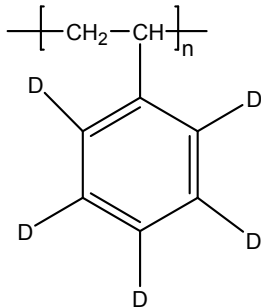


Sample Name: Deuterated Polystyrene (d<sub>5</sub>)

Sample #: P40556-d5PS

Structure:



Composition:

|                      |      |
|----------------------|------|
| Mn x 10 <sup>3</sup> | PDI  |
| 48.0                 | 1.05 |

Synthesis Procedure:

Deuterated polystyrene-d<sub>5</sub> is obtained by living anionic polymerization of high purity styrene-d<sub>5</sub> monomer.

Characterization:

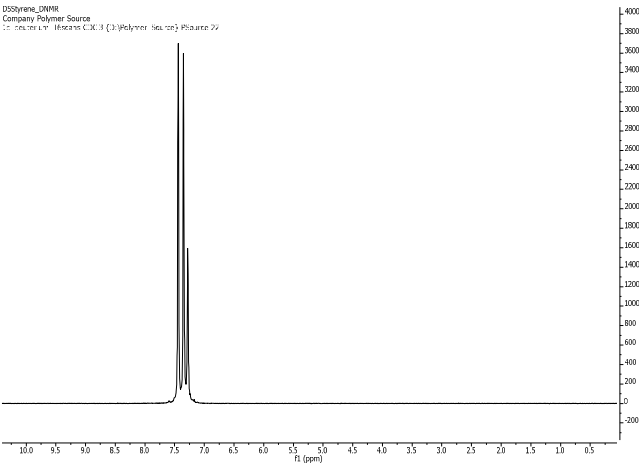
The molecular weight and polydispersity index (PDI) are obtained by size exclusion chromatography (SEC) in DMF. SEC analysis was performed on a Varian liquid chromatograph equipped with refractive and light scattering detectors from Viscotek Co. Three SEC columns from Supelco (G6000-4000-2000 HXL) were used.

Solubility:

Deuterated polystyrene-d<sub>5</sub> is soluble in DMF, THF, toluene and CHCl<sub>3</sub>. It precipitates from methanol, ethanol, water and hexanes.

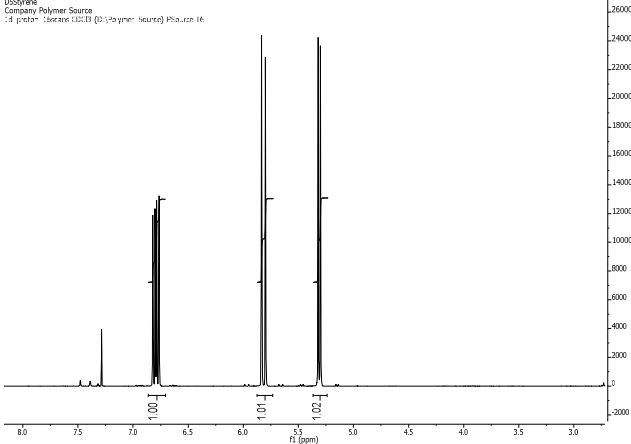
D<sup>2</sup> NMR of d<sub>5</sub>-Styrene Monomer:

D5styrene\_DMRH  
Company Polymer Source  
-d5 styrene - Source: C1011 (D5-Styrene - Source) P40556-29



<sup>1</sup>H NMR of d<sub>5</sub>-Styrene Monomer:

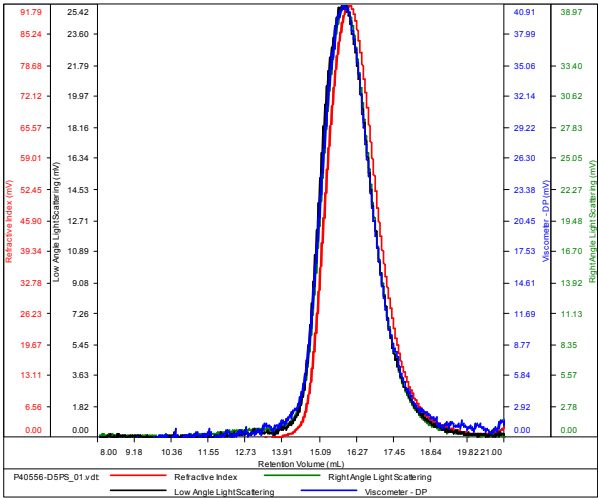
D5styrene  
Company Polymer Source  
-d5 styrene - Source: C1011 (D5-Styrene - Source) P40556-16



SEC of d<sub>5</sub>-Styrene Homopolymer:

P40556-d5PS

|           |                          |
|-----------|--------------------------|
| Conc      | 6.5310                   |
| dn/dc     | 0.1650                   |
| Solvent   | DMF w 0.023M LiBr        |
| Flow Rate | 0.7000                   |
| Method    | PS80k-March2017-0002.vcm |



| Sample             | Mn     | Mw     | Mp     | Mw/Mn | IV     |
|--------------------|--------|--------|--------|-------|--------|
| P40556-D5PS_01.vdt | 47,667 | 49,925 | 48,420 | 1.047 | 0.1365 |