

Data Path : Z:\VOASRV\HPCHEM1\MSVOA L\DATA\VL020321\  
 Data File : VL036309.D  
 Acq On : 4 Feb 2021 1:15  
 Operator : SY/AP  
 Sample : M1295-04  
 Misc : 400ml/MSVOA L  
 ALS Vial : 1 Sample Multiplier: 1

Instrument :  
 MSVOA\_L  
 ClientSampleId :

Quant Time: Feb 04 03:22:54 2021  
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA L\METHODS\VL011321AIR.M  
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA\_L Thu Jan 14 16:13:38 2021  
 QLast Update : Thu Jan 14 16:13:38 2021  
 Response via : Initial Calibration

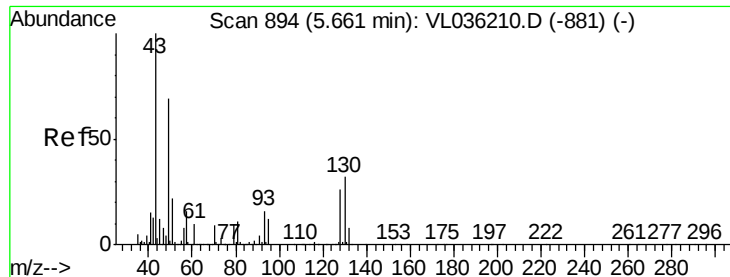
| Internal Standards      | R.T.  | QIon | Response | Conc  | Units | Dev(Min) |
|-------------------------|-------|------|----------|-------|-------|----------|
| 1) Bromochloromethane   | 5.68  | 49   | 1552451  | 10.00 | ppbv  | 0.02     |
| 33) 1,4-Difluorobenzene | 7.19  | 114  | 3273940  | 10.00 | ppbv  | 0.02     |
| 55) Chlorobenzene-d5    | 12.11 | 117  | 3049997  | 10.00 | ppbv  | 0.02     |

|                             |        |       |          |          |      |        |
|-----------------------------|--------|-------|----------|----------|------|--------|
| System Monitoring Compounds |        |       |          |          |      |        |
| 68) 1-Bromo-4-Fluorobenzene | 14.44  | 95    | 2463601  | 9.76     | ppbv | 0.02   |
| Spiked Amount               | 10.000 | Range | 65 - 135 | Recovery | =    | 97.60% |

| Target Compounds               |       |     |         |              | Ovalue |
|--------------------------------|-------|-----|---------|--------------|--------|
| 2) Dichlorodifluoromethane     | 3.05  | 85  | 32305   | 0.155 ppbv   | 93     |
| 3) Chlorodifluoromethane       | 3.00  | 51  | 98642   | 0.517 ppbv # | 87     |
| 4) Chloromethane               | 3.15  | 50  | 75392   | 0.800 ppbv   | 88     |
| 5) Vinyl Chloride              | 3.27  | 62  | 3912    | 0.044 ppbv   | 88     |
| 9) Propene                     | 3.03  | 41  | 57125   | 0.629 ppbv   | 86     |
| 10) Heptane                    | 8.15  | 43  | 7644    | 0.034 ppbv # | 1      |
| 11) Trichlorofluoromethane     | 3.96  | 101 | 39921   | 0.189 ppbv   | 89     |
| 12) 1,1,2-Trichlorotrifluoroet | 4.49  | 101 | 4026    | 0.031 ppbv # | 30     |
| 13) Ethanol                    | 3.62  | 45  | 576092  | 40.409 ppbv  | 90     |
| 15) Acetone                    | 3.86  | 43  | 991373  | 5.214 ppbv   | 91     |
| 16) 1,3-Butadiene              | 3.31  | 39  | 42071   | 0.454 ppbv # | 22     |
| 19) Isopropyl Alcohol          | 3.99  | 45  | 179403  | 1.565 ppbv # | 81     |
| 20) Methylene Chloride         | 4.36  | 84  | 192041  | 3.165 ppbv   | 94     |
| 21) Allyl Chloride             | 4.19  | 41  | 4699    | 0.045 ppbv # | 84     |
| 22) trans-1,2-Dichloroethene   | 4.90  | 96  | 2586    | 0.047 ppbv # | 52     |
| 23) Vinyl Acetate              | 5.08  | 43  | 17126   | 0.074 ppbv # | 1      |
| 25) Ethyl Acetate              | 5.70  | 43  | 143939  | 0.377 ppbv # | 88     |
| 26) Hexane                     | 5.70  | 57  | 185293  | 1.166 ppbv # | 64     |
| 29) Chloroform                 | 5.76  | 83  | 9496    | 0.042 ppbv   | 85     |
| 31) cis-1,2-Dichloroethene     | 5.56  | 61  | 183417  | 1.207 ppbv   | 94     |
| 34) 2-Butanone                 | 5.26  | 43  | 1163987 | 4.828 ppbv   | 99     |
| 36) Benzene                    | 6.91  | 78  | 53699   | 0.179 ppbv # | 86     |
| 39) 1,2-Dichloropropane        | 7.20  | 63  | 961618  | 7.895 ppbv # | 22     |
| 41) Tetrahydrofuran            | 6.07  | 42  | 52764   | 0.379 ppbv # | 14     |
| 53) Toluene                    | 9.83  | 91  | 1553305 | 4.629 ppbv   | 99     |
| 59) m/p-Xylene                 | 13.01 | 91  | 12873   | 0.033 ppbv # | 33     |

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





#1

Bromochloromethane

Concen: 10.000 ppbv

RT: 5.68 min Scan# 901

Delta R.T. 0.02 min

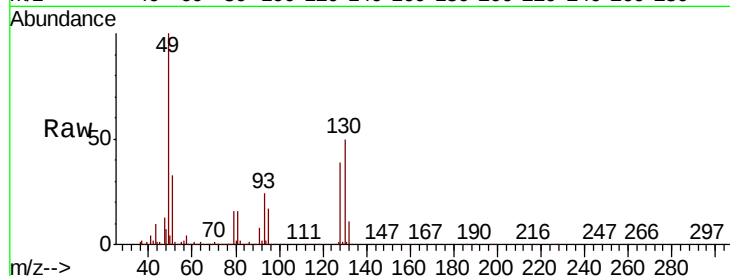
Lab File: VL036309.D

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Instrument :  
MSVOA\_L  
ClientSampleId :

Tot Ion: 49 Resp: 1552451

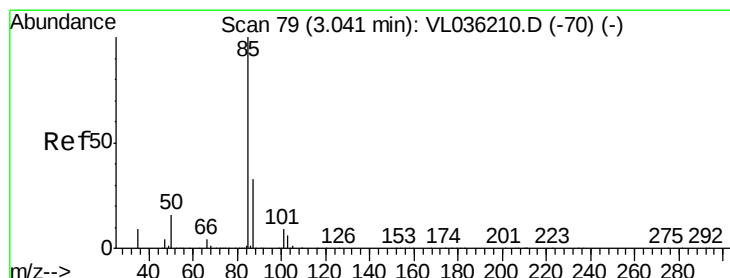
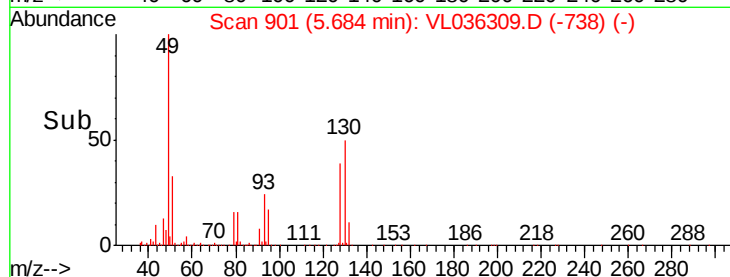
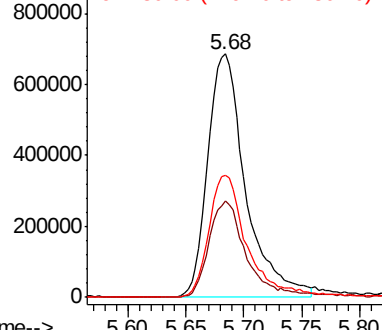
| Ion | Ratio | Lower | Upper |
|-----|-------|-------|-------|
| 49  | 100   |       |       |
| 128 | 40.7  | 20.1  | 60.2  |
| 130 | 52.3  | 25.3  | 75.9  |



Abundance Ion 49.10 (48.80 to 49.80): VL0

Ion 128.00 (127.70 to 128.70): V

Ion 130.00 (129.70 to 130.70): V



#2

Dichlorodifluoromethane

Concen: 0.155 ppbv

RT: 3.05 min Scan# 83

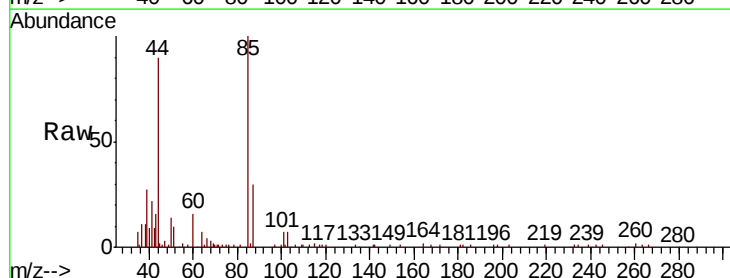
Delta R.T. 0.01 min

Lab File: VL036309.D

Acq: 4 Feb 2021 1:15

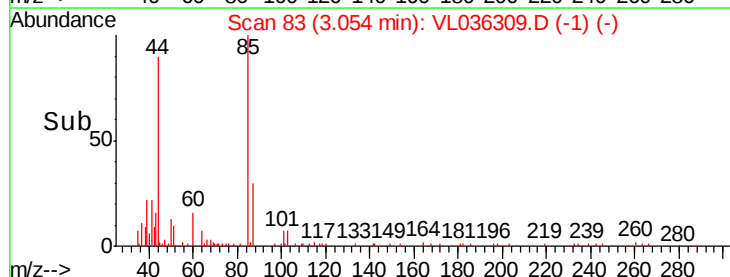
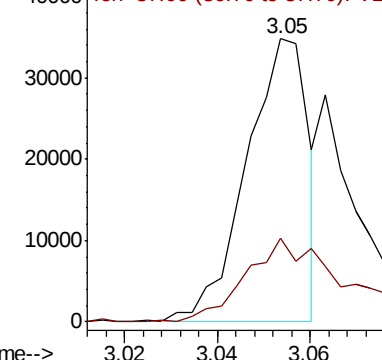
Tgt Ion: 85 Resp: 32305

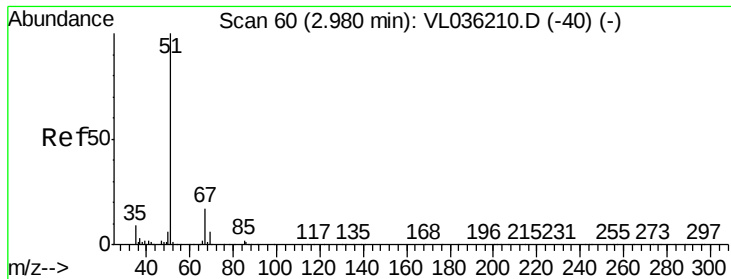
| Ion | Ratio | Lower | Upper |
|-----|-------|-------|-------|
| 85  | 100   |       |       |
| 87  | 29.3  | 26.4  | 39.6  |



Abundance Ion 85.00 (84.70 to 85.70): VL0

Ion 87.00 (86.70 to 87.70): VL0

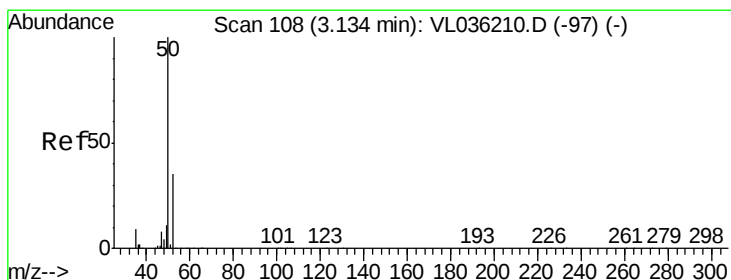
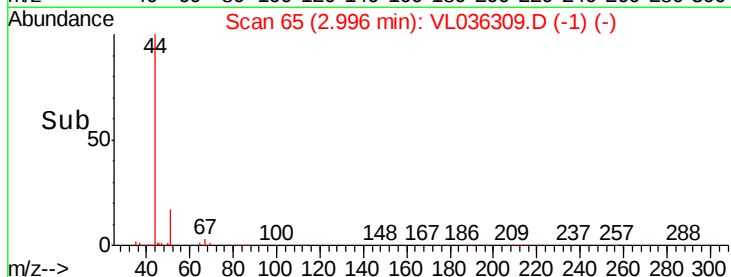
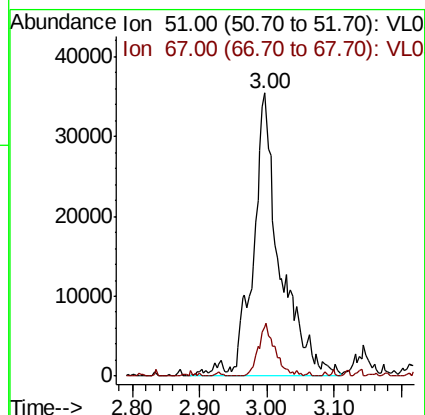
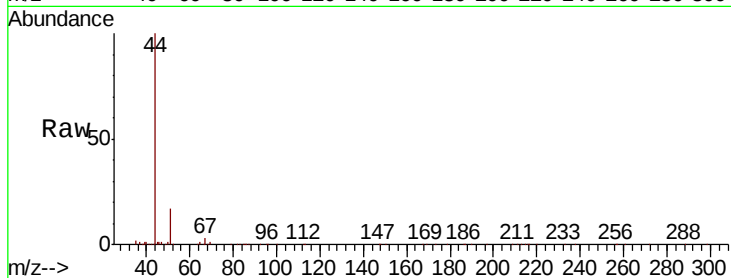




#3  
Chlorodifluoromethane  
Concen: 0.517 ppbv  
RT: 3.00 min Scan# 65  
Delta R.T. 0.02 min  
Lab File: VL036309.D  
Acq: 4 Feb 2021 1:15

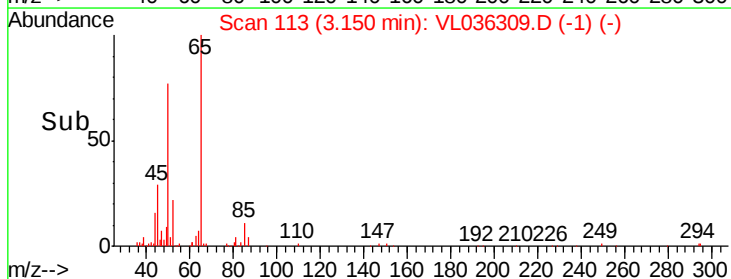
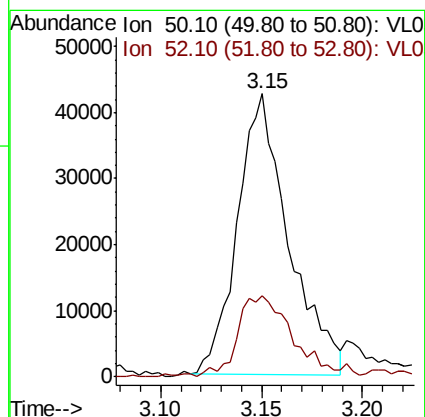
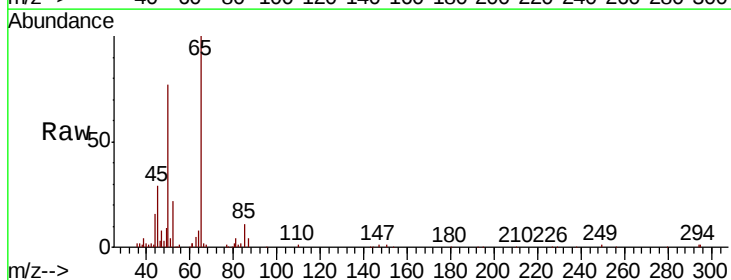
Instrument :  
MSVOA\_L  
ClientSampled :

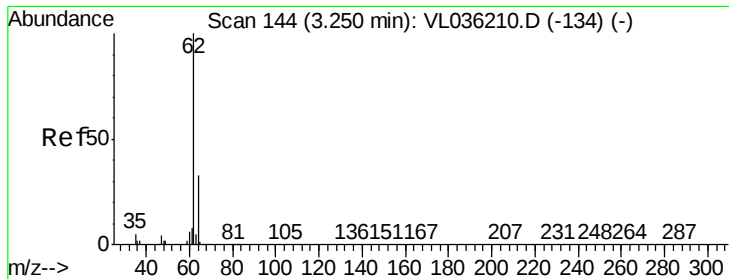
Tot Ion: 51 Resp: 98642  
Ion Ratio Lower Upper  
51 100  
67 11.8 14.0 21.0#



#4  
Chloromethane  
Concen: 0.800 ppbv  
RT: 3.15 min Scan# 113  
Delta R.T. 0.02 min  
Lab File: VL036309.D  
Acq: 4 Feb 2021 1:15

Tgt Ion: 50 Resp: 75392  
Ion Ratio Lower Upper  
50 100  
52 28.1 27.8 41.8





#5

Vinyl Chloride

Concen: 0.044 ppbv

RT: 3.27 min Scan# 149

Delta R.T. 0.02 min

Lab File: VL036309.D

Acq: 4 Feb 2021 1:15

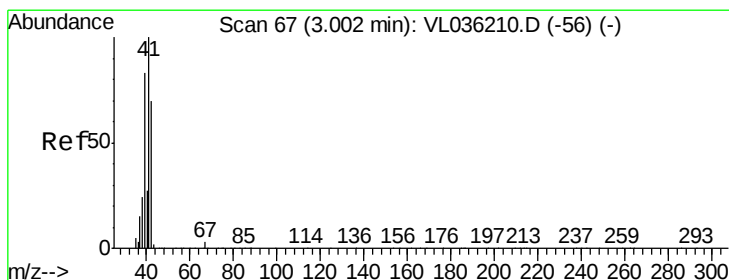
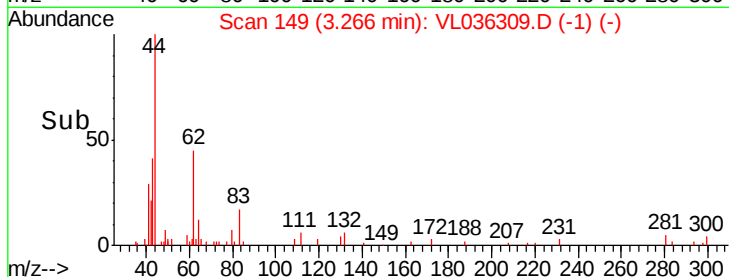
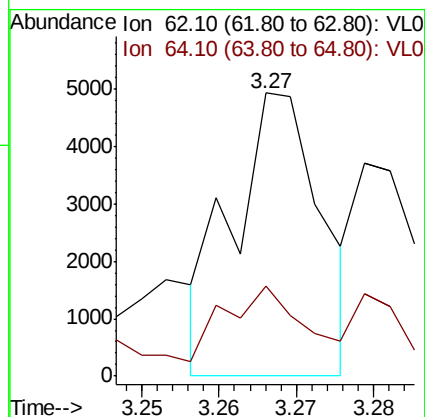
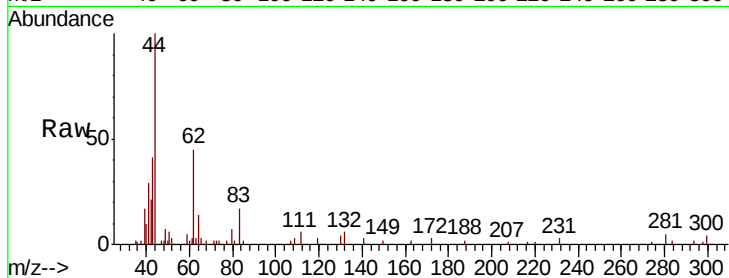
Instrument :  
MSVOA\_L  
ClientSampled :

Tot Ion: 62 Resp: 3912

Ion Ratio Lower Upper

62 100

64 39.2 26.2 39.2



#9

Propene

Concen: 0.629 ppbv

RT: 3.03 min Scan# 75

Delta R.T. 0.03 min

Lab File: VL036309.D

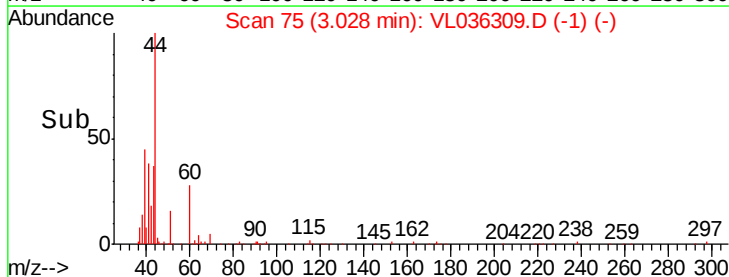
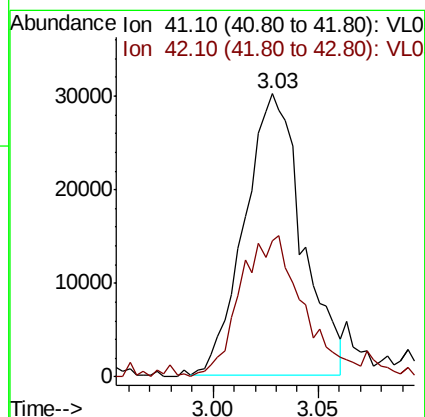
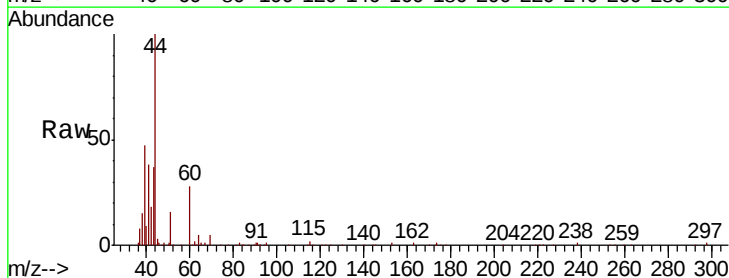
Acq: 4 Feb 2021 1:15

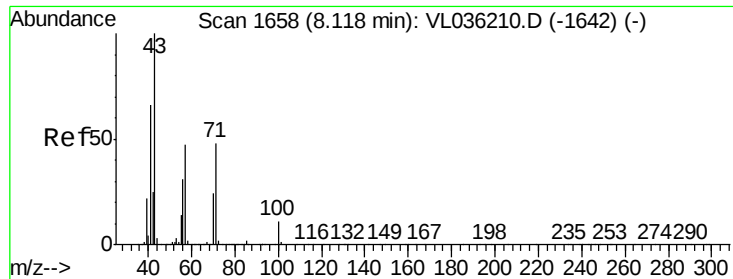
Tgt Ion: 41 Resp: 57125

Ion Ratio Lower Upper

41 100

42 59.6 57.1 85.7

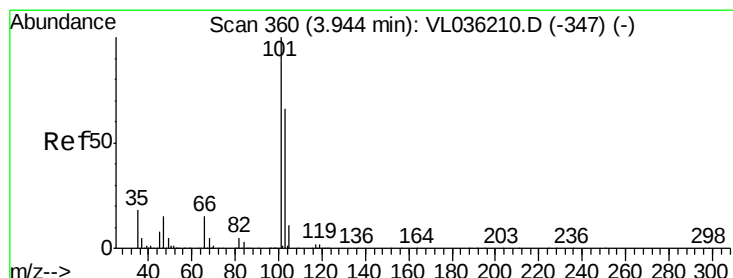
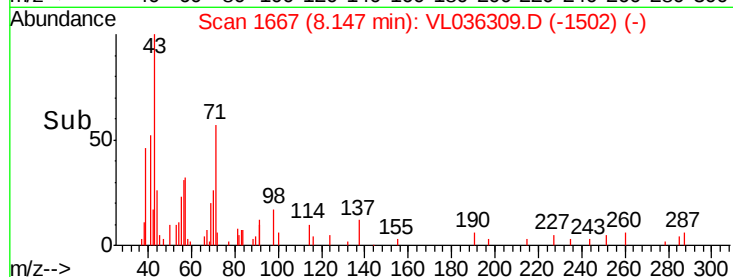
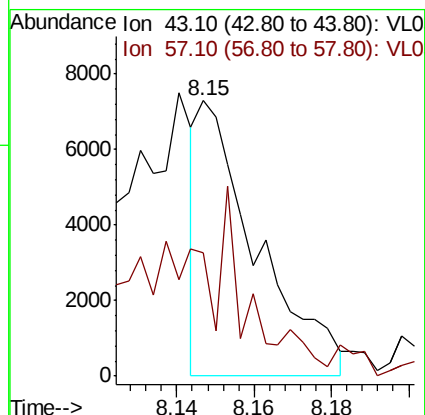
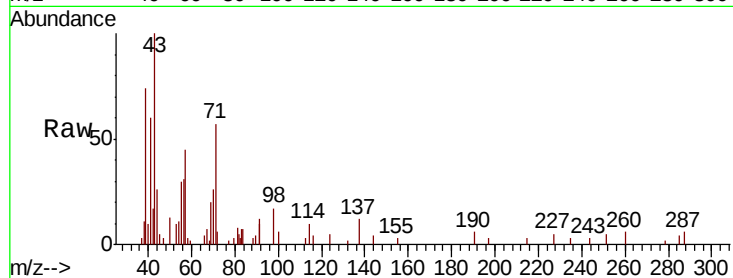




#10  
Heptane  
Concen: 0.034 ppbv  
RT: 8.15 min Scan# 1667  
Delta R.T. 0.03 min  
Lab File: VL036309.D  
Acq: 4 Feb 2021 1:15

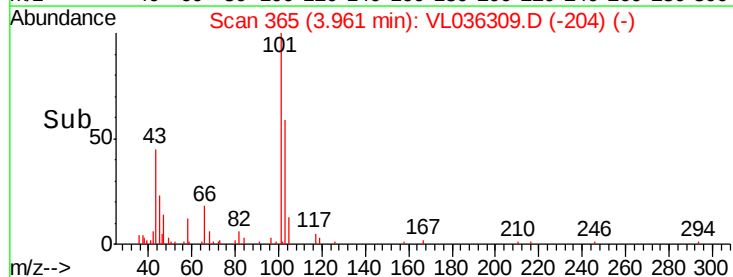
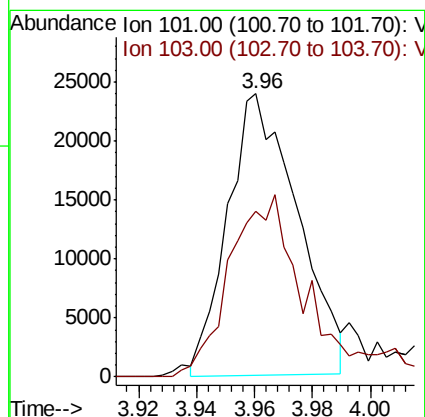
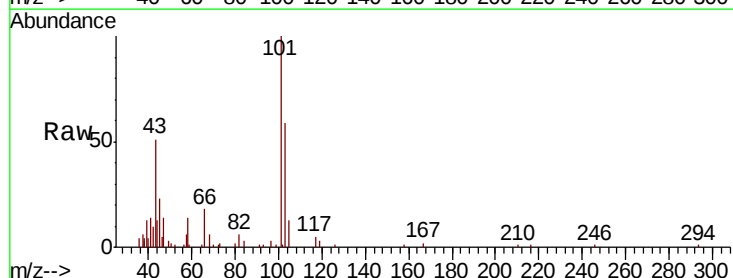
Instrument :  
MSVOA\_L  
ClientSampleId :

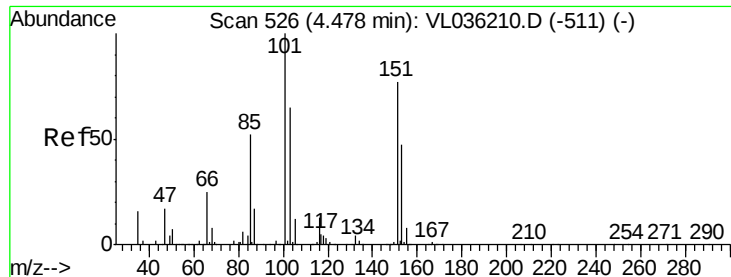
Tot Ion: 43 Resp: 7644  
Ion Ratio Lower Upper  
43 100  
57 121.4 38.1 57.1#



#11  
Trichlorofluoromethane  
Concen: 0.189 ppbv  
RT: 3.96 min Scan# 365  
Delta R.T. 0.02 min  
Lab File: VL036309.D  
Acq: 4 Feb 2021 1:15

Tgt Ion:101 Resp: 39921  
Ion Ratio Lower Upper  
101 100  
103 56.9 52.6 78.8





#12

1,1,2-Trichlorotrifluoroethane

Concen: 0.031 ppbv

RT: 4.49 min Scan# 531

Delta R.T. 0.02 min

Lab File: VL036309.D

Acq: 4 Feb 2021 1:15

Instrument :

MSVOA\_L

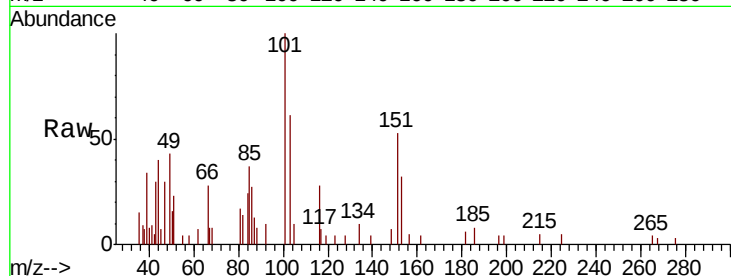
ClientSampleId :

Tot Ion:101 Resp: 4026

Ion Ratio Lower Upper

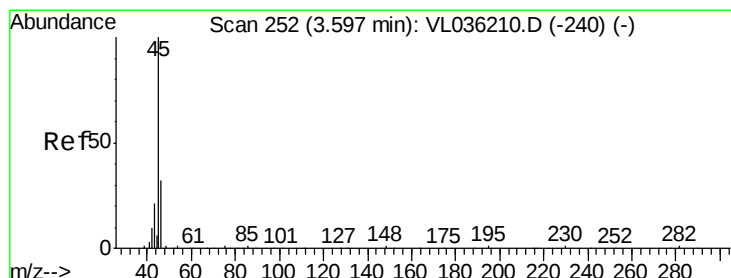
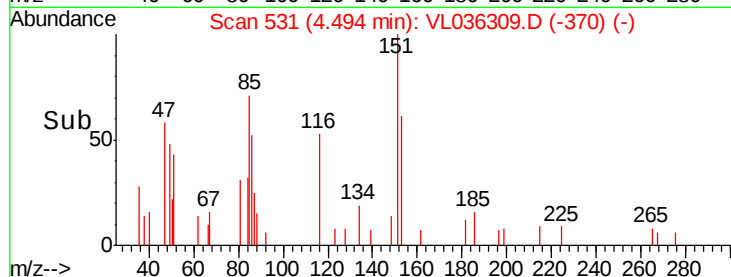
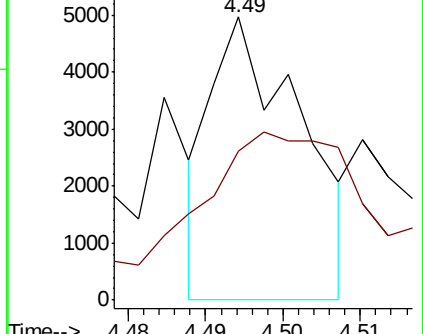
101 100

151 133.9 59.8 89.6#



Abundance Ion 101.00 (100.70 to 101.70): V

Ion 151.00 (150.70 to 151.70): V



#13

Ethanol

Concen: 40.409 ppbv

RT: 3.62 min Scan# 258

Delta R.T. 0.02 min

Lab File: VL036309.D

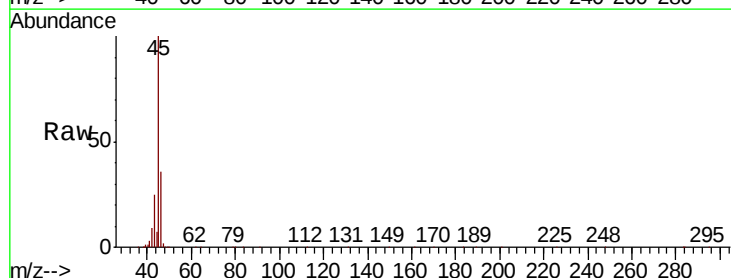
Acq: 4 Feb 2021 1:15

Tgt Ion: 45 Resp: 576092

Ion Ratio Lower Upper

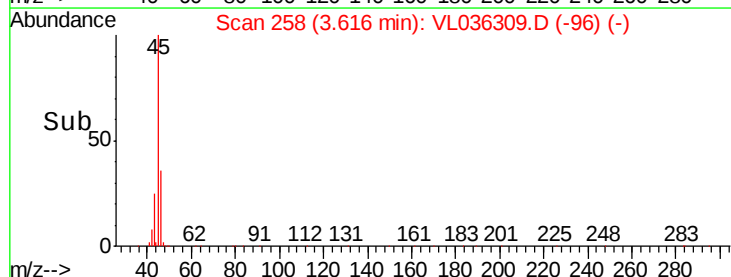
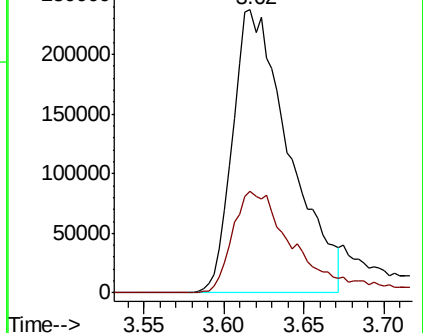
45 100

