

Electronic Supplementary Information

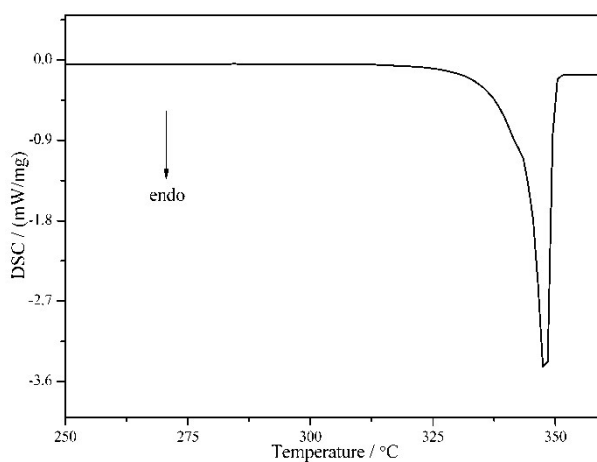


Figure S1. DSC heating curve of BCPPO

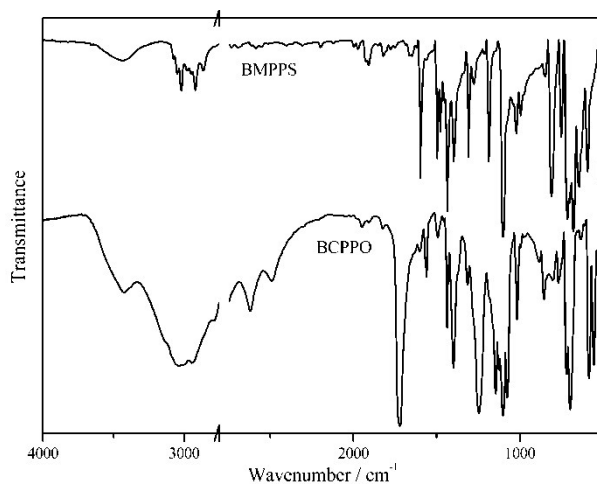


Figure S2. FT-IR spectra of BMPPS and BCPPO

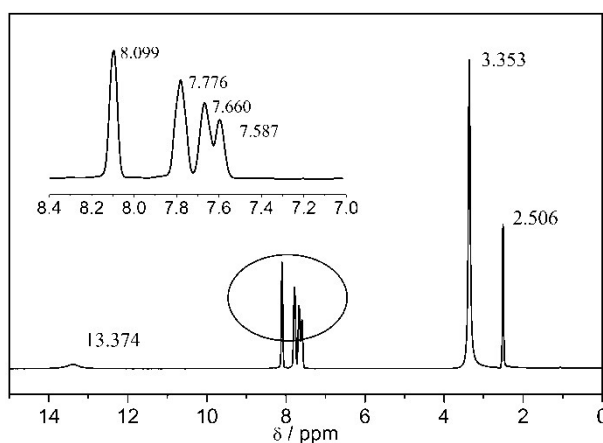
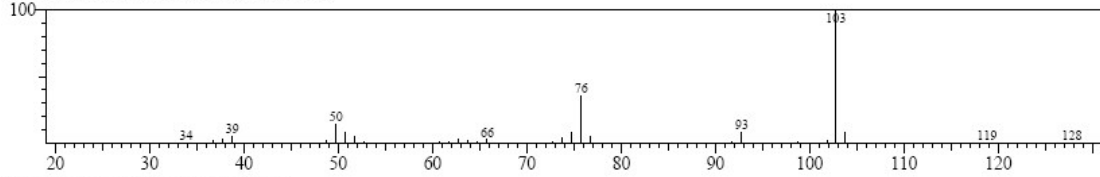


Figure S3. ¹H NMR spectrum of BCPPO in DMSO-*d*₆

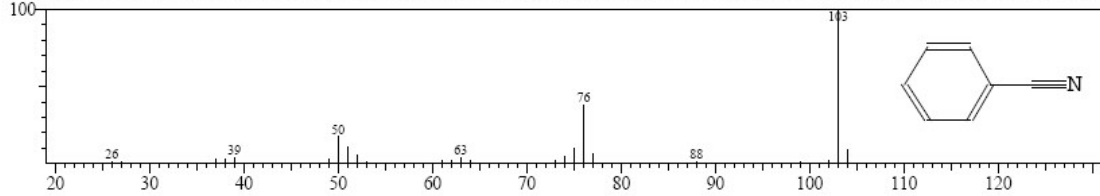
Library

<< Target >>

Line#:1 R.Time:9.415(Scan#:1644) MassPeaks:61
RawMode:Averaged 9.410-9.420(1643-1645) BasePeak:102.80(223245)
BG Mode:Calc. from Peak Group 1 - Event 1

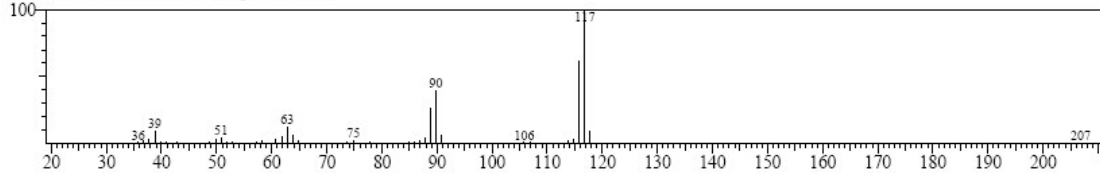


Hit#:2 Entry:2422 Library:NIST11.lib
SI:95 Formula:C7H5N CAS:100-47-0 MolWeight:103 RetIndex:958
CompName:Benzonitrile \$\$ Benzene, cyano- \$\$ Benzoic acid nitrile \$\$ Cyanobenzene \$\$ Phenyl cyanide \$\$ Benzenenitrile \$\$ Fenylikyanid \$\$ UN 2224 \$\$

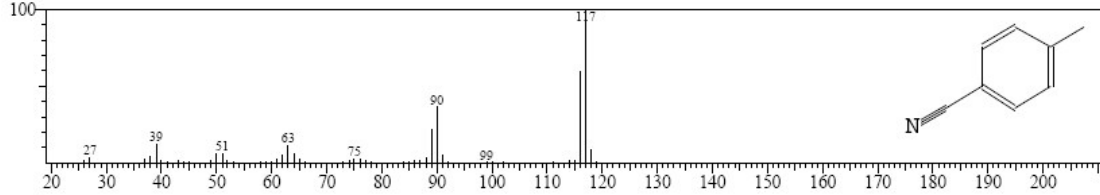


<< Target >>

Line#:2 R.Time:11.750(Scan#:2111) MassPeaks:58
RawMode:Averaged 11.745-11.755(2110-2112) BasePeak:116.80(56187)
BG Mode:Calc. from Peak Group 1 - Event 1

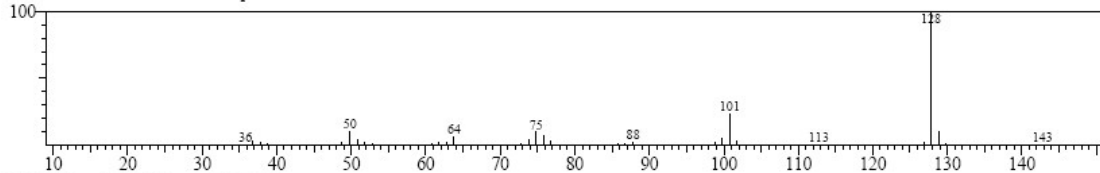


Hit#:1 Entry:3775 Library:NIST11s.lib
SI:96 Formula:C8H7N CAS:104-85-8 MolWeight:117 RetIndex:1071
CompName:Benzonitrile, 4-methyl- \$\$ p-Tolunitrile \$\$ p-Cyanotoluene \$\$ p-Methylbenzonitrile \$\$ p-Toluenitrile \$\$ p-Toluic nitrile \$\$ p-Tolunitrile \$\$

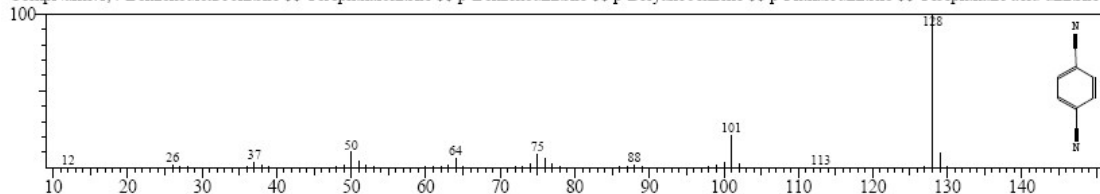


<< Target >>

Line#:3 R.Time:12.745(Scan#:2310) MassPeaks:51
RawMode:Averaged 12.740-12.750(2309-2311) BasePeak:127.80(1022278)
BG Mode:Calc. from Peak Group 1 - Event 1

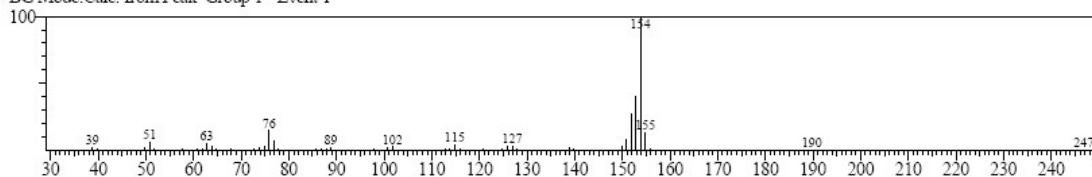


Hit#:1 Entry:7273 Library:NIST11.lib
SI:98 Formula:C8H4N2 CAS:623-26-7 MolWeight:128 RetIndex:1236
CompName:1,4-Benzenedicarbonitrile \$\$ Terephthalonitrile \$\$ p-Benzenedinitrile \$\$ p-Dicyanobenzene \$\$ p-Phthalodinitrile \$\$ Terephthalic acid dinitrile

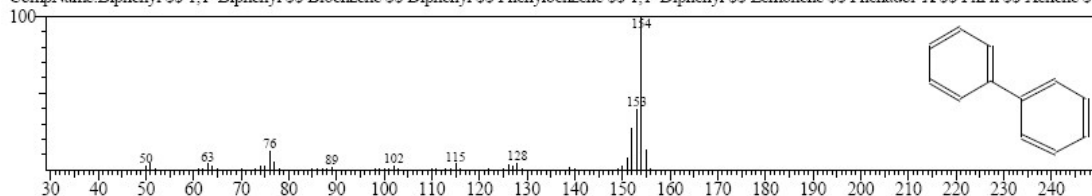


<< Target >>

Line#:4 R.Time:13.465(Scan#:2454) MassPeaks:71
RawMode:Averaged 13.460-13.470(2453-2455) BasePeak:153.80(78720)
BG Mode:Calc. from Peak Group 1 - Event 1

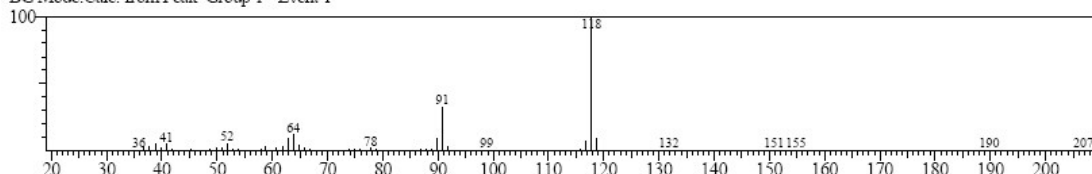


Hit#:1 Entry:10063 Library:NIST11s.lib
SI:97 Formula:C12H10 CAS:92-52-4 MolWeight:154 RetIndex:1367
CompName:Biphenyl \$\$ 1,1'-Biphenyl \$\$ Bibenzene \$\$ Diphenyl \$\$ Phenylbenzene \$\$ 1,1'-Diphenyl \$\$ Lemonene \$\$ Phenador-X \$\$ PhPh \$\$ Xenene \$\$

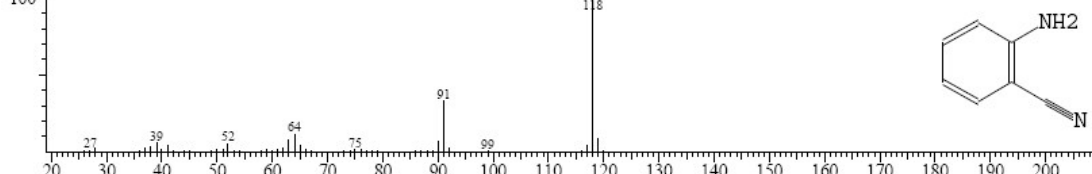


<< Target >>

Line#:5 R.Time:14.985(Scan#:2758) MassPeaks:63
RawMode:Averaged 14.980-14.990(2757-2759) BasePeak:117.80(399030)
BG Mode:Calc. from Peak Group 1 - Event 1

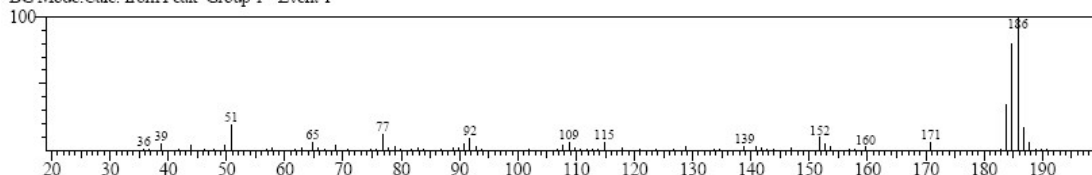


Hit#:1 Entry:5030 Library:NIST11.lib
SI:98 Formula:C7H6N2 CAS:1885-29-6 MolWeight:118 RetIndex:1270
CompName:Benzonitrile, 2-amino- \$\$ Anthranilonitrile \$\$ o-Aminobenzonitrile \$\$ o-Cyanoaniline \$\$ Benzonitrile, o-amino- \$\$ 2-Aminobenzonitrile \$\$ 2-

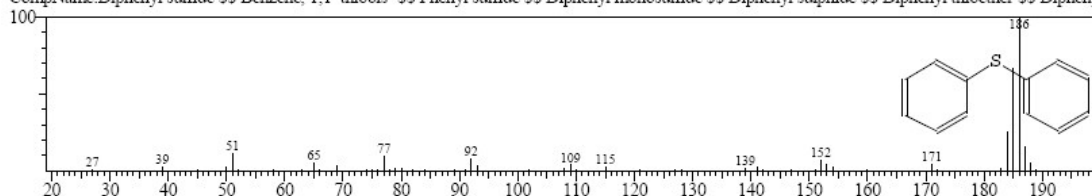


<< Target >>

Line#:6 R.Time:15.505(Scan#:2862) MassPeaks:88
RawMode:Averaged 15.500-15.510(2861-2863) BasePeak:185.80(14215)
BG Mode:Calc. from Peak Group 1 - Event 1

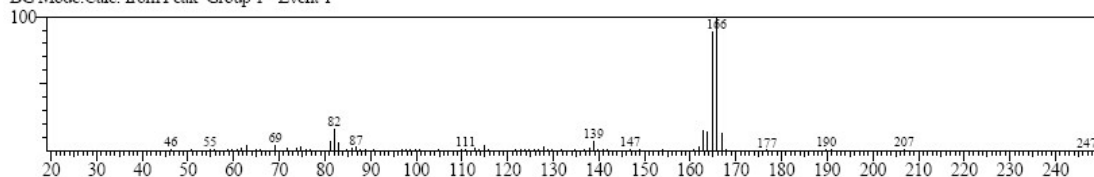


Hit#:1 Entry:35274 Library:NIST11.lib
SI:91 Formula:C12H10S CAS:139-66-2 MolWeight:186 RetIndex:1618
CompName:Diphenyl sulfide \$\$ Benzene, 1,1'-thiobis- \$\$ Phenyl sulfide \$\$ Diphenyl monosulfide \$\$ Diphenyl sulphide \$\$ Diphenyl thioether \$\$ Diphenyl

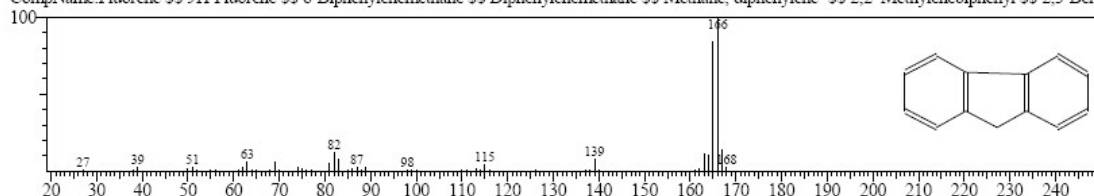


<< Target >>

Line#:7 R.Time:15.595(Scan#:2880) MassPeaks:83
RawMode:Averaged 15.590-15.600(2879-2881) BasePeak:165.80(22320)
BG Mode:Calc. from Peak Group 1 - Event 1

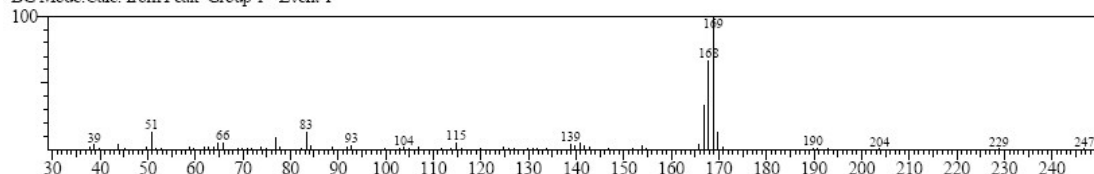


Hit#:1 Entry:23738 Library:NIST11.lib
SI:94 Formula:C13H10 CAS:86-73-7 MolWeight:166 RetIndex:1494
CompName:Fluorene \$\$ 9H-Fluorene \$\$ o-Biphenylenemethane \$\$ Diphenylenemethane \$\$ Methane, diphenylene- \$\$ 2,2'-Methylenediphenyl \$\$ 2,3-Benz

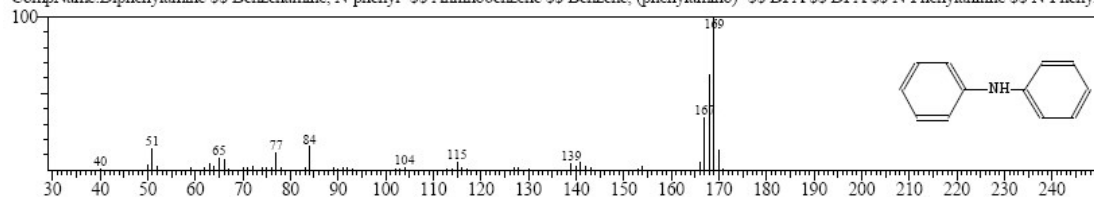


<< Target >>

Line#:8 R.Time:15.750(Scan#:2911) MassPeaks:80
RawMode:Averaged 15.745-15.755(2910-2912) BasePeak:168.85(16772)
BG Mode:Calc. from Peak Group 1 - Event 1

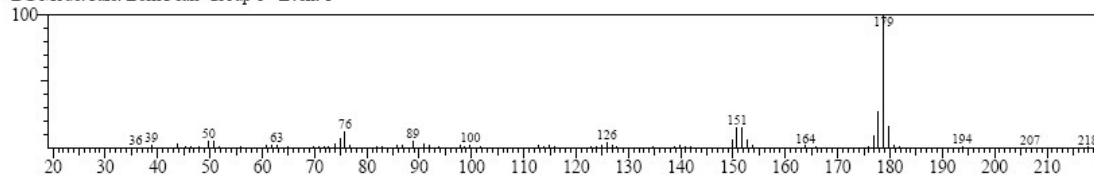


Hit#:1 Entry:12590 Library:NIST11s.lib
SI:92 Formula:C12H11N CAS:122-39-4 MolWeight:169 RetIndex:1566
CompName:Diphenylamine \$\$ Benzenamine, N-phenyl- \$\$ Anilinobenzene \$\$ Benzene, (phenylamino)- \$\$ DFA \$\$ DPA \$\$ N-Phenylaniline \$\$ N-Phenyl-



<< Target >>

Line#:9 R.Time:16.035(Scan#:2968) MassPeaks:92
RawMode:Averaged 16.030-16.040(2967-2969) BasePeak:178.80(17257)
BG Mode:Calc. from Peak Group 1 - Event 1



Hit#:1 Entry:14209 Library:NIST11s.lib
SI:92 Formula:C13H9N CAS:85-02-9 MolWeight:179 RetIndex:1776
CompName:Benzo[f]quinoline \$\$.beta.-Naphthoquinoline \$\$ 1-Azaphenanthrene \$\$ 5,6-Benzoquinoline \$\$ b-Naphthoquinoline \$\$ 5,6-Benzo[f]quinoline !

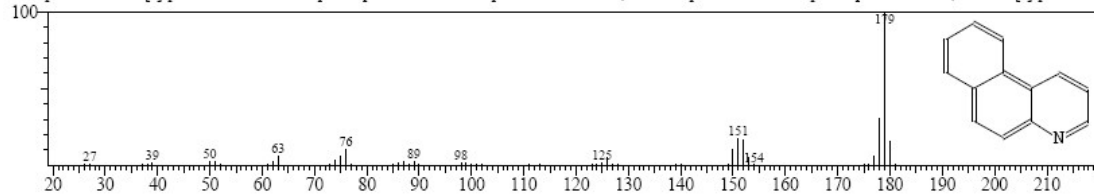
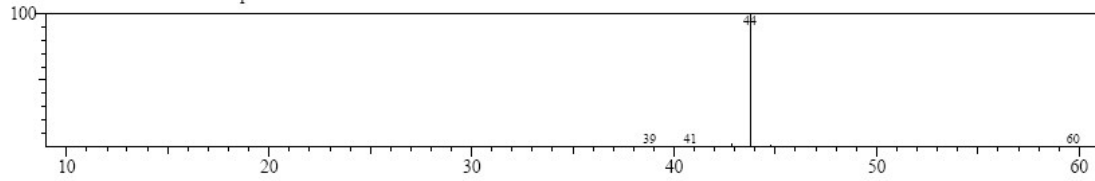


Figure S4. The mass spectra of Pyrolysis product for p-POD fiber at 500 °C

Library

<< Target >>

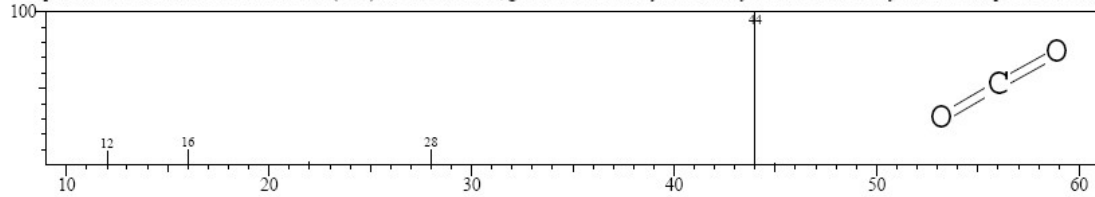
Line# 1 R.Time:2.160(Scan#:193) MassPeaks:13
RawMode:Averaged 2.155-2.165(192-194) BasePeak:43.75(582159)
BG Mode:Calc. from Peak Group 1 - Event 1



Hit# 2 Entry:42 Library:NIST11.lib

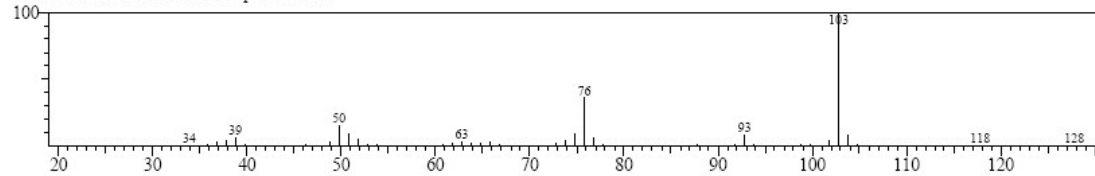
SI:98 Formula:CO2 CAS:124-38-9 MolWeight:44 RetIndex:0

CompName:Carbon dioxide \$\$ Carbon oxide (CO2) \$\$ Carbonic acid, gas \$\$ Carbonic anhydride \$\$ Dry ice \$\$ CO2 \$\$ Anhydride carbonique \$\$ Carbonic



<< Target >>

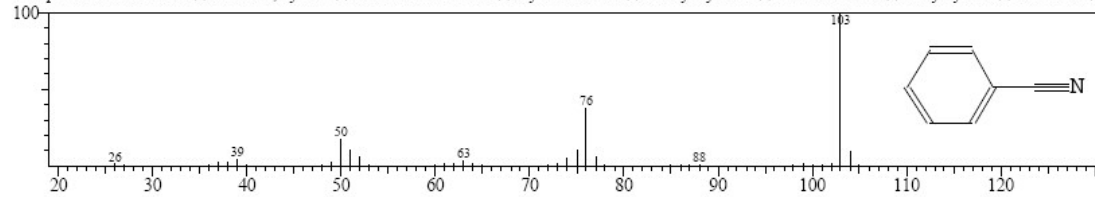
Line# 2 R.Time:9.160(Scan#:1593) MassPeaks:58
RawMode:Averaged 9.155-9.165(1592-1594) BasePeak:102.80(204871)
BG Mode:Calc. from Peak Group 1 - Event 1



Hit# 2 Entry:2422 Library:NIST11.lib

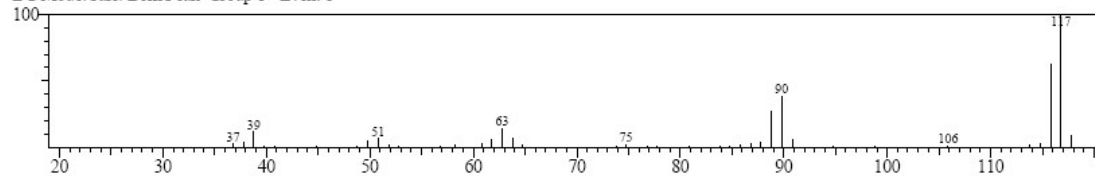
SI:95 Formula:C7H5N CAS:100-47-0 MolWeight:103 RetIndex:958

CompName:Benzonitrile \$\$ Benzene, cyano- \$\$ Benzoic acid nitrile \$\$ Cyanobenzene \$\$ Phenyl cyanide \$\$ Benzenenitrile \$\$ Fenylcyanid \$\$ UN 2224 \$\$



<< Target >>

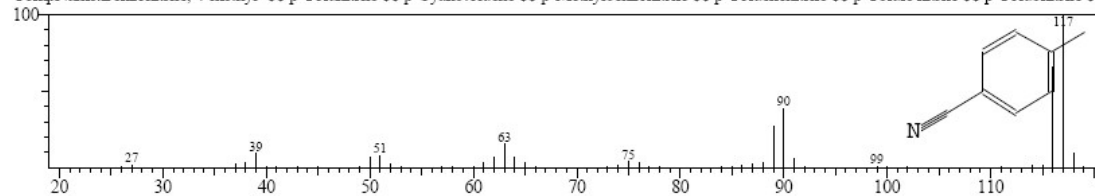
Line# 3 R.Time:11.865(Scan#:2134) MassPeaks:50
RawMode:Averaged 11.860-11.870(2133-2135) BasePeak:116.80(27174)
BG Mode:Calc. from Peak Group 1 - Event 1



Hit# 1 Entry:3776 Library:NIST11s.lib

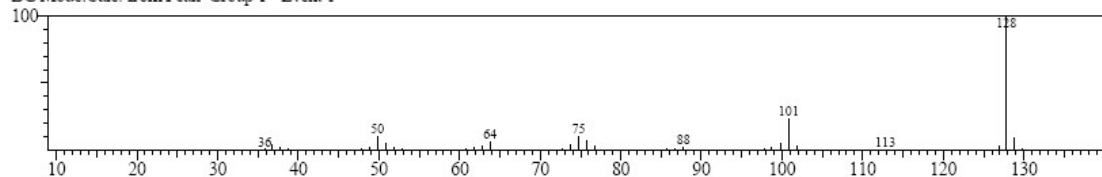
SI:97 Formula:C8H7N CAS:104-85-8 MolWeight:117 RetIndex:1071

CompName:Benzonitrile, 4-methyl- \$\$ p-Toluenitrile \$\$ p-Cyanotoluene \$\$ p-Methylbenzonitrile \$\$ p-Toluenitrile \$\$ p-Toluc nitrile \$\$ p-Toluenitrile \$\$



<< Target >>

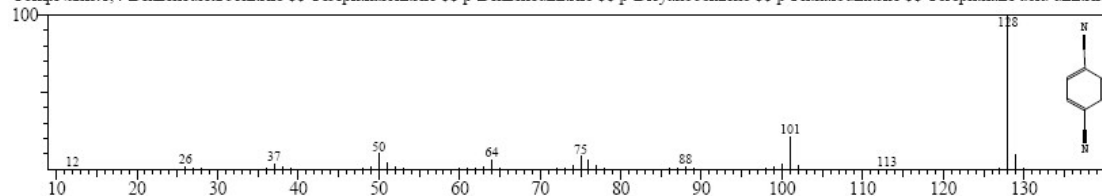
Line#:4 R.Time:12.885(Scan#:2338) MassPeaks:51
RawMode:Averaged 12.880-12.890(2337-2339) BasePeak:127.80(608346)
BG Mode:Calc. from Peak Group 1 - Event 1



Hit#:1 Entry:7273 Library:NIST11.lib

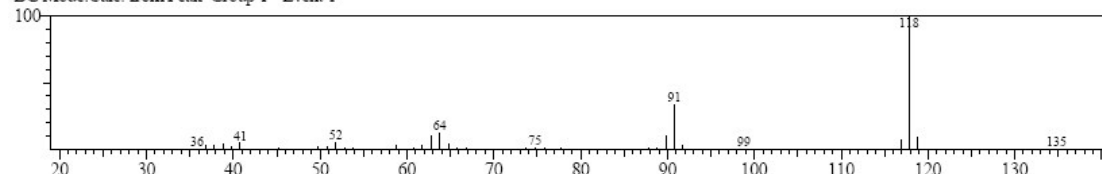
SI:98 Formula:C8H4N2 CAS:623-26-7 MolWeight:128 RetIndex:1236

CompName:1,4-Benzenedicarbonitrile \$\$ Terephthalonitrile \$\$ p-Benzenedinitrile \$\$ p-Dicyanobenzene \$\$ p-Phthalodinitrile \$\$ Terephthalic acid dinitrile



<< Target >>

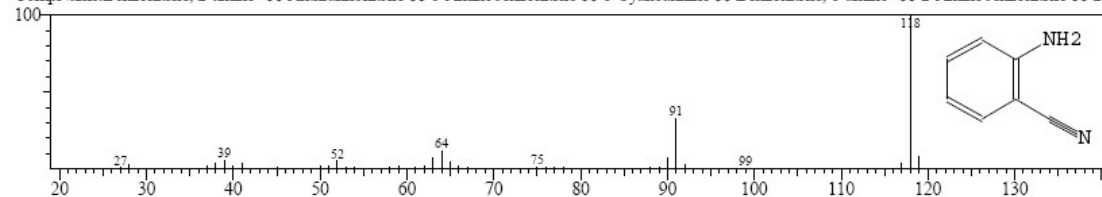
Line#:5 R.Time:14.935(Scan#:2748) MassPeaks:59
RawMode:Averaged 14.930-14.940(2747-2749) BasePeak:117.80(532971)
BG Mode:Calc. from Peak Group 1 - Event 1



Hit#:1 Entry:5030 Library:NIST11.lib

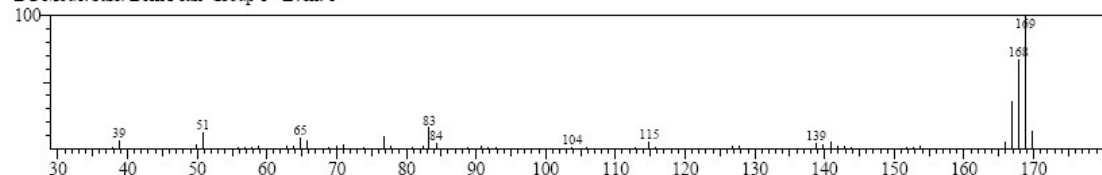
SI:98 Formula:C7H6N2 CAS:1885-29-6 MolWeight:118 RetIndex:1270

CompName:Benzonitrile, 2-amino- \$\$ Anthranilonitrile \$\$ o-Aminobenzonitrile \$\$ o-Cyanoaniline \$\$ Benzonitrile, o-amino- \$\$ 2-Aminobenzonitrile \$\$ 2-A



<< Target >>

Line#:6 R.Time:15.655(Scan#:2892) MassPeaks:66
RawMode:Averaged 15.650-15.660(2891-2893) BasePeak:168.80(18477)
BG Mode:Calc. from Peak Group 1 - Event 1



Hit#:1 Entry:12590 Library:NIST11.lib

SI:92 Formula:C12H11N CAS:122-39-4 MolWeight:169 RetIndex:1566

CompName:Diphenylamine \$\$ Benzenamine, N-phenyl- \$\$ Anilinobenzene \$\$ Benzene, (phenylamino)- \$\$ DFA \$\$ DPA \$\$ N-Phenylaniline \$\$ N-Phenylb

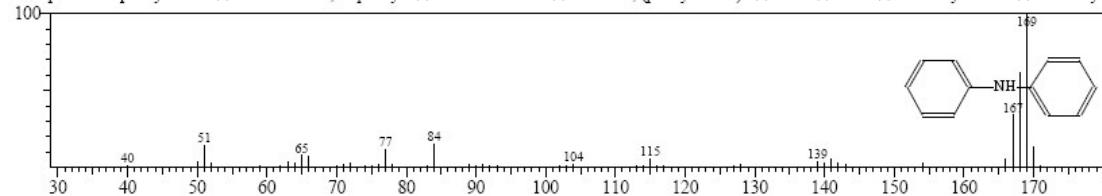
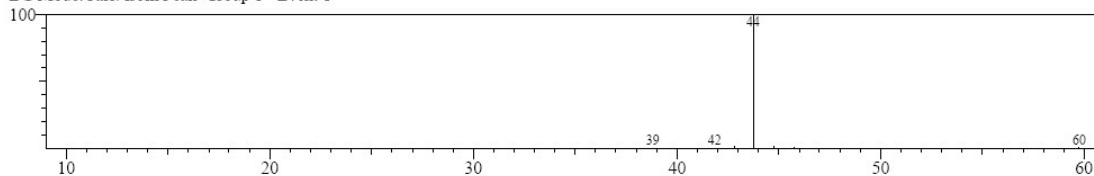


Figure S5. The mass spectra of Pyrolysis product for p-POD fiber at 550 °C

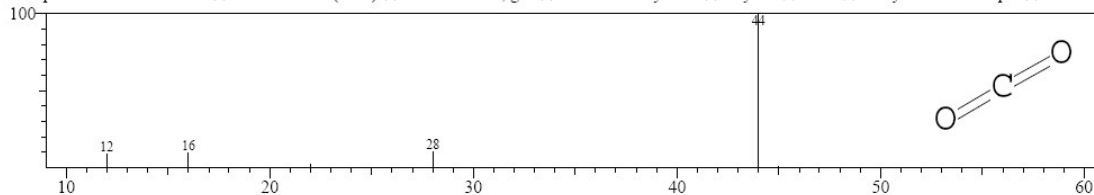
Library

<< Target >>

Line# 1 R.Time: 1.865(Scan#: 134) MassPeaks: 9
RawMode: Averaged 1.860-1.870(133-135) BasePeak: 43.75(804287)
BG Mode: Calc. from Peak Group 1 - Event 1

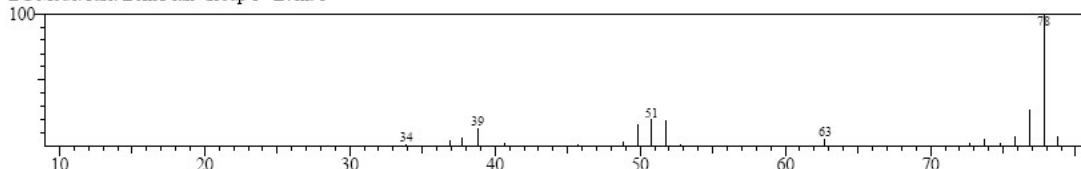


Hit# 2 Entry: 42 Library: NIST11.lib
SI: 99 Formula: CO₂ CAS: 124-38-9 MolWeight: 44 RetIndex: 0
CompName: Carbon dioxide \$\$ Carbon oxide (CO₂) \$\$ Carbonic acid, gas \$\$ Carbonic anhydride \$\$ Dry ice \$\$ CO₂ \$\$ Anhydride carbonique \$\$ Carbonic

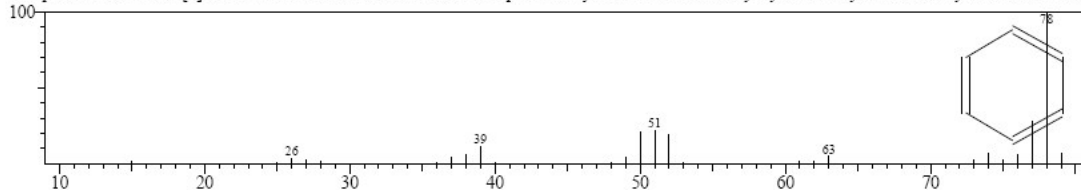


<< Target >>

Line# 2 R.Time: 4.070(Scan#: 575) MassPeaks: 19
RawMode: Averaged 4.065-4.075(574-576) BasePeak: 77.80(13006)
BG Mode: Calc. from Peak Group 1 - Event 1

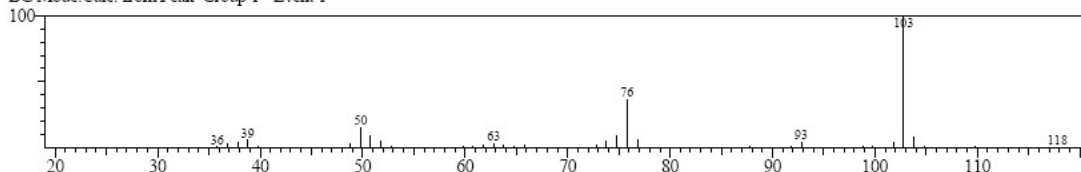


Hit# 1 Entry: 478 Library: NIST11.lib
SI: 97 Formula: C₆H₆ CAS: 71-43-2 MolWeight: 78 RetIndex: 680
CompName: Benzene \$\$ [6]Annulene \$\$ Benzol \$\$ Benzole \$\$ Coal naphtha \$\$ Cyclohexatriene \$\$ Phenyl hydride \$\$ Pyrobenzol \$\$ Pyrobenzole \$\$ Benz

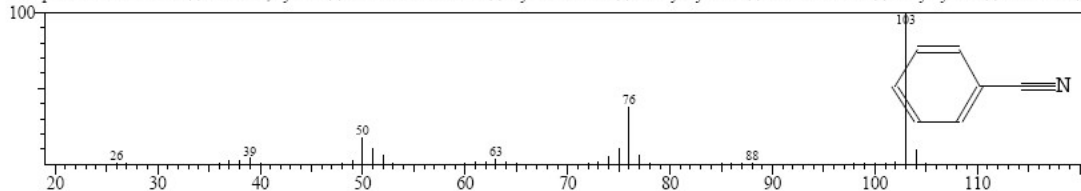


<< Target >>

Line# 3 R.Time: 9.230(Scan#: 1607) MassPeaks: 51
RawMode: Averaged 9.225-9.235(1606-1608) BasePeak: 102.80(181417)
BG Mode: Calc. from Peak Group 1 - Event 1

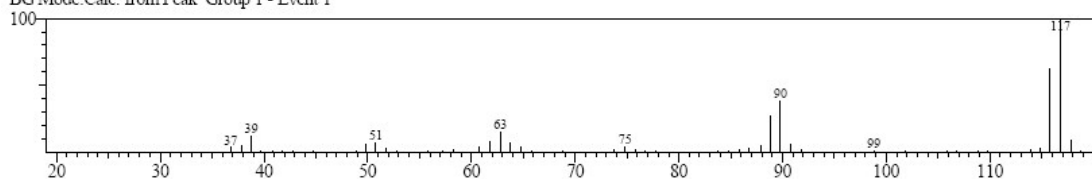


Hit# 1 Entry: 2422 Library: NIST11.lib
SI: 97 Formula: C₇H₅N CAS: 100-47-0 MolWeight: 103 RetIndex: 958
CompName: Benzonitrile \$\$ Benzene, cyano- \$\$ Benzoic acid nitrile \$\$ Cyanobenzene \$\$ Phenyl cyanide \$\$ Benzenenitrile \$\$ Fenylcyanid \$\$ UN 2224 \$\$

