

Product Profile

Identification

Product Name: Poly(methyl methacrylate), isotactic (iso>syndio>hetero)

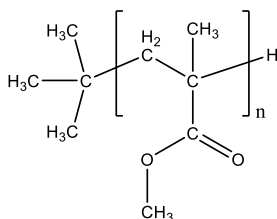
CAS Number: 9011-14-7

Product Lot Number: P1022R-iMMA

Synonym(s): Isotactic PMMA, Isotactic methyl methacrylate polymer, Isotactic poly(methyl methacrylate)

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 (iso:syn:hetero)
10.56	1.06	94:4:2

Method of Synthesis: Using Grignard catalyst

Solubility in different solvents

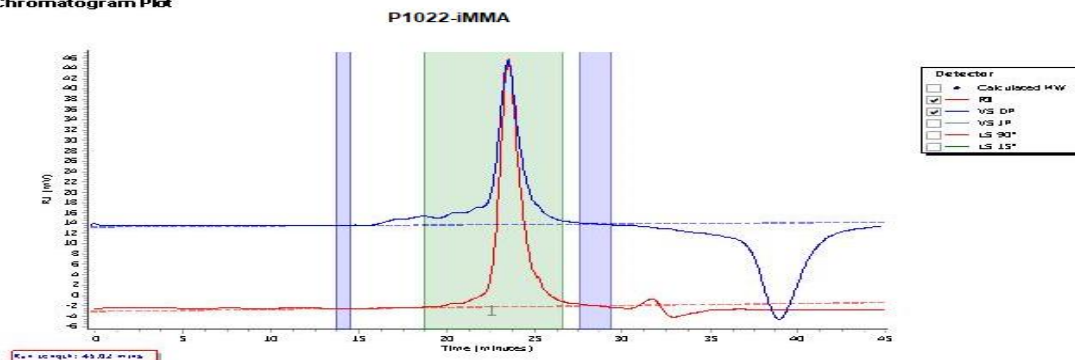
THF	✓		
CHCl ₃	✓	Acetone	✓
Toluene-Hot	✓		

Purification of Polymer: By solvent-non solvent process and filtration to remove inorganic salt.

Validation of Architecture:

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

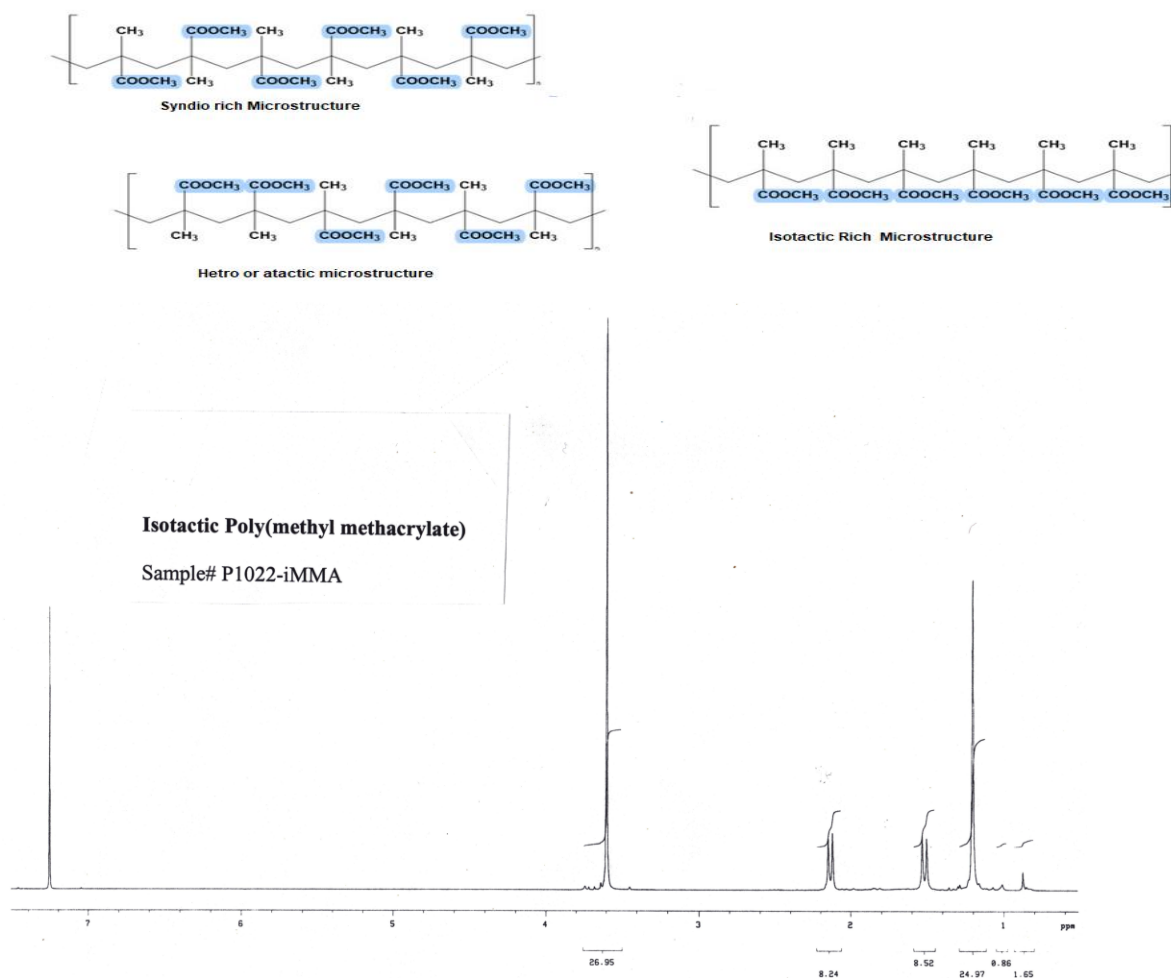
Chromatogram Plot



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	11237	10577	11240	12120	13525	11814	1.063

B. NMR (HNMR) of polymer:



C. 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