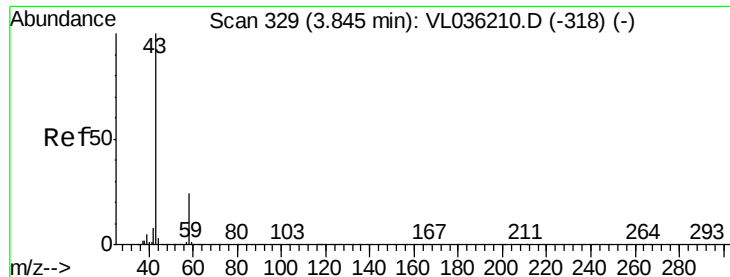
46 41.6 19.2 77.0



Abundance Ion 45.10 (44.80 to 45.80): VL0

Ion 46.10 (45.80 to 46.80): VL0

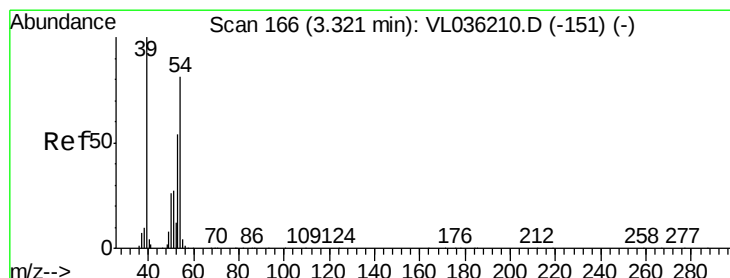
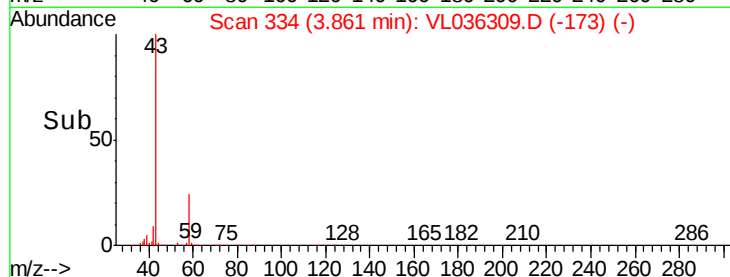
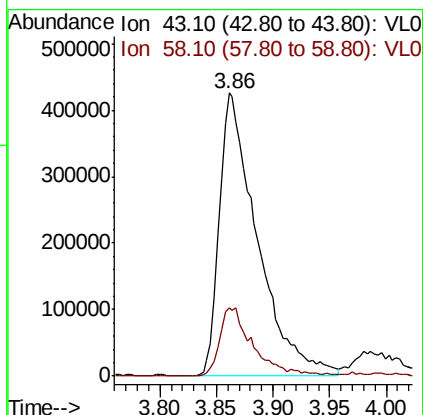
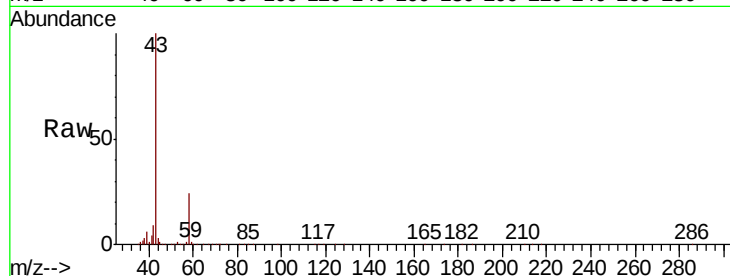




#15  
Acetone  
Concen: 5.214 ppbv  
RT: 3.86 min Scan# 334  
Delta R.T. 0.02 min  
Lab File: VL036309.D  
Acq: 4 Feb 2021 1:15

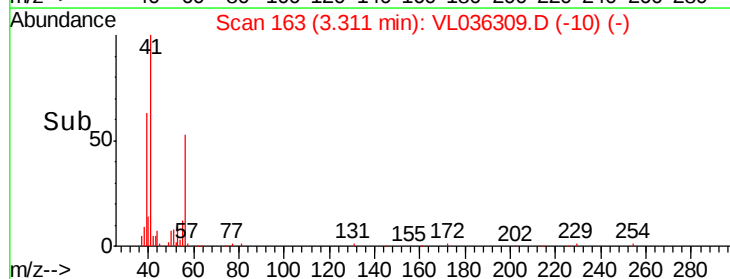
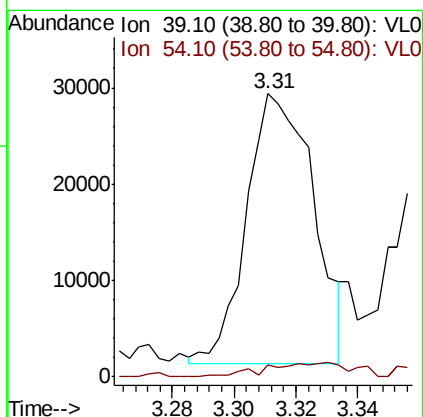
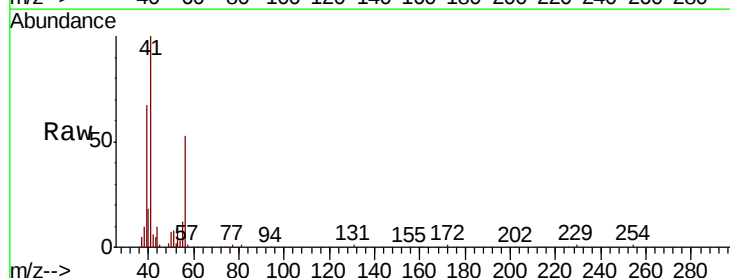
Instrument :  
MSVOA\_L  
ClientSampleId :

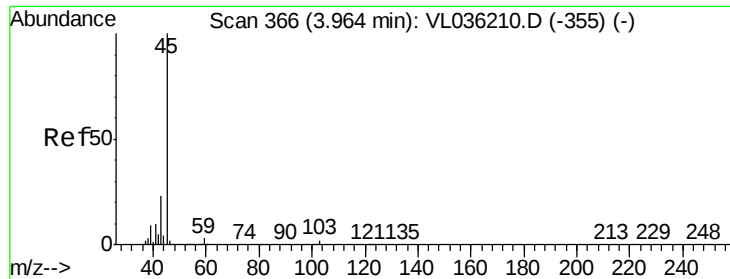
Tot Ion: 43 Resp: 991373  
Ion Ratio Lower Upper  
43 100  
58 21.5 20.9 31.3



#16  
1,3-Butadiene  
Concen: 0.454 ppbv  
RT: 3.31 min Scan# 163  
Delta R.T. -0.01 min  
Lab File: VL036309.D  
Acq: 4 Feb 2021 1:15

Tgt Ion: 39 Resp: 42071  
Ion Ratio Lower Upper  
39 100  
54 10.5 62.5 93.7#





#19

Isopropyl Alcohol

Concen: 1.565 ppbv

RT: 3.99 min Scan# 374

Delta R.T. 0.03 min

Lab File: VL036309.D

Acq: 4 Feb 2021 1:15

Instrument :

MSVOA\_L

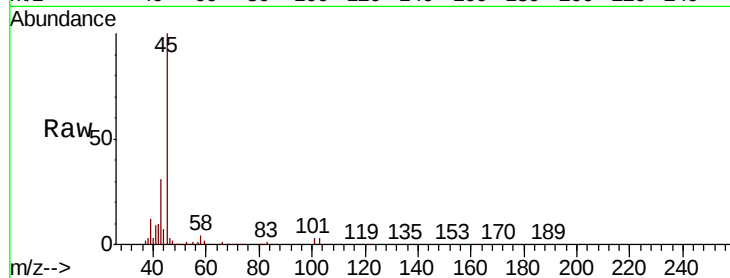
ClientSampleId :

Tot Ion: 45 Resp: 179403

Ion Ratio Lower Upper

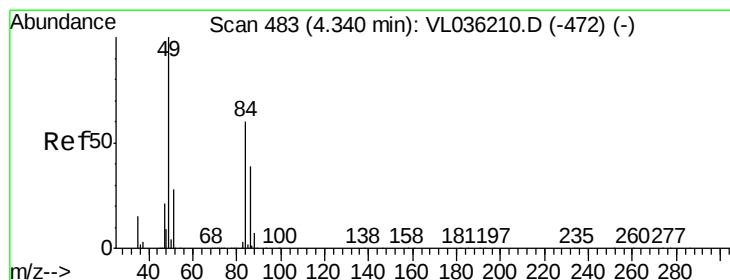
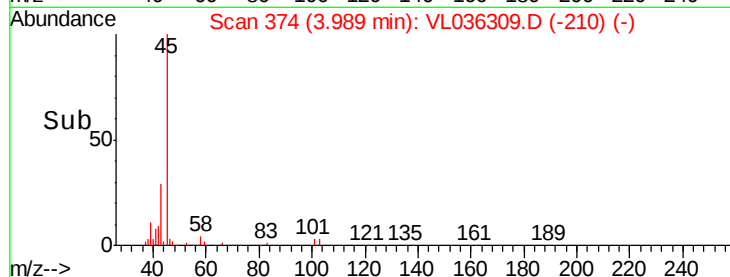
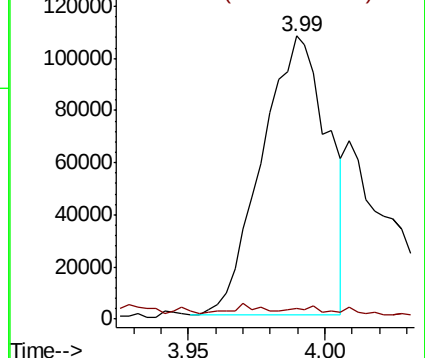
45 100

58 8.9 1.9 2.9#



Abundance Ion 45.10 (44.80 to 45.80): VL0

Ion 58.10 (57.80 to 58.80): VL0



#20

Methylene Chloride

Concen: 3.165 ppbv

RT: 4.36 min Scan# 488

Delta R.T. 0.02 min

Lab File: VL036309.D

Acq: 4 Feb 2021 1:15

Tgt Ion: 84 Resp: 192041

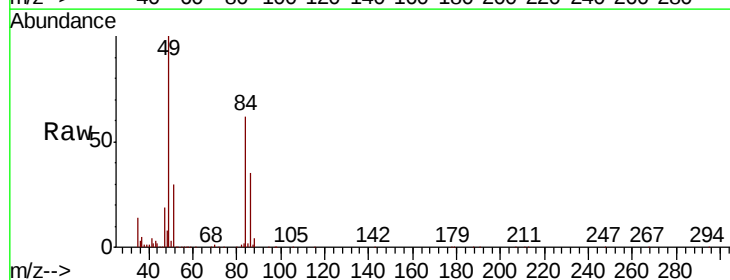
Ion Ratio Lower Upper

84 100

49 161.9 134.1 201.1

51 48.8 37.4 56.0

86 56.3 52.6 78.8

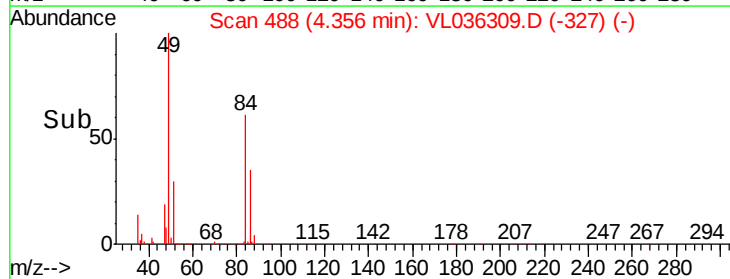
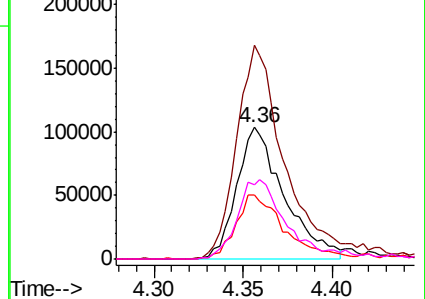


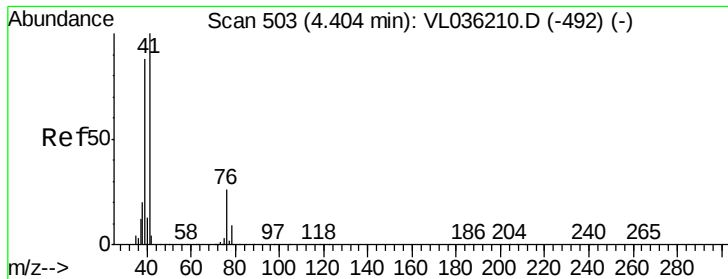
Abundance Ion 84.00 (83.70 to 84.70): VL0

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

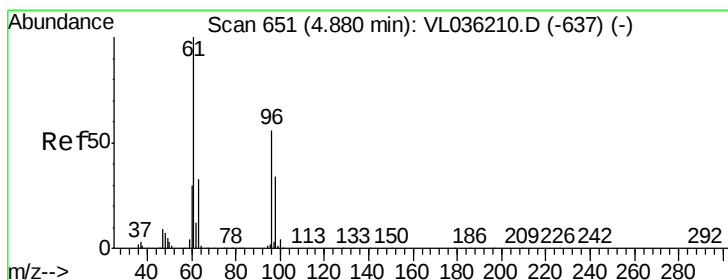
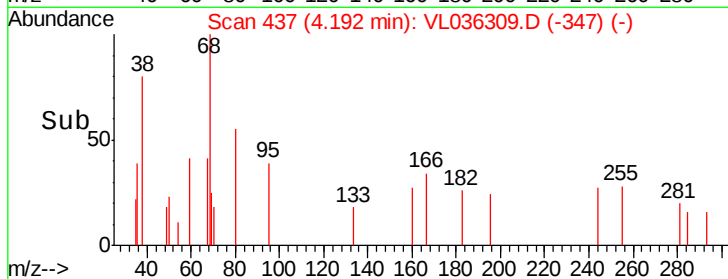
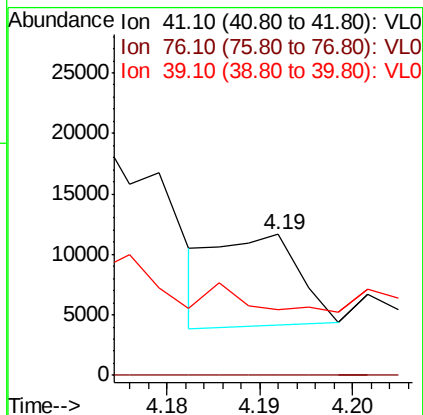
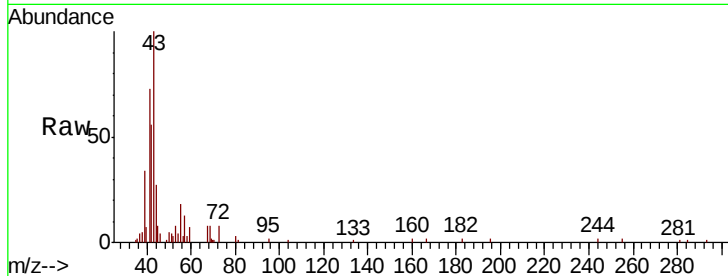




#21  
Allvl Chloride  
Concen: 0.045 ppbv  
RT: 4.19 min Scan# 437  
Delta R.T. -0.21 min  
Lab File: VL036309.D  
Acq: 4 Feb 2021 1:15

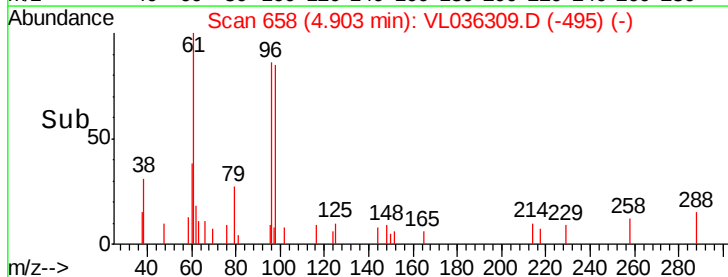
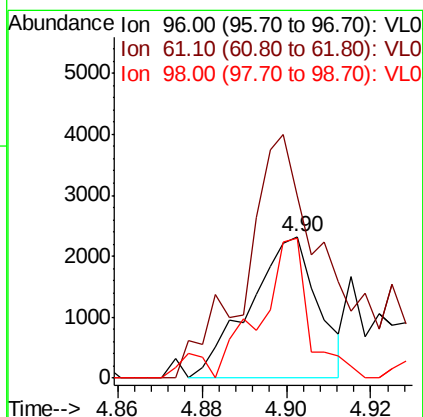
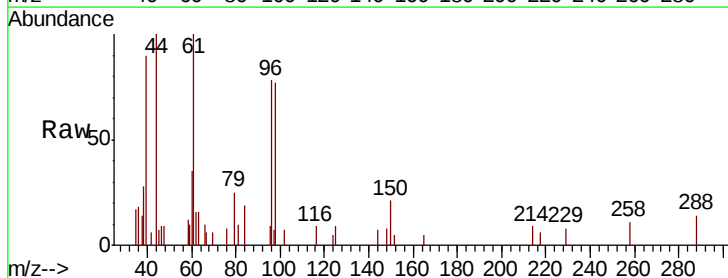
Instrument :  
MSVOA\_L  
ClientSampled :

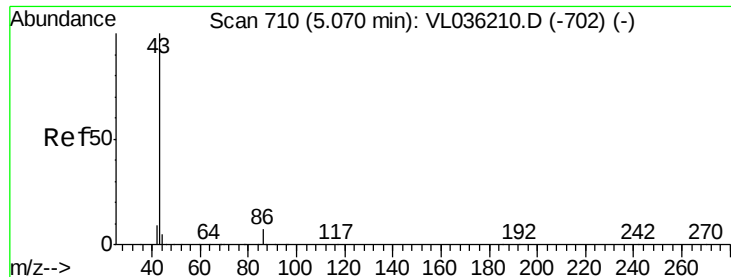
Tot Ion: 41 Resp: 4699  
Ion Ratio Lower Upper  
41 100  
76 4.4 20.5 30.7#  
39 77.7 67.8 101.8



#22  
trans-1,2-Dichloroethene  
Concen: 0.047 ppbv  
RT: 4.90 min Scan# 658  
Delta R.T. 0.02 min  
Lab File: VL036309.D  
Acq: 4 Feb 2021 1:15

Tgt Ion: 96 Resp: 2586  
Ion Ratio Lower Upper  
96 100  
61 101.6 142.7 214.1#  
98 83.0 48.7 73.1#





#23

Vinyl Acetate

Concen: 0.074 ppbv

RT: 5.08 min Scan# 713

Delta R.T. 0.01 min

Lab File: VL036309.D

Acq: 4 Feb 2021 1:15

Instrument :

MSVOA\_L

ClientSampled :

Tot Ion: 43 Resp: 17126

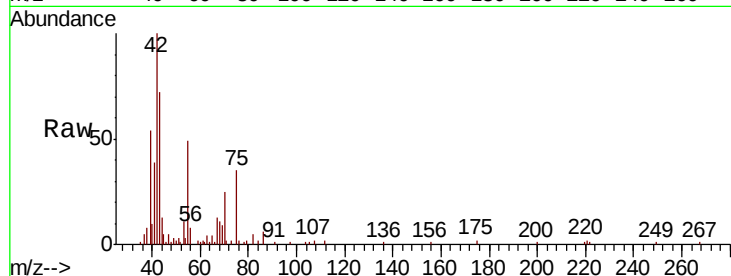
Ion Ratio Lower Upper

43 100

86 9.7 4.9 7.3#

42 115.1 7.8 11.6#

44 9.1 3.7 5.5#

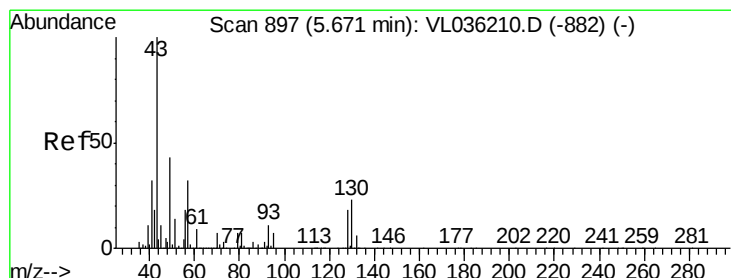
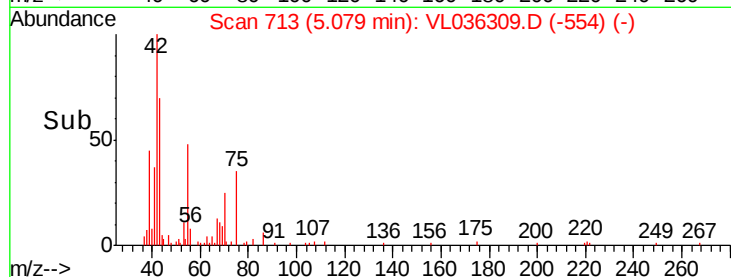
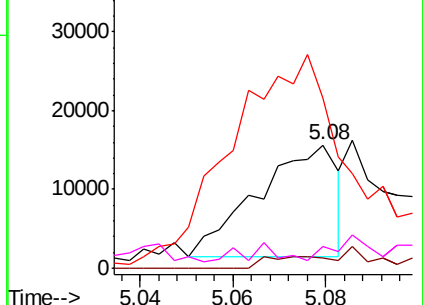


Abundance Ion 43.10 (42.80 to 43.80): VL0

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: 0.377 ppbv

RT: 5.70 min Scan# 905

Delta R.T. 0.03 min

Lab File: VL036309.D

Acq: 4 Feb 2021 1:15

Tgt Ion: 43 Resp: 143939

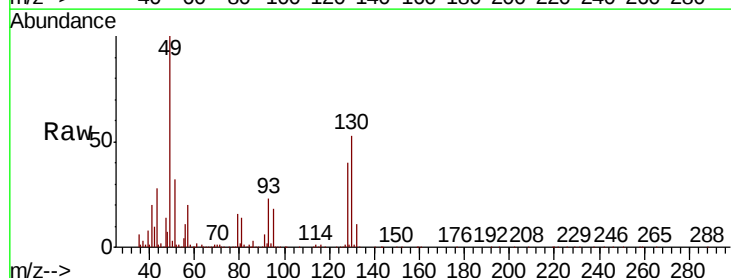
Ion Ratio Lower Upper

43 100

45 14.9 8.3 12.5#

61 11.8 7.4 11.2#

70 0.0 5.5 8.3#

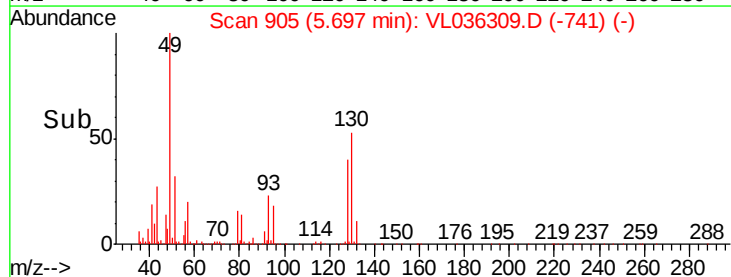
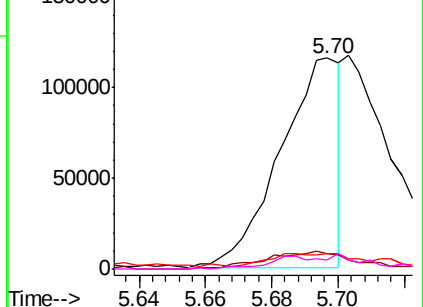


