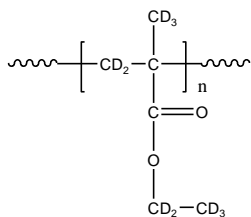


Sample Name: Poly(d10 ethyl methacrylate)

Sample #: P6398-d10PEtMA

Structure:

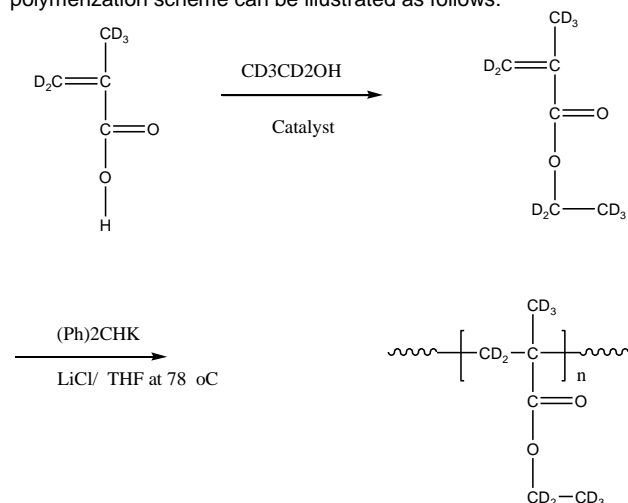


Composition:

Mn x 10 ³	PDI
17.0	1.06

Synthesis Procedure:

Deuterated poly(d10-ethylmethacrylate) is obtained by living anionic polymerization using diphenyl methyl potassium as initiator. The polymerization of d10 EtMA 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:

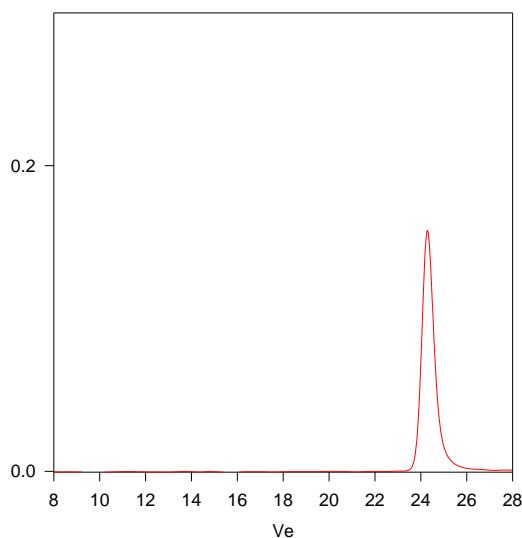
The molecular weight and polydispersity index (PDI) are obtained by size exclusion chromatography (SEC) in THF. SEC analysis was performed on a Varian liquid chromatograph equipped with refractive and UV light scattering detectors. Three SEC columns from Supelco (G6000-4000-2000 HXL) were used with triple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

Solubility:

Deuterated (d10) poly(ethyl methacrylate)-d₁₀ is soluble in THF, CHCl₃, toluene and dioxane. The polymer precipitates from hexanes, methanol and ethanol.

SEC of Homopolymer:

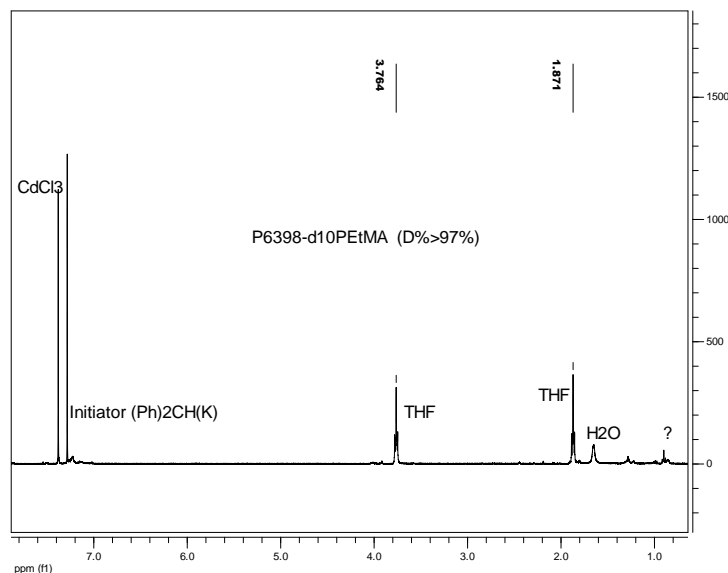
P6398-d10PEtMA



Size Exclusion Chromatography of Deuterated Poly(ethyl methacrylate)-d₁₀:

M_n = 17000, M_w = 18000, M_w/M_n = 1.06

H NMR of the Polymer:



Deuterated Monomer:

