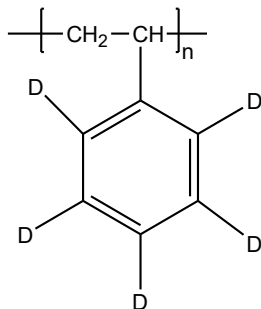


**Sample Name: Deuterated Polystyrene (d<sub>5</sub>)**

**Sample #: P40553-d5PS**

**Structure:**



**Composition:**

Mn x 10 <sup>3</sup>	PDI
120.0	1.45

**Synthesis Procedure:**

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

**Characterization:**

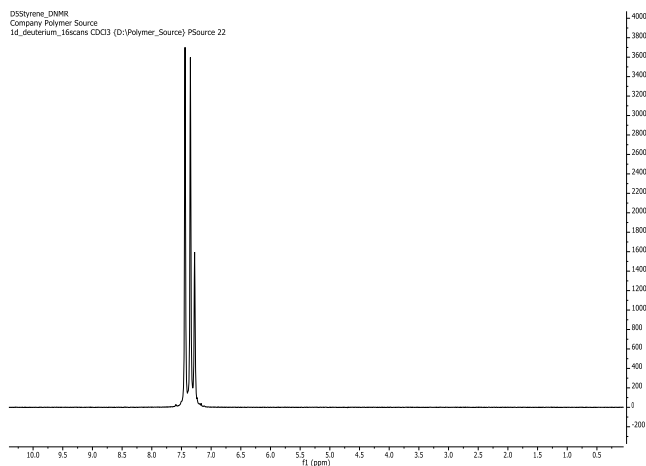
The molecular weight and polydispersity index (PDI) are obtained by size exclusion chromatography (SEC) in DMF. SEC analysis was performed on a Varian liquid chromatograph equipped with refractive and light scattering detectors from Viscotek Co. Three SEC columns from Supelco (G6000-4000-2000 HXL) were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

**Solubility:**

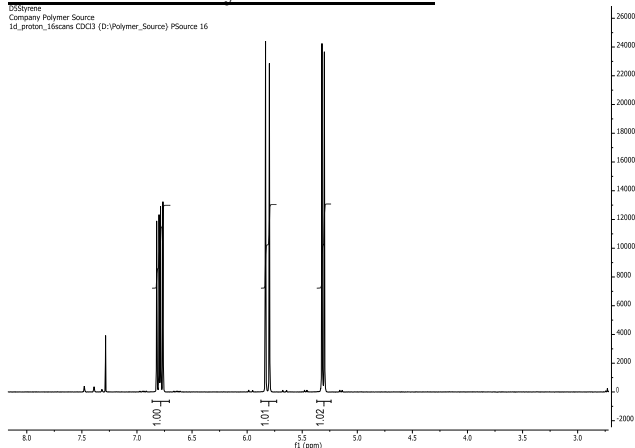
Deuterated polystyrene-d<sub>5</sub> is soluble in DMF, THF, toluene and CHCl<sub>3</sub>. It precipitates from methanol, ethanol, water and hexanes.

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

D5Styrene\_DNMR  
Company Polymer Source  
14\_deuterium\_16scans CDCl3 (D1-Polymer\_Source) PSource 22



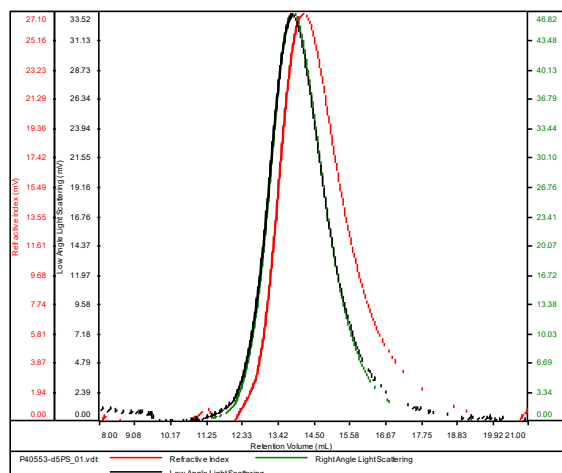
**<sup>1</sup>H NMR of d<sub>5</sub>-Styrene Monomer:**



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

**P40553-d5PS**

Conc	2.4597
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
P40553-d5PS_01.vdt	120,103	176,311	188,676	1.468	0.3441