

Data Path : Z:\VOASRV\HPCHEM1\MSVOA L\DATA\VL020321\  
 Data File : VL036310.D  
 Acq On : 4 Feb 2021 1:56  
 Operator : SY/AP  
 Sample : M1295-05  
 Misc : 400ml/MSVOA L  
 ALS Vial : 1 Sample Multiplier: 1

Instrument :  
 MSVOA\_L  
 ClientSampleId :

Quant Time: Feb 04 03:23:13 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

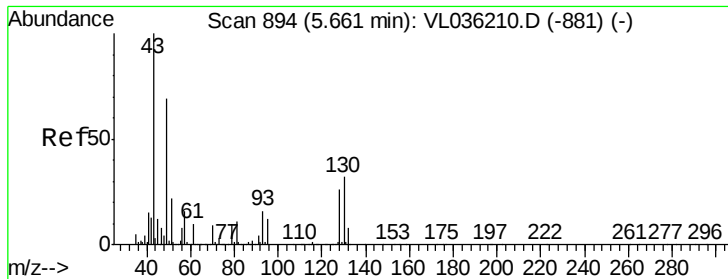
| Internal Standards      | R.T.  | QIon | Response | Conc  | Units | Dev(Min) |
|-------------------------|-------|------|----------|-------|-------|----------|
| 1) Bromochloromethane   | 5.68  | 49   | 1544390  | 10.00 | ppbv  | 0.02     |
| 33) 1,4-Difluorobenzene | 7.19  | 114  | 3207110  | 10.00 | ppbv  | 0.02     |
| 55) Chlorobenzene-d5    | 12.11 | 117  | 2930752  | 10.00 | ppbv  | 0.02     |

|                             |        |       |          |          |      |         |
|-----------------------------|--------|-------|----------|----------|------|---------|
| System Monitoring Compounds |        |       |          |          |      |         |
| 68) 1-Bromo-4-Fluorobenzene | 14.44  | 95    | 2449244  | 10.10    | ppbv | 0.02    |
| Spiked Amount               | 10.000 | Range | 65 - 135 | Recovery | =    | 101.00% |

| Target Compounds             | R.T. | QIon | Response | Conc  | Units  | Ovalue |
|------------------------------|------|------|----------|-------|--------|--------|
| 2) Dichlorodifluoromethane   | 3.05 | 85   | 36770    | 0.178 | ppbv # | 83     |
| 3) Chlorodifluoromethane     | 2.99 | 51   | 48354    | 0.255 | ppbv   | 97     |
| 4) Chloromethane             | 3.15 | 50   | 69732    | 0.744 | ppbv # | 88     |
| 5) Vinyl Chloride            | 3.27 | 62   | 14708    | 0.166 | ppbv # | 64     |
| 9) Propene                   | 2.89 | 41   | 3558     | 0.039 | ppbv   | 93     |
| 11) Trichlorofluoromethane   | 3.96 | 101  | 37445    | 0.178 | ppbv   | 99     |
| 13) Ethanol                  | 3.61 | 45   | 66037    | 4.656 | ppbv # | 29     |
| 15) Acetone                  | 3.86 | 43   | 968809   | 5.122 | ppbv   | 98     |
| 16) 1,3-Butadiene            | 3.33 | 39   | 10675    | 0.116 | ppbv # | 57     |
| 18) 1,1-Dichloroethene       | 4.30 | 96   | 3210     | 0.054 | ppbv # | 46     |
| 19) Isopropyl Alcohol        | 3.98 | 45   | 29886    | 0.262 | ppbv # | 93     |
| 20) Methylene Chloride       | 4.36 | 84   | 30195    | 0.500 | ppbv   | 94     |
| 22) trans-1,2-Dichloroethene | 4.90 | 96   | 4525     | 0.083 | ppbv # | 64     |
| 23) Vinyl Acetate            | 5.08 | 43   | 37778    | 0.165 | ppbv # | 89     |
| 24) 1,1-Dichloroethane       | 5.03 | 63   | 11048    | 0.067 | ppbv # | 97     |
| 25) Ethyl Acetate            | 5.70 | 43   | 29675    | 0.078 | ppbv # | 90     |
| 26) Hexane                   | 5.71 | 57   | 6870     | 0.043 | ppbv # | 1      |
| 29) Chloroform               | 5.76 | 83   | 95409    | 0.421 | ppbv   | 95     |
| 31) cis-1,2-Dichloroethene   | 5.56 | 61   | 863514   | 5.714 | ppbv   | 99     |
| 34) 2-Butanone               | 5.26 | 43   | 1770005  | 7.494 | ppbv   | 98     |
| 36) Benzene                  | 6.91 | 78   | 52364    | 0.178 | ppbv   | 98     |
| 39) 1,2-Dichloropropane      | 7.19 | 63   | 961692   | 8.060 | ppbv # | 21     |
| 41) Tetrahydrofuran          | 6.07 | 42   | 211662   | 1.551 | ppbv   | 99     |
| 53) Toluene                  | 9.83 | 91   | 239450   | 0.728 | ppbv   | 98     |

(#) = 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: VL036310.D

Acq: 4 Feb 2021 1:56

Instrument :  
MSVOA\_L  
ClientSampleId :

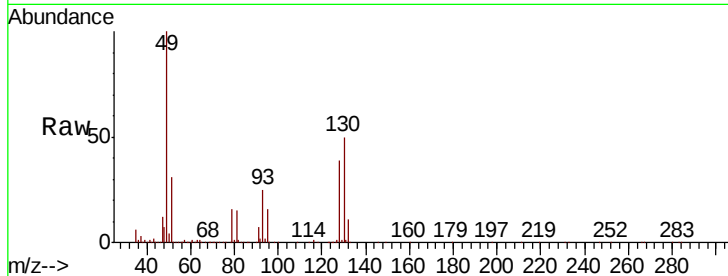
Tot Ion: 49 Resp: 1544390

Ion Ratio Lower Upper

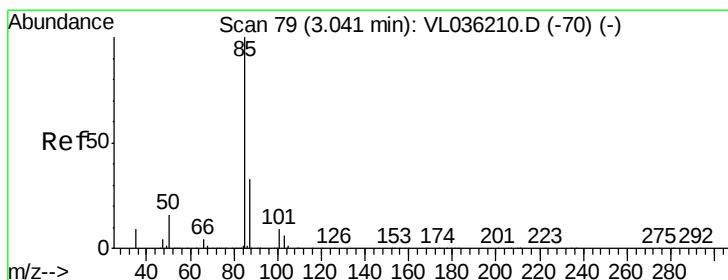
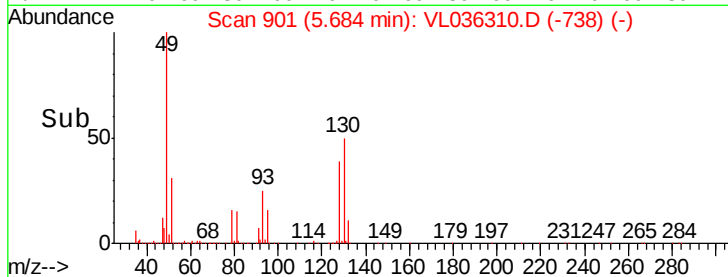
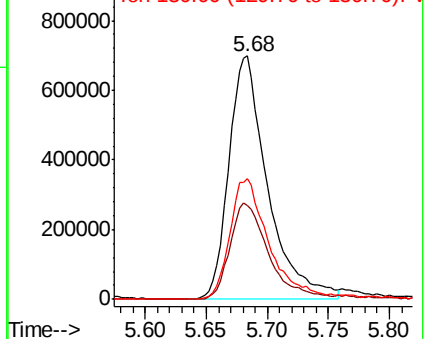
49 100

128 41.5 20.1 60.2

130 51.6 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: 0.178 ppbv

RT: 3.05 min Scan# 83

Delta R.T. 0.01 min

Lab File: VL036310.D

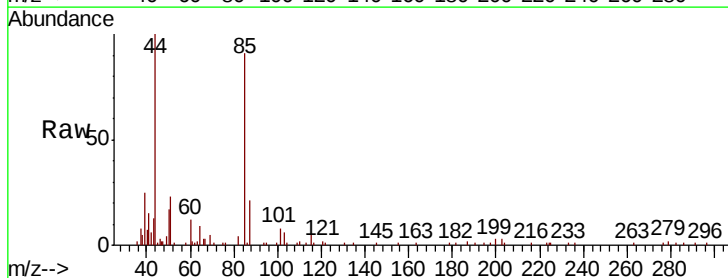
Acq: 4 Feb 2021 1:56

Tgt Ion: 85 Resp: 36770

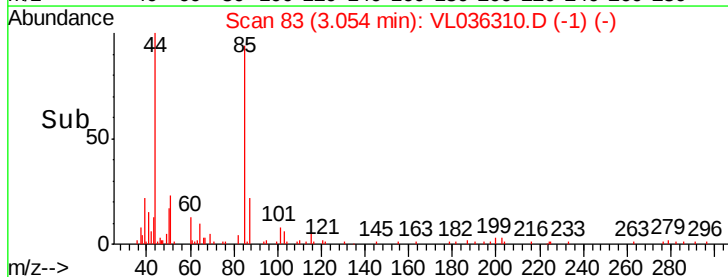
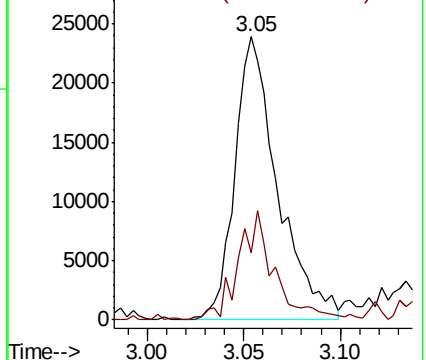
Ion Ratio Lower Upper

