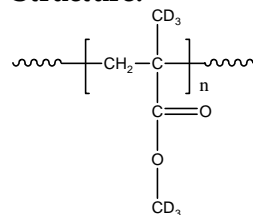


Sample Name: Deuterated Poly(methyl methacrylate)-d₆

Sample #: P14050-d6PMMA

Structure:



Composition:

| | |
|----------------------|-----|
| Mn x 10 ³ | PDI |
| 2.0 | 1.2 |
| T _g (°C) | 79 |

Synthesis Procedure:

Deuterated deuterated methyl α- deuterated methacrylate)-d₆ is obtained by living anionic polymerization using sec.BuLi as initiator end capped with a unit of diphenyl ethylene.

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.

Thermal analysis:

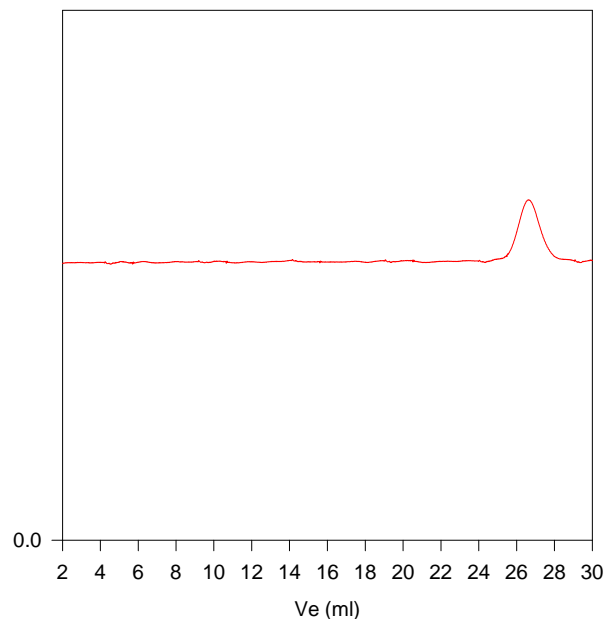
Thermal analysis of the samples was carried out on a TA Q100 DSC at a heating rate of 10 °C/min. The midpoint of the slope change of the heat flow plot of the second heating scan was considered as the glass transition temperature (T_g).

Solubility:

Deuterated poly(methyl methacrylate)-d₆ is soluble in THF, CHCl₃, toluene and dioxane. The polymer precipitates from hexanes, methanol and ethanol.

SEC of Homopolymer:

P14050-d6PMMA



Size exclusion chromatograph of the polymer

M_n=2,000, M_w=2,400, PI=1.2

DSC thermogram for the polymer:

