

Data Path : Z:\SVOASRV\HPCHEM1\BNA\_F\DATA\BF081619\  
 Data File : BF116342.D  
 Acq On : 17 Aug 2019 2:34  
 Operator : HP/JU  
 Sample : K4228-17  
 Misc :  
 ALS Vial : 19 Sample Multiplier: 1

Instrument :  
 BNA\_F  
 ClientSampleId :  
 2S-I1-I4-COMP-(1)

Integration Parameters: rteint.p

Integrator: RTE

Smoothing : ON

Sampling : 1

Start Thrs: 0.2

Stop Thrs : 0

Filtering: 5

Min Area: 3 % of largest Peak

Max Peaks: 100

Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >

Peak separation: 5

Method : Z:\SVOASRV\HPCHEM1\BNA\_F\METHODS\8270-BF073019.M

Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

Signal : TIC

| peak<br># | R.T.<br>min | first<br>scan | max<br>scan | last<br>scan | PK<br>TY | peak<br>height | corr.<br>area | corr.<br>% max. | % of<br>total |
|-----------|-------------|---------------|-------------|--------------|----------|----------------|---------------|-----------------|---------------|
| 1         | 5.446       | 568           | 571         | 603          | rBV      | 2366002        | 2714074       | 85.35%          | 5.390%        |
| 2         | 6.463       | 740           | 744         | 762          | rBV      | 2478380        | 3001210       | 94.38%          | 5.960%        |
| 3         | 6.592       | 762           | 766         | 785          | rVB      | 3132916        | 2899257       | 91.17%          | 5.758%        |
| 4         | 6.816       | 801           | 804         | 815          | rBV      | 957773         | 835562        | 26.28%          | 1.659%        |
| 5         | 6.975       | 827           | 831         | 849          | rBV      | 2332829        | 2279508       | 71.68%          | 4.527%        |
| 6         | 7.381       | 896           | 900         | 920          | rBV      | 1878327        | 1886630       | 59.33%          | 3.747%        |
| 7         | 8.098       | 1018          | 1022        | 1050         | rBV      | 1079447        | 1069216       | 33.62%          | 2.123%        |
| 8         | 9.169       | 1200          | 1204        | 1216         | rBV      | 3571988        | 3180013       | 100.00%         | 6.315%        |
| 9         | 9.563       | 1269          | 1271        | 1279         | rVB      | 229244         | 221165        | 6.95%           | 0.439%        |
| 10        | 9.845       | 1316          | 1319        | 1323         | rBV      | 1262293        | 1163420       | 36.59%          | 2.311%        |
| 11        | 9.881       | 1323          | 1325        | 1334         | rVB      | 290274         | 246514        | 7.75%           | 0.490%        |
| 12        | 10.063      | 1351          | 1356        | 1359         | rBV      | 70083          | 82421         | 2.59%           | 0.164%        |
| 13        | 10.398      | 1409          | 1413        | 1419         | rBV      | 190081         | 182408        | 5.74%           | 0.362%        |
| 14        | 10.557      | 1438          | 1440        | 1444         | rVB2     | 58811          | 50685         | 1.59%           | 0.101%        |
| 15        | 10.639      | 1451          | 1454        | 1461         | rBV      | 1779208        | 1786836       | 56.19%          | 3.549%        |
| 16        | 10.945      | 1500          | 1506        | 1509         | rBV3     | 65008          | 89291         | 2.81%           | 0.177%        |
| 17        | 10.975      | 1509          | 1511        | 1514         | rVV2     | 61710          | 58838         | 1.85%           | 0.117%        |
| 18        | 11.075      | 1522          | 1528        | 1530         | rBV2     | 57173          | 93122         | 2.93%           | 0.185%        |
| 19        | 11.092      | 1530          | 1531        | 1537         | rVV2     | 47289          | 50281         | 1.58%           | 0.100%        |
| 20        | 11.157      | 1537          | 1542        | 1544         | rVV4     | 35851          | 52237         | 1.64%           | 0.104%        |
| 21        | 11.192      | 1544          | 1548        | 1551         | rVV4     | 90835          | 109754        | 3.45%           | 0.218%        |
| 22        | 11.233      | 1552          | 1555        | 1560         | rVB      | 127668         | 129118        | 4.06%           | 0.256%        |
| 23        | 11.333      | 1569          | 1572        | 1574         | rBV      | 1202057        | 1074559       | 33.79%          | 2.134%        |
| 24        | 11.357      | 1574          | 1576        | 1581         | rVV      | 2120665        | 1886863       | 59.34%          | 3.747%        |
| 25        | 11.410      | 1581          | 1585        | 1590         | rVV      | 608110         | 646047        | 20.32%          | 1.283%        |
| 26        | 11.457      | 1590          | 1593        | 1597         | rVV2     | 56436          | 95835         | 3.01%           | 0.190%        |
| 27        | 11.575      | 1609          | 1613        | 1618         | rBV2     | 185621         | 242478        | 7.63%           | 0.482%        |
| 28        | 11.622      | 1618          | 1621        | 1624         | rVV3     | 62469          | 76388         | 2.40%           | 0.152%        |
| 29        | 11.669      | 1624          | 1629        | 1630         | rVV4     | 40376          | 63352         | 1.99%           | 0.126%        |
| 30        | 11.833      | 1654          | 1657        | 1660         | rBV      | 245069         | 246934        | 7.77%           | 0.490%        |
| 31        | 11.863      | 1660          | 1662        | 1668         | rVV      | 353811         | 391723        | 12.32%          | 0.778%        |
| 32        | 11.916      | 1668          | 1671        | 1673         | rVV      | 143520         | 132788        | 4.18%           | 0.264%        |
| 33        | 11.951      | 1673          | 1677        | 1679         | rVV      | 442396         | 494629        | 15.55%          | 0.982%        |
| 34        | 11.969      | 1679          | 1680        | 1686         | rVB      | 170926         | 156791        | 4.93%           | 0.311%        |

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Instrument :  
 BNA\_F  
 ClientSampleId :  
 2S-I1-I4-COMP-(1)

Integration Parameters: rteint.p  
 Integrator: RTE  
 Smoothing : ON  
 Sampling : 1  
 Start Thrs: 0.2  
 Stop Thrs : 0

Filtering: 5  
 Min Area: 3 % of largest Peak  
 Max Peaks: 100  
 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >  
 Peak separation: 5

Method : Z:\SVOASRV\HPCHEM1\BNA\_F\METHODS\8270-BF073019.M  
 Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

|    |        |      |      |      |      |         |         |        |        |
|----|--------|------|------|------|------|---------|---------|--------|--------|
| 35 | 12.022 | 1686 | 1689 | 1692 | rBV2 | 57124   | 52344   | 1.65%  | 0.104% |
| 36 | 12.127 | 1704 | 1707 | 1712 | rBV  | 192683  | 178544  | 5.61%  | 0.355% |
| 37 | 12.174 | 1712 | 1715 | 1718 | rVB2 | 94122   | 80859   | 2.54%  | 0.161% |
| 38 | 12.280 | 1728 | 1733 | 1736 | rBV  | 80249   | 87653   | 2.76%  | 0.174% |
| 39 | 12.386 | 1747 | 1751 | 1753 | rBV  | 201202  | 180519  | 5.68%  | 0.359% |
| 40 | 12.410 | 1753 | 1755 | 1756 | rVV2 | 67338   | 59888   | 1.88%  | 0.119% |
| 41 | 12.486 | 1763 | 1768 | 1770 | rBV2 | 81266   | 121736  | 3.83%  | 0.242% |
| 42 | 12.551 | 1775 | 1779 | 1783 | rBV  | 2735670 | 2402684 | 75.56% | 4.772% |
| 43 | 12.616 | 1788 | 1790 | 1793 | rVB2 | 59366   | 58317   | 1.83%  | 0.116% |
| 44 | 12.704 | 1801 | 1805 | 1807 | rBV2 | 118043  | 116369  | 3.66%  | 0.231% |
| 45 | 12.780 | 1811 | 1818 | 1824 | rBV2 | 2197134 | 2487201 | 78.21% | 4.940% |
| 46 | 12.827 | 1824 | 1826 | 1831 | rVB2 | 124808  | 131558  | 4.14%  | 0.261% |
| 47 | 12.916 | 1834 | 1841 | 1844 | rBV  | 2638642 | 2612559 | 82.16% | 5.188% |
| 48 | 12.951 | 1844 | 1847 | 1851 | rVB  | 101877  | 121047  | 3.81%  | 0.240% |
| 49 | 12.992 | 1851 | 1854 | 1855 | rBV  | 124033  | 142005  | 4.47%  | 0.282% |
| 50 | 13.080 | 1866 | 1869 | 1871 | rBV3 | 92873   | 118165  | 3.72%  | 0.235% |
| 51 | 13.110 | 1871 | 1874 | 1877 | rVB  | 304879  | 294346  | 9.26%  | 0.585% |
| 52 | 13.174 | 1882 | 1885 | 1887 | rVV  | 273941  | 225465  | 7.09%  | 0.448% |
| 53 | 13.210 | 1887 | 1891 | 1898 | rVB3 | 183239  | 290087  | 9.12%  | 0.576% |
| 54 | 13.269 | 1898 | 1901 | 1904 | rVB3 | 51944   | 53189   | 1.67%  | 0.106% |
| 55 | 13.304 | 1904 | 1907 | 1910 | rBV  | 111348  | 104160  | 3.28%  | 0.207% |
| 56 | 13.333 | 1910 | 1912 | 1916 | rBV3 | 98825   | 106489  | 3.35%  | 0.211% |
| 57 | 13.527 | 1943 | 1945 | 1948 | rVV  | 60716   | 60728   | 1.91%  | 0.121% |
| 58 | 13.592 | 1952 | 1956 | 1959 | rBV3 | 48816   | 66868   | 2.10%  | 0.133% |
| 59 | 13.627 | 1959 | 1962 | 1965 | rVB  | 91209   | 87428   | 2.75%  | 0.174% |
| 60 | 13.727 | 1974 | 1979 | 1981 | rBV2 | 171419  | 208231  | 6.55%  | 0.414% |
| 61 | 13.751 | 1981 | 1983 | 1986 | rVV  | 205327  | 204548  | 6.43%  | 0.406% |
| 62 | 13.780 | 1986 | 1988 | 1989 | rVV  | 177915  | 148772  | 4.68%  | 0.295% |
| 63 | 13.798 | 1989 | 1991 | 1995 | rVV3 | 276139  | 404420  | 12.72% | 0.803% |
| 64 | 13.833 | 1995 | 1997 | 2003 | rVV  | 190524  | 227230  | 7.15%  | 0.451% |
| 65 | 13.898 | 2003 | 2008 | 2012 | rVV  | 60735   | 109314  | 3.44%  | 0.217% |
| 66 | 13.968 | 2013 | 2020 | 2024 | rVV2 | 1401700 | 2248110 | 70.69% | 4.465% |
| 67 | 14.004 | 2024 | 2026 | 2033 | rVV  | 1061961 | 943486  | 29.67% | 1.874% |
| 68 | 14.080 | 2037 | 2039 | 2043 | rVB  | 256335  | 240143  | 7.55%  | 0.477% |
| 69 | 14.139 | 2047 | 2049 | 2053 | rVV3 | 53708   | 83370   | 2.62%  | 0.166% |
| 70 | 14.180 | 2053 | 2056 | 2057 | rVV  | 75645   | 76400   | 2.40%  | 0.152% |
| 71 | 14.210 | 2057 | 2061 | 2064 | rVB2 | 103451  | 139279  | 4.38%  | 0.277% |

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 Misc :  
 ALS Vial : 19 Sample Multiplier: 1

Instrument :  
 BNA\_F  
 ClientSampleId :  
 2S-I1-I4-COMP-(1)

Integration Parameters: rteint.p  
 Integrator: RTE  
 Smoothing : ON  
 Sampling : 1  
 Start Thrs: 0.2  
 Stop Thrs : 0  
 Filtering: 5  
 Min Area: 3 % of largest Peak  
 Max Peaks: 100  
 Peak Location: TOP

If leading or trailing edge < 100 prefer < Baseline drop else tangent >  
 Peak separation: 5

Method : Z:\SVOASRV\HPCHEM1\BNA\_F\METHODS\8270-BF073019.M  
 Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

|     |        |      |      |      |      |        |         |        |        |
|-----|--------|------|------|------|------|--------|---------|--------|--------|
| 72  | 14.327 | 2078 | 2081 | 2083 | rBV  | 58683  | 50168   | 1.58%  | 0.100% |
| 73  | 14.363 | 2083 | 2087 | 2090 | rVV  | 188339 | 210656  | 6.62%  | 0.418% |
| 74  | 14.398 | 2091 | 2093 | 2095 | rVV  | 70665  | 53625   | 1.69%  | 0.106% |
| 75  | 14.463 | 2102 | 2104 | 2107 | rVV  | 69853  | 60424   | 1.90%  | 0.120% |
| 76  | 14.492 | 2107 | 2109 | 2110 | rVV  | 77931  | 60147   | 1.89%  | 0.119% |
| 77  | 14.510 | 2110 | 2112 | 2115 | rVB2 | 121625 | 112733  | 3.55%  | 0.224% |
| 78  | 14.692 | 2139 | 2143 | 2146 | rBV2 | 97246  | 137717  | 4.33%  | 0.274% |
| 79  | 14.792 | 2156 | 2160 | 2164 | rVB2 | 63765  | 96261   | 3.03%  | 0.191% |
| 80  | 14.863 | 2168 | 2172 | 2177 | rBV2 | 98343  | 136846  | 4.30%  | 0.272% |
| 81  | 14.963 | 2185 | 2189 | 2193 | rBV  | 38953  | 54081   | 1.70%  | 0.107% |
| 82  | 15.015 | 2193 | 2198 | 2201 | rBV  | 884798 | 1293324 | 40.67% | 2.569% |
| 83  | 15.121 | 2213 | 2216 | 2221 | rVB  | 194330 | 212378  | 6.68%  | 0.422% |
| 84  | 15.210 | 2227 | 2231 | 2232 | rBV2 | 53058  | 60416   | 1.90%  | 0.120% |
| 85  | 15.251 | 2236 | 2238 | 2244 | rVV2 | 64927  | 136851  | 4.30%  | 0.272% |
| 86  | 15.315 | 2245 | 2249 | 2255 | rVV  | 468671 | 616791  | 19.40% | 1.225% |
| 87  | 15.374 | 2255 | 2259 | 2264 | rVV  | 749580 | 953374  | 29.98% | 1.893% |
| 88  | 15.433 | 2265 | 2269 | 2273 | rVV  | 650288 | 864012  | 27.17% | 1.716% |
| 89  | 15.468 | 2273 | 2275 | 2285 | rVB  | 214570 | 292782  | 9.21%  | 0.581% |
| 90  | 15.615 | 2295 | 2300 | 2302 | rBV  | 45086  | 67928   | 2.14%  | 0.135% |
| 91  | 15.662 | 2302 | 2308 | 2314 | rVB2 | 56530  | 114787  | 3.61%  | 0.228% |
| 92  | 15.998 | 2361 | 2365 | 2371 | rVB2 | 44657  | 69361   | 2.18%  | 0.138% |
| 93  | 16.321 | 2417 | 2420 | 2431 | rVB5 | 43510  | 99110   | 3.12%  | 0.197% |
| 94  | 16.692 | 2480 | 2483 | 2488 | rVV2 | 39524  | 61136   | 1.92%  | 0.121% |
| 95  | 16.745 | 2488 | 2492 | 2497 | rVB  | 39869  | 64072   | 2.01%  | 0.127% |
| 96  | 16.898 | 2511 | 2518 | 2527 | rBV  | 323115 | 657128  | 20.66% | 1.305% |
| 97  | 17.068 | 2541 | 2547 | 2552 | rBV  | 79859  | 160984  | 5.06%  | 0.320% |
| 98  | 17.127 | 2553 | 2557 | 2563 | rVB2 | 51731  | 101086  | 3.18%  | 0.201% |
| 99  | 17.339 | 2587 | 2593 | 2604 | rBV  | 212886 | 463736  | 14.58% | 0.921% |
| 100 | 17.598 | 2632 | 2637 | 2647 | rVB  | 56688  | 127879  | 4.02%  | 0.254% |

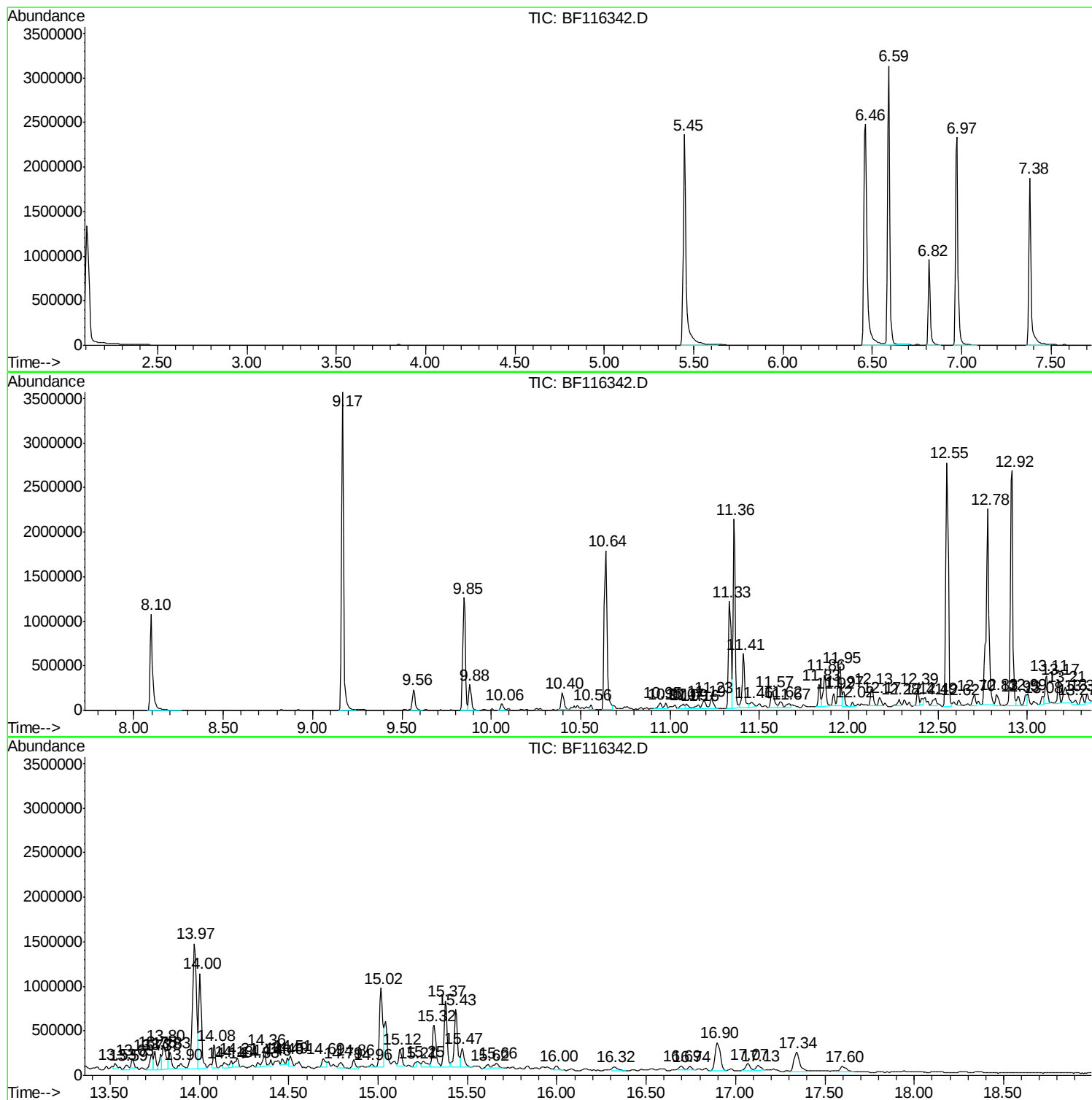
Sum of corrected areas: 50353251

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ALS Vial : 19 Sample Multiplier: 1

Instrument :  
BNA\_F  
ClientSampleId :  
2S-I1-I4-COMP-(1)

Quant Method : Z:\SVOASRV\HPCHEM1\BNA F\METHODS\8270-BF073019.M  
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P



Data Path : Z:\SVOASRV\HPCHEM1\BNA F\DATA\BF081619\  
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Quant Method : Z:\SVOASRV\HPCHEM1\BNA F\METHODS\8270-BF073019.M  
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

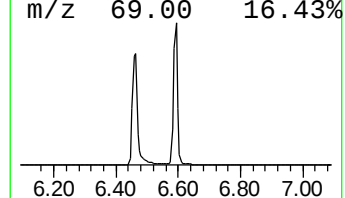
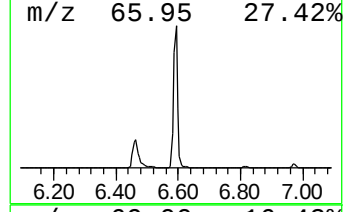
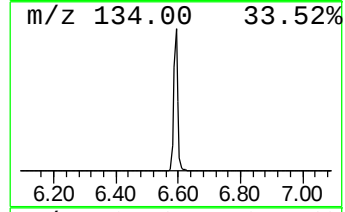
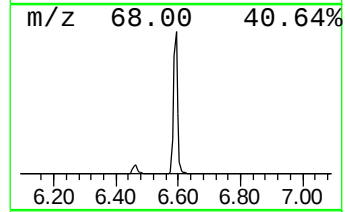
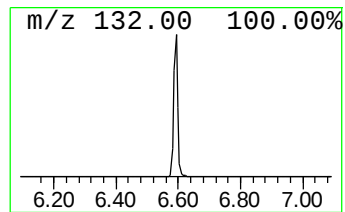
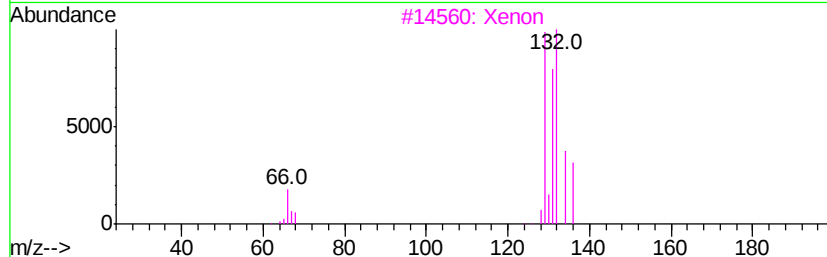
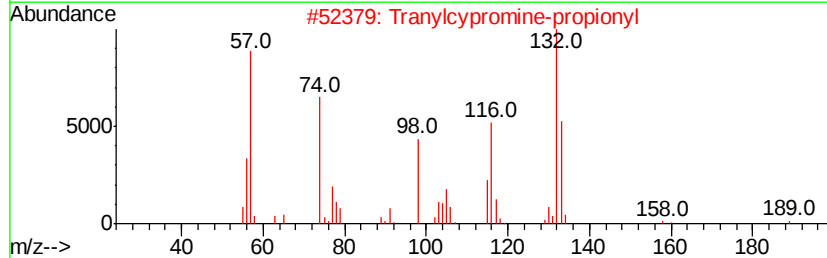
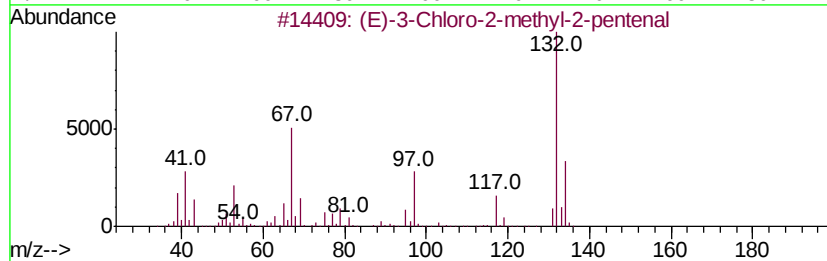
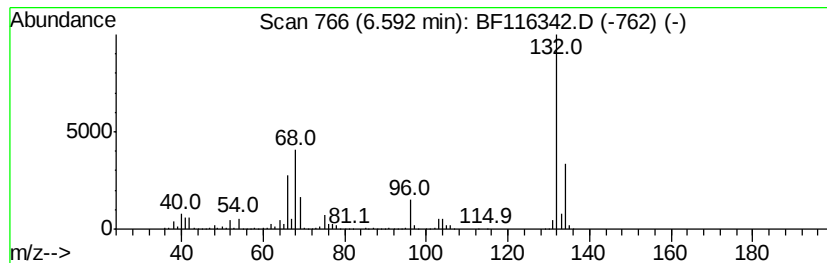
TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P

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Peak Number 1 unknown6.59 Concentration Rank 1

| R.T. | EstConc  | Area    | Relative to ISTD       | R.T. |
|------|----------|---------|------------------------|------|
| 6.59 | 69.40 ng | 2899260 | 1,4-Dichlorobenzene-d4 | 6.82 |

| Hit# | of | Tentative ID                        | MW  | MolForm   | CAS#         | Qual |
|------|----|-------------------------------------|-----|-----------|--------------|------|
| 1    | 5  | (E)-3-Chloro-2-methyl-2-pentenal    | 132 | C6H9ClO   | 031357-76-3  | 16   |
| 2    |    | Tranlylcypromine-propionyl          | 189 | C12H15NO  | 1000123-86-3 | 12   |
| 3    |    | Xenon                               | 132 | Xe        | 007440-63-3  | 9    |
| 4    |    | Bicyclo[4.2.0]octa-1,3,5-triene,... | 132 | C10H12    | 028749-81-7  | 9    |
| 5    |    | 5-Fluoro-2-chloropyrimidine         | 132 | C4H2ClFN2 | 062802-42-0  | 9    |



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Quant Method : Z:\SVOASRV\HPCHEM1\BNA F\METHODS\8270-BF073019.M  
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

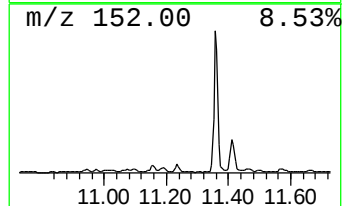
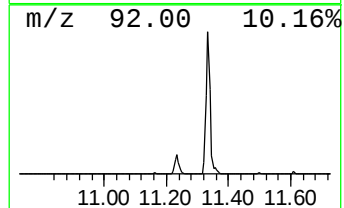
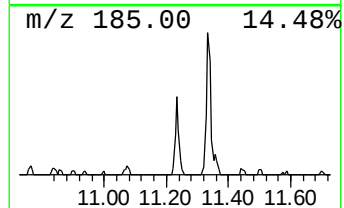
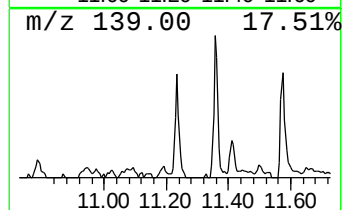
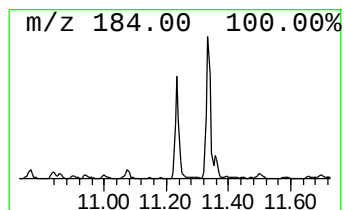
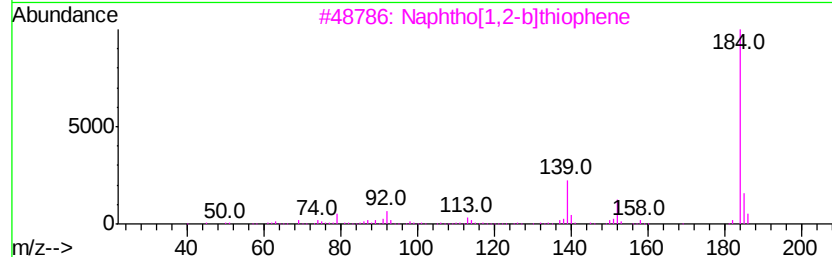
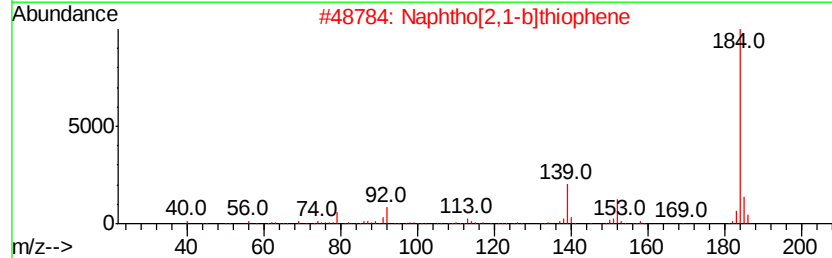
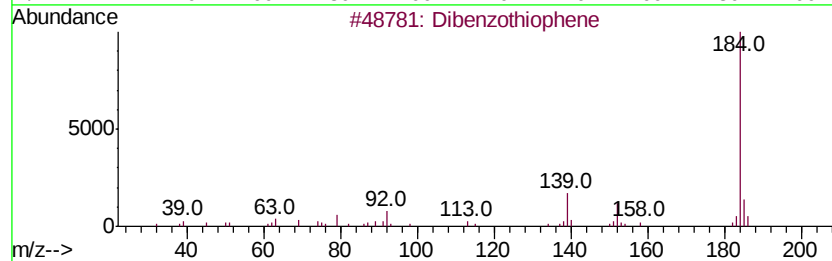
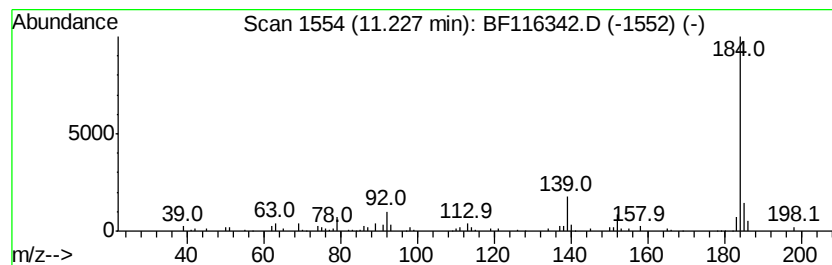
TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P

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Peak Number 3 Dibenzothiophene Concentration Rank 20

| R.T.  | EstConc | Area   | Relative to ISTD | R.T.  |
|-------|---------|--------|------------------|-------|
| 11.23 | 2.40 ng | 129118 | Phenanthrene-d10 | 11.33 |

| Hit# | of | Tentative ID            | MW  | MolForm | CAS#        | Qual |
|------|----|-------------------------|-----|---------|-------------|------|
| 1    | 5  | Dibenzothiophene        | 184 | C12H8S  | 000132-65-0 | 97   |
| 2    |    | Naphtho[2,1-b]thiophene | 184 | C12H8S  | 000233-02-3 | 97   |
| 3    |    | Naphtho[1,2-b]thiophene | 184 | C12H8S  | 000234-41-3 | 94   |
| 4    |    | Naphtho[2,3-b]thiophene | 184 | C12H8S  | 000268-77-9 | 93   |
| 5    |    | Azuleno(2,1-b)thiophene | 184 | C12H8S  | 000248-13-5 | 91   |



Data Path : Z:\SVOASRV\HPCHEM1\BNA F\DATA\BF081619\  
Data File : BF116342.D  
Acq On : 17 Aug 2019 2:34  
Operator : HP/JU  
Sample : K4228-17  
Misc :  
ALS Vial : 19 Sample Multiplier: 1

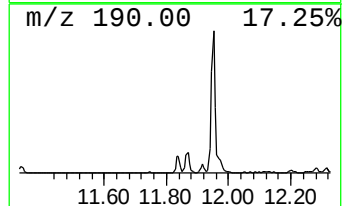
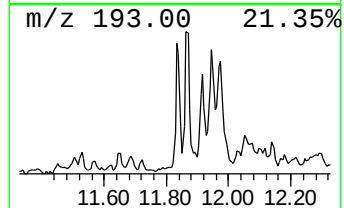
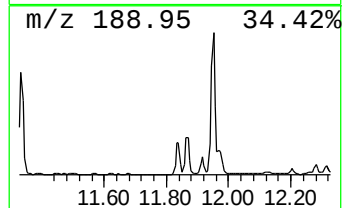
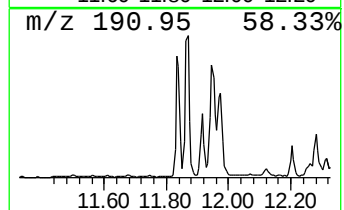
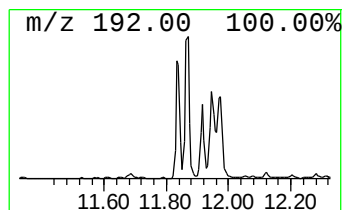
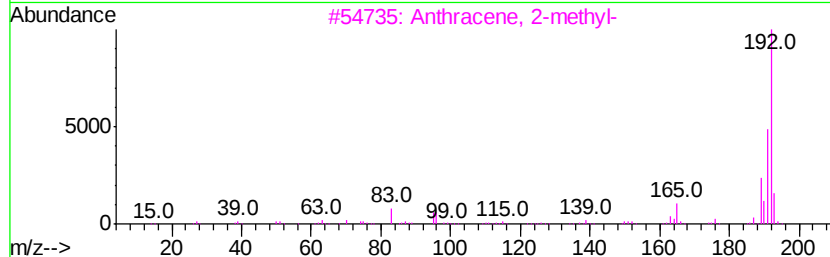
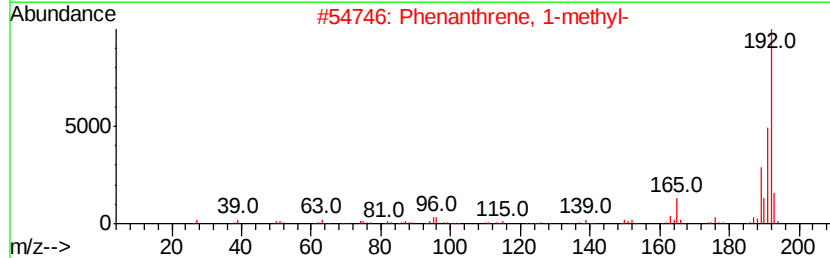
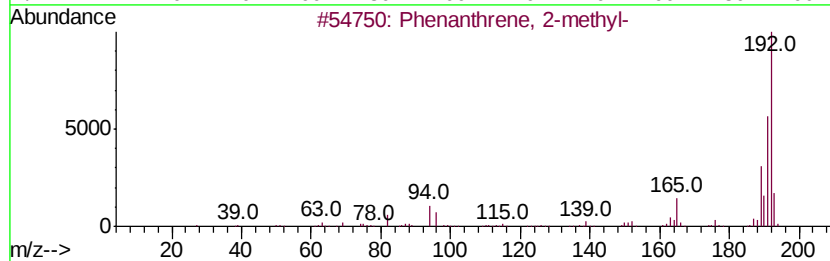
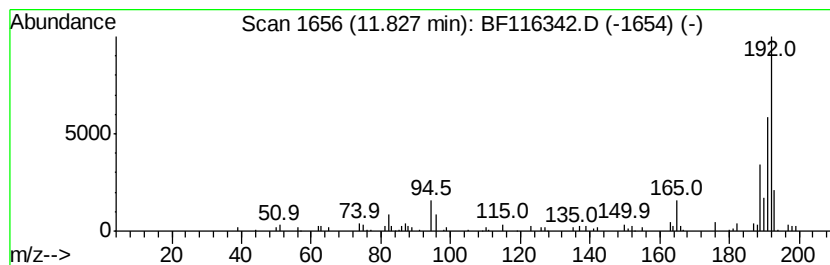
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Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P

\*\*\*\*\*  
Peak Number 4 Phenanthrene, 2-methyl- Concentration Rank 7

| R.T.      | EstConc                             | Area   | Relative to ISTD | R.T.        |      |
|-----------|-------------------------------------|--------|------------------|-------------|------|
| 11.83     | 4.60 ng                             | 246934 | Phenanthrene-d10 | 11.33       |      |
| Hit# of 5 | Tentative ID                        | MW     | MolForm          | CAS#        | Qual |
| 1         | Phenanthrene, 2-methyl-             | 192    | C15H12           | 002531-84-2 | 98   |
| 2         | Phenanthrene, 1-methyl-             | 192    | C15H12           | 000832-69-9 | 96   |
| 3         | Anthracene, 2-methyl-               | 192    | C15H12           | 000613-12-7 | 96   |
| 4         | 1H-Cyclopropa[1]phenanthrene,1a,... | 192    | C15H12           | 000949-41-7 | 95   |
| 5         | Anthracene, 1-methyl-               | 192    | C15H12           | 000610-48-0 | 95   |



Data Path : Z:\SVOASRV\HPCHEM1\BNA F\DATA\BF081619\  
Data File : BF116342.D  
Acq On : 17 Aug 2019 2:34  
Operator : HP/JU  
Sample : K4228-17  
Misc :  
ALS Vial : 19 Sample Multiplier: 1

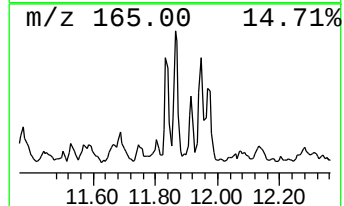
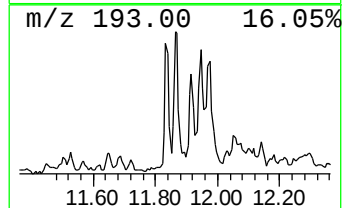
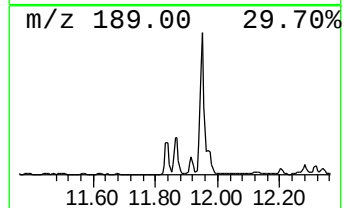
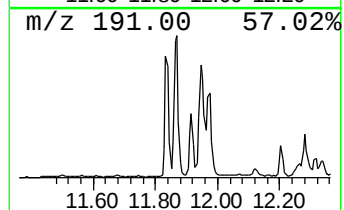
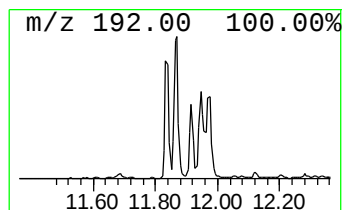
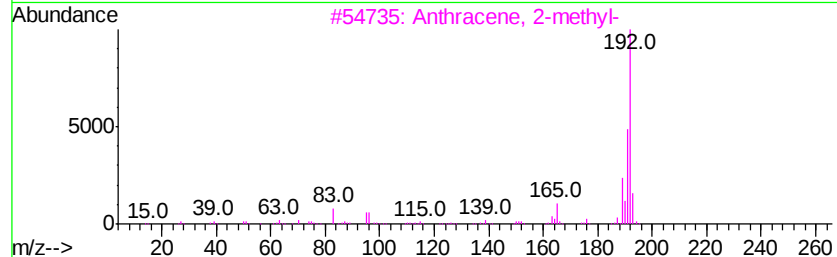
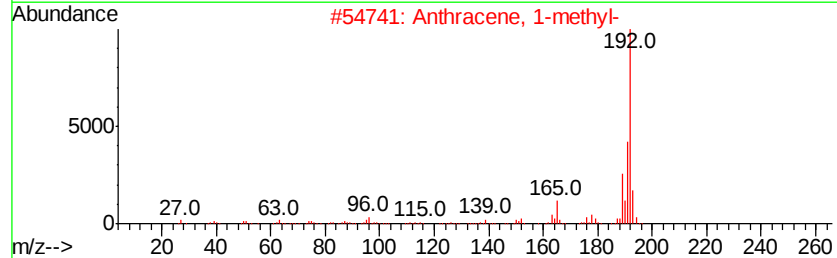
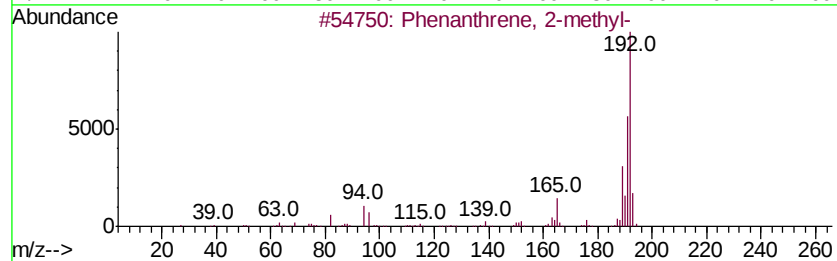
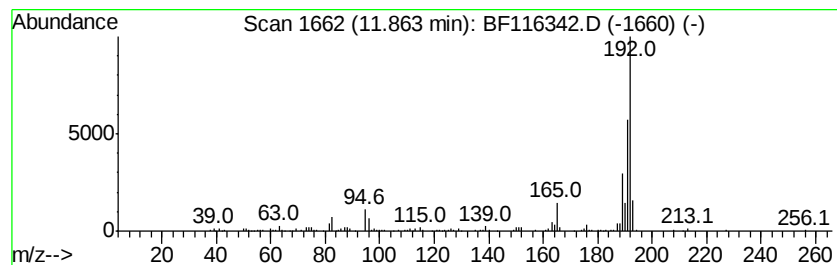
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ClientSampleId :  
2S-I1-I4-COMP-(1)

Quant Method : Z:\SVOASRV\HPCHEM1\BNA F\METHODS\8270-BF073019.M  
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P

\*\*\*\*\*  
Peak Number 5 Phenanthrene, 1-methyl- Concentration Rank 5

| R.T.      | EstConc                 | Area   | Relative to ISTD | R.T.        |      |
|-----------|-------------------------|--------|------------------|-------------|------|
| 11.86     | 7.29 ng                 | 391723 | Phenanthrene-d10 | 11.33       |      |
| Hit# of 5 | Tentative ID            | MW     | MolForm          | CAS#        | Qual |
| 1         | Phenanthrene, 2-methyl- | 192    | C15H12           | 002531-84-2 | 98   |
| 2         | Anthracene, 1-methyl-   | 192    | C15H12           | 000610-48-0 | 95   |
| 3         | Anthracene, 2-methyl-   | 192    | C15H12           | 000613-12-7 | 95   |
| 4         | Phenanthrene, 1-methyl- | 192    | C15H12           | 000832-69-9 | 93   |
| 5         | Anthracene, 9-methyl-   | 192    | C15H12           | 000779-02-2 | 91   |



Data Path : Z:\SVOASRV\HPCHEM1\BNA F\DATA\BF081619\  
Data File : BF116342.D  
Acq On : 17 Aug 2019 2:34  
Operator : HP/JU  
Sample : K4228-17  
Misc :  
ALS Vial : 19 Sample Multiplier: 1

Instrument :  
BNA\_F  
ClientSampleId :  
2S-I1-I4-COMP-(1)

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Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

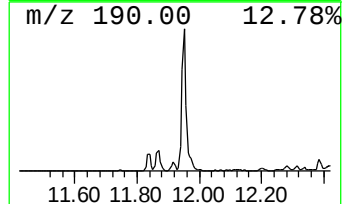
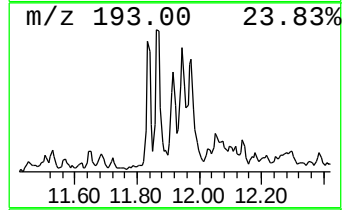
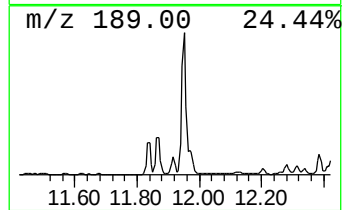
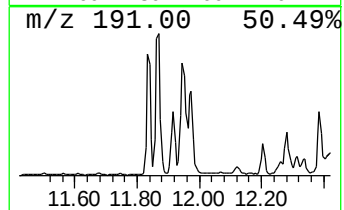
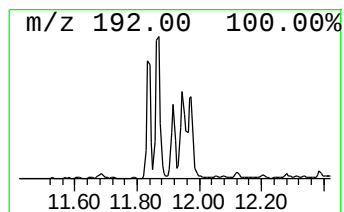
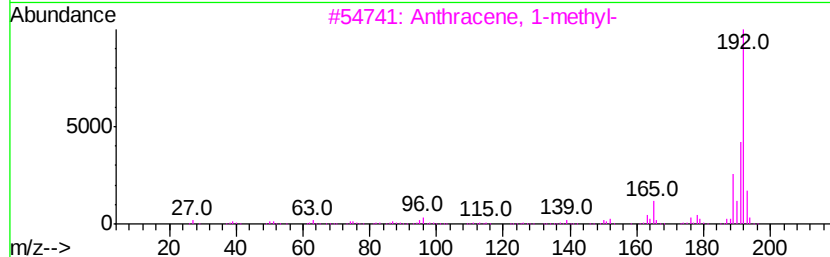
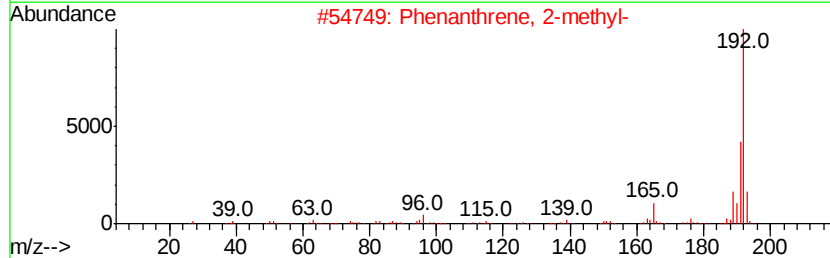
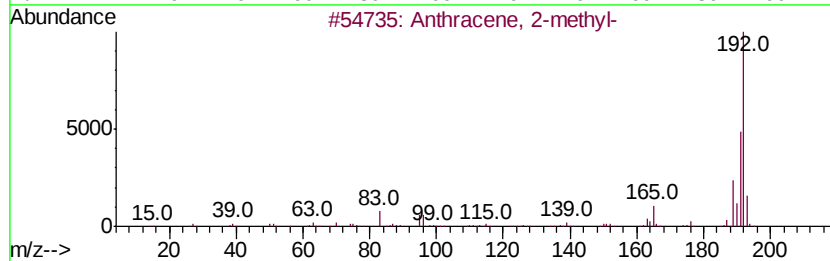
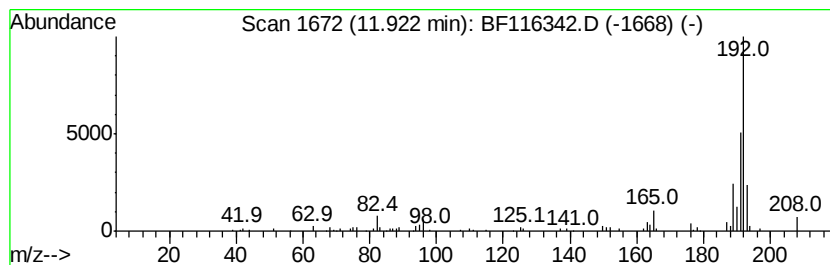
TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P

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Peak Number 6 Anthracene, 1-methyl- Concentration Rank 19

| R.T.  | EstConc | Area   | Relative to ISTD | R.T.  |
|-------|---------|--------|------------------|-------|
| 11.92 | 2.47 ng | 132788 | Phenanthrene-d10 | 11.33 |

| Hit# | of | Tentative ID            | MW  | MolForm | CAS#        | Qual |
|------|----|-------------------------|-----|---------|-------------|------|
| 1    | 5  | Anthracene, 2-methyl-   | 192 | C15H12  | 000613-12-7 | 96   |
| 2    |    | Phenanthrene, 2-methyl- | 192 | C15H12  | 002531-84-2 | 96   |
| 3    |    | Anthracene, 1-methyl-   | 192 | C15H12  | 000610-48-0 | 96   |
| 4    |    | Phenanthrene, 1-methyl- | 192 | C15H12  | 000832-69-9 | 95   |
| 5    |    | Phenanthrene, 3-methyl- | 192 | C15H12  | 000832-71-3 | 94   |



Data Path : Z:\SVOASRV\HPCHEM1\BNA F\DATA\BF081619\  
Data File : BF116342.D  
Acq On : 17 Aug 2019 2:34  
Operator : HP/JU  
Sample : K4228-17  
Misc :  
ALS Vial : 19 Sample Multiplier: 1

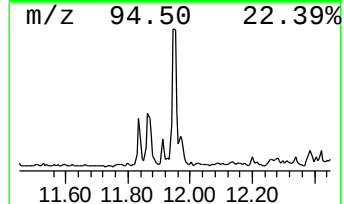
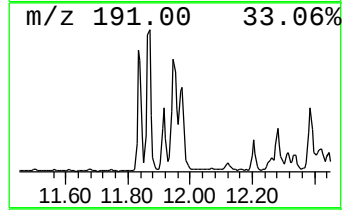
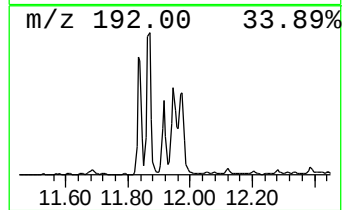
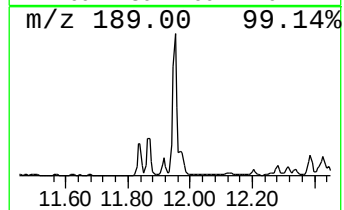
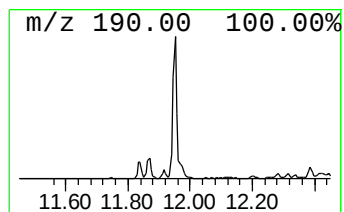
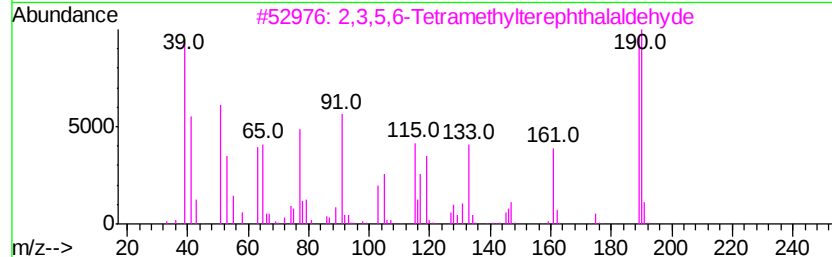
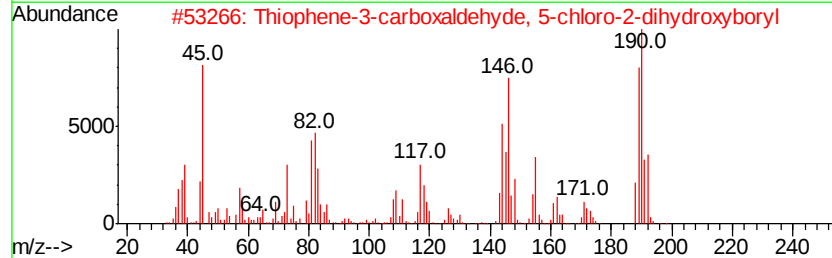
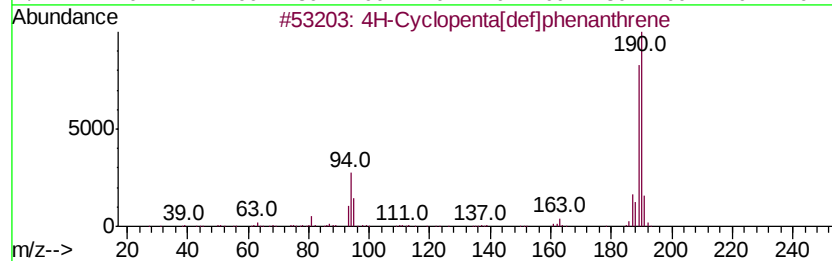
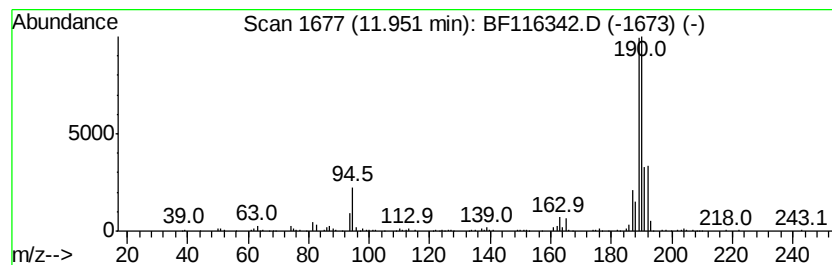
Instrument :  
BNA\_F  
ClientSampleId :  
2S-I1-I4-COMP-(1)

Quant Method : Z:\SVOASRV\HPCHEM1\BNA F\METHODS\8270-BF073019.M  
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P

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Peak Number 7 4H-Cyclopenta[def]phenanthrene Concentration Rank 4

| R.T.    | EstConc | Area                                | Relative to ISTD | R.T.       |             |      |
|---------|---------|-------------------------------------|------------------|------------|-------------|------|
| 11.95   | 9.21 ng | 494629                              | Phenanthrene-d10 | 11.33      |             |      |
| Hit# of | 5       | Tentative ID                        | MW               | MolForm    | CAS#        | Qual |
| 1       |         | 4H-Cyclopenta[def]phenanthrene      | 190              | C15H10     | 000203-64-5 | 81   |
| 2       |         | Thiophene-3-carboxaldehyde, 5-ch... | 190              | C5H4BClO3S | 036155-87-0 | 52   |
| 3       |         | 2,3,5,6-Tetramethylterephthalald... | 190              | C12H14O2   | 007072-01-7 | 50   |
| 4       |         | 6H-Cyclobuta[flk]phenanthrene       | 190              | C15H10     | 083469-43-6 | 45   |
| 5       |         | 2,2'-Bis(4,5-dimethylimidazole)     | 190              | C10H14N4   | 069286-06-2 | 45   |



Data Path : Z:\SVOASRV\HPCHEM1\BNA F\DATA\BF081619\  
Data File : BF116342.D  
Acq On : 17 Aug 2019 2:34  
Operator : HP/JU  
Sample : K4228-17  
Misc :  
ALS Vial : 19 Sample Multiplier: 1

Instrument :  
BNA\_F  
ClientSampleId :  
2S-I1-I4-COMP-(1)

Quant Method : Z:\SVOASRV\HPCHEM1\BNA F\METHODS\8270-BF073019.M  
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

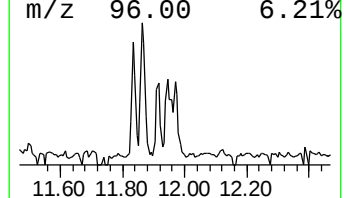
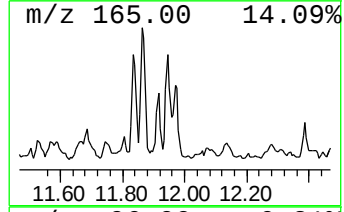
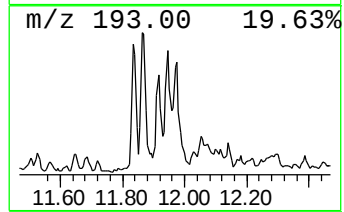
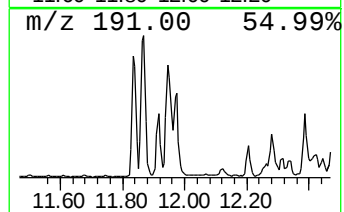
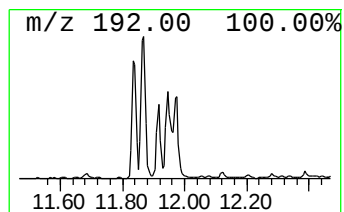
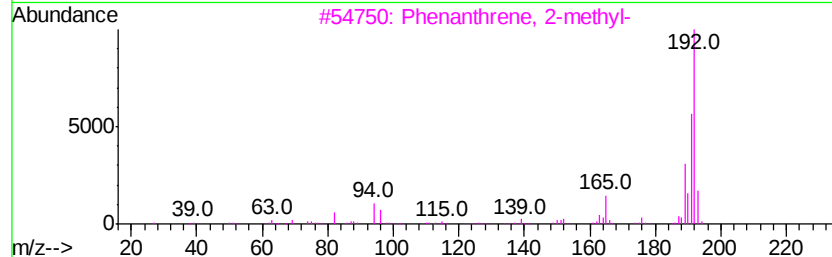
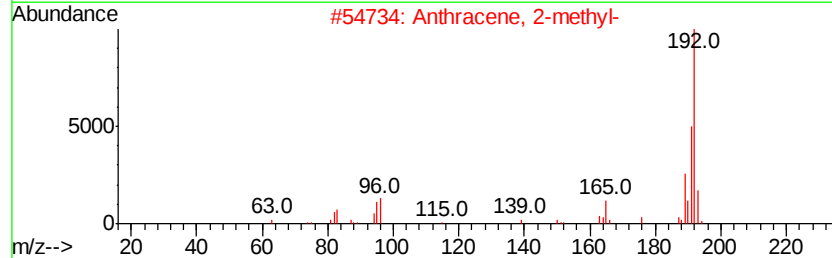
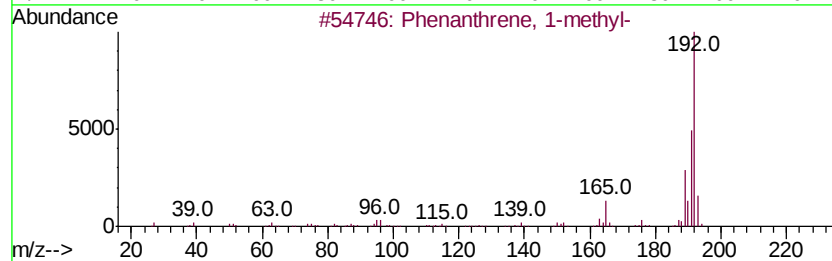
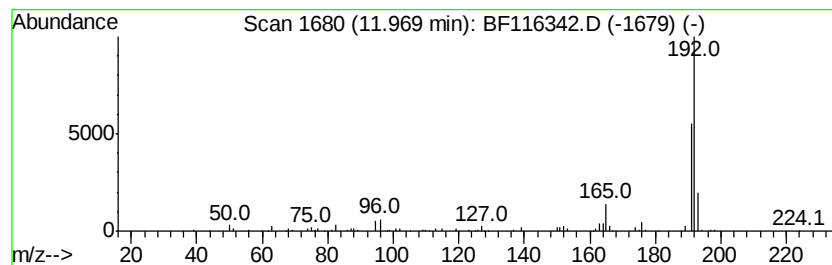
TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P

\*\*\*\*\*  
Peak Number 8 Anthracene, 2-methyl- Concentration Rank 15

| R.T.  | EstConc | Area   | Relative to ISTD | R.T.  |
|-------|---------|--------|------------------|-------|
| 11.97 | 2.92 ng | 156791 | Phenanthrene-d10 | 11.33 |

| Hit# | of | Tentative ID            | MW  | MolForm | CAS#        | Qual |
|------|----|-------------------------|-----|---------|-------------|------|
| 1    | 5  | Phenanthrene, 1-methyl- | 192 | C15H12  | 000832-69-9 | 94   |
| 2    |    | Anthracene, 2-methyl-   | 192 | C15H12  | 000613-12-7 | 94   |
| 3    |    | Phenanthrene, 2-methyl- | 192 | C15H12  | 002531-84-2 | 94   |
| 4    |    | Anthracene, 1-methyl-   | 192 | C15H12  | 000610-48-0 | 91   |
| 5    |    | Anthracene, 9-methyl-   | 192 | C15H12  | 000779-02-2 | 91   |



Data Path : Z:\SVOASRV\HPCHEM1\BNA F\DATA\BF081619\  
Data File : BF116342.D  
Acq On : 17 Aug 2019 2:34  
Operator : HP/JU  
Sample : K4228-17  
Misc :  
ALS Vial : 19 Sample Multiplier: 1

Instrument :  
BNA\_F  
ClientSampleId :  
2S-I1-I4-COMP-(1)

Quant Method : Z:\SVOASRV\HPCHEM1\BNA F\METHODS\8270-BF073019.M  
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

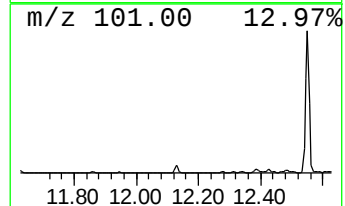
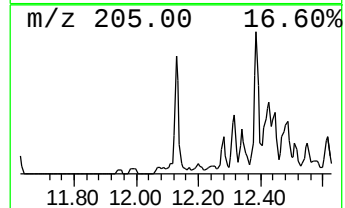
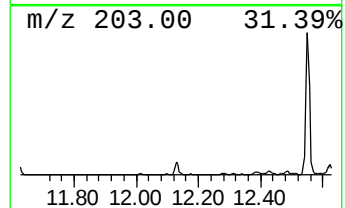
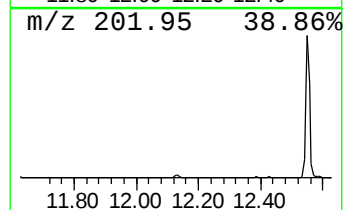
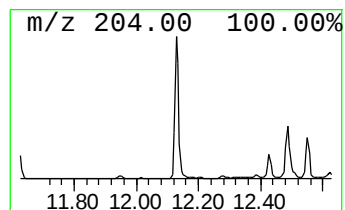
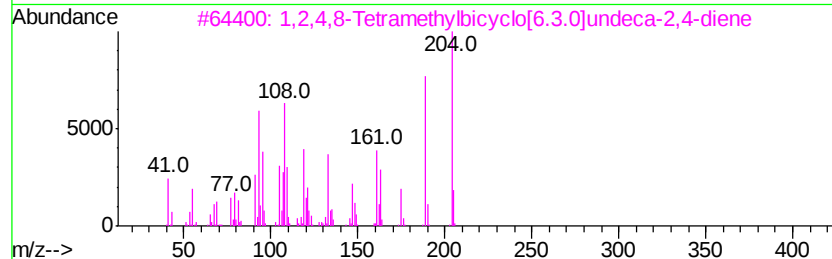
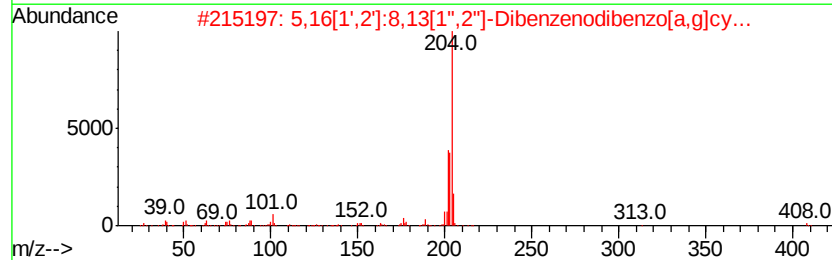
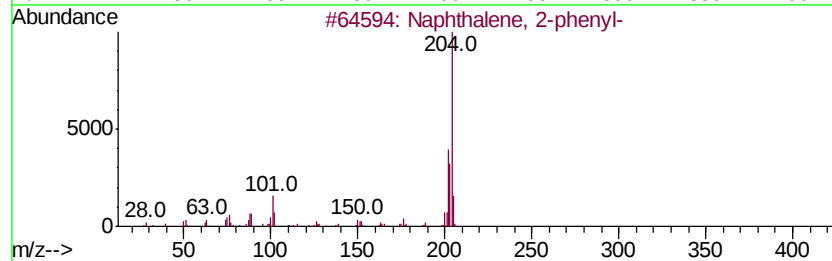
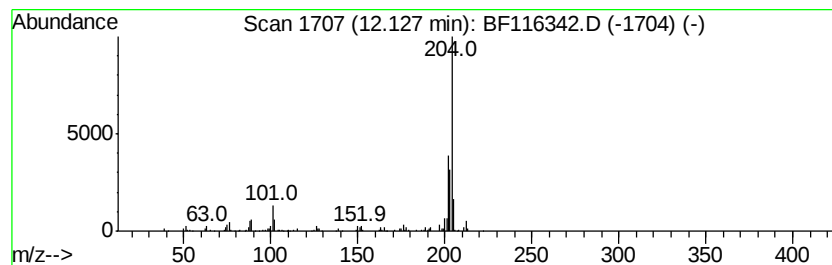
TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P

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Peak Number 9 Naphthalene, 2-phenyl- Concentration Rank 11

| R.T.  | EstConc | Area   | Relative to ISTD | R.T.  |
|-------|---------|--------|------------------|-------|
| 12.13 | 3.32 ng | 178544 | Phenanthrene-d10 | 11.33 |

| Hit# | of | Tentative ID                        | MW  | MolForm | CAS#        | Qual |
|------|----|-------------------------------------|-----|---------|-------------|------|
| 1    | 5  | Naphthalene, 2-phenyl-              | 204 | C16H12  | 000612-94-2 | 91   |
| 2    |    | 5,16[1',2']:8,13[1'',2'']-Dibenz... | 408 | C32H24  | 005672-97-9 | 86   |
| 3    |    | 1,2,4,8-Tetramethylbicvclo[6.3.0... | 204 | C15H24  | 137235-51-9 | 80   |
| 4    |    | Naphthalene, 1-phenyl-              | 204 | C16H12  | 000605-02-7 | 70   |
| 5    |    | Tricyclo[8.2.2.2(4,7)]hexadeca-2... | 204 | C16H12  | 006572-60-7 | 58   |



Data Path : Z:\SVOASRV\HPCHEM1\BNA F\DATA\BF081619\  
Data File : BF116342.D  
Acq On : 17 Aug 2019 2:34  
Operator : HP/JU  
Sample : K4228-17  
Misc :  
ALS Vial : 19 Sample Multiplier: 1

Instrument :  
BNA\_F  
ClientSampleId :  
2S-I1-I4-COMP-(1)

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Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

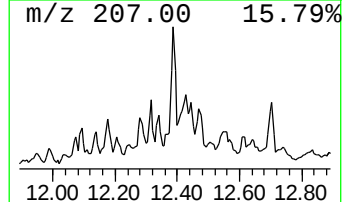
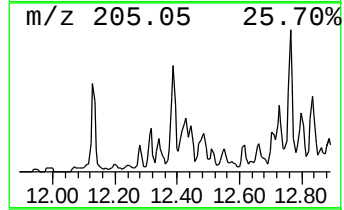
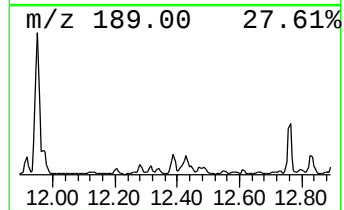
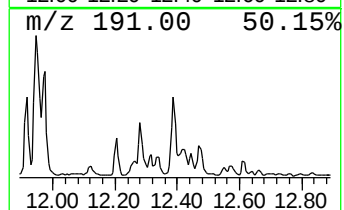
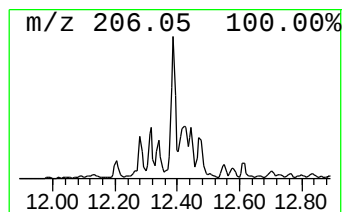
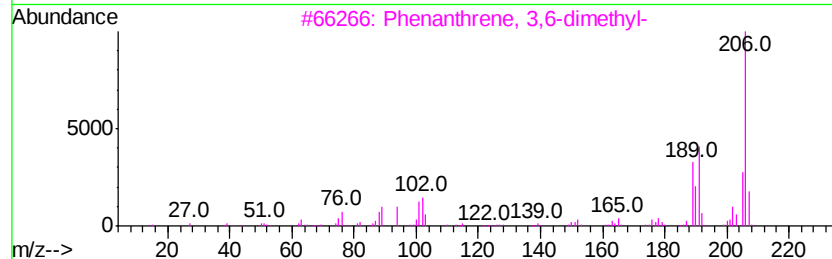
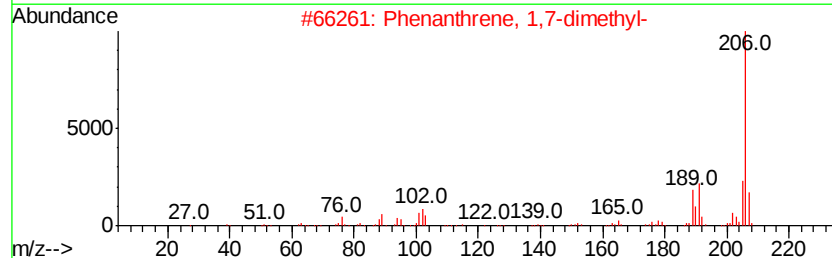
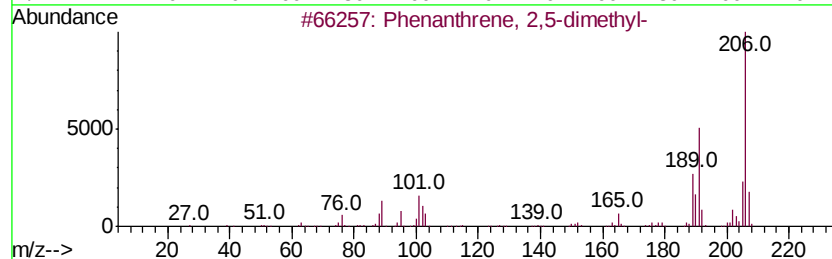
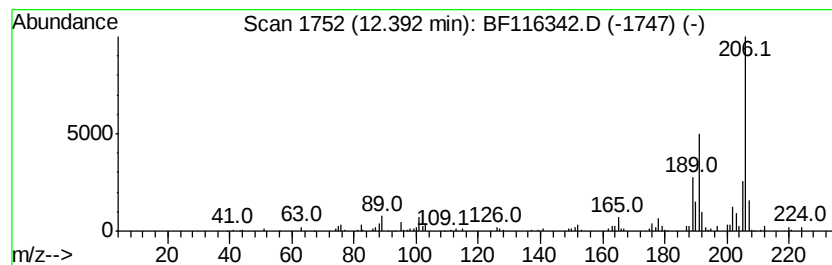
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TIC Integration Parameters: LSCINT.P

\*\*\*\*\*  
Peak Number 10 Phenanthrene, 2,5-dimethyl- Concentration Rank 10

| R.T.  | EstConc | Area   | Relative to ISTD | R.T.  |
|-------|---------|--------|------------------|-------|
| 12.39 | 3.36 ng | 180519 | Phenanthrene-d10 | 11.33 |

| Hit# | of | Tentative ID                | MW  | MolForm | CAS#        | Qual |
|------|----|-----------------------------|-----|---------|-------------|------|
| 1    | 5  | Phenanthrene, 2,5-dimethyl- | 206 | C16H14  | 003674-66-6 | 97   |
| 2    |    | Phenanthrene, 1,7-dimethyl- | 206 | C16H14  | 000483-87-4 | 93   |
| 3    |    | Phenanthrene, 3,6-dimethyl- | 206 | C16H14  | 001576-67-6 | 93   |
| 4    |    | 9,10-Dimethylantracene      | 206 | C16H14  | 000781-43-1 | 93   |
| 5    |    | di-p-Tolylacetylene         | 206 | C16H14  | 002789-88-0 | 91   |



Data Path : Z:\SVOASRV\HPCHEM1\BNA F\DATA\BF081619\  
Data File : BF116342.D  
Acq On : 17 Aug 2019 2:34  
Operator : HP/JU  
Sample : K4228-17  
Misc :  
ALS Vial : 19 Sample Multiplier: 1

Instrument :  
BNA\_F  
ClientSampleId :  
2S-I1-I4-COMP-(1)

Quant Method : Z:\SVOASRV\HPCHEM1\BNA F\METHODS\8270-BF073019.M  
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

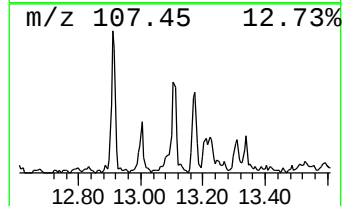
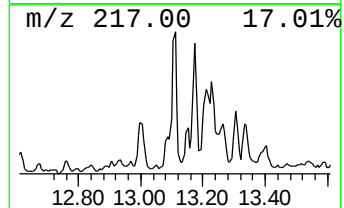
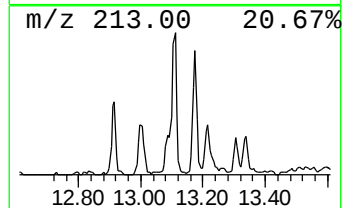
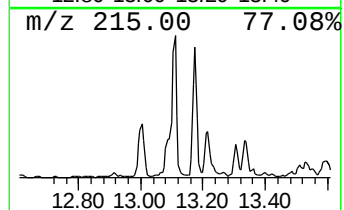
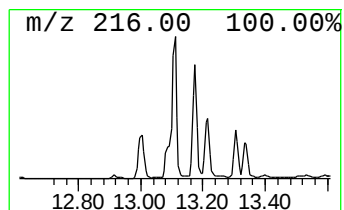
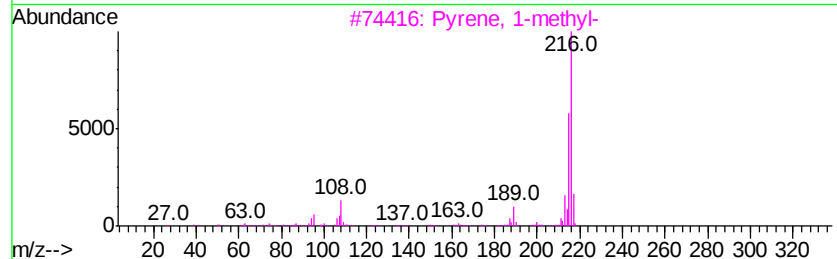
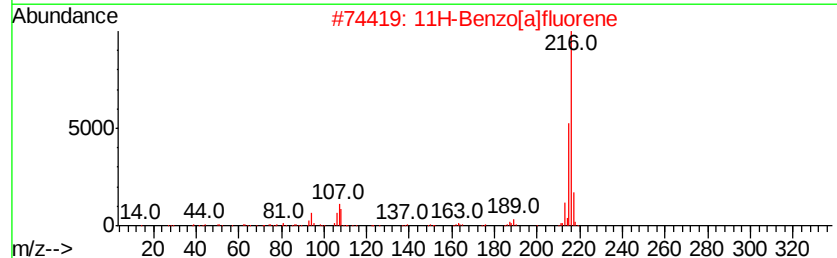
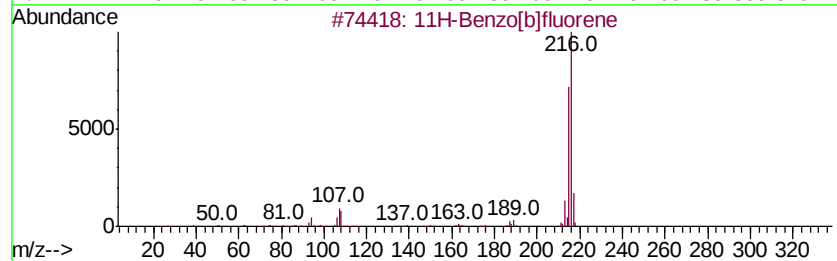
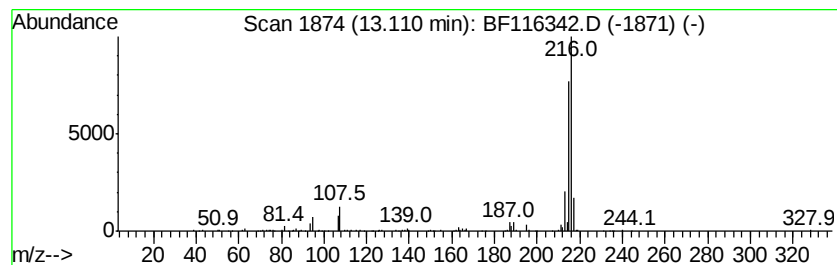
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TIC Integration Parameters: LSCINT.P

\*\*\*\*\*  
Peak Number 11 11H-Benzo[b]fluorene Concentration Rank 17

| R.T.  | EstConc | Area   | Relative to ISTD | R.T.  |
|-------|---------|--------|------------------|-------|
| 13.11 | 2.62 ng | 294346 | Chrysene-d12     | 13.98 |

| Hit# | of | Tentative ID            | MW  | MolForm | CAS#        | Qual |
|------|----|-------------------------|-----|---------|-------------|------|
| 1    | 5  | 11H-Benzo[b]fluorene    | 216 | C17H12  | 000243-17-4 | 96   |
| 2    |    | 11H-Benzo[a]fluorene    | 216 | C17H12  | 000238-84-6 | 95   |
| 3    |    | Pvrene, 1-methyl-       | 216 | C17H12  | 002381-21-7 | 87   |
| 4    |    | 7H-Benzo[c]fluorene     | 216 | C17H12  | 000205-12-9 | 87   |
| 5    |    | Fluoranthene, 2-methyl- | 216 | C17H12  | 033543-31-6 | 83   |



Data Path : Z:\SVOASRV\HPCHEM1\BNA F\DATA\BF081619\  
Data File : BF116342.D  
Acq On : 17 Aug 2019 2:34  
Operator : HP/JU  
Sample : K4228-17  
Misc :  
ALS Vial : 19 Sample Multiplier: 1

Instrument :  
BNA\_F  
ClientSampleId :  
2S-I1-I4-COMP-(1)

Quant Method : Z:\SVOASRV\HPCHEM1\BNA F\METHODS\8270-BF073019.M  
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

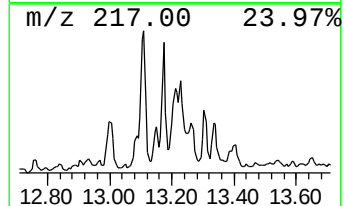
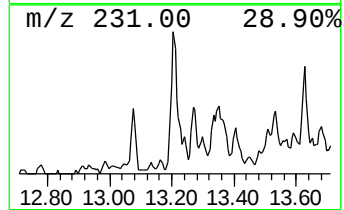
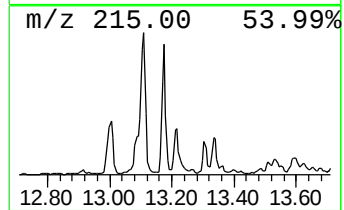
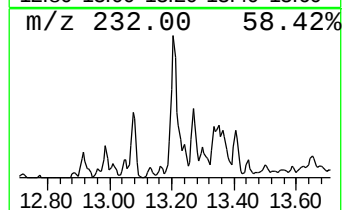
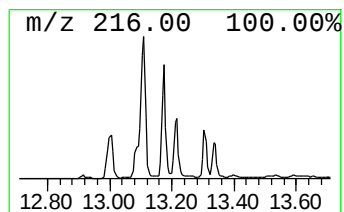
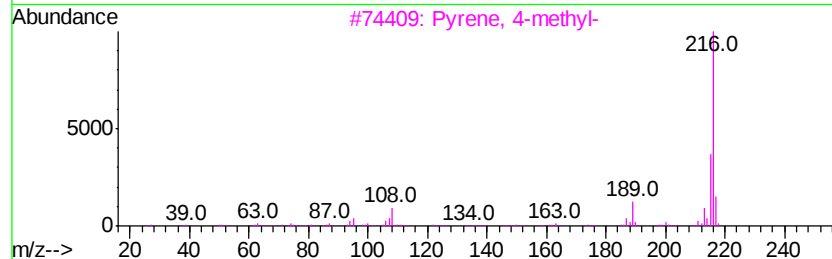
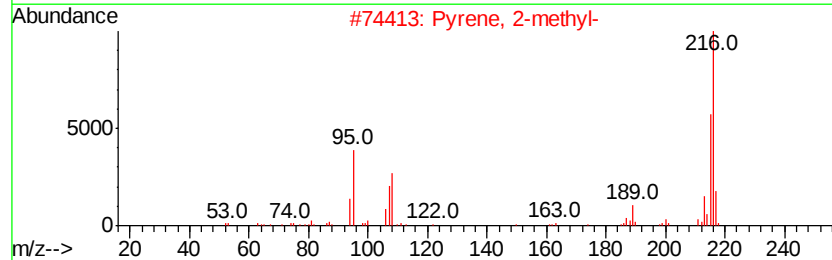
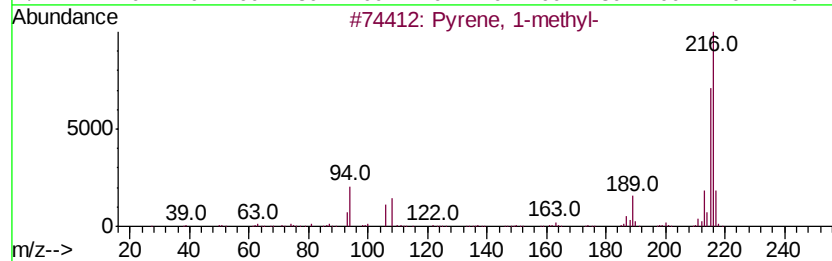
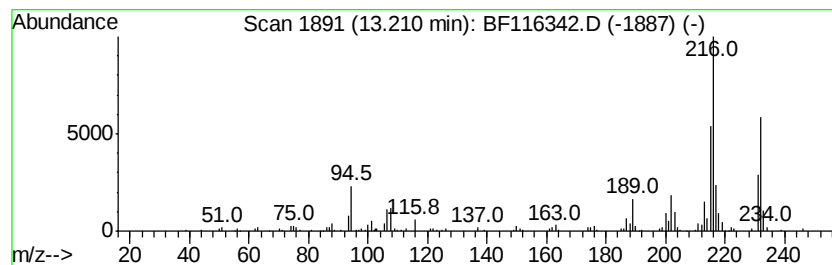
TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P

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Peak Number 12 Pyrene, 1-methyl- Concentration Rank 18

| R.T.  | EstConc | Area   | Relative to ISTD | R.T.  |
|-------|---------|--------|------------------|-------|
| 13.21 | 2.58 ng | 290087 | Chrysene-d12     | 13.98 |

| Hit# | of | Tentative ID                  | MW  | MolForm | CAS#        | Qual |
|------|----|-------------------------------|-----|---------|-------------|------|
| 1    | 5  | Pyrene, 1-methyl-             | 216 | C17H12  | 002381-21-7 | 95   |
| 2    |    | Pyrene, 2-methyl-             | 216 | C17H12  | 003442-78-2 | 83   |
| 3    |    | Pyrene, 4-methyl-             | 216 | C17H12  | 003353-12-6 | 55   |
| 4    |    | 11H-Benzo[ <i>a</i> ]fluorene | 216 | C17H12  | 000238-84-6 | 49   |
| 5    |    | Fluoranthene, 2-methyl-       | 216 | C17H12  | 033543-31-6 | 42   |



Data Path : Z:\SVOASRV\HPCHEM1\BNA F\DATA\BF081619\  
Data File : BF116342.D  
Acq On : 17 Aug 2019 2:34  
Operator : HP/JU  
Sample : K4228-17  
Misc :  
ALS Vial : 19 Sample Multiplier: 1

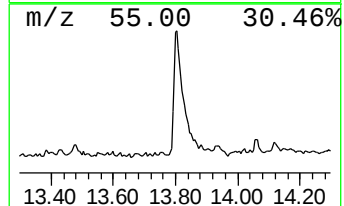
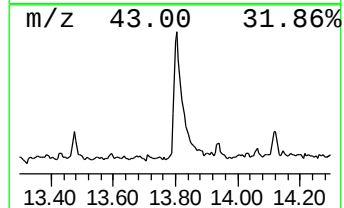
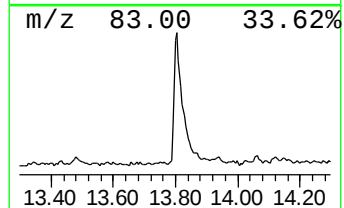
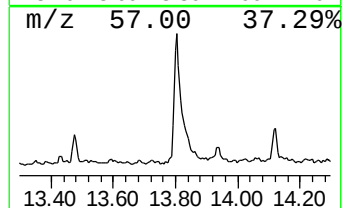
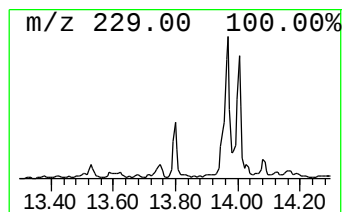
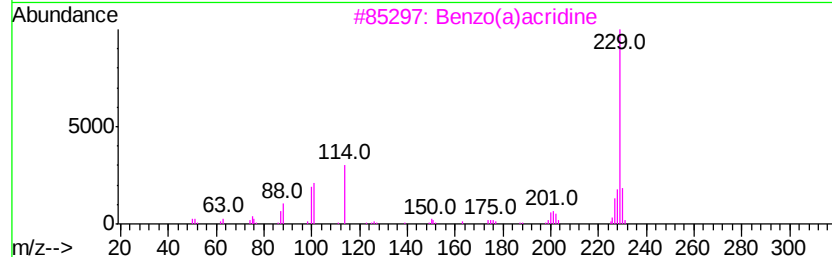
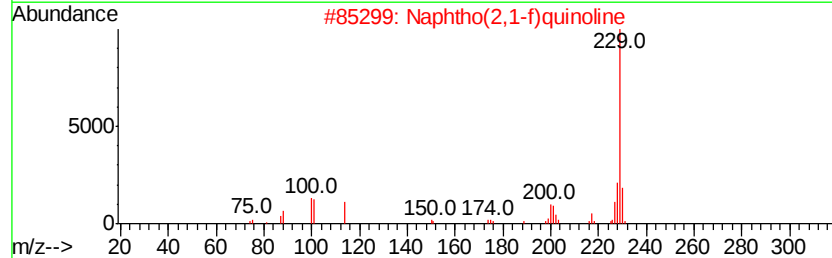
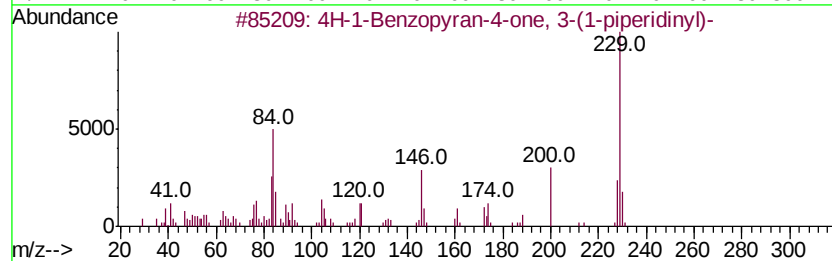
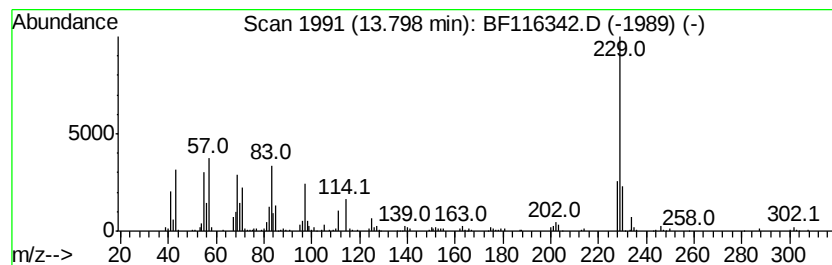
Instrument :  
BNA\_F  
ClientSampleId :  
2S-I1-I4-COMP-(1)

Quant Method : Z:\SVOASRV\HPCHEM1\BNA F\METHODS\8270-BF073019.M  
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P

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Peak Number 13 4H-1-Benzopyran-4-one, 3-(1... Concentration Rank 9

| R.T.    | EstConc                             | Area         | Relative to ISTD | R.T.         |      |      |
|---------|-------------------------------------|--------------|------------------|--------------|------|------|
| 13.80   | 3.60 ng                             | 404420       | Chrysene-d12     | 13.98        |      |      |
| Hit# of | 5                                   | Tentative ID | MW               | MolForm      | CAS# | Qual |
| 1       | 4H-1-Benzopyran-4-one, 3-(1-pipe... | 229          | C14H15N02        | 040302-79-2  | 50   |      |
| 2       | Naphtho(2,1-f)quinoline             | 229          | C17H11N          | 000218-08-6  | 47   |      |
| 3       | Benzo(a)acridine                    | 229          | C17H11N          | 000225-11-6  | 38   |      |
| 4       | 2-(3-Fluorophenyl)-1,3-benzothia... | 229          | C13H8FNS         | 1000298-18-6 | 37   |      |
| 5       | Terephthalic acid, 2-chloroethyl... | 368          | C20H29ClO4       | 1000323-94-8 | 28   |      |



Data Path : Z:\SVOASRV\HPCHEM1\BNA F\DATA\BF081619\  
Data File : BF116342.D  
Acq On : 17 Aug 2019 2:34  
Operator : HP/JU  
Sample : K4228-17  
Misc :  
ALS Vial : 19 Sample Multiplier: 1

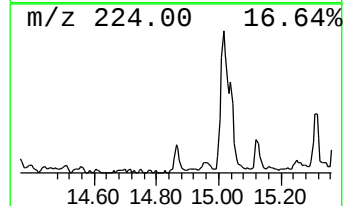
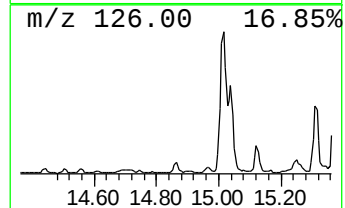
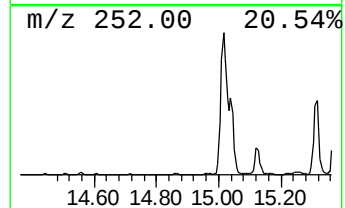
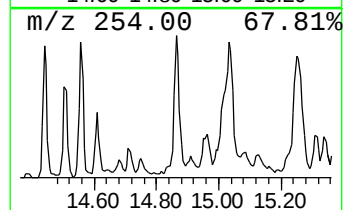
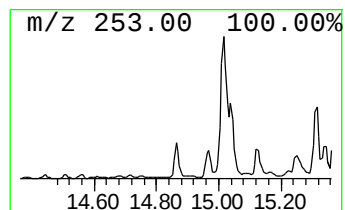
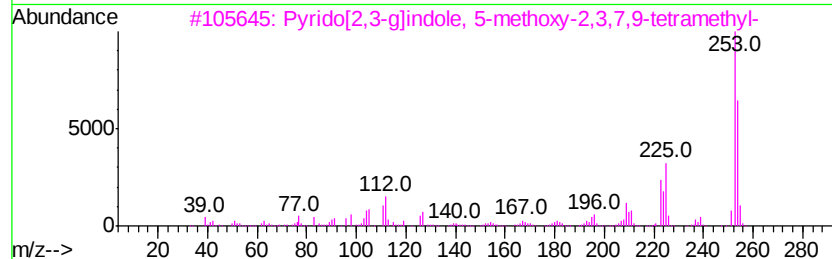
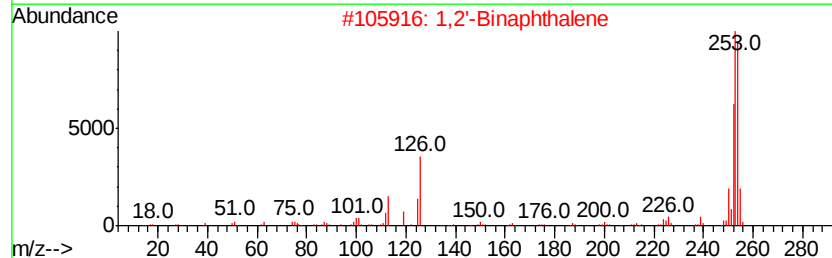
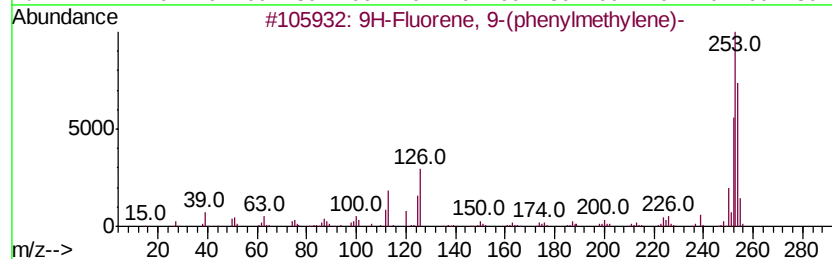
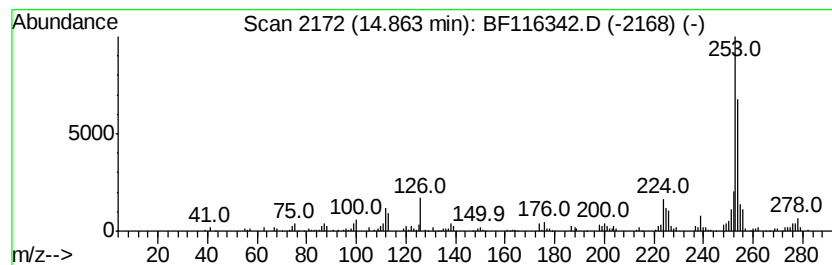
Instrument :  
BNA\_F  
ClientSampleId :  
2S-I1-I4-COMP-(1)

Quant Method : Z:\SVOASRV\HPCHEM1\BNA F\METHODS\8270-BF073019.M  
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P

\*\*\*\*\*  
Peak Number 14 9H-Fluorene, 9-(phenylmethy... Concentration Rank 13

| R.T.      | EstConc                             | Area   | Relative to ISTD | R.T.         |      |
|-----------|-------------------------------------|--------|------------------|--------------|------|
| 14.86     | 3.17 ng                             | 136846 | Perylene-d12     | 15.43        |      |
| Hit# of 5 | Tentative ID                        | MW     | MolForm          | CAS#         | Qual |
| 1         | 9H-Fluorene, 9-(phenylmethylen)-    | 254    | C20H14           | 001836-87-9  | 76   |
| 2         | 1,2'-Binaphthalene                  | 254    | C20H14           | 004325-74-0  | 68   |
| 3         | Pvrido[2,3-qlindole, 5-methoxy-2... | 254    | C16H18N2O        | 201991-45-9  | 64   |
| 4         | Benz(a)anthracene-7-carbonitrile    | 253    | C19H11N          | 007476-08-6  | 60   |
| 5         | 3H-Pyrrolo[3,2-f]quinoline, 5-me... | 254    | C16H18N2O        | 1000350-44-1 | 58   |



Data Path : Z:\SVOASRV\HPCHEM1\BNA F\DATA\BF081619\  
Data File : BF116342.D  
Acq On : 17 Aug 2019 2:34  
Operator : HP/JU  
Sample : K4228-17  
Misc :  
ALS Vial : 19 Sample Multiplier: 1

Instrument :  
BNA\_F  
ClientSampleId :  
2S-I1-I4-COMP-(1)

Quant Method : Z:\SVOASRV\HPCHEM1\BNA F\METHODS\8270-BF073019.M  
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

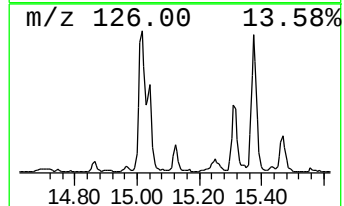
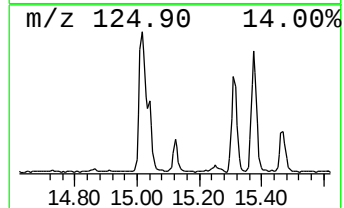
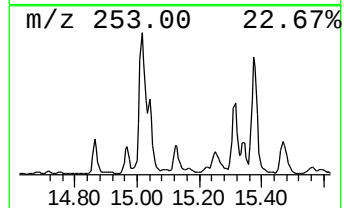
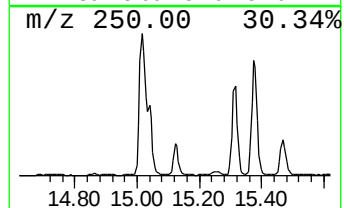
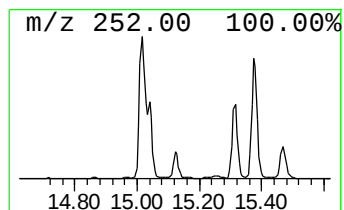
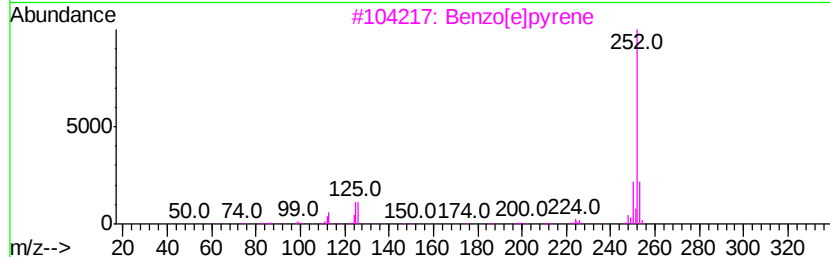
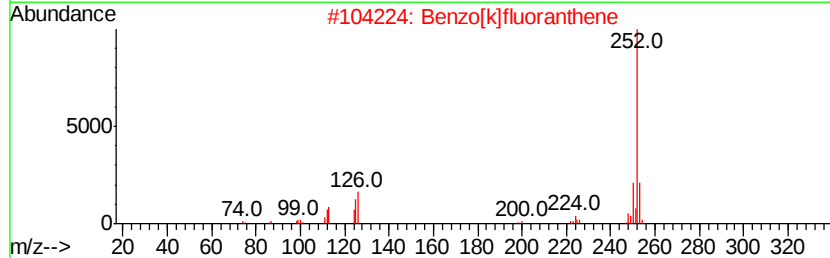
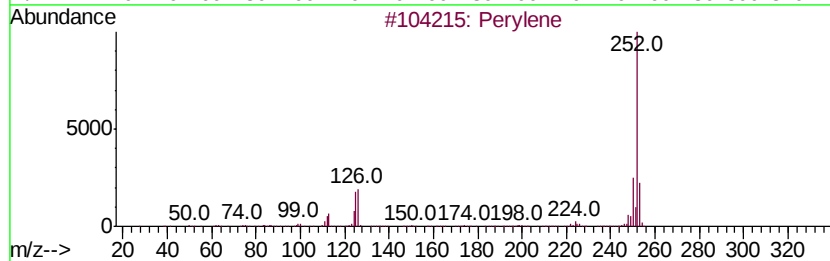
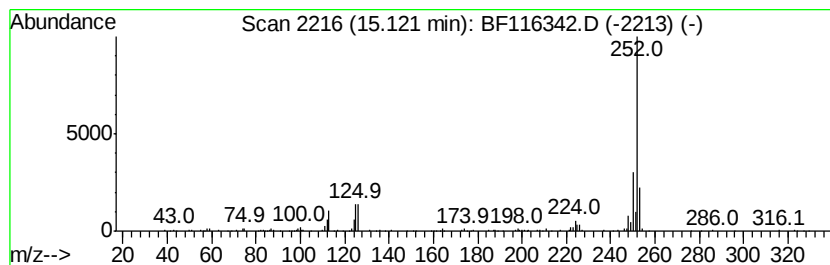
TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P

\*\*\*\*\*  
Peak Number 15 Perylene Concentration Rank 6

| R.T.  | EstConc | Area   | Relative to ISTD | R.T.  |
|-------|---------|--------|------------------|-------|
| 15.12 | 4.92 ng | 212378 | Perylene-d12     | 15.43 |

| Hit# | of | Tentative ID              | MW  | MolForm | CAS#        | Qual |
|------|----|---------------------------|-----|---------|-------------|------|
| 1    | 5  | Perylene                  | 252 | C20H12  | 000198-55-0 | 96   |
| 2    |    | Benzo[k]fluoranthene      | 252 | C20H12  | 000207-08-9 | 95   |
| 3    |    | Benzo[e]pyrene            | 252 | C20H12  | 000192-97-2 | 95   |
| 4    |    | Benzo[e]acephenanthrylene | 252 | C20H12  | 000205-99-2 | 93   |
| 5    |    | Benzo[a]pyrene            | 252 | C20H12  | 000050-32-8 | 93   |



Data Path : Z:\SVOASRV\HPCHEM1\BNA F\DATA\BF081619\  
Data File : BF116342.D  
Acq On : 17 Aug 2019 2:34  
Operator : HP/JU  
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Misc :  
ALS Vial : 19 Sample Multiplier: 1

Instrument :  
BNA\_F  
ClientSampleId :  
2S-I1-I4-COMP-(1)

Quant Method : Z:\SVOASRV\HPCHEM1\BNA F\METHODS\8270-BF073019.M  
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

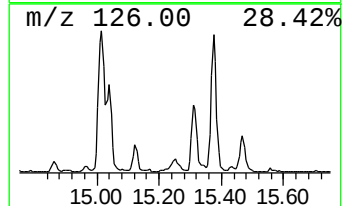
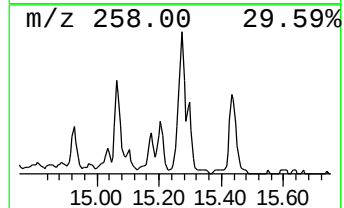
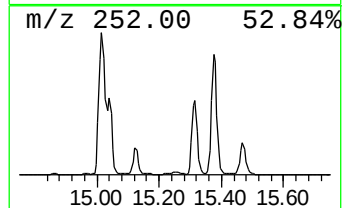
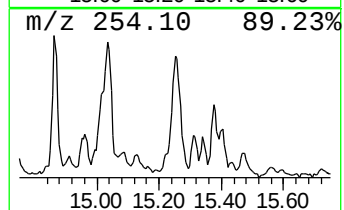
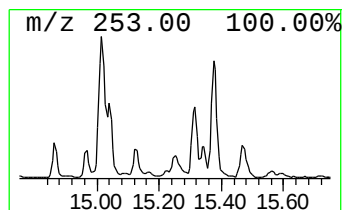
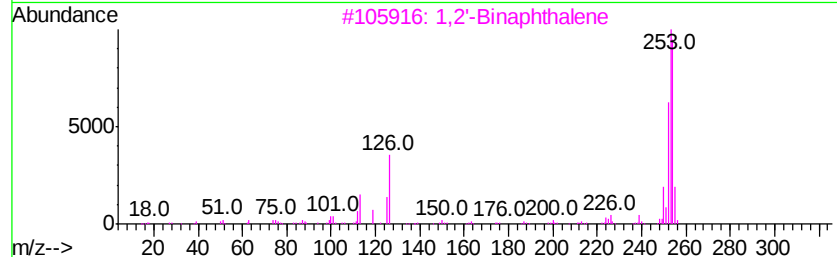
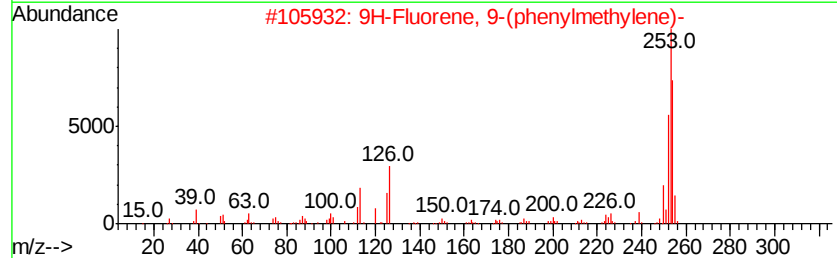
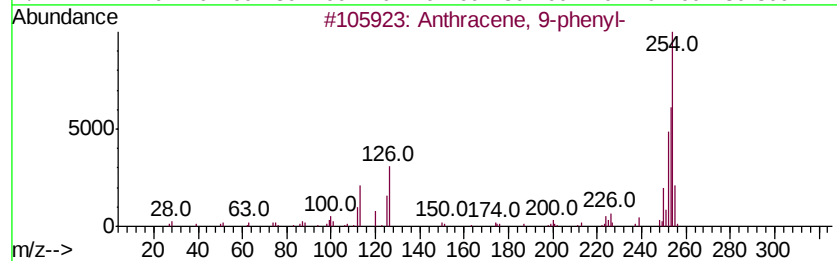
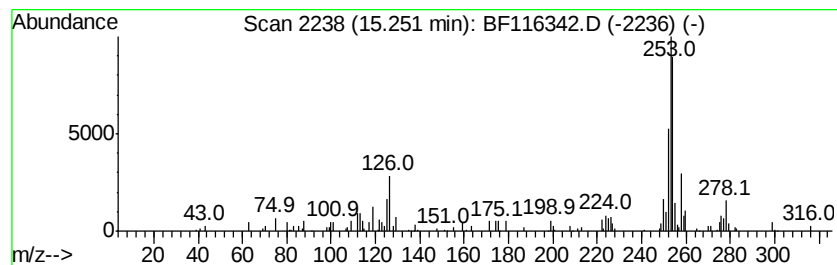
TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P

\*\*\*\*\*  
Peak Number 16 Anthracene, 9-phenyl- Concentration Rank 12

| R.T.  | EstConc | Area   | Relative to ISTD | R.T.  |
|-------|---------|--------|------------------|-------|
| 15.25 | 3.17 ng | 136851 | Perylene-d12     | 15.43 |

| Hit# | of | Tentative ID                      | MW  | MolForm | CAS#        | Qual |
|------|----|-----------------------------------|-----|---------|-------------|------|
| 1    | 5  | Anthracene, 9-phenyl-             | 254 | C20H14  | 000602-55-1 | 64   |
| 2    |    | 9H-Fluorene, 9-(phenylmethylene)- | 254 | C20H14  | 001836-87-9 | 64   |
| 3    |    | 1,2'-Binaphthalene                | 254 | C20H14  | 004325-74-0 | 64   |
| 4    |    | 4,5-Dihydrobenzo[el]pyrene        | 254 | C20H14  | 095676-42-9 | 60   |
| 5    |    | 1,1'-Binaphthalene                | 254 | C20H14  | 000604-53-5 | 53   |



Data Path : Z:\SVOASRV\HPCHEM1\BNA F\DATA\BF081619\  
Data File : BF116342.D  
Acq On : 17 Aug 2019 2:34  
Operator : HP/JU  
Sample : K4228-17  
Misc :  
ALS Vial : 19 Sample Multiplier: 1

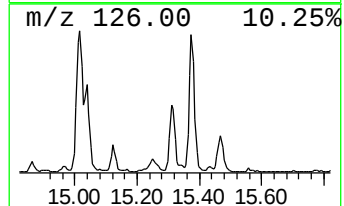
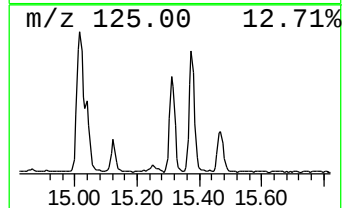
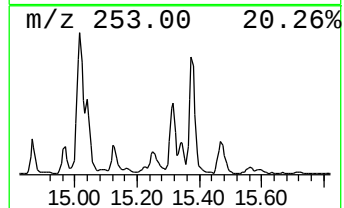
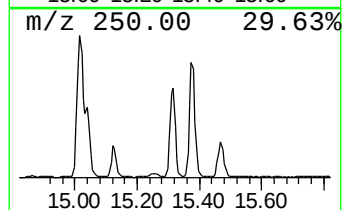
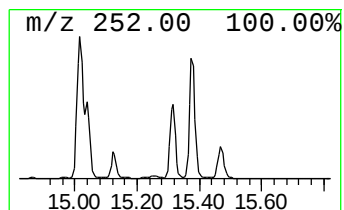
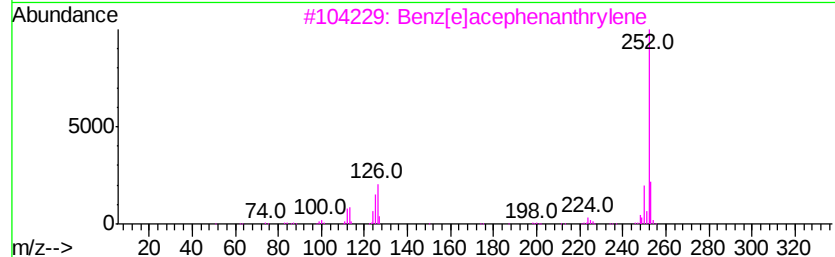
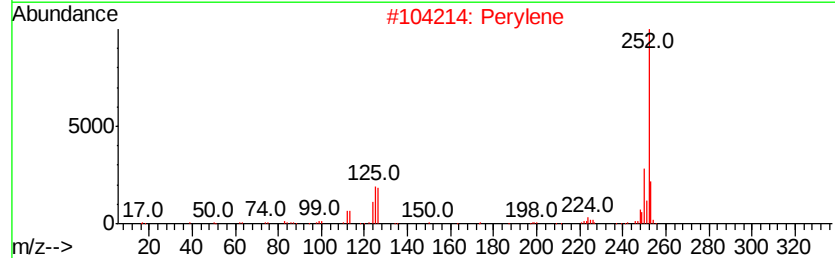
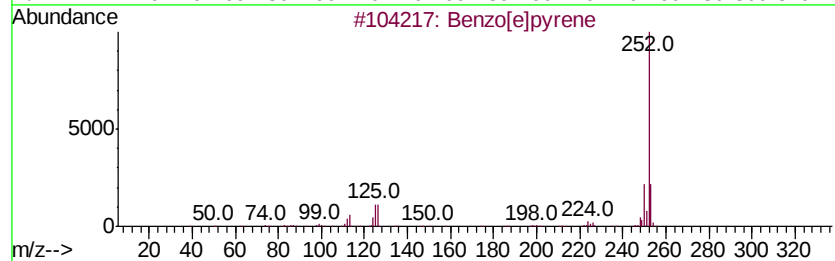
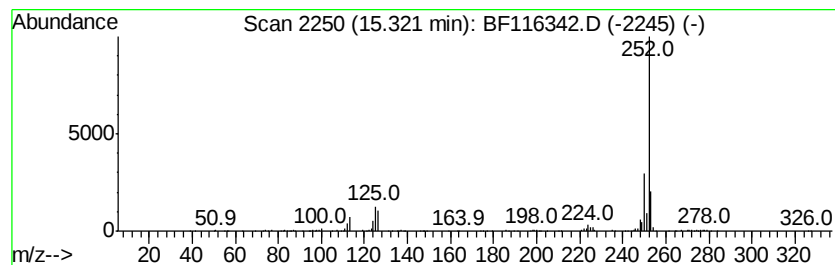
Instrument :  
BNA\_F  
ClientSampleId :  
2S-I1-I4-COMP-(1)

Quant Method : Z:\SVOASRV\HPCHEM1\BNA F\METHODS\8270-BF073019.M  
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P

\*\*\*\*\*  
Peak Number 17 Benzo[e]pyrene Concentration Rank 3

| R.T.    | EstConc  | Area                      | Relative to ISTD | R.T.           |
|---------|----------|---------------------------|------------------|----------------|
| 15.32   | 14.28 ng | 616791                    | Perylene-d12     | 15.43          |
| Hit# of | 5        | Tentative ID              | MW MolForm       | CAS# Qual      |
| 1       |          | Benzo[e]pyrene            | 252 C20H12       | 000192-97-2 99 |
| 2       |          | Perylene                  | 252 C20H12       | 000198-55-0 95 |
| 3       |          | Benzo[e]acephenanthrylene | 252 C20H12       | 000205-99-2 95 |
| 4       |          | Benzo[a]pyrene            | 252 C20H12       | 000050-32-8 93 |
| 5       |          | Benzo[j]fluoranthene      | 252 C20H12       | 000205-82-3 93 |



Data Path : Z:\SVOASRV\HPCHEM1\BNA F\DATA\BF081619\  
Data File : BF116342.D  
Acq On : 17 Aug 2019 2:34  
Operator : HP/JU  
Sample : K4228-17  
Misc :  
ALS Vial : 19 Sample Multiplier: 1

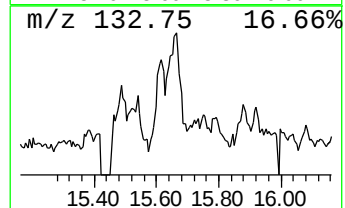
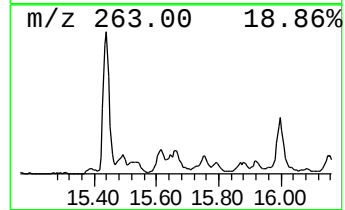
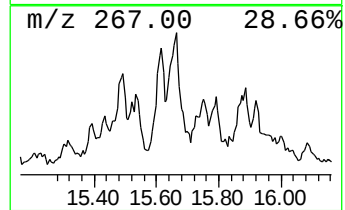
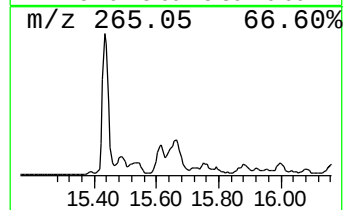
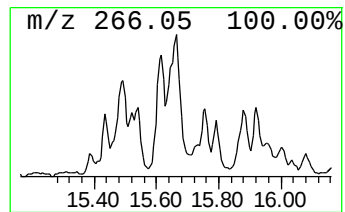
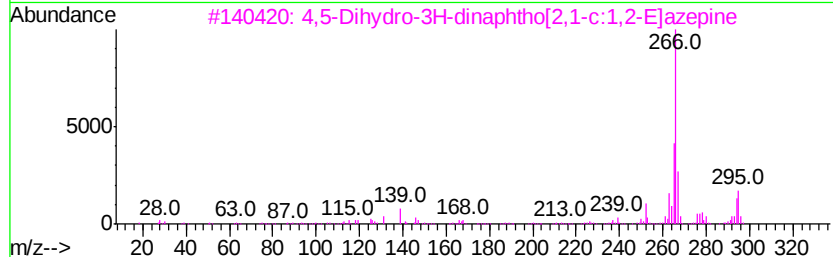
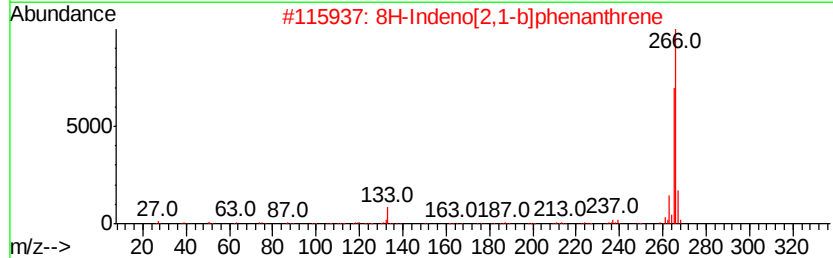
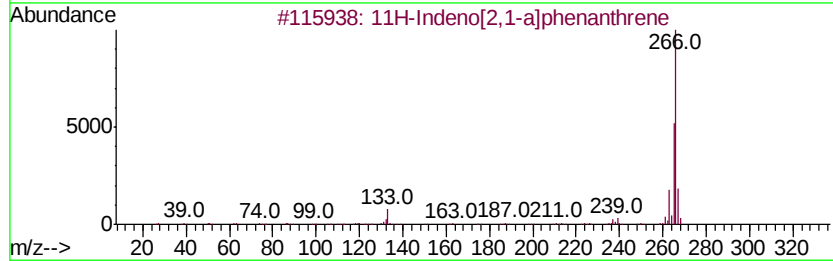
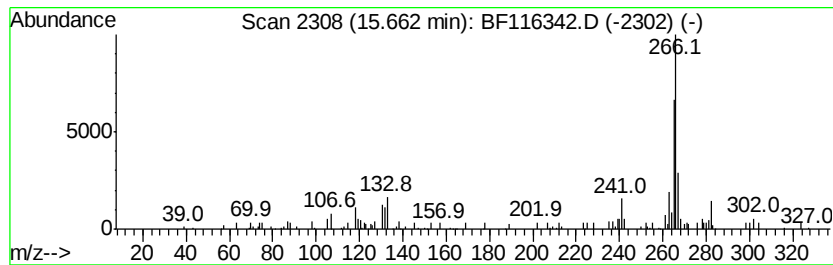
Instrument :  
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ClientSampleId :  
2S-I1-I4-COMP-(1)

Quant Method : Z:\SVOASRV\HPCHEM1\BNA F\METHODS\8270-BF073019.M  
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P

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Peak Number 18 8H-Indeno[2,1-b]phenanthrene Concentration Rank 16

| R.T.  | EstConc | Area   | Relative to ISTD                    |     | R.T.      |              |      |
|-------|---------|--------|-------------------------------------|-----|-----------|--------------|------|
| 15.66 | 2.66 ng | 114787 | Perylene-d12                        |     | 15.43     |              |      |
| Hit#  | of      | 5      | Tentative ID                        | MW  | MolForm   | CAS#         | Qual |
| 1     |         |        | 11H-Indeno[2,1-a]phenanthrene       | 266 | C21H14    | 000220-97-3  | 70   |
| 2     |         |        | 8H-Indeno[2,1-b]phenanthrene        | 266 | C21H14    | 000241-28-1  | 68   |
| 3     |         |        | 4,5-Dihydro-3H-dinaphtho[2,1-c:1... | 295 | C22H17N   | 1000297-99-2 | 59   |
| 4     |         |        | Thiazole, 4-phenyl-2-(4-tolylami... | 266 | C16H14N2S | 016098-04-7  | 58   |
| 5     |         |        | 13H-Dibenzo[a,h]fluorene            | 266 | C21H14    | 000239-85-0  | 58   |



Data Path : Z:\SVOASRV\HPCHEM1\BNA F\DATA\BF081619\  
Data File : BF116342.D  
Acq On : 17 Aug 2019 2:34  
Operator : HP/JU  
Sample : K4228-17  
Misc :  
ALS Vial : 19 Sample Multiplier: 1

Instrument :  
BNA\_F  
ClientSampleId :  
2S-I1-I4-COMP-(1)

Quant Method : Z:\SVOASRV\HPCHEM1\BNA F\METHODS\8270-BF073019.M  
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

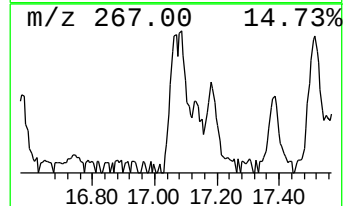
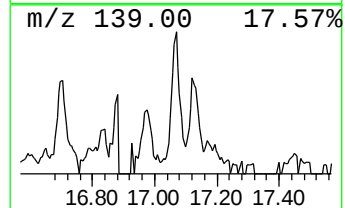
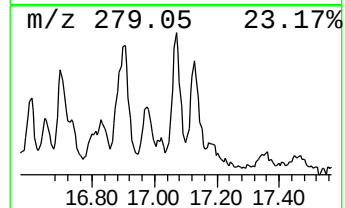
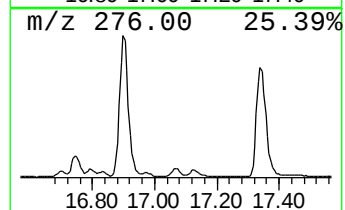
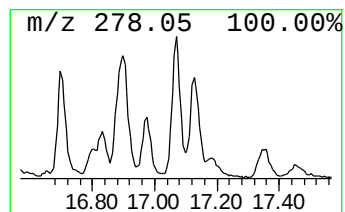
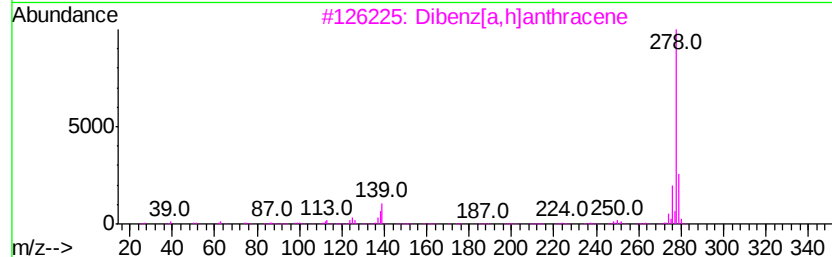
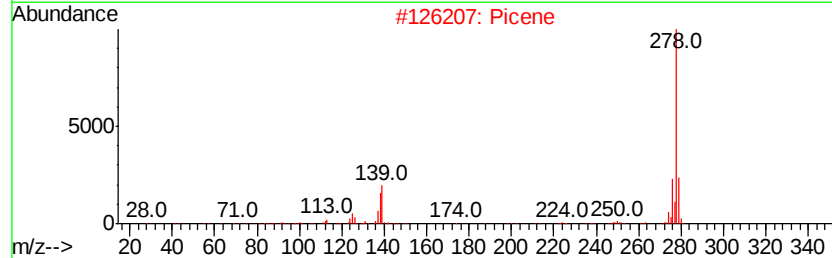
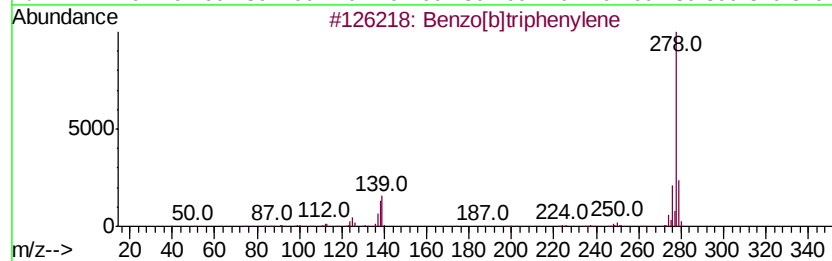
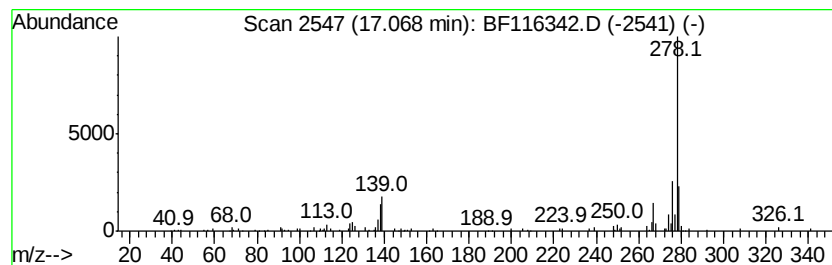
TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P

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Peak Number 19 Benzo[b]triphenylene Concentration Rank 8

| R.T.  | EstConc | Area   | Relative to ISTD | R.T.  |
|-------|---------|--------|------------------|-------|
| 17.07 | 3.73 ng | 160984 | Perylene-d12     | 15.43 |

| Hit# | of | Tentative ID          | MW  | MolForm | CAS#        | Qual |
|------|----|-----------------------|-----|---------|-------------|------|
| 1    | 5  | Benzo[b]triphenylene  | 278 | C22H14  | 000215-58-7 | 98   |
| 2    |    | Picene                | 278 | C22H14  | 000213-46-7 | 95   |
| 3    |    | Dibenz[a,h]anthracene | 278 | C22H14  | 000053-70-3 | 92   |
| 4    |    | Pentaphene            | 278 | C22H14  | 000222-93-5 | 92   |
| 5    |    | Pyrene, 1-phenyl-     | 278 | C22H14  | 005101-27-9 | 91   |



Data Path : Z:\SVOASRV\HPCHEM1\BNA F\DATA\BF081619\  
Data File : BF116342.D  
Acq On : 17 Aug 2019 2:34  
Operator : HP/JU  
Sample : K4228-17  
Misc :  
ALS Vial : 19 Sample Multiplier: 1

Instrument :  
BNA\_F  
ClientSampleId :  
2S-I1-I4-COMP-(1)

Quant Method : Z:\SVOASRV\HPCHEM1\BNA F\METHODS\8270-BF073019.M  
Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

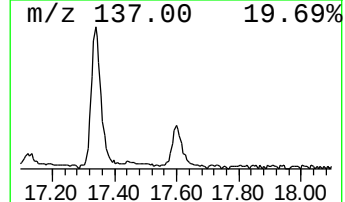
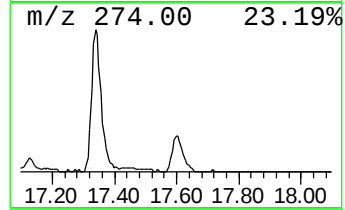
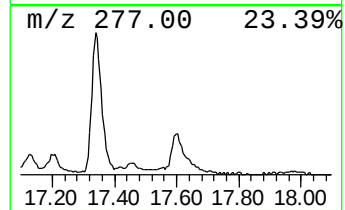
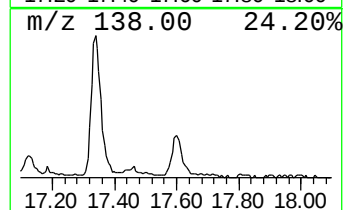
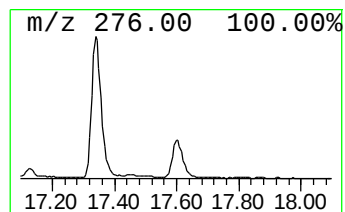
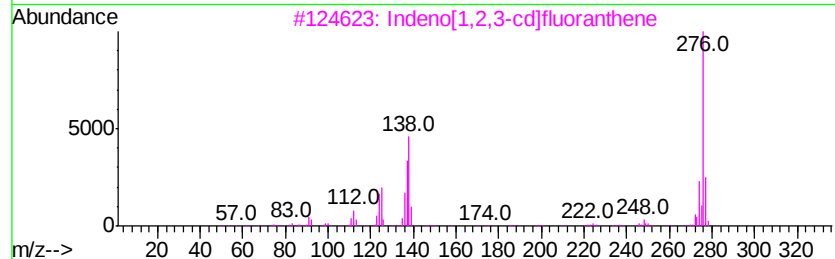
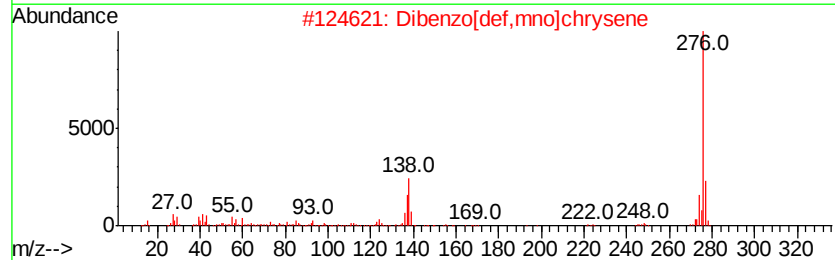
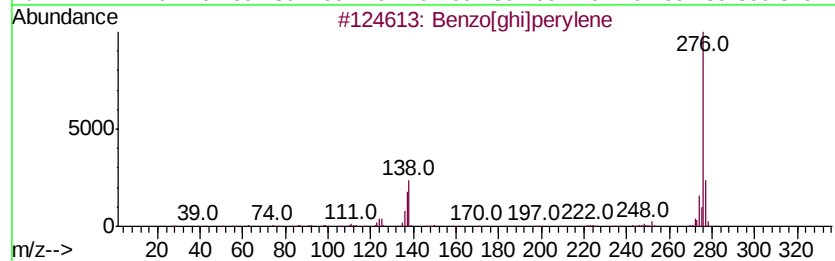
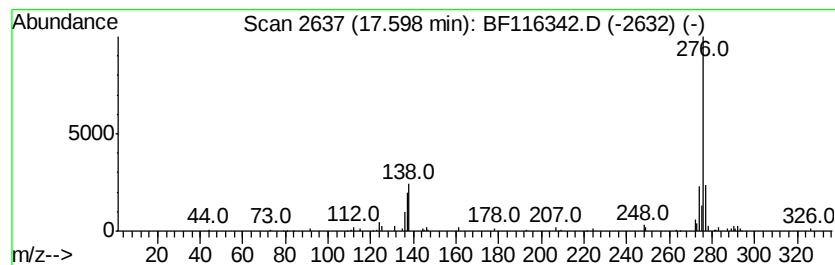
TIC Library : C:\DATABASE\NIST11.L  
TIC Integration Parameters: LSCINT.P

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Peak Number 20 Dibenzo[def,mno]chrysene Concentration Rank 14

| R.T.  | EstConc | Area   | Relative to ISTD | R.T.  |
|-------|---------|--------|------------------|-------|
| 17.60 | 2.96 ng | 127879 | Perylene-d12     | 15.43 |

| Hit# | of | Tentative ID                        | MW  | MolForm   | CAS#        | Qual |
|------|----|-------------------------------------|-----|-----------|-------------|------|
| 1    | 5  | Benzo[ghi]perylene                  | 276 | C22H12    | 000191-24-2 | 93   |
| 2    |    | Dibenzo[def,mno]chrysene            | 276 | C22H12    | 000191-26-4 | 93   |
| 3    |    | Indeno[1,2,3-cd]fluoranthene        | 276 | C22H12    | 000193-43-1 | 91   |
| 4    |    | Indeno[1,2,3-cd]pyrene              | 276 | C22H12    | 000193-39-5 | 91   |
| 5    |    | 6H-Pyrido[4,3-b]carbazole, 9-met... | 276 | C18H16N2O | 010371-86-5 | 46   |



Data Path : Z:\SVOASRV\HPCHEM1\BNA\_F\DATA\BF081619\  
 Data File : BF116342.D  
 Acq On : 17 Aug 2019 2:34  
 Operator : HP/JU  
 Sample : K4228-17  
 Misc :  
 ALS Vial : 19 Sample Multiplier: 1

Instrument :  
 BNA\_F  
 ClientSampleId :  
 2S-I1-I4-COMP-(1)

Quant Method : Z:\SVOASRV\HPCHEM1\BNA\_F\METHODS\8270-BF073019.M  
 Quant Title : ASP BNA STANDARDS FOR 5 POINT CALIBRATION

TIC Library : C:\DATABASE\NIST11.L  
 TIC Integration Parameters: LSCINT.P

| TIC Top Hit name     | RT    | EstConc | Units | Response | --Internal Standard-- |       |         |      |
|----------------------|-------|---------|-------|----------|-----------------------|-------|---------|------|
|                      |       |         |       |          | #                     | RT    | Resp    | Conc |
| unknown6.59          | 6.59  | 69.4    | ng    | 2899260  | 1                     | 6.82  | 835562  | 20.0 |
| Dibenzothiophene     | 11.23 | 2.4     | ng    | 129118   | 4                     | 11.33 | 1074560 | 20.0 |
| Phenanthrene, 2-m... | 11.83 | 4.6     | ng    | 246934   | 4                     | 11.33 | 1074560 | 20.0 |
| Phenanthrene, 1-m... | 11.86 | 7.3     | ng    | 391723   | 4                     | 11.33 | 1074560 | 20.0 |
| Anthracene, 1-met... | 11.92 | 2.5     | ng    | 132788   | 4                     | 11.33 | 1074560 | 20.0 |
| 4H-Cyclopenta[def... | 11.95 | 9.2     | ng    | 494629   | 4                     | 11.33 | 1074560 | 20.0 |
| Anthracene, 2-met... | 11.97 | 2.9     | ng    | 156791   | 4                     | 11.33 | 1074560 | 20.0 |
| Naphthalene, 2-ph... | 12.13 | 3.3     | ng    | 178544   | 4                     | 11.33 | 1074560 | 20.0 |
| Phenanthrene, 2,5... | 12.39 | 3.4     | ng    | 180519   | 4                     | 11.33 | 1074560 | 20.0 |
| 11H-Benzo[b]fluorene | 13.11 | 2.6     | ng    | 294346   | 5                     | 13.98 | 2248110 | 20.0 |
| Pyrene, 1-methyl-    | 13.21 | 2.6     | ng    | 290087   | 5                     | 13.98 | 2248110 | 20.0 |
| 4H-1-Benzopyran-4... | 13.80 | 3.6     | ng    | 404420   | 5                     | 13.98 | 2248110 | 20.0 |
| 9H-Fluorene, 9-(p... | 14.86 | 3.2     | ng    | 136846   | 6                     | 15.43 | 864012  | 20.0 |
| Perylene             | 15.12 | 4.9     | ng    | 212378   | 6                     | 15.43 | 864012  | 20.0 |
| Anthracene, 9-phe... | 15.25 | 3.2     | ng    | 136851   | 6                     | 15.43 | 864012  | 20.0 |
| Benzo[e]pyrene       | 15.32 | 14.3    | ng    | 616791   | 6                     | 15.43 | 864012  | 20.0 |
| 8H-Indeno[2,1-b]p... | 15.66 | 2.7     | ng    | 114787   | 6                     | 15.43 | 864012  | 20.0 |
| Benzo[b]triphenylene | 17.07 | 3.7     | ng    | 160984   | 6                     | 15.43 | 864012  | 20.0 |
| Dibenzo[def,mno]c... | 17.60 | 3.0     | ng    | 127879   | 6                     | 15.43 | 864012  | 20.0 |