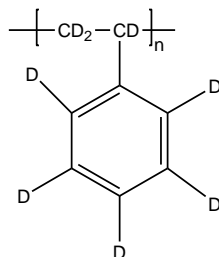


Sample Name: Deuterated Polystyrene (d₈)

Sample #: P8797-dPS

Structure:

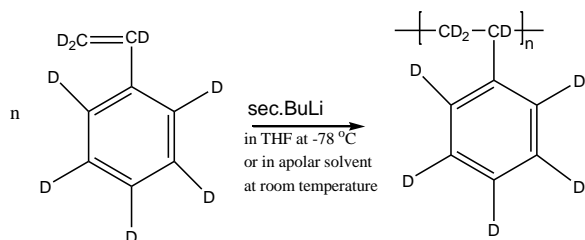


Composition:

Mn x 10 ³	PDI
215.0	1.10

Synthesis Procedure:

Deuterated polystyrene-d₈ is obtained by living anionic polymerization of styrene-d₈ as illustrated below:



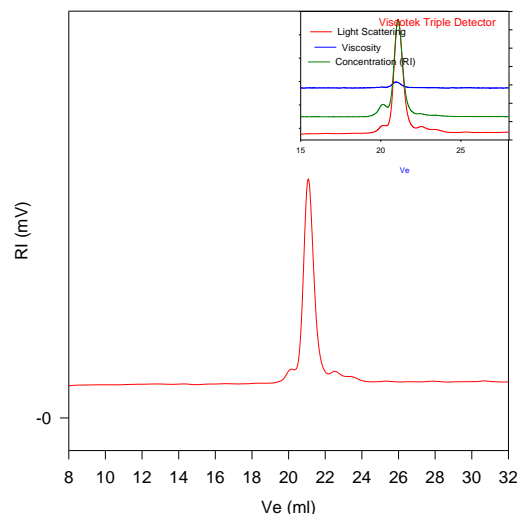
Characterization:

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-d₈ is soluble in DMF, THF, toluene and CHCl₃. It precipitates from methanol, ethanol, water, and hexanes.

SEC profile of Homopolymer:
P8797-dPS



Size Exclusion Chromatography of deuterated polystyrene (d₈)

— M_n = 215,000, M_w = 236,500, M_w/M_n = 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_{gw}: 20.05 nm