

Data Path : Z:\VOASRV\HPCHEM1\MSVOA L\DATA\VL111821\  
 Data File : VL038057.D  
 Acq On : 18 Nov 2021 17:18  
 Operator : SY/AP  
 Sample : M4526-01DL 2.5X  
 Misc : 400mL/MSVOA L  
 ALS Vial : 1 Sample Multiplier: 1

Instrument :  
 MSVOA\_L  
 ClientSampleId :  
 E058-1100DL

Quant Time: Nov 19 07:30:12 2021  
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA L\METHODS\VL111821AIR.M  
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA\_L Thu Nov 18 13:16:09 2021  
 QLast Update : Thu Nov 18 13:16:09 2021  
 Response via : Initial Calibration

| Internal Standards      | R.T.  | QIon | Response | Conc  | Units | Dev(Min) |
|-------------------------|-------|------|----------|-------|-------|----------|
| 1) Bromochloromethane   | 5.67  | 49   | 835882   | 10.00 | ppbv  | 0.00     |
| 33) 1,4-Difluorobenzene | 7.18  | 114  | 2504464  | 10.00 | ppbv  | 0.00     |
| 55) Chlorobenzene-d5    | 12.09 | 117  | 2168112  | 10.00 | ppbv  | 0.00     |

System Monitoring Compounds

|                             |        |       |          |          |      |         |
|-----------------------------|--------|-------|----------|----------|------|---------|
| 68) 1-Bromo-4-Fluorobenzene | 14.42  | 95    | 1567194  | 10.02    | ppbv | 0.00    |
| Spiked Amount               | 10.000 | Range | 65 - 135 | Recovery | =    | 100.20% |

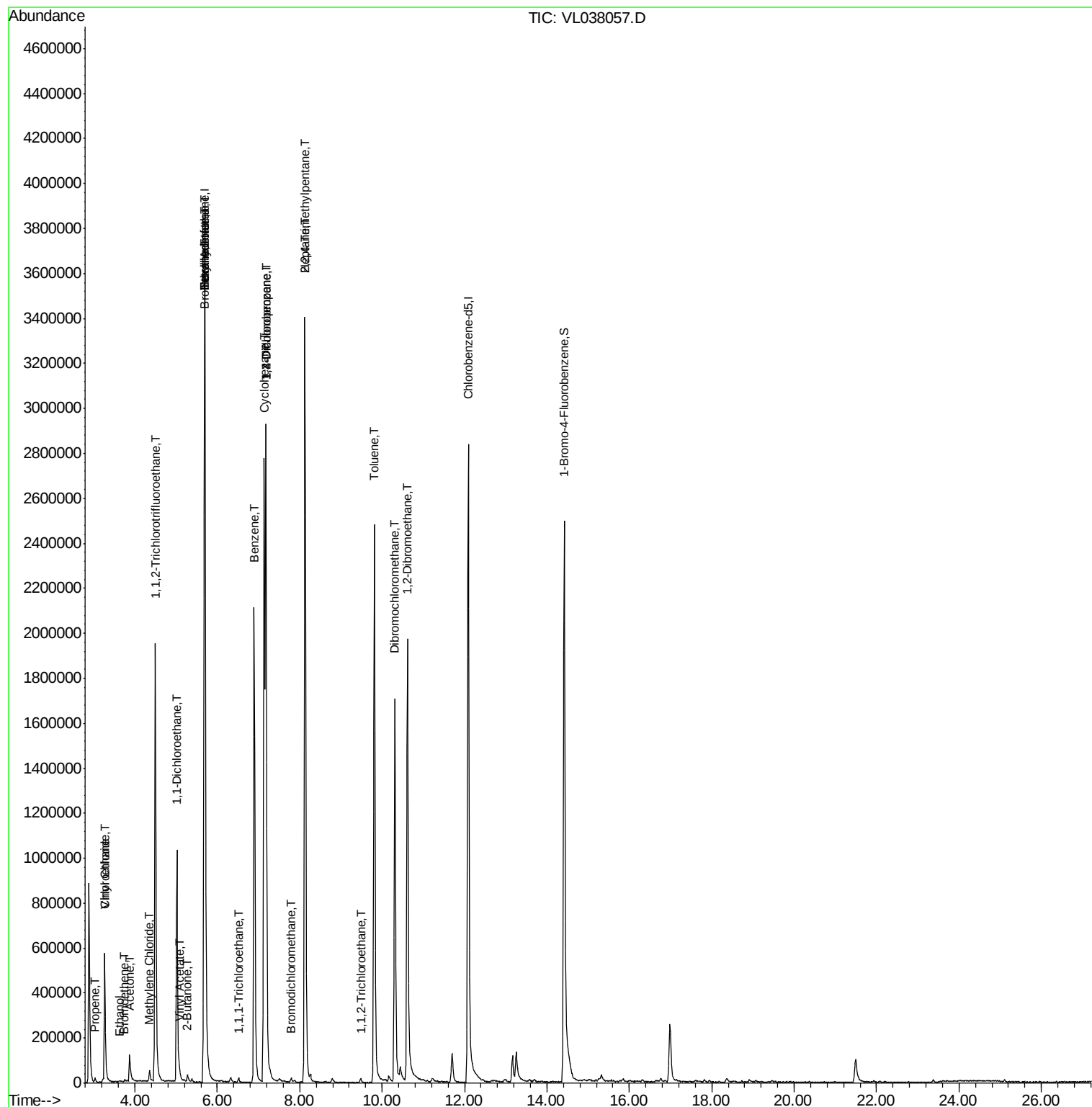
| Target Compounds               |       |     |         |        | Ovalue    |
|--------------------------------|-------|-----|---------|--------|-----------|
| 5) Vinyl Chloride              | 3.27  | 62  | 629662  | 10.741 | ppbv 99   |
| 7) Chloroethane                | 3.27  | 64  | 200748  | 9.649  | ppbv # 41 |
| 9) Propene                     | 3.03  | 41  | 3809    | 0.059  | ppbv # 82 |
| 10) Heptane                    | 8.13  | 43  | 1828970 | 11.447 | ppbv 100  |
| 12) 1,1,2-Trichlorotrifluoroet | 4.49  | 101 | 838280  | 9.025  | ppbv 99   |
| 13) Ethanol                    | 3.62  | 45  | 1493    | 0.239  | ppbv # 32 |
| 14) Bromoethene                | 3.75  | 108 | 3198    | 0.077  | ppbv # 19 |
| 15) Acetone                    | 3.87  | 43  | 182420  | 2.517  | ppbv 96   |
| 20) Methylene Chloride         | 4.35  | 84  | 19174   | 0.472  | ppbv 90   |
| 23) Vinyl Acetate              | 5.09  | 43  | 10590   | 0.101  | ppbv # 94 |
| 24) 1,1-Dichloroethane         | 5.02  | 63  | 1023174 | 11.712 | ppbv 99   |
| 25) Ethyl Acetate              | 5.69  | 43  | 1169448 | 4.855  | ppbv # 76 |
| 26) Hexane                     | 5.70  | 57  | 1723903 | 14.849 | ppbv # 42 |
| 30) Cyclohexane                | 7.14  | 84  | 1156354 | 10.971 | ppbv 98   |
| 32) 1,1,1-Trichloroethane      | 6.52  | 97  | 9536    | 0.055  | ppbv # 80 |
| 34) 2-Butanone                 | 5.28  | 43  | 43039   | 0.426  | ppbv 95   |
| 36) Benzene                    | 6.90  | 78  | 2059708 | 8.245  | ppbv 98   |
| 39) 1,2-Dichloropropane        | 7.18  | 63  | 595891  | 6.218  | ppbv # 32 |
| 41) Tetrahydrofuran            | 5.69  | 42  | 610275  | 9.735  | ppbv # 50 |
| 42) Bromodichloromethane       | 7.79  | 83  | 5765    | 0.031  | ppbv 92   |
| 44) 2,2,4-Trimethylpentane     | 8.13  | 57  | 899722  | 2.153  | ppbv # 1  |
| 47) 1,1,2-Trichloroethane      | 9.48  | 97  | 2502    | 0.025  | ppbv # 54 |
| 48) Dibromochloromethane       | 10.31 | 129 | 1200080 | 7.851  | ppbv 96   |
| 53) Toluene                    | 9.81  | 91  | 2317432 | 8.062  | ppbv 100  |
| 54) 1,2-Dibromoethane          | 10.61 | 107 | 1990079 | 14.037 | ppbv 99   |

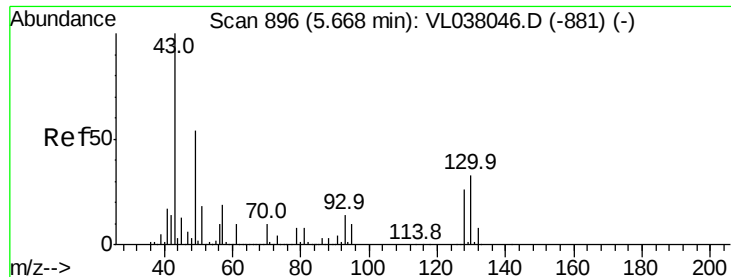
(#) = qualifier out of range (m) = manual integration (+) = signals summed

Data Path : Z:\V0ASRV\HPCHEM1\MSVOA L\DATA\VL111821\  
Data File : VL038057.D  
Acq On : 18 Nov 2021 17:18  
Operator : SY/AP  
Sample : M4526-01DL 2.5X  
Misc : 400mL/MSVOA L  
ALS Vial : 1 Sample Multiplier: 1

Instrument :  
MSVOA\_L  
ClientSampleId :  
E058-1100DL

Quant Time: Nov 19 07:30:12 2021  
Quant Method : Z:\V0ASRV\HPCHEM1\MSVOA L\METHODS\VL111821AIR.M  
Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA\_L Thu Nov 18 13:16:09 2021  
QLast Update : Thu Nov 18 13:16:09 2021  
Response via : Initial Calibration





#1

Bromochloromethane

Concen: 10.000 ppbv

RT: 5.67

Delta R.T. MSVOA\_L

Lab File: ClientSampleId :

Acq: 18 Nov 2021 17:18

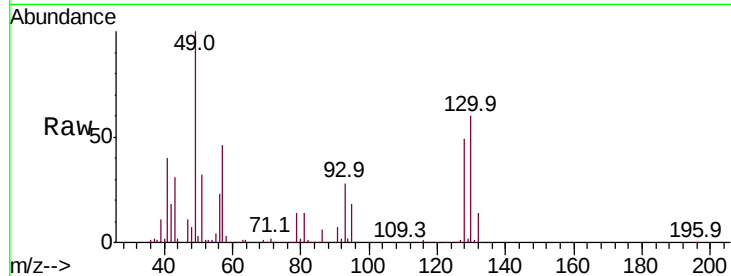
Tot Ion: 49 Resp: 835882

Ion Ratio Lower Upper

49 100

128 51.9 26.5 79.5

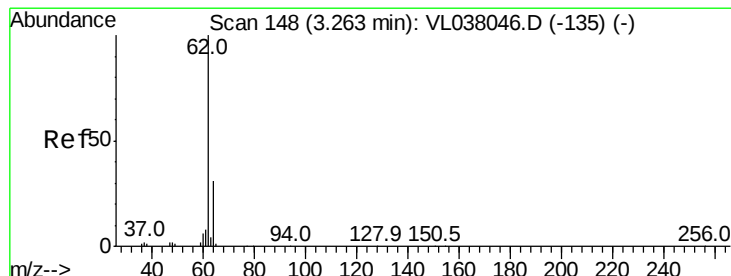
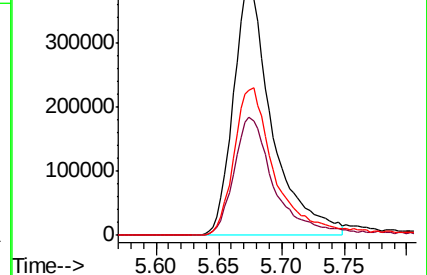
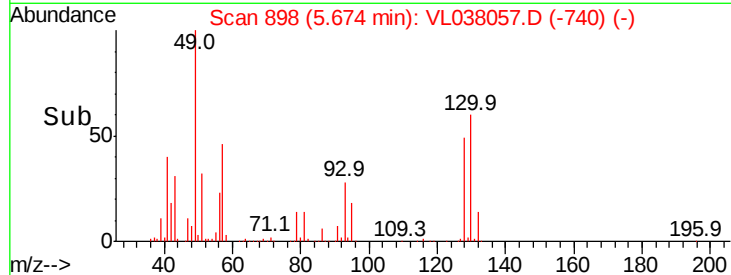
130 65.1 32.5 97.4



Abundance Ion 49.10 (48.80 to 49.80): VL0

Ion 128.00 (127.70 to 128.70): VL0

Ion 130.00 (129.70 to 130.70): VL0



#5

Vinyl Chloride

Concen: 10.741 ppbv

RT: 3.27 min Scan# 149

Delta R.T. 0.00 min

Lab File: VL038057.D

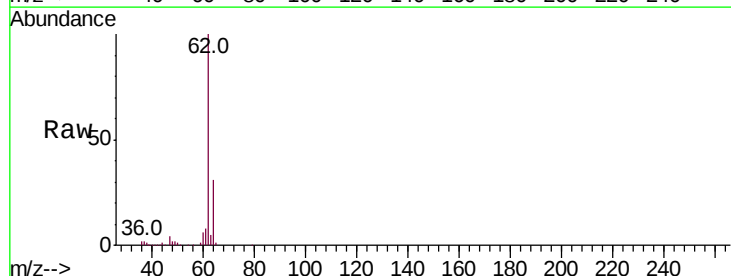
Acq: 18 Nov 2021 17:18

Tgt Ion: 62 Resp: 629662

Ion Ratio Lower Upper

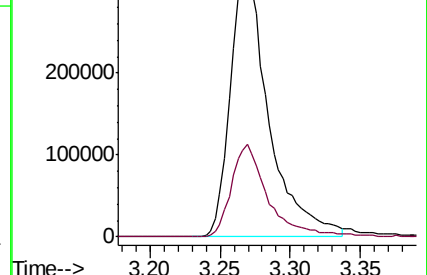
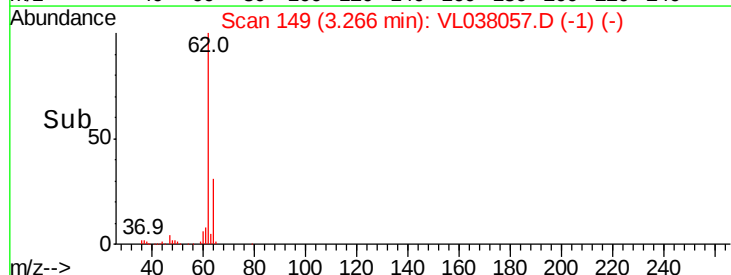
62 100

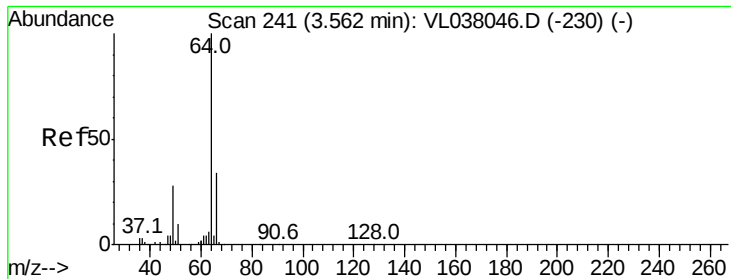
64 30.6 25.1 37.7



Abundance Ion 62.10 (61.80 to 62.80): VL0

Ion 64.10 (63.80 to 64.80): VL0





#7

Chloroethane

Concen: 9.649 ppbv

RT: 3.27 Instrument:

Delta R.T. MSVOA\_1

Lab File: ClientSampleId:

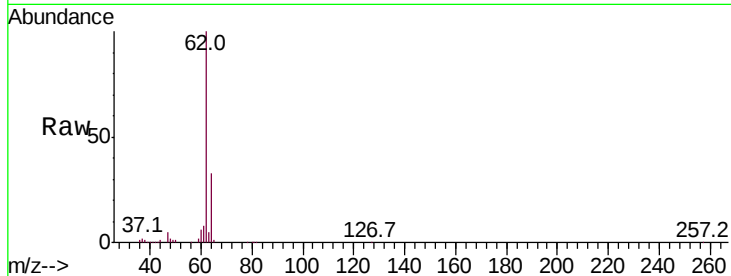
Acq: 18 Nov 2021 17:18 E058-1100DL

Tot Ion: 64 Resp: 200748

Ion Ratio Lower Upper

64 100

66 0.0 27.2 40.8#



Abundance Ion 64.10 (63.80 to 64.80): VL0

Ion 66.10 (65.80 to 66.80): VL0

3.27

120000

100000

80000

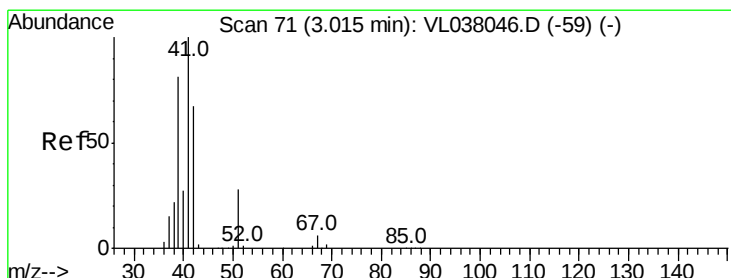
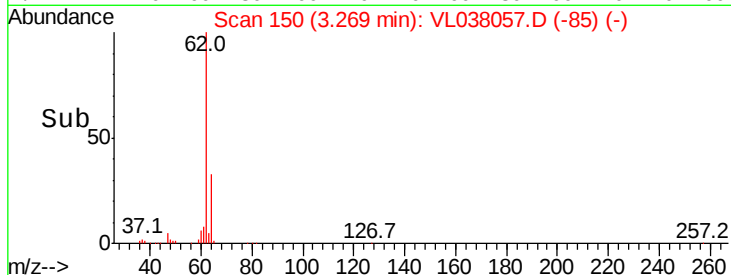
60000

40000

20000

0

Time-->



#9

Propene

Concen: 0.059 ppbv

RT: 3.03 min Scan# 75

Delta R.T. 0.01 min

Lab File: VL038057.D

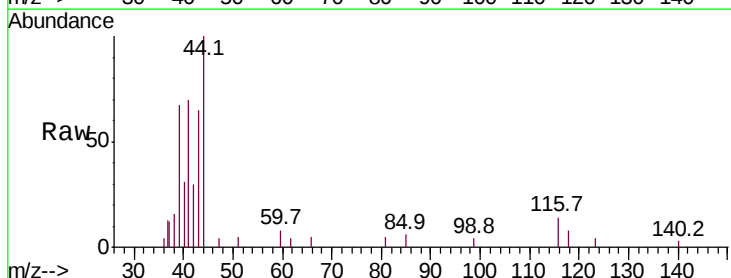
Acq: 18 Nov 2021 17:18

Tgt Ion: 41 Resp: 3809

Ion Ratio Lower Upper

41 100

42 82.1 53.8 80.8#



Abundance Ion 41.10 (40.80 to 41.80): VL0

Ion 42.10 (41.80 to 42.80): VL0

3.03

4000

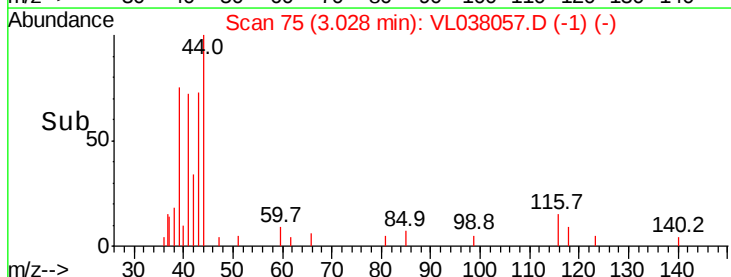
3000

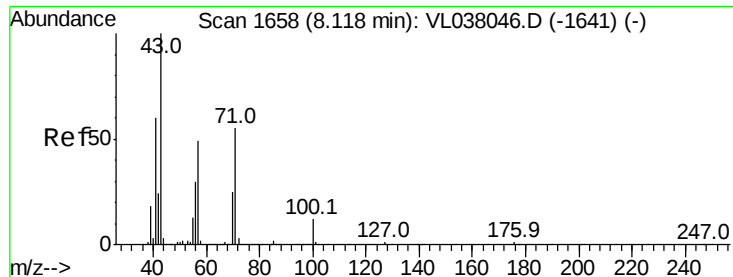
2000

1000

0

Time-->





#10

Heptane

Concen: 11.447 ppbv

RT: 8.13 Instrument: MSVOA\_1

Delta R.T. ClientSampleId:

Lab File: E058-1100DL

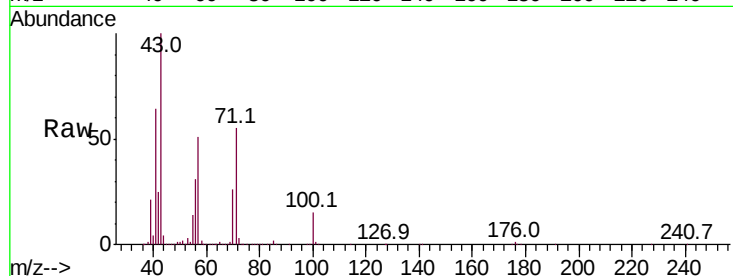
Acq: 18 Nov 2021 17:18

Tot Ion: 43 Resp: 1828970

Ion Ratio Lower Upper

43 100

57 50.6 40.4 60.6



Abundance Ion 43.10 (42.80 to 43.80): VL0

Ion 57.10 (56.80 to 57.80): VL0

8.13

800000

600000

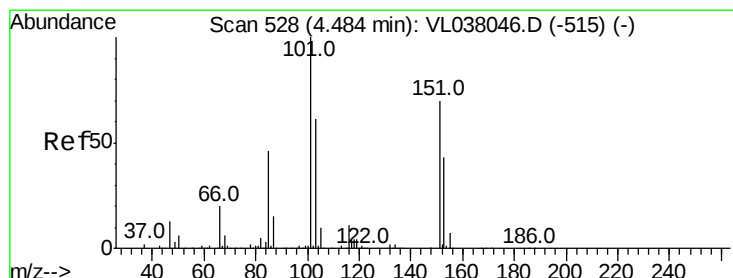
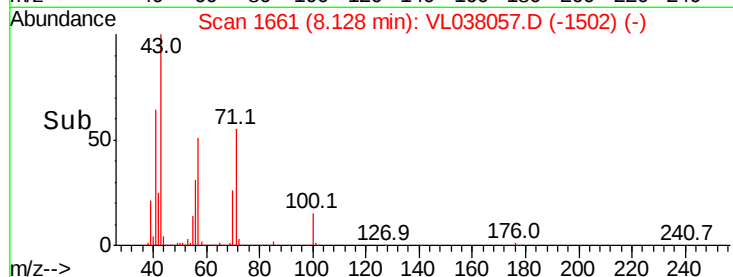
400000

