Quantitation Report (Not Reviewed)

Data Path : Z:\VOASRV\HPCHEM1\MSVOA_L\DATA\VL070518\
Data File : VL032216.D
Acq On : 5 Jul 2018 23:22
Operator : SY/AP
Sample : J3762-14 1 PPB LOQ
Misc : 400ml/MSVOA_L
ALS Vial : 1 Sample Multiplier: 1

Instrument : MSVOA_L
ClientSampleId : LOQ-AIR-02-QT3-2018

Quant Time: Jul 06 04:30:49 2018
Quant Method : Z:\VOASRV\HPCHEM1\MSVOA_L\METHODS\VL062918AIR.M
Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_LFri Jun 29 22:27:58 2018
QLast Update : Fri Jun 29 22:27:58 2018
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
1) Bromochloromethane	5.84	49	1551850	10.00	ppbv		-0.02
33) 1,4-Difluorobenzene	7.38	114	3789977	10.00	ppbv		-0.02
55) Chlorobenzene-d5	12.34	117	3919796	10.00	ppbv		-0.02
System Monitoring Compounds							
68) 1-Bromo-4-Fluorobenzene	14.67	95	2969703	9.91	ppbv		-0.03
Spiked Amount 10.000	Range 65 - 135		Recovery = 99.10%				
Target Compounds							Qvalue
2) Dichlorodifluoromethane	3.13	85	238649	1.168	ppbv		98
3) Chlorodifluoromethane	3.07	51	194198	1.024	ppbv	#	92
4) Chloromethane	3.23	50	103880	1.026	ppbv		99
5) Vinyl Chloride	3.35	62	98584	0.964	ppbv		91
6) Bromomethane	3.58	94	56777	0.975	ppbv		99
7) Chloroethane	3.67	64	35638	0.986	ppbv		89
8) Dichlorotetrafluoroethane	3.28	85	245126	1.075	ppbv		90
9) Propene	3.09	41	63181	0.715	ppbv		95
10) Heptane	8.33	43	271657	1.054	ppbv		96
11) Trichlorofluoromethane	4.07	101	229012	1.036	ppbv		100
12) 1,1,2-Trichlorotrifluoroet	4.62	101	140682	0.955	ppbv		90
13) Ethanol	3.72	45	21317	0.796	ppbv		86
14) Bromoethene	3.85	108	63008	0.899	ppbv	#	95
15) Acetone	3.97	43	194697	1.073	ppbv		98
16) 1,3-Butadiene	3.42	39	90727	1.048	ppbv		85
17) tert-Butyl alcohol	4.44	59	79551	0.689	ppbv		95
18) 1,1-Dichloroethene	4.42	96	65472	0.930	ppbv		96
19) Isopropyl Alcohol	4.10	45	119748	0.794	ppbv	#	46
20) Methylene Chloride	4.48	84	63845	0.963	ppbv		94
21) Allyl Chloride	4.55	41	97591	0.788	ppbv		89
22) trans-1,2-Dichloroethene	5.04	96	66919	0.909	ppbv		92
23) Vinyl Acetate	5.23	43	251274	0.764	ppbv	#	97
24) 1,1-Dichloroethane	5.17	63	219733	1.042	ppbv		99
25) Ethyl Acetate	5.85	43	387271	1.032	ppbv		99
26) Hexane	5.86	57	175020	1.012	ppbv		93
27) Carbon Disulfide	4.69	76	125942	0.733	ppbv	#	91
28) Methyl tert-Butyl Ether	5.20	73	257435	0.843	ppbv		97
29) Chloroform	5.93	83	281132	1.117	ppbv		92
30) Cyclohexane	7.34	84	158002	0.970	ppbv	#	72
31) cis-1,2-Dichloroethene	5.72	61	156582	0.906	ppbv		91
32) 1,1,1-Trichloroethane	6.70	97	298903	1.133	ppbv		96
34) 2-Butanone	5.41	43	227729	0.947	ppbv		97
35) Carbon Tetrachloride	7.22	117	294354	1.135	ppbv		97
36) Benzene	7.09	78	415223	1.132	ppbv		99
37) 1,2-Dichloroethane	6.49	62	247062	1.352	ppbv		96
38) Trichloroethene	8.05	130	128353	0.896	ppbv		94
39) 1,2-Dichloropropane	7.82	63	160305	1.108	ppbv		91
40) 1,4-Dioxane	8.07	88	31773	0.560	ppbv	#	21
41) Tetrahydrofuran	6.25	42	126135	0.875	ppbv		99
42) Bromodichloromethane	8.01	83	284373	0.993	ppbv		100
43) Methyl Methacrylate	8.23	69	138145	0.909	ppbv		93

Quantitation Report (Not Reviewed)

Data Path : Z:\VOASRV\HPCHEM1\MSVOA_L\DATA\VL070518\
Data File : VL032216.D
Acq On : 5 Jul 2018 23:22
Operator : SY/AP
Sample : J3762-14 1 PPB LOQ
Misc : 400ml/MSVOA_L
ALS Vial : 1 Sample Multiplier: 1

Instrument : MSVOA_L
ClientSampleId : LOQ-AIR-02-QT3-2018

Quant Time: Jul 06 04:30:49 2018
Quant Method : Z:\VOASRV\HPCHEM1\MSVOA_L\METHODS\VL062918AIR.M
Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_LFri Jun 29 22:27:58 2018
QLast Update : Fri Jun 29 22:27:58 2018
Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min)
44) 2,2,4-Trimethylpentane	8.08	57	652004	1.016	ppbv		99
45) t-1,3-Dichloropropene	9.51	75	137094	0.728	ppbv		99
46) cis-1,3-Dichloropropene	8.93	75	196948	0.876	ppbv		94
47) 1,1,2-Trichloroethane	9.71	97	180964	1.203	ppbv		93
48) Dibromochloromethane	10.54	129	252516	1.085	ppbv		98
49) Bromoform	13.30	173	192167	0.986	ppbv		99
50) 4-Methyl-2-Pentanone	8.97	43	386316	0.980	ppbv		99
51) 2-Hexanone	10.38	43	366929	1.123	ppbv	#	97
52) Tetrachloroethene	11.47	164	136918	1.026	ppbv		94
53) Toluene	10.04	91	450754	1.017	ppbv		98
54) 1,2-Dibromoethane	10.85	107	265785	1.176	ppbv		94
56) 1,1,1,2-Tetrachloroethane	12.38	131	200948	1.148	ppbv	#	1
57) Chlorobenzene	12.39	112	400399	1.179	ppbv		97
58) Ethyl Benzene	12.96	91	666813	1.056	ppbv		91
59) m/p-Xylene	13.25	91	363476	0.718	ppbv	#	1
60) o-Xylene	13.94	91	570992	1.131	ppbv		96
61) Styrene	13.78	104	398374	0.963	ppbv		93
62) Isopropylbenzene	14.92	105	787735	1.014	ppbv		95
63) 1,1,2,2-Tetrachloroethane	13.93	83	464823	1.189	ppbv		99
64) n-propylbenzene	15.82	120	190452	0.948	ppbv		68
65) tert-Butylbenzene	17.01	119	673344	0.987	ppbv		90
66) Benzyl Chloride	17.25	91	219020	0.520	ppbv	#	92
67) sec-Butylbenzene	17.55	105	1016421	1.017	ppbv		96
69) p-Isopropyltoluene	17.91	119	754657	0.942	ppbv		95
70) n-Butylbenzene	18.81	91	846464	1.011	ppbv		96
71) 2-Chlorotoluene	15.71	91	607066	1.015	ppbv		95
72) 4-Ethyltoluene	16.10	105	613102	0.940	ppbv	#	96
73) 1,3,5-Trimethylbenzene	16.25	105	591434	0.963	ppbv		87
74) 1,2,4-Trimethylbenzene	17.02	105	617014	0.995	ppbv		93
75) 1,3-Dichlorobenzene	17.26	146	371339	1.053	ppbv		97
76) 1,4-Dichlorobenzene	17.40	146	350254	0.979	ppbv		97
77) 1,2-Dichlorobenzene	18.08	146	176203	0.500	ppbv	#	23
78) Hexachloro-1,3-Butadiene	23.63	225	108124	0.881	ppbv		98
79) Naphthalene	22.53	128	166928	0.296	ppbv		96
80) Naphthalene,2-methyl-	25.19	142	22022	0.108	ppbv	#	89
81) 1,2,4-Trichlorobenzene	22.25	180	101952	0.401	ppbv	#	16

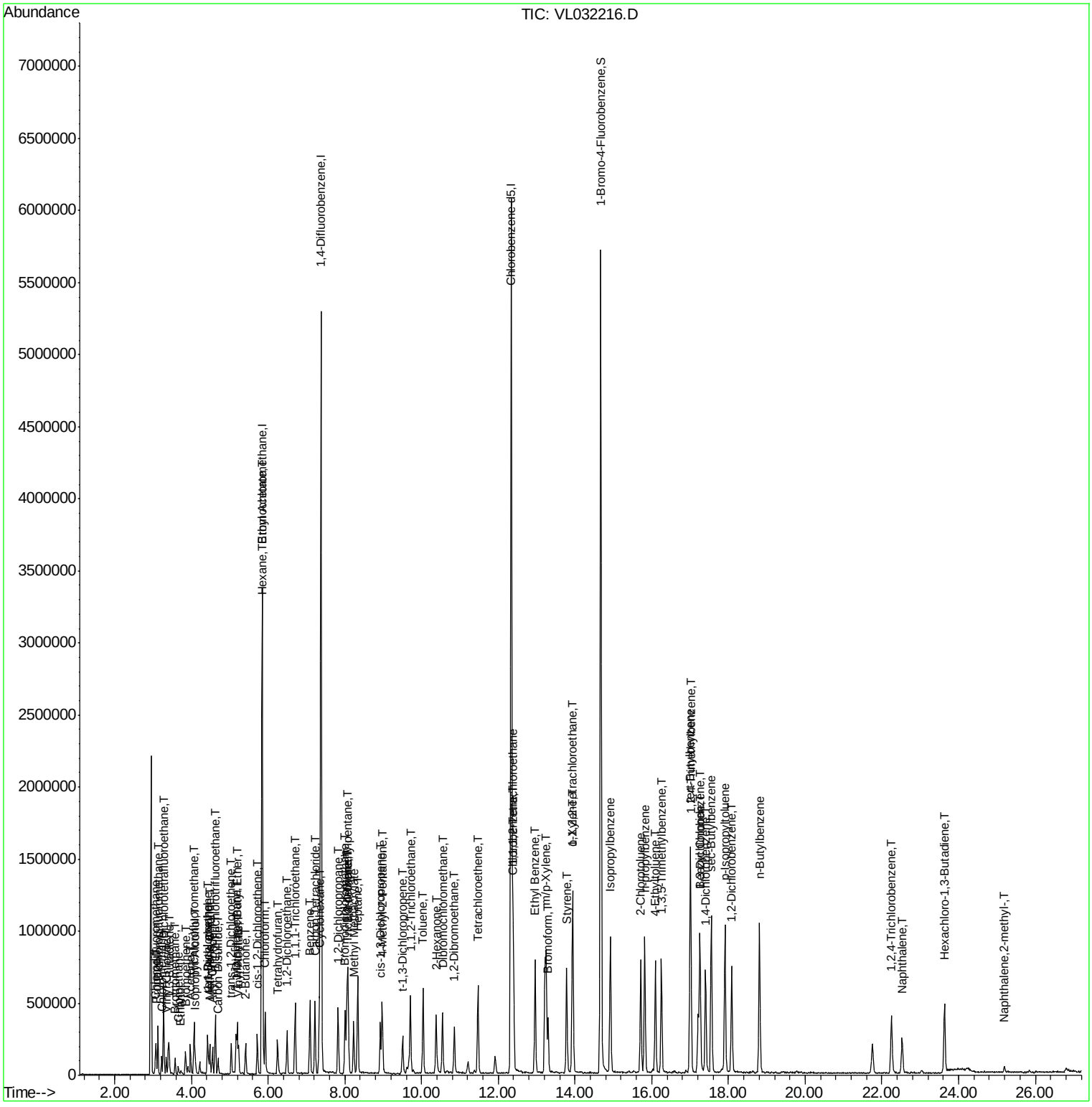
(#) = qualifier out of range (m) = manual integration (+) = signals summed

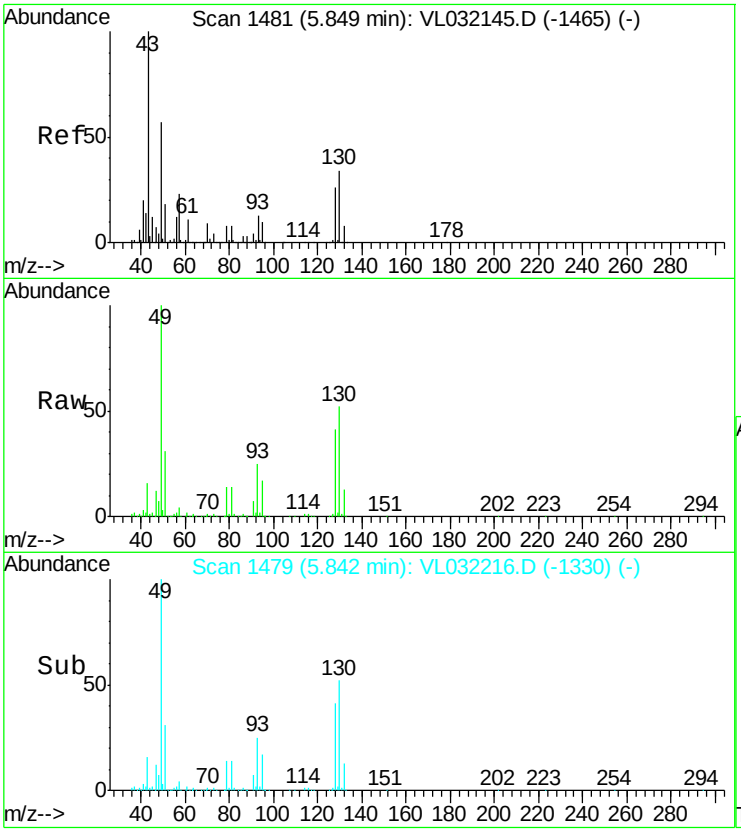
Quantitation Report (Not Reviewed)

Data Path : Z:\VOASRV\HPCHEM1\MSVOA_L\DATA\VL070518\
Data File : VL032216.D
Acq On : 5 Jul 2018 23:22
Operator : SY/AP
Sample : J3762-14 1 PPB LOQ
Misc : 400ml/MSVOA_L
ALS Vial : 1 Sample Multiplier: 1

Instrument :
MSVOA_L
ClientSampleId :
LOQ-AIR-02-QT3-2018

Quant Time: Jul 06 04:30:49 2018
Quant Method : Z:\VOASRV\HPCHEM1\MSVOA_L\METHODS\VL062918AIR.M
Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_LFri Jun 29 22:27:58 2018
QLast Update : Fri Jun 29 22:27:58 2018
Response via : Initial Calibration



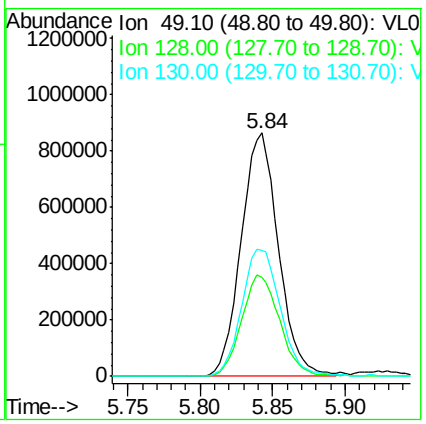


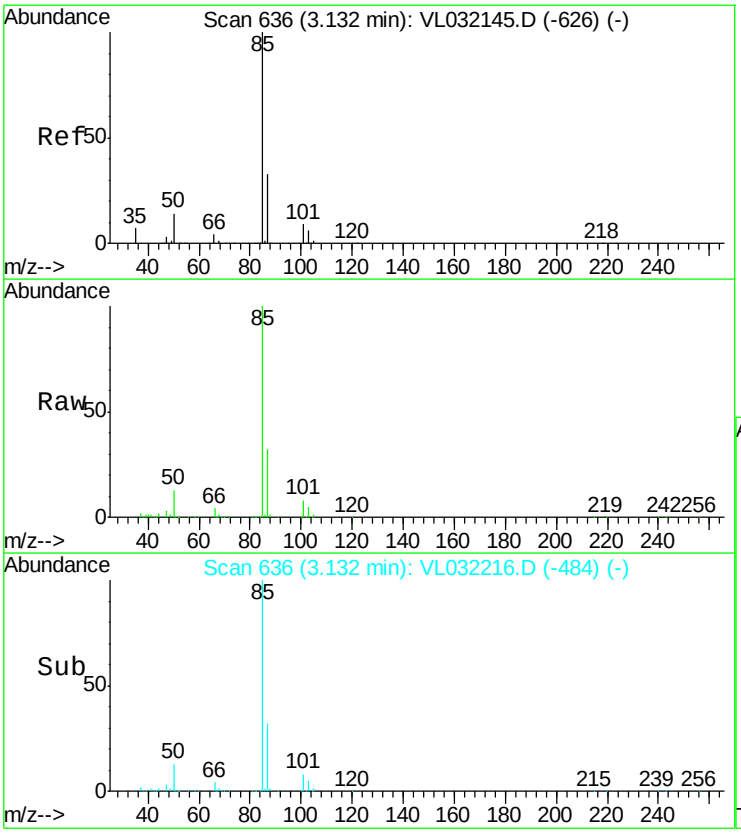
#1
Bromochloromethane
Concen: 10.000 ppbv
RT: 5.84 min Scan# 1479
Delta R.T. -0.02 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Instrument :
MSVOA_L
ClientSampleId :
LOQ-AIR-02-QT3-2018

Tgt Ion: 49 Resp: 1551850

Ion	Ratio	Lower	Upper
49	100		
128	42.9	23.4	70.0
130	54.7	30.3	90.9

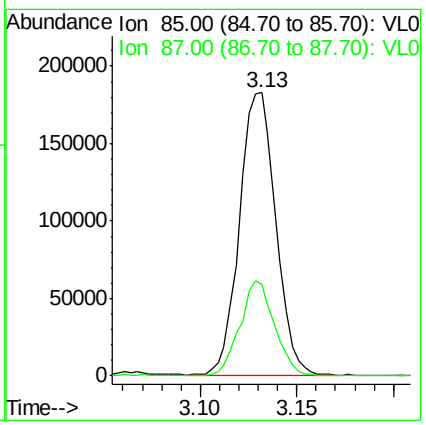


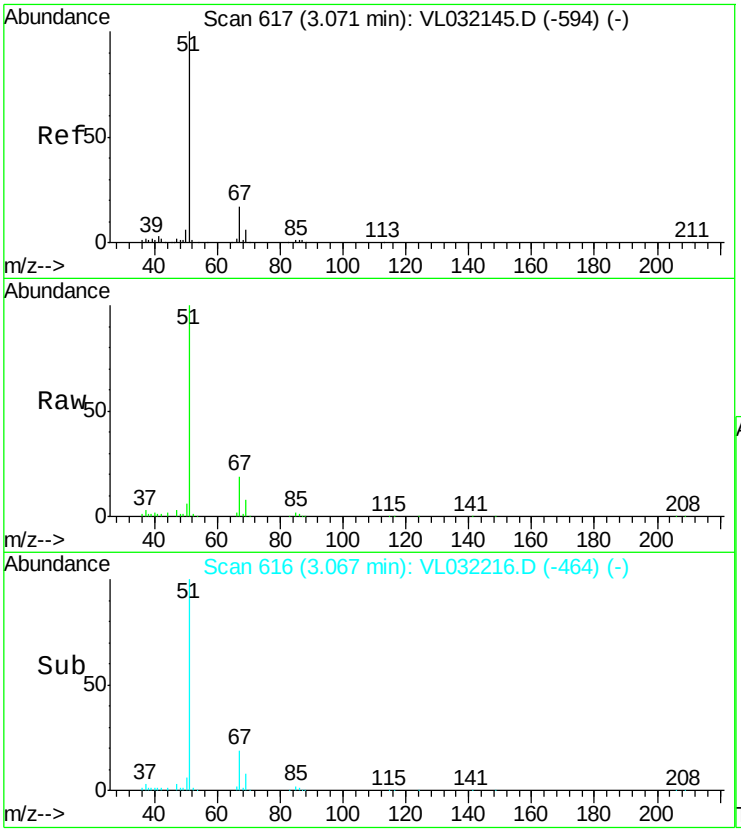


#2
Dichlorodifluoromethane
Concen: 1.168 ppbv
RT: 3.13 min Scan# 636
Delta R.T. -0.01 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Tgt Ion: 85 Resp: 238649

Ion	Ratio	Lower	Upper
85	100		
87	32.3	26.7	40.1



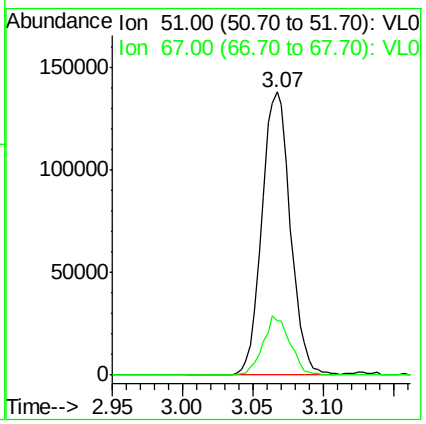


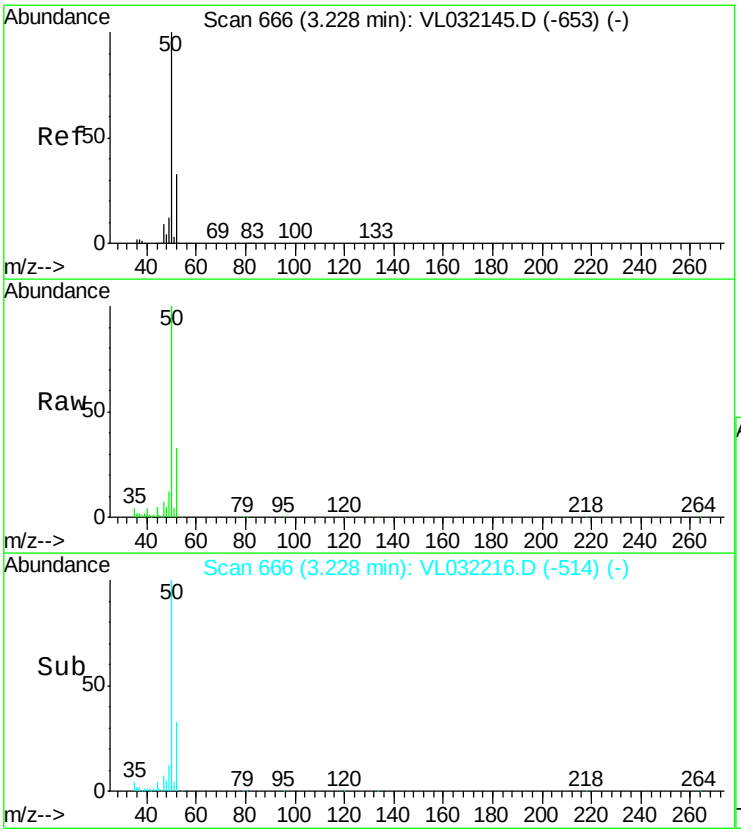
#3
Chlorodifluoromethane
Concen: 1.024 ppbv
RT: 3.07 min Scan# 616
Delta R.T. -0.01 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Instrument :
MSVOA_L
ClientSampleId :
LOQ-AIR-02-QT3-2018

Tgt Ion: 51 Resp: 194198

Ion	Ratio	Lower	Upper
51	100		
67	19.8	13.2	19.8#

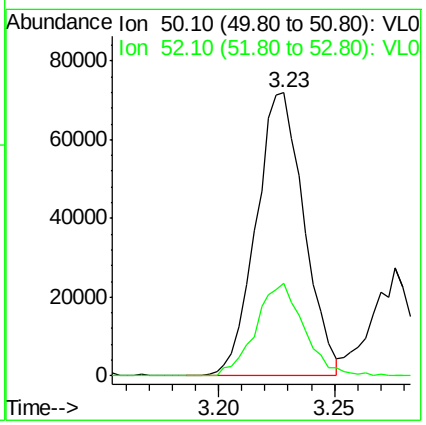


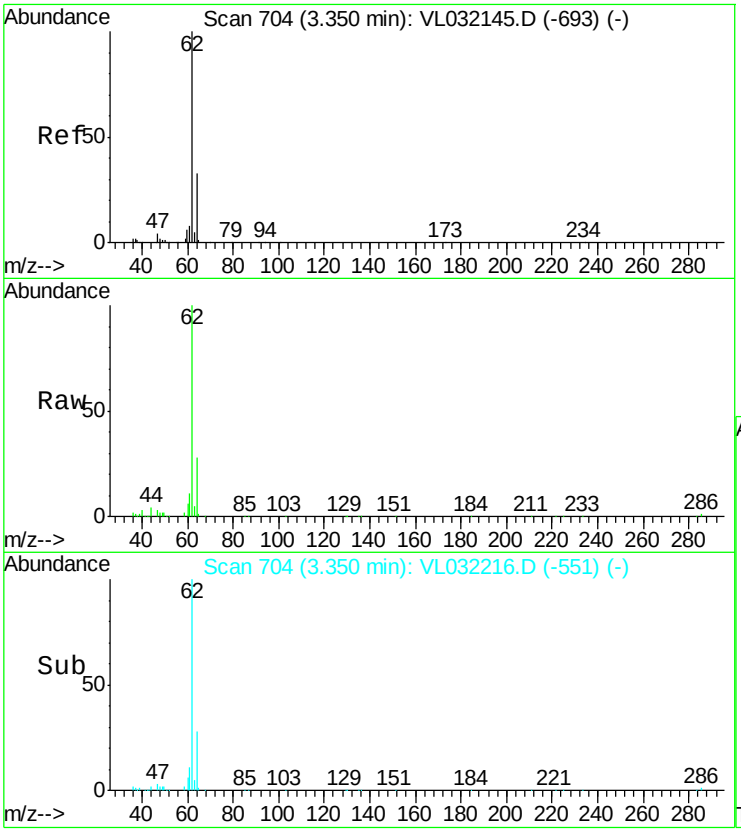


#4
Chloromethane
Concen: 1.026 ppbv
RT: 3.23 min Scan# 666
Delta R.T. -0.01 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Tgt Ion: 50 Resp: 103880

Ion	Ratio	Lower	Upper
50	100		
52	32.8	26.0	39.0



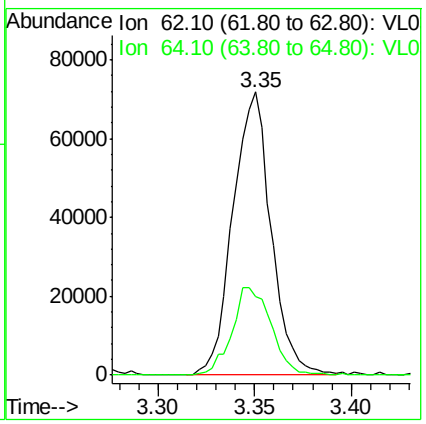


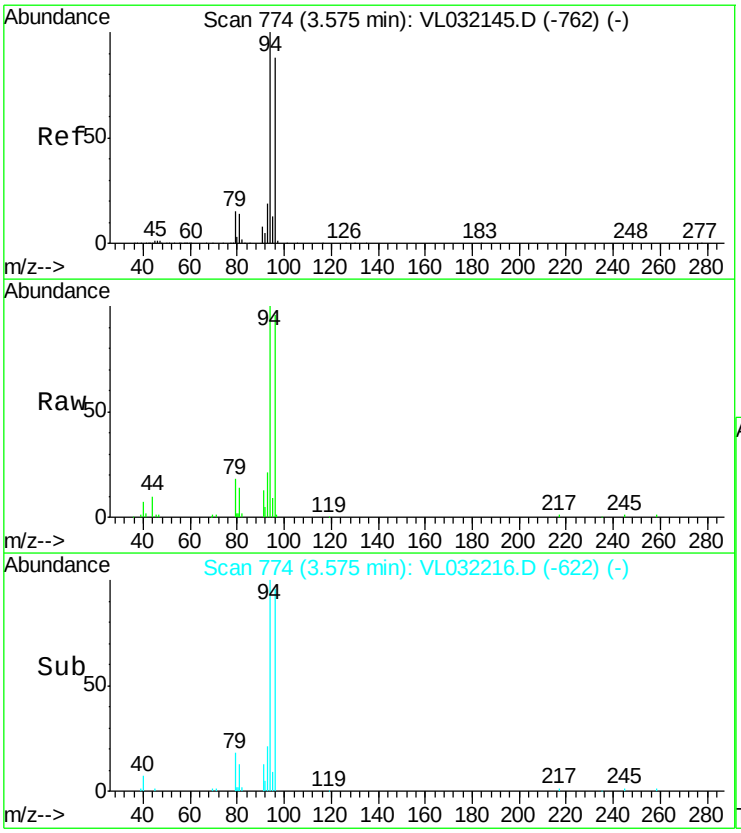
#5
Vinyl Chloride
Concen: 0.964 ppbv
RT: 3.35 min Scan# 704
Delta R.T. -0.01 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Instrument :
MSVOA_L
ClientSampleId :
LOQ-AIR-02-QT3-2018

Tgt Ion: 62 Resp: 98584

Ion	Ratio	Lower	Upper
62	100		
64	27.7	26.1	39.1

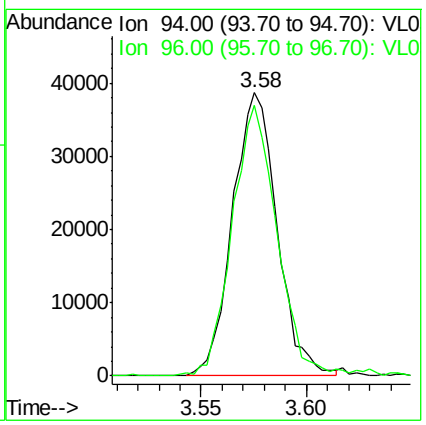


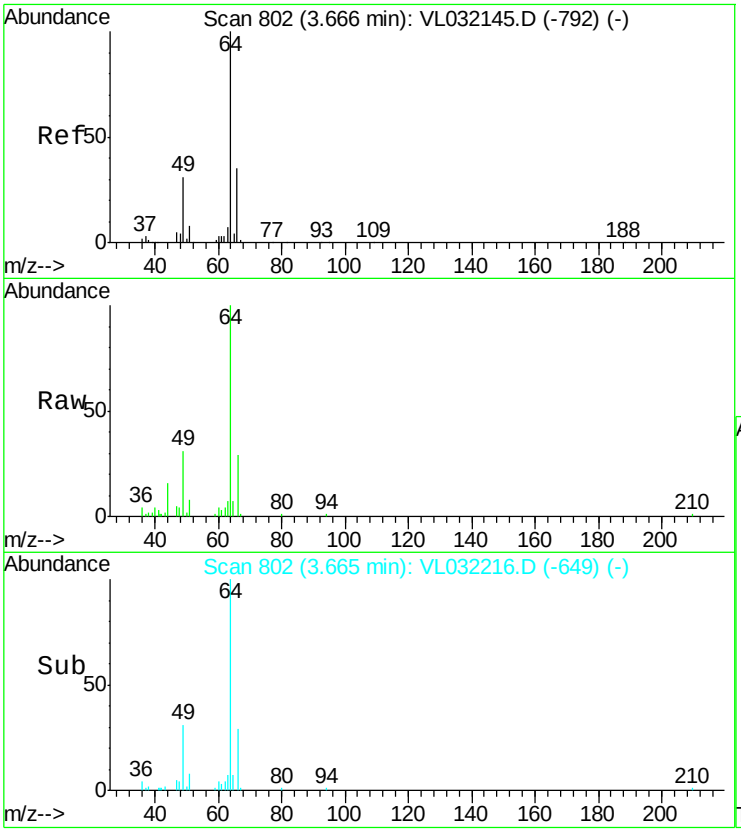


#6
Bromomethane
Concen: 0.975 ppbv
RT: 3.58 min Scan# 774
Delta R.T. -0.01 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Tgt Ion: 94 Resp: 56777

Ion	Ratio	Lower	Upper
94	100		
96	94.4	74.7	112.1



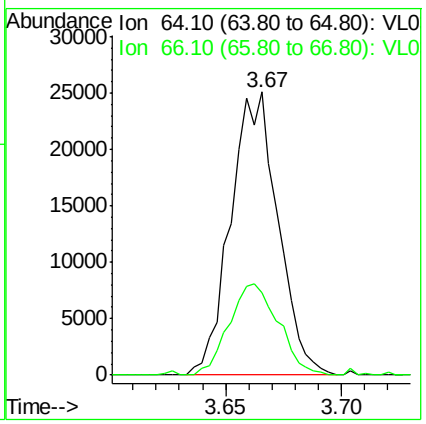


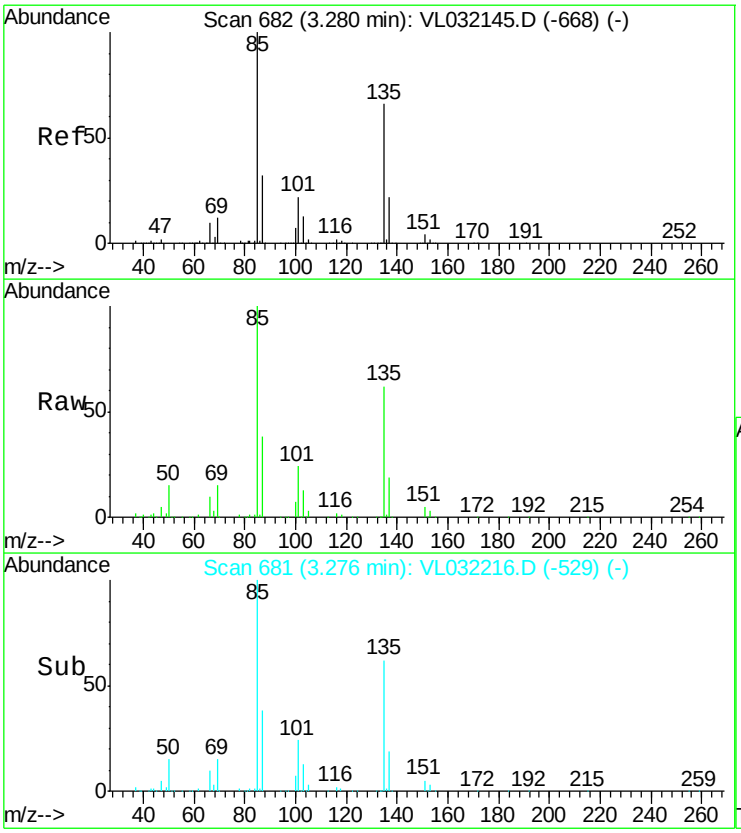
#7
Chloroethane
Concen: 0.986 ppbv
RT: 3.67 min Scan# 802
Delta R.T. -0.01 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Instrument :
MSVOA_L
ClientSampleId :
LOQ-AIR-02-QT3-2018

Tgt Ion: 64 Resp: 35638

Ion	Ratio	Lower	Upper
64	100		
66	27.3	26.9	40.3

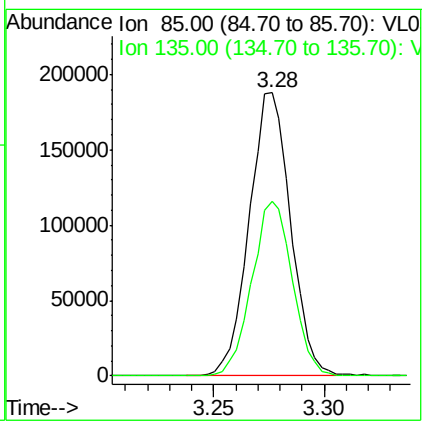


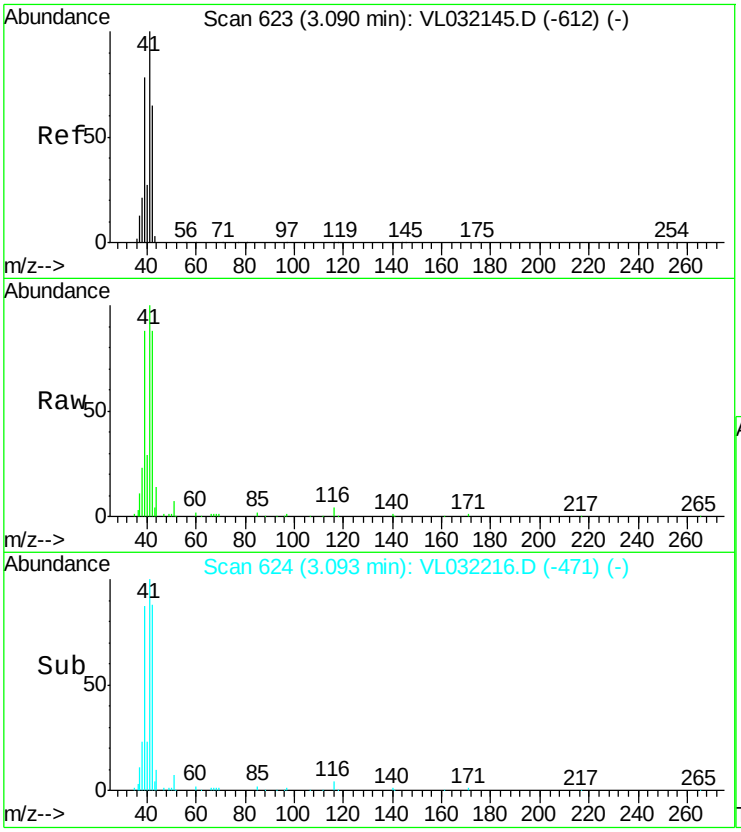


#8
Dichlorotetrafluoroethane
Concen: 1.075 ppbv
RT: 3.28 min Scan# 681
Delta R.T. -0.01 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Tgt Ion: 85 Resp: 245126

Ion	Ratio	Lower	Upper
85	100		
135	60.2	54.6	82.0



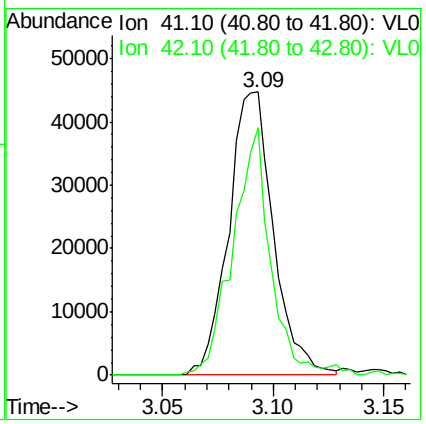


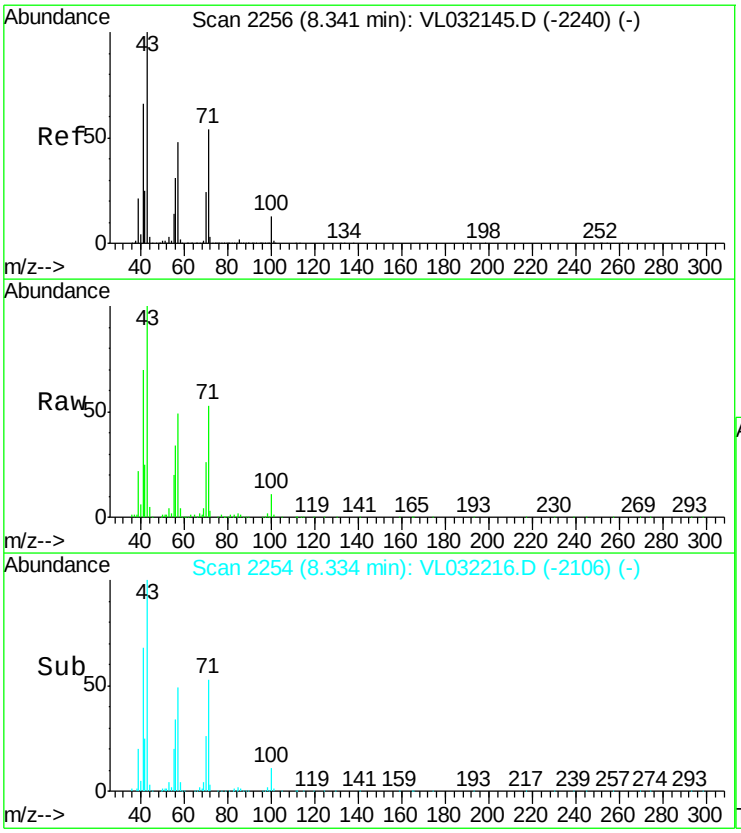
#9
Propene
Concen: 0.715 ppbv
RT: 3.09 min Scan# 624
Delta R.T. -0.01 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Instrument :
MSVOA_L
ClientSampleId :
LOQ-AIR-02-QT3-2018

Tgt Ion: 41 Resp: 63181

Ion	Ratio	Lower	Upper
41	100		
42	74.2	56.2	84.4

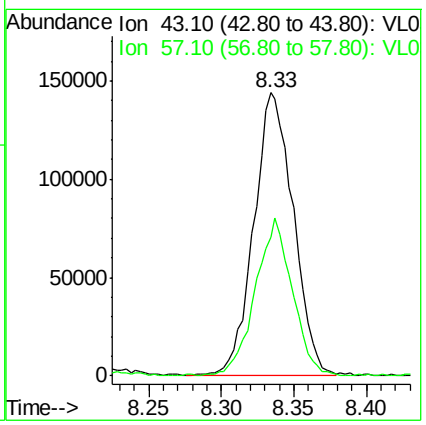


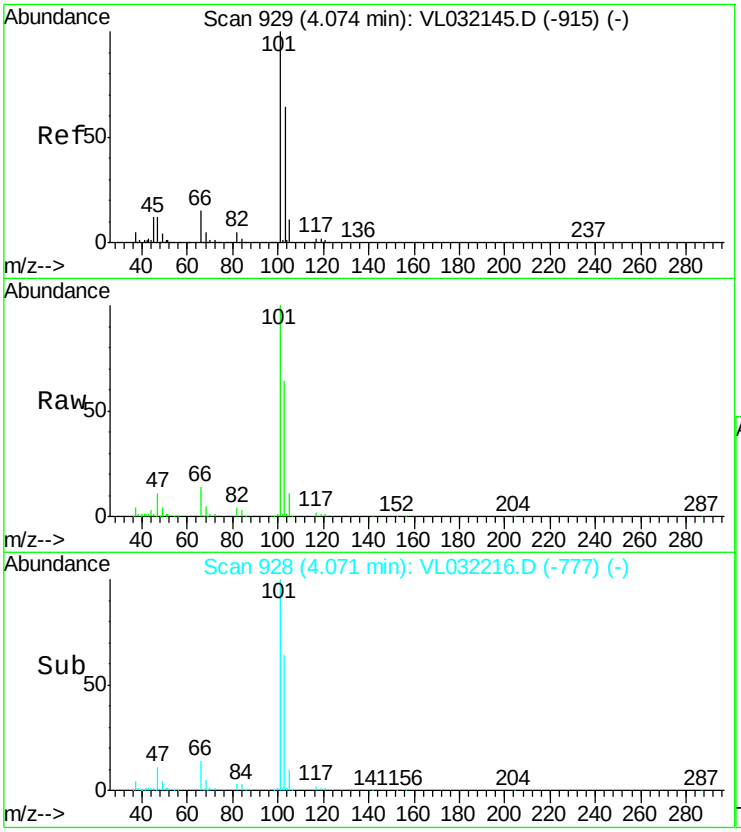


#10
Heptane
Concen: 1.054 ppbv
RT: 8.33 min Scan# 2254
Delta R.T. -0.02 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Tgt Ion: 43 Resp: 271657

Ion	Ratio	Lower	Upper
43	100		
57	52.9	39.8	59.8



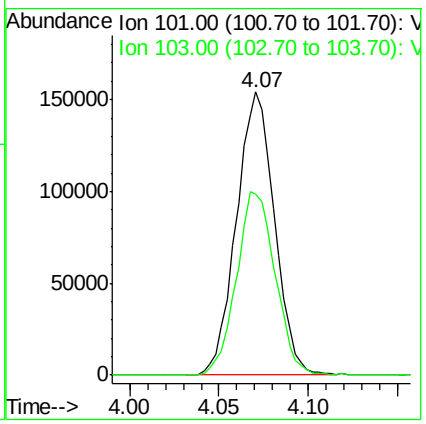


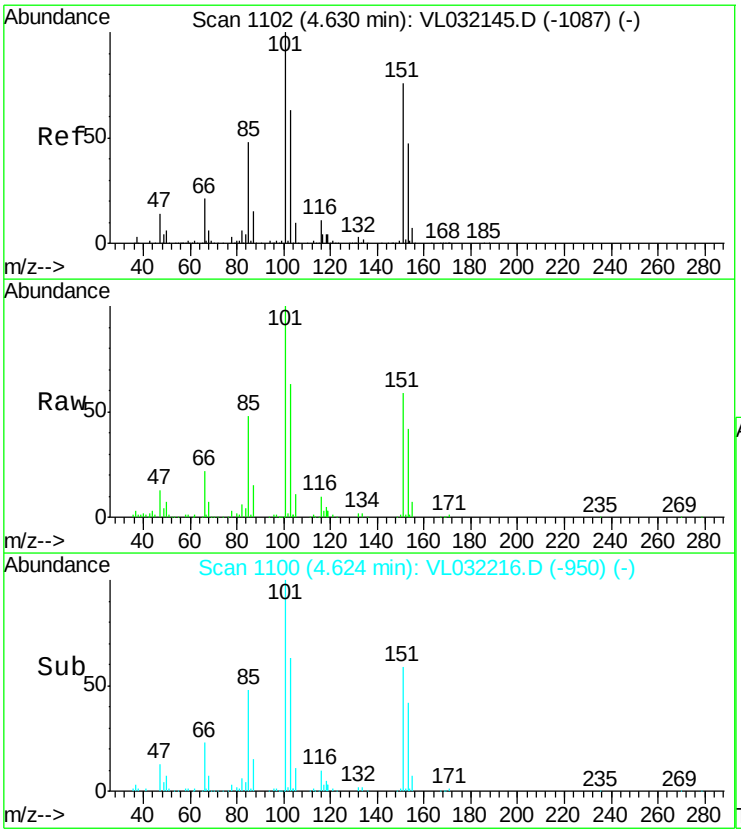
#11
Trichlorofluoromethane
Concen: 1.036 ppbv
RT: 4.07 min Scan# 928
Delta R.T. -0.01 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Instrument :
MSVOA_L
ClientSampleId :
LOQ-AIR-02-QT3-2018

Tgt Ion:101 Resp: 229012

Ion	Ratio	Lower	Upper
101	100		
103	64.0	51.4	77.0

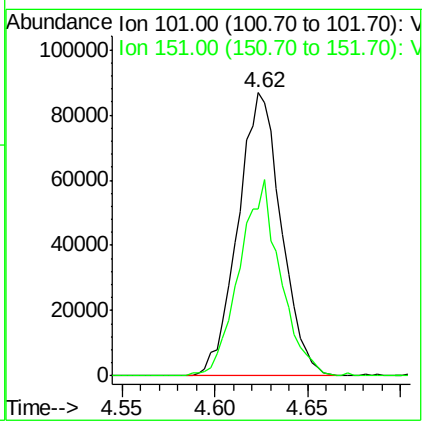


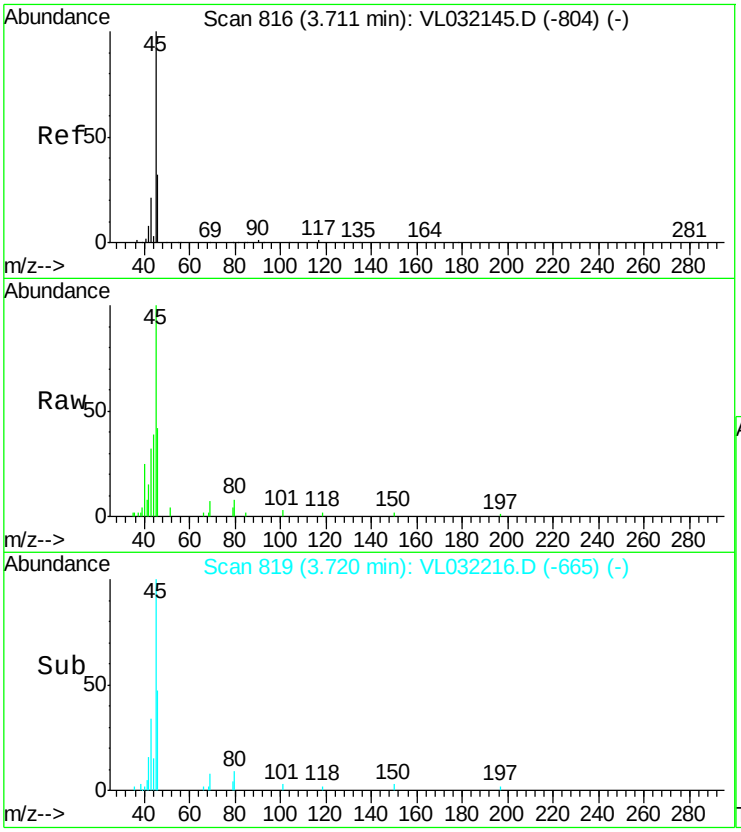


#12
1,1,2-Trichlorotrifluoroethane
Concen: 0.955 ppbv
RT: 4.62 min Scan# 1100
Delta R.T. -0.02 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Tgt Ion:101 Resp: 140682

Ion	Ratio	Lower	Upper
101	100		
151	65.4	58.8	88.2



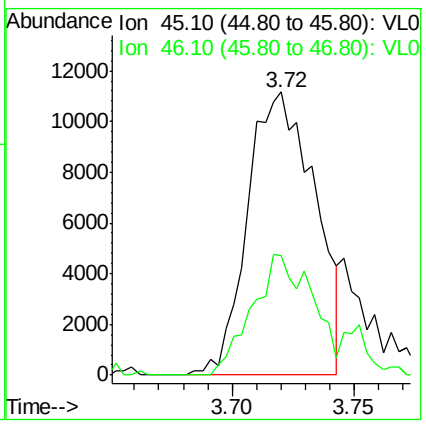


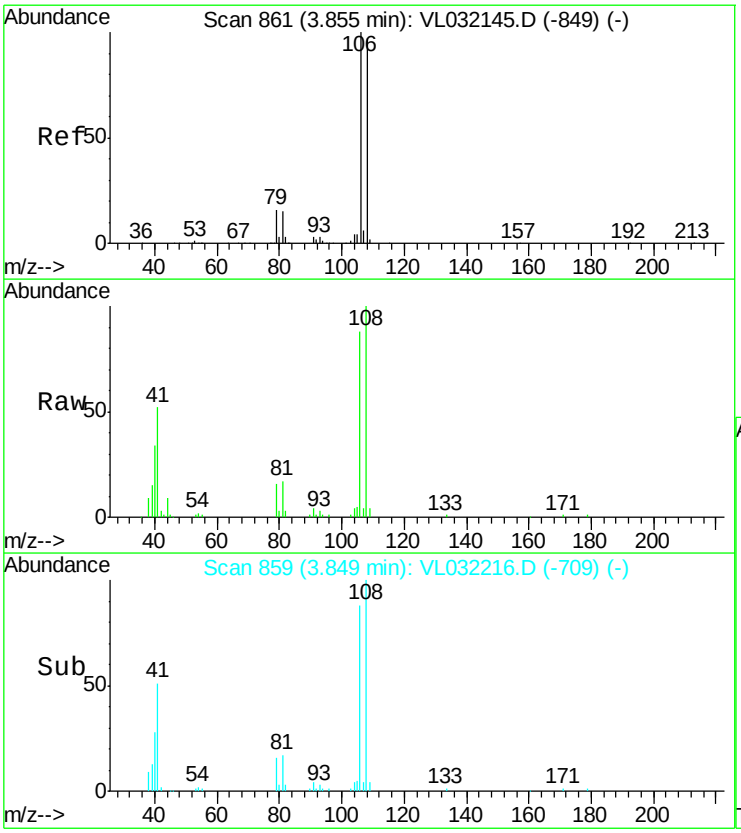
#13
Ethanol
Concen: 0.796 ppbv
RT: 3.72 min Scan# 819
Delta R.T. -0.00 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Instrument :
MSVOA_L
ClientSampleId :
LOQ-AIR-02-QT3-2018

Tgt Ion: 45 Resp: 21317

Ion	Ratio	Lower	Upper
45	100		
46	45.0	14.6	58.4

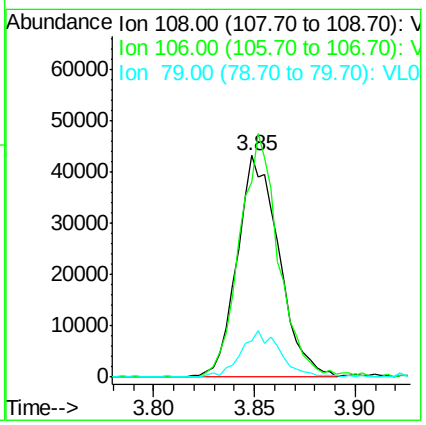


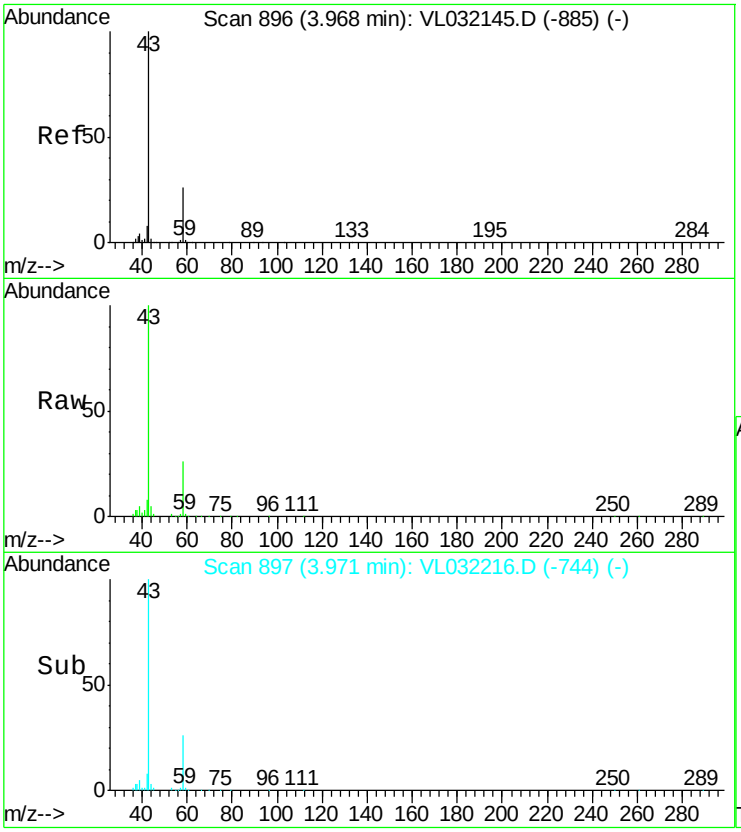


#14
Bromoethene
Concen: 0.899 ppbv
RT: 3.85 min Scan# 859
Delta R.T. -0.02 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Tgt Ion:108 Resp: 63008

Ion	Ratio	Lower	Upper
108	100		
106	102.7	86.3	129.5
79	19.5	12.7	19.1#



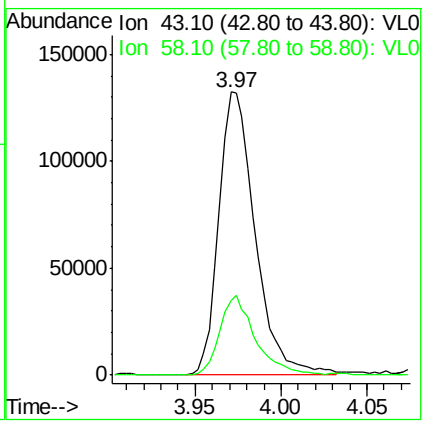


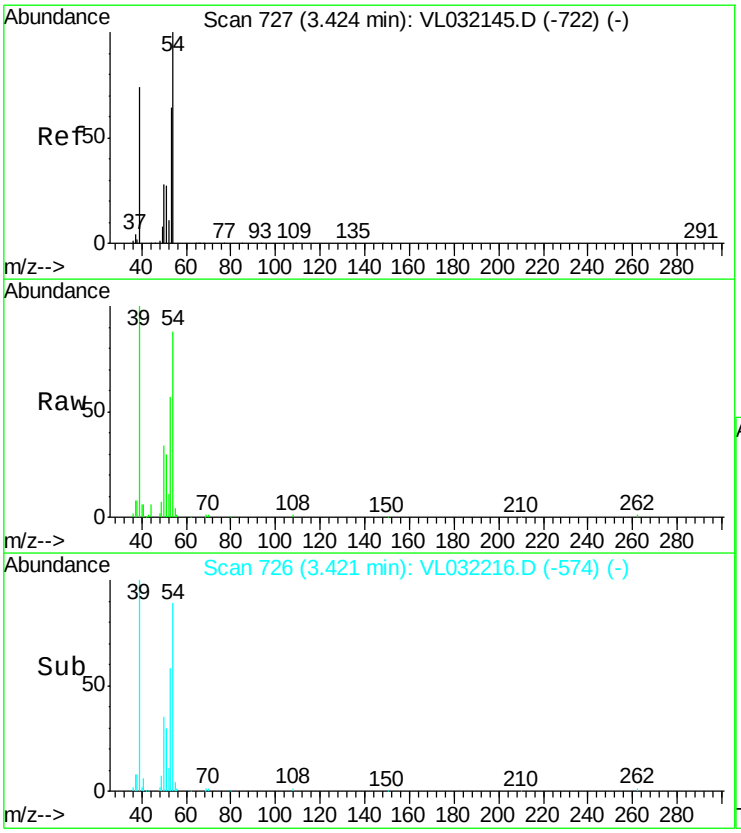
#15
Acetone
Concen: 1.073 ppbv
RT: 3.97 min Scan# 897
Delta R.T. -0.01 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Instrument :
MSVOA_L
ClientSampleId :
LOQ-AIR-02-QT3-2018

Tgt Ion: 43 Resp: 194697

Ion	Ratio	Lower	Upper
43	100		
58	27.9	21.4	32.0

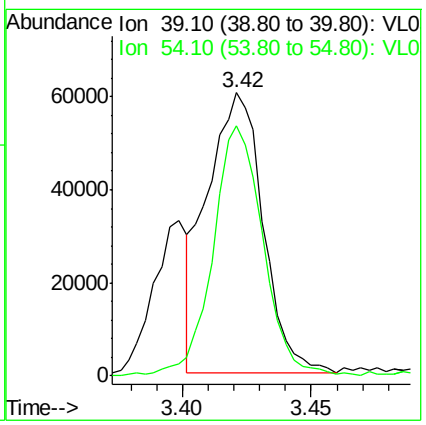


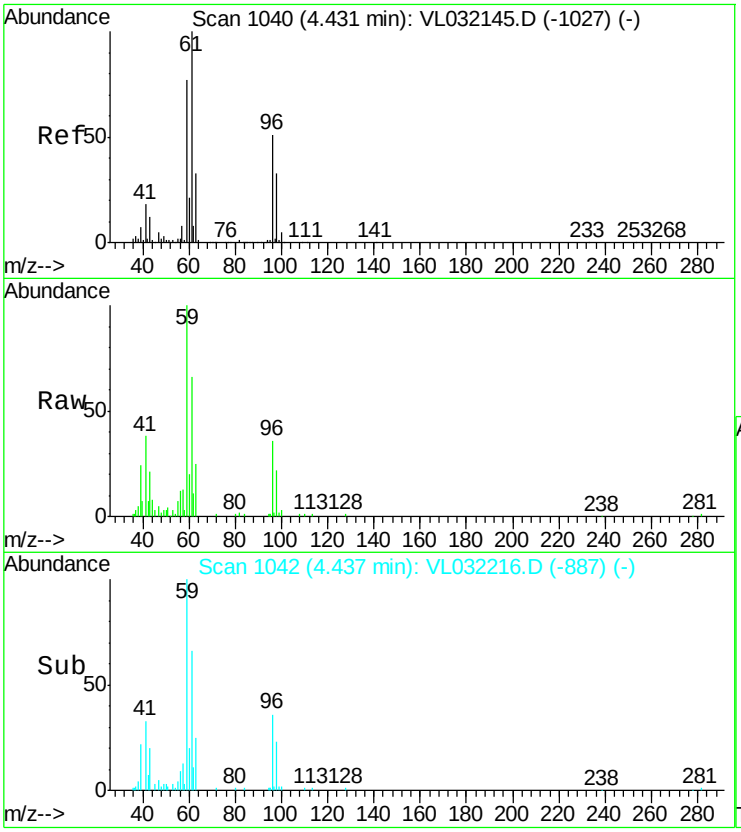


#16
1,3-Butadiene
Concen: 1.048 ppbv
RT: 3.42 min Scan# 726
Delta R.T. -0.01 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Tgt Ion: 39 Resp: 90727

Ion	Ratio	Lower	Upper
39	100		
54	80.5	75.8	113.6



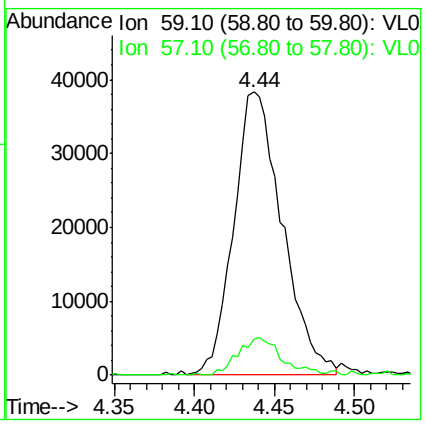


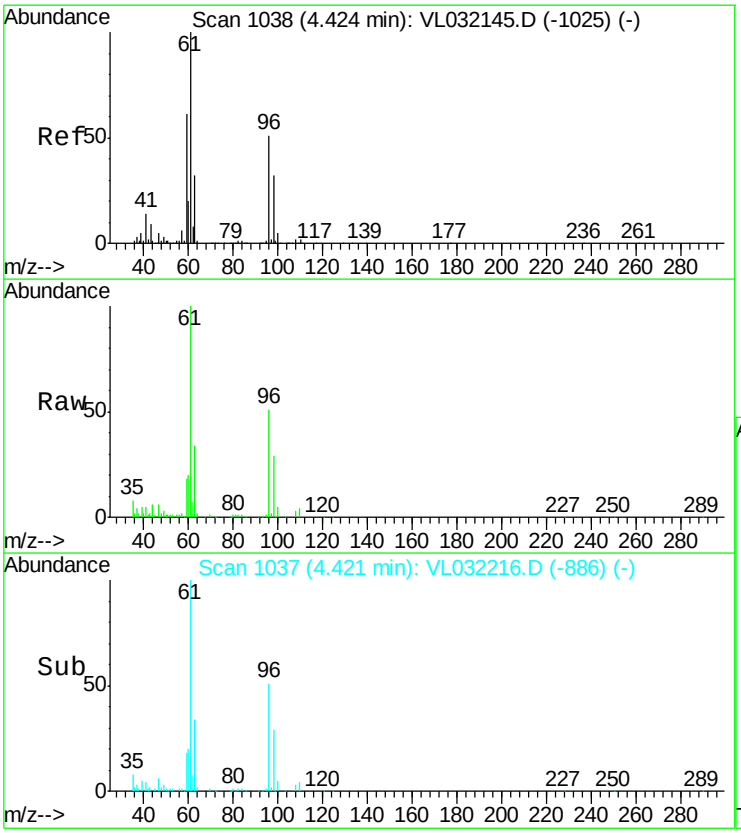
#17
tert-Butyl alcohol
Concen: 0.689 ppbv
RT: 4.44 min Scan# 1042
Delta R.T. -0.00 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Instrument :
MSVOA_L
ClientSampleId :
LOQ-AIR-02-QT3-2018

Tgt Ion: 59 Resp: 79551

Ion	Ratio	Lower	Upper
59	100		
57	12.2	8.2	12.2

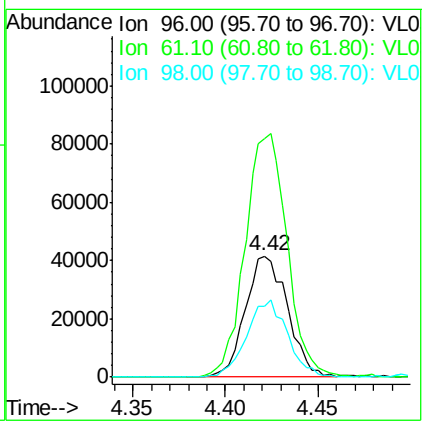


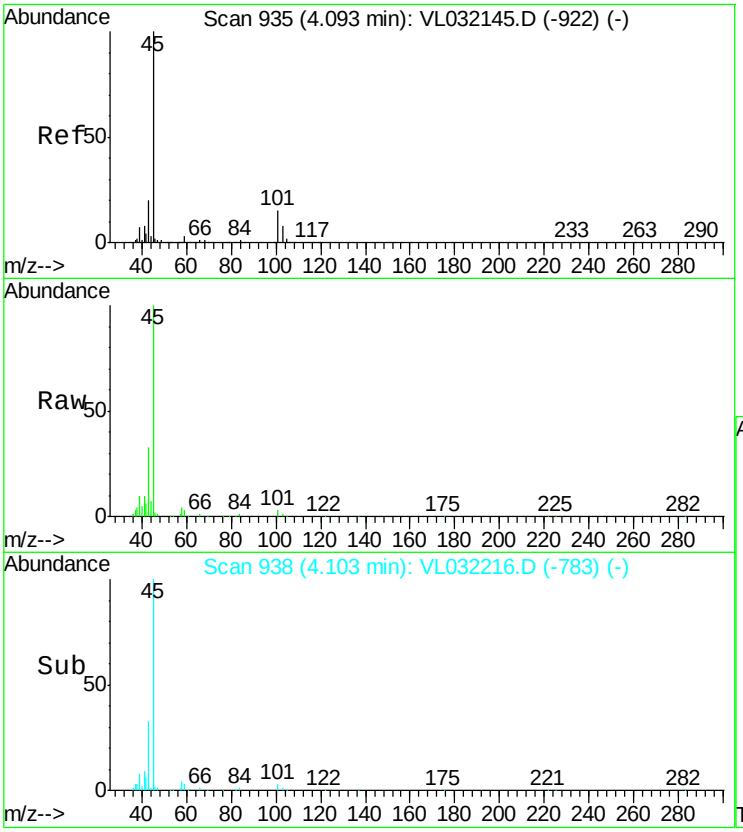


#18
1,1-Dichloroethene
Concen: 0.930 ppbv
RT: 4.42 min Scan# 1037
Delta R.T. -0.01 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Tgt Ion: 96 Resp: 65472

Ion	Ratio	Lower	Upper
96	100		
61	197.8	154.1	231.1
98	58.2	50.3	75.5



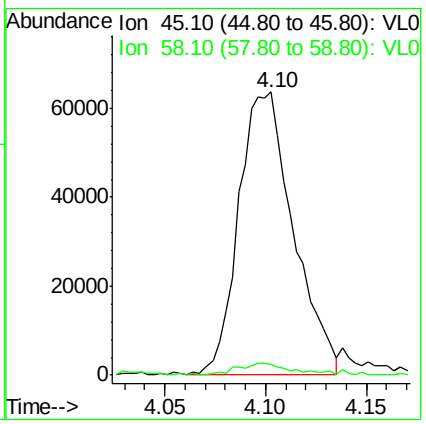


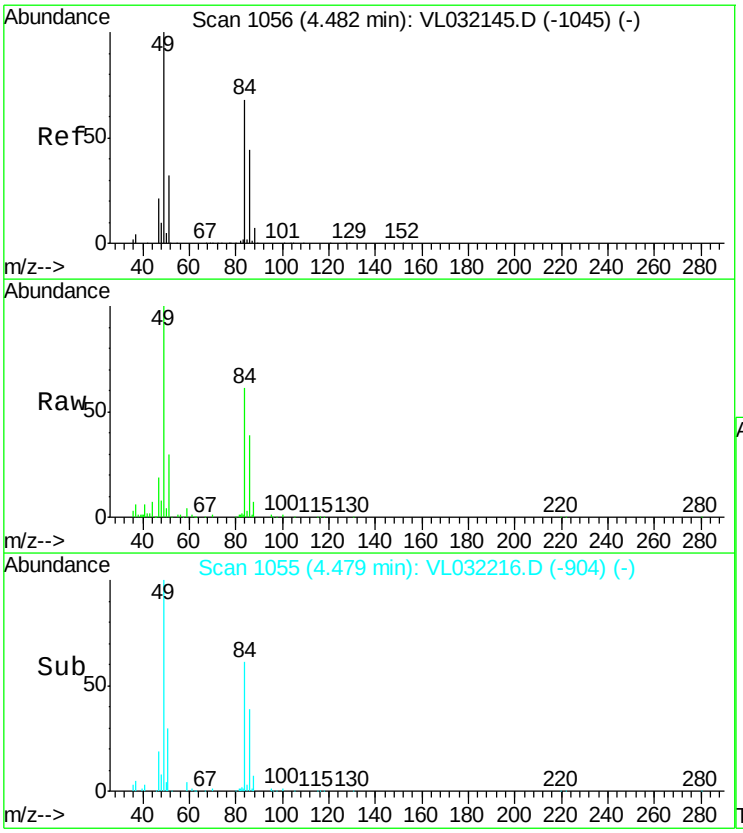
#19
Isopropyl Alcohol
Concen: 0.794 ppbv
RT: 4.10 min Scan# 938
Delta R.T. -0.00 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Instrument :
MSVOA_L
ClientSampleId :
LOQ-AIR-02-QT3-2018

Tgt Ion: 45 Resp: 119748

Ion	Ratio	Lower	Upper
45	100		
58	4.9	29.4	44.0#

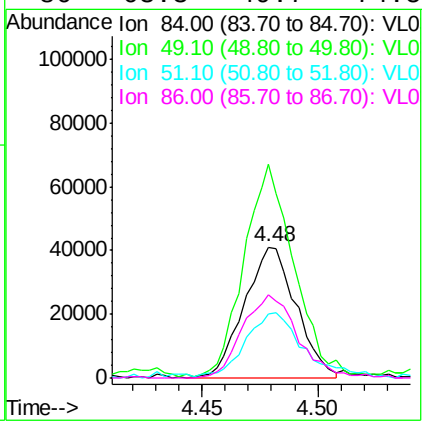


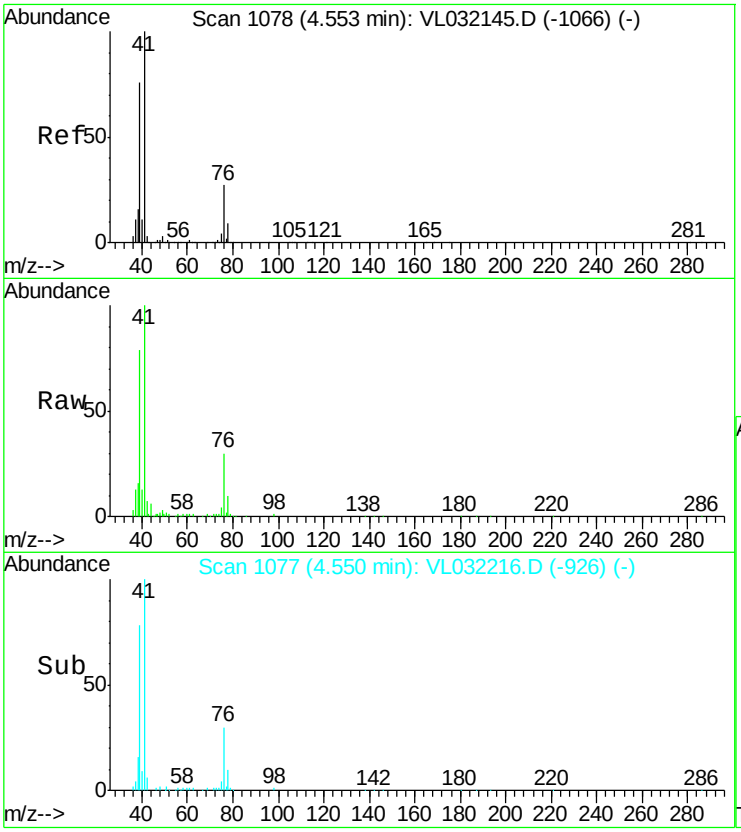


#20
Methylene Chloride
Concen: 0.963 ppbv
RT: 4.48 min Scan# 1055
Delta R.T. -0.01 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Tgt Ion: 84 Resp: 63845

Ion	Ratio	Lower	Upper
84	100		
49	160.3	119.6	179.4
51	46.4	36.3	54.5
86	63.3	49.7	74.5



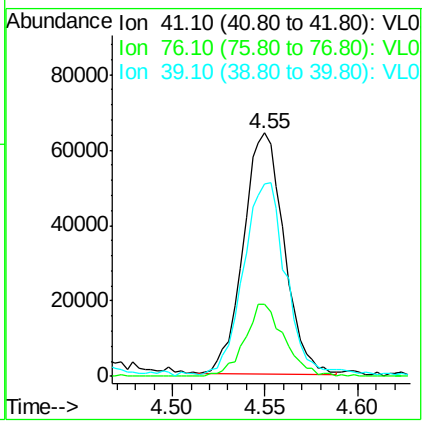


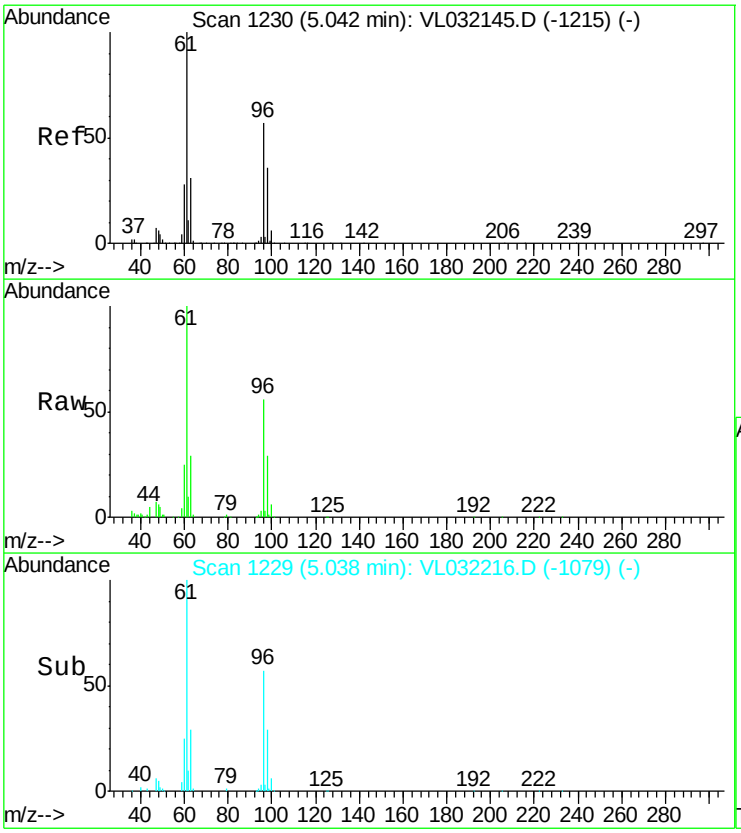
#21
Allyl Chloride
Concen: 0.788 ppbv
RT: 4.55 min Scan# 1077
Delta R.T. -0.01 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Instrument :
MSVOA_L
ClientSampleId :
LOQ-AIR-02-QT3-2018

Tgt Ion: 41 Resp: 97591

Ion	Ratio	Lower	Upper
41	100		
76	29.4	22.5	33.7
39	88.2	60.5	90.7

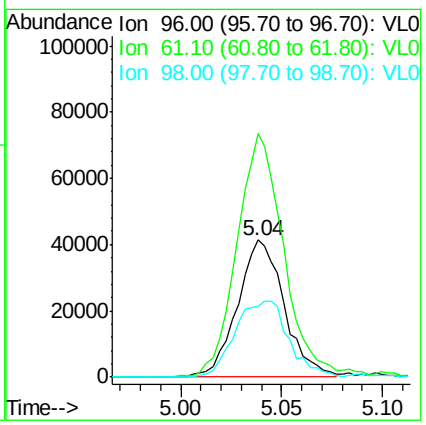


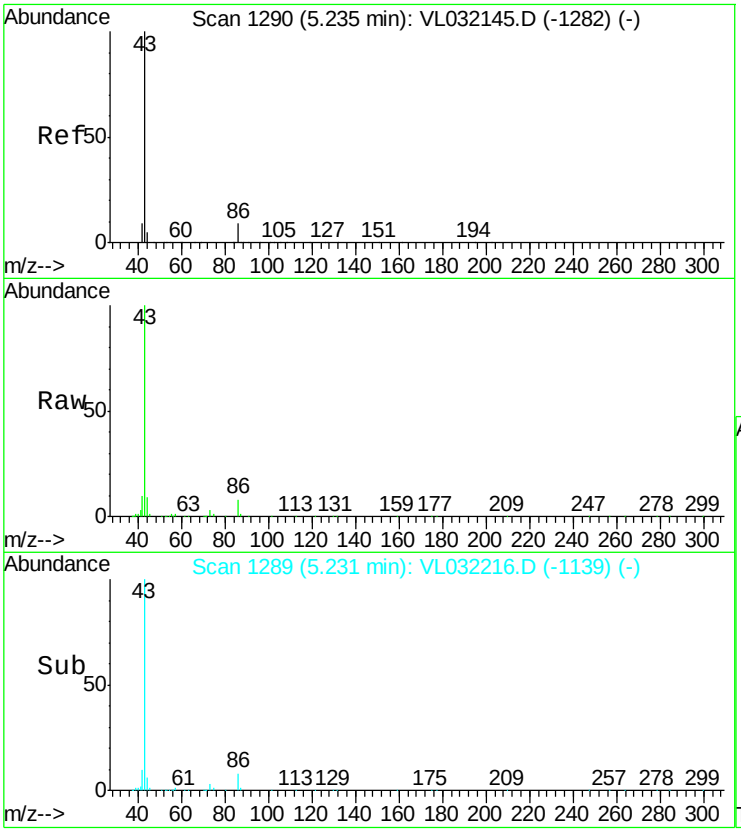


#22
trans-1,2-Dichloroethene
Concen: 0.909 ppbv
RT: 5.04 min Scan# 1229
Delta R.T. -0.02 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Tgt Ion: 96 Resp: 66919

Ion	Ratio	Lower	Upper
96	100		
61	176.9	135.2	202.8
98	52.2	49.7	74.5



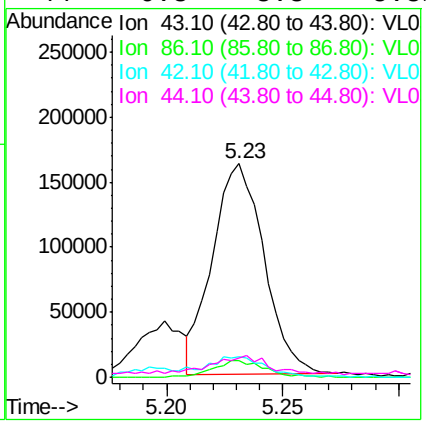


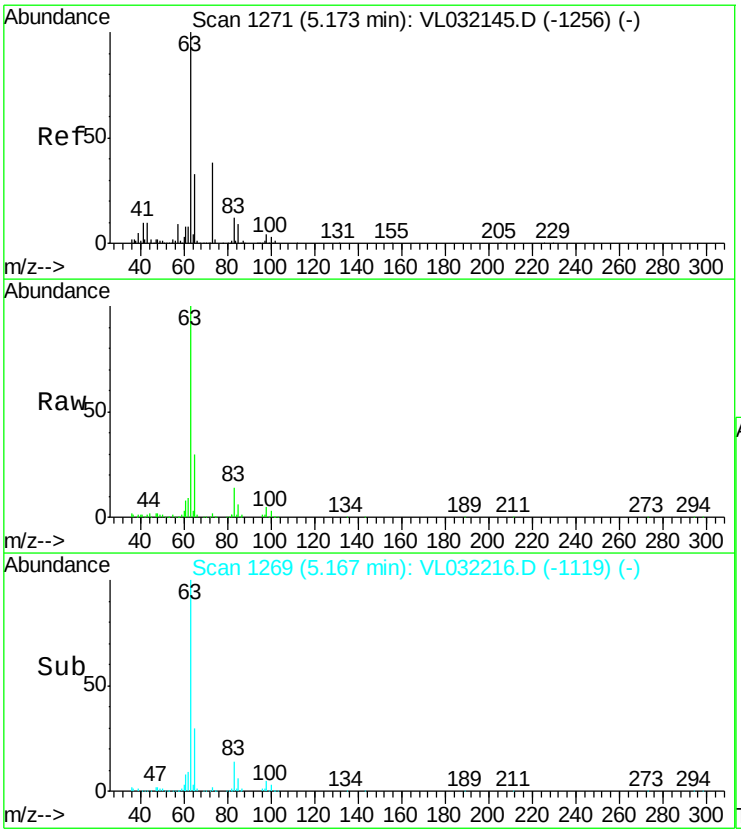
#23
Vinyl Acetate
Concen: 0.764 ppbv
RT: 5.23 min Scan# 1289
Delta R.T. -0.02 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Instrument : MSVOA_L
ClientSampleId : LOQ-AIR-02-QT3-2018

Tgt Ion: 43 Resp: 251274

Ion	Ratio	Lower	Upper
43	100		
86	8.1	6.2	9.4
42	9.6	6.9	10.3
44	6.8	3.8	5.8#

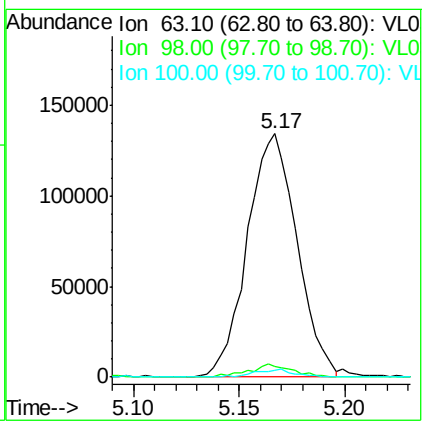


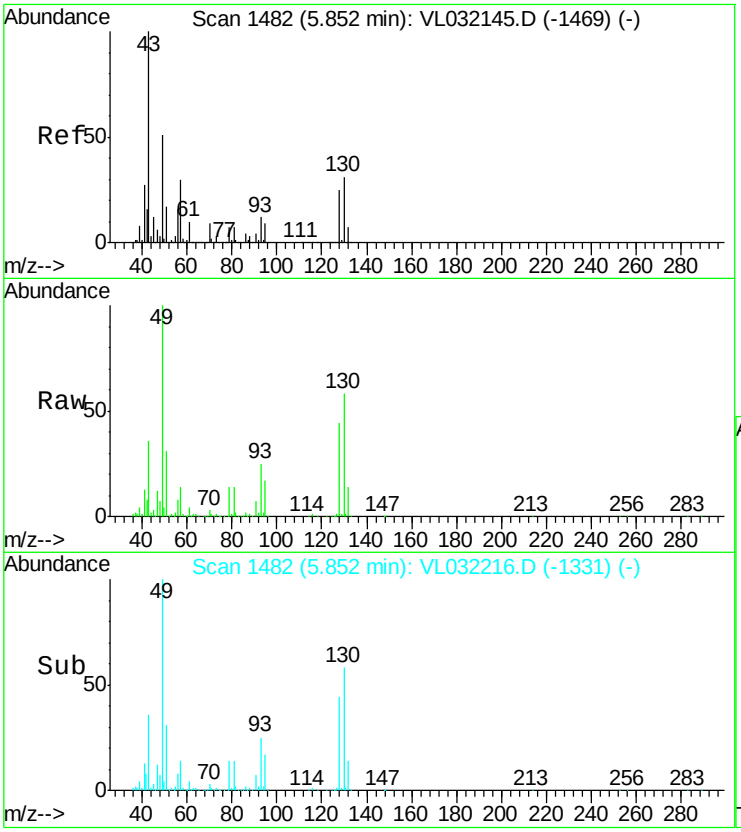


#24
1,1-Dichloroethane
Concen: 1.042 ppbv
RT: 5.17 min Scan# 1269
Delta R.T. -0.02 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Tgt Ion: 63 Resp: 219733

Ion	Ratio	Lower	Upper
63	100		
98	4.6	2.4	7.2
100	2.9	1.7	5.0



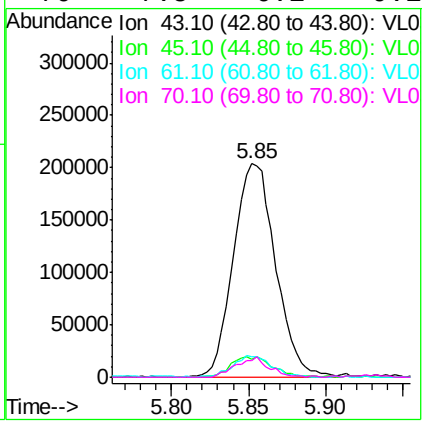


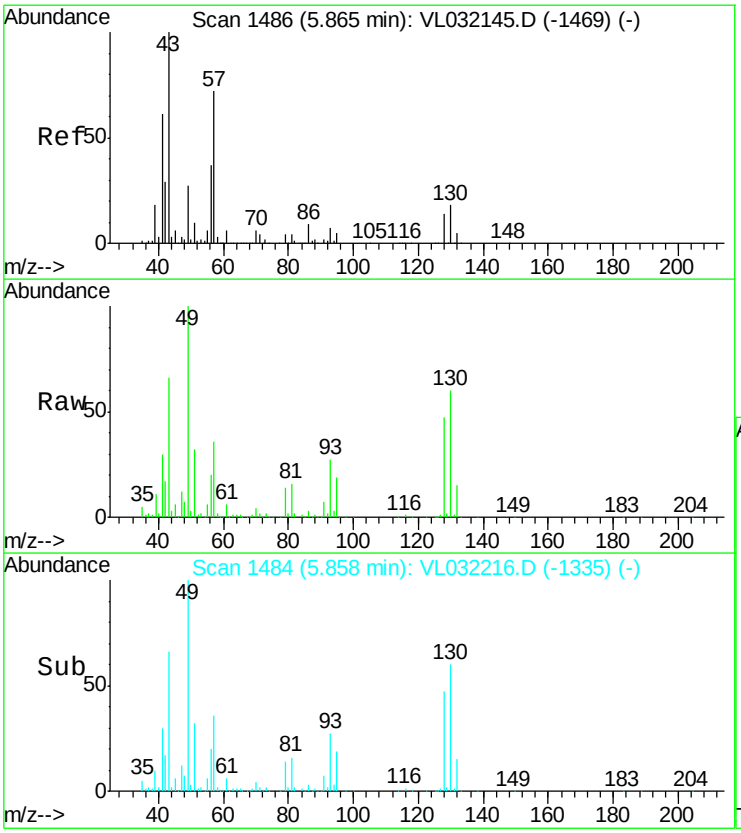
#25
Ethyl Acetate
Concen: 1.032 ppbv
RT: 5.85 min Scan# 1482
Delta R.T. -0.01 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Instrument :
MSVOA_L
ClientSampleId :
LOQ-AIR-02-QT3-2018

Tgt Ion: 43 Resp: 387271

Ion	Ratio	Lower	Upper
43	100		
45	9.5	7.8	11.8
61	10.2	7.4	11.0
70	7.5	6.1	9.1

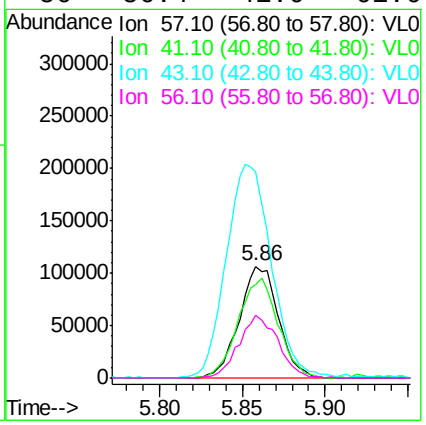


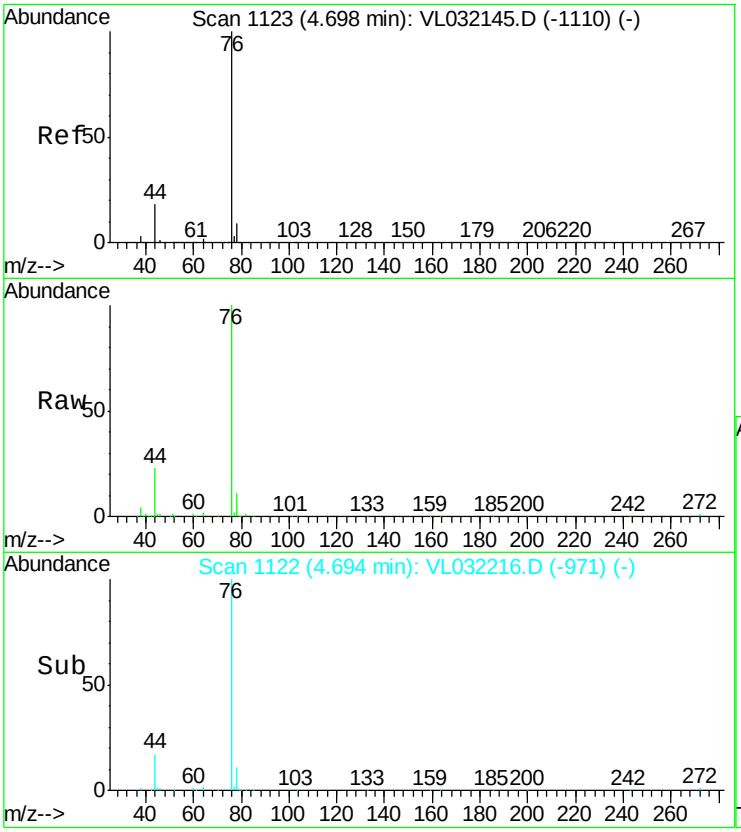


#26
Hexane
Concen: 1.012 ppbv
RT: 5.86 min Scan# 1484
Delta R.T. -0.02 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Tgt Ion: 57 Resp: 175020

Ion	Ratio	Lower	Upper
57	100		
41	91.7	68.6	103.0
43	222.9	168.6	252.8
56	56.4	41.0	61.6



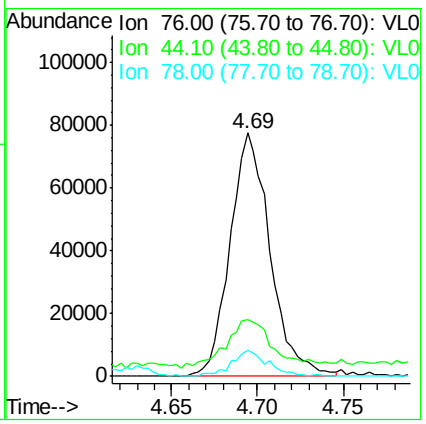


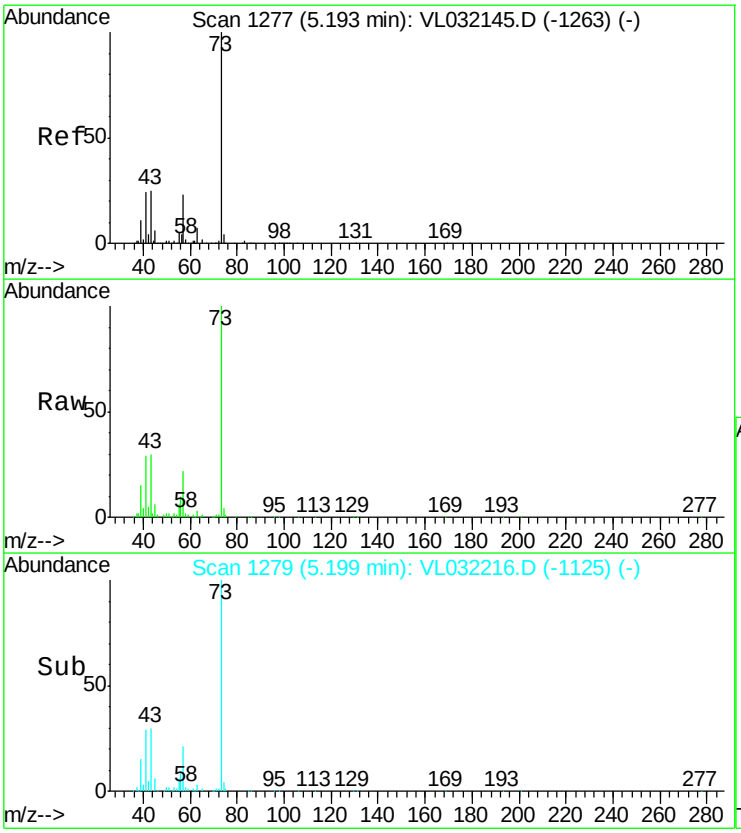
#27
Carbon Disulfide
Concen: 0.733 ppbv
RT: 4.69 min Scan# 1122
Delta R.T. -0.01 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Instrument : MSVOA_L
ClientSampleId : LOQ-AIR-02-QT3-2018

Tgt Ion: 76 Resp: 125942

Ion	Ratio	Lower	Upper
76	100		
44	24.1	15.1	22.7#
78	10.0	7.2	10.8

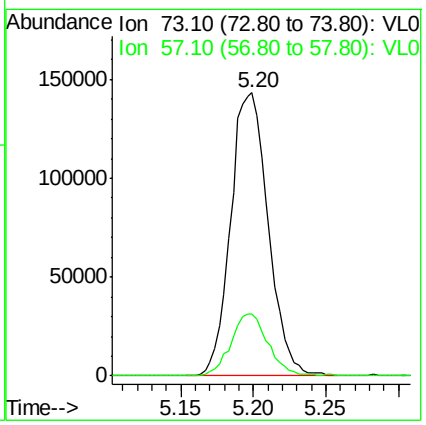


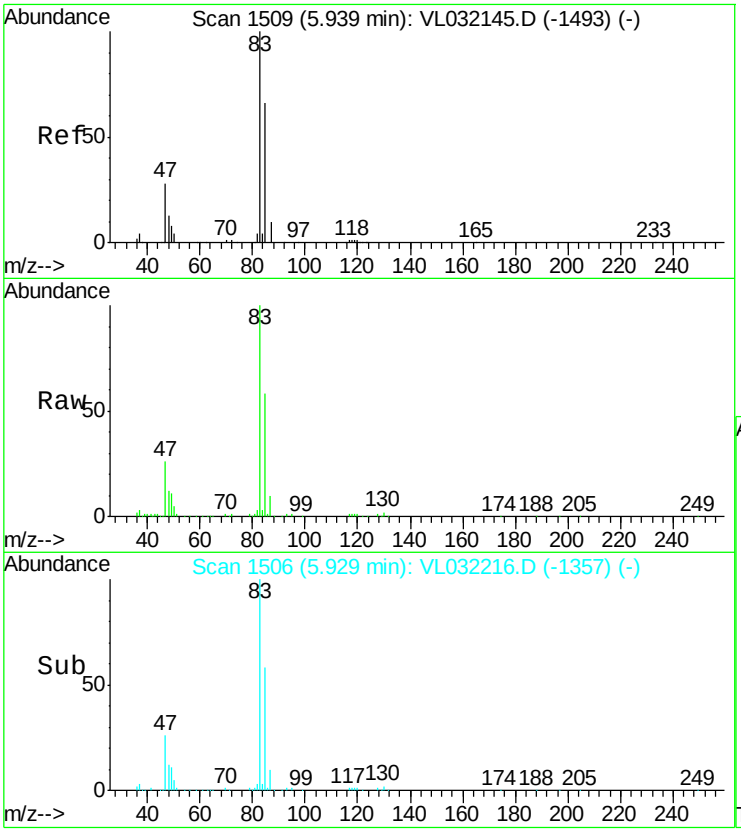


#28
Methyl tert-Butyl Ether
Concen: 0.843 ppbv
RT: 5.20 min Scan# 1279
Delta R.T. -0.00 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Tgt Ion: 73 Resp: 257435

Ion	Ratio	Lower	Upper
73	100		
57	21.8	18.6	27.8



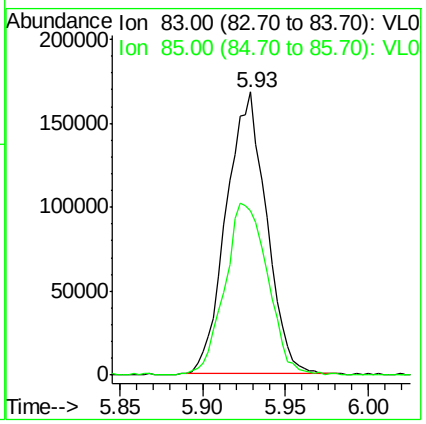


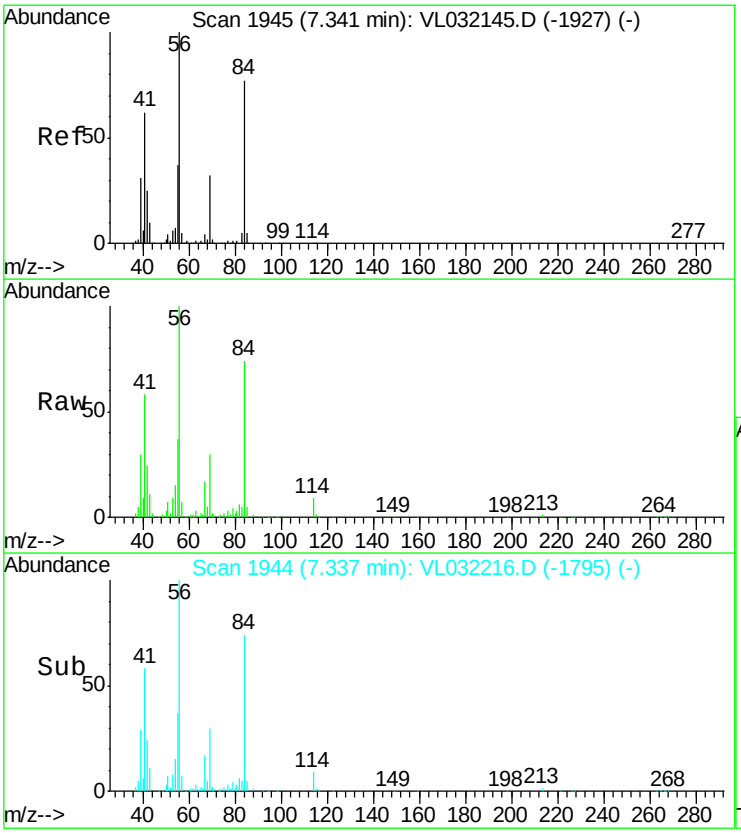
#29
Chloroform
Concen: 1.117 ppbv
RT: 5.93 min Scan# 1506
Delta R.T. -0.02 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Instrument :
MSVOA_L
ClientSampleId :
LOQ-AIR-02-QT3-2018

Tgt Ion: 83 Resp: 281132

Ion	Ratio	Lower	Upper
83	100		
85	58.2	51.6	77.4

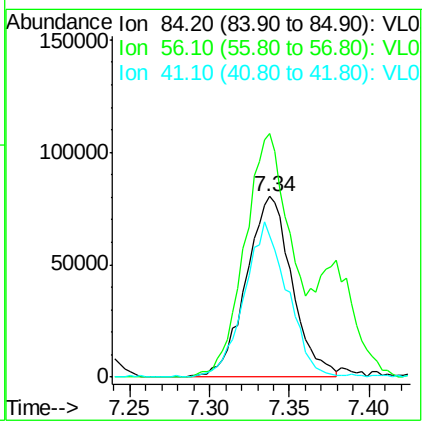


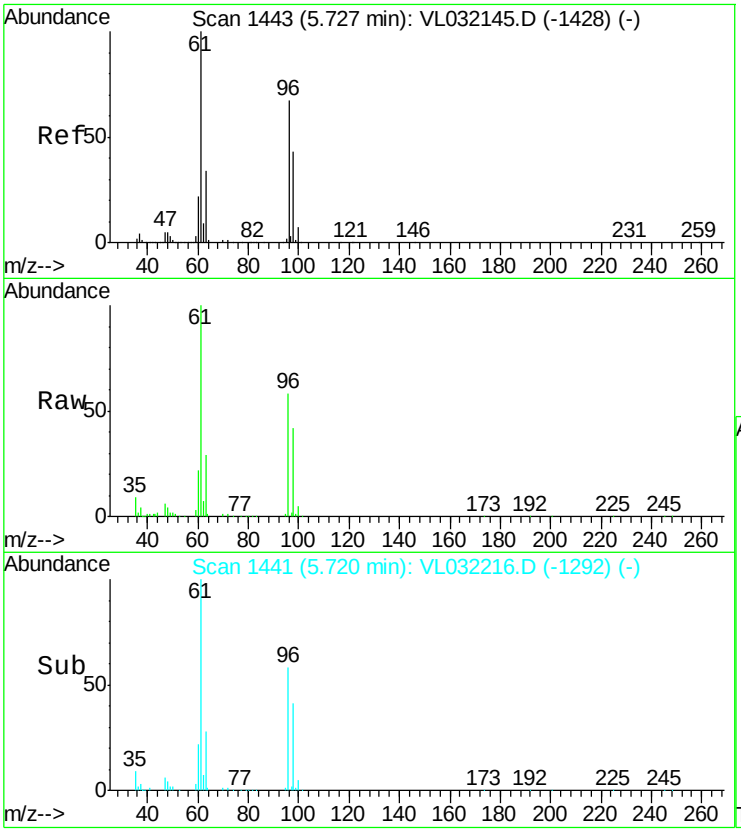


#30
Cyclohexane
Concen: 0.970 ppbv
RT: 7.34 min Scan# 1944
Delta R.T. -0.02 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Tgt Ion: 84 Resp: 158002

Ion	Ratio	Lower	Upper
84	100		
56	190.1	109.1	163.7#
41	81.5	64.6	96.8



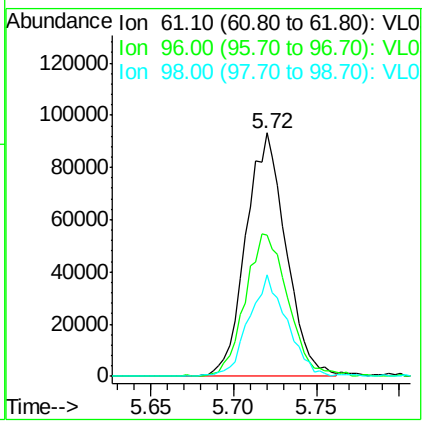


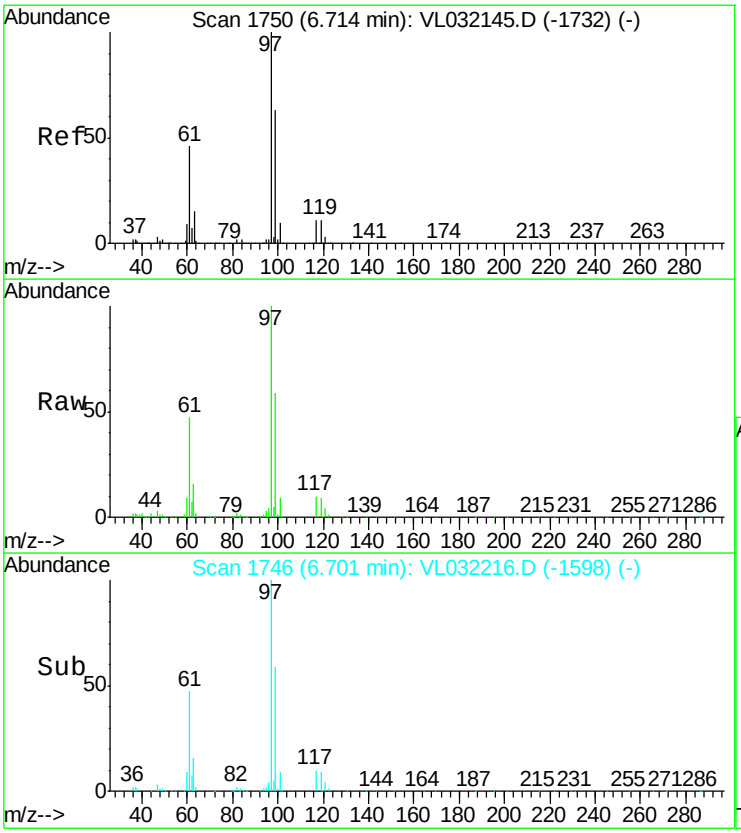
#31
cis-1,2-Dichloroethene
Concen: 0.906 ppbv
RT: 5.72 min Scan# 1441
Delta R.T. -0.02 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Instrument :
MSVOA_L
ClientSampleId :
LOQ-AIR-02-QT3-2018

Tgt Ion: 61 Resp: 156582

Ion	Ratio	Lower	Upper
61	100		
96	57.2	54.2	81.4
98	41.5	34.6	52.0

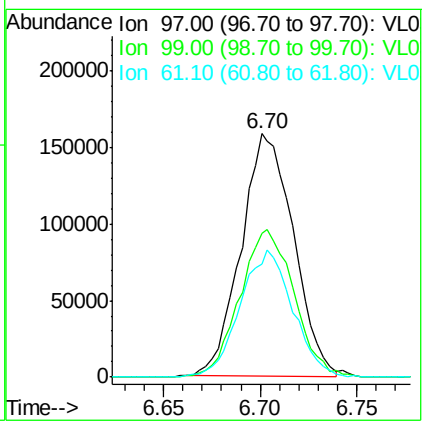


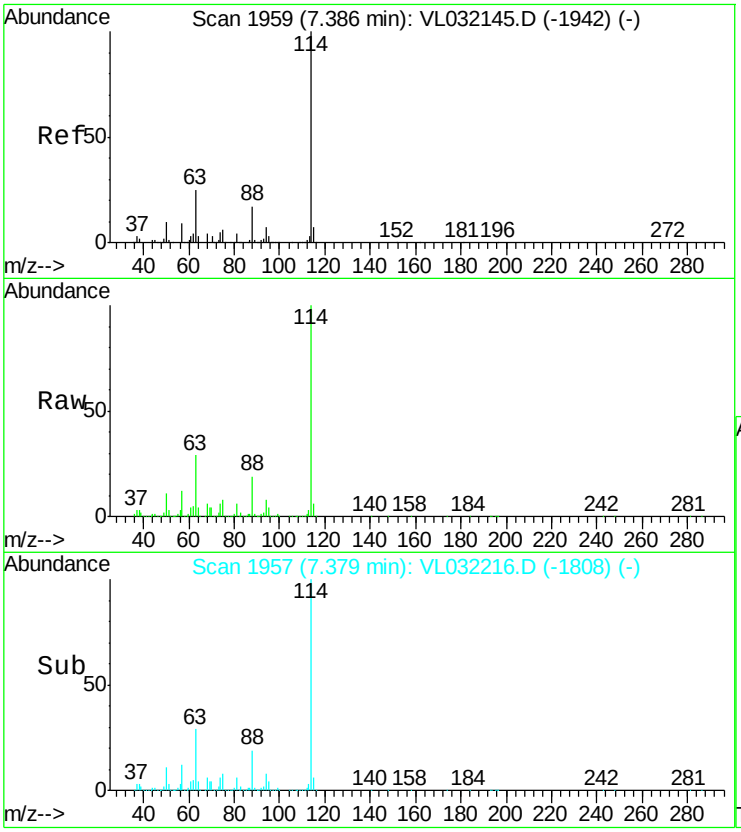


#32
1,1,1-Trichloroethane
Concen: 1.133 ppbv
RT: 6.70 min Scan# 1746
Delta R.T. -0.02 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Tgt Ion: 97 Resp: 298903

Ion	Ratio	Lower	Upper
97	100		
99	62.9	51.3	76.9
61	52.7	38.4	57.6



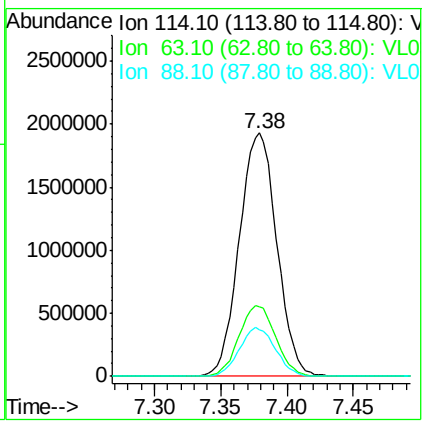


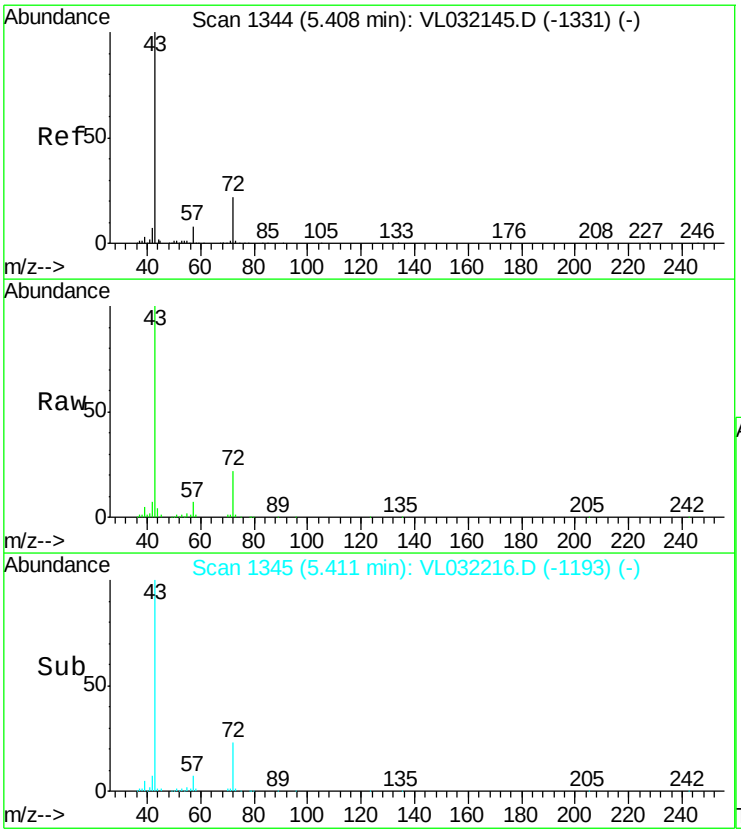
#33
1,4-Difluorobenzene
Concen: 10.000 ppbv
RT: 7.38 min Scan# 1957
Delta R.T. -0.02 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Instrument :
MSVOA_L
ClientSampleId :
LOQ-AIR-02-QT3-2018

Tgt Ion:114 Resp: 3789977

Ion	Ratio	Lower	Upper
114	100		
63	28.5	19.1	28.7
88	19.4	13.9	20.9

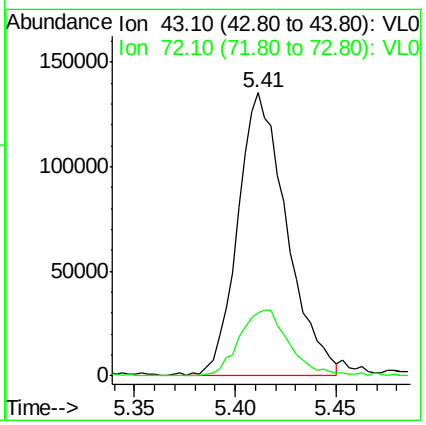


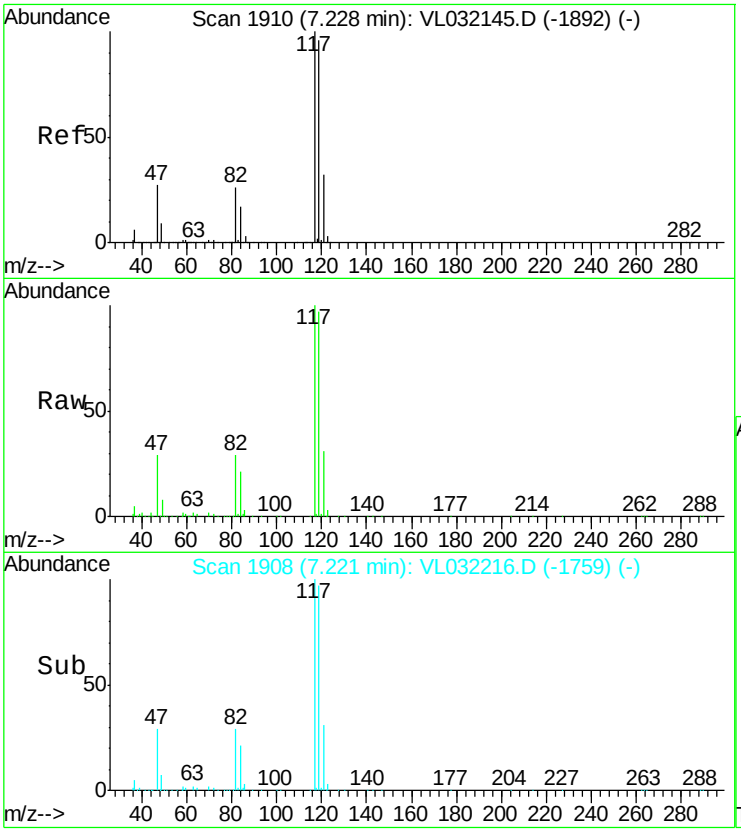


#34
2-Butanone
Concen: 0.947 ppbv
RT: 5.41 min Scan# 1345
Delta R.T. -0.01 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Tgt Ion: 43 Resp: 227729

Ion	Ratio	Lower	Upper
43	100		
72	24.7	18.4	27.6



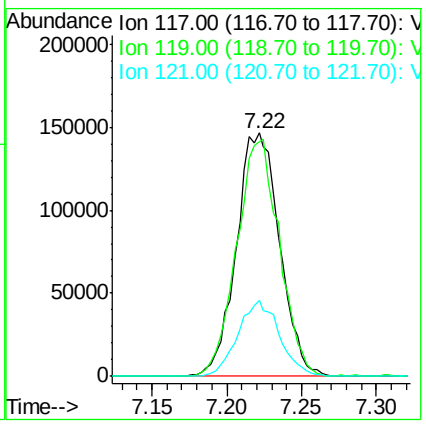


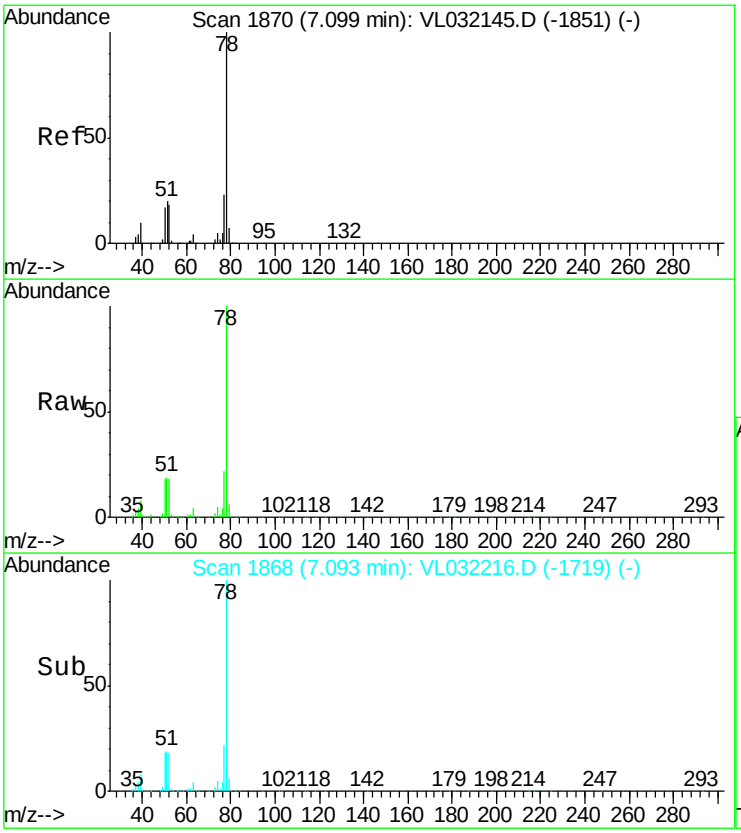
#35
Carbon Tetrachloride
Concen: 1.135 ppbv
RT: 7.22 min Scan# 1908
Delta R.T. -0.02 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Instrument :
MSVOA_L
ClientSampleId :
LOQ-AIR-02-QT3-2018

Tgt Ion:117 Resp: 294354

Ion	Ratio	Lower	Upper
117	100		
119	96.6	74.8	112.2
121	31.0	24.0	36.0

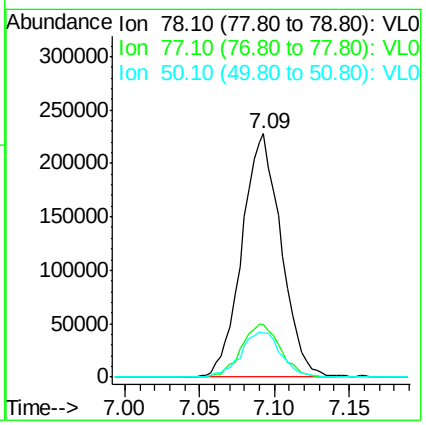


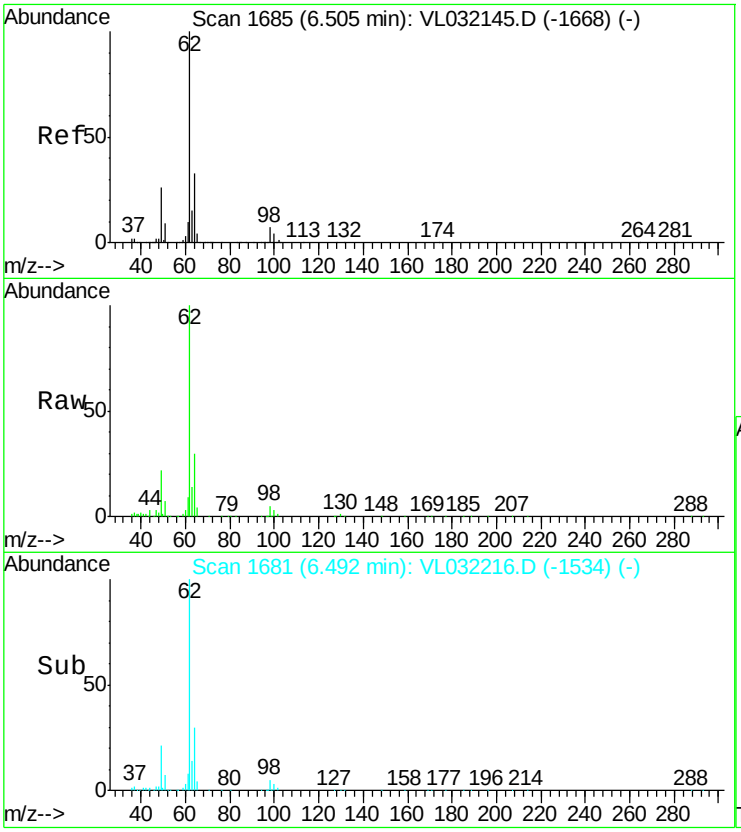


#36
Benzene
Concen: 1.132 ppbv
RT: 7.09 min Scan# 1868
Delta R.T. -0.02 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Tgt Ion: 78 Resp: 415223

Ion	Ratio	Lower	Upper
78	100		
77	21.8	17.7	26.5
50	18.1	14.0	21.0



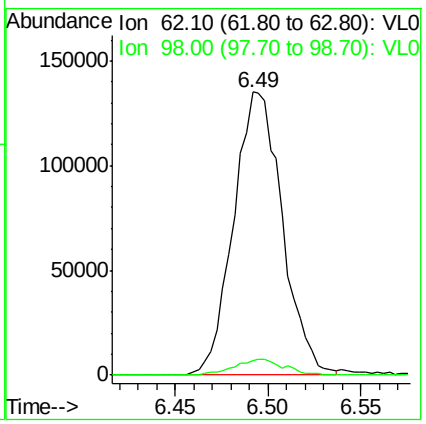


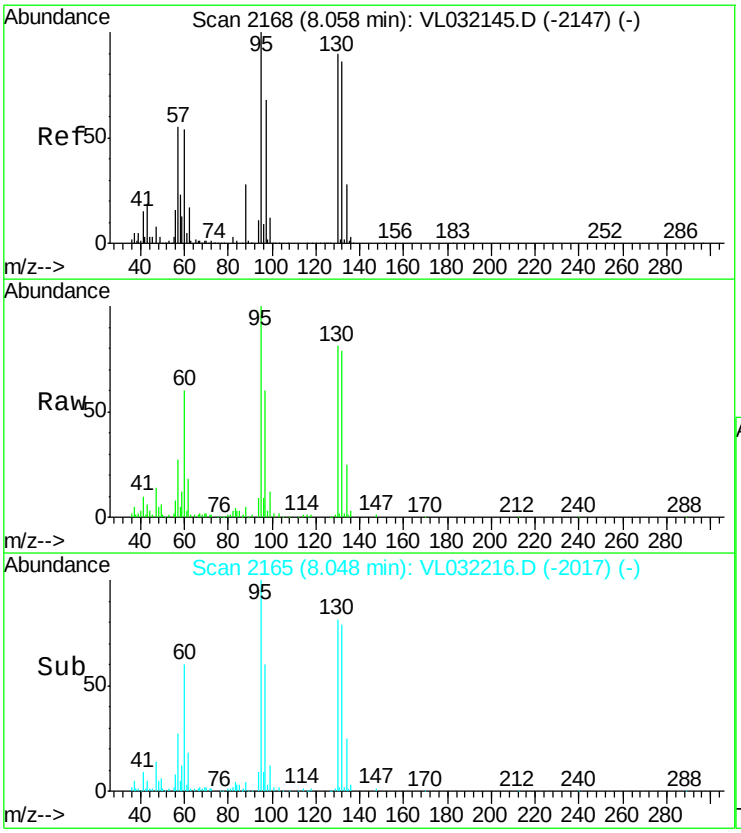
#37
1,2-Dichloroethane
Concen: 1.352 ppbv
RT: 6.49 min Scan# 1681
Delta R.T. -0.03 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Instrument :
MSVOA_L
ClientSampleId :
LOQ-AIR-02-QT3-2018

Tgt Ion: 62 Resp: 247062

Ion	Ratio	Lower	Upper
62	100		
98	5.8	5.8	8.6

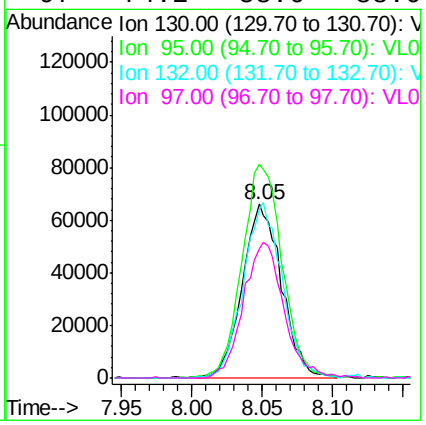


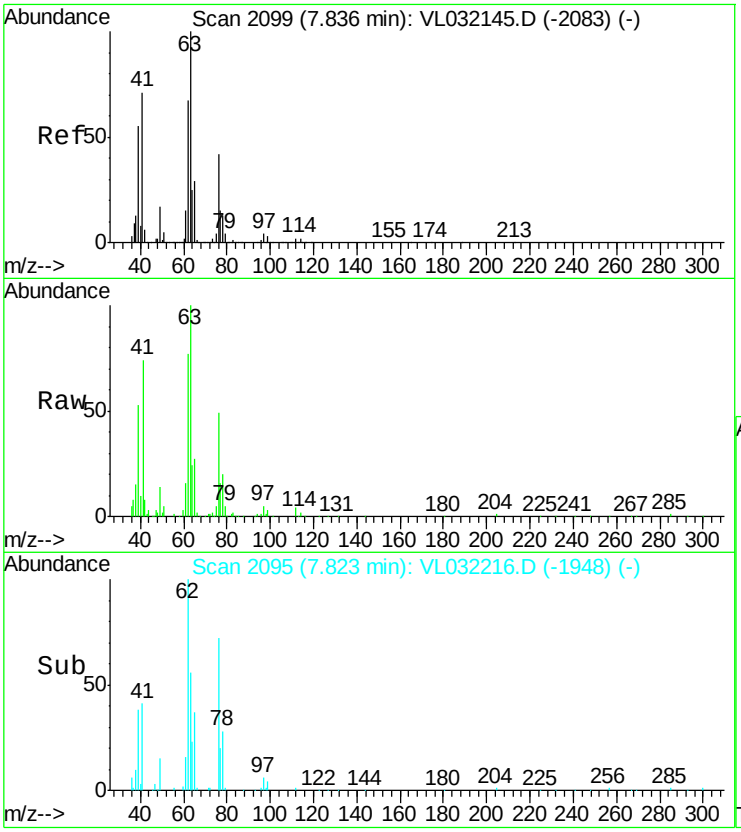


#38
Trichloroethene
Concen: 0.896 ppbv
RT: 8.05 min Scan# 2165
Delta R.T. -0.02 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Tgt Ion:130 Resp: 128353

Ion	Ratio	Lower	Upper
130	100		
95	122.6	88.1	132.1
132	96.6	74.6	112.0
97	74.2	58.6	88.0



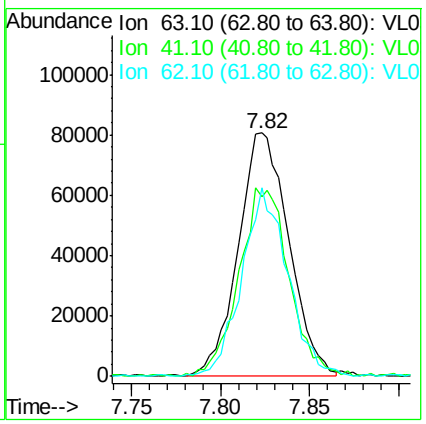


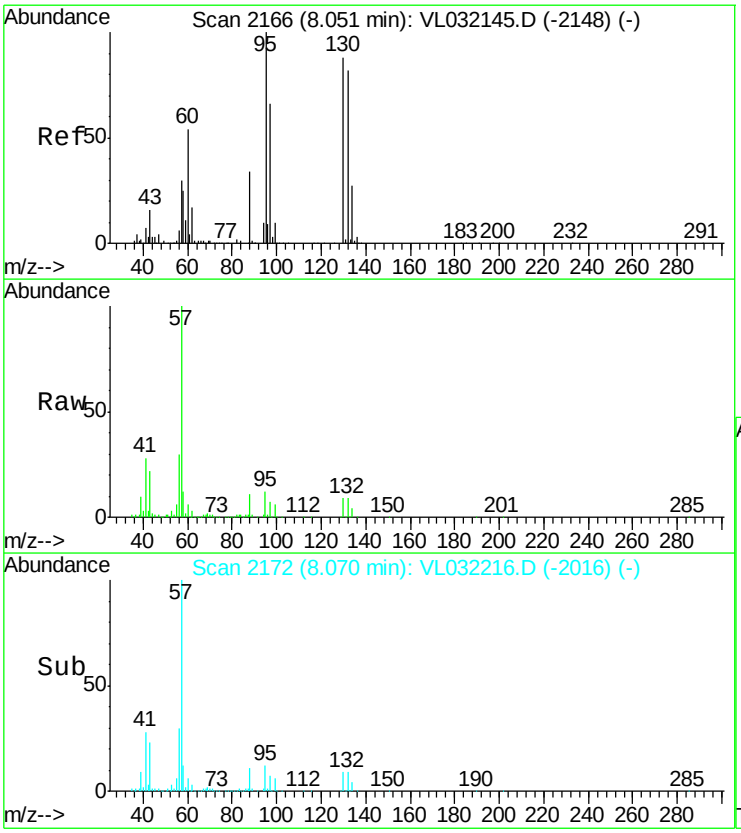
#39
1,2-Dichloropropane
Concen: 1.108 ppbv
RT: 7.82 min Scan# 2095
Delta R.T. -0.03 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Instrument :
MSVOA_L
ClientSampleId :
LOQ-AIR-02-QT3-2018

Tgt Ion: 63 Resp: 160305

Ion	Ratio	Lower	Upper
63	100		
41	72.4	53.3	79.9
62	76.7	54.8	82.2

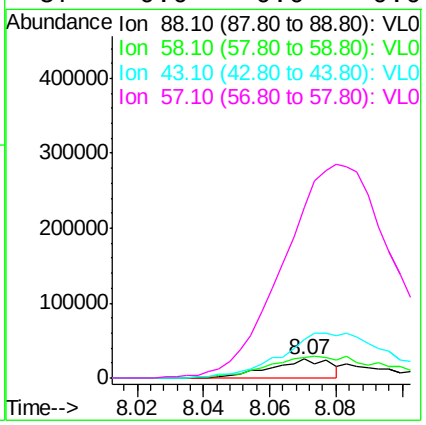


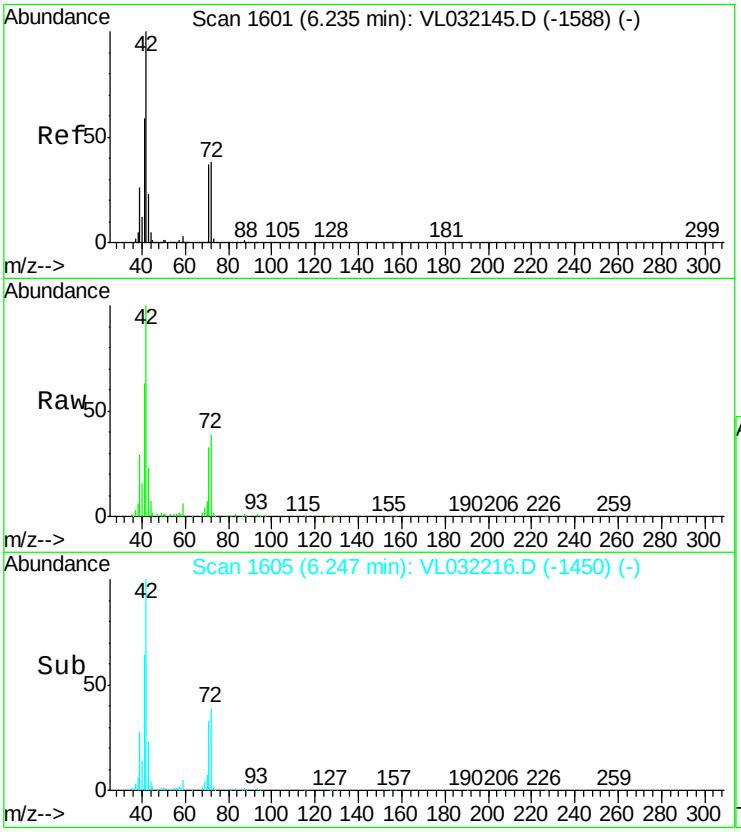


#40
1,4-Dioxane
Concen: 0.560 ppbv
RT: 8.07 min Scan# 2172
Delta R.T. 0.00 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Tgt Ion: 88 Resp: 31773

Ion	Ratio	Lower	Upper
88	100		
58	0.0	47.4	71.0#
43	0.0	0.0	0.0
57	0.0	0.0	0.0



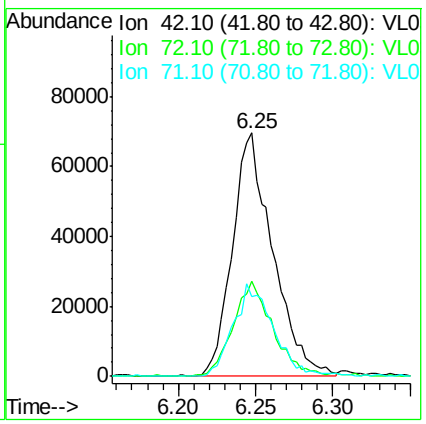


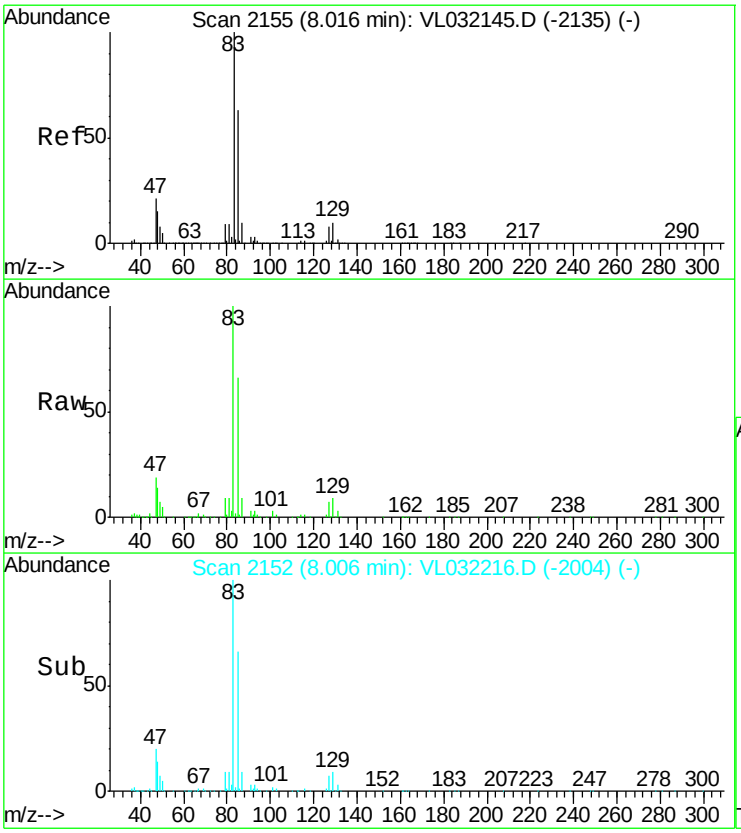
#41
Tetrahydrofuran
Concen: 0.875 ppbv
RT: 6.25 min Scan# 1605
Delta R.T. -0.00 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Instrument :
MSVOA_L
ClientSampleId :
LOQ-AIR-02-QT3-2018

Tgt Ion: 42 Resp: 126135

Ion	Ratio	Lower	Upper
42	100		
72	39.1	31.1	46.7
71	37.9	29.5	44.3

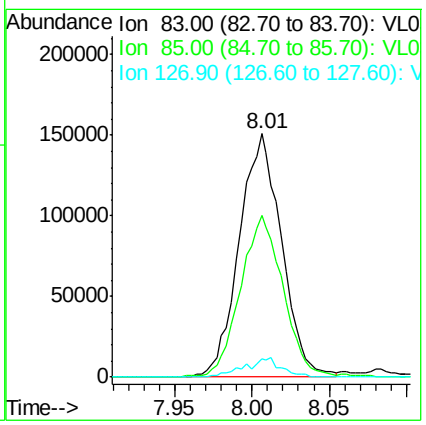


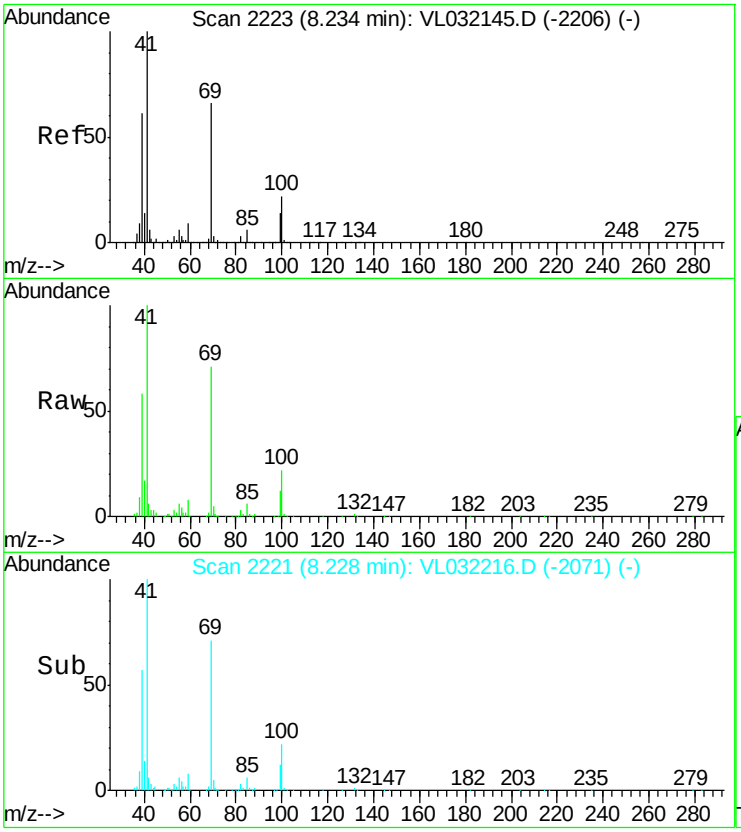


#42
Bromodichloromethane
Concen: 0.993 ppbv
RT: 8.01 min Scan# 2152
Delta R.T. -0.02 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Tgt Ion: 83 Resp: 284373

Ion	Ratio	Lower	Upper
83	100		
85	65.7	52.6	79.0
127	7.4	6.5	9.7



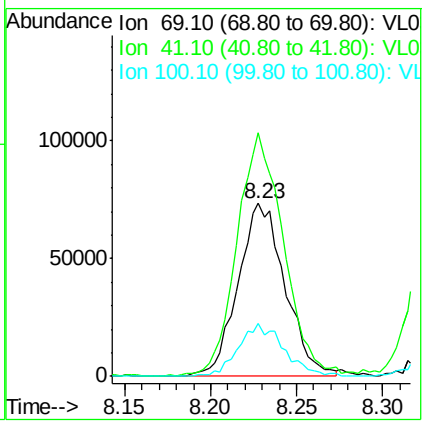


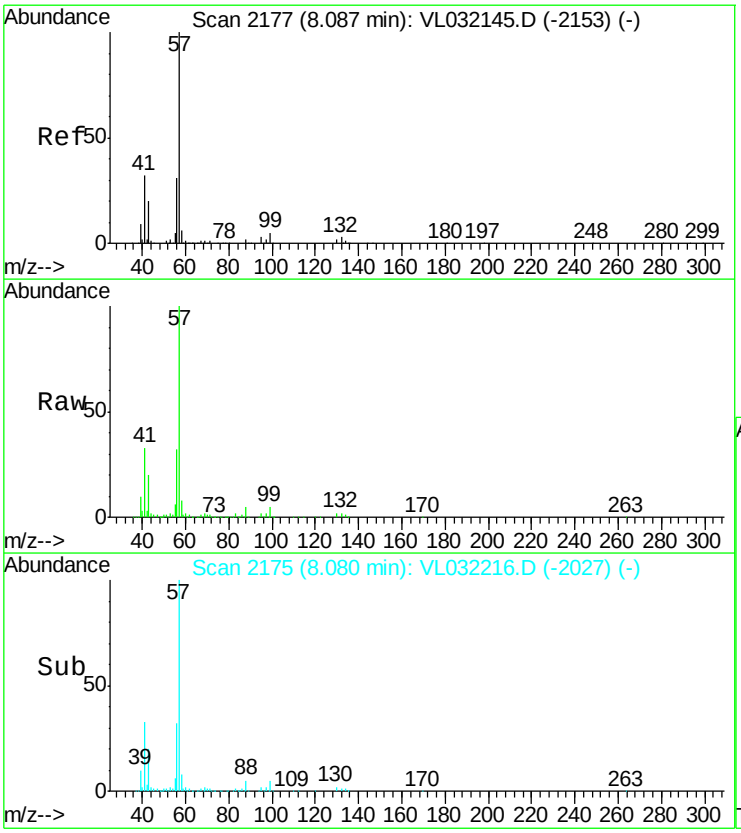
#43
Methyl Methacrylate
Concen: 0.909 ppbv
RT: 8.23 min Scan# 2221
Delta R.T. -0.02 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Instrument :
MSVOA_L
ClientSampleId :
LOQ-AIR-02-QT3-2018

Tgt Ion: 69 Resp: 138145

Ion	Ratio	Lower	Upper
69	100		
41	140.0	118.2	177.4
100	29.7	27.4	41.2

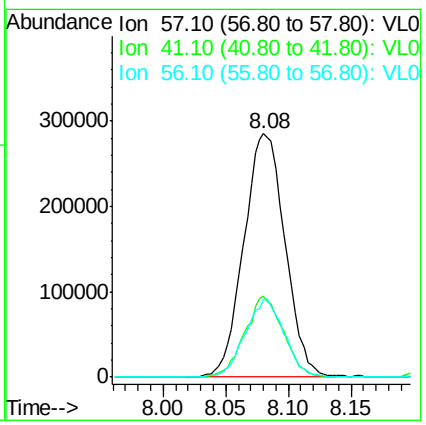


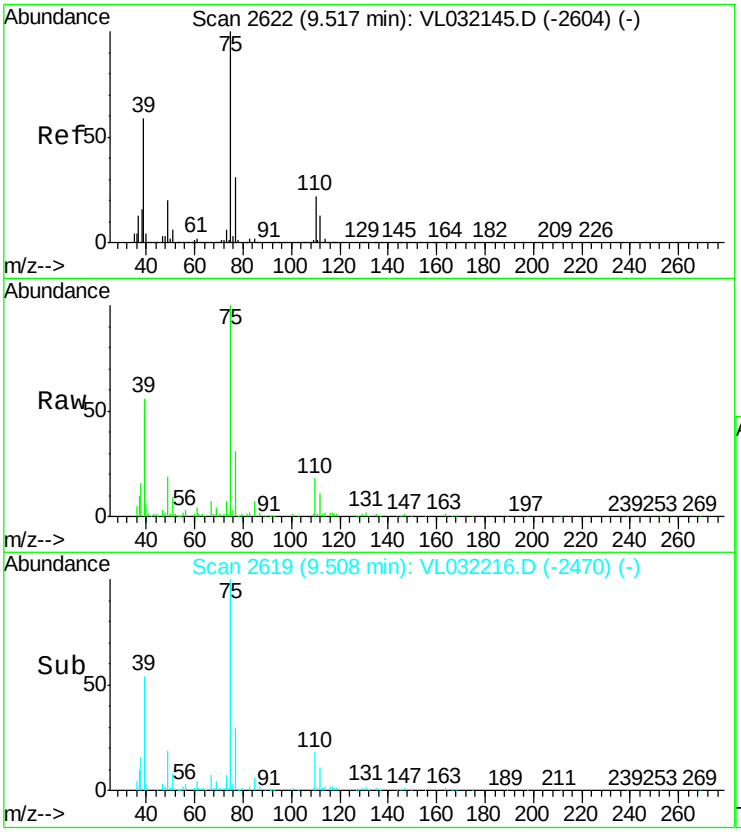


#44
2,2,4-Trimethylpentane
Concen: 1.016 ppbv
RT: 8.08 min Scan# 2175
Delta R.T. -0.02 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Tgt Ion: 57 Resp: 652004

Ion	Ratio	Lower	Upper
57	100		
41	31.1	24.3	36.5
56	30.5	25.1	37.7



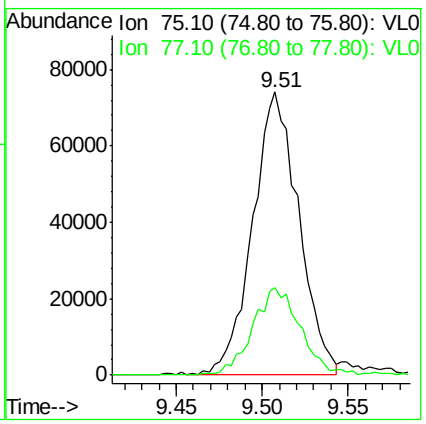


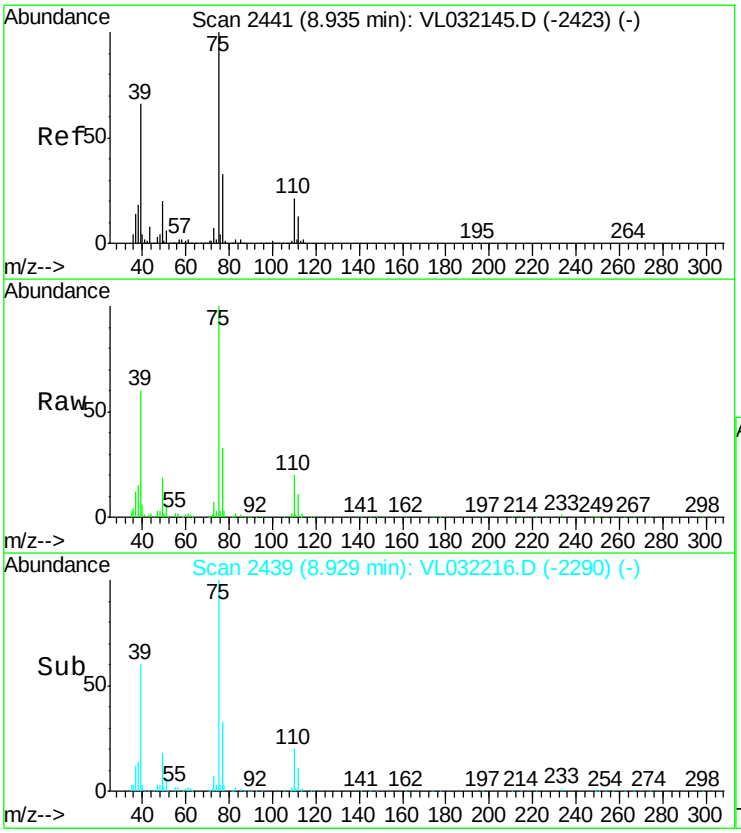
#45
t-1,3-Dichloropropene
Concen: 0.728 ppbv
RT: 9.51 min Scan# 2619
Delta R.T. -0.02 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Instrument :
MSVOA_L
ClientSampleId :
LOQ-AIR-02-QT3-2018

Tgt Ion: 75 Resp: 137094

Ion	Ratio	Lower	Upper
75	100		
77	31.3	25.6	38.4

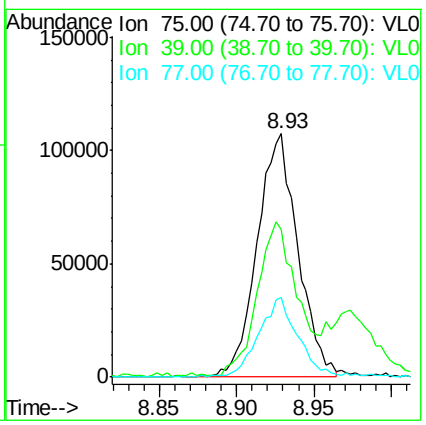


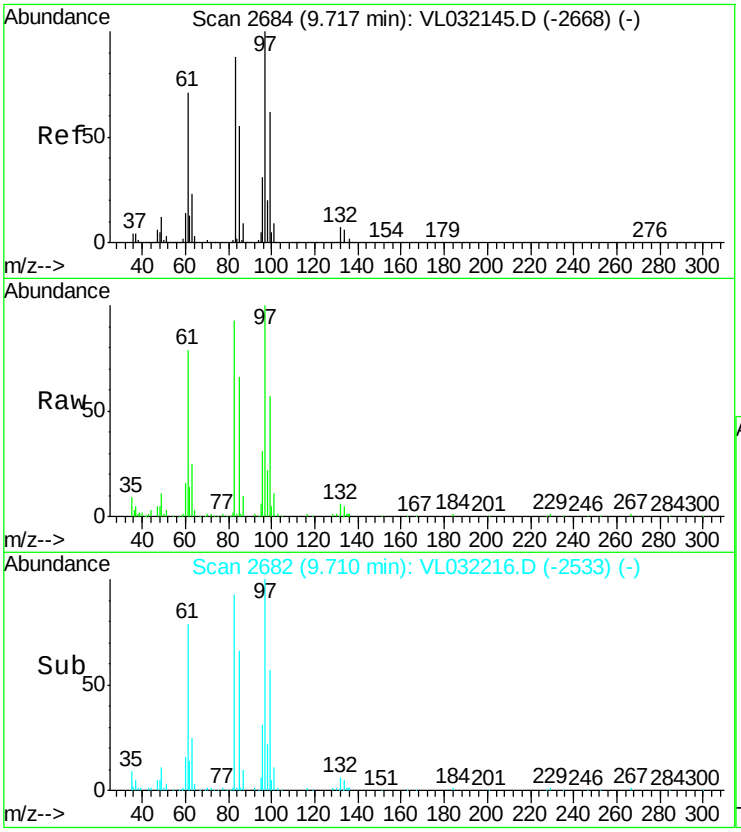


#46
cis-1,3-Dichloropropene
Concen: 0.876 ppbv
RT: 8.93 min Scan# 2439
Delta R.T. -0.02 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Tgt Ion: 75 Resp: 196948

Ion	Ratio	Lower	Upper
75	100		
39	59.7	51.9	77.9
77	32.7	24.3	36.5



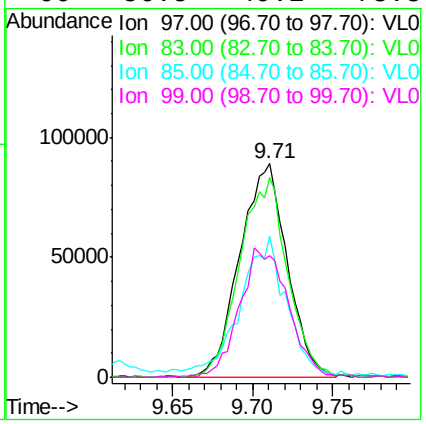


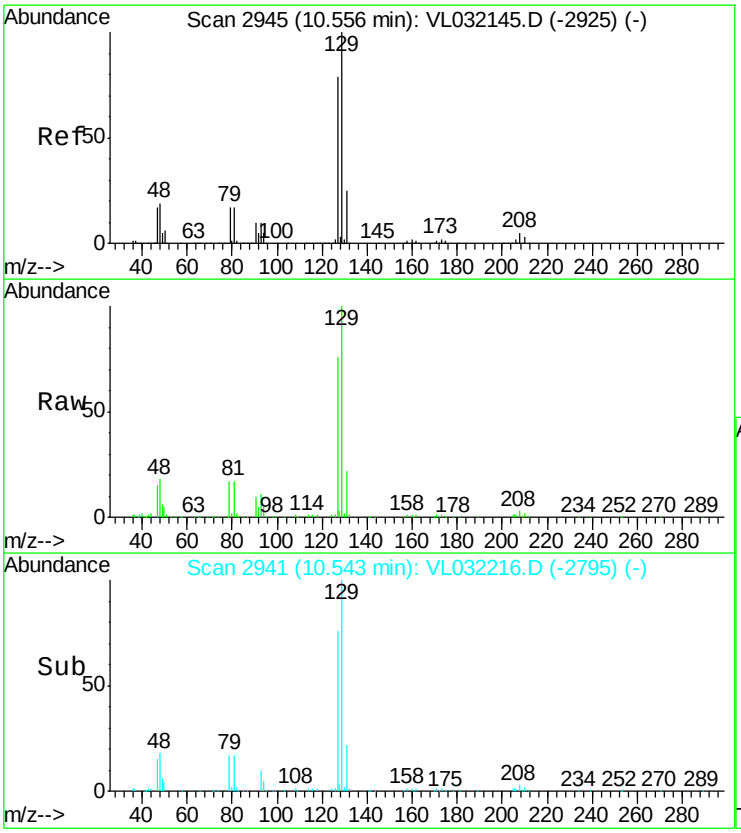
#47
1,1,2-Trichloroethane
Concen: 1.203 ppbv
RT: 9.71 min Scan# 2682
Delta R.T. -0.02 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Instrument :
MSVOA_L
ClientSampleId :
LOQ-AIR-02-QT3-2018

Tgt Ion: 97 Resp: 180964

Ion	Ratio	Lower	Upper
97	100		
83	92.3	71.0	106.4
85	64.7	44.2	66.4
99	56.5	49.2	73.8

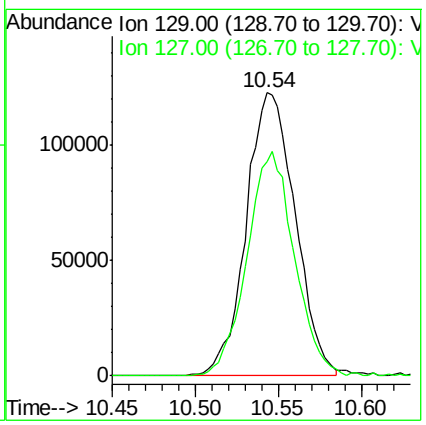


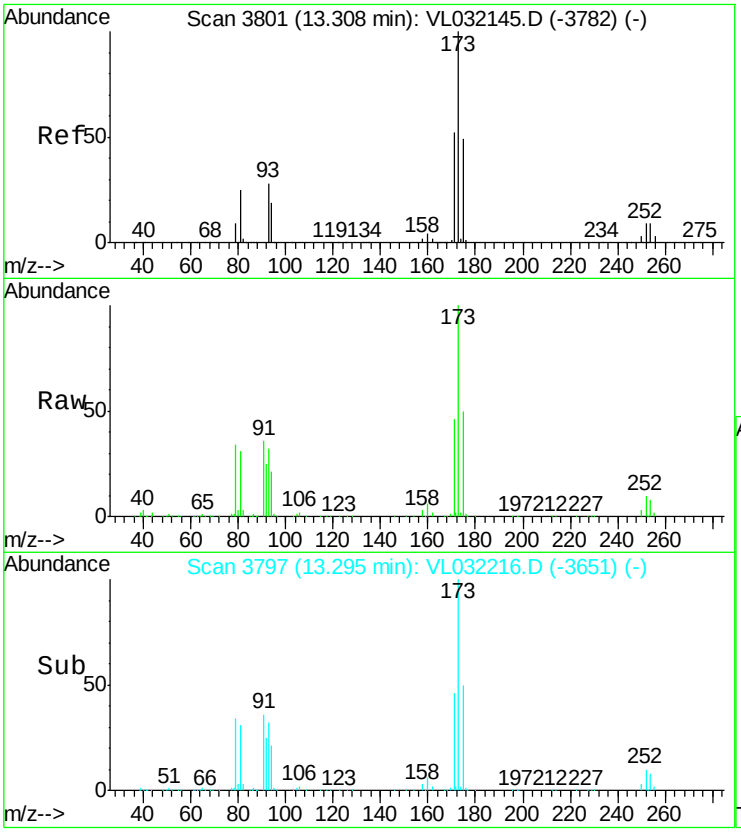


#48
Dibromochloromethane
Concen: 1.085 ppbv
RT: 10.54 min Scan# 2941
Delta R.T. -0.03 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Tgt Ion:129 Resp: 252516

Ion	Ratio	Lower	Upper
129	100		
127	77.0	39.1	117.5



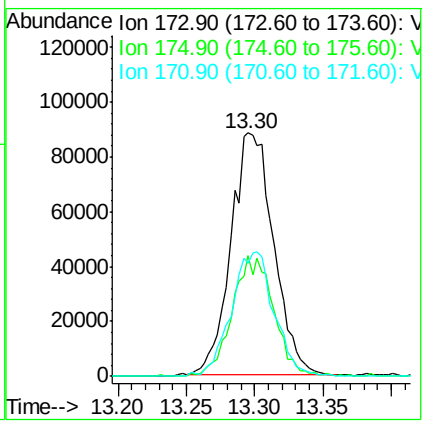


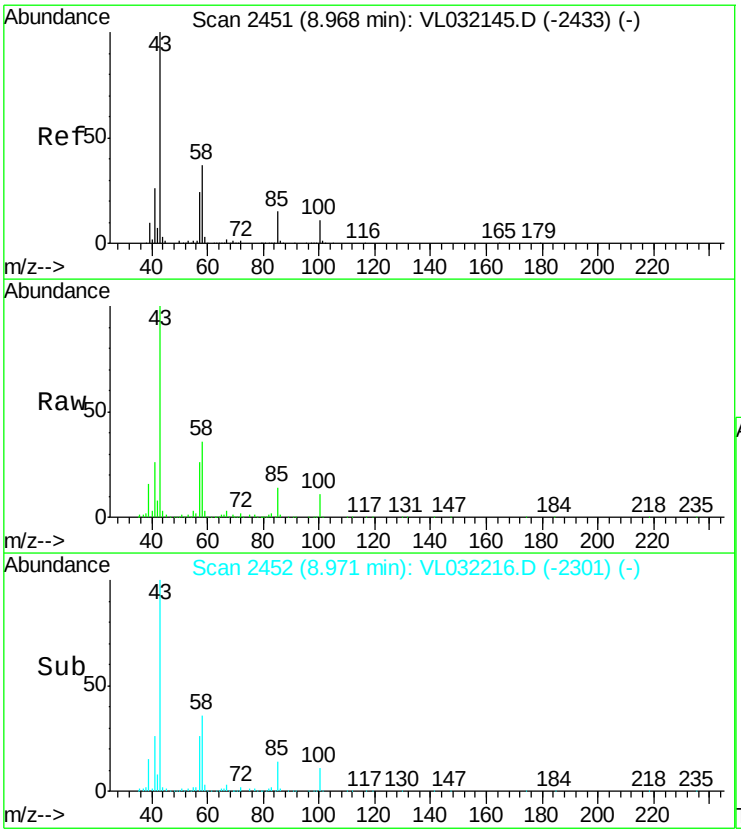
#49
Bromoform
Concen: 0.986 ppbv
RT: 13.30 min Scan# 3797
Delta R.T. -0.03 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Instrument :
MSVOA_L
ClientSampleId :
LOQ-AIR-02-QT3-2018

Tgt Ion:173 Resp: 192167

Ion	Ratio	Lower	Upper
173	100		
175	48.6	39.4	59.0
171	51.7	41.8	62.8

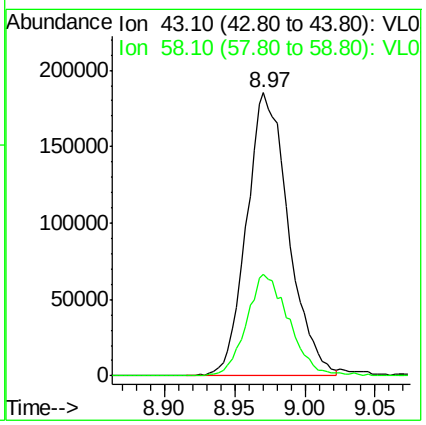


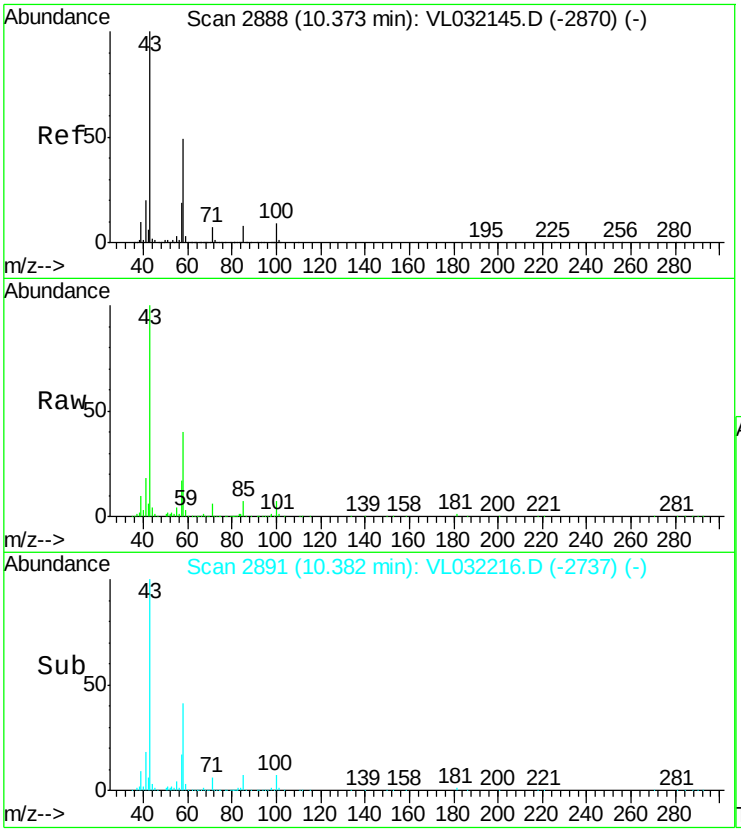


#50
4-Methyl-2-Pentanone
Concen: 0.980 ppbv
RT: 8.97 min Scan# 2452
Delta R.T. -0.01 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Tgt Ion: 43 Resp: 386316

Ion	Ratio	Lower	Upper
43	100		
58	36.5	29.8	44.6



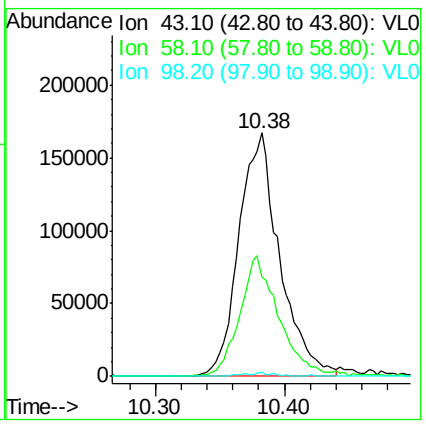


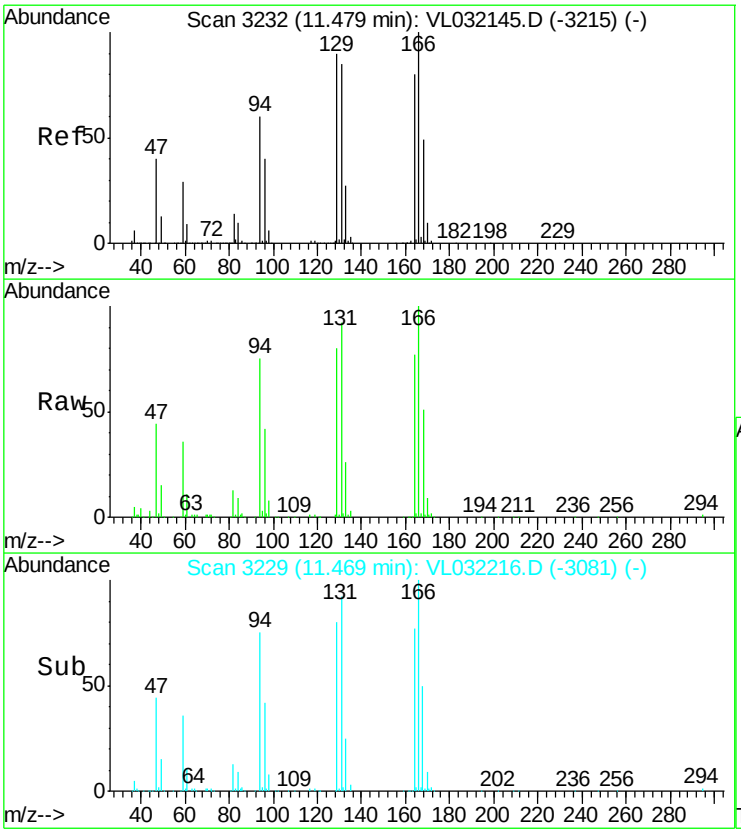
#51
2-Hexanone
Concen: 1.123 ppbv
RT: 10.38 min Scan# 2891
Delta R.T. -0.00 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Instrument : MSVOA_L
ClientSampleId : LOQ-AIR-02-QT3-2018

Tgt Ion: 43 Resp: 366929

Ion	Ratio	Lower	Upper
43	100		
58	48.3	40.6	60.8
98	1.1	0.1	0.1#

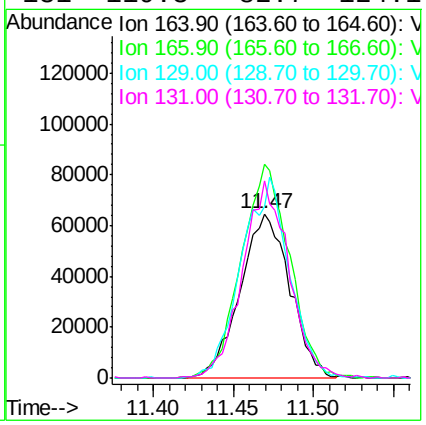


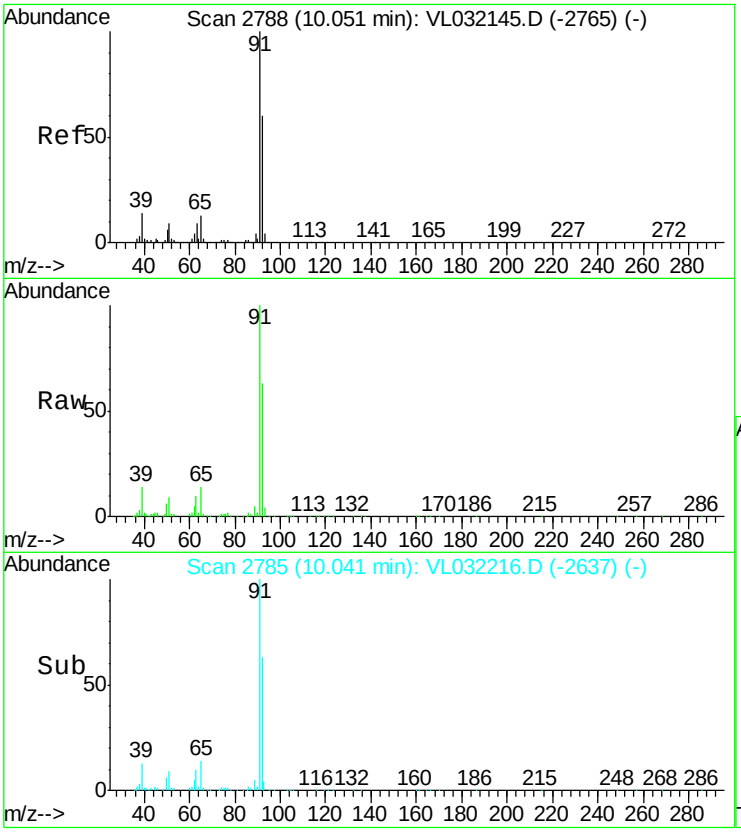


#52
Tetrachloroethene
Concen: 1.026 ppbv
RT: 11.47 min Scan# 3229
Delta R.T. -0.02 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Tgt Ion:164 Resp: 136918

Ion	Ratio	Lower	Upper
164	100		
166	129.3	100.6	151.0
129	103.5	84.0	126.0
131	119.3	82.7	124.1



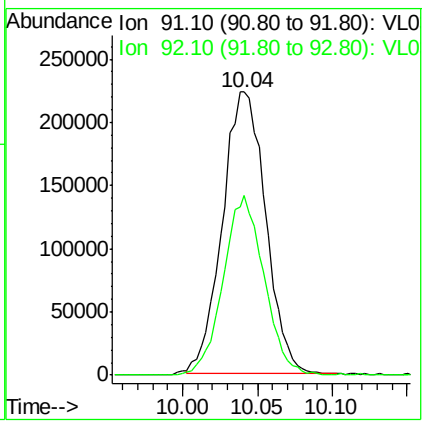


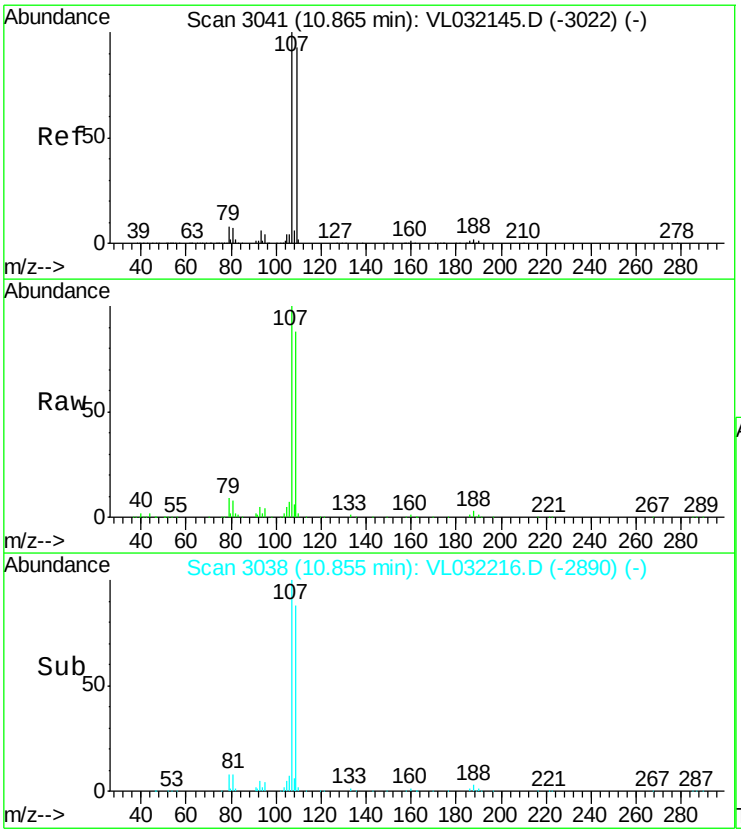
#53
Toluene
Concen: 1.017 ppbv
RT: 10.04 min Scan# 2785
Delta R.T. -0.02 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Instrument :
MSVOA_L
ClientSampleId :
LOQ-AIR-02-QT3-2018

Tgt Ion: 91 Resp: 450754

Ion	Ratio	Lower	Upper
91	100		
92	59.9	49.2	73.8

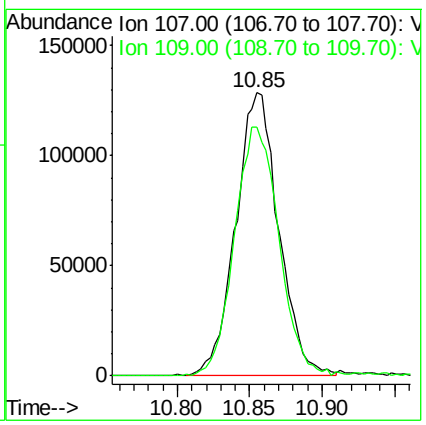


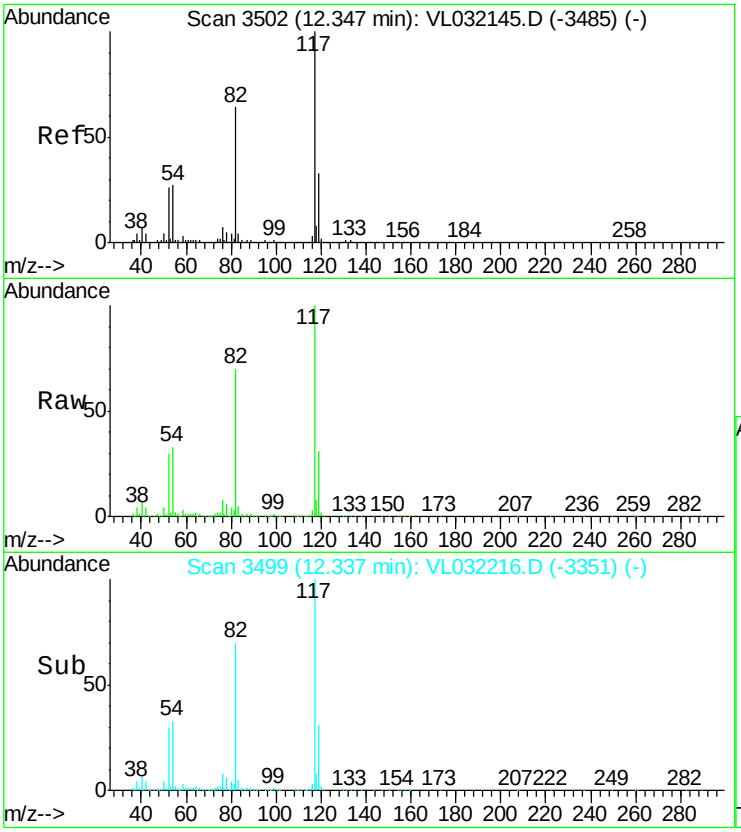


#54
1,2-Dibromoethane
Concen: 1.176 ppbv
RT: 10.85 min Scan# 3038
Delta R.T. -0.02 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Tgt Ion:107 Resp: 265785

Ion	Ratio	Lower	Upper
107	100		
109	87.6	75.0	112.4



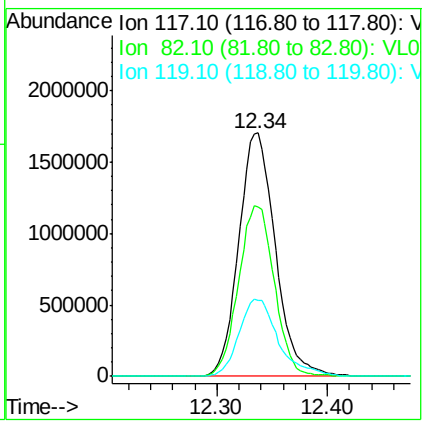


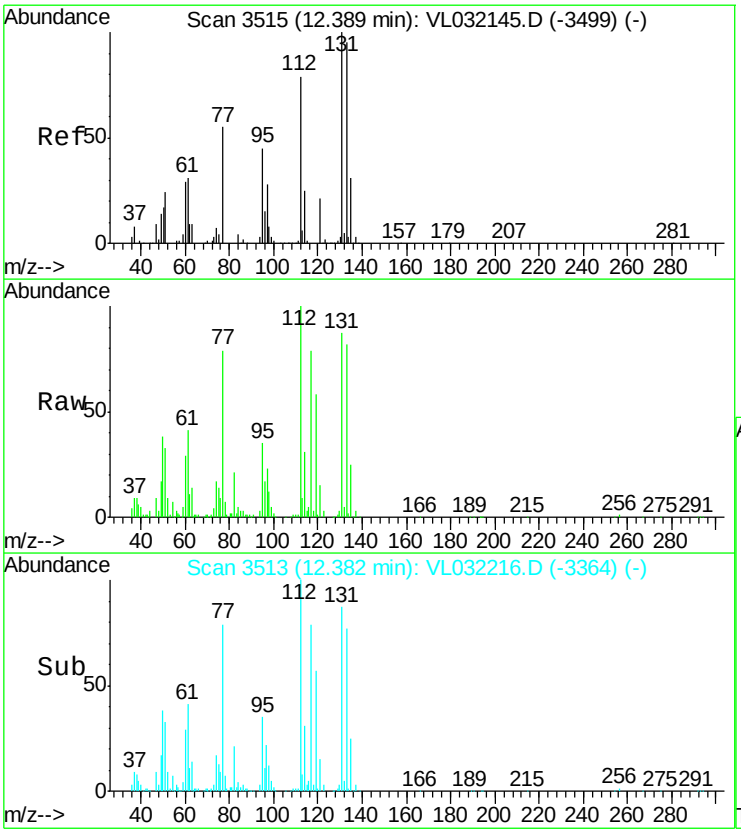
#55
Chlorobenzene-d5
Concen: 10.000 ppbv
RT: 12.34 min Scan# 3499
Delta R.T. -0.02 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Instrument :
MSVOA_L
ClientSampleId :
LOQ-AIR-02-QT3-2018

Tgt Ion:117 Resp: 3919796

Ion	Ratio	Lower	Upper
117	100		
82	68.7	47.8	71.8
119	34.3	43.3	64.9#

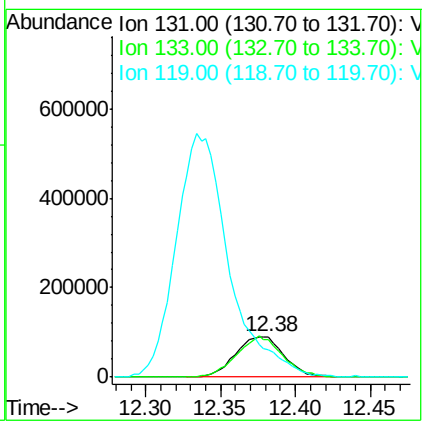


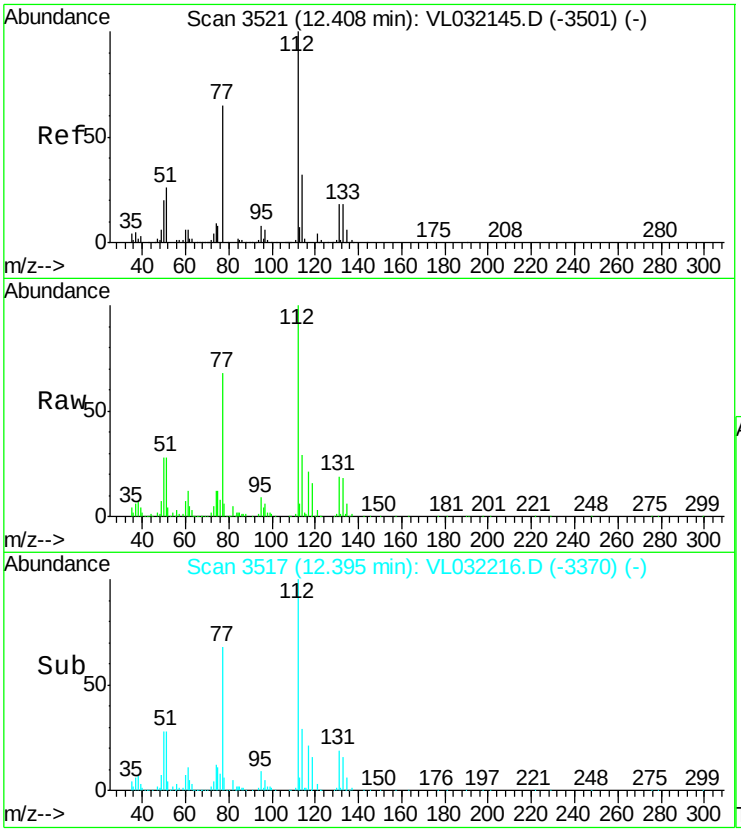


#56
1,1,1,2-Tetrachloroethane
Concen: 1.148 ppbv
RT: 12.38 min Scan# 3513
Delta R.T. -0.02 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Tgt Ion:131 Resp: 200948

Ion	Ratio	Lower	Upper
131	100		
133	96.9	75.5	113.3
119	669.5	118.4	177.6#



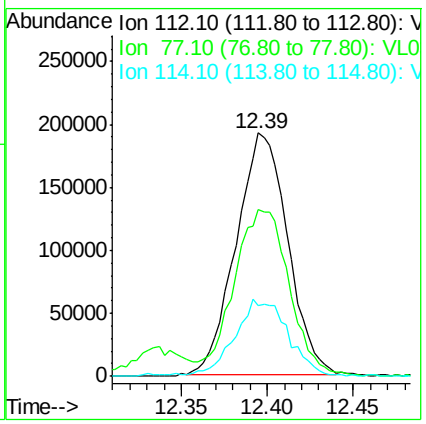


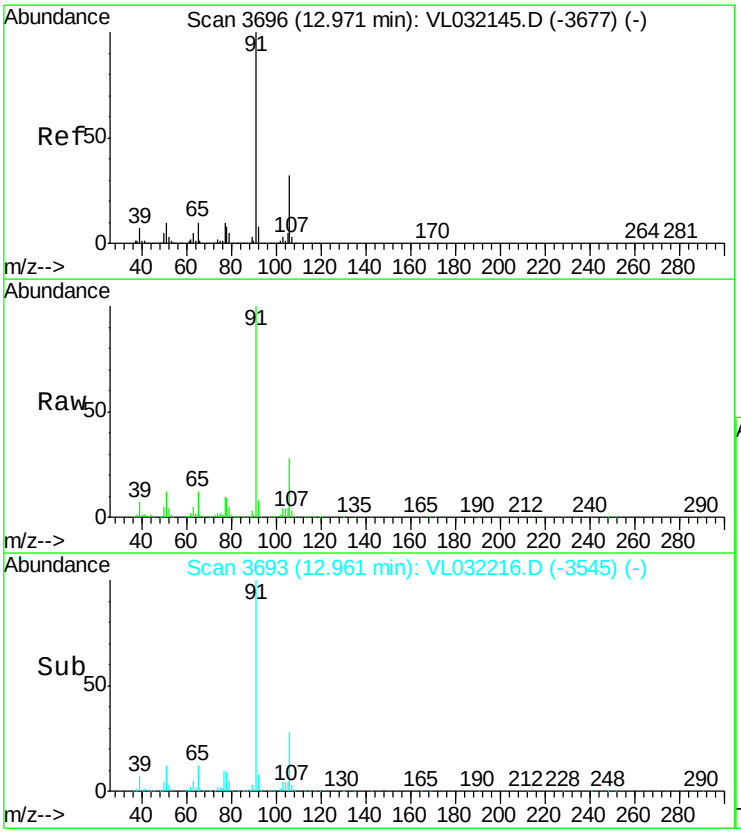
#57
Chlorobenzene
Concen: 1.179 ppbv
RT: 12.39 min Scan# 3517
Delta R.T. -0.03 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Instrument :
MSVOA_L
ClientSampleId :
LOQ-AIR-02-QT3-2018

Tgt Ion:112 Resp: 400399

Ion	Ratio	Lower	Upper
112	100		
77	66.9	52.6	78.8
114	28.4	27.9	34.1

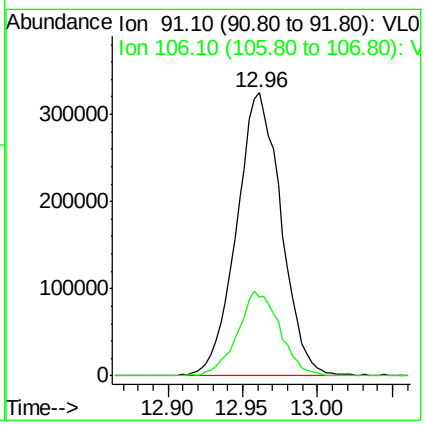


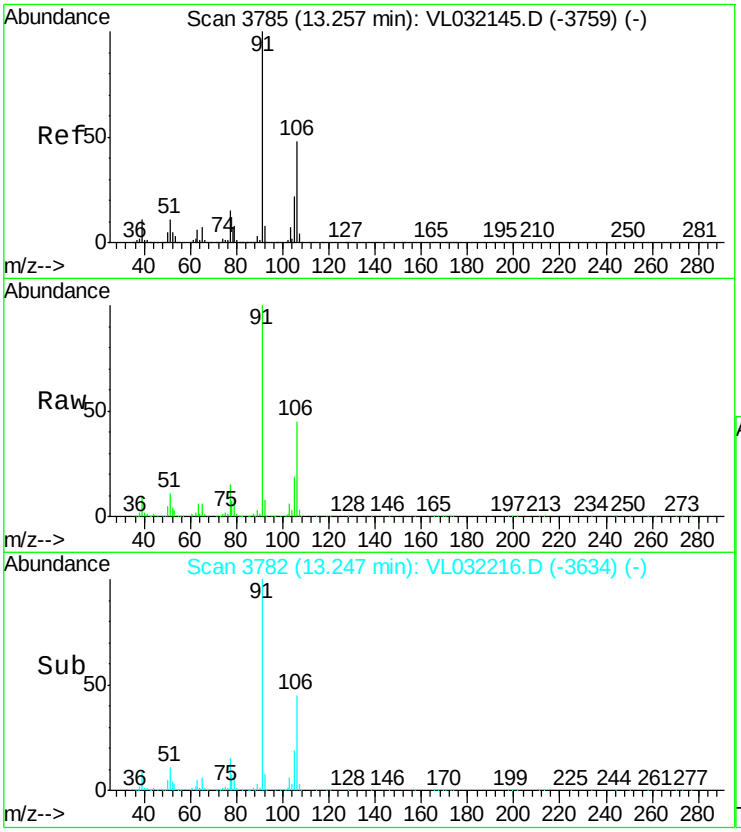


#58
Ethyl Benzene
Concen: 1.056 ppbv
RT: 12.96 min Scan# 3693
Delta R.T. -0.02 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Tgt Ion: 91 Resp: 666813

Ion	Ratio	Lower	Upper
91	100		
106	27.9	26.5	39.7



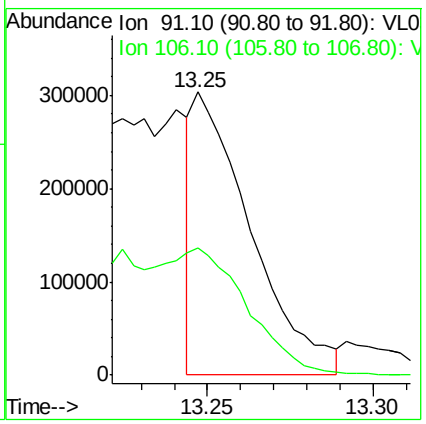


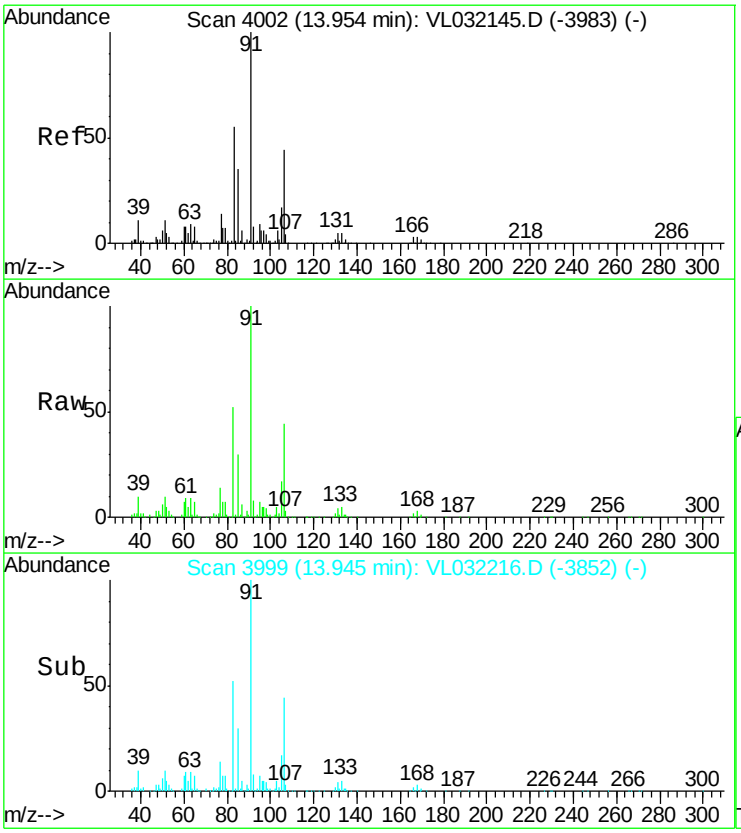
#59
m/p-Xylene
Concen: 0.718 ppbv
RT: 13.25 min Scan# 3782
Delta R.T. -0.02 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Instrument : MSVOA_L
ClientSampleId : LOQ-AIR-02-QT3-2018

Tgt Ion: 91 Resp: 363476

Ion	Ratio	Lower	Upper
91	100		
106	137.2	38.6	58.0#

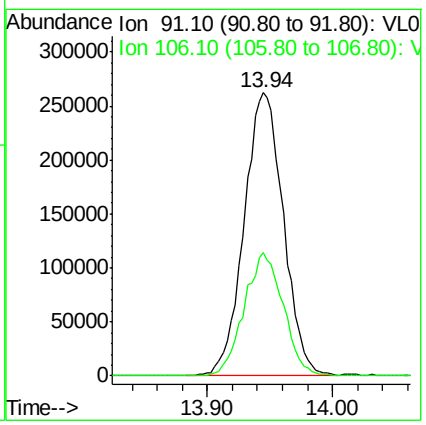


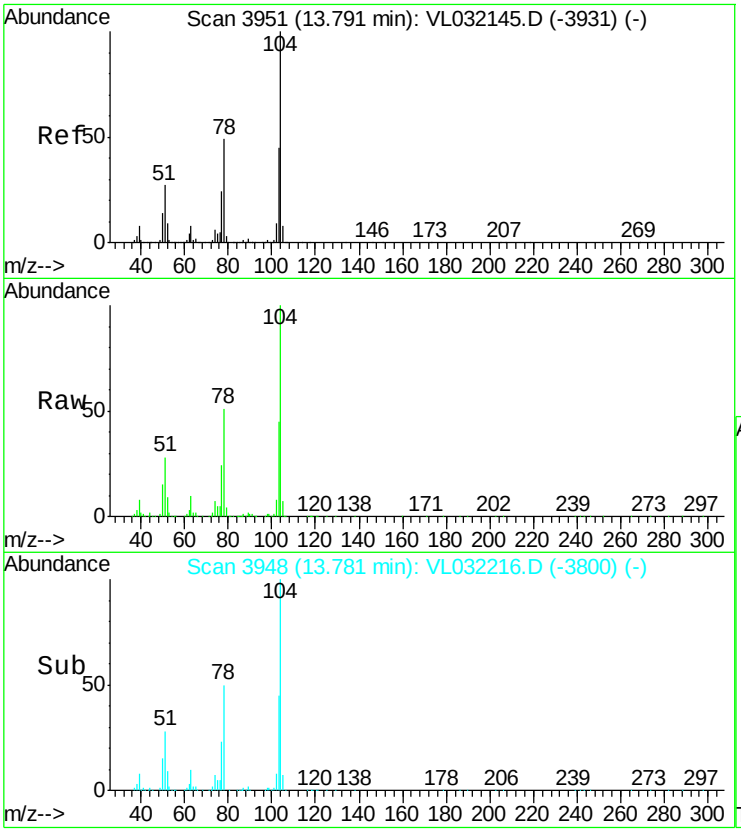


#60
o-Xylene
Concen: 1.131 ppbv
RT: 13.94 min Scan# 3999
Delta R.T. -0.03 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Tgt Ion: 91 Resp: 570992

Ion	Ratio	Lower	Upper
91	100		
106	43.6	23.3	69.8



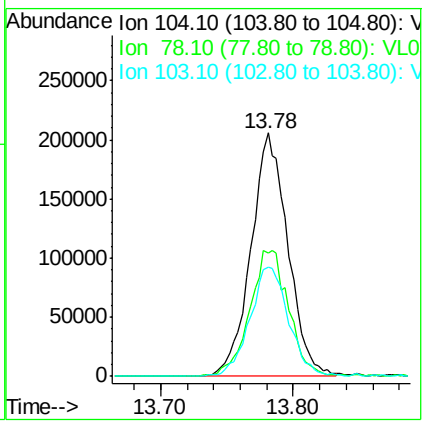


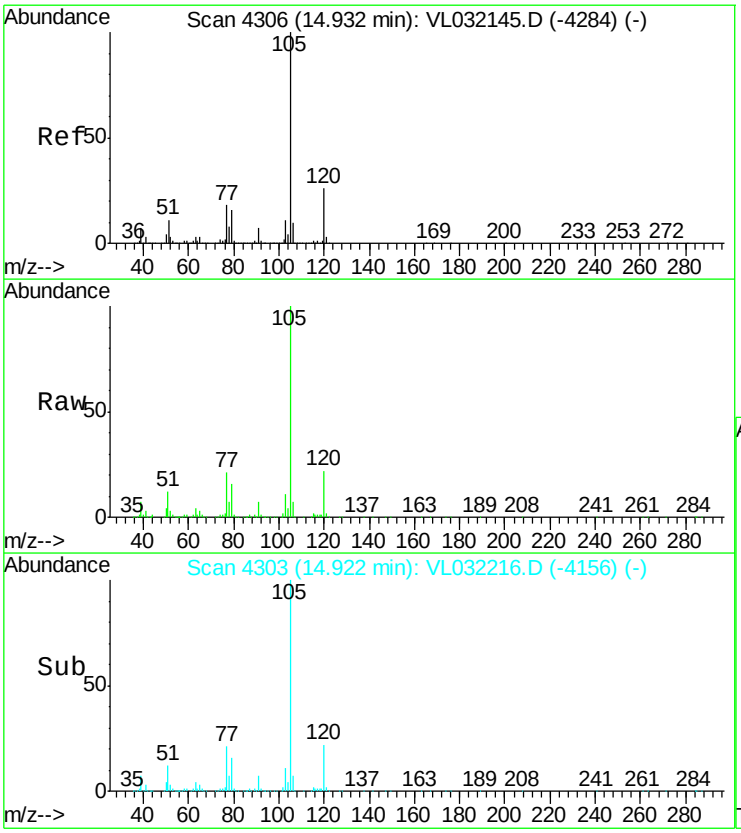
#61
Styrene
Concen: 0.963 ppbv
RT: 13.78 min Scan# 3948
Delta R.T. -0.02 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Instrument :
MSVOA_L
ClientSampleId :
LOQ-AIR-02-QT3-2018

Tgt Ion:104 Resp: 398374

Ion	Ratio	Lower	Upper
104	100		
78	55.2	37.9	56.9
103	47.1	36.6	55.0

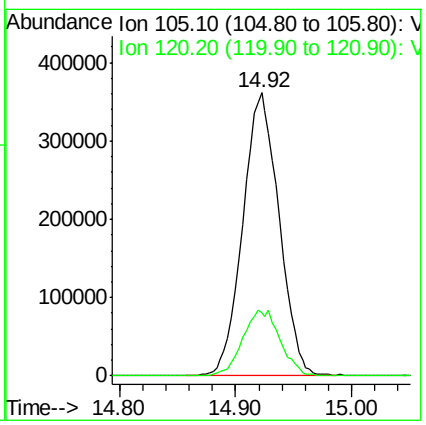


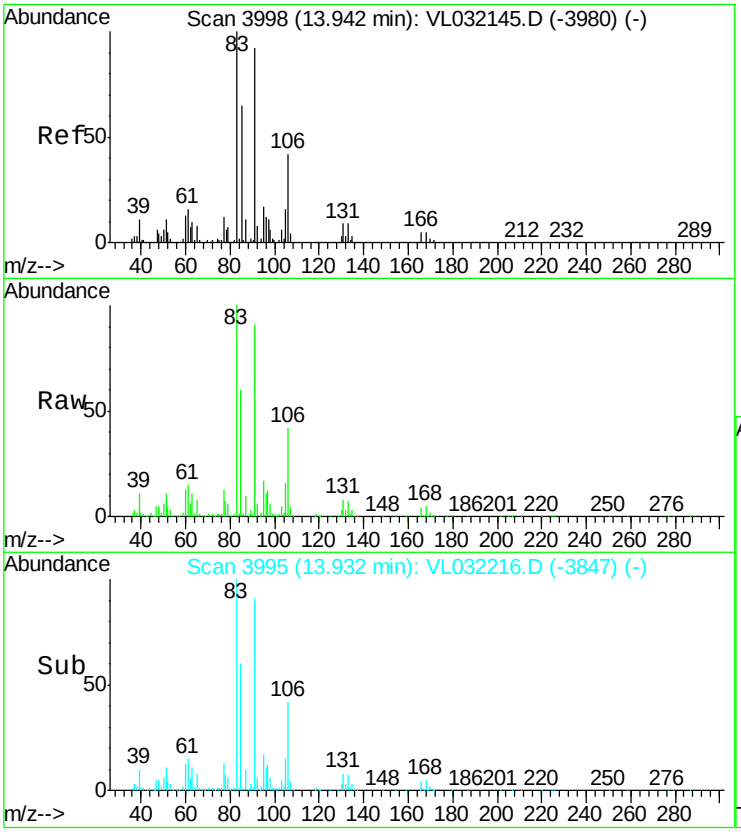


#62
Isopropylbenzene
Concen: 1.014 ppbv
RT: 14.92 min Scan# 4303
Delta R.T. -0.03 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Tgt Ion:105 Resp: 787735

Ion	Ratio	Lower	Upper
105	100		
120	23.9	21.0	31.4



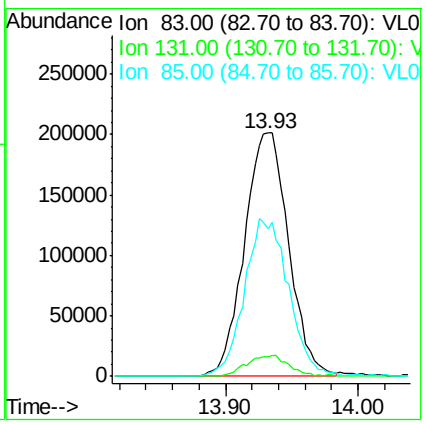


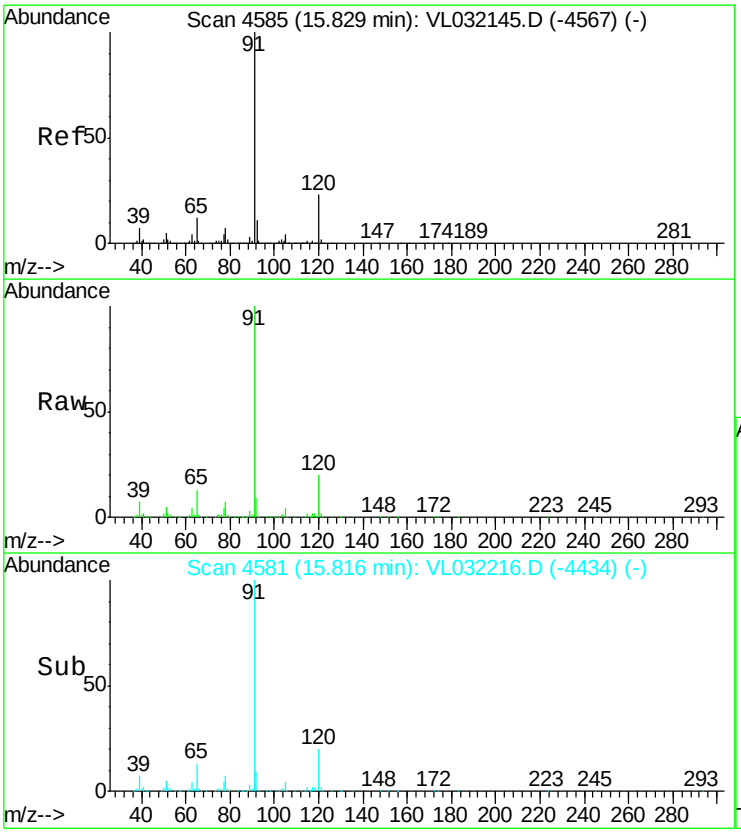
#63
1,1,2,2-Tetrachloroethane
Concen: 1.189 ppbv
RT: 13.93 min Scan# 3995
Delta R.T. -0.02 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Instrument :
MSVOA_L
ClientSampleId :
LOQ-AIR-02-QT3-2018

Tgt Ion: 83 Resp: 464823

Ion	Ratio	Lower	Upper
83	100		
131	8.6	4.6	13.8
85	65.3	32.4	97.2

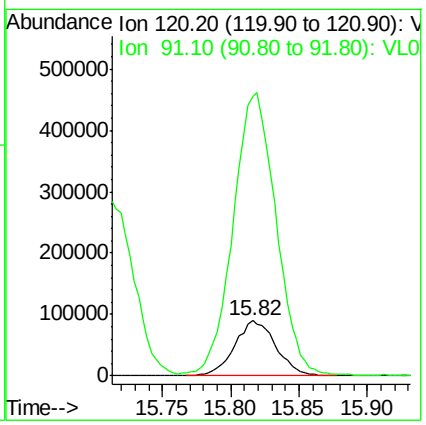


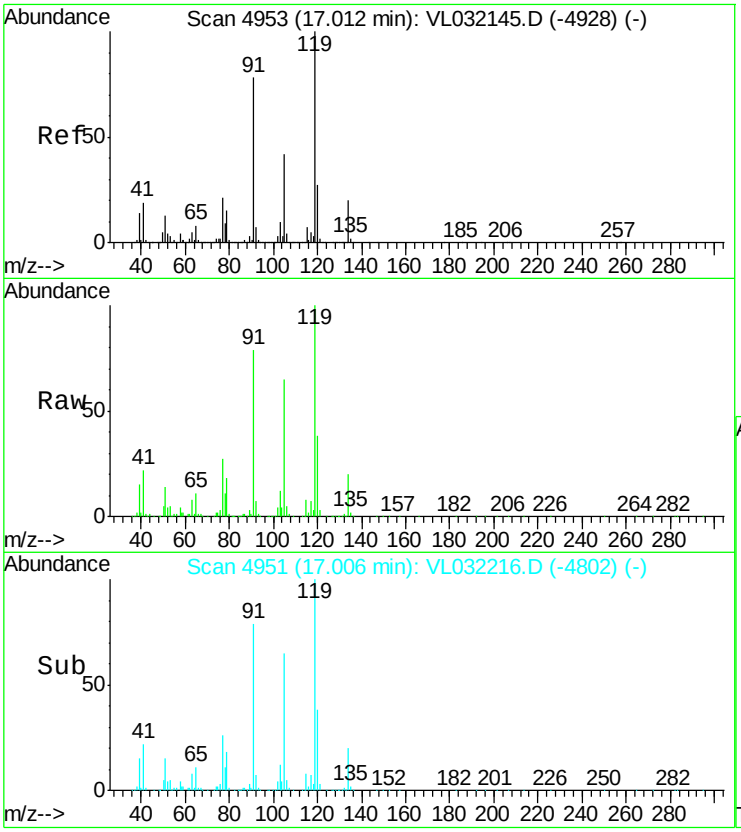


#64
n-propylbenzene
Concen: 0.948 ppbv
RT: 15.82 min Scan# 4581
Delta R.T. -0.03 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Tgt Ion:120 Resp: 190452

Ion	Ratio	Lower	Upper
120	100		
91	528.3	357.4	536.0



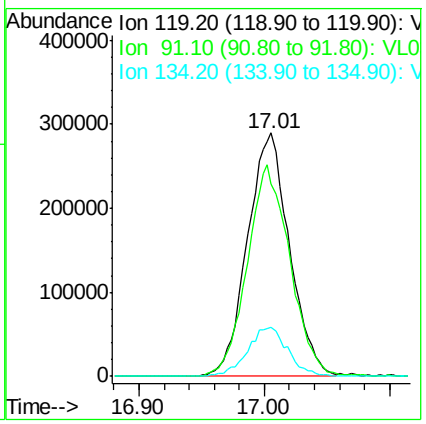


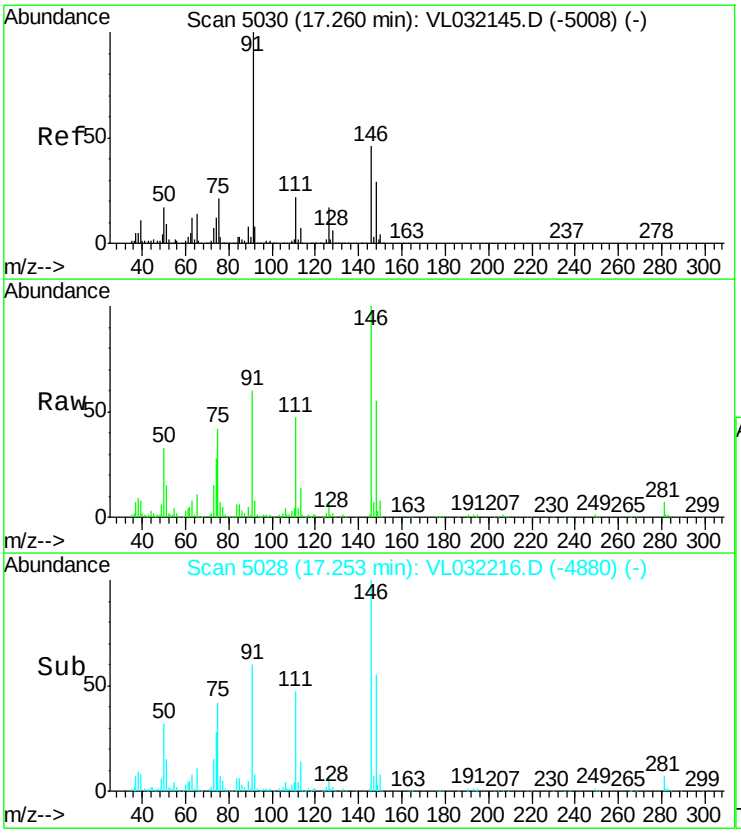
#65
tert-Butylbenzene
Concen: 0.987 ppbv
RT: 17.01 min Scan# 4951
Delta R.T. -0.02 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Instrument : MSVOA_L
ClientSampleId : LOQ-AIR-02-QT3-2018

Tgt Ion:119 Resp: 673344

Ion	Ratio	Lower	Upper
119	100		
91	88.5	62.2	93.2
134	19.3	16.2	24.2

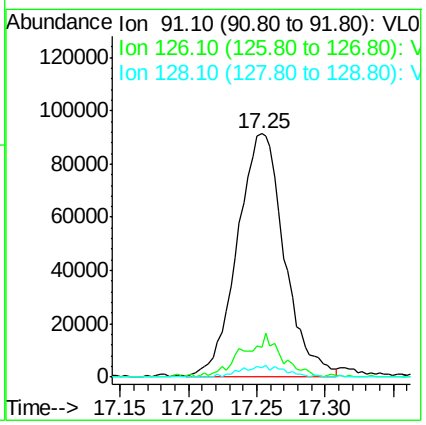


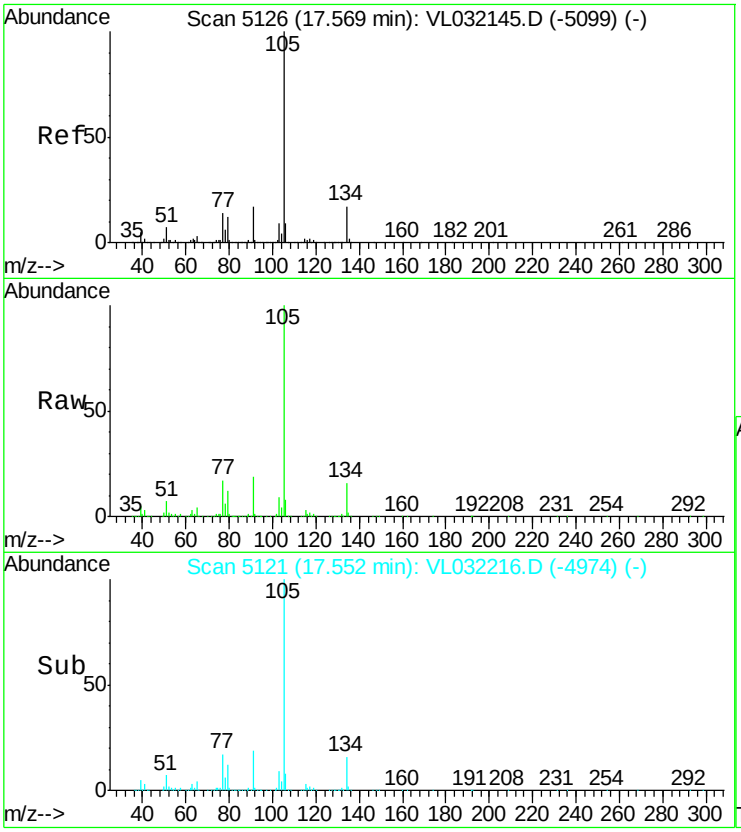


#66
Benzyl Chloride
Concen: 0.520 ppbv
RT: 17.25 min Scan# 5028
Delta R.T. -0.02 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Tgt Ion: 91 Resp: 219020

Ion	Ratio	Lower	Upper
91	100		
126	15.5	15.7	23.5#
128	4.7	5.2	7.8#



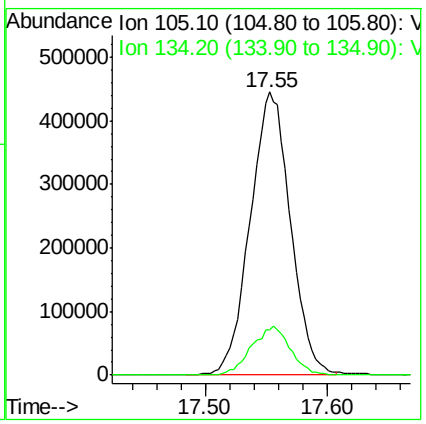


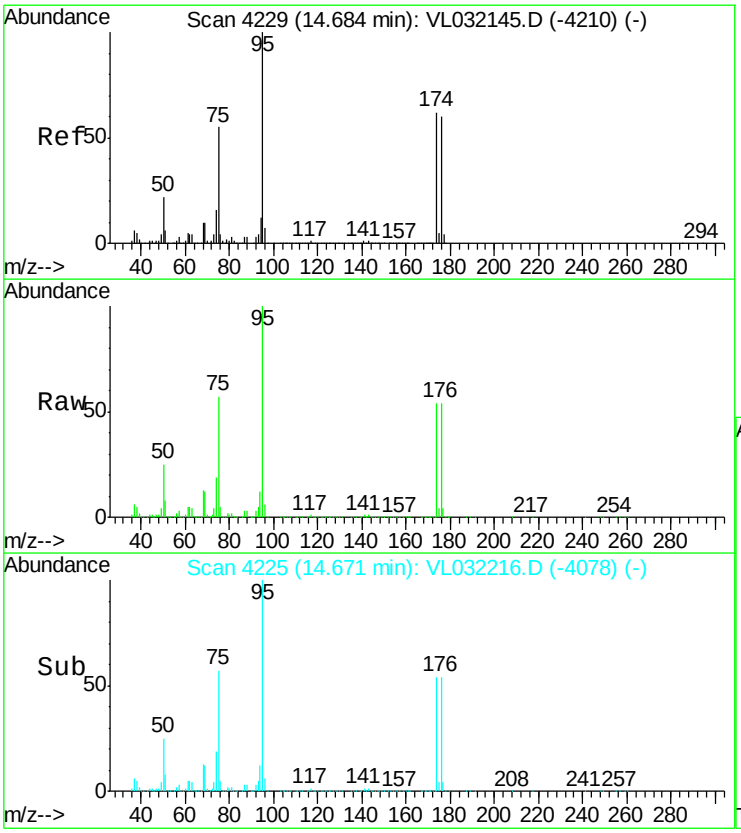
#67
sec-Butylbenzene
Concen: 1.017 ppbv
RT: 17.55 min Scan# 5121
Delta R.T. -0.03 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Instrument :
MSVOA_L
ClientSampleId :
LOQ-AIR-02-QT3-2018

Tgt Ion:105 Resp: 1016421

Ion	Ratio	Lower	Upper
105	100		
134	16.8	14.7	22.1

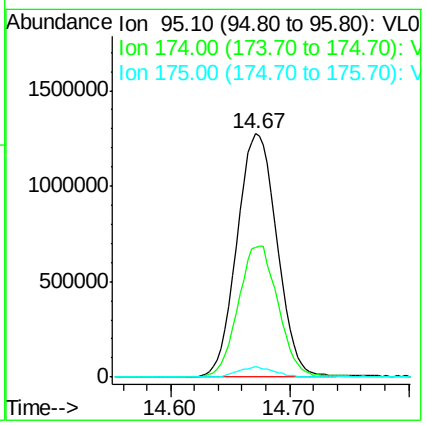


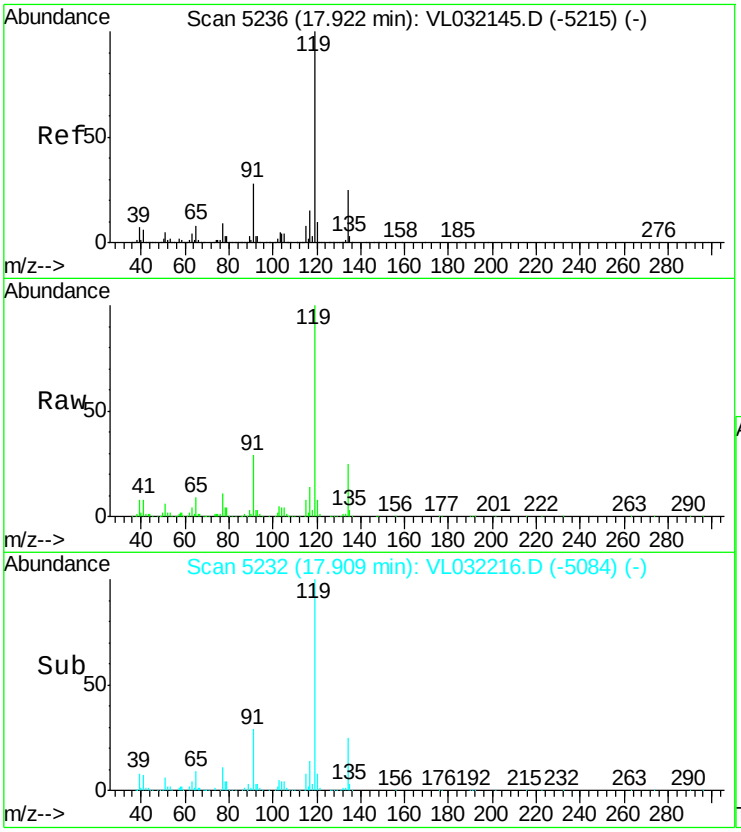


#68
1-Bromo-4-Fluorobenzene
Concen: 9.911 ppbv
RT: 14.67 min Scan# 4225
Delta R.T. -0.03 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Tgt Ion: 95 Resp: 2969703

Ion	Ratio	Lower	Upper
95	100		
174	54.3	52.1	78.1
175	3.9	4.0	6.0#



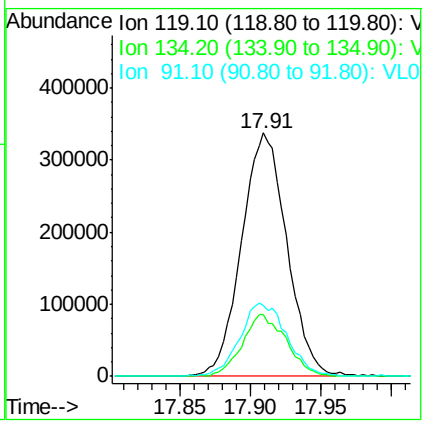


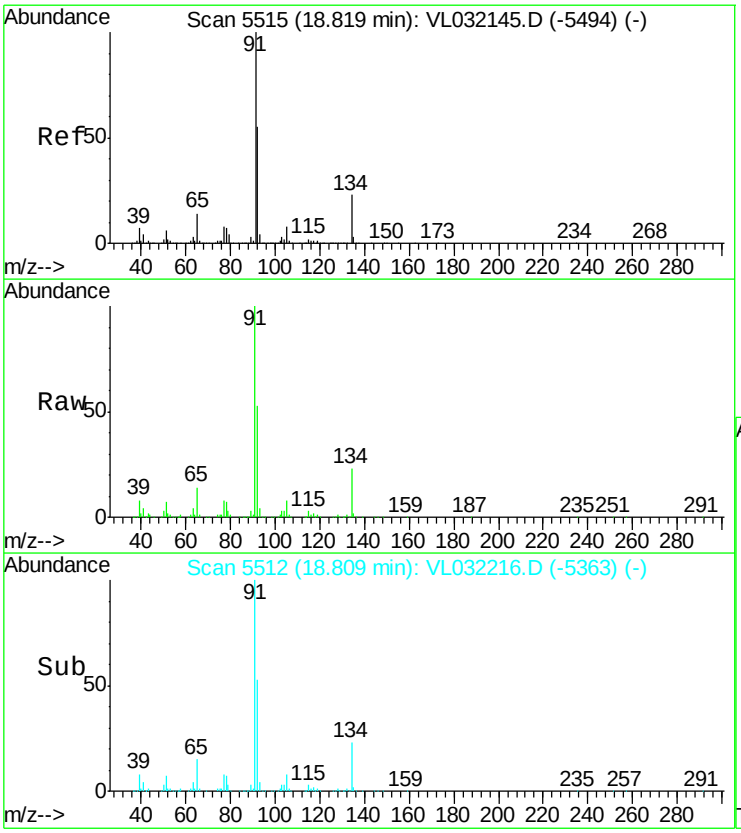
#69
p-Isopropyltoluene
Concen: 0.942 ppbv
RT: 17.91 min Scan# 5232
Delta R.T. -0.02 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Instrument :
MSVOA_L
ClientSampleId :
LOQ-AIR-02-QT3-2018

Tgt Ion:119 Resp: 754657

Ion	Ratio	Lower	Upper
119	100		
134	25.0	20.7	31.1
91	31.8	21.8	32.8

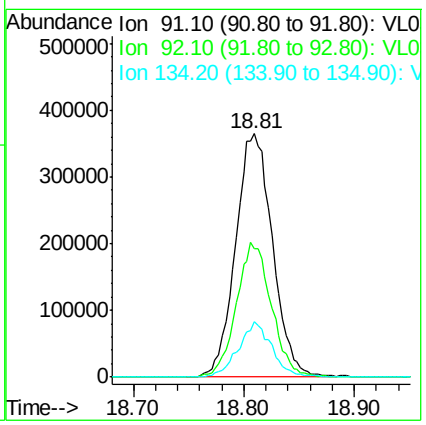


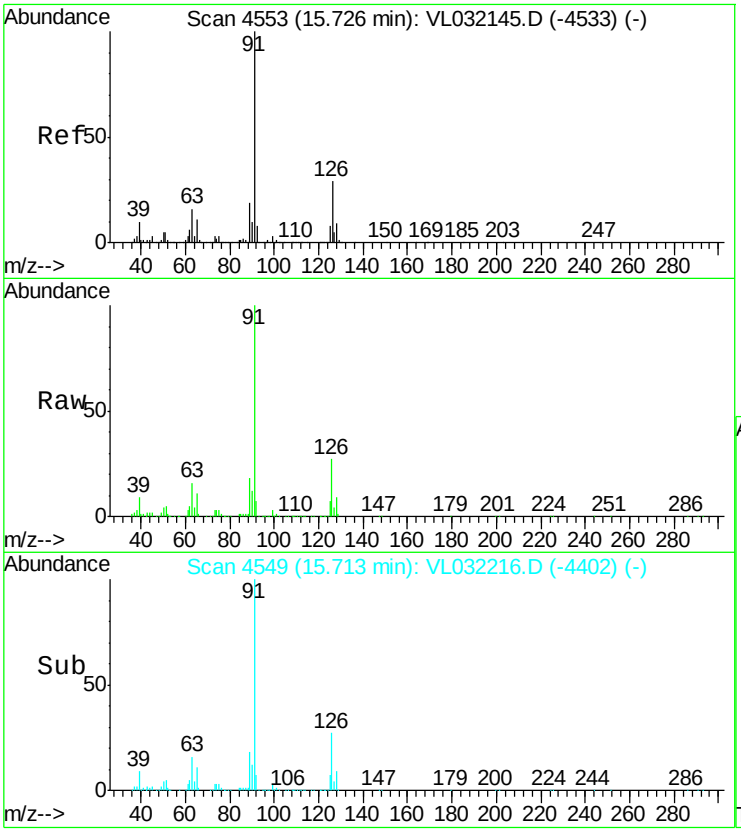


#70
n-Butylbenzene
Concen: 1.011 ppbv
RT: 18.81 min Scan# 5512
Delta R.T. -0.02 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Tgt Ion: 91 Resp: 846464

Ion	Ratio	Lower	Upper
91	100		
92	52.3	43.7	65.5
134	20.4	18.9	28.3



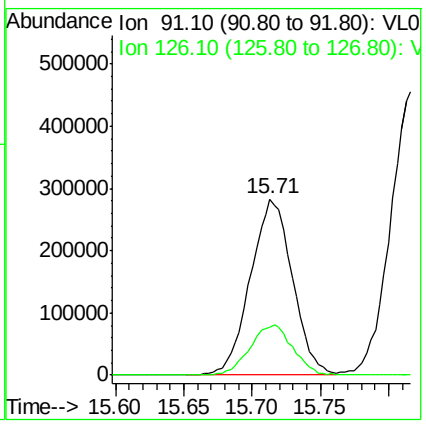


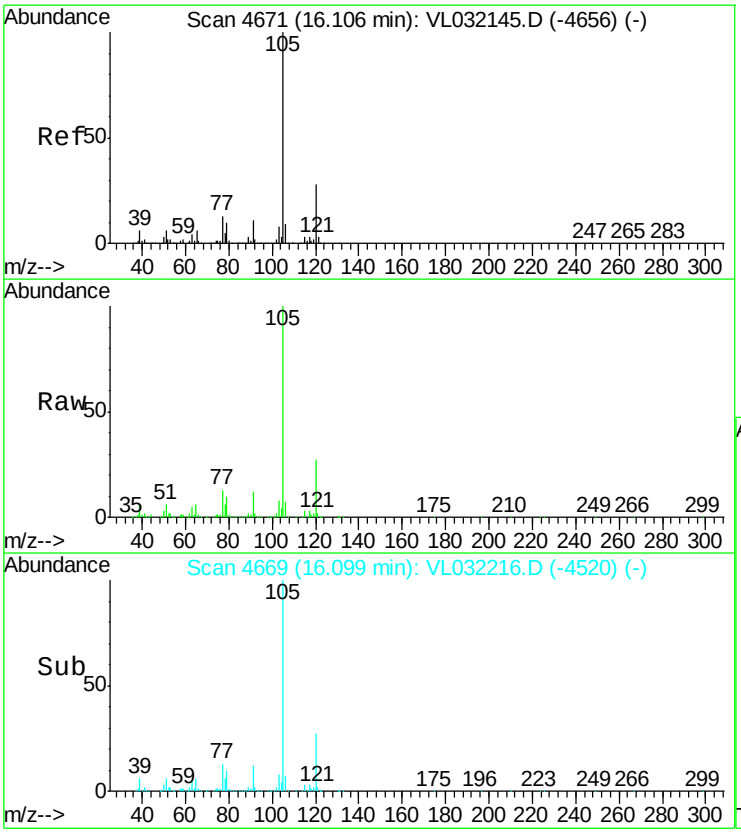
#71
2-Chlorotoluene
Concen: 1.015 ppbv
RT: 15.71 min Scan# 4549
Delta R.T. -0.03 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Instrument : MSVOA_L
ClientSampleId : LOQ-AIR-02-QT3-2018

Tgt Ion: 91 Resp: 607066

Ion	Ratio	Lower	Upper
91	100		
126	29.2	12.8	51.0

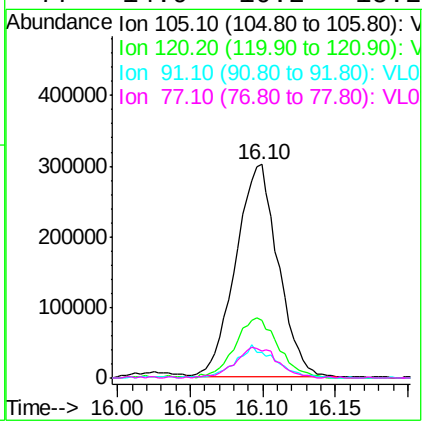


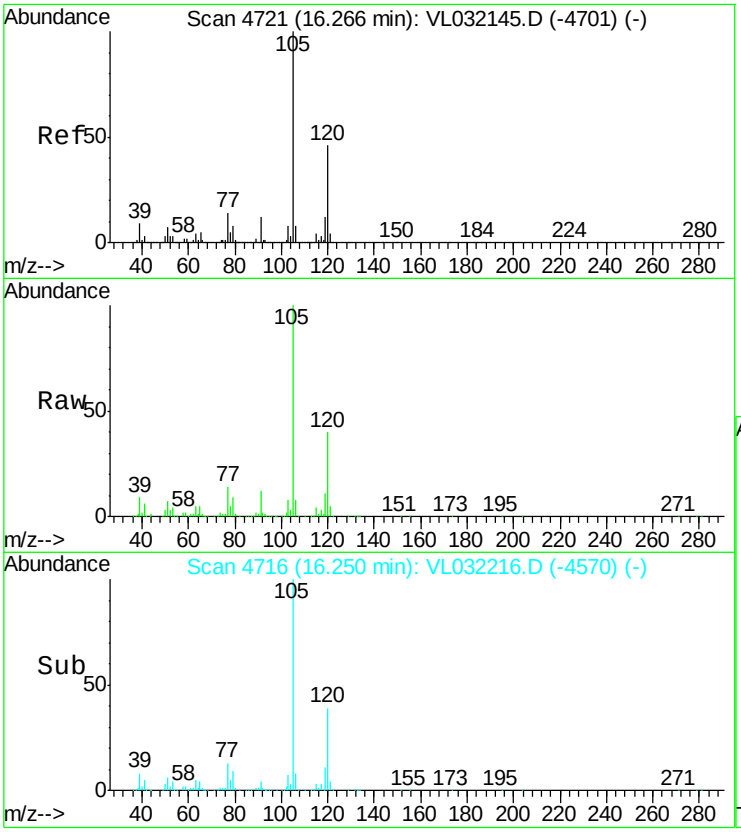


#72
4-Ethyltoluene
Concen: 0.940 ppbv
RT: 16.10 min Scan# 4669
Delta R.T. -0.02 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Tgt Ion:105 Resp: 613102

Ion	Ratio	Lower	Upper
105	100		
120	29.1	24.3	36.5
91	14.2	9.4	14.0#
77	14.9	10.2	15.2



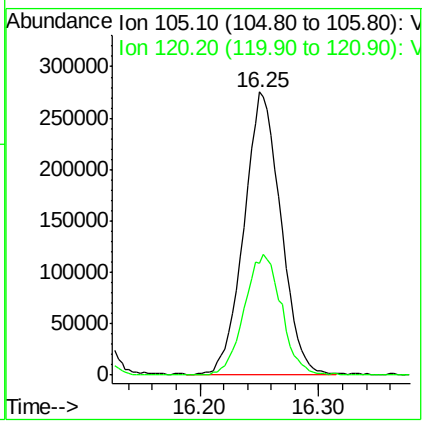


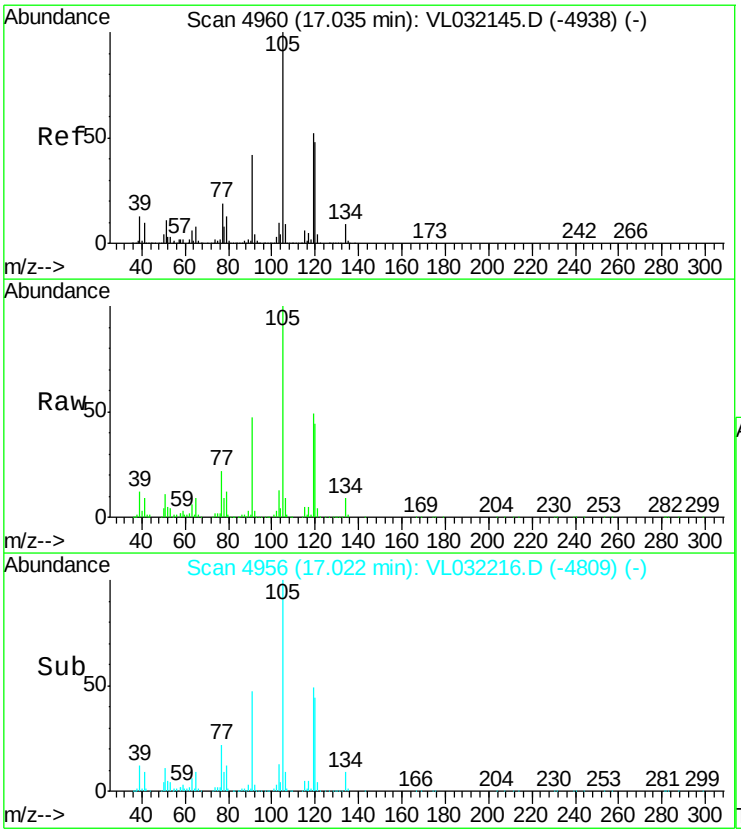
#73
1,3,5-Trimethylbenzene
Concen: 0.963 ppbv
RT: 16.25 min Scan# 4716
Delta R.T. -0.03 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Instrument :
MSVOA_L
ClientSampleId :
LOQ-AIR-02-QT3-2018

Tgt Ion:105 Resp: 591434

Ion	Ratio	Lower	Upper
105	100		
120	39.7	38.6	57.8

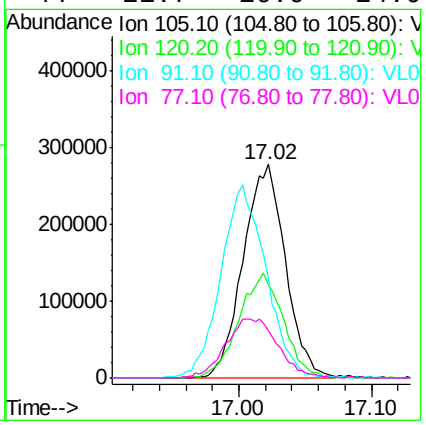


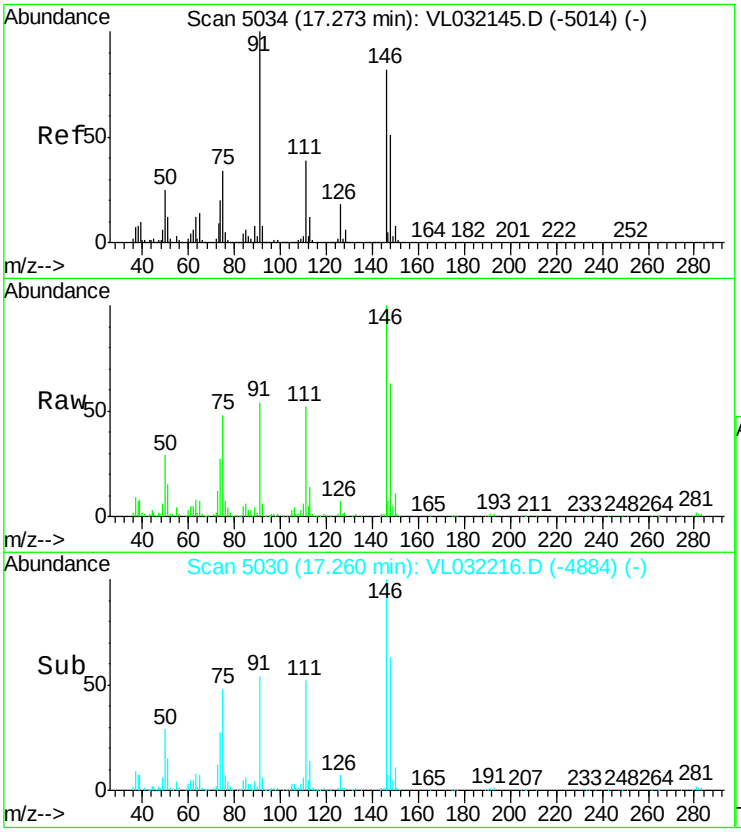


#74
1,2,4-Trimethylbenzene
Concen: 0.995 ppbv
RT: 17.02 min Scan# 4956
Delta R.T. -0.03 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Tgt Ion:105 Resp: 617014

Ion	Ratio	Lower	Upper
105	100		
120	43.2	38.8	58.2
91	46.4	33.6	50.4
77	21.7	16.0	24.0



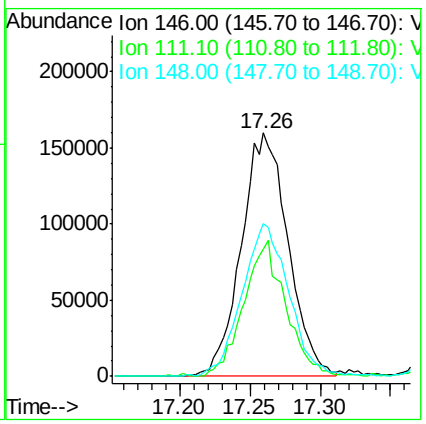


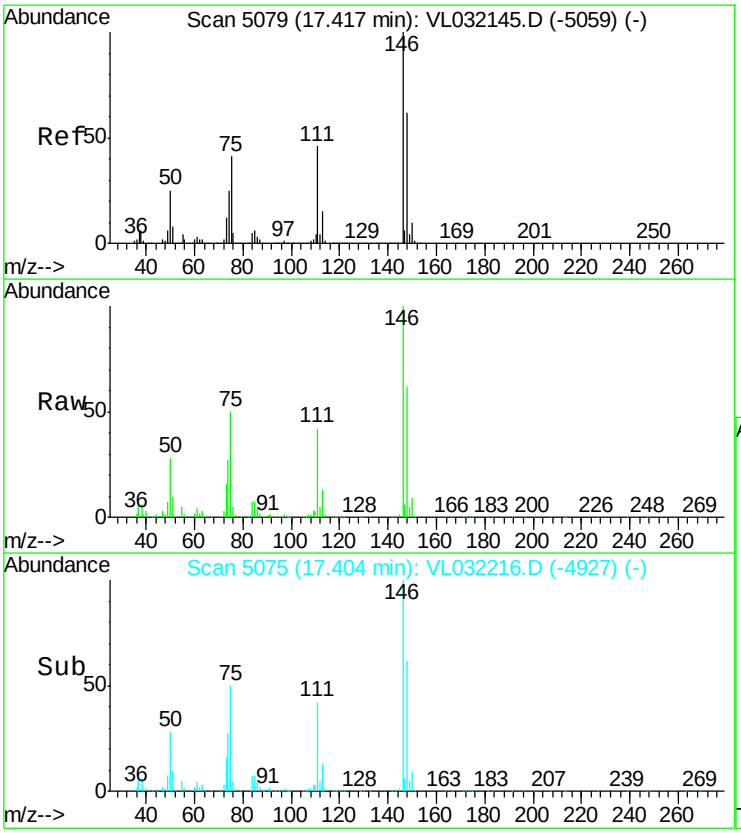
#75
1,3-Dichlorobenzene
Concen: 1.053 ppbv
RT: 17.26 min Scan# 5030
Delta R.T. -0.03 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Instrument :
MSVOA_L
ClientSampleId :
LOQ-AIR-02-QT3-2018

Tgt Ion:146 Resp: 371339

Ion	Ratio	Lower	Upper
146	100		
111	50.6	22.9	68.8
148	63.0	31.7	95.1

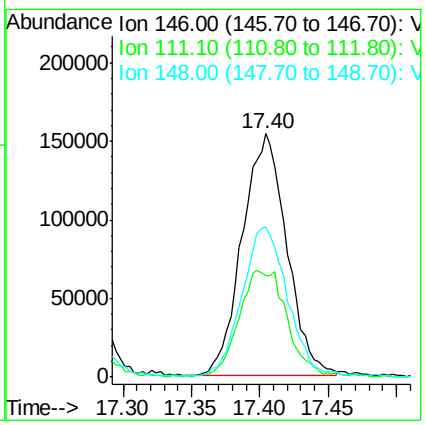


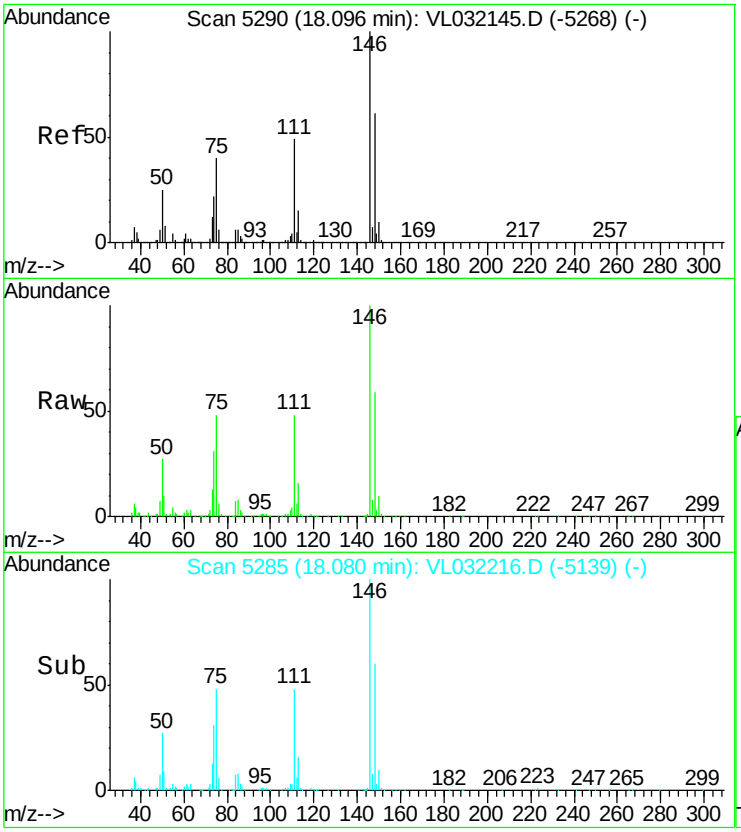


#76
1,4-Dichlorobenzene
Concen: 0.979 ppbv
RT: 17.40 min Scan# 5075
Delta R.T. -0.02 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Tgt Ion:146 Resp: 350254

Ion	Ratio	Lower	Upper
146	100		
111	47.9	21.9	65.8
148	64.2	32.1	96.5



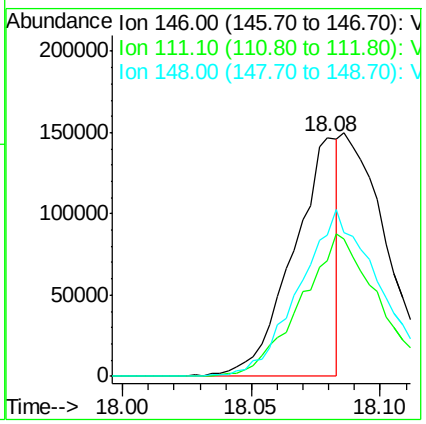


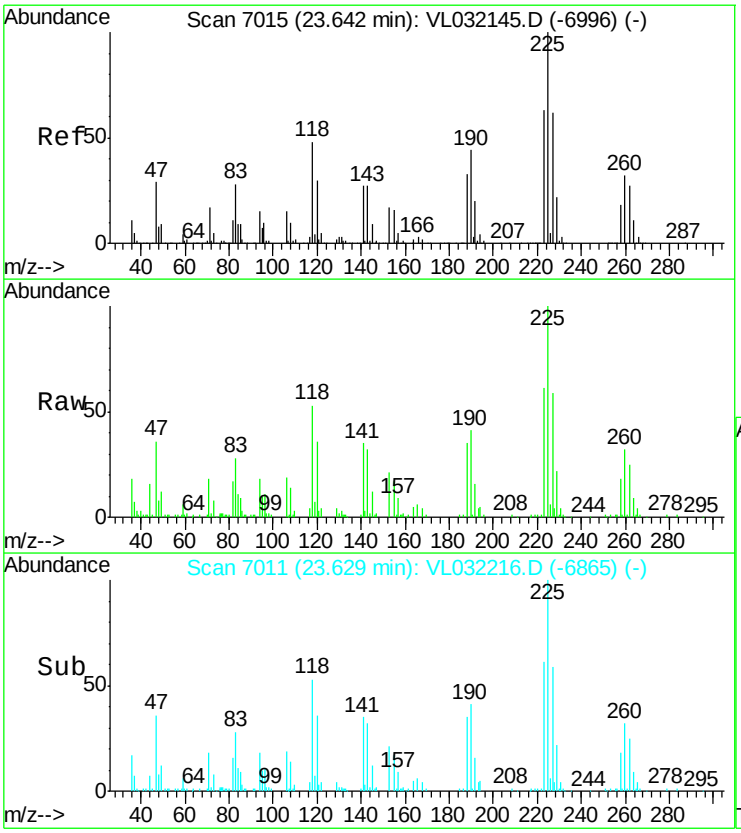
#77
1,2-Dichlorobenzene
Concen: 0.500 ppbv
RT: 18.08 min Scan# 5285
Delta R.T. -0.03 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Instrument :
MSVOA_L
ClientSampleId :
LOQ-AIR-02-QT3-2018

Tgt Ion:146 Resp: 176203

Ion	Ratio	Lower	Upper
146	100		
111	0.0	23.4	70.3#
148	0.0	32.0	96.0#

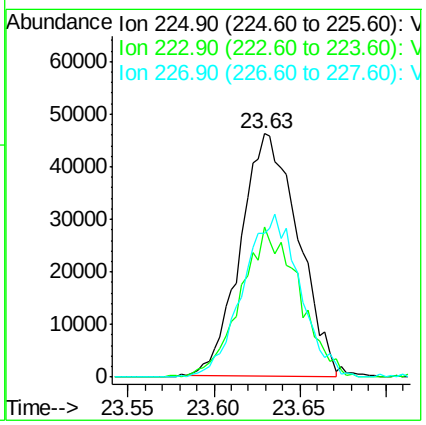


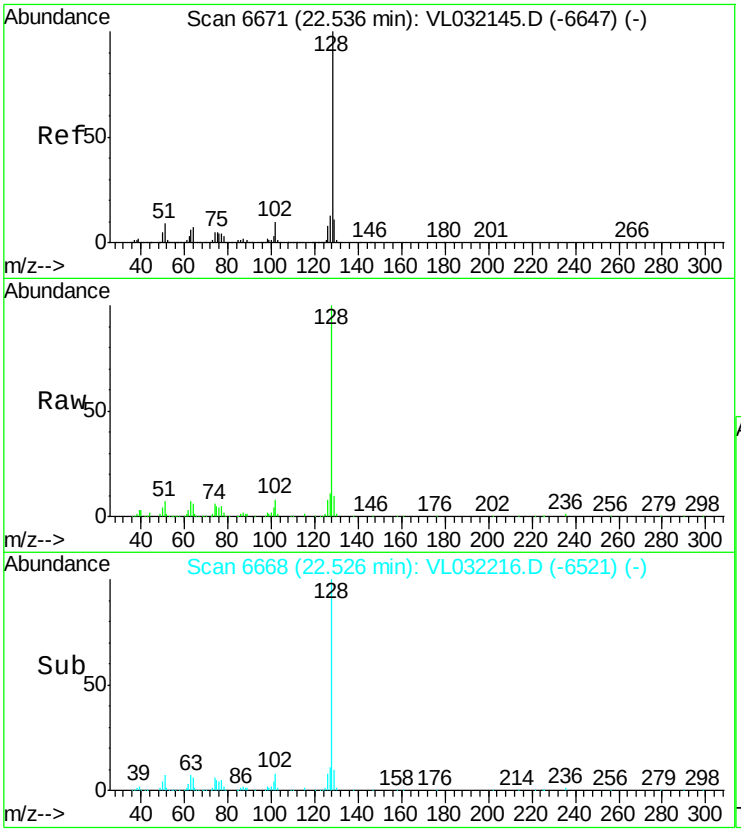


#78
Hexachloro-1,3-Butadiene
Concen: 0.881 ppbv
RT: 23.63 min Scan# 7011
Delta R.T. -0.03 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Tgt Ion:225 Resp: 108124

Ion	Ratio	Lower	Upper
225	100		
223	62.0	51.0	76.4
227	65.9	51.4	77.0



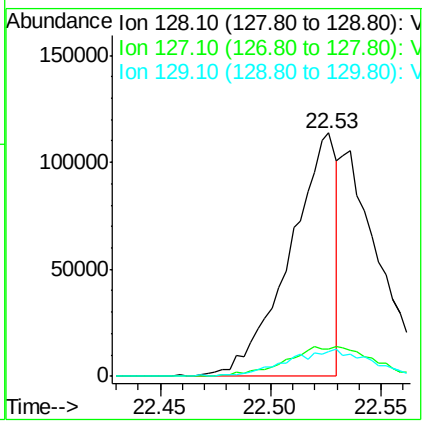


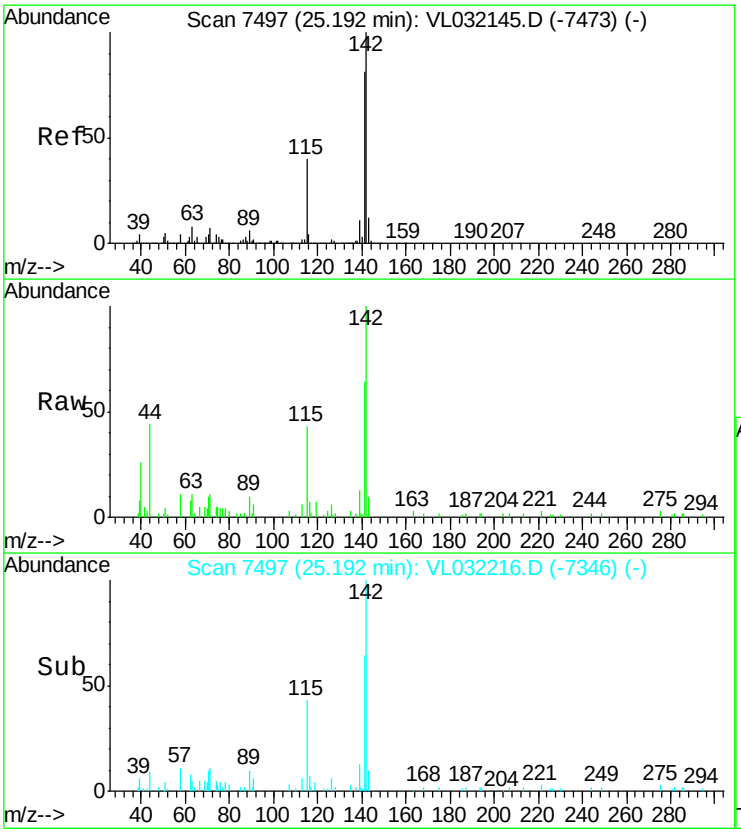
#79
Naphthalene
Concen: 0.296 ppbv
RT: 22.53 min Scan# 6668
Delta R.T. -0.03 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Instrument :
MSVOA_L
ClientSampleId :
LOQ-AIR-02-QT3-2018

Tgt Ion:128 Resp: 166928

Ion	Ratio	Lower	Upper
128	100		
127	11.2	10.5	15.7
129	9.9	9.0	13.6

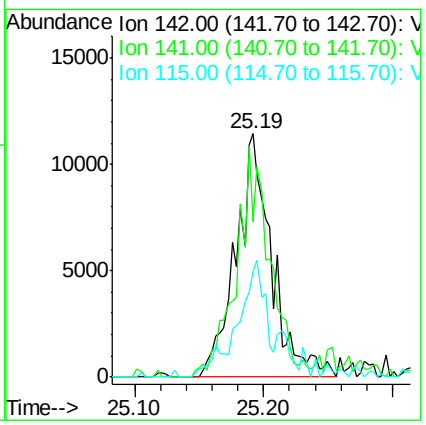


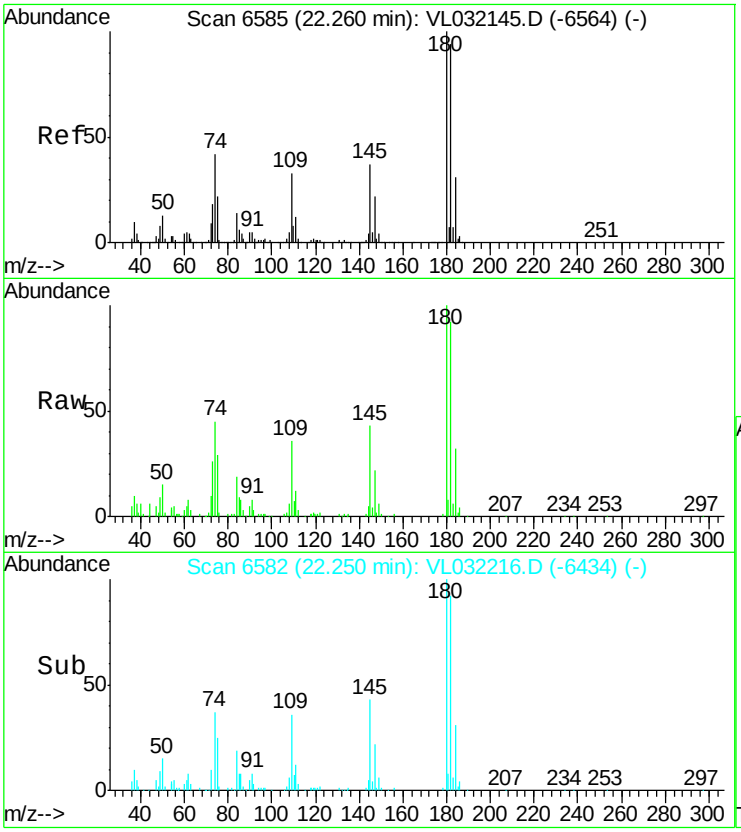


#80
Naphthalene,2-methyl-
Concen: 0.108 ppbv
RT: 25.19 min Scan# 7497
Delta R.T. -0.01 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Tgt Ion:142 Resp: 22022

Ion	Ratio	Lower	Upper
142	100		
141	89.6	65.8	98.6
115	46.7	29.4	44.0#





#81
1,2,4-Trichlorobenzene
Concen: 0.401 ppbv
RT: 22.25 min Scan# 6582
Delta R.T. -0.02 min
Lab File: VL032216.D
Acq: 5 Jul 2018 23:22

Instrument :
MSVOA_L
ClientSampleId :
LOQ-AIR-02-QT3-2018

Tgt Ion:180 Resp: 101952

Ion	Ratio	Lower	Upper
180	100		
182	0.0	76.2	114.4#
184	51.7	24.4	36.6#

