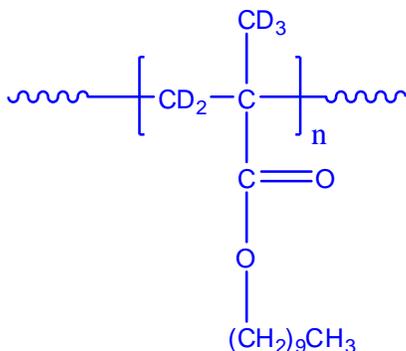


Sample Name:
Partially Deuterated (d5) Poly(n-decyl methacrylate)

Sample #: P6405-d5PDCMA

Structure:

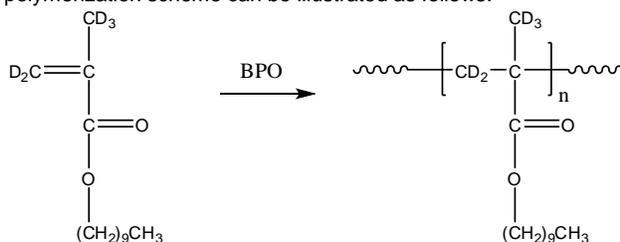


Composition:

Mn x 10 ³	PDI
48.0	3.2

Synthesis Procedure:

Deuterated poly(n-decyl methacrylate)-d5 is obtained by free-radical polymerization using BPO as initiator. The polymerization of d5 DCMA monomer is carried out in alcohol at 78 °C. The polymerization scheme can be illustrated as follows:



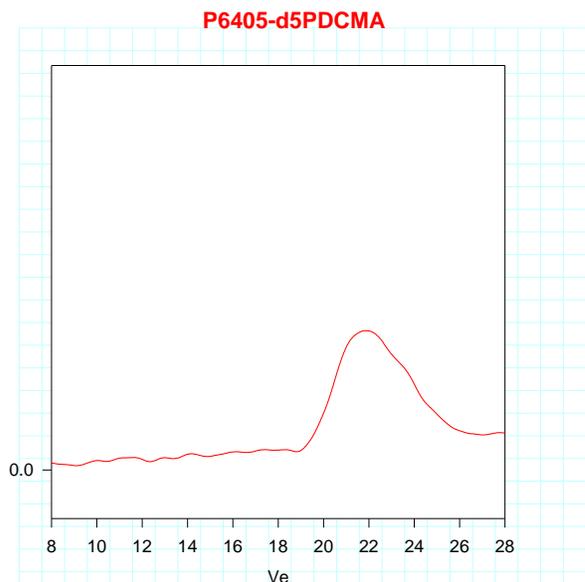
Characterization:

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 poly(n-decyl methacrylate)-d5 is soluble in THF, CHCl₃, toluene, dioxane, hexane. The polymer precipitates from cold methanol and ethanol.

SEC of Homopolymer:



Size Exclusion Chromatography of Deuterated Poly(n-decyl methacrylate)-d5:

M_n = 48000, M_w = 154000, M_w/M_n = 3.2