200000

0

8.10 8.20

Time-->



#12

1,1,2-Trichlorotrifluoroethane

Concen: 9.025 ppbv

RT: 4.49 min Scan# 531

Delta R.T. 0.01 min

Lab File: VL038057.D

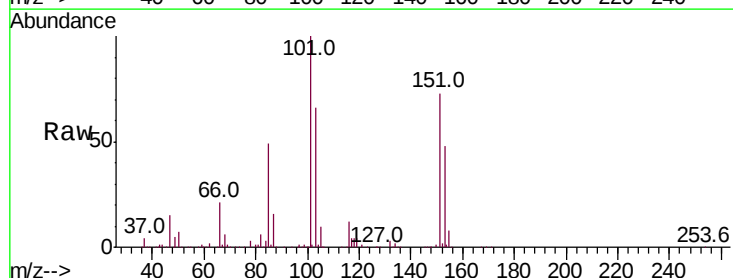
Acq: 18 Nov 2021 17:18

Tgt Ion:101 Resp: 838280

Ion Ratio Lower Upper

101 100

151 72.9 59.0 88.4



Abundance Ion 101.00 (100.70 to 101.70): V

Ion 151.00 (150.70 to 151.70): V

4.49

400000

300000

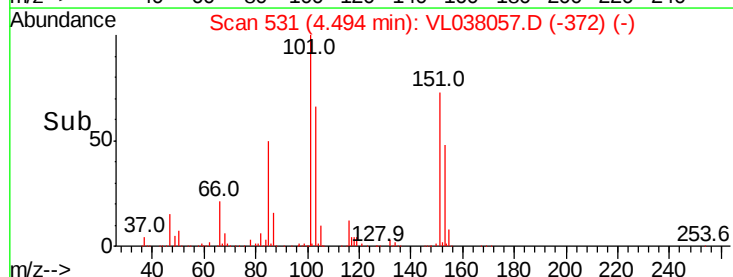
200000

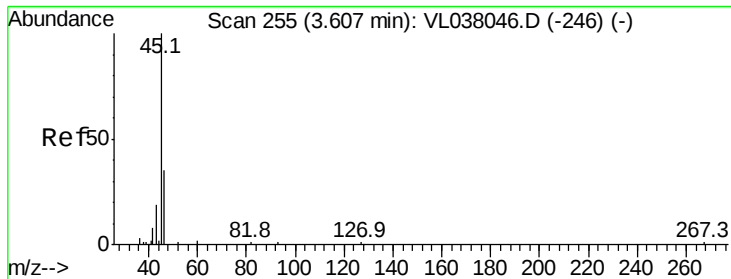
100000

0

4.40 4.50 4.60

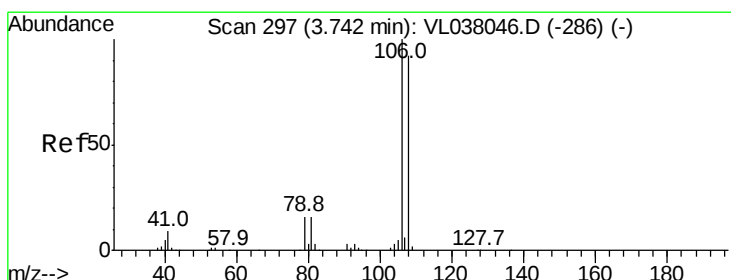
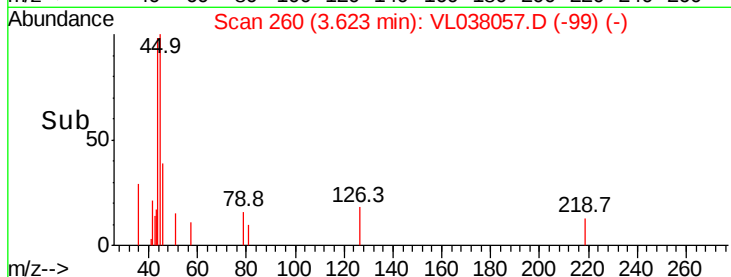
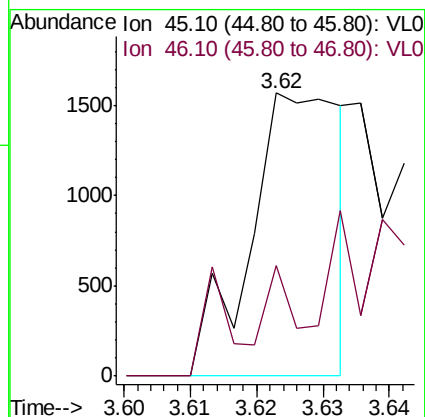
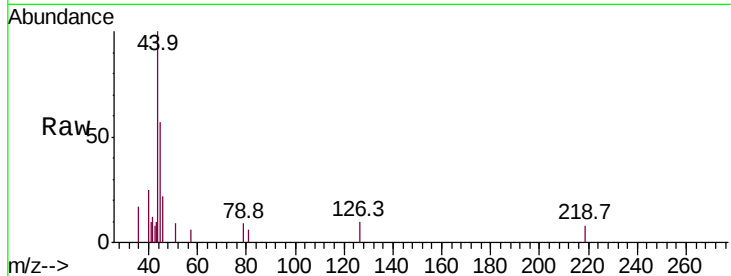
Time-->





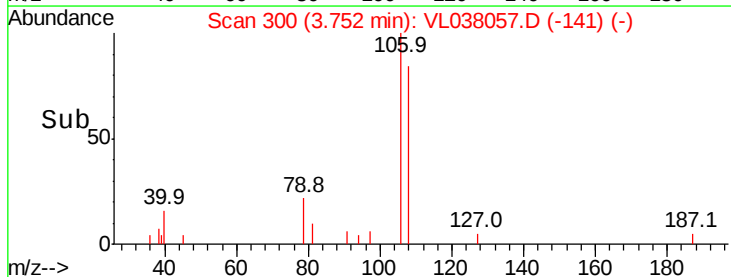
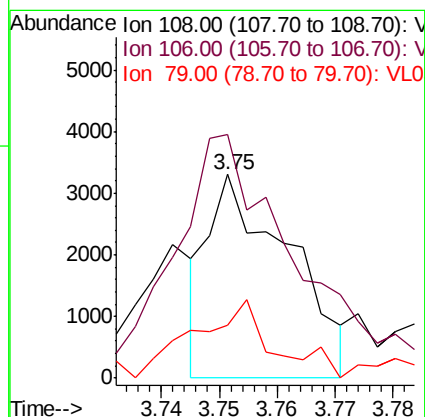
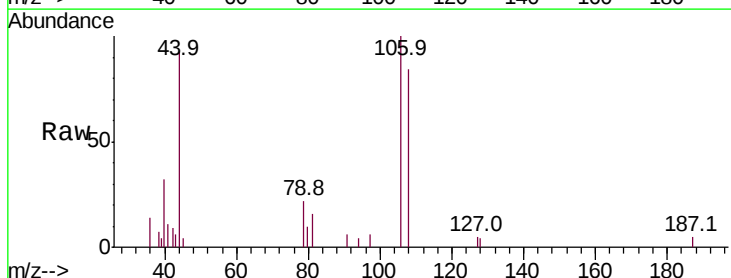
#13  
 Ethanol  
 Concen: 0.239 ppbv  
 RT: 3.62  
 Delta R.T. MSVOA\_L  
 Lab File: ClientSampleId :  
 E058-1100DL  
 Acq: 18 Nov 2021 17:18

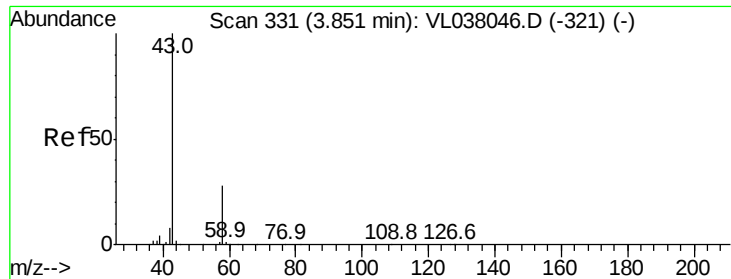
Tot Ion: 45 Resp: 1493  
 Ion Ratio Lower Upper  
 45 100  
 46 0.0 17.6 70.2#



#14  
 Bromoethene  
 Concen: 0.077 ppbv  
 RT: 3.75 min Scan# 300  
 Delta R.T. 0.01 min  
 Lab File: VL038057.D  
 Acq: 18 Nov 2021 17:18

Tgt Ion: 108 Resp: 3198  
 Ion Ratio Lower Upper  
 108 100  
 106 197.4 89.4 134.0#  
 79 53.8 14.1 21.1#





#15

Acetone

Concen: 2.517 ppbv

RT: 3.87 Instrument:

Delta R.T. MSVOA\_L

Lab File: ClientSampleId:

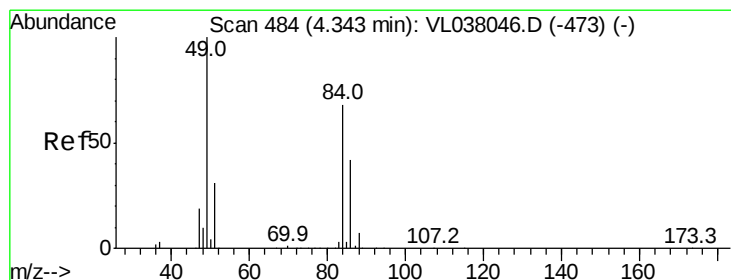
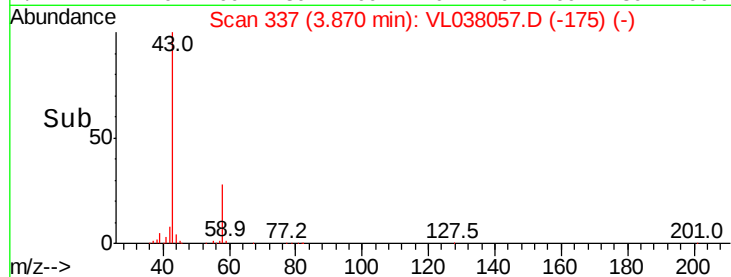
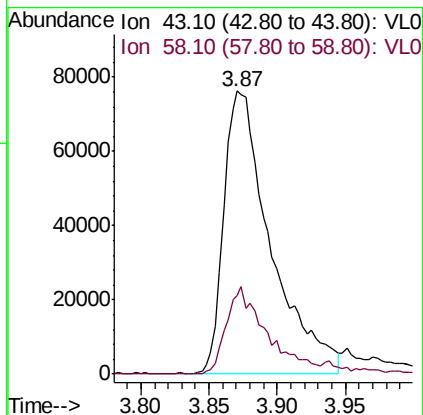
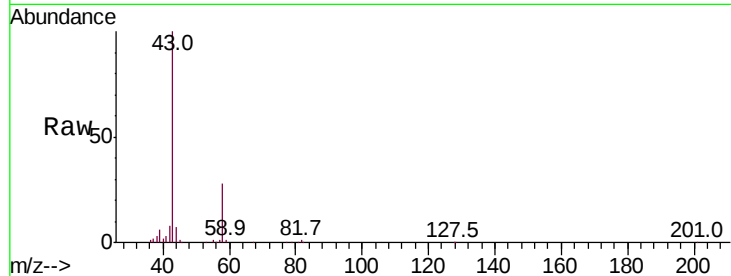
Acq: 18 Nov 2021 17:18 E058-1100DL

Tot Ion: 43 Resp: 182420

Ion Ratio Lower Upper

43 100

58 29.8 22.4 33.6



#20

Methylene Chloride

Concen: 0.472 ppbv

RT: 4.35 min Scan# 487

Delta R.T. 0.01 min

Lab File: VL038057.D

Acq: 18 Nov 2021 17:18

Tgt Ion: 84 Resp: 19174

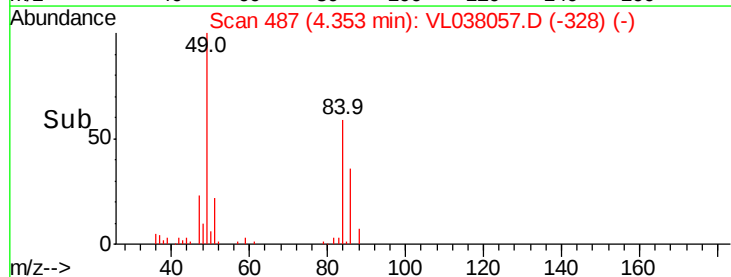
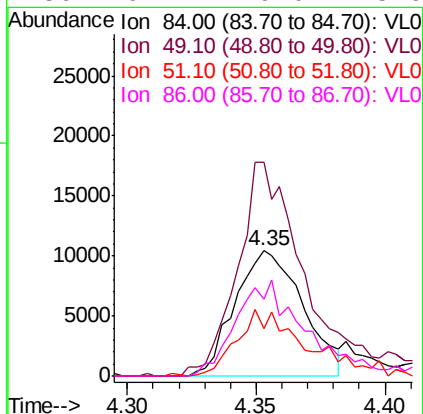
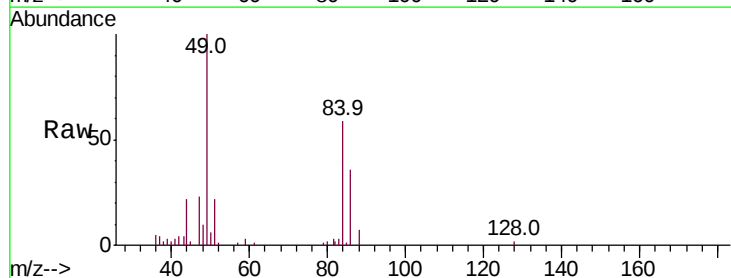
Ion Ratio Lower Upper

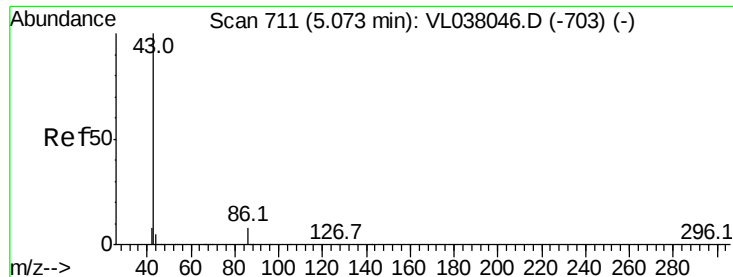
84 100

49 163.5 118.2 177.2

51 38.2 36.8 55.2

86 61.7 49.0 73.6





#23

Vinyl Acetate

Concen: 0.101 ppbv

RT: 5.09 Instrument: MSVOA\_1

Delta R.T.

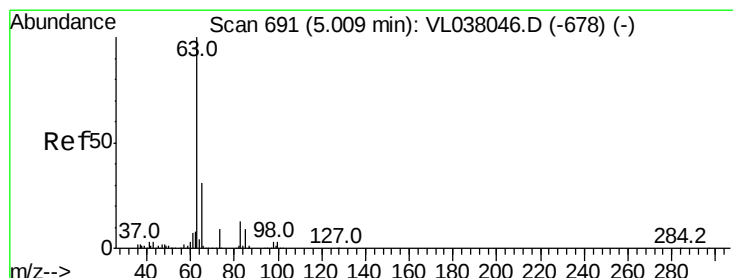
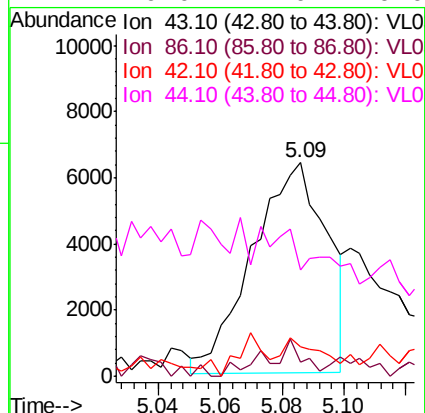
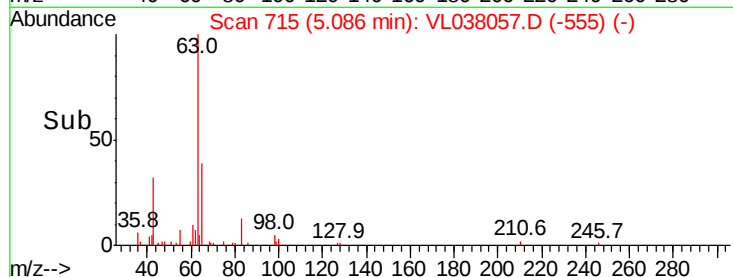
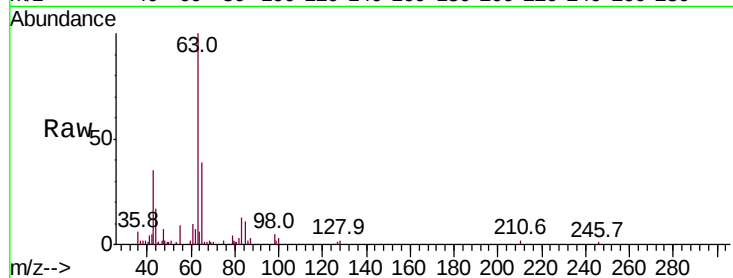
Lab File: ClientSampleId:

Acq: 18 Nov 2021 17:18 E058-1100DL

Tot Ion: 43 Resp: 10590

Ion Ratio Lower Upper

|    |      |     |      |
|----|------|-----|------|
| 43 | 100  |     |      |
| 86 | 7.4  | 5.3 | 7.9  |
| 42 | 10.4 | 7.0 | 10.6 |
| 44 | 0.0  | 4.0 | 6.0# |



#24

1,1-Dichloroethane

Concen: 11.712 ppbv

RT: 5.02 min Scan# 694

Delta R.T. 0.01 min

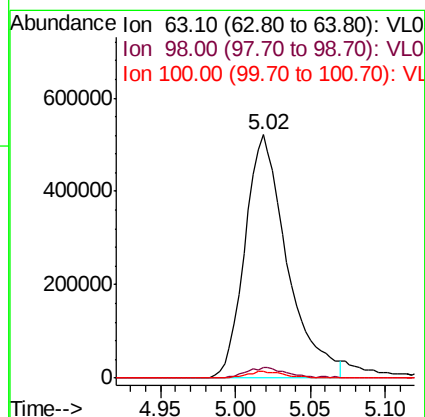
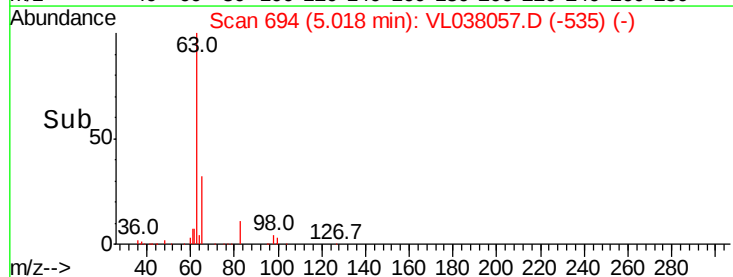
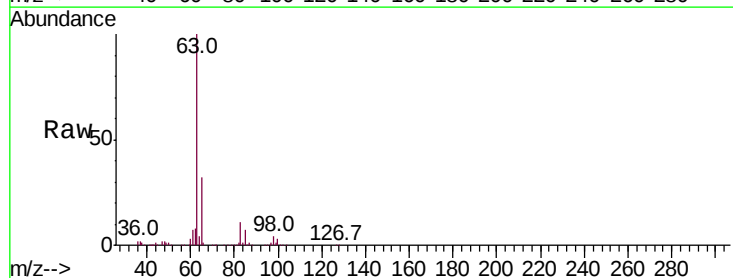
Lab File: VL038057.D

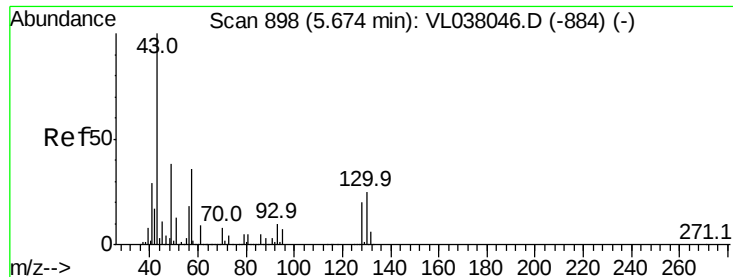
Acq: 18 Nov 2021 17:18

Tgt Ion: 63 Resp: 1023174

Ion Ratio Lower Upper

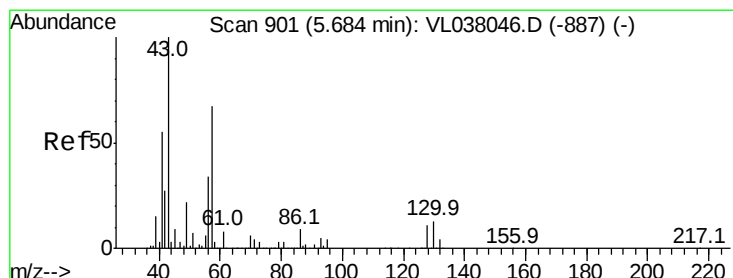
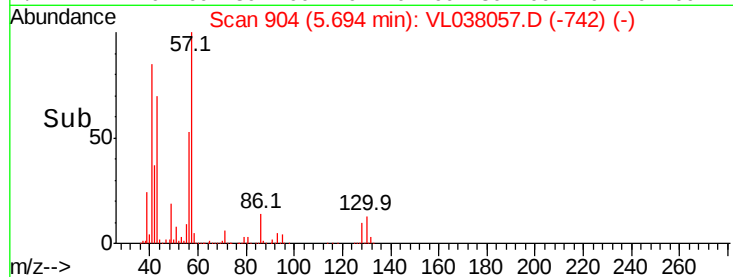
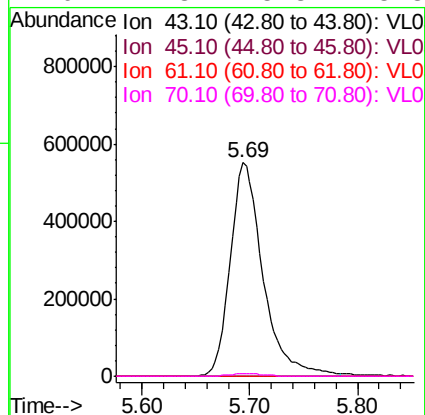
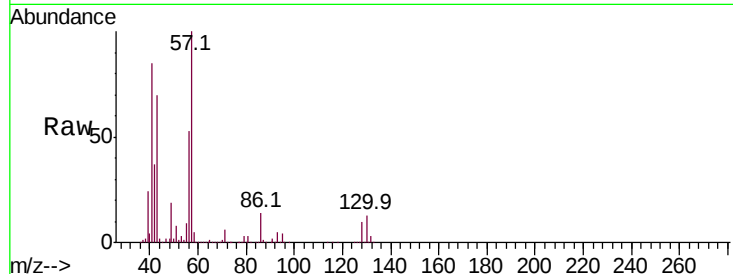
|     |     |     |     |
|-----|-----|-----|-----|
| 63  | 100 |     |     |
| 98  | 4.1 | 1.8 | 5.4 |
| 100 | 2.7 | 1.4 | 4.0 |





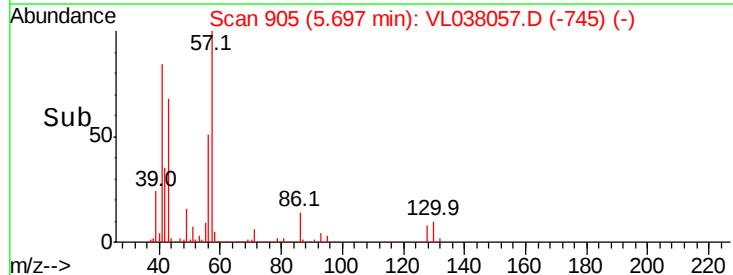
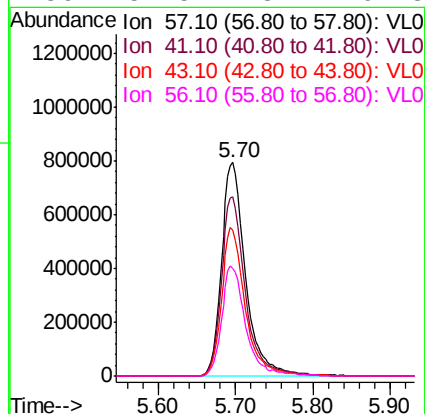
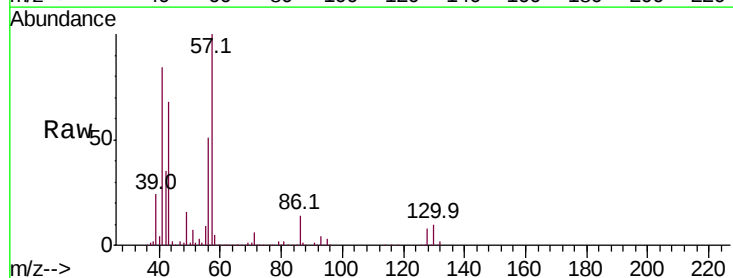
#25  
Ethyl Acetate  
Concen: 4.855 ppbv  
RT: 5.69  
Instrument: MSVOA\_1  
Delta R.T.:  
Lab File: ClientSampleId:  
E058-1100DL  
Acq: 18 Nov 2021 17:18

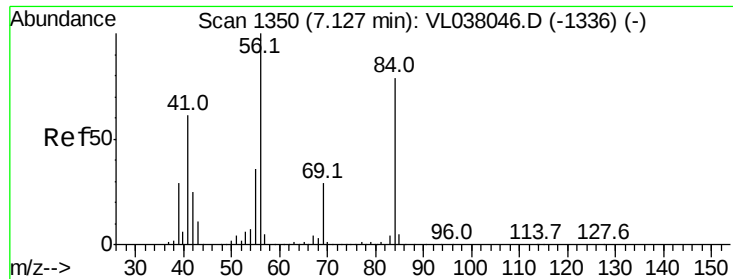
| Tot Ion: | 43    | Resp: | 1169448 |
|----------|-------|-------|---------|
| Ion      | Ratio | Lower | Upper   |
| 43       | 100   |       |         |
| 45       | 0.1   | 7.9   | 11.9#   |
| 61       | 0.1   | 7.8   | 11.6#   |
| 70       | 1.3   | 5.8   | 8.8#    |



#26  
Hexane  
Concen: 14.849 ppbv  
RT: 5.70 min Scan# 905  
Delta R.T.: 0.01 min  
Lab File: VL038057.D  
Acq: 18 Nov 2021 17:18

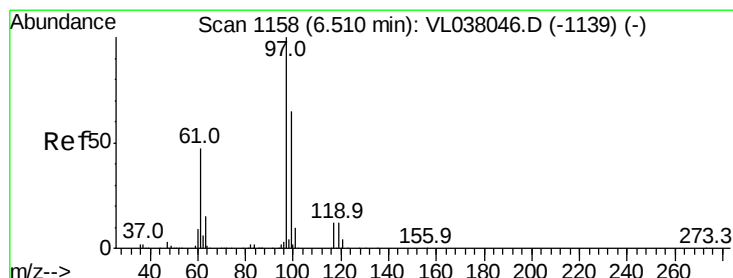
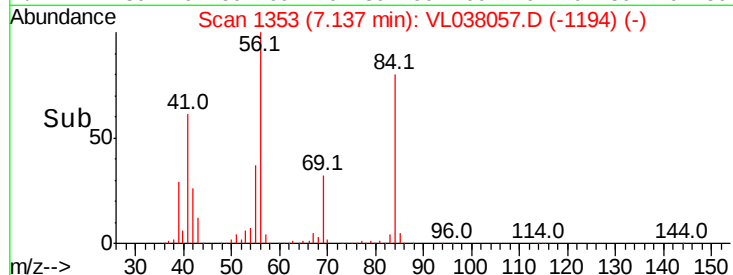
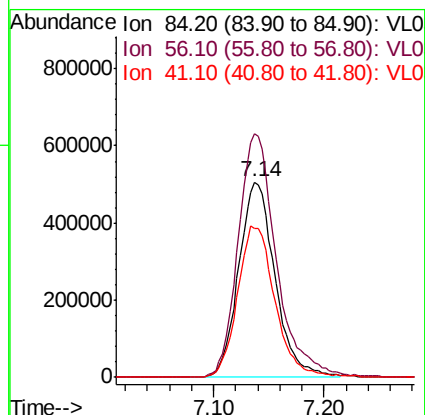
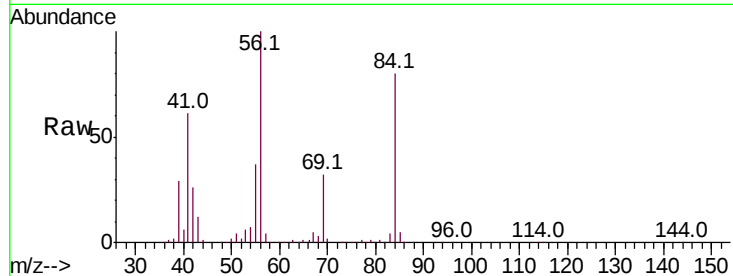
| Tgt Ion: | 57    | Resp: | 1723903 |
|----------|-------|-------|---------|
| Ion      | Ratio | Lower | Upper   |
| 57       | 100   |       |         |
| 41       | 84.2  | 71.4  | 107.2   |
| 43       | 68.5  | 174.6 | 261.8#  |
| 56       | 51.5  | 43.2  | 64.8    |





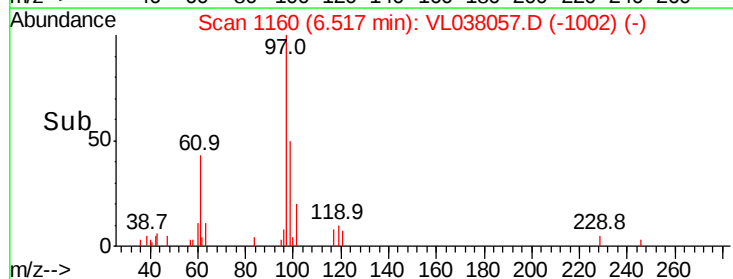
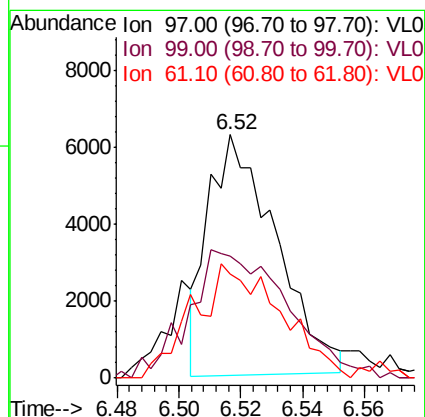
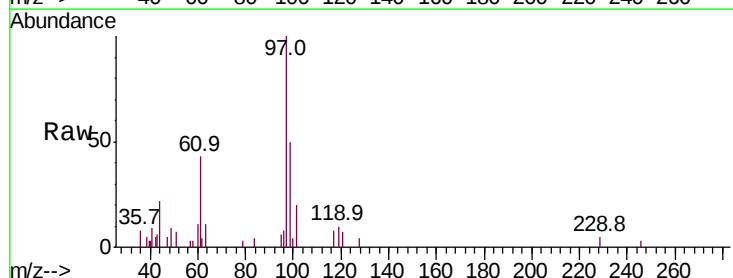
#30  
Cvclohexane  
Concen: 10.971 ppbv  
RT: 7.14  
Delta R.T. MSVOA\_L  
Lab File: ClientSampleId :  
Acq: 18 Nov 2021 17:18

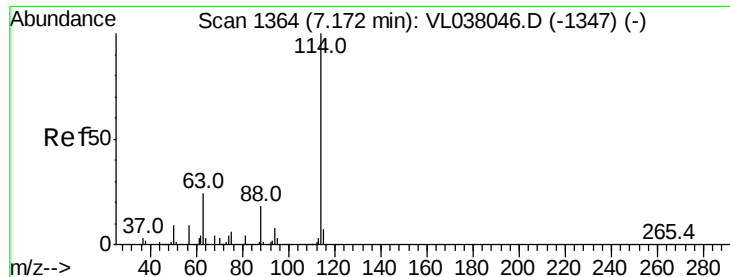
Tot Ion: 84 Resp: 1156354  
Ion Ratio Lower Upper  
84 100  
56 132.2 108.1 162.1  
41 79.8 64.4 96.6



#32  
1,1,1-Trichloroethane  
Concen: 0.055 ppbv  
RT: 6.52 min Scan# 1160  
Delta R.T. 0.01 min  
Lab File: VL038057.D  
Acq: 18 Nov 2021 17:18

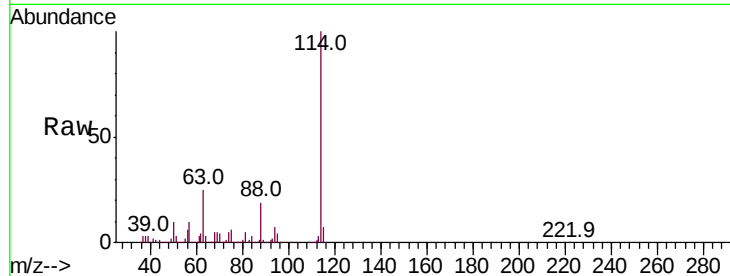
Tgt Ion: 97 Resp: 9536  
Ion Ratio Lower Upper  
97 100  
99 78.0 52.2 78.4  
61 63.7 37.7 56.5#



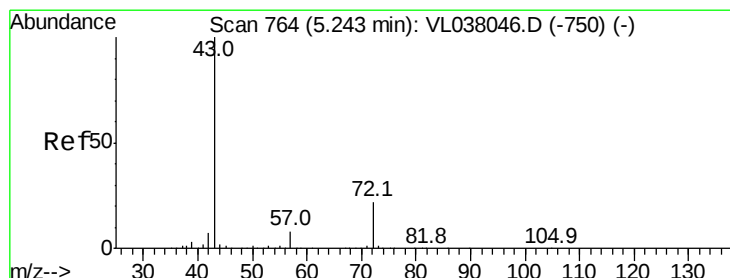
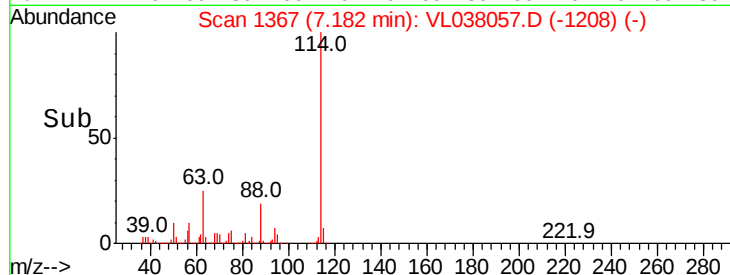
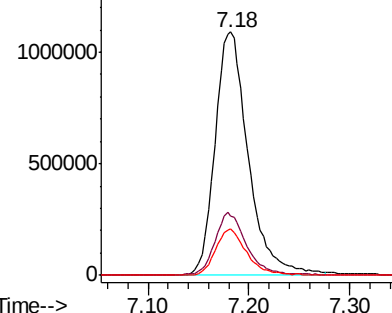


