

Data Path : W:\HPCHEM1\MSVOA L\DATA\VL122017\  
 Data File : VL031274.D  
 Acq On : 20 Dec 2017 17:26  
 Operator : SY/AP  
 Sample : I7005-01DUP  
 Misc : 400ml/MSVOA L  
 ALS Vial : 1 Sample Multiplier: 1

Instrument :  
 MSVOA\_L  
 ClientSampleId :  
 EP1-OUT-01DUP

Manual Integrations  
 APPROVED

MMDadoda  
 12/22/2017 4:54:50 PM

Quant Time: Dec 22 04:30:23 2017  
 Quant Method : W:\HPCHEM1\MSVOA L\METHODS\VL121317AIR.M  
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA\_L Thu Dec 14 2017  
 QLast Update : Thu Dec 14 04:29:58 2017  
 Response via : Initial Calibration

| Internal Standards      | R.T.  | QIon | Response | Conc  | Units | Dev(Min) |
|-------------------------|-------|------|----------|-------|-------|----------|
| 1) Bromochloromethane   | 5.91  | 49   | 1494873  | 10.00 | ppbv  | 0.00     |
| 33) 1,4-Difluorobenzene | 7.45  | 114  | 3622023  | 10.00 | ppbv  | 0.00     |
| 55) Chlorobenzene-d5    | 12.41 | 117  | 3447469  | 10.00 | ppbv  | 0.00     |

System Monitoring Compounds

|                             |        |       |          |          |      |         |
|-----------------------------|--------|-------|----------|----------|------|---------|
| 68) 1-Bromo-4-Fluorobenzene | 14.75  | 95    | 2718311  | 11.09    | ppbv | 0.00    |
| Spiked Amount               | 10.000 | Range | 65 - 135 | Recovery | =    | 110.90% |

| Target Compounds           | R.T.  | QIon | Response | Conc | Units  | Ovalue |
|----------------------------|-------|------|----------|------|--------|--------|
| 2) Dichlorodifluoromethane | 3.18  | 85   | 52300    | 0.41 | ppbv   | 92     |
| 3) Chlorodifluoromethane   | 3.12  | 51   | 184381   | 1.08 | ppbv   | 99     |
| 4) Chloromethane           | 3.27  | 50   | 45333    | 0.49 | ppbv   | 92     |
| 9) Propene                 | 3.14  | 41   | 74980    | 0.90 | ppbv   | 85     |
| 10) Heptane                | 8.41  | 43   | 28388    | 0.11 | ppbv   | 100    |
| 11) Trichlorofluoromethane | 4.13  | 101  | 60758    | 0.29 | ppbv   | 94     |
| 13) Ethanol                | 3.77  | 45   | 199098   | 8.27 | ppbv   | 100    |
| 15) Acetone                | 4.03  | 43   | 681764   | 3.46 | ppbv   | 90     |
| 20) Methylene Chloride     | 4.54  | 84   | 577478   | 8.84 | ppbv   | 96     |
| 26) Hexane                 | 5.93  | 57   | 1443451  | 7.55 | ppbv # | 44     |
| 30) Cyclohexane            | 7.41  | 84   | 20651m   | 0.12 | ppbv   |        |
| 34) 2-Butanone             | 5.48  | 43   | 48440    | 0.19 | ppbv   | 98     |
| 35) Carbon Tetrachloride   | 7.30  | 117  | 18645m   | 0.07 | ppbv   |        |
| 36) Benzene                | 7.16  | 78   | 111200   | 0.29 | ppbv   | 98     |
| 44) 2,2,4-Trimethylpentane | 8.15  | 57   | 94021    | 0.16 | ppbv # | 82     |
| 52) Tetrachloroethene      | 11.55 | 164  | 7285m    | 0.05 | ppbv   |        |
| 53) Toluene                | 10.12 | 91   | 200600   | 0.48 | ppbv   | 97     |
| 59) m/p-Xylene             | 13.30 | 91   | 97813m   | 0.21 | ppbv   |        |

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

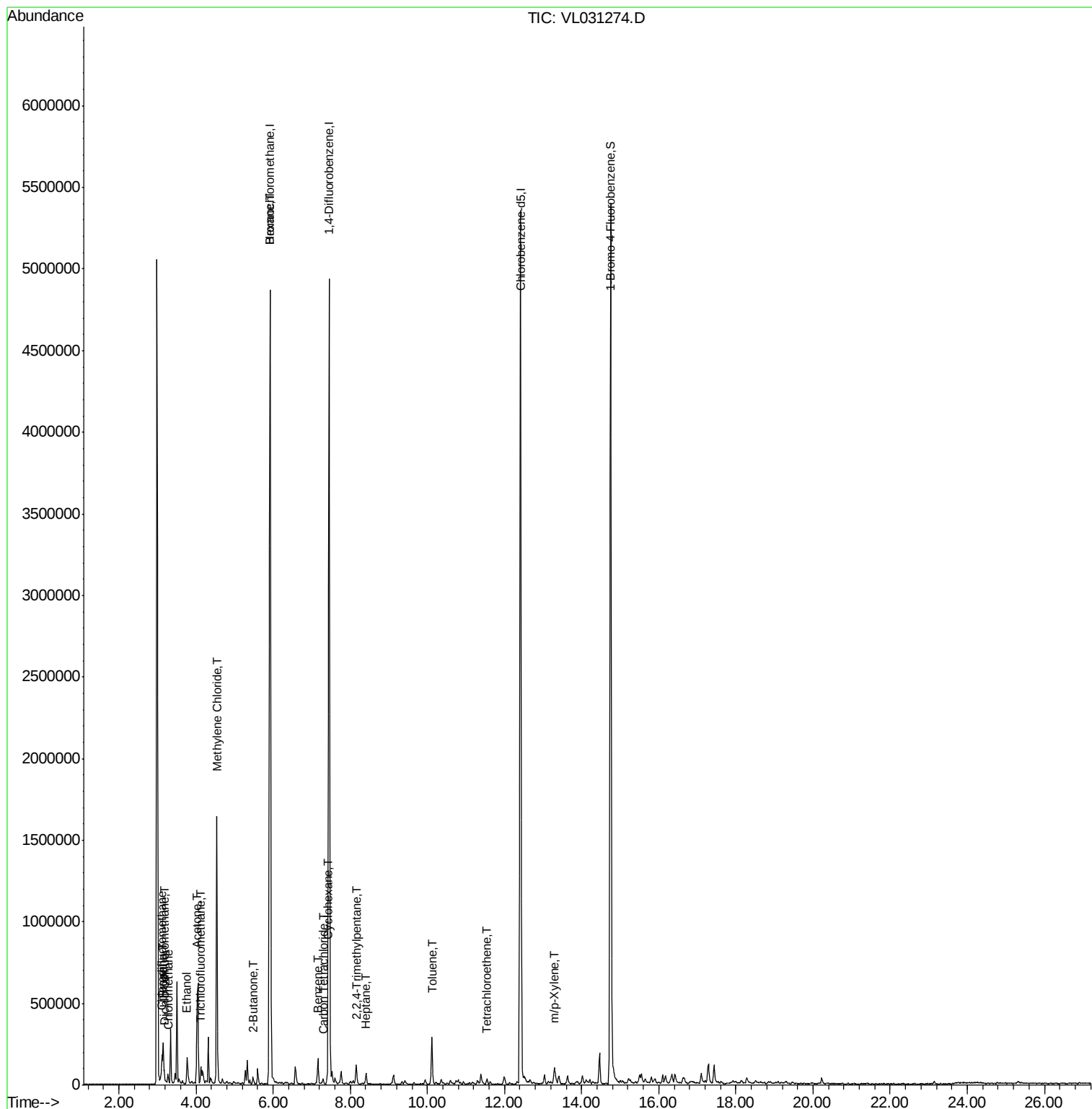
```
Data Path : W:\HPCHEM1\MSVOA L\DATA\VL122017\  
Data File : VL031274.D  
Acq On    : 20 Dec 2017  17:26  
Operator  : SY/AP  
Sample    : I7005-01DUP  
Misc      : 400ml/MSVOA L  
ALS Vial  : 1      Sample Multiplier: 1
```

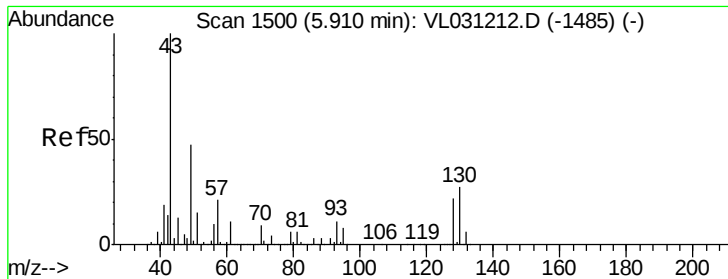
**Instrument :**  
MSVOA\_L  
**ClientSampleId :**  
EP1-OUT-01DUP

## Manual Integrations APPROVED

MMDadoda  
12/22/2017 4:54:50 PM

Quant Time: Dec 22 04:30:23 2017  
Quant Method : W:\HPCHEM1\MSVOA L\METHODS\VL121317AIR.M  
Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA\_LThu Dec  
QLast Update : Thu Dec 14 04:29:58 2017  
Response via : Initial Calibration





#1

Bromochloromethane

Concen: 10.00 ppbv

RT: 5.91 min Scan# 1500

Delta R.T. 0.00 min

Lab File: VL031274.D

Acq: 20 Dec 2017 17:26

Instrument :

MSVOA\_L

ClientSampleId :

EP1-OUT-01DUP

Tot Ion: 49 Resp: 1494873

Ion Ratio Lower Upper

49 100

128 47.3 23.2 69.5

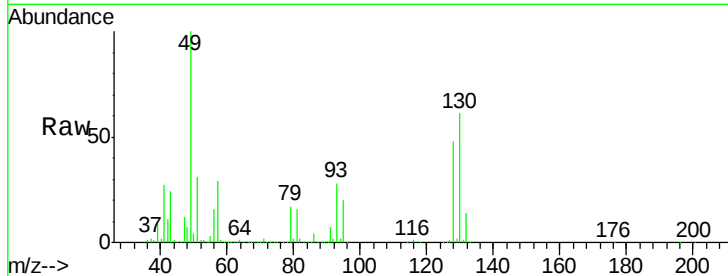
130 60.7 29.6 88.8

Manual Integrations

APPROVED

MMDadoda

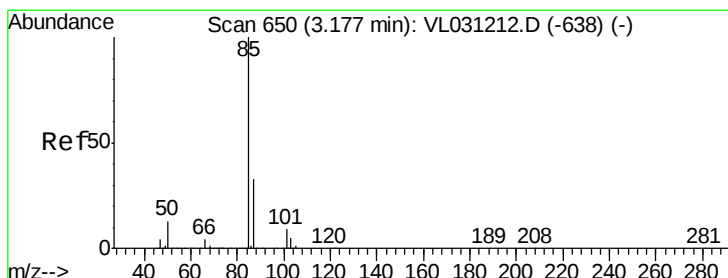
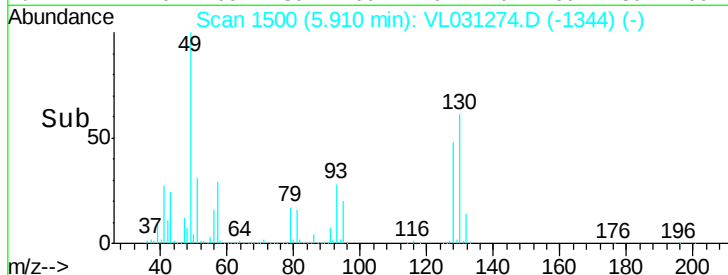
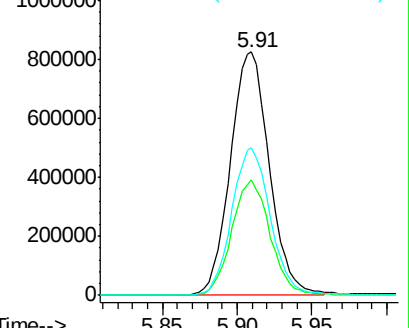
12/22/2017 4:54:50 PM



Abundance Ion 49.10 (48.80 to 49.80): VL0

Ion 128.00 (127.70 to 128.70): VL0

Ion 130.00 (129.70 to 130.70): VL0



#2

Dichlorodifluoromethane

Concen: 0.41 ppbv

RT: 3.18 min Scan# 651

Delta R.T. 0.00 min

Lab File: VL031274.D

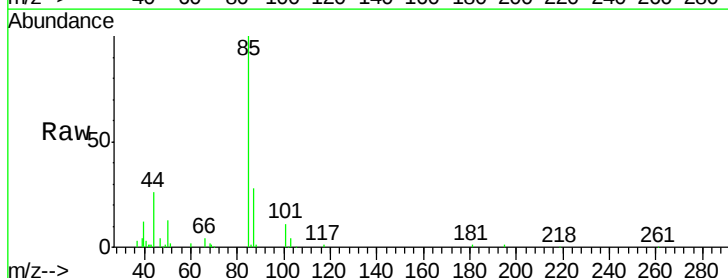
Acq: 20 Dec 2017 17:26

Tgt Ion: 85 Resp: 52300

Ion Ratio Lower Upper

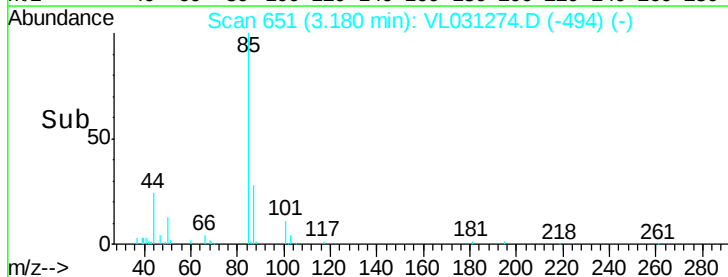
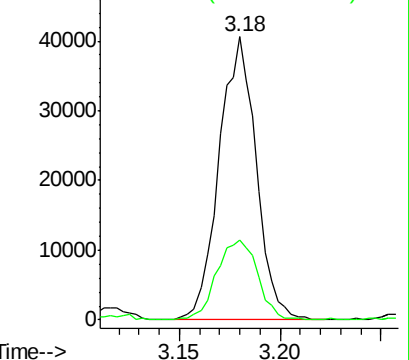
85 100

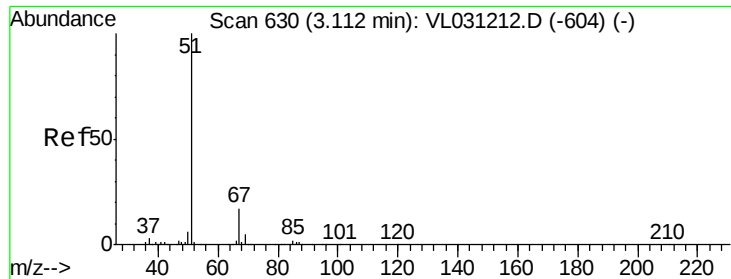
87 28.3 26.2 39.2



Abundance Ion 85.00 (84.70 to 85.70): VL0

Ion 87.00 (86.70 to 87.70): VL0





#3

Chlorodifluoromethane

Concen: 1.08 ppbv

RT: 3.12 min Scan# 631

Delta R.T. 0.00 min

Lab File: VL031274.D

Acq: 20 Dec 2017 17:26

Instrument :

MSVOA\_L

ClientSampleId :

EP1-OUT-01DUP

Tot Ion: 51 Resp: 184381

Ion Ratio Lower Upper

51 100

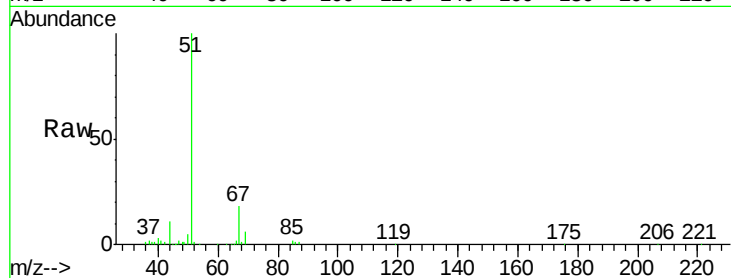
67 16.6 13.8 20.6

Manual Integrations

APPROVED

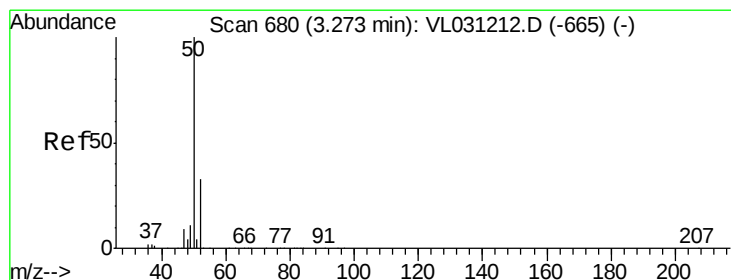
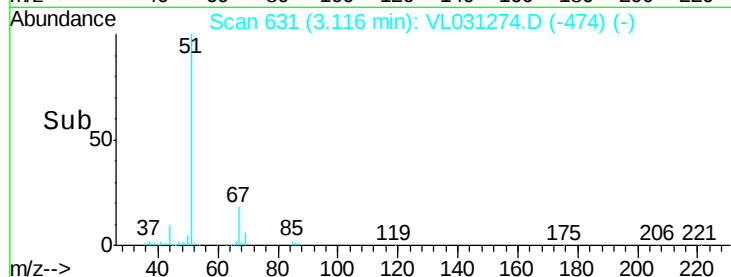
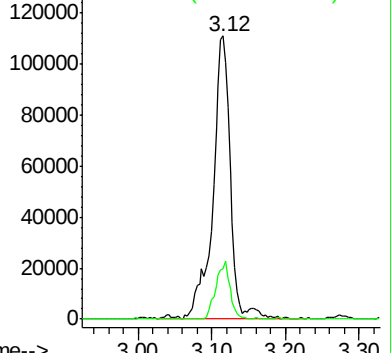
MMDadoda

