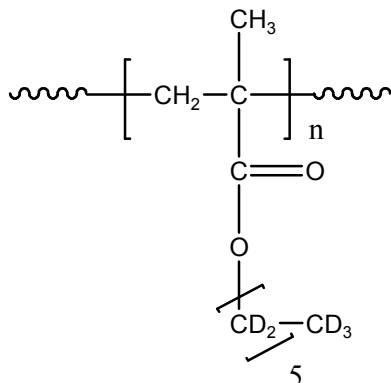


**Sample Name:** Poly(d13 n-Hexylmethacrylate)

**Sample #:** P8906-d13PnHMA

**Ester moiety deuterated**

**Structure:**

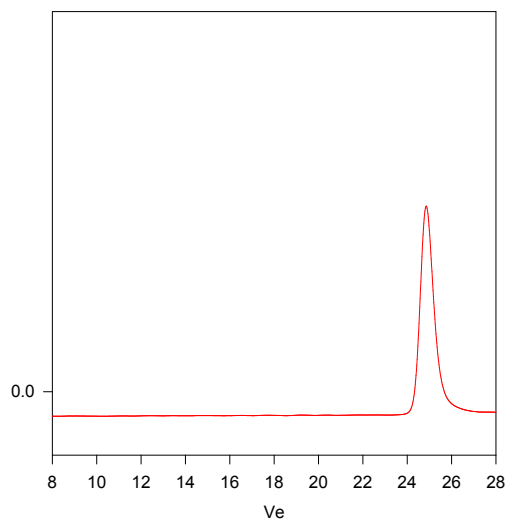


**Composition:**

Mn x 10 <sup>3</sup>	PDI
14.5	1.06

**SEC of Homopolymer:**

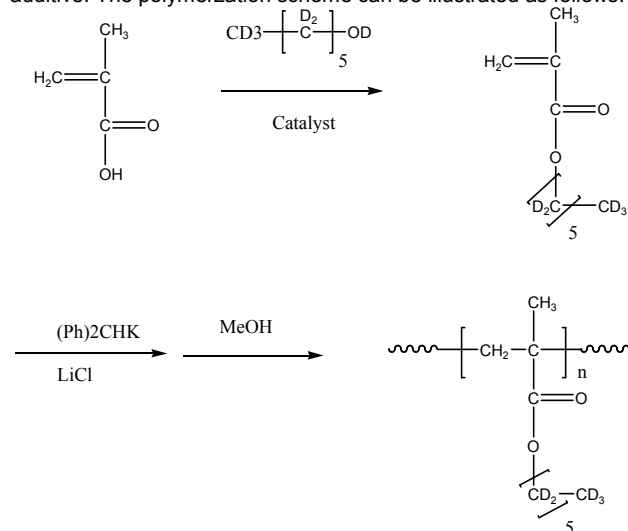
**P8906-d13 PnHMA**



Size Exclusion Chromatography of Deuterated Poly(n-Hexyl methacrylate)-d13:  
 $M_n = 14500$ ,  $M_w = 15400$ ,  $M_w/M_n = 1.06$

**Synthesis Procedure:**

Deuterated d13 poly(n-hexyl methacrylate) (ester group deuterated) is obtained by living anionic polymerization using (Ph)<sub>2</sub>CHK as initiator. The polymerization of d13 nHMA 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 d13 poly(n-hexyl methacrylate) is soluble in THF, CHCl<sub>3</sub>, toluene and dioxane. The polymer precipitates from hexanes, methanol and ethanol.