

Data Path : Z:\VOASRV\HPCHEM1\MSVOA L\DATA\VL031620\
 Data File : VL034896.D
 Acq On : 16 Mar 2020 18:46
 Operator : SY/AP
 Sample : L1924-04
 Misc : 400ml/MSVOA L
 ALS Vial : 1 Sample Multiplier: 1

Instrument :
 MSVOA_L
 ClientSampleId :

Quant Time: Mar 17 04:27:20 2020
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA L\METHODS\VL030920AIR.M
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_L Mon Mar 09 16:42:53 2020
 QLast Update : Mon Mar 09 16:42:53 2020
 Response via : Initial Calibration

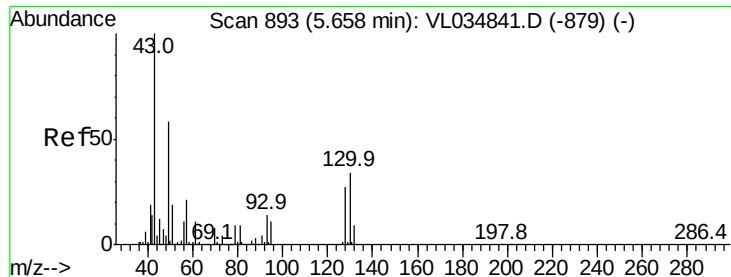
Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	5.65	49	894649	10.00	ppbv	0.00
33) 1,4-Difluorobenzene	7.17	114	1935904	10.00	ppbv	0.00
55) Chlorobenzene-d5	12.10	117	1869433	10.00	ppbv	0.00

System Monitoring Compounds

68) 1-Bromo-4-Fluorobenzene	14.44	95	1560389	10.70	ppbv	0.00
Spiked Amount	10.000	Range	65 - 135	Recovery	=	107.00%

Target Compounds					Ovalue
2) Dichlorodifluoromethane	3.00	85	30528	0.249 ppbv	94
3) Chlorodifluoromethane	2.94	51	53536	0.536 ppbv #	87
4) Chloromethane	3.10	50	30457	0.539 ppbv	94
9) Propene	2.97	41	31174	0.653 ppbv	92
10) Heptane	8.11	43	6214	0.053 ppbv #	28
11) Trichlorofluoromethane	3.92	101	35945	0.276 ppbv	93
12) 1,1,2-Trichlorotrifluoroet	4.46	101	4594	0.050 ppbv #	62
13) Ethanol	3.56	45	149706	10.320 ppbv	93
15) Acetone	3.82	43	316454	2.729 ppbv	99
16) 1,3-Butadiene	3.27	39	7249	0.138 ppbv #	9
19) Isopropyl Alcohol	3.95	45	66494	0.908 ppbv #	47
20) Methylene Chloride	4.31	84	96731	2.639 ppbv	94
21) Allyl Chloride	4.34	41	9277	0.125 ppbv #	29
23) Vinyl Acetate	5.03	43	54790	0.320 ppbv #	1
25) Ethyl Acetate	5.67	43	127313	0.616 ppbv #	90
26) Hexane	5.67	57	131262	1.476 ppbv #	48
30) Cyclohexane	7.11	84	2939	0.040 ppbv #	1
34) 2-Butanone	5.23	43	42488	0.330 ppbv	99
35) Carbon Tetrachloride	7.01	117	4490	0.037 ppbv #	51
36) Benzene	6.89	78	71169	0.412 ppbv	93
39) 1,2-Dichloropropane	7.17	63	528713	7.733 ppbv #	24
44) 2,2,4-Trimethylpentane	7.86	57	38922	0.133 ppbv #	28
53) Toluene	9.81	91	420256	2.109 ppbv	98
58) Ethyl Benzene	12.99	91	11998	0.047 ppbv	98
59) m/p-Xylene	13.01	91	8636	0.041 ppbv #	30
60) o-Xylene	13.71	91	7219	0.035 ppbv #	1

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



#1

Bromochloromethane

Concen: 10.000 ppbv

RT: 5.65 min Scan# 890

Delta R.T. -0.01 min

Lab File: VL034896.D

Acq: 16 Mar 2020 18:46

Instrument :

MSVOA_L

ClientSampled :

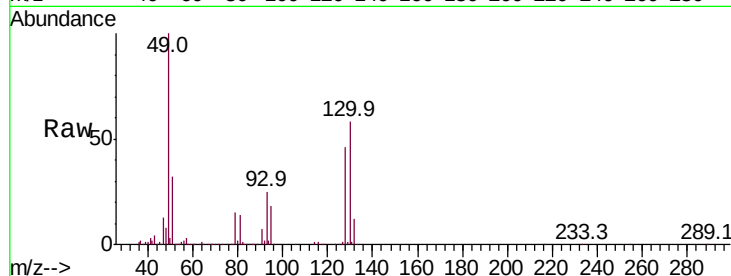
Tot Ion: 49 Resp: 894649

Ion Ratio Lower Upper

49 100

128 45.6 23.4 70.3

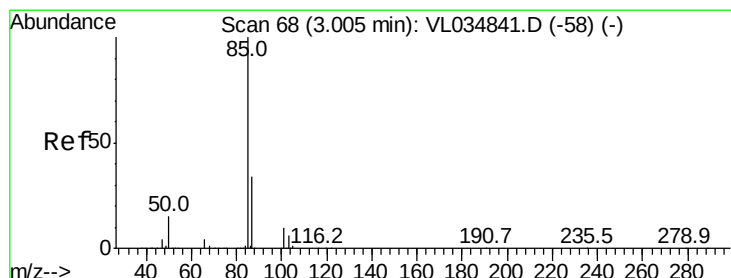
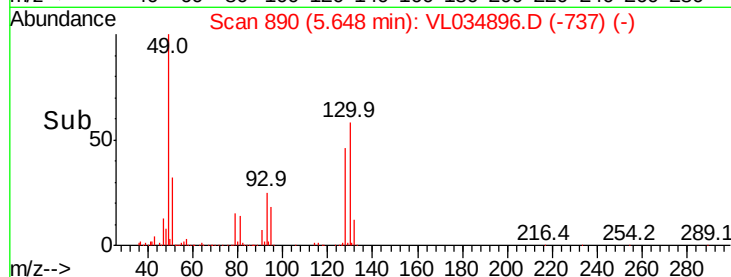
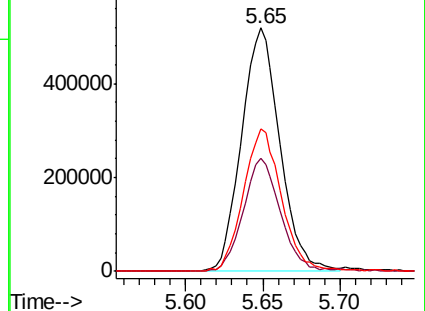
130 58.3 30.0 90.0



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



#2

Dichlorodifluoromethane

Concen: 0.249 ppbv

RT: 3.00 min Scan# 67

Delta R.T. -0.00 min

Lab File: VL034896.D

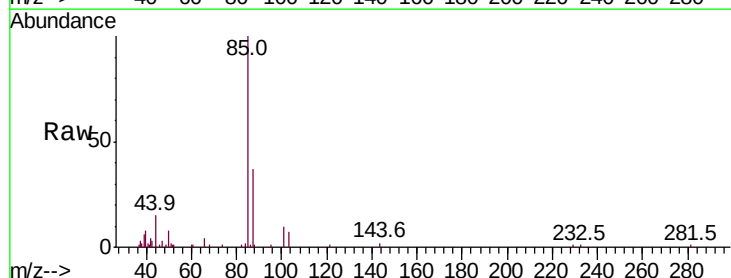
Acq: 16 Mar 2020 18:46

Tgt Ion: 85 Resp: 30528

Ion Ratio Lower Upper

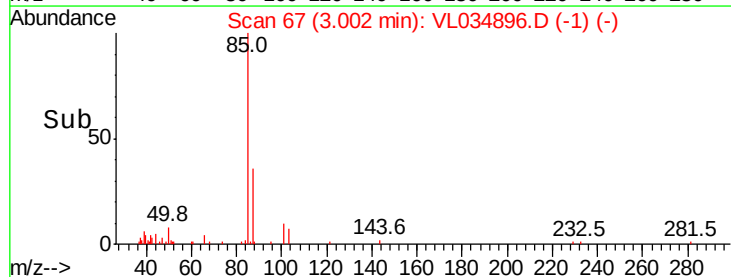
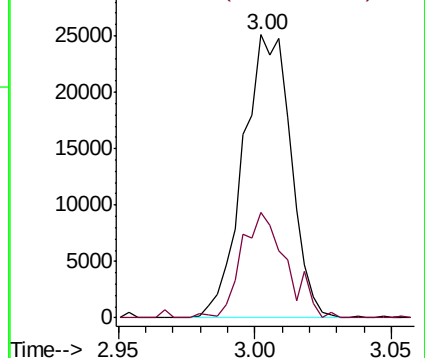
85 100

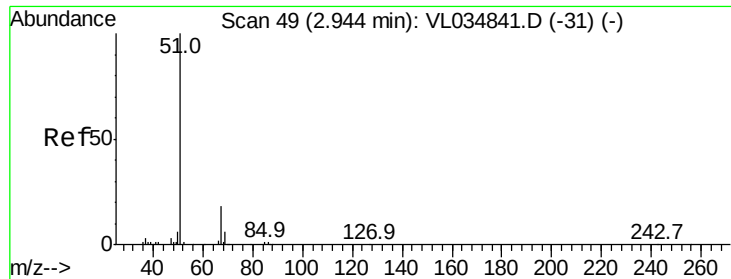
87 37.1 26.9 40.3



Abundance Ion 85.00 (84.70 to 85.70): VL0

Ion 87.00 (86.70 to 87.70): VL0





#3

Chlorodifluoromethane

Concen: 0.536 ppbv

RT: 2.94 min Scan# 48

Delta R.T. -0.00 min

Lab File: VL034896.D

Acq: 16 Mar 2020 18:46

Instrument :

MSVOA_L

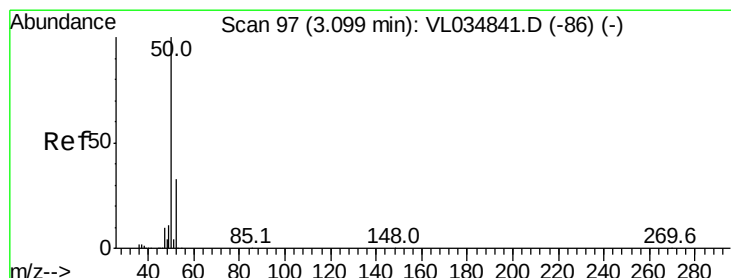
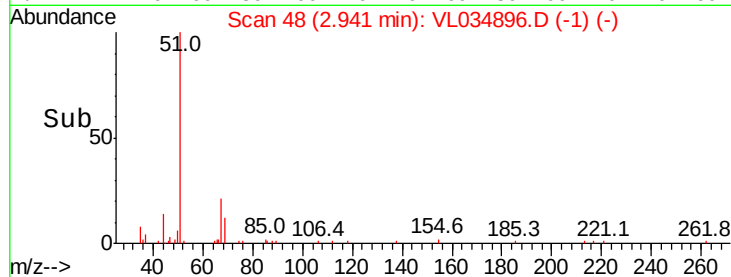
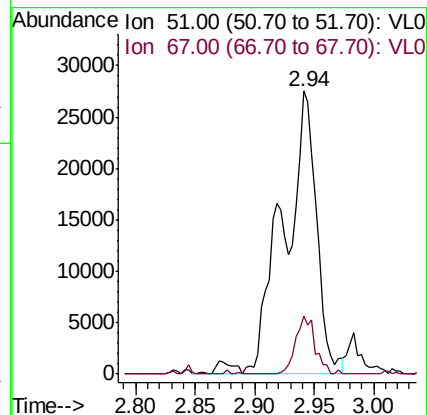
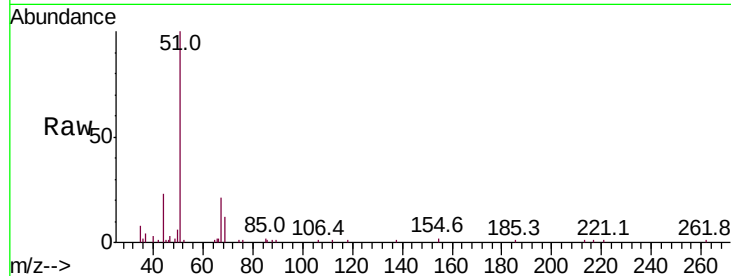
ClientSampleId :

Tot Ion: 51 Resp: 53536

Ion Ratio Lower Upper

51 100

67 12.0 14.3 21.5#



#4

Chloromethane

Concen: 0.539 ppbv

RT: 3.10 min Scan# 97

Delta R.T. 0.00 min

Lab File: VL034896.D

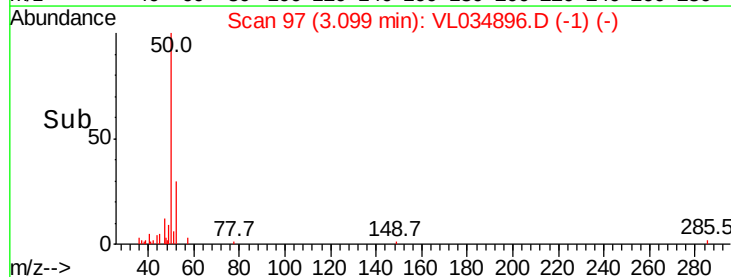
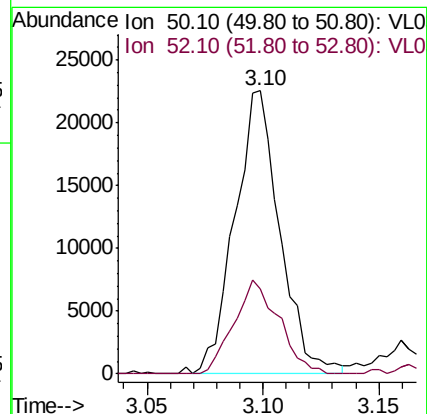
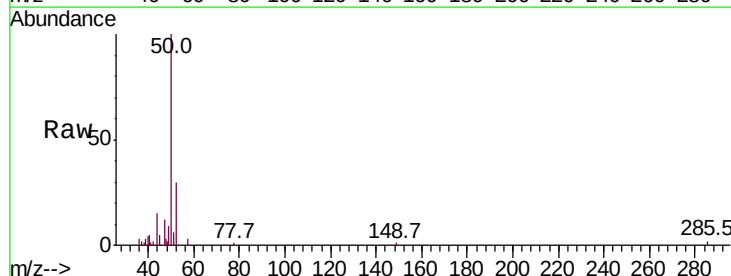
Acq: 16 Mar 2020 18:46

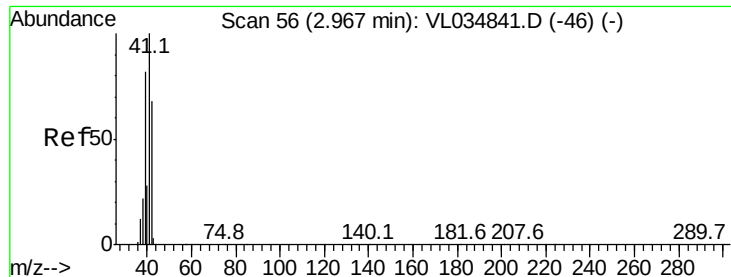
Tgt Ion: 50 Resp: 30457

Ion Ratio Lower Upper

50 100

52 29.8 26.8 40.2





#9

Propene

Concen: 0.653 ppbv

RT: 2.97 min Scan# 57

Delta R.T. 0.00 min

Lab File: VL034896.D

Acq: 16 Mar 2020 18:46

Instrument :

MSVOA_L

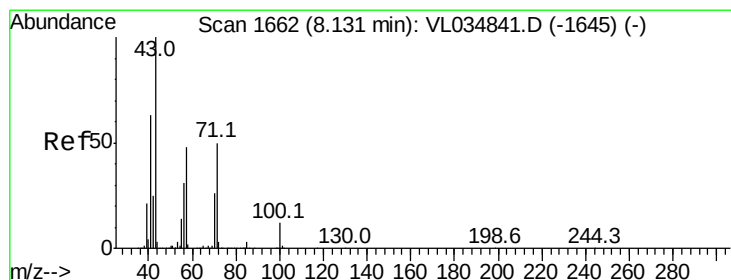
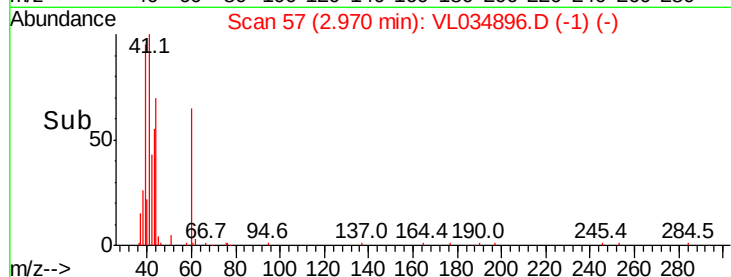
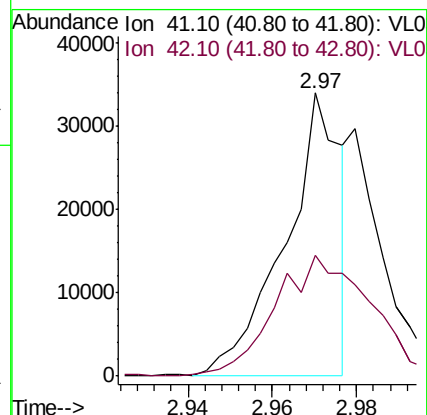
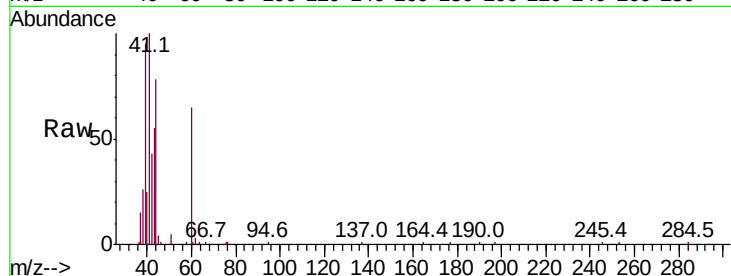
ClientSampleId :

Tot Ion: 41 Resp: 31174

Ion Ratio Lower Upper

41 100

42 75.3 55.2 82.8



#10

Heptane

Concen: 0.053 ppbv

RT: 8.11 min Scan# 1657

Delta R.T. -0.02 min

Lab File: VL034896.D

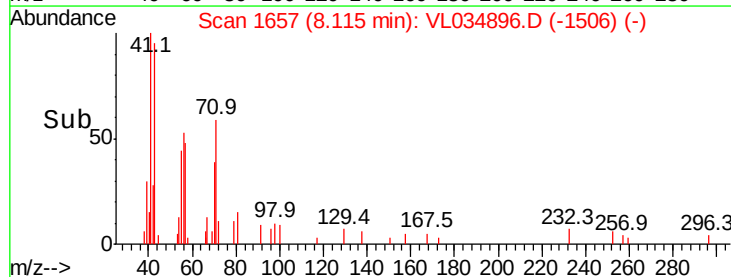
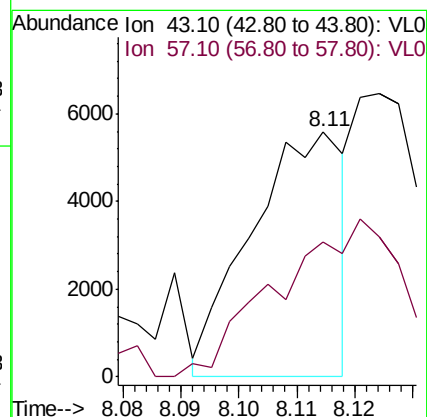
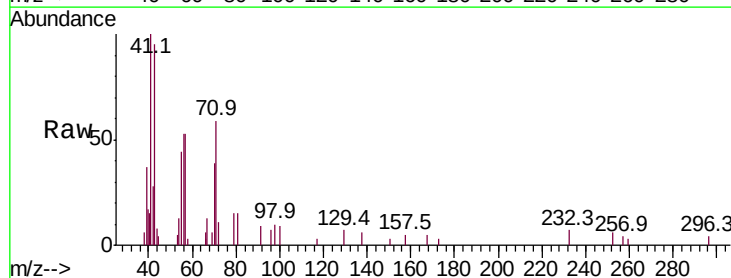
Acq: 16 Mar 2020 18:46

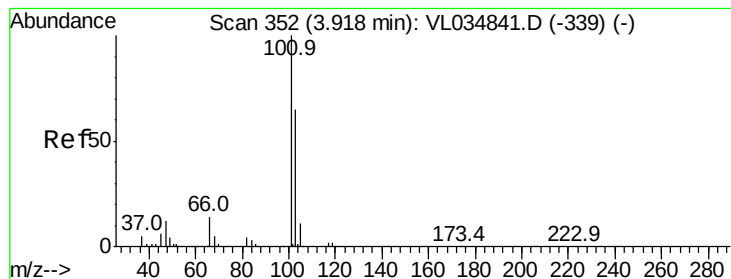
Tgt Ion: 43 Resp: 6214

Ion Ratio Lower Upper

43 100

57 0.0 39.7 59.5#





#11

Trichlorofluoromethane

Concen: 0.276 ppbv

RT: 3.92 min Scan# 352

Delta R.T. 0.00 min

Lab File: VL034896.D

Acq: 16 Mar 2020 18:46

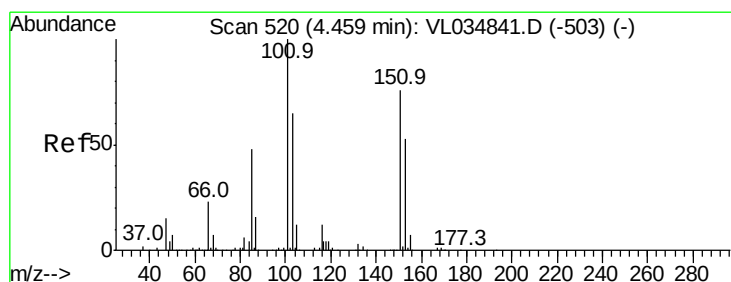
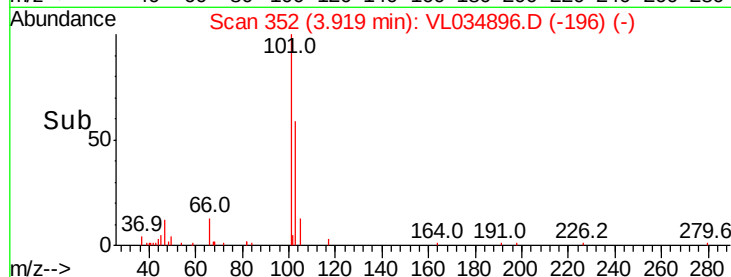
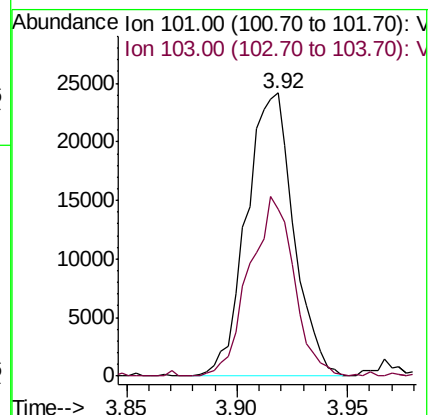
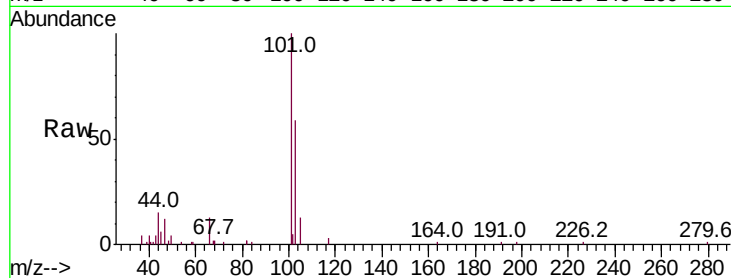
Instrument :
MSVOA_L
ClientSampleId :

Tot Ion:101 Resp: 35945

Ion Ratio Lower Upper

101 100

103 59.2 51.8 77.8



#12

1,1,2-Trichlorotrifluoroethane

Concen: 0.050 ppbv

RT: 4.46 min Scan# 519

Delta R.T. -0.00 min

Lab File: VL034896.D

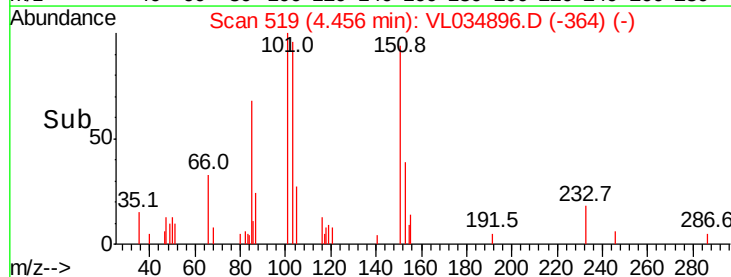
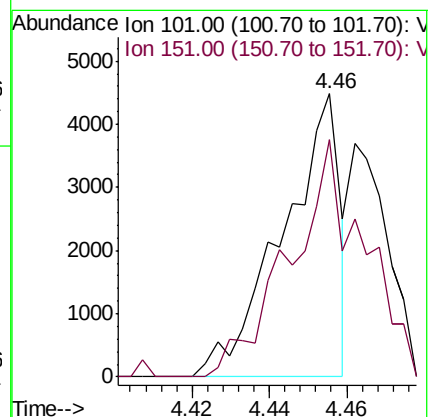
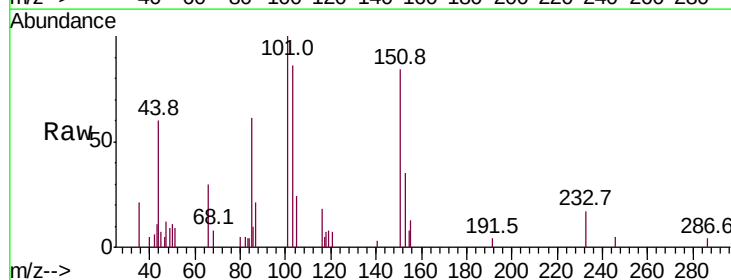
Acq: 16 Mar 2020 18:46

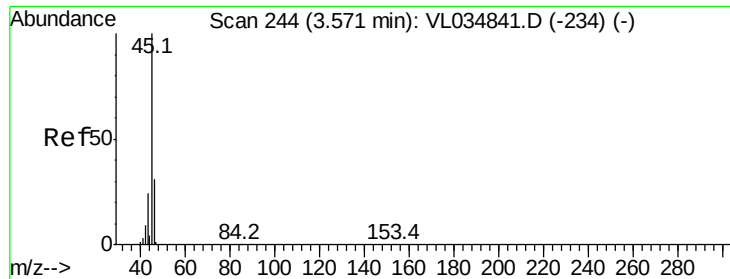
Tgt Ion:101 Resp: 4594

Ion Ratio Lower Upper

101 100

151 108.2 60.8 91.2#

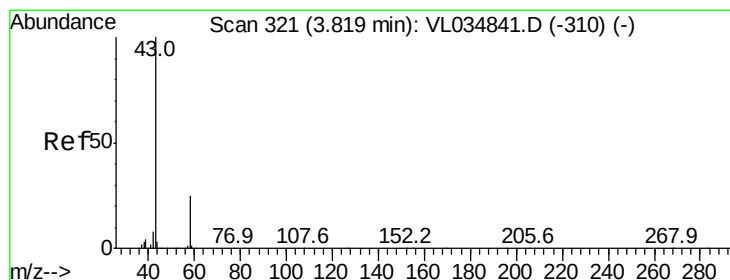
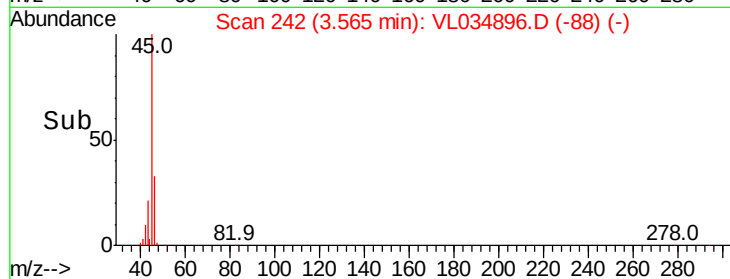
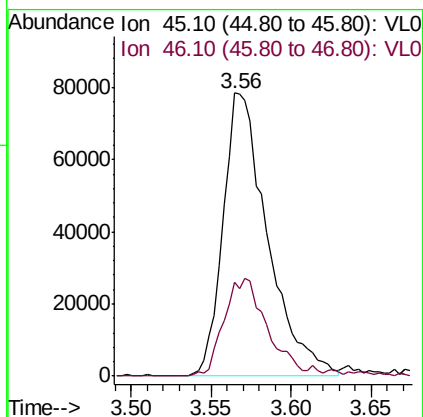
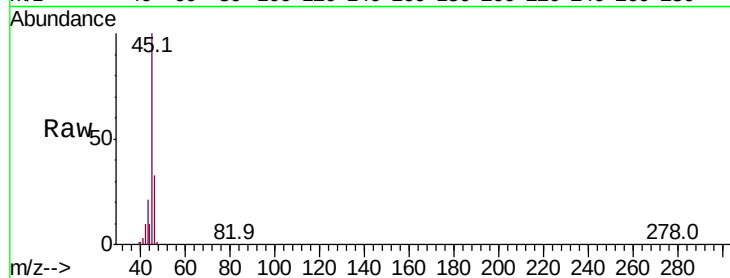




#13
Ethanol
Concen: 10.320 ppbv
RT: 3.56 min Scan# 242
Delta R.T. -0.01 min
Lab File: VL034896.D
Acq: 16 Mar 2020 18:46

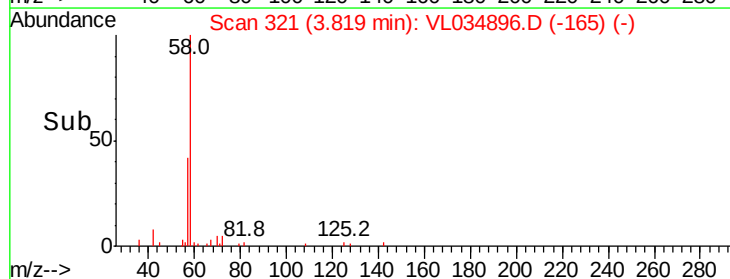
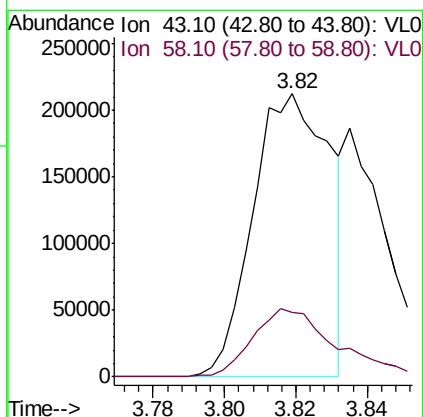
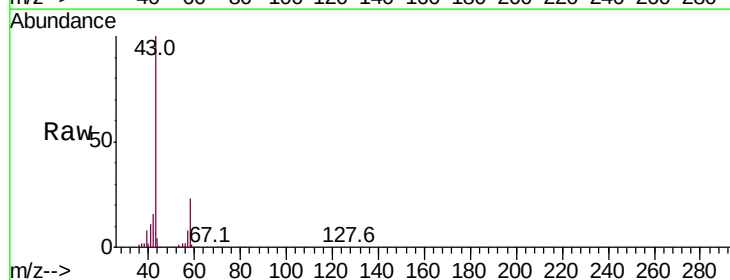
Instrument :
MSVOA_L
ClientSampleId :

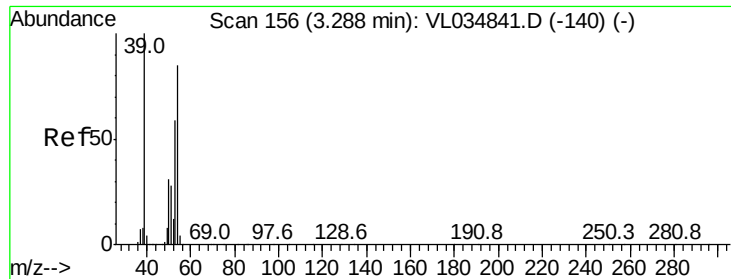
Tot Ion: 45 Resp: 149706
Ion Ratio Lower Upper
45 100
46 35.5 16.0 64.0



#15
Acetone
Concen: 2.729 ppbv
RT: 3.82 min Scan# 321
Delta R.T. 0.00 min
Lab File: VL034896.D
Acq: 16 Mar 2020 18:46

