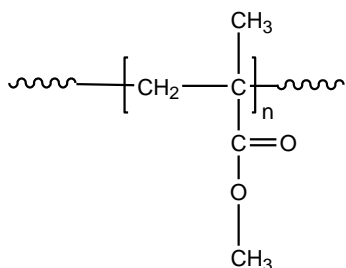


Sample Name: **Poly (methyl methacrylate)**
Different microstructure

Sample #: **P16300-MMA**

Structure:



Composition:

$M_n \times 10^3$	PDI
47.0	1.57

Syndio : Hetero : Iso	61:35:4
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Synthesis Procedure:

Tacticity of the poly(methyl methacrylate) is tailored by GTP technique of MMA monomer.

Characterization:

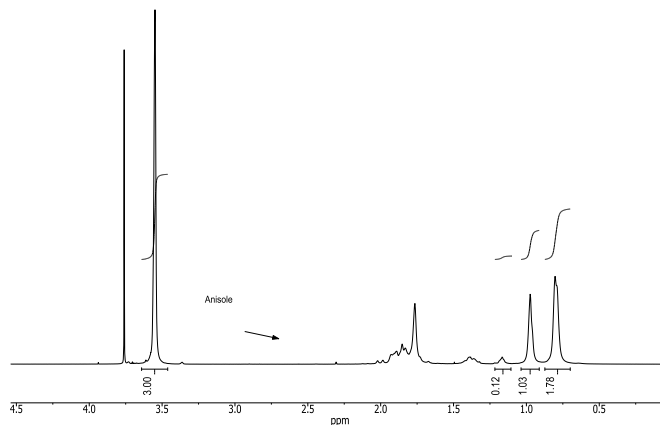
Tacticity of the polymer was determined by ^1H NMR. The molecular weight and polydispersity index (PDI) were obtained by size exclusion chromatography (SEC) in DMF. SEC analysis was performed on a Varian liquid chromatograph equipped with refractive and UV light scattering detectors.

Thermal analysis of the samples was carried out using a differential scanning calorimeter (TA Q100) at a heating rate of $10^\circ\text{C}/\text{min}$. The inflection glass transition temperature (T_g) of the sample has been considered.

Solubility:

The polymer is soluble in chloroform, THF and DMF.

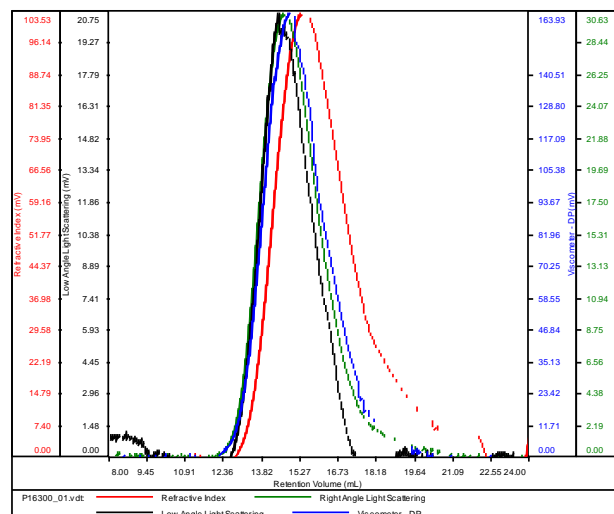
^1H NMR spectrum of PMMA:



SEC elugram of PMMA homopolymer:

P16300

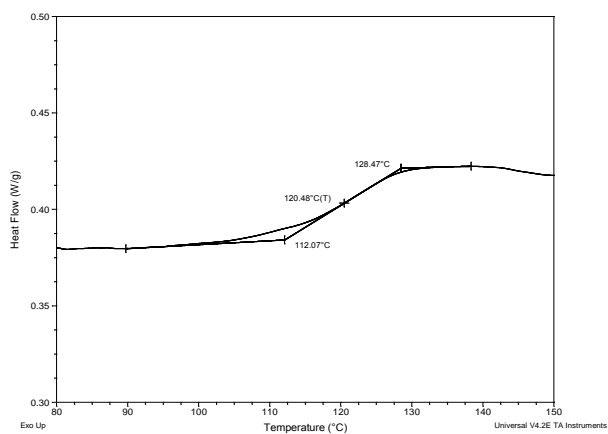
Conc	22.2860
dn/dc	0.0650
Solvent	DMF w 0.023M LiBr
Flow Rate	0.7000
Method	PS80K_2018-01-24-0000.vcm



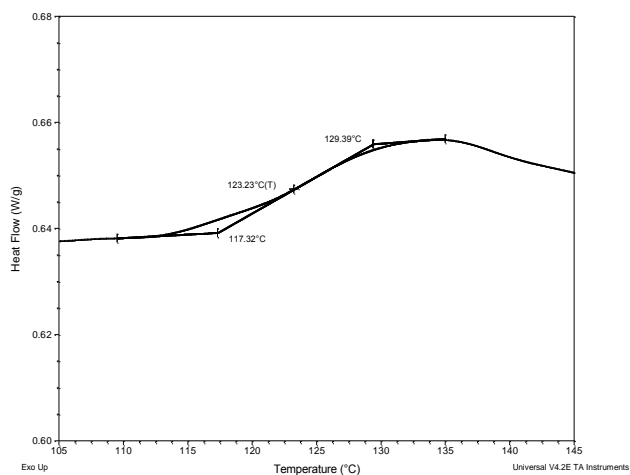
Sample	Mn	Mw	Mp	Mw/Mn	IV
P16300_01.vdt	47,231	74,134	72,954	1.570	0.2270

Thermograms of PMMA:

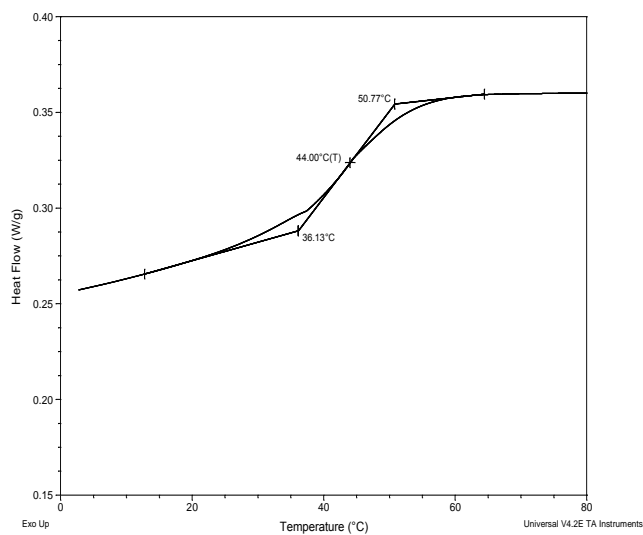
(a) syndiotactic >79%



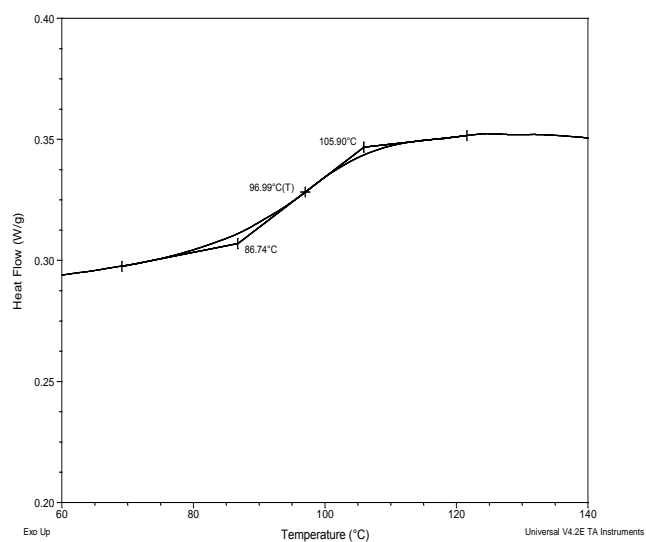
(b) syndiotactic >85%



(c) isotactic >97%



(d) atactic



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