

Data Path : Z:\VOASRV\HPCHEM1\MSVOA L\DATA\VL042821\  
 Data File : VL036880.D  
 Acq On : 28 Apr 2021 15:23  
 Operator : SY/AP  
 Sample : M2201-01DUP  
 Misc : 400mL/MSVOA L  
 ALS Vial : 1 Sample Multiplier: 1

Instrument :  
 MSVOA\_L  
 ClientSampleId :

Quant Time: Apr 29 03:09:34 2021  
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA L\METHODS\VL042721AIR.M  
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA\_LTue Apr 27 16:56:35 2021  
 QLast Update : Tue Apr 27 16:56:35 2021  
 Response via : Initial Calibration

| Internal Standards      | R.T.  | QIon | Response | Conc  | Units | Dev(Min) |
|-------------------------|-------|------|----------|-------|-------|----------|
| 1) Bromochloromethane   | 5.68  | 49   | 1503018  | 10.00 | ppbv  | 0.02     |
| 33) 1,4-Difluorobenzene | 7.19  | 114  | 3482615  | 10.00 | ppbv  | 0.02     |
| 55) Chlorobenzene-d5    | 12.11 | 117  | 3084020  | 10.00 | ppbv  | 0.03     |

|                             |        |       |          |          |      |        |
|-----------------------------|--------|-------|----------|----------|------|--------|
| System Monitoring Compounds |        |       |          |          |      |        |
| 68) 1-Bromo-4-Fluorobenzene | 14.44  | 95    | 2387369  | 9.64     | ppbv | 0.03   |
| Spiked Amount               | 10.000 | Range | 65 - 135 | Recovery | =    | 96.40% |

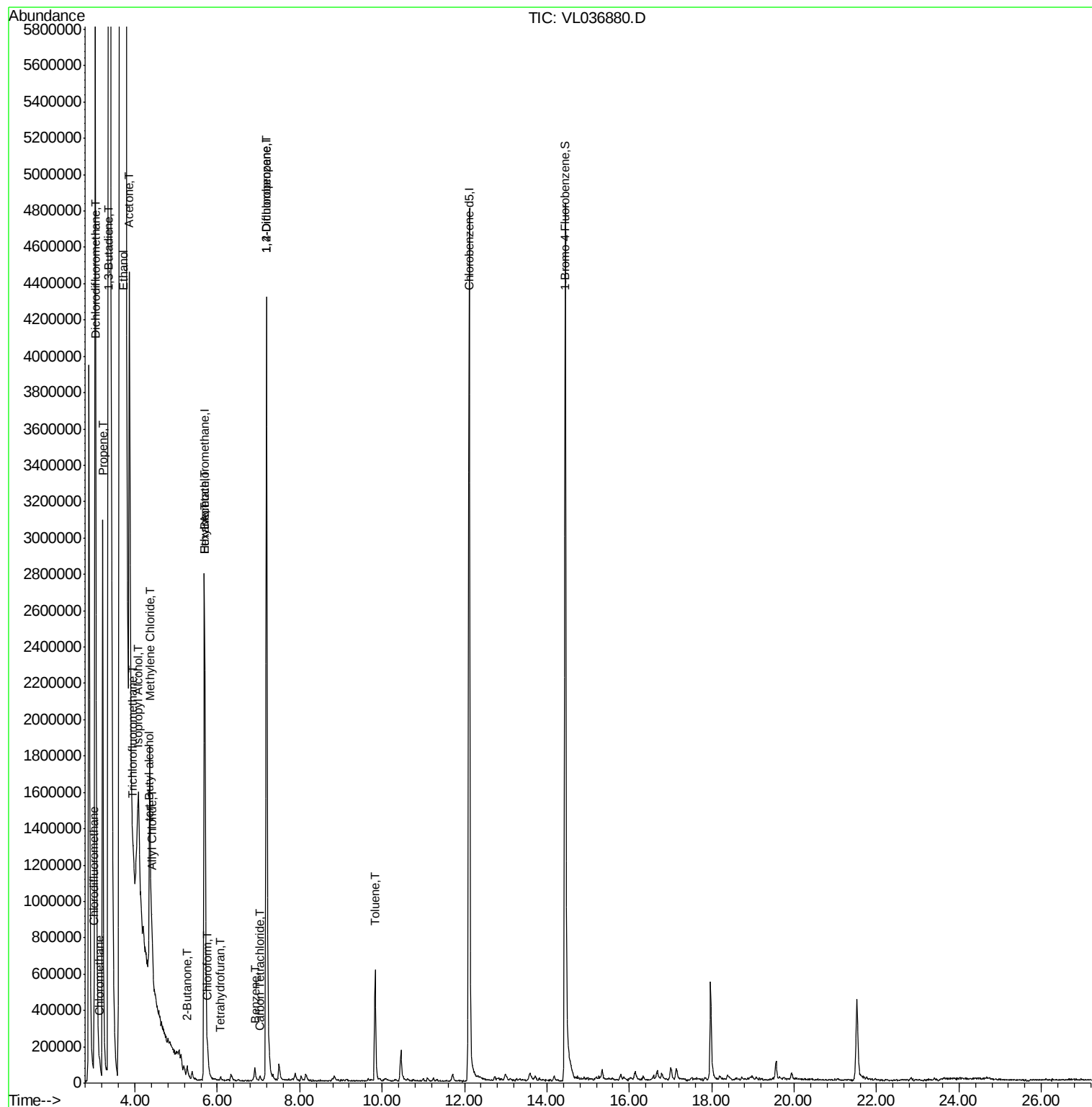
| Target Compounds           |      |     |          |          | Ovalue    |
|----------------------------|------|-----|----------|----------|-----------|
| 2) Dichlorodifluoromethane | 3.06 | 85  | 44305    | 0.187    | ppbv 97   |
| 3) Chlorodifluoromethane   | 3.00 | 51  | 85321    | 0.312    | ppbv # 87 |
| 4) Chloromethane           | 3.15 | 50  | 51560    | 0.573    | ppbv 97   |
| 9) Propene                 | 3.22 | 41  | 1127648  | 13.517   | ppbv 94   |
| 11) Trichlorofluoromethane | 3.96 | 101 | 40380    | 0.191    | ppbv 95   |
| 13) Ethanol                | 3.72 | 45  | 46860835 | 4404.573 | ppbv # 34 |
| 15) Acetone                | 3.86 | 43  | 4280378  | 30.215   | ppbv 97   |
| 16) 1,3-Butadiene          | 3.37 | 39  | 8887543  | 98.110   | ppbv # 14 |
| 17) tert-Butyl alcohol     | 4.34 | 59  | 11397    | 0.099    | ppbv # 72 |
| 19) Isopropyl Alcohol      | 4.08 | 45  | 1865773  | 26.581   | ppbv # 89 |
| 20) Methylene Chloride     | 4.36 | 84  | 459753   | 6.787    | ppbv 92   |
| 21) Allyl Chloride         | 4.41 | 41  | 56022    | 0.532    | ppbv # 21 |
| 25) Ethyl Acetate          | 5.70 | 43  | 267675   | 0.774    | ppbv # 82 |
| 26) Hexane                 | 5.70 | 57  | 332438   | 2.053    | ppbv # 45 |
| 29) Chloroform             | 5.77 | 83  | 26239    | 0.104    | ppbv 100  |
| 34) 2-Butanone             | 5.27 | 43  | 50490    | 0.331    | ppbv # 54 |
| 35) Carbon Tetrachloride   | 7.03 | 117 | 12340    | 0.052    | ppbv # 80 |
| 36) Benzene                | 6.91 | 78  | 32250    | 0.110    | ppbv # 86 |
| 39) 1,2-Dichloropropane    | 7.19 | 63  | 899851   | 7.655    | ppbv # 24 |
| 41) Tetrahydrofuran        | 6.07 | 42  | 2198     | 0.033    | ppbv # 1  |
| 53) Toluene                | 9.83 | 91  | 477394   | 1.555    | ppbv 98   |

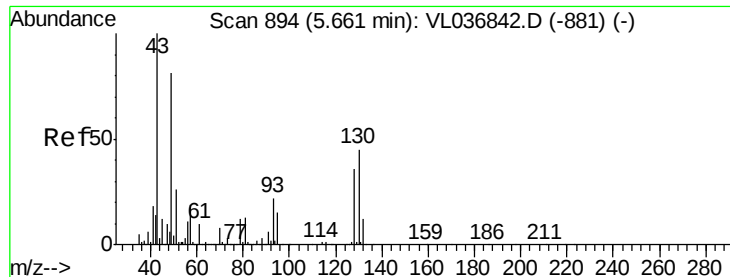
(#) = qualifier out of range (m) = manual integration (+) = signals summed

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QLast Update : Tue Apr 27 16:56:35 2021  
Response via : Initial Calibration





#1

Bromochloromethane

Concen: 10.000 ppbv

RT: 5.68 min Scan# 901

Delta R.T. 0.02 min

Lab File: VL036880.D

Acq: 28 Apr 2021 15:23

Instrument :

MSVOA\_L

ClientSampleId :