Tgt Ion: 43 Resp: 316454
Ion Ratio Lower Upper
43 100
58 27.0 21.0 31.6

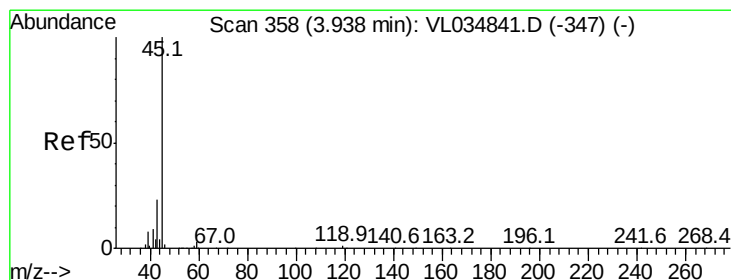
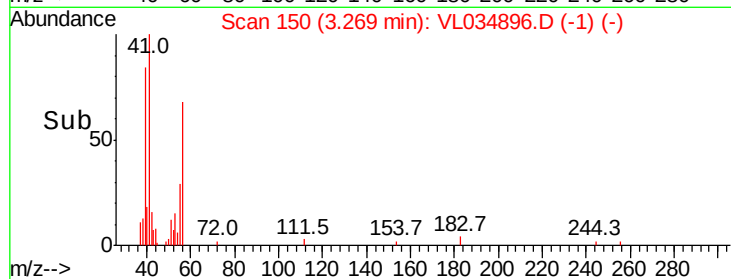
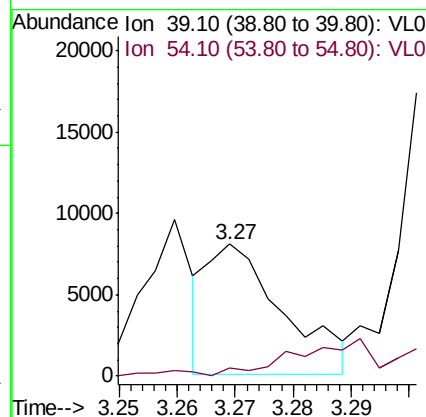
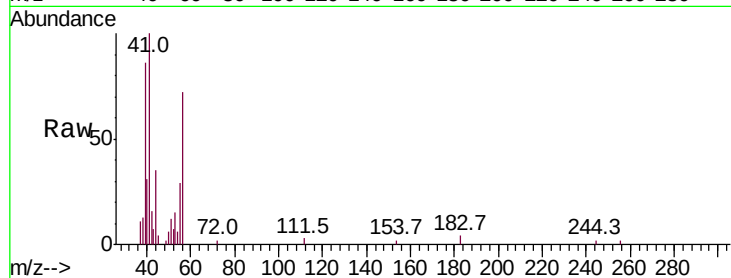




#16
 1,3-Butadiene
 Concen: 0.138 ppbv
 RT: 3.27 min Scan# 150
 Delta R.T. -0.02 min
 Lab File: VL034896.D
 Acq: 16 Mar 2020 18:46

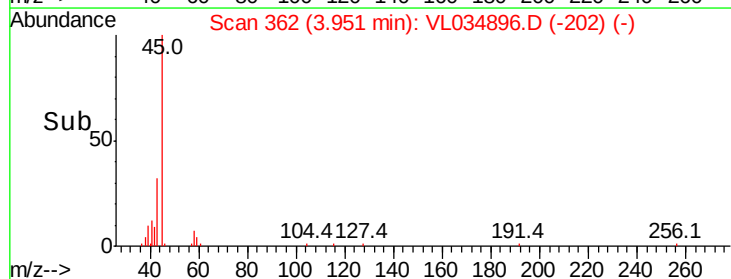
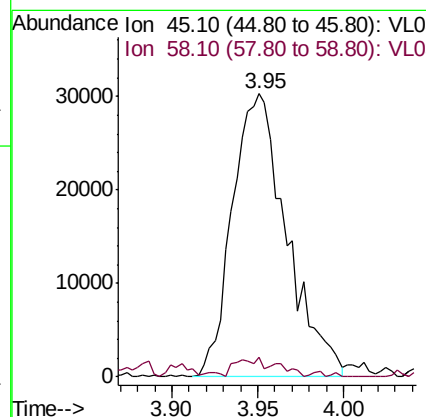
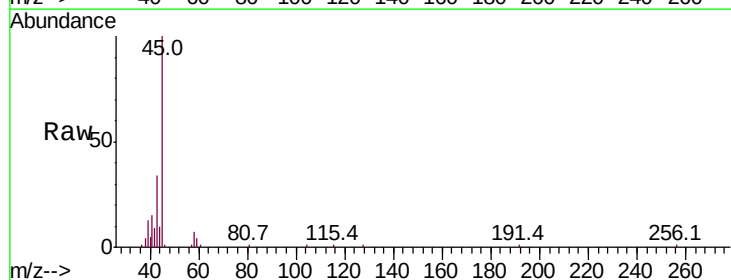
Instrument :
 MSVOA_L
 ClientSampleId :

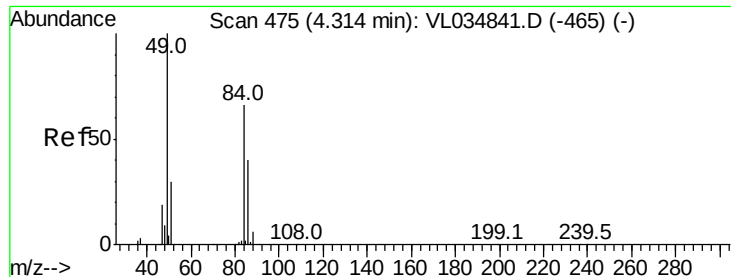
Tot Ion: 39 Resp: 7249
 Ion Ratio Lower Upper
 39 100
 54 0.0 65.0 97.6#



#19
 Isopropyl Alcohol
 Concen: 0.908 ppbv
 RT: 3.95 min Scan# 362
 Delta R.T. 0.01 min
 Lab File: VL034896.D
 Acq: 16 Mar 2020 18:46

Tgt Ion: 45 Resp: 66494
 Ion Ratio Lower Upper
 45 100
 58 6.0 30.5 45.7#

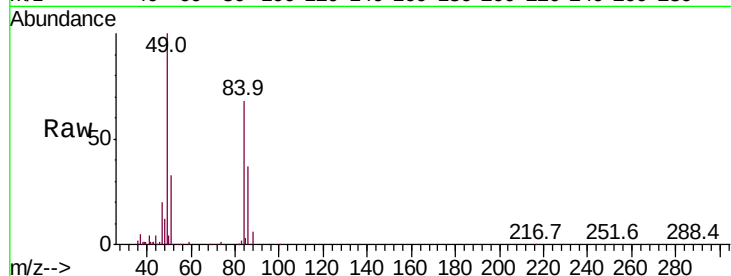




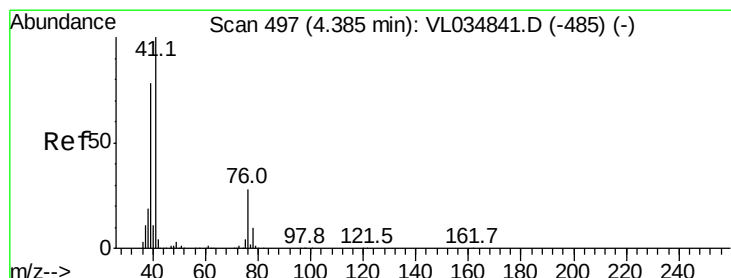
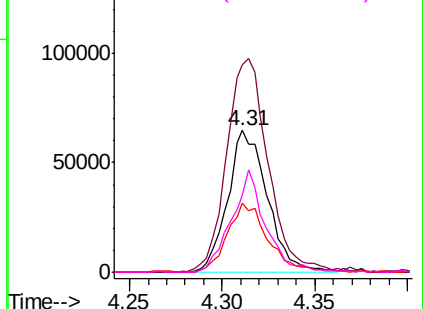
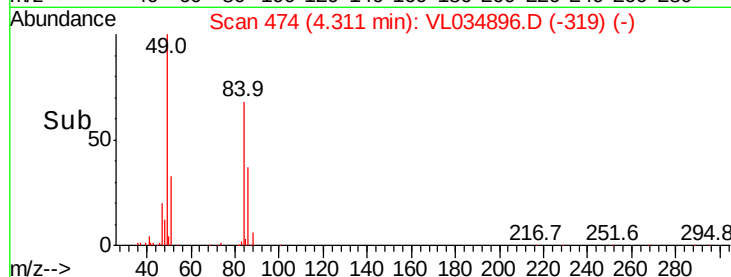
#20
Methylene Chloride
Concen: 2.639 ppbv
RT: 4.31 min Scan# 474
Delta R.T. -0.00 min
Lab File: VL034896.D
Acq: 16 Mar 2020 18:46

Instrument :
MSVOA_L
ClientSampled :

Tot Ion:	84	Resp:	96731
Ion	Ratio	Lower	Upper
84	100		
49	145.4	121.5	182.3
51	48.7	36.6	55.0
86	54.3	48.2	72.2

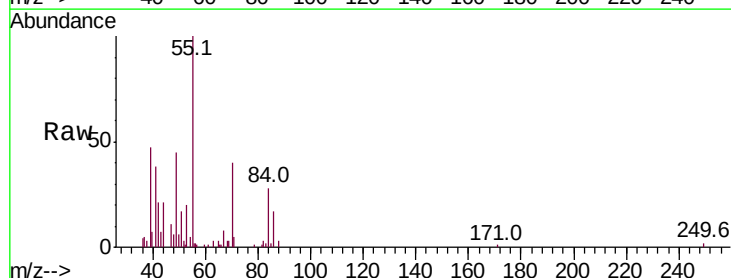


Abundance Ion 84.00 (83.70 to 84.70): VL0
Ion 49.10 (48.80 to 49.80): VL0
Ion 51.10 (50.80 to 51.80): VL0
Ion 86.00 (85.70 to 86.70): VL0

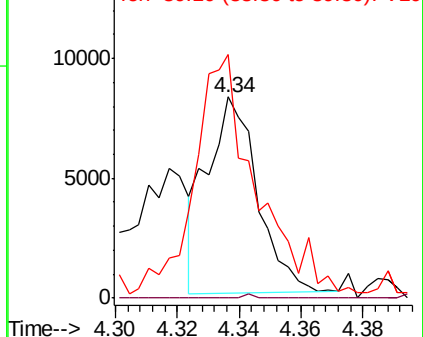
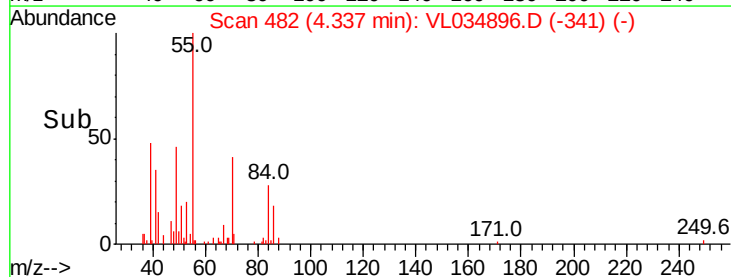


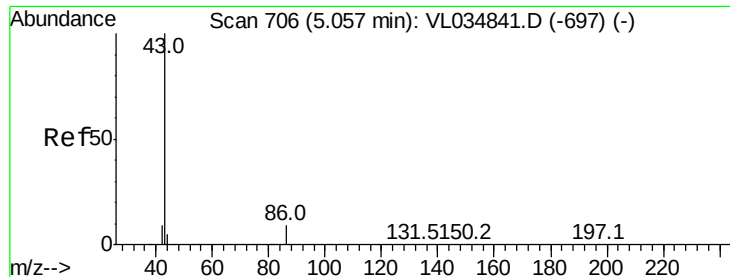
#21
Allyl Chloride
Concen: 0.125 ppbv
RT: 4.34 min Scan# 482
Delta R.T. -0.05 min
Lab File: VL034896.D
Acq: 16 Mar 2020 18:46

Tgt Ion:	41	Resp:	9277
Ion	Ratio	Lower	Upper
41	100		
76	0.0	22.2	33.2#
39	145.6	62.6	93.8#



Abundance Ion 41.10 (40.80 to 41.80): VL0
Ion 76.10 (75.80 to 76.80): VL0
Ion 39.10 (38.80 to 39.80): VL0





#23

Vinyl Acetate

Concen: 0.320 ppbv

RT: 5.03 min Scan# 699

Delta R.T. -0.02 min

Lab File: VL034896.D

Acq: 16 Mar 2020 18:46

Instrument :

MSVOA_L

ClientSampled :

Tot Ion: 43 Resp: 54790

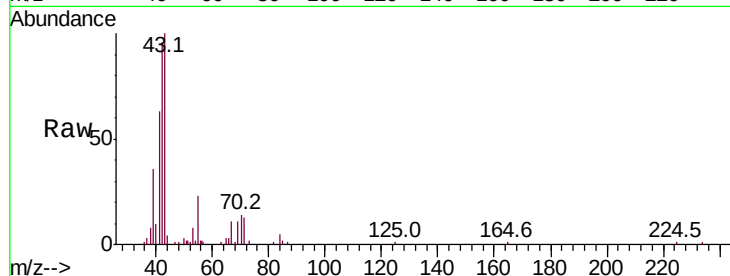
Ion Ratio Lower Upper

43 100

86 1.0 6.3 9.5#

42 91.5 7.8 11.8#

44 0.0 4.0 6.0#



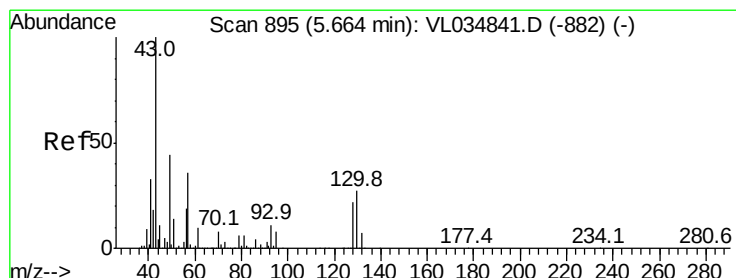
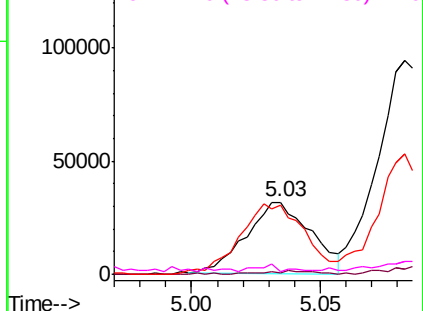
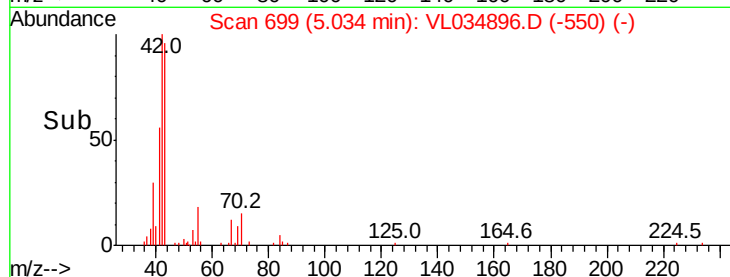
Abundance

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: 0.616 ppbv

RT: 5.67 min Scan# 896

Delta R.T. 0.00 min

Lab File: VL034896.D

Acq: 16 Mar 2020 18:46

Tgt Ion: 43 Resp: 127313

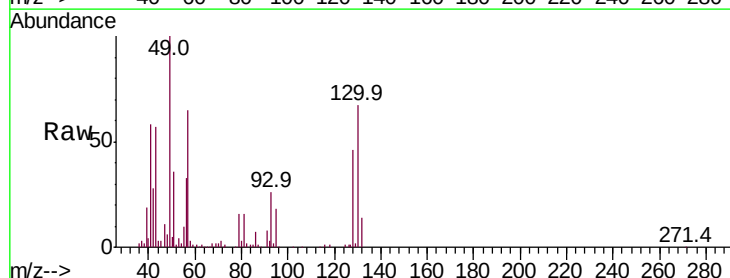
Ion Ratio Lower Upper

43 100

45 8.7 8.2 12.2

61 3.8 7.8 11.6#

70 3.8 5.8 8.8#



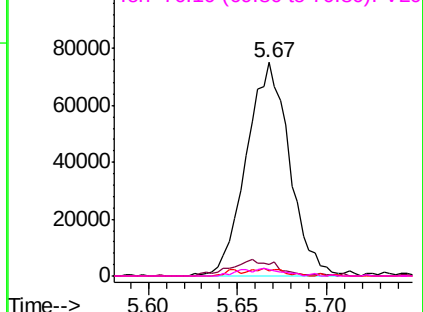
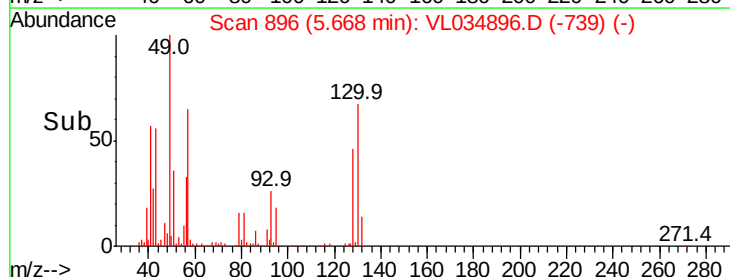
Abundance

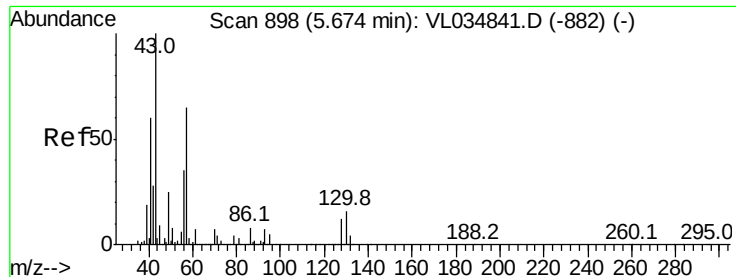
Ion 43.10 (42.80 to 43.80): VL0

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

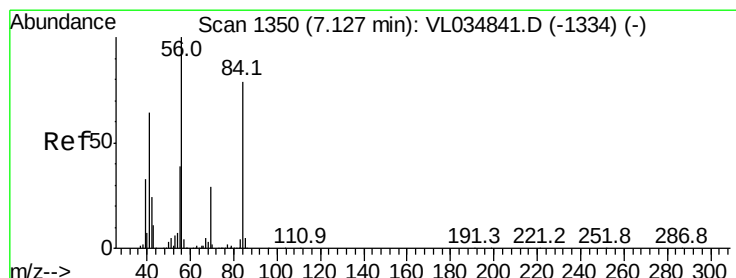
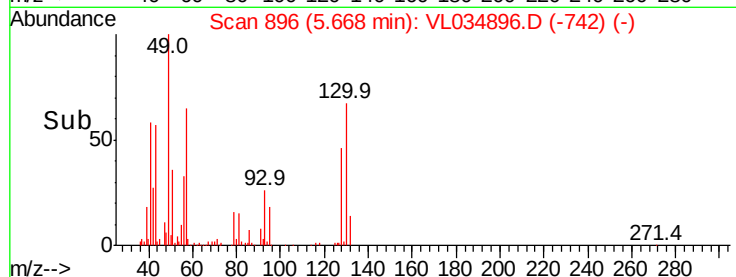
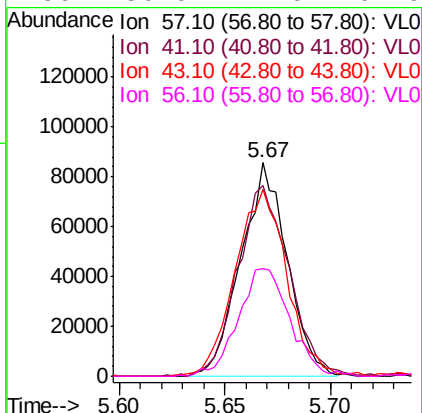
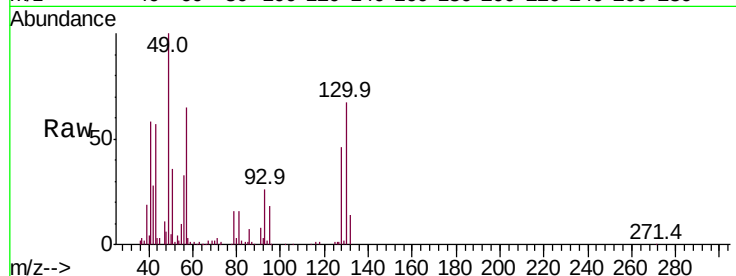




#26
Hexane
Concen: 1.476 ppbv
RT: 5.67 min Scan# 896
Delta R.T. -0.01 min
Lab File: VL034896.D
Acq: 16 Mar 2020 18:46

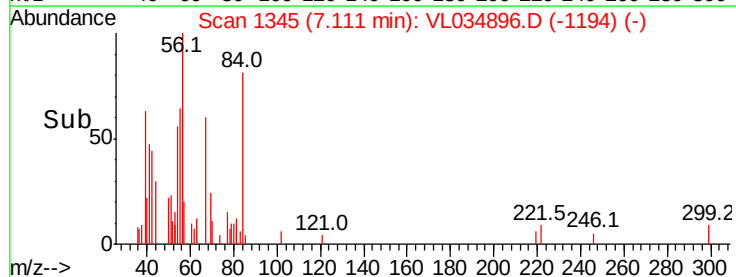
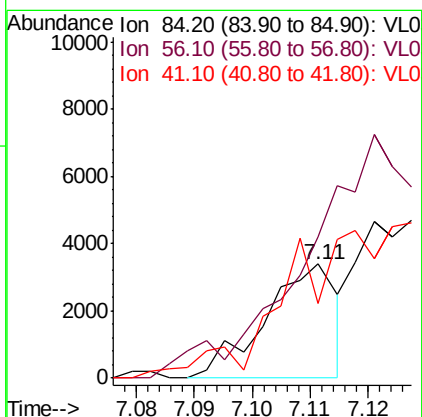
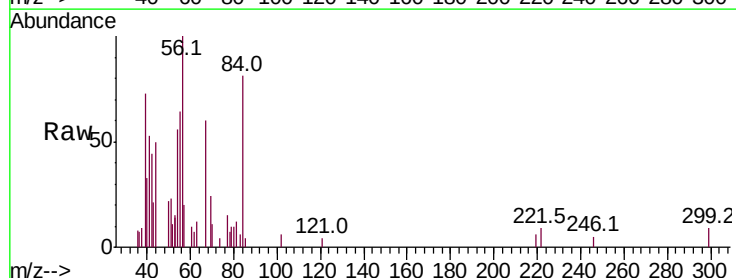
Instrument :
MSVOA_L
ClientSampleId :

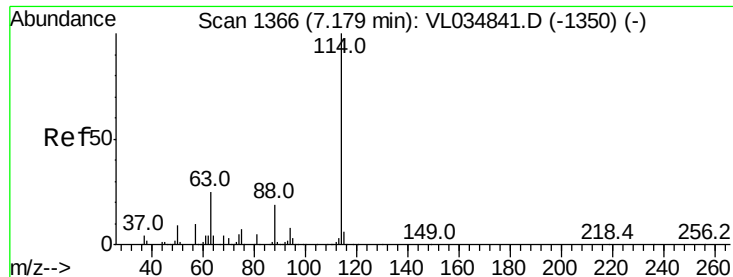
Tot Ion: 57 Resp: 131262
Ion Ratio Lower Upper
57 100
41 98.9 72.6 109.0
43 97.5 183.8 275.6#
56 56.0 41.9 62.9



#30
Cyclohexane
Concen: 0.040 ppbv
RT: 7.11 min Scan# 1345
Delta R.T. -0.02 min
Lab File: VL034896.D
Acq: 16 Mar 2020 18:46

Tgt Ion: 84 Resp: 2939
Ion Ratio Lower Upper
84 100
56 0.0 110.5 165.7#
41 0.0 68.2 102.4#



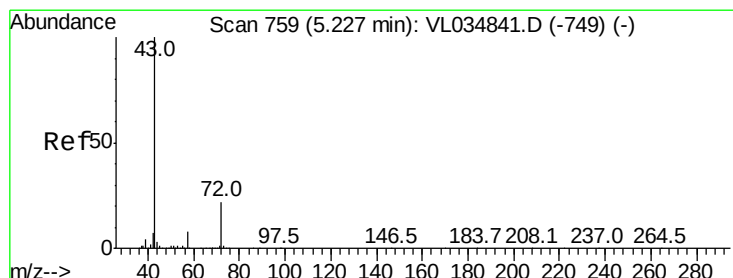
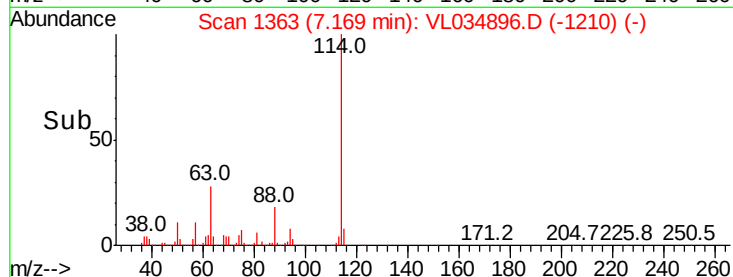
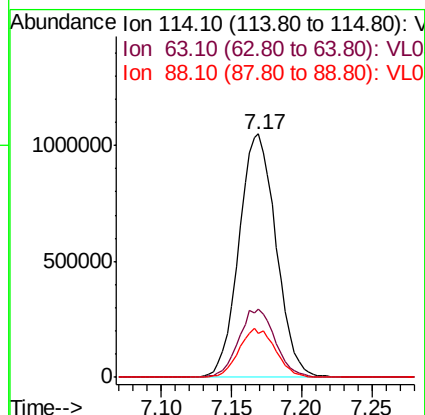
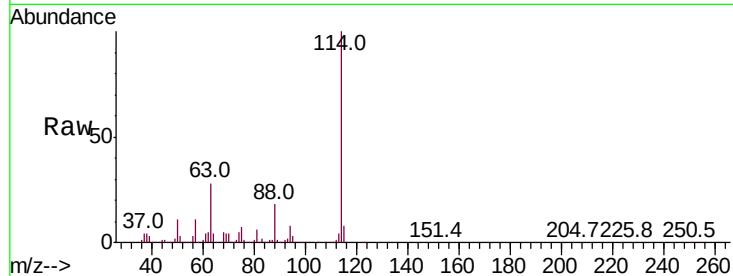


#33
 1,4-Difluorobenzene
 Concen: 10.000 ppbv
 RT: 7.17 min Scan# 1363
 Delta R.T. -0.01 min
 Lab File: VL034896.D
 Acq: 16 Mar 2020 18:46

Instrument :
 MSVOA_L
 ClientSampleId :

Tot Ion:114 Resp: 1935904

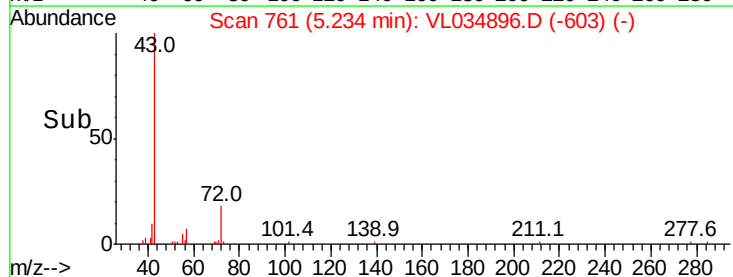
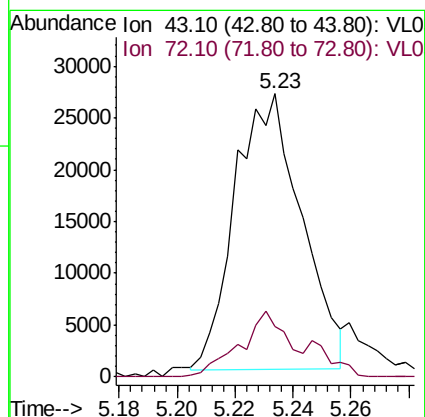
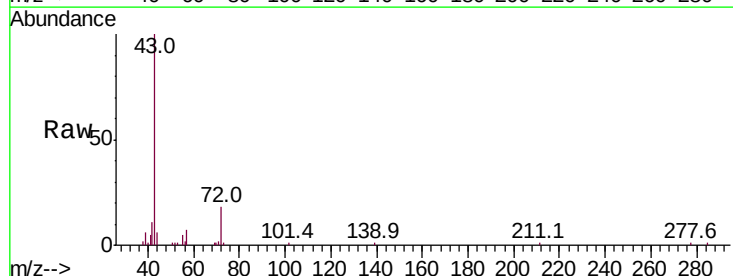
Ion	Ratio	Lower	Upper
114	100		
63	27.6	20.6	31.0
88	19.8	15.0	22.6

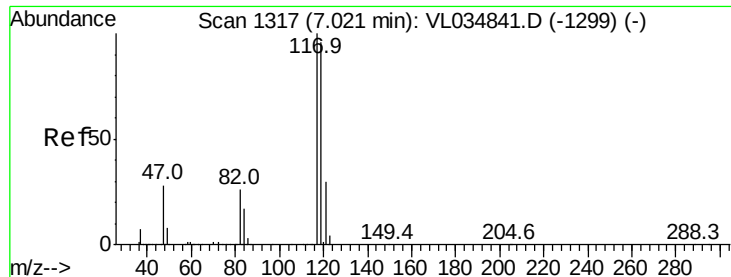


#34
 2-Butanone
 Concen: 0.330 ppbv
 RT: 5.23 min Scan# 761
 Delta R.T. 0.01 min
 Lab File: VL034896.D
 Acq: 16 Mar 2020 18:46

Tgt Ion: 43 Resp: 42488

Ion	Ratio	Lower	Upper
43	100		
72	21.5	17.6	26.4





#35

Carbon Tetrachloride

Concen: 0.037 ppbv

RT: 7.01 min Scan# 1312

Delta R.T. -0.02 min

Lab File: VL034896.D

Acq: 16 Mar 2020 18:46

Instrument :

MSVOA_L

ClientSampleId :

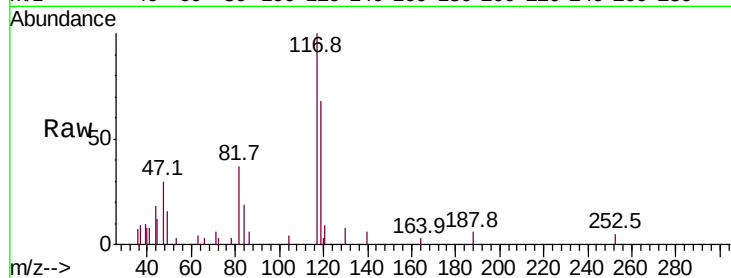
Tot Ion:117 Resp: 4490

Ion Ratio Lower Upper

117 100

119 40.6 77.0 115.4#

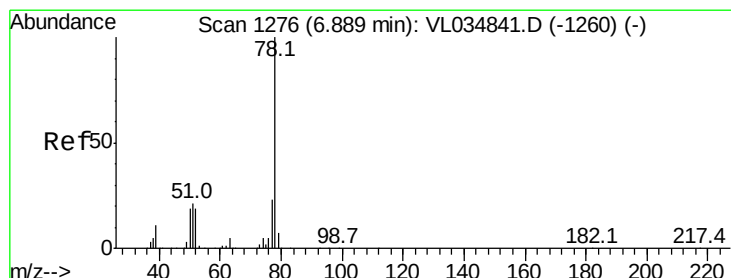
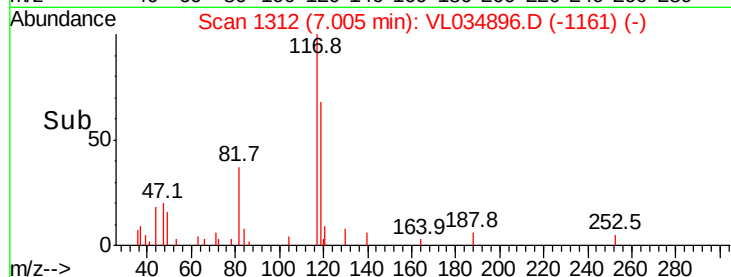
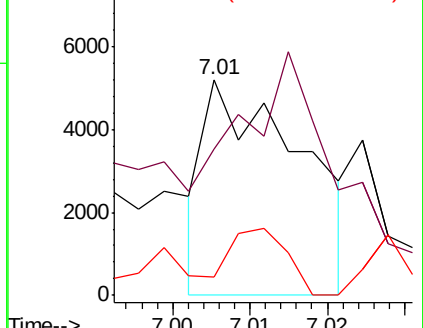
121 16.1 24.0 36.0#



Abundance Ion 117.00 (116.70 to 117.70): V

Ion 119.00 (118.70 to 119.70): V

Ion 121.00 (120.70 to 121.70): V



#36

Benzene

Concen: 0.412 ppbv

RT: 6.89 min Scan# 1275

Delta R.T. -0.00 min

Lab File: VL034896.D

Acq: 16 Mar 2020 18:46

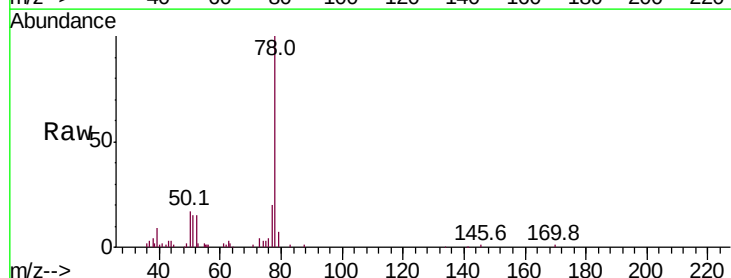
Tgt Ion: 78 Resp: 71169

Ion Ratio Lower Upper

78 100

77 19.7 18.2 27.2

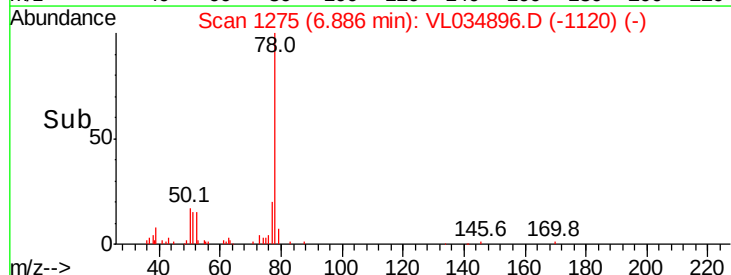
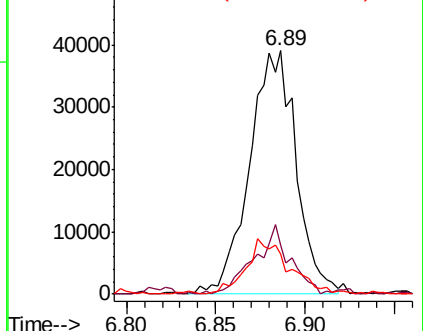
50 15.4 15.2 22.8

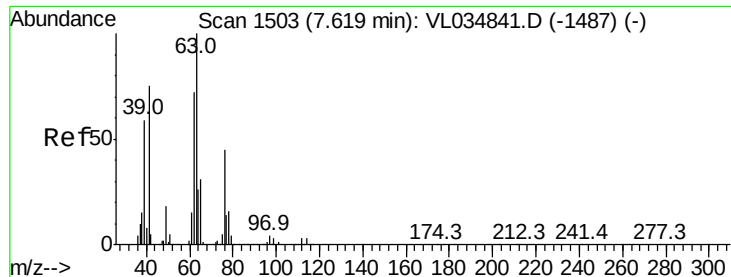


Abundance Ion 78.10 (77.80 to 78.80): VL0

Ion 77.10 (76.80 to 77.80): VL0

Ion 50.10 (49.80 to 50.80): VL0





#39

1,2-Dichloropropane

Concen: 7.733 ppbv

RT: 7.17 min Scan# 1363

Delta R.T. -0.45 min

Lab File: VL034896.D

Acq: 16 Mar 2020 18:46

Instrument :

MSVOA_L

ClientSampleId :

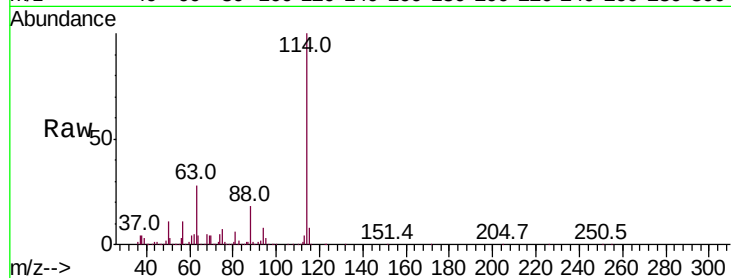
Tot Ion: 63 Resp: 528713

Ion Ratio Lower Upper

63 100

41 0.0 59.8 89.8#

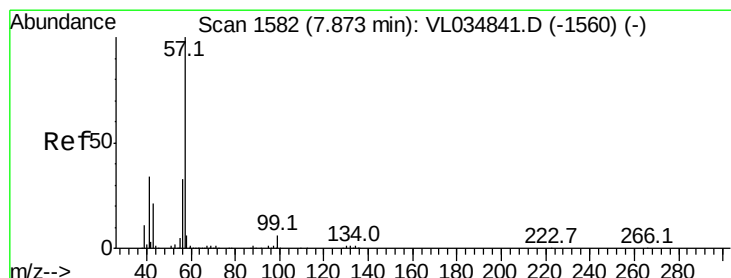
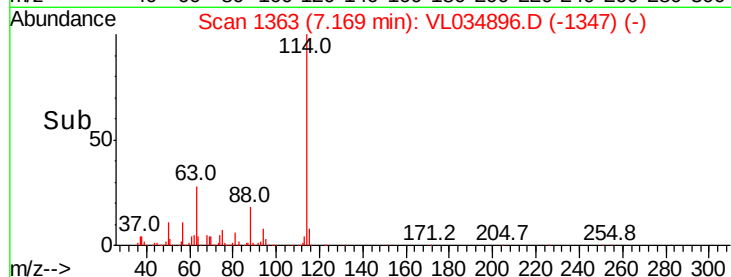
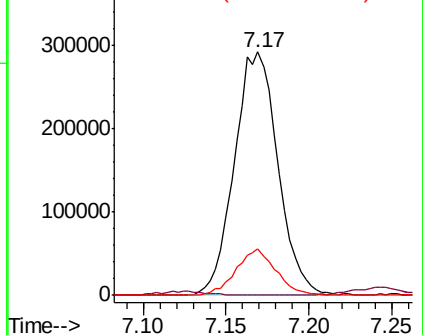
62 18.8 57.6 86.4#



Abundance Ion 63.10 (62.80 to 63.80): VL0

Ion 41.10 (40.80 to 41.80): VL0

Ion 62.10 (61.80 to 62.80): VL0



#44

2,2,4-Trimethylpentane

Concen: 0.133 ppbv

RT: 7.86 min Scan# 1579

Delta R.T. -0.01 min

Lab File: VL034896.D

Acq: 16 Mar 2020 18:46

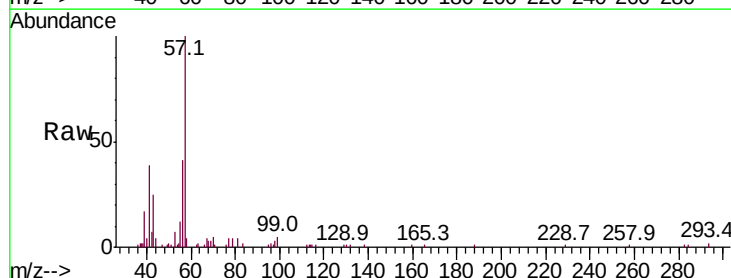
Tgt Ion: 57 Resp: 38922

Ion Ratio Lower Upper

57 100

41 0.0 26.2 39.4#

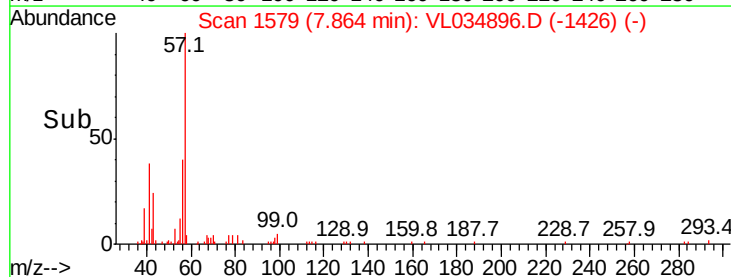
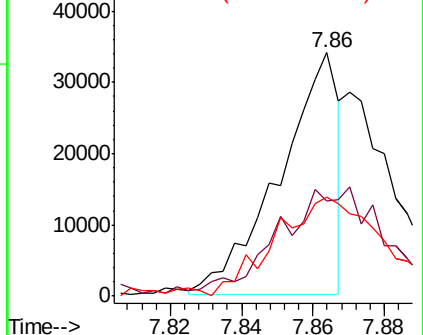
56 79.3 25.0 37.4#

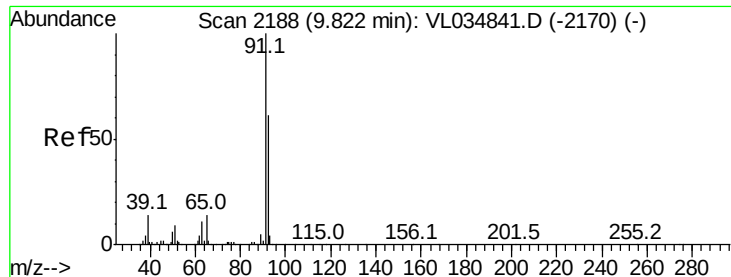


Abundance Ion 57.10 (56.80 to 57.80): VL0

Ion 41.10 (40.80 to 41.80): VL0

Ion 56.10 (55.80 to 56.80): VL0





#53

Toluene

Concen: 2.109 ppbv

RT: 9.81 min Scan# 2185

Delta R.T. -0.01 min

Lab File: VL034896.D

Acq: 16 Mar 2020 18:46

Instrument :

MSVOA_L

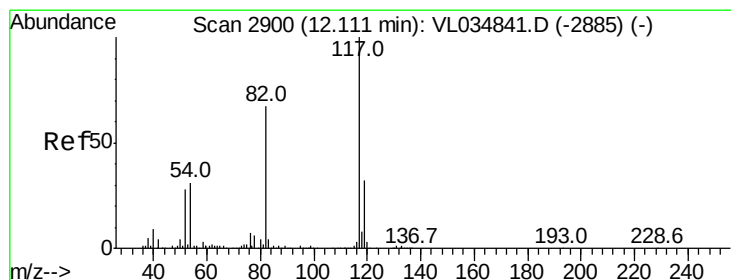
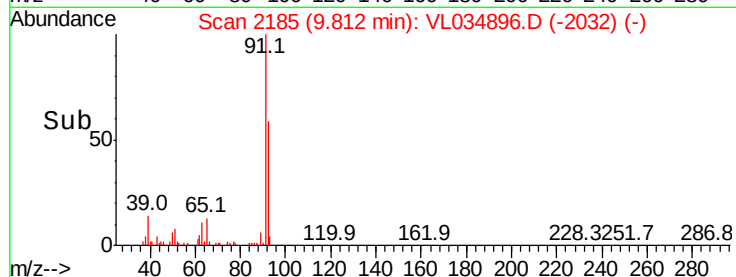
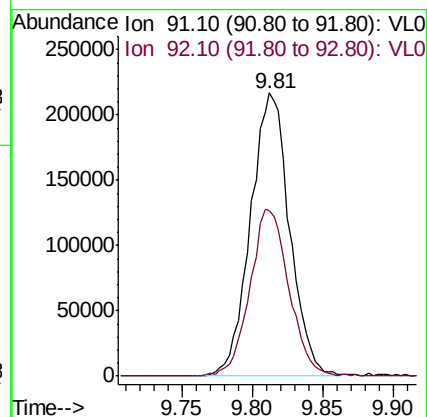
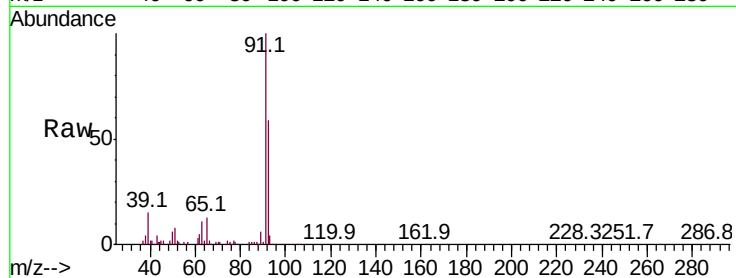
ClientSampleId :

Tot Ion: 91 Resp: 420256

Ion Ratio Lower Upper

91 100

92 59.1 48.6 72.8



#55

Chlorobenzene-d5

Concen: 10.000 ppbv

RT: 12.10 min Scan# 2897

Delta R.T. -0.01 min

Lab File: VL034896.D

Acq: 16 Mar 2020 18:46

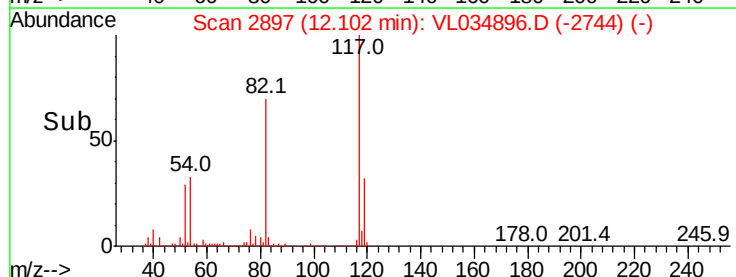
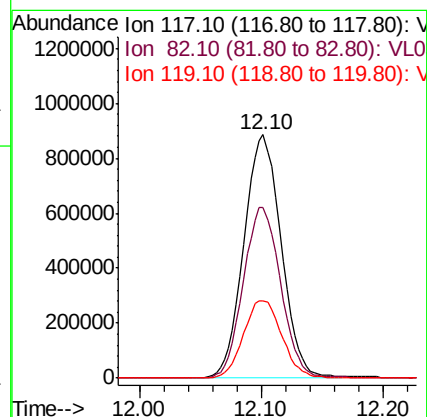
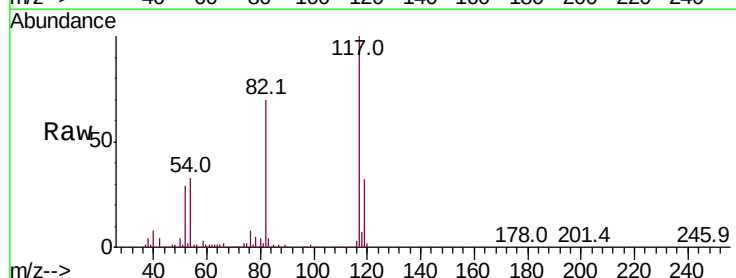
Tgt Ion: 117 Resp: 1869433

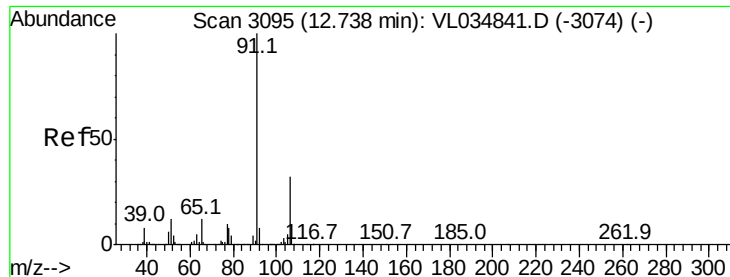
Ion Ratio Lower Upper

117 100

82 70.9 51.1 76.7

119 33.0 27.3 40.9





#58

Ethyl Benzene

Concen: 0.047 ppbv

RT: 12.99 min Scan# 3173

Delta R.T. 0.25 min

Lab File: VL034896.D

Acq: 16 Mar 2020 18:46

Instrument :

MSVOA_L

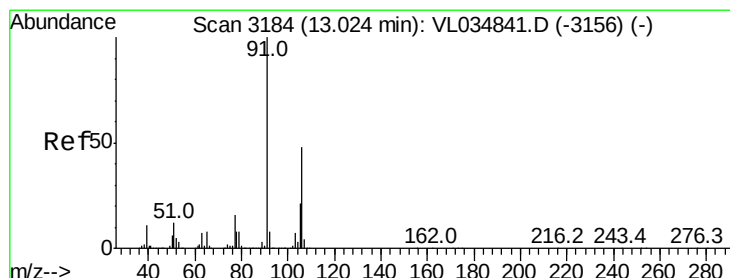
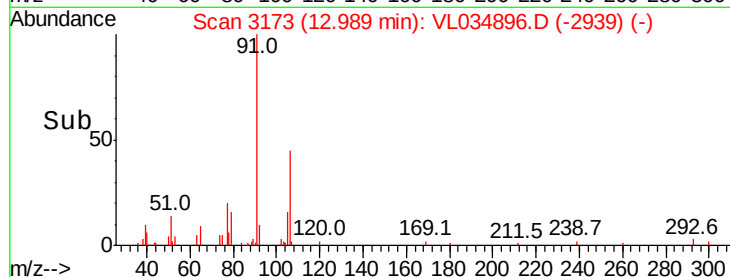
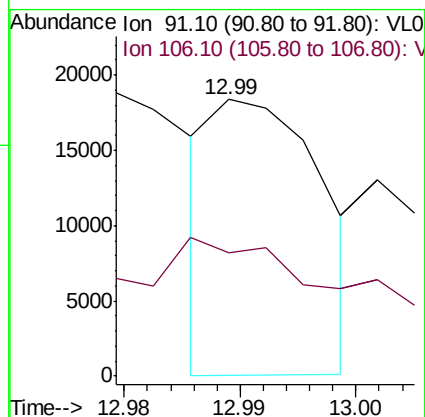
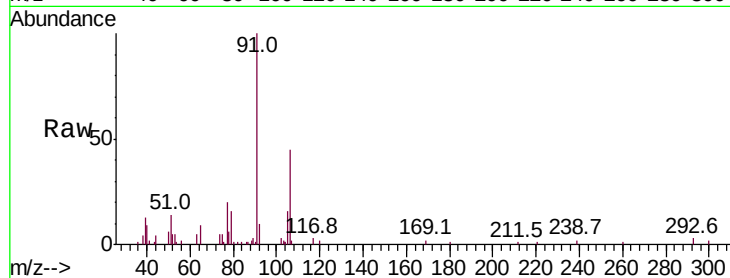
ClientSampleId :

Tot Ion: 91 Resp: 11998

Ion Ratio Lower Upper

91 100

106 31.3 25.8 38.6



#59

m/p-Xylene

Concen: 0.041 ppbv

RT: 13.01 min Scan# 3181

Delta R.T. -0.01 min

Lab File: VL034896.D

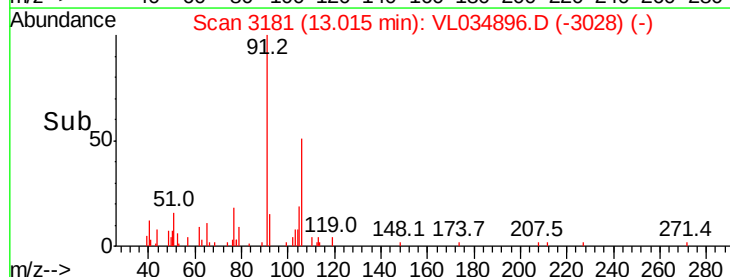
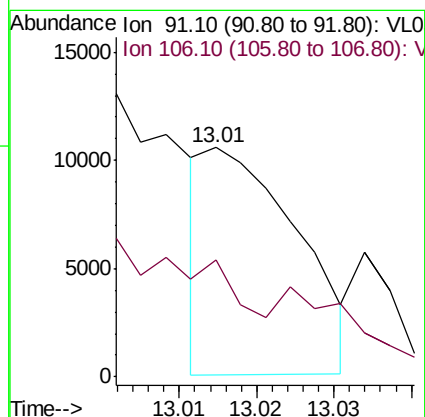
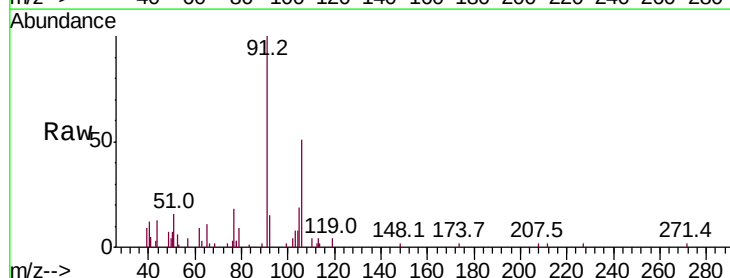
Acq: 16 Mar 2020 18:46

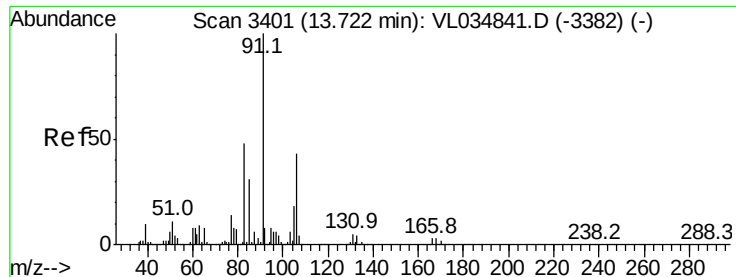
Tgt Ion: 91 Resp: 8636

Ion Ratio Lower Upper

91 100

106 0.0 37.1 55.7#





#60

o-Xylene

Concen: 0.035 ppbv

RT: 13.71 min Scan# 3398

Delta R.T. -0.01 min

Lab File: VL034896.D

Acq: 16 Mar 2020 18:46

Instrument :

MSVOA_L

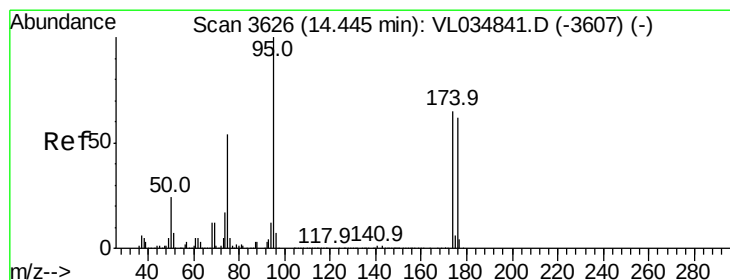
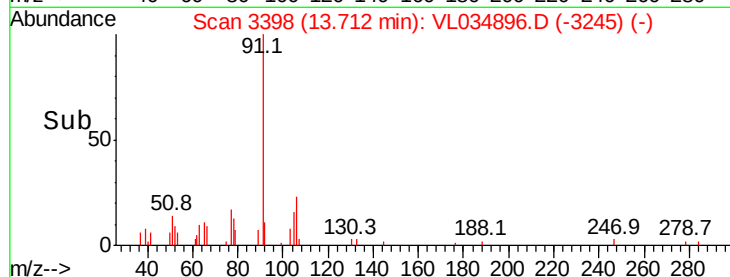
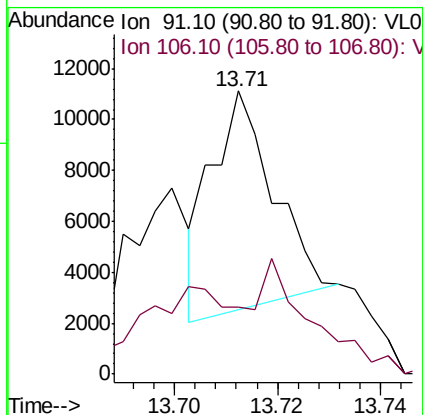
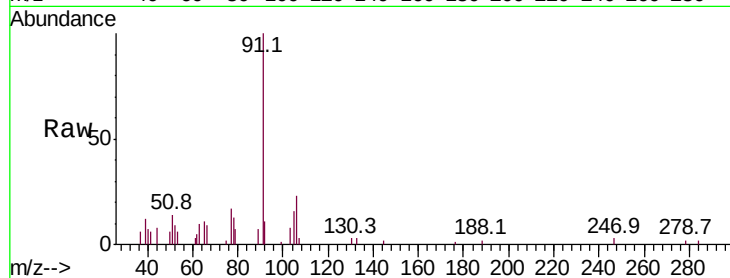
ClientSampleId :

Tot Ion: 91 Resp: 7219

Ion Ratio Lower Upper

91 100

106 113.2 22.5 67.5#



#68

1-Bromo-4-Fluorobenzene

Concen: 10.703 ppbv

RT: 14.44 min Scan# 3623

Delta R.T. -0.01 min

Lab File: VL034896.D

Acq: 16 Mar 2020 18:46

Tgt Ion: 95 Resp: 1560389

Ion Ratio Lower Upper

95 100

174 65.4 55.2 82.8

175 4.9 4.3 6.5

