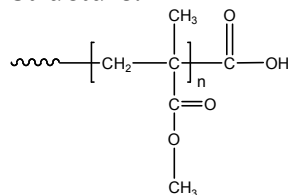


**Sample Name:**  
Carboxy Terminated Poly(methyl methacrylate)

**Sample #: P1762-MMACOOH**

**Structure:**



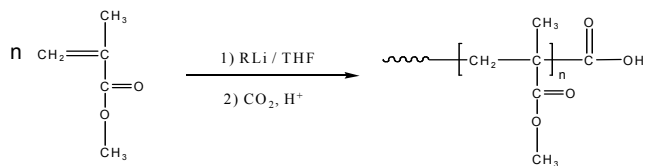
**Composition:**

**Composition:**

$M_n \times 10^3$	PDI
8.5	1.12
COOH functionality	40%
$T_g$ for the functionalized polymer	123°C

**Synthesis Procedure:**

Carboxy Terminated Poly(methyl methacrylate) was prepared by anionic living polymerization of methyl methacrylate in THF and termination of the polymerization with dried  $\text{CO}_2$ . The scheme of the reaction is illustrated below:



**Characterization:**

The molecular weight and polydispersity index of this polymer were determined by size exclusion chromatography (SEC) using a Varian liquid chromatograph equipped with a UV and refractive index detector before the addition of the  $\text{CO}_2\text{H}$  function.

**Thermal analysis:**

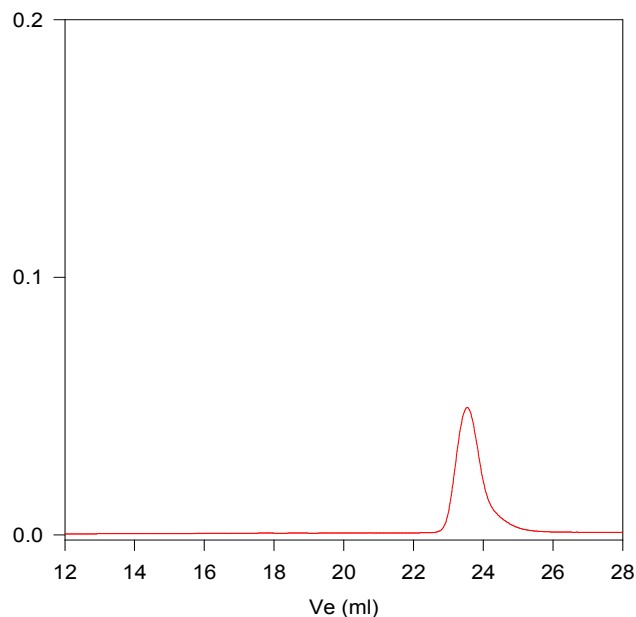
Thermal analysis of the samples was carried out using a differential scanning calorimeter (TA Q100) at a heating rate of  $10^\circ\text{C}/\text{min}$ . The inflection glass transition temperature ( $T_g$ ) has been considered.

**Solubility:**

The polymer is soluble in THF, Toluene, chloroform and acetone etc.

**SEC of Sample:**

**P1762-MMACOOH**



Size exclusion chromatography of poly(methyl methacrylate) (before terminating reaction with  $\text{CO}_2$ ).

$M_n=8500$ ,  $M_w=9500$  PI=1.12, functionality=0.40

**DSC thermogram for the functional polymer:**

