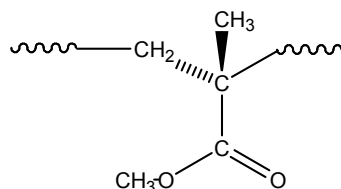


**Sample Name:** Carboxy terminated Poly(isotactic methyl methacrylate)

**Sample #:** P3614-iMMACOOH

**Structure:**

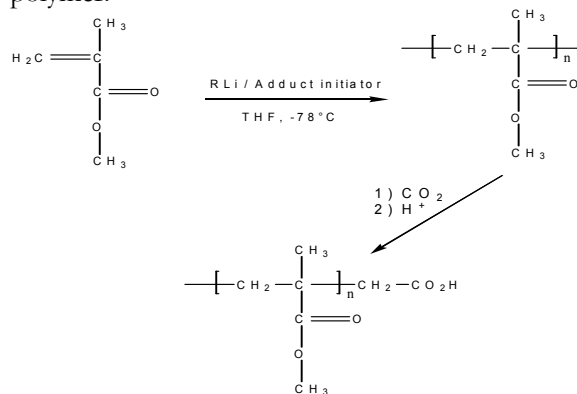


**Composition:**

Mn x 10 <sup>3</sup>	PDI
2.2	1.19
Degree of functionality	98%
T <sub>g</sub> for the polymer	26°C

**Synthesis Procedure:**

Carboxy terminated poly(methyl methacrylate) is obtained by living anionic polymerization in the presence of an adduct. Termination of the reaction with dried CO<sub>2</sub> produced a carbonyl end functionalized polymer:



**Characterization:**

The molecular weight and polydispersity index (PDI) are obtained by size exclusion chromatography. The carboxyl functionality is determined by acid-base titration.

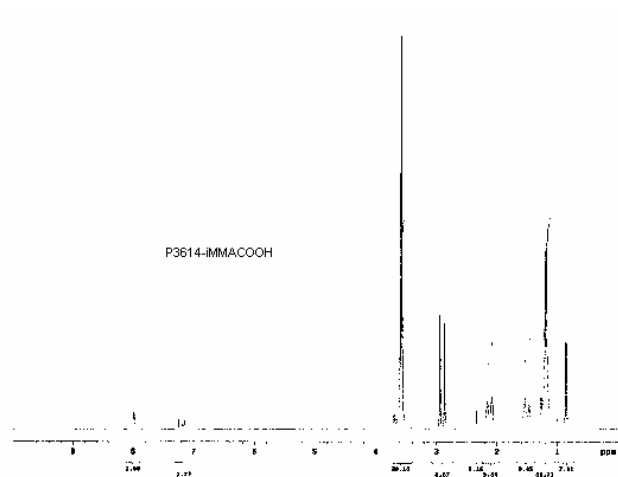
**Thermal analysis:**

Thermal analysis of the samples was carried out using a differential scanning calorimeter (TA Q100) at a heating rate of 10°C/min. The inflection glass transition temperature (T<sub>g</sub>) has been considered.

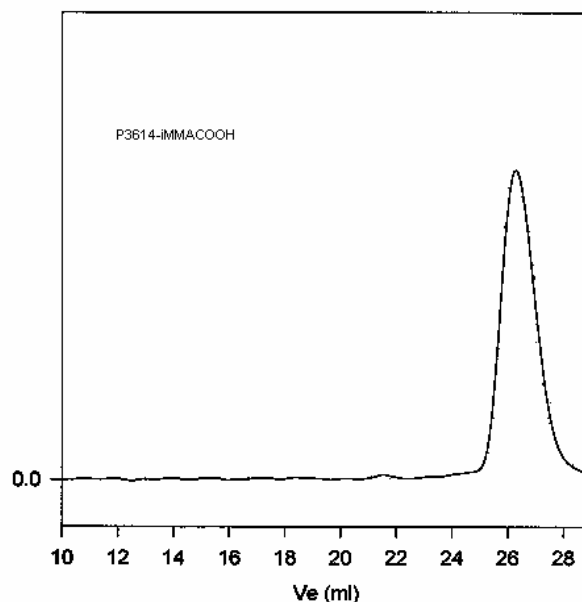
**Solubility:**

Poly(methyl methacrylate) is soluble in THF, CHCl<sub>3</sub>, toluene and dioxane. The polymer precipitates from hexanes, cold methanol and cold ethanol. The polymer may be soluble in methanol at room temperature depending on its molecular weight.

**<sup>1</sup>H NMR of the polymer:**



**SEC of Polymer:**



Size exclusion chromatography of carboxy terminated poly(methyl methacrylate) before terminating with CO<sub>2</sub>

M<sub>n</sub>=2200, M<sub>w</sub>=2500, PI=1.10, functionality>0.98%

**DSC thermogram for the sample:**