12/22/2017 4:54:50 PM



Abundance Ion 51.00 (50.70 to 51.70): VL0

Ion 67.00 (66.70 to 67.70): VL0



#4

Chloromethane

Concen: 0.49 ppbv

RT: 3.27 min Scan# 680

Delta R.T. 0.00 min

Lab File: VL031274.D

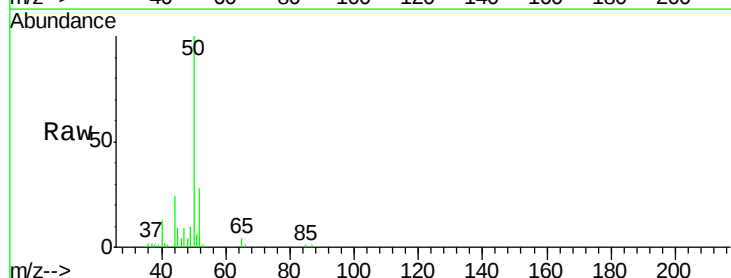
Acq: 20 Dec 2017 17:26

Tgt Ion: 50 Resp: 45333

Ion Ratio Lower Upper

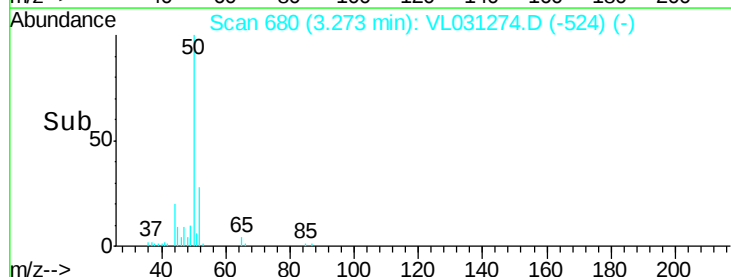
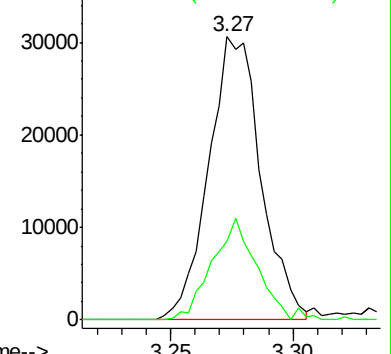
50 100

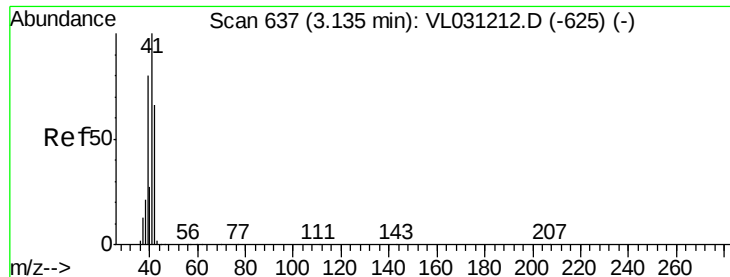
52 28.3 26.5 39.7



Abundance Ion 50.10 (49.80 to 50.80): VL0

Ion 52.10 (51.80 to 52.80): VL0





#9

Propene

Concen: 0.90 ppbv

RT: 3.14 min Scan# 638

Delta R.T. 0.00 min

Lab File: VL031274.D

Acq: 20 Dec 2017 17:26

Instrument :

MSVOA\_L

ClientSampleId :

EP1-OUT-01DUP

Tot Ion: 41 Resp: 74980

Ion Ratio Lower Upper

41 100

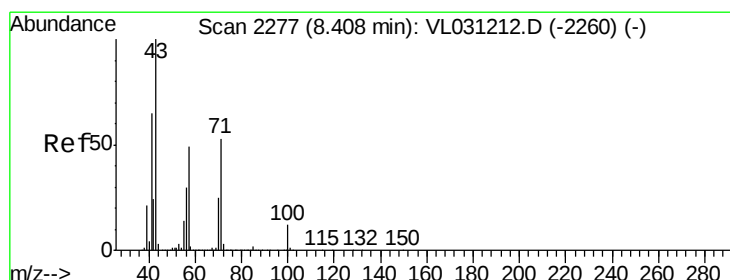
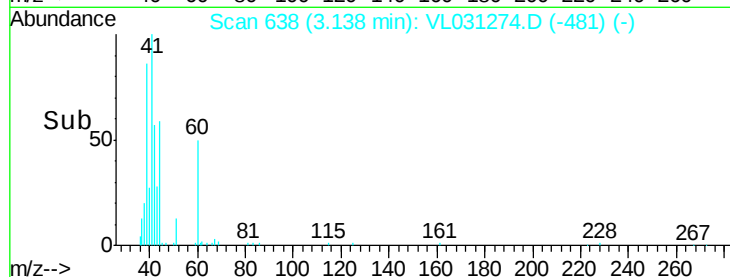
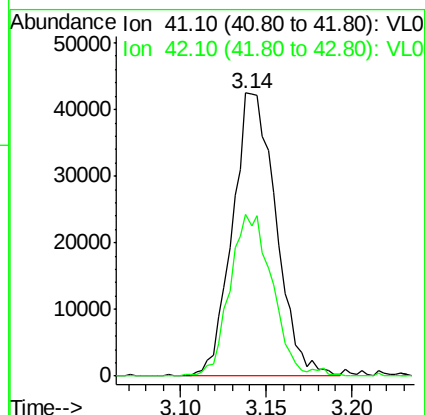
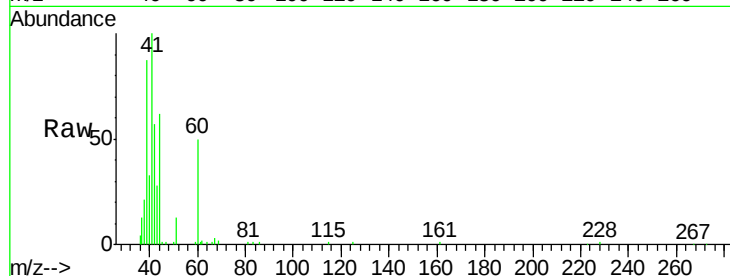
42 56.0 54.3 81.5

Manual Integrations

APPROVED

MMDadoda

12/22/2017 4:54:50 PM



#10

Heptane

Concen: 0.11 ppbv

RT: 8.41 min Scan# 2277

Delta R.T. 0.00 min

Lab File: VL031274.D

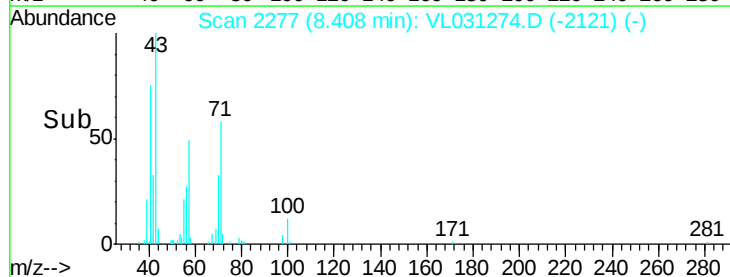
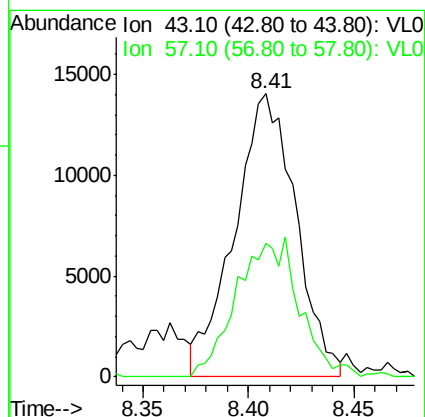
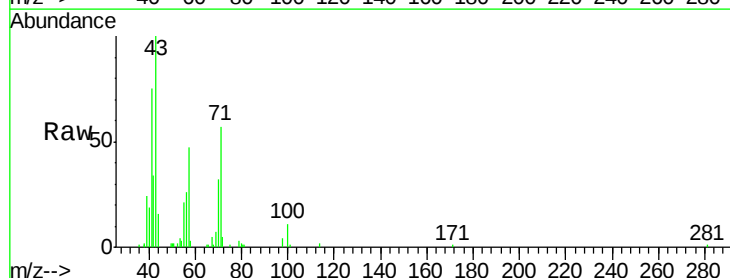
Acq: 20 Dec 2017 17:26

