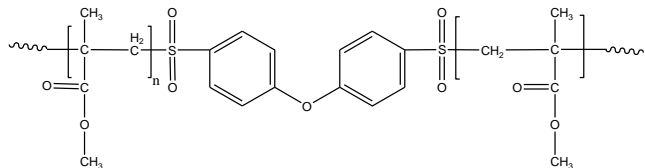


Different microstructures

Sample #: P10896A-MMA

Structure:



Composition:

Mn x 10 ³	PDI
5.5	1.2
T _g (°C)	104°C
Microstructure of PMMA block	S:H:I contents 55:37:8

Synthesis Procedure:

Tacticity of the poly(methyl methacrylate) is tailored by anionic polymerization of MMA monomer in different polarity solvents mixture and using different ligands.

Characterization:

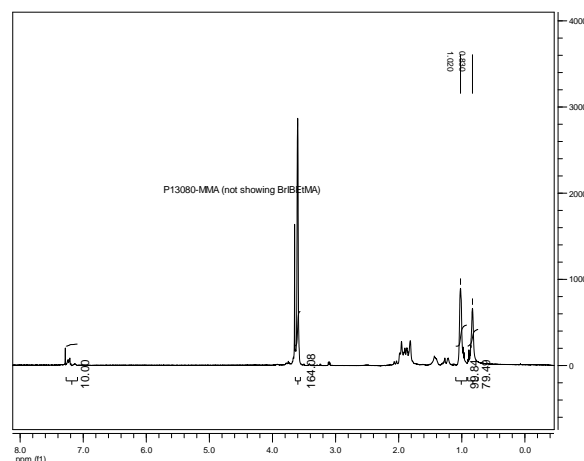
The molecular weight and polydispersity index (PDI) are obtained by size exclusion chromatography (SEC) in THF. SEC analysis was performed on a Varian liquid chromatograph equipped with refractive and UV light scattering detectors. Three SEC columns from Supelco (G6000-4000-2000 HXL) were used with triple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

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) of the sample has been considered.

Solubility:

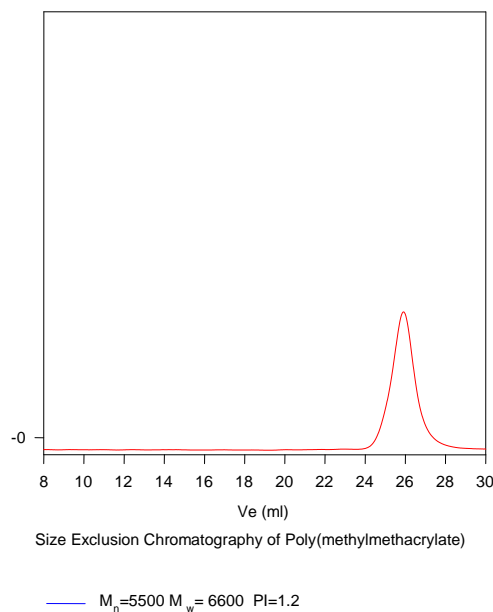
The polymer is soluble in chloroform.

¹H NMR of the Polymer:

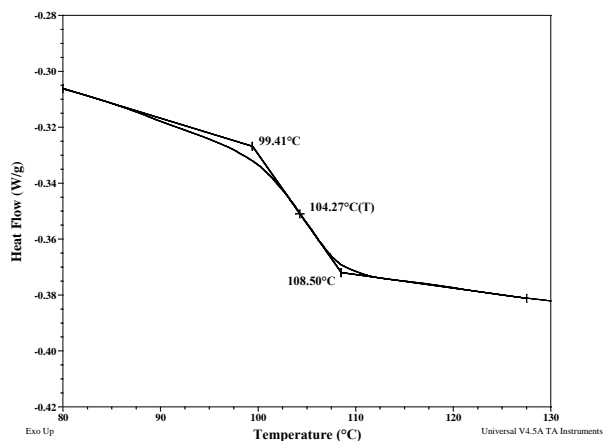


SEC for the polymer:

P10896A-MMA



DSC thermogram for the polymer:

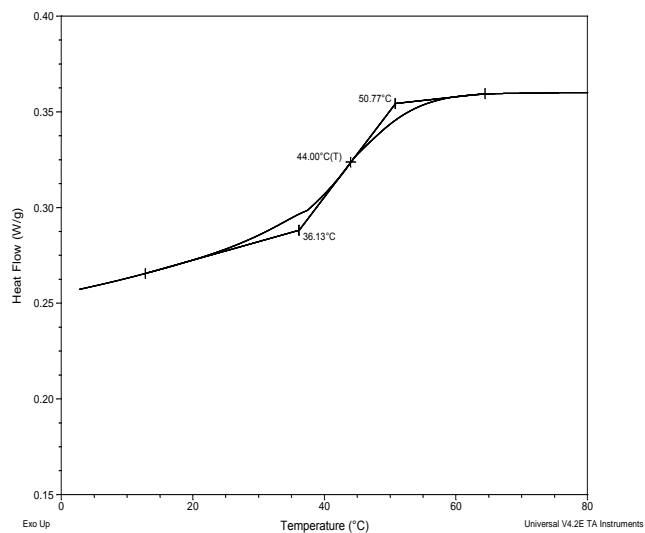


Thermograms of PMMA

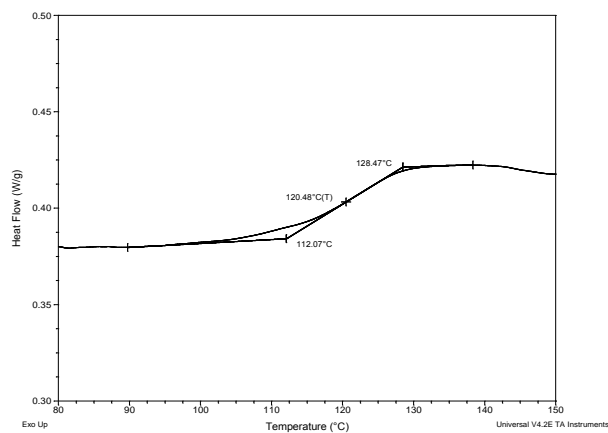
(a) Syndiotactic content >79%; (b). Syndiotactic content >85%; (c). Isotactic >97% & (d). Atactic

Type of microstructure	Microstructure ratio% Syn:Iso:Het tacticity	T _g (°C)
Syndiotactic content >79%	79: 19: 2	120
Syndiotactic content >85%	86: 0 : 14	123
Isotactic (iso content>97%)	0: 97 :3	44
Atactic	56: 6 :38	97

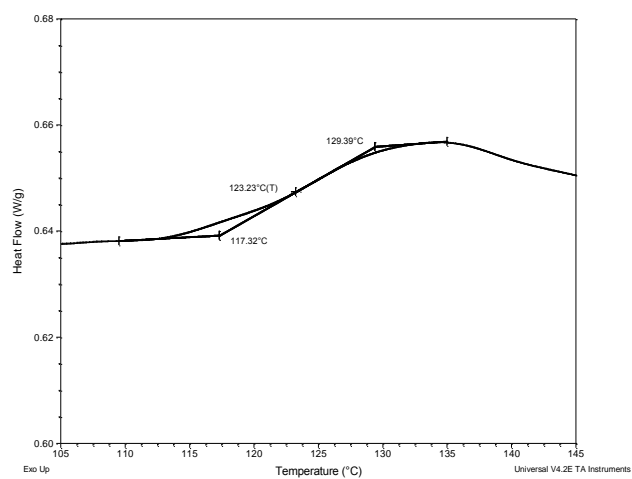
(c)



(a).



(b)



(d)

