

Product Profile

Identification

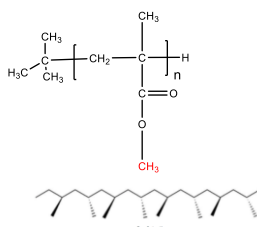
Product Name: Poly(methyl methacrylate), atactic (different tacticity ratio)

CAS Number : 9011-14-7

Product Lot Number: P45007E2-MMA

Linear Formula: $(C_5H_8O_2)_n$

Product Chemical Architecture:



Composition:

Mn x 10 ³	Mw/Mn (PDI)	Microstructure of Polymer by ¹ H NMR (<i>syn:hetero:iso</i>)
15.0	2.0	10:35:55

Method of Synthesis

Using Grignard catalyst

Solubility in different solvents

THF	✓		
CHCl ₃	✓	Acetone	✓
Toluene-Hot	✓		

Purification of Polymer:

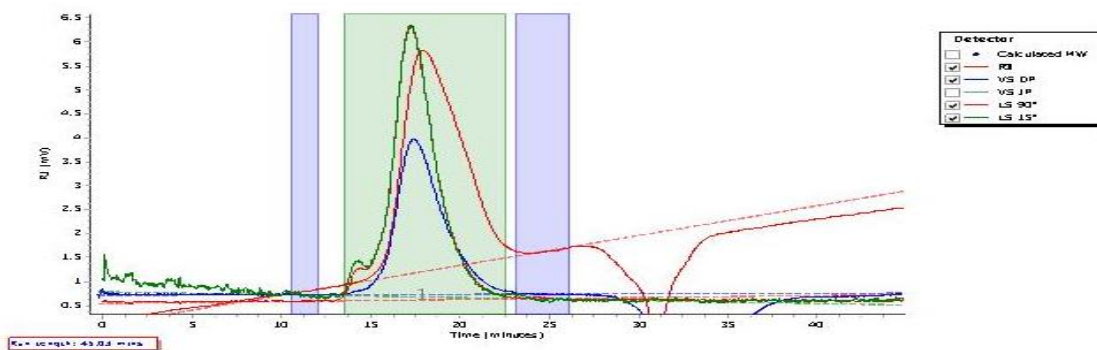
By solvent-non solvent process using EDTA and filtration to remove inorganic salt.

Validation of Architecture:

A. Gel Permeation Chromatography (GPC), SEC- Profile

Chromatogram Plot

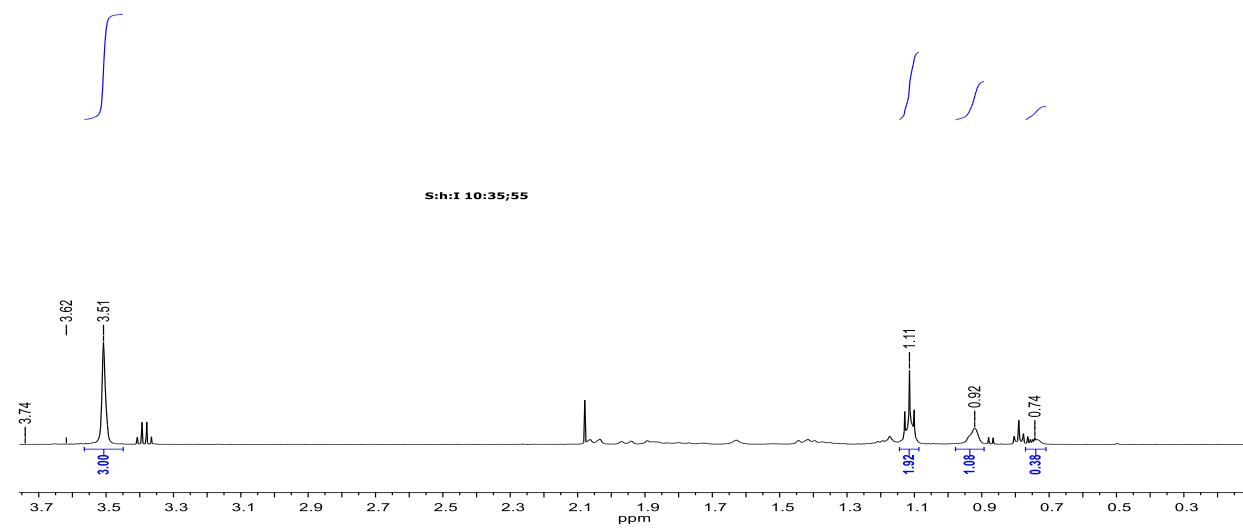
P45007E2-MMA



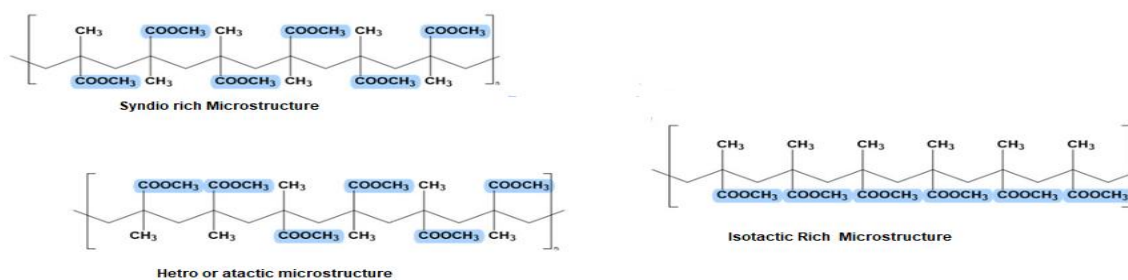
Molecular Weight Averages

Peak	Mp (g/mol)	Mn (g/mol)	Mw (g/mol)	Mz (g/mol)	Mz+1 (g/mol)	Mv (g/mol)	PD
Peak 1	33702	15283	30230	50393	75168	46295	1.978

B. NMR (HNMR) of polymer:



C.



D. Summary of DSC results for PMMA of different tacticity:

<i>PMMA microstructure</i>	<i>Tacticity Syndio : Iso : Hetero</i>	<i>T_g (°C)</i>
Syndiotactic >79%	79 : 19 : 2	120
Syndiotactic >85%	86 : 0 : 14	123
Isotactic >97%	0 : 97 : 3	44
Atactic	56 : 6 : 38	97