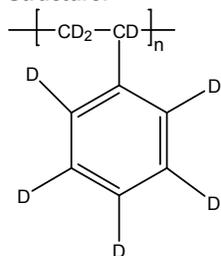


## Sample Name: Deuterated Polystyrene (d<sub>8</sub>)

Sample #: P4337-dPS

### Structure:

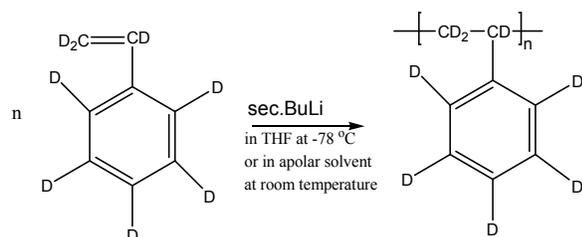


### Composition:

Mn x 10 <sup>3</sup>	PDI
115.0	1.09

### Synthesis Procedure:

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



### Characterization:

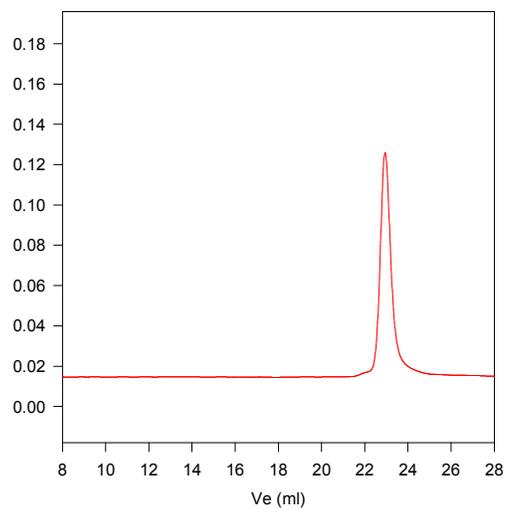
The molecular weight and polydispersity index (PDI) are obtained by size exclusion chromatography (SEC) in THF. SEC analysis was performed on a Varian liquid chromatograph equipped with refractive and UV light scattering detectors from Viscotek Co. Three SEC columns from Supelco (G6000-4000-2000 HXL)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

### Solubility:

Deuterated polystyrene-d<sub>8</sub> is soluble in DMF, THF, toluene and  $\text{CHCl}_3$ . It precipitates from methanol, ethanol, water and hexanes.

### SEC of Homopolymer:

P4337-dPS



Size exclusion chromatograph of deuterated polystyrene (d<sub>8</sub>):

$M_n=115000$ ,  $M_w=125000$ ,  $PI=1.09$

Solution viscosity in THF at  $30^\circ\text{C}$ : 0.643 dl/g Radius of Gyration: 13.8nm