#33  
 1,4-Difluorobenzene  
 Concen: 10.000 ppbv  
 RT: 7.18  
 Instrument: MSVOA\_L  
 Delta R.T.:  
 Lab File: ClientSampleId:  
 E058-1100DL  
 Acq: 18 Nov 2021 17:18

Tot Ion:114 Resp: 2504464  
 Ion Ratio Lower Upper  
 114 100  
 63 25.3 19.7 29.5  
 88 18.2 14.4 21.6

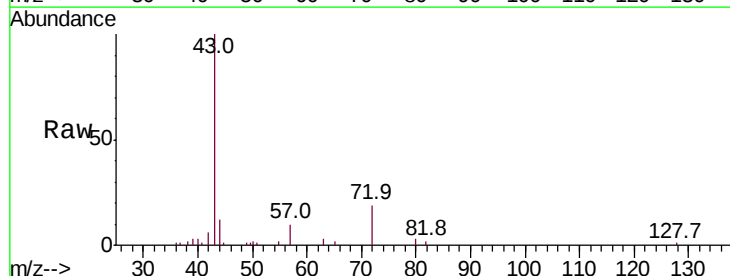


Abundance Ion 114.10 (113.80 to 114.80): VL0  
 Ion 63.10 (62.80 to 63.80): VL0  
 Ion 88.10 (87.80 to 88.80): VL0

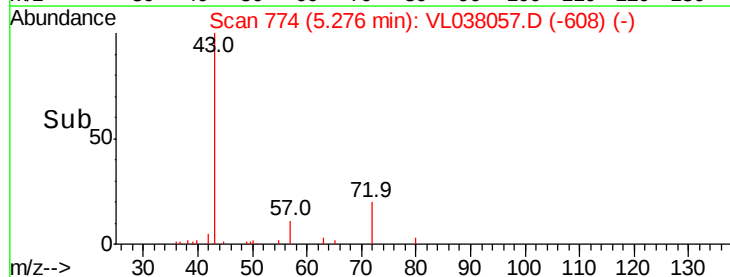
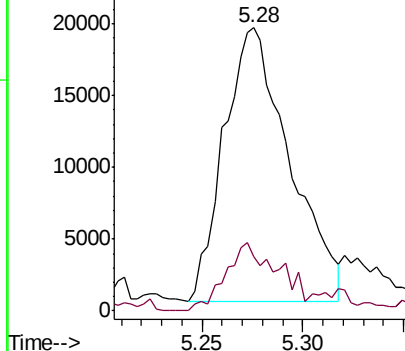


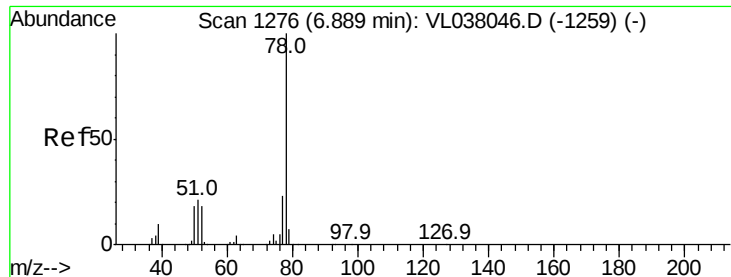
#34  
 2-Butanone  
 Concen: 0.426 ppbv  
 RT: 5.28 min Scan# 774  
 Delta R.T. 0.03 min  
 Lab File: VL038057.D  
 Acq: 18 Nov 2021 17:18

Tgt Ion: 43 Resp: 43039  
 Ion Ratio Lower Upper  
 43 100  
 72 25.7 18.8 28.2



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

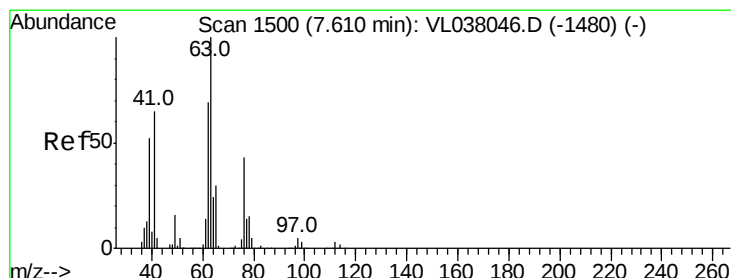
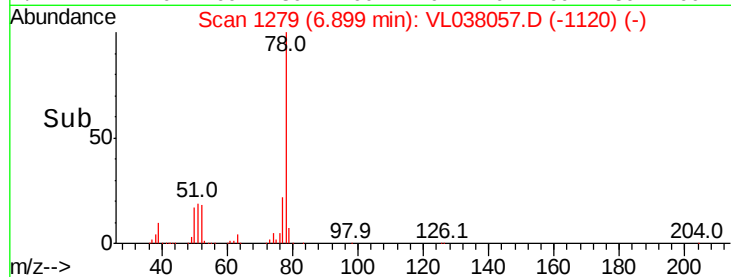
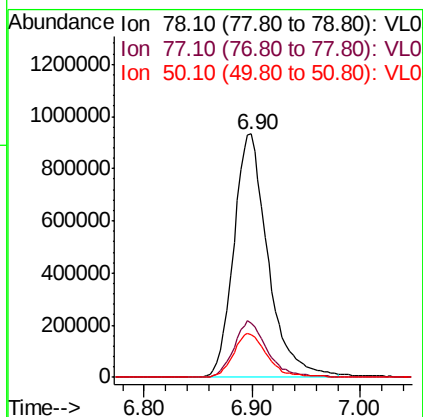
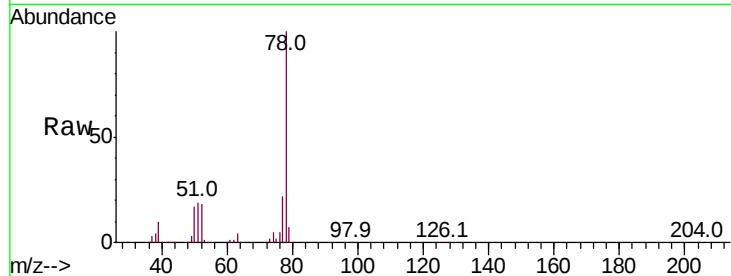




#36  
Benzene  
Concen: 8.245 ppbv  
RT: 6.90  
Delta R.T. MSVOA\_L  
Lab File: ClientSampleId :  
E058-1100DL  
Acq: 18 Nov 2021 17:18

Tot Ion: 78 Resp: 2059708

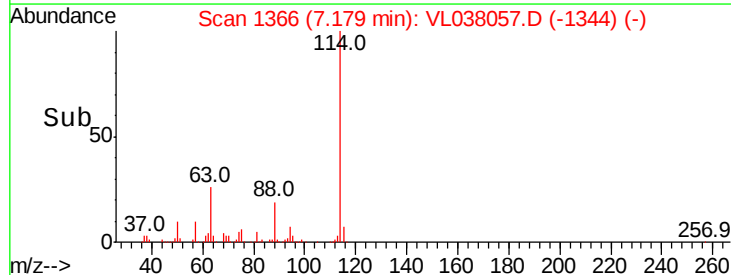
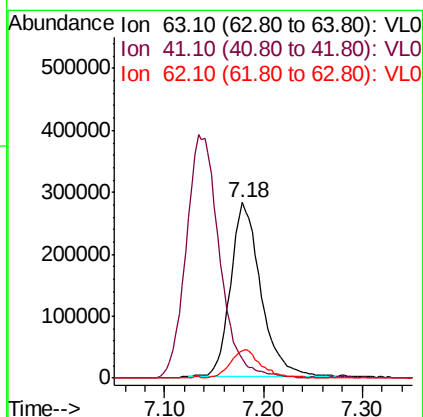
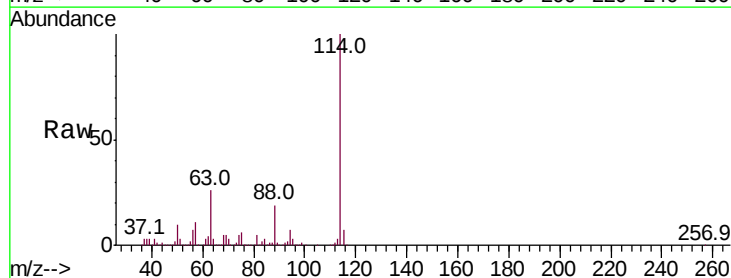
| Ion | Ratio | Lower | Upper |
|-----|-------|-------|-------|
| 78  | 100   |       |       |
| 77  | 22.2  | 18.2  | 27.4  |
| 50  | 17.3  | 14.7  | 22.1  |

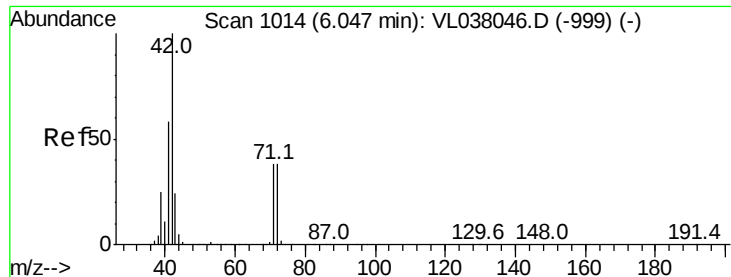


#39  
1,2-Dichloropropane  
Concen: 6.218 ppbv  
RT: 7.18 min Scan# 1366  
Delta R.T. -0.43 min  
Lab File: VL038057.D  
Acq: 18 Nov 2021 17:18

Tgt Ion: 63 Resp: 595891

| Ion | Ratio | Lower | Upper |
|-----|-------|-------|-------|
| 63  | 100   |       |       |
| 41  | 10.4  | 52.3  | 78.5# |
| 62  | 15.5  | 55.1  | 82.7# |





#41

Tetrahydrofuran

Concen: 9.735 ppbv

RT: 5.69

Delta R.T. MSVOA\_L

Lab File: ClientSampleId :

Acq: 18 Nov 2021 17:18

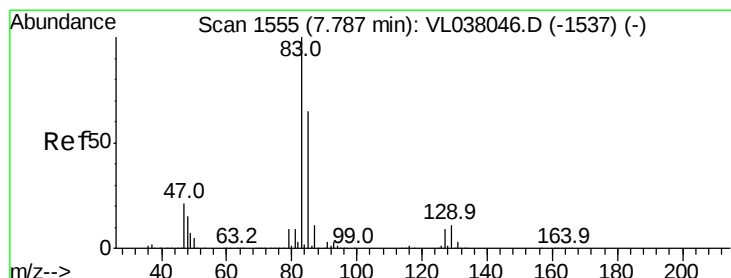
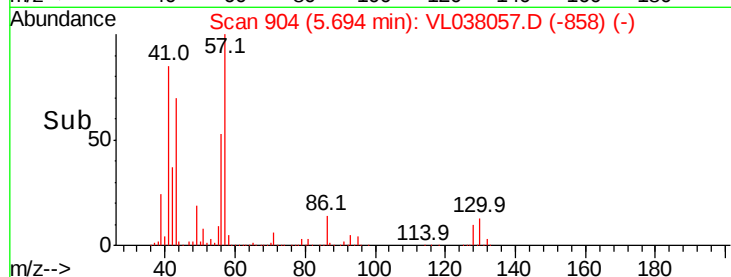
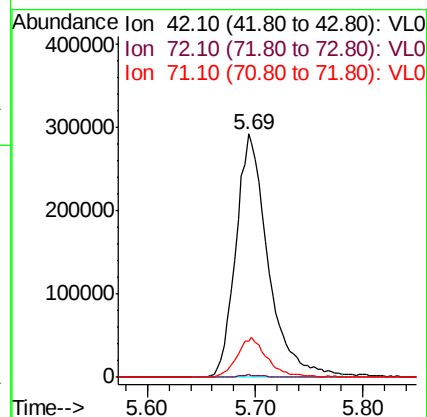
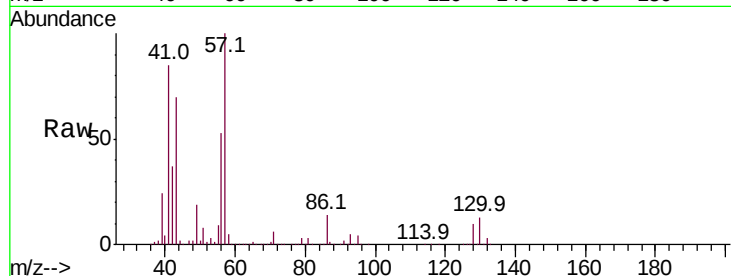
Tot Ion: 42 Resp: 610275

Ion Ratio Lower Upper

42 100

72 0.9 31.7 47.5#

71 15.7 30.6 46.0#



#42

Bromodichloromethane

Concen: 0.031 ppbv

RT: 7.79 min Scan# 1557

Delta R.T. 0.01 min

Lab File: VL038057.D

Acq: 18 Nov 2021 17:18

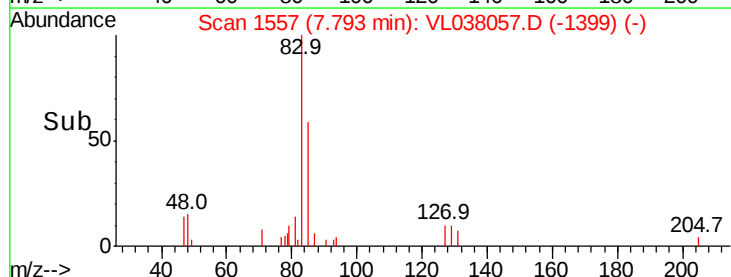
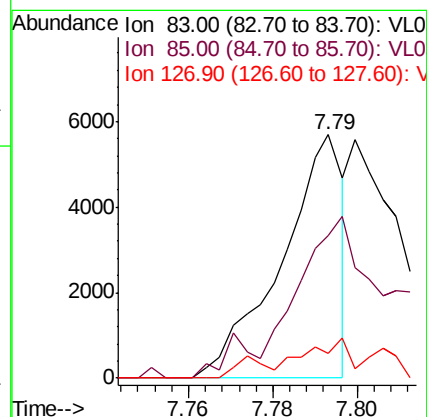
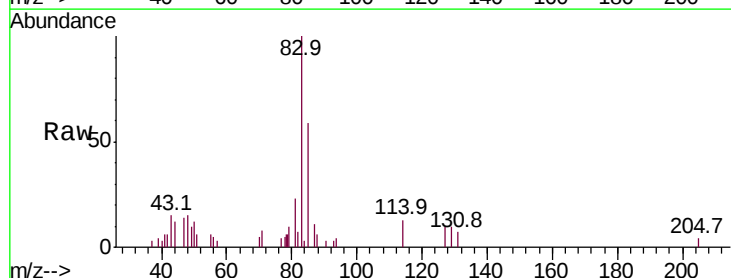
Tgt Ion: 83 Resp: 5765

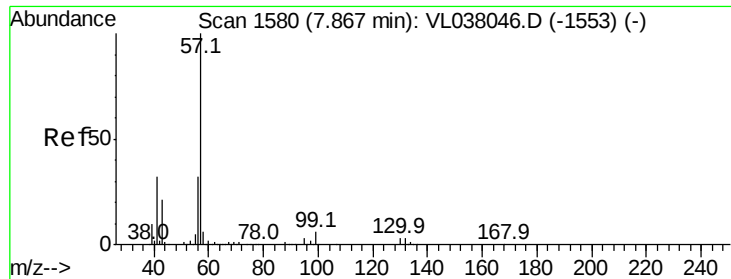
Ion Ratio Lower Upper

83 100

85 58.6 51.9 77.9

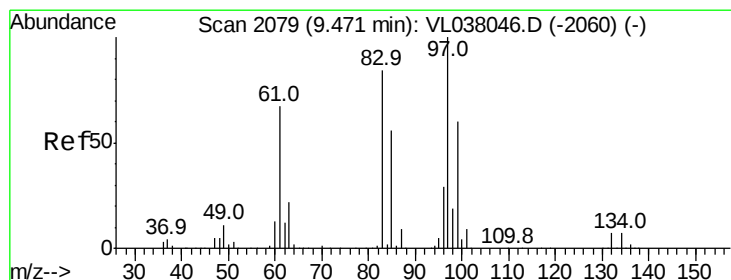
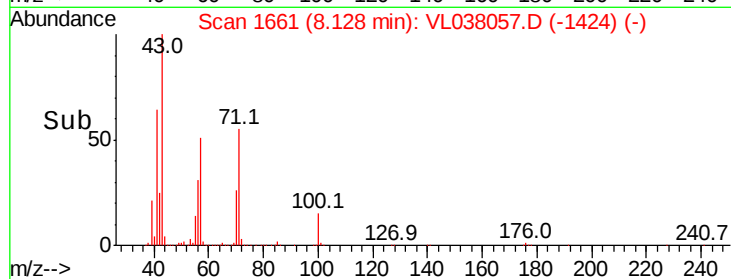
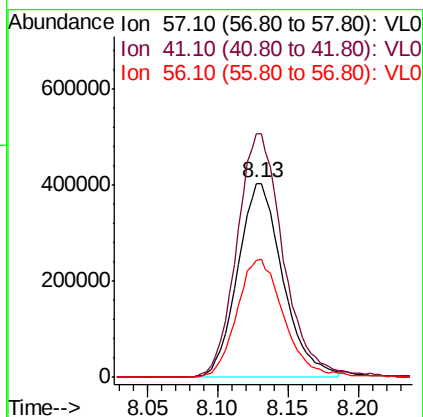
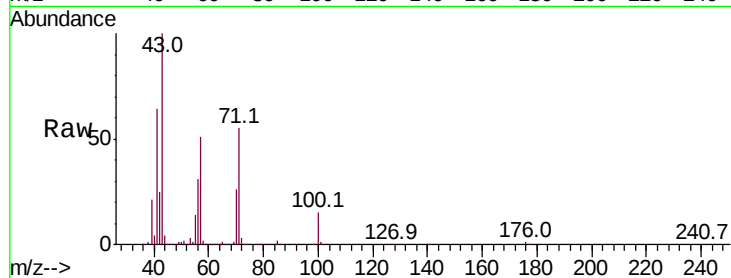
127 10.1 6.8 10.2





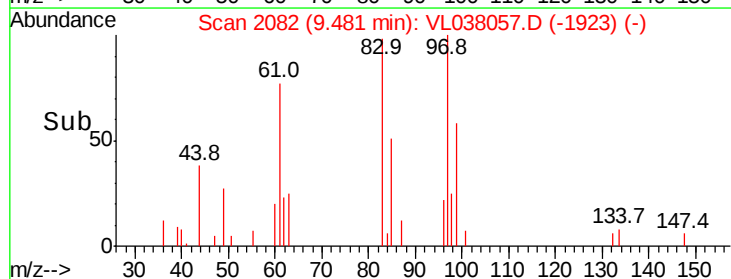
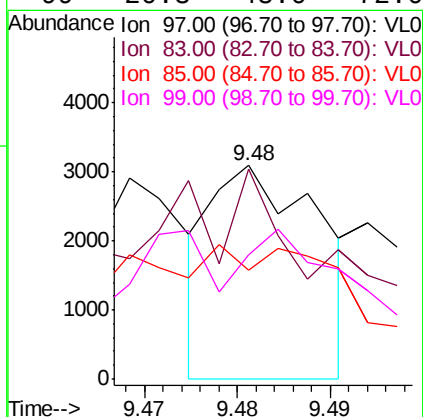
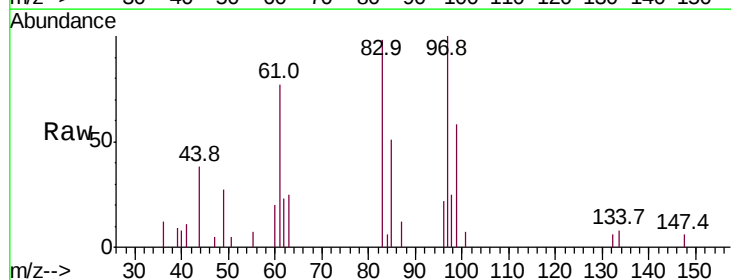
#44  
 2,2,4-Trimethylpentane  
 Concen: 2.153 ppbv  
 RT: 8.13  
 Delta R.T. MSVOA\_L  
 Lab File: ClientSampleId :  
 E058-1100DL  
 Acq: 18 Nov 2021 17:18

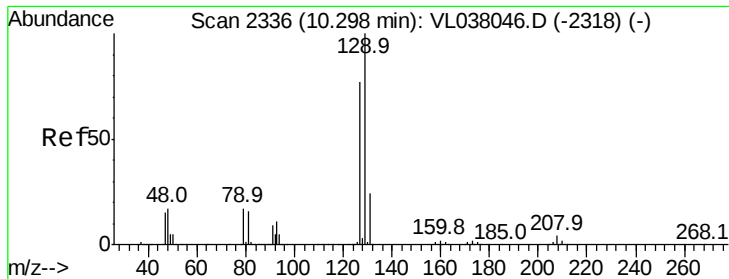
Tot Ion: 57 Resp: 899722  
 Ion Ratio Lower Upper  
 57 100  
 41 131.0 25.8 38.6#  
 56 64.5 25.6 38.4#



#47  
 1,1,2-Trichloroethane  
 Concen: 0.025 ppbv  
 RT: 9.48 min Scan# 2082  
 Delta R.T. 0.01 min  
 Lab File: VL038057.D  
 Acq: 18 Nov 2021 17:18

Tgt Ion: 97 Resp: 2502  
 Ion Ratio Lower Upper  
 97 100  
 83 111.5 66.8 100.2#  
 85 10.6 44.9 67.3#  
 99 20.3 48.0 72.0#





#48

Dibromochloromethane

Concen: 7.851 ppbv

RT: 10.31

Delta R.T. MSVOA\_L

Lab File: ClientSampleId :

