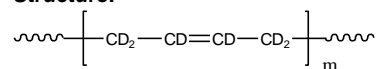


**Sample Name: Deuterated poly butadiene
—deuterated rich in 1,4 addition**

Sample #: P5912-dPBd

Structure:

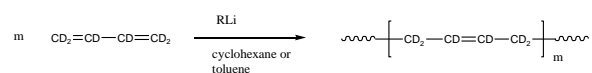


Composition:

$M_n \times 10^3$	PDI
1,500.0	1.3

Synthesis Procedure:

Deuterated polybutadiene —d₆ is obtained by living anionic polymerization of d₆ butadiene monomer:



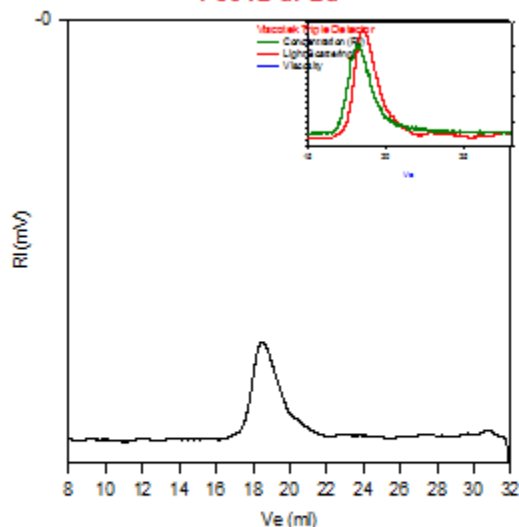
Characterization:

The molecular weight and polydispersity index (PDI) of the deuterated poly butadiene 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: Polymer is soluble in toluene, THF, CHCl₃.

SEC profile of the product:

P5912-dPBd



Size exclusion chromatography of deuterated polybutadiene(d₆)

(rich in 1,4 microstructure):

$M_n = 1,500,000$, $M_w = 2,089,000$, $M_w/M_n = 1.3$

Solution viscosity in THF at 35 °C: 7.993 dL/g

dn/dc in THF at 35 °C: 0.127 mL/g Rgr: 86.50 nm