393111_EToxics

Sample Name	**STD 3**	**Instrument**	LCMS04
Data File	WS#5393111_A_04.d	**Operator**	
Sample Type	Cal	**Dilution**	1
Acq. Method	PFC_Water_Low.m	**Position**	P2-A4
Acq. Date	2018/02/13 1:21:18 PM	**Injection Volume**	Per Method
Sample Annotation	-		

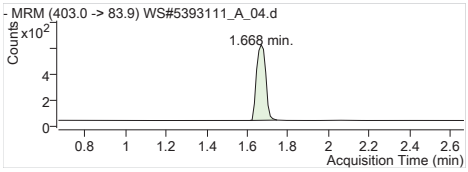
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	6521	1.41	1 µg/L		
MPFHxS	1812	1.67	1 µg/L		
MPFHpA	8740	1.68	1 µg/L		
MPFOA	9311	1.86	1 µg/L		
MPFOS	1928	1.97	1 µg/L		
MPFNA	9465	2.00	1 µg/L		
MPFDA	7371	2.12	1 µg/L		
MPFUnA	8446	2.22	1 µg/L		
MPFDoA	11416	2.31	1 µg/L		
MPFTeDA	12702	2.46	1 µg/L		
13C6-PFHxA IS	23970	1.41	1 µg/L		
13C9-PFDA IS	31810	2.12	1 µg/L		

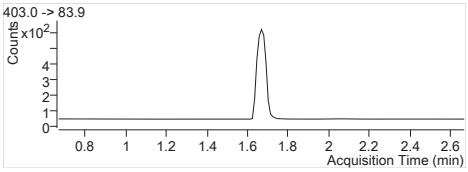
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1	3744	1.06	5.00	4.12 µg/L	82.33
PFHxA 1	13895	1.41	5.00	4.96 µg/L	99.18
PFHxS 1	4457	1.67	5.00	4.86 µg/L	97.14
PFHpA 1	18779	1.68	5.00	5.05 µg/L	101.09
PFOA 1	20184	1.86	5.00	4.84 µg/L	96.76
PFOS 1	3935	1.96	5.00	5.25 µg/L	104.94
PFNA 1	17071	2.00	5.00	4.44 µg/L	88.74
PFDA 1	18530	2.12	5.00	5.19 µg/L	103.82
PFUnA 1	20287	2.22	5.00	5.22 µg/L	104.42
PFDoA 1	26456	2.31	5.00	5.08 µg/L	101.68
PFTrDA 1	30071	2.39	5.00	5.32 µg/L	106.31
PFTeDA 1	24409	2.46	5.00	5.27 µg/L	105.37
13C2-PFHxA	6521	1.41	100.00	96.14 µg/L	96.14
18O2-PFHxS	1812	1.67	100.00	109.45 µg/L	109.45
13C4-PFHpA	8740	1.68	100.00	100.89 µg/L	100.89
13C4-PFOA	9311	1.86	100.00	101.24 µg/L	101.24
13C4-PFOS	1928	1.97	100.00	95.86 µg/L	95.86
13C5-PFNA	9465	2.00	100.00	106.71 µg/L	106.71
13C2-PFDA	7294	2.12	100.00	92.62 µg/L	92.62
13C2-PFUnA	8446	2.22	100.00	92.13 µg/L	92.13
13C2-PFDoA	11416	2.31	100.00	96.00 µg/L	96.00
13C2-PFTeDA	12884	2.46	100.00	94.39 µg/L	94.39
13C6-PFHxA	23970	1.41	100.00	102.64 µg/L	102.64
13C9-PFDA	31810	2.12	100.00	105.18 µg/L	105.18



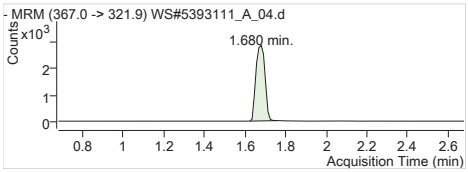


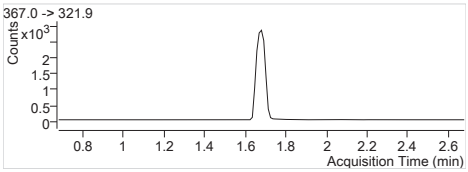
MPFHxA	Internal Standard
RT (Exp. RT):	1.411 (1.411)
Concentration:	1 µg/L
Sample type:	Calibration



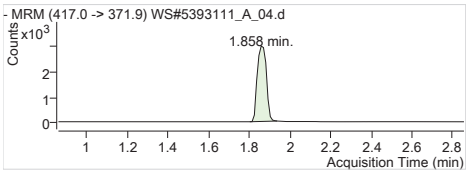


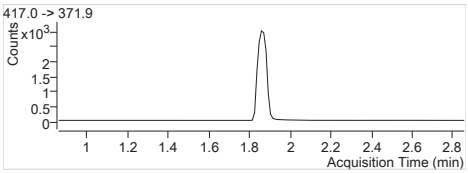
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Calibration



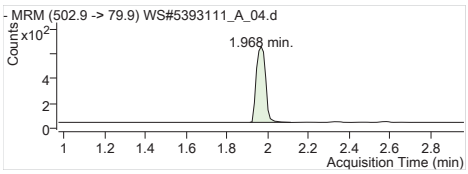


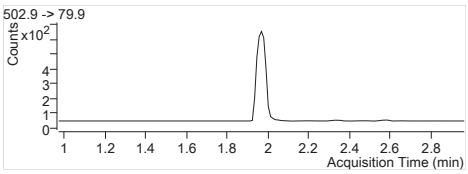
MPFHpA Internal Standard
RT (Exp. RT): 1.680 (1.680)
Concentration: 1 µg/L
Sample type: Calibration



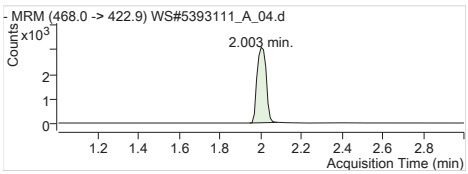


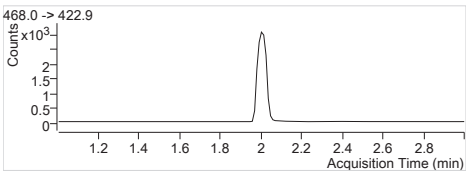
MPFOA Internal Standard
RT (Exp. RT): 1.858 (1.858)
Concentration: 1 µg/L
Sample type: Calibration



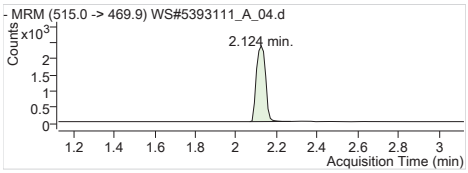


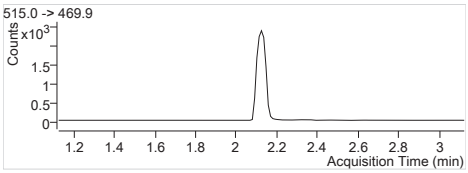
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Calibration



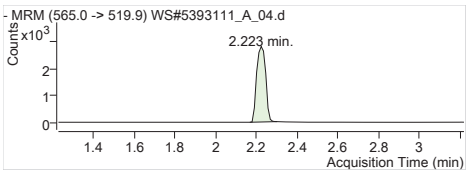


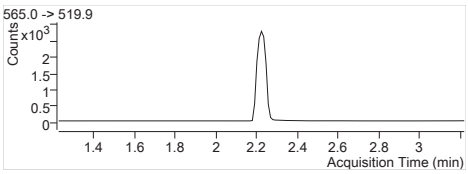
MPFNA Internal Standard
RT (Exp. RT): 2.003 (2.003)
Concentration: 1 µg/L
Sample type: Calibration



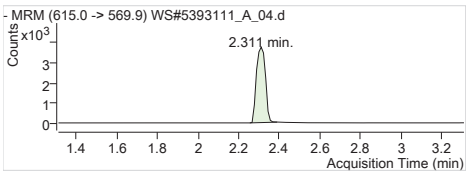


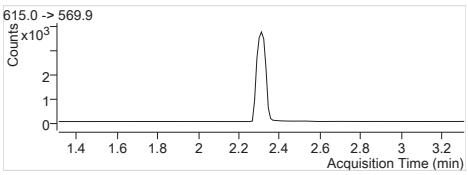
MPFDA Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Calibration



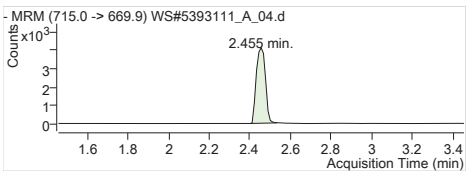


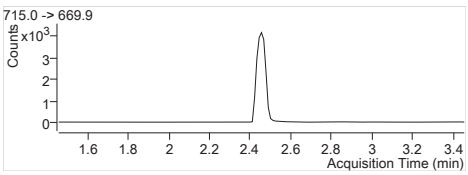
MPFUnA Internal Standard
RT (Exp. RT): 2.223 (2.223)
Concentration: 1 µg/L
Sample type: Calibration



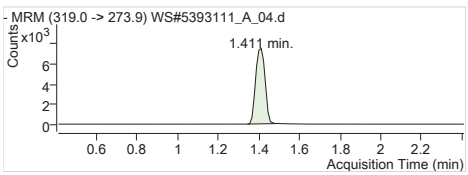


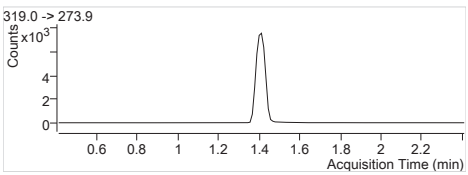
MPFDoA Internal Standard
RT (Exp. RT): 2.311 (2.311)
Concentration: 1 µg/L
Sample type: Calibration



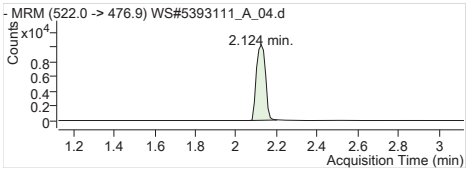


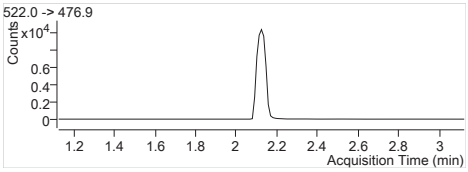
MPFTeDA Internal Standard
RT (Exp. RT): 2.455 (2.455)
Concentration: 1 µg/L
Sample type: Calibration



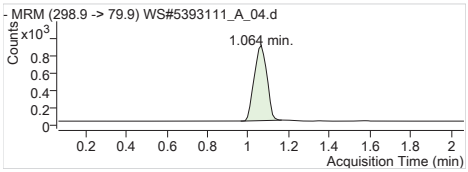


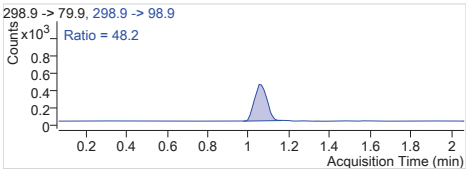
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: Calibration



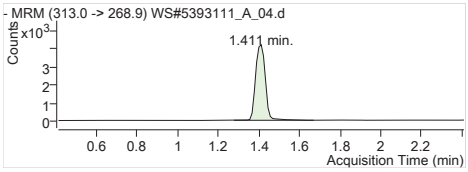


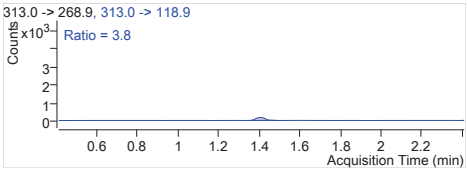
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Calibration



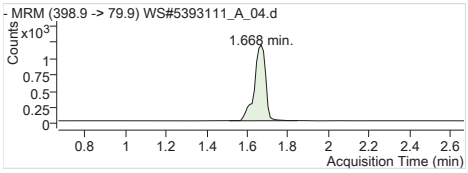


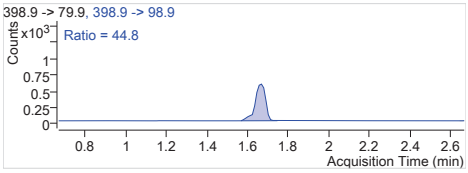
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 1.064 (1.064)
Calc. conc. 4.12 µg/L
Area ratio: 2.06623
Sample type: Calibration



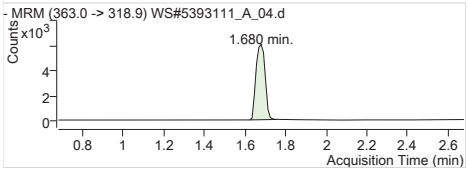


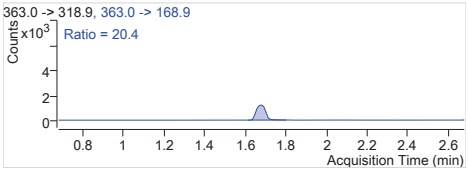
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 4.96 µg/L
Area ratio: 2.13081
Sample type: Calibration



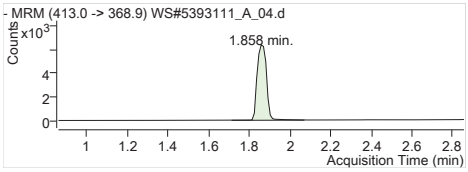


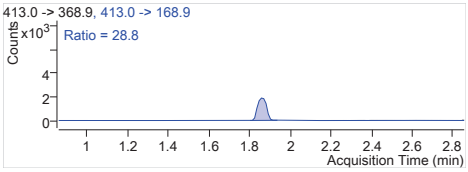
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 4.86 µg/L
Area ratio: 2.45971
Sample type: Calibration



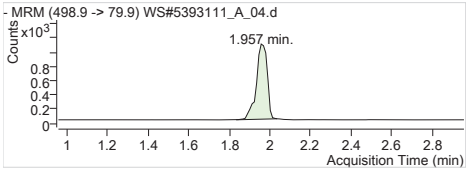


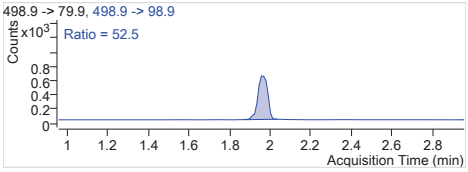
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 1.680 (1.680)
Calc. conc. 5.05 µg/L
Area ratio: 2.14863
Sample type: Calibration



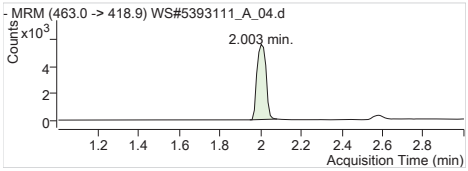


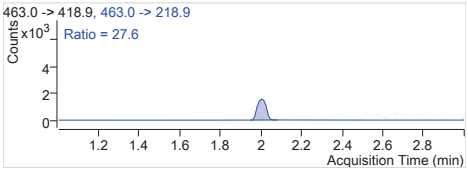
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 1.858 (1.858)
Calc. conc. 4.84 µg/L
Area ratio: 2.16776
Sample type: Calibration



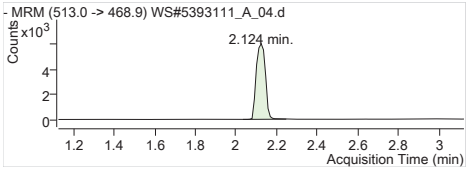


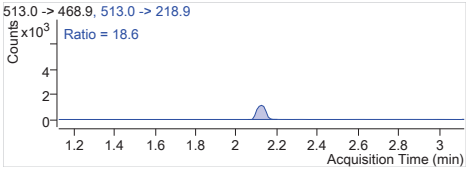
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 5.25 µg/L
Area ratio: 2.04098
Sample type: Calibration



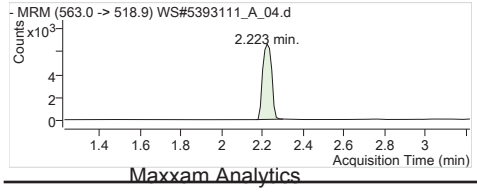


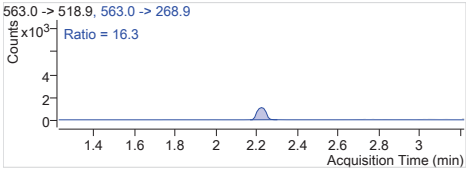
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 2.003 (2.003)
Calc. conc. 4.44 µg/L
Area ratio: 1.80359
Sample type: Calibration



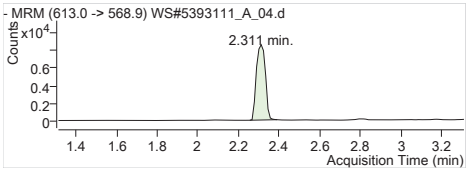


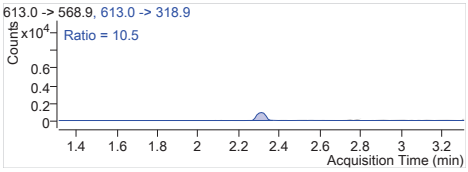
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 5.19 µg/L
Area ratio: 2.51391
Sample type: Calibration



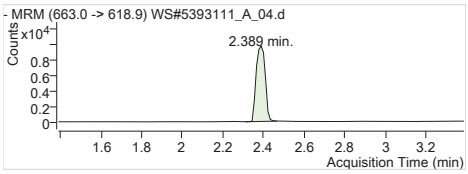


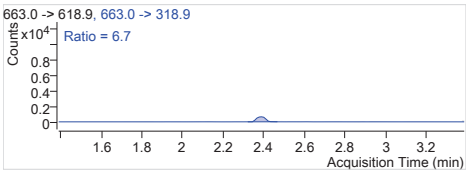
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 5.22 µg/L
Area ratio: 2.40197
Sample type: Calibration



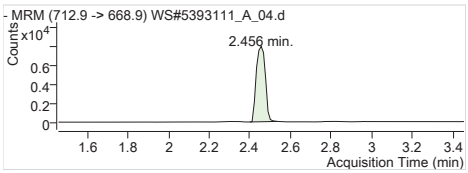


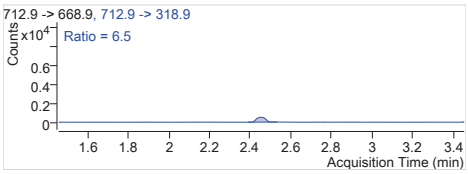
PFDoA 1	613.0 -> 568.9
RT (Exp. RT):	2.311 (2.311)
Calc. conc.	5.08 µg/L
Area ratio:	2.31745
Sample type:	Calibration



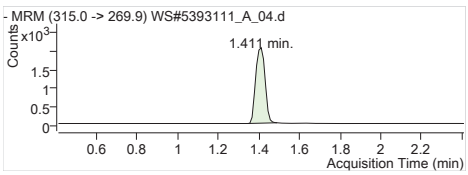


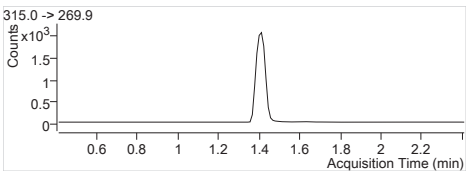
PFTrDA 1	663.0 -> 618.9
RT (Exp. RT):	2.389 (2.389)
Calc. conc.	5.32 µg/L
Area ratio:	2.36742
Sample type:	Calibration



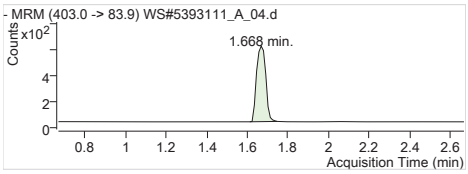


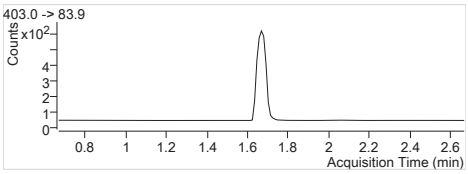
PFTeDA 1	712.9 -> 668.9
RT (Exp. RT):	2.456 (2.456)
Calc. conc.	5.27 µg/L
Area ratio:	1.92167
Sample type:	Calibration



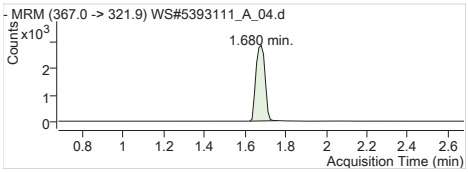


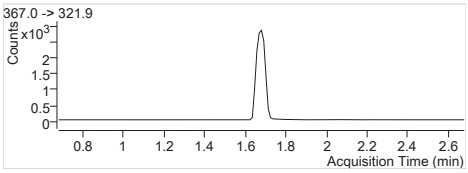
13C2-PFHxA	315.0 -> 269.9
RT (Exp. RT):	1.411 (1.411)
Calc. conc.	96.14 µg/L
Area ratio:	0.27205
Sample type:	Calibration



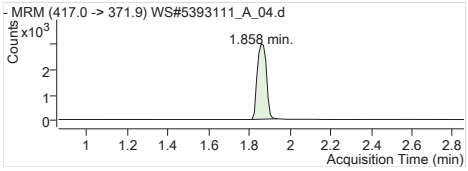


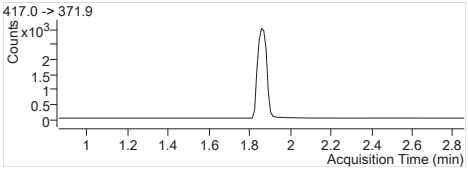
18O2-PFHxS	403.0 -> 83.9
RT (Exp. RT):	1.668 (1.668)
Calc. conc.	109.45 µg/L
Area ratio:	0.07559
Sample type:	Calibration



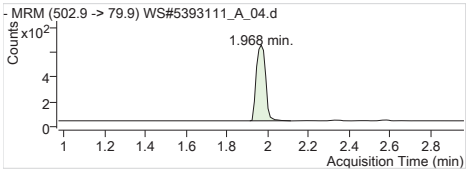


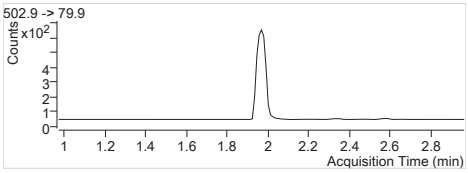
13C4-PFHpA	367.0 -> 321.9
RT (Exp. RT):	1.680 (1.680)
Calc. conc.	100.89 µg/L
Area ratio:	0.36462
Sample type:	Calibration



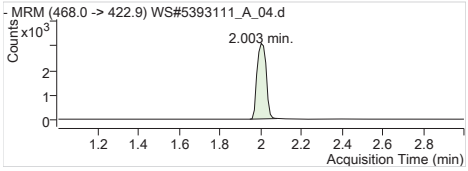


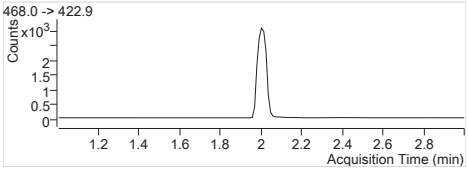
13C4-PFOA	417.0 -> 371.9
RT (Exp. RT):	1.858 (1.858)
Calc. conc.	101.24 µg/L
Area ratio:	0.38844
Sample type:	Calibration



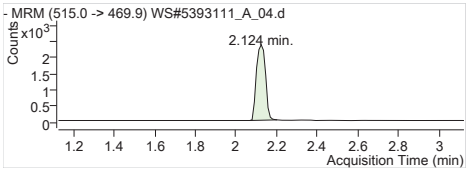


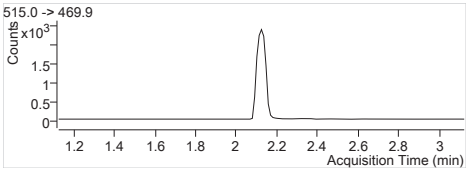
13C4-PFOS	502.9 -> 79.9
RT (Exp. RT):	1.968 (1.968)
Calc. conc.	95.86 µg/L
Area ratio:	0.08043
Sample type:	Calibration



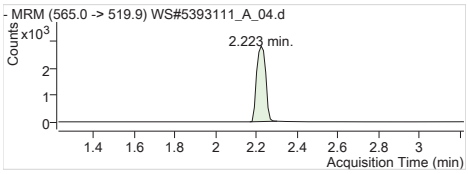


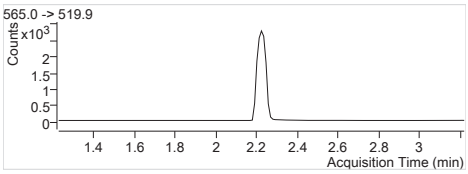
13C5-PFNA	468.0 -> 422.9
RT (Exp. RT):	2.003 (2.003)
Calc. conc.	106.71 µg/L
Area ratio:	0.39487
Sample type:	Calibration



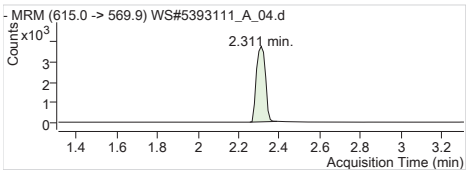


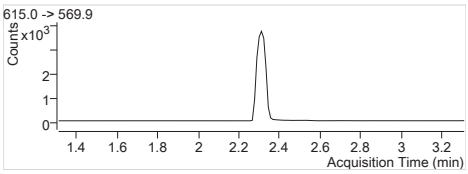
13C2-PFDA 515.0 -> 469.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 92.62 µg/L
Area ratio: 0.22930
Sample type: Calibration



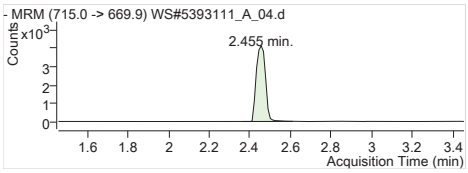


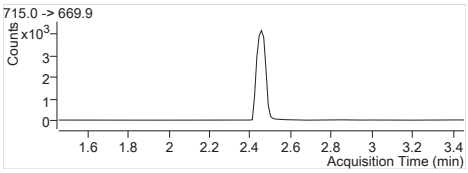
13C2-PFUnA 565.0 -> 519.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 92.13 µg/L
Area ratio: 0.26551
Sample type: Calibration



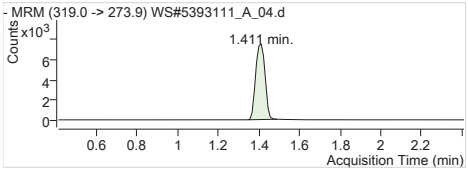


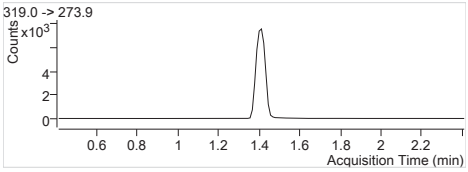
13C2-PFDoA 615.0 -> 569.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 96.00 µg/L
Area ratio: 0.35888
Sample type: Calibration



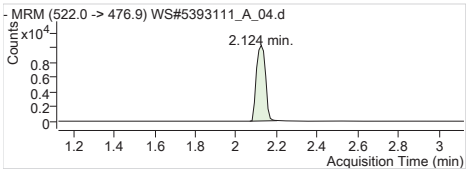


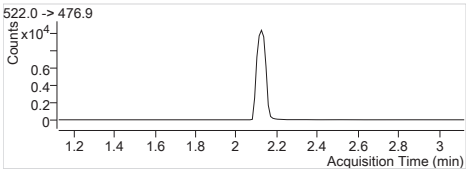
13C2-PFTeDA 715.0 -> 669.9
RT (Exp. RT): 2.455 (2.455)
Calc. conc. 94.39 µg/L
Area ratio: 0.40503
Sample type: Calibration





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 102.64 µg/L
Area ratio: 0
Sample type: Calibration





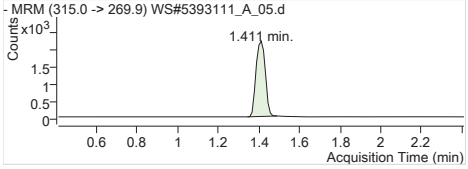
13C9-PFDA 522.0 -> 476.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 105.18 µg/L
Area ratio: 0
Sample type: Calibration

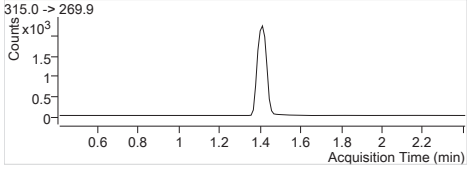
Batch Path	T:\lcms4\PFC\20180212\WS#5393111_A\QuantResults\PFC_Water_Low_180213_WS#5393111_EToxics

Sample Name	**STD 4**	**Instrument**	LCMS04
Data File	WS#5393111_A_05.d	**Operator**	
Sample Type	Cal	**Dilution**	1
Acq. Method	PFC_Water_Low.m	**Position**	P2-A5
Acq. Date	2018/02/13 1:26:14 PM	**Injection Volume**	Per Method
Sample Annotation	-		

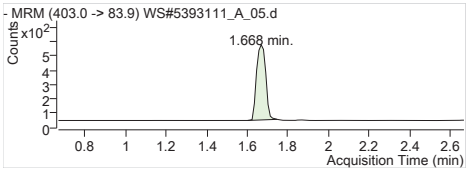
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	6940	1.41	1 µg/L		
MPFHxS	1660	1.67	1 µg/L		
MPFHpA	9023	1.68	1 µg/L		
MPFOA	9544	1.86	1 µg/L		
MPFOS	1861	1.97	1 µg/L		
MPFNA	8362	2.00	1 µg/L		
MPFDA	8235	2.12	1 µg/L		
MPFUnA	8908	2.22	1 µg/L		
MPFDoA	11800	2.31	1 µg/L		
MPFTeDA	13664	2.46	1 µg/L		
13C6-PFHxA IS	23942	1.41	1 µg/L		
13C9-PFDA IS	30523	2.12	1 µg/L		

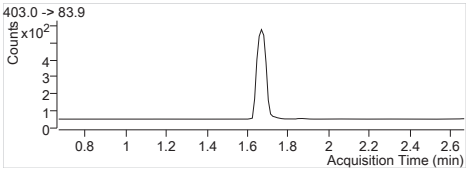
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1	9973	1.06	12.50	11.51 µg/L	92.08
PFHxA 1	33716	1.41	12.50	11.11 µg/L	88.86
PFHxS 1	9564	1.67	12.50	11.30 µg/L	90.39
PFHpA 1	44837	1.68	12.50	11.69 µg/L	93.49
PFOA 1	49745	1.86	12.50	11.49 µg/L	91.90
PFOS 1	9992	1.96	12.50	13.64 µg/L	109.16
PFNA 1	42617	2.00	12.50	12.30 µg/L	98.41
PFDA 1	46555	2.12	12.50	11.53 µg/L	92.25
PFUnA 1	52123	2.22	12.50	12.66 µg/L	101.26
PFDoA 1	65485	2.31	12.50	11.98 µg/L	95.86
PFTrDA 1	71180	2.39	12.50	11.63 µg/L	93.02
PFTeDA 1	59763	2.46	12.50	11.94 µg/L	95.48
13C2-PFHxA	6940	1.41	100.00	102.44 µg/L	102.44
18O2-PFHxS	1660	1.67	100.00	100.38 µg/L	100.38
13C4-PFHpA	9023	1.68	100.00	104.27 µg/L	104.27
13C4-PFOA	9544	1.86	100.00	103.90 µg/L	103.90
13C4-PFOS	1861	1.97	100.00	92.64 µg/L	92.64
13C5-PFNA	8362	2.00	100.00	94.38 µg/L	94.38
13C2-PFDA	8197	2.12	100.00	108.47 µg/L	108.47
13C2-PFUnA	8908	2.22	100.00	101.27 µg/L	101.27
13C2-PFDoA	11800	2.31	100.00	103.41 µg/L	103.41
13C2-PFTeDA	13665	2.46	100.00	104.33 µg/L	104.33
13C6-PFHxA	23942	1.41	100.00	102.52 µg/L	102.52
13C9-PFDA	30523	2.12	100.00	100.92 µg/L	100.92



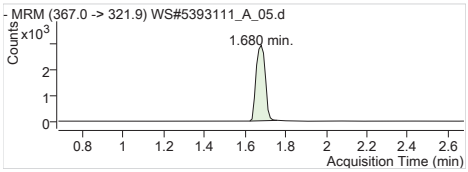


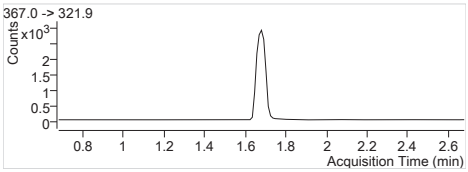
MPFHxA	Internal Standard
RT (Exp. RT):	1.411 (1.411)
Concentration:	1 µg/L
Sample type:	Calibration



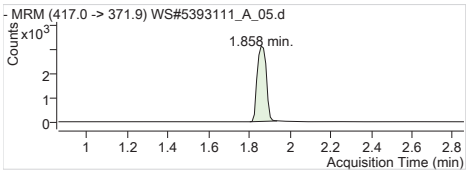


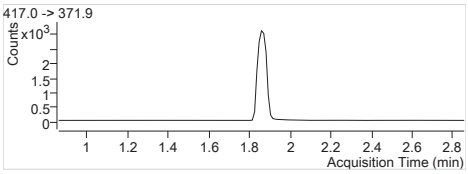
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Calibration



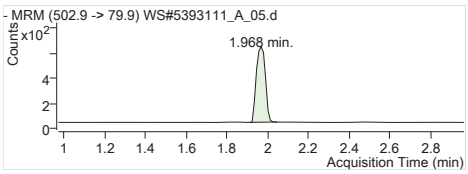


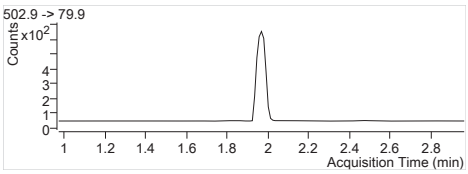
MPFHpA Internal Standard
RT (Exp. RT): 1.680 (1.680)
Concentration: 1 µg/L
Sample type: Calibration



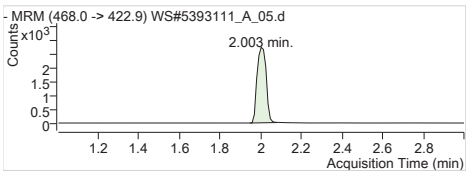


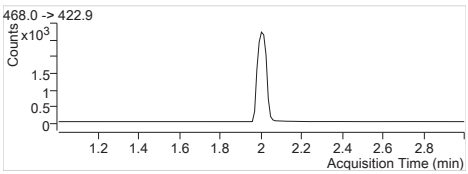
MPFOA Internal Standard
RT (Exp. RT): 1.858 (1.858)
Concentration: 1 µg/L
Sample type: Calibration



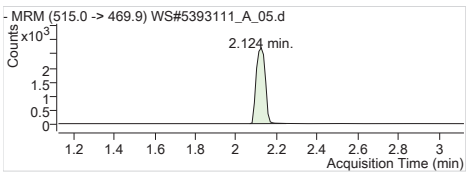


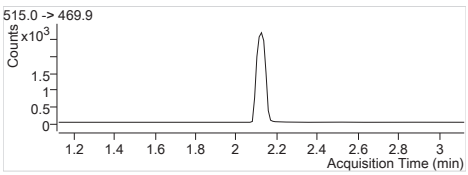
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Calibration



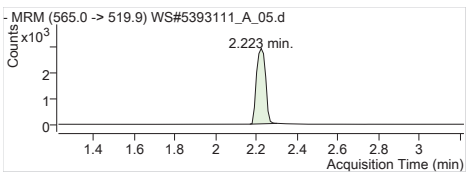


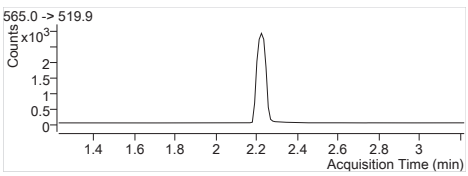
MPFNA Internal Standard
RT (Exp. RT): 2.003 (2.003)
Concentration: 1 µg/L
Sample type: Calibration



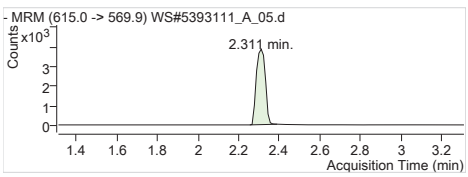


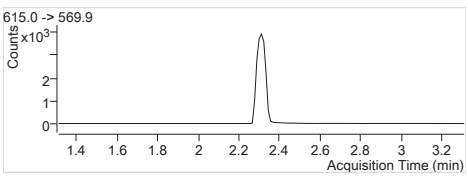
MPFDA Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Calibration



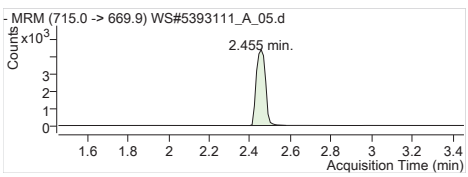


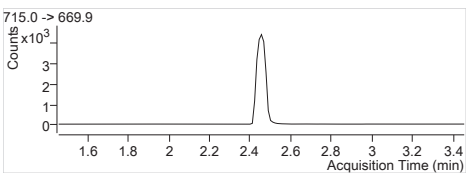
MPFUnA Internal Standard
RT (Exp. RT): 2.223 (2.223)
Concentration: 1 µg/L
Sample type: Calibration



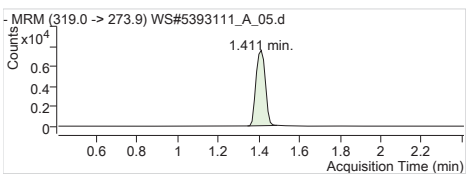


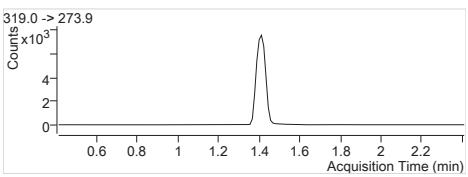
MPFDoA Internal Standard
RT (Exp. RT): 2.311 (2.311)
Concentration: 1 µg/L
Sample type: Calibration



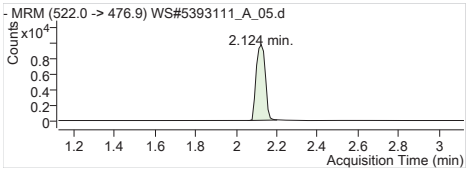


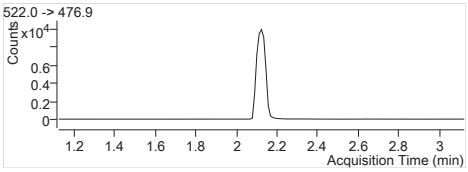
MPFTeDA Internal Standard
RT (Exp. RT): 2.455 (2.455)
Concentration: 1 µg/L
Sample type: Calibration



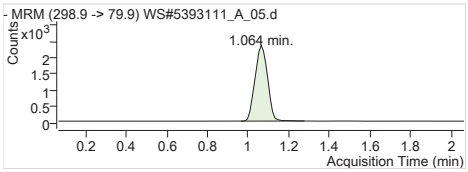


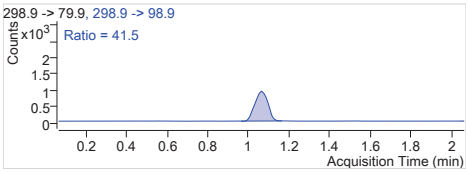
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: Calibration



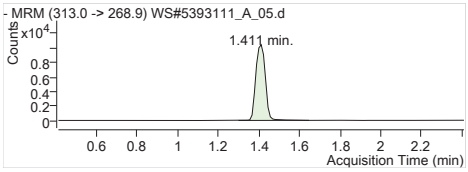


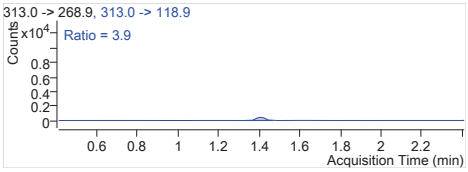
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Calibration



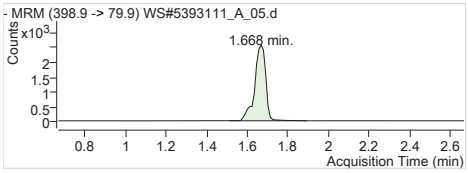


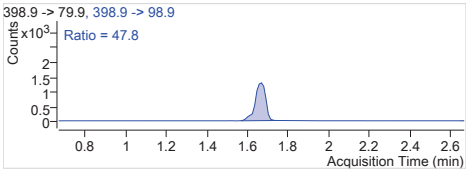
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 1.064 (1.064)
Calc. conc. 11.51 µg/L
Area ratio: 6.00783
Sample type: Calibration



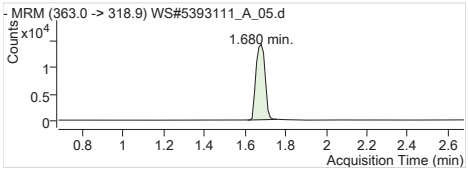


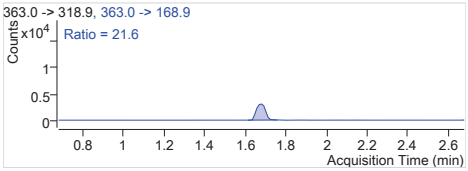
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 11.11 µg/L
Area ratio: 4.85821
Sample type: Calibration



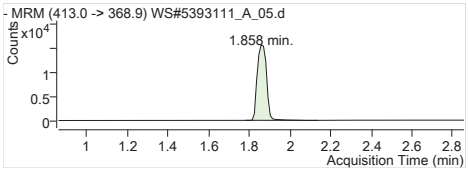


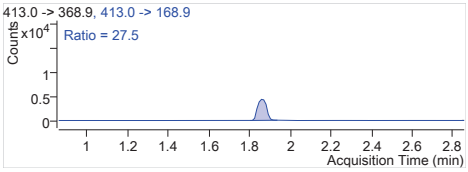
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 11.30 µg/L
Area ratio: 5.76145
Sample type: Calibration



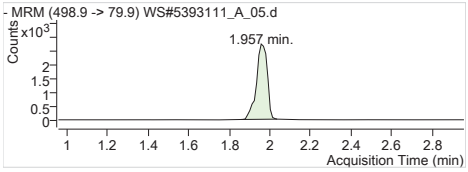


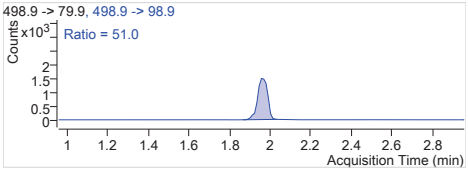
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 1.680 (1.680)
Calc. conc. 11.69 µg/L
Area ratio: 4.96919
Sample type: Calibration



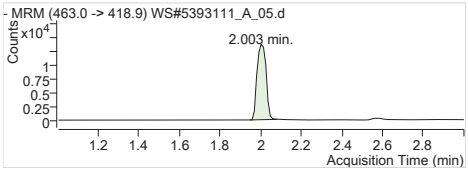


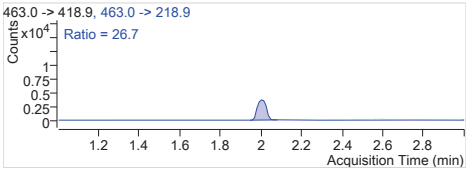
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 1.858 (1.858)
Calc. conc. 11.49 µg/L
Area ratio: 5.21218
Sample type: Calibration



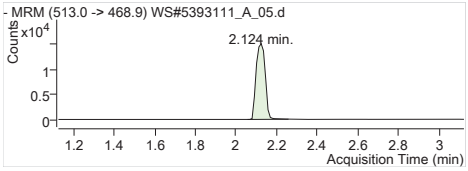


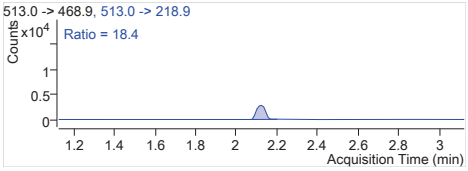
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 13.64 µg/L
Area ratio: 5.36916
Sample type: Calibration



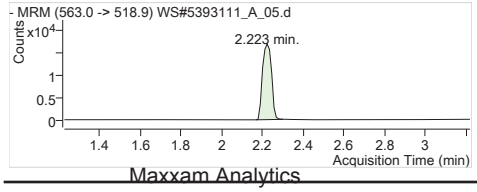


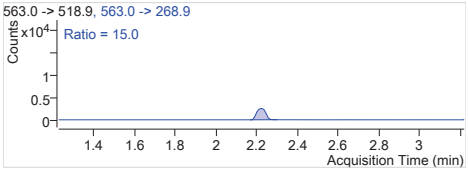
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 2.003 (2.003)
Calc. conc. 12.30 µg/L
Area ratio: 5.09651
Sample type: Calibration



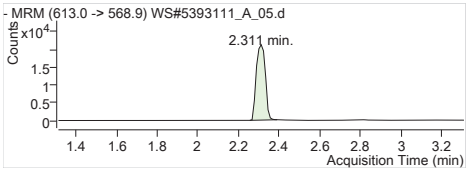


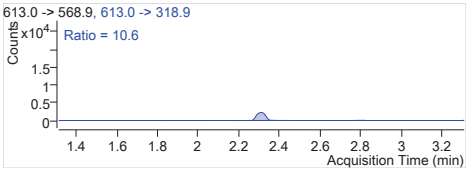
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 11.53 µg/L
Area ratio: 5.65331
Sample type: Calibration



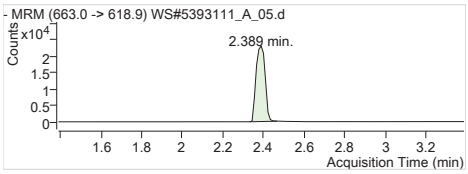


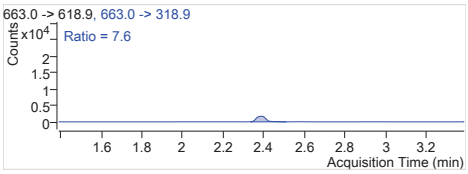
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 12.66 µg/L
Area ratio: 5.85126
Sample type: Calibration



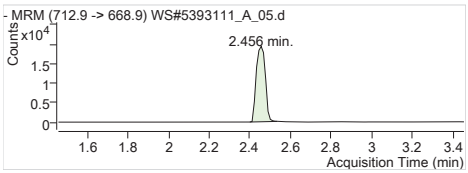


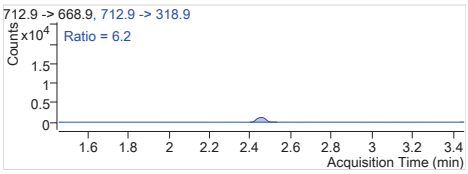
PFDoA 1 613.0 -> 568.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 11.98 µg/L
Area ratio: 5.54958
Sample type: Calibration



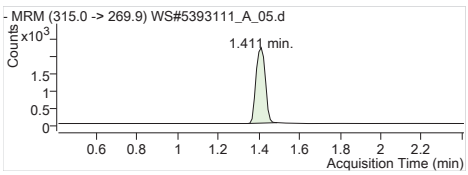


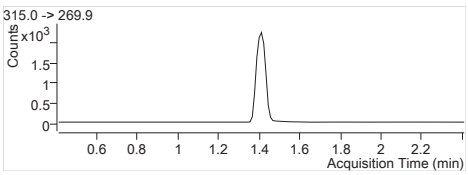
PFTrDA 1 663.0 -> 618.9
RT (Exp. RT): 2.389 (2.389)
Calc. conc. 11.63 µg/L
Area ratio: 5.20931
Sample type: Calibration



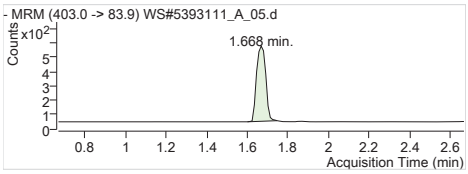


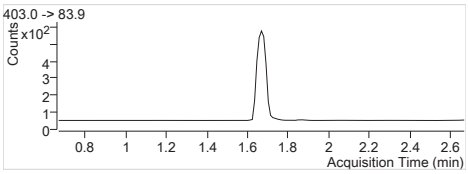
PFTeDA 1 712.9 -> 668.9
RT (Exp. RT): 2.456 (2.456)
Calc. conc. 11.94 µg/L
Area ratio: 4.37376
Sample type: Calibration



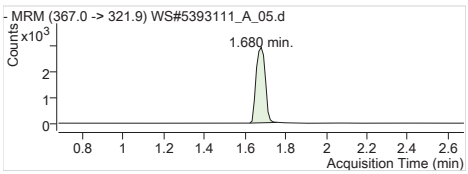


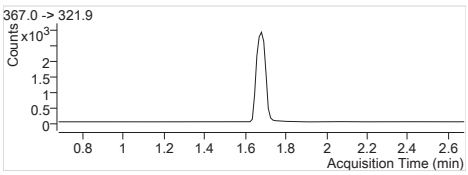
13C2-PFHxA 315.0 -> 269.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 102.44 µg/L
Area ratio: 0.28987
Sample type: Calibration



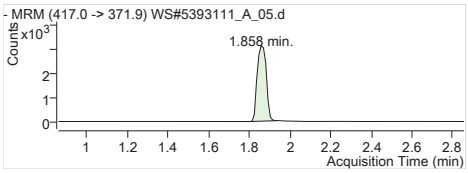


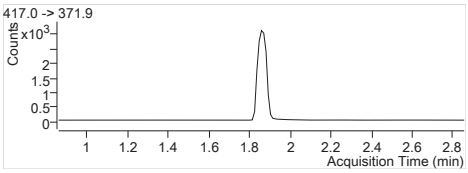
18O2-PFHxS 403.0 -> 83.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 100.38 µg/L
Area ratio: 0.06933
Sample type: Calibration



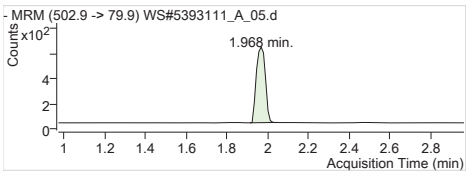


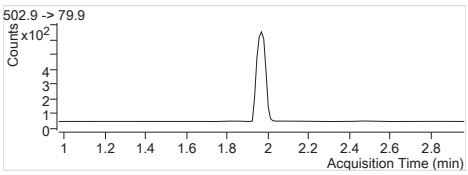
13C4-PFHpA 367.0 -> 321.9
RT (Exp. RT): 1.680 (1.680)
Calc. conc. 104.27 µg/L
Area ratio: 0.37687
Sample type: Calibration



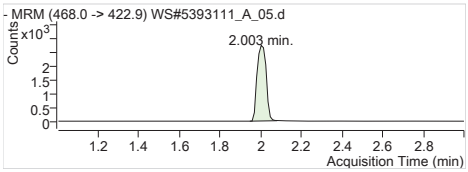


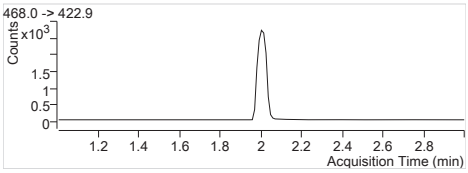
13C4-PFOA 417.0 -> 371.9
RT (Exp. RT): 1.858 (1.858)
Calc. conc. 103.90 µg/L
Area ratio: 0.39863
Sample type: Calibration



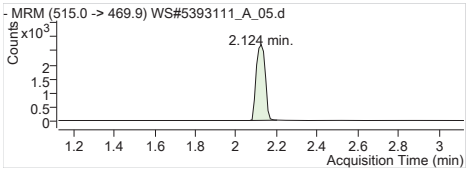


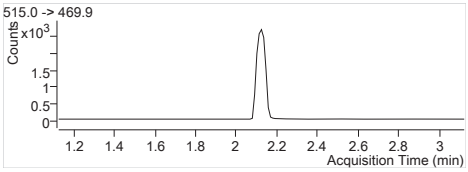
13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.968 (1.968)
Calc. conc. 92.64 µg/L
Area ratio: 0.07773
Sample type: Calibration



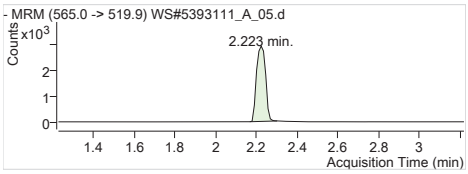


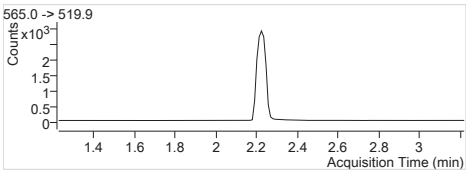
13C5-PFNA 468.0 -> 422.9
RT (Exp. RT): 2.003 (2.003)
Calc. conc. 94.38 µg/L
Area ratio: 0.34926
Sample type: Calibration



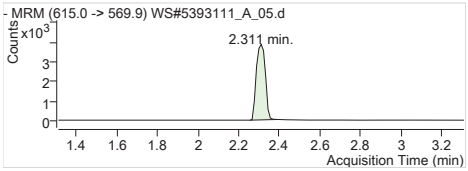


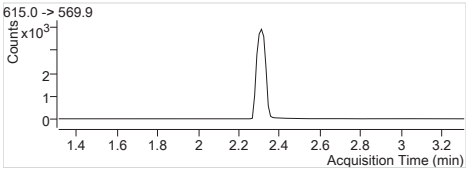
13C2-PFDA 515.0 -> 469.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 108.47 µg/L
Area ratio: 0.26855
Sample type: Calibration



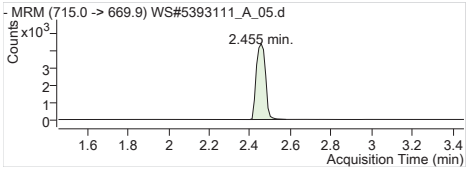


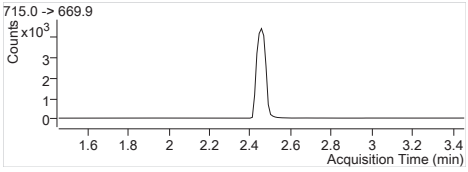
13C2-PFUnA 565.0 -> 519.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 101.27 µg/L
Area ratio: 0.29185
Sample type: Calibration



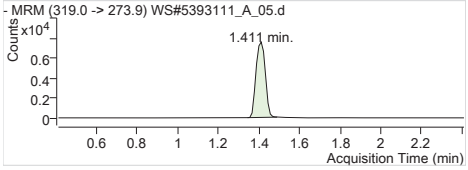


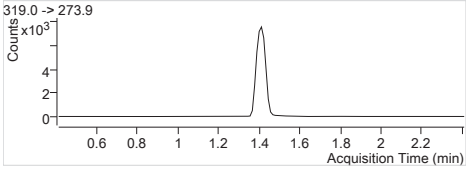
13C2-PFDoA 615.0 -> 569.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 103.41 µg/L
Area ratio: 0.38659
Sample type: Calibration



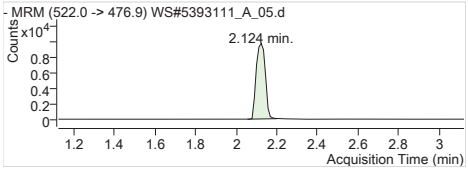


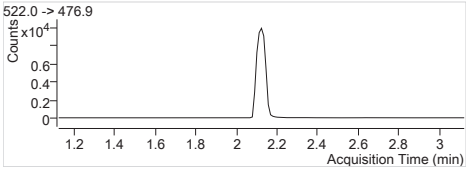
13C2-PFTeDA 715.0 -> 669.9
RT (Exp. RT): 2.455 (2.455)
Calc. conc. 104.33 µg/L
Area ratio: 0.44770
Sample type: Calibration





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 102.52 µg/L
Area ratio: 0
Sample type: Calibration





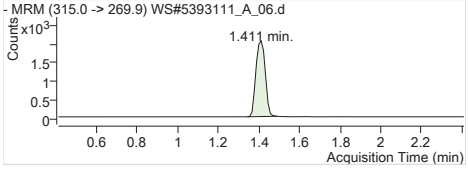
13C9-PFDA 522.0 -> 476.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 100.92 µg/L
Area ratio: 0
Sample type: Calibration

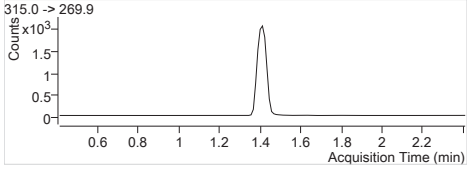
Batch Path T:\lcms4\PFC\20180212\WS#5393111_A\QuantResults\PFC_Water_Low_180213_WS#5393111_EToxics

Sample Name	**STD 5**	**Instrument**	LCMS04
Data File	WS#5393111_A_06.d	**Operator**	
Sample Type	Cal	**Dilution**	1
Acq. Method	PFC_Water_Low.m	**Position**	P2-A6
Acq. Date	2018/02/13 1:31:10 PM	**Injection Volume**	Per Method
Sample Annotation	-		

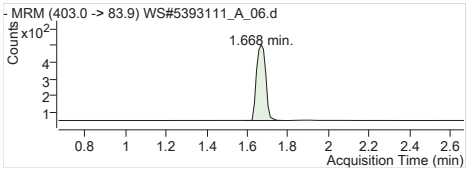
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	6470	1.41	1 µg/L		
MPFHxS	1441	1.67	1 µg/L		
MPFHpA	7840	1.68	1 µg/L		
MPFOA	8604	1.86	1 µg/L		
MPFOS	2011	1.97	1 µg/L		
MPFNA	8361	2.00	1 µg/L		
MPFDA	7286	2.12	1 µg/L		
MPFUnA	9076	2.22	1 µg/L		
MPFDoA	11086	2.31	1 µg/L		
MPFTeDA	12417	2.46	1 µg/L		
13C6-PFHxA IS	23146	1.41	1 µg/L		
13C9-PFDA IS	29646	2.12	1 µg/L		

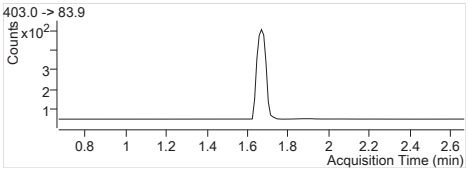
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1	19908	1.06	25.00	26.15 µg/L	104.62
PFHxA 1	70129	1.41	25.00	24.59 µg/L	98.36
PFHxS 1	19383	1.67	25.00	26.30 µg/L	105.20
PFHpA 1	88396	1.68	25.00	26.51 µg/L	106.05
PFOA 1	97428	1.86	25.00	24.84 µg/L	99.34
PFOS 1	19043	1.96	25.00	23.99 µg/L	95.96
PFNA 1	85811	2.00	25.00	24.64 µg/L	98.56
PFDA 1	91770	2.12	25.00	25.55 µg/L	102.20
PFUnA 1	100268	2.22	25.00	23.86 µg/L	95.44
PFDoA 1	127517	2.31	25.00	24.69 µg/L	98.76
PFTrDA 1	143058	2.39	25.00	25.65 µg/L	102.58
PFTeDA 1	122099	2.46	25.00	26.78 µg/L	107.11
13C2-PFHxA	6470	1.41	100.00	98.79 µg/L	98.79
18O2-PFHxS	1441	1.67	100.00	90.14 µg/L	90.14
13C4-PFHpA	7840	1.68	100.00	93.72 µg/L	93.72
13C4-PFOA	8604	1.86	100.00	96.89 µg/L	96.89
13C4-PFOS	2011	1.97	100.00	103.55 µg/L	103.55
13C5-PFNA	8360	2.00	100.00	97.61 µg/L	97.61
13C2-PFDA	7237	2.12	100.00	98.60 µg/L	98.60
13C2-PFUnA	9076	2.22	100.00	106.23 µg/L	106.23
13C2-PFDoA	11086	2.31	100.00	100.03 µg/L	100.03
13C2-PFTeDA	12645	2.46	100.00	99.40 µg/L	99.40
13C6-PFHxA	23146	1.41	100.00	99.11 µg/L	99.11
13C9-PFDA	29646	2.12	100.00	98.02 µg/L	98.02



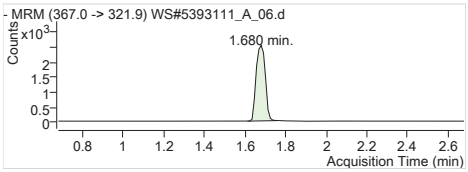


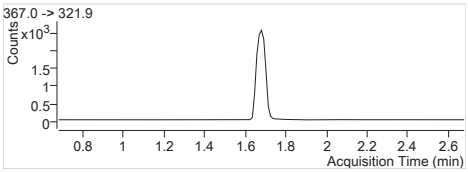
MPFHxA Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: Calibration



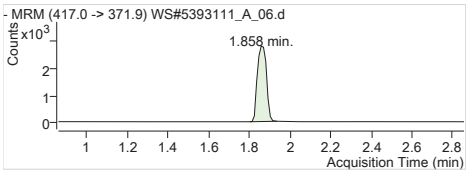


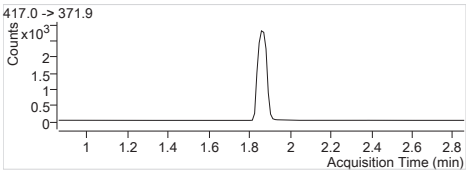
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Calibration



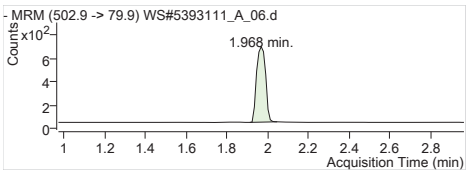


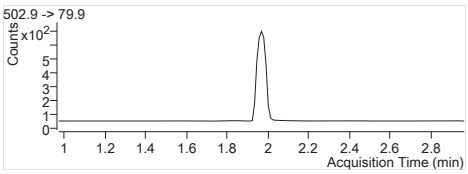
MPFHpA Internal Standard
RT (Exp. RT): 1.680 (1.680)
Concentration: 1 µg/L
Sample type: Calibration



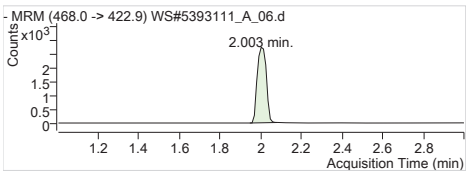


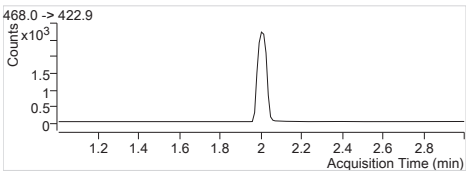
MPFOA Internal Standard
RT (Exp. RT): 1.858 (1.858)
Concentration: 1 µg/L
Sample type: Calibration



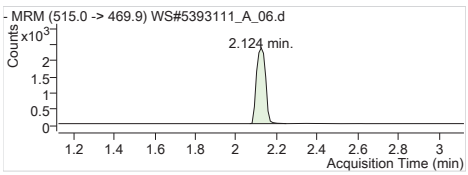


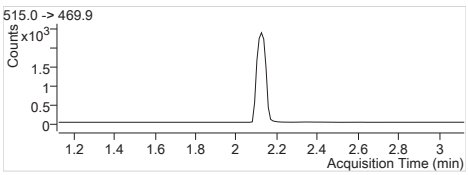
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Calibration



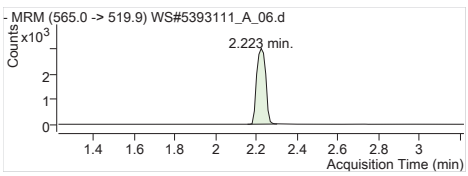


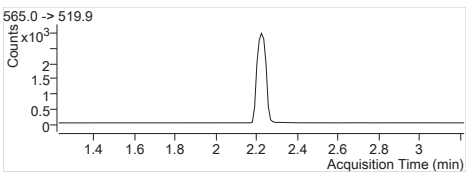
MPFNA Internal Standard
RT (Exp. RT): 2.003 (2.003)
Concentration: 1 µg/L
Sample type: Calibration



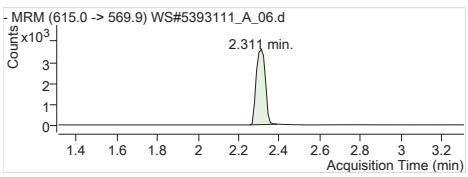


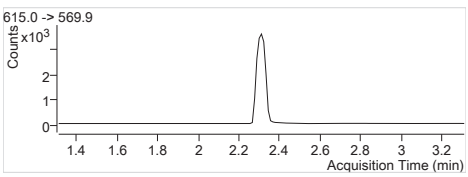
MPFDA Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Calibration



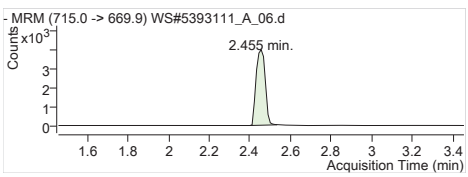


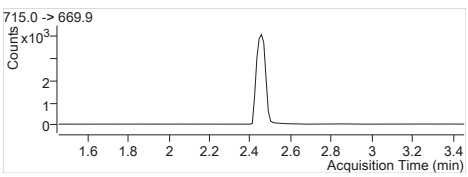
MPFUnA Internal Standard
RT (Exp. RT): 2.223 (2.223)
Concentration: 1 µg/L
Sample type: Calibration



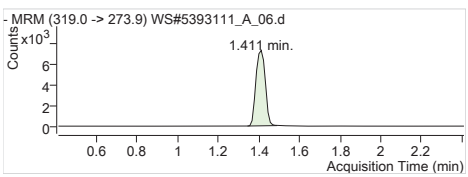


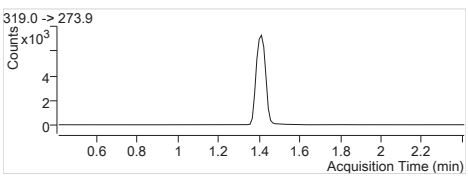
MPFDoA Internal Standard
RT (Exp. RT): 2.311 (2.311)
Concentration: 1 µg/L
Sample type: Calibration



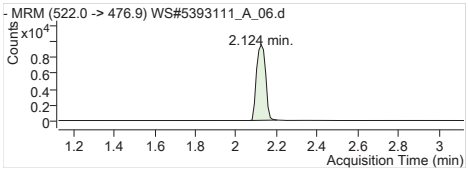


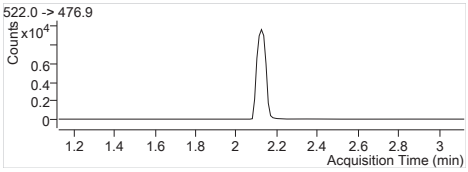
MPFTeDA Internal Standard
RT (Exp. RT): 2.455 (2.455)
Concentration: 1 µg/L
Sample type: Calibration



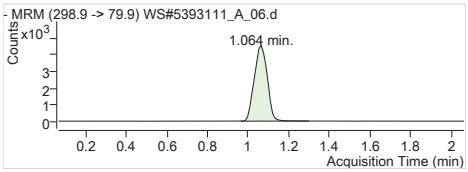


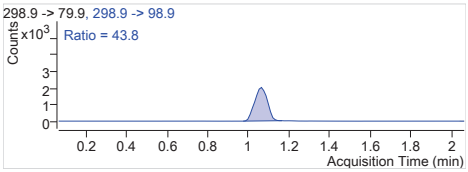
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: Calibration



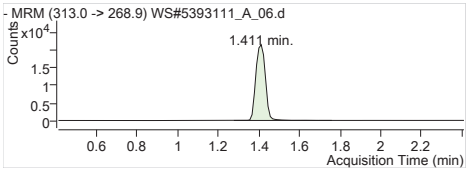


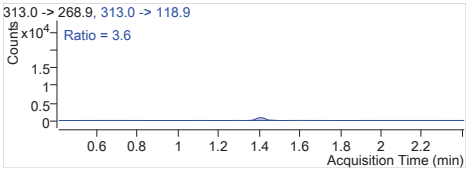
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Calibration



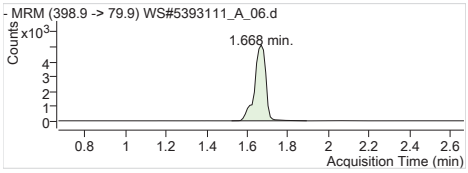


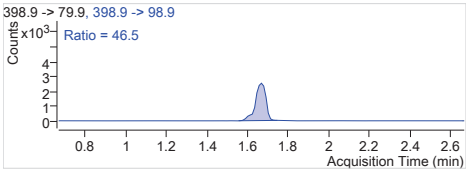
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 1.064 (1.064)
Calc. conc. 26.15 µg/L
Area ratio: 13.81541
Sample type: Calibration



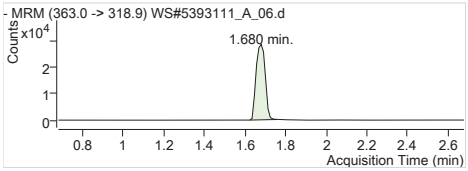


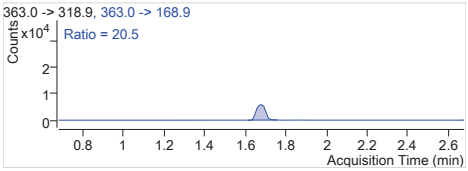
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 24.59 µg/L
Area ratio: 10.83910
Sample type: Calibration



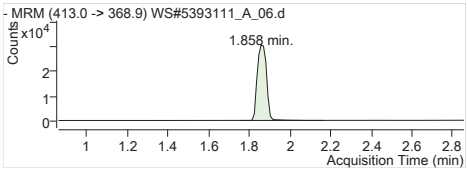


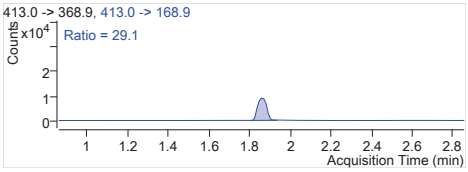
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 26.30 µg/L
Area ratio: 13.45108
Sample type: Calibration



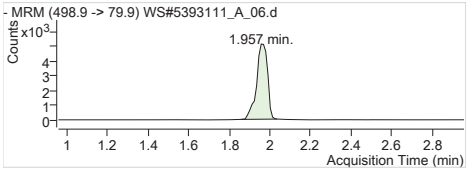


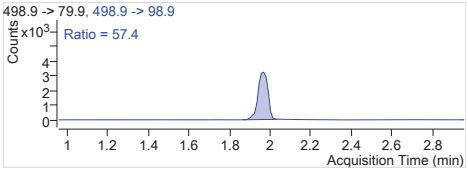
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 1.680 (1.680)
Calc. conc. 26.51 µg/L
Area ratio: 11.27500
Sample type: Calibration



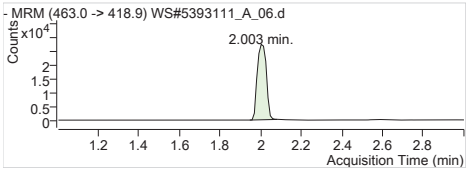


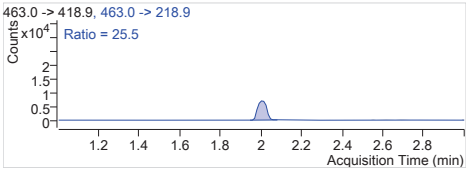
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 1.858 (1.858)
Calc. conc. 24.84 µg/L
Area ratio: 11.32357
Sample type: Calibration



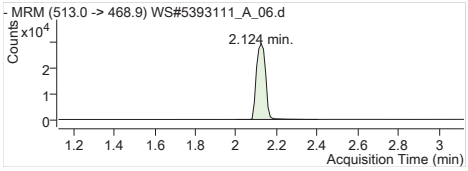


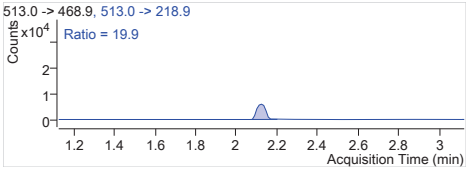
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 23.99 µg/L
Area ratio: 9.46942
Sample type: Calibration



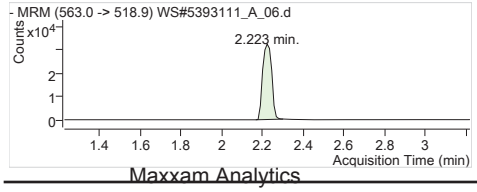


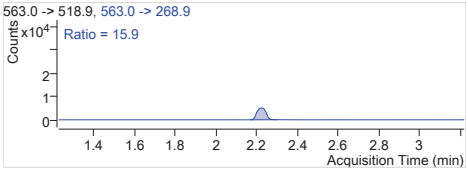
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 2.003 (2.003)
Calc. conc. 24.64 µg/L
Area ratio: 10.26325
Sample type: Calibration



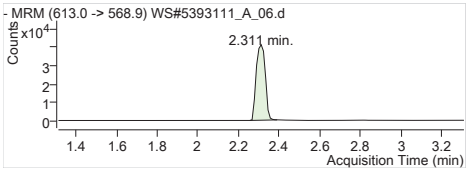


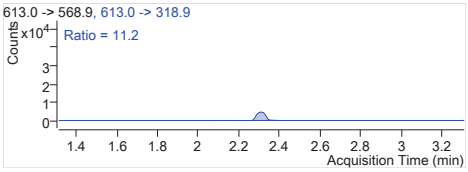
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 25.55 µg/L
Area ratio: 12.59539
Sample type: Calibration



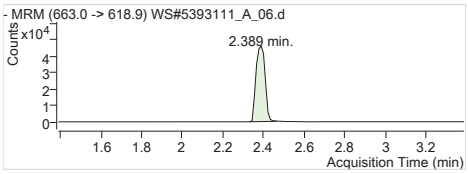


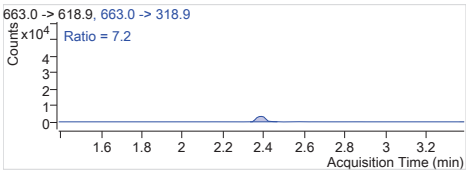
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 23.86 µg/L
Area ratio: 11.04760
Sample type: Calibration



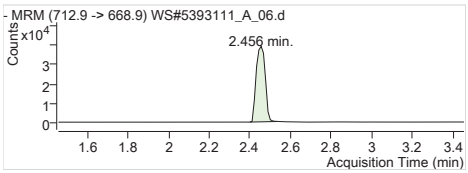


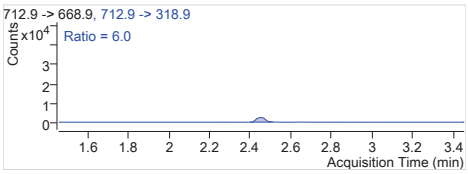
PFDoA 1 613.0 -> 568.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 24.69 µg/L
Area ratio: 11.50253
Sample type: Calibration



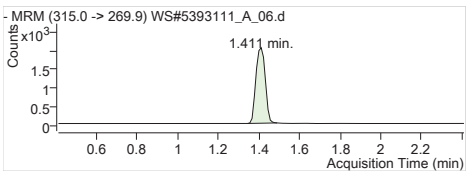


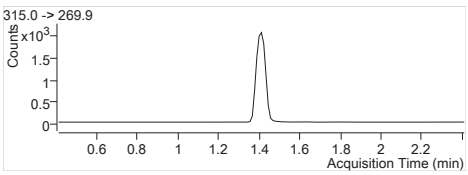
PFTrDA 1 663.0 -> 618.9
RT (Exp. RT): 2.389 (2.389)
Calc. conc. 25.65 µg/L
Area ratio: 11.52114
Sample type: Calibration



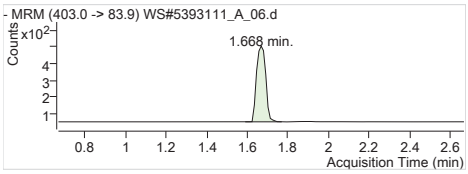


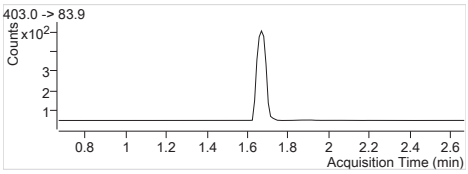
PFTeDA 1 712.9 -> 668.9
RT (Exp. RT): 2.456 (2.456)
Calc. conc. 26.78 µg/L
Area ratio: 9.83321
Sample type: Calibration



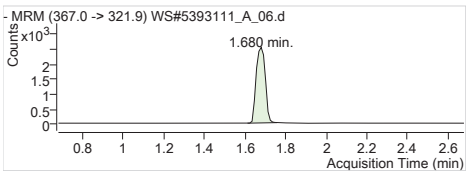


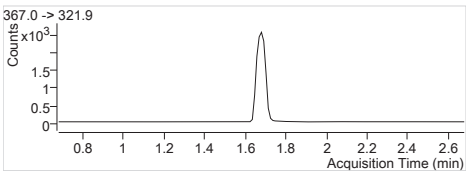
13C2-PFHxA 315.0 -> 269.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 98.79 µg/L
Area ratio: 0.27953
Sample type: Calibration



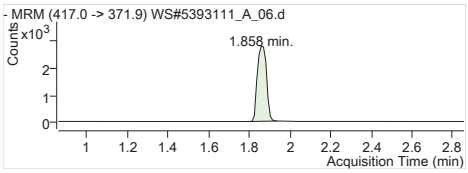


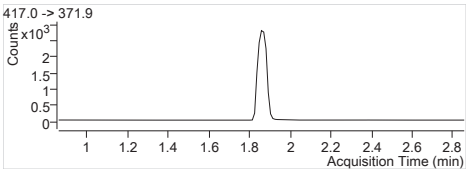
18O2-PFHxS 403.0 -> 83.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 90.14 µg/L
Area ratio: 0.06226
Sample type: Calibration



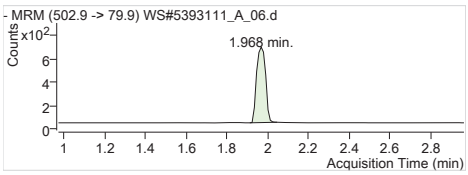


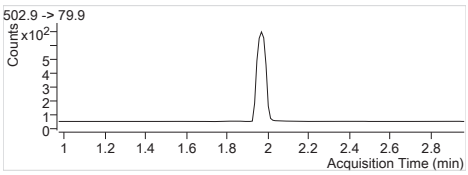
13C4-PFHpA 367.0 -> 321.9
RT (Exp. RT): 1.680 (1.680)
Calc. conc. 93.72 µg/L
Area ratio: 0.33872
Sample type: Calibration



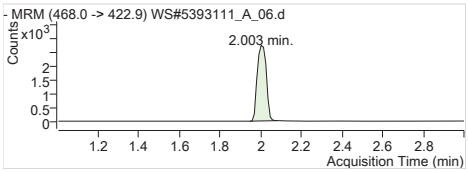


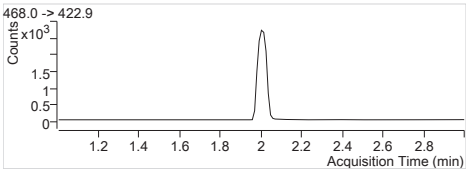
13C4-PFOA 417.0 -> 371.9
RT (Exp. RT): 1.858 (1.858)
Calc. conc. 96.89 µg/L
Area ratio: 0.37173
Sample type: Calibration



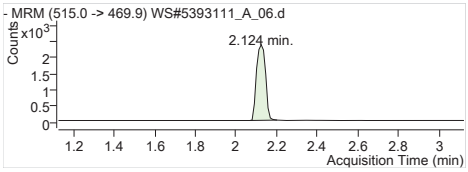


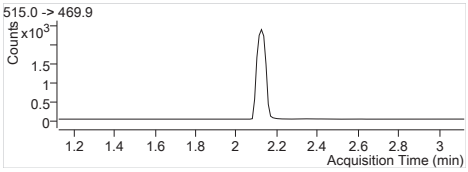
13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.968 (1.968)
Calc. conc. 103.55 µg/L
Area ratio: 0.08688
Sample type: Calibration



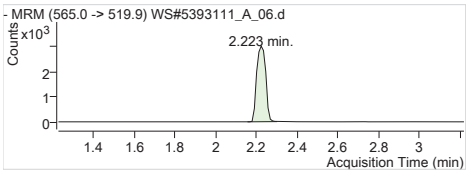


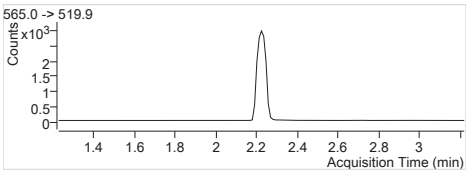
13C5-PFNA 468.0 -> 422.9
RT (Exp. RT): 2.003 (2.003)
Calc. conc. 97.61 µg/L
Area ratio: 0.36119
Sample type: Calibration



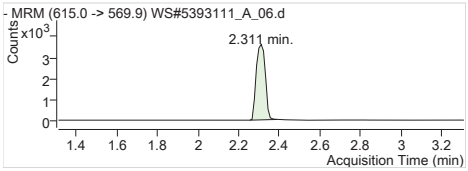


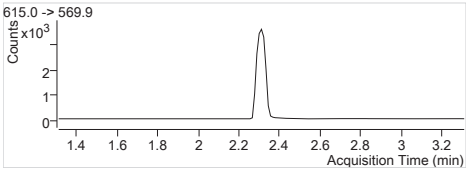
13C2-PFDA 515.0 -> 469.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 98.60 µg/L
Area ratio: 0.24411
Sample type: Calibration



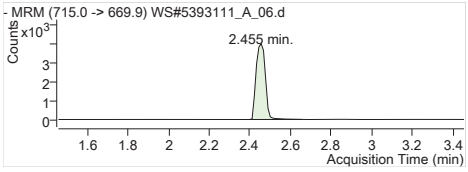


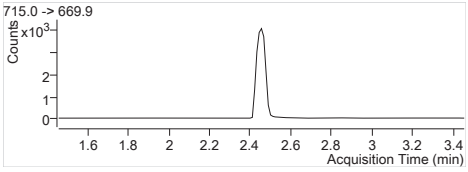
13C2-PFUnA 565.0 -> 519.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 106.23 µg/L
Area ratio: 0.30615
Sample type: Calibration



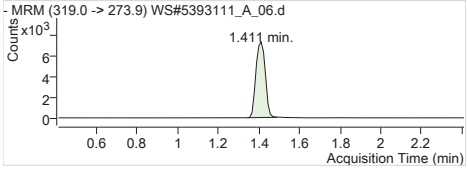


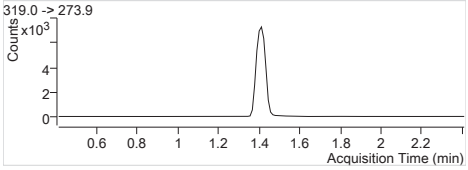
13C2-PFDoA 615.0 -> 569.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 100.03 µg/L
Area ratio: 0.37395
Sample type: Calibration



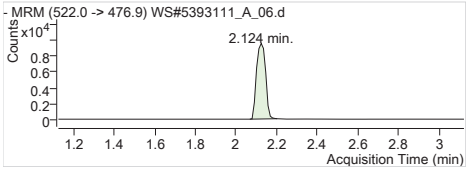


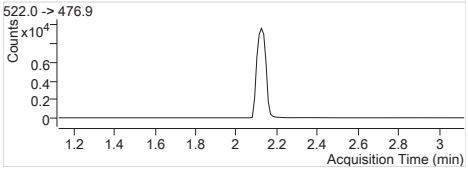
13C2-PFTeDA 715.0 -> 669.9
RT (Exp. RT): 2.455 (2.455)
Calc. conc. 99.40 µg/L
Area ratio: 0.42653
Sample type: Calibration





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 99.11 µg/L
Area ratio: 0
Sample type: Calibration





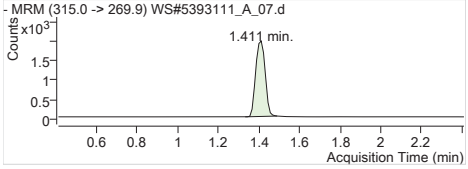
13C9-PFDA 522.0 -> 476.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 98.02 µg/L
Area ratio: 0
Sample type: Calibration

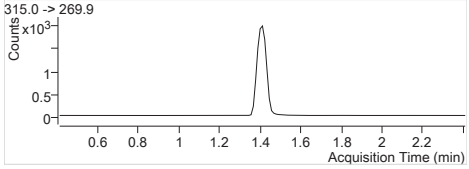
Batch Path T:\lcms4\PFC\20180212\WS#5393111_A\QuantResults\PFC_Water_Low_180213_WS#5393111_EToxics

Sample Name	**STD 6**	**Instrument**	LCMS04
Data File	WS#5393111_A_07.d	**Operator**	
Sample Type	Cal	**Dilution**	1
Acq. Method	PFC_Water_Low.m	**Position**	P2-A7
Acq. Date	2018/02/13 1:36:06 PM	**Injection Volume**	Per Method
Sample Annotation	-		

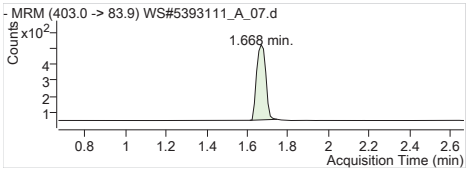
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	6301	1.41	1 µg/L		
MPFHxS	1473	1.67	1 µg/L		
MPFHpA	8069	1.68	1 µg/L		
MPFOA	8406	1.86	1 µg/L		
MPFOS	1959	1.97	1 µg/L		
MPFNA	8278	2.00	1 µg/L		
MPFDA	7565	2.12	1 µg/L		
MPFUnA	8667	2.22	1 µg/L		
MPFDoA	10632	2.31	1 µg/L		
MPFTeDA	12758	2.46	1 µg/L		
13C6-PFHxA IS	22396	1.41	1 µg/L		
13C9-PFDA IS	28323	2.12	1 µg/L		

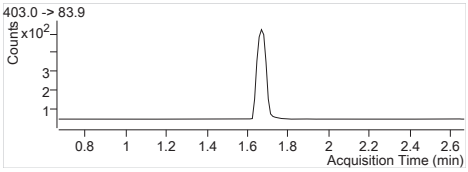
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1	32955	1.06	41.70	42.20 µg/L	101.21
PFHxA 1	121135	1.41	41.70	43.49 µg/L	104.30
PFHxS 1	31458	1.67	41.70	41.72 µg/L	100.06
PFHpA 1	140439	1.68	41.70	40.93 µg/L	98.15
PFOA 1	164903	1.86	41.70	42.95 µg/L	103.00
PFOS 1	32051	1.96	41.70	41.38 µg/L	99.23
PFNA 1	147522	2.00	41.70	42.69 µg/L	102.37
PFDA 1	156573	2.12	41.70	41.91 µg/L	100.50
PFUnA 1	170577	2.22	41.70	42.47 µg/L	101.86
PFDoA 1	210940	2.31	41.70	42.49 µg/L	101.88
PFTrDA 1	238756	2.39	41.70	41.62 µg/L	99.81
PFTeDA 1	188733	2.46	41.70	40.26 µg/L	96.56
13C2-PFHxA	6301	1.41	100.00	99.43 µg/L	99.43
18O2-PFHxS	1473	1.67	100.00	95.22 µg/L	95.22
13C4-PFHpA	8069	1.68	100.00	99.69 µg/L	99.69
13C4-PFOA	8406	1.86	100.00	97.83 µg/L	97.83
13C4-PFOS	1959	1.97	100.00	104.25 µg/L	104.25
13C5-PFNA	8277	2.00	100.00	99.87 µg/L	99.87
13C2-PFDA	7498	2.12	100.00	106.93 µg/L	106.93
13C2-PFUnA	8667	2.22	100.00	106.18 µg/L	106.18
13C2-PFDoA	10632	2.31	100.00	100.41 µg/L	100.41
13C2-PFTeDA	12930	2.46	100.00	106.38 µg/L	106.38
13C6-PFHxA	22396	1.41	100.00	95.90 µg/L	95.90
13C9-PFDA	28323	2.12	100.00	93.65 µg/L	93.65



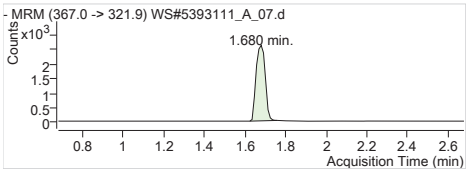


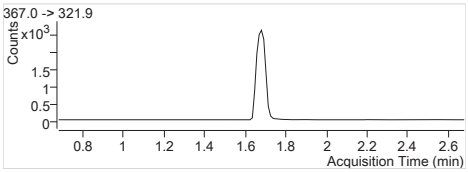
MPFHxA Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: Calibration



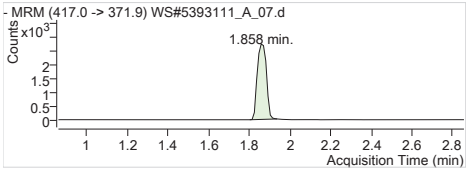


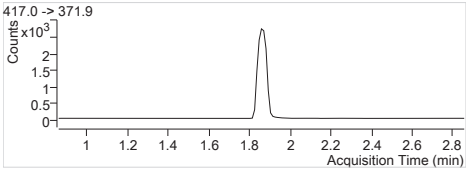
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Calibration



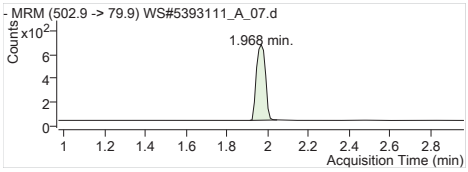


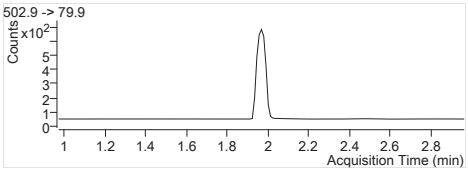
MPFHpA Internal Standard
RT (Exp. RT): 1.680 (1.680)
Concentration: 1 µg/L
Sample type: Calibration



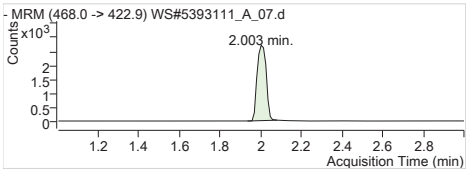


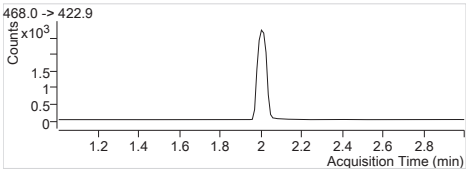
MPFOA Internal Standard
RT (Exp. RT): 1.858 (1.858)
Concentration: 1 µg/L
Sample type: Calibration



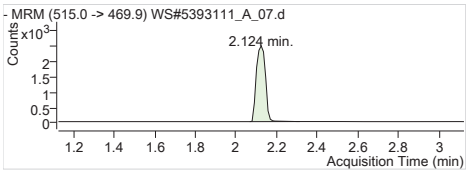


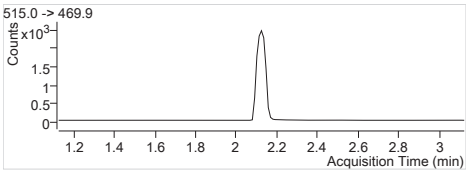
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Calibration



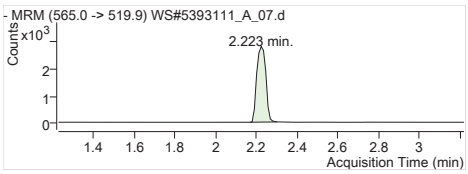


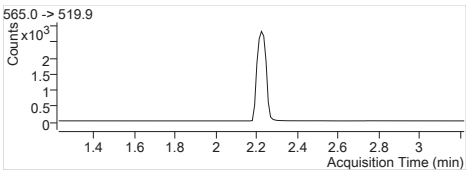
MPFNA Internal Standard
RT (Exp. RT): 2.003 (2.003)
Concentration: 1 µg/L
Sample type: Calibration



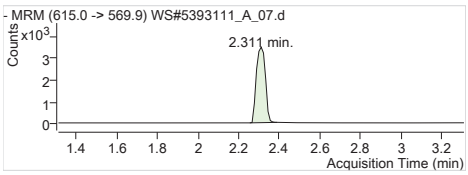


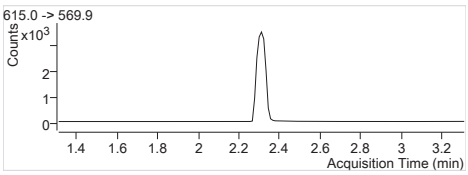
MPFDA Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Calibration



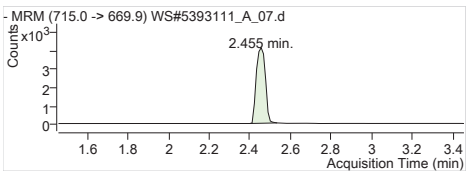


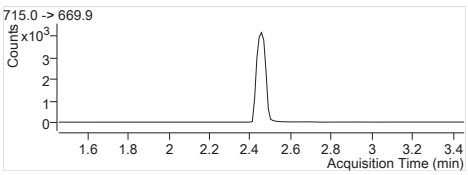
MPFUnA Internal Standard
RT (Exp. RT): 2.223 (2.223)
Concentration: 1 µg/L
Sample type: Calibration



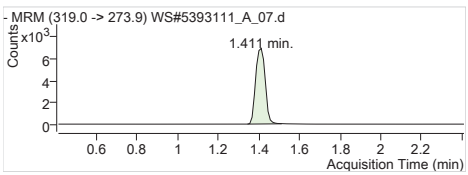


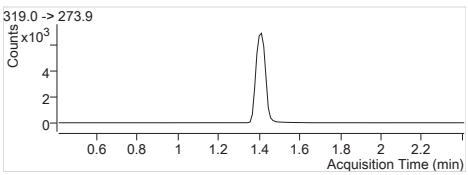
MPFDoA Internal Standard
RT (Exp. RT): 2.311 (2.311)
Concentration: 1 µg/L
Sample type: Calibration



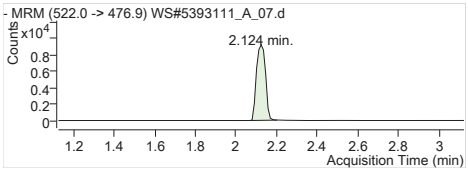


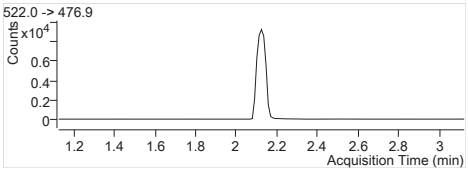
MPFTeDA Internal Standard
RT (Exp. RT): 2.455 (2.455)
Concentration: 1 µg/L
Sample type: Calibration



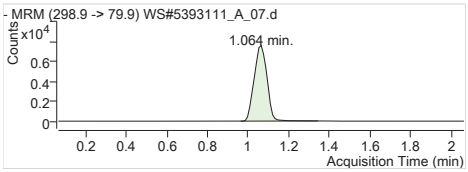


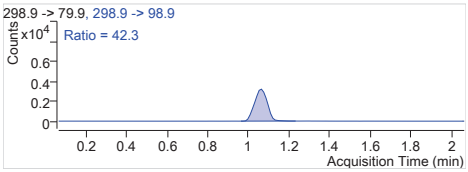
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: Calibration



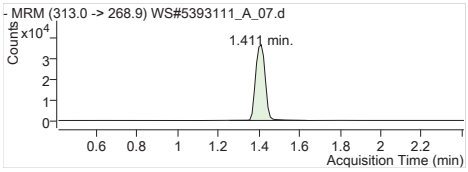


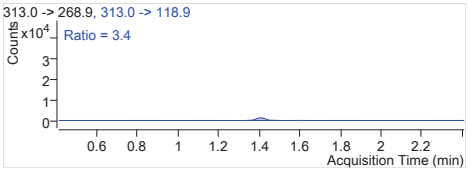
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Calibration



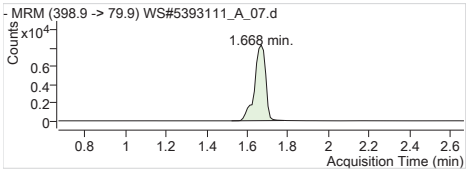


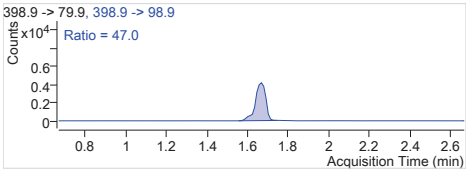
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 1.064 (1.064)
Calc. conc. 42.20 µg/L
Area ratio: 22.37271
Sample type: Calibration



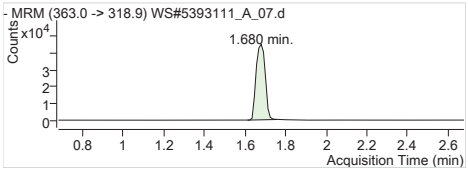


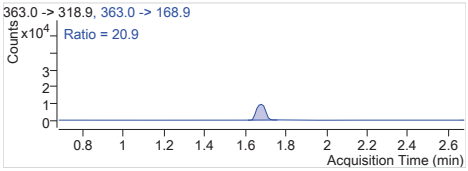
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 43.49 µg/L
Area ratio: 19.22473
Sample type: Calibration



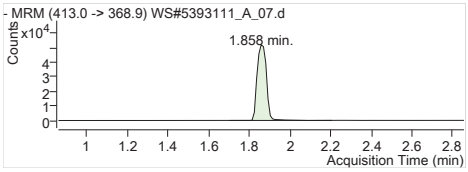


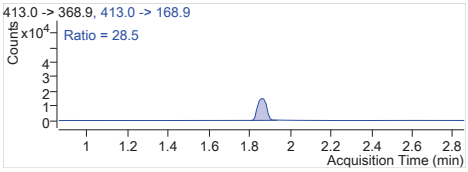
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 41.72 µg/L
Area ratio: 21.35642
Sample type: Calibration



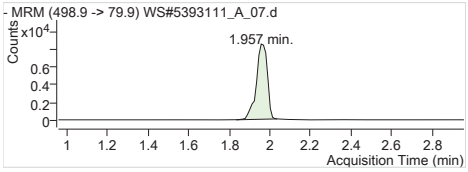


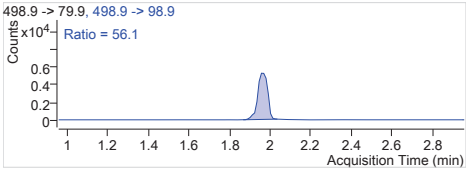
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 1.680 (1.680)
Calc. conc. 40.93 µg/L
Area ratio: 17.40476
Sample type: Calibration



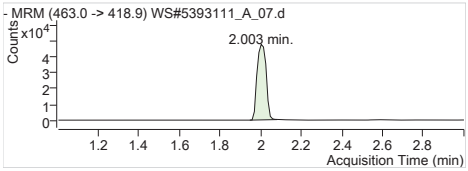


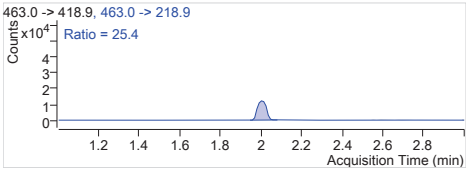
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 1.858 (1.858)
Calc. conc. 42.95 µg/L
Area ratio: 19.61730
Sample type: Calibration



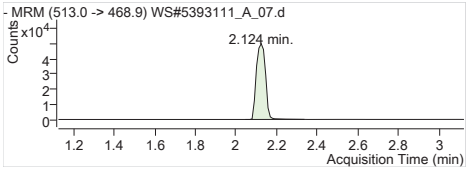


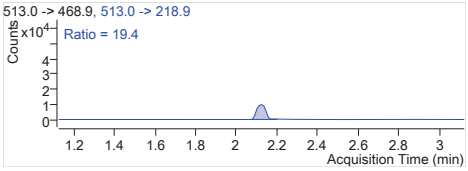
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 41.38 µg/L
Area ratio: 16.36090
Sample type: Calibration



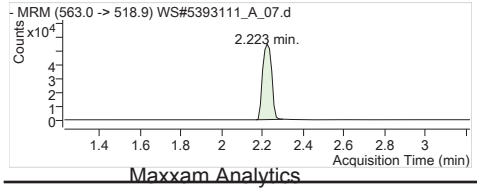


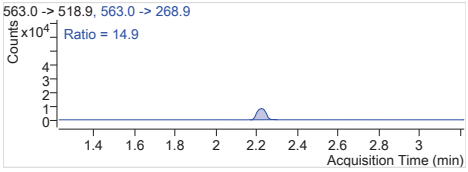
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 2.003 (2.003)
Calc. conc. 42.69 µg/L
Area ratio: 17.82097
Sample type: Calibration



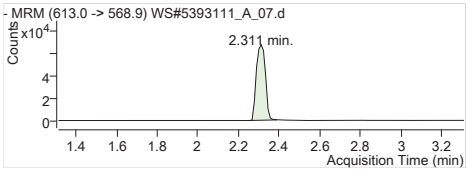


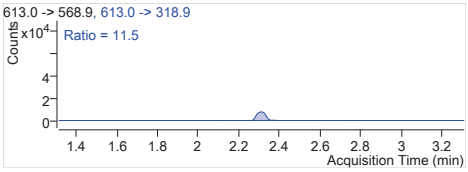
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 41.91 µg/L
Area ratio: 20.69703
Sample type: Calibration



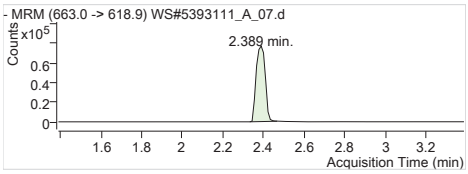


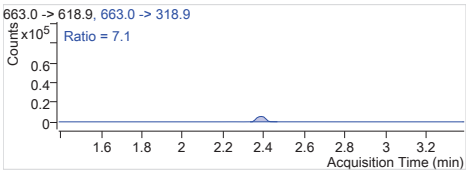
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 42.47 µg/L
Area ratio: 19.68120
Sample type: Calibration



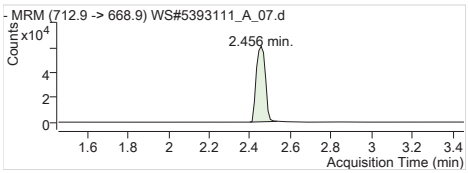


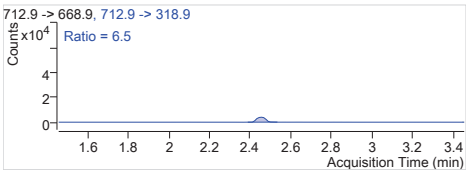
PFDoA 1	613.0 -> 568.9
RT (Exp. RT):	2.311 (2.311)
Calc. conc.	42.49 µg/L
Area ratio:	19.84011
Sample type:	Calibration



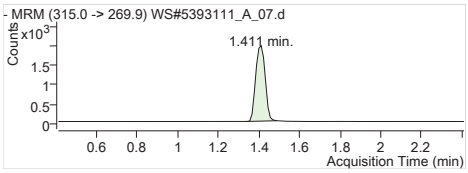


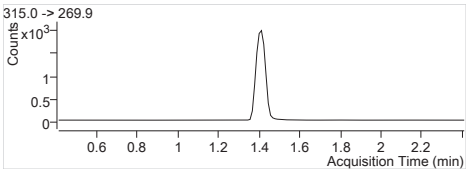
PFTrDA 1	663.0 -> 618.9
RT (Exp. RT):	2.389 (2.389)
Calc. conc.	41.62 µg/L
Area ratio:	18.71422
Sample type:	Calibration



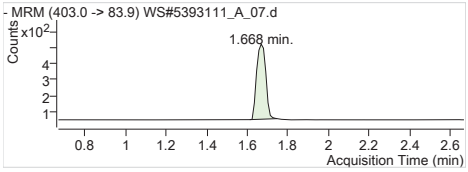


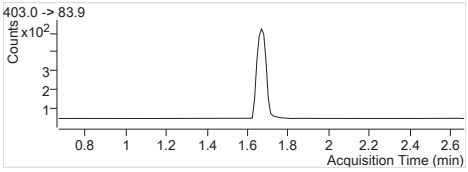
PFTeDA 1	712.9 -> 668.9
RT (Exp. RT):	2.456 (2.456)
Calc. conc.	40.26 µg/L
Area ratio:	14.79331
Sample type:	Calibration



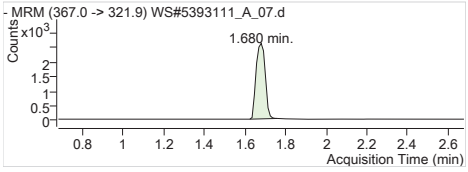


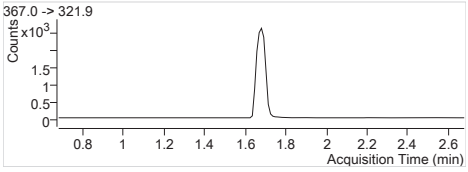
13C2-PFHxA	315.0 -> 269.9
RT (Exp. RT):	1.411 (1.411)
Calc. conc.	99.43 µg/L
Area ratio:	0.28134
Sample type:	Calibration



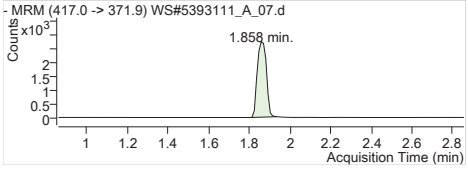


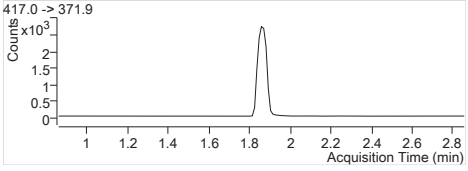
18O2-PFHxS	403.0 -> 83.9
RT (Exp. RT):	1.668 (1.668)
Calc. conc.	95.22 µg/L
Area ratio:	0.06577
Sample type:	Calibration



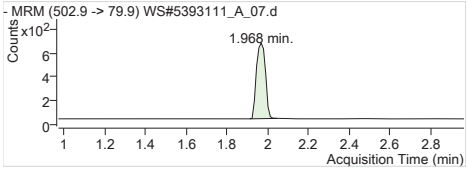


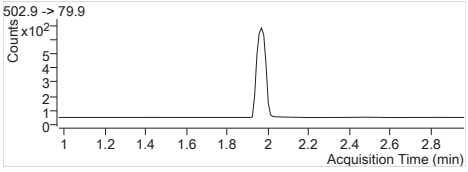
13C4-PFHpA	367.0 -> 321.9
RT (Exp. RT):	1.680 (1.680)
Calc. conc.	99.69 µg/L
Area ratio:	0.36029
Sample type:	Calibration



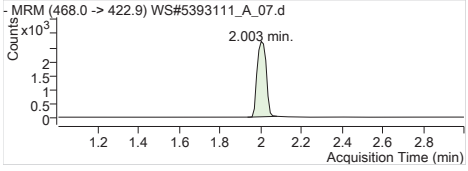


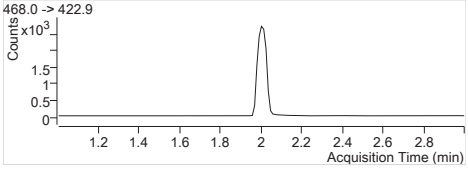
13C4-PFOA	417.0 -> 371.9
RT (Exp. RT):	1.858 (1.858)
Calc. conc.	97.83 µg/L
Area ratio:	0.37533
Sample type:	Calibration



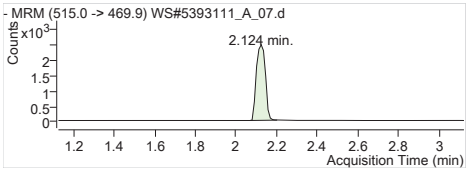


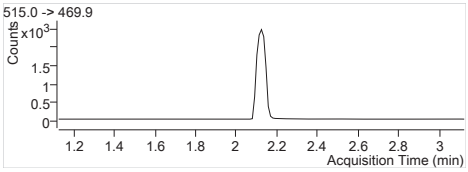
13C4-PFOS	502.9 -> 79.9
RT (Exp. RT):	1.968 (1.968)
Calc. conc.	104.25 µg/L
Area ratio:	0.08747
Sample type:	Calibration



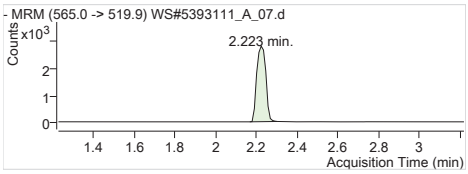


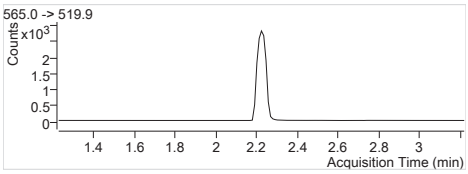
13C5-PFNA	468.0 -> 422.9
RT (Exp. RT):	2.003 (2.003)
Calc. conc.	99.87 µg/L
Area ratio:	0.36957
Sample type:	Calibration



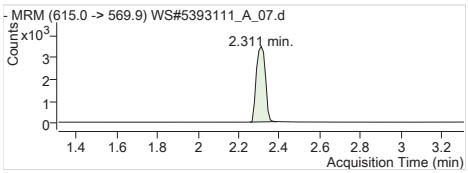


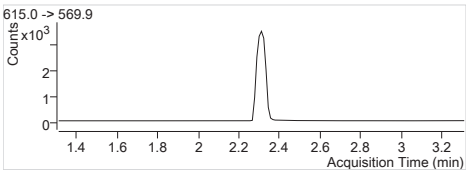
13C2-PFDA 515.0 -> 469.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 106.93 µg/L
Area ratio: 0.26473
Sample type: Calibration



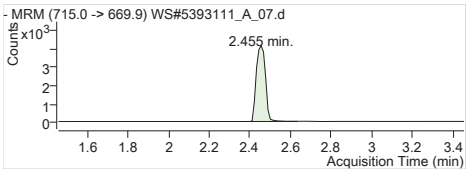


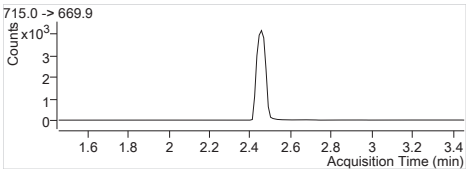
13C2-PFUnA 565.0 -> 519.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 106.18 µg/L
Area ratio: 0.30601
Sample type: Calibration



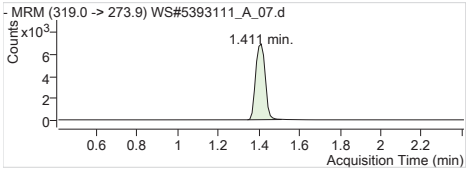


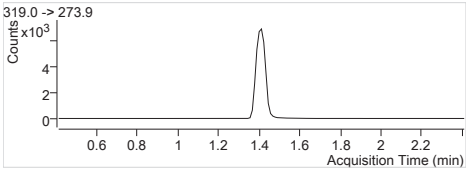
13C2-PFDoA 615.0 -> 569.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 100.41 µg/L
Area ratio: 0.37538
Sample type: Calibration



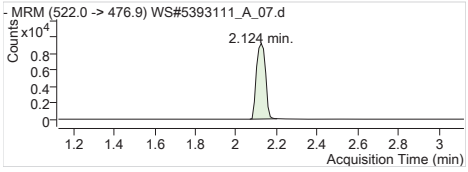


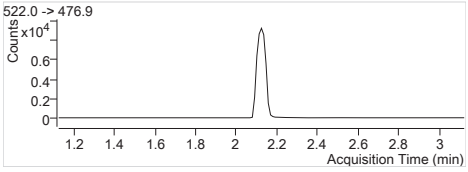
13C2-PFTeDA 715.0 -> 669.9
RT (Exp. RT): 2.455 (2.455)
Calc. conc. 106.38 µg/L
Area ratio: 0.45652
Sample type: Calibration





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 95.90 µg/L
Area ratio: 0
Sample type: Calibration





13C9-PFDA 522.0 -> 476.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 93.65 µg/L
Area ratio: 0
Sample type: Calibration

Quantitation Results

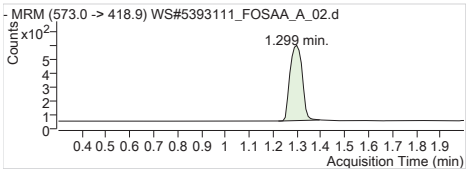
Agilent Technologies

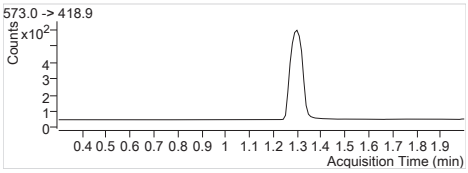
Batch Path	T:\lcms4\PFC\20180212\WS#5393111_FOSAA_A\QuantResults\PFC_Water_Low_180212_WS#5393111_FOSAA_A_EToxics

Sample Name	**STD 1**	**Instrument**	LCMS04
Data File	WS#5393111_FOSAA_A_02.d	**Operator**	
Sample Type	Cal	**Dilution**	1
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P2-A2
Acq. Date	2018/02/13 11:29:26 AM	**Injection Volume**	Per Method
Sample Annotation	-		

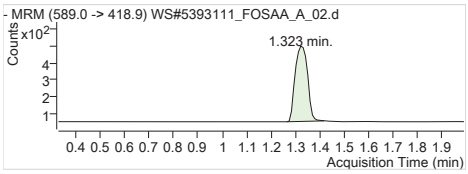
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1936	1.30	1 µg/L		
D5-EtFOSAA IS	1603	1.32	1 µg/L		
13C9-PFDA IS	27159	0.87	1 µg/L		

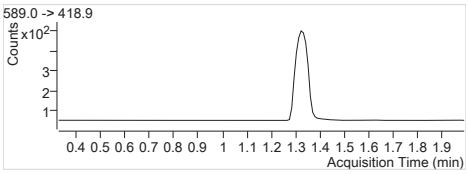
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1	624	1.30	0.83	0.84 µg/L	101.04
EtFOSAA 1	627	1.32	0.83	0.87 µg/L	104.90
D3-MeFOSAA	1969	1.30	100.00	96.68 µg/L	96.68
D5-EtFOSAA	1633	1.32	100.00	93.57 µg/L	93.57
13C9-PFDA	26376	0.87	100.00	103.38 µg/L	103.38



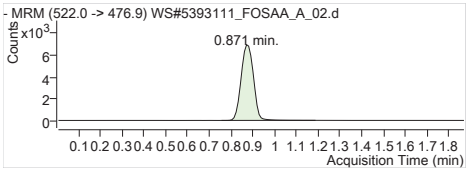


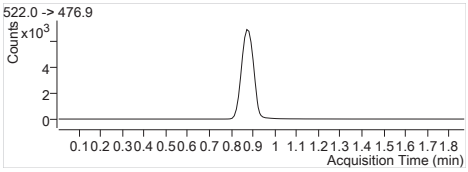
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.299 (1.299)
Concentration: 1 µg/L
Sample type: Calibration



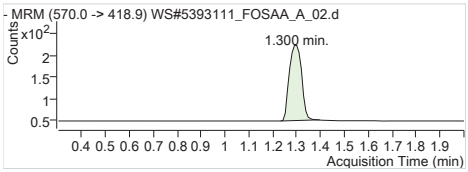


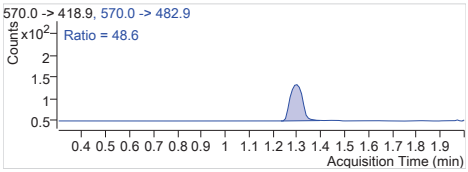
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.323 (1.323)
Concentration: 1 µg/L
Sample type: Calibration



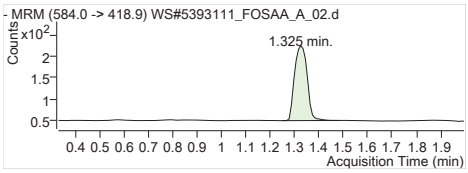


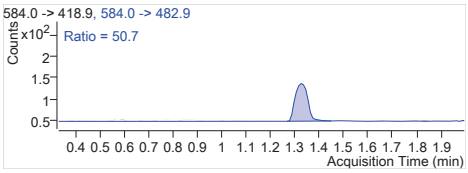
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.871 (0.871)
Concentration: 1 µg/L
Sample type: Calibration



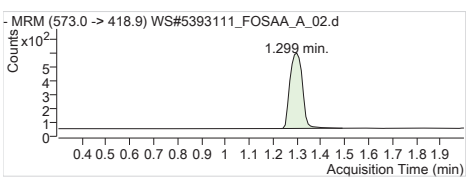


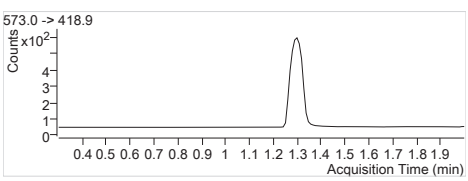
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 1.300 (1.300)
Calc. conc. 0.84 µg/L
Area ratio: 0.32231
Sample type: Calibration



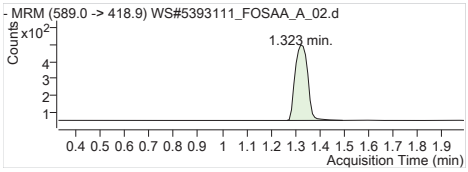


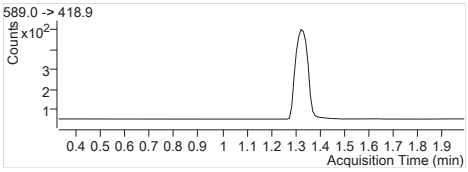
EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 1.325 (1.325)
Calc. conc. 0.87 µg/L
Area ratio: 0.39114
Sample type: Calibration



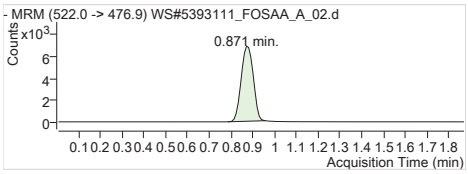


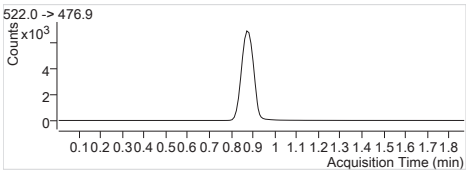
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.299 (1.299)
Calc. conc. 96.68 µg/L
Area ratio: 0.07250
Sample type: Calibration





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.323 (1.323)
Calc. conc.	93.57 µg/L
Area ratio:	0.06013
Sample type:	Calibration





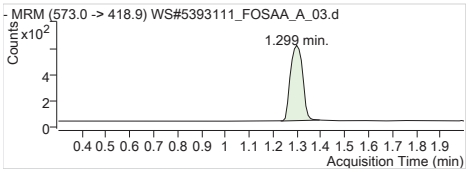
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.871 (0.871)
Calc. conc.	103.38 µg/L
Area ratio:	0
Sample type:	Calibration

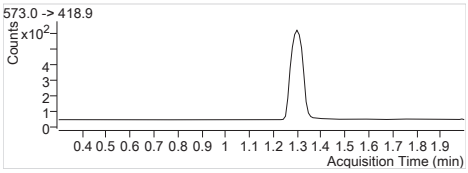
Batch Path	T:\lcms4\PFC\20180212\WS#5393111_FOSAA_A\QuantResults\PFC_Water_Low_180212_WS#5393111_FOSAA_A_EToxics

Sample Name	**STD 2**	**Instrument**	LCMS04
Data File	WS#5393111_FOSAA_A_03.d	**Operator**	
Sample Type	Cal	**Dilution**	1
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P2-A3
Acq. Date	2018/02/13 11:31:51 AM	**Injection Volume**	Per Method
Sample Annotation	-		

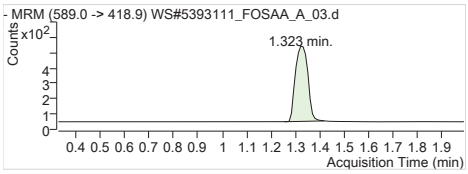
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	2025	1.30	1 µg/L		
D5-EtFOSAA IS	1768	1.32	1 µg/L		
13C9-PFDA IS	26366	0.87	1 µg/L		

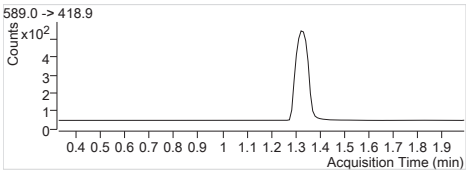
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1	1301	1.30	1.70	1.66 µg/L	97.76
EtFOSAA 1	1241	1.32	1.70	1.56 µg/L	91.49
D3-MeFOSAA	2060	1.30	100.00	104.19 µg/L	104.19
D5-EtFOSAA	1791	1.32	100.00	105.71 µg/L	105.71
13C9-PFDA	25555	0.87	100.00	100.16 µg/L	100.16



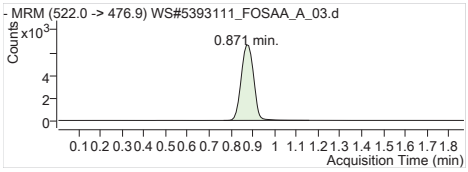


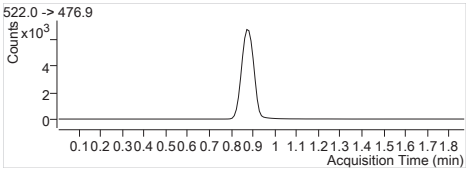
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.299 (1.299)
Concentration: 1 µg/L
Sample type: Calibration



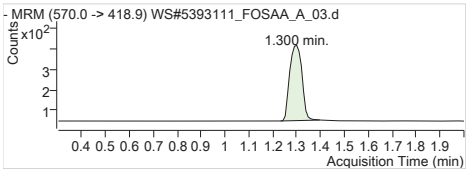


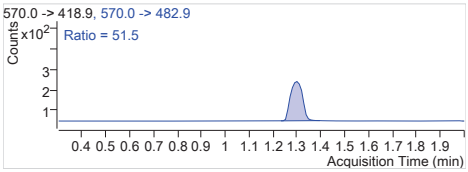
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.323 (1.323)
Concentration: 1 µg/L
Sample type: Calibration



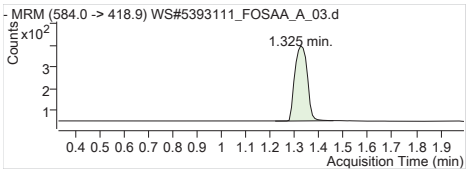


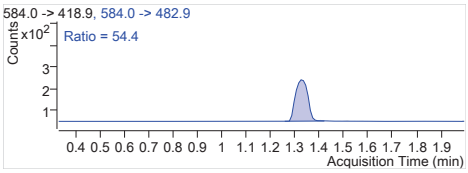
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.871 (0.871)
Concentration: 1 µg/L
Sample type: Calibration



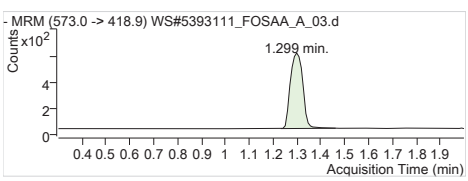


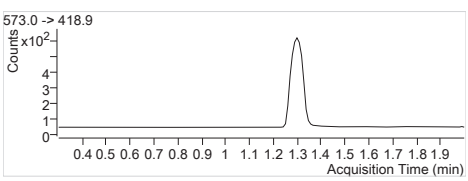
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 1.300 (1.300)
Calc. conc. 1.66 µg/L
Area ratio: 0.64247
Sample type: Calibration



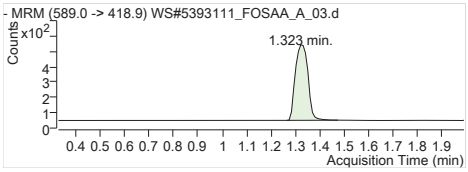


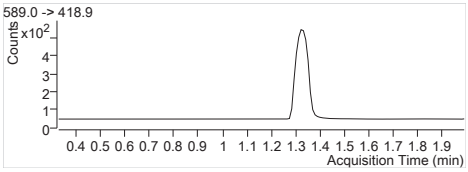
EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 1.325 (1.325)
Calc. conc. 1.56 µg/L
Area ratio: 0.70192
Sample type: Calibration



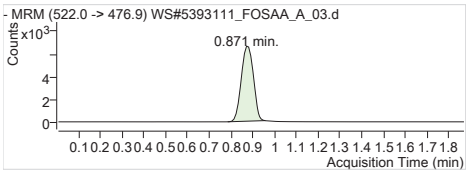


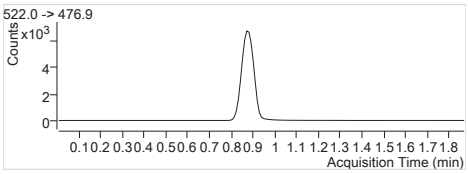
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.299 (1.299)
Calc. conc. 104.19 µg/L
Area ratio: 0.07813
Sample type: Calibration





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.323 (1.323)
Calc. conc.	105.71 µg/L
Area ratio:	0.06793
Sample type:	Calibration





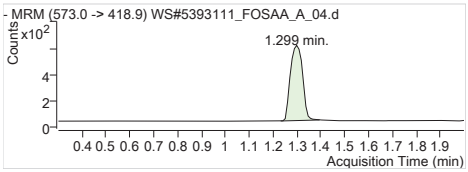
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.871 (0.871)
Calc. conc.	100.16 µg/L
Area ratio:	0
Sample type:	Calibration

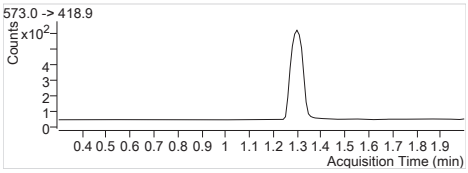
Batch Path	T:\lcms4\PFC\20180212\WS#5393111_FOSAA_A\QuantResults\PFC_Water_Low_180212_WS#5393111_FOSAA_A_EToxics

Sample Name	**STD 3**	**Instrument**	LCMS04
Data File	WS#5393111_FOSAA_A_04.d	**Operator**	
Sample Type	Cal	**Dilution**	1
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P2-A4
Acq. Date	2018/02/13 11:34:16 AM	**Injection Volume**	Per Method
Sample Annotation	-		

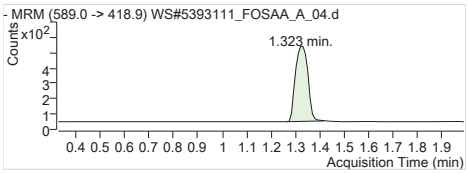
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	2018	1.30	1 µg/L		
D5-EtFOSAA IS	1760	1.32	1 µg/L		
13C9-PFDA IS	26149	0.87	1 µg/L		

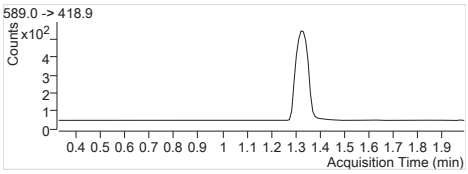
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1	3918	1.30	5.00	5.00 µg/L	100.05
EtFOSAA 1	3779	1.32	5.00	4.74 µg/L	94.78
D3-MeFOSAA	2051	1.30	100.00	104.60 µg/L	104.60
D5-EtFOSAA	1790	1.32	100.00	106.53 µg/L	106.53
13C9-PFDA	25326	0.87	100.00	99.27 µg/L	99.27



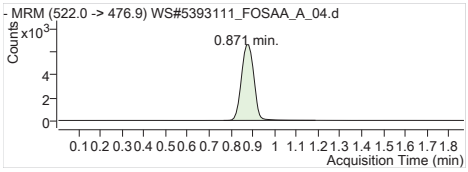


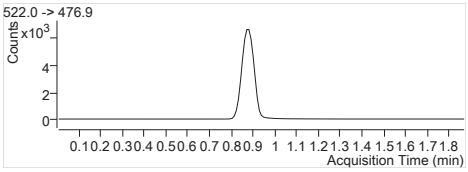
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.299 (1.299)
Concentration: 1 µg/L
Sample type: Calibration



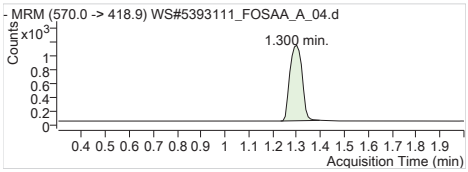


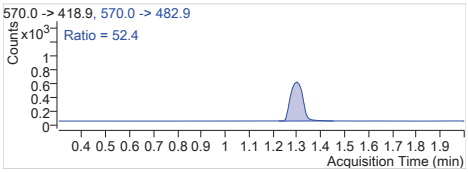
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.323 (1.323)
Concentration: 1 µg/L
Sample type: Calibration



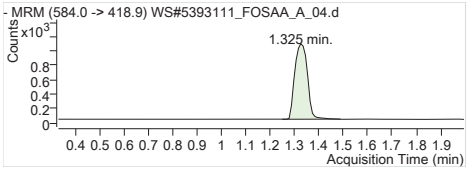


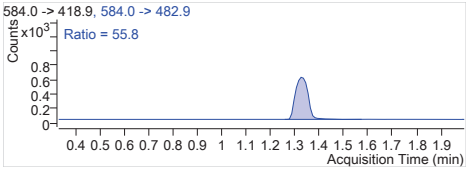
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.871 (0.871)
Concentration: 1 µg/L
Sample type: Calibration



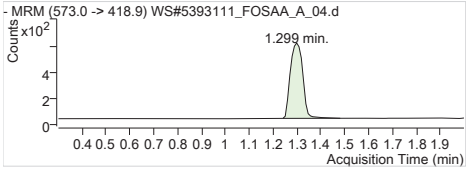


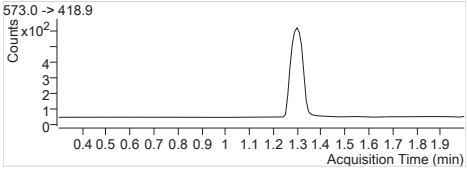
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 1.300 (1.300)
Calc. conc. 5.00 µg/L
Area ratio: 1.94153
Sample type: Calibration



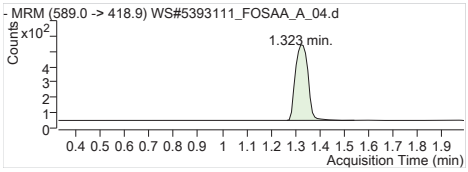


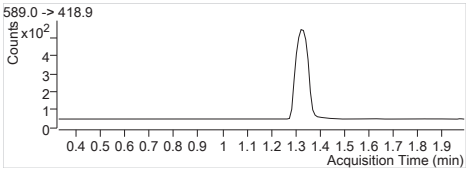
EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 1.325 (1.325)
Calc. conc. 4.74 µg/L
Area ratio: 2.14716
Sample type: Calibration



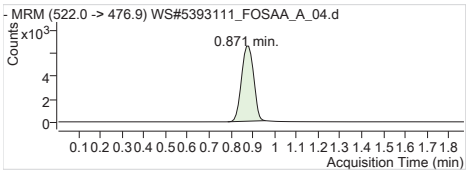


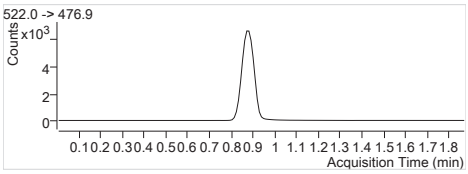
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.299 (1.299)
Calc. conc. 104.60 µg/L
Area ratio: 0.07844
Sample type: Calibration





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.323 (1.323)
Calc. conc.	106.53 µg/L
Area ratio:	0.06845
Sample type:	Calibration





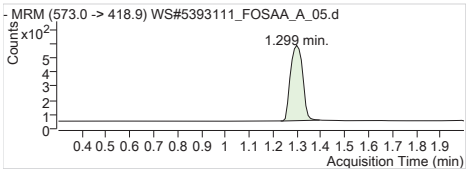
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.871 (0.871)
Calc. conc.	99.27 µg/L
Area ratio:	0
Sample type:	Calibration

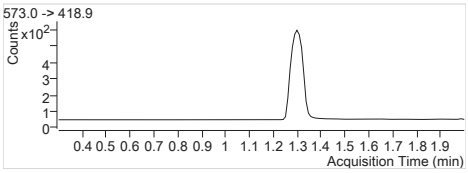
Batch Path	T:\lcms4\PFC\20180212\WS#5393111_FOSAA_A\QuantResults\PFC_Water_Low_180212_WS#5393111_FOSAA_A_EToxics

Sample Name	**STD 4**	**Instrument**	LCMS04
Data File	WS#5393111_FOSAA_A_05.d	**Operator**	
Sample Type	Cal	**Dilution**	1
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P2-A5
Acq. Date	2018/02/13 11:36:41 AM	**Injection Volume**	Per Method
Sample Annotation	-		

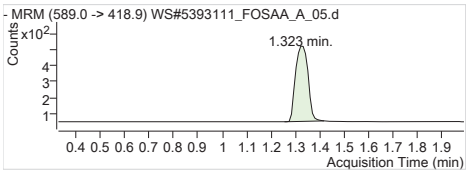
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1929	1.30	1 µg/L		
D5-EtFOSAA IS	1694	1.32	1 µg/L		
13C9-PFDA IS	27486	0.87	1 µg/L		

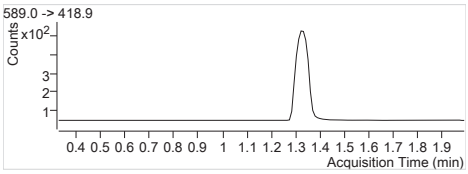
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1	9346	1.30	12.50	12.47 µg/L	99.75
EtFOSAA 1	9377	1.32	12.50	12.20 µg/L	97.63
D3-MeFOSAA	1967	1.30	100.00	95.43 µg/L	95.43
D5-EtFOSAA	1721	1.32	100.00	97.44 µg/L	97.44
13C9-PFDA	26617	0.87	100.00	104.33 µg/L	104.33



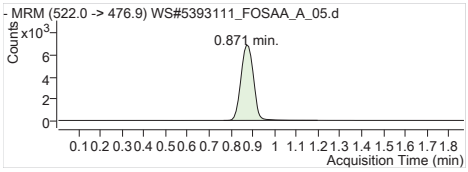


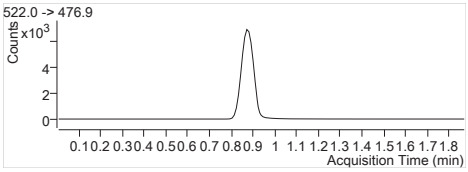
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.299 (1.299)
Concentration: 1 µg/L
Sample type: Calibration



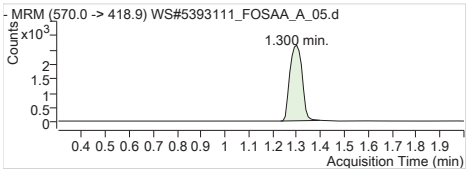


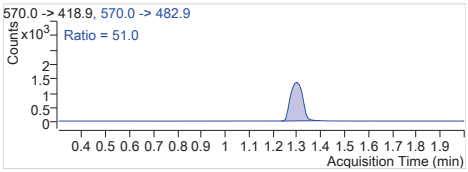
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.323 (1.323)
Concentration: 1 µg/L
Sample type: Calibration



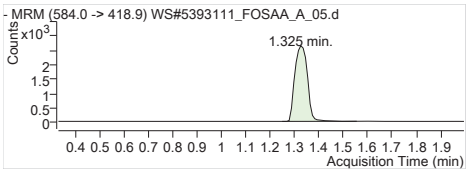


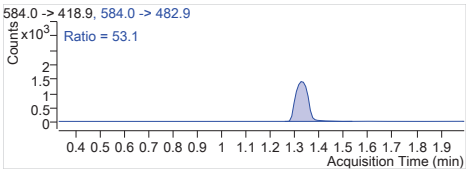
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.871 (0.871)
Concentration: 1 µg/L
Sample type: Calibration



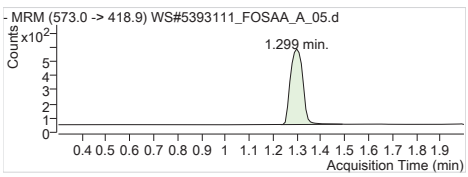


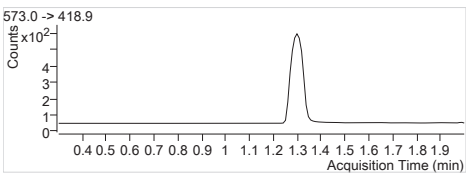
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 1.300 (1.300)
Calc. conc. 12.47 µg/L
Area ratio: 4.84500
Sample type: Calibration



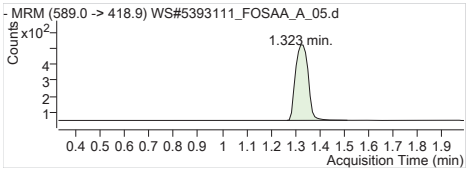


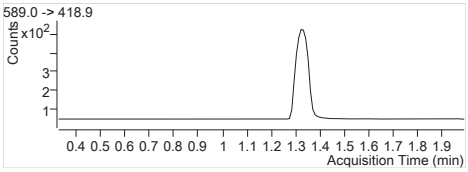
EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 1.325 (1.325)
Calc. conc. 12.20 µg/L
Area ratio: 5.53542
Sample type: Calibration



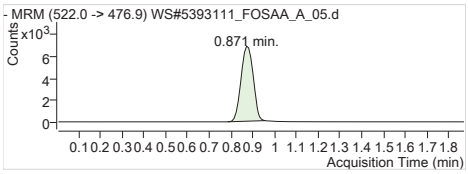


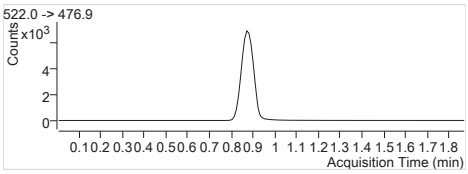
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.299 (1.299)
Calc. conc. 95.43 µg/L
Area ratio: 0.07156
Sample type: Calibration





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.323 (1.323)
Calc. conc.	97.44 µg/L
Area ratio:	0.06261
Sample type:	Calibration





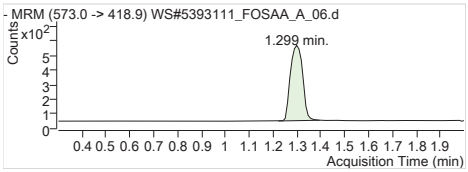
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.871 (0.871)
Calc. conc.	104.33 µg/L
Area ratio:	0
Sample type:	Calibration

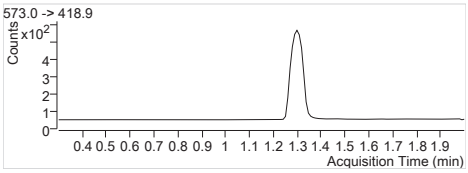
Batch Path	T:\lcms4\PFC\20180212\WS#5393111_FOSAA_A\QuantResults\PFC_Water_Low_180212_WS#5393111_FOSAA_A_EToxics

Sample Name	**STD 5**	**Instrument**	LCMS04
Data File	WS#5393111_FOSAA_A_06.d	**Operator**	
Sample Type	Cal	**Dilution**	1
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P2-A6
Acq. Date	2018/02/13 11:39:06 AM	**Injection Volume**	Per Method
Sample Annotation	-		

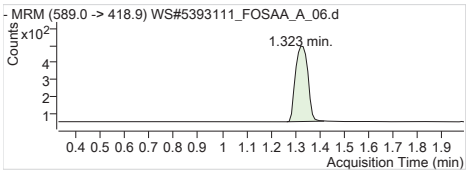
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1849	1.30	1 µg/L		
D5-EtFOSAA IS	1596	1.32	1 µg/L		
13C9-PFDA IS	25687	0.87	1 µg/L		

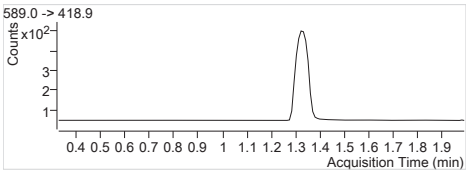
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1	18424	1.30	25.00	25.63 µg/L	102.53
EtFOSAA 1	18917	1.32	25.00	26.12 µg/L	104.48
D3-MeFOSAA	1855	1.30	100.00	96.30 µg/L	96.30
D5-EtFOSAA	1611	1.32	100.00	97.60 µg/L	97.60
13C9-PFDA	25168	0.87	100.00	98.65 µg/L	98.65



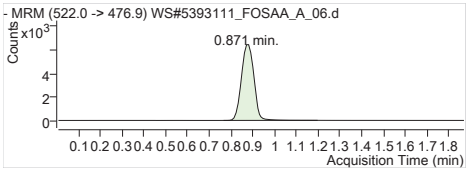


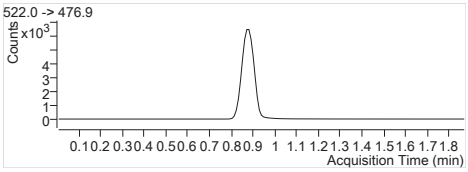
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.299 (1.299)
Concentration: 1 µg/L
Sample type: Calibration



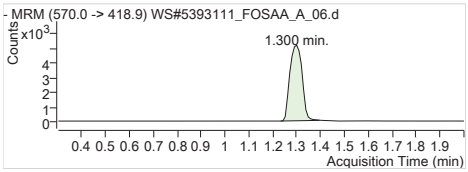


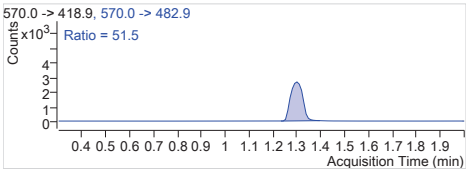
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.323 (1.323)
Concentration: 1 µg/L
Sample type: Calibration



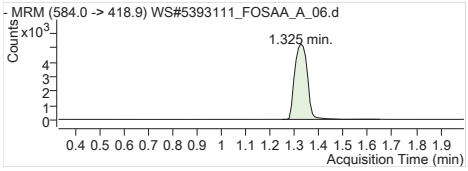


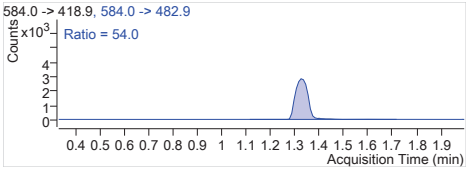
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.871 (0.871)
Concentration: 1 µg/L
Sample type: Calibration



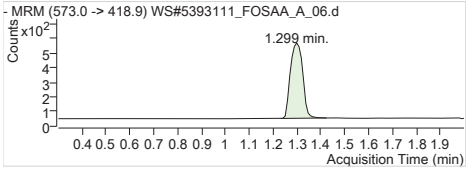


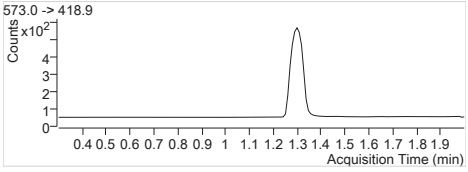
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 1.300 (1.300)
Calc. conc. 25.63 µg/L
Area ratio: 9.96431
Sample type: Calibration



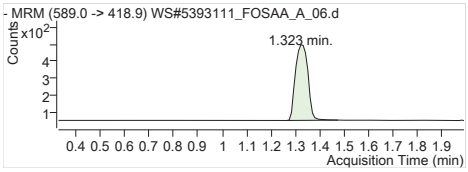


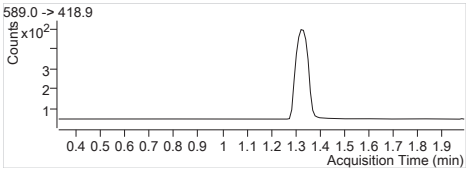
EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 1.325 (1.325)
Calc. conc. 26.12 µg/L
Area ratio: 11.85276
Sample type: Calibration



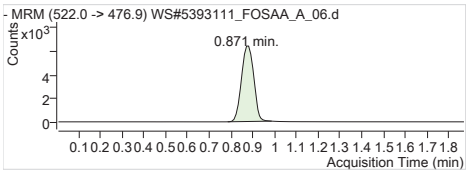


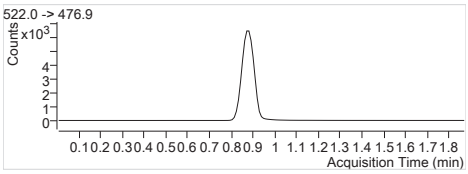
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.299 (1.299)
Calc. conc. 96.30 µg/L
Area ratio: 0.07222
Sample type: Calibration





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.323 (1.323)
Calc. conc.	97.60 µg/L
Area ratio:	0.06272
Sample type:	Calibration





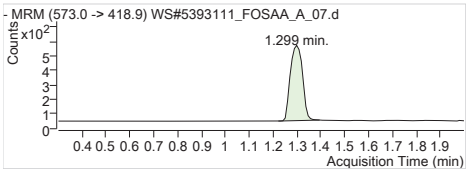
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.871 (0.871)
Calc. conc.	98.65 µg/L
Area ratio:	0
Sample type:	Calibration

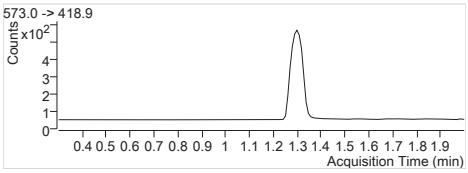
Batch Path	T:\lcms4\PFC\20180212\WS#5393111_FOSAA_A\QuantResults\PFC_Water_Low_180212_WS#5393111_FOSAA_A_EToxics

Sample Name	**STD 6**	**Instrument**	LCMS04
Data File	WS#5393111_FOSAA_A_07.d	**Operator**	
Sample Type	Cal	**Dilution**	1
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P2-A7
Acq. Date	2018/02/13 11:41:31 AM	**Injection Volume**	Per Method
Sample Annotation	-		

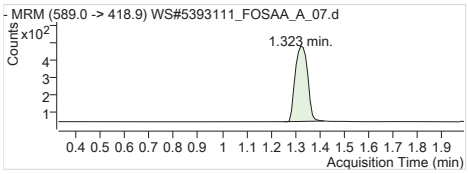
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1846	1.30	1 µg/L		
D5-EtFOSAA IS	1542	1.32	1 µg/L		
13C9-PFDA IS	24440	0.87	1 µg/L		

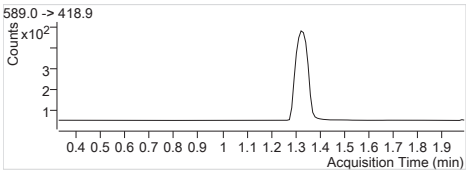
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1	29587	1.30	41.70	41.23 µg/L	98.86
EtFOSAA 1	31142	1.32	41.70	44.50 µg/L	106.72
D3-MeFOSAA	1884	1.30	100.00	102.80 µg/L	102.80
D5-EtFOSAA	1557	1.32	100.00	99.14 µg/L	99.14
13C9-PFDA	24038	0.87	100.00	94.22 µg/L	94.22



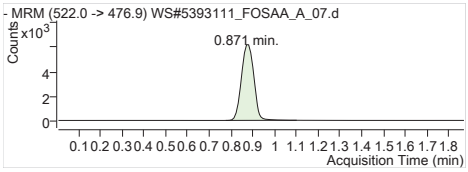


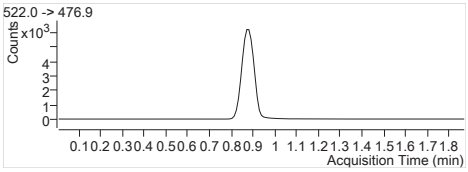
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.299 (1.299)
Concentration: 1 µg/L
Sample type: Calibration



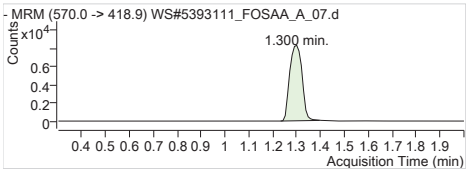


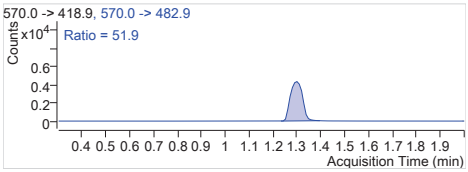
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.323 (1.323)
Concentration: 1 µg/L
Sample type: Calibration



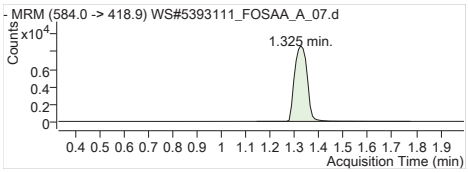


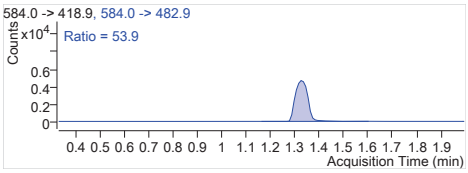
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.871 (0.871)
Concentration: 1 µg/L
Sample type: Calibration



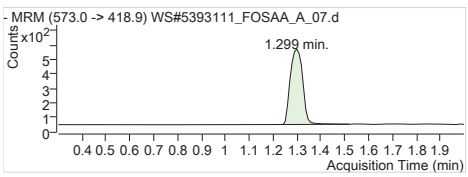


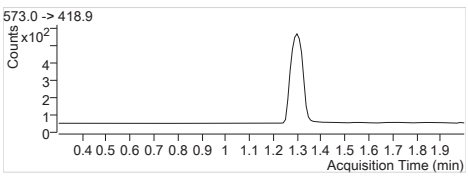
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 1.300 (1.300)
Calc. conc. 41.23 µg/L
Area ratio: 16.02763
Sample type: Calibration



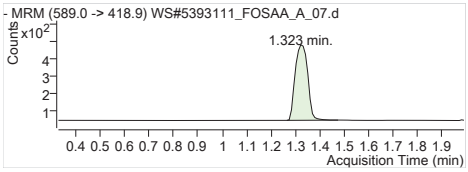


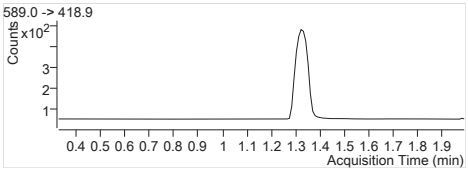
EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 1.325 (1.325)
Calc. conc. 44.50 µg/L
Area ratio: 20.19585
Sample type: Calibration



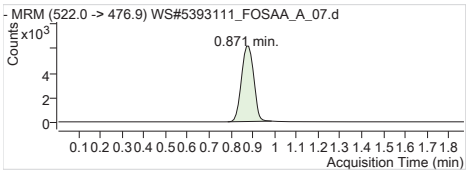


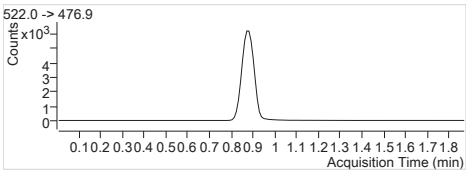
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.299 (1.299)
Calc. conc. 102.80 µg/L
Area ratio: 0.07709
Sample type: Calibration





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.323 (1.323)
Calc. conc.	99.14 µg/L
Area ratio:	0.06371
Sample type:	Calibration





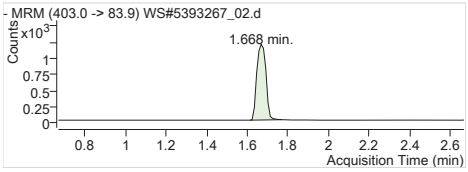
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.871 (0.871)
Calc. conc.	94.22 µg/L
Area ratio:	0
Sample type:	Calibration

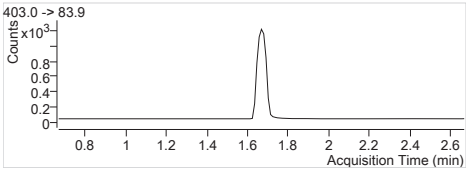
Batch Path	T:\lcms4\PFC\20180213\WS#5393267\QuantResults\PFC_Water_High_180213_WS#5393267_EToxics

Sample Name	**STD 1**	**Instrument**	LCMS04
Data File	WS#5393267_02.d	**Operator**	
Sample Type	Cal	**Dilution**	1
Acq. Method	PFC_Water_High.m	**Position**	P4-C6
Acq. Date	2018/02/14 7:47:53 AM	**Injection Volume**	Per Method
Sample Annotation	-		

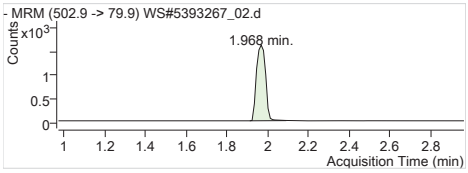
ISTD Compounds	Response	RT	Target conc.		
MPFHxS	3659	1.67	1 µg/L		
MPFOS	4946	1.97	1 µg/L		
13C6-PFHxA IS	34593	1.41	1 µg/L		

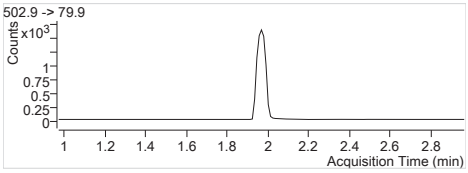
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFHxS 1	399	1.67	0.80	0.86 µg/L	108.05
PFOS 1	511	1.97	0.80	0.94 µg/L	118.10
13C6-PFHxA	34593	1.41	100.00	101.45 µg/L	101.45
18O2-PFHxS	3659	1.67	100.00	102.35 µg/L	102.35
13C4-PFOS	4946	1.97	100.00	110.59 µg/L	110.59



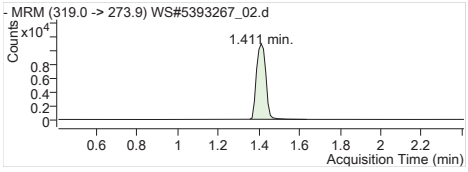


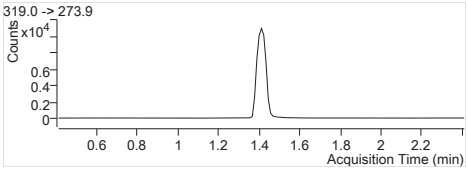
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Calibration



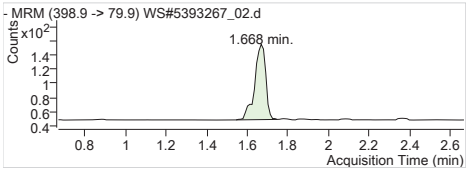


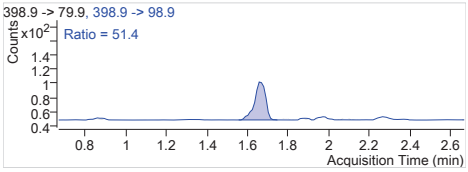
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Calibration



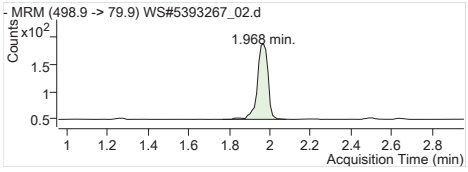


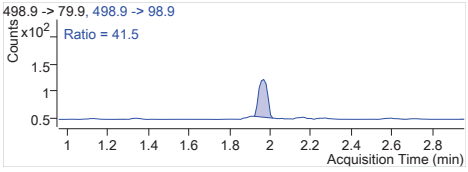
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: Calibration



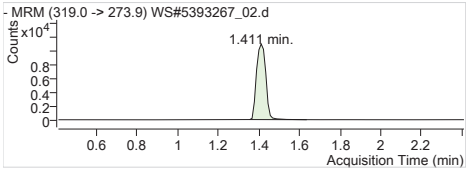


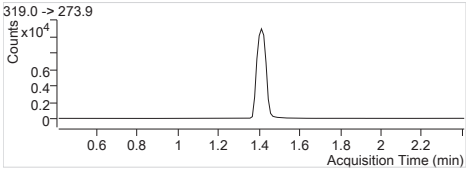
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 0.86 µg/L
Area ratio: 0.10905
Sample type: Calibration



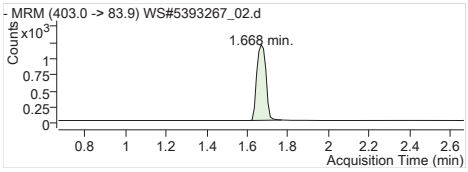


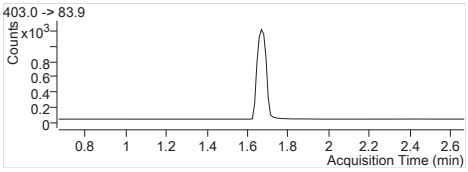
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.968 (1.957)
Calc. conc. 0.94 µg/L
Area ratio: 0.10332
Sample type: Calibration



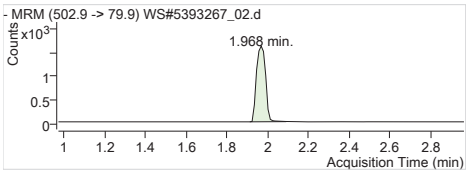


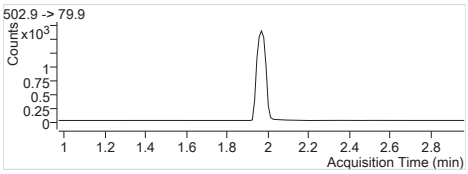
13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 101.45 µg/L
Area ratio: 0
Sample type: Calibration





18O2-PFHxS	403.0 -> 83.9
RT (Exp. RT):	1.668 (1.668)
Calc. conc.	102.35 µg/L
Area ratio:	0.10577
Sample type:	Calibration





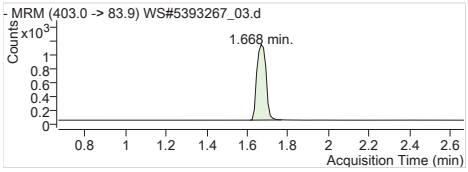
13C4-PFOS	502.9 -> 79.9
RT (Exp. RT):	1.968 (1.968)
Calc. conc.	110.59 µg/L
Area ratio:	0.14298
Sample type:	Calibration

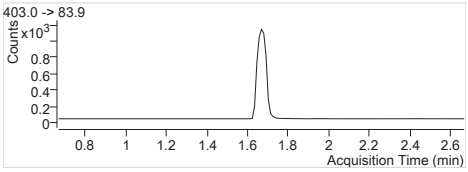
Batch Path	T:\lcms4\PFC\20180213\WS#5393267\QuantResults\PFC_Water_High_180213_WS#5393267_EToxics

Sample Name	**STD 2**	**Instrument**	LCMS04
Data File	WS#5393267_03.d	**Operator**	
Sample Type	Cal	**Dilution**	1
Acq. Method	PFC_Water_High.m	**Position**	P4-C7
Acq. Date	2018/02/14 7:52:49 AM	**Injection Volume**	Per Method
Sample Annotation	-		

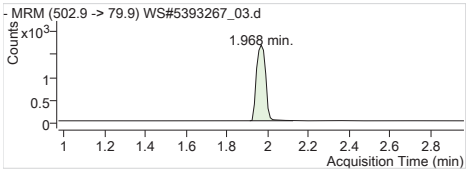
ISTD Compounds	Response	RT	Target conc.		
MPFHxS	3442	1.67	1 µg/L		
MPFOS	5213	1.97	1 µg/L		
13C6-PFHxA IS	35089	1.41	1 µg/L		

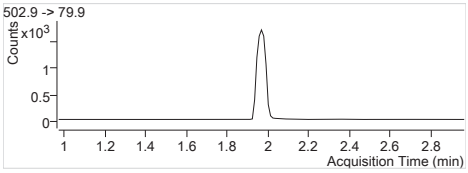
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFHxS 1	759	1.67	1.50	1.51 µg/L	100.98
PFOS 1	823	1.97	1.50	1.31 µg/L	87.43
13C6-PFHxA	35089	1.41	100.00	102.90 µg/L	102.90
18O2-PFHxS	3442	1.67	100.00	94.92 µg/L	94.92
13C4-PFOS	5213	1.97	100.00	114.92 µg/L	114.92



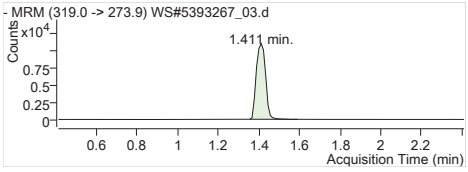


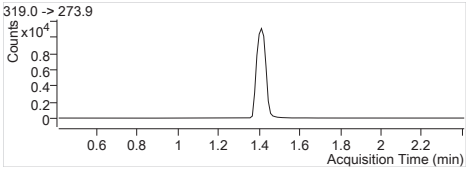
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Calibration



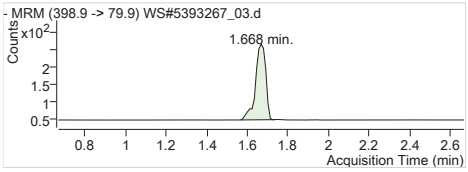


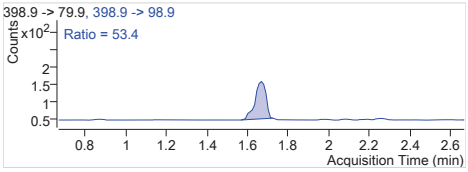
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Calibration



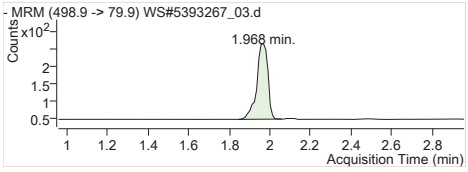


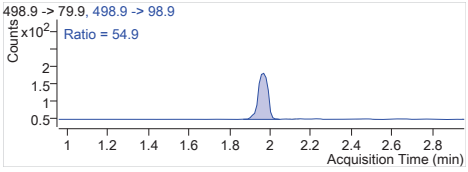
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: Calibration



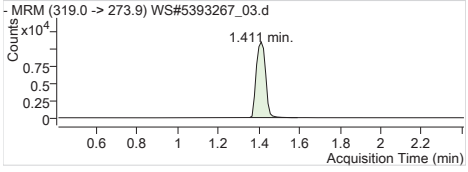


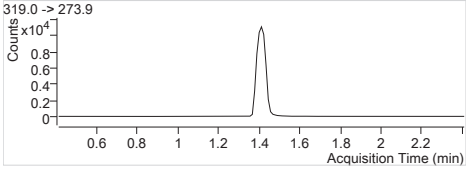
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 1.51 µg/L
Area ratio: 0.22051
Sample type: Calibration



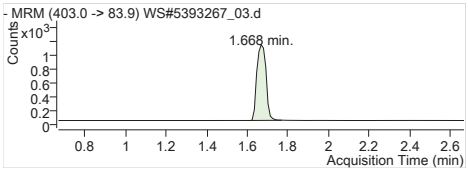


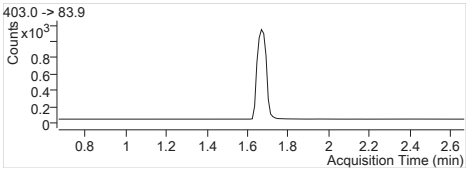
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.968 (1.957)
Calc. conc. 1.31 µg/L
Area ratio: 0.15787
Sample type: Calibration



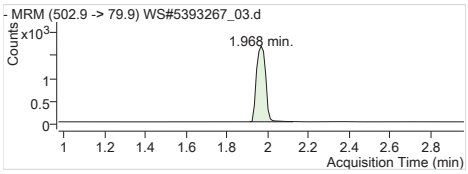


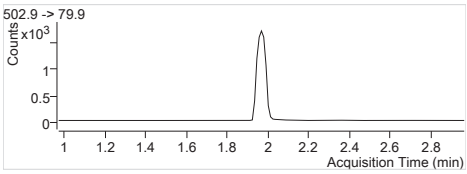
13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 102.90 µg/L
Area ratio: 0
Sample type: Calibration





18O2-PFHxS	403.0 -> 83.9
RT (Exp. RT):	1.668 (1.668)
Calc. conc.	94.92 µg/L
Area ratio:	0.09809
Sample type:	Calibration





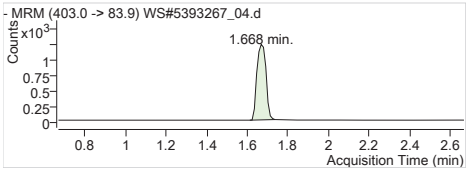
13C4-PFOS	502.9 -> 79.9
RT (Exp. RT):	1.968 (1.968)
Calc. conc.	114.92 µg/L
Area ratio:	0.14857
Sample type:	Calibration

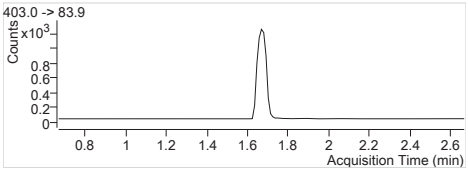
Batch Path	T:\lcms4\PFC\20180213\WS#5393267\QuantResults\PFC_Water_High_180213_WS#5393267_EToxics

Sample Name	**STD 3**	**Instrument**	LCMS04
Data File	WS#5393267_04.d	**Operator**	
Sample Type	Cal	**Dilution**	1
Acq. Method	PFC_Water_High.m	**Position**	P4-C8
Acq. Date	2018/02/14 7:57:45 AM	**Injection Volume**	Per Method
Sample Annotation	-		

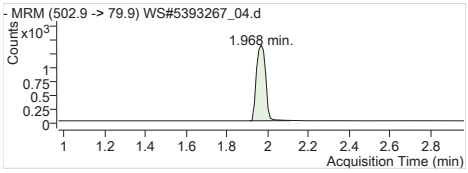
ISTD Compounds	Response	RT	Target conc.		
MPFHxS	3750	1.67	1 µg/L		
MPFOS	4271	1.97	1 µg/L		
13C6-PFHxA IS	34475	1.41	1 µg/L		

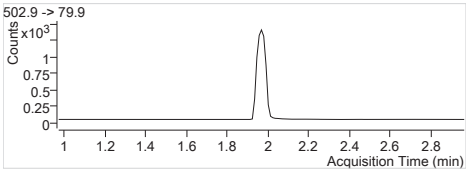
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFHxS 1	3436	1.67	6.00	5.57 µg/L	92.90
PFOS 1	3274	1.96	6.00	5.40 µg/L	90.04
13C6-PFHxA	34475	1.41	100.00	101.10 µg/L	101.10
18O2-PFHxS	3750	1.67	100.00	105.26 µg/L	105.26
13C4-PFOS	4271	1.97	100.00	95.83 µg/L	95.83



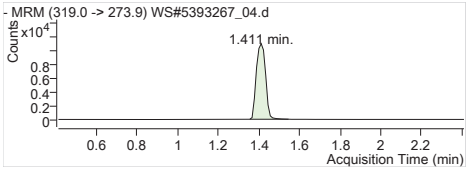


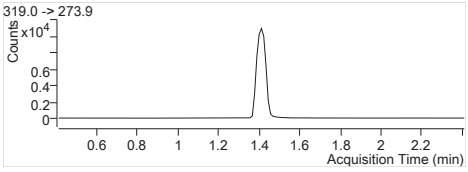
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Calibration



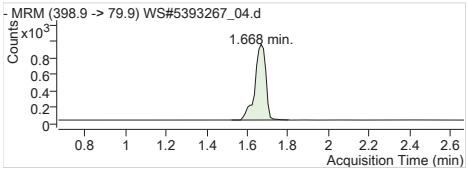


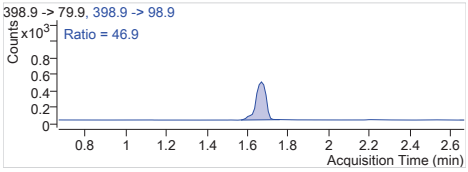
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Calibration



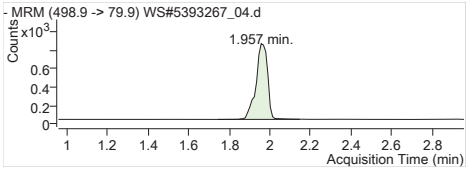


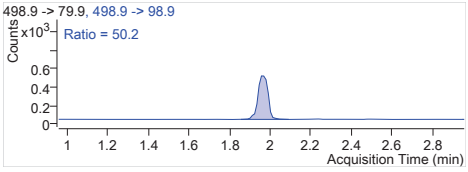
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: Calibration



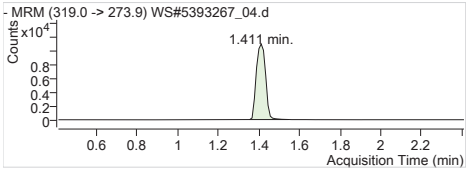


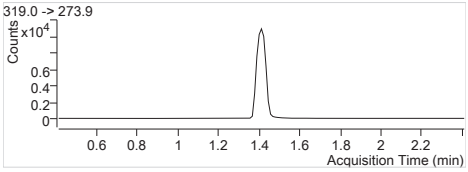
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 5.57 µg/L
Area ratio: 0.91627
Sample type: Calibration



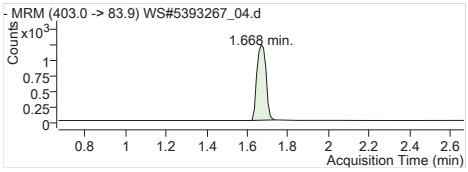


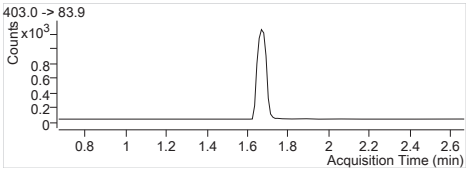
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 5.40 µg/L
Area ratio: 0.76657
Sample type: Calibration



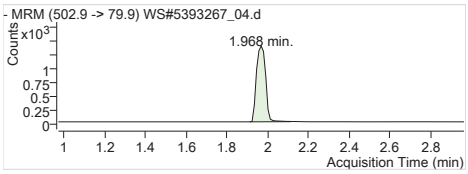


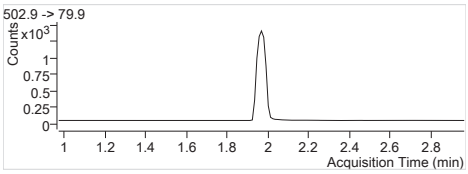
13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 101.10 µg/L
Area ratio: 0
Sample type: Calibration





18O2-PFHxS	403.0 -> 83.9
RT (Exp. RT):	1.668 (1.668)
Calc. conc.	105.26 µg/L
Area ratio:	0.10877
Sample type:	Calibration





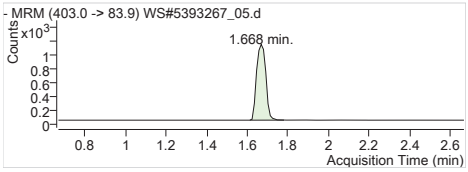
13C4-PFOS	502.9 -> 79.9
RT (Exp. RT):	1.968 (1.968)
Calc. conc.	95.83 µg/L
Area ratio:	0.12389
Sample type:	Calibration

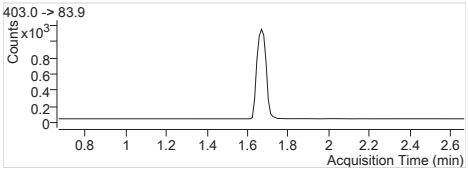
Batch Path	T:\lcms4\PFC\20180213\WS#5393267\QuantResults\PFC_Water_High_180213_WS#5393267_EToxics

Sample Name	**STD 4**	**Instrument**	LCMS04
Data File	WS#5393267_05.d	**Operator**	
Sample Type	Cal	**Dilution**	1
Acq. Method	PFC_Water_High.m	**Position**	P4-C9
Acq. Date	2018/02/14 8:02:41 AM	**Injection Volume**	Per Method
Sample Annotation	-		

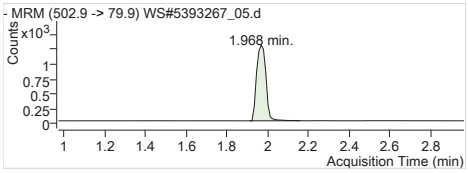
ISTD Compounds	Response	RT	Target conc.		
MPFHxS	3487	1.67	1 µg/L		
MPFOS	4062	1.97	1 µg/L		
13C6-PFHxA IS	34274	1.41	1 µg/L		

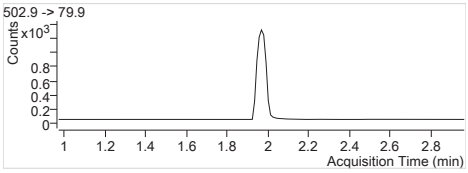
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFHxS 1	8190	1.67	15.00	13.93 µg/L	92.88
PFOS 1	8626	1.96	15.00	14.52 µg/L	96.82
13C6-PFHxA	34274	1.41	100.00	100.51 µg/L	100.51
18O2-PFHxS	3487	1.67	100.00	98.45 µg/L	98.45
13C4-PFOS	4062	1.97	100.00	91.67 µg/L	91.67



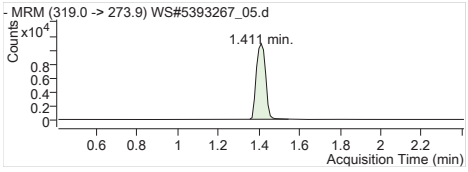


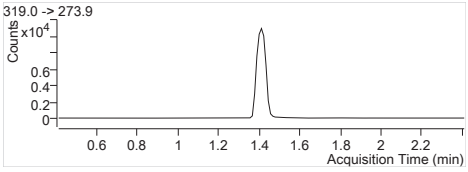
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Calibration



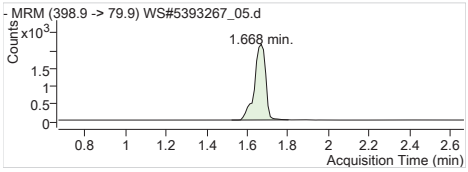


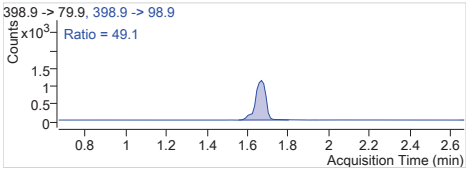
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Calibration



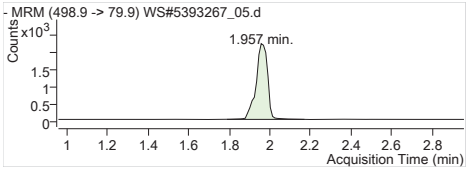


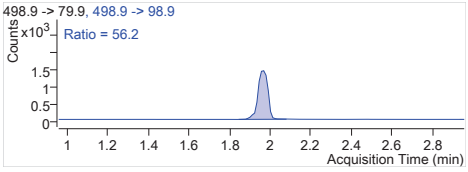
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: Calibration



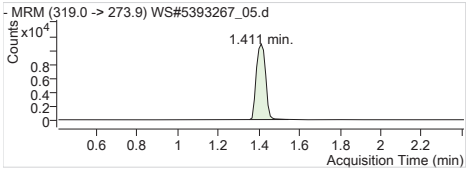


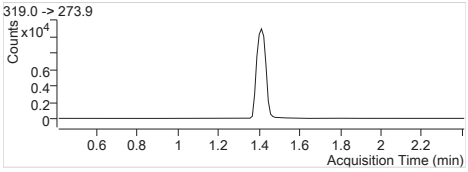
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 13.93 µg/L
Area ratio: 2.34872
Sample type: Calibration



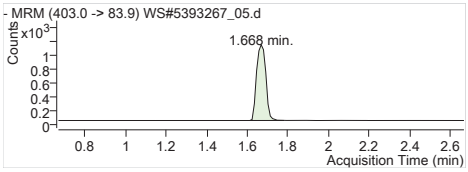


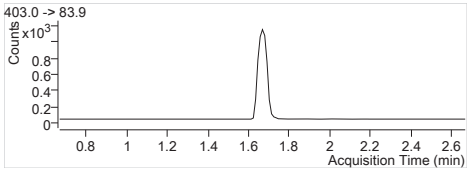
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 14.52 µg/L
Area ratio: 2.12358
Sample type: Calibration



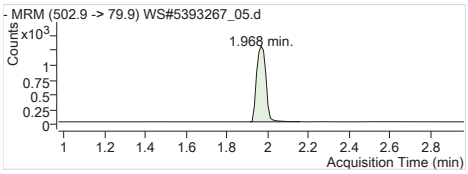


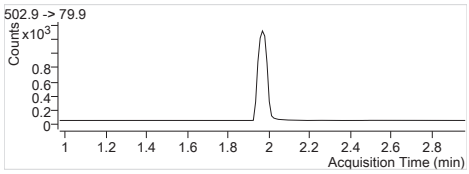
13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 100.51 µg/L
Area ratio: 0
Sample type: Calibration





18O2-PFHxS	403.0 -> 83.9
RT (Exp. RT):	1.668 (1.668)
Calc. conc.	98.45 µg/L
Area ratio:	0.10174
Sample type:	Calibration





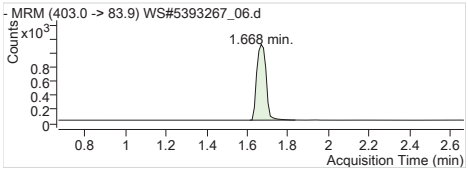
13C4-PFOS	502.9 -> 79.9
RT (Exp. RT):	1.968 (1.968)
Calc. conc.	91.67 µg/L
Area ratio:	0.11852
Sample type:	Calibration

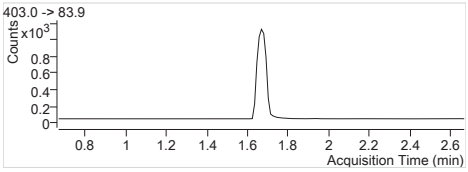
Batch Path	T:\lcms4\PFC\20180213\WS#5393267\QuantResults\PFC_Water_High_180213_WS#5393267_EToxics

Sample Name	**STD 5**	**Instrument**	LCMS04
Data File	WS#5393267_06.d	**Operator**	
Sample Type	Cal	**Dilution**	1
Acq. Method	PFC_Water_High.m	**Position**	P4-D1
Acq. Date	2018/02/14 8:07:37 AM	**Injection Volume**	Per Method
Sample Annotation	-		

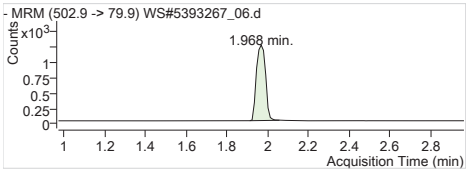
ISTD Compounds	Response	RT	Target conc.		
MPFHxS	3439	1.67	1 µg/L		
MPFOS	3867	1.97	1 µg/L		
13C6-PFHxA IS	32926	1.41	1 µg/L		

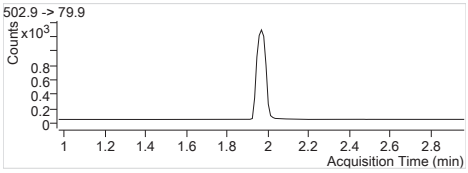
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFHxS 1	18587	1.67	30.00	31.76 µg/L	105.88
PFOS 1	19436	1.96	30.00	34.03 µg/L	113.43
13C6-PFHxA	32926	1.41	100.00	96.56 µg/L	96.56
18O2-PFHxS	3439	1.67	100.00	101.07 µg/L	101.07
13C4-PFOS	3867	1.97	100.00	90.85 µg/L	90.85



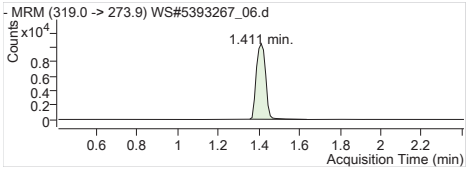


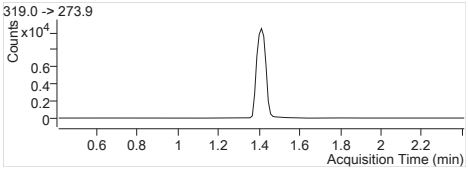
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Calibration



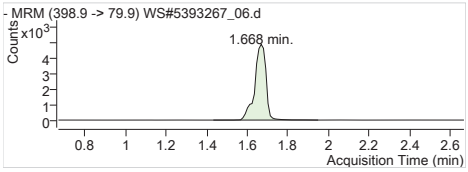


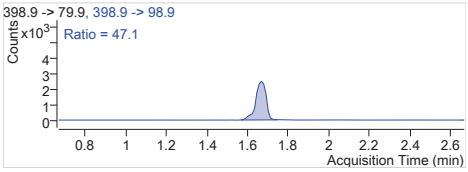
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Calibration



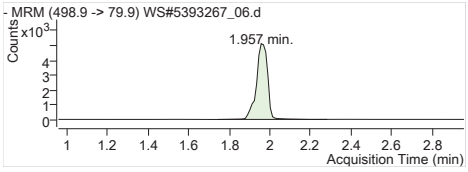


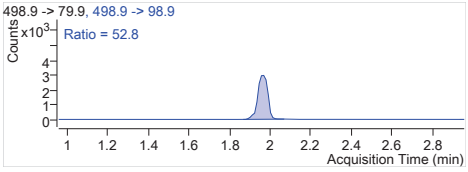
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: Calibration



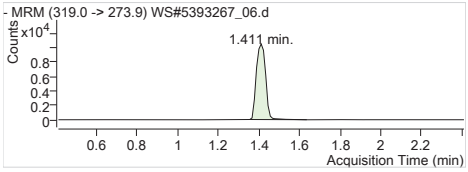


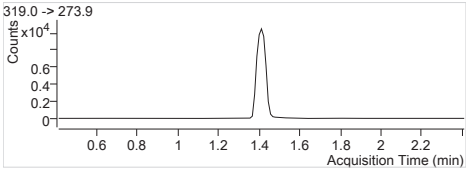
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 31.76 µg/L
Area ratio: 5.40477
Sample type: Calibration



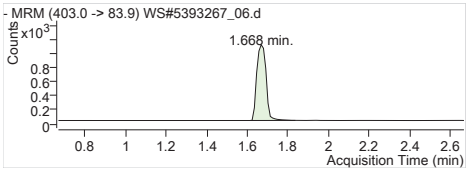


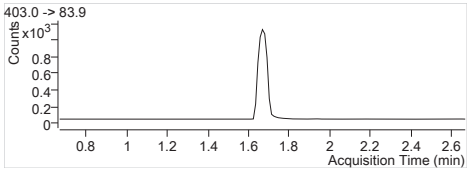
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 34.03 µg/L
Area ratio: 5.02612
Sample type: Calibration



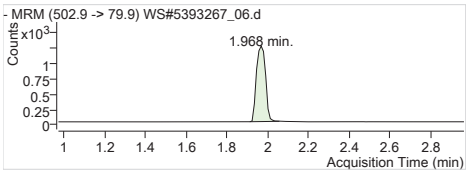


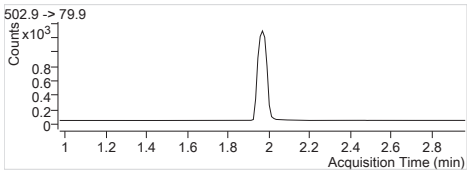
13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 96.56 µg/L
Area ratio: 0
Sample type: Calibration





18O2-PFHxS	403.0 -> 83.9
RT (Exp. RT):	1.668 (1.668)
Calc. conc.	101.07 µg/L
Area ratio:	0.10445
Sample type:	Calibration





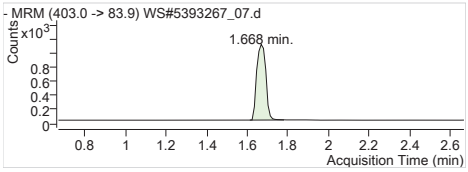
13C4-PFOS	502.9 -> 79.9
RT (Exp. RT):	1.968 (1.968)
Calc. conc.	90.85 µg/L
Area ratio:	0.11745
Sample type:	Calibration

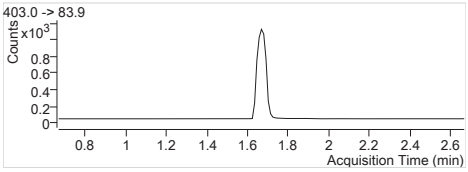
Batch Path	T:\lcms4\PFC\20180213\WS#5393267\QuantResults\PFC_Water_High_180213_WS#5393267_EToxics

Sample Name	**STD 6**	**Instrument**	LCMS04
Data File	WS#5393267_07.d	**Operator**	
Sample Type	Cal	**Dilution**	1
Acq. Method	PFC_Water_High.m	**Position**	P4-D2
Acq. Date	2018/02/14 8:12:31 AM	**Injection Volume**	Per Method
Sample Annotation	-		

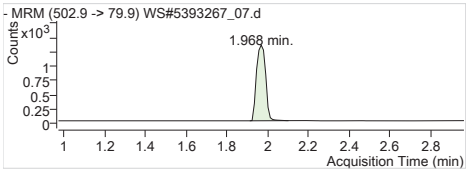
ISTD Compounds	Response	RT	Target conc.		
MPFHxS	3364	1.67	1 µg/L		
MPFOS	4131	1.97	1 µg/L		
13C6-PFHxA IS	33236	1.41	1 µg/L		

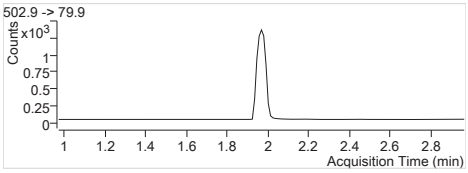
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFHxS 1	28495	1.67	50.00	49.65 µg/L	99.30
PFOS 1	28790	1.96	50.00	47.09 µg/L	94.18
13C6-PFHxA	33236	1.41	100.00	97.47 µg/L	97.47
18O2-PFHxS	3364	1.67	100.00	97.94 µg/L	97.94
13C4-PFOS	4131	1.97	100.00	96.14 µg/L	96.14



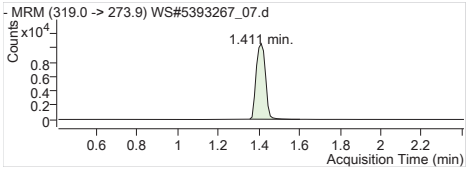


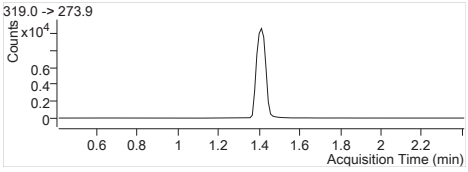
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Calibration



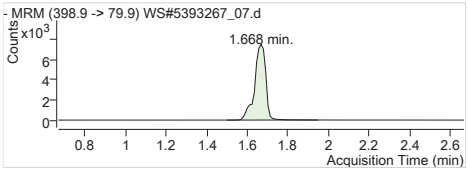


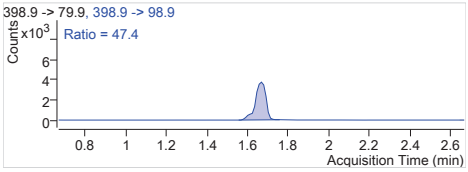
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Calibration



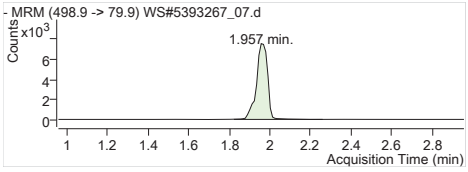


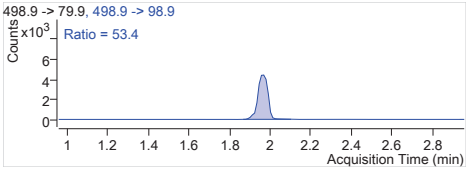
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: Calibration



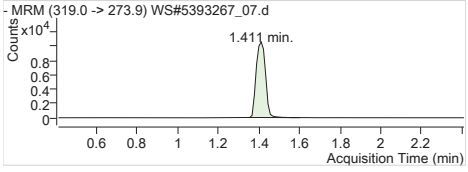


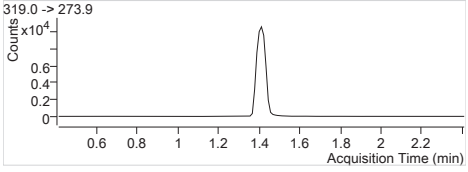
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 49.65 µg/L
Area ratio: 8.47057
Sample type: Calibration



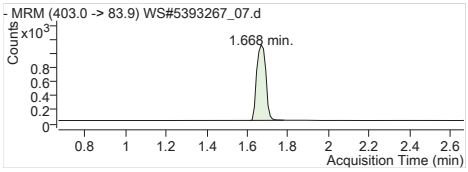


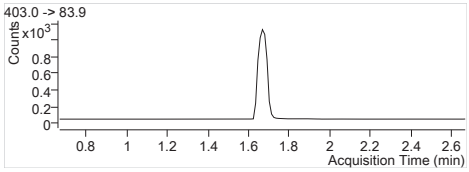
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 47.09 µg/L
Area ratio: 6.96926
Sample type: Calibration



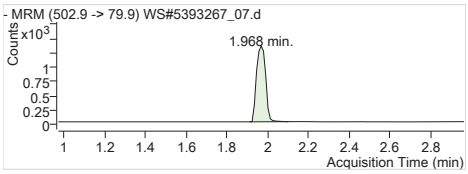


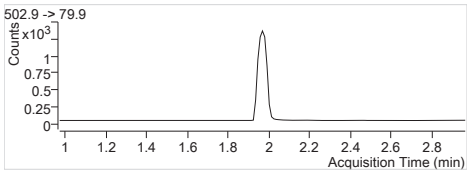
13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 97.47 µg/L
Area ratio: 0
Sample type: Calibration





18O2-PFHxS	403.0 -> 83.9
RT (Exp. RT):	1.668 (1.668)
Calc. conc.	97.94 µg/L
Area ratio:	0.10122
Sample type:	Calibration





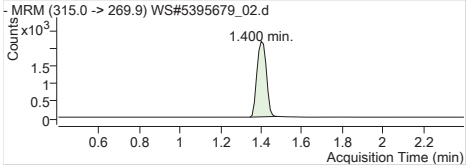
13C4-PFOS	502.9 -> 79.9
RT (Exp. RT):	1.968 (1.968)
Calc. conc.	96.14 µg/L
Area ratio:	0.12429
Sample type:	Calibration

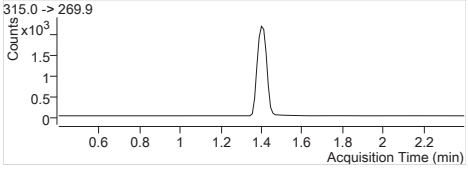
Batch Path T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics

Sample Name	**STD 1**	**Instrument**	LCMS04
Data File	WS#5395679_02.d	**Operator**	
Sample Type	Cal	**Dilution**	1
Acq. Method	PFC_Water_Low.m	**Position**	P3-A2
Acq. Date	2018/02/13 10:00:48 PM	**Injection Volume**	Per Method
Sample Annotation	-		

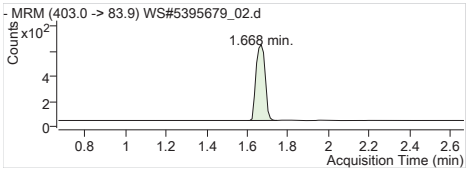
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	6862	1.40	1 µg/L		
MPFHxS	1889	1.67	1 µg/L		
MPFHpA	8988	1.67	1 µg/L		
MPFOA	9816	1.86	1 µg/L		
MPFOS	1983	1.97	1 µg/L		
MPFNA	9709	2.00	1 µg/L		
MPFDA	7341	2.12	1 µg/L		
MPFUnA	8734	2.22	1 µg/L		
MPFDoA	11771	2.31	1 µg/L		
MPFTeDA	13859	2.46	1 µg/L		
13C6-PFHxA IS	19796	1.40	1 µg/L		
13C9-PFDA IS	26441	2.12	1 µg/L		

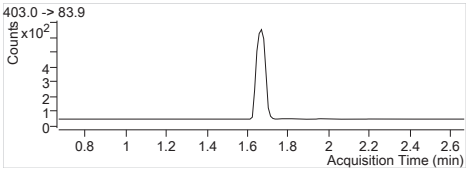
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1	605	1.05	0.83	0.87 µg/L	104.91
PFHxA 1	2324	1.40	0.83	0.96 µg/L	115.42
PFHxS 1	630	1.67	0.83	0.92 µg/L	111.06
PFHpA 1	3275	1.67	0.83	0.94 µg/L	112.74
PFOA 1	3164	1.86	0.83	0.91 µg/L	109.38
PFOS 1	591	1.96	0.83	0.95 µg/L	114.13
PFNA 1	3184	2.00	0.83	0.97 µg/L	116.41
PFDA 1	3349	2.12	0.83	0.97 µg/L	116.42
PFUnA 1	3295	2.22	0.83	0.93 µg/L	112.07
PFDoA 1	4903	2.31	0.83	0.99 µg/L	119.34
PFTrDA 1	4959	2.39	0.83	0.91 µg/L	109.04
PFTeDA 1	4184	2.46	0.83	0.87 µg/L	105.24
13C2-PFHxA	6862	1.40	100.00	115.12 µg/L	115.12
18O2-PFHxS	1889	1.67	100.00	124.14 µg/L	124.14
13C4-PFHpA	8988	1.67	100.00	115.11 µg/L	115.11
13C4-PFOA	9816	1.86	100.00	116.30 µg/L	116.30
13C4-PFOS	1983	1.97	100.00	109.52 µg/L	109.52
13C5-PFNA	9708	2.00	100.00	118.04 µg/L	118.04
13C2-PFDA	7218	2.12	100.00	105.51 µg/L	105.51
13C2-PFUnA	8734	2.22	100.00	106.77 µg/L	106.77
13C2-PFDoA	11771	2.31	100.00	108.86 µg/L	108.86
13C2-PFTeDA	14240	2.46	100.00	112.61 µg/L	112.61
13C2-6:2-FTS	3029	1.82	100.00	126.37 µg/L	126.37
13C2-8:2 FTS	2733	2.10	100.00	122.24 µg/L	122.24
13C6-PFHxA	19796	1.40	100.00	90.37 µg/L	90.37
13C9-PFDA	26441	2.12	100.00	91.28 µg/L	91.28



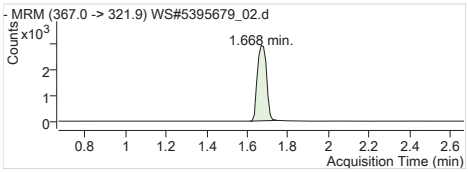


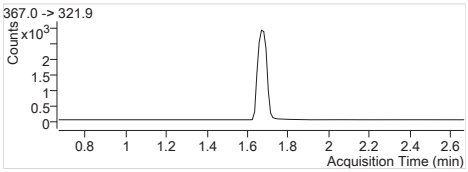
MPFHxA Internal Standard
RT (Exp. RT): 1.400 (1.400)
Concentration: 1 µg/L
Sample type: Calibration



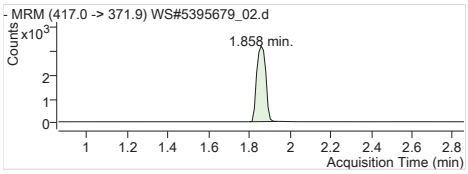


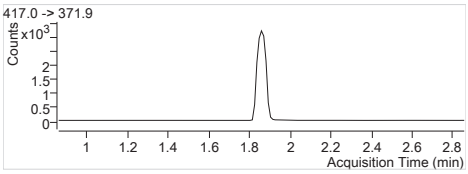
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Calibration



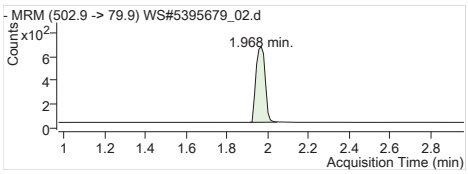


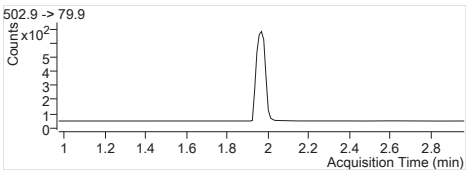
MPFHpA Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Calibration



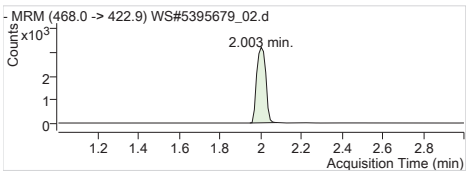


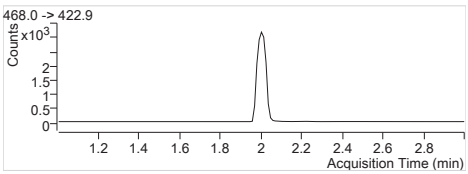
MPFOA Internal Standard
RT (Exp. RT): 1.858 (1.858)
Concentration: 1 µg/L
Sample type: Calibration



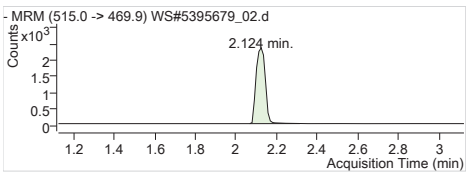


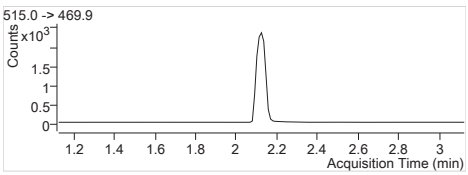
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Calibration



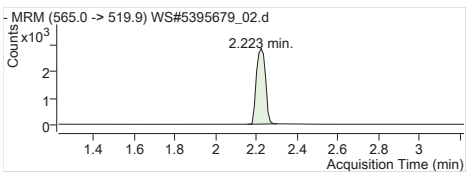


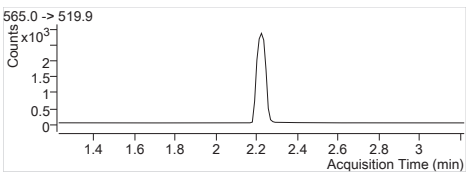
MPFNA Internal Standard
RT (Exp. RT): 2.003 (2.003)
Concentration: 1 µg/L
Sample type: Calibration



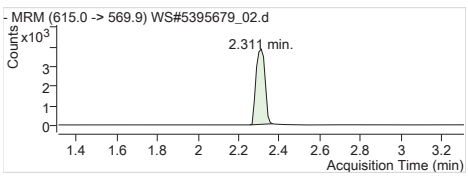


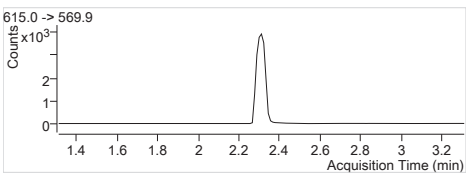
MPFDA Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Calibration



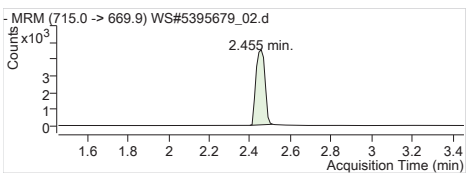


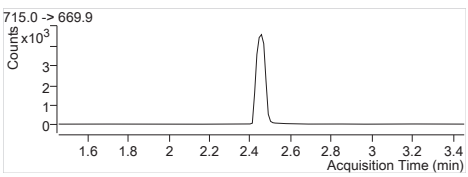
MPFUnA Internal Standard
RT (Exp. RT): 2.223 (2.223)
Concentration: 1 µg/L
Sample type: Calibration



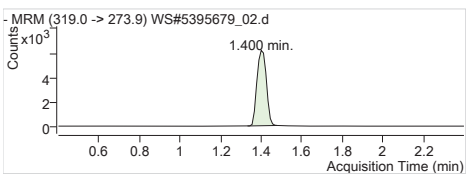


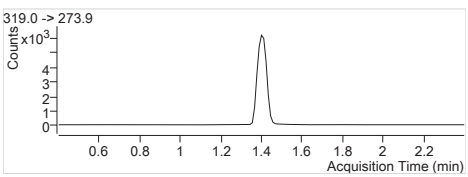
MPFDoA Internal Standard
RT (Exp. RT): 2.311 (2.311)
Concentration: 1 µg/L
Sample type: Calibration



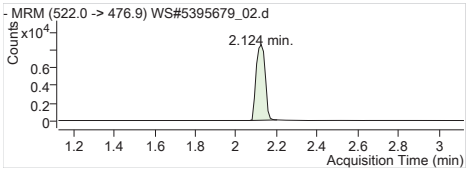


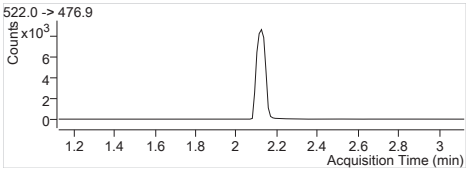
MPFTeDA Internal Standard
RT (Exp. RT): 2.455 (2.455)
Concentration: 1 µg/L
Sample type: Calibration



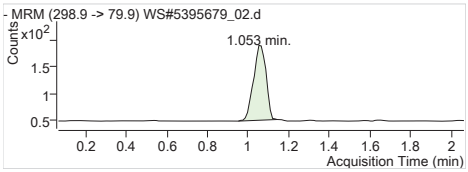


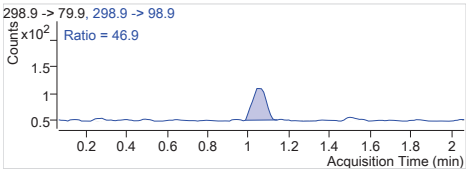
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.400 (1.400)
Concentration: 1 µg/L
Sample type: Calibration



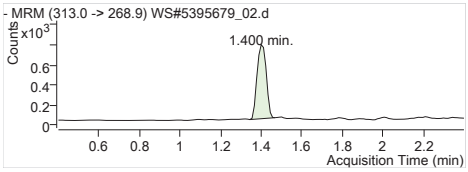


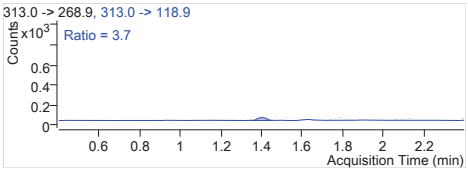
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Calibration



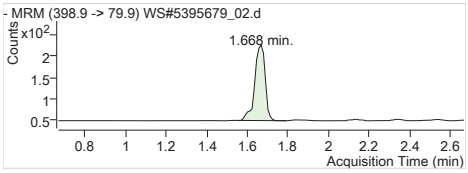


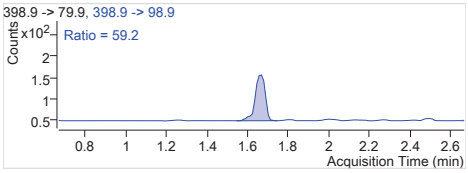
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 1.053 (1.064)
Calc. conc. 0.87 µg/L
Area ratio: 0.32028
Sample type: Calibration



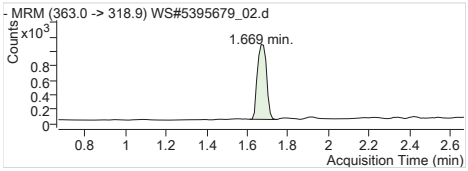


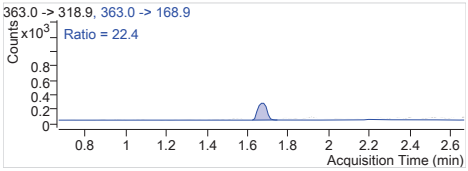
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 1.400 (1.400)
Calc. conc. 0.96 µg/L
Area ratio: 0.33868
Sample type: Calibration



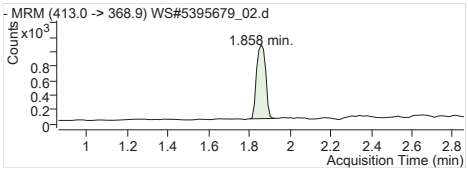


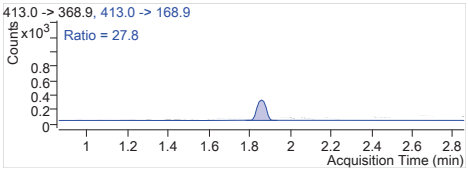
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 0.92 µg/L
Area ratio: 0.33351
Sample type: Calibration



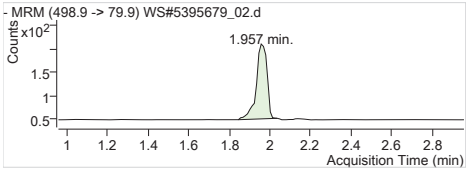


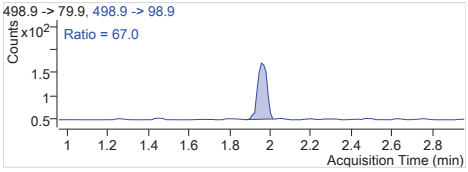
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 1.669 (1.669)
Calc. conc. 0.94 µg/L
Area ratio: 0.36437
Sample type: Calibration



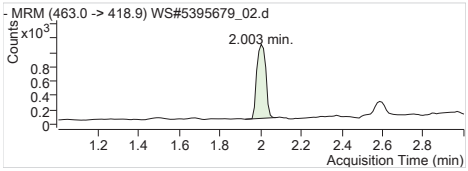


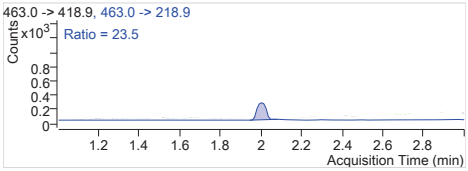
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 1.858 (1.858)
Calc. conc. 0.91 µg/L
Area ratio: 0.32233
Sample type: Calibration



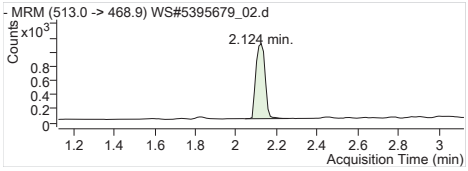


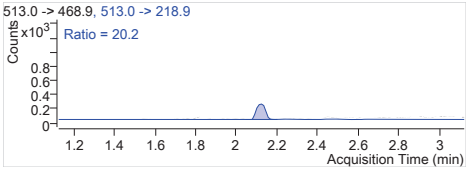
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 0.95 µg/L
Area ratio: 0.29803
Sample type: Calibration



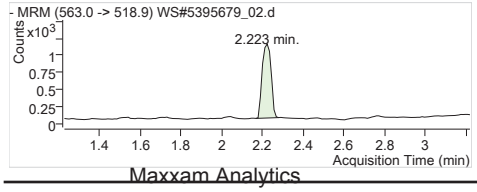


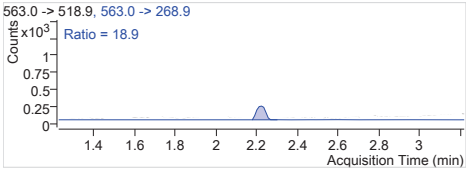
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 2.003 (2.003)
Calc. conc. 0.97 µg/L
Area ratio: 0.32794
Sample type: Calibration



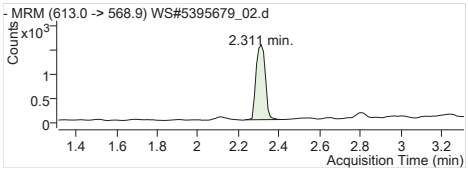


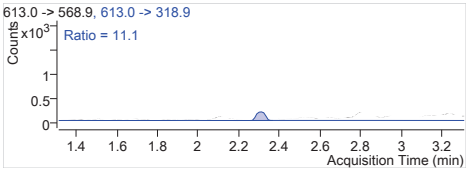
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 0.97 µg/L
Area ratio: 0.45620
Sample type: Calibration



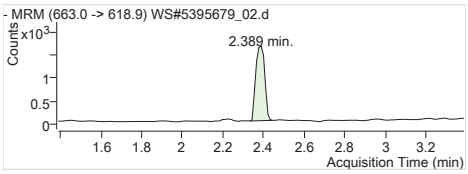


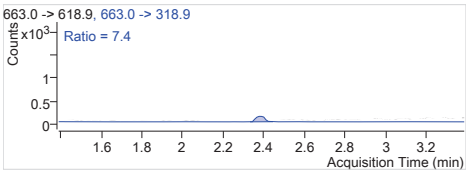
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 0.93 µg/L
Area ratio: 0.37726
Sample type: Calibration



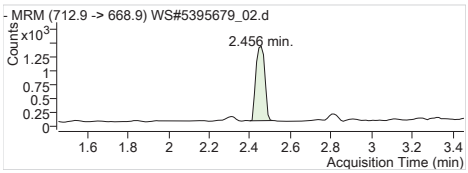


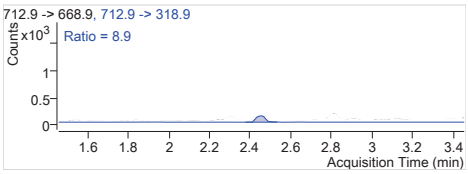
PFDoA 1 613.0 -> 568.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 0.99 µg/L
Area ratio: 0.41653
Sample type: Calibration



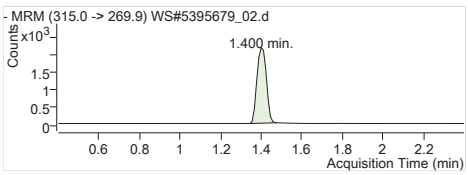


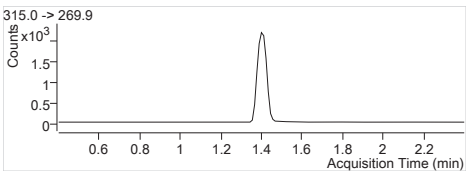
PFTrDA 1 663.0 -> 618.9
RT (Exp. RT): 2.389 (2.389)
Calc. conc. 0.91 µg/L
Area ratio: 0.35782
Sample type: Calibration



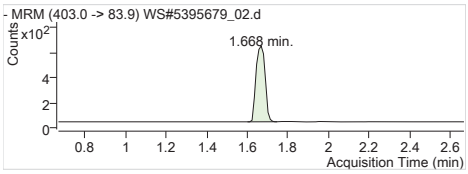


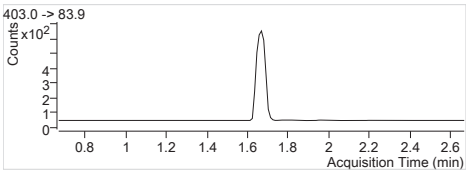
PFTeDA 1 712.9 -> 668.9
RT (Exp. RT): 2.456 (2.456)
Calc. conc. 0.87 µg/L
Area ratio: 0.30190
Sample type: Calibration



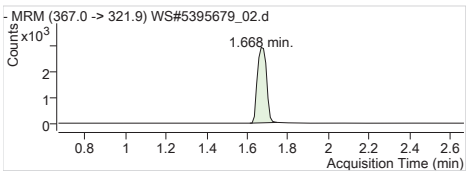


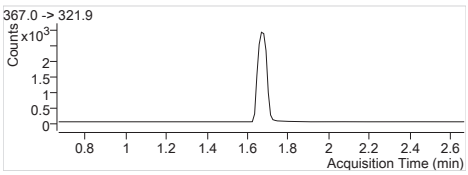
13C2-PFHxA 315.0 -> 269.9
RT (Exp. RT): 1.400 (1.400)
Calc. conc. 115.12 µg/L
Area ratio: 0.34664
Sample type: Calibration



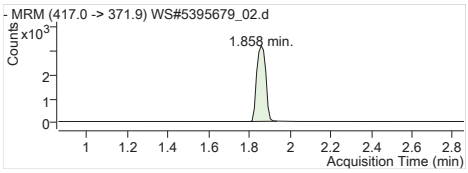


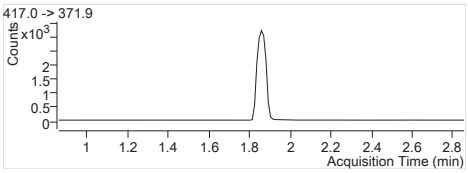
18O2-PFHxS 403.0 -> 83.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 124.14 µg/L
Area ratio: 0.09542
Sample type: Calibration



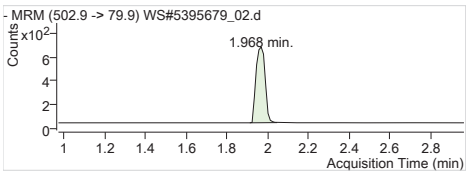


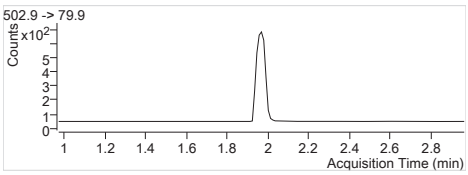
13C4-PFHpA 367.0 -> 321.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 115.11 µg/L
Area ratio: 0.45403
Sample type: Calibration



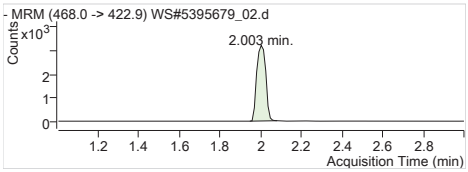


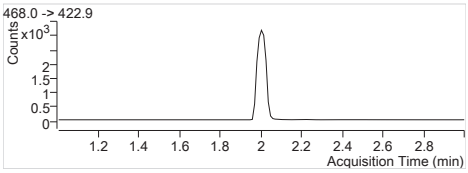
13C4-PFOA 417.0 -> 371.9
RT (Exp. RT): 1.858 (1.858)
Calc. conc. 116.30 µg/L
Area ratio: 0.49586
Sample type: Calibration



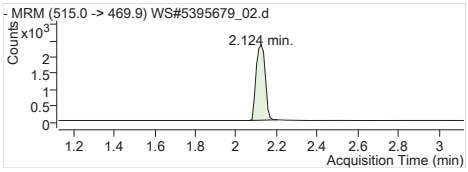


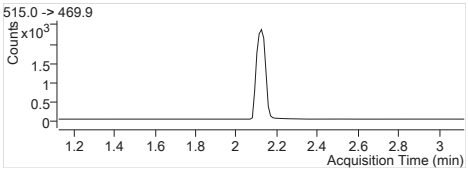
13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.968 (1.968)
Calc. conc. 109.52 µg/L
Area ratio: 0.10017
Sample type: Calibration



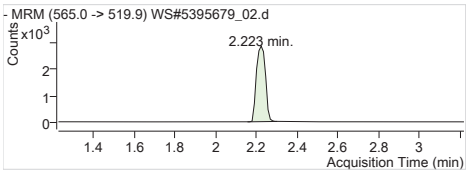


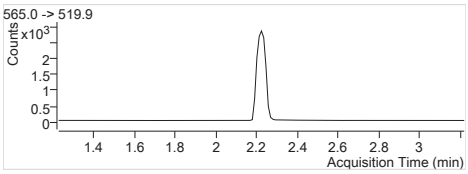
13C5-PFNA 468.0 -> 422.9
RT (Exp. RT): 2.003 (2.003)
Calc. conc. 118.04 µg/L
Area ratio: 0.49040
Sample type: Calibration



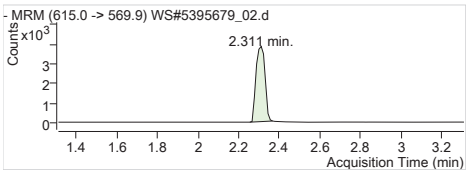


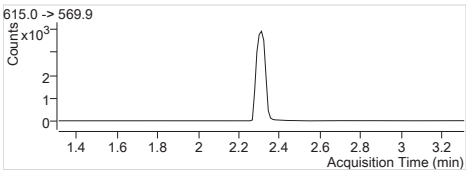
13C2-PFDA 515.0 -> 469.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 105.51 µg/L
Area ratio: 0.27299
Sample type: Calibration



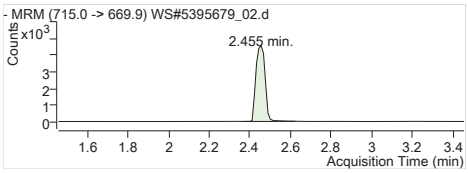


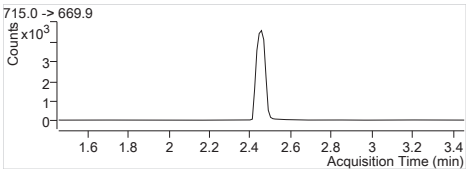
13C2-PFUnA 565.0 -> 519.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 106.77 µg/L
Area ratio: 0.33032
Sample type: Calibration



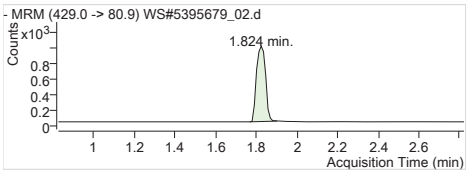


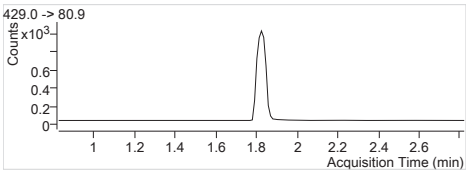
13C2-PFDoA 615.0 -> 569.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 108.86 µg/L
Area ratio: 0.44518
Sample type: Calibration



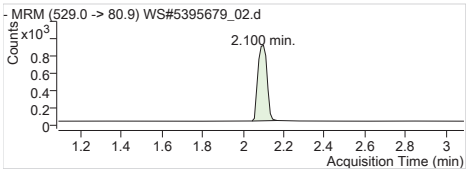


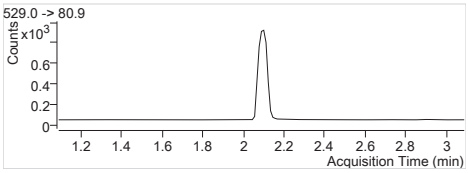
13C2-PFTeDA 715.0 -> 669.9
RT (Exp. RT): 2.455 (2.455)
Calc. conc. 112.61 µg/L
Area ratio: 0.53856
Sample type: Calibration



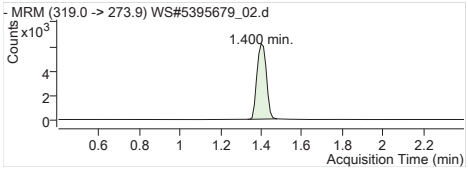


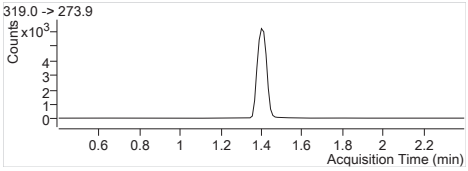
13C2-6:2-FTS 429.0 -> 80.9
RT (Exp. RT): 1.824 (1.824)
Calc. conc. 126.37 µg/L
Area ratio: 0.15301
Sample type: Calibration



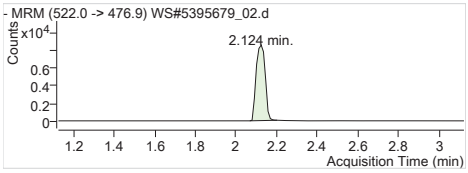


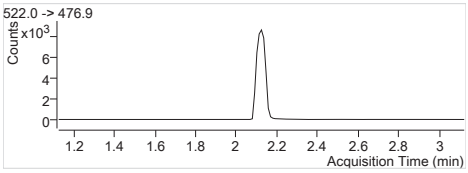
13C2-8:2 FTS 529.0 -> 80.9
RT (Exp. RT): 2.100 (2.089)
Calc. conc. 122.24 µg/L
Area ratio: 0.13806
Sample type: Calibration





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.400 (1.400)
Calc. conc. 90.37 µg/L
Area ratio: 0
Sample type: Calibration





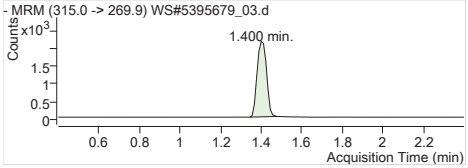
13C9-PFDA 522.0 -> 476.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 91.28 µg/L
Area ratio: 0
Sample type: Calibration

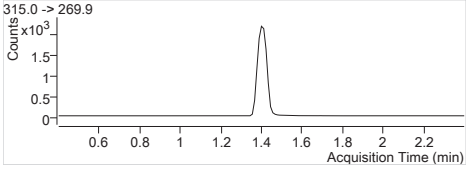
Batch Path	T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics

Sample Name	**STD 2**	**Instrument**	LCMS04
Data File	WS#5395679_03.d	**Operator**	
Sample Type	Cal	**Dilution**	1
Acq. Method	PFC_Water_Low.m	**Position**	P3-A3
Acq. Date	2018/02/13 10:05:44 PM	**Injection Volume**	Per Method
Sample Annotation	-		

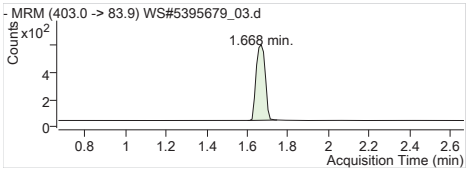
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	6955	1.40	1 µg/L		
MPFHxS	1695	1.67	1 µg/L		
MPFHpA	9394	1.68	1 µg/L		
MPFOA	9543	1.86	1 µg/L		
MPFOS	2082	1.97	1 µg/L		
MPFNA	9468	2.00	1 µg/L		
MPFDA	8144	2.12	1 µg/L		
MPFUnA	9856	2.22	1 µg/L		
MPFDoA	12669	2.31	1 µg/L		
MPFTeDA	14263	2.46	1 µg/L		
13C6-PFHxA IS	21679	1.40	1 µg/L		
13C9-PFDA IS	30280	2.12	1 µg/L		

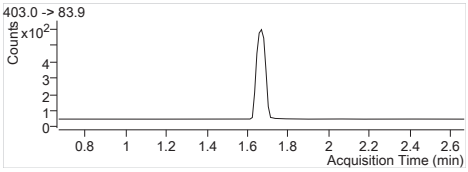
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1	1223	1.06	1.70	1.74 µg/L	102.08
PFHxA 1	4224	1.40	1.70	1.57 µg/L	92.61
PFHxS 1	1089	1.67	1.70	1.59 µg/L	93.53
PFHpA 1	5184	1.67	1.70	1.40 µg/L	82.46
PFOA 1	5415	1.86	1.70	1.49 µg/L	87.81
PFOS 1	1077	1.96	1.70	1.53 µg/L	90.02
PFNA 1	5036	2.00	1.70	1.49 µg/L	87.55
PFDA 1	5785	2.12	1.70	1.48 µg/L	87.09
PFUnA 1	6111	2.22	1.70	1.46 µg/L	85.73
PFDoA 1	8289	2.31	1.70	1.55 µg/L	91.19
PFTrDA 1	8544	2.39	1.70	1.47 µg/L	86.30
PFTeDA 1	7352	2.46	1.70	1.48 µg/L	87.21
13C2-PFHxA	6955	1.40	100.00	106.54 µg/L	106.54
18O2-PFHxS	1695	1.67	100.00	101.72 µg/L	101.72
13C4-PFHpA	9394	1.68	100.00	109.86 µg/L	109.86
13C4-PFOA	9543	1.86	100.00	103.25 µg/L	103.25
13C4-PFOS	2082	1.97	100.00	105.00 µg/L	105.00
13C5-PFNA	9469	2.00	100.00	105.13 µg/L	105.13
13C2-PFDA	7961	2.12	100.00	101.61 µg/L	101.61
13C2-PFUnA	9856	2.22	100.00	105.21 µg/L	105.21
13C2-PFDoA	12669	2.31	100.00	102.31 µg/L	102.31
13C2-PFTeDA	14551	2.46	100.00	100.48 µg/L	100.48
13C2-6:2-FTS	2780	1.82	100.00	105.90 µg/L	105.90
13C2-8:2 FTS	2720	2.10	100.00	111.09 µg/L	111.09
13C6-PFHxA	21679	1.40	100.00	98.97 µg/L	98.97
13C9-PFDA	30280	2.12	100.00	104.54 µg/L	104.54



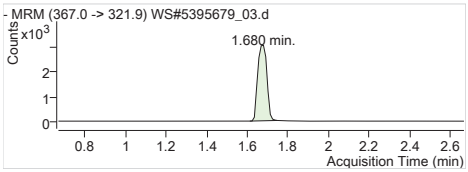


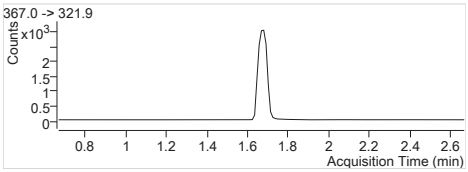
MPFHxA	Internal Standard
RT (Exp. RT):	1.400 (1.400)
Concentration:	1 µg/L
Sample type:	Calibration



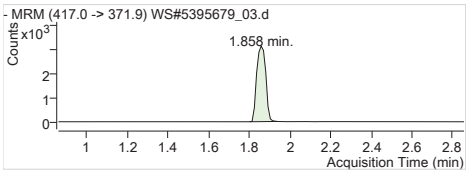


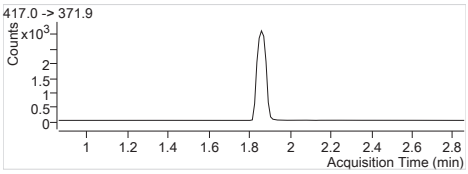
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Calibration



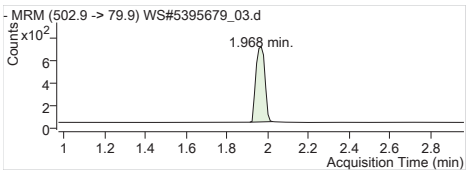


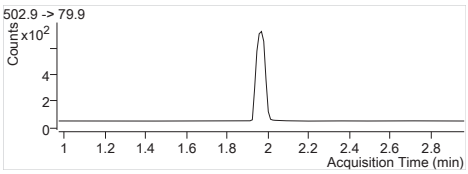
MPFHpA Internal Standard
RT (Exp. RT): 1.680 (1.668)
Concentration: 1 µg/L
Sample type: Calibration



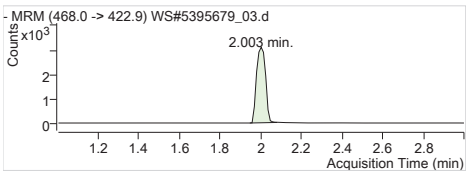


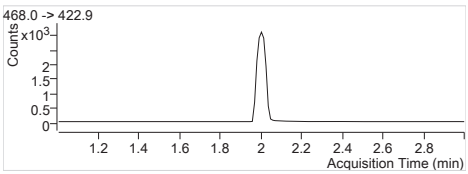
MPFOA Internal Standard
RT (Exp. RT): 1.858 (1.858)
Concentration: 1 µg/L
Sample type: Calibration



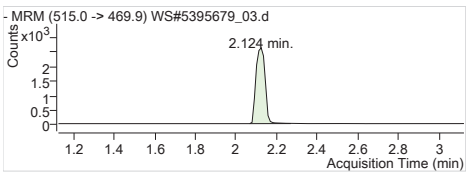


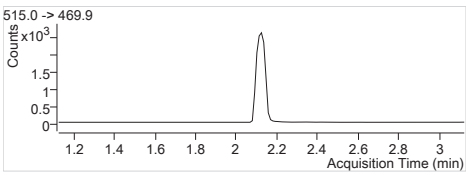
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Calibration



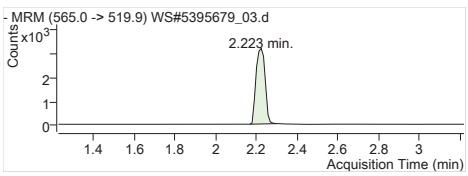


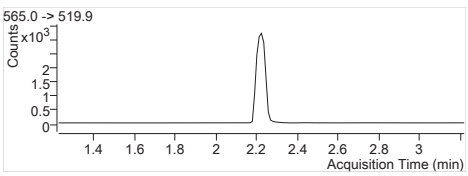
MPFNA Internal Standard
RT (Exp. RT): 2.003 (2.003)
Concentration: 1 µg/L
Sample type: Calibration



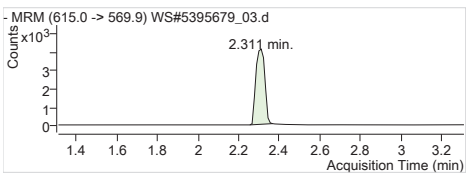


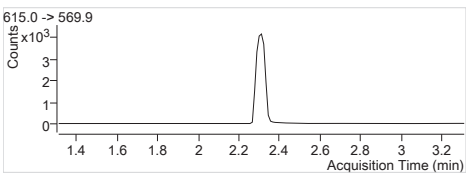
MPFDA Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Calibration



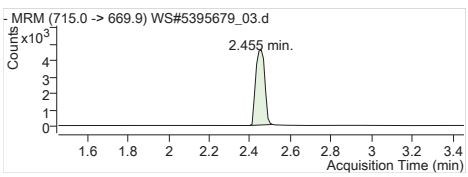


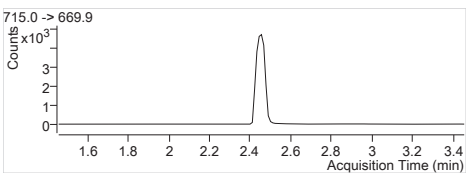
MPFUnA Internal Standard
RT (Exp. RT): 2.223 (2.223)
Concentration: 1 µg/L
Sample type: Calibration



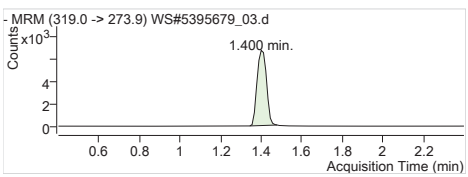


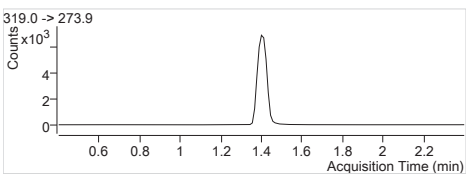
MPFDoA Internal Standard
RT (Exp. RT): 2.311 (2.311)
Concentration: 1 µg/L
Sample type: Calibration



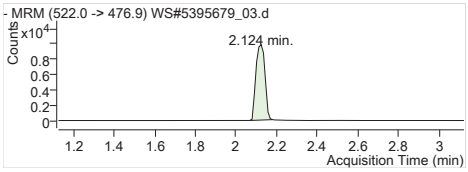


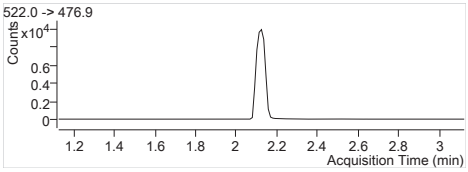
MPFTeDA Internal Standard
RT (Exp. RT): 2.455 (2.455)
Concentration: 1 µg/L
Sample type: Calibration



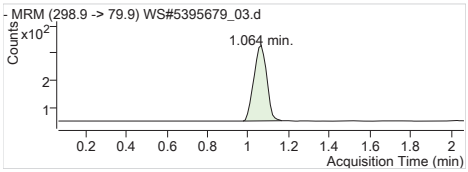


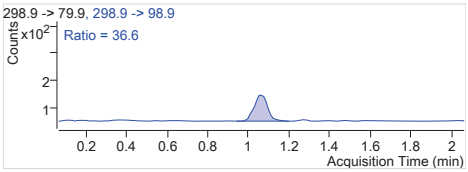
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.400 (1.400)
Concentration: 1 µg/L
Sample type: Calibration



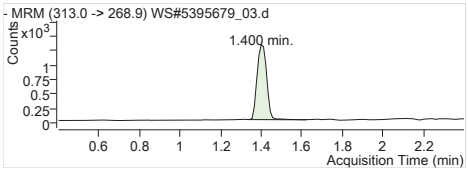


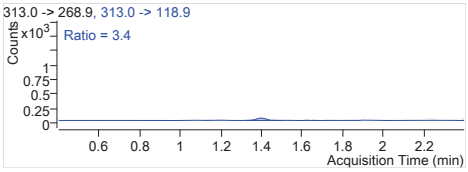
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Calibration



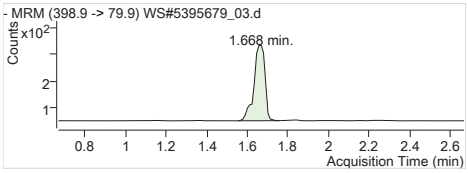


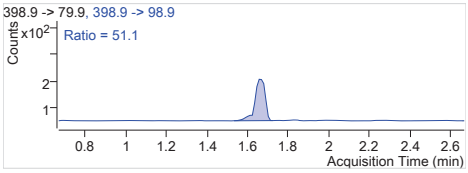
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 1.064 (1.064)
Calc. conc. 1.74 µg/L
Area ratio: 0.72153
Sample type: Calibration



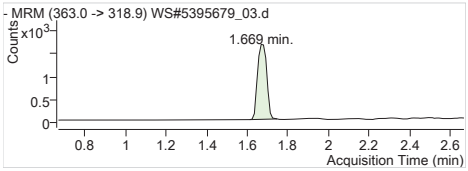


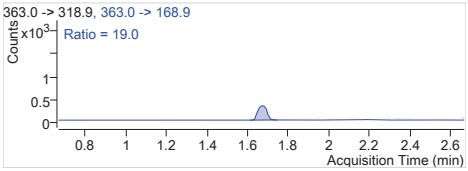
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 1.400 (1.400)
Calc. conc. 1.57 µg/L
Area ratio: 0.60733
Sample type: Calibration



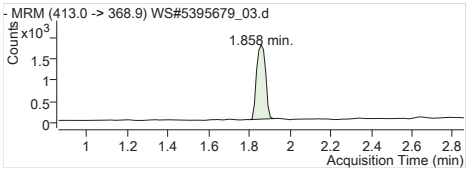


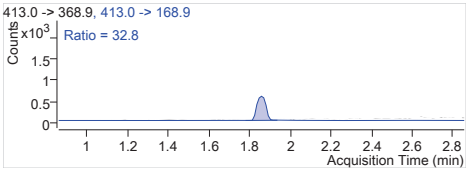
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 1.59 µg/L
Area ratio: 0.64248
Sample type: Calibration



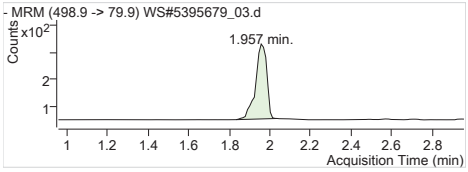


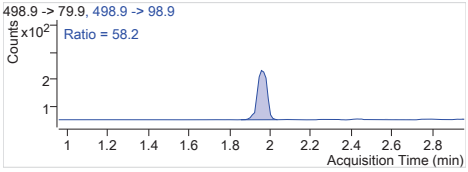
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 1.669 (1.669)
Calc. conc. 1.40 µg/L
Area ratio: 0.55184
Sample type: Calibration



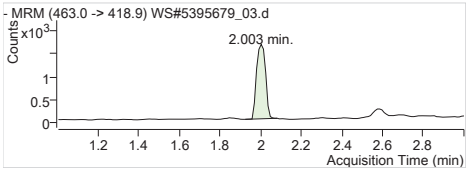


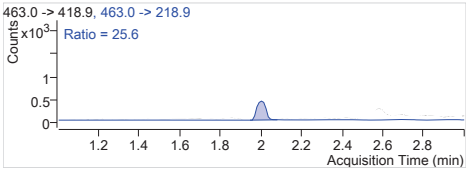
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 1.858 (1.858)
Calc. conc. 1.49 µg/L
Area ratio: 0.56743
Sample type: Calibration



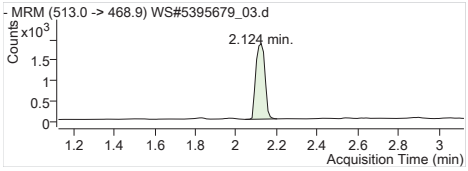


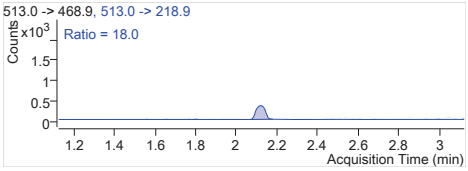
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 1.53 µg/L
Area ratio: 0.51729
Sample type: Calibration



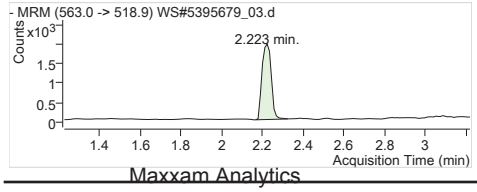


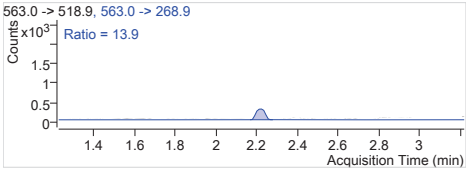
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 2.003 (2.003)
Calc. conc. 1.49 µg/L
Area ratio: 0.53190
Sample type: Calibration



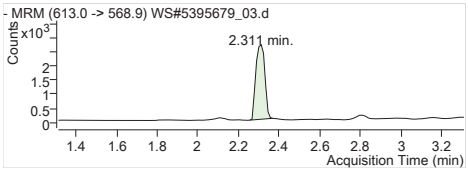


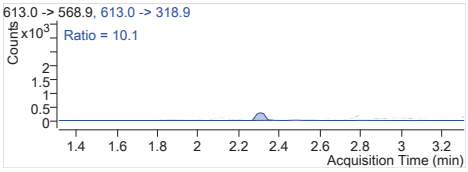
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 1.48 µg/L
Area ratio: 0.71034
Sample type: Calibration



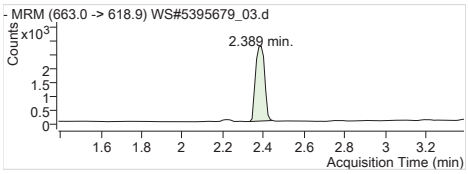


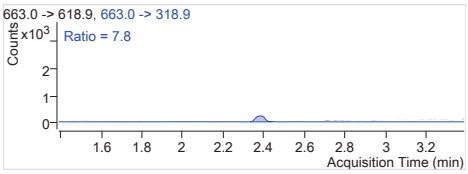
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 1.46 µg/L
Area ratio: 0.62003
Sample type: Calibration



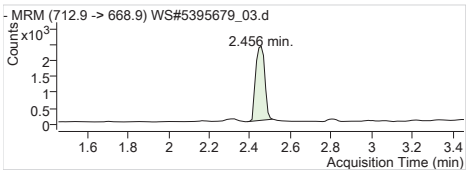


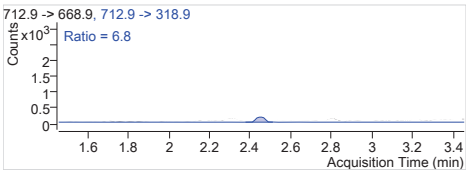
PFDoA 1 613.0 -> 568.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 1.55 µg/L
Area ratio: 0.65427
Sample type: Calibration



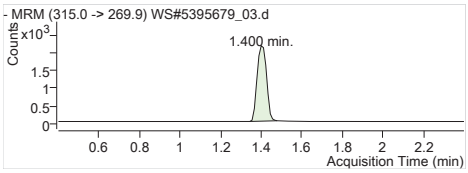


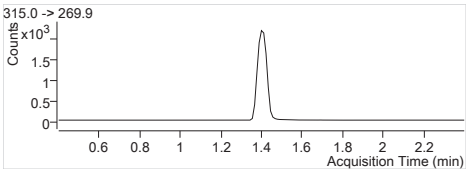
PFTrDA 1 663.0 -> 618.9
RT (Exp. RT): 2.389 (2.389)
Calc. conc. 1.47 µg/L
Area ratio: 0.59903
Sample type: Calibration



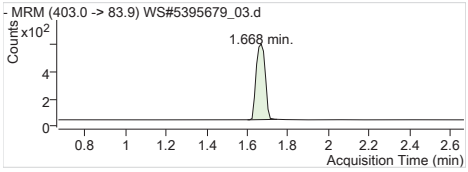


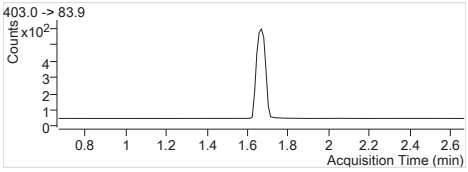
PFTeDA 1 712.9 -> 668.9
RT (Exp. RT): 2.456 (2.456)
Calc. conc. 1.48 µg/L
Area ratio: 0.51546
Sample type: Calibration



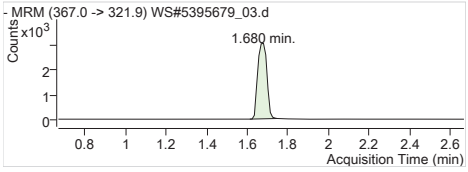


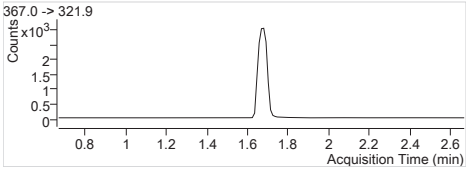
13C2-PFHxA 315.0 -> 269.9
RT (Exp. RT): 1.400 (1.400)
Calc. conc. 106.54 µg/L
Area ratio: 0.32082
Sample type: Calibration



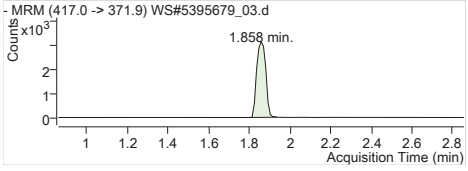


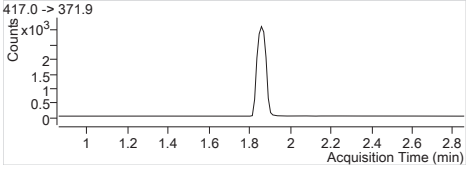
18O2-PFHxS 403.0 -> 83.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 101.72 µg/L
Area ratio: 0.07819
Sample type: Calibration



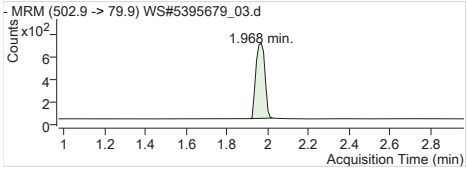


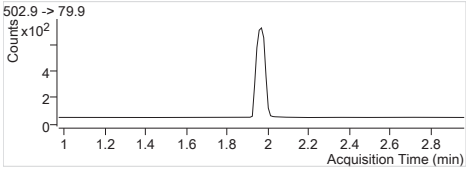
13C4-PFHpA 367.0 -> 321.9
RT (Exp. RT): 1.680 (1.668)
Calc. conc. 109.86 µg/L
Area ratio: 0.43332
Sample type: Calibration



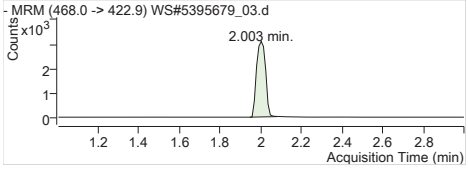


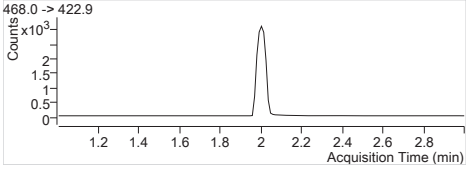
13C4-PFOA 417.0 -> 371.9
RT (Exp. RT): 1.858 (1.858)
Calc. conc. 103.25 µg/L
Area ratio: 0.44020
Sample type: Calibration



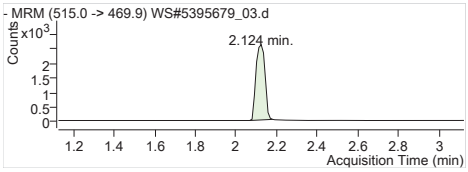


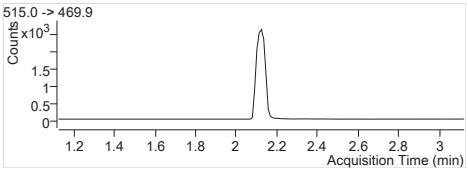
13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.968 (1.968)
Calc. conc. 105.00 µg/L
Area ratio: 0.09604
Sample type: Calibration



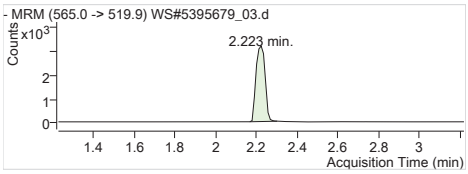


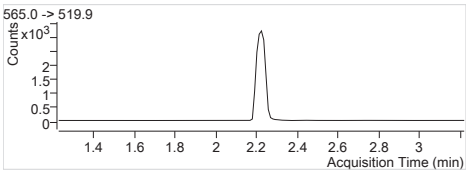
13C5-PFNA 468.0 -> 422.9
RT (Exp. RT): 2.003 (2.003)
Calc. conc. 105.13 µg/L
Area ratio: 0.43678
Sample type: Calibration



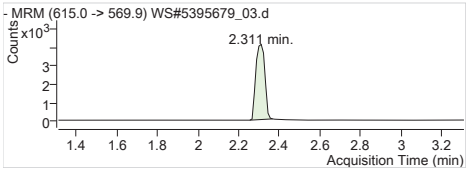


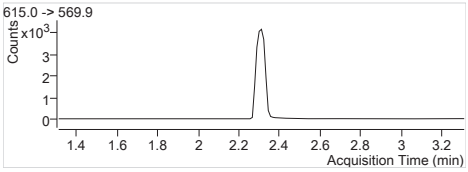
13C2-PFDA 515.0 -> 469.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 101.61 µg/L
Area ratio: 0.26291
Sample type: Calibration



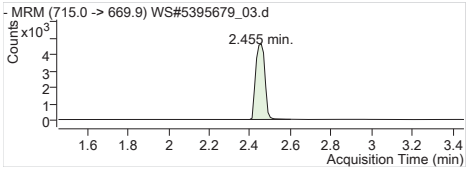


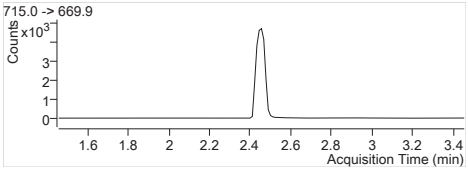
13C2-PFUnA 565.0 -> 519.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 105.21 µg/L
Area ratio: 0.32550
Sample type: Calibration



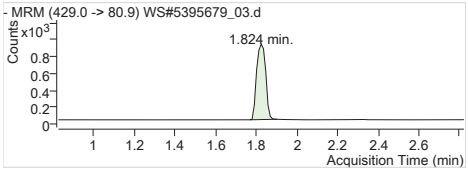


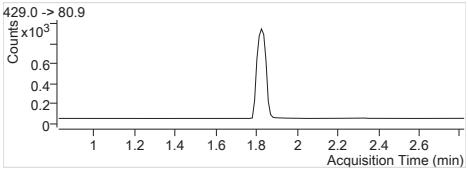
13C2-PFDoA 615.0 -> 569.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 102.31 µg/L
Area ratio: 0.41839
Sample type: Calibration



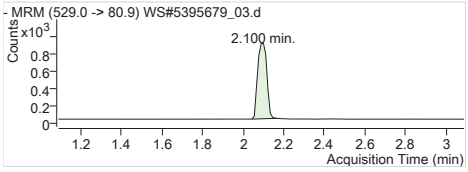


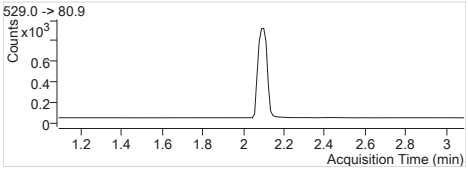
13C2-PFTeDA 715.0 -> 669.9
RT (Exp. RT): 2.455 (2.455)
Calc. conc. 100.48 µg/L
Area ratio: 0.48055
Sample type: Calibration



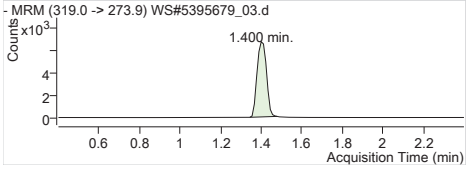


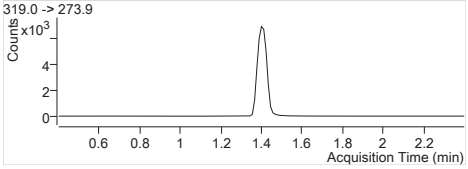
13C2-6:2-FTS 429.0 -> 80.9
RT (Exp. RT): 1.824 (1.824)
Calc. conc. 105.90 µg/L
Area ratio: 0.12823
Sample type: Calibration



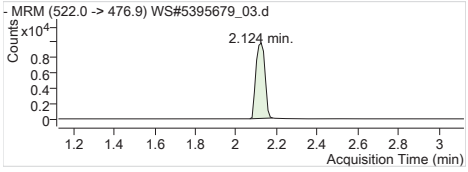


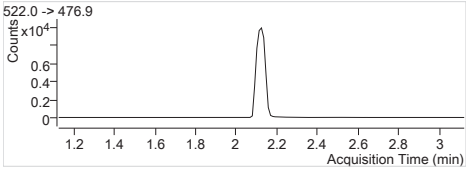
13C2-8:2 FTS 529.0 -> 80.9
RT (Exp. RT): 2.100 (2.089)
Calc. conc. 111.09 µg/L
Area ratio: 0.12547
Sample type: Calibration





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.400 (1.400)
Calc. conc. 98.97 µg/L
Area ratio: 0
Sample type: Calibration





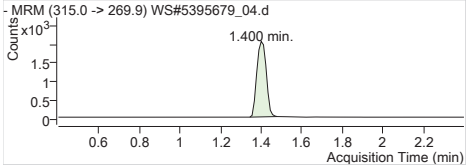
13C9-PFDA 522.0 -> 476.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 104.54 µg/L
Area ratio: 0
Sample type: Calibration

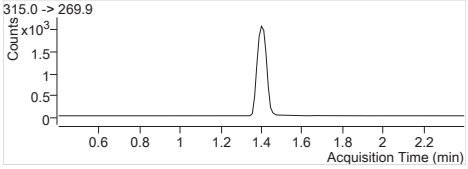
Batch Path T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics

Sample Name	**STD 3**	**Instrument**	LCMS04
Data File	WS#5395679_04.d	**Operator**	
Sample Type	Cal	**Dilution**	1
Acq. Method	PFC_Water_Low.m	**Position**	P3-A4
Acq. Date	2018/02/13 10:10:40 PM	**Injection Volume**	Per Method
Sample Annotation	-		

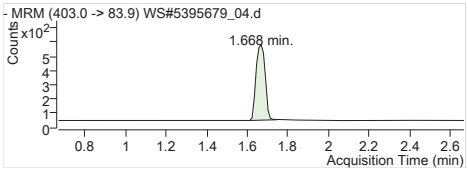
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	6520	1.40	1 µg/L		
MPFHxS	1659	1.67	1 µg/L		
MPFHpA	8342	1.68	1 µg/L		
MPFOA	8985	1.86	1 µg/L		
MPFOS	2057	1.97	1 µg/L		
MPFNA	9380	2.00	1 µg/L		
MPFDA	7292	2.12	1 µg/L		
MPFUnA	8423	2.22	1 µg/L		
MPFDoA	12523	2.31	1 µg/L		
MPFTeDA	13281	2.46	1 µg/L		
13C6-PFHxA IS	24035	1.40	1 µg/L		
13C9-PFDA IS	30220	2.12	1 µg/L		

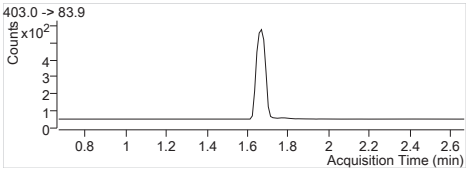
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1	3569	1.05	5.00	4.82 µg/L	96.32
PFHxA 1	12823	1.40	5.00	4.69 µg/L	93.87
PFHxS 1	3437	1.67	5.00	4.68 µg/L	93.61
PFHpA 1	16838	1.68	5.00	5.05 µg/L	100.97
PFOA 1	18800	1.86	5.00	5.13 µg/L	102.65
PFOS 1	3509	1.96	5.00	4.69 µg/L	93.82
PFNA 1	16429	2.00	5.00	4.61 µg/L	92.21
PFDA 1	17783	2.12	5.00	4.98 µg/L	99.56
PFUnA 1	19677	2.22	5.00	5.18 µg/L	103.69
PFDoA 1	23770	2.31	5.00	4.48 µg/L	89.58
PFTrDA 1	27966	2.39	5.00	4.98 µg/L	99.56
PFTeDA 1	23692	2.46	5.00	5.10 µg/L	102.00
13C2-PFHxA	6520	1.40	100.00	90.09 µg/L	90.09
18O2-PFHxS	1659	1.67	100.00	89.80 µg/L	89.80
13C4-PFHpA	8342	1.68	100.00	88.00 µg/L	88.00
13C4-PFOA	8985	1.86	100.00	87.68 µg/L	87.68
13C4-PFOS	2057	1.97	100.00	93.57 µg/L	93.57
13C5-PFNA	9379	2.00	100.00	93.92 µg/L	93.92
13C2-PFDA	7243	2.12	100.00	92.63 µg/L	92.63
13C2-PFUnA	8423	2.22	100.00	90.09 µg/L	90.09
13C2-PFDoA	12523	2.31	100.00	101.34 µg/L	101.34
13C2-PFTeDA	13686	2.46	100.00	94.70 µg/L	94.70
13C2-6:2-FTS	2729	1.82	100.00	93.77 µg/L	93.77
13C2-8:2 FTS	2428	2.09	100.00	89.45 µg/L	89.45
13C6-PFHxA	24035	1.40	100.00	109.72 µg/L	109.72
13C9-PFDA	30220	2.12	100.00	104.33 µg/L	104.33



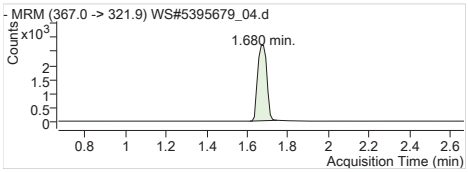


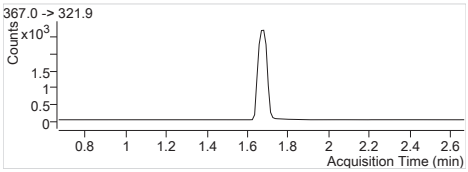
MPFHxA Internal Standard
RT (Exp. RT): 1.400 (1.400)
Concentration: 1 µg/L
Sample type: Calibration



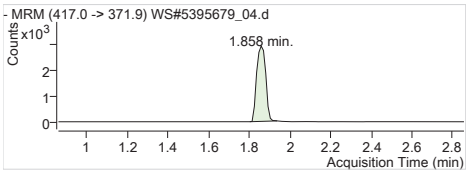


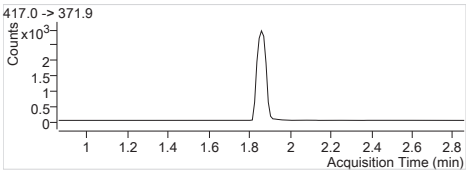
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Calibration



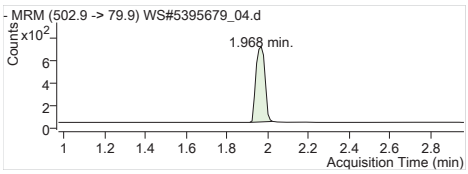


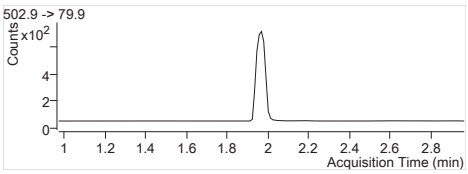
MPFHpA Internal Standard
RT (Exp. RT): 1.680 (1.668)
Concentration: 1 µg/L
Sample type: Calibration



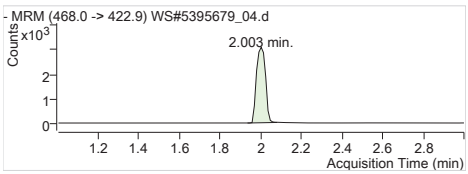


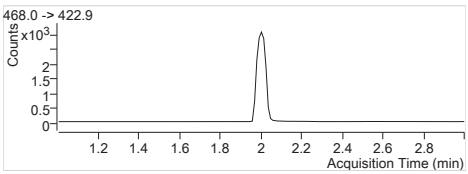
MPFOA Internal Standard
RT (Exp. RT): 1.858 (1.858)
Concentration: 1 µg/L
Sample type: Calibration



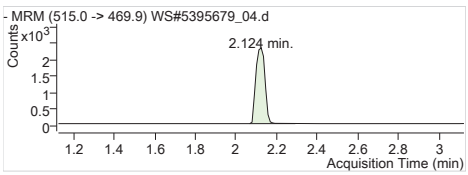


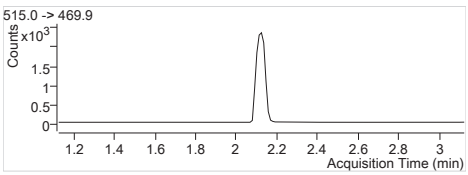
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Calibration



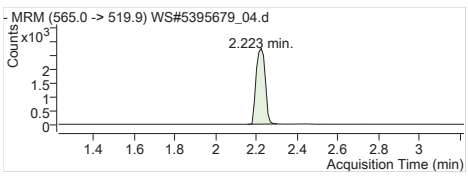


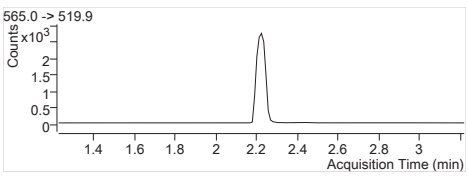
MPFNA Internal Standard
RT (Exp. RT): 2.003 (2.003)
Concentration: 1 µg/L
Sample type: Calibration



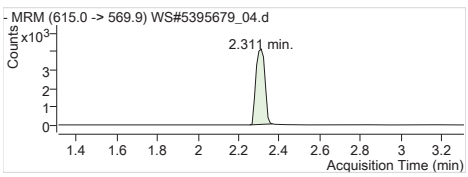


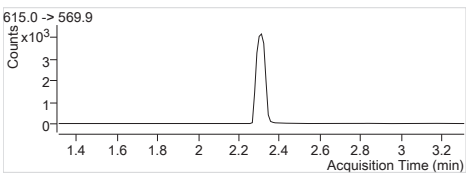
MPFDA Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Calibration



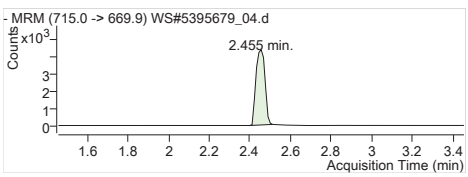


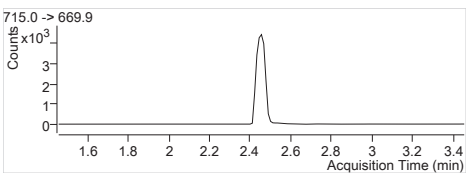
MPFUnA Internal Standard
RT (Exp. RT): 2.223 (2.223)
Concentration: 1 µg/L
Sample type: Calibration



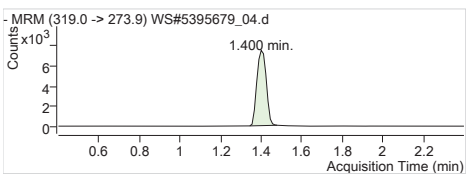


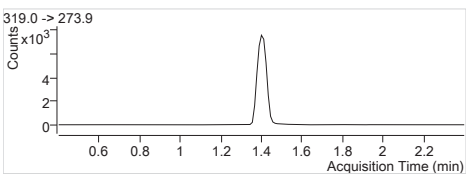
MPFDoA Internal Standard
RT (Exp. RT): 2.311 (2.311)
Concentration: 1 µg/L
Sample type: Calibration



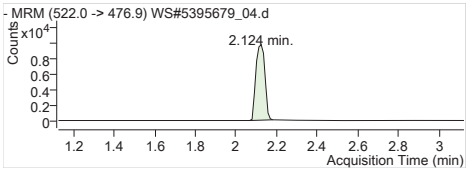


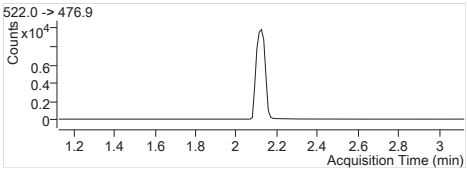
MPFTeDA Internal Standard
RT (Exp. RT): 2.455 (2.455)
Concentration: 1 µg/L
Sample type: Calibration



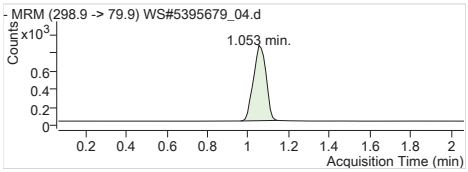


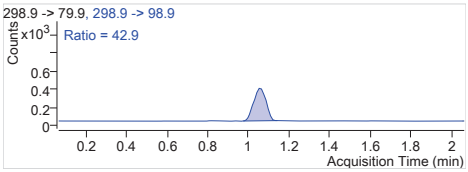
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.400 (1.400)
Concentration: 1 µg/L
Sample type: Calibration



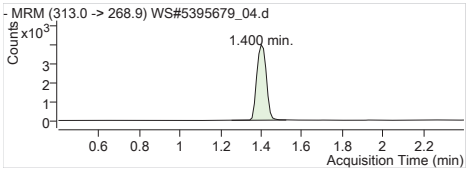


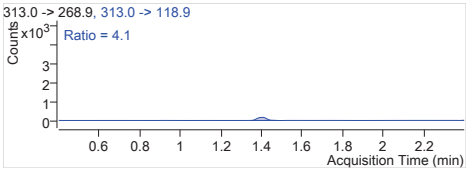
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Calibration



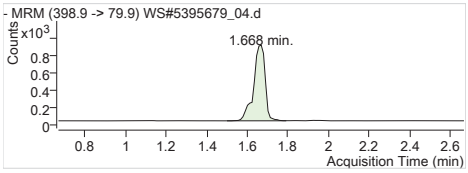


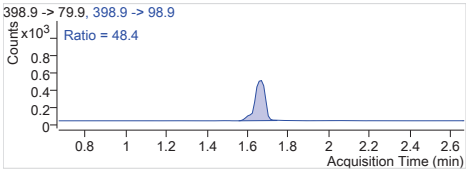
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 1.053 (1.064)
Calc. conc. 4.82 µg/L
Area ratio: 2.15130
Sample type: Calibration



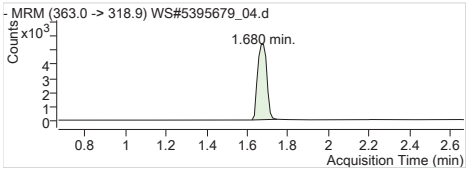


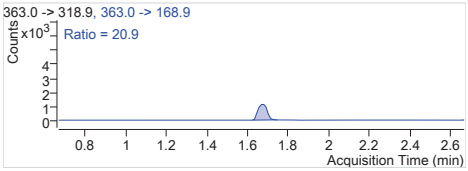
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 1.400 (1.400)
Calc. conc. 4.69 µg/L
Area ratio: 1.96672
Sample type: Calibration



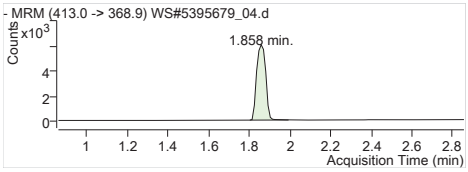


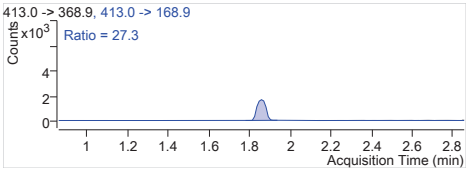
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 4.68 µg/L
Area ratio: 2.07173
Sample type: Calibration



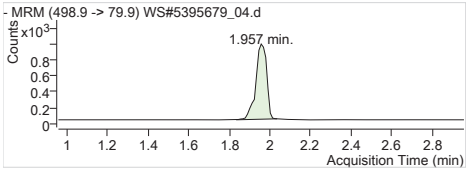


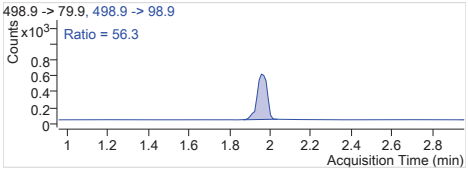
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 1.680 (1.669)
Calc. conc. 5.05 µg/L
Area ratio: 2.01846
Sample type: Calibration



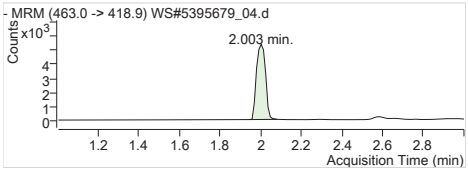


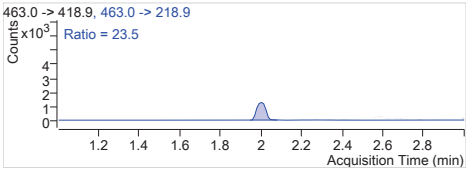
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 1.858 (1.858)
Calc. conc. 5.13 µg/L
Area ratio: 2.09238
Sample type: Calibration



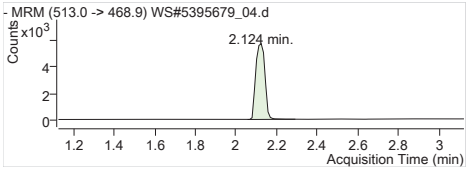


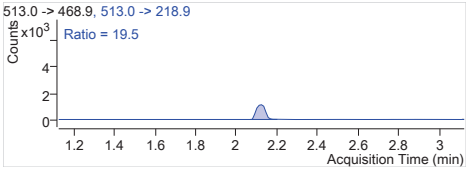
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 4.69 µg/L
Area ratio: 1.70588
Sample type: Calibration



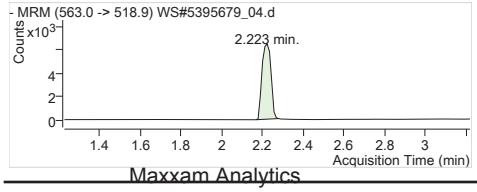


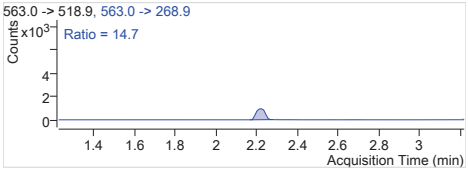
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 2.003 (2.003)
Calc. conc. 4.61 µg/L
Area ratio: 1.75149
Sample type: Calibration



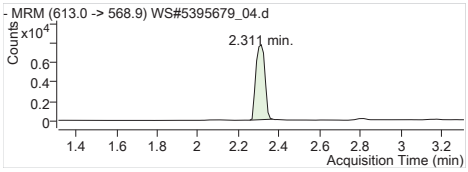


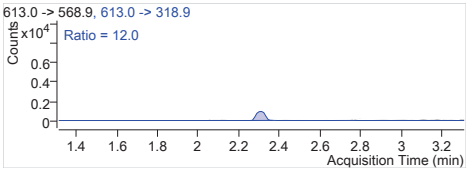
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 4.98 µg/L
Area ratio: 2.43870
Sample type: Calibration



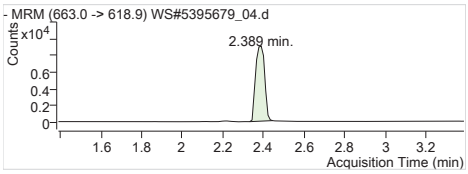


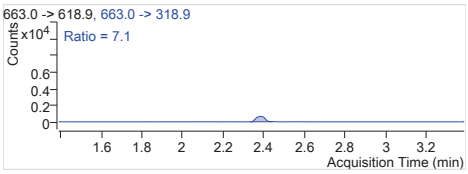
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 5.18 µg/L
Area ratio: 2.33610
Sample type: Calibration



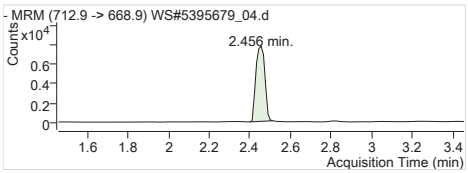


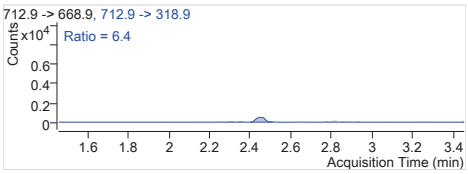
PFDoA 1 613.0 -> 568.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 4.48 µg/L
Area ratio: 1.89811
Sample type: Calibration



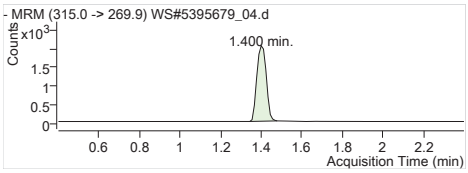


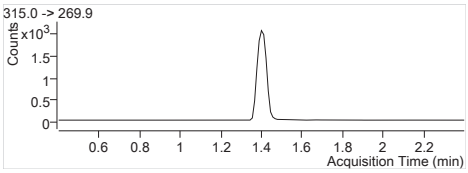
PFTrDA 1 663.0 -> 618.9
RT (Exp. RT): 2.389 (2.389)
Calc. conc. 4.98 µg/L
Area ratio: 2.10571
Sample type: Calibration



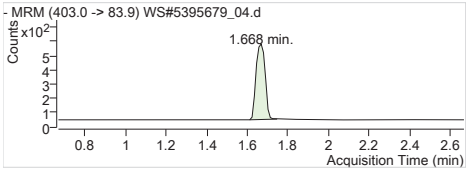


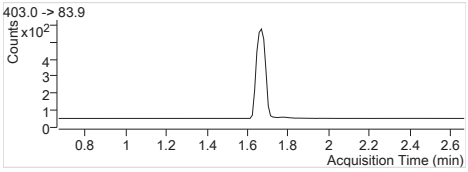
PFTeDA 1 712.9 -> 668.9
RT (Exp. RT): 2.456 (2.456)
Calc. conc. 5.10 µg/L
Area ratio: 1.78390
Sample type: Calibration



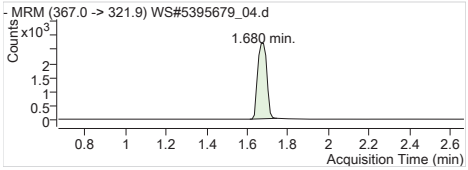


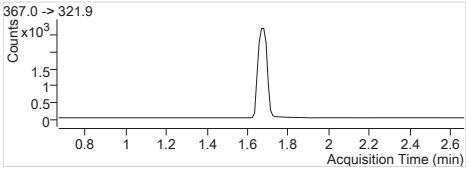
13C2-PFHxA 315.0 -> 269.9
RT (Exp. RT): 1.400 (1.400)
Calc. conc. 90.09 µg/L
Area ratio: 0.27127
Sample type: Calibration



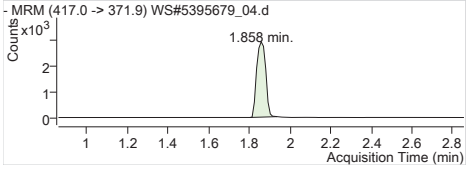


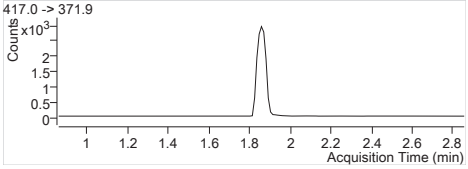
18O2-PFHxS 403.0 -> 83.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 89.80 µg/L
Area ratio: 0.06902
Sample type: Calibration



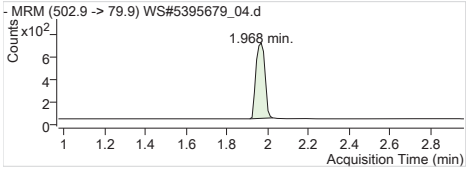


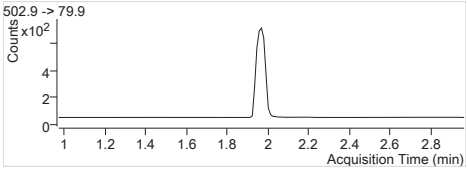
13C4-PFHpA 367.0 -> 321.9
RT (Exp. RT): 1.680 (1.668)
Calc. conc. 88.00 µg/L
Area ratio: 0.34708
Sample type: Calibration



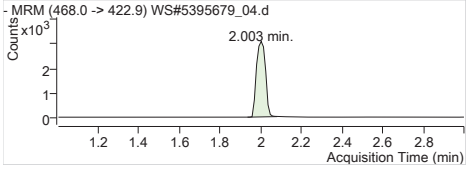


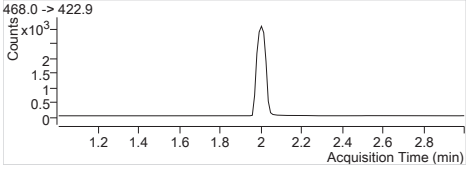
13C4-PFOA 417.0 -> 371.9
RT (Exp. RT): 1.858 (1.858)
Calc. conc. 87.68 µg/L
Area ratio: 0.37383
Sample type: Calibration



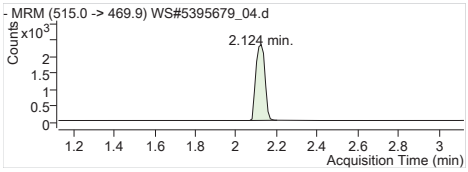


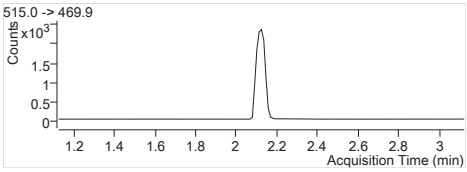
13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.968 (1.968)
Calc. conc. 93.57 µg/L
Area ratio: 0.08558
Sample type: Calibration



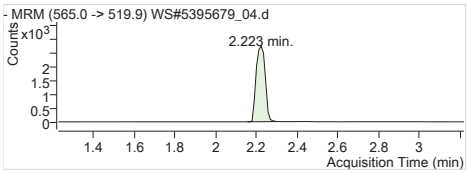


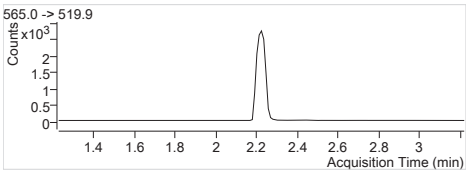
13C5-PFNA 468.0 -> 422.9
RT (Exp. RT): 2.003 (2.003)
Calc. conc. 93.92 µg/L
Area ratio: 0.39022
Sample type: Calibration



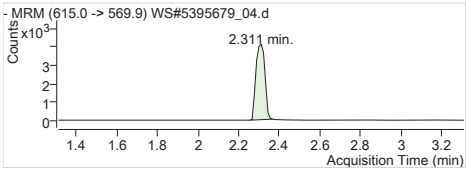


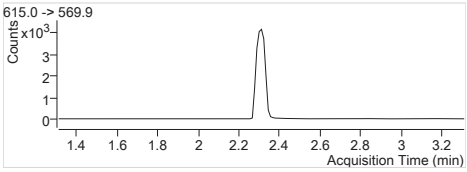
13C2-PFDA 515.0 -> 469.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 92.63 µg/L
Area ratio: 0.23968
Sample type: Calibration



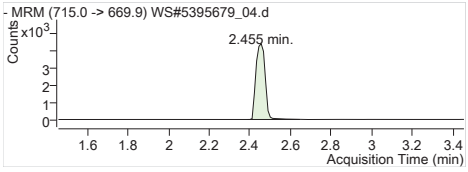


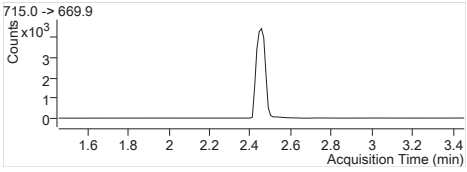
13C2-PFUnA 565.0 -> 519.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 90.09 µg/L
Area ratio: 0.27872
Sample type: Calibration



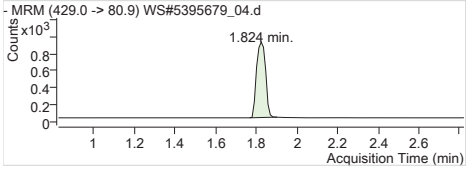


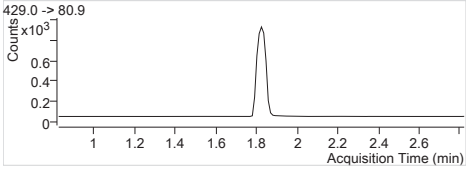
13C2-PFDoA 615.0 -> 569.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 101.34 µg/L
Area ratio: 0.41439
Sample type: Calibration



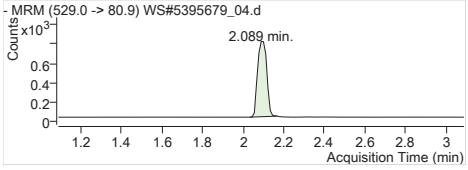


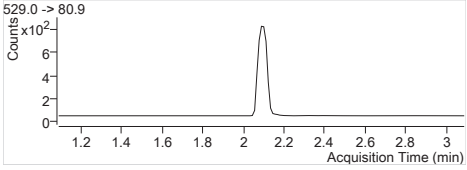
13C2-PFTeDA 715.0 -> 669.9
RT (Exp. RT): 2.455 (2.455)
Calc. conc. 94.70 µg/L
Area ratio: 0.45288
Sample type: Calibration



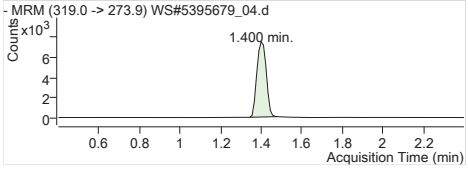


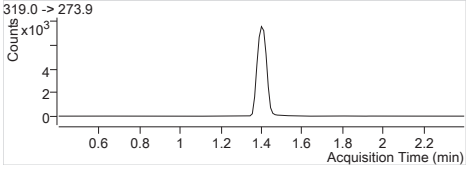
13C2-6:2-FTS 429.0 -> 80.9
RT (Exp. RT): 1.824 (1.824)
Calc. conc. 93.77 µg/L
Area ratio: 0.11354
Sample type: Calibration



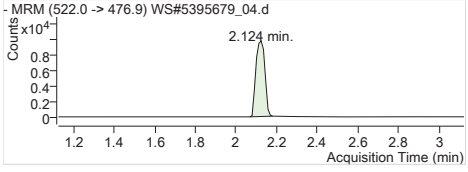


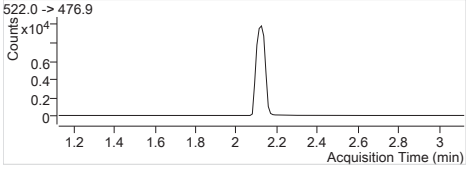
13C2-8:2 FTS 529.0 -> 80.9
RT (Exp. RT): 2.089 (2.089)
Calc. conc. 89.45 µg/L
Area ratio: 0.10102
Sample type: Calibration





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.400 (1.400)
Calc. conc. 109.72 µg/L
Area ratio: 0
Sample type: Calibration





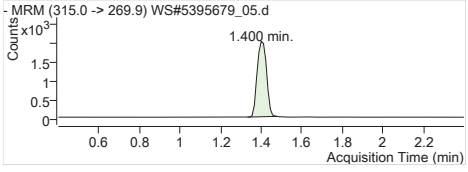
13C9-PFDA 522.0 -> 476.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 104.33 µg/L
Area ratio: 0
Sample type: Calibration

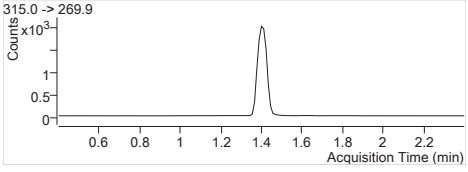
Batch Path T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics

Sample Name	**STD 4**	**Instrument**	LCMS04
Data File	WS#5395679_05.d	**Operator**	
Sample Type	Cal	**Dilution**	1
Acq. Method	PFC_Water_Low.m	**Position**	P3-A5
Acq. Date	2018/02/13 10:15:36 PM	**Injection Volume**	Per Method
Sample Annotation	-		

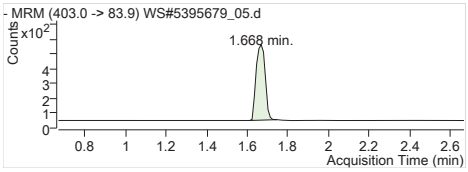
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	6379	1.40	1 µg/L		
MPFHxS	1593	1.67	1 µg/L		
MPFHpA	8645	1.67	1 µg/L		
MPFOA	9190	1.86	1 µg/L		
MPFOS	1954	1.97	1 µg/L		
MPFNA	8805	2.00	1 µg/L		
MPFDA	7733	2.12	1 µg/L		
MPFUnA	8655	2.22	1 µg/L		
MPFDoA	11510	2.31	1 µg/L		
MPFTeDA	12938	2.46	1 µg/L		
13C6-PFHxA IS	23346	1.40	1 µg/L		
13C9-PFDA IS	30996	2.12	1 µg/L		

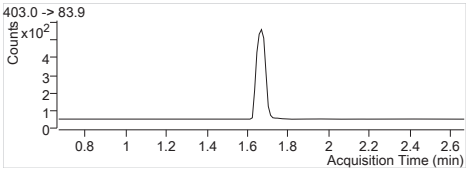
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1	9065	1.06	12.50	12.44 µg/L	99.54
PFHxA 1	33898	1.40	12.50	12.37 µg/L	98.99
PFHxS 1	9385	1.67	12.50	12.94 µg/L	103.52
PFHpA 1	44414	1.67	12.50	12.80 µg/L	102.43
PFOA 1	49307	1.86	12.50	12.94 µg/L	103.55
PFOS 1	9433	1.96	12.50	12.99 µg/L	103.93
PFNA 1	43491	2.00	12.50	12.77 µg/L	102.18
PFDA 1	46090	2.12	12.50	12.10 µg/L	96.83
PFUnA 1	50484	2.22	12.50	12.78 µg/L	102.23
PFDoA 1	62761	2.31	12.50	12.85 µg/L	102.79
PFTrDA 1	73688	2.39	12.50	13.34 µg/L	106.75
PFTeDA 1	60900	2.46	12.50	13.44 µg/L	107.49
13C2-PFHxA	6379	1.40	100.00	90.74 µg/L	90.74
18O2-PFHxS	1593	1.67	100.00	88.77 µg/L	88.77
13C4-PFHpA	8645	1.67	100.00	93.88 µg/L	93.88
13C4-PFOA	9190	1.86	100.00	92.33 µg/L	92.33
13C4-PFOS	1954	1.97	100.00	91.51 µg/L	91.51
13C5-PFNA	8804	2.00	100.00	90.77 µg/L	90.77
13C2-PFDA	7594	2.12	100.00	94.69 µg/L	94.69
13C2-PFUnA	8655	2.22	100.00	90.26 µg/L	90.26
13C2-PFDoA	11510	2.31	100.00	90.81 µg/L	90.81
13C2-PFTeDA	13287	2.46	100.00	89.63 µg/L	89.63
13C2-6:2-FTS	2585	1.82	100.00	91.44 µg/L	91.44
13C2-8:2 FTS	2375	2.09	100.00	90.08 µg/L	90.08
13C6-PFHxA	23346	1.40	100.00	106.58 µg/L	106.58
13C9-PFDA	30996	2.12	100.00	107.01 µg/L	107.01



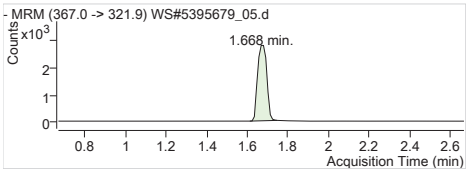


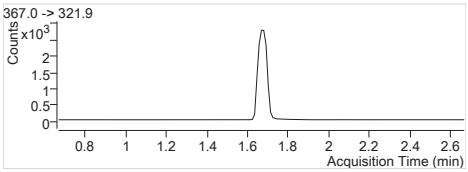
MPFHxA Internal Standard
RT (Exp. RT): 1.400 (1.400)
Concentration: 1 µg/L
Sample type: Calibration



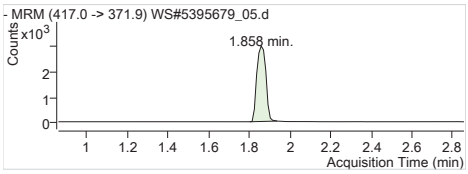


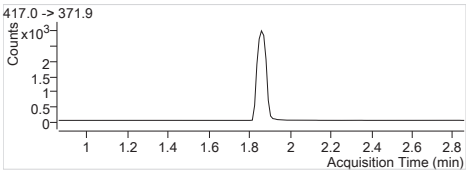
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Calibration



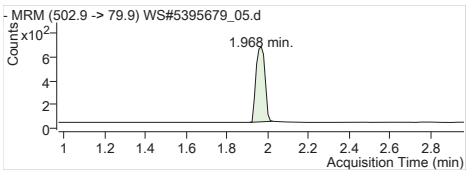


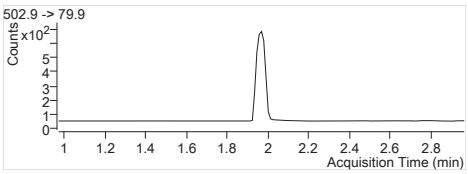
MPFHpA Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Calibration



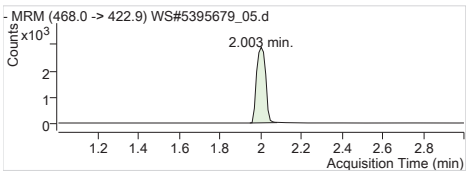


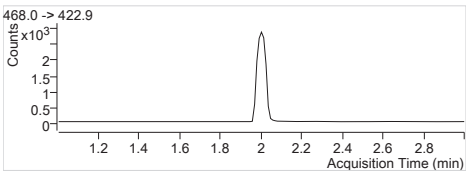
MPFOA Internal Standard
RT (Exp. RT): 1.858 (1.858)
Concentration: 1 µg/L
Sample type: Calibration



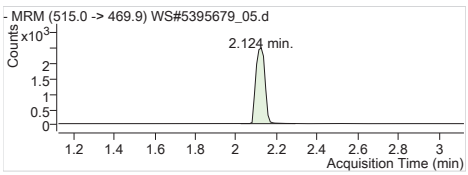


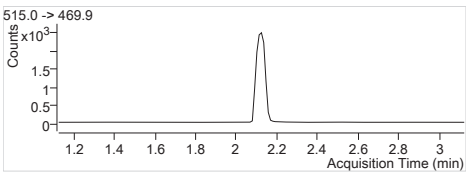
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Calibration



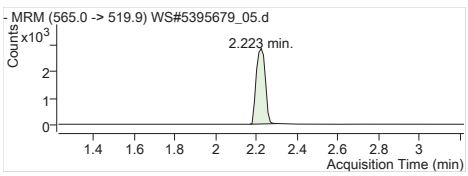


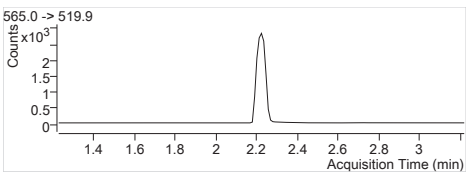
MPFNA Internal Standard
RT (Exp. RT): 2.003 (2.003)
Concentration: 1 µg/L
Sample type: Calibration



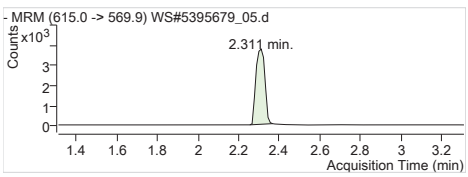


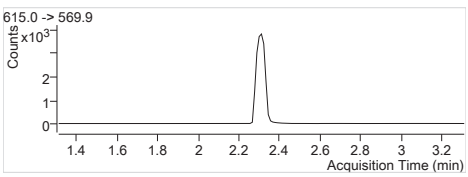
MPFDA Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Calibration



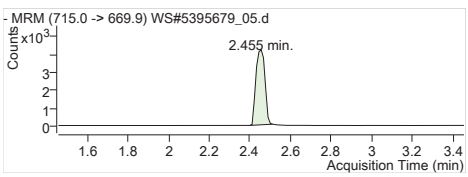


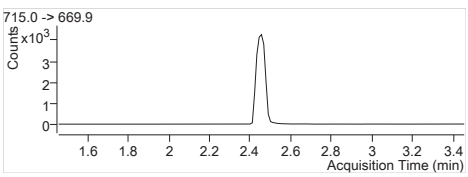
MPFUnA Internal Standard
RT (Exp. RT): 2.223 (2.223)
Concentration: 1 µg/L
Sample type: Calibration



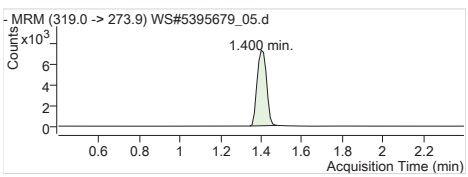


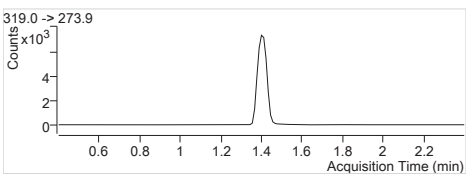
MPFDoA Internal Standard
RT (Exp. RT): 2.311 (2.311)
Concentration: 1 µg/L
Sample type: Calibration



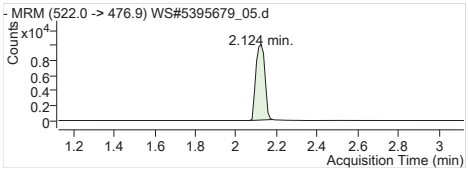


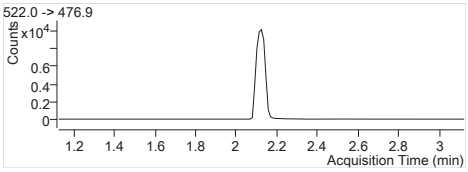
MPFTeDA Internal Standard
RT (Exp. RT): 2.455 (2.455)
Concentration: 1 µg/L
Sample type: Calibration



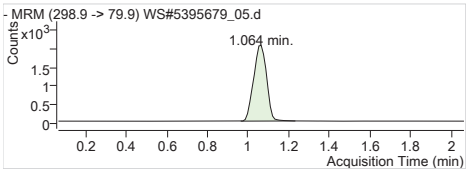


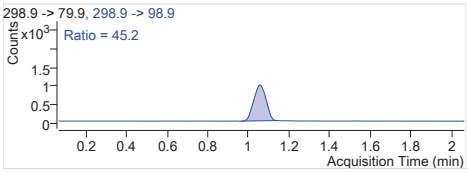
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.400 (1.400)
Concentration: 1 µg/L
Sample type: Calibration



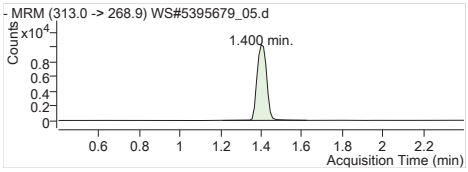


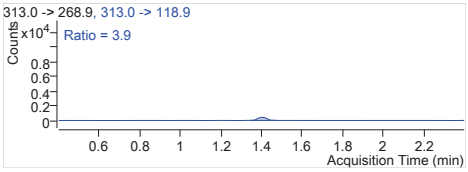
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Calibration



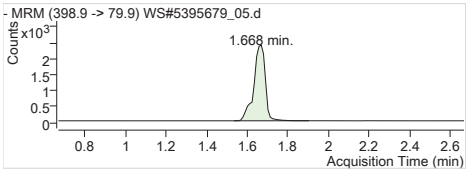


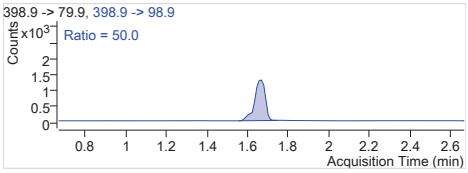
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 1.064 (1.064)
Calc. conc. 12.44 µg/L
Area ratio: 5.69052
Sample type: Calibration



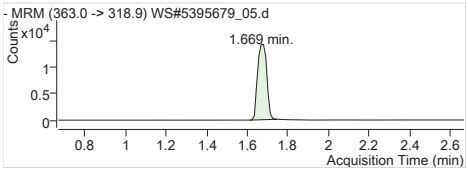


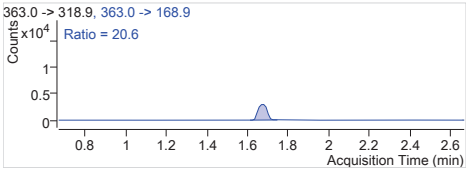
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 1.400 (1.400)
Calc. conc. 12.37 µg/L
Area ratio: 5.31400
Sample type: Calibration



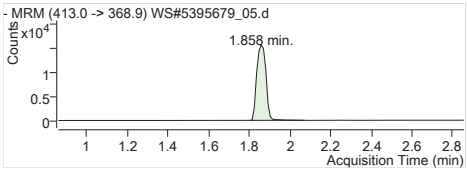


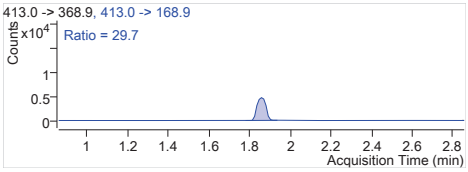
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 12.94 µg/L
Area ratio: 5.89140
Sample type: Calibration



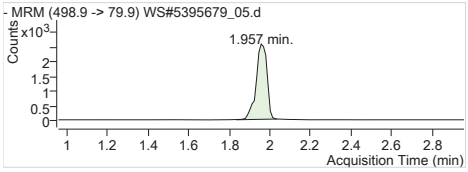


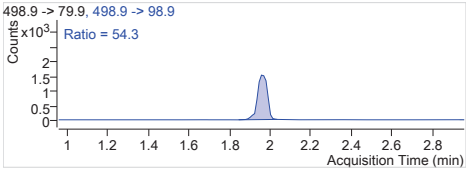
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 1.669 (1.669)
Calc. conc. 12.80 µg/L
Area ratio: 5.13754
Sample type: Calibration



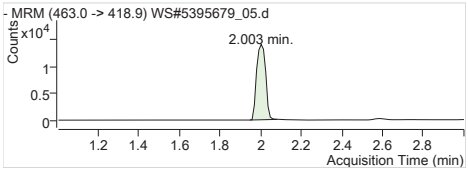


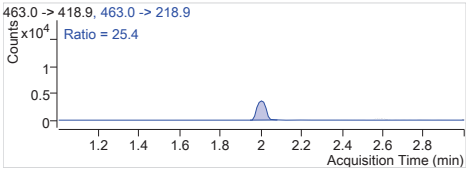
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 1.858 (1.858)
Calc. conc. 12.94 µg/L
Area ratio: 5.36529
Sample type: Calibration



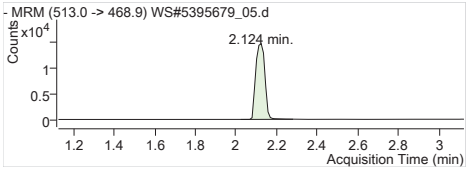


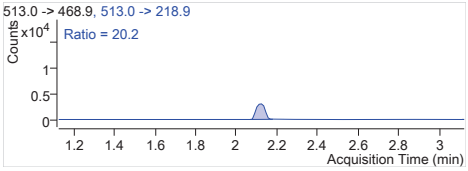
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 12.99 µg/L
Area ratio: 4.82753
Sample type: Calibration



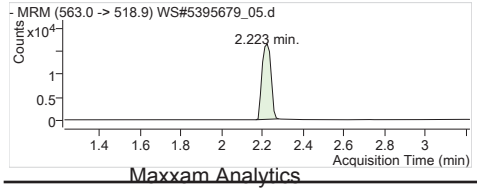


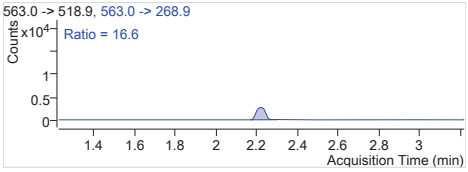
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 2.003 (2.003)
Calc. conc. 12.77 µg/L
Area ratio: 4.93935
Sample type: Calibration



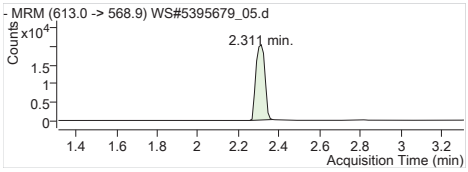


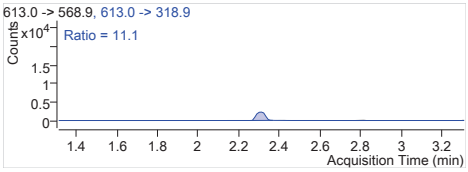
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 12.10 µg/L
Area ratio: 5.96017
Sample type: Calibration



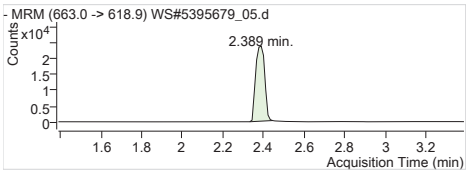


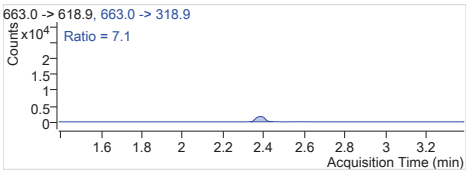
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 12.78 µg/L
Area ratio: 5.83293
Sample type: Calibration



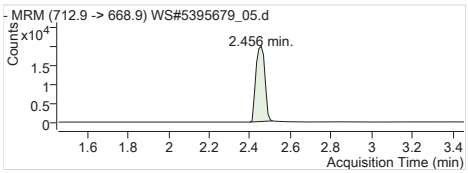


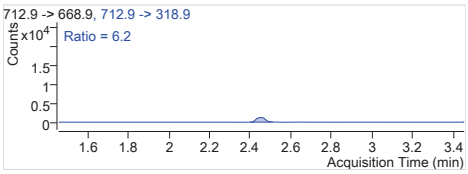
PFDoA 1 613.0 -> 568.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 12.85 µg/L
Area ratio: 5.45274
Sample type: Calibration



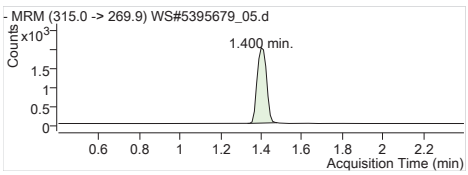


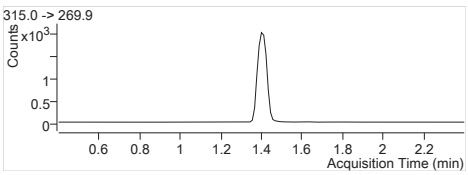
PFTrDA 1 663.0 -> 618.9
RT (Exp. RT): 2.389 (2.389)
Calc. conc. 13.34 µg/L
Area ratio: 5.69547
Sample type: Calibration



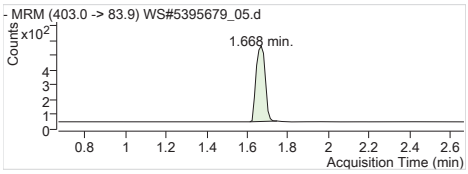


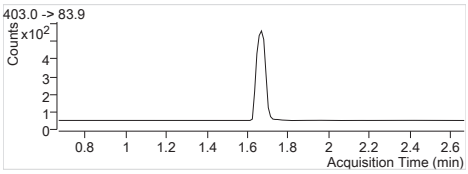
PFTeDA 1 712.9 -> 668.9
RT (Exp. RT): 2.456 (2.456)
Calc. conc. 13.44 µg/L
Area ratio: 4.70706
Sample type: Calibration



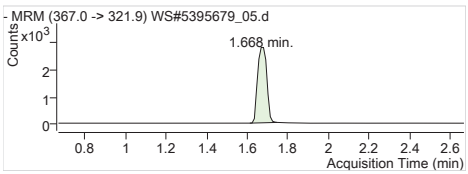


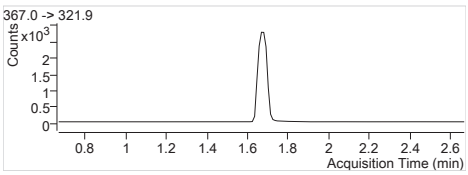
13C2-PFHxA 315.0 -> 269.9
RT (Exp. RT): 1.400 (1.400)
Calc. conc. 90.74 µg/L
Area ratio: 0.27324
Sample type: Calibration



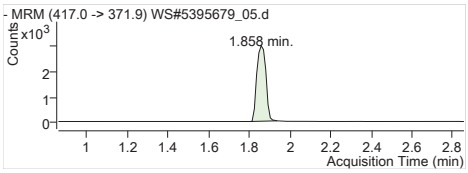


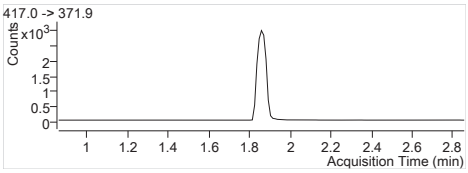
18O2-PFHxS 403.0 -> 83.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 88.77 µg/L
Area ratio: 0.06823
Sample type: Calibration



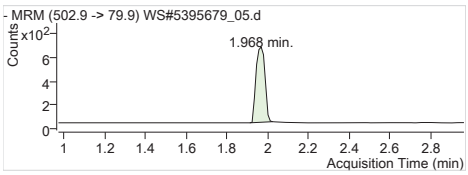


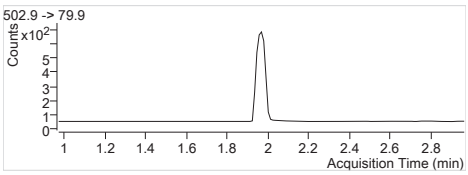
13C4-PFHpA 367.0 -> 321.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 93.88 µg/L
Area ratio: 0.37030
Sample type: Calibration



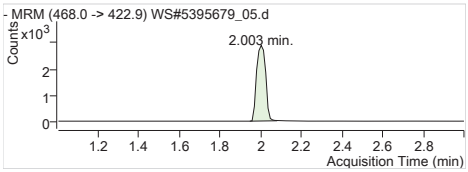


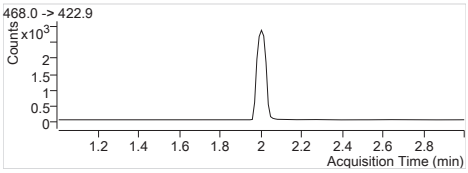
13C4-PFOA 417.0 -> 371.9
RT (Exp. RT): 1.858 (1.858)
Calc. conc. 92.33 µg/L
Area ratio: 0.39364
Sample type: Calibration



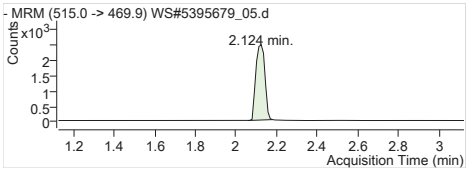


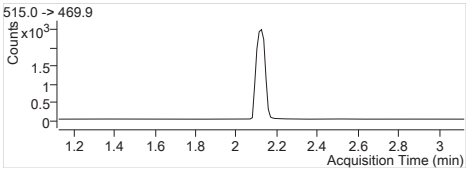
13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.968 (1.968)
Calc. conc. 91.51 µg/L
Area ratio: 0.08370
Sample type: Calibration



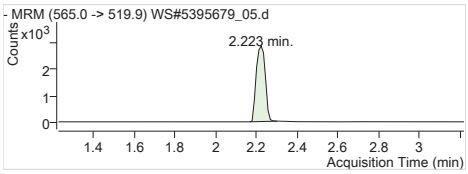


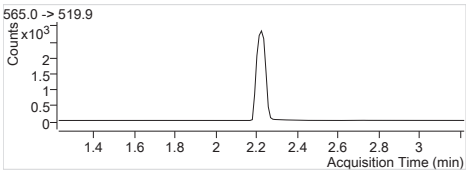
13C5-PFNA 468.0 -> 422.9
RT (Exp. RT): 2.003 (2.003)
Calc. conc. 90.77 µg/L
Area ratio: 0.37711
Sample type: Calibration



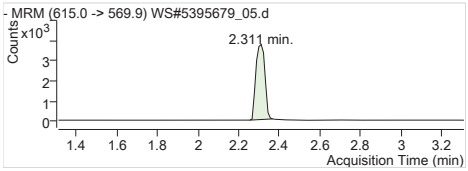


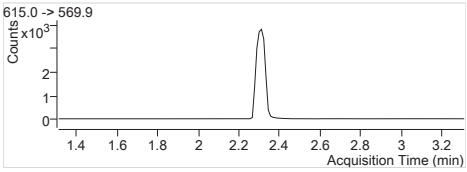
13C2-PFDA 515.0 -> 469.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 94.69 µg/L
Area ratio: 0.24500
Sample type: Calibration



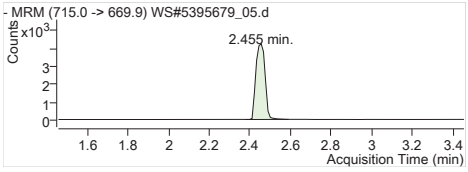


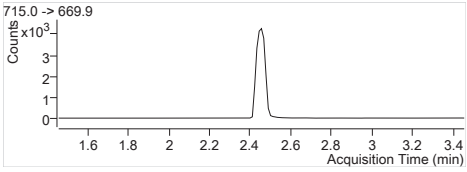
13C2-PFUnA 565.0 -> 519.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 90.26 µg/L
Area ratio: 0.27923
Sample type: Calibration



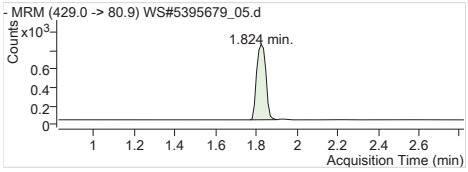


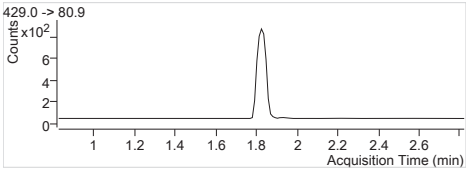
13C2-PFDoA 615.0 -> 569.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 90.81 µg/L
Area ratio: 0.37134
Sample type: Calibration



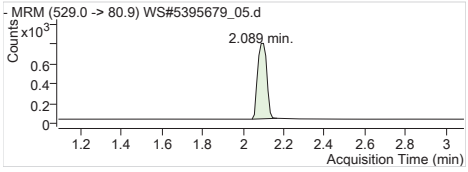


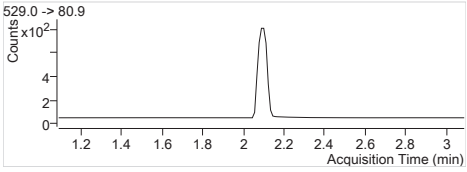
13C2-PFTeDA 715.0 -> 669.9
RT (Exp. RT): 2.455 (2.455)
Calc. conc. 89.63 µg/L
Area ratio: 0.42867
Sample type: Calibration



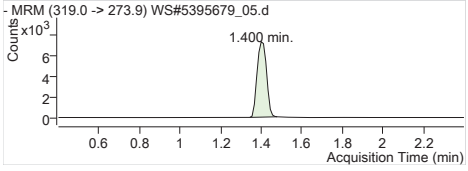


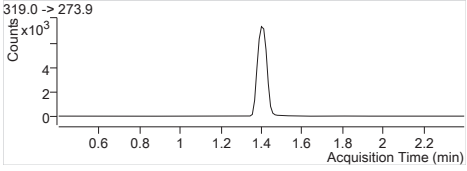
13C2-6:2-FTS 429.0 -> 80.9
RT (Exp. RT): 1.824 (1.824)
Calc. conc. 91.44 µg/L
Area ratio: 0.11073
Sample type: Calibration



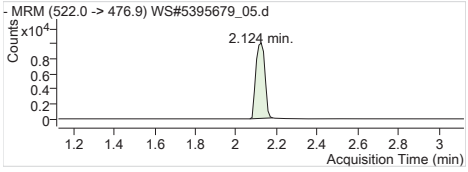


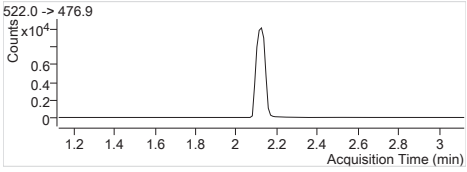
13C2-8:2 FTS 529.0 -> 80.9
RT (Exp. RT): 2.089 (2.089)
Calc. conc. 90.08 µg/L
Area ratio: 0.10173
Sample type: Calibration





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.400 (1.400)
Calc. conc. 106.58 µg/L
Area ratio: 0
Sample type: Calibration





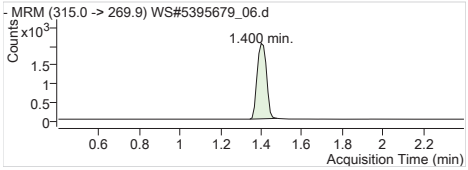
13C9-PFDA 522.0 -> 476.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 107.01 µg/L
Area ratio: 0
Sample type: Calibration

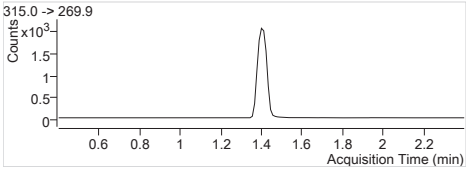
Batch Path T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics

Sample Name	**STD 5**	**Instrument**	LCMS04
Data File	WS#5395679_06.d	**Operator**	
Sample Type	Cal	**Dilution**	1
Acq. Method	PFC_Water_Low.m	**Position**	P3-A6
Acq. Date	2018/02/13 10:20:32 PM	**Injection Volume**	Per Method
Sample Annotation	-		

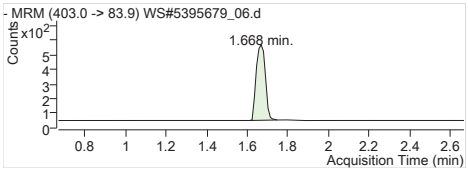
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	6467	1.40	1 µg/L		
MPFHxS	1629	1.67	1 µg/L		
MPFHpA	7883	1.68	1 µg/L		
MPFOA	9149	1.86	1 µg/L		
MPFOS	1914	1.97	1 µg/L		
MPFNA	8287	2.00	1 µg/L		
MPFDA	7629	2.12	1 µg/L		
MPFUnA	9243	2.22	1 µg/L		
MPFDoA	11349	2.31	1 µg/L		
MPFTeDA	12646	2.46	1 µg/L		
13C6-PFHxA IS	22078	1.40	1 µg/L		
13C9-PFDA IS	29476	2.12	1 µg/L		

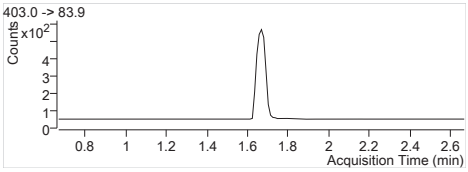
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1	17234	1.05	25.00	22.98 µg/L	91.90
PFHxA 1	66575	1.40	25.00	23.80 µg/L	95.21
PFHxS 1	17987	1.67	25.00	24.08 µg/L	96.31
PFHpA 1	82700	1.68	25.00	26.11 µg/L	104.46
PFOA 1	89759	1.86	25.00	23.55 µg/L	94.21
PFOS 1	17171	1.96	25.00	24.01 µg/L	96.04
PFNA 1	82917	2.00	25.00	25.74 µg/L	102.97
PFDA 1	91466	2.12	25.00	24.30 µg/L	97.22
PFUnA 1	98104	2.22	25.00	23.16 µg/L	92.65
PFDoA 1	110548	2.31	25.00	22.95 µg/L	91.78
PFTrDA 1	135060	2.39	25.00	24.96 µg/L	99.83
PFTeDA 1	111182	2.46	25.00	25.09 µg/L	100.34
13C2-PFHxA	6467	1.40	100.00	97.28 µg/L	97.28
18O2-PFHxS	1629	1.67	100.00	95.99 µg/L	95.99
13C4-PFHpA	7883	1.68	100.00	90.52 µg/L	90.52
13C4-PFOA	9149	1.86	100.00	97.20 µg/L	97.20
13C4-PFOS	1914	1.97	100.00	94.79 µg/L	94.79
13C5-PFNA	8286	2.00	100.00	90.33 µg/L	90.33
13C2-PFDA	7492	2.12	100.00	98.23 µg/L	98.23
13C2-PFUnA	9243	2.22	100.00	101.36 µg/L	101.36
13C2-PFDoA	11349	2.31	100.00	94.15 µg/L	94.15
13C2-PFTeDA	13000	2.46	100.00	92.22 µg/L	92.22
13C2-6:2-FTS	2414	1.82	100.00	90.30 µg/L	90.30
13C2-8:2 FTS	2352	2.10	100.00	94.33 µg/L	94.33
13C6-PFHxA	22078	1.40	100.00	100.79 µg/L	100.79
13C9-PFDA	29476	2.12	100.00	101.76 µg/L	101.76



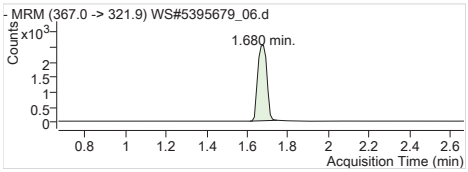


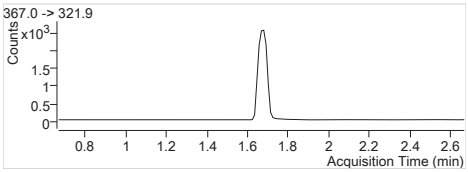
MPFHxA Internal Standard
RT (Exp. RT): 1.400 (1.400)
Concentration: 1 µg/L
Sample type: Calibration



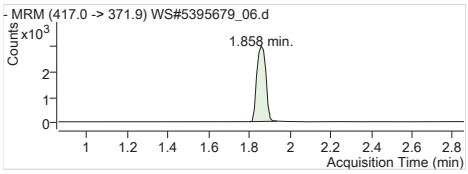


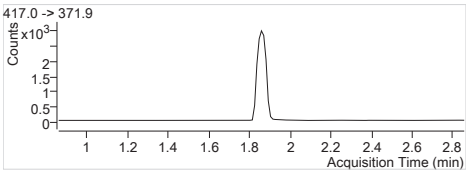
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Calibration



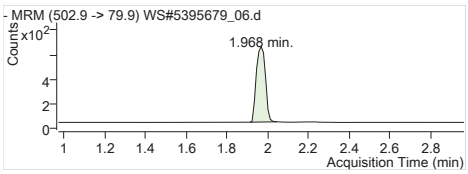


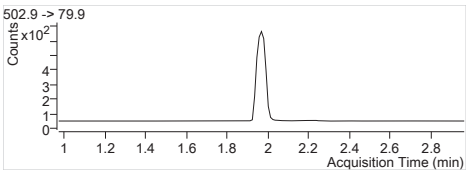
MPFHpA Internal Standard
RT (Exp. RT): 1.680 (1.668)
Concentration: 1 µg/L
Sample type: Calibration



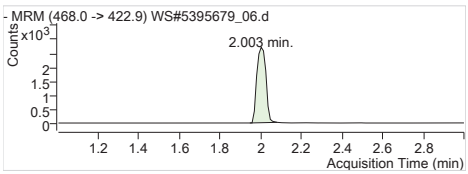


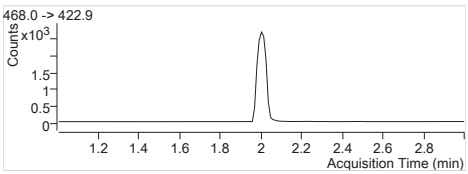
MPFOA Internal Standard
RT (Exp. RT): 1.858 (1.858)
Concentration: 1 µg/L
Sample type: Calibration



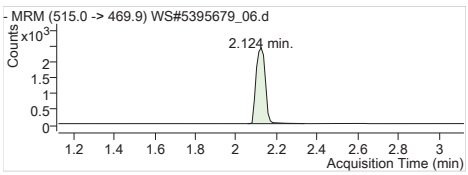


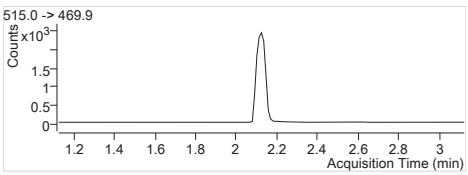
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Calibration



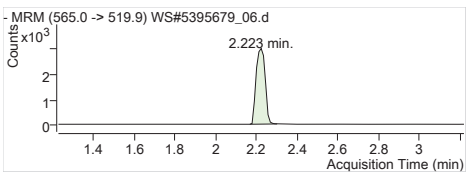


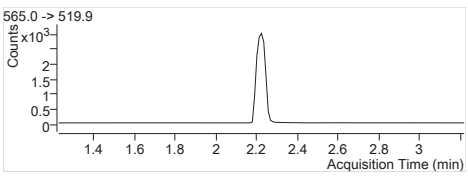
MPFNA Internal Standard
RT (Exp. RT): 2.003 (2.003)
Concentration: 1 µg/L
Sample type: Calibration



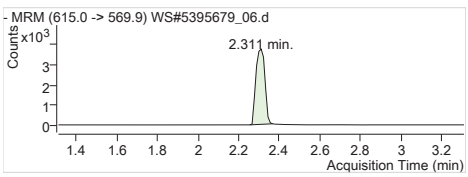


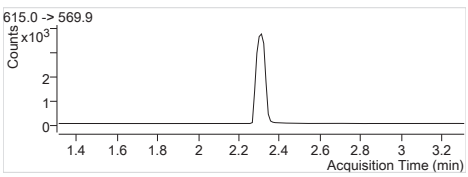
MPFDA Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Calibration



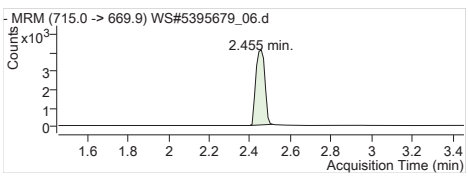


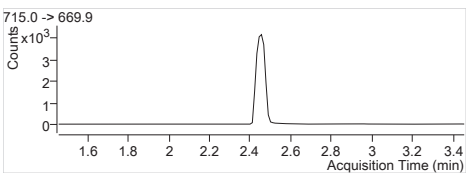
MPFUnA Internal Standard
RT (Exp. RT): 2.223 (2.223)
Concentration: 1 µg/L
Sample type: Calibration



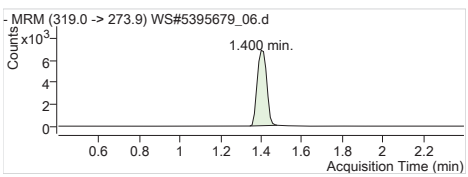


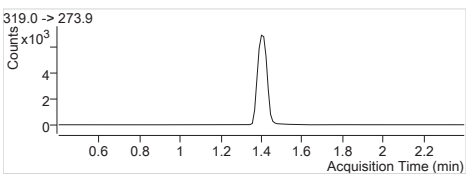
MPFDoA Internal Standard
RT (Exp. RT): 2.311 (2.311)
Concentration: 1 µg/L
Sample type: Calibration



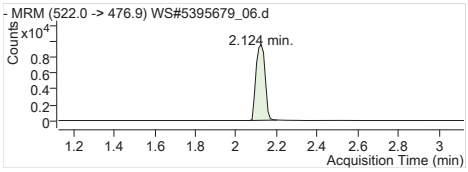


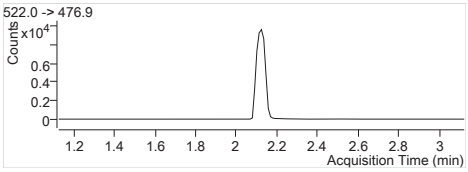
MPFTeDA Internal Standard
RT (Exp. RT): 2.455 (2.455)
Concentration: 1 µg/L
Sample type: Calibration



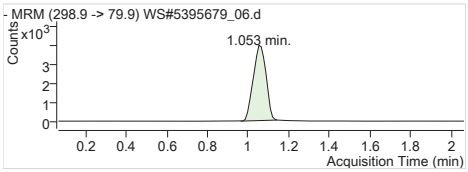


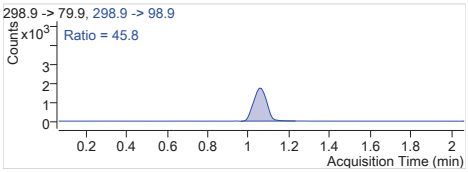
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.400 (1.400)
Concentration: 1 µg/L
Sample type: Calibration



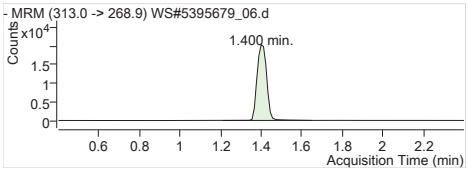


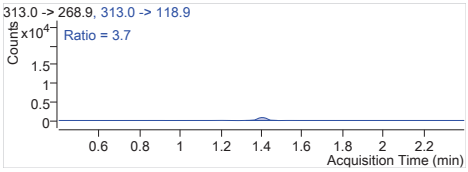
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Calibration



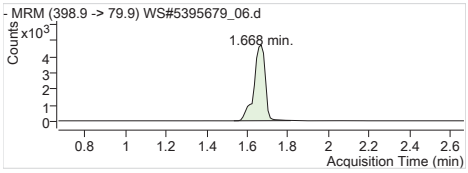


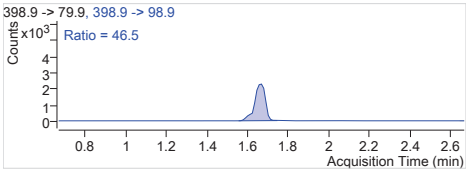
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 1.053 (1.064)
Calc. conc. 22.98 µg/L
Area ratio: 10.57950
Sample type: Calibration



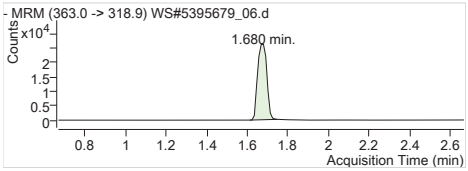


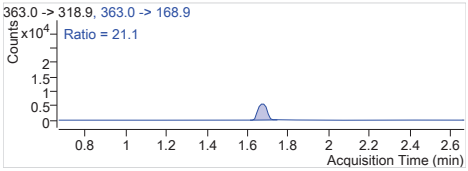
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 1.400 (1.400)
Calc. conc. 23.80 µg/L
Area ratio: 10.29457
Sample type: Calibration



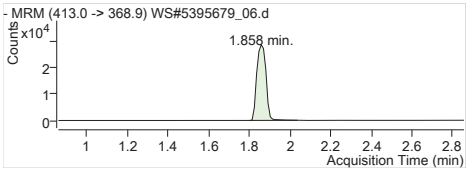


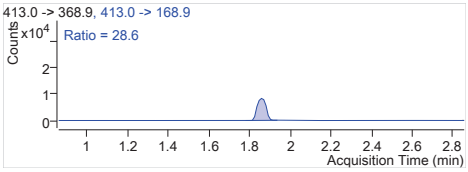
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 24.08 µg/L
Area ratio: 11.04174
Sample type: Calibration



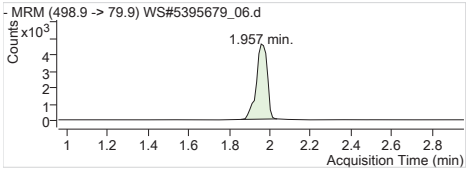


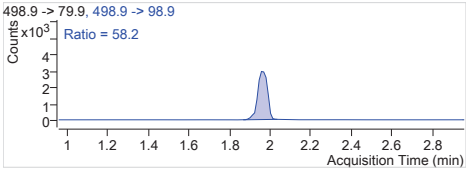
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 1.680 (1.669)
Calc. conc. 26.11 µg/L
Area ratio: 10.49093
Sample type: Calibration



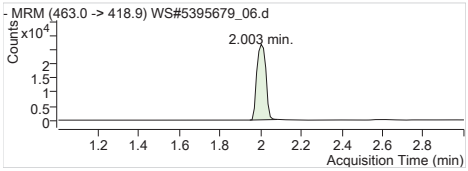


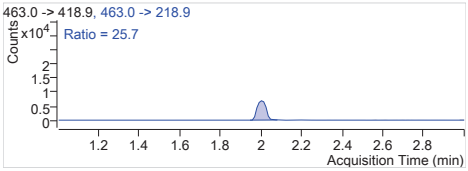
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 1.858 (1.858)
Calc. conc. 23.55 µg/L
Area ratio: 9.81080
Sample type: Calibration



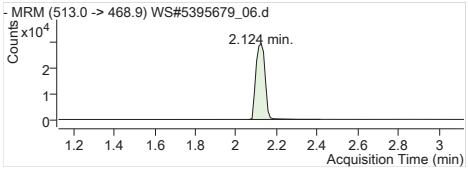


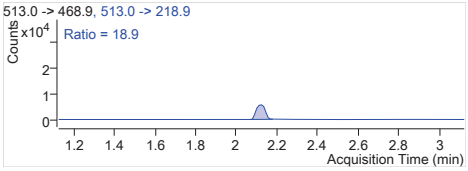
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 24.01 µg/L
Area ratio: 8.97126
Sample type: Calibration



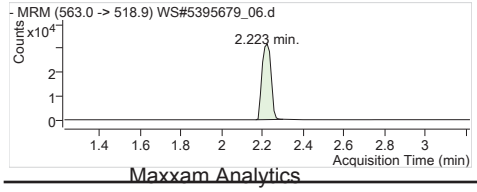


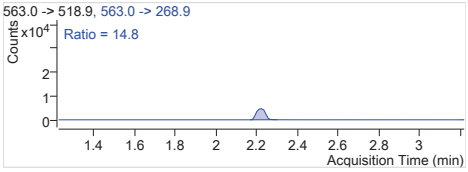
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 2.003 (2.003)
Calc. conc. 25.74 µg/L
Area ratio: 10.00567
Sample type: Calibration



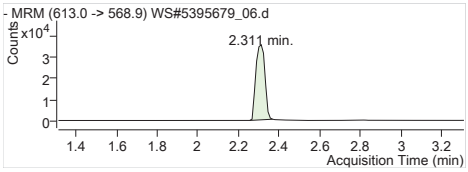


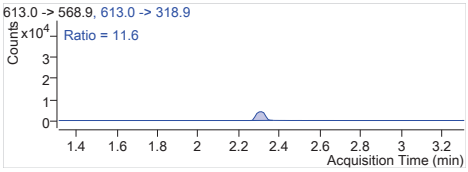
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 24.30 µg/L
Area ratio: 11.98925
Sample type: Calibration



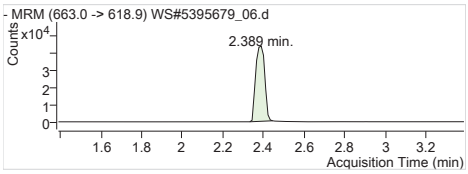


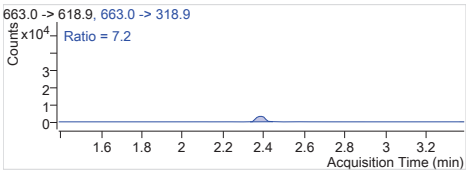
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 23.16 µg/L
Area ratio: 10.61387
Sample type: Calibration



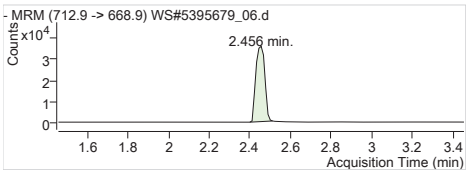


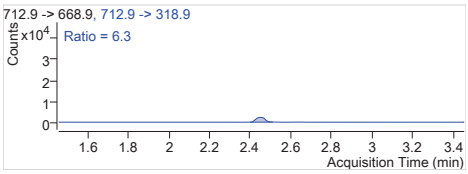
PFDoA 1 613.0 -> 568.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 22.95 µg/L
Area ratio: 9.74077
Sample type: Calibration



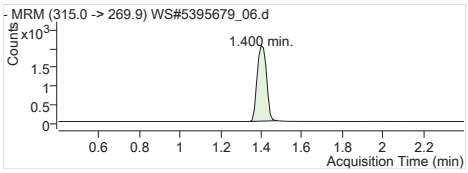


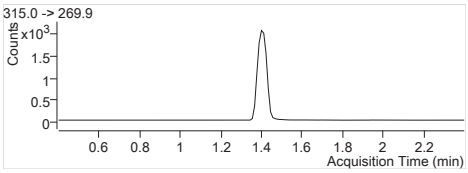
PFTrDA 1 663.0 -> 618.9
RT (Exp. RT): 2.389 (2.389)
Calc. conc. 24.96 µg/L
Area ratio: 10.68006
Sample type: Calibration



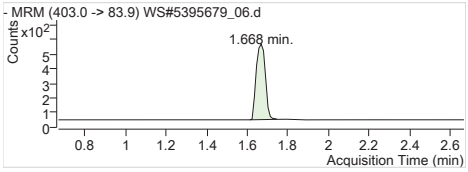


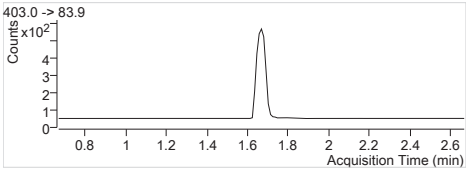
PFTeDA 1 712.9 -> 668.9
RT (Exp. RT): 2.456 (2.456)
Calc. conc. 25.09 µg/L
Area ratio: 8.79187
Sample type: Calibration



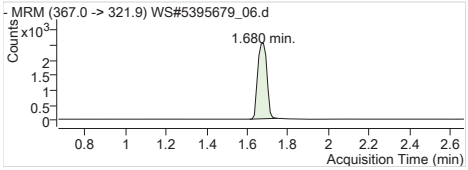


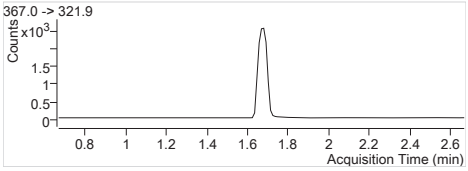
13C2-PFHxA 315.0 -> 269.9
RT (Exp. RT): 1.400 (1.400)
Calc. conc. 97.28 µg/L
Area ratio: 0.29292
Sample type: Calibration



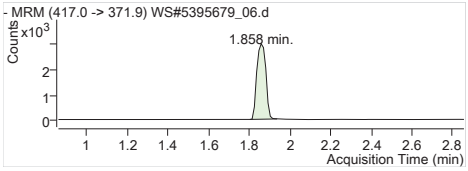


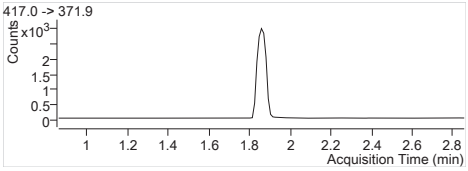
18O2-PFHxS 403.0 -> 83.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 95.99 µg/L
Area ratio: 0.07378
Sample type: Calibration



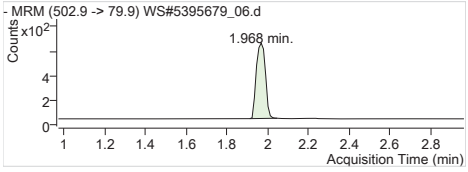


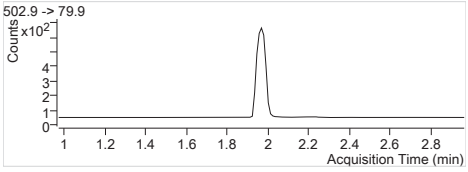
13C4-PFHpA 367.0 -> 321.9
RT (Exp. RT): 1.680 (1.668)
Calc. conc. 90.52 µg/L
Area ratio: 0.35705
Sample type: Calibration



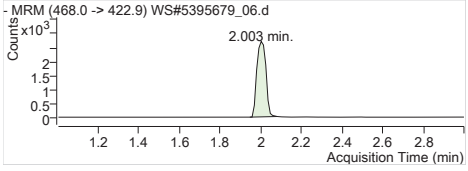


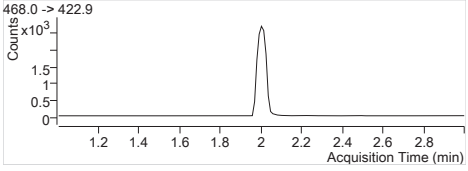
13C4-PFOA 417.0 -> 371.9
RT (Exp. RT): 1.858 (1.858)
Calc. conc. 97.20 µg/L
Area ratio: 0.41439
Sample type: Calibration



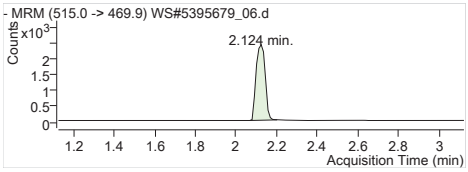


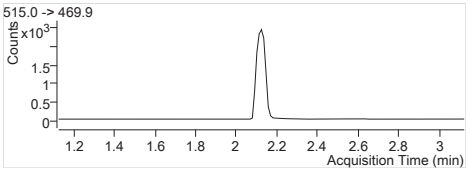
13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.968 (1.968)
Calc. conc. 94.79 µg/L
Area ratio: 0.08669
Sample type: Calibration



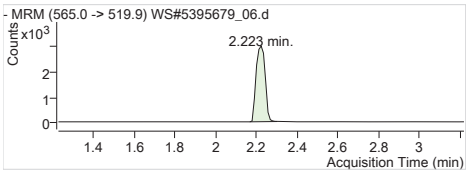


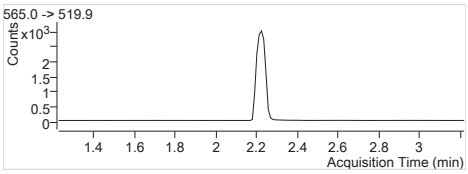
13C5-PFNA 468.0 -> 422.9
RT (Exp. RT): 2.003 (2.003)
Calc. conc. 90.33 µg/L
Area ratio: 0.37531
Sample type: Calibration



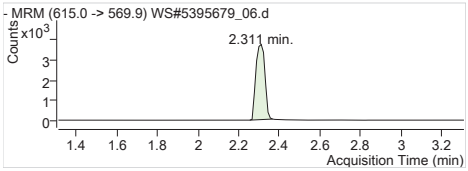


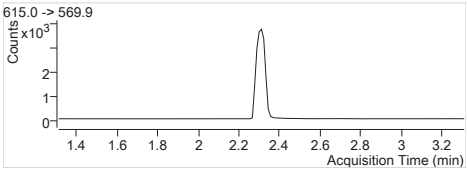
13C2-PFDA 515.0 -> 469.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 98.23 µg/L
Area ratio: 0.25417
Sample type: Calibration



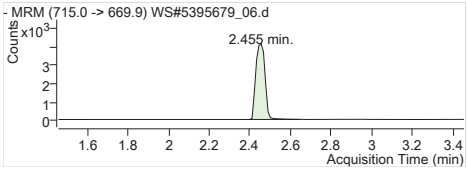


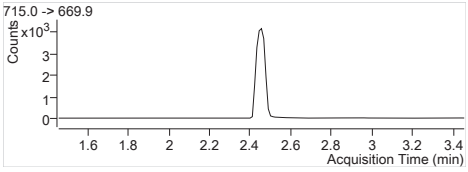
13C2-PFUnA 565.0 -> 519.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 101.36 µg/L
Area ratio: 0.31358
Sample type: Calibration



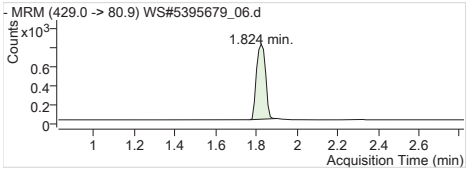


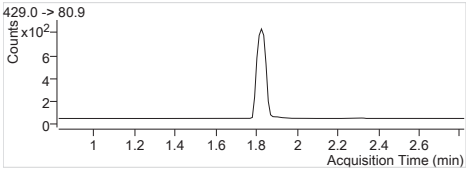
13C2-PFDoA 615.0 -> 569.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 94.15 µg/L
Area ratio: 0.38503
Sample type: Calibration



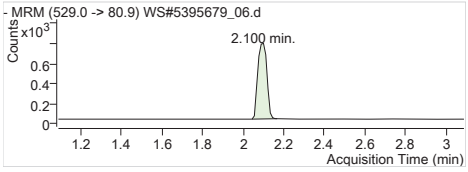


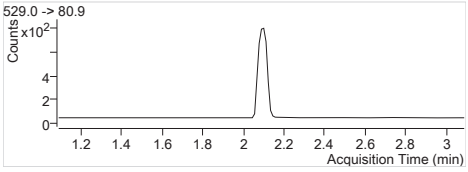
13C2-PFTeDA 715.0 -> 669.9
RT (Exp. RT): 2.455 (2.455)
Calc. conc. 92.22 µg/L
Area ratio: 0.44104
Sample type: Calibration



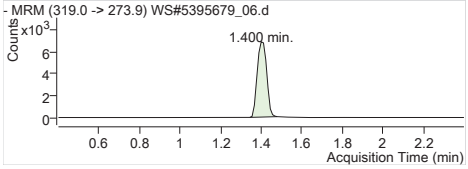


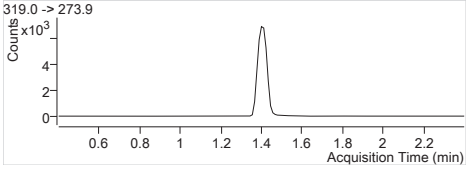
13C2-6:2-FTS 429.0 -> 80.9
RT (Exp. RT): 1.824 (1.824)
Calc. conc. 90.30 µg/L
Area ratio: 0.10934
Sample type: Calibration



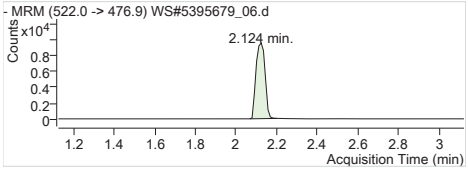


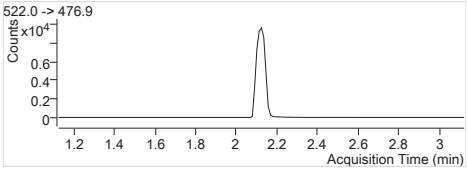
13C2-8:2 FTS 529.0 -> 80.9
RT (Exp. RT): 2.100 (2.089)
Calc. conc. 94.33 µg/L
Area ratio: 0.10653
Sample type: Calibration





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.400 (1.400)
Calc. conc. 100.79 µg/L
Area ratio: 0
Sample type: Calibration





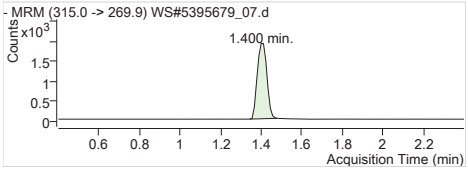
13C9-PFDA 522.0 -> 476.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 101.76 µg/L
Area ratio: 0
Sample type: Calibration

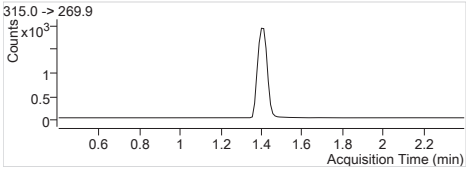
Batch Path T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics

Sample Name	**STD 6**	**Instrument**	LCMS04
Data File	WS#5395679_07.d	**Operator**	
Sample Type	Cal	**Dilution**	1
Acq. Method	PFC_Water_Low.m	**Position**	P3-A7
Acq. Date	2018/02/13 10:25:28 PM	**Injection Volume**	Per Method
Sample Annotation	-		

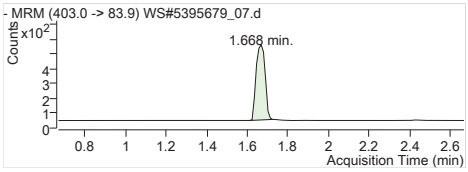
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	6187	1.40	1 µg/L		
MPFHxS	1569	1.67	1 µg/L		
MPFHpA	8298	1.68	1 µg/L		
MPFOA	9024	1.86	1 µg/L		
MPFOS	1980	1.97	1 µg/L		
MPFNA	8670	2.00	1 µg/L		
MPFDA	7438	2.12	1 µg/L		
MPFUnA	8677	2.22	1 µg/L		
MPFDoA	11062	2.31	1 µg/L		
MPFTeDA	13609	2.46	1 µg/L		
13C6-PFHxA IS	20500	1.40	1 µg/L		
13C9-PFDA IS	26385	2.12	1 µg/L		

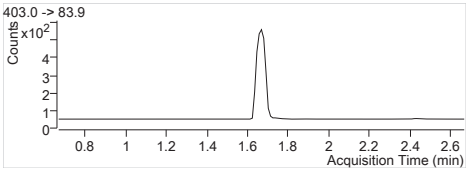
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1	31828	1.05	41.70	43.89 µg/L	105.25
PFHxA 1	116349	1.40	41.70	43.33 µg/L	103.91
PFHxS 1	30706	1.67	41.70	42.52 µg/L	101.97
PFHpA 1	134819	1.68	41.70	40.43 µg/L	96.95
PFOA 1	160925	1.86	41.70	42.70 µg/L	102.40
PFOS 1	31576	1.96	41.70	42.56 µg/L	102.06
PFNA 1	138927	2.00	41.70	41.15 µg/L	98.68
PFDA 1	157513	2.12	41.70	42.90 µg/L	102.87
PFUnA 1	172231	2.22	41.70	43.22 µg/L	103.64
PFDoA 1	206265	2.31	41.70	43.92 µg/L	105.31
PFTrDA 1	239481	2.39	41.70	41.08 µg/L	98.51
PFTeDA 1	194413	2.46	41.70	40.75 µg/L	97.73
13C2-PFHxA	6187	1.40	100.00	100.23 µg/L	100.23
18O2-PFHxS	1569	1.67	100.00	99.57 µg/L	99.57
13C4-PFHpA	8298	1.68	100.00	102.62 µg/L	102.62
13C4-PFOA	9024	1.86	100.00	103.25 µg/L	103.25
13C4-PFOS	1980	1.97	100.00	105.60 µg/L	105.60
13C5-PFNA	8671	2.00	100.00	101.81 µg/L	101.81
13C2-PFDA	7327	2.12	100.00	107.33 µg/L	107.33
13C2-PFUnA	8677	2.22	100.00	106.30 µg/L	106.30
13C2-PFDoA	11062	2.31	100.00	102.52 µg/L	102.52
13C2-PFTeDA	13926	2.46	100.00	110.36 µg/L	110.36
13C2-6:2-FTS	2289	1.82	100.00	92.21 µg/L	92.21
13C2-8:2 FTS	2149	2.10	100.00	92.82 µg/L	92.82
13C6-PFHxA	20500	1.40	100.00	93.58 µg/L	93.58
13C9-PFDA	26385	2.12	100.00	91.09 µg/L	91.09



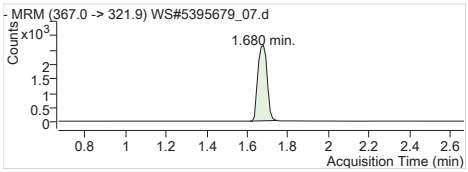


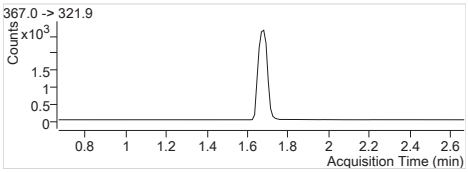
MPFHxA Internal Standard
RT (Exp. RT): 1.400 (1.400)
Concentration: 1 µg/L
Sample type: Calibration



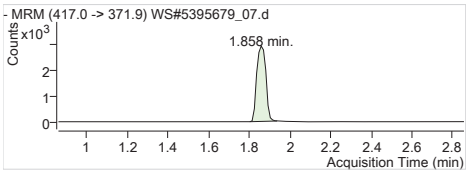


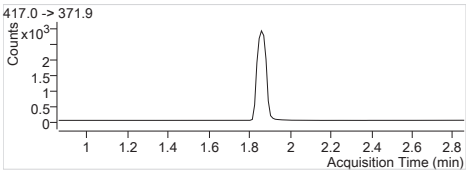
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: Calibration



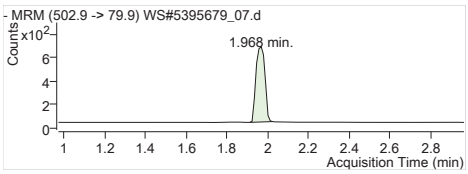


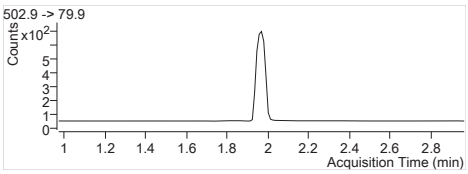
MPFHpA Internal Standard
RT (Exp. RT): 1.680 (1.668)
Concentration: 1 µg/L
Sample type: Calibration



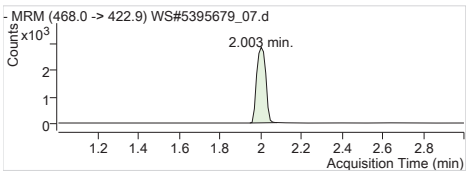


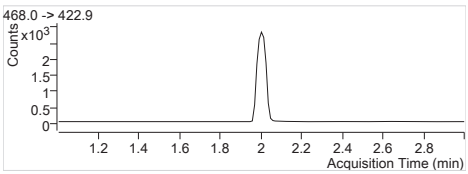
MPFOA Internal Standard
RT (Exp. RT): 1.858 (1.858)
Concentration: 1 µg/L
Sample type: Calibration



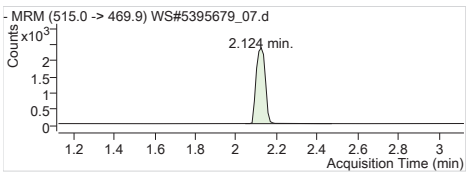


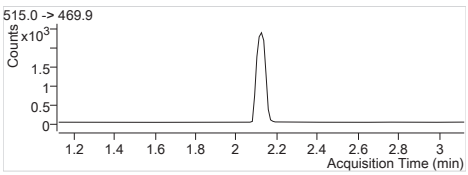
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Calibration



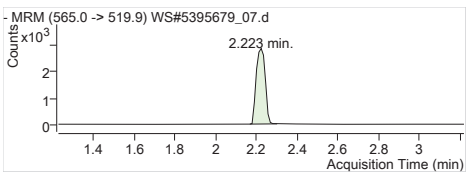


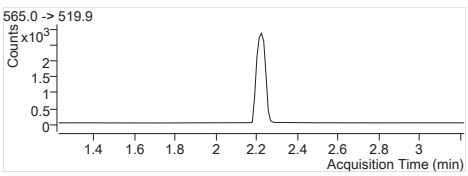
MPFNA Internal Standard
RT (Exp. RT): 2.003 (2.003)
Concentration: 1 µg/L
Sample type: Calibration



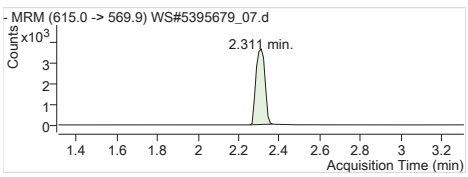


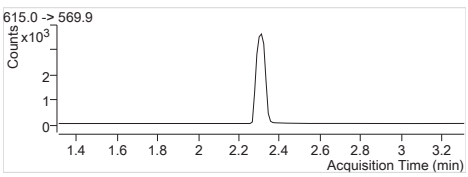
MPFDA Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Calibration



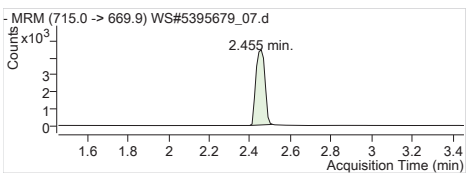


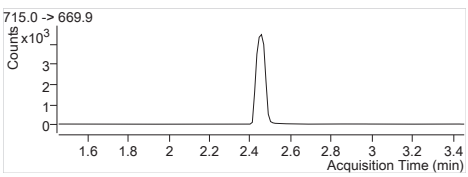
MPFUnA Internal Standard
RT (Exp. RT): 2.223 (2.223)
Concentration: 1 µg/L
Sample type: Calibration



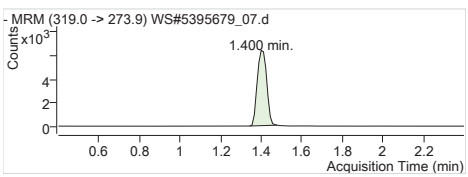


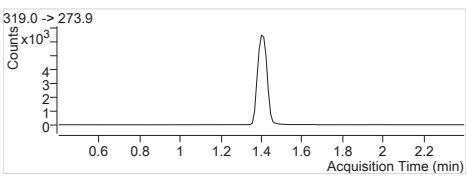
MPFDoA Internal Standard
RT (Exp. RT): 2.311 (2.311)
Concentration: 1 µg/L
Sample type: Calibration



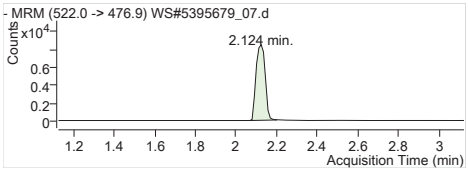


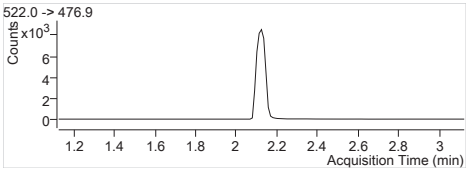
MPFTeDA Internal Standard
RT (Exp. RT): 2.455 (2.455)
Concentration: 1 µg/L
Sample type: Calibration



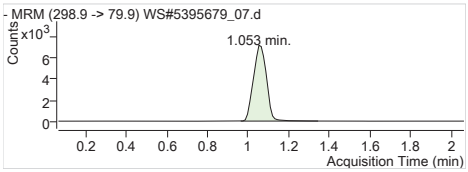


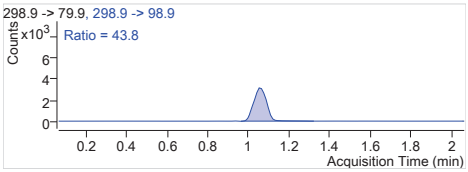
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.400 (1.400)
Concentration: 1 µg/L
Sample type: Calibration



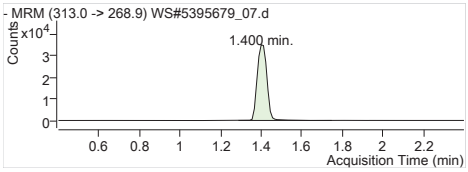


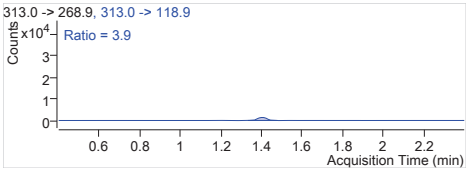
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: Calibration



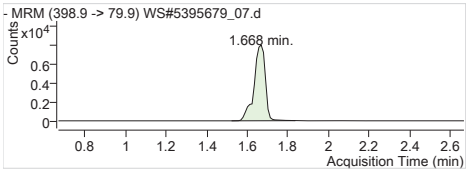


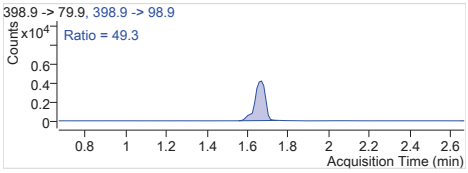
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 1.053 (1.064)
Calc. conc. 43.89 µg/L
Area ratio: 20.28553
Sample type: Calibration



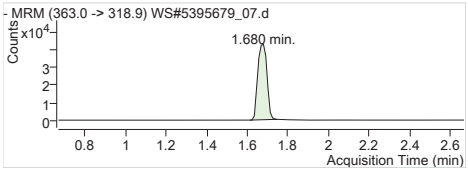


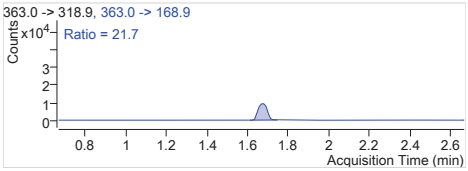
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 1.400 (1.400)
Calc. conc. 43.33 µg/L
Area ratio: 18.80540
Sample type: Calibration



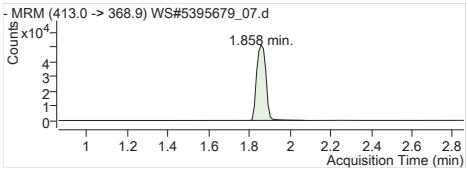


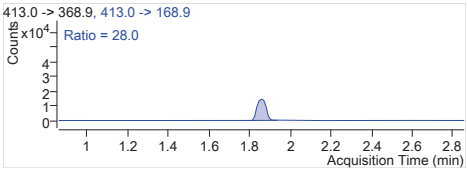
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 42.52 µg/L
Area ratio: 19.57043
Sample type: Calibration



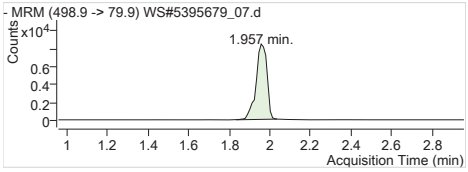


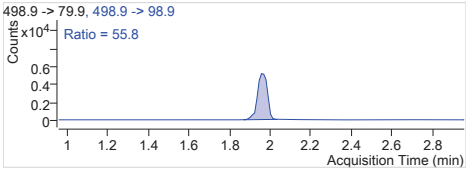
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 1.680 (1.669)
Calc. conc. 40.43 µg/L
Area ratio: 16.24717
Sample type: Calibration



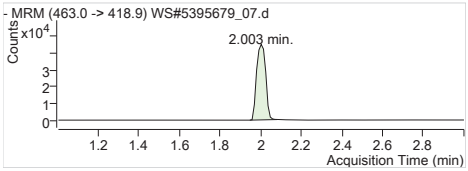


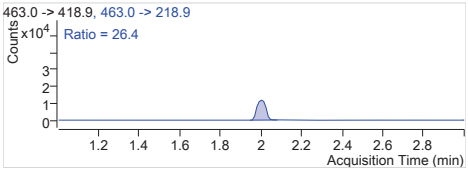
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 1.858 (1.858)
Calc. conc. 42.70 µg/L
Area ratio: 17.83300
Sample type: Calibration



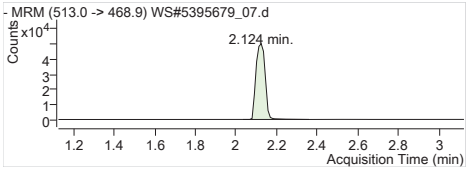


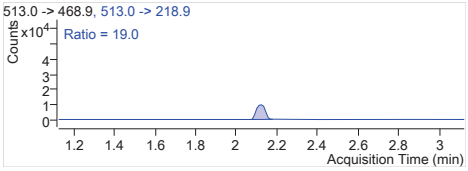
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 42.56 µg/L
Area ratio: 15.94747
Sample type: Calibration



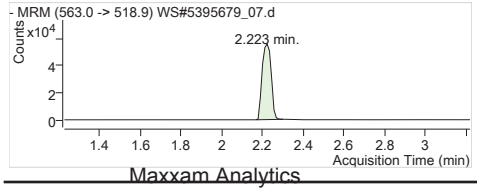


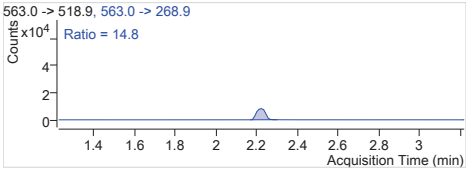
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 2.003 (2.003)
Calc. conc. 41.15 µg/L
Area ratio: 16.02388
Sample type: Calibration



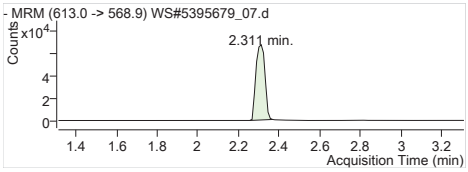


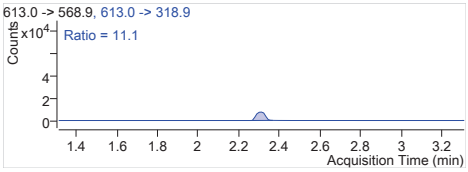
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 42.90 µg/L
Area ratio: 21.17679
Sample type: Calibration



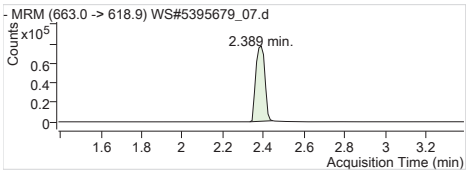


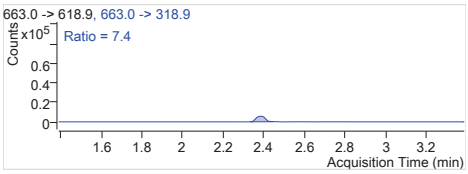
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 43.22 µg/L
Area ratio: 19.84914
Sample type: Calibration



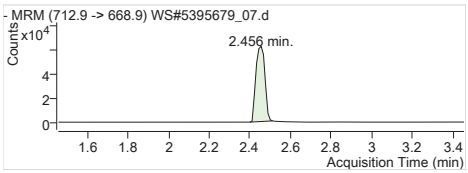


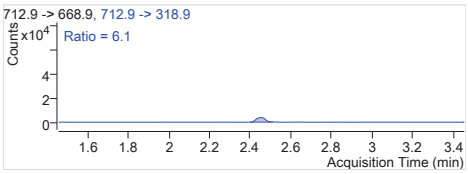
PFDoA 1 613.0 -> 568.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 43.92 µg/L
Area ratio: 18.64627
Sample type: Calibration



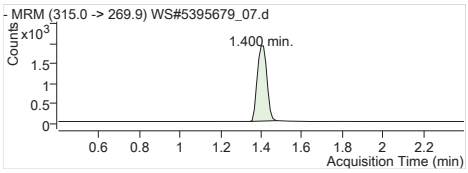


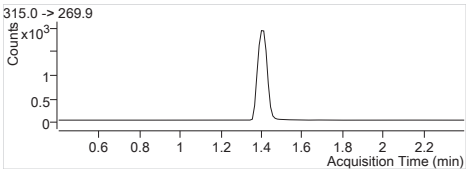
PFTrDA 1 663.0 -> 618.9
RT (Exp. RT): 2.389 (2.389)
Calc. conc. 41.08 µg/L
Area ratio: 17.59725
Sample type: Calibration



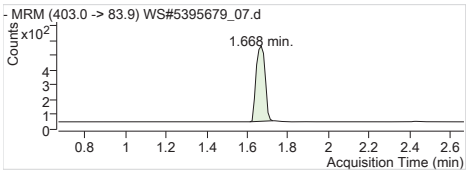


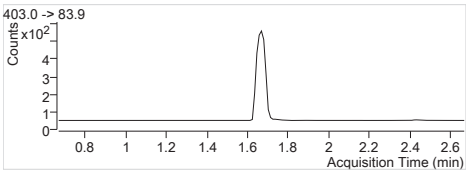
PFTeDA 1 712.9 -> 668.9
RT (Exp. RT): 2.456 (2.456)
Calc. conc. 40.75 µg/L
Area ratio: 14.28562
Sample type: Calibration



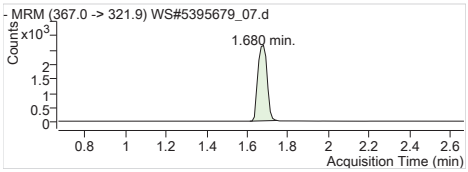


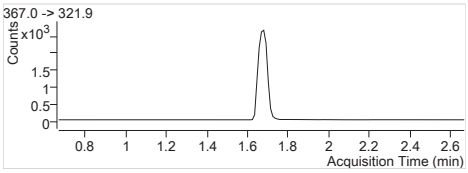
13C2-PFHxA 315.0 -> 269.9
RT (Exp. RT): 1.400 (1.400)
Calc. conc. 100.23 µg/L
Area ratio: 0.30180
Sample type: Calibration



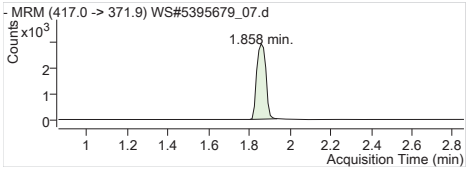


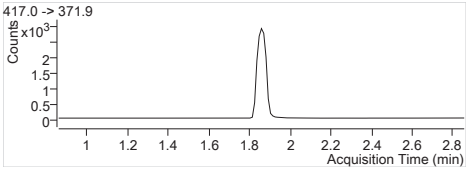
18O2-PFHxS 403.0 -> 83.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 99.57 µg/L
Area ratio: 0.07654
Sample type: Calibration



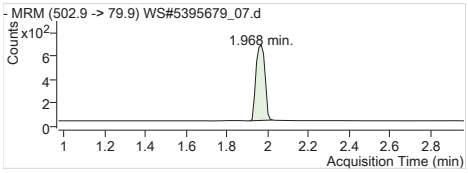


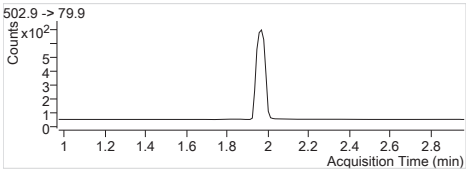
13C4-PFHpA 367.0 -> 321.9
RT (Exp. RT): 1.680 (1.668)
Calc. conc. 102.62 µg/L
Area ratio: 0.40478
Sample type: Calibration



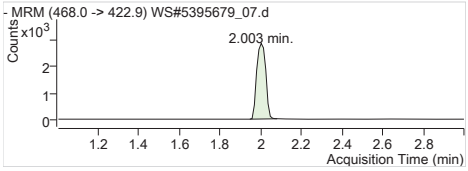


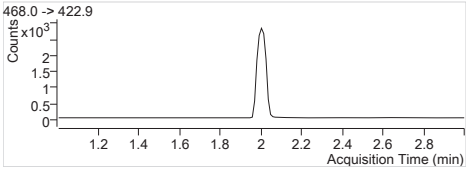
13C4-PFOA 417.0 -> 371.9
RT (Exp. RT): 1.858 (1.858)
Calc. conc. 103.25 µg/L
Area ratio: 0.44020
Sample type: Calibration



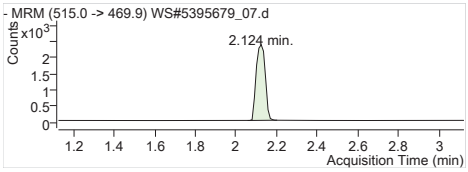


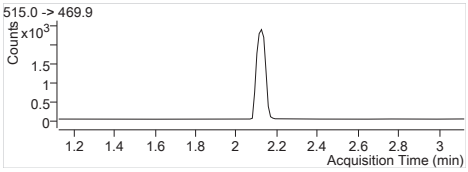
13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.968 (1.968)
Calc. conc. 105.60 µg/L
Area ratio: 0.09659
Sample type: Calibration



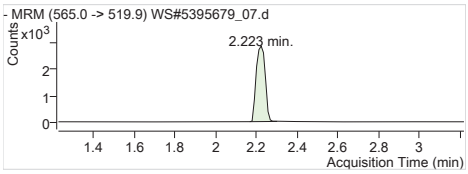


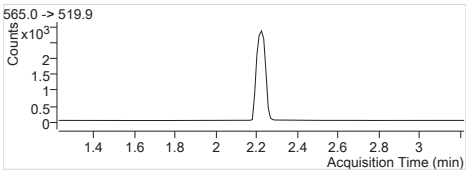
13C5-PFNA 468.0 -> 422.9
RT (Exp. RT): 2.003 (2.003)
Calc. conc. 101.81 µg/L
Area ratio: 0.42298
Sample type: Calibration



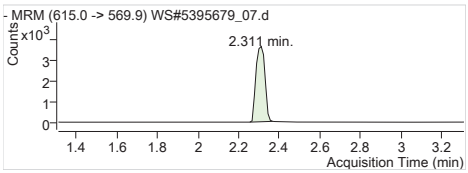


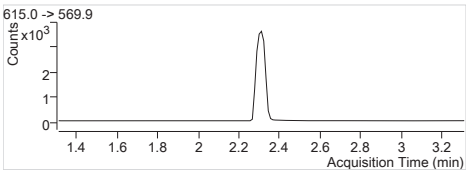
13C2-PFDA 515.0 -> 469.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 107.33 µg/L
Area ratio: 0.27770
Sample type: Calibration



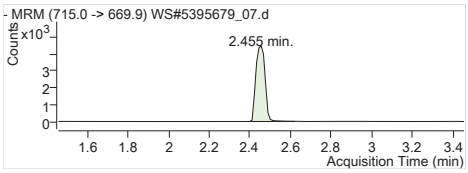


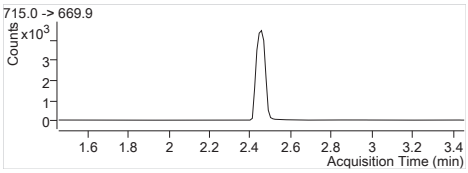
13C2-PFUnA 565.0 -> 519.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 106.30 µg/L
Area ratio: 0.32886
Sample type: Calibration



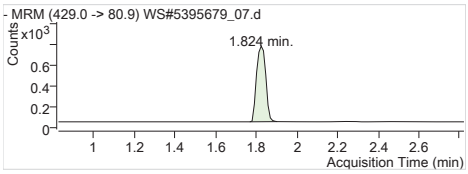


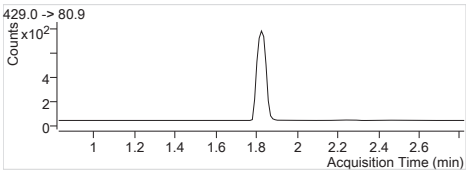
13C2-PFDoA 615.0 -> 569.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 102.52 µg/L
Area ratio: 0.41925
Sample type: Calibration



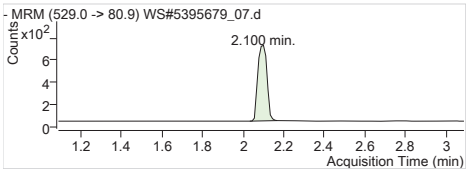


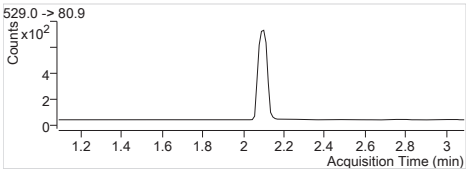
13C2-PFTeDA 715.0 -> 669.9
RT (Exp. RT): 2.455 (2.455)
Calc. conc. 110.36 µg/L
Area ratio: 0.52780
Sample type: Calibration



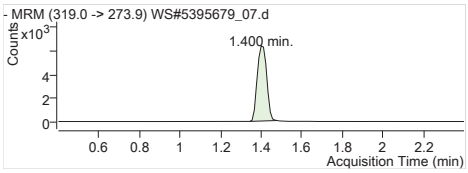


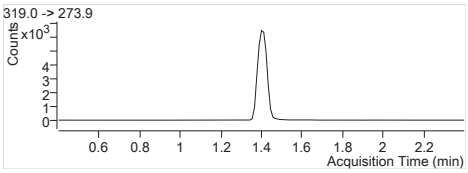
13C2-6:2-FTS 429.0 -> 80.9
RT (Exp. RT): 1.824 (1.824)
Calc. conc. 92.21 µg/L
Area ratio: 0.11166
Sample type: Calibration



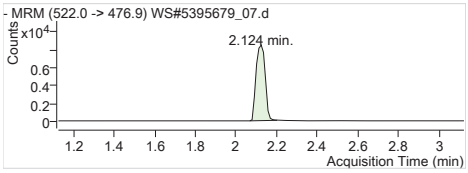


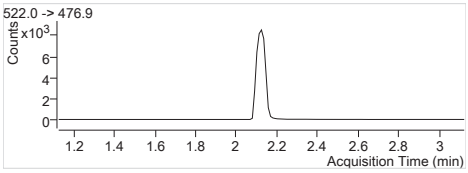
13C2-8:2 FTS 529.0 -> 80.9
RT (Exp. RT): 2.100 (2.089)
Calc. conc. 92.82 µg/L
Area ratio: 0.10483
Sample type: Calibration





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.400 (1.400)
Calc. conc. 93.58 µg/L
Area ratio: 0
Sample type: Calibration





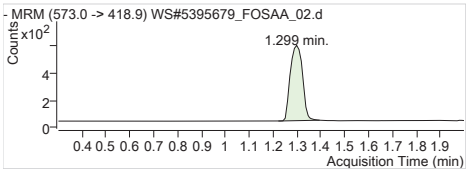
13C9-PFDA 522.0 -> 476.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 91.09 µg/L
Area ratio: 0
Sample type: Calibration

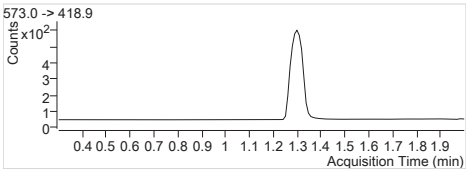
Batch Path	T:\lcms4\PFC\20180213\WS#5395679_FOSAA\QuantResults\PFC_Water_Low_180213_WS#5395679_FOSAA_EToxics

Sample Name	**STD 1**	**Instrument**	LCMS04
Data File	WS#5395679_FOSAA_02.d	**Operator**	
Sample Type	Cal	**Dilution**	1
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P3-A2
Acq. Date	2018/02/13 4:19:13 PM	**Injection Volume**	Per Method
Sample Annotation	-		

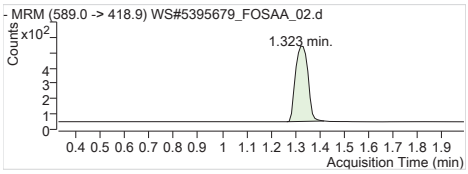
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1962	1.30	1 µg/L		
D5-EtFOSAA IS	1766	1.32	1 µg/L		
13C9-PFDA IS	21745	0.87	1 µg/L		

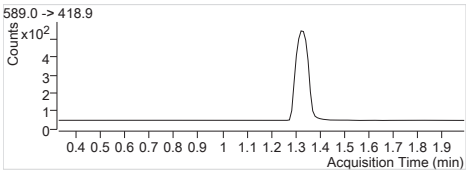
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1	666	1.30	0.83	0.85 µg/L	102.33
EtFOSAA 1	644	1.32	0.83	0.87 µg/L	104.92
D3-MeFOSAA	1993	1.30	100.00	115.44 µg/L	115.44
D5-EtFOSAA	1788	1.32	100.00	116.61 µg/L	116.61
13C9-PFDA	21115	0.87	100.00	91.52 µg/L	91.52



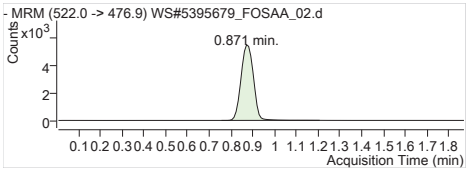


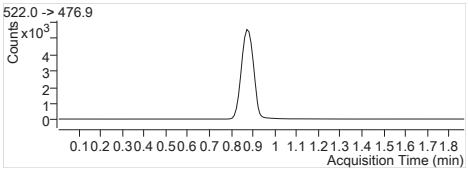
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.299 (1.299)
Concentration: 1 µg/L
Sample type: Calibration



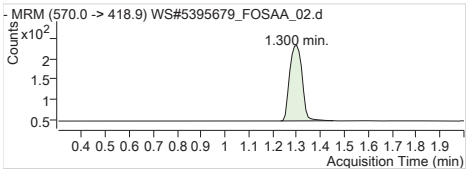


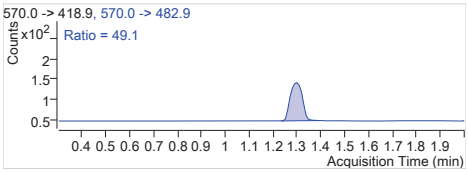
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.323 (1.323)
Concentration: 1 µg/L
Sample type: Calibration



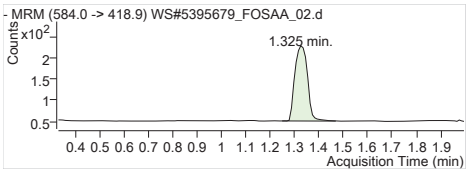


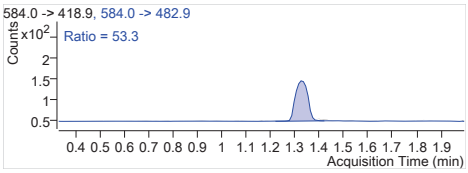
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.871 (0.871)
Concentration: 1 µg/L
Sample type: Calibration



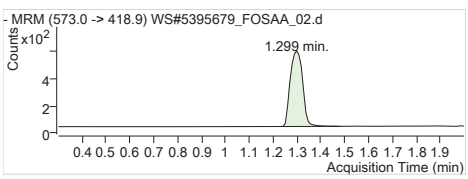


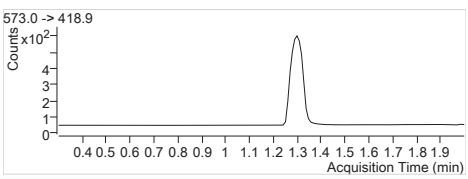
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 1.300 (1.300)
Calc. conc. 0.85 µg/L
Area ratio: 0.33945
Sample type: Calibration



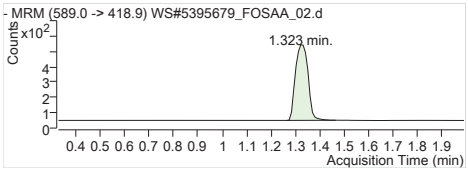


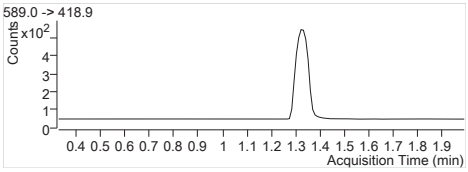
EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 1.325 (1.325)
Calc. conc. 0.87 µg/L
Area ratio: 0.36467
Sample type: Calibration



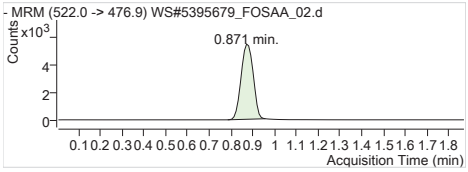


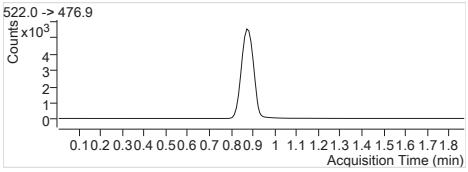
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.299 (1.299)
Calc. conc. 115.44 µg/L
Area ratio: 0.09165
Sample type: Calibration





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.323 (1.323)
Calc. conc.	116.61 µg/L
Area ratio:	0.08223
Sample type:	Calibration





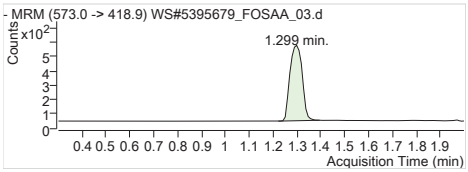
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.871 (0.871)
Calc. conc.	91.52 µg/L
Area ratio:	0
Sample type:	Calibration

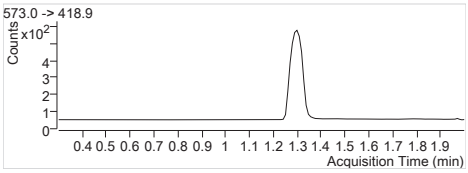
Batch Path	T:\lcms4\PFC\20180213\WS#5395679_FOSAA\QuantResults\PFC_Water_Low_180213_WS#5395679_FOSAA_ETOxics

Sample Name	**STD 2**	**Instrument**	LCMS04
Data File	WS#5395679_FOSAA_03.d	**Operator**	
Sample Type	Cal	**Dilution**	1
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P3-A3
Acq. Date	2018/02/13 4:21:35 PM	**Injection Volume**	Per Method
Sample Annotation	-		

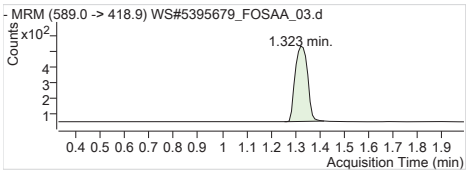
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1881	1.30	1 µg/L		
D5-EtFOSAA IS	1705	1.32	1 µg/L		
13C9-PFDA IS	24051	0.87	1 µg/L		

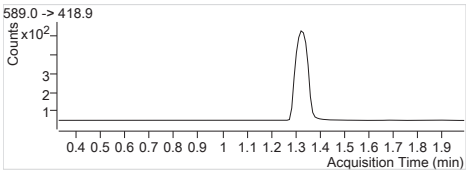
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1	1155	1.30	1.70	1.60 µg/L	94.16
EtFOSAA 1	1096	1.32	1.70	1.53 µg/L	89.81
D3-MeFOSAA	1887	1.30	100.00	98.82 µg/L	98.82
D5-EtFOSAA	1731	1.32	100.00	102.07 µg/L	102.07
13C9-PFDA	23377	0.87	100.00	101.32 µg/L	101.32



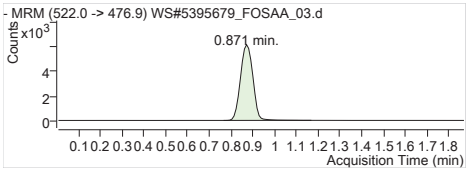


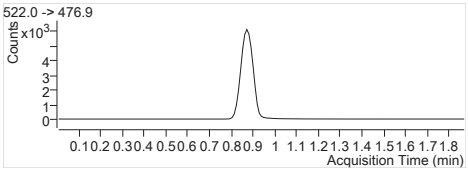
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.299 (1.299)
Concentration: 1 µg/L
Sample type: Calibration



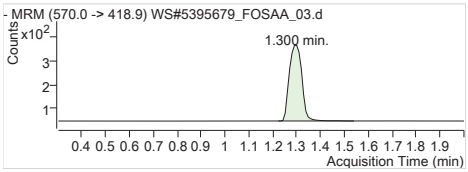


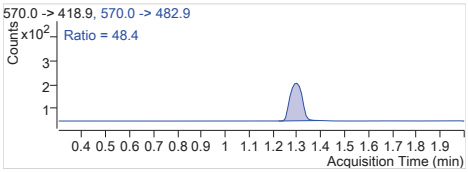
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.323 (1.323)
Concentration: 1 µg/L
Sample type: Calibration



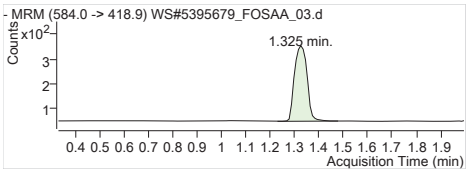


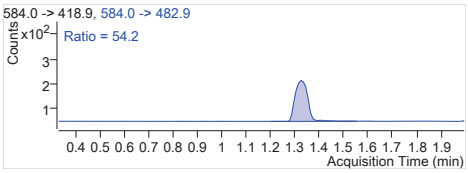
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.871 (0.871)
Concentration: 1 µg/L
Sample type: Calibration



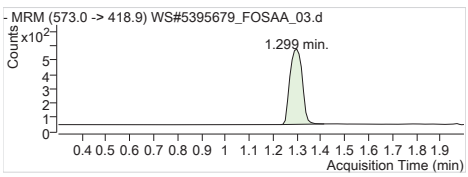


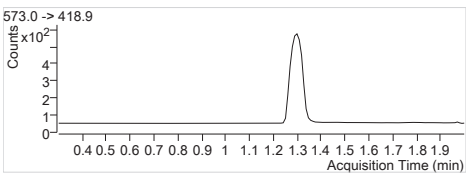
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 1.300 (1.300)
Calc. conc. 1.60 µg/L
Area ratio: 0.61404
Sample type: Calibration



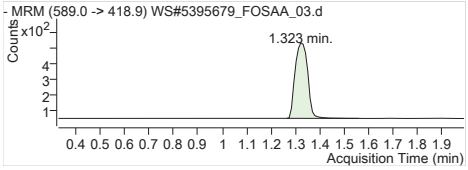


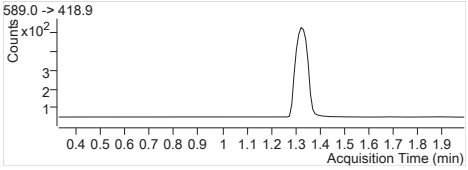
EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 1.325 (1.325)
Calc. conc. 1.53 µg/L
Area ratio: 0.64282
Sample type: Calibration



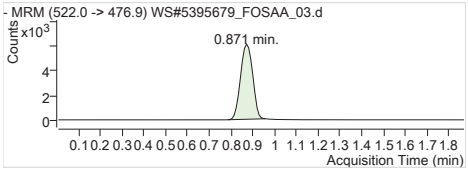


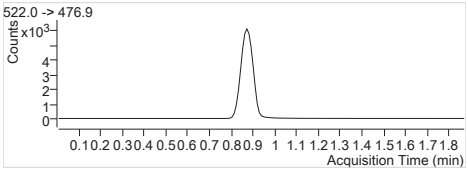
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.299 (1.299)
Calc. conc. 98.82 µg/L
Area ratio: 0.07846
Sample type: Calibration





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.323 (1.323)
Calc. conc.	102.07 µg/L
Area ratio:	0.07197
Sample type:	Calibration





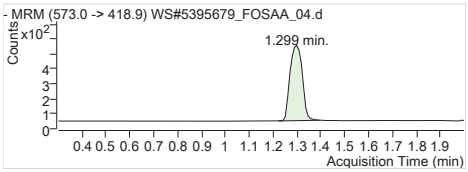
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.871 (0.871)
Calc. conc.	101.32 µg/L
Area ratio:	0
Sample type:	Calibration

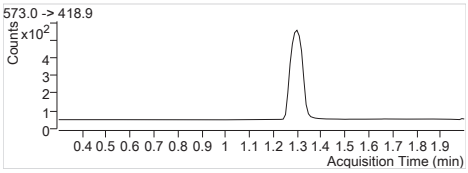
Batch Path	T:\lcms4\PFC\20180213\WS#5395679_FOSAA\QuantResults\PFC_Water_Low_180213_WS#5395679_FOSAA_ETOxics

Sample Name	**STD 3**	**Instrument**	LCMS04
Data File	WS#5395679_FOSAA_04.d	**Operator**	
Sample Type	Cal	**Dilution**	1
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P3-A4
Acq. Date	2018/02/13 4:24:00 PM	**Injection Volume**	Per Method
Sample Annotation	-		

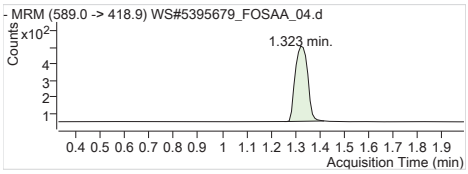
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1815	1.30	1 µg/L		
D5-EtFOSAA IS	1635	1.32	1 µg/L		
13C9-PFDA IS	25052	0.87	1 µg/L		

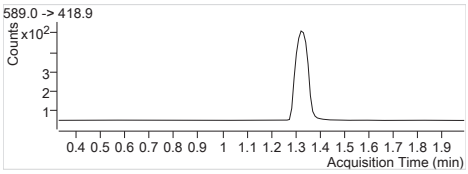
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1	3451	1.30	5.00	5.12 µg/L	102.48
EtFOSAA 1	3378	1.32	5.00	4.88 µg/L	97.67
D3-MeFOSAA	1837	1.30	100.00	92.36 µg/L	92.36
D5-EtFOSAA	1659	1.32	100.00	93.91 µg/L	93.91
13C9-PFDA	24407	0.87	100.00	105.78 µg/L	105.78



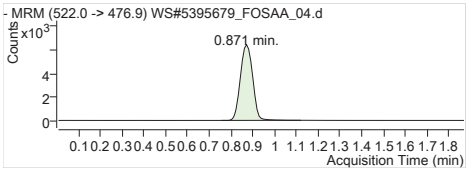


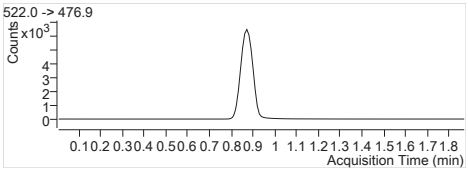
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.299 (1.299)
Concentration: 1 µg/L
Sample type: Calibration



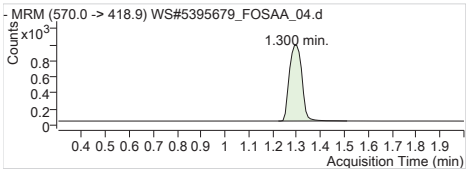


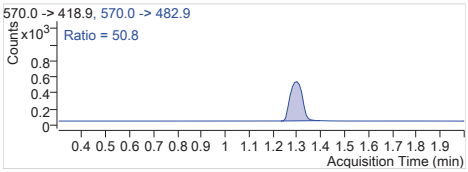
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.323 (1.323)
Concentration: 1 µg/L
Sample type: Calibration



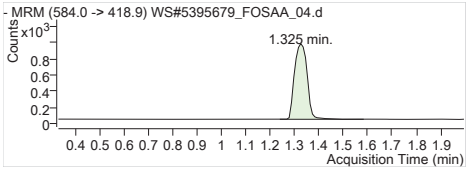


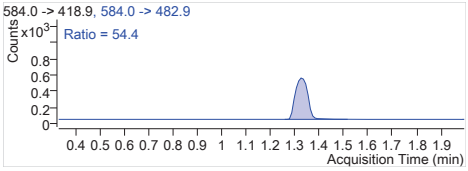
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.871 (0.871)
Concentration: 1 µg/L
Sample type: Calibration



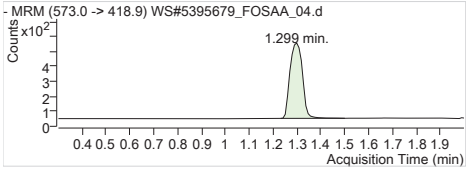


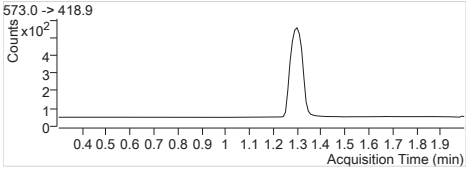
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 1.300 (1.300)
Calc. conc. 5.12 µg/L
Area ratio: 1.90138
Sample type: Calibration



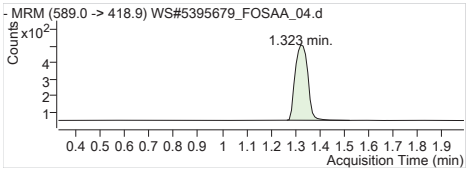


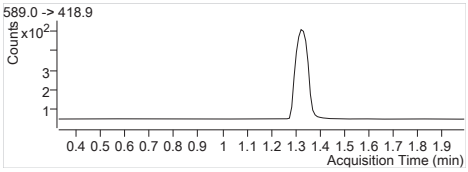
EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 1.325 (1.325)
Calc. conc. 4.88 µg/L
Area ratio: 2.06606
Sample type: Calibration



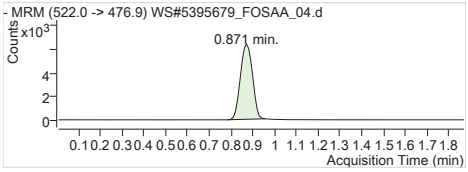


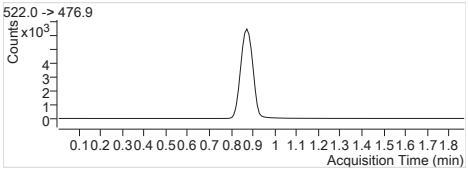
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.299 (1.299)
Calc. conc. 92.36 µg/L
Area ratio: 0.07333
Sample type: Calibration





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.323 (1.323)
Calc. conc.	93.91 µg/L
Area ratio:	0.06622
Sample type:	Calibration





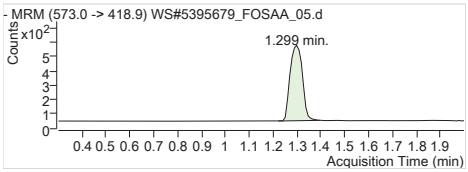
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.871 (0.871)
Calc. conc.	105.78 µg/L
Area ratio:	0
Sample type:	Calibration

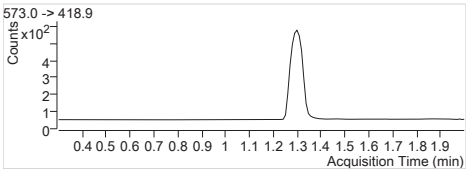
Batch Path	T:\lcms4\PFC\20180213\WS#5395679_FOSAA\QuantResults\PFC_Water_Low_180213_WS#5395679_FOSAA_ETOxics

Sample Name	**STD 4**	**Instrument**	LCMS04
Data File	WS#5395679_FOSAA_05.d	**Operator**	
Sample Type	Cal	**Dilution**	1
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P3-A5
Acq. Date	2018/02/13 4:26:24 PM	**Injection Volume**	Per Method
Sample Annotation	-		

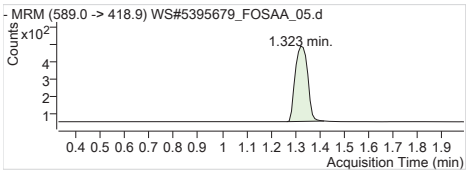
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1894	1.30	1 µg/L		
D5-EtFOSAA IS	1568	1.32	1 µg/L		
13C9-PFDA IS	25086	0.87	1 µg/L		

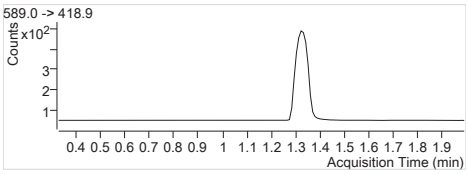
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1	8894	1.30	12.50	12.77 µg/L	102.17
EtFOSAA 1	8824	1.32	12.50	13.28 µg/L	106.26
D3-MeFOSAA	1898	1.30	100.00	95.30 µg/L	95.30
D5-EtFOSAA	1590	1.32	100.00	89.89 µg/L	89.89
13C9-PFDA	24288	0.87	100.00	105.27 µg/L	105.27



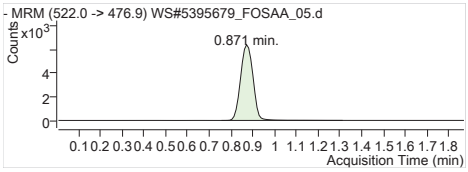


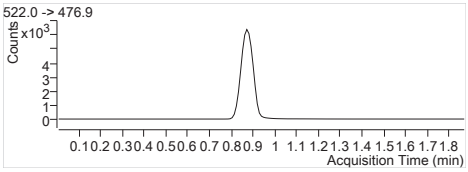
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.299 (1.299)
Concentration: 1 µg/L
Sample type: Calibration



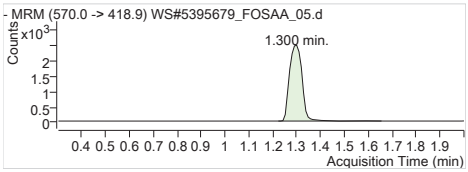


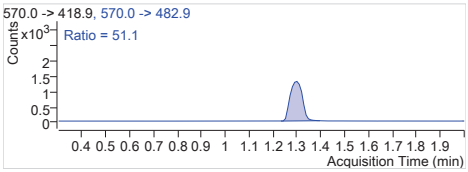
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.323 (1.323)
Concentration: 1 µg/L
Sample type: Calibration



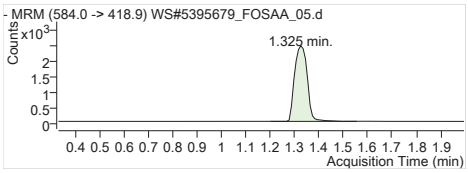


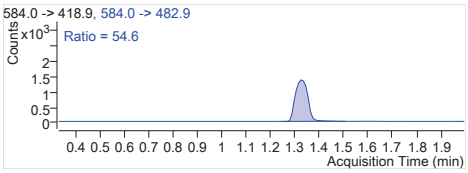
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.871 (0.871)
Concentration: 1 µg/L
Sample type: Calibration



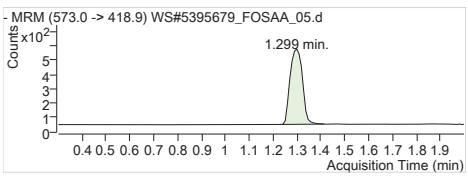


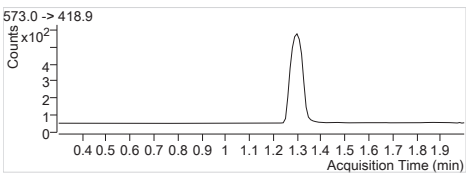
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 1.300 (1.300)
Calc. conc. 12.77 µg/L
Area ratio: 4.69588
Sample type: Calibration



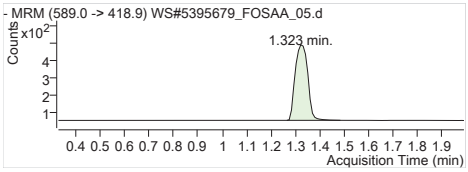


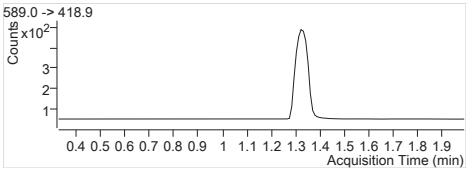
EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 1.325 (1.325)
Calc. conc. 13.28 µg/L
Area ratio: 5.62755
Sample type: Calibration



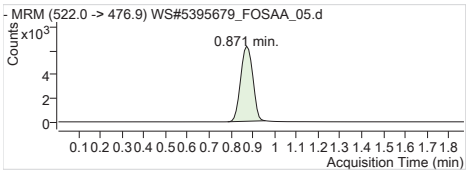


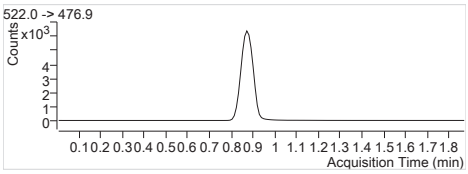
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.299 (1.299)
Calc. conc. 95.30 µg/L
Area ratio: 0.07566
Sample type: Calibration





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.323 (1.323)
Calc. conc.	89.89 µg/L
Area ratio:	0.06338
Sample type:	Calibration





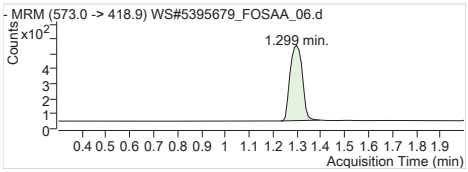
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.871 (0.871)
Calc. conc.	105.27 µg/L
Area ratio:	0
Sample type:	Calibration

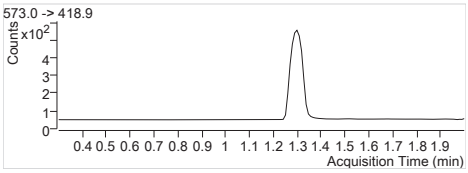
Batch Path	T:\lcms4\PFC\20180213\WS#5395679_FOSAA\QuantResults\PFC_Water_Low_180213_WS#5395679_FOSAA_ETOxics

Sample Name	**STD 5**	**Instrument**	LCMS04
Data File	WS#5395679_FOSAA_06.d	**Operator**	
Sample Type	Cal	**Dilution**	1
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P3-A6
Acq. Date	2018/02/13 4:28:49 PM	**Injection Volume**	Per Method
Sample Annotation	-		

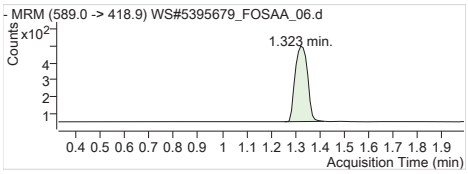
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1808	1.30	1 µg/L		
D5-EtFOSAA IS	1595	1.32	1 µg/L		
13C9-PFDA IS	24342	0.87	1 µg/L		

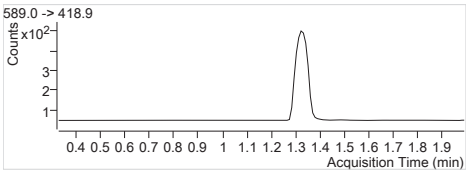
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1	16396	1.30	25.00	24.74 µg/L	98.95
EtFOSAA 1	16848	1.32	25.00	24.92 µg/L	99.69
D3-MeFOSAA	1831	1.30	100.00	94.74 µg/L	94.74
D5-EtFOSAA	1600	1.32	100.00	93.22 µg/L	93.22
13C9-PFDA	23671	0.87	100.00	102.59 µg/L	102.59



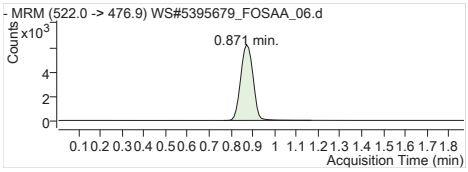


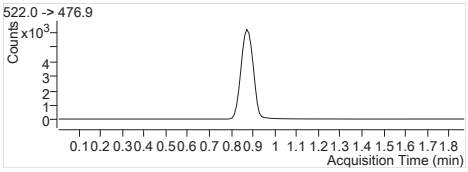
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.299 (1.299)
Concentration: 1 µg/L
Sample type: Calibration



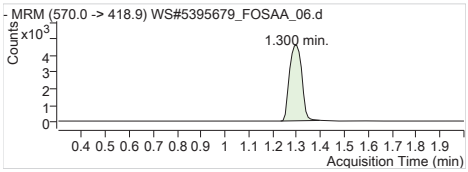


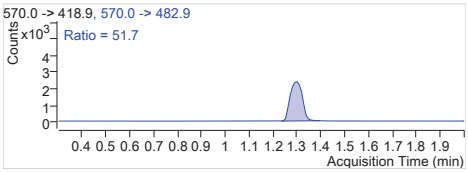
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.323 (1.323)
Concentration: 1 µg/L
Sample type: Calibration



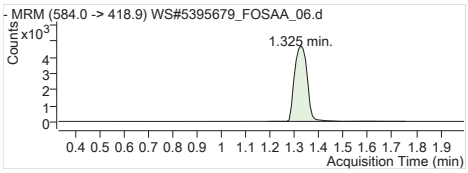


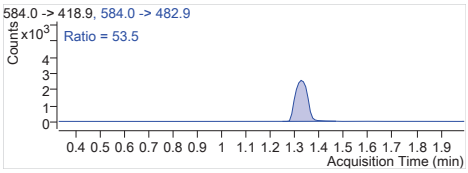
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.871 (0.871)
Concentration: 1 µg/L
Sample type: Calibration



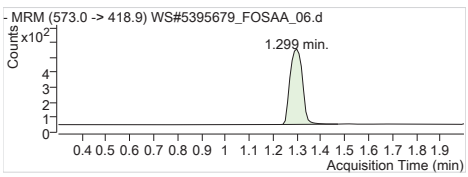


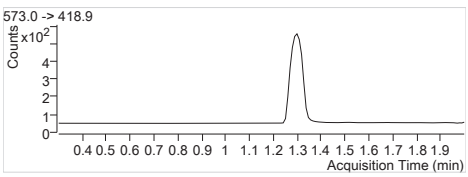
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 1.300 (1.300)
Calc. conc. 24.74 µg/L
Area ratio: 9.06858
Sample type: Calibration



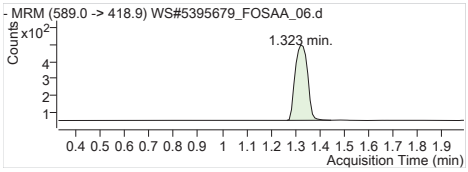


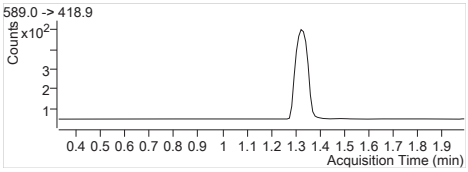
EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 1.325 (1.325)
Calc. conc. 24.92 µg/L
Area ratio: 10.56301
Sample type: Calibration



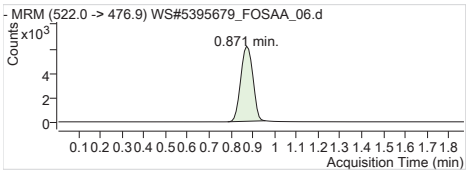


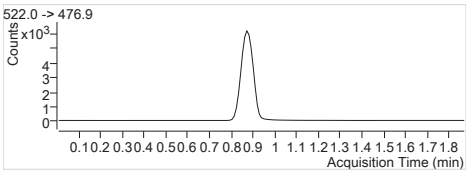
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.299 (1.299)
Calc. conc. 94.74 µg/L
Area ratio: 0.07522
Sample type: Calibration





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.323 (1.323)
Calc. conc.	93.22 µg/L
Area ratio:	0.06573
Sample type:	Calibration





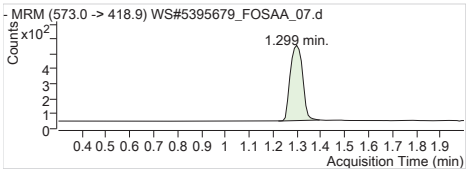
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.871 (0.871)
Calc. conc.	102.59 µg/L
Area ratio:	0
Sample type:	Calibration

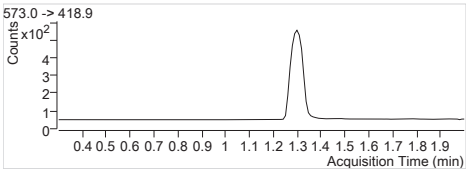
Batch Path	T:\lcms4\PFC\20180213\WS#5395679_FOSAA\QuantResults\PFC_Water_Low_180213_WS#5395679_FOSAA_ETOxics

Sample Name	**STD 6**	**Instrument**	LCMS04
Data File	WS#5395679_FOSAA_07.d	**Operator**	
Sample Type	Cal	**Dilution**	1
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P3-A7
Acq. Date	2018/02/13 4:31:14 PM	**Injection Volume**	Per Method
Sample Annotation	-		

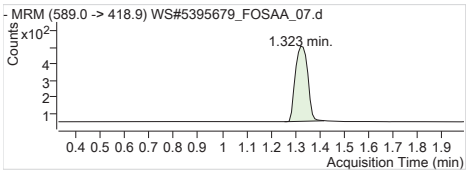
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1820	1.30	1 µg/L		
D5-EtFOSAA IS	1622	1.32	1 µg/L		
13C9-PFDA IS	22257	0.87	1 µg/L		

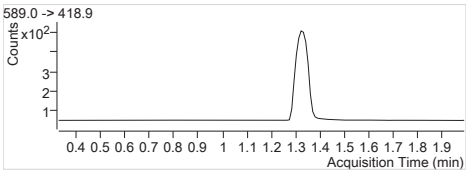
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1	27760	1.30	41.70	41.66 µg/L	99.91
EtFOSAA 1	29147	1.32	41.70	42.39 µg/L	101.65
D3-MeFOSAA	1826	1.30	100.00	103.34 µg/L	103.34
D5-EtFOSAA	1637	1.32	100.00	104.31 µg/L	104.31
13C9-PFDA	21578	0.87	100.00	93.52 µg/L	93.52



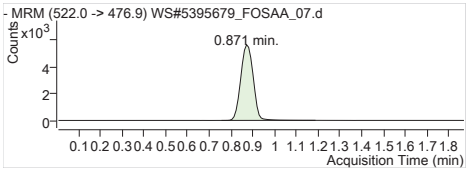


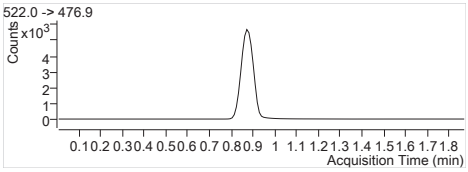
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.299 (1.299)
Concentration: 1 µg/L
Sample type: Calibration



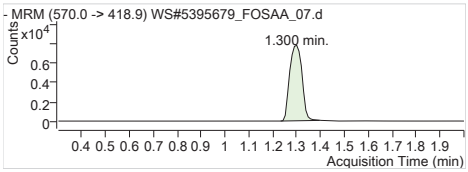


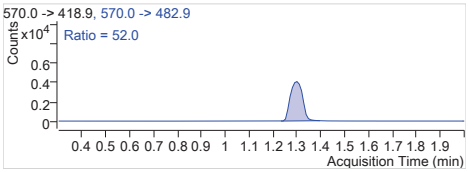
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.323 (1.323)
Concentration: 1 µg/L
Sample type: Calibration



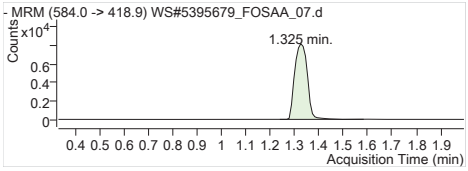


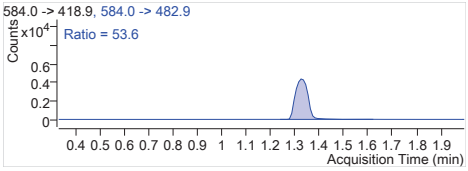
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.871 (0.871)
Concentration: 1 µg/L
Sample type: Calibration



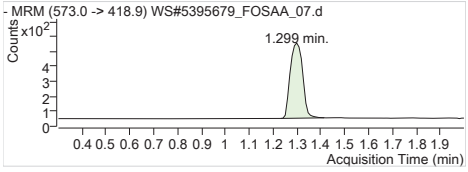


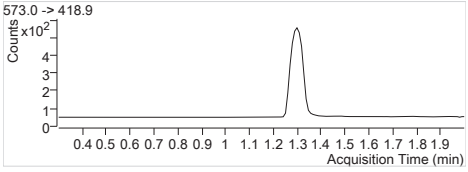
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 1.300 (1.300)
Calc. conc. 41.66 µg/L
Area ratio: 15.25275
Sample type: Calibration



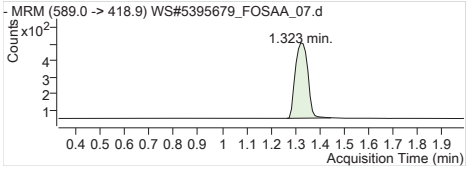


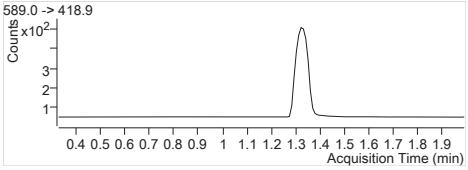
EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 1.325 (1.325)
Calc. conc. 42.39 µg/L
Area ratio: 17.96979
Sample type: Calibration



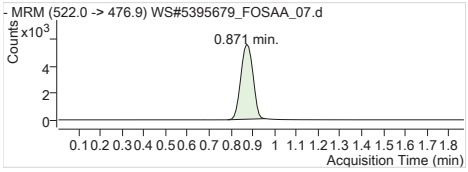


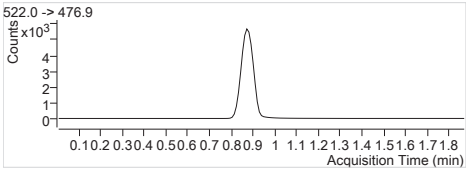
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.299 (1.299)
Calc. conc. 103.34 µg/L
Area ratio: 0.08204
Sample type: Calibration





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.323 (1.323)
Calc. conc.	104.31 µg/L
Area ratio:	0.07355
Sample type:	Calibration





13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.871 (0.871)
Calc. conc.	93.52 µg/L
Area ratio:	0
Sample type:	Calibration

Quantitation Results

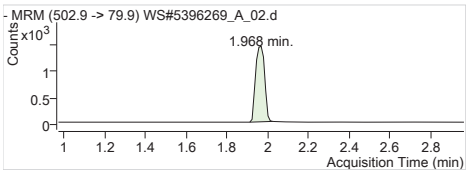
Agilent Technologies

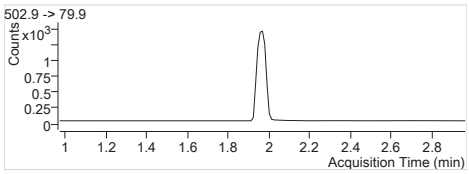
Batch Path	T:\lcms4\PFC\20180213\WS#5396269_A\QuantResults\PFC_Water_High_180213_WS#5396269_A_EToxics

Sample Name	**STD 1**	**Instrument**	LCMS04
Data File	WS#5396269_A_02.d	**Operator**	
Sample Type	Cal	**Dilution**	1
Acq. Method	PFC_Water_High.m	**Position**	P3-E1
Acq. Date	2018/02/14 5:31:25 PM	**Injection Volume**	Per Method
Sample Annotation	-		

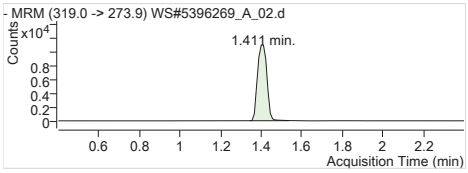
ISTD Compounds	Response	RT	Target conc.		
MPFOS	4380	1.97	1 µg/L		
13C6-PFHxA IS	34949	1.41	1 µg/L		

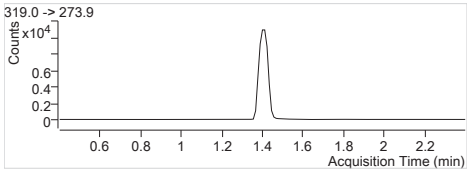
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFOS 1	444	1.96	0.80	0.94 µg/L	117.20
13C6-PFHxA	34949	1.41	100.00	100.24 µg/L	100.24
13C4-PFOS	4380	1.97	100.00	99.90 µg/L	99.90



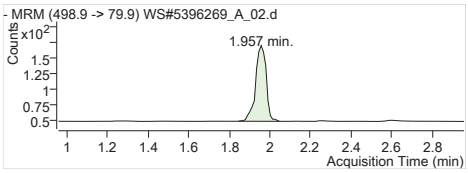


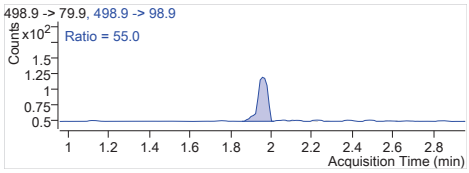
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Calibration



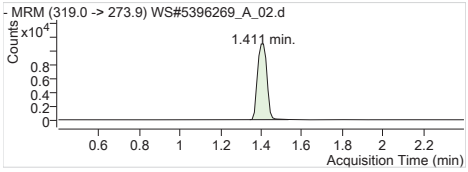


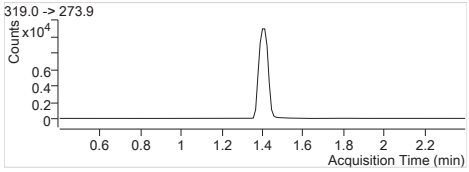
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.400)
Concentration: 1 µg/L
Sample type: Calibration



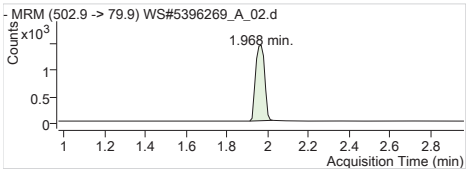


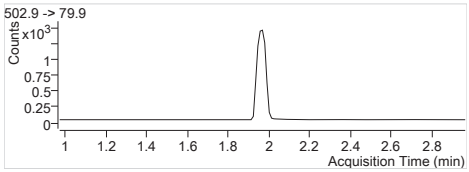
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 0.94 µg/L
Area ratio: 0.10137
Sample type: Calibration





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.400)
Calc. conc. 100.24 µg/L
Area ratio: 0
Sample type: Calibration





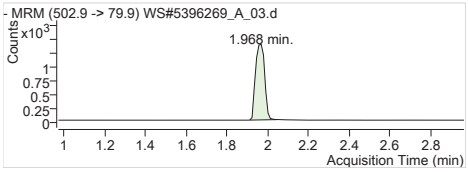
13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.968 (1.968)
Calc. conc. 99.90 µg/L
Area ratio: 0.12533
Sample type: Calibration

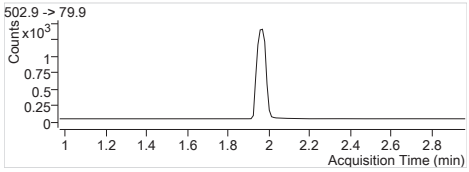
Batch Path	T:\lcms4\PFC\20180213\WS#5396269_A\QuantResults\PFC_Water_High_180213_WS#5396269_A_EToxics

Sample Name	**STD 2**	**Instrument**	LCMS04
Data File	WS#5396269_A_03.d	**Operator**	
Sample Type	Cal	**Dilution**	1
Acq. Method	PFC_Water_High.m	**Position**	P3-E2
Acq. Date	2018/02/14 5:36:19 PM	**Injection Volume**	Per Method
Sample Annotation	-		

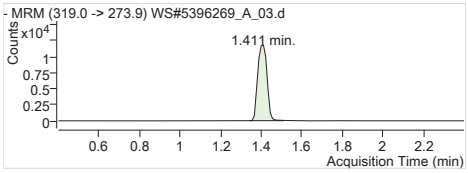
ISTD Compounds	Response	RT	Target conc.		
MPFOS	4272	1.97	1 µg/L		
13C6-PFHxA IS	37267	1.41	1 µg/L		

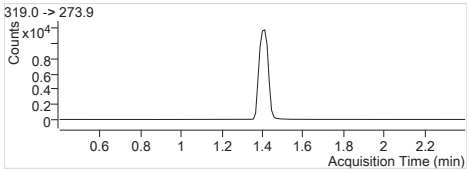
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFOS 1	826	1.96	1.50	1.59 µg/L	106.19
13C6-PFHxA	37267	1.41	100.00	106.89 µg/L	106.89
13C4-PFOS	4272	1.97	100.00	91.38 µg/L	91.38



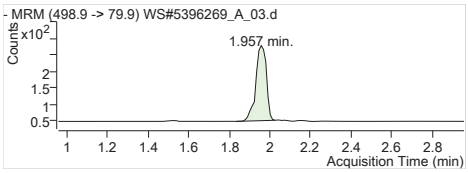


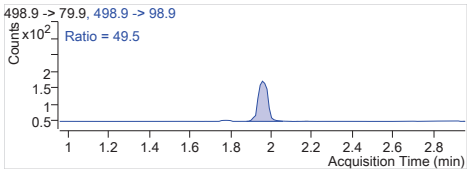
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Calibration



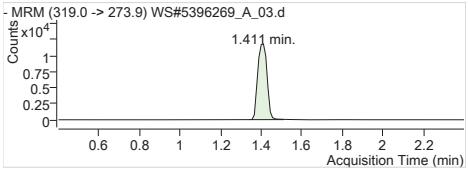


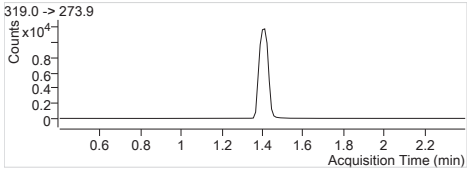
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.400)
Concentration: 1 µg/L
Sample type: Calibration



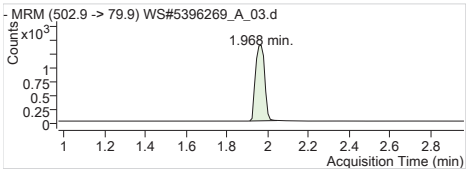


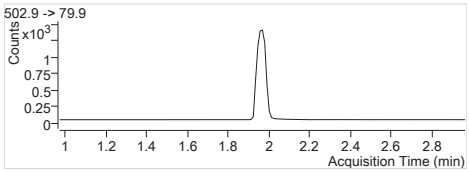
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 1.59 µg/L
Area ratio: 0.19335
Sample type: Calibration





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.400)
Calc. conc. 106.89 µg/L
Area ratio: 0
Sample type: Calibration





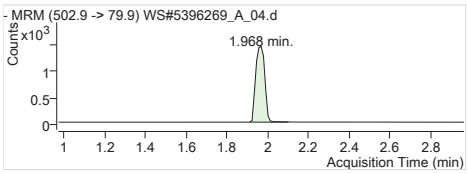
13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.968 (1.968)
Calc. conc. 91.38 µg/L
Area ratio: 0.11463
Sample type: Calibration

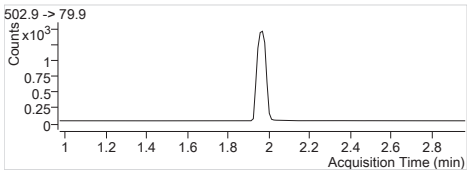
Batch Path	T:\lcms4\PFC\20180213\WS#5396269_A\QuantResults\PFC_Water_High_180213_WS#5396269_A_EToxics

Sample Name	**STD 3**	**Instrument**	LCMS04
Data File	WS#5396269_A_04.d	**Operator**	
Sample Type	Cal	**Dilution**	1
Acq. Method	PFC_Water_High.m	**Position**	P3-E3
Acq. Date	2018/02/14 5:41:13 PM	**Injection Volume**	Per Method
Sample Annotation	-		

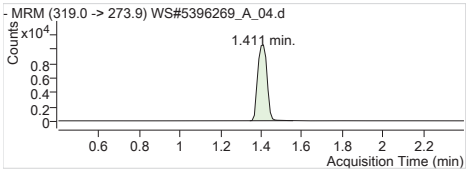
ISTD Compounds	Response	RT	Target conc.		
MPFOS	4398	1.97	1 µg/L		
13C6-PFHxA IS	33517	1.41	1 µg/L		

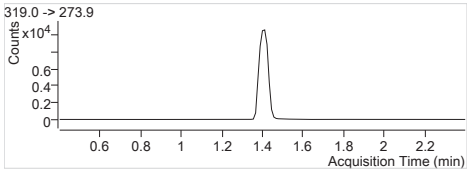
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFOS 1	3047	1.96	6.00	5.15 µg/L	85.84
13C6-PFHxA	33517	1.41	100.00	96.13 µg/L	96.13
13C4-PFOS	4398	1.97	100.00	104.60 µg/L	104.60



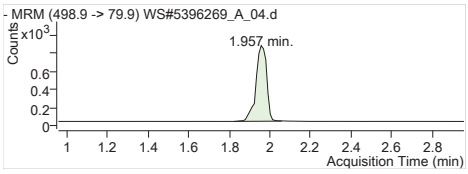


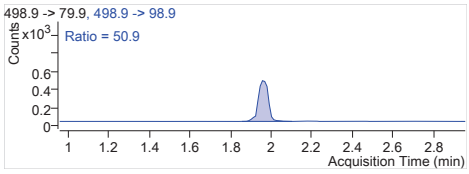
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Calibration



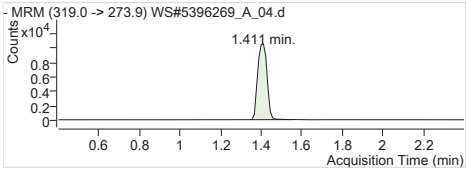


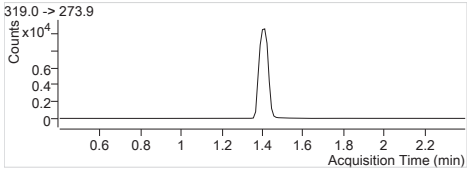
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.400)
Concentration: 1 µg/L
Sample type: Calibration



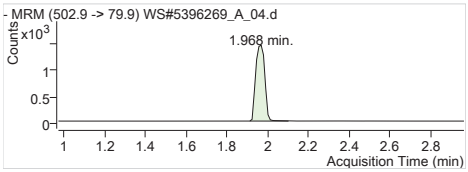


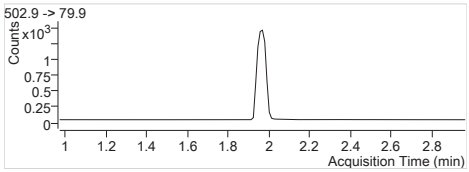
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 5.15 µg/L
Area ratio: 0.69281
Sample type: Calibration





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.400)
Calc. conc. 96.13 µg/L
Area ratio: 0
Sample type: Calibration





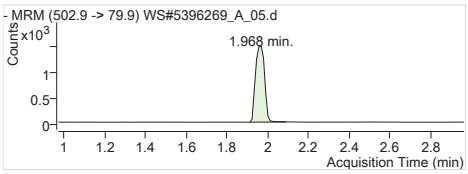
13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.968 (1.968)
Calc. conc. 104.60 µg/L
Area ratio: 0.13122
Sample type: Calibration

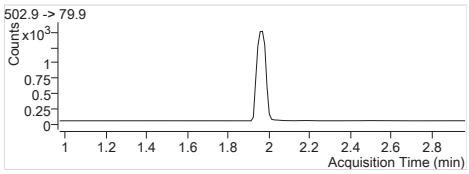
Batch Path	T:\lcms4\PFC\20180213\WS#5396269_A\QuantResults\PFC_Water_High_180213_WS#5396269_A_EToxics

Sample Name	**STD 4**	**Instrument**	LCMS04
Data File	WS#5396269_A_05.d	**Operator**	
Sample Type	Cal	**Dilution**	1
Acq. Method	PFC_Water_High.m	**Position**	P3-E4
Acq. Date	2018/02/14 5:46:09 PM	**Injection Volume**	Per Method
Sample Annotation	-		

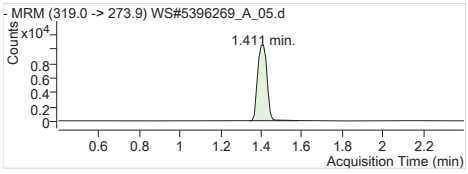
ISTD Compounds	Response	RT	Target conc.		
MPFOS	4622	1.97	1 µg/L		
13C6-PFHxA IS	33723	1.41	1 µg/L		

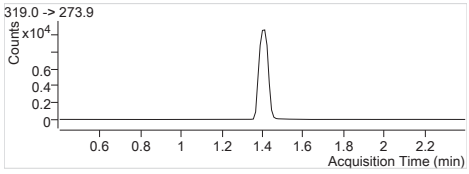
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFOS 1	7740	1.96	15.00	12.14 µg/L	80.96
13C6-PFHxA	33723	1.41	100.00	96.72 µg/L	96.72
13C4-PFOS	4622	1.97	100.00	109.26 µg/L	109.26



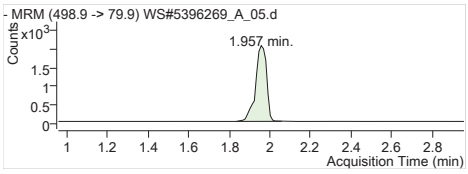


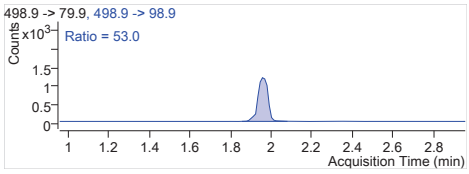
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Calibration



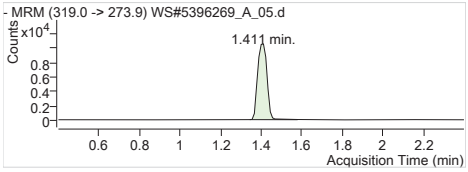


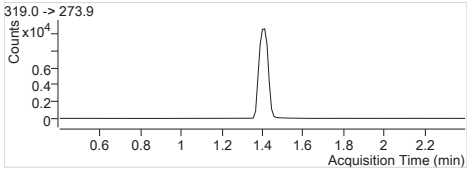
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.400)
Concentration: 1 µg/L
Sample type: Calibration



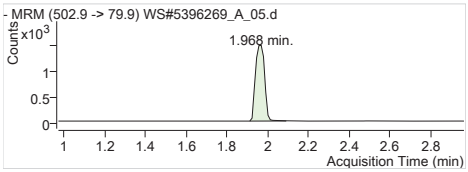


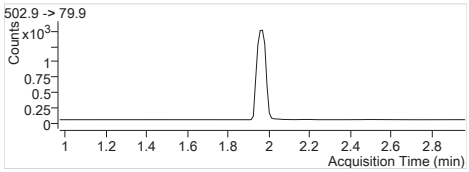
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 12.14 µg/L
Area ratio: 1.67460
Sample type: Calibration





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.400)
Calc. conc. 96.72 µg/L
Area ratio: 0
Sample type: Calibration





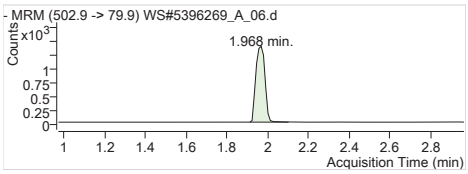
13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.968 (1.968)
Calc. conc. 109.26 µg/L
Area ratio: 0.13706
Sample type: Calibration

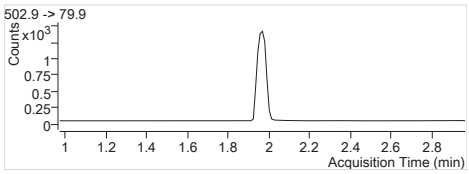
Batch Path	T:\lcms4\PFC\20180213\WS#5396269_A\QuantResults\PFC_Water_High_180213_WS#5396269_A_EToxics

Sample Name	**STD 5**	**Instrument**	LCMS04
Data File	WS#5396269_A_06.d	**Operator**	
Sample Type	Cal	**Dilution**	1
Acq. Method	PFC_Water_High.m	**Position**	P3-E5
Acq. Date	2018/02/14 5:51:05 PM	**Injection Volume**	Per Method
Sample Annotation	-		

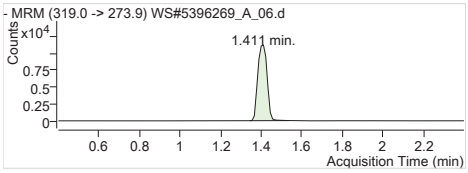
ISTD Compounds	Response	RT	Target conc.		
MPFOS	4299	1.97	1 µg/L		
13C6-PFHxA IS	35394	1.41	1 µg/L		

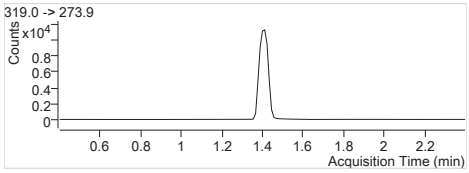
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFOS 1	19268	1.96	30.00	32.14 µg/L	107.14
13C6-PFHxA	35394	1.41	100.00	101.51 µg/L	101.51
13C4-PFOS	4299	1.97	100.00	96.82 µg/L	96.82



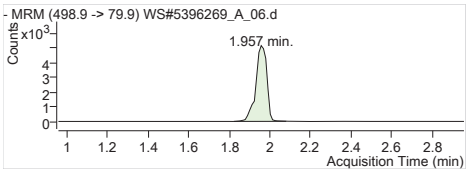


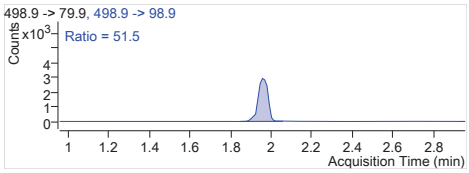
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Calibration



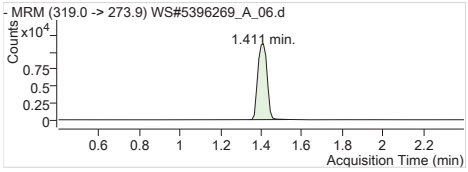


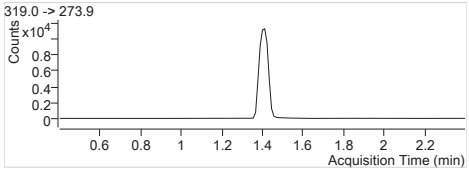
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.400)
Concentration: 1 µg/L
Sample type: Calibration



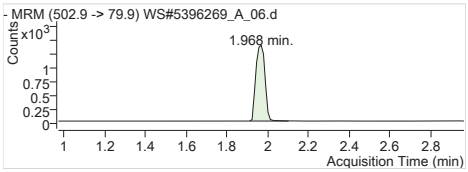


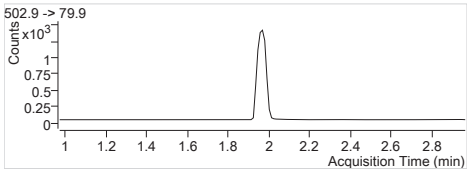
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 32.14 µg/L
Area ratio: 4.48197
Sample type: Calibration





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.400)
Calc. conc. 101.51 µg/L
Area ratio: 0
Sample type: Calibration





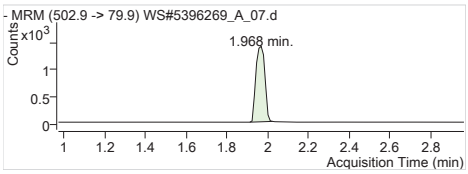
13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.968 (1.968)
Calc. conc. 96.82 µg/L
Area ratio: 0.12146
Sample type: Calibration

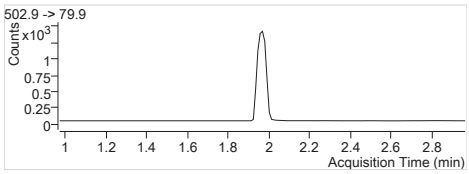
Batch Path	T:\lcms4\PFC\20180213\WS#5396269_A\QuantResults\PFC_Water_High_180213_WS#5396269_A_EToxics

Sample Name	**STD 6**	**Instrument**	LCMS04
Data File	WS#5396269_A_07.d	**Operator**	
Sample Type	Cal	**Dilution**	1
Acq. Method	PFC_Water_High.m	**Position**	P3-E6
Acq. Date	2018/02/14 5:56:01 PM	**Injection Volume**	Per Method
Sample Annotation	-		

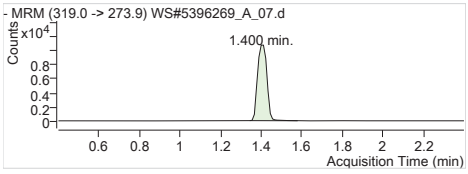
ISTD Compounds	Response	RT	Target conc.		
MPFOS	4224	1.97	1 µg/L		
13C6-PFHxA IS	34348	1.40	1 µg/L		

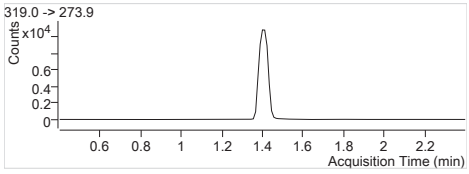
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFOS 1	30311	1.96	50.00	51.33 µg/L	102.66
13C6-PFHxA	34348	1.40	100.00	98.51 µg/L	98.51
13C4-PFOS	4224	1.97	100.00	98.03 µg/L	98.03



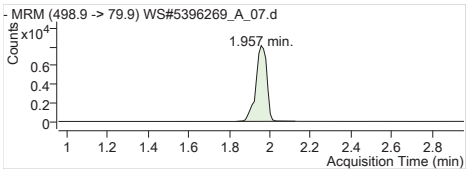


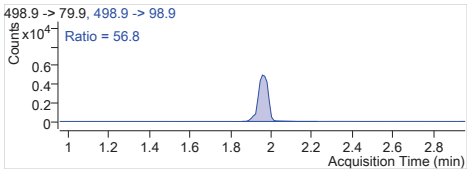
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Calibration



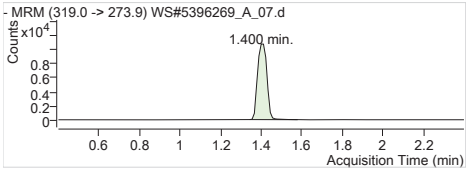


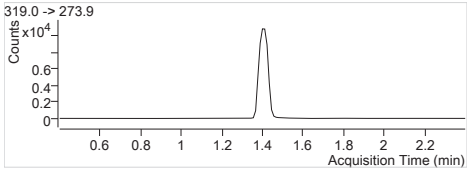
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.400 (1.400)
Concentration: 1 µg/L
Sample type: Calibration



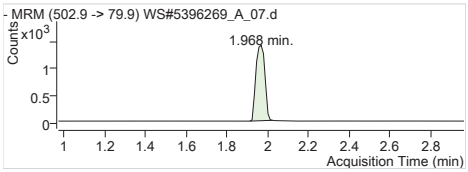


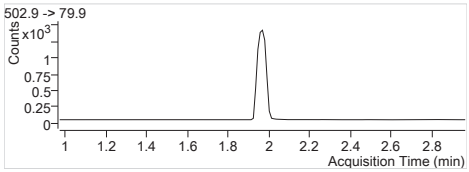
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 51.33 µg/L
Area ratio: 7.17590
Sample type: Calibration





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.400 (1.400)
Calc. conc. 98.51 µg/L
Area ratio: 0
Sample type: Calibration





13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.968 (1.968)
Calc. conc. 98.03 µg/L
Area ratio: 0.12298
Sample type: Calibration

Quantitation Results

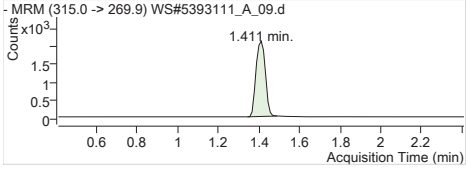
Agilent Technologies

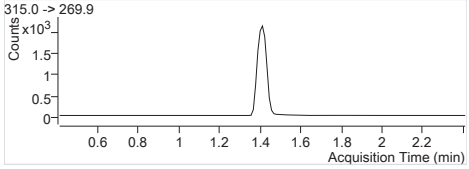
Batch Path	T:\lcms4\PFC\20180212\WS#5393111_A\QuantResults\PFC_Water_Low_180213_WS#5393111_EToxics

Sample Name	**ICV**	**Instrument**	LCMS04
Data File	WS#5393111_A_09.d	**Operator**	
Sample Type	QC	**Dilution**	1
Acq. Method	PFC_Water_Low.m	**Position**	P2-A9
Acq. Date	2018/02/13 1:45:58 PM	**Injection Volume**	Per Method
Sample Annotation	-		

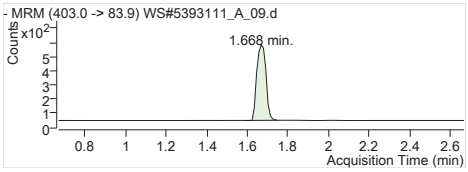
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	6673	1.41	1 µg/L		
MPFHxS	1677	1.67	1 µg/L		
MPFHpA	8209	1.68	1 µg/L		
MPFOA	9378	1.86	1 µg/L		
MPFOS	2131	1.97	1 µg/L		
MPFNA	8779	2.00	1 µg/L		
MPFDA	7507	2.12	1 µg/L		
MPFUnA	8478	2.22	1 µg/L		
MPFDoA	11862	2.31	1 µg/L		
MPFTeDA	13496	2.46	1 µg/L		
13C6-PFHxA IS	20366	1.41	1 µg/L		
13C9-PFDA IS	26857	2.12	1 µg/L		

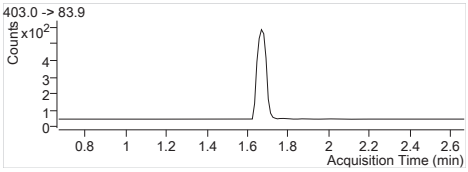
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1	17039	1.06	20.80	19.30 µg/L	92.78
PFHxA 1	59667	1.41	20.80	20.31 µg/L	97.65
PFHxS 1	16036	1.67	20.80	18.71 µg/L	89.97
PFHpA 1	77428	1.68	20.80	22.18 µg/L	106.64
PFOA 1	86549	1.86	20.80	20.26 µg/L	97.40
PFOS 1	15751	1.96	20.80	18.75 µg/L	90.13
PFNA 1	78049	2.00	20.80	21.36 µg/L	102.70
PFDA 1	79521	2.12	20.80	21.51 µg/L	103.39
PFUnA 1	87572	2.22	20.80	22.31 µg/L	107.27
PFDoA 1	107057	2.31	20.80	19.40 µg/L	93.28
PFTrDA 1	125450	2.39	20.80	20.70 µg/L	99.53
PFTeDA 1	104476	2.46	20.80	21.09 µg/L	101.40
13C2-PFHxA	6673	1.41	100.00	115.79 µg/L	115.79
18O2-PFHxS	1677	1.67	100.00	119.22 µg/L	119.22
13C4-PFHpA	8209	1.68	100.00	111.52 µg/L	111.52
13C4-PFOA	9378	1.86	100.00	120.02 µg/L	120.02
13C4-PFOS	2131	1.97	100.00	124.71 µg/L	124.71
13C5-PFNA	8779	2.00	100.00	116.49 µg/L	116.49
13C2-PFDA	7492	2.12	100.00	112.68 µg/L	112.68
13C2-PFUnA	8478	2.22	100.00	109.54 µg/L	109.54
13C2-PFDoA	11862	2.31	100.00	118.15 µg/L	118.15
13C2-PFTeDA	13683	2.46	100.00	118.73 µg/L	118.73
13C6-PFHxA	20366	1.41	100.00	87.21 µg/L	87.21
13C9-PFDA	26857	2.12	100.00	88.80 µg/L	88.80



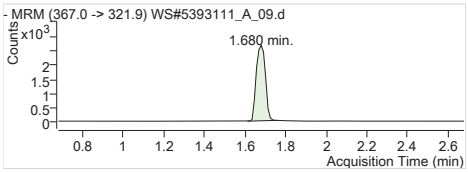


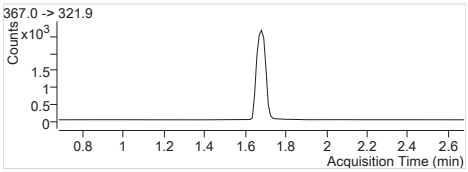
MPFHxA	Internal Standard
RT (Exp. RT):	1.411 (1.411)
Concentration:	1 µg/L
Sample type:	QC



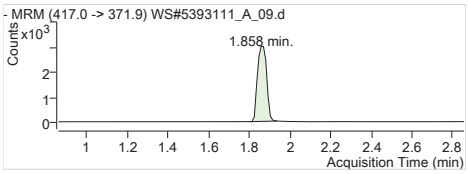


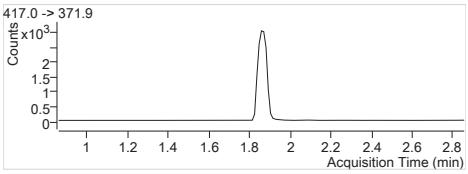
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: QC



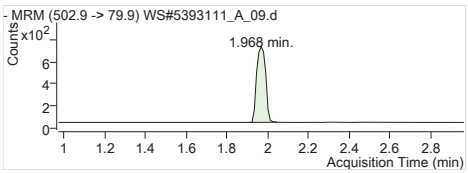


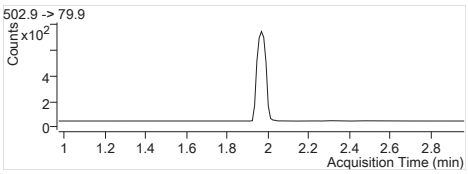
MPFHpA Internal Standard
RT (Exp. RT): 1.680 (1.680)
Concentration: 1 µg/L
Sample type: QC



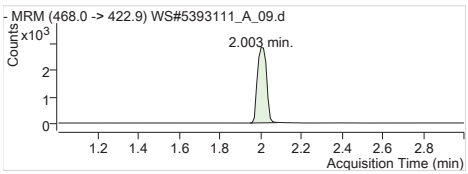


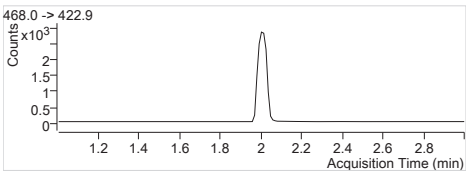
MPFOA Internal Standard
RT (Exp. RT): 1.858 (1.858)
Concentration: 1 µg/L
Sample type: QC



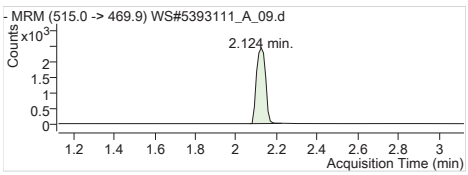


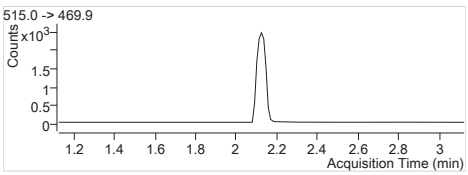
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: QC



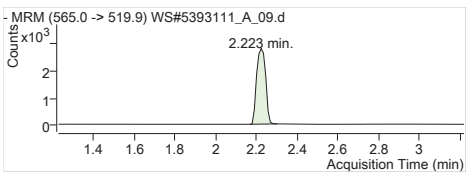


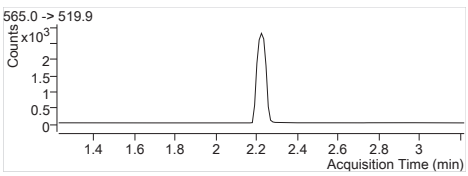
MPFNA Internal Standard
RT (Exp. RT): 2.003 (2.003)
Concentration: 1 µg/L
Sample type: QC



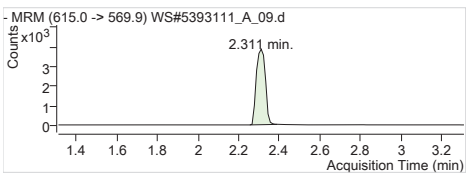


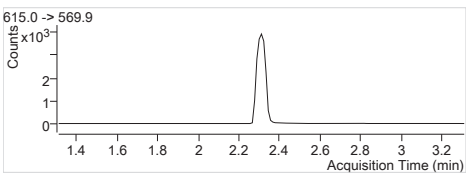
MPFDA Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: QC



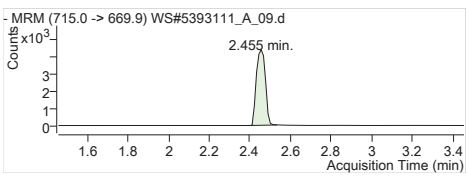


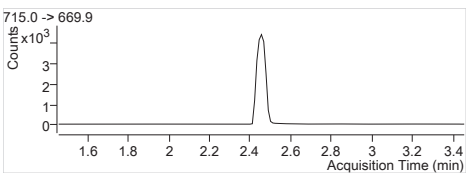
MPFUnA Internal Standard
RT (Exp. RT): 2.223 (2.223)
Concentration: 1 µg/L
Sample type: QC



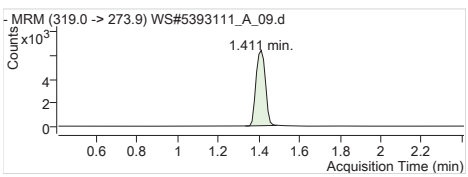


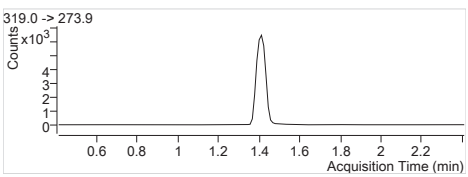
MPFDoA Internal Standard
RT (Exp. RT): 2.311 (2.311)
Concentration: 1 µg/L
Sample type: QC



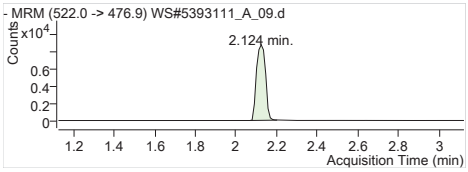


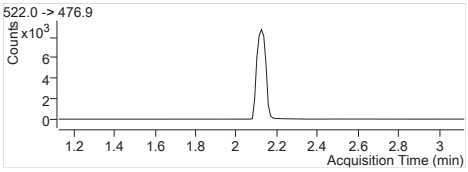
MPFTeDA Internal Standard
RT (Exp. RT): 2.455 (2.455)
Concentration: 1 µg/L
Sample type: QC



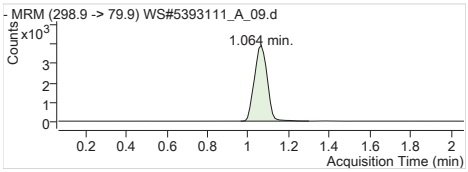


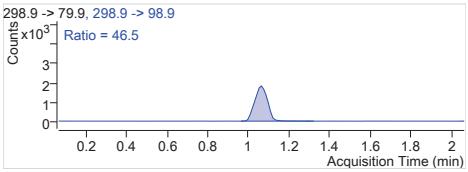
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: QC



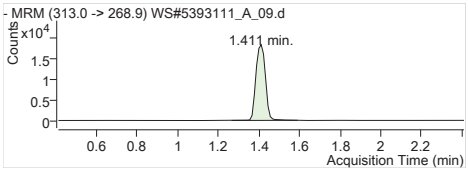


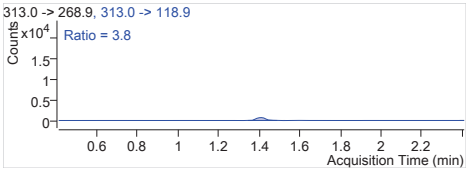
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: QC



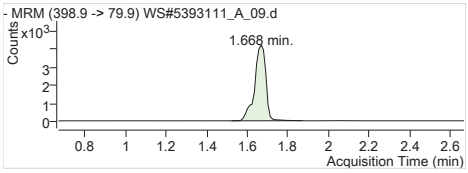


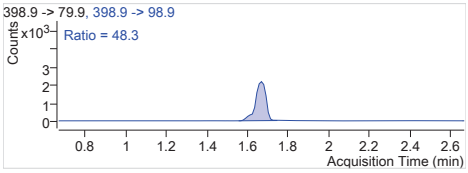
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 1.064 (1.064)
Calc. conc. 19.30 µg/L
Area ratio: 10.16041
Sample type: QC



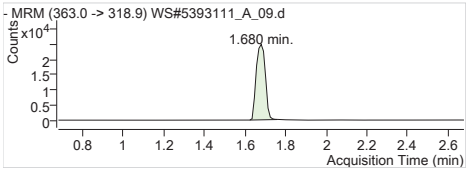


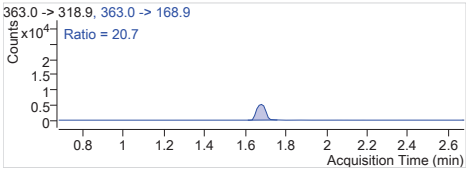
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 20.31 µg/L
Area ratio: 8.94156
Sample type: QC



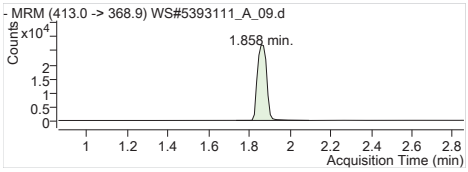


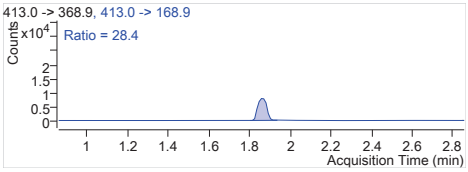
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 18.71 µg/L
Area ratio: 9.56231
Sample type: QC



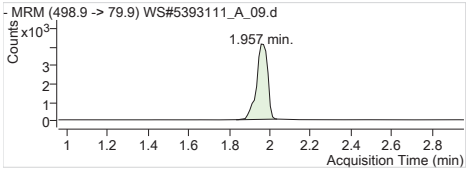


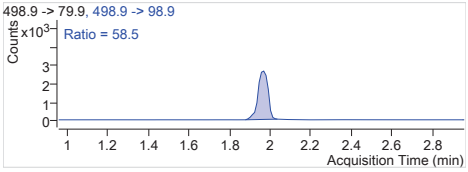
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 1.680 (1.680)
Calc. conc. 22.18 µg/L
Area ratio: 9.43209
Sample type: QC



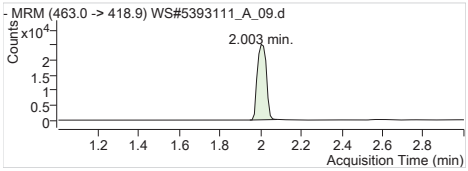


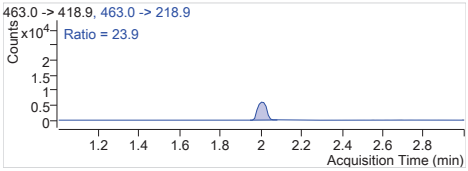
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 1.858 (1.858)
Calc. conc. 20.26 µg/L
Area ratio: 9.22894
Sample type: QC



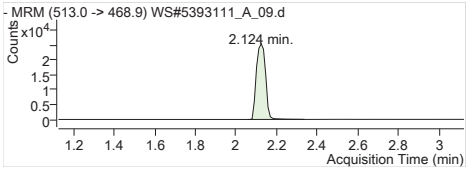


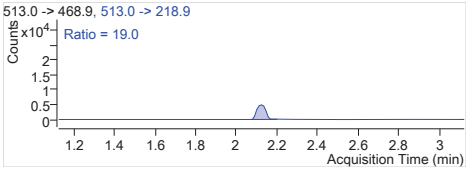
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 18.75 µg/L
Area ratio: 7.39137
Sample type: QC



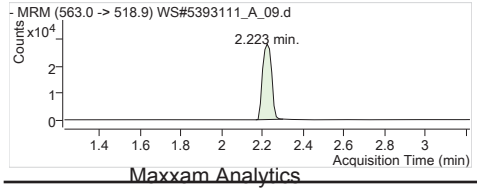


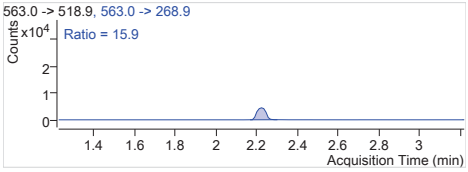
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 2.003 (2.003)
Calc. conc. 21.36 µg/L
Area ratio: 8.89042
Sample type: QC



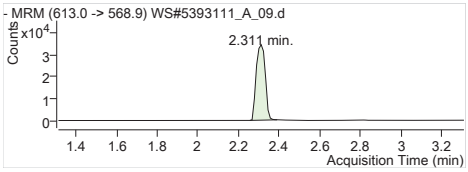


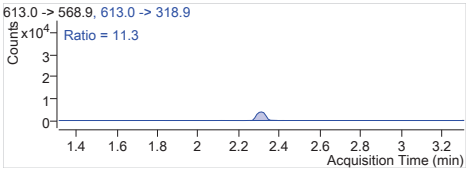
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 21.51 µg/L
Area ratio: 10.59291
Sample type: QC



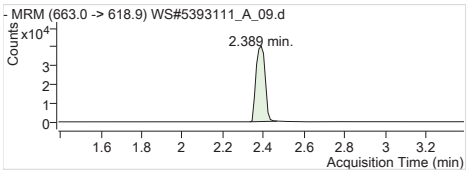


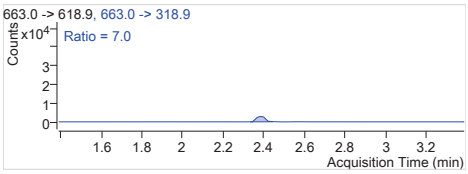
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 22.31 µg/L
Area ratio: 10.32932
Sample type: QC



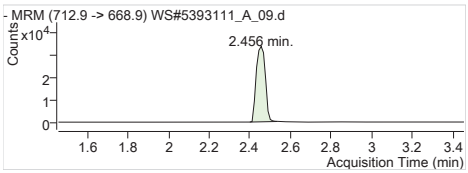


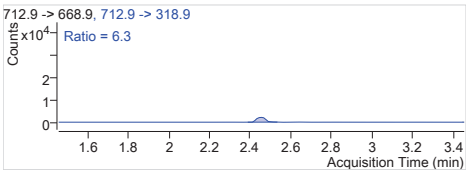
PFDoA 1 613.0 -> 568.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 19.40 µg/L
Area ratio: 9.02521
Sample type: QC



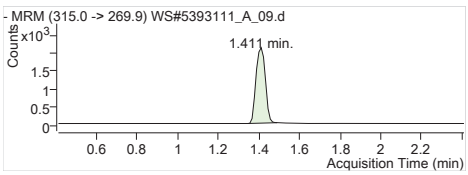


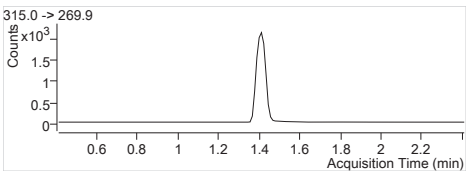
PFTrDA 1 663.0 -> 618.9
RT (Exp. RT): 2.389 (2.389)
Calc. conc. 20.70 µg/L
Area ratio: 9.29535
Sample type: QC



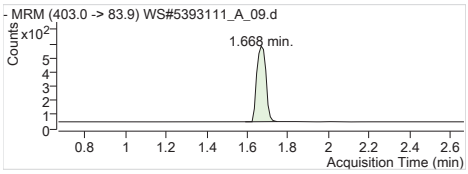


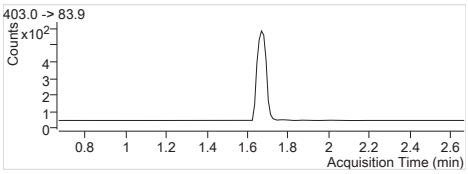
PFTeDA 1 712.9 -> 668.9
RT (Exp. RT): 2.456 (2.456)
Calc. conc. 21.09 µg/L
Area ratio: 7.74126
Sample type: QC



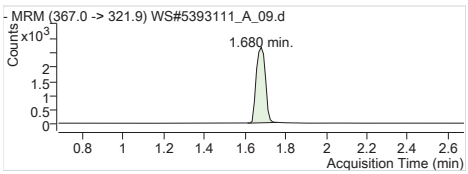


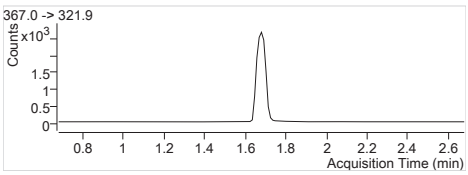
13C2-PFHxA 315.0 -> 269.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 115.79 µg/L
Area ratio: 0.32765
Sample type: QC



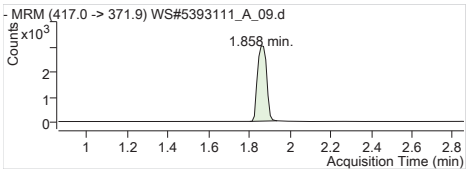


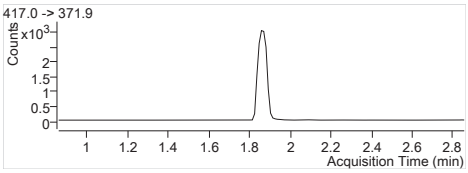
18O2-PFHxS 403.0 -> 83.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 119.22 µg/L
Area ratio: 0.08234
Sample type: QC



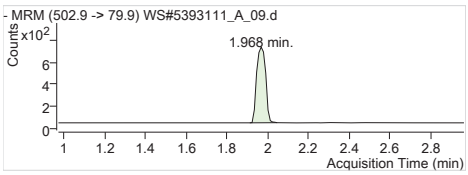


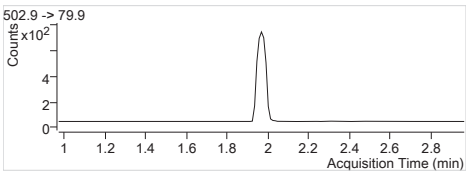
13C4-PFHpA 367.0 -> 321.9
RT (Exp. RT): 1.680 (1.680)
Calc. conc. 111.52 µg/L
Area ratio: 0.40307
Sample type: QC



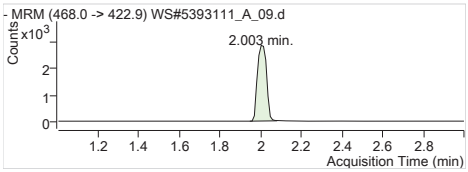


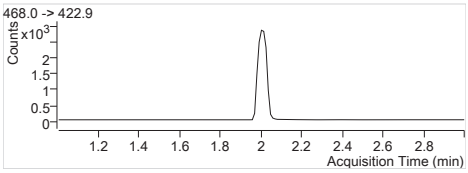
13C4-PFOA 417.0 -> 371.9
RT (Exp. RT): 1.858 (1.858)
Calc. conc. 120.02 µg/L
Area ratio: 0.46047
Sample type: QC



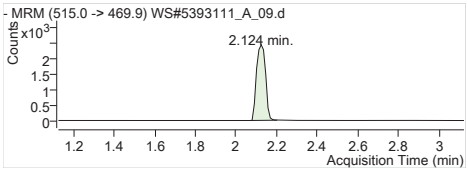


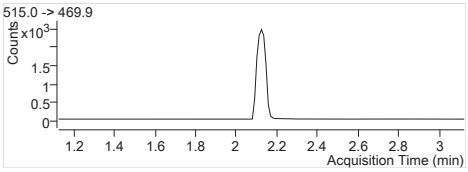
13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.968 (1.968)
Calc. conc. 124.71 µg/L
Area ratio: 0.10464
Sample type: QC



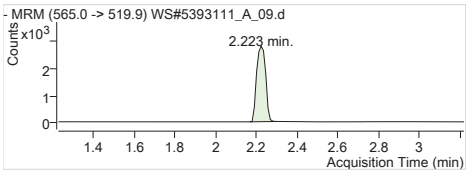


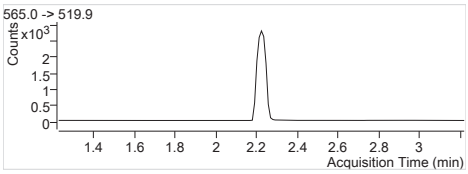
13C5-PFNA 468.0 -> 422.9
RT (Exp. RT): 2.003 (2.003)
Calc. conc. 116.49 µg/L
Area ratio: 0.43106
Sample type: QC



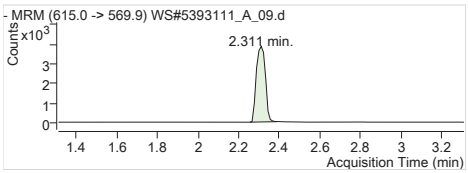


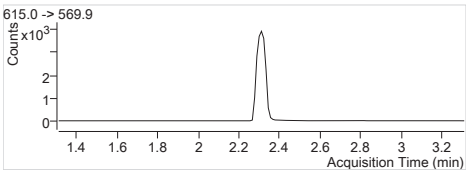
13C2-PFDA 515.0 -> 469.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 112.68 µg/L
Area ratio: 0.27896
Sample type: QC



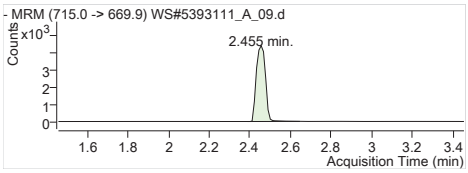


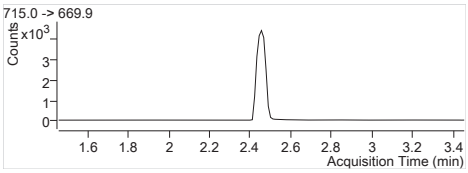
13C2-PFUnA 565.0 -> 519.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 109.54 µg/L
Area ratio: 0.31567
Sample type: QC



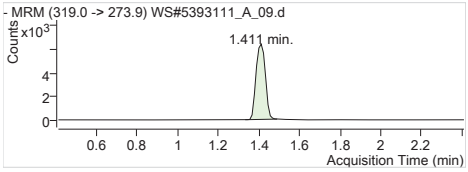


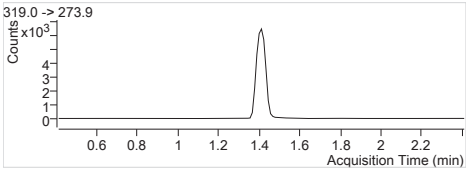
13C2-PFDoA 615.0 -> 569.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 118.15 µg/L
Area ratio: 0.44167
Sample type: QC



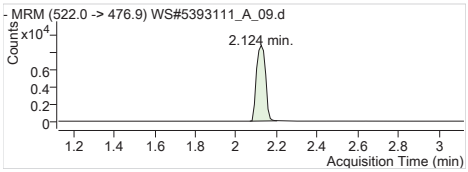


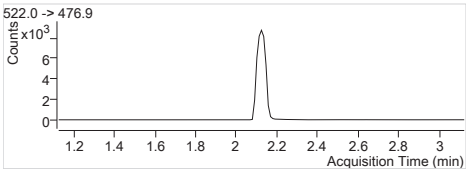
13C2-PFTeDA 715.0 -> 669.9
RT (Exp. RT): 2.455 (2.455)
Calc. conc. 118.73 µg/L
Area ratio: 0.50948
Sample type: QC





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 87.21 µg/L
Area ratio: 0
Sample type: QC





13C9-PFDA 522.0 -> 476.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 88.80 µg/L
Area ratio: 0
Sample type: QC

Quantitation Results

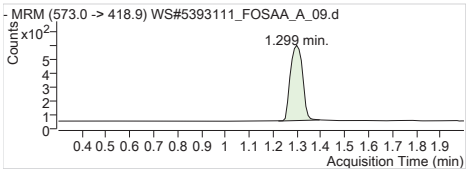
Agilent Technologies

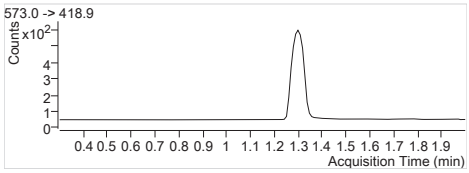
Batch Path	T:\lcms4\PFC\20180212\WS#5393111_FOSAA_A\QuantResults\PFC_Water_Low_180212_WS#5393111_FOSAA_A_EToxics

Sample Name	**ICV**	**Instrument**	LCMS04
Data File	WS#5393111_FOSAA_A_09.d	**Operator**	
Sample Type	QC	**Dilution**	1
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P2-A9
Acq. Date	2018/02/13 11:46:21 AM	**Injection Volume**	Per Method
Sample Annotation	-		

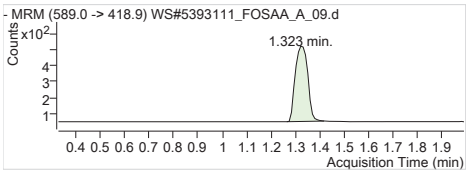
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1932	1.30	1 µg/L		
D5-EtFOSAA IS	1683	1.32	1 µg/L		
13C9-PFDA IS	22491	0.87	1 µg/L		

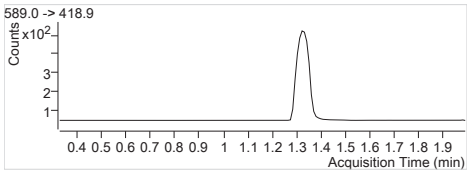
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1	15808	1.30	20.80	21.05 µg/L	101.21
EtFOSAA 1	16267	1.32	20.80	21.30 µg/L	102.42
D3-MeFOSAA	1960	1.30	100.00	116.21 µg/L	116.21
D5-EtFOSAA	1695	1.32	100.00	117.28 µg/L	117.28
13C9-PFDA	21782	0.87	100.00	85.37 µg/L	85.37



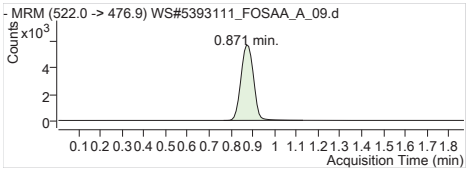


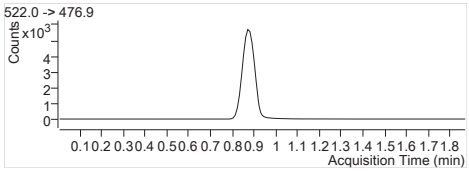
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.299 (1.299)
Concentration: 1 µg/L
Sample type: QC



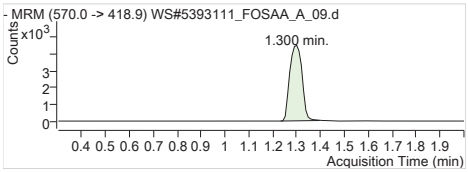


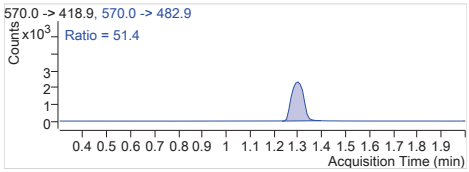
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.323 (1.323)
Concentration: 1 µg/L
Sample type: QC



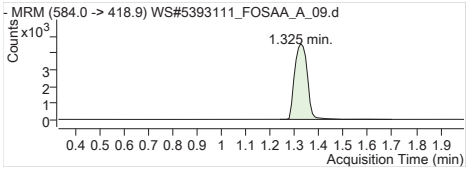


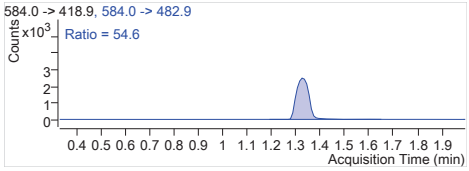
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.871 (0.871)
Concentration: 1 µg/L
Sample type: QC



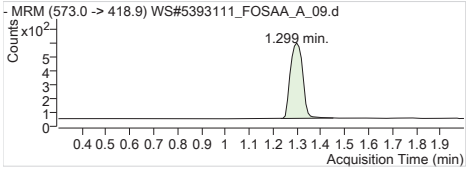


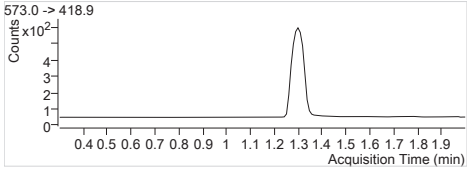
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 1.300 (1.300)
Calc. conc. 21.05 µg/L
Area ratio: 8.18219
Sample type: QC



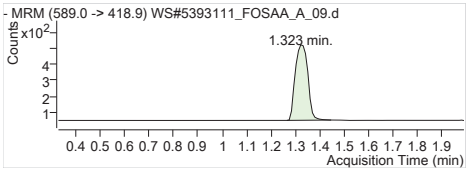


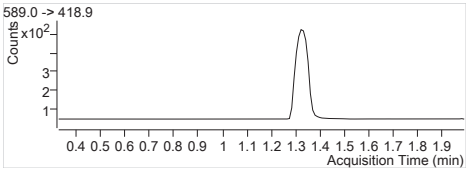
EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 1.325 (1.325)
Calc. conc. 21.30 µg/L
Area ratio: 9.66548
Sample type: QC



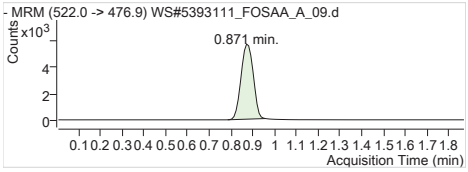


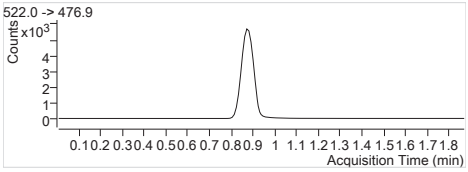
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.299 (1.299)
Calc. conc. 116.21 µg/L
Area ratio: 0.08715
Sample type: QC





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.323 (1.323)
Calc. conc.	117.28 µg/L
Area ratio:	0.07536
Sample type:	QC





13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.871 (0.871)
Calc. conc.	85.37 µg/L
Area ratio:	0
Sample type:	QC

Quantitation Results

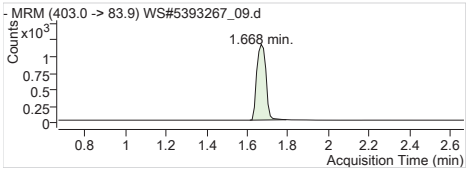
Agilent Technologies

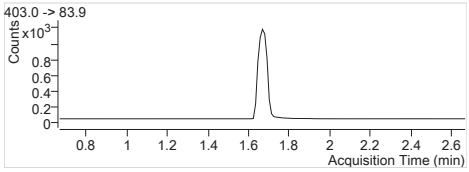
Batch Path	T:\lcms4\PFC\20180213\WS#5393267\QuantResults\PFC_Water_High_180213_WS#5393267_EToxics

Sample Name	**ICV**	**Instrument**	LCMS04
Data File	WS#5393267_09.d	**Operator**	
Sample Type	QC	**Dilution**	1
Acq. Method	PFC_Water_High.m	**Position**	P4-D4
Acq. Date	2018/02/14 8:22:19 AM	**Injection Volume**	Per Method
Sample Annotation	-		

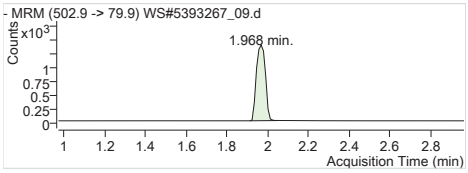
ISTD Compounds	Response	RT	Target conc.		
MPFHxS	3565	1.67	1 µg/L		
MPFOS	4229	1.97	1 µg/L		
13C6-PFHxA IS	32945	1.41	1 µg/L		

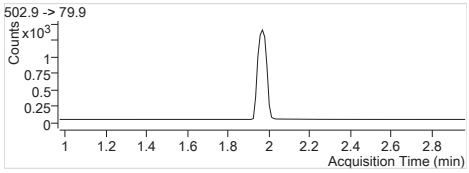
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFHxS 1	14135	1.67	24.00	23.36 µg/L	97.34
PFOS 1	14792	1.96	24.00	23.76 µg/L	98.99
13C6-PFHxA	32945	1.41	100.00	96.62 µg/L	96.62
18O2-PFHxS	3565	1.67	100.00	104.71 µg/L	104.71
13C4-PFOS	4229	1.97	100.00	99.29 µg/L	99.29



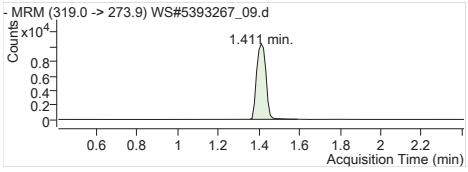


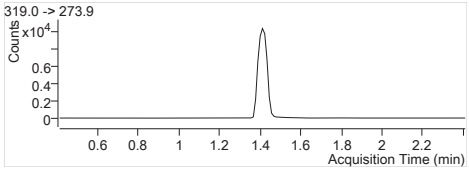
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: QC



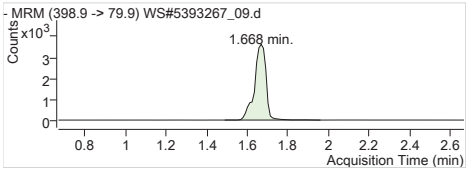


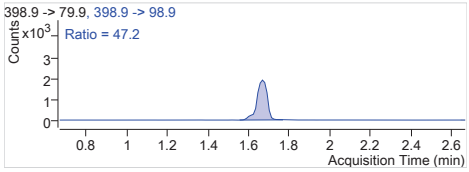
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: QC



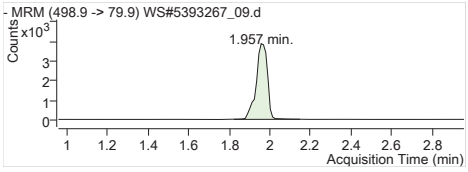


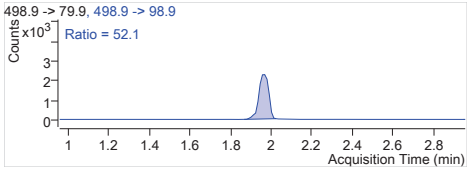
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: QC



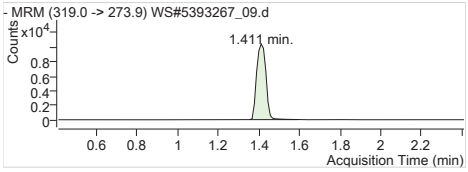


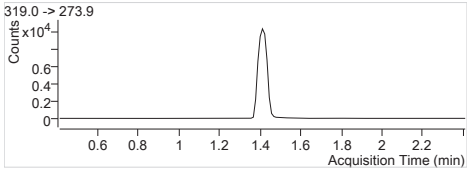
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 23.36 µg/L
Area ratio: 3.96494
Sample type: QC



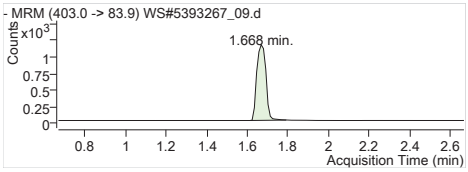


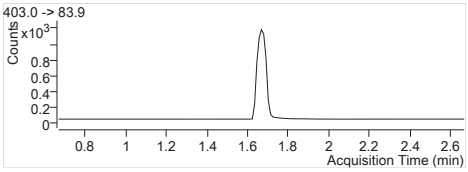
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 23.76 µg/L
Area ratio: 3.49775
Sample type: QC



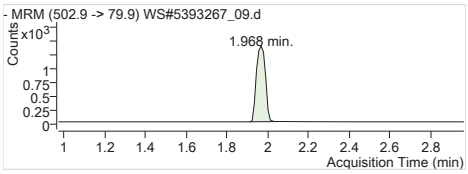


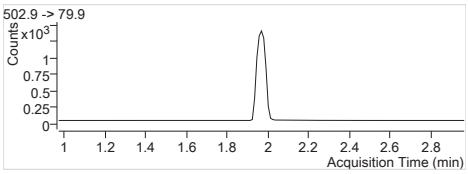
13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 96.62 µg/L
Area ratio: 0
Sample type: QC





18O2-PFHxS	403.0 -> 83.9
RT (Exp. RT):	1.668 (1.668)
Calc. conc.	104.71 µg/L
Area ratio:	0.10821
Sample type:	QC





13C4-PFOS	502.9 -> 79.9
RT (Exp. RT):	1.968 (1.968)
Calc. conc.	99.29 µg/L
Area ratio:	0.12837
Sample type:	QC

Quantitation Results

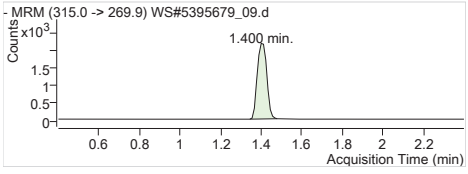
Agilent Technologies

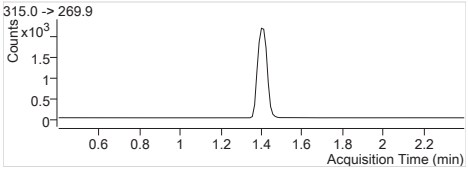
Batch Path	T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics

Sample Name	**ICV**	**Instrument**	LCMS04
Data File	WS#5395679_09.d	**Operator**	
Sample Type	QC	**Dilution**	1
Acq. Method	PFC_Water_Low.m	**Position**	P3-A9
Acq. Date	2018/02/13 10:35:20 PM	**Injection Volume**	Per Method
Sample Annotation	-		

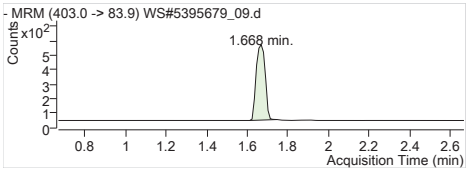
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	6979	1.40	1 µg/L		
MPFHxS	1614	1.67	1 µg/L		
MPFHpA	8444	1.68	1 µg/L		
MPFOA	8983	1.86	1 µg/L		
MPFOS	1920	1.97	1 µg/L		
MPFNA	9808	2.00	1 µg/L		
MPFDA	7855	2.12	1 µg/L		
MPFUnA	9119	2.22	1 µg/L		
MPFDoA	12004	2.31	1 µg/L		
MPFTeDA	13536	2.46	1 µg/L		
13C6-PFHxA IS	21703	1.40	1 µg/L		
13C9-PFDA IS	30242	2.12	1 µg/L		

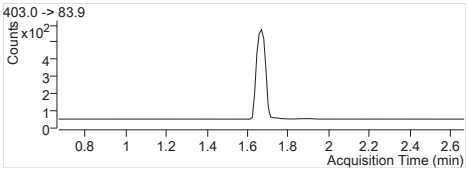
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1	16357	1.05	20.80	22.02 µg/L	105.85
PFHxA 1	56610	1.40	20.80	18.79 µg/L	90.35
PFHxS 1	16061	1.67	20.80	21.72 µg/L	104.42
PFHpA 1	72777	1.68	20.80	21.46 µg/L	103.17
PFOA 1	83518	1.86	20.80	22.33 µg/L	107.35
PFOS 1	14901	1.96	20.80	20.79 µg/L	99.96
PFNA 1	75927	2.00	20.80	19.95 µg/L	95.89
PFDA 1	80263	2.12	20.80	20.72 µg/L	99.62
PFUnA 1	90928	2.22	20.80	21.77 µg/L	104.64
PFDoA 1	108380	2.31	20.80	21.27 µg/L	102.26
PFTrDA 1	124289	2.39	20.80	21.47 µg/L	103.21
PFTeDA 1	105523	2.46	20.80	22.24 µg/L	106.94
13C2-PFHxA	6979	1.40	100.00	106.79 µg/L	106.79
18O2-PFHxS	1614	1.67	100.00	96.75 µg/L	96.75
13C4-PFHpA	8444	1.68	100.00	98.64 µg/L	98.64
13C4-PFOA	8983	1.86	100.00	97.08 µg/L	97.08
13C4-PFOS	1920	1.97	100.00	96.73 µg/L	96.73
13C5-PFNA	9807	2.00	100.00	108.76 µg/L	108.76
13C2-PFDA	7820	2.12	100.00	99.94 µg/L	99.94
13C2-PFUnA	9119	2.22	100.00	97.47 µg/L	97.47
13C2-PFDoA	12004	2.31	100.00	97.07 µg/L	97.07
13C2-PFTeDA	13833	2.46	100.00	95.64 µg/L	95.64
13C2-6:2-FTS	2621	1.82	100.00	99.74 µg/L	99.74
13C2-8:2 FTS	2585	2.10	100.00	105.46 µg/L	105.46
13C6-PFHxA	21703	1.40	100.00	99.07 µg/L	99.07
13C9-PFDA	30242	2.12	100.00	104.40 µg/L	104.40



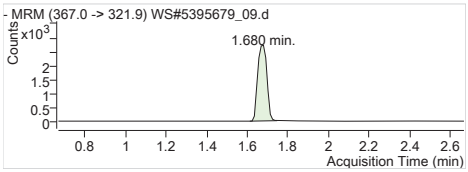


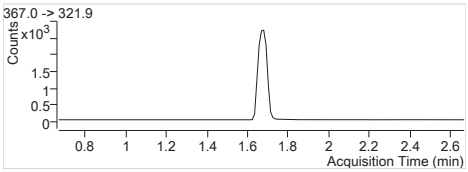
MPFHxA	Internal Standard
RT (Exp. RT):	1.400 (1.400)
Concentration:	1 µg/L
Sample type:	QC



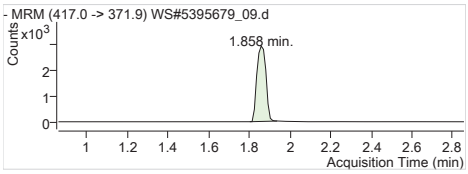


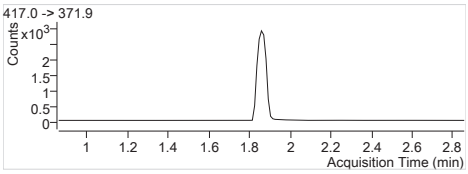
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: QC



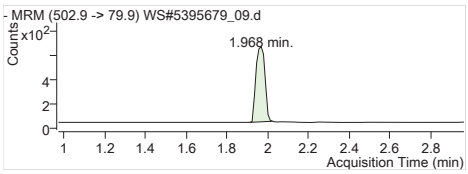


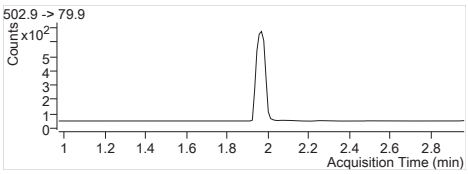
MPFHpA Internal Standard
RT (Exp. RT): 1.680 (1.668)
Concentration: 1 µg/L
Sample type: QC



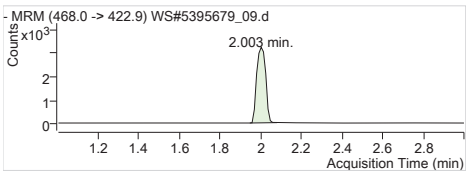


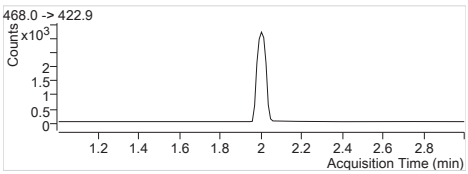
MPFOA Internal Standard
RT (Exp. RT): 1.858 (1.858)
Concentration: 1 µg/L
Sample type: QC



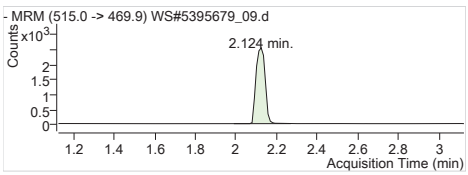


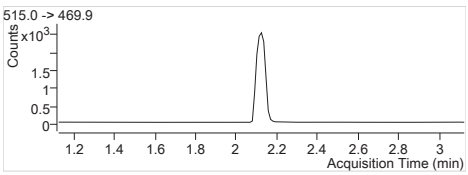
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: QC



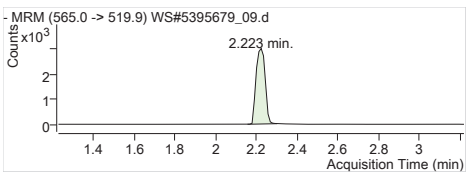


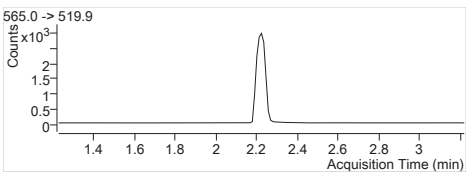
MPFNA Internal Standard
RT (Exp. RT): 2.003 (2.003)
Concentration: 1 µg/L
Sample type: QC



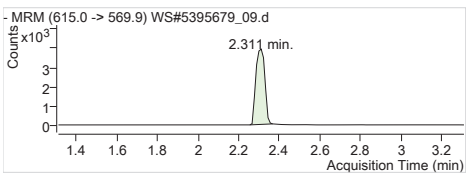


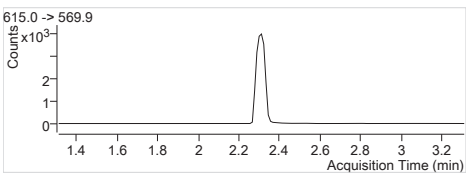
MPFDA Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: QC



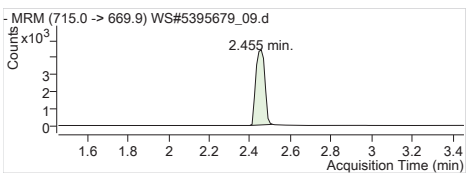


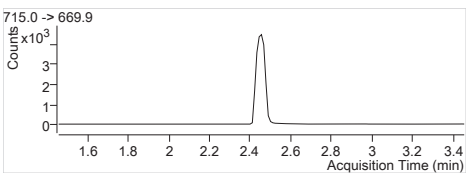
MPFUnA Internal Standard
RT (Exp. RT): 2.223 (2.223)
Concentration: 1 µg/L
Sample type: QC



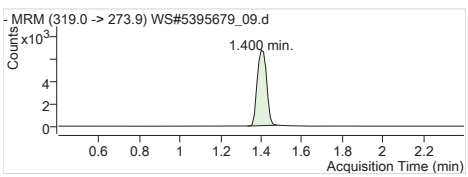


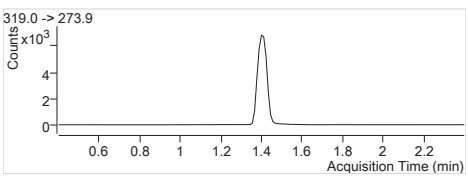
MPFDoA Internal Standard
RT (Exp. RT): 2.311 (2.311)
Concentration: 1 µg/L
Sample type: QC



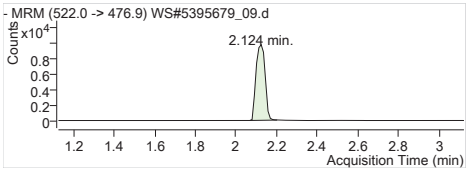


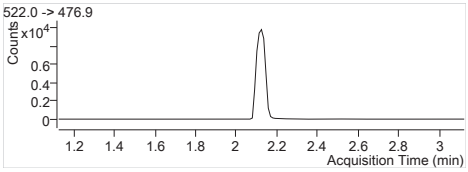
MPFTeDA Internal Standard
RT (Exp. RT): 2.455 (2.455)
Concentration: 1 µg/L
Sample type: QC



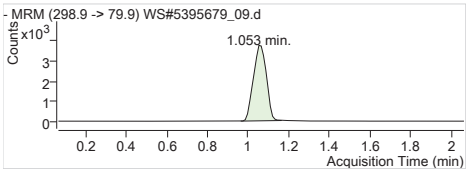


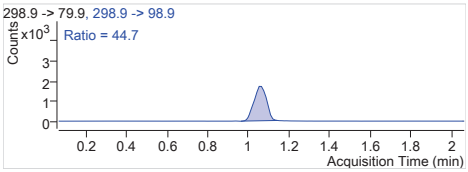
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.400 (1.400)
Concentration: 1 µg/L
Sample type: QC



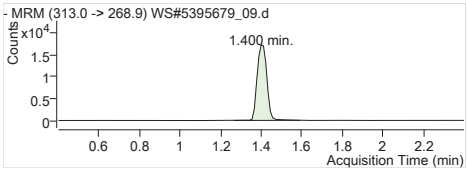


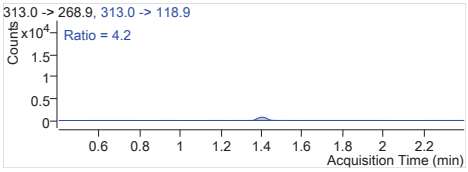
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: QC



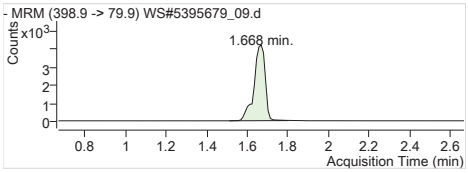


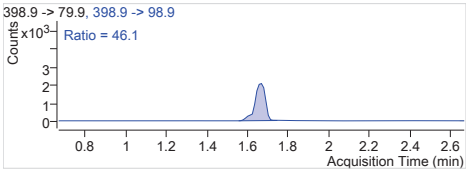
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 1.053 (1.064)
Calc. conc. 22.02 µg/L
Area ratio: 10.13445
Sample type: QC



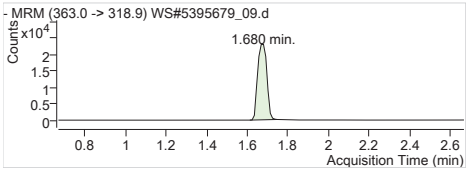


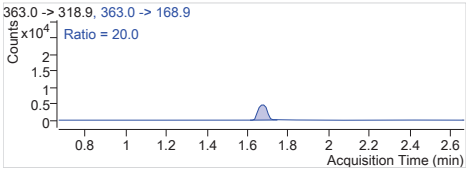
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 1.400 (1.400)
Calc. conc. 18.79 µg/L
Area ratio: 8.11148
Sample type: QC



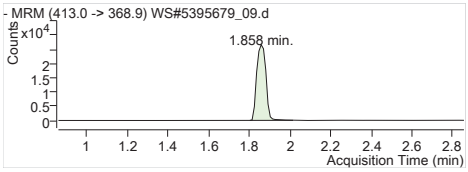


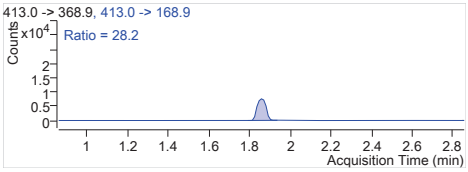
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 21.72 µg/L
Area ratio: 9.95105
Sample type: QC



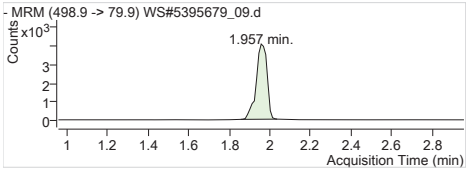


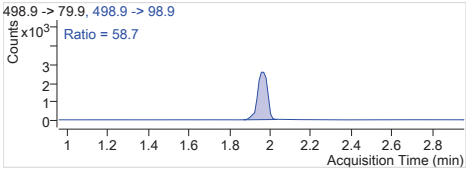
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 1.680 (1.669)
Calc. conc. 21.46 µg/L
Area ratio: 8.61878
Sample type: QC



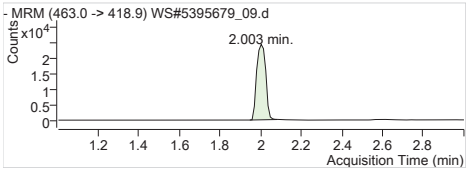


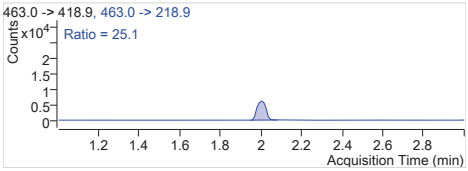
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 1.858 (1.858)
Calc. conc. 22.33 µg/L
Area ratio: 9.29734
Sample type: QC



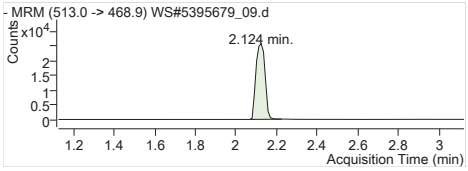


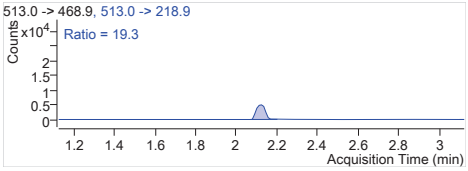
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 20.79 µg/L
Area ratio: 7.76094
Sample type: QC



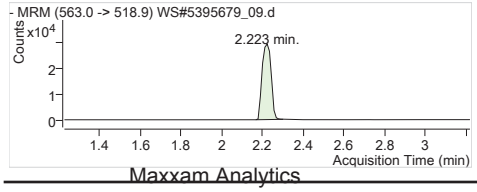


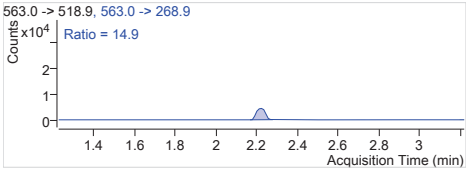
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 2.003 (2.003)
Calc. conc. 19.95 µg/L
Area ratio: 7.74133
Sample type: QC



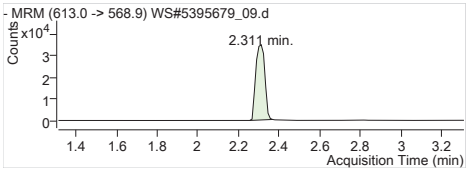


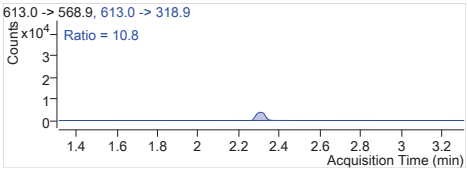
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 20.72 µg/L
Area ratio: 10.21808
Sample type: QC



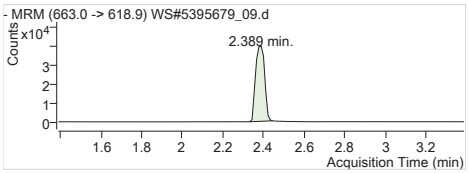


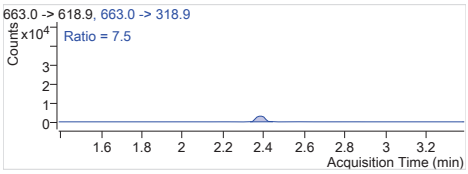
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 21.77 µg/L
Area ratio: 9.97127
Sample type: QC



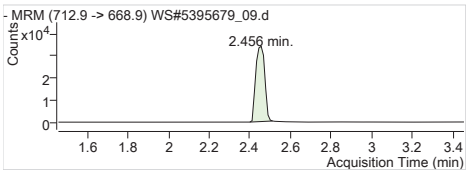


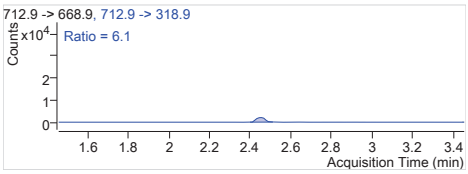
PFDoA 1 613.0 -> 568.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 21.27 µg/L
Area ratio: 9.02866
Sample type: QC



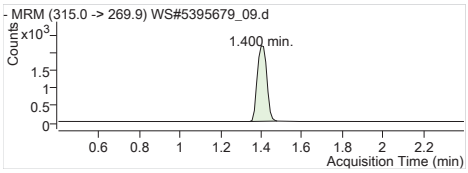


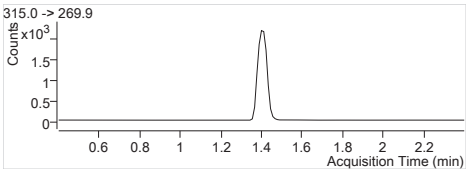
PFTrDA 1 663.0 -> 618.9
RT (Exp. RT): 2.389 (2.389)
Calc. conc. 21.47 µg/L
Area ratio: 9.18211
Sample type: QC



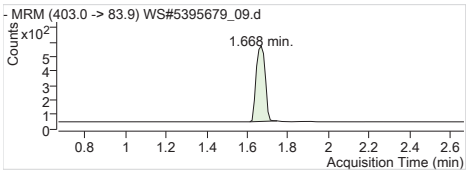


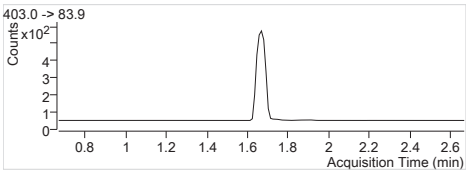
PFTeDA 1 712.9 -> 668.9
RT (Exp. RT): 2.456 (2.456)
Calc. conc. 22.24 µg/L
Area ratio: 7.79573
Sample type: QC



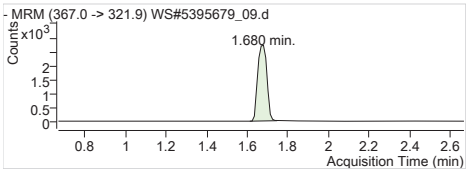


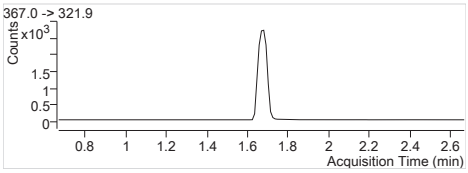
13C2-PFHxA 315.0 -> 269.9
RT (Exp. RT): 1.400 (1.400)
Calc. conc. 106.79 µg/L
Area ratio: 0.32157
Sample type: QC



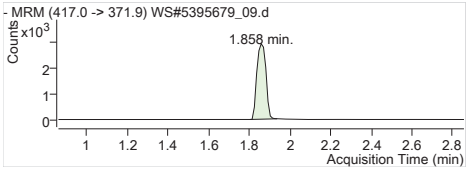


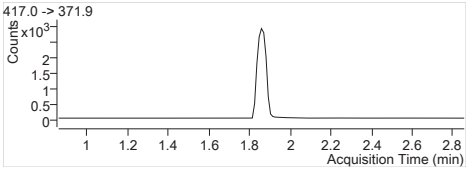
18O2-PFHxS 403.0 -> 83.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 96.75 µg/L
Area ratio: 0.07437
Sample type: QC



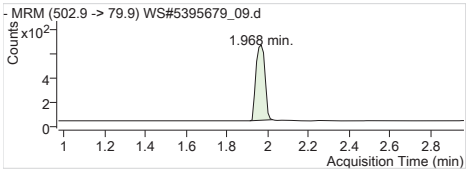


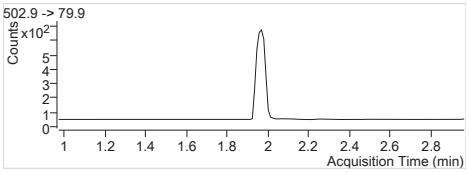
13C4-PFHpA 367.0 -> 321.9
RT (Exp. RT): 1.680 (1.668)
Calc. conc. 98.64 µg/L
Area ratio: 0.38907
Sample type: QC



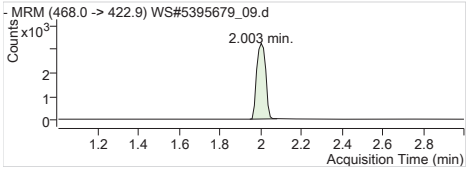


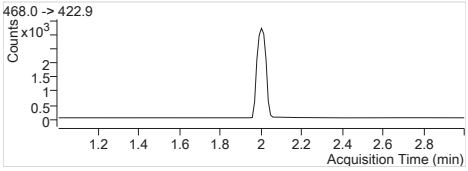
13C4-PFOA 417.0 -> 371.9
RT (Exp. RT): 1.858 (1.858)
Calc. conc. 97.08 µg/L
Area ratio: 0.41391
Sample type: QC



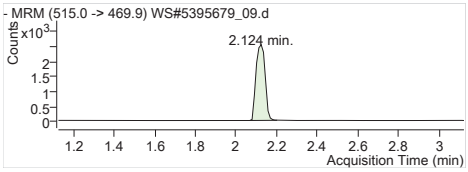


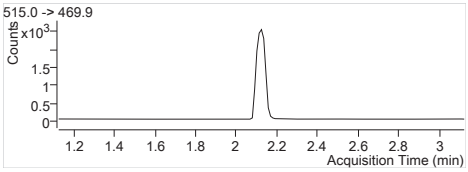
13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.968 (1.968)
Calc. conc. 96.73 µg/L
Area ratio: 0.08847
Sample type: QC



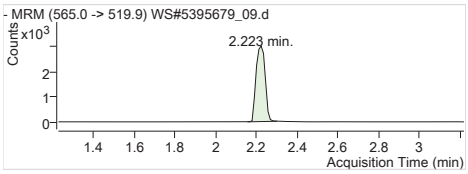


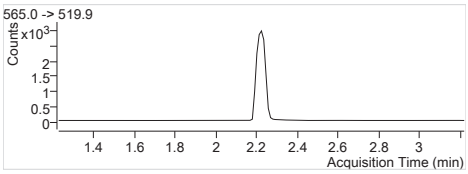
13C5-PFNA 468.0 -> 422.9
RT (Exp. RT): 2.003 (2.003)
Calc. conc. 108.76 µg/L
Area ratio: 0.45187
Sample type: QC



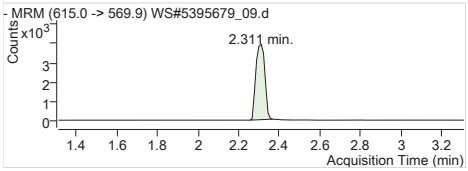


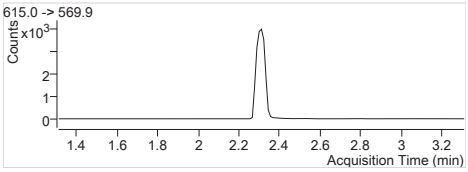
13C2-PFDA 515.0 -> 469.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 99.94 µg/L
Area ratio: 0.25858
Sample type: QC



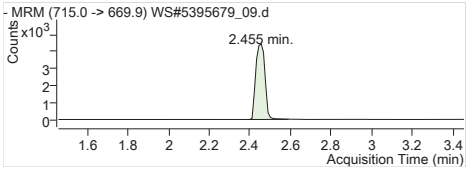


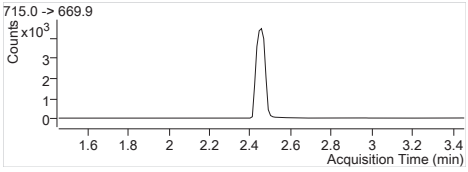
13C2-PFUnA 565.0 -> 519.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 97.47 µg/L
Area ratio: 0.30153
Sample type: QC



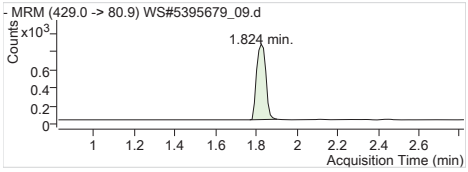


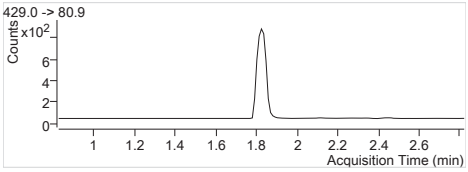
13C2-PFDoA 615.0 -> 569.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 97.07 µg/L
Area ratio: 0.39693
Sample type: QC



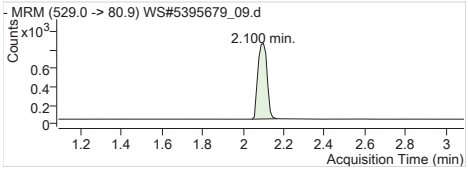


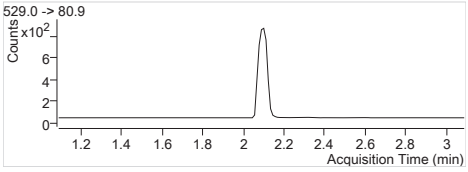
13C2-PFTeDA 715.0 -> 669.9
RT (Exp. RT): 2.455 (2.455)
Calc. conc. 95.64 µg/L
Area ratio: 0.45741
Sample type: QC



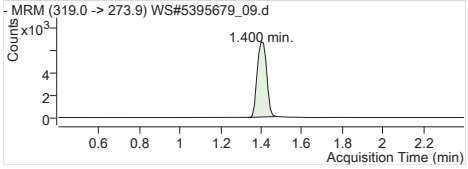


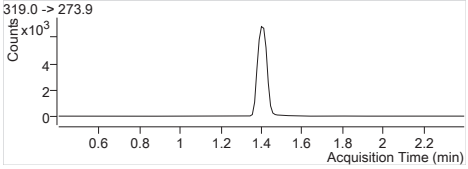
13C2-6:2-FTS 429.0 -> 80.9
RT (Exp. RT): 1.824 (1.824)
Calc. conc. 99.74 µg/L
Area ratio: 0.12077
Sample type: QC



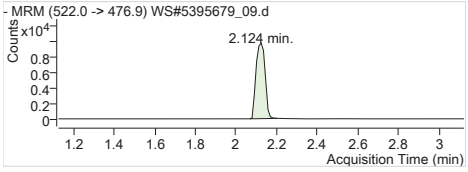


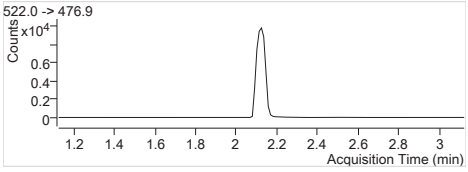
13C2-8:2 FTS 529.0 -> 80.9
RT (Exp. RT): 2.100 (2.089)
Calc. conc. 105.46 µg/L
Area ratio: 0.11911
Sample type: QC





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.400 (1.400)
Calc. conc. 99.07 µg/L
Area ratio: 0
Sample type: QC





13C9-PFDA 522.0 -> 476.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 104.40 µg/L
Area ratio: 0
Sample type: QC

Quantitation Results

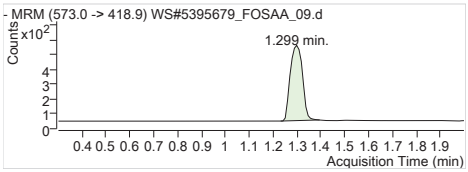
Agilent Technologies

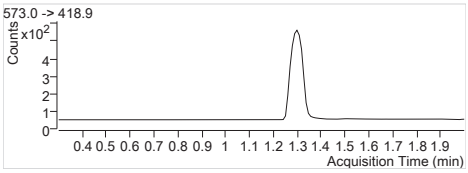
Batch Path	T:\lcms4\PFC\20180213\WS#5395679_FOSAA\QuantResults\PFC_Water_Low_180213_WS#5395679_FOSAA_ETOxics

Sample Name	**ICV**	**Instrument**	LCMS04
Data File	WS#5395679_FOSAA_09.d	**Operator**	
Sample Type	QC	**Dilution**	1
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P3-A9
Acq. Date	2018/02/13 4:36:05 PM	**Injection Volume**	Per Method
Sample Annotation	-		

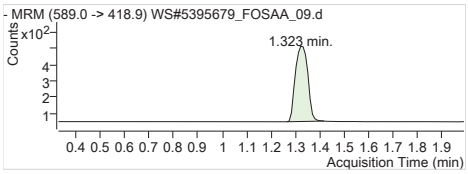
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1821	1.30	1 µg/L		
D5-EtFOSAA IS	1649	1.32	1 µg/L		
13C9-PFDA IS	24018	0.87	1 µg/L		

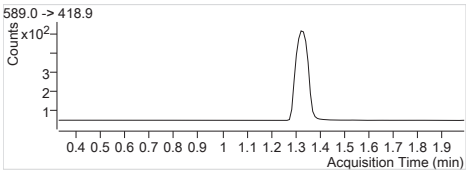
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1	14667	1.30	20.80	21.96 µg/L	105.59
EtFOSAA 1	15213	1.32	20.80	21.77 µg/L	104.65
D3-MeFOSAA	1853	1.30	100.00	97.17 µg/L	97.17
D5-EtFOSAA	1667	1.32	100.00	98.43 µg/L	98.43
13C9-PFDA	23298	0.87	100.00	100.98 µg/L	100.98



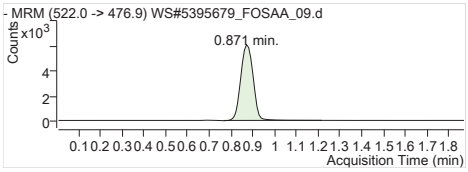


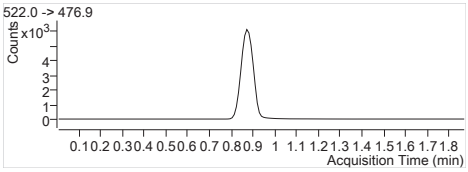
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.299 (1.299)
Concentration: 1 µg/L
Sample type: QC



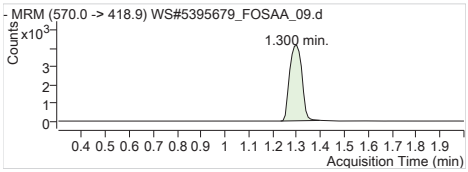


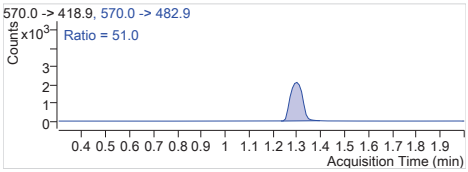
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.323 (1.323)
Concentration: 1 µg/L
Sample type: QC



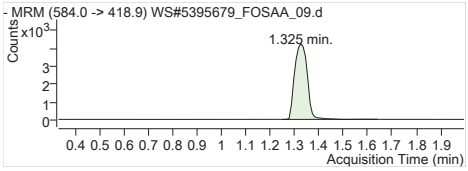


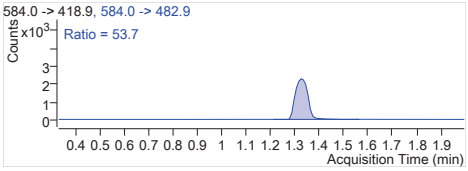
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.871 (0.871)
Concentration: 1 µg/L
Sample type: QC



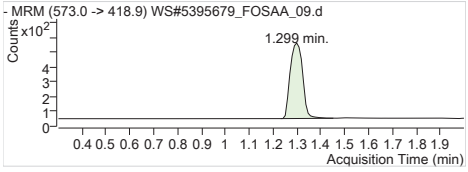


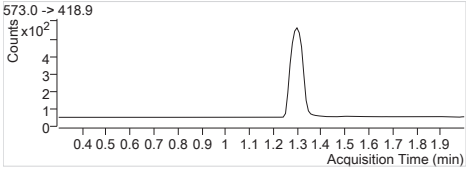
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 1.300 (1.300)
Calc. conc. 21.96 µg/L
Area ratio: 8.05437
Sample type: QC



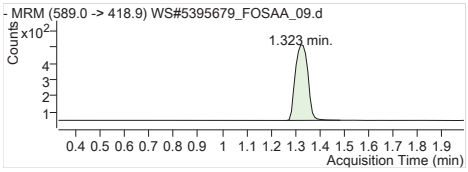


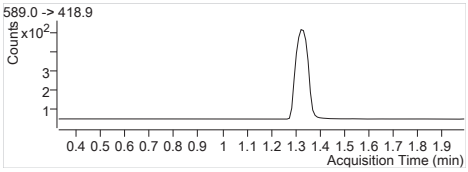
EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 1.325 (1.325)
Calc. conc. 21.77 µg/L
Area ratio: 9.22559
Sample type: QC



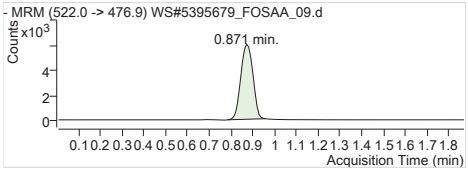


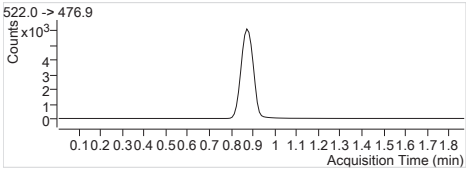
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.299 (1.299)
Calc. conc. 97.17 µg/L
Area ratio: 0.07715
Sample type: QC





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.323 (1.323)
Calc. conc.	98.43 µg/L
Area ratio:	0.06941
Sample type:	QC





13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.871 (0.871)
Calc. conc.	100.98 µg/L
Area ratio:	0
Sample type:	QC

Quantitation Results

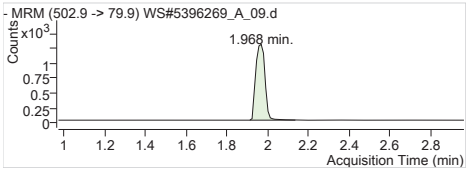
Agilent Technologies

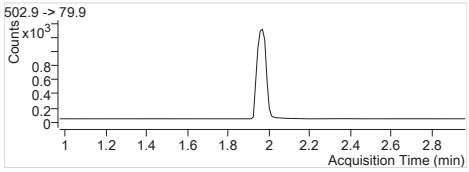
Batch Path	T:\lcms4\PFC\20180213\WS#5396269_A\QuantResults\PFC_Water_High_180213_WS#5396269_A_EToxics

Sample Name	**ICV**	**Instrument**	LCMS04
Data File	WS#5396269_A_09.d	**Operator**	
Sample Type	QC	**Dilution**	1
Acq. Method	PFC_Water_High.m	**Position**	P3-E8
Acq. Date	2018/02/14 6:05:53 PM	**Injection Volume**	Per Method
Sample Annotation	-		

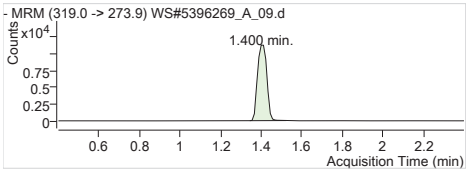
ISTD Compounds	Response	RT	Target conc.		
MPFOS	4032	1.97	1 µg/L		
13C6-PFHxA IS	35861	1.40	1 µg/L		

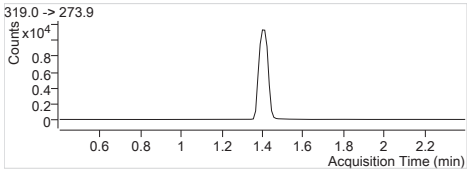
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFOS 1	13102	1.96	24.00	23.36 µg/L	97.35
13C6-PFHxA	35861	1.40	100.00	102.85 µg/L	102.85
13C4-PFOS	4032	1.97	100.00	89.63 µg/L	89.63



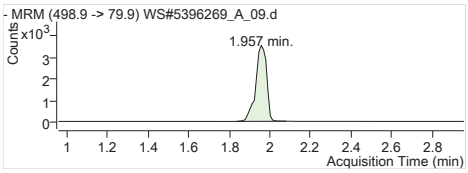


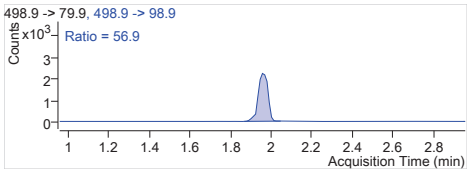
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: QC



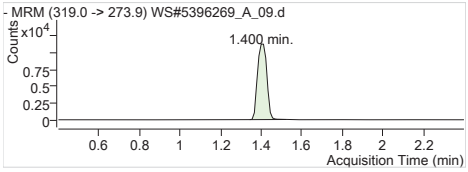


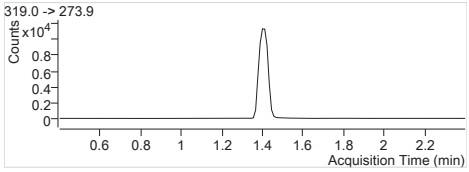
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.400 (1.400)
Concentration: 1 µg/L
Sample type: QC



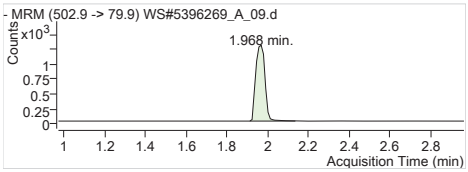


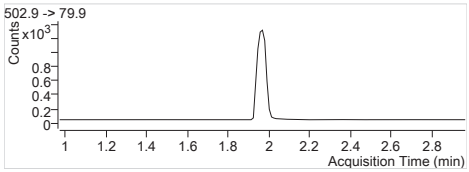
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 23.36 µg/L
Area ratio: 3.24950
Sample type: QC





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.400 (1.400)
Calc. conc. 102.85 µg/L
Area ratio: 0
Sample type: QC

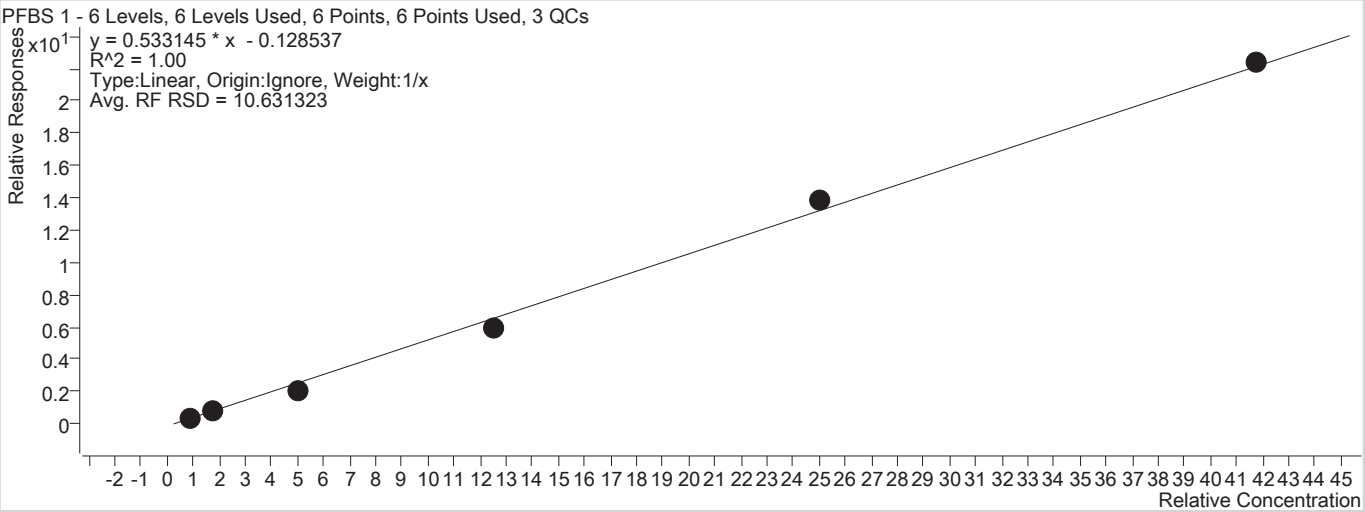




13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.968 (1.968)
Calc. conc. 89.63 µg/L
Area ratio: 0.11243
Sample type: QC

Batch Path T:\lcms4\PFC\20180212\WS#5393111_A\QuantResults\PFC_Water_Low_180213_WS#5393111_EToxics.batch.bin
Last Calib Update 2018/02/26 2:51:40 PM
Instrument: LCMS04

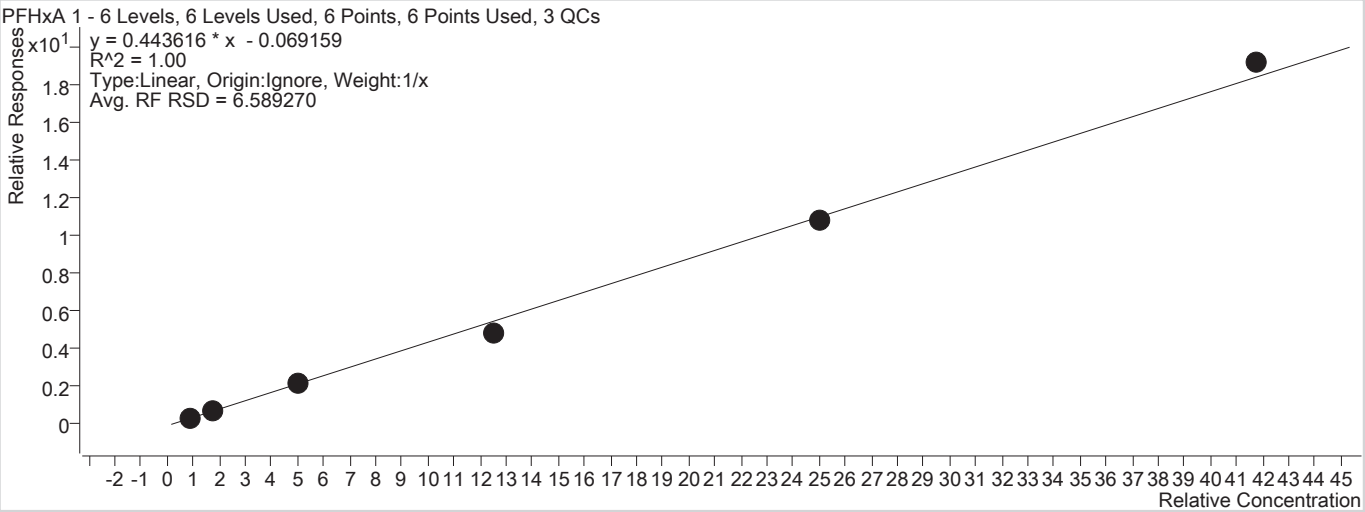
Analyte: PFBS 1
Internal Standard: MPFHxS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 1:11:26 PM	0.83	0.95	645	0.4526	61	113.9
STD 2	STD 2	x	2018/02/13 1:16:22 PM	1.70	1.80	1309	0.4886	100	105.8
STD 3	STD 3	x	2018/02/13 1:21:18 PM	5.00	4.12	3744	0.4132	130	82.3
STD 4	STD 4	x	2018/02/13 1:26:14 PM	12.50	11.51	9973	0.4806	541	92.1
STD 5	STD 5	x	2018/02/13 1:31:10 PM	25.00	26.15	19908	0.5526	1003	104.6
STD 6	STD 6	x	2018/02/13 1:36:06 PM	41.70	42.20	32955	0.5365	864	101.2

Batch Path T:\lcms4\PFC\20180212\WS#5393111_A\QuantResults\PFC_Water_Low_180213_WS#5393111_EToxics.batch.bin
Last Calib Update 2018/02/26 2:51:40 PM
Instrument: LCMS04

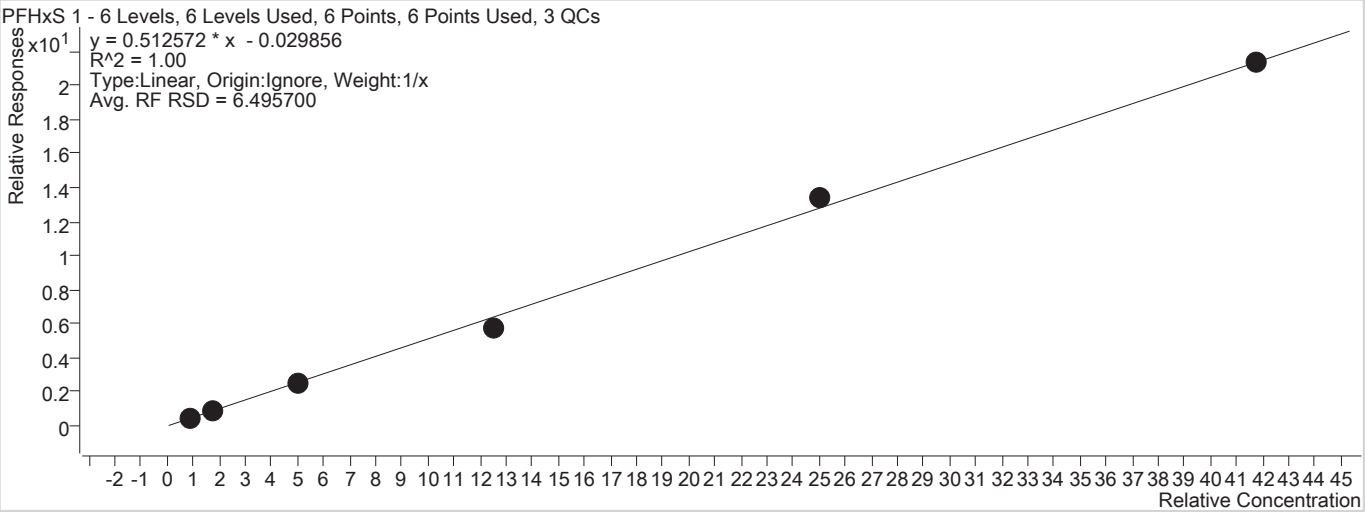
Analyte: PFHxA 1
Internal Standard: MPFHxA



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 1:11:26 PM	0.83	0.93	2199	0.4145	48	112.2
STD 2	STD 2	x	2018/02/13 1:16:22 PM	1.70	1.65	4661	0.3900	94	97.1
STD 3	STD 3	x	2018/02/13 1:21:18 PM	5.00	4.96	13895	0.4262	417	99.2
STD 4	STD 4	x	2018/02/13 1:26:14 PM	12.50	11.11	33716	0.3887	718	88.9
STD 5	STD 5	x	2018/02/13 1:31:10 PM	25.00	24.59	70129	0.4336	1292	98.4
STD 6	STD 6	x	2018/02/13 1:36:06 PM	41.70	43.49	121135	0.4610	2059	104.3

Batch Path T:\lcms4\PFC\20180212\WS#5393111_A\QuantResults\PFC_Water_Low_180213_WS#5393111_EToxics.batch.bin
Last Calib Update 2018/02/26 2:51:40 PM
Instrument: LCMS04

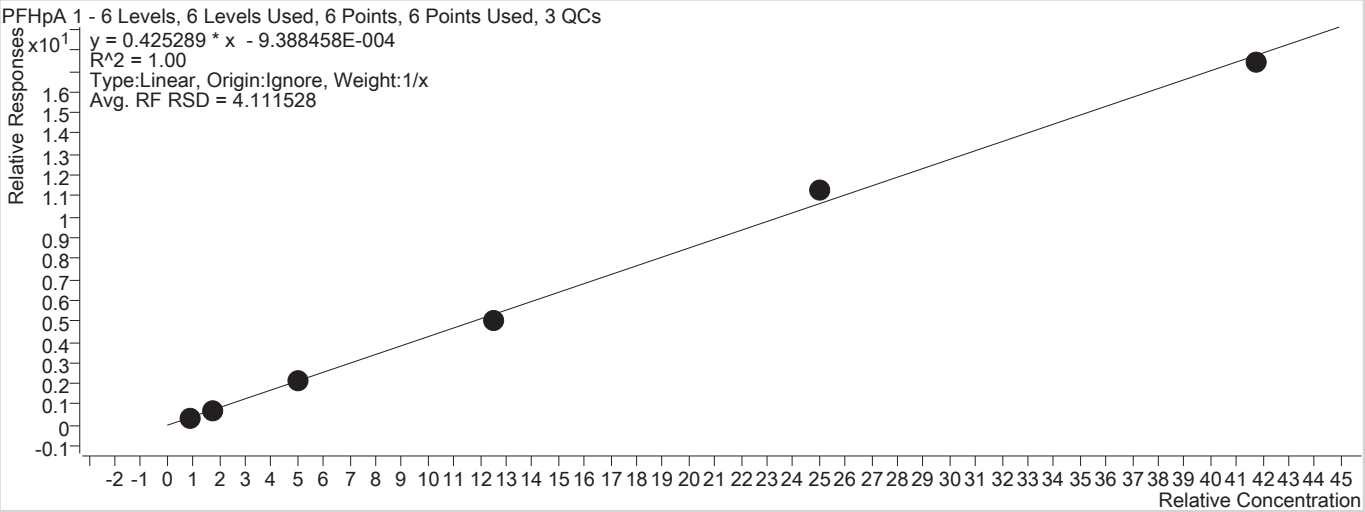
Analyte: PFHxS 1
Internal Standard: MPFHxS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 1:11:26 PM	0.83	0.93	765	0.5368	80	111.7
STD 2	STD 2	x	2018/02/13 1:16:22 PM	1.70	1.62	1264	0.4718	239	95.5
STD 3	STD 3	x	2018/02/13 1:21:18 PM	5.00	4.86	4457	0.4919	512	97.1
STD 4	STD 4	x	2018/02/13 1:26:14 PM	12.50	11.30	9564	0.4609	1226	90.4
STD 5	STD 5	x	2018/02/13 1:31:10 PM	25.00	26.30	19383	0.5380	1224	105.2
STD 6	STD 6	x	2018/02/13 1:36:06 PM	41.70	41.72	31458	0.5121	524	100.1

Batch Path T:\lcms4\PFC\20180212\WS#5393111_A\QuantResults\PFC_Water_Low_180213_WS#5393111_EToxics.batch.bin
Last Calib Update 2018/02/26 2:51:40 PM
Instrument: LCMS04

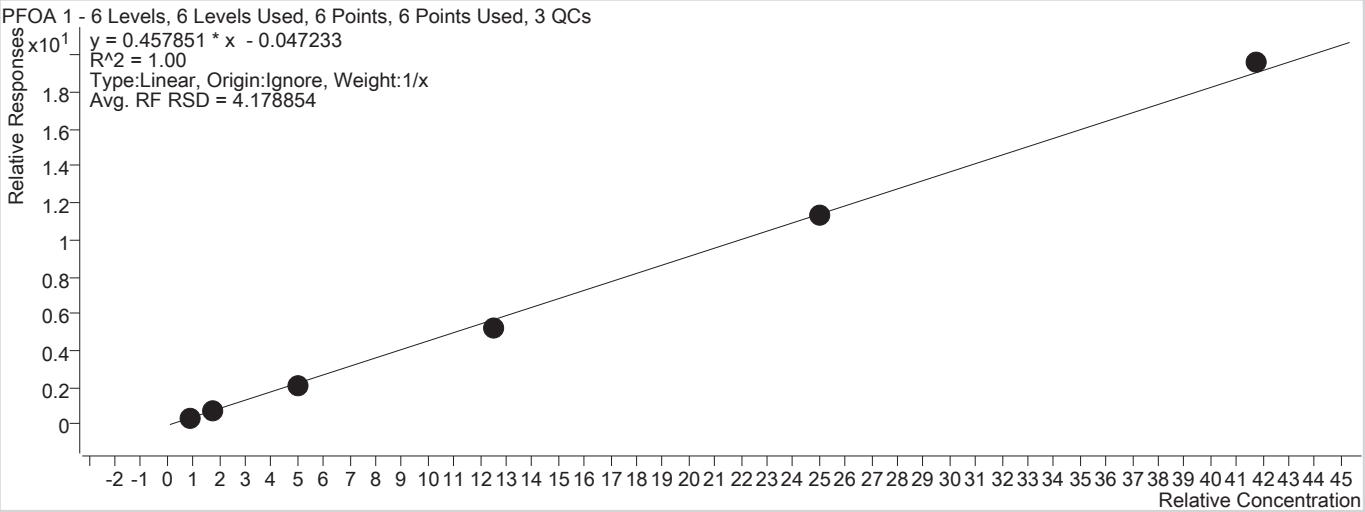
Analyte: PFHpA 1
Internal Standard: MPFHpA



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 1:11:26 PM	0.83	0.83	2910	0.4251	27	100.2
STD 2	STD 2	x	2018/02/13 1:16:22 PM	1.70	1.72	6372	0.4290	57	101.0
STD 3	STD 3	x	2018/02/13 1:21:18 PM	5.00	5.05	18779	0.4297	142	101.1
STD 4	STD 4	x	2018/02/13 1:26:14 PM	12.50	11.69	44837	0.3975	186	93.5
STD 5	STD 5	x	2018/02/13 1:31:10 PM	25.00	26.51	88396	0.4510	227	106.1
STD 6	STD 6	x	2018/02/13 1:36:06 PM	41.70	40.93	140439	0.4174	246	98.1

Batch Path T:\lcms4\PFC\20180212\WS#5393111_A\QuantResults\PFC_Water_Low_180213_WS#5393111_EToxics.batch.bin
Last Calib Update 2018/02/26 2:51:40 PM
Instrument: LCMS04

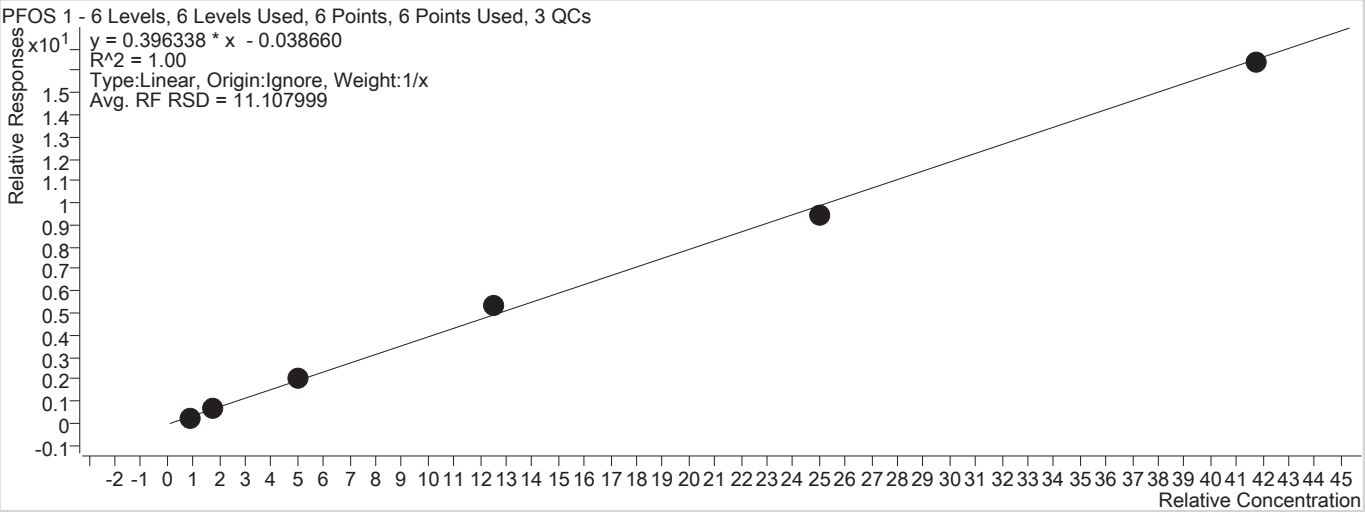
Analyte: PFOA 1
Internal Standard: MPFOA



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 1:11:26 PM	0.83	0.89	3151	0.4340	29	107.2
STD 2	STD 2	x	2018/02/13 1:16:22 PM	1.70	1.73	6828	0.4382	48	101.8
STD 3	STD 3	x	2018/02/13 1:21:18 PM	5.00	4.84	20184	0.4336	215	96.8
STD 4	STD 4	x	2018/02/13 1:26:14 PM	12.50	11.49	49745	0.4170	439	91.9
STD 5	STD 5	x	2018/02/13 1:31:10 PM	25.00	24.84	97428	0.4529	935	99.3
STD 6	STD 6	x	2018/02/13 1:36:06 PM	41.70	42.95	164903	0.4704	1266	103.0

Batch Path T:\lcms4\PFC\20180212\WS#5393111_A\QuantResults\PFC_Water_Low_180213_WS#5393111_EToxics.batch.bin
Last Calib Update 2018/02/26 2:51:40 PM
Instrument: LCMS04

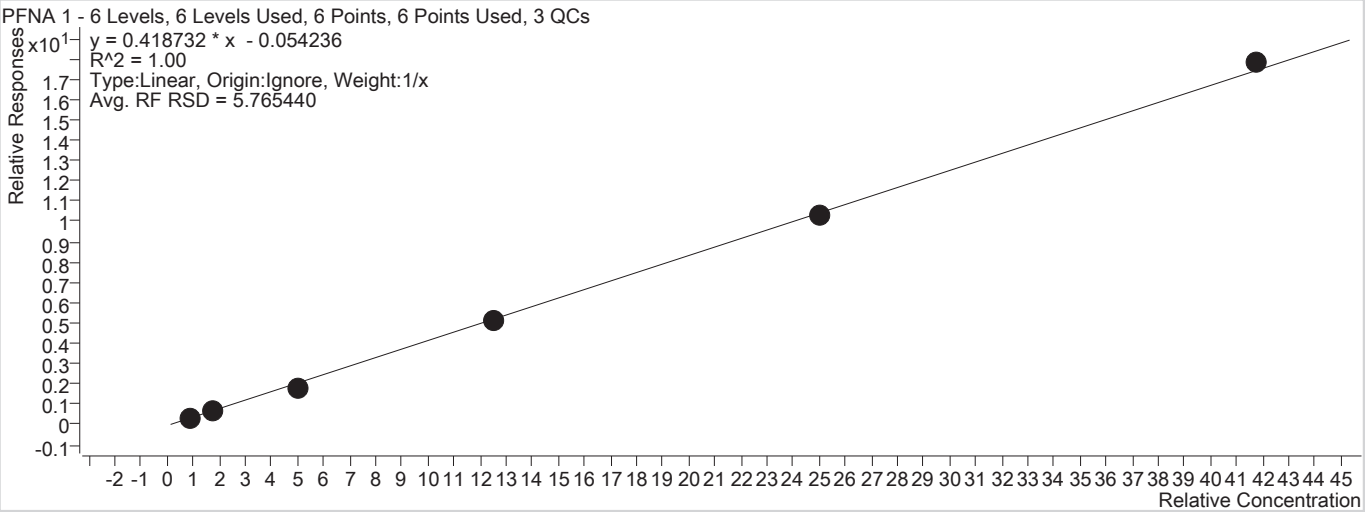
Analyte: PFOS 1
Internal Standard: MPFOS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 1:11:26 PM	0.83	0.74	495	0.3047	69	88.6
STD 2	STD 2	x	2018/02/13 1:16:22 PM	1.70	1.74	1317	0.3818	103	102.1
STD 3	STD 3	x	2018/02/13 1:21:18 PM	5.00	5.25	3935	0.4082	138	104.9
STD 4	STD 4	x	2018/02/13 1:26:14 PM	12.50	13.64	9992	0.4295	161	109.2
STD 5	STD 5	x	2018/02/13 1:31:10 PM	25.00	23.99	19043	0.3788	137	96.0
STD 6	STD 6	x	2018/02/13 1:36:06 PM	41.70	41.38	32051	0.3923	179	99.2

Batch Path T:\lcms4\PFC\20180212\WS#5393111_A\QuantResults\PFC_Water_Low_180213_WS#5393111_EToxics.batch.bin
Last Calib Update 2018/02/26 2:51:40 PM
Instrument: LCMS04

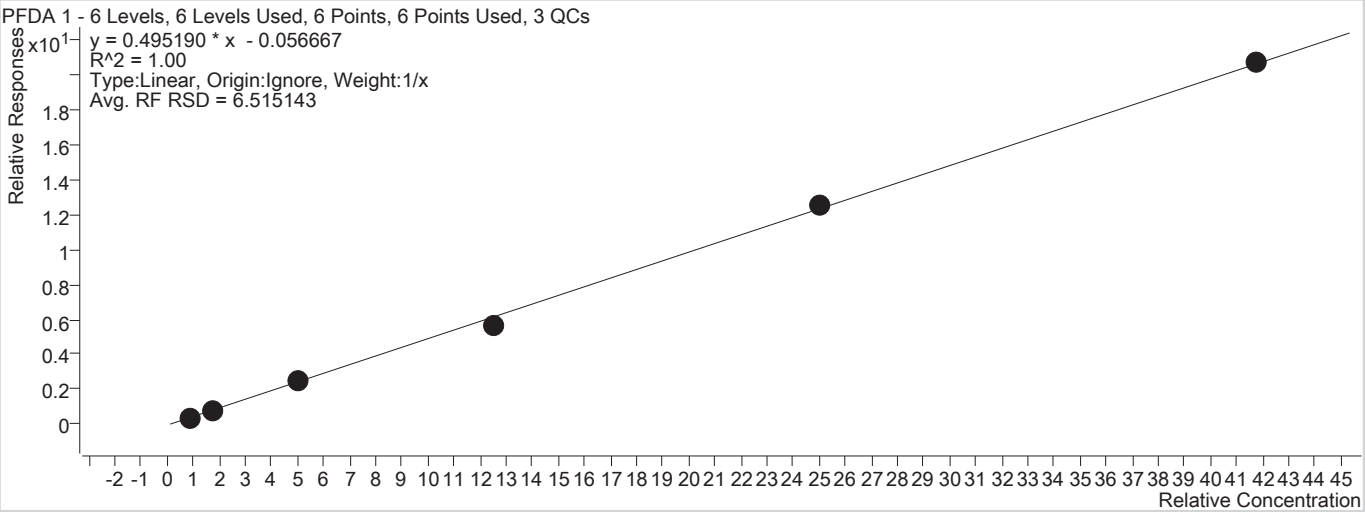
Analyte: PFNA 1
Internal Standard: MPFNA



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 1:11:26 PM	0.83	0.90	2710	0.3866	45	107.9
STD 2	STD 2	x	2018/02/13 1:16:22 PM	1.70	1.77	6137	0.4035	105	104.0
STD 3	STD 3	x	2018/02/13 1:21:18 PM	5.00	4.44	17071	0.3607	350	88.7
STD 4	STD 4	x	2018/02/13 1:26:14 PM	12.50	12.30	42617	0.4077	1235	98.4
STD 5	STD 5	x	2018/02/13 1:31:10 PM	25.00	24.64	85811	0.4105	1734	98.6
STD 6	STD 6	x	2018/02/13 1:36:06 PM	41.70	42.69	147522	0.4274	4300	102.4

Batch Path T:\lcms4\PFC\20180212\WS#5393111_A\QuantResults\PFC_Water_Low_180213_WS#5393111_EToxics.batch.bin
Last Calib Update 2018/02/26 2:51:40 PM
Instrument: LCMS04

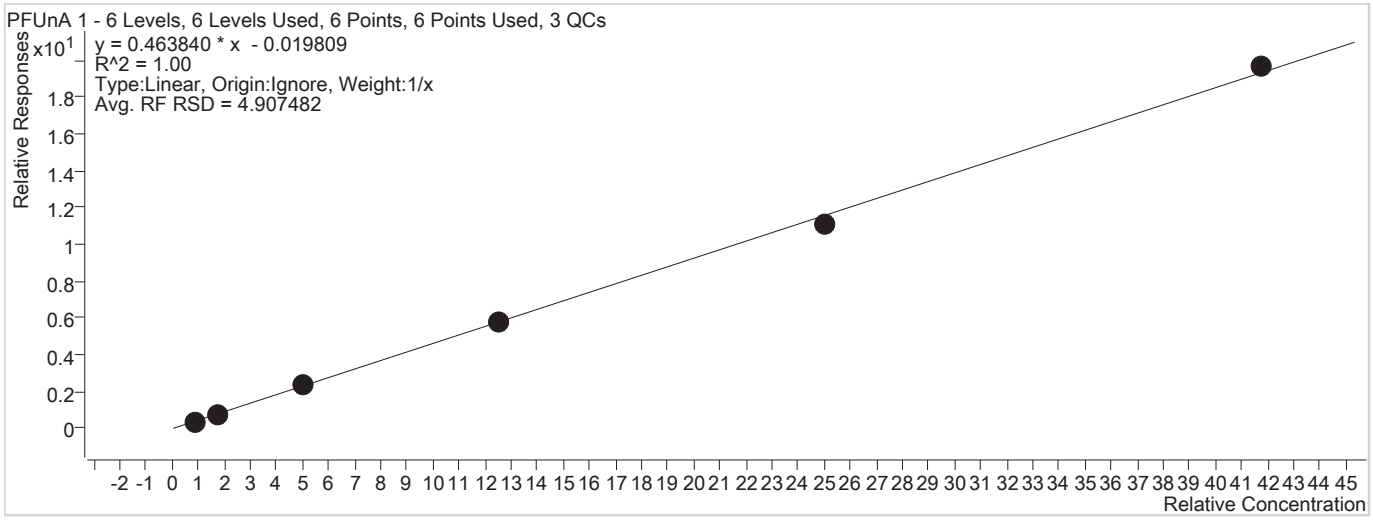
Analyte: PFDA 1
Internal Standard: MPFDA



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 1:11:26 PM	0.83	0.83	2544	0.4288	20	100.4
STD 2	STD 2	x	2018/02/13 1:16:22 PM	1.70	1.71	6095	0.4660	76	100.8
STD 3	STD 3	x	2018/02/13 1:21:18 PM	5.00	5.19	18530	0.5028	193	103.8
STD 4	STD 4	x	2018/02/13 1:26:14 PM	12.50	11.53	46555	0.4523	387	92.2
STD 5	STD 5	x	2018/02/13 1:31:10 PM	25.00	25.55	91770	0.5038	889	102.2
STD 6	STD 6	x	2018/02/13 1:36:06 PM	41.70	41.91	156573	0.4963	1026	100.5

Batch Path T:\lcms4\PFC\20180212\WS#5393111_A\QuantResults\PFC_Water_Low_180213_WS#5393111_EToxics.batch.bin
Last Calib Update 2018/02/26 2:51:40 PM
Instrument: LCMS04

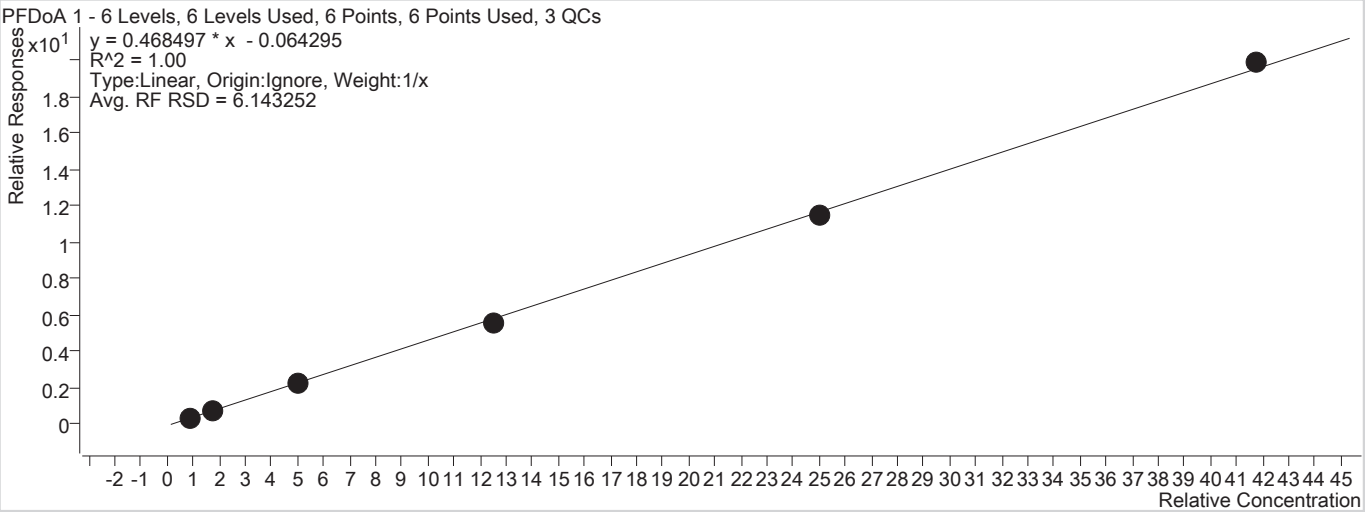
Analyte: PFUnA 1
Internal Standard: MPFUnA



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 1:11:26 PM	0.83	0.79	2954	0.4197	23	95.6
STD 2	STD 2	x	2018/02/13 1:16:22 PM	1.70	1.72	6714	0.4586	46	101.4
STD 3	STD 3	x	2018/02/13 1:21:18 PM	5.00	5.22	20287	0.4804	131	104.4
STD 4	STD 4	x	2018/02/13 1:26:14 PM	12.50	12.66	52123	0.4681	231	101.3
STD 5	STD 5	x	2018/02/13 1:31:10 PM	25.00	23.86	100268	0.4419	206	95.4
STD 6	STD 6	x	2018/02/13 1:36:06 PM	41.70	42.47	170577	0.4720	303	101.9

Batch Path T:\lcms4\PFC\20180212\WS#5393111_A\QuantResults\PFC_Water_Low_180213_WS#5393111_EToxics.batch.bin
Last Calib Update 2018/02/26 2:51:40 PM
Instrument: LCMS04

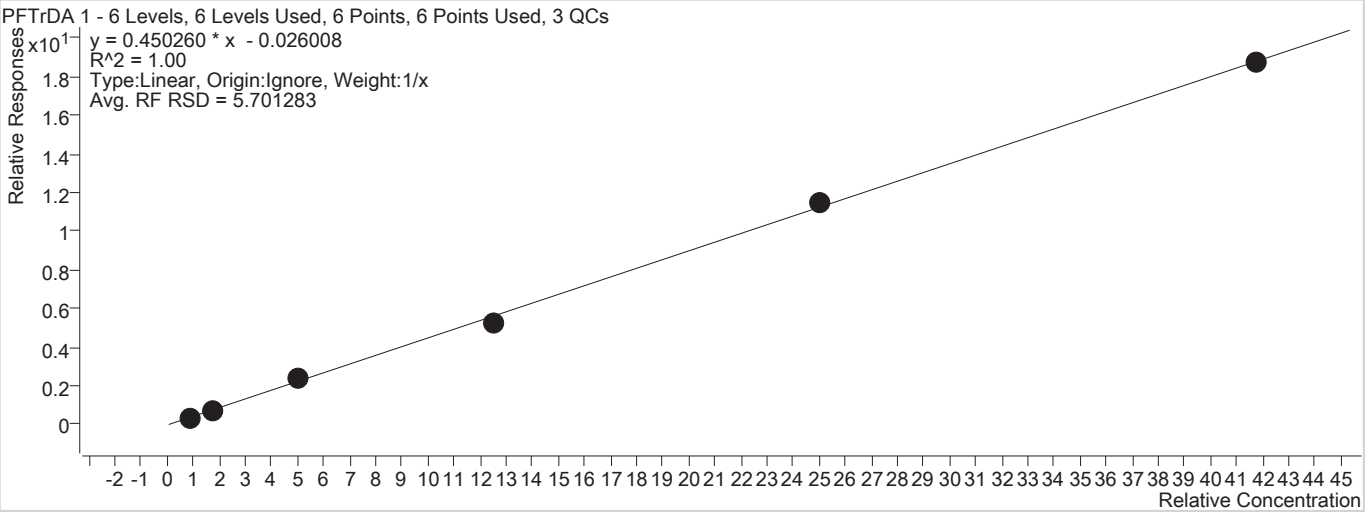
Analyte: PFDoA 1
Internal Standard: MPFDoA



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 1:11:26 PM	0.83	0.90	3878	0.4300	92	108.3
STD 2	STD 2	x	2018/02/13 1:16:22 PM	1.70	1.59	8135	0.4002	218	93.5
STD 3	STD 3	x	2018/02/13 1:21:18 PM	5.00	5.08	26456	0.4635	314	101.7
STD 4	STD 4	x	2018/02/13 1:26:14 PM	12.50	11.98	65485	0.4440	1350	95.9
STD 5	STD 5	x	2018/02/13 1:31:10 PM	25.00	24.69	127517	0.4601	3578	98.8
STD 6	STD 6	x	2018/02/13 1:36:06 PM	41.70	42.49	210940	0.4758	4994	101.9

Batch Path T:\lcms4\PFC\20180212\WS#5393111_A\QuantResults\PFC_Water_Low_180213_WS#5393111_EToxics.batch.bin
Last Calib Update 2018/02/26 2:51:40 PM
Instrument: LCMS04

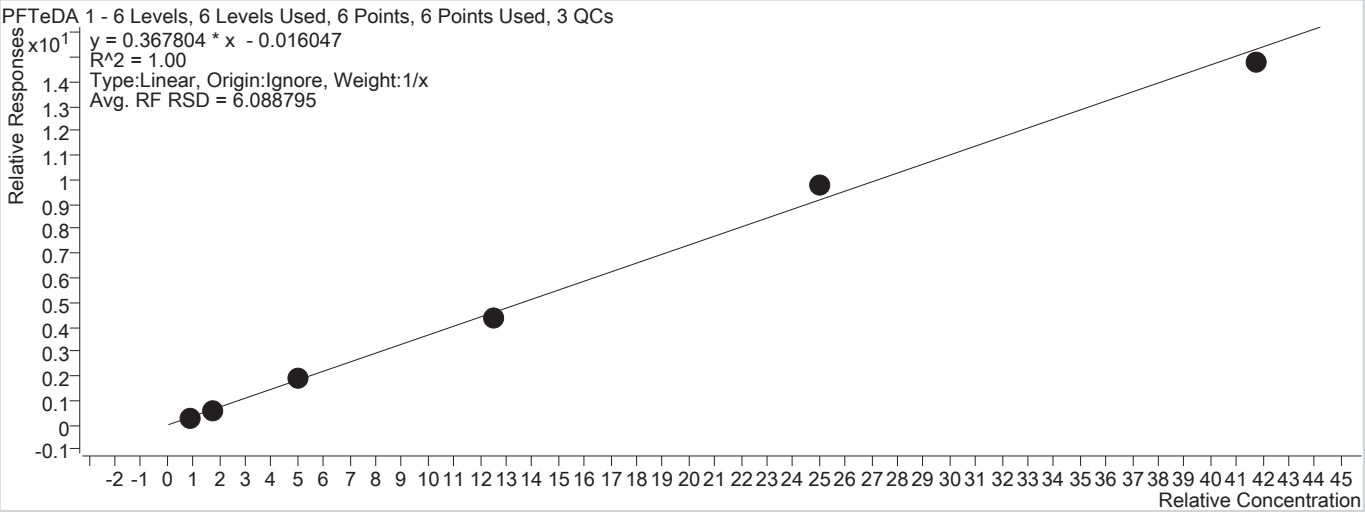
Analyte: PFTrDA 1
Internal Standard: MPFTeDA



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 1:11:26 PM	0.83	0.81	4216	0.4086	25	97.7
STD 2	STD 2	x	2018/02/13 1:16:22 PM	1.70	1.71	9538	0.4375	43	100.6
STD 3	STD 3	x	2018/02/13 1:21:18 PM	5.00	5.32	30071	0.4735	142	106.3
STD 4	STD 4	x	2018/02/13 1:26:14 PM	12.50	11.63	71180	0.4167	229	93.0
STD 5	STD 5	x	2018/02/13 1:31:10 PM	25.00	25.65	143058	0.4608	267	102.6
STD 6	STD 6	x	2018/02/13 1:36:06 PM	41.70	41.62	238756	0.4488	270	99.8

Batch Path T:\lcms4\PFC\20180212\WS#5393111_A\QuantResults\PFC_Water_Low_180213_WS#5393111_EToxics.batch.bin
Last Calib Update 2018/02/26 2:51:40 PM
Instrument: LCMS04

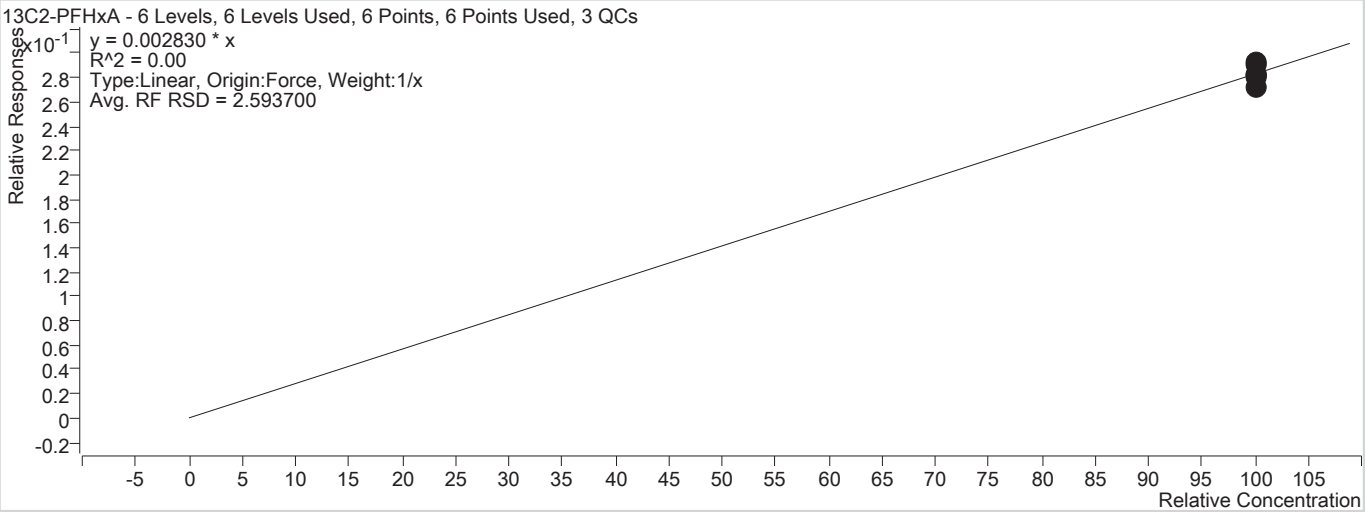
Analyte: PFTeDA 1
Internal Standard: MPFTeDA



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 1:11:26 PM	0.83	0.80	3463	0.3356	32	96.5
STD 2	STD 2	x	2018/02/13 1:16:22 PM	1.70	1.68	7730	0.3546	80	99.0
STD 3	STD 3	x	2018/02/13 1:21:18 PM	5.00	5.27	24409	0.3843	432	105.4
STD 4	STD 4	x	2018/02/13 1:26:14 PM	12.50	11.94	59763	0.3499	559	95.5
STD 5	STD 5	x	2018/02/13 1:31:10 PM	25.00	26.78	122099	0.3933	1172	107.1
STD 6	STD 6	x	2018/02/13 1:36:06 PM	41.70	40.26	188733	0.3548	1877	96.6

Batch Path T:\lcms4\PFC\20180212\WS#5393111_A\QuantResults\PFC_Water_Low_180213_WS#5393111_EToxics.batch.bin
Last Calib Update 2018/02/26 2:51:40 PM
Instrument: LCMS04

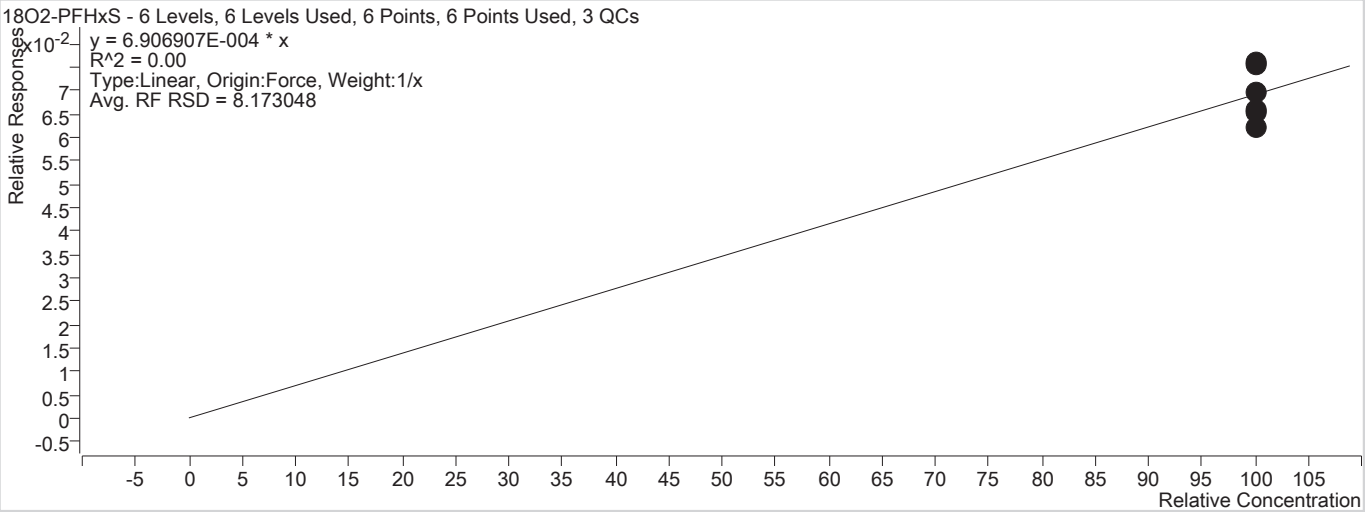
Analyte: 13C2-PFHxA
Internal Standard: 13C6-PFHxA IS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 1:11:26 PM	100.00	99.88	6392	0.0028	282	99.9
STD 2	STD 2	x	2018/02/13 1:16:22 PM	100.00	103.32	7030	0.0029	222	103.3
STD 3	STD 3	x	2018/02/13 1:21:18 PM	100.00	96.14	6521	0.0027	231	96.1
STD 4	STD 4	x	2018/02/13 1:26:14 PM	100.00	102.44	6940	0.0029	179	102.4
STD 5	STD 5	x	2018/02/13 1:31:10 PM	100.00	98.79	6470	0.0028	239	98.8
STD 6	STD 6	x	2018/02/13 1:36:06 PM	100.00	99.43	6301	0.0028	198	99.4

Batch Path T:\lcms4\PFC\20180212\WS#5393111_A\QuantResults\PFC_Water_Low_180213_WS#5393111_EToxics.batch.bin
Last Calib Update 2018/02/26 2:51:40 PM
Instrument: LCMS04

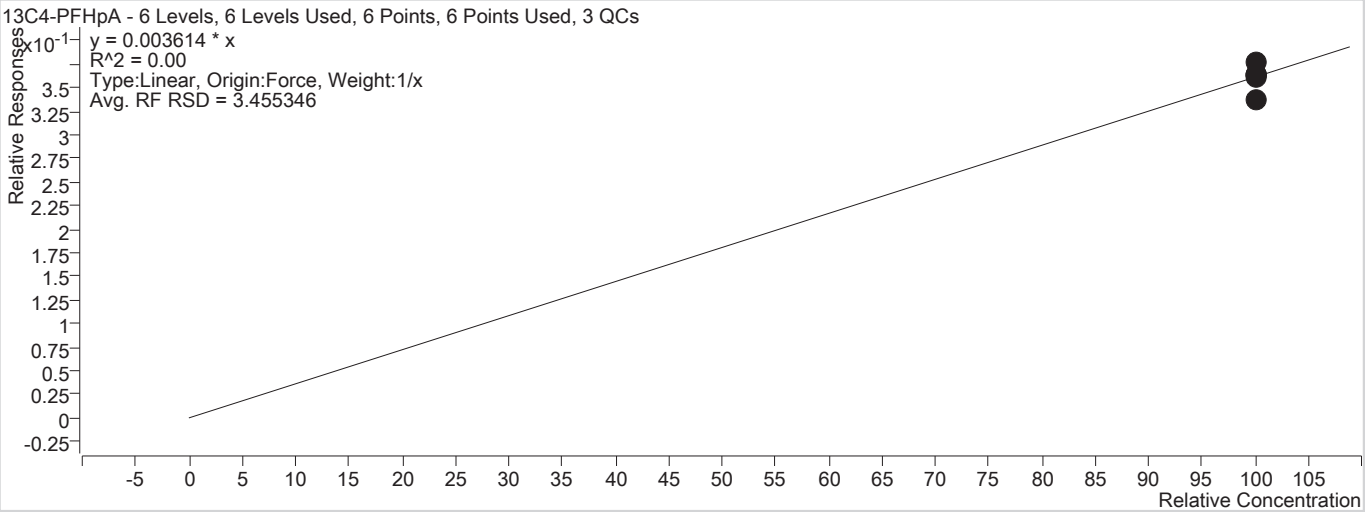
Analyte: 18O2-PFHxS
Internal Standard: 13C6-PFHxA IS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 1:11:26 PM	100.00	109.92	1717	0.0008	348	109.9
STD 2	STD 2	x	2018/02/13 1:16:22 PM	100.00	94.89	1576	0.0007	190	94.9
STD 3	STD 3	x	2018/02/13 1:21:18 PM	100.00	109.45	1812	0.0008	272	109.4
STD 4	STD 4	x	2018/02/13 1:26:14 PM	100.00	100.38	1660	0.0007	132	100.4
STD 5	STD 5	x	2018/02/13 1:31:10 PM	100.00	90.14	1441	0.0006	289	90.1
STD 6	STD 6	x	2018/02/13 1:36:06 PM	100.00	95.22	1473	0.0007	112	95.2

Batch Path T:\lcms4\PFC\20180212\WS#5393111_A\QuantResults\PFC_Water_Low_180213_WS#5393111_EToxics.batch.bin
Last Calib Update 2018/02/26 2:51:40 PM
Instrument: LCMS04

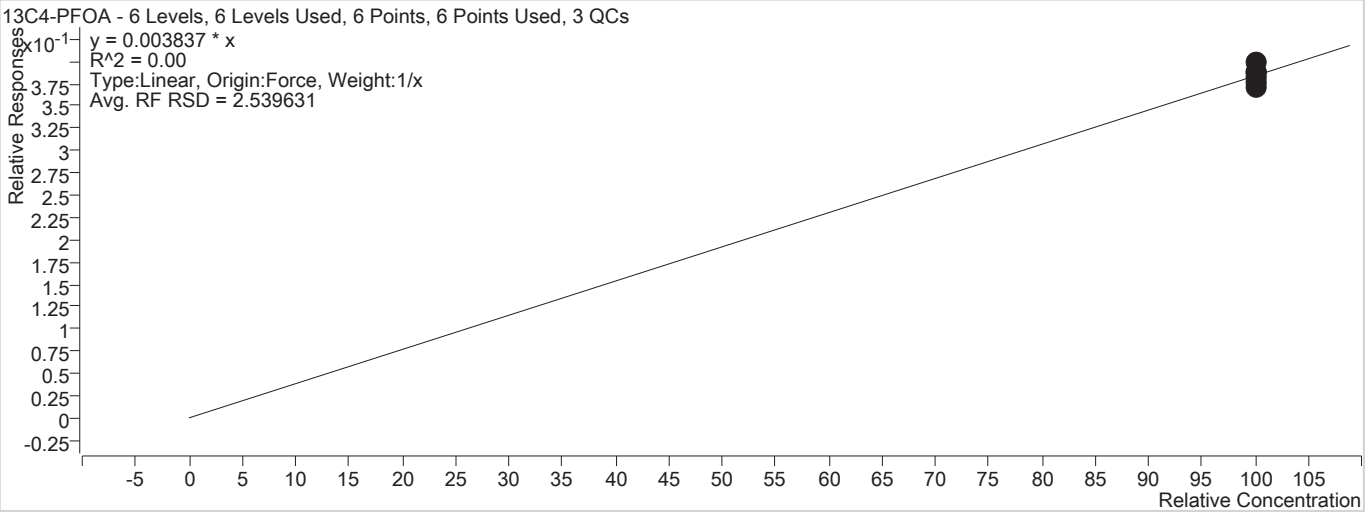
Analyte: 13C4-PFHpA
Internal Standard: 13C6-PFHxA IS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 1:11:26 PM	100.00	100.89	8247	0.0036	231	100.9
STD 2	STD 2	x	2018/02/13 1:16:22 PM	100.00	100.54	8738	0.0036	199	100.5
STD 3	STD 3	x	2018/02/13 1:21:18 PM	100.00	100.89	8740	0.0036	298	100.9
STD 4	STD 4	x	2018/02/13 1:26:14 PM	100.00	104.27	9023	0.0038	189	104.3
STD 5	STD 5	x	2018/02/13 1:31:10 PM	100.00	93.72	7840	0.0034	274	93.7
STD 6	STD 6	x	2018/02/13 1:36:06 PM	100.00	99.69	8069	0.0036	207	99.7

Batch Path T:\lcms4\PFC\20180212\WS#5393111_A\QuantResults\PFC_Water_Low_180213_WS#5393111_EToxics.batch.bin
Last Calib Update 2018/02/26 2:51:40 PM
Instrument: LCMS04

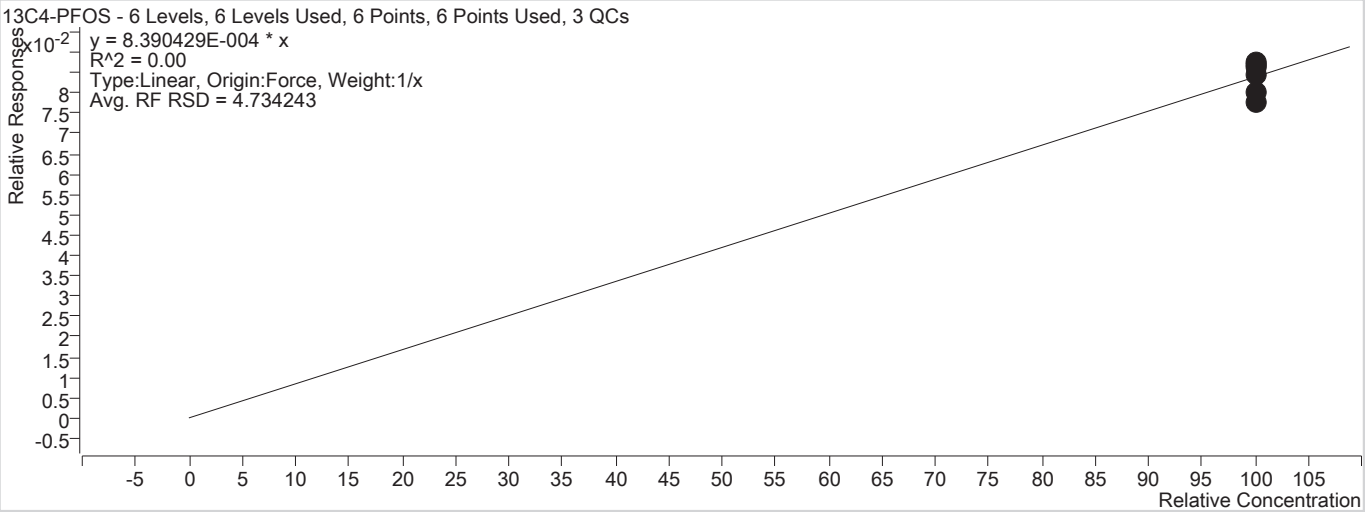
Analyte: 13C4-PFOA
Internal Standard: 13C6-PFHxA IS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 1:11:26 PM	100.00	100.81	8747	0.0039	120	100.8
STD 2	STD 2	x	2018/02/13 1:16:22 PM	100.00	99.34	9165	0.0038	160	99.3
STD 3	STD 3	x	2018/02/13 1:21:18 PM	100.00	101.24	9311	0.0039	206	101.2
STD 4	STD 4	x	2018/02/13 1:26:14 PM	100.00	103.90	9544	0.0040	183	103.9
STD 5	STD 5	x	2018/02/13 1:31:10 PM	100.00	96.89	8604	0.0037	229	96.9
STD 6	STD 6	x	2018/02/13 1:36:06 PM	100.00	97.83	8406	0.0038	160	97.8

Batch Path T:\lcms4\PFC\20180212\WS#5393111_A\QuantResults\PFC_Water_Low_180213_WS#5393111_EToxics.batch.bin
Last Calib Update 2018/02/26 2:51:40 PM
Instrument: LCMS04

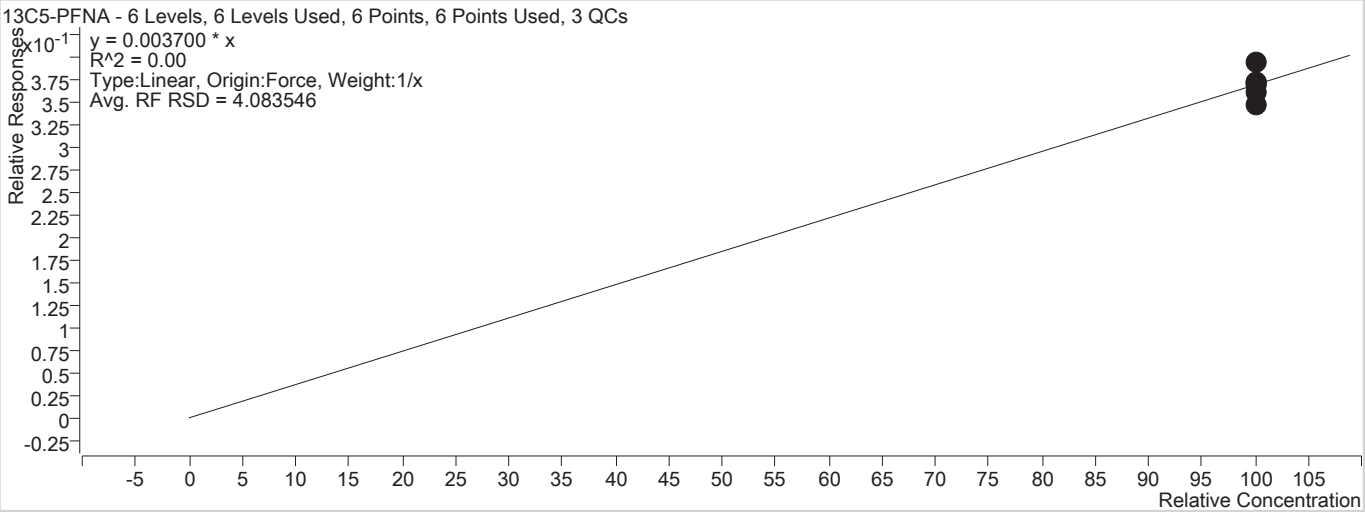
Analyte: 13C4-PFOS
Internal Standard: 13C6-PFHxA IS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 1:11:26 PM	100.00	103.13	1957	0.0009	374	103.1
STD 2	STD 2	x	2018/02/13 1:16:22 PM	100.00	100.56	2029	0.0008	216	100.6
STD 3	STD 3	x	2018/02/13 1:21:18 PM	100.00	95.86	1928	0.0008	179	95.9
STD 4	STD 4	x	2018/02/13 1:26:14 PM	100.00	92.64	1861	0.0008	169	92.6
STD 5	STD 5	x	2018/02/13 1:31:10 PM	100.00	103.55	2011	0.0009	151	103.6
STD 6	STD 6	x	2018/02/13 1:36:06 PM	100.00	104.25	1959	0.0009	214	104.3

Batch Path T:\lcms4\PFC\20180212\WS#5393111_A\QuantResults\PFC_Water_Low_180213_WS#5393111_EToxics.batch.bin
Last Calib Update 2018/02/26 2:51:40 PM
Instrument: LCMS04

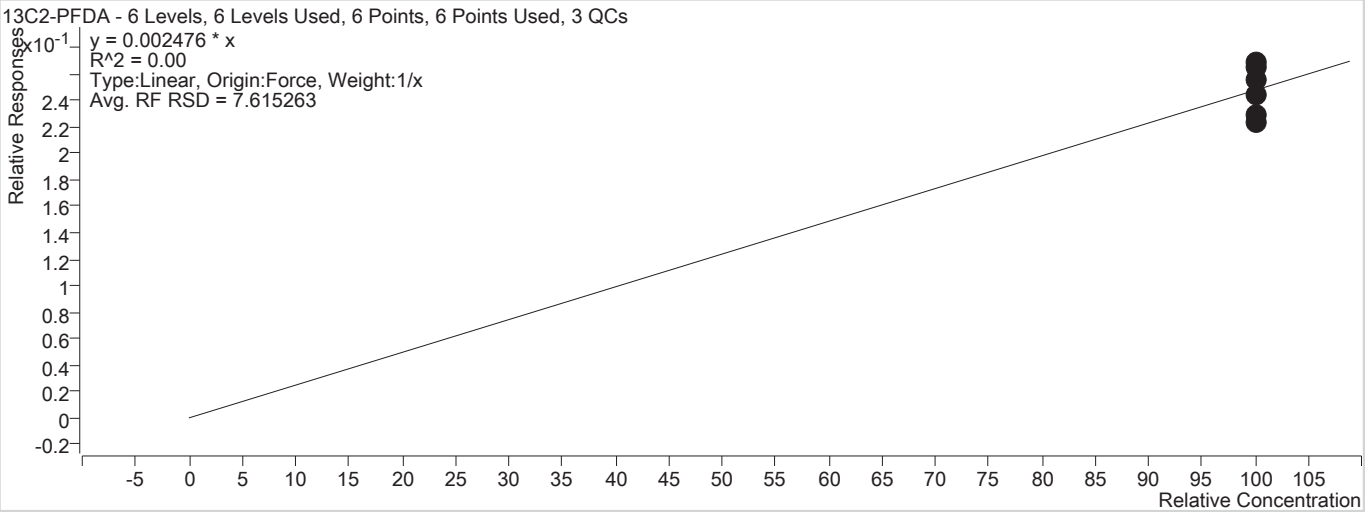
Analyte: 13C5-PFNA
Internal Standard: 13C6-PFHxA IS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 1:11:26 PM	100.00	100.90	8444	0.0037	186	100.9
STD 2	STD 2	x	2018/02/13 1:16:22 PM	100.00	100.52	8945	0.0037	212	100.5
STD 3	STD 3	x	2018/02/13 1:21:18 PM	100.00	106.71	9465	0.0039	255	106.7
STD 4	STD 4	x	2018/02/13 1:26:14 PM	100.00	94.38	8362	0.0035	312	94.4
STD 5	STD 5	x	2018/02/13 1:31:10 PM	100.00	97.61	8360	0.0036	288	97.6
STD 6	STD 6	x	2018/02/13 1:36:06 PM	100.00	99.87	8277	0.0037	183	99.9

Batch Path T:\lcms4\PFC\20180212\WS#5393111_A\QuantResults\PFC_Water_Low_180213_WS#5393111_EToxics.batch.bin
Last Calib Update 2018/02/26 2:51:40 PM
Instrument: LCMS04

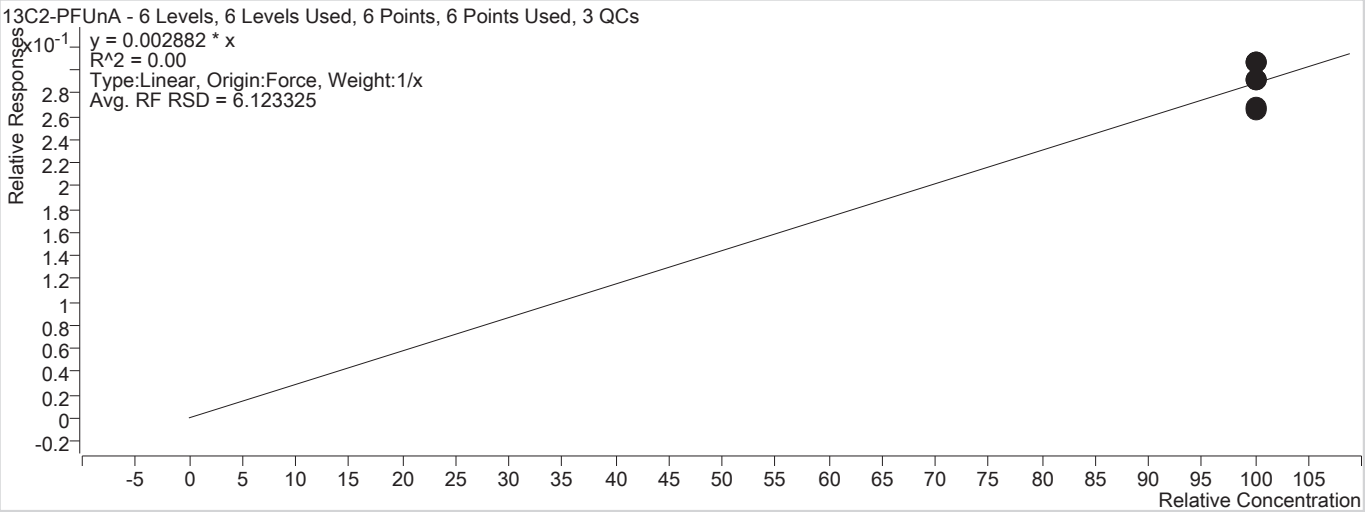
Analyte: 13C2-PFDA
Internal Standard: 13C9-PFDA IS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 1:11:26 PM	100.00	89.92	7026	0.0022	207	89.9
STD 2	STD 2	x	2018/02/13 1:16:22 PM	100.00	103.47	7582	0.0026	278	103.5
STD 3	STD 3	x	2018/02/13 1:21:18 PM	100.00	92.62	7294	0.0023	229	92.6
STD 4	STD 4	x	2018/02/13 1:26:14 PM	100.00	108.47	8197	0.0027	475	108.5
STD 5	STD 5	x	2018/02/13 1:31:10 PM	100.00	98.60	7237	0.0024	342	98.6
STD 6	STD 6	x	2018/02/13 1:36:06 PM	100.00	106.93	7498	0.0026	347	106.9

Batch Path T:\lcms4\PFC\20180212\WS#5393111_A\QuantResults\PFC_Water_Low_180213_WS#5393111_EToxics.batch.bin
Last Calib Update 2018/02/26 2:51:40 PM
Instrument: LCMS04

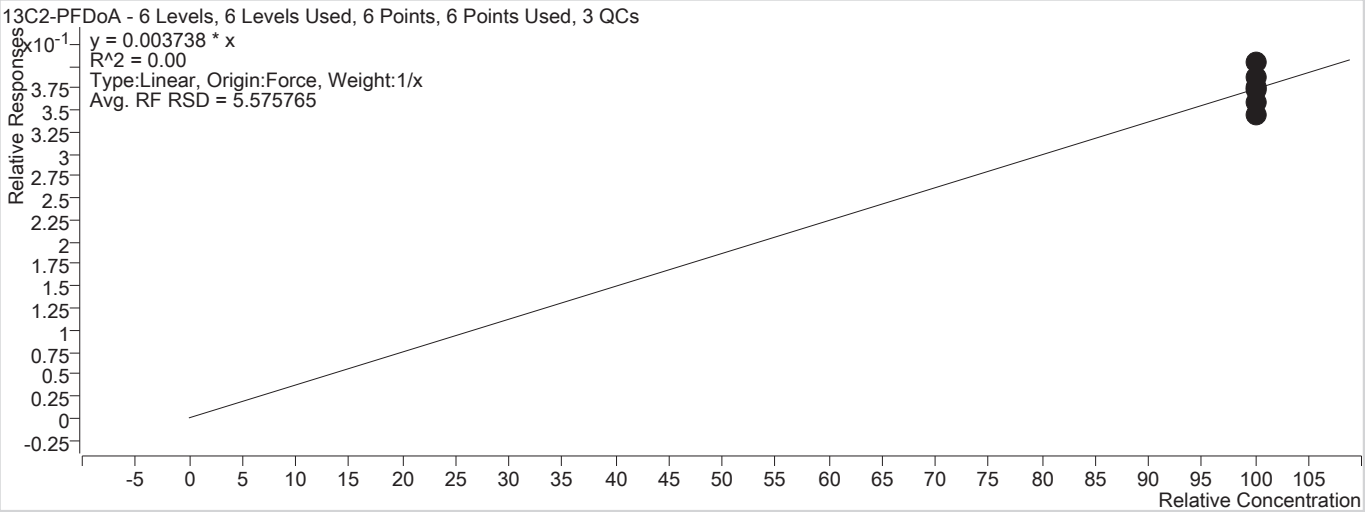
Analyte: 13C2-PFUnA
Internal Standard: 13C9-PFDA IS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 1:11:26 PM	100.00	93.22	8479	0.0027	176	93.2
STD 2	STD 2	x	2018/02/13 1:16:22 PM	100.00	100.96	8612	0.0029	355	101.0
STD 3	STD 3	x	2018/02/13 1:21:18 PM	100.00	92.13	8446	0.0027	237	92.1
STD 4	STD 4	x	2018/02/13 1:26:14 PM	100.00	101.27	8908	0.0029	167	101.3
STD 5	STD 5	x	2018/02/13 1:31:10 PM	100.00	106.23	9076	0.0031	469	106.2
STD 6	STD 6	x	2018/02/13 1:36:06 PM	100.00	106.18	8667	0.0031	364	106.2

Batch Path T:\lcms4\PFC\20180212\WS#5393111_A\QuantResults\PFC_Water_Low_180213_WS#5393111_EToxics.batch.bin
Last Calib Update 2018/02/26 2:51:40 PM
Instrument: LCMS04

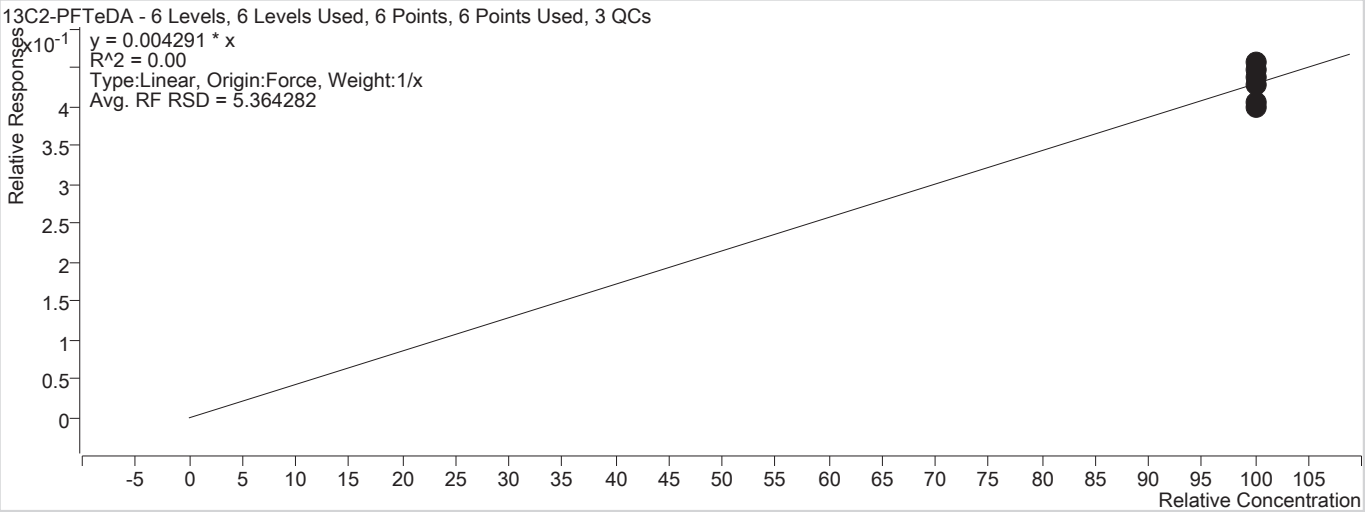
Analyte: 13C2-PFDoA
Internal Standard: 13C9-PFDA IS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 1:11:26 PM	100.00	92.08	10865	0.0034	245	92.1
STD 2	STD 2	x	2018/02/13 1:16:22 PM	100.00	108.06	11957	0.0040	434	108.1
STD 3	STD 3	x	2018/02/13 1:21:18 PM	100.00	96.00	11416	0.0036	183	96.0
STD 4	STD 4	x	2018/02/13 1:26:14 PM	100.00	103.41	11800	0.0039	229	103.4
STD 5	STD 5	x	2018/02/13 1:31:10 PM	100.00	100.03	11086	0.0037	196	100.0
STD 6	STD 6	x	2018/02/13 1:36:06 PM	100.00	100.41	10632	0.0038	242	100.4

Batch Path T:\lcms4\PFC\20180212\WS#5393111_A\QuantResults\PFC_Water_Low_180213_WS#5393111_EToxics.batch.bin
Last Calib Update 2018/02/26 2:51:40 PM
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	2018/02/13 1:11:26 PM	100.00	93.15	12616	0.0040	442	93.1
STD 2	STD 2	x	2018/02/13 1:16:22 PM	100.00	102.36	13001	0.0044	397	102.4
STD 3	STD 3	x	2018/02/13 1:21:18 PM	100.00	94.39	12884	0.0041	446	94.4
STD 4	STD 4	x	2018/02/13 1:26:14 PM	100.00	104.33	13665	0.0045	373	104.3
STD 5	STD 5	x	2018/02/13 1:31:10 PM	100.00	99.40	12645	0.0043	473	99.4
STD 6	STD 6	x	2018/02/13 1:36:06 PM	100.00	106.38	12930	0.0046	324	106.4

By Compound Report

Agilent Technologies

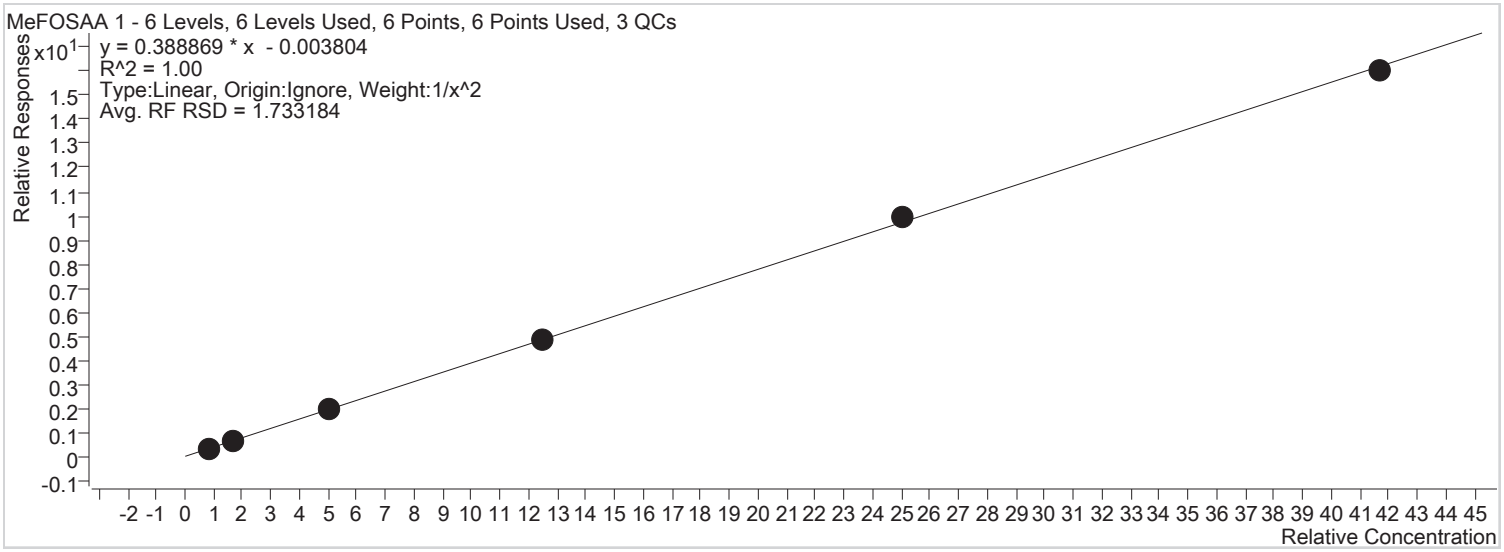
Batch Path T:\lcms4\PFC\20180212\WS#5393111_FOSAA_A\QuantResults\PFC_Water_Low_180212_WS#5393111_FOSAA_A_ETOxics.batch.bin

Last Calib Update 2018/02/14 10:03:30 AM

Instrument: LCMS04

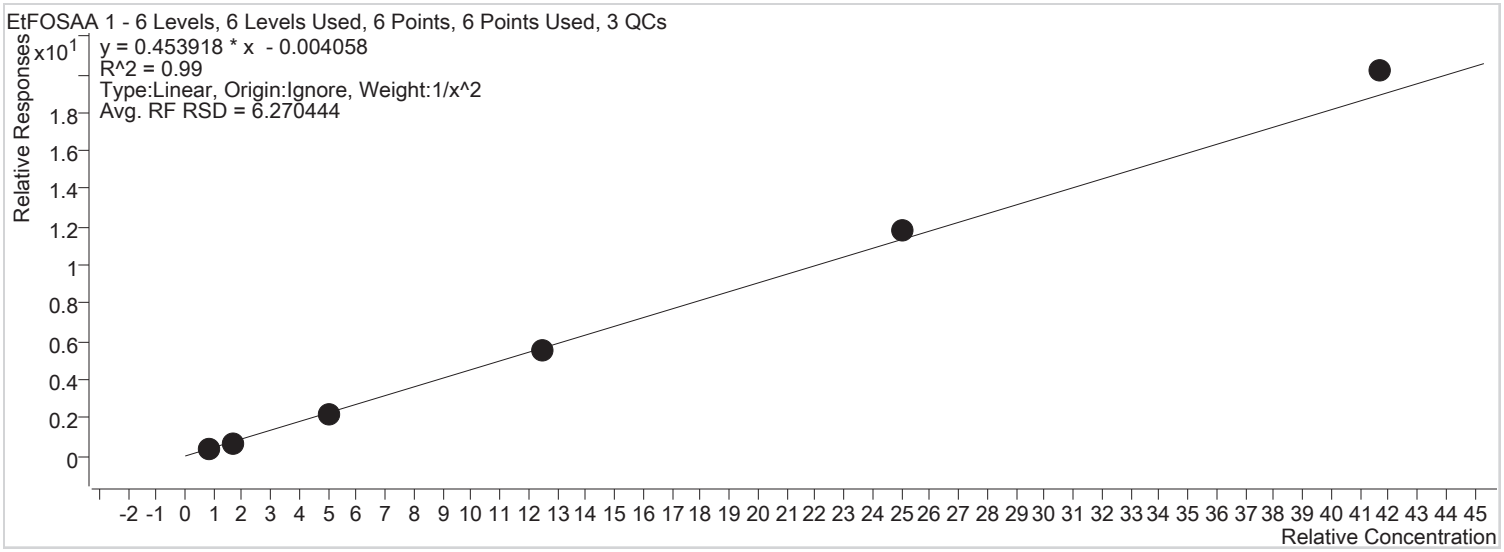
Analyte: MeFOSAA 1

Internal Standard: D3-MeFOSAA IS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 11:29:26 AM	0.83	0.84	624	0.3883	118	101.0
STD 2	STD 2	x	2018/02/13 11:31:51 AM	1.70	1.66	1301	0.3779	154	97.8
STD 3	STD 3	x	2018/02/13 11:34:16 AM	5.00	5.00	3918	0.3883	260	100.1
STD 4	STD 4	x	2018/02/13 11:36:41 AM	12.50	12.47	9346	0.3876	277	99.8
STD 5	STD 5	x	2018/02/13 11:39:06 AM	25.00	25.63	18424	0.3986	260	102.5
STD 6	STD 6	x	2018/02/13 11:41:31 AM	41.70	41.23	29587	0.3844	279	98.9

Batch Path	T:\lcms4\PFC\20180212\WS#5393111_FOSAA_A\QuantResults\PFC_Water_Low_180212_WS#5393111_FOSAA_A_ETOxics.batch.bin
Last Calib Update	2018/02/14 10:03:30 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	2018/02/13 11:29:26 AM	0.83	0.87	627	0.4713	63	104.9
STD 2	STD 2	x	2018/02/13 11:31:51 AM	1.70	1.56	1241	0.4129	165	91.5
STD 3	STD 3	x	2018/02/13 11:34:16 AM	5.00	4.74	3779	0.4294	394	94.8
STD 4	STD 4	x	2018/02/13 11:36:41 AM	12.50	12.20	9377	0.4428	1055	97.6
STD 5	STD 5	x	2018/02/13 11:39:06 AM	25.00	26.12	18917	0.4741	1135	104.5
STD 6	STD 6	x	2018/02/13 11:41:31 AM	41.70	44.50	31142	0.4843	3193	106.7

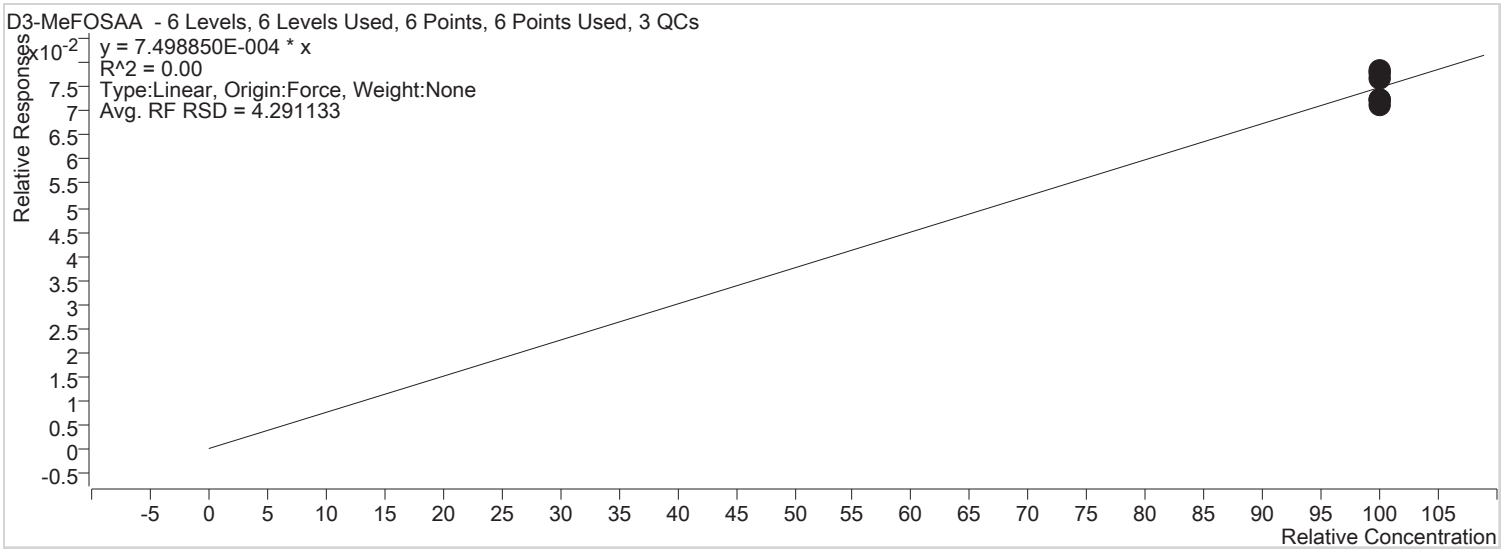
Batch Path T:\lcms4\PFC\20180212\WS#5393111_FOSAA_A\QuantResults\PFC_Water_Low_180212_WS#5393111_FOSAA_A_ETOxics.batch.bin

Last Calib Update 2018/02/14 10:03:30 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	2018/02/13 11:29:26 AM	100.00	96.68	1969	0.0007	163	96.7
STD 2	STD 2	x	2018/02/13 11:31:51 AM	100.00	104.19	2060	0.0008	136	104.2
STD 3	STD 3	x	2018/02/13 11:34:16 AM	100.00	104.60	2051	0.0008	107	104.6
STD 4	STD 4	x	2018/02/13 11:36:41 AM	100.00	95.43	1967	0.0007	140	95.4
STD 5	STD 5	x	2018/02/13 11:39:06 AM	100.00	96.30	1855	0.0007	122	96.3
STD 6	STD 6	x	2018/02/13 11:41:31 AM	100.00	102.80	1884	0.0008	100	102.8

Agilent Technologies

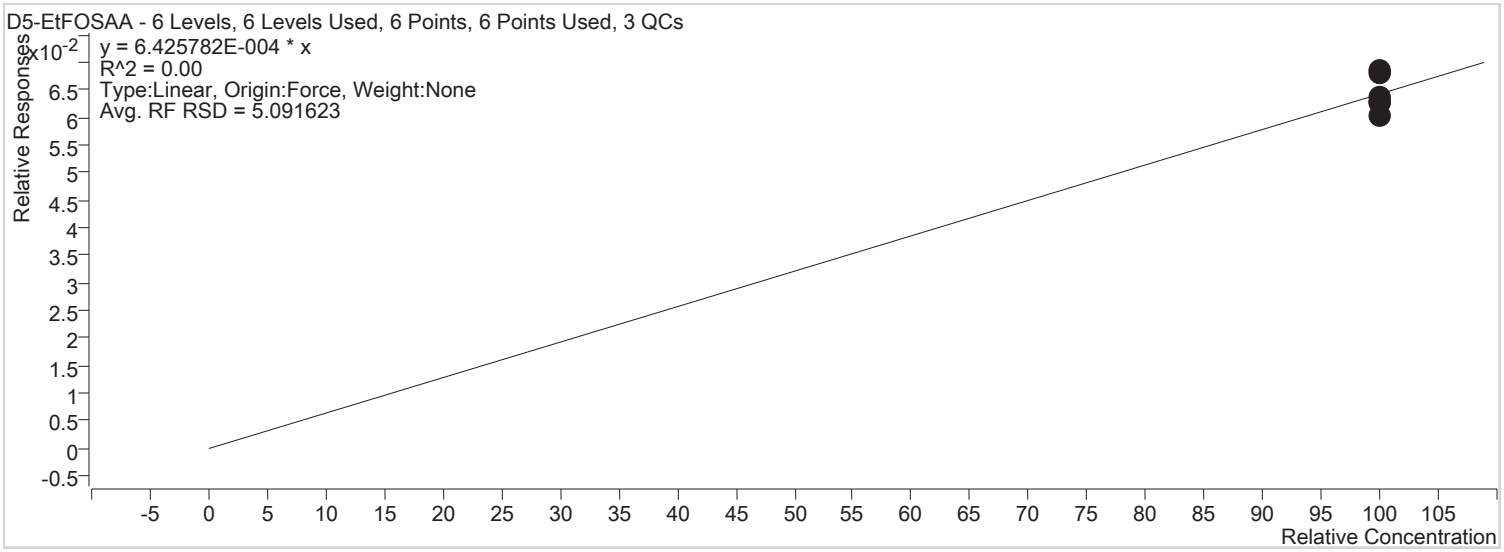
Batch Path T:\lcms4\PFC\20180212\WS#5393111_FOSAA_A\QuantResults\PFC_Water_Low_180212_WS#5393111_FOSAA_A_ETOxics.batch.bin

Last Calib Update 2018/02/14 10:03:30 AM

Instrument: LCMS04

Analyte: D5-EtFOSAA

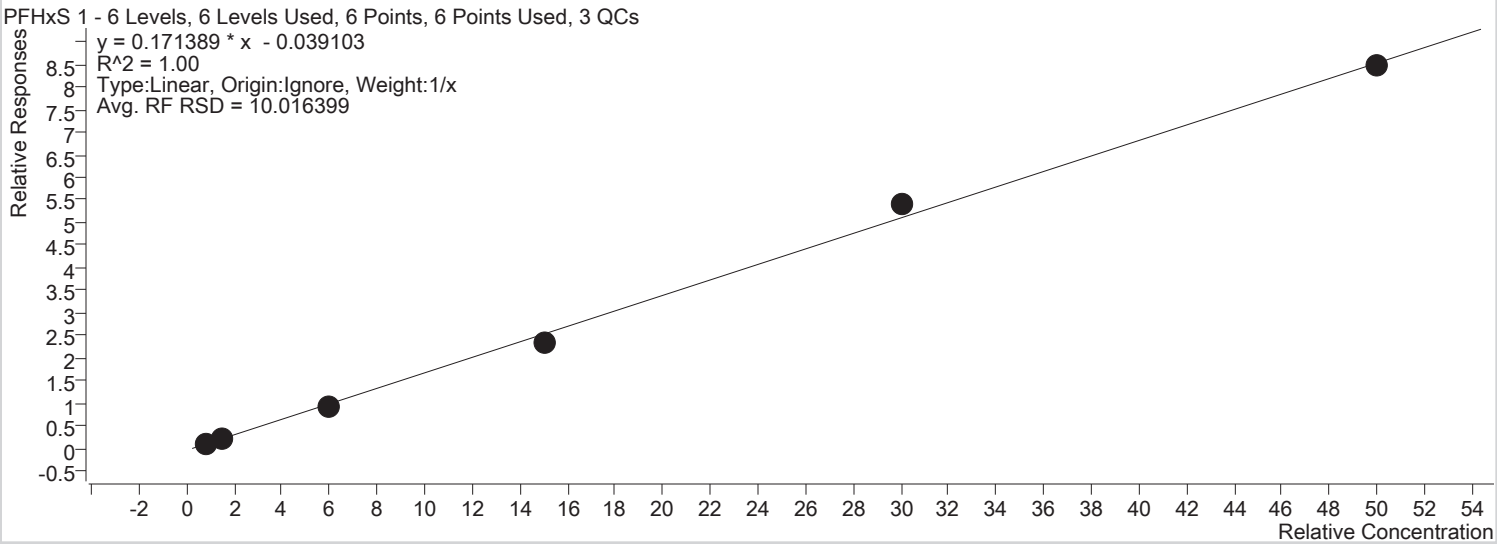
Internal Standard: 13C9-PFDA IS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 11:29:26 AM	100.00	93.57	1633	0.0006	266	93.6
STD 2	STD 2	x	2018/02/13 11:31:51 AM	100.00	105.71	1791	0.0007	195	105.7
STD 3	STD 3	x	2018/02/13 11:34:16 AM	100.00	106.53	1790	0.0007	246	106.5
STD 4	STD 4	x	2018/02/13 11:36:41 AM	100.00	97.44	1721	0.0006	227	97.4
STD 5	STD 5	x	2018/02/13 11:39:06 AM	100.00	97.60	1611	0.0006	128	97.6
STD 6	STD 6	x	2018/02/13 11:41:31 AM	100.00	99.14	1557	0.0006	133	99.1

Batch Path T:\lcms4\PFC\20180213\WS#5393267\QuantResults\PFC_Water_High_180213_WS#5393267_EToxics.batch.bin
Last Calib Update 2018/02/21 9:31:54 AM
Instrument: LCMS04

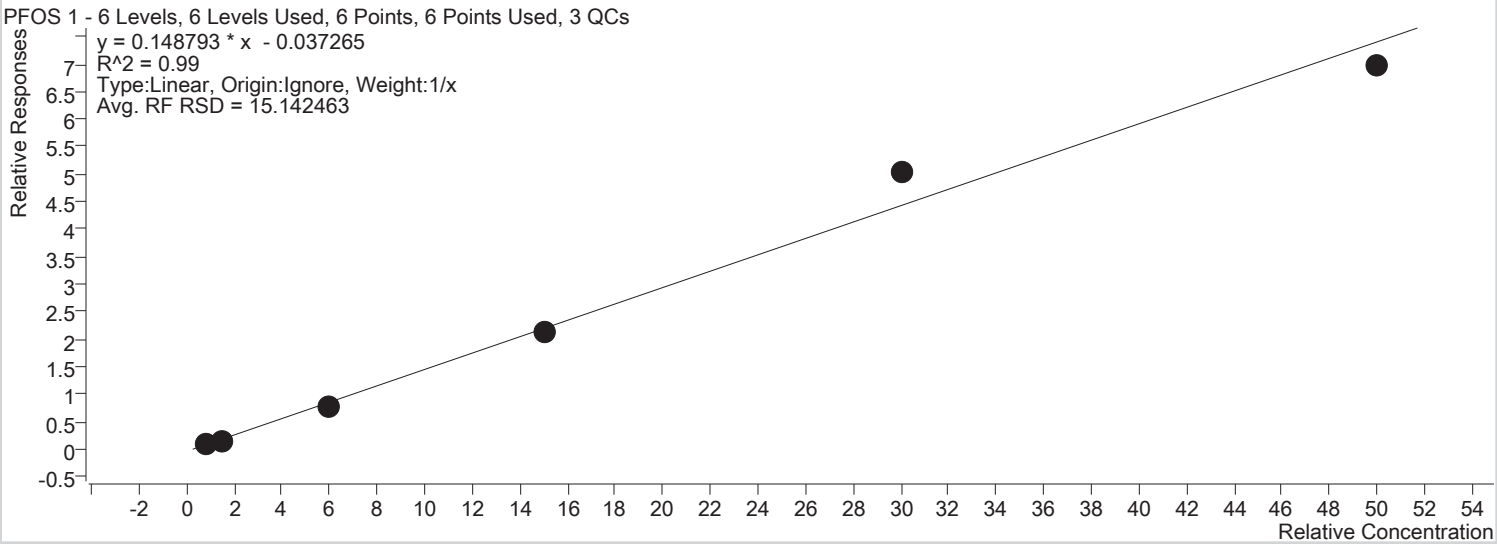
Analyte: PFHxS 1
Internal Standard: MPFHxS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/14 7:47:53 AM	0.80	0.86	399	0.1363	53	108.1
STD 2	STD 2	x	2018/02/14 7:52:49 AM	1.50	1.51	759	0.1470	213	101.0
STD 3	STD 3	x	2018/02/14 7:57:45 AM	6.00	5.57	3436	0.1527	367	92.9
STD 4	STD 4	x	2018/02/14 8:02:41 AM	15.00	13.93	8190	0.1566	422	92.9
STD 5	STD 5	x	2018/02/14 8:07:37 AM	30.00	31.76	18587	0.1802	1089	105.9
STD 6	STD 6	x	2018/02/14 8:12:31 AM	50.00	49.65	28495	0.1694	1497	99.3

Batch Path T:\lcms4\PFC\20180213\WS#5393267\QuantResults\PFC_Water_High_180213_WS#5393267_EToxics.batch.bin
Last Calib Update 2018/02/21 9:31:54 AM
Instrument: LCMS04

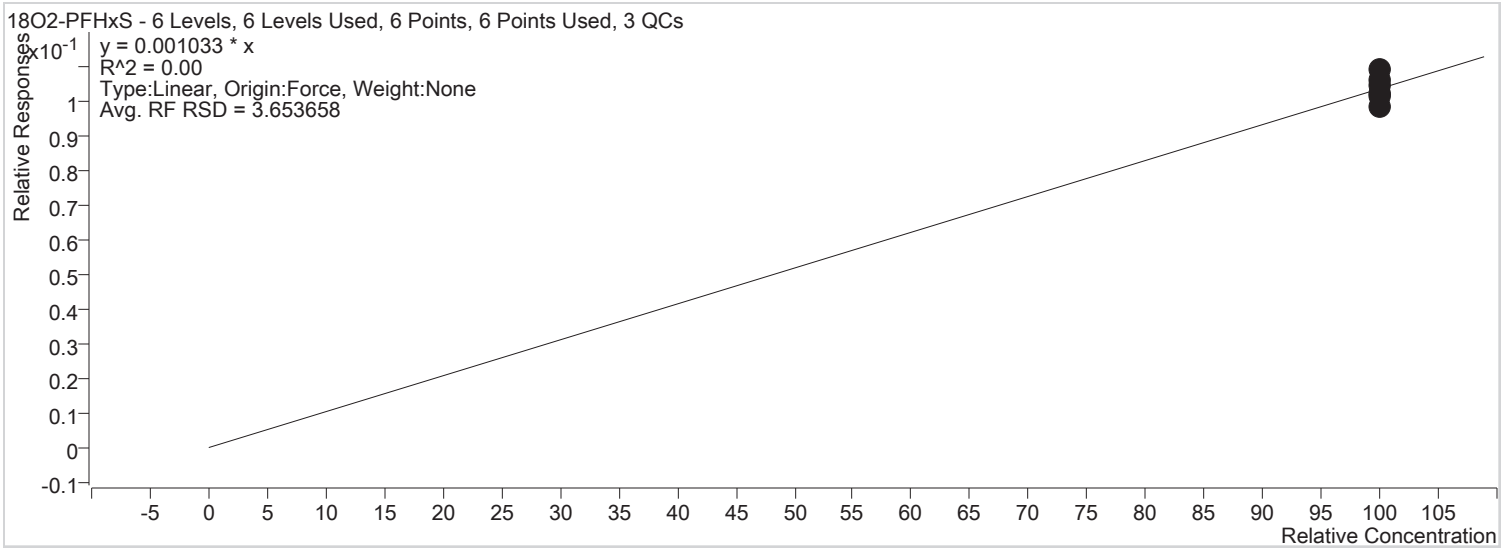
Analyte: PFOS 1
Internal Standard: MPFOS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/14 7:47:53 AM	0.80	0.94	511	0.1291	56	118.1
STD 2	STD 2	x	2018/02/14 7:52:49 AM	1.50	1.31	823	0.1052	144	87.4
STD 3	STD 3	x	2018/02/14 7:57:45 AM	6.00	5.40	3274	0.1278	477	90.0
STD 4	STD 4	x	2018/02/14 8:02:41 AM	15.00	14.52	8626	0.1416	801	96.8
STD 5	STD 5	x	2018/02/14 8:07:37 AM	30.00	34.03	19436	0.1675	1627	113.4
STD 6	STD 6	x	2018/02/14 8:12:31 AM	50.00	47.09	28790	0.1394	2372	94.2

Batch Path T:\lcms4\PFC\20180213\WS#5393267\QuantResults\PFC_Water_High_180213_WS#5393267_EToxics.batch.bin
Last Calib Update 2018/02/21 9:31:54 AM
Instrument: LCMS04

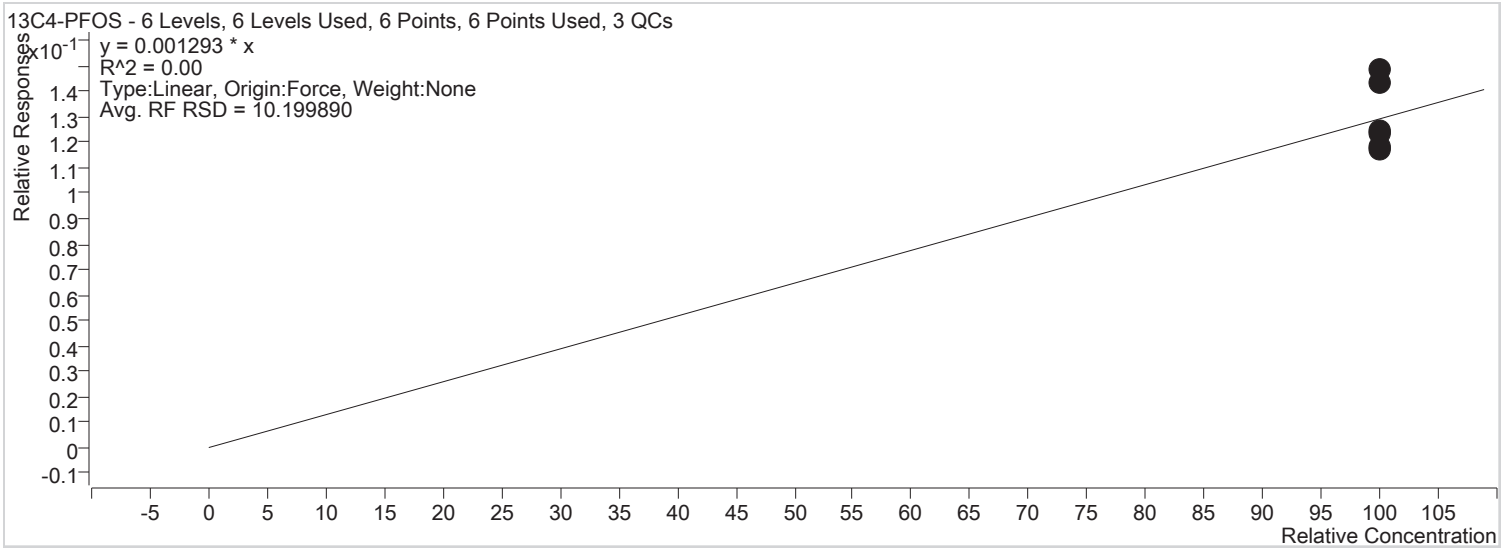
Analyte: 18O2-PFHxS
Internal Standard: 13C6-PFHxA IS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/14 7:47:53 AM	100.00	102.35	3659	0.0011	267	102.4
STD 2	STD 2	x	2018/02/14 7:52:49 AM	100.00	94.92	3442	0.0010	504	94.9
STD 3	STD 3	x	2018/02/14 7:57:45 AM	100.00	105.26	3750	0.0011	237	105.3
STD 4	STD 4	x	2018/02/14 8:02:41 AM	100.00	98.45	3487	0.0010	738	98.5
STD 5	STD 5	x	2018/02/14 8:07:37 AM	100.00	101.07	3439	0.0010	666	101.1
STD 6	STD 6	x	2018/02/14 8:12:31 AM	100.00	97.94	3364	0.0010	337	97.9

Batch Path T:\lcms4\PFC\20180213\WS#5393267\QuantResults\PFC_Water_High_180213_WS#5393267_EToxics.batch.bin
Last Calib Update 2018/02/21 9:31:54 AM
Instrument: LCMS04

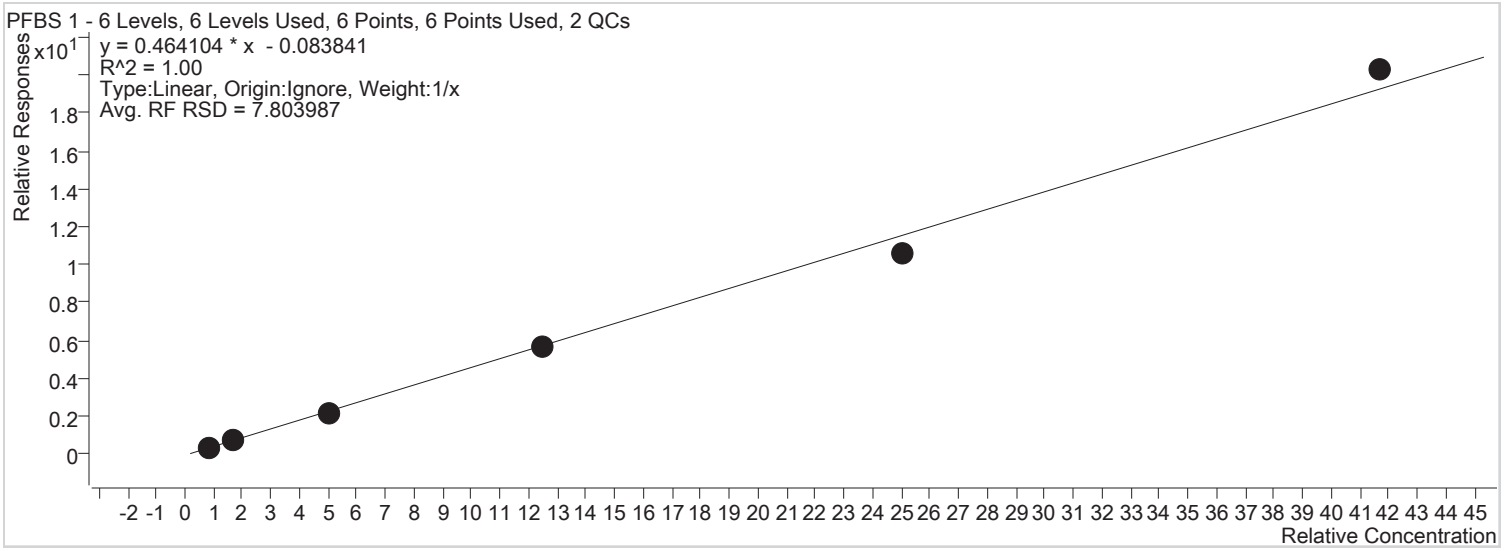
Analyte: 13C4-PFOS
Internal Standard: 13C6-PFHxA IS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/14 7:47:53 AM	100.00	110.59	4946	0.0014	500	110.6
STD 2	STD 2	x	2018/02/14 7:52:49 AM	100.00	114.92	5213	0.0015	718	114.9
STD 3	STD 3	x	2018/02/14 7:57:45 AM	100.00	95.83	4271	0.0012	503	95.8
STD 4	STD 4	x	2018/02/14 8:02:41 AM	100.00	91.67	4062	0.0012	511	91.7
STD 5	STD 5	x	2018/02/14 8:07:37 AM	100.00	90.85	3867	0.0012	236	90.8
STD 6	STD 6	x	2018/02/14 8:12:31 AM	100.00	96.14	4131	0.0012	329	96.1

Batch Path T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics.batch.bin
Last Calib Update 2018/02/21 10:50:18 AM
Instrument: LCMS04

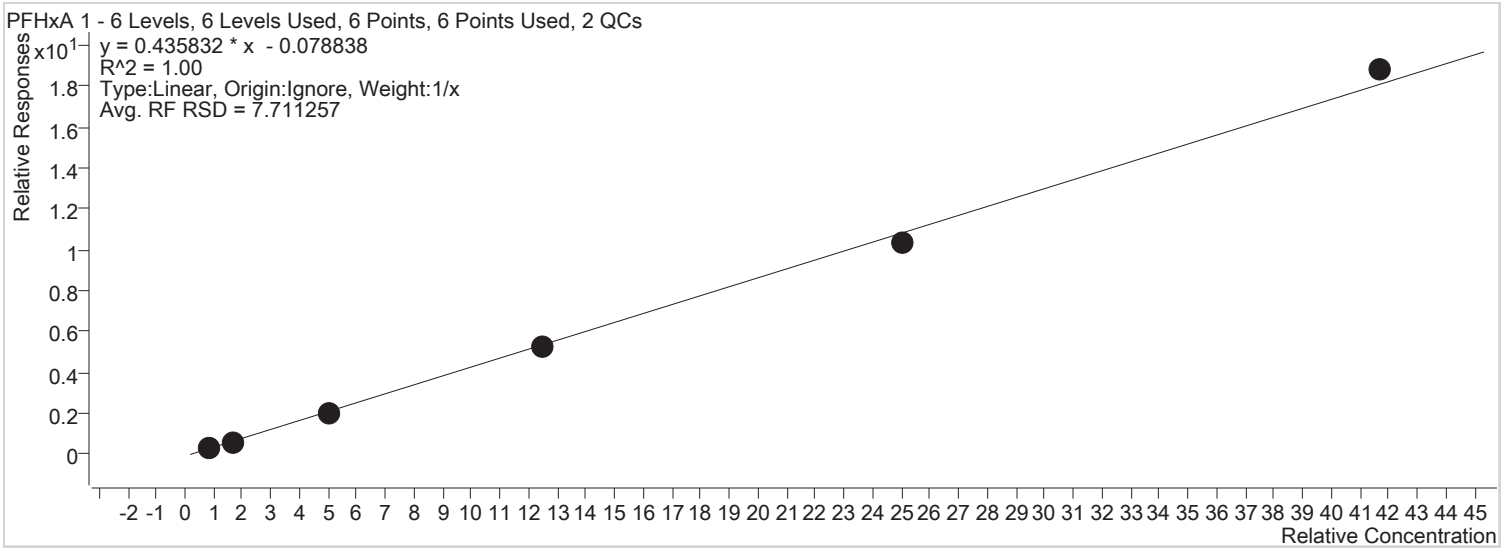
Analyte: PFBS 1
Internal Standard: MPFHxS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 10:00:48 PM	0.83	0.87	605	0.3859	65	104.9
STD 2	STD 2	x	2018/02/13 10:05:44 PM	1.70	1.74	1223	0.4244	161	102.1
STD 3	STD 3	x	2018/02/13 10:10:40 PM	5.00	4.82	3569	0.4303	177	96.3
STD 4	STD 4	x	2018/02/13 10:15:36 PM	12.50	12.44	9065	0.4552	678	99.5
STD 5	STD 5	x	2018/02/13 10:20:32 PM	25.00	22.98	17234	0.4232	159	91.9
STD 6	STD 6	x	2018/02/13 10:25:28 PM	41.70	43.89	31828	0.4865	1198	105.3

Batch Path T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics.batch.bin
Last Calib Update 2018/02/21 10:50:18 AM
Instrument: LCMS04

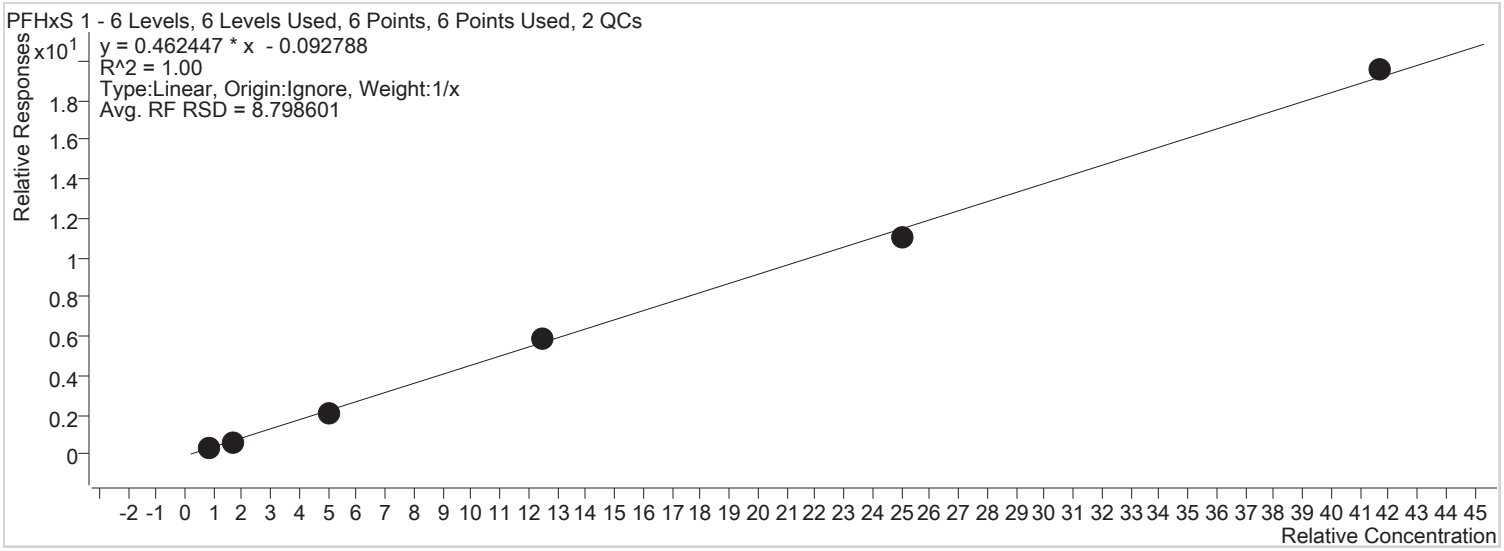
Analyte: PFHxA 1
Internal Standard: MPFHxA



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 10:00:48 PM	0.83	0.96	2324	0.4080	286	115.4
STD 2	STD 2	x	2018/02/13 10:05:44 PM	1.70	1.57	4224	0.3573	133	92.6
STD 3	STD 3	x	2018/02/13 10:10:40 PM	5.00	4.69	12823	0.3933	557	93.9
STD 4	STD 4	x	2018/02/13 10:15:36 PM	12.50	12.37	33898	0.4251	2123	99.0
STD 5	STD 5	x	2018/02/13 10:20:32 PM	25.00	23.80	66575	0.4118	3463	95.2
STD 6	STD 6	x	2018/02/13 10:25:28 PM	41.70	43.33	116349	0.4510	16296	103.9

Batch Path T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics.batch.bin
Last Calib Update 2018/02/21 10:50:18 AM
Instrument: LCMS04

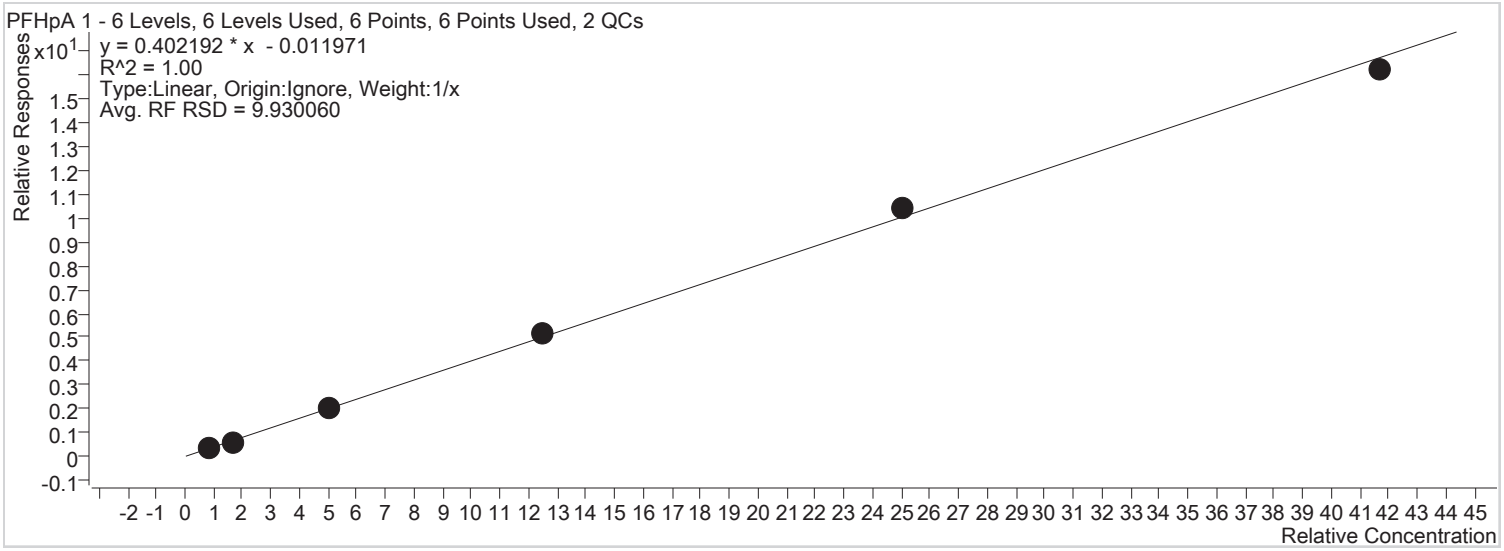
Analyte: PFHxS 1
Internal Standard: MPFHxS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 10:00:48 PM	0.83	0.92	630	0.4018	78	111.1
STD 2	STD 2	x	2018/02/13 10:05:44 PM	1.70	1.59	1089	0.3779	132	93.5
STD 3	STD 3	x	2018/02/13 10:10:40 PM	5.00	4.68	3437	0.4143	232	93.6
STD 4	STD 4	x	2018/02/13 10:15:36 PM	12.50	12.94	9385	0.4713	1519	103.5
STD 5	STD 5	x	2018/02/13 10:20:32 PM	25.00	24.08	17987	0.4417	648	96.3
STD 6	STD 6	x	2018/02/13 10:25:28 PM	41.70	42.52	30706	0.4693	1217	102.0

Batch Path T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics.batch.bin
Last Calib Update 2018/02/21 10:50:18 AM
Instrument: LCMS04

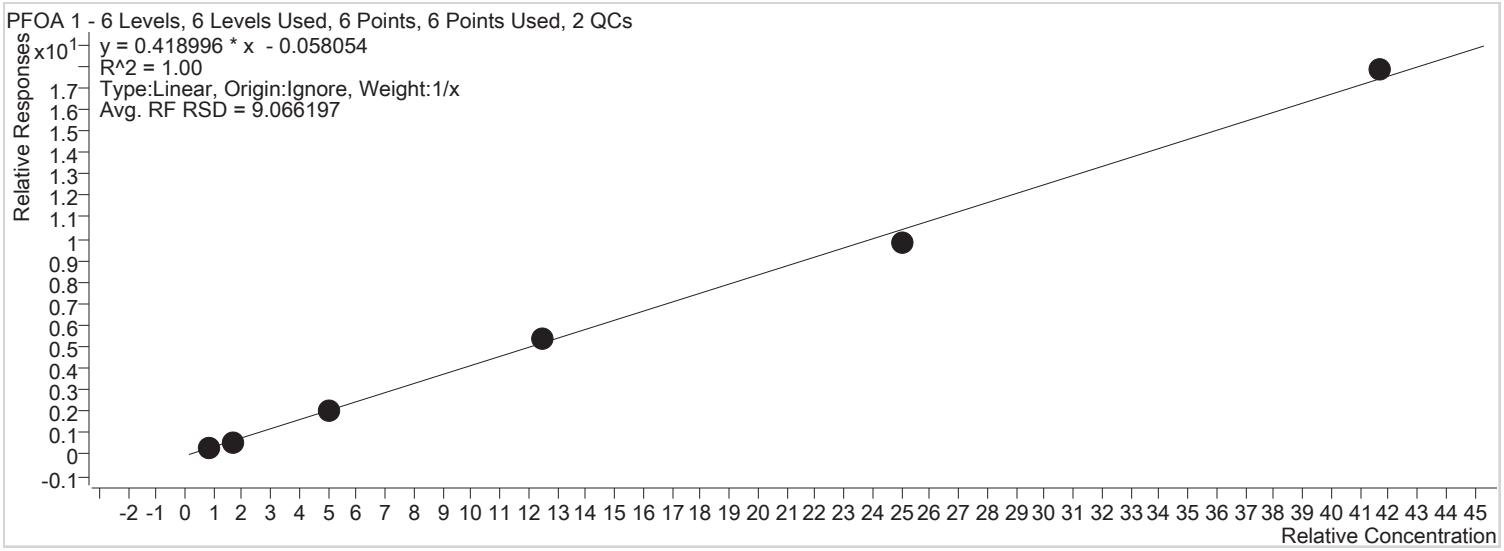
Analyte: PFHpA 1
Internal Standard: MPFHpA



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 10:00:48 PM	0.83	0.94	3275	0.4390	40	112.7
STD 2	STD 2	x	2018/02/13 10:05:44 PM	1.70	1.40	5184	0.3246	67	82.5
STD 3	STD 3	x	2018/02/13 10:10:40 PM	5.00	5.05	16838	0.4037	164	101.0
STD 4	STD 4	x	2018/02/13 10:15:36 PM	12.50	12.80	44414	0.4110	180	102.4
STD 5	STD 5	x	2018/02/13 10:20:32 PM	25.00	26.11	82700	0.4196	196	104.5
STD 6	STD 6	x	2018/02/13 10:25:28 PM	41.70	40.43	134819	0.3896	199	96.9

Batch Path T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics.batch.bin
Last Calib Update 2018/02/21 10:50:18 AM
Instrument: LCMS04

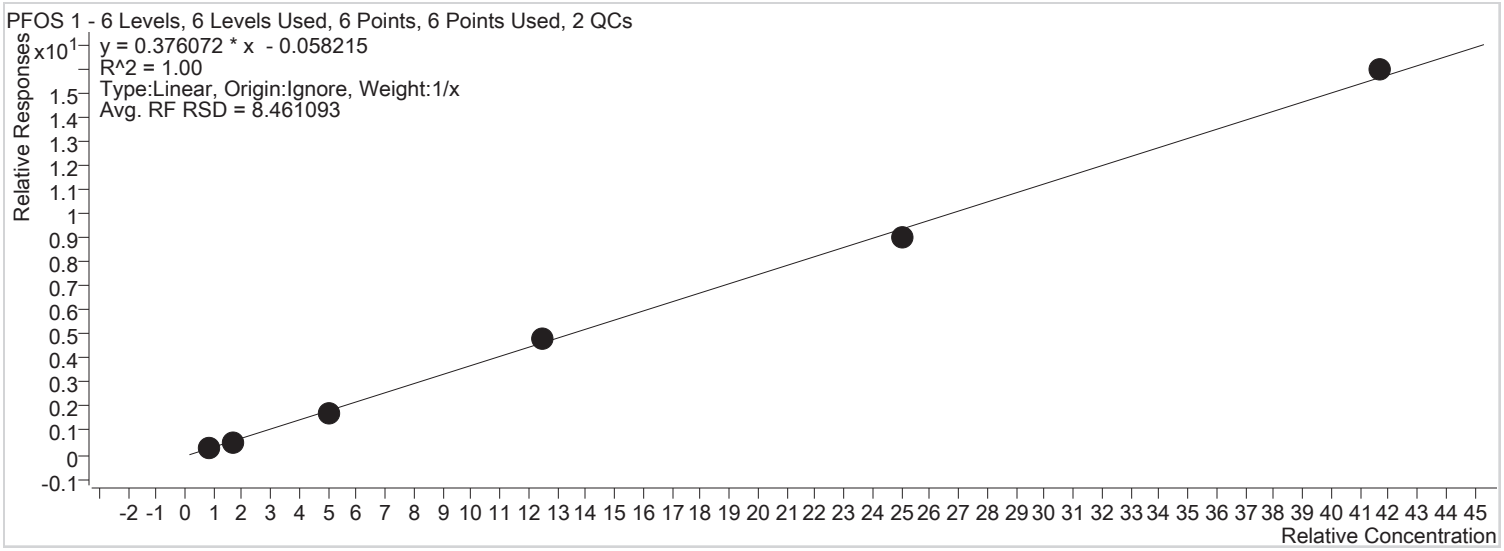
Analyte: PFOA 1
Internal Standard: MPFOA



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 10:00:48 PM	0.83	0.91	3164	0.3884	28	109.4
STD 2	STD 2	x	2018/02/13 10:05:44 PM	1.70	1.49	5415	0.3338	51	87.8
STD 3	STD 3	x	2018/02/13 10:10:40 PM	5.00	5.13	18800	0.4185	191	102.6
STD 4	STD 4	x	2018/02/13 10:15:36 PM	12.50	12.94	49307	0.4292	576	103.5
STD 5	STD 5	x	2018/02/13 10:20:32 PM	25.00	23.55	89759	0.3924	759	94.2
STD 6	STD 6	x	2018/02/13 10:25:28 PM	41.70	42.70	160925	0.4276	981	102.4

Batch Path T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics.batch.bin
Last Calib Update 2018/02/21 10:50:18 AM
Instrument: LCMS04

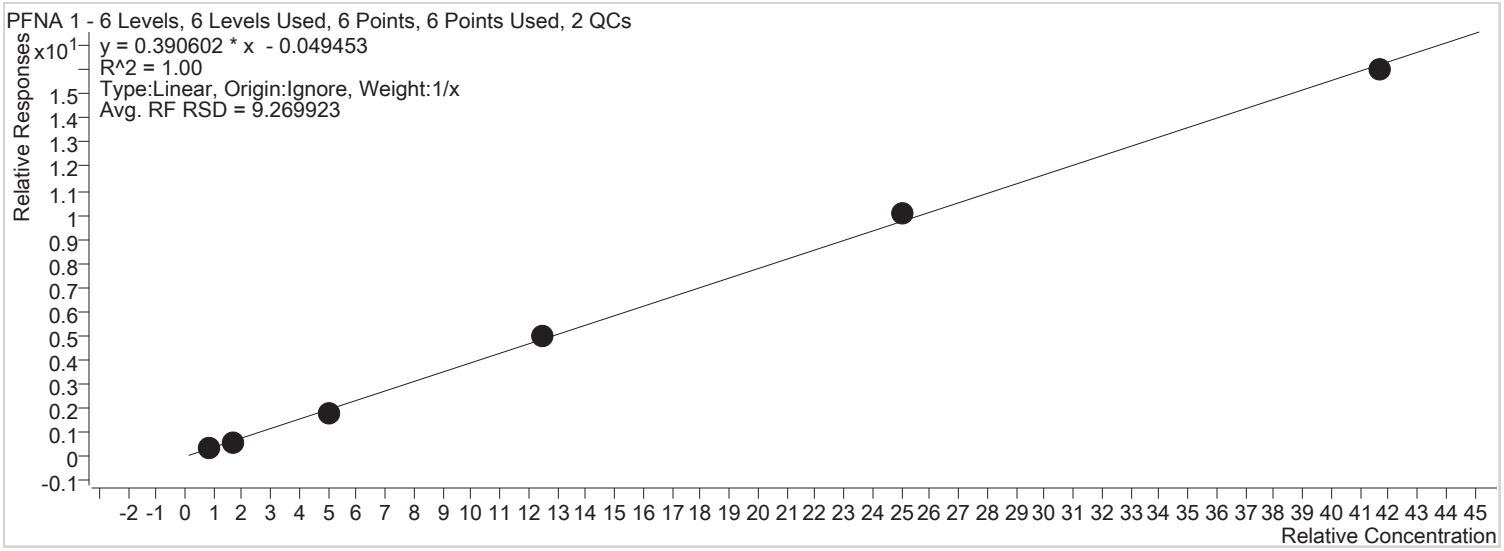
Analyte: PFOS 1
Internal Standard: MPFOS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 10:00:48 PM	0.83	0.95	591	0.3591	77	114.1
STD 2	STD 2	x	2018/02/13 10:05:44 PM	1.70	1.53	1077	0.3043	91	90.0
STD 3	STD 3	x	2018/02/13 10:10:40 PM	5.00	4.69	3509	0.3412	144	93.8
STD 4	STD 4	x	2018/02/13 10:15:36 PM	12.50	12.99	9433	0.3862	191	103.9
STD 5	STD 5	x	2018/02/13 10:20:32 PM	25.00	24.01	17171	0.3589	122	96.0
STD 6	STD 6	x	2018/02/13 10:25:28 PM	41.70	42.56	31576	0.3824	229	102.1

Batch Path T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics.batch.bin
Last Calib Update 2018/02/21 10:50:18 AM
Instrument: LCMS04

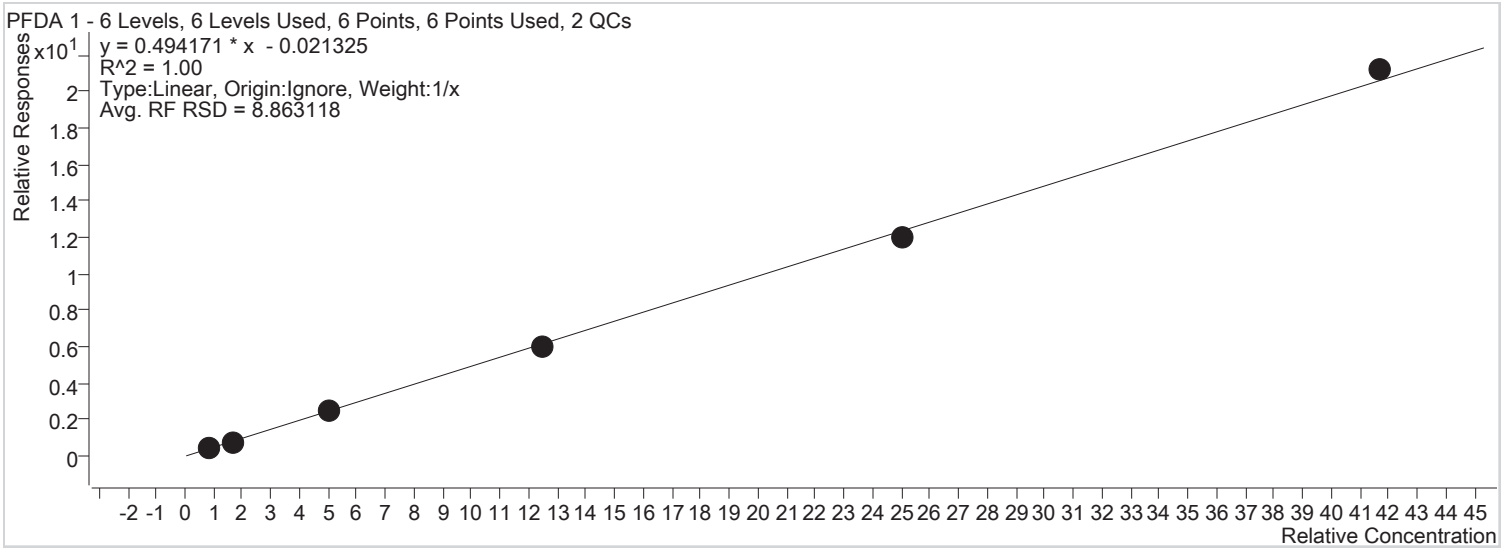
Analyte: PFNA 1
Internal Standard: MPFNA



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 10:00:48 PM	0.83	0.97	3184	0.3951	38	116.4
STD 2	STD 2	x	2018/02/13 10:05:44 PM	1.70	1.49	5036	0.3129	134	87.5
STD 3	STD 3	x	2018/02/13 10:10:40 PM	5.00	4.61	16429	0.3503	532	92.2
STD 4	STD 4	x	2018/02/13 10:15:36 PM	12.50	12.77	43491	0.3951	952	102.2
STD 5	STD 5	x	2018/02/13 10:20:32 PM	25.00	25.74	82917	0.4002	1803	103.0
STD 6	STD 6	x	2018/02/13 10:25:28 PM	41.70	41.15	138927	0.3843	1393	98.7

Batch Path T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics.batch.bin
Last Calib Update 2018/02/21 10:50:18 AM
Instrument: LCMS04

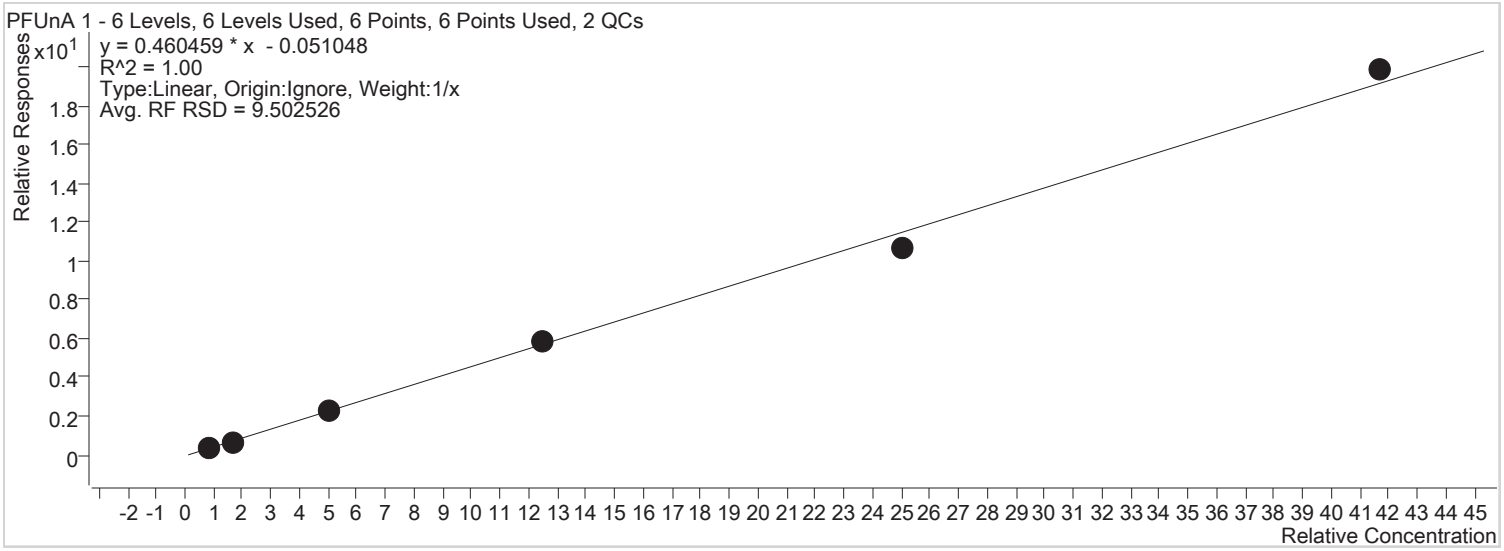
Analyte: PFDA 1
Internal Standard: MPFDA



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 10:00:48 PM	0.83	0.97	3349	0.5496	37	116.4
STD 2	STD 2	x	2018/02/13 10:05:44 PM	1.70	1.48	5785	0.4178	50	87.1
STD 3	STD 3	x	2018/02/13 10:10:40 PM	5.00	4.98	17783	0.4877	181	99.6
STD 4	STD 4	x	2018/02/13 10:15:36 PM	12.50	12.10	46090	0.4768	374	96.8
STD 5	STD 5	x	2018/02/13 10:20:32 PM	25.00	24.30	91466	0.4796	860	97.2
STD 6	STD 6	x	2018/02/13 10:25:28 PM	41.70	42.90	157513	0.5078	1035	102.9

Batch Path T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics.batch.bin
Last Calib Update 2018/02/21 10:50:18 AM
Instrument: LCMS04

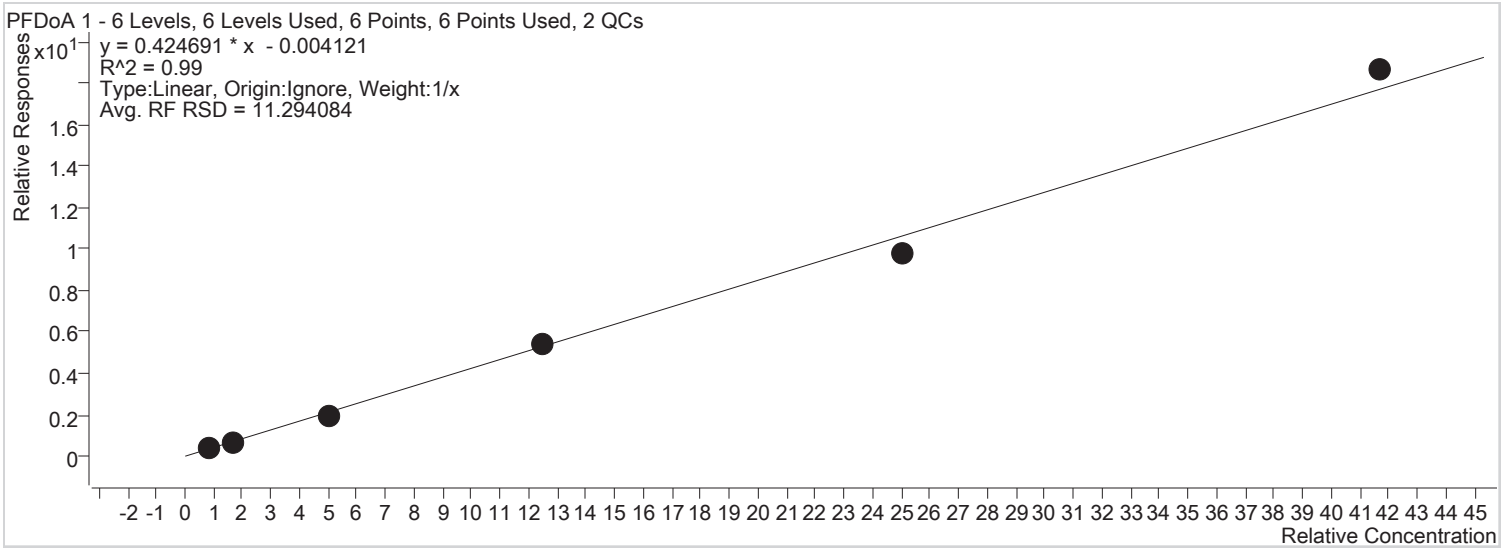
Analyte: PFUnA 1
Internal Standard: MPFUnA



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 10:00:48 PM	0.83	0.93	3295	0.4545	24	112.1
STD 2	STD 2	x	2018/02/13 10:05:44 PM	1.70	1.46	6111	0.3647	41	85.7
STD 3	STD 3	x	2018/02/13 10:10:40 PM	5.00	5.18	19677	0.4672	96	103.7
STD 4	STD 4	x	2018/02/13 10:15:36 PM	12.50	12.78	50484	0.4666	141	102.2
STD 5	STD 5	x	2018/02/13 10:20:32 PM	25.00	23.16	98104	0.4246	306	92.6
STD 6	STD 6	x	2018/02/13 10:25:28 PM	41.70	43.22	172231	0.4760	296	103.6

Batch Path T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics.batch.bin
Last Calib Update 2018/02/21 10:50:18 AM
Instrument: LCMS04

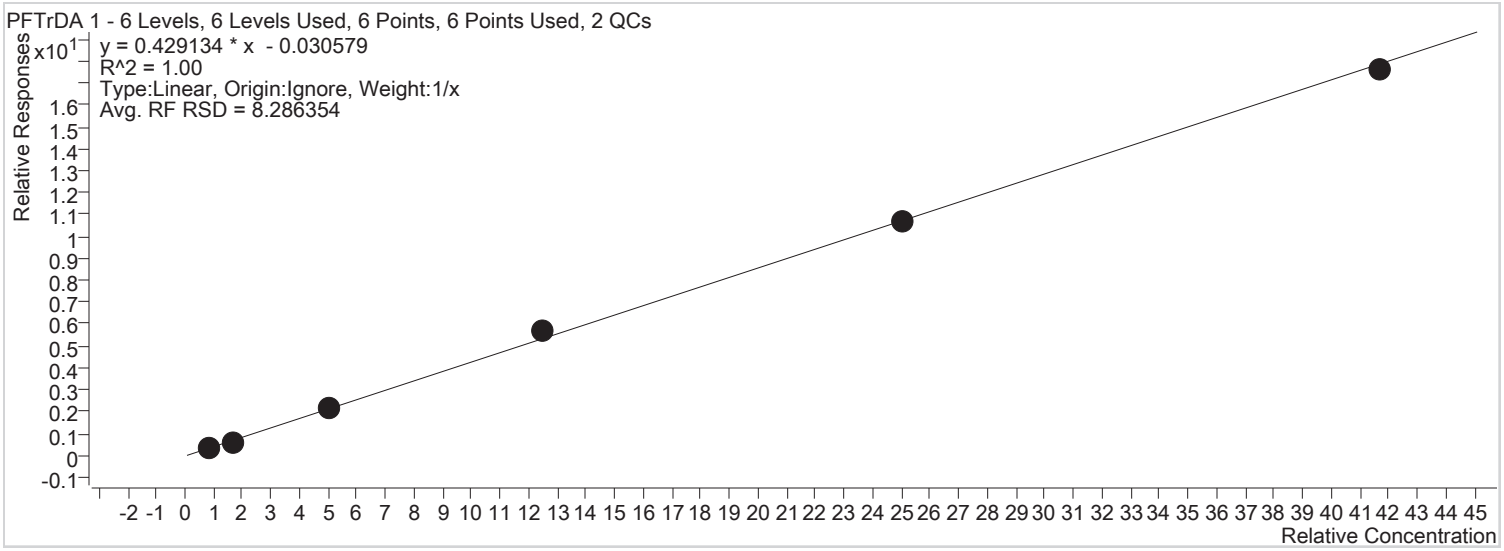
Analyte: PFDoA 1
Internal Standard: MPFDoA



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 10:00:48 PM	0.83	0.99	4903	0.5018	94	119.3
STD 2	STD 2	x	2018/02/13 10:05:44 PM	1.70	1.55	8289	0.3849	159	91.2
STD 3	STD 3	x	2018/02/13 10:10:40 PM	5.00	4.48	23770	0.3796	493	89.6
STD 4	STD 4	x	2018/02/13 10:15:36 PM	12.50	12.85	62761	0.4362	1541	102.8
STD 5	STD 5	x	2018/02/13 10:20:32 PM	25.00	22.95	110548	0.3896	2348	91.8
STD 6	STD 6	x	2018/02/13 10:25:28 PM	41.70	43.92	206265	0.4472	2817	105.3

Batch Path T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_ETOxics.batch.bin
Last Calib Update 2018/02/21 10:50:18 AM
Instrument: LCMS04

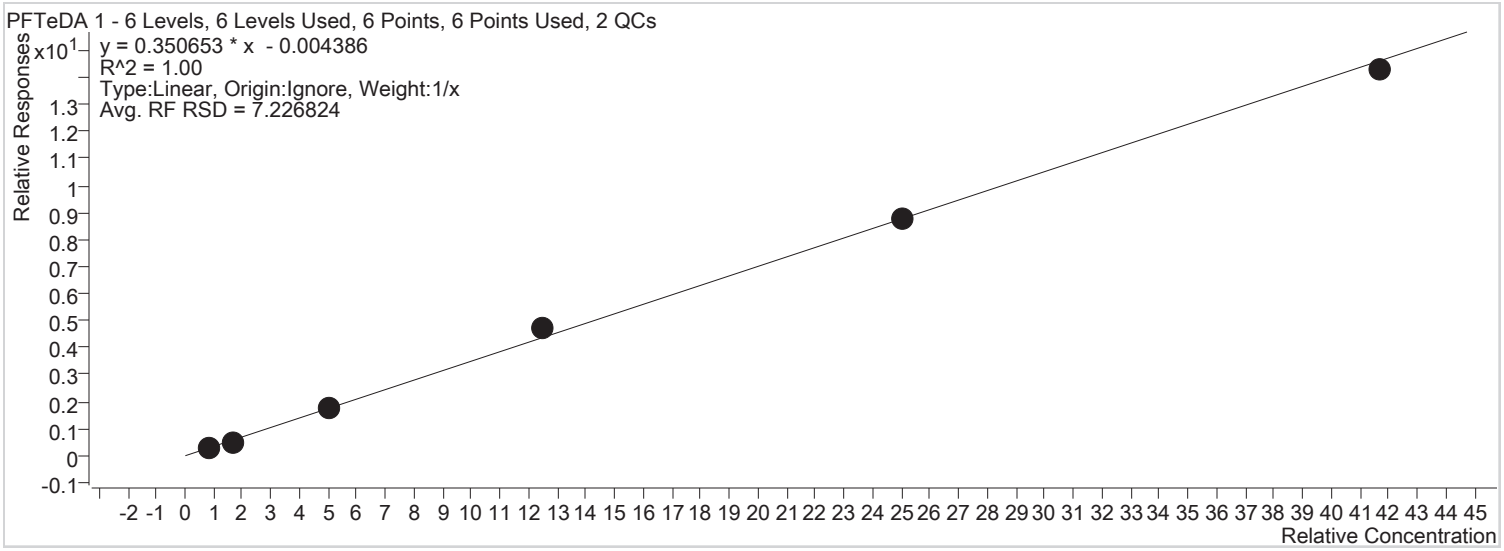
Analyte: PFTrDA 1
Internal Standard: MPFTeDA



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 10:00:48 PM	0.83	0.91	4959	0.4311	30	109.0
STD 2	STD 2	x	2018/02/13 10:05:44 PM	1.70	1.47	8544	0.3524	43	86.3
STD 3	STD 3	x	2018/02/13 10:10:40 PM	5.00	4.98	27966	0.4211	84	99.6
STD 4	STD 4	x	2018/02/13 10:15:36 PM	12.50	13.34	73688	0.4556	111	106.7
STD 5	STD 5	x	2018/02/13 10:20:32 PM	25.00	24.96	135060	0.4272	147	99.8
STD 6	STD 6	x	2018/02/13 10:25:28 PM	41.70	41.08	239481	0.4220	134	98.5

Batch Path T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics.batch.bin
Last Calib Update 2018/02/21 10:50:18 AM
Instrument: LCMS04

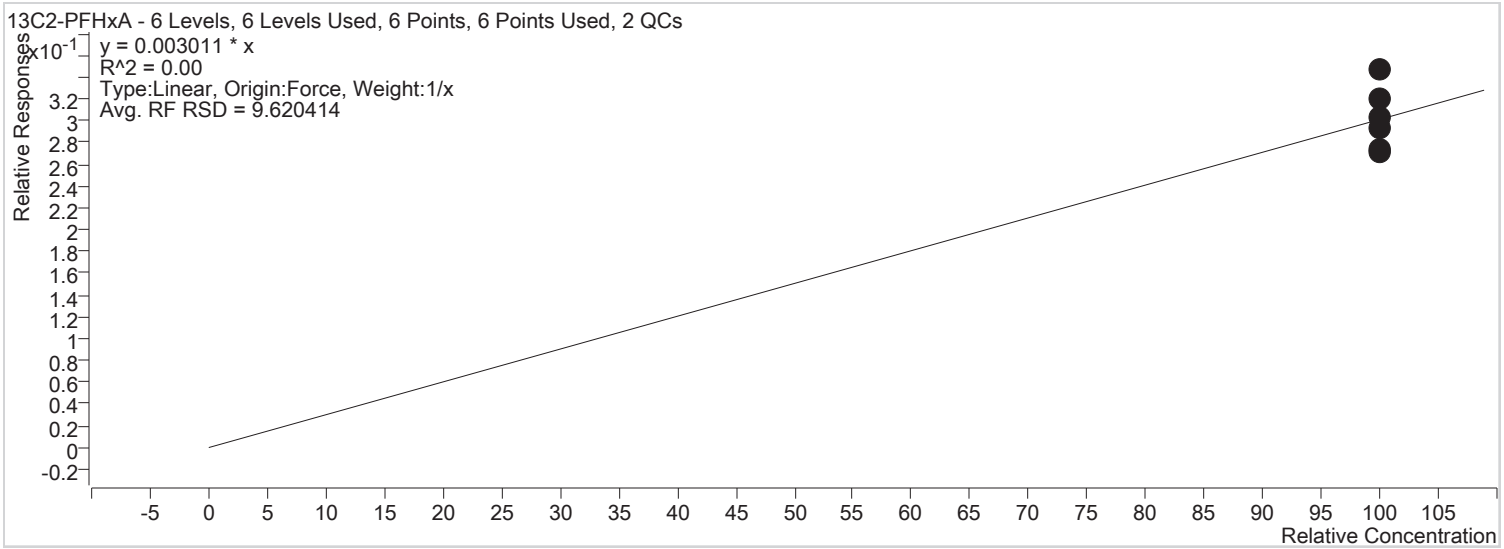
Analyte: PFTeDA 1
Internal Standard: MPFTeDA



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 10:00:48 PM	0.83	0.87	4184	0.3637	12	105.2
STD 2	STD 2	x	2018/02/13 10:05:44 PM	1.70	1.48	7352	0.3032	25	87.2
STD 3	STD 3	x	2018/02/13 10:10:40 PM	5.00	5.10	23692	0.3568	79	102.0
STD 4	STD 4	x	2018/02/13 10:15:36 PM	12.50	13.44	60900	0.3766	117	107.5
STD 5	STD 5	x	2018/02/13 10:20:32 PM	25.00	25.09	111182	0.3517	122	100.3
STD 6	STD 6	x	2018/02/13 10:25:28 PM	41.70	40.75	194413	0.3426	122	97.7

Batch Path T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics.batch.bin
Last Calib Update 2018/02/21 10:50:18 AM
Instrument: LCMS04

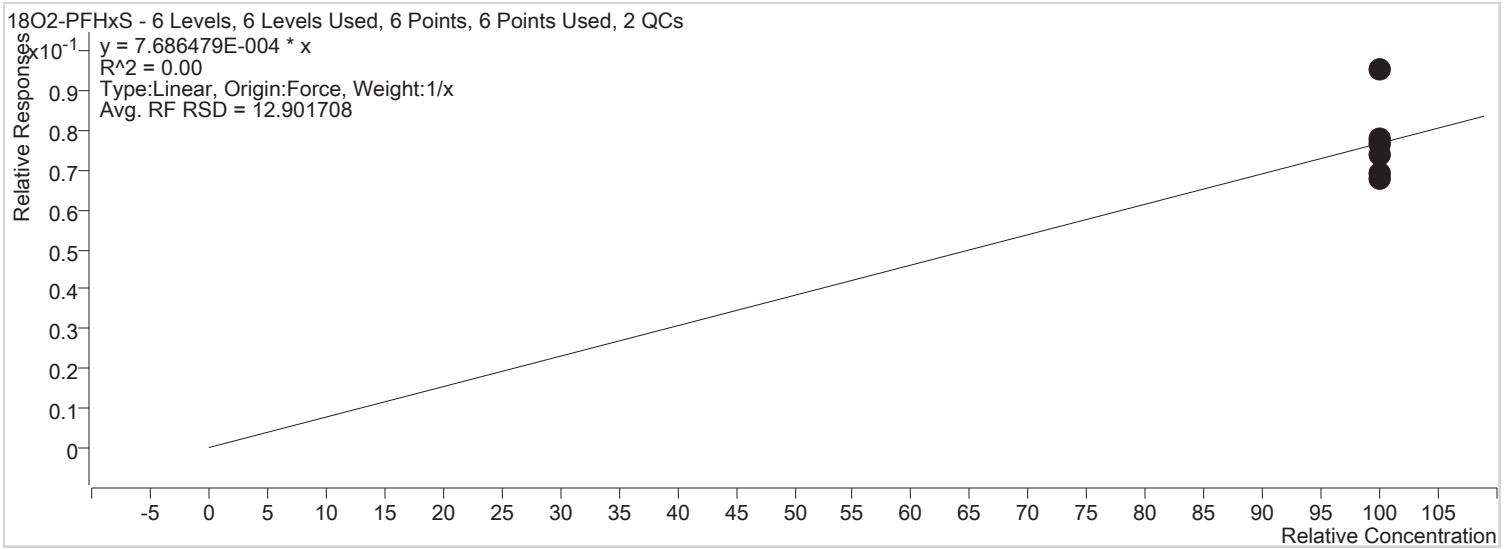
Analyte: 13C2-PFHxA
Internal Standard: 13C6-PFHxA IS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 10:00:48 PM	100.00	115.12	6862	0.0035	187	115.1
STD 2	STD 2	x	2018/02/13 10:05:44 PM	100.00	106.54	6955	0.0032	207	106.5
STD 3	STD 3	x	2018/02/13 10:10:40 PM	100.00	90.09	6520	0.0027	240	90.1
STD 4	STD 4	x	2018/02/13 10:15:36 PM	100.00	90.74	6379	0.0027	177	90.7
STD 5	STD 5	x	2018/02/13 10:20:32 PM	100.00	97.28	6467	0.0029	174	97.3
STD 6	STD 6	x	2018/02/13 10:25:28 PM	100.00	100.23	6187	0.0030	166	100.2

Batch Path T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics.batch.bin
Last Calib Update 2018/02/21 10:50:18 AM
Instrument: LCMS04

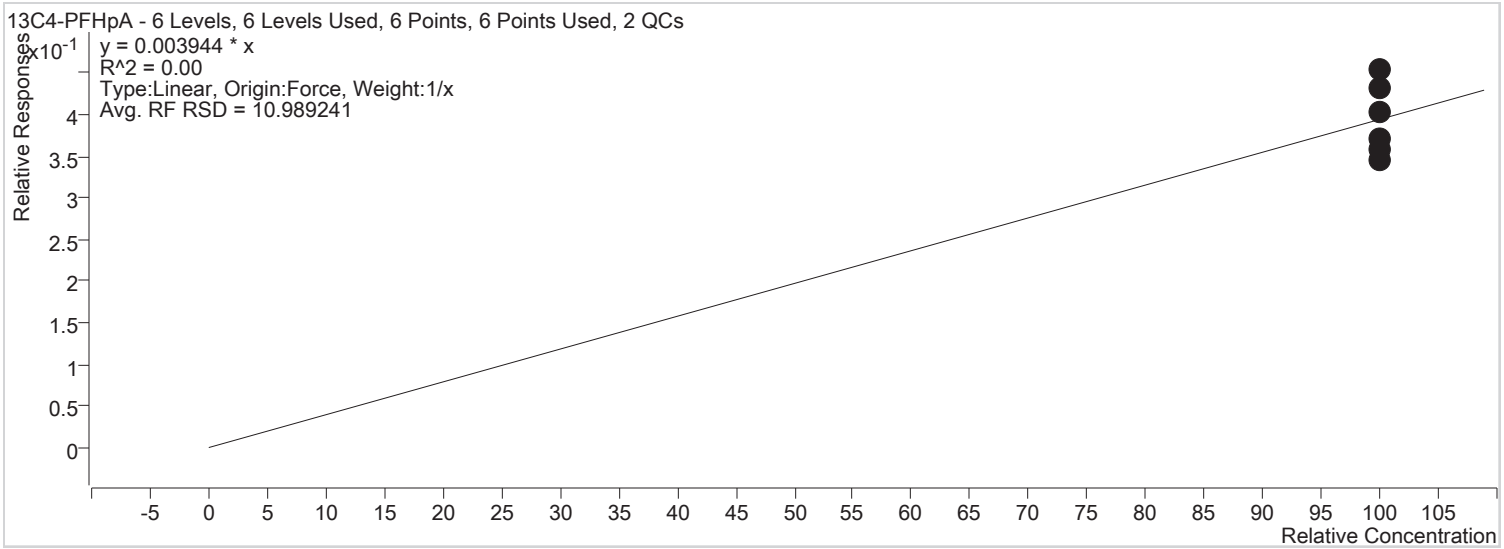
Analyte: 18O2-PFHxS
Internal Standard: 13C6-PFHxA IS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 10:00:48 PM	100.00	124.14	1889	0.0010	304	124.1
STD 2	STD 2	x	2018/02/13 10:05:44 PM	100.00	101.72	1695	0.0008	310	101.7
STD 3	STD 3	x	2018/02/13 10:10:40 PM	100.00	89.80	1659	0.0007	144	89.8
STD 4	STD 4	x	2018/02/13 10:15:36 PM	100.00	88.77	1593	0.0007	170	88.8
STD 5	STD 5	x	2018/02/13 10:20:32 PM	100.00	95.99	1629	0.0007	234	96.0
STD 6	STD 6	x	2018/02/13 10:25:28 PM	100.00	99.57	1569	0.0008	138	99.6

Batch Path T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics.batch.bin
Last Calib Update 2018/02/21 10:50:18 AM
Instrument: LCMS04

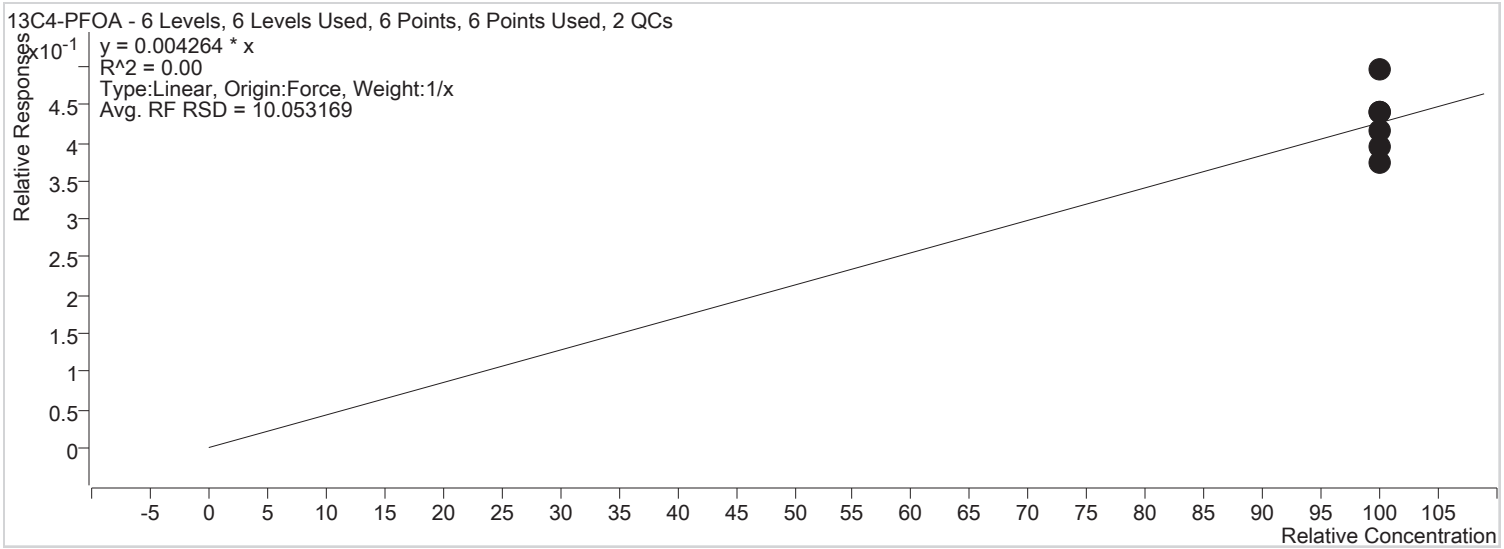
Analyte: 13C4-PFHpA
Internal Standard: 13C6-PFHxA IS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 10:00:48 PM	100.00	115.11	8988	0.0045	204	115.1
STD 2	STD 2	x	2018/02/13 10:05:44 PM	100.00	109.86	9394	0.0043	214	109.9
STD 3	STD 3	x	2018/02/13 10:10:40 PM	100.00	88.00	8342	0.0035	175	88.0
STD 4	STD 4	x	2018/02/13 10:15:36 PM	100.00	93.88	8645	0.0037	184	93.9
STD 5	STD 5	x	2018/02/13 10:20:32 PM	100.00	90.52	7883	0.0036	166	90.5
STD 6	STD 6	x	2018/02/13 10:25:28 PM	100.00	102.62	8298	0.0040	212	102.6

Batch Path T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics.batch.bin
Last Calib Update 2018/02/21 10:50:18 AM
Instrument: LCMS04

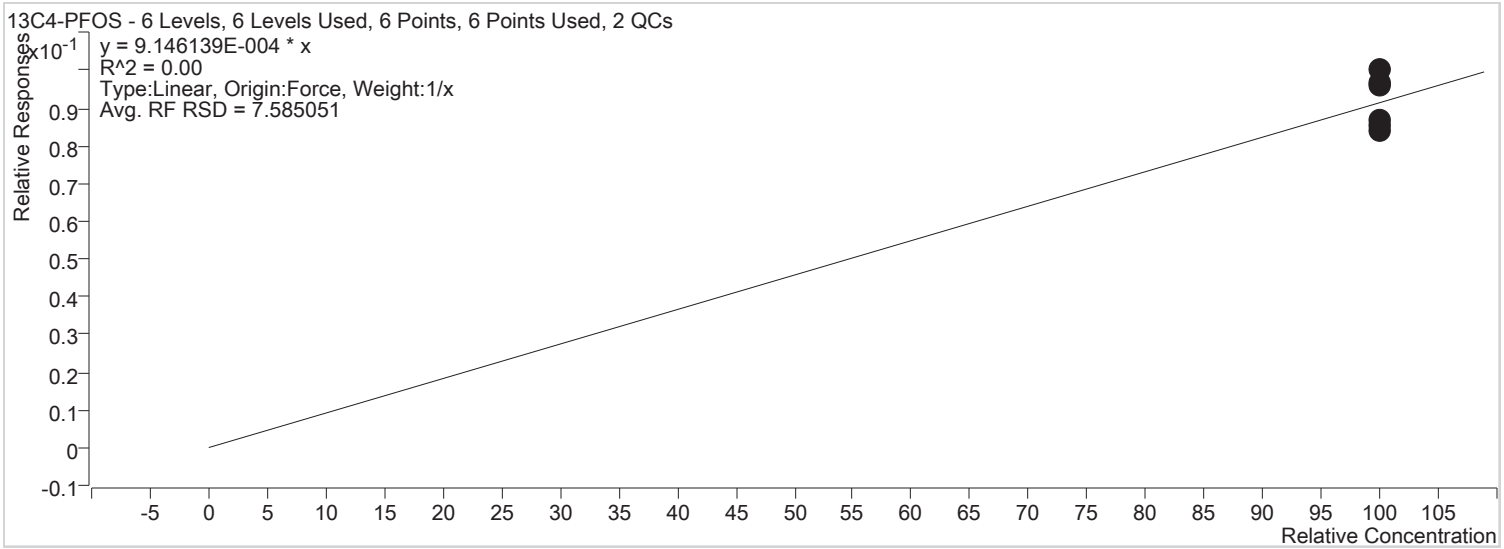
Analyte: 13C4-PFOA
Internal Standard: 13C6-PFHxA IS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 10:00:48 PM	100.00	116.30	9816	0.0050	428	116.3
STD 2	STD 2	x	2018/02/13 10:05:44 PM	100.00	103.25	9543	0.0044	419	103.2
STD 3	STD 3	x	2018/02/13 10:10:40 PM	100.00	87.68	8985	0.0037	172	87.7
STD 4	STD 4	x	2018/02/13 10:15:36 PM	100.00	92.33	9190	0.0039	209	92.3
STD 5	STD 5	x	2018/02/13 10:20:32 PM	100.00	97.20	9149	0.0041	230	97.2
STD 6	STD 6	x	2018/02/13 10:25:28 PM	100.00	103.25	9024	0.0044	185	103.2

Batch Path T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics.batch.bin
Last Calib Update 2018/02/21 10:50:18 AM
Instrument: LCMS04

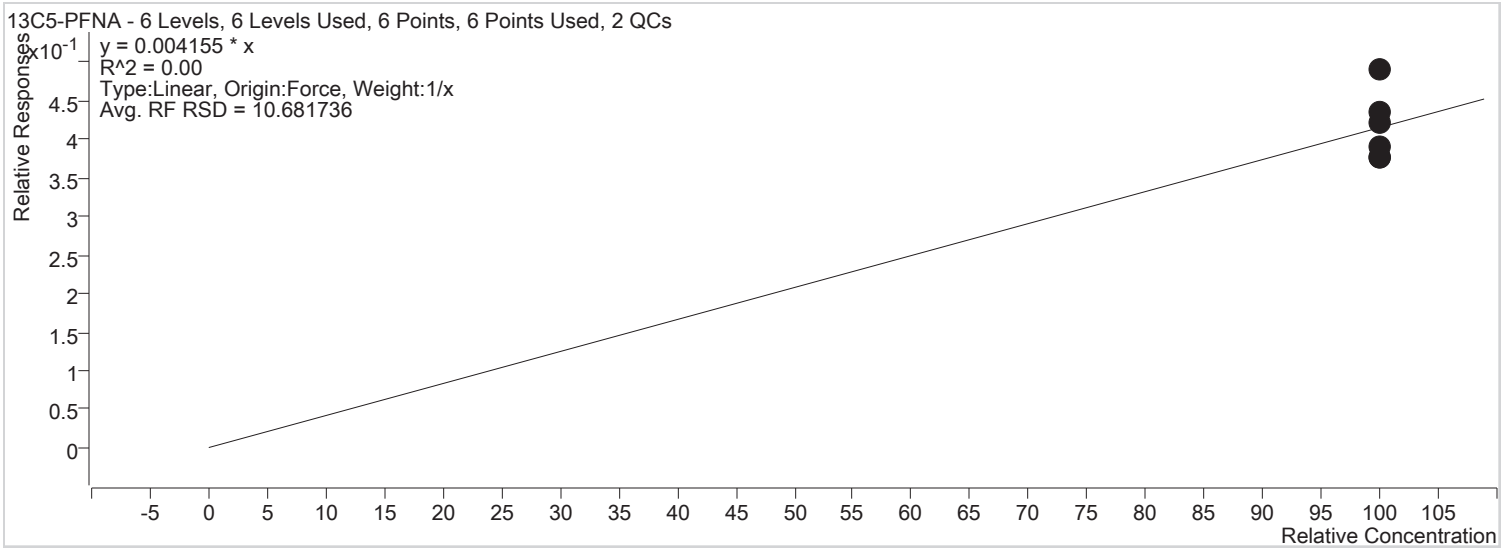
Analyte: 13C4-PFOS
Internal Standard: 13C6-PFHxA IS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 10:00:48 PM	100.00	109.52	1983	0.0010	416	109.5
STD 2	STD 2	x	2018/02/13 10:05:44 PM	100.00	105.00	2082	0.0010	159	105.0
STD 3	STD 3	x	2018/02/13 10:10:40 PM	100.00	93.57	2057	0.0009	129	93.6
STD 4	STD 4	x	2018/02/13 10:15:36 PM	100.00	91.51	1954	0.0008	134	91.5
STD 5	STD 5	x	2018/02/13 10:20:32 PM	100.00	94.79	1914	0.0009	182	94.8
STD 6	STD 6	x	2018/02/13 10:25:28 PM	100.00	105.60	1980	0.0010	140	105.6

Batch Path T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics.batch.bin
Last Calib Update 2018/02/21 10:50:18 AM
Instrument: LCMS04

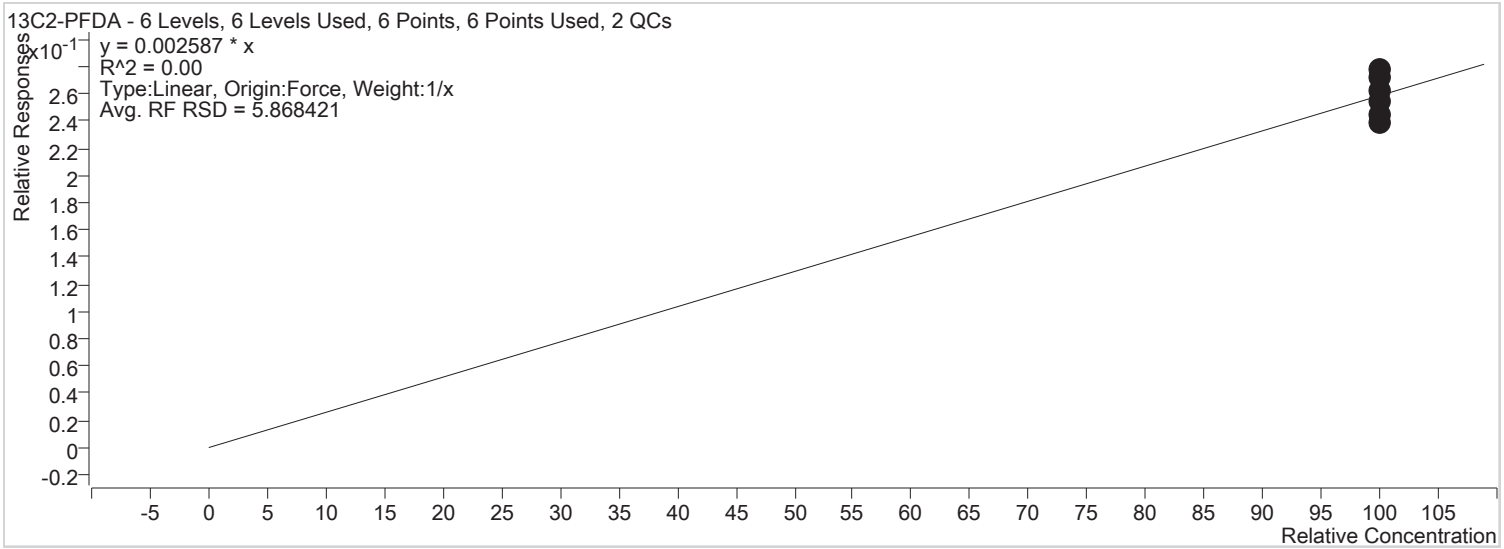
Analyte: 13C5-PFNA
Internal Standard: 13C6-PFHxA IS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 10:00:48 PM	100.00	118.04	9708	0.0049	331	118.0
STD 2	STD 2	x	2018/02/13 10:05:44 PM	100.00	105.13	9469	0.0044	239	105.1
STD 3	STD 3	x	2018/02/13 10:10:40 PM	100.00	93.92	9379	0.0039	266	93.9
STD 4	STD 4	x	2018/02/13 10:15:36 PM	100.00	90.77	8804	0.0038	316	90.8
STD 5	STD 5	x	2018/02/13 10:20:32 PM	100.00	90.33	8286	0.0038	234	90.3
STD 6	STD 6	x	2018/02/13 10:25:28 PM	100.00	101.81	8671	0.0042	387	101.8

Batch Path T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics.batch.bin
Last Calib Update 2018/02/21 10:50:18 AM
Instrument: LCMS04

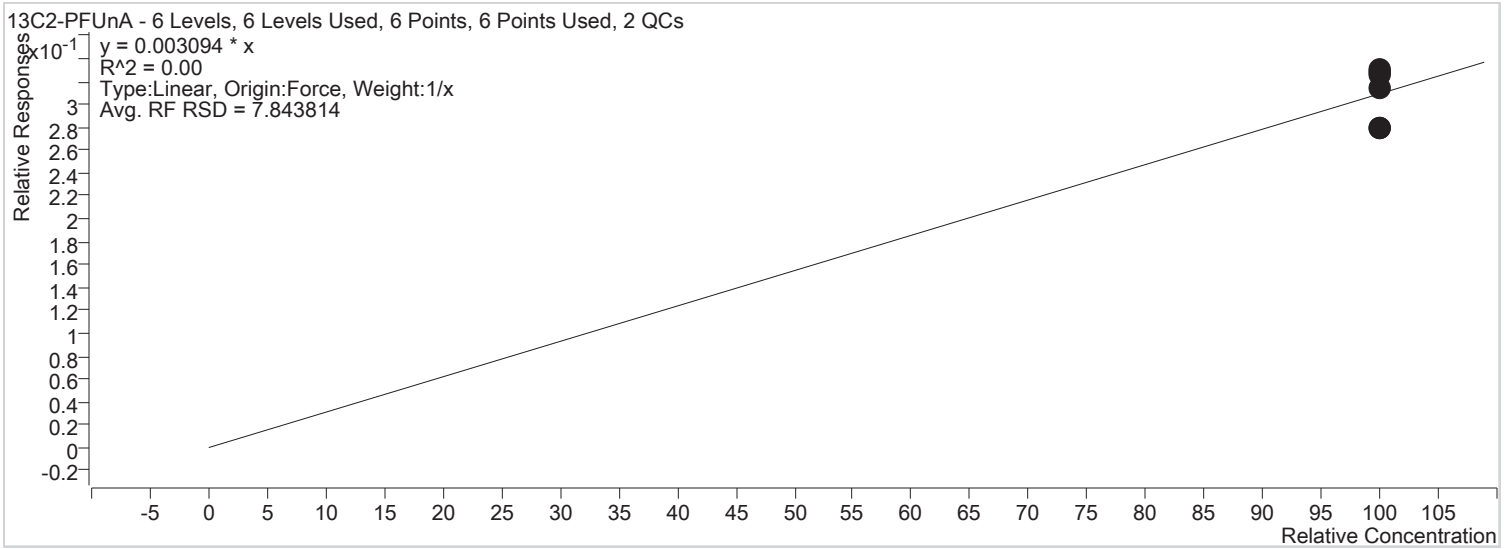
Analyte: 13C2-PFDA
Internal Standard: 13C9-PFDA IS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 10:00:48 PM	100.00	105.51	7218	0.0027	198	105.5
STD 2	STD 2	x	2018/02/13 10:05:44 PM	100.00	101.61	7961	0.0026	142	101.6
STD 3	STD 3	x	2018/02/13 10:10:40 PM	100.00	92.63	7243	0.0024	472	92.6
STD 4	STD 4	x	2018/02/13 10:15:36 PM	100.00	94.69	7594	0.0024	133	94.7
STD 5	STD 5	x	2018/02/13 10:20:32 PM	100.00	98.23	7492	0.0025	221	98.2
STD 6	STD 6	x	2018/02/13 10:25:28 PM	100.00	107.33	7327	0.0028	364	107.3

Batch Path T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics.batch.bin
Last Calib Update 2018/02/21 10:50:18 AM
Instrument: LCMS04

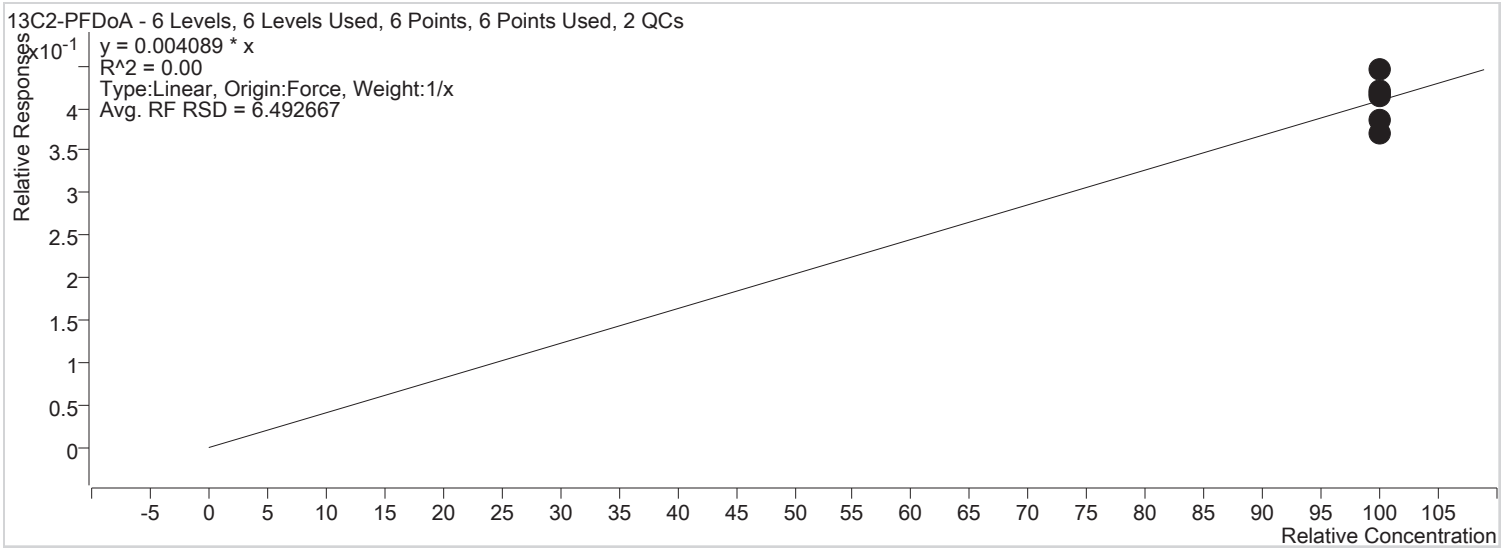
Analyte: 13C2-PFUnA
Internal Standard: 13C9-PFDA IS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 10:00:48 PM	100.00	106.77	8734	0.0033	390	106.8
STD 2	STD 2	x	2018/02/13 10:05:44 PM	100.00	105.21	9856	0.0033	224	105.2
STD 3	STD 3	x	2018/02/13 10:10:40 PM	100.00	90.09	8423	0.0028	380	90.1
STD 4	STD 4	x	2018/02/13 10:15:36 PM	100.00	90.26	8655	0.0028	202	90.3
STD 5	STD 5	x	2018/02/13 10:20:32 PM	100.00	101.36	9243	0.0031	412	101.4
STD 6	STD 6	x	2018/02/13 10:25:28 PM	100.00	106.30	8677	0.0033	286	106.3

Batch Path T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics.batch.bin
Last Calib Update 2018/02/21 10:50:18 AM
Instrument: LCMS04

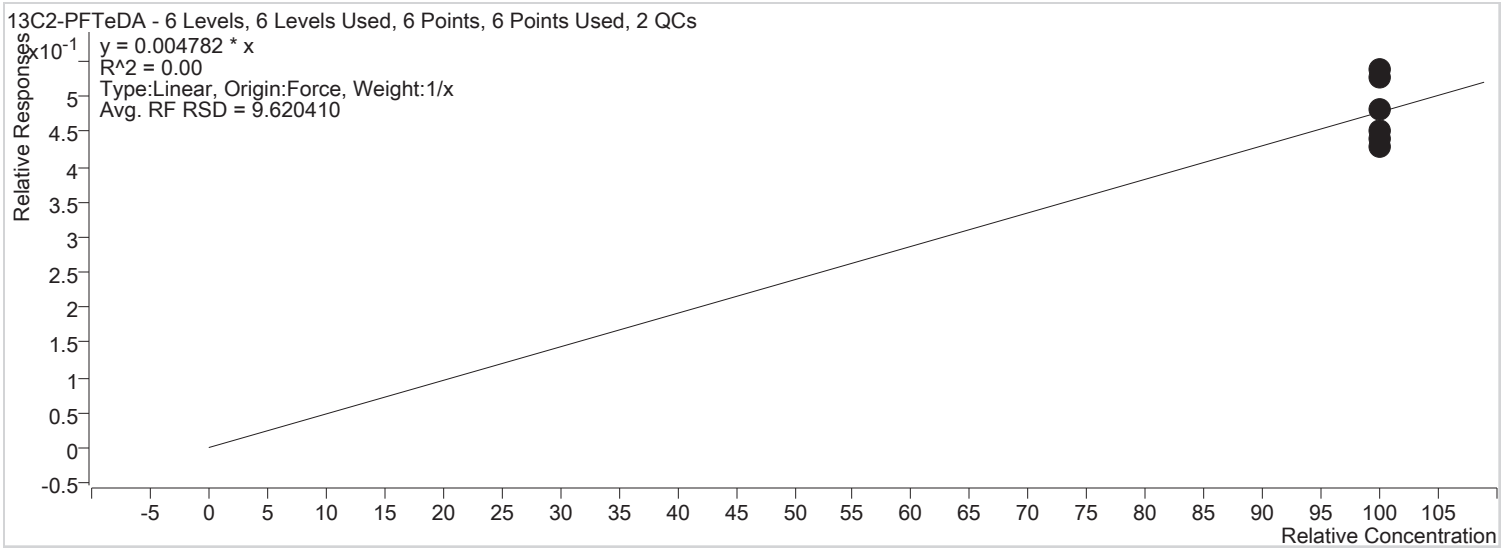
Analyte: 13C2-PFDoA
Internal Standard: 13C9-PFDA IS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 10:00:48 PM	100.00	108.86	11771	0.0045	126	108.9
STD 2	STD 2	x	2018/02/13 10:05:44 PM	100.00	102.31	12669	0.0042	119	102.3
STD 3	STD 3	x	2018/02/13 10:10:40 PM	100.00	101.34	12523	0.0041	148	101.3
STD 4	STD 4	x	2018/02/13 10:15:36 PM	100.00	90.81	11510	0.0037	114	90.8
STD 5	STD 5	x	2018/02/13 10:20:32 PM	100.00	94.15	11349	0.0039	134	94.2
STD 6	STD 6	x	2018/02/13 10:25:28 PM	100.00	102.52	11062	0.0042	179	102.5

Batch Path T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics.batch.bin
Last Calib Update 2018/02/21 10:50:18 AM
Instrument: LCMS04

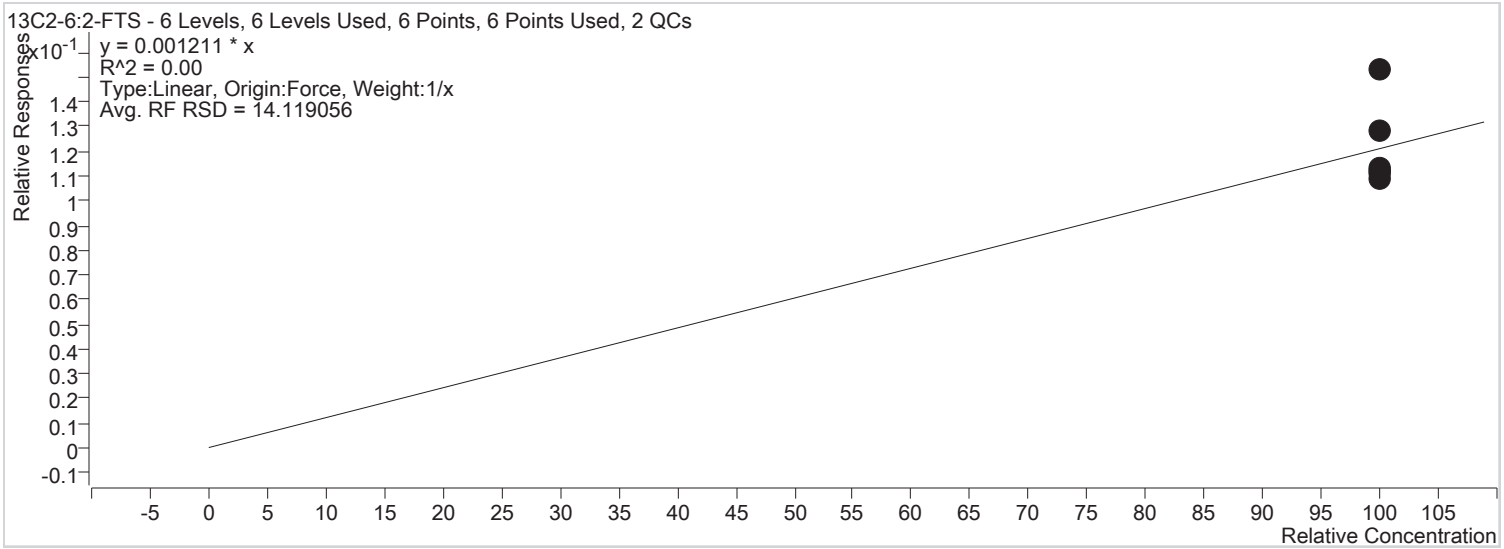
Analyte: 13C2-PFTeDA
Internal Standard: 13C9-PFDA IS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 10:00:48 PM	100.00	112.61	14240	0.0054	385	112.6
STD 2	STD 2	x	2018/02/13 10:05:44 PM	100.00	100.48	14551	0.0048	447	100.5
STD 3	STD 3	x	2018/02/13 10:10:40 PM	100.00	94.70	13686	0.0045	426	94.7
STD 4	STD 4	x	2018/02/13 10:15:36 PM	100.00	89.63	13287	0.0043	460	89.6
STD 5	STD 5	x	2018/02/13 10:20:32 PM	100.00	92.22	13000	0.0044	510	92.2
STD 6	STD 6	x	2018/02/13 10:25:28 PM	100.00	110.36	13926	0.0053	543	110.4

Batch Path T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics.batch.bin
Last Calib Update 2018/02/21 10:50:18 AM
Instrument: LCMS04

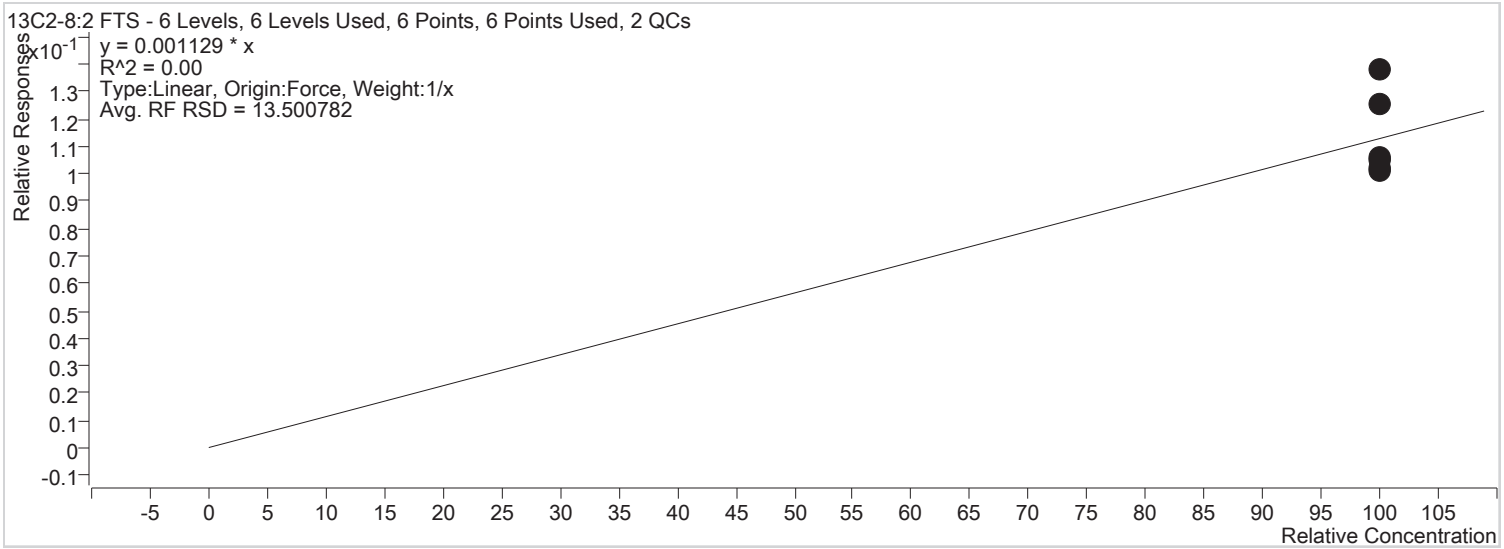
Analyte: 13C2-6:2-FTS
Internal Standard: 13C6-PFHxA IS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 10:00:48 PM	100.00	126.37	3029	0.0015	172	126.4
STD 2	STD 2	x	2018/02/13 10:05:44 PM	100.00	105.90	2780	0.0013	221	105.9
STD 3	STD 3	x	2018/02/13 10:10:40 PM	100.00	93.77	2729	0.0011	160	93.8
STD 4	STD 4	x	2018/02/13 10:15:36 PM	100.00	91.44	2585	0.0011	205	91.4
STD 5	STD 5	x	2018/02/13 10:20:32 PM	100.00	90.30	2414	0.0011	110	90.3
STD 6	STD 6	x	2018/02/13 10:25:28 PM	100.00	92.21	2289	0.0011	222	92.2

Batch Path T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics.batch.bin
Last Calib Update 2018/02/21 10:50:18 AM
Instrument: LCMS04

Analyte: 13C2-8:2 FTS
Internal Standard: 13C6-PFHxA IS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 10:00:48 PM	100.00	122.24	2733	0.0014	175	122.2
STD 2	STD 2	x	2018/02/13 10:05:44 PM	100.00	111.09	2720	0.0013	177	111.1
STD 3	STD 3	x	2018/02/13 10:10:40 PM	100.00	89.45	2428	0.0010	141	89.4
STD 4	STD 4	x	2018/02/13 10:15:36 PM	100.00	90.08	2375	0.0010	142	90.1
STD 5	STD 5	x	2018/02/13 10:20:32 PM	100.00	94.33	2352	0.0011	329	94.3
STD 6	STD 6	x	2018/02/13 10:25:28 PM	100.00	92.82	2149	0.0010	173	92.8

By Compound Report

Agilent Technologies

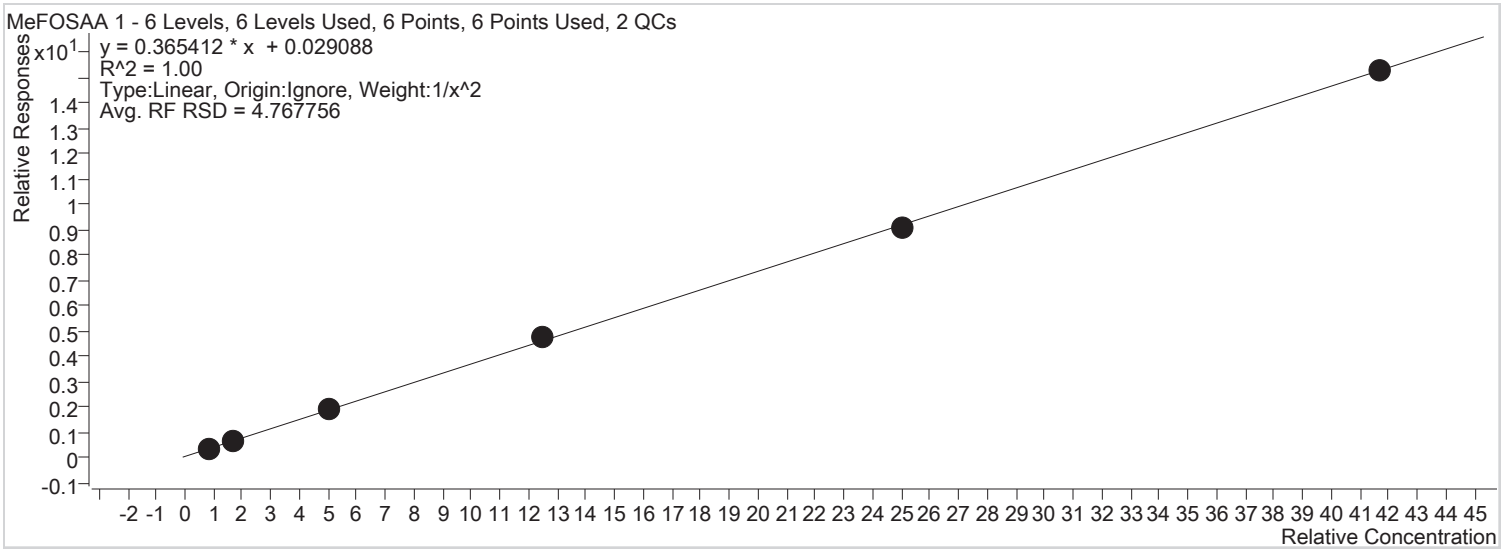
Batch Path T:\lcms4\PFC\20180213\WS#5395679_FOSAA\QuantResults\PFC_Water_Low_180213_WS#5395679_FOSAA_EToxics.batch.bin

Last Calib Update 2018/02/14 1:08:58 PM

Instrument: LCMS04

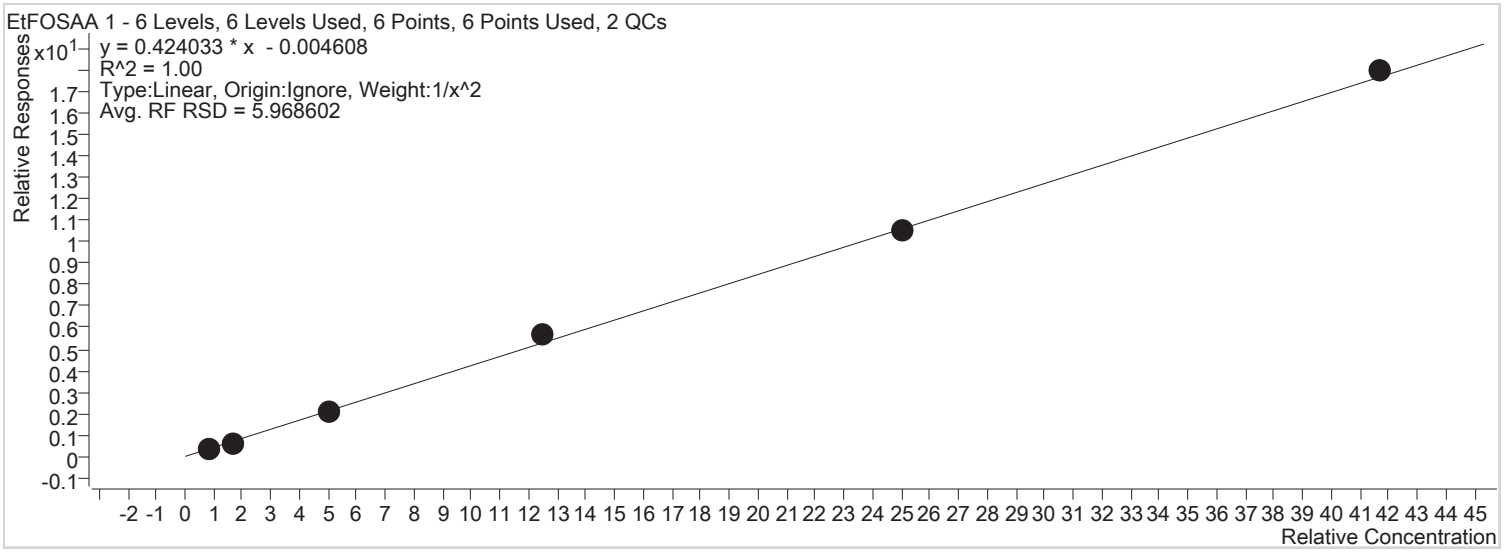
Analyte: MeFOSAA 1

Internal Standard: D3-MeFOSAA IS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 4:19:13 PM	0.83	0.85	666	0.4090	328	102.3
STD 2	STD 2	x	2018/02/13 4:21:35 PM	1.70	1.60	1155	0.3612	638	94.2
STD 3	STD 3	x	2018/02/13 4:24:00 PM	5.00	5.12	3451	0.3803	1462	102.5
STD 4	STD 4	x	2018/02/13 4:26:24 PM	12.50	12.77	8894	0.3757	942	102.2
STD 5	STD 5	x	2018/02/13 4:28:49 PM	25.00	24.74	16396	0.3627	289	99.0
STD 6	STD 6	x	2018/02/13 4:31:14 PM	41.70	41.66	27760	0.3658	275	99.9

Batch Path	T:\lcms4\PFC\20180213\WS#5395679_FOSAA\QuantResults\PFC_Water_Low_180213_WS#5395679_FOSAA_EToxics.batch.bin
Last Calib Update	2018/02/14 1:08:58 PM
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	2018/02/13 4:19:13 PM	0.83	0.87	644	0.4394	56	104.9
STD 2	STD 2	x	2018/02/13 4:21:35 PM	1.70	1.53	1096	0.3781	109	89.8
STD 3	STD 3	x	2018/02/13 4:24:00 PM	5.00	4.88	3378	0.4132	351	97.7
STD 4	STD 4	x	2018/02/13 4:26:24 PM	12.50	13.28	8824	0.4502	1327	106.3
STD 5	STD 5	x	2018/02/13 4:28:49 PM	25.00	24.92	16848	0.4225	1875	99.7
STD 6	STD 6	x	2018/02/13 4:31:14 PM	41.70	42.39	29147	0.4309	2215	101.7

Agilent Technologies

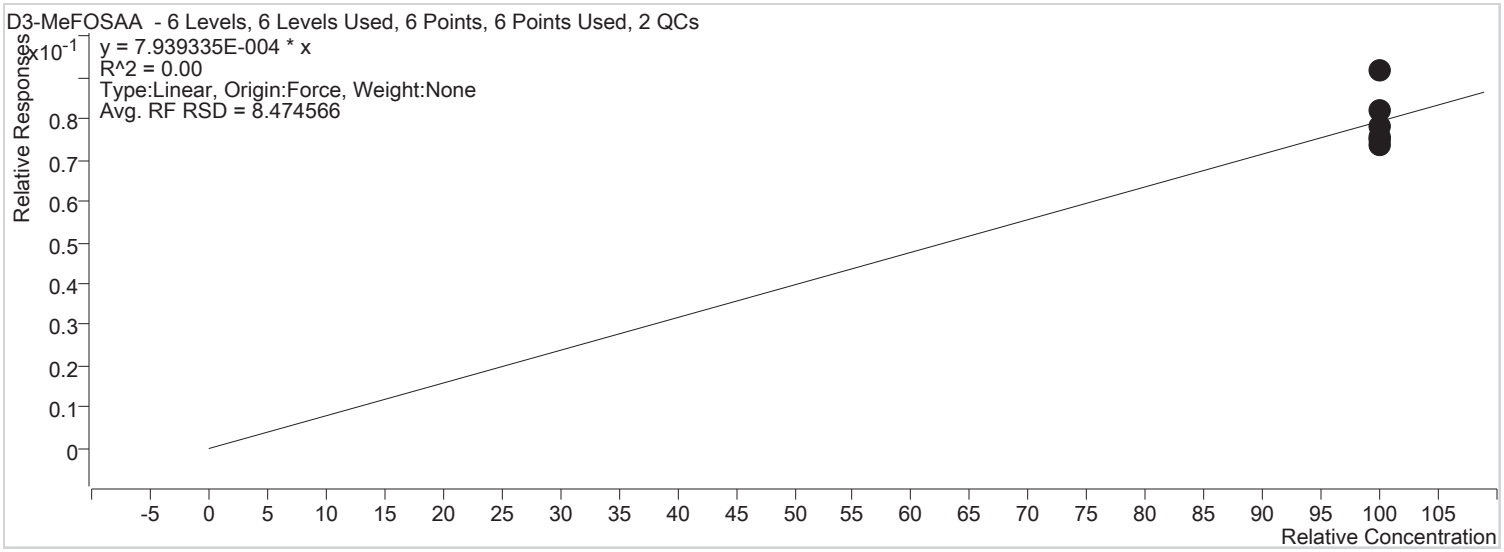
Batch Path T:\lcms4\PFC\20180213\WS#5395679_FOSAA\QuantResults\PFC_Water_Low_180213_WS#5395679_FOSAA_EToxics.batch.bin

Last Calib Update 2018/02/14 1:08:58 PM

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	2018/02/13 4:19:13 PM	100.00	115.44	1993	0.0009	138	115.4
STD 2	STD 2	x	2018/02/13 4:21:35 PM	100.00	98.82	1887	0.0008	90	98.8
STD 3	STD 3	x	2018/02/13 4:24:00 PM	100.00	92.36	1837	0.0007	116	92.4
STD 4	STD 4	x	2018/02/13 4:26:24 PM	100.00	95.30	1898	0.0008	125	95.3
STD 5	STD 5	x	2018/02/13 4:28:49 PM	100.00	94.74	1831	0.0008	126	94.7
STD 6	STD 6	x	2018/02/13 4:31:14 PM	100.00	103.34	1826	0.0008	92	103.3

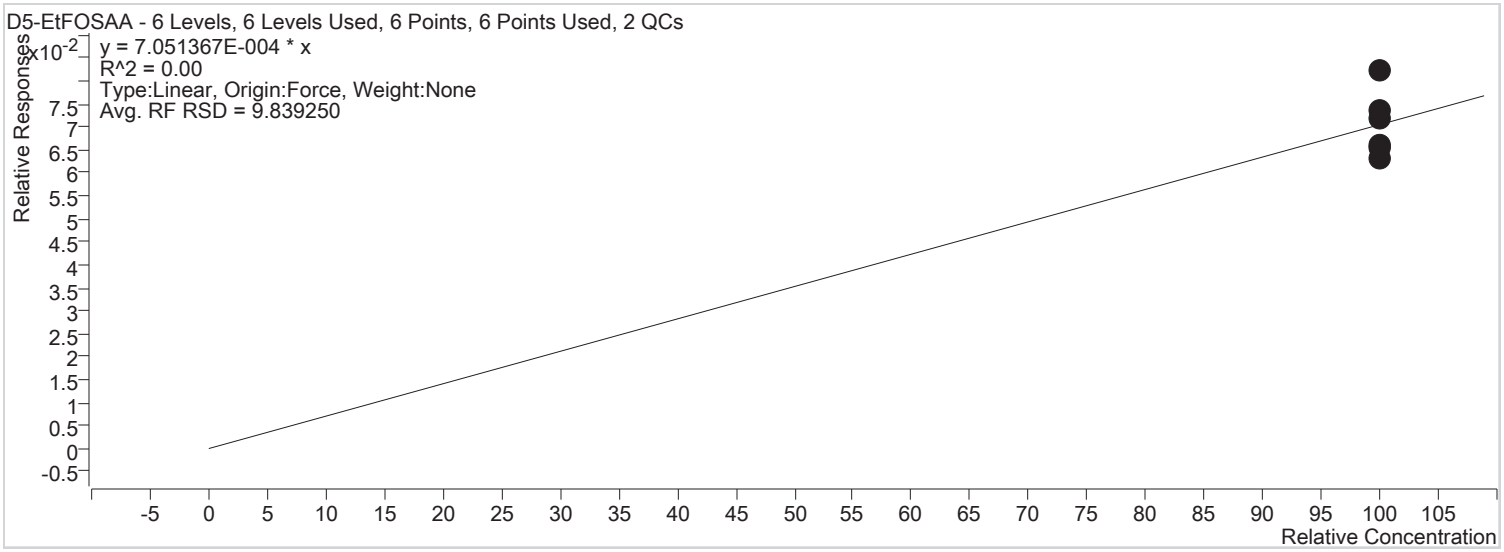
Batch Path T:\lcms4\PFC\20180213\WS#5395679_FOSAA\QuantResults\PFC_Water_Low_180213_WS#5395679_FOSAA_EToxics.batch.bin

Last Calib Update 2018/02/14 1:08:58 PM

Instrument: LCMS04

Analyte: D5-EtFOSAA

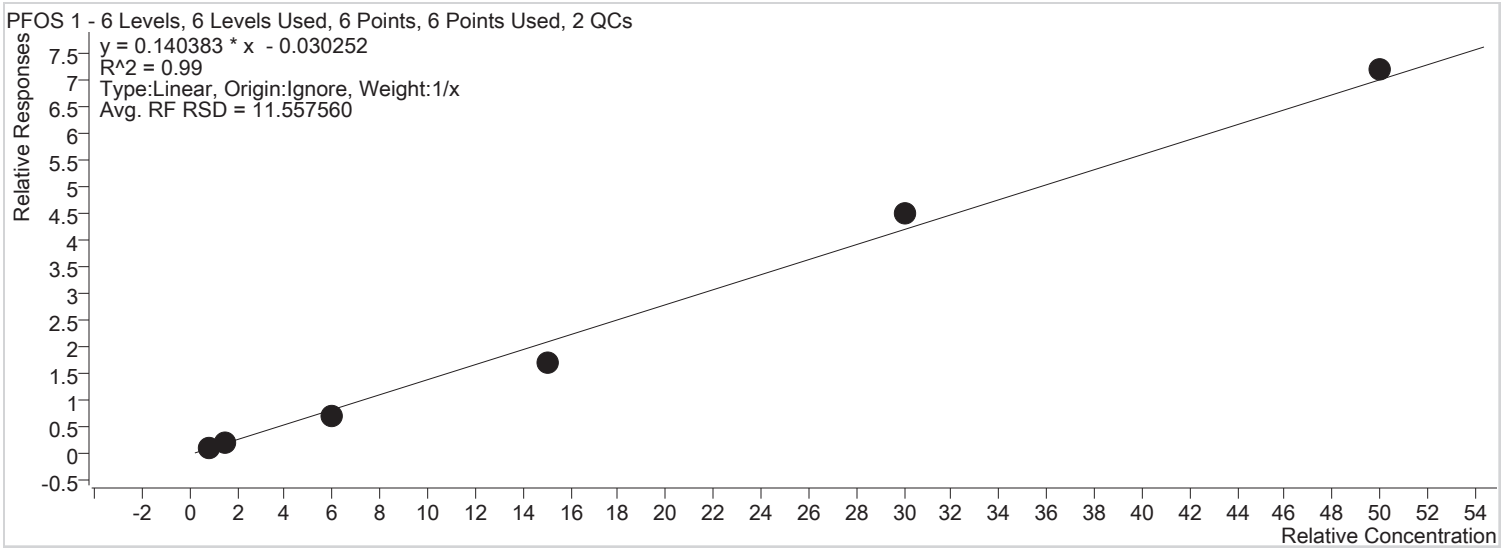
Internal Standard: 13C9-PFDA IS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 4:19:13 PM	100.00	116.61	1788	0.0008	220	116.6
STD 2	STD 2	x	2018/02/13 4:21:35 PM	100.00	102.07	1731	0.0007	238	102.1
STD 3	STD 3	x	2018/02/13 4:24:00 PM	100.00	93.91	1659	0.0007	209	93.9
STD 4	STD 4	x	2018/02/13 4:26:24 PM	100.00	89.89	1590	0.0006	242	89.9
STD 5	STD 5	x	2018/02/13 4:28:49 PM	100.00	93.22	1600	0.0007	148	93.2
STD 6	STD 6	x	2018/02/13 4:31:14 PM	100.00	104.31	1637	0.0007	96	104.3

Batch Path T:\lcms4\PFC\20180213\WS#5396269_A\QuantResults\PFC_Water_High_180213_WS#5396269_A_EToxics.batch.bin
Last Calib Update 2018/02/16 11:00:07 AM
Instrument: LCMS04

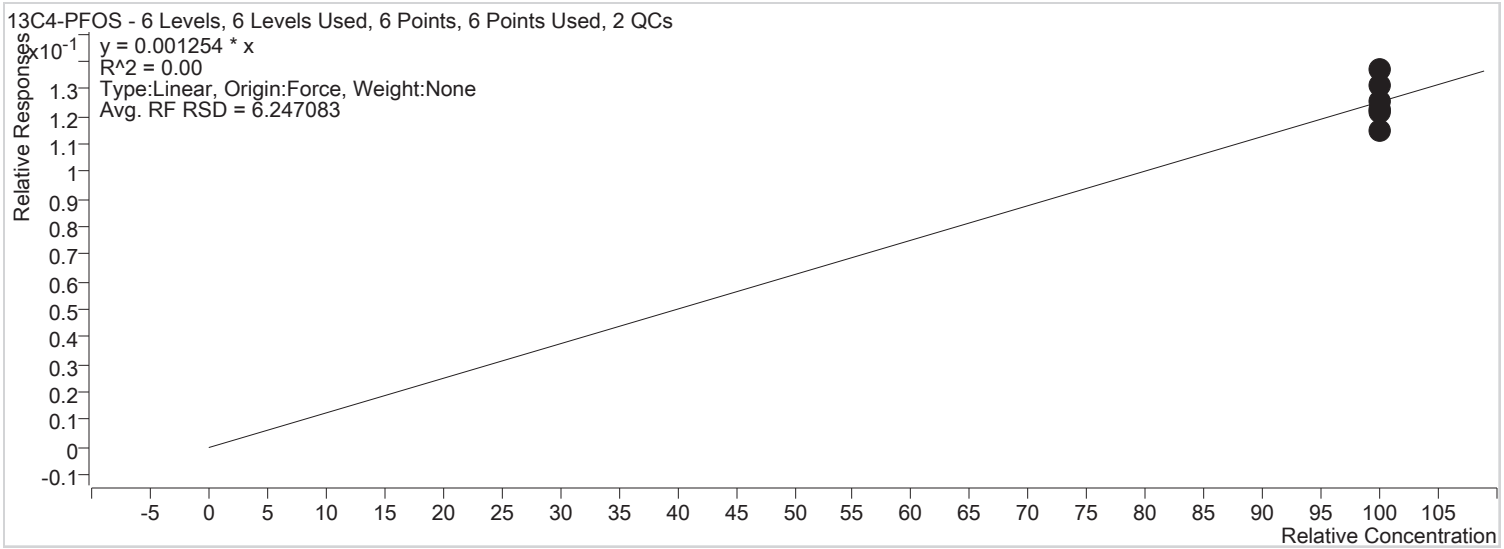
Analyte: PFOS 1
Internal Standard: MPFOS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/14 5:31:25 PM	0.80	0.94	444	0.1267	88	117.2
STD 2	STD 2	x	2018/02/14 5:36:19 PM	1.50	1.59	826	0.1289	76	106.2
STD 3	STD 3	x	2018/02/14 5:41:13 PM	6.00	5.15	3047	0.1155	343	85.8
STD 4	STD 4	x	2018/02/14 5:46:09 PM	15.00	12.14	7740	0.1116	855	81.0
STD 5	STD 5	x	2018/02/14 5:51:05 PM	30.00	32.14	19268	0.1494	1527	107.1
STD 6	STD 6	x	2018/02/14 5:56:01 PM	50.00	51.33	30311	0.1435	978	102.7

Batch Path T:\lcms4\PFC\20180213\WS#5396269_A\QuantResults\PFC_Water_High_180213_WS#5396269_A_EToxics.batch.bin
Last Calib Update 2018/02/16 11:00:07 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	2018/02/14 5:31:25 PM	100.00	99.90	4380	0.0013	202	99.9
STD 2	STD 2	x	2018/02/14 5:36:19 PM	100.00	91.38	4272	0.0011	250	91.4
STD 3	STD 3	x	2018/02/14 5:41:13 PM	100.00	104.60	4398	0.0013	435	104.6
STD 4	STD 4	x	2018/02/14 5:46:09 PM	100.00	109.26	4622	0.0014	488	109.3
STD 5	STD 5	x	2018/02/14 5:51:05 PM	100.00	96.82	4299	0.0012	434	96.8
STD 6	STD 6	x	2018/02/14 5:56:01 PM	100.00	98.03	4224	0.0012	151	98.0



6. Continuing Calibration

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

Quantitation Results

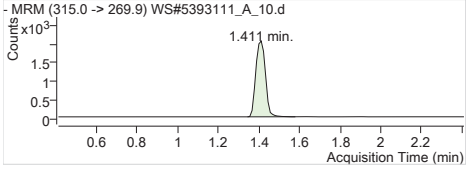
Agilent Technologies

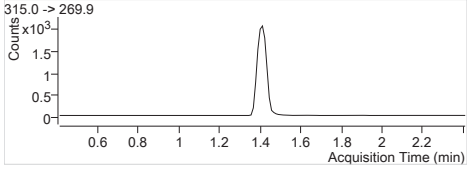
Batch Path	T:\lcms4\PFC\20180212\WS#5393111_A\QuantResults\PFC_Water_Low_180213_WS#5393111_EToxics

Sample Name	**ISC**	**Instrument**	LCMS04
Data File	WS#5393111_A_10.d	**Operator**	
Sample Type	CC	**Dilution**	1
Acq. Method	PFC_Water_Low.m	**Position**	P2-A2
Acq. Date	2018/02/13 1:50:54 PM	**Injection Volume**	Per Method
Sample Annotation	-		

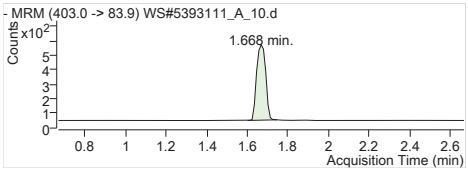
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	6692	1.41	1 µg/L		
MPFHxS	1626	1.67	1 µg/L		
MPFHpA	8641	1.68	1 µg/L		
MPFOA	9130	1.86	1 µg/L		
MPFOS	2007	1.97	1 µg/L		
MPFNA	8843	2.00	1 µg/L		
MPFDA	7436	2.12	1 µg/L		
MPFUnA	8953	2.22	1 µg/L		
MPFDoA	11069	2.31	1 µg/L		
MPFTeDA	12815	2.46	1 µg/L		
13C6-PFHxA IS	24665	1.41	1 µg/L		
13C9-PFDA IS	32190	2.12	1 µg/L		

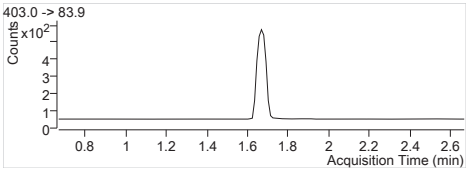
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1	656	1.05	0.83	1.00 µg/L	120.22
PFHxA 1	2191	1.41	0.83	0.89 µg/L	107.70
PFHxS 1	625	1.67	0.83	0.81 µg/L	97.37
PFHpA 1	2726	1.68	0.83	0.74 µg/L	89.64
PFOA 1	3413	1.86	0.83	0.92 µg/L	110.80
PFOS 1	608	1.96	0.83	0.86 µg/L	103.84
PFNA 1	2804	2.00	0.83	0.89 µg/L	106.84
PFDA 1	3018	2.12	0.83	0.93 µg/L	112.54
PFUnA 1	3329	2.22	0.83	0.84 µg/L	101.73
PFDoA 1	4220	2.31	0.83	0.95 µg/L	114.58
PFTrDA 1	4934	2.39	0.83	0.91 µg/L	109.98
PFTeDA 1	4153	2.46	0.83	0.92 µg/L	111.41
13C2-PFHxA	6692	1.41	100.00	95.88 µg/L	95.88
18O2-PFHxS	1626	1.67	100.00	95.45 µg/L	95.45
13C4-PFHpA	8641	1.68	100.00	96.93 µg/L	96.93
13C4-PFOA	9130	1.86	100.00	96.48 µg/L	96.48
13C4-PFOS	2007	1.97	100.00	96.98 µg/L	96.98
13C5-PFNA	8842	2.00	100.00	96.88 µg/L	96.88
13C2-PFDA	7326	2.12	100.00	91.93 µg/L	91.93
13C2-PFUnA	8953	2.22	100.00	96.51 µg/L	96.51
13C2-PFDoA	11069	2.31	100.00	91.98 µg/L	91.98
13C2-PFTeDA	13010	2.46	100.00	94.18 µg/L	94.18
13C6-PFHxA	24665	1.41	100.00	105.62 µg/L	105.62
13C9-PFDA	32190	2.12	100.00	106.43 µg/L	106.43



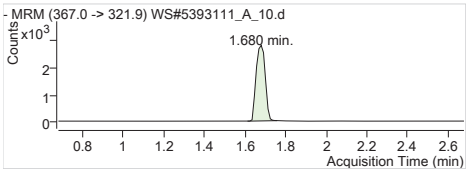


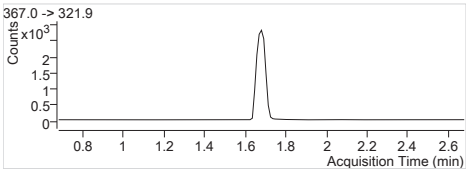
MPFHxA	Internal Standard
RT (Exp. RT):	1.411 (1.411)
Concentration:	1 µg/L
Sample type:	CC



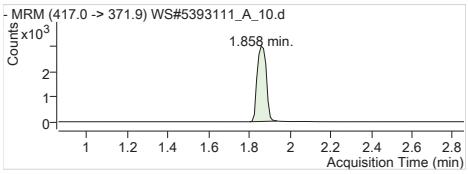


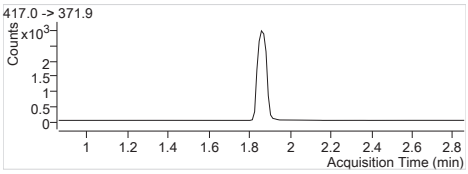
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: CC



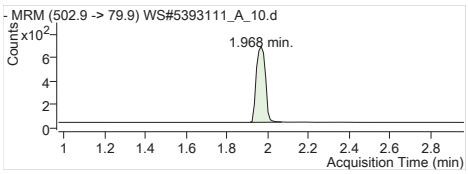


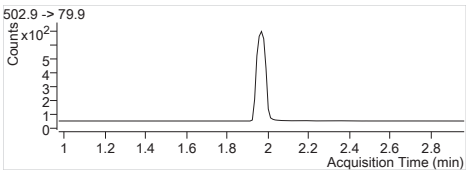
MPFHpA Internal Standard
RT (Exp. RT): 1.680 (1.680)
Concentration: 1 µg/L
Sample type: CC



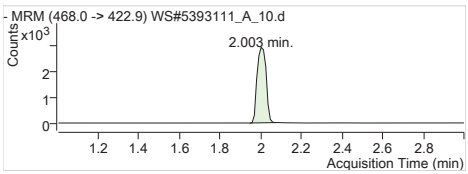


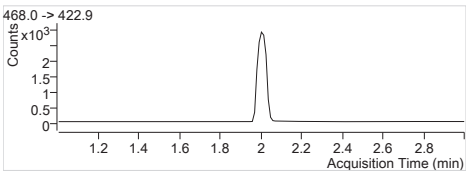
MPFOA Internal Standard
RT (Exp. RT): 1.858 (1.858)
Concentration: 1 µg/L
Sample type: CC



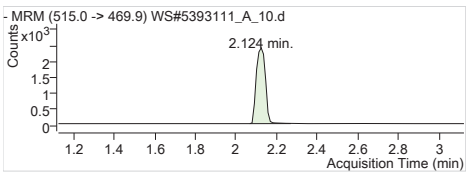


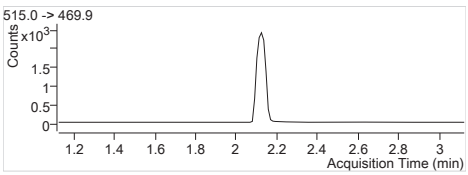
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: CC



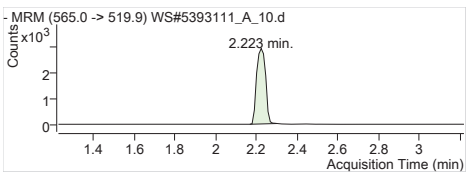


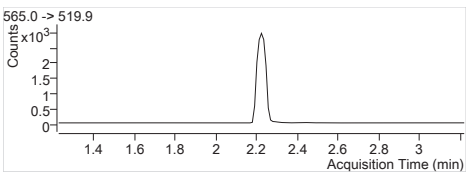
MPFNA Internal Standard
RT (Exp. RT): 2.003 (2.003)
Concentration: 1 µg/L
Sample type: CC



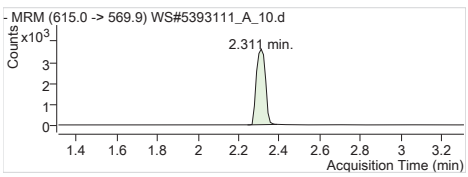


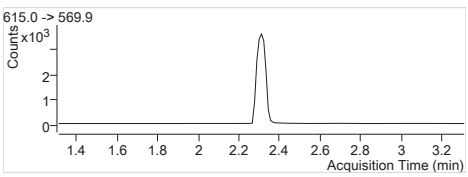
MPFDA Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: CC



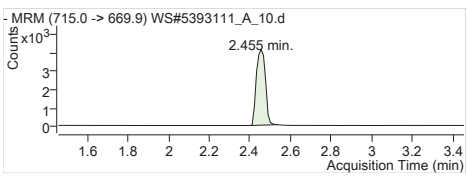


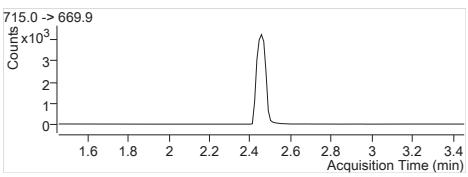
MPFUnA Internal Standard
RT (Exp. RT): 2.223 (2.223)
Concentration: 1 µg/L
Sample type: CC



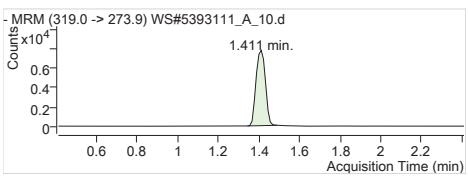


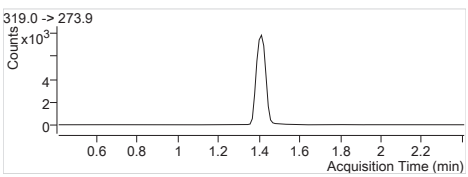
MPFDoA Internal Standard
RT (Exp. RT): 2.311 (2.311)
Concentration: 1 µg/L
Sample type: CC



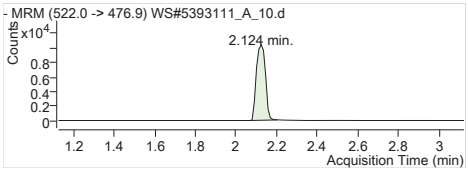


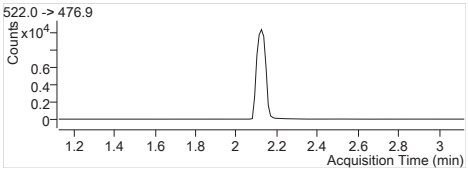
MPFTeDA Internal Standard
RT (Exp. RT): 2.455 (2.455)
Concentration: 1 µg/L
Sample type: CC



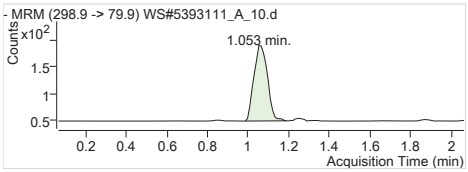


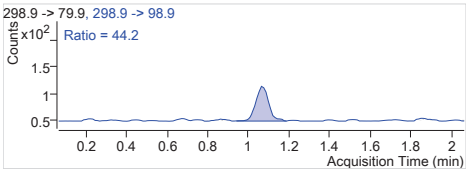
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: CC



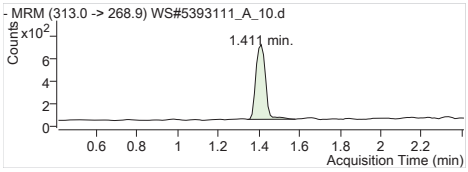


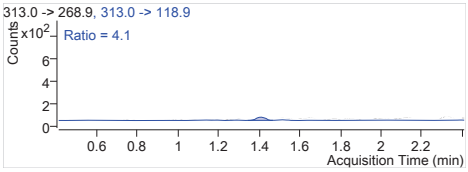
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: CC



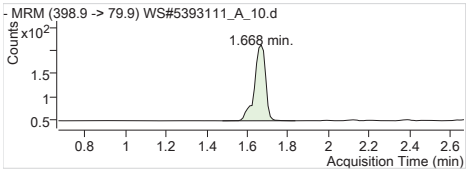


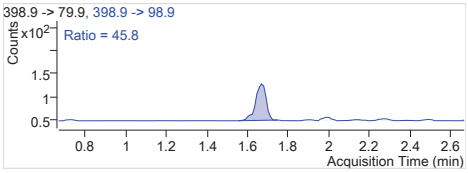
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 1.053 (1.064)
Calc. conc. 1.00 µg/L
Area ratio: 0.40344
Sample type: CC



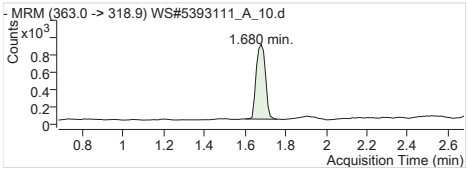


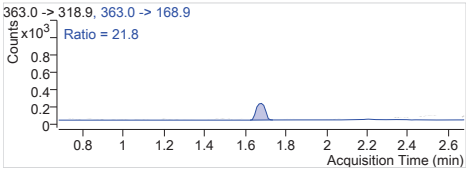
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 0.89 µg/L
Area ratio: 0.32741
Sample type: CC



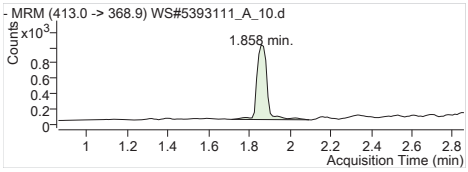


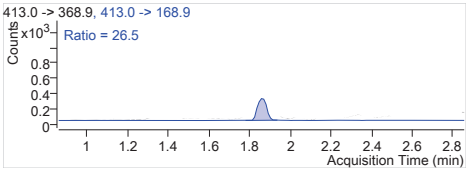
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 0.81 µg/L
Area ratio: 0.38438
Sample type: CC



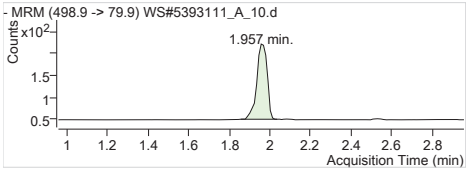


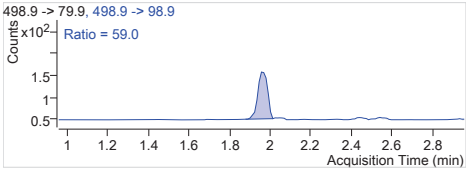
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 1.680 (1.680)
Calc. conc. 0.74 µg/L
Area ratio: 0.31547
Sample type: CC



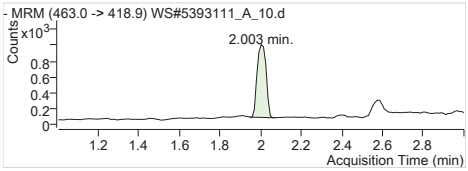


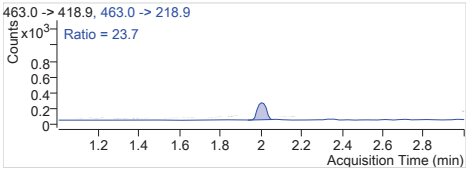
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 1.858 (1.858)
Calc. conc. 0.92 µg/L
Area ratio: 0.37382
Sample type: CC



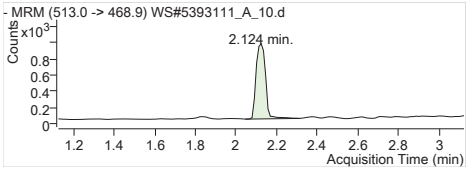


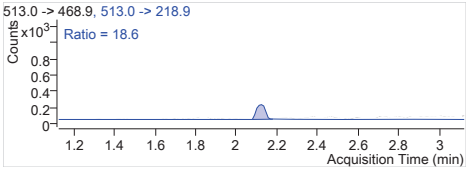
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 0.86 µg/L
Area ratio: 0.30294
Sample type: CC



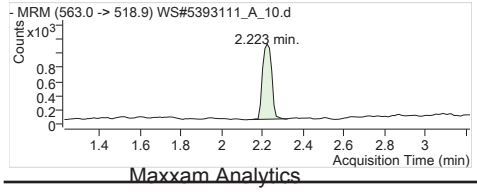


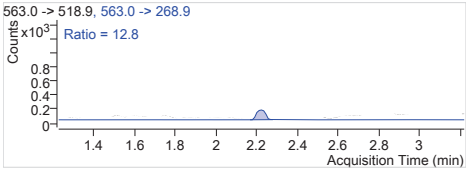
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 2.003 (2.003)
Calc. conc. 0.89 µg/L
Area ratio: 0.31709
Sample type: CC



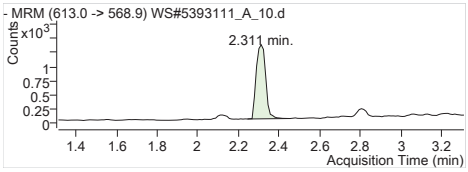


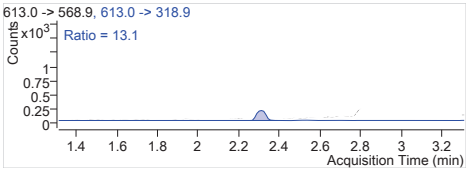
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 0.93 µg/L
Area ratio: 0.40586
Sample type: CC



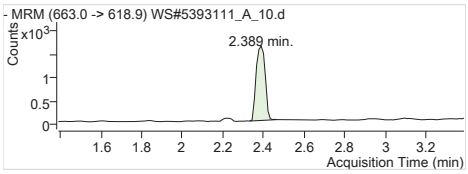


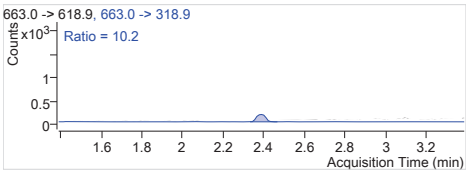
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 0.84 µg/L
Area ratio: 0.37183
Sample type: CC



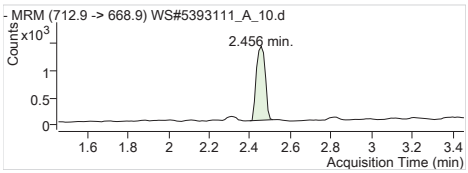


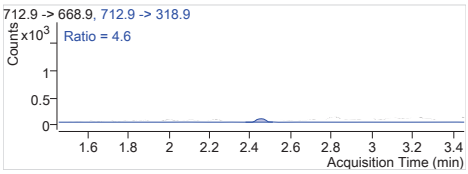
PFDoA 1 613.0 -> 568.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 0.95 µg/L
Area ratio: 0.38124
Sample type: CC



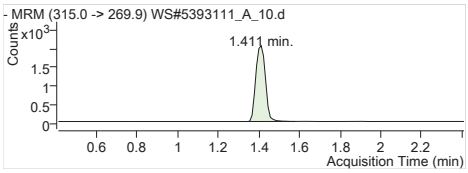


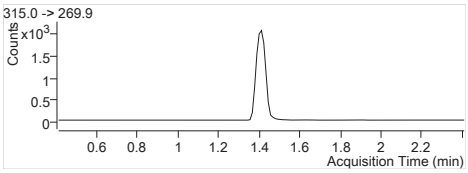
PFTrDA 1 663.0 -> 618.9
RT (Exp. RT): 2.389 (2.389)
Calc. conc. 0.91 µg/L
Area ratio: 0.38502
Sample type: CC



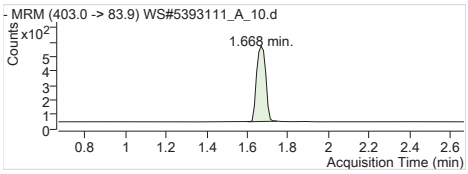


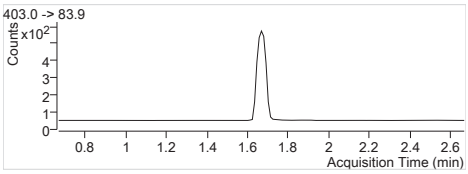
PFTeDA 1 712.9 -> 668.9
RT (Exp. RT): 2.456 (2.456)
Calc. conc. 0.92 µg/L
Area ratio: 0.32407
Sample type: CC



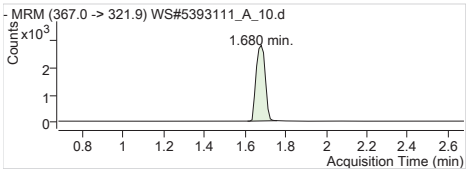


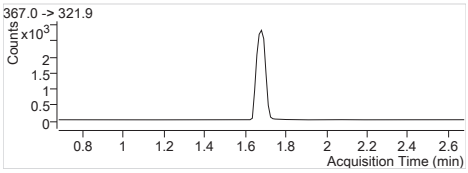
13C2-PFHxA 315.0 -> 269.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 95.88 µg/L
Area ratio: 0.27132
Sample type: CC



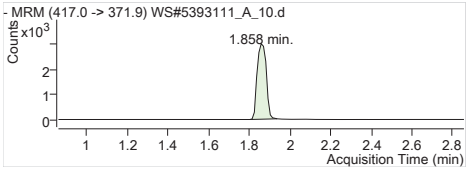


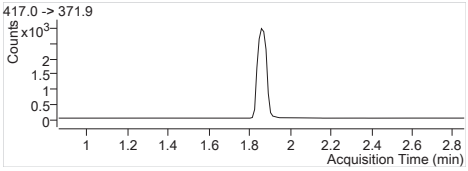
18O2-PFHxS 403.0 -> 83.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 95.45 µg/L
Area ratio: 0.06592
Sample type: CC



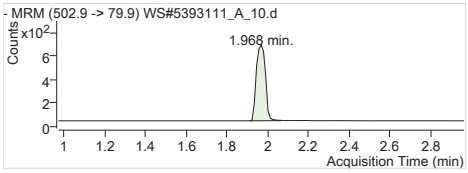


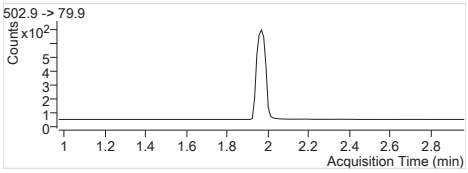
13C4-PFHpA 367.0 -> 321.9
RT (Exp. RT): 1.680 (1.680)
Calc. conc. 96.93 µg/L
Area ratio: 0.35033
Sample type: CC



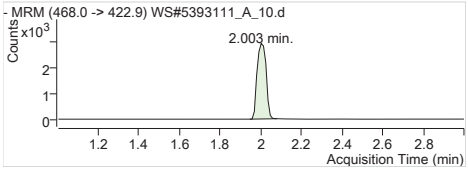


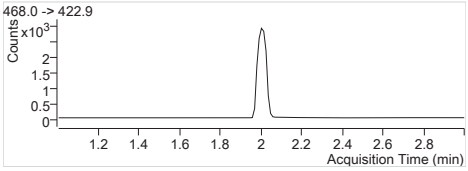
13C4-PFOA 417.0 -> 371.9
RT (Exp. RT): 1.858 (1.858)
Calc. conc. 96.48 µg/L
Area ratio: 0.37016
Sample type: CC



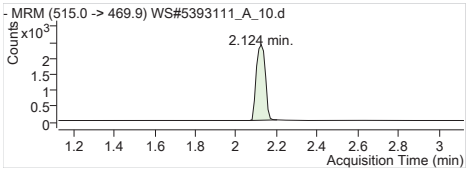


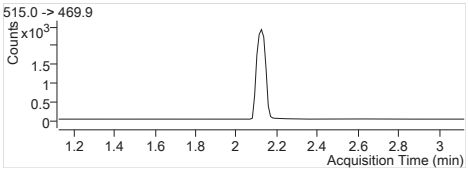
13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.968 (1.968)
Calc. conc. 96.98 µg/L
Area ratio: 0.08137
Sample type: CC



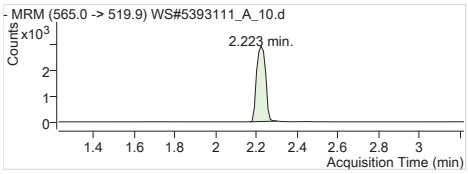


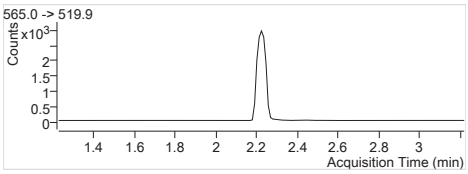
13C5-PFNA 468.0 -> 422.9
RT (Exp. RT): 2.003 (2.003)
Calc. conc. 96.88 µg/L
Area ratio: 0.35848
Sample type: CC



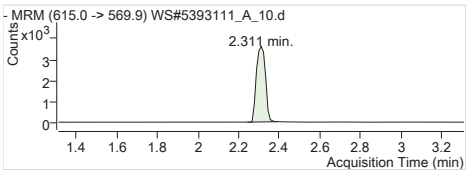


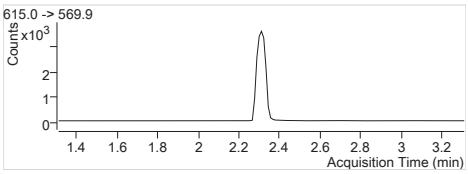
13C2-PFDA 515.0 -> 469.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 91.93 µg/L
Area ratio: 0.22759
Sample type: CC



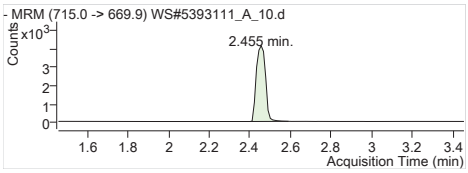


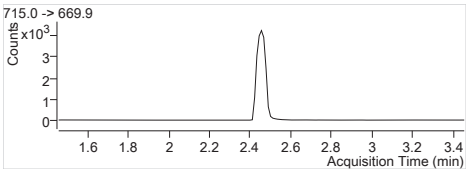
13C2-PFUnA 565.0 -> 519.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 96.51 µg/L
Area ratio: 0.27813
Sample type: CC



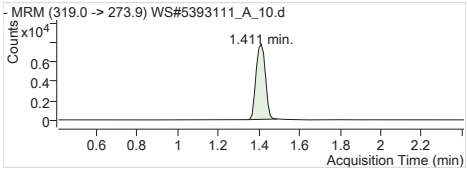


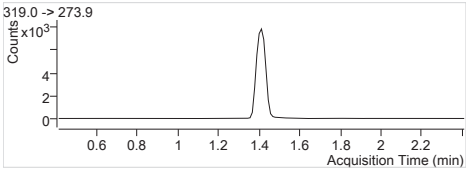
13C2-PFDoA 615.0 -> 569.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 91.98 µg/L
Area ratio: 0.34386
Sample type: CC



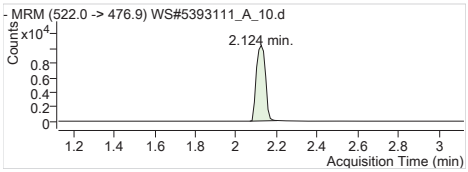


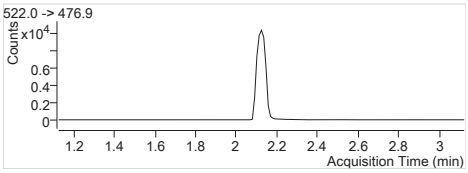
13C2-PFTeDA 715.0 -> 669.9
RT (Exp. RT): 2.455 (2.455)
Calc. conc. 94.18 µg/L
Area ratio: 0.40416
Sample type: CC





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 105.62 µg/L
Area ratio: 0
Sample type: CC





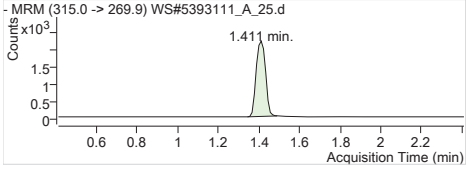
13C9-PFDA 522.0 -> 476.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 106.43 µg/L
Area ratio: 0
Sample type: CC

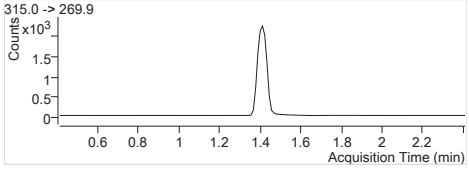
Batch Path T:\lcms4\PFC\20180212\WS#5393111_A\QuantResults\PFC_Water_Low_180213_WS#5393111_EToxics

Sample Name	**CCV**	**Instrument**	LCMS04
Data File	WS#5393111_A_25.d	**Operator**	
Sample Type	CC	**Dilution**	1
Acq. Method	PFC_Water_Low.m	**Position**	P2-A5
Acq. Date	2018/02/13 3:04:54 PM	**Injection Volume**	Per Method
Sample Annotation	-		

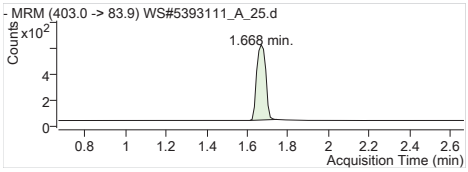
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	7033	1.41	1 µg/L		
MPFHxS	1804	1.67	1 µg/L		
MPFHpA	9086	1.68	1 µg/L		
MPFOA	9632	1.86	1 µg/L		
MPFOS	1980	1.97	1 µg/L		
MPFNA	9329	2.00	1 µg/L		
MPFDA	7621	2.12	1 µg/L		
MPFUnA	9204	2.22	1 µg/L		
MPFDoA	12186	2.31	1 µg/L		
MPFTeDA	14657	2.46	1 µg/L		
13C6-PFHxA IS	24562	1.41	1 µg/L		
13C9-PFDA IS	32675	2.12	1 µg/L		

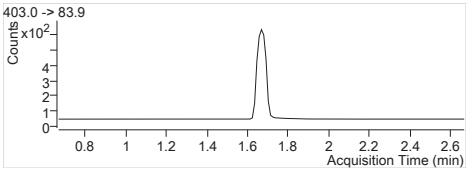
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1	9512	1.06	12.50	10.13 µg/L	81.05
PFHxA 1	35492	1.41	12.50	11.53 µg/L	92.25
PFHxS 1	9572	1.67	12.50	10.41 µg/L	83.28
PFHpA 1	44402	1.68	12.50	11.49 µg/L	91.94
PFOA 1	52979	1.86	12.50	12.12 µg/L	96.93
PFOS 1	9608	1.96	12.50	12.34 µg/L	98.73
PFNA 1	43452	2.00	12.50	11.25 µg/L	90.02
PFDA 1	46603	2.12	12.50	12.46 µg/L	99.71
PFUnA 1	51225	2.22	12.50	12.04 µg/L	96.33
PFDoA 1	65017	2.31	12.50	11.53 µg/L	92.20
PFTrDA 1	70949	2.39	12.50	10.81 µg/L	86.47
PFTeDA 1	60950	2.46	12.50	11.35 µg/L	90.80
13C2-PFHxA	7033	1.41	100.00	101.19 µg/L	101.19
18O2-PFHxS	1804	1.67	100.00	106.34 µg/L	106.34
13C4-PFHpA	9086	1.68	100.00	102.35 µg/L	102.35
13C4-PFOA	9632	1.86	100.00	102.21 µg/L	102.21
13C4-PFOS	1980	1.97	100.00	96.08 µg/L	96.08
13C5-PFNA	9330	2.00	100.00	102.65 µg/L	102.65
13C2-PFDA	7484	2.12	100.00	92.51 µg/L	92.51
13C2-PFUnA	9204	2.22	100.00	97.74 µg/L	97.74
13C2-PFDoA	12186	2.31	100.00	99.76 µg/L	99.76
13C2-PFTeDA	14741	2.46	100.00	105.13 µg/L	105.13
13C6-PFHxA	24562	1.41	100.00	105.18 µg/L	105.18
13C9-PFDA	32675	2.12	100.00	108.04 µg/L	108.04



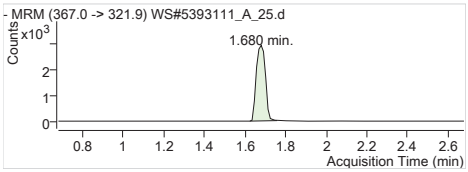


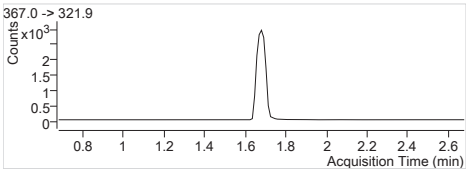
MPFHxA	Internal Standard
RT (Exp. RT):	1.411 (1.411)
Concentration:	1 µg/L
Sample type:	CC



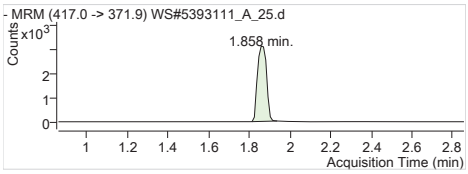


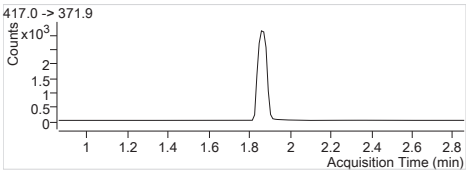
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: CC



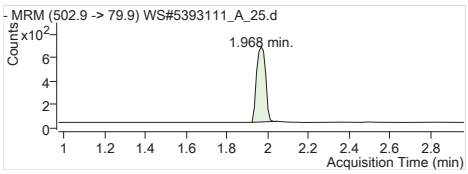


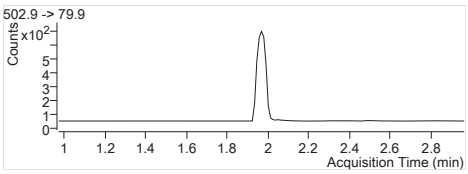
MPFHpA Internal Standard
RT (Exp. RT): 1.680 (1.680)
Concentration: 1 µg/L
Sample type: CC



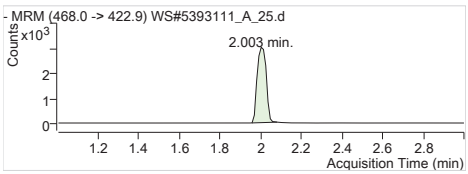


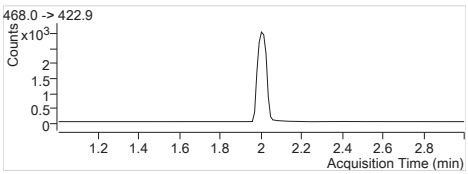
MPFOA Internal Standard
RT (Exp. RT): 1.858 (1.858)
Concentration: 1 µg/L
Sample type: CC



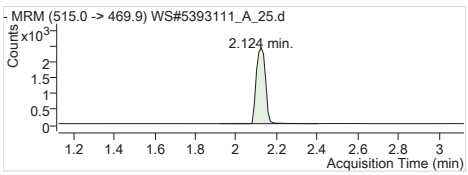


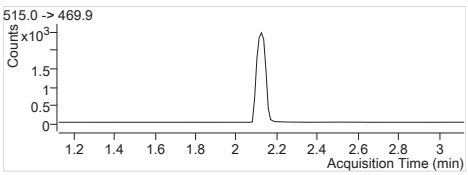
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: CC



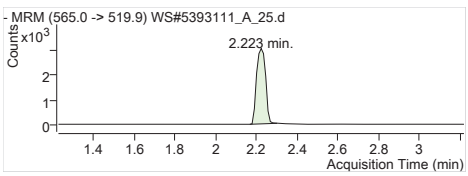


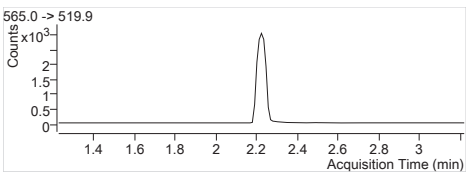
MPFNA Internal Standard
RT (Exp. RT): 2.003 (2.003)
Concentration: 1 µg/L
Sample type: CC



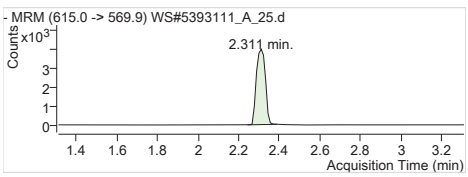


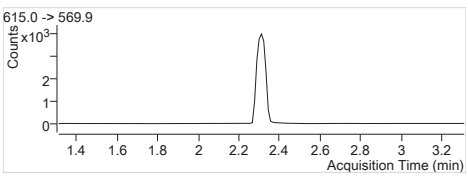
MPFDA Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: CC



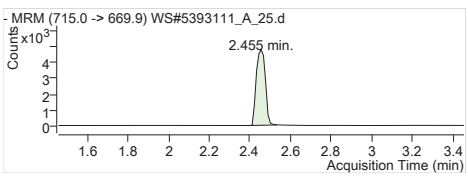


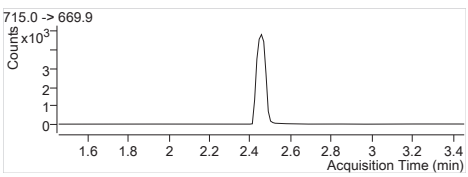
MPFUnA Internal Standard
RT (Exp. RT): 2.223 (2.223)
Concentration: 1 µg/L
Sample type: CC



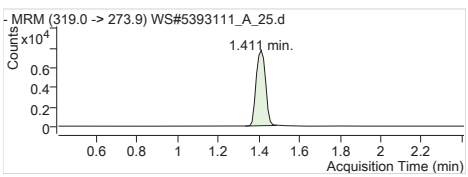


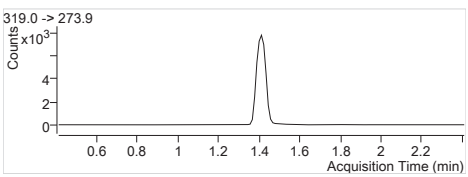
MPFDoA Internal Standard
RT (Exp. RT): 2.311 (2.311)
Concentration: 1 µg/L
Sample type: CC



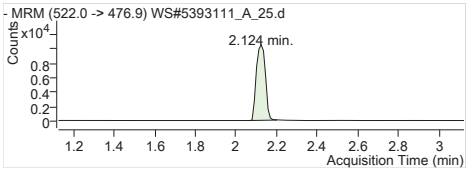


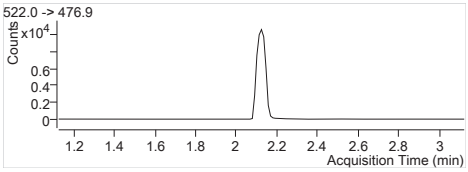
MPFTeDA Internal Standard
RT (Exp. RT): 2.455 (2.455)
Concentration: 1 µg/L
Sample type: CC



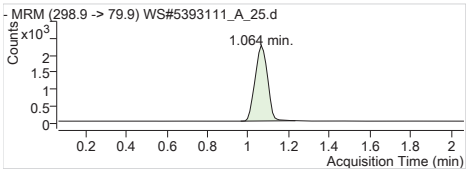


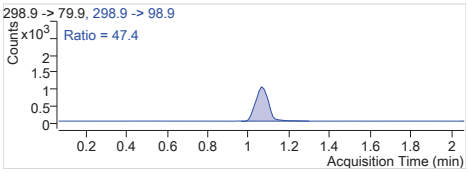
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: CC



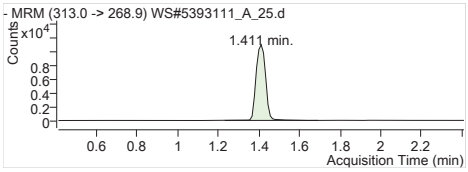


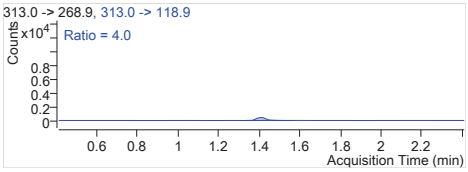
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: CC



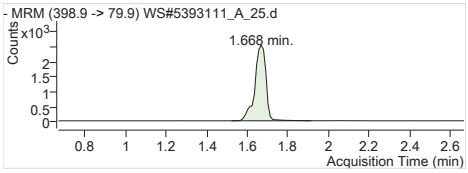


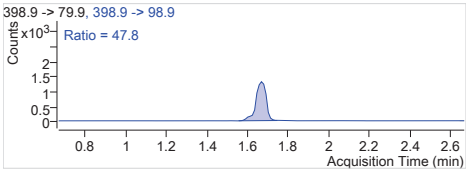
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 1.064 (1.064)
Calc. conc. 10.13 µg/L
Area ratio: 5.27273
Sample type: CC



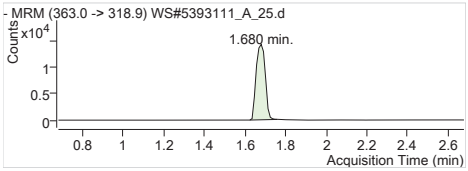


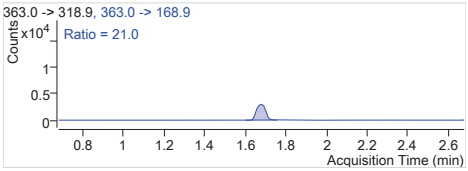
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 11.53 µg/L
Area ratio: 5.04650
Sample type: CC



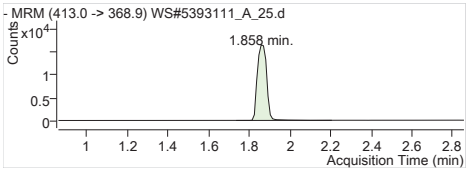


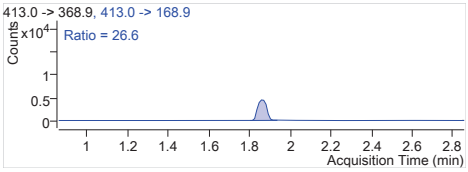
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 10.41 µg/L
Area ratio: 5.30599
Sample type: CC



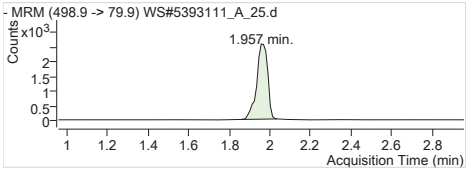


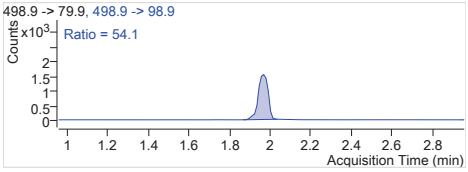
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 1.680 (1.680)
Calc. conc. 11.49 µg/L
Area ratio: 4.88686
Sample type: CC



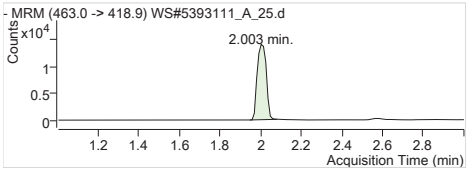


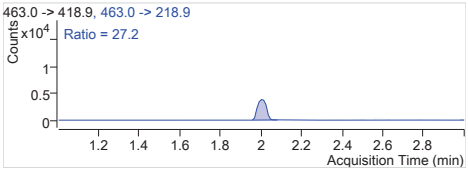
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 1.858 (1.858)
Calc. conc. 12.12 µg/L
Area ratio: 5.50031
Sample type: CC



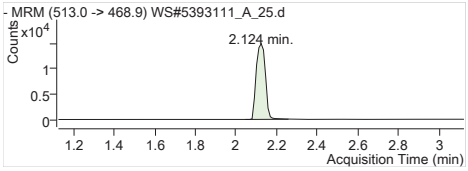


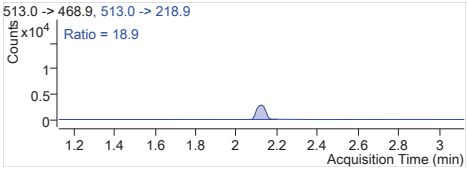
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 12.34 µg/L
Area ratio: 4.85253
Sample type: CC



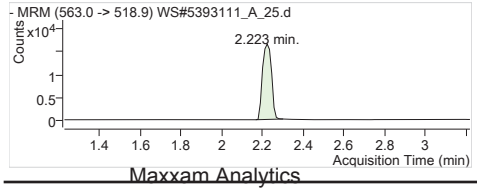


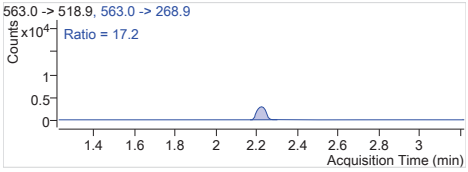
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 2.003 (2.003)
Calc. conc. 11.25 µg/L
Area ratio: 4.65773
Sample type: CC



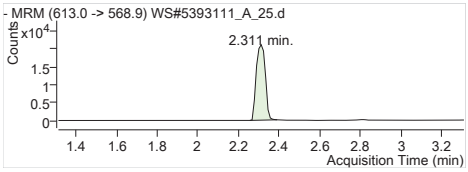


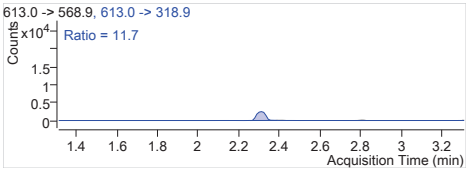
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 12.46 µg/L
Area ratio: 6.11508
Sample type: CC



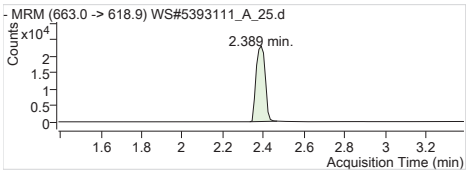


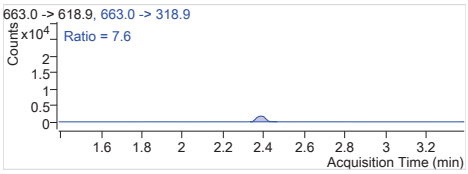
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 12.04 µg/L
Area ratio: 5.56551
Sample type: CC



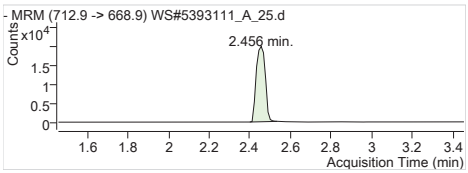


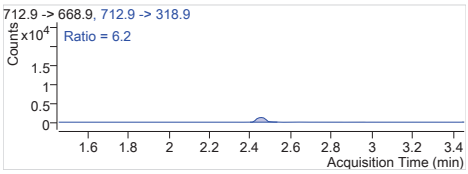
PFDoA 1 613.0 -> 568.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 11.53 µg/L
Area ratio: 5.33538
Sample type: CC



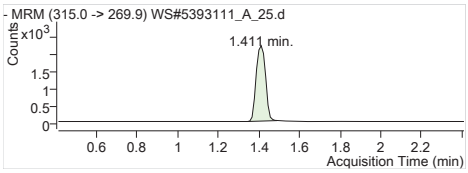


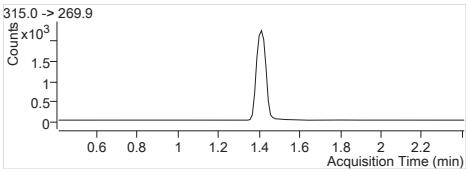
PFTrDA 1 663.0 -> 618.9
RT (Exp. RT): 2.389 (2.389)
Calc. conc. 10.81 µg/L
Area ratio: 4.84062
Sample type: CC



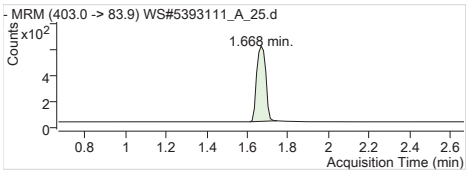


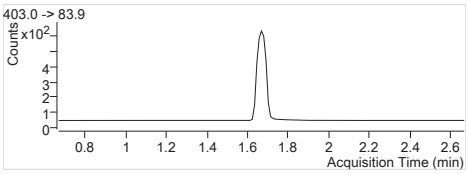
PFTeDA 1 712.9 -> 668.9
RT (Exp. RT): 2.456 (2.456)
Calc. conc. 11.35 µg/L
Area ratio: 4.15842
Sample type: CC



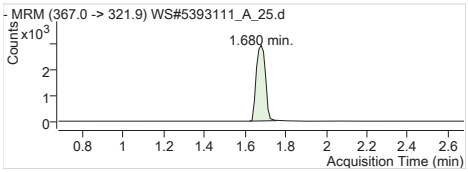


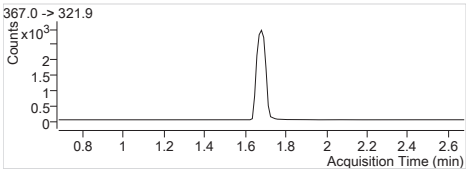
13C2-PFHxA 315.0 -> 269.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 101.19 µg/L
Area ratio: 0.28634
Sample type: CC



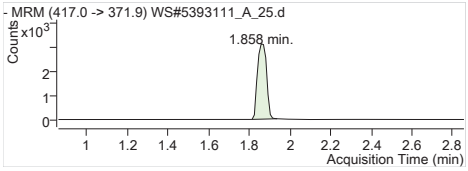


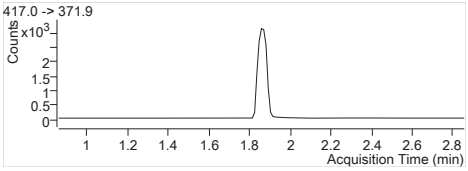
18O2-PFHxS 403.0 -> 83.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 106.34 µg/L
Area ratio: 0.07345
Sample type: CC



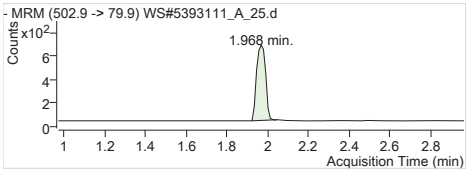


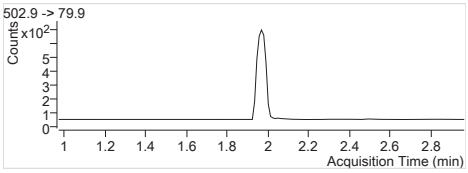
13C4-PFHpA 367.0 -> 321.9
RT (Exp. RT): 1.680 (1.680)
Calc. conc. 102.35 µg/L
Area ratio: 0.36992
Sample type: CC



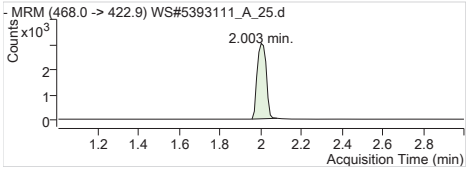


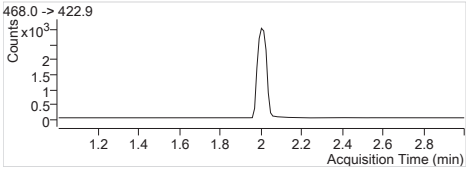
13C4-PFOA 417.0 -> 371.9
RT (Exp. RT): 1.858 (1.858)
Calc. conc. 102.21 µg/L
Area ratio: 0.39215
Sample type: CC



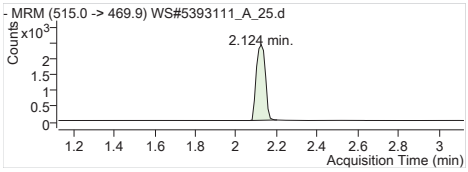


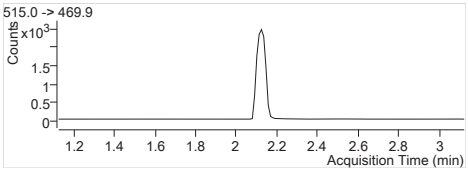
13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.968 (1.968)
Calc. conc. 96.08 µg/L
Area ratio: 0.08061
Sample type: CC



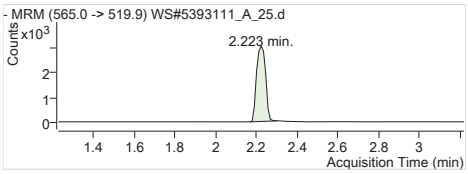


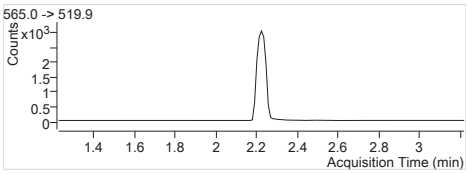
13C5-PFNA 468.0 -> 422.9
RT (Exp. RT): 2.003 (2.003)
Calc. conc. 102.65 µg/L
Area ratio: 0.37986
Sample type: CC



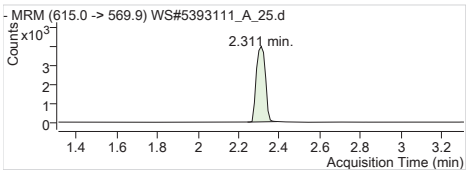


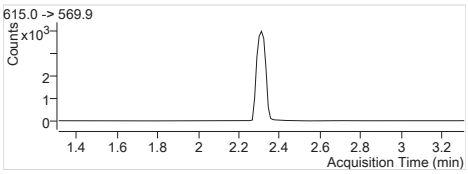
13C2-PFDA 515.0 -> 469.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 92.51 µg/L
Area ratio: 0.22904
Sample type: CC



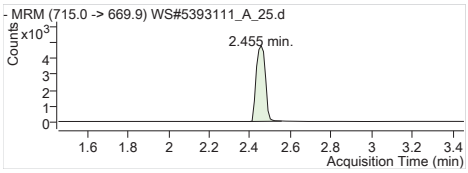


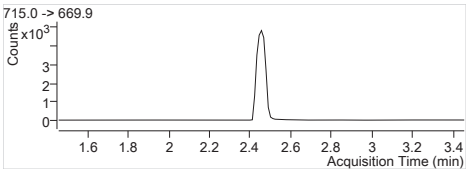
13C2-PFUnA 565.0 -> 519.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 97.74 µg/L
Area ratio: 0.28168
Sample type: CC



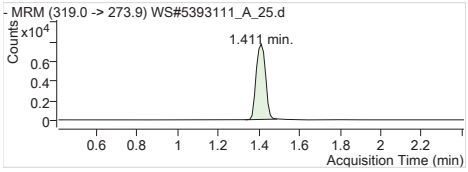


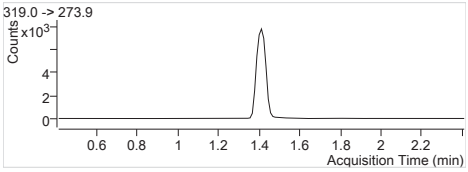
13C2-PFDoA 615.0 -> 569.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 99.76 µg/L
Area ratio: 0.37295
Sample type: CC



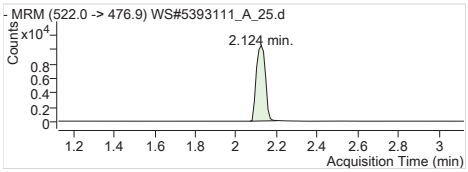


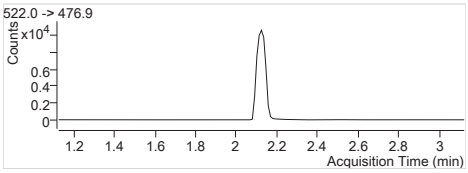
13C2-PFTeDA 715.0 -> 669.9
RT (Exp. RT): 2.455 (2.455)
Calc. conc. 105.13 µg/L
Area ratio: 0.45114
Sample type: CC





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 105.18 µg/L
Area ratio: 0
Sample type: CC





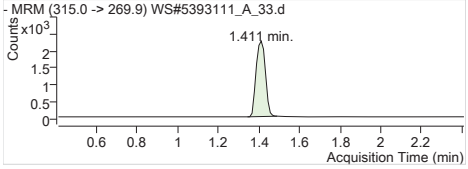
13C9-PFDA 522.0 -> 476.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 108.04 µg/L
Area ratio: 0
Sample type: CC

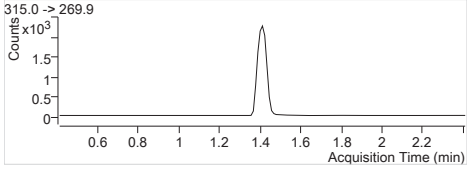
Batch Path T:\lcms4\PFC\20180212\WS#5393111_A\QuantResults\PFC_Water_Low_180213_WS#5393111_EToxics

Sample Name	**CCV**	**Instrument**	LCMS04
Data File	WS#5393111_A_33.d	**Operator**	
Sample Type	CC	**Dilution**	1
Acq. Method	PFC_Water_Low.m	**Position**	P2-A5
Acq. Date	2018/02/13 3:44:22 PM	**Injection Volume**	Per Method
Sample Annotation	-		

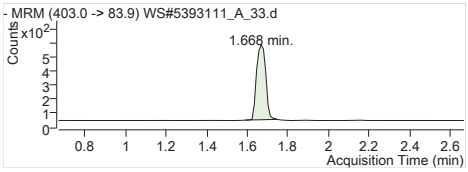
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	7113	1.41	1 µg/L		
MPFHxS	1675	1.67	1 µg/L		
MPFHpA	8459	1.68	1 µg/L		
MPFOA	8866	1.86	1 µg/L		
MPFOS	2051	1.97	1 µg/L		
MPFNA	9229	2.00	1 µg/L		
MPFDA	7476	2.12	1 µg/L		
MPFUnA	8441	2.22	1 µg/L		
MPFDoA	12036	2.31	1 µg/L		
MPFTeDA	13577	2.46	1 µg/L		
13C6-PFHxA IS	24980	1.41	1 µg/L		
13C9-PFDA IS	31567	2.12	1 µg/L		

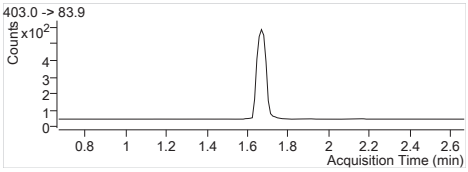
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1	9633	1.06	12.50	11.03 µg/L	88.22
PFHxA 1	33874	1.41	12.50	10.89 µg/L	87.13
PFHxS 1	9580	1.67	12.50	11.22 µg/L	89.73
PFHpA 1	45718	1.68	12.50	12.71 µg/L	101.68
PFOA 1	49438	1.86	12.50	12.28 µg/L	98.26
PFOS 1	9477	1.96	12.50	11.76 µg/L	94.05
PFNA 1	43777	2.00	12.50	11.46 µg/L	91.66
PFDA 1	46750	2.12	12.50	12.74 µg/L	101.94
PFUnA 1	50232	2.22	12.50	12.87 µg/L	102.98
PFDoA 1	62527	2.31	12.50	11.23 µg/L	89.81
PFTrDA 1	73349	2.39	12.50	12.06 µg/L	96.45
PFTeDA 1	61153	2.46	12.50	12.29 µg/L	98.32
13C2-PFHxA	7113	1.41	100.00	100.63 µg/L	100.63
18O2-PFHxS	1675	1.67	100.00	97.08 µg/L	97.08
13C4-PFHpA	8459	1.68	100.00	93.69 µg/L	93.69
13C4-PFOA	8866	1.86	100.00	92.51 µg/L	92.51
13C4-PFOS	2051	1.97	100.00	97.86 µg/L	97.86
13C5-PFNA	9230	2.00	100.00	99.85 µg/L	99.85
13C2-PFDA	7334	2.12	100.00	93.84 µg/L	93.84
13C2-PFUnA	8441	2.22	100.00	92.79 µg/L	92.79
13C2-PFDoA	12036	2.31	100.00	101.99 µg/L	101.99
13C2-PFTeDA	13715	2.46	100.00	101.25 µg/L	101.25
13C6-PFHxA	24980	1.41	100.00	106.97 µg/L	106.97
13C9-PFDA	31567	2.12	100.00	104.37 µg/L	104.37



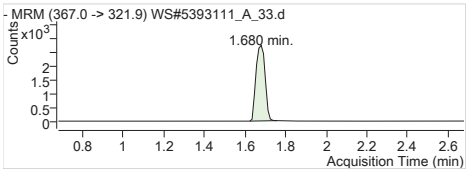


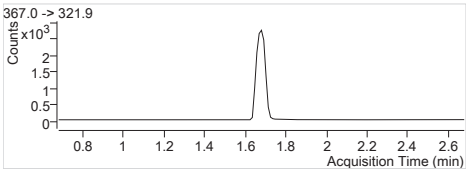
MPFHxA Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: CC



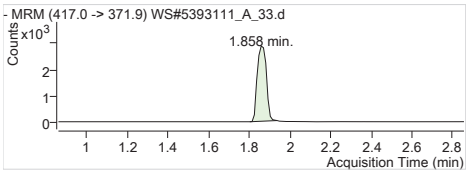


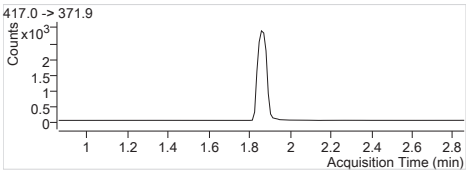
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: CC



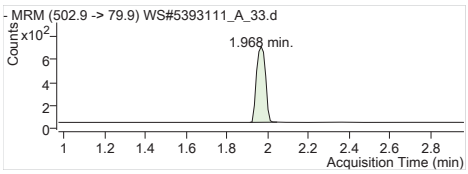


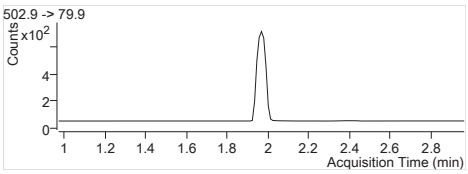
MPFHpA Internal Standard
RT (Exp. RT): 1.680 (1.680)
Concentration: 1 µg/L
Sample type: CC



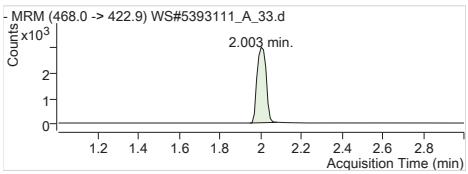


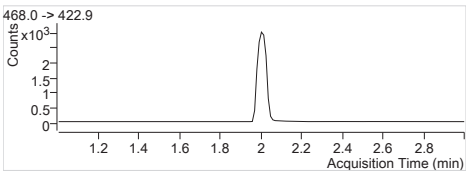
MPFOA Internal Standard
RT (Exp. RT): 1.858 (1.858)
Concentration: 1 µg/L
Sample type: CC



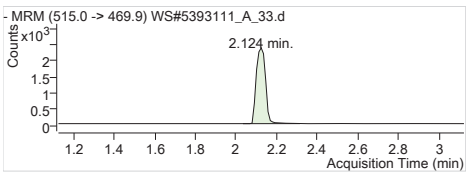


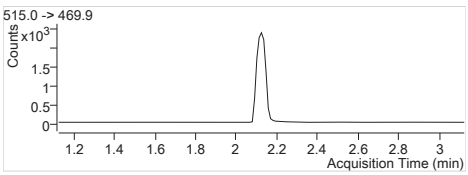
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: CC



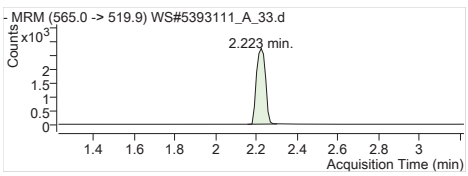


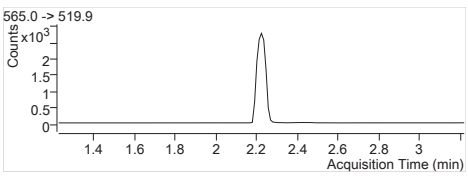
MPFNA Internal Standard
RT (Exp. RT): 2.003 (2.003)
Concentration: 1 µg/L
Sample type: CC



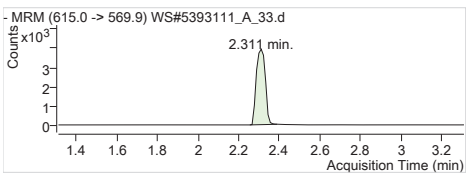


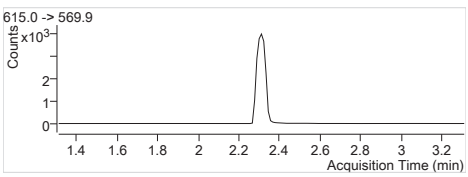
MPFDA Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: CC



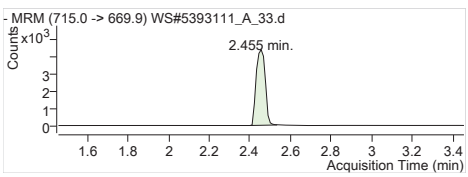


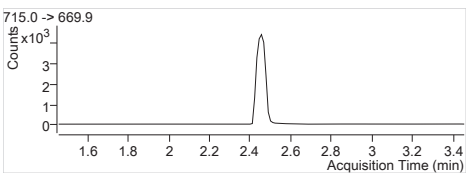
MPFUnA Internal Standard
RT (Exp. RT): 2.223 (2.223)
Concentration: 1 µg/L
Sample type: CC



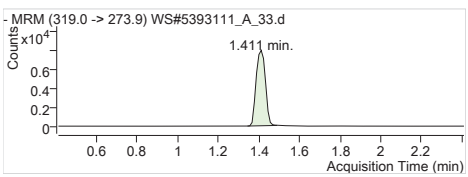


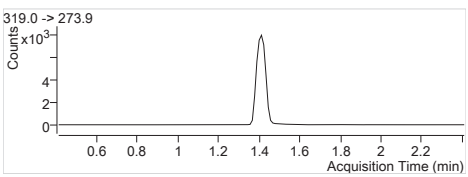
MPFDoA Internal Standard
RT (Exp. RT): 2.311 (2.311)
Concentration: 1 µg/L
Sample type: CC



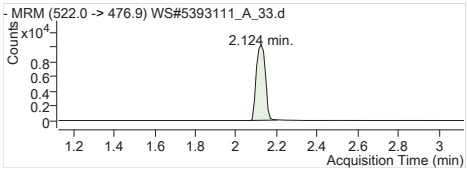


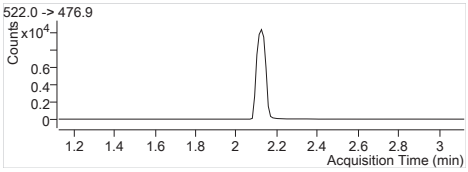
MPFTeDA Internal Standard
RT (Exp. RT): 2.455 (2.455)
Concentration: 1 µg/L
Sample type: CC



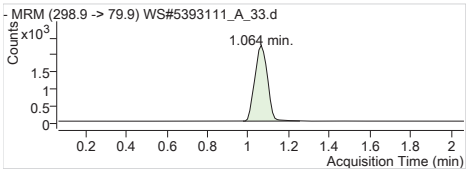


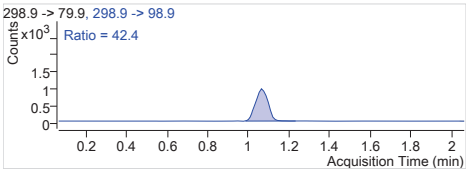
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: CC



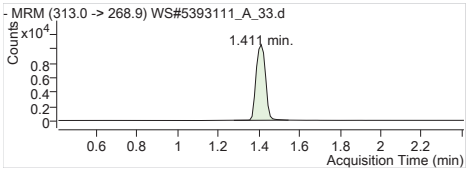


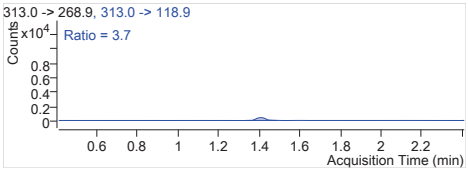
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: CC



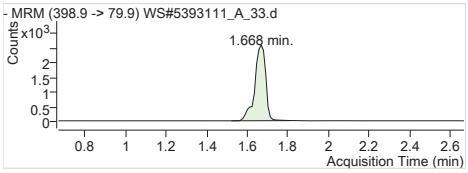


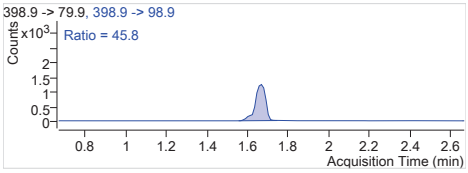
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 1.064 (1.064)
Calc. conc. 11.03 µg/L
Area ratio: 5.75104
Sample type: CC



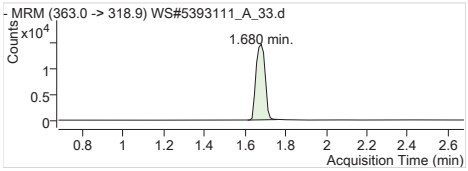


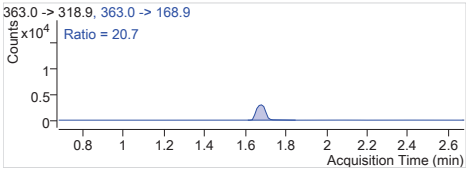
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 10.89 µg/L
Area ratio: 4.76227
Sample type: CC



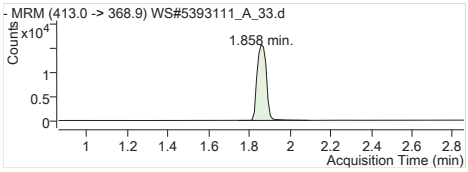


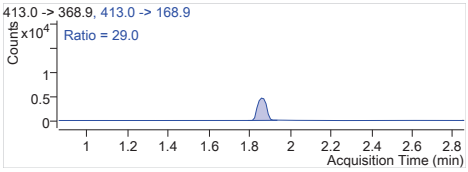
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 11.22 µg/L
Area ratio: 5.71940
Sample type: CC



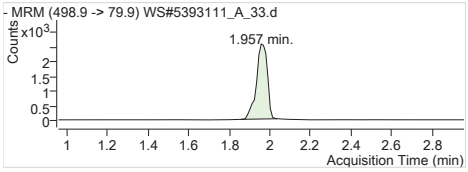


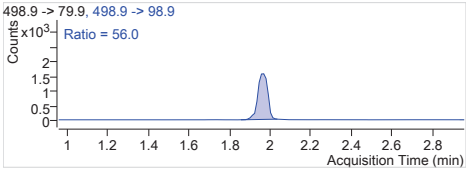
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 1.680 (1.680)
Calc. conc. 12.71 µg/L
Area ratio: 5.40466
Sample type: CC



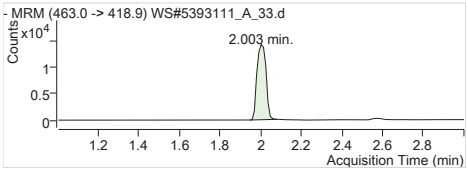


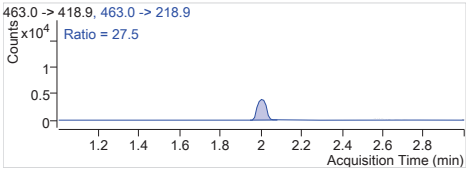
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 1.858 (1.858)
Calc. conc. 12.28 µg/L
Area ratio: 5.57613
Sample type: CC



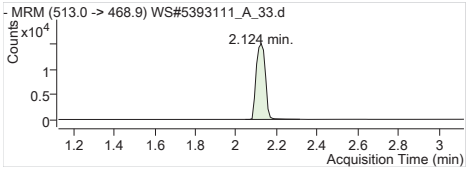


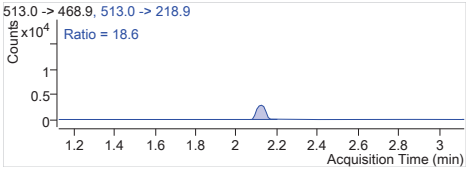
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 11.76 µg/L
Area ratio: 4.62067
Sample type: CC



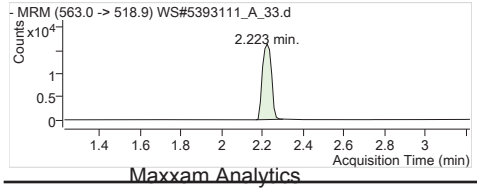


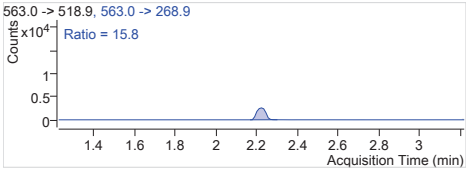
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 2.003 (2.003)
Calc. conc. 11.46 µg/L
Area ratio: 4.74342
Sample type: CC



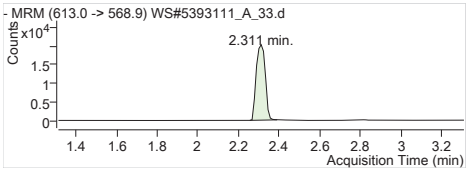


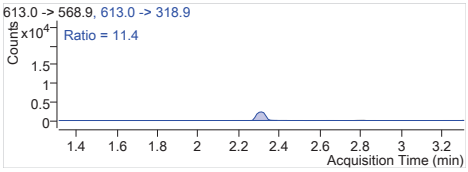
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 12.74 µg/L
Area ratio: 6.25334
Sample type: CC



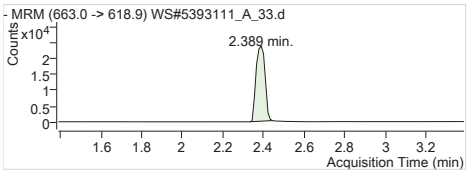


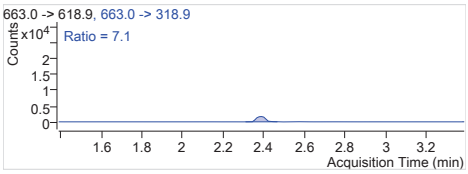
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 12.87 µg/L
Area ratio: 5.95095
Sample type: CC



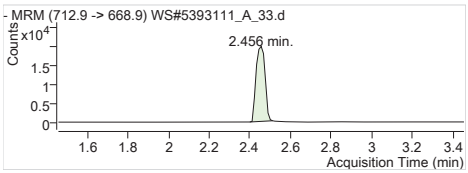


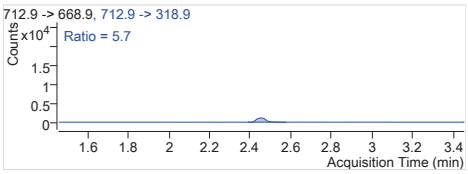
PFDoA 1 613.0 -> 568.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 11.23 µg/L
Area ratio: 5.19500
Sample type: CC



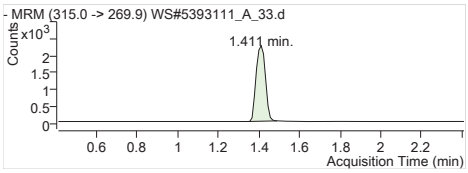


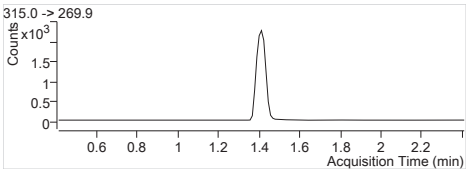
PFTrDA 1 663.0 -> 618.9
RT (Exp. RT): 2.389 (2.389)
Calc. conc. 12.06 µg/L
Area ratio: 5.40245
Sample type: CC



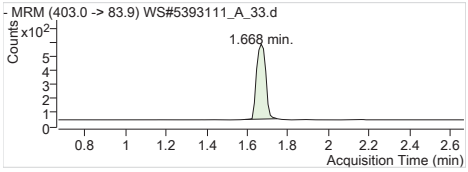


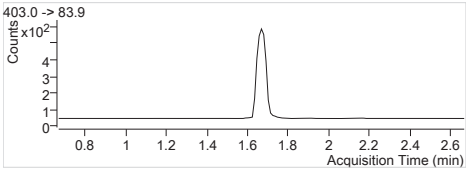
PFTeDA 1 712.9 -> 668.9
RT (Exp. RT): 2.456 (2.456)
Calc. conc. 12.29 µg/L
Area ratio: 4.50416
Sample type: CC



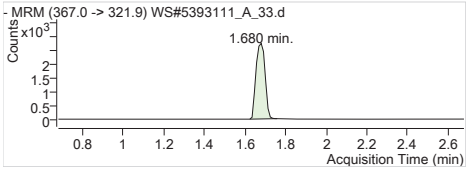


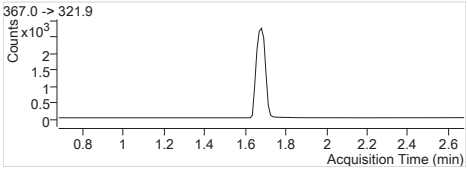
13C2-PFHxA 315.0 -> 269.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 100.63 µg/L
Area ratio: 0.28475
Sample type: CC



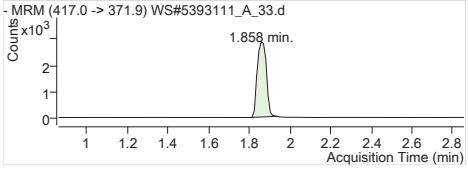


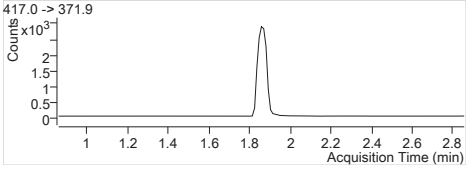
18O2-PFHxS 403.0 -> 83.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 97.08 µg/L
Area ratio: 0.06705
Sample type: CC



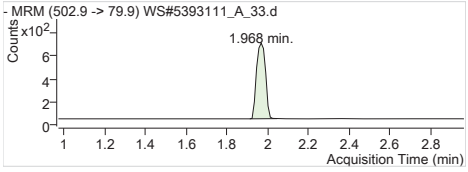


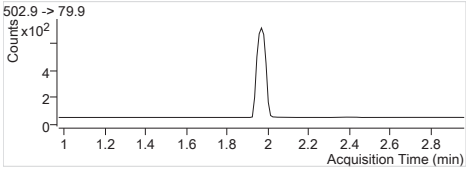
13C4-PFHpA 367.0 -> 321.9
RT (Exp. RT): 1.680 (1.680)
Calc. conc. 93.69 µg/L
Area ratio: 0.33863
Sample type: CC



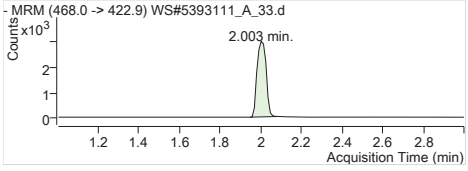


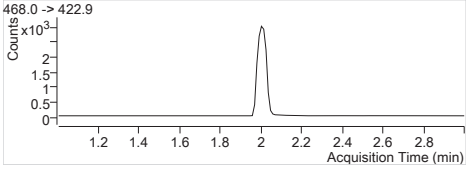
13C4-PFOA 417.0 -> 371.9
RT (Exp. RT): 1.858 (1.858)
Calc. conc. 92.51 µg/L
Area ratio: 0.35492
Sample type: CC



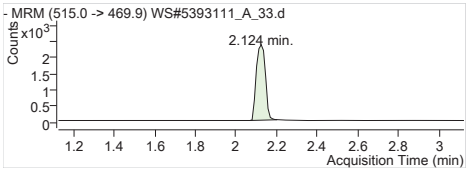


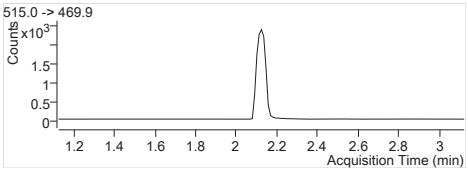
13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.968 (1.968)
Calc. conc. 97.86 µg/L
Area ratio: 0.08211
Sample type: CC



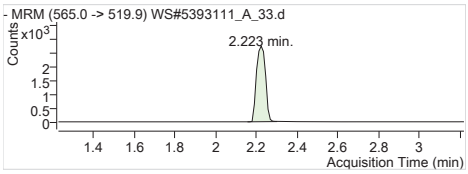


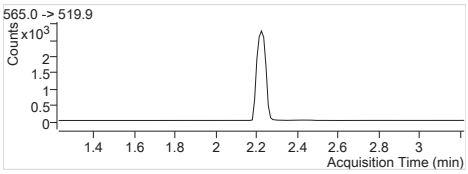
13C5-PFNA 468.0 -> 422.9
RT (Exp. RT): 2.003 (2.003)
Calc. conc. 99.85 µg/L
Area ratio: 0.36950
Sample type: CC



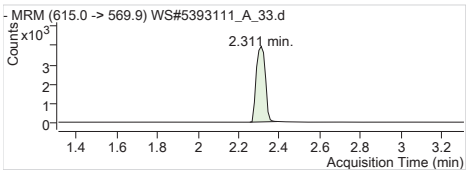


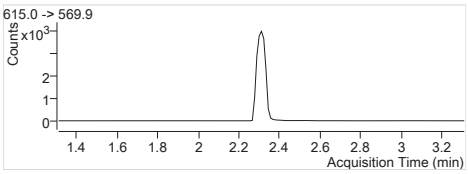
13C2-PFDA 515.0 -> 469.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 93.84 µg/L
Area ratio: 0.23233
Sample type: CC



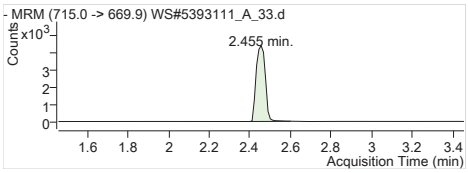


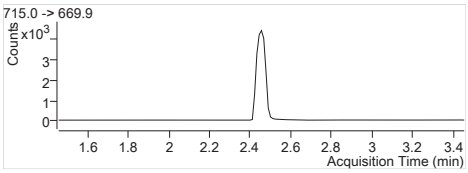
13C2-PFUnA 565.0 -> 519.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 92.79 µg/L
Area ratio: 0.26740
Sample type: CC



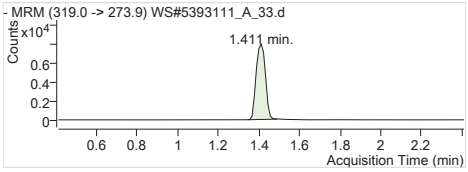


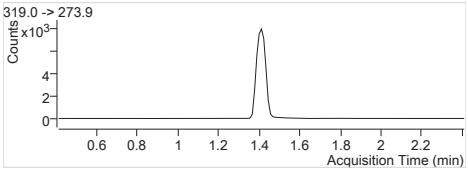
13C2-PFDoA 615.0 -> 569.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 101.99 µg/L
Area ratio: 0.38128
Sample type: CC



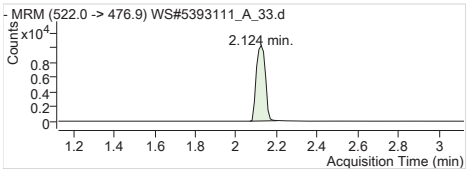


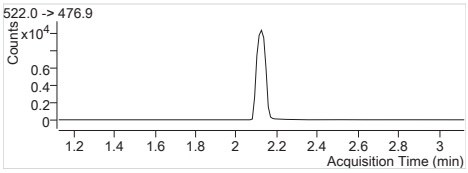
13C2-PFTeDA 715.0 -> 669.9
RT (Exp. RT): 2.455 (2.455)
Calc. conc. 101.25 µg/L
Area ratio: 0.43447
Sample type: CC





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 106.97 µg/L
Area ratio: 0
Sample type: CC





13C9-PFDA 522.0 -> 476.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 104.37 µg/L
Area ratio: 0
Sample type: CC

Quantitation Results

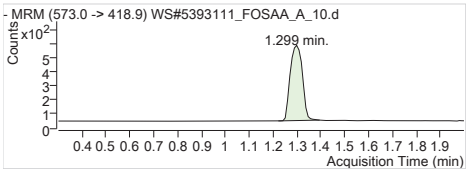
Agilent Technologies

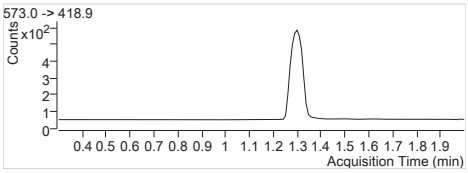
Batch Path	T:\lcms4\PFC\20180212\WS#5393111_FOSAA_A\QuantResults\PFC_Water_Low_180212_WS#5393111_FOSAA_A_EToxics

Sample Name	**ISC**	**Instrument**	LCMS04
Data File	WS#5393111_FOSAA_A_10.d	**Operator**	
Sample Type	CC	**Dilution**	1
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P2-A2
Acq. Date	2018/02/13 11:48:46 AM	**Injection Volume**	Per Method
Sample Annotation	-		

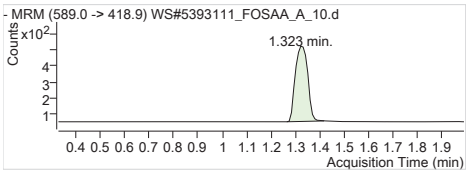
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1892	1.30	1 µg/L		
D5-EtFOSAA IS	1686	1.32	1 µg/L		
13C9-PFDA IS	27258	0.87	1 µg/L		

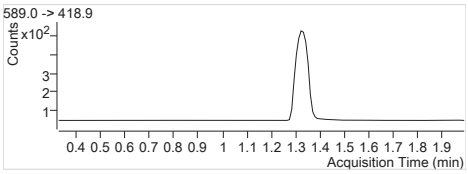
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1	648	1.30	0.83	0.89 µg/L	107.29
EtFOSAA 1	620	1.32	0.83	0.82 µg/L	98.68
D3-MeFOSAA	1910	1.30	100.00	93.44 µg/L	93.44
D5-EtFOSAA	1722	1.32	100.00	98.31 µg/L	98.31
13C9-PFDA	26627	0.87	100.00	104.37 µg/L	104.37



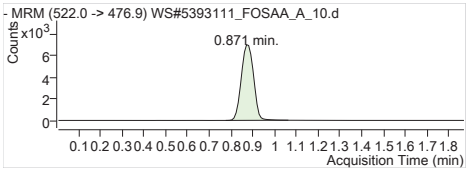


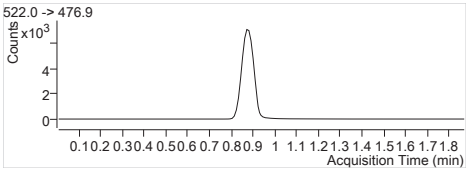
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.299 (1.299)
Concentration: 1 µg/L
Sample type: CC



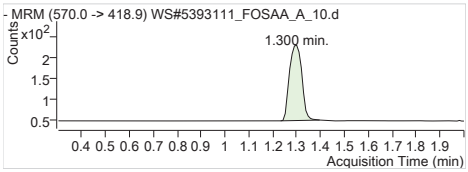


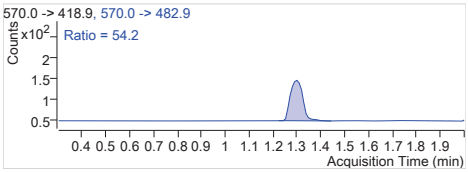
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.323 (1.323)
Concentration: 1 µg/L
Sample type: CC



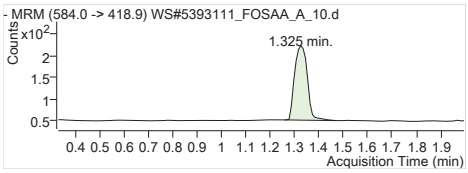


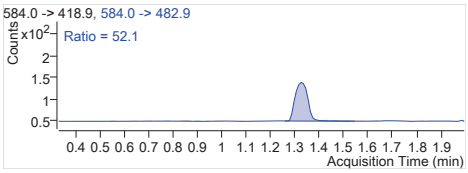
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.871 (0.871)
Concentration: 1 µg/L
Sample type: CC



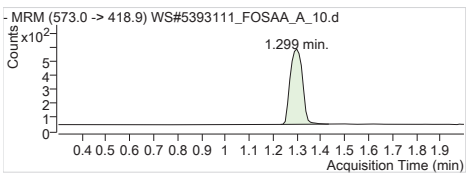


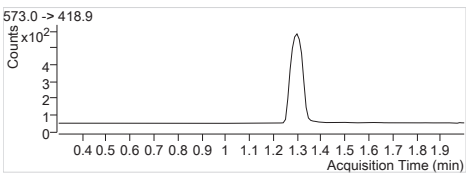
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 1.300 (1.300)
Calc. conc. 0.89 µg/L
Area ratio: 0.34249
Sample type: CC



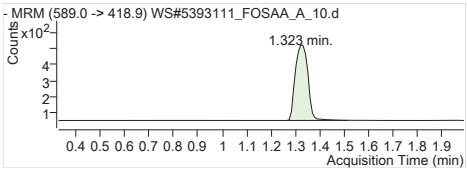


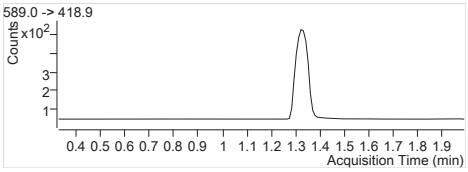
EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 1.325 (1.325)
Calc. conc. 0.82 µg/L
Area ratio: 0.36773
Sample type: CC



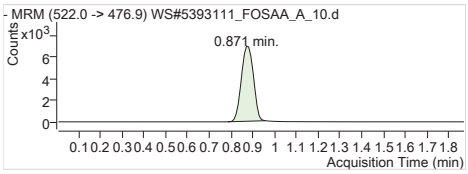


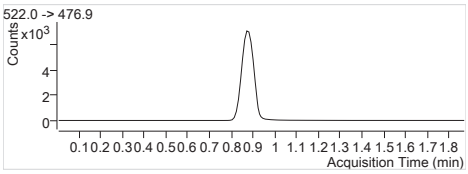
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.299 (1.299)
Calc. conc. 93.44 µg/L
Area ratio: 0.07007
Sample type: CC





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.323 (1.323)
Calc. conc.	98.31 µg/L
Area ratio:	0.06317
Sample type:	CC





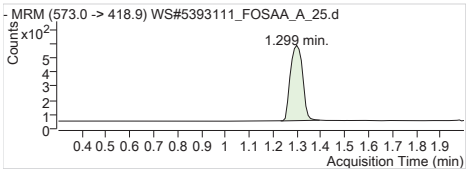
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.871 (0.871)
Calc. conc.	104.37 µg/L
Area ratio:	0
Sample type:	CC

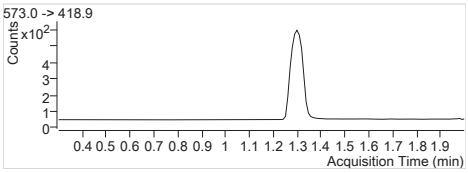
Batch Path	T:\lcms4\PFC\20180212\WS#5393111_FOSAA_A\QuantResults\PFC_Water_Low_180212_WS#5393111_FOSAA_A_EToxics

Sample Name	**CCV**	**Instrument**	LCMS04
Data File	WS#5393111_FOSAA_A_25.d	**Operator**	
Sample Type	CC	**Dilution**	1
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P2-A5
Acq. Date	2018/02/13 12:24:55 PM	**Injection Volume**	Per Method
Sample Annotation	-		

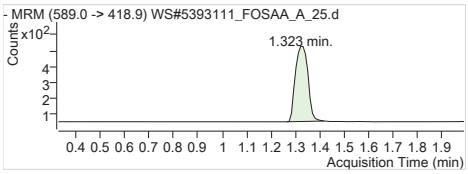
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1934	1.30	1 µg/L		
D5-EtFOSAA IS	1718	1.32	1 µg/L		
13C9-PFDA IS	27346	0.88	1 µg/L		

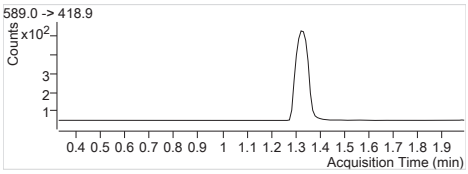
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1	9126	1.30	12.50	12.14 µg/L	97.15
EtFOSAA 1	9384	1.32	12.50	12.04 µg/L	96.34
D3-MeFOSAA	1952	1.30	100.00	95.19 µg/L	95.19
D5-EtFOSAA	1737	1.32	100.00	98.85 µg/L	98.85
13C9-PFDA	26983	0.88	100.00	105.76 µg/L	105.76



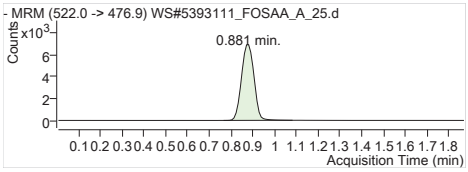


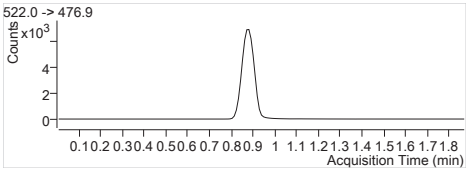
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.299 (1.299)
Concentration: 1 µg/L
Sample type: CC



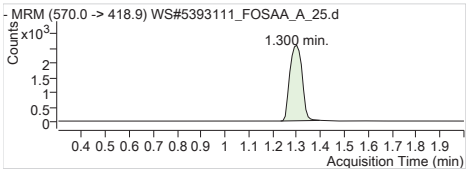


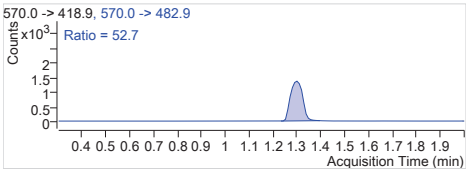
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.323 (1.323)
Concentration: 1 µg/L
Sample type: CC



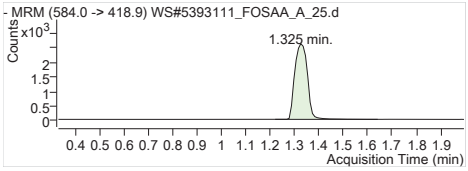


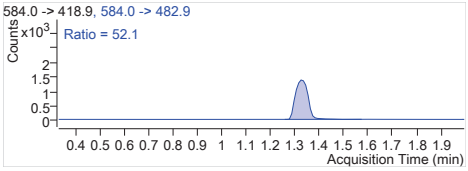
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.881 (0.871)
Concentration: 1 µg/L
Sample type: CC



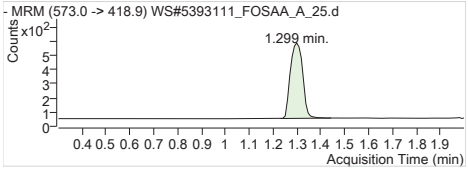


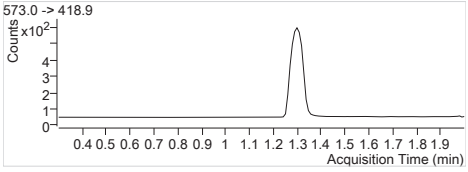
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 1.300 (1.300)
Calc. conc. 12.14 µg/L
Area ratio: 4.71872
Sample type: CC



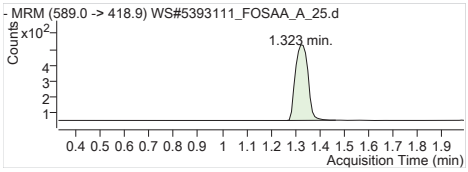


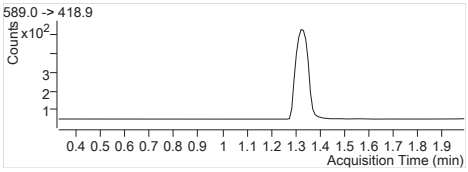
EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 1.325 (1.325)
Calc. conc. 12.04 µg/L
Area ratio: 5.46217
Sample type: CC



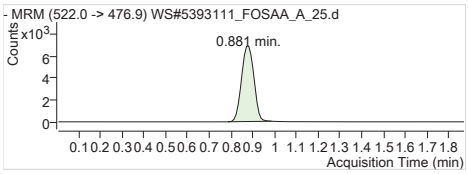


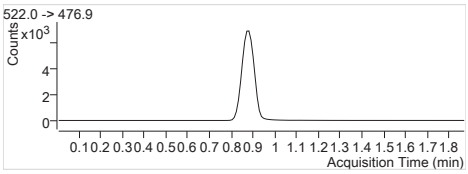
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.299 (1.299)
Calc. conc. 95.19 µg/L
Area ratio: 0.07138
Sample type: CC





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.323 (1.323)
Calc. conc.	98.85 µg/L
Area ratio:	0.06352
Sample type:	CC





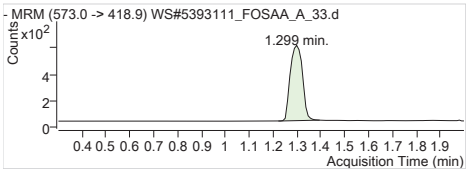
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.881 (0.871)
Calc. conc.	105.76 µg/L
Area ratio:	0
Sample type:	CC

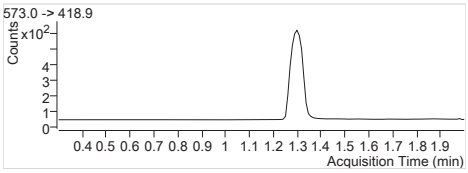
Batch Path	T:\lcms4\PFC\20180212\WS#5393111_FOSAA_A\QuantResults\PFC_Water_Low_180212_WS#5393111_FOSAA_A_EToxics

Sample Name	**CCV**	**Instrument**	LCMS04
Data File	WS#5393111_FOSAA_A_33.d	**Operator**	
Sample Type	CC	**Dilution**	1
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P2-A5
Acq. Date	2018/02/13 12:44:16 PM	**Injection Volume**	Per Method
Sample Annotation	-		

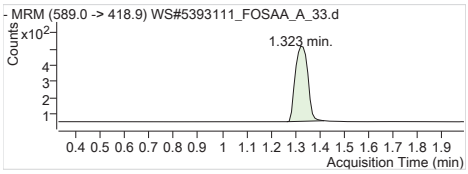
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	2008	1.30	1 µg/L		
D5-EtFOSAA IS	1674	1.32	1 µg/L		
13C9-PFDA IS	27597	0.87	1 µg/L		

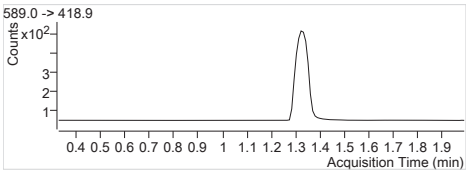
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1	9196	1.30	12.50	11.79 µg/L	94.29
EtFOSAA 1	9406	1.32	12.50	12.39 µg/L	99.10
D3-MeFOSAA	2015	1.30	100.00	97.37 µg/L	97.37
D5-EtFOSAA	1713	1.32	100.00	96.60 µg/L	96.60
13C9-PFDA	27109	0.87	100.00	106.25 µg/L	106.25



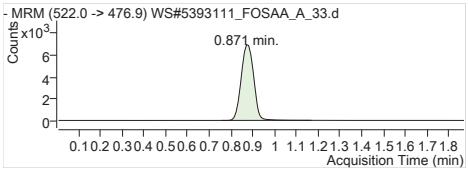


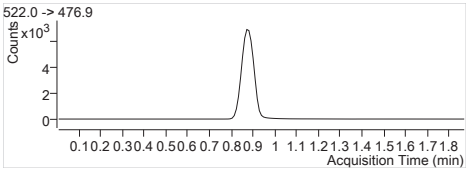
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.299 (1.299)
Concentration: 1 µg/L
Sample type: CC



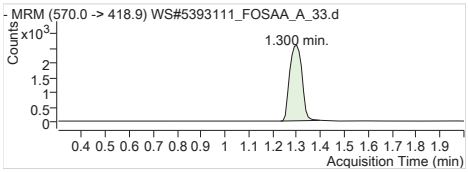


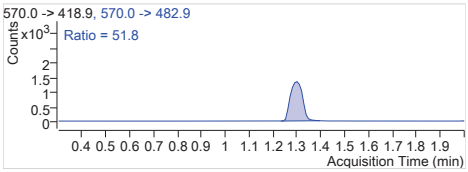
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.323 (1.323)
Concentration: 1 µg/L
Sample type: CC



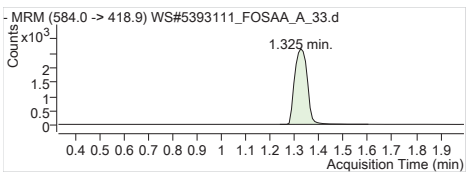


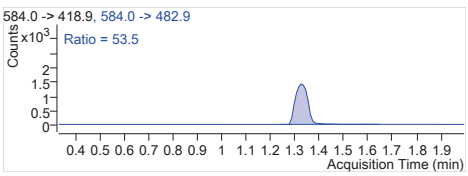
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.871 (0.871)
Concentration: 1 µg/L
Sample type: CC



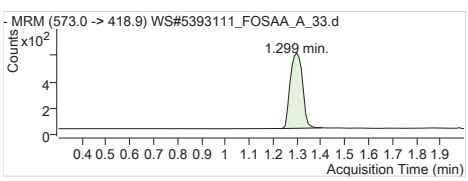


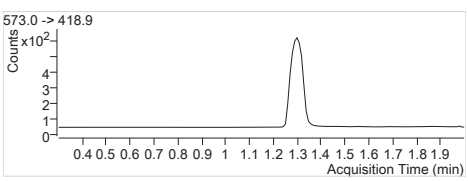
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 1.300 (1.300)
Calc. conc. 11.79 µg/L
Area ratio: 4.57968
Sample type: CC



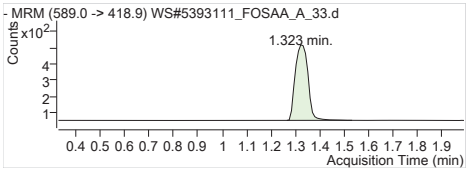


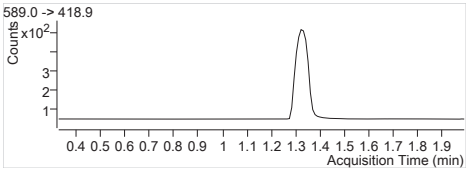
EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 1.325 (1.325)
Calc. conc. 12.39 µg/L
Area ratio: 5.61888
Sample type: CC



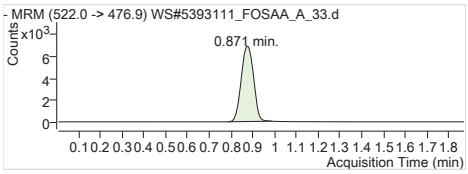


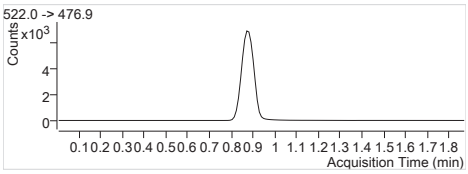
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.299 (1.299)
Calc. conc. 97.37 µg/L
Area ratio: 0.07302
Sample type: CC





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.323 (1.323)
Calc. conc.	96.60 µg/L
Area ratio:	0.06207
Sample type:	CC





13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.871 (0.871)
Calc. conc.	106.25 µg/L
Area ratio:	0
Sample type:	CC

Quantitation Results

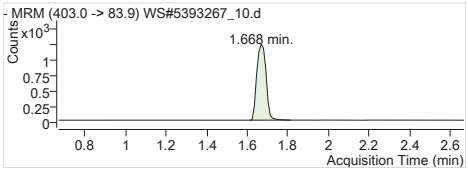
Agilent Technologies

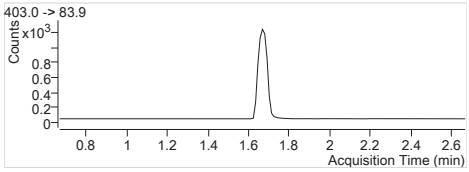
Batch Path	T:\lcms4\PFC\20180213\WS#5393267\QuantResults\PFC_Water_High_180213_WS#5393267_EToxics

Sample Name	**ISC**	**Instrument**	LCMS04
Data File	WS#5393267_10.d	**Operator**	
Sample Type	CC	**Dilution**	1
Acq. Method	PFC_Water_High.m	**Position**	P4-C6
Acq. Date	2018/02/14 8:27:13 AM	**Injection Volume**	Per Method
Sample Annotation	-		

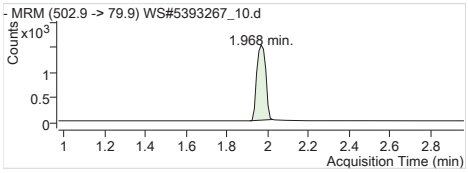
ISTD Compounds	Response	RT	Target conc.		
MPFHxS	3812	1.67	1 µg/L		
MPFOS	4550	1.97	1 µg/L		
13C6-PFHxA IS	33956	1.41	1 µg/L		

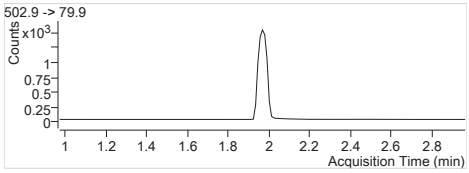
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFHxS 1	446	1.67	0.80	0.91 µg/L	113.85
PFOS 1	528	1.96	0.80	1.03 µg/L	128.79
13C6-PFHxA	33956	1.41	100.00	99.58 µg/L	99.58
18O2-PFHxS	3812	1.67	100.00	108.63 µg/L	108.63
13C4-PFOS	4550	1.97	100.00	103.65 µg/L	103.65



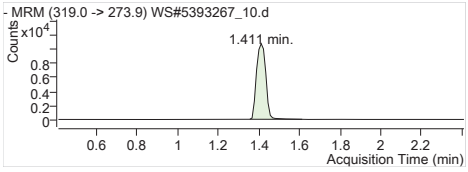


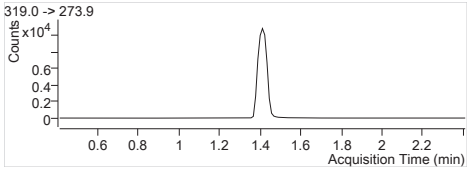
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: CC



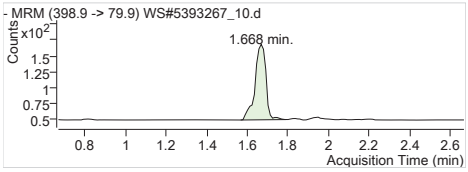


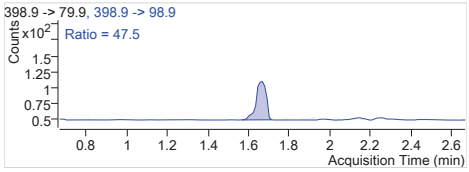
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: CC



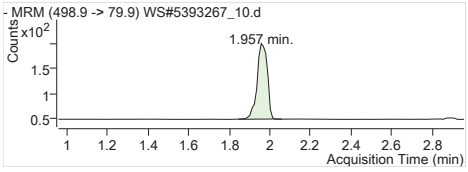


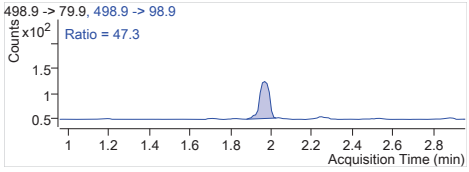
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: CC



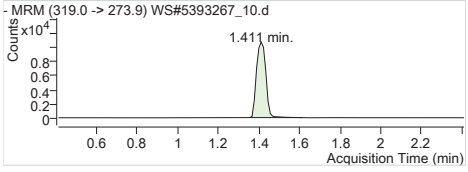


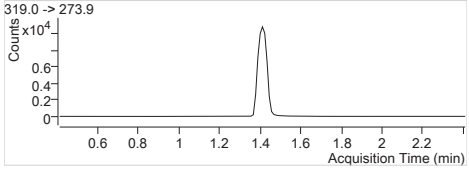
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 0.91 µg/L
Area ratio: 0.11700
Sample type: CC



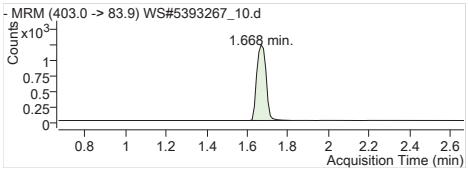


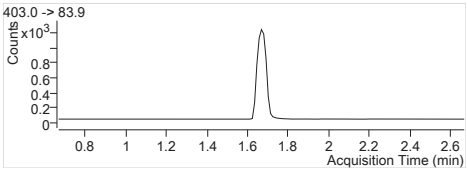
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 1.03 µg/L
Area ratio: 0.11604
Sample type: CC



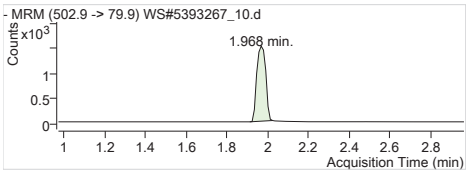


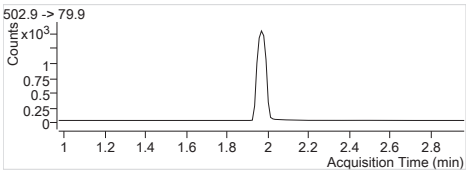
13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 99.58 µg/L
Area ratio: 0
Sample type: CC





18O2-PFHxS	403.0 -> 83.9
RT (Exp. RT):	1.668 (1.668)
Calc. conc.	108.63 µg/L
Area ratio:	0.11226
Sample type:	CC





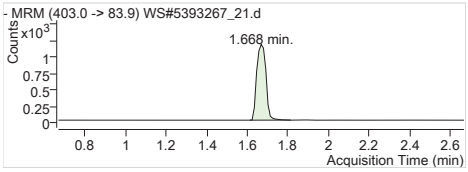
13C4-PFOS	502.9 -> 79.9
RT (Exp. RT):	1.968 (1.968)
Calc. conc.	103.65 µg/L
Area ratio:	0.13400
Sample type:	CC

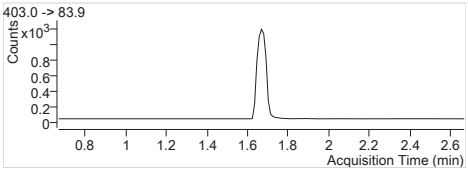
Batch Path	T:\lcms4\PFC\20180213\WS#5393267\QuantResults\PFC_Water_High_180213_WS#5393267_EToxics

Sample Name	**CCV**	**Instrument**	LCMS04
Data File	WS#5393267_21.d	**Operator**	
Sample Type	CC	**Dilution**	1
Acq. Method	PFC_Water_High.m	**Position**	P4-C9
Acq. Date	2018/02/14 9:21:17 AM	**Injection Volume**	Per Method
Sample Annotation	-		

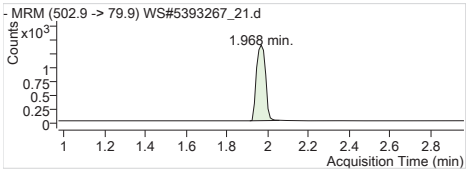
ISTD Compounds	Response	RT	Target conc.		
MPFHxS	3619	1.67	1 µg/L		
MPFOS	4222	1.97	1 µg/L		
13C6-PFHxA IS	33101	1.41	1 µg/L		

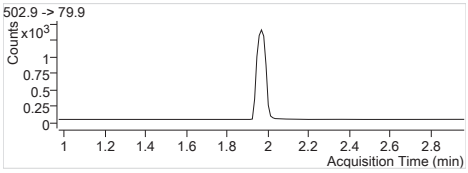
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFHxS 1	8191	1.67	15.00	13.43 µg/L	89.56
PFOS 1	8335	1.96	15.00	13.52 µg/L	90.12
13C6-PFHxA	33101	1.41	100.00	97.07 µg/L	97.07
18O2-PFHxS	3619	1.67	100.00	105.80 µg/L	105.80
13C4-PFOS	4222	1.97	100.00	98.66 µg/L	98.66



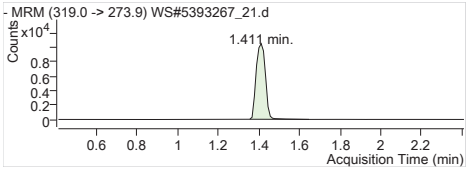


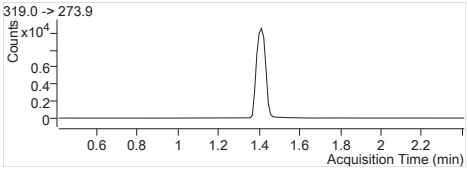
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: CC



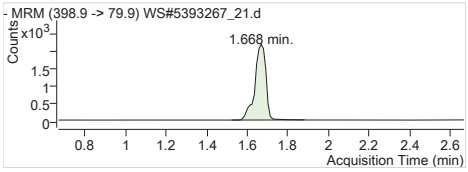


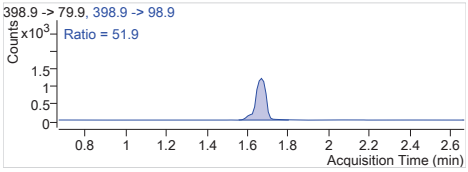
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: CC



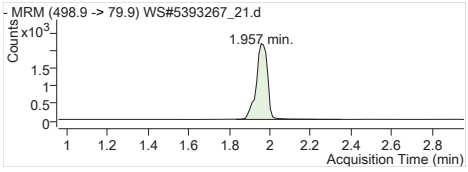


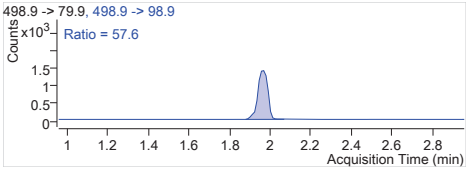
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: CC



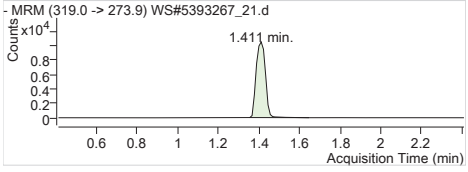


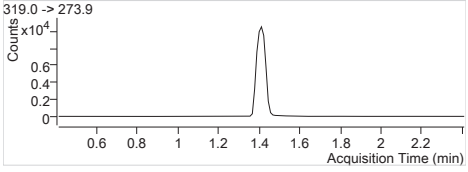
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 13.43 µg/L
Area ratio: 2.26333
Sample type: CC



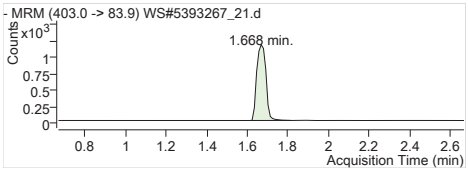


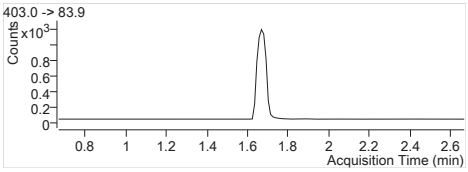
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 13.52 µg/L
Area ratio: 1.97418
Sample type: CC



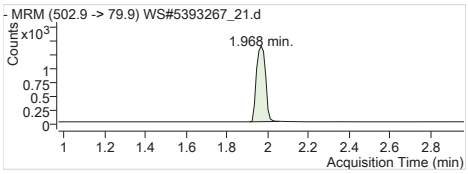


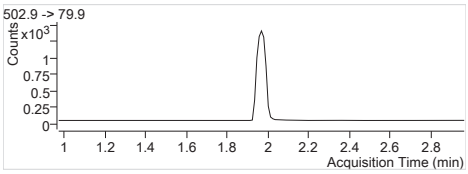
13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 97.07 µg/L
Area ratio: 0
Sample type: CC





18O2-PFHxS	403.0 -> 83.9
RT (Exp. RT):	1.668 (1.668)
Calc. conc.	105.80 µg/L
Area ratio:	0.10933
Sample type:	CC





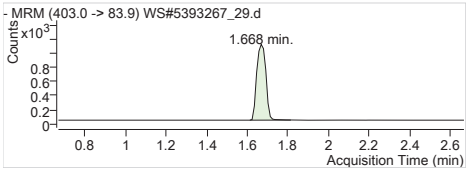
13C4-PFOS	502.9 -> 79.9
RT (Exp. RT):	1.968 (1.968)
Calc. conc.	98.66 µg/L
Area ratio:	0.12755
Sample type:	CC

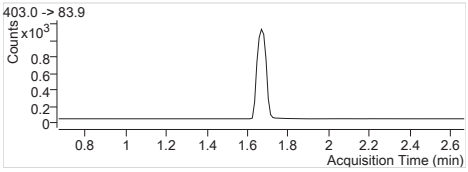
Batch Path	T:\lcms4\PFC\20180213\WS#5393267\QuantResults\PFC_Water_High_180213_WS#5393267_EToxics

Sample Name	**CCV**	**Instrument**	LCMS04
Data File	WS#5393267_29.d	**Operator**	
Sample Type	CC	**Dilution**	1
Acq. Method	PFC_Water_High.m	**Position**	P4-C9
Acq. Date	2018/02/14 10:00:38 AM	**Injection Volume**	Per Method
Sample Annotation	-		

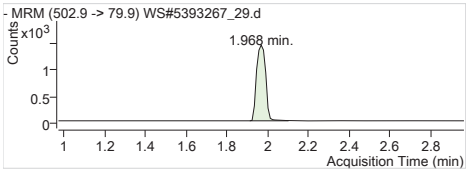
ISTD Compounds	Response	RT	Target conc.		
MPFHxS	3400	1.67	1 µg/L		
MPFOS	4388	1.97	1 µg/L		
13C6-PFHxA IS	33609	1.41	1 µg/L		

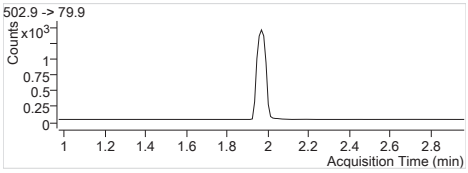
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFHxS 1	8195	1.67	15.00	14.29 µg/L	95.28
PFOS 1	8296	1.96	15.00	12.96 µg/L	86.38
13C6-PFHxA	33609	1.41	100.00	98.56 µg/L	98.56
18O2-PFHxS	3400	1.67	100.00	97.89 µg/L	97.89
13C4-PFOS	4388	1.97	100.00	100.99 µg/L	100.99



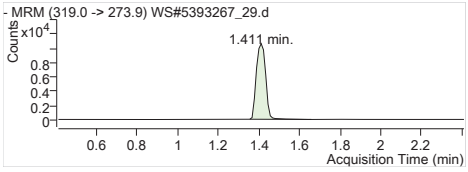


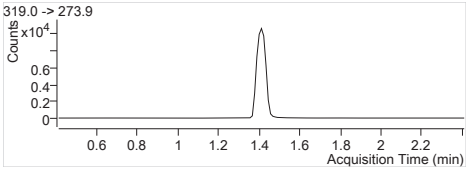
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: CC



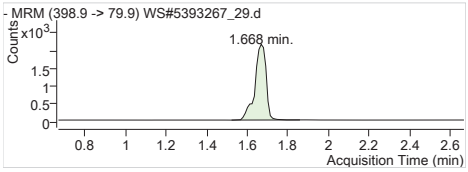


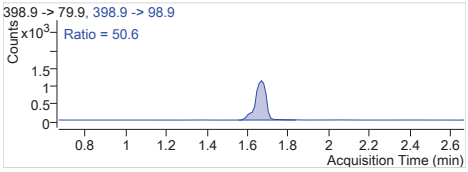
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: CC



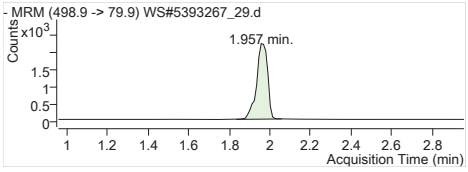


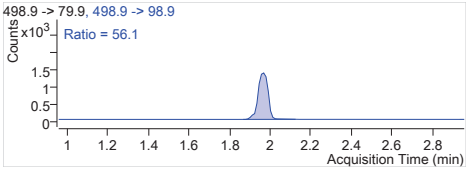
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: CC



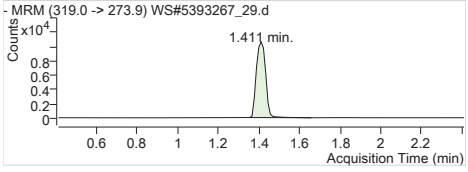


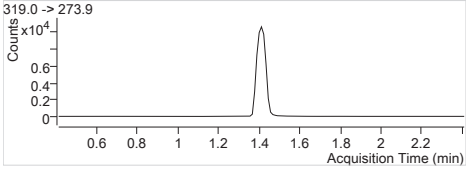
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 14.29 µg/L
Area ratio: 2.41029
Sample type: CC



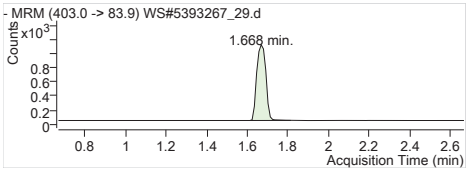


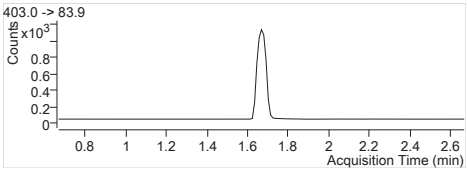
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 12.96 µg/L
Area ratio: 1.89061
Sample type: CC



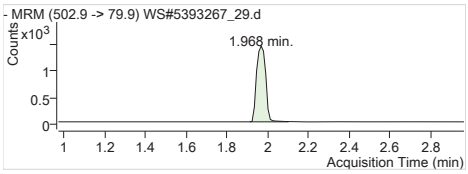


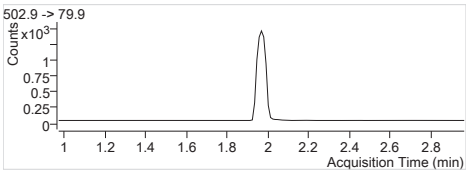
13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 98.56 µg/L
Area ratio: 0
Sample type: CC





18O2-PFHxS	403.0 -> 83.9
RT (Exp. RT):	1.668 (1.668)
Calc. conc.	97.89 µg/L
Area ratio:	0.10116
Sample type:	CC





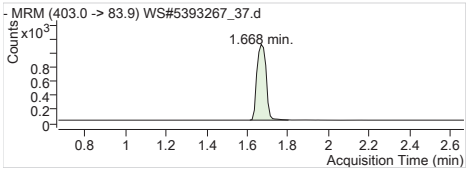
13C4-PFOS	502.9 -> 79.9
RT (Exp. RT):	1.968 (1.968)
Calc. conc.	100.99 µg/L
Area ratio:	0.13056
Sample type:	CC

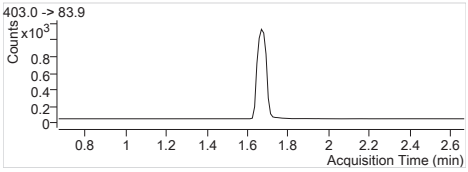
Batch Path	T:\lcms4\PFC\20180213\WS#5393267\QuantResults\PFC_Water_High_180213_WS#5393267_EToxics

Sample Name	**CCV**	**Instrument**	LCMS04
Data File	WS#5393267_37.d	**Operator**	
Sample Type	CC	**Dilution**	1
Acq. Method	PFC_Water_High.m	**Position**	P4-C9
Acq. Date	2018/02/14 10:39:54 AM	**Injection Volume**	Per Method
Sample Annotation	-		

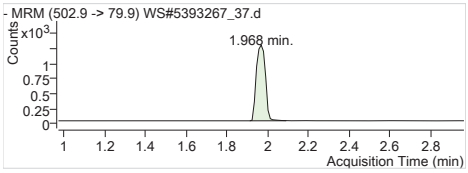
ISTD Compounds	Response	RT	Target conc.		
MPFHxS	3427	1.67	1 µg/L		
MPFOS	3938	1.97	1 µg/L		
13C6-PFHxA IS	32665	1.41	1 µg/L		

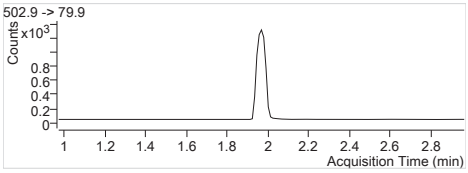
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFHxS 1	8607	1.67	15.00	14.88 µg/L	99.21
PFOS 1	8378	1.96	15.00	14.55 µg/L	96.99
13C6-PFHxA	32665	1.41	100.00	95.80 µg/L	95.80
18O2-PFHxS	3427	1.67	100.00	101.52 µg/L	101.52
13C4-PFOS	3938	1.97	100.00	93.25 µg/L	93.25



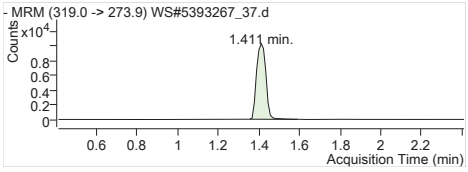


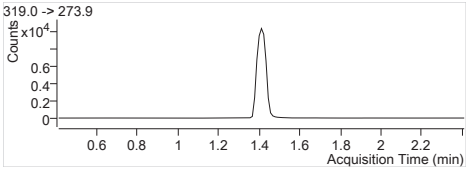
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: CC



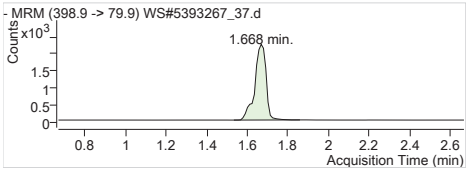


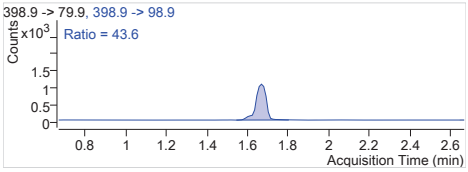
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: CC



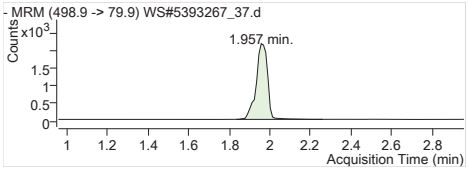


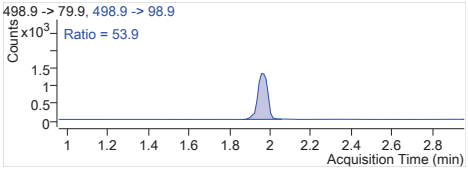
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: CC



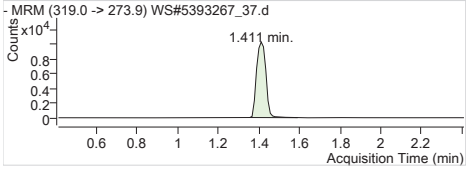


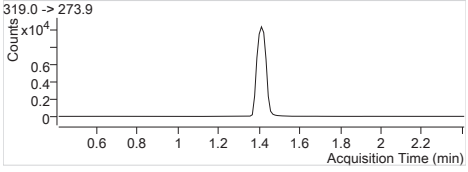
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 14.88 µg/L
Area ratio: 2.51153
Sample type: CC



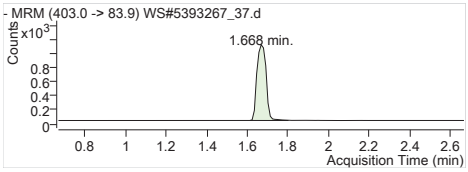


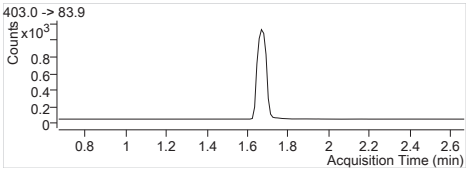
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 14.55 µg/L
Area ratio: 2.12748
Sample type: CC



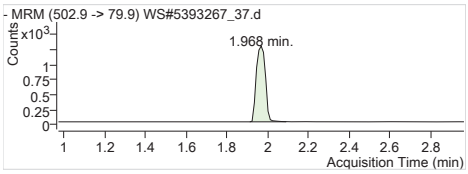


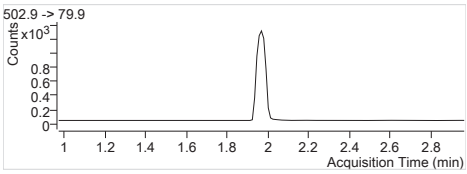
13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 95.80 µg/L
Area ratio: 0
Sample type: CC





18O2-PFHxS	403.0 -> 83.9
RT (Exp. RT):	1.668 (1.668)
Calc. conc.	101.52 µg/L
Area ratio:	0.10491
Sample type:	CC





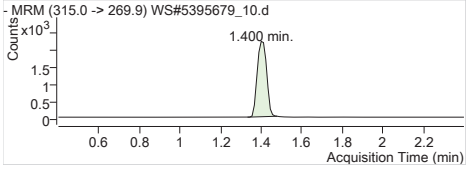
13C4-PFOS	502.9 -> 79.9
RT (Exp. RT):	1.968 (1.968)
Calc. conc.	93.25 µg/L
Area ratio:	0.12056
Sample type:	CC

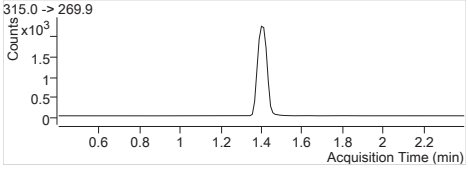
Batch Path T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics

Sample Name	**ISC**	**Instrument**	LCMS04
Data File	WS#5395679_10.d	**Operator**	
Sample Type	CC	**Dilution**	1
Acq. Method	PFC_Water_Low.m	**Position**	P3-A2
Acq. Date	2018/02/13 10:40:16 PM	**Injection Volume**	Per Method
Sample Annotation	-		

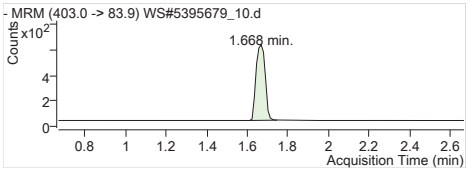
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	7134	1.40	1 µg/L		
MPFHxS	1855	1.67	1 µg/L		
MPFHpA	8957	1.68	1 µg/L		
MPFOA	9233	1.86	1 µg/L		
MPFOS	2149	1.97	1 µg/L		
MPFNA	10136	2.00	1 µg/L		
MPFDA	8030	2.12	1 µg/L		
MPFUnA	9027	2.22	1 µg/L		
MPFDoA	12332	2.31	1 µg/L		
MPFTeDA	13717	2.46	1 µg/L		
13C6-PFHxA IS	19421	1.40	1 µg/L		
13C9-PFDA IS	26982	2.12	1 µg/L		

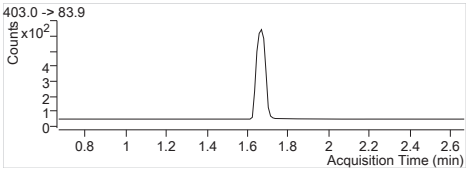
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1	577	1.05	0.83	0.85 µg/L	102.51
PFHxA 1	2728	1.40	0.83	1.06 µg/L	127.50
PFHxS 1	738	1.66	0.83	1.06 µg/L	127.82
PFHpA 1	3186	1.67	0.83	0.91 µg/L	110.14
PFOA 1	3604	1.86	0.83	1.07 µg/L	128.93
PFOS 1	665	1.97	0.83	0.98 µg/L	117.79
PFNA 1	3092	2.00	0.83	0.91 µg/L	109.35
PFDA 1	3077	2.12	0.83	0.82 µg/L	98.62
PFUnA 1	3720	2.22	0.83	1.01 µg/L	121.18
PFDoA 1	4722	2.31	0.83	0.91 µg/L	109.80
PFTrDA 1	5701	2.39	0.83	1.04 µg/L	125.27
PFTeDA 1	4897	2.46	0.83	1.03 µg/L	124.17
13C2-PFHxA	7134	1.40	100.00	121.99 µg/L	121.99
18O2-PFHxS	1855	1.67	100.00	124.26 µg/L	124.26
13C4-PFHpA	8957	1.68	100.00	116.93 µg/L	116.93
13C4-PFOA	9233	1.86	100.00	111.51 µg/L	111.51
13C4-PFOS	2149	1.97	100.00	120.98 µg/L	120.98
13C5-PFNA	10137	2.00	100.00	125.63 µg/L	125.63
13C2-PFDA	7965	2.12	100.00	114.09 µg/L	114.09
13C2-PFUnA	9027	2.22	100.00	108.14 µg/L	108.14
13C2-PFDoA	12332	2.31	100.00	111.77 µg/L	111.77
13C2-PFTeDA	13823	2.46	100.00	107.12 µg/L	107.12
13C2-6:2-FTS	3004	1.82	100.00	127.74 µg/L	127.74
13C2-8:2 FTS	2406	2.10	100.00	109.69 µg/L	109.69
13C6-PFHxA	19421	1.40	100.00	88.66 µg/L	88.66
13C9-PFDA	26982	2.12	100.00	93.15 µg/L	93.15



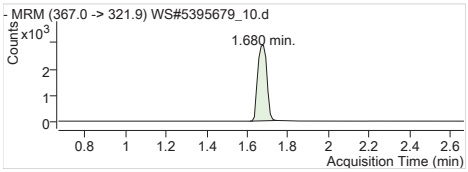


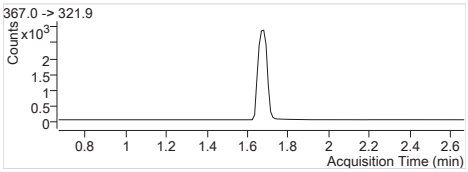
MPFHxA Internal Standard
RT (Exp. RT): 1.400 (1.400)
Concentration: 1 µg/L
Sample type: CC



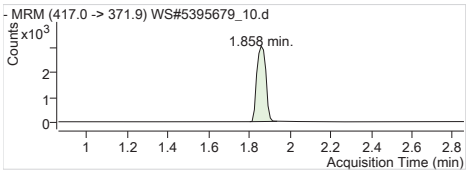


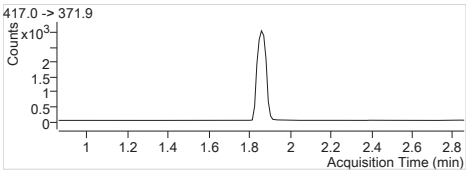
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: CC



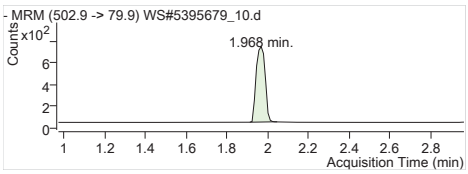


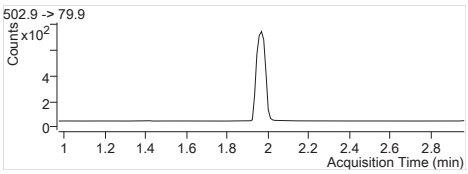
MPFHpA Internal Standard
RT (Exp. RT): 1.680 (1.668)
Concentration: 1 µg/L
Sample type: CC



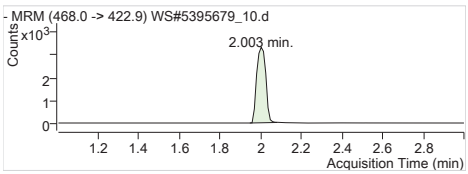


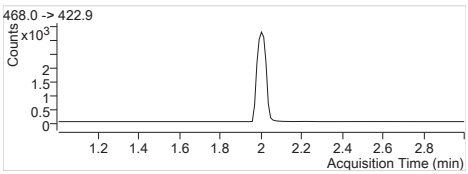
MPFOA Internal Standard
RT (Exp. RT): 1.858 (1.858)
Concentration: 1 µg/L
Sample type: CC



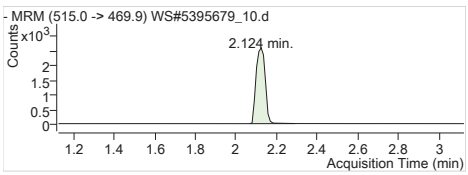


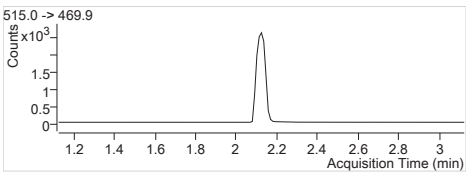
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: CC



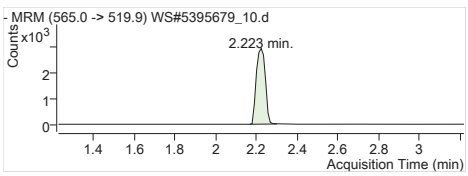


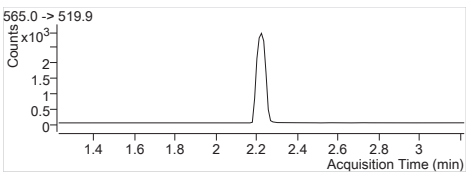
MPFNA Internal Standard
RT (Exp. RT): 2.003 (2.003)
Concentration: 1 µg/L
Sample type: CC



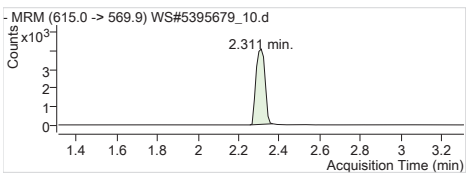


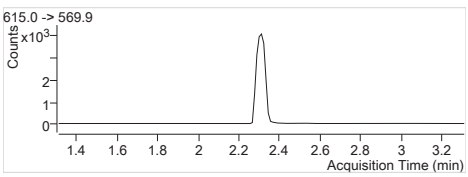
MPFDA Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: CC



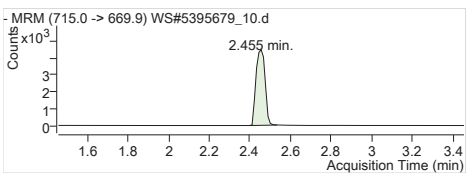


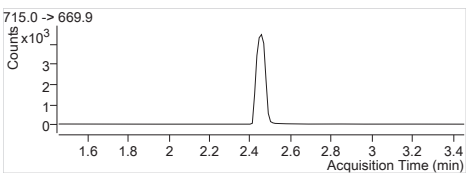
MPFUnA Internal Standard
RT (Exp. RT): 2.223 (2.223)
Concentration: 1 µg/L
Sample type: CC



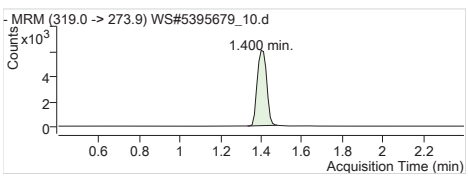


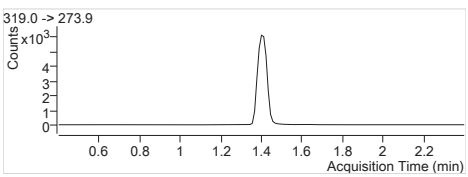
MPFDoA Internal Standard
RT (Exp. RT): 2.311 (2.311)
Concentration: 1 µg/L
Sample type: CC



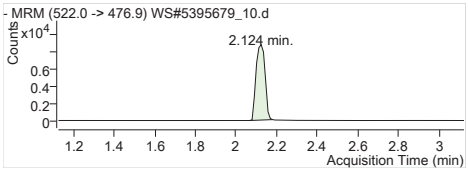


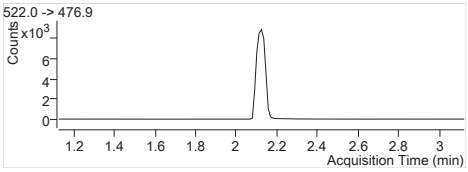
MPFTeDA Internal Standard
RT (Exp. RT): 2.455 (2.455)
Concentration: 1 µg/L
Sample type: CC



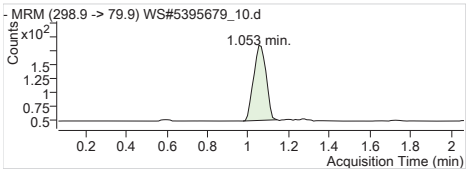


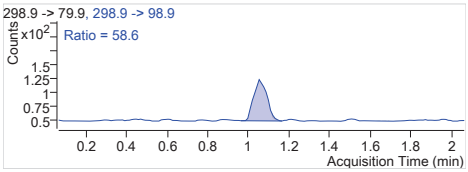
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.400 (1.400)
Concentration: 1 µg/L
Sample type: CC



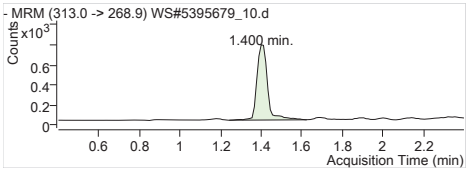


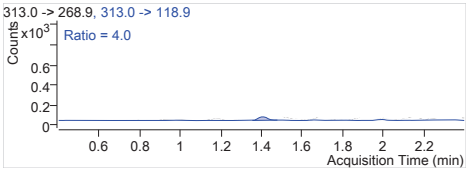
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: CC



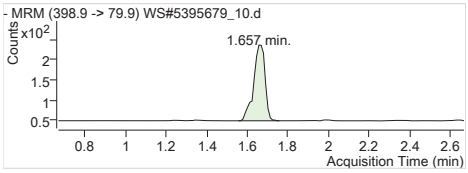


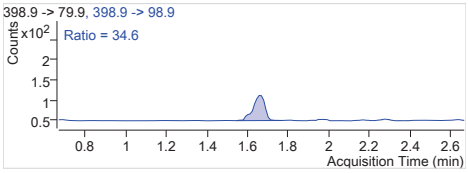
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 1.053 (1.064)
Calc. conc. 0.85 µg/L
Area ratio: 0.31105
Sample type: CC



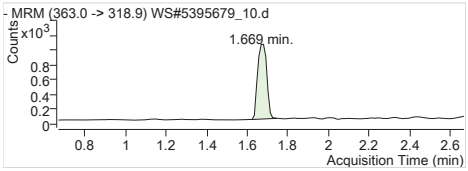


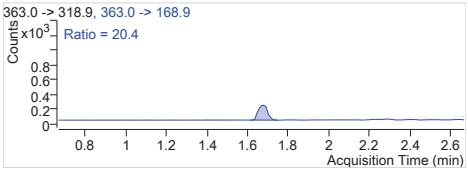
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 1.400 (1.400)
Calc. conc. 1.06 µg/L
Area ratio: 0.38239
Sample type: CC



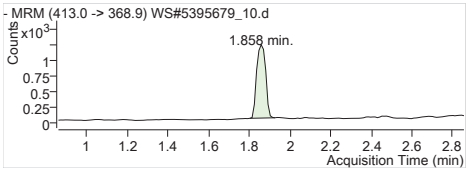


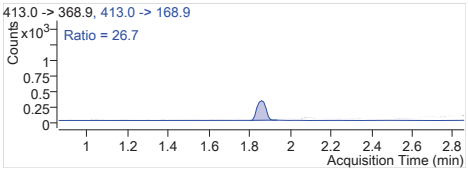
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.657 (1.668)
Calc. conc. 1.06 µg/L
Area ratio: 0.39784
Sample type: CC



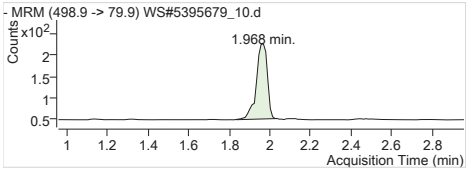


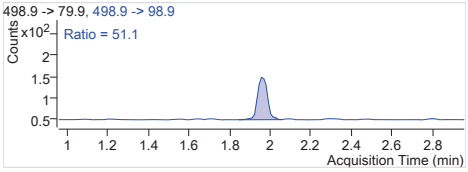
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 1.669 (1.669)
Calc. conc. 0.91 µg/L
Area ratio: 0.35570
Sample type: CC



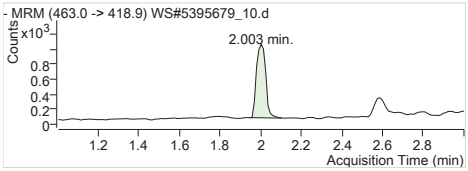


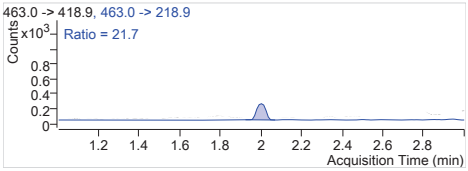
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 1.858 (1.858)
Calc. conc. 1.07 µg/L
Area ratio: 0.39034
Sample type: CC



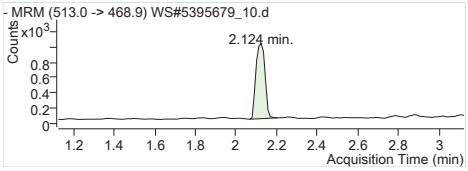


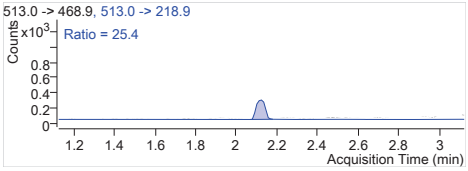
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.968 (1.957)
Calc. conc. 0.98 µg/L
Area ratio: 0.30945
Sample type: CC



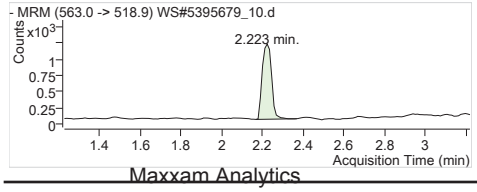


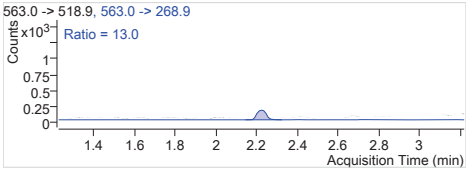
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 2.003 (2.003)
Calc. conc. 0.91 µg/L
Area ratio: 0.30505
Sample type: CC



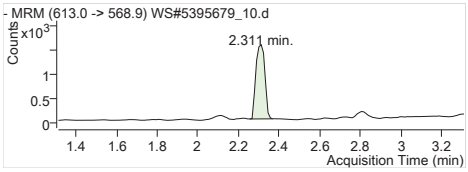


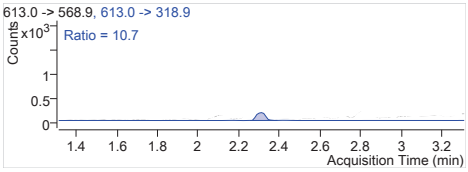
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 0.82 µg/L
Area ratio: 0.38319
Sample type: CC



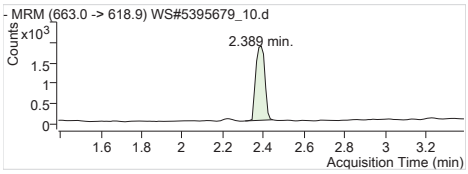


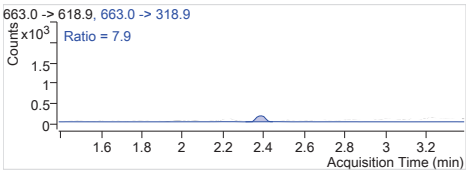
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 1.01 µg/L
Area ratio: 0.41210
Sample type: CC



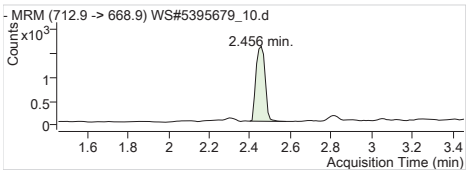


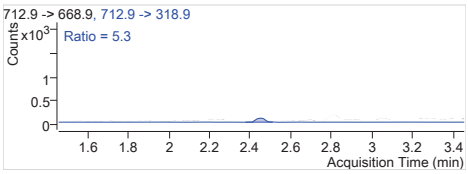
PFDoA 1 613.0 -> 568.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 0.91 µg/L
Area ratio: 0.38291
Sample type: CC



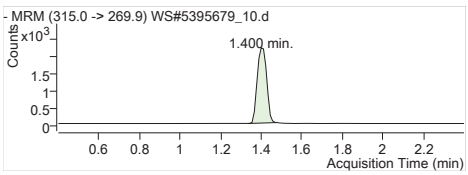


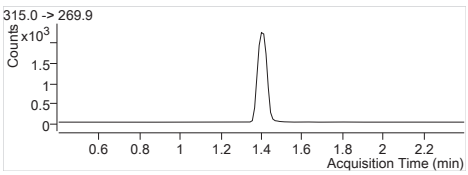
PFTrDA 1 663.0 -> 618.9
RT (Exp. RT): 2.389 (2.389)
Calc. conc. 1.04 µg/L
Area ratio: 0.41562
Sample type: CC



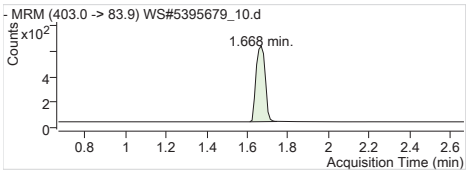


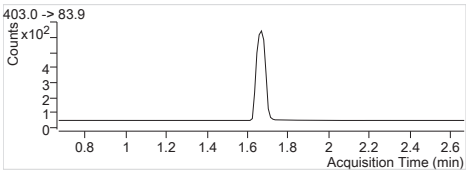
PFTeDA 1 712.9 -> 668.9
RT (Exp. RT): 2.456 (2.456)
Calc. conc. 1.03 µg/L
Area ratio: 0.35700
Sample type: CC



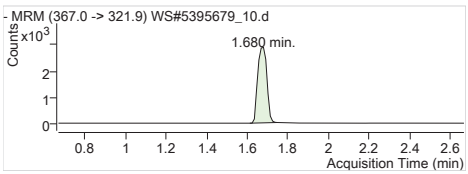


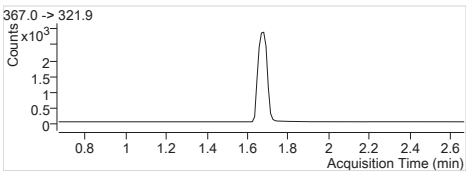
13C2-PFHxA 315.0 -> 269.9
RT (Exp. RT): 1.400 (1.400)
Calc. conc. 121.99 µg/L
Area ratio: 0.36733
Sample type: CC



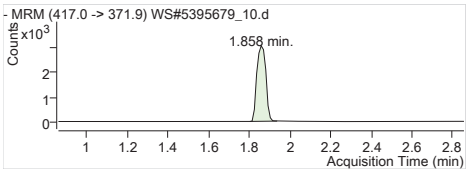


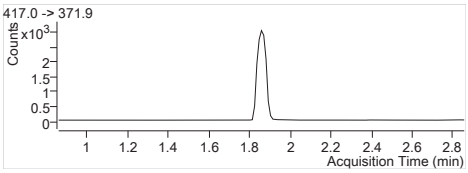
18O2-PFHxS 403.0 -> 83.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 124.26 µg/L
Area ratio: 0.09552
Sample type: CC



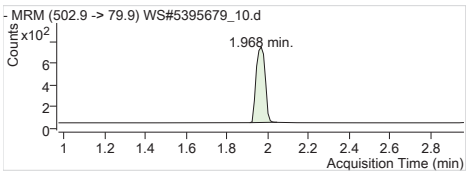


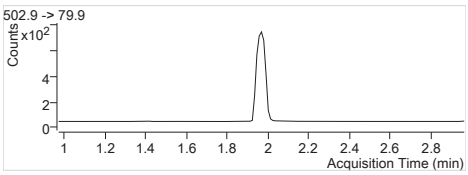
13C4-PFHpA 367.0 -> 321.9
RT (Exp. RT): 1.680 (1.668)
Calc. conc. 116.93 µg/L
Area ratio: 0.46120
Sample type: CC



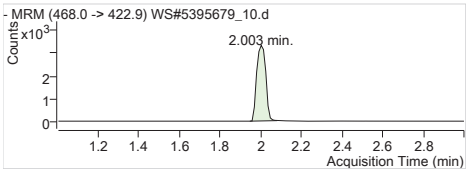


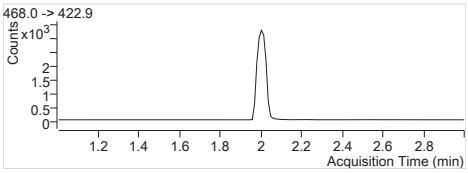
13C4-PFOA 417.0 -> 371.9
RT (Exp. RT): 1.858 (1.858)
Calc. conc. 111.51 µg/L
Area ratio: 0.47541
Sample type: CC



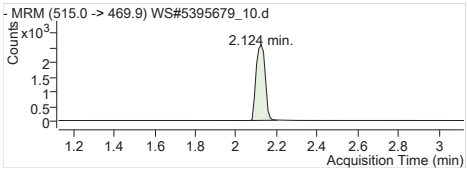


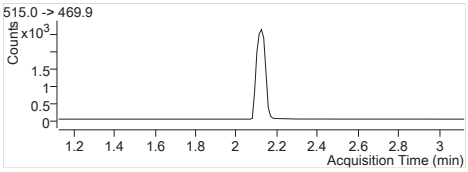
13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.968 (1.968)
Calc. conc. 120.98 µg/L
Area ratio: 0.11065
Sample type: CC



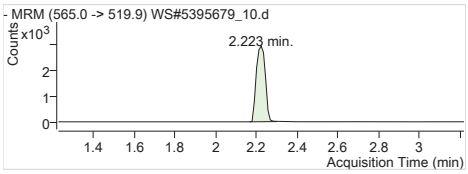


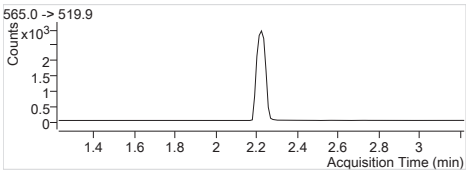
13C5-PFNA 468.0 -> 422.9
RT (Exp. RT): 2.003 (2.003)
Calc. conc. 125.63 µg/L
Area ratio: 0.52196
Sample type: CC



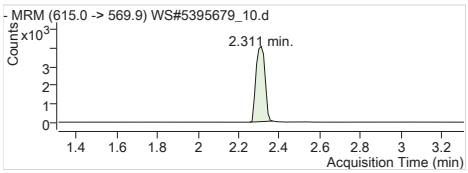


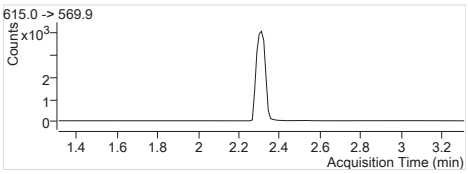
13C2-PFDA 515.0 -> 469.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 114.09 µg/L
Area ratio: 0.29520
Sample type: CC



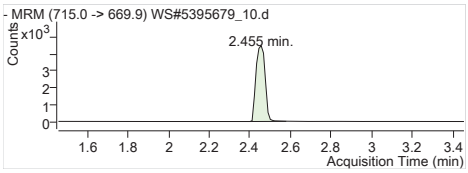


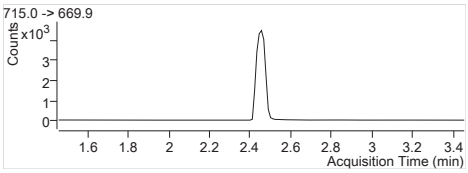
13C2-PFUnA 565.0 -> 519.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 108.14 µg/L
Area ratio: 0.33456
Sample type: CC



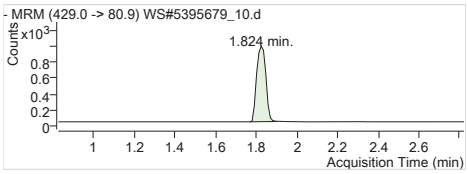


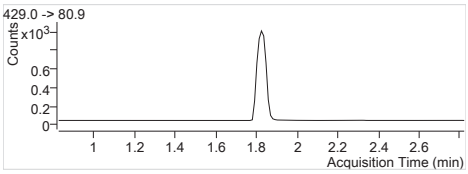
13C2-PFDoA 615.0 -> 569.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 111.77 µg/L
Area ratio: 0.45705
Sample type: CC



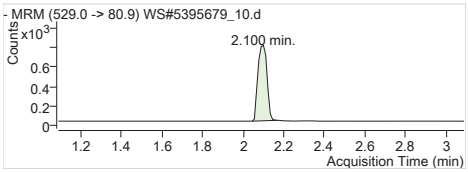


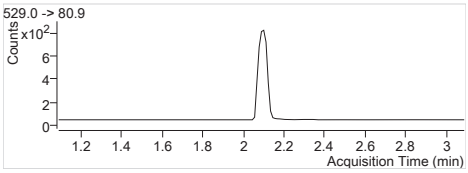
13C2-PFTeDA 715.0 -> 669.9
RT (Exp. RT): 2.455 (2.455)
Calc. conc. 107.12 µg/L
Area ratio: 0.51230
Sample type: CC



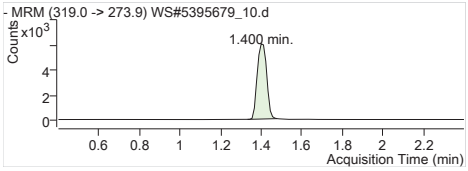


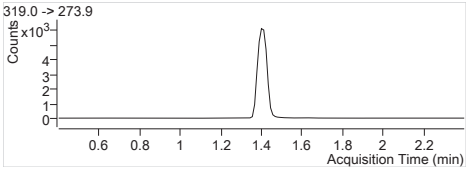
13C2-6:2-FTS 429.0 -> 80.9
RT (Exp. RT): 1.824 (1.824)
Calc. conc. 127.74 µg/L
Area ratio: 0.15468
Sample type: CC



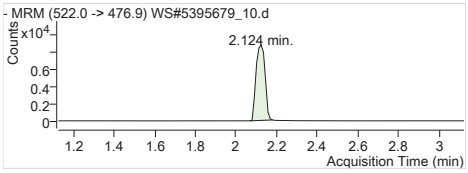


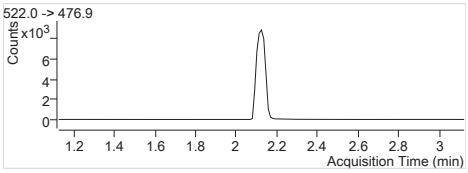
13C2-8:2 FTS 529.0 -> 80.9
RT (Exp. RT): 2.100 (2.089)
Calc. conc. 109.69 µg/L
Area ratio: 0.12389
Sample type: CC





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.400 (1.400)
Calc. conc. 88.66 µg/L
Area ratio: 0
Sample type: CC





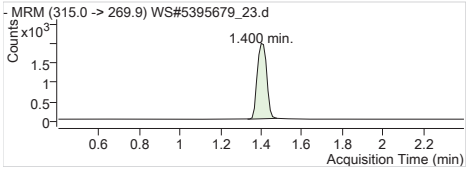
13C9-PFDA 522.0 -> 476.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 93.15 µg/L
Area ratio: 0
Sample type: CC

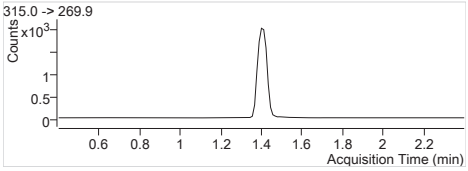
Batch Path	T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics

Sample Name	**CCV**	**Instrument**	LCMS04
Data File	WS#5395679_23.d	**Operator**	
Sample Type	CC	**Dilution**	1
Acq. Method	PFC_Water_Low.m	**Position**	P3-A5
Acq. Date	2018/02/13 11:44:24 PM	**Injection Volume**	Per Method
Sample Annotation	-		

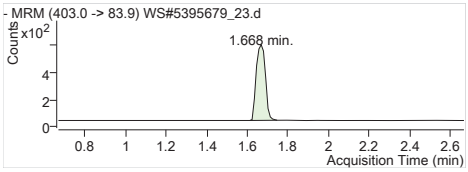
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	6335	1.40	1 µg/L		
MPFHxS	1737	1.67	1 µg/L		
MPFHpA	8236	1.68	1 µg/L		
MPFOA	8897	1.86	1 µg/L		
MPFOS	1967	1.97	1 µg/L		
MPFNA	8566	2.00	1 µg/L		
MPFDA	7051	2.12	1 µg/L		
MPFUnA	9049	2.22	1 µg/L		
MPFDoA	11695	2.31	1 µg/L		
MPFTeDA	13008	2.46	1 µg/L		
13C6-PFHxA IS	21360	1.40	1 µg/L		
13C9-PFDA IS	28652	2.12	1 µg/L		

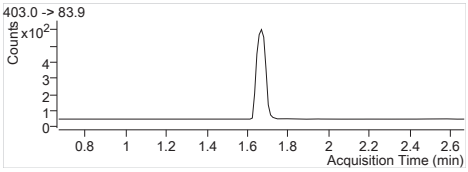
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1	9008	1.05	12.50	11.35 µg/L	90.84
PFHxA 1	31793	1.40	12.50	11.70 µg/L	93.57
PFHxS 1	9064	1.67	12.50	11.48 µg/L	91.88
PFHpA 1	42551	1.68	12.50	12.88 µg/L	103.00
PFOA 1	48710	1.86	12.50	13.21 µg/L	105.64
PFOS 1	8811	1.96	12.50	12.07 µg/L	96.53
PFNA 1	42907	2.00	12.50	12.95 µg/L	103.60
PFDA 1	46720	2.12	12.50	13.45 µg/L	107.61
PFUnA 1	50270	2.22	12.50	12.18 µg/L	97.40
PFDoA 1	60415	2.31	12.50	12.17 µg/L	97.39
PFTrDA 1	71774	2.39	12.50	12.93 µg/L	103.43
PFTeDA 1	60474	2.46	12.50	13.27 µg/L	106.16
13C2-PFHxA	6335	1.40	100.00	98.50 µg/L	98.50
18O2-PFHxS	1737	1.67	100.00	105.80 µg/L	105.80
13C4-PFHpA	8236	1.68	100.00	97.76 µg/L	97.76
13C4-PFOA	8897	1.86	100.00	97.70 µg/L	97.70
13C4-PFOS	1967	1.97	100.00	100.69 µg/L	100.69
13C5-PFNA	8566	2.00	100.00	96.53 µg/L	96.53
13C2-PFDA	6853	2.12	100.00	92.44 µg/L	92.44
13C2-PFUnA	9049	2.22	100.00	102.09 µg/L	102.09
13C2-PFDoA	11695	2.31	100.00	99.81 µg/L	99.81
13C2-PFTeDA	13328	2.46	100.00	97.27 µg/L	97.27
13C2-6:2-FTS	2869	1.82	100.00	110.93 µg/L	110.93
13C2-8:2 FTS	2504	2.10	100.00	103.80 µg/L	103.80
13C6-PFHxA	21360	1.40	100.00	97.51 µg/L	97.51
13C9-PFDA	28652	2.12	100.00	98.91 µg/L	98.91



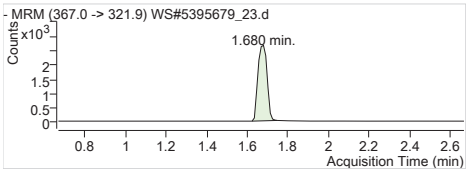


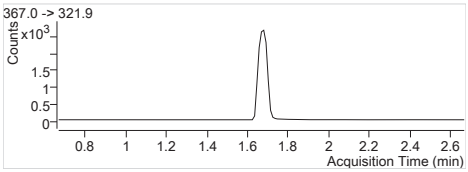
MPFHxA	Internal Standard
RT (Exp. RT):	1.400 (1.400)
Concentration:	1 µg/L
Sample type:	CC



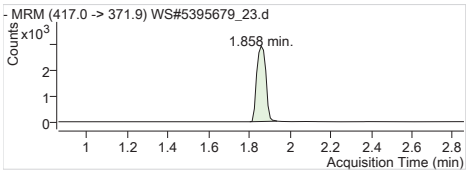


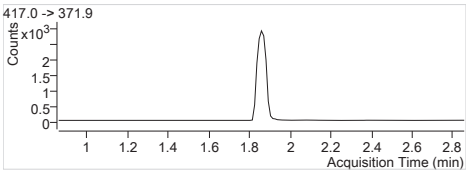
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: CC



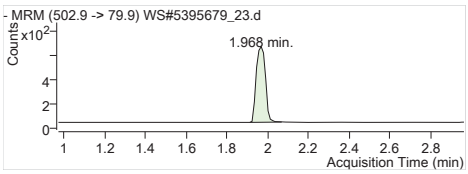


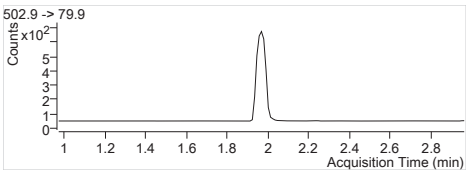
MPFHpA Internal Standard
RT (Exp. RT): 1.680 (1.668)
Concentration: 1 µg/L
Sample type: CC



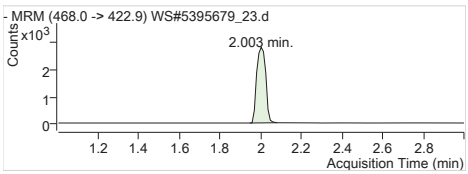


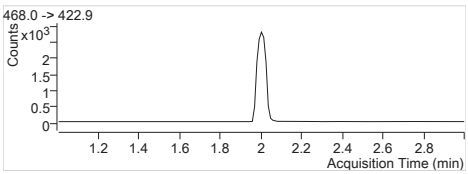
MPFOA Internal Standard
RT (Exp. RT): 1.858 (1.858)
Concentration: 1 µg/L
Sample type: CC



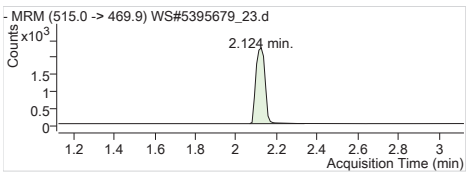


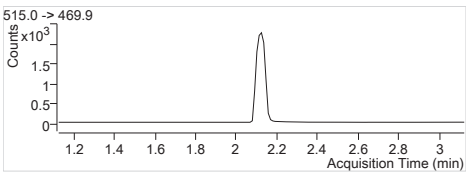
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: CC



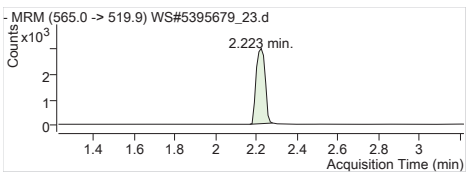


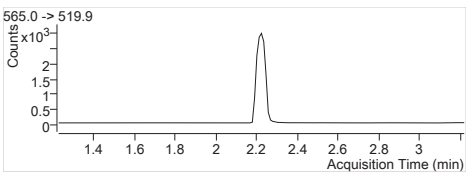
MPFNA Internal Standard
RT (Exp. RT): 2.003 (2.003)
Concentration: 1 µg/L
Sample type: CC



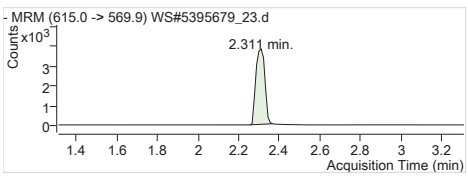


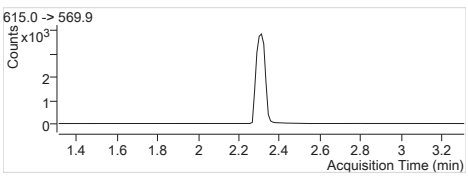
MPFDA Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: CC



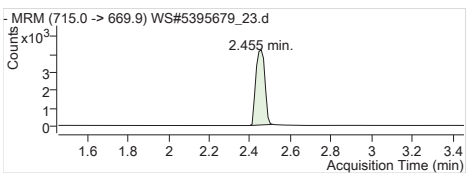


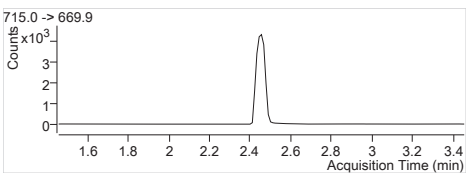
MPFUnA Internal Standard
RT (Exp. RT): 2.223 (2.223)
Concentration: 1 µg/L
Sample type: CC



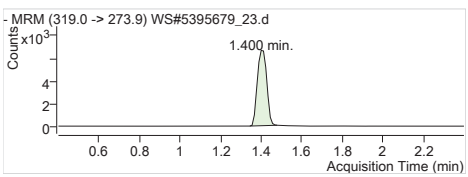


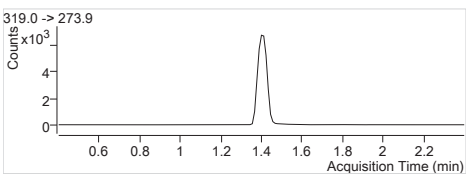
MPFDoA Internal Standard
RT (Exp. RT): 2.311 (2.311)
Concentration: 1 µg/L
Sample type: CC



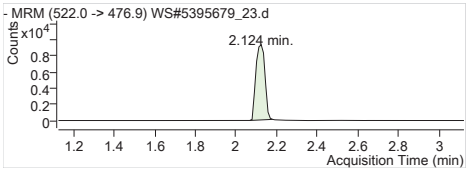


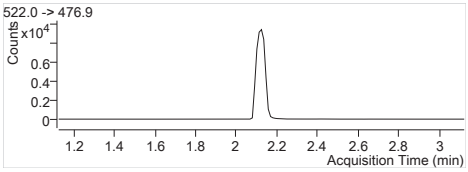
MPFTeDA Internal Standard
RT (Exp. RT): 2.455 (2.455)
Concentration: 1 µg/L
Sample type: CC



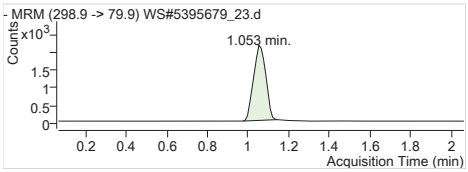


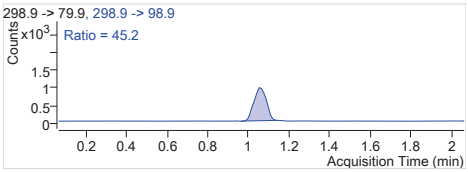
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.400 (1.400)
Concentration: 1 µg/L
Sample type: CC



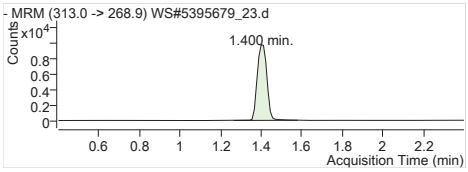


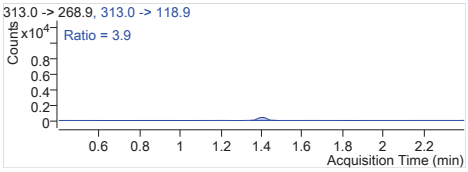
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: CC



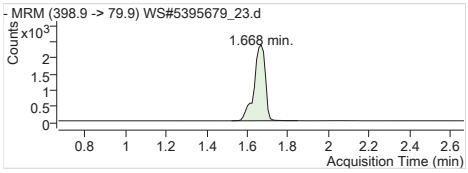


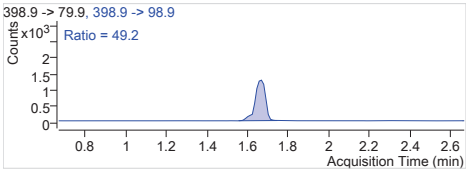
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 1.053 (1.064)
Calc. conc. 11.35 µg/L
Area ratio: 5.18595
Sample type: CC



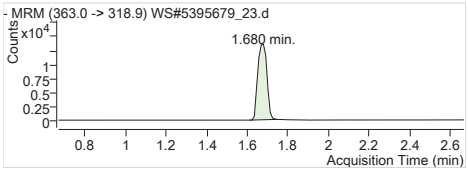


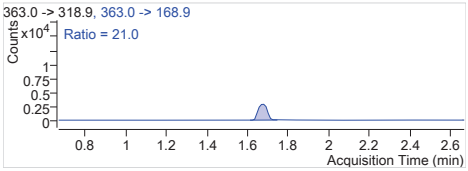
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 1.400 (1.400)
Calc. conc. 11.70 µg/L
Area ratio: 5.01863
Sample type: CC



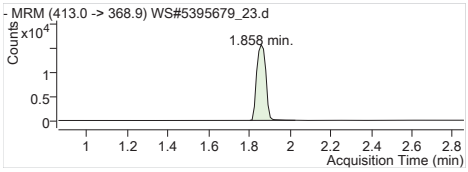


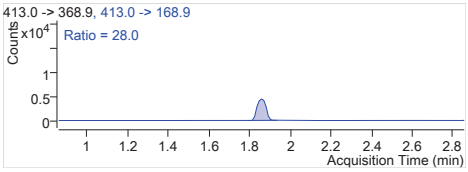
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 11.48 µg/L
Area ratio: 5.21819
Sample type: CC



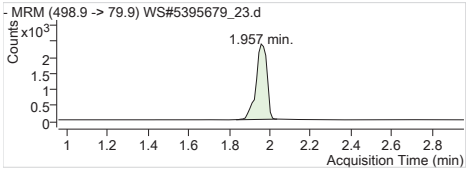


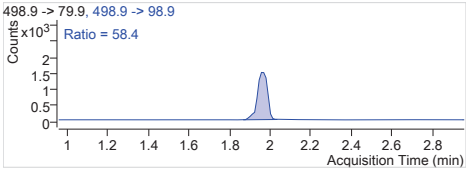
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 1.680 (1.669)
Calc. conc. 12.88 µg/L
Area ratio: 5.16646
Sample type: CC



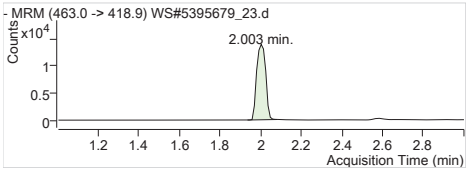


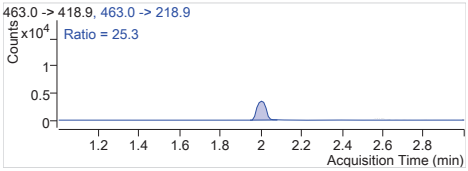
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 1.858 (1.858)
Calc. conc. 13.21 µg/L
Area ratio: 5.47488
Sample type: CC



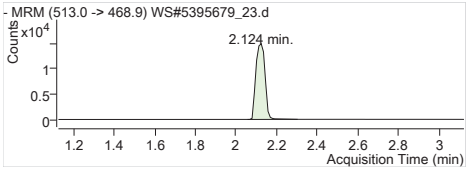


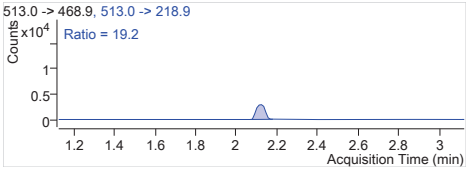
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 12.07 µg/L
Area ratio: 4.47941
Sample type: CC



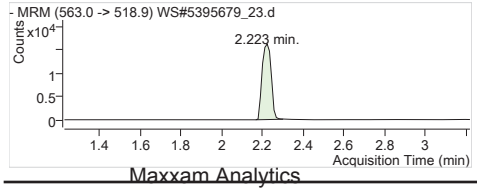


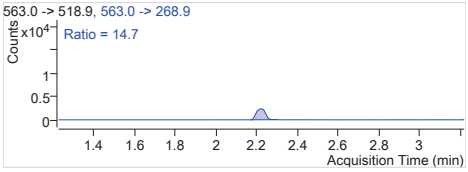
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 2.003 (2.003)
Calc. conc. 12.95 µg/L
Area ratio: 5.00899
Sample type: CC



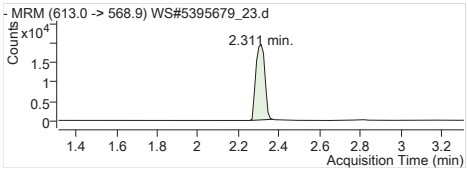


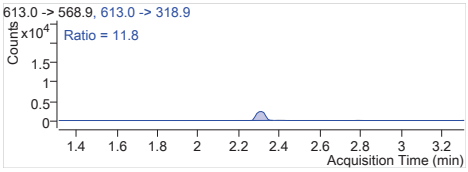
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 13.45 µg/L
Area ratio: 6.62601
Sample type: CC



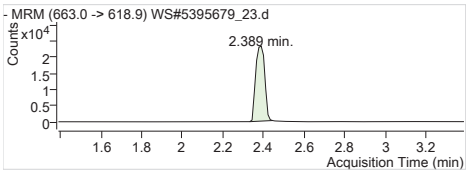


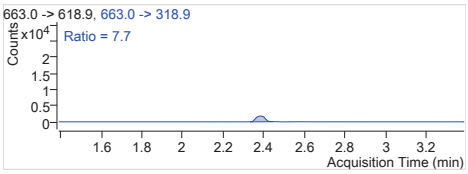
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 12.18 µg/L
Area ratio: 5.55531
Sample type: CC



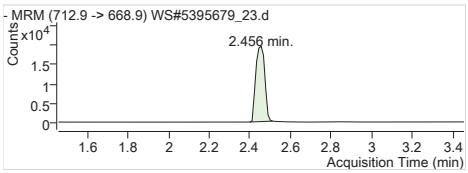


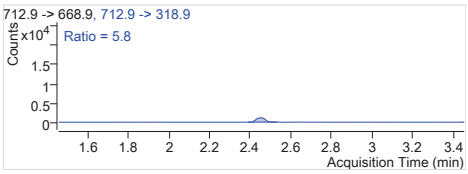
PFDoA 1 613.0 -> 568.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 12.17 µg/L
Area ratio: 5.16588
Sample type: CC



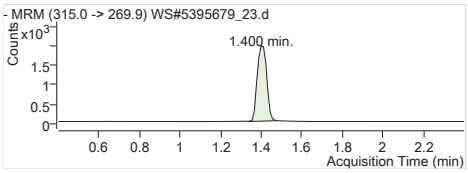


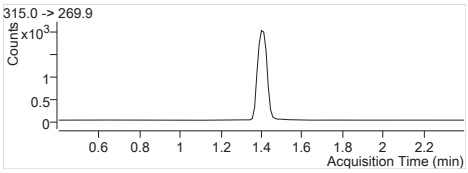
PFTrDA 1 663.0 -> 618.9
RT (Exp. RT): 2.389 (2.389)
Calc. conc. 12.93 µg/L
Area ratio: 5.51768
Sample type: CC



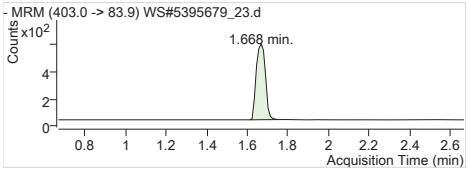


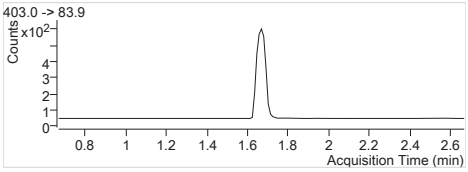
PFTeDA 1 712.9 -> 668.9
RT (Exp. RT): 2.456 (2.456)
Calc. conc. 13.27 µg/L
Area ratio: 4.64899
Sample type: CC



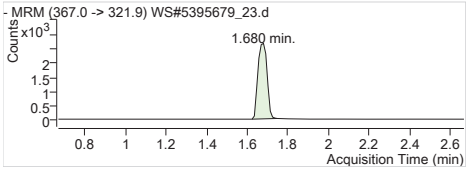


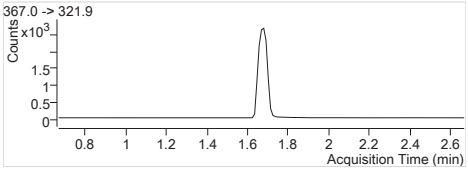
13C2-PFHxA 315.0 -> 269.9
RT (Exp. RT): 1.400 (1.400)
Calc. conc. 98.50 µg/L
Area ratio: 0.29658
Sample type: CC



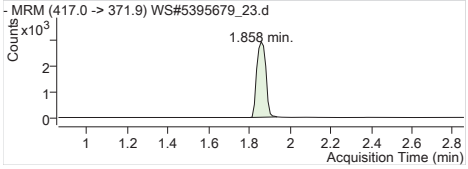


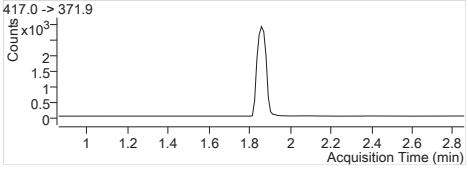
18O2-PFHxS 403.0 -> 83.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 105.80 µg/L
Area ratio: 0.08132
Sample type: CC



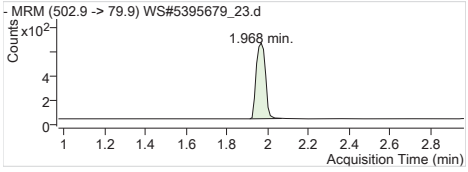


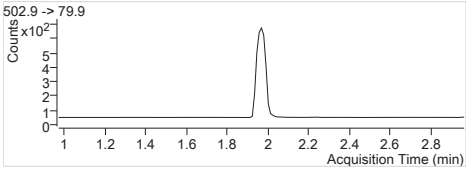
13C4-PFHpA 367.0 -> 321.9
RT (Exp. RT): 1.680 (1.668)
Calc. conc. 97.76 µg/L
Area ratio: 0.38558
Sample type: CC



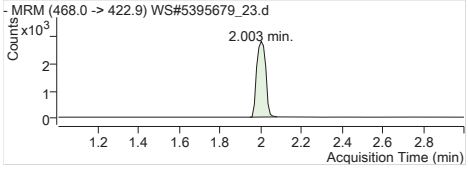


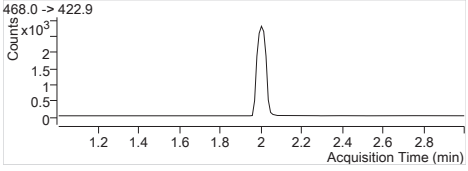
13C4-PFOA 417.0 -> 371.9
RT (Exp. RT): 1.858 (1.858)
Calc. conc. 97.70 µg/L
Area ratio: 0.41653
Sample type: CC



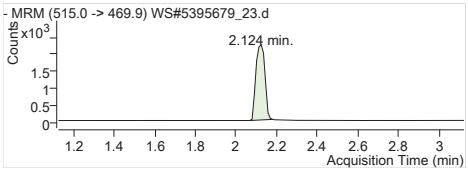


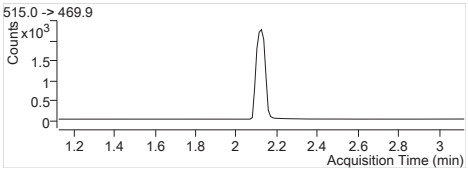
13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.968 (1.968)
Calc. conc. 100.69 µg/L
Area ratio: 0.09209
Sample type: CC



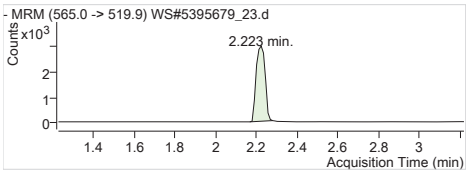


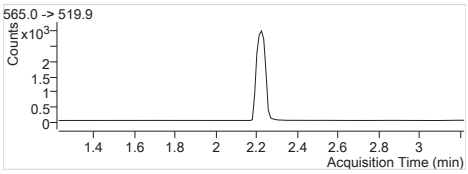
13C5-PFNA 468.0 -> 422.9
RT (Exp. RT): 2.003 (2.003)
Calc. conc. 96.53 µg/L
Area ratio: 0.40103
Sample type: CC



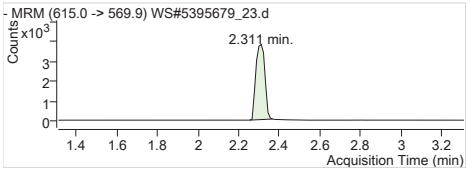


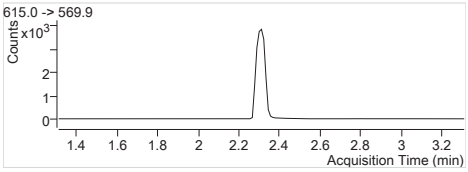
13C2-PFDA 515.0 -> 469.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 92.44 µg/L
Area ratio: 0.23918
Sample type: CC



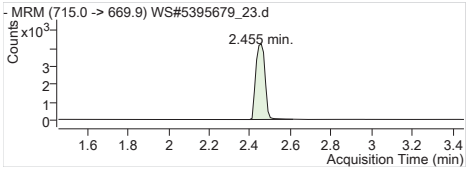


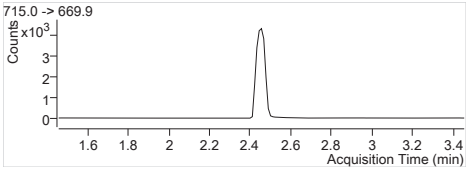
13C2-PFUnA 565.0 -> 519.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 102.09 µg/L
Area ratio: 0.31582
Sample type: CC



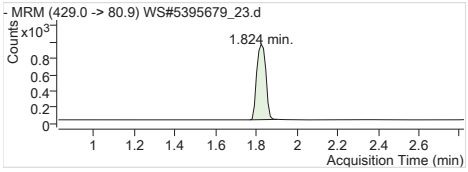


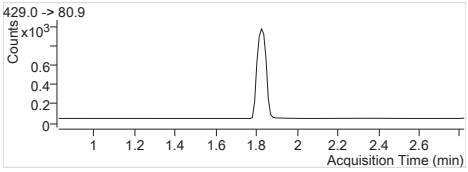
13C2-PFDoA 615.0 -> 569.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 99.81 µg/L
Area ratio: 0.40817
Sample type: CC



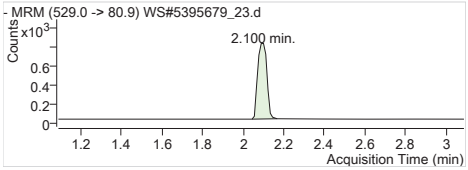


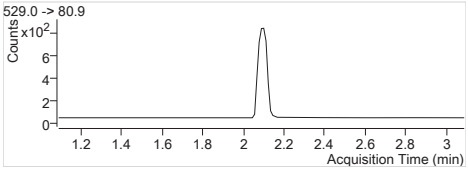
13C2-PFTeDA 715.0 -> 669.9
RT (Exp. RT): 2.455 (2.455)
Calc. conc. 97.27 µg/L
Area ratio: 0.46517
Sample type: CC



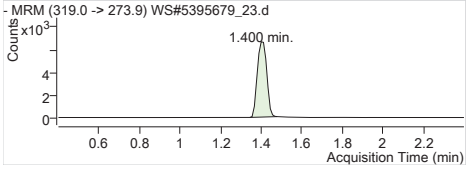


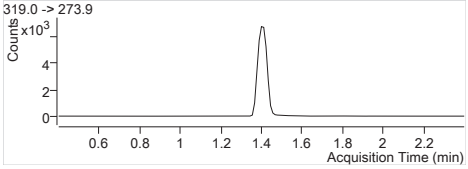
13C2-6:2-FTS 429.0 -> 80.9
RT (Exp. RT): 1.824 (1.824)
Calc. conc. 110.93 µg/L
Area ratio: 0.13432
Sample type: CC



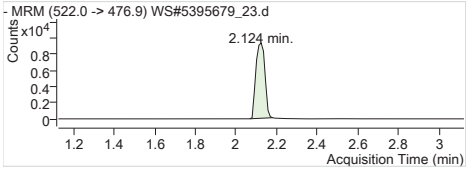


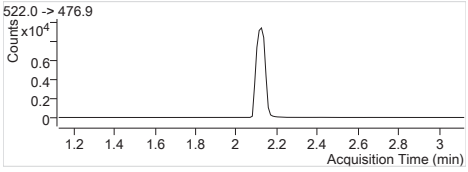
13C2-8:2 FTS 529.0 -> 80.9
RT (Exp. RT): 2.100 (2.089)
Calc. conc. 103.80 µg/L
Area ratio: 0.11723
Sample type: CC





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.400 (1.400)
Calc. conc. 97.51 µg/L
Area ratio: 0
Sample type: CC





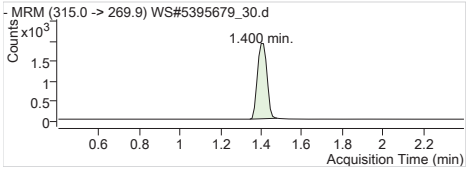
13C9-PFDA 522.0 -> 476.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 98.91 µg/L
Area ratio: 0
Sample type: CC

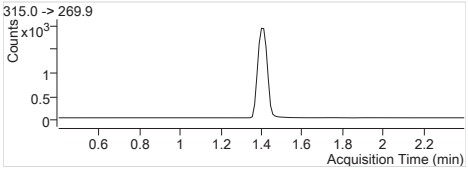
Batch Path	T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics

Sample Name	**CCV**	**Instrument**	LCMS04
Data File	WS#5395679_30.d	**Operator**	
Sample Type	CC	**Dilution**	1
Acq. Method	PFC_Water_Low.m	**Position**	P3-A5
Acq. Date	2018/02/14 12:18:56 AM	**Injection Volume**	Per Method
Sample Annotation	-		

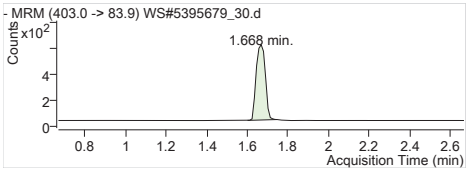
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	6134	1.40	1 µg/L		
MPFHxS	1815	1.67	1 µg/L		
MPFHpA	8458	1.68	1 µg/L		
MPFOA	8559	1.86	1 µg/L		
MPFOS	2044	1.97	1 µg/L		
MPFNA	8644	2.00	1 µg/L		
MPFDA	7377	2.12	1 µg/L		
MPFUnA	9234	2.22	1 µg/L		
MPFDoA	11486	2.31	1 µg/L		
MPFTeDA	13227	2.46	1 µg/L		
13C6-PFHxA IS	21627	1.41	1 µg/L		
13C9-PFDA IS	29319	2.12	1 µg/L		

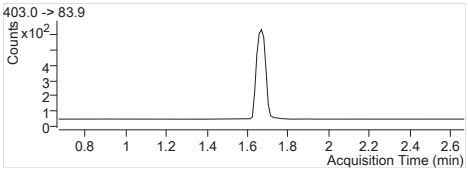
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1	9154	1.06	12.50	11.05 µg/L	88.38
PFHxA 1	32389	1.41	12.50	12.30 µg/L	98.37
PFHxS 1	9324	1.67	12.50	11.31 µg/L	90.47
PFHpA 1	44058	1.67	12.50	12.98 µg/L	103.85
PFOA 1	48051	1.86	12.50	13.54 µg/L	108.30
PFOS 1	8977	1.96	12.50	11.83 µg/L	94.66
PFNA 1	42830	2.00	12.50	12.81 µg/L	102.49
PFDA 1	47732	2.12	12.50	13.14 µg/L	105.09
PFUnA 1	51504	2.22	12.50	12.22 µg/L	97.79
PFDoA 1	66665	2.31	12.50	13.68 µg/L	109.41
PFTrDA 1	71697	2.39	12.50	12.70 µg/L	101.62
PFTeDA 1	61607	2.46	12.50	13.30 µg/L	106.36
13C2-PFHxA	6134	1.40	100.00	94.19 µg/L	94.19
18O2-PFHxS	1815	1.67	100.00	109.18 µg/L	109.18
13C4-PFHpA	8458	1.68	100.00	99.15 µg/L	99.15
13C4-PFOA	8559	1.86	100.00	92.82 µg/L	92.82
13C4-PFOS	2044	1.97	100.00	103.33 µg/L	103.33
13C5-PFNA	8644	2.00	100.00	96.20 µg/L	96.20
13C2-PFDA	7308	2.12	100.00	96.34 µg/L	96.34
13C2-PFUnA	9234	2.22	100.00	101.80 µg/L	101.80
13C2-PFDoA	11486	2.31	100.00	95.80 µg/L	95.80
13C2-PFTeDA	13372	2.46	100.00	95.37 µg/L	95.37
13C2-6:2-FTS	2788	1.82	100.00	106.46 µg/L	106.46
13C2-8:2 FTS	2357	2.10	100.00	96.50 µg/L	96.50
13C6-PFHxA	21627	1.41	100.00	98.73 µg/L	98.73
13C9-PFDA	29319	2.12	100.00	101.22 µg/L	101.22



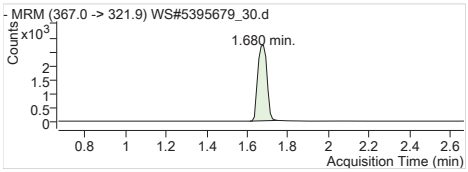


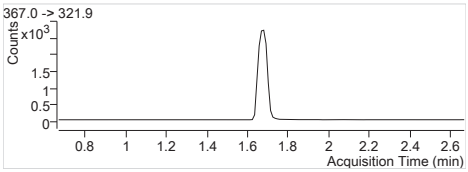
MPFHxA	Internal Standard
RT (Exp. RT):	1.400 (1.400)
Concentration:	1 µg/L
Sample type:	CC



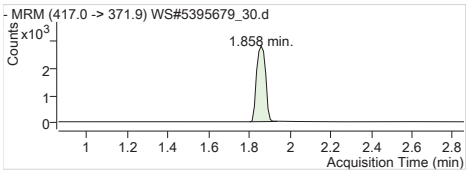


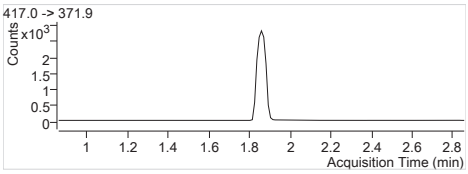
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: CC



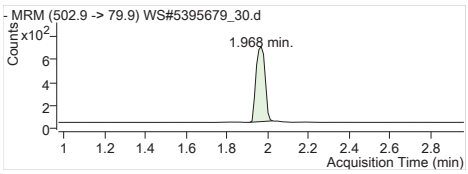


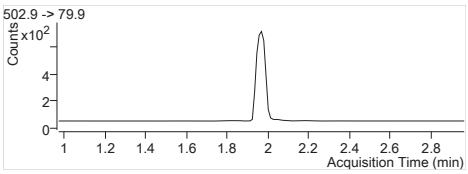
MPFHpA Internal Standard
RT (Exp. RT): 1.680 (1.668)
Concentration: 1 µg/L
Sample type: CC



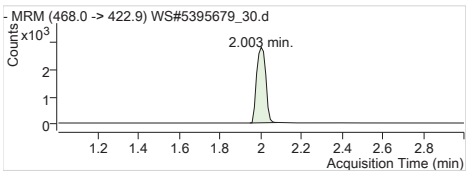


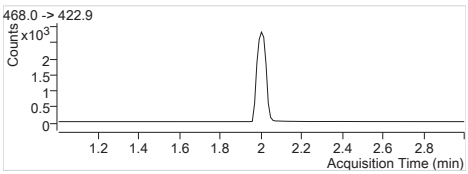
MPFOA Internal Standard
RT (Exp. RT): 1.858 (1.858)
Concentration: 1 µg/L
Sample type: CC



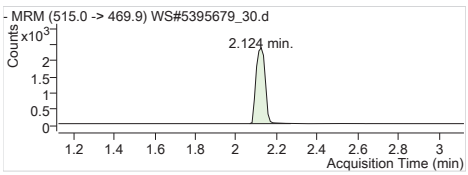


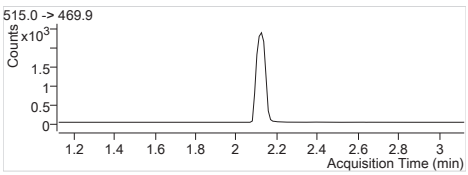
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: CC



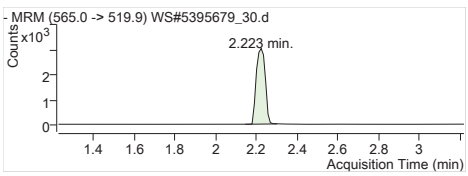


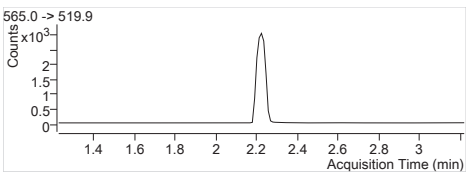
MPFNA Internal Standard
RT (Exp. RT): 2.003 (2.003)
Concentration: 1 µg/L
Sample type: CC



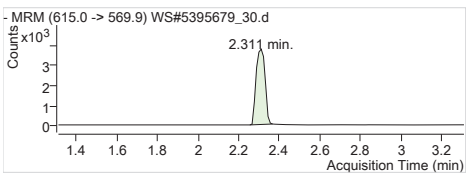


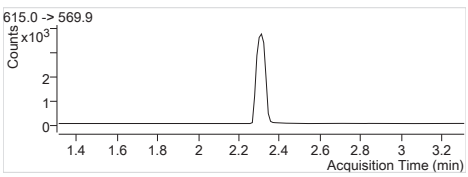
MPFDA Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: CC



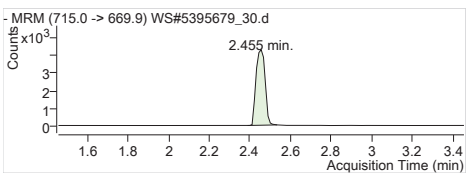


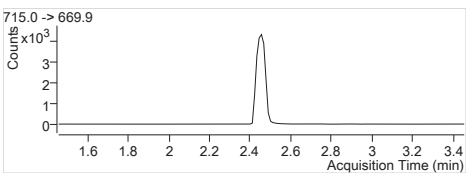
MPFUnA Internal Standard
RT (Exp. RT): 2.223 (2.223)
Concentration: 1 µg/L
Sample type: CC



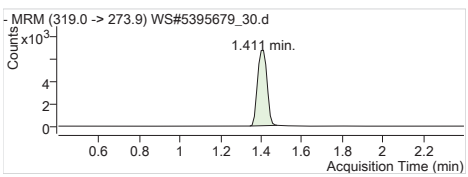


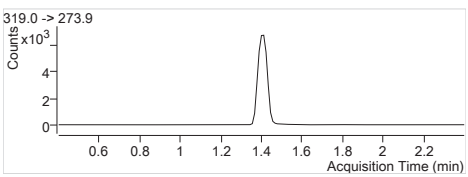
MPFDoA Internal Standard
RT (Exp. RT): 2.311 (2.311)
Concentration: 1 µg/L
Sample type: CC



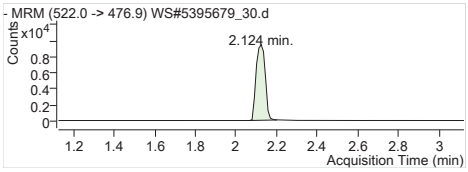


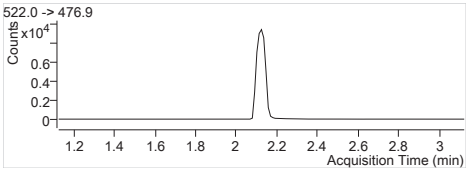
MPFTeDA Internal Standard
RT (Exp. RT): 2.455 (2.455)
Concentration: 1 µg/L
Sample type: CC



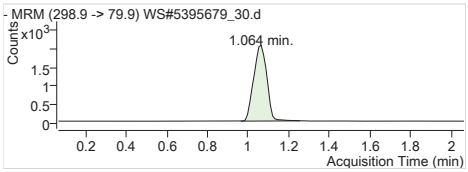


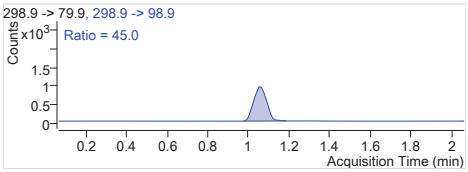
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.400)
Concentration: 1 µg/L
Sample type: CC



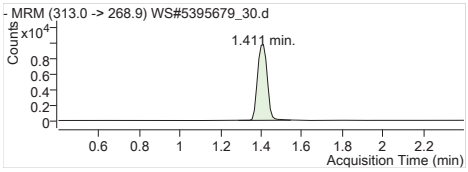


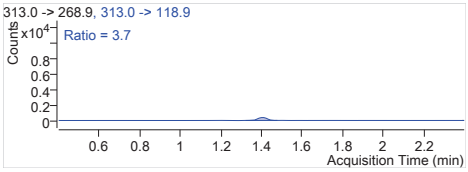
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: CC



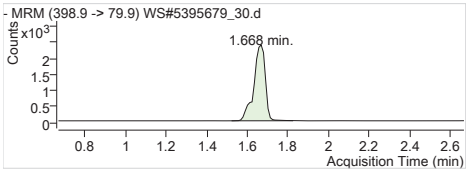


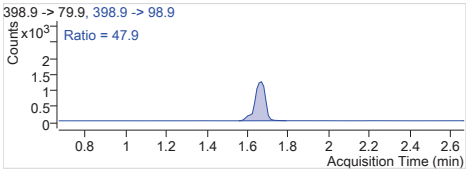
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 1.064 (1.064)
Calc. conc. 11.05 µg/L
Area ratio: 5.04353
Sample type: CC



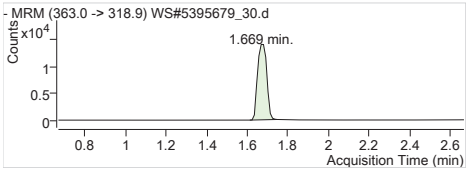


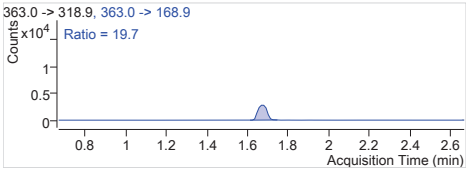
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 1.411 (1.400)
Calc. conc. 12.30 µg/L
Area ratio: 5.28024
Sample type: CC



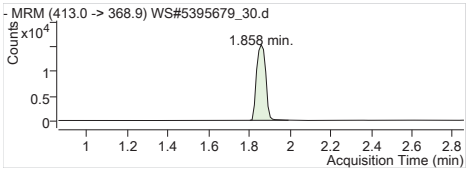


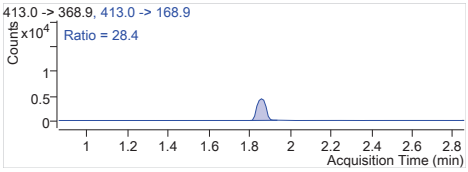
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 11.31 µg/L
Area ratio: 5.13719
Sample type: CC



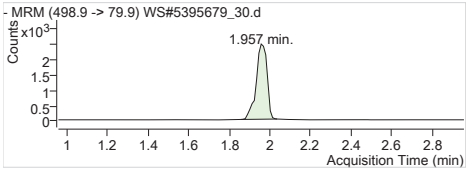


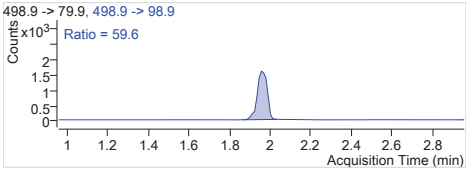
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 1.669 (1.669)
Calc. conc. 12.98 µg/L
Area ratio: 5.20903
Sample type: CC



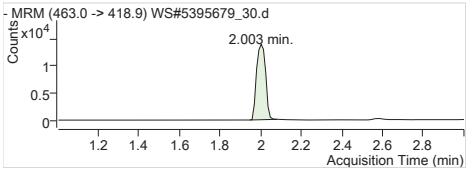


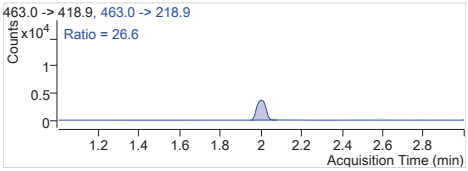
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 1.858 (1.858)
Calc. conc. 13.54 µg/L
Area ratio: 5.61409
Sample type: CC



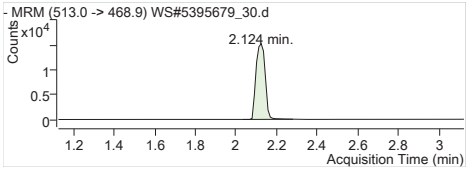


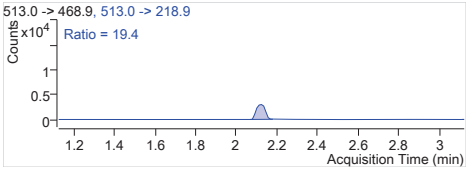
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 11.83 µg/L
Area ratio: 4.39188
Sample type: CC



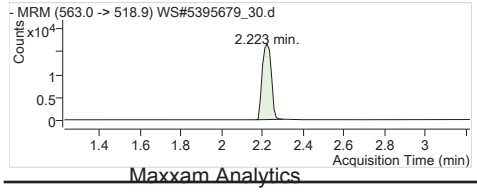


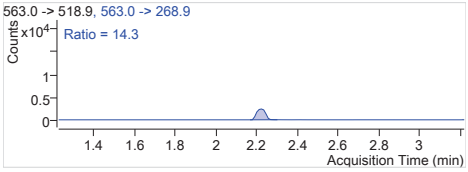
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 2.003 (2.003)
Calc. conc. 12.81 µg/L
Area ratio: 4.95488
Sample type: CC



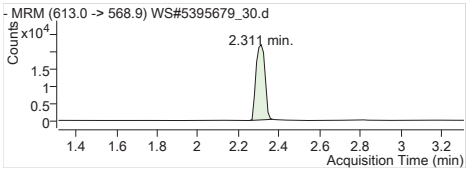


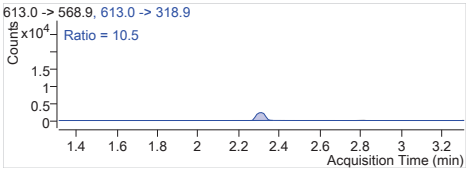
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 13.14 µg/L
Area ratio: 6.47038
Sample type: CC



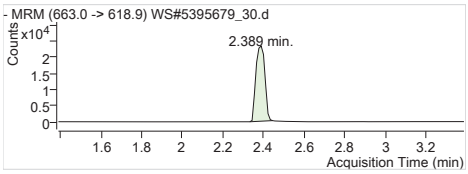


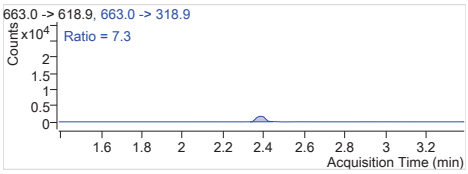
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 12.22 µg/L
Area ratio: 5.57765
Sample type: CC



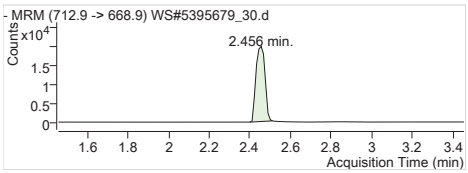


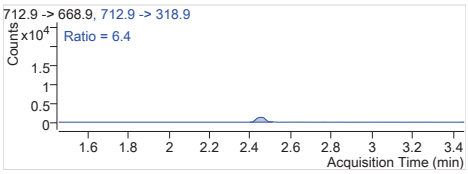
PFDoA 1 613.0 -> 568.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 13.68 µg/L
Area ratio: 5.80402
Sample type: CC



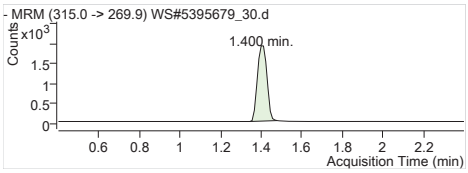


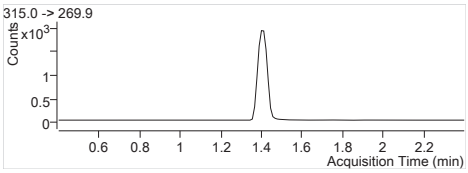
PFTrDA 1 663.0 -> 618.9
RT (Exp. RT): 2.389 (2.389)
Calc. conc. 12.70 µg/L
Area ratio: 5.42050
Sample type: CC



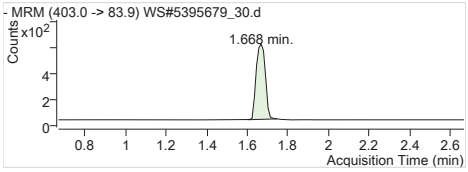


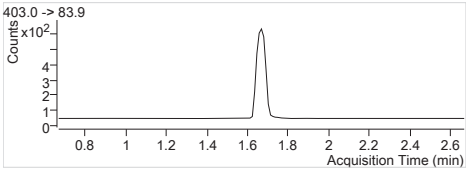
PFTeDA 1 712.9 -> 668.9
RT (Exp. RT): 2.456 (2.456)
Calc. conc. 13.30 µg/L
Area ratio: 4.65767
Sample type: CC



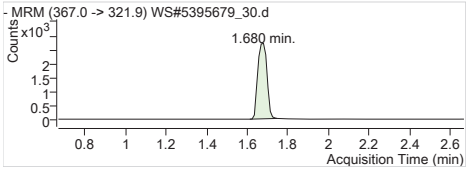


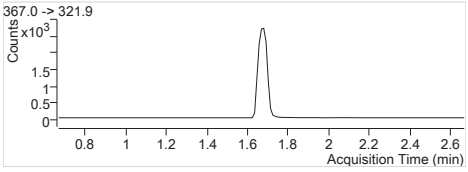
13C2-PFHxA 315.0 -> 269.9
RT (Exp. RT): 1.400 (1.400)
Calc. conc. 94.19 µg/L
Area ratio: 0.28363
Sample type: CC



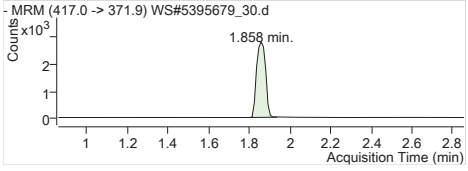


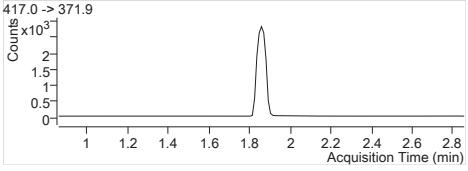
18O2-PFHxS 403.0 -> 83.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 109.18 µg/L
Area ratio: 0.08392
Sample type: CC



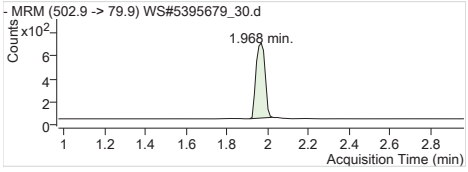


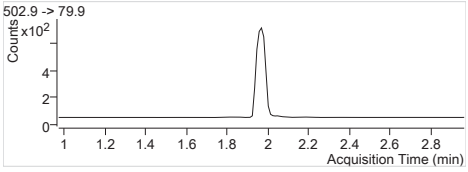
13C4-PFHpA 367.0 -> 321.9
RT (Exp. RT): 1.680 (1.668)
Calc. conc. 99.15 µg/L
Area ratio: 0.39109
Sample type: CC



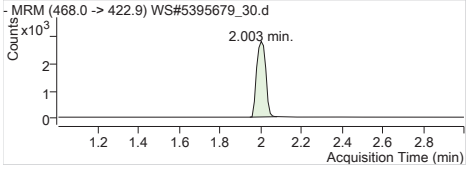


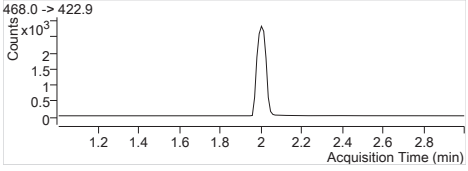
13C4-PFOA 417.0 -> 371.9
RT (Exp. RT): 1.858 (1.858)
Calc. conc. 92.82 µg/L
Area ratio: 0.39576
Sample type: CC



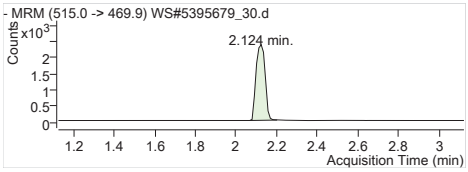


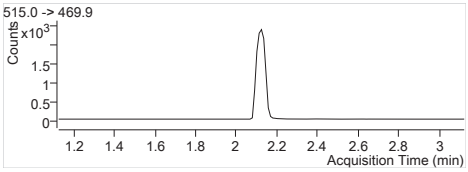
13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.968 (1.968)
Calc. conc. 103.33 µg/L
Area ratio: 0.09451
Sample type: CC



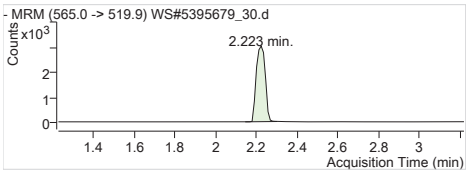


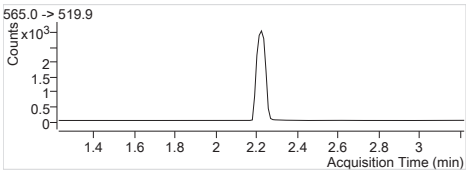
13C5-PFNA 468.0 -> 422.9
RT (Exp. RT): 2.003 (2.003)
Calc. conc. 96.20 µg/L
Area ratio: 0.39969
Sample type: CC



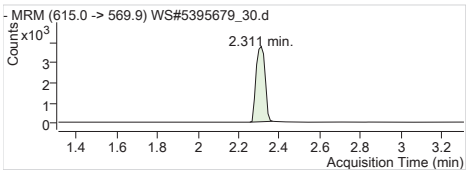


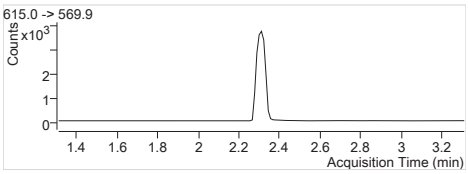
13C2-PFDA 515.0 -> 469.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 96.34 µg/L
Area ratio: 0.24926
Sample type: CC



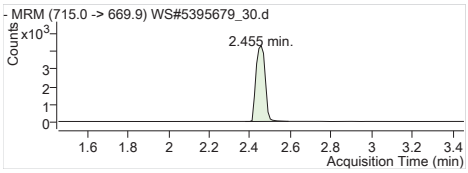


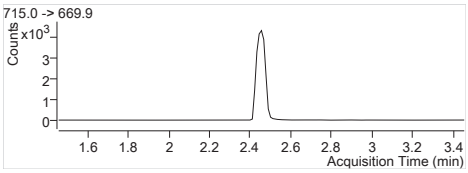
13C2-PFUnA 565.0 -> 519.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 101.80 µg/L
Area ratio: 0.31495
Sample type: CC



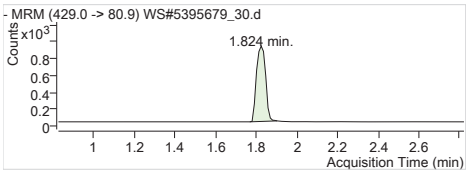


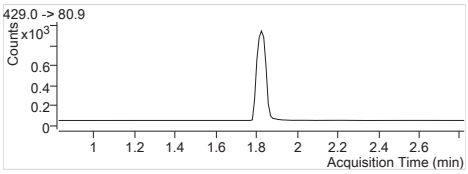
13C2-PFDoA 615.0 -> 569.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 95.80 µg/L
Area ratio: 0.39176
Sample type: CC



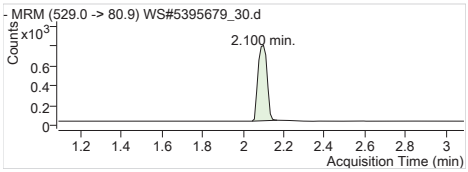


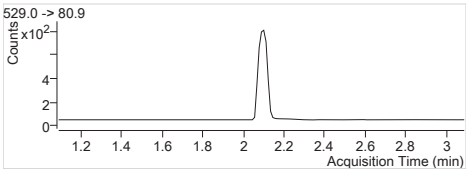
13C2-PFTeDA 715.0 -> 669.9
RT (Exp. RT): 2.455 (2.455)
Calc. conc. 95.37 µg/L
Area ratio: 0.45609
Sample type: CC



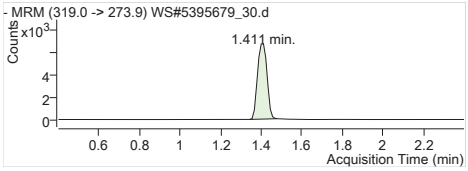


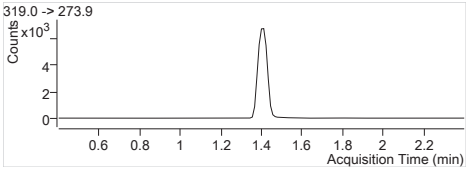
13C2-6:2-FTS 429.0 -> 80.9
RT (Exp. RT): 1.824 (1.824)
Calc. conc. 106.46 µg/L
Area ratio: 0.12891
Sample type: CC



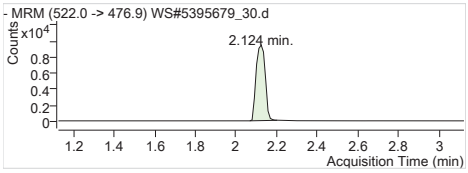


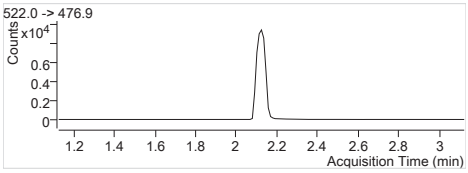
13C2-8:2 FTS 529.0 -> 80.9
RT (Exp. RT): 2.100 (2.089)
Calc. conc. 96.50 µg/L
Area ratio: 0.10898
Sample type: CC





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.400)
Calc. conc. 98.73 µg/L
Area ratio: 0
Sample type: CC





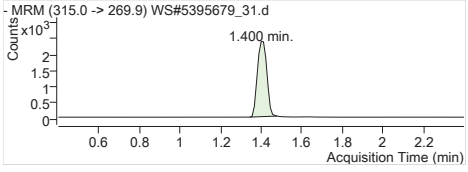
13C9-PFDA 522.0 -> 476.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 101.22 µg/L
Area ratio: 0
Sample type: CC

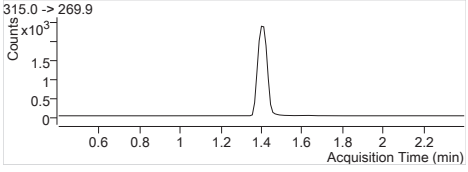
Batch Path	T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics

Sample Name	**ISC**	**Instrument**	LCMS04
Data File	WS#5395679_31.d	**Operator**	
Sample Type	CC	**Dilution**	1
Acq. Method	PFC_Water_Low.m	**Position**	P3-A2
Acq. Date	2018/02/14 10:45:08 AM	**Injection Volume**	Per Method
Sample Annotation	-		

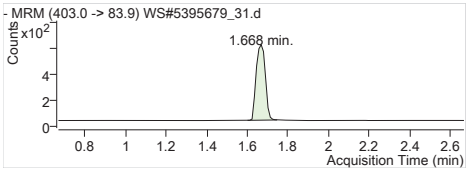
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	7603	1.40	1 µg/L		
MPFHxS	1814	1.67	1 µg/L		
MPFHpA	9704	1.67	1 µg/L		
MPFOA	10033	1.86	1 µg/L		
MPFOS	2219	1.97	1 µg/L		
MPFNA	9931	2.00	1 µg/L		
MPFDA	8530	2.12	1 µg/L		
MPFUnA	9822	2.22	1 µg/L		
MPFDoA	12941	2.31	1 µg/L		
MPFTeDA	15045	2.46	1 µg/L		
13C6-PFHxA IS	20248	1.40	1 µg/L		
13C9-PFDA IS	27315	2.12	1 µg/L		

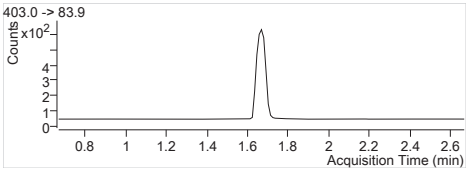
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1	749	1.05	0.83	1.07 µg/L	128.95
PFHxA 1	2539	1.40	0.83	0.95 µg/L	114.11
PFHxS 1	653	1.66	0.83	0.98 µg/L	117.96
PFHpA 1	3109	1.68	0.83	0.83 µg/L	99.56
PFOA 1	3946	1.86	0.83	1.08 µg/L	129.79
PFOS 1	706	1.96	0.83	1.00 µg/L	120.58
PFNA 1	3292	2.00	0.83	0.98 µg/L	117.50
PFDA 1	3496	2.12	0.83	0.87 µg/L	105.12
PFUnA 1	3908	2.22	0.83	0.97 µg/L	117.47
PFDoA 1	4753	2.31	0.83	0.87 µg/L	105.36
PFTrDA 1	5320	2.38	0.83	0.90 µg/L	107.86
PFTeDA 1	4680	2.46	0.83	0.90 µg/L	108.39
13C2-PFHxA	7603	1.40	100.00	124.70 µg/L	124.70
18O2-PFHxS	1814	1.67	100.00	116.55 µg/L	116.55
13C4-PFHpA	9704	1.67	100.00	121.51 µg/L	121.51
13C4-PFOA	10033	1.86	100.00	116.22 µg/L	116.22
13C4-PFOS	2219	1.97	100.00	119.82 µg/L	119.82
13C5-PFNA	9932	2.00	100.00	118.06 µg/L	118.06
13C2-PFDA	8339	2.12	100.00	117.99 µg/L	117.99
13C2-PFUnA	9822	2.22	100.00	116.23 µg/L	116.23
13C2-PFDoA	12941	2.31	100.00	115.86 µg/L	115.86
13C2-PFTeDA	15407	2.46	100.00	117.94 µg/L	117.94
13C2-6:2-FTS	2779	1.82	100.00	113.35 µg/L	113.35
13C2-8:2 FTS	2779	2.10	100.00	121.52 µg/L	121.52
13C6-PFHxA	20248	1.40	100.00	92.43 µg/L	92.43
13C9-PFDA	27315	2.12	100.00	94.30 µg/L	94.30



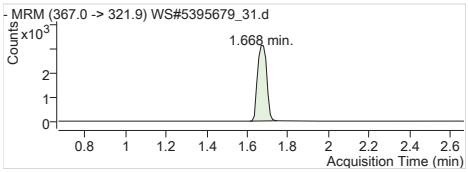


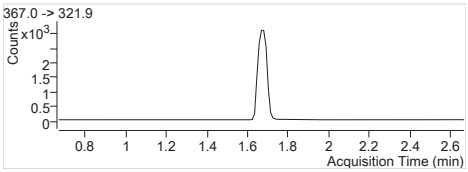
MPFHxA	Internal Standard
RT (Exp. RT):	1.400 (1.400)
Concentration:	1 µg/L
Sample type:	CC



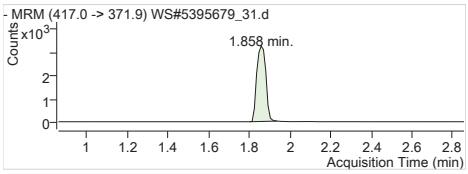


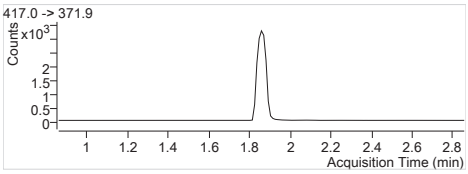
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: CC



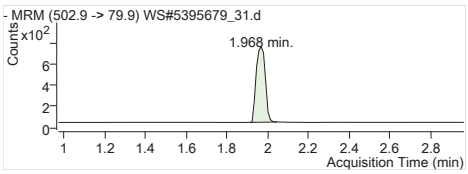


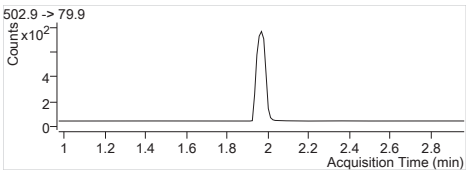
MPFHpA Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: CC



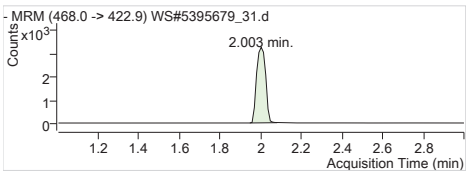


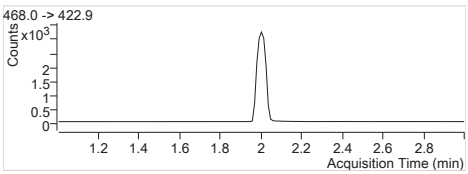
MPFOA Internal Standard
RT (Exp. RT): 1.858 (1.858)
Concentration: 1 µg/L
Sample type: CC



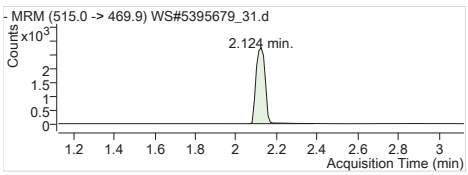


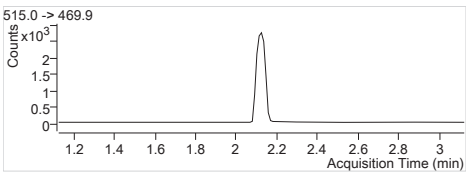
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: CC



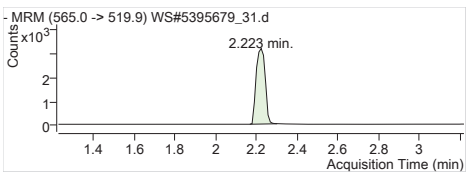


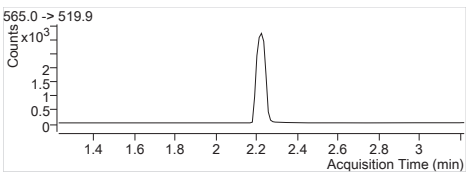
MPFNA Internal Standard
RT (Exp. RT): 2.003 (2.003)
Concentration: 1 µg/L
Sample type: CC



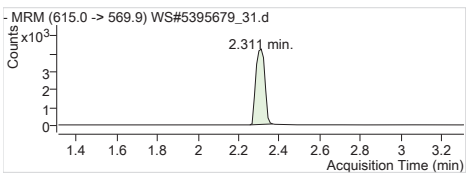


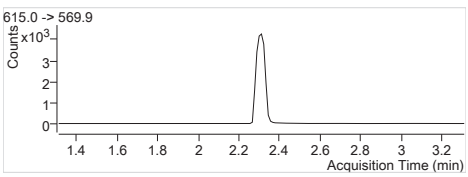
MPFDA Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: CC



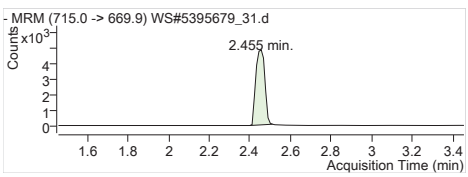


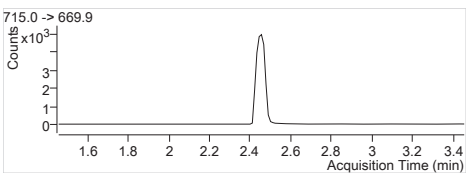
MPFUnA Internal Standard
RT (Exp. RT): 2.223 (2.223)
Concentration: 1 µg/L
Sample type: CC



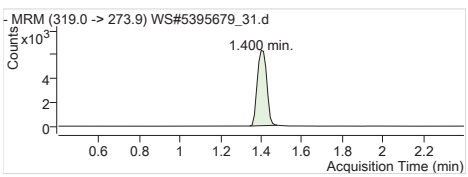


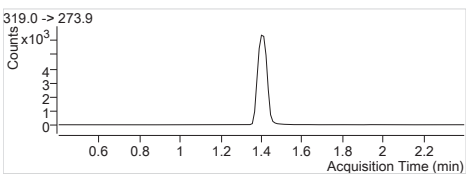
MPFDoA Internal Standard
RT (Exp. RT): 2.311 (2.311)
Concentration: 1 µg/L
Sample type: CC



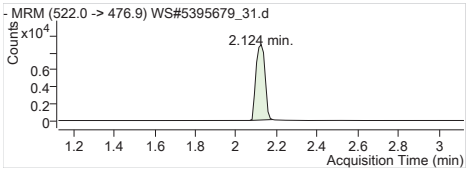


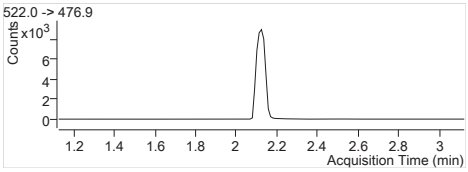
MPFTeDA Internal Standard
RT (Exp. RT): 2.455 (2.455)
Concentration: 1 µg/L
Sample type: CC



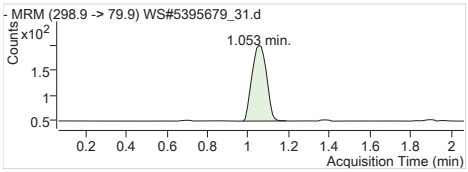


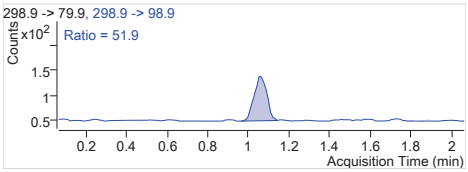
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.400 (1.400)
Concentration: 1 µg/L
Sample type: CC



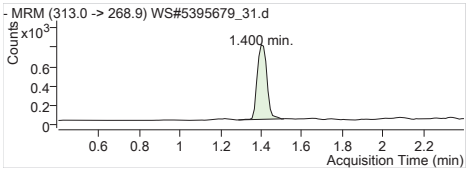


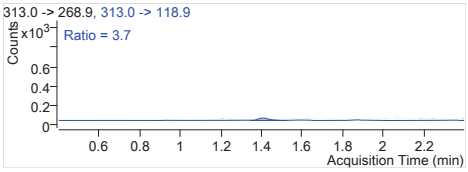
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: CC



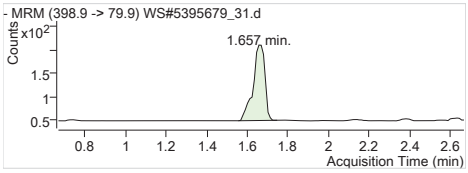


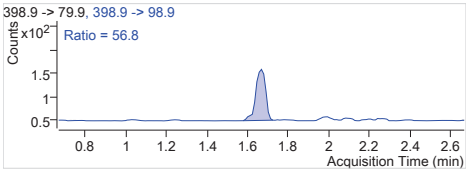
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 1.053 (1.064)
Calc. conc. 1.07 µg/L
Area ratio: 0.41290
Sample type: CC



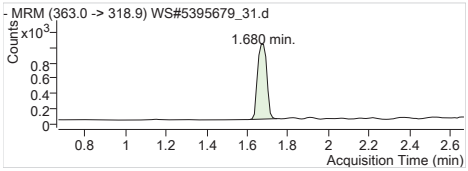


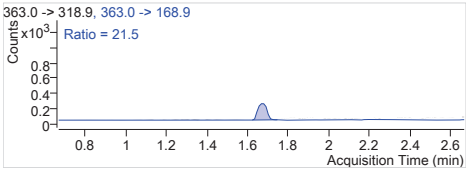
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 1.400 (1.400)
Calc. conc. 0.95 µg/L
Area ratio: 0.33395
Sample type: CC



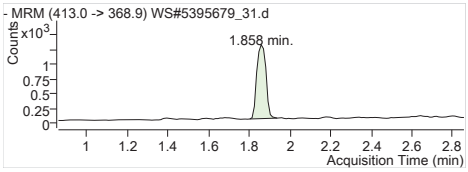


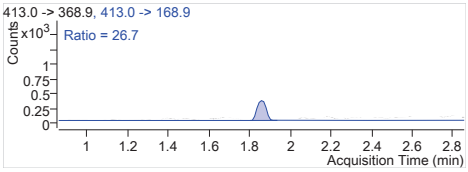
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.657 (1.668)
Calc. conc. 0.98 µg/L
Area ratio: 0.35998
Sample type: CC



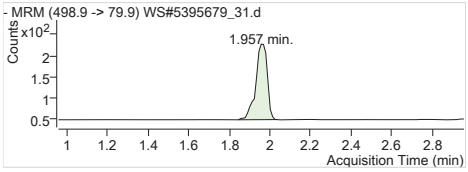


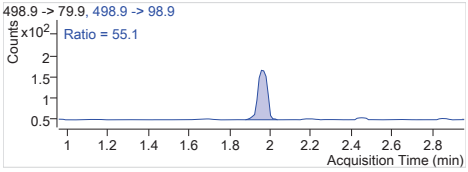
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 1.680 (1.669)
Calc. conc. 0.83 µg/L
Area ratio: 0.32038
Sample type: CC



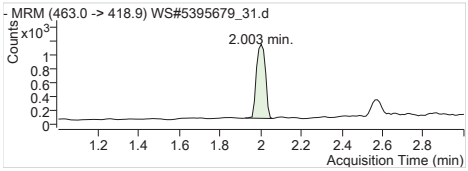


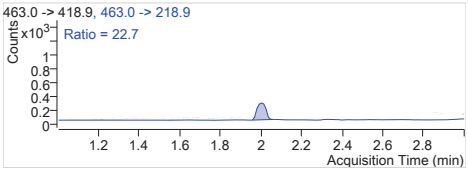
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 1.858 (1.858)
Calc. conc. 1.08 µg/L
Area ratio: 0.39330
Sample type: CC



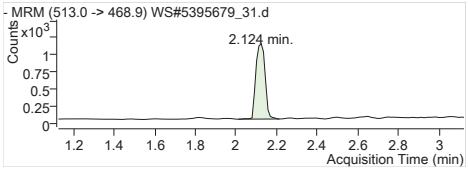


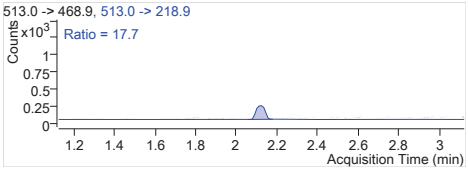
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 1.00 µg/L
Area ratio: 0.31816
Sample type: CC



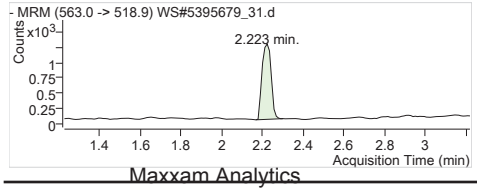


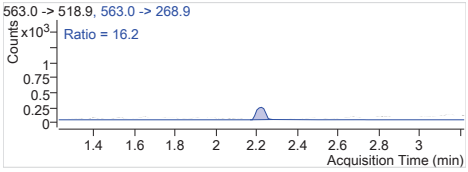
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 2.003 (2.003)
Calc. conc. 0.98 µg/L
Area ratio: 0.33149
Sample type: CC



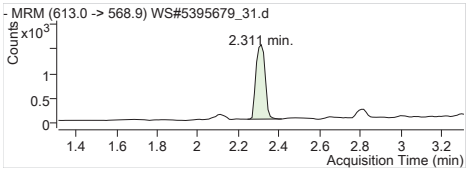


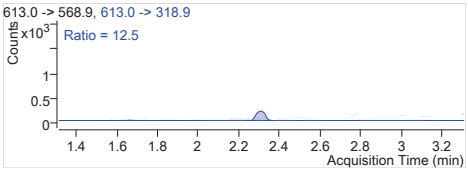
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 0.87 µg/L
Area ratio: 0.40985
Sample type: CC



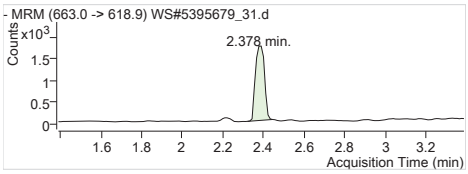


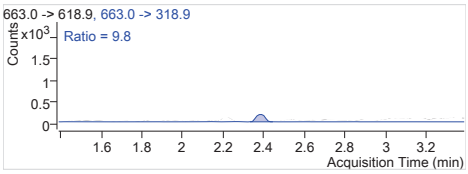
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 0.97 µg/L
Area ratio: 0.39788
Sample type: CC



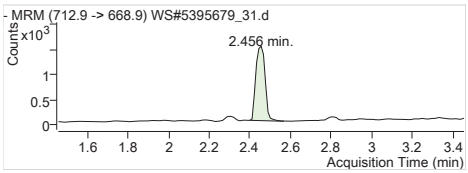


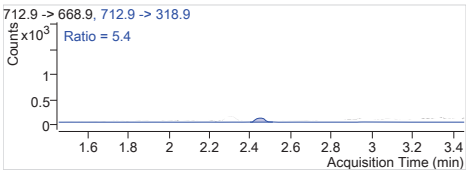
PFDoA 1 613.0 -> 568.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 0.87 µg/L
Area ratio: 0.36728
Sample type: CC



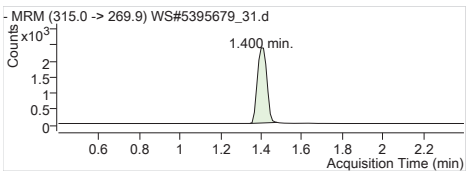


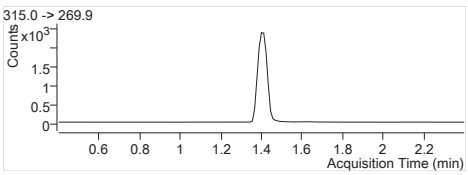
PFTrDA 1 663.0 -> 618.9
RT (Exp. RT): 2.378 (2.389)
Calc. conc. 0.90 µg/L
Area ratio: 0.35361
Sample type: CC



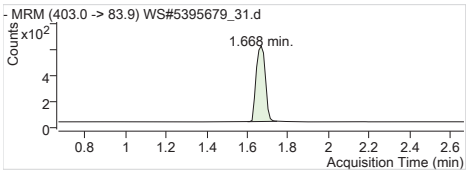


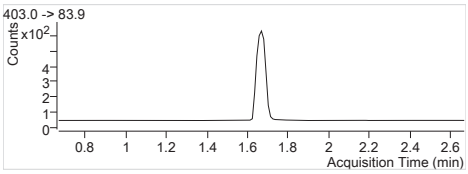
PFTeDA 1 712.9 -> 668.9
RT (Exp. RT): 2.456 (2.456)
Calc. conc. 0.90 µg/L
Area ratio: 0.31107
Sample type: CC



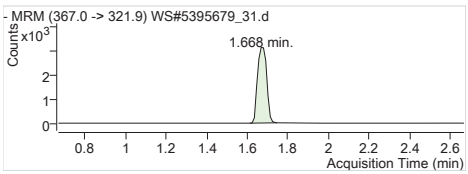


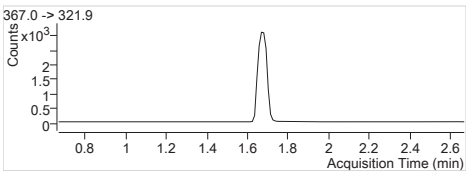
13C2-PFHxA 315.0 -> 269.9
RT (Exp. RT): 1.400 (1.400)
Calc. conc. 124.70 µg/L
Area ratio: 0.37549
Sample type: CC



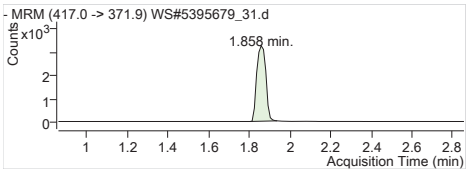


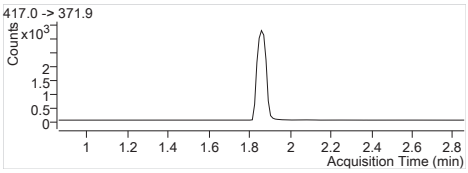
18O2-PFHxS 403.0 -> 83.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 116.55 µg/L
Area ratio: 0.08959
Sample type: CC



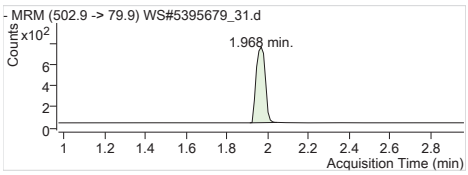


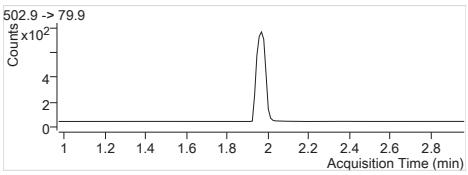
13C4-PFHpA 367.0 -> 321.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 121.51 µg/L
Area ratio: 0.47926
Sample type: CC



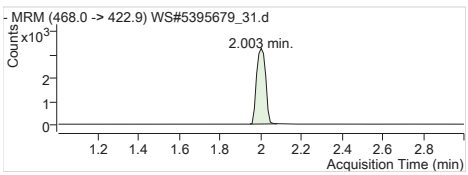


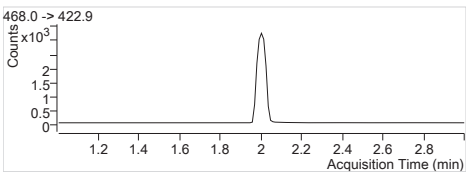
13C4-PFOA 417.0 -> 371.9
RT (Exp. RT): 1.858 (1.858)
Calc. conc. 116.22 µg/L
Area ratio: 0.49551
Sample type: CC



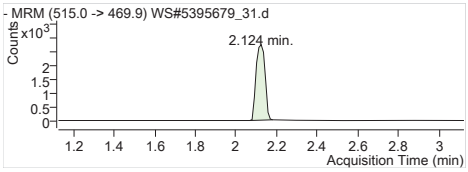


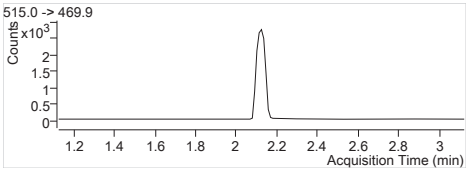
13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.968 (1.968)
Calc. conc. 119.82 µg/L
Area ratio: 0.10959
Sample type: CC



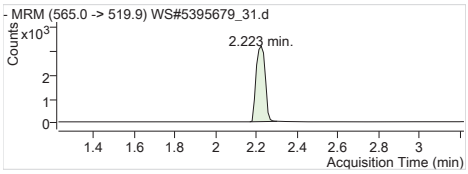


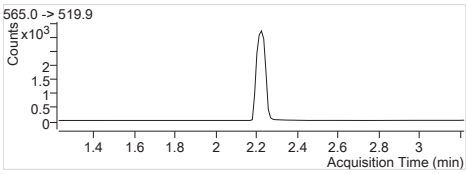
13C5-PFNA 468.0 -> 422.9
RT (Exp. RT): 2.003 (2.003)
Calc. conc. 118.06 µg/L
Area ratio: 0.49052
Sample type: CC



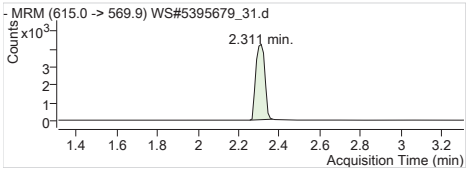


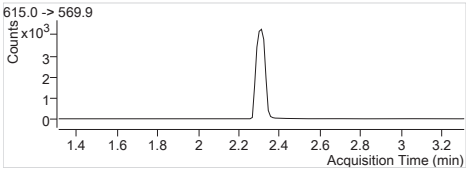
13C2-PFDA 515.0 -> 469.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 117.99 µg/L
Area ratio: 0.30529
Sample type: CC



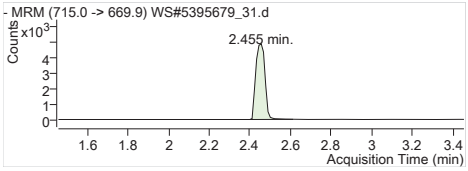


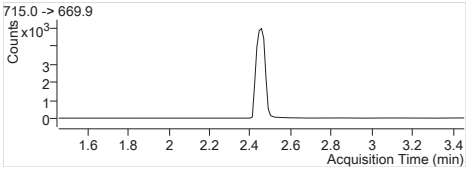
13C2-PFUnA 565.0 -> 519.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 116.23 µg/L
Area ratio: 0.35958
Sample type: CC



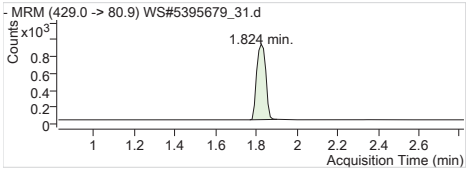


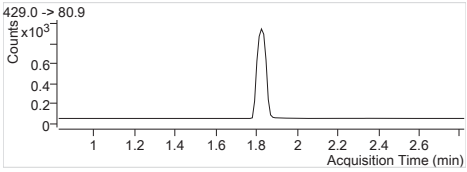
13C2-PFDoA 615.0 -> 569.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 115.86 µg/L
Area ratio: 0.47377
Sample type: CC



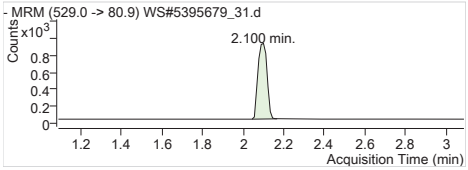


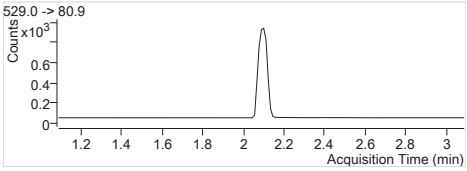
13C2-PFTeDA 715.0 -> 669.9
RT (Exp. RT): 2.455 (2.455)
Calc. conc. 117.94 µg/L
Area ratio: 0.56405
Sample type: CC



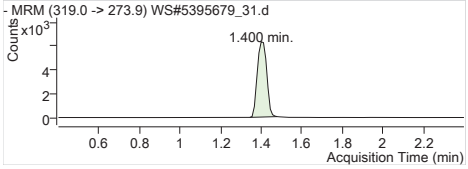


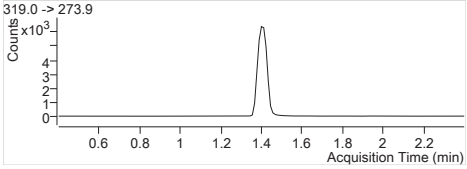
13C2-6:2-FTS 429.0 -> 80.9
RT (Exp. RT): 1.824 (1.824)
Calc. conc. 113.35 µg/L
Area ratio: 0.13725
Sample type: CC



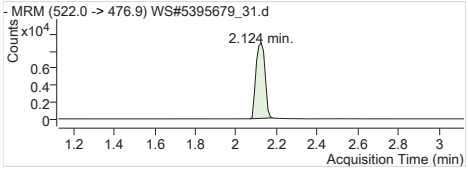


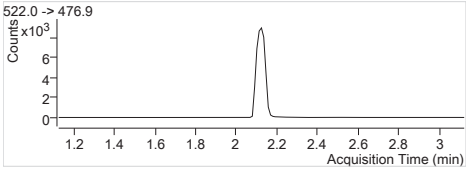
13C2-8:2 FTS 529.0 -> 80.9
RT (Exp. RT): 2.100 (2.089)
Calc. conc. 121.52 µg/L
Area ratio: 0.13725
Sample type: CC





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.400 (1.400)
Calc. conc. 92.43 µg/L
Area ratio: 0
Sample type: CC





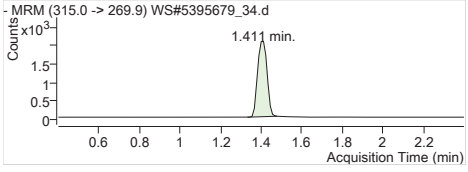
13C9-PFDA 522.0 -> 476.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 94.30 µg/L
Area ratio: 0
Sample type: CC

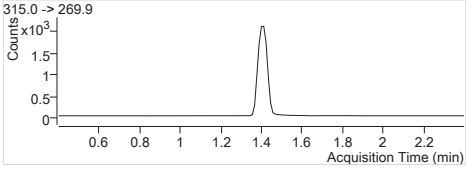
Batch Path	T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics

Sample Name	**CCV**	**Instrument**	LCMS04
Data File	WS#5395679_34.d	**Operator**	
Sample Type	CC	**Dilution**	1
Acq. Method	PFC_Water_Low.m	**Position**	P3-A5
Acq. Date	2018/02/14 10:59:56 AM	**Injection Volume**	Per Method
Sample Annotation	-		

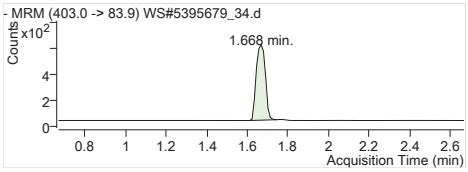
ISTD Compounds	Response	RT	Target conc.		
MPFHxA	6677	1.41	1 µg/L		
MPFHxS	1809	1.67	1 µg/L		
MPFHpA	9013	1.67	1 µg/L		
MPFOA	9436	1.86	1 µg/L		
MPFOS	1901	1.97	1 µg/L		
MPFNA	9278	2.00	1 µg/L		
MPFDA	7805	2.12	1 µg/L		
MPFUnA	8921	2.22	1 µg/L		
MPFDoA	12126	2.31	1 µg/L		
MPFTeDA	13545	2.46	1 µg/L		
13C6-PFHxA IS	24038	1.41	1 µg/L		
13C9-PFDA IS	30702	2.12	1 µg/L		

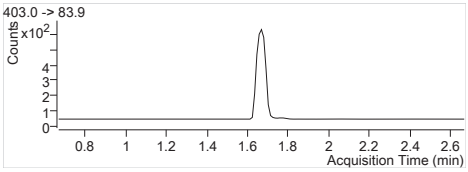
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1	10288	1.06	12.50	12.43 µg/L	99.48
PFHxA 1	35381	1.41	12.50	12.34 µg/L	98.71
PFHxS 1	9829	1.67	12.50	11.95 µg/L	95.60
PFHpA 1	45913	1.68	12.50	12.70 µg/L	101.56
PFOA 1	52107	1.86	12.50	13.32 µg/L	106.54
PFOS 1	9696	1.96	12.50	13.72 µg/L	109.74
PFNA 1	45230	2.00	12.50	12.61 µg/L	100.86
PFDA 1	49304	2.12	12.50	12.83 µg/L	102.61
PFUnA 1	54591	2.22	12.50	13.40 µg/L	107.20
PFDoA 1	67680	2.31	12.50	13.15 µg/L	105.22
PFTrDA 1	73943	2.39	12.50	12.79 µg/L	102.34
PFTeDA 1	63094	2.46	12.50	13.30 µg/L	106.37
13C2-PFHxA	6677	1.41	100.00	92.25 µg/L	92.25
18O2-PFHxS	1809	1.67	100.00	97.91 µg/L	97.91
13C4-PFHpA	9013	1.67	100.00	95.06 µg/L	95.06
13C4-PFOA	9436	1.86	100.00	92.07 µg/L	92.07
13C4-PFOS	1901	1.97	100.00	86.47 µg/L	86.47
13C5-PFNA	9278	2.00	100.00	92.90 µg/L	92.90
13C2-PFDA	7718	2.12	100.00	97.16 µg/L	97.16
13C2-PFUnA	8921	2.22	100.00	93.92 µg/L	93.92
13C2-PFDoA	12126	2.31	100.00	96.58 µg/L	96.58
13C2-PFTeDA	13822	2.46	100.00	94.13 µg/L	94.13
13C2-6:2-FTS	2321	1.82	100.00	79.74 µg/L	79.74
13C2-8:2 FTS	2232	2.10	100.00	82.21 µg/L	82.21
13C6-PFHxA	24038	1.41	100.00	109.73 µg/L	109.73
13C9-PFDA	30702	2.12	100.00	105.99 µg/L	105.99



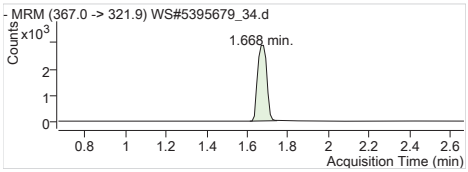


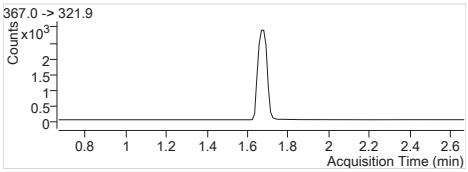
MPFHxA	Internal Standard
RT (Exp. RT):	1.411 (1.400)
Concentration:	1 µg/L
Sample type:	CC



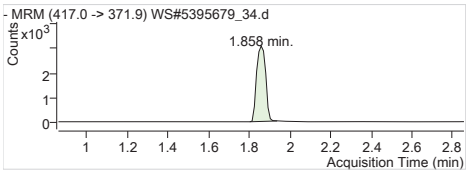


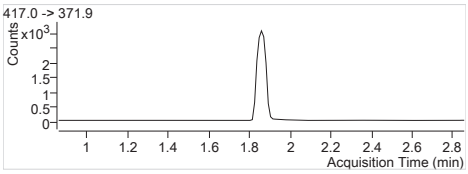
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: CC



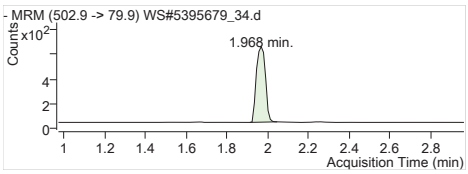


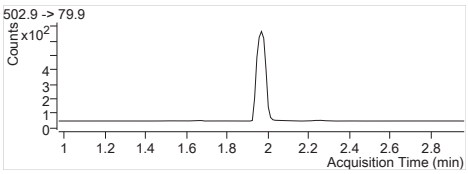
MPFHpA Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: CC



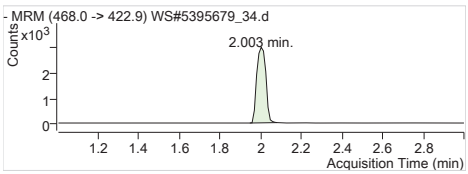


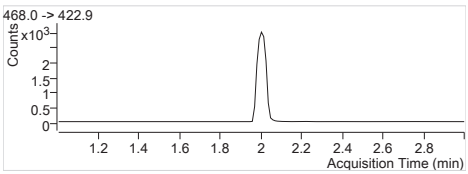
MPFOA Internal Standard
RT (Exp. RT): 1.858 (1.858)
Concentration: 1 µg/L
Sample type: CC



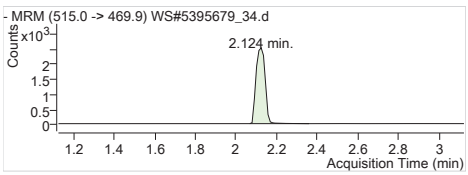


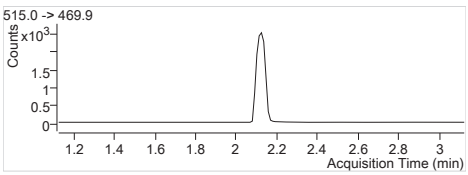
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: CC



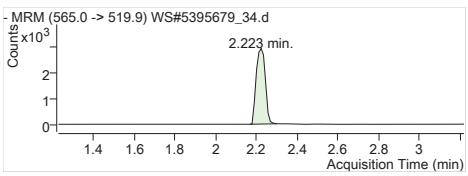


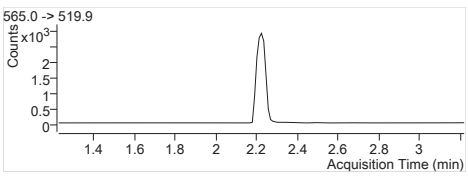
MPFNA Internal Standard
RT (Exp. RT): 2.003 (2.003)
Concentration: 1 µg/L
Sample type: CC



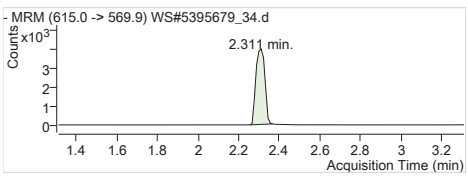


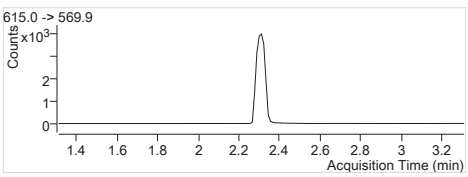
MPFDA Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: CC



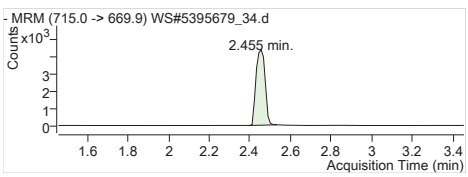


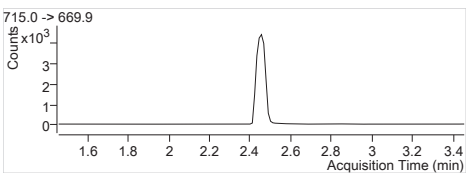
MPFUnA Internal Standard
RT (Exp. RT): 2.223 (2.223)
Concentration: 1 µg/L
Sample type: CC



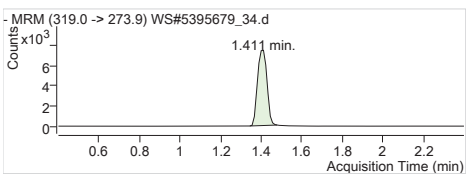


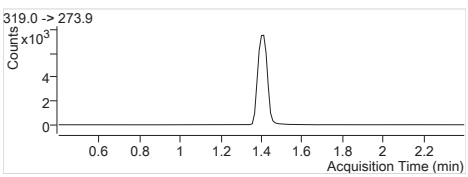
MPFDoA Internal Standard
RT (Exp. RT): 2.311 (2.311)
Concentration: 1 µg/L
Sample type: CC



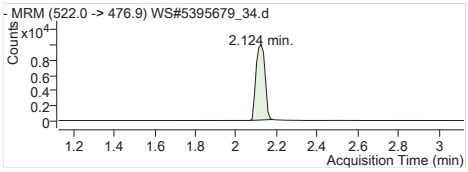


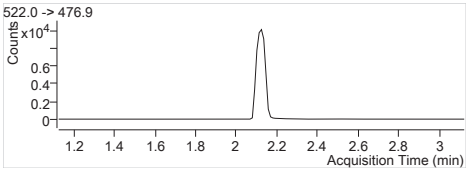
MPFTeDA Internal Standard
RT (Exp. RT): 2.455 (2.455)
Concentration: 1 µg/L
Sample type: CC



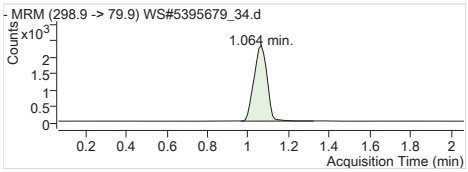


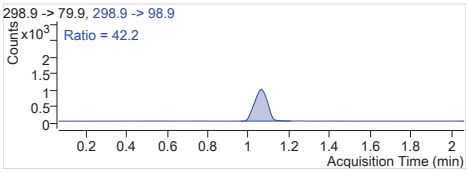
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.400)
Concentration: 1 µg/L
Sample type: CC



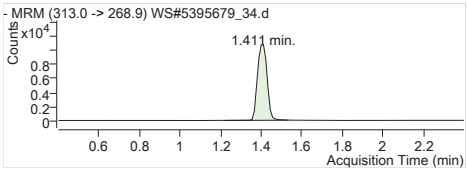


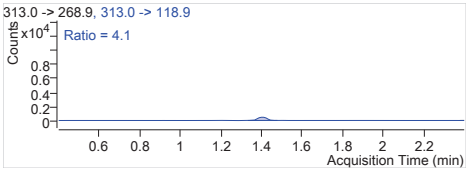
13C9-PFDA IS Internal Standard
RT (Exp. RT): 2.124 (2.124)
Concentration: 1 µg/L
Sample type: CC



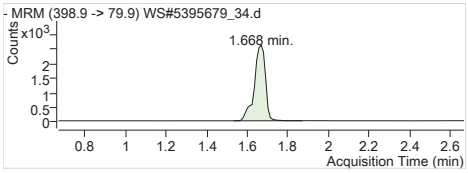


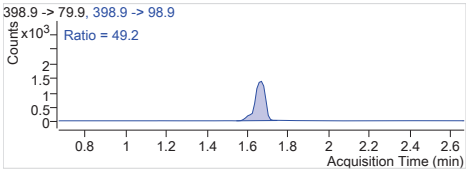
PFBS 1 298.9 -> 79.9
RT (Exp. RT): 1.064 (1.064)
Calc. conc. 12.43 µg/L
Area ratio: 5.68712
Sample type: CC



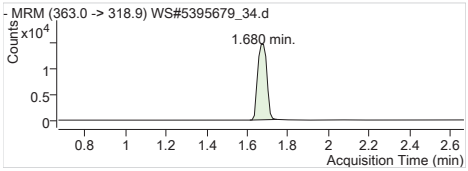


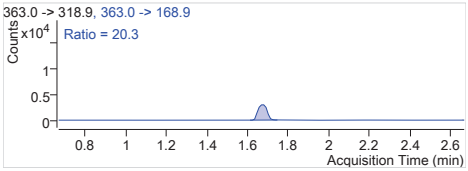
PFHxA 1 313.0 -> 268.9
RT (Exp. RT): 1.411 (1.400)
Calc. conc. 12.34 µg/L
Area ratio: 5.29894
Sample type: CC



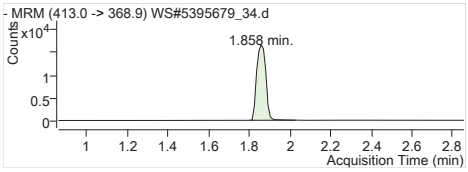


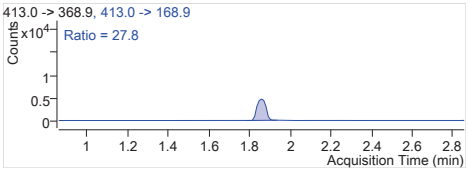
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 11.95 µg/L
Area ratio: 5.43339
Sample type: CC



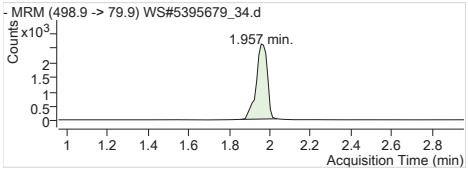


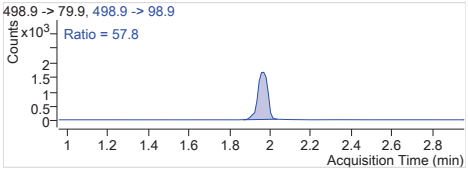
PFHpA 1 363.0 -> 318.9
RT (Exp. RT): 1.680 (1.669)
Calc. conc. 12.70 µg/L
Area ratio: 5.09409
Sample type: CC



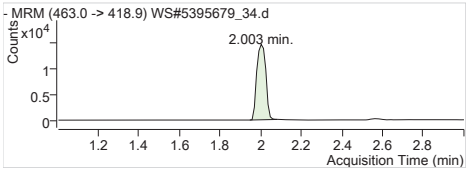


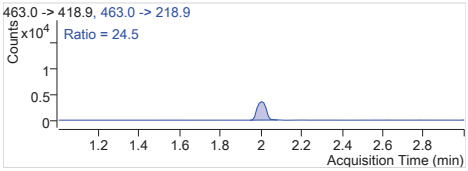
PFOA 1 413.0 -> 368.9
RT (Exp. RT): 1.858 (1.858)
Calc. conc. 13.32 µg/L
Area ratio: 5.52215
Sample type: CC



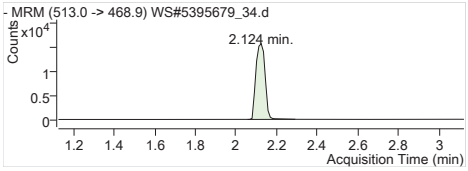


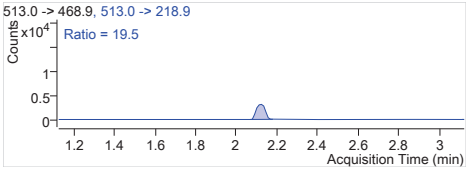
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 13.72 µg/L
Area ratio: 5.10047
Sample type: CC



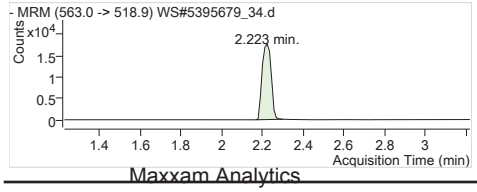


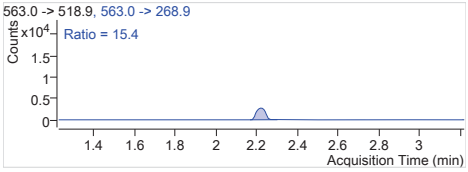
PFNA 1 463.0 -> 418.9
RT (Exp. RT): 2.003 (2.003)
Calc. conc. 12.61 µg/L
Area ratio: 4.87497
Sample type: CC



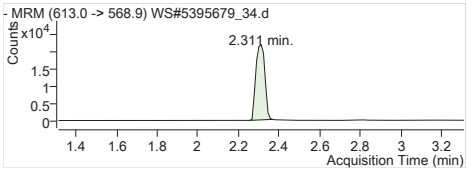


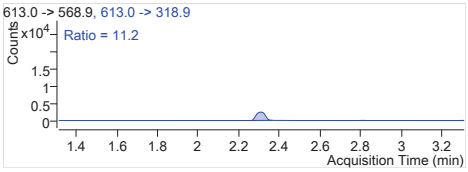
PFDA 1 513.0 -> 468.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 12.83 µg/L
Area ratio: 6.31698
Sample type: CC



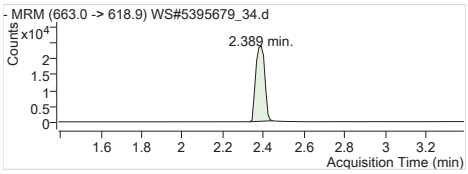


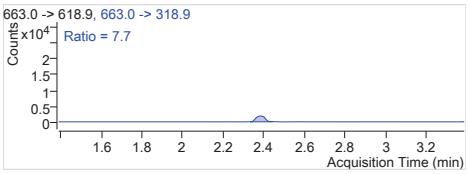
PFUnA 1 563.0 -> 518.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 13.40 µg/L
Area ratio: 6.11938
Sample type: CC



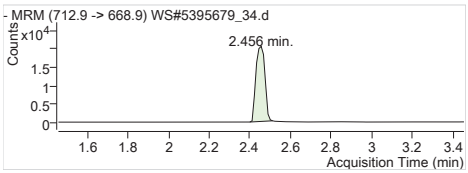


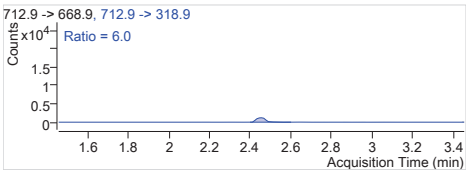
PFDoA 1 613.0 -> 568.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 13.15 µg/L
Area ratio: 5.58140
Sample type: CC



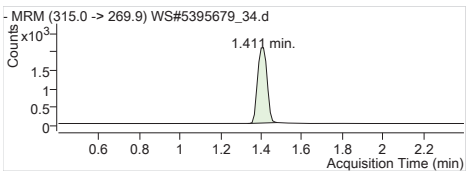


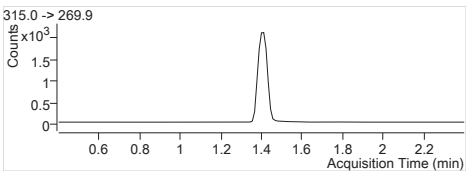
PFTrDA 1 663.0 -> 618.9
RT (Exp. RT): 2.389 (2.389)
Calc. conc. 12.79 µg/L
Area ratio: 5.45906
Sample type: CC



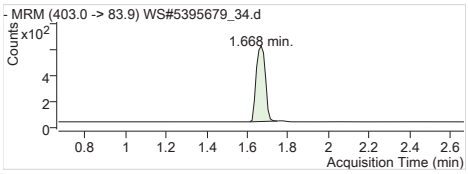


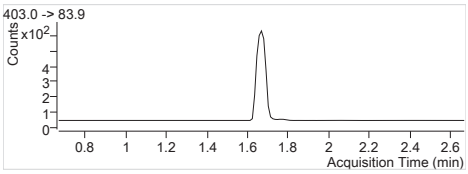
PFTeDA 1 712.9 -> 668.9
RT (Exp. RT): 2.456 (2.456)
Calc. conc. 13.30 µg/L
Area ratio: 4.65810
Sample type: CC



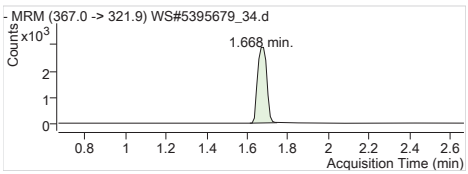


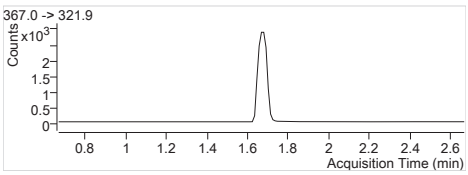
13C2-PFHxA 315.0 -> 269.9
RT (Exp. RT): 1.411 (1.400)
Calc. conc. 92.25 µg/L
Area ratio: 0.27777
Sample type: CC



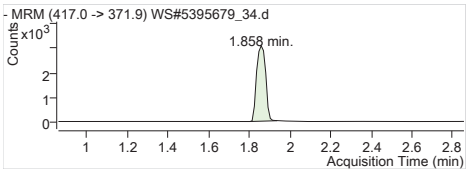


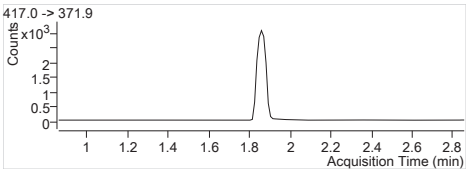
18O2-PFHxS 403.0 -> 83.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 97.91 µg/L
Area ratio: 0.07526
Sample type: CC



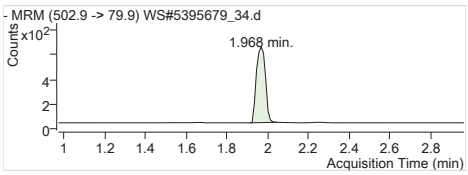


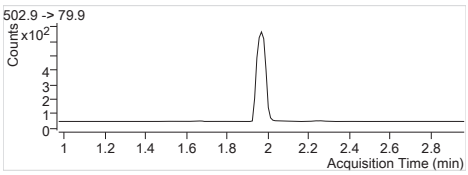
13C4-PFHpA 367.0 -> 321.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 95.06 µg/L
Area ratio: 0.37495
Sample type: CC



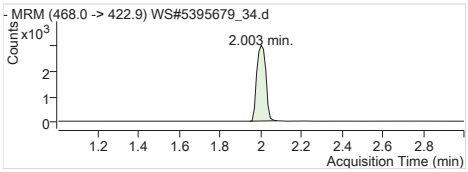


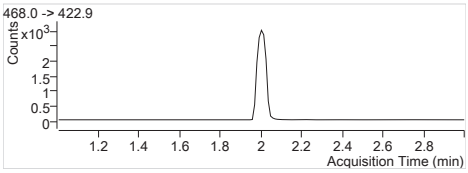
13C4-PFOA 417.0 -> 371.9
RT (Exp. RT): 1.858 (1.858)
Calc. conc. 92.07 µg/L
Area ratio: 0.39255
Sample type: CC



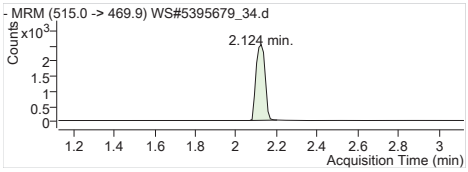


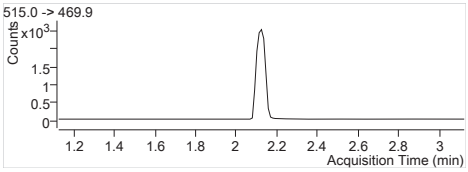
13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.968 (1.968)
Calc. conc. 86.47 µg/L
Area ratio: 0.07908
Sample type: CC



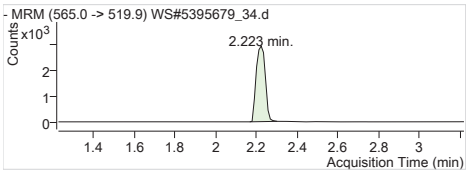


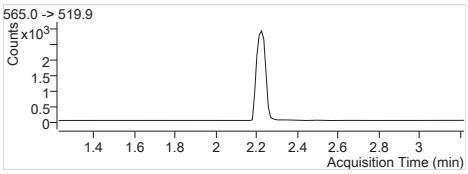
13C5-PFNA 468.0 -> 422.9
RT (Exp. RT): 2.003 (2.003)
Calc. conc. 92.90 µg/L
Area ratio: 0.38597
Sample type: CC



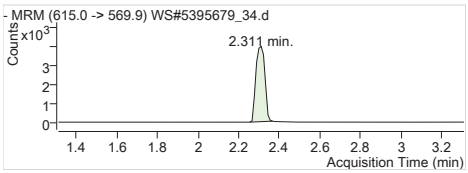


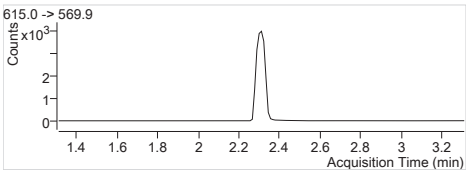
13C2-PFDA 515.0 -> 469.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 97.16 µg/L
Area ratio: 0.25138
Sample type: CC



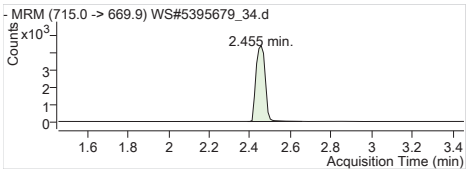


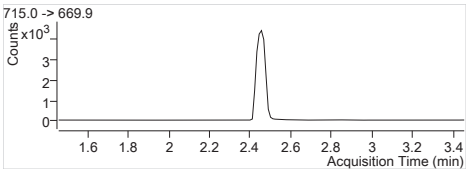
13C2-PFUnA 565.0 -> 519.9
RT (Exp. RT): 2.223 (2.223)
Calc. conc. 93.92 µg/L
Area ratio: 0.29057
Sample type: CC



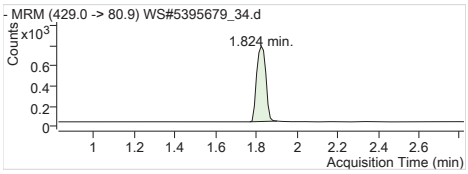


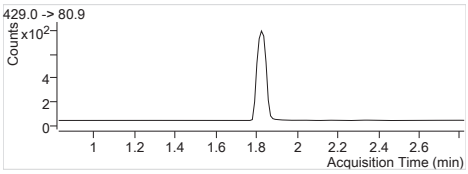
13C2-PFDoA 615.0 -> 569.9
RT (Exp. RT): 2.311 (2.311)
Calc. conc. 96.58 µg/L
Area ratio: 0.39496
Sample type: CC



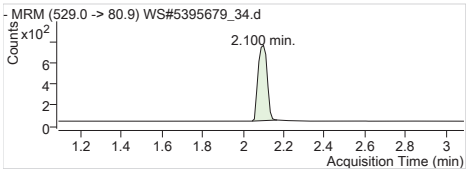


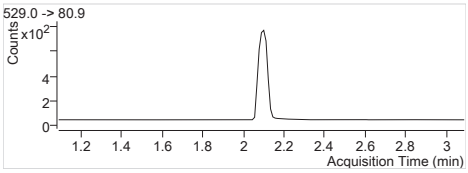
13C2-PFTeDA 715.0 -> 669.9
RT (Exp. RT): 2.455 (2.455)
Calc. conc. 94.13 µg/L
Area ratio: 0.45020
Sample type: CC



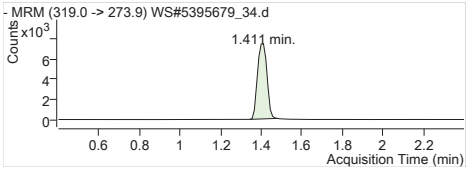


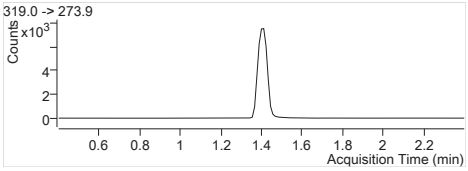
13C2-6:2-FTS 429.0 -> 80.9
RT (Exp. RT): 1.824 (1.824)
Calc. conc. 79.74 µg/L
Area ratio: 0.09656
Sample type: CC



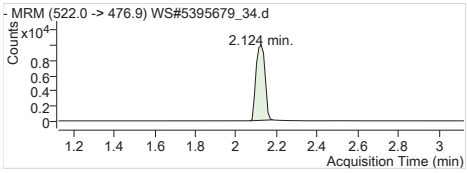


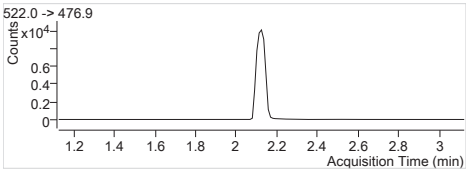
13C2-8:2 FTS 529.0 -> 80.9
RT (Exp. RT): 2.100 (2.089)
Calc. conc. 82.21 µg/L
Area ratio: 0.09285
Sample type: CC





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.400)
Calc. conc. 109.73 µg/L
Area ratio: 0
Sample type: CC





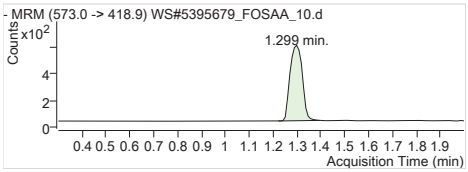
13C9-PFDA 522.0 -> 476.9
RT (Exp. RT): 2.124 (2.124)
Calc. conc. 105.99 µg/L
Area ratio: 0
Sample type: CC

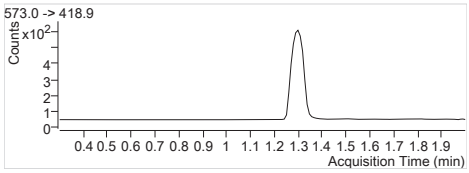
Batch Path	T:\lcms4\PFC\20180213\WS#5395679_FOSAA\QuantResults\PFC_Water_Low_180213_WS#5395679_FOSAA_ETOxics

Sample Name	**ISC**	**Instrument**	LCMS04
Data File	WS#5395679_FOSAA_10.d	**Operator**	
Sample Type	CC	**Dilution**	1
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P3-A2
Acq. Date	2018/02/13 4:38:29 PM	**Injection Volume**	Per Method
Sample Annotation	-		

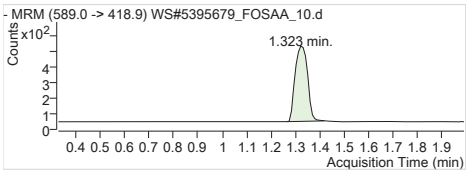
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1993	1.30	1 µg/L		
D5-EtFOSAA IS	1712	1.32	1 µg/L		
13C9-PFDA IS	21626	0.87	1 µg/L		

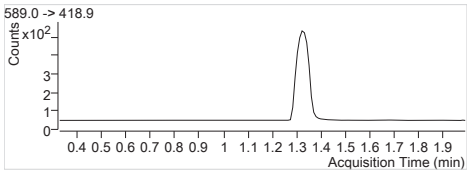
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1	659	1.29	0.83	0.83 µg/L	99.43
EtFOSAA 1	654	1.32	0.83	0.91 µg/L	109.85
D3-MeFOSAA	2004	1.30	100.00	116.72 µg/L	116.72
D5-EtFOSAA	1737	1.32	100.00	113.91 µg/L	113.91
13C9-PFDA	21086	0.87	100.00	91.39 µg/L	91.39



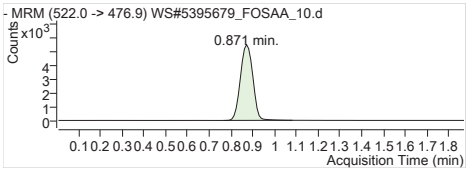


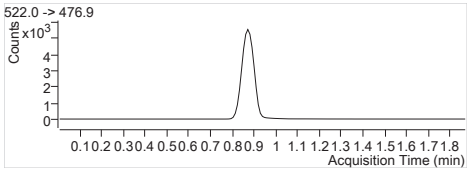
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.299 (1.299)
Concentration: 1 µg/L
Sample type: CC



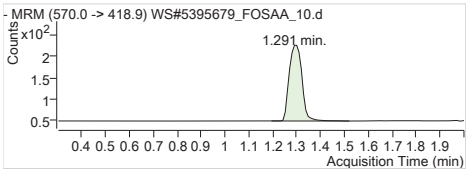


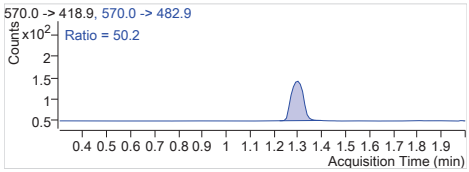
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.323 (1.323)
Concentration: 1 µg/L
Sample type: CC



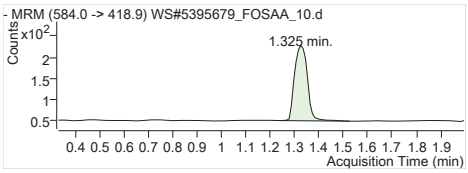


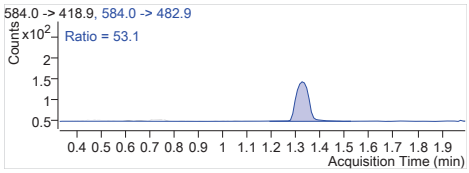
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.871 (0.871)
Concentration: 1 µg/L
Sample type: CC



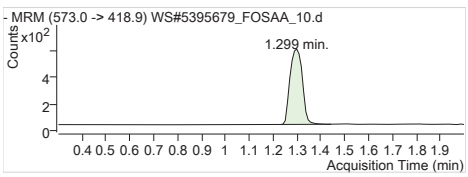


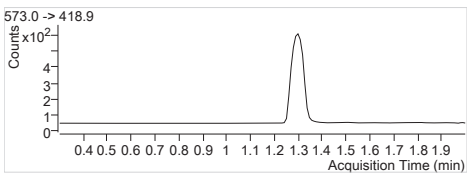
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 1.291 (1.300)
Calc. conc. 0.83 µg/L
Area ratio: 0.33066
Sample type: CC



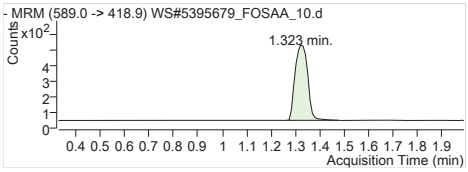


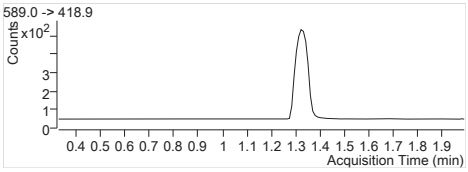
EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 1.325 (1.325)
Calc. conc. 0.91 µg/L
Area ratio: 0.38201
Sample type: CC



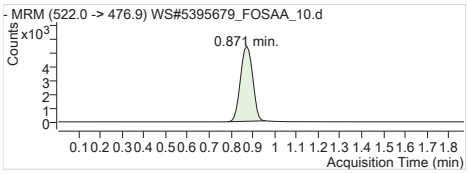


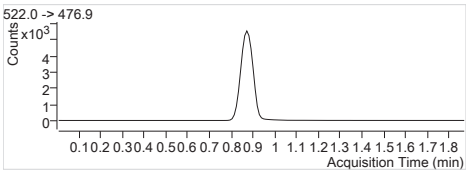
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.299 (1.299)
Calc. conc. 116.72 µg/L
Area ratio: 0.09267
Sample type: CC





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.323 (1.323)
Calc. conc.	113.91 µg/L
Area ratio:	0.08032
Sample type:	CC





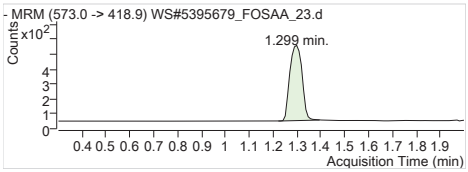
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.871 (0.871)
Calc. conc.	91.39 µg/L
Area ratio:	0
Sample type:	CC

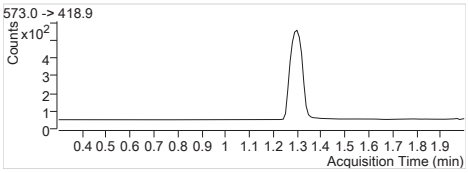
Batch Path	T:\lcms4\PFC\20180213\WS#5395679_FOSAA\QuantResults\PFC_Water_Low_180213_WS#5395679_FOSAA_ETOxics

Sample Name	**CCV**	**Instrument**	LCMS04
Data File	WS#5395679_FOSAA_23.d	**Operator**	
Sample Type	CC	**Dilution**	1
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P3-A5
Acq. Date	2018/02/13 5:09:50 PM	**Injection Volume**	Per Method
Sample Annotation	-		

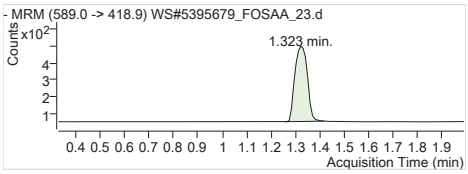
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1814	1.30	1 µg/L		
D5-EtFOSAA IS	1597	1.32	1 µg/L		
13C9-PFDA IS	25305	0.87	1 µg/L		

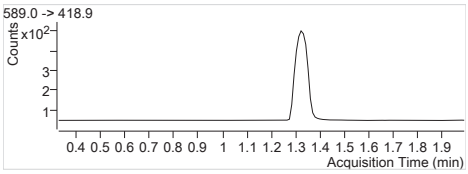
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1	8568	1.29	12.50	12.85 µg/L	102.77
EtFOSAA 1	8850	1.32	12.50	13.08 µg/L	104.64
D3-MeFOSAA	1830	1.30	100.00	91.09 µg/L	91.09
D5-EtFOSAA	1601	1.32	100.00	89.72 µg/L	89.72
13C9-PFDA	24602	0.87	100.00	106.63 µg/L	106.63



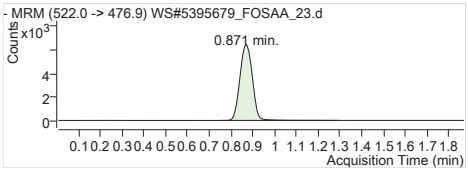


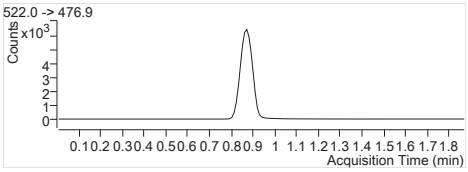
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.299 (1.299)
Concentration: 1 µg/L
Sample type: CC



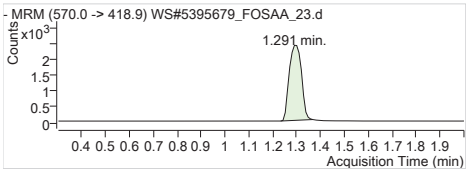


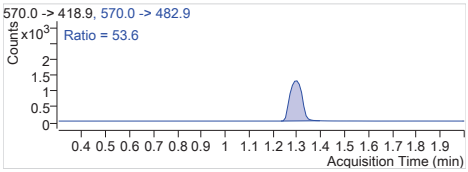
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.323 (1.323)
Concentration: 1 µg/L
Sample type: CC



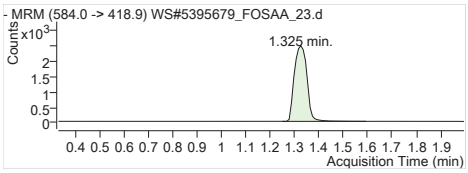


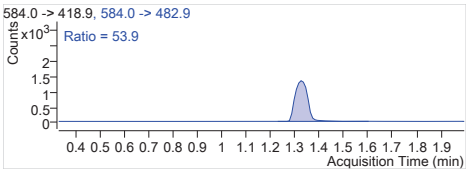
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.871 (0.871)
Concentration: 1 µg/L
Sample type: CC



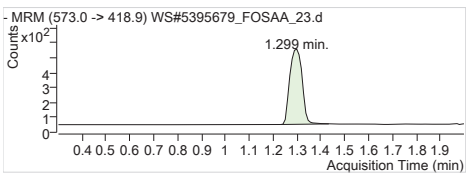


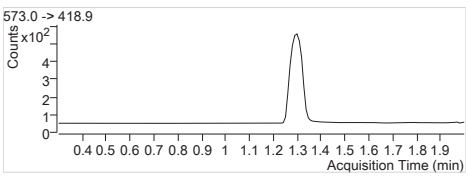
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 1.291 (1.300)
Calc. conc. 12.85 µg/L
Area ratio: 4.72326
Sample type: CC



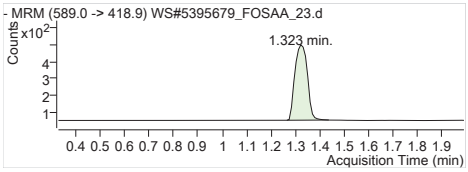


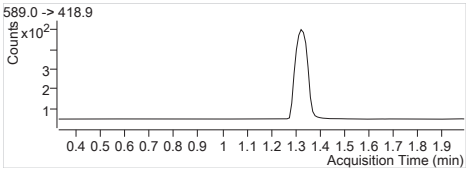
EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 1.325 (1.325)
Calc. conc. 13.08 µg/L
Area ratio: 5.54164
Sample type: CC



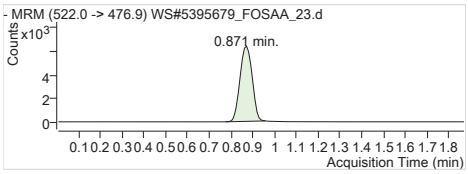


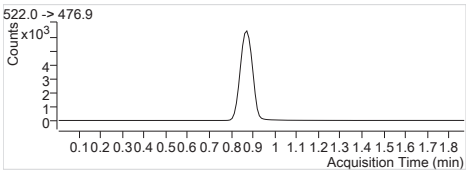
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.299 (1.299)
Calc. conc. 91.09 µg/L
Area ratio: 0.07232
Sample type: CC





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.323 (1.323)
Calc. conc.	89.72 µg/L
Area ratio:	0.06327
Sample type:	CC





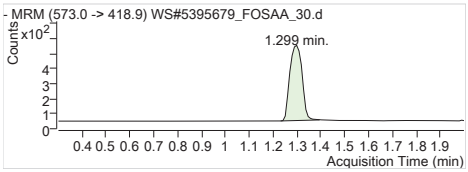
13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.871 (0.871)
Calc. conc.	106.63 µg/L
Area ratio:	0
Sample type:	CC

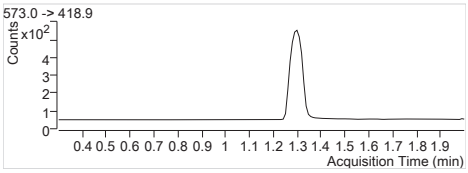
Batch Path	T:\lcms4\PFC\20180213\WS#5395679_FOSAA\QuantResults\PFC_Water_Low_180213_WS#5395679_FOSAA_ETOxics

Sample Name	**CCV**	**Instrument**	LCMS04
Data File	WS#5395679_FOSAA_30.d	**Operator**	
Sample Type	CC	**Dilution**	1
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P3-A5
Acq. Date	2018/02/13 5:26:41 PM	**Injection Volume**	Per Method
Sample Annotation	-		

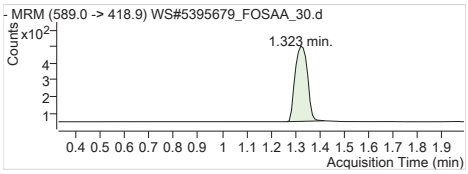
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1793	1.30	1 µg/L		
D5-EtFOSAA IS	1602	1.32	1 µg/L		
13C9-PFDA IS	25088	0.87	1 µg/L		

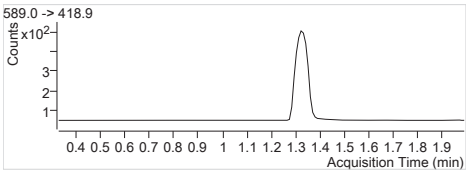
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1	8684	1.29	12.50	13.17 µg/L	105.40
EtFOSAA 1	8997	1.32	12.50	13.26 µg/L	106.04
D3-MeFOSAA	1794	1.30	100.00	90.07 µg/L	90.07
D5-EtFOSAA	1630	1.32	100.00	92.14 µg/L	92.14
13C9-PFDA	24450	0.87	100.00	105.97 µg/L	105.97



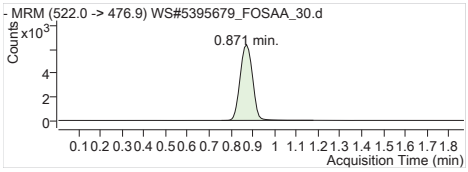


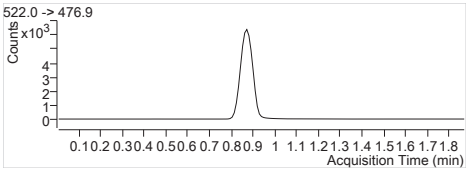
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.299 (1.299)
Concentration: 1 µg/L
Sample type: CC



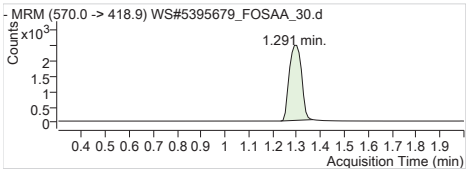


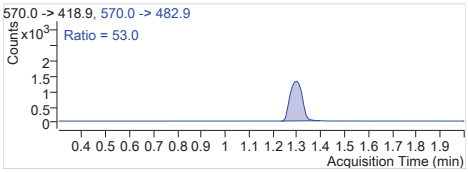
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.323 (1.323)
Concentration: 1 µg/L
Sample type: CC



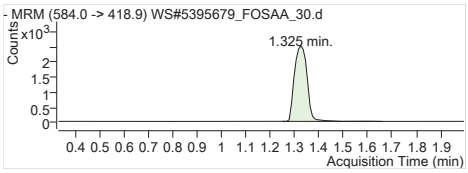


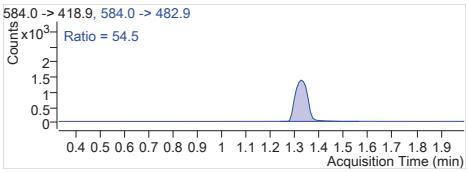
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.871 (0.871)
Concentration: 1 µg/L
Sample type: CC



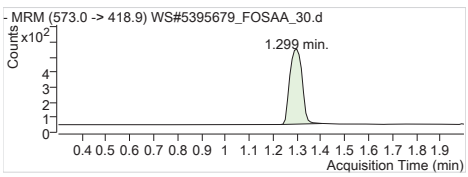


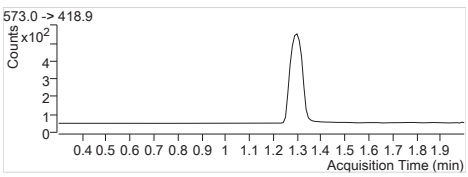
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 1.291 (1.300)
Calc. conc. 13.17 µg/L
Area ratio: 4.84328
Sample type: CC



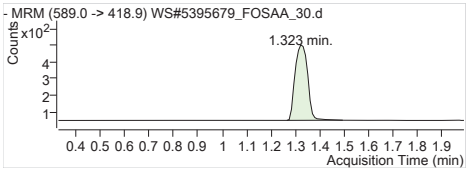


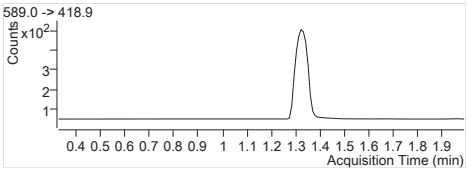
EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 1.325 (1.325)
Calc. conc. 13.26 µg/L
Area ratio: 5.61610
Sample type: CC



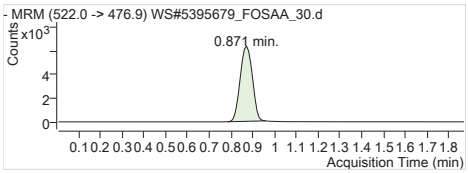


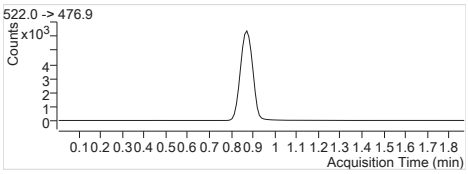
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.299 (1.299)
Calc. conc. 90.07 µg/L
Area ratio: 0.07151
Sample type: CC





D5-EtFOSAA	589.0 -> 418.9
RT (Exp. RT):	1.323 (1.323)
Calc. conc.	92.14 µg/L
Area ratio:	0.06497
Sample type:	CC





13C9-PFDA	522.0 -> 476.9
RT (Exp. RT):	0.871 (0.871)
Calc. conc.	105.97 µg/L
Area ratio:	0
Sample type:	CC

Quantitation Results

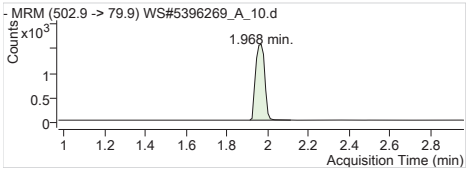
Agilent Technologies

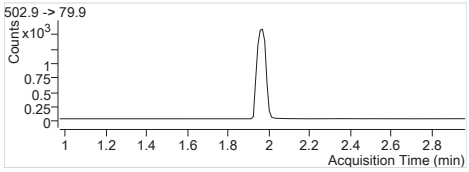
Batch Path	T:\lcms4\PFC\20180213\WS#5396269_A\QuantResults\PFC_Water_High_180213_WS#5396269_A_EToxics

Sample Name	**ISC**	**Instrument**	LCMS04
Data File	WS#5396269_A_10.d	**Operator**	
Sample Type	CC	**Dilution**	1
Acq. Method	PFC_Water_High.m	**Position**	P3-E1
Acq. Date	2018/02/14 6:10:49 PM	**Injection Volume**	Per Method
Sample Annotation	-		

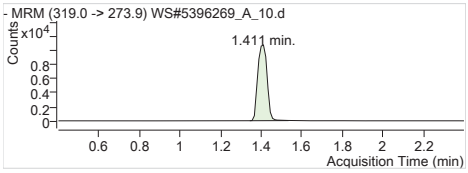
ISTD Compounds	Response	RT	Target conc.		
MPFOS	4839	1.97	1 µg/L		
13C6-PFHxA IS	34097	1.41	1 µg/L		

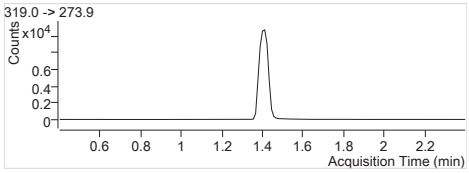
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFOS 1	377	1.96	0.80	0.77 µg/L	96.31
13C6-PFHxA	34097	1.41	100.00	97.79 µg/L	97.79
13C4-PFOS	4839	1.97	100.00	113.13 µg/L	113.13



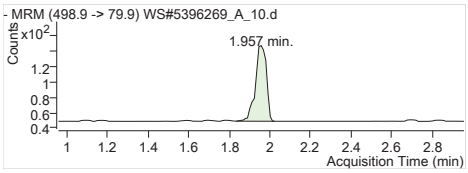


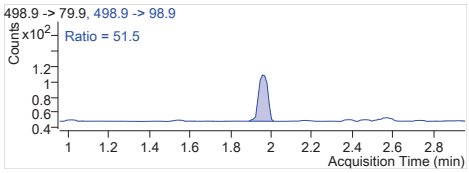
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: CC



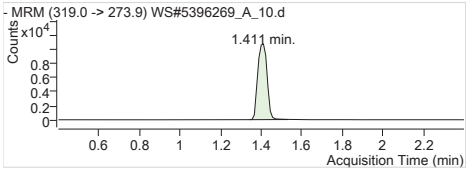


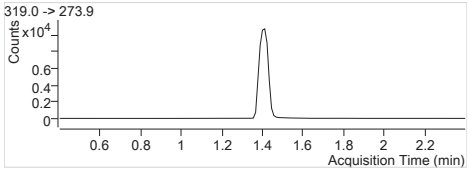
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.400)
Concentration: 1 µg/L
Sample type: CC



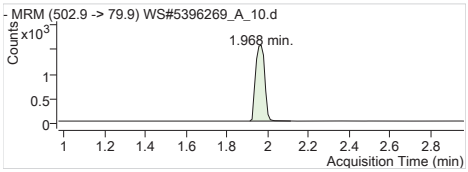


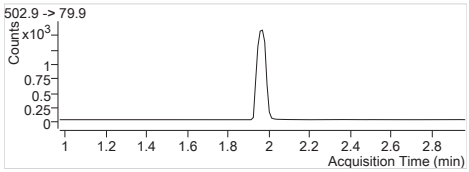
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 0.77 µg/L
Area ratio: 0.07791
Sample type: CC





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.400)
Calc. conc. 97.79 µg/L
Area ratio: 0
Sample type: CC





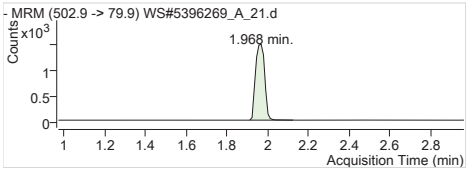
13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.968 (1.968)
Calc. conc. 113.13 µg/L
Area ratio: 0.14192
Sample type: CC

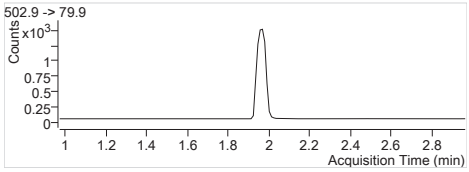
Batch Path	T:\lcms4\PFC\20180213\WS#5396269_A\QuantResults\PFC_Water_High_180213_WS#5396269_A_EToxics

Sample Name	**CCV**	**Instrument**	LCMS04
Data File	WS#5396269_A_21.d	**Operator**	
Sample Type	CC	**Dilution**	1
Acq. Method	PFC_Water_High.m	**Position**	P3-E4
Acq. Date	2018/02/14 7:05:01 PM	**Injection Volume**	Per Method
Sample Annotation	-		

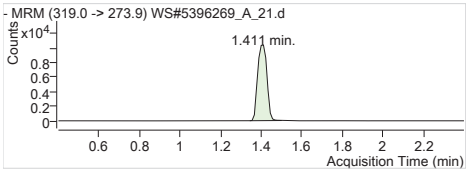
ISTD Compounds	Response	RT	Target conc.		
MPFOS	4622	1.97	1 µg/L		
13C6-PFHxA IS	32820	1.41	1 µg/L		

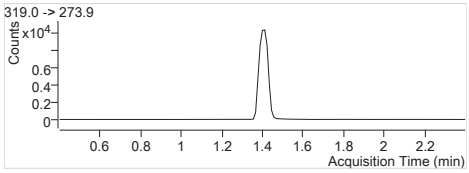
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFOS 1	7619	1.96	15.00	11.96 µg/L	79.72
13C6-PFHxA	32820	1.41	100.00	94.13 µg/L	94.13
13C4-PFOS	4622	1.97	100.00	112.26 µg/L	112.26



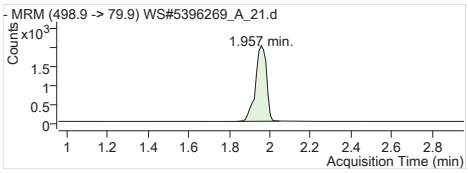


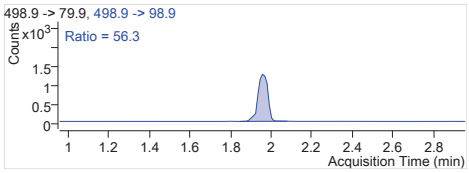
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: CC



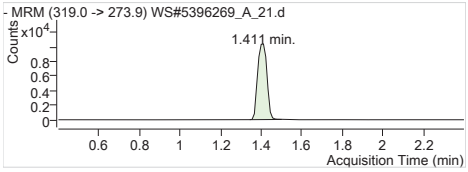


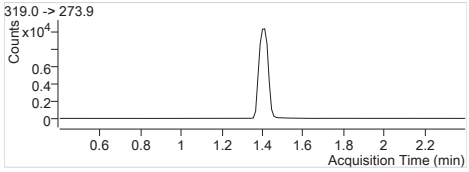
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.400)
Concentration: 1 µg/L
Sample type: CC



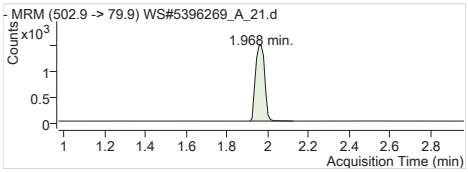


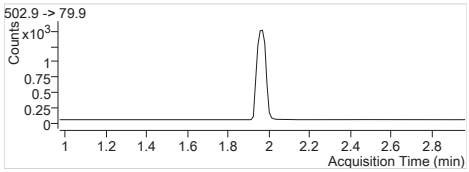
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 11.96 µg/L
Area ratio: 1.64842
Sample type: CC





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.400)
Calc. conc. 94.13 µg/L
Area ratio: 0
Sample type: CC





13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.968 (1.968)
Calc. conc. 112.26 µg/L
Area ratio: 0.14083
Sample type: CC



This is the last page of the report and is intentionally left blank

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

"FB-CEF-1820-012618-10","E537","IN","GAD929","MAXXAM","13C2PFDA","13C2-Perfluorodecanoic acid","84","%","","-99","NA","","SUR","84","","-99","NA","YES","-99","","1","1","-99","TEST"
"FB-CEF-1820-012618-10","E537","IN","GAD929","MAXXAM","13C2PFDOA","13C2-Perfluorododecanoic acid","72","%","","-99","NA","","SUR","72","","-99","NA","YES","-99","","1","1","-99","TEST"
"FB-CEF-1820-012618-10","E537","IN","GAD929","MAXXAM","13C2PFHXA","13C2-Perfluorohexanoic acid","90","%","","-99","NA","","SUR","90","","-99","NA","YES","-99","","1","1","-99","TEST"
"FB-CEF-1820-012618-10","E537","IN","GAD929","MAXXAM","13C2PFTDA","13C2-Perfluorotetradecanoic acid","105","%","","-99","NA","","SUR","105","","-99","NA","YES","-99","","1","1","-99","TEST"
"FB-CEF-1820-012618-10","E537","IN","GAD929","MAXXAM","13C2PFUA","13C2-Perfluoroundecanoic acid","76","%","","-99","NA","","SUR","76","","-99","NA","YES","-99","","1","1","-99","TEST"
"FB-CEF-1820-012618-10","E537","IN","GAD929","MAXXAM","13C4PFHPA","13C4-Perfluoroheptanoic acid","87","%","","-99","NA","","SUR","87","","-99","NA","YES","-99","","1","1","-99","TEST"
"FB-CEF-1820-012618-10","E537","IN","GAD929","MAXXAM","1763-23-1_13","13C4-Perfluorooctanesulfonate","91","%","","-99","NA","","SUR","91","","-99","NA","YES","-99","","1","1","-99","TEST"
"FB-CEF-1820-012618-10","E537","IN","GAD929","MAXXAM","335-67-1_13C","13C4-Perfluorooctanoic acid","88","%","","-99","NA","","SUR","88","","-99","NA","YES","-99","","1","1","-99","TEST"
"FB-CEF-1820-012618-10","E537","IN","GAD929","MAXXAM","13C4PFNA","13C5-Perfluorononanoic acid","91","%","","-99","NA","","SUR","91","","-99","NA","YES","-99","","1","1","-99","TEST"
"FB-CEF-1820-012618-10","E537","IN","GAD929","MAXXAM","18O2PFHXS","18O2-Perfluorohexanesulfonate","94","%","","-99","NA","","SUR","94","","-99","NA","YES","-99","","1","1","-99","TEST"
"FB-CEF-1820-012618-10","E537","IN","GAD929","MAXXAM","D3-MEFOSAA","N-METHYL-D3-PERFLUOROOCTANESULFONAMIDOACETIC ACID","73","%","","-99","NA","","SUR","73","","-99","NA","YES","-99","","1","1","-99","TEST"
"FB-CEF-1820-012618-10","E537","IN","GAD929","MAXXAM","D5-ETFOSAA","D5-ETFOSAA","76","%","","-99","NA","","SUR","76","","-99","NA","YES","-99","","1","1","-99","TEST"
"FB-CEF-1820-012618-10","E537","IN","GAD929","MAXXAM","2991-50-6","EtFOSAA","3.3","ng/L","U","3.3","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"FB-CEF-1820-012618-10","E537","IN","GAD929","MAXXAM","2355-31-9","MeFOSAA","2.9","ng/L","U","2.9","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"FB-CEF-1820-012618-10","E537","IN","GAD929","MAXXAM","375-73-5","Perfluorobutanesulfonic acid","5.4","ng/L","U","5.4","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"FB-CEF-1820-012618-10","E537","IN","GAD929","MAXXAM","335-76-2","Perfluorodecanoic acid","6.1","ng/L","U","6.1","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"FB-CEF-1820-012618-10","E537","IN","GAD929","MAXXAM","307-55-1","Perfluorododecanoic acid","5.0","ng/L","U","5.0","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"FB-CEF-1820-012618-10","E537","IN","GAD929","MAXXAM","375-85-9","Perfluoroheptanoic acid","7.4","ng/L","U","7.4","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"FB-CEF-1820-012618-10","E537","IN","GAD929","MAXXAM","355-46-4","Perfluorohexanesulfonic acid","5.6","ng/L","U","5.6","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"FB-CEF-1820-012618-10","E537","IN","GAD929","MAXXAM","307-24-4","Perfluorohexanoic acid","3.5","ng/L","U","3.5","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"FB-CEF-1820-012618-10","E537","IN","GAD929","MAXXAM","335-67-1","Perfluorooctanoic acid","3.3","ng/L","U","3.3","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"FB-CEF-1820-012618-10","E537","IN","GAD929","MAXXAM","375-95-1","Perfluorononanoic acid","8.7","ng/L","U","8.7","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"FB-CEF-1820-012618-10","E537","IN","GAD929","MAXXAM","1763-23-1","Perfluorooctanesulfonic acid","6.0","ng/L","U","6.0","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"FB-CEF-1820-012618-10","E537","IN","GAD929","MAXXAM","376-06-7","Perfluorotetradecanoic acid","2.7","ng/L","U","2.7","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"FB-CEF-1820-012618-10","E537","IN","GAD929","MAXXAM","72629-94-8","Perfluorotridecanoic acid","3.8","ng/L","U","3.8","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"FB-CEF-1820-012618-10","E537","IN","GAD929","MAXXAM","2058-94-8","Perfluoroundecanoic acid","2.5","ng/L","U","2.5","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"

"EB-CEF-1820-012618-14","E537","IN","GAD930","MAXXAM","13C2PFDA","13C2-Perfluorodecanoic acid","82","%","","-99","NA","","SUR","82","","-99","NA","YES","-99","","1","1","-99","TEST"
"EB-CEF-1820-012618-14","E537","IN","GAD930","MAXXAM","13C2PFDOA","13C2-Perfluorododecanoic acid","85","%","","-99","NA","","SUR","85","","-99","NA","YES","-99","","1","1","-99","TEST"
"EB-CEF-1820-012618-14","E537","IN","GAD930","MAXXAM","13C2PFHXA","13C2-Perfluorohexanoic acid","97","%","","-99","NA","","SUR","97","","-99","NA","YES","-99","","1","1","-99","TEST"
"EB-CEF-1820-012618-14","E537","IN","GAD930","MAXXAM","13C2PFTDA","13C2-Perfluorotetradecanoic acid","80","%","","-99","NA","","SUR","80","","-99","NA","YES","-99","","1","1","-99","TEST"
"EB-CEF-1820-012618-14","E537","IN","GAD930","MAXXAM","13C2PFUA","13C2-Perfluoroundecanoic acid","83","%","","-99","NA","","SUR","83","","-99","NA","YES","-99","","1","1","-99","TEST"
"EB-CEF-1820-012618-14","E537","IN","GAD930","MAXXAM","13C4PFHPA","13C4-Perfluoroheptanoic acid","101","%","","-99","NA","","SUR","101","","-99","NA","YES","-99","","1","1","-99","TEST"
"EB-CEF-1820-012618-14","E537","IN","GAD930","MAXXAM","1763-23-1_13","13C4-Perfluorooctanesulfonate","104","%","","-99","NA","","SUR","104","","-99","NA","YES","-99","","1","1","-99","TEST"
"EB-CEF-1820-012618-14","E537","IN","GAD930","MAXXAM","335-67-1_13C","13C4-Perfluorooctanoic acid","99","%","","-99","NA","","SUR","99","","-99","NA","YES","-99","","1","1","-99","TEST"
"EB-CEF-1820-012618-14","E537","IN","GAD930","MAXXAM","13C4PFNA","13C5-Perfluorononanoic acid","97","%","","-99","NA","","SUR","97","","-99","NA","YES","-99","","1","1","-99","TEST"
"EB-CEF-1820-012618-14","E537","IN","GAD930","MAXXAM","18O2PFHXS","18O2-Perfluorohexanesulfonate","110","%","","-99","NA","","SUR","110","","-99","NA","YES","-99","","1","1","-99","TEST"
"EB-CEF-1820-012618-14","E537","IN","GAD930","MAXXAM","D3-MEFOSAA","N-METHYL-D3-PERFLUOROOCTANESULFONAMIDOACETIC ACID","75","%","","-99","NA","","SUR","75","","-99","NA","YES","-99","","1","1","-99","TEST"
"EB-CEF-1820-012618-14","E537","IN","GAD930","MAXXAM","D5-ETFOSAA","D5-ETFOSAA","79","%","","-99","NA","","SUR","79","","-99","NA","YES","-99","","1","1","-99","TEST"
"EB-CEF-1820-012618-14","E537","IN","GAD930","MAXXAM","2991-50-6","EtFOSAA","3.3","ng/L","U","3.3","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"EB-CEF-1820-012618-14","E537","IN","GAD930","MAXXAM","2355-31-9","MeFOSAA","2.9","ng/L","U","2.9","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"EB-CEF-1820-012618-14","E537","IN","GAD930","MAXXAM","375-73-5","Perfluorobutanesulfonic acid","5.4","ng/L","U","5.4","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"EB-CEF-1820-012618-14","E537","IN","GAD930","MAXXAM","335-76-2","Perfluorodecanoic acid","6.1","ng/L","U","6.1","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"EB-CEF-1820-012618-14","E537","IN","GAD930","MAXXAM","307-55-1","Perfluorododecanoic acid","5.0","ng/L","U","5.0","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"EB-CEF-1820-012618-14","E537","IN","GAD930","MAXXAM","375-85-9","Perfluoroheptanoic acid","7.4","ng/L","U","7.4","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"EB-CEF-1820-012618-14","E537","IN","GAD930","MAXXAM","355-46-4","Perfluorohexanesulfonic acid","5.6","ng/L","U","5.6","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"EB-CEF-1820-012618-14","E537","IN","GAD930","MAXXAM","307-24-4","Perfluorohexanoic acid","3.5","ng/L","U","3.5","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"EB-CEF-1820-012618-14","E537","IN","GAD930","MAXXAM","335-67-1","Perfluorooctanoic acid","3.3","ng/L","U","3.3","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"EB-CEF-1820-012618-14","E537","IN","GAD930","MAXXAM","375-95-1","Perfluorononanoic acid","8.7","ng/L","U","8.7","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"EB-CEF-1820-012618-14","E537","IN","GAD930","MAXXAM","1763-23-1","Perfluorooctanesulfonic acid","6.0","ng/L","U","6.0","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"EB-CEF-1820-012618-14","E537","IN","GAD930","MAXXAM","376-06-7","Perfluorotetradecanoic acid","2.7","ng/L","U","2.7","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"EB-CEF-1820-012618-14","E537","IN","GAD930","MAXXAM","72629-94-8","Perfluorotridecanoic acid","3.8","ng/L","U","3.8","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"EB-CEF-1820-012618-14","E537","IN","GAD930","MAXXAM","2058-94-8","Perfluoroundecanoic

acid","2.5","ng/L","U","2.5","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"EB-CEF-1820-012618-15","E537","IN","GAD931","MAXXAM","13C2PFDA","13C2-Perfluorodecanoic
acid","83","%","","-99","NA","","SUR","83","","-99","NA","YES","-99","","1","1","-99","TEST"
"EB-CEF-1820-012618-15","E537","IN","GAD931","MAXXAM","13C2PFDOA","13C2-Perfluorododecanoic
acid","71","%","","-99","NA","","SUR","71","","-99","NA","YES","-99","","1","1","-99","TEST"
"EB-CEF-1820-012618-15","E537","IN","GAD931","MAXXAM","13C2PFHXA","13C2-Perfluorohexanoic
acid","91","%","","-99","NA","","SUR","91","","-99","NA","YES","-99","","1","1","-99","TEST"
"EB-CEF-1820-012618-15","E537","IN","GAD931","MAXXAM","13C2PFTDA","13C2-Perfluorotetradecanoic
acid","61","%","","-99","NA","","SUR","61","","-99","NA","YES","-99","","1","1","-99","TEST"
"EB-CEF-1820-012618-15","E537","IN","GAD931","MAXXAM","13C2PFUA","13C2-Perfluoroundecanoic
acid","80","%","","-99","NA","","SUR","80","","-99","NA","YES","-99","","1","1","-99","TEST"
"EB-CEF-1820-012618-15","E537","IN","GAD931","MAXXAM","13C4PFHPA","13C4-Perfluoroheptanoic
acid","96","%","","-99","NA","","SUR","96","","-99","NA","YES","-99","","1","1","-99","TEST"
"EB-CEF-1820-012618-15","E537","IN","GAD931","MAXXAM","1763-23-1_13","13C4-
Perfluorooctanesulfonate","95","%","","-99","NA","","SUR","95","","-99","NA","YES","-99","","1","1","-99","TEST"
"EB-CEF-1820-012618-15","E537","IN","GAD931","MAXXAM","335-67-1_13C","13C4-Perfluorooctanoic
acid","90","%","","-99","NA","","SUR","90","","-99","NA","YES","-99","","1","1","-99","TEST"
"EB-CEF-1820-012618-15","E537","IN","GAD931","MAXXAM","13C4PFNA","13C5-Perfluorononanoic
acid","91","%","","-99","NA","","SUR","91","","-99","NA","YES","-99","","1","1","-99","TEST"
"EB-CEF-1820-012618-15","E537","IN","GAD931","MAXXAM","18O2PFHXS","18O2-
Perfluorohexanesulfonate","92","%","","-99","NA","","SUR","92","","-99","NA","YES","-99","","1","1","-99","TEST"
"EB-CEF-1820-012618-15","E537","IN","GAD931","MAXXAM","D3-MEFOSAA","N-METHYL-D3-
PERFLUOROOCTANESULFONAMIDOACETIC
ACID","67","%","","-99","NA","","SUR","67","","-99","NA","YES","-99","","1","1","-99","TEST"
"EB-CEF-1820-012618-15","E537","IN","GAD931","MAXXAM","D5-ETFOSAA","D5-
ETFOSAA","71","%","","-99","NA","","SUR","71","","-99","NA","YES","-99","","1","1","-99","TEST"
"EB-CEF-1820-012618-15","E537","IN","GAD931","MAXXAM","2991-50-
6","EtFOSAA","3.3","ng/L","U","3.3","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"EB-CEF-1820-012618-15","E537","IN","GAD931","MAXXAM","2355-31-
9","MeFOSAA","2.9","ng/L","U","2.9","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"EB-CEF-1820-012618-15","E537","IN","GAD931","MAXXAM","375-73-5","Perfluorobutanesulfonic
acid","5.4","ng/L","U","5.4","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"EB-CEF-1820-012618-15","E537","IN","GAD931","MAXXAM","335-76-2","Perfluorodecanoic
acid","6.1","ng/L","U","6.1","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"EB-CEF-1820-012618-15","E537","IN","GAD931","MAXXAM","307-55-1","Perfluorododecanoic
acid","5.0","ng/L","U","5.0","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"EB-CEF-1820-012618-15","E537","IN","GAD931","MAXXAM","375-85-9","Perfluoroheptanoic
acid","7.4","ng/L","U","7.4","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"EB-CEF-1820-012618-15","E537","IN","GAD931","MAXXAM","355-46-4","Perfluorohexanesulfonic
acid","5.6","ng/L","U","5.6","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"EB-CEF-1820-012618-15","E537","IN","GAD931","MAXXAM","307-24-4","Perfluorohexanoic
acid","3.5","ng/L","U","3.5","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"EB-CEF-1820-012618-15","E537","IN","GAD931","MAXXAM","335-67-1","Perfluorooctanoic
acid","3.3","ng/L","U","3.3","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"EB-CEF-1820-012618-15","E537","IN","GAD931","MAXXAM","375-95-1","Perfluorononanoic
acid","8.7","ng/L","U","8.7","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"EB-CEF-1820-012618-15","E537","IN","GAD931","MAXXAM","1763-23-1","Perfluorooctanesulfonic
acid","23","ng/L","","6.0","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"EB-CEF-1820-012618-15","E537","IN","GAD931","MAXXAM","376-06-7","Perfluorotetradecanoic
acid","2.7","ng/L","U","2.7","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"EB-CEF-1820-012618-15","E537","IN","GAD931","MAXXAM","72629-94-8","Perfluorotridecanoic
acid","3.8","ng/L","U","3.8","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"EB-CEF-1820-012618-15","E537","IN","GAD931","MAXXAM","2058-94-8","Perfluoroundecanoic
acid","2.5","ng/L","U","2.5","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"

"EB-CEF-1820-012618-16","E537","IN","GAD932","MAXXAM","13C2PFDA","13C2-Perfluorodecanoic acid","83","%","","-99","NA","","SUR","83","","-99","NA","YES","-99","","1","1","-99","TEST"
"EB-CEF-1820-012618-16","E537","IN","GAD932","MAXXAM","13C2PFDOA","13C2-Perfluorododecanoic acid","76","%","","-99","NA","","SUR","76","","-99","NA","YES","-99","","1","1","-99","TEST"
"EB-CEF-1820-012618-16","E537","IN","GAD932","MAXXAM","13C2PFHXA","13C2-Perfluorohexanoic acid","92","%","","-99","NA","","SUR","92","","-99","NA","YES","-99","","1","1","-99","TEST"
"EB-CEF-1820-012618-16","E537","IN","GAD932","MAXXAM","13C2PFTDA","13C2-Perfluorotetradecanoic acid","68","%","","-99","NA","","SUR","68","","-99","NA","YES","-99","","1","1","-99","TEST"
"EB-CEF-1820-012618-16","E537","IN","GAD932","MAXXAM","13C2PFUA","13C2-Perfluoroundecanoic acid","76","%","","-99","NA","","SUR","76","","-99","NA","YES","-99","","1","1","-99","TEST"
"EB-CEF-1820-012618-16","E537","IN","GAD932","MAXXAM","13C4PFHPA","13C4-Perfluoroheptanoic acid","86","%","","-99","NA","","SUR","86","","-99","NA","YES","-99","","1","1","-99","TEST"
"EB-CEF-1820-012618-16","E537","IN","GAD932","MAXXAM","1763-23-1_13","13C4-Perfluorooctanesulfonate","87","%","","-99","NA","","SUR","87","","-99","NA","YES","-99","","1","1","-99","TEST"
"EB-CEF-1820-012618-16","E537","IN","GAD932","MAXXAM","335-67-1_13C","13C4-Perfluorooctanoic acid","87","%","","-99","NA","","SUR","87","","-99","NA","YES","-99","","1","1","-99","TEST"
"EB-CEF-1820-012618-16","E537","IN","GAD932","MAXXAM","13C4PFNA","13C5-Perfluorononanoic acid","83","%","","-99","NA","","SUR","83","","-99","NA","YES","-99","","1","1","-99","TEST"
"EB-CEF-1820-012618-16","E537","IN","GAD932","MAXXAM","18O2PFHXS","18O2-Perfluorohexanesulfonate","90","%","","-99","NA","","SUR","90","","-99","NA","YES","-99","","1","1","-99","TEST"
"EB-CEF-1820-012618-16","E537","IN","GAD932","MAXXAM","D3-MEFOSAA","N-METHYL-D3-PERFLUOROOCTANESULFONAMIDOACETIC ACID","77","%","","-99","NA","","SUR","77","","-99","NA","YES","-99","","1","1","-99","TEST"
"EB-CEF-1820-012618-16","E537","IN","GAD932","MAXXAM","D5-ETFOSAA","D5-ETFOSAA","76","%","","-99","NA","","SUR","76","","-99","NA","YES","-99","","1","1","-99","TEST"
"EB-CEF-1820-012618-16","E537","IN","GAD932","MAXXAM","2991-50-6","EtFOSAA","3.3","ng/L","U","3.3","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"EB-CEF-1820-012618-16","E537","IN","GAD932","MAXXAM","2355-31-9","MeFOSAA","2.9","ng/L","U","2.9","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"EB-CEF-1820-012618-16","E537","IN","GAD932","MAXXAM","375-73-5","Perfluorobutanesulfonic acid","5.4","ng/L","U","5.4","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"EB-CEF-1820-012618-16","E537","IN","GAD932","MAXXAM","335-76-2","Perfluorodecanoic acid","6.1","ng/L","U","6.1","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"EB-CEF-1820-012618-16","E537","IN","GAD932","MAXXAM","307-55-1","Perfluorododecanoic acid","5.0","ng/L","U","5.0","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"EB-CEF-1820-012618-16","E537","IN","GAD932","MAXXAM","375-85-9","Perfluoroheptanoic acid","7.4","ng/L","U","7.4","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"EB-CEF-1820-012618-16","E537","IN","GAD932","MAXXAM","355-46-4","Perfluorohexanesulfonic acid","5.6","ng/L","U","5.6","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"EB-CEF-1820-012618-16","E537","IN","GAD932","MAXXAM","307-24-4","Perfluorohexanoic acid","3.5","ng/L","U","3.5","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"EB-CEF-1820-012618-16","E537","IN","GAD932","MAXXAM","335-67-1","Perfluorooctanoic acid","3.3","ng/L","U","3.3","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"EB-CEF-1820-012618-16","E537","IN","GAD932","MAXXAM","375-95-1","Perfluorononanoic acid","8.7","ng/L","U","8.7","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"EB-CEF-1820-012618-16","E537","IN","GAD932","MAXXAM","1763-23-1","Perfluorooctanesulfonic acid","6.0","ng/L","U","6.0","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"EB-CEF-1820-012618-16","E537","IN","GAD932","MAXXAM","376-06-7","Perfluorotetradecanoic acid","2.7","ng/L","U","2.7","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"EB-CEF-1820-012618-16","E537","IN","GAD932","MAXXAM","72629-94-8","Perfluorotridecanoic acid","3.8","ng/L","U","3.8","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"EB-CEF-1820-012618-16","E537","IN","GAD932","MAXXAM","2058-94-8","Perfluoroundecanoic acid","2.5","ng/L","U","2.5","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"CEF-860-TW01-0118","E537","DL1","GAD933","MAXXAM","13C2PFDA","13C2-Perfluorodecanoic

acid","80","%","","-99","NA","","SUR","80","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-860-TW01-0118","E537","DL1","GAD933","MAXXAM","13C2PFDOA","13C2-Perfluorododecanoic
acid","73","%","","-99","NA","","SUR","73","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-860-TW01-0118","E537","DL1","GAD933","MAXXAM","13C2PFHXA","13C2-Perfluorohexanoic
acid","91","%","","-99","NA","","SUR","91","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-860-TW01-0118","E537","DL1","GAD933","MAXXAM","13C2PFTDA","13C2-Perfluorotetradecanoic
acid","80","%","","-99","NA","","SUR","80","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-860-TW01-0118","E537","DL1","GAD933","MAXXAM","13C2PFUA","13C2-Perfluoroundecanoic
acid","74","%","","-99","NA","","SUR","74","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-860-TW01-0118","E537","DL1","GAD933","MAXXAM","13C4PFHPA","13C4-Perfluoroheptanoic
acid","86","%","","-99","NA","","SUR","86","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-860-TW01-0118","E537","RA0","GAD933","MAXXAM","1763-23-1_13","13C4-
Perfluorooctanesulfonate","95","%","","-99","NA","","SUR","95","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-860-TW01-0118","E537","DL1","GAD933","MAXXAM","335-67-1_13C","13C4-Perfluorooctanoic
acid","88","%","","-99","NA","","SUR","88","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-860-TW01-0118","E537","DL1","GAD933","MAXXAM","13C4PFNA","13C5-Perfluorononanoic
acid","82","%","","-99","NA","","SUR","82","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-860-TW01-0118","E537","DL1","GAD933","MAXXAM","18O2PFHXS","18O2-
Perfluorohexanesulfonate","89","%","","-99","NA","","SUR","89","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-860-TW01-0118","E537","DL1","GAD933","MAXXAM","D3-MEFOSAA","N-METHYL-D3-
PERFLUOROOCTANESULFONAMIDOACETIC
ACID","70","%","","-99","NA","","SUR","70","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-860-TW01-0118","E537","DL1","GAD933","MAXXAM","D5-ETFOSAA","D5-
ETFOSAA","70","%","","-99","NA","","SUR","70","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-860-TW01-0118","E537","DL1","GAD933","MAXXAM","2991-50-
6","EtFOSAA","330","ng/L","U","330","MDL","","NM","","","2000","PQL","YES","-99","","1","1","2000","Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x)."
"CEF-860-TW01-0118","E537","DL1","GAD933","MAXXAM","2355-31-
9","MeFOSAA","290","ng/L","U","290","MDL","","NM","","","2000","PQL","YES","-99","","1","1","2000","Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x)."
"CEF-860-TW01-0118","E537","DL1","GAD933","MAXXAM","375-73-5","Perfluorobutanesulfonic
acid","1500","ng/L","J","540","MDL","","NM","","","2000","PQL","YES","-99","","1","1","2000","Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x)."
"CEF-860-TW01-0118","E537","DL1","GAD933","MAXXAM","335-76-2","Perfluorodecanoic
acid","610","ng/L","U","610","MDL","","NM","","","2000","PQL","YES","-99","","1","1","2000","Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x)."
"CEF-860-TW01-0118","E537","DL1","GAD933","MAXXAM","307-55-1","Perfluorododecanoic
acid","500","ng/L","U","500","MDL","","NM","","","2000","PQL","YES","-99","","1","1","2000","Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x)."
"CEF-860-TW01-0118","E537","DL1","GAD933","MAXXAM","375-85-9","Perfluoroheptanoic
acid","1200","ng/L","J","740","MDL","","NM","","","2000","PQL","YES","-99","","1","1","2000","Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x)."
"CEF-860-TW01-0118","E537","DL1","GAD933","MAXXAM","355-46-4","Perfluorohexanesulfonic
acid","32000","ng/L","","560","MDL","","NM","","","2000","PQL","YES","-99","","1","1","2000","Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x)."
"CEF-860-TW01-0118","E537","DL1","GAD933","MAXXAM","307-24-4","Perfluorohexanoic
acid","4400","ng/L","","350","MDL","","NM","","","2000","PQL","YES","-99","","1","1","2000","Due to high

concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x)."
"CEF-860-TW01-0118","E537","DL1","GAD933","MAXXAM","335-67-1","Perfluorooctanoic acid","5800","ng/L","","330","MDL","","NM","","","2000","PQL","YES","-99","","1","1","2000","Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x)."
"CEF-860-TW01-0118","E537","DL1","GAD933","MAXXAM","375-95-1","Perfluorononanoic acid","870","ng/L","U","870","MDL","","NM","","","2000","PQL","YES","-99","","1","1","2000","Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x)."
"CEF-860-TW01-0118","E537","RA0","GAD933","MAXXAM","1763-23-1","Perfluorooctanesulfonic acid","230000","ng/L","","2300","MDL","","NM","","","8000","PQL","YES","-99","","1","1","8000","Due to high concentration of the target analyte, sample required high level analysis with additional serial dilutions. Detection limit was adjusted accordingly.
"CEF-860-TW01-0118","E537","DL1","GAD933","MAXXAM","376-06-7","Perfluorotetradecanoic acid","270","ng/L","U","270","MDL","","NM","","","2000","PQL","YES","-99","","1","1","2000","Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x)."
"CEF-860-TW01-0118","E537","DL1","GAD933","MAXXAM","72629-94-8","Perfluorotridecanoic acid","380","ng/L","U","380","MDL","","NM","","","2000","PQL","YES","-99","","1","1","2000","Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x)."
"CEF-860-TW01-0118","E537","DL1","GAD933","MAXXAM","2058-94-8","Perfluoroundecanoic acid","250","ng/L","U","250","MDL","","NM","","","2000","PQL","YES","-99","","1","1","2000","Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x)."
"CEF-860-TW01-0118DUP","E537","RA0","GAD933DUP","MAXXAM","1763-23-1_13","13C4-Perfluorooctanesulfonate","95","%","","-99","NA","","SUR","95","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-860-TW01-0118DUP","E537","RA0","GAD933DUP","MAXXAM","1763-23-1","Perfluorooctanesulfonic acid","220000","ng/L","","2300","MDL","","NM","","3.6","8000","PQL","YES","-99","","1","1","8000","Due to high concentration of the target analyte, sample required high level analysis with additional serial dilutions. Detection limit was adjusted accordingly."
"CEF-1820-TW01-0118","E537","DL1","GAD934","MAXXAM","13C2PFDA","13C2-Perfluorodecanoic acid","86","%","","-99","NA","","SUR","86","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-1820-TW01-0118","E537","DL1","GAD934","MAXXAM","13C2PFDOA","13C2-Perfluorododecanoic acid","79","%","","-99","NA","","SUR","79","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-1820-TW01-0118","E537","DL1","GAD934","MAXXAM","13C2PFHXA","13C2-Perfluorohexanoic acid","94","%","","-99","NA","","SUR","94","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-1820-TW01-0118","E537","DL1","GAD934","MAXXAM","13C2PFTDA","13C2-Perfluorotetradecanoic acid","54","%","","-99","NA","","SUR","54","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-1820-TW01-0118","E537","DL1","GAD934","MAXXAM","13C2PFUA","13C2-Perfluoroundecanoic acid","82","%","","-99","NA","","SUR","82","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-1820-TW01-0118","E537","DL1","GAD934","MAXXAM","13C4PFHPA","13C4-Perfluoroheptanoic acid","88","%","","-99","NA","","SUR","88","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-1820-TW01-0118","E537","RA0","GAD934","MAXXAM","1763-23-1_13","13C4-Perfluorooctanesulfonate","99","%","","-99","NA","","SUR","99","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-1820-TW01-0118","E537","DL1","GAD934","MAXXAM","335-67-1_13C","13C4-Perfluorooctanoic acid","94","%","","-99","NA","","SUR","94","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-1820-TW01-0118","E537","DL1","GAD934","MAXXAM","13C4PFNA","13C5-Perfluorononanoic acid","94","%","","-99","NA","","SUR","94","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-1820-TW01-0118","E537","RA0","GAD934","MAXXAM","18O2PFHXS","18O2-Perfluorohexanesulfonate","98","%","","-99","NA","","SUR","98","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-1820-TW01-0118","E537","DL1","GAD934","MAXXAM","D3-MEFOSAA","N-METHYL-D3-PERFLUOROOCTANESULFONAMIDOACETIC

ACID","76","%","","-99","NA","","SUR","76","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-1820-TW01-0118","E537","DL1","GAD934","MAXXAM","D5-ETFOSAA","D5-ETFOSAA","72","%","","-99","NA","","SUR","72","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-1820-TW01-0118","E537","DL1","GAD934","MAXXAM","2991-50-6","EtFOSAA","330","ng/L","U","330","MDL","","NM","","","2000","PQL","YES","-99","","1","1","2000","Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x)."
"CEF-1820-TW01-0118","E537","DL1","GAD934","MAXXAM","2355-31-9","MeFOSAA","290","ng/L","U","290","MDL","","NM","","","2000","PQL","YES","-99","","1","1","2000","Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x)."
"CEF-1820-TW01-0118","E537","DL1","GAD934","MAXXAM","375-73-5","Perfluorobutanesulfonic acid","32000","ng/L","","540","MDL","","NM","","","2000","PQL","YES","-99","","1","1","2000","Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x)."
"CEF-1820-TW01-0118","E537","DL1","GAD934","MAXXAM","335-76-2","Perfluorodecanoic acid","610","ng/L","U","610","MDL","","NM","","","2000","PQL","YES","-99","","1","1","2000","Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x)."
"CEF-1820-TW01-0118","E537","DL1","GAD934","MAXXAM","307-55-1","Perfluorododecanoic acid","500","ng/L","U","500","MDL","","NM","","","2000","PQL","YES","-99","","1","1","2000","Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x)."
"CEF-1820-TW01-0118","E537","DL1","GAD934","MAXXAM","375-85-9","Perfluoroheptanoic acid","9000","ng/L","","740","MDL","","NM","","","2000","PQL","YES","-99","","1","1","2000","Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x)."
"CEF-1820-TW01-0118","E537","RA0","GAD934","MAXXAM","355-46-4","Perfluorohexanesulfonic acid","250000","ng/L","","2400","MDL","","NM","","","8000","PQL","YES","-99","","1","1","8000","Due to high concentration of the target analyte, sample required high level analysis with additional serial dilutions. Detection limit was adjusted accordingly."
"CEF-1820-TW01-0118","E537","DL1","GAD934","MAXXAM","307-24-4","Perfluorohexanoic acid","53000","ng/L","","350","MDL","","NM","","","2000","PQL","YES","-99","","1","1","2000","Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x)."
"CEF-1820-TW01-0118","E537","DL1","GAD934","MAXXAM","335-67-1","Perfluorooctanoic acid","29000","ng/L","","330","MDL","","NM","","","2000","PQL","YES","-99","","1","1","2000","Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x)."
"CEF-1820-TW01-0118","E537","DL1","GAD934","MAXXAM","375-95-1","Perfluorononanoic acid","870","ng/L","U","870","MDL","","NM","","","2000","PQL","YES","-99","","1","1","2000","Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x)."
"CEF-1820-TW01-0118","E537","RA0","GAD934","MAXXAM","1763-23-1","Perfluorooctanesulfonic acid","930000","ng/L","","23000","MDL","","NM","","","80000","PQL","YES","-99","","1","1","80000","Due to high concentration of the target analyte, sample required high level analysis with additional serial dilutions. Detection limit was adjusted accordingly."
"CEF-1820-TW01-0118","E537","DL1","GAD934","MAXXAM","376-06-7","Perfluorotetradecanoic acid","270","ng/L","U","270","MDL","","NM","","","2000","PQL","YES","-99","","1","1","2000","Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x)."
"CEF-1820-TW01-0118","E537","DL1","GAD934","MAXXAM","72629-94-8","Perfluorotridecanoic acid","380","ng/L","U","380","MDL","","NM","","","2000","PQL","YES","-99","","1","1","2000","Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted

accordingly (100x)."
"CEF-1820-TW01-0118","E537","DL1","GAD934","MAXXAM","2058-94-8","Perfluoroundecanoic acid","250","ng/L","U","250","MDL","","NM","","","2000","PQL","YES","-99","","1","1","2000","Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x)."
"CEF-1820-TW01-0118DUP","E537","RA0","GAD934DUP","MAXXAM","1763-23-1_13","13C4-Perfluorooctanesulfonate","96","%","","-99","NA","","SUR","96","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-1820-TW01-0118DUP","E537","RA0","GAD934DUP","MAXXAM","18O2PFHXS","18O2-Perfluorohexanesulfonate","103","%","","-99","NA","","SUR","103","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-1820-TW01-0118DUP","E537","RA0","GAD934DUP","MAXXAM","355-46-4","Perfluorohexanesulfonic acid","250000","ng/L","","2400","MDL","","NM","","2.5","8000","PQL","YES","-99","","1","1","8000","Due to high concentration of the target analyte, sample required high level analysis with additional serial dilutions. Detection limit was adjusted accordingly."
"CEF-1820-TW01-0118DUP","E537","RA0","GAD934DUP","MAXXAM","1763-23-1","Perfluorooctanesulfonic acid","900000","ng/L","","23000","MDL","","NM","","2.4","80000","PQL","YES","-99","","1","1","80000","Due to high concentration of the target analyte, sample required high level analysis with additional serial dilutions. Detection limit was adjusted accordingly."
"FB-CEF-NG-012918-11","E537","IN","GAD935","MAXXAM","13C2PFDA","13C2-Perfluorodecanoic acid","91","%","","-99","NA","","SUR","91","","-99","NA","YES","-99","","1","1","-99","TEST"
"FB-CEF-NG-012918-11","E537","IN","GAD935","MAXXAM","13C2PFDOA","13C2-Perfluorododecanoic acid","86","%","","-99","NA","","SUR","86","","-99","NA","YES","-99","","1","1","-99","TEST"
"FB-CEF-NG-012918-11","E537","IN","GAD935","MAXXAM","13C2PFHXA","13C2-Perfluorohexanoic acid","100","%","","-99","NA","","SUR","100","","-99","NA","YES","-99","","1","1","-99","TEST"
"FB-CEF-NG-012918-11","E537","IN","GAD935","MAXXAM","13C2PFTDA","13C2-Perfluorotetradecanoic acid","60","%","","-99","NA","","SUR","60","","-99","NA","YES","-99","","1","1","-99","TEST"
"FB-CEF-NG-012918-11","E537","IN","GAD935","MAXXAM","13C2PFUA","13C2-Perfluoroundecanoic acid","86","%","","-99","NA","","SUR","86","","-99","NA","YES","-99","","1","1","-99","TEST"
"FB-CEF-NG-012918-11","E537","IN","GAD935","MAXXAM","13C4PFHPA","13C4-Perfluoroheptanoic acid","101","%","","-99","NA","","SUR","101","","-99","NA","YES","-99","","1","1","-99","TEST"
"FB-CEF-NG-012918-11","E537","IN","GAD935","MAXXAM","1763-23-1_13","13C4-Perfluorooctanesulfonate","88","%","","-99","NA","","SUR","88","","-99","NA","YES","-99","","1","1","-99","TEST"
"FB-CEF-NG-012918-11","E537","IN","GAD935","MAXXAM","335-67-1_13C","13C4-Perfluorooctanoic acid","101","%","","-99","NA","","SUR","101","","-99","NA","YES","-99","","1","1","-99","TEST"
"FB-CEF-NG-012918-11","E537","IN","GAD935","MAXXAM","13C4PFNA","13C5-Perfluorononanoic acid","98","%","","-99","NA","","SUR","98","","-99","NA","YES","-99","","1","1","-99","TEST"
"FB-CEF-NG-012918-11","E537","IN","GAD935","MAXXAM","18O2PFHXS","18O2-Perfluorohexanesulfonate","102","%","","-99","NA","","SUR","102","","-99","NA","YES","-99","","1","1","-99","TEST"
"FB-CEF-NG-012918-11","E537","IN","GAD935","MAXXAM","D3-MEFOSAA","N-METHYL-D3-PERFLUOROOCTANESULFONAMIDOACETIC ACID","80","%","","-99","NA","","SUR","80","","-99","NA","YES","-99","","1","1","-99","TEST"
"FB-CEF-NG-012918-11","E537","IN","GAD935","MAXXAM","D5-ETFOSAA","D5-ETFOSAA","77","%","","-99","NA","","SUR","77","","-99","NA","YES","-99","","1","1","-99","TEST"
"FB-CEF-NG-012918-11","E537","IN","GAD935","MAXXAM","2991-50-6","EtFOSAA","3.3","ng/L","U","3.3","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"FB-CEF-NG-012918-11","E537","IN","GAD935","MAXXAM","2355-31-9","MeFOSAA","2.9","ng/L","U","2.9","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"FB-CEF-NG-012918-11","E537","IN","GAD935","MAXXAM","375-73-5","Perfluorobutanesulfonic acid","5.4","ng/L","U","5.4","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"FB-CEF-NG-012918-11","E537","IN","GAD935","MAXXAM","335-76-2","Perfluorodecanoic acid","6.1","ng/L","U","6.1","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"FB-CEF-NG-012918-11","E537","IN","GAD935","MAXXAM","307-55-1","Perfluorododecanoic acid","5.0","ng/L","U","5.0","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"

"FB-CEF-NG-012918-11","E537","IN","GAD935","MAXXAM","375-85-9","Perfluoroheptanoic acid","7.4","ng/L","U","7.4","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"FB-CEF-NG-012918-11","E537","IN","GAD935","MAXXAM","355-46-4","Perfluorohexanesulfonic acid","5.6","ng/L","U","5.6","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"FB-CEF-NG-012918-11","E537","IN","GAD935","MAXXAM","307-24-4","Perfluorohexanoic acid","3.5","ng/L","U","3.5","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"FB-CEF-NG-012918-11","E537","IN","GAD935","MAXXAM","335-67-1","Perfluorooctanoic acid","3.3","ng/L","U","3.3","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"FB-CEF-NG-012918-11","E537","IN","GAD935","MAXXAM","375-95-1","Perfluorononanoic acid","8.7","ng/L","U","8.7","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"FB-CEF-NG-012918-11","E537","IN","GAD935","MAXXAM","1763-23-1","Perfluorooctanesulfonic acid","6.0","ng/L","U","6.0","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"FB-CEF-NG-012918-11","E537","IN","GAD935","MAXXAM","376-06-7","Perfluorotetradecanoic acid","2.7","ng/L","U","2.7","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"FB-CEF-NG-012918-11","E537","IN","GAD935","MAXXAM","72629-94-8","Perfluorotridecanoic acid","3.8","ng/L","U","3.8","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"FB-CEF-NG-012918-11","E537","IN","GAD935","MAXXAM","2058-94-8","Perfluoroundecanoic acid","2.5","ng/L","U","2.5","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"CEF-NG-025-0118","E537","DL1","GAD936","MAXXAM","13C2PFDA","13C2-Perfluorodecanoic acid","88","%","","-99","NA","","SUR","88","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-NG-025-0118","E537","DL1","GAD936","MAXXAM","13C2PFDOA","13C2-Perfluorododecanoic acid","80","%","","-99","NA","","SUR","80","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-NG-025-0118","E537","DL1","GAD936","MAXXAM","13C2PFHXA","13C2-Perfluorohexanoic acid","98","%","","-99","NA","","SUR","98","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-NG-025-0118","E537","DL1","GAD936","MAXXAM","13C2PFTDA","13C2-Perfluorotetradecanoic acid","76","%","","-99","NA","","SUR","76","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-NG-025-0118","E537","DL1","GAD936","MAXXAM","13C2PFUA","13C2-Perfluoroundecanoic acid","87","%","","-99","NA","","SUR","87","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-NG-025-0118","E537","DL1","GAD936","MAXXAM","13C4PFHPA","13C4-Perfluoroheptanoic acid","104","%","","-99","NA","","SUR","104","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-NG-025-0118","E537","RA0","GAD936","MAXXAM","1763-23-1_13","13C4-Perfluorooctanesulfonate","109","%","","-99","NA","","SUR","109","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-NG-025-0118","E537","DL1","GAD936","MAXXAM","335-67-1_13C","13C4-Perfluorooctanoic acid","103","%","","-99","NA","","SUR","103","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-NG-025-0118","E537","DL1","GAD936","MAXXAM","13C4PFNA","13C5-Perfluorononanoic acid","100","%","","-99","NA","","SUR","100","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-NG-025-0118","E537","DL1","GAD936","MAXXAM","18O2PFHXS","18O2-Perfluorohexanesulfonate","98","%","","-99","NA","","SUR","98","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-NG-025-0118","E537","DL1","GAD936","MAXXAM","D3-MEFOSAA","N-METHYL-D3-PERFLUOROOCTANESULFONAMIDOACETIC ACID","84","%","","-99","NA","","SUR","84","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-NG-025-0118","E537","DL1","GAD936","MAXXAM","D5-ETFOSAA","D5-ETFOSAA","82","%","","-99","NA","","SUR","82","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-NG-025-0118","E537","DL1","GAD936","MAXXAM","2991-50-6","EtFOSAA","330","ng/L","U","330","MDL","","NM","","","2000","PQL","YES","-99","","1","1","2000","Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x)."
"CEF-NG-025-0118","E537","DL1","GAD936","MAXXAM","2355-31-9","MeFOSAA","290","ng/L","U","290","MDL","","NM","","","2000","PQL","YES","-99","","1","1","2000","Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x)."
"CEF-NG-025-0118","E537","DL1","GAD936","MAXXAM","375-73-5","Perfluorobutanesulfonic acid","2700","ng/L","","540","MDL","","NM","","","2000","PQL","YES","-99","","1","1","2000","Due to high

concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x)."
"CEF-NG-025-0118","E537","DL1","GAD936","MAXXAM","335-76-2","Perfluorodecanoic acid","610","ng/L","U","610","MDL","","NM","","","2000","PQL","YES","-99","","1","1","2000","Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x)."
"CEF-NG-025-0118","E537","DL1","GAD936","MAXXAM","307-55-1","Perfluorododecanoic acid","500","ng/L","U","500","MDL","","NM","","","2000","PQL","YES","-99","","1","1","2000","Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x)."
"CEF-NG-025-0118","E537","DL1","GAD936","MAXXAM","375-85-9","Perfluoroheptanoic acid","1400","ng/L","J","740","MDL","","NM","","","2000","PQL","YES","-99","","1","1","2000","Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x)."
"CEF-NG-025-0118","E537","DL1","GAD936","MAXXAM","355-46-4","Perfluorohexanesulfonic acid","54000","ng/L","","560","MDL","","NM","","","2000","PQL","YES","-99","","1","1","2000","Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x)."
"CEF-NG-025-0118","E537","DL1","GAD936","MAXXAM","307-24-4","Perfluorohexanoic acid","8900","ng/L","","350","MDL","","NM","","","2000","PQL","YES","-99","","1","1","2000","Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x)."
"CEF-NG-025-0118","E537","DL1","GAD936","MAXXAM","335-67-1","Perfluorooctanoic acid","8600","ng/L","","330","MDL","","NM","","","2000","PQL","YES","-99","","1","1","2000","Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x)."
"CEF-NG-025-0118","E537","DL1","GAD936","MAXXAM","375-95-1","Perfluorononanoic acid","870","ng/L","U","870","MDL","","NM","","","2000","PQL","YES","-99","","1","1","2000","Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x)."
"CEF-NG-025-0118","E537","RA0","GAD936","MAXXAM","1763-23-1","Perfluorooctanesulfonic acid","980000","ng/L","","23000","MDL","","NM","","","80000","PQL","YES","-99","","1","1","80000","Due to high concentration of the target analyte, sample required high level analysis with additional serial dilutions. Detection limit was adjusted accordingly.
"CEF-NG-025-0118","E537","DL1","GAD936","MAXXAM","376-06-7","Perfluorotetradecanoic acid","270","ng/L","U","270","MDL","","NM","","","2000","PQL","YES","-99","","1","1","2000","Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x)."
"CEF-NG-025-0118","E537","DL1","GAD936","MAXXAM","72629-94-8","Perfluorotridecanoic acid","380","ng/L","U","380","MDL","","NM","","","2000","PQL","YES","-99","","1","1","2000","Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x)."
"CEF-NG-025-0118","E537","DL1","GAD936","MAXXAM","2058-94-8","Perfluoroundecanoic acid","250","ng/L","U","250","MDL","","NM","","","2000","PQL","YES","-99","","1","1","2000","Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x)."
"CEF-NG-025-0118DUP","E537","DL1","GAD936DUP","MAXXAM","13C2PFDA","13C2-Perfluorodecanoic acid","94","%","","-99","NA","","SUR","94","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-NG-025-0118DUP","E537","DL1","GAD936DUP","MAXXAM","13C2PFDOA","13C2-Perfluorododecanoic acid","85","%","","-99","NA","","SUR","85","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-NG-025-0118DUP","E537","DL1","GAD936DUP","MAXXAM","13C2PFHXA","13C2-Perfluorohexanoic acid","95","%","","-99","NA","","SUR","95","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-NG-025-0118DUP","E537","DL1","GAD936DUP","MAXXAM","13C2PFTDA","13C2-Perfluorotetradecanoic acid","77","%","","-99","NA","","SUR","77","","-99","NA","YES","-99","","1","1","-99","TEST"

"CEF-NG-025-0118DUP","E537","DL1","GAD936DUP","MAXXAM","13C2PFUA","13C2-Perfluoroundecanoic acid","83","%","","-99","NA","","SUR","83","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-NG-025-0118DUP","E537","DL1","GAD936DUP","MAXXAM","13C4PFHPA","13C4-Perfluoroheptanoic acid","96","%","","-99","NA","","SUR","96","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-NG-025-0118DUP","E537","RA0","GAD936DUP","MAXXAM","1763-23-1_13","13C4-Perfluorooctanesulfonate","107","%","","-99","NA","","SUR","107","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-NG-025-0118DUP","E537","DL1","GAD936DUP","MAXXAM","335-67-1_13C","13C4-Perfluorooctanoic acid","95","%","","-99","NA","","SUR","95","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-NG-025-0118DUP","E537","DL1","GAD936DUP","MAXXAM","13C4PFNA","13C5-Perfluorononanoic acid","95","%","","-99","NA","","SUR","95","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-NG-025-0118DUP","E537","DL1","GAD936DUP","MAXXAM","18O2PFHXS","18O2-Perfluorohexanesulfonate","93","%","","-99","NA","","SUR","93","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-NG-025-0118DUP","E537","DL1","GAD936DUP","MAXXAM","D3-MEFOSAA","N-METHYL-D3-PERFLUOROOCTANESULFONAMIDOACETIC ACID","80","%","","-99","NA","","SUR","80","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-NG-025-0118DUP","E537","DL1","GAD936DUP","MAXXAM","D5-ETFOSAA","D5-ETFOSAA","77","%","","-99","NA","","SUR","77","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-NG-025-0118DUP","E537","DL1","GAD936DUP","MAXXAM","2991-50-6","EtFOSAA","330","ng/L","U","330","MDL","","NM","","","2000","PQL","YES","-99","","1","1","2000","Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x)."
"CEF-NG-025-0118DUP","E537","DL1","GAD936DUP","MAXXAM","2355-31-9","MeFOSAA","290","ng/L","U","290","MDL","","NM","","","2000","PQL","YES","-99","","1","1","2000","Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x)."
"CEF-NG-025-0118DUP","E537","DL1","GAD936DUP","MAXXAM","375-73-5","Perfluorobutanesulfonic acid","2500","ng/L","","540","MDL","","NM","","","2000","PQL","YES","-99","","1","1","2000","Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x)."
"CEF-NG-025-0118DUP","E537","DL1","GAD936DUP","MAXXAM","335-76-2","Perfluorodecanoic acid","610","ng/L","U","610","MDL","","NM","","","2000","PQL","YES","-99","","1","1","2000","Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x)."
"CEF-NG-025-0118DUP","E537","DL1","GAD936DUP","MAXXAM","307-55-1","Perfluorododecanoic acid","500","ng/L","U","500","MDL","","NM","","","2000","PQL","YES","-99","","1","1","2000","Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x)."
"CEF-NG-025-0118DUP","E537","DL1","GAD936DUP","MAXXAM","375-85-9","Perfluoroheptanoic acid","1500","ng/L","J","740","MDL","","NM","","","2000","PQL","YES","-99","","1","1","2000","Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x)."
"CEF-NG-025-0118DUP","E537","DL1","GAD936DUP","MAXXAM","355-46-4","Perfluorohexanesulfonic acid","51000","ng/L","","560","MDL","","NM","","6.0","2000","PQL","YES","-99","","1","1","2000","Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x)."
"CEF-NG-025-0118DUP","E537","DL1","GAD936DUP","MAXXAM","307-24-4","Perfluorohexanoic acid","8200","ng/L","","350","MDL","","NM","","","2000","PQL","YES","-99","","1","1","2000","Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x)."
"CEF-NG-025-0118DUP","E537","DL1","GAD936DUP","MAXXAM","335-67-1","Perfluorooctanoic acid","7900","ng/L","","330","MDL","","NM","","","2000","PQL","YES","-99","","1","1","2000","Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x)."

"CEF-NG-025-0118DUP","E537","DL1","GAD936DUP","MAXXAM","375-95-1","Perfluorononanoic acid","870","ng/L","U","870","MDL","","NM","","","2000","PQL","YES","-99","","1","1","2000","Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x)."
"CEF-NG-025-0118DUP","E537","RA0","GAD936DUP","MAXXAM","1763-23-1","Perfluorooctanesulfonic acid","870000","ng/L","","23000","MDL","","NM","","11","80000","PQL","YES","-99","","1","1","80000","Due to high concentration of the target analyte, sample required high level analysis with additional serial dilutions. Detection limit was adjusted accordingly."
"CEF-NG-025-0118DUP","E537","DL1","GAD936DUP","MAXXAM","376-06-7","Perfluorotetradecanoic acid","270","ng/L","U","270","MDL","","NM","","","2000","PQL","YES","-99","","1","1","2000","Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x)."
"CEF-NG-025-0118DUP","E537","DL1","GAD936DUP","MAXXAM","72629-94-8","Perfluorotridecanoic acid","380","ng/L","U","380","MDL","","NM","","","2000","PQL","YES","-99","","1","1","2000","Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x)."
"CEF-NG-025-0118DUP","E537","DL1","GAD936DUP","MAXXAM","2058-94-8","Perfluoroundecanoic acid","250","ng/L","U","250","MDL","","NM","","","2000","PQL","YES","-99","","1","1","2000","Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x)."
"CEF-NG-10S-0118","E537","IN","GAD937","MAXXAM","13C2PFDA","13C2-Perfluorodecanoic acid","100","%","","-99","NA","","SUR","100","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-NG-10S-0118","E537","IN","GAD937","MAXXAM","13C2PFDOA","13C2-Perfluorododecanoic acid","90","%","","-99","NA","","SUR","90","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-NG-10S-0118","E537","IN","GAD937","MAXXAM","13C2PFHXA","13C2-Perfluorohexanoic acid","101","%","","-99","NA","","SUR","101","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-NG-10S-0118","E537","IN","GAD937","MAXXAM","13C2PFTDA","13C2-Perfluorotetradecanoic acid","85","%","","-99","NA","","SUR","85","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-NG-10S-0118","E537","IN","GAD937","MAXXAM","13C2PFUA","13C2-Perfluoroundecanoic acid","100","%","","-99","NA","","SUR","100","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-NG-10S-0118","E537","IN","GAD937","MAXXAM","13C4PFHPA","13C4-Perfluoroheptanoic acid","107","%","","-99","NA","","SUR","107","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-NG-10S-0118","E537","IN","GAD937","MAXXAM","1763-23-1_13","13C4-Perfluorooctanesulfonate","119","%","","-99","NA","","SUR","119","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-NG-10S-0118","E537","IN","GAD937","MAXXAM","335-67-1_13C","13C4-Perfluorooctanoic acid","107","%","","-99","NA","","SUR","107","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-NG-10S-0118","E537","IN","GAD937","MAXXAM","13C4PFNA","13C5-Perfluorononanoic acid","109","%","","-99","NA","","SUR","109","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-NG-10S-0118","E537","IN","GAD937","MAXXAM","18O2PFHXS","18O2-Perfluorohexanesulfonate","107","%","","-99","NA","","SUR","107","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-NG-10S-0118","E537","IN","GAD937","MAXXAM","D3-MEFOSAA","N-METHYL-D3-PERFLUOROOCTANESULFONAMIDOACETIC ACID","88","%","","-99","NA","","SUR","88","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-NG-10S-0118","E537","IN","GAD937","MAXXAM","D5-ETFOSAA","D5-ETFOSAA","83","%","","-99","NA","","SUR","83","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-NG-10S-0118","E537","IN","GAD937","MAXXAM","2991-50-6","EtFOSAA","11","ng/L","J","3.3","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"CEF-NG-10S-0118","E537","IN","GAD937","MAXXAM","2355-31-9","MeFOSAA","8.7","ng/L","J","2.9","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"CEF-NG-10S-0118","E537","IN","GAD937","MAXXAM","375-73-5","Perfluorobutanesulfonic acid","5.4","ng/L","U","5.4","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"CEF-NG-10S-0118","E537","IN","GAD937","MAXXAM","335-76-2","Perfluorodecanoic

acid","6.1","ng/L","U","6.1","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"CEF-NG-10S-0118","E537","IN","GAD937","MAXXAM","307-55-1","Perfluorododecanoic
acid","5.0","ng/L","U","5.0","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"CEF-NG-10S-0118","E537","IN","GAD937","MAXXAM","375-85-9","Perfluoroheptanoic
acid","7.4","ng/L","U","7.4","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"CEF-NG-10S-0118","E537","IN","GAD937","MAXXAM","355-46-4","Perfluorohexanesulfonic
acid","33","ng/L","","5.6","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"CEF-NG-10S-0118","E537","IN","GAD937","MAXXAM","307-24-4","Perfluorohexanoic
acid","3.5","ng/L","U","3.5","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"CEF-NG-10S-0118","E537","IN","GAD937","MAXXAM","335-67-1","Perfluorooctanoic
acid","3.3","ng/L","U","3.3","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"CEF-NG-10S-0118","E537","IN","GAD937","MAXXAM","375-95-1","Perfluorononanoic
acid","8.7","ng/L","U","8.7","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"CEF-NG-10S-0118","E537","IN","GAD937","MAXXAM","1763-23-1","Perfluorooctanesulfonic
acid","30","ng/L","","6.0","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"CEF-NG-10S-0118","E537","IN","GAD937","MAXXAM","376-06-7","Perfluorotetradecanoic
acid","2.7","ng/L","U","2.7","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"CEF-NG-10S-0118","E537","IN","GAD937","MAXXAM","72629-94-8","Perfluorotridecanoic
acid","3.8","ng/L","U","3.8","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"CEF-NG-10S-0118","E537","IN","GAD937","MAXXAM","2058-94-8","Perfluoroundecanoic
acid","2.5","ng/L","U","2.5","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"CEF-860-TW02-0118","E537","DL1","GAD938","MAXXAM","13C2PFDA","13C2-Perfluorodecanoic
acid","88","%","","-99","NA","","SUR","88","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-860-TW02-0118","E537","DL1","GAD938","MAXXAM","13C2PFDOA","13C2-Perfluorododecanoic
acid","85","%","","-99","NA","","SUR","85","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-860-TW02-0118","E537","DL1","GAD938","MAXXAM","13C2PFHXA","13C2-Perfluorohexanoic
acid","95","%","","-99","NA","","SUR","95","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-860-TW02-0118","E537","DL1","GAD938","MAXXAM","13C2PFTDA","13C2-Perfluorotetradecanoic
acid","71","%","","-99","NA","","SUR","71","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-860-TW02-0118","E537","DL1","GAD938","MAXXAM","13C2PFUA","13C2-Perfluoroundecanoic
acid","83","%","","-99","NA","","SUR","83","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-860-TW02-0118","E537","DL1","GAD938","MAXXAM","13C4PFHPA","13C4-Perfluoroheptanoic
acid","78","%","","-99","NA","","SUR","78","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-860-TW02-0118","E537","DL1","GAD938","MAXXAM","1763-23-1_13","13C4-
Perfluorooctanesulfonate","110","%","","-99","NA","","SUR","110","","-99","NA","YES","-99","","1","1","-99","TES
T"
"CEF-860-TW02-0118","E537","DL1","GAD938","MAXXAM","335-67-1_13C","13C4-Perfluorooctanoic
acid","90","%","","-99","NA","","SUR","90","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-860-TW02-0118","E537","DL1","GAD938","MAXXAM","13C4PFNA","13C5-Perfluorononanoic
acid","94","%","","-99","NA","","SUR","94","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-860-TW02-0118","E537","DL1","GAD938","MAXXAM","18O2PFHXS","18O2-
Perfluorohexanesulfonate","116","%","","-99","NA","","SUR","116","","-99","NA","YES","-99","","1","1","-99","TES
T"
"CEF-860-TW02-0118","E537","DL1","GAD938","MAXXAM","D3-MEFOSAA","N-METHYL-D3-
PERFLUOROOCTANESULFONAMIDOACETIC
ACID","82","%","","-99","NA","","SUR","82","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-860-TW02-0118","E537","DL1","GAD938","MAXXAM","D5-ETFOSAA","D5-
ETFOSAA","81","%","","-99","NA","","SUR","81","","-99","NA","YES","-99","","1","1","-99","TEST"
"CEF-860-TW02-0118","E537","DL1","GAD938","MAXXAM","2991-50-
6","EtFOSAA","6.6","ng/L","U","6.6","MDL","","NM","","","40","PQL","YES","-99","","1","1","40","Due to high
concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted
accordingly (2x)."
"CEF-860-TW02-0118","E537","DL1","GAD938","MAXXAM","2355-31-
9","MeFOSAA","5.8","ng/L","U","5.8","MDL","","NM","","","40","PQL","YES","-99","","1","1","40","Due to high

concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (2x)."
"CEF-860-TW02-0118","E537","DL1","GAD938","MAXXAM","375-73-5","Perfluorobutanesulfonic acid","340","ng/L","","11","MDL","","NM","","","40","PQL","YES","-99","","1","1","40","Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (2x)."
"CEF-860-TW02-0118","E537","DL1","GAD938","MAXXAM","335-76-2","Perfluorodecanoic acid","12","ng/L","U","12","MDL","","NM","","","40","PQL","YES","-99","","1","1","40","Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (2x)."
"CEF-860-TW02-0118","E537","DL1","GAD938","MAXXAM","307-55-1","Perfluorododecanoic acid","10","ng/L","U","10","MDL","","NM","","","40","PQL","YES","-99","","1","1","40","Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (2x)."
"CEF-860-TW02-0118","E537","DL1","GAD938","MAXXAM","375-85-9","Perfluoroheptanoic acid","330","ng/L","","15","MDL","","NM","","","40","PQL","YES","-99","","1","1","40","Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (2x)."
"CEF-860-TW02-0118","E537","DL1","GAD938","MAXXAM","355-46-4","Perfluorohexanesulfonic acid","11000","ng/L","","140","MDL","","NM","","","500","PQL","YES","-99","","1","1","500","Due to high concentration of the target analyte, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (25x)."
"CEF-860-TW02-0118","E537","DL1","GAD938","MAXXAM","307-24-4","Perfluorohexanoic acid","1000","ng/L","","7.0","MDL","","NM","","","40","PQL","YES","-99","","1","1","40","Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (2x)."
"CEF-860-TW02-0118","E537","DL1","GAD938","MAXXAM","335-67-1","Perfluorooctanoic acid","560","ng/L","","6.6","MDL","","NM","","","40","PQL","YES","-99","","1","1","40","Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (2x)."
"CEF-860-TW02-0118","E537","DL1","GAD938","MAXXAM","375-95-1","Perfluorononanoic acid","110","ng/L","","17","MDL","","NM","","","40","PQL","YES","-99","","1","1","40","Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (2x)."
"CEF-860-TW02-0118","E537","DL1","GAD938","MAXXAM","1763-23-1","Perfluorooctanesulfonic acid","6900","ng/L","","150","MDL","","NM","","","500","PQL","YES","-99","","1","1","500","Due to high concentration of the target analyte, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (25x)."
"CEF-860-TW02-0118","E537","DL1","GAD938","MAXXAM","376-06-7","Perfluorotetradecanoic acid","5.4","ng/L","U","5.4","MDL","","NM","","","40","PQL","YES","-99","","1","1","40","Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (2x)."
"CEF-860-TW02-0118","E537","DL1","GAD938","MAXXAM","72629-94-8","Perfluorotridecanoic acid","7.6","ng/L","U","7.6","MDL","","NM","","","40","PQL","YES","-99","","1","1","40","Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (2x)."
"CEF-860-TW02-0118","E537","DL1","GAD938","MAXXAM","2058-94-8","Perfluoroundecanoic acid","5.0","ng/L","U","5.0","MDL","","NM","","","40","PQL","YES","-99","","1","1","40","Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (2x)."
"5393111:Spiked Blank","E537","IN","5393111:Spiked Blank","MAXXAM","13C2PFDA","13C2-Perfluorodecanoic acid","79","%","","-99","NA","","SUR","79","","-99","NA","YES","-99","","1","1","-99","TEST"
"5393111:Spiked Blank","E537","IN","5393111:Spiked Blank","MAXXAM","13C2PFDOA","13C2-Perfluorododecanoic acid","79","%","","-99","NA","","SUR","79","","-99","NA","YES","-99","","1","1","-99","TEST"

"5393111:Spiked Blank","E537","IN","5393111:Spiked Blank","MAXXAM","13C2PFHXA","13C2-Perfluorohexanoic acid","89","%","","-99","NA","","SUR","89","","-99","NA","YES","-99","","1","1","-99","TEST"
"5393111:Spiked Blank","E537","IN","5393111:Spiked Blank","MAXXAM","13C2PFTDA","13C2-Perfluorotetradecanoic acid","78","%","","-99","NA","","SUR","78","","-99","NA","YES","-99","","1","1","-99","TEST"
"5393111:Spiked Blank","E537","IN","5393111:Spiked Blank","MAXXAM","13C2PFUA","13C2-Perfluoroundecanoic acid","81","%","","-99","NA","","SUR","81","","-99","NA","YES","-99","","1","1","-99","TEST"
"5393111:Spiked Blank","E537","IN","5393111:Spiked Blank","MAXXAM","13C4PFHPA","13C4-Perfluoroheptanoic acid","89","%","","-99","NA","","SUR","89","","-99","NA","YES","-99","","1","1","-99","TEST"
"5393111:Spiked Blank","E537","IN","5393111:Spiked Blank","MAXXAM","1763-23-1_13","13C4-Perfluorooctanesulfonate","93","%","","-99","NA","","SUR","93","","-99","NA","YES","-99","","1","1","-99","TEST"
"5393111:Spiked Blank","E537","IN","5393111:Spiked Blank","MAXXAM","335-67-1_13C","13C4-Perfluorooctanoic acid","93","%","","-99","NA","","SUR","93","","-99","NA","YES","-99","","1","1","-99","TEST"
"5393111:Spiked Blank","E537","IN","5393111:Spiked Blank","MAXXAM","13C4PFNA","13C5-Perfluorononanoic acid","95","%","","-99","NA","","SUR","95","","-99","NA","YES","-99","","1","1","-99","TEST"
"5393111:Spiked Blank","E537","IN","5393111:Spiked Blank","MAXXAM","18O2PFHXS","18O2-Perfluorohexanesulfonate","84","%","","-99","NA","","SUR","84","","-99","NA","YES","-99","","1","1","-99","TEST"
"5393111:Spiked Blank","E537","IN","5393111:Spiked Blank","MAXXAM","D3-MEFOSAA","N-METHYL-D3-PERFLUOROOCTANESULFONAMIDOACETIC ACID","70","%","","-99","NA","","SUR","70","","-99","NA","YES","-99","","1","1","-99","TEST"
"5393111:Spiked Blank","E537","IN","5393111:Spiked Blank","MAXXAM","D5-ETFOSAA","D5-ETFOSAA","69","%","","-99","NA","","SUR","69","","-99","NA","YES","-99","","1","1","-99","TEST"
"5393111:Spiked Blank","E537","IN","5393111:Spiked Blank","MAXXAM","2991-50-6","EtFOSAA","104","ng/L","","3.3","MDL","","PDSPK","104","","20","PQL","YES","-99","","1","1","20","TEST"
"5393111:Spiked Blank","E537","IN","5393111:Spiked Blank","MAXXAM","2355-31-9","MeFOSAA","102","ng/L","","2.9","MDL","","PDSPK","102","","20","PQL","YES","-99","","1","1","20","TEST"
"5393111:Spiked Blank","E537","IN","5393111:Spiked Blank","MAXXAM","375-73-5","Perfluorobutanesulfonic acid","107","ng/L","","5.4","MDL","","PDSPK","107","","20","PQL","YES","-99","","1","1","20","TEST"
"5393111:Spiked Blank","E537","IN","5393111:Spiked Blank","MAXXAM","335-76-2","Perfluorodecanoic acid","115","ng/L","","6.1","MDL","","PDSPK","115","","20","PQL","YES","-99","","1","1","20","TEST"
"5393111:Spiked Blank","E537","IN","5393111:Spiked Blank","MAXXAM","307-55-1","Perfluorododecanoic acid","96","ng/L","","5.0","MDL","","PDSPK","96","","20","PQL","YES","-99","","1","1","20","TEST"
"5393111:Spiked Blank","E537","IN","5393111:Spiked Blank","MAXXAM","375-85-9","Perfluoroheptanoic acid","102","ng/L","","7.4","MDL","","PDSPK","102","","20","PQL","YES","-99","","1","1","20","TEST"
"5393111:Spiked Blank","E537","IN","5393111:Spiked Blank","MAXXAM","355-46-4","Perfluorohexanesulfonic acid","103","ng/L","","5.6","MDL","","PDSPK","103","","20","PQL","YES","-99","","1","1","20","TEST"
"5393111:Spiked Blank","E537","IN","5393111:Spiked Blank","MAXXAM","307-24-4","Perfluorohexanoic acid","101","ng/L","","3.5","MDL","","PDSPK","101","","20","PQL","YES","-99","","1","1","20","TEST"
"5393111:Spiked Blank","E537","IN","5393111:Spiked Blank","MAXXAM","335-67-1","Perfluorooctanoic acid","98","ng/L","","3.3","MDL","","PDSPK","98","","20","PQL","YES","-99","","1","1","20","TEST"
"5393111:Spiked Blank","E537","IN","5393111:Spiked Blank","MAXXAM","375-95-1","Perfluorononanoic acid","95","ng/L","","8.7","MDL","","PDSPK","95","","20","PQL","YES","-99","","1","1","20","TEST"
"5393111:Spiked Blank","E537","IN","5393111:Spiked Blank","MAXXAM","1763-23-1","Perfluorooctanesulfonic acid","98","ng/L","","6.0","MDL","","PDSPK","98","","20","PQL","YES","-99","","1","1","20","TEST"
"5393111:Spiked Blank","E537","IN","5393111:Spiked Blank","MAXXAM","376-06-7","Perfluorotetradecanoic acid","102","ng/L","","2.7","MDL","","PDSPK","102","","20","PQL","YES","-99","","1","1","20","TEST"
"5393111:Spiked Blank","E537","IN","5393111:Spiked Blank","MAXXAM","72629-94-8","Perfluorotridecanoic acid","100","ng/L","","3.8","MDL","","PDSPK","100","","20","PQL","YES","-99","","1","1","20","TEST"
"5393111:Spiked Blank","E537","IN","5393111:Spiked Blank","MAXXAM","2058-94-8","Perfluoroundecanoic acid","108","ng/L","","2.5","MDL","","PDSPK","108","","20","PQL","YES","-99","","1","1","20","TEST"
"5393111:LCSD","E537","IN","5393111:LCSD","MAXXAM","13C2PFDA","13C2-Perfluorodecanoic acid","77","%","","-99","NA","","SUR","77","","-99","NA","YES","-99","","1","1","-99","TEST"
"5393111:LCSD","E537","IN","5393111:LCSD","MAXXAM","13C2PFDOA","13C2-Perfluorododecanoic acid","80","%","","-99","NA","","SUR","80","","-99","NA","YES","-99","","1","1","-99","TEST"

"5393111:LCSD","E537","IN","5393111:LCSD","MAXXAM","13C2PFHXA","13C2-Perfluorohexanoic
acid","85","%","","-99","NA","","SUR","85","","-99","NA","YES","-99","","1","1","-99","TEST"
"5393111:LCSD","E537","IN","5393111:LCSD","MAXXAM","13C2PFTDA","13C2-Perfluorotetradecanoic
acid","79","%","","-99","NA","","SUR","79","","-99","NA","YES","-99","","1","1","-99","TEST"
"5393111:LCSD","E537","IN","5393111:LCSD","MAXXAM","13C2PFUA","13C2-Perfluoroundecanoic
acid","76","%","","-99","NA","","SUR","76","","-99","NA","YES","-99","","1","1","-99","TEST"
"5393111:LCSD","E537","IN","5393111:LCSD","MAXXAM","13C4PFHPA","13C4-Perfluoroheptanoic
acid","83","%","","-99","NA","","SUR","83","","-99","NA","YES","-99","","1","1","-99","TEST"
"5393111:LCSD","E537","IN","5393111:LCSD","MAXXAM","1763-23-1_13","13C4-
Perfluorooctanesulfonate","88","%","","-99","NA","","SUR","88","","-99","NA","YES","-99","","1","1","-99","TEST"
"5393111:LCSD","E537","IN","5393111:LCSD","MAXXAM","335-67-1_13C","13C4-Perfluorooctanoic
acid","84","%","","-99","NA","","SUR","84","","-99","NA","YES","-99","","1","1","-99","TEST"
"5393111:LCSD","E537","IN","5393111:LCSD","MAXXAM","13C4PFNA","13C5-Perfluorononanoic
acid","86","%","","-99","NA","","SUR","86","","-99","NA","YES","-99","","1","1","-99","TEST"
"5393111:LCSD","E537","IN","5393111:LCSD","MAXXAM","18O2PFHXS","18O2-
Perfluorohexanesulfonate","83","%","","-99","NA","","SUR","83","","-99","NA","YES","-99","","1","1","-99","TEST"
"5393111:LCSD","E537","IN","5393111:LCSD","MAXXAM","D3-MEFOSAA","N-METHYL-D3-
PERFLUOROOCTANESULFONAMIDOACETIC
ACID","71","%","","-99","NA","","SUR","71","","-99","NA","YES","-99","","1","1","-99","TEST"
"5393111:LCSD","E537","IN","5393111:LCSD","MAXXAM","D5-ETFOSAA","D5-
ETFOSAA","71","%","","-99","NA","","SUR","71","","-99","NA","YES","-99","","1","1","-99","TEST"
"5393111:LCSD","E537","IN","5393111:LCSD","MAXXAM","2991-50-
6","EtFOSAA","105","ng/L","","3.3","MDL","","PDSPK","105","0.91","20","PQL","YES","-99","","1","1","20","TES
T"
"5393111:LCSD","E537","IN","5393111:LCSD","MAXXAM","2355-31-
9","MeFOSAA","105","ng/L","","2.9","MDL","","PDSPK","105","2.7","20","PQL","YES","-99","","1","1","20","TES
T"
"5393111:LCSD","E537","IN","5393111:LCSD","MAXXAM","375-73-5","Perfluorobutanesulfonic
acid","99","ng/L","","5.4","MDL","","PDSPK","99","8.3","20","PQL","YES","-99","","1","1","20","TEST"
"5393111:LCSD","E537","IN","5393111:LCSD","MAXXAM","335-76-2","Perfluorodecanoic
acid","109","ng/L","","6.1","MDL","","PDSPK","109","5.7","20","PQL","YES","-99","","1","1","20","TEST"
"5393111:LCSD","E537","IN","5393111:LCSD","MAXXAM","307-55-1","Perfluorododecanoic
acid","97","ng/L","","5.0","MDL","","PDSPK","97","1.3","20","PQL","YES","-99","","1","1","20","TEST"
"5393111:LCSD","E537","IN","5393111:LCSD","MAXXAM","375-85-9","Perfluoroheptanoic
acid","105","ng/L","","7.4","MDL","","PDSPK","105","2.9","20","PQL","YES","-99","","1","1","20","TEST"
"5393111:LCSD","E537","IN","5393111:LCSD","MAXXAM","355-46-4","Perfluorohexanesulfonic
acid","96","ng/L","","5.6","MDL","","PDSPK","96","7.0","20","PQL","YES","-99","","1","1","20","TEST"
"5393111:LCSD","E537","IN","5393111:LCSD","MAXXAM","307-24-4","Perfluorohexanoic
acid","94","ng/L","","3.5","MDL","","PDSPK","94","7.4","20","PQL","YES","-99","","1","1","20","TEST"
"5393111:LCSD","E537","IN","5393111:LCSD","MAXXAM","335-67-1","Perfluorooctanoic
acid","100","ng/L","","3.3","MDL","","PDSPK","100","1.7","20","PQL","YES","-99","","1","1","20","TEST"
"5393111:LCSD","E537","IN","5393111:LCSD","MAXXAM","375-95-1","Perfluorononanoic
acid","99","ng/L","","8.7","MDL","","PDSPK","99","4.1","20","PQL","YES","-99","","1","1","20","TEST"
"5393111:LCSD","E537","IN","5393111:LCSD","MAXXAM","1763-23-1","Perfluorooctanesulfonic
acid","92","ng/L","","6.0","MDL","","PDSPK","92","5.5","20","PQL","YES","-99","","1","1","20","TEST"
"5393111:LCSD","E537","IN","5393111:LCSD","MAXXAM","376-06-7","Perfluorotetradecanoic
acid","99","ng/L","","2.7","MDL","","PDSPK","99","3.0","20","PQL","YES","-99","","1","1","20","TEST"
"5393111:LCSD","E537","IN","5393111:LCSD","MAXXAM","72629-94-8","Perfluorotridecanoic
acid","99","ng/L","","3.8","MDL","","PDSPK","99","0.62","20","PQL","YES","-99","","1","1","20","TEST"
"5393111:LCSD","E537","IN","5393111:LCSD","MAXXAM","2058-94-8","Perfluoroundecanoic
acid","108","ng/L","","2.5","MDL","","PDSPK","108","0.007","20","PQL","YES","-99","","1","1","20","TEST"
"5393267:Spiked Blank","E537","DL1","5393267:Spiked Blank","MAXXAM","1763-23-1_13","13C4-
Perfluorooctanesulfonate","93","%","","-99","NA","","SUR","93","","-99","NA","YES","-99","","1","1","-99","TEST"
"5393267:Spiked Blank","E537","DL1","5393267:Spiked Blank","MAXXAM","18O2PFHXS","18O2-

Perfluorohexanesulfonate","97","%","","-99","NA","","SUR","97","","-99","NA","YES","-99","","1","1","-99","TEST"
"5393267:Spiked Blank","E537","DL1","5393267:Spiked Blank","MAXXAM","355-46-4","Perfluorohexanesulfonic
acid","100","ng/L","","240","MDL","","PDSPK","100","","800","PQL","YES","-99","","1","1","800","TEST"
"5393267:Spiked Blank","E537","DL1","5393267:Spiked Blank","MAXXAM","1763-23-1","Perfluorooctanesulfonic
acid","94","ng/L","","230","MDL","","PDSPK","94","","800","PQL","YES","-99","","1","1","800","TEST"
"5393267:LCSD","E537","DL1","5393267:LCSD","MAXXAM","1763-23-1_13","13C4-
Perfluorooctanesulfonate","102","%","","-99","NA","","SUR","102","","-99","NA","YES","-99","","1","1","-99","TES
T"
"5393267:LCSD","E537","DL1","5393267:LCSD","MAXXAM","18O2PFHXS","18O2-
Perfluorohexanesulfonate","101","%","","-99","NA","","SUR","101","","-99","NA","YES","-99","","1","1","-99","TES
T"
"5393267:LCSD","E537","DL1","5393267:LCSD","MAXXAM","355-46-4","Perfluorohexanesulfonic
acid","91","ng/L","","240","MDL","","PDSPK","91","8.9","800","PQL","YES","-99","","1","1","800","TEST"
"5393267:LCSD","E537","DL1","5393267:LCSD","MAXXAM","1763-23-1","Perfluorooctanesulfonic
acid","86","ng/L","","230","MDL","","PDSPK","86","8.5","800","PQL","YES","-99","","1","1","800","TEST"
"5395679:Spiked Blank","E537","IN","5395679:Spiked Blank","MAXXAM","13C2PFDA","13C2-Perfluorodecanoic
acid","77","%","","-99","NA","","SUR","77","","-99","NA","YES","-99","","1","1","-99","TEST"
"5395679:Spiked Blank","E537","IN","5395679:Spiked Blank","MAXXAM","13C2PFDOA","13C2-
Perfluorododecanoic acid","76","%","","-99","NA","","SUR","76","","-99","NA","YES","-99","","1","1","-99","TEST"
"5395679:Spiked Blank","E537","IN","5395679:Spiked Blank","MAXXAM","13C2PFHXA","13C2-
Perfluorohexanoic acid","86","%","","-99","NA","","SUR","86","","-99","NA","YES","-99","","1","1","-99","TEST"
"5395679:Spiked Blank","E537","IN","5395679:Spiked Blank","MAXXAM","13C2PFTDA","13C2-
Perfluorotetradecanoic
acid","73","%","","-99","NA","","SUR","73","","-99","NA","YES","-99","","1","1","-99","TEST"
"5395679:Spiked Blank","E537","IN","5395679:Spiked Blank","MAXXAM","13C2PFUA","13C2-
Perfluoroundecanoic acid","75","%","","-99","NA","","SUR","75","","-99","NA","YES","-99","","1","1","-99","TEST"
"5395679:Spiked Blank","E537","IN","5395679:Spiked Blank","MAXXAM","13C4PFHPA","13C4-
Perfluoroheptanoic acid","80","%","","-99","NA","","SUR","80","","-99","NA","YES","-99","","1","1","-99","TEST"
"5395679:Spiked Blank","E537","IN","5395679:Spiked Blank","MAXXAM","1763-23-1_13","13C4-
Perfluorooctanesulfonate","88","%","","-99","NA","","SUR","88","","-99","NA","YES","-99","","1","1","-99","TEST"
"5395679:Spiked Blank","E537","IN","5395679:Spiked Blank","MAXXAM","335-67-1_13C","13C4-
Perfluorooctanoic acid","81","%","","-99","NA","","SUR","81","","-99","NA","YES","-99","","1","1","-99","TEST"
"5395679:Spiked Blank","E537","IN","5395679:Spiked Blank","MAXXAM","13C4PFNA","13C5-Perfluorononanoic
acid","80","%","","-99","NA","","SUR","80","","-99","NA","YES","-99","","1","1","-99","TEST"
"5395679:Spiked Blank","E537","IN","5395679:Spiked Blank","MAXXAM","18O2PFHXS","18O2-
Perfluorohexanesulfonate","77","%","","-99","NA","","SUR","77","","-99","NA","YES","-99","","1","1","-99","TEST"
"5395679:Spiked Blank","E537","IN","5395679:Spiked Blank","MAXXAM","D3-MEFOSAA","N-METHYL-D3-
PERFLUOROOCTANESULFONAMIDOACETIC
ACID","67","%","","-99","NA","","SUR","67","","-99","NA","YES","-99","","1","1","-99","TEST"
"5395679:Spiked Blank","E537","IN","5395679:Spiked Blank","MAXXAM","D5-ETFOSAA","D5-
ETFOSAA","65","%","","-99","NA","","SUR","65","","-99","NA","YES","-99","","1","1","-99","TEST"
"5395679:Spiked Blank","E537","IN","5395679:Spiked Blank","MAXXAM","2991-50-
6","EtFOSAA","104","ng/L","","3.3","MDL","","PDSPK","104","","20","PQL","YES","-99","","1","1","20","TEST"
"5395679:Spiked Blank","E537","IN","5395679:Spiked Blank","MAXXAM","2355-31-
9","MeFOSAA","101","ng/L","","2.9","MDL","","PDSPK","101","","20","PQL","YES","-99","","1","1","20","TEST"
"5395679:Spiked Blank","E537","IN","5395679:Spiked Blank","MAXXAM","375-73-5","Perfluorobutanesulfonic
acid","108","ng/L","","5.4","MDL","","PDSPK","108","","20","PQL","YES","-99","","1","1","20","TEST"
"5395679:Spiked Blank","E537","IN","5395679:Spiked Blank","MAXXAM","335-76-2","Perfluorodecanoic
acid","111","ng/L","","6.1","MDL","","PDSPK","111","","20","PQL","YES","-99","","1","1","20","TEST"
"5395679:Spiked Blank","E537","IN","5395679:Spiked Blank","MAXXAM","307-55-1","Perfluorododecanoic
acid","100","ng/L","","5.0","MDL","","PDSPK","100","","20","PQL","YES","-99","","1","1","20","TEST"
"5395679:Spiked Blank","E537","IN","5395679:Spiked Blank","MAXXAM","375-85-9","Perfluoroheptanoic
acid","102","ng/L","","7.4","MDL","","PDSPK","102","","20","PQL","YES","-99","","1","1","20","TEST"
"5395679:Spiked Blank","E537","IN","5395679:Spiked Blank","MAXXAM","355-46-4","Perfluorohexanesulfonic

acid","102","ng/L","","5.6","MDL","","PDSPK","102","","20","PQL","YES","-99","","1","1","20","TEST"
"5395679:Spiked Blank","E537","IN","5395679:Spiked Blank","MAXXAM","307-24-4","Perfluorohexanoic
acid","91","ng/L","","3.5","MDL","","PDSPK","91","","20","PQL","YES","-99","","1","1","20","TEST"
"5395679:Spiked Blank","E537","IN","5395679:Spiked Blank","MAXXAM","335-67-1","Perfluorooctanoic
acid","105","ng/L","","3.3","MDL","","PDSPK","105","","20","PQL","YES","-99","","1","1","20","TEST"
"5395679:Spiked Blank","E537","IN","5395679:Spiked Blank","MAXXAM","375-95-1","Perfluorononanoic
acid","106","ng/L","","8.7","MDL","","PDSPK","106","","20","PQL","YES","-99","","1","1","20","TEST"
"5395679:Spiked Blank","E537","IN","5395679:Spiked Blank","MAXXAM","1763-23-1","Perfluorooctanesulfonic
acid","93","ng/L","","6.0","MDL","","PDSPK","93","","20","PQL","YES","-99","","1","1","20","TEST"
"5395679:Spiked Blank","E537","IN","5395679:Spiked Blank","MAXXAM","376-06-7","Perfluorotetradecanoic
acid","103","ng/L","","2.7","MDL","","PDSPK","103","","20","PQL","YES","-99","","1","1","20","TEST"
"5395679:Spiked Blank","E537","IN","5395679:Spiked Blank","MAXXAM","72629-94-8","Perfluorotridecanoic
acid","100","ng/L","","3.8","MDL","","PDSPK","100","","20","PQL","YES","-99","","1","1","20","TEST"
"5395679:Spiked Blank","E537","IN","5395679:Spiked Blank","MAXXAM","2058-94-8","Perfluoroundecanoic
acid","111","ng/L","","2.5","MDL","","PDSPK","111","","20","PQL","YES","-99","","1","1","20","TEST"
"5396269:Spiked Blank","E537","DL1","5396269:Spiked Blank","MAXXAM","1763-23-1_13","13C4-
Perfluorooctanesulfonate","96","%","","-99","NA","","SUR","96","","-99","NA","YES","-99","","1","1","-99","TEST"
"5396269:Spiked Blank","E537","DL1","5396269:Spiked Blank","MAXXAM","1763-23-1","Perfluorooctanesulfonic
acid","91","ng/L","","230","MDL","","PDSPK","91","","800","PQL","YES","-99","","1","1","800","TEST"
"5393111:Method Blank","E537","IN","5393111:Method Blank","MAXXAM","13C2PFDA","13C2-Perfluorodecanoic
acid","77","%","","-99","NA","","SUR","77","","-99","NA","YES","-99","","1","1","-99","TEST"
"5393111:Method Blank","E537","IN","5393111:Method Blank","MAXXAM","13C2PFDOA","13C2-
Perfluorododecanoic acid","72","%","","-99","NA","","SUR","72","","-99","NA","YES","-99","","1","1","-99","TEST"
"5393111:Method Blank","E537","IN","5393111:Method Blank","MAXXAM","13C2PFHXA","13C2-
Perfluorohexanoic acid","82","%","","-99","NA","","SUR","82","","-99","NA","YES","-99","","1","1","-99","TEST"
"5393111:Method Blank","E537","IN","5393111:Method Blank","MAXXAM","13C2PFTDA","13C2-
Perfluorotetradecanoic
acid","73","%","","-99","NA","","SUR","73","","-99","NA","YES","-99","","1","1","-99","TEST"
"5393111:Method Blank","E537","IN","5393111:Method Blank","MAXXAM","13C2PFUA","13C2-
Perfluoroundecanoic acid","72","%","","-99","NA","","SUR","72","","-99","NA","YES","-99","","1","1","-99","TEST"
"5393111:Method Blank","E537","IN","5393111:Method Blank","MAXXAM","13C4PFHPA","13C4-
Perfluoroheptanoic acid","81","%","","-99","NA","","SUR","81","","-99","NA","YES","-99","","1","1","-99","TEST"
"5393111:Method Blank","E537","IN","5393111:Method Blank","MAXXAM","1763-23-1_13","13C4-
Perfluorooctanesulfonate","86","%","","-99","NA","","SUR","86","","-99","NA","YES","-99","","1","1","-99","TEST"
"5393111:Method Blank","E537","IN","5393111:Method Blank","MAXXAM","335-67-1_13C","13C4-
Perfluorooctanoic acid","82","%","","-99","NA","","SUR","82","","-99","NA","YES","-99","","1","1","-99","TEST"
"5393111:Method Blank","E537","IN","5393111:Method Blank","MAXXAM","13C4PFNA","13C5-
Perfluorononanoic acid","86","%","","-99","NA","","SUR","86","","-99","NA","YES","-99","","1","1","-99","TEST"
"5393111:Method Blank","E537","IN","5393111:Method Blank","MAXXAM","18O2PFHXS","18O2-
Perfluorohexanesulfonate","86","%","","-99","NA","","SUR","86","","-99","NA","YES","-99","","1","1","-99","TEST"
"5393111:Method Blank","E537","IN","5393111:Method Blank","MAXXAM","D3-MEFOSAA","N-METHYL-D3-
PERFLUOROOCTANESULFONAMIDOACETIC
ACID","70","%","","-99","NA","","SUR","70","","-99","NA","YES","-99","","1","1","-99","TEST"
"5393111:Method Blank","E537","IN","5393111:Method Blank","MAXXAM","D5-ETFOSAA","D5-
ETFOSAA","69","%","","-99","NA","","SUR","69","","-99","NA","YES","-99","","1","1","-99","TEST"
"5393111:Method Blank","E537","IN","5393111:Method Blank","MAXXAM","2991-50-
6","EtFOSAA","3.3","ng/L","U","3.3","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"5393111:Method Blank","E537","IN","5393111:Method Blank","MAXXAM","2355-31-
9","MeFOSAA","2.9","ng/L","U","2.9","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"5393111:Method Blank","E537","IN","5393111: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"
"5393111:Method Blank","E537","IN","5393111: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"
"5393111:Method Blank","E537","IN","5393111: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"
"5393111:Method Blank","E537","IN","5393111: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"
"5393111:Method Blank","E537","IN","5393111: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"
"5393111:Method Blank","E537","IN","5393111: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"
"5393111:Method Blank","E537","IN","5393111: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"
"5393111:Method Blank","E537","IN","5393111: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"
"5393111:Method Blank","E537","IN","5393111: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"
"5393111:Method Blank","E537","IN","5393111: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"
"5393111:Method Blank","E537","IN","5393111: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"
"5393111:Method Blank","E537","IN","5393111: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"
"5393267:Method Blank","E537","DL1","5393267:Method Blank","MAXXAM","1763-23-1_13","13C4-
Perfluorooctanesulfonate","100","%","","-99","NA","","SUR","100","","-99","NA","YES","-99","","1","1","-99","TES
T"
"5393267:Method Blank","E537","DL1","5393267:Method Blank","MAXXAM","18O2PFHXS","18O2-
Perfluorohexanesulfonate","103","%","","-99","NA","","SUR","103","","-99","NA","YES","-99","","1","1","-99","TES
T"
"5393267:Method Blank","E537","DL1","5393267:Method Blank","MAXXAM","355-46-4","Perfluorohexanesulfonic
acid","240","ng/L","U","240","MDL","","NM","","","800","PQL","YES","-99","","1","1","800","TEST"
"5393267:Method Blank","E537","DL1","5393267:Method Blank","MAXXAM","1763-23-1","Perfluorooctanesulfonic
acid","230","ng/L","U","230","MDL","","NM","","","800","PQL","YES","-99","","1","1","800","TEST"
"5395679:Method Blank","E537","IN","5395679:Method Blank","MAXXAM","13C2PFDA","13C2-Perfluorodecanoic
acid","91","%","","-99","NA","","SUR","91","","-99","NA","YES","-99","","1","1","-99","TEST"
"5395679:Method Blank","E537","IN","5395679:Method Blank","MAXXAM","13C2PFDOA","13C2-
Perfluorododecanoic acid","93","%","","-99","NA","","SUR","93","","-99","NA","YES","-99","","1","1","-99","TEST"
"5395679:Method Blank","E537","IN","5395679:Method Blank","MAXXAM","13C2PFHXA","13C2-
Perfluorohexanoic acid","102","%","","-99","NA","","SUR","102","","-99","NA","YES","-99","","1","1","-99","TEST"
"5395679:Method Blank","E537","IN","5395679:Method Blank","MAXXAM","13C2PFTDA","13C2-
Perfluorotetradecanoic
acid","80","%","","-99","NA","","SUR","80","","-99","NA","YES","-99","","1","1","-99","TEST"
"5395679:Method Blank","E537","IN","5395679:Method Blank","MAXXAM","13C2PFUA","13C2-
Perfluoroundecanoic acid","91","%","","-99","NA","","SUR","91","","-99","NA","YES","-99","","1","1","-99","TEST"
"5395679:Method Blank","E537","IN","5395679:Method Blank","MAXXAM","13C4PFHPA","13C4-
Perfluoroheptanoic
acid","106","%","","-99","NA","","SUR","106","","-99","NA","YES","-99","","1","1","-99","TEST"
"5395679:Method Blank","E537","IN","5395679:Method Blank","MAXXAM","1763-23-1_13","13C4-
Perfluorooctanesulfonate","95","%","","-99","NA","","SUR","95","","-99","NA","YES","-99","","1","1","-99","TEST"
"5395679:Method Blank","E537","IN","5395679:Method Blank","MAXXAM","335-67-1_13C","13C4-
Perfluorooctanoic acid","101","%","","-99","NA","","SUR","101","","-99","NA","YES","-99","","1","1","-99","TEST"
"5395679:Method Blank","E537","IN","5395679:Method Blank","MAXXAM","13C4PFNA","13C5-
Perfluorononanoic acid","99","%","","-99","NA","","SUR","99","","-99","NA","YES","-99","","1","1","-99","TEST"
"5395679:Method Blank","E537","IN","5395679:Method Blank","MAXXAM","18O2PFHXS","18O2-
Perfluorohexanesulfonate","106","%","","-99","NA","","SUR","106","","-99","NA","YES","-99","","1","1","-99","TES
T"
"5395679:Method Blank","E537","IN","5395679:Method Blank","MAXXAM","D3-MEFOSAA","N-METHYL-D3-
PERFLUOROOCTANESULFONAMIDOACETIC

ACID","82","%","","-99","NA","","SUR","82","","-99","NA","YES","-99","","1","1","-99","TEST"
"5395679:Method Blank","E537","IN","5395679:Method Blank","MAXXAM","D5-ETFOSAA","D5-
ETFOSAA","78","%","","-99","NA","","SUR","78","","-99","NA","YES","-99","","1","1","-99","TEST"
"5395679:Method Blank","E537","IN","5395679:Method Blank","MAXXAM","2991-50-
6","EtFOSAA","3.3","ng/L","U","3.3","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"5395679:Method Blank","E537","IN","5395679:Method Blank","MAXXAM","2355-31-
9","MeFOSAA","2.9","ng/L","U","2.9","MDL","","NM","","","20","PQL","YES","-99","","1","1","20","TEST"
"5395679:Method Blank","E537","IN","5395679: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"
"5395679:Method Blank","E537","IN","5395679: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"
"5395679:Method Blank","E537","IN","5395679: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"
"5395679:Method Blank","E537","IN","5395679: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"
"5395679:Method Blank","E537","IN","5395679: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"
"5395679:Method Blank","E537","IN","5395679: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"
"5395679:Method Blank","E537","IN","5395679: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"
"5395679:Method Blank","E537","IN","5395679: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"
"5395679:Method Blank","E537","IN","5395679: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"
"5395679:Method Blank","E537","IN","5395679: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"
"5395679:Method Blank","E537","IN","5395679: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"
"5395679:Method Blank","E537","IN","5395679: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"
"5396269:Method Blank","E537","DL1","5396269:Method Blank","MAXXAM","1763-23-1_13","13C4-
Perfluorooctanesulfonate","104","%","","-99","NA","","SUR","104","","-99","NA","YES","-99","","1","1","-99","TES
T"
"5396269:Method Blank","E537","DL1","5396269:Method Blank","MAXXAM","1763-23-1","Perfluorooctanesulfonic
acid","230","ng/L","U","230","MDL","","NM","","","800","PQL","YES","-99","","1","1","800","TEST"
"JM10 CECIL","JM10 CECIL","FB-CEF-1820-012618-10","01/26/2018
10:00","W","GAD929","NM","3185","3.267","E537","E537","IN","02/09/2018 15:07","02/13/2018
14:59","MAXXAM","COA","NA","NA","1","NA","NA","00/00/0000
00:00","-99","5393111","5393111","1","02132018","B824213","02/01/2018 14:24","03/13/2018 11:10",""
"JM10 CECIL","JM10 CECIL","EB-CEF-1820-012618-14","01/26/2018
10:25","W","GAD930","NM","3185","3.267","E537","E537","IN","02/09/2018 15:07","02/13/2018
15:09","MAXXAM","COA","NA","NA","1","NA","NA","00/00/0000
00:00","-99","5393111","5393111","1","02132018","B824213","02/01/2018 14:24","03/13/2018 11:10",""
"JM10 CECIL","JM10 CECIL","EB-CEF-1820-012618-15","01/26/2018
10:30","W","GAD931","NM","3185","3.267","E537","E537","IN","02/09/2018 15:07","02/13/2018
15:14","MAXXAM","COA","NA","NA","1","NA","NA","00/00/0000
00:00","-99","5393111","5393111","1","02132018","B824213","02/01/2018 14:24","03/13/2018 11:10",""
"JM10 CECIL","JM10 CECIL","EB-CEF-1820-012618-16","01/26/2018
10:35","W","GAD932","NM","3185","3.267","E537","E537","IN","02/09/2018 15:07","02/13/2018
15:19","MAXXAM","COA","NA","NA","1","NA","NA","00/00/0000
00:00","-99","5393111","5393111","1","02132018","B824213","02/01/2018 14:24","03/13/2018 11:10",""
"JM10 CECIL","JM10 CECIL","CEF-860-TW01-0118","01/26/2018
11:28","W","GAD933","NM","3185","3.267","E537","E537","DL1","02/09/2018 15:07","02/13/2018

15:24","MAXXAM","COA","NA","NA","100","NA","NA","00/00/0000
00:00","-99","5393111","5393111","1","02132018","B824213","02/01/2018 14:24","03/13/2018 11:10",""
"JM10 CECIL","JM10 CECIL","CEF-860-TW01-0118DUP","01/26/2018
11:28","W","GAD933DUP","LR","3185","3.267","E537","E537","RA0","02/09/2018 23:59","02/14/2018
08:51","MAXXAM","COA","NA","NA","40","NA","NA","00/00/0000
00:00","-99","5393267","5393267","1","02142018","B824213","02/01/2018 14:24","03/13/2018 11:10",""
"JM10 CECIL","JM10 CECIL","CEF-1820-TW01-0118","01/26/2018
14:20","W","GAD934","NM","3185","3.267","E537","E537","DL1","02/09/2018 15:07","02/13/2018
12:39","MAXXAM","COA","NA","NA","100","NA","NA","00/00/0000
00:00","-99","5393111","5393111","1","02132018","B824213","02/01/2018 14:24","03/13/2018 11:10",""
"JM10 CECIL","JM10 CECIL","CEF-1820-TW01-0118DUP","01/26/2018
14:20","W","GAD934DUP","LR","3185","3.267","E537","E537","RA0","02/09/2018 23:59","02/14/2018
09:31","MAXXAM","COA","NA","NA","400","NA","NA","00/00/0000
00:00","-99","5393267","5393267","1","02142018","B824213","02/01/2018 14:24","03/13/2018 11:10",""
"JM10 CECIL","JM10 CECIL","FB-CEF-NG-012918-11","01/29/2018
15:53","W","GAD935","NM","3185","3.267","E537","E537","IN","02/12/2018 16:39","02/13/2018
23:24","MAXXAM","COA","NA","NA","1","NA","NA","00/00/0000
00:00","-99","5395679","5395679","1","02132018","B824213","02/01/2018 14:24","03/13/2018 11:10",""
"JM10 CECIL","JM10 CECIL","CEF-NG-025-0118","01/29/2018
13:50","W","GAD936","NM","3185","3.267","E537","E537","DL1","02/12/2018 16:39","02/13/2018
17:02","MAXXAM","COA","NA","NA","100","NA","NA","00/00/0000
00:00","-99","5395679","5395679","1","02132018","B824213","02/01/2018 14:24","03/13/2018 11:10",""
"JM10 CECIL","JM10 CECIL","CEF-NG-025-0118DUP","01/29/2018
13:50","W","GAD936DUP","LR","3185","3.267","E537","E537","DL1","02/12/2018 23:59","02/13/2018
17:05","MAXXAM","COA","NA","NA","100","NA","NA","00/00/0000
00:00","-99","5395679","5395679","1","02132018","B824213","02/01/2018 14:24","03/13/2018 11:10",""
"JM10 CECIL","JM10 CECIL","CEF-NG-10S-0118","01/29/2018
15:50","W","GAD937","NM","3185","3.267","E537","E537","IN","02/12/2018 16:39","02/13/2018
23:49","MAXXAM","COA","NA","NA","1","NA","NA","00/00/0000
00:00","-99","5395679","5395679","1","02132018","B824213","02/01/2018 14:24","03/13/2018 11:10",""
"JM10 CECIL","JM10 CECIL","CEF-860-TW02-0118","01/30/2018
14:55","W","GAD938","NM","3185","3.267","E537","E537","DL1","02/12/2018 16:39","02/14/2018
00:04","MAXXAM","COA","NA","NA","2","NA","NA","00/00/0000
00:00","-99","5395679","5395679","1","02132018","B824213","02/01/2018 14:24","03/13/2018 11:10",""
"JM10 CECIL","JM10 CECIL","5393111:Spiked Blank","00/00/0000 00:00","WQ","5393111:Spiked
Blank","LCS","3185","3.267","E537","E537","IN","02/09/2018 15:07","02/13/2018
14:00","MAXXAM","COA","NA","NA","1","NA","NA","00/00/0000
00:00","-99","5393111","5393111","1","02132018","B824213","02/01/2018 14:24","03/13/2018 11:10",""
"JM10 CECIL","JM10 CECIL","5393111:LCSD","00/00/0000
00:00","WQ","5393111:LCSD","LCSD","3185","3.267","E537","E537","IN","02/09/2018 15:07","02/13/2018
14:05","MAXXAM","COA","NA","NA","1","NA","NA","00/00/0000
00:00","-99","5393111","5393111","1","02132018","B824213","02/01/2018 14:24","03/13/2018 11:10",""
"JM10 CECIL","JM10 CECIL","5393267:Spiked Blank","00/00/0000 00:00","WQ","5393267:Spiked
Blank","LCS","3185","3.267","E537","E537","DL1","02/09/2018 23:59","02/14/2018
08:37","MAXXAM","COA","NA","NA","40","NA","NA","00/00/0000
00:00","-99","5393267","5393267","1","02142018","B824213","02/01/2018 14:24","03/13/2018 11:10",""
"JM10 CECIL","JM10 CECIL","5393267:LCSD","00/00/0000
00:00","WQ","5393267:LCSD","LCSD","3185","3.267","E537","E537","DL1","02/09/2018 23:59","02/14/2018
08:41","MAXXAM","COA","NA","NA","40","NA","NA","00/00/0000
00:00","-99","5393267","5393267","1","02142018","B824213","02/01/2018 14:24","03/13/2018 11:10",""
"JM10 CECIL","JM10 CECIL","5395679:Spiked Blank","00/00/0000 00:00","WQ","5395679:Spiked
Blank","LCS","3185","3.267","E537","E537","IN","02/12/2018 16:39","02/13/2018
22:50","MAXXAM","COA","NA","NA","1","NA","NA","00/00/0000
00:00","-99","5395679","5395679","1","02132018","B824213","02/01/2018 14:24","03/13/2018 11:10",""

"JM10 CECIL","JM10 CECIL","5396269:Spiked Blank","00/00/0000 00:00","WQ","5396269:Spiked Blank","LCS","3185","3.267","E537","E537","DL1","02/12/2018 16:39","02/14/2018 18:20","MAXXAM","COA","NA","NA","40","NA","NA","00/00/0000 00:00","-99","5396269","5396269","1","02142018","B824213","02/01/2018 14:24","03/13/2018 11:10",""
"JM10 CECIL","JM10 CECIL","5393111:Method Blank","00/00/0000 00:00","WQ","5393111:Method Blank","MB","3185","3.267","E537","E537","IN","02/09/2018 15:07","02/13/2018 13:55","MAXXAM","COA","NA","NA","1","NA","NA","00/00/0000 00:00","-99","5393111","5393111","1","02132018","B824213","02/01/2018 14:24","03/13/2018 11:10",""
"JM10 CECIL","JM10 CECIL","5393267:Method Blank","00/00/0000 00:00","WQ","5393267:Method Blank","MB","3185","3.267","E537","E537","DL1","02/09/2018 23:59","02/14/2018 08:32","MAXXAM","COA","NA","NA","40","NA","NA","00/00/0000 00:00","-99","5393267","5393267","1","02142018","B824213","02/01/2018 14:24","03/13/2018 11:10",""
"JM10 CECIL","JM10 CECIL","5395679:Method Blank","00/00/0000 00:00","WQ","5395679:Method Blank","MB","3185","3.267","E537","E537","IN","02/12/2018 16:39","02/13/2018 22:45","MAXXAM","COA","NA","NA","1","NA","NA","00/00/0000 00:00","-99","5395679","5395679","1","02132018","B824213","02/01/2018 14:24","03/13/2018 11:10",""
"JM10 CECIL","JM10 CECIL","5396269:Method Blank","00/00/0000 00:00","WQ","5396269:Method Blank","MB","3185","3.267","E537","E537","DL1","02/12/2018 16:39","02/14/2018 18:15","MAXXAM","COA","NA","NA","40","NA","NA","00/00/0000 00:00","-99","5396269","5396269","1","02142018","B824213","02/01/2018 14:24","03/13/2018 11:10",""

TETRA TECH

INTERNAL CORRESPONDENCE

TO: **M. VED** **DATE:** **MAY 3, 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) B824213

SAMPLES: 10/Aqueous/PFAS

CEF-1820-TW01-0118	CEF-860-TW01-0118	CEF-860-TW02-0118
CEF-NG-02S-0118	CEF-NG-10S-0118	EB-CEF-1820-012618-14
EB-CEF-1820-012618-15	EB-CEF-1820-012618-16	FB-CEF-1820-012618-10
FB-CEF-NG-012918-11		

Overview

The sample set for NAS Cecil Field, SDG B824213 consisted of five (5) aqueous environmental samples, three (3) equipment blanks, and two (2) Field Reagent Blanks (FRBs). All ten (10) samples were analyzed for polyfluoroalkyl substances (PFAS). No field duplicate sample pair was included in this SDG.

The samples were collected by Tetra Tech, Inc. on January 26, 29-30, 2018 and analyzed by Maxxam Analytics. All analyses were conducted in accordance with EPA 537 Modified analytical and reporting protocols. 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 and Equipment Blank Results
* • Extraction Internal Standard Recoveries
* • Injection Internal Standard Recoveries
* • Laboratory Control Sample Recoveries
* • Matrix Spike/Matrix Spike Sample Duplicate Results
* • 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

The following contaminant was detected in the equipment blank, EB-CEF-1820-012618-15, at the following concentration:

Compound	Concentration	Action Level
Perfluorooctane sulfonic acid (PFOS)	23 ng/L	> LOQ

No validation action was taken because the associated sample, CEF-1820-TW01-0118, had a concentration for PFOS which was considerably greater than the blank concentration (> 10000X).

The peak asymmetry factor was below the 0.8 control limit for the 2nd eluting peak for perfluorohexanesulfonic acid (PFHxS) in batch #539267 and the 1st eluting peak for PFOS in batch #5396269. No action was taken because, as explained by the laboratory, the branched isomers for these PFAS compounds elute slightly before the linear isomers in the analytical standard used. The data was not impacted. Peak asymmetry is not a requirement of the DOD QSM 5.1 (Table 8-15).

Samples CEF-860-TW01-0118, CEF-1820-TW01-0218, CEF-NG-02S-0118, and CEF-860-TW02-0118 were diluted prior to analysis. The reporting limits were adjusted accordingly.

Reduced volumes were used to reanalyze samples CEF-860-TW01-0118, CEF-1820-TW01-0218, CEF-NG-02S-0118, and CEF-860-TW02-0118 for perfluorohexanesulfonic acid and/or perfluorooctane sulfonic acid due to concentrations of these compounds. The results from the reduced volume analyses were reported by the laboratory.

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: Some samples required dilutions. One equipment blank contained a contaminant greater than the LOQ. 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 method detection limit for sample and method.
J	The analyte was positively identified and 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.
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.

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-1820-TW01-0118			CEF-860-TW01-0118			CEF-860-TW02-0118			CEF-NG-02S-0118		
SDG: B824213	LAB_ID	GAD934			GAD933			GAD938			GAD936		
FRACTION: PFAS	SAMP_DATE	1/26/2018			1/26/2018			1/30/2018			1/29/2018		
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												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
N-ETHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID		330	U		330	U		6.6	U		330	U	
N-METHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID		290	U		290	U		5.8	U		290	U	
PENTADECAFLUOROOCTANOIC ACID		29000			5800			560			8600		
PERFLUOROBUTANESULFONIC ACID		32000			1500	J	P	340			2700		
PERFLUORODECANOIC ACID		610	U		610	U		12	U		610	U	
PERFLUORODODECANOIC ACID		500	U		500	U		10	U		500	U	
PERFLUOROHEPTANOIC ACID		9000			1200	J	P	330			1400	J	P
PERFLUOROHEXANESULFONIC ACID		250000			32000			11000			54000		
PERFLUOROHEXANOIC ACID		53000			4400			1000			8900		
PERFLUORONONANOIC ACID		870	U		870	U		110			870	U	
PERFLUOROOCTANE SULFONIC ACID		930000			230000			6900			980000		
PERFLUOROTETRADECANOIC ACID		270	U		270	U		5.4	U		270	U	
PERFLUOROTRIDECANOIC ACID		380	U		380	U		7.6	U		380	U	
PERFLUOROUNDECANOIC ACID		250	U		250	U		5	U		250	U	

PROJ_NO: 08005-JM10	NSAMPLE	CEF-NG-10S-0118			EB-CEF-1820-012618-14			EB-CEF-1820-012618-15			EB-CEF-1820-012618-16		
SDG: B824213	LAB_ID	GAD937			GAD930			GAD931			GAD932		
FRACTION: PFAS	SAMP_DATE	1/29/2018			1/26/2018			1/26/2018			1/26/2018		
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												
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
N-ETHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID		11	J	P	3.3	U		3.3	U		3.3	U	
N-METHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID		8.7	J	P	2.9	U		2.9	U		2.9	U	
PENTADECAFLUOROOCTANOIC ACID		3.3	U		3.3	U		3.3	U		3.3	U	
PERFLUOROBUTANESULFONIC ACID		5.4	U		5.4	U		5.4	U		5.4	U	
PERFLUORODECANOIC ACID		6.1	U		6.1	U		6.1	U		6.1	U	
PERFLUORODODECANOIC ACID		5	U		5	U		5	U		5	U	
PERFLUOROHEPTANOIC ACID		7.4	U		7.4	U		7.4	U		7.4	U	
PERFLUOROHEXANESULFONIC ACID		33			5.6	U		5.6	U		5.6	U	
PERFLUOROHEXANOIC ACID		3.5	U		3.5	U		3.5	U		3.5	U	
PERFLUORONONANOIC ACID		8.7	U		8.7	U		8.7	U		8.7	U	
PERFLUOROOCTANE SULFONIC ACID		30			6	U		23			6	U	
PERFLUOROTETRADECANOIC ACID		2.7	U		2.7	U		2.7	U		2.7	U	
PERFLUOROTRIDECANOIC ACID		3.8	U		3.8	U		3.8	U		3.8	U	
PERFLUOROUNDECANOIC ACID		2.5	U		2.5	U		2.5	U		2.5	U	

PROJ_NO: 08005-JM10	NSAMPLE	FB-CEF-1820-012618-10			FB-CEF-NG-012918-11		
SDG: B824213	LAB_ID	GAD929			GAD935		
FRACTION: PFAS	SAMP_DATE	1/26/2018			1/29/2018		
MEDIA: WATER	QC_TYPE	NM			NM		
	UNITS	NG/L			NG/L		
	PCT_SOLIDS	0.0			0.0		
	DUP_OF						
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD
N-ETHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID		3.3	U		3.3	U	
N-METHYL PERFLUOROOCTANE SULFONAMIDOACETIC ACID		2.9	U		2.9	U	
PENTADECAFLUOROOCTANOIC ACID		3.3	U		3.3	U	
PERFLUOROBUTANESULFONIC ACID		5.4	U		5.4	U	
PERFLUORODECANOIC ACID		6.1	U		6.1	U	
PERFLUORODODECANOIC ACID		5	U		5	U	
PERFLUOROHEPTANOIC ACID		7.4	U		7.4	U	
PERFLUOROHEXANESULFONIC ACID		5.6	U		5.6	U	
PERFLUOROHEXANOIC ACID		3.5	U		3.5	U	
PERFLUORONONANOIC ACID		8.7	U		8.7	U	
PERFLUOROOCTANE SULFONIC ACID		6	U		6	U	
PERFLUOROTETRADECANOIC ACID		2.7	U		2.7	U	
PERFLUOROTRIDECANOIC ACID		3.8	U		3.8	U	
PERFLUOROUNDECANOIC ACID		2.5	U		2.5	U	

APPENDIX B

RESULTS AS REPORTED BY THE LABORATORY

Maxxam Job #: B824213
Report Date: 2018/03/09

Earth Toxics Inc
Client Project #: JM10 CECIL

RESULTS OF ANALYSES OF WATER

Maxxam ID		GAD929	GAD930	GAD931				
Sampling Date		2018/01/26 10:00	2018/01/26 10:25	2018/01/26 10:30				
COC Number		3185	3185	3185				
	UNITS	FB-CEF-1820-012618-10	EB-CEF-1820-012618-14	EB-CEF-1820-012618-15	DL	LOD	LOQ	QC Batch
Miscellaneous Parameters								
EtFOSAA	ng/L	10 U	10 U	10 U	3.3	10	20	5393111
MeFOSAA	ng/L	10 U	10 U	10 U	2.9	10	20	5393111
Perfluorobutane Sulfonate (PFBS)	ng/L	15 U	15 U	15 U	5.4	15	20	5393111
Perfluoroheptanoic Acid (PFHpA)	ng/L	15 U	15 U	15 U	7.4	15	20	5393111
Perfluorohexanoic Acid (PFHxA)	ng/L	10 U	10 U	10 U	3.5	10	20	5393111
Perfluorohexane Sulfonate (PFHxS)	ng/L	15 U	15 U	15 U	5.6	15	20	5393111
Perfluorononanoic Acid (PFNA)	ng/L	18 U	18 U	18 U	8.7	18	20	5393111
Perfluorotetradecanoic Acid	ng/L	10 U	10 U	10 U	2.7	10	20	5393111
Perfluorotridecanoic Acid	ng/L	10 U	10 U	10 U	3.8	10	20	5393111
Perfluoroundecanoic Acid (PFUnA)	ng/L	10 U	10 U	10 U	2.5	10	20	5393111
Perfluorodecanoic Acid (PFDA)	ng/L	15 U	15 U	15 U	6.1	15	20	5393111
Perfluorododecanoic Acid (PFDoA)	ng/L	10 U	10 U	10 U	5.0	10	20	5393111
Perfluoro-n-Octanoic Acid (PFOA)	ng/L	10 U	10 U	10 U	3.3	10	20	5393111
Perfluorooctane Sulfonate (PFOS)	ng/L	15 U	15 U	23	6.0	15	20	5393111
Surrogate Recovery (%)								
13C2-Perfluorodecanoic acid	%	84	82	83				5393111
13C2-Perfluorododecanoic acid	%	72	85	71				5393111
13C2-Perfluorohexanoic acid	%	90	97	91				5393111
13C2-perfluorotetradecanoic acid	%	105	80	61				5393111
13C2-Perfluoroundecanoic acid	%	76	83	80				5393111
13C4-Perfluoroheptanoic acid	%	87	101	96				5393111
13C4-Perfluorooctanesulfonate	%	91	104	95				5393111
13C4-Perfluorooctanoic acid	%	88	99	90				5393111
13C5-Perfluorononanoic acid	%	91	97	91				5393111
18O2-Perfluorohexanesulfonate	%	94	110	92				5393111
D3-MeFOSAA	%	73	75	67				5393111
D5-EtFOSAA	%	76	79	71				5393111

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

Maxxam Job #: B824213
Report Date: 2018/03/09

Earth Toxics Inc
Client Project #: JM10 CECIL

RESULTS OF ANALYSES OF WATER

Maxxam ID		GAD932					GAD933				
Sampling Date		2018/01/26 10:35					2018/01/26 11:28				
COC Number		3185					3185				
	UNITS	EB-CEF-1820-012618-16	DL	LOD	LOQ	QC Batch	CEF-860-TW01-0118	DL	LOD	LOQ	QC Batch
Miscellaneous Parameters											
EtFOSAA	ng/L	10 U	3.3	10	20	5393111	1000 U (1)	330	1000	2000	5393111
MeFOSAA	ng/L	10 U	2.9	10	20	5393111	1000 U (1)	290	1000	2000	5393111
Perfluorobutane Sulfonate (PFBS)	ng/L	15 U	5.4	15	20	5393111	1500 J (1)	540	1500	2000	5393111
Perfluoroheptanoic Acid (PFHpA)	ng/L	15 U	7.4	15	20	5393111	1200 J (1)	740	1500	2000	5393111
Perfluorohexanoic Acid (PFHxA)	ng/L	10 U	3.5	10	20	5393111	4400 (1)	350	1000	2000	5393111
Perfluorohexane Sulfonate (PFHxS)	ng/L	15 U	5.6	15	20	5393111	32000 (1)	560	1500	2000	5393111
Perfluorononanoic Acid (PFNA)	ng/L	18 U	8.7	18	20	5393111	1800 U (1)	870	1800	2000	5393111
Perfluorotetradecanoic Acid	ng/L	10 U	2.7	10	20	5393111	1000 U (1)	270	1000	2000	5393111
Perfluorotridecanoic Acid	ng/L	10 U	3.8	10	20	5393111	1000 U (1)	380	1000	2000	5393111
Perfluoroundecanoic Acid (PFUnA)	ng/L	10 U	2.5	10	20	5393111	1000 U (1)	250	1000	2000	5393111
Perfluorodecanoic Acid (PFDA)	ng/L	15 U	6.1	15	20	5393111	1500 U (1)	610	1500	2000	5393111
Perfluorododecanoic Acid (PFDoA)	ng/L	10 U	5.0	10	20	5393111	1000 U (1)	500	1000	2000	5393111
Perfluoro-n-Octanoic Acid (PFOA)	ng/L	10 U	3.3	10	20	5393111	5800 (1)	330	1000	2000	5393111
Perfluorooctane Sulfonate (PFOS)	ng/L	15 U	6.0	15	20	5393111	230000 (2)	2300	6000	8000	5393267
Surrogate Recovery (%)											
13C2-Perfluorodecanoic acid	%	83				5393111	80				5393111
13C2-Perfluorododecanoic acid	%	76				5393111	73				5393111
13C2-Perfluorohexanoic acid	%	92				5393111	91				5393111
13C2-perfluorotetradecanoic acid	%	68				5393111	80				5393111
13C2-Perfluoroundecanoic acid	%	76				5393111	74				5393111
13C4-Perfluoroheptanoic acid	%	86				5393111	86				5393111
13C4-Perfluorooctanesulfonate	%	87				5393111	95				5393267
13C4-Perfluorooctanoic acid	%	87				5393111	88				5393111
13C5-Perfluorononanoic acid	%	83				5393111	82				5393111
18O2-Perfluorohexanesulfonate	%	90				5393111	89				5393111
D3-MeFOSAA	%	77				5393111	70				5393111
D5-EtFOSAA	%	76				5393111	70				5393111

DL = Detection Limit

LOD = Limit of Detection

LOQ = Limit of Quantitation

QC Batch = Quality Control Batch

N/A = Not Applicable

(1) Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x).

(2) Due to high concentration of the target analyte, sample required high level analysis with additional serial dilutions. Detection limit was adjusted accordingly.

Post spike sample recovery is not applicable due to native concentration.

Maxxam Job #: B824213
Report Date: 2018/03/09

Earth Toxics Inc
Client Project #: JM10 CECIL

RESULTS OF ANALYSES OF WATER

Maxxam ID		GAD933					GAD934				
Sampling Date		2018/01/26 11:28					2018/01/26 14:20				
COC Number		3185					3185				
	UNITS	CEF-860-TW01-0118 Lab-Dup	DL	LOD	LOQ	QC Batch	CEF-1820-TW01-0118	DL	LOD	LOQ	QC Batch
Miscellaneous Parameters											
EtFOSAA	ng/L	N/A	330	1000	2000	5393111	1000 U (1)	330	1000	2000	5393111
MeFOSAA	ng/L	N/A	290	1000	2000	5393111	1000 U (1)	290	1000	2000	5393111
Perfluorobutane Sulfonate (PFBS)	ng/L	N/A	540	1500	2000	5393111	32000 (1)	540	1500	2000	5393111
Perfluoroheptanoic Acid (PFHpA)	ng/L	N/A	740	1500	2000	5393111	9000 (1)	740	1500	2000	5393111
Perfluorohexanoic Acid (PFHxA)	ng/L	N/A	350	1000	2000	5393111	53000 (1)	350	1000	2000	5393111
Perfluorohexane Sulfonate (PFHxS)	ng/L	N/A	560	1500	2000	5393111	250000 (2)	2400	5000	8000	5393267
Perfluorononanoic Acid (PFNA)	ng/L	N/A	870	1800	2000	5393111	1800 U (1)	870	1800	2000	5393111
Perfluorotetradecanoic Acid	ng/L	N/A	270	1000	2000	5393111	1000 U (1)	270	1000	2000	5393111
Perfluorotridecanoic Acid	ng/L	N/A	380	1000	2000	5393111	1000 U (1)	380	1000	2000	5393111
Perfluoroundecanoic Acid (PFUnA)	ng/L	N/A	250	1000	2000	5393111	1000 U (1)	250	1000	2000	5393111
Perfluorodecanoic Acid (PFDA)	ng/L	N/A	610	1500	2000	5393111	1500 U (1)	610	1500	2000	5393111
Perfluorododecanoic Acid (PFDoA)	ng/L	N/A	500	1000	2000	5393111	1000 U (1)	500	1000	2000	5393111
Perfluoro-n-Octanoic Acid (PFOA)	ng/L	N/A	330	1000	2000	5393111	29000 (1)	330	1000	2000	5393111
Perfluorooctane Sulfonate (PFOS)	ng/L	220000 (3)	2300	6000	8000	5393267	930000 (2)	23000	60000	80000	5393267
Surrogate Recovery (%)											
13C2-Perfluorodecanoic acid	%	N/A				5393111	86				5393111
13C2-Perfluorododecanoic acid	%	N/A	N/A	N/A		5393111	79				5393111
13C2-Perfluorohexanoic acid	%	N/A	N/A	N/A		5393111	94				5393111
13C2-perfluorotetradecanoic acid	%	N/A	N/A	N/A		5393111	54				5393111
13C2-Perfluoroundecanoic acid	%	N/A	N/A	N/A		5393111	82				5393111
13C4-Perfluoroheptanoic acid	%	N/A	N/A	N/A		5393111	88				5393111
13C4-Perfluorooctanesulfonate	%	95				5393267	99				5393267
13C4-Perfluorooctanoic acid	%	N/A	N/A	N/A		5393111	94				5393111
13C5-Perfluorononanoic acid	%	N/A	N/A	N/A		5393111	94				5393111
18O2-Perfluorohexanesulfonate	%	N/A	N/A	N/A		5393111	98				5393267
D3-MeFOSAA	%	N/A	N/A	N/A		5393111	76				5393111

DL = Detection Limit

LOD = Limit of Detection

LOQ = Limit of Quantitation

QC Batch = Quality Control Batch

Lab-Dup = Laboratory Initiated Duplicate

N/A = Not Applicable

(1) Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x).

(2) Due to high concentration of the target analyte, sample required high level analysis with additional serial dilutions. Detection limit was adjusted accordingly.

Post spike sample recovery is not applicable due to native concentration.

(3) Due to high concentration of the target analyte, sample required high level analysis with additional serial dilutions. Detection limit was adjusted accordingly.

Maxxam Job #: B824213
Report Date: 2018/03/09

Earth Toxics Inc
Client Project #: JM10 CECIL

RESULTS OF ANALYSES OF WATER

Maxxam ID		GAD933					GAD934				
Sampling Date		2018/01/26 11:28					2018/01/26 14:20				
COC Number		3185					3185				
	UNITS	CEF-860-TW01-0118 Lab-Dup	DL	LOD	LOQ	QC Batch	CEF-1820-TW01-0118	DL	LOD	LOQ	QC Batch
D5-EtFOSAA	%	N/A	N/A	N/A		5393111	72				5393111

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable

Maxxam Job #: B824213
Report Date: 2018/03/09

Earth Toxics Inc
Client Project #: JM10 CECIL

RESULTS OF ANALYSES OF WATER

Maxxam ID		GAD934					GAD935				
Sampling Date		2018/01/26 14:20					2018/01/29 15:53				
COC Number		3185					3185				
	UNITS	CEF-1820-TW01-0118 Lab-Dup	DL	LOD	LOQ	QC Batch	FB-CEF-NG-012918-11	DL	LOD	LOQ	QC Batch
Miscellaneous Parameters											
EtFOSAA	ng/L	N/A	330	1000	2000	5393111	10 U	3.3	10	20	5395679
MeFOSAA	ng/L	N/A	290	1000	2000	5393111	10 U	2.9	10	20	5395679
Perfluorobutane Sulfonate (PFBS)	ng/L	N/A	540	1500	2000	5393111	15 U	5.4	15	20	5395679
Perfluoroheptanoic Acid (PFHpA)	ng/L	N/A	740	1500	2000	5393111	15 U	7.4	15	20	5395679
Perfluorohexanoic Acid (PFHxA)	ng/L	N/A	350	1000	2000	5393111	10 U	3.5	10	20	5395679
Perfluorohexane Sulfonate (PFHxS)	ng/L	250000 (1)	2400	5000	8000	5393267	15 U	5.6	15	20	5395679
Perfluorononanoic Acid (PFNA)	ng/L	N/A	870	1800	2000	5393111	18 U	8.7	18	20	5395679
Perfluorotetradecanoic Acid	ng/L	N/A	270	1000	2000	5393111	10 U	2.7	10	20	5395679
Perfluorotridecanoic Acid	ng/L	N/A	380	1000	2000	5393111	10 U	3.8	10	20	5395679
Perfluoroundecanoic Acid (PFUnA)	ng/L	N/A	250	1000	2000	5393111	10 U	2.5	10	20	5395679
Perfluorodecanoic Acid (PFDA)	ng/L	N/A	610	1500	2000	5393111	15 U	6.1	15	20	5395679
Perfluorododecanoic Acid (PFDoA)	ng/L	N/A	500	1000	2000	5393111	10 U	5.0	10	20	5395679
Perfluoro-n-Octanoic Acid (PFOA)	ng/L	N/A	330	1000	2000	5393111	10 U	3.3	10	20	5395679
Perfluorooctane Sulfonate (PFOS)	ng/L	900000 (1)	23000	60000	80000	5393267	15 U	6.0	15	20	5395679
Surrogate Recovery (%)											
13C2-Perfluorodecanoic acid	%	N/A				5393111	91				5395679
13C2-Perfluorododecanoic acid	%	N/A	N/A	N/A		5393111	86				5395679
13C2-Perfluorohexanoic acid	%	N/A	N/A	N/A		5393111	100				5395679
13C2-perfluorotetradecanoic acid	%	N/A	N/A	N/A		5393111	60				5395679
13C2-Perfluoroundecanoic acid	%	N/A	N/A	N/A		5393111	86				5395679
13C4-Perfluoroheptanoic acid	%	N/A	N/A	N/A		5393111	101				5395679
13C4-Perfluorooctanesulfonate	%	96				5393267	88				5395679
13C4-Perfluorooctanoic acid	%	N/A	N/A	N/A		5393111	101				5395679
13C5-Perfluorononanoic acid	%	N/A	N/A	N/A		5393111	98				5395679
18O2-Perfluorohexanesulfonate	%	103				5393267	102				5395679
D3-MeFOSAA	%	N/A	N/A	N/A		5393111	80				5395679
D5-EtFOSAA	%	N/A	N/A	N/A		5393111	77				5395679

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable
(1) Due to high concentration of the target analyte, sample required high level analysis with additional serial dilutions. Detection limit was adjusted accordingly.

Maxxam Job #: B824213
Report Date: 2018/03/09

Earth Toxics Inc
Client Project #: JM10 CECIL

JAS 5/3/18

RESULTS OF ANALYSES OF WATER

Maxxam ID		GAD936	GAD936				
Sampling Date		2018/01/29 13:50	2018/01/29 13:50				
COC Number		3185	3185				
	UNITS	~~CEF-NG-025-0118~~	CEF-NG-025-0118 Lab-Dup	DL	LOD	LOQ	QC Batch
Miscellaneous Parameters		CEF-NG-02S-0118					
EtFOSAA	ng/L	1000 U (1)	1000 U (1)	330	1000	2000	5395679
MeFOSAA	ng/L	1000 U (1)	1000 U (1)	290	1000	2000	5395679
Perfluorobutane Sulfonate (PFBS)	ng/L	2700 (1)	2500 (1)	540	1500	2000	5395679
Perfluoroheptanoic Acid (PFHpA)	ng/L	1400 J (1)	1500 J (1)	740	1500	2000	5395679
Perfluorohexanoic Acid (PFHxA)	ng/L	8900 (1)	8200 (1)	350	1000	2000	5395679
Perfluorohexane Sulfonate (PFHxS)	ng/L	54000 (1)	51000 (1)	560	1500	2000	5395679
Perfluorononanoic Acid (PFNA)	ng/L	1800 U (1)	1800 U (1)	870	1800	2000	5395679
Perfluorotetradecanoic Acid	ng/L	1000 U (1)	1000 U (1)	270	1000	2000	5395679
Perfluorotridecanoic Acid	ng/L	1000 U (1)	1000 U (1)	380	1000	2000	5395679
Perfluoroundecanoic Acid (PFUnA)	ng/L	1000 U (1)	1000 U (1)	250	1000	2000	5395679
Perfluorodecanoic Acid (PFDA)	ng/L	1500 U (1)	1500 U (1)	610	1500	2000	5395679
Perfluorododecanoic Acid (PFDoA)	ng/L	1000 U (1)	1000 U (1)	500	1000	2000	5395679
Perfluoro-n-Octanoic Acid (PFOA)	ng/L	8600 (1)	7900 (1)	330	1000	2000	5395679
Perfluorooctane Sulfonate (PFOS)	ng/L	980000 (2)	870000 (3)	23000	60000	80000	5396269
Surrogate Recovery (%)							
13C2-Perfluorodecanoic acid	%	88	94				5395679
13C2-Perfluorododecanoic acid	%	80	85				5395679
13C2-Perfluorohexanoic acid	%	98	95				5395679
13C2-perfluorotetradecanoic acid	%	76	77				5395679
13C2-Perfluoroundecanoic acid	%	87	83				5395679
13C4-Perfluoroheptanoic acid	%	104	96				5395679
13C4-Perfluorooctanesulfonate	%	109	107				5396269
13C4-Perfluorooctanoic acid	%	103	95				5395679
13C5-Perfluorononanoic acid	%	100	95				5395679
18O2-Perfluorohexanesulfonate	%	98	93				5395679
D3-MeFOSAA	%	84	80				5395679

DL = Detection Limit

LOD = Limit of Detection

LOQ = Limit of Quantitation

QC Batch = Quality Control Batch

Lab-Dup = Laboratory Initiated Duplicate

N/A = Not Applicable

(1) Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x).

(2) Due to high concentration of the target analyte, sample required high level analysis with additional serial dilutions. Detection limit was adjusted accordingly.
Post spike sample recovery is not applicable due to native concentration.

(3) Due to high concentration of the target analyte, sample required high level analysis with additional serial dilutions. Detection limit was adjusted accordingly.

Maxxam Job #: B824213
Report Date: 2018/03/09

Earth Toxics Inc
Client Project #: JM10 CECIL

RESULTS OF ANALYSES OF WATER

Maxxam ID		GAD936	GAD936				
Sampling Date		2018/01/29 13:50	2018/01/29 13:50				
COC Number		3185	3185				
	UNITS	CEF-NG-025-0118	CEF-NG-025-0118 Lab-Dup	DL	LOD	LOQ	QC Batch
D5-EtFOSAA	%	82	77				5395679

DL = Detection Limit
LOD = Limit of Detection
LOQ = Limit of Quantitation
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
N/A = Not Applicable

Maxxam Job #: B824213
Report Date: 2018/03/09

Earth Toxics Inc
Client Project #: JM10 CECIL

RESULTS OF ANALYSES OF WATER

Maxxam ID		GAD937				GAD938				
Sampling Date		2018/01/29 15:50				2018/01/30 14:55				
COC Number		3185				3185				
	UNITS	CEF-NG-10S-0118	DL	LOD	LOQ	CEF-860-TW02-0118	DL	LOD	LOQ	QC Batch
Miscellaneous Parameters										
EtFOSAA	ng/L	11 J	3.3	10	20	20 U (1)	6.6	20	40	5395679
MeFOSAA	ng/L	8.7 J	2.9	10	20	20 U (1)	5.8	20	40	5395679
Perfluorobutane Sulfonate (PFBS)	ng/L	15 U	5.4	15	20	340 (1)	11	30	40	5395679
Perfluoroheptanoic Acid (PFHpA)	ng/L	15 U	7.4	15	20	330 (1)	15	30	40	5395679
Perfluorohexanoic Acid (PFHxA)	ng/L	10 U	3.5	10	20	1000 (1)	7.0	20	40	5395679
Perfluorohexane Sulfonate (PFHxS)	ng/L	33	5.6	15	20	11000 (2)	140	380	500	5395679
Perfluorononanoic Acid (PFNA)	ng/L	18 U	8.7	18	20	110 (1)	17	36	40	5395679
Perfluorotetradecanoic Acid	ng/L	10 U	2.7	10	20	20 U (1)	5.4	20	40	5395679
Perfluorotridecanoic Acid	ng/L	10 U	3.8	10	20	20 U (1)	7.6	20	40	5395679
Perfluoroundecanoic Acid (PFUnA)	ng/L	10 U	2.5	10	20	20 U (1)	5.0	20	40	5395679
Perfluorodecanoic Acid (PFDA)	ng/L	15 U	6.1	15	20	30 U (1)	12	30	40	5395679
Perfluorododecanoic Acid (PFDoA)	ng/L	10 U	5.0	10	20	20 U (1)	10	20	40	5395679
Perfluoro-n-Octanoic Acid (PFOA)	ng/L	10 U	3.3	10	20	560 (1)	6.6	20	40	5395679
Perfluorooctane Sulfonate (PFOS)	ng/L	30	6.0	15	20	6900 (2)	150	380	500	5395679
Surrogate Recovery (%)										
13C2-Perfluorodecanoic acid	%	100				88				5395679
13C2-Perfluorododecanoic acid	%	90				85				5395679
13C2-Perfluorohexanoic acid	%	101				95				5395679
13C2-perfluorotetradecanoic acid	%	85				71				5395679
13C2-Perfluoroundecanoic acid	%	100				83				5395679
13C4-Perfluoroheptanoic acid	%	107				78				5395679
13C4-Perfluorooctanesulfonate	%	119				110				5395679
13C4-Perfluorooctanoic acid	%	107				90				5395679
13C5-Perfluorononanoic acid	%	109				94				5395679
18O2-Perfluorohexanesulfonate	%	107				116				5395679
D3-MeFOSAA	%	88				82				5395679
D5-EtFOSAA	%	83				81				5395679

DL = Detection Limit

LOD = Limit of Detection

LOQ = Limit of Quantitation

QC Batch = Quality Control Batch

N/A = Not Applicable

(1) Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (2x).

(2) Due to high concentration of the target analyte, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (25x).

APPENDIX C

SUPPORT DOCUMENTATION

NAS CECIL FIELD
SDG B824213

SAMPLE IDENTIFICATION	CEF-NG-025-0118 (GAD936)		
COMPOUND	PERFLUOROOCTANE SULFONIC ACID		
EXTRACTION	NA - ready extracted		
INTERNAL STANDARD CONCENTRATION	1		

CONCENTRATION USING CALIBRATION CURVE

AREA*(IS CONCENTRATION/IS AREA)

6006*(1/4473) = 1.342723005

CALIBRATION CURVE y = 0.140383 * x - 0.030252 p. 789 of data package

1.34272300469484 = 0.140383 * x - 0.030252

x = 9.780208463

PFDA RESULT CONC = X/EXTRACTION	9.78	µg/L
DILUTION FACTOR	100	
FINAL RESULT	978.02	µg/L
	978021	ng/L

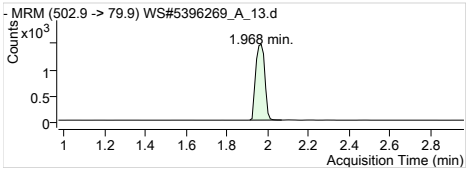
Quantitation Results

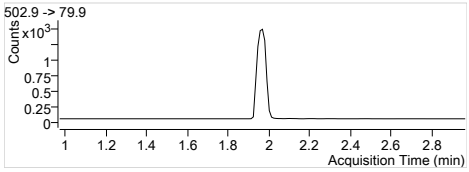
Agilent Technologies

Batch Path	T:\lcms4\PFC\20180213\WS#5396269_A\QuantResults\PFC_Water_High_180213_WS#5396269_A_EToxics		
Sample Name	**5396269:GAD936-01:100x**	**Instrument**	LCMS04
Data File	WS#5396269_A_13.d	**Operator**	
Sample Type	Sample	**Dilution**	100
Acq. Method	PFC_Water_High.m	**Position**	P3-F2
Acq. Date	2018/02/14 6:25:33 PM	**Injection Volume**	Per Method
Sample Annotation	Report for PFOS only.		

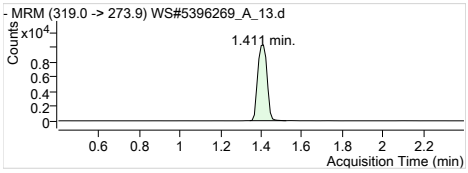
ISTD Compounds	Response	RT	Target conc.		
MPFOS	4473	1.97	1 µg/L		
13C6-PFHxA IS	32640	1.41	1 µg/L		

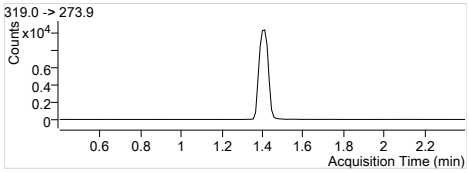
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFOS 1	6006	1.96	-	978.02 µg/L	-
13C6-PFHxA	32640	1.41	-	9361.47 µg/L	-
13C4-PFOS	4473	1.97	-	109.24 µg/L	-



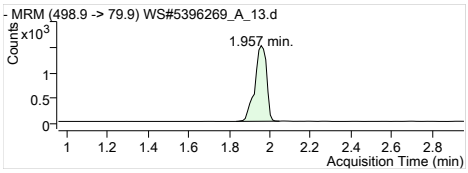


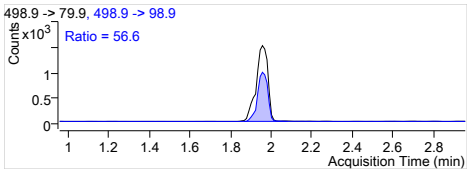
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: Sample



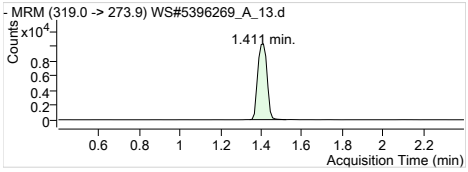


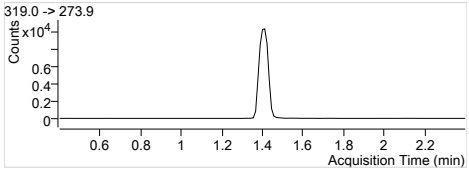
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.400)
Concentration: 1 µg/L
Sample type: Sample



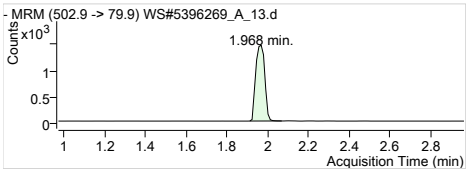


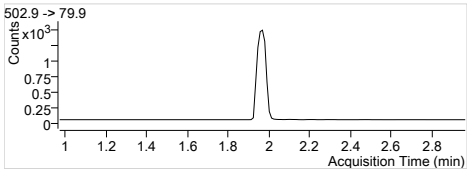
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 978.02 µg/L
Area ratio: 1.34272
Sample type: Sample





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.400)
Calc. conc. 9361.47 µg/L
Area ratio: 0
Sample type: Sample





13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.968 (1.968)
Calc. conc. 109.24 µg/L
Area ratio: 0.13704
Sample type: Sample

Tetra Tech, Inc. — **ATR CHAIN OF CUSTODY** — NUMBER No. 3185 — PAGE ___ OF ___

PROJECT NO: JM60	FACILITY: Ceil	PROJECT MANAGER: Megan Vogt	PHONE NUMBER: 904.334.7260
SAMPLERS (SIGNATURE)		FIELD OPERATIONS LEADER: Dave Siefken	PHONE NUMBER: 904.334.7260
		CARRIER/WAYBILL NUMBER: Fed Ex	

LABORATORY NAME AND CONTACT: Maxxam / Stephanie Poodle
ADDRESS
CITY, STATE

STANDARD TAT ☑
RUSH TAT ☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

CONTAINER TYPE PLASTIC (P) or GLASS (G): P
PRESERVATIVE USED: –

DATE YEAR 2018	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	TYPE OF ANALYSIS: PFAS	COMMENTS
1/26	1000	FB-CEF-1820-012618-10				QC	2	X		Cool 4°C
1/26	1025	EB-CEF-1820-012618-14				QC	2	X		
1/26	1030	EB-CEF-1820-012618-15				QC	2	X		
1/26	1035	EB-CEF-1820-012618-16				QC	2	X		
1/26	1128	CEF-860-TW01-0114				GW	2	X		
1/26	1420	CEF-1820-TW01-0118				GW	2	X		
1/29	1553	FB-CEF-NG-012918-11				GW QC	2	X		
1/29	1350	CEF-NG-025-0118				GW	6	X		
1/29	1550	CEF-NG-105-0118				GW	2	X		
1/30	1455	CEF-860-TW02-0118				GW	2	X		

01-Feb-18 14:24
Gemarie Balatico
B824213
GID ENV-1375

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY: Steven Davis	01/31/2018	1330	1. RECEIVED BY		
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY) Cust. Acknowledgment 4/02R FORM NO. TINUS-001

Maxxam Job: B824213

Sample Analysis

Samples were initially pre-screened and estimated concentrations were obtained so that appropriate sample volumes could be extracted on QC batches 5393111 (2018/02/13) and 5395679 (2018/02/13-14). Due to high concentrations, reduced sample volumes were extracted for the following samples:

GAD933	*CEF-860-TW01-0118*	*Perfluorooctanesulfonate (PFOS)*
GAD934	*CEF-1820-TW01-0118*	*Perfluorohexanesulfonate (PFHxS), Perfluorooctanesulfonate (PFOS)*
GAD936	*CEF-NG-025-0118*	*Perfluorooctanesulfonate (PFOS)*

In addition, these samples were analyzed by high level analysis with serial dilution for the above selected analytes on QC batches 5393267 (2018/02/14) and 5396269 (2018/02/14). Detection limits were adjusted accordingly.

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						
GAD929	FB-CEF-1820-012618-10	2018/01/26	2018/02/01	2018/02/09	2018/02/13	2018/02/13
GAD930	EB-CEF-1820-012618-14	2018/01/26	2018/02/01	2018/02/09	2018/02/13	2018/02/13
GAD931	EB-CEF-1820-012618-15	2018/01/26	2018/02/01	2018/02/09	2018/02/13	2018/02/13
GAD932	EB-CEF-1820-012618-16	2018/01/26	2018/02/01	2018/02/09	2018/02/13	2018/02/13
GAD933	CEF-860-TW01-0118	2018/01/26	2018/02/01	2018/02/09	2018/02/13	2018/02/13 & 2018/02/14
GAD933 Dup	CEF-860-TW01-0118	2018/01/26	2018/02/01	2018/02/09	2018/02/14	2018/02/13 & 2018/02/14
GAD934	CEF-1820-TW01-0118	2018/01/26	2018/02/01	2018/02/09	2018/02/13	2018/02/13 & 2018/02/14
GAD934 Dup	CEF-1820-TW01-0118	2018/01/26	2018/02/01	2018/02/09	2018/02/14	2018/02/13 & 2018/02/14
GAD935	FB-CEF-NG-012918-11	2018/01/29	2018/02/01	2018/02/12	2018/02/13	2018/02/13-14
GAD936	CEF-NG-025-0118	2018/01/29	2018/02/01	2018/02/12	2018/02/13	2018/02/13-14
GAD936 Dup	CEF-NG-025-0118	2018/01/29	2018/02/01	2018/02/12	2018/02/13	2018/02/13-14
GAD937	CEF-NG-10S-0118	2018/01/29	2018/02/01	2018/02/12	2018/02/13	2018/02/13-14
GAD938	CEF-860-TW02-0118	2018/01/30	2018/02/01	2018/02/12	2018/02/14	2018/02/13-14

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: All FB and EB samples were initially not reported as per client request. Client later requested that these samples be reported.

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.

Project Manager Site Assessment and Remediation/ Ultra Trace

2018/03/13
Date

INJECTION INTERNAL STANDARD PEAK AREAS

Sample Name	Analyte	13C6-PFHxA	13C9-PFDA
	Mass labeled IS	STD 4	STD 4
	IS Area	23942	30523
		IS Peak Area	IS Peak Area
STD 1		22616	31562
STD 2		24047	29599
STD 3		23970	31810
STD 4		23942	30523
STD 5		23146	29646
STD 6		22396	28323
IB		21095	26482
ICV		20366	26857
ISC		24665	32190
5393111:BLANK		27425	36016
5393111:SPIKE		26060	34077
5393111:SPIKE:D1		25038	32181
5393111:FZJ946-01		21291	27574
5393111:FZT426-01:10x		22258	27193
IB		21822	27149
5393111:FZT427-01		21220	27515
5393111:FZT428-01		22774	29834
5393111:FZT430-01		24793	32238
5393111:FZT431-01		24201	30395
5393111:GAC647-01		17046	22445
5393111:GAC649-01		24274	30656
5393111:GAC651-01		23512	29890
5393111:GAD929-01		26772	34716
CCV		24562	32675
5393111:GAD930-01		21975	27304
5393111:GAD931-01		23894	31328
5393111:GAD932-01		23670	31124
5393111:GAD933-01:100x		24115	30477
IB		21391	27144
5393111:GAD934-01:100x		23200	31287
IB		20837	26749
CCV		24980	31567

INJECTION INTERNAL STANDARD PEAK AREAS

Sample Name	Analyte	13C9-PFDA
	Mass labeled IS	STD 4
	IS Area	27486
		IS Peak Area
STD 1		27159
STD 2		26366
STD 3		26149
STD 4		27486
STD 5		25687
STD 6		24440
IB		23133
ICV		22491
ISC		27258
5393111:BLANK		30049
5393111:SPIKE		29721
5393111:SPIKE:D1		27367
5393111:FZJ946-01		23186
5393111:FZT426-01:10x		24008
IB		23243
5393111:FZT427-01		23191
5393111:FZT428-01		24825
5393111:FZT430-01		26318
5393111:FZT431-01		25423
5393111:GAC647-01		18893
5393111:GAC649-01		24794
5393111:GAC651-01		25501
5393111:GAD929-01		27675
CCV		27346
5393111:GAD930-01		23268
5393111:GAD931-01		26192
5393111:GAD932-01		25389
5393111:GAD933-01:100x		26594
IB		23271
5393111:GAD934-01:100x		26498
IB		23555
CCV		27597

INJECTION INTERNAL STANDARD PEAK AREAS

Sample Name	Analyte	13C6-PFHxA
	Mass labeled IS	STD 4
	IS Area	34274
		IS Peak Area
STD 1		34593
STD 2		35089
STD 3		34475
STD 4		34274
STD 5		32926
STD 6		33236
IB		33405
ICV		32945
ISC		33956
5393267:BLANK		34242
5393267:SPIKE		33599
5393267:SPIKE:D1		33031
5393267:GAD933-01:10x		33950
5393267:GAD933-01:D1:10x		34489
393267:GAD933-01:D1:10x PS		33895
5393267:GAD933-01		24761
5393267:GAD933-01:D1		22659
5393267:GAD933-01:D1 PS		21850
IB		33133
CCV		33101
5393267:GAD934-01:100x		32871
393267:GAD934-01:D1:100x		35847
93267:GAD934-01:D1:100x PS		34027
5393267:GAD934-01:10x		34803
5393267:GAD934-01:D1:10x		33653
393267:GAD934-01:D1:10x PS		34954
IB		34150
CCV		33609
5393267:FZY553-01:10x		34642
5393267:FZY553-01:D1:10x		34709
393267:FZY553-01:D1:10x PS		33966
5393267:FZY553-01		32628
5393267:FZY553-01:D1		33627
5393267:FZY553-01:D1 PS		33245
IB		32370
CCV		32665

INJECTION INTERNAL STANDARD PEAK AREAS

Sample Name	Analyte	13C6-PFHxA	13C6-PFHxA	13C9-PFDA	13C9-PFDA
	Mass labeled IS	STD 4	ISC/CCV	STD 4	ISC/CCV
	IS Area	23346	20248	30996	27315
		IS Peak Area	IS Peak Area	IS Peak Area	IS Peak Area
STD 1		19796		26441	
STD 2		21679		30280	
STD 3		24035		30220	
STD 4		23346		30996	
STD 5		22078		29476	
STD 6		20500		26385	
IB		22975		30714	
ICV		21703		30242	
ISC		19421		26982	
5395679:BLANK		20404		27099	
5395679:SPIKE		23976		31674	
5395679:GAU809-01		21301		27428	
5395679:FZJ957-01:10x		20967		26547	
5395679:FZJ957-01		21265		29668	
IB		24025		32057	
5395679:GAC702-01		22149		23176	
5395679:GAC704-01		21248		28250	
5395679:GAD935-01		20970		28391	
5395679:GAD936-01:100x		19474		27717	
5395679:GAD936-01:D1:100x		20236		27517	
IB		22168		29613	
CCV		21360		28652	
5395679:GAD937-01:10x		19867		28187	
5395679:GAD937-01		18308		25749	
IB		23517		30278	
5395679:GAD938-01:25x		19079		25393	
5395679:GAD938-01:2x		20670		28508	
IB		23039		31338	
CCV		21627		29319	
ISC			20248		27315
5395679:GAC702-01:R			22219		23790
5395679:GAC704-01:R			22399		30041
CCV			24038		30702

INJECTION INTERNAL STANDARD PEAK AREAS

Sample Name	Analyte	13C9-PFDA
	Mass labeled IS	STD 4
	IS Area	24288
		IS Peak Area
STD 1		21115
STD 2		23377
STD 3		24407
STD 4		24288
STD 5		23671
STD 6		21578
IB		24224
ICV		23298
ISC		21086
5395679:BLANK		21749
5395679:SPIKE		25834
5395679:GAU809-01		22549
5395679:FZJ957-01:10x		20976
5395679:FZJ957-01		21760
IB		24412
5395679:GAC702-01		24496
5395679:GAC704-01		24043
5395679:GAD935-01		22588
5395679:GAD936-01:100x		21937
395679:GAD936-01:D1:100x		23026
IB		24786
CCV		24602
5395679:GAD937-01:10x		23482
5395679:GAD937-01		21365
IB		24763
5395679:GAD938-01:25x		21093
5395679:GAD938-01:2x		22876
IB		24792
CCV		24450

INJECTION INTERNAL STANDARD PEAK AREAS

Sample Name	Analyte	13C6-PFHxA
	Mass labeled IS	STD 4
	IS Area	33723
		IS Peak Area
STD 1		34949
STD 2		37267
STD 3		33517
STD 4		33723
STD 5		35394
STD 6		34348
IB		32089
ICV		35861
ISC		34097
5396269:BLANK		34058
5396269:SPIKE		37705
5396269:GAD936-01:100x		32640
396269:GAD936-01:D1:100x		33712
96269:GAD936-01:D1:100x PS		33487
IB		32143
5396269:GAD936-01:10x		34059
5396269:GAD936-01:D1:10x		31943
396269:GAD936-01:D1:10x PS		33719
IB		32717
CCV		32820

INJECTION INTERNAL STANDARD PEAK AREAS

13C9-PFDA
STD 4
0
IS Peak Area
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0
0

Make sure cells D3 & F3 are referencing the correct ISC/CCV cel



Sample Name
STD 1
STD 2
STD 3
STD 4
STD 5
STD 6
IB
ICV
ISC
5396269:BLANK
5396269:SPIKE
5396269:GAD936-01:100x
5396269:GAD936-01:D1:10
5396269:GAD936-01:D1:10
IB
5396269:GAD936-01:10x
5396269:GAD936-01:D1:10
5396269:GAD936-01:D1:10
IB
CCV

INJECTION INTERNAL STANDARD PEAK AREAS

Analyte	13C6-PFHxA	13C9-PFDA
Mass labeled IS	STD 4	STD 4
IS Area	33723	0
	IS Peak Area	IS Peak Area
	34949	
	37267	
	33517	
	33723	
	35394	
	34348	
	32089	
	35861	
	34097	
	34058	
	37705	
	32640	
0x	33712	
0x PS	33487	
	32143	
	34059	
x	31943	
x PS	33719	
	32717	
	32820	

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
5393111	KC1	Spiked Blank	13C2-Perfluorodecanoic acid	2018/02/13		79	%	50 - 150
			13C2-Perfluorododecanoic acid	2018/02/13		79	%	50 - 150
			13C2-Perfluorohexanoic acid	2018/02/13		89	%	50 - 150
			13C2-perfluorotetradecanoic acid	2018/02/13		78	%	50 - 150
			13C2-Perfluoroundecanoic acid	2018/02/13		81	%	50 - 150
			13C4-Perfluoroheptanoic acid	2018/02/13		89	%	50 - 150
			13C4-Perfluorooctanesulfonate	2018/02/13		93	%	50 - 150
			13C4-Perfluorooctanoic acid	2018/02/13		93	%	50 - 150
			13C5-Perfluorononanoic acid	2018/02/13		95	%	50 - 150
			18O2-Perfluorohexanesulfonate	2018/02/13		84	%	50 - 150
			D3-MeFOSAA	2018/02/13		70	%	50 - 150
			D5-EtFOSAA	2018/02/13		69	%	50 - 150
			EtFOSAA	2018/02/13		104	%	73 - 128
			MeFOSAA	2018/02/13		102	%	77 - 127
			Perfluorobutane Sulfonate (PFBS)	2018/02/13		107	%	65 - 135
			Perfluoroheptanoic Acid (PFHpA)	2018/02/13		102	%	73 - 129
			Perfluorohexanoic Acid (PFHxA)	2018/02/13		101	%	74 - 129
			Perfluorohexane Sulfonate (PFHxS)	2018/02/13		103	%	67 - 132
			Perfluorononanoic Acid (PFNA)	2018/02/13		95	%	72 - 131
			Perfluorotetradecanoic Acid	2018/02/13		102	%	70 - 134
			Perfluorotridecanoic Acid	2018/02/13		100	%	67 - 143
			Perfluoroundecanoic Acid (PFUnA)	2018/02/13		108	%	71 - 133
			Perfluorodecanoic Acid (PFDA)	2018/02/13		115	%	71 - 133
			Perfluorododecanoic Acid (PFDoA)	2018/02/13		96	%	71 - 131
			Perfluoro-n-Octanoic Acid (PFOA)	2018/02/13		98	%	71 - 130
			Perfluorooctane Sulfonate (PFOS)	2018/02/13		98	%	72 - 131
5393111	KC1	Spiked Blank DUP	13C2-Perfluorodecanoic acid	2018/02/13		77	%	50 - 150
			13C2-Perfluorododecanoic acid	2018/02/13		80	%	50 - 150
			13C2-Perfluorohexanoic acid	2018/02/13		85	%	50 - 150
			13C2-perfluorotetradecanoic acid	2018/02/13		79	%	50 - 150
			13C2-Perfluoroundecanoic acid	2018/02/13		76	%	50 - 150
			13C4-Perfluoroheptanoic acid	2018/02/13		83	%	50 - 150
			13C4-Perfluorooctanesulfonate	2018/02/13		88	%	50 - 150
			13C4-Perfluorooctanoic acid	2018/02/13		84	%	50 - 150
			13C5-Perfluorononanoic acid	2018/02/13		86	%	50 - 150
			18O2-Perfluorohexanesulfonate	2018/02/13		83	%	50 - 150
			D3-MeFOSAA	2018/02/13		71	%	50 - 150
			D5-EtFOSAA	2018/02/13		71	%	50 - 150
			EtFOSAA	2018/02/13		105	%	73 - 128
			MeFOSAA	2018/02/13		105	%	77 - 127
			Perfluorobutane Sulfonate (PFBS)	2018/02/13		99	%	65 - 135
			Perfluoroheptanoic Acid (PFHpA)	2018/02/13		105	%	73 - 129
			Perfluorohexanoic Acid (PFHxA)	2018/02/13		94	%	74 - 129
			Perfluorohexane Sulfonate (PFHxS)	2018/02/13		96	%	67 - 132
			Perfluorononanoic Acid (PFNA)	2018/02/13		99	%	72 - 131
			Perfluorotetradecanoic Acid	2018/02/13		99	%	70 - 134
			Perfluorotridecanoic Acid	2018/02/13		99	%	67 - 143
			Perfluoroundecanoic Acid (PFUnA)	2018/02/13		108	%	71 - 133
			Perfluorodecanoic Acid (PFDA)	2018/02/13		109	%	71 - 133
			Perfluorododecanoic Acid (PFDoA)	2018/02/13		97	%	71 - 131
			Perfluoro-n-Octanoic Acid (PFOA)	2018/02/13		100	%	71 - 130
			Perfluorooctane Sulfonate (PFOS)	2018/02/13		92	%	72 - 131
5393111	KC1	RPD	EtFOSAA	2018/02/13	0.91		%	30
			MeFOSAA	2018/02/13	2.7		%	30
			Perfluorobutane Sulfonate (PFBS)	2018/02/13	8.3		%	30

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

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			Perfluoroheptanoic Acid (PFHpA)	2018/02/13	2.9		%	30
			Perfluorohexanoic Acid (PFHxA)	2018/02/13	7.4		%	30
			Perfluorohexane Sulfonate (PFHxS)	2018/02/13	7.0		%	30
			Perfluorononanoic Acid (PFNA)	2018/02/13	4.1		%	30
			Perfluorotetradecanoic Acid	2018/02/13	3.0		%	30
			Perfluorotridecanoic Acid	2018/02/13	0.62		%	30
			Perfluoroundecanoic Acid (PFUnA)	2018/02/13	0.0075		%	30
			Perfluorodecanoic Acid (PFDA)	2018/02/13	5.7		%	30
			Perfluorododecanoic Acid (PFDoA)	2018/02/13	1.3		%	30
			Perfluoro-n-Octanoic Acid (PFOA)	2018/02/13	1.7		%	30
			Perfluorooctane Sulfonate (PFOS)	2018/02/13	5.5		%	30
5393111	KC1	Method Blank	13C2-Perfluorodecanoic acid	2018/02/13		77	%	50 - 150
			13C2-Perfluorododecanoic acid	2018/02/13		72	%	50 - 150
			13C2-Perfluorohexanoic acid	2018/02/13		82	%	50 - 150
			13C2-perfluorotetradecanoic acid	2018/02/13		73	%	50 - 150
			13C2-Perfluoroundecanoic acid	2018/02/13		72	%	50 - 150
			13C4-Perfluoroheptanoic acid	2018/02/13		81	%	50 - 150
			13C4-Perfluorooctanesulfonate	2018/02/13		86	%	50 - 150
			13C4-Perfluorooctanoic acid	2018/02/13		82	%	50 - 150
			13C5-Perfluorononanoic acid	2018/02/13		86	%	50 - 150
			18O2-Perfluorohexanesulfonate	2018/02/13		86	%	50 - 150
			D3-MeFOSAA	2018/02/13		70	%	50 - 150
			D5-EtFOSAA	2018/02/13		69	%	50 - 150
			EtFOSAA	2018/02/13	10 U, LOD=10		ng/L	
			MeFOSAA	2018/02/13	10 U, LOD=10		ng/L	
			Perfluorobutane Sulfonate (PFBS)	2018/02/13	15 U, LOD=15		ng/L	
			Perfluoroheptanoic Acid (PFHpA)	2018/02/13	15 U, LOD=15		ng/L	
			Perfluorohexanoic Acid (PFHxA)	2018/02/13	10 U, LOD=10		ng/L	
			Perfluorohexane Sulfonate (PFHxS)	2018/02/13	15 U, LOD=15		ng/L	
			Perfluorononanoic Acid (PFNA)	2018/02/13	18 U, LOD=18		ng/L	
			Perfluorotetradecanoic Acid	2018/02/13	10 U, LOD=10		ng/L	
			Perfluorotridecanoic Acid	2018/02/13	10 U, LOD=10		ng/L	
			Perfluoroundecanoic Acid (PFUnA)	2018/02/13	10 U, LOD=10		ng/L	
			Perfluorodecanoic Acid (PFDA)	2018/02/13	15 U, LOD=15		ng/L	
			Perfluorododecanoic Acid (PFDoA)	2018/02/13	10 U, LOD=10		ng/L	
			Perfluoro-n-Octanoic Acid (PFOA)	2018/02/13	10 U, LOD=10		ng/L	
			Perfluorooctane Sulfonate (PFOS)	2018/02/13	15 U, LOD=15		ng/L	
5393267	M_G	Spiked Blank	13C4-Perfluorooctanesulfonate	2018/02/14		93	%	50 - 150
			18O2-Perfluorohexanesulfonate	2018/02/14		97	%	50 - 150
			Perfluorohexane Sulfonate (PFHxS)	2018/02/14		100	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2018/02/14		94	%	70 - 130

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

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
5393267	M_G	Spiked Blank DUP	13C4-Perfluorooctanesulfonate	2018/02/14		102	%	50 - 150
			18O2-Perfluorohexanesulfonate	2018/02/14		101	%	50 - 150
			Perfluorohexane Sulfonate (PFHxS)	2018/02/14		91	%	70 - 130
			Perfluorooctane Sulfonate (PFOS)	2018/02/14		86	%	70 - 130
5393267	M_G	RPD	Perfluorohexane Sulfonate (PFHxS)	2018/02/14	8.9		%	30
			Perfluorooctane Sulfonate (PFOS)	2018/02/14	8.5		%	30
5393267	M_G	Method Blank	13C4-Perfluorooctanesulfonate	2018/02/14		100	%	50 - 150
			18O2-Perfluorohexanesulfonate	2018/02/14		103	%	50 - 150
			Perfluorohexane Sulfonate (PFHxS)	2018/02/14	500 U, LOD=500		ng/L	
			Perfluorooctane Sulfonate (PFOS)	2018/02/14	600 U, LOD=600		ng/L	
5393267	M_G	RPD - Sample/Sample Dup	Perfluorohexane Sulfonate (PFHxS)	2018/02/14	2.2 (1)		%	30
			Perfluorooctane Sulfonate (PFOS)	2018/02/14	3.6 (1)		%	30
			Perfluorohexane Sulfonate (PFHxS)	2018/02/14	2.5 (1)		%	30
			Perfluorooctane Sulfonate (PFOS)	2018/02/14	2.4 (1)		%	30
5395679	DZU	Spiked Blank	13C2-Perfluorodecanoic acid	2018/02/13		77	%	50 - 150
			13C2-Perfluorododecanoic acid	2018/02/13		76	%	50 - 150
			13C2-Perfluorohexanoic acid	2018/02/13		86	%	50 - 150
			13C2-perfluorotetradecanoic acid	2018/02/13		73	%	50 - 150
			13C2-Perfluoroundecanoic acid	2018/02/13		75	%	50 - 150
			13C4-Perfluoroheptanoic acid	2018/02/13		80	%	50 - 150
			13C4-Perfluorooctanesulfonate	2018/02/13		88	%	50 - 150
			13C4-Perfluorooctanoic acid	2018/02/13		81	%	50 - 150
			13C5-Perfluorononanoic acid	2018/02/13		80	%	50 - 150
			18O2-Perfluorohexanesulfonate	2018/02/13		77	%	50 - 150
			D3-MeFOSAA	2018/02/13		67	%	50 - 150
			D5-EtFOSAA	2018/02/13		65	%	50 - 150
			EtFOSAA	2018/02/13		104	%	73 - 128
			MeFOSAA	2018/02/13		101	%	77 - 127
			Perfluorobutane Sulfonate (PFBS)	2018/02/13		108	%	65 - 135
			Perfluoroheptanoic Acid (PFHpA)	2018/02/13		102	%	73 - 129
			Perfluorohexanoic Acid (PFHxA)	2018/02/13		91	%	74 - 129
			Perfluorohexane Sulfonate (PFHxS)	2018/02/13		102	%	67 - 132
			Perfluorononanoic Acid (PFNA)	2018/02/13		106	%	72 - 131
			Perfluorotetradecanoic Acid	2018/02/13		103	%	70 - 134
			Perfluorotridecanoic Acid	2018/02/13		100	%	67 - 143
			Perfluoroundecanoic Acid (PFUnA)	2018/02/13		111	%	71 - 133
			Perfluorodecanoic Acid (PFDA)	2018/02/13		111	%	71 - 133
			Perfluorododecanoic Acid (PFDoA)	2018/02/13		100	%	71 - 131
			Perfluoro-n-Octanoic Acid (PFOA)	2018/02/13		105	%	71 - 130
			Perfluorooctane Sulfonate (PFOS)	2018/02/13		93	%	72 - 131
5395679	DZU	Method Blank	13C2-Perfluorodecanoic acid	2018/02/13		91	%	50 - 150
			13C2-Perfluorododecanoic acid	2018/02/13		93	%	50 - 150
			13C2-Perfluorohexanoic acid	2018/02/13		102	%	50 - 150
			13C2-perfluorotetradecanoic acid	2018/02/13		80	%	50 - 150
			13C2-Perfluoroundecanoic acid	2018/02/13		91	%	50 - 150
			13C4-Perfluoroheptanoic acid	2018/02/13		106	%	50 - 150
			13C4-Perfluorooctanesulfonate	2018/02/13		95	%	50 - 150
			13C4-Perfluorooctanoic acid	2018/02/13		101	%	50 - 150
			13C5-Perfluorononanoic acid	2018/02/13		99	%	50 - 150
			18O2-Perfluorohexanesulfonate	2018/02/13		106	%	50 - 150
			D3-MeFOSAA	2018/02/13		82	%	50 - 150
			D5-EtFOSAA	2018/02/13		78	%	50 - 150

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

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
			EtFOSAA	2018/02/13	10 U, LOD=10		ng/L	
			MeFOSAA	2018/02/13	10 U, LOD=10		ng/L	
			Perfluorobutane Sulfonate (PFBS)	2018/02/13	15 U, LOD=15		ng/L	
			Perfluoroheptanoic Acid (PFHpA)	2018/02/13	15 U, LOD=15		ng/L	
			Perfluorohexanoic Acid (PFHxA)	2018/02/13	10 U, LOD=10		ng/L	
			Perfluorohexane Sulfonate (PFHxS)	2018/02/13	15 U, LOD=15		ng/L	
			Perfluorononanoic Acid (PFNA)	2018/02/13	18 U, LOD=18		ng/L	
			Perfluorotetradecanoic Acid	2018/02/13	10 U, LOD=10		ng/L	
			Perfluorotridecanoic Acid	2018/02/13	10 U, LOD=10		ng/L	
			Perfluoroundecanoic Acid (PFUnA)	2018/02/13	10 U, LOD=10		ng/L	
			Perfluorodecanoic Acid (PFDA)	2018/02/13	15 U, LOD=15		ng/L	
			Perfluorododecanoic Acid (PFDoA)	2018/02/13	10 U, LOD=10		ng/L	
			Perfluoro-n-Octanoic Acid (PFOA)	2018/02/13	10 U, LOD=10		ng/L	
			Perfluorooctane Sulfonate (PFOS)	2018/02/13	15 U, LOD=15		ng/L	
5395679	DZU	RPD - Sample/Sample Dup	EtFOSAA	2018/02/13	NC (2)		%	30
			MeFOSAA	2018/02/13	NC (2)		%	30
			Perfluorobutane Sulfonate (PFBS)	2018/02/13	9.2 (2)		%	30
			Perfluoroheptanoic Acid (PFHpA)	2018/02/13	NC (2)		%	30
			Perfluorohexanoic Acid (PFHxA)	2018/02/13	8.0 (2)		%	30
			Perfluorohexane Sulfonate (PFHxS)	2018/02/13	6.0 (2)		%	30
			Perfluorononanoic Acid (PFNA)	2018/02/13	NC (2)		%	30
			Perfluorotetradecanoic Acid	2018/02/13	NC (2)		%	30
			Perfluorotridecanoic Acid	2018/02/13	NC (2)		%	30
			Perfluoroundecanoic Acid (PFUnA)	2018/02/13	NC (2)		%	30
			Perfluorodecanoic Acid (PFDA)	2018/02/13	NC (2)		%	30
			Perfluorododecanoic Acid (PFDoA)	2018/02/13	NC (2)		%	30
			Perfluoro-n-Octanoic Acid (PFOA)	2018/02/13	7.5 (2)		%	30
5396269	M_G	Spiked Blank	13C4-Perfluorooctanesulfonate	2018/02/14		96	%	50 - 150
			Perfluorooctane Sulfonate (PFOS)	2018/02/14		91	%	72 - 131
5396269	M_G	Method Blank	13C4-Perfluorooctanesulfonate	2018/02/14		104	%	50 - 150
			Perfluorooctane Sulfonate (PFOS)	2018/02/14	600 U, LOD=600		ng/L	

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

QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	% Recovery	UNITS	QC Limits
5396269	M_G	RPD - Sample/Sample Dup	Perfluorooctane Sulfonate (PFOS)	2018/02/14	11 (1)		%	30

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

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.

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Due to high concentration of the target analyte, sample required high level analysis with additional serial dilutions. Detection limit was adjusted accordingly.

(2) Due to high concentrations of the target analytes, a reduced sample volume was extracted and analyzed. Detection limit was adjusted accordingly (100x).

