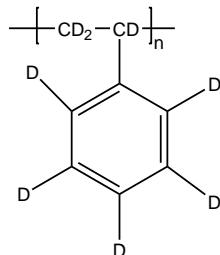


Sample Name: Deuterated Polystyrene (d₈)

Sample #: P9380-dPS

Structure:

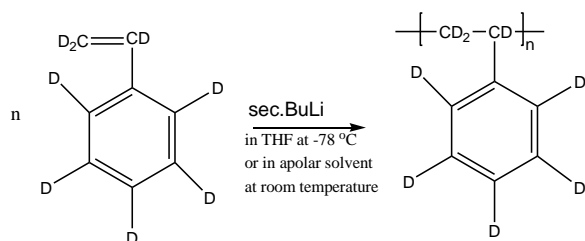


Composition:

Mn x 10 ³	PDI
220.0	1.15

Synthesis Procedure:

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



Characterization:

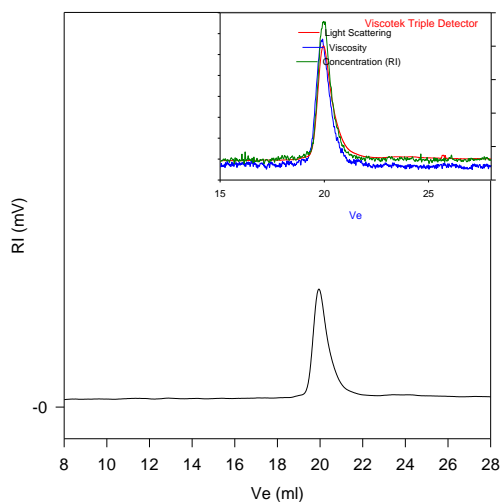
The molecular weight and polydispersity index (PDI) are obtained by size exclusion chromatography (SEC) in THF. SEC analysis was performed on a Varian liquid chromatograph equipped with refractive and UV light scattering detectors from Viscotek Co. Three SEC columns from Supelco (G6000-4000-2000 HXL)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

Solubility:

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

SEC of Homopolymer:

P9380-dPS



Size Exclusion Chromatography of deuterated polystyrene (d₈)

— M_n = 220,000, M_w = 253,000, M_w/M_n = 1.15

Light Scattering data: dn/dc in THF at 35 °C: 0.188 ml/g

Solution Viscosity in THF at 35 °C: 1.134 dl/g

R_{gw}: 21.82 nm