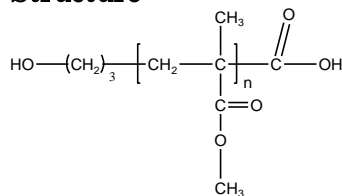


Sample Name:

**$\alpha$ -Hydroxy- $\omega$ -Carboxyl Terminated Poly(methyl methacrylate)**

Sample #: P4144-HOMMACOOH

**Structure:**



**Composition:**

|                              |      |
|------------------------------|------|
| $M_n \times 10^3$            | PDI  |
| 3.0                          | 1.13 |
| $T_g$ ( $^{\circ}\text{C}$ ) | 85   |

**Synthesis Procedure:**

Hydroxyl terminated poly(methyl methacrylate) was prepared by living anionic polymerization using a hydroxyl protected initiator followed by termination with dry  $\text{CO}_2$ .

**Characterization:**

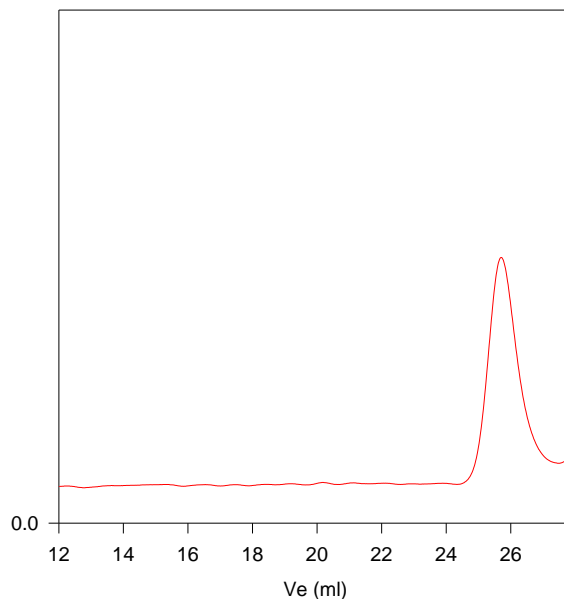
The molecular weight and polydispersity index (PDI) are obtained by size exclusion chromatography (SEC) in THF. SEC analysis was performed on a Varian liquid chromatograph equipped with refractive and UV light scattering detectors. Three SEC columns from Supelco (G6000-4000-2000 HXL) were used with triple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

**Thermal Analysis:**

Thermal analysis of the samples was carried out using a differential scanning calorimeter (TA Q100) at a heating rate of  $10^{\circ}\text{C}/\text{min}$ . The inflection glass transition temperature ( $T_g$ ) of the sample has been considered.

**Solubility:**

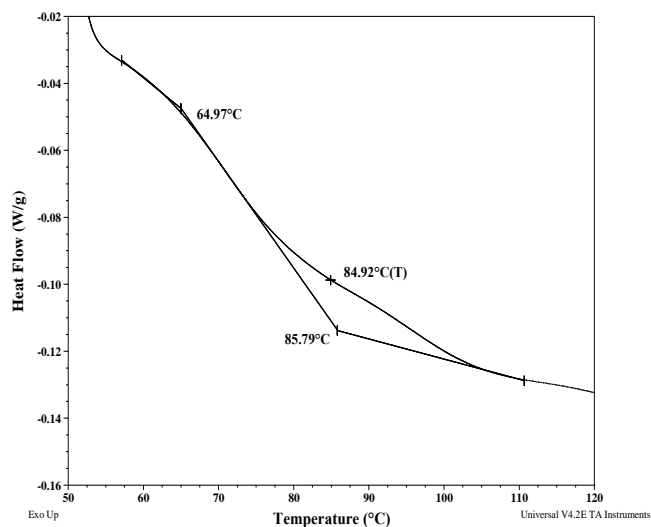
Polymer is soluble in DMF, THF, toluene and  $\text{CHCl}_3$ . It precipitates from methanol, ethanol, water and hexanes



Size exclusion chromatograph of Poly methyl methacrylate before termination with  $\text{CO}_2$ :

$M_n=3,000$ ,  $M_w=3,400$ ,  $\text{PI}=1.13$

**DSC thermogram for the polymer:**



**SEC of Sample:**