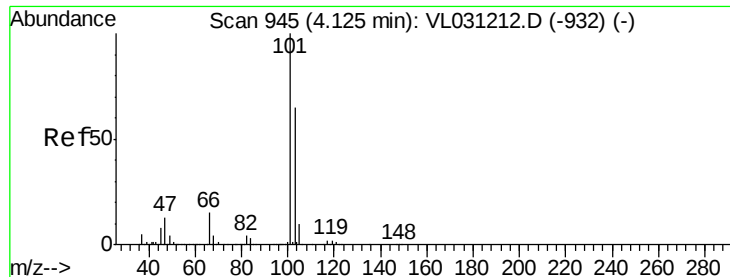
Tgt Ion: 43 Resp: 28388

Ion Ratio Lower Upper

43 100

57 50.1 39.8 59.8





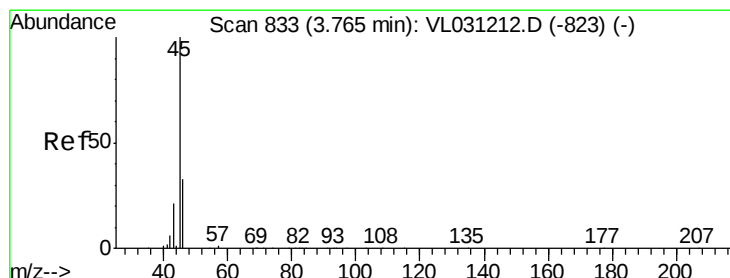
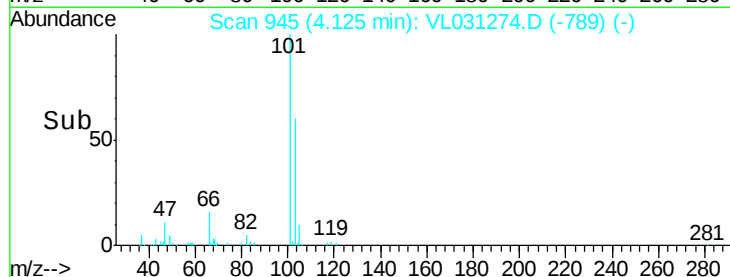
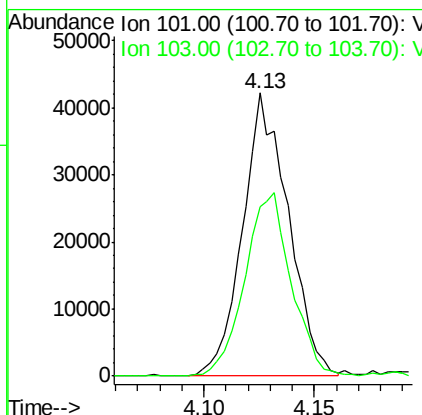
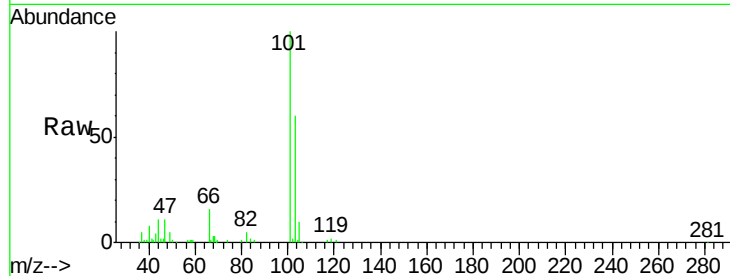
#11  
 Trichlorofluoromethane  
 Concen: 0.29 ppbv  
 RT: 4.13 min Scan# 945  
 Delta R.T. 0.00 min  
 Lab File: VL031274.D  
 Acq: 20 Dec 2017 17:26

Instrument :  
 MSVOA\_L  
 ClientSampleId :  
 EP1-OUT-01DUP

| Tot Ion | Ion  | Ratio | Resp  | Lower | Upper |
|---------|------|-------|-------|-------|-------|
| 101     | 100  |       | 60758 |       |       |
| 103     | 59.9 | 51.8  | 77.8  |       |       |

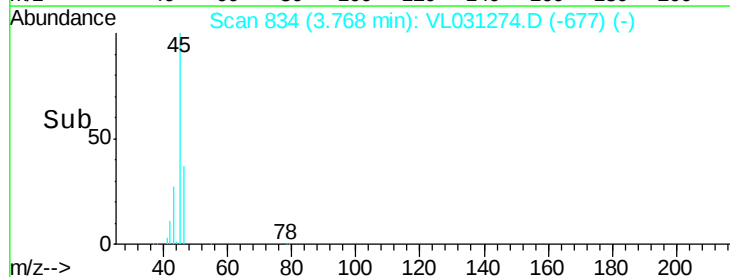
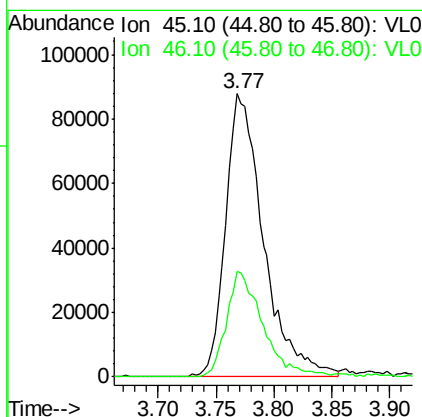
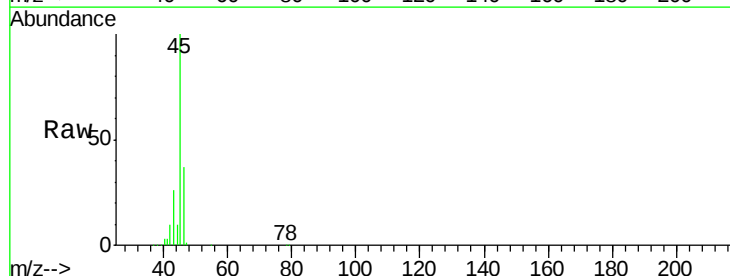
Manual Integrations  
 APPROVED

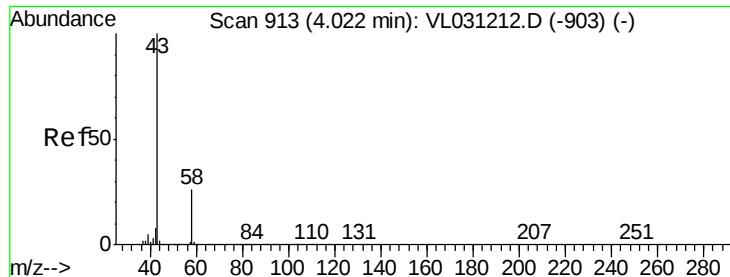
MMDadoda  
 12/22/2017 4:54:50 PM



#13  
 Ethanol  
 Concen: 8.27 ppbv  
 RT: 3.77 min Scan# 834  
 Delta R.T. 0.00 min  
 Lab File: VL031274.D  
 Acq: 20 Dec 2017 17:26

| Tgt Ion | Ion  | Ratio | Resp   | Lower | Upper |
|---------|------|-------|--------|-------|-------|
| 45      | 100  |       | 199098 |       |       |
| 46      | 36.3 | 14.6  | 58.4   |       |       |





#15

Acetone

Concen: 3.46 ppbv

RT: 4.03 min Scan# 914

Delta R.T. 0.00 min

Lab File: VL031274.D

Acq: 20 Dec 2017 17:26

Instrument :

MSVOA\_L

ClientSampleId :

EP1-OUT-01DUP

Tot Ion: 43 Resp: 681764

Ion Ratio Lower Upper

43 100

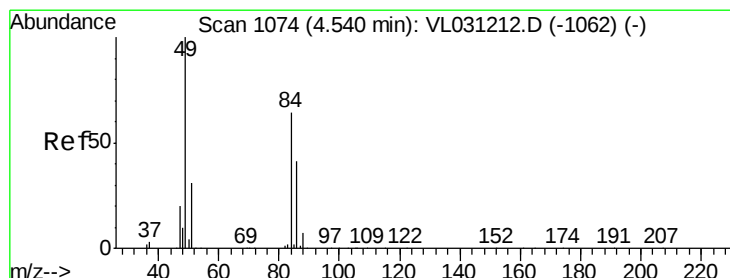
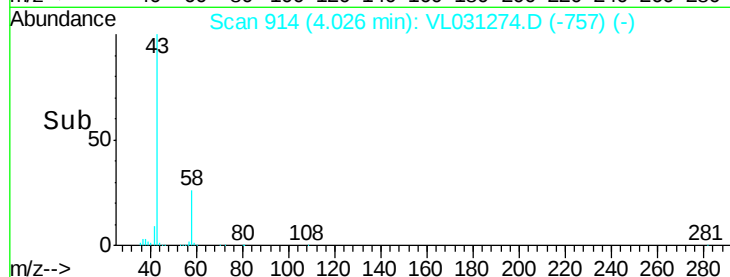
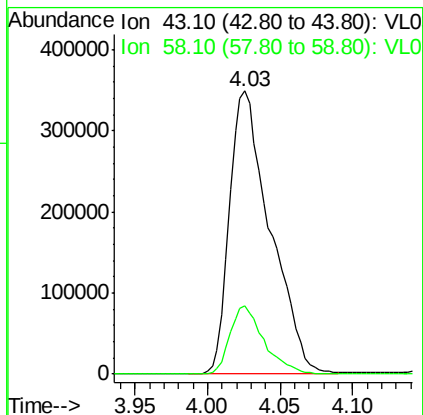
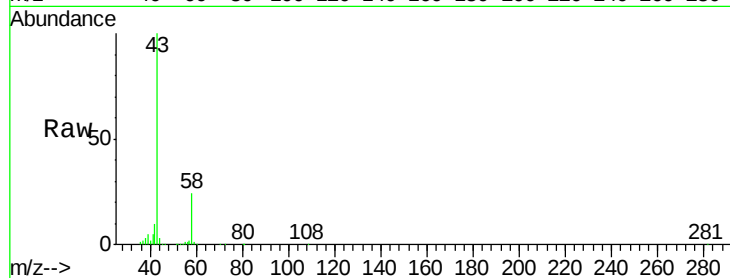
58 20.5 20.3 30.5

Manual Integrations

APPROVED

MMDadoda

12/22/2017 4:54:50 PM



#20

Methylene Chloride

Concen: 8.84 ppbv

RT: 4.54 min Scan# 1074

Delta R.T. 0.00 min

Lab File: VL031274.D

Acq: 20 Dec 2017 17:26

Tgt Ion: 84 Resp: 577478

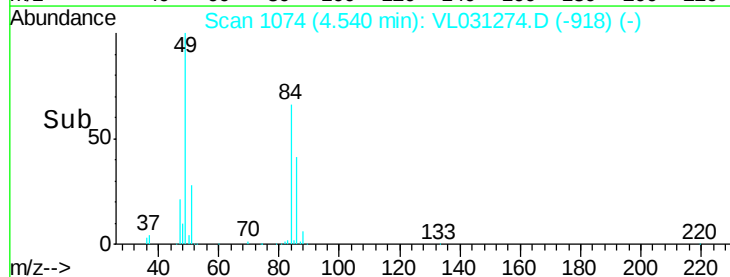
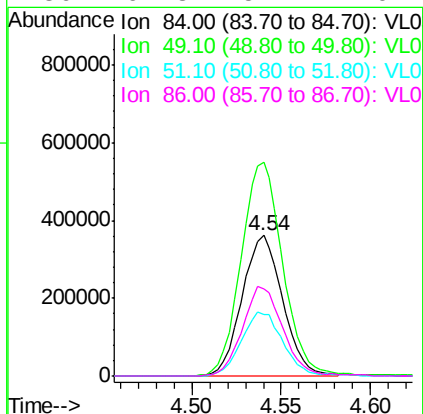
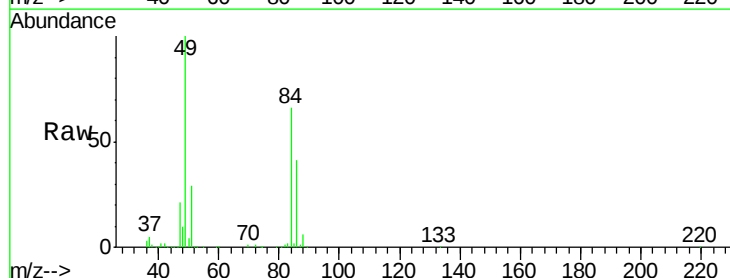
Ion Ratio Lower Upper

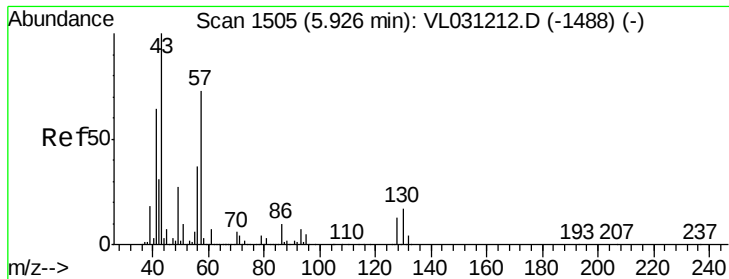
84 100

49 151.8 125.8 188.6

51 43.7 39.3 58.9

86 62.3 51.1 76.7





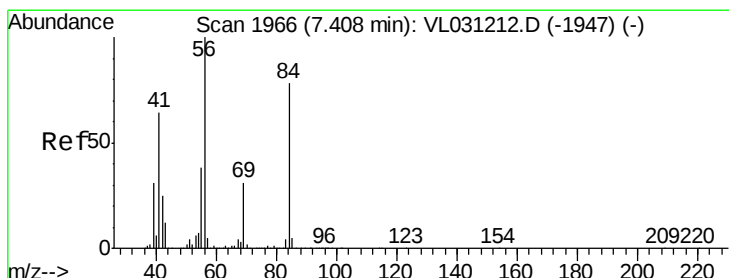
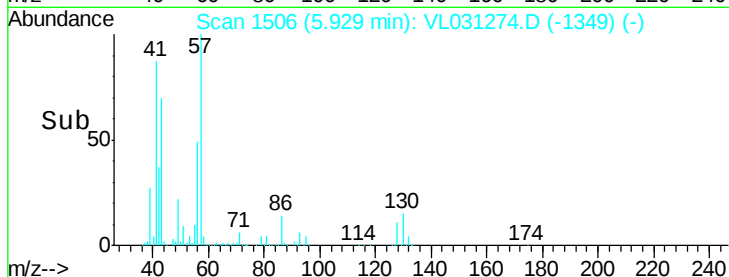
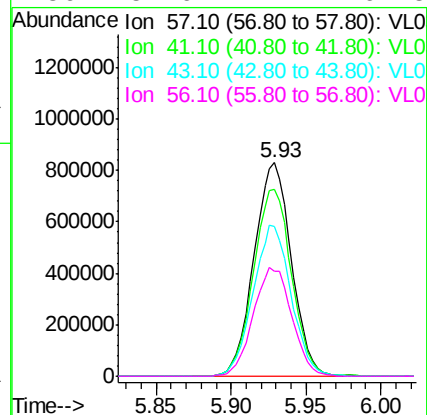
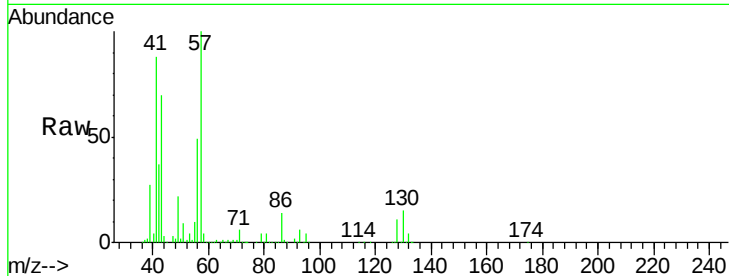
#26  
Hexane  
Concen: 7.55 ppbv  
RT: 5.93 min Scan# 1506  
Delta R.T. 0.00 min  
Lab File: VL031274.D  
Acq: 20 Dec 2017 17:26

Instrument :  
MSVOA\_L  
ClientSampleId :  
EP1-OUT-01DUP

| Tot Ion | Ratio | Lower | Upper  |
|---------|-------|-------|--------|
| 57      | 100   |       |        |
| 41      | 89.9  | 70.3  | 105.5  |
| 43      | 72.1  | 173.8 | 260.8# |
| 56      | 52.6  | 41.7  | 62.5   |

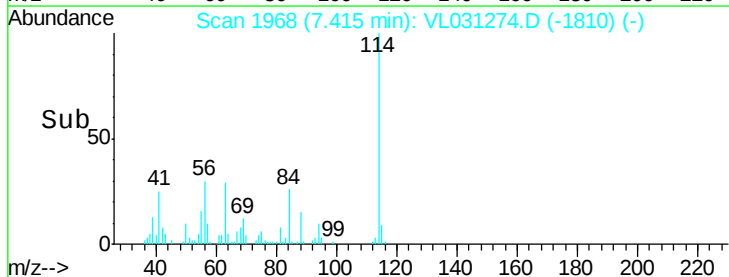
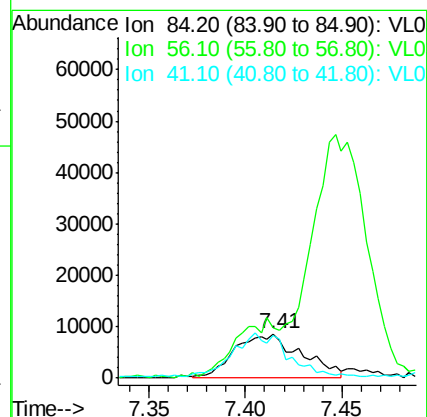
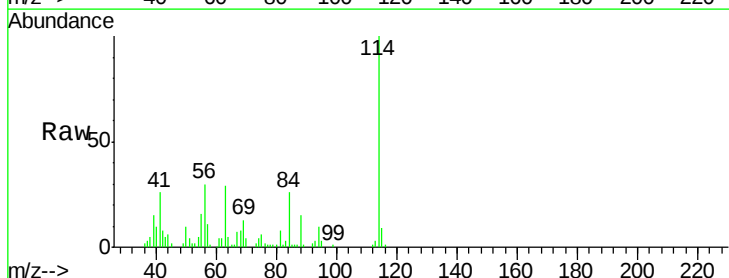
Manual Integrations  
APPROVED

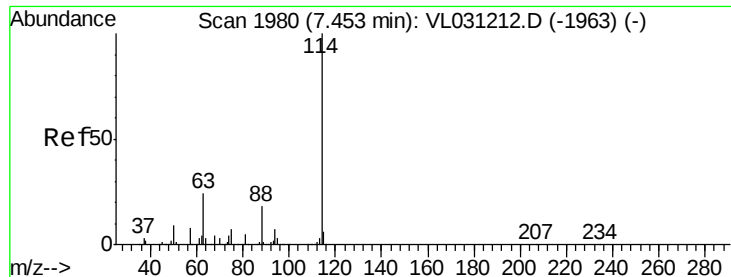
MMDadoda  
12/22/2017 4:54:50 PM



#30  
Cyclohexane  
Concen: 0.12 ppbv m  
RT: 7.41 min Scan# 1968  
Delta R.T. 0.01 min  
Lab File: VL031274.D  
Acq: 20 Dec 2017 17:26

| Tgt Ion | Ratio | Lower | Upper  |
|---------|-------|-------|--------|
| 84      | 100   |       |        |
| 56      | 0.0   | 108.0 | 162.0# |
| 41      | 87.7  | 66.2  | 99.4   |





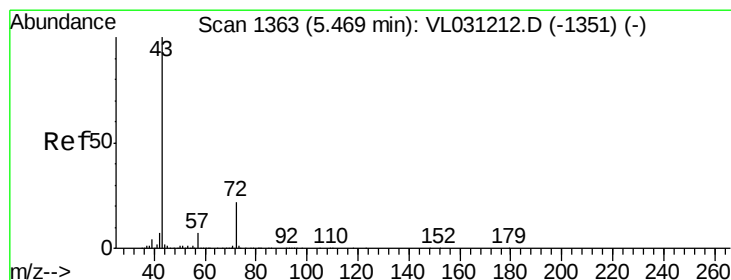
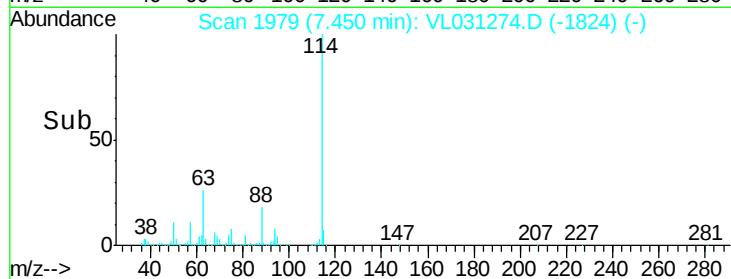
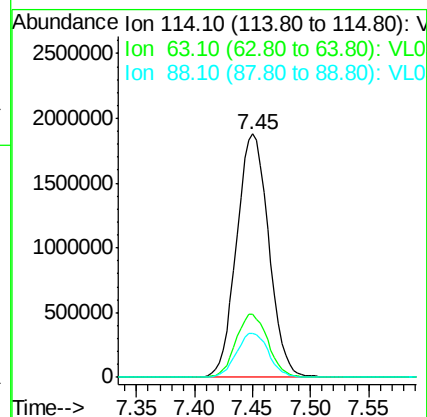
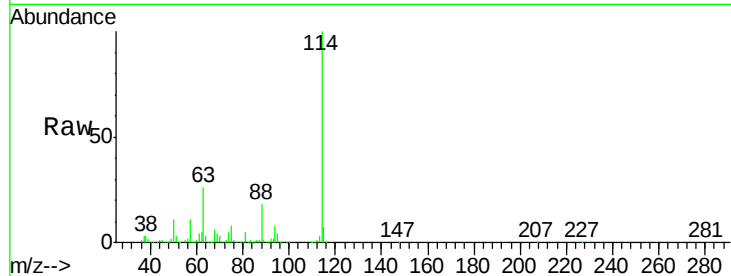
#33  
 1,4-Difluorobenzene  
 Concen: 10.00 ppbv  
 RT: 7.45 min Scan# 1979  
 Delta R.T. -0.00 min  
 Lab File: VL031274.D  
 Acq: 20 Dec 2017 17:26

Instrument :  
 MSVOA\_L  
 ClientSampleId :  
 EP1-OUT-01DUP

| Tot Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 114     | 100   |       |       |
| 63      | 26.1  | 19.8  | 29.8  |
| 88      | 18.1  | 14.2  | 21.4  |

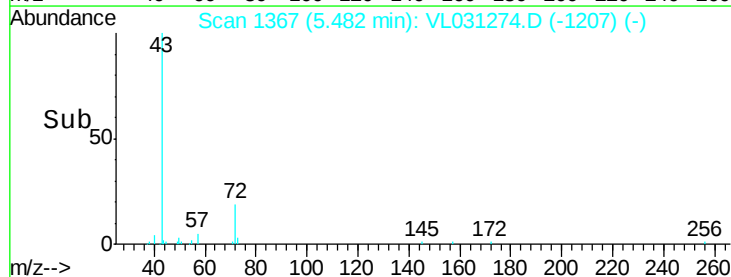
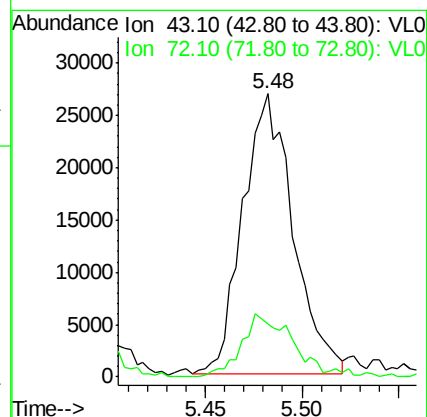
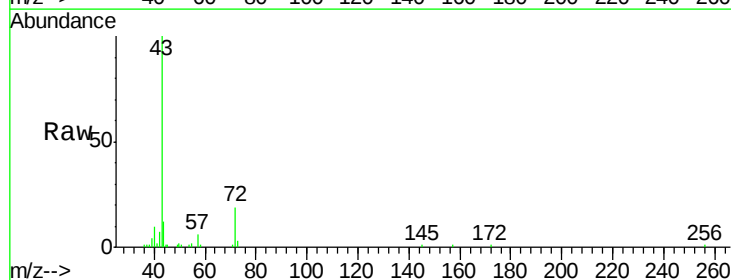
Manual Integrations  
 APPROVED

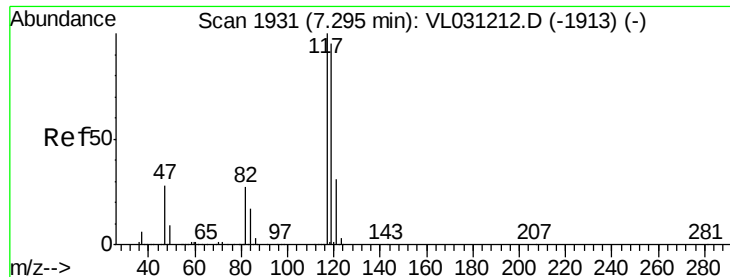
MMDadoda  
 12/22/2017 4:54:50 PM



#34  
 2-Butanone  
 Concen: 0.19 ppbv  
 RT: 5.48 min Scan# 1367  
 Delta R.T. 0.01 min  
 Lab File: VL031274.D  
 Acq: 20 Dec 2017 17:26

| Tgt Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 43      | 100   |       |       |
| 72      | 23.4  | 18.1  | 27.1  |





#35

Carbon Tetrachloride

Concen: 0.07 ppbv m

RT: 7.30 min Scan# 1932

Delta R.T. 0.00 min

Lab File: VL031274.D

Acq: 20 Dec 2017 17:26

Instrument :

MSVOA\_L

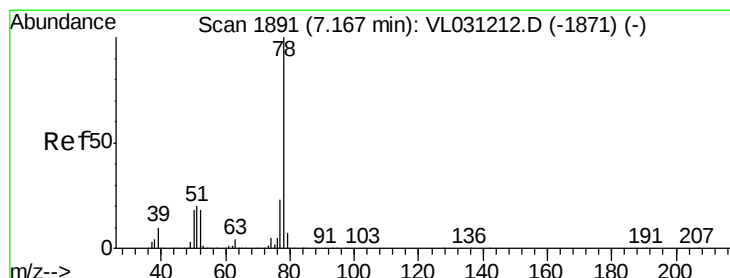
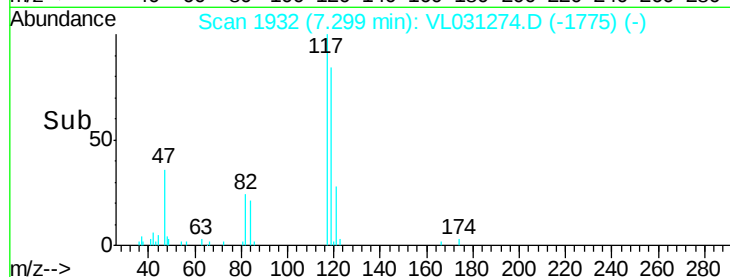
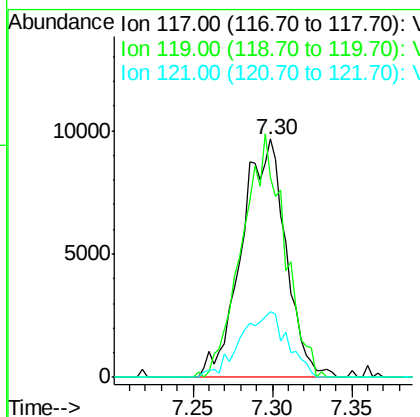
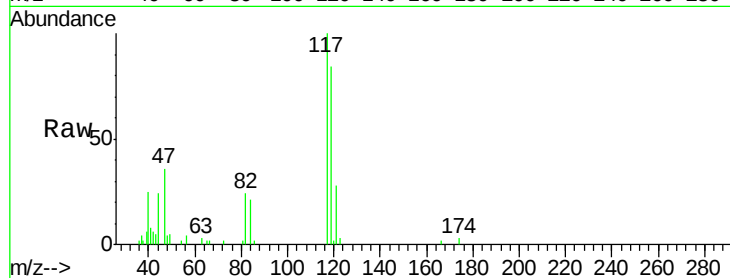
ClientSampleId :

EP1-OUT-01DUP

|           |       |       |       |
|-----------|-------|-------|-------|
| Tot Ion:  | 117   | Resp: | 18645 |
| Ion Ratio | Lower | Upper |       |
| 117       | 100   |       |       |
| 119       | 83.9  | 75.9  | 113.9 |
| 121       | 27.7  | 24.6  | 37.0  |

Manual Integrations  
APPROVED

MMDadoda  
12/22/2017 4:54:50 PM



#36

Benzene

Concen: 0.29 ppbv

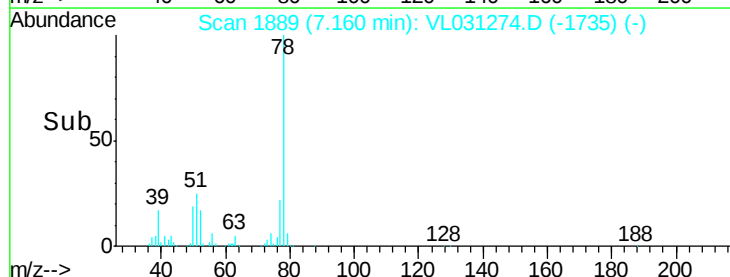
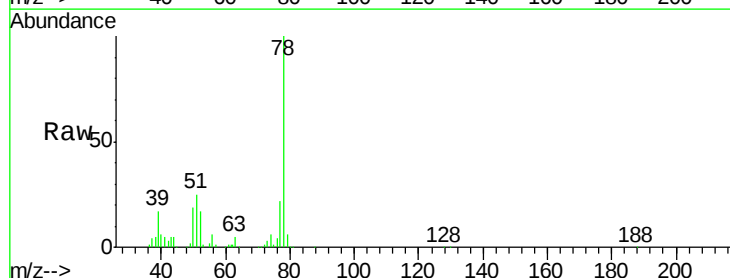
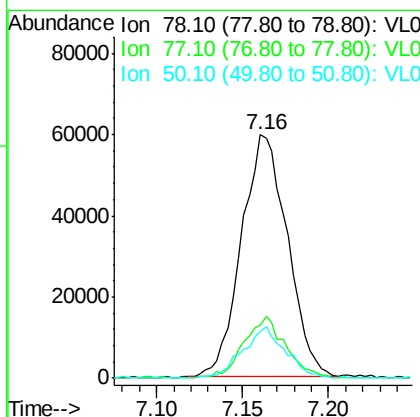
RT: 7.16 min Scan# 1889

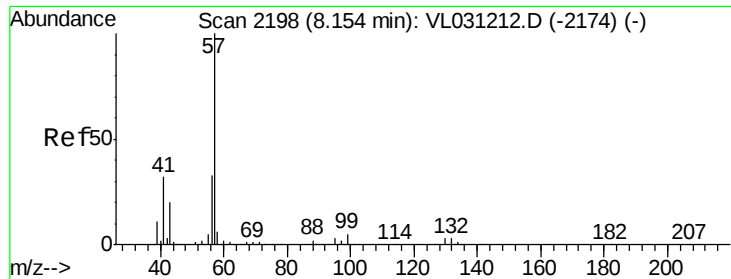
Delta R.T. -0.01 min

Lab File: VL031274.D

Acq: 20 Dec 2017 17:26

|           |       |       |        |
|-----------|-------|-------|--------|
| Tgt Ion:  | 78    | Resp: | 111200 |
| Ion Ratio | Lower | Upper |        |
| 78        | 100   |       |        |
| 77        | 21.8  | 18.1  | 27.1   |
| 50        | 18.9  | 14.6  | 21.8   |





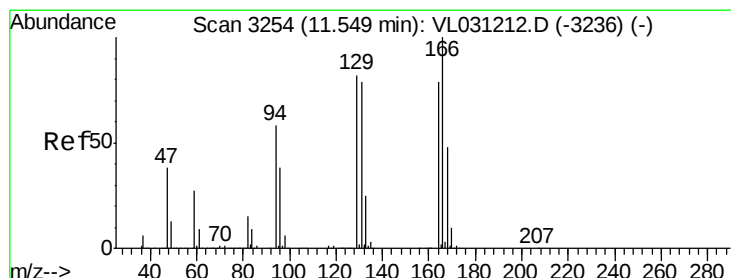
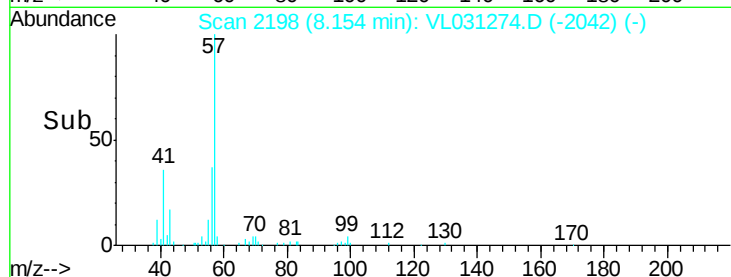
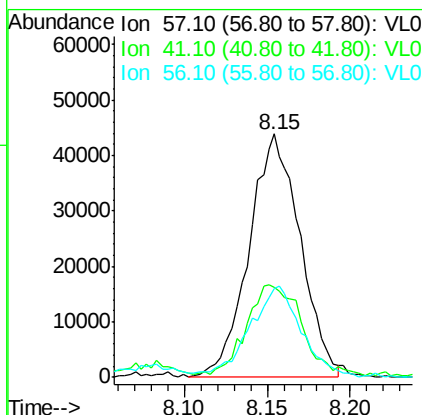
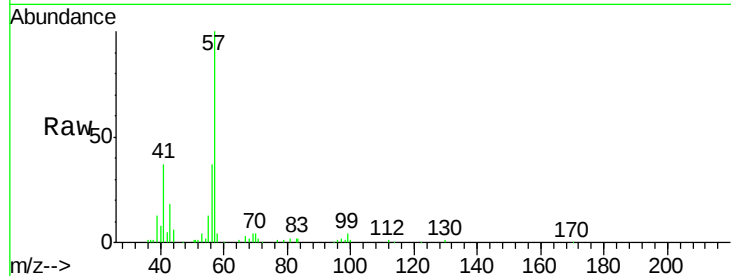
#44  
2,2,4-Trimethylpentane  
Concen: 0.16 ppbv  
RT: 8.15 min Scan# 2198  
Delta R.T. 0.00 min  
Lab File: VL031274.D  
Acq: 20 Dec 2017 17:26

Instrument :  
MSVOA\_L  
ClientSampleId :  
EP1-OUT-01DUP

| Tot Ion | Ratio | Lower | Upper |
|---------|-------|-------|-------|
| 57      | 100   |       |       |
| 41      | 43.8  | 25.5  | 38.3# |
| 56      | 38.8  | 25.0  | 37.6# |

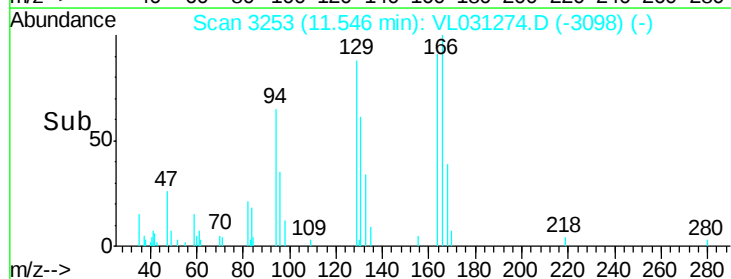
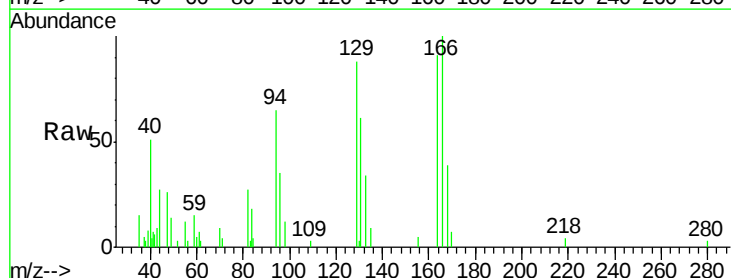
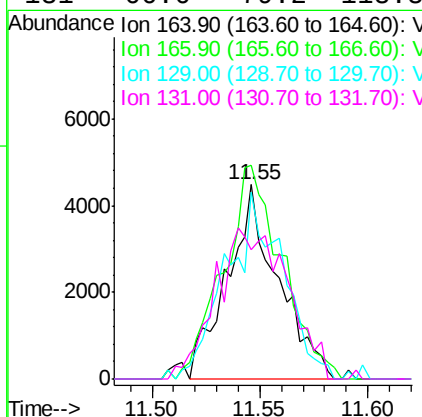
Manual Integrations  
APPROVED

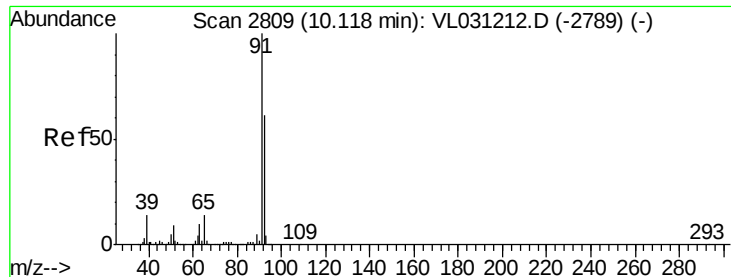
MMDadoda  
12/22/2017 4:54:50 PM



#52  
Tetrachloroethene  
Concen: 0.05 ppbv m  
RT: 11.55 min Scan# 3253  
Delta R.T. -0.00 min  
Lab File: VL031274.D  
Acq: 20 Dec 2017 17:26

| Tgt Ion | Ratio | Lower | Upper  |
|---------|-------|-------|--------|
| 164     | 100   |       |        |
| 166     | 109.9 | 100.6 | 151.0  |
| 129     | 96.5  | 82.9  | 124.3  |
| 131     | 66.6  | 79.2  | 118.8# |





#53

Toluene

Concen: 0.48 ppbv

RT: 10.12 min Scan# 2808

Delta R.T. -0.00 min

Lab File: VL031274.D

Acq: 20 Dec 2017 17:26

Instrument :

MSVOA\_L

ClientSampleId :

