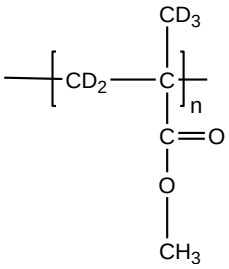
Sample Name:
Deuterated Poly(methyl methacrylate-d5)
Atactic

Sample #: **P42133-d5PMMA**

Structure:

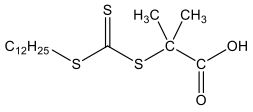


Composition:

Mn x 10^3	PDI
20.0	1.8

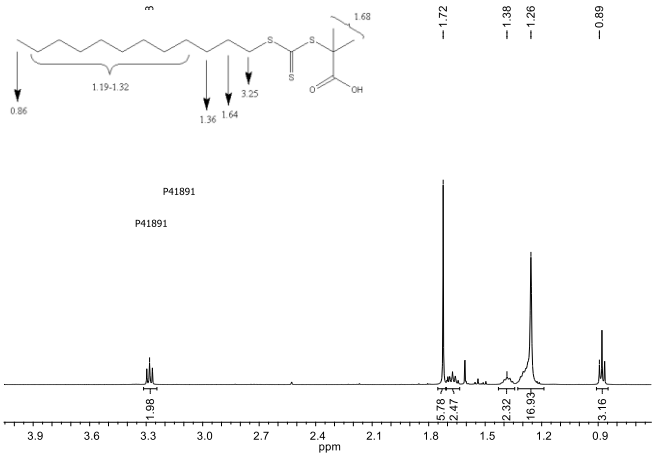
Synthesis Procedure:
Deuterated poly (methyl methacrylate)-d5 is obtained by RAFT polymerization process using following RAFT reagent.

Structure:



Chemical Formula: $C_{17}H_{32}O_2S_3$
Molecular Weight: 364.6

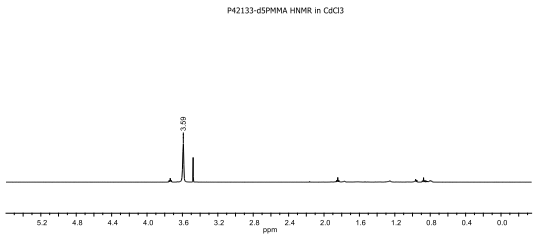
^{1}H NMR of RAFT CTA (500 MHz, DMSO):



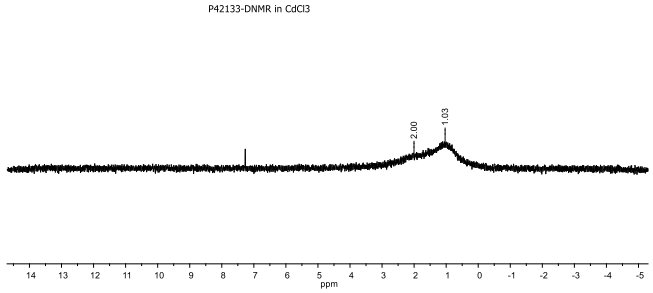
Characterization:
The molecular weight and polydispersity index (PDI) are obtained by size exclusion chromatography (SEC) in THF. SEC analysis was performed on a Varian liquid chromatograph equipped with refractive and UV light scattering detectors. Three SEC columns from Supelco (G6000-4000-2000 HXL)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

Solubility:
Deuterated poly(methyl methacrylate)-d5 is soluble in THF, $CHCl_3$, toluene and dioxane. The polymer precipitates from hexanes, methanol and ethanol.

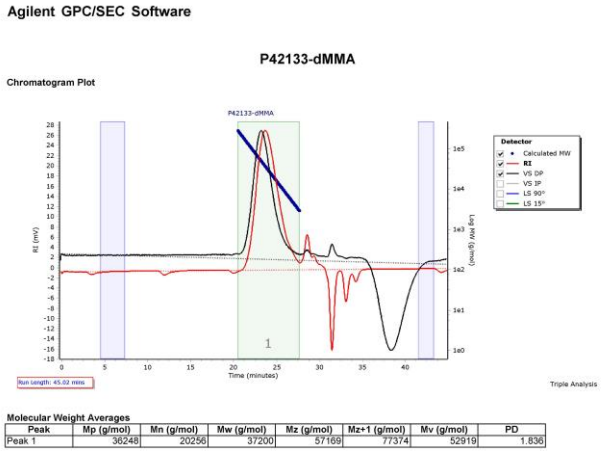
^{1}H NMR of d5PMMA (500 MHz, CdCl3):



^{2}H NMR of d5PMMA (500 MHz, CdCl3):



SEC elugram of Homopolymer:



Molecular Weight Averages

Peak	Mp (g/mol)	Mn (g/mol)	Mw (g/mol)	Mz (g/mol)	Mz+1 (g/mol)	Mv (g/mol)	PD
Peak 1	36248	20256	37200	57169	77374	52919	1.836