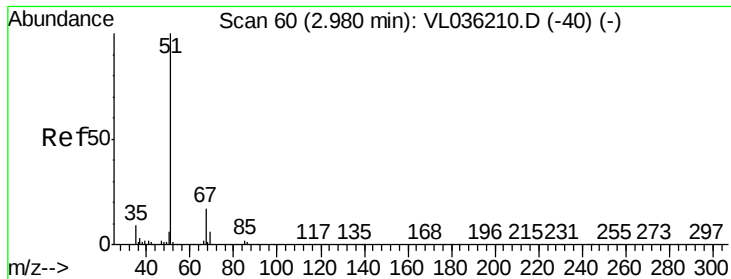
85 100

87 23.5 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: 0.255 ppbv

RT: 2.99 min Scan# 63

Delta R.T. 0.01 min

Lab File: VL036310.D

Acq: 4 Feb 2021 1:56

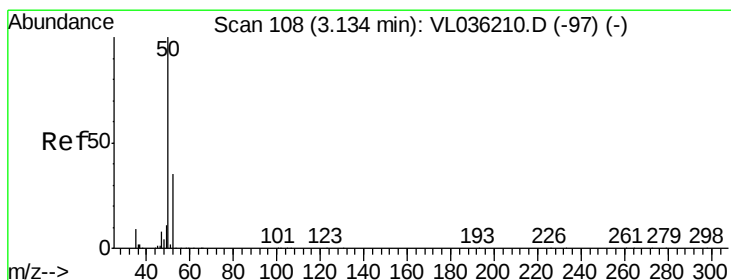
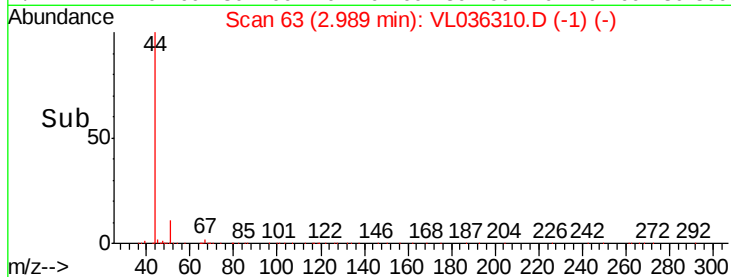
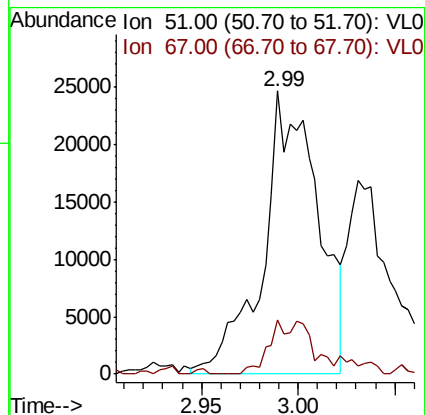
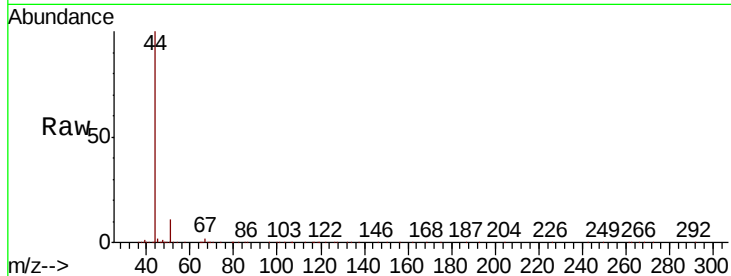
Instrument :  
MSVOA\_L  
ClientSampleId :

Tot Ion: 51 Resp: 48354

Ion Ratio Lower Upper

51 100

67 18.8 14.0 21.0



#4

Chloromethane

Concen: 0.744 ppbv

RT: 3.15 min Scan# 113

Delta R.T. 0.02 min

Lab File: VL036310.D

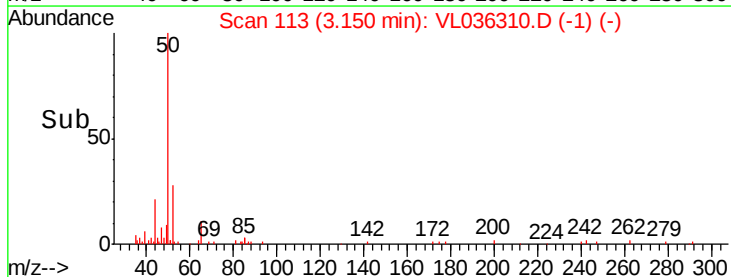
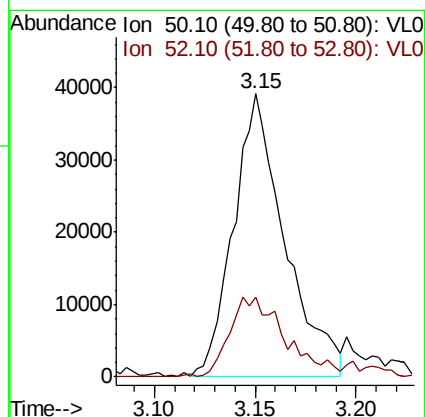
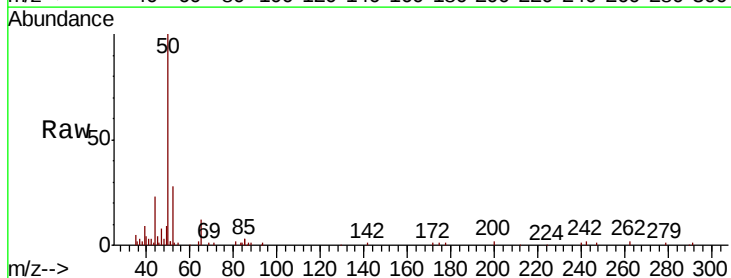
Acq: 4 Feb 2021 1:56

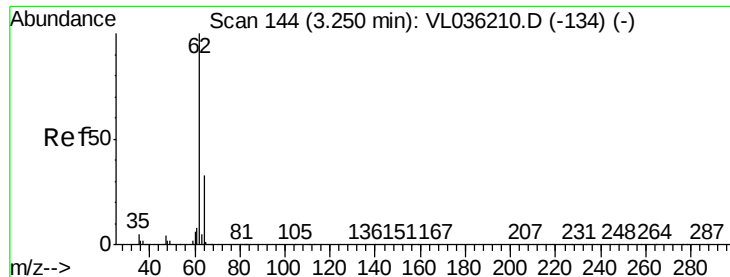
Tgt Ion: 50 Resp: 69732

Ion Ratio Lower Upper

50 100

52 27.6 27.8 41.8#





#5

Vinyl Chloride

Concen: 0.166 ppbv

RT: 3.27 min Scan# 149

Delta R.T. 0.02 min

Lab File: VL036310.D

Acq: 4 Feb 2021 1:56

Instrument :

MSVOA\_L

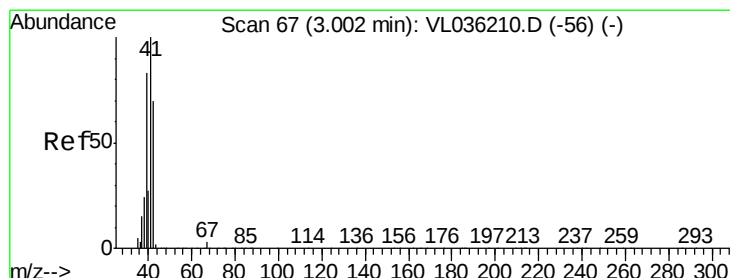
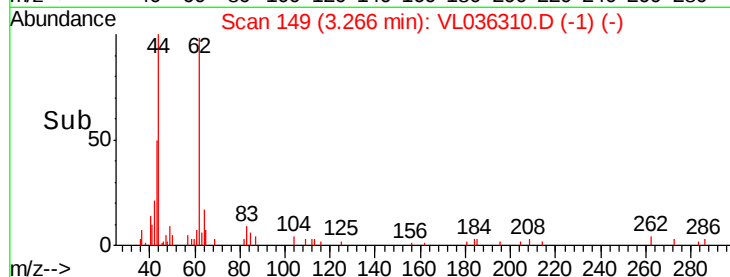
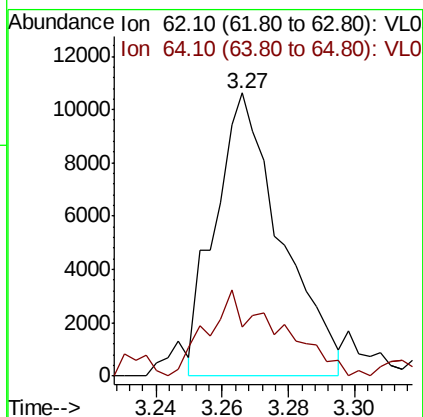
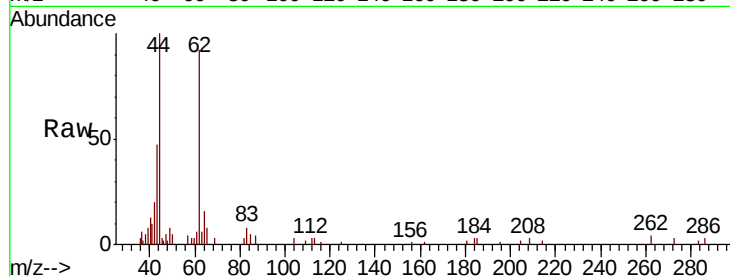
ClientSampleId :

Tot Ion: 62 Resp: 14708

Ion Ratio Lower Upper

62 100

64 12.6 26.2 39.2#



#9

Propene

Concen: 0.039 ppbv

RT: 2.89 min Scan# 31

Delta R.T. -0.12 min

Lab File: VL036310.D

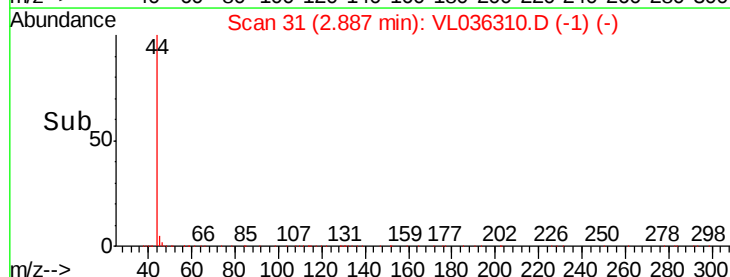
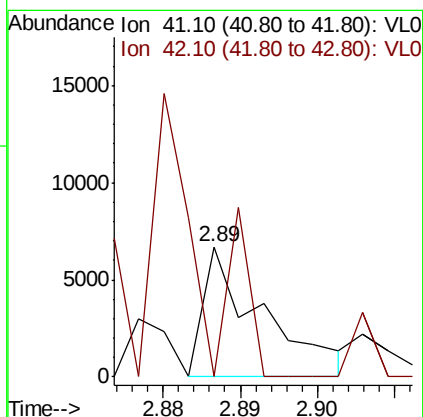
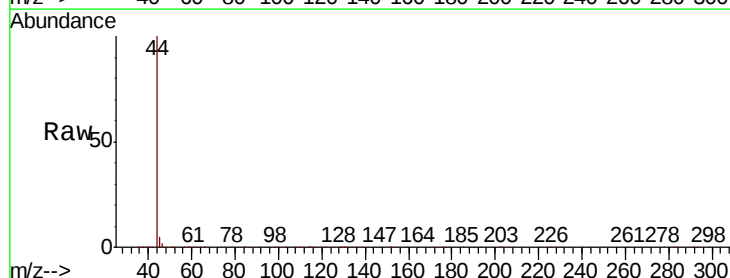
Acq: 4 Feb 2021 1:56

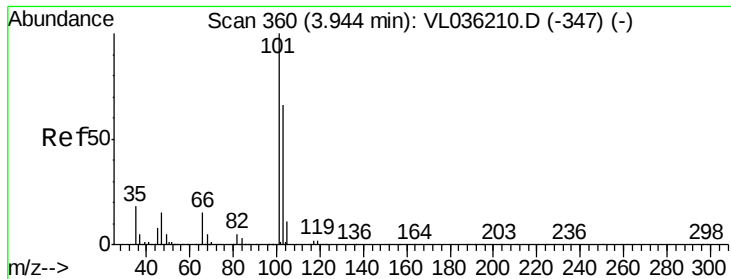
Tgt Ion: 41 Resp: 3558

Ion Ratio Lower Upper

41 100

42 65.4 57.1 85.7

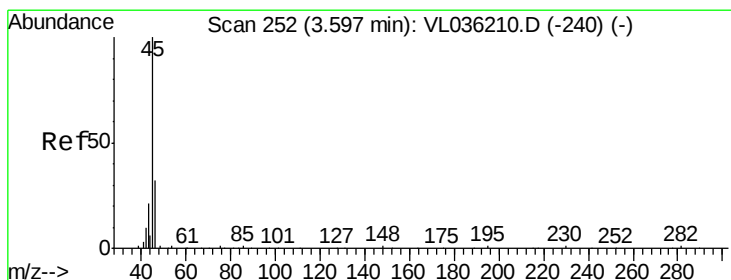
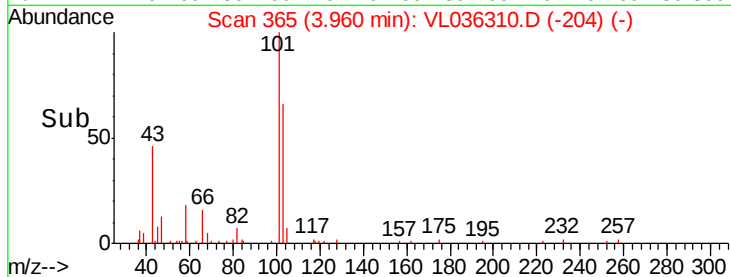
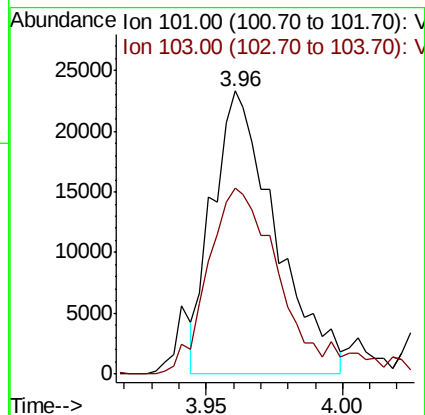
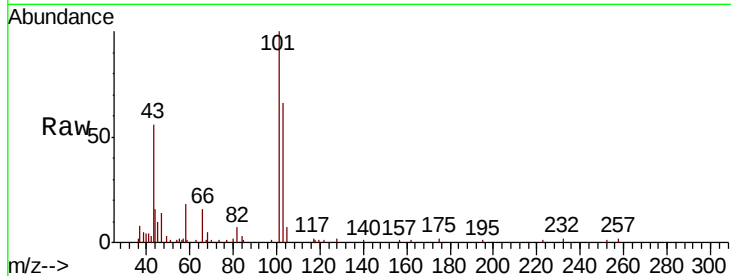




#11  
 Trichlorofluoromethane  
 Concen: 0.178 ppbv  
 RT: 3.96 min Scan# 365  
 Delta R.T. 0.02 min  
 Lab File: VL036310.D  
 Acq: 4 Feb 2021 1:56

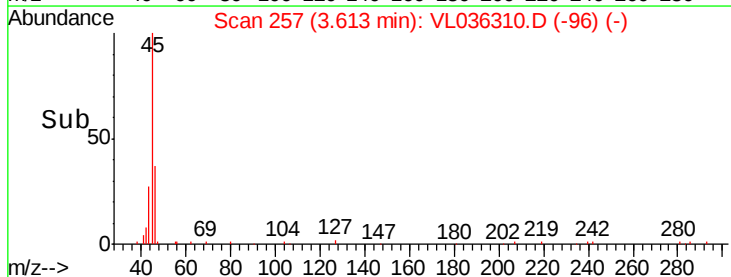
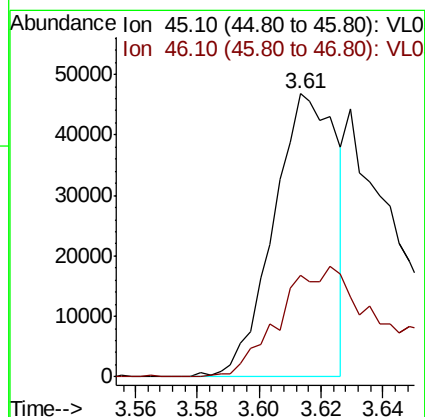
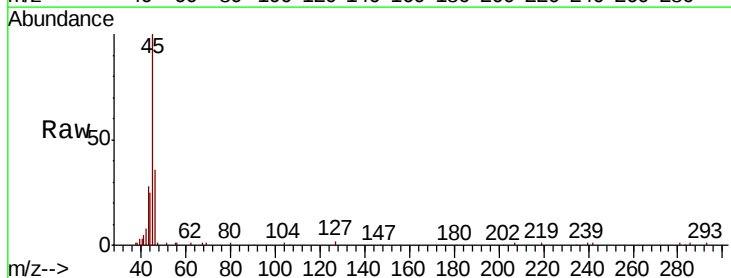
Instrument :  
 MSVOA\_L  
 ClientSampled :

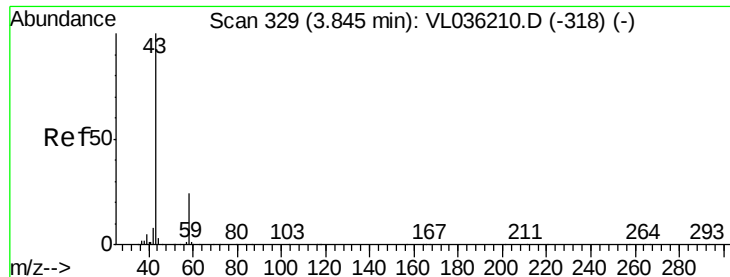
Tot Ion:101 Resp: 37445  
 Ion Ratio Lower Upper  
 101 100  
 103 64.7 52.6 78.8



#13  
 Ethanol  
 Concen: 4.656 ppbv  
 RT: 3.61 min Scan# 257  
 Delta R.T. 0.02 min  
 Lab File: VL036310.D  
 Acq: 4 Feb 2021 1:56

Tgt Ion: 45 Resp: 66037  
 Ion Ratio Lower Upper  
 45 100  
 46 0.0 19.2 77.0#

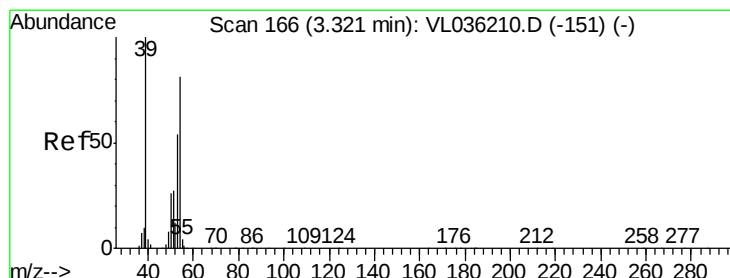
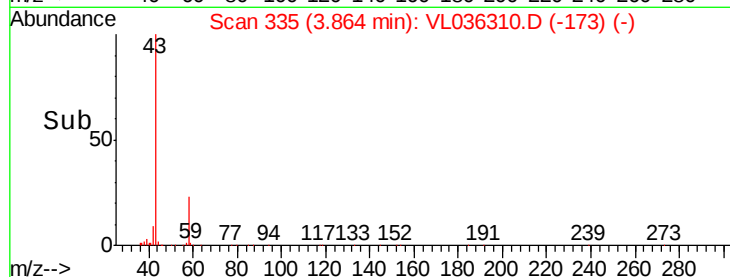
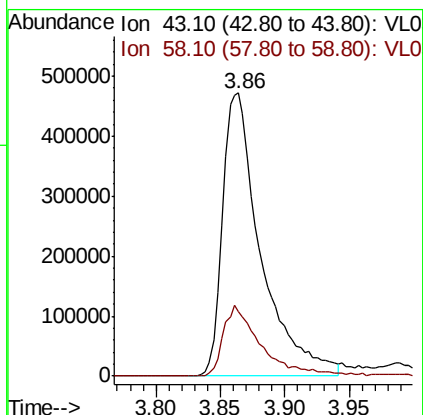
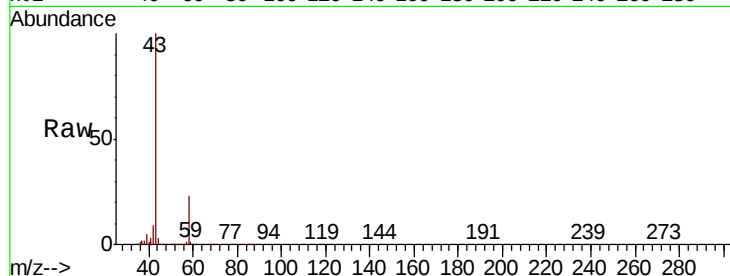




#15  
Acetone  
Concen: 5.122 ppbv  
RT: 3.86 min Scan# 335  
Delta R.T. 0.02 min  
Lab File: VL036310.D  
Acq: 4 Feb 2021 1:56

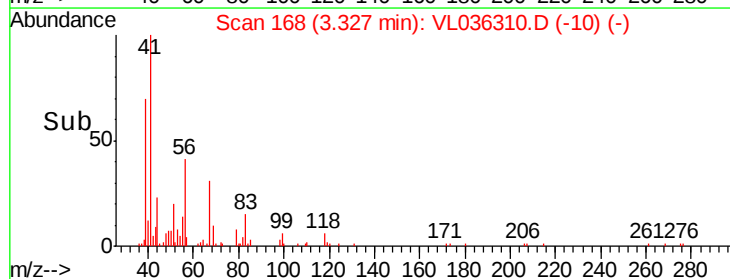
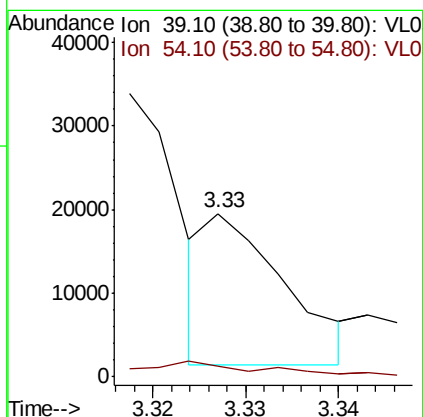
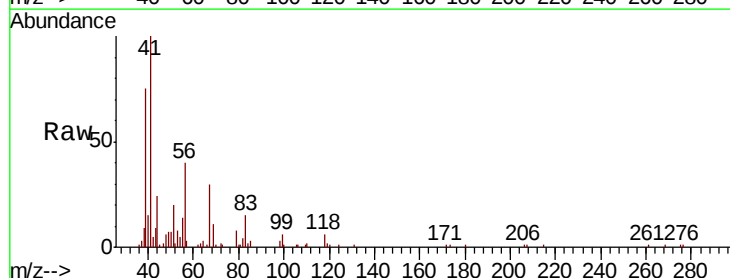
Instrument :  
MSVOA\_L  
ClientSampleId :

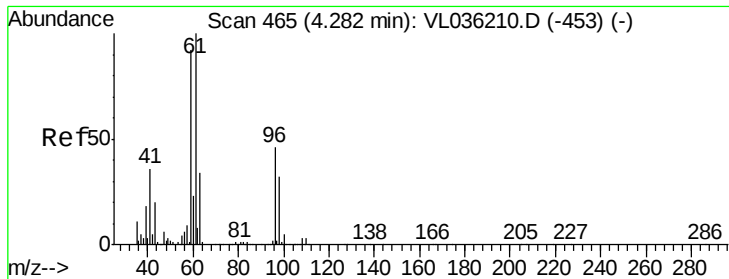
Tot Ion: 43 Resp: 968809  
Ion Ratio Lower Upper  
43 100  
58 25.2 20.9 31.3



#16  
1,3-Butadiene  
Concen: 0.116 ppbv  
RT: 3.33 min Scan# 168  
Delta R.T. 0.01 min  
Lab File: VL036310.D  
Acq: 4 Feb 2021 1:56

Tgt Ion: 39 Resp: 10675  
Ion Ratio Lower Upper  
39 100  
54 40.9 62.5 93.7#





#18

1,1-Dichloroethene

Concen: 0.054 ppbv

RT: 4.30 min Scan# 471

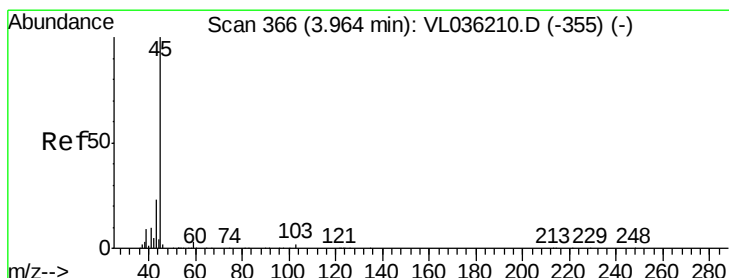
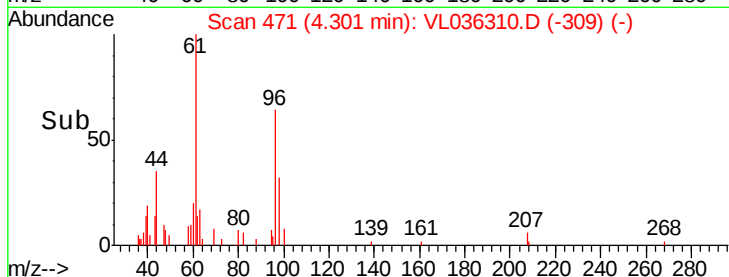
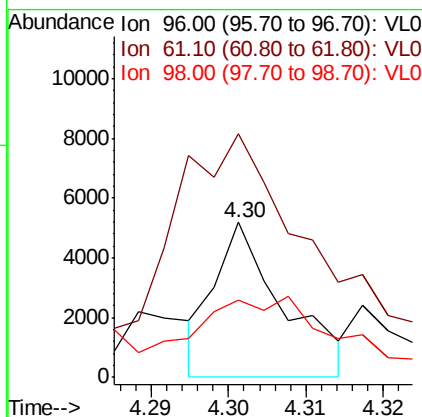
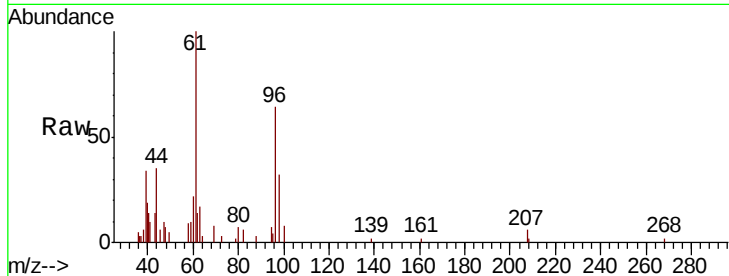
Delta R.T. 0.02 min

Lab File: VL036310.D

Acq: 4 Feb 2021 1:56

Instrument :  
MSVOA\_L  
ClientSampled :

Tot Ion: 96 Resp: 3210  
Ion Ratio Lower Upper  
96 100  
61 125.4 173.4 260.0#  
98 32.2 54.9 82.3#



#19

Isopropyl Alcohol

Concen: 0.262 ppbv

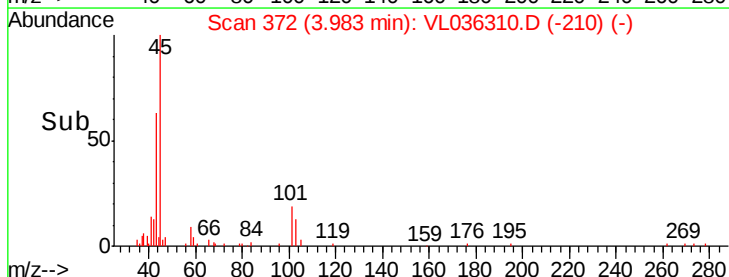
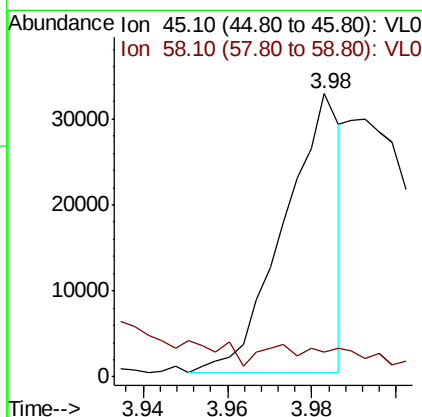
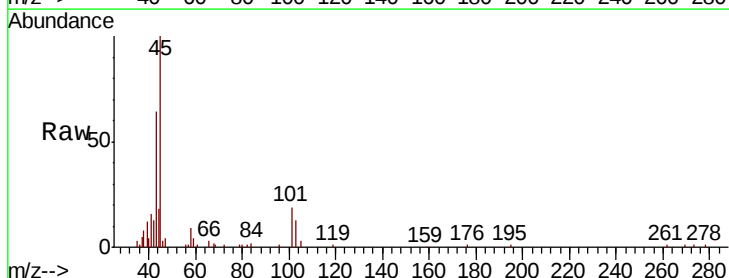
RT: 3.98 min Scan# 372

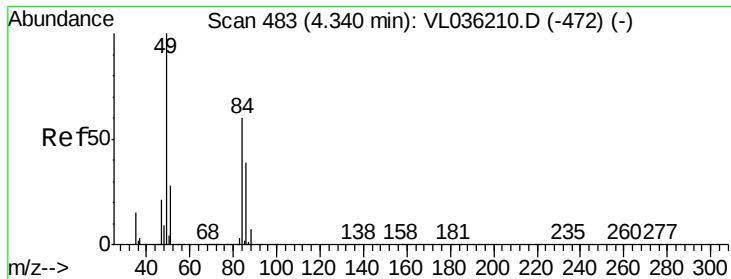
Delta R.T. 0.02 min

Lab File: VL036310.D

Acq: 4 Feb 2021 1:56

Tgt Ion: 45 Resp: 29886  
Ion Ratio Lower Upper  
45 100  
58 0.0 1.9 2.9#

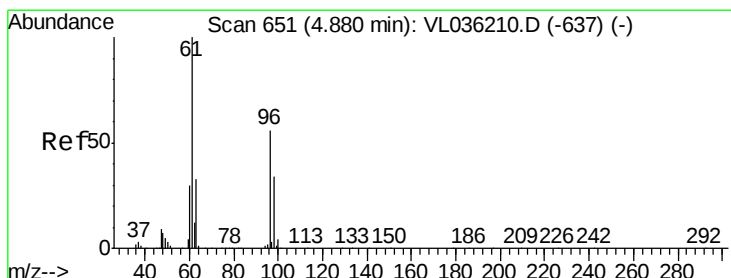
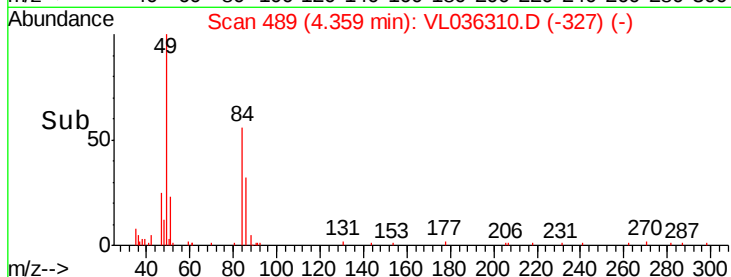
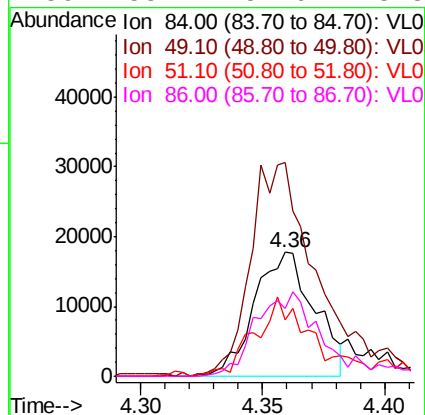
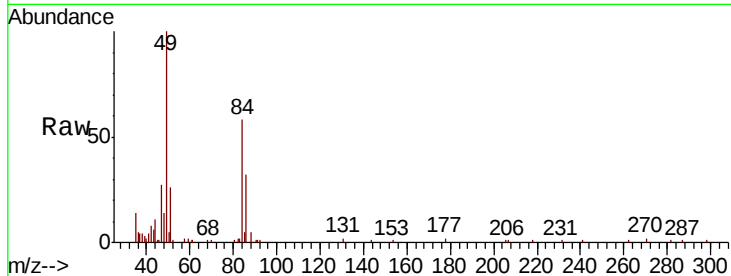




#20  
Methylene Chloride  
Concen: 0.500 ppbv  
RT: 4.36 min Scan# 489  
Delta R.T. 0.02 min  
Lab File: VL036310.D  
Acq: 4 Feb 2021 1:56

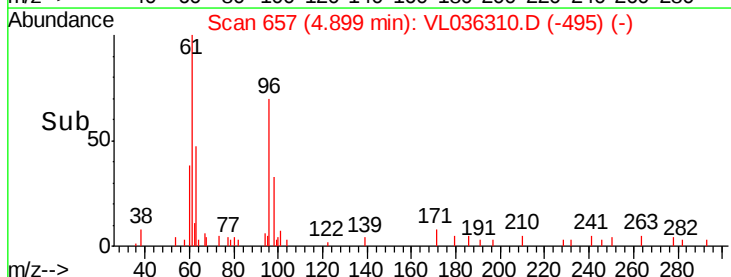
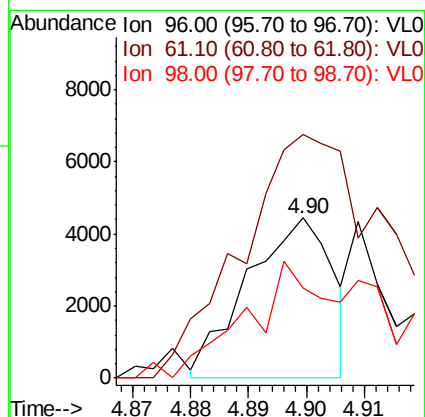
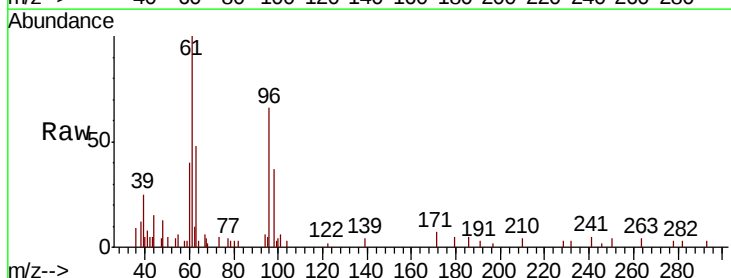
Instrument :  
MSVOA\_L  
ClientSampleId :

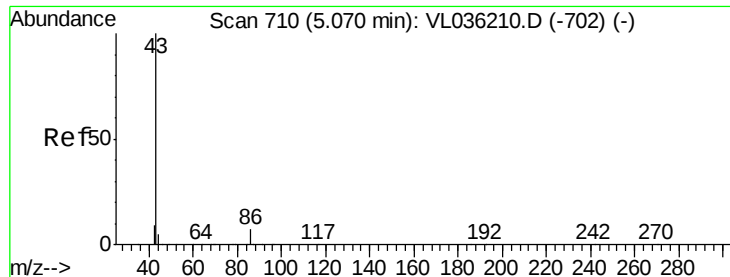
|          |       |       |       |
|----------|-------|-------|-------|
| Tot Ion: | 84    | Resp: | 30195 |
| Ion      | Ratio | Lower | Upper |
| 84       | 100   |       |       |
| 49       | 172.8 | 134.1 | 201.1 |
| 51       | 44.2  | 37.4  | 56.0  |
| 86       | 55.2  | 52.6  | 78.8  |



#22  
trans-1,2-Dichloroethene  
Concen: 0.083 ppbv  
RT: 4.90 min Scan# 657  
Delta R.T. 0.02 min  
Lab File: VL036310.D  
Acq: 4 Feb 2021 1:56

|          |       |       |        |
|----------|-------|-------|--------|
| Tgt Ion: | 96    | Resp: | 4525   |
| Ion      | Ratio | Lower | Upper  |
| 96       | 100   |       |        |
| 61       | 121.2 | 142.7 | 214.1# |
| 98       | 44.1  | 48.7  | 73.1#  |





#23

Vinyl Acetate

Concen: 0.165 ppbv

RT: 5.08 min Scan# 713

Delta R.T. 0.01 min

Lab File: VL036310.D

Acq: 4 Feb 2021 1:56

Instrument :

MSVOA\_L

ClientSampleId :

Tot Ion: 43 Resp: 37778

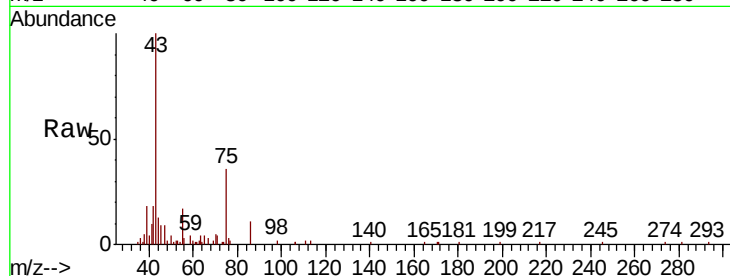
Ion Ratio Lower Upper

43 100

86 10.3 4.9 7.3#

42 14.7 7.8 11.6#

44 5.8 3.7 5.5#

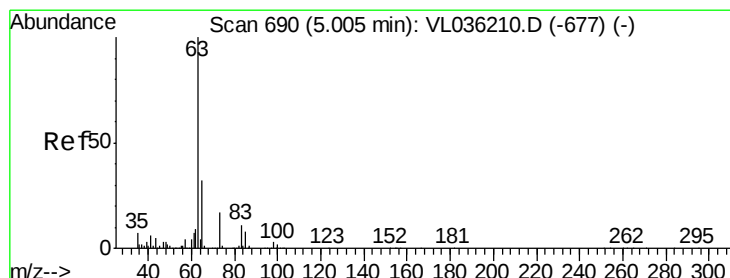
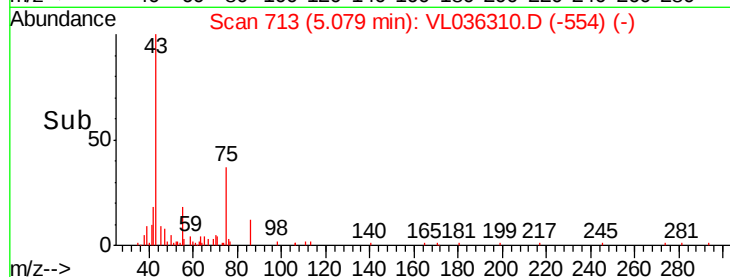
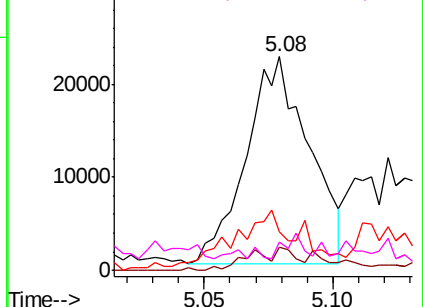


Abundance Ion 43.10 (42.80 to 43.80): VL0

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



#24

1,1-Dichloroethane

Concen: 0.067 ppbv

RT: 5.03 min Scan# 697

Delta R.T. 0.02 min

Lab File: VL036310.D

Acq: 4 Feb 2021 1:56

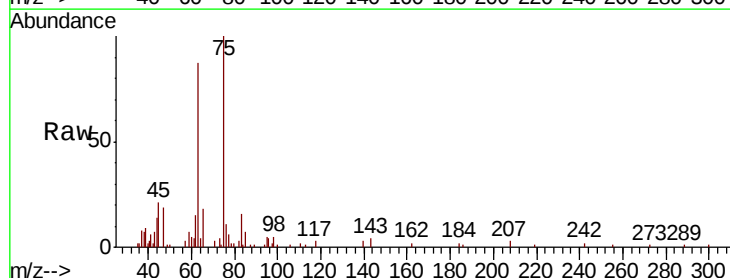
Tgt Ion: 63 Resp: 11048

Ion Ratio Lower Upper

63 100

98 2.8 1.7 5.1

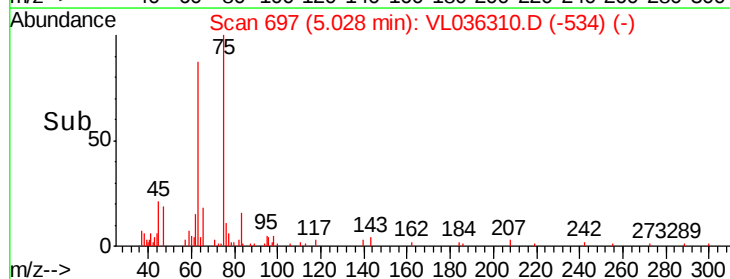
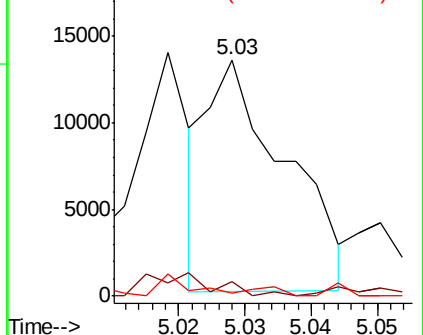
100 0.0 1.1 3.1#

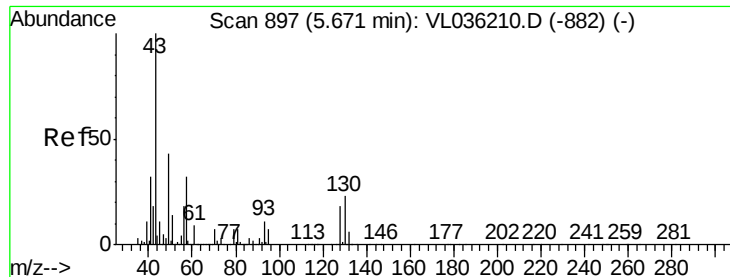


Abundance Ion 63.10 (62.80 to 63.80): VL0

Ion 98.00 (97.70 to 98.70): VL0

Ion 100.00 (99.70 to 100.70): VL0

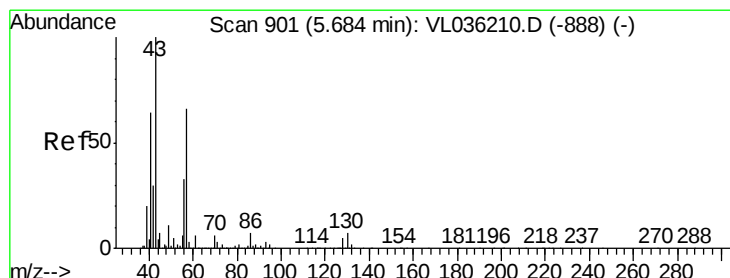
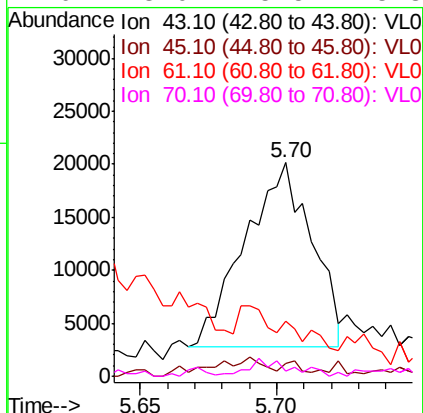
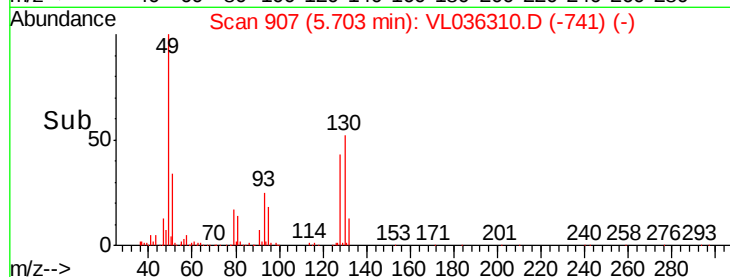
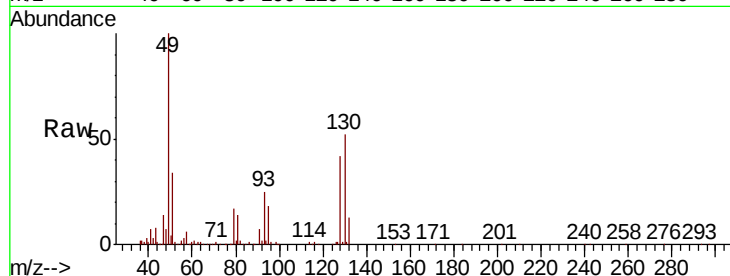




#25  
Ethyl Acetate  
Concen: 0.078 ppbv  
RT: 5.70 min Scan# 907  
Delta R.T. 0.03 min  
Lab File: VL036310.D  
Acq: 4 Feb 2021 1:56

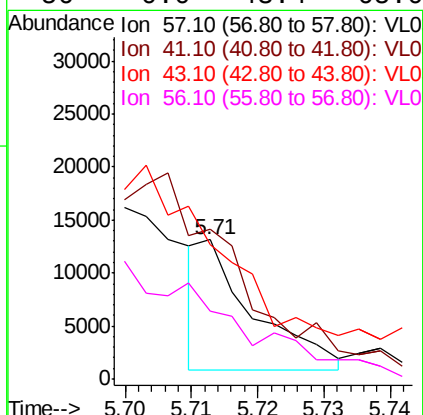
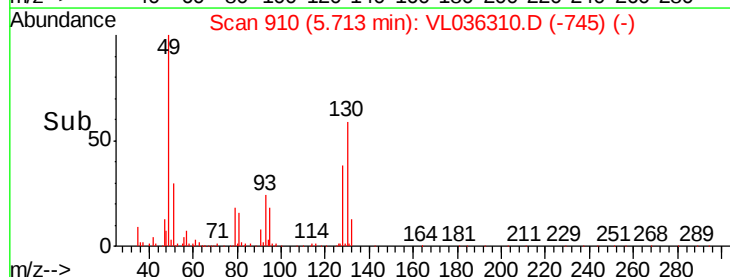
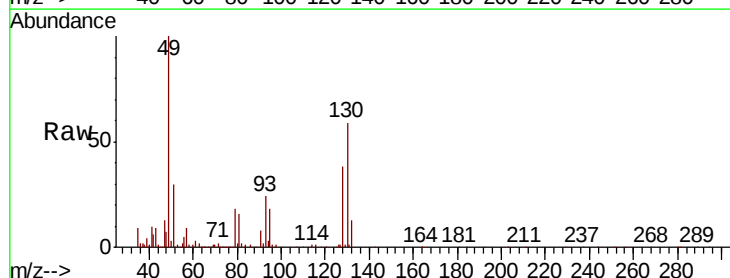
Instrument :  
MSVOA\_L  
ClientSampleId :

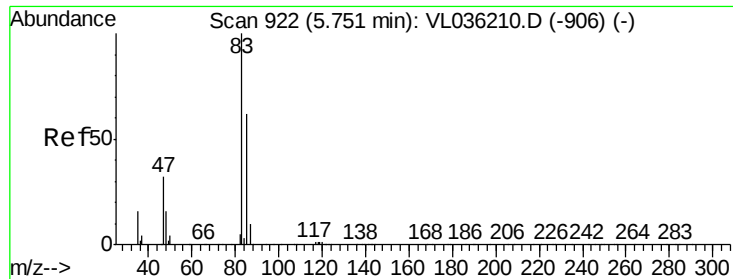
|          |       |       |       |
|----------|-------|-------|-------|
| Tot Ion: | 43    | Resp: | 29675 |
| Ion      | Ratio | Lower | Upper |
| 43       | 100   |       |       |
| 45       | 10.2  | 8.3   | 12.5  |
| 61       | 0.0   | 7.4   | 11.2# |
| 70       | 8.0   | 5.5   | 8.3   |



#26  
Hexane  
Concen: 0.043 ppbv  
RT: 5.71 min Scan# 910  
Delta R.T. 0.03 min  
Lab File: VL036310.D  
Acq: 4 Feb 2021 1:56

|          |       |       |        |
|----------|-------|-------|--------|
| Tgt Ion: | 57    | Resp: | 6870   |
| Ion      | Ratio | Lower | Upper  |
| 57       | 100   |       |        |
| 41       | 580.2 | 83.0  | 124.6# |
| 43       | 0.0   | 202.4 | 303.6# |
| 56       | 0.0   | 43.4  | 65.0#  |

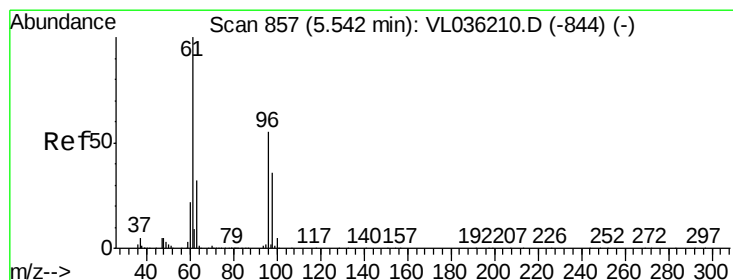
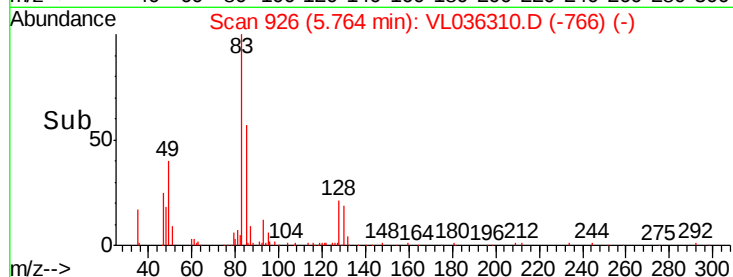
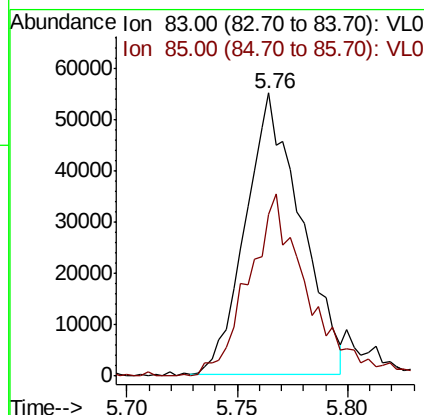
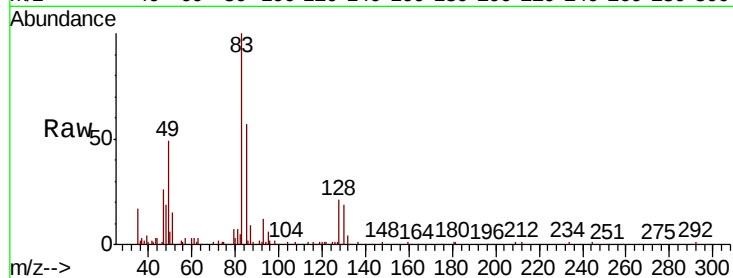




#29  
Chloroform  
Concen: 0.421 ppbv  
RT: 5.76 min Scan# 926  
Delta R.T. 0.01 min  
Lab File: VL036310.D  
Acq: 4 Feb 2021 1:56

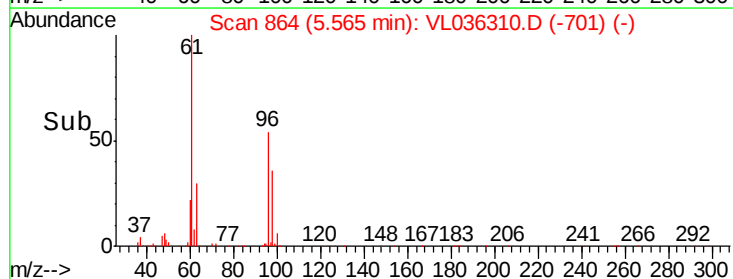
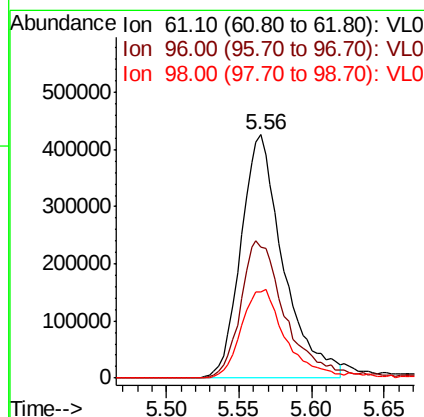
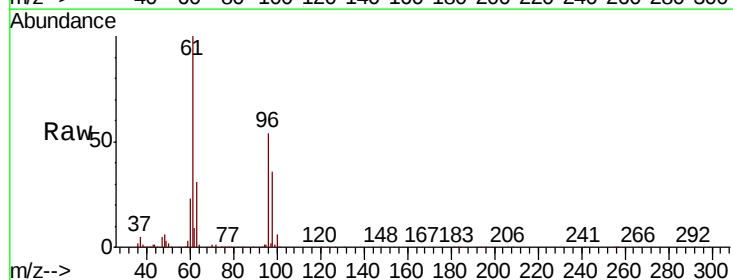
Instrument :  
MSVOA\_L  
ClientSampleId :

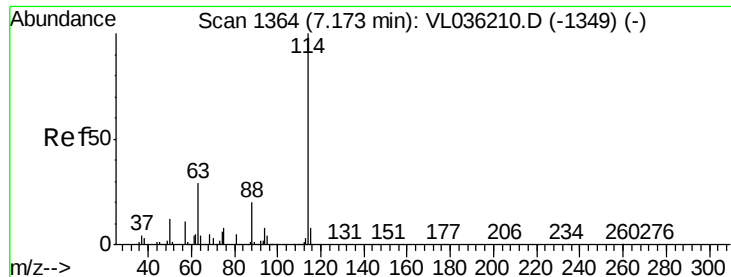
Tot Ion: 83 Resp: 95409  
Ion Ratio Lower Upper  
83 100  
85 57.4 49.3 73.9



#31  
cis-1,2-Dichloroethene  
Concen: 5.714 ppbv  
RT: 5.56 min Scan# 864  
Delta R.T. 0.02 min  
Lab File: VL036310.D  
Acq: 4 Feb 2021 1:56

Tgt Ion: 61 Resp: 863514  
Ion Ratio Lower Upper  
61 100  
96 54.0 44.1 66.1  
98 35.6 28.6 42.8

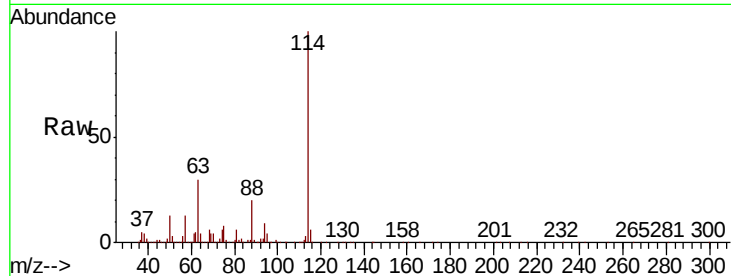




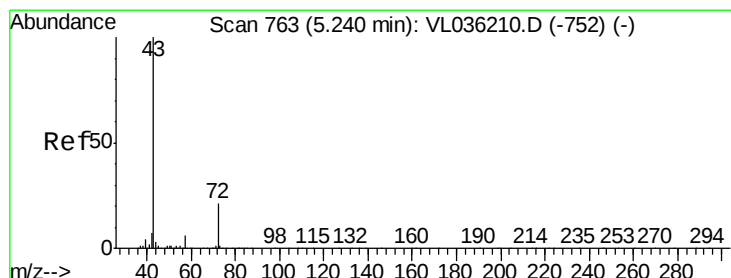
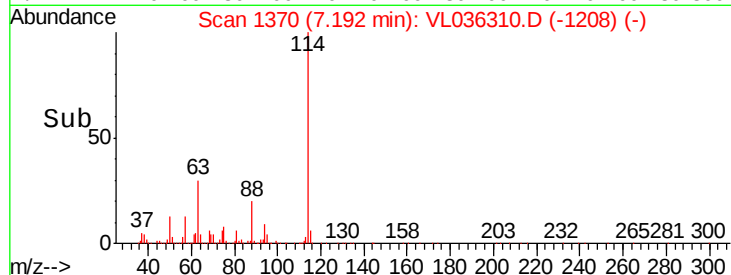
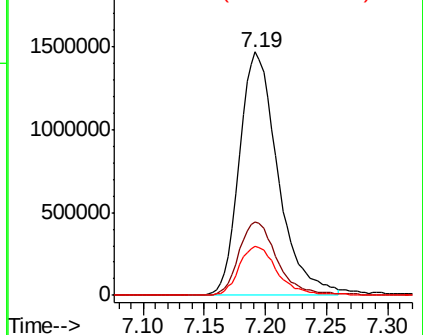
#33  
 1,4-Difluorobenzene  
 Concen: 10.000 ppbv  
 RT: 7.19 min Scan# 1370  
 Delta R.T. 0.02 min  
 Lab File: VL036310.D  
 Acq: 4 Feb 2021 1:56

Instrument :  
 MSVOA\_L  
 ClientSampleId :

Tot Ion:114 Resp: 3207110  
 Ion Ratio Lower Upper  
 114 100  
 63 30.7 24.7 37.1  
 88 20.7 16.6 24.8

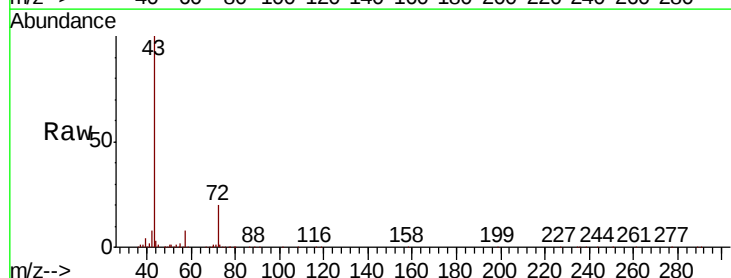


Abundance Ion 114.10 (113.80 to 114.80): VL0  
 Ion 63.10 (62.80 to 63.80): VL0  
 Ion 88.10 (87.80 to 88.80): VL0

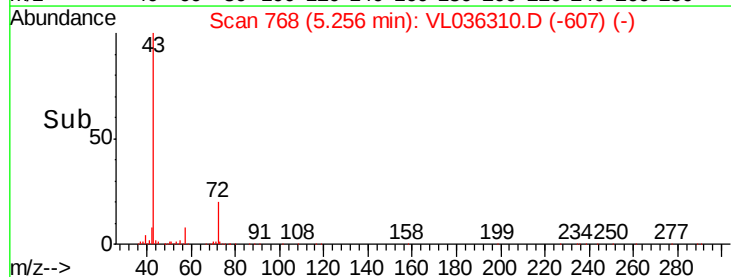
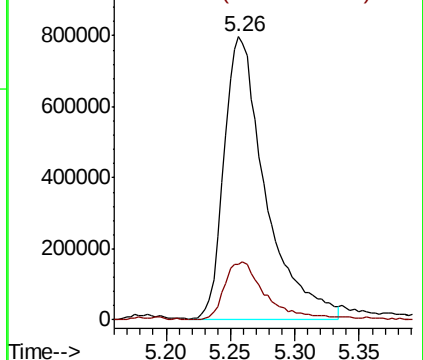


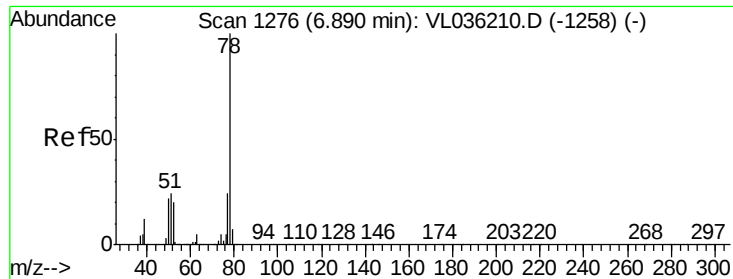
#34  
 2-Butanone  
 Concen: 7.494 ppbv  
 RT: 5.26 min Scan# 768  
 Delta R.T. 0.02 min  
 Lab File: VL036310.D  
 Acq: 4 Feb 2021 1:56

Tgt Ion: 43 Resp: 1770005  
 Ion Ratio Lower Upper  
 43 100  
 72 21.0 16.1 24.1



Abundance Ion 43.10 (42.80 to 43.80): VL0  
 Ion 72.10 (71.80 to 72.80): VL0

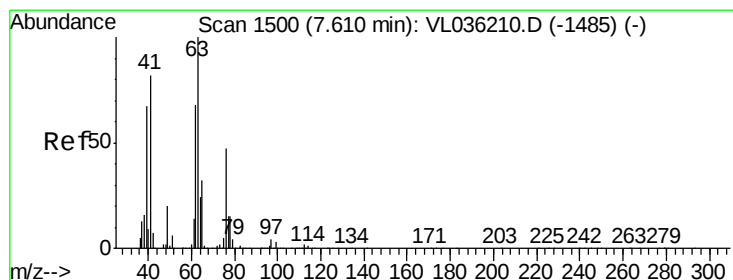
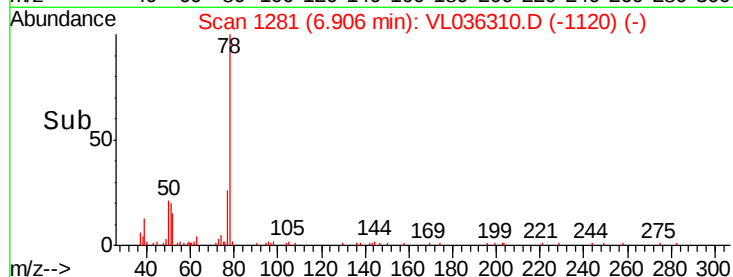
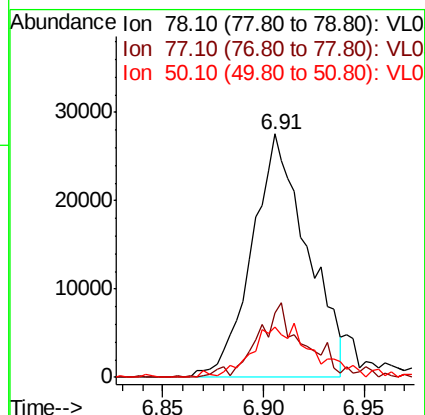
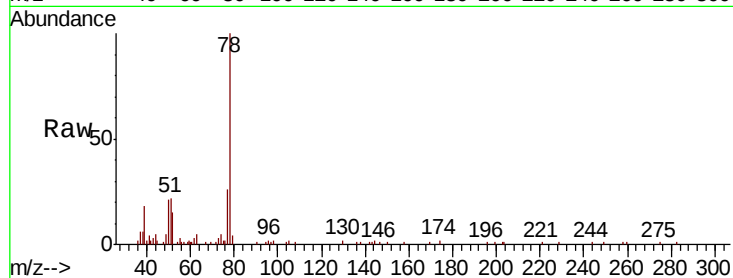




#36  
Benzene  
Concen: 0.178 ppbv  
RT: 6.91 min Scan# 1281  
Delta R.T. 0.02 min  
Lab File: VL036310.D  
Acq: 4 Feb 2021 1:56

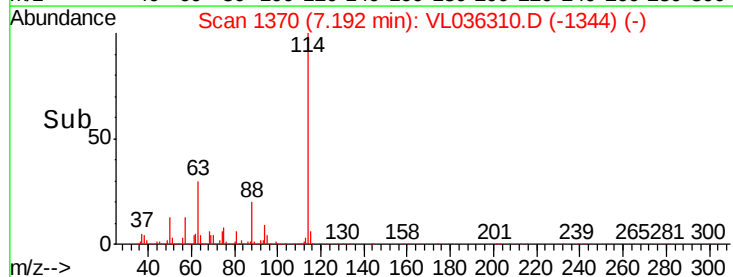
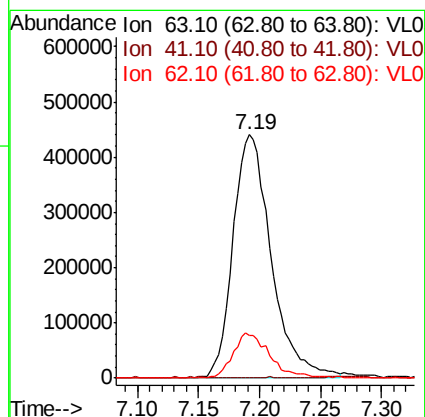
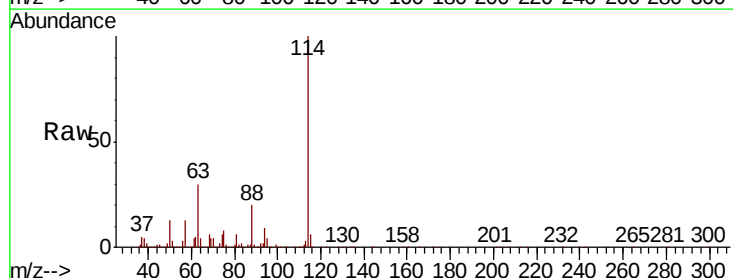
Instrument :  
MSVOA\_L  
ClientSampleId :

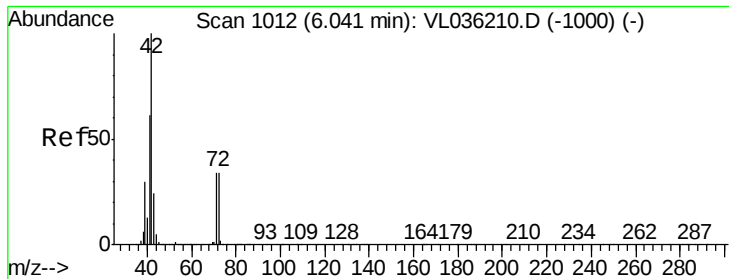
Tot Ion: 78 Resp: 52364  
Ion Ratio Lower Upper  
78 100  
77 25.5 19.4 29.0  
50 20.9 17.4 26.2



#39  
1,2-Dichloropropane  
Concen: 8.060 ppbv  
RT: 7.19 min Scan# 1370  
Delta R.T. -0.42 min  
Lab File: VL036310.D  
Acq: 4 Feb 2021 1:56

Tgt Ion: 63 Resp: 961692  
Ion Ratio Lower Upper  
63 100  
41 0.0 66.1 99.1#  
62 17.7 54.8 82.2#





#41

Tetrahydrofuran

Concen: 1.551 ppbv

RT: 6.07 min Scan# 1022

Delta R.T. 0.03 min

Lab File: VL036310.D

Acq: 4 Feb 2021 1:56

Instrument :

MSVOA\_L

ClientSampleId :

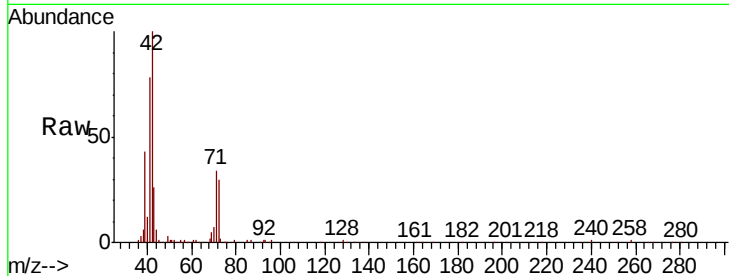
Tot Ion: 42 Resp: 211662

Ion Ratio Lower Upper

42 100

72 37.9 29.5 44.3

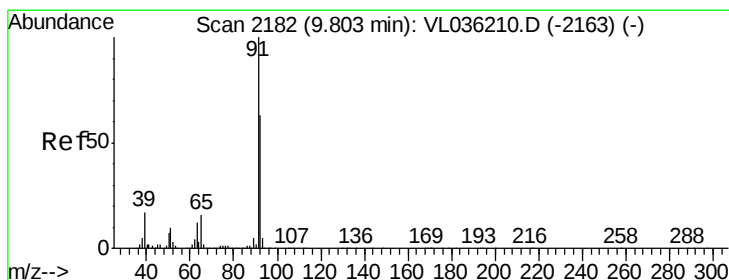
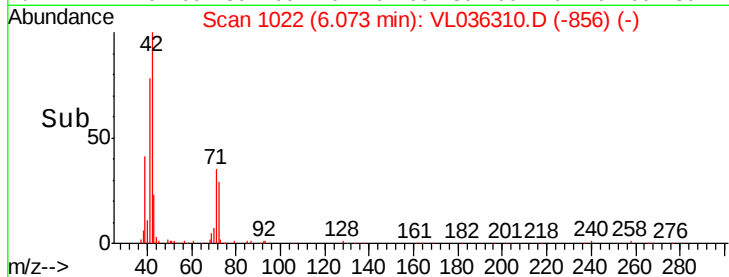
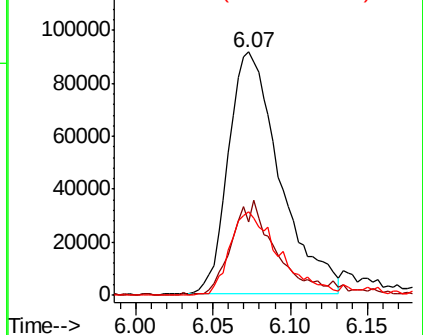
71 35.8 29.1 43.7



Abundance Ion 42.10 (41.80 to 42.80): VL0

Ion 72.10 (71.80 to 72.80): VL0

Ion 71.10 (70.80 to 71.80): VL0



#53

Toluene

Concen: 0.728 ppbv

RT: 9.83 min Scan# 2190

Delta R.T. 0.03 min

Lab File: VL036310.D

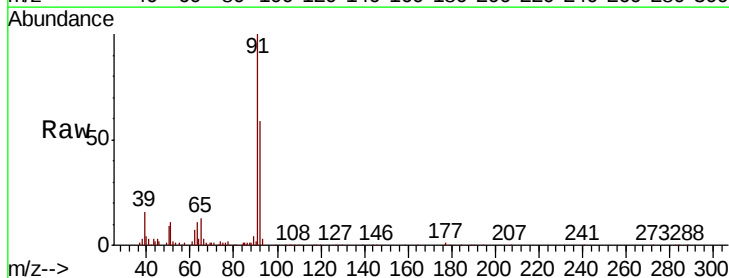
Acq: 4 Feb 2021 1:56

Tgt Ion: 91 Resp: 239450

Ion Ratio Lower Upper

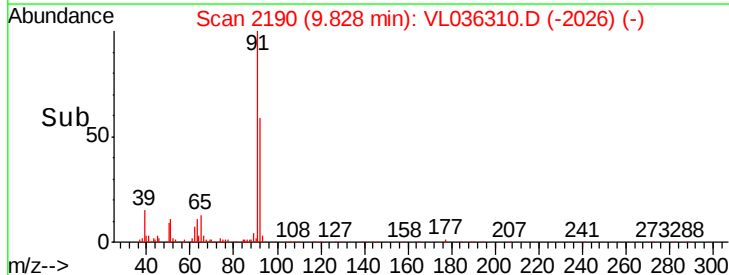
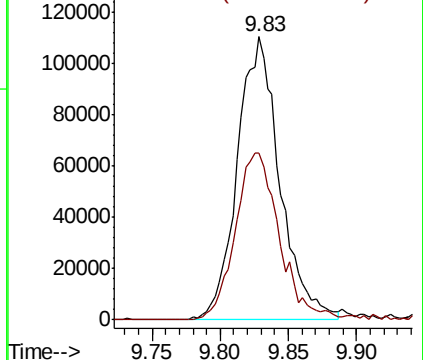
91 100

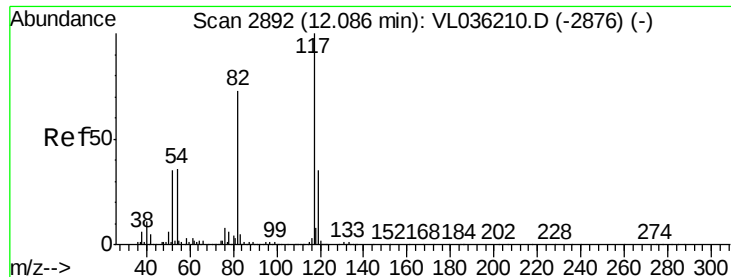
92 62.4 48.5 72.7



Abundance Ion 91.10 (90.80 to 91.80): VL0

Ion 92.10 (91.80 to 92.80): VL0

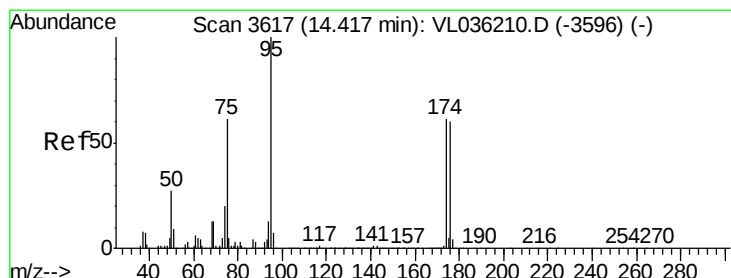
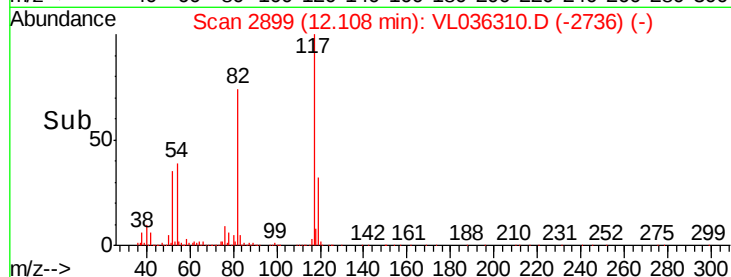
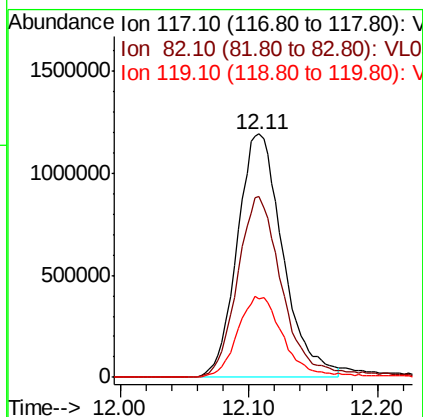
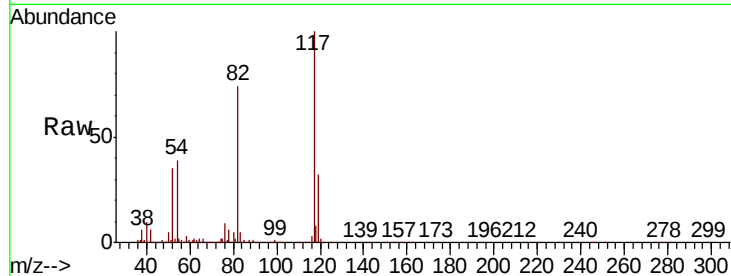




#55  
Chlorobenzene-d5  
Concen: 10.000 ppbv  
RT: 12.11 min Scan# 2899  
Delta R.T. 0.02 min  
Lab File: VL036310.D  
Acq: 4 Feb 2021 1:56

Instrument :  
MSVOA\_L  
ClientSampleId :

Tot Ion:117 Resp: 2930752  
Ion Ratio Lower Upper  
117 100  
82 75.8 59.7 89.5  
119 34.3 28.6 43.0



#68  
1-Bromo-4-Fluorobenzene  
Concen: 10.096 ppbv  
RT: 14.44 min Scan# 3623  
Delta R.T. 0.02 min  
Lab File: VL036310.D  
Acq: 4 Feb 2021 1:56

Tgt Ion: 95 Resp: 2449244  
Ion Ratio Lower Upper  
95 100  
174 63.5 49.4 74.0  
175 4.8 3.8 5.8