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

DoD Projects - Internal Data Validation Checklist

Run date: 2018/02/13

Worksheet # (s): 5393111

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: MCP Date: 2018/02/13

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: 2018/02/14

Comments: GAD933 + 934 sent for rework to High level analysis due to high levels of analytes on 2/13/2018

*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

Worksheet Data Validation Checklist - Extractable Organics

Worksheet # 5393111 Testcode: PROSACM-W

Sample Preparation		yes	no	n/a
1	Samples extracted within hold time	✓		
2	Client sample ID verified against Lab ID (waters & oils)	✓		
3	Parameter list and Client comments reviewed, (Spiking solutions matched to parameter list)	✓		
4	Height of sediment or if sample was decanted, recorded on worksheet	✓		
5	Method required QC processed with samples, maximum batch size = 20 client samples.	✓		
6	Sample, duplicate, matrix spike appear similar, initial sample as well as final extract	✓		
7	Sample weight or initial volume and extract final volume, aliquot factor clearly recorded.	✓		
8	If performed any additional dilution clearly recorded	✓		
9	Matrix spike / Duplicate performed on IOL samples if present			✓
10	Spiking solutions valid (haven't expired), ID and volume used clearly identified on worksheet	✓		
11	Spiking process witnessed and signed off	✓		
12	Extraction type recorded (N3A2B = neutral, 3 x acidic, 2 x basic)			✓
13	Sample prep deviations documented within CompliantPro as a Policy Deviation			✓
14	Job Remarks reviewed on 2nd page of worksheet.	✓		
15	Worksheet and reagent tracking record completed and authorized.	✓		

Reviewed by: SSV Date: 2018/02/09

Comments:

Worksheet Approval		yes	no	n/a
1	Verified the position of the vials in autosampler against sequence list; signed off sequence list			
2	Calibration and CCV standards valid (haven't expired)			
3	Initial calibration curve and DFTPP tune (if applicable) acceptable			
4	Continuing and Final CCV and DFTPP tune (if applicable) acceptable			
5	System performance check acceptable (if applicable)			
6	Internal standard responses acceptable			
7	Method blank meets acceptance criteria			
8	Lab Control Samples recoveries meets acceptance criteria			
9	Duplicate RPD meets acceptance criteria			
10	Matrix spike recoveries meets acceptance criteria			
11	Surrogate recoveries meets acceptance criteria			
12	Appropriate control charts updated			
13	Samples above calibration range diluted and reanalyzed			
14	Dilutions clearly documented on tracking record, inst file and verified during data upload			
15	Samples following high level samples checked for carryover.			
16	Mass spectra ion ratios acceptable for positive results, hardcopy in file.			
17	Analytical observations / anomalies documented			
18	DQW comments entered in LIMS, hardcopy in file			
19	Sample Prep section (above) reviewed and verified.			
20	WS Approval performed in LIMS			

Reviewed by: Date:

Comments:

Refer to BL-FCD-01126 2018/02/13

Worksheet Validation		yes	no	n/a
1	Calibration, QC and sample results reviewed and determined acceptable			
2	Manual integrations verified			
3	Random calculation checked			
4	Data and QC validated in LIMS			
5	Comments reviewed for appropriateness			
6	Reworks / relogs documented in file			
7	Worksheet signed and dated,			
8	Worksheet approved and validated within LIMS			

Reviewed by: Date:

Comments:

WS# : 5393111

Page #: 1/2

RUSH

Report Name : Worksheet - (Liquids and Solids)

Assignment Date : Friday, February 09, 2018

Assigned to : Shivani Shivani

Test Code : PFOSALCM-W

Instrument Id:

Test Description : PFOS and PFOA in water by LC-MS/MS

	Job Number	Sample Number	D	Sample ID	F	% Moisture	Wt or Vol (estimate from here)	Final Vol (from here)	DF or AF	# Cont	Expiry Date	Test DeadLine	Criteria	Extract Date	(mg)
7-3		SPIKE	0	PFOS		0	125	3	1X					2018/02/09	27
7-2		SPIKE	1	PFOS		0	125	3	1X					2018/02/09	29
7-1		BLANK				0	125	3	1X					2018/02/09	30
7-4	B820260	*FZJ946-01R		[redacted]		0	125	3	1X	2	2018/02/09	2018/02/09 23:00	DOD	2018/02/09	31
7-5	B821961	*FZT426-01R		C[redacted]		<0.1	12.5	3	10X	2	2018/02/09	2018/02/12 23:00	DOD	2018/02/09	32
7-7	B821961	*FZT427-01R		[redacted]		<0.1	125	3	1X	2	2018/02/09	2018/02/12 23:00	DOD	2018/02/09	25
7-9	B821961	*FZT428-01R		[redacted]		0	125	3	1X	2	2018/02/09	2018/02/12 23:00	DOD	2018/02/09	26
7-10	B821961	*FZT430-01R		[redacted]		0	125	3	1X	2	2018/02/09	2018/02/12 23:00	DOD	2018/02/09	28
7-12	B821961	*FZT431-01R		[redacted]		0	125	3	1X	2	2018/02/09	2018/02/12 23:00	DOD	2018/02/09	29
7-14	B823886*	*GAC647-01R		[redacted]		0	125	3	1X	2	2018/02/13	2018/02/08 17:00	DOD	2018/02/09	32
7-16	B823886*	*GAC649-01R		[redacted]		0	125	3	1X	2	2018/02/13	2018/02/08 17:00	DOD	2018/02/09	31
7-18	B823886*	*GAC651-01R		[redacted]		0	125	3	1X	2	2018/02/13	2018/02/08 17:00	DOD	2018/02/09	30
7-19	B824213	*GAD929-01R		FB-CEF-1820-0126*		0	125	3	1X	2	2018/02/09	2018/02/14 23:00	DOD	2018/02/09	28
7-20	B824213	*GAD930-01R		EB-CEF-1820-0126*		0	125	3	1X	2	2018/02/09	2018/02/14 23:00	DOD	2018/02/09	26
7-21	B824213	*GAD931-01R		EB-CEF-1820-0126*		<0.1	125	3	1X	2	2018/02/09	2018/02/14 23:00	DOD	2018/02/09	27
7-22	B824213	*GAD932-01R		EB-CEF-1820-0126*		0	125	3	1X	2	2018/02/09	2018/02/14 23:00	DOD	2018/02/09	29
7-23	B824213	*GAD933-01R		CEF-860-TW01-01*		<0.1	1.25	3	100X	2	2018/02/09	2018/02/14 23:00	DOD	2018/02/09	32
7-24	B824213	*GAD934-01R		CEF-1820-TW01-0*		<0.1	1.25	3	100X	2	2018/02/09	2018/02/14 23:00	DOD	2018/02/09	30

@ 18/02/09 SSV.

Remarks: • Carbon clean up done.
• 9 did 10x for FZT426 because sample is very bad. dark brown in colour and Turbid.

Samples extracted by: Shivani Shivani

Instrumentation performed by: FC Date: 2018/02/14

Calculations performed by: [signature] Date: 2018/02/13

Validated by: [signature] Date: 2018/02/14

Job No.	Rep / Client Name / Remarks	Contact	Client Tier	National
GB820260	[redacted]			
GB821961				
GB823886				
GB824213	SP8 Earth Toxics Inc	Rick Carr	Tier 5 (Enviro.) AECOM	

nreg, PFOSALCM-W Level IV Data Package and TetraTech EDD required The following samples will not be reported: GAD929, GAD930, GAD931, GAD932, GAD935 F/C by NGV - 2018/02/09 Project #: JM10 CECIL

Job	Sample	Lab Comments
	SPIKE	Spk/Spk Dup prepared due to insufficient amount of sample
	SPIKE	
	BLANK	
B820260	FZJ946-01R	
B821961	FZT426-01R	
B821961	FZT427-01R	centrifuged at 4000 rpm -
B821961	FZT428-01R	
B821961	FZT430-01R	
B821961	FZT431-01R	
B823886	GAC647-01R	"
B823886	GAC649-01R	"
B823886	GAC651-01R	
B824213	GAD929-01R	
B824213	GAD930-01R	
B824213	GAD931-01R	"
B824213	GAD932-01R	
B824213	GAD933-01R	Sample we are dosing as a high also.
B824213	GAD934-01R	"

Calibration Standard Preparation #

	Mean (ue)	Spk (ue)	IS
S_1	2825	25	SK-7377
S_2	2800	50	
S_3	2700	150	
S_4	2813	37.5	I-5297
S_5	2775	75	
S_6	2725	125	
ICV	2788	62.5	I-5299
IB	2850		150 (ue)

JDS 2018/02/09

Worksheet Reagent Tracking Record Worksheet # 539111

Surrogate/Spike solutions	√	Solution ID #	Conc.	Blk-Spk Volume (µL) 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
Sterli 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-5299(1/3)	1ug/mL	75	21 62.5	75	21 62.5	NA	NA
PFC Internal Standard Solution	✓	SI-6763(4/4) JPS	50/125 ng/mL	200	100 150	200	100 150	200	100 150
PFC Injection IS	✓	SI-6770(1/2) JPS	~~400~~ 100 ng/mL	20	20	20	20	20	20
ICV	✓	I-5299(1/3)	1ug/mL		62.5				

Solvent/Reagent	√	Lot No.	Date Opened	Solvent/Reagent	√	Lot No.	Date Opened/ Prepared
DCM				50% NaOH			
Ottawa Sand				o-Phosphoric Acid			
Methanol	✓	SHBD5451	2018/02/09	Borax			
2-Propanol (IPA)				Calcium Chloride			
Acetonitrile				EDTA			
Sodium Sulfate				Phosphate Buffer			
70:30 Methanol: Water				Sodium Thiosulphate			
60:40 Water: Methanol	✓	PRLRF	108-348	DNPH			
DCM:Ethyl Ether (75:25)				FMOC			
Hexane:IPA (98:2)				5M Acetate Buffer			
2% Formic Acid	✓	PRLRF	108-342	0.2% NH_4OH	✓	PRLRF 108349	
0.2% Formic Acid				Leachate Fluid			
0.05M KOH				Reagent Water	✓	S7297	2018/02/09
0.05M HCl							

*Spiked by: SSV

Spike Date: 2018/02/09

Spike Syringe/Pipette ID#: G24590G

Int. Std Syringe/Pipette ID#: Internal Standard 9865f Injection IS# G24390G

*Spiking Witnessed by: JPS

Final pH:

Equipment & ID	√	Equipment	ID#	√	Equipment	Lot #
Pipettor K557916 K39732F	✓	SPE Cartridge	0034372477A	✓	QC Balance ID	FC-1
	✓	Filter			Thermometer ID &Temp	
Dispenser		Centrifuge	4214B683		9:30-9:35	
		Sonicator				

Bottle Tracking
Bottle# 18801
Cap# 18778
Systems plus Lot# 18/01/31

Comments: 850 mL volumetric Cylinder #3026
Envi Carb 9280GV

* - SPIKING OF QC's & SAMPLES MUST BE WITNESSED AT ALL TIMES.

Worksheet: 539311 **Dilution and Column Cleanup Worksheet**

Maxxam Analytics

Job Number	Sample ID	Sample: Initial Final Volume	Dilution Required	Sample added mL	Solvent Added mL	Int Stan Added uL	New Effective Final Volume	INITIAL SSV. DATE	Column Clean Up
B821961	FZT426	1	10X	12.5	-	150	125	2 18/02/04	-
B824213	GAD933	-	100X	1.25	123.75	150	125	2 18/02/05	-
	GBD934	-	100X	1.25	123.75	150	125	2 18/02/05	-

2 18/02/09 SSV

10ml # K551916

250ml volumetric cylinder # 3026

LCMS4_0 # 57297

Worksheet Number: **5393111**

PFOS and PFOA in water by SPE/LCMS - Water

ug/L

Parameter Name	Units	SPIKE	SPIKE Dup1	BLANK	B820260 FZJ946	DL	B821961 FZT426
6:2 Fluorotelomer sulfonate	ug/L	105.69287	106.76411	0	0	0.02	N/A*******
8:2 Fluorotelomer sulfonate	ug/L	101.42034	104.21074	0	0	0.02	N/A*******
N-ethylperfluorooctane sulfonamide	ug/L	N/A*******	N/A*******	N/A*******	N/A*******	0.02	N/A*******
EtFOSAA	ug/L	104.15328	105.10459	0	N/A*******	0.02	0
N-ethylperfluorooctane sulfonamidoe	ug/L	N/A*******	N/A*******	N/A*******	N/A*******	0.02	N/A*******
N-methylperfluorooctane sulfonamide	ug/L	N/A*******	N/A*******	N/A*******	N/A*******	0.02	N/A*******
MeFOSAA	ug/L	101.90288	104.67266	0	N/A*******	0.02	0
N-methylperfluorooctanesulfonamidol	ug/L	N/A*******	N/A*******	N/A*******	N/A*******	0.02	N/A*******
Perfluorobutanoic acid	ug/L	96.81029	104.98966	0	0	0.02	N/A*******
Perfluorobutane Sulfonate (PFBS)	ug/L	107.00695	98.52294	0	0	0.02	0
Perfluorodecane Sulfonate	ug/L	104.79485	102.96079	0	0	0.02	N/A*******
Perfluoroheptanoic Acid (PFHpA)	ug/L	101.81802	104.83022	0	0	0.02	0
Perfluoroheptane sulfonate	ug/L	99.40149	96.84953	0	N/A*******	0.02	N/A*******
Perfluorohexanoic Acid (PFHxA)	ug/L	101.44902	94.16447	0	0	0.02	0
Perfluorohexane Sulfonate (PFHxS)	ug/L	102.56776	95.58329	0	0	0.02	0
Perfluorononanoic Acid (PFNA)	ug/L	94.58887	98.51440	0	0	0.02	0
Perfluorooctane Sulfonamide (PFOSA)	ug/L	98.01192	97.80571	0	0	0.02	N/A*******
Perfluoropentanoic Acid (PFPeA)	ug/L	111.45918	107.15878	0	0	0.02	N/A*******
Perfluorotetradecanoic Acid	ug/L	102.19269	99.13740	0	0	0.02	0
Perfluorotridecanoic Acid	ug/L	99.78780	99.17589	0	0	0.02	0
Perfluoroundecanoic Acid (PFUnA)	ug/L	107.82925	107.82118	0	0	0.02	0
Perfluorodecanoic Acid (PFDA)	ug/L	115.34391	108.96260	0	0	0.02	0
Perfluorododecanoic Acid (PFDoA)	ug/L	95.85328	97.10967	0	0	0.02	0
Perfluoro-n-Octanoic Acid (PFOA)	ug/L	98.21271	99.91137	0	0	0.02	0
Perfluorooctane Sulfonate (PFOS)	ug/L	97.55814	92.35321	0	0	0.02	0
13C2-6:2 Fluorotelomer sulfonate	ug/L	86.6777179	80.6630225	89.7940994	104.654840		N/A*******
13C2-8:2 Fluorotelomer sulfonate	ug/L	83.2276206	77.0906257	85.9065722	100.954615		N/A*******
13C2-perfluorotetradecanoic acid	ug/L	77.9719025	78.8074986	72.6418162	80.5230889		103.135320
13C4-Perfluorobutanoic acid	ug/L	95.7828537	81.8678722	82.5117476	104.013416		N/A*******
D3-MeFOSAA	ug/L	69.6808388	70.5580714	69.9853279	N/A*******		91.0947184
D5-EtFOSAA	ug/L	69.2740254	70.6266166	68.6214440	N/A*******		95.0929083
N-methyl-d3-perfluorooctane sulfona	ug/L	N/A*******	N/A*******	N/A*******	N/A*******		N/A*******
N-ethyl-d5-perfluorooctane sulfonam	ug/L	N/A*******	N/A*******	N/A*******	N/A*******		N/A*******
13C2-Perfluorodecanoic acid	ug/L	79.0950256	76.8141603	77.3264715	91.3326560		97.5437155
13C2-Perfluorododecanoic acid	ug/L	79.2750111	79.6398802	71.9099347	88.4543326		100.711089
13C2-Perfluorohexanoic acid	ug/L	88.9887591	84.6180257	81.7761702	100.356479		98.0923416
13C2-Perfluoroundecanoic acid	ug/L	81.3910058	76.1475850	72.0955109	83.8490214		96.2276267
13C4-Perfluoroheptanoic acid	ug/L	89.3336735	83.3770847	81.4167937	102.482051		103.934368
13C5-Perfluorononanoic acid	ug/L	95.4453505	85.5366455	85.8861557	104.385366		101.137320
13C4-Perfluorooctanoic acid	ug/L	92.7042064	83.9236045	81.8081538	101.300808		103.433938
13C4-Perfluorooctanesulfonate	ug/L	92.7490334	87.8238736	86.0467372	90.3489945		102.541223
13C5-Perfluoropentanoic acid	ug/L	87.0563413	83.7976020	86.4858595	99.2311615		N/A*******
13C8-Perfluorooctane Sulfonamide	ug/L	84.8568322	81.0758076	76.2852142	92.8788435		N/A*******
18O2-Perfluorohexanesulfonate	ug/L	84.3361519	83.2682194	86.0512907	111.590941		101.148786

Worksheet Number: **5393111**

PFOS and PFOA in water by SPE/LCMS - Water

ug/L

Parameter Name	DL	B821961 FZT427	B821961 FZT428	B821961 FZT430	B821961 FZT431	B823886 GAC647	B823886 GAC649
6:2 Fluorotelomer sulfonate	0.2	N/A*******	N/A*******	N/A*******	N/A*******	0	0
8:2 Fluorotelomer sulfonate	0.2	N/A*******	N/A*******	N/A*******	N/A*******	0	0
N-ethylperfluorooctane sulfonamide	0.2	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******
EtFOSAA	0.2	0	0	0	0	N/A*******	N/A*******
N-ethylperfluorooctane sulfonamidoe	0.2	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******
N-methylperfluorooctane sulfonamide	0.2	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******
MeFOSAA	0.2	0	0	0	0	N/A*******	N/A*******
N-methylperfluorooctanesulfonamidol	0.2	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******
Perfluorobutanoic acid	0.2	N/A*******	N/A*******	N/A*******	N/A*******	0	0
Perfluorobutane Sulfonate (PFBS)	0.2	0	0	0	0	0	0
Perfluorodecane Sulfonate	0.2	N/A*******	N/A*******	N/A*******	N/A*******	0	0
Perfluoroheptanoic Acid (PFHpA)	0.2	0	0	0	0	0	0
Perfluoroheptane sulfonate	0.2	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******
Perfluorohexanoic Acid (PFHxA)	0.2	0	0	0	0	0	0
Perfluorohexane Sulfonate (PFHxS)	0.2	0	0	0	0	0	0
Perfluorononanoic Acid (PFNA)	0.2	0	0	0	0	0	0
Perfluorooctane Sulfonamide (PFOSA)	0.2	N/A*******	N/A*******	N/A*******	N/A*******	0	0
Perfluoropentanoic Acid (PFPeA)	0.2	N/A*******	N/A*******	N/A*******	N/A*******	0	0
Perfluorotetradecanoic Acid	0.2	0	0	0	0	0	0
Perfluorotridecanoic Acid	0.2	0	0	0	0	0	0
Perfluoroundecanoic Acid (PFUnA)	0.2	0	0	0	0	0	0
Perfluorodecanoic Acid (PFDA)	0.2	0	0	0	0	0	0
Perfluorododecanoic Acid (PFDoA)	0.2	0	0	0	0	0	0
Perfluoro-n-Octanoic Acid (PFOA)	0.2	0	0	0	0	0	0
Perfluorooctane Sulfonate (PFOS)	0.2	0	0	0	0	0	0
13C2-6:2 Fluorotelomer sulfonate		N/A*******	N/A*******	N/A*******	N/A*******	116.517392	81.2705514
13C2-8:2 Fluorotelomer sulfonate		N/A*******	N/A*******	N/A*******	N/A*******	122.094329	76.1050920
13C2-perfluorotetradecanoic acid		64.1128099	78.3443888	70.3914851	73.6783156	111.444959	77.3155084
13C4-Perfluorobutanoic acid		N/A*******	N/A*******	N/A*******	N/A*******	76.3475598	63.2048365
D3-MeFOSAA		77.7432242	76.2251821	73.7251123	75.0092066	N/A*******	N/A*******
D5-EtFOSAA		77.1035814	75.6644729	74.2104118	72.9664901	N/A*******	N/A*******
N-methyl-d3-perfluorooctane sulfona		N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******
N-ethyl-d5-perfluorooctane sulfonam		N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******
13C2-Perfluorodecanoic acid		93.4515519	82.9247189	81.0760738	84.8227009	114.758855	86.3140535
13C2-Perfluorododecanoic acid		89.4800847	81.0991644	70.3717362	79.6903254	109.573159	78.9507751
13C2-Perfluorohexanoic acid		93.2477634	93.6197216	87.0079188	95.2841229	124.954541	88.9701396
13C2-Perfluoroundecanoic acid		81.9605712	74.9965870	75.5501112	74.5941791	114.496458	85.0631486
13C4-Perfluoroheptanoic acid		96.5532240	88.3975993	93.1177153	90.9481709	125.097886	83.1060895
13C5-Perfluorononanoic acid		92.9035897	89.6257384	83.1882254	91.1526005	125.640415	88.8856718
13C4-Perfluorooctanoic acid		98.7533050	90.8016729	86.5821224	90.1970791	124.769560	87.4776965
13C4-Perfluorooctanesulfonate		103.625548	94.2519294	88.8359476	82.7354861	121.308951	91.4718284
13C5-Perfluoropentanoic acid		N/A*******	N/A*******	N/A*******	N/A*******	119.713803	81.8153443
13C8-Perfluorooctane Sulfonamide		N/A*******	N/A*******	N/A*******	N/A*******	127.853116	84.8445384
18O2-Perfluorohexanesulfonate		90.4038486	98.9841635	91.4490289	85.7293043	134.709157	92.3903242

Worksheet Number: **5393111**

PFOS and PFOA in water by SPE/LCMS - Water

ug/L

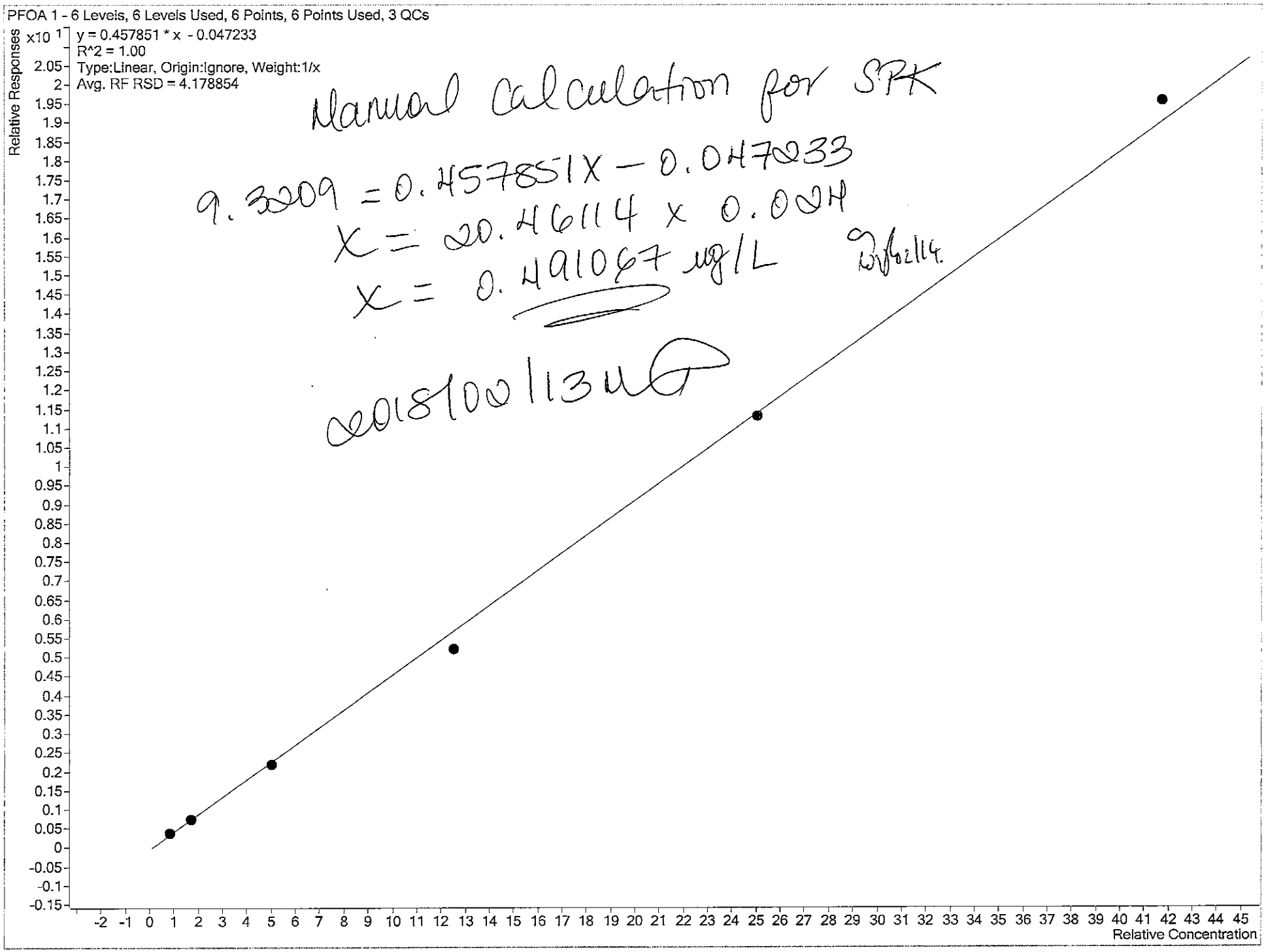
Parameter Name	B823886 GAC651	B824213 GAD929	B824213 GAD930	B824213 GAD931	B824213 GAD932	DL	B824213 GAD933
6:2 Fluorotelomer sulfonate	0	0	0	0	0	0.02	N/A*******
8:2 Fluorotelomer sulfonate	0	0	0	0	0	0.02	N/A*******
N-ethylperfluorooctane sulfonamide	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	0.02	N/A*******
EtFOSAA	N/A*******	0	0	0	0	0.02	0
N-ethylperfluorooctane sulfonamidoe	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	0.02	N/A*******
N-methylperfluorooctane sulfonamide	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	0.02	N/A*******
MeFOSAA	N/A*******	0	0	0	0	0.02	0
N-methylperfluorooctanesulfonamidol	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******	0.02	N/A*******
Perfluorobutanoic acid	0	0	0	0	0	0.02	N/A*******
Perfluorobutane Sulfonate (PFBS)	0	0	0	0	0	0.02	1.54195164
Perfluorodecane Sulfonate	0	0	0	0	0	0.02	N/A*******
Perfluoroheptanoic Acid (PFHpA)	0	0	0	0	0	0.02	1.18944524
Perfluoroheptane sulfonate	N/A*******	0	0	0	0	0.02	N/A*******
Perfluorohexanoic Acid (PFHxA)	0	0	0	0	0	0.02	4.39839741
Perfluorohexane Sulfonate (PFHxS)	0	0	0	0	0	0.02	31.6427107
Perfluorononanoic Acid (PFNA)	0	0	0	0	0	0.02	0
Perfluorooctane Sulfonamide (PFOSA)	0	0	0	0	0	0.02	N/A*******
Perfluoropentanoic Acid (PFPeA)	0	0	0	0	0	0.02	N/A*******
Perfluorotetradecanoic Acid	0	0	0	0	0	0.02	0
Perfluorotridecanoic Acid	0	0	0	0	0	0.02	0
Perfluoroundecanoic Acid (PFUnA)	0	0	0	0	0	0.02	0
Perfluorodecanoic Acid (PFDA)	0	0	0	0	0	0.02	0
Perfluorododecanoic Acid (PFDoA)	0	0	0	0	0	0.02	0
Perfluoro-n-Octanoic Acid (PFOA)	0	0	0	0	0	0.02	5.76491697
Perfluorooctane Sulfonate (PFOS)	0	0	0	0.02278008	0	0.02	240.451900
13C2-6:2 Fluorotelomer sulfonate	104.575378	91.5911860	99.5687772	99.8204014	100.886305		N/A*******
13C2-8:2 Fluorotelomer sulfonate	94.0289644	80.6138466	95.9500274	89.9974499	89.7788706		N/A*******
13C2-perfluorotetradecanoic acid	78.4003134	71.6298248	80.3805289	60.8990572	68.2389077		79.6429256
13C4-Perfluorobutanoic acid	95.5756973	84.5243044	97.2382628	93.5251213	96.3160936		85.6527749
D3-MeFOSAA	N/A*******	73.0012565	74.9642190	66.9518255	77.0005286		70.1518910
D5-EtFOSAA	N/A*******	76.4197875	78.8549114	70.5865209	75.8225004		70.0461846
N-methyl-d3-perfluorooctane sulfona	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******		N/A*******
N-ethyl-d5-perfluorooctane sulfonam	N/A*******	N/A*******	N/A*******	N/A*******	N/A*******		N/A*******
13C2-Perfluorodecanoic acid	85.7828367	84.0615846	82.3983130	82.6575460	82.5763946		79.6908372
13C2-Perfluorododecanoic acid	84.8939026	72.2911348	84.8713935	70.5288286	76.2423837		73.4461017
13C2-Perfluorohexanoic acid	92.9808857	90.3314663	96.8950305	91.0506578	91.9571033		91.0222568
13C2-Perfluoroundecanoic acid	89.9132019	76.3745169	83.0895864	80.2146710	75.7011233		74.1657675
13C4-Perfluoroheptanoic acid	98.7676559	86.5651227	100.601624	95.7180050	86.3839934		85.6275015
13C5-Perfluorononanoic acid	98.2143785	90.5550384	96.6598776	91.3058643	82.7508580		82.1539656
13C4-Perfluorooctanoic acid	96.3986447	88.3889896	99.0135260	90.0033548	86.6597525		88.4435680
13C4-Perfluorooctanesulfonate	94.5377183	90.5494851	103.536361	95.0215201	86.9077260		N/A*******
13C5-Perfluoropentanoic acid	97.0517626	86.3602265	97.1930848	91.2605374	91.8654017		N/A*******
13C8-Perfluorooctane Sulfonamide	88.5105163	85.4631847	95.4302078	82.8952047	93.7823091		N/A*******
18O2-Perfluorohexanesulfonate	98.9561350	93.5581677	109.632889	91.9206618	89.6098577		89.2170716

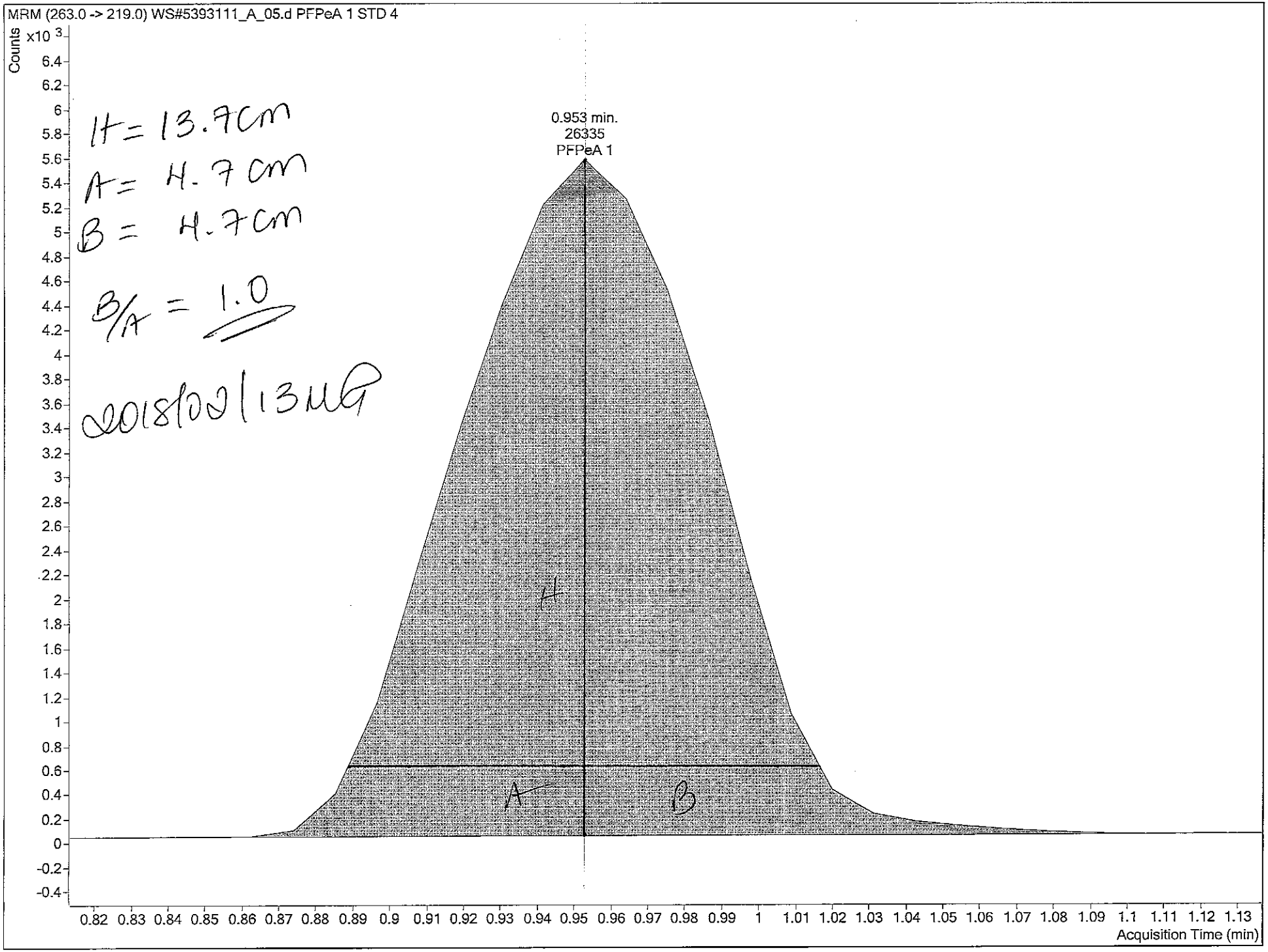
Worksheet Number: **5393111**

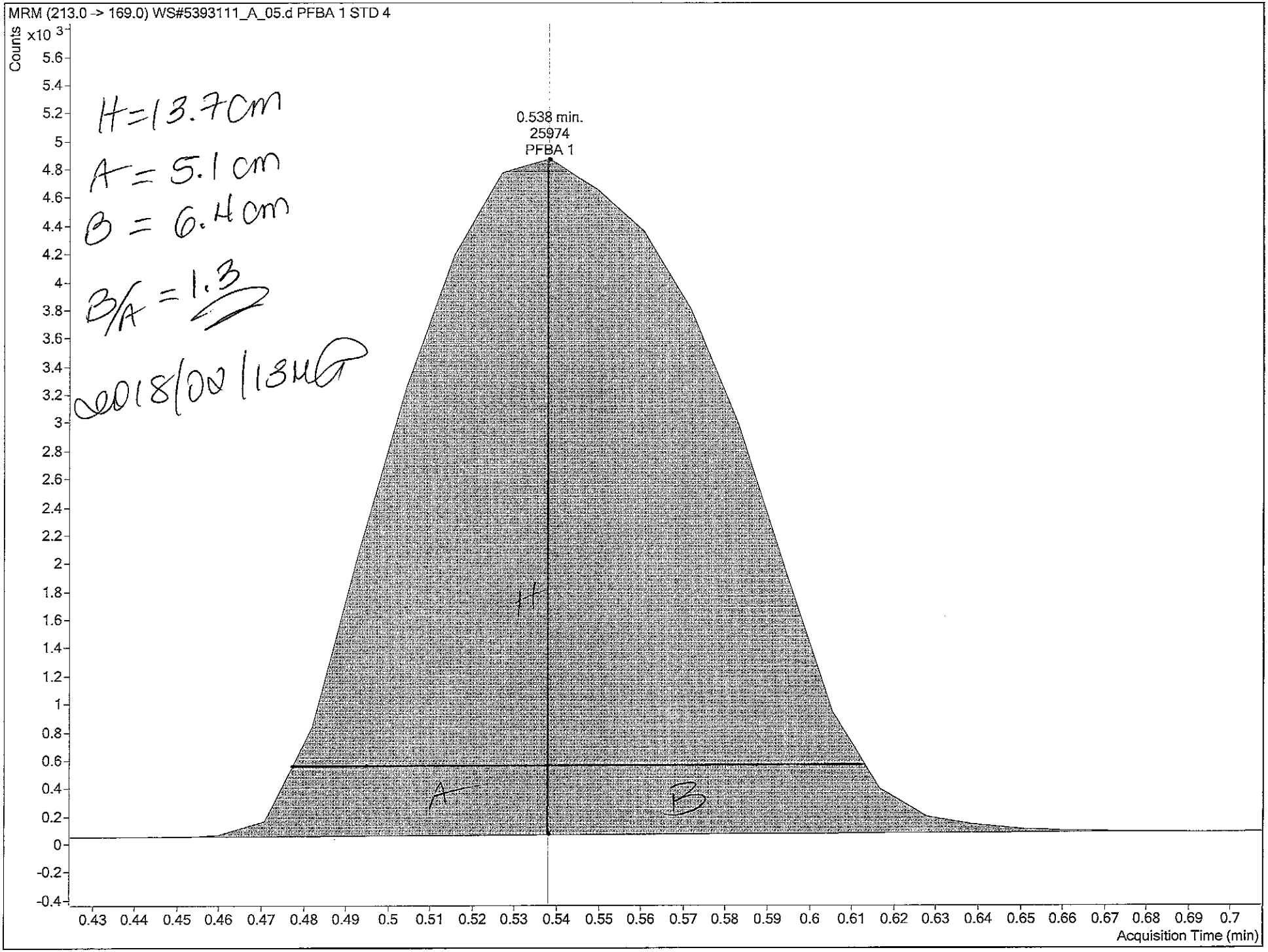
PFOS and PFOA in water by SPE/LCMS - Water

ug/L

Parameter Name	B824213 GAD934	DL	RDL	MDL	IDL		
6:2 Fluorotelomer sulfonate	N/A*******	2	0.02	0.0066	0		
8:2 Fluorotelomer sulfonate	N/A*******	2	0.02	0.0066	0		
N-ethylperfluorooctane sulfonamide	N/A*******	2	0.02	0.01	0		
EtFOSAA	0	2	0.02	0.0033	0		
N-ethylperfluorooctane sulfonamidoe	N/A*******	2	0.02	0.0079	0		
N-methylperfluorooctane sulfonamide	N/A*******	2	0.02	0.013	0		
MeFOSAA	0	2	0.02	0.0029	0		
N-methylperfluorooctanesulfonamidol	N/A*******	2	0.02	0.012	0		
Perfluorobutanoic acid	N/A*******	2	0.02	0.0055	0		
Perfluorobutane Sulfonate (PFBS)	32.1664698	2	0.02	0.0054	0		
Perfluorodecane Sulfonate	N/A*******	2	0.02	0.006	0		
Perfluoroheptanoic Acid (PFHpA)	9.01235455	2	0.02	0.0074	0		
Perfluoroheptane sulfonate	N/A*******	2	0.02	0.008	0		
Perfluorohexanoic Acid (PFHxA)	52.6657501	2	0.02	0.0035	0		
Perfluorohexane Sulfonate (PFHxS)	226.751200	2	0.02	0.0056	0		
Perfluorononanoic Acid (PFNA)	0	2	0.02	0.0087	0		
Perfluorooctane Sulfonamide (PFOSA)	N/A*******	2	0.02	0.0034	0		
Perfluoropentanoic Acid (PFPeA)	N/A*******	2	0.02	0.0075	0		
Perfluorotetradecanoic Acid	0	2	0.02	0.0027	0		
Perfluorotridecanoic Acid	0	2	0.02	0.0038	0		
Perfluoroundecanoic Acid (PFUnA)	0	2	0.02	0.0025	0		
Perfluorodecanoic Acid (PFDA)	0	2	0.02	0.0061	0		
Perfluorododecanoic Acid (PFDoA)	0	2	0.02	0.005	0		
Perfluoro-n-Octanoic Acid (PFOA)	28.8674964	2	0.02	0.0033	0		
Perfluorooctane Sulfonate (PFOS)	1126.27380	2	0.02	0.006	0		
13C2-6:2 Fluorotelomer sulfonate	N/A*******						
13C2-8:2 Fluorotelomer sulfonate	N/A*******						
13C2-perfluorotetradecanoic acid	53.7912963						
13C4-Perfluorobutanoic acid	95.9061312						
D3-MeFOSAA	75.5392952						
D5-EtFOSAA	72.3555102						
N-methyl-d3-perfluorooctane sulfona	N/A*******						
N-ethyl-d5-perfluorooctane sulfonam	N/A*******						
13C2-Perfluorodecanoic acid	86.3161082						
13C2-Perfluorododecanoic acid	78.8717989						
13C2-Perfluorohexanoic acid	93.9266583						
13C2-Perfluoroundecanoic acid	81.6063245						
13C4-Perfluoroheptanoic acid	87.6927476						
13C5-Perfluorononanoic acid	94.2584877						
13C4-Perfluorooctanoic acid	94.1786479						
13C4-Perfluorooctanesulfonate	N/A*******						
13C5-Perfluoropentanoic acid	N/A*******						
13C8-Perfluorooctane Sulfonamide	N/A*******						
18O2-Perfluorohexanesulfonate	N/A*******						


PFOA 1 - 6 Levels, 6 Levels Used, 6 Points, 6 Points Used, 3 QCs
y = 0.457851 * x - 0.047233
R^2 = 1.00
Type:Linear, Origin:Ignore, Weight:1/x
Avg. RF RSD = 4.178854
Relative Responses
x10 1
Relative Concentration
Manual calculation for SPK
9.3209 = 0.457851X − 0.047233
X = 20.46114 x 0.024
X = 0.491067 ng/L
20.46114
20/100 x 113 uL


MRM (263.0 -> 219.0) WS#5393111_A_05.d PFPeA 1 STD 4
Counts
x10 3
0.953 min.
26335
PFPeA 1
H = 13.7cm
A = H.7cm
B = H.7cm
B/A = 1.0
20180212 13MG
H
A
B
Acquisition Time (min)


MRM (213.0 -> 169.0) WS#5393111_A_05.d PFBA 1 STD 4
Counts
x10 3
0.538 min.
25974
PFBA 1
H=13.7cm
A=5.1cm
B=6.4cm
B/A=1.3
2018/02/13HG
H
A
B
Acquisition Time (min)

Report Name: Worksheet - Parameter Lists

Report Date: 2018/02/09

Test Code: **PFOSALCM-W**

Worksheet Number: **5393111**

Sample Number	Parameter Code	Parameter	
FZJ946-01	6:2FTS	6:2 Fluorotelomer sulfonate	*
GAC647-01	8:2FTS	8:2 Fluorotelomer sulfonate	*
GAC649-01	PFBA	Perfluorobutanoic acid	
GAC651-01	PFBS	Perfluorobutane Sulfonate (PFBS)	
	PFDS	Perfluorodecane Sulfonate	
	PFHPA	Perfluoroheptanoic Acid (PFHpA)	
	PFHXA	Perfluorohexanoic Acid (PFHxA)	
	PFHXS	Perfluorohexane Sulfonate (PFHxS)	
	PFNA	Perfluorononanoic Acid (PFNA)	
	PFOSA	Perfluorooctane Sulfonamide (PFOSA)	
	PFPEA	Perfluoropentanoic Acid (PFPeA)	
	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)	
FZT426-01	ETFOSAA	EtFOSAA	*
FZT427-01	MEFOSAA	MeFOSAA	*
FZT428-01	PFBS	Perfluorobutane Sulfonate (PFBS)	
FZT430-01	PFHPA	Perfluoroheptanoic Acid (PFHpA)	
FZT431-01	PFHXA	Perfluorohexanoic Acid (PFHxA)	
GAD933-01	PFHXS	Perfluorohexane Sulfonate (PFHxS)	
GAD934-01	PFNA	Perfluorononanoic Acid	

* - This parameter is usually off, but will be reported for this group of samples!

Report Name: Worksheet - Parameter Lists

Report Date: 2018/02/09

Test Code: **PFOSALCM-W**

Worksheet Number: **5393111**

Sample Number	Parameter Code	Parameter
		(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)
GAD929-01	NONE	NONE
GAD930-01		
GAD931-01		
GAD932-01		

* - This parameter is usually off, but will be reported for this group of samples!

WorkSheet 5393111 Instrument Sequences

1.	5393111:SPIKE	SPIKE
2.	5393111:SPIKE:D1	SPIKE :D1
3.	5393111:BLANK	BLANK
4.	5393111:FZJ946-01	[redacted]
5.	5393111:FZT426-01	[redacted]
6.	5393111:FZT427-01	[redacted]
7.	5393111:FZT428-01	[redacted]
8.	5393111:FZT430-01	[redacted]
9.	5393111:FZT431-01	[redacted]
10.	5393111:GAC647-01	[redacted]
11.	5393111:GAC649-01	[redacted]
12.	5393111:GAC651-01	[redacted]
13.	5393111:GAD929-01	FB-CEF-1820-012618-10
14.	5393111:GAD930-01	EB-CEF-1820-012618-14
15.	5393111:GAD931-01	EB-CEF-1820-012618-15
16.	5393111:GAD932-01	EB-CEF-1820-012618-16
17.	5393111:GAD933-01	CEF-860-TW01-0118
18.	5393111:GAD934-01	CEF-1820-TW01-0118

Worklist Report

Agilent Technologies

Instrument Name: LCMS04 **Worklist Path:** D:\MassHunter\Worklists\PFCs\PFC_180212_Low.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\20180212\WS#5393111
Pre-Worklist Script: ---
Post-Worklist Script: SCP_InstrumentStandby(){MH_Acq_Scripts.exe}
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: Column #198
MP A1: Solution# 280 (FSRE18)
MP B1: Methanol lot# SHBJ5451, Sigma

cc 2018/02/12

Plate Barcode:

Plate	Barcode
P2	

Worklist Table

	Sample Name	Sample Position	Method	Data File	Sample Type	Level Name	Inj Vol (µl)	Comment
1	Solvent	P2-A1	PFC_Water_Low.m	WS#5393111_01.d	Sample		As Method	-
2	STD 1	P2-A2	PFC_Water_Low.m	WS#5393111_02.d	Calibration	STD 1	As Method	-
3	STD 2	P2-A3	PFC_Water_Low.m	WS#5393111_03.d	Calibration	STD 2	As Method	-
4	STD 3	P2-A4	PFC_Water_Low.m	WS#5393111_04.d	Calibration	STD 3	As Method	-
5	STD 4	P2-A5	PFC_Water_Low.m	WS#5393111_05.d	Calibration	STD 4	As Method	-
6	STD 5	P2-A6	PFC_Water_Low.m	WS#5393111_06.d	Calibration	STD 5	As Method	-
7	STD 6	P2-A7	PFC_Water_Low.m	WS#5393111_07.d	Calibration	STD 6	As Method	-

291 of 654

Worklist Report

Agilent Technologies

	Sample Name	Sample Position	Method	Data File	Sample Type	Level Name	Inj Vol (µl)	Comment
8	IB	P2-A8	PFC_Water_Low.m	WS#5393111_08.d	Sample		As Method	-
9	ICV	P2-A9	PFC_Water_Low.m	WS#5393111_09.d	QC	ICV	As Method	-
10	ISC	P2-A2	PFC_Water_Low.m	WS#5393111_10.d	ConCal	STD 1	As Method	-
11	5393111:BLANK	P2-B1	PFC_Water_Low.m	WS#5393111_11.d	Sample		As Method	-
12	5393111:SPIKE	P2-B2	PFC_Water_Low.m	WS#5393111_12.d	QC	ICV	As Method	-
13	5393111:SPIKE:D1	P2-B3	PFC_Water_Low.m	WS#5393111_13.d	QC	ICV	As Method	-
14	5393111:FZJ946-01	P2-B4	PFC_Water_Low.m	WS#5393111_14.d	Sample		As Method	-
15	5393111:FZT426-01:10x	P2-B5	PFC_Water_Low.m	WS#5393111_15.d	Sample		As Method	-
16	IB	P2-A8	PFC_Water_Low.m	WS#5393111_16.d	Sample		As Method	-
17	5393111:FZT427-01	P2-B6	PFC_Water_Low.m	WS#5393111_17.d	Sample		As Method	-
18	5393111:FZT428-01	P2-B7	PFC_Water_Low.m	WS#5393111_18.d	Sample		As Method	-
19	5393111:FZT430-01	P2-B8	PFC_Water_Low.m	WS#5393111_19.d	Sample		As Method	-
20	5393111:FZT431-01	P2-B9	PFC_Water_Low.m	WS#5393111_20.d	Sample		As Method	-
21	5393111:GAC647-01	P2-C1	PFC_Water_Low.m	WS#5393111_21.d	Sample		As Method	-
22	5393111:GAC649-01	P2-C2	PFC_Water_Low.m	WS#5393111_22.d	Sample		As Method	-
23	5393111:GAC651-01	P2-C3	PFC_Water_Low.m	WS#5393111_23.d	Sample		As Method	-
24	5393111:GAD929-01	P2-C4	PFC_Water_Low.m	WS#5393111_24.d	Sample		As Method	-
25	CCV	P2-A5	PFC_Water_Low.m	WS#5393111_25.d	ConCal	STD 4	As Method	-
26	5393111:GAD930-01	P2-C5	PFC_Water_Low.m	WS#5393111_26.d	Sample		As Method	-
27	5393111:GAD931-01	P2-C6	PFC_Water_Low.m	WS#5393111_27.d	Sample		As Method	-
28	5393111:GAD932-01	P2-C7	PFC_Water_Low.m	WS#5393111_28.d	Sample		As Method	-
29	5393111:GAD933-01:100x	P2-C8	PFC_Water_Low.m	WS#5393111_29.d	Sample		As Method	-
30	IB	P2-A8	PFC_Water_Low.m	WS#5393111_30.d	Sample		As Method	-

Maxxam Analytics

292 of 654

	Sample Name	Sample Position	Method	Data File	Sample Type	Level Name	Inj Vol (µl)	Comment
31	5393111:GAD934-01:100x	P2-C9	PFC_Water_Low.m	WS#5393111_31.d	Sample		As Method	-
32	IB	P2-A8	PFC_Water_Low.m	WS#5393111_32.d	Sample		As Method	-
33	CCV	P2-A5	PFC_Water_Low.m	WS#5393111_33.d	ConCal	STD 4	As Method	-

Maxxam Analytics

Worklist Report

Agilent Technologies

Instrument Name: LCMS04 **Worklist Path:** D:\MassHunter\Worklists\PFCs\PFC_180212_Low_FOSAA.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\20180212\WS#5393111_FOSAA
Pre-Worklist Script: ---
Post-Worklist Script: SCP_InstrumentStandby(){MH_Acq_Scripts.exe}
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: Column #198
MP A1: Solution# 280 (FSRE18)
MP B2: Solution# 272 (FSRE18)

cc 2018/02/12

Plate Barcode:

Plate	Barcode
P2	

Worklist Table

	Sample Name	Sample Position	Method	Data File	Sample Type	Level Name	Inj Vol (µl)	Comment
1	Solvent	P2-A1	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_01.d	Sample		As Method	-
2	STD 1	P2-A2	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_02.d	Calibration	STD 1	As Method	-
3	STD 2	P2-A3	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_03.d	Calibration	STD 2	As Method	-
4	STD 3	P2-A4	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_04.d	Calibration	STD 3	As Method	-
5	STD 4	P2-A5	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_05.d	Calibration	STD 4	As Method	-
6	STD 5	P2-A6	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_06.d	Calibration	STD 5	As Method	-
7	STD 6	P2-A7	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_07.d	Calibration	STD 6	As Method	-
8	IB	P2-A8	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_08.d	Sample		As Method	-

294 of 654

Worklist Report

Agilent Technologies

	Sample Name	Sample Position	Method	Data File	Sample Type	Level Name	Inj Vol (µl)	Comment
9	ICV	P2-A9	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_09.d	QC	ICV	As Method	-
10	ISC	P2-A2	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_10.d	ConCal	STD 1	As Method	-
11	5393111:BLANK	P2-B1	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_11.d	Sample		As Method	-
12	5393111:SPIKE	P2-B2	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_12.d	QC	ICV	As Method	-
13	5393111:SPIKE:D1	P2-B3	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_13.d	QC	ICV	As Method	-
14	5393111:FZJ946-01	P2-B4	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_14.d	Sample		As Method	-
15	5393111:FZT426-01:10x	P2-B5	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_15.d	Sample		As Method	-
16	IB	P2-A8	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_16.d	Sample		As Method	-
17	5393111:FZT427-01	P2-B6	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_17.d	Sample		As Method	-
18	5393111:FZT428-01	P2-B7	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_18.d	Sample		As Method	-
19	5393111:FZT430-01	P2-B8	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_19.d	Sample		As Method	-
20	5393111:FZT431-01	P2-B9	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_20.d	Sample		As Method	-
21	5393111:GAC647-01	P2-C1	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_21.d	Sample		As Method	-
22	5393111:GAC649-01	P2-C2	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_22.d	Sample		As Method	-
23	5393111:GAC651-01	P2-C3	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_23.d	Sample		As Method	-
24	5393111:GAD929-01	P2-C4	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_24.d	Sample		As Method	-
25	CCV	P2-A5	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_25.d	ConCal	STD 4	As Method	-
26	5393111:GAD930-01	P2-C5	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_26.d	Sample		As Method	-
27	5393111:GAD931-01	P2-C6	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_27.d	Sample		As Method	-
28	5393111:GAD932-01	P2-C7	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_28.d	Sample		As Method	-
29	5393111:GAD933-01:100x	P2-C8	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_29.d	Sample		As Method	-
30	IB	P2-A8	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_30.d	Sample		As Method	-
31	5393111:GAD934-01:100x	P2-C9	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_31.d	Sample		As Method	-
32	IB	P2-A8	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_32.d	Sample		As Method	-
33	CCV	P2-A5	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_33.d	ConCal	STD 4	As Method	-

Maxxam Analytics

295 of 854

FINAL INJECTION SEQUENCE

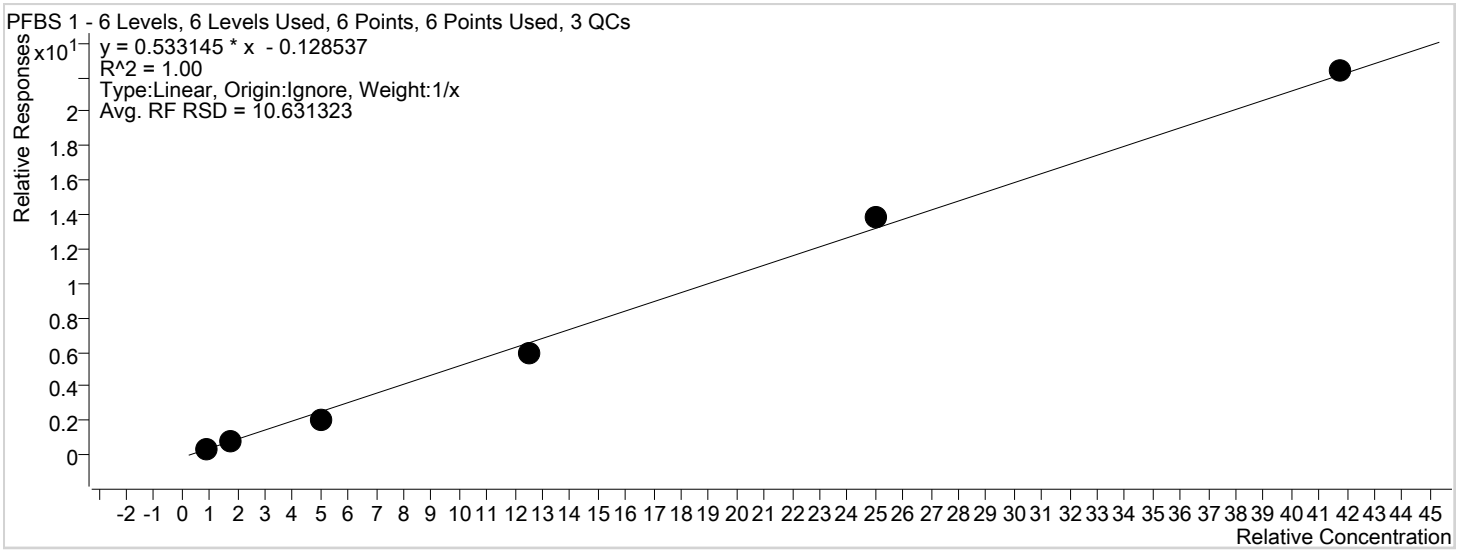
Sample					
Name	Comment	Acq. Date-Time	Acq. Method File	Data File	Pos.
STD 1	-	2018/02/13 1:11 PM	PFC_Water_Low.m	WS#5393111_A_02.d	P2-A2
STD 2	-	2018/02/13 1:16 PM	PFC_Water_Low.m	WS#5393111_A_03.d	P2-A3
STD 3	-	2018/02/13 1:21 PM	PFC_Water_Low.m	WS#5393111_A_04.d	P2-A4
STD 4	-	2018/02/13 1:26 PM	PFC_Water_Low.m	WS#5393111_A_05.d	P2-A5
STD 5	-	2018/02/13 1:31 PM	PFC_Water_Low.m	WS#5393111_A_06.d	P2-A6
STD 6	-	2018/02/13 1:36 PM	PFC_Water_Low.m	WS#5393111_A_07.d	P2-A7
IB	-	2018/02/13 1:41 PM	PFC_Water_Low.m	WS#5393111_A_08.d	P2-A8
ICV	-	2018/02/13 1:45 PM	PFC_Water_Low.m	WS#5393111_A_09.d	P2-A9
ISC	-	2018/02/13 1:50 PM	PFC_Water_Low.m	WS#5393111_A_10.d	P2-A2
5393111:BLANK	-	2018/02/13 1:55 PM	PFC_Water_Low.m	WS#5393111_A_11.d	P2-B1
5393111:SPIKE	-	2018/02/13 2:00 PM	PFC_Water_Low.m	WS#5393111_A_12.d	P2-B2
5393111:SPIKE:D1	-	2018/02/13 2:05 PM	PFC_Water_Low.m	WS#5393111_A_13.d	P2-B3
5393111:FZJ946-01	-	2018/02/13 2:10 PM	PFC_Water_Low.m	WS#5393111_A_14.d	P2-B4
5393111:FZT426-01:10x	-	2018/02/13 2:15 PM	PFC_Water_Low.m	WS#5393111_A_15.d	P2-B5
IB	-	2018/02/13 2:20 PM	PFC_Water_Low.m	WS#5393111_A_16.d	P2-A8
5393111:FZT427-01	-	2018/02/13 2:25 PM	PFC_Water_Low.m	WS#5393111_A_17.d	P2-B6
5393111:FZT428-01	-	2018/02/13 2:30 PM	PFC_Water_Low.m	WS#5393111_A_18.d	P2-B7
5393111:FZT430-01	-	2018/02/13 2:35 PM	PFC_Water_Low.m	WS#5393111_A_19.d	P2-B8
5393111:FZT431-01	-	2018/02/13 2:40 PM	PFC_Water_Low.m	WS#5393111_A_20.d	P2-B9
5393111:GAC647-01	-	2018/02/13 2:45 PM	PFC_Water_Low.m	WS#5393111_A_21.d	P2-C1
5393111:GAC649-01	-	2018/02/13 2:50 PM	PFC_Water_Low.m	WS#5393111_A_22.d	P2-C2
5393111:GAC651-01	-	2018/02/13 2:55 PM	PFC_Water_Low.m	WS#5393111_A_23.d	P2-C3
5393111:GAD929-01	-	2018/02/13 2:59 PM	PFC_Water_Low.m	WS#5393111_A_24.d	P2-C4
CCV	-	2018/02/13 3:04 PM	PFC_Water_Low.m	WS#5393111_A_25.d	P2-A5
5393111:GAD930-01	-	2018/02/13 3:09 PM	PFC_Water_Low.m	WS#5393111_A_26.d	P2-C5
5393111:GAD931-01	-	2018/02/13 3:14 PM	PFC_Water_Low.m	WS#5393111_A_27.d	P2-C6
5393111:GAD932-01	-	2018/02/13 3:19 PM	PFC_Water_Low.m	WS#5393111_A_28.d	P2-C7
5393111:GAD933-01:100x	Reported for all except PFOS.	2018/02/13 3:24 PM	PFC_Water_Low.m	WS#5393111_A_29.d	P2-C8
IB	-	2018/02/13 3:29 PM	PFC_Water_Low.m	WS#5393111_A_30.d	P2-A8
5393111:GAD934-01:100x	Reported for all except PFHxS, PFOS.	2018/02/13 3:34 PM	PFC_Water_Low.m	WS#5393111_A_31.d	P2-C9
IB	-	2018/02/13 3:39 PM	PFC_Water_Low.m	WS#5393111_A_32.d	P2-A8
CCV	-	2018/02/13 3:44 PM	PFC_Water_Low.m	WS#5393111_A_33.d	P2-A5

FINAL INJECTION SEQUENCE

Sample					
Name	Comment	Acq. Date-Time	Acq. Method File	Data File	Pos.
STD 1	-	2018/02/13 11:29 AM	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_A_02.d	P2-A2
STD 2	-	2018/02/13 11:31 AM	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_A_03.d	P2-A3
STD 3	-	2018/02/13 11:34 AM	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_A_04.d	P2-A4
STD 4	-	2018/02/13 11:36 AM	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_A_05.d	P2-A5
STD 5	-	2018/02/13 11:39 AM	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_A_06.d	P2-A6
STD 6	-	2018/02/13 11:41 AM	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_A_07.d	P2-A7
IB	-	2018/02/13 11:43 AM	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_A_08.d	P2-A8
ICV	-	2018/02/13 11:46 AM	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_A_09.d	P2-A9
ISC	-	2018/02/13 11:48 AM	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_A_10.d	P2-A2
5393111:BLANK	-	2018/02/13 11:51 AM	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_A_11.d	P2-B1
5393111:SPIKE	-	2018/02/13 11:53 AM	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_A_12.d	P2-B2
5393111:SPIKE:D1	-	2018/02/13 11:56 AM	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_A_13.d	P2-B3
5393111:FZJ946-01	-	2018/02/13 11:58 AM	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_A_14.d	P2-B4
5393111:FZT426-01:10x	-	2018/02/13 12:00 PM	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_A_15.d	P2-B5
IB	-	2018/02/13 12:03 PM	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_A_16.d	P2-A8
5393111:FZT427-01	-	2018/02/13 12:05 PM	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_A_17.d	P2-B6
5393111:FZT428-01	-	2018/02/13 12:08 PM	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_A_18.d	P2-B7
5393111:FZT430-01	-	2018/02/13 12:10 PM	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_A_19.d	P2-B8
5393111:FZT431-01	-	2018/02/13 12:12 PM	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_A_20.d	P2-B9
5393111:GAC647-01	-	2018/02/13 12:15 PM	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_A_21.d	P2-C1
5393111:GAC649-01	-	2018/02/13 12:17 PM	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_A_22.d	P2-C2
5393111:GAC651-01	-	2018/02/13 12:20 PM	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_A_23.d	P2-C3
5393111:GAD929-01	-	2018/02/13 12:22 PM	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_A_24.d	P2-C4
CCV	-	2018/02/13 12:24 PM	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_A_25.d	P2-A5
5393111:GAD930-01	-	2018/02/13 12:27 PM	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_A_26.d	P2-C5
5393111:GAD931-01	-	2018/02/13 12:29 PM	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_A_27.d	P2-C6
5393111:GAD932-01	-	2018/02/13 12:32 PM	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_A_28.d	P2-C7
5393111:GAD933-01:100x	-	2018/02/13 12:34 PM	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_A_29.d	P2-C8
IB	-	2018/02/13 12:37 PM	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_A_30.d	P2-A8
5393111:GAD934-01:100x	-	2018/02/13 12:39 PM	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_A_31.d	P2-C9
IB	-	2018/02/13 12:41 PM	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_A_32.d	P2-A8
CCV	-	2018/02/13 12:44 PM	PFC_Water_Low_FOSAA.m	WS#5393111_FOSAA_A_33.d	P2-A5

Batch Path T:\lcms4\PFC\20180212\WS#5393111_A\QuantResults\PFC_Water_Low_180213_WS#5393111_EToxics.batch.bin
Last Calib Update 2018/02/26 2:51:40 PM
Instrument: LCMS04

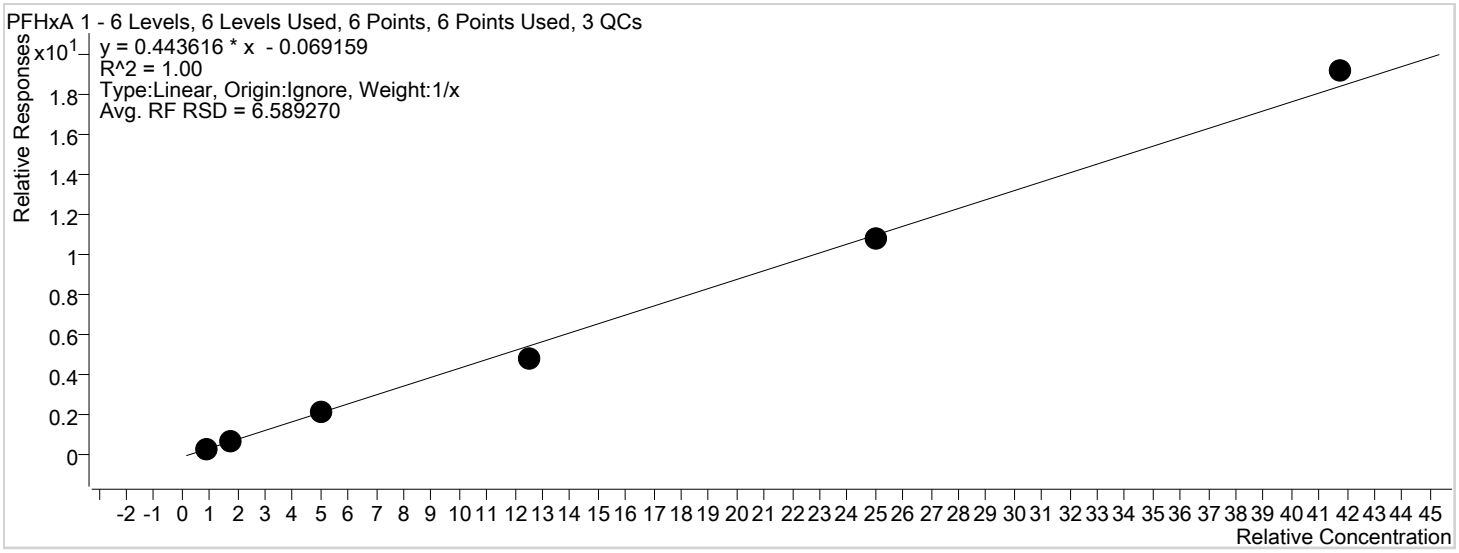
Analyte: PFBS 1
Internal Standard: MPFHxS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 1:11:26 PM	0.83	0.95	645	0.4526	61	113.9
STD 2	STD 2	x	2018/02/13 1:16:22 PM	1.70	1.80	1309	0.4886	100	105.8
STD 3	STD 3	x	2018/02/13 1:21:18 PM	5.00	4.12	3744	0.4132	130	82.3
STD 4	STD 4	x	2018/02/13 1:26:14 PM	12.50	11.51	9973	0.4806	541	92.1
STD 5	STD 5	x	2018/02/13 1:31:10 PM	25.00	26.15	19908	0.5526	1003	104.6
STD 6	STD 6	x	2018/02/13 1:36:06 PM	41.70	42.20	32955	0.5365	864	101.2

Batch Path T:\lcms4\PFC\20180212\WS#5393111_A\QuantResults\PFC_Water_Low_180213_WS#5393111_EToxics.batch.bin
Last Calib Update 2018/02/26 2:51:40 PM
Instrument: LCMS04

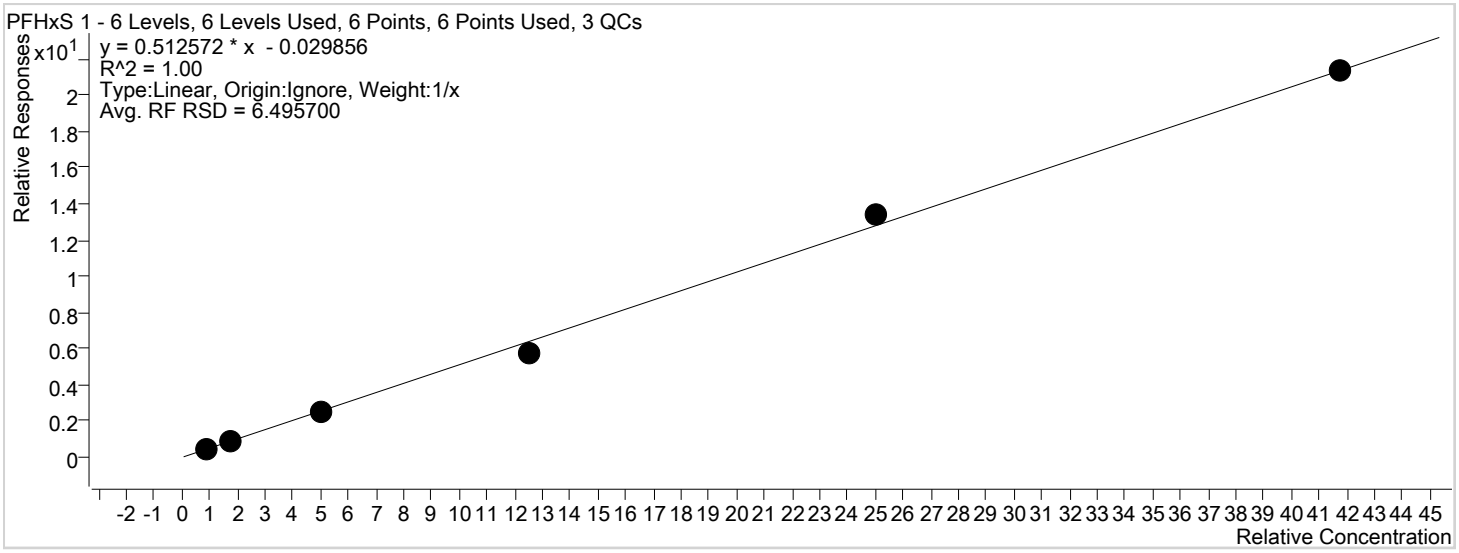
Analyte: PFHxA 1
Internal Standard: MPFHxA



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 1:11:26 PM	0.83	0.93	2199	0.4145	48	112.2
STD 2	STD 2	x	2018/02/13 1:16:22 PM	1.70	1.65	4661	0.3900	94	97.1
STD 3	STD 3	x	2018/02/13 1:21:18 PM	5.00	4.96	13895	0.4262	417	99.2
STD 4	STD 4	x	2018/02/13 1:26:14 PM	12.50	11.11	33716	0.3887	718	88.9
STD 5	STD 5	x	2018/02/13 1:31:10 PM	25.00	24.59	70129	0.4336	1292	98.4
STD 6	STD 6	x	2018/02/13 1:36:06 PM	41.70	43.49	121135	0.4610	2059	104.3

Batch Path T:\lcms4\PFC\20180212\WS#5393111_A\QuantResults\PFC_Water_Low_180213_WS#5393111_EToxics.batch.bin
Last Calib Update 2018/02/26 2:51:40 PM
Instrument: LCMS04

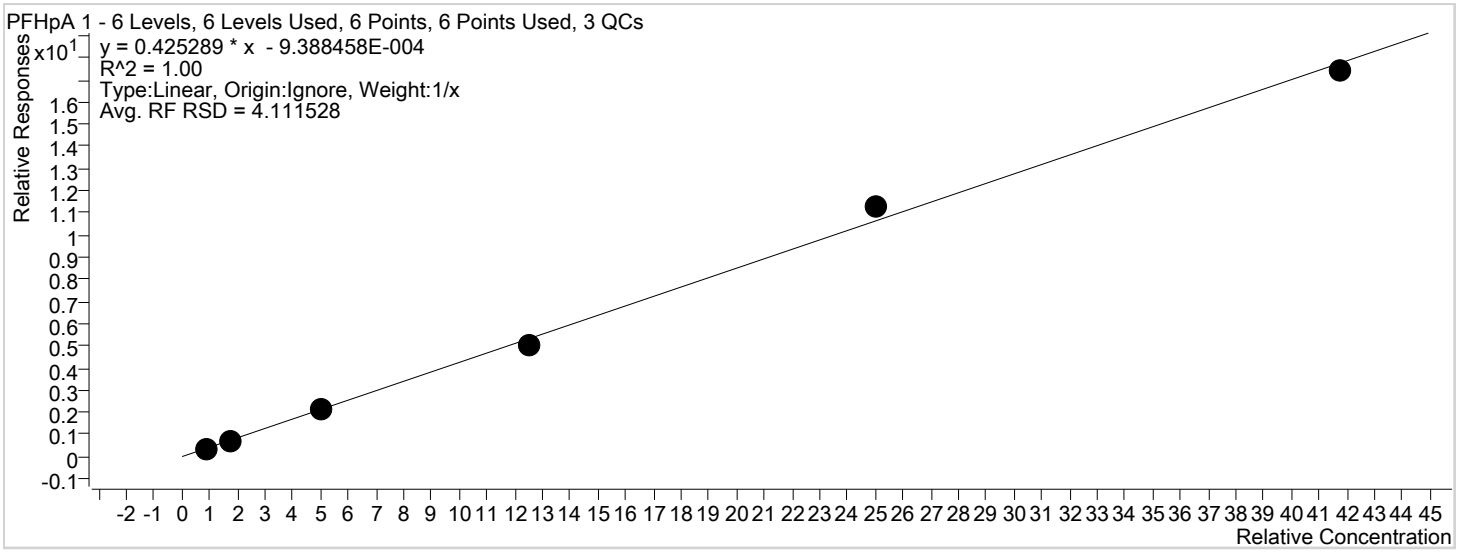
Analyte: PFHxS 1
Internal Standard: MPFHxS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 1:11:26 PM	0.83	0.93	765	0.5368	80	111.7
STD 2	STD 2	x	2018/02/13 1:16:22 PM	1.70	1.62	1264	0.4718	239	95.5
STD 3	STD 3	x	2018/02/13 1:21:18 PM	5.00	4.86	4457	0.4919	512	97.1
STD 4	STD 4	x	2018/02/13 1:26:14 PM	12.50	11.30	9564	0.4609	1226	90.4
STD 5	STD 5	x	2018/02/13 1:31:10 PM	25.00	26.30	19383	0.5380	1224	105.2
STD 6	STD 6	x	2018/02/13 1:36:06 PM	41.70	41.72	31458	0.5121	524	100.1

Batch Path T:\lcms4\PFC\20180212\WS#5393111_A\QuantResults\PFC_Water_Low_180213_WS#5393111_EToxics.batch.bin
Last Calib Update 2018/02/26 2:51:40 PM
Instrument: LCMS04

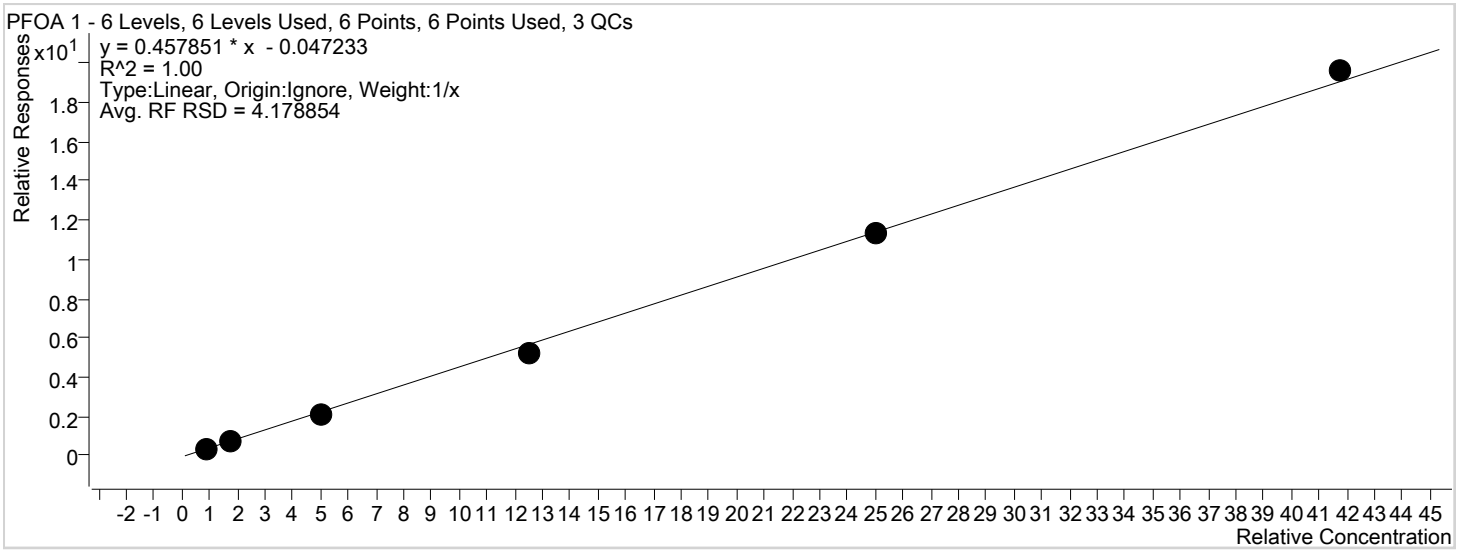
Analyte: PFHpA 1
Internal Standard: MPFHpA



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 1:11:26 PM	0.83	0.83	2910	0.4251	27	100.2
STD 2	STD 2	x	2018/02/13 1:16:22 PM	1.70	1.72	6372	0.4290	57	101.0
STD 3	STD 3	x	2018/02/13 1:21:18 PM	5.00	5.05	18779	0.4297	142	101.1
STD 4	STD 4	x	2018/02/13 1:26:14 PM	12.50	11.69	44837	0.3975	186	93.5
STD 5	STD 5	x	2018/02/13 1:31:10 PM	25.00	26.51	88396	0.4510	227	106.1
STD 6	STD 6	x	2018/02/13 1:36:06 PM	41.70	40.93	140439	0.4174	246	98.1

Batch Path T:\lcms4\PFC\20180212\WS#5393111_A\QuantResults\PFC_Water_Low_180213_WS#5393111_EToxics.batch.bin
Last Calib Update 2018/02/26 2:51:40 PM
Instrument: LCMS04

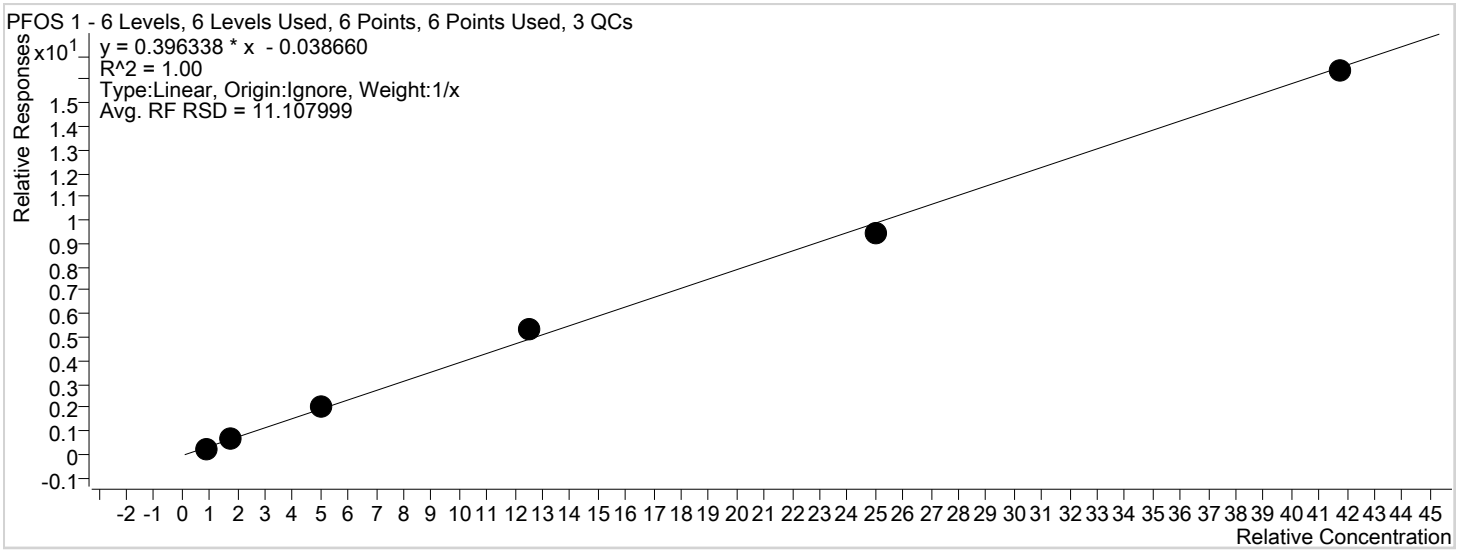
Analyte: PFOA 1
Internal Standard: MPFOA



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 1:11:26 PM	0.83	0.89	3151	0.4340	29	107.2
STD 2	STD 2	x	2018/02/13 1:16:22 PM	1.70	1.73	6828	0.4382	48	101.8
STD 3	STD 3	x	2018/02/13 1:21:18 PM	5.00	4.84	20184	0.4336	215	96.8
STD 4	STD 4	x	2018/02/13 1:26:14 PM	12.50	11.49	49745	0.4170	439	91.9
STD 5	STD 5	x	2018/02/13 1:31:10 PM	25.00	24.84	97428	0.4529	935	99.3
STD 6	STD 6	x	2018/02/13 1:36:06 PM	41.70	42.95	164903	0.4704	1266	103.0

Batch Path T:\lcms4\PFC\20180212\WS#5393111_A\QuantResults\PFC_Water_Low_180213_WS#5393111_EToxics.batch.bin
Last Calib Update 2018/02/26 2:51:40 PM
Instrument: LCMS04

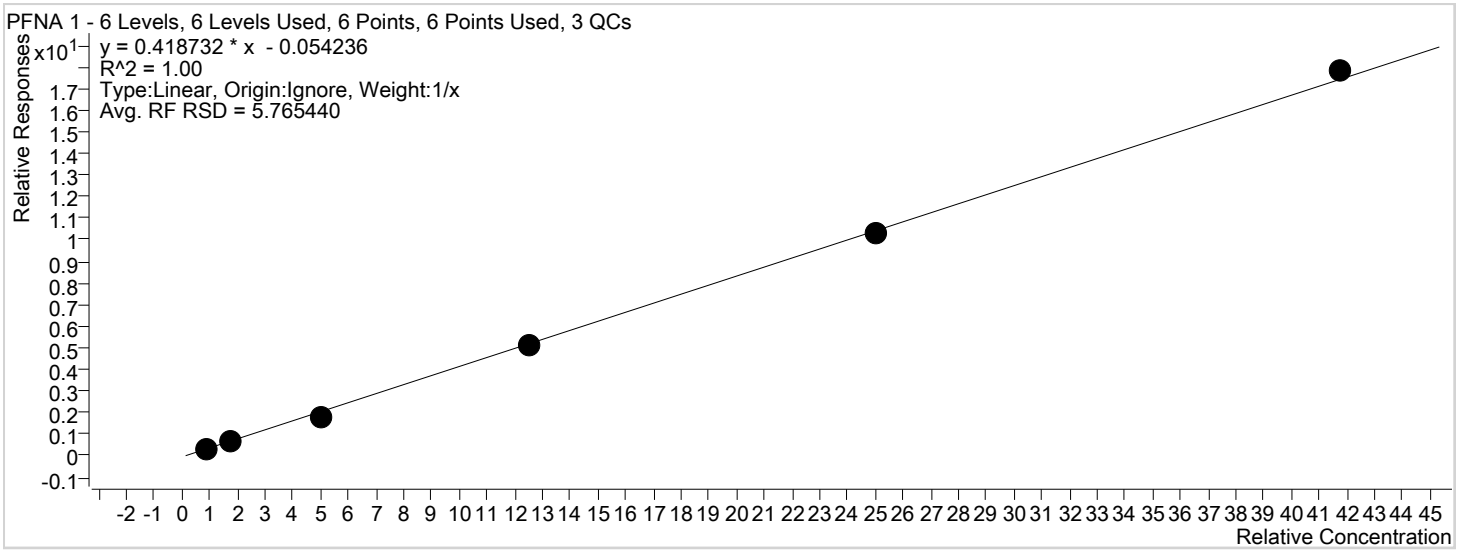
Analyte: PFOS 1
Internal Standard: MPFOS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 1:11:26 PM	0.83	0.74	495	0.3047	69	88.6
STD 2	STD 2	x	2018/02/13 1:16:22 PM	1.70	1.74	1317	0.3818	103	102.1
STD 3	STD 3	x	2018/02/13 1:21:18 PM	5.00	5.25	3935	0.4082	138	104.9
STD 4	STD 4	x	2018/02/13 1:26:14 PM	12.50	13.64	9992	0.4295	161	109.2
STD 5	STD 5	x	2018/02/13 1:31:10 PM	25.00	23.99	19043	0.3788	137	96.0
STD 6	STD 6	x	2018/02/13 1:36:06 PM	41.70	41.38	32051	0.3923	179	99.2

Batch Path T:\lcms4\PFC\20180212\WS#5393111_A\QuantResults\PFC_Water_Low_180213_WS#5393111_EToxics.batch.bin
Last Calib Update 2018/02/26 2:51:40 PM
Instrument: LCMS04

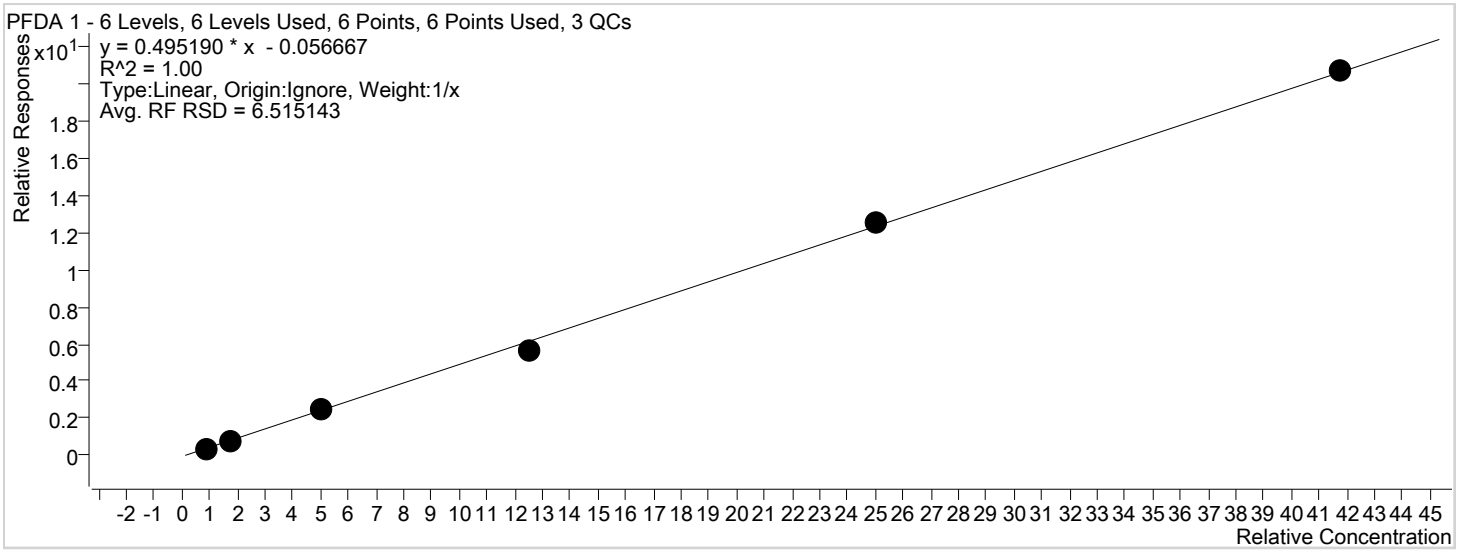
Analyte: PFNA 1
Internal Standard: MPFNA



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 1:11:26 PM	0.83	0.90	2710	0.3866	45	107.9
STD 2	STD 2	x	2018/02/13 1:16:22 PM	1.70	1.77	6137	0.4035	105	104.0
STD 3	STD 3	x	2018/02/13 1:21:18 PM	5.00	4.44	17071	0.3607	350	88.7
STD 4	STD 4	x	2018/02/13 1:26:14 PM	12.50	12.30	42617	0.4077	1235	98.4
STD 5	STD 5	x	2018/02/13 1:31:10 PM	25.00	24.64	85811	0.4105	1734	98.6
STD 6	STD 6	x	2018/02/13 1:36:06 PM	41.70	42.69	147522	0.4274	4300	102.4

Batch Path T:\lcms4\PFC\20180212\WS#5393111_A\QuantResults\PFC_Water_Low_180213_WS#5393111_EToxics.batch.bin
Last Calib Update 2018/02/26 2:51:40 PM
Instrument: LCMS04

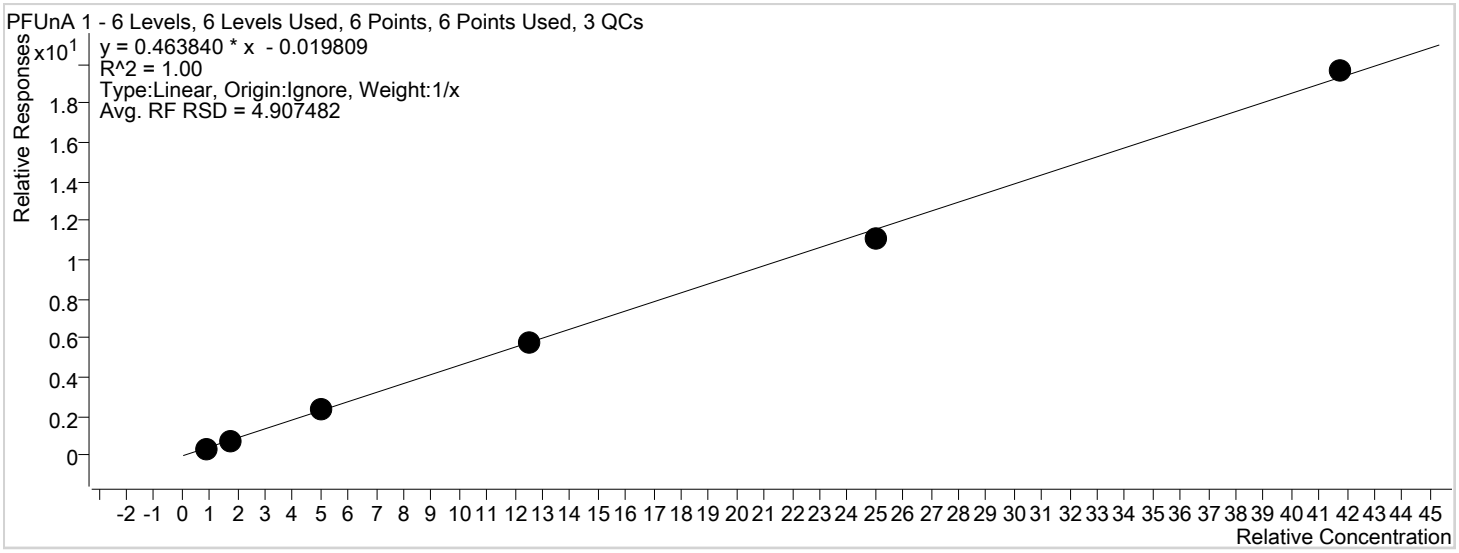
Analyte: PFDA 1
Internal Standard: MPFDA



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 1:11:26 PM	0.83	0.83	2544	0.4288	20	100.4
STD 2	STD 2	x	2018/02/13 1:16:22 PM	1.70	1.71	6095	0.4660	76	100.8
STD 3	STD 3	x	2018/02/13 1:21:18 PM	5.00	5.19	18530	0.5028	193	103.8
STD 4	STD 4	x	2018/02/13 1:26:14 PM	12.50	11.53	46555	0.4523	387	92.2
STD 5	STD 5	x	2018/02/13 1:31:10 PM	25.00	25.55	91770	0.5038	889	102.2
STD 6	STD 6	x	2018/02/13 1:36:06 PM	41.70	41.91	156573	0.4963	1026	100.5

Batch Path T:\lcms4\PFC\20180212\WS#5393111_A\QuantResults\PFC_Water_Low_180213_WS#5393111_EToxics.batch.bin
Last Calib Update 2018/02/26 2:51:40 PM
Instrument: LCMS04

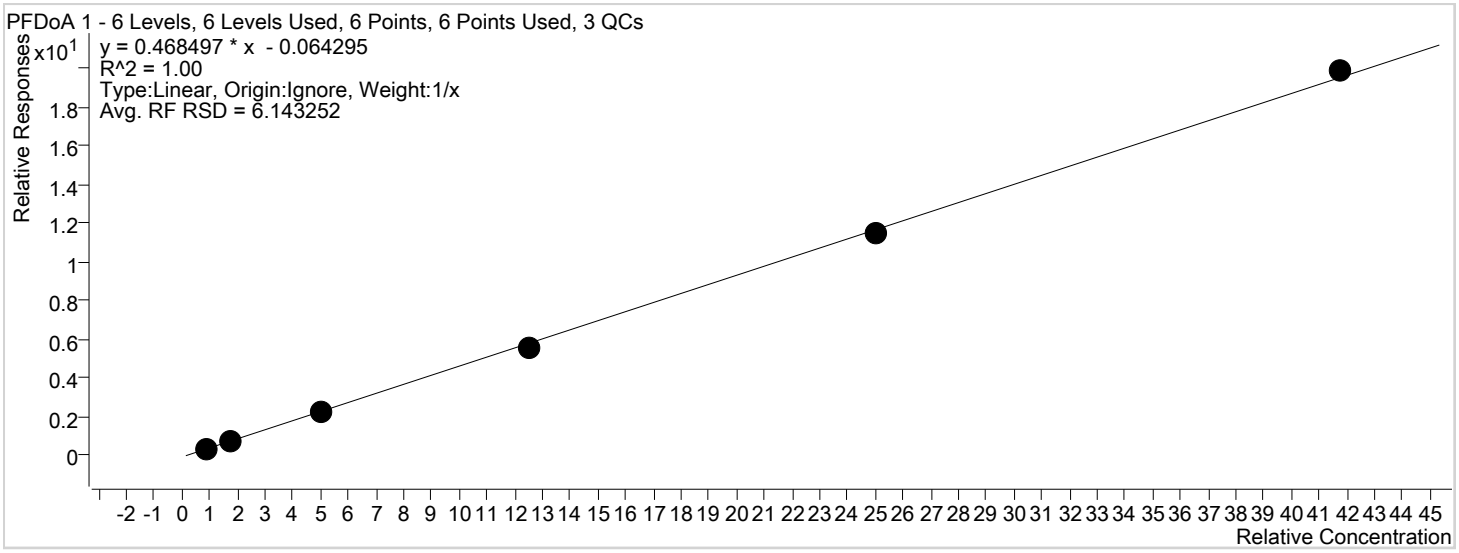
Analyte: PFUnA 1
Internal Standard: MPFUnA



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 1:11:26 PM	0.83	0.79	2954	0.4197	23	95.6
STD 2	STD 2	x	2018/02/13 1:16:22 PM	1.70	1.72	6714	0.4586	46	101.4
STD 3	STD 3	x	2018/02/13 1:21:18 PM	5.00	5.22	20287	0.4804	131	104.4
STD 4	STD 4	x	2018/02/13 1:26:14 PM	12.50	12.66	52123	0.4681	231	101.3
STD 5	STD 5	x	2018/02/13 1:31:10 PM	25.00	23.86	100268	0.4419	206	95.4
STD 6	STD 6	x	2018/02/13 1:36:06 PM	41.70	42.47	170577	0.4720	303	101.9

Batch Path T:\lcms4\PFC\20180212\WS#5393111_A\QuantResults\PFC_Water_Low_180213_WS#5393111_EToxics.batch.bin
Last Calib Update 2018/02/26 2:51:40 PM
Instrument: LCMS04

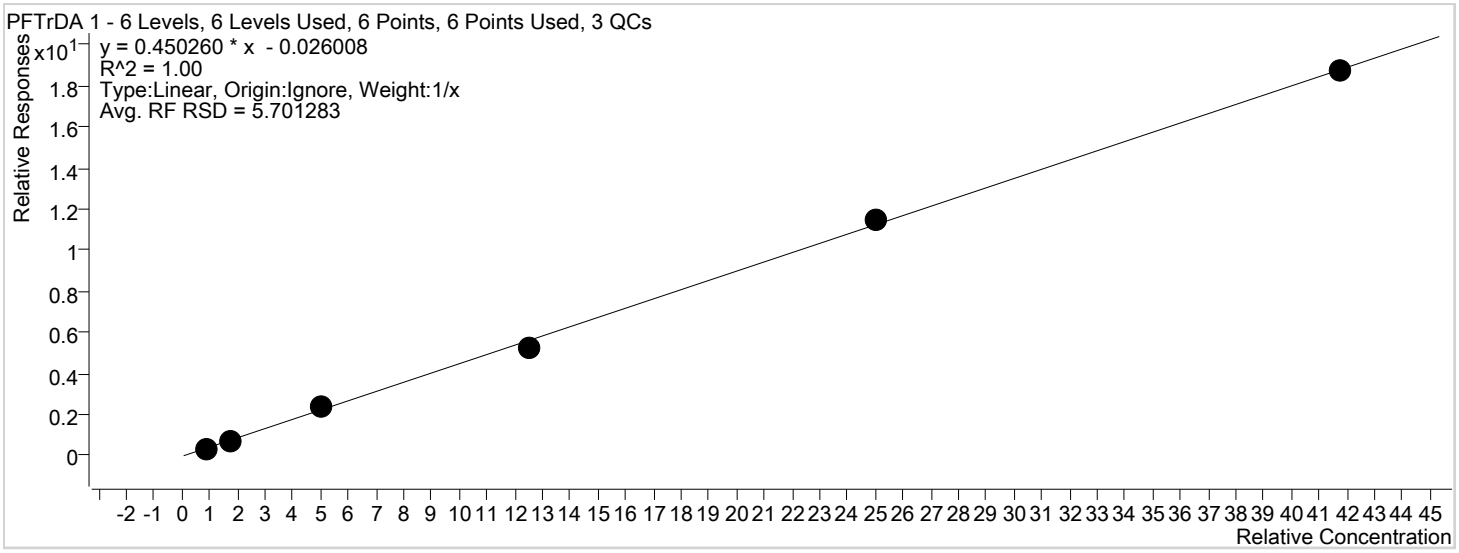
Analyte: PFDoA 1
Internal Standard: MPFDoA



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 1:11:26 PM	0.83	0.90	3878	0.4300	92	108.3
STD 2	STD 2	x	2018/02/13 1:16:22 PM	1.70	1.59	8135	0.4002	218	93.5
STD 3	STD 3	x	2018/02/13 1:21:18 PM	5.00	5.08	26456	0.4635	314	101.7
STD 4	STD 4	x	2018/02/13 1:26:14 PM	12.50	11.98	65485	0.4440	1350	95.9
STD 5	STD 5	x	2018/02/13 1:31:10 PM	25.00	24.69	127517	0.4601	3578	98.8
STD 6	STD 6	x	2018/02/13 1:36:06 PM	41.70	42.49	210940	0.4758	4994	101.9

Batch Path T:\lcms4\PFC\20180212\WS#5393111_A\QuantResults\PFC_Water_Low_180213_WS#5393111_EToxics.batch.bin
Last Calib Update 2018/02/26 2:51:40 PM
Instrument: LCMS04

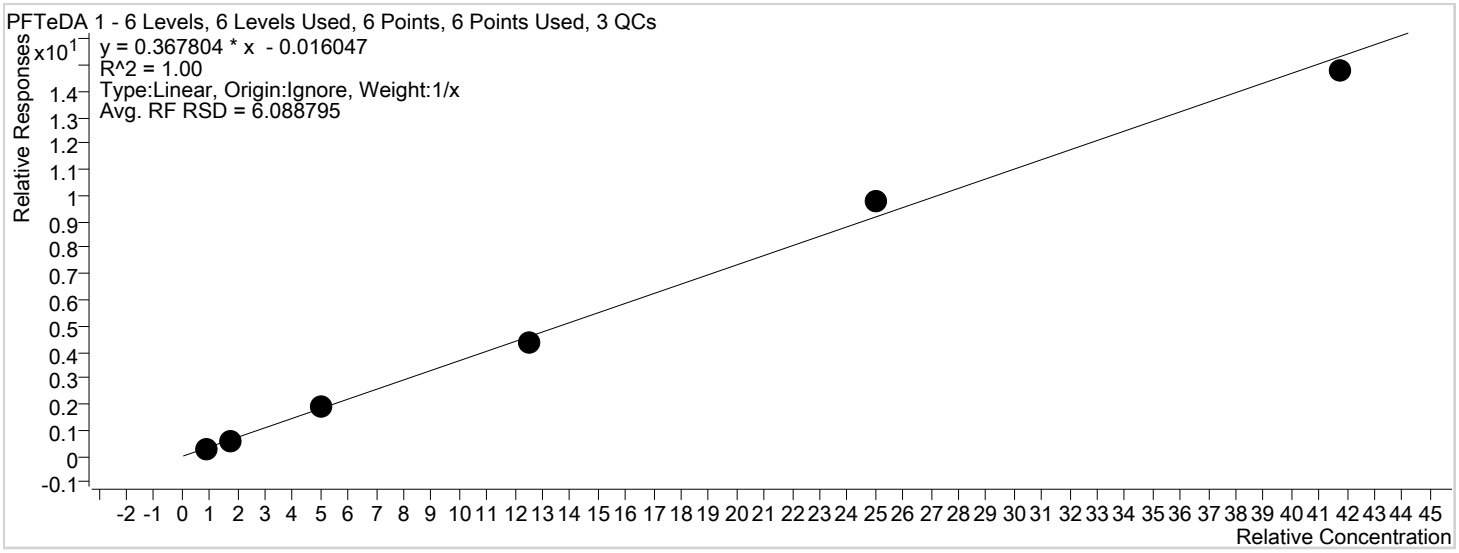
Analyte: PFTrDA 1
Internal Standard: MPFTeDA



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 1:11:26 PM	0.83	0.81	4216	0.4086	25	97.7
STD 2	STD 2	x	2018/02/13 1:16:22 PM	1.70	1.71	9538	0.4375	43	100.6
STD 3	STD 3	x	2018/02/13 1:21:18 PM	5.00	5.32	30071	0.4735	142	106.3
STD 4	STD 4	x	2018/02/13 1:26:14 PM	12.50	11.63	71180	0.4167	229	93.0
STD 5	STD 5	x	2018/02/13 1:31:10 PM	25.00	25.65	143058	0.4608	267	102.6
STD 6	STD 6	x	2018/02/13 1:36:06 PM	41.70	41.62	238756	0.4488	270	99.8

Batch Path T:\lcms4\PFC\20180212\WS#5393111_A\QuantResults\PFC_Water_Low_180213_WS#5393111_EToxics.batch.bin
Last Calib Update 2018/02/26 2:51:40 PM
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	2018/02/13 1:11:26 PM	0.83	0.80	3463	0.3356	32	96.5
STD 2	STD 2	x	2018/02/13 1:16:22 PM	1.70	1.68	7730	0.3546	80	99.0
STD 3	STD 3	x	2018/02/13 1:21:18 PM	5.00	5.27	24409	0.3843	432	105.4
STD 4	STD 4	x	2018/02/13 1:26:14 PM	12.50	11.94	59763	0.3499	559	95.5
STD 5	STD 5	x	2018/02/13 1:31:10 PM	25.00	26.78	122099	0.3933	1172	107.1
STD 6	STD 6	x	2018/02/13 1:36:06 PM	41.70	40.26	188733	0.3548	1877	96.6

By Compound Report

Agilent Technologies

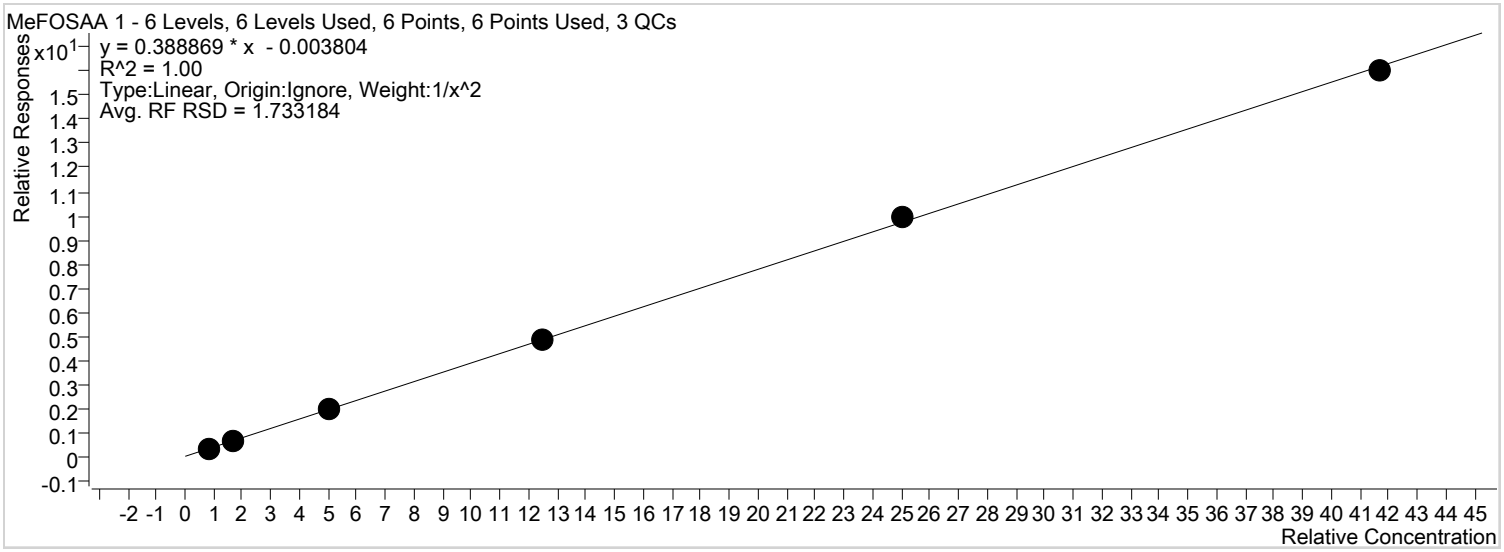
Batch Path T:\lcms4\PFC\20180212\WS#5393111_FOSAA_A\QuantResults\PFC_Water_Low_180212_WS#5393111_FOSAA_A_ETOxics.batch.bin

Last Calib Update 2018/02/14 10:03:30 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	2018/02/13 11:29:26 AM	0.83	0.84	624	0.3883	118	101.0
STD 2	STD 2	x	2018/02/13 11:31:51 AM	1.70	1.66	1301	0.3779	154	97.8
STD 3	STD 3	x	2018/02/13 11:34:16 AM	5.00	5.00	3918	0.3883	260	100.1
STD 4	STD 4	x	2018/02/13 11:36:41 AM	12.50	12.47	9346	0.3876	277	99.8
STD 5	STD 5	x	2018/02/13 11:39:06 AM	25.00	25.63	18424	0.3986	260	102.5
STD 6	STD 6	x	2018/02/13 11:41:31 AM	41.70	41.23	29587	0.3844	279	98.9

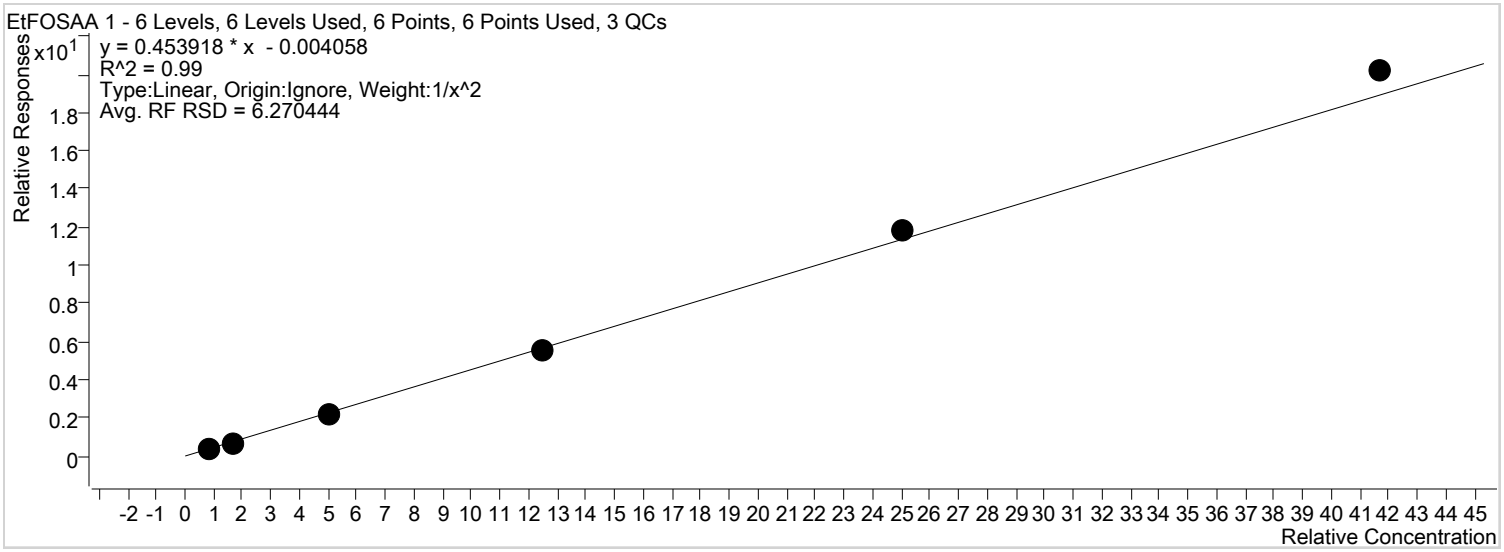
Batch Path T:\lcms4\PFC\20180212\WS#5393111_FOSAA_A\QuantResults\PFC_Water_Low_180212_WS#5393111_FOSAA_A_ETOxics.batch.bin

Last Calib Update 2018/02/14 10:03:30 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	2018/02/13 11:29:26 AM	0.83	0.87	627	0.4713	63	104.9
STD 2	STD 2	x	2018/02/13 11:31:51 AM	1.70	1.56	1241	0.4129	165	91.5
STD 3	STD 3	x	2018/02/13 11:34:16 AM	5.00	4.74	3779	0.4294	394	94.8
STD 4	STD 4	x	2018/02/13 11:36:41 AM	12.50	12.20	9377	0.4428	1055	97.6
STD 5	STD 5	x	2018/02/13 11:39:06 AM	25.00	26.12	18917	0.4741	1135	104.5
STD 6	STD 6	x	2018/02/13 11:41:31 AM	41.70	44.50	31142	0.4843	3193	106.7

Quantitation Results

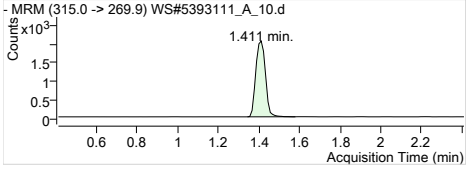
Agilent Technologies

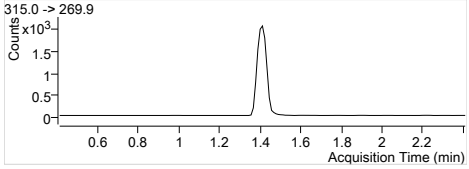
Batch Path	T:\lcms4\PFC\20180212\WS#5393111_A\QuantResults\PFC_Water_Low_180213_WS#5393111_EToxics

Sample Name	**ISC**	**Instrument**	LCMS04
Data File	WS#5393111_A_10.d	**Operator**	
Sample Type	CC	**Dilution**	1
Acq. Method	PFC_Water_Low.m	**Position**	P2-A2
Acq. Date	2018/02/13 1:50:54 PM	**Injection Volume**	Per Method
Sample Annotation	-		

ISTD Compounds	Response	RT	Target conc.		
MPFHxA	6692	1.41	1 µg/L		
MPFHxS	1626	1.67	1 µg/L		
MPFHpA	8641	1.68	1 µg/L		
MPFOA	9130	1.86	1 µg/L		
MPFOS	2007	1.97	1 µg/L		
MPFNA	8843	2.00	1 µg/L		
MPFDA	7436	2.12	1 µg/L		
MPFUnA	8953	2.22	1 µg/L		
MPFDoA	11069	2.31	1 µg/L		
MPFTeDA	12815	2.46	1 µg/L		
13C6-PFHxA IS	24665	1.41	1 µg/L		
13C9-PFDA IS	32190	2.12	1 µg/L		

Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1	656	1.05	0.83	1.00 µg/L	120.22
PFHxA 1	2191	1.41	0.83	0.89 µg/L	107.70
PFHxS 1	625	1.67	0.83	0.81 µg/L	97.37
PFHpA 1	2726	1.68	0.83	0.74 µg/L	89.64
PFOA 1	3413	1.86	0.83	0.92 µg/L	110.80
PFOS 1	608	1.96	0.83	0.86 µg/L	103.84
PFNA 1	2804	2.00	0.83	0.89 µg/L	106.84
PFDA 1	3018	2.12	0.83	0.93 µg/L	112.54
PFUnA 1	3329	2.22	0.83	0.84 µg/L	101.73
PFDoA 1	4220	2.31	0.83	0.95 µg/L	114.58
PFTrDA 1	4934	2.39	0.83	0.91 µg/L	109.98
PFTeDA 1	4153	2.46	0.83	0.92 µg/L	111.41
13C2-PFHxA	6692	1.41	100.00	95.88 µg/L	95.88
18O2-PFHxS	1626	1.67	100.00	95.45 µg/L	95.45
13C4-PFHpA	8641	1.68	100.00	96.93 µg/L	96.93
13C4-PFOA	9130	1.86	100.00	96.48 µg/L	96.48
13C4-PFOS	2007	1.97	100.00	96.98 µg/L	96.98
13C5-PFNA	8842	2.00	100.00	96.88 µg/L	96.88
13C2-PFDA	7326	2.12	100.00	91.93 µg/L	91.93
13C2-PFUnA	8953	2.22	100.00	96.51 µg/L	96.51
13C2-PFDoA	11069	2.31	100.00	91.98 µg/L	91.98
13C2-PFTeDA	13010	2.46	100.00	94.18 µg/L	94.18
13C6-PFHxA	24665	1.41	100.00	105.62 µg/L	105.62
13C9-PFDA	32190	2.12	100.00	106.43 µg/L	106.43





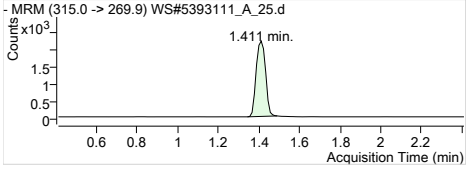
MPFHxA	Internal Standard
RT (Exp. RT):	1.411 (1.411)
Concentration:	1 µg/L
Sample type:	CC

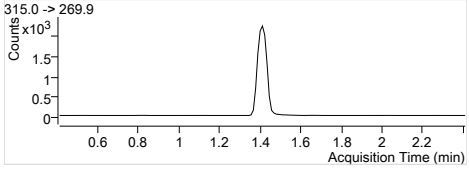
Batch Path T:\lcms4\PFC\20180212\WS#5393111_A\QuantResults\PFC_Water_Low_180213_WS#5393111_EToxics

Sample Name	**CCV**	**Instrument**	LCMS04
Data File	WS#5393111_A_25.d	**Operator**	
Sample Type	CC	**Dilution**	1
Acq. Method	PFC_Water_Low.m	**Position**	P2-A5
Acq. Date	2018/02/13 3:04:54 PM	**Injection Volume**	Per Method
Sample Annotation	-		

ISTD Compounds	Response	RT	Target conc.		
MPFHxA	7033	1.41	1 µg/L		
MPFHxS	1804	1.67	1 µg/L		
MPFHpA	9086	1.68	1 µg/L		
MPFOA	9632	1.86	1 µg/L		
MPFOS	1980	1.97	1 µg/L		
MPFNA	9329	2.00	1 µg/L		
MPFDA	7621	2.12	1 µg/L		
MPFUnA	9204	2.22	1 µg/L		
MPFDoA	12186	2.31	1 µg/L		
MPFTeDA	14657	2.46	1 µg/L		
13C6-PFHxA IS	24562	1.41	1 µg/L		
13C9-PFDA IS	32675	2.12	1 µg/L		

Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1	9512	1.06	12.50	10.13 µg/L	81.05
PFHxA 1	35492	1.41	12.50	11.53 µg/L	92.25
PFHxS 1	9572	1.67	12.50	10.41 µg/L	83.28
PFHpA 1	44402	1.68	12.50	11.49 µg/L	91.94
PFOA 1	52979	1.86	12.50	12.12 µg/L	96.93
PFOS 1	9608	1.96	12.50	12.34 µg/L	98.73
PFNA 1	43452	2.00	12.50	11.25 µg/L	90.02
PFDA 1	46603	2.12	12.50	12.46 µg/L	99.71
PFUnA 1	51225	2.22	12.50	12.04 µg/L	96.33
PFDoA 1	65017	2.31	12.50	11.53 µg/L	92.20
PFTrDA 1	70949	2.39	12.50	10.81 µg/L	86.47
PFTeDA 1	60950	2.46	12.50	11.35 µg/L	90.80
13C2-PFHxA	7033	1.41	100.00	101.19 µg/L	101.19
18O2-PFHxS	1804	1.67	100.00	106.34 µg/L	106.34
13C4-PFHpA	9086	1.68	100.00	102.35 µg/L	102.35
13C4-PFOA	9632	1.86	100.00	102.21 µg/L	102.21
13C4-PFOS	1980	1.97	100.00	96.08 µg/L	96.08
13C5-PFNA	9330	2.00	100.00	102.65 µg/L	102.65
13C2-PFDA	7484	2.12	100.00	92.51 µg/L	92.51
13C2-PFUnA	9204	2.22	100.00	97.74 µg/L	97.74
13C2-PFDoA	12186	2.31	100.00	99.76 µg/L	99.76
13C2-PFTeDA	14741	2.46	100.00	105.13 µg/L	105.13
13C6-PFHxA	24562	1.41	100.00	105.18 µg/L	105.18
13C9-PFDA	32675	2.12	100.00	108.04 µg/L	108.04





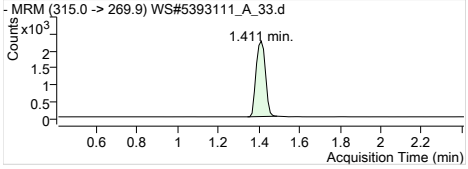
MPFHxA	Internal Standard
RT (Exp. RT):	1.411 (1.411)
Concentration:	1 µg/L
Sample type:	CC

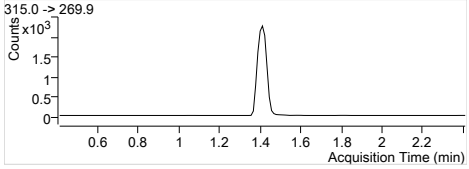
Batch Path T:\lcms4\PFC\20180212\WS#5393111_A\QuantResults\PFC_Water_Low_180213_WS#5393111_EToxics

Sample Name	**CCV**	**Instrument**	LCMS04
Data File	WS#5393111_A_33.d	**Operator**	
Sample Type	CC	**Dilution**	1
Acq. Method	PFC_Water_Low.m	**Position**	P2-A5
Acq. Date	2018/02/13 3:44:22 PM	**Injection Volume**	Per Method
Sample Annotation	-		

ISTD Compounds	Response	RT	Target conc.		
MPFHxA	7113	1.41	1 µg/L		
MPFHxS	1675	1.67	1 µg/L		
MPFHpA	8459	1.68	1 µg/L		
MPFOA	8866	1.86	1 µg/L		
MPFOS	2051	1.97	1 µg/L		
MPFNA	9229	2.00	1 µg/L		
MPFDA	7476	2.12	1 µg/L		
MPFUnA	8441	2.22	1 µg/L		
MPFDoA	12036	2.31	1 µg/L		
MPFTeDA	13577	2.46	1 µg/L		
13C6-PFHxA IS	24980	1.41	1 µg/L		
13C9-PFDA IS	31567	2.12	1 µg/L		

Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1	9633	1.06	12.50	11.03 µg/L	88.22
PFHxA 1	33874	1.41	12.50	10.89 µg/L	87.13
PFHxS 1	9580	1.67	12.50	11.22 µg/L	89.73
PFHpA 1	45718	1.68	12.50	12.71 µg/L	101.68
PFOA 1	49438	1.86	12.50	12.28 µg/L	98.26
PFOS 1	9477	1.96	12.50	11.76 µg/L	94.05
PFNA 1	43777	2.00	12.50	11.46 µg/L	91.66
PFDA 1	46750	2.12	12.50	12.74 µg/L	101.94
PFUnA 1	50232	2.22	12.50	12.87 µg/L	102.98
PFDoA 1	62527	2.31	12.50	11.23 µg/L	89.81
PFTrDA 1	73349	2.39	12.50	12.06 µg/L	96.45
PFTeDA 1	61153	2.46	12.50	12.29 µg/L	98.32
13C2-PFHxA	7113	1.41	100.00	100.63 µg/L	100.63
18O2-PFHxS	1675	1.67	100.00	97.08 µg/L	97.08
13C4-PFHpA	8459	1.68	100.00	93.69 µg/L	93.69
13C4-PFOA	8866	1.86	100.00	92.51 µg/L	92.51
13C4-PFOS	2051	1.97	100.00	97.86 µg/L	97.86
13C5-PFNA	9230	2.00	100.00	99.85 µg/L	99.85
13C2-PFDA	7334	2.12	100.00	93.84 µg/L	93.84
13C2-PFUnA	8441	2.22	100.00	92.79 µg/L	92.79
13C2-PFDoA	12036	2.31	100.00	101.99 µg/L	101.99
13C2-PFTeDA	13715	2.46	100.00	101.25 µg/L	101.25
13C6-PFHxA	24980	1.41	100.00	106.97 µg/L	106.97
13C9-PFDA	31567	2.12	100.00	104.37 µg/L	104.37





MPFHxA Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: CC

Quantitation Results

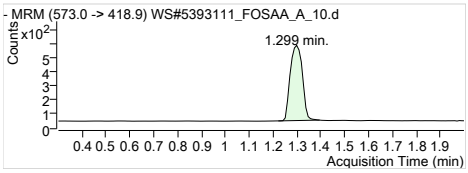
Agilent Technologies

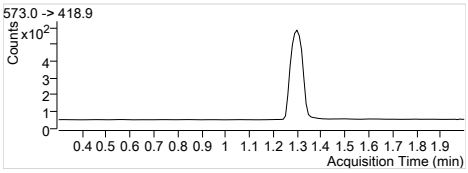
Batch Path	T:\lcms4\PFC\20180212\WS#5393111_FOSAA_A\QuantResults\PFC_Water_Low_180212_WS#5393111_FOSAA_A_EToxics

Sample Name	**ISC**	**Instrument**	LCMS04
Data File	WS#5393111_FOSAA_A_10.d	**Operator**	
Sample Type	CC	**Dilution**	1
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P2-A2
Acq. Date	2018/02/13 11:48:46 AM	**Injection Volume**	Per Method
Sample Annotation	-		

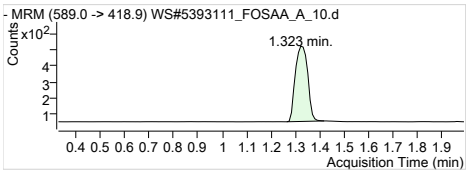
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1892	1.30	1 µg/L		
D5-EtFOSAA IS	1686	1.32	1 µg/L		
13C9-PFDA IS	27258	0.87	1 µg/L		

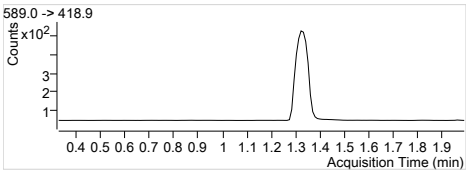
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1	648	1.30	0.83	0.89 µg/L	107.29
EtFOSAA 1	620	1.32	0.83	0.82 µg/L	98.68
D3-MeFOSAA	1910	1.30	100.00	93.44 µg/L	93.44
D5-EtFOSAA	1722	1.32	100.00	98.31 µg/L	98.31
13C9-PFDA	26627	0.87	100.00	104.37 µg/L	104.37



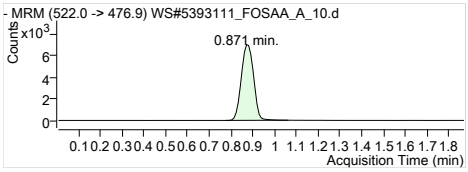


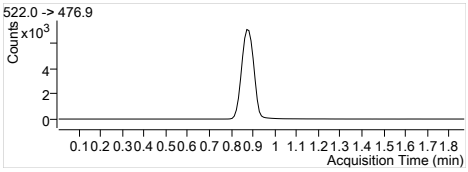
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.299 (1.299)
Concentration: 1 µg/L
Sample type: CC



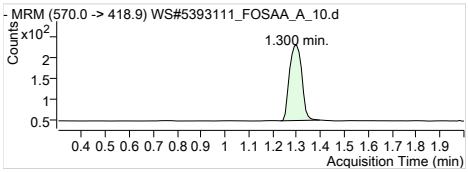


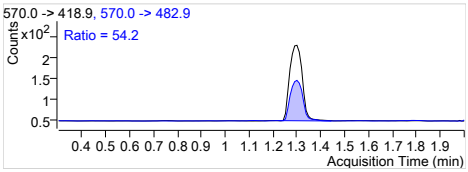
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.323 (1.323)
Concentration: 1 µg/L
Sample type: CC



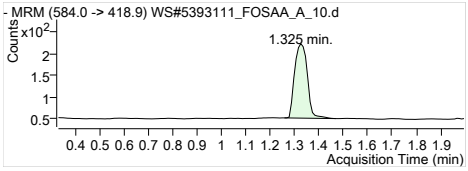


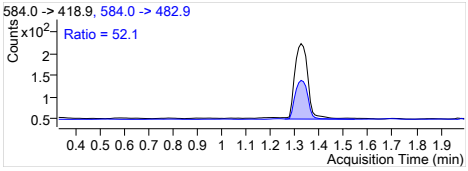
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.871 (0.871)
Concentration: 1 µg/L
Sample type: CC



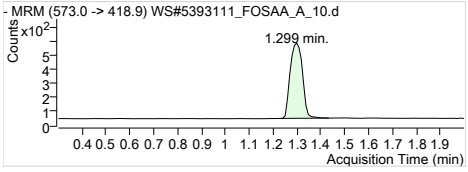


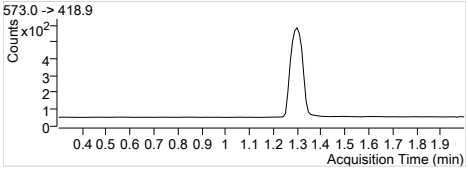
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 1.300 (1.300)
Calc. conc. 0.89 µg/L
Area ratio: 0.34249
Sample type: CC





EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 1.325 (1.325)
Calc. conc. 0.82 µg/L
Area ratio: 0.36773
Sample type: CC





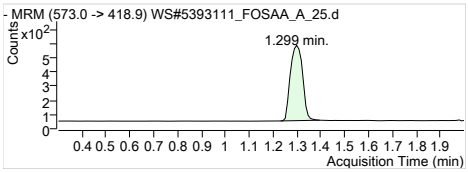
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.299 (1.299)
Calc. conc. 93.44 µg/L
Area ratio: 0.07007
Sample type: CC

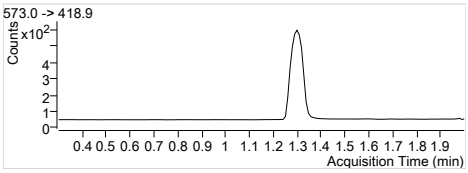
Batch Path	T:\lcms4\PFC\20180212\WS#5393111_FOSAA_A\QuantResults\PFC_Water_Low_180212_WS#5393111_FOSAA_A_EToxics

Sample Name	**CCV**	**Instrument**	LCMS04
Data File	WS#5393111_FOSAA_A_25.d	**Operator**	
Sample Type	CC	**Dilution**	1
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P2-A5
Acq. Date	2018/02/13 12:24:55 PM	**Injection Volume**	Per Method
Sample Annotation	-		

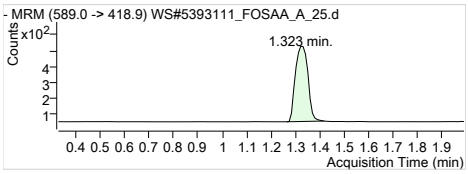
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1934	1.30	1 µg/L		
D5-EtFOSAA IS	1718	1.32	1 µg/L		
13C9-PFDA IS	27346	0.88	1 µg/L		

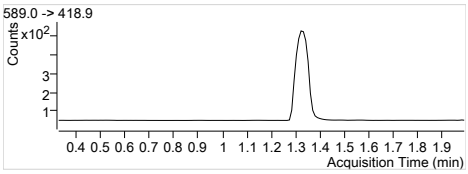
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1	9126	1.30	12.50	12.14 µg/L	97.15
EtFOSAA 1	9384	1.32	12.50	12.04 µg/L	96.34
D3-MeFOSAA	1952	1.30	100.00	95.19 µg/L	95.19
D5-EtFOSAA	1737	1.32	100.00	98.85 µg/L	98.85
13C9-PFDA	26983	0.88	100.00	105.76 µg/L	105.76



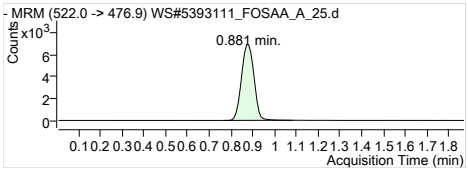


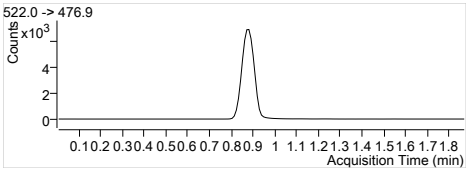
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.299 (1.299)
Concentration: 1 µg/L
Sample type: CC



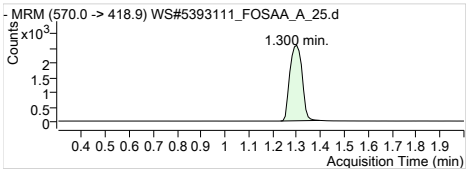


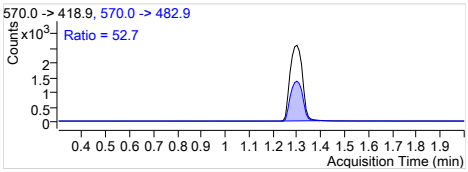
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.323 (1.323)
Concentration: 1 µg/L
Sample type: CC



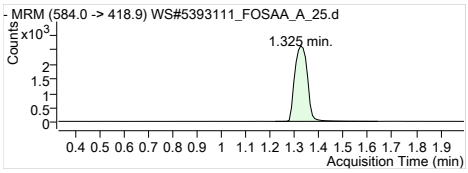


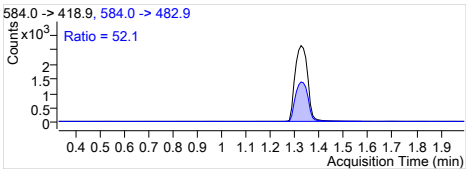
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.881 (0.871)
Concentration: 1 µg/L
Sample type: CC



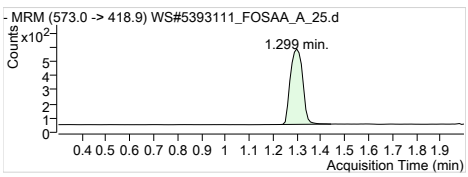


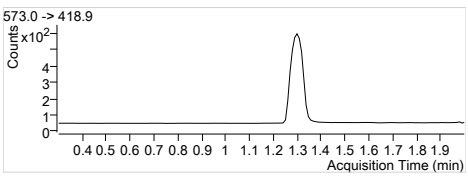
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 1.300 (1.300)
Calc. conc. 12.14 µg/L
Area ratio: 4.71872
Sample type: CC





EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 1.325 (1.325)
Calc. conc. 12.04 µg/L
Area ratio: 5.46217
Sample type: CC





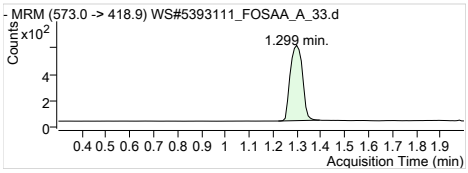
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.299 (1.299)
Calc. conc. 95.19 µg/L
Area ratio: 0.07138
Sample type: CC

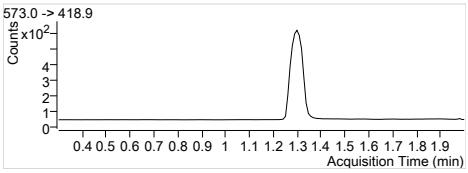
Batch Path	T:\lcms4\PFC\20180212\WS#5393111_FOSAA_A\QuantResults\PFC_Water_Low_180212_WS#5393111_FOSAA_A_EToxics

Sample Name	**CCV**	**Instrument**	LCMS04
Data File	WS#5393111_FOSAA_A_33.d	**Operator**	
Sample Type	CC	**Dilution**	1
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P2-A5
Acq. Date	2018/02/13 12:44:16 PM	**Injection Volume**	Per Method
Sample Annotation	-		

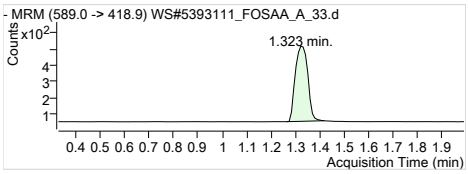
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	2008	1.30	1 µg/L		
D5-EtFOSAA IS	1674	1.32	1 µg/L		
13C9-PFDA IS	27597	0.87	1 µg/L		

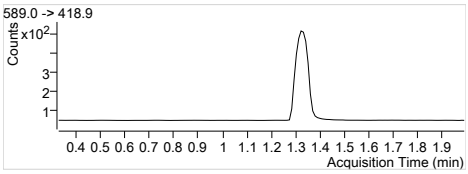
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1	9196	1.30	12.50	11.79 µg/L	94.29
EtFOSAA 1	9406	1.32	12.50	12.39 µg/L	99.10
D3-MeFOSAA	2015	1.30	100.00	97.37 µg/L	97.37
D5-EtFOSAA	1713	1.32	100.00	96.60 µg/L	96.60
13C9-PFDA	27109	0.87	100.00	106.25 µg/L	106.25



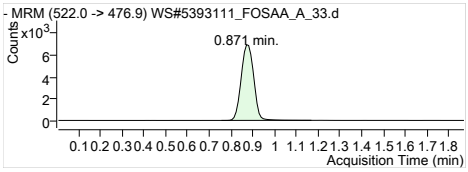


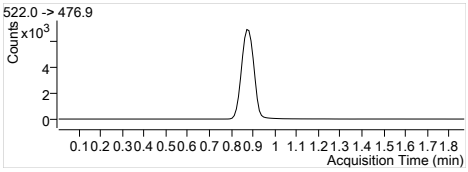
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.299 (1.299)
Concentration: 1 µg/L
Sample type: CC



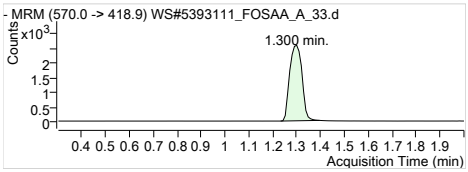


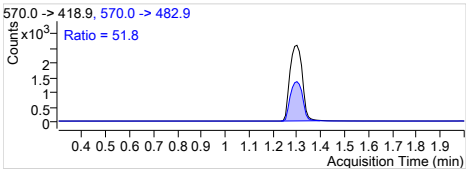
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.323 (1.323)
Concentration: 1 µg/L
Sample type: CC



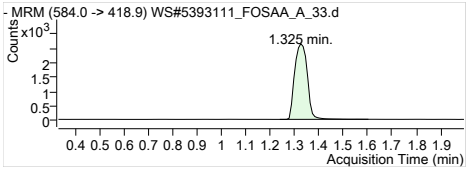


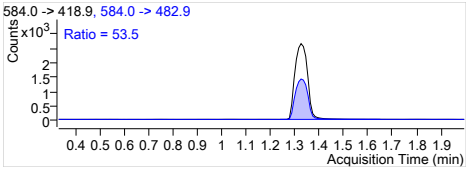
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.871 (0.871)
Concentration: 1 µg/L
Sample type: CC



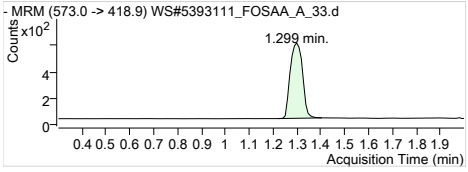


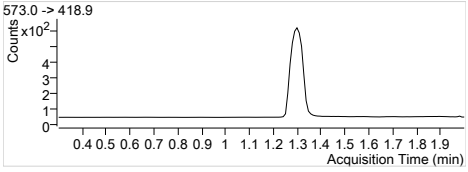
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 1.300 (1.300)
Calc. conc. 11.79 µg/L
Area ratio: 4.57968
Sample type: CC





EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 1.325 (1.325)
Calc. conc. 12.39 µg/L
Area ratio: 5.61888
Sample type: CC





D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.299 (1.299)
Calc. conc. 97.37 µg/L
Area ratio: 0.07302
Sample type: CC

PFOS AND PFHxS ONLY

DoD Projects - Internal Data Validation Checklist

Run date: 2018/02/14

Worksheet # (s): 5393267

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: MCP Date: 2018/02/15

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: [illegible] Date: 2018/02/15

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

Worksheet Data Validation Checklist - Extractable Organics

Worksheet # 5393267 Testcode: PFOSACCM-W

Sample Preparation		yes	no	n/a
1	Samples extracted within hold time	✓		
2	Client sample ID verified against Lab ID (waters & oils)	✓		
3	Parameter list and Client comments reviewed, (Spiking solutions matched to parameter list)	✓		
4	Height of sediment or if sample was decanted, recorded on worksheet	✓		
5	Method required QC processed with samples, maximum batch size = 20 client samples.	✓		
6	Sample, duplicate, matrix spike appear similar, initial sample as well as final extract	✓		
7	Sample weight or initial volume and extract final volume, aliquot factor clearly recorded.	✓		
8	If performed any additional dilution clearly recorded	✓		
9	Matrix spike / Duplicate performed on IOL samples if present			✓
10	Spiking solutions valid (haven't expired), ID and volume used clearly identified on worksheet	✓		
11	Spiking process witnessed and signed off	✓		
12	Extraction type recorded (N3A2B = neutral, 3 x acidic, 2 x basic)			✓
13	Sample prep deviations documented within CompliantPro as a Policy Deviation			✓
14	Job Remarks reviewed on 2nd page of worksheet.	✓		
15	Worksheet and reagent tracking record completed and authorized.	✓		

Reviewed by: SSV Date: 2018/02/09

Comments:

Worksheet Approval		yes	no	n/a
1	Verified the position of the vials in autosampler against sequence list; signed off sequence list			
2	Calibration and CCV standards valid (haven't expired)			
3	Initial calibration curve and DFTPP tune (if applicable) acceptable			
4	Continuing and Final CCV and DFTPP tune (if applicable) acceptable			
5	System performance check acceptable (if applicable)			
6	Internal standard responses acceptable			
7	Method blank meets acceptance criteria			
8	Lab Control Samples recoveries meets acceptance criteria			
9	Duplicate RPD meets acceptance criteria			
10	Matrix spike recoveries meets acceptance criteria			
11	Surrogate recoveries meets acceptance criteria			
12	Appropriate control charts updated			
13	Samples above calibration range diluted and reanalyzed			
14	Dilutions clearly documented on tracking record, inst file and verified during data upload			
15	Samples following high level samples checked for carryover.			
16	Mass spectra ion ratios acceptable for positive results, hardcopy in file.			
17	Analytical observations / anomalies documented			
18	DQW comments entered in LIMS, hardcopy in file			
19	Sample Prep section (above) reviewed and verified.			
20	WS Approval performed in LIMS			

Reviewed by: Date:

Comments:

Refer to BFL_FCD-01126 20180215MD

Worksheet Validation		yes	no	n/a
1	Calibration, QC and sample results reviewed and determined acceptable			
2	Manual integrations verified			
3	Random calculation checked			
4	Data and QC validated in LIMS			
5	Comments reviewed for appropriateness			
6	Reworks / relogs documented in file			
7	Worksheet signed and dated,			
8	Worksheet approved and validated within LIMS			

Reviewed by: Date:

Comments:

WS# : 5393267

Page #: 1/2

Report Name : Worksheet - (Liquids and Solids)

Assignment Date : Friday, February 09, 2018

Assigned to : Shivani Shivani

Test Code : PFOSALCM-W

Instrument Id:

Test Description : PFOS and PFOA in water by LC-MS/MS

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
	SPIKE	0	PFOS		0	750	1.25	1X					2018/02/09
	SPIKE	1	PFOS		0	750	1.25	1X					2018/02/09
	BLANK				0	750	1.25	1X					2018/02/09
B824213	*GAD933-01R	0	CEF-860-TW01-01*		<0.1	750	1.25	1X/10X	2	2018/02/09	2018/02/14 23:00	DOD	2018/02/09
B824213	*GAD933-01R	1	CEF-860-TW01-01*		<0.1	750	1.25	1X/10X	2	2018/02/09	2018/02/14 23:00	DOD	2018/02/09
B824213	*GAD934-01R	0	CEF-1820-TW01-0*		<0.1	750	1.25	10X/100X	2	2018/02/09	2018/02/14 23:00	DOD	2018/02/09
B824213	*GAD934-01R	1	CEF-1820-TW01-0*		<0.1	750	1.25	10X/100X	2	2018/02/09	2018/02/14 23:00	DOD	2018/02/09
B823124	F2Y5530	1			<0.1	750	1.25	1X/10					
	F2Y5530 Dup				<0.1	750	1.25	1X/10X					

Shivani 2018/02/09 SSV.

Remarks: High level analysis

Above mentioned sample we extracted through SPE.

Samples extracted by: Shivani Shivani

Instrumentation performed by: Date: 2018/02/13

Calculations performed by: Date: 2018/02/15

Validated by: Date: 2018/02/15

Job No.	Rep / Client Name / Remarks	Contact	Client Tier	National
GB824213	SP8 Earth Toxics Inc	Rick Carr	Tier 5 (Enviro.)	AECOM

nreg, PFOSALCM-W Level IV Data Package and TetraTech EDD required The following samples will not be reported: GAD929, GAD930, GAD931, GAD932, GAD935 F/C by NGV - 2018/02/09 Project #: JM10 CECIL

Job	Sample	Lab Comments
	SPIKE	
	SPIKE	
	BLANK	
B824213	GAD933-01R	
B824213	GAD933-01R:DUP	
B824213	GAD934-01R	
B824213	GAD934-01R:DUP	

Calibration standard Reprations#

	mean(ul)	Spk(ul)	IS
S_1	480	20	SK-7401
S_2	463	37.5	
S_3	485	15	SK-7400
S_4	463	37.5	
S_5	478	22.5	I-5297
S_6	468	37.5	
ICV	500	18	I-5299
IB	500		

100(ul) 150(ul) SSV 2018/02/09

JPS 2018/02/09

Post spike extraction dilution #
on all duplicates
675(ul) + SK7411 (10ul)

WS# : 5393267

Page #: 1/2

Report Name : Worksheet - (Liquids and Solids

Assignment Date : Friday, February 09, 2018

Assigned to : Shivani Shivani

Test Code : PFOSALCM-W

Instrument Id:

Test Description : PFOS and PFOA in water by LC-MS/MS

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
	SPIKE	0	PFOS										2018/02/09
	SPIKE	1	PFOS										2018/02/09
	BLANK												2018/02/09
B823124	*FZY553-01R	0	[redacted]*						2	2018/02/11	2018/02/13 23:00	DOD	2018/02/09
B823124	*FZY553-01R	1	[redacted]						2	2018/02/11	2018/02/13 23:00	DOD	2018/02/09
B824213	*GAD933-01R	0	CEF-860-TW01-01*						2	2018/02/09	2018/02/14 23:00	DOD	2018/02/09
B824213	*GAD933-01R	1	CEF-860-TW01-01*						2	2018/02/09	2018/02/14 23:00	DOD	2018/02/09
B824213	*GAD934-01R	0	CEF-1820-TW01-0*						2	2018/02/09	2018/02/14 23:00	DOD	2018/02/09
B824213	*GAD934-01R	1	CEF-1820-TW01-0*						2	2018/02/09	2018/02/14 23:00	DOD	2018/02/09

Remarks: High level analysis

Samples extracted by: Shivani Shivani

Instrumentation performed by: Marian Godax Date:

Calculations performed by: Marian Godax Date: 2018/02/15

Validated by: For sample traceability purposes only Date:

2018/02/15

Job No.	Rep / Client Name / Remarks	Contact	Client Tier	National
GB823124	[redacted]			
GB824213	SP8 Earth Toxics Inc	Rick Carr	Tier 5 (Enviro.)	AECOM

nreg, PFOSALCM-W Level IV Data Package and TetraTech EDD required The following samples will not be reported: GAD929, GAD930, GAD931, GAD932, GAD935 F/C by NGV - 2018/02/09 Project #: JM10 CECIL

Job	Sample	Lab Comments
	SPIKE	
	SPIKE	
	BLANK	
B823124	FZY533-01R	
B823124	FZY533-01R:DUP	
B824213	GAD933-01R	
B824213	GAD933-01R:DUP	
B824213	GAD934-01R	
B824213	GAD934-01R:DUP	

Folder: 20180213

Worksheet Reagent Tracking Record Worksheet # 5393267

Volume (µL)

Surrogate/Spike solutions	√	Solution ID #	Conc.	Blk-Spk		MS		Samples	
				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-5299(1/3)	1ug/mL	75	21 ~~62.5~~ 18	75	21 62.5	NA	NA
PFC Internal Standard Solution	✓	SI6763(4/4) HB	50/125 ng/mL	200	100 150	200	100 150	200	100/150
PFC Injection IS	✓	SI6770(1/2) HB	~~400~~ 100 ng/mL	20	20	20	20	20	20
ICV	✓	I-5299(1/3)	1ug/mL		18				

Solvent/Reagent	√	Lot No.	Date Opened	Solvent/Reagent	√	Lot No.	Date Opened/ Prepared
DCM				50% NaOH			
Ottawa Sand				o-Phosphoric Acid			
Methanol	✓	SHB3545	2018/02/09	Borax			
2-Propanol (IPA)				Calcium Chloride			
Acetonitrile				EDTA			
Sodium Sulfate				Phosphate Buffer			
70:30 Methanol: Water				Sodium Thiosulphate			
60:40 Water: Methanol				DNPH			
DCM:Ethyl Ether (75:25)				FMOC			
Hexane:IPA (98:2)				5M Acetate Buffer			
2% Formic Acid				0.2% NH_4OH			
0.2% Formic Acid				Leachate Fluid			
0.05M KOH				Reagent Water	✓	57297	2018/02/05
0.05M HCl							

*Spiked by: SSU

Spike Date: 2018/02/05

Spike Syringe/Pipette ID#: G243906

Int. Std Syringe/Pipette ID#: Internal Std# G243906 Injection IS#

*Spiking Witnessed by: HB

Final pH:

Equipment & ID	√	Equipment	ID#	√	Equipment	Lot #
Pipettor G243906	✓	SPE Cartridge			QC Balance ID	
G243906. K19865F	✓	Filter			Thermometer ID &Temp	
Dispenser		Centrifuge				
		Sonicator				

Bottle Tracking: Bottle# / Cap# / Systems plus Lot#

Comments:

* - SPIKING OF QC's & SAMPLES MUST BE WITNESSED AT ALL TIMES.

Worksheet: 5393267

Dilution and Column Cleanup Worksheet

Job Number	Sample ID	Sample: Initial Final Volume	Dilution Required	Sample added mL (ul)	(Diluent) Solvent Added mL	Int Stan Added uL	New Effective Final Volume	INITIAL SSU DATE	Column Clean Up
B824213	GAD933	1X	10X	200	1.8	–	2	2 18/02/05	–
	GAD933 Dup	1X	10X	200	1.8	–	2	2 18/02/05	–
	GAD934	1X	10X	200	1.8	–	2	2 18/02/05	–
	GAD934 Dup	1X	10X	200	1.8	–	2	2 18/02/05	–
	GAD934	10X	100X	200	1.8	–	2	2 18/02/05	–
	GAD934 Dup	10X	100X	200	1.8	–	2	2 18/02/05	–
B823124	F24553	1X to SSV	10X	200	1.8	–	2	2 18/02/05	–
	F24553 Dup	1X	10X	200	1.8	– SSV.	2	2 18/02/05	–
					2 18/02/05				

5ml pipette # K39372C
Diluent # 9ml LCMS not 6ml Meant 1.2 I.S.
200 (ul) # K19865F

Worksheet Number: **5393267**

PFOS and PFOA in water by SPE/LCMS - Water

ug/L

Parameter Name	Units	SPIKE	SPIKE Dup1	BLANK	DL	B823124 FZY553 ReWork	B823124 FZY553 Dup1 ReWork
6:2 Fluorotelomer sulfonate	ug/L	94.56712	91.12677	0	0.8	213.138819	213.931030
8:2 Fluorotelomer sulfonate	ug/L	N/A*******	N/A*******	N/A*******	0.8	N/A*******	N/A*******
N-ethylperfluorooctane sulfonamide	ug/L	N/A*******	N/A*******	N/A*******	0.8	N/A*******	N/A*******
EtFOSAA	ug/L	N/A*******	N/A*******	N/A*******	0.8	N/A*******	N/A*******
N-ethylperfluorooctane sulfonamidoe	ug/L	N/A*******	N/A*******	N/A*******	0.8	N/A*******	N/A*******
N-methylperfluorooctane sulfonamide	ug/L	N/A*******	N/A*******	N/A*******	0.8	N/A*******	N/A*******
MeFOSAA	ug/L	N/A*******	N/A*******	N/A*******	0.8	N/A*******	N/A*******
N-methylperfluorooctanesulfonamidol	ug/L	N/A*******	N/A*******	N/A*******	0.8	N/A*******	N/A*******
Perfluorobutanoic acid	ug/L	N/A*******	N/A*******	N/A*******	0.8	N/A*******	N/A*******
Perfluorobutane Sulfonate (PFBS)	ug/L	N/A*******	N/A*******	N/A*******	0.8	N/A*******	N/A*******
Perfluorodecanoic Acid (PFDA)	ug/L	N/A*******	N/A*******	N/A*******	0.8	N/A*******	N/A*******
Perfluorododecanoic Acid (PFDoA)	ug/L	N/A*******	N/A*******	N/A*******	0.8	N/A*******	N/A*******
Perfluorodecane Sulfonate	ug/L	N/A*******	N/A*******	N/A*******	0.8	N/A*******	N/A*******
Perfluoroheptanoic Acid (PFHpA)	ug/L	N/A*******	N/A*******	N/A*******	0.8	N/A*******	N/A*******
Perfluoroheptane sulfonate	ug/L	N/A*******	N/A*******	N/A*******	0.8	N/A*******	N/A*******
Perfluorohexanoic Acid (PFHxA)	ug/L	98.71718	96.99813	0	0.8	N/A*******	N/A*******
Perfluorohexane Sulfonate (PFHxS)	ug/L	99.88155	91.36186	0	0.8	100.933350	98.7692547
Perfluorononanoic Acid (PFNA)	ug/L	N/A*******	N/A*******	N/A*******	0.8	N/A*******	N/A*******
Perfluoro-n-Octanoic Acid (PFOA)	ug/L	100.29023	93.57573	0	0.8	N/A*******	N/A*******
Perfluorooctane Sulfonate (PFOS)	ug/L	93.50053	85.90656	0	0.8	N/A*******	N/A*******
Perfluorooctane Sulfonamide (PFOSA)	ug/L	93.60261	94.14602	0	0.8	N/A*******	N/A*******
Perfluoropentanoic Acid (PFPeA)	ug/L	N/A*******	N/A*******	N/A*******	0.8	N/A*******	N/A*******
Perfluorotetradecanoic Acid	ug/L	N/A*******	N/A*******	N/A*******	0.8	N/A*******	N/A*******
Perfluorotridecanoic Acid	ug/L	N/A*******	N/A*******	N/A*******	0.8	N/A*******	N/A*******
Perfluoroundecanoic Acid (PFUnA)	ug/L	N/A*******	N/A*******	N/A*******	0.8	N/A*******	N/A*******
13C2-6:2 Fluorotelomer sulfonate	ug/L	98.0186274	100.698707	108.430127		101.863665	103.264208
13C2-8:2 Fluorotelomer sulfonate	ug/L	N/A*******	N/A*******	N/A*******		N/A*******	N/A*******
13C2-Perfluorodecanoic acid	ug/L	N/A*******	N/A*******	N/A*******		N/A*******	N/A*******
13C2-Perfluorododecanoic acid	ug/L	N/A*******	N/A*******	N/A*******		N/A*******	N/A*******
13C2-Perfluorohexanoic acid	ug/L	N/A*******	N/A*******	N/A*******		N/A*******	N/A*******
13C2-perfluorotetradecanoic acid	ug/L	N/A*******	N/A*******	N/A*******		N/A*******	N/A*******
13C2-Perfluoroundecanoic acid	ug/L	N/A*******	N/A*******	N/A*******		N/A*******	N/A*******
13C4-Perfluorobutanoic acid	ug/L	N/A*******	N/A*******	N/A*******		N/A*******	N/A*******
13C4-Perfluoroheptanoic acid	ug/L	N/A*******	N/A*******	N/A*******		N/A*******	N/A*******
13C5-Perfluorononanoic acid	ug/L	N/A*******	N/A*******	N/A*******		N/A*******	N/A*******
13C4-Perfluorooctanoic acid	ug/L	96.8484462	101.014387	103.978925		N/A*******	N/A*******
13C4-Perfluorooctanesulfonate	ug/L	92.5710093	102.171735	99.6878161		N/A*******	N/A*******
13C5-Perfluoropentanoic acid	ug/L	N/A*******	N/A*******	N/A*******		N/A*******	N/A*******
13C8-Perfluorooctane Sulfonamide	ug/L	99.6675961	94.6408170	99.0540751		N/A*******	N/A*******
18O2-Perfluorohexanesulfonate	ug/L	96.7417879	101.100591	102.837945		98.8292111	106.751435
D3-MeFOSAA	ug/L	N/A*******	N/A*******	N/A*******		N/A*******	N/A*******
D5-EtFOSAA	ug/L	N/A*******	N/A*******	N/A*******		N/A*******	N/A*******
N-methyl-d3-perfluorooctane sulfona	ug/L	N/A*******	N/A*******	N/A*******		N/A*******	N/A*******
N-ethyl-d5-perfluorooctane sulfonam	ug/L	N/A*******	N/A*******	N/A*******		N/A*******	N/A*******

20181002/15

PFOS and PFOA in water by SPE/LCMS - Water

ug/L

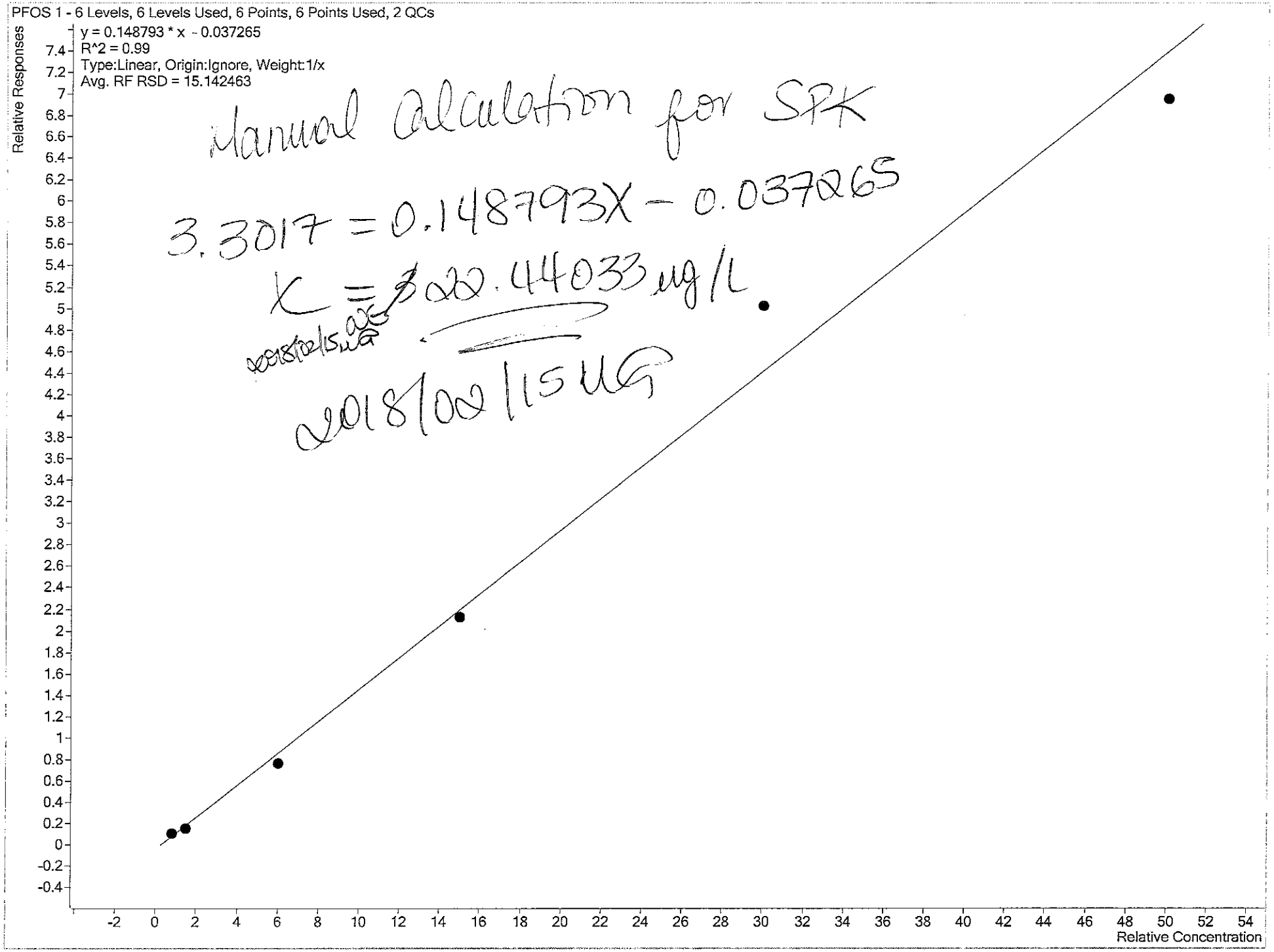
Parameter Name	DL	B824213 GAD933 ReWork	B824213 GAD933 Dup1 ReWork	DL	B824213 GAD934 ReWork	B824213 GAD934 Dup1 ReWork	DL
6:2 Fluorotelomer sulfonate	8	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
8:2 Fluorotelomer sulfonate	0.8	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
N-ethylperfluorooctane sulfonamide	0.8	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
EtFOSAA	0.8	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
N-ethylperfluorooctane sulfonamidoe	0.8	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
N-methylperfluorooctane sulfonamide	0.8	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
MeFOSAA	0.8	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
N-methylperfluorooctanesulfonamidol	0.8	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
Perfluorobutanoic acid	0.8	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
Perfluorobutane Sulfonate (PFBS)	0.8	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
Perfluorodecanoic Acid (PFDA)	0.8	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
Perfluorododecanoic Acid (PFDoA)	0.8	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
Perfluorodecane Sulfonate	0.8	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
Perfluoroheptanoic Acid (PFHpA)	0.8	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
Perfluoroheptane sulfonate	0.8	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
Perfluorohexanoic Acid (PFHxA)	0.8	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
Perfluorohexane Sulfonate (PFHxS)	8	N/A*******	N/A*******	0.8	254.486764	248.129435	8
Perfluorononanoic Acid (PFNA)	0.8	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
Perfluoro-n-Octanoic Acid (PFOA)	0.8	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
Perfluorooctane Sulfonate (PFOS)	0.8	232.333792	224.107639	8	926.337704	904.355835	80
Perfluorooctane Sulfonamide (PFOSA)	0.8	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
Perfluoropentanoic Acid (PFPeA)	0.8	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
Perfluorotetradecanoic Acid	0.8	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
Perfluorotridecanoic Acid	0.8	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
Perfluoroundecanoic Acid (PFUnA)	0.8	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
13C2-6:2 Fluorotelomer sulfonate		N/A*******	N/A*******		N/A*******	N/A*******	
13C2-8:2 Fluorotelomer sulfonate		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		N/A*******	N/A*******		N/A*******	N/A*******	
13C2-perfluorotetradecanoic acid		N/A*******	N/A*******		N/A*******	N/A*******	
13C2-Perfluoroundecanoic acid		N/A*******	N/A*******		N/A*******	N/A*******	
13C4-Perfluorobutanoic acid		N/A*******	N/A*******		N/A*******	N/A*******	
13C4-Perfluoroheptanoic acid		N/A*******	N/A*******		N/A*******	N/A*******	
13C5-Perfluorononanoic acid		N/A*******	N/A*******		N/A*******	N/A*******	
13C4-Perfluorooctanoic acid		N/A*******	N/A*******		N/A*******	N/A*******	
13C4-Perfluorooctanesulfonate		94.6214131	95.4302891		99.4922700	95.5912603	
13C5-Perfluoropentanoic acid		N/A*******	N/A*******		N/A*******	N/A*******	
13C8-Perfluorooctane Sulfonamide		N/A*******	N/A*******		N/A*******	N/A*******	
18O2-Perfluorohexanesulfonate		N/A*******	N/A*******		97.7603263	102.998821	
D3-MeFOSAA		N/A*******	N/A*******		N/A*******	N/A*******	
D5-EtFOSAA		N/A*******	N/A*******		N/A*******	N/A*******	
N-methyl-d3-perfluorooctane sulfona		N/A*******	N/A*******		N/A*******	N/A*******	
N-ethyl-d5-perfluorooctane sulfonam		N/A*******	N/A*******		N/A*******	N/A*******	

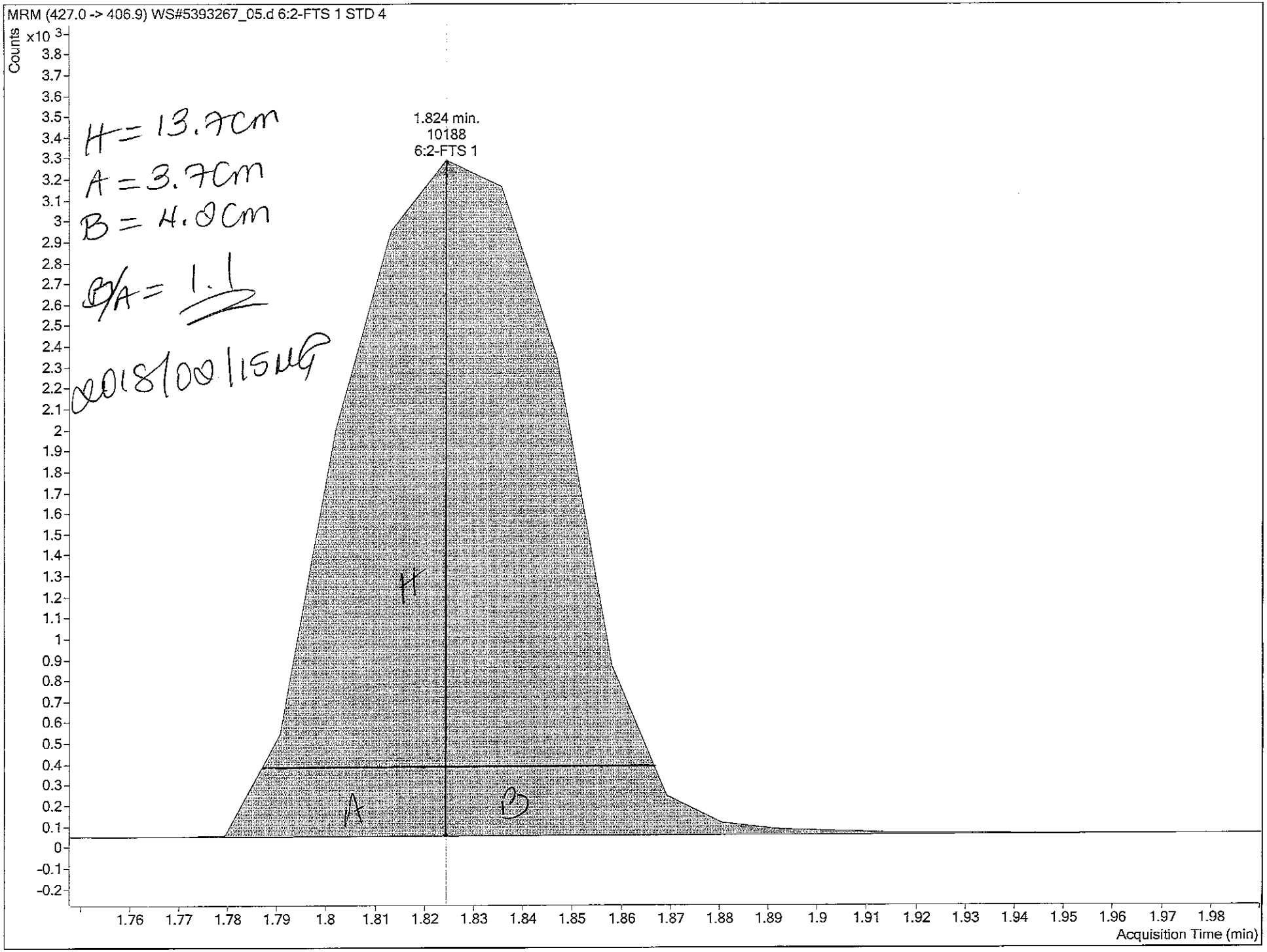
Worksheet Number: **5393267**

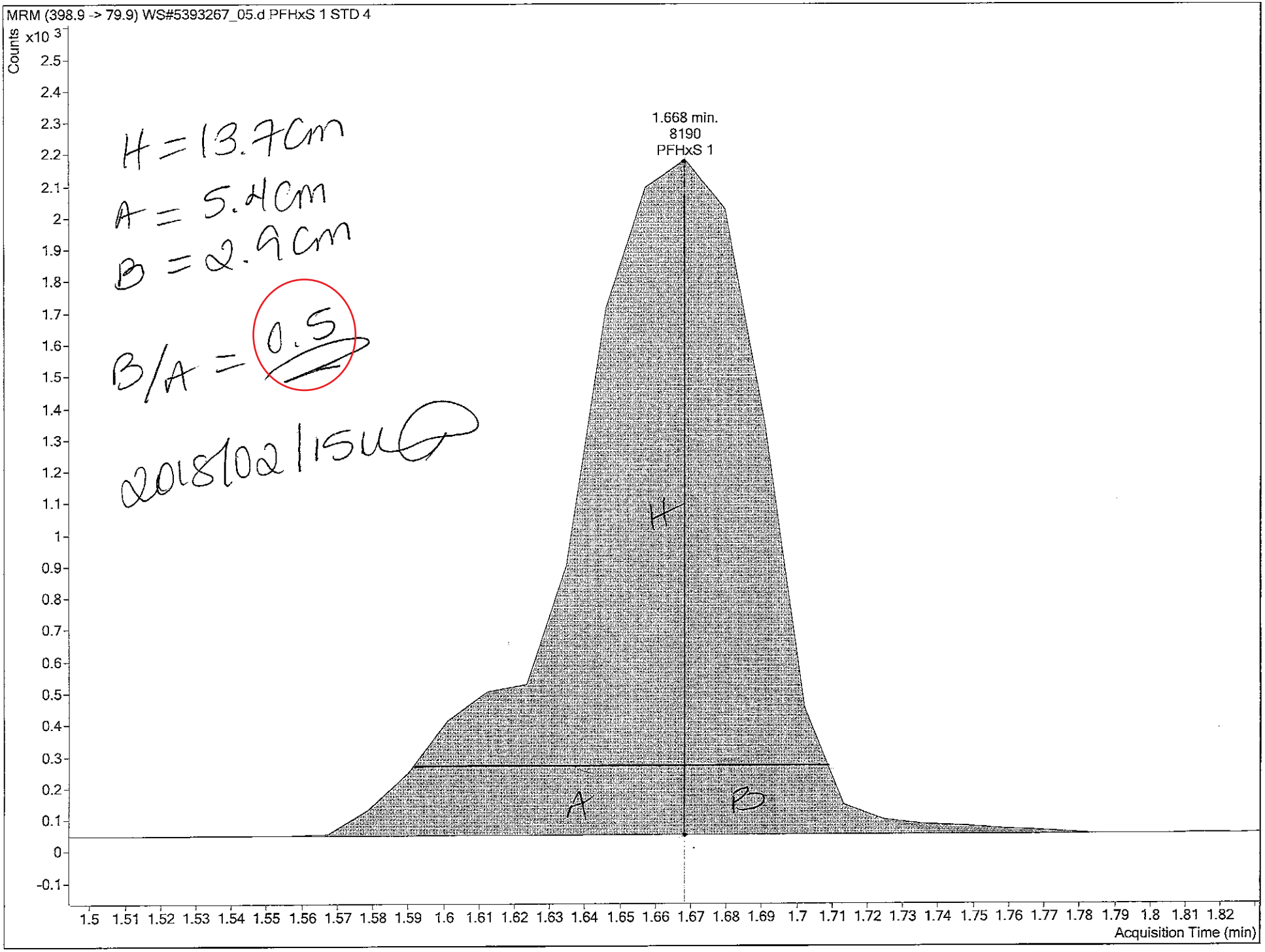
PFOS and PFOA in water by SPE/LCMS - Water

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				
N-ethylperfluorooctane sulfonamide	0.02	0.01	0				
EtFOSAA	0.02	0.0033	0				
N-ethylperfluorooctane sulfonamidoe	0.02	0.0079	0				
N-methylperfluorooctane sulfonamide	0.02	0.013	0				
MeFOSAA	0.02	0.0029	0				
N-methylperfluorooctanesulfonamidol	0.02	0.012	0				
Perfluorobutanoic acid	0.02	0.0055	0				
Perfluorobutane Sulfonate (PFBS)	0.02	0.0054	0				
Perfluorodecanoic Acid (PFDA)	0.02	0.0061	0				
Perfluorododecanoic Acid (PFDoA)	0.02	0.005	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				
Perfluoro-n-Octanoic Acid (PFOA)	0.02	0.0033	0				
Perfluorooctane Sulfonate (PFOS)	0.02	0.006	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				
13C2-6:2 Fluorotelomer sulfonate							
13C2-8:2 Fluorotelomer sulfonate							
13C2-Perfluorodecanoic acid							
13C2-Perfluorododecanoic acid							
13C2-Perfluorohexanoic acid							
13C2-perfluorotetradecanoic acid							
13C2-Perfluoroundecanoic acid							
13C4-Perfluorobutanoic acid							
13C4-Perfluoroheptanoic acid							
13C5-Perfluorononanoic acid							
13C4-Perfluorooctanoic acid							
13C4-Perfluorooctanesulfonate							
13C5-Perfluoropentanoic acid							
13C8-Perfluorooctane Sulfonamide							
18O2-Perfluorohexanesulfonate							
D3-MeFOSAA							
D5-EtFOSAA							
N-methyl-d3-perfluorooctane sulfona							
N-ethyl-d5-perfluorooctane sulfonam							


PFOS 1 - 6 Levels, 6 Levels Used, 6 Points, 6 Points Used, 2 QCs
y = 0.148793 * x - 0.037265
R^2 = 0.99
Type:Linear, Origin:Ignore, Weight:1/x
Avg. RF RSD = 15.142463
Relative Responses
Relative Concentration
Manual alcalation for SPK
3.3017 = 0.148793X - 0.037265
X = 22.44033 ng/L
2018/02/15 UG


MRM (427.0 -> 406.9) WS#5393267_05.d 6:2-FTS 1 STD 4
Counts
x10 3
1.824 min.
10188
6:2-FTS 1
H= 13.7cm
A= 3.7cm
B= 4.0cm
B/A= 1.1
20018/00115MG
H
A
B
Acquisition Time (min)


MRM (398.9 -> 79.9) WS#5393267_05.d PFHxS 1 STD 4
Counts
x10 3
1.668 min.
8190
PFHxS 1
H = 13.7cm
A = 5.4cm
B = 2.9cm
B/A = 0.5
20181021 15U
H
A
B
Acquisition Time (min)

Report Name: Worksheet - Parameter Lists

Report Date: 2018/02/15

Test Code: **PFOSALCM-W**

Worksheet Number: **5393267**

Sample Number	Parameter Code	Parameter	
FZY553-01	6:2FTS	6:2 Fluorotelomer sulfonate	*
	PFHXS	Perfluorohexane Sulfonate (PFHxS)	
GAD933-01	PFOS	Perfluorooctane Sulfonate (PFOS)	
GAD934-01	PFHXS	Perfluorohexane Sulfonate (PFHxS)	
	PFOS	Perfluorooctane Sulfonate (PFOS)	

* - This parameter is usually off, but will be reported for this group of samples!

WorkSheet 5393267 Instrument Sequences

1.	 5393267:SPIKE	SPIKE
2.	 5393267:SPIKE:D1	SPIKE :D1
3.	 5393267:BLANK	BLANK
4.	 5393267:FZY553-01	[redacted]
5.	 5393267:FZY553-01:D1	[redacted]
6.	 5393267:GAD933-01	CEF-860-TW01-0118
7.	 5393267:GAD933-01:D1	CEF-860-TW01-0118 :D1
8.	 5393267:GAD934-01	CEF-1820-TW01-0118
9.	 5393267:GAD934-01:D1	CEF-1820-TW01-0118 :D1

Worklist Report

Agilent Technologies

Instrument Name: LCMS04 **Worklist Path:** D:\MassHunter\Worklists\PFCs\PFC_180213_High_B.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\20180213\WS#5393267
Pre-Worklist Script: ---
Post-Worklist Script: SCP_InstrumentStandby(){MH_Acq_Scripts.exe}
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: Column #198
MP A1: Solution# 280 (FSRE18)
MP B1: Methanol lot# SHBJ5451, Sigma

20180213

Plate Barcode:

Plate	Barcode
P4	

20180213

Worklist Table

	Sample Name	Sample Position	Method	Data File	Sample Type	Level Name	Inj Vol (µl)	Comment
1	Solvent	P4-A1	PFC_Water_High.m	WS#5393267_01.d	Sample		As Method	-
2	STD 1	P4-C6	PFC_Water_High.m	WS#5393267_02.d	Calibration	STD 1	As Method	-
3	STD 2	P4-C7	PFC_Water_High.m	WS#5393267_03.d	Calibration	STD 2	As Method	-
4	STD 3	P4-C8	PFC_Water_High.m	WS#5393267_04.d	Calibration	STD 3	As Method	-
5	STD 4	P4-C9	PFC_Water_High.m	WS#5393267_05.d	Calibration	STD 4	As Method	-
6	STD 5	P4-D1	PFC_Water_High.m	WS#5393267_06.d	Calibration	STD 5	As Method	-
7	STD 6	P4-D2	PFC_Water_High.m	WS#5393267_07.d	Calibration	STD 6	As Method	-
8	IB	P4-D3	PFC_Water_High.m	WS#5393267_08.d	Sample		As Method	-
9	ICV	P4-D4	PFC_Water_High.m	WS#5393267_09.d	QC	ICV	As Method	-
10	ISC	P4-C6	PFC_Water_High.m	WS#5393267_10.d	ConCal	STD 1	As Method	-
11	5393267:BLANK	P4-D5	PFC_Water_High.m	WS#5393267_11.d	Sample		As Method	-
12	5393267:SPIKE	P4-D6	PFC_Water_High.m	WS#5393267_12.d	QC	ICV	As Method	-
13	5393267:SPIKE:D1	P4-D7	PFC_Water_High.m	WS#5393267_13.d	Sample		As Method	-

20180213

	Sample Name	Sample Position	Method	Data File	Sample Type	Level Name	Inj Vol (µl)	Comment
14	5393267:GAD933-01:10x	P4-D8	PFC_Water_High.m	WS#5393267_14.d	Sample		As Method	-
15	5393267:GAD933-01:D1:10x	P4-D9	PFC_Water_High.m	WS#5393267_15.d	Sample		As Method	-
16	5393267:GAD933-01:D1:10x PS	P4-E1	PFC_Water_High.m	WS#5393267_16.d	Sample		As Method	-
17	5393267:GAD933-01	P4-E2	PFC_Water_High.m	WS#5393267_17.d	Sample		As Method	-
18	5393267:GAD933-01:D1	P4-E3	PFC_Water_High.m	WS#5393267_18.d	Sample		As Method	-
19	5393267:GAD933-01:D1 PS	P4-E4	PFC_Water_High.m	WS#5393267_19.d	Sample		As Method	-
20	IB	P4-D3	PFC_Water_High.m	WS#5393267_20.d	Sample		As Method	-
21	CCV	P4-C9	PFC_Water_High.m	WS#5393267_21.d	ConCal	STD 4	As Method	-
22	5393267:GAD934-01:100x	P4-E5	PFC_Water_High.m	WS#5393267_22.d	Sample		As Method	-
23	5393267:GAD934-01:D1:100x	P4-E6	PFC_Water_High.m	WS#5393267_23.d	Sample		As Method	-
24	5393267:GAD934-01:D1:100x PS	P4-E7	PFC_Water_High.m	WS#5393267_24.d	Sample		As Method	-
25	5393267:GAD934-01:10x	P4-E8	PFC_Water_High.m	WS#5393267_25.d	Sample		As Method	-
26	5393267:GAD934-01:D1:10x	P4-E9	PFC_Water_High.m	WS#5393267_26.d	Sample		As Method	-
27	5393267:GAD934-01:D1:10x PS	P4-F1	PFC_Water_High.m	WS#5393267_27.d	Sample		As Method	-
28	IB	P4-D3	PFC_Water_High.m	WS#5393267_28.d	Sample		As Method	-
29	CCV	P4-C9	PFC_Water_High.m	WS#5393267_29.d	ConCal	STD 4	As Method	-
30	5393267:FZY553-01:10x	P4-F2	PFC_Water_High.m	WS#5393267_30.d	Sample		As Method	-
31	5393267:FZY553-01:D1:10x	P4-F3	PFC_Water_High.m	WS#5393267_31.d	Sample		As Method	-
32	5393267:FZY553-01:D1:10x PS	P4-F4	PFC_Water_High.m	WS#5393267_32.d	Sample		As Method	-
33	5393267:FZY553-01	P4-F5	PFC_Water_High.m	WS#5393267_33.d	Sample		As Method	-
34	5393267:FZY553-01:D1	P4-F6	PFC_Water_High.m	WS#5393267_34.d	Sample		As Method	-
35	5393267:FZY553-01:D1 PS	P4-F7	PFC_Water_High.m	WS#5393267_35.d	Sample		As Method	-
36	IB	P4-D3	PFC_Water_High.m	WS#5393267_36.d	Sample		As Method	-
37	CCV	P4-C9	PFC_Water_High.m	WS#5393267_37.d	ConCal	STD 4	As Method	-

FINAL INJECTION SEQUENCE

Sample					
Name	Comment	Acq. Date-Time	Acq. Method File	Data File	Pos.
STD 1	-	2018/02/14 7:47 AM	PFC_Water_High.m	WS#5393267_02.d	P4-C6
STD 2	-	2018/02/14 7:52 AM	PFC_Water_High.m	WS#5393267_03.d	P4-C7
STD 3	-	2018/02/14 7:57 AM	PFC_Water_High.m	WS#5393267_04.d	P4-C8
STD 4	-	2018/02/14 8:02 AM	PFC_Water_High.m	WS#5393267_05.d	P4-C9
STD 5	-	2018/02/14 8:07 AM	PFC_Water_High.m	WS#5393267_06.d	P4-D1
STD 6	-	2018/02/14 8:12 AM	PFC_Water_High.m	WS#5393267_07.d	P4-D2
IB	-	2018/02/14 8:17 AM	PFC_Water_High.m	WS#5393267_08.d	P4-D3
ICV	-	2018/02/14 8:22 AM	PFC_Water_High.m	WS#5393267_09.d	P4-D4
ISC	-	2018/02/14 8:27 AM	PFC_Water_High.m	WS#5393267_10.d	P4-C6
5393267:BLANK	-	2018/02/14 8:32 AM	PFC_Water_High.m	WS#5393267_11.d	P4-D5
5393267:SPIKE	-	2018/02/14 8:37 AM	PFC_Water_High.m	WS#5393267_12.d	P4-D6
5393267:SPIKE:D1	-	2018/02/14 8:41 AM	PFC_Water_High.m	WS#5393267_13.d	P4-D7
5393267:GAD933-01:10x	Reported for PFOS only.	2018/02/14 8:46 AM	PFC_Water_High.m	WS#5393267_14.d	P4-D8
5393267:GAD933-01:D1:10x	Reported for PFOS only.	2018/02/14 8:51 AM	PFC_Water_High.m	WS#5393267_15.d	P4-D9
5393267:GAD933-01:D1:10x PS	-	2018/02/14 8:56 AM	PFC_Water_High.m	WS#5393267_16.d	P4-E1
5393267:GAD933-01	not used.	2018/02/14 9:01 AM	PFC_Water_High.m	WS#5393267_17.d	P4-E2
5393267:GAD933-01:D1	not used.	2018/02/14 9:06 AM	PFC_Water_High.m	WS#5393267_18.d	P4-E3
5393267:GAD933-01:D1 PS	-	2018/02/14 9:11 AM	PFC_Water_High.m	WS#5393267_19.d	P4-E4
IB	-	2018/02/14 9:16 AM	PFC_Water_High.m	WS#5393267_20.d	P4-D3
CCV	-	2018/02/14 9:21 AM	PFC_Water_High.m	WS#5393267_21.d	P4-C9
5393267:GAD934-01:100x	Reported for PFOS only.	2018/02/14 9:26 AM	PFC_Water_High.m	WS#5393267_22.d	P4-E5
5393267:GAD934-01:D1:100x	Reported for PFOS only.	2018/02/14 9:31 AM	PFC_Water_High.m	WS#5393267_23.d	P4-E6
5393267:GAD934-01:D1:100x PS	-	2018/02/14 9:36 AM	PFC_Water_High.m	WS#5393267_24.d	P4-E7
5393267:GAD934-01:10x	Reported for PFHxS only.	2018/02/14 9:40 AM	PFC_Water_High.m	WS#5393267_25.d	P4-E8
5393267:GAD934-01:D1:10x	Reported for PFHxS only.	2018/02/14 9:45 AM	PFC_Water_High.m	WS#5393267_26.d	P4-E9
5393267:GAD934-01:D1:10x PS	-	2018/02/14 9:50 AM	PFC_Water_High.m	WS#5393267_27.d	P4-F1
IB	-	2018/02/14 9:55 AM	PFC_Water_High.m	WS#5393267_28.d	P4-D3
CCV	-	2018/02/14 10:00 AM	PFC_Water_High.m	WS#5393267_29.d	P4-C9
5393267:FZY553-01:10x	Reported for 6:2-FTS, PFHxS only.	2018/02/14 10:05 AM	PFC_Water_High.m	WS#5393267_30.d	P4-F2
5393267:FZY553-01:D1:10x	Reported for 6:2-FTS, PFHxS only.	2018/02/14 10:10 AM	PFC_Water_High.m	WS#5393267_31.d	P4-F3
5393267:FZY553-01:D1:10x PS	-	2018/02/14 10:15 AM	PFC_Water_High.m	WS#5393267_32.d	P4-F4
5393267:FZY553-01	not used.	2018/02/14 10:20 AM	PFC_Water_High.m	WS#5393267_33.d	P4-F5
5393267:FZY553-01:D1	not used.	2018/02/14 10:25 AM	PFC_Water_High.m	WS#5393267_34.d	P4-F6

FINAL INJECTION SEQUENCE

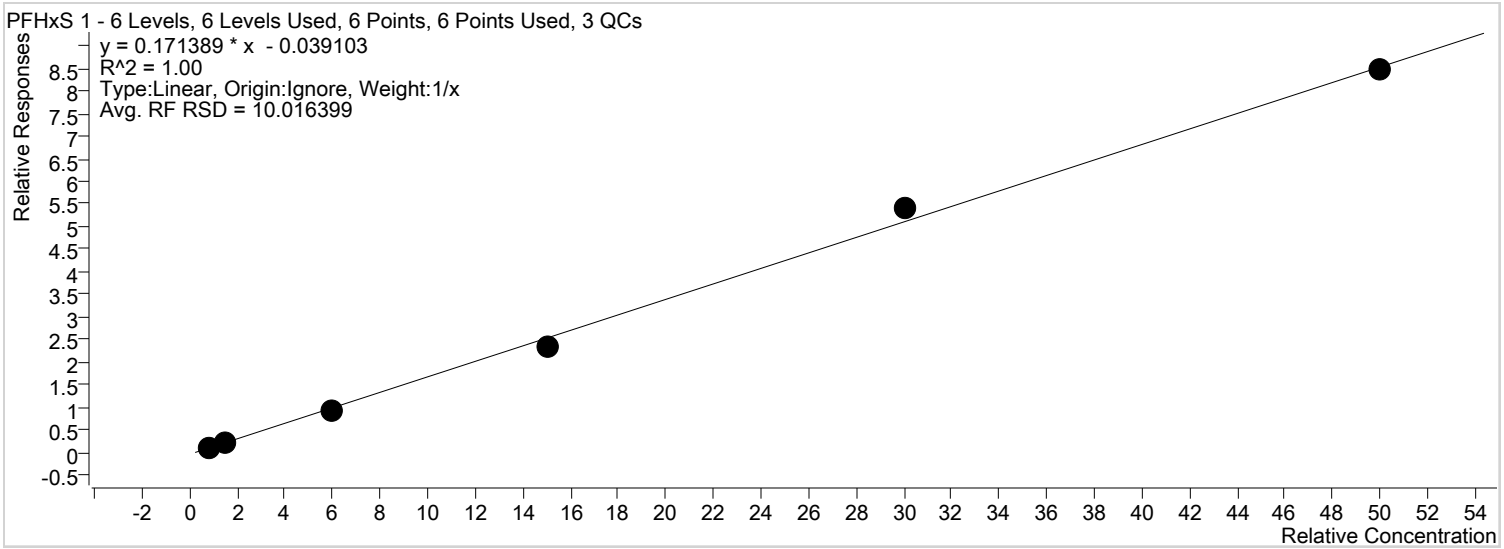
Sample					
Name	Comment	Acq. Date-Time	Acq. Method File	Data File	Pos.
5393267:FZY553-01:D1 PS	-	2018/02/14 10:30 AM	PFC_Water_High.m	WS#5393267_35.d	P4-F7
IB	-	2018/02/14 10:34 AM	PFC_Water_High.m	WS#5393267_36.d	P4-D3
CCV	-	2018/02/14 10:39 AM	PFC_Water_High.m	WS#5393267_37.d	P4-C9

By Compound Report

Agilent Technologies

Batch Path T:\lcms4\PFC\20180213\WS#5393267\QuantResults\PFC_Water_High_180213_WS#5393267_EToxics.batch.bin
Last Calib Update 2018/02/21 9:31:54 AM
Instrument: LCMS04

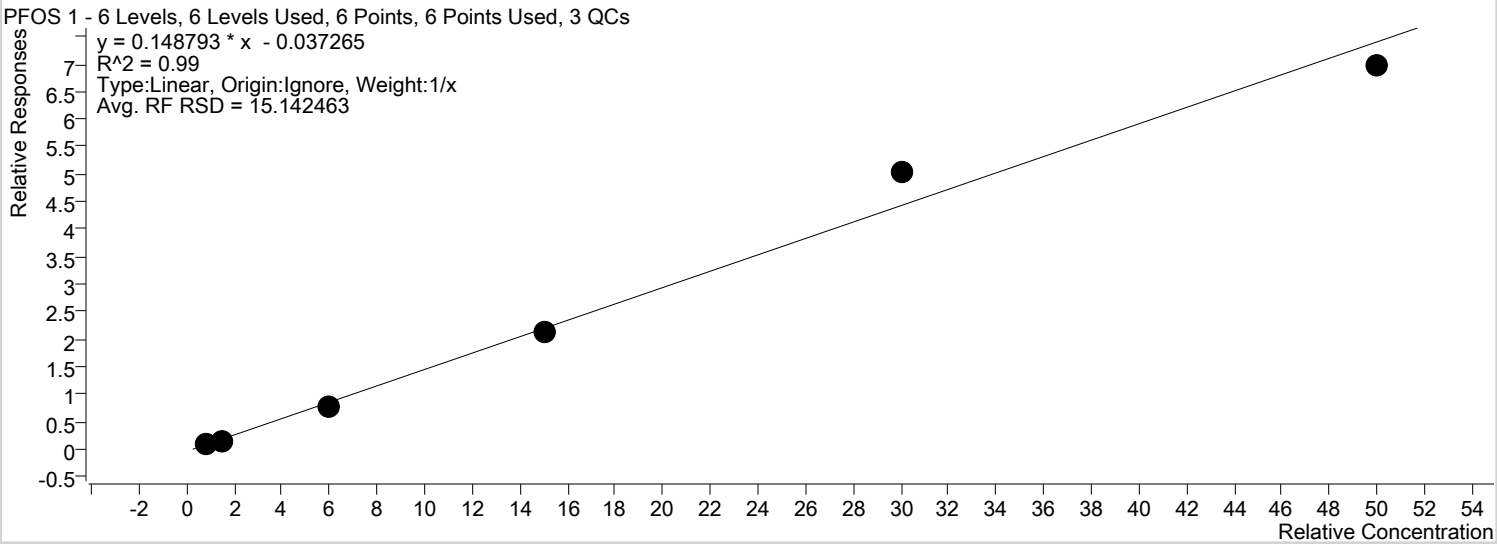
Analyte: PFHxS 1
Internal Standard: MPFHxS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/14 7:47:53 AM	0.80	0.86	399	0.1363	53	108.1
STD 2	STD 2	x	2018/02/14 7:52:49 AM	1.50	1.51	759	0.1470	213	101.0
STD 3	STD 3	x	2018/02/14 7:57:45 AM	6.00	5.57	3436	0.1527	367	92.9
STD 4	STD 4	x	2018/02/14 8:02:41 AM	15.00	13.93	8190	0.1566	422	92.9
STD 5	STD 5	x	2018/02/14 8:07:37 AM	30.00	31.76	18587	0.1802	1089	105.9
STD 6	STD 6	x	2018/02/14 8:12:31 AM	50.00	49.65	28495	0.1694	1497	99.3

Batch Path T:\lcms4\PFC\20180213\WS#5393267\QuantResults\PFC_Water_High_180213_WS#5393267_EToxics.batch.bin
Last Calib Update 2018/02/21 9:31:54 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	2018/02/14 7:47:53 AM	0.80	0.94	511	0.1291	56	118.1
STD 2	STD 2	x	2018/02/14 7:52:49 AM	1.50	1.31	823	0.1052	144	87.4
STD 3	STD 3	x	2018/02/14 7:57:45 AM	6.00	5.40	3274	0.1278	477	90.0
STD 4	STD 4	x	2018/02/14 8:02:41 AM	15.00	14.52	8626	0.1416	801	96.8
STD 5	STD 5	x	2018/02/14 8:07:37 AM	30.00	34.03	19436	0.1675	1627	113.4
STD 6	STD 6	x	2018/02/14 8:12:31 AM	50.00	47.09	28790	0.1394	2372	94.2

Quantitation Results

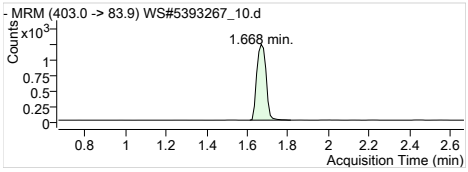
Agilent Technologies

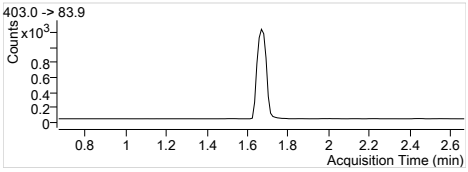
Batch Path	T:\lcms4\PFC\20180213\WS#5393267\QuantResults\PFC_Water_High_180213_WS#5393267_EToxics

Sample Name	**ISC**	**Instrument**	LCMS04
Data File	WS#5393267_10.d	**Operator**	
Sample Type	CC	**Dilution**	1
Acq. Method	PFC_Water_High.m	**Position**	P4-C6
Acq. Date	2018/02/14 8:27:13 AM	**Injection Volume**	Per Method
Sample Annotation	-		

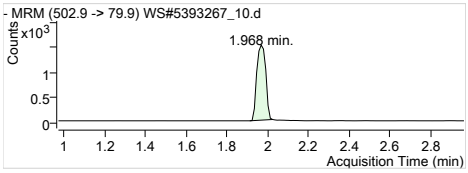
ISTD Compounds	Response	RT	Target conc.		
MPFHxS	3812	1.67	1 µg/L		
MPFOS	4550	1.97	1 µg/L		
13C6-PFHxA IS	33956	1.41	1 µg/L		

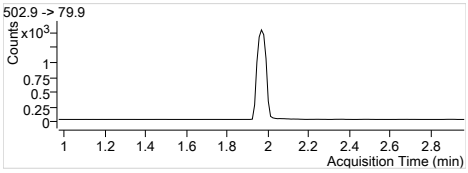
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFHxS 1	446	1.67	0.80	0.91 µg/L	113.85
PFOS 1	528	1.96	0.80	1.03 µg/L	128.79
13C6-PFHxA	33956	1.41	100.00	99.58 µg/L	99.58
18O2-PFHxS	3812	1.67	100.00	108.63 µg/L	108.63
13C4-PFOS	4550	1.97	100.00	103.65 µg/L	103.65



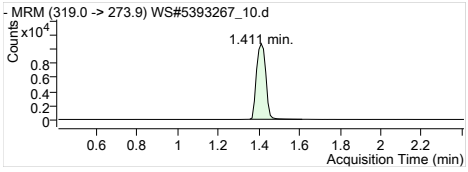


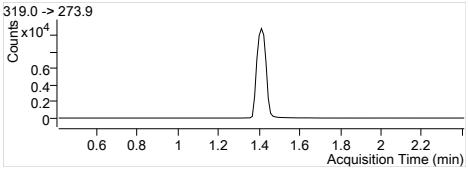
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: CC



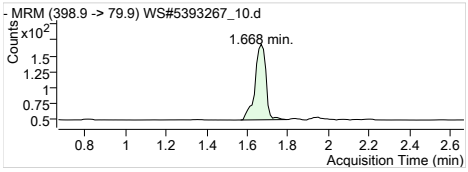


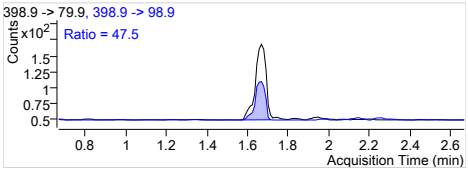
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: CC



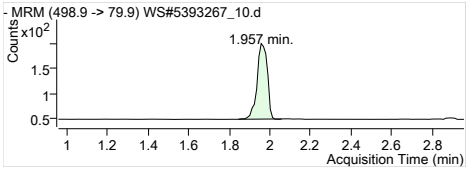


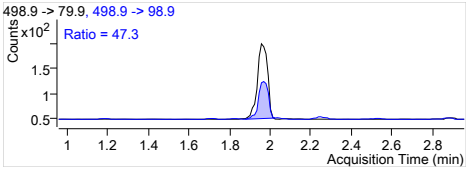
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: CC



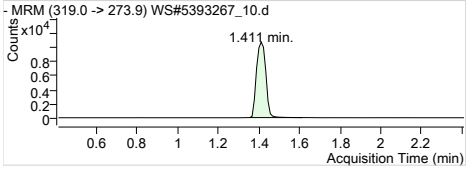


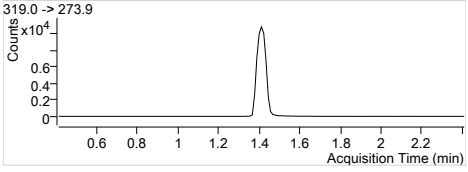
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 0.91 µg/L
Area ratio: 0.11700
Sample type: CC





PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 1.03 µg/L
Area ratio: 0.11604
Sample type: CC





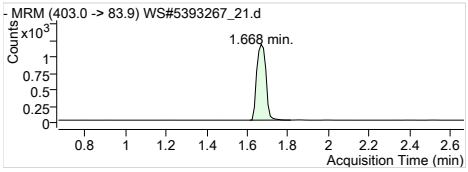
13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 99.58 µg/L
Area ratio: 0
Sample type: CC

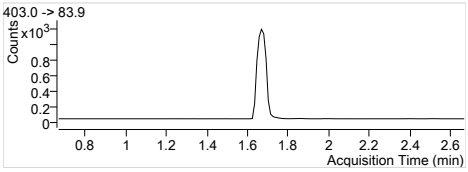
Batch Path	T:\lcms4\PFC\20180213\WS#5393267\QuantResults\PFC_Water_High_180213_WS#5393267_EToxics

Sample Name	**CCV**	**Instrument**	LCMS04
Data File	WS#5393267_21.d	**Operator**	
Sample Type	CC	**Dilution**	1
Acq. Method	PFC_Water_High.m	**Position**	P4-C9
Acq. Date	2018/02/14 9:21:17 AM	**Injection Volume**	Per Method
Sample Annotation	-		

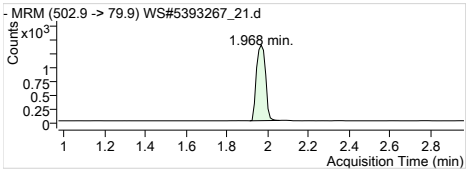
ISTD Compounds	Response	RT	Target conc.		
MPFHxS	3619	1.67	1 µg/L		
MPFOS	4222	1.97	1 µg/L		
13C6-PFHxA IS	33101	1.41	1 µg/L		

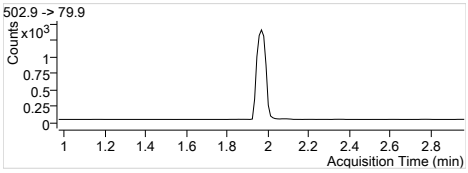
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFHxS 1	8191	1.67	15.00	13.43 µg/L	89.56
PFOS 1	8335	1.96	15.00	13.52 µg/L	90.12
13C6-PFHxA	33101	1.41	100.00	97.07 µg/L	97.07
18O2-PFHxS	3619	1.67	100.00	105.80 µg/L	105.80
13C4-PFOS	4222	1.97	100.00	98.66 µg/L	98.66



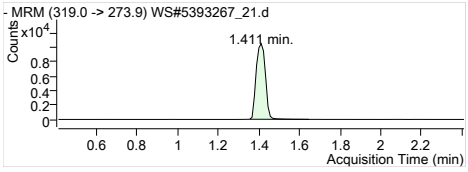


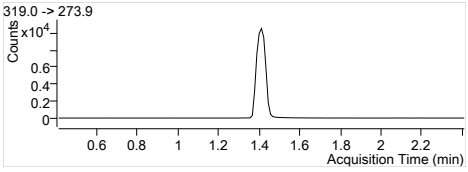
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: CC



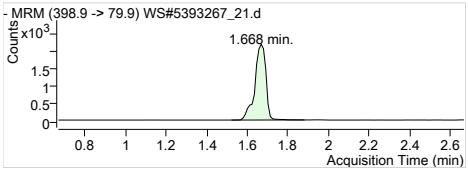


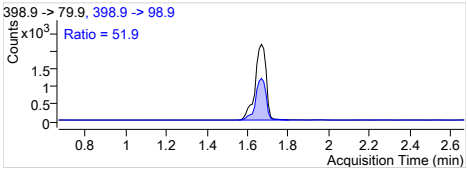
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: CC



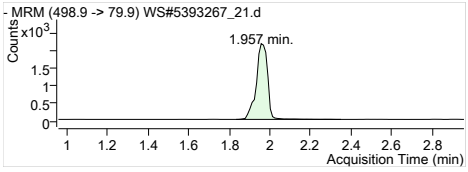


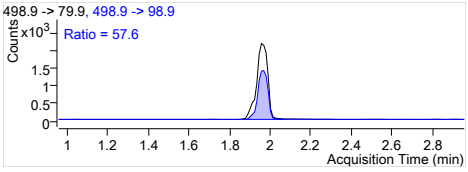
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: CC



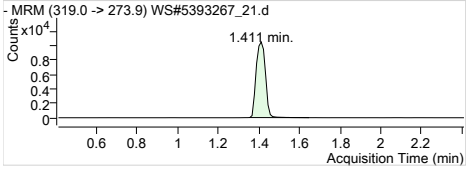


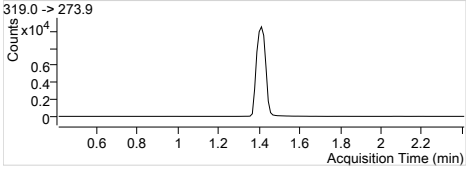
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 13.43 µg/L
Area ratio: 2.26333
Sample type: CC





PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 13.52 µg/L
Area ratio: 1.97418
Sample type: CC





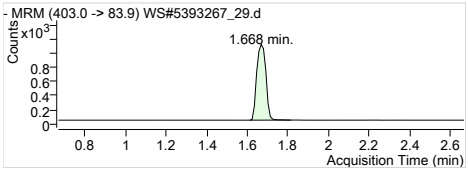
13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 97.07 µg/L
Area ratio: 0
Sample type: CC

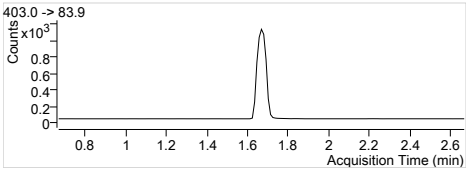
Batch Path	T:\lcms4\PFC\20180213\WS#5393267\QuantResults\PFC_Water_High_180213_WS#5393267_EToxics

Sample Name	**CCV**	**Instrument**	LCMS04
Data File	WS#5393267_29.d	**Operator**	
Sample Type	CC	**Dilution**	1
Acq. Method	PFC_Water_High.m	**Position**	P4-C9
Acq. Date	2018/02/14 10:00:38 AM	**Injection Volume**	Per Method
Sample Annotation	-		

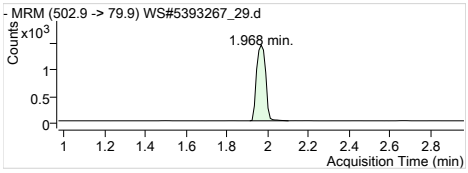
ISTD Compounds	Response	RT	Target conc.		
MPFHxS	3400	1.67	1 µg/L		
MPFOS	4388	1.97	1 µg/L		
13C6-PFHxA IS	33609	1.41	1 µg/L		

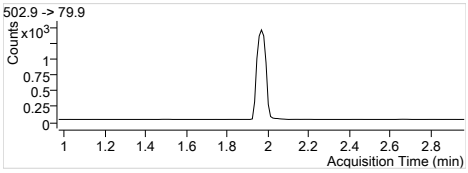
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFHxS 1	8195	1.67	15.00	14.29 µg/L	95.28
PFOS 1	8296	1.96	15.00	12.96 µg/L	86.38
13C6-PFHxA	33609	1.41	100.00	98.56 µg/L	98.56
18O2-PFHxS	3400	1.67	100.00	97.89 µg/L	97.89
13C4-PFOS	4388	1.97	100.00	100.99 µg/L	100.99



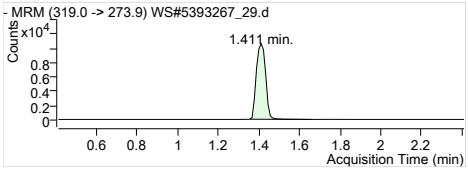


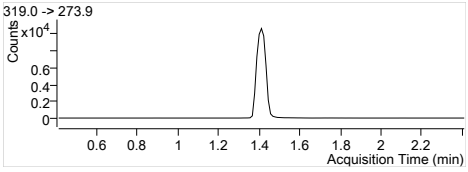
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: CC



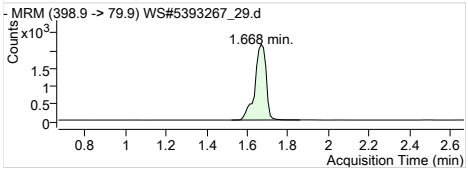


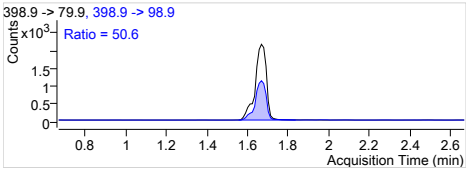
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: CC



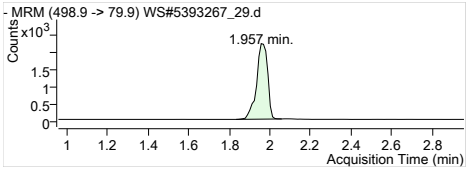


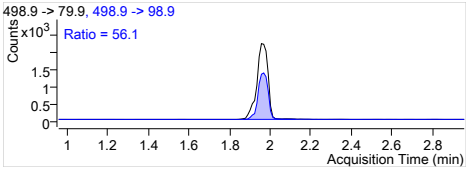
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: CC



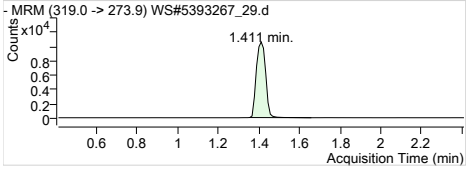


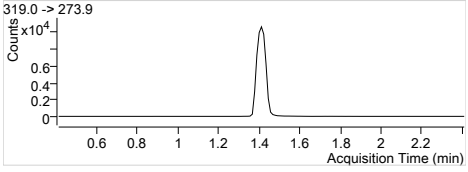
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 14.29 µg/L
Area ratio: 2.41029
Sample type: CC





PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 12.96 µg/L
Area ratio: 1.89061
Sample type: CC





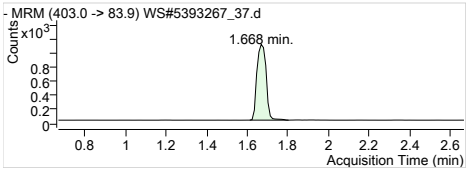
13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 98.56 µg/L
Area ratio: 0
Sample type: CC

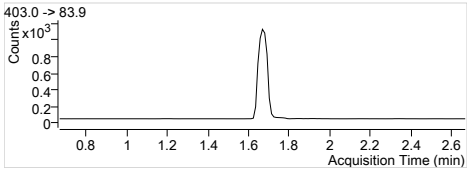
Batch Path	T:\lcms4\PFC\20180213\WS#5393267\QuantResults\PFC_Water_High_180213_WS#5393267_EToxics

Sample Name	**CCV**	**Instrument**	LCMS04
Data File	WS#5393267_37.d	**Operator**	
Sample Type	CC	**Dilution**	1
Acq. Method	PFC_Water_High.m	**Position**	P4-C9
Acq. Date	2018/02/14 10:39:54 AM	**Injection Volume**	Per Method
Sample Annotation	-		

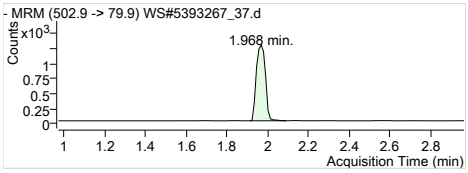
ISTD Compounds	Response	RT	Target conc.		
MPFHxS	3427	1.67	1 µg/L		
MPFOS	3938	1.97	1 µg/L		
13C6-PFHxA IS	32665	1.41	1 µg/L		

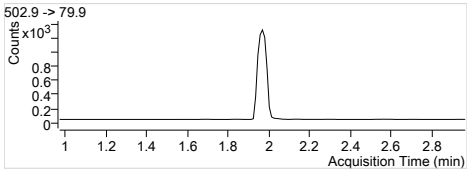
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFHxS 1	8607	1.67	15.00	14.88 µg/L	99.21
PFOS 1	8378	1.96	15.00	14.55 µg/L	96.99
13C6-PFHxA	32665	1.41	100.00	95.80 µg/L	95.80
18O2-PFHxS	3427	1.67	100.00	101.52 µg/L	101.52
13C4-PFOS	3938	1.97	100.00	93.25 µg/L	93.25



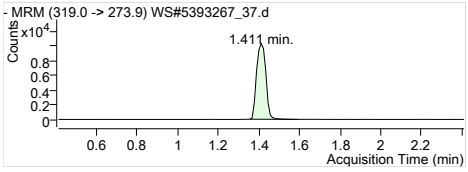


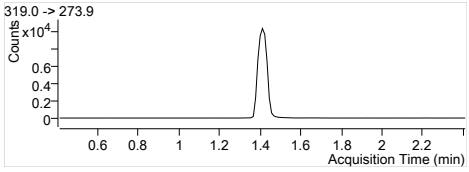
MPFHxS Internal Standard
RT (Exp. RT): 1.668 (1.668)
Concentration: 1 µg/L
Sample type: CC



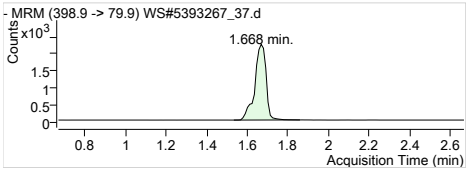


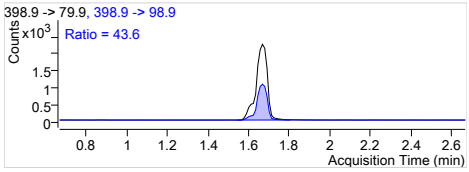
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: CC



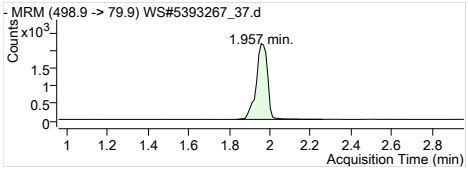


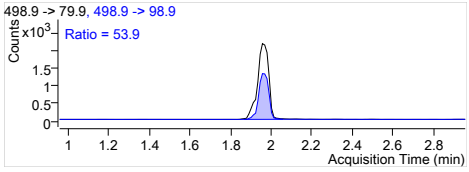
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.411)
Concentration: 1 µg/L
Sample type: CC



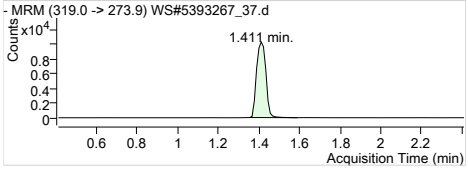


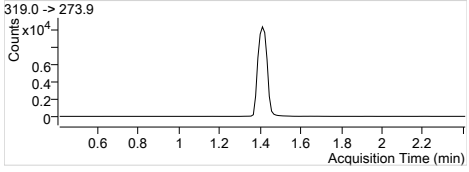
PFHxS 1 398.9 -> 79.9
RT (Exp. RT): 1.668 (1.668)
Calc. conc. 14.88 µg/L
Area ratio: 2.51153
Sample type: CC





PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 14.55 µg/L
Area ratio: 2.12748
Sample type: CC





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.411)
Calc. conc. 95.80 µg/L
Area ratio: 0
Sample type: CC

DoD Projects - Internal Data Validation Checklist

Run date: 2018/02/13

Worksheet # (s): 539567 9

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: LE | Date: 2018/02/14

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: [signature] | Date: 2018/02/14

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

Worksheet Data Validation Checklist - Extractable Organics

Worksheet # 5395679 Testcode: PFOSACCM-W

Sample Preparation		yes	no	n/a
1	Samples extracted within hold time		✓	
2	Client sample ID verified against Lab ID (waters & oils)	✓		
3	Parameter list and Client comments reviewed, (Spiking solutions matched to parameter list)	✓		
4	Height of sediment or if sample was decanted, recorded on worksheet	✓		
5	Method required QC processed with samples, maximum batch size = 20 client samples.	✓		
6	Sample, duplicate, matrix spike appear similar, initial sample as well as final extract	✓		
7	Sample weight or initial volume and extract final volume, aliquot factor clearly recorded.	✓		
8	If performed any additional dilution clearly recorded	✓		
9	Matrix spike / Duplicate performed on IOL samples if present			✓
10	Spiking solutions valid (haven't expired), ID and volume used clearly identified on worksheet	✓		
11	Spiking process witnessed and signed off	✓		
12	Extraction type recorded (N3A2B = neutral, 3 x acidic, 2 x basic)			✓
13	Sample prep deviations documented within CompliantPro as a Policy Deviation			✓
14	Job Remarks reviewed on 2nd page of worksheet.	✓		
15	Worksheet and reagent tracking record completed and authorized.	✓		

Reviewed by: SSV Date: 2018-11-12

Comments:

Worksheet Approval		yes	no	n/a
1	Verified the position of the vials in autosampler against sequence list; signed off sequence list			
2	Calibration and CCV standards valid (haven't expired)			
3	Initial calibration curve and DFTPP tune (if applicable) acceptable			
4	Continuing and Final CCV and DFTPP tune (if applicable) acceptable			
5	System performance check acceptable (if applicable)			
6	Internal standard responses acceptable			
7	Method blank meets acceptance criteria			
8	Lab Control Samples recoveries meets acceptance criteria			
9	Duplicate RPD meets acceptance criteria			
10	Matrix spike recoveries meets acceptance criteria			
11	Surrogate recoveries meets acceptance criteria			
12	Appropriate control charts updated			
13	Samples above calibration range diluted and reanalyzed			
14	Dilutions clearly documented on tracking record, inst file and verified during data upload			
15	Samples following high level samples checked for carryover.			
16	Mass spectra ion ratios acceptable for positive results, hardcopy in file.			
17	Analytical observations / anomalies documented			
18	DQW comments entered in LIMS, hardcopy in file			
19	Sample Prep section (above) reviewed and verified.			
20	WS Approval performed in LIMS			

Reviewed by: Date:

Comments:

Worksheet Validation		yes	no	n/a
1	Calibration, QC and sample results reviewed and determined acceptable			
2	Manual integrations verified			
3	Random calculation checked			
4	Data and QC validated in LIMS			
5	Comments reviewed for appropriateness			
6	Reworks / relogs documented in file			
7	Worksheet signed and dated,			
8	Worksheet approved and validated within LIMS			

Reviewed by: Date:

Comments:

WS# : 5395679

Page #: 1/2

RUSH

Report Name : Worksheet - (Liquids and Solids)

Assignment Date : Monday, February 12, 2018

Assigned to : Shivani Shivani

Test Code : PFOSALCM-W

Instrument Id:

Test Description : PFOS and PFOA in water by LC-MS/MS

Job Number	Sample Number	D	Sample ID	R	Moisture (Sediment)	Wt or Vol	Final Vol	DF or AF	# Cont	Expiry Date	Test DeadLine	Criteria	Extract Date	
7-3		SPIKE	PFC-W		0	125	3	1X					2018/02/12	25
7-1		BLANK			0	125	3	1X					2018/02/12	26
7-5, 7	B820260	*FZJ957-01R	[redacted]		<0.1	100/125	3	1X/10X	2	2018/02/08	2018/02/09 23:00	DOD	2018/02/12	27
7-9	B823896*	*GAC702-01R	[redacted]		<0.1	125	3	1X	2	2018/02/12	2018/02/08 17:00	DOD	2018/02/12	29
7-11	B823896*	*GAC704-01R	[redacted]		<0.1	125	3	1X	2	2018/02/12	2018/02/08 17:00	DOD	2018/02/12	30
7-13	B824213	*GAD935-01R	FB-CEF-NG-01291*		0	125	3	1X	2	2018/02/12	2018/02/14 23:00	DOD	2018/02/12	32
7-14	B824213	*GAD936-01R	0 CEF-NG-025-0118		0	1.25	3	100X	6	2018/02/12	2018/02/14 23:00	DOD	2018/02/12	31
7-15	B824213	*GAD936-01R	1 CEF-NG-025-0118		0	1.25	3	100X	6	2018/02/12	2018/02/14 23:00	DOD	2018/02/12	26
7-17, 18	B824213	*GAD937-01R	CEF-NG-10S-0118		0	125/125	3	1X/10X	2	2018/02/12	2018/02/14 23:00	DOD	2018/02/12	28
7-20, 21	B824213	*GAD938-01R	CEF-860-TW02-01*		<0.1	62.5/5	3	2X/25X	2	2018/02/13	2018/02/14 23:00	DOD	2018/02/12	27
7-23	B827777*	*GAU809-01R	[redacted]		0	280	6	1X	1		2018/02/13 23:00		2018/02/12	30

2018/02/12 SSV

Shivani 2018/02/12.

Remarks: • Carbon-clean up done. All standards Cross Reference to 5395873
• Sample GAD936 is high sample we have to do (100X) High level analysis also, so I made sample (sample Dup for this.

Samples extracted by: Shivani Shivani

Instrumentation performed by: Date: 2018/02/13

Calculations performed by: Date: 2018/02/14

Validated by: Date: 2018/02/14

Job No.	Rep / Client Name / Remarks	Contact	Client Tier	National
GB820260	[redacted]			
GB823896				
GB824213	SP8 Earth Toxics Inc	Rick Carr	Tier 5 (Enviro.)	AECOM
	nreg, PFOSALCM-W Level IV Data Package and TetraTech EDD required The following samples will not be reported: GAD929, GAD930, GAD931, GAD932, GAD935 F/C by NGV - 2018/02/09 Project #: JM10 CECIL			
MB827777	[redacted]			

Job	Sample	Lab Comments
	SPIKE	
	BLANK	
B820260	FZJ957-01R	9 centrifuge sample at 4000 rpm.
B823896	GAC702-01R	〃
B823896	GAC704-01R	〃
B824213	GAD935-01R	
B824213	GAD936-01R	
B824213	GAD936-01R:DUP	
B824213	GAD937-01R	
B824213	GAD938-01R	
B827777	GAU809-01R	

Folder: 20180213 on 2018/02/14

Job No.	Rep / Client Name / Remarks	Contact	Client Tier	National
GB824253 MB827765	[redacted]			

Job	Sample	Lab Comments
	SPIKE	
	SPIKE	
	BLANK	
B824253	GAE032-01R	
B827765	GAU785-01R	

ICAL and ICV info only. MC 2018/02/26

Calibration standard Prepration.

	mcon(ue)	spk(ue)	IS
S_1	2825	25	SK7377
S_2	2800	50	
S_3	2700	150	
S_4	2813	37.5	I-5297
S_5	2775	75	
S_6	2725	125	
ICV	2788	62.5	I-5299
IB	2850		150(ue)

JC3 2018/02/12

Folder: 20180213

Folder: 20180213_5395873_PFBS

Worksheet Reagent Tracking Record Worksheet # 5395679

Surrogate/Spike solutions	√	Solution ID #	Conc.	Blk-Spk Volume (µL) Solid	Blk-Spk Volume (µL) Liquid	MS Volume (µL) Solid	MS Volume (µL) Liquid	Samples Volume (µL) Solid	Samples Volume (µL) 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-5299(1/3)	1ug/mL	75	21 62.5	75	21 62.5	NA	NA
PFC Internal Standard Solution	✓	SI-6763(4/4)	50/125 ng/mL	200	100 150	200	100 150	200	100/150 300
PFC Injection IS	✓	SI-6770(1/2)	~~400 ng/mL~~ 190	20	20	20	20	20	20
ICV	✓	I-5299(1/3)	ICV		62.5				

Solvent/Reagent	√	Lot No.	Date Opened	Solvent/Reagent	√	Lot No.	Date Opened/ Prepared
DCM				50% NaOH			
Ottawa Sand				o-Phosphoric Acid			
Methanol	✓	SHBB545	2018/02/12	Borax			
2-Propanol (IPA)				Calcium Chloride			
Acetonitrile				EDTA			
Sodium Sulfate				Phosphate Buffer			
70:30 Methanol: Water				Sodium Thiosulphate			
60:40 Water: Methanol	✓	PRREF	108-348	DNPH			
DCM:Ethyl Ether (75:25)				FMOC			
Hexane:IPA (98:2)				5M Acetate Buffer			
2% Formic Acid	✓	PRREF	108342	0.2% NH_4OH	✓	PRREF	108-354
0.2% Formic Acid				Leachate Fluid			
0.05M KOH				Reagent Water	✓	57797	2018/02/12
0.05M HCl							

*Spiked by: SSV

Spike Date: 2018/02/12

Spike Syringe/Pipette ID#: G24390G

Int. Std Syringe/Pipette ID#: Internal Std# K19865F/K39434G
Injection IS# G24390G

*Spiking Witnessed by: JP3

Final pH:

Equipment & ID	√	Equipment	ID#	√	Equipment	Lot #
Pipettor K19865F K39372F K55191G	✓	SPE Cartridge	0034372474	✓	QC Balance ID	FC-1
		Filter			Thermometer ID &Temp	
Dispenser		Centrifuge	42148683	10.00 10.05		
		Sonicator				

Bottle Tracking
Bottle# 18801
Cap# 18778
Systems plus Lot#: 18/01/31

Comments: 250ml Volumetric Cylinder # 3026
Enviro Carb # 92806V

* - SPIKING OF SAMPLES MUST BE WITNESSED AT ALL TIMES.

Worksheet: 5395679

Dilution and Column Cleanup Worksheet

Job Number	Sample ID	Sample: Initial Final Volume	Dilution Required	Sample added mL	Solvent Added mL	Int Stan Added uL	New Effective Final Volume	INITIAL SSV DATE	Column Clean Up
B826260	F20957	—	10X	12.5	—	150	12.5	2 18/02/12	—
B824213	GAD936	—	100X	1.25	123.75	150	125	2 18/02/12	—
	GAD937 RP	—	100X	1.25	123.75	150	125	2 18/02/12	—
	GAD937	—	10X	12.5	—	150	12.5	2 18/02/12	—
	GAD938	—	2X	62.5	—	150	62.5	2 18/02/12	—
	GAD938	—	25X	5	—	150	5	2 18/02/12	—
				2 18/02/12 SSV					

10mL # K551916
250mL volumetric cylinder #3026
CCMS mg # 57297

Worksheet Number: **5395679**

PFOS and PFOA in water by SPE/LCMS - Water

ug/L

Parameter Name	Units	SPIKE	DL	BLANK	DL	B820260 FZJ967 ReWork	DL
6:2 Fluorotelomer sulfonate	ug/L	110.75808	0.02	0	0.02	N/A*******	0.025
8:2 Fluorotelomer sulfonate	ug/L	107.35836	0.02	0	0.02	N/A*******	0.025
N-ethylperfluorooctane sulfonamide	ug/L	97.76149	0.02	0	0.02	N/A*******	0.025
EtFOSAA	ug/L	103.97722	0.02	0	0.02	N/A*******	0.025
N-ethylperfluorooctane sulfonamidoe	ug/L	105.75614	0.02	0	0.02	N/A*******	0.025
N-methylperfluorooctane sulfonamide	ug/L	97.88539	0.02	0	0.02	N/A*******	0.025
MeFOSAA	ug/L	101.06429	0.02	0	0.02	N/A*******	0.025
N-methylperfluorooctanesulfonamidol	ug/L	92.33202	0.02	0	0.02	N/A*******	0.025
Perfluorobutanoic acid	ug/L	112.65704	0.02	0	0.02	N/A*******	0.025
Perfluorobutane Sulfonate (PFBS)	ug/L	108.40467	0.02	0	0.02	N/A*******	0.025
Perfluorodecane Sulfonate	ug/L	106.56791	0.02	0	0.02	N/A*******	0.025
Perfluoroheptanoic Acid (PFHpA)	ug/L	102.01586	0.02	0	0.02	N/A*******	0.025
Perfluoroheptane sulfonate	ug/L	101.56074	0.02	0	0.02	N/A*******	0.025
Perfluorohexanoic Acid (PFHxA)	ug/L	90.99459	0.02	0	0.02	N/A*******	0.025
Perfluorohexane Sulfonate (PFHxS)	ug/L	101.81817	0.02	0	0.02	N/A*******	0.025
Perfluorononanoic Acid (PFNA)	ug/L	105.58995	0.02	0	0.02	N/A*******	0.025
Perfluorooctane Sulfonamide (PFOSA)	ug/L	106.70387	0.02	0	0.02	N/A*******	0.025
Perfluoropentanoic Acid (PFPeA)	ug/L	102.21755	0.02	0	0.02	N/A*******	0.025
Perfluorotetradecanoic Acid	ug/L	102.50910	0.02	0	0.02	0	0.025
Perfluorotridecanoic Acid	ug/L	99.58902	0.02	0	0.02	0	0.025
Perfluoroundecanoic Acid (PFUnA)	ug/L	110.80869	0.02	0	0.02	N/A*******	0.025
Perfluorodecanoic Acid (PFDA)	ug/L	111.18910	0.02	0	0.02	N/A*******	0.025
Perfluorododecanoic Acid (PFDoA)	ug/L	99.77674	0.02	0	0.02	N/A*******	0.025
Perfluoro-n-Octanoic Acid (PFOA)	ug/L	105.32950	0.02	0	0.02	N/A*******	0.025
Perfluorooctane Sulfonate (PFOS)	ug/L	92.75460	0.02	0	0.02	N/A*******	0.025
13C2-6:2 Fluorotelomer sulfonate	ug/L	71.1298407		103.941316		N/A*******	
13C2-8:2 Fluorotelomer sulfonate	ug/L	76.1125401		102.715952		N/A*******	
13C2-perfluorotetradecanoic acid	ug/L	72.5176556		80.0151268		57.5106789	
13C4-Perfluorobutanoic acid	ug/L	79.8665756		99.3083085		N/A*******	
D3-MeFOSAA	ug/L	67.4358767		82.0194136		N/A*******	
D5-EtFOSAA	ug/L	65.1733127		78.2838803		N/A*******	
N-methyl-d3-perfluorooctane sulfona	ug/L	74.1659803		77.2118807		N/A*******	
N-ethyl-d5-perfluorooctane sulfonam	ug/L	69.6269195		87.5772759		N/A*******	
13C2-Perfluorodecanoic acid	ug/L	77.1658132		91.2915437		N/A*******	
13C2-Perfluorododecanoic acid	ug/L	76.0858135		93.0279063		N/A*******	
13C2-Perfluorohexanoic acid	ug/L	86.2109213		102.312452		N/A*******	
13C2-Perfluoroundecanoic acid	ug/L	74.8042177		91.2142830		N/A*******	
13C4-Perfluoroheptanoic acid	ug/L	80.4607556		106.425403		N/A*******	
13C5-Perfluorononanoic acid	ug/L	79.7492693		98.5823790		N/A*******	
13C4-Perfluorooctanoic acid	ug/L	80.6281825		101.398959		N/A*******	
13C4-Perfluorooctanesulfonate	ug/L	87.5105571		95.4892733		N/A*******	
13C5-Perfluoropentanoic acid	ug/L	84.5046799		103.706794		N/A*******	
13C8-Perfluorooctane Sulfonamide	ug/L	72.3642273		94.3892553		N/A*******	
18O2-Perfluorohexanesulfonate	ug/L	77.3776152		105.907535		N/A*******	

Worksheet Number: **5395679**

PFOS and PFOA in water by SPE/LCMS - Water

ug/L

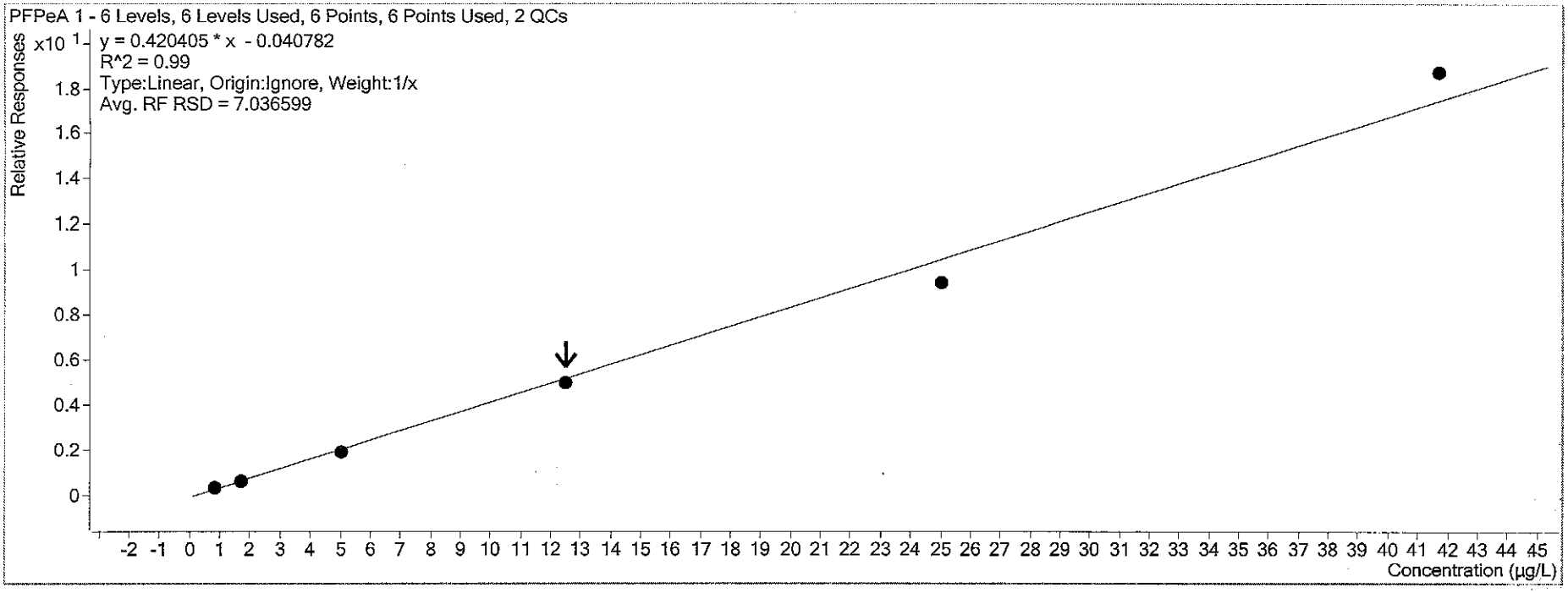
Parameter Name	B823896 GAC702 ReWork	DL	B823896 GAC704 ReWork	DL	B824213 GAD935	DL	B824213 GAD936
6:2 Fluorotelomer sulfonate	N/A*******	0.02	N/A*******	0.02	0	0.02	N/A*******
8:2 Fluorotelomer sulfonate	N/A*******	0.02	N/A*******	0.02	0	0.02	N/A*******
N-ethylperfluorooctane sulfonamide	N/A*******	0.02	N/A*******	0.02	0	0.02	N/A*******
EtFOSAA	N/A*******	0.02	N/A*******	0.02	0	0.02	0
N-ethylperfluorooctane sulfonamidoe	N/A*******	0.02	N/A*******	0.02	0	0.02	N/A*******
N-methylperfluorooctane sulfonamide	N/A*******	0.02	N/A*******	0.02	0	0.02	N/A*******
MeFOSAA	N/A*******	0.02	N/A*******	0.02	0	0.02	0
N-methylperfluorooctanesulfonamidol	N/A*******	0.02	N/A*******	0.02	N/A*******	0.02	N/A*******
Perfluorobutanoic acid	N/A*******	0.02	0	0.02	N/A*******	0.02	N/A*******
Perfluorobutane Sulfonate (PFBS)	N/A*******	0.02	N/A*******	0.02	0	0.02	2.72797980
Perfluorodecane Sulfonate	N/A*******	0.02	N/A*******	0.02	N/A*******	0.02	N/A*******
Perfluoroheptanoic Acid (PFHpA)	N/A*******	0.02	N/A*******	0.02	0	0.02	1.41229200
Perfluoroheptane sulfonate	N/A*******	0.02	N/A*******	0.02	N/A*******	0.02	9.51894043
Perfluorohexanoic Acid (PFHxA)	N/A*******	0.02	N/A*******	0.02	0	0.02	8.88955839
Perfluorohexane Sulfonate (PFHxS)	N/A*******	0.02	N/A*******	0.02	0	0.02	54.3738409
Perfluorononanoic Acid (PFNA)	0	0.02	N/A*******	0.02	0	0.02	0
Perfluorooctane Sulfonamide (PFOSA)	N/A*******	0.02	N/A*******	0.02	N/A*******	0.02	2.32515023
Perfluoropentanoic Acid (PFPeA)	N/A*******	0.02	N/A*******	0.02	N/A*******	0.02	2.31703575
Perfluorotetradecanoic Acid	N/A*******	0.02	N/A*******	0.02	0	0.02	0
Perfluorotridecanoic Acid	N/A*******	0.02	N/A*******	0.02	0	0.02	0
Perfluoroundecanoic Acid (PFUnA)	N/A*******	0.02	N/A*******	0.02	0	0.02	0
Perfluorodecanoic Acid (PFDA)	N/A*******	0.02	N/A*******	0.02	0	0.02	0
Perfluorododecanoic Acid (PFDoA)	N/A*******	0.02	N/A*******	0.02	0	0.02	0
Perfluoro-n-Octanoic Acid (PFOA)	N/A*******	0.02	N/A*******	0.02	0	0.02	8.55206223
Perfluorooctane Sulfonate (PFOS)	N/A*******	0.02	N/A*******	0.02	0	0.02	1009.17285
13C2-6:2 Fluorotelomer sulfonate	N/A*******		N/A*******		N/A*******		N/A*******
13C2-8:2 Fluorotelomer sulfonate	N/A*******		N/A*******		N/A*******		N/A*******
13C2-perfluorotetradecanoic acid	N/A*******		N/A*******		60.0532649		75.8169739
13C4-Perfluorobutanoic acid	N/A*******		73.2420085		97.6285493		102.992929
D3-MeFOSAA	N/A*******		N/A*******		80.182500		83.8803123
D5-EtFOSAA	N/A*******		N/A*******		76.602900		82.4404252
N-methyl-d3-perfluorooctane sulfona	N/A*******		N/A*******		N/A*******		N/A*******
N-ethyl-d5-perfluorooctane sulfonam	N/A*******		N/A*******		N/A*******		N/A*******
13C2-Perfluorodecanoic acid	N/A*******		N/A*******		90.7990141		88.3636148
13C2-Perfluorododecanoic acid	N/A*******		N/A*******		86.0812624		80.1017061
13C2-Perfluorohexanoic acid	N/A*******		N/A*******		100.073561		97.5802935
13C2-Perfluoroundecanoic acid	N/A*******		N/A*******		85.6629686		87.1162963
13C4-Perfluoroheptanoic acid	N/A*******		N/A*******		101.485451		104.464566
13C5-Perfluorononanoic acid	143.7940		N/A*******		98.2171456		99.8913511
13C4-Perfluorooctanoic acid	N/A*******		N/A*******		101.458333		103.362816
13C4-Perfluorooctanesulfonate	N/A*******		N/A*******		88.2194065		90.1118850
13C5-Perfluoropentanoic acid	N/A*******		N/A*******		N/A*******		N/A*******
13C8-Perfluorooctane Sulfonamide	N/A*******		N/A*******		N/A*******		N/A*******
18O2-Perfluorohexanesulfonate	N/A*******		N/A*******		101.994306		97.8712205

PFOS and PFOA in water by SPE/LCMS - Water
ug/L

Parameter Name	DL	B824213 GAD936 Dup1	DL	B824213 GAD937	DL	B824213 GAD938	DL
6:2 Fluorotelomer sulfonate	2.0	N/A*******	2.0	N/A*******	0.02	N/A*******	0.04
8:2 Fluorotelomer sulfonate	2.0	N/A*******	2.0	N/A*******	0.02	N/A*******	0.04
N-ethylperfluorooctane sulfonamide	2.0	N/A*******	2.0	N/A*******	0.02	N/A*******	0.04
EtFOSAA	2.0	0	2.0	0.01067758	0.02	0	0.04
N-ethylperfluorooctane sulfonamidoe	2.0	N/A*******	2.0	N/A*******	0.02	N/A*******	0.04
N-methylperfluorooctane sulfonamide	2.0	N/A*******	2.0	N/A*******	0.02	N/A*******	0.04
MeFOSAA	2.0	0	2.0	0.00867881	0.02	0	0.04
N-methylperfluorooctanesulfonamidol	2.0	N/A*******	2.0	N/A*******	0.02	N/A*******	0.04
Perfluorobutanoic acid	2.0	N/A*******	2.0	N/A*******	0.02	N/A*******	0.04
Perfluorobutane Sulfonate (PFBS)	2.0	2.48706861	2.0	0	0.02	0.33668115	0.04
Perfluorodecane Sulfonate	2.0	N/A*******	2.0	N/A*******	0.02	N/A*******	0.04
Perfluoroheptanoic Acid (PFHpA)	2.0	1.51852394	2.0	0	0.02	0.33496305	0.04
Perfluoroheptane sulfonate	2.0	N/A*******	2.0	N/A*******	0.02	N/A*******	0.04
Perfluorohexanoic Acid (PFHxA)	2.0	8.20507957	2.0	0	0.02	1.01387762	0.04
Perfluorohexane Sulfonate (PFHxS)	2.0	51.1966496	2.0	0.03347602	0.02	11.1544225	0.5
Perfluorononanoic Acid (PFNA)	2.0	0	2.0	0	0.02	0.11324078	0.04
Perfluorooctane Sulfonamide (PFOSA)	2.0	N/A*******	2.0	N/A*******	0.02	N/A*******	0.04
Perfluoropentanoic Acid (PFPeA)	2.0	N/A*******	2.0	N/A*******	0.02	N/A*******	0.04
Perfluorotetradecanoic Acid	2.0	0	2.0	0	0.02	0	0.04
Perfluorotridecanoic Acid	2.0	0	2.0	0	0.02	0	0.04
Perfluoroundecanoic Acid (PFUnA)	2.0	0	2.0	0	0.02	0	0.04
Perfluorodecanoic Acid (PFDA)	2.0	0	2.0	0	0.02	0	0.04
Perfluorododecanoic Acid (PFDoA)	2.0	0	2.0	0	0.02	0	0.04
Perfluoro-n-Octanoic Acid (PFOA)	2.0	7.93487520	2.0	0	0.02	0.56079713	0.04
Perfluorooctane Sulfonate (PFOS)	2.0	1044.63981	2.0	0.03023874	0.02	6.92065345	0.5
13C2-6:2 Fluorotelomer sulfonate		N/A*******		N/A*******		N/A*******	
13C2-8:2 Fluorotelomer sulfonate		N/A*******		N/A*******		N/A*******	
13C2-perfluorotetradecanoic acid		76.9455389		85.1197608		71.3882243	
13C4-Perfluorobutanoic acid		95.9849238		99.5703055		86.5310004	
D3-MeFOSAA		79.8548848		88.4655921		81.7436451	
D5-EtFOSAA		77.2907683		82.9507367		80.8961280	
N-methyl-d3-perfluorooctane sulfona		N/A*******		N/A*******		N/A*******	
N-ethyl-d5-perfluorooctane sulfonam		N/A*******		N/A*******		N/A*******	
13C2-Perfluorodecanoic acid		93.6408527		100.145550		88.2978882	
13C2-Perfluorododecanoic acid		84.5230324		90.0227194		84.7329338	
13C2-Perfluorohexanoic acid		95.4321000		101.400556		95.1314282	
13C2-Perfluoroundecanoic acid		82.5925809		99.8504997		83.2817943	
13C4-Perfluoroheptanoic acid		96.0956980		106.755533		78.0221963	
13C5-Perfluorononanoic acid		94.6906636		108.593379		93.7388477	
13C4-Perfluorooctanoic acid		94.9618735		107.306679		89.6319051	
13C4-Perfluorooctanesulfonate		82.7204186		118.544609		110.487621	
13C5-Perfluoropentanoic acid		N/A*******		N/A*******		N/A*******	
13C8-Perfluorooctane Sulfonamide		N/A*******		N/A*******		N/A*******	
18O2-Perfluorohexanesulfonate		93.0928736		107.444312		115.581051	

PFOS and PFOA in water by SPE/LCMS - Water
ug/L

Parameter Name	B827777 GAU809	DL	RDL	MDL	IDL		
6:2 Fluorotelomer sulfonate	0	0.02	0.02	0.0066	0		
8:2 Fluorotelomer sulfonate	0	0.02	0.02	0.0066	0		
N-ethylperfluorooctane sulfonamide	0	0.02	0.02	0.01	0		
EtFOSAA	0	0.02	0.02	0.0033	0		
N-ethylperfluorooctane sulfonamidoe	0	0.02	0.02	0.0079	0		
N-methylperfluorooctane sulfonamide	0	0.02	0.02	0.013	0		
MeFOSAA	0	0.02	0.02	0.0029	0		
N-methylperfluorooctanesulfonamidol	0	0.02	0.02	0.012	0		
Perfluorobutanoic acid	0	0.02	0.02	0.0055	0		
Perfluorobutane Sulfonate (PFBS)	0	0.02	0.02	0.0054	0		
Perfluorodecane Sulfonate	0	0.02	0.02	0.006	0		
Perfluoroheptanoic Acid (PFHpA)	0	0.02	0.02	0.0074	0		
Perfluoroheptane sulfonate	0	0.02	0.02	0.008	0		
Perfluorohexanoic Acid (PFHxA)	0	0.02	0.02	0.0035	0		
Perfluorohexane Sulfonate (PFHxS)	0	0.02	0.02	0.0056	0		
Perfluorononanoic Acid (PFNA)	0	0.02	0.02	0.0087	0		
Perfluorooctane Sulfonamide (PFOSA)	0	0.02	0.02	0.0034	0		
Perfluoropentanoic Acid (PFPeA)	0	0.02	0.02	0.0075	0		
Perfluorotetradecanoic Acid	0	0.02	0.02	0.0027	0		
Perfluorotridecanoic Acid	0	0.02	0.02	0.0038	0		
Perfluoroundecanoic Acid (PFUnA)	0	0.02	0.02	0.0025	0		
Perfluorodecanoic Acid (PFDA)	0	0.02	0.02	0.0061	0		
Perfluorododecanoic Acid (PFDoA)	0	0.02	0.02	0.005	0		
Perfluoro-n-Octanoic Acid (PFOA)	0	0.02	0.02	0.0033	0		
Perfluorooctane Sulfonate (PFOS)	0	0.02	0.02	0.006	0		
13C2-6:2 Fluorotelomer sulfonate	101.696687						
13C2-8:2 Fluorotelomer sulfonate	87.9986115						
13C2-perfluorotetradecanoic acid	82.6307476						
13C4-Perfluorobutanoic acid	98.7265168						
D3-MeFOSAA	78.2559823						
D5-EtFOSAA	75.9173137						
N-methyl-d3-perfluorooctane sulfona	90.8723171						
N-ethyl-d5-perfluorooctane sulfonam	86.4477990						
13C2-Perfluorodecanoic acid	100.032016						
13C2-Perfluorododecanoic acid	82.4078881						
13C2-Perfluorohexanoic acid	104.692472						
13C2-Perfluoroundecanoic acid	87.2564003						
13C4-Perfluoroheptanoic acid	99.0871877						
13C5-Perfluorononanoic acid	97.6852994						
13C4-Perfluorooctanoic acid	92.4052131						
13C4-Perfluorooctanesulfonate	97.7302828						
13C5-Perfluoropentanoic acid	97.0819102						
13C8-Perfluorooctane Sulfonamide	94.5091901						
18O2-Perfluorohexanesulfonate	102.058458						



Manual calculation for Spike:

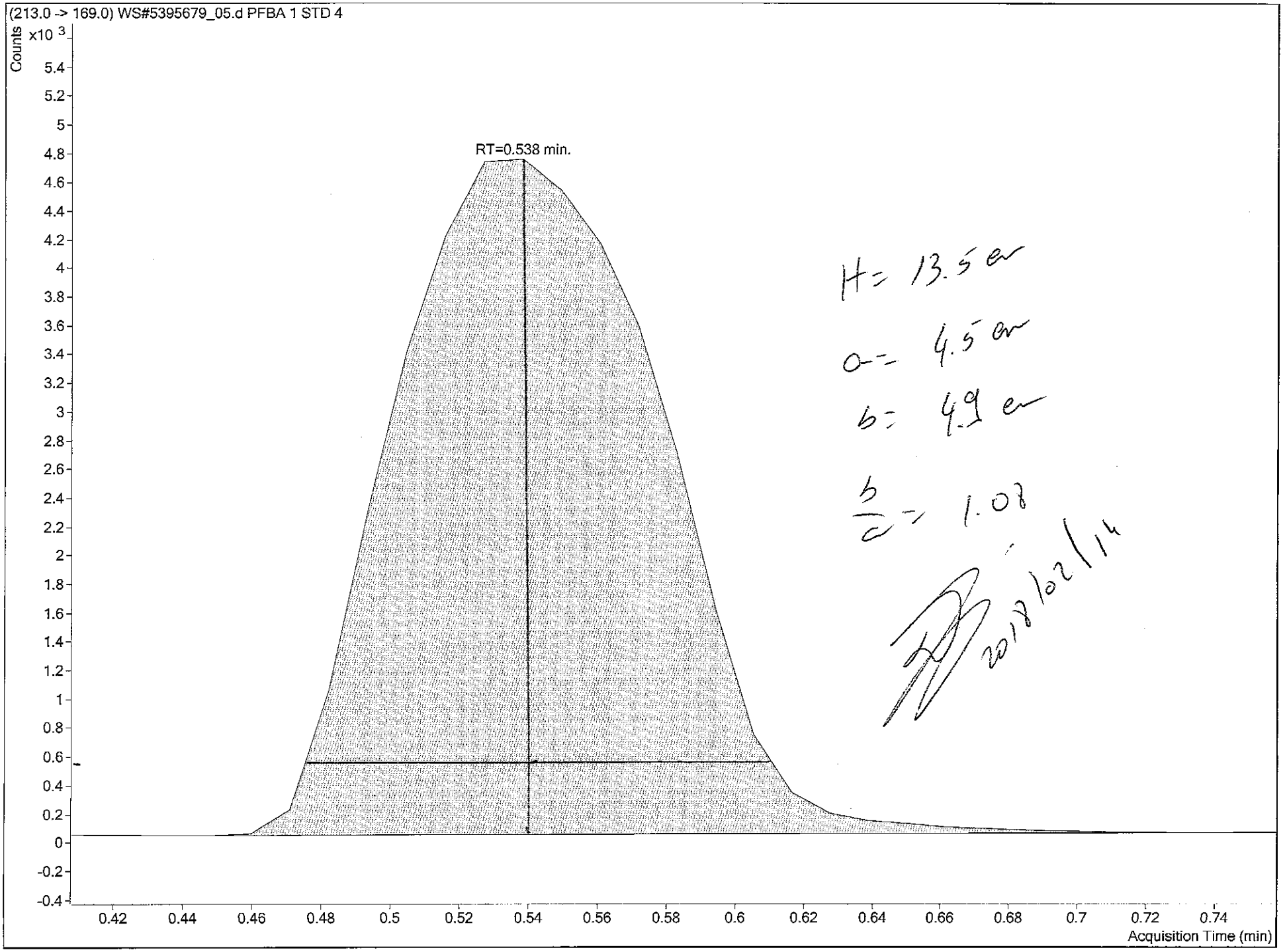
$8.9119 = 0.420405x - 0.040782$

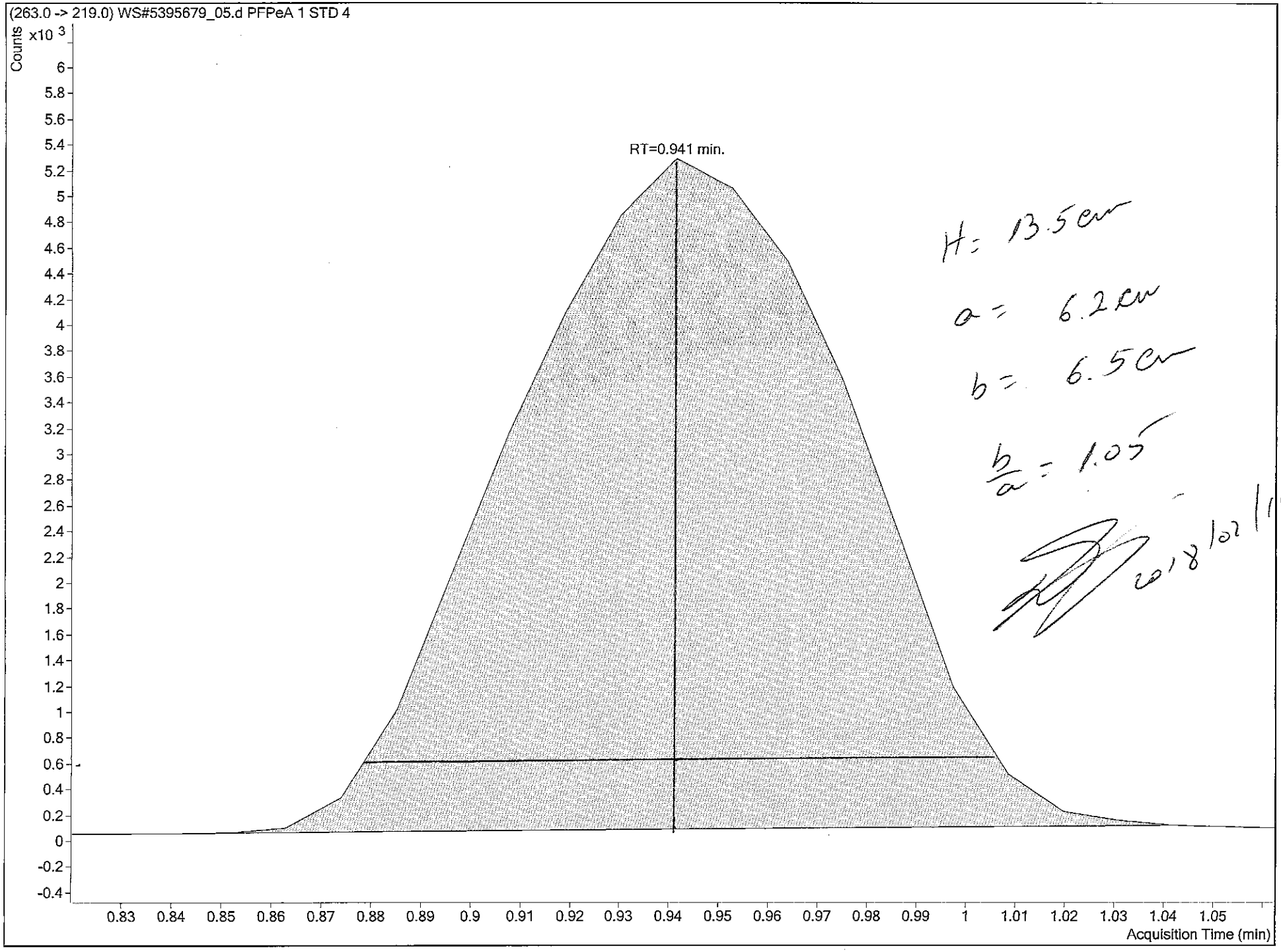
$x = 21.295537 \times 0.024$

$= 0.511089 \text{ µg/L}$

$\frac{0.511089 \text{ µg/L}}{0.5} \times 100 = 102.2\%$

2018/02/14


(213.0 -> 169.0) WS#5395679_05.d PFBA 1 STD 4
Counts
x10 3
RT=0.538 min.
Acquisition Time (min)
H= 13.5 cm
a= 4.5 cm
b= 4.9 cm
b/a= 1.08
2018/02/14


(263.0 -> 219.0) WS#5395679_05.d PFPeA 1 STD 4
Counts x10 3
RT=0.941 min.
Acquisition Time (min)
H: 13.5 cm
a = 6.2 cm
b = 6.5 cm
b/a = 1.05
2018/02/14

Report Name: Worksheet - Parameter Lists

Report Date: 2018/02/12

Test Code: **PFOSALCM-W**

Worksheet Number: **5395679**

Sample Number	Parameter Code	Parameter	
FZJ957-01	PFTEDA	Perfluorotetradecanoic Acid	
	PFTRDA	Perfluorotridecanoic Acid	
GAC702-01	PFNA	Perfluorononanoic Acid (PFNA)	
GAC704-01	PFBA	Perfluorobutanoic acid	
GAD935-01	NONE	NONE	
GAD936-01	ETFOSAA	EtFOSAA	*
GAD937-01	MEFOSAA	MeFOSAA	*
GAD938-01	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 (PFUnA)	
	PFDA	Perfluorodecanoic Acid (PFDA)	
	PFDOA	Perfluorododecanoic Acid (PFDoA)	
	PFOA	Perfluoro-n-Octanoic Acid (PFOA)	
	PFOS	Perfluorooctane Sulfonate (PFOS)	
GAU809-01	6:2FTS	6:2 Fluorotelomer sulfonate	*
	8:2FTS	8:2 Fluorotelomer sulfonate	*
	ETFOSA	N-ethylperfluorooctane sulfonamide	*
	ETFOSAA	EtFOSAA	*
	ETFOSE	N-ethylperfluorooctane sulfonamidoe	*

* - This parameter is usually off, but will be reported for this group of samples!

Report Name: Worksheet - Parameter Lists

Report Date: 2018/02/12

Test Code: **PFOSALCM-W**

Worksheet Number: **5395679**

Sample Number	Parameter Code	Parameter	
	MEFOSA	N-methylperfluorooctane sulfonamide	*
	MEFOSAA	MeFOSAA	*
	MEFOSE	N-methylperfluorooctanesulfonamidol	*
	PFBA	Perfluorobutanoic acid	
	PFBS	Perfluorobutane Sulfonate (PFBS)	
	PFDS	Perfluorodecane Sulfonate	
	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)	
	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)	

* - This parameter is usually off, but will be reported for this group of samples!

WorkSheet 5395679 Instrument Sequences

1.	5395679:SPIKE	SPIKE
2.	5395679:BLANK	BLANK
3.	5395679:FZJ957-01	[redacted]
4.	5395679:GAC702-01	[redacted]
5.	5395679:GAC704-01	[redacted]
6.	5395679:GAD935-01	FB-CEF-NG-012918-11
7.	5395679:GAD936-01	CEF-NG-025-0118
8.	5395679:GAD936-01:D1	CEF-NG-025-0118 :D1
9.	5395679:GAD937-01	CEF-NG-10S-0118
10.	5395679:GAD938-01	CEF-860-TW02-0118
11.	5395679:GAU809-01	[redacted]

Worklist Report

Agilent Technologies

Instrument Name: LCMS04 **Worklist Path:** D:\MassHunter\Worklists\PFCs\PFC_180213_Low.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\20180213\WS#5395679
Pre-Worklist Script: ---
Post-Worklist Script: SCP_InstrumentStandby(){MH_Acq_Scripts.exe}
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: Column #198
MP A1: Solution# 280 (FSRE18)
MP B1: Methanol lot# SHBJ5451, Sigma

Plate Barcode: None

20180213

Worklist Table

	Sample Name	Sample Position	Method	Data File	Sample Type	Level Name	Inj Vol (µl)	Comment
1	Solvent	P3-A1	PFC_Water_Low.m	WS#5395679_01.d	Sample		As Method	-
2	STD 1	P3-A2	PFC_Water_Low.m	WS#5395679_02.d	Calibration	STD 1	As Method	-
3	STD 2	P3-A3	PFC_Water_Low.m	WS#5395679_03.d	Calibration	STD 2	As Method	-
4	STD 3	P3-A4	PFC_Water_Low.m	WS#5395679_04.d	Calibration	STD 3	As Method	-
5	STD 4	P3-A5	PFC_Water_Low.m	WS#5395679_05.d	Calibration	STD 4	As Method	-
6	STD 5	P3-A6	PFC_Water_Low.m	WS#5395679_06.d	Calibration	STD 5	As Method	-
7	STD 6	P3-A7	PFC_Water_Low.m	WS#5395679_07.d	Calibration	STD 6	As Method	-

335 of 854

Worklist Report

Agilent Technologies

	Sample Name	Sample Position	Method	Data File	Sample Type	Level Name	Inj Vol (µl)	Comment
8	IB	P3-A8	PFC_Water_Low.m	WS#5395679_08.d	Sample		As Method	-
9	ICV	P3-A9	PFC_Water_Low.m	WS#5395679_09.d	QC	ICV	As Method	-
10	ISC	P3-A2	PFC_Water_Low.m	WS#5395679_10.d	ConCal	STD 1	As Method	-
11	5395679:BLANK	P3-B1	PFC_Water_Low.m	WS#5395679_11.d	Sample		As Method	-
12	5395679:SPIKE	P3-B2	PFC_Water_Low.m	WS#5395679_12.d	QC	ICV	As Method	-
13	5395679:GAU809-01	P3-C5	PFC_Water_Low.m	WS#5395679_13.d	Sample		As Method	-
14	5395679:FZJ957-01:10x	P3-B3	PFC_Water_Low.m	WS#5395679_14.d	Sample		As Method	-
15	5395679:FZJ957-01	P3-B4	PFC_Water_Low.m	WS#5395679_15.d	Sample		As Method	-
16	IB	P3-A8	PFC_Water_Low.m	WS#5395679_16.d	Sample		As Method	-
17	5395679:GAC702-01	P3-B5	PFC_Water_Low.m	WS#5395679_17.d	Sample		As Method	-
18	5395679:GAC704-01	P3-B6	PFC_Water_Low.m	WS#5395679_18.d	Sample		As Method	-
19	5395679:GAD935-01	P3-B7	PFC_Water_Low.m	WS#5395679_19.d	Sample		As Method	-
20	5395679:GAD936-01:100x	P3-B8	PFC_Water_Low.m	WS#5395679_20.d	Sample		As Method	-
21	5395679:GAD936-01:D1:100x	P3-B9	PFC_Water_Low.m	WS#5395679_21.d	Sample		As Method	-
22	IB	P3-A8	PFC_Water_Low.m	WS#5395679_22.d	Sample		As Method	-
23	CCV	P3-A5	PFC_Water_Low.m	WS#5395679_23.d	ConCal	STD 4	As Method	-
24	5395679:GAD937-01:10x	P3-C1	PFC_Water_Low.m	WS#5395679_24.d	Sample		As Method	-
25	5395679:GAD937-01	P3-C2	PFC_Water_Low.m	WS#5395679_25.d	Sample		As Method	-
26	IB	P3-A8	PFC_Water_Low.m	WS#5395679_26.d	Sample		As Method	-
27	5395679:GAD938-01:25x	P3-C3	PFC_Water_Low.m	WS#5395679_27.d	Sample		As Method	-
28	5395679:GAD938-01:2x	P3-C4	PFC_Water_Low.m	WS#5395679_28.d	Sample		As Method	-
29	IB	P3-A8	PFC_Water_Low.m	WS#5395679_29.d	Sample		As Method	-
30	CCV	P3-A5	PFC_Water_Low.m	WS#5395679_30.d	ConCal	STD 4	As Method	-

Maxxam Analytics

336 of 854

Worklist Report

Agilent Technologies

Maxxam Analytics

Instrument Name: LCMS04 **Worklist Path:** D:\MassHunter\Worklists\PFCs\PFC_180213_Low_FOSAA.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\20180213\WS#5395679_FOSAA
Pre-Worklist Script: ---
Post-Worklist Script: SCP_InstrumentStandby(){MH_Acq_Scripts.exe}
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: Column #198
MP A1: Solution# 280 (FSRE18)
MP B2:Solution# 284 (FSRE18)

2018/02/13

2018/02/13

Plate Barcode:

Plate	Barcode
P3	

Worklist Table

	Sample Name	Sample Position	Method	Data File	Sample Type	Level Name	Inj Vol (µl)	Comment
1	Solvent	P3-A1	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_01.d	Sample		As Method	-
2	STD 1	P3-A2	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_02.d	Calibration	STD 1	As Method	-
3	STD 2	P3-A3	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_03.d	Calibration	STD 2	As Method	-
4	STD 3	P3-A4	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_04.d	Calibration	STD 3	As Method	-
5	STD 4	P3-A5	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_05.d	Calibration	STD 4	As Method	-
6	STD 5	P3-A6	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_06.d	Calibration	STD 5	As Method	-
7	STD 6	P3-A7	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_07.d	Calibration	STD 6	As Method	-
8	IB	P3-A8	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_08.d	Sample		As Method	-

337 of 654

Maxxam Analytics

	Sample Name	Sample Position	Method	Data File	Sample Type	Level Name	Inj Vol (µl)	Comment
9	ICV	P3-A9	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_09.d	QC	ICV	As Method	-
10	ISC	P3-A2	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_10.d	ConCal	STD 1	As Method	-
11	5395679:BLANK	P3-B1	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_11.d	Sample		As Method	-
12	5395679:SPIKE	P3-B2	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_12.d	QC	ICV	As Method	-
13	5395679:GAU809-01	P3-C5	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_13.d	Sample		As Method	-
14	5395679:FZJ957-01:10x	P3-B3	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_14.d	Sample		As Method	-
15	5395679:FZJ957-01	P3-B4	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_15.d	Sample		As Method	-
16	IB	P3-A8	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_16.d	Sample		As Method	-
17	5395679:GAC702-01	P3-B5	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_17.d	Sample		As Method	-
18	5395679:GAC704-01	P3-B6	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_18.d	Sample		As Method	-
19	5395679:GAD935-01	P3-B7	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_19.d	Sample		As Method	-
20	5395679:GAD936-01:100x	P3-B8	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_20.d	Sample		As Method	-
21	5395679:GAD936-01:D1:100x	P3-B9	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_21.d	Sample		As Method	-
22	IB	P3-A8	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_22.d	Sample		As Method	-
23	CCV	P3-A5	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_23.d	ConCal	STD 4	As Method	-
24	5395679:GAD937-01:10x	P3-C1	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_24.d	Sample		As Method	-
25	5395679:GAD937-01	P3-C2	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_25.d	Sample		As Method	-
26	IB	P3-A8	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_26.d	Sample		As Method	-
27	5395679:GAD938-01:25x	P3-C3	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_27.d	Sample		As Method	-
28	5395679:GAD938-01:2x	P3-C4	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_28.d	Sample		As Method	-
29	IB	P3-A8	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_29.d	Sample		As Method	-
30	CCV	P3-A5	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_30.d	ConCal	STD 4	As Method	-

FINAL INJECTION SEQUENCE

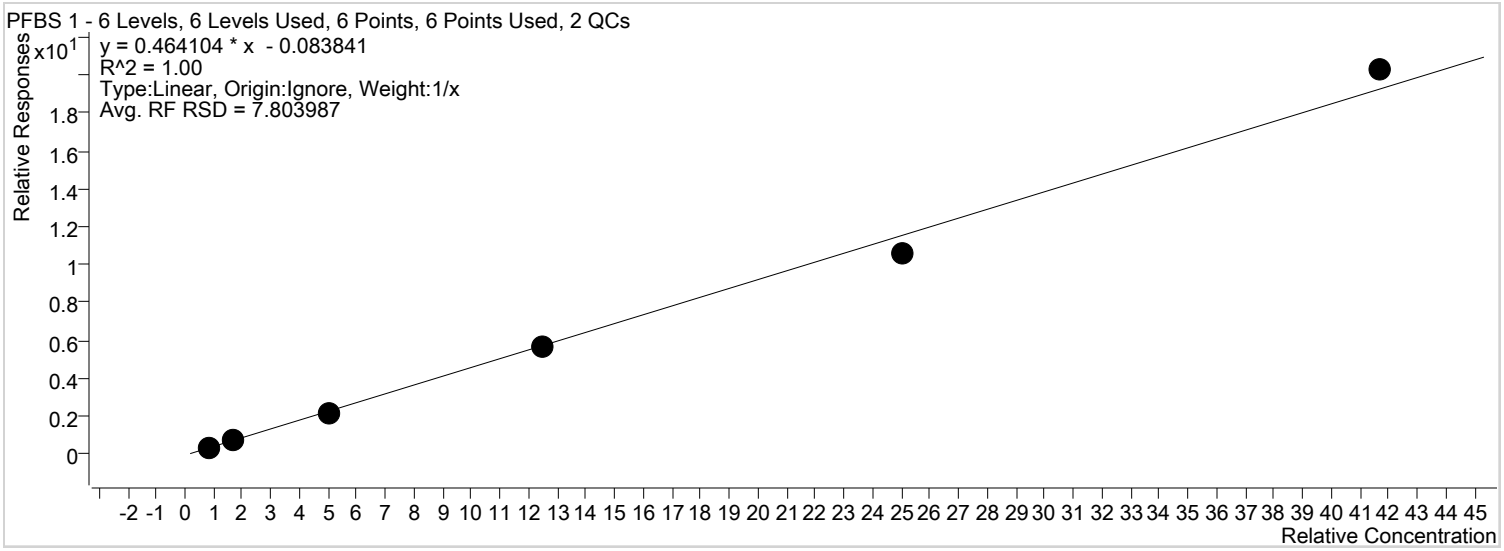
Sample					
Name	Comment	Acq. Date-Time	Acq. Method File	Data File	Pos.
STD 1	-	2018/02/13 10:00 PM	PFC_Water_Low.m	WS#5395679_02.d	P3-A2
STD 2	-	2018/02/13 10:05 PM	PFC_Water_Low.m	WS#5395679_03.d	P3-A3
STD 3	-	2018/02/13 10:10 PM	PFC_Water_Low.m	WS#5395679_04.d	P3-A4
STD 4	-	2018/02/13 10:15 PM	PFC_Water_Low.m	WS#5395679_05.d	P3-A5
STD 5	-	2018/02/13 10:20 PM	PFC_Water_Low.m	WS#5395679_06.d	P3-A6
STD 6	-	2018/02/13 10:25 PM	PFC_Water_Low.m	WS#5395679_07.d	P3-A7
IB	-	2018/02/13 10:30 PM	PFC_Water_Low.m	WS#5395679_08.d	P3-A8
ICV	-	2018/02/13 10:35 PM	PFC_Water_Low.m	WS#5395679_09.d	P3-A9
ISC	-	2018/02/13 10:40 PM	PFC_Water_Low.m	WS#5395679_10.d	P3-A2
5395679:BLANK	-	2018/02/13 10:45 PM	PFC_Water_Low.m	WS#5395679_11.d	P3-B1
5395679:SPIKE	-	2018/02/13 10:50 PM	PFC_Water_Low.m	WS#5395679_12.d	P3-B2
5395679:GAU809-01	-	2018/02/13 10:55 PM	PFC_Water_Low.m	WS#5395679_13.d	P3-C5
5395679:FZJ957-01:10x	Not used	2018/02/13 11:00 PM	PFC_Water_Low.m	WS#5395679_14.d	P3-B3
5395679:FZJ957-01	Reported for PFTrDA and PFTeDA	2018/02/13 11:04 PM	PFC_Water_Low.m	WS#5395679_15.d	P3-B4
IB	-	2018/02/13 11:09 PM	PFC_Water_Low.m	WS#5395679_16.d	P3-A8
5395679:GAC702-01	Reported for PFNA only	2018/02/13 11:14 PM	PFC_Water_Low.m	WS#5395679_17.d	P3-B5
5395679:GAC704-01	Reported for PFBA only	2018/02/13 11:19 PM	PFC_Water_Low.m	WS#5395679_18.d	P3-B6
5395679:GAD935-01	-	2018/02/13 11:24 PM	PFC_Water_Low.m	WS#5395679_19.d	P3-B7
5395679:GAD936-01:100x	Report for all, except reanalyzed PFOS	2018/02/13 11:29 PM	PFC_Water_Low.m	WS#5395679_20.d	P3-B8
5395679:GAD936-01:D1:100x	Report for all, except reanalyzed PFOS	2018/02/13 11:34 PM	PFC_Water_Low.m	WS#5395679_21.d	P3-B9
IB	-	2018/02/13 11:39 PM	PFC_Water_Low.m	WS#5395679_22.d	P3-A8
CCV	-	2018/02/13 11:44 PM	PFC_Water_Low.m	WS#5395679_23.d	P3-A5
5395679:GAD937-01:10x	Not used	2018/02/13 11:49 PM	PFC_Water_Low.m	WS#5395679_24.d	P3-C1
5395679:GAD937-01	Report for all	2018/02/13 11:54 PM	PFC_Water_Low.m	WS#5395679_25.d	P3-C2
IB	-	2018/02/13 11:59 PM	PFC_Water_Low.m	WS#5395679_26.d	P3-A8
5395679:GAD938-01:25x	Report for PFHxS and PFOS	2018/02/14 12:04 AM	PFC_Water_Low.m	WS#5395679_27.d	P3-C3
5395679:GAD938-01:2x	Report for all, except PFHxS and PFOS	2018/02/14 12:09 AM	PFC_Water_Low.m	WS#5395679_28.d	P3-C4
IB	-	2018/02/14 12:14 AM	PFC_Water_Low.m	WS#5395679_29.d	P3-A8
CCV	-	2018/02/14 12:18 AM	PFC_Water_Low.m	WS#5395679_30.d	P3-A5
ISC	-	2018/02/14 10:45 AM	PFC_Water_Low.m	WS#5395679_31.d	P3-A2
5395679:GAC702-01:R	Reinjection to confirm recovery, not used	2018/02/14 10:50 AM	PFC_Water_Low.m	WS#5395679_32.d	P3-B5
5395679:GAC704-01:R	Reinjection to confirm recovery, not used	2018/02/14 10:55 AM	PFC_Water_Low.m	WS#5395679_33.d	P3-B6
CCV	-	2018/02/14 10:59 AM	PFC_Water_Low.m	WS#5395679_34.d	P3-A5

FINAL INJECTION SEQUENCE

Sample					
Name	Comment	Acq. Date-Time	Acq. Method File	Data File	Pos.
STD 1	-	2018/02/13 4:19 PM	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_02.d	P3-A2
STD 2	-	2018/02/13 4:21 PM	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_03.d	P3-A3
STD 3	-	2018/02/13 4:24 PM	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_04.d	P3-A4
STD 4	-	2018/02/13 4:26 PM	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_05.d	P3-A5
STD 5	-	2018/02/13 4:28 PM	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_06.d	P3-A6
STD 6	-	2018/02/13 4:31 PM	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_07.d	P3-A7
IB	-	2018/02/13 4:33 PM	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_08.d	P3-A8
ICV	-	2018/02/13 4:36 PM	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_09.d	P3-A9
ISC	-	2018/02/13 4:38 PM	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_10.d	P3-A2
5395679:BLANK	-	2018/02/13 4:40 PM	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_11.d	P3-B1
5395679:SPIKE	-	2018/02/13 4:43 PM	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_12.d	P3-B2
5395679:GAU809-01	-	2018/02/13 4:45 PM	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_13.d	P3-C5
5395679:FZJ957-01:10x	Not used	2018/02/13 4:48 PM	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_14.d	P3-B3
5395679:FZJ957-01	-	2018/02/13 4:50 PM	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_15.d	P3-B4
IB	-	2018/02/13 4:52 PM	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_16.d	P3-A8
5395679:GAC702-01	-	2018/02/13 4:55 PM	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_17.d	P3-B5
5395679:GAC704-01	-	2018/02/13 4:57 PM	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_18.d	P3-B6
5395679:GAD935-01	-	2018/02/13 5:00 PM	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_19.d	P3-B7
5395679:GAD936-01:100x	-	2018/02/13 5:02 PM	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_20.d	P3-B8
5395679:GAD936-01:D1:100x	-	2018/02/13 5:05 PM	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_21.d	P3-B9
IB	-	2018/02/13 5:07 PM	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_22.d	P3-A8
CCV	-	2018/02/13 5:09 PM	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_23.d	P3-A5
5395679:GAD937-01:10x	Not used	2018/02/13 5:12 PM	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_24.d	P3-C1
5395679:GAD937-01	-	2018/02/13 5:14 PM	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_25.d	P3-C2
IB	-	2018/02/13 5:17 PM	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_26.d	P3-A8
5395679:GAD938-01:25x	Not used	2018/02/13 5:19 PM	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_27.d	P3-C3
5395679:GAD938-01:2x	-	2018/02/13 5:21 PM	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_28.d	P3-C4
IB	-	2018/02/13 5:24 PM	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_29.d	P3-A8
CCV	-	2018/02/13 5:26 PM	PFC_Water_Low_FOSAA.m	WS#5395679_FOSAA_30.d	P3-A5

Batch Path T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics.batch.bin
Last Calib Update 2018/02/21 10:50:18 AM
Instrument: LCMS04

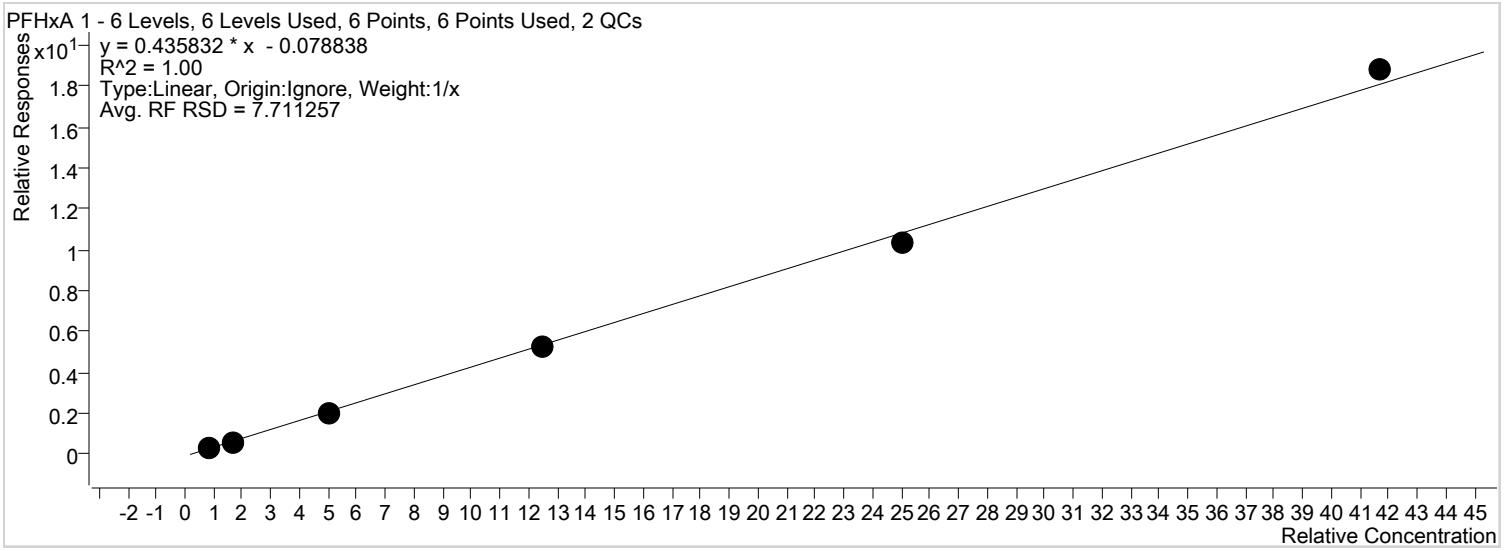
Analyte: PFBS 1
Internal Standard: MPFHxS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 10:00:48 PM	0.83	0.87	605	0.3859	65	104.9
STD 2	STD 2	x	2018/02/13 10:05:44 PM	1.70	1.74	1223	0.4244	161	102.1
STD 3	STD 3	x	2018/02/13 10:10:40 PM	5.00	4.82	3569	0.4303	177	96.3
STD 4	STD 4	x	2018/02/13 10:15:36 PM	12.50	12.44	9065	0.4552	678	99.5
STD 5	STD 5	x	2018/02/13 10:20:32 PM	25.00	22.98	17234	0.4232	159	91.9
STD 6	STD 6	x	2018/02/13 10:25:28 PM	41.70	43.89	31828	0.4865	1198	105.3

Batch Path T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics.batch.bin
Last Calib Update 2018/02/21 10:50:18 AM
Instrument: LCMS04

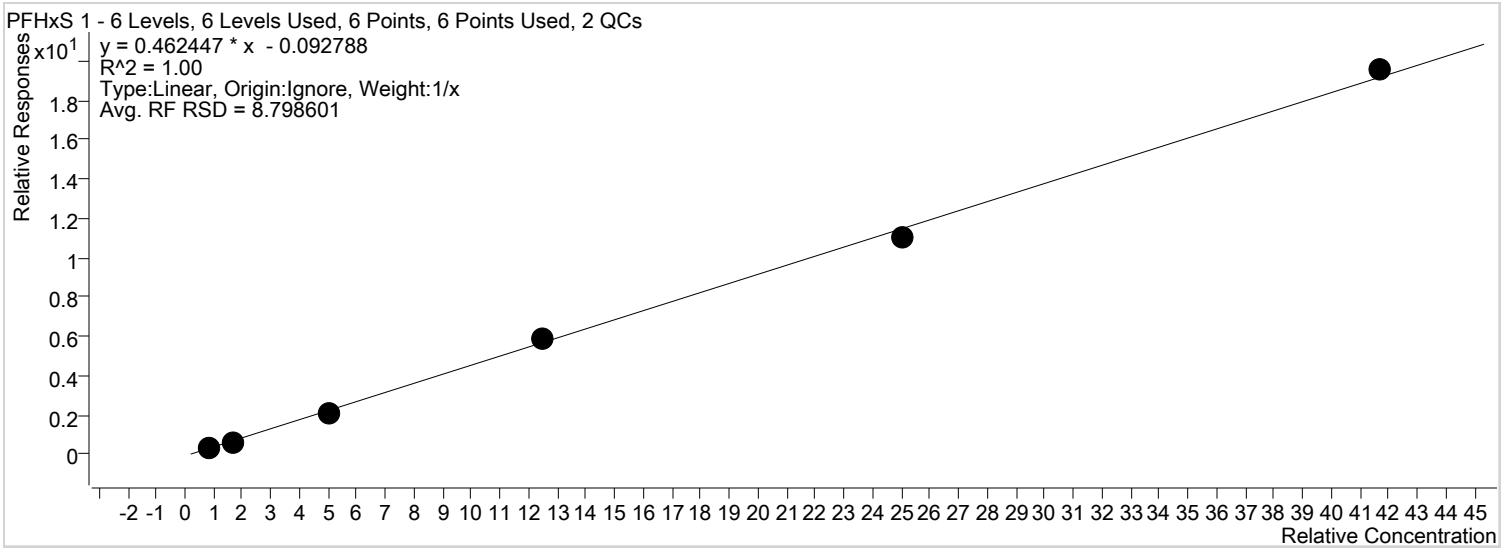
Analyte: PFHxA 1
Internal Standard: MPFHxA



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 10:00:48 PM	0.83	0.96	2324	0.4080	286	115.4
STD 2	STD 2	x	2018/02/13 10:05:44 PM	1.70	1.57	4224	0.3573	133	92.6
STD 3	STD 3	x	2018/02/13 10:10:40 PM	5.00	4.69	12823	0.3933	557	93.9
STD 4	STD 4	x	2018/02/13 10:15:36 PM	12.50	12.37	33898	0.4251	2123	99.0
STD 5	STD 5	x	2018/02/13 10:20:32 PM	25.00	23.80	66575	0.4118	3463	95.2
STD 6	STD 6	x	2018/02/13 10:25:28 PM	41.70	43.33	116349	0.4510	16296	103.9

Batch Path T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics.batch.bin
Last Calib Update 2018/02/21 10:50:18 AM
Instrument: LCMS04

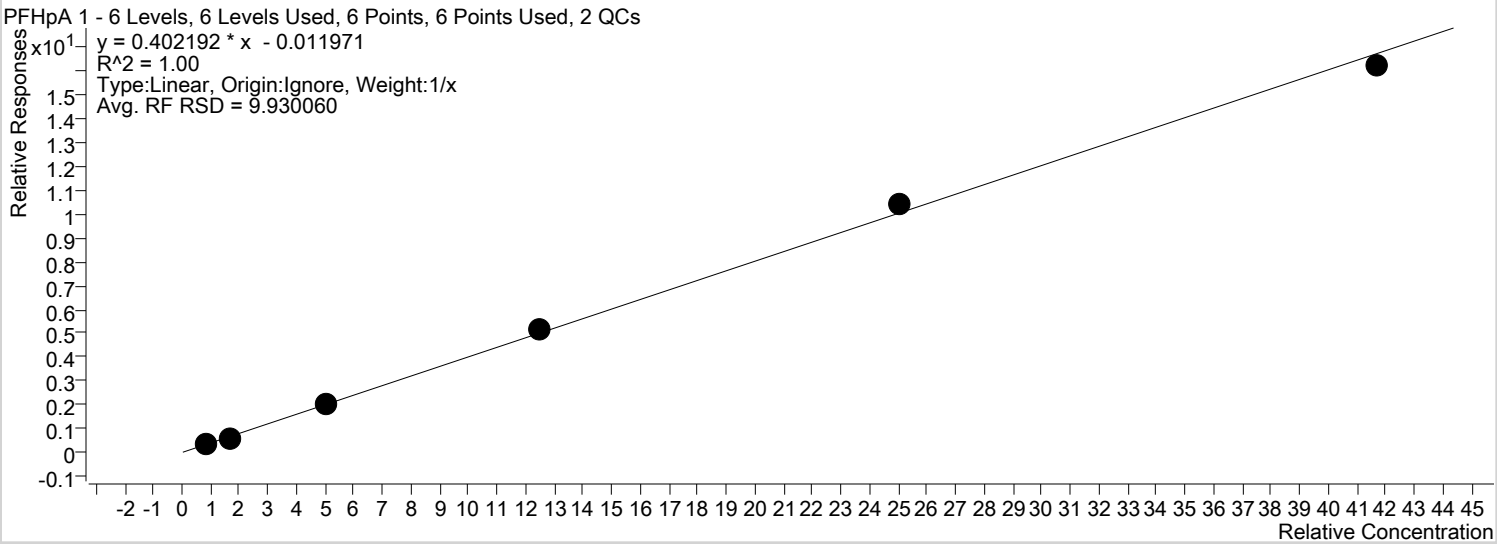
Analyte: PFHxS 1
Internal Standard: MPFHxS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 10:00:48 PM	0.83	0.92	630	0.4018	78	111.1
STD 2	STD 2	x	2018/02/13 10:05:44 PM	1.70	1.59	1089	0.3779	132	93.5
STD 3	STD 3	x	2018/02/13 10:10:40 PM	5.00	4.68	3437	0.4143	232	93.6
STD 4	STD 4	x	2018/02/13 10:15:36 PM	12.50	12.94	9385	0.4713	1519	103.5
STD 5	STD 5	x	2018/02/13 10:20:32 PM	25.00	24.08	17987	0.4417	648	96.3
STD 6	STD 6	x	2018/02/13 10:25:28 PM	41.70	42.52	30706	0.4693	1217	102.0

Batch Path T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics.batch.bin
Last Calib Update 2018/02/21 10:50:18 AM
Instrument: LCMS04

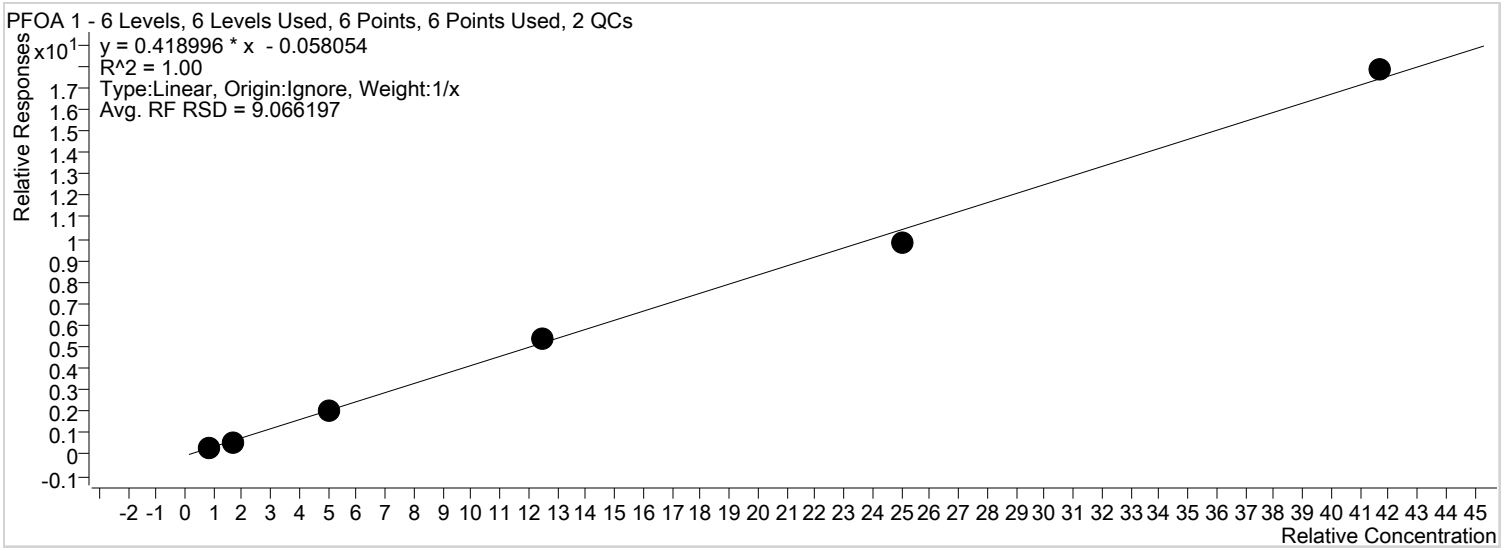
Analyte: PFHpA 1
Internal Standard: MPFHpA



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 10:00:48 PM	0.83	0.94	3275	0.4390	40	112.7
STD 2	STD 2	x	2018/02/13 10:05:44 PM	1.70	1.40	5184	0.3246	67	82.5
STD 3	STD 3	x	2018/02/13 10:10:40 PM	5.00	5.05	16838	0.4037	164	101.0
STD 4	STD 4	x	2018/02/13 10:15:36 PM	12.50	12.80	44414	0.4110	180	102.4
STD 5	STD 5	x	2018/02/13 10:20:32 PM	25.00	26.11	82700	0.4196	196	104.5
STD 6	STD 6	x	2018/02/13 10:25:28 PM	41.70	40.43	134819	0.3896	199	96.9

Batch Path T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics.batch.bin
Last Calib Update 2018/02/21 10:50:18 AM
Instrument: LCMS04

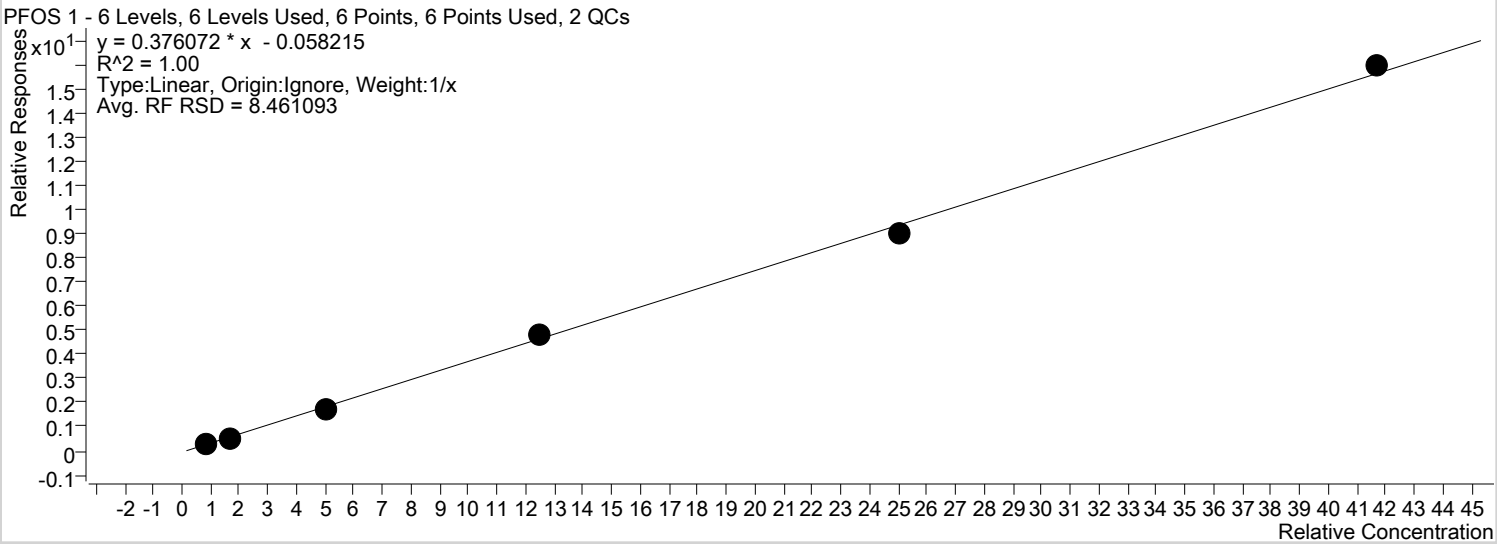
Analyte: PFOA 1
Internal Standard: MPFOA



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 10:00:48 PM	0.83	0.91	3164	0.3884	28	109.4
STD 2	STD 2	x	2018/02/13 10:05:44 PM	1.70	1.49	5415	0.3338	51	87.8
STD 3	STD 3	x	2018/02/13 10:10:40 PM	5.00	5.13	18800	0.4185	191	102.6
STD 4	STD 4	x	2018/02/13 10:15:36 PM	12.50	12.94	49307	0.4292	576	103.5
STD 5	STD 5	x	2018/02/13 10:20:32 PM	25.00	23.55	89759	0.3924	759	94.2
STD 6	STD 6	x	2018/02/13 10:25:28 PM	41.70	42.70	160925	0.4276	981	102.4

Batch Path T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics.batch.bin
Last Calib Update 2018/02/21 10:50:18 AM
Instrument: LCMS04

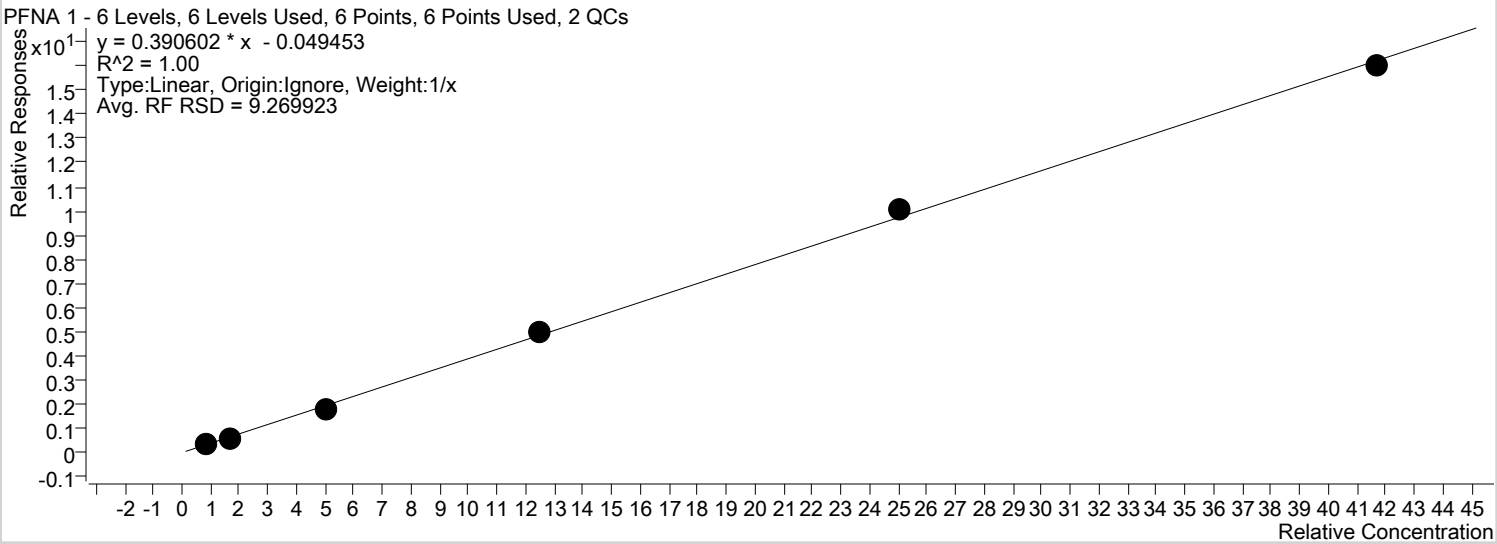
Analyte: PFOS 1
Internal Standard: MPFOS



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 10:00:48 PM	0.83	0.95	591	0.3591	77	114.1
STD 2	STD 2	x	2018/02/13 10:05:44 PM	1.70	1.53	1077	0.3043	91	90.0
STD 3	STD 3	x	2018/02/13 10:10:40 PM	5.00	4.69	3509	0.3412	144	93.8
STD 4	STD 4	x	2018/02/13 10:15:36 PM	12.50	12.99	9433	0.3862	191	103.9
STD 5	STD 5	x	2018/02/13 10:20:32 PM	25.00	24.01	17171	0.3589	122	96.0
STD 6	STD 6	x	2018/02/13 10:25:28 PM	41.70	42.56	31576	0.3824	229	102.1

Batch Path T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics.batch.bin
Last Calib Update 2018/02/21 10:50:18 AM
Instrument: LCMS04

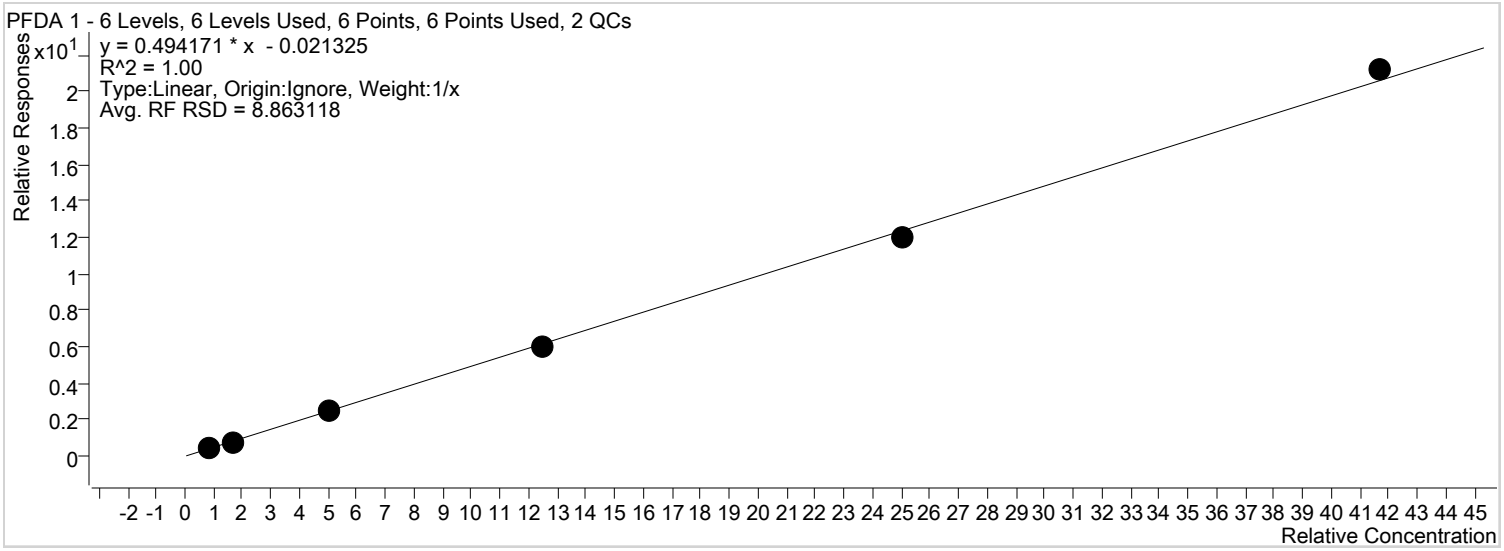
Analyte: PFNA 1
Internal Standard: MPFNA



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 10:00:48 PM	0.83	0.97	3184	0.3951	38	116.4
STD 2	STD 2	x	2018/02/13 10:05:44 PM	1.70	1.49	5036	0.3129	134	87.5
STD 3	STD 3	x	2018/02/13 10:10:40 PM	5.00	4.61	16429	0.3503	532	92.2
STD 4	STD 4	x	2018/02/13 10:15:36 PM	12.50	12.77	43491	0.3951	952	102.2
STD 5	STD 5	x	2018/02/13 10:20:32 PM	25.00	25.74	82917	0.4002	1803	103.0
STD 6	STD 6	x	2018/02/13 10:25:28 PM	41.70	41.15	138927	0.3843	1393	98.7

Batch Path T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics.batch.bin
Last Calib Update 2018/02/21 10:50:18 AM
Instrument: LCMS04

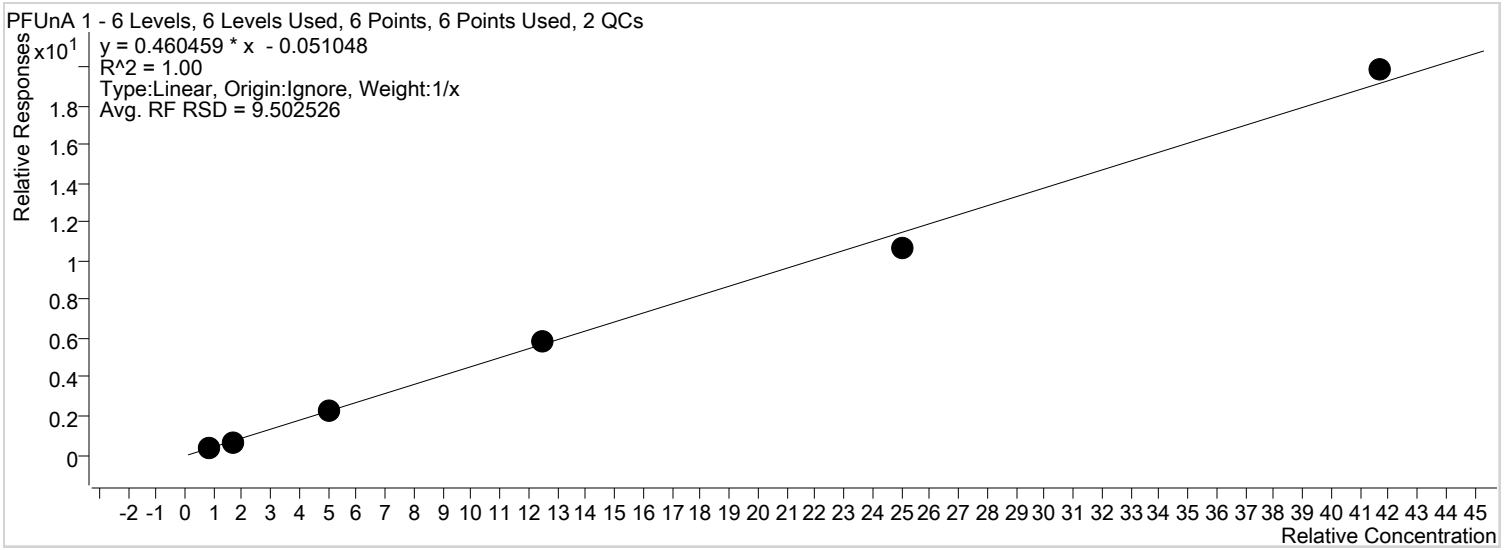
Analyte: PFDA 1
Internal Standard: MPFDA



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 10:00:48 PM	0.83	0.97	3349	0.5496	37	116.4
STD 2	STD 2	x	2018/02/13 10:05:44 PM	1.70	1.48	5785	0.4178	50	87.1
STD 3	STD 3	x	2018/02/13 10:10:40 PM	5.00	4.98	17783	0.4877	181	99.6
STD 4	STD 4	x	2018/02/13 10:15:36 PM	12.50	12.10	46090	0.4768	374	96.8
STD 5	STD 5	x	2018/02/13 10:20:32 PM	25.00	24.30	91466	0.4796	860	97.2
STD 6	STD 6	x	2018/02/13 10:25:28 PM	41.70	42.90	157513	0.5078	1035	102.9

Batch Path T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics.batch.bin
Last Calib Update 2018/02/21 10:50:18 AM
Instrument: LCMS04

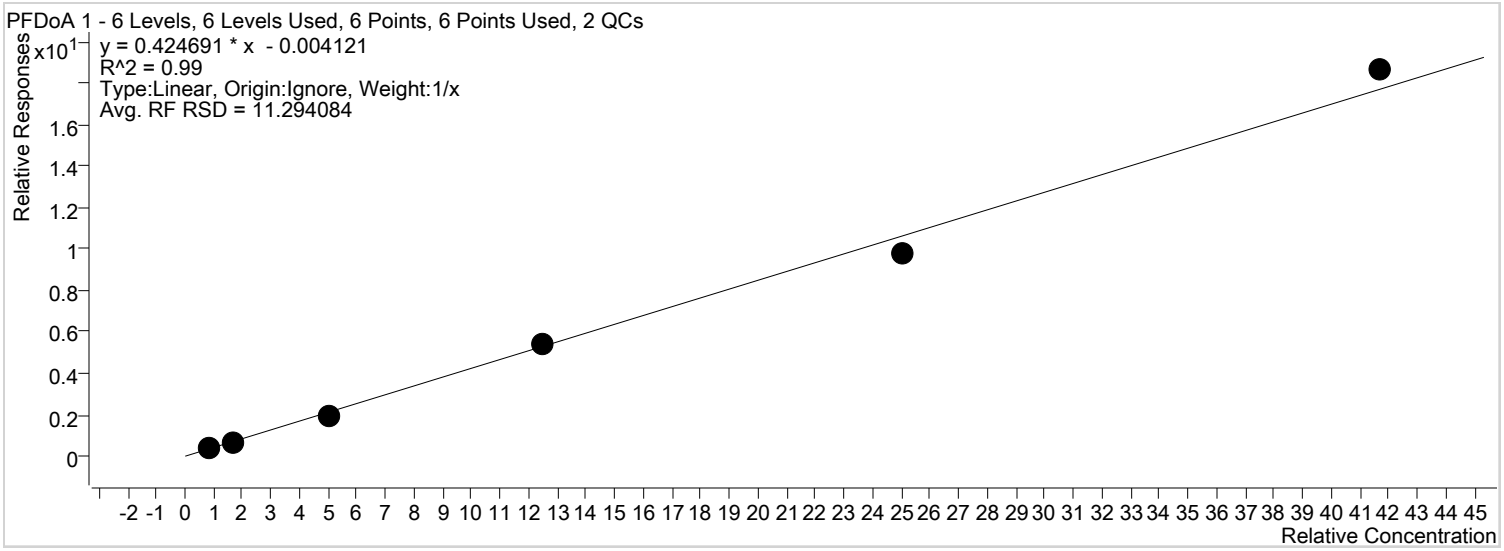
Analyte: PFUnA 1
Internal Standard: MPFUnA



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 10:00:48 PM	0.83	0.93	3295	0.4545	24	112.1
STD 2	STD 2	x	2018/02/13 10:05:44 PM	1.70	1.46	6111	0.3647	41	85.7
STD 3	STD 3	x	2018/02/13 10:10:40 PM	5.00	5.18	19677	0.4672	96	103.7
STD 4	STD 4	x	2018/02/13 10:15:36 PM	12.50	12.78	50484	0.4666	141	102.2
STD 5	STD 5	x	2018/02/13 10:20:32 PM	25.00	23.16	98104	0.4246	306	92.6
STD 6	STD 6	x	2018/02/13 10:25:28 PM	41.70	43.22	172231	0.4760	296	103.6

Batch Path T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics.batch.bin
Last Calib Update 2018/02/21 10:50:18 AM
Instrument: LCMS04

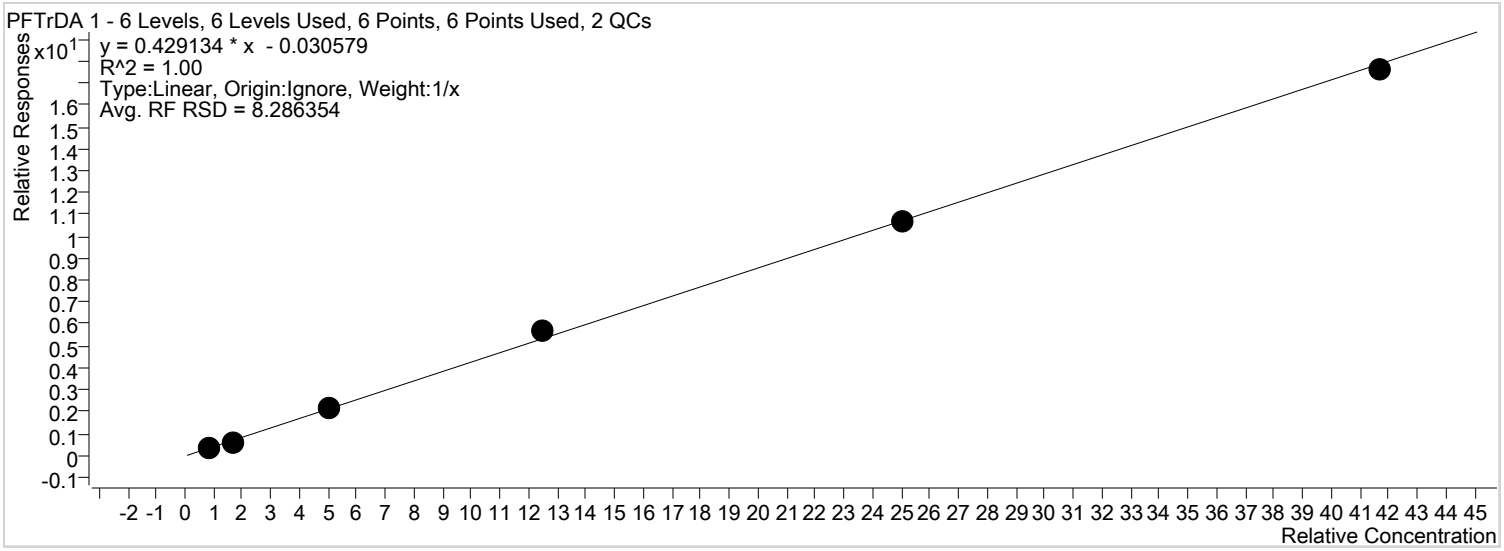
Analyte: PFDoA 1
Internal Standard: MPFDoA



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 10:00:48 PM	0.83	0.99	4903	0.5018	94	119.3
STD 2	STD 2	x	2018/02/13 10:05:44 PM	1.70	1.55	8289	0.3849	159	91.2
STD 3	STD 3	x	2018/02/13 10:10:40 PM	5.00	4.48	23770	0.3796	493	89.6
STD 4	STD 4	x	2018/02/13 10:15:36 PM	12.50	12.85	62761	0.4362	1541	102.8
STD 5	STD 5	x	2018/02/13 10:20:32 PM	25.00	22.95	110548	0.3896	2348	91.8
STD 6	STD 6	x	2018/02/13 10:25:28 PM	41.70	43.92	206265	0.4472	2817	105.3

Batch Path T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics.batch.bin
Last Calib Update 2018/02/21 10:50:18 AM
Instrument: LCMS04

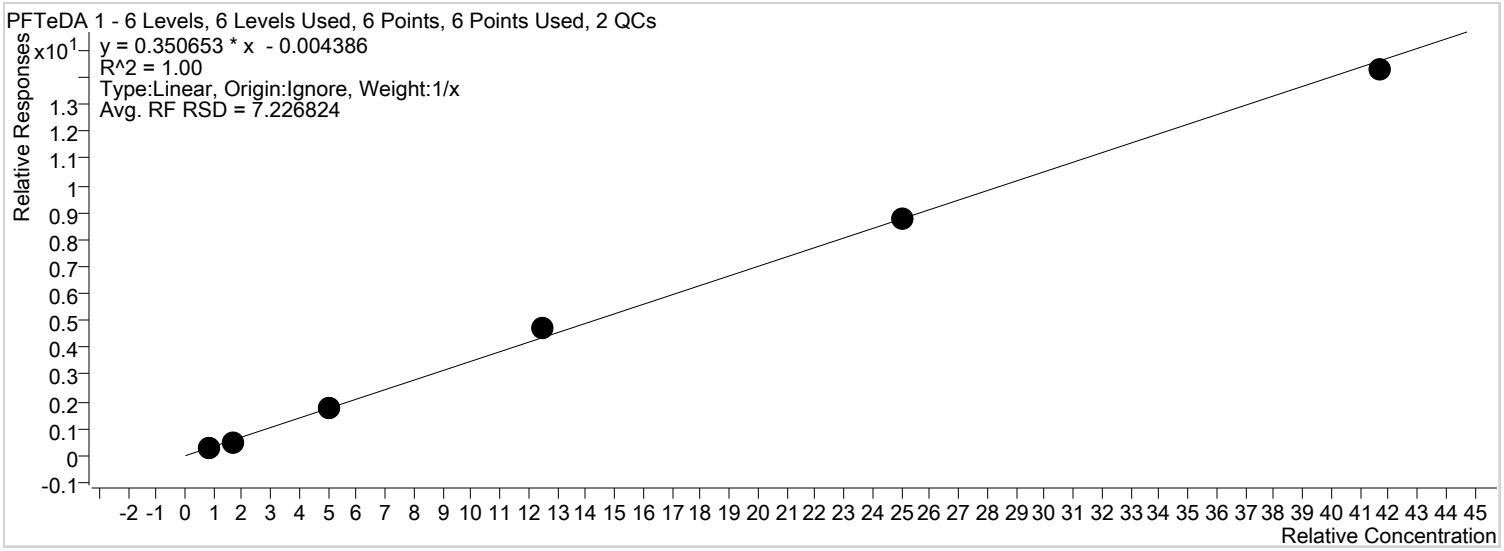
Analyte: PFTrDA 1
Internal Standard: MPFTeDA



Sample	Level	Enabled	Acquisition Time	Exp. Conc.	Concentration	Response	RF	S/N	Accuracy
STD 1	STD 1	x	2018/02/13 10:00:48 PM	0.83	0.91	4959	0.4311	30	109.0
STD 2	STD 2	x	2018/02/13 10:05:44 PM	1.70	1.47	8544	0.3524	43	86.3
STD 3	STD 3	x	2018/02/13 10:10:40 PM	5.00	4.98	27966	0.4211	84	99.6
STD 4	STD 4	x	2018/02/13 10:15:36 PM	12.50	13.34	73688	0.4556	111	106.7
STD 5	STD 5	x	2018/02/13 10:20:32 PM	25.00	24.96	135060	0.4272	147	99.8
STD 6	STD 6	x	2018/02/13 10:25:28 PM	41.70	41.08	239481	0.4220	134	98.5

Batch Path T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics.batch.bin
Last Calib Update 2018/02/21 10:50:18 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	2018/02/13 10:00:48 PM	0.83	0.87	4184	0.3637	12	105.2
STD 2	STD 2	x	2018/02/13 10:05:44 PM	1.70	1.48	7352	0.3032	25	87.2
STD 3	STD 3	x	2018/02/13 10:10:40 PM	5.00	5.10	23692	0.3568	79	102.0
STD 4	STD 4	x	2018/02/13 10:15:36 PM	12.50	13.44	60900	0.3766	117	107.5
STD 5	STD 5	x	2018/02/13 10:20:32 PM	25.00	25.09	111182	0.3517	122	100.3
STD 6	STD 6	x	2018/02/13 10:25:28 PM	41.70	40.75	194413	0.3426	122	97.7

By Compound Report

Agilent Technologies

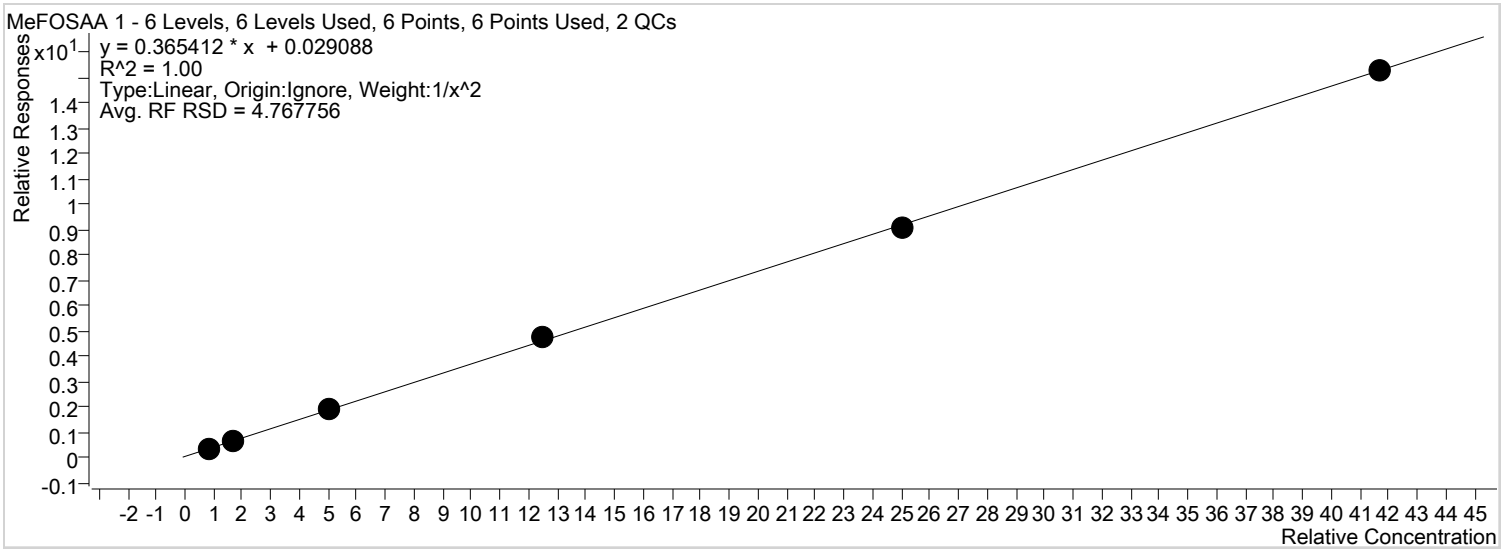
Batch Path T:\lcms4\PFC\20180213\WS#5395679_FOSAA\QuantResults\PFC_Water_Low_180213_WS#5395679_FOSAA_EToxics.batch.bin

Last Calib Update 2018/02/14 1:08:58 PM

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	2018/02/13 4:19:13 PM	0.83	0.85	666	0.4090	328	102.3
STD 2	STD 2	x	2018/02/13 4:21:35 PM	1.70	1.60	1155	0.3612	638	94.2
STD 3	STD 3	x	2018/02/13 4:24:00 PM	5.00	5.12	3451	0.3803	1462	102.5
STD 4	STD 4	x	2018/02/13 4:26:24 PM	12.50	12.77	8894	0.3757	942	102.2
STD 5	STD 5	x	2018/02/13 4:28:49 PM	25.00	24.74	16396	0.3627	289	99.0
STD 6	STD 6	x	2018/02/13 4:31:14 PM	41.70	41.66	27760	0.3658	275	99.9

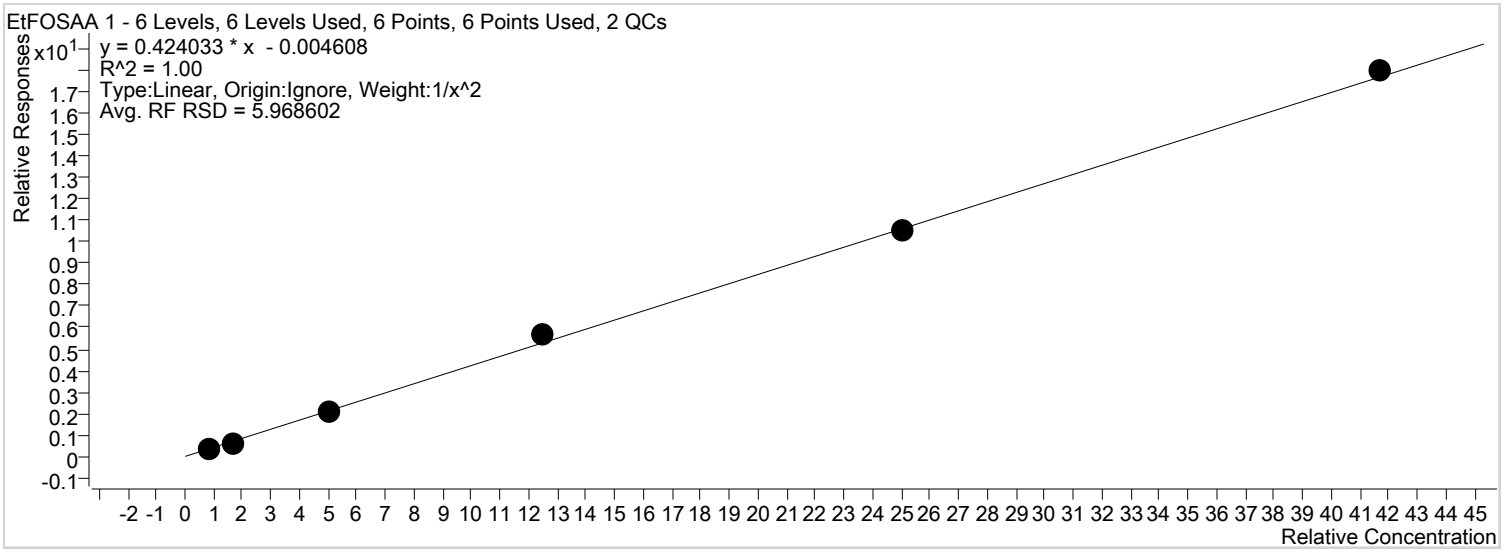
Batch Path T:\lcms4\PFC\20180213\WS#5395679_FOSAA\QuantResults\PFC_Water_Low_180213_WS#5395679_FOSAA_EToxics.batch.bin

Last Calib Update 2018/02/14 1:08:58 PM

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	2018/02/13 4:19:13 PM	0.83	0.87	644	0.4394	56	104.9
STD 2	STD 2	x	2018/02/13 4:21:35 PM	1.70	1.53	1096	0.3781	109	89.8
STD 3	STD 3	x	2018/02/13 4:24:00 PM	5.00	4.88	3378	0.4132	351	97.7
STD 4	STD 4	x	2018/02/13 4:26:24 PM	12.50	13.28	8824	0.4502	1327	106.3
STD 5	STD 5	x	2018/02/13 4:28:49 PM	25.00	24.92	16848	0.4225	1875	99.7
STD 6	STD 6	x	2018/02/13 4:31:14 PM	41.70	42.39	29147	0.4309	2215	101.7

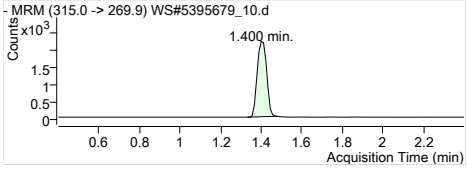
Quantitation Results

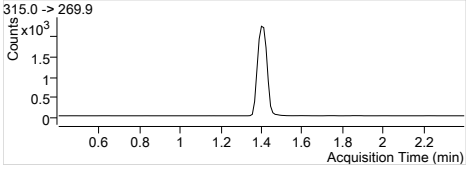
Agilent Technologies

Batch Path	T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics		
Sample Name	**ISC**	**Instrument**	LCMS04
Data File	WS#5395679_10.d	**Operator**	
Sample Type	CC	**Dilution**	1
Acq. Method	PFC_Water_Low.m	**Position**	P3-A2
Acq. Date	2018/02/13 10:40:16 PM	**Injection Volume**	Per Method
Sample Annotation	-		

ISTD Compounds	Response	RT	Target conc.		
MPFHxA	7134	1.40	1 µg/L		
MPFHxS	1855	1.67	1 µg/L		
MPFHpA	8957	1.68	1 µg/L		
MPFOA	9233	1.86	1 µg/L		
MPFOS	2149	1.97	1 µg/L		
MPFNA	10136	2.00	1 µg/L		
MPFDA	8030	2.12	1 µg/L		
MPFUnA	9027	2.22	1 µg/L		
MPFDoA	12332	2.31	1 µg/L		
MPFTeDA	13717	2.46	1 µg/L		
13C6-PFHxA IS	19421	1.40	1 µg/L		
13C9-PFDA IS	26982	2.12	1 µg/L		

Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1	577	1.05	0.83	0.85 µg/L	102.51
PFHxA 1	2728	1.40	0.83	1.06 µg/L	127.50
PFHxS 1	738	1.66	0.83	1.06 µg/L	127.82
PFHpA 1	3186	1.67	0.83	0.91 µg/L	110.14
PFOA 1	3604	1.86	0.83	1.07 µg/L	128.93
PFOS 1	665	1.97	0.83	0.98 µg/L	117.79
PFNA 1	3092	2.00	0.83	0.91 µg/L	109.35
PFDA 1	3077	2.12	0.83	0.82 µg/L	98.62
PFUnA 1	3720	2.22	0.83	1.01 µg/L	121.18
PFDoA 1	4722	2.31	0.83	0.91 µg/L	109.80
PFTrDA 1	5701	2.39	0.83	1.04 µg/L	125.27
PFTeDA 1	4897	2.46	0.83	1.03 µg/L	124.17
13C2-PFHxA	7134	1.40	100.00	121.99 µg/L	121.99
18O2-PFHxS	1855	1.67	100.00	124.26 µg/L	124.26
13C4-PFHpA	8957	1.68	100.00	116.93 µg/L	116.93
13C4-PFOA	9233	1.86	100.00	111.51 µg/L	111.51
13C4-PFOS	2149	1.97	100.00	120.98 µg/L	120.98
13C5-PFNA	10137	2.00	100.00	125.63 µg/L	125.63
13C2-PFDA	7965	2.12	100.00	114.09 µg/L	114.09
13C2-PFUnA	9027	2.22	100.00	108.14 µg/L	108.14
13C2-PFDoA	12332	2.31	100.00	111.77 µg/L	111.77
13C2-PFTeDA	13823	2.46	100.00	107.12 µg/L	107.12
13C2-6:2-FTS	3004	1.82	100.00	127.74 µg/L	127.74
13C2-8:2 FTS	2406	2.10	100.00	109.69 µg/L	109.69
13C6-PFHxA	19421	1.40	100.00	88.66 µg/L	88.66
13C9-PFDA	26982	2.12	100.00	93.15 µg/L	93.15





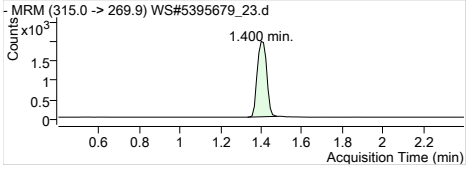
MPFHxA	Internal Standard
RT (Exp. RT):	1.400 (1.400)
Concentration:	1 µg/L
Sample type:	CC

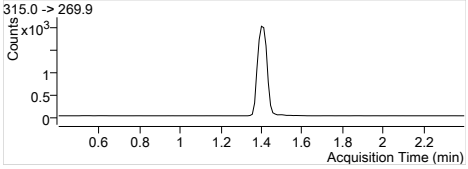
Batch Path T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics

Sample Name	**CCV**	**Instrument**	LCMS04
Data File	WS#5395679_23.d	**Operator**	
Sample Type	CC	**Dilution**	1
Acq. Method	PFC_Water_Low.m	**Position**	P3-A5
Acq. Date	2018/02/13 11:44:24 PM	**Injection Volume**	Per Method
Sample Annotation	-		

ISTD Compounds	Response	RT	Target conc.		
MPFHxA	6335	1.40	1 µg/L		
MPFHxS	1737	1.67	1 µg/L		
MPFHpA	8236	1.68	1 µg/L		
MPFOA	8897	1.86	1 µg/L		
MPFOS	1967	1.97	1 µg/L		
MPFNA	8566	2.00	1 µg/L		
MPFDA	7051	2.12	1 µg/L		
MPFUnA	9049	2.22	1 µg/L		
MPFDoA	11695	2.31	1 µg/L		
MPFTeDA	13008	2.46	1 µg/L		
13C6-PFHxA IS	21360	1.40	1 µg/L		
13C9-PFDA IS	28652	2.12	1 µg/L		

Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1	9008	1.05	12.50	11.35 µg/L	90.84
PFHxA 1	31793	1.40	12.50	11.70 µg/L	93.57
PFHxS 1	9064	1.67	12.50	11.48 µg/L	91.88
PFHpA 1	42551	1.68	12.50	12.88 µg/L	103.00
PFOA 1	48710	1.86	12.50	13.21 µg/L	105.64
PFOS 1	8811	1.96	12.50	12.07 µg/L	96.53
PFNA 1	42907	2.00	12.50	12.95 µg/L	103.60
PFDA 1	46720	2.12	12.50	13.45 µg/L	107.61
PFUnA 1	50270	2.22	12.50	12.18 µg/L	97.40
PFDoA 1	60415	2.31	12.50	12.17 µg/L	97.39
PFTrDA 1	71774	2.39	12.50	12.93 µg/L	103.43
PFTeDA 1	60474	2.46	12.50	13.27 µg/L	106.16
13C2-PFHxA	6335	1.40	100.00	98.50 µg/L	98.50
18O2-PFHxS	1737	1.67	100.00	105.80 µg/L	105.80
13C4-PFHpA	8236	1.68	100.00	97.76 µg/L	97.76
13C4-PFOA	8897	1.86	100.00	97.70 µg/L	97.70
13C4-PFOS	1967	1.97	100.00	100.69 µg/L	100.69
13C5-PFNA	8566	2.00	100.00	96.53 µg/L	96.53
13C2-PFDA	6853	2.12	100.00	92.44 µg/L	92.44
13C2-PFUnA	9049	2.22	100.00	102.09 µg/L	102.09
13C2-PFDoA	11695	2.31	100.00	99.81 µg/L	99.81
13C2-PFTeDA	13328	2.46	100.00	97.27 µg/L	97.27
13C2-6:2-FTS	2869	1.82	100.00	110.93 µg/L	110.93
13C2-8:2 FTS	2504	2.10	100.00	103.80 µg/L	103.80
13C6-PFHxA	21360	1.40	100.00	97.51 µg/L	97.51
13C9-PFDA	28652	2.12	100.00	98.91 µg/L	98.91





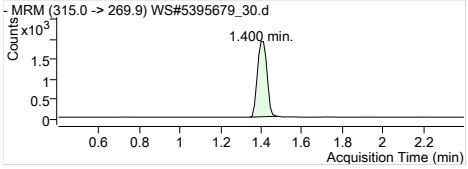
MPFHxA Internal Standard
RT (Exp. RT): 1.400 (1.400)
Concentration: 1 µg/L
Sample type: CC

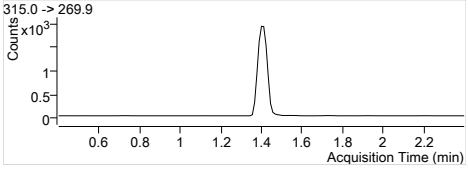
Batch Path	T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics

Sample Name	**CCV**	**Instrument**	LCMS04
Data File	WS#5395679_30.d	**Operator**	
Sample Type	CC	**Dilution**	1
Acq. Method	PFC_Water_Low.m	**Position**	P3-A5
Acq. Date	2018/02/14 12:18:56 AM	**Injection Volume**	Per Method
Sample Annotation	-		

ISTD Compounds	Response	RT	Target conc.		
MPFHxA	6134	1.40	1 µg/L		
MPFHxS	1815	1.67	1 µg/L		
MPFHpA	8458	1.68	1 µg/L		
MPFOA	8559	1.86	1 µg/L		
MPFOS	2044	1.97	1 µg/L		
MPFNA	8644	2.00	1 µg/L		
MPFDA	7377	2.12	1 µg/L		
MPFUnA	9234	2.22	1 µg/L		
MPFDoA	11486	2.31	1 µg/L		
MPFTeDA	13227	2.46	1 µg/L		
13C6-PFHxA IS	21627	1.41	1 µg/L		
13C9-PFDA IS	29319	2.12	1 µg/L		

Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1	9154	1.06	12.50	11.05 µg/L	88.38
PFHxA 1	32389	1.41	12.50	12.30 µg/L	98.37
PFHxS 1	9324	1.67	12.50	11.31 µg/L	90.47
PFHpA 1	44058	1.67	12.50	12.98 µg/L	103.85
PFOA 1	48051	1.86	12.50	13.54 µg/L	108.30
PFOS 1	8977	1.96	12.50	11.83 µg/L	94.66
PFNA 1	42830	2.00	12.50	12.81 µg/L	102.49
PFDA 1	47732	2.12	12.50	13.14 µg/L	105.09
PFUnA 1	51504	2.22	12.50	12.22 µg/L	97.79
PFDoA 1	66665	2.31	12.50	13.68 µg/L	109.41
PFTrDA 1	71697	2.39	12.50	12.70 µg/L	101.62
PFTeDA 1	61607	2.46	12.50	13.30 µg/L	106.36
13C2-PFHxA	6134	1.40	100.00	94.19 µg/L	94.19
18O2-PFHxS	1815	1.67	100.00	109.18 µg/L	109.18
13C4-PFHpA	8458	1.68	100.00	99.15 µg/L	99.15
13C4-PFOA	8559	1.86	100.00	92.82 µg/L	92.82
13C4-PFOS	2044	1.97	100.00	103.33 µg/L	103.33
13C5-PFNA	8644	2.00	100.00	96.20 µg/L	96.20
13C2-PFDA	7308	2.12	100.00	96.34 µg/L	96.34
13C2-PFUnA	9234	2.22	100.00	101.80 µg/L	101.80
13C2-PFDoA	11486	2.31	100.00	95.80 µg/L	95.80
13C2-PFTeDA	13372	2.46	100.00	95.37 µg/L	95.37
13C2-6:2-FTS	2788	1.82	100.00	106.46 µg/L	106.46
13C2-8:2 FTS	2357	2.10	100.00	96.50 µg/L	96.50
13C6-PFHxA	21627	1.41	100.00	98.73 µg/L	98.73
13C9-PFDA	29319	2.12	100.00	101.22 µg/L	101.22





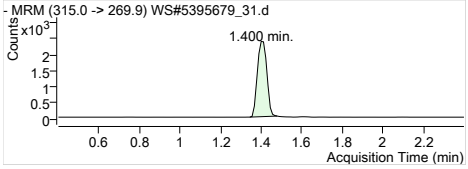
MPFHxA	Internal Standard
RT (Exp. RT):	1.400 (1.400)
Concentration:	1 µg/L
Sample type:	CC

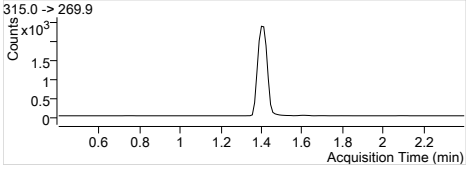
Batch Path T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics

Sample Name	**ISC**	**Instrument**	LCMS04
Data File	WS#5395679_31.d	**Operator**	
Sample Type	CC	**Dilution**	1
Acq. Method	PFC_Water_Low.m	**Position**	P3-A2
Acq. Date	2018/02/14 10:45:08 AM	**Injection Volume**	Per Method
Sample Annotation	-		

ISTD Compounds	Response	RT	Target conc.		
MPFHxA	7603	1.40	1 µg/L		
MPFHxS	1814	1.67	1 µg/L		
MPFHpA	9704	1.67	1 µg/L		
MPFOA	10033	1.86	1 µg/L		
MPFOS	2219	1.97	1 µg/L		
MPFNA	9931	2.00	1 µg/L		
MPFDA	8530	2.12	1 µg/L		
MPFUnA	9822	2.22	1 µg/L		
MPFDoA	12941	2.31	1 µg/L		
MPFTeDA	15045	2.46	1 µg/L		
13C6-PFHxA IS	20248	1.40	1 µg/L		
13C9-PFDA IS	27315	2.12	1 µg/L		

Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1	749	1.05	0.83	1.07 µg/L	128.95
PFHxA 1	2539	1.40	0.83	0.95 µg/L	114.11
PFHxS 1	653	1.66	0.83	0.98 µg/L	117.96
PFHpA 1	3109	1.68	0.83	0.83 µg/L	99.56
PFOA 1	3946	1.86	0.83	1.08 µg/L	129.79
PFOS 1	706	1.96	0.83	1.00 µg/L	120.58
PFNA 1	3292	2.00	0.83	0.98 µg/L	117.50
PFDA 1	3496	2.12	0.83	0.87 µg/L	105.12
PFUnA 1	3908	2.22	0.83	0.97 µg/L	117.47
PFDoA 1	4753	2.31	0.83	0.87 µg/L	105.36
PFTrDA 1	5320	2.38	0.83	0.90 µg/L	107.86
PFTeDA 1	4680	2.46	0.83	0.90 µg/L	108.39
13C2-PFHxA	7603	1.40	100.00	124.70 µg/L	124.70
18O2-PFHxS	1814	1.67	100.00	116.55 µg/L	116.55
13C4-PFHpA	9704	1.67	100.00	121.51 µg/L	121.51
13C4-PFOA	10033	1.86	100.00	116.22 µg/L	116.22
13C4-PFOS	2219	1.97	100.00	119.82 µg/L	119.82
13C5-PFNA	9932	2.00	100.00	118.06 µg/L	118.06
13C2-PFDA	8339	2.12	100.00	117.99 µg/L	117.99
13C2-PFUnA	9822	2.22	100.00	116.23 µg/L	116.23
13C2-PFDoA	12941	2.31	100.00	115.86 µg/L	115.86
13C2-PFTeDA	15407	2.46	100.00	117.94 µg/L	117.94
13C2-6:2-FTS	2779	1.82	100.00	113.35 µg/L	113.35
13C2-8:2 FTS	2779	2.10	100.00	121.52 µg/L	121.52
13C6-PFHxA	20248	1.40	100.00	92.43 µg/L	92.43
13C9-PFDA	27315	2.12	100.00	94.30 µg/L	94.30





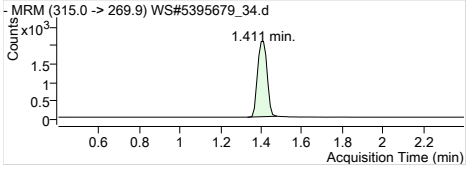
MPFHxA Internal Standard
RT (Exp. RT): 1.400 (1.400)
Concentration: 1 µg/L
Sample type: CC

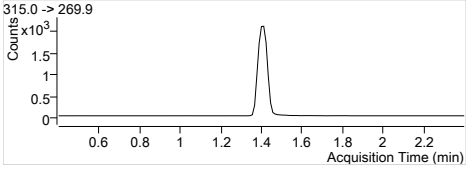
Batch Path T:\lcms4\PFC\20180213\WS#5395679\QuantResults\PFC_Water_Low_180213_WS#5395679_EToxics

Sample Name	**CCV**	**Instrument**	LCMS04
Data File	WS#5395679_34.d	**Operator**	
Sample Type	CC	**Dilution**	1
Acq. Method	PFC_Water_Low.m	**Position**	P3-A5
Acq. Date	2018/02/14 10:59:56 AM	**Injection Volume**	Per Method
Sample Annotation	-		

ISTD Compounds	Response	RT	Target conc.		
MPFHxA	6677	1.41	1 µg/L		
MPFHxS	1809	1.67	1 µg/L		
MPFHpA	9013	1.67	1 µg/L		
MPFOA	9436	1.86	1 µg/L		
MPFOS	1901	1.97	1 µg/L		
MPFNA	9278	2.00	1 µg/L		
MPFDA	7805	2.12	1 µg/L		
MPFUnA	8921	2.22	1 µg/L		
MPFDoA	12126	2.31	1 µg/L		
MPFTeDA	13545	2.46	1 µg/L		
13C6-PFHxA IS	24038	1.41	1 µg/L		
13C9-PFDA IS	30702	2.12	1 µg/L		

Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFBS 1	10288	1.06	12.50	12.43 µg/L	99.48
PFHxA 1	35381	1.41	12.50	12.34 µg/L	98.71
PFHxS 1	9829	1.67	12.50	11.95 µg/L	95.60
PFHpA 1	45913	1.68	12.50	12.70 µg/L	101.56
PFOA 1	52107	1.86	12.50	13.32 µg/L	106.54
PFOS 1	9696	1.96	12.50	13.72 µg/L	109.74
PFNA 1	45230	2.00	12.50	12.61 µg/L	100.86
PFDA 1	49304	2.12	12.50	12.83 µg/L	102.61
PFUnA 1	54591	2.22	12.50	13.40 µg/L	107.20
PFDoA 1	67680	2.31	12.50	13.15 µg/L	105.22
PFTrDA 1	73943	2.39	12.50	12.79 µg/L	102.34
PFTeDA 1	63094	2.46	12.50	13.30 µg/L	106.37
13C2-PFHxA	6677	1.41	100.00	92.25 µg/L	92.25
18O2-PFHxS	1809	1.67	100.00	97.91 µg/L	97.91
13C4-PFHpA	9013	1.67	100.00	95.06 µg/L	95.06
13C4-PFOA	9436	1.86	100.00	92.07 µg/L	92.07
13C4-PFOS	1901	1.97	100.00	86.47 µg/L	86.47
13C5-PFNA	9278	2.00	100.00	92.90 µg/L	92.90
13C2-PFDA	7718	2.12	100.00	97.16 µg/L	97.16
13C2-PFUnA	8921	2.22	100.00	93.92 µg/L	93.92
13C2-PFDoA	12126	2.31	100.00	96.58 µg/L	96.58
13C2-PFTeDA	13822	2.46	100.00	94.13 µg/L	94.13
13C2-6:2-FTS	2321	1.82	100.00	79.74 µg/L	79.74
13C2-8:2 FTS	2232	2.10	100.00	82.21 µg/L	82.21
13C6-PFHxA	24038	1.41	100.00	109.73 µg/L	109.73
13C9-PFDA	30702	2.12	100.00	105.99 µg/L	105.99





MPFHxA Internal Standard
RT (Exp. RT): 1.411 (1.400)
Concentration: 1 µg/L
Sample type: CC

Quantitation Results

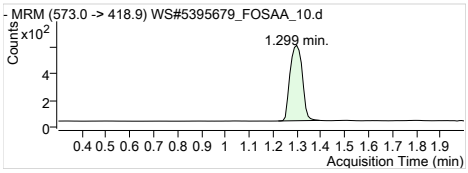
Agilent Technologies

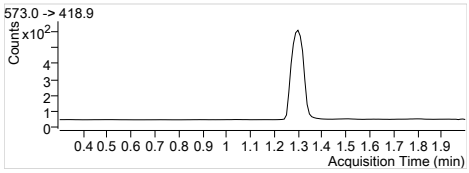
Batch Path	T:\lcms4\PFC\20180213\WS#5395679_FOSAA\QuantResults\PFC_Water_Low_180213_WS#5395679_FOSAA_ETOxics

Sample Name	**ISC**	**Instrument**	LCMS04
Data File	WS#5395679_FOSAA_10.d	**Operator**	
Sample Type	CC	**Dilution**	1
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P3-A2
Acq. Date	2018/02/13 4:38:29 PM	**Injection Volume**	Per Method
Sample Annotation	-		

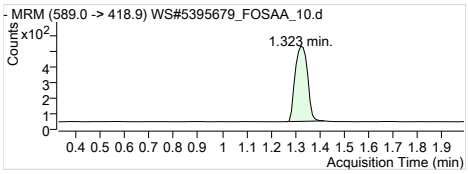
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1993	1.30	1 µg/L		
D5-EtFOSAA IS	1712	1.32	1 µg/L		
13C9-PFDA IS	21626	0.87	1 µg/L		

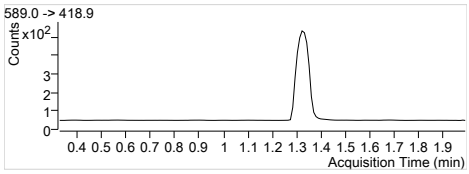
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1	659	1.29	0.83	0.83 µg/L	99.43
EtFOSAA 1	654	1.32	0.83	0.91 µg/L	109.85
D3-MeFOSAA	2004	1.30	100.00	116.72 µg/L	116.72
D5-EtFOSAA	1737	1.32	100.00	113.91 µg/L	113.91
13C9-PFDA	21086	0.87	100.00	91.39 µg/L	91.39



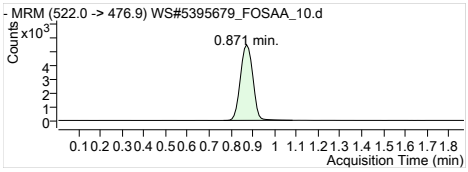


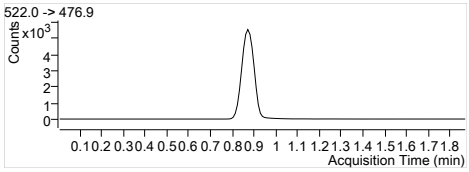
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.299 (1.299)
Concentration: 1 µg/L
Sample type: CC



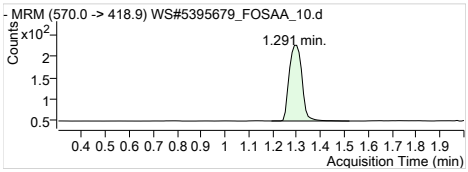


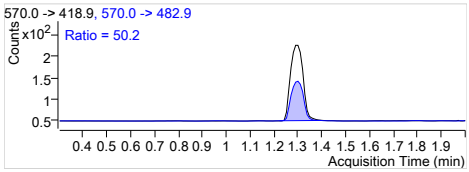
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.323 (1.323)
Concentration: 1 µg/L
Sample type: CC



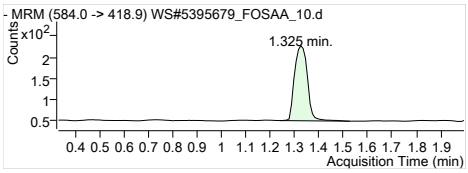


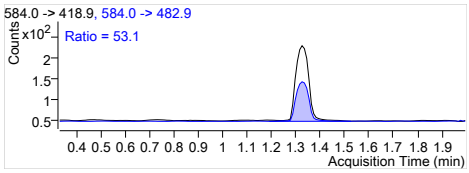
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.871 (0.871)
Concentration: 1 µg/L
Sample type: CC



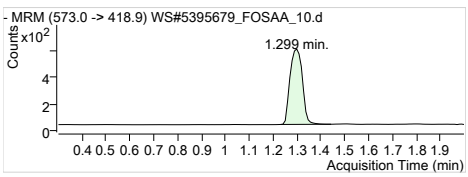


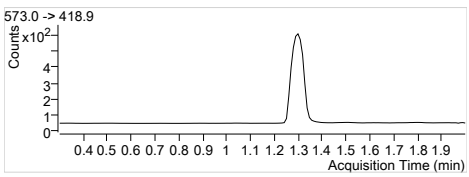
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 1.291 (1.300)
Calc. conc. 0.83 µg/L
Area ratio: 0.33066
Sample type: CC





EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 1.325 (1.325)
Calc. conc. 0.91 µg/L
Area ratio: 0.38201
Sample type: CC





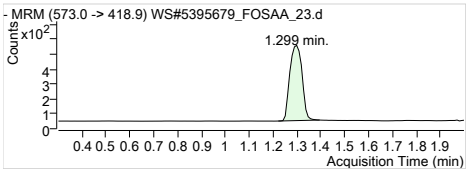
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.299 (1.299)
Calc. conc. 116.72 µg/L
Area ratio: 0.09267
Sample type: CC

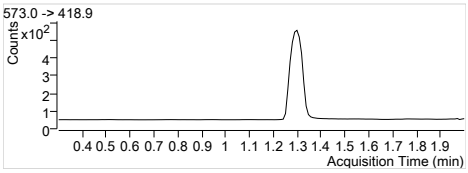
Batch Path	T:\lcms4\PFC\20180213\WS#5395679_FOSAA\QuantResults\PFC_Water_Low_180213_WS#5395679_FOSAA_ETOxics

Sample Name	**CCV**	**Instrument**	LCMS04
Data File	WS#5395679_FOSAA_23.d	**Operator**	
Sample Type	CC	**Dilution**	1
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P3-A5
Acq. Date	2018/02/13 5:09:50 PM	**Injection Volume**	Per Method
Sample Annotation	-		

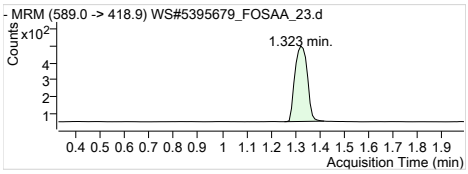
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1814	1.30	1 µg/L		
D5-EtFOSAA IS	1597	1.32	1 µg/L		
13C9-PFDA IS	25305	0.87	1 µg/L		

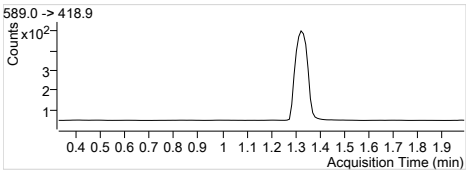
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1	8568	1.29	12.50	12.85 µg/L	102.77
EtFOSAA 1	8850	1.32	12.50	13.08 µg/L	104.64
D3-MeFOSAA	1830	1.30	100.00	91.09 µg/L	91.09
D5-EtFOSAA	1601	1.32	100.00	89.72 µg/L	89.72
13C9-PFDA	24602	0.87	100.00	106.63 µg/L	106.63



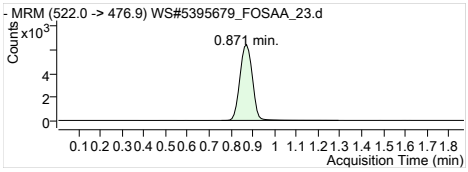


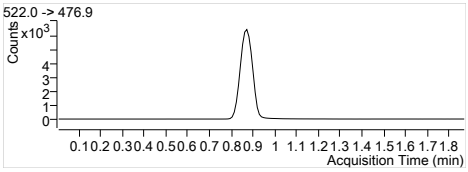
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.299 (1.299)
Concentration: 1 µg/L
Sample type: CC



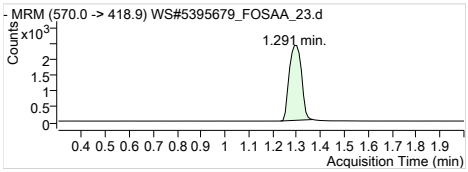


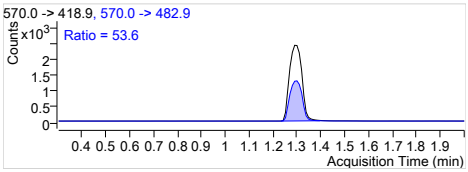
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.323 (1.323)
Concentration: 1 µg/L
Sample type: CC



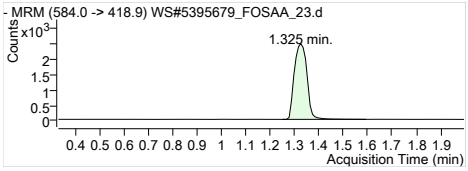


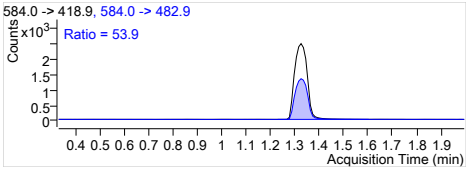
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.871 (0.871)
Concentration: 1 µg/L
Sample type: CC



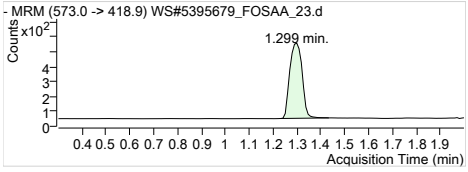


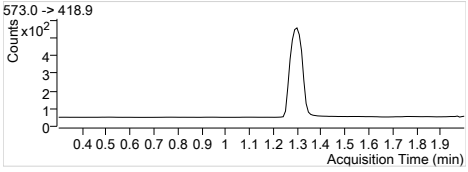
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 1.291 (1.300)
Calc. conc. 12.85 µg/L
Area ratio: 4.72326
Sample type: CC





EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 1.325 (1.325)
Calc. conc. 13.08 µg/L
Area ratio: 5.54164
Sample type: CC





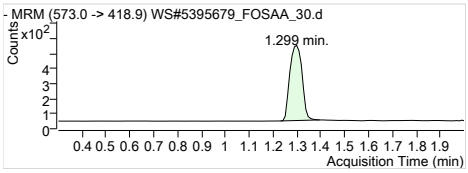
D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.299 (1.299)
Calc. conc. 91.09 µg/L
Area ratio: 0.07232
Sample type: CC

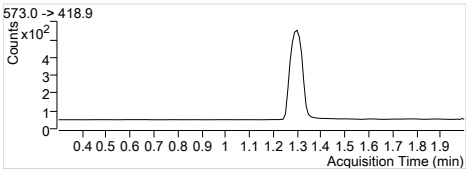
Batch Path	T:\lcms4\PFC\20180213\WS#5395679_FOSAA\QuantResults\PFC_Water_Low_180213_WS#5395679_FOSAA_ETOxics

Sample Name	**CCV**	**Instrument**	LCMS04
Data File	WS#5395679_FOSAA_30.d	**Operator**	
Sample Type	CC	**Dilution**	1
Acq. Method	PFC_Water_Low_FOSAA.m	**Position**	P3-A5
Acq. Date	2018/02/13 5:26:41 PM	**Injection Volume**	Per Method
Sample Annotation	-		

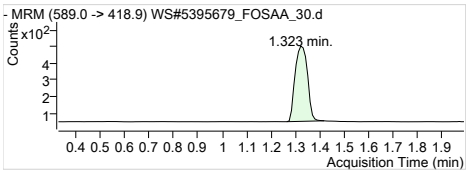
ISTD Compounds	Response	RT	Target conc.		
D3-MeFOSAA IS	1793	1.30	1 µg/L		
D5-EtFOSAA IS	1602	1.32	1 µg/L		
13C9-PFDA IS	25088	0.87	1 µg/L		

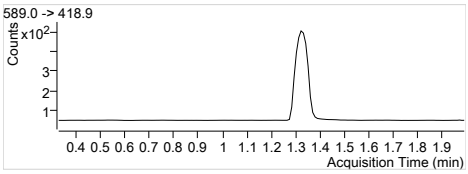
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
MeFOSAA 1	8684	1.29	12.50	13.17 µg/L	105.40
EtFOSAA 1	8997	1.32	12.50	13.26 µg/L	106.04
D3-MeFOSAA	1794	1.30	100.00	90.07 µg/L	90.07
D5-EtFOSAA	1630	1.32	100.00	92.14 µg/L	92.14
13C9-PFDA	24450	0.87	100.00	105.97 µg/L	105.97



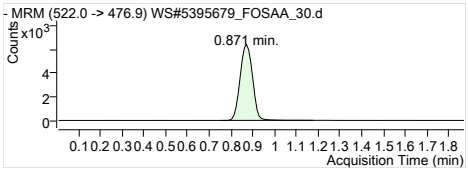


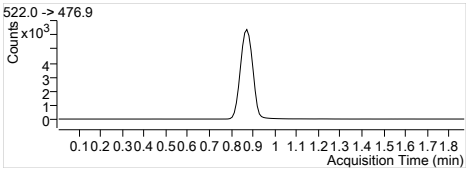
D3-MeFOSAA IS Internal Standard
RT (Exp. RT): 1.299 (1.299)
Concentration: 1 µg/L
Sample type: CC



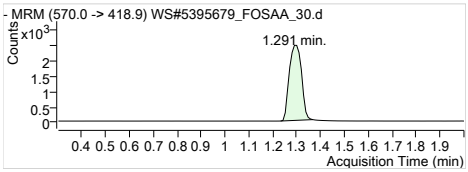


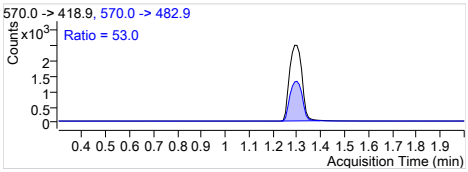
D5-EtFOSAA IS Internal Standard
RT (Exp. RT): 1.323 (1.323)
Concentration: 1 µg/L
Sample type: CC



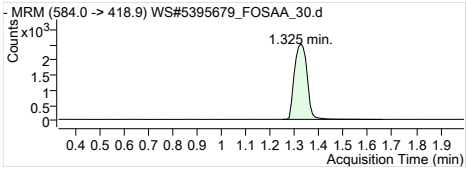


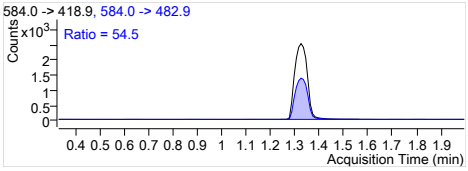
13C9-PFDA IS Internal Standard
RT (Exp. RT): 0.871 (0.871)
Concentration: 1 µg/L
Sample type: CC



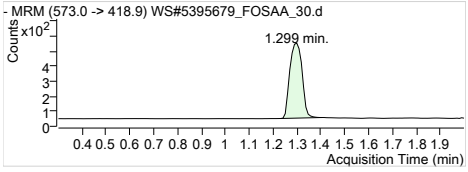


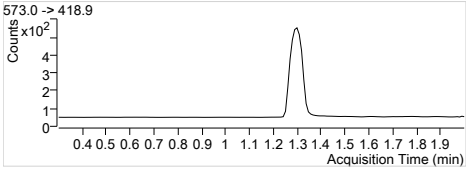
MeFOSAA 1 570.0 -> 418.9
RT (Exp. RT): 1.291 (1.300)
Calc. conc. 13.17 µg/L
Area ratio: 4.84328
Sample type: CC





EtFOSAA 1 584.0 -> 418.9
RT (Exp. RT): 1.325 (1.325)
Calc. conc. 13.26 µg/L
Area ratio: 5.61610
Sample type: CC





D3-MeFOSAA 573.0 -> 418.9
RT (Exp. RT): 1.299 (1.299)
Calc. conc. 90.07 µg/L
Area ratio: 0.07151
Sample type: CC

PFOX ONLY

DoD Projects - Internal Data Validation Checklist

Run date: 2018/02/14

Worksheet # (s): 539602 69

Analysis: PFOSA CAL-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: WG Date: 2018/02/15

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	✓		

2018/02/15

Reviewed by: AM Date: 2018/02/15

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

Worksheet Data Validation Checklist - Extractable Organics

Worksheet # 5396269 | Testcode: PFOSALCM - W

Sample Preparation		yes	no	n/a
1	Samples extracted within hold time	✓		
2	Client sample ID verified against Lab ID (waters & oils)	✓		
3	Parameter list and Client comments reviewed, (Spiking solutions matched to parameter list)	✓		
4	Height of sediment or if sample was decanted, recorded on worksheet	✓		
5	Method required QC processed with samples, maximum batch size = 20 client samples.	✓		
6	Sample, duplicate, matrix spike appear similar, initial sample as well as final extract	✓		
7	Sample weight or initial volume and extract final volume, aliquot factor clearly recorded.	✓		
8	If performed any additional dilution clearly recorded	✓		
9	Matrix spike / Duplicate performed on IOL samples if present			✓
10	Spiking solutions valid (haven't expired), ID and volume used clearly identified on worksheet	✓		
11	Spiking process witnessed and signed off	✓		
12	Extraction type recorded (N3A2B = neutral, 3 x acidic, 2 x basic)			✓
13	Sample prep deviations documented within CompliantPro as a Policy Deviation			✓
14	Job Remarks reviewed on 2nd page of worksheet.	✓		
15	Worksheet and reagent tracking record completed and authorized.	✓		

Reviewed by: GSZ | Date: 2018/02/12

Comments:

Worksheet Approval		yes	no	n/a
1	Verified the position of the vials in autosampler against sequence list; signed off sequence list			
2	Calibration and CCV standards valid (haven't expired)			
3	Initial calibration curve and DFTPP tune (if applicable) acceptable			
4	Continuing and Final CCV and DFTPP tune (if applicable) acceptable			
5	System performance check acceptable (if applicable)			
6	Internal standard responses acceptable			
7	Method blank meets acceptance criteria			
8	Lab Control Samples recoveries meets acceptance criteria			
9	Duplicate RPD meets acceptance criteria			
10	Matrix spike recoveries meets acceptance criteria			
11	Surrogate recoveries meets acceptance criteria			
12	Appropriate control charts updated			
13	Samples above calibration range diluted and reanalyzed			
14	Dilutions clearly documented on tracking record, inst file and verified during data upload			
15	Samples following high level samples checked for carryover.			
16	Mass spectra ion ratios acceptable for positive results, hardcopy in file.			
17	Analytical observations / anomalies documented			
18	DQW comments entered in LIMS, hardcopy in file			
19	Sample Prep section (above) reviewed and verified.			
20	WS Approval performed in LIMS			

Reviewed by: | Date:

Comments:

refer to BEL-FCD-0002 QA/QC/1.15.4

Worksheet Validation		yes	no	n/a
1	Calibration, QC and sample results reviewed and determined acceptable			
2	Manual integrations verified			
3	Random calculation checked			
4	Data and QC validated in LIMS			
5	Comments reviewed for appropriateness			
6	Reworks / relogs documented in file			
7	Worksheet signed and dated,			
8	Worksheet approved and validated within LIMS			

Reviewed by: | Date:

Comments:

WS# : 5396269

Page #: 1/2

Report Name : Worksheet - (Liquids and Solids)

Assignment Date : Monday, February 12, 2018

Assigned to : Geoffrey Sanchez

Test Code : PFOSALCM-W

Instrument Id:

Test Description : PFOS and PFOA in water by LC-MS/MS

Sediment

Job Number	Sample Number	D	Sample ID	F	% Moisture	Wt (g) or Vol (mL)	Final Vol (mL)	DF or AF	# Cont	Expiry Date	Test DeadLine	Criteria	Extract Date
	SPIKE		PFOSH		~~0~~	0.75	1.25	1X					2018/02/12
	BLANK				~~0~~	0.75	1.25	1X					2018/02/12
B824213	*GAD936-01R	0	CEF-NG-025-0118		~~0~~	0.75	1.25	1X	6	2018/02/12	2018/02/14 23:00	DOD	2018/02/12
B824213	*GAD936-01R	1	CEF-NG-025-0118		~~0~~	0.75	1.25	1X	6	2018/02/12	2018/02/14 23:00	DOD	2018/02/12

GSZ 2018/02/12

Remarks: High level analysis Plus Post-Spike

Sample also extracted by SPE (WS# 5395679)

10X & 100X dilutions

Samples extracted by: Geoffrey Sanchez, GSZ 2018/02/12

Instrumentation performed by: MG Date: 2018/02/13

Calculations performed by: MG Date: 2018/02/15

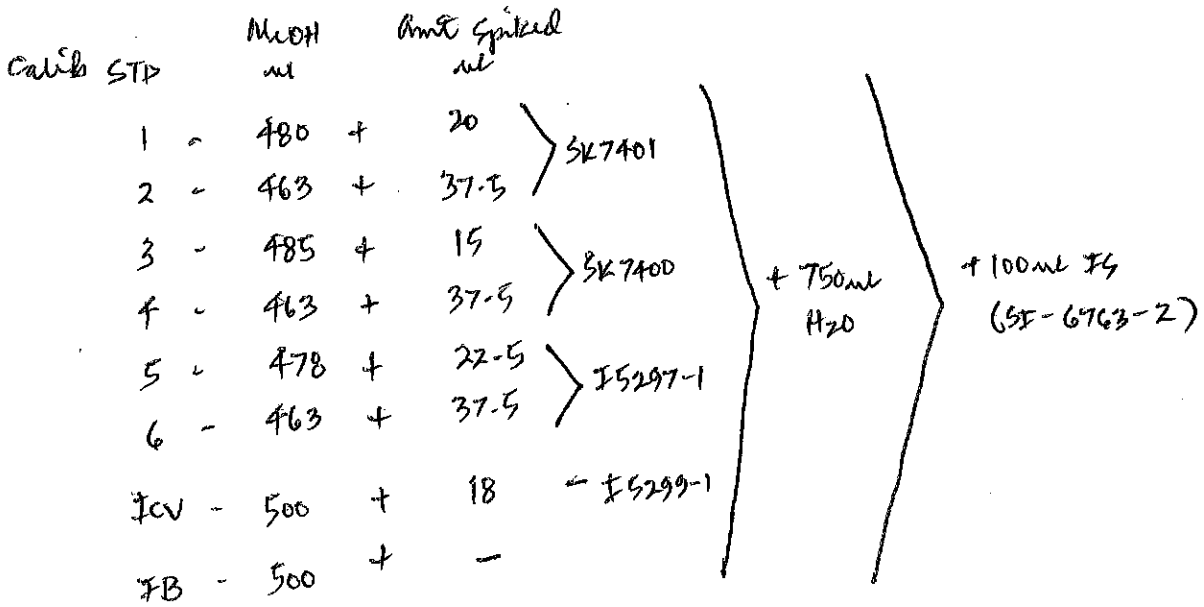
Validated by: JH Date: 2018/02/15

652, 2018/02/12

Job No.	Rep / Client Name	Contact	Client Tier	National
	Remarks			
GB824213	SP8 Earth Toxics Inc	Rick Carr	Tier 5 (Enviro.)	AECOM

nreg, PFOSALCM-W Level IV Data Package and TetraTech EDD required The following samples will not be reported: GAD929, GAD930, GAD931, GAD932, GAD935 F/C by NGV - 2018/02/09 Project #: JM10 CECIL

Job	Sample	Lab Comments
	SPIKE	
	BLANK	
B824213	GAD936-01R	
B824213	GAD936-01R:DUP	



Post Spike : Duplicate (10x & 100x)

675ml Sample DUP + 10ml Spike D SK-7411

Worksheet Reagent Tracking Record Worksheet # 5396269

Surrogate/Spike solutions	√	Solution ID #	Conc.	Volume (µL) Blk-Spk		MS		Samples	
				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	(18) NA	50	NA	50	NA
Comp. PFC Working Solution A	✓	F-5299-1	1ug/mL	75	21 62.5	75	21 62.5	NA	NA
PFC Internal Standard Solution	✓	SF-6763-2 JPB	50/125 ng/mL	200	(100) 150	200	100 150	200	(100) 150
PFC Injection IS H32773F	✓	SF-6770-1 JPB	100400 ng/mL	20	(20)	20	20	(20)	(20)
ICV	✓	F-5299-1	1 mg/mL		(18)			GSZ 2018/02/12	

Solvent/Reagent	√	Lot No.	Date Opened	Solvent/Reagent	√	Lot No.	Date Opened/ Prepared
DCM				50% NaOH			
Ottawa Sand				o-Phosphoric Acid			
Methanol	✓	SHBJ5451	2018/02/12	Borax			
2-Propanol (IPA)				Calcium Chloride			
Acetonitrile				EDTA			
Sodium Sulfate				Phosphate Buffer			
70:30 Methanol: Water				Sodium Thiosulphate			
60:40 Water: Methanol				DNPH			
DCM:Ethyl Ether (75:25)				FMOC			
Hexane:IPA (98:2)				5M Acetate Buffer			
2% Formic Acid				0.2% NH_4OH			
0.2% Formic Acid				Leachate Fluid			
0.05M KOH				Reagent Water	✓	57297	2018/02/09
0.05M HCl							

*Spiked by: GSZ

Spike Date: 2018/02/12

Spike Syringe/Pipette ID#: H32773F

Int. Std Syringe/Pipette ID#: H32773F

*Spiking Witnessed by: JPB

Final pH:

Equipment & ID	√	Equipment	ID#	√	Equipment	Lot #	Bottle Tracking
Pipettor K551916 K399732F M4101F	✓ ✓ ✓	SPE Cartridge			QC Balance ID		Bottle#
		Filter			Thermometer ID &Temp		Cap#
Dispenser		Centrifuge					Systems plus Lot#
		Sonicator					

Comments:

* - SPIKING OF QC SAMPLES MUST BE WITNESSED AT ALL TIMES.

Worksheet: 5396269 PFOSALCM-W HIGH

Dilution and Column Cleanup Worksheet

Maxxam Analytics

Job Number	Sample ID	Sample: Initial Final Volume (mL)	Dilution Required	Sample added mL	Solvent Added mL *	Int Stan Added uL	New Effective Final Volume (mL)	INITIAL DATE	Column Clean Up
B824213	GAD936-01R	1.25 (1X)	10X	0.1	0.9	–	1.0	GSZ 2018/02/12	–
B824213	GAD936-01R	1.0 (10X)	100X	0.1	0.9	–	1.0	GSZ 2018/02/12	–
				GSZ 2018/02/12					

DILUENT: 9.0 mL LCMS H2O + 6.0 mL MeOH + 1.2 mL IS

Refer to WS Tracking Sheet for reagent ID & spiking std ID lot #

Bench Level Planned Deviation / Non-Conformance Form

Date: 2018/02/15
Affected SOP #, and/or WI /section(s): CAM SOP-00894/13 Section 15
Affected Job(s) / WS(s): B824213 / WS 5396269
Affected samples ID: GAD936
Initiated by (print name) Marian Godax (sign) 2018/02/15

DESCRIPTION:

Peak asymmetry factor for 1st eluting peak (PFOS) was below the lower control limit.

INVESTIGATION/CAUSE:

The analytical standard for PFOS contains both linear and branched isomers. These appear as a merged peak in the chromatogram, with the branched isomers eluting slightly before the linear isomers.

RATIONALE & ACTION TAKEN:

Because the calculated peak asymmetry factor was a result of isomers present in the analytical standard and not due to poor column performance, data was accepted and no further action was taken. Peak symmetry is not a QC requirement for DoD QSM 5.1 (table B-15).

EFFECT ON DATA QUALITY (Evaluation of the significance):

There is no impact on the data quality. All other QC acceptance criteria were met.

STEPS TAKEN TO PREVENT FURTHER OCCURRENCE:

None.

(Check one box only)

☐ Bench Level Planned Deviation ☒ Bench Level Non-Conformance

Manager or Supervisor or Section Head : Adam Robinson
(PRINT NAME)

SIGNATURE: _____ **DATE:** 2018/02/15

Definitions:
Bench Level Planned Deviation: Changes to approved process/SOP are planned before their implementation
Bench Level Non-Conformance: Changes to approved process/SOP discovered after their implementation

Worksheet Number: **5396269**

PFOS and PFOA in water by SPE/LCMS - Water

ug/L

Parameter Name	Units	SPIKE	BLANK	DL	B824213 GAD936 ReWork	B824213 GAD936 Dup1 ReWork	DL
6:2 Fluorotelomer sulfonate	ug/L	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
8:2 Fluorotelomer sulfonate	ug/L	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
N-ethylperfluorooctane sulfonamide	ug/L	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
EtFOSAA	ug/L	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
N-ethylperfluorooctane sulfonamidoe	ug/L	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
N-methylperfluorooctane sulfonamide	ug/L	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
MeFOSAA	ug/L	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
N-methylperfluorooctanesulfonamidol	ug/L	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
Perfluorobutanoic acid	ug/L	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
Perfluorobutane Sulfonate (PFBS)	ug/L	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
Perfluorodecane Sulfonate	ug/L	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
Perfluoroheptanoic Acid (PFHpA)	ug/L	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
Perfluoroheptane sulfonate	ug/L	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
Perfluorohexanoic Acid (PFHxA)	ug/L	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
Perfluorohexane Sulfonate (PFHxS)	ug/L	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
Perfluorononanoic Acid (PFNA)	ug/L	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
Perfluorooctane Sulfonamide (PFOSA)	ug/L	94.84464	0	0.8	N/A*******	N/A*******	8
Perfluoropentanoic Acid (PFPeA)	ug/L	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
Perfluorotetradecanoic Acid	ug/L	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
Perfluorotridecanoic Acid	ug/L	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
Perfluoroundecanoic Acid (PFUnA)	ug/L	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
Perfluorodecanoic Acid (PFDA)	ug/L	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
Perfluorododecanoic Acid (PFDoA)	ug/L	N/A*******	N/A*******	0.8	N/A*******	N/A*******	8
Perfluoro-n-Octanoic Acid (PFOA)	ug/L	100.36511	0	0.8	N/A*******	N/A*******	8
Perfluorooctane Sulfonate (PFOS)	ug/L	90.89080	0	0.8	978.023812	874.026270	80
13C2-6:2 Fluorotelomer sulfonate	ug/L	N/A*******	N/A*******		N/A*******	N/A*******	
13C2-8:2 Fluorotelomer sulfonate	ug/L	N/A*******	N/A*******		N/A*******	N/A*******	
13C2-perfluorotetradecanoic acid	ug/L	N/A*******	N/A*******		N/A*******	N/A*******	
13C4-Perfluorobutanoic acid	ug/L	N/A*******	N/A*******		N/A*******	N/A*******	
D3-MeFOSAA	ug/L	N/A*******	N/A*******		N/A*******	N/A*******	
D5-EtFOSAA	ug/L	N/A*******	N/A*******		N/A*******	N/A*******	
N-methyl-d3-perfluorooctane sulfona	ug/L	N/A*******	N/A*******		N/A*******	N/A*******	
N-ethyl-d5-perfluorooctane sulfonam	ug/L	N/A*******	N/A*******		N/A*******	N/A*******	
13C2-Perfluorodecanoic acid	ug/L	N/A*******	N/A*******		N/A*******	N/A*******	
13C2-Perfluorododecanoic acid	ug/L	N/A*******	N/A*******		N/A*******	N/A*******	
13C2-Perfluorohexanoic acid	ug/L	N/A*******	N/A*******		N/A*******	N/A*******	
13C2-Perfluoroundecanoic acid	ug/L	N/A*******	N/A*******		N/A*******	N/A*******	
13C4-Perfluoroheptanoic acid	ug/L	N/A*******	N/A*******		N/A*******	N/A*******	
13C5-Perfluorononanoic acid	ug/L	N/A*******	N/A*******		N/A*******	N/A*******	
13C4-Perfluorooctanoic acid	ug/L	92.8033966	105.304649		114.252335	104.574353	
13C4-Perfluorooctanesulfonate	ug/L	96.3866926	103.782225		109.243392	106.975545	
13C5-Perfluoropentanoic acid	ug/L	N/A*******	N/A*******		N/A*******	N/A*******	
13C8-Perfluorooctane Sulfonamide	ug/L	89.3271795	104.463456		117.562695	107.800517	
18O2-Perfluorohexanesulfonate	ug/L	N/A*******	N/A*******		N/A*******	N/A*******	

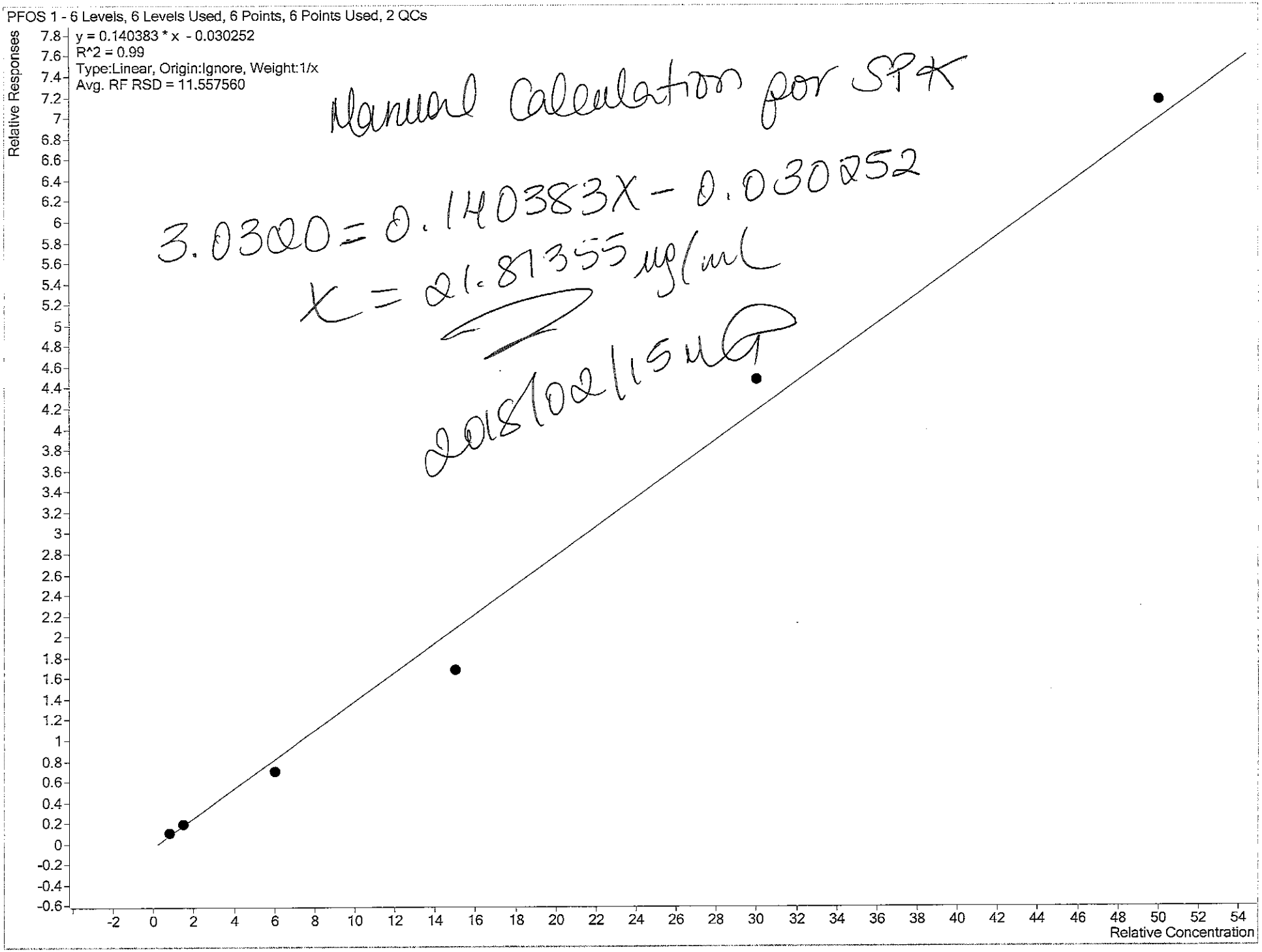
2018/20/ISUD

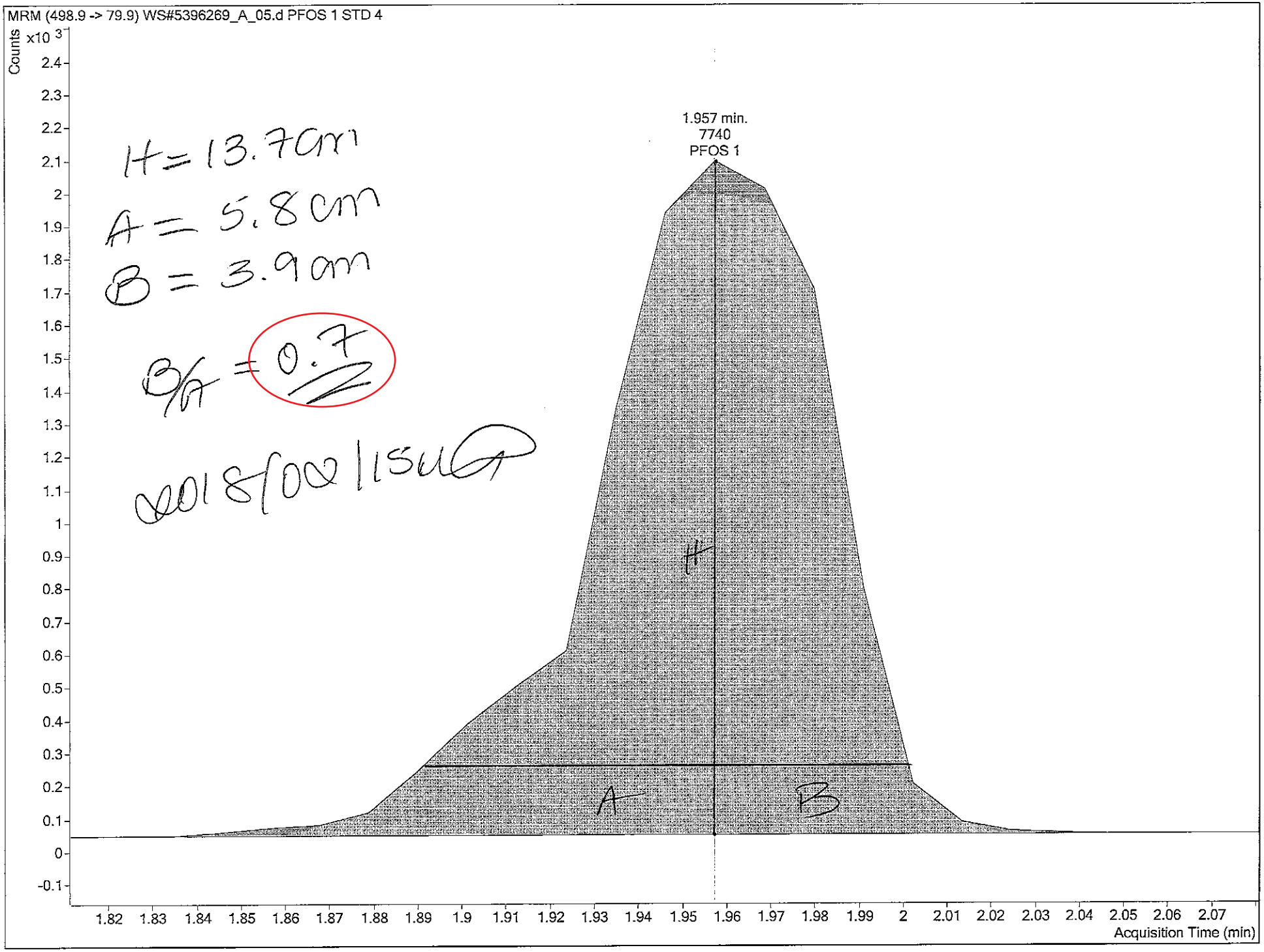
Worksheet Number: **5396269**

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				
N-ethylperfluorooctane sulfonamide	0.02	0.01	0				
EtFOSAA	0.02	0.0033	0				
N-ethylperfluorooctane sulfonamidoe	0.02	0.0079	0				
N-methylperfluorooctane sulfonamide	0.02	0.013	0				
MeFOSAA	0.02	0.0029	0				
N-methylperfluorooctanesulfonamidol	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							
N-methyl-d3-perfluorooctane sulfona							
N-ethyl-d5-perfluorooctane sulfonam							
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							


PFOS 1 - 6 Levels, 6 Levels Used, 6 Points, 6 Points Used, 2 QCs
y = 0.140383 * x - 0.030252
R^2 = 0.99
Type:Linear, Origin:Ignore, Weight:1/x
Avg. RF RSD = 11.557560
Relative Responses
Relative Concentration
Manual Calculation for SPK
3.0300 = 0.140383X - 0.030252
X = 21.81355 ng/mL
20181021 15 MQ


MRM (498.9 -> 79.9) WS#5396269_A_05.d PFOS 1 STD 4
Counts
x10 3
1.957 min.
7740
PFOS 1
H = 13.7cm
A = 5.8cm
B = 3.9cm
B/A = 0.7
0018/002 ISTD
H
A
B
Acquisition Time (min)

Report Name: Worksheet - Parameter Lists

Report Date: 2018/02/14

Test Code: **PFOSALCM-W**

Worksheet Number: **5396269**

Sample Number	Parameter Code	Parameter
GAD936-01	PFOS	Perfluorooctane Sulfonate (PFOS)

WorkSheet 5396269 Instrument Sequences

1. 
5396269:SPIKE — SPIKE

2. 
5396269:BLANK — BLANK

3. 
5396269:GAD936-01 — CEF-NG-025-0118

4. 
5396269:GAD936-01:D1 — CEF-NG-025-0118 :D1

Worklist Report

Agilent Technologies

Maxxam Analytics

Instrument Name: LCMS04 **Worklist Path:** D:\MassHunter\Worklists\PFCs\PFC_180213_High.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\20180213\WS#5396269
Pre-Worklist Script: ---
Post-Worklist Script: SCP_InstrumentStandby(){MH_Acq_Scripts.exe}
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: Column #198
MP A1: Solution# 280 (FSRE18)
MP B1: Methanol lot# SHBJ5451, Sigma

20180213MG

2018/02/13

Plate Barcode:

Plate	Barcode
P3	

Worklist Table

	Sample Name	Sample Position	Method	Data File	Sample Type	Level Name	Inj Vol (µl)	Comment
1	Solvent	P3-A1	PFC_Water_High.m	WS#5396269_01.d	Sample		As Method	-
2	STD 1	P3-E1	PFC_Water_High.m	WS#5396269_02.d	Calibration	STD 1	As Method	-
3	STD 2	P3-E2	PFC_Water_High.m	WS#5396269_03.d	Calibration	STD 2	As Method	-
4	STD 3	P3-E3	PFC_Water_High.m	WS#5396269_04.d	Calibration	STD 3	As Method	-
5	STD 4	P3-E4	PFC_Water_High.m	WS#5396269_05.d	Calibration	STD 4	As Method	-
6	STD 5	P3-E5	PFC_Water_High.m	WS#5396269_06.d	Calibration	STD 5	As Method	-
7	STD 6	P3-E6	PFC_Water_High.m	WS#5396269_07.d	Calibration	STD 6	As Method	-
8	IB	P3-E7	PFC_Water_High.m	WS#5396269_08.d	Sample		As Method	-
9	ICV	P3-E8	PFC_Water_High.m	WS#5396269_09.d	QC	ICV	As Method	-
10	ISC	P3-E1	PFC_Water_High.m	WS#5396269_10.d	ConCal	STD 1	As Method	-
11	5396269:BLANK	P3-E9	PFC_Water_High.m	WS#5396269_11.d	Sample		As Method	-
12	5396269:SPIKE	P3-F1	PFC_Water_High.m	WS#5396269_12.d	QC	ICV	As Method	-
13	5396269:GAD936-01:100x	P3-F2	PFC_Water_High.m	WS#5396269_13.d	Sample		As Method	-

354 of 884

Worklist Report

Agilent Technologies

Maxxam Analytics

	Sample Name	Sample Position	Method	Data File	Sample Type	Level Name	Inj Vol (µl)	Comment
14	5396269:GAD936-01:D1:100x	P3-F3	PFC_Water_High.m	WS#5396269_14.d	Sample		As Method	-
15	5396269:GAD936-01:D1:100x PS	P3-F4	PFC_Water_High.m	WS#5396269_15.d	Sample		As Method	-
16	IB	P3-E7	PFC_Water_High.m	WS#5396269_16.d	Sample		As Method	-
17	5396269:GAD936-01:10x	P3-F5	PFC_Water_High.m	WS#5396269_17.d	Sample		As Method	-
18	5396269:GAD936-01:D1:10x	P3-F6	PFC_Water_High.m	WS#5396269_18.d	Sample		As Method	-
19	5396269:GAD936-01:D1:10x PS	P3-F7	PFC_Water_High.m	WS#5396269_19.d	Sample		As Method	-
20	IB	P3-E7	PFC_Water_High.m	WS#5396269_20.d	Sample		As Method	-
21	CCV	P3-E4	PFC_Water_High.m	WS#5396269_21.d	ConCal	STD 4	As Method	-

FINAL INJECTION SEQUENCE

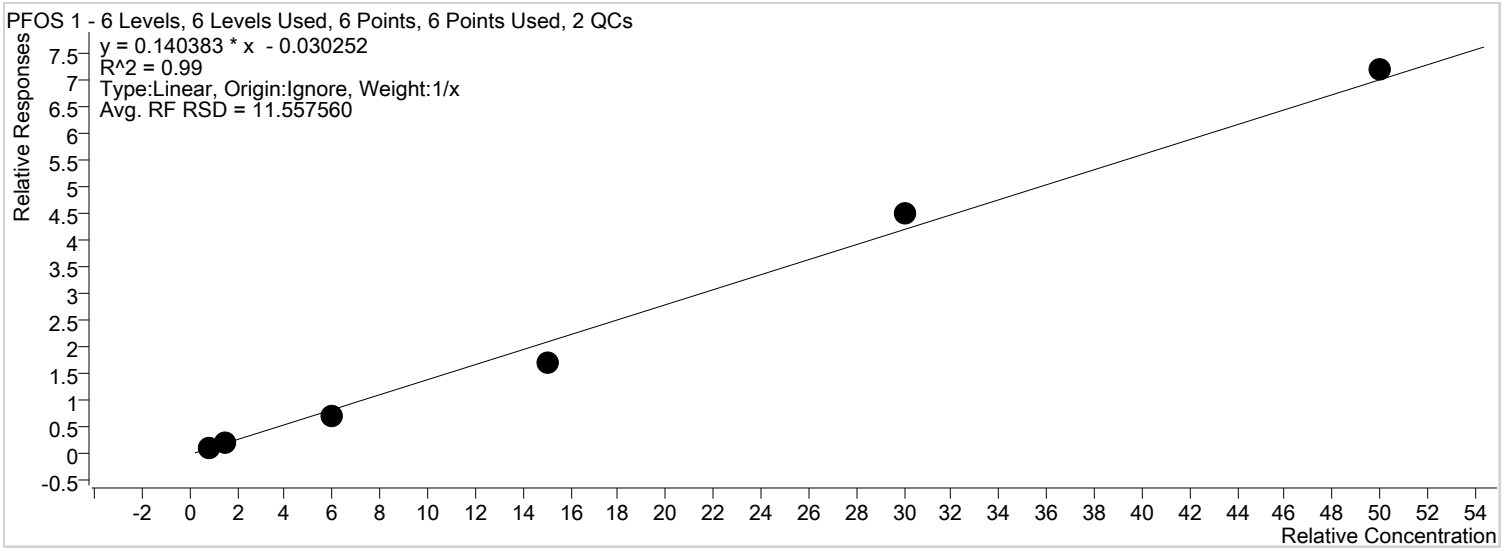
Sample					
Name	Comment	Acq. Date-Time	Acq. Method File	Data File	Pos.
STD 1	-	2018/02/14 5:31 PM	PFC_Water_High.m	WS#5396269_A_02.d	P3-E1
STD 2	-	2018/02/14 5:36 PM	PFC_Water_High.m	WS#5396269_A_03.d	P3-E2
STD 3	-	2018/02/14 5:41 PM	PFC_Water_High.m	WS#5396269_A_04.d	P3-E3
STD 4	-	2018/02/14 5:46 PM	PFC_Water_High.m	WS#5396269_A_05.d	P3-E4
STD 5	-	2018/02/14 5:51 PM	PFC_Water_High.m	WS#5396269_A_06.d	P3-E5
STD 6	-	2018/02/14 5:56 PM	PFC_Water_High.m	WS#5396269_A_07.d	P3-E6
IB	-	2018/02/14 6:00 PM	PFC_Water_High.m	WS#5396269_A_08.d	P3-E7
ICV	-	2018/02/14 6:05 PM	PFC_Water_High.m	WS#5396269_A_09.d	P3-E8
ISC	-	2018/02/14 6:10 PM	PFC_Water_High.m	WS#5396269_A_10.d	P3-E1
5396269:BLANK	-	2018/02/14 6:15 PM	PFC_Water_High.m	WS#5396269_A_11.d	P3-E9
5396269:SPIKE	-	2018/02/14 6:20 PM	PFC_Water_High.m	WS#5396269_A_12.d	P3-F1
5396269:GAD936-01:100x	Report for PFOS only.	2018/02/14 6:25 PM	PFC_Water_High.m	WS#5396269_A_13.d	P3-F2
5396269:GAD936-01:D1:100x	Report for PFOS only.	2018/02/14 6:30 PM	PFC_Water_High.m	WS#5396269_A_14.d	P3-F3
5396269:GAD936-01:D1:100x PS	-	2018/02/14 6:35 PM	PFC_Water_High.m	WS#5396269_A_15.d	P3-F4
IB	-	2018/02/14 6:40 PM	PFC_Water_High.m	WS#5396269_A_16.d	P3-E7
5396269:GAD936-01:10x	not used.	2018/02/14 6:45 PM	PFC_Water_High.m	WS#5396269_A_17.d	P3-F5
5396269:GAD936-01:D1:10x	not used.	2018/02/14 6:50 PM	PFC_Water_High.m	WS#5396269_A_18.d	P3-F6
5396269:GAD936-01:D1:10x PS	not used.	2018/02/14 6:55 PM	PFC_Water_High.m	WS#5396269_A_19.d	P3-F7
IB	-	2018/02/14 7:00 PM	PFC_Water_High.m	WS#5396269_A_20.d	P3-E7
CCV	-	2018/02/14 7:05 PM	PFC_Water_High.m	WS#5396269_A_21.d	P3-E4

By Compound Report

Agilent Technologies

Batch Path T:\lcms4\PFC\20180213\WS#5396269_A\QuantResults\PFC_Water_High_180213_WS#5396269_A_EToxics.batch.bin
Last Calib Update 2018/02/16 11:00:07 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	2018/02/14 5:31:25 PM	0.80	0.94	444	0.1267	88	117.2
STD 2	STD 2	x	2018/02/14 5:36:19 PM	1.50	1.59	826	0.1289	76	106.2
STD 3	STD 3	x	2018/02/14 5:41:13 PM	6.00	5.15	3047	0.1155	343	85.8
STD 4	STD 4	x	2018/02/14 5:46:09 PM	15.00	12.14	7740	0.1116	855	81.0
STD 5	STD 5	x	2018/02/14 5:51:05 PM	30.00	32.14	19268	0.1494	1527	107.1
STD 6	STD 6	x	2018/02/14 5:56:01 PM	50.00	51.33	30311	0.1435	978	102.7

Quantitation Results

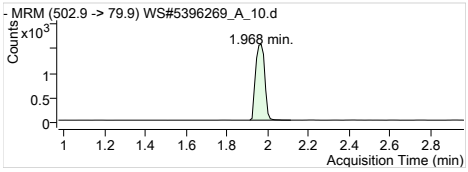
Agilent Technologies

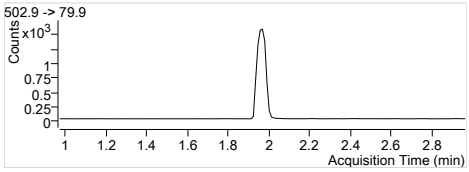
Batch Path	T:\lcms4\PFC\20180213\WS#5396269_A\QuantResults\PFC_Water_High_180213_WS#5396269_A_EToxics

Sample Name	**ISC**	**Instrument**	LCMS04
Data File	WS#5396269_A_10.d	**Operator**	
Sample Type	CC	**Dilution**	1
Acq. Method	PFC_Water_High.m	**Position**	P3-E1
Acq. Date	2018/02/14 6:10:49 PM	**Injection Volume**	Per Method
Sample Annotation	-		

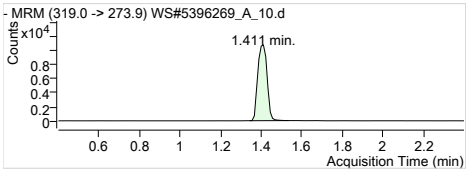
ISTD Compounds	Response	RT	Target conc.		
MPFOS	4839	1.97	1 µg/L		
13C6-PFHxA IS	34097	1.41	1 µg/L		

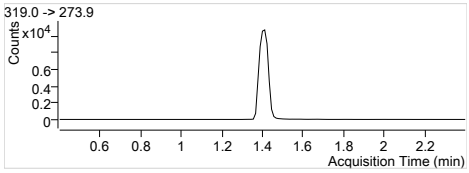
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFOS 1	377	1.96	0.80	0.77 µg/L	96.31
13C6-PFHxA	34097	1.41	100.00	97.79 µg/L	97.79
13C4-PFOS	4839	1.97	100.00	113.13 µg/L	113.13



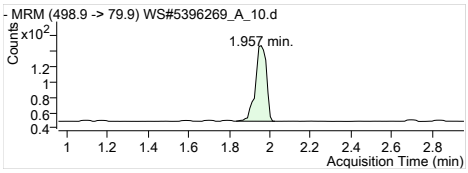


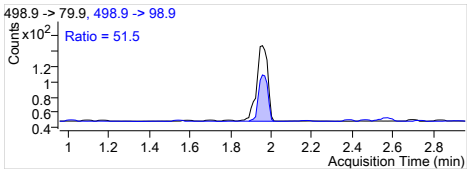
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: CC



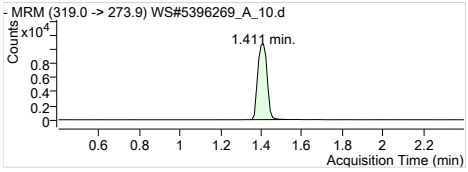


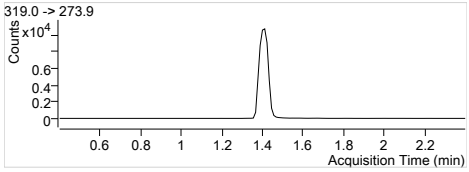
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.400)
Concentration: 1 µg/L
Sample type: CC



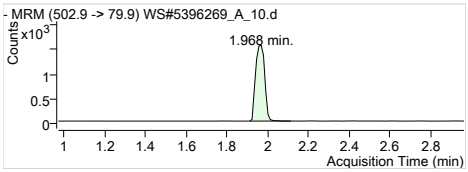


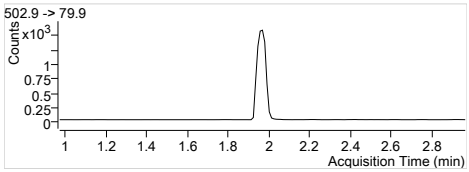
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 0.77 µg/L
Area ratio: 0.07791
Sample type: CC





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.400)
Calc. conc. 97.79 µg/L
Area ratio: 0
Sample type: CC





13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.968 (1.968)
Calc. conc. 113.13 µg/L
Area ratio: 0.14192
Sample type: CC

Quantitation Results

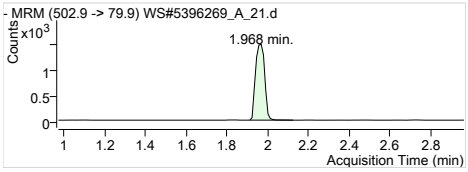
Agilent Technologies

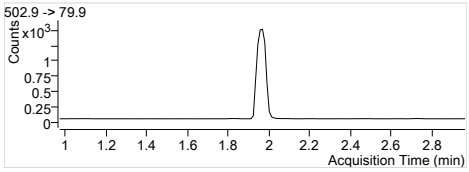
Batch Path	T:\lcms4\PFC\20180213\WS#5396269_A\QuantResults\PFC_Water_High_180213_WS#5396269_A_EToxics

Sample Name	**CCV**	**Instrument**	LCMS04
Data File	WS#5396269_A_21.d	**Operator**	
Sample Type	CC	**Dilution**	1
Acq. Method	PFC_Water_High.m	**Position**	P3-E4
Acq. Date	2018/02/14 7:05:01 PM	**Injection Volume**	Per Method
Sample Annotation	-		

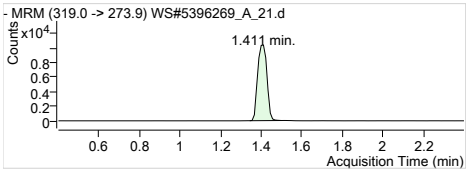
ISTD Compounds	Response	RT	Target conc.		
MPFOS	4622	1.97	1 µg/L		
13C6-PFHxA IS	32820	1.41	1 µg/L		

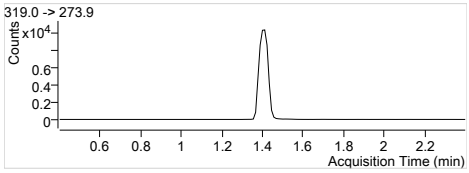
Compound	Response	RT	Target Conc.	Calc. Conc.	Accuracy
PFOS 1	7619	1.96	15.00	11.96 µg/L	79.72
13C6-PFHxA	32820	1.41	100.00	94.13 µg/L	94.13
13C4-PFOS	4622	1.97	100.00	112.26 µg/L	112.26



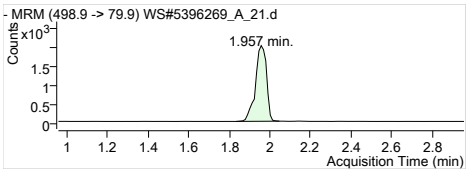


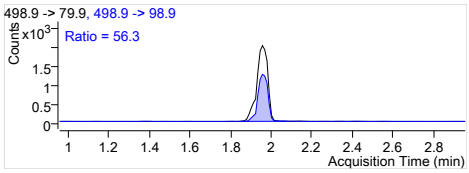
MPFOS Internal Standard
RT (Exp. RT): 1.968 (1.968)
Concentration: 1 µg/L
Sample type: CC



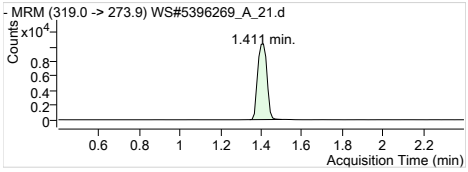


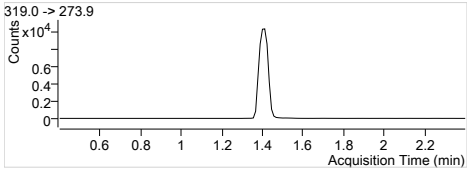
13C6-PFHxA IS Internal Standard
RT (Exp. RT): 1.411 (1.400)
Concentration: 1 µg/L
Sample type: CC



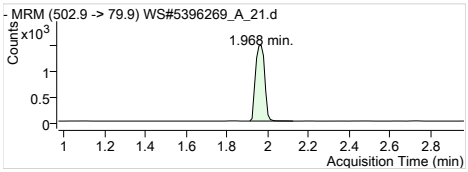


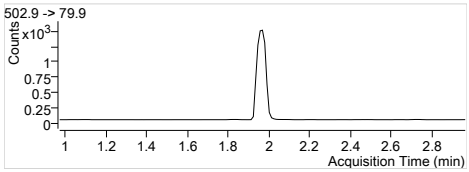
PFOS 1 498.9 -> 79.9
RT (Exp. RT): 1.957 (1.957)
Calc. conc. 11.96 µg/L
Area ratio: 1.64842
Sample type: CC





13C6-PFHxA 319.0 -> 273.9
RT (Exp. RT): 1.411 (1.400)
Calc. conc. 94.13 µg/L
Area ratio: 0
Sample type: CC





13C4-PFOS 502.9 -> 79.9
RT (Exp. RT): 1.968 (1.968)
Calc. conc. 112.26 µg/L
Area ratio: 0.14083
Sample type: CC

DODCMD_ID	INSTALLATION_ID	SDG	SITE_NAME	NORM_SITE_NAME	LOCATION_NAME	LOCATION_TYPE_DESC	COORD_X	COORD_Y	CONTRACT_ID
SOUTHEAST	CECIL_FIELD_NAS	B824213	BLDG 00860	SITE 00037	CEF-860-TW01	Temporary well point	374294.656	2141597.672	N6247008D1001
SOUTHEAST	CECIL_FIELD_NAS	B824213	BLDG 00860	SITE 00037	CEF-860-TW02	Temporary well point	374254.583	2141747.526	N6247008D1001
SOUTHEAST	CECIL_FIELD_NAS	B824213	BLDG 01820	UST TNK0ZD	CEF-1820-TW01	Temporary well point	378060.376	2142283.517	N6247008D1001
SOUTHEAST	CECIL_FIELD_NAS	B824213	SITE 00059	SITE 00059	CEF-NG-02S	Monitoring well	377949.49	2145791.64	N6247008D1001
SOUTHEAST	CECIL_FIELD_NAS	B824213	SITE 00059	SITE 00059	CEF-NG-10S	Monitoring well	377820.34	2146048.79	N6247008D1001
SOUTHEAST	CECIL_FIELD_NAS	B824213							N6247008D1001
SOUTHEAST	CECIL_FIELD_NAS	B824213							N6247008D1001
SOUTHEAST	CECIL_FIELD_NAS	B824213							N6247008D1001
SOUTHEAST	CECIL_FIELD_NAS	B824213							N6247008D1001
SOUTHEAST	CECIL_FIELD_NAS	B824213							N6247008D1001

DODCMD_ID	INSTALLATION_ID	SDG	SITE_NAME	DO_CTO_NUMBER	CONTR_NAME	SAMPLE_NAME	SAMPLE_MATRIX_DESC	SAMPLE_TYPE_DESC
SOUTHEAST	CECIL_FIELD_NAS	B824213	BLDG 00860	JM10	TETRA TECH NUS, INC.	CEF-860-TW01-0118	Ground water	Normal (Regular)
SOUTHEAST	CECIL_FIELD_NAS	B824213	BLDG 00860	JM10	TETRA TECH NUS, INC.	CEF-860-TW02-0118	Ground water	Normal (Regular)
SOUTHEAST	CECIL_FIELD_NAS	B824213	BLDG 01820	JM10	TETRA TECH NUS, INC.	CEF-1820-TW01-0118	Ground water	Normal (Regular)
SOUTHEAST	CECIL_FIELD_NAS	B824213	SITE 00059	JM10	TETRA TECH NUS, INC.	CEF-NG-02S-0118	Ground water	Normal (Regular)
SOUTHEAST	CECIL_FIELD_NAS	B824213	SITE 00059	JM10	TETRA TECH NUS, INC.	CEF-NG-10S-0118	Ground water	Normal (Regular)
SOUTHEAST	CECIL_FIELD_NAS	B824213		JM10	TETRA TECH NUS, INC.	EB-CEF-1820-012618-14	Water for QC samples	QC Sample
SOUTHEAST	CECIL_FIELD_NAS	B824213		JM10	TETRA TECH NUS, INC.	EB-CEF-1820-012618-15	Water for QC samples	QC Sample
SOUTHEAST	CECIL_FIELD_NAS	B824213		JM10	TETRA TECH NUS, INC.	FB-CEF-1820-012618-10	Water for QC samples	QC Sample
SOUTHEAST	CECIL_FIELD_NAS	B824213		JM10	TETRA TECH NUS, INC.	EB-CEF-1820-012618-16	Water for QC samples	QC Sample
SOUTHEAST	CECIL_FIELD_NAS	B824213		JM10	TETRA TECH NUS, INC.	FB-CEF-NG-012918-11	Water for QC samples	QC Sample

DODCMD_ID	INSTALLATION_ID	SDG	SITE_NAME	COLLECT_DATE	ANALYTICAL_METHOD	ANALYTICAL_METHOD_GRP_DESC	RES_META_ID
SOUTHEAST	CECIL_FIELD_NAS	B824213	BLDG 00860	26-Jan-18	537	Perfluoroalkyl Compounds	20190201053458.00
SOUTHEAST	CECIL_FIELD_NAS	B824213	BLDG 00860	30-Jan-18	537	Perfluoroalkyl Compounds	20190201053458.00
SOUTHEAST	CECIL_FIELD_NAS	B824213	BLDG 01820	26-Jan-18	537	Perfluoroalkyl Compounds	20190201053458.00
SOUTHEAST	CECIL_FIELD_NAS	B824213	SITE 00059	29-Jan-18	537	Perfluoroalkyl Compounds	20190201053458.00
SOUTHEAST	CECIL_FIELD_NAS	B824213	SITE 00059	29-Jan-18	537	Perfluoroalkyl Compounds	20190201053458.00
SOUTHEAST	CECIL_FIELD_NAS	B824213		26-Jan-18	537	Perfluoroalkyl Compounds	20190201053458.00
SOUTHEAST	CECIL_FIELD_NAS	B824213		26-Jan-18	537	Perfluoroalkyl Compounds	20190201053458.00
SOUTHEAST	CECIL_FIELD_NAS	B824213		26-Jan-18	537	Perfluoroalkyl Compounds	20190201053458.00
SOUTHEAST	CECIL_FIELD_NAS	B824213		26-Jan-18	537	Perfluoroalkyl Compounds	20190201053458.00
SOUTHEAST	CECIL_FIELD_NAS	B824213		29-Jan-18	537	Perfluoroalkyl Compounds	20190201053458.00