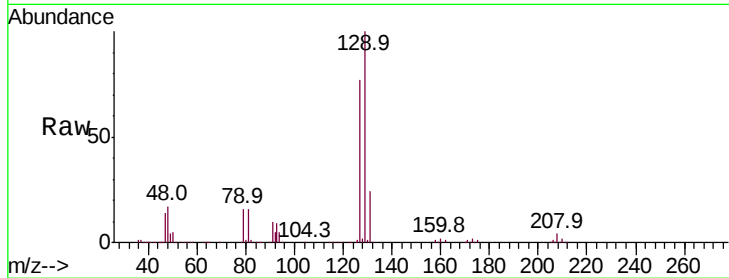
Acq: 18 Nov 2021 17:18

Tot Ion:129 Resp: 1200080

Ion Ratio Lower Upper

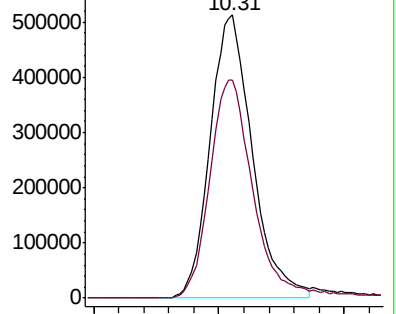
129 100

127 82.2 39.4 118.1

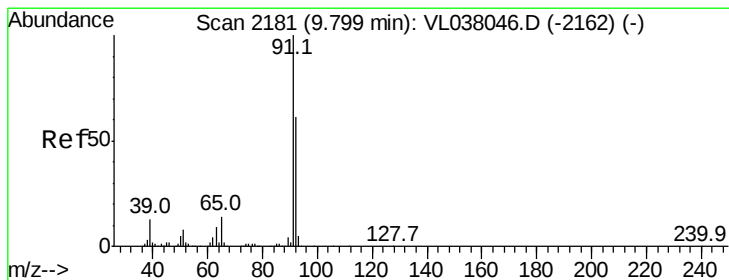
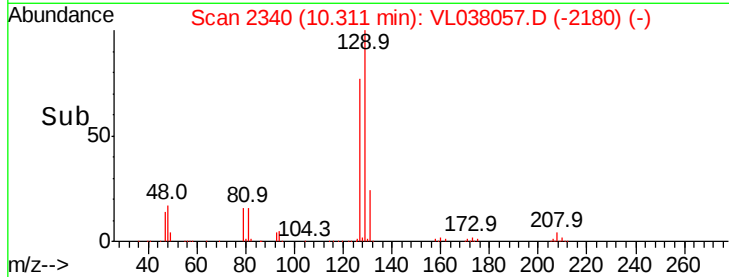


Abundance Ion 129.00 (128.70 to 129.70): V

Ion 127.00 (126.70 to 127.70): V



Time-->



#53

Toluene

Concen: 8.062 ppbv

RT: 9.81 min Scan# 2184

Delta R.T. 0.01 min

Lab File: VL038057.D

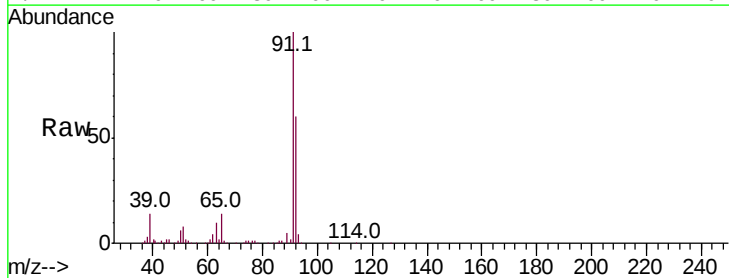
Acq: 18 Nov 2021 17:18

Tgt Ion: 91 Resp: 2317432

Ion Ratio Lower Upper

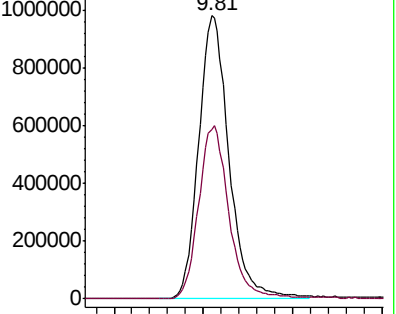
91 100

92 62.4 49.7 74.5

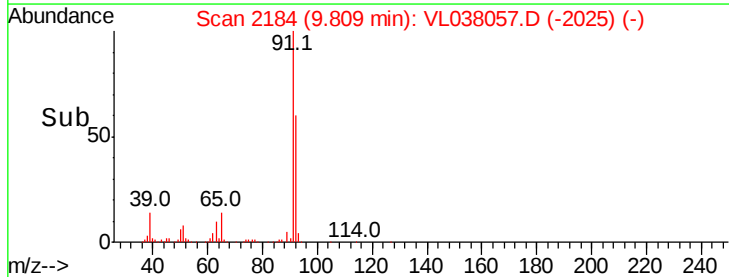


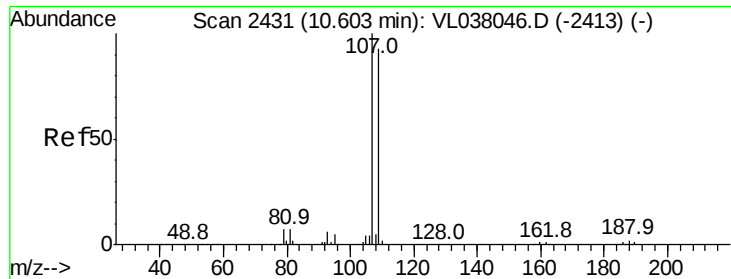
Abundance Ion 91.10 (90.80 to 91.80): VL0

Ion 92.10 (91.80 to 92.80): VL0



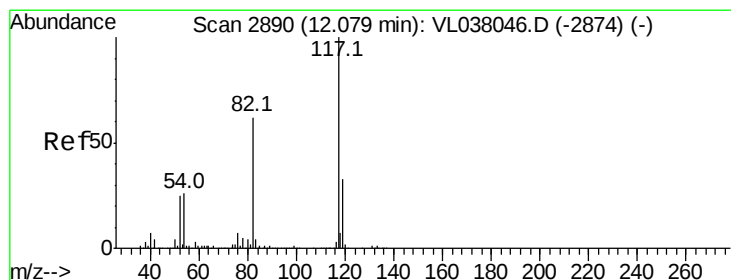
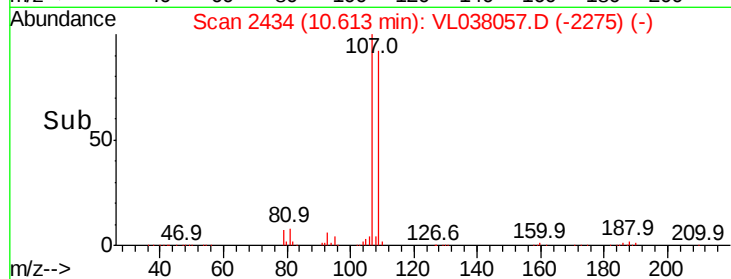
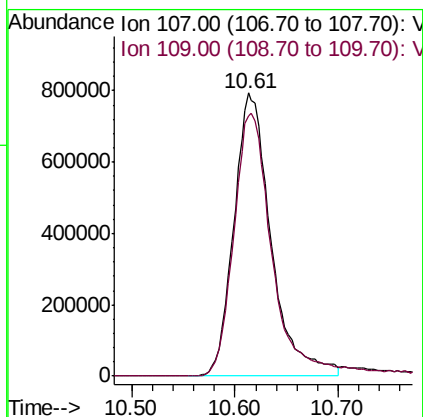
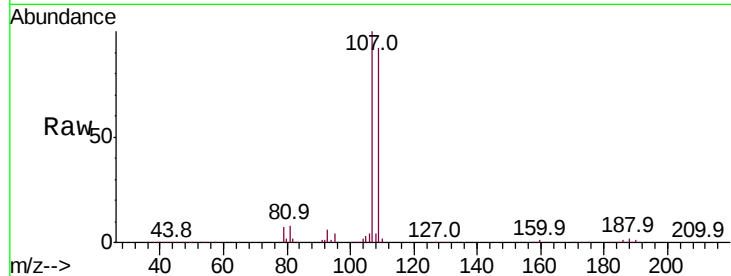
Time-->





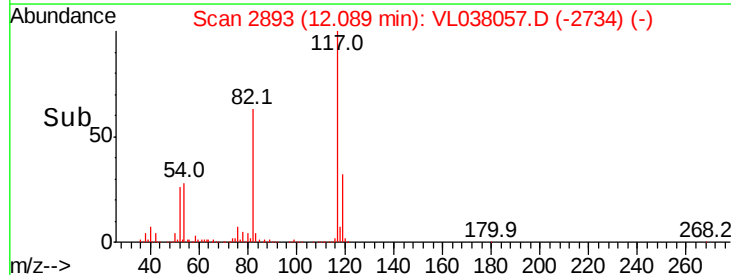
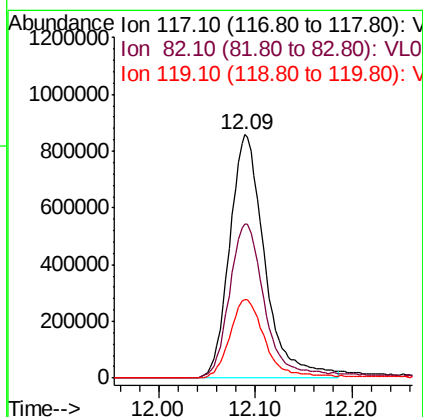
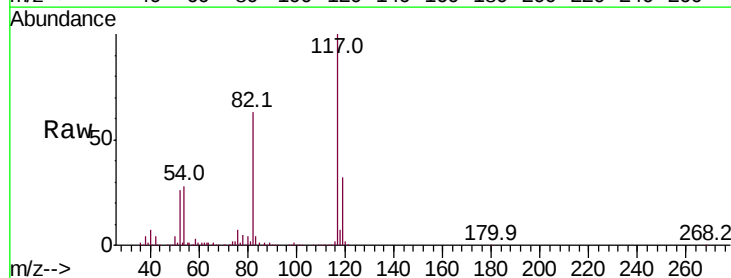
#54  
 1,2-Dibromoethane  
 Concen: 14.037 ppbv  
 RT: 10.61 min  
 Delta R.T. MSVOA\_L  
 Lab File: ClientSampleId :  
 E058-1100DL  
 Acq: 18 Nov 2021 17:18

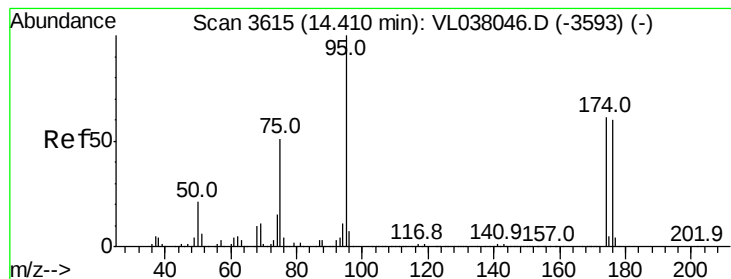
Tot Ion:107 Resp: 1990079  
 Ion Ratio Lower Upper  
 107 100  
 109 92.2 74.6 111.8



#55  
 Chlorobenzene-d5  
 Concen: 10.000 ppbv  
 RT: 12.09 min Scan# 2893  
 Delta R.T. 0.01 min  
 Lab File: VL038057.D  
 Acq: 18 Nov 2021 17:18

Tgt Ion:117 Resp: 2168112  
 Ion Ratio Lower Upper  
 117 100  
 82 68.3 52.8 79.2  
 119 33.1 26.8 40.2





#68

1-Bromo-4-Fluorobenzene

Concen: 10.021 ppbv

RT: 14.42

Delta R.T: MSVOA\_L

Lab File: ClientSampleId:

E058-1100DL

Acq: 18 Nov 2021 17:18

Tot Ion: 95 Resp: 1567194

Ion Ratio Lower Upper

95 100

174 66.1 53.1 79.7

175 4.6 4.0 6.0