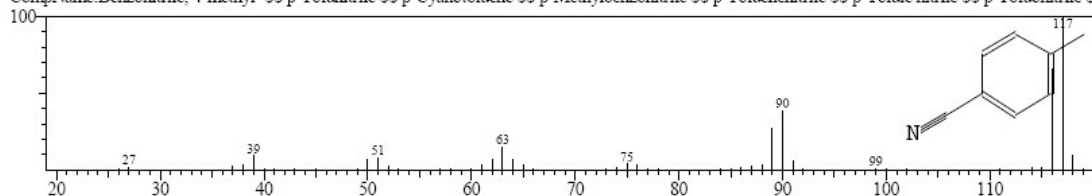


<< Target >>

Line# 4 R.Time:11.865(Scan#:2134) MassPeaks:51
RawMode:Averaged 11.860-11.870(2133-2135) BasePeak:116.80(33530)
BG Mode:Calc. from Peak Group 1 - Event 1

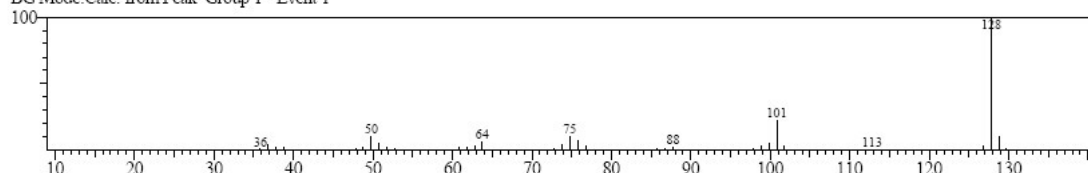


Hit# 1 Entry:3776 Library:NIST11s.lib
SI:98 Formula:C8H7N CAS:104-85-8 MolWeight:117 RetIndex:1071
CompName:Benzonitrile, 4-methyl- \$ p-Toluenitrile \$ p-Cyanotoluene \$ p-Methylbenzonitrile \$ p-Toluenitrile \$ p-Toluic nitrile \$ p-Toluenitrile \$

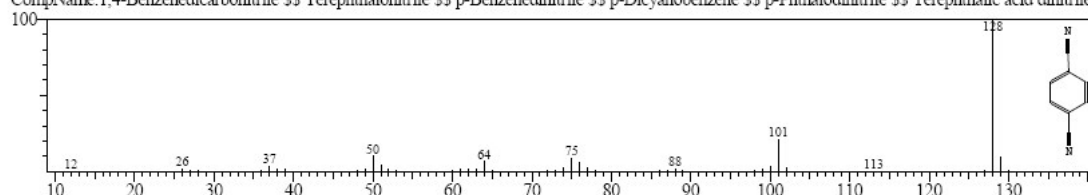


<< Target >>

Line# 5 R.Time:12.825(Scan#:2326) MassPeaks:59
RawMode:Averaged 12.820-12.830(2325-2327) BasePeak:127.80(632652)
BG Mode:Calc. from Peak Group 1 - Event 1

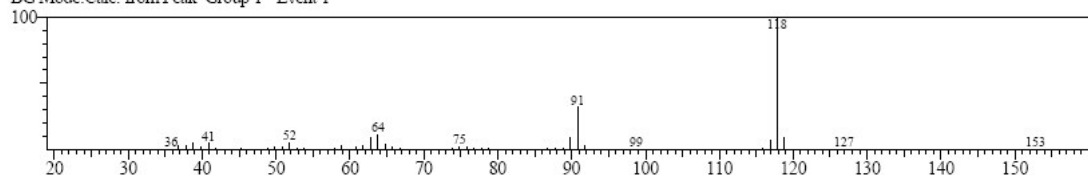


Hit# 1 Entry:7273 Library:NIST11.lib
SI:98 Formula:C8H4N2 CAS:623-26-7 MolWeight:128 RetIndex:1236
CompName:1,4-Benzenedicarbonitrile \$ Terephthalonitrile \$ p-Benzenedinitrile \$ p-Dicyanobenzene \$ p-Phthalodinitrile \$ Terephthalic acid dinitrile

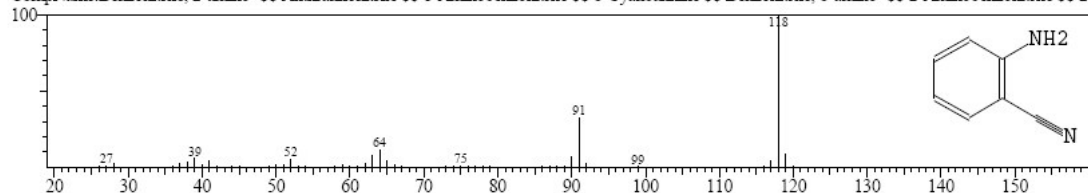


<< Target >>

Line# 6 R.Time:14.875(Scan#:2736) MassPeaks:66
RawMode:Averaged 14.870-14.880(2735-2737) BasePeak:117.80(520444)
BG Mode:Calc. from Peak Group 1 - Event 1

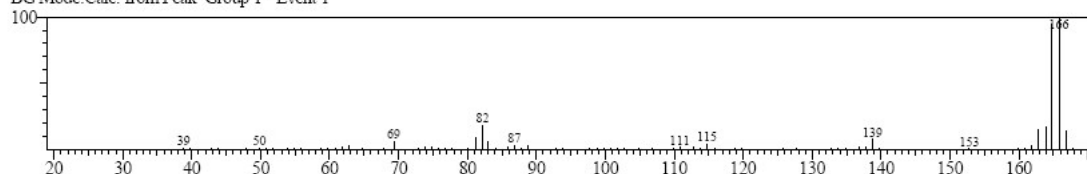


Hit# 1 Entry:5030 Library:NIST11.lib
SI:98 Formula:C7H6N2 CAS:1885-29-6 MolWeight:118 RetIndex:1270
CompName:Benzonitrile, 2-amino- \$ Anthranilonitrile \$ o-Aminobenzonitrile \$ o-Cyanoaniline \$ Benzonitrile, o-amino- \$ 2-Aminobenzonitrile \$ 2-A

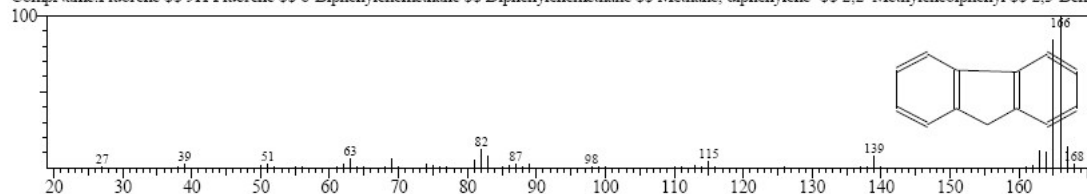


<< Target >>

Line# 7 R.Time:15.520(Scan#:2865) MassPeaks:74
RawMode:Averaged 15.515-15.525(2864-2866) BasePeak:165.80(22178)
BG Mode:Calc. from Peak Group 1 - Event 1

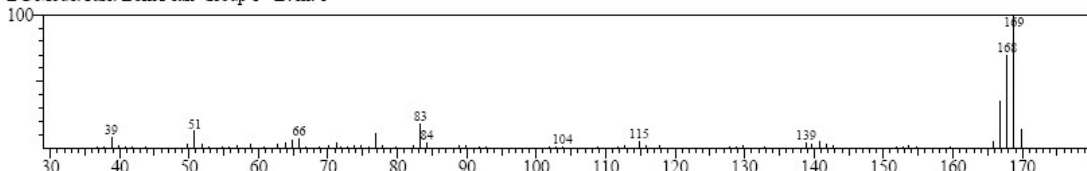


Hit# 1 Entry:23738 Library:NIST11.lib
SI:95 Formula:C13H10 CAS:86-73-7 MolWeight:166 RefIndex:1494
CompName:Fluorene \$\$ 9H-Fluorene \$\$ o-Biphenylenemethane \$\$ Diphenylenemethane \$\$ Methane, diphenylene- \$\$ 2,2'-Methylenebiphenyl \$\$ 2,3-Benz

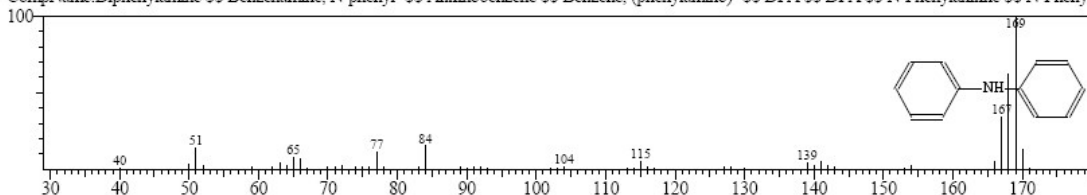


<< Target >>

Line# 8 R.Time:15.680(Scan#:2897) MassPeaks:79
RawMode:Averaged 15.675-15.685(2896-2898) BasePeak:168.80(16046)
BG Mode:Calc. from Peak Group 1 - Event 1

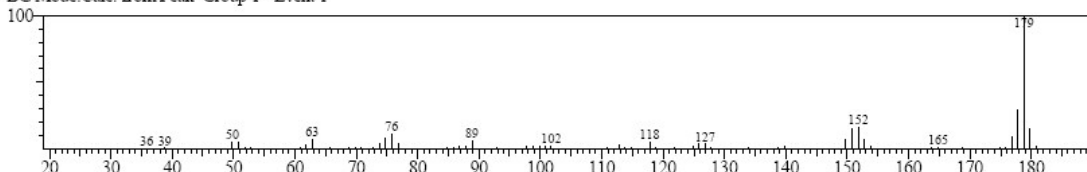


Hit# 1 Entry:12590 Library:NIST11s.lib
SI:91 Formula:C12H11N CAS:122-39-4 MolWeight:169 RefIndex:1566
CompName:Diphenylamine \$\$ Benzenamine, N-phenyl- \$\$ Anilinobenzene \$\$ Benzene, (phenylamino)- \$\$ DFA \$\$ DPA \$\$ N-Phenylaniline \$\$ N-Phenyl



<< Target >>

Line# 9 R.Time:15.970(Scan#:2955) MassPeaks:74
RawMode:Averaged 15.965-15.975(2954-2956) BasePeak:178.80(16865)
BG Mode:Calc. from Peak Group 1 - Event 1



Hit# 1 Entry:30883 Library:NIST11.lib
SI:93 Formula:C13H9N CAS:229-87-8 MolWeight:179 RefIndex:1776
CompName:Phenanthridine \$\$ Benzo[c]quinoline \$\$ 3,4-Benzoisoquinoline \$\$ 3,4-Benzoquinoline \$\$ 6-Phenanthridine \$\$ 9-Azaphenanthrene \$\$

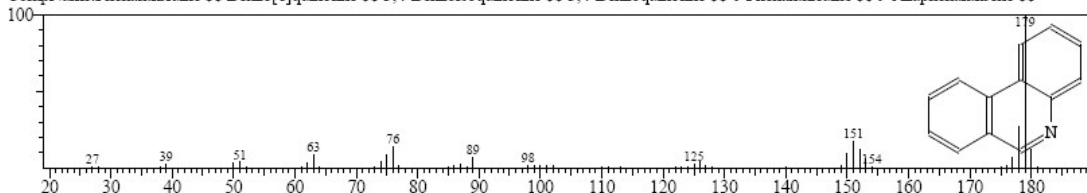
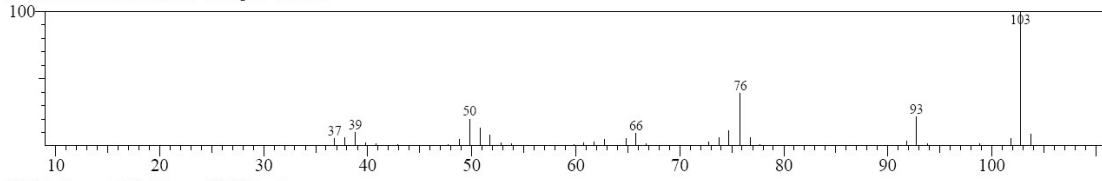


Figure S6. The mass spectra of Pyrolysis product for p-POD fiber at 600 °C

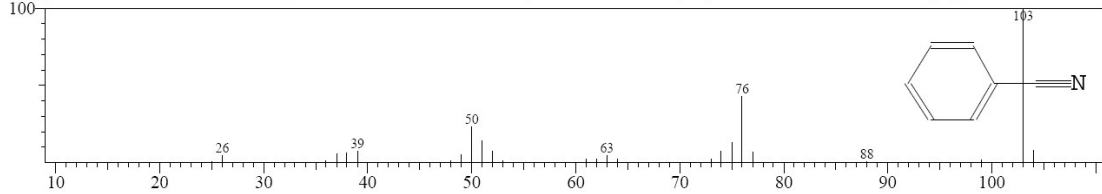
Library

<< Target >>

Line# 1 R.Time:10.320(Scan#:1825) MassPeaks:35
RawMode:Averaged 10.315-10.325(1824-1826) BasePeak:102.75(20438)
BG Mode:Calc. from Peak Group 1 - Event 1

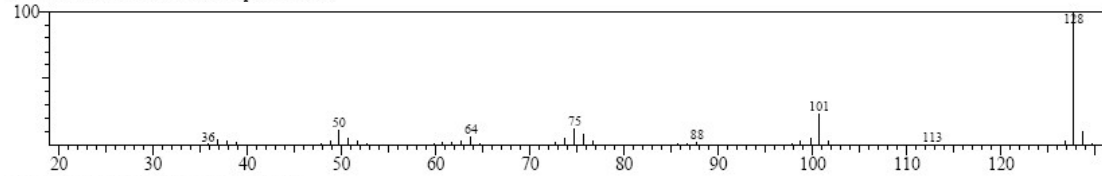


Hit# 2 Entry:2211 Library:NIST11s.lib
SI:89 Formula:C7H5N CAS:100-47-0 MolWeight:103 RefIndex:958
CompName:Benzonitrile \$\$ Benzene, cyano- \$\$ Benzoic acid nitrile \$\$ Cyanobenzene \$\$ Phenyl cyanide \$\$ Benzenenitrile \$\$ Fenylkjanid \$\$ UN 2224 \$\$

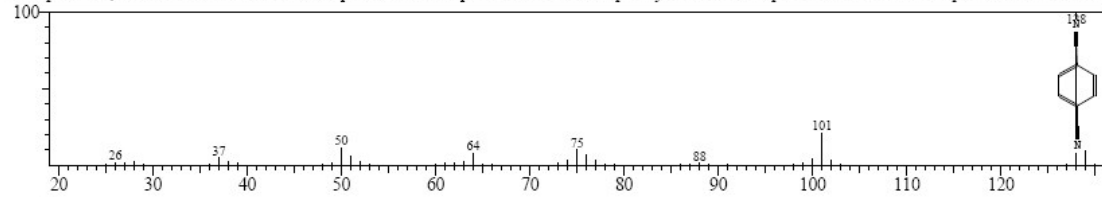


<< Target >>

Line# 2 R.Time:13.105(Scan#:2382) MassPeaks:55
RawMode:Averaged 13.100-13.110(2381-2383) BasePeak:127.70(577786)
BG Mode:Calc. from Peak Group 1 - Event 1

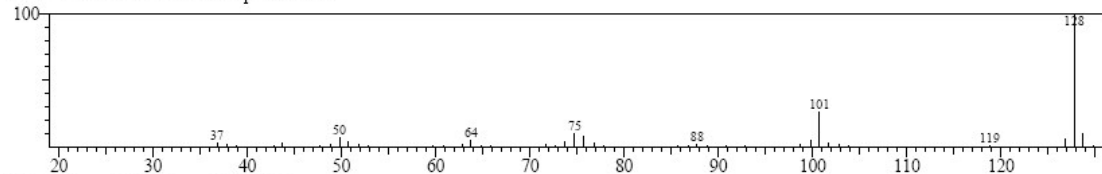


Hit# 1 Entry:5143 Library:NIST11s.lib
SI:98 Formula:C8H4N2 CAS:623-26-7 MolWeight:128 RefIndex:1236
CompName:1,4-Benzenedicarbonitrile \$\$ Terephthalonitrile \$\$ p-Benzenedinitrile \$\$ p-Dicyanobenzene \$\$ p-Phthalodinitrile \$\$ Terephthalic acid dinitrile

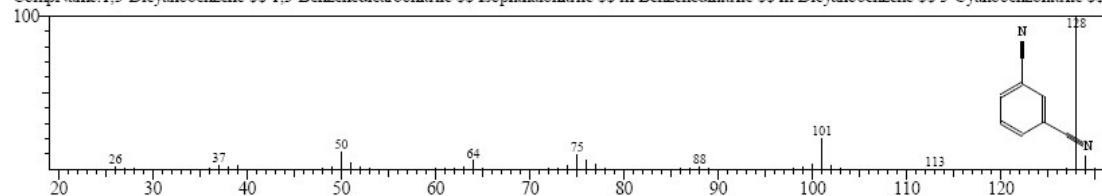


<< Target >>

Line# 3 R.Time:13.250(Scan#:2411) MassPeaks:52
RawMode:Averaged 13.245-13.255(2410-2412) BasePeak:127.75(29971)
BG Mode:Calc. from Peak Group 1 - Event 1

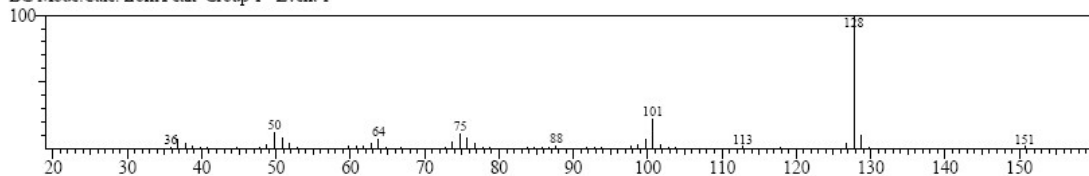


Hit# 1 Entry:5145 Library:NIST11s.lib
SI:95 Formula:C8H4N2 CAS:626-17-5 MolWeight:128 RefIndex:1236
CompName:1,3-Dicyanobenzene \$\$ 1,3-Benzenedicarbonitrile \$\$ Isophthalonitrile \$\$ m-Benzenedinitrile \$\$ m-Dicyanobenzene \$\$ 3-Cyanobenzonitrile \$\$



<< Target >>

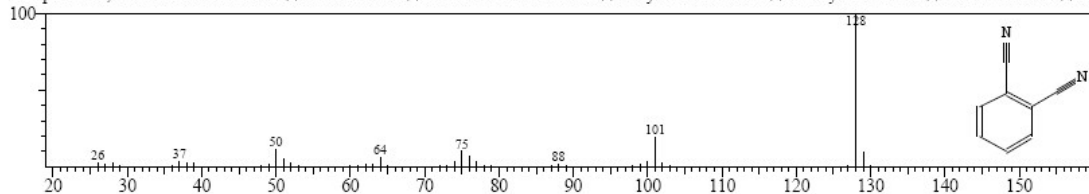
Line# 4 R.Time:13.615(Scan#:2484) MassPeaks:50
RawMode:Averaged 13.610-13.620(2483-2485) BasePeak:127.75(18377)
BG Mode:Calc. from Peak Group 1 - Event 1



Hit# 2 Entry:5141 Library:NIST11s.lib

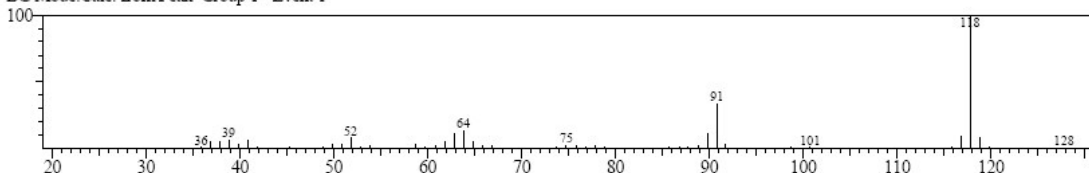
SI:95 Formula:CSH4N2 CAS:91-15-6 MolWeight:128 RetIndex:1236

CompName:1,2-Benzenedicarbonitrile \$\$ Phthalonitrile \$\$ o-Benzenedicarbonitrile \$\$ o-Cyanobenzonitrile \$\$ o-Dicyanobenzene \$\$ Phthalodinitrile \$\$ 1,2



<< Target >>

Line# 5 R.Time:14.860(Scan#:2733) MassPeaks:57
RawMode:Averaged 14.855-14.865(2732-2734) BasePeak:117.75(132928)
BG Mode:Calc. from Peak Group 1 - Event 1



Hit# 1 Entry:5030 Library:NIST11.lib

SI:96 Formula:C7H6N2 CAS:1885-29-6 MolWeight:118 RetIndex:1270

CompName:Benzonitrile, 2-amino- \$\$ Anthranilonitrile \$\$ o-Aminobenzonitrile \$\$ o-Cyanoaniline \$\$ Benzonitrile, o-amino- \$\$ 2-Aminobenzonitrile \$\$ 2-

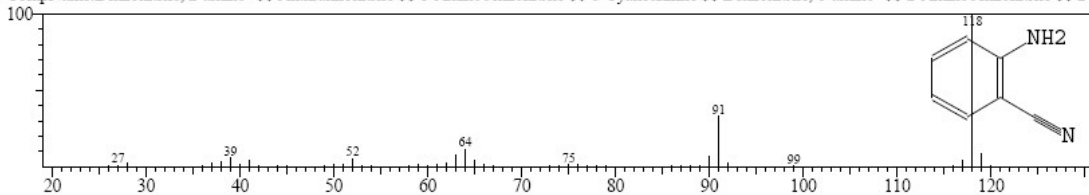
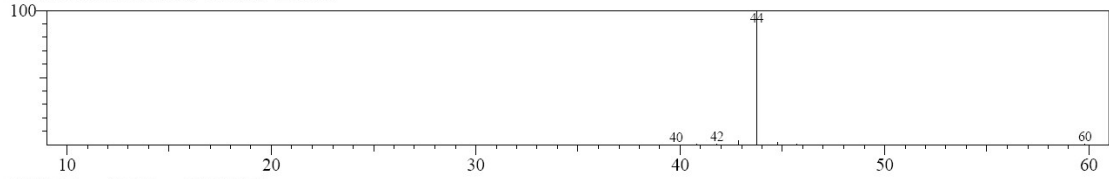


Figure S7. The mass spectra of Pyrolysis product for pho-POD-15 fiber at 500 °C

Library

<< Target >>

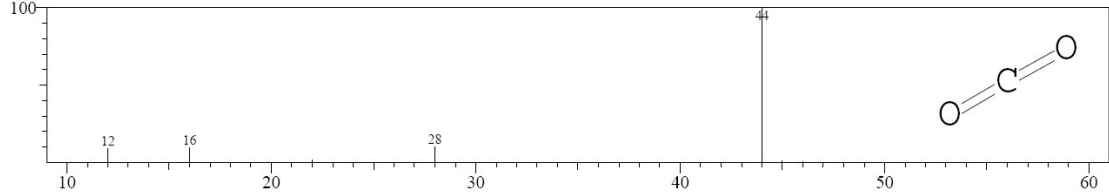
Line#1 R.Time:2.005(Scan#:162) MassPeaks:8
RawMode:Averaged 2.000-2.010(161-163) BasePeak:43.75(193022)
BG Mode:Calc. from Peak Group 1 - Event 1



Hit#:2 Entry:42 Library:NIST11.lib

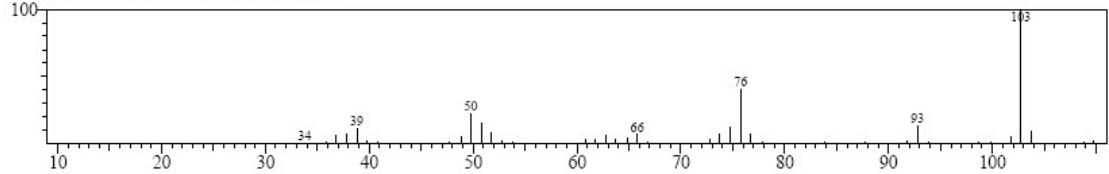
SI:98 Formula:CO2 CAS:124-38-9 MolWeight:44 RetIndex:0

CompName:Carbon dioxide \$\$ Carbon oxide (CO2) \$\$ Carbonic acid, gas \$\$ Carbonic anhydride \$\$ Dry ice \$\$ CO2 \$\$ Anhydride carbonique \$\$ Carbonic



<< Target >>

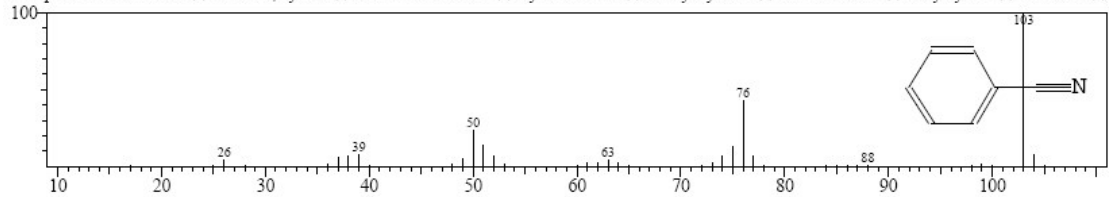
Line#2 R.Time:9.290(Scan#:1619) MassPeaks:48
RawMode:Averaged 9.285-9.295(1618-1620) BasePeak:102.75(46004)
BG Mode:Calc. from Peak Group 1 - Event 1



Hit#:1 Entry:2211 Library:NIST11s.lib

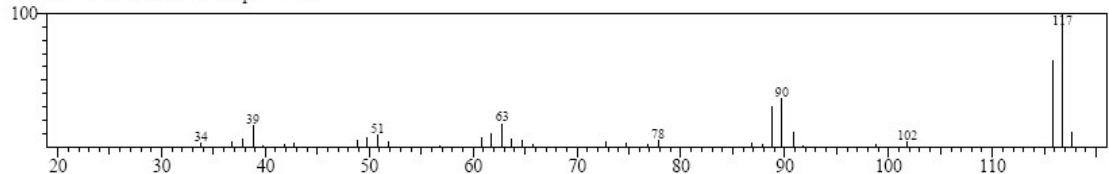
SI:92 Formula:C7H5N CAS:100-47-0 MolWeight:103 RetIndex:958

CompName:Benzonitrile \$\$ Benzene, cyano- \$\$ Benzoic acid nitrile \$\$ Cyanobenzene \$\$ Phenyl cyanide \$\$ Benzenenitrile \$\$ Fenylcyanid \$\$ UN 2224 \$\$



<< Target >>

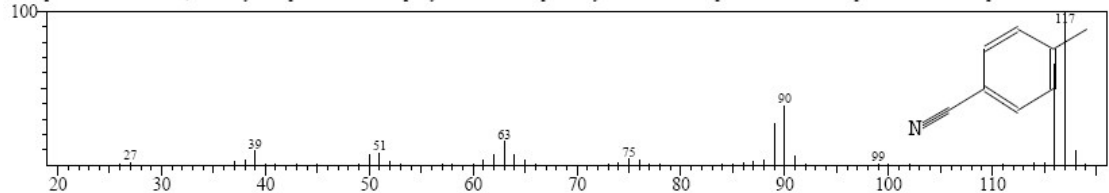
Line#3 R.Time:11.865(Scan#:2134) MassPeaks:35
RawMode:Averaged 11.860-11.870(2133-2135) BasePeak:116.75(6095)
BG Mode:Calc. from Peak Group 1 - Event 1



Hit#:1 Entry:3776 Library:NIST11s.lib

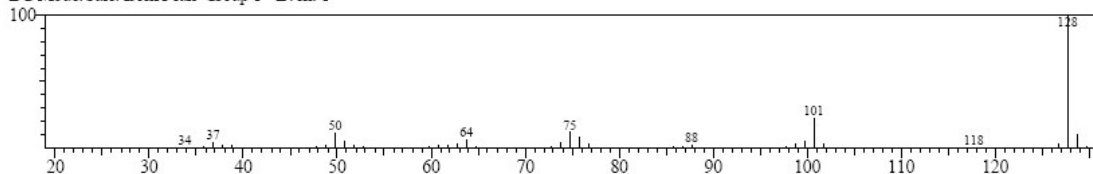
SI:94 Formula:C8H7N CAS:104-85-8 MolWeight:117 RetIndex:1071

CompName:Benzonitrile, 4-methyl- \$\$ p-Tolunitrile \$\$ p-Cyanotoluene \$\$ p-Methylbenzonitrile \$\$ p-Toluenenitrile \$\$ p-Toluic nitrile \$\$ p-Tolunitrile \$\$

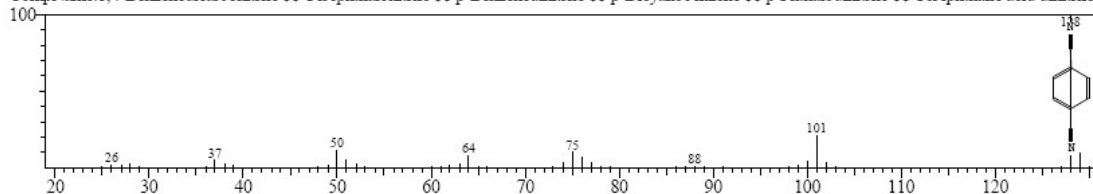


<< Target >>

Line# 4 R.Time:13.100(Scan#:2381) MassPeaks:59
RawMode:Averaged 13.095-13.105(2380-2382) BasePeak:127.70(560661)
BG Mode:Calc. from Peak Group 1 - Event 1

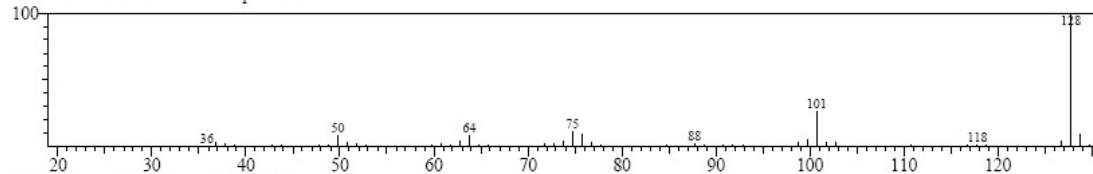


Hit#:1 Entry:5143 Library:NIST11s.lib
SI:98 Formula:C8H4N2 CAS:623-26-7 MolWeight:128 RefIndex:1236
CompName:1,4-Benzenedicarbonitrile \$\$ Terephthalonitrile \$\$ p-Benzenedinitrile \$\$ p-Dicyanobenzene \$\$ p-Phthalodinitrile \$\$ Terephthalic acid dinitrile

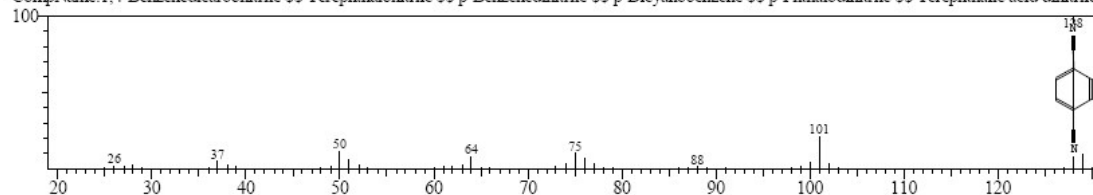


<< Target >>

Line# 5 R.Time:13.250(Scan#:2411) MassPeaks:54
RawMode:Averaged 13.245-13.255(2410-2412) BasePeak:127.75(28829)
BG Mode:Calc. from Peak Group 1 - Event 1

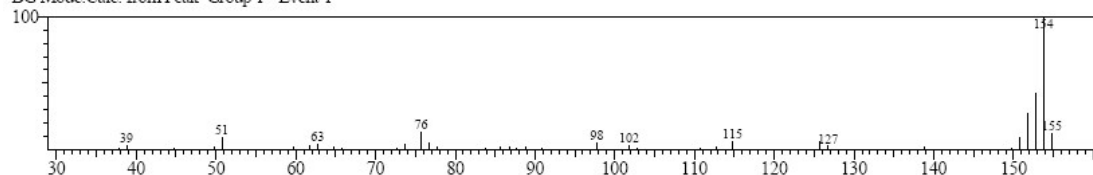


Hit#:1 Entry:5143 Library:NIST11s.lib
SI:95 Formula:C8H4N2 CAS:623-26-7 MolWeight:128 RefIndex:1236
CompName:1,4-Benzenedicarbonitrile \$\$ Terephthalonitrile \$\$ p-Benzenedinitrile \$\$ p-Dicyanobenzene \$\$ p-Phthalodinitrile \$\$ Terephthalic acid dinitrile

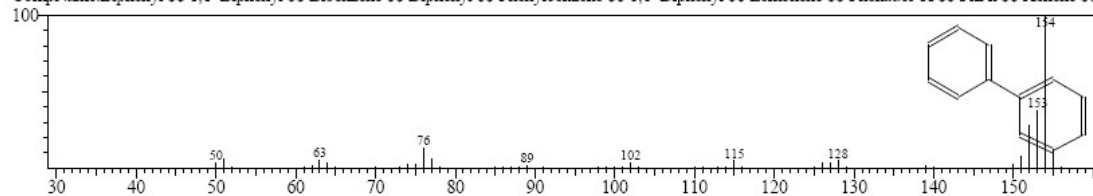


<< Target >>

Line# 6 R.Time:13.520(Scan#:2465) MassPeaks:41
RawMode:Averaged 13.515-13.525(2464-2466) BasePeak:153.75(9101)
BG Mode:Calc. from Peak Group 1 - Event 1

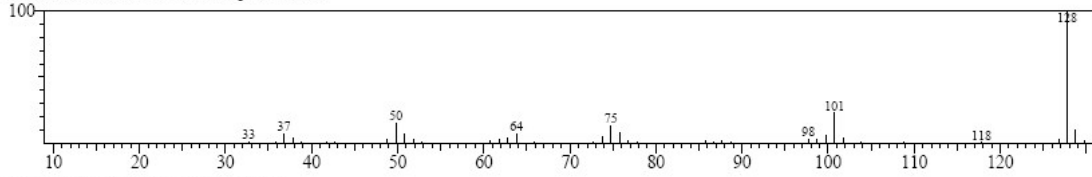


Hit#:1 Entry:10064 Library:NIST11s.lib
SI:93 Formula:C12H10 CAS:92-52-4 MolWeight:154 RefIndex:1367
CompName:Biphenyl \$\$ 1,1'-Biphenyl \$\$ Bibenzene \$\$ Diphenyl \$\$ Phenylbenzene \$\$ 1,1'-Diphenyl \$\$ Lemonene \$\$ Phenador-X \$\$ PhPh \$\$ Xenene \$\$

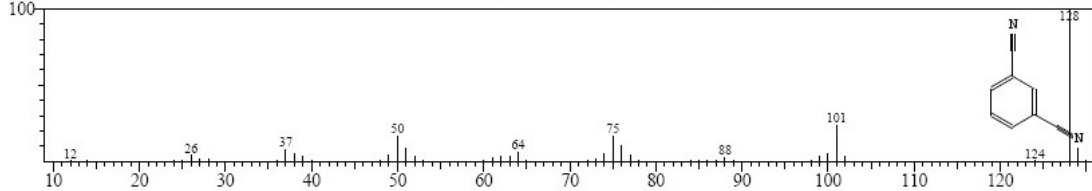


<< Target >>

Line#:7 R.Time:13.630(Scan#:2487) MassPeaks:42
RawMode:Averaged 13.625-13.635(2486-2488) BasePeak:127.75(10643)
BG Mode:Calc. from Peak Group 1 - Event 1

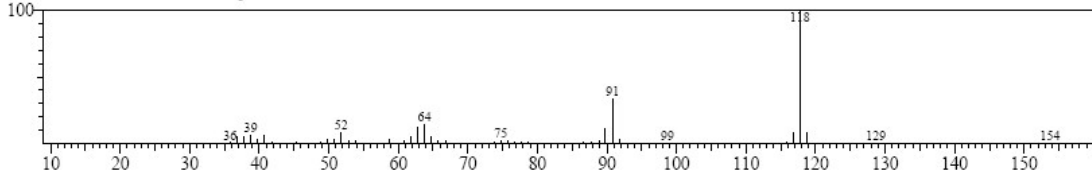


Hit#:1 Entry:7274 Library:NIST11.lib
SI:95 Formula:C8H4N2 CAS:626-17-5 MolWeight:128 RefIndex:1236
CompName:1,3-Dicyanobenzene \$\$ 1,3-Benzenedicarbonitrile \$\$ Isophthalonitrile \$\$ m-Benzenedinitrile \$\$ m-Dicyanobenzene \$\$ 3-Cyanobenzonitrile \$\$

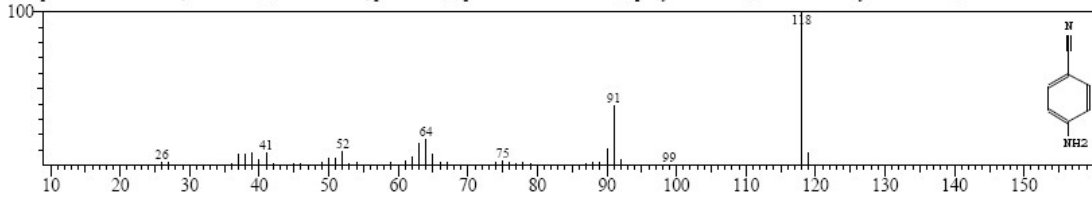


<< Target >>

Line#:8 R.Time:14.870(Scan#:2735) MassPeaks:58
RawMode:Averaged 14.865-14.875(2734-2736) BasePeak:117.75(113163)
BG Mode:Calc. from Peak Group 1 - Event 1

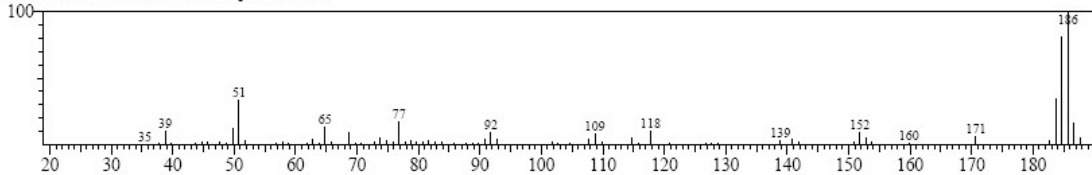


Hit#:3 Entry:3904 Library:NIST11s.lib
SI:95 Formula:C7H6N2 CAS:873-74-5 MolWeight:118 RefIndex:1270
CompName:Benzonitrile, 4-amino- \$\$ Benzonitrile, p-amino- \$\$ p-Aminobenzonitrile \$\$ p-Cyanoaniline \$\$ 1-Amino-4-cyanobenzene \$\$ 4-Aminobenzonitrile

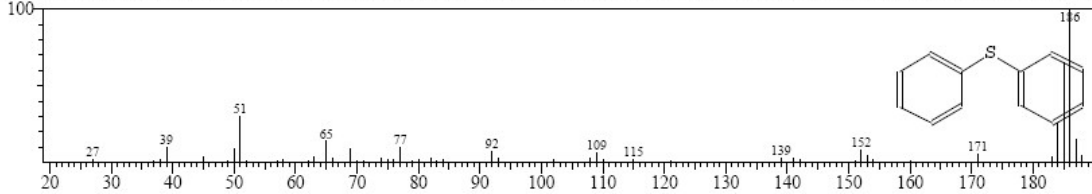


<< Target >>

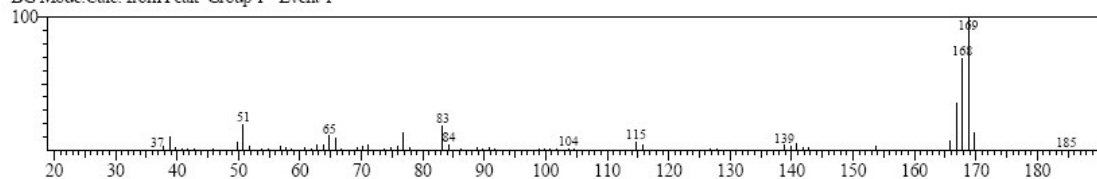
Line#:9 R.Time:15.450(Scan#:2851) MassPeaks:87
RawMode:Averaged 15.445-15.455(2850-2852) BasePeak:185.70(19981)
BG Mode:Calc. from Peak Group 1 - Event 1



Hit#:1 Entry:15449 Library:NIST11s.lib
SI:93 Formula:C12H10S CAS:139-66-2 MolWeight:186 RefIndex:1618
CompName:Diphenyl sulfide \$\$ Benzene, 1,1'-thiobis- \$\$ Phenyl sulfide \$\$ Diphenyl monosulfide \$\$ Diphenyl sulphide \$\$ Diphenyl thioether \$\$ Diphenyl



<< Target >>
Line#:10 R.Time:15.710(Scan#:2903) MassPeaks:72
RawMode:Averaged 15.705-15.715(2902-2904) BasePeak:168.75(13176)
BG Mode:Calc. from Peak Group 1 - Event 1



Hit#:1 Entry:25289 Library:NIST11.lib
SI:92 Formula:C12H11N CAS:122-39-4 MolWeight:169 RefIndex:1566
CompName:Diphenylamine \$\$ Benzenamine, N-phenyl- \$\$ Anilinobenzene \$\$ Benzene, (phenylamino)- \$\$ DFA \$\$ DPA \$\$ N-Phenylaniline \$\$ N-Phenylt

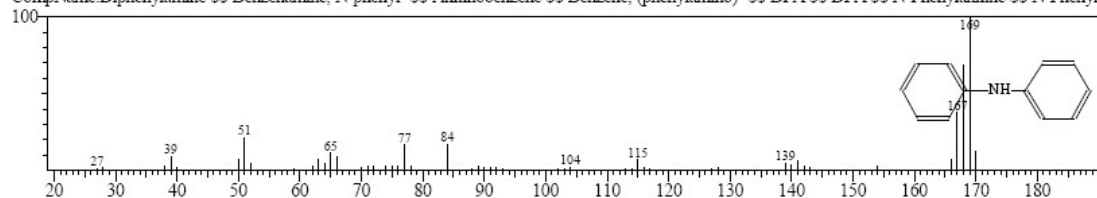
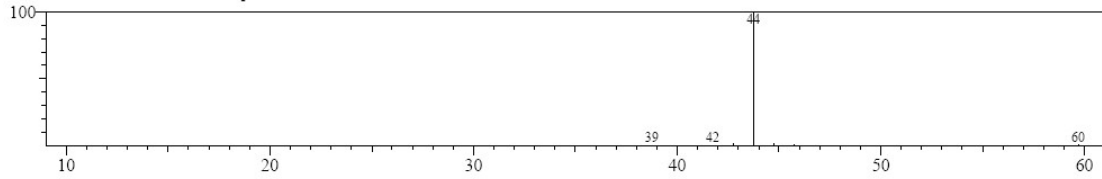


Figure S8. The mass spectra of Pyrolysis product for pho-POD-15 fiber at 550 °C

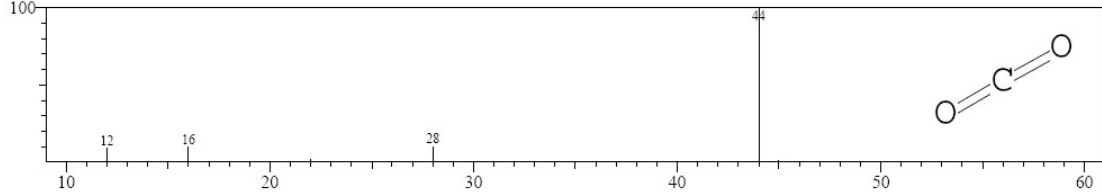
Library

<< Target >>

Line# 1 R.Time:1.795(Scan#:120) MassPeaks:15
RawMode:Averaged 1.790-1.800(119-121) BasePeak:43.75(2293484)
BG Mode:Calc. from Peak Group 1 - Event 1

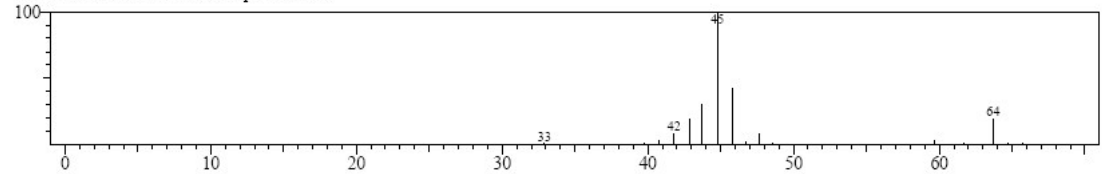


Hit# 2 Entry:42 Library:NIST11s.lib
SI:99 Formula:CO2 CAS:124-38-9 MolWeight:44 RetIndex:0
CompName:Carbon dioxide \$\$ Carbon oxide (CO2) \$\$ Carbonic acid, gas \$\$ Carbonic anhydride \$\$ Dry ice \$\$ CO2 \$\$ Anhydride carbonique \$\$ Carbonic

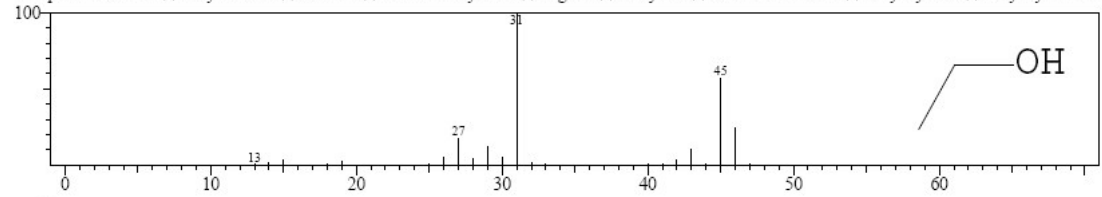


<< Target >>

Line# 2 R.Time:1.900(Scan#:141) MassPeaks:18
RawMode:Averaged 1.895-1.905(140-142) BasePeak:44.80(39571)
BG Mode:Calc. from Peak Group 1 - Event 1

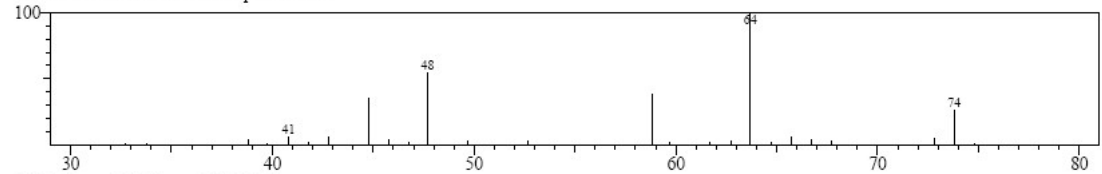


Hit# 1 Entry:48 Library:NIST11s.lib
SI:88 Formula:C2H6O CAS:64-17-5 MolWeight:46 RetIndex:463
CompName:Ethanol \$\$ Ethyl alcohol \$\$ Alcohol \$\$ Alcohol anhydrous \$\$ Algrain \$\$ Anhydrol \$\$ Denatured ethanol \$\$ Ethyl hydrate \$\$ Ethyl hydroxide

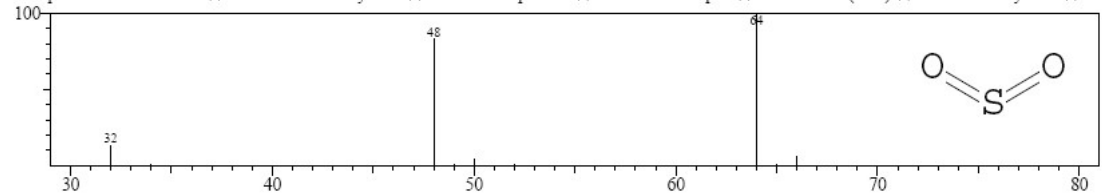


<< Target >>

Line# 3 R.Time:1.970(Scan#:155) MassPeaks:25
RawMode:Averaged 1.965-1.975(154-156) BasePeak:63.70(12018)
BG Mode:Calc. from Peak Group 1 - Event 1

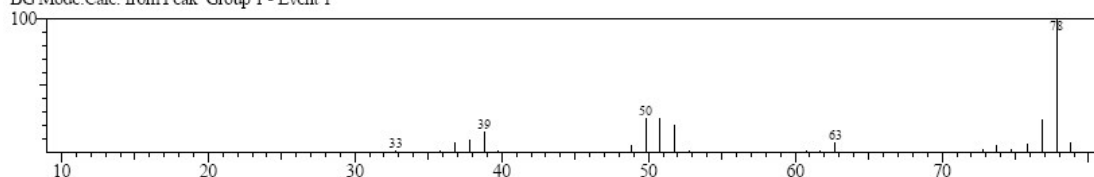


Hit# 9 Entry:186 Library:NIST11s.lib
SI:69 Formula:O2S CAS:7446-09-5 MolWeight:64 RetIndex:0
CompName:Sulfur dioxide \$\$ Sulfurous acid anhydride \$\$ Femenicide powder \$\$ Fementicide liquid \$\$ Sulfur oxide (SO2) \$\$ Sulfurous anhydride \$\$ St

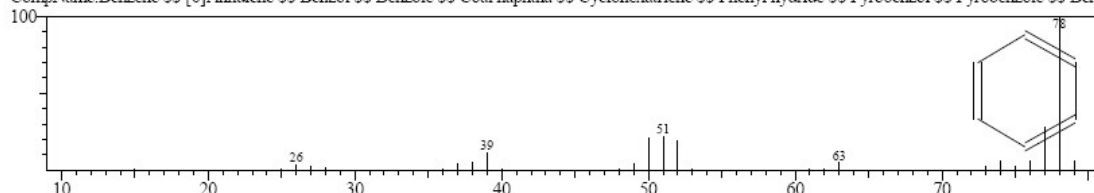


<< Target >>

Line# 4 R.Time:3.370(Scan#:435) MassPeaks:21
RawMode:Averaged 3.365-3.375(434-436) BasePeak:77.80(24643)
BG Mode:Calc. from Peak Group 1 - Event 1

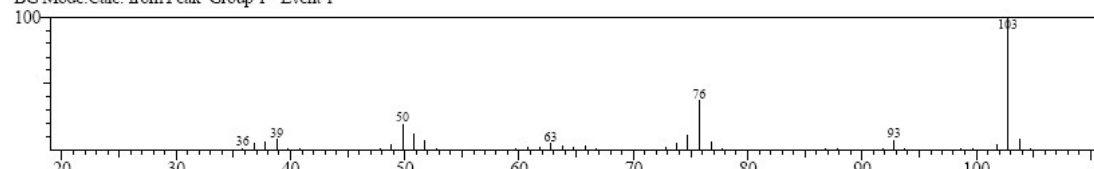


Hit# 1 Entry:478 Library:NIST11.lib
SI:97 Formula:C₆H₆ CAS:71-43-2 MolWeight:78 RetIndex:680
CompName:Benzene \$\$ [6]Annulene \$\$ Benzol \$\$ Benzole \$\$ Coal naphtha \$\$ Cyclohexatriene \$\$ Phenyl hydride \$\$ Pyrobenzol \$\$ Pyrobenzole \$\$ Benz

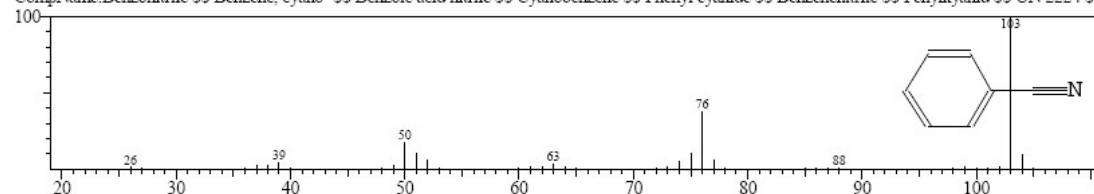


<< Target >>

Line# 5 R.Time:8.930(Scan#:1547) MassPeaks:48
RawMode:Averaged 8.925-8.935(1546-1548) BasePeak:102.75(153679)
BG Mode:Calc. from Peak Group 1 - Event 1

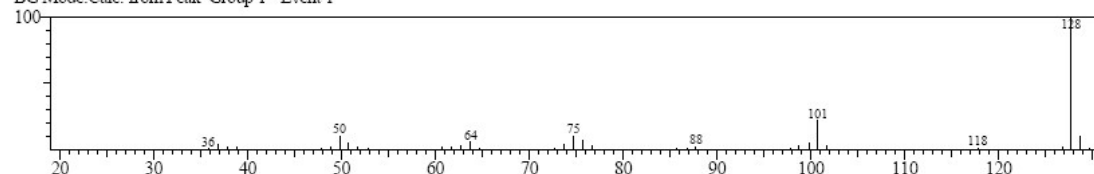


Hit# 1 Entry:2422 Library:NIST11.lib
SI:95 Formula:C₇H₅N CAS:100-47-0 MolWeight:103 RetIndex:958
CompName:Benzonitrile \$\$ Benzene, cyano- \$\$ Benzoic acid nitrile \$\$ Cyanobenzene \$\$ Phenyl cyanide \$\$ Benzenenitrile \$\$ Fenylcyanid \$\$ UN 2224 \$\$

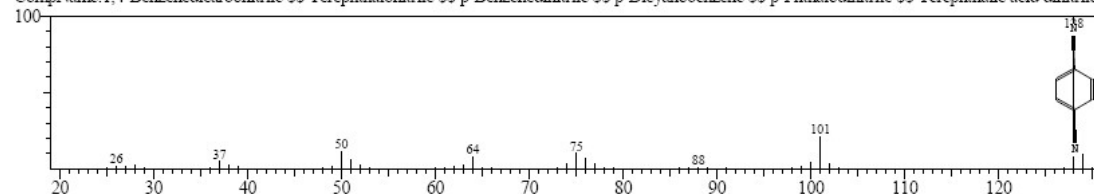


<< Target >>

Line# 6 R.Time:13.120(Scan#:2385) MassPeaks:67
RawMode:Averaged 13.115-13.125(2384-2386) BasePeak:127.70(710599)
BG Mode:Calc. from Peak Group 1 - Event 1

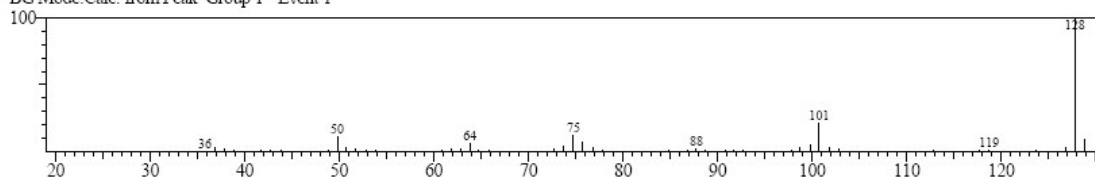


Hit# 2 Entry:5143 Library:NIST11s.lib
SI:98 Formula:C₈H₄N₂ CAS:623-26-7 MolWeight:128 RetIndex:1236
CompName:1,4-Benzenedicarbonitrile \$\$ Terephthalonitrile \$\$ p-Benzenedinitrile \$\$ p-Dicyanobenzene \$\$ p-Phthalodinitrile \$\$ Terephthalic acid dinitrile

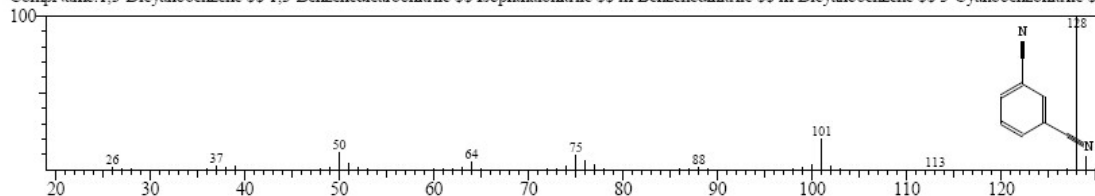


<< Target >>

Line# 7 R.Time:13.335(Scan#:2428) MassPeaks:53
RawMode:Averaged 13.330-13.340(2427-2429) BasePeak:127.75(19133)
BG Mode:Calc. from Peak Group 1 - Event 1

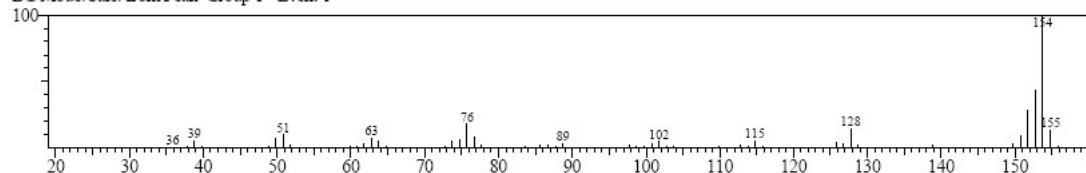


Hit# 1 Entry:5145 Library:NIST11s.lib
SI:95 Formula:C8H4N2 CAS:626-17-5 MolWeight:128 RefIndex:1236
CompName:1,3-Dicyanobenzene \$\$ 1,3-Benzenedicarbonitrile \$\$ Isophthalonitrile \$\$ m-Benzenedinitrile \$\$ m-Dicyanobenzene \$\$ 3-Cyanobenzonitrile \$\$

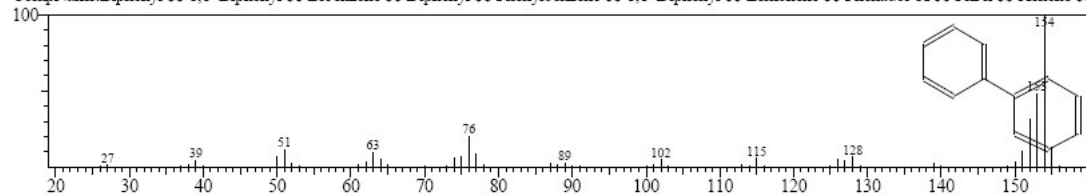


<< Target >>

Line# 8 R.Time:13.485(Scan#:2458) MassPeaks:73
RawMode:Averaged 13.480-13.490(2457-2459) BasePeak:153.75(50259)
BG Mode:Calc. from Peak Group 1 - Event 1

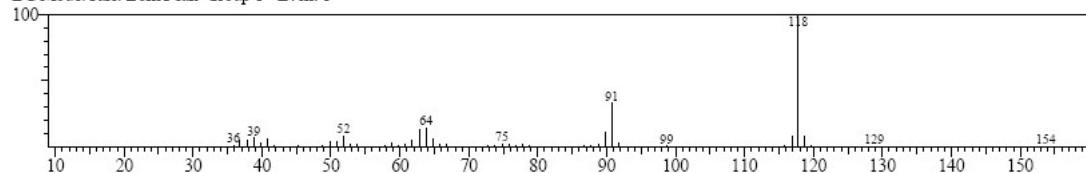


Hit# 1 Entry:17755 Library:NIST11.lib
SI:96 Formula:C12H10 CAS:92-52-4 MolWeight:154 RefIndex:1367
CompName:Biphenyl \$\$ 1,1'-Biphenyl \$\$ Bibenzene \$\$ Diphenyl \$\$ Phenylbenzene \$\$ 1,1'-Diphenyl \$\$ Lemonene \$\$ Phenador-X \$\$ PhPh \$\$ Xenene \$\$

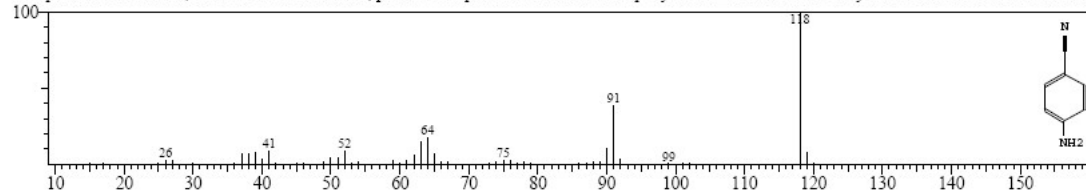


<< Target >>

Line# 9 R.Time:14.905(Scan#:2742) MassPeaks:58
RawMode:Averaged 14.900-14.910(2741-2743) BasePeak:117.75(122244)
BG Mode:Calc. from Peak Group 1 - Event 1

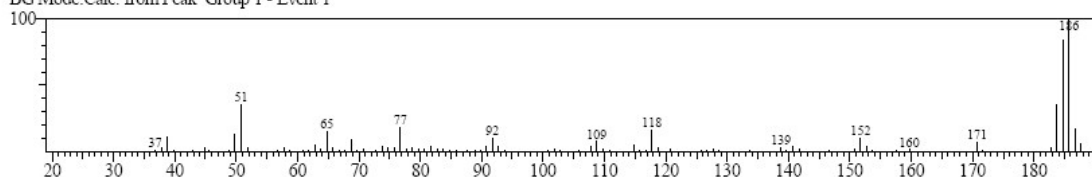


Hit# 1 Entry:3904 Library:NIST11s.lib
SI:95 Formula:C7H6N2 CAS:873-74-5 MolWeight:118 RefIndex:1270
CompName:Benzonitrile, 4-amino- \$\$ Benzonitrile, p-amino- \$\$ p-Aminobenzonitrile \$\$ p-Cyanoaniline \$\$ 1-Amino-4-cyanobenzene \$\$ 4-Aminobenzonitrile

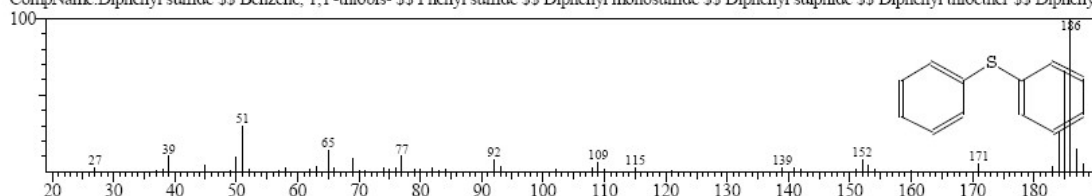


<< target >>

Line#:10 R.Time:15.450(Scan#:2851) MassPeaks:90
RawMode:Averaged 15.445-15.455(2850-2852) BasePeak:185.70(20733)
BG Mode:Calc. from Peak Group 1 - Event 1

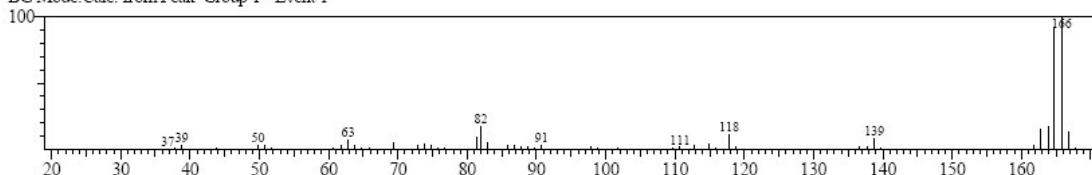


Hit#:1 Entry:15449 Library:NIST11s.lib
SI:92 Formula:C12H10S CAS:139-66-2 MolWeight:186 RetIndex:1618
CompName:Diphenyl sulfide \$\$ Benzene, 1,1'-thiobis- \$\$ Phenyl sulfide \$\$ Diphenyl monosulfide \$\$ Diphenyl sulphide \$\$ Diphenyl thioether \$\$ Diphenyl

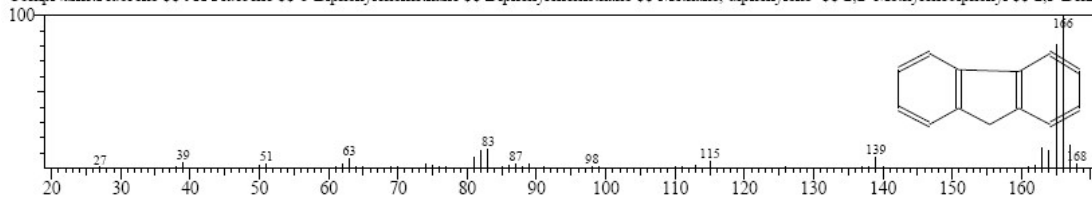


<< Target >>

Line#:11 R.Time:15.535(Scan#:2868) MassPeaks:72
RawMode:Averaged 15.530-15.540(2867-2869) BasePeak:165.80(18366)
BG Mode:Calc. from Peak Group 1 - Event 1

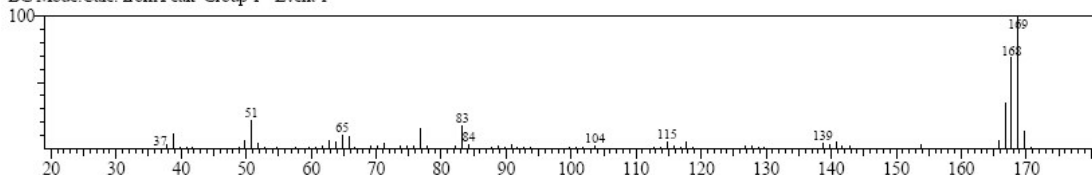


Hit#:1 Entry:12125 Library:NIST11s.lib
SI:92 Formula:C13H10 CAS:86-73-7 MolWeight:166 RetIndex:1494
CompName:Fluorene \$\$ 9H-Fluorene \$\$ o-Biphenylenemethane \$\$ Diphenylenemethane \$\$ Methane, diphenylene- \$\$ 2,2'-Methylenebiphenyl \$\$ 2,3-Benz

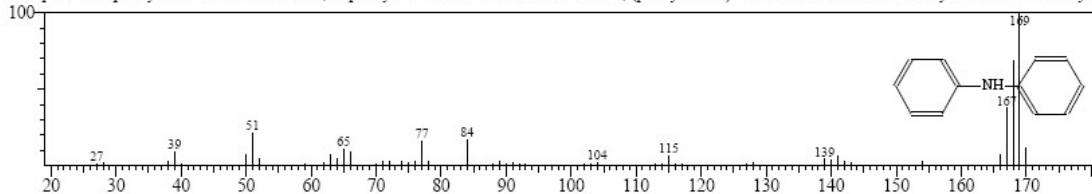


<< Target >>

Line#:12 R.Time:15.705(Scan#:2902) MassPeaks:76
RawMode:Averaged 15.700-15.710(2901-2903) BasePeak:168.75(21717)
BG Mode:Calc. from Peak Group 1 - Event 1

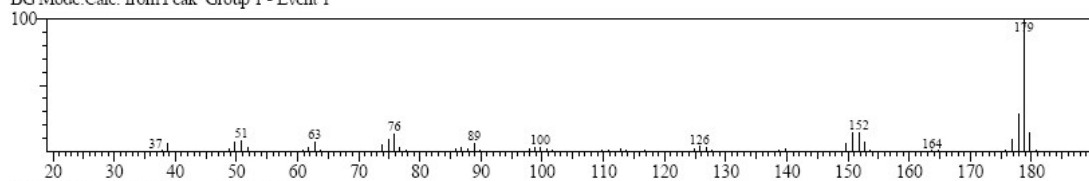


Hit#:1 Entry:25289 Library:NIST11s.lib
SI:92 Formula:C12H11N CAS:122-39-4 MolWeight:169 RetIndex:1566
CompName:Diphenylamine \$\$ Benzenamine, N-phenyl- \$\$ Anilinobenzene \$\$ Benzene, (phenylamino)- \$\$ DFA \$\$ DPA \$\$ N-Phenylaniline \$\$ N-Phenylb



<< Target >>

Line#: 13 R Time: 15.985(Scan#: 2958) MassPeaks: 75
RawMode: Averaged 15.980-15.990(2957-2959) BasePeak: 178.75(23729)
BG Mode: Calc. from Peak Group 1 - Event 1



Hit#: 1 Entry: 30876 Library: NIST11.lib
SI: 94 Formula: C₁₃H₉N CAS: 260-94-6 MolWeight: 179 RetIndex: 1776
CompName: Acridine \$\$ Acrydine \$\$ Benzo[b]quinoline \$\$ Dibenzo[b,e]pyridine \$\$ 10-Azaanthracene \$\$ 2,3-Benzoquinoline \$\$ 9-Azaanthracene \$\$ Akri

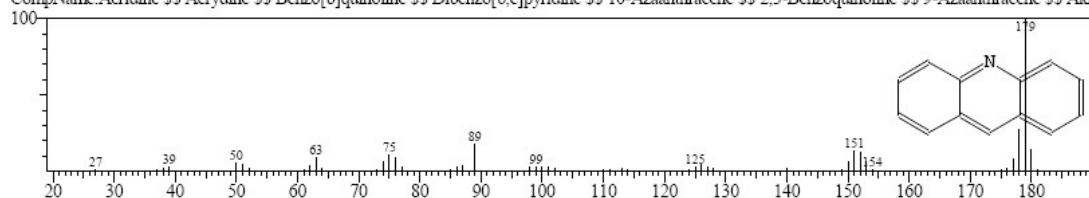


Figure S9. The mass spectra of Pyrolysis product for pho-POD-15 fiber at 600 °