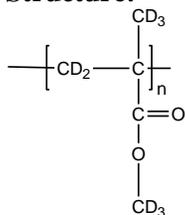


Sample Name: Poly (methyl methacrylate)-d₈

SEC of Homopolymer:

Sample #: P3668-dPMMA

Structure:

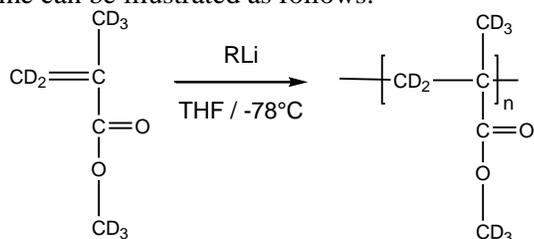


Composition:

Mn x 10 ³	PDI
12.5	1.04

Synthesis :

Deuterated poly (methyl methacrylate)-d₈ is obtained by living anionic polymerization using sec.BuLi as initiator end capped with a unit of diphenyl ethylene or few units of α-methylstyrene. The polymerization of MMA 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:

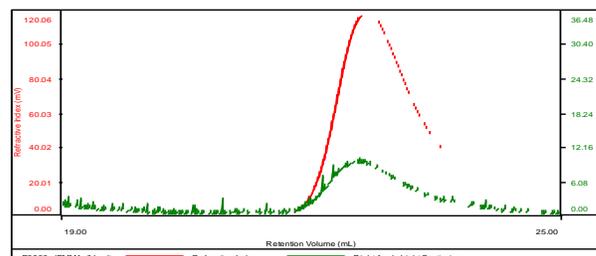
The molecular weight and polydispersity index (PDI) are obtained by size exclusion chromatography (SEC) in THF. SEC analysis was performed on a Varian liquid chromatograph equipped with refractive and UV light scattering detectors. Three SEC columns from Supelco (G6000-4000-2000 HXL) were used with triple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

Solubility:

Deuterated poly(methyl methacrylate)-d₈ is soluble in THF, CHCl₃, toluene and dioxane. The polymer precipitates from hexanes, methanol and ethanol.

P3668-dPMMA

Concentration (mg/mL)	2.9104
Sample dn/dc (mL/g)	0.0840
Method File	PS80K-Feb2017-0000.vcm
Column Set	3x PL 1113-6300
Solvent	THF



Sample	Mn (Da)	Mw (Da)	Mw/Mn	IV (dL/g)	Mp (Da)
P3668-dPMMA_01.vdt	12,521	12,991	1.038	1.0002	12,607