

Data Path : Z:\VOASRV\HPCHEM1\MSVOA_L\DATA\VL050219\
 Data File : VL033628.D
 Acq On : 2 May 2019 15:01
 Operator : SY/AP
 Sample : K2628-01DUP
 Misc : 400ml/MSVOA_L
 ALS Vial : 1 Sample Multiplier: 1

Instrument :
 MSVOA_L
 ClientSampleId :
 A-1DUP

Quant Time: May 03 02:27:55 2019
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA_L\METHODS\VL050119AIR.M
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_L Thu May 02 06:29:02 2019
 QLast Update : Thu May 02 06:29:02 2019
 Response via : Initial Calibration

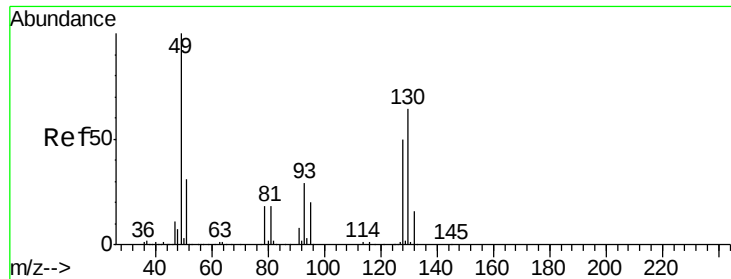
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	5.75	49	861201	10.00	ppbv	0.00
33) 1,4-Difluorobenzene	7.29	114	2213373	10.00	ppbv	0.00
55) Chlorobenzene-d5	12.23	117	2289018	10.00	ppbv	0.00

System Monitoring Compounds

68) 1-Bromo-4-Fluorobenzene	14.57	95	1790000	10.27	ppbv	0.00
Spiked Amount	10.000	Range	65 - 135	Recovery	=	102.70%

Target Compounds	R.T.	QIon	Response	Conc	Units	Qvalue
2) Dichlorodifluoromethane	3.08	85	42253	0.326	ppbv	92
3) Chlorodifluoromethane	3.01	51	34590	0.336	ppbv	94
4) Chloromethane	3.17	50	31180	0.556	ppbv #	86
5) Vinyl Chloride	3.05	62	1652	0.028	ppbv #	42
9) Propene	3.04	41	11870	0.403	ppbv #	74
10) Heptane	8.24	43	1540	0.014	ppbv #	14
11) Trichlorofluoromethane	4.00	101	44470	0.288	ppbv	96
12) 1,1,2-Trichlorotrifluoroet	4.55	101	5086	0.048	ppbv #	12
13) Ethanol	3.66	45	36359	2.720	ppbv	92
15) Acetone	3.90	43	214427	2.045	ppbv	98
16) 1,3-Butadiene	3.35	39	1451	0.031	ppbv #	28
17) tert-Butyl alcohol	4.38	59	939	0.010	ppbv #	72
19) Isopropyl Alcohol	4.05	45	19263	0.268	ppbv #	94
20) Methylene Chloride	4.41	84	65721	1.608	ppbv	98
23) Vinyl Acetate	5.14	43	2032	0.013	ppbv #	1
25) Ethyl Acetate	5.77	43	106182	0.534	ppbv #	79
26) Hexane	5.78	57	142925	1.706	ppbv #	38
34) 2-Butanone	5.33	43	6455	0.048	ppbv #	53
35) Carbon Tetrachloride	7.13	117	6730	0.038	ppbv #	81
36) Benzene	7.00	78	13407	0.071	ppbv #	74
37) 1,2-Dichloroethane	6.41	62	2601	0.021	ppbv #	84
39) 1,2-Dichloropropane	7.28	63	589833	8.294	ppbv #	22
41) Tetrahydrofuran	5.78	42	59795	0.824	ppbv #	47
53) Toluene	9.94	91	306311	1.287	ppbv	98
60) o-Xylene	13.84	91	2358	0.010	ppbv	80
74) 1,2,4-Trimethylbenzene	16.91	105	4278	0.015	ppbv #	49
76) 1,4-Dichlorobenzene	17.31	146	2074	0.012	ppbv #	32
80) Naphthalene,2-methyl-	25.13	142	2962	0.026	ppbv	86

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



#1

Bromochloromethane

Concen: 10.000 ppbv

RT: 5.75 min Scan# 876

Delta R.T. -0.00 min

Lab File: VL033628.D

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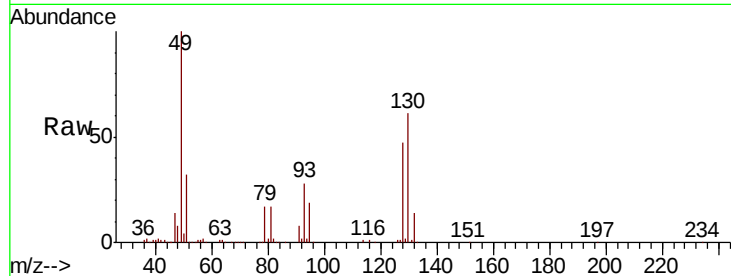
Tgt Ion: 49 Resp: 861201

Ion Ratio Lower Upper

49 100

128 50.1 25.0 75.0

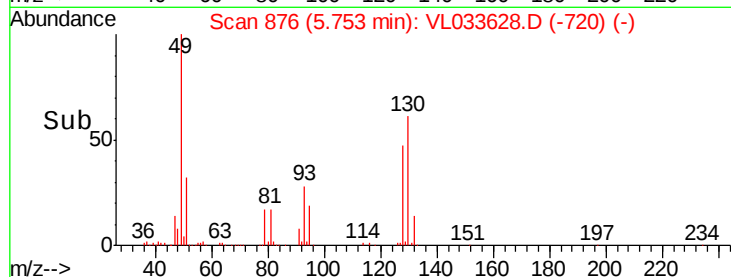
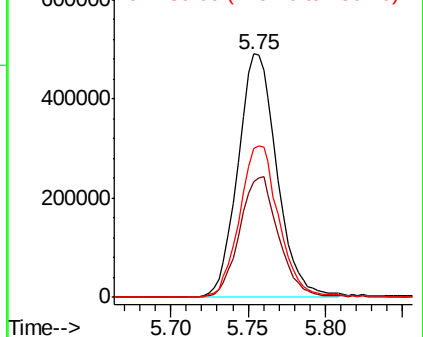
130 63.4 31.9 95.9



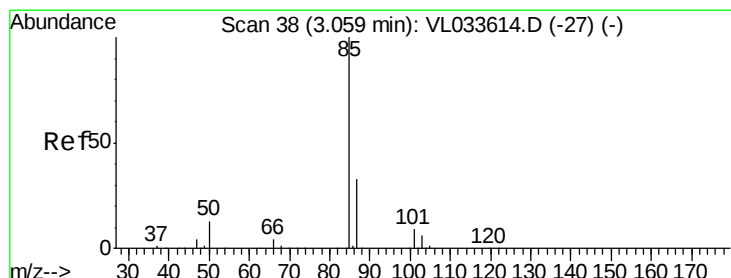
Abundance Ion 49.10 (48.80 to 49.80): VL0

Ion 128.00 (127.70 to 128.70): VL0

Ion 130.00 (129.70 to 130.70): VL0



Scan 876 (5.753 min): VL033628.D (-720) (-)



#2

Dichlorodifluoromethane

Concen: 0.326 ppbv

RT: 3.08 min Scan# 43

Delta R.T. 0.02 min

Lab File: VL033628.D

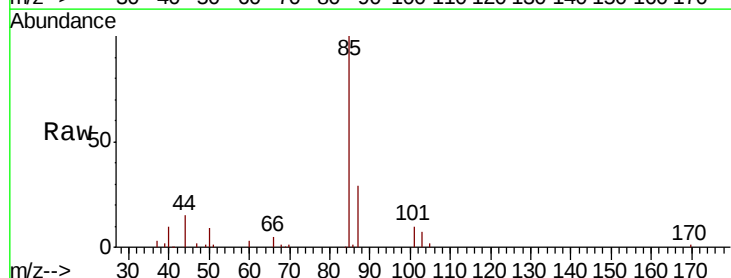
Acq: 2 May 2019 15:01

Tgt Ion: 85 Resp: 42253

Ion Ratio Lower Upper

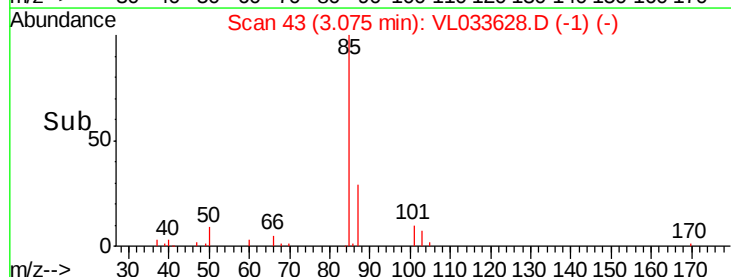
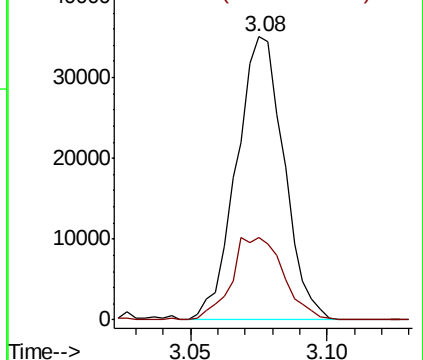
85 100

87 29.1 26.8 40.2

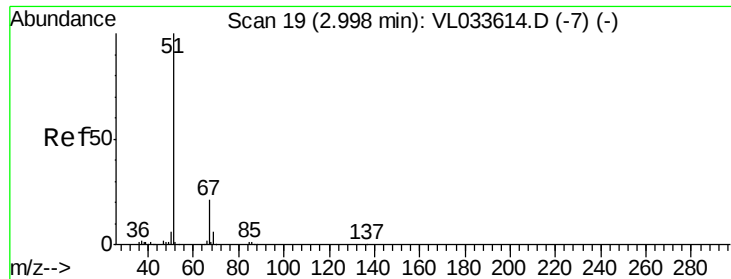


Abundance Ion 85.00 (84.70 to 85.70): VL0

Ion 87.00 (86.70 to 87.70): VL0



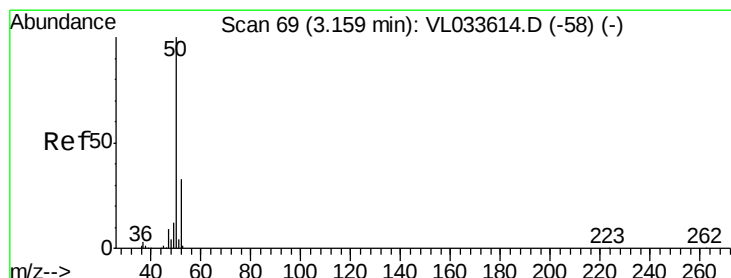
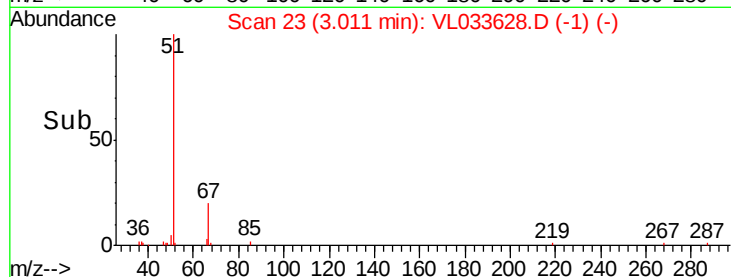
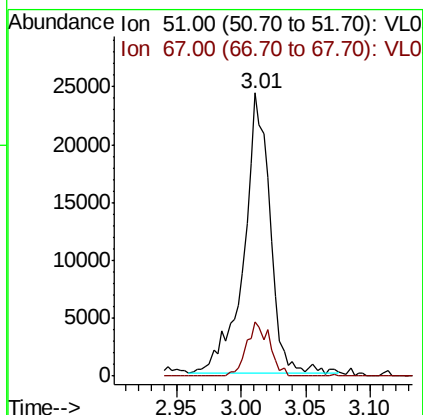
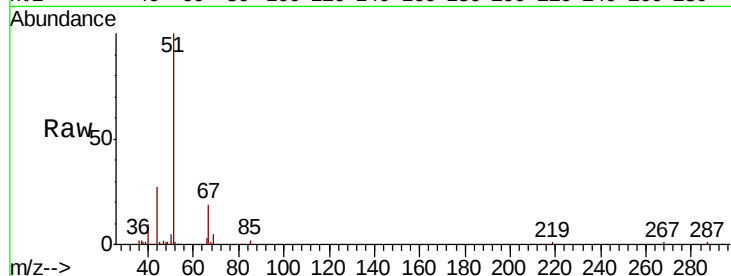
Scan 43 (3.075 min): VL033628.D (-1) (-)



#3
Chlorodifluoromethane
Concen: 0.336 ppbv
RT: 3.01 min Scan# 23
Delta R.T. 0.01 min
Lab File: VL033628.D
Acq: 2 May 2019 15:01

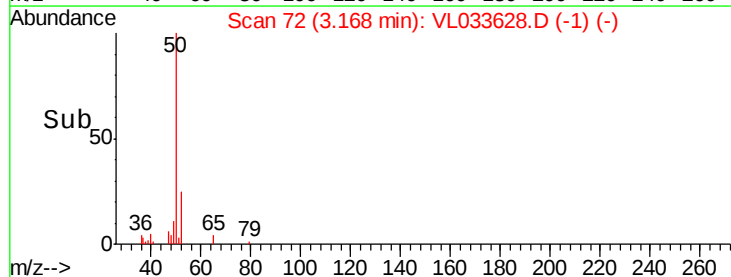
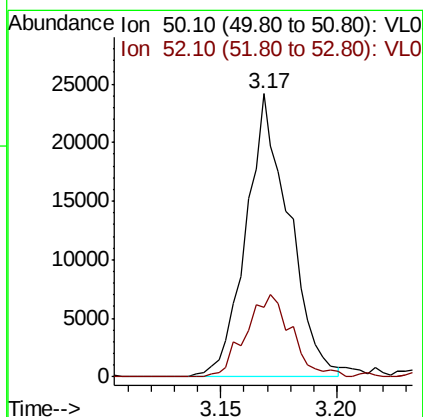
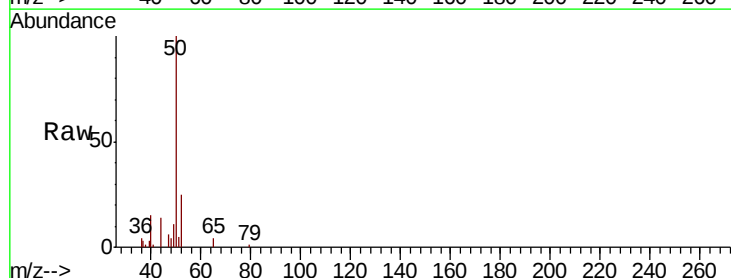
Instrument :
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A-1DUP

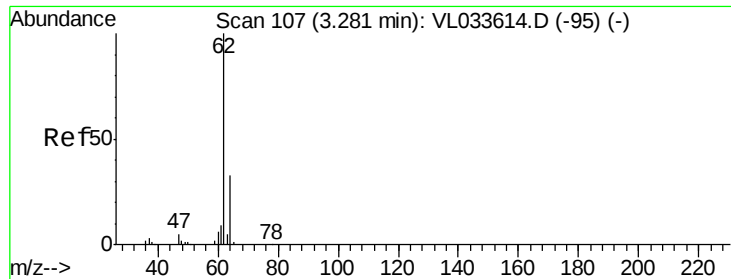
Tgt Ion: 51 Resp: 34590
Ion Ratio Lower Upper
51 100
67 16.9 15.6 23.4



#4
Chloromethane
Concen: 0.556 ppbv
RT: 3.17 min Scan# 72
Delta R.T. 0.01 min
Lab File: VL033628.D
Acq: 2 May 2019 15:01

Tgt Ion: 50 Resp: 31180
Ion Ratio Lower Upper
50 100
52 24.6 26.0 39.0#





#5

Vinyl Chloride

Concen: 0.028 ppbv

RT: 3.05 min Scan# 34

Delta R.T. -0.23 min

Lab File: VL033628.D

Acq: 2 May 2019 15:01

Instrument :

MSVOA_L

ClientSampleId :

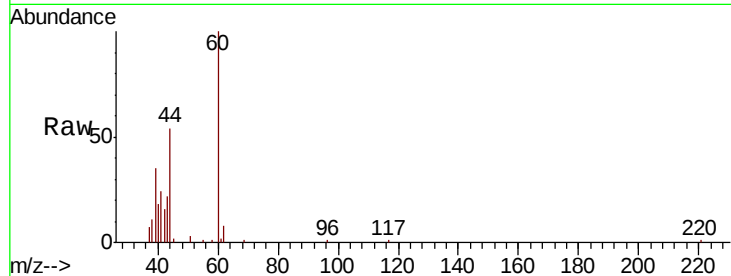
A-1DUP

Tgt Ion: 62 Resp: 1652

Ion Ratio Lower Upper

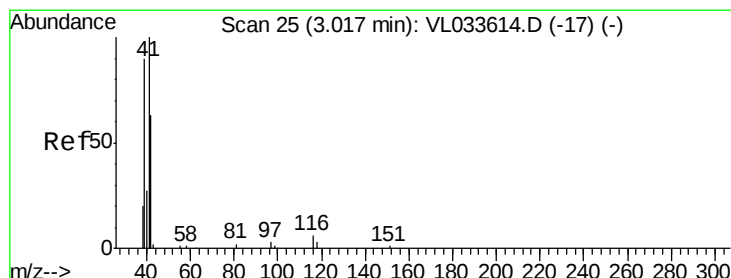
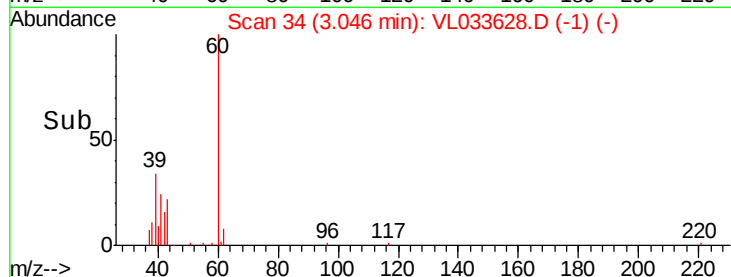
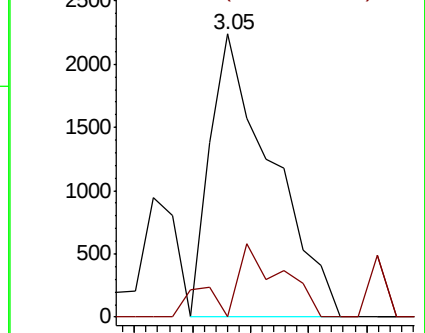
62 100

64 0.0 26.2 39.4#



Abundance Ion 62.10 (61.80 to 62.80): VL0

Ion 64.10 (63.80 to 64.80): VL0



#9

Propene

Concen: 0.403 ppbv

RT: 3.04 min Scan# 33

Delta R.T. 0.03 min

Lab File: VL033628.D

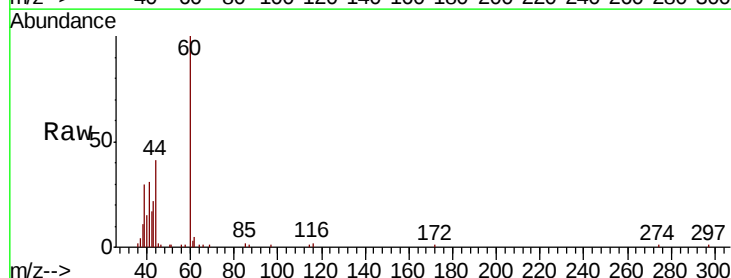
Acq: 2 May 2019 15:01

Tgt Ion: 41 Resp: 11870

Ion Ratio Lower Upper

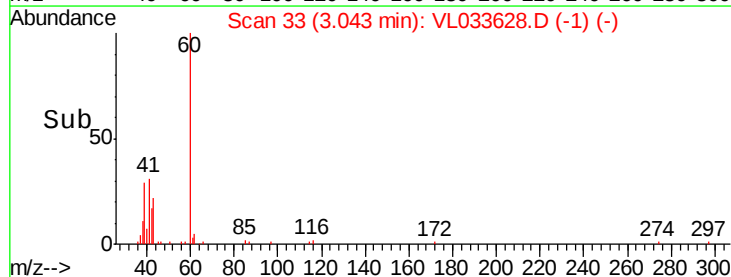
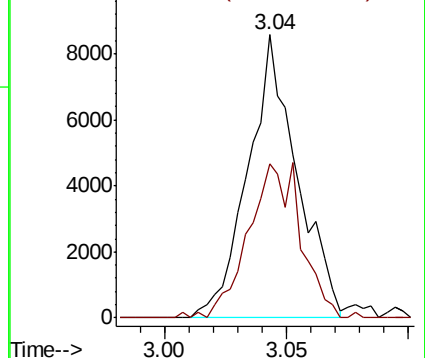
41 100

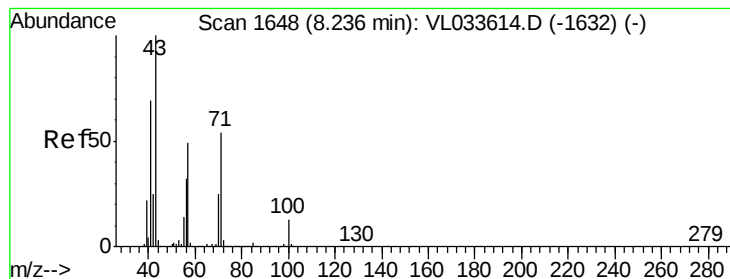
42 58.9 66.0 99.0#



Abundance Ion 41.10 (40.80 to 41.80): VL0

Ion 42.10 (41.80 to 42.80): VL0





#10

Heptane

Concen: 0.014 ppbv

RT: 8.24 min Scan# 1649

Delta R.T. 0.00 min

Lab File: VL033628.D

Acq: 2 May 2019 15:01

Instrument :

MSVOA_L

ClientSampleId :

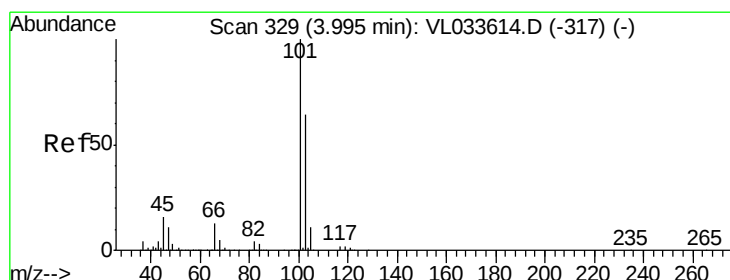
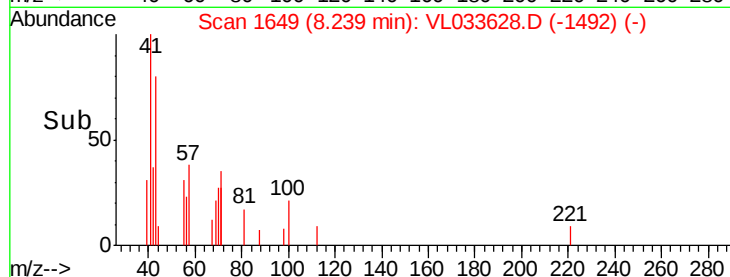
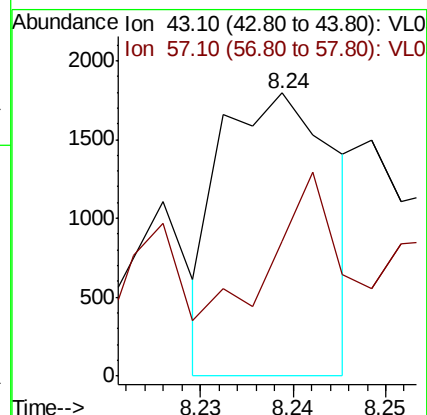
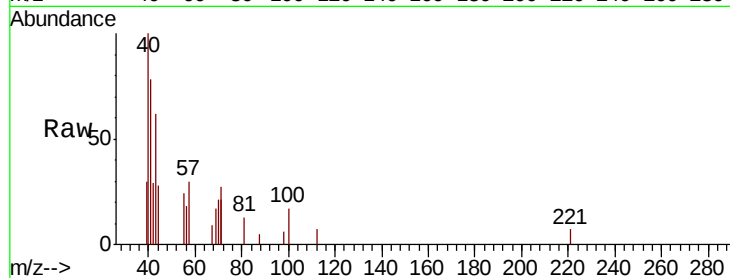
A-1DUP

Tgt Ion: 43 Resp: 1540

Ion Ratio Lower Upper

43 100

57 110.1 40.3 60.5#



#11

Trichlorofluoromethane

Concen: 0.288 ppbv

RT: 4.00 min Scan# 332

Delta R.T. 0.01 min

Lab File: VL033628.D

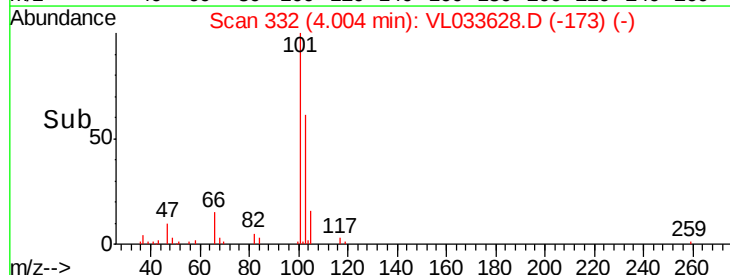
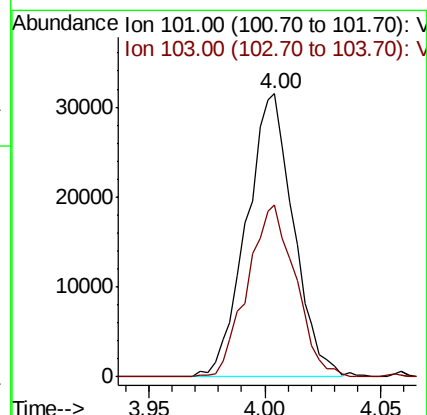
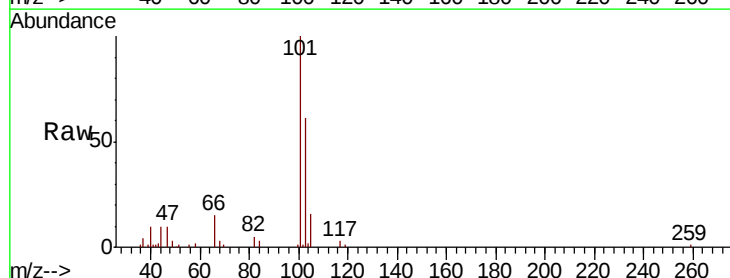
Acq: 2 May 2019 15:01

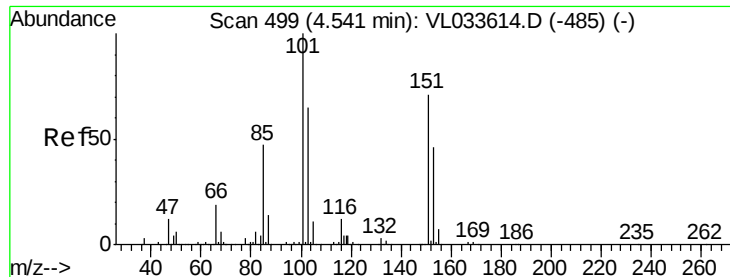
Tgt Ion: 101 Resp: 44470

Ion Ratio Lower Upper

101 100

103 60.8 51.2 76.8





#12

1,1,2-Trichlorotrifluoroethane

Concen: 0.048 ppbv

RT: 4.55 min Scan# 501

Delta R.T. 0.01 min

Lab File: VL033628.D

Acq: 2 May 2019 15:01

Instrument :

MSVOA_L

ClientSampleId :

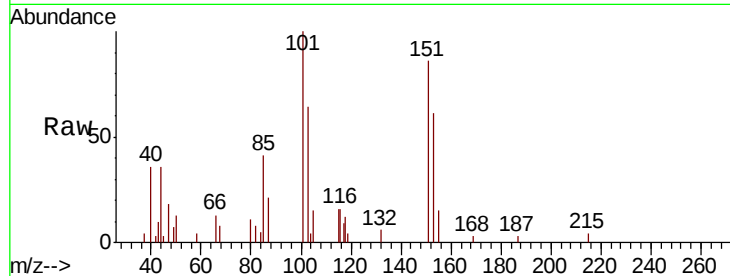
A-1DUP

Tgt Ion: 101 Resp: 5086

Ion Ratio Lower Upper

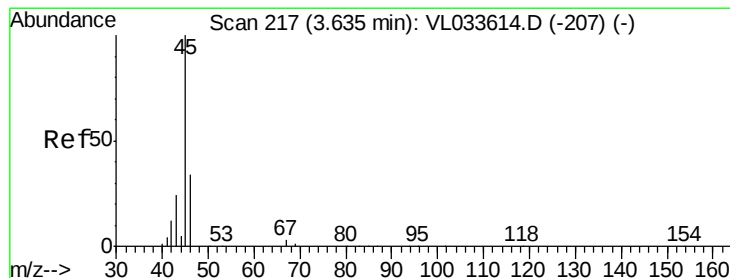
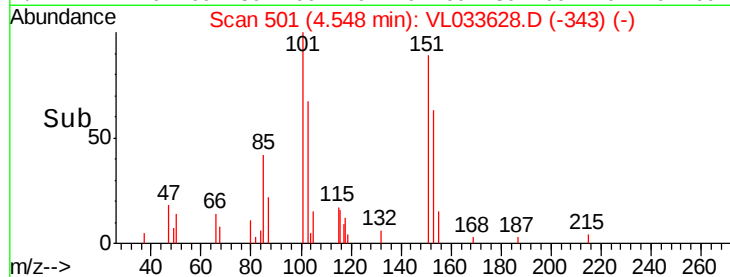
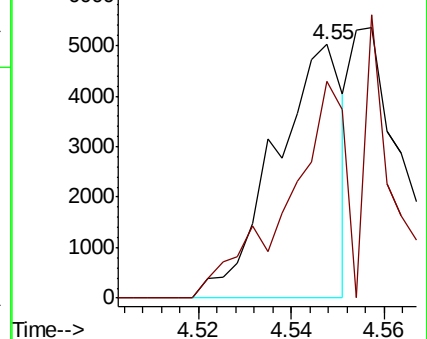
101 100

151 0.0 59.2 88.8#



Abundance Ion 101.00 (100.70 to 101.70): V

Ion 151.00 (150.70 to 151.70): V



#13

Ethanol

Concen: 2.720 ppbv

RT: 3.66 min Scan# 224

Delta R.T. 0.02 min

Lab File: VL033628.D

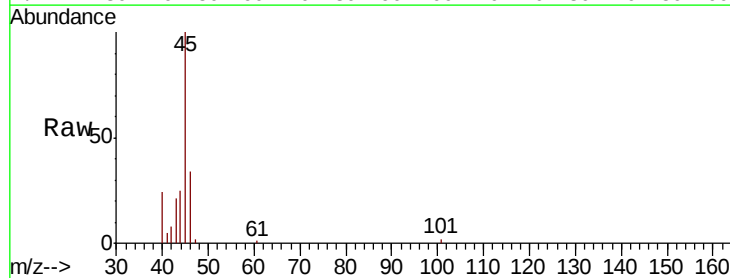
Acq: 2 May 2019 15:01

Tgt Ion: 45 Resp: 36359

Ion Ratio Lower Upper

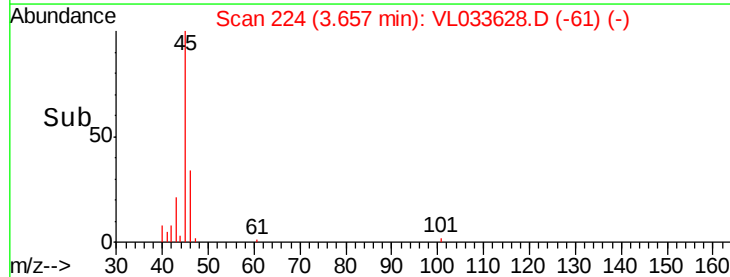
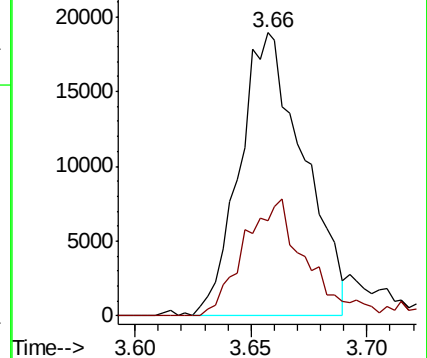
45 100

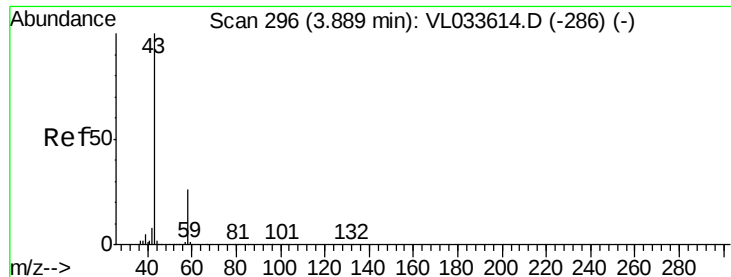
46 41.0 14.6 58.2



Abundance Ion 45.10 (44.80 to 45.80): VL0

Ion 46.10 (45.80 to 46.80): VL0





#15

Acetone

Concen: 2.045 ppbv

RT: 3.90 min Scan# 300

Delta R.T. 0.01 min

Lab File: VL033628.D

Acq: 2 May 2019 15:01

Instrument :

MSVOA_L

ClientSampleId :

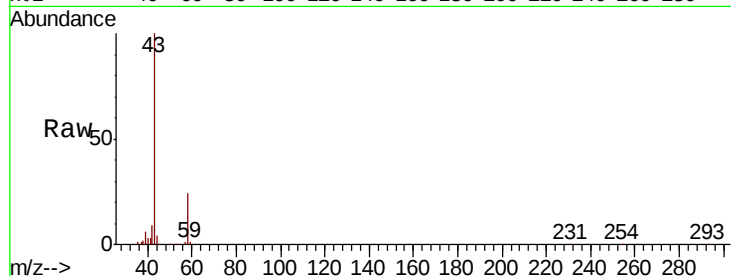
A-1DUP

Tgt Ion: 43 Resp: 214427

Ion Ratio Lower Upper

43 100

58 27.4 21.2 31.8



Abundance Ion 43.10 (42.80 to 43.80): VL0

Ion 58.10 (57.80 to 58.80): VL0

150000

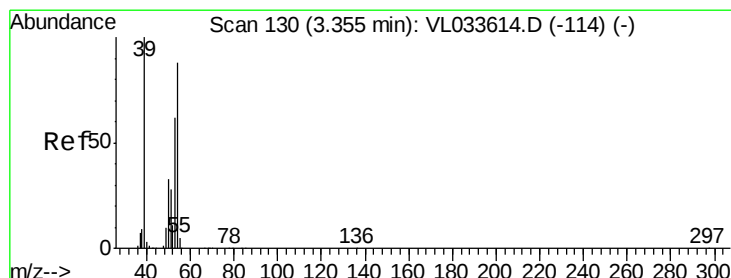
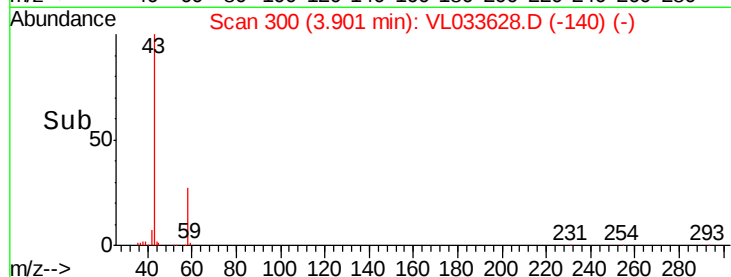
100000

50000

0

3.85 3.90 3.95

Time-->



#16

1,3-Butadiene

Concen: 0.031 ppbv

RT: 3.35 min Scan# 127

Delta R.T. -0.01 min

Lab File: VL033628.D

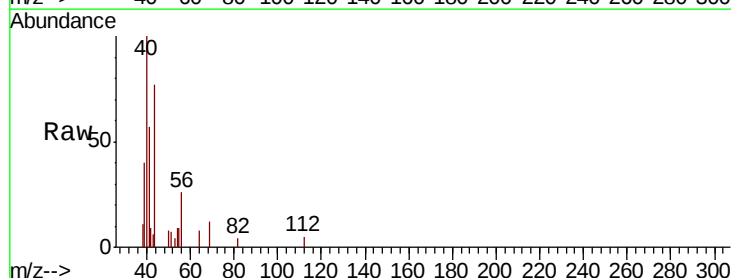
Acq: 2 May 2019 15:01

Tgt Ion: 39 Resp: 1451

Ion Ratio Lower Upper

39 100

54 19.8 68.4 102.6#



Abundance Ion 39.10 (38.80 to 39.80): VL0

Ion 54.10 (53.80 to 54.80): VL0

3000

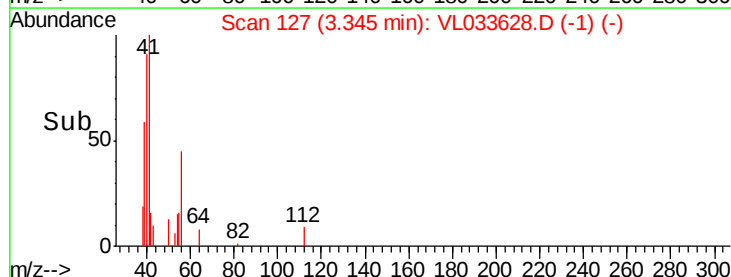
2000

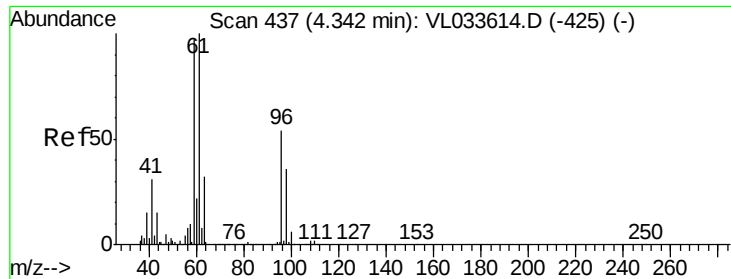
1000

0

3.34 3.35 3.36 3.37

Time-->



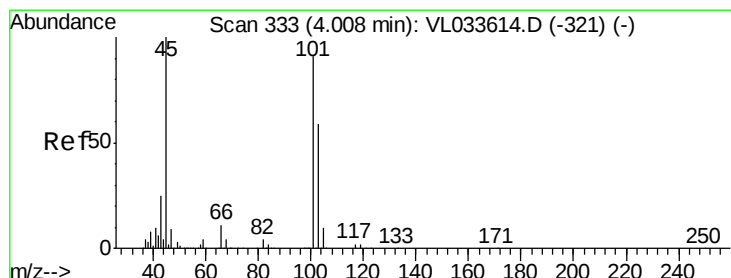
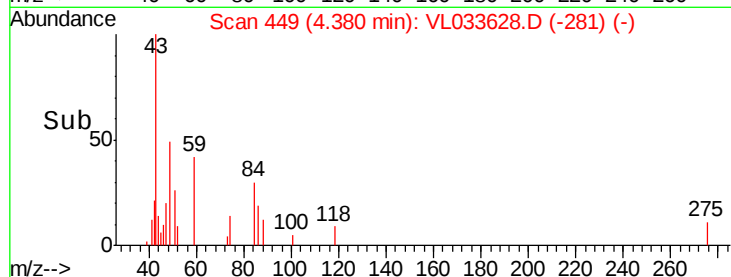
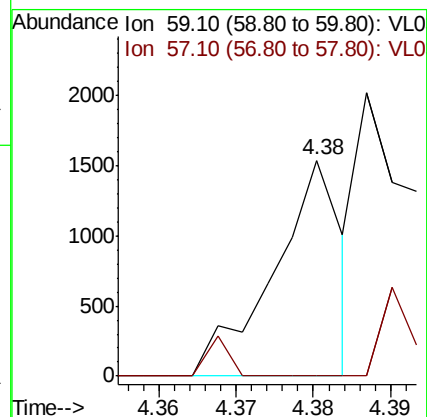
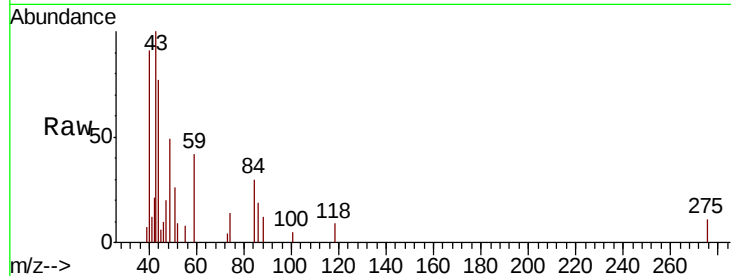


#17

tert-Butyl alcohol
 Concen: 0.010 ppbv
 RT: 4.38 min Scan# 449
 Delta R.T. 0.04 min
 Lab File: VL033628.D
 Acq: 2 May 2019 15:01

Instrument :
 MSVOA_L
 ClientSampleId :
 A-1DUP

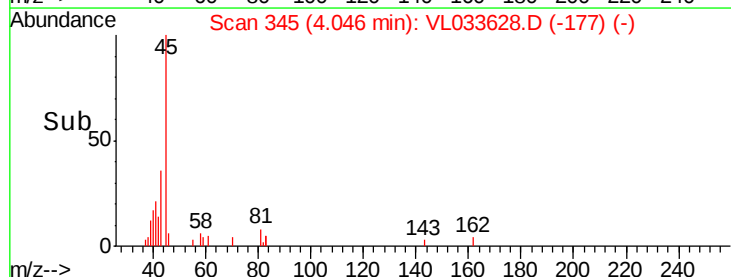
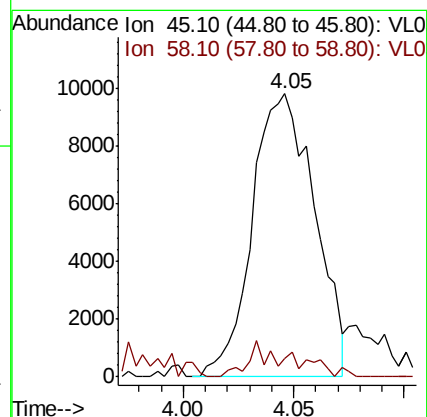
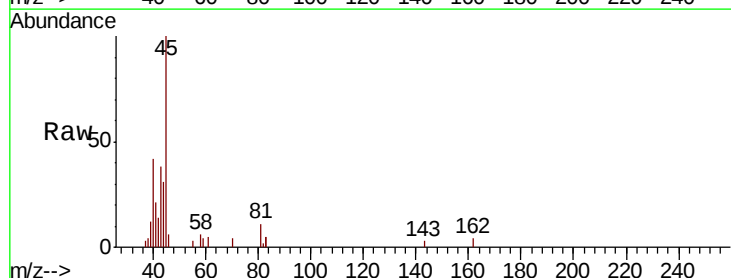
Tgt Ion: 59 Resp: 939
 Ion Ratio Lower Upper
 59 100
 57 0.0 8.4 12.6#

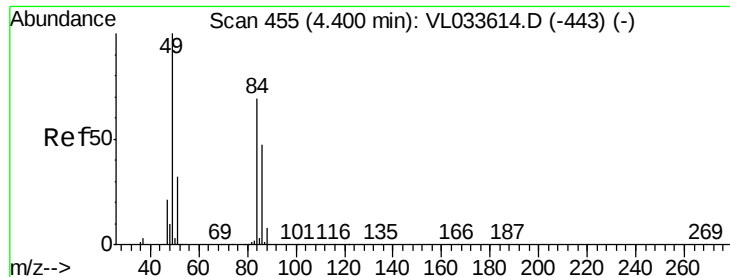


#19

Isopropyl Alcohol
 Concen: 0.268 ppbv
 RT: 4.05 min Scan# 345
 Delta R.T. 0.04 min
 Lab File: VL033628.D
 Acq: 2 May 2019 15:01

Tgt Ion: 45 Resp: 19263
 Ion Ratio Lower Upper
 45 100
 58 0.0 1.8 2.6#

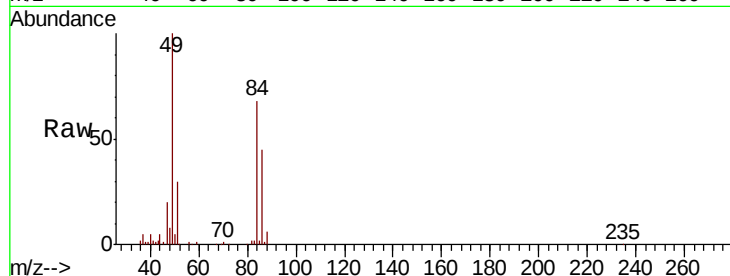




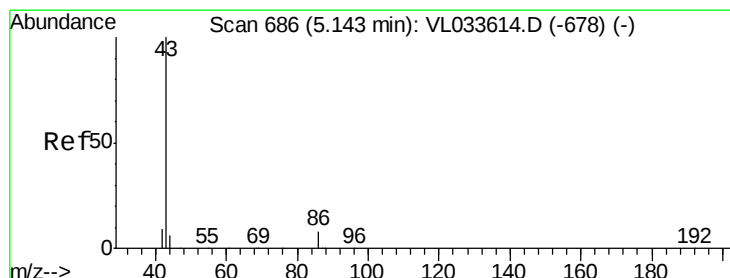
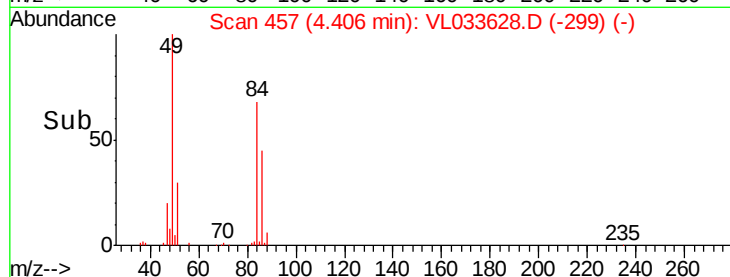
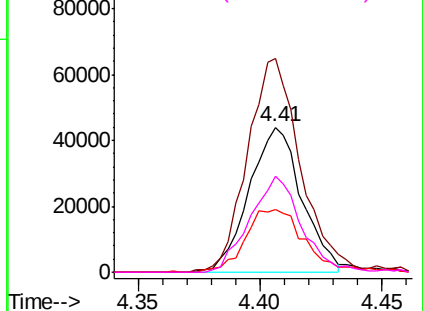
#20
Methylene Chloride
Concen: 1.608 ppbv
RT: 4.41 min Scan# 457
Delta R.T. 0.01 min
Lab File: VL033628.D
Acq: 2 May 2019 15:01

Instrument :
MSVOA_L
ClientSampleId :
A-1DUP

Tgt Ion: 84 Resp: 65721
Ion Ratio Lower Upper
84 100
49 147.0 116.2 174.2
51 44.1 37.0 55.6
86 66.0 54.0 81.0



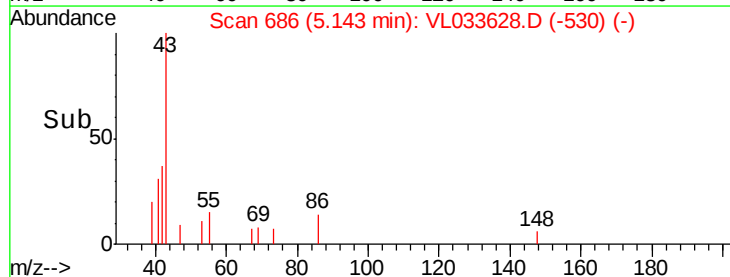
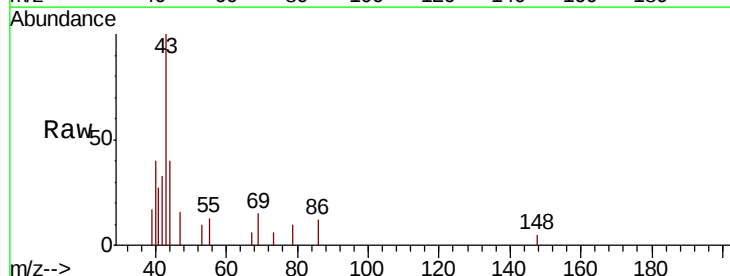
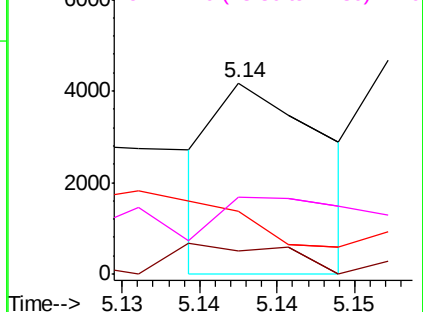
Abundance Ion 84.00 (83.70 to 84.70): VL0
Ion 49.10 (48.80 to 49.80): VL0
Ion 51.10 (50.80 to 51.80): VL0
Ion 86.00 (85.70 to 86.70): VL0

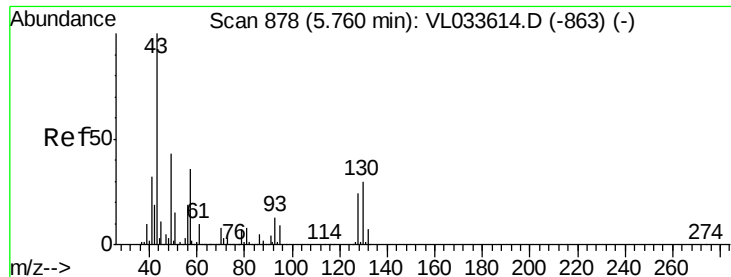


#23
Vinyl Acetate
Concen: 0.013 ppbv
RT: 5.14 min Scan# 686
Delta R.T. 0.00 min
Lab File: VL033628.D
Acq: 2 May 2019 15:01

Tgt Ion: 43 Resp: 2032
Ion Ratio Lower Upper
43 100
86 39.9 5.8 8.8#
42 60.5 7.8 11.8#
44 74.3 4.6 7.0#

Abundance Ion 43.10 (42.80 to 43.80): VL0
Ion 86.10 (85.80 to 86.80): VL0
Ion 42.10 (41.80 to 42.80): VL0
Ion 44.10 (43.80 to 44.80): VL0





#25

Ethyl Acetate

Concen: 0.534 ppbv

RT: 5.77 min Scan# 882

Delta R.T. 0.01 min

Lab File: VL033628.D

Acq: 2 May 2019 15:01

Instrument :

MSVOA_L

ClientSampleId :

A-1DUP

Tgt Ion: 43 Resp: 106182

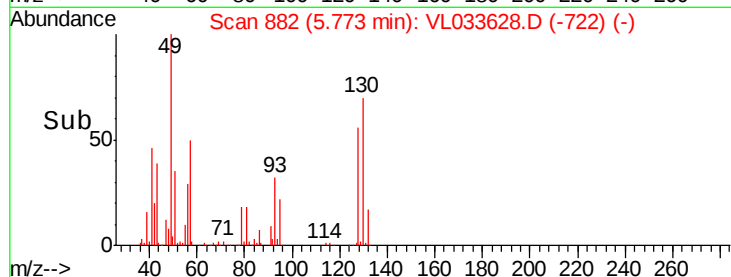
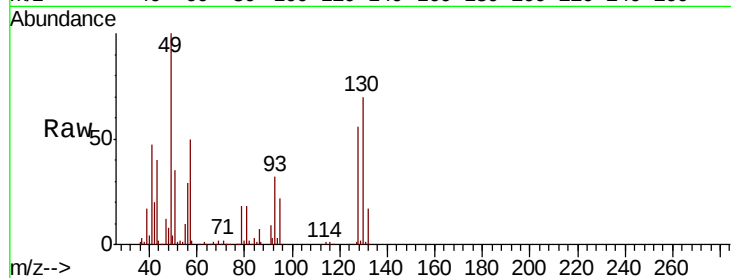
Ion Ratio Lower Upper

43 100

45 1.6 8.1 12.1#

61 1.0 7.5 11.3#

70 2.1 5.8 8.6#



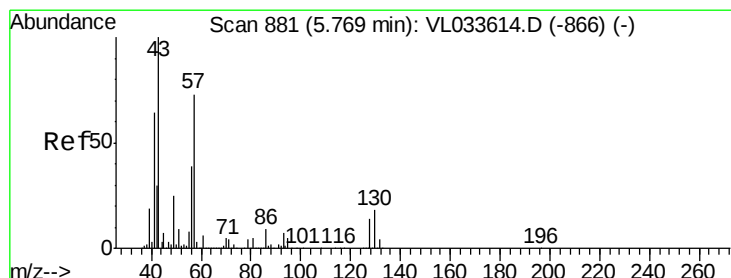
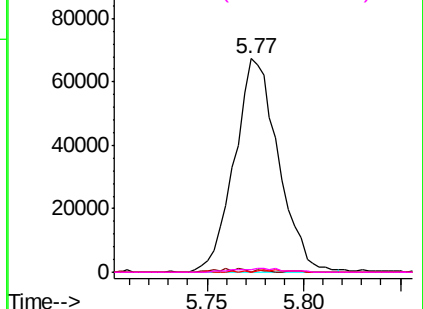
Abundance

Ion 43.10 (42.80 to 43.80): VL0

Ion 45.10 (44.80 to 45.80): VL0

Ion 61.10 (60.80 to 61.80): VL0

Ion 70.10 (69.80 to 70.80): VL0



#26

Hexane

Concen: 1.706 ppbv

RT: 5.78 min Scan# 883

Delta R.T. 0.01 min

Lab File: VL033628.D

Acq: 2 May 2019 15:01

Tgt Ion: 57 Resp: 142925

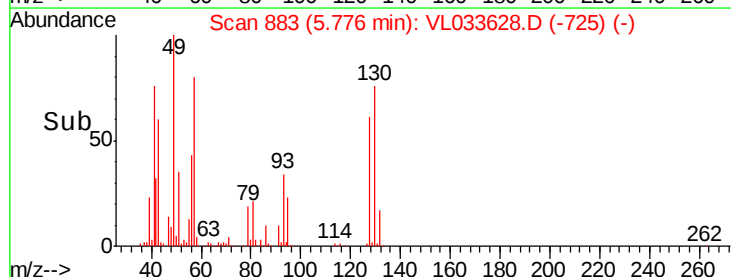
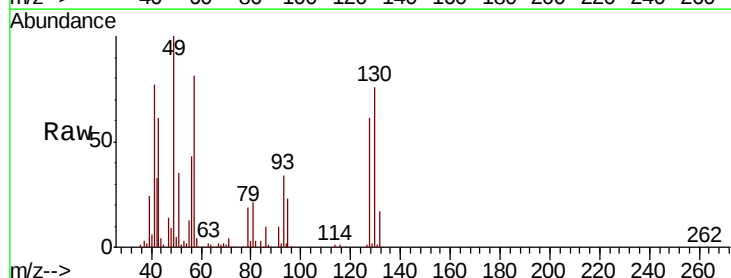
Ion Ratio Lower Upper

57 100

41 97.4 70.6 106.0

43 75.2 186.0 279.0#

56 56.4 42.7 64.1



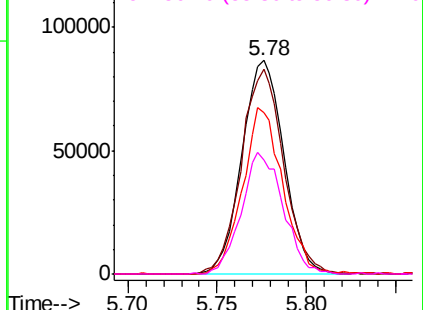
Abundance

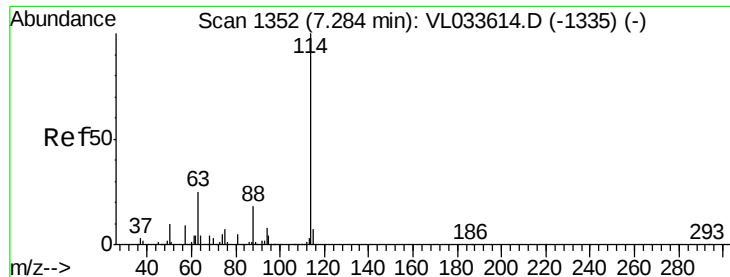
Ion 57.10 (56.80 to 57.80): VL0

Ion 41.10 (40.80 to 41.80): VL0

Ion 43.10 (42.80 to 43.80): VL0

Ion 56.10 (55.80 to 56.80): VL0

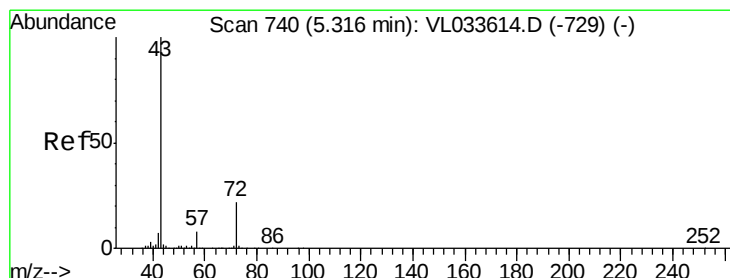
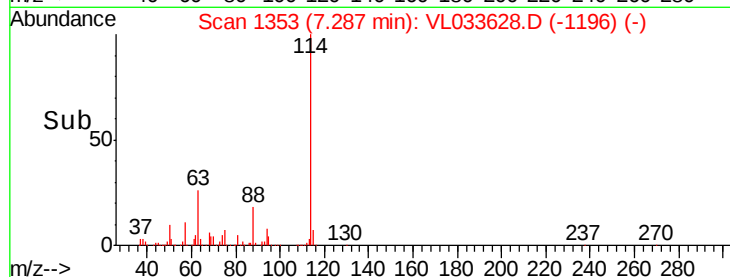
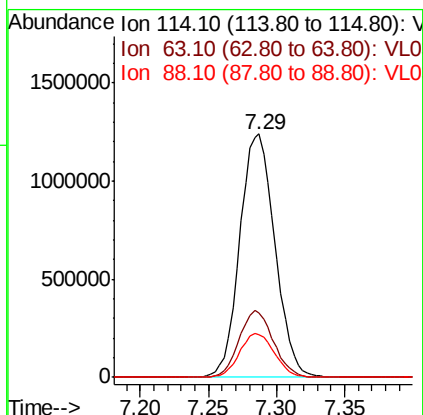
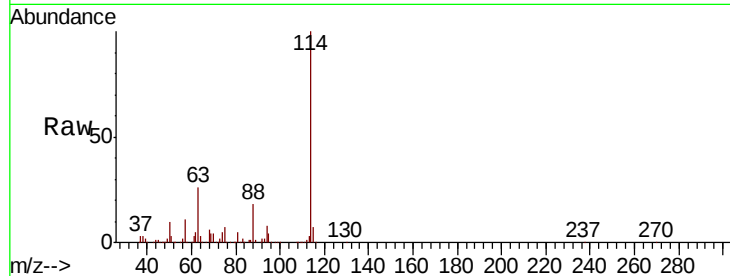




#33
 1,4-Difluorobenzene
 Concen: 10.000 ppbv
 RT: 7.29 min Scan# 1353
 Delta R.T. 0.00 min
 Lab File: VL033628.D
 Acq: 2 May 2019 15:01

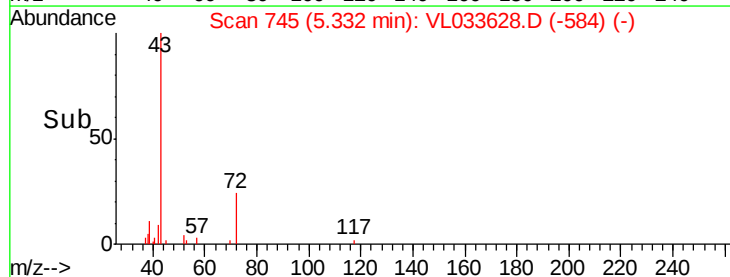
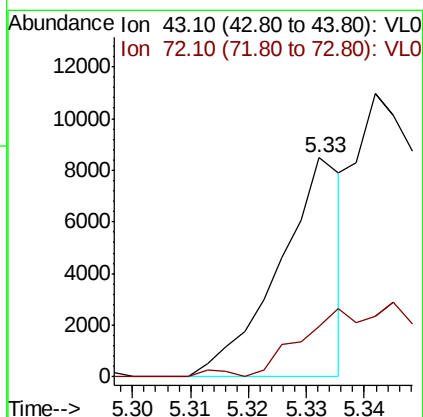
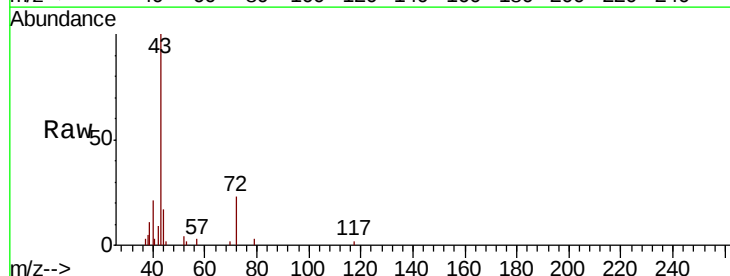
Instrument :
 MSVOA_L
 ClientSampleId :
 A-1DUP

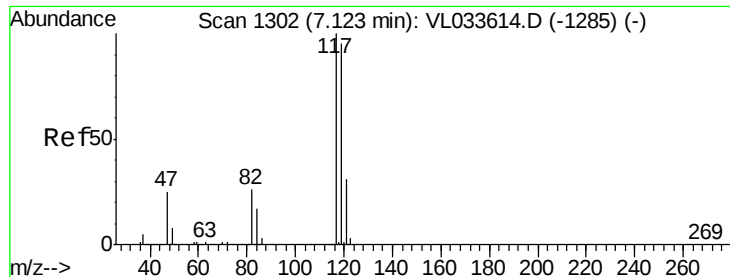
Tgt Ion:114 Resp: 2213373
 Ion Ratio Lower Upper
 114 100
 63 26.7 21.1 31.7
 88 18.1 14.2 21.4



#34
 2-Butanone
 Concen: 0.048 ppbv
 RT: 5.33 min Scan# 745
 Delta R.T. 0.02 min
 Lab File: VL033628.D
 Acq: 2 May 2019 15:01

Tgt Ion: 43 Resp: 6455
 Ion Ratio Lower Upper
 43 100
 72 0.0 17.8 26.8#





#35

Carbon Tetrachloride

Concen: 0.038 ppbv

RT: 7.13 min Scan# 1303

Delta R.T. 0.00 min

Lab File: VL033628.D

Acq: 2 May 2019 15:01

Instrument :

MSVOA_L

ClientSampleId :

A-1DUP

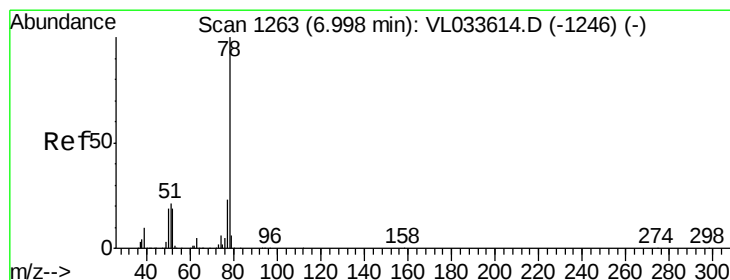
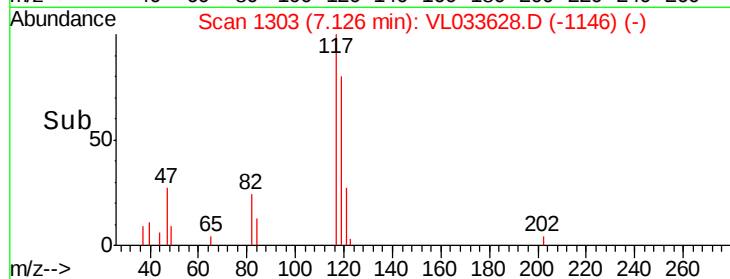
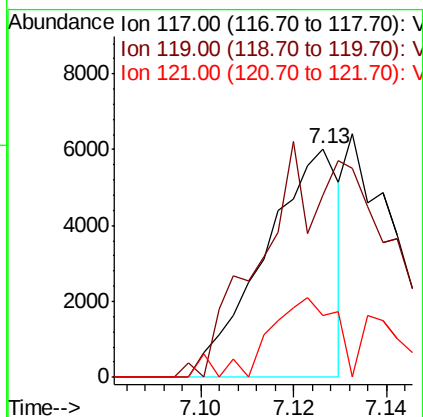
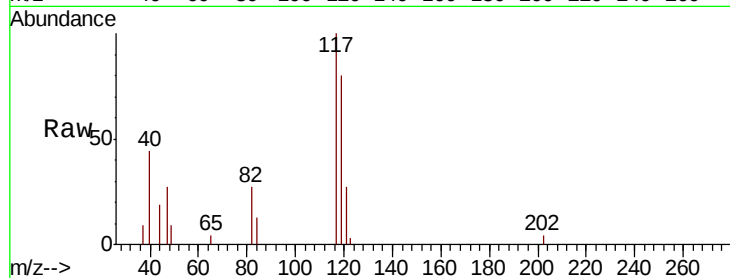
Tgt Ion:117 Resp: 6730

Ion Ratio Lower Upper

117 100

119 73.6 76.2 114.4#

121 27.3 24.9 37.3



#36

Benzene

Concen: 0.071 ppbv

RT: 7.00 min Scan# 1263

Delta R.T. -0.00 min

Lab File: VL033628.D

Acq: 2 May 2019 15:01

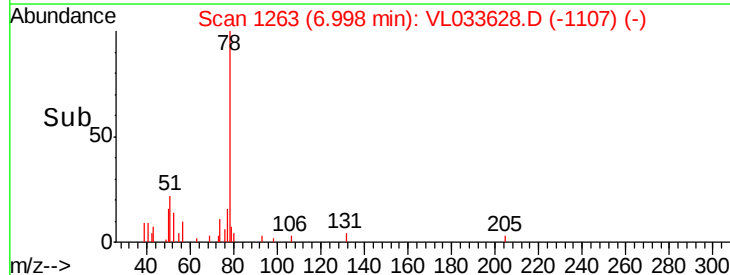
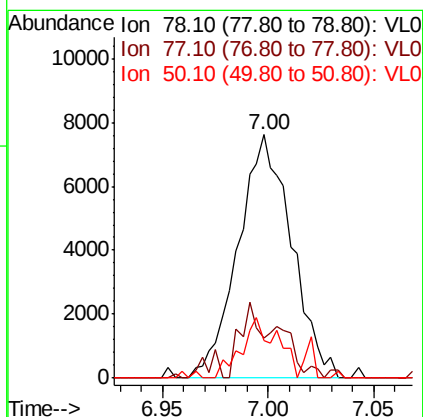
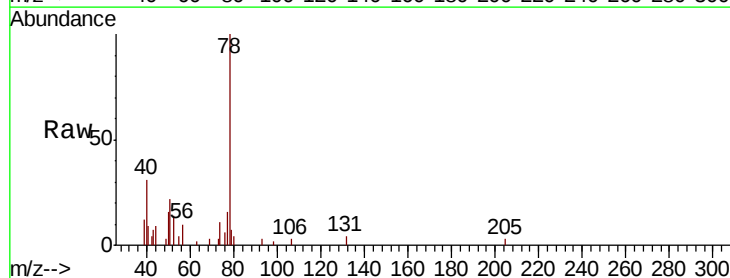
Tgt Ion: 78 Resp: 13407

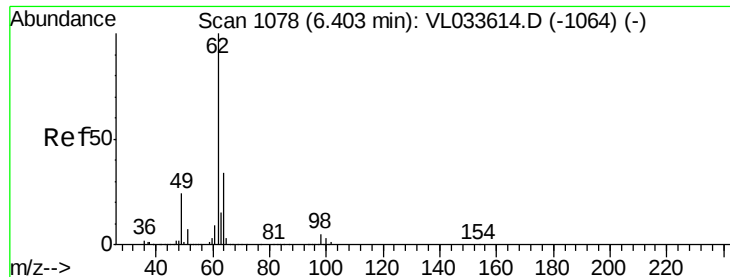
Ion Ratio Lower Upper

78 100

77 16.2 18.1 27.1#

50 37.3 15.1 22.7#

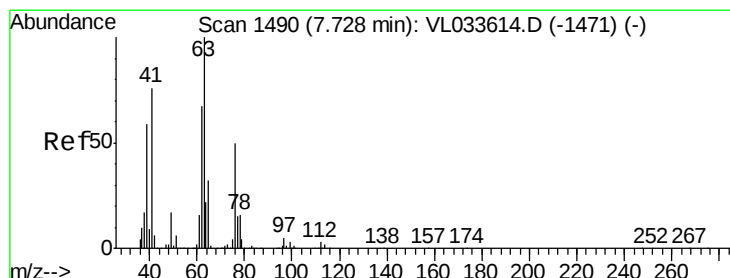
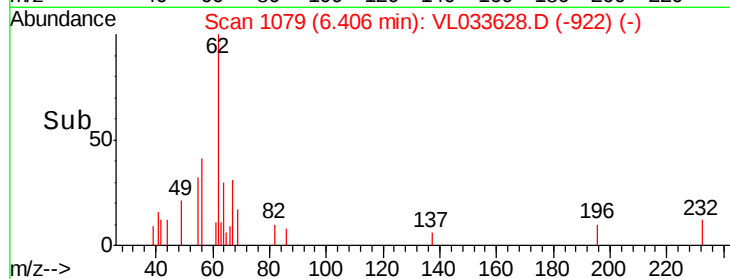
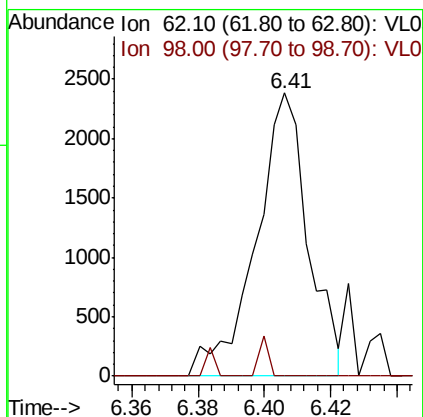
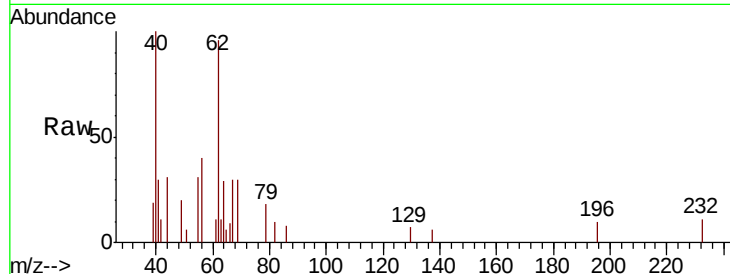




#37
 1,2-Dichloroethane
 Concen: 0.021 ppbv
 RT: 6.41 min Scan# 1079
 Delta R.T. 0.00 min
 Lab File: VL033628.D
 Acq: 2 May 2019 15:01

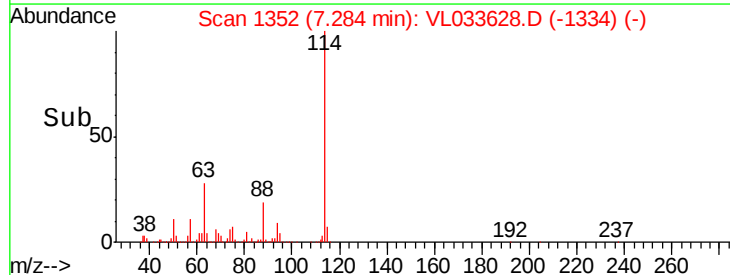
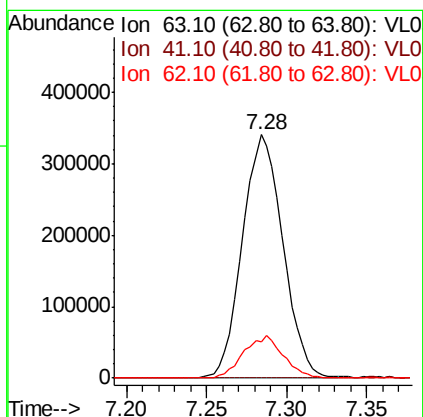
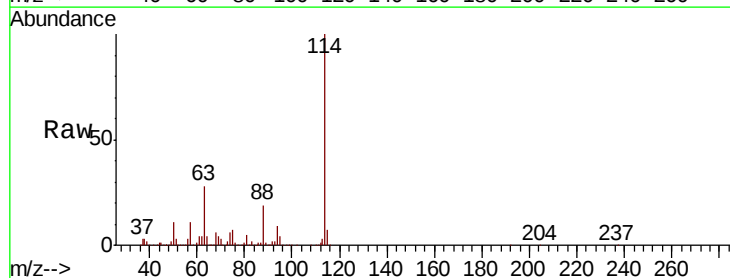
Instrument :
 MSVOA_L
 ClientSampleID :
 A-1DUP

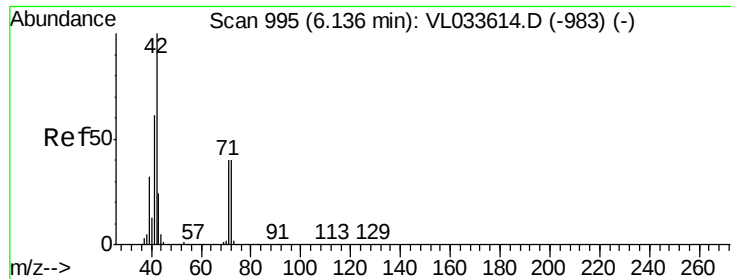
Tgt Ion: 62 Resp: 2601
 Ion Ratio Lower Upper
 62 100
 98 0.0 4.4 6.6#



#39
 1,2-Dichloropropane
 Concen: 8.294 ppbv
 RT: 7.28 min Scan# 1352
 Delta R.T. -0.44 min
 Lab File: VL033628.D
 Acq: 2 May 2019 15:01

Tgt Ion: 63 Resp: 589833
 Ion Ratio Lower Upper
 63 100
 41 0.1 60.9 91.3#
 62 14.6 53.3 79.9#

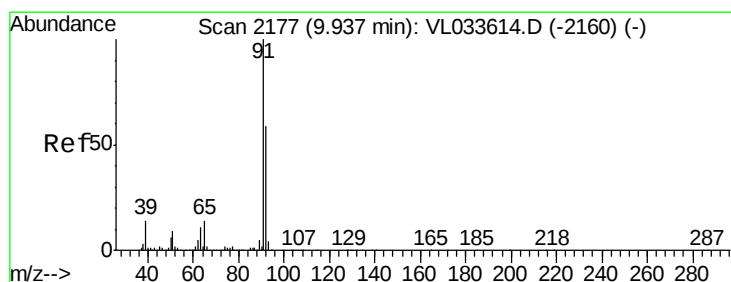
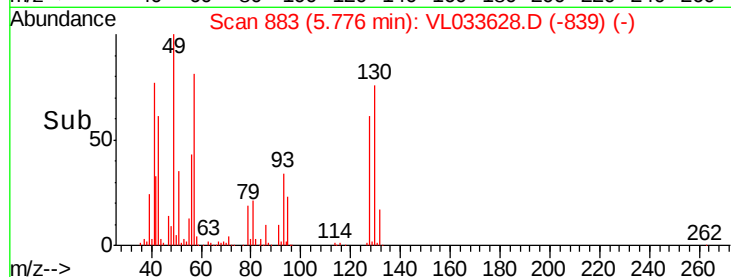
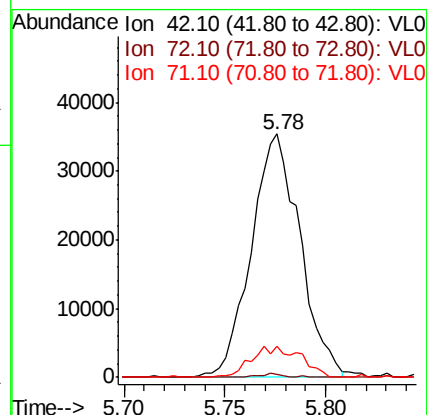
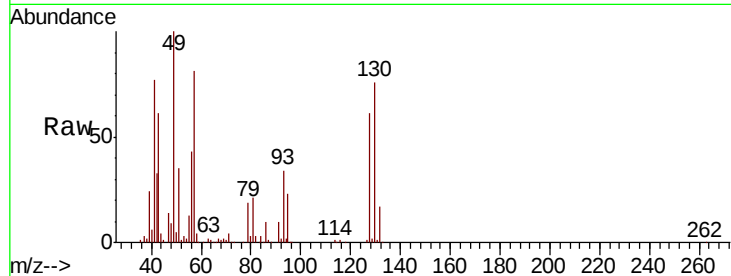




#41
Tetrahydrofuran
Concen: 0.824 ppbv
RT: 5.78 min Scan# 883
Delta R.T. -0.36 min
Lab File: VL033628.D
Acq: 2 May 2019 15:01

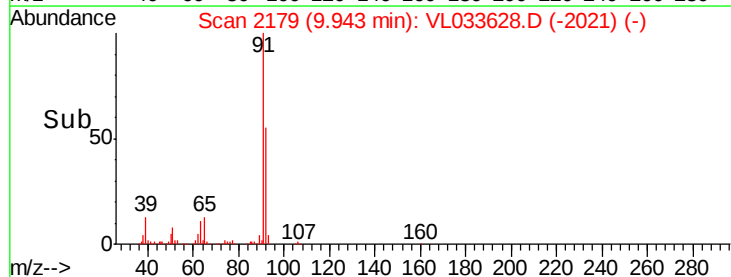
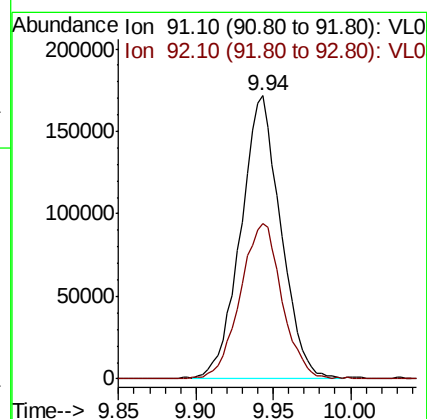
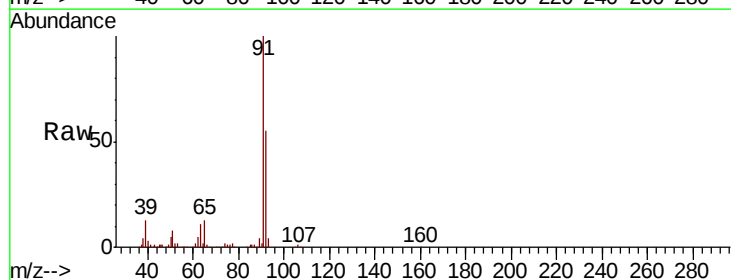
Instrument :
MSVOA_L
ClientSampleId :
A-1DUP

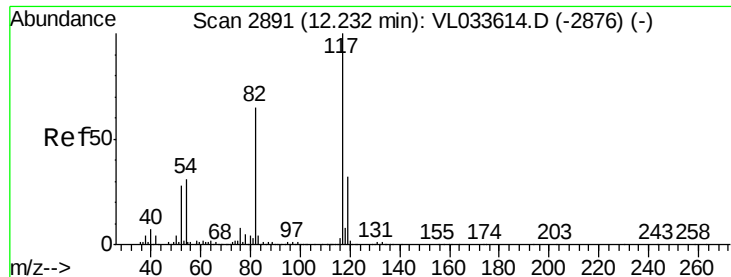
Tgt Ion: 42 Resp: 59795
Ion Ratio Lower Upper
42 100
72 0.7 31.8 47.6#
71 12.9 31.0 46.4#



#53
Toluene
Concen: 1.287 ppbv
RT: 9.94 min Scan# 2179
Delta R.T. 0.01 min
Lab File: VL033628.D
Acq: 2 May 2019 15:01

Tgt Ion: 91 Resp: 306311
Ion Ratio Lower Upper
91 100
92 58.1 47.8 71.6

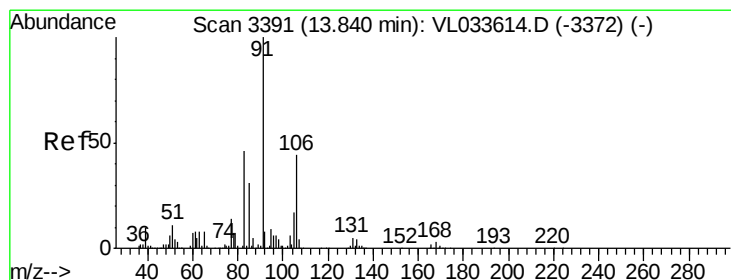
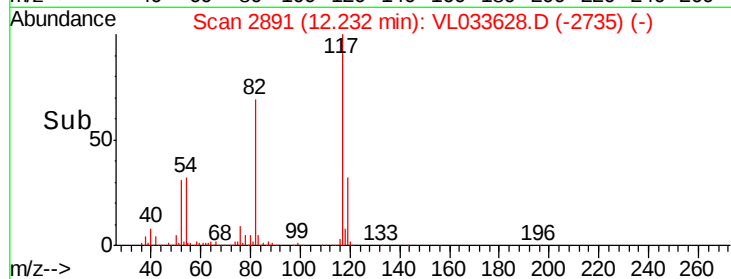
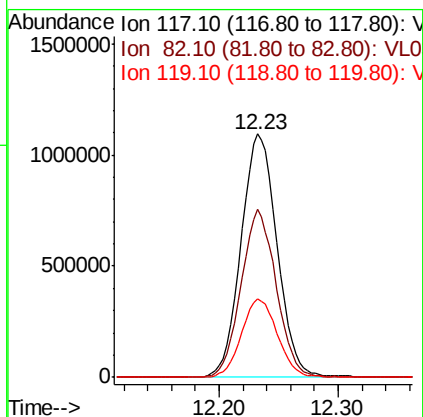
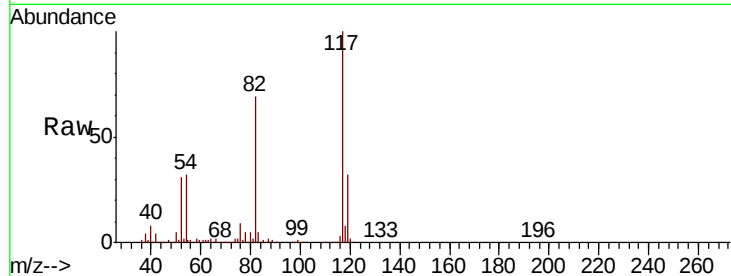




#55
Chlorobenzene-d5
Concen: 10.000 ppbv
RT: 12.23 min Scan# 2891
Delta R.T. -0.00 min
Lab File: VL033628.D
Acq: 2 May 2019 15:01

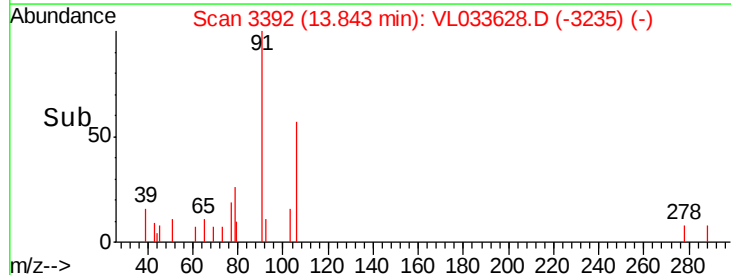
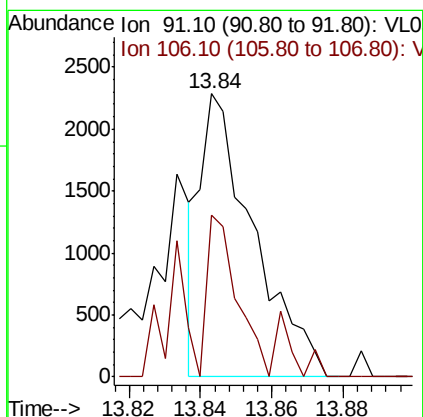
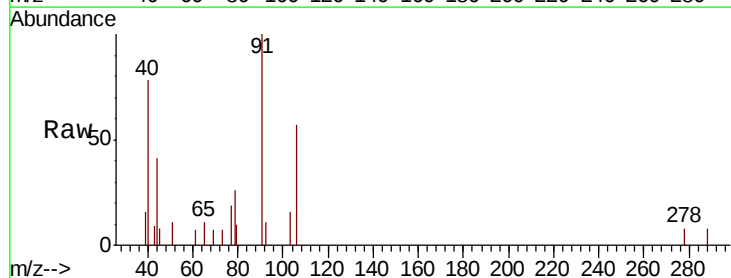
Instrument :
MSVOA_L
ClientSampled :
A-1DUP

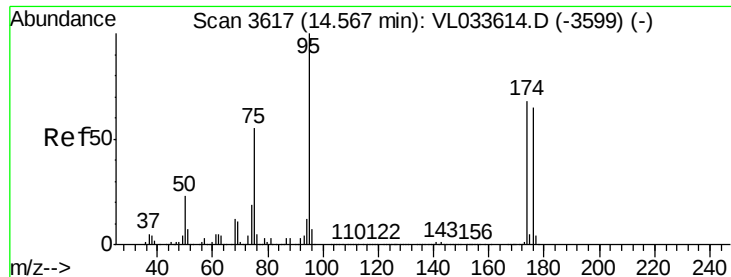
Tgt Ion: 117 Resp: 2289018
Ion Ratio Lower Upper
117 100
82 68.0 52.6 78.8
119 32.5 28.3 42.5



#60
o-Xylene
Concen: 0.010 ppbv
RT: 13.84 min Scan# 3392
Delta R.T. 0.00 min
Lab File: VL033628.D
Acq: 2 May 2019 15:01

Tgt Ion: 91 Resp: 2358
Ion Ratio Lower Upper
91 100
106 56.4 21.8 65.4





#68

1-Bromo-4-Fluorobenzene

Concen: 10.272 ppbv

RT: 14.57 min Scan# 3618

Delta R.T. 0.00 min

Lab File: VL033628.D

Acq: 2 May 2019 15:01

Instrument :

MSVOA_L

ClientSampleId :

A-1DUP

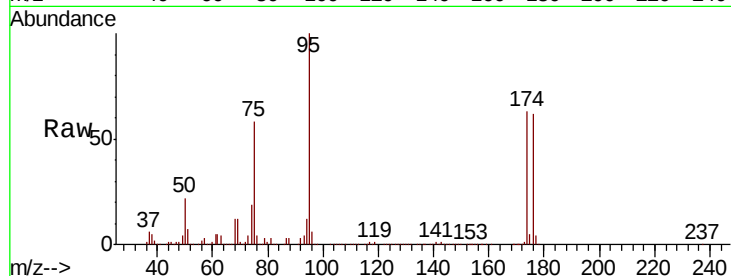
Tgt Ion: 95 Resp: 1790000

Ion Ratio Lower Upper

95 100

174 66.4 53.9 80.9

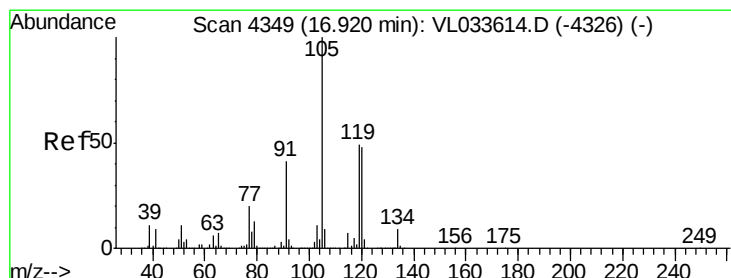
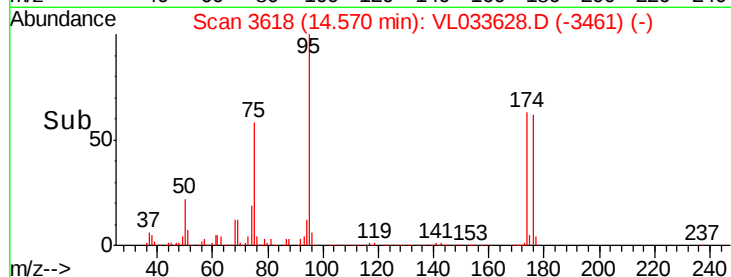
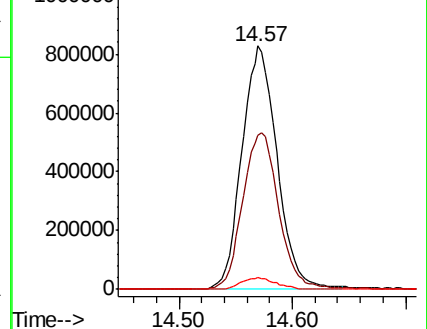
175 4.8 4.0 6.0



Abundance Ion 95.10 (94.80 to 95.80): VL0

Ion 174.00 (173.70 to 174.70): V

Ion 175.00 (174.70 to 175.70): V



#74

1,2,4-Trimethylbenzene

Concen: 0.015 ppbv

RT: 16.91 min Scan# 4347

Delta R.T. -0.01 min

Lab File: VL033628.D

Acq: 2 May 2019 15:01

Tgt Ion: 105 Resp: 4278

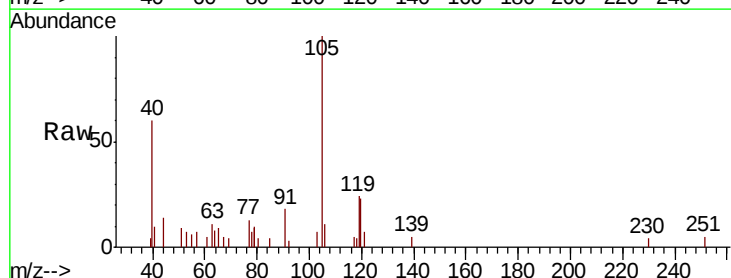
Ion Ratio Lower Upper

105 100

120 0.0 38.4 57.6#

91 15.8 33.0 49.4#

77 9.4 16.2 24.2#

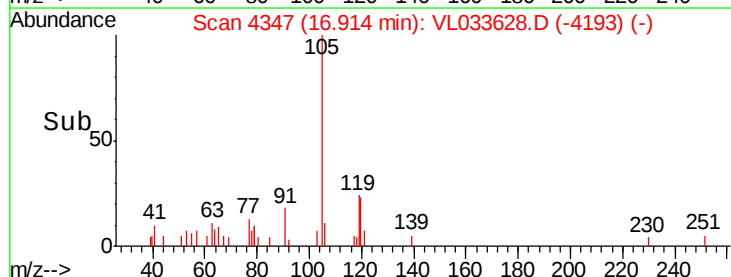
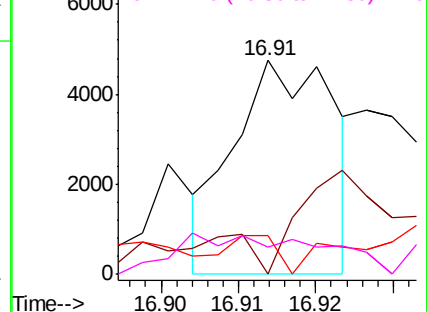


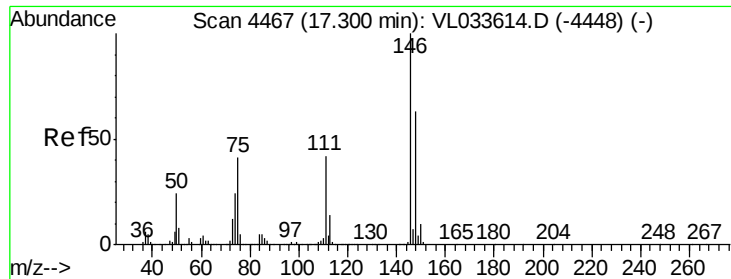
Abundance Ion 105.10 (104.80 to 105.80): V

Ion 120.20 (119.90 to 120.90): V

Ion 91.10 (90.80 to 91.80): VL0

Ion 77.10 (76.80 to 77.80): VL0

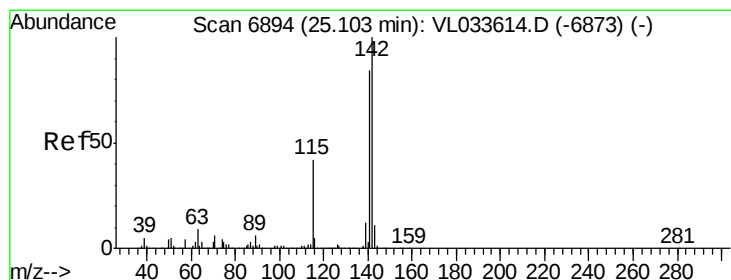
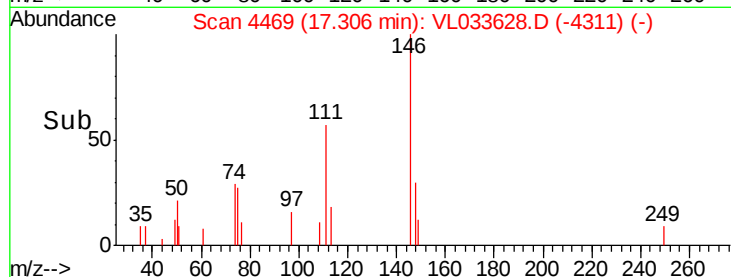
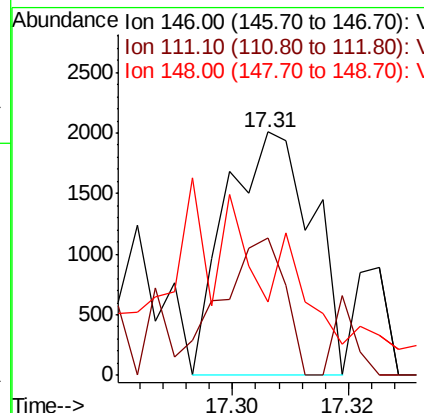
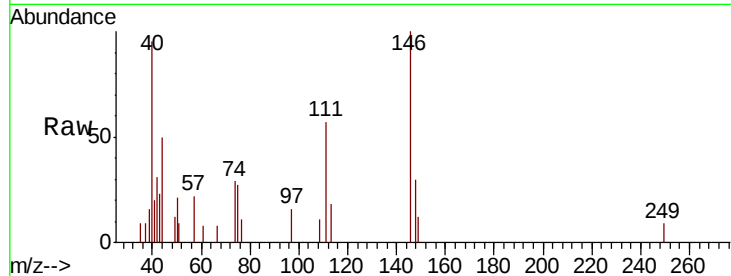




#76
 1,4-Dichlorobenzene
 Concen: 0.012 ppbv
 RT: 17.31 min Scan# 4469
 Delta R.T. 0.01 min
 Lab File: VL033628.D
 Acq: 2 May 2019 15:01

Instrument :
 MSVOA_L
 ClientSampled :
 A-1DUP

Tgt Ion:146 Resp: 2074
 Ion Ratio Lower Upper
 146 100
 111 73.3 21.6 65.0#
 148 0.0 32.3 96.9#



#80
 Naphthalene, 2-methyl-
 Concen: 0.026 ppbv
 RT: 25.13 min Scan# 6901
 Delta R.T. 0.02 min
 Lab File: VL033628.D
 Acq: 2 May 2019 15:01

Tgt Ion:142 Resp: 2962
 Ion Ratio Lower Upper
 142 100
 141 69.0 67.3 100.9
 115 37.3 33.8 50.8

