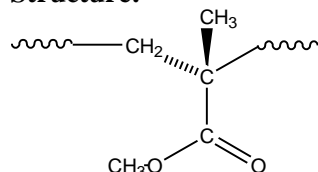


Sample Name: Carboxy terminated Poly (isotactic methyl methacrylate)

Sample #: P3619-iMMACOOH

Structure:

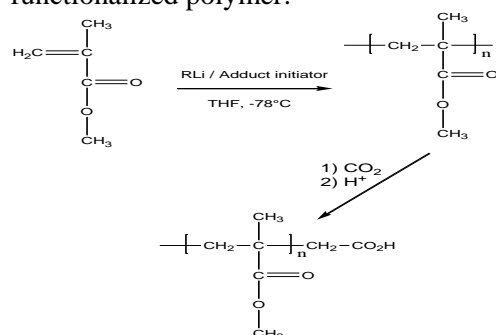


Composition:

Mn x 10 ³	PDI
5.5	1.10
Degree of functionality	90%
T _g for the polymer	48°C

Synthesis Procedure:

Carboxy terminated poly (methyl methacrylate) is obtained by living anionic polymerization. Termination of the reaction with dried CO₂ 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.

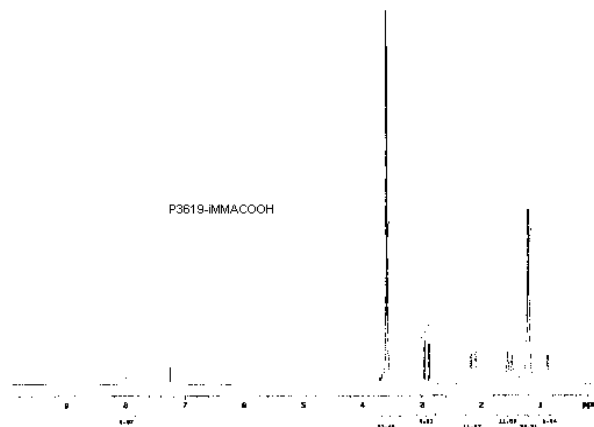
Thermal analysis:

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_g) has been considered.

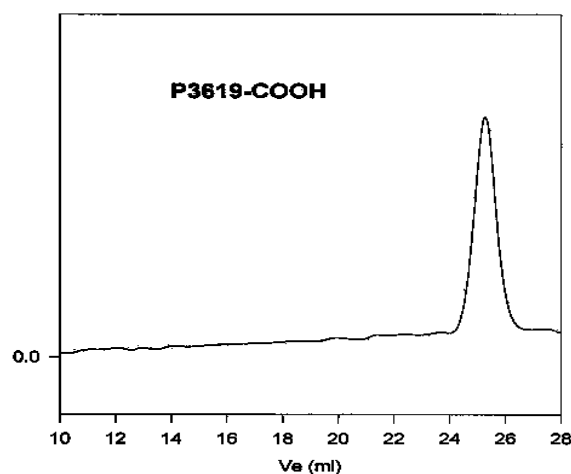
Solubility:

Poly (methyl methacrylate) is soluble in THF, CHCl₃, 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.

¹H NMR of the polymer:



SEC of Polymer:



Size exclusion chromatography of carboxy terminated poly(methyl methacrylate) before terminating with CO₂

M_n=5500, M_w=6000, PI=1.10, functionality>0.90%

DSC thermogram for the sample:

