

Supporting information:

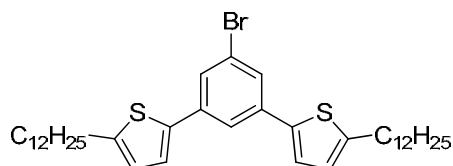
Design Protocols in Triarylamine Cored Dendrimer-Based Explosive Sensors

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$^1\text{H-NMR}$, $^{13}\text{C-NMR}$, MALDI-MS (top: experimental, bottom: theoretical isotopic pattern), FT-IR, UV-Vis absorption spectra of Compound **1** to **7** are presented:

Dendron 1, 5

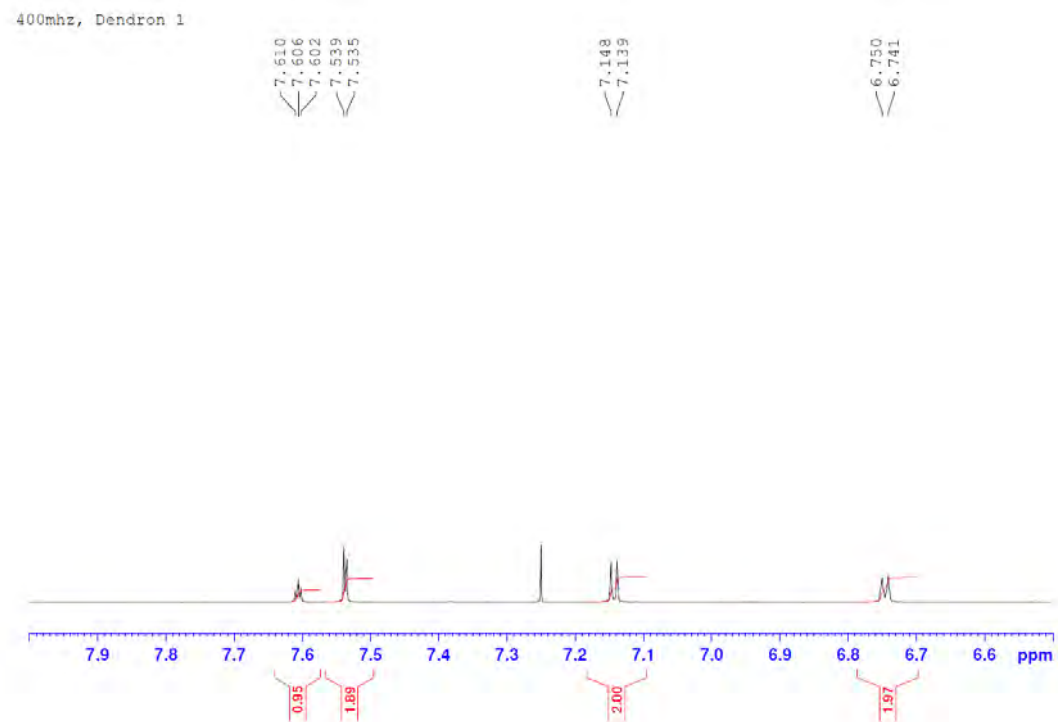
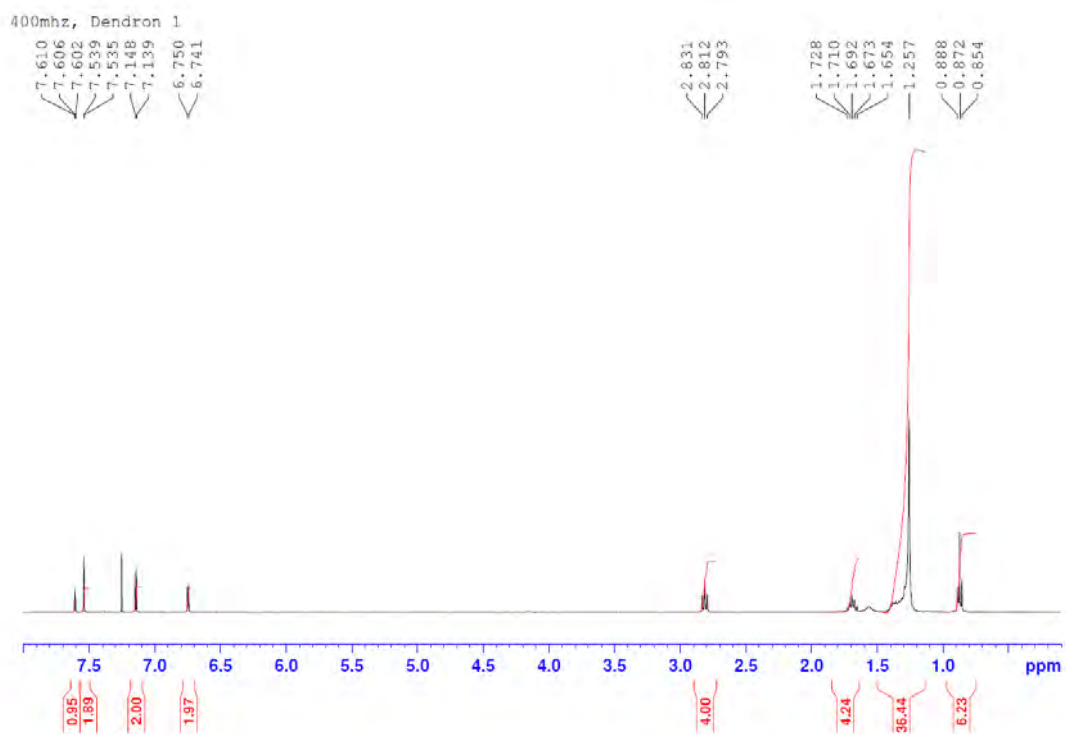


Chemical Formula: C₃₈H₅₇BrS₂

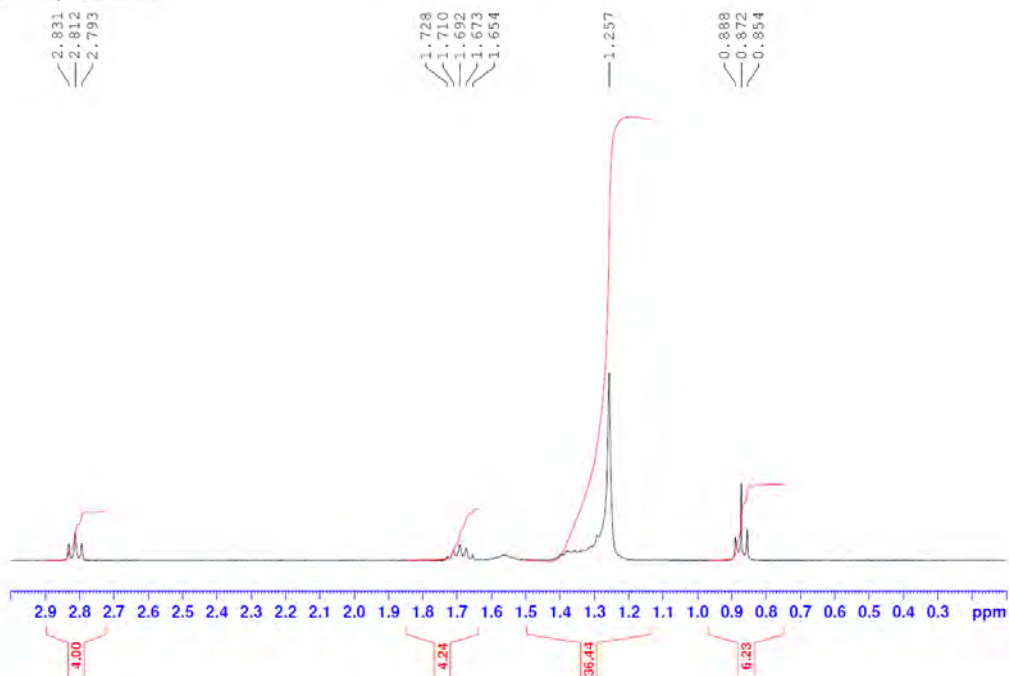
Molecular Weight: 657.9

m/z: 658.3 (100.0%), 656.3 (86.6%), 659.3 (40.9%), 657.3 (37.5%), 660.3 (16.4%), 661.3 (4.5%), 662.3 (1.0%)

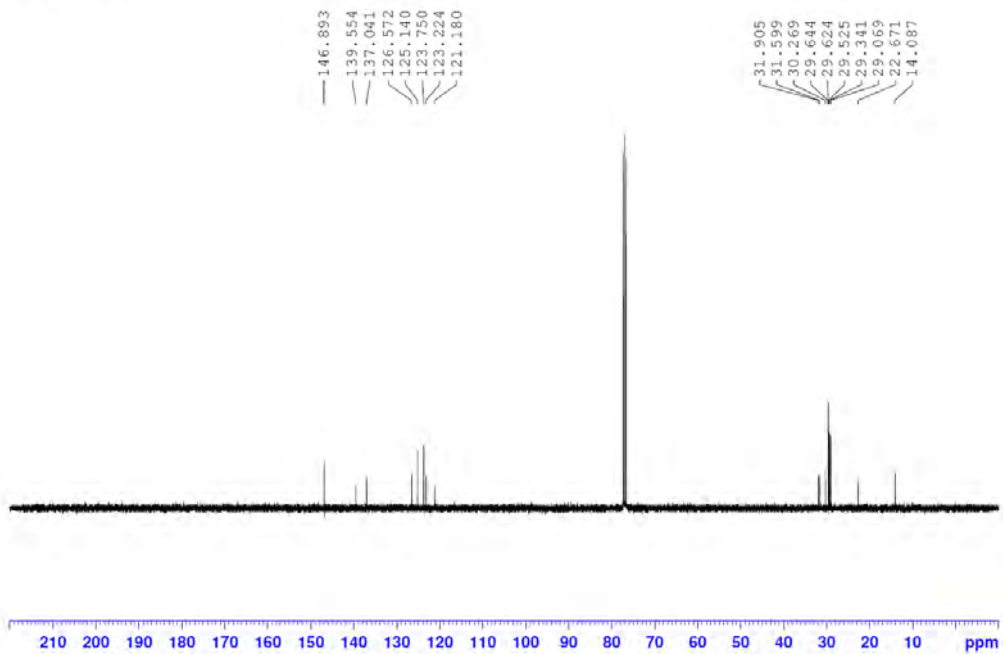
Elemental Analysis: C, 69.37; H, 8.73; Br, 12.15; S, 9.75

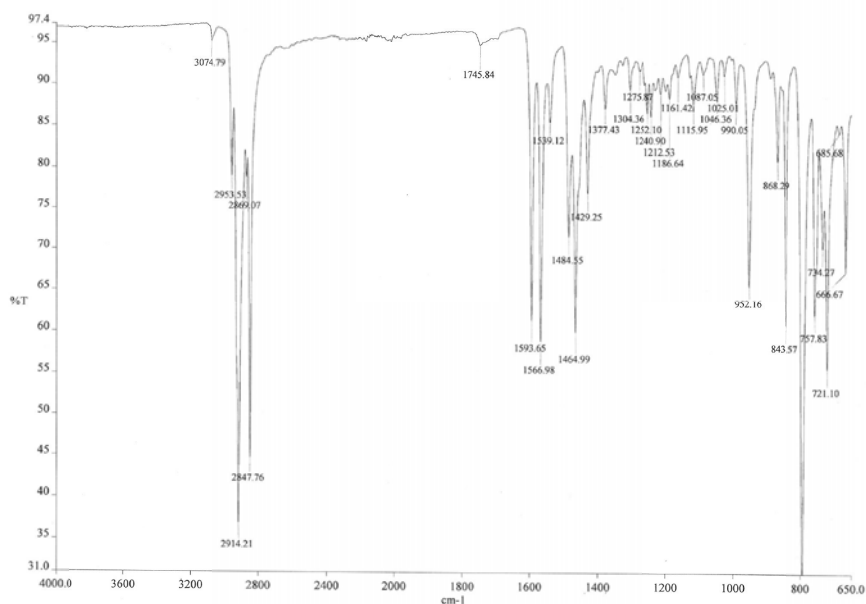
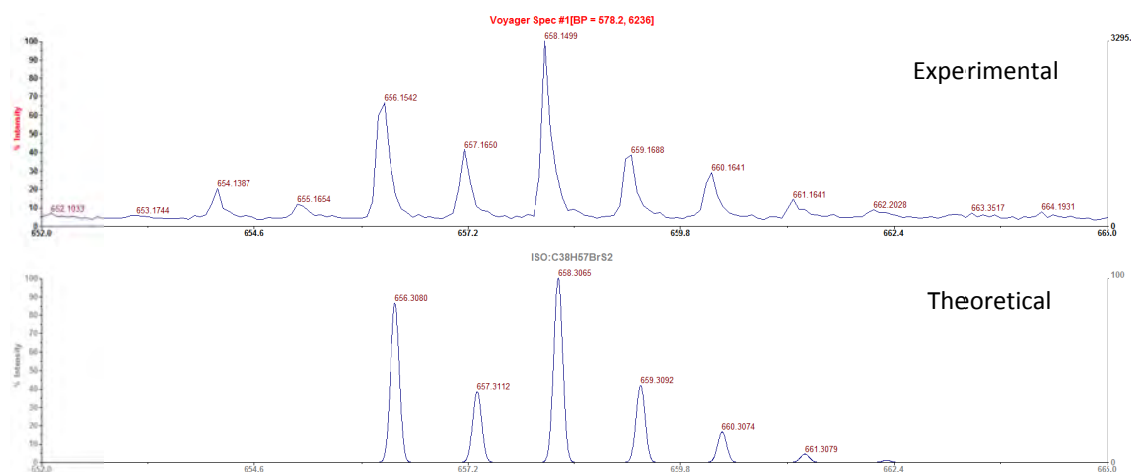


400mhz, Dendron 1

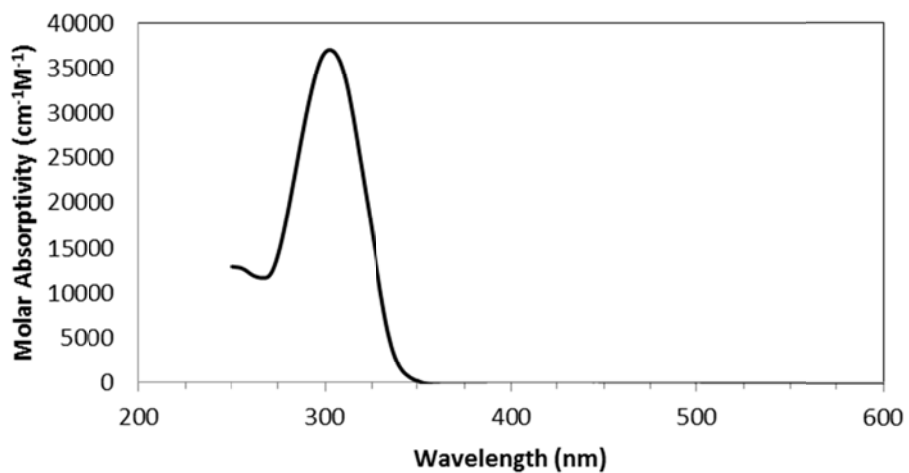


100 Mhz, Dendron 1

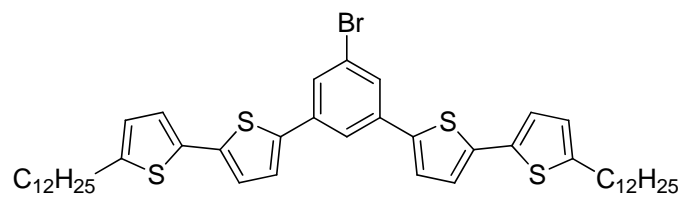




Dendron 1



Dendron 2, **6**



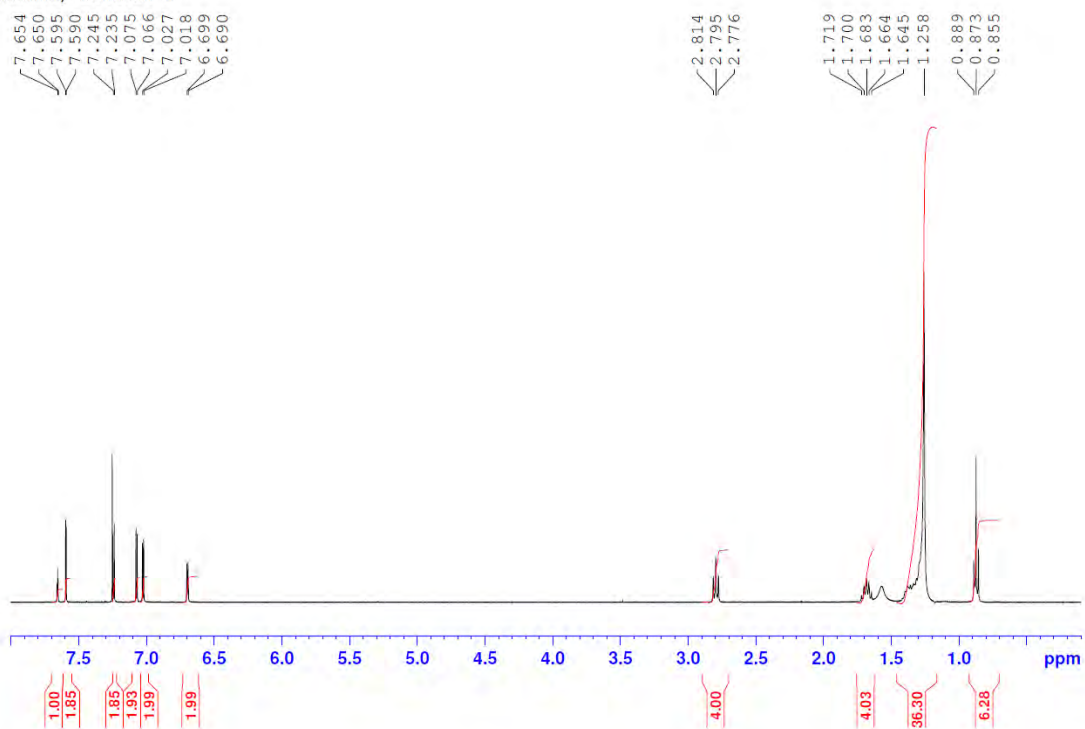
Chemical Formula: C₄₆H₆₁BrS₄

Molecular Weight: 822.1

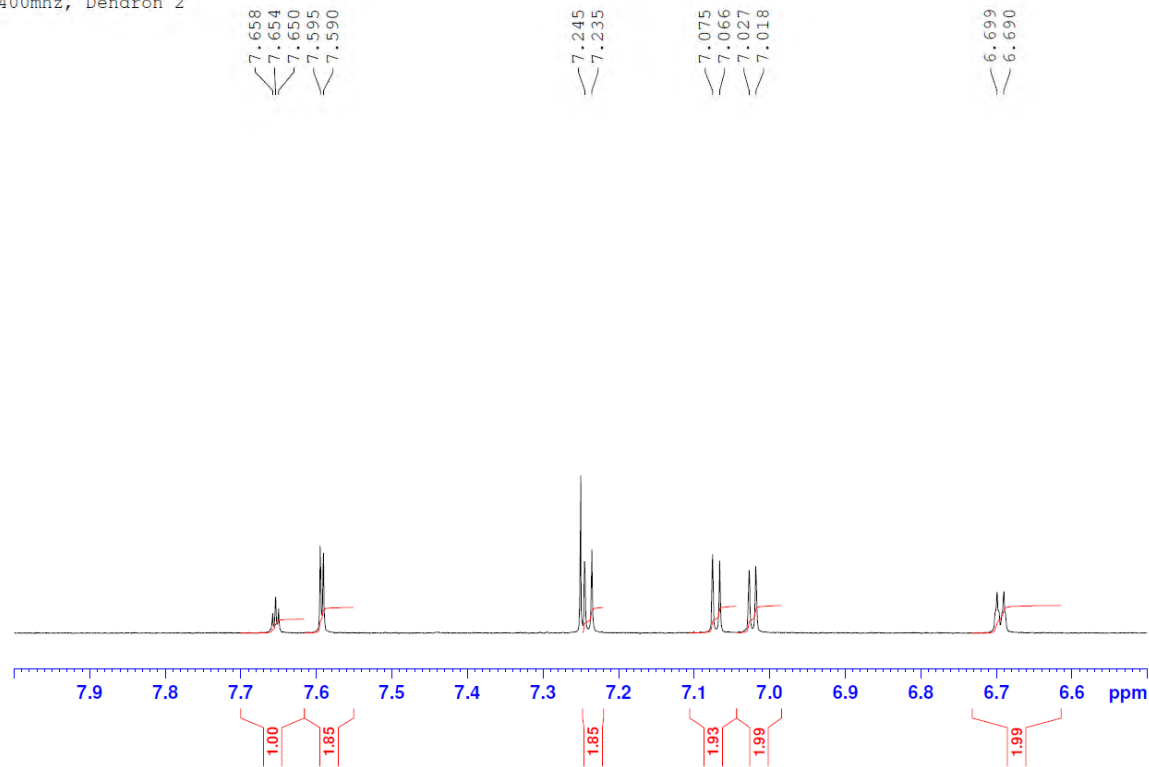
m/z: 822.3 (100.0%), 820.3 (77.2%), 823.3 (49.6%), 821.3 (41.4%), 824.3 (27.3%), 825.3 (9.9%), 826.3 (3.3%)

Elemental Analysis: C, 67.20; H, 7.48; Br, 9.72; S, 15.60

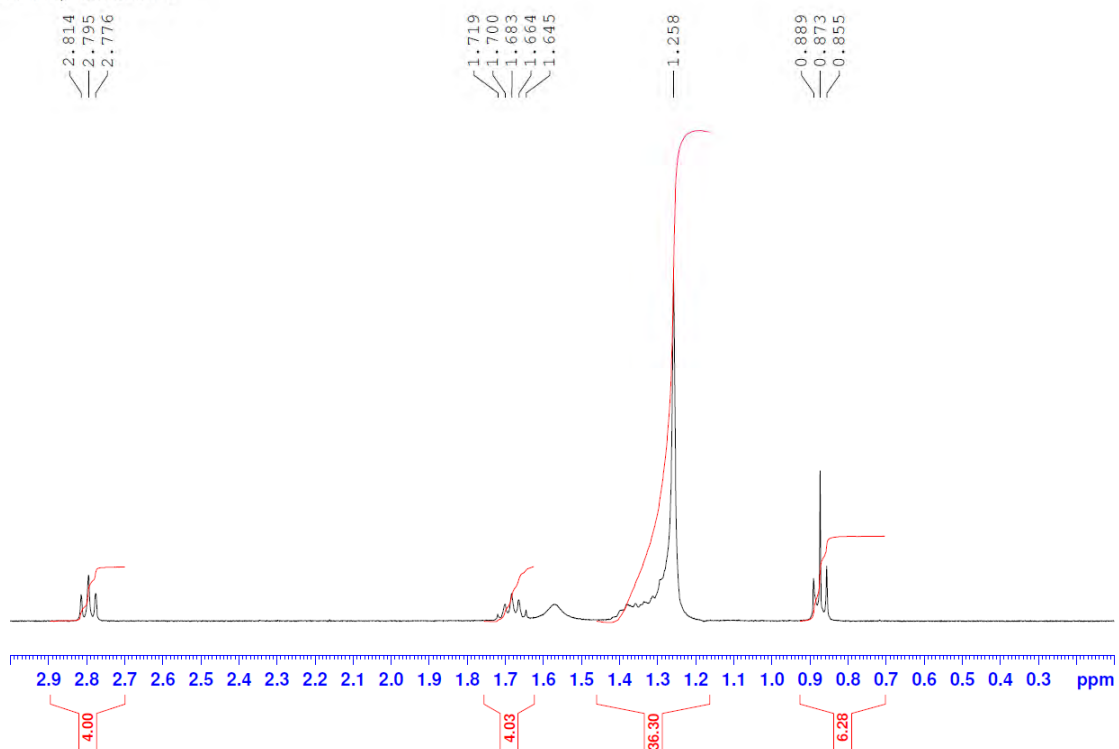
400mhz, Dendron 2



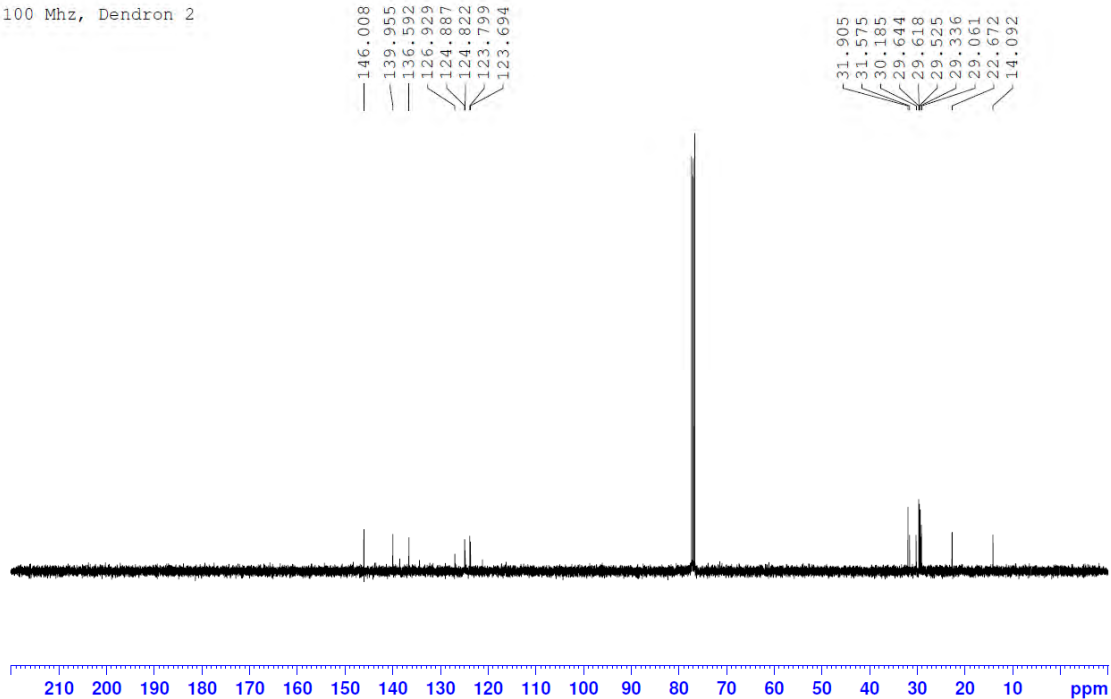
400mhz, Dendron 2

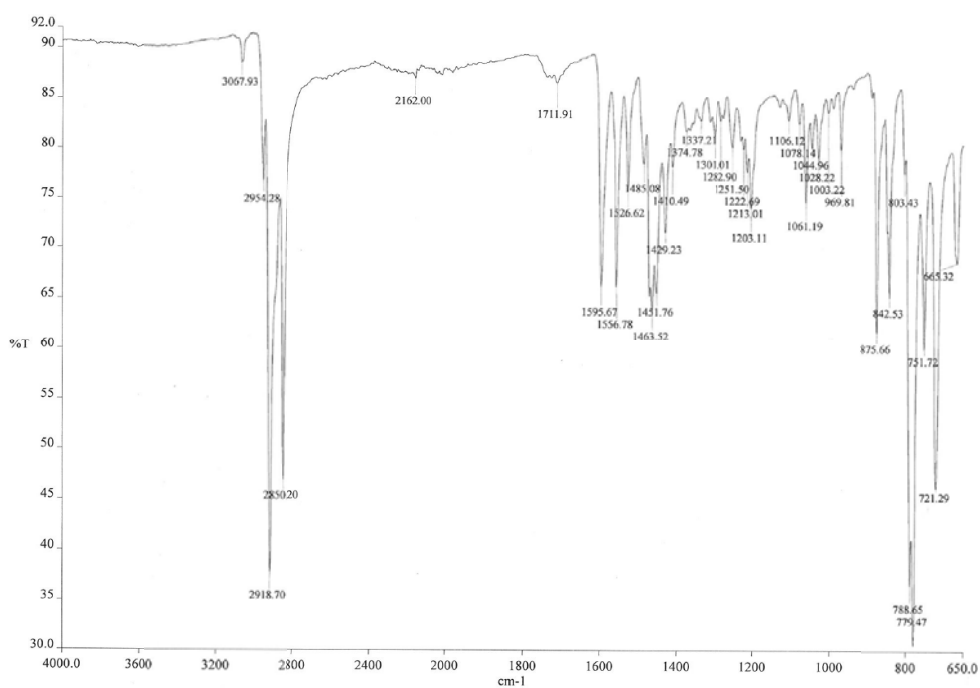
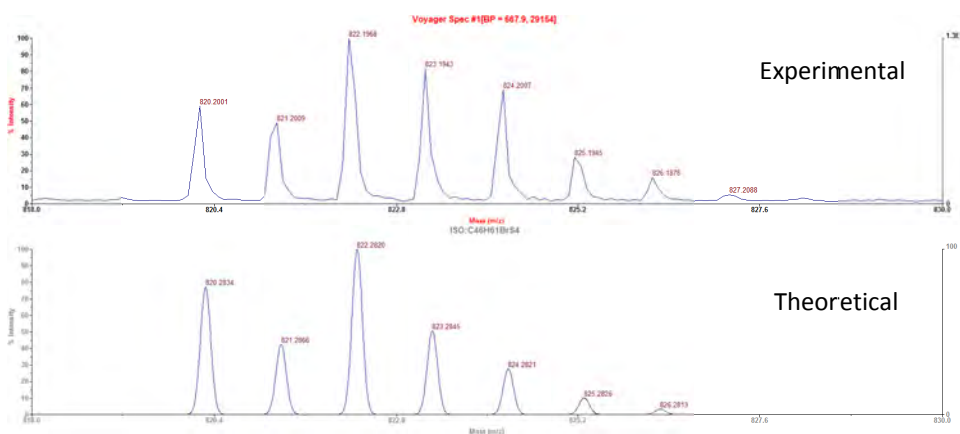


400mhz, Dendron 2

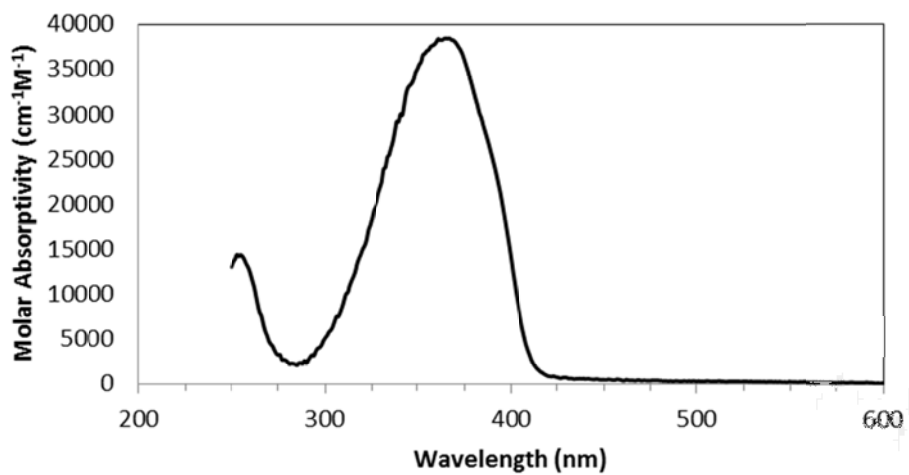


100 Mhz, Dendron 2

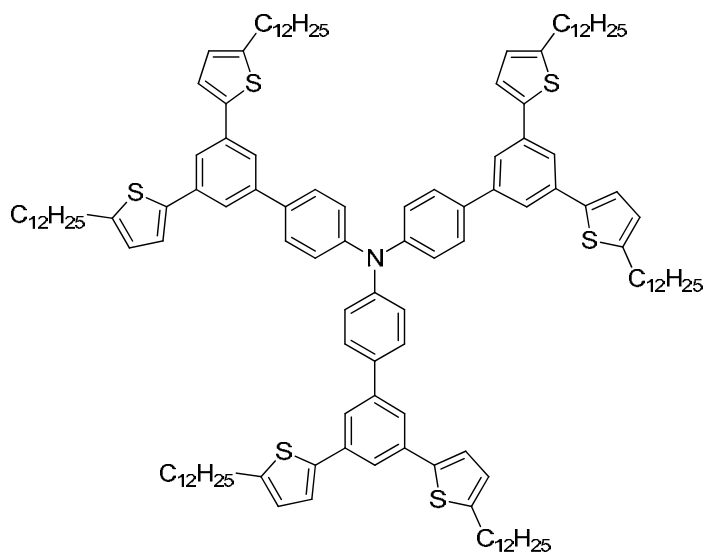




Dendron 2



Dendrimer 1, 1



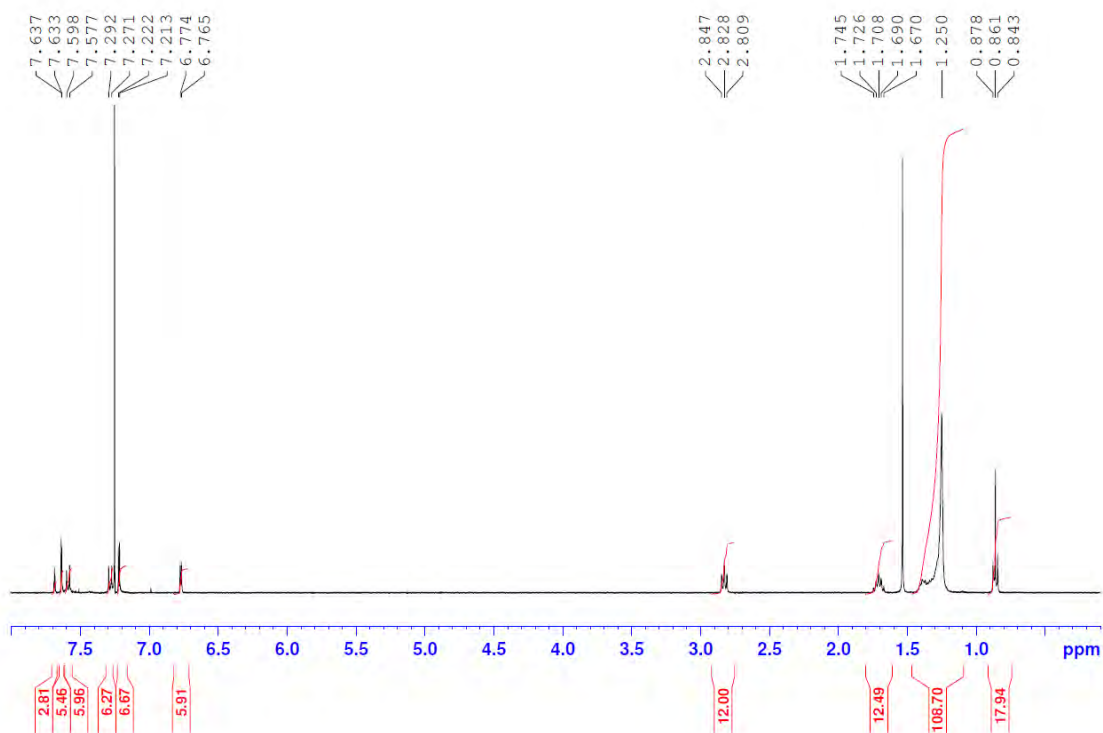
Chemical Formula: $C_{132}H_{183}NS_6$

Molecular Weight: 1976.3

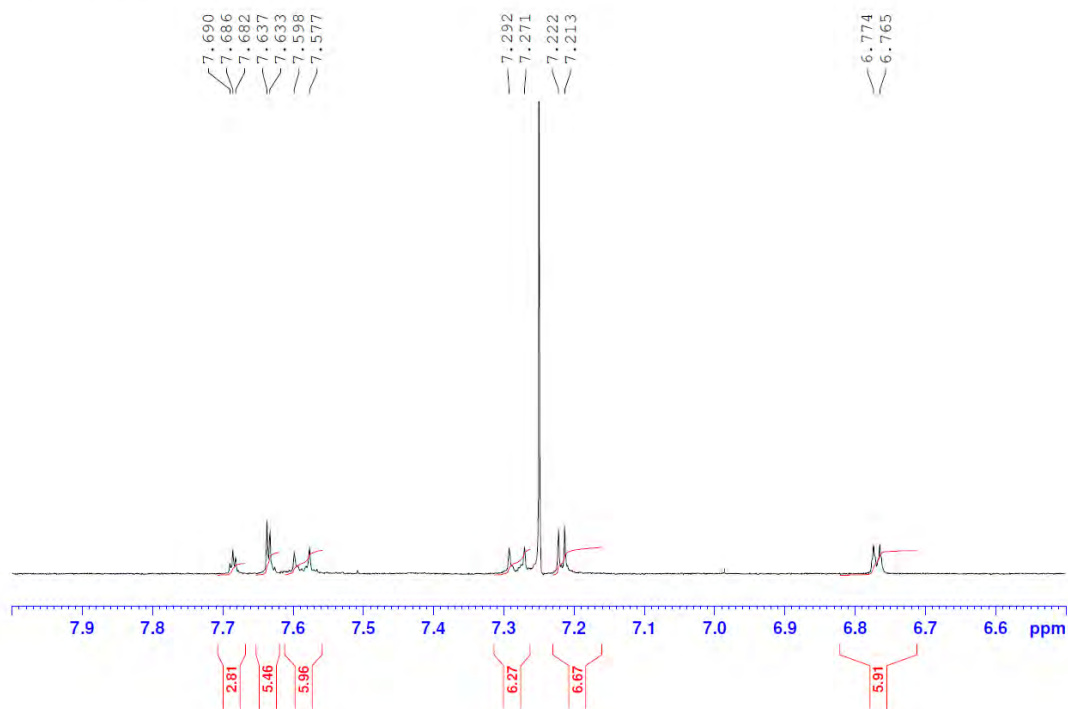
m/z: 1975.3 (100.0%), 1976.3 (92.6%), 1974.3 (66.6%), 1977.3 (63.7%), 1978.3 (35.6%), 1979.3 (16.8%), 1980.3 (6.9%), 1981.3 (2.5%)

Elemental Analysis: C, 80.22; H, 9.33; N, 0.71; S, 9.74

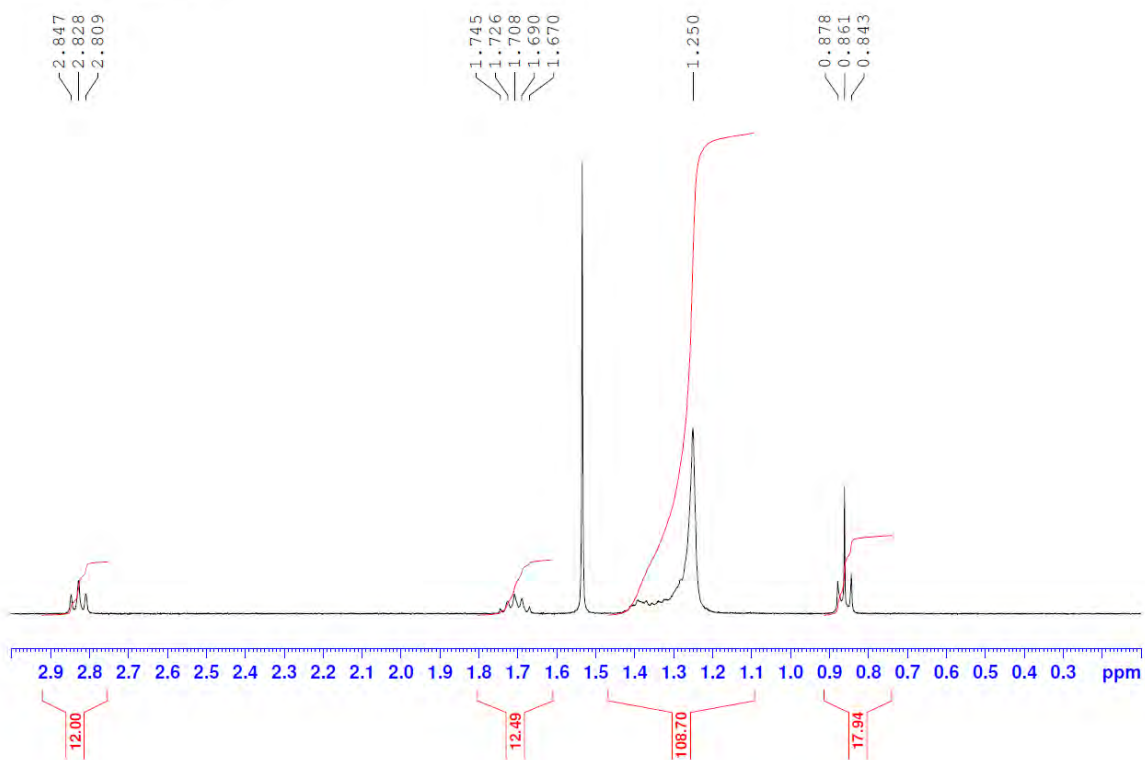
400mhz, Dendrimer 1



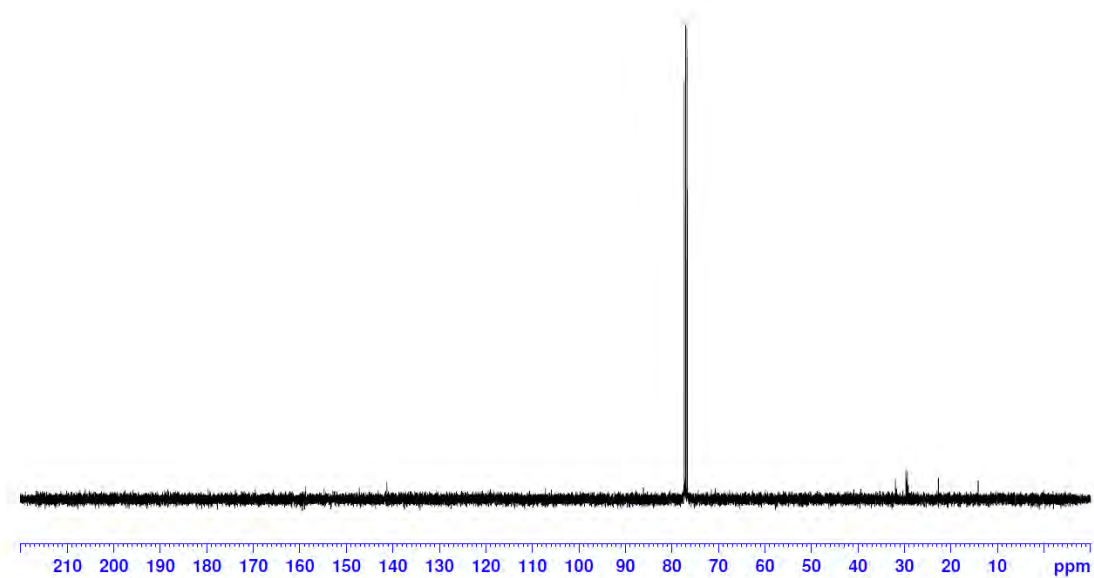
400mhz, Dendrimer 1

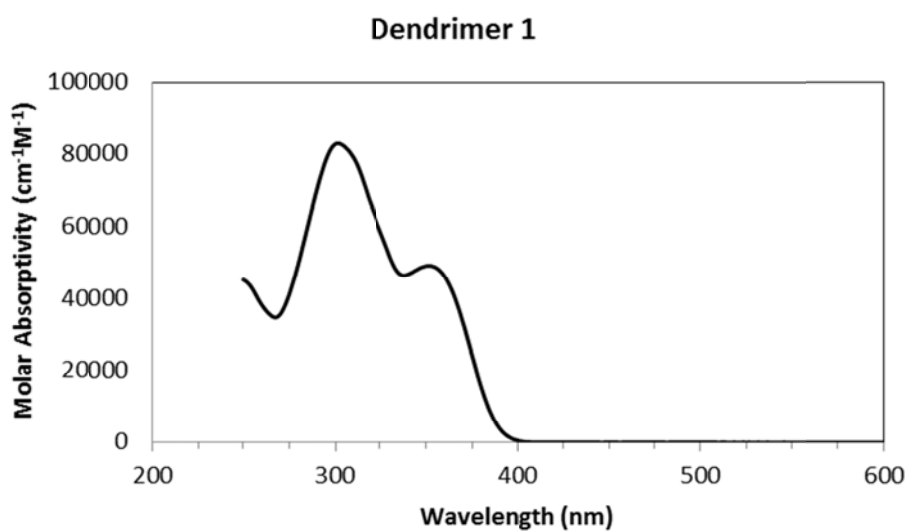
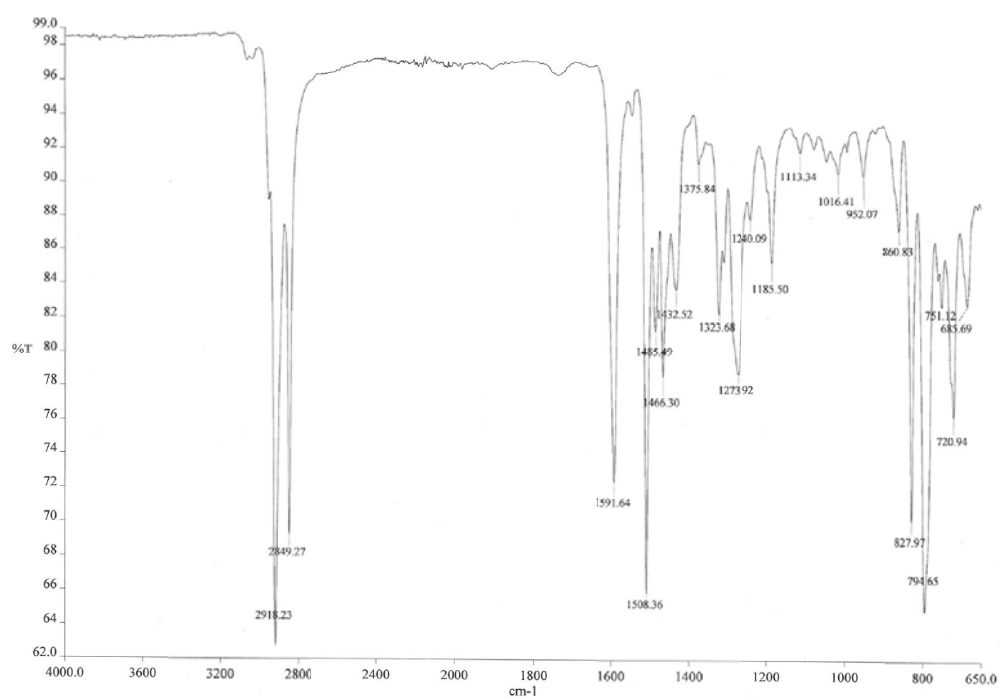
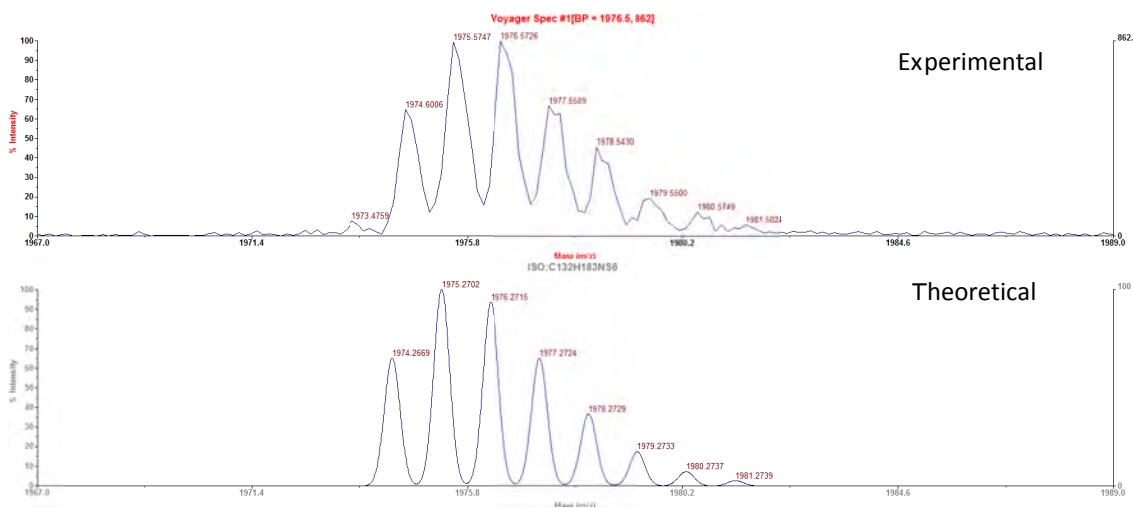


400mhz, Dendrimer 1

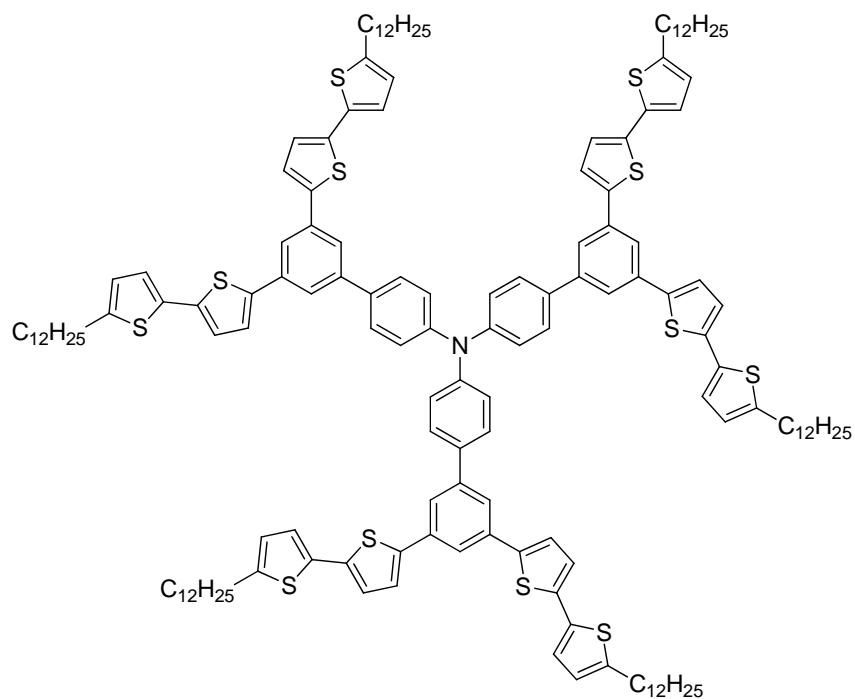


100 Mhz, Dendrimer 1





Dendrimer 2, 2

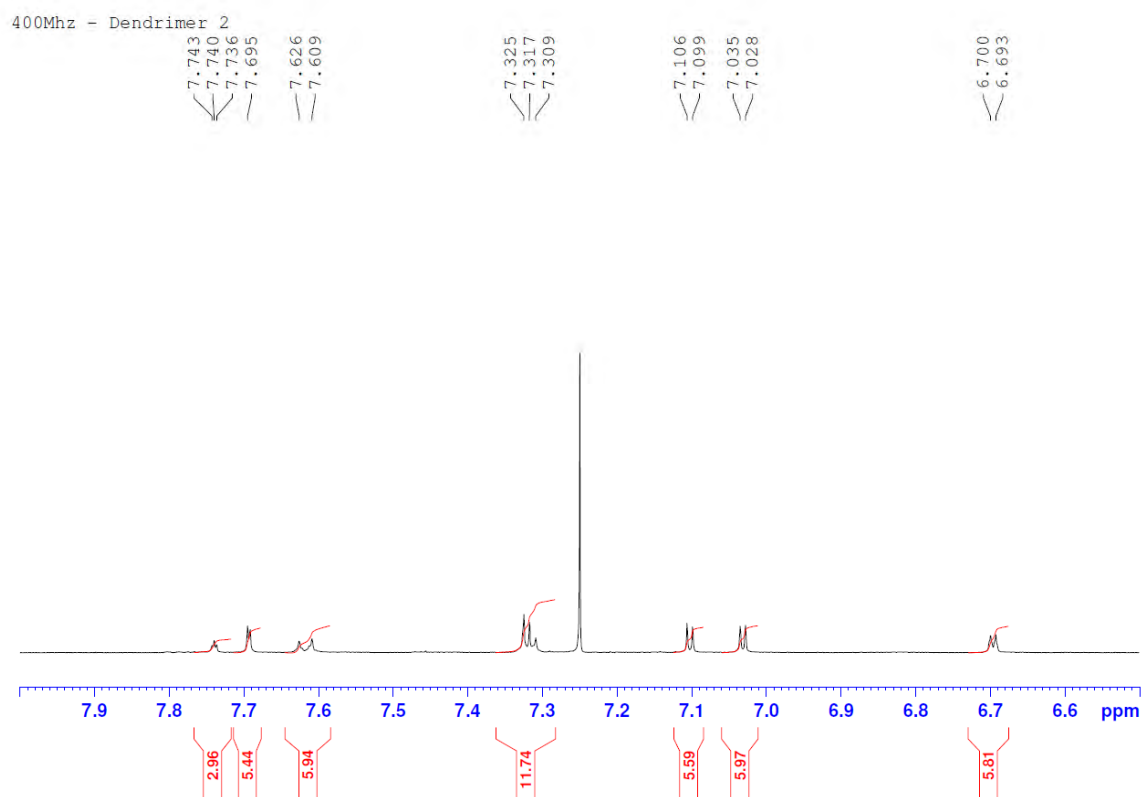
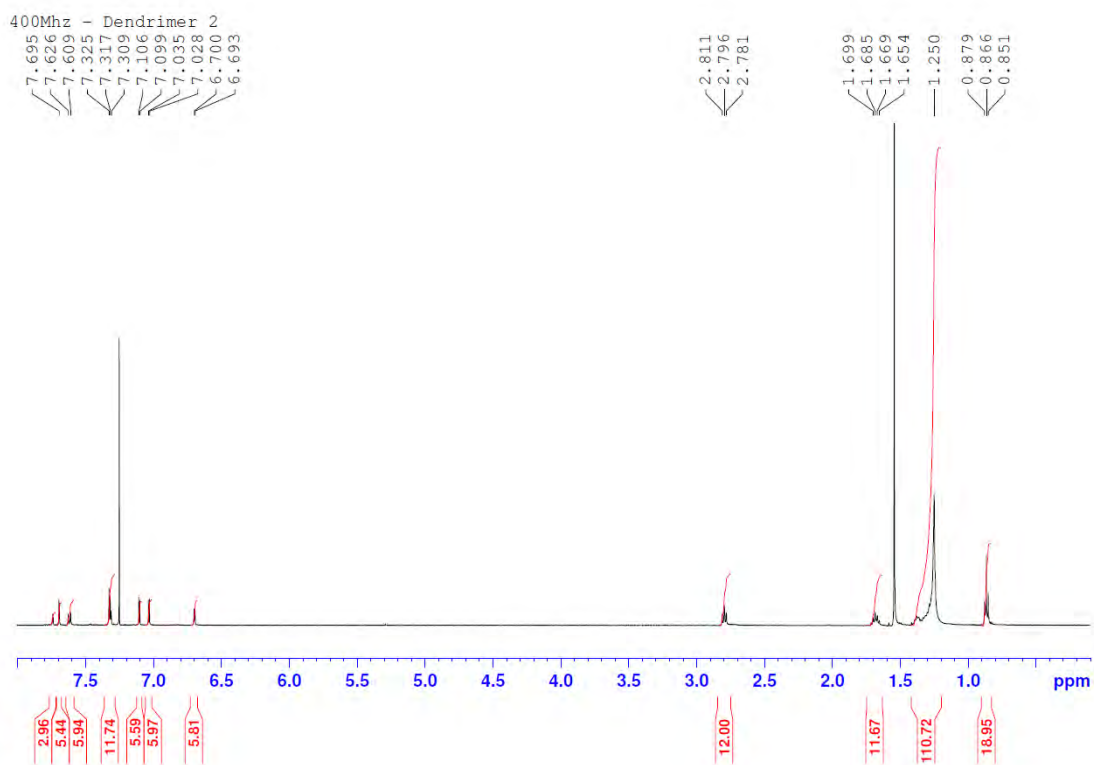


Chemical Formula: C₁₅₆H₁₉₅NS₁₂

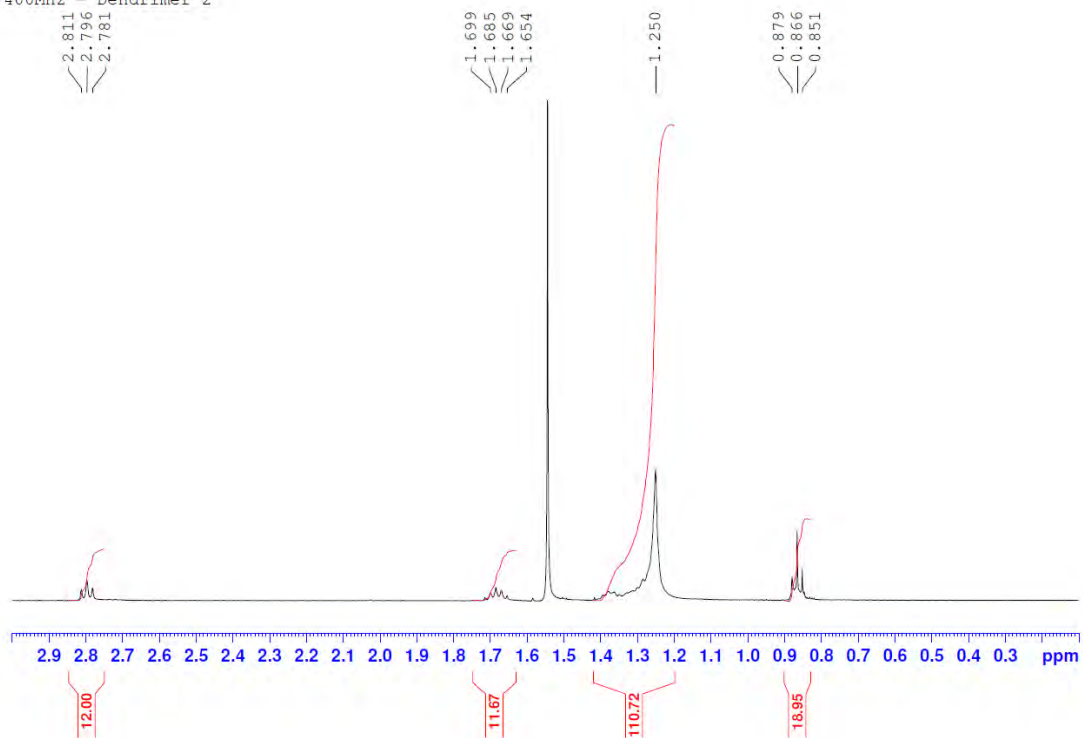
Molecular Weight: 2469.0

m/z: 2468.2 (100.0%), 2469.2 (89.7%), 2467.2 (83.4%), 2470.2 (66.5%), 2466.2 (46.1%), 2471.2 (42.3%), 2472.2 (23.7%), 2473.2 (11.9%), 2474.2 (5.4%), 2475.2 (2.2%)

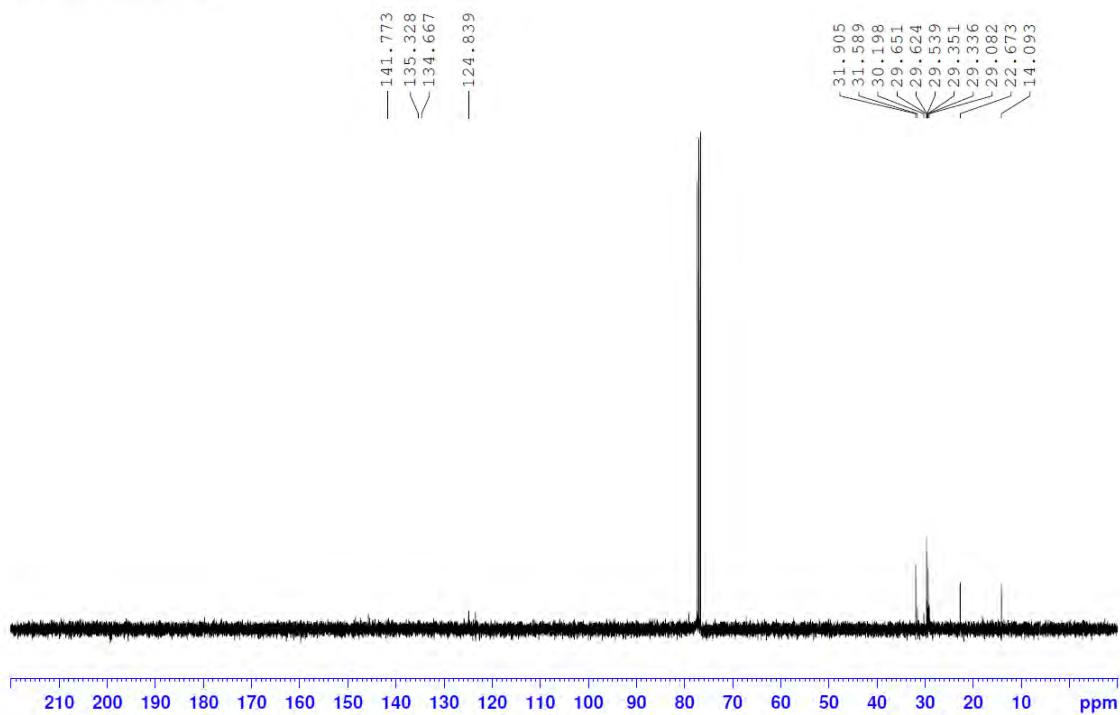
Elemental Analysis: C, 75.89; H, 7.96; N, 0.57; S, 15.58

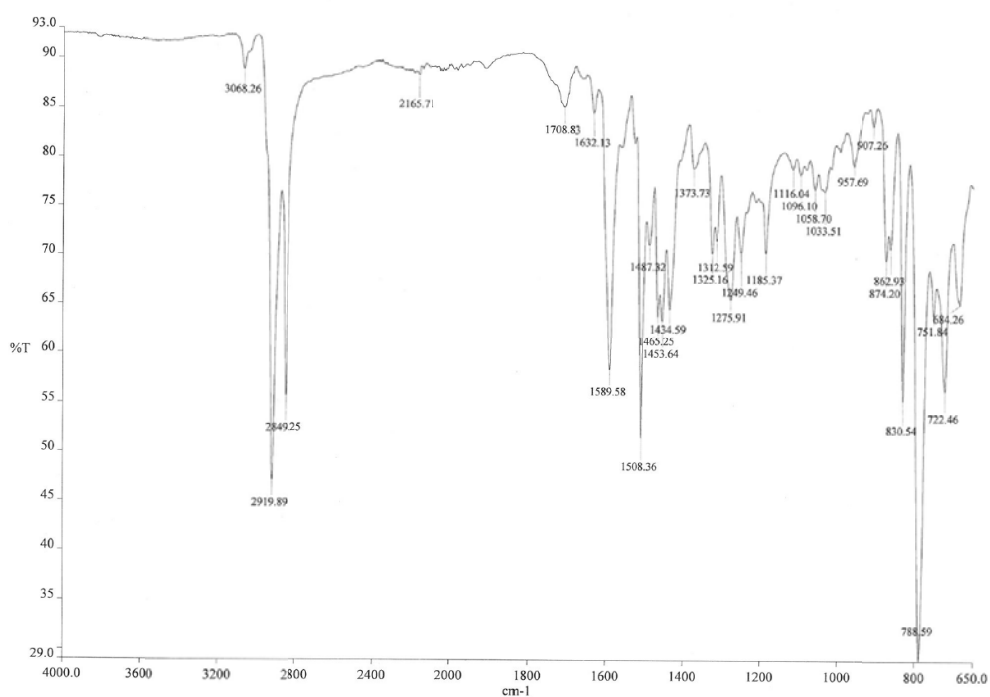
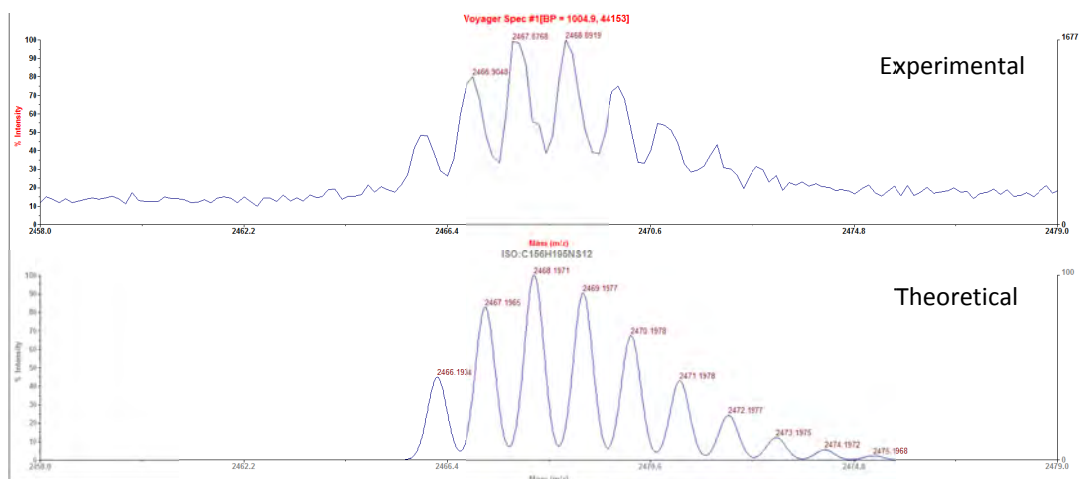


400Mhz - Dendrimer 2

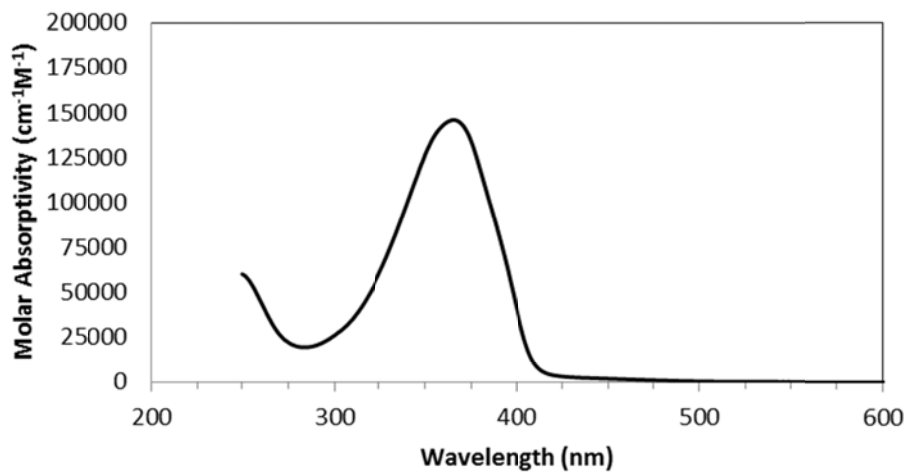


400 Mhz, Dendrimer 2

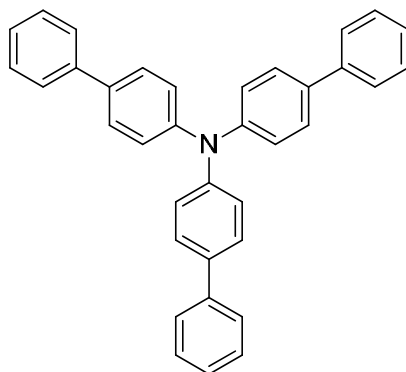




Dendrimer 2



Tribiphenylamine, **7**



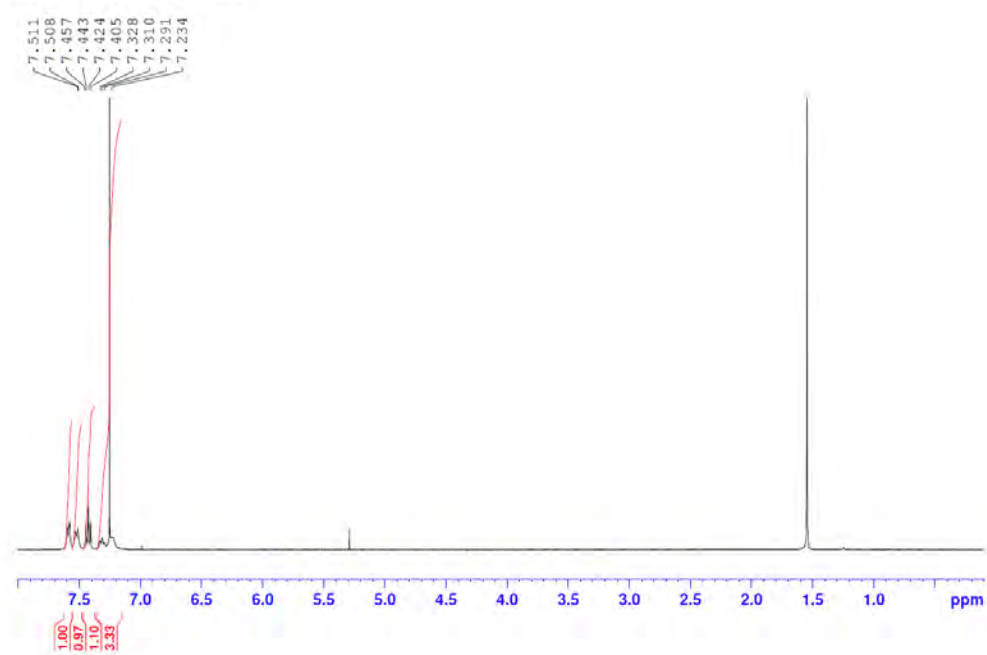
Chemical Formula: $C_{36}H_{27}N$

Molecular Weight: 473.6

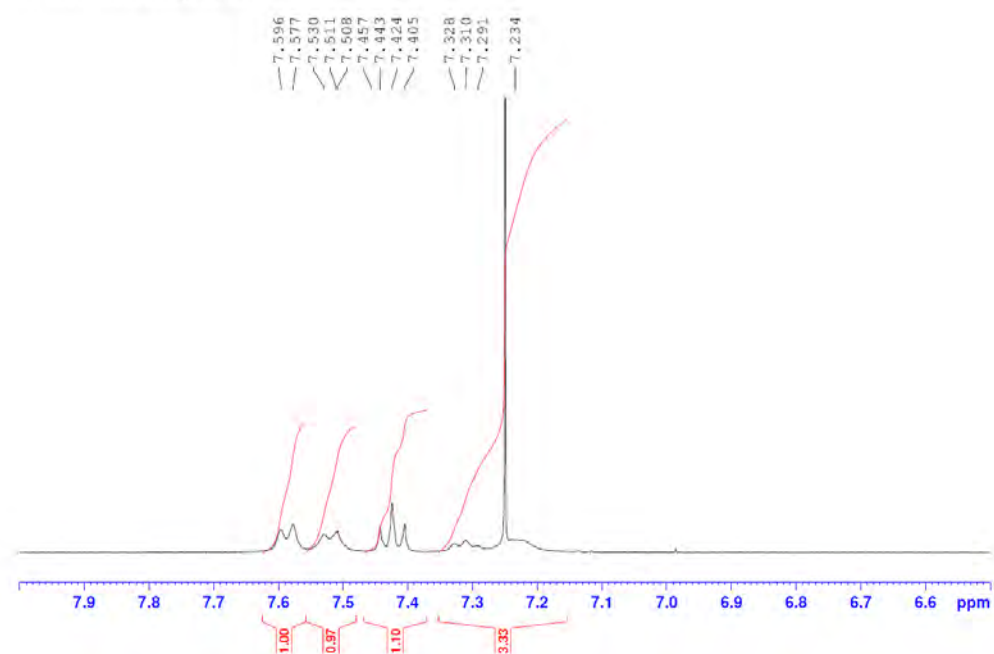
m/z: 473.2 (100.0%), 474.2 (39.6%), 475.2 (7.6%)

Elemental Analysis: C, 91.30; H, 5.75; N, 2.96

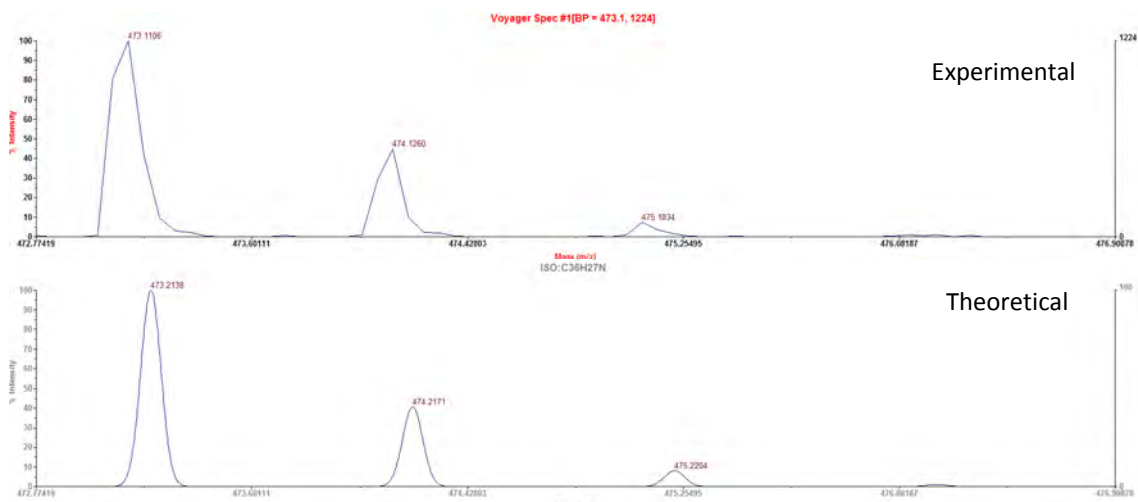
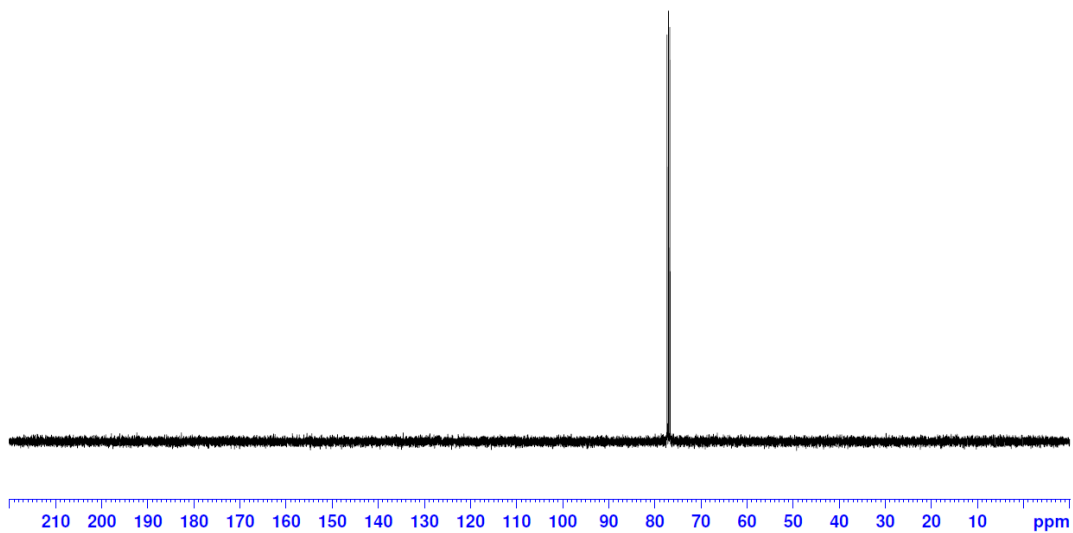
400 Mhz, tribiphenylamine

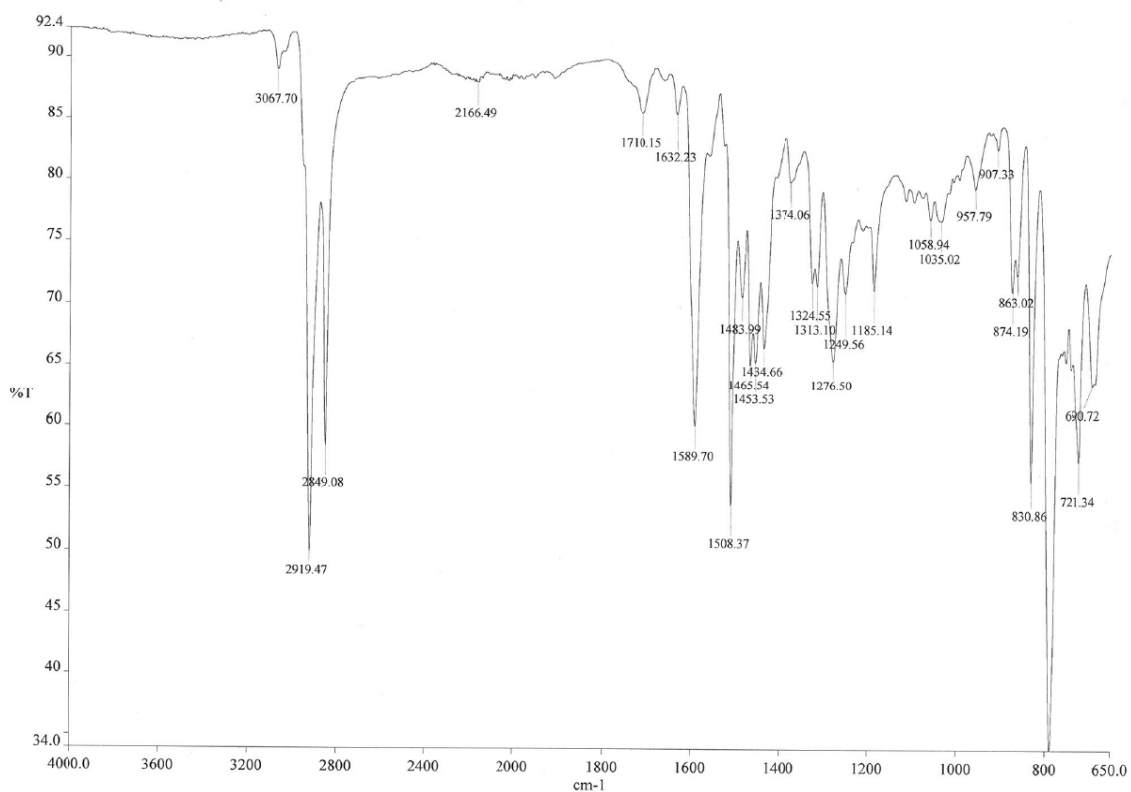


400 Mhz, tribiphenylamine



100 Mhz, tribiphenylamine





Tribiphenylamine