EP1-OUT-01DUP

Tot Ion: 91 Resp: 200600

Ion Ratio Lower Upper

91 100

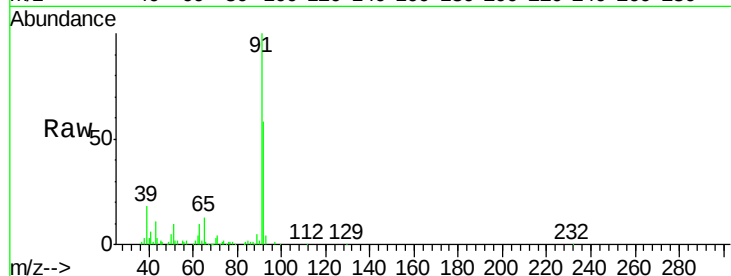
92 58.8 49.1 73.7

Manual Integrations

APPROVED

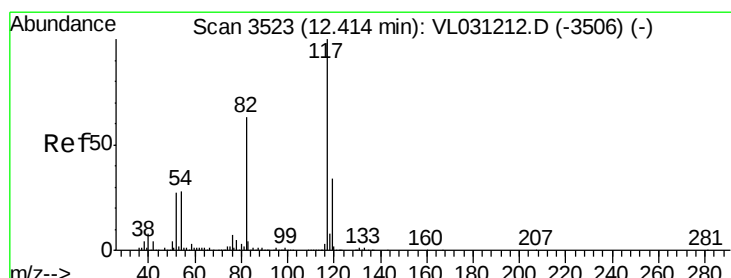
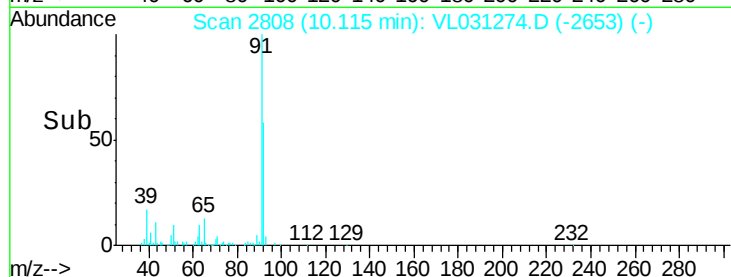
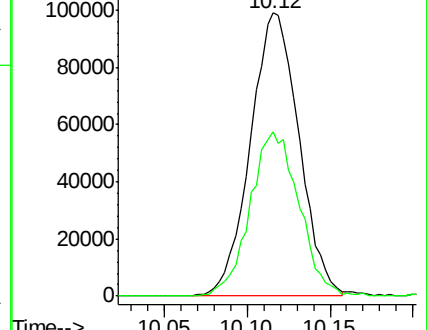
MMDadoda

12/22/2017 4:54:50 PM



Abundance Ion 91.10 (90.80 to 91.80): VL0

Ion 92.10 (91.80 to 92.80): VL0



#55

Chlorobenzene-d5

Concen: 10.00 ppbv

RT: 12.41 min Scan# 3523

Delta R.T. 0.00 min

Lab File: VL031274.D

Acq: 20 Dec 2017 17:26

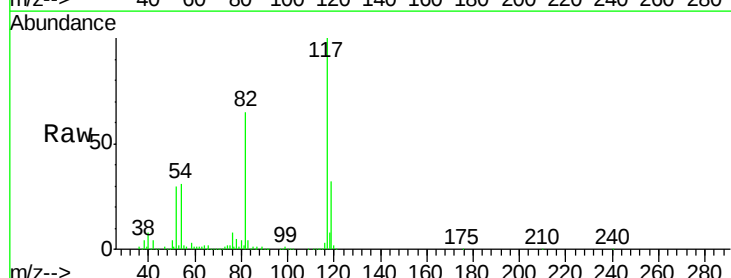
Tgt Ion: 117 Resp: 3447469

Ion Ratio Lower Upper

117 100

82 65.1 48.1 72.1

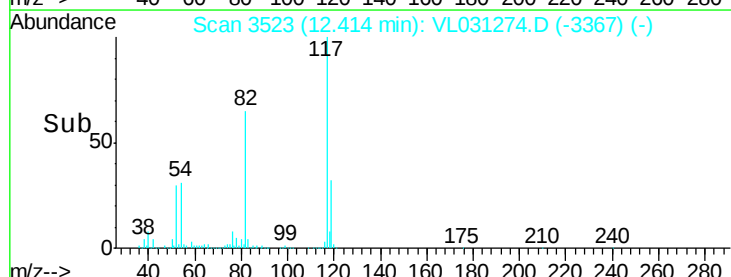
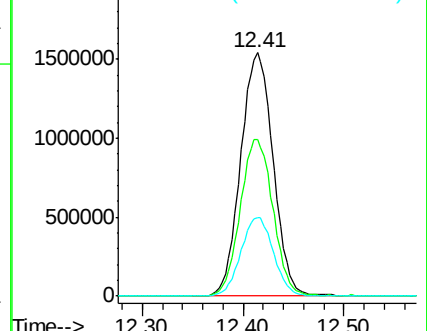
119 32.6 23.1 34.7

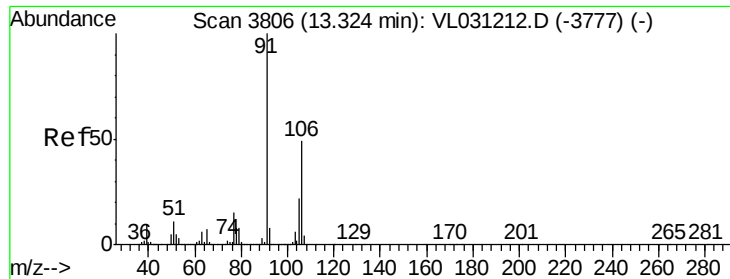


Abundance Ion 117.10 (116.80 to 117.80): V

Ion 82.10 (81.80 to 82.80): VL0

Ion 119.10 (118.80 to 119.80): V





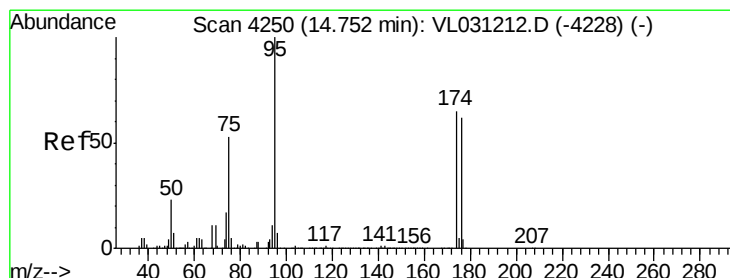
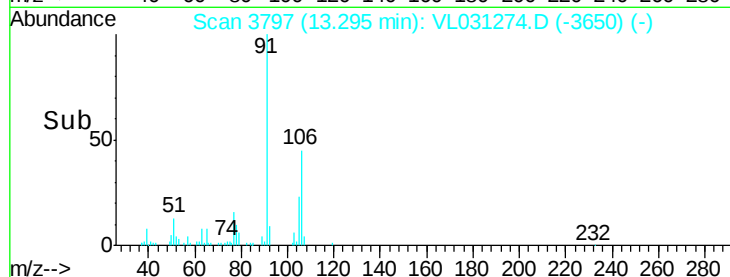
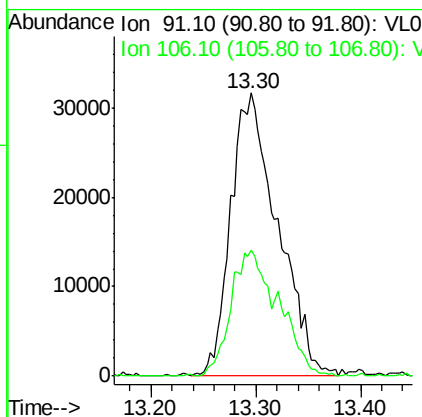
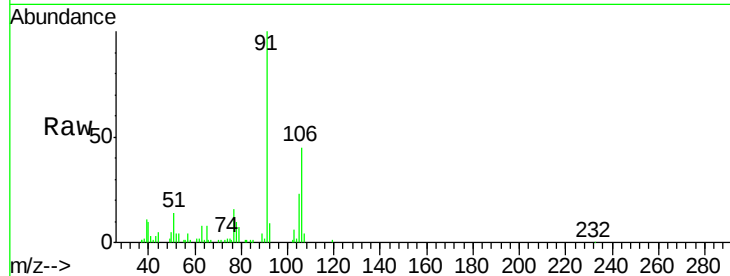
#59  
m/p-Xylene  
Concen: 0.21 ppbv m  
RT: 13.30 min Scan# 3797  
Delta R.T. -0.03 min  
Lab File: VL031274.D  
Acq: 20 Dec 2017 17:26

Instrument :  
MSVOA\_L  
ClientSampleId :  
EP1-OUT-01DUP

Tot Ion: 91 Resp: 97813  
Ion Ratio Lower Upper  
91 100  
106 0.0 38.5 57.7#

Manual Integrations  
APPROVED

MMDadoda  
12/22/2017 4:54:50 PM



#68  
1-Bromo-4-Fluorobenzene  
Concen: 11.09 ppbv  
RT: 14.75 min Scan# 4250  
Delta R.T. 0.00 min  
Lab File: VL031274.D  
Acq: 20 Dec 2017 17:26

Tgt Ion: 95 Resp: 2718311  
Ion Ratio Lower Upper  
95 100  
174 61.4 52.5 78.7  
175 4.5 4.1 6.1

