

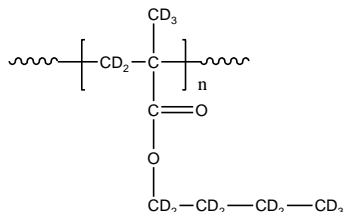
**Sample Name:** Poly(d14 n-butylmethacrylate)

**SEC of Homopolymer:**

**P6397-d14PnBuMA**

**Sample #:** P6397-d14PnBuMA (D%>98%)

**Structure:**

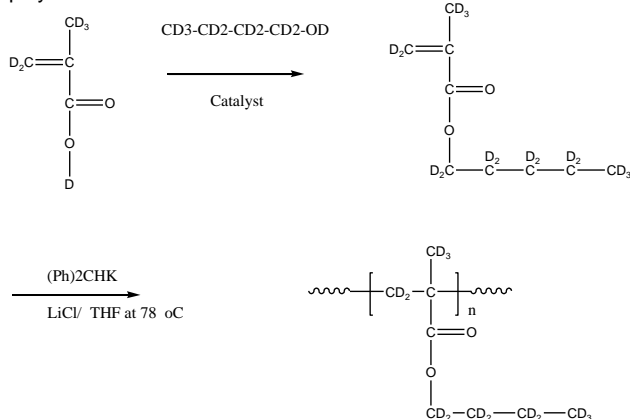


**Composition:**

Mn x 10 <sup>3</sup>	PDI
15.0	1.06

**Synthesis Procedure:**

Deuterated poly(d14 n-butyl methacrylate) is obtained by living anionic polymerization using diphenyl methyl potassium as initiator. The polymerization of d14 nBuMA monomer is carried out in THF at -78 °C in the presence of LiCl as additive. The polymerization scheme can be illustrated as follows:

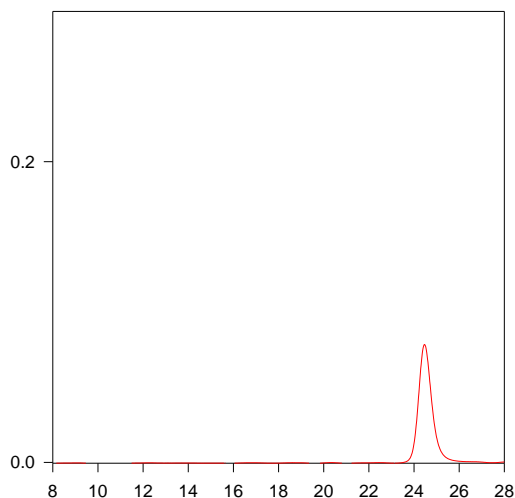


**Characterization:**

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. Three SEC columns from Supelco (G6000-4000-2000 HXL) were used with triple detectors from Viscotek Co. <sup>1</sup>H NMR analysis was carried out on Varian instrument at 500MHz.

**Solubility:**

Deuterated poly(n-butyl methacrylate)-d<sub>14</sub> is soluble in THF, CHCl<sub>3</sub>, toluene and dioxane. The polymer precipitates from hexanes, methanol and ethanol.



Size Exclusion Chromatography of Deuterated Poly(n-butyl methacrylate)-d<sub>14</sub>:

M<sub>n</sub> = 15000, M<sub>w</sub> = 16000, M<sub>w</sub>/M<sub>n</sub> = 1.06

**H NMR of the Polymer:**

