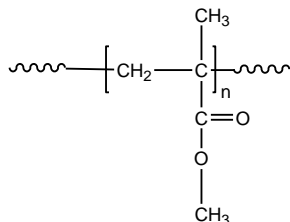


Sample Name: **Poly (methyl methacrylate)**  
*Isotactic Form*

Sample #: **P40486-iMMA**  
**(iso contents over 94%)**

**Structure:**



**Composition:**

Mn x 10 <sup>3</sup>	30.0
PDI	1.4
S:H:I	2:4:94
T <sub>g</sub>	55 °C

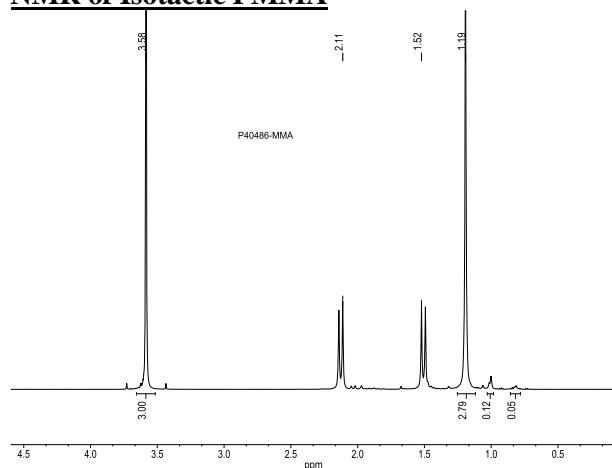
**Synthesis Procedure:**

The polymer was synthesized by anionic polymerization process.

**Characterization:**

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

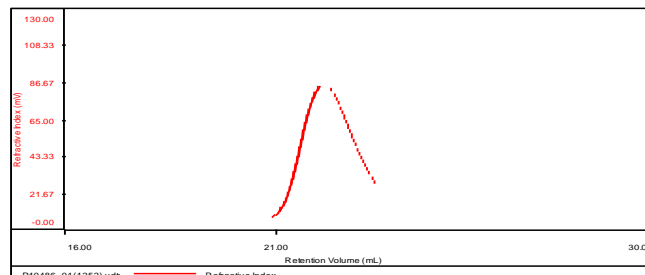
**NMR of Isotactic PMMA**



**SEC of the Homopolymer:**

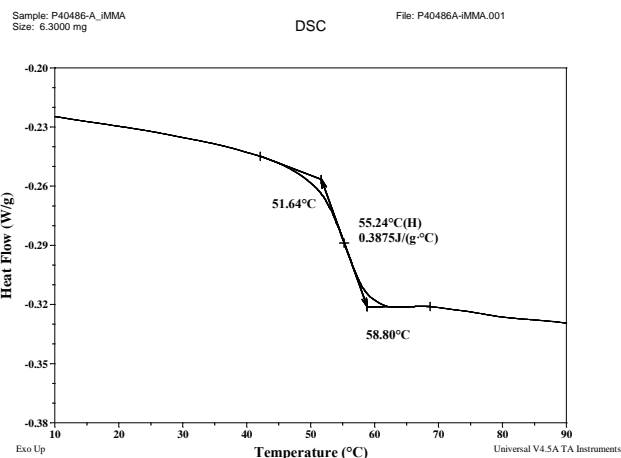
**P40486-MMA**

Concentration (mg/mL)	3.1298
Sample dn/dc (mL/g)	0.0840
Method File	PS80K-Feb2017-0000.vcm
Column Set	3x PL 1113-6300
Solvent	THF



Sample	Mn (Da)	Mw (Da)	Mw/Mn	IV (dL/g)	Mp (Da)
P40486_01(1252).vdt	30,003	42,744	1.425	1.0000	30,537

**DSC thermogram (2<sup>nd</sup> heating scan, 10°C/min):**



**Summary of DSC results for PMMA of different tacticity:**

PMMA microstructure	Tacticity Syndio : Iso : Hetero	T <sub>g</sub> (°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