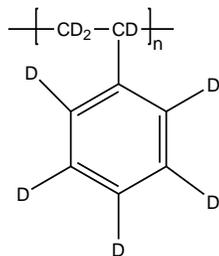


**Sample Name: Deuterated Polystyrene (d<sub>8</sub>)**

**Sample #: P8797-dPS**

**Structure:**

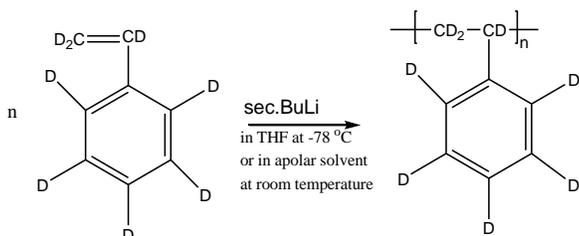


**Composition:**

Mn x 10 <sup>3</sup>	PDI
215.0	1.10

**Synthesis Procedure:**

Deuterated polystyrene-d<sub>8</sub> is obtained by living anionic polymerization of styrene-d<sub>8</sub> as illustrated below:



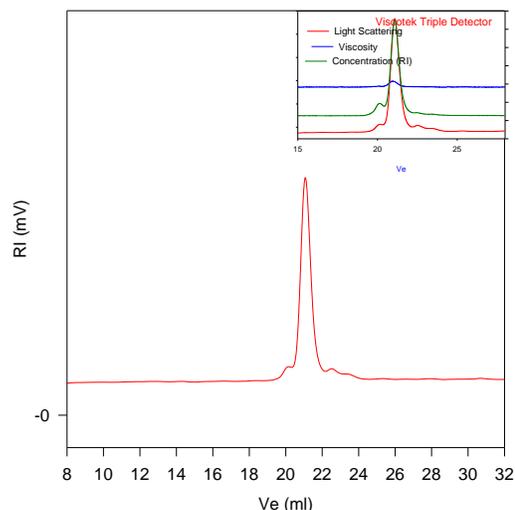
**Characterization:**

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

**Solubility:**

Deuterated polystyrene-d<sub>8</sub> is soluble in DMF, THF, toluene and CHCl<sub>3</sub>. It precipitates from methanol, ethanol, water, and hexanes.

**SEC profile of Homopolymer:  
P8797-dPS**



Size Exclusion Chromatography of deuterated polystyrene (d8)

— M<sub>n</sub> = 215,000, M<sub>w</sub> = 236,500, M<sub>w</sub>/M<sub>n</sub> = 1.10  
Light Scattering data: dn/dc in THF at 35 °C: 0.185 ml/g  
Solution Viscosity in THF at 35 °C: 1.137 dl/g  
R<sub>gw</sub>: 20.05 nm