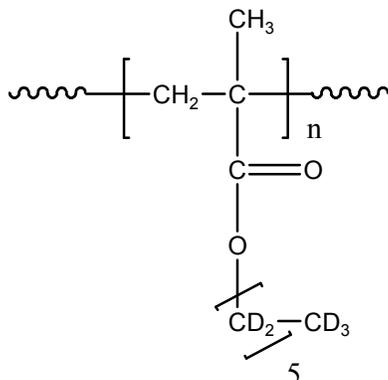


Sample Name: Poly(d13 n-Hexylmethacrylate)

Sample #: P8906-d13PnHMA
Ester moiety deuterated

Structure:

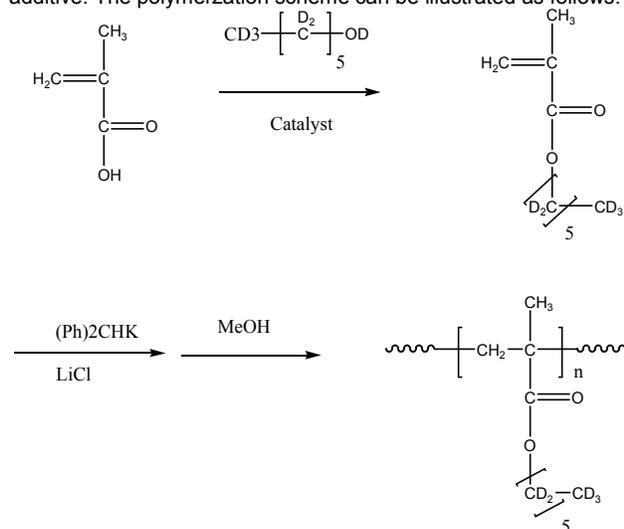


Composition:

M _n x 10 ³	PDI
14.5	1.06

Synthesis Procedure:

Deuterated d13 poly(n-hexyl methacrylate) (ester group deuterated) is obtained by living anionic polymerization using (Ph)₂CHK 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:

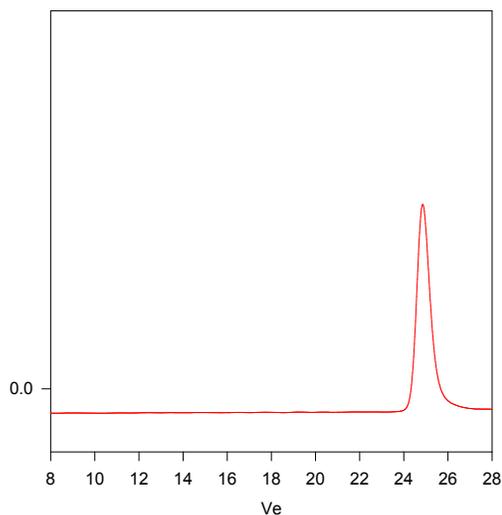
The molecular weight and polydispersity index (PDI) are obtained by size exclusion chromatography (SEC) in THF. SEC analysis was performed on a Varian liquid chromatograph equipped with refractive and UV light scattering detectors. Three SEC columns from Supelco (G6000-4000-2000 HXL) were used with triple detectors from Viscotek Co. ¹H NMR analysis was carried out on Varian instrument at 500MHz.

Solubility:

Deuterated d18 poly(n-hexyl methacrylate) is soluble in THF, CHCl₃, toluene and dioxane. The polymer precipitates from hexanes, methanol and ethanol.

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