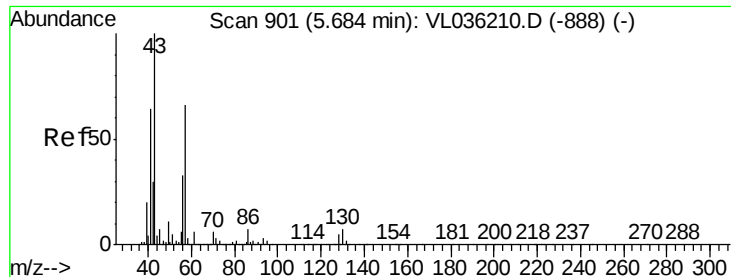
Abundance Ion 43.10 (42.80 to 43.80): VL0

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

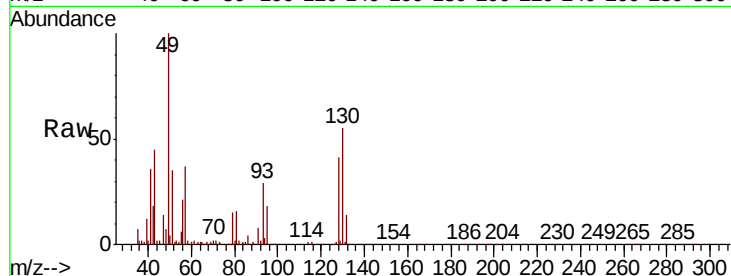




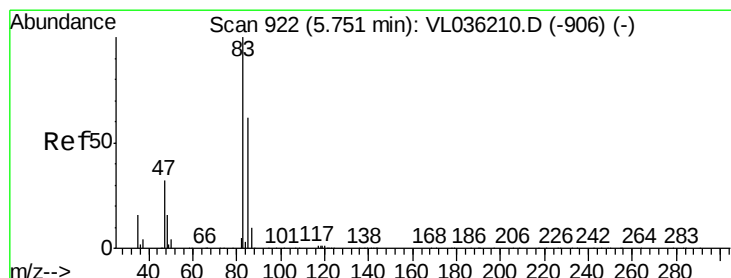
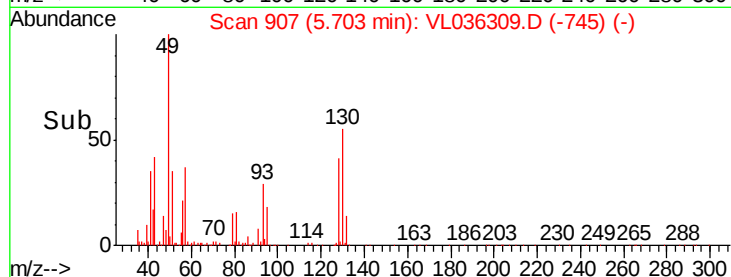
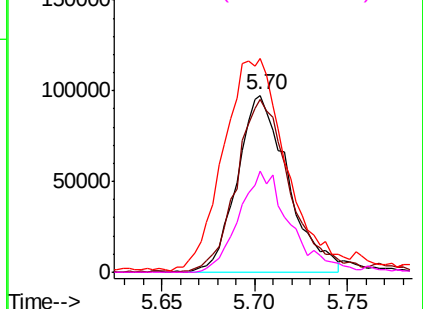
#26  
Hexane  
Concen: 1.166 ppbv  
RT: 5.70 min Scan# 907  
Delta R.T. 0.02 min  
Lab File: VL036309.D  
Acq: 4 Feb 2021 1:15

Instrument :  
MSVOA\_L  
ClientSampled :

Tot Ion: 57 Resp: 185293  
Ion Ratio Lower Upper  
57 100  
41 107.9 83.0 124.6  
43 156.4 202.4 303.6#  
56 59.8 43.4 65.0

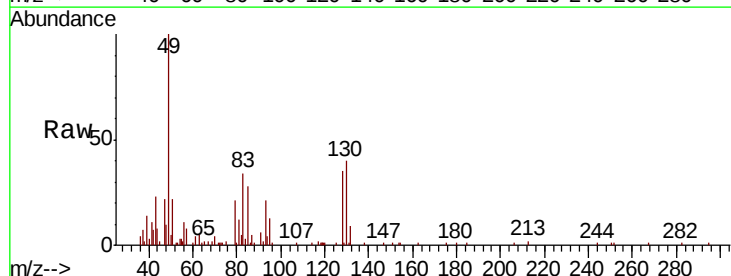


Abundance Ion 57.10 (56.80 to 57.80): VL0  
Ion 41.10 (40.80 to 41.80): VL0  
Ion 43.10 (42.80 to 43.80): VL0  
Ion 56.10 (55.80 to 56.80): VL0

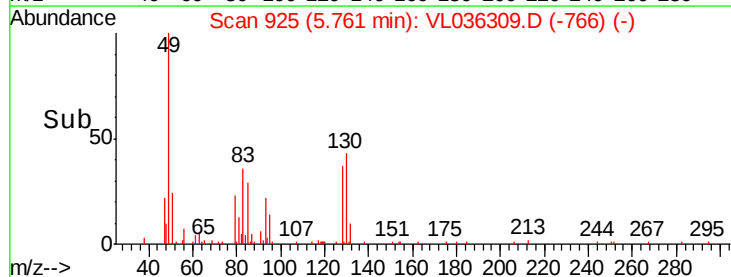
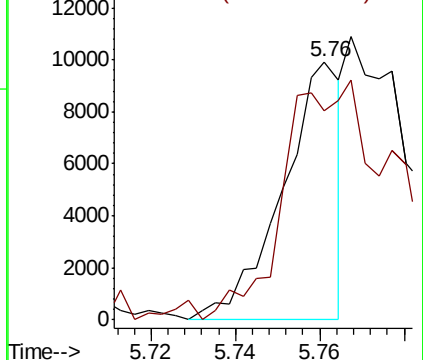


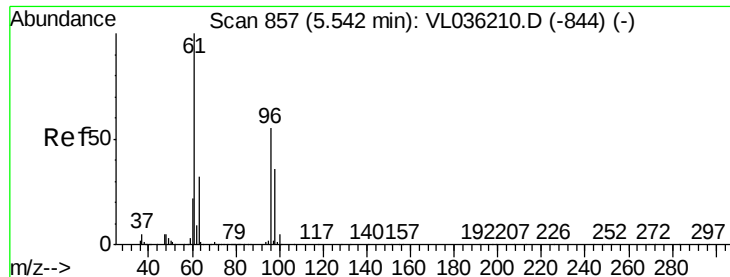
#29  
Chloroform  
Concen: 0.042 ppbv  
RT: 5.76 min Scan# 925  
Delta R.T. 0.01 min  
Lab File: VL036309.D  
Acq: 4 Feb 2021 1:15

Tgt Ion: 83 Resp: 9496  
Ion Ratio Lower Upper  
83 100  
85 73.3 49.3 73.9



Abundance Ion 83.00 (82.70 to 83.70): VL0  
Ion 85.00 (84.70 to 85.70): VL0



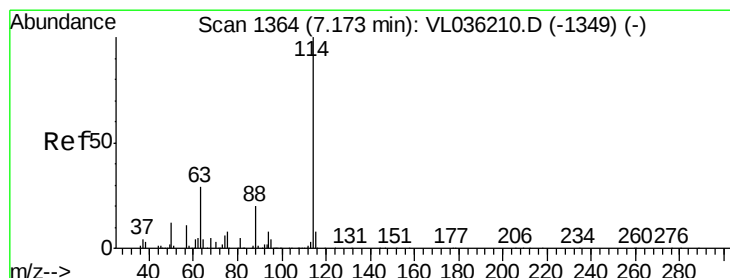
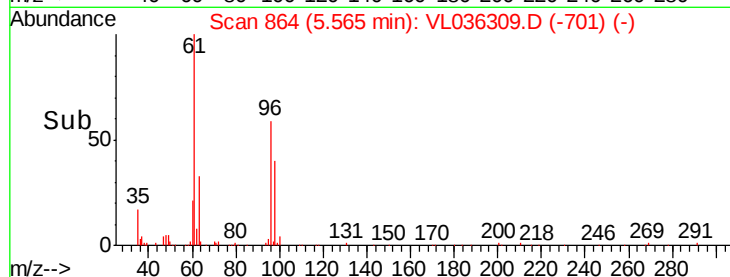
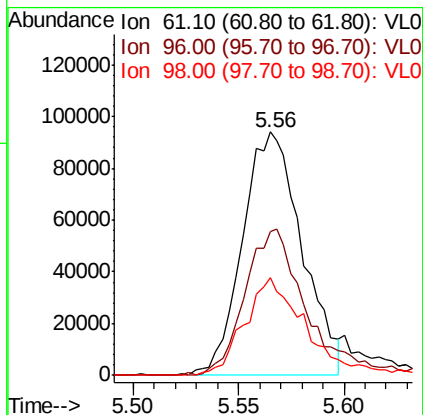
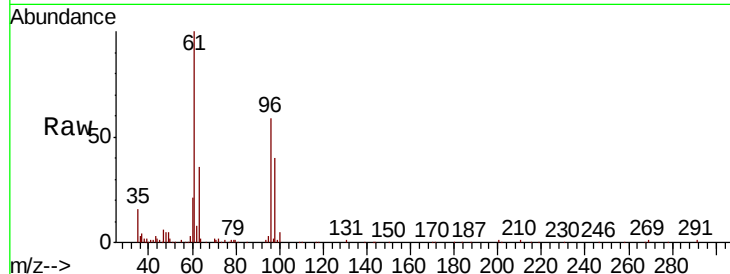


#31

cis-1,2-Dichloroethene  
 Concen: 1.207 ppbv  
 RT: 5.56 min Scan# 864  
 Delta R.T. 0.02 min  
 Lab File: VL036309.D  
 Acq: 4 Feb 2021 1:15

Instrument :  
 MSVOA\_L  
 ClientSampleId :

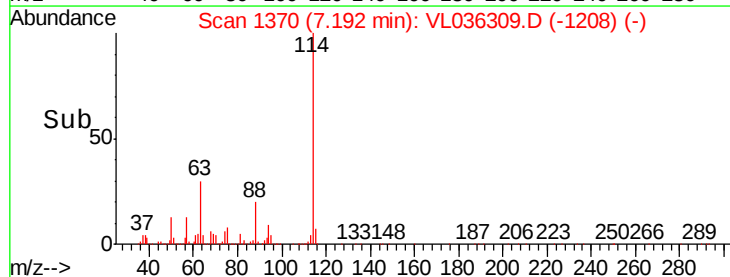
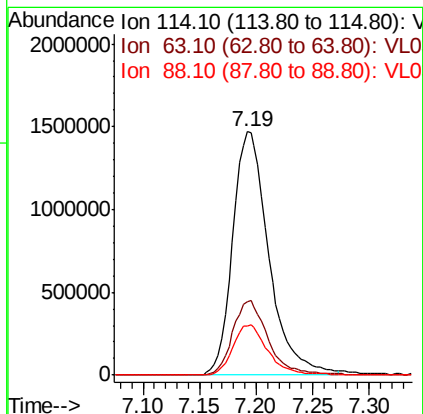
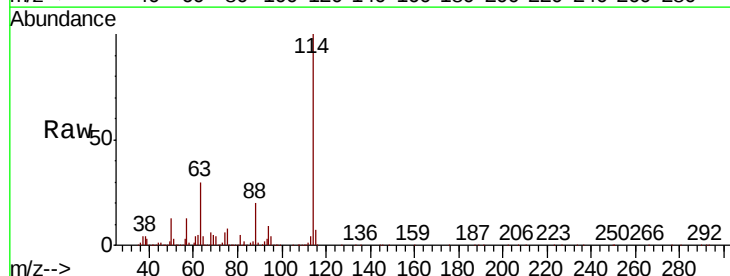
| Tot Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 61      | 100   |       |       |
| 96      | 58.2  | 44.1  | 66.1  |
| 98      | 40.2  | 28.6  | 42.8  |

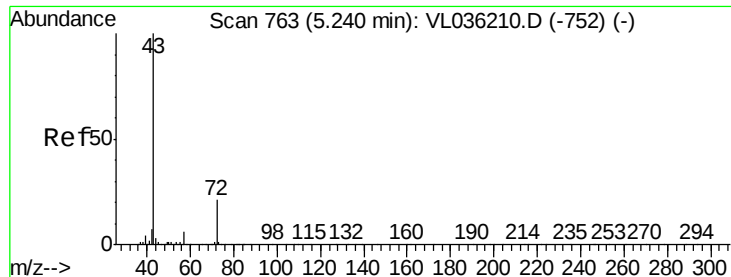


#33

1,4-Difluorobenzene  
 Concen: 10.000 ppbv  
 RT: 7.19 min Scan# 1370  
 Delta R.T. 0.02 min  
 Lab File: VL036309.D  
 Acq: 4 Feb 2021 1:15

| Tgt Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 114     | 100   |       |       |
| 63      | 30.6  | 24.7  | 37.1  |
| 88      | 20.1  | 16.6  | 24.8  |

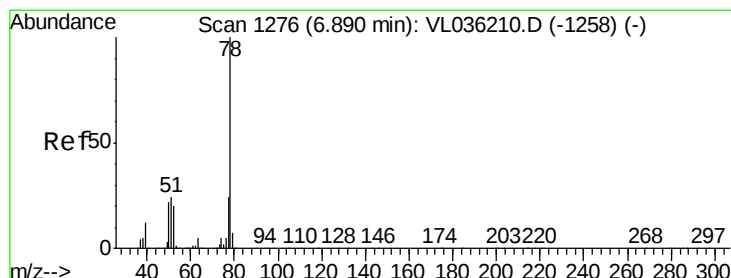
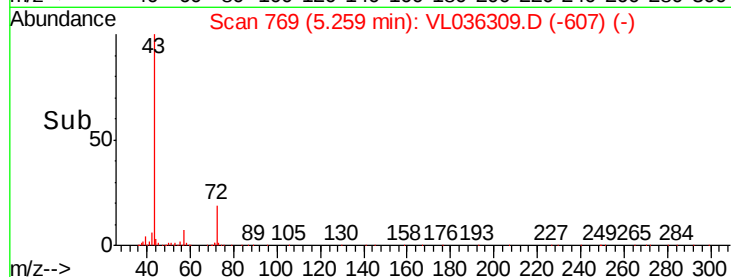
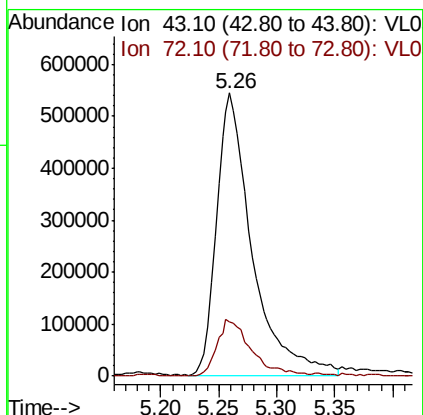
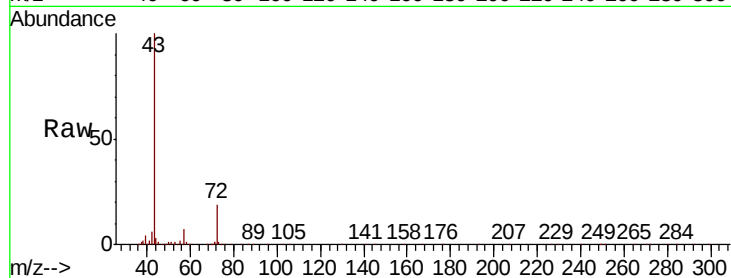




#34  
2-Butanone  
Concen: 4.828 ppbv  
RT: 5.26 min Scan# 769  
Delta R.T. 0.02 min  
Lab File: VL036309.D  
Acq: 4 Feb 2021 1:15

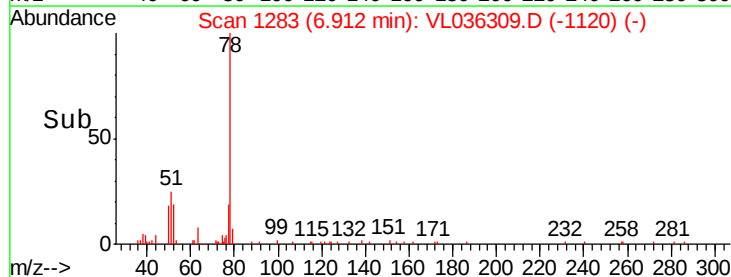
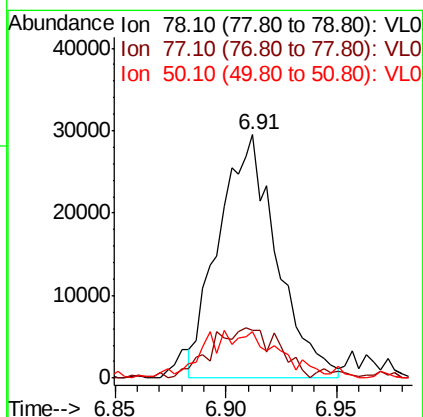
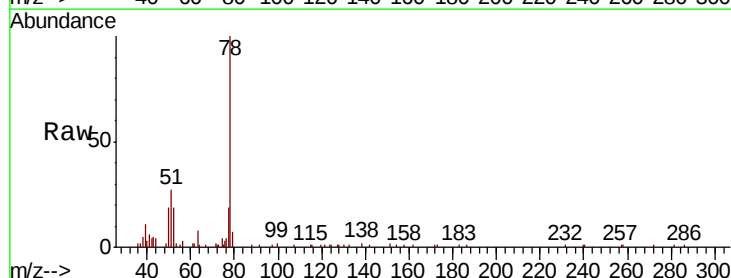
Instrument :  
MSVOA\_L  
ClientSampleId :

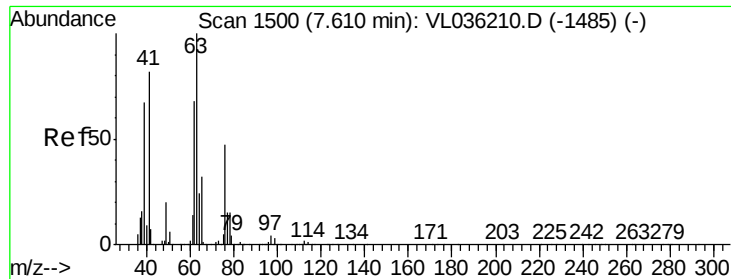
Tot Ion: 43 Resp: 1163987  
Ion Ratio Lower Upper  
43 100  
72 20.5 16.1 24.1



#36  
Benzene  
Concen: 0.179 ppbv  
RT: 6.91 min Scan# 1283  
Delta R.T. 0.02 min  
Lab File: VL036309.D  
Acq: 4 Feb 2021 1:15

Tgt Ion: 78 Resp: 53699  
Ion Ratio Lower Upper  
78 100  
77 17.4 19.4 29.0#  
50 15.1 17.4 26.2#

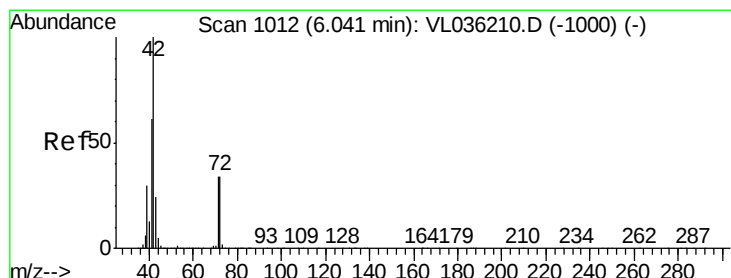
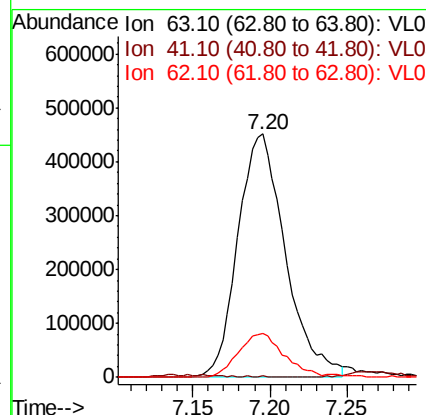
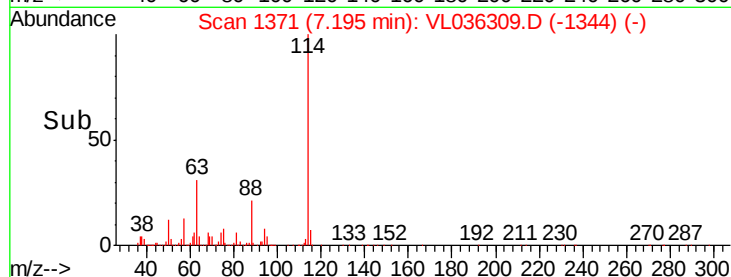
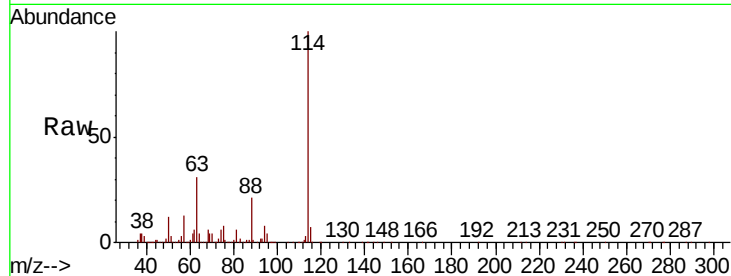




#39  
 1,2-Dichloropropane  
 Concen: 7.895 ppbv  
 RT: 7.20 min Scan# 1371  
 Delta R.T. -0.41 min  
 Lab File: VL036309.D  
 Acq: 4 Feb 2021 1:15

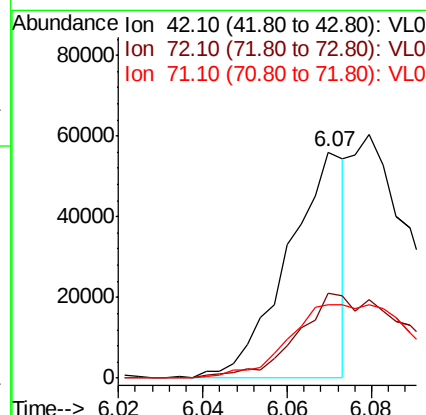
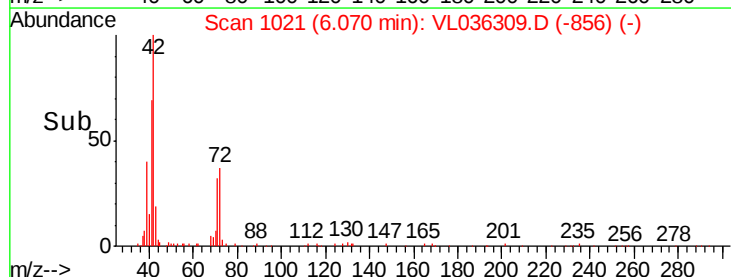
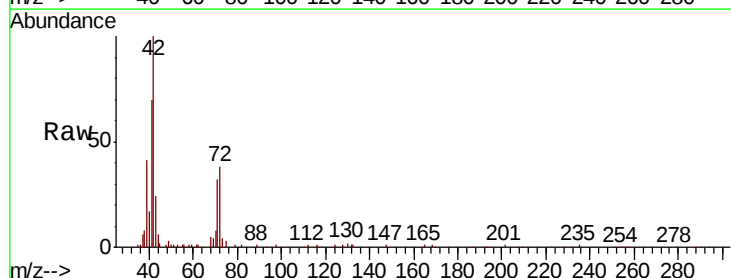
Instrument :  
 MSVOA\_L  
 ClientSampleId :

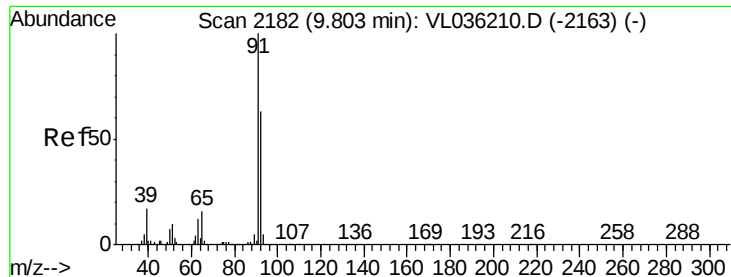
Tot Ion: 63 Resp: 961618  
 Ion Ratio Lower Upper  
 63 100  
 41 0.0 66.1 99.1#  
 62 18.1 54.8 82.2#



#41  
 Tetrahydrofuran  
 Concen: 0.379 ppbv  
 RT: 6.07 min Scan# 1021  
 Delta R.T. 0.03 min  
 Lab File: VL036309.D  
 Acq: 4 Feb 2021 1:15

Tgt Ion: 42 Resp: 52764  
 Ion Ratio Lower Upper  
 42 100  
 72 87.9 29.5 44.3#  
 71 87.1 29.1 43.7#





#53

Toluene

Concen: 4.629 ppbv

RT: 9.83 min Scan# 2189

Delta R.T. 0.02 min

Lab File: VL036309.D

Acq: 4 Feb 2021 1:15

Instrument :

MSVOA\_L

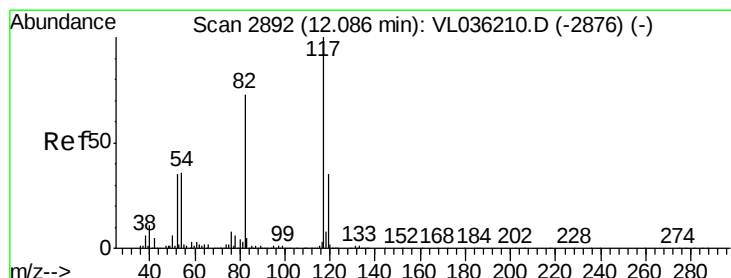
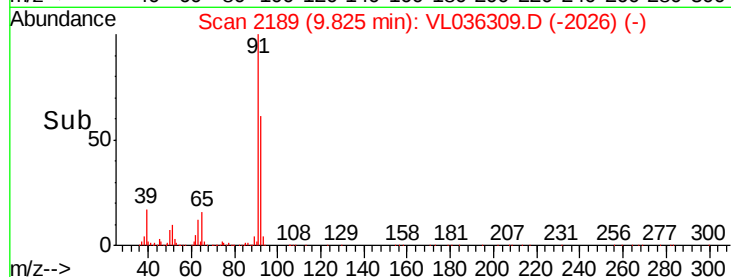
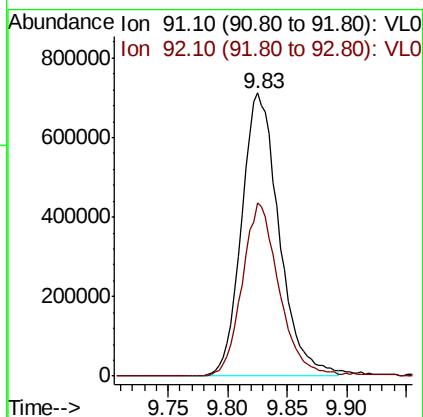
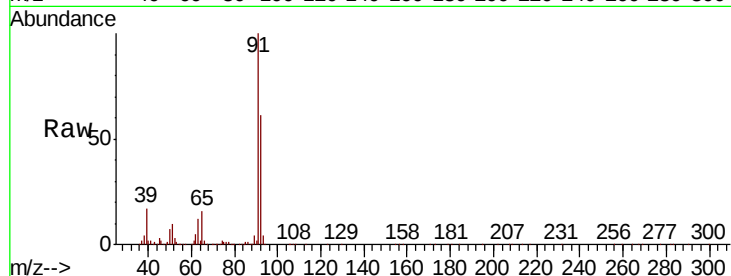
ClientSampleId :

Tot Ion: 91 Resp: 1553305

Ion Ratio Lower Upper

91 100

92 61.1 48.5 72.7



#55

Chlorobenzene-d5

Concen: 10.000 ppbv

RT: 12.11 min Scan# 2899

Delta R.T. 0.02 min

Lab File: VL036309.D

Acq: 4 Feb 2021 1:15

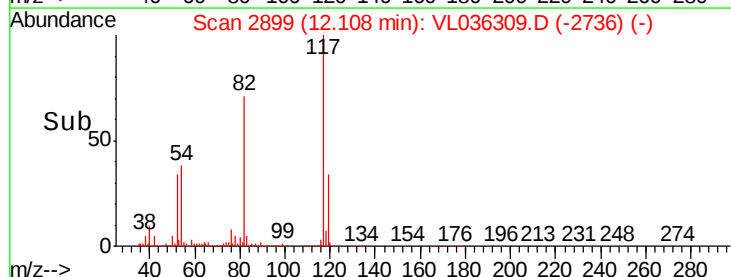
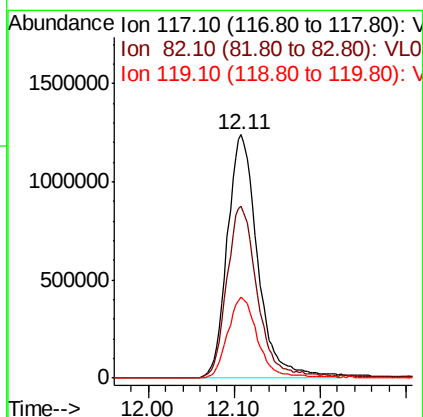
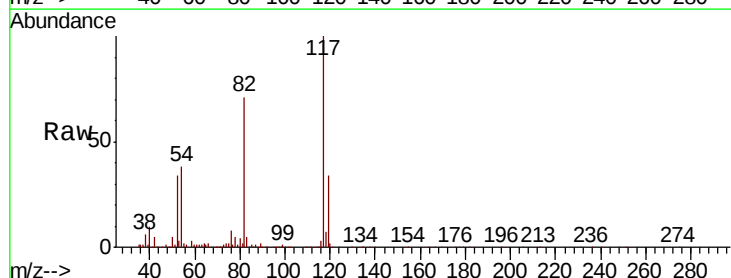
Tgt Ion: 117 Resp: 3049997

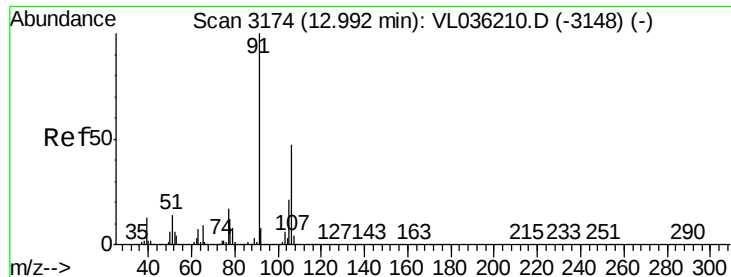
Ion Ratio Lower Upper

117 100

82 73.0 59.7 89.5

119 33.3 28.6 43.0

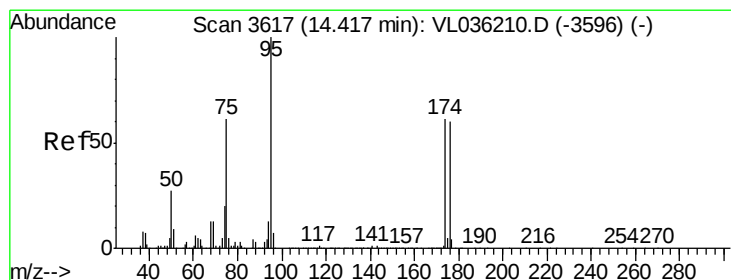
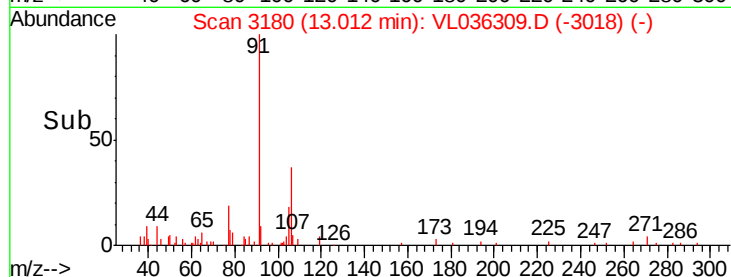
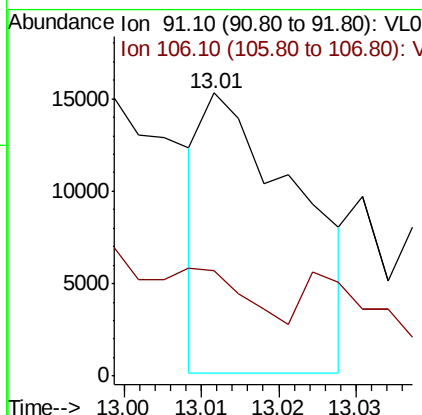
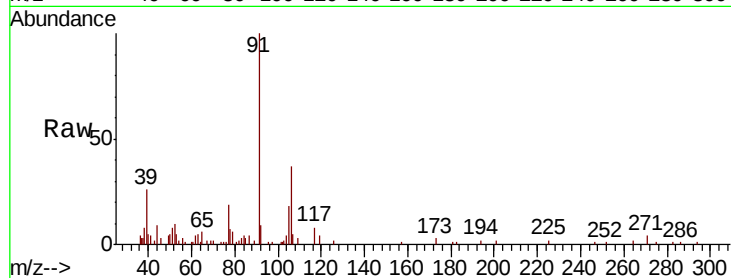




#59  
m/p-Xylene  
Concen: 0.033 ppbv  
RT: 13.01 min Scan# 3180  
Delta R.T. 0.02 min  
Lab File: VL036309.D  
Acq: 4 Feb 2021 1:15

Instrument :  
MSVOA\_L  
ClientSampled :

Tot Ion: 91 Resp: 12873  
Ion Ratio Lower Upper  
91 100  
106 0.0 34.6 51.8#



#68  
1-Bromo-4-Fluorobenzene  
Concen: 9.759 ppbv  
RT: 14.44 min Scan# 3624  
Delta R.T. 0.02 min  
Lab File: VL036309.D  
Acq: 4 Feb 2021 1:15

Tgt Ion: 95 Resp: 2463601  
Ion Ratio Lower Upper  
95 100  
174 62.6 49.4 74.0  
175 4.6 3.8 5.8