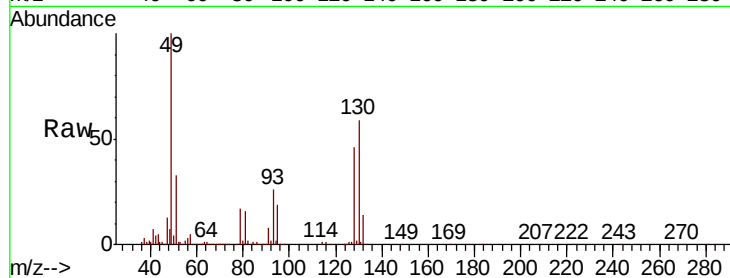
Tot Ion: 49 Resp: 1503018

Ion Ratio Lower Upper

49 100

128 46.6 24.4 73.2

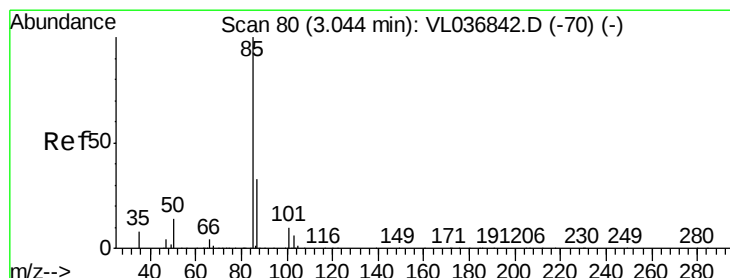
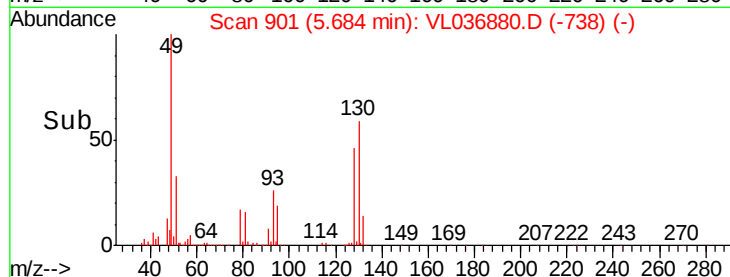
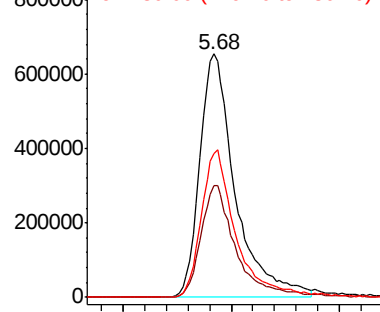
130 59.7 30.3 90.8



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: 0.187 ppbv

RT: 3.06 min Scan# 85

Delta R.T. 0.02 min

Lab File: VL036880.D

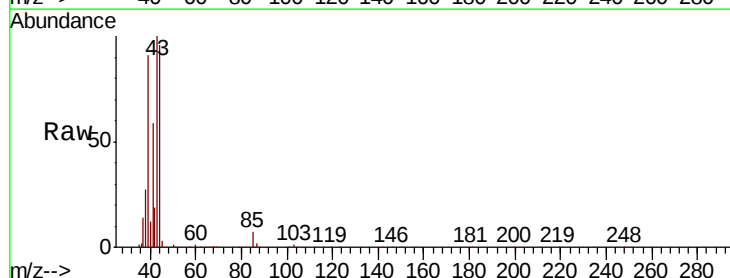
Acq: 28 Apr 2021 15:23

Tgt Ion: 85 Resp: 44305

Ion Ratio Lower Upper

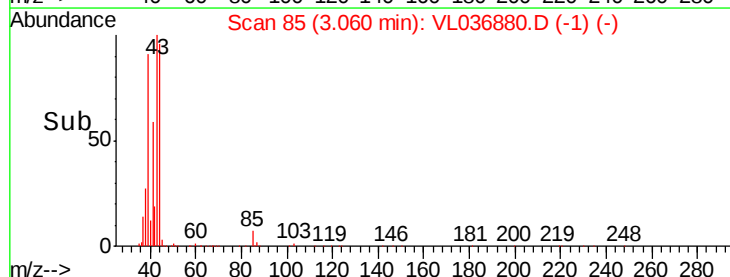
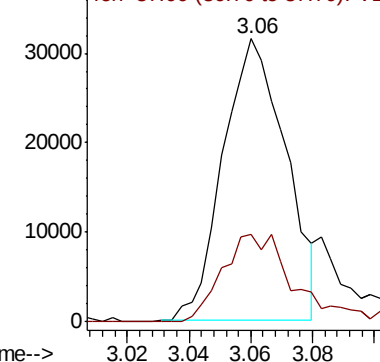
85 100

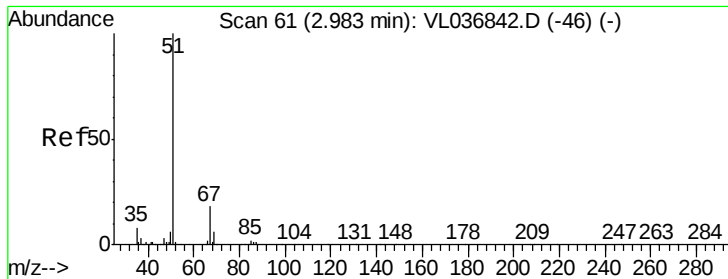
87 31.1 26.2 39.2



Abundance Ion 85.00 (84.70 to 85.70): VL0

Ion 87.00 (86.70 to 87.70): VL0





#3

Chlorodifluoromethane

Concen: 0.312 ppbv

RT: 3.00 min Scan# 67

Delta R.T. 0.02 min

Lab File: VL036880.D

Acq: 28 Apr 2021 15:23

Instrument :

MSVOA\_L

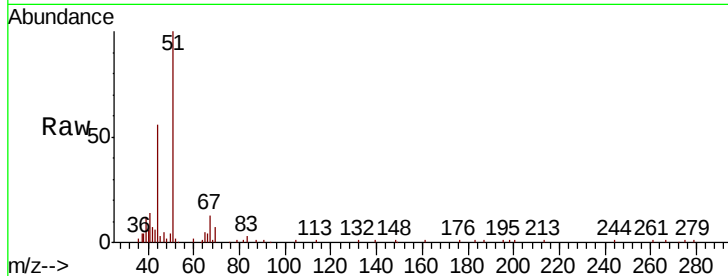
ClientSampleId :

Tot Ion: 51 Resp: 85321

Ion Ratio Lower Upper

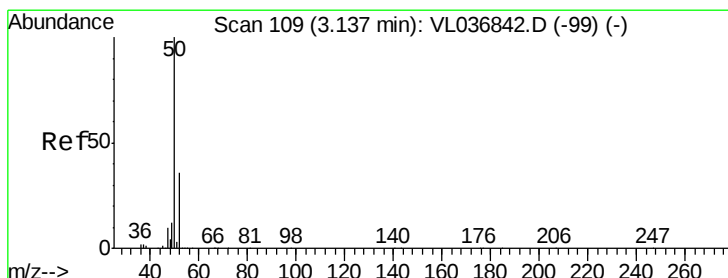
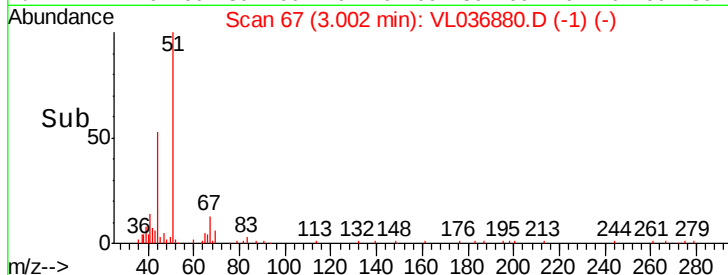
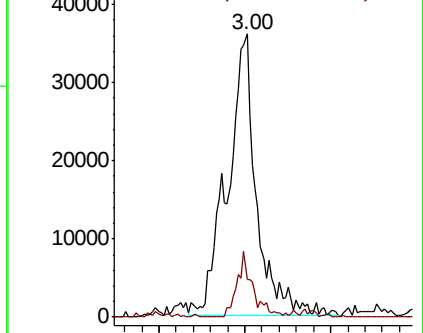
51 100

67 12.6 14.8 22.2#



Abundance Ion 51.00 (50.70 to 51.70): VL0

Ion 67.00 (66.70 to 67.70): VL0



#4

Chloromethane

Concen: 0.573 ppbv

RT: 3.15 min Scan# 114

Delta R.T. 0.02 min

Lab File: VL036880.D

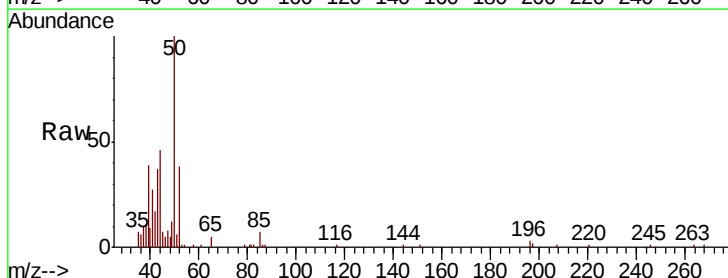
Acq: 28 Apr 2021 15:23

Tgt Ion: 50 Resp: 51560

Ion Ratio Lower Upper

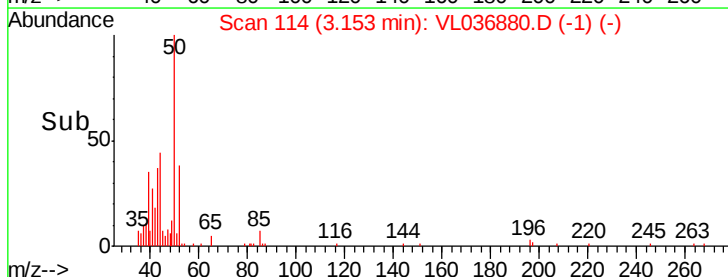
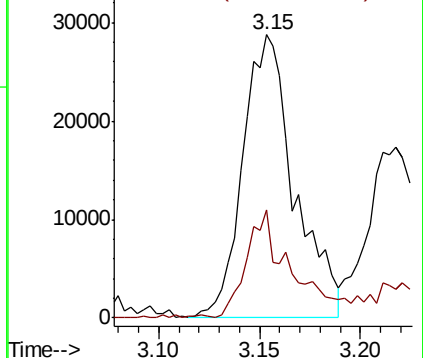
50 100

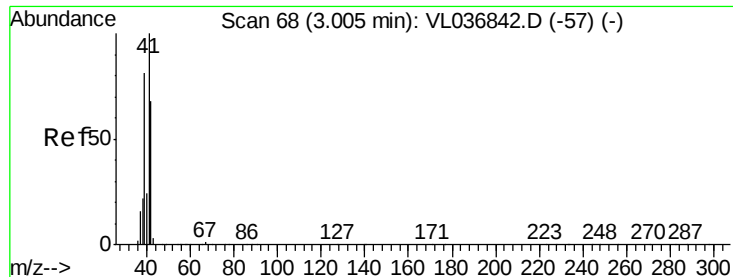
52 37.4 28.5 42.7



Abundance Ion 50.10 (49.80 to 50.80): VL0

Ion 52.10 (51.80 to 52.80): VL0





#9

Propene

Concen: 13.517 ppbv

RT: 3.22 min Scan# 134

Delta R.T. 0.21 min

Lab File: VL036880.D

Acq: 28 Apr 2021 15:23

Instrument :

