

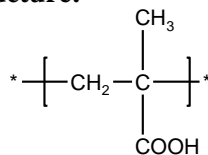
Sample Name:

Poly(methacrylic acid) rich in syndiotactic

Sample #: **P42970F1-MAA**

(rich in syndio contents)

Structure:



Composition:

$\text{Mn} \times 10^3$	PDI
339.0	1.5

Synthesis Procedure:

Poly(tert. Butyl methacrylate) is synthesized by GTP process, followