

AR226-1776-h

Analytical Report

Air Sampling Fluorochemical Report

DuPont Washington Works – Air Sampling Program Round 11

Exygen Research Report No. L0001668

Testing Laboratory

Exygen Research
3058 Research Drive
State College, PA 16801

Requester

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2004 MAY 29 AM 9:01

ALL DATA CONTAINED IN THIS REPORT WAS GENERATED BY EXYGEN RESEARCH

Summary

Seven solid media samples were received by Centre Analytical Laboratories, Inc. (dba Exygen Research) (Exygen) from DuPont Corporation. The media represent samples of air collected on OVS tubes. Please see Table 1 for a completed listing of samples received and field air volumes collected.

The samples were analyzed for Perfluorooctanoic Acid (C8 Acid) using liquid chromatography / mass spectrometry (LCMS). The method employed is entitled "Method of Analysis for the Determination of Perfluorooctanoic Acid (PFOA) in OVS Airtubes by LCMS" (James Miller, Exygen Research, February 17, 2003).

The OVS tubes were separated into three fractions for specific fluorochemical analysis. Fraction A consisted of the filter, backing material and plastic ring. Fraction B contained the first bed of XAD resin and the PUF backing. Fraction C contained the second bed of XAD resin and PUF backing. Fractions A and B were extracted with 1 mL of methanol. Fraction C was not analyzed but saved for possible future analysis. Perfluorodecanoic Acid (C10 Acid) was added as a surrogate spike to each fraction prior to extraction.

Instrument operating conditions can be found at the beginning of each analytical run. Raw instrument data is given in Appendix A. Chain-of-custody information can be found in Appendix B.

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Results Summary

Request #	Air Volume Sampled (L)	C8 Acid (mg/m3)
WWK-A-AMS1-E11 A	1398	< 0.00007
WWK-A-AMS1-E11 B	1398	< 0.00007
WWK-A-AMS1-E11 C	1398	NA
WWK-A-AMS1-E11 (Total)		< 0.00014
WWK-A-AMS2-E11 A	1448	< 0.00007
WWK-A-AMS2-E11 B	1448	< 0.00007
WWK-A-AMS2-E11 C	1448	NA
WWK-A-AMS2-E11 (Total)		< 0.00014
WWK-A-AMS3-E11 A	931	< 0.0001
WWK-A-AMS3-E11 B	931	< 0.0001
WWK-A-AMS3-E11 C	931	NA
WWK-A-AMS3-E11 (Total)		< 0.0002
WWK-A-AMS4-E11 A	1424	< 0.00007
WWK-A-AMS4-E11 B	1424	< 0.00007
WWK-A-AMS4-E11 C	1424	NA
WWK-A-AMS4-E11 (Total)		< 0.00014
WWK-A-AMS5-E11 A	1402	0.0003
WWK-A-AMS5-E11 B	1402	< 0.00007
WWK-A-AMS5-E11 C	1402	NA
WWK-A-AMS5-E11 (Total)		0.0003
WWK-A-AMS6-E11 A	1434	< 0.00007
WWK-A-AMS6-E11 B	1434	< 0.00007
WWK-A-AMS6-E11 C	1434	NA
WWK-A-AMS6-E11 (Total)		< 0.00014

NA – Not Analyzed. B fraction was below the quantitation limit, therefore the backup fraction does not require analysis.

1. “<” is defined as not detected at or above the reported level.
2. Sample results have not been corrected for blank results or control spike recoveries.
3. Please note the following descriptions of the OVS sample tube fractions:

Fraction	Fraction Description
A	Frit Extract
B	1st set beads extract
C	2nd set beads extract (not analyzed)

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QC Data

LCS

Please note: One control sample was spiked with each perfluorooctanoic acid to give a final concentration of 500 ppb. Air was pulled through the tube at a rate of 1-liter per minute for one hour (60 liters of air). The fractions were separated and analyzed. The acceptable range for control recovery is 75-125%.

Request #	C8 Acid (amount spiked - ppb)	C8 Acid (amount recovered - ppb)	C8 Acid (percent recovery)
Control 1	500	509	102

Blanks

Request #	Vol. Of Air (L)	C8 Acid (ug/fraction)
WWK-A-AMSFBLK-E9 A	0	< 0.10
WWK-A-AMSFBLK-E9 B	0	< 0.10

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Surrogates

A surrogate spike (C10 Acid) was added to all OVS tubes to give a final concentration of 500 ppb in the extract. Surrogate spike recoveries are given in the following table. There are no set criteria for surrogate spike recoveries. Advisory ranges are 75-125%.

Sample #	Amount Spiked (ppb)	Amount Recovered (ppb)	Percent Recovery (%)
WWK-A-AMSFBLK-E11 A	500	479	96
WWK-A-AMSFBLK-E11 B	500	360	72*
WWK-A-AMS1-E11 A	500	498	100
WWK-A-AMS1-E11 B	500	564	113
WWK-A-AMS2-E11 A	500	497	99
WWK-A-AMS2-E11 B	500	583	117
WWK-A-AMS3-E11 A	500	517	103
WWK-A-AMS3-E11 B	500	580	116
WWK-A-AMS4-E11 A	500	519	104
WWK-A-AMS4-E11 B	500	569	114
WWK-A-AMS5-E11 A	500	520	104
WWK-A-AMS5-E11 B	500	592	118
WWK-A-AMS6-E11 A	500	524	105
WWK-A-AMS6-E11 B	500	584	117
Control Spike A	500	532	106
Control Spike B	500	347	69*

* Surrogate recovery outside of advisory range.

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Calculations

Request #	Vol. Of Air (L)	C8 Acid (raw-ppb)	C8 Acid (ug/fraction)	C8 Acid (mg/m3)
WWK-A-AMSFBLK-E11 A	0	< 10	< 0.10	< 0.00007
WWK-A-AMSFBLK-E11 B	0	< 10	< 0.10	< 0.00007
WWK-A-AMS1-E11 A	1398	< 10	< 0.10	< 0.00007
WWK-A-AMS1-E11 B	1398	< 10	< 0.10	< 0.00007
WWK-A-AMS2-E11 A	1448	< 10	< 0.10	< 0.00007
WWK-A-AMS2-E11 B	1448	< 10	< 0.10	< 0.00007
WWK-A-AMS3-E11 A	931	10	< 0.10	< 0.0001
WWK-A-AMS3-E11 B	931	< 10	< 0.10	< 0.0001
WWK-A-AMS4-E11 A	1424	< 10	< 0.10	< 0.00007
WWK-A-AMS4-E11 B	1424	< 10	< 0.10	< 0.00007
WWK-A-AMS5-E11 A	1402	434	0.43	0.0003
WWK-A-AMS5-E11 B	1402	< 10	< 0.10	< 0.00007
WWK-A-AMS6-E11 A	1434	< 10	< 0.10	< 0.00007
WWK-A-AMS6-E11 B	1434	< 10	< 0.10	< 0.00007
Control Spike A	0	509	0.51	< 0.00007
Control Spike B	0	< 10	< 0.10	< 0.00007

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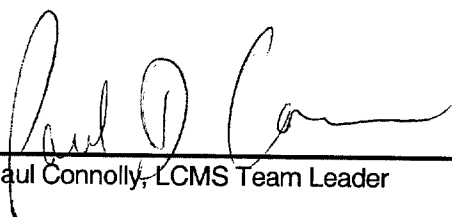
Example Calculation

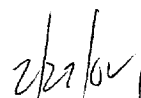
For sample WWK-A-AMS5-E11 A C8 Acid,

$$= [434 \text{ ng/ml of C8 Acid} \times (1\text{ml}) \times (1 \text{ ug} / 1000 \text{ ng}) \times (1 \text{ mg} / 1000 \text{ ug})] / [(1402 \text{ L}) \times (1 \text{ m}^3 / 1000 \text{ L})]$$

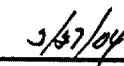
$$= 0.0003 \text{ mg} / \text{m}^3$$

Signatures


Paul Connolly, LCMS Team Leader


Date


John M. Flaherty, Vice President


Date

Other Lab Members Contributing to Data

James Miller

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ANALYTICAL DATA REVIEW SHEET

LC/MS

James R. Miller
Analyst

James R. Miller 2/26/04
Signature/Date

John M Flaherty
Reviewed by

J. M. Flaherty 2/27/04
Signature/Date

0008

000522

LC/MS SYSTEM AND OPERATING CONDITIONS

Client: Dupont

EXYGEN STUDY: L0001668

Instrument: Hewlett-Packard 1100 LC/MSD (LC/MS 3)
API-ES Interface - Negative SIM mode
Nitrogen: 10 L/min at 300°C
Fragmentor: Variable; Vcap: 3500V

Computer: Hewlett-Packard Kayak workstation

Software: Microsoft Windows NT 4.0
Agilent ChemStation Version A.08.03

HPLC Equipment: HP G1379A Solvent Degasser
HP G1311A Quaternary Pump
HP G1313A Autosampler
HP G1316A Column Thermostat
HP G1946A MSD

HPLC Column: Thermo Hypersil-Keystone Betasil C18, 30 x 2.0 mm x 3µm
Column Temp.: 35° C
Mobile Phase (A): 2mM Ammonium acetate in OmniSolv Water
Mobile Phase (B): HPLC grade Methanol

<u>Time</u>	<u>% A</u>	<u>% B</u>
0.0	70	30
6.0	10	90
10.0	10	90
10.0	STOP	STOP

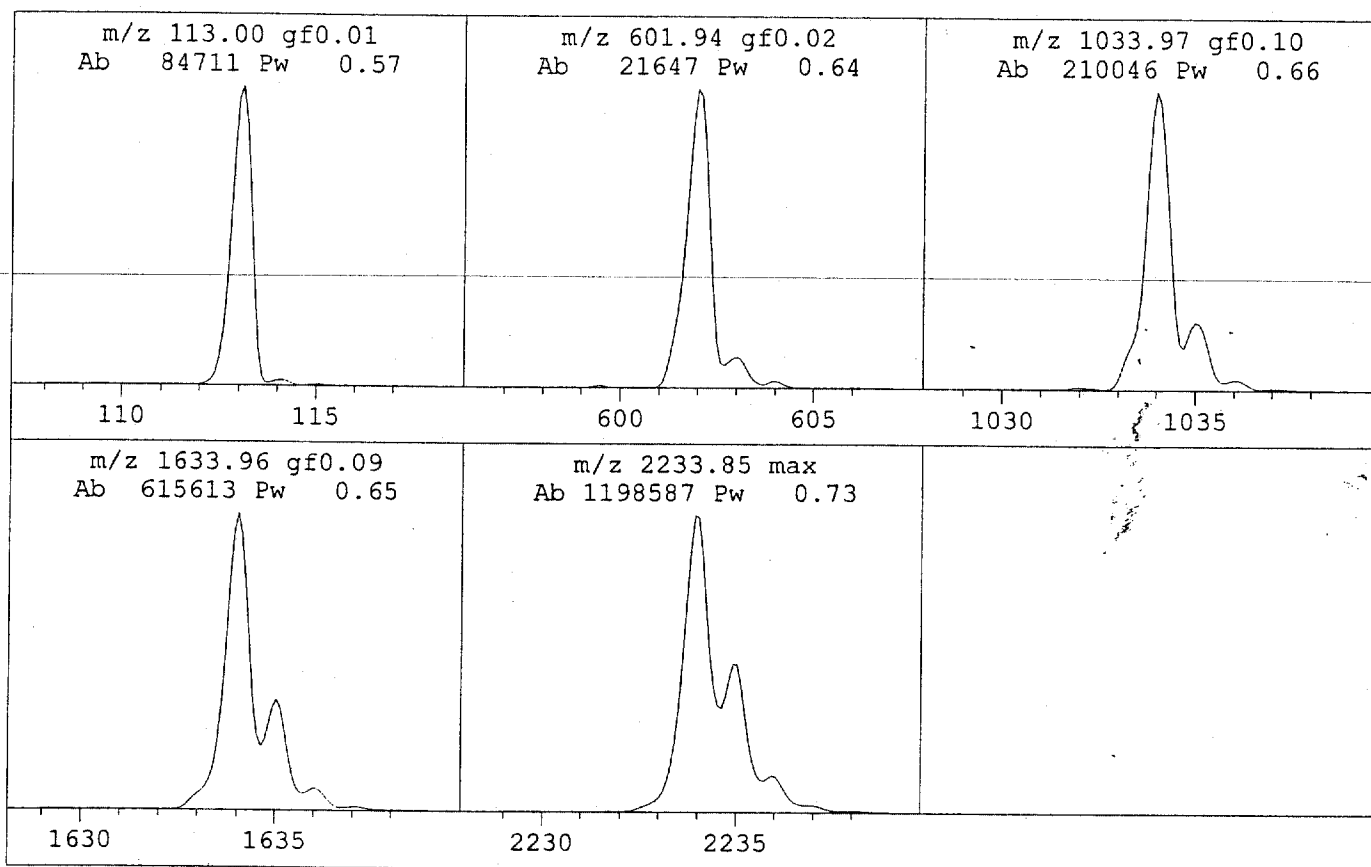
Post Time = 4 min.

Total run time = 14 min.

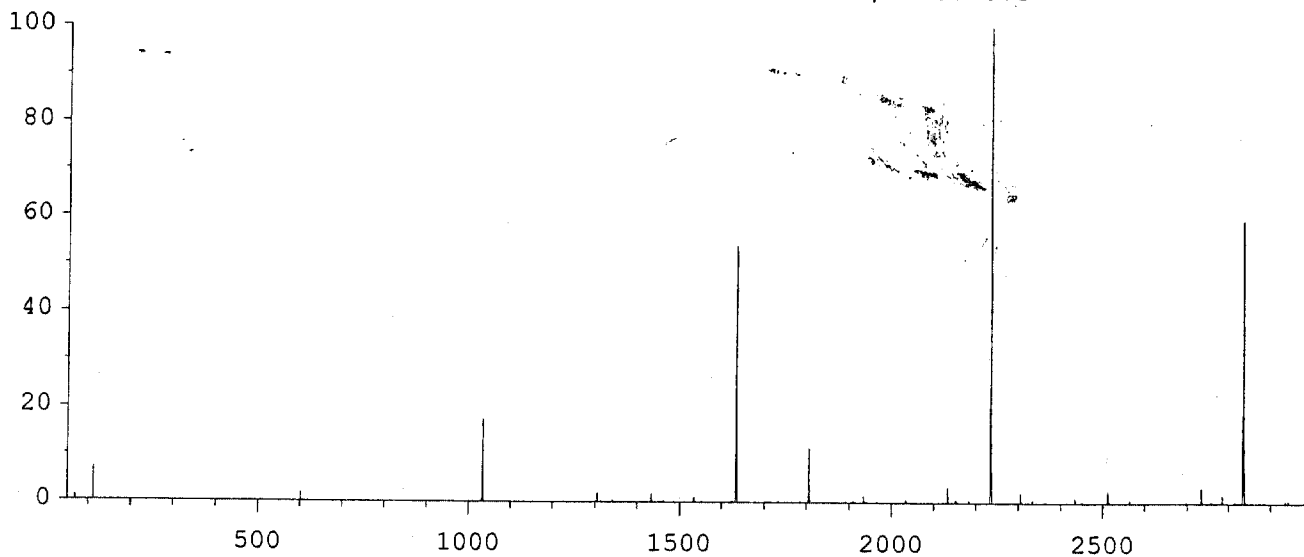
Flow Rate: 0.3 mL/min
Injected Volume: 5 µL

Wed Jan 07 09:11:11 2004

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Scan: 50.00 - 3000.00 Samples: 8 Thresh: 0 Step: 0.10
29501 peaks Base: 2233.85 Abundance: 1132032 F Raw, Gauss 0.3



m/z	gf	Abund	Rel Abund	Iso m/z	Iso Abund	Iso Ratio
112.99		80352	100.00	113.98	1768	2.20
602.00		21400	26.63	602.99	3222	15.06
1034.05		197568	245.88	1034.95	43112	21.82
1633.95		610624	759.94	1634.95	217216	35.57
2233.85		1132032	1408.84	2234.85	550720	48.65

0011

000525

Instrument : LCMS3
Wed Jan 07 09:11:11 2004

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Mode: API-ES Polarity: NEG

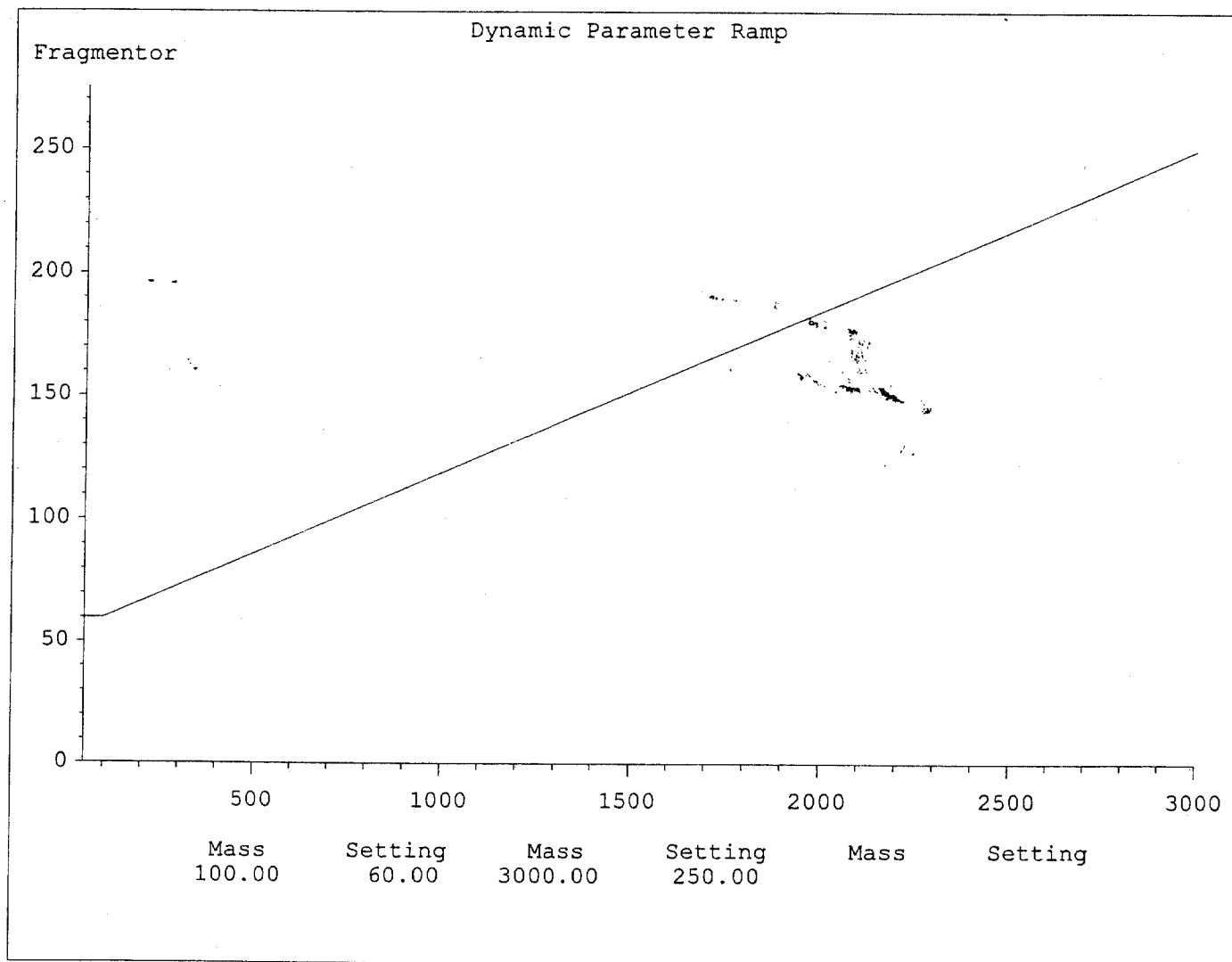
Fragment VAR WidthGain -128
Skim2 6.0 WidthOffs VAR
Lens1 -4.0 MassGain-36.30
Lens2 18 MassOffs VAR
Iris 272

Energy 5.0
OpolPeak 300
OpolKnee 316
Gain 3.0 QuadDC 0.00

EMV 2358 Samples 8
VCap 4000 Averages 1
StepSize 0.10

Status:
CapCur 55 DryingGas 6.0
ChamCur 0.82 Gas Temp 300

Quad Temp 99 Neb Pres 20

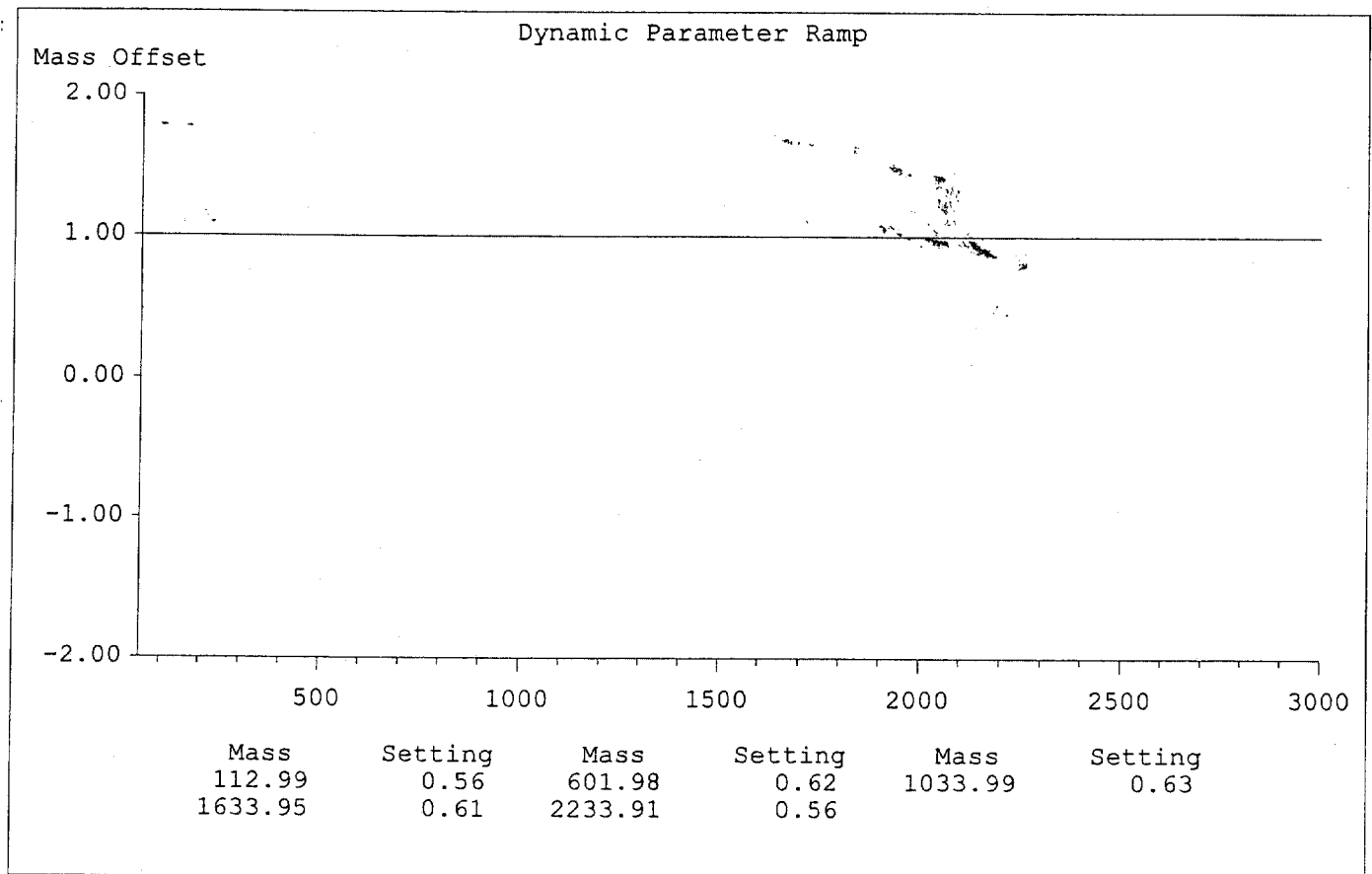
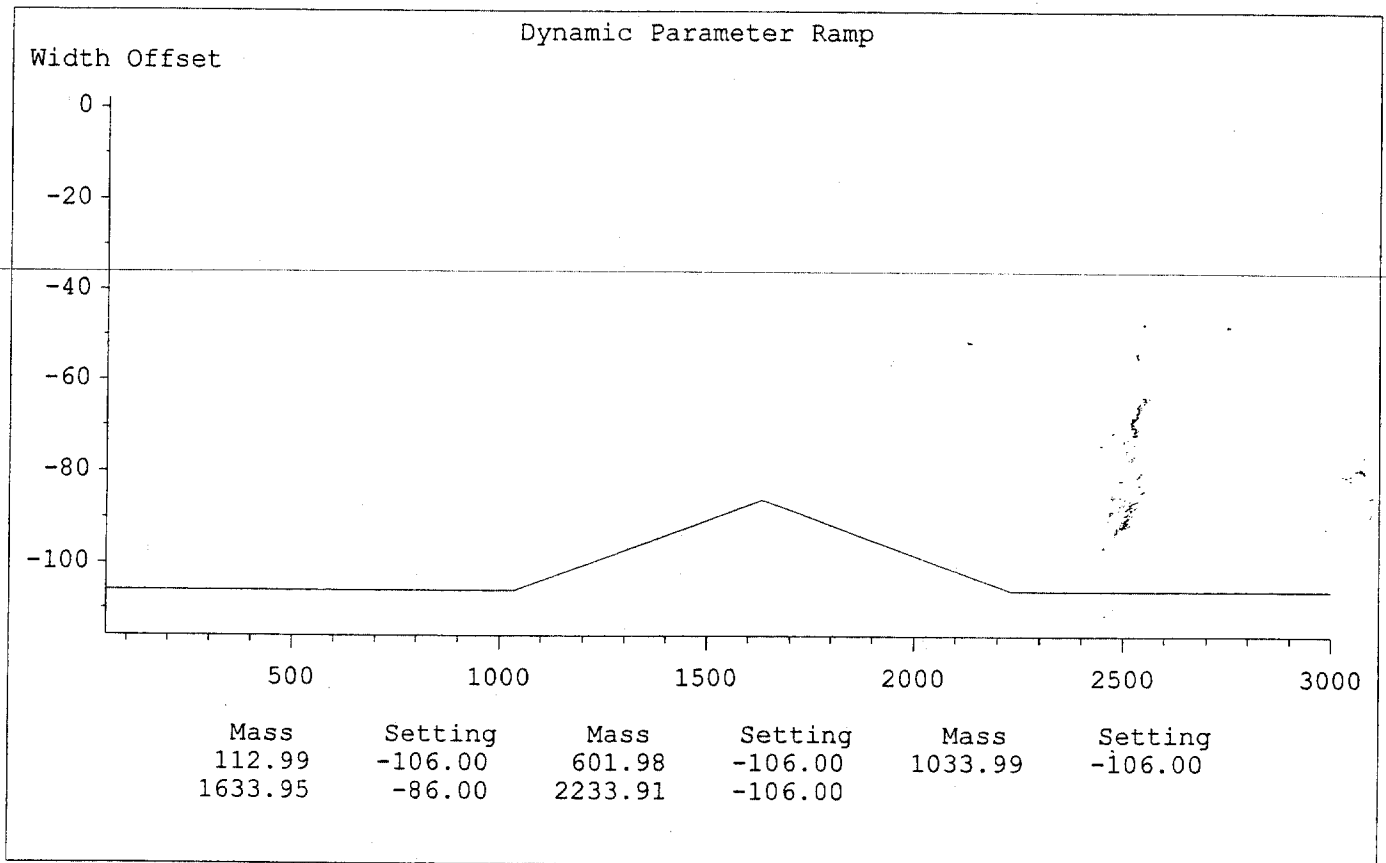


0012

000526

Instrument : LCMS3
Wed Jan 07 09:11:11 2004

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0013

000527

Sequence Table:

Method and Injection Info Part:

Line	Location	SampleName	Method	Inj	SampleType	InjVolume	DataFile
====	=====	=====	=====	==	=====	=====	=====
1	Vial 1	STD 50 ppb	FC8-10	1	Sample		
2	Vial 1	STD 50 ppb	FC8-10	1	Calib		
3	Vial 2	STD 100 ppb	FC8-10	1	Calib		
4	Vial 3	STD 250 ppb	FC8-10	1	Calib		
5	Vial 4	STD 500 ppb	FC8-10	1	Calib		
6	Vial 5	STD 750 ppb	FC8-10	1	Calib		
7	Vial 6	STD 1000 ppb	FC8-10	1	Calib		
8	Vial 7	STD 1500 ppb	FC8-10	1	Calib		
9	Vial 92	solvent blank	FC8-10	1	Sample		
10	Vial 11	L1668-22	FC8-10	1	Sample		
11	Vial 12	L1668-23	FC8-10	1	Sample		
12	Vial 13	L1668-1	FC8-10	1	Sample		
13	Vial 14	L1668-2	FC8-10	1	Sample		
14	Vial 15	L1668-4	FC8-10	1	Sample		
15	Vial 16	L1668-5	FC8-10	1	Sample		
16	Vial 17	L1668-7	FC8-10	1	Sample		
17	Vial 18	L1668-8	FC8-10	1	Sample		
18	Vial 19	L1668-10	FC8-10	1	Sample		
19	Vial 20	L1668-11	FC8-10	1	Sample		
20	Vial 4	STD 500 ppb	FC8-10	1	Sample		
21	Vial 92	solvent blank	FC8-10	1	Sample		
22	Vial 21	L1668-13	FC8-10	1	Sample		
23	Vial 22	L1668-14	FC8-10	1	Sample		
24	Vial 23	L1668-16	FC8-10	1	Sample		
25	Vial 24	L1668-17	FC8-10	1	Sample		
26	Vial 25	L1668-19	FC8-10	1	Sample		
27	Vial 26	L1668-20	FC8-10	1	Sample		
28	Vial 4	STD 500 ppb	FC8-10	1	Sample		
29	Vial 92	solvent blank	FC8-10	1	Sample		
30	Vial 1	STD 50 ppb	FC8-10	1	Calib		
31	Vial 2	STD 100 ppb	FC8-10	1	Calib		
32	Vial 3	STD 250 ppb	FC8-10	1	Calib		
33	Vial 4	STD 500 ppb	FC8-10	1	Calib		
34	Vial 5	STD 750 ppb	FC8-10	1	Calib		
35	Vial 6	STD 1000 ppb	FC8-10	1	Calib		
36	Vial 7	STD 1500 ppb	FC8-10	1	Calib		

Calibration Part:

Line	Location	SampleName	Method	CalLev	Update	RF	Update	RT	Interval
====	=====	=====	=====	=====	=====	=====	=====	=====	=====
2	Vial 1	STD 50 ppb	FC8-10	1	Replace		Average		-3
3	Vial 2	STD 100 ppb	FC8-10	2	Replace		Average		-3
4	Vial 3	STD 250 ppb	FC8-10	3	Replace		Average		-3
5	Vial 4	STD 500 ppb	FC8-10	4	Replace		Average		-3
6	Vial 5	STD 750 ppb	FC8-10	5	Replace		Average		-3
7	Vial 6	STD 1000 ppb	FC8-10	6	Replace		Average		-3
8	Vial 7	STD 1500 ppb	FC8-10	7	Replace		Average		-3
30	Vial 1	STD 50 ppb	FC8-10	1	Average		Average		-3
31	Vial 2	STD 100 ppb	FC8-10	2	Average		Average		-3
32	Vial 3	STD 250 ppb	FC8-10	3	Average		Average		-3
33	Vial 4	STD 500 ppb	FC8-10	4	Average		Average		-3
34	Vial 5	STD 750 ppb	FC8-10	5	Average		Average		-3
35	Vial 6	STD 1000 ppb	FC8-10	6	Average		Average		-3
36	Vial 7	STD 1500 ppb	FC8-10	7	Average		Average		-3

=====

Calibration Table

=====

Calib. Data Modified : Thursday, February 26, 2004 10:08:53 AM

Calculate : External Standard
Based on : Peak Area

Rel. Reference Window : 5.000 %
Abs. Reference Window : 0.000 min
Rel. Non-ref. Window : 5.000 %
Abs. Non-ref. Window : 0.000 min
Uncalibrated Peaks : not reported
Partial Calibration : Yes, identified peaks are recalibrated
Correct All Ret. Times: No, only for identified peaks

Curve Type : Linear
Origin : Ignored
Weight : Equal

Recalibration Settings:
Average Response : Average all calibrations
Average Retention Time: Floating Average New 75%

Calibration Report Options :

Printout of recalibrations within a sequence:

Calibration Table after Recalibration

Normal Report after Recalibration

If the sequence is done with bracketing:

Results of first cycle (ending previous bracket)

Signal 1: MSD1 369, EIC=368.7:369.7

Signal 2: MSD1 469, EIC=468.7:469.7

RetTime [min]	Lvl Sig	Amount [ppb]	Area	Amt/Area	Ref Grp Name
7.238	1	50.00000	2.54854e4	1.96191e-3	1 C8 Acid
	2	100.00000	5.21298e4	1.91829e-3	
	3	250.00000	1.38928e5	1.79949e-3	
	4	500.00000	2.68105e5	1.86494e-3	
	5	750.00000	3.95712e5	1.89532e-3	
	6	1000.00000	5.07448e5	1.97064e-3	
	7	1500.00000	7.25598e5	2.06726e-3	
8.109	2	50.00000	7.14014e4	7.00266e-4	1 C10 Surrogate
	2	100.00000	1.43567e5	6.96541e-4	
	3	250.00000	3.67689e5	6.79922e-4	
	4	500.00000	6.92756e5	7.21754e-4	
	5	750.00000	1.00164e6	7.48773e-4	
	6	1000.00000	1.26065e6	7.93240e-4	
	7	1500.00000	1.75606e6	8.54185e-4	

More compound-specific settings:

Compound: C8 Acid
Time Window : From 7.066 min To 8.067 min

Compound: C10 Surrogate
Time Window : From 7.913 min To 8.718 min

=====

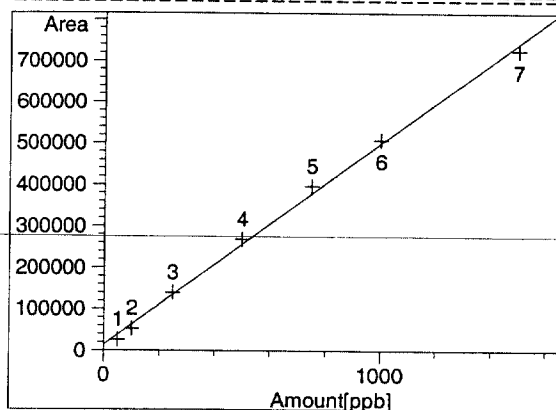
Peak Sum Table

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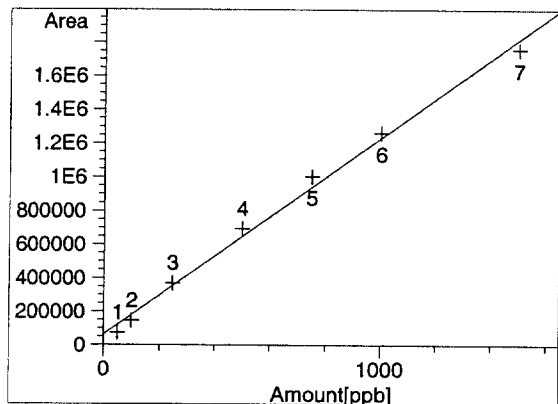
No Entries in table

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Calibration Curves



C8 Acid at exp. RT: 7.238
 MSD1 369, EIC=368.7:369.7
 Correlation: 0.99866
 Residual Std. Dev.: 14581.78795
 Formula: $y = mx + b$
 m: 485.91764
 b: 13835.67745
 x: Amount[ppb]
 y: Area



C10 Surrogate at exp. RT: 8.109
 MSD1 469, EIC=468.7:469.7
 Correlation: 0.99690
 Residual Std. Dev.: 53527.29878
 Formula: $y = mx + b$
 m: 1170.89142
 b: 62080.82414
 x: Amount[ppb]
 y: Area

Sample Name:STD 50 ppb
Sample Info:Warm Up Injection

1

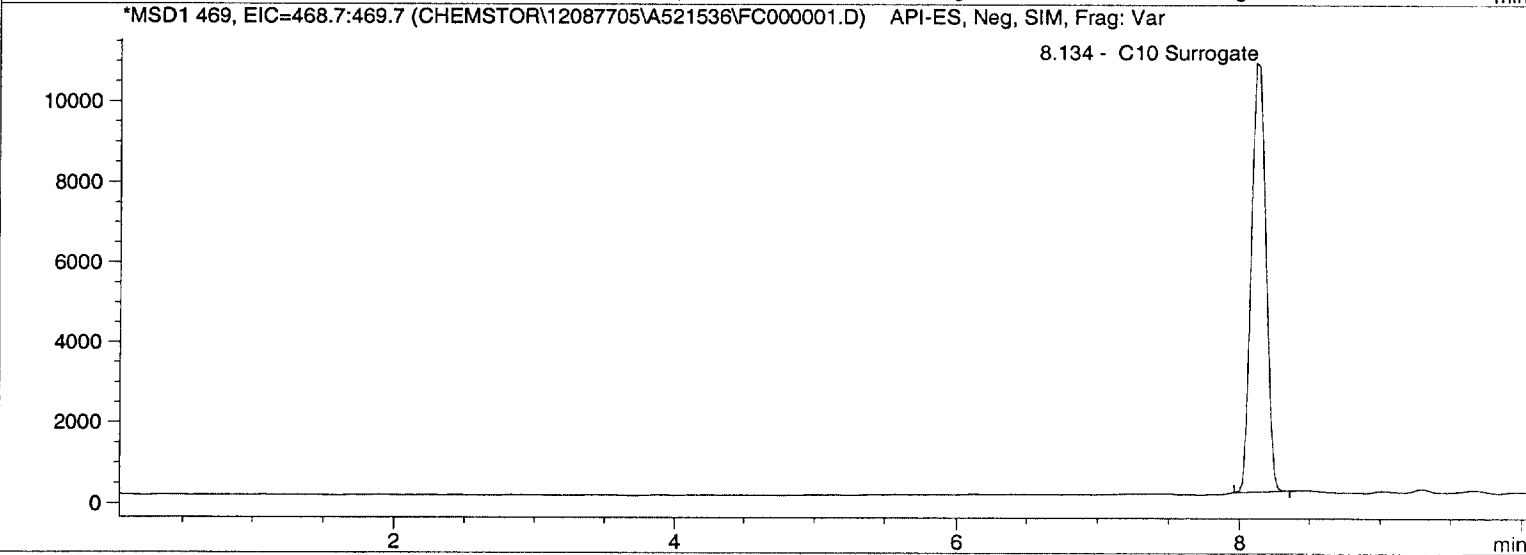
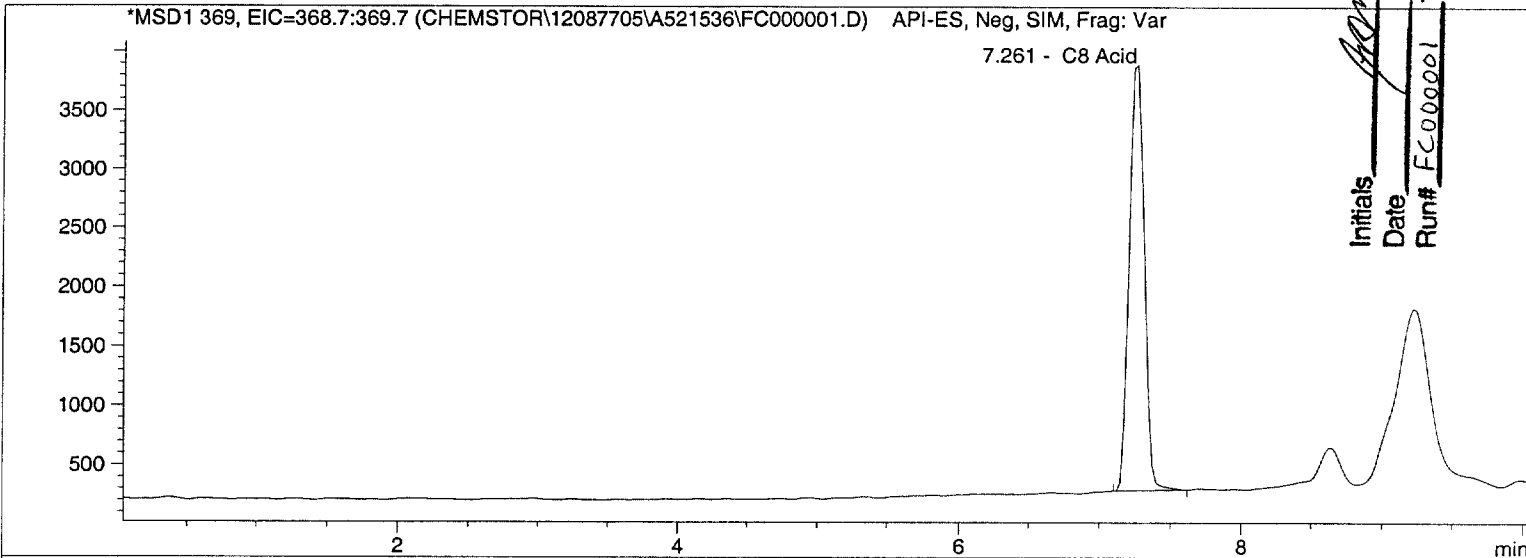
Data file :C:\HPCHEM\1\DATA\Chemstor\12087705\A521536\FC000001.D

Injection Date : 1/22/04 4:38:06 PM Seq Line : 1
Acq Operator : jmillier Vial No. : 1
Instrument : PC00414 Inj. No. : 1
Dilution : 1 Inj. Vol. : 5 µl

Acq. Method : FC8-10.M
Analysis Method : C:\HPCHEM\1\METHODS\012204.M
Last Changed : 2/26/04 10:08:53 am

LC/MS analysis of perfluorooctanoic acid.

Initials *JM*
Date 2/26/04
Run# FC000001 To FC000036



Compound Name	Area	Amount	Meas. Ret. T	Signal Desc.
C8 Acid	26327.43	25.71	7.261	MSD1 369, EIC=368.7:369.7
C10 Surrogate	76333.71	12.17	8.134	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0018

Sample Name:STD 50 ppb

Sample Info:

1

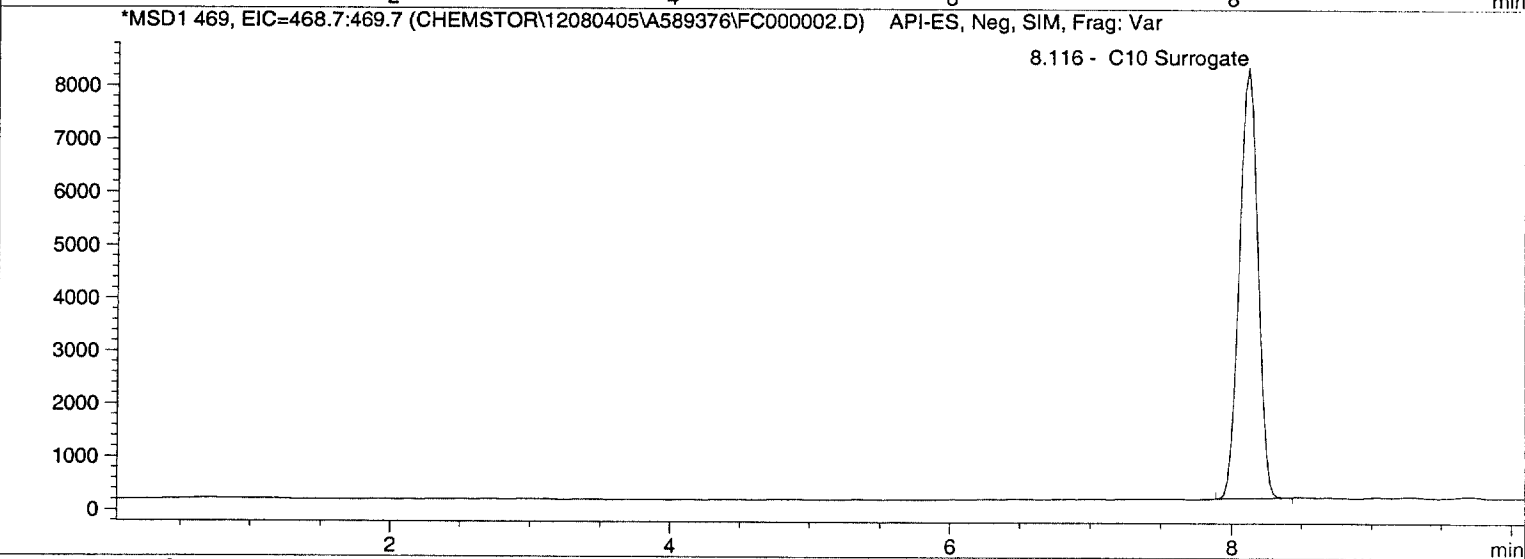
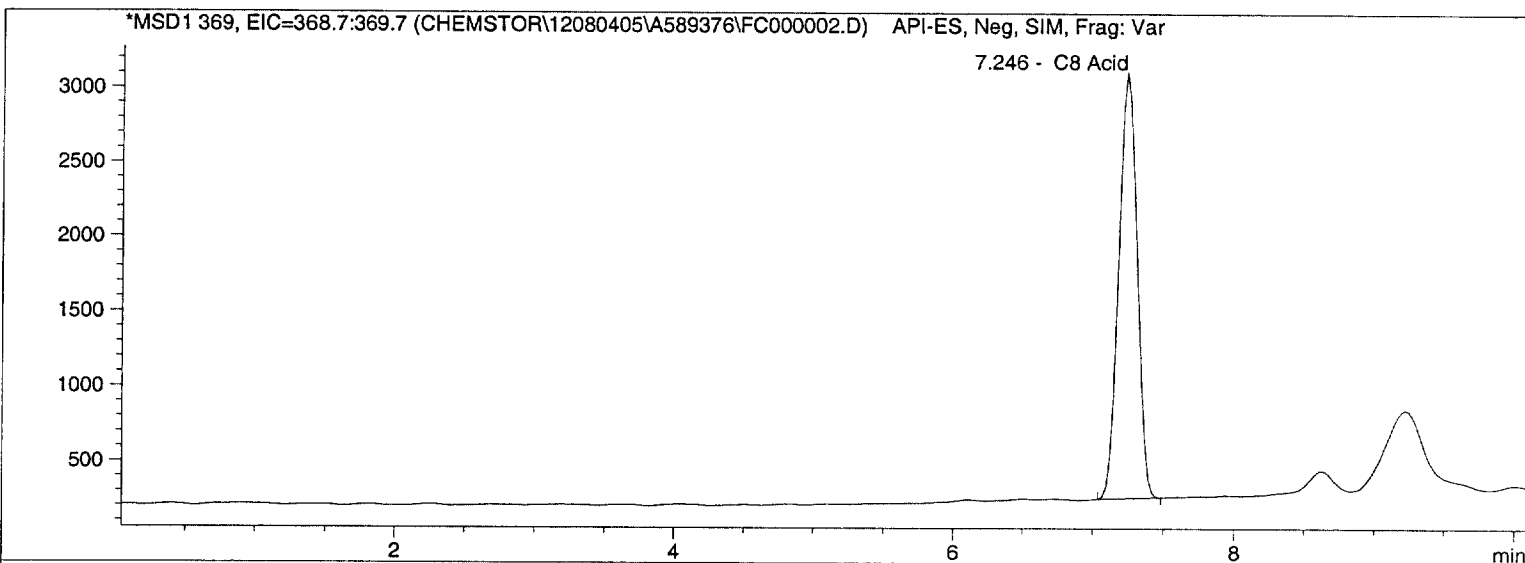
Data file :C:\HPCHEM\1\DATA\Chemstor\12080405\A589376\FC000002.D

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Injection Date	: 1/22/04	4:53:38 PM	Seq Line	:	2
Acq Operator	: jmillier		Vial No.	:	1
Instrument	: PC00414		Inj. No.	:	1
Dilution	: 1		Inj. Vol.	:	5 µl

Acq. Method : FC8-10.M
Analysis Method : C:\HPCHEM\1\METHODS\012204.M
Last Changed : 2/26/04 10:08:53 am

LC/MS analysis of perfluorooctanoic acid.



Compound Name	Area	Amount	Meas. Ret. T	Signal Desc.
C8 Acid	26027.72	25.09	7.246	MSD1 369, EIC=368.7:369.7
C10 Surrogate	74031.62	10.21	8.116	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0019

Sample Name:STD 100 ppb
Sample Info:

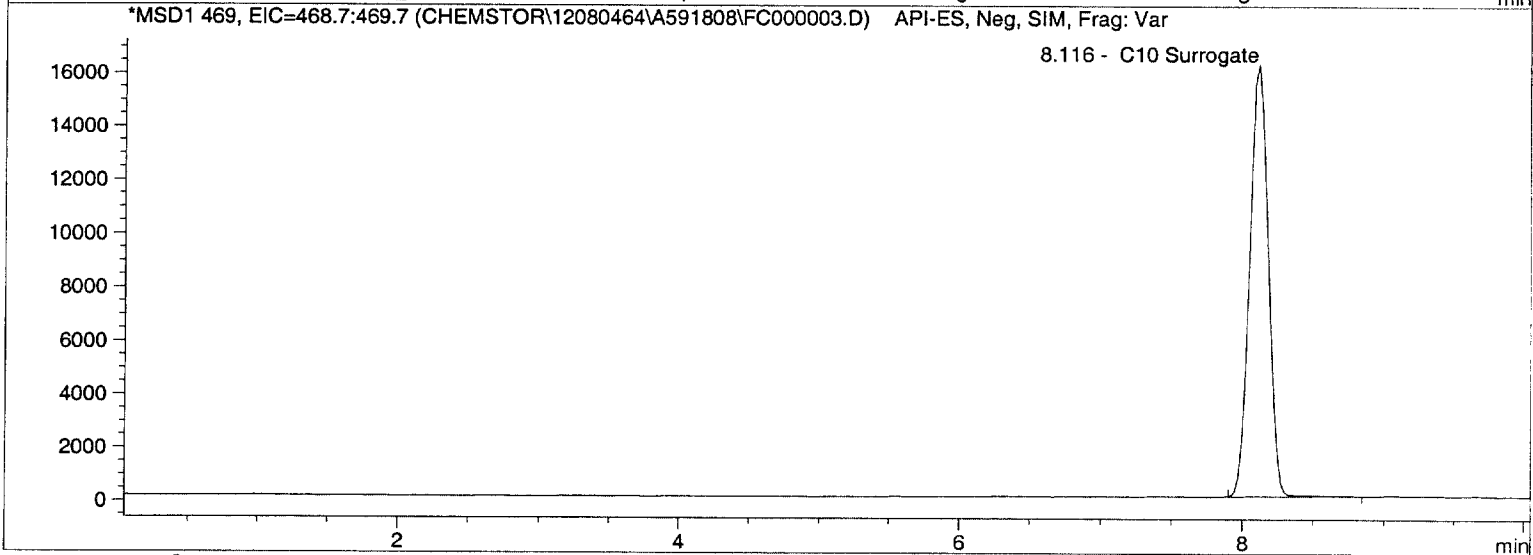
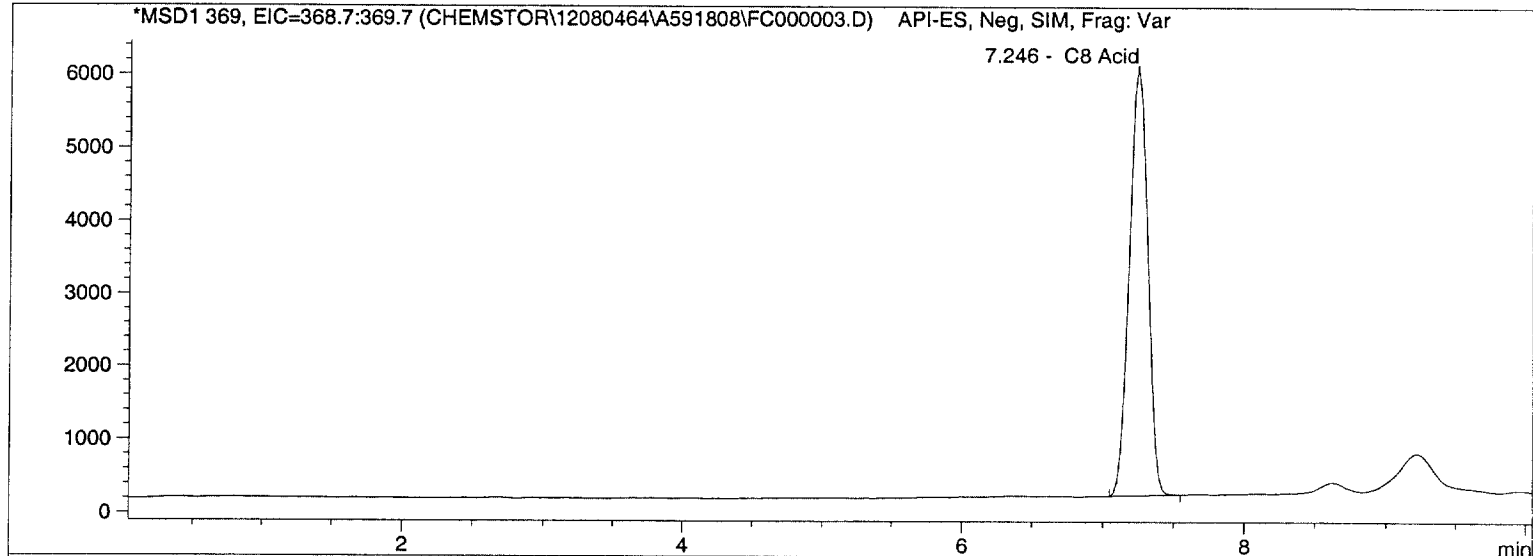
1

Data file :C:\HPCHEM\1\DATA\Chemstor\12080464\A591808\FC000003.D

Injection Date : 1/22/04 5:09:09 PM Seq Line : 3
Acq Operator : jmillers Vial No. : 2
Instrument : PC00414 Inj. No. : 1
Dilution : 1 Inj. Vol. : 5 µl

Acq. Method : FC8-10.M
Analysis Method : C:\HPCHEM\1\METHODS\012204.M
Last Changed : 2/26/04 10:08:53 am

LC/MS analysis of perfluorooctanoic acid.



Compound Name	Area	Amount	Meas. Ret. T	Signal Desc.
C8 Acid	53601.73	81.84	7.246	MSD1 369, EIC=368.7:369.7
C10 Surrogate	148148.97	73.51	8.116	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0020

Sample Info:

Data file :C:\HPCHEM\1\DATA\Chemstor\12080548\A593984\FC000004.D

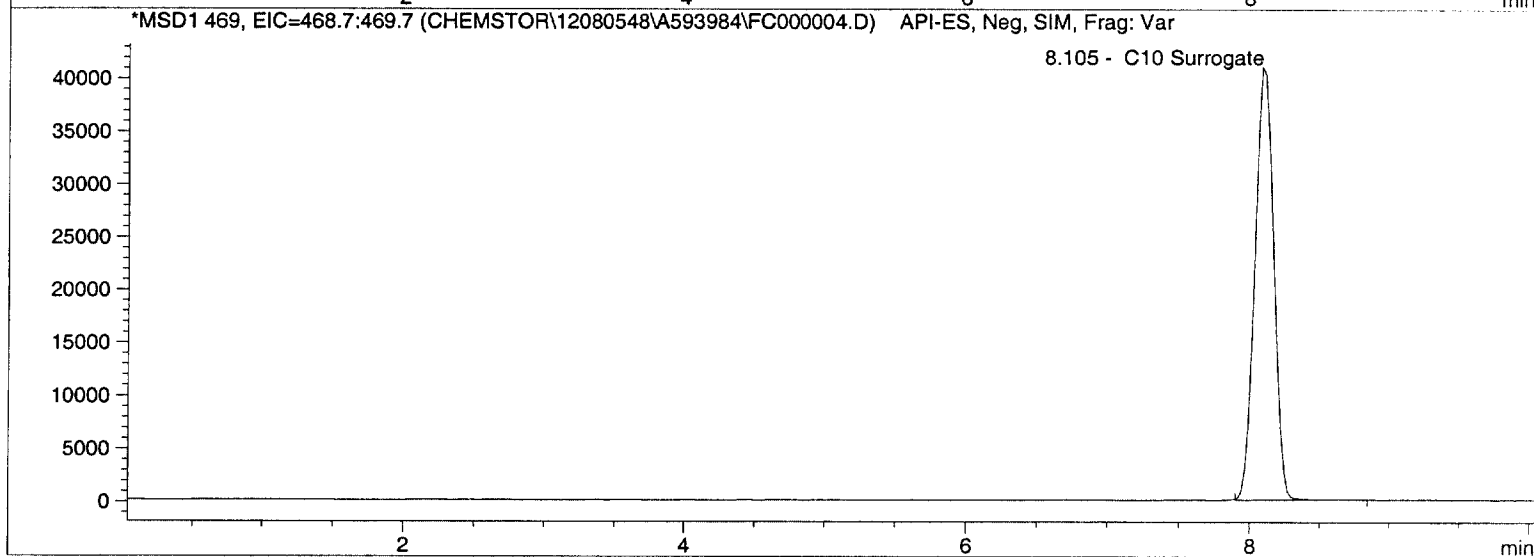
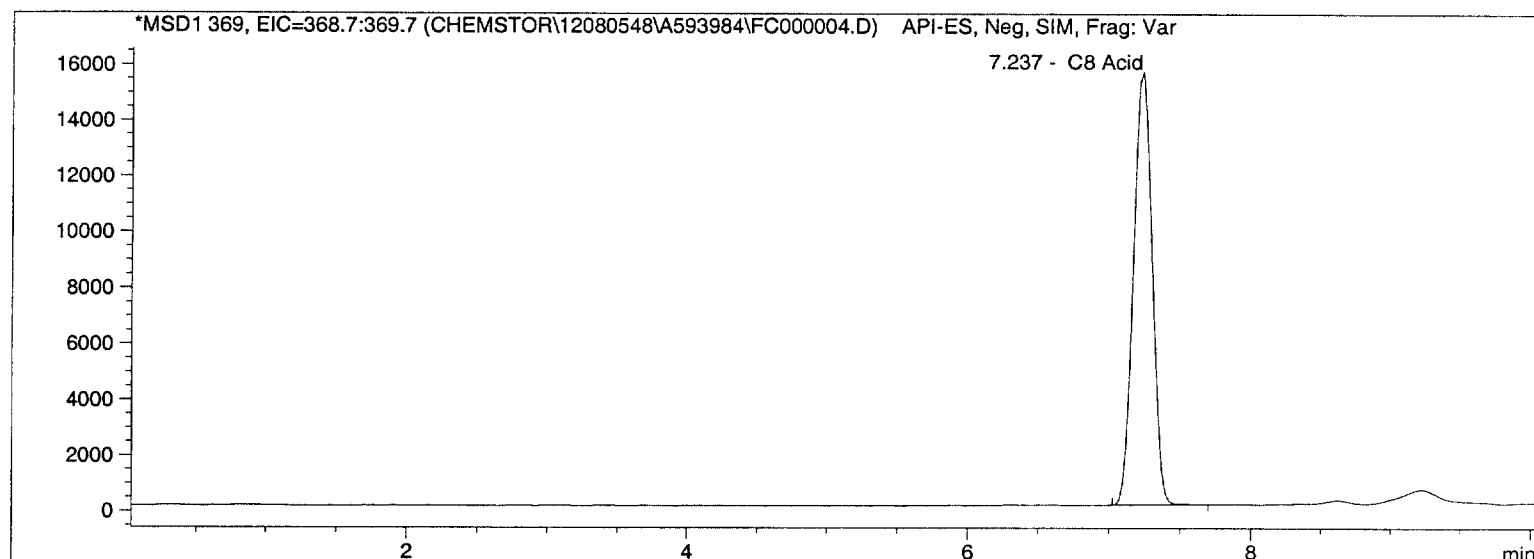
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=====
Injection Date   : 1/22/04           5:24:43 PM   Seq Line   :           4
Acq Operator    : jmillier           Vial No.    :           3
Instrument      : PC00414            Inj. No.    :           1
Dilution       : 1                  Inj. Vol.   :           5 µl
=====
```

Acq. Method : FC8-10.M

Analysis Method : C:\HPCHEM\1\METHODS\012204.M

Last Changed : 2/26/04 10:08:53 am

LC/MS analysis of perfluorooctanoic acid.



Compound Name	Area	Amount	Meas. Ret. T	Signal Desc.
C8 Acid	142444.72	264.67	7.237	MSD1 369, EIC=368.7:369.7
C10 Surrogate	376511.78	268.54	8.105	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0021

Sample Info:

Data file :C:\HPCHEM\1\DATA\Chemstor\12080667\A596224\FC000005.D

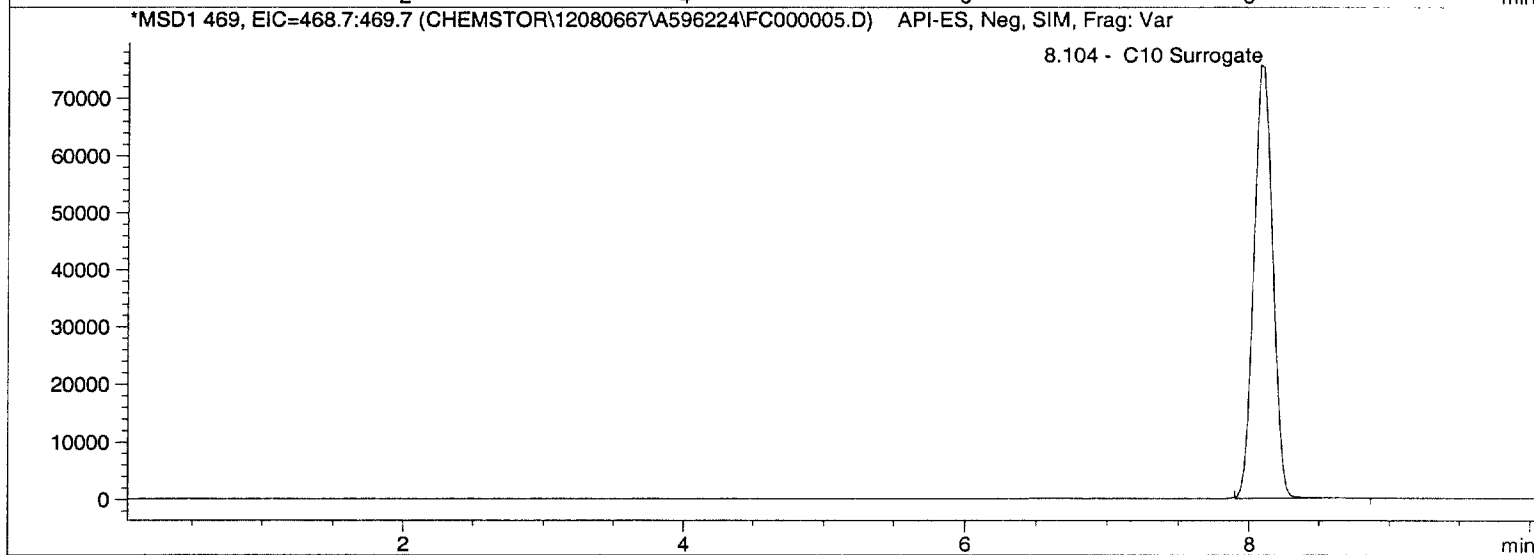
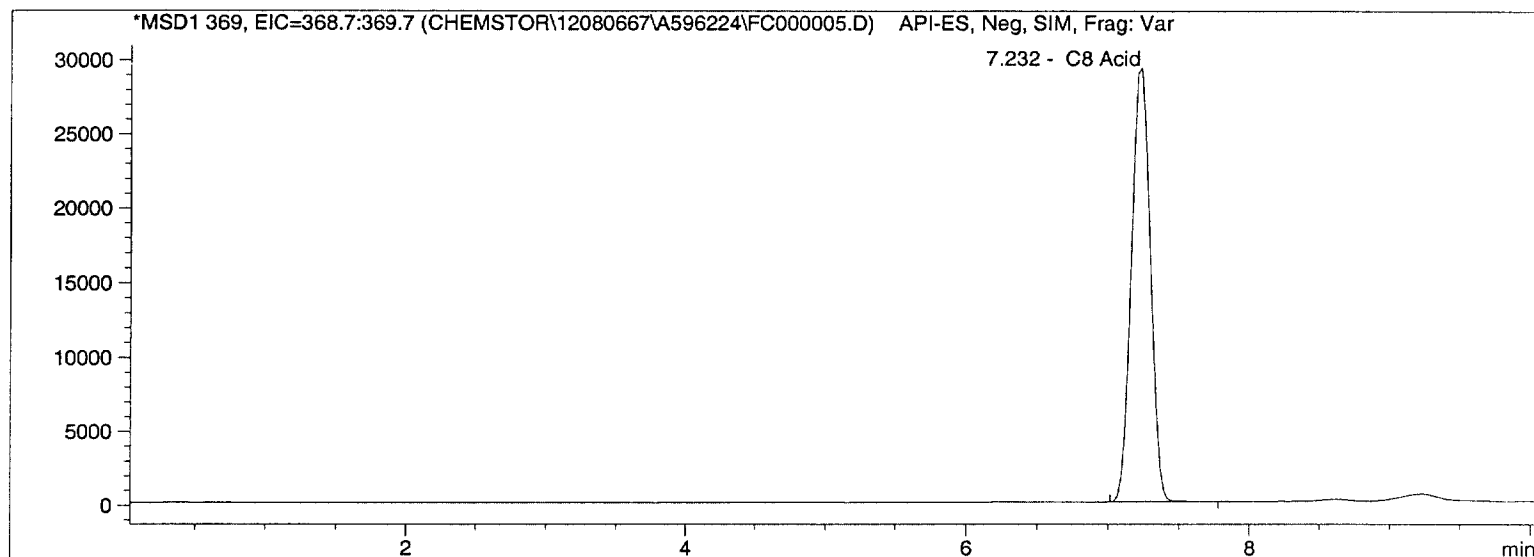
```
=====
Injection Date   : 1/22/04           5:40:19 PM      Seq Line   :           5
Acq Operator    : jmillier           Vial No.      :           4
Instrument      : PC00414            Inj. No.      :           1
Dilution       : 1                  Inj. Vol.     :           5 µl
=====
```

Acq. Method : FC8-10.M

Analysis Method : C:\HPCHEM\1\METHODS\012204.M

Last Changed : 2/26/04 10:08:53 am

LC/MS analysis of perfluorooctanoic acid.



Compound Name	Area	Amount	Meas. Ret. T	Signal Desc.
C8 Acid	270860.69	528.95	7.232	MSD1 369, EIC=368.7:369.7
C10 Surrogate	703836.19	548.09	8.104	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0022

Sample Info:

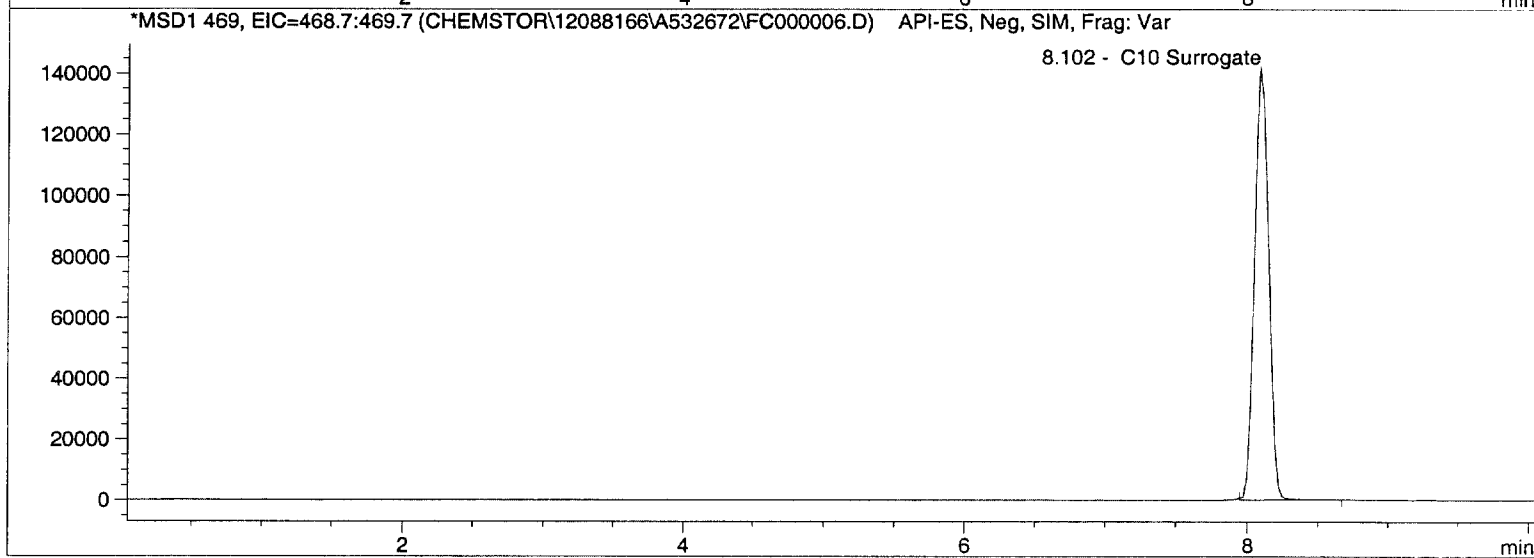
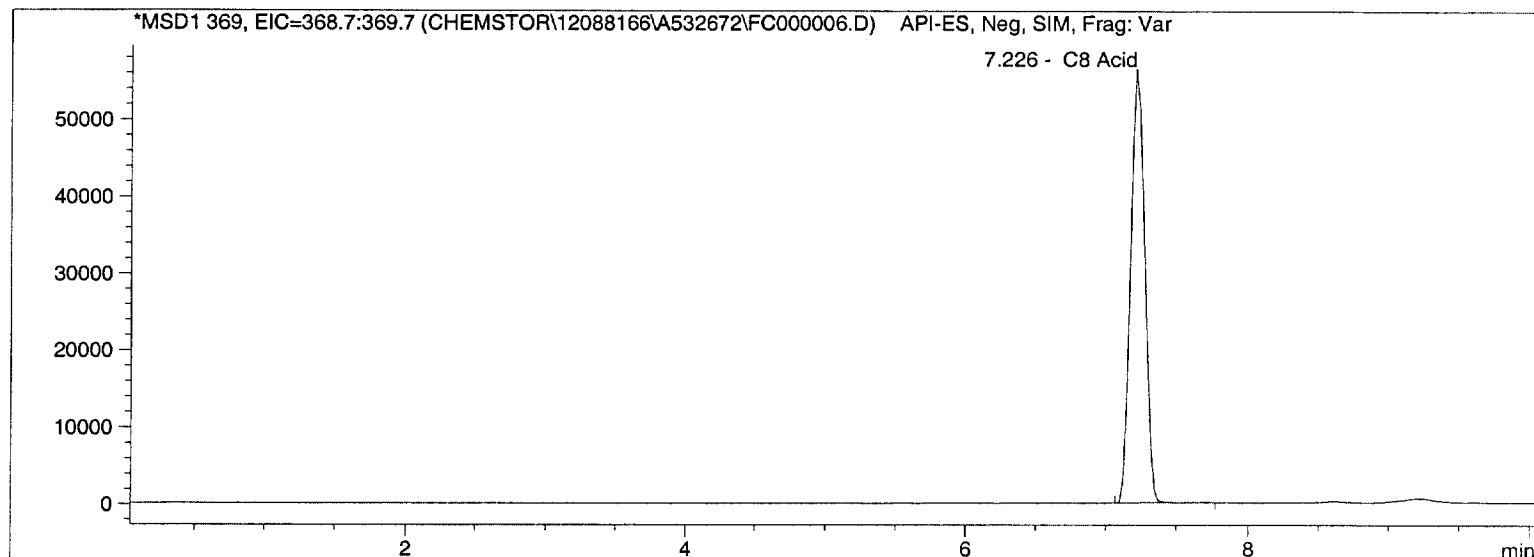
Data file :C:\HPCHEM\1\DATA\Chemstor\12088166\A532672\FC000006.D

=====

Injection Date	: 1/22/04	5:55:53 PM	Seq Line	:	6
Acq Operator	: jmillier		Vial No.	:	5
Instrument	: PC00414		Inj. No.	:	1
Dilution	: 1		Inj. Vol.	:	5 µl

Acq. Method : FC8-10.M
Analysis Method : C:\HPCHEM\1\METHODS\012204.M
Last Changed : 2/26/04 10:08:53 am

LC/MS analysis of perfluorooctanoic acid.



Compound Name	Area	Amount	Meas. Ret. T	Signal Desc.
C8 Acid	397814.34	790.21	7.226	MSD1 369, EIC=368.7:369.7
C10 Surrogate	1009547.12	809.18	8.102	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0023

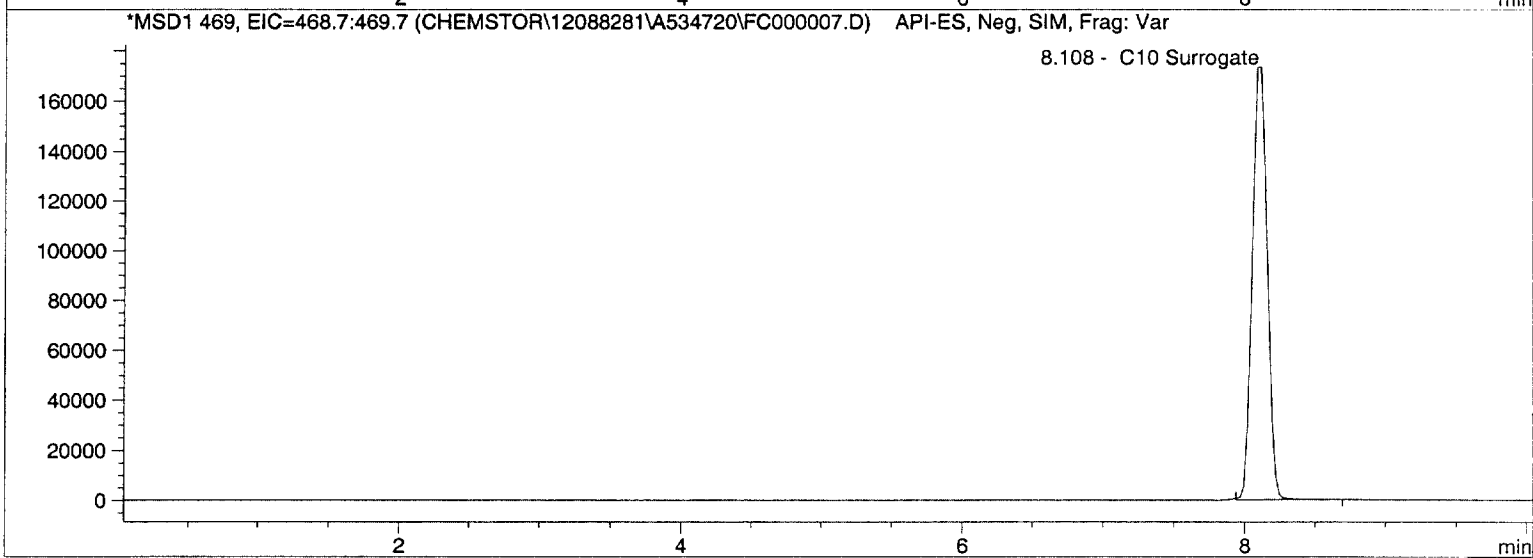
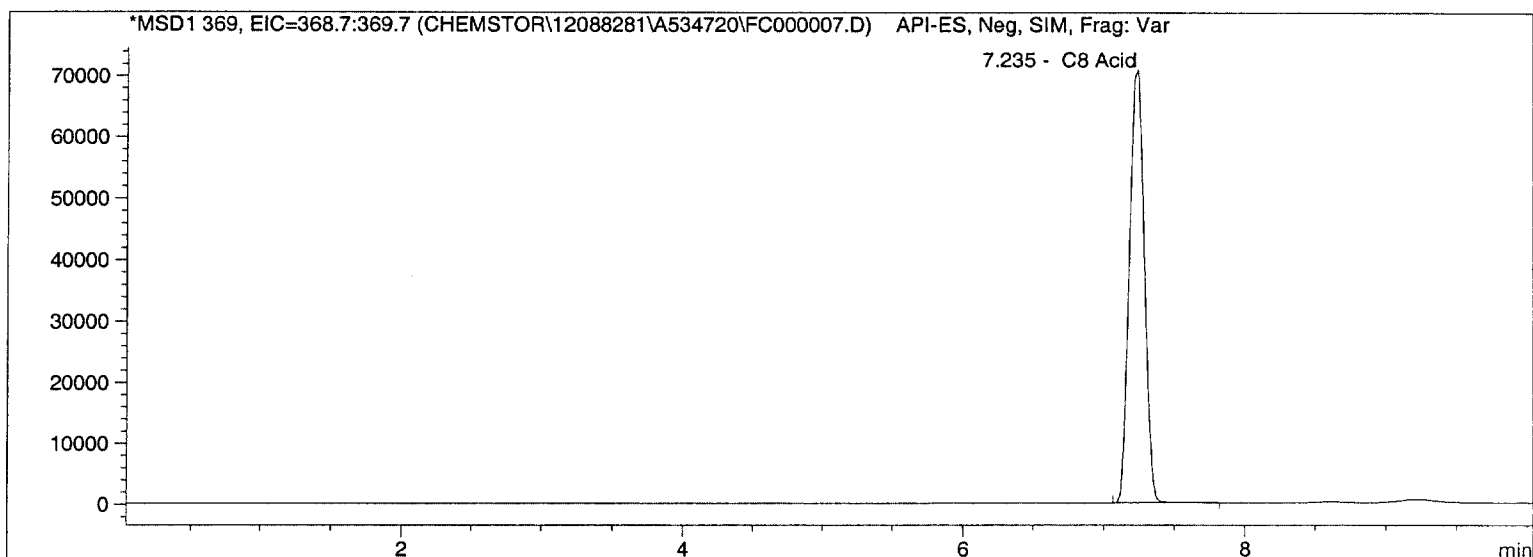
Sample Info:

Data file :C:\HPCHEM\1\DATA\Chemstor\12088281\A534720\FC000007.D

```
=====
Injection Date   : 1/22/04           6:11:29 PM   Seq Line   :           7
Acq Operator    : jmillier           Vial No.    :           6
Instrument      : PC00414            Inj. No.    :           1
Dilution       : 1                  Inj. Vol.   :           5 µl
=====
```

```
Acq. Method     : FC8-10.M
Analysis Method  : C:\HPCHEM\1\METHODS\012204.M
Last Changed    : 2/26/04           10:08:53 am
=====
```

LC/MS analysis of perfluorooctanoic acid.



Compound Name	Area	Amount	Meas. Ret. T	Signal Desc.
C8 Acid	514972.75	1031.32	7.235	MSD1 369, EIC=368.7:369.7
C10 Surrogate	1274229.88	1035.24	8.108	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0024

Sample Name:STD 1500 ppb

Sample Info:

1

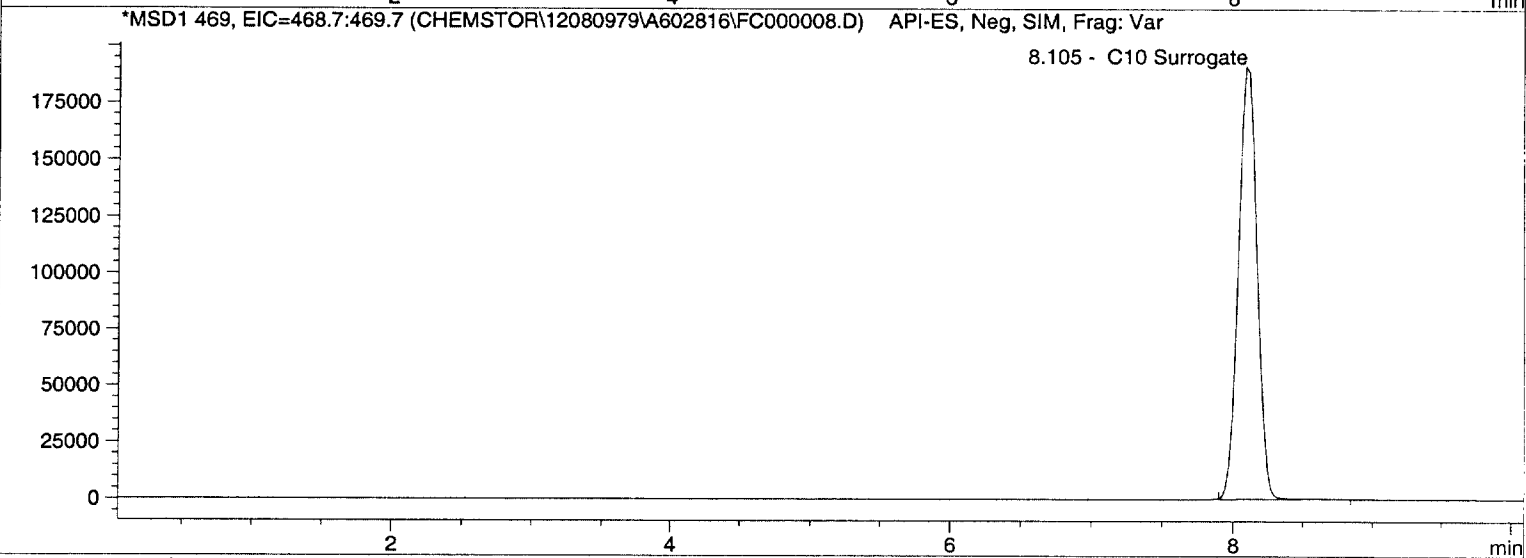
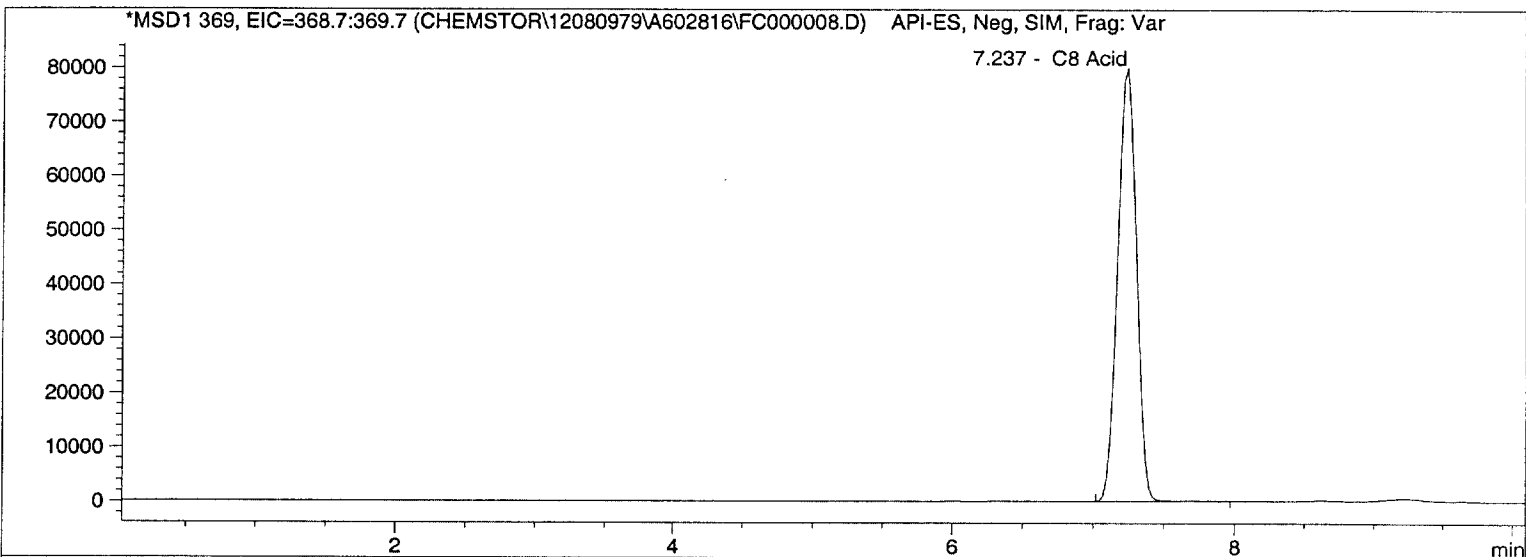
Data file :C:\HPCHEM\1\DATA\Chemstor\12080979\A602816\FC000008.D

=====

Injection Date	: 1/22/04	6:27:05 PM	Seq Line	:	8
Acq Operator	: jmillier		Vial No.	:	7
Instrument	: PC00414		Inj. No.	:	1
Dilution	: 1		Inj. Vol.	:	5 µl

Acq. Method : FC8-10.M
Analysis Method : C:\HPCHEM\1\METHODS\012204.M
Last Changed : 2/26/04 10:08:53 am

LC/MS analysis of perfluorooctanoic acid.



Compound Name	Area	Amount	Meas. Ret. T	Signal Desc.
C8 Acid	737835.69	1489.96	7.237	MSD1 369, EIC=368.7:369.7
C10 Surrogate	1784410.75	1470.96	8.105	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0025

Sample Name:solvent blank

Sample Info:

1

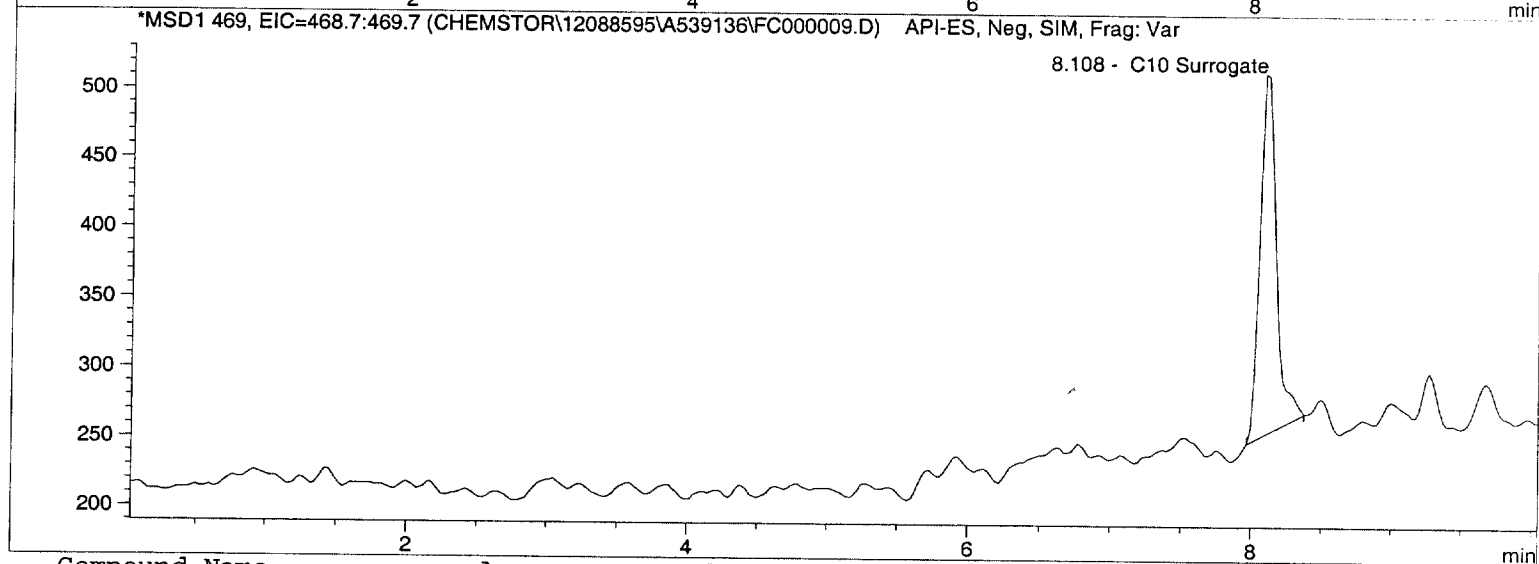
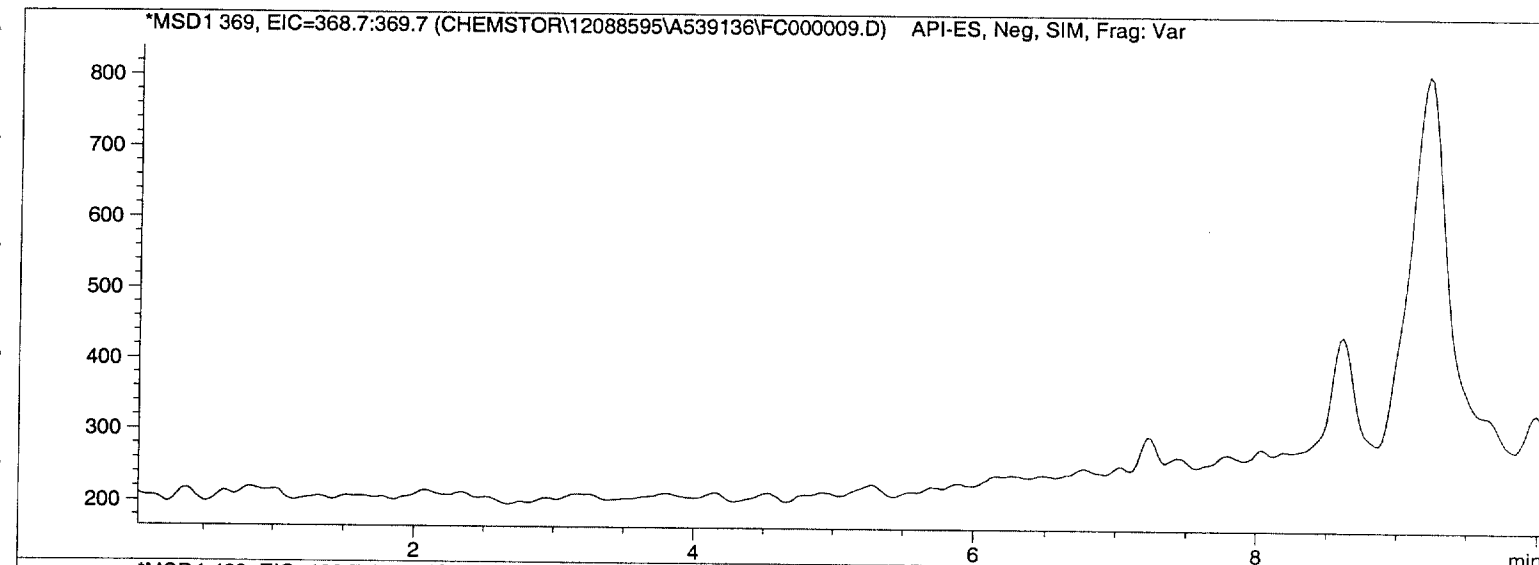
Data file :C:\HPCHEM\1\DATA\Chemstor\12088595\A539136\FC000009.D

=====

Injection Date	: 1/22/04	6:42:34 PM	Seq Line	:	9
Acq Operator	: jmillier		Vial No.	:	92
Instrument	: PC00414		Inj. No.	:	1
Dilution	: 1		Inj. Vol.	:	5 µl

Acq. Method : FC8-10.M
Analysis Method : C:\HPCHEM\1\METHODS\012204.M
Last Changed : 2/26/04 10:08:53 am

LC/MS analysis of perfluorooctanoic acid.



Compound Name	Area	Amount	Meas. Ret. T	Signal Desc.
C8 Acid	0.00	0.00	0.000	MSD1 369, EIC=368.7:369.7
C10 Surrogate	2059.66	0.00	8.108	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0026

Data file :C:\HPCHEM\1\DATA\Chemstor\12088763\A541184\FC000010.D

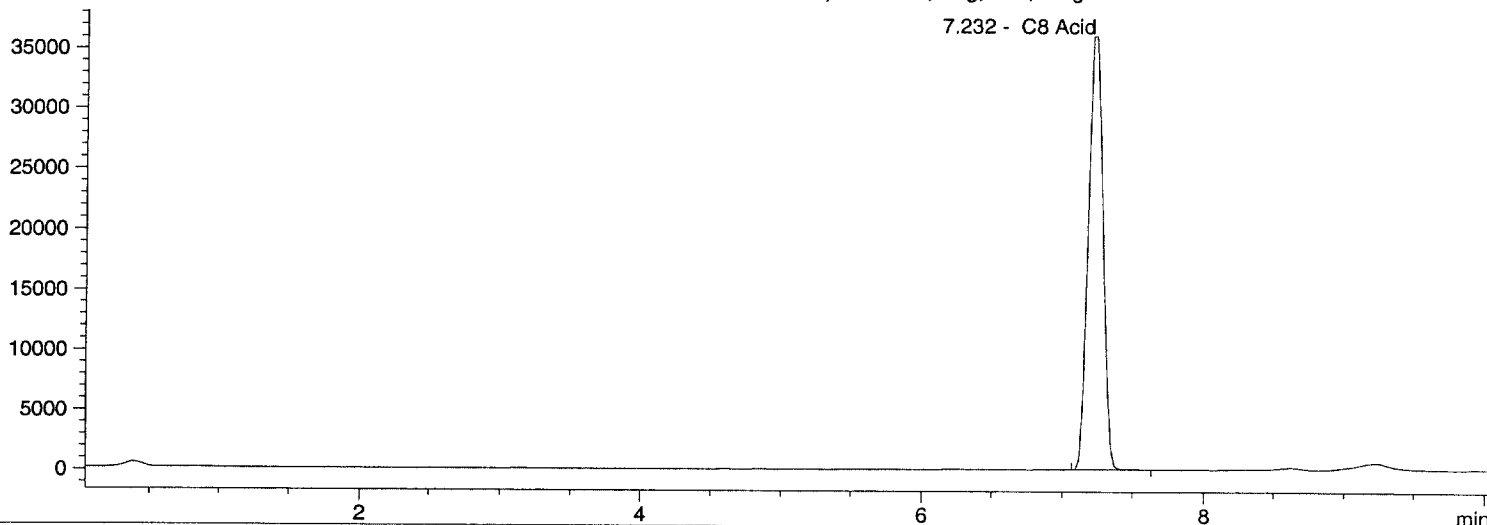
=====

Injection Date	: 1/22/04	6:58:07 PM	Seq Line	:	10
Acq Operator	: jmillier		Vial No.	:	11
Instrument	: PC00414		Inj. No.	:	1
Dilution	: 1		Inj. Vol.	:	5 µl

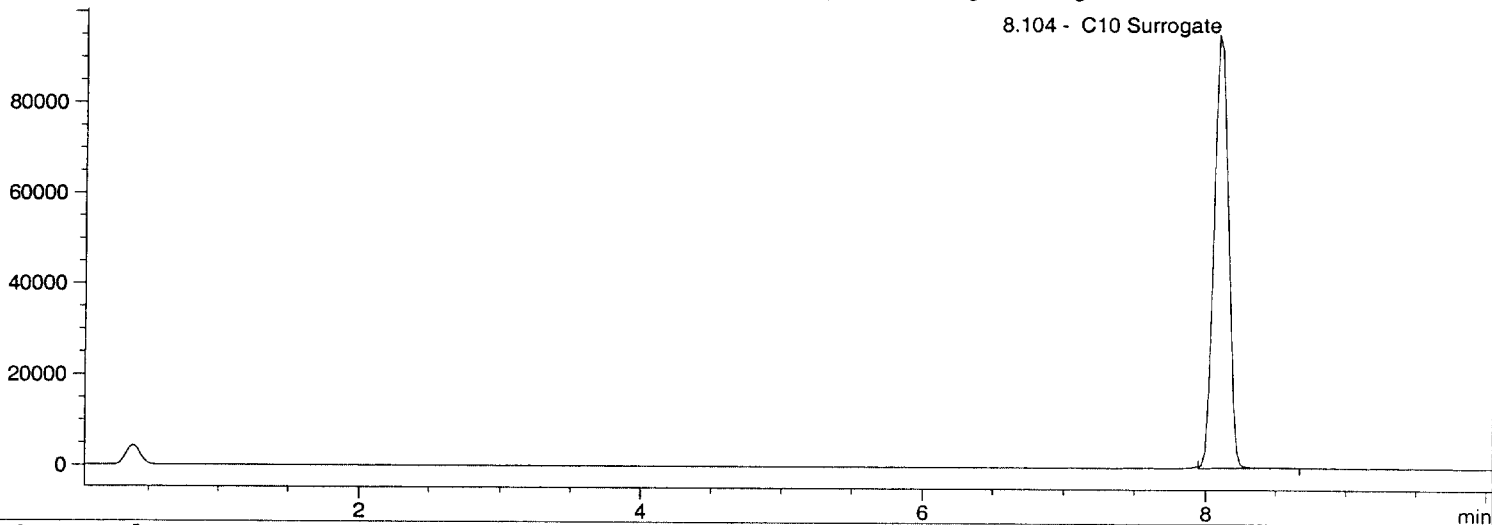
Acq. Method : FC8-10.M
Analysis Method : C:\HPCHEM\1\METHODS\012204.M
Last Changed : 2/26/04 10:08:53 am

LC/MS analysis of perfluorooctanoic acid.

*MSD1 369, EIC=368.7:369.7 (CHEMSTOR\12088763\A541184\FC000010.D) API-ES, Neg, SIM, Frag: Var



*MSD1 469, EIC=468.7:469.7 (CHEMSTOR\12088763\A541184\FC000010.D) API-ES, Neg, SIM, Frag: Var



Compound Name	Area	Amount	Meas. Ret. T	Signal Desc.
C8 Acid	261058.59	508.78	7.232	MSD1 369, EIC=368.7:369.7
C10 Surrogate	684950.62	531.96	8.104	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0027

Sample Name: L1668-23

Sample Info:

Data file : C:\HPCHEM\1\DATA\Chemstor\12088932\A543360\FC000011.D

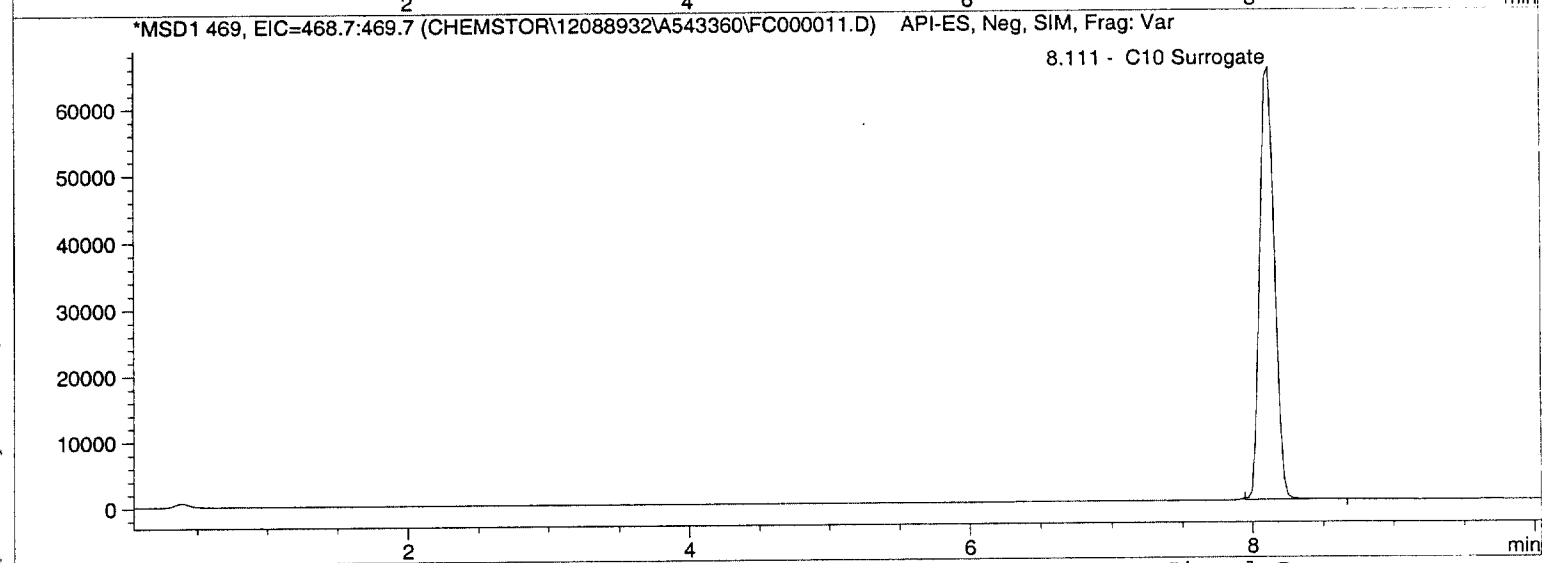
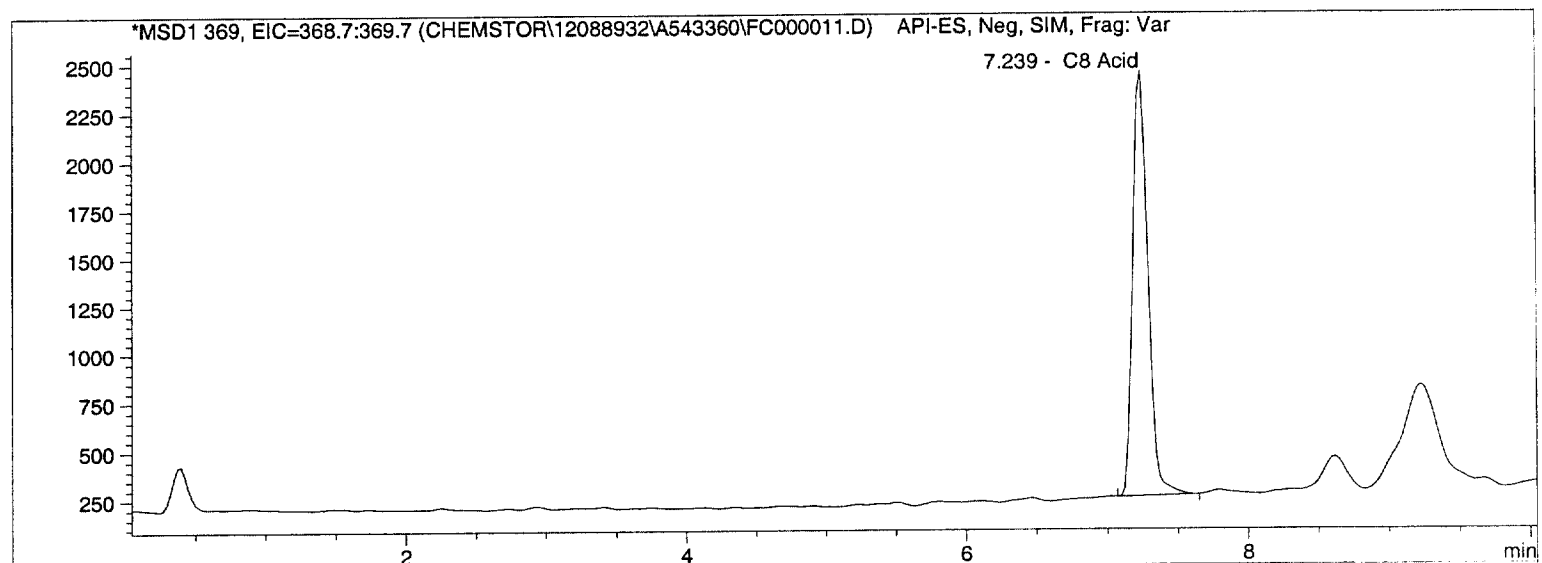
```
=====
Injection Date : 1/22/04      7:13:40 PM      Seq Line :      11
Acq Operator   : jmillers      Vial No.   :      12
Instrument     : PC00414       Inj. No.   :      1
Dilution      : 1             Inj. Vol.   :      5 µl
=====
```

Acq. Method : FC8-10.M

Analysis Method : C:\HPCHEM\1\METHODS\012204.M

Last Changed : 2/26/04 10:08:53 am

LC/MS analysis of perfluorooctanoic acid.



Compound Name	Area	Amount	Meas. Ret. T	Signal Desc.
C8 Acid	16576.66	5.64	7.239	MSD1 369, EIC=368.7:369.7
C10 Surrogate	468416.38	347.03	8.111	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0028

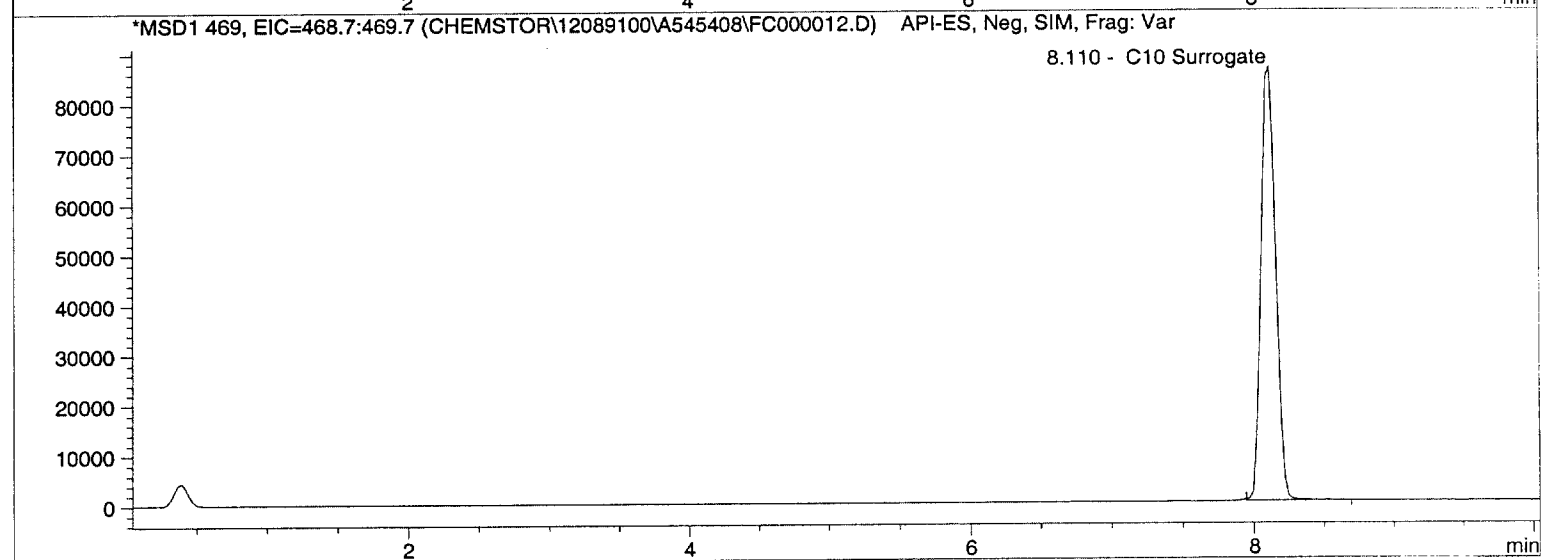
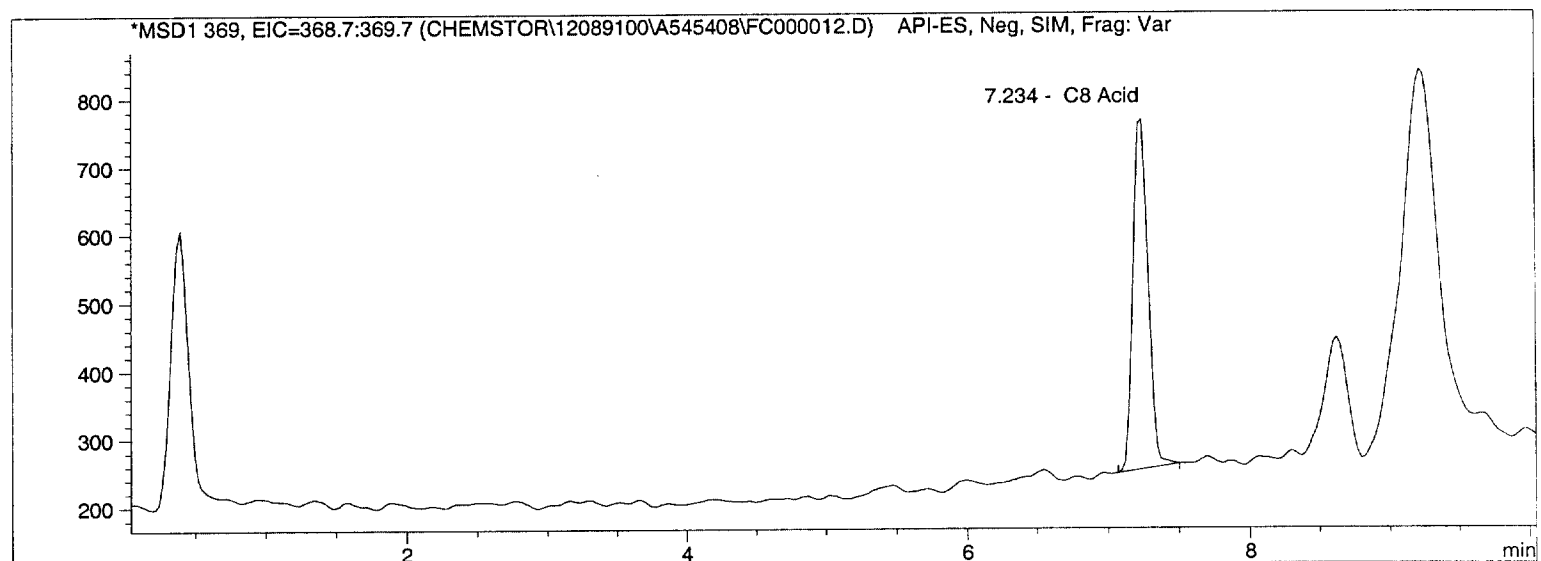
Sample Info:

Data file :C:\HPCHEM\1\DATA\Chemstor\12089100\A545408\FC000012.D

```
=====
Injection Date   : 1/22/04           7:29:15 PM   Seq Line   :       12
Acq Operator    : jmillier           Vial No.    :       13
Instrument      : PC00414            Inj. No.    :        1
Dilution       : 1                  Inj. Vol.   :       5 µl
=====
```

```
Acq. Method     : FC8-10.M
Analysis Method  : C:\HPCHEM\1\METHODS\012204.M
Last Changed    : 2/26/04           10:08:53 am
=====
```

LC/MS analysis of perfluorooctanoic acid.



Compound Name	Area	Amount	Meas. Ret. T	Signal Desc.
C8 Acid	3786.80	0.00	7.234	MSD1 369, EIC=368.7:369.7
C10 Surrogate	623131.69	479.17	8.110	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0029

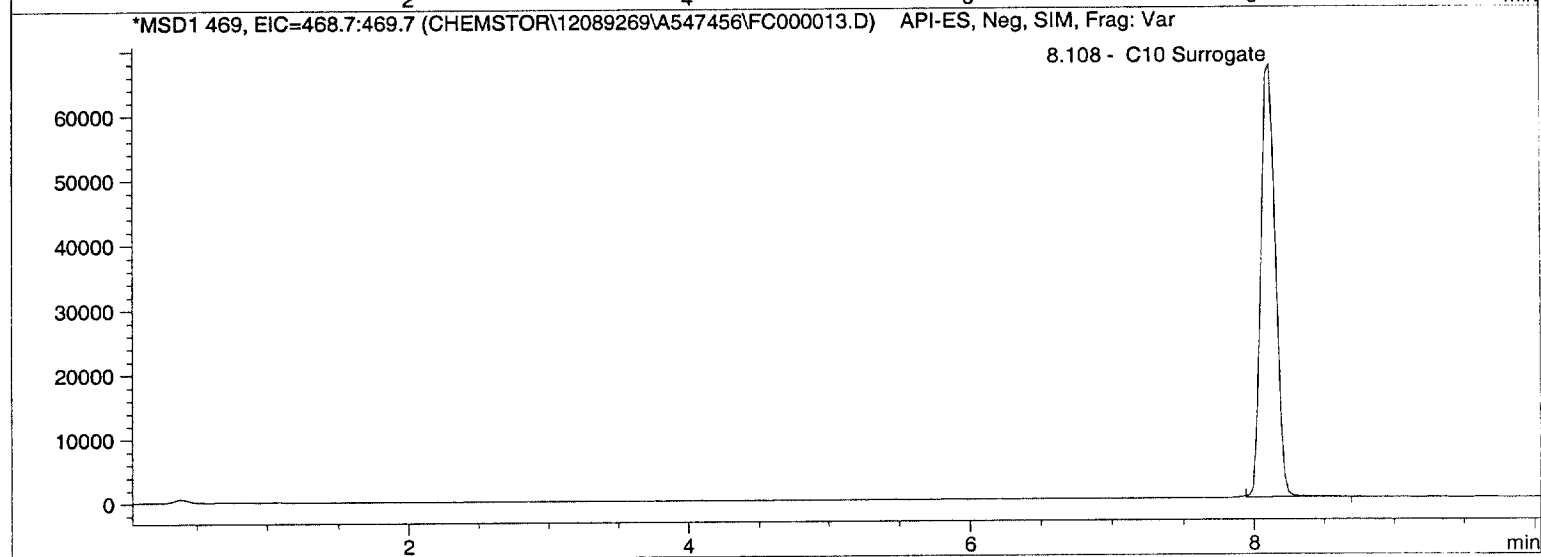
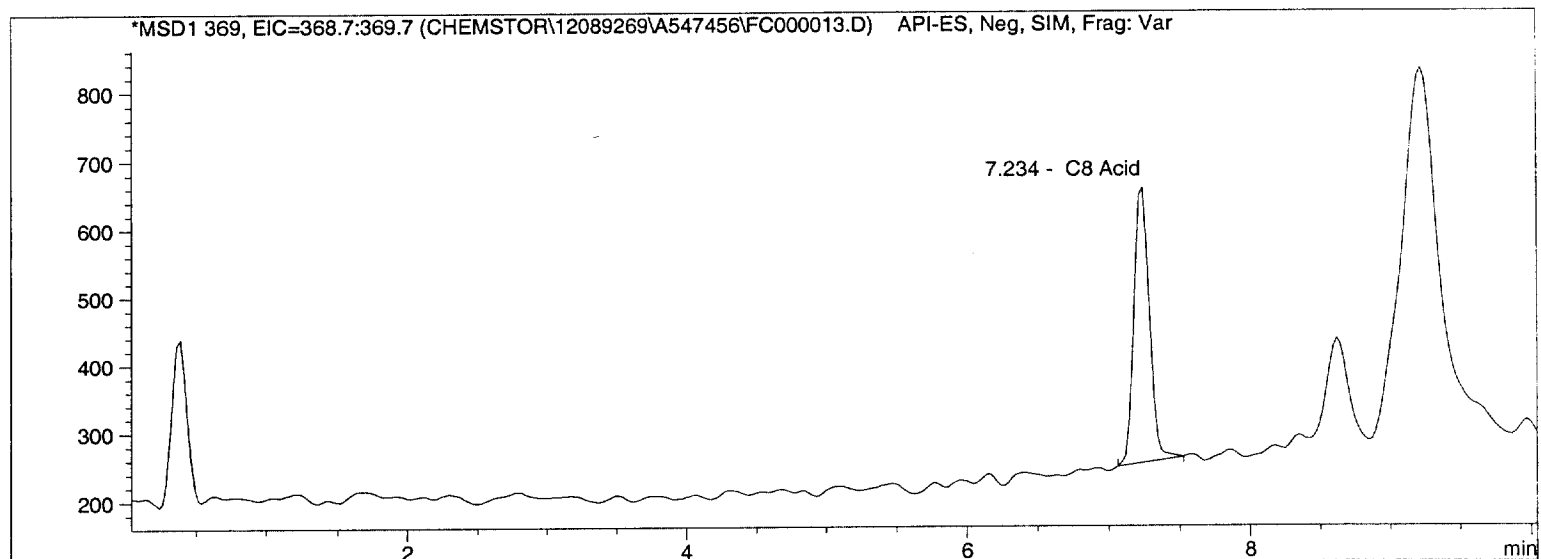
Sample Info:

Data file :C:\HPCHEM\1\DATA\Chemstor\12089269\A547456\FC000013.D

```
=====
Injection Date   : 1/22/04           7:44:50 PM   Seq Line   :           13
Acq Operator    : jmillier           Vial No.    :           14
Instrument      : PC00414            Inj. No.    :            1
Dilution       : 1                  Inj. Vol.   :           5 µl
=====
```

```
Acq. Method     : FC8-10.M
Analysis Method  : C:\HPCHEM\1\METHODS\012204.M
Last Changed    : 2/26/04           10:08:53 am
=====
```

LC/MS analysis of perfluorooctanoic acid.



Compound Name	Area	Amount	Meas. Ret. T	Signal Desc.
C8 Acid	3055.95	0.00	7.234	MSD1 369, EIC=368.7:369.7
C10 Surrogate	483225.03	359.68	8.108	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0030

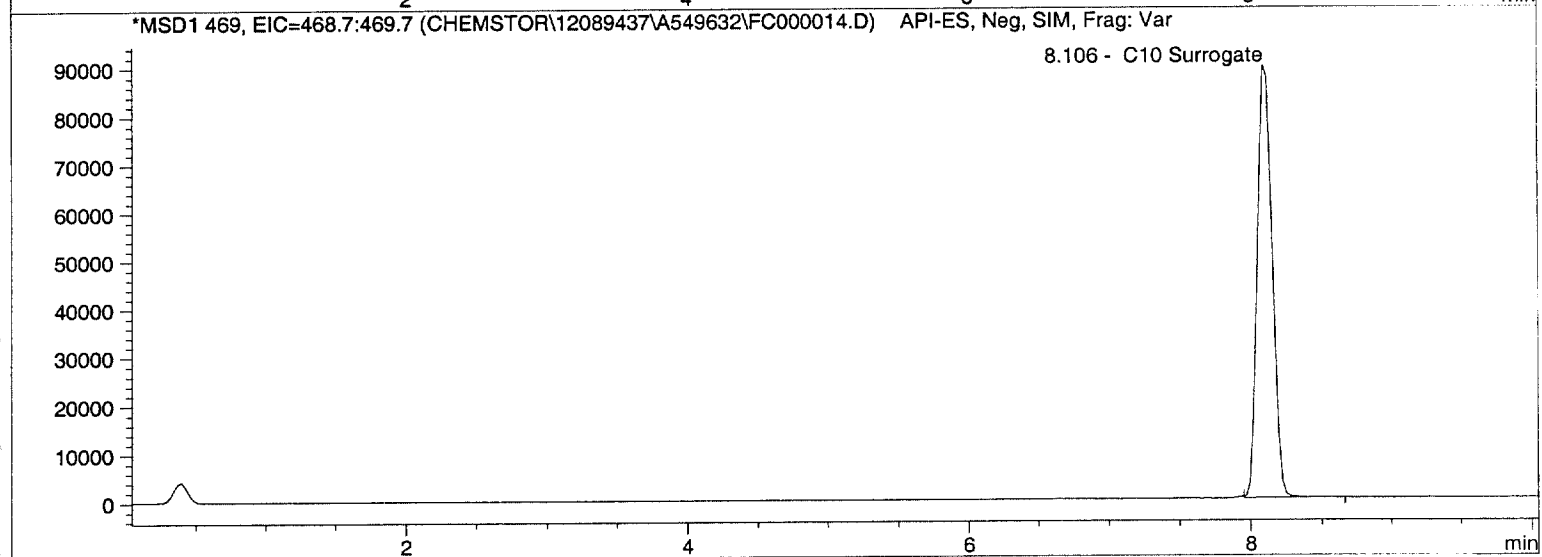
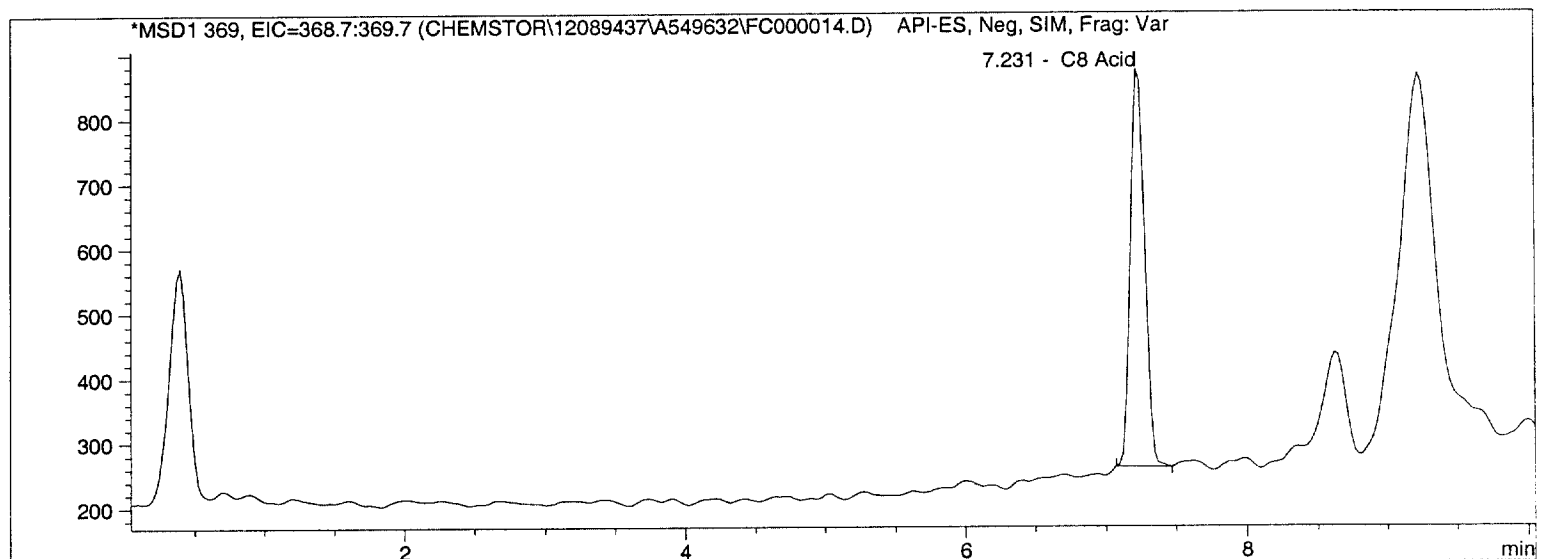
Sample Info:

Data file :C:\HPCHEM\1\DATA\Chemstor\12089437\A549632\FC000014.D

```
=====
Injection Date   : 1/22/04      8:00:24 PM   Seq Line   :      14
Acq Operator    : jmillers          Vial No.    :      15
Instrument      : PC00414           Inj. No.    :       1
Dilution       : 1                 Inj. Vol.   :     5 µl
=====
```

```
Acq. Method     : FC8-10.M
Analysis Method  : C:\HPCHEM\1\METHODS\012204.M
Last Changed    : 2/26/04      10:08:53 am
=====
```

LC/MS analysis of perfluorooctanoic acid.



Compound Name	Area	Amount	Meas. Ret. T	Signal Desc.
C8 Acid	4345.78	0.00	7.231	MSD1 369, EIC=368.7:369.7
C10 Surrogate	645270.00	498.07	8.106	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0031

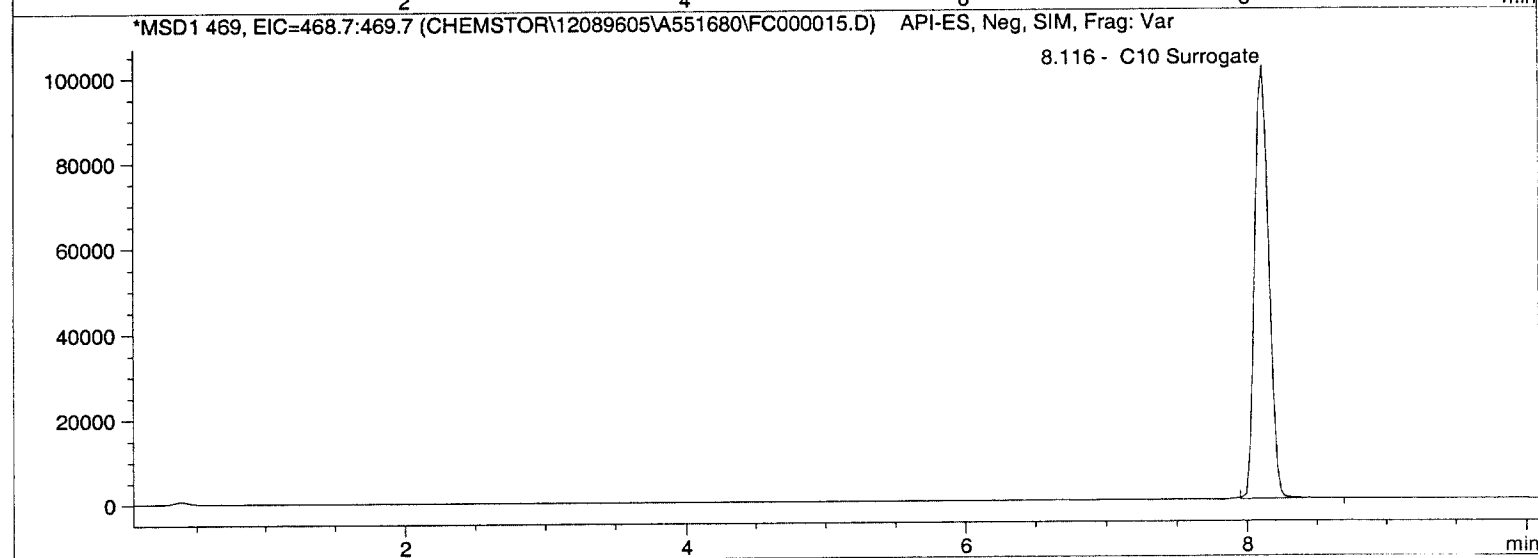
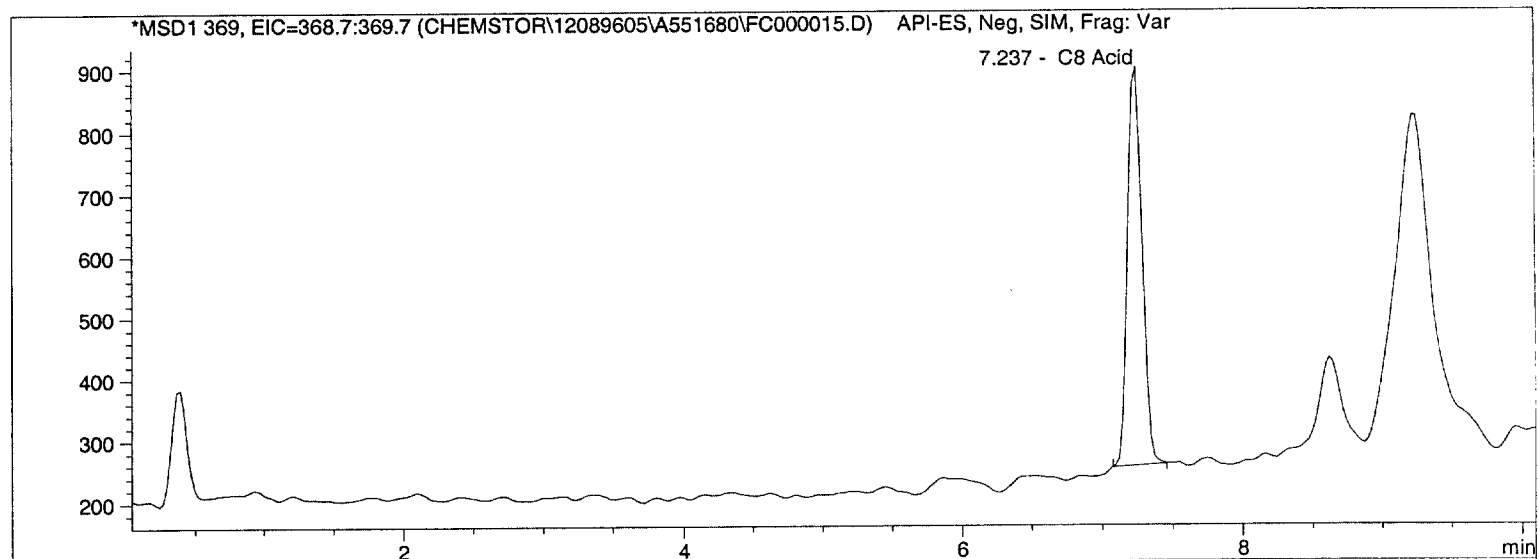
Sample Info:

Data file :C:\HPCHEM\1\DATA\Chemstor\12089605\A551680\FC000015.D

```
=====
Injection Date   : 1/22/04           8:16:01 PM   Seq Line   :           15
Acq Operator    : jmillier           Vial No.    :           16
Instrument      : PC00414            Inj. No.    :            1
Dilution       : 1                  Inj. Vol.   :           5 µl
=====
```

```
Acq. Method     : FC8-10.M
Analysis Method  : C:\HPCHEM\1\METHODS\012204.M
Last Changed    : 2/26/04           10:08:53 am
=====
```

LC/MS analysis of perfluorooctanoic acid.



Compound Name	Area	Amount	Meas. Ret. T	Signal Desc.
C8 Acid	4645.49	0.00	7.237	MSD1 369, EIC=368.7:369.7
C10 Surrogate	722482.75	564.02	8.116	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0032

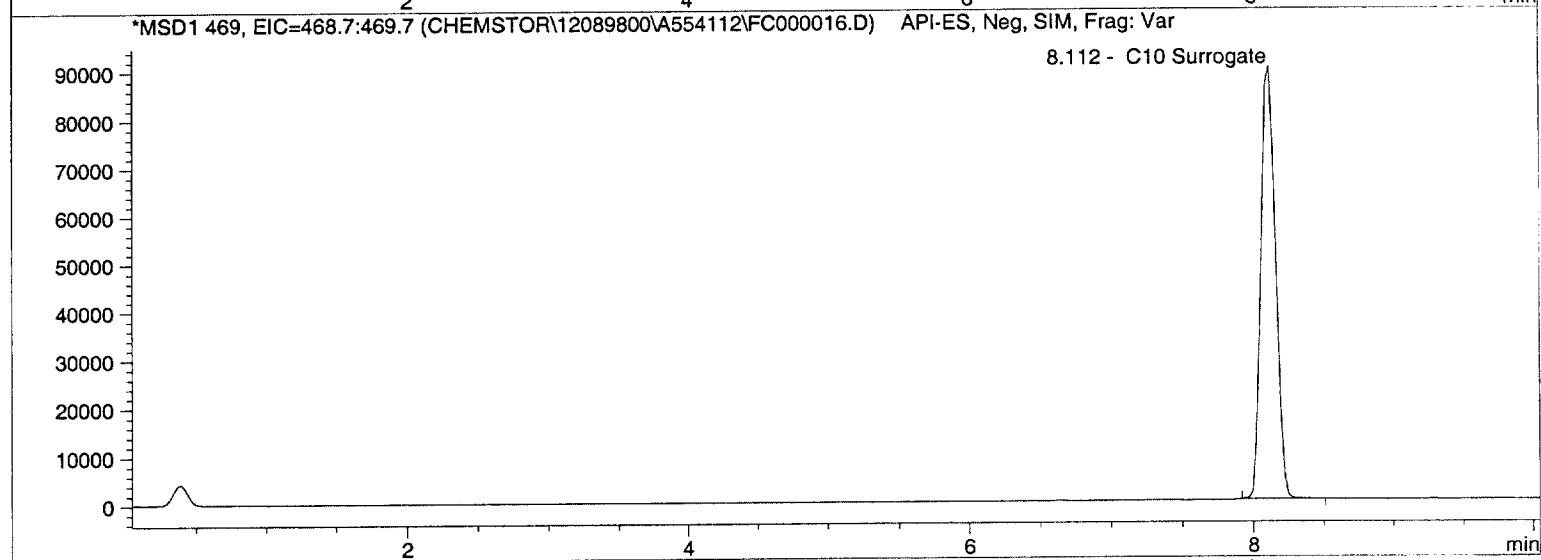
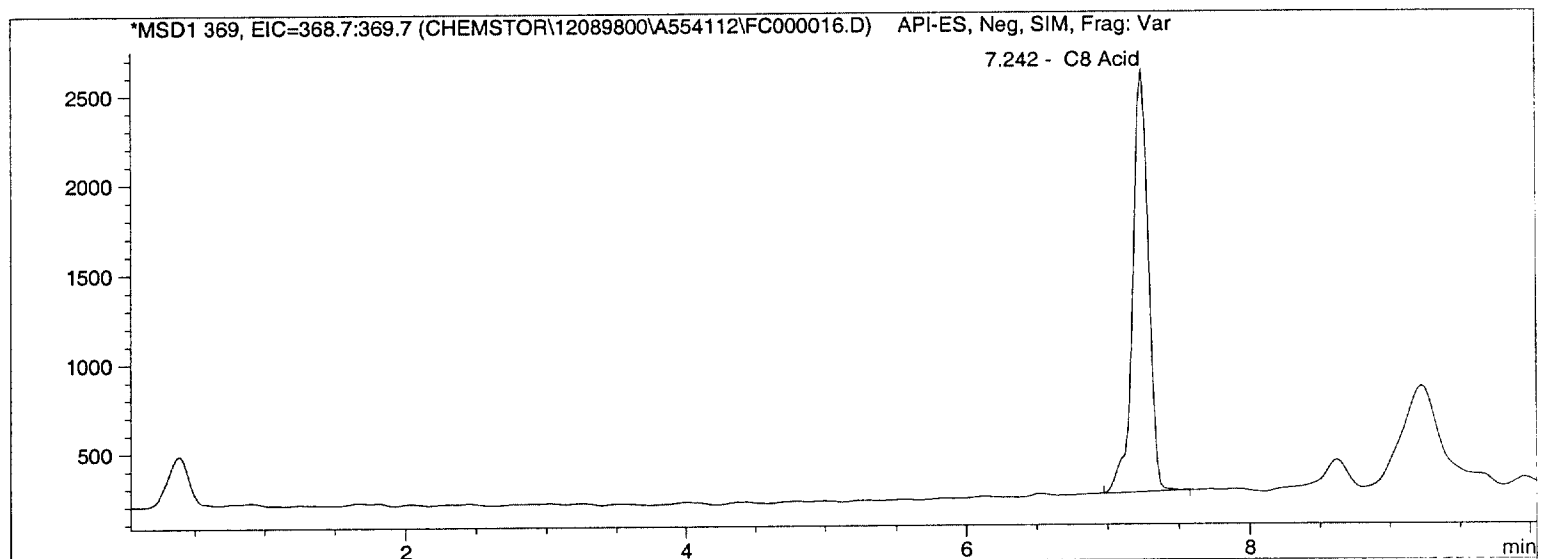
Sample Info:

Data file :C:\HPCHEM\1\DATA\Chemstor\12089800\A554112\FC000016.D

```
=====
Injection Date : 1/22/04      8:31:39 PM      Seq Line   :      16
Acq Operator   : jmillier      Vial No.    :      17
Instrument     : PC00414       Inj. No.    :       1
Dilution      : 1             Inj. Vol.   :     5 µl
=====
```

```
Acq. Method    : FC8-10.M
Analysis Method : C:\HPCHEM\1\METHODS\012204.M
Last Changed   : 2/26/04      10:08:53 am
=====
```

LC/MS analysis of perfluorooctanoic acid.



Compound Name	Area	Amount	Meas. Ret. T	Signal Desc.
C8 Acid	18158.58	8.90	7.242	MSD1 369, EIC=368.7:369.7
C10 Surrogate	643424.06	496.50	8.112	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0033

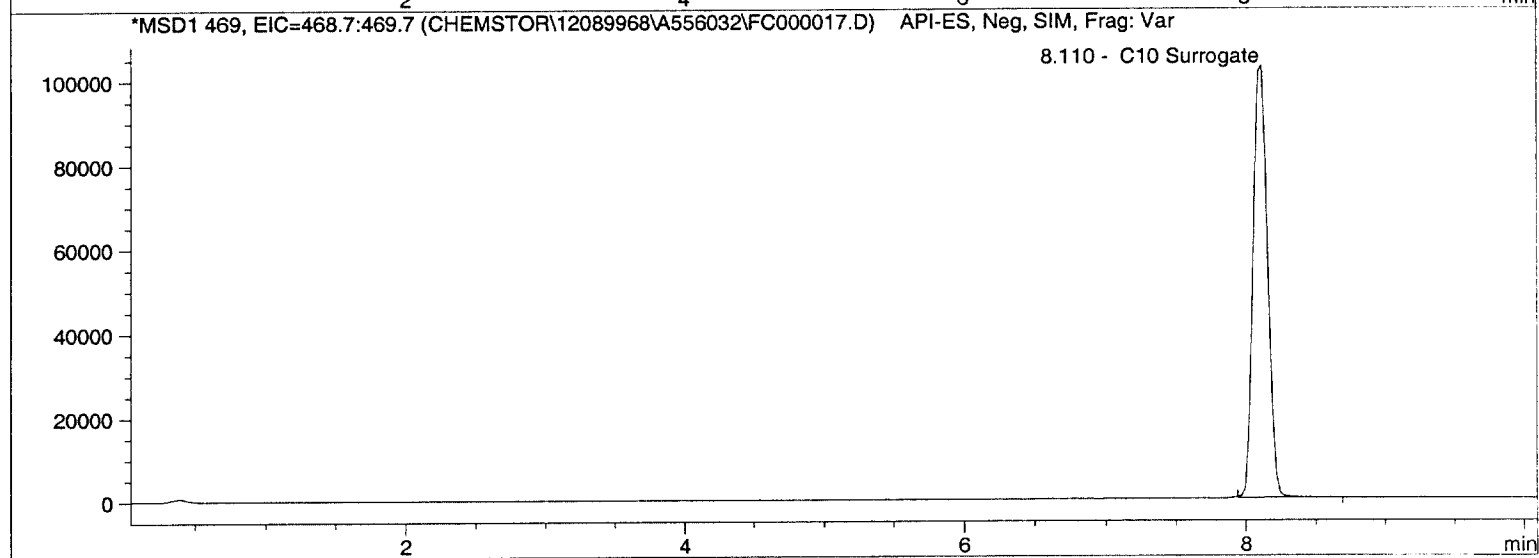
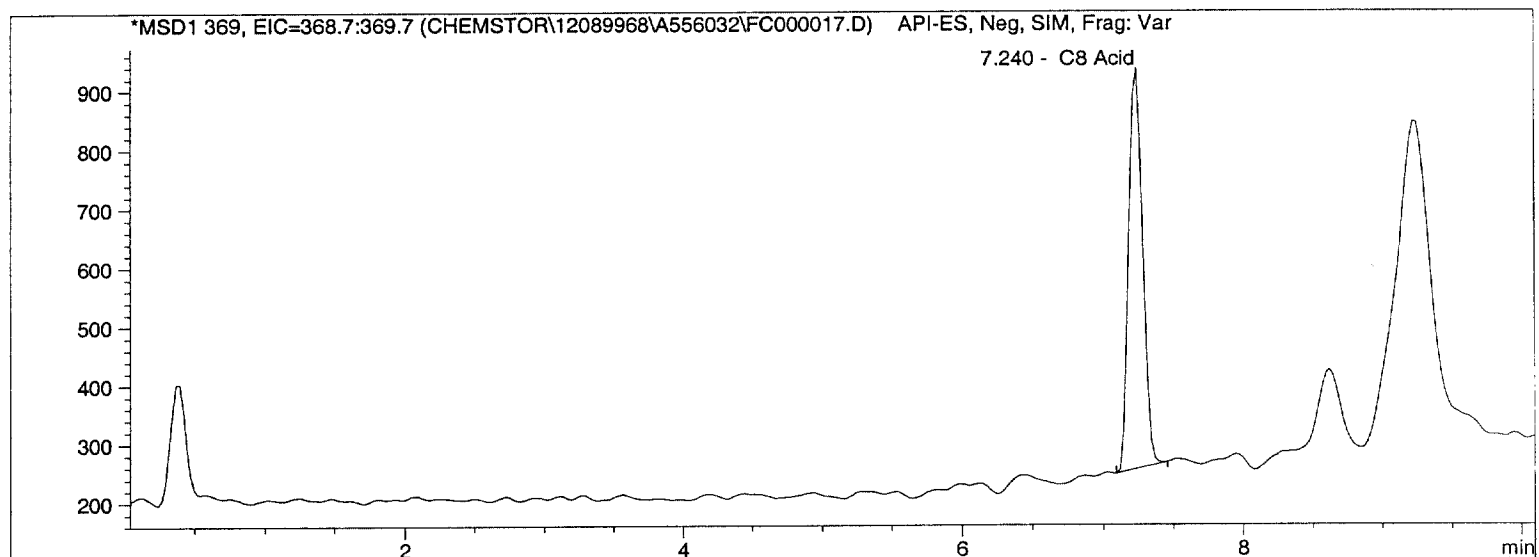
Sample Info:

Data file :C:\HPCHEM\1\DATA\Chemstor\12089968\A556032\FC000017.D

```
=====
Injection Date   : 1/22/04           8:47:16 PM   Seq Line   :           17
Acq Operator    : jmillier           Vial No.    :           18
Instrument      : PC00414            Inj. No.    :            1
Dilution       : 1                  Inj. Vol.   :           5 µl
=====
```

```
Acq. Method     : FC8-10.M
Analysis Method : C:\HPCHEM\1\METHODS\012204.M
Last Changed    : 2/26/04           10:08:53 am
=====
```

LC/MS analysis of perfluorooctanoic acid.



Compound Name	Area	Amount	Meas. Ret. T	Signal Desc.
C8 Acid	4804.49	0.00	7.240	MSD1 369, EIC=368.7:369.7
C10 Surrogate	744889.56	583.15	8.110	MSD1 469, EIC=468.7:469.7

*** End of Report ***

Sample Name:L1668-10

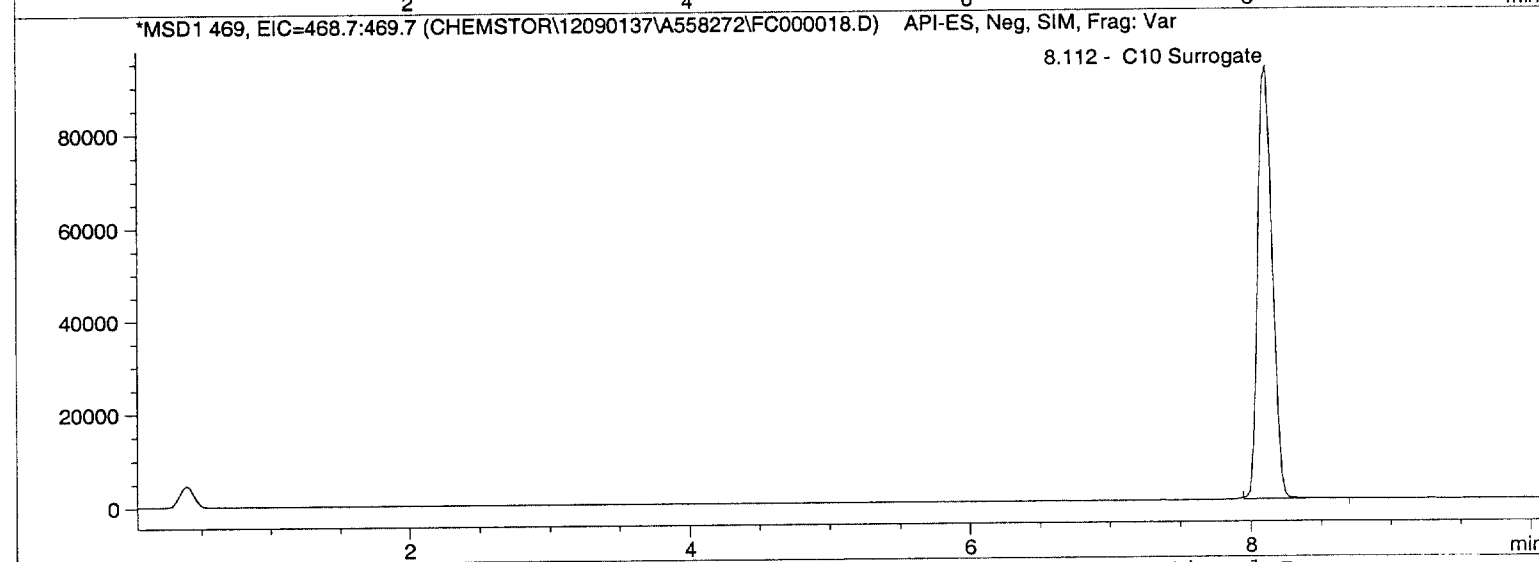
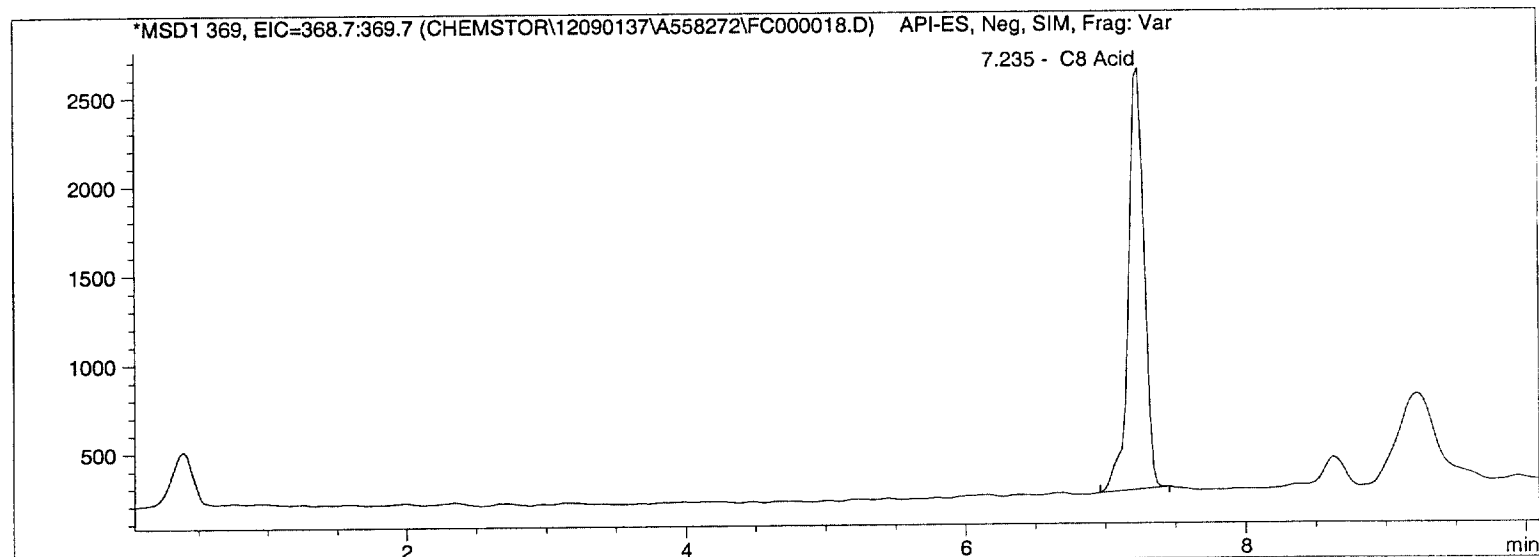
Sample Info:

Data file :C:\HPCHEM\1\DATA\Chemstor\12090137\A558272\FC000018.D

Injection Date : 1/22/04 9:02:55 PM Seq Line : 18
Acq Operator : jmillier Vial No. : 19
Instrument : PC00414 Inj. No. : 1
Dilution : 1 Inj. Vol. : 5 µl

Acq. Method : FC8-10.M
Analysis Method : C:\HPCHEM\1\METHODS\012204.M
Last Changed : 2/26/04 10:08:53 am

LC/MS analysis of perfluorooctanoic acid.



Compound Name	Area	Amount	Meas. Ret. T	Signal Desc.
C8 Acid	18462.77	9.52	7.235	MSD1 369, EIC=368.7:369.7
C10 Surrogate	667939.62	517.43	8.112	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0035

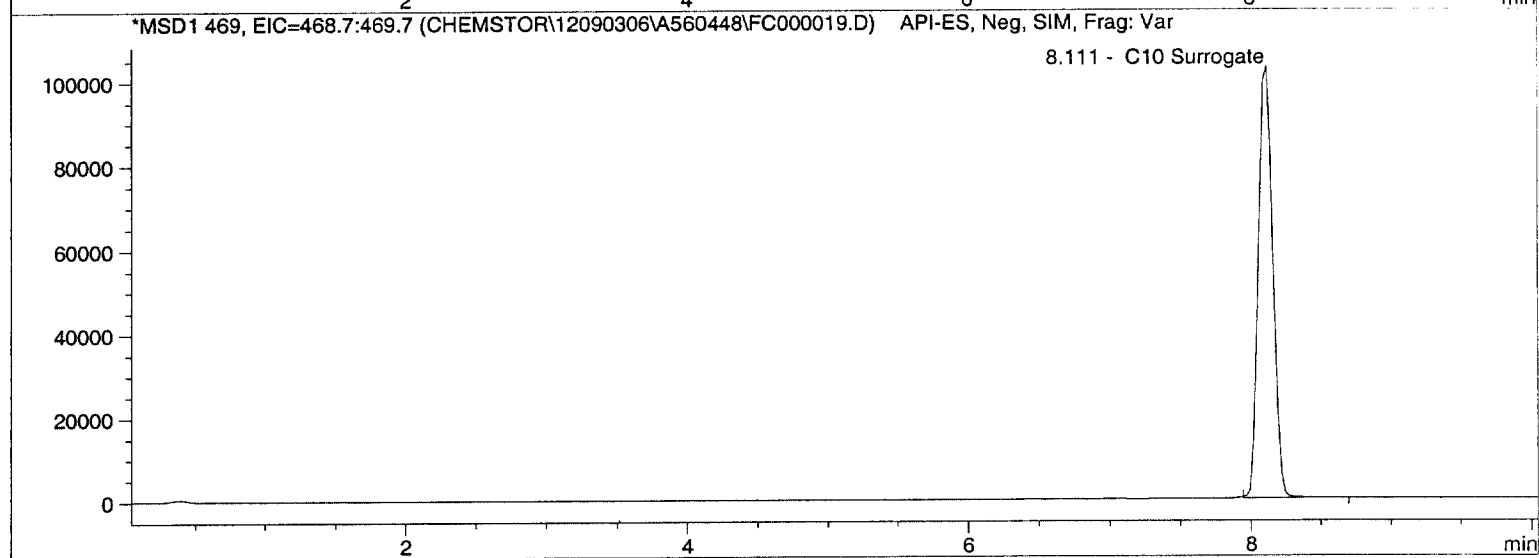
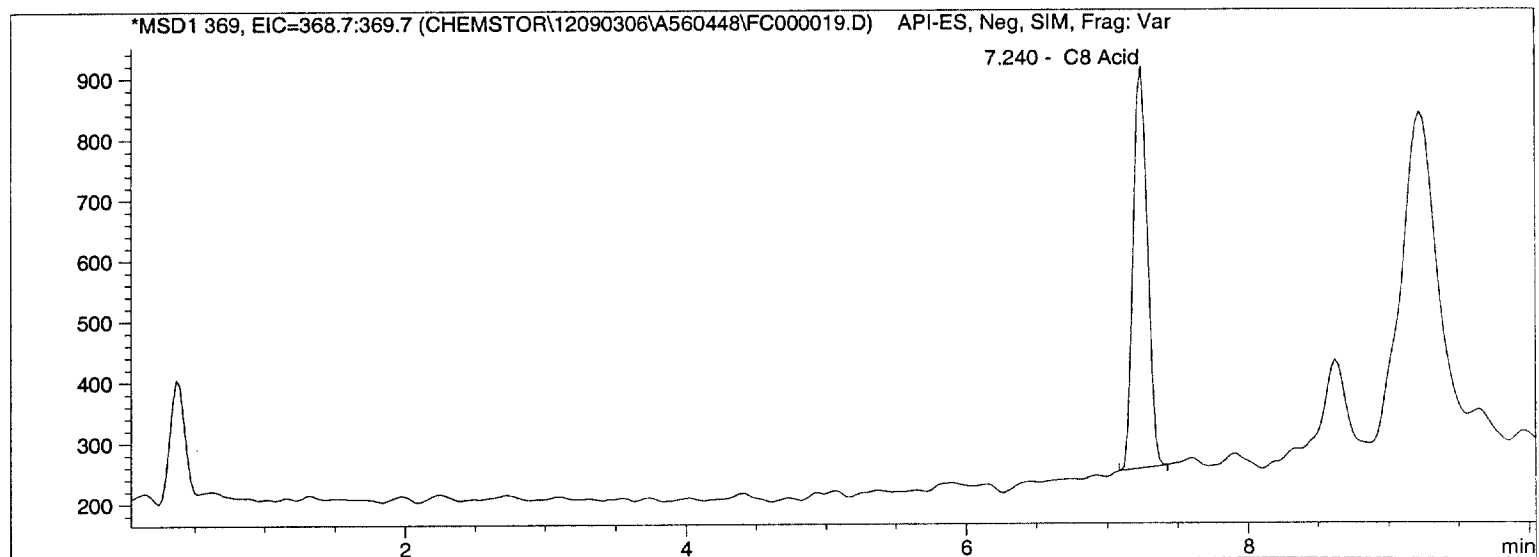
Sample Info:

Data file :C:\HPCHEM\1\DATA\Chemstor\12090306\A560448\FC000019.D

```
=====
Injection Date   : 1/22/04           9:18:34 PM   Seq Line   :       19
Acq Operator    : jmillier           Vial No.    :       20
Instrument      : PC00414            Inj. No.    :        1
Dilution       : 1                  Inj. Vol.   :       5 µl
=====
```

```
Acq. Method     : FC8-10.M
Analysis Method  : C:\HPCHEM\1\METHODS\012204.M
Last Changed    : 2/26/04           10:08:53 am
=====
```

LC/MS analysis of perfluorooctanoic acid.



Compound Name	Area	Amount	Meas. Ret. T	Signal Desc.
C8 Acid	4648.05	0.00	7.240	MSD1 369, EIC=368.7:369.7
C10 Surrogate	741114.31	579.93	8.111	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0036

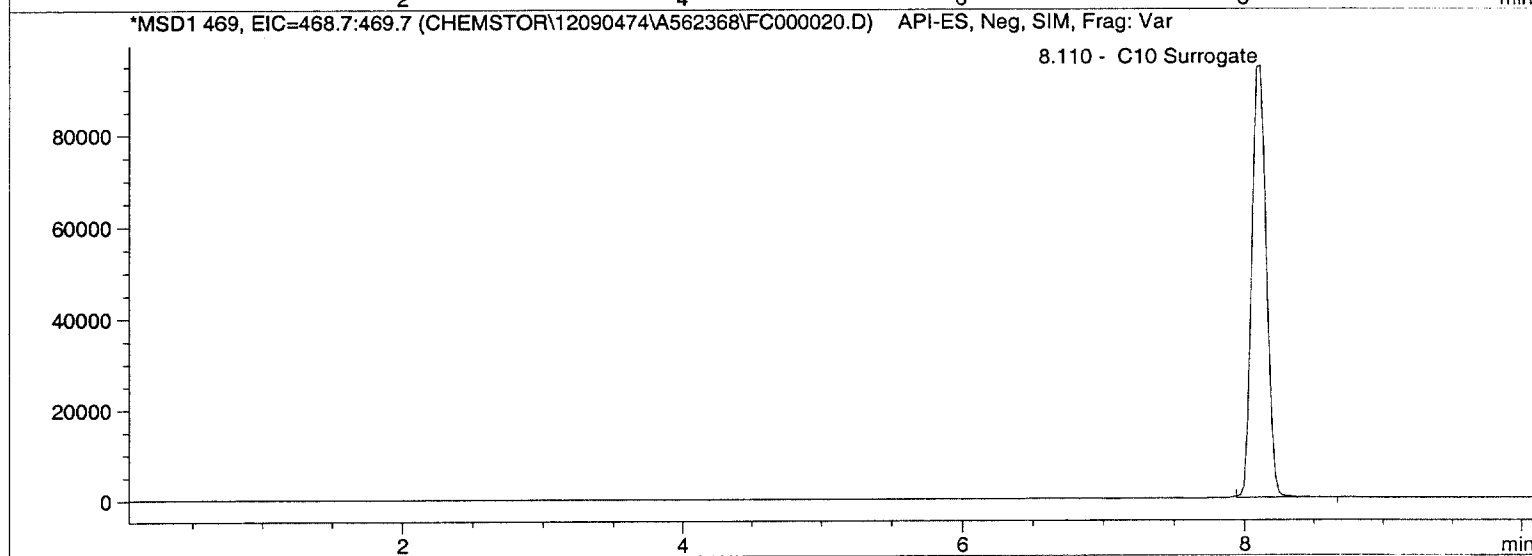
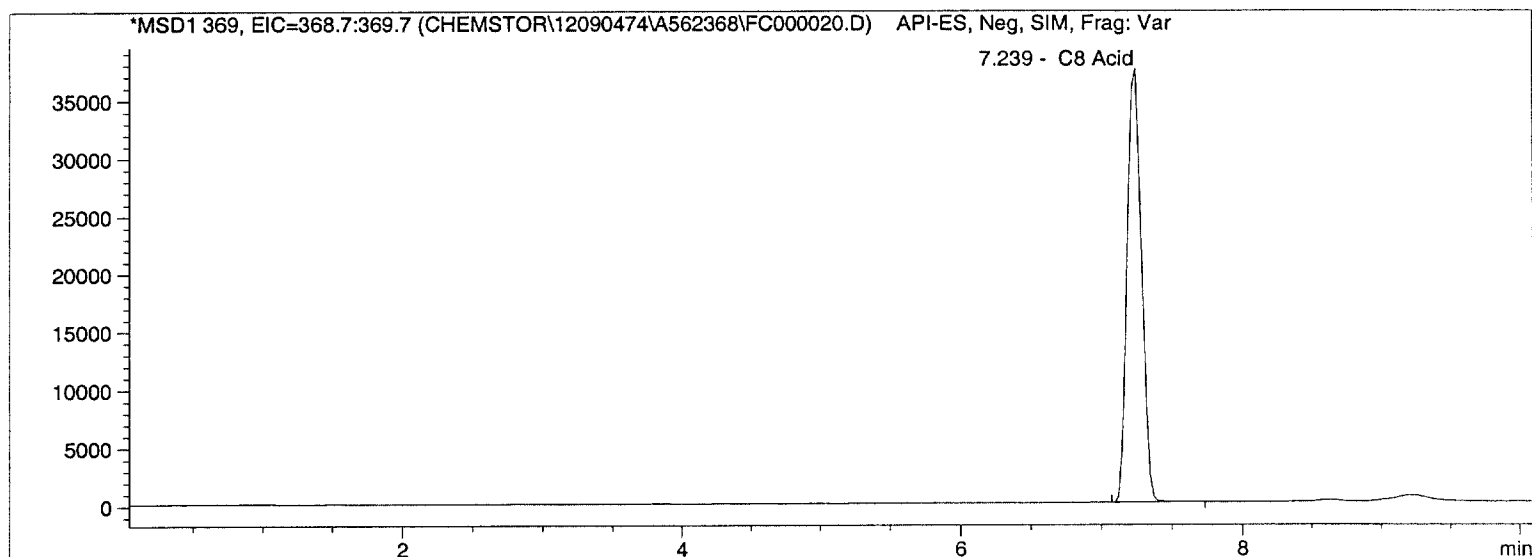
Sample Info:

Data file :C:\HPCHEM\1\DATA\Chemstor\12090474\A562368\FC000020.D

```
=====
Injection Date   : 1/22/04           9:34:09 PM   Seq Line   :           20
Acq Operator    : jmillier           Vial No.    :           4
Instrument       : PC00414           Inj. No.    :           1
Dilution        : 1                 Inj. Vol.   :          5 µl
=====
```

```
Acq. Method     : FC8-10.M
Analysis Method  : C:\HPCHEM\1\METHODS\012204.M
Last Changed    : 2/26/04           10:08:53 am
=====
```

LC/MS analysis of perfluorooctanoic acid.



Compound Name	Area	Amount	Meas. Ret. T	Signal Desc.
C8 Acid	266118.88	519.19	7.239	MSD1 369, EIC=368.7:369.7
C10 Surrogate	688464.50	534.96	8.110	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0037

Sample Name:solvent blank
Sample Info:

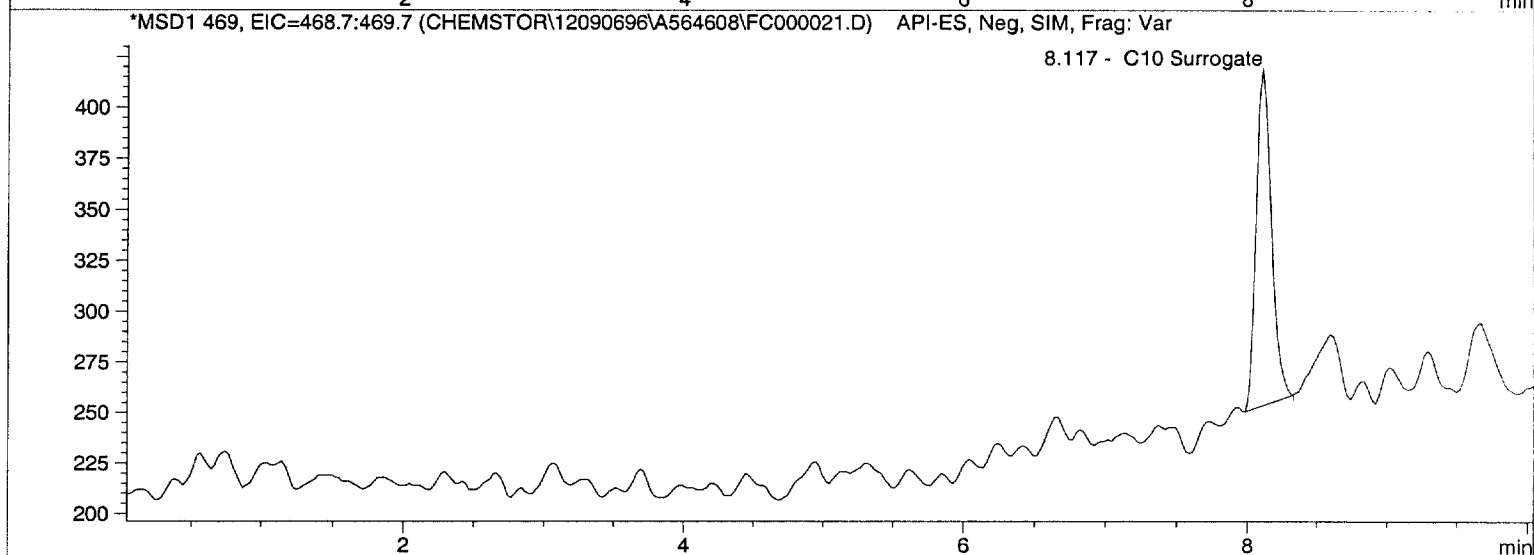
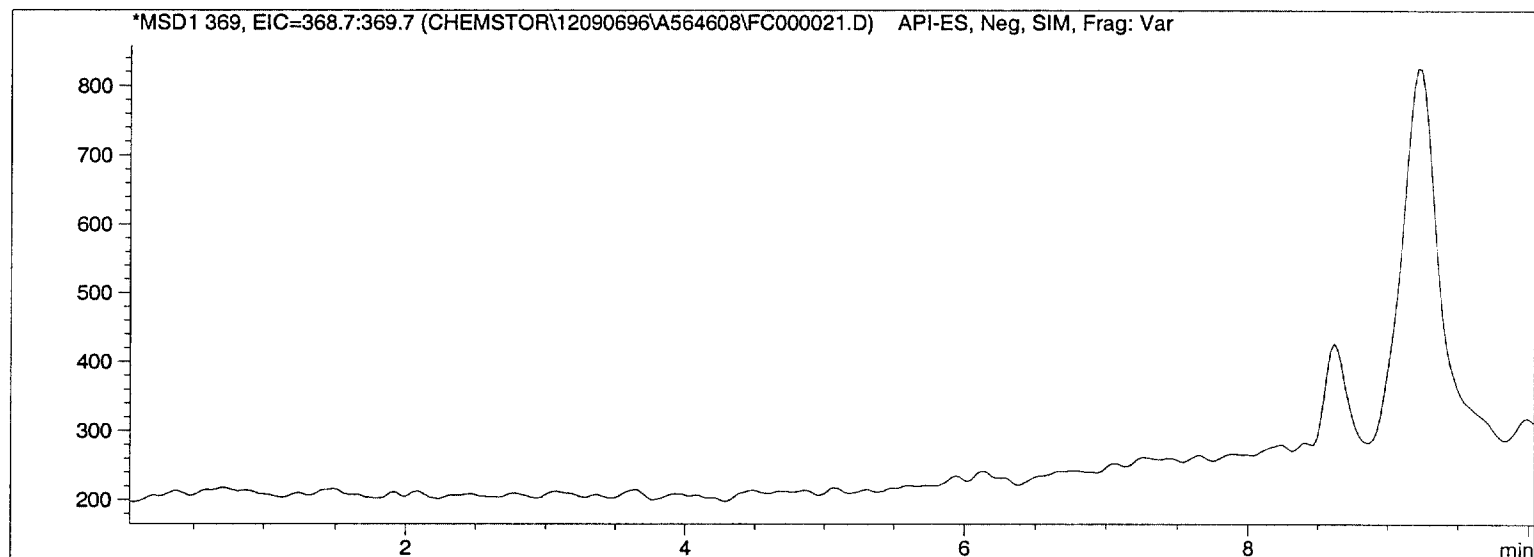
1

Data file :C:\HPCHEM\1\DATA\Chemstor\12090696\A564608\FC000021.D

=====
Injection Date : 1/22/04 9:49:37 PM Seq Line : 21
Acq Operator : jmiller Vial No. : 92
Instrument : PC00414 Inj. No. : 1
Dilution : 1 Inj. Vol. : 5 µl

Acq. Method : FC8-10.M
Analysis Method : C:\HPCHEM\1\METHODS\012204.M
Last Changed : 2/26/04 10:08:53 am

LC/MS analysis of perfluorooctanoic acid.



Compound Name	Area	Amount	Meas. Ret. T	Signal Desc.
C8 Acid	0.00	0.00	0.000	MSD1 369, EIC=368.7:369.7
C10 Surrogate	1266.68	0.00	8.117	MSD1 469, EIC=468.7:469.7

*** End of Report ***

Sample Info:

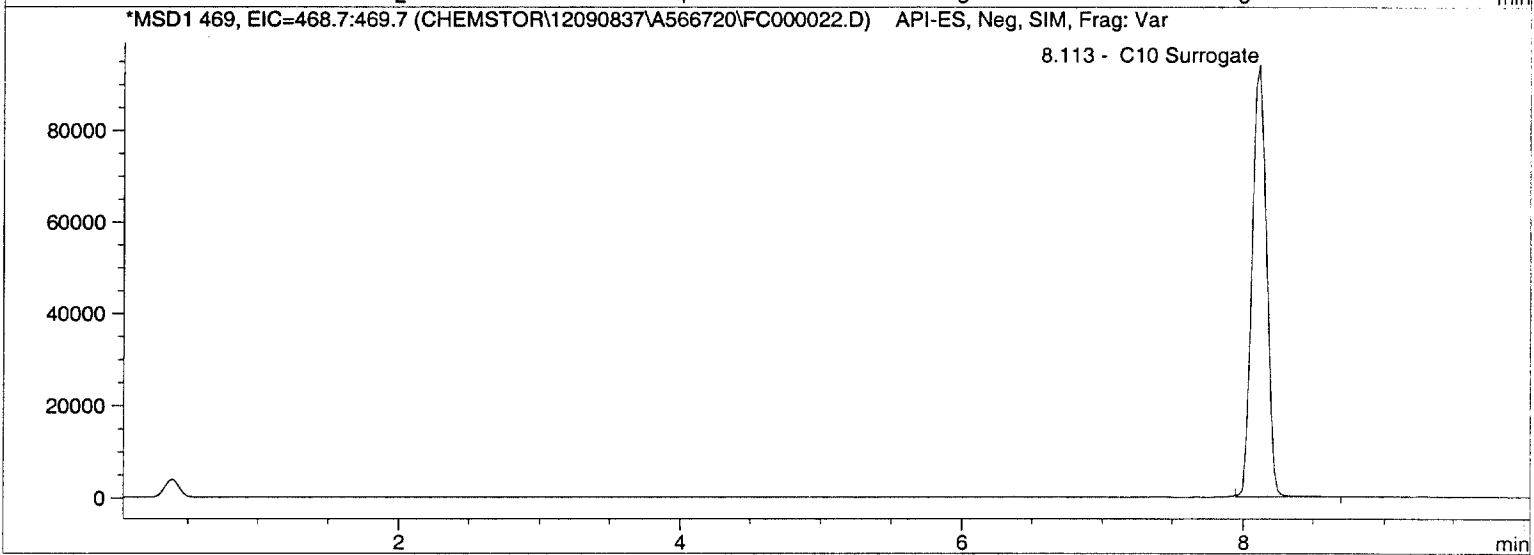
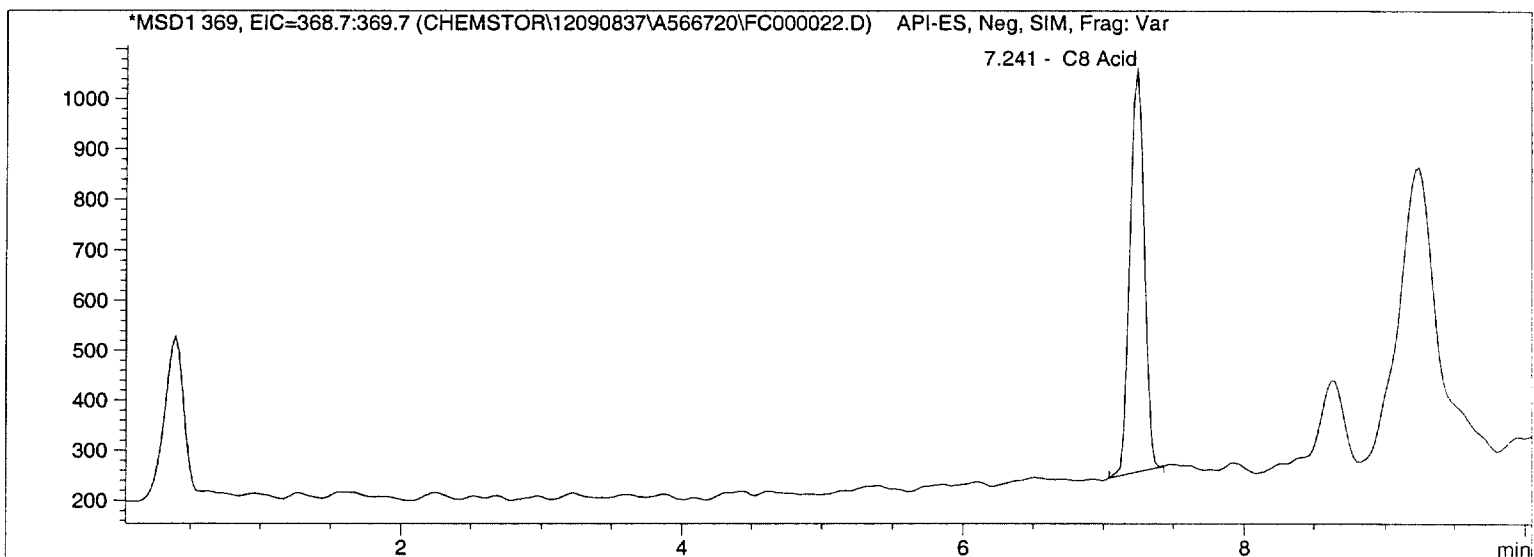
Data file :C:\HPCHEM\1\DATA\Chemstor\12090837\A566720\FC000022.D

=====

Injection Date	: 1/22/04	10:05:14 PM	Seq Line	:	22
Acq Operator	: jmillier		Vial No.	:	21
Instrument	: PC00414		Inj. No.	:	1
Dilution	: 1		Inj. Vol.	:	5 µl

Acq. Method : FC8-10.M
Analysis Method : C:\HPCHEM\1\METHODS\012204.M
Last Changed : 2/26/04 10:08:53 am

LC/MS analysis of perfluorooctanoic acid.



Compound Name	Area	Amount	Meas. Ret. T	Signal Desc.
C8 Acid	5714.06	0.00	7.241	MSD1 369, EIC=368.7:369.7
C10 Surrogate	669559.87	518.82	8.113	MSD1 469, EIC=468.7:469.7

*** End of Report ***

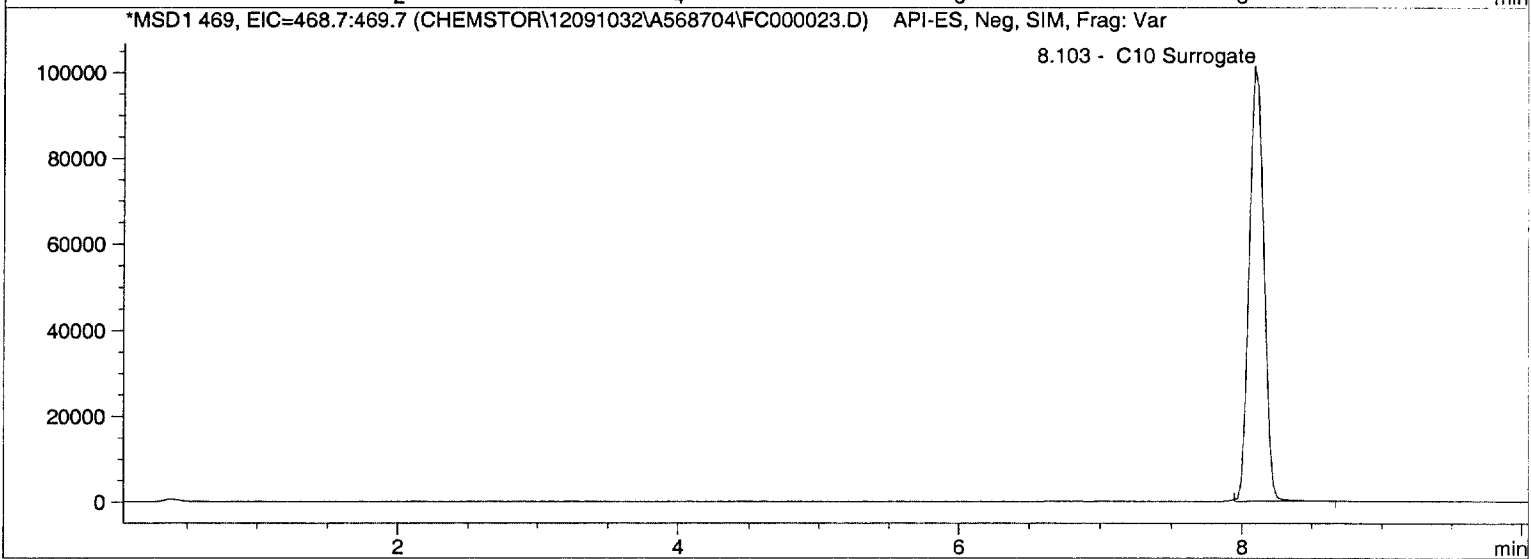
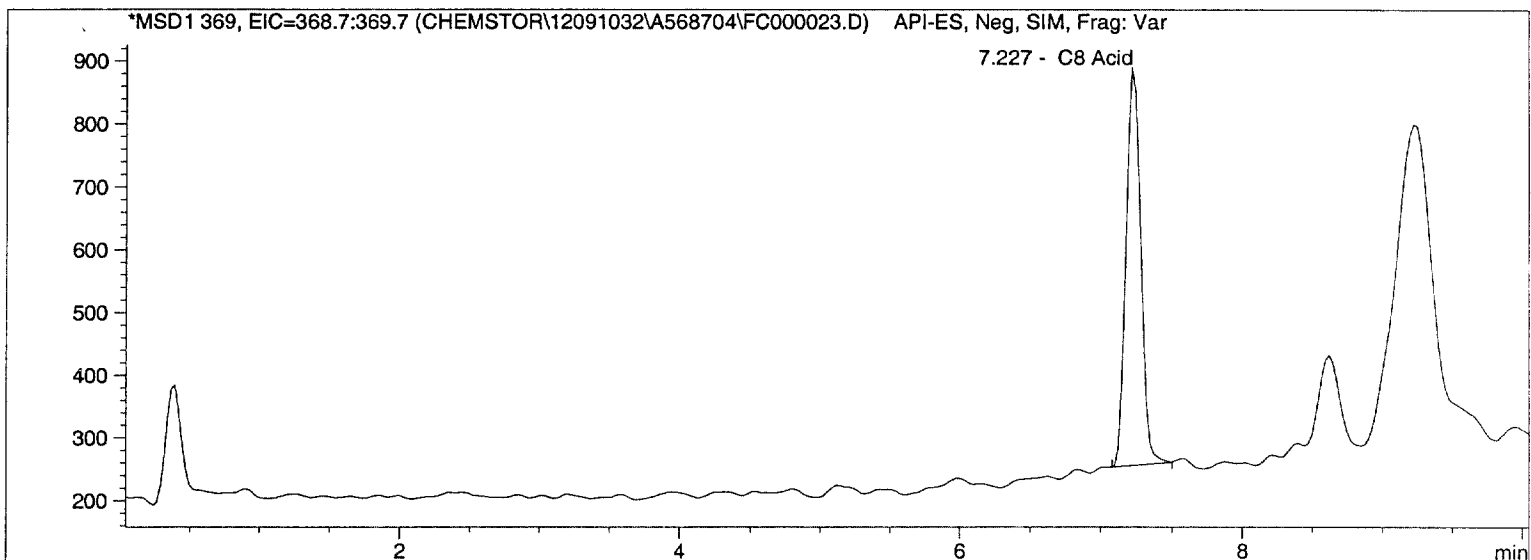
Sample Info:

Data file :C:\HPCHEM\1\DATA\Chemstor\12091032\A568704\FC000023.D

```
=====
Injection Date   : 1/22/04      10:20:46 PM   Seq Line   :      23
Acq Operator    : jmillers          Vial No.    :      22
Instrument       : PC00414          Inj. No.    :       1
Dilution        : 1                Inj. Vol.   :      5 µl

Acq. Method     : FC8-10.M
Analysis Method  : C:\HPCHEM\1\METHODS\012204.M
Last Changed    : 2/26/04      10:08:53 am
=====
```

LC/MS analysis of perfluorooctanoic acid.



Compound Name	Area	Amount	Meas. Ret. T	Signal Desc.
C8 Acid	4615.60	0.00	7.227	MSD1 369, EIC=368.7:369.7
C10 Surrogate	728402.94	569.07	8.103	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0040

Sample Info:

Data file :C:\HPCHEM\1\DATA\Chemstor\12091175\A571008\FC000024.D

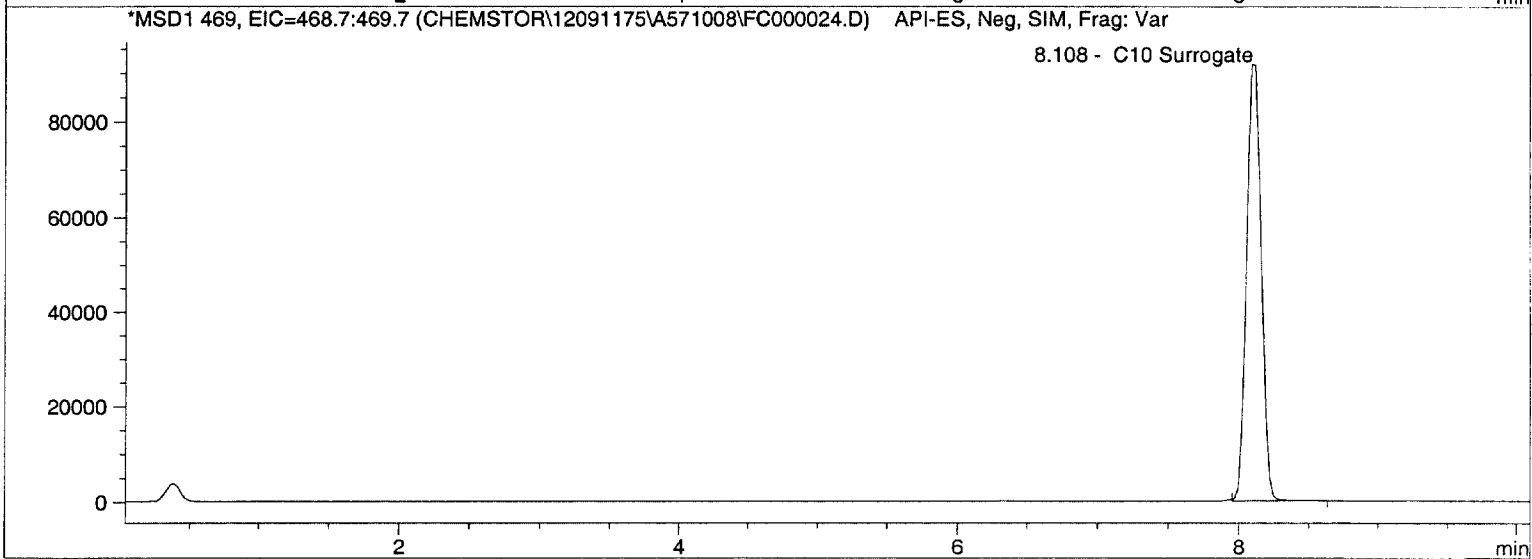
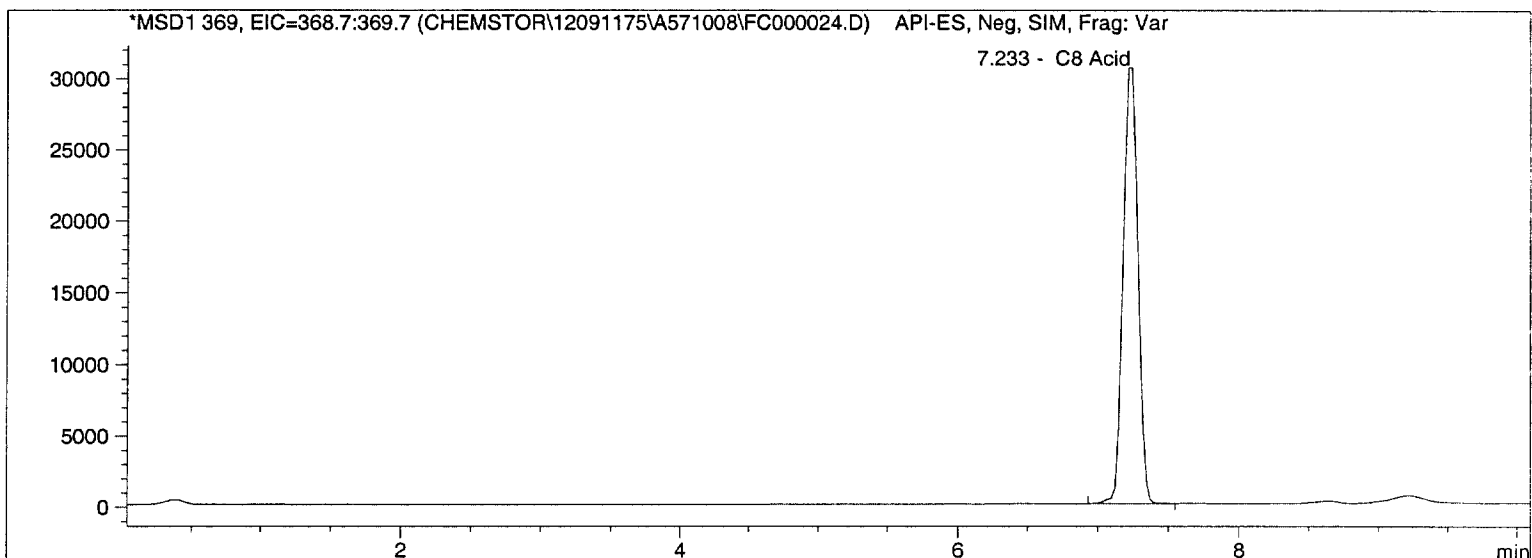
```
=====
Injection Date   : 1/22/04           10:36:21 PM   Seq Line   :           24
Acq Operator    : jmillier           Vial No.    :           23
Instrument      : PC00414            Inj. No.    :           1
Dilution       : 1                  Inj. Vol.   :           5 µl
=====
```

Acq. Method : FC8-10.M

Analysis Method : C:\HPCHEM\1\METHODS\012204.M

Last Changed : 2/26/04 10:08:53 am

LC/MS analysis of perfluorooctanoic acid.



Compound Name	Area	Amount	Meas. Ret. T	Signal Desc.
C8 Acid	224633.11	433.81	7.233	MSD1 369, EIC=368.7:369.7
C10 Surrogate	670680.00	519.77	8.108	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0041

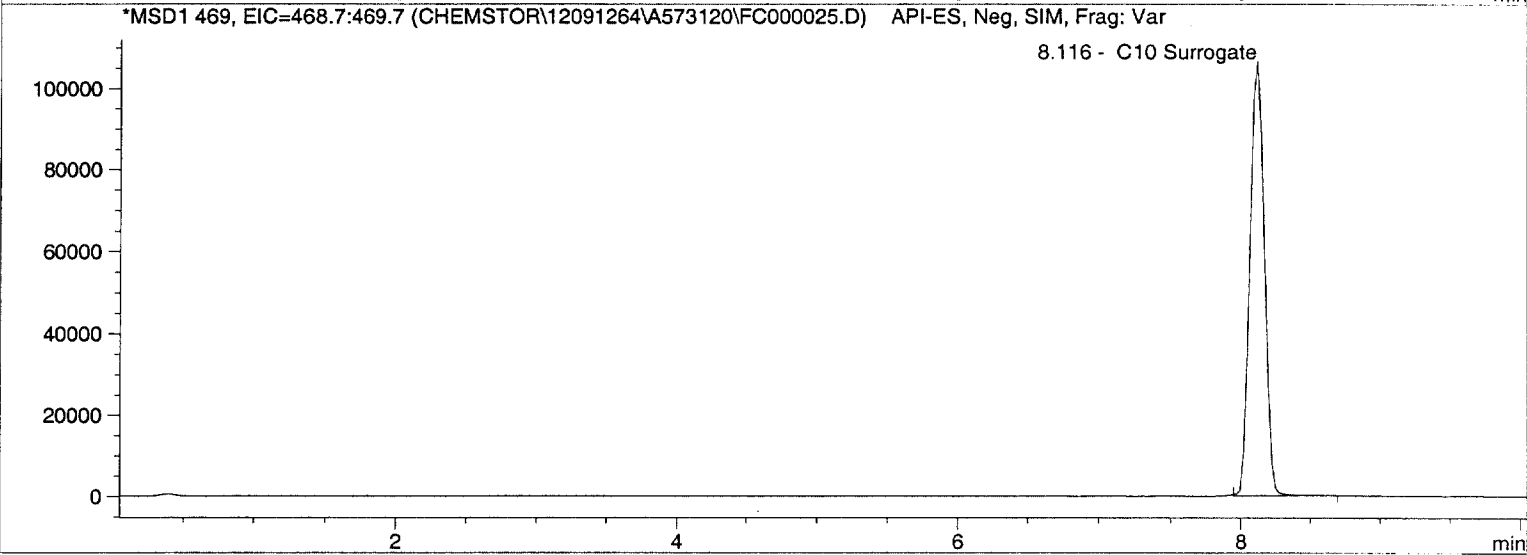
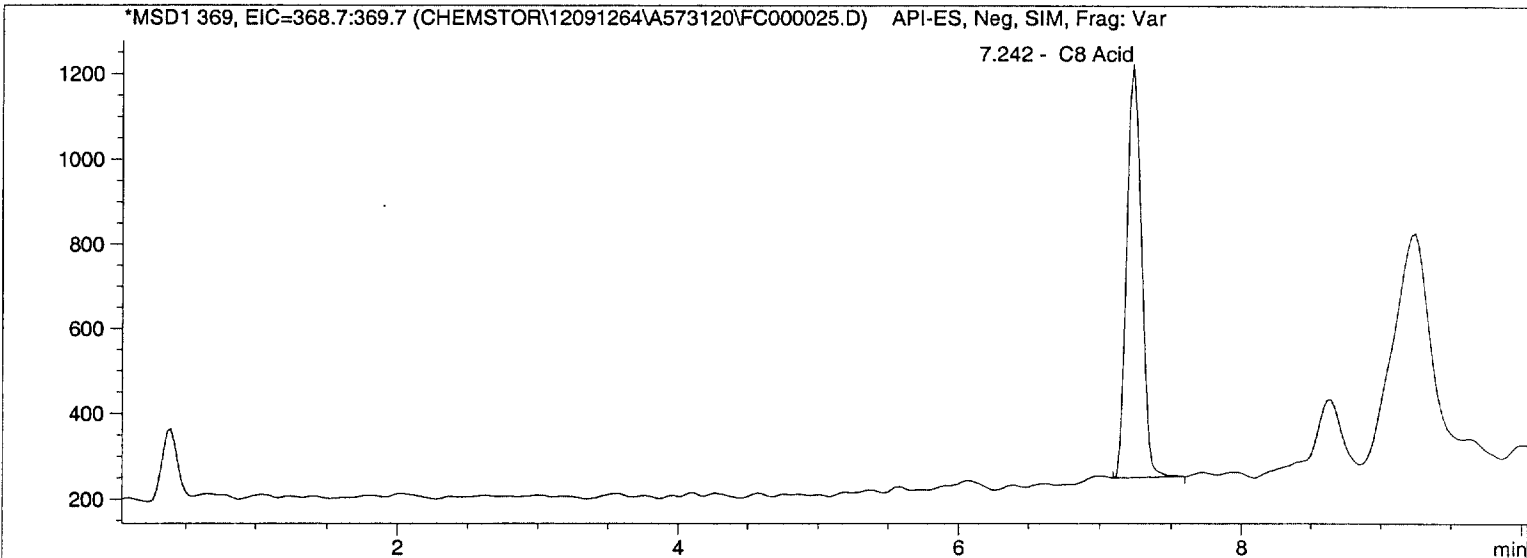
Data file :C:\HPCHEM\1\DATA\Chemstor\12091264\A573120\FC000025.D

=====

Injection Date	: 1/22/04	10:51:57 PM	Seq Line	:	25
Acq Operator	: jmillier		Vial No.	:	24
Instrument	: PC00414		Inj. No.	:	1
Dilution	: 1		Inj. Vol.	:	5 µl

Acq. Method : FC8-10.M
Analysis Method : C:\HPCHEM\1\METHODS\012204.M
Last Changed : 2/26/04 10:08:53 am

LC/MS analysis of perfluorooctanoic acid.



Compound Name	Area	Amount	Meas. Ret. T	Signal Desc.
C8 Acid	6979.76	0.00	7.242	MSD1 369, EIC=368.7:369.7
C10 Surrogate	755673.00	592.36	8.116	MSD1 469, EIC=468.7:469.7

*** End of Report ***

Sample Info:

Data file :C:\HPCHEM\1\DATA\Chemstor\12091353\A575168\FC000026.D

```
=====
Injection Date   : 1/22/04           11:07:32 PM   Seq Line   :           26
Acq Operator    : jmillier           Vial No.    :           25
Instrument       : PC00414           Inj. No.    :            1
Dilution        : 1                 Inj. Vol.   :           5 µl
=====
```

Acq. Method : FC8-10.M

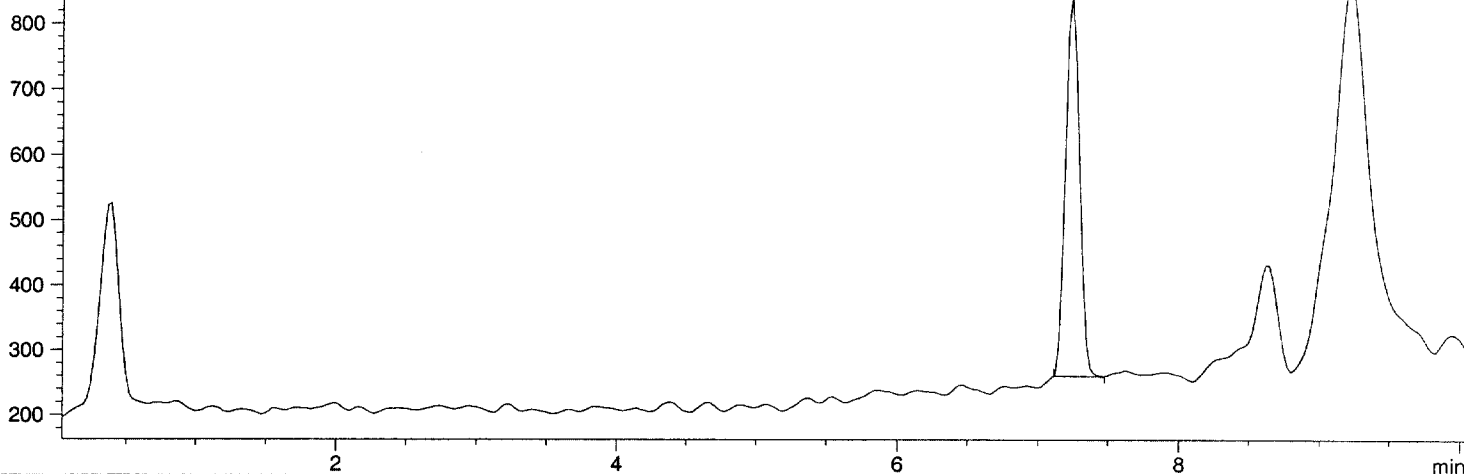
Analysis Method : C:\HPCHEM\1\METHODS\012204.M

Last Changed : 2/26/04 10:08:53 am

LC/MS analysis of perfluorooctanoic acid.

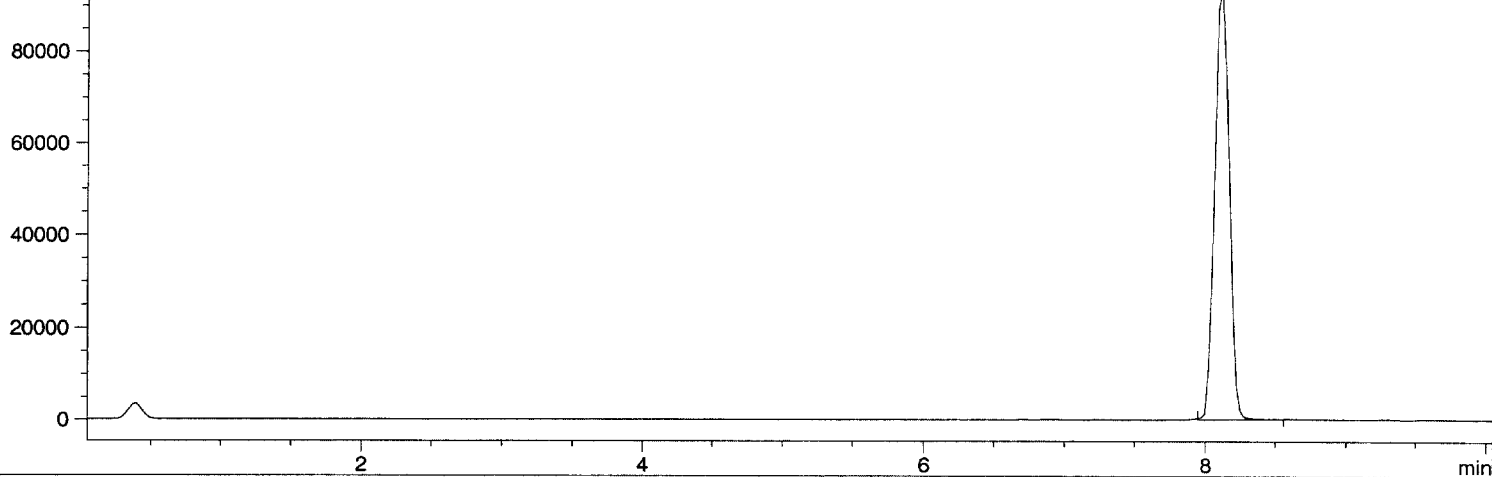
*MSD1 369, EIC=368.7:369.7 (CHEMSTOR\12091353\A575168\FC000026.D) API-ES, Neg, SIM, Frag: Var

7.245 - C8 Acid



*MSD1 469, EIC=468.7:469.7 (CHEMSTOR\12091353\A575168\FC000026.D) API-ES, Neg, SIM, Frag: Var

8.116 - C10 Surrogate



Compound Name	Area	Amount	Meas. Ret. T	Signal Desc.
C8 Acid	4094.76	0.00	7.245	MSD1 369, EIC=368.7:369.7
C10 Surrogate	675171.81	523.61	8.116	MSD1 469, EIC=468.7:469.7

*** End of Report ***

U043

Sample Info:

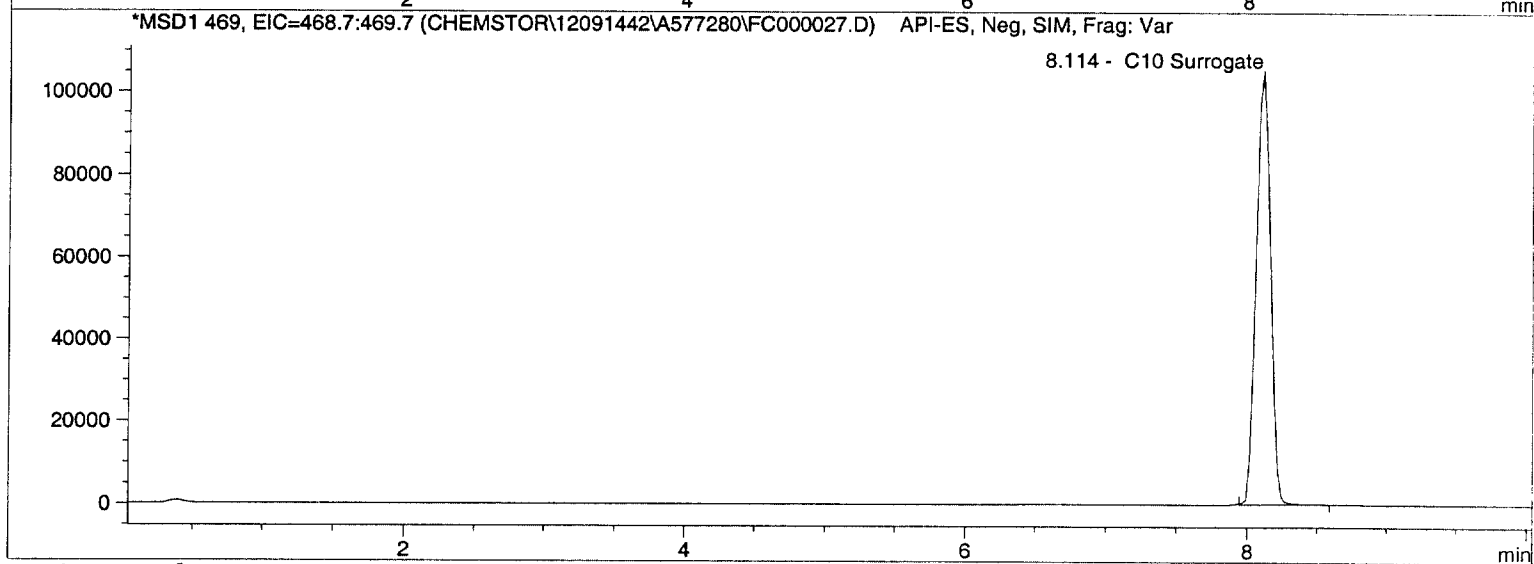
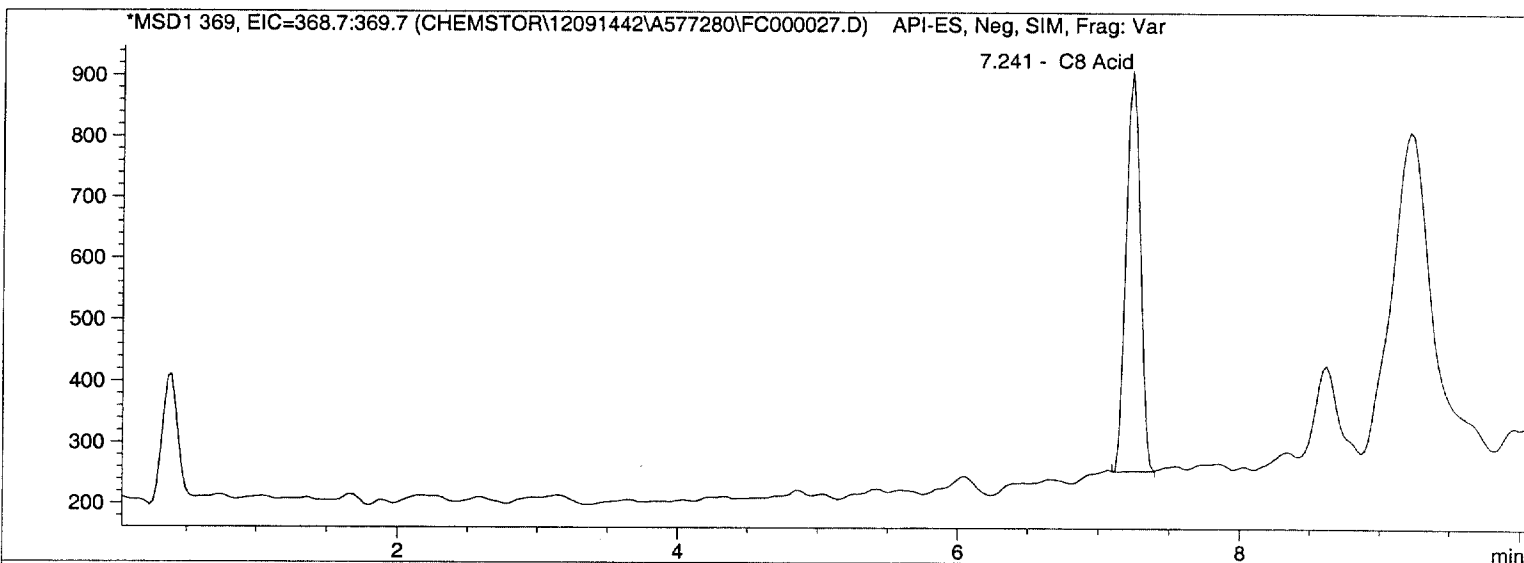
Data file :C:\HPCHEM\1\DATA\Chemstor\12091442\A577280\FC000027.D

=====

Injection Date	: 1/22/04	11:23:07 PM	Seq Line	:	27
Acq Operator	: jmillier		Vial No.	:	26
Instrument	: PC00414		Inj. No.	:	1
Dilution	: 1		Inj. Vol.	:	5 µl

Acq. Method : FC8-10.M
Analysis Method : C:\HPCHEM\1\METHODS\012204.M
Last Changed : 2/26/04 10:08:53 am

LC/MS analysis of perfluorooctanoic acid.



Compound Name	Area	Amount	Meas. Ret. T	Signal Desc.
C8 Acid	4583.95	0.00	7.241	MSD1 369, EIC=368.7:369.7
C10 Surrogate	746394.00	584.44	8.114	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0044

Sample Name:STD 500 ppb
Sample Info:

1

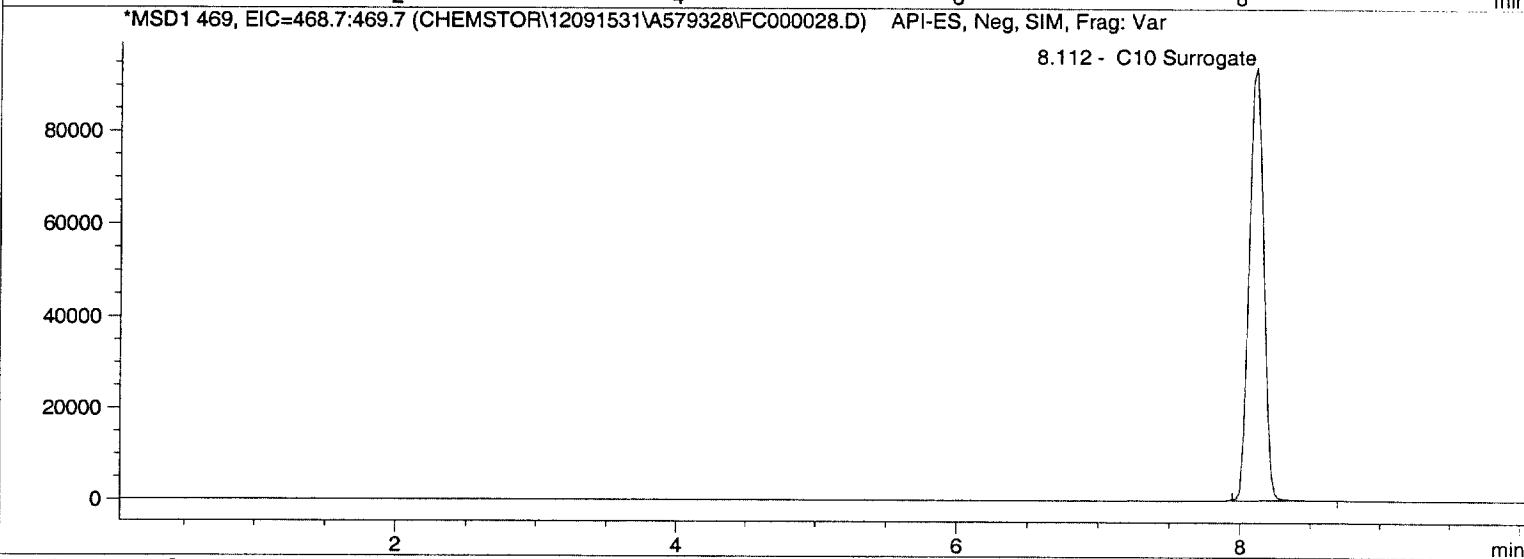
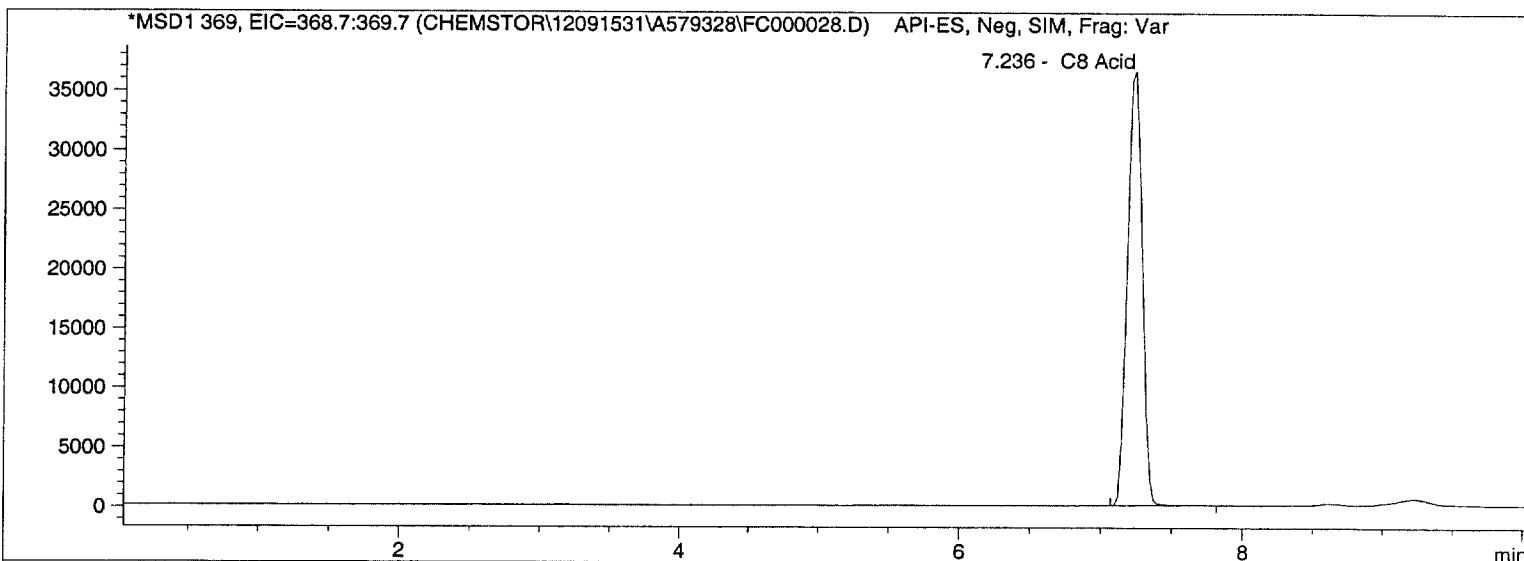
Data file :C:\HPCHEM\1\DATA\Chemstor\12091531\A579328\FC000028.D

=====

Injection Date	: 1/22/04	11:38:43 PM	Seq Line	:	28
Acq Operator	: jmillier		Vial No.	:	4
Instrument	: PC00414		Inj. No.	:	1
Dilution	: 1		Inj. Vol.	:	5 µl

Acq. Method : FC8-10.M
Analysis Method : C:\HPCHEM\1\METHODS\012204.M
Last Changed : 2/26/04 10:08:53 am

LC/MS analysis of perfluorooctanoic acid.



Compound Name	Area	Amount	Meas. Ret. T	Signal Desc.
C8 Acid	262699.81	512.15	7.236	MSD1 369, EIC=368.7:369.7
C10 Surrogate	676727.56	524.94	8.112	MSD1 469, EIC=468.7:469.7

*** End of Report ***

Sample Name:solvent blank
Sample Info:

1

Data file :C:\HPCHEM\1\DATA\Chemstor\12091618\A581376\FC000029.D

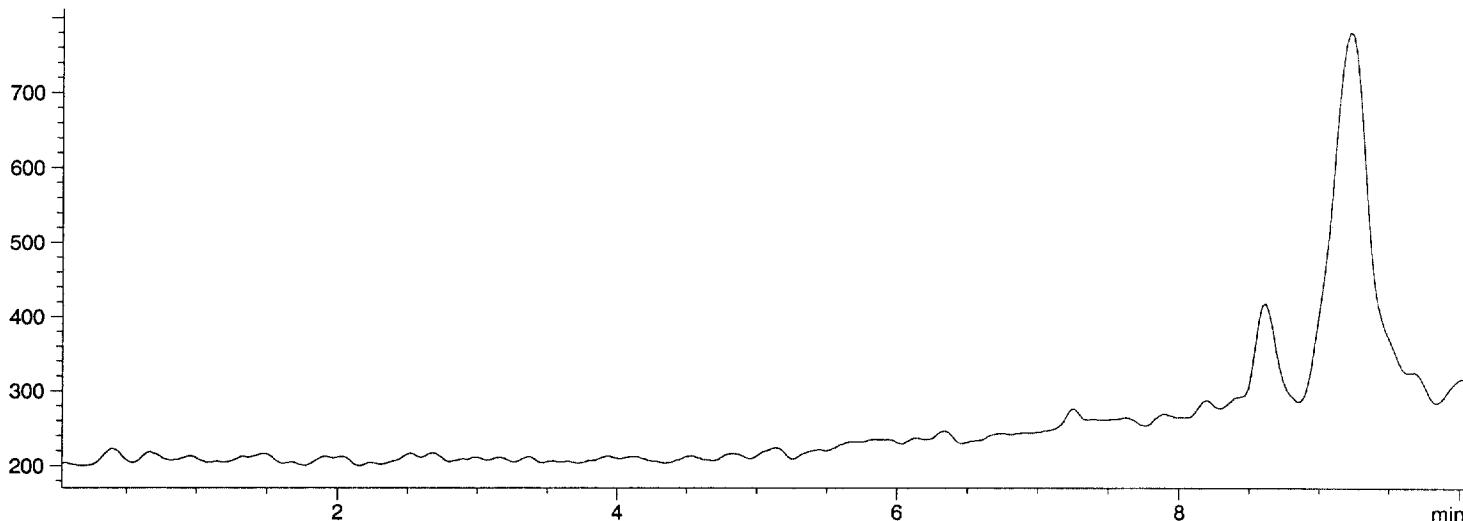
=====

Injection Date	: 1/22/04	11:54:11 PM	Seq Line	:	29
Acq Operator	: jmillier		Vial No.	:	92
Instrument	: PC00414		Inj. No.	:	1
Dilution	: 1		Inj. Vol.	:	5 µl

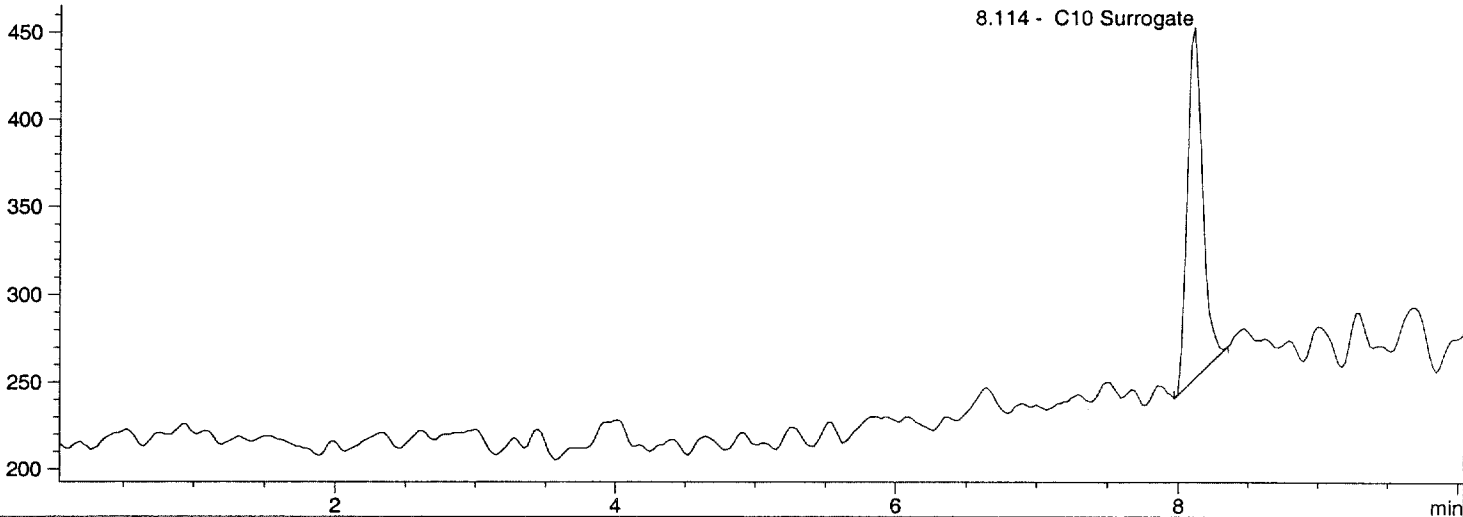
Acq. Method : FC8-10.M
Analysis Method : C:\HPCHEM\1\METHODS\012204.M
Last Changed : 2/26/04 10:08:53 am

LC/MS analysis of perfluorooctanoic acid.

*MSD1 369, EIC=368.7:369.7 (CHEMSTOR\12091618\A581376\FC000029.D) API-ES, Neg, SIM, Frag: Var



*MSD1 469, EIC=468.7:469.7 (CHEMSTOR\12091618\A581376\FC000029.D) API-ES, Neg, SIM, Frag: Var



Compound Name	Area	Amount	Meas. Ret. T	Signal Desc.
C8 Acid	0.00	0.00	0.000	MSD1 369, EIC=368.7:369.7
C10 Surrogate	1524.46	0.00	8.114	MSD1 469, EIC=468.7:469.7

*** End of Report ***

UU46

Sample Name:STD 50 ppb

Sample Info:

1

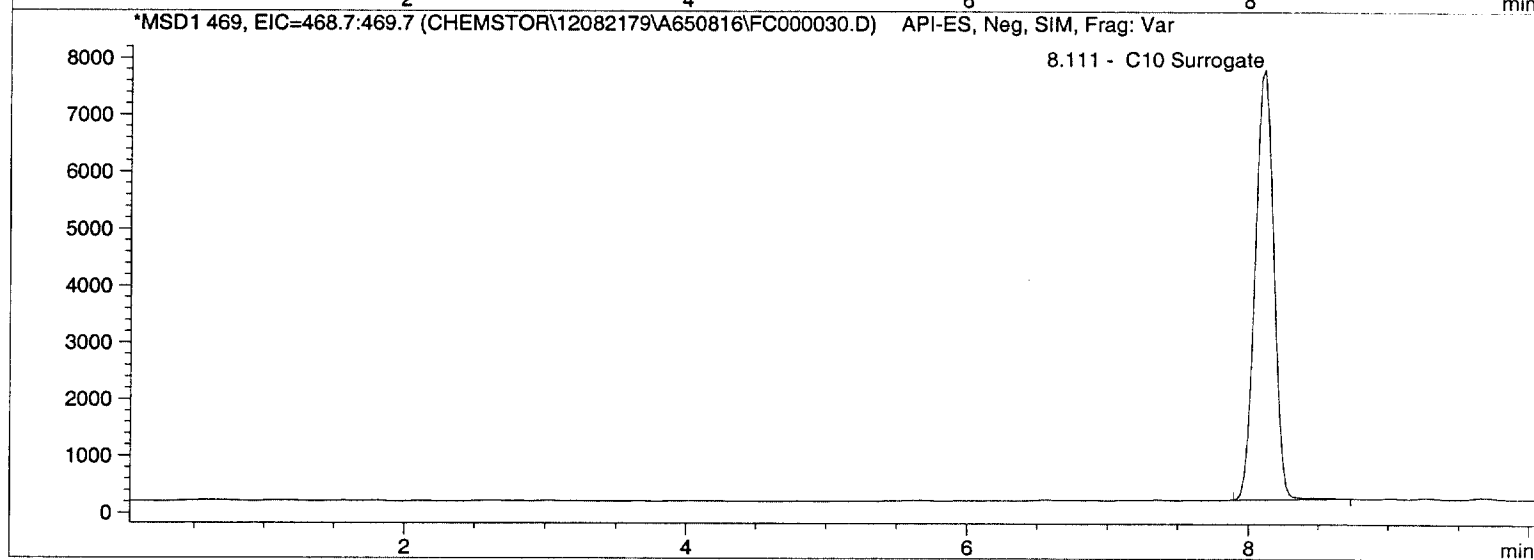
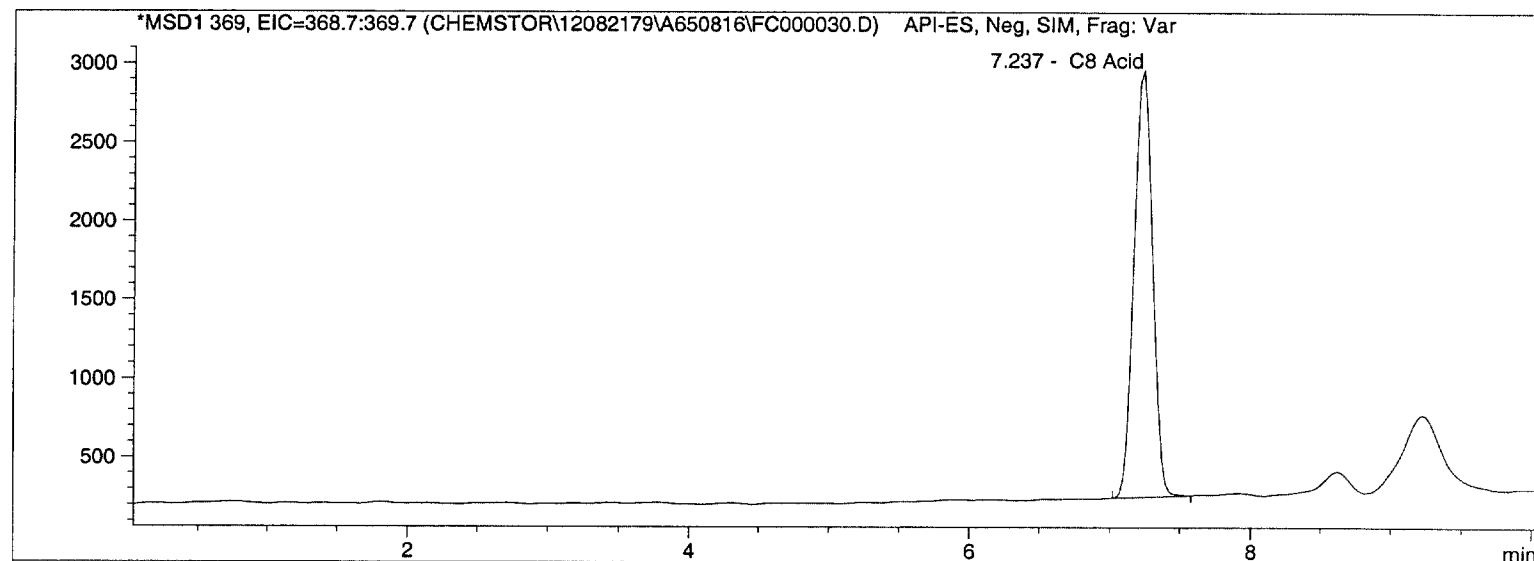
Data file :C:\HPCHEM\1\DATA\Chemstor\12082179\A650816\FC000030.D

=====

Injection Date	: 1/23/04	12:09:44 AM	Seq Line	:	30
Acq Operator	: jmillier		Vial No.	:	1
Instrument	: PC00414		Inj. No.	:	1
Dilution	: 1		Inj. Vol.	:	5 µl

Acq. Method : FC8-10.M
Analysis Method : C:\HPCHEM\1\METHODS\012204.M
Last Changed : 2/26/04 10:08:53 am

LC/MS analysis of perfluorooctanoic acid.



Compound Name	Area	Amount	Meas. Ret. T	Signal Desc.
C8 Acid	24847.55	22.66	7.237	MSD1 369, EIC=368.7:369.7
C10 Surrogate	70223.10	6.95	8.111	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0047

Sample Name:STD 100 ppb
Sample Info:

1

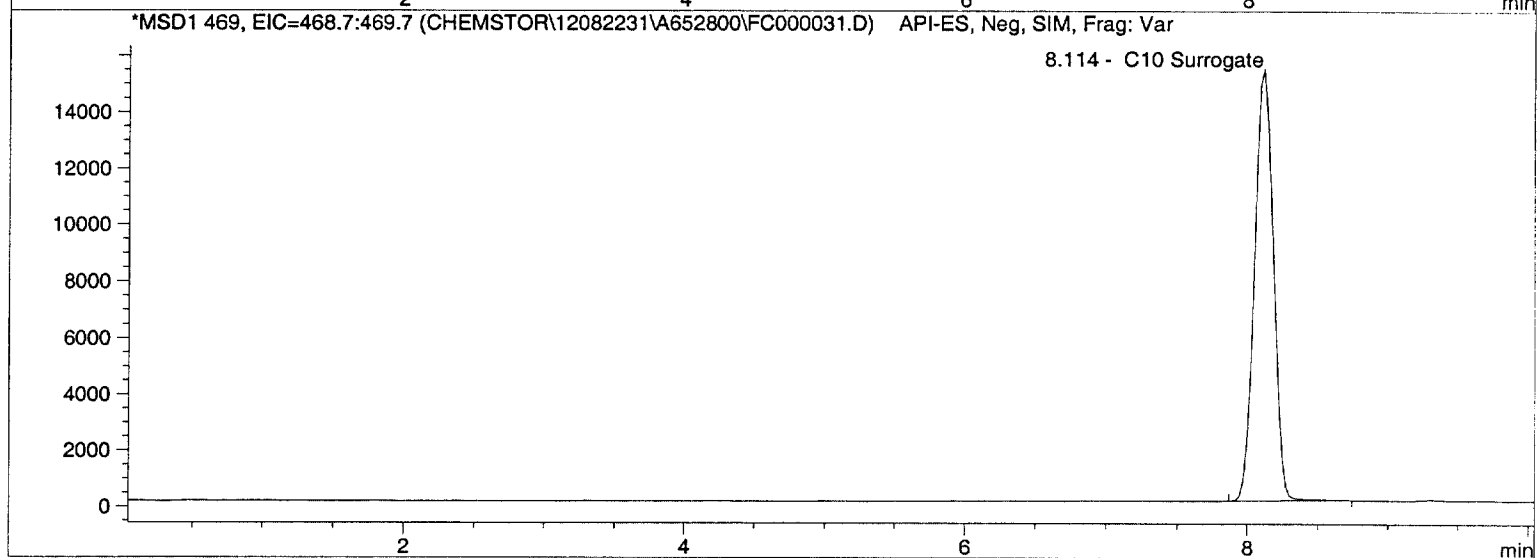
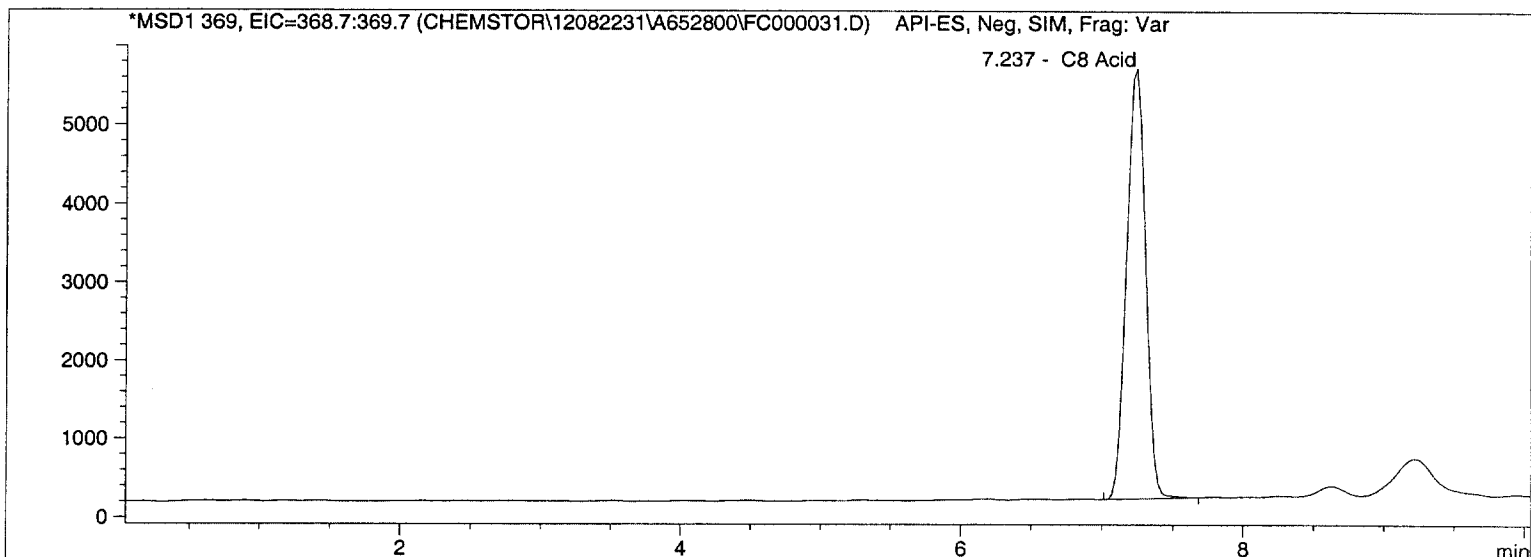
Data file :C:\HPCHEM\1\DATA\Chemstor\12082231\A652800\FC000031.D

=====

Injection Date	: 1/23/04	12:25:16 AM	Seq Line	:	31
Acq Operator	: jmillier		Vial No.	:	2
Instrument	: PC00414		Inj. No.	:	1
Dilution	: 1		Inj. Vol.	:	5 µl

Acq. Method : FC8-10.M
Analysis Method : C:\HPCHEM\1\METHODS\012204.M
Last Changed : 2/26/04 10:08:53 am

LC/MS analysis of perfluorooctanoic acid.



Compound Name	Area	Amount	Meas. Ret. T	Signal Desc.
C8 Acid	50641.38	75.74	7.237	MSD1 369, EIC=368.7:369.7
C10 Surrogate	140791.94	67.22	8.114	MSD1 469, EIC=468.7:469.7

*** End of Report ***

U048

Sample Name:STD 250 ppb
Sample Info:

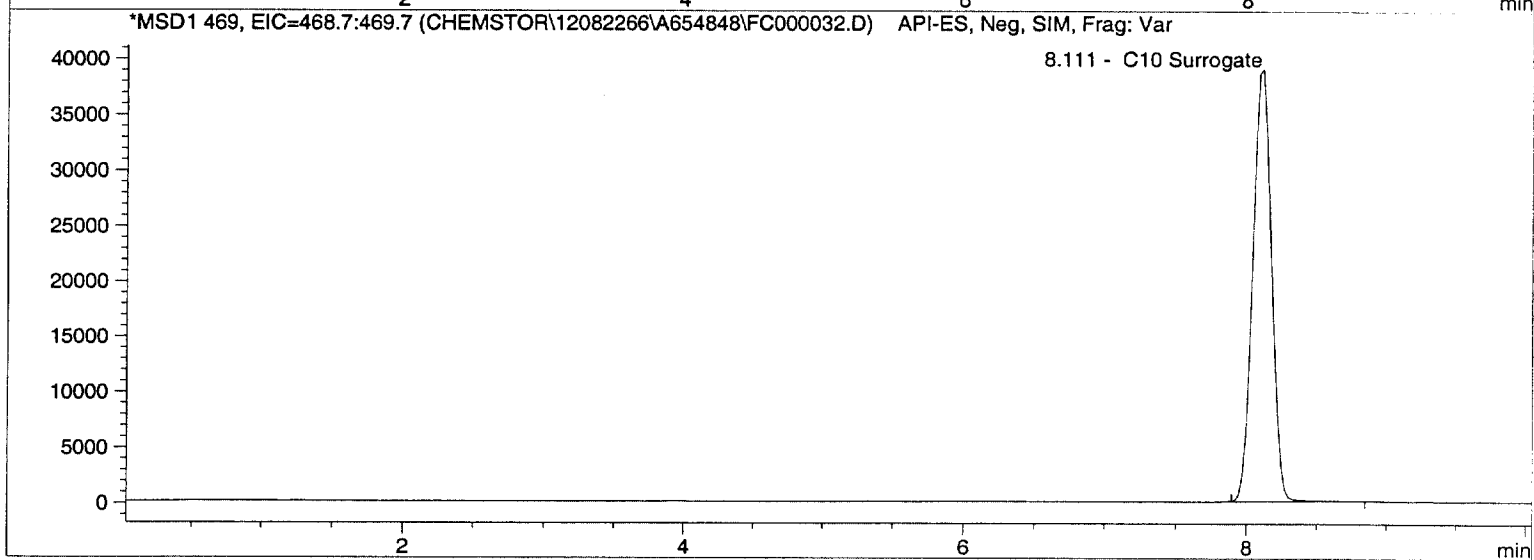
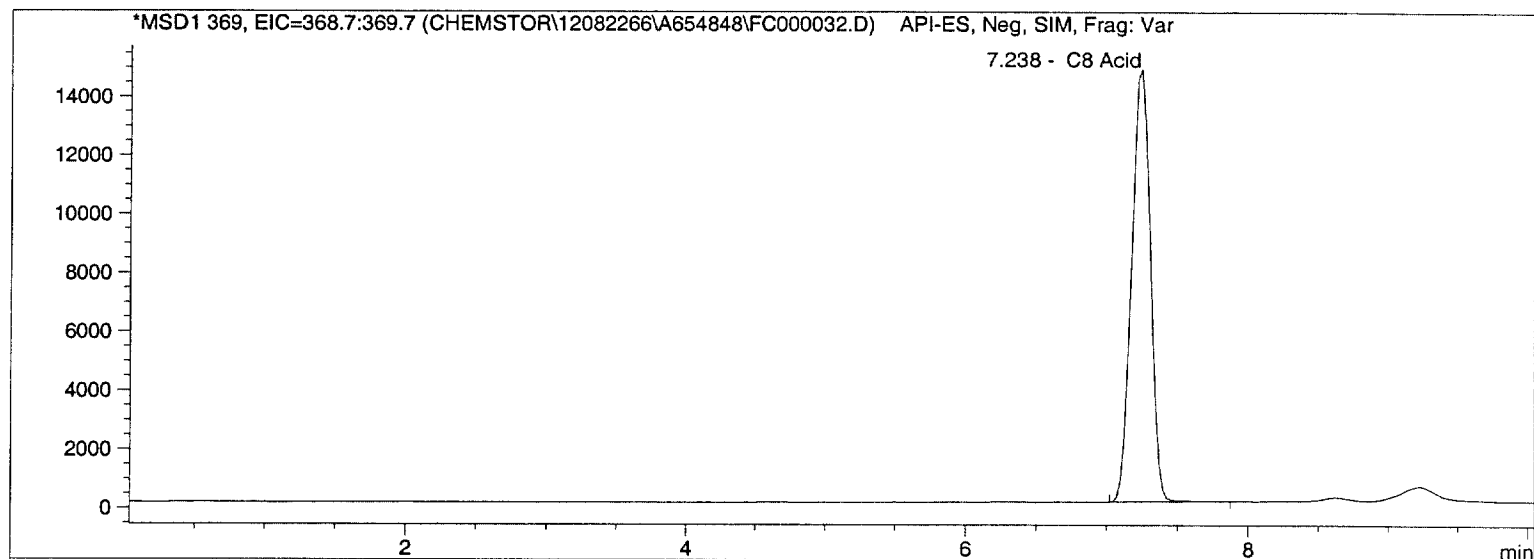
1

Data file :C:\HPCHEM\1\DATA\Chemstor\12082266\A654848\FC000032.D

=====
Injection Date : 1/23/04 12:40:49 AM Seq Line : 32
Acq Operator : jmillers Vial No. : 3
Instrument : PC00414 Inj. No. : 1
Dilution : 1 Inj. Vol. : 5 µl

Acq. Method : FC8-10.M
Analysis Method : C:\HPCHEM\1\METHODS\012204.M
Last Changed : 2/26/04 10:08:53 am

LC/MS analysis of perfluorooctanoic acid.



Compound Name	Area	Amount	Meas. Ret. T	Signal Desc.
C8 Acid	135673.20	250.74	7.238	MSD1 369, EIC=368.7:369.7
C10 Surrogate	362435.00	256.52	8.111	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0049

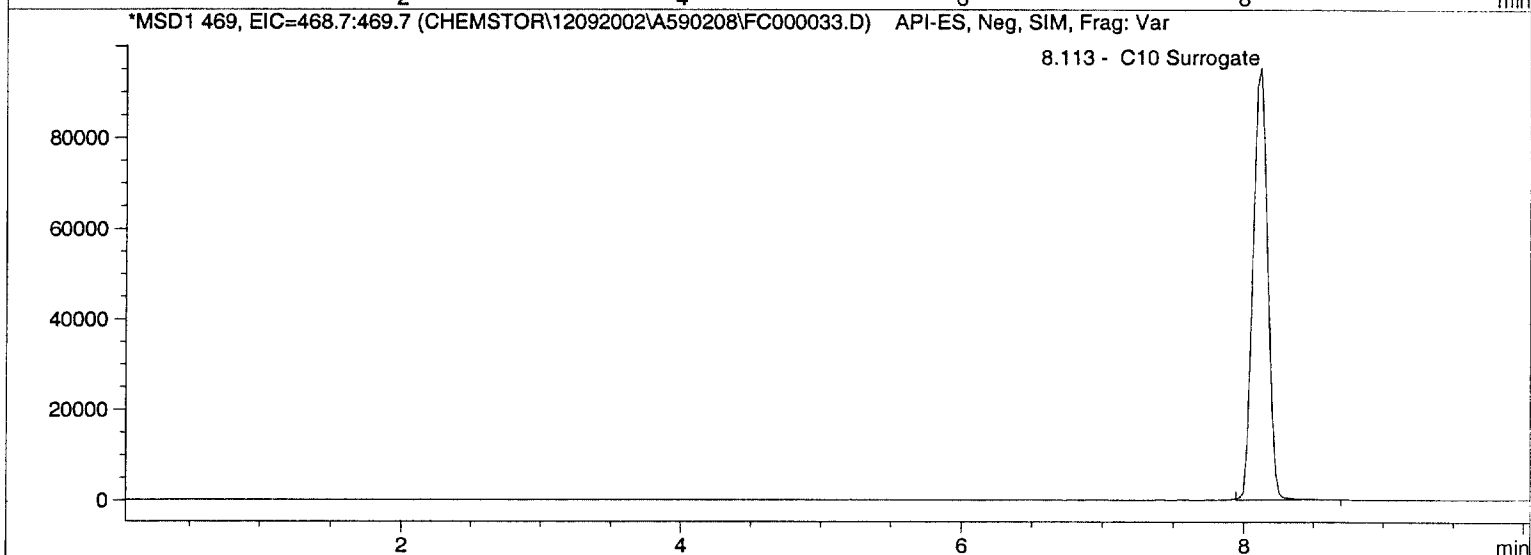
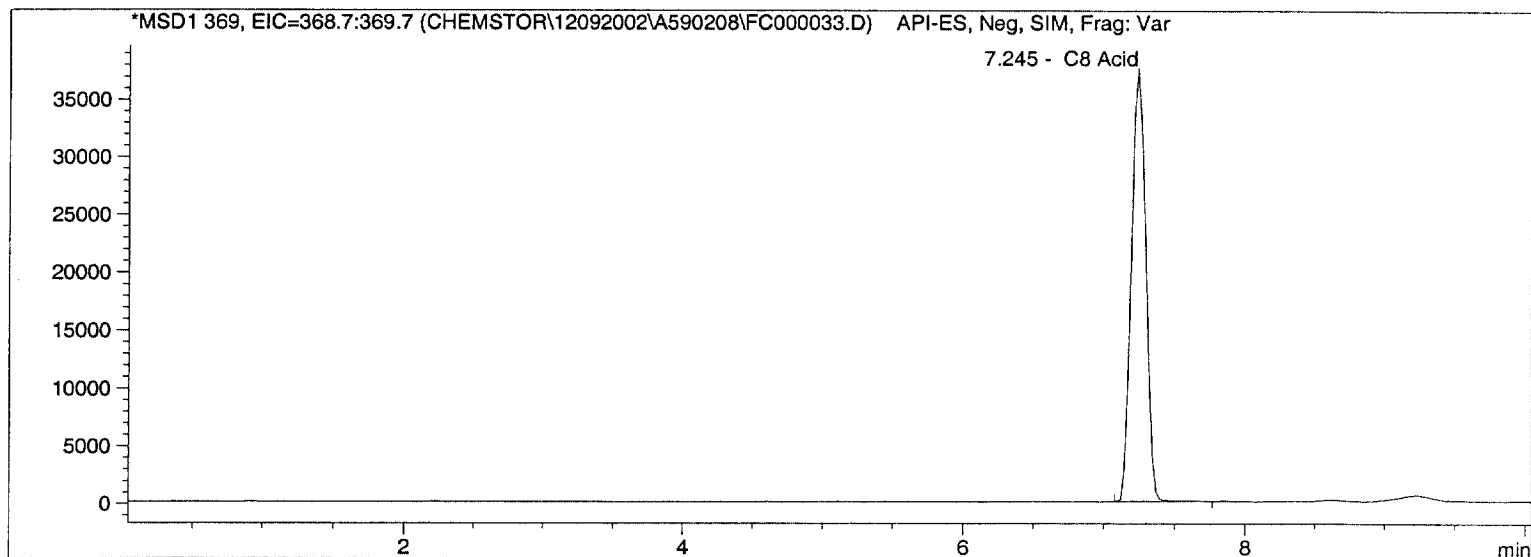
Sample Info:

Data file :C:\HPCHEM\1\DATA\Chemstor\12092002\A590208\FC000033.D

```
=====
Injection Date   : 1/23/04           12:56:24 AM   Seq Line   :           33
Acq Operator    : jmillier           Vial No.    :           4
Instrument       : PC00414           Inj. No.    :           1
Dilution        : 1                 Inj. Vol.   :           5 µl
=====
```

```
Acq. Method     : FC8-10.M
Analysis Method  : C:\HPCHEM\1\METHODS\012204.M
Last Changed     : 2/26/04           10:08:53 am
=====
```

LC/MS analysis of perfluorooctanoic acid.



Compound Name	Area	Amount	Meas. Ret. T	Signal Desc.
C8 Acid	265541.34	518.00	7.245	MSD1 369, EIC=368.7:369.7
C10 Surrogate	682697.50	530.04	8.113	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0050

Sample Name:STD 750 ppb
Sample Info:

1

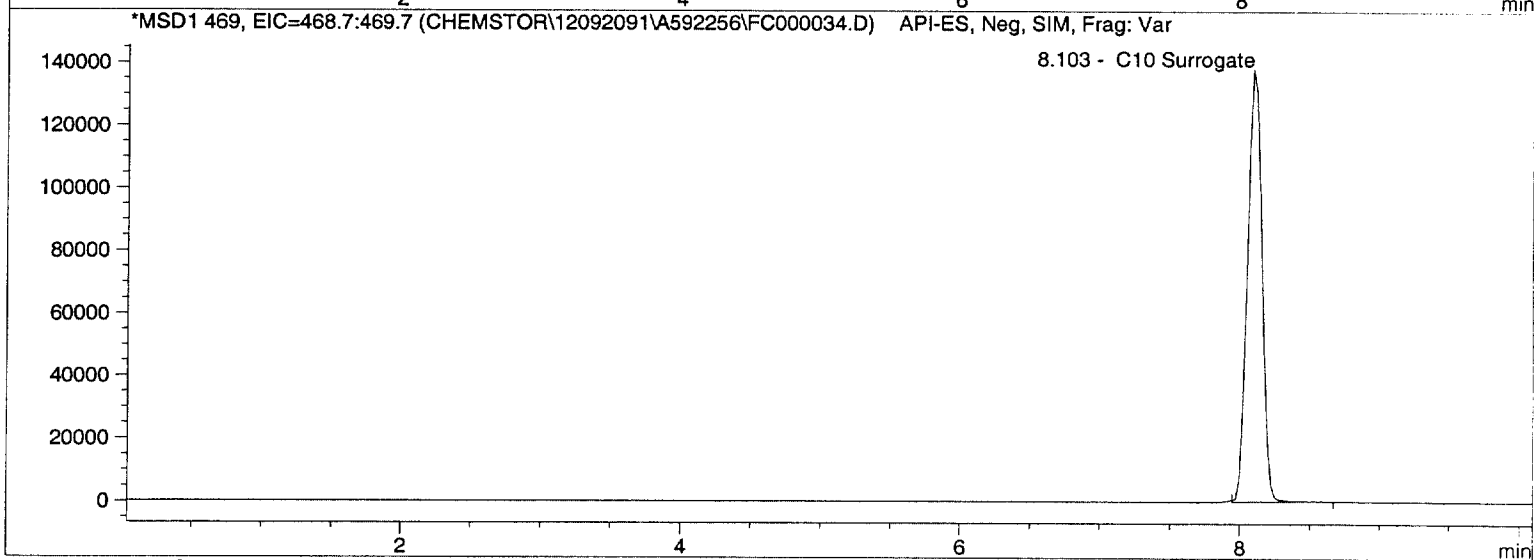
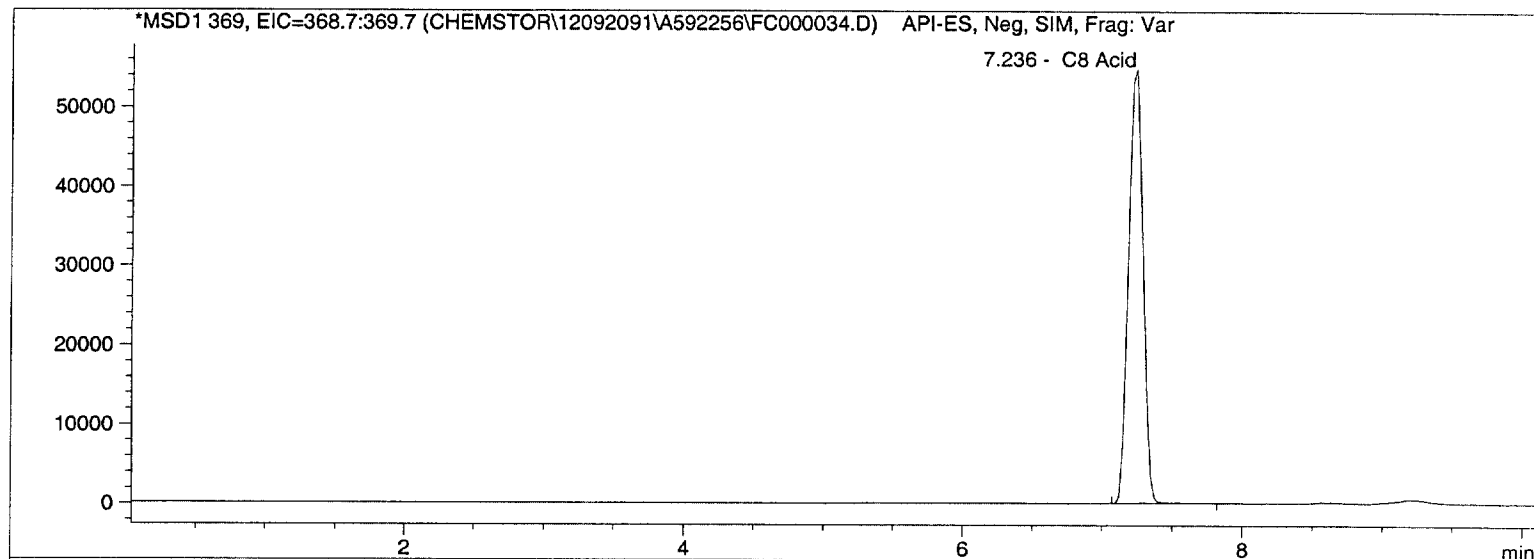
Data file :C:\HPCHEM\1\DATA\Chemstor\12092091\A592256\FC000034.D

=====

Injection Date	: 1/23/04	1:12:01 AM	Seq Line	:	34
Acq Operator	: jmillier		Vial No.	:	5
Instrument	: PC00414		Inj. No.	:	1
Dilution	: 1		Inj. Vol.	:	5 µl

Acq. Method : FC8-10.M
Analysis Method : C:\HPCHEM\1\METHODS\012204.M
Last Changed : 2/26/04 10:08:53 am

LC/MS analysis of perfluorooctanoic acid.



Compound Name	Area	Amount	Meas. Ret. T	Signal Desc.
C8 Acid	393610.00	781.56	7.236	MSD1 369, EIC=368.7:369.7
C10 Surrogate	993731.13	795.68	8.103	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0051

Sample Name:STD 1000 ppb
Sample Info:

1

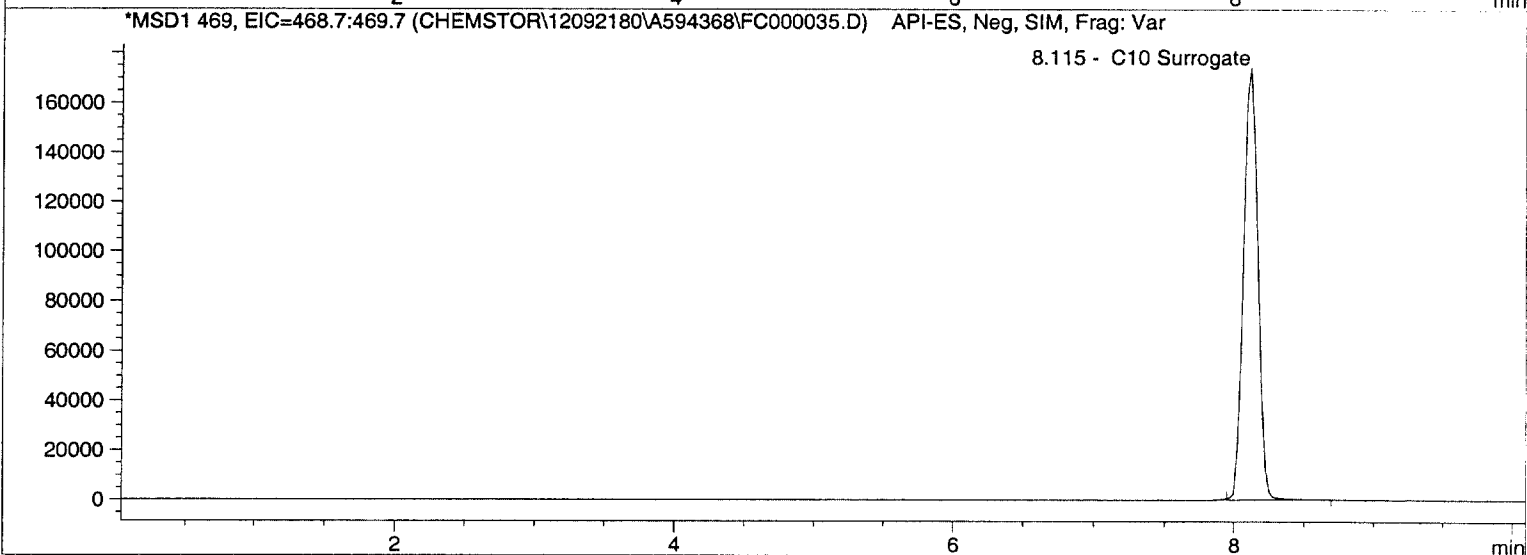
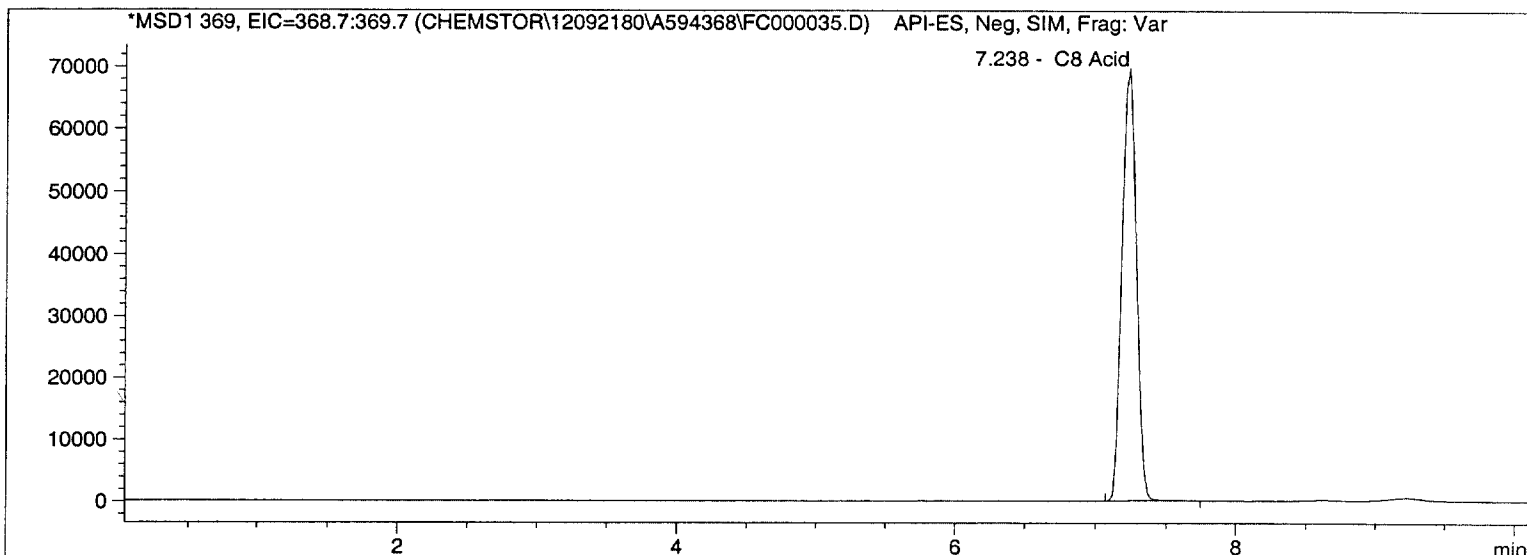
Data file :C:\HPCHEM\1\DATA\Chemstor\12092180\A594368\FC000035.D

=====

Injection Date	: 1/23/04	1:27:37 AM	Seq Line	:	35
Acq Operator	: jmillier		Vial No.	:	6
Instrument	: PC00414		Inj. No.	:	1
Dilution	: 1		Inj. Vol.	:	5 µl

Acq. Method : FC8-10.M
Analysis Method : C:\HPCHEM\1\METHODS\012204.M
Last Changed : 2/26/04 10:08:53 am

LC/MS analysis of perfluorooctanoic acid.



Compound Name	Area	Amount	Meas. Ret. T	Signal Desc.
C8 Acid	499924.22	1000.35	7.238	MSD1 369, EIC=368.7:369.7
C10 Surrogate	1247075.87	1012.05	8.115	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0052

Sample Name:STD 1500 ppb
Sample Info:

1

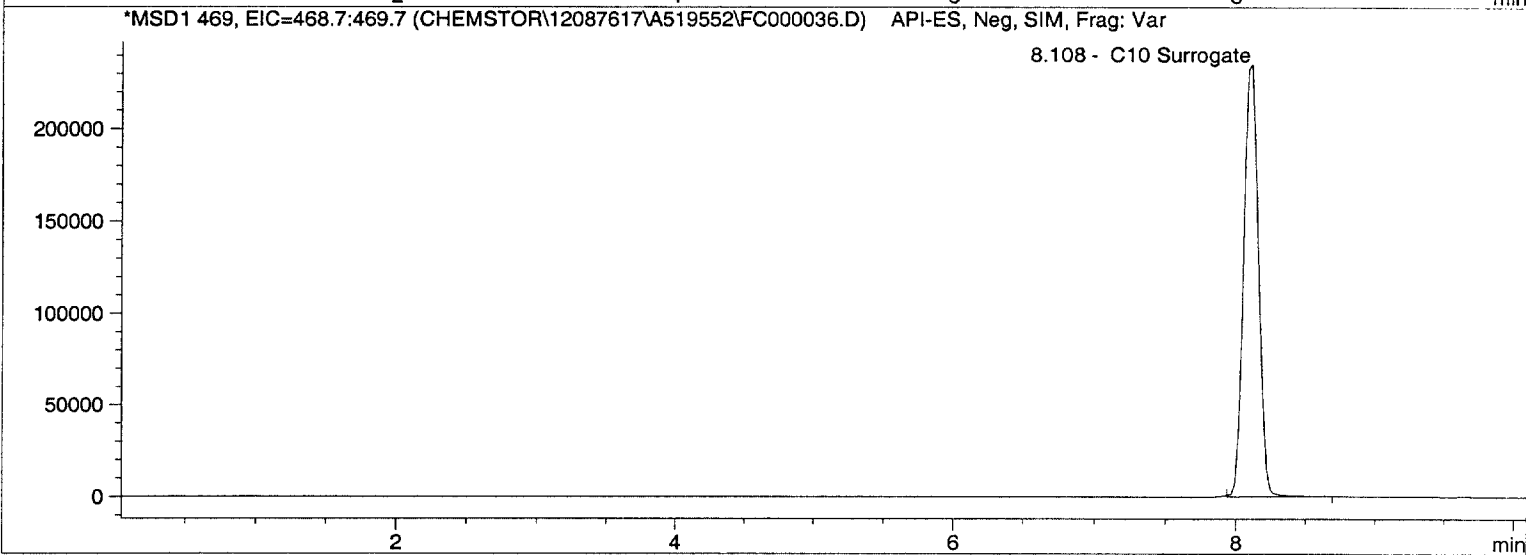
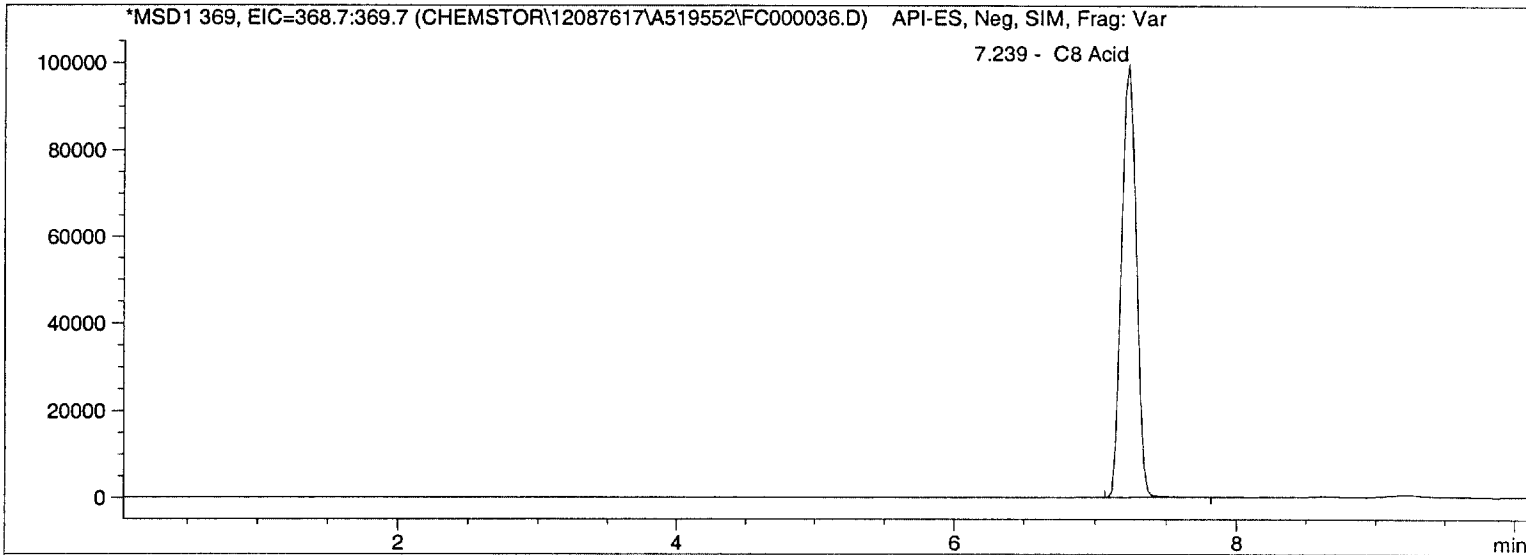
Data file :C:\HPCHEM\1\DATA\Chemstor\12087617\A519552\FC000036.D

=====

Injection Date	: 1/23/04	1:43:15 AM	Seq Line	:	36
Acq Operator	: jmillier		Vial No.	:	7
Instrument	: PC00414		Inj. No.	:	1
Dilution	: 1		Inj. Vol.	:	5 µl

Acq. Method : FC8-10.M
Analysis Method : C:\HPCHEM\1\METHODS\012204.M
Last Changed : 2/26/04 10:08:53 am

LC/MS analysis of perfluorooctanoic acid.



Compound Name	Area	Amount	Meas. Ret. T	Signal Desc.
C8 Acid	713993.87	1440.90	7.239	MSD1 369, EIC=368.7:369.7
C10 Surrogate	1732682.13	1426.78	8.108	MSD1 469, EIC=468.7:469.7

*** End of Report ***

0053

Login

Login Group: L0001668

Login #:	1778	Conform COC Sample:	True
Project:	P0000419	Conform COC:	True
Project Storage:		Conform Sample:	True
Company Name:	DuPont de Nemours & Co, Inc.	Conform Request:	True
Submitted By:	Michael D. Aucoin		
Login Type:	Immediate Receipt of Samples		
Started:	T		
Date Start:	01/19/2004		
Due Date:	02/02/2004		
Received Date:	01/17/2004		
Received By:	AMMERMAN, MARK		
Spread Sample:			
Label:			
Project Title/Type:	Analysis of PFOA in OVS Tubes / ROUTINE		
Exygen SD/PI:	MILLER, JAMES		
Login Notes:			
Conform Notes:			

Packages / Containers

Package	Carton	Mail Date / Condition	Shipper / ID	Temp. Control/Temp.	Direction / Handled By
PK0002257		1/17/2004 12:00:56PM Package & Contents Uncompromised	FEDEX 8363912984560200	None 23.3	RECEIVED AMMERMAN, MARK

Container #	Gross Weight	pH	Container Type	Preservative	Mfg. Lot	Mfg. ID
C0026159	6.3 g		Other	NONE		
C0026160	6.3 g		Other	NONE		
C0026161	6.3 g		Other	NONE		
C0026162	6.1 g		Other	NONE		
C0026163	6.1 g		Other	NONE		
C0026164	6.1 g		Other	NONE		
C0026165	6.3 g		Other	NONE		
C0026166	6.3 g		Other	NONE		
C0026167	6.3 g		Other	NONE		
C0026168	6.1 g		Other	NONE		
C0026169	6.1 g		Other	NONE		
C0026170	6.1 g		Other	NONE		
C0026171	6.2 g		Other	NONE		
C0026172	6.2 g		Other	NONE		
C0026173	6.2 g		Other	NONE		
C0026174	6.2 g		Other	NONE		
C0026175	6.2 g		Other	NONE		
C0026176	6.2 g		Other	NONE		
C0026177	6.1 g		Other	NONE		
C0026178	6.1 g		Other	NONE		
C0026179	6.1 g		Other	NONE		
C0026180	6.3 g		Other	NONE		
C0026181	6.3 g		Other	NONE		
C0026182	6.3 g		Other	NONE		

ICOC

Miscellaneous

Item Key

None

Description

U054



Samples

Sample ID	Matrix	Fraction	Sample	Date Sampled	Date Received	Date Due
L0001668-0001	GAS	OVS Tubes	WWK-A-AMSFBLK-E11 A	01/16/2004	01/17/2004	02/02/2004
L0001668-0002	GAS	OVS Tubes	WWK-A-AMSFBLK-E11 B	01/16/2004	01/17/2004	02/02/2004
L0001668-0003	GAS	OVS Tubes	WWK-A-AMSFBLK-E11 C	01/16/2004	01/17/2004	02/02/2004
L0001668-0004	GAS	OVS Tubes	WWK-A-AMS1-E11 A	01/16/2004	01/17/2004	02/02/2004
L0001668-0005	GAS	OVS Tubes	WWK-A-AMS1-E11 B	01/16/2004	01/17/2004	02/02/2004
L0001668-0006	GAS	OVS Tubes	WWK-A-AMS1-E11 C	01/16/2004	01/17/2004	02/02/2004
L0001668-0007	GAS	OVS Tubes	WWK-A-AMS2-E11 A	01/16/2004	01/17/2004	02/02/2004
L0001668-0008	GAS	OVS Tubes	WWK-A-AMS2-E11 B	01/16/2004	01/17/2004	02/02/2004
L0001668-0009	GAS	OVS Tubes	WWK-A-AMS2-E11 C	01/16/2004	01/17/2004	02/02/2004
L0001668-0010	GAS	OVS Tubes	WWK-A-AMS3-E11 A	01/16/2004	01/17/2004	02/02/2004
L0001668-0011	GAS	OVS Tubes	WWK-A-AMS3-E11 B	01/16/2004	01/17/2004	02/02/2004
L0001668-0012	GAS	OVS Tubes	WWK-A-AMS3-E11 C	01/16/2004	01/17/2004	02/02/2004
L0001668-0013	GAS	OVS Tubes	WWK-A-AMS4-E11 A	01/16/2004	01/17/2004	02/02/2004
L0001668-0014	GAS	OVS Tubes	WWK-A-AMS4-E11 B	01/16/2004	01/17/2004	02/02/2004
L0001668-0015	GAS	OVS Tubes	WWK-A-AMS4-E11 C	01/16/2004	01/17/2004	02/02/2004
L0001668-0016	GAS	OVS Tubes	WWK-A-AMS5-E11 A	01/16/2004	01/17/2004	02/02/2004
L0001668-0017	GAS	OVS Tubes	WWK-A-AMS5-E11 B	01/16/2004	01/17/2004	02/02/2004
L0001668-0018	GAS	OVS Tubes	WWK-A-AMS5-E11 C	01/16/2004	01/17/2004	02/02/2004
L0001668-0019	GAS	OVS Tubes	WWK-A-AMS6-E11 A	01/16/2004	01/17/2004	02/02/2004
L0001668-0020	GAS	OVS Tubes	WWK-A-AMS6-E11 B	01/16/2004	01/17/2004	02/02/2004
L0001668-0021	GAS	OVS Tubes	WWK-A-AMS6-E11 C	01/16/2004	01/17/2004	02/02/2004
L0001668-0022	GAS	OVS Tubes	Control 1 A		01/17/2004	02/02/2004
L0001668-0023	GAS	OVS Tubes	Control 1 B		01/17/2004	02/02/2004
L0001668-0024	GAS	OVS Tubes	Control 1 C		01/17/2004	02/02/2004

0055

000569



Bottles

L0001668-0001

Container
C0026159 / Other / NONE

Method

L0001668-0002

Container
C0026160 / Other / NONE

Method

L0001668-0003

Container
C0026161 / Other / NONE

Method

L0001668-0004

Container
C0026162 / Other / NONE

Method

L0001668-0005

Container
C0026163 / Other / NONE

Method

L0001668-0006

Container
C0026164 / Other / NONE

Method

L0001668-0007

Container
C0026165 / Other / NONE

Method

L0001668-0008

Container
C0026166 / Other / NONE

Method

L0001668-0009

Container
C0026167 / Other / NONE

Method

L0001668-0010

Container
C0026168 / Other / NONE

Method

L0001668-0011

Container
C0026169 / Other / NONE

Method

L0001668-0012

Container
C0026170 / Other / NONE

Method

0056



L0001668-0013

Container
C0026171 / Other / NONE

Method

L0001668-0014

Container
C0026172 / Other / NONE

Method

L0001668-0015

Container
C0026173 / Other / NONE

Method

L0001668-0016

Container
C0026174 / Other / NONE

Method

L0001668-0017

Container
C0026175 / Other / NONE

Method

L0001668-0018

Container
C0026176 / Other / NONE

Method

L0001668-0019

Container
C0026177 / Other / NONE

Method

L0001668-0020

Container
C0026178 / Other / NONE

Method

L0001668-0021

Container
C0026179 / Other / NONE

Method

L0001668-0022

Container
C0026180 / Other / NONE

Method

L0001668-0023

Container
C0026181 / Other / NONE

Method

L0001668-0024

Container
C0026182 / Other / NONE

Method



PROJECT INFORMATION

Client (name & address):

ADP

Durant washing ton works

Phone: (302) 892-1698

Fax:

Sampler: R. Kendall L. Kendall

Project Manager (Name & E-mail Address):

Mike Fuccia

Project Name:

Project Name: Air Sampling Program

P.O. #:

Quotation #:

Please fill out this form *completely* to ensure correct analysis and proper handling of your samples.

SAMPLE ANALYSIS

ExLIMS#	Client Sample Identification	Collection Date	Collection Time	Grab	Com	Num Cont	Specify Matrix	Comments
	WWK-A-AMSFBK-Ell	01/16/03	0745	X		1	Air	Field Blank
	WWK-A-AMSL-Ell		0620	X		1		
	WWK-A-AMS2-Ell		0635	X		1		
	WWK-A-AMS3-Ell		0637	X		1		
	WWK-A-AMS4-Ell		0658	X		1		
	WWK-A-AMS5-Ell		0645	X		1		
	WWK-A-AMSL-Ell		0722	X		1		
	Control							

LAB USE ONLY

CHAIN OF CUSTODY

Relinquished by	Date	Time
J. Kendall	01/10/04	1140

Cooler ID # 24Cooler Temp. (°C) 14

Received by	Date	Time
J. Hendall	01/15/05	06:00
<i>[Signature]</i>	01/17/05	12:00

LAB USE ONLY

OTHER INFORMATION

Event 11

ANALYSES REQUESTED

Results Deadline:

Laboratory Report Options:

- ☐ Sample results only
- ☐ Add case narrative
- ☐ Add quality control summary
- ☐ Add calibration summary
- ☐ Add raw data
- ☐ Other _____

**DuPont Washington Works
Air Sampling Program**

Sampler(s): SO, RK,
LK

FedEx Airbill #: 836391298456

Event Number Event 11

Pump	Station	Sampler	Calibration (sec)	Date	Start Time	Date	Stop Time	Calibration (sec)	Total Minutes	Total Volume
669842	AMS-1	WWK-A-AMS1-E11	0.9970	15-Jan	0700	16-Jan	0620	0.9794	1398	
669908	AMS-2	WWK-A-AMS2-E11	1.0160	15-Jan	0625	16-Jan	0635	0.9739	1448	
669901	AMS-3	WWK-A-AMS3-E11	1.0200	15-Jan	0627	16-Jan	0637	1.0130	* 931	
669890	AMS-4	WWK-A-AMS4-E11	1.0180	15-Jan	0632	16-Jan	0658	1.0140	1424	
669796	AMS-5	WWK-A-AMS5-E11	1.0210	15-Jan	0638	16-Jan	0645	0.9687	1402	
669865	AMS-6	WWK-A-AMS6-E11	1.0150	15-Jan	0647	16-Jan	0722	1.0330	1434	

Hours	Minutes	Hours	Minutes	Hours	Minutes	Hours	Minutes	Hours	Minutes
0	0	5	300	10	600	15	900	20	1200
1	60	6	360	11	660	16	960	21	1260
2	120	7	420	12	720	17	1020	22	1320
3	180	8	480	13	780	18	1080	23	1380
4	240	9	540	14	840	19	1140	24	1440

0059

00573

Field Blank: yes WWK-K-AMSFBLK-E11
yes or no

Weather: 1/15 Cold, about 27 F, snow flurries, windy

1/16 Cold, about 18 F, clear, breezy

SAFER operational: yes
yes or no

Comments: Total minutes column is the reading from the monitor counter.

* AMS-3 was still running when we collected the sample after about 1410 minutes, but the counter only read 931 minutes.

1/16/2004

**DuPont Washington Works
Air Sampling Program**

Sampler(s): SO, RK,
LK

FedEx Airbill #: 836391298456

Event Number

Event 11

Pump #	Station #	Oxygen ID	Calibration (pre)	Date	Start Time	Date	Stop Time	Calibration (post)	Total Minutes	Total Volume
669842	AMS-1	WWK-A-AMS1-E11	0.9970	15-Jan	0700	16-Jan	0620	0.9794	1398	1383 liters
669908	AMS-2	WWK-A-AMS2-E11	1.0160	15-Jan	0625	16-Jan	0635	0.9739	1448	1443 liters
669901	AMS-3	WWK-A-AMS3-E11	1.0200	15-Jan	0627	16-Jan	0637	1.0130	* 931	* 946 liters
669890	AMS-4	WWK-A-AMS4-E11	1.0180	15-Jan	0632	16-Jan	0658	1.0140	1424	1489 liters
669796	AMS-5	WWK-A-AMS5-E11	1.0210	15-Jan	0638	16-Jan	0645	0.9687	1402	1440 liters
669865	AMS-6	WWK-A-AMS6-E11	1.0150	15-Jan	0647	16-Jan	0722	1.0330	1434	1510 liters
Hours	Minutes	Hours	Minutes	Hours	Minutes	Hours	Minutes	Hours	Minutes	
0	0	5	300	10	600	15	900	20	1200	
1	60	6	360	11	660	16	960	21	1260	
2	120	7	420	12	720	17	1020	22	1320	
3	180	8	480	13	780	18	1080	23	1380	
4	240	9	540	14	840	19	1140	24	1440	

Field Blank: yes ☐ WWK-K-AMSFBLK-E11

yes or no

Weather: 1/15 Cold, about 27 F, snow flurries, windy

1/16 Cold, about 18 F, clear, breezy

SAFER operational:

yes ☐

yes or no

Comments: Total minutes column is the reading from the monitor counter.

* AMS-3 was still running when we collected the sample after about 1410 minutes, but the counter only read 931 minutes.

Sample "Condition Upon Receipt" Form

Protocol # 0000419

Oxygen Study # 0001668

Date & Time Received 01/17/04 1200

Condition of Samples ambient

Temporary Storage Location Deco 2363

Initials & Date MLA 01/17/04

Waybill # 8363 9129 8456

Comments: - waiting for study number MLA 01/17/04

May 24, 2002/3

FedEx Express **15441011**
Tracking Number **036391298456**

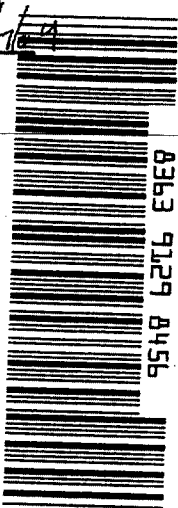
0200

000576



"THIS IS AN EXACT COPY OF THE ORIGINAL DOCUMENT"

BY MA DATE 01/17/94



0363 9129 8456

1 From
Date 01/17/94
Sender's Name Steve Co
Company Steve Co
Address 1001 W. 1st St., Suite 101, Duluth, MN 55812
City Duluth State IA ZIP 55812
Phone 214-813-4471

2 Your Internal Billing Reference 1278-104-1112

3 To
Recipient's Name John Deere
Company John Deere
Address 1001 W. 1st St., Suite 101, Duluth, MN 55812
City Duluth State IA ZIP 55812
Phone 949-831-0000

4b Express Freight Service

5 Packaging
☒ FedEx Priority Overnight
☐ FedEx 2Day
☐ FedEx Overnight
☐ FedEx Freight

6 Special Handling
☒ SATURDAY Delivery
☐ Signature Required
☐ Insure
☐ Fragile
☐ Restricted
☐ Hazardous
☐ Live Animals
☐ Perishable
☐ High Value
☐ Other

7 Payment Biller
☒ Bill Me
☐ Bill My Company
☐ Bill My Card
☐ Bill My Other

8 Release Signature
Signature [Signature]
Print Name Steve Co
Title Owner
Company Steve Co
Address 1001 W. 1st St., Suite 101, Duluth, MN 55812
City Duluth State IA ZIP 55812
Phone 214-813-4471

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