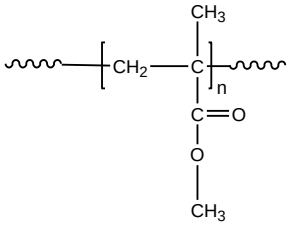
Sample Name: **Poly(methyl methacrylate)**

Different Microstructure

Sample #: **P7487B-MMA**

Structure:



Composition:

Mn x 10^3	PDI
72.0	1.6

Syndio : Hetero : Isotactic	58 : 37 : 5

Synthesis Procedure:

Poly(methyl methacrylate) is obtained by free radical polymerization or ATRP using CuBr as catalyst.

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 THF. SEC analysis was performed on a Varian liquid chromatograph equipped with refractive and UV light scattering detectors. Three SEC columns from Supelco (G6000-4000-2000 HXL) were used with triple detectors from Viscotek Co.
Thermal analysis of the samples was carried out using a differential scanning calorimeter (TA Q100) at a heating rate of 10°C/min.The inflection glass transition temperature (T_g) of the sample has been considered.

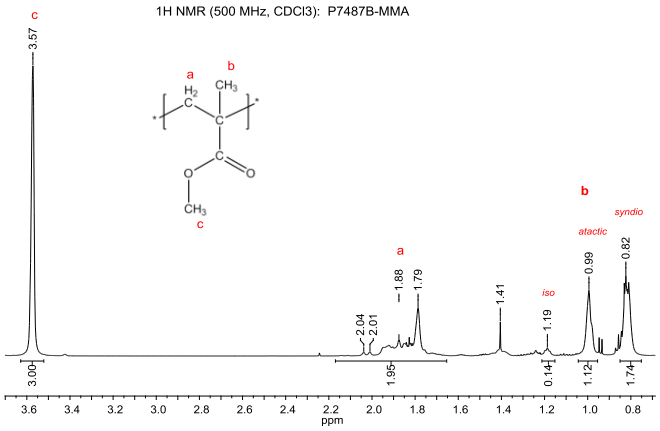
Solubility:

The polymer is soluble in THF, $CHCl_3$, toluene and dioxane. The polymer precipitates from cold methanol and ethanol.

T_g vs MW for selected atactic PMMA:

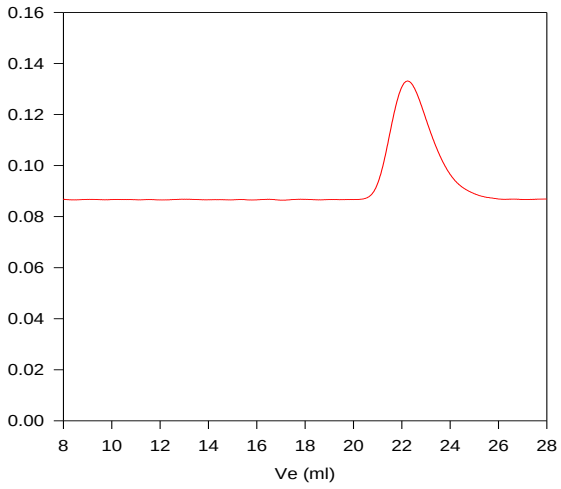
$M_n \times 10^3$	T_g (°C)	$M_n \times 10^3$	T_g (°C)
1.1	51	36	98
2.5	76	55	111
5.0	91	70	107
15	101	127	115
19	107	230	114
29	96	700	121

^{1}H NMR spectrum of PMMA:



SEC elugram of PMMA homopolymer:

P7487B-MMA



Size exclusion chromatograph of polymethylmethacrylate-rich in atactic:
M_n=72000, M_w=115000, PI=1.6
Solution Viscosity in THF at 35 °C:0.884dl/g
Radius of Gyration in THF at 35 °C: 13.11 nm
dn/dc in THF at 35°C: 0.084ml/g

DSC:

