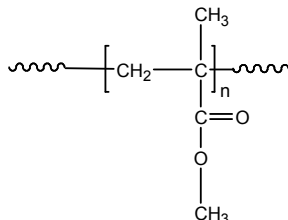


Sample Name: **Poly (methyl methacrylate)**
Isotactic Form

Sample #: **P40489A-iMMA**

Structure:



Composition:

Mn x 10 ³	588.5
PDI	1.15
S:H:I	2:4:94
T _g	48 °C

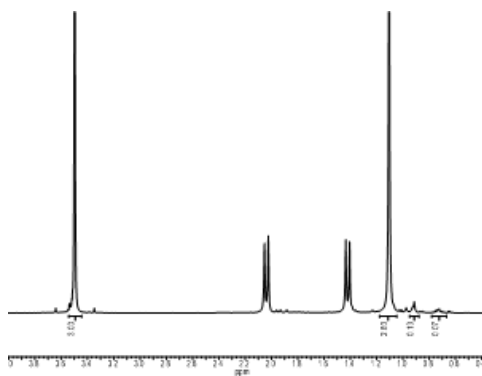
Synthesis Procedure:

The polymer was synthesized by anionic polymerization process.

Characterization:

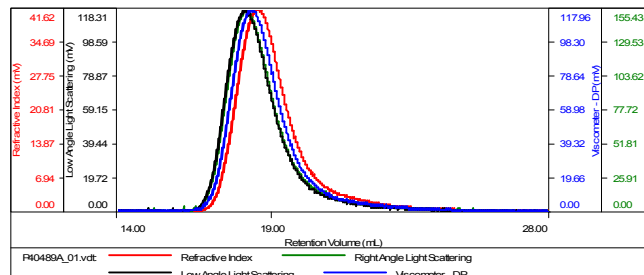
The product was characterized by size exclusion chromatography (SEC) and ¹H NMR. Thermal analysis was performed on TA Instruments Q100 differential scanning calorimeter (DSC) under a nitrogen atmosphere. The glass transition temperature (T_g) of the polymer was measured at a scan rate of 10°C/min shortly after creating thermal history of the sample.

NMR of Isotactic PMMA



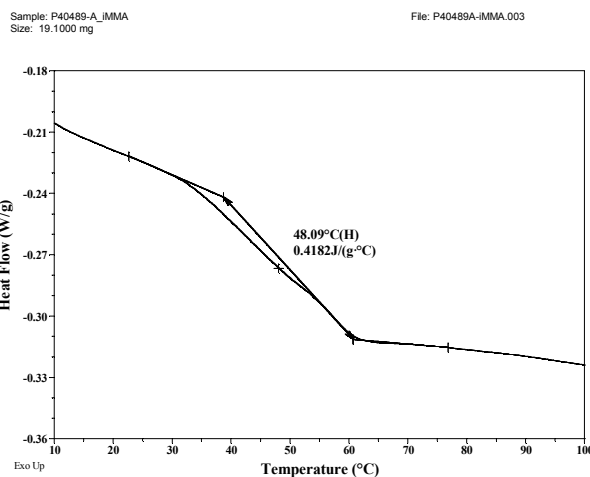
SEC of the Homopolymer:
P40489A-MMA

Concentration (mg/mL)	1.6858
Sample dn/dc (mL/g)	0.0840
Method File	PS80K-Fet2017-0000.vcm
Column Set	3x PL 1113-6300
Solvent	THF



Sample	M _n (Da)	M _w (Da)	M _w /M _n	IV (dL/g)	M _p (Da)
P40489A_01.vdt	588,426	676,764	1.150	3.5164	637,943

DSC thermogram (2nd heating scan, 10°C/min):



Summary of DSC results for PMMA of different tacticity:

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

References for further information:

S. K. Varshney, R. Fayt, Ph. Teyssie, US Patent 5,629,393, 1997