MSVOA\_L

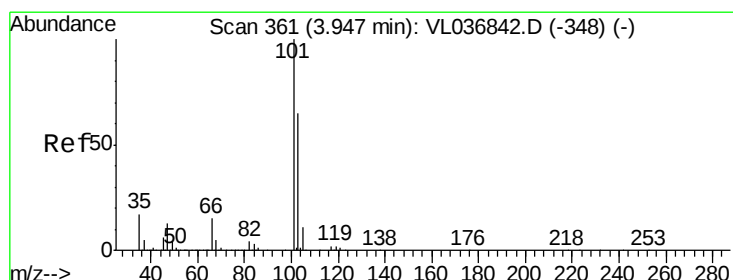
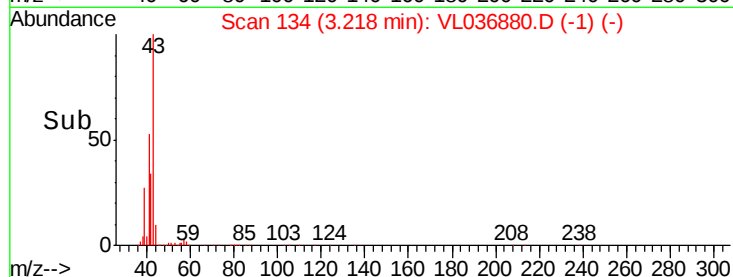
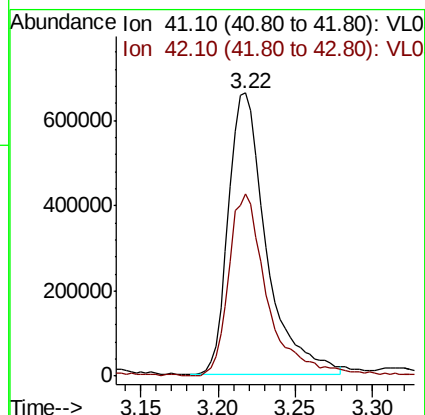
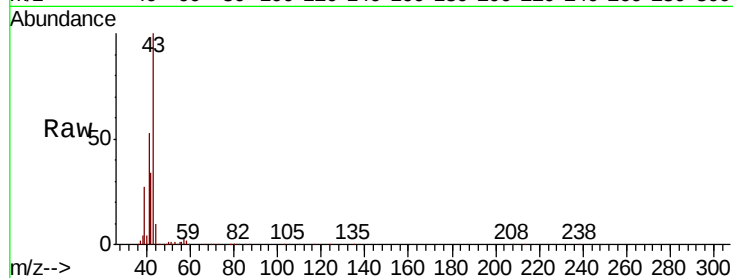
ClientSampleId :

Tot Ion: 41 Resp: 1127648

Ion Ratio Lower Upper

41 100

42 64.9 56.0 84.0



#11

Trichlorofluoromethane

Concen: 0.191 ppbv

RT: 3.96 min Scan# 365

Delta R.T. 0.01 min

Lab File: VL036880.D

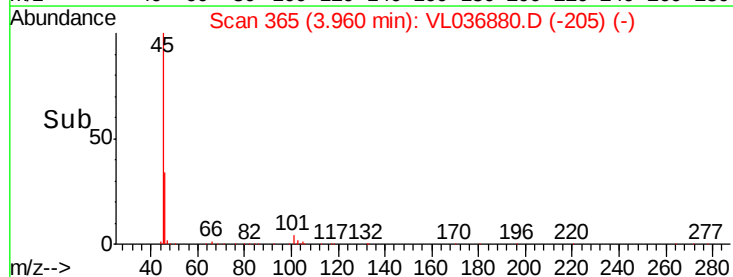
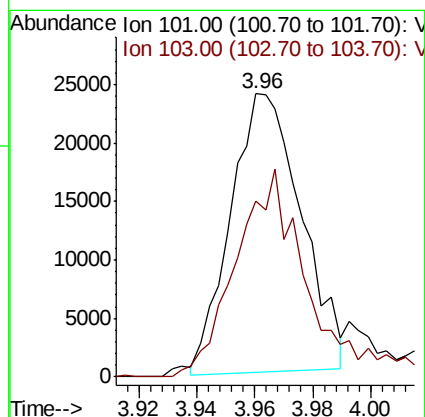
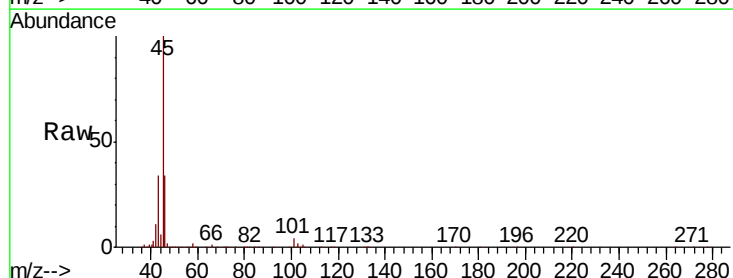
Acq: 28 Apr 2021 15:23

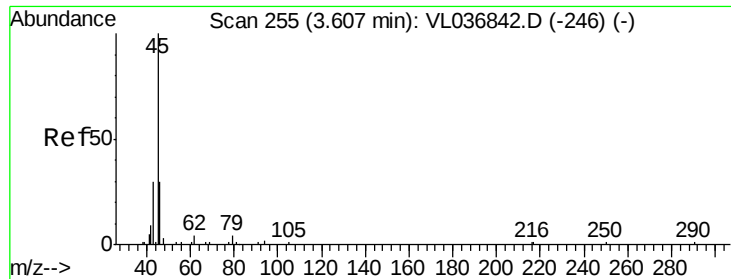
Tgt Ion: 101 Resp: 40380

Ion Ratio Lower Upper

101 100

103 60.4 51.6 77.4

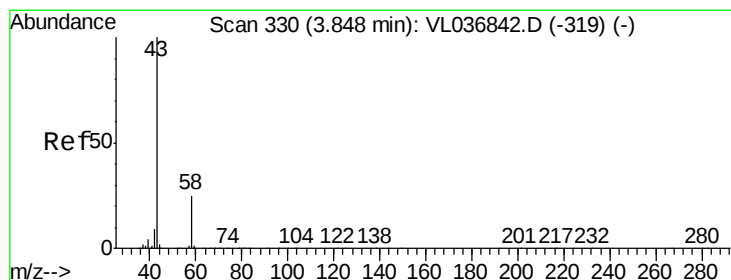
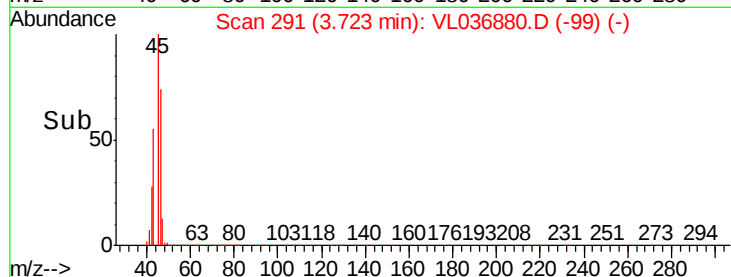
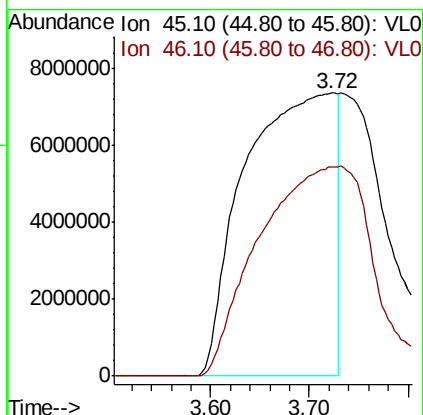
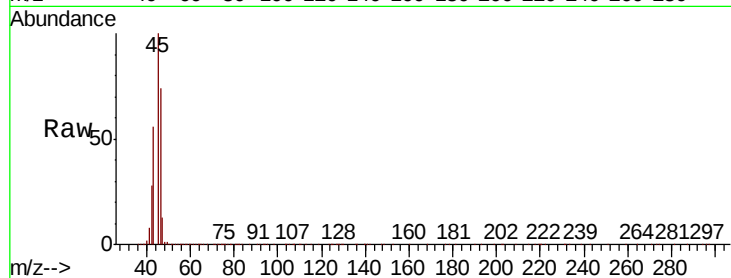




#13  
Ethanol  
Concen: 4404.573 ppbv  
RT: 3.72 min Scan# 291  
Delta R.T. 0.12 min  
Lab File: VL036880.D  
Acq: 28 Apr 2021 15:23

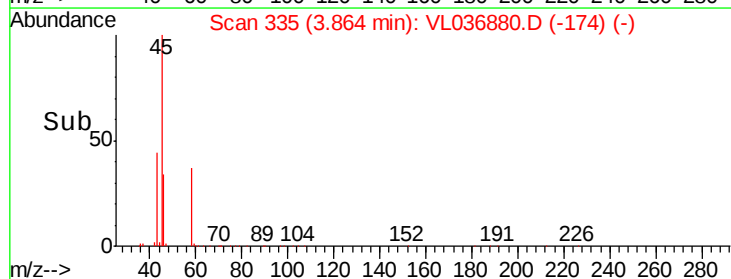
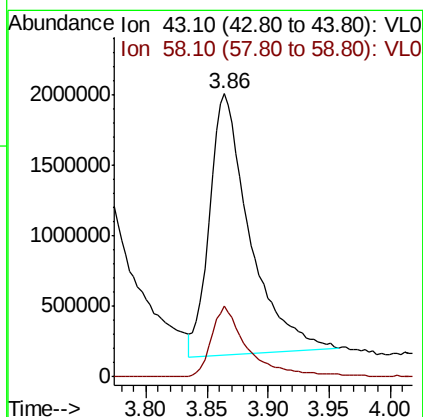
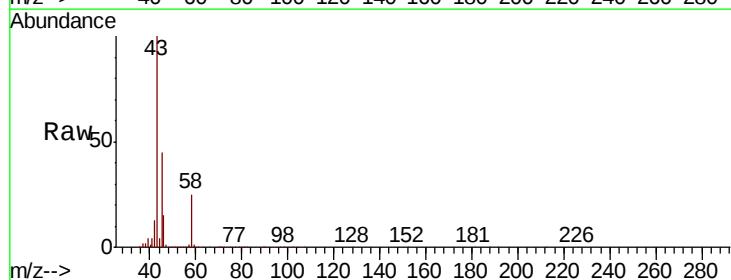
Instrument :  
MSVOA\_L  
ClientSampleId :

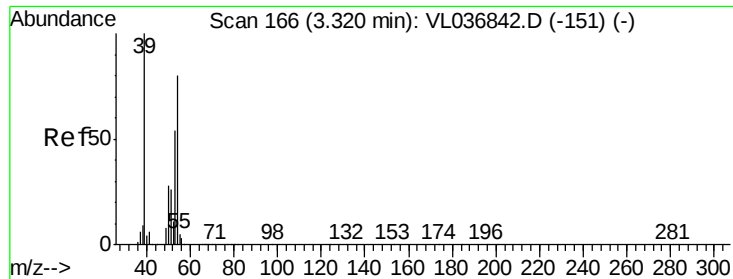
Tot Ion: 45 Resp: 46860835  
Ion Ratio Lower Upper  
45 100  
46 0.0 16.8 67.4#



#15  
Acetone  
Concen: 30.215 ppbv  
RT: 3.86 min Scan# 335  
Delta R.T. 0.02 min  
Lab File: VL036880.D  
Acq: 28 Apr 2021 15:23

Tgt Ion: 43 Resp: 4280378  
Ion Ratio Lower Upper  
43 100  
58 25.4 21.7 32.5

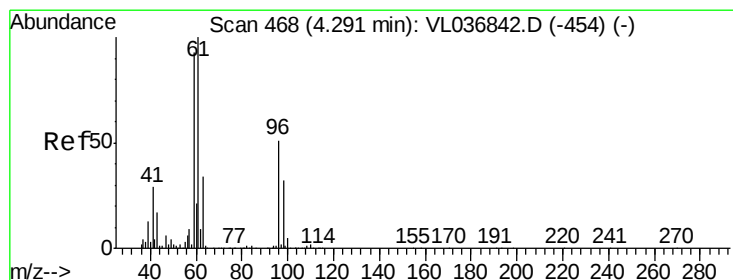
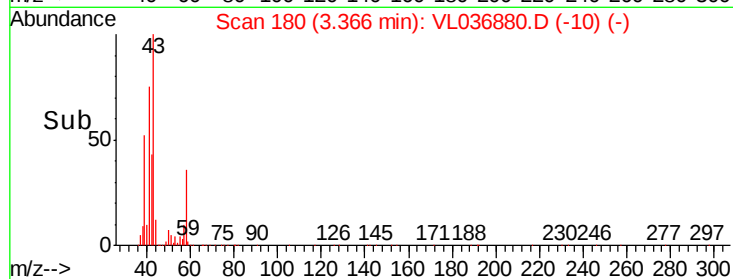
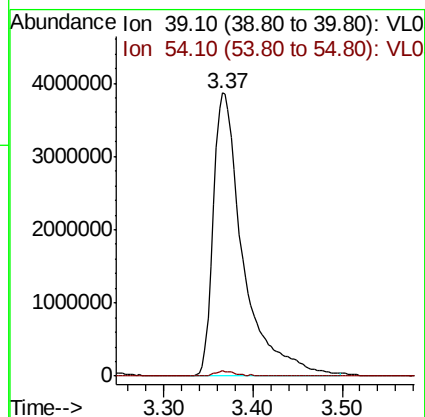
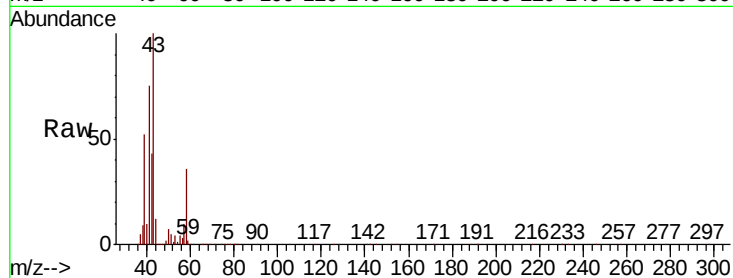




#16  
 1,3-Butadiene  
 Concen: 98.110 ppbv  
 RT: 3.37 min Scan# 180  
 Delta R.T. 0.05 min  
 Lab File: VL036880.D  
 Acq: 28 Apr 2021 15:23

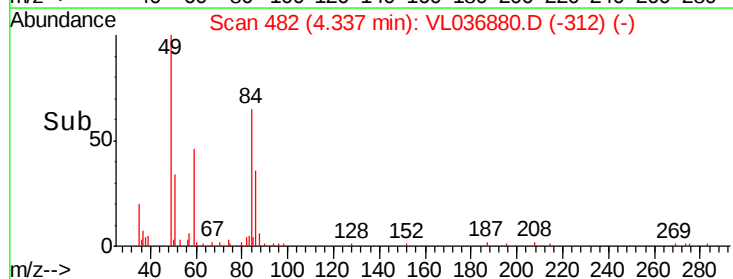
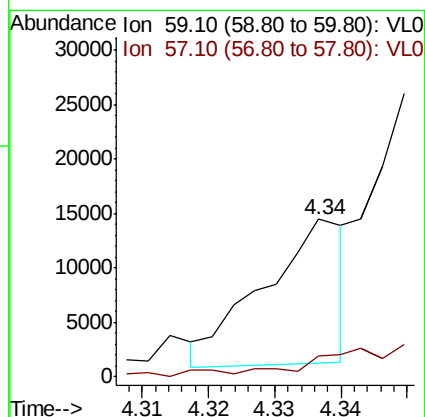
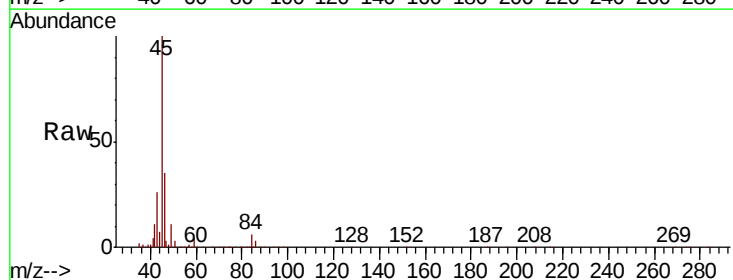
Instrument :  
 MSVOA\_L  
 ClientSampled :

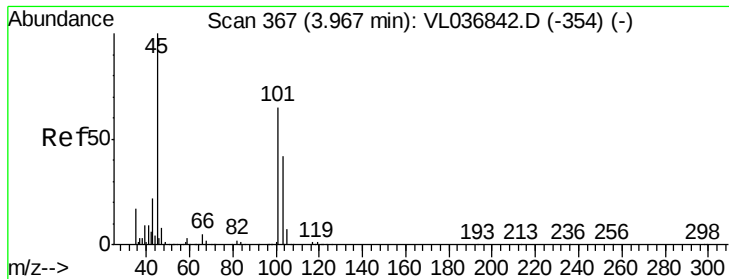
Tot Ion: 39 Resp: 8887543  
 Ion Ratio Lower Upper  
 39 100  
 54 1.7 59.6 89.4#



#17  
 tert-Butyl alcohol  
 Concen: 0.099 ppbv  
 RT: 4.34 min Scan# 482  
 Delta R.T. 0.05 min  
 Lab File: VL036880.D  
 Acq: 28 Apr 2021 15:23

Tgt Ion: 59 Resp: 11397  
 Ion Ratio Lower Upper  
 59 100  
 57 0.0 8.3 12.5#





#19

Isopropyl Alcohol

Concen: 26.581 ppbv

RT: 4.08 min Scan# 402

Delta R.T. 0.11 min

Lab File: VL036880.D

Acq: 28 Apr 2021 15:23

Instrument :

MSVOA\_L

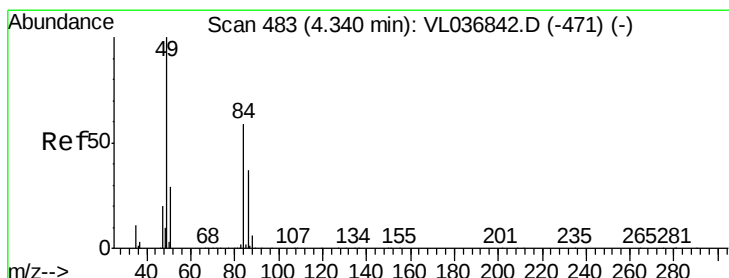
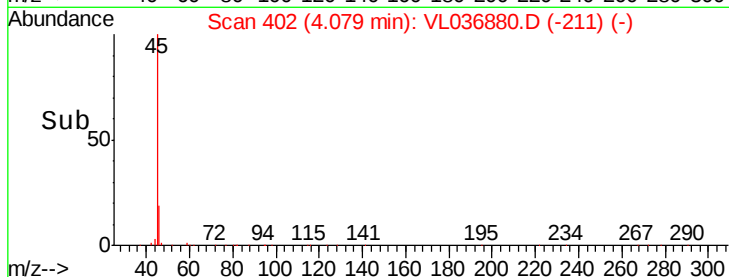
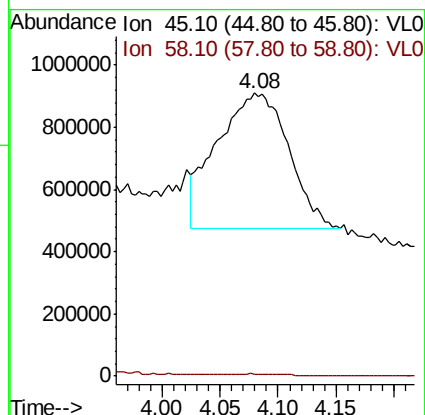
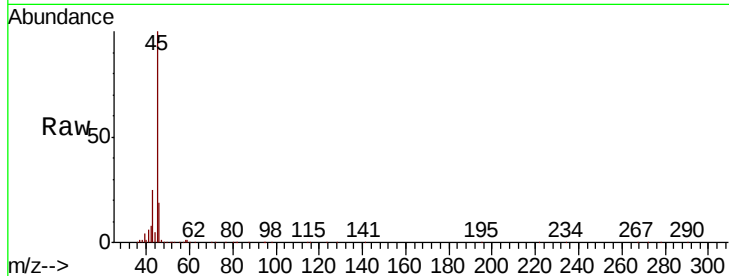
ClientSampled :

Tot Ion: 45 Resp: 1865773

Ion Ratio Lower Upper

45 100

58 0.0 2.8 4.2#



#20

Methylene Chloride

Concen: 6.787 ppbv

RT: 4.36 min Scan# 489

Delta R.T. 0.02 min

Lab File: VL036880.D

Acq: 28 Apr 2021 15:23

Tgt Ion: 84 Resp: 459753

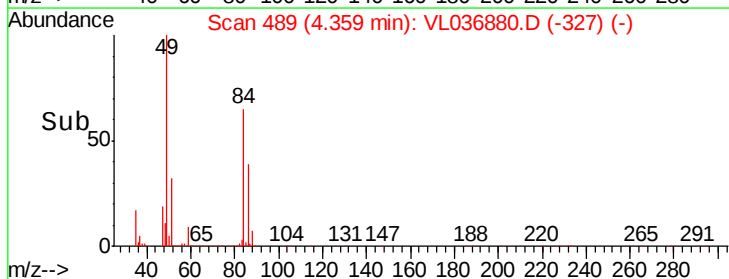
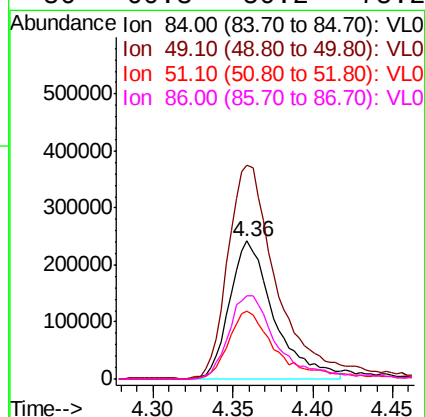
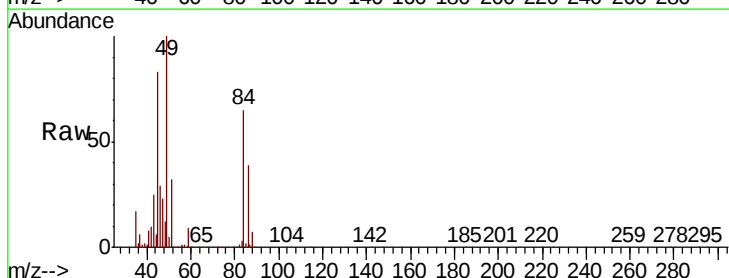
Ion Ratio Lower Upper

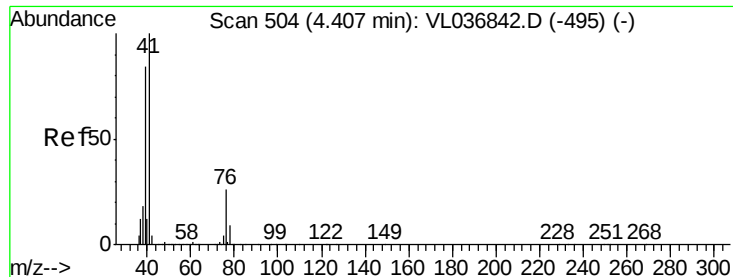
84 100

49 153.4 135.4 203.0

51 49.2 39.3 58.9

86 60.3 50.2 75.2

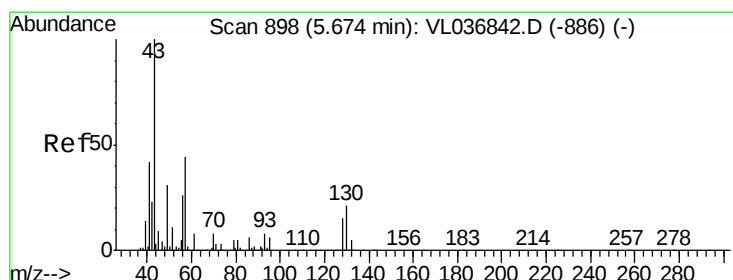
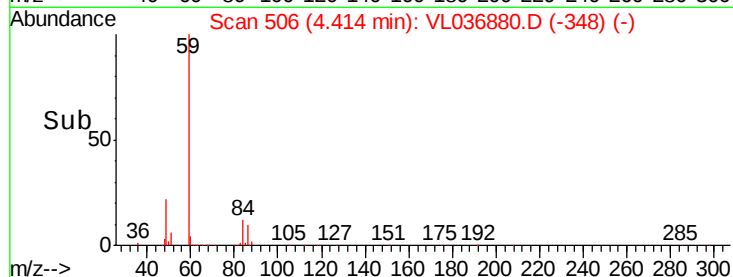
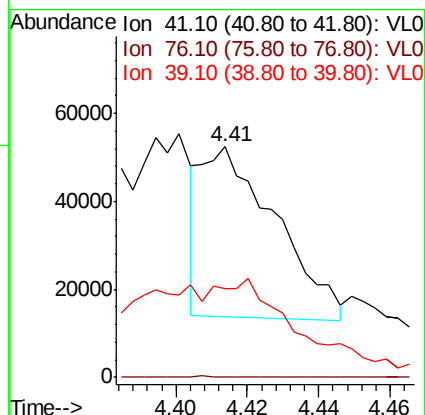
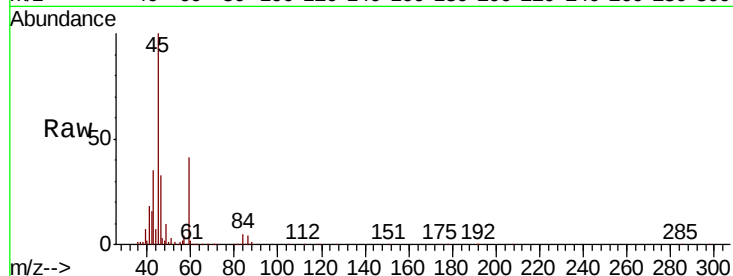




#21  
Allvl Chloride  
Concen: 0.532 ppbv  
RT: 4.41 min Scan# 506  
Delta R.T. 0.01 min  
Lab File: VL036880.D  
Acq: 28 Apr 2021 15:23

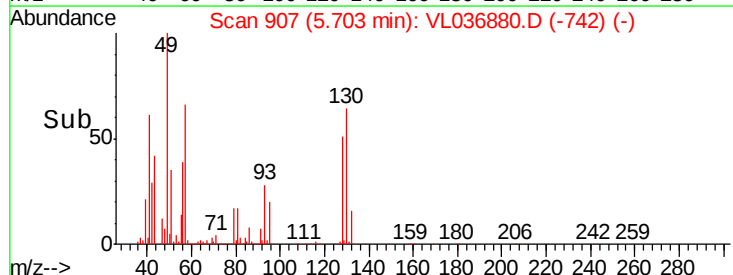
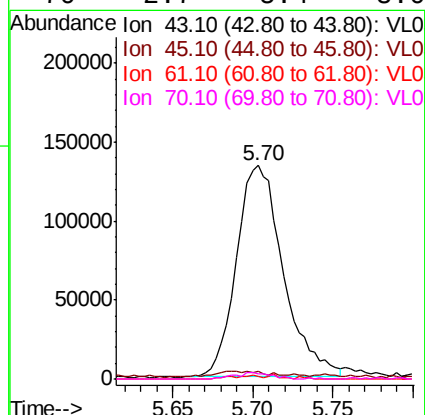
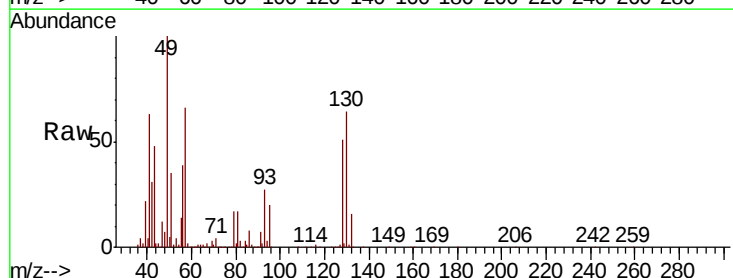
Instrument :  
MSVOA\_L  
ClientSampleId :

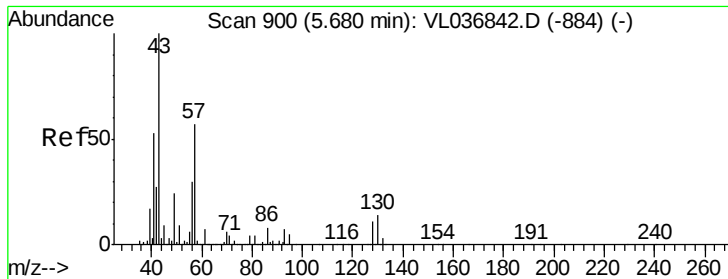
Tot Ion: 41 Resp: 56022  
Ion Ratio Lower Upper  
41 100  
76 0.0 22.4 33.6#  
39 165.0 68.4 102.6#



#25  
Ethyl Acetate  
Concen: 0.774 ppbv  
RT: 5.70 min Scan# 907  
Delta R.T. 0.03 min  
Lab File: VL036880.D  
Acq: 28 Apr 2021 15:23

Tgt Ion: 43 Resp: 267675  
Ion Ratio Lower Upper  
43 100  
45 3.0 7.8 11.8#  
61 1.5 7.4 11.0#  
70 2.7 5.4 8.0#

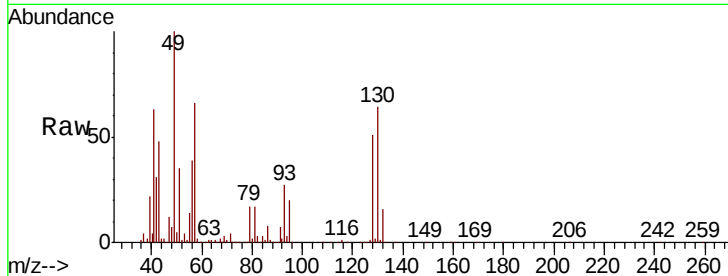




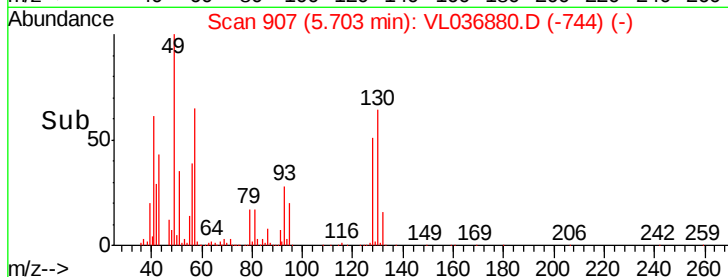
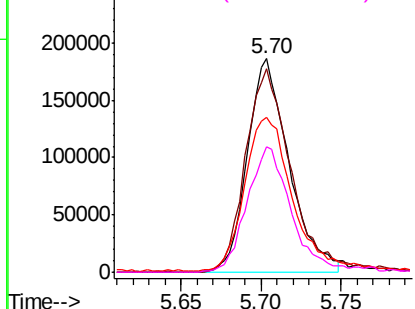
#26  
Hexane  
Concen: 2.053 ppbv  
RT: 5.70 min Scan# 907  
Delta R.T. 0.02 min  
Lab File: VL036880.D  
Acq: 28 Apr 2021 15:23

Instrument :  
MSVOA\_L  
ClientSampleId :

Tot Ion: 57 Resp: 332438  
Ion Ratio Lower Upper  
57 100  
41 106.7 77.7 116.5  
43 86.2 180.5 270.7#  
56 64.0 44.6 66.8

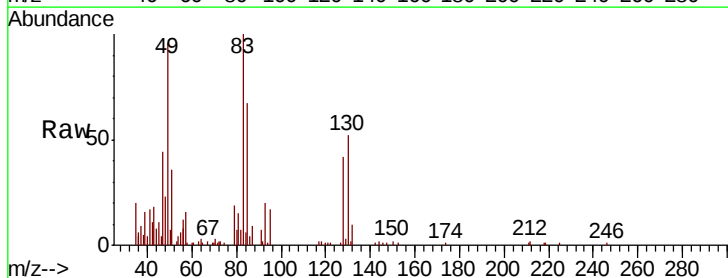
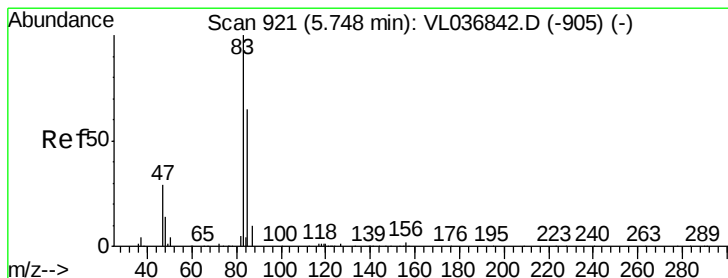


Abundance Ion 57.10 (56.80 to 57.80): VL0  
Ion 41.10 (40.80 to 41.80): VL0  
Ion 43.10 (42.80 to 43.80): VL0  
Ion 56.10 (55.80 to 56.80): VL0

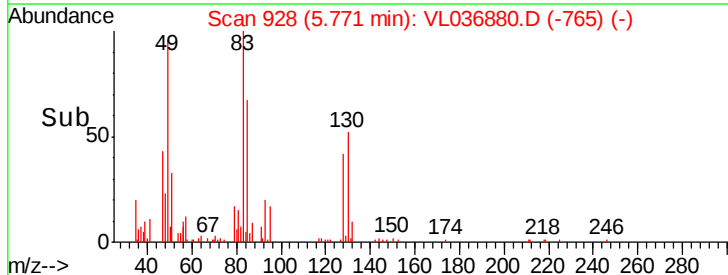
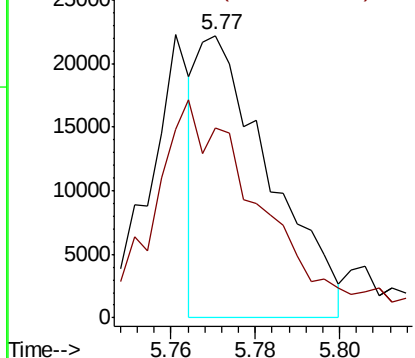


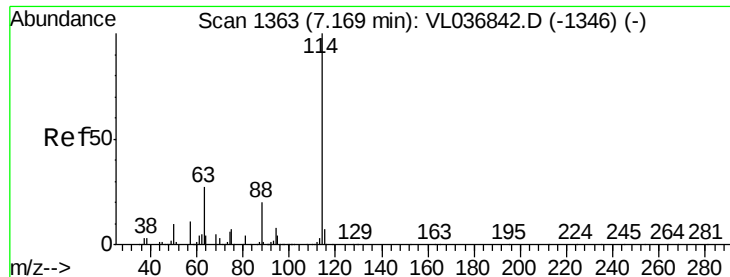
#29  
Chloroform  
Concen: 0.104 ppbv  
RT: 5.77 min Scan# 928  
Delta R.T. 0.02 min  
Lab File: VL036880.D  
Acq: 28 Apr 2021 15:23

Tgt Ion: 83 Resp: 26239  
Ion Ratio Lower Upper  
83 100  
85 65.0 52.2 78.4



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

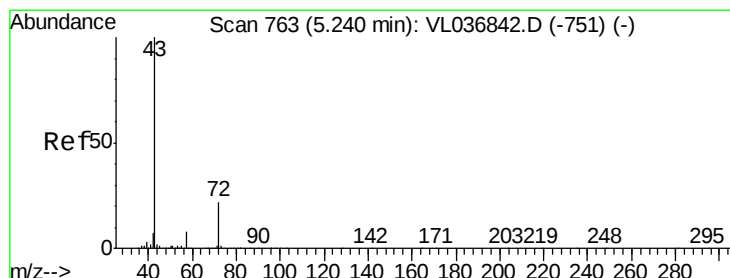
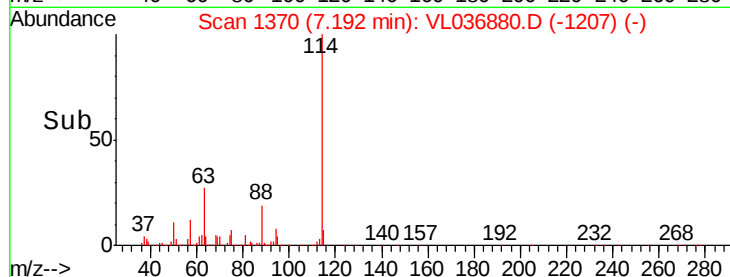
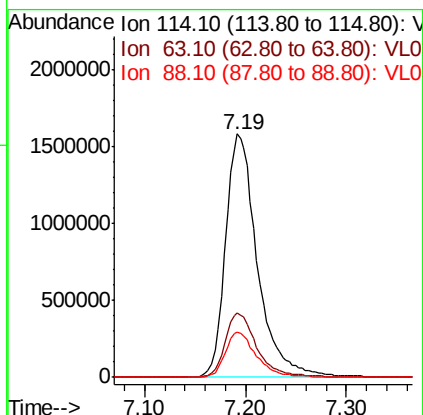
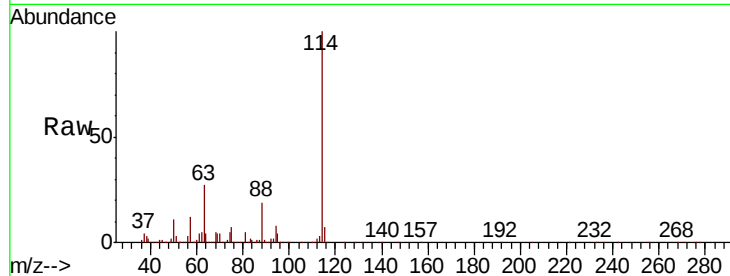




#33  
 1,4-Difluorobenzene  
 Concen: 10.000 ppbv  
 RT: 7.19 min Scan# 1370  
 Delta R.T. 0.02 min  
 Lab File: VL036880.D  
 Acq: 28 Apr 2021 15:23

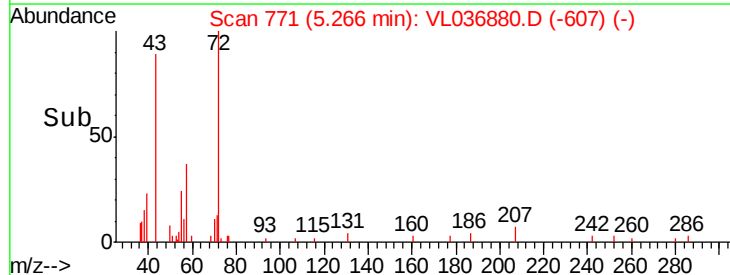
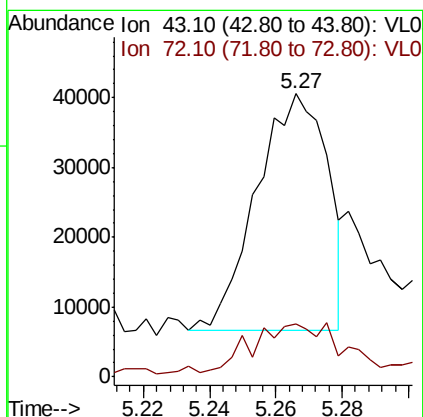
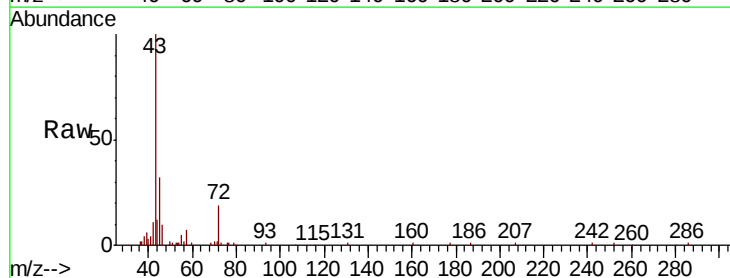
Instrument :  
 MSVOA\_L  
 ClientSampleId :

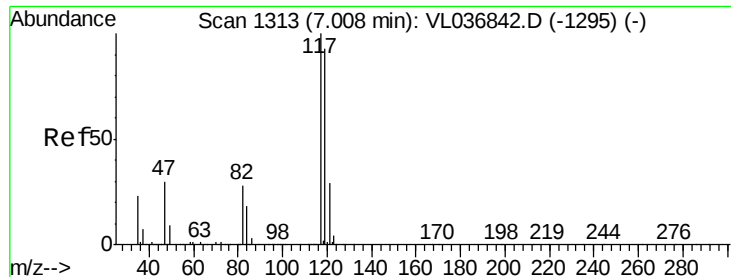
Tot Ion:114 Resp: 3482615  
 Ion Ratio Lower Upper  
 114 100  
 63 26.6 21.9 32.9  
 88 18.5 15.1 22.7



#34  
 2-Butanone  
 Concen: 0.331 ppbv  
 RT: 5.27 min Scan# 771  
 Delta R.T. 0.03 min  
 Lab File: VL036880.D  
 Acq: 28 Apr 2021 15:23

Tgt Ion: 43 Resp: 50490  
 Ion Ratio Lower Upper  
 43 100  
 72 0.0 17.6 26.4#





#35

Carbon Tetrachloride

Concen: 0.052 ppbv

RT: 7.03 min Scan# 1321

Delta R.T. 0.03 min

Lab File: VL036880.D

Acq: 28 Apr 2021 15:23

Instrument :

MSVOA\_L

ClientSampleId :

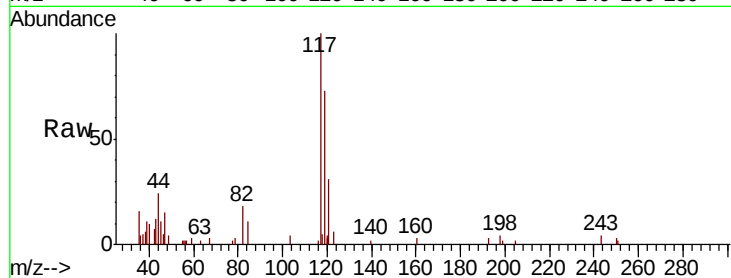
Tot Ion:117 Resp: 12340

Ion Ratio Lower Upper

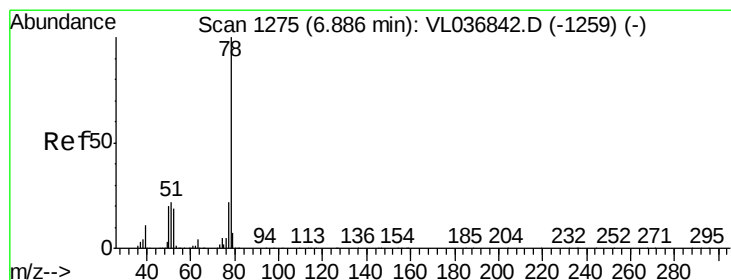
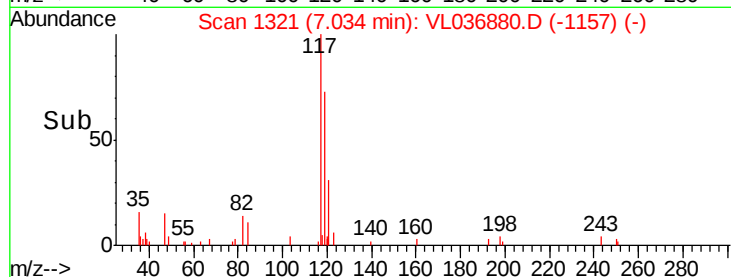
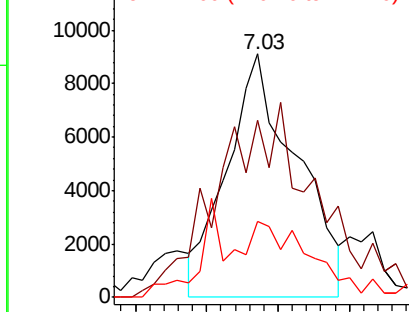
117 100

119 68.7 74.6 111.8#

121 30.7 23.3 34.9



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: 0.110 ppbv

RT: 6.91 min Scan# 1283

Delta R.T. 0.03 min

Lab File: VL036880.D

Acq: 28 Apr 2021 15:23

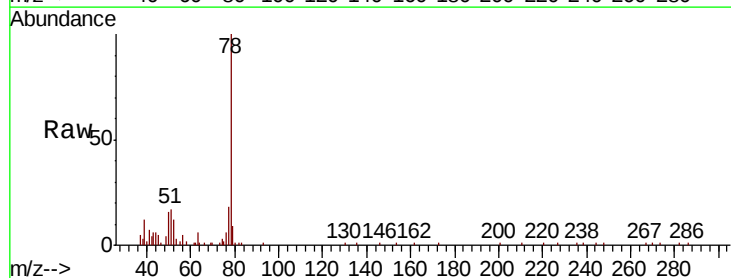
Tgt Ion: 78 Resp: 32250

Ion Ratio Lower Upper

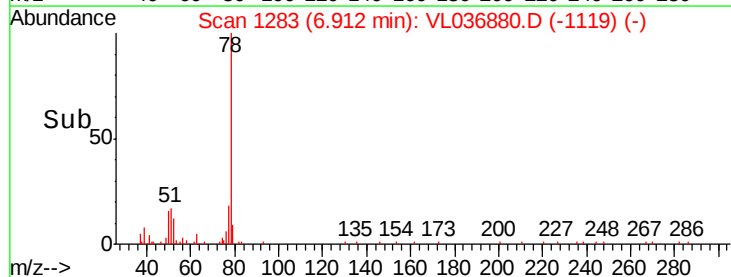
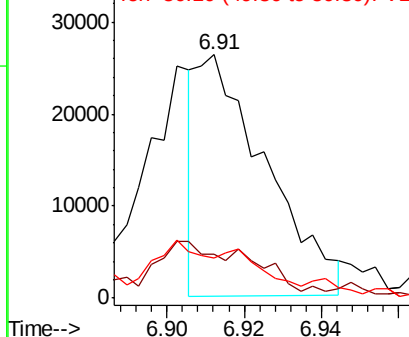
78 100

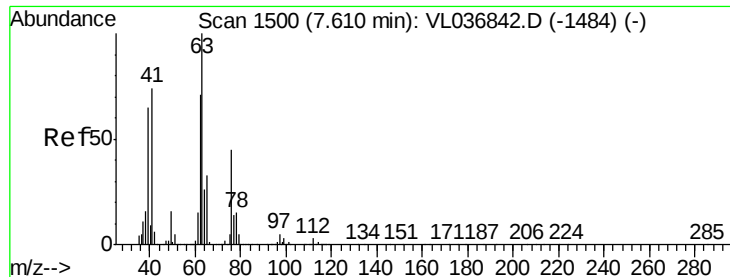
77 17.0 17.6 26.4#

50 11.9 16.3 24.5#



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

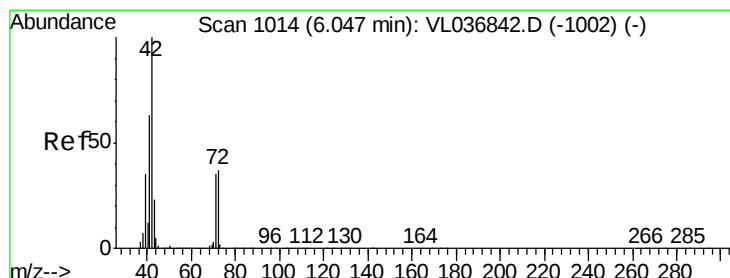
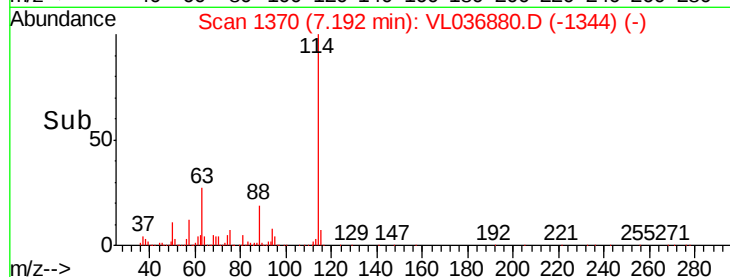
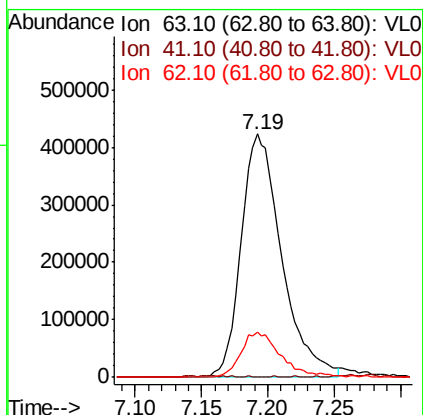
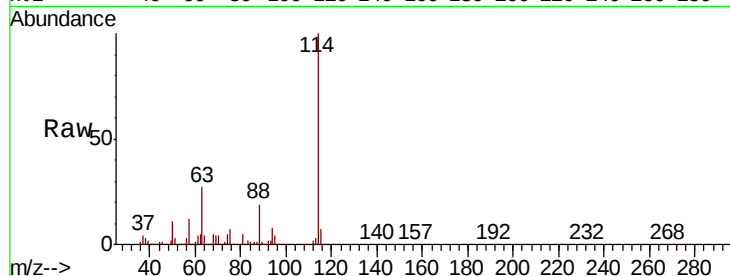




#39  
 1,2-Dichloropropane  
 Concen: 7.655 ppbv  
 RT: 7.19 min Scan# 1370  
 Delta R.T. -0.42 min  
 Lab File: VL036880.D  
 Acq: 28 Apr 2021 15:23

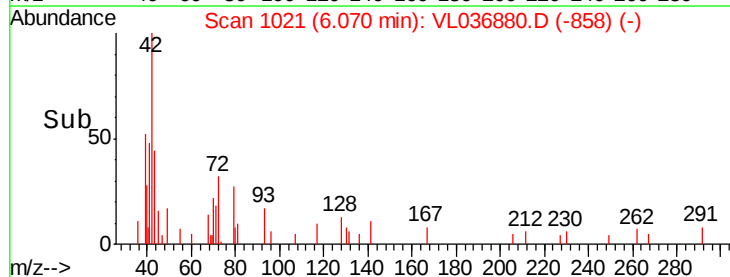
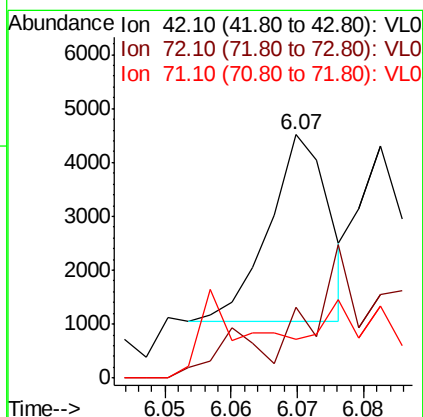
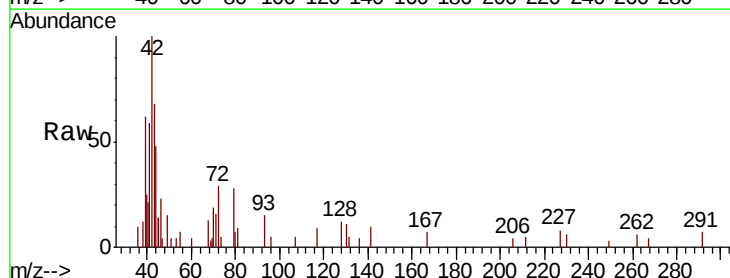
Instrument :  
 MSVOA\_L  
 ClientSampleId :

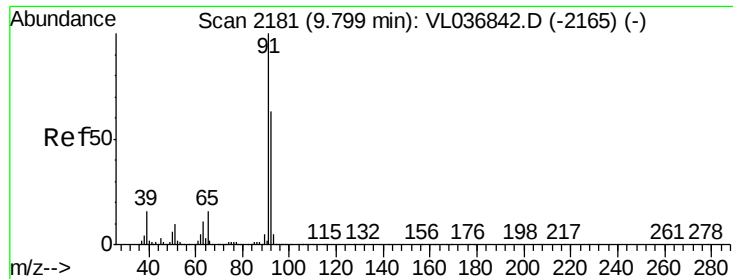
| Tot Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 63      | 100   |       |       |
| 41      | 0.0   | 59.1  | 88.7# |
| 62      | 18.4  | 56.9  | 85.3# |



#41  
 Tetrahydrofuran  
 Concen: 0.033 ppbv  
 RT: 6.07 min Scan# 1021  
 Delta R.T. 0.02 min  
 Lab File: VL036880.D  
 Acq: 28 Apr 2021 15:23

| Tgt Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 42      | 100   |       |       |
| 72      | 141.4 | 29.7  | 44.5# |
| 71      | 127.9 | 29.0  | 43.6# |





#53

Toluene

Concen: 1.555 ppbv

RT: 9.83 min Scan# 2190

Delta R.T. 0.03 min

Lab File: VL036880.D

Acq: 28 Apr 2021 15:23

Instrument :

MSVOA\_L

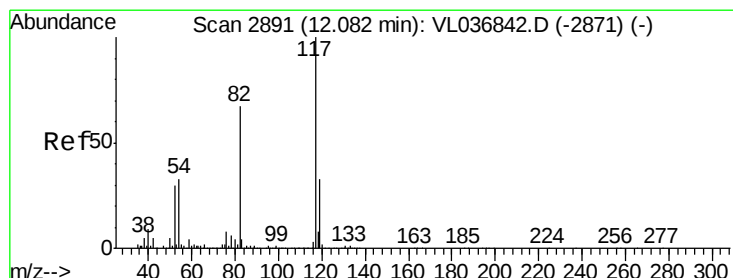
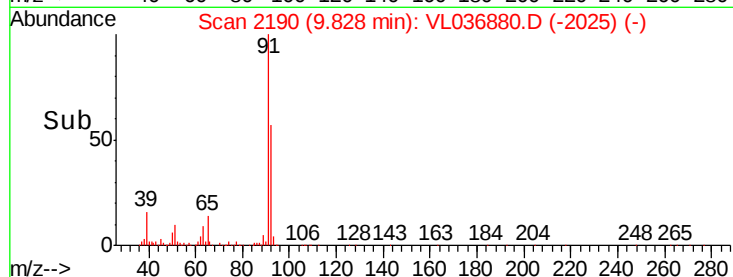
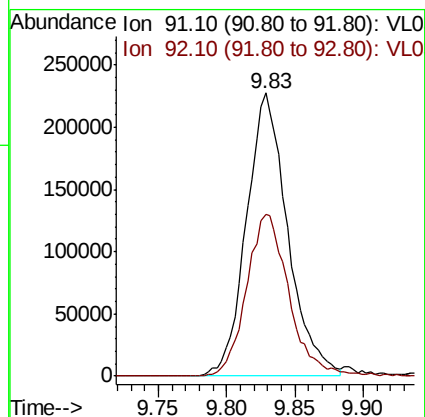
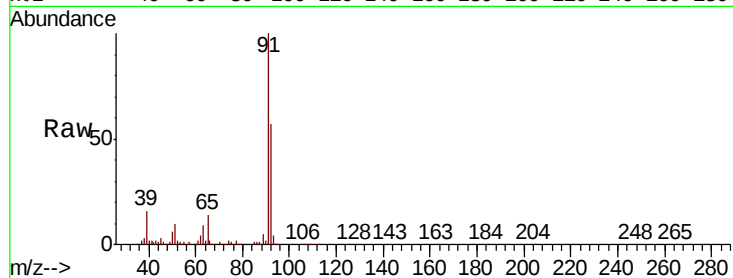
ClientSampled :

Tot Ion: 91 Resp: 477394

Ion Ratio Lower Upper

91 100

92 59.4 49.0 73.4



#55

Chlorobenzene-d5

Concen: 10.000 ppbv

RT: 12.11 min Scan# 2900

Delta R.T. 0.03 min

Lab File: VL036880.D

Acq: 28 Apr 2021 15:23

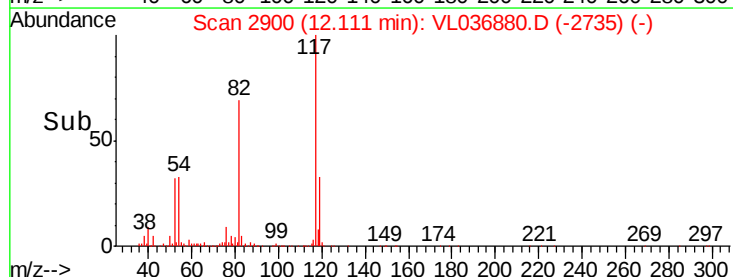
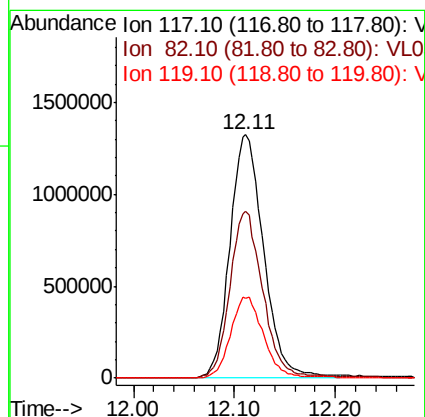
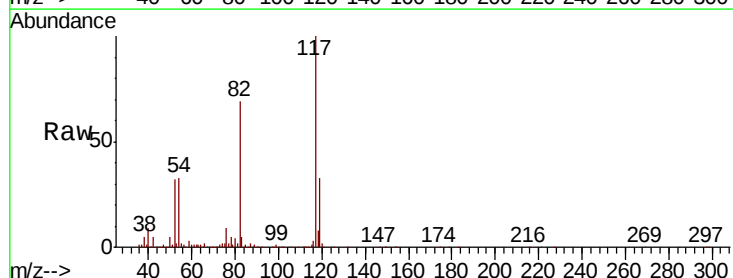
Tgt Ion: 117 Resp: 3084020

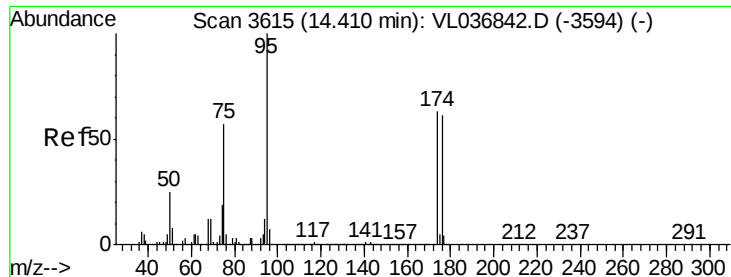
Ion Ratio Lower Upper

117 100

82 68.5 53.5 80.3

119 33.2 25.6 38.4





#68

1-Bromo-4-Fluorobenzene

Concen: 9.643 ppbv

RT: 14.44 min Scan# 3625

Delta R.T. 0.03 min

Lab File: VL036880.D

Acq: 28 Apr 2021 15:23

Instrument :

MSVOA\_L

ClientSampleId :

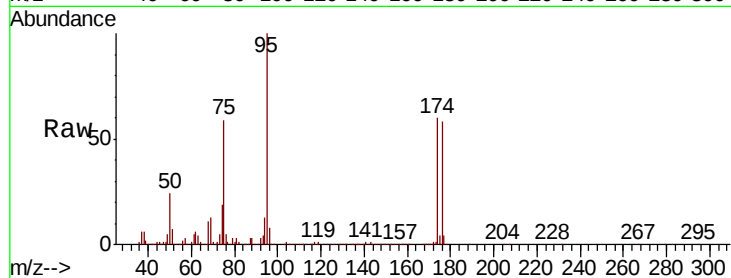
Tot Ion: 95 Resp: 2387369

Ion Ratio Lower Upper

95 100

174 65.7 52.2 78.2

175 4.5 4.0 6.0



Abundance Ion 95.10 (94.80 to 95.80): VL0

Ion 174.00 (173.70 to 174.70): V

Ion 175.00 (174.70 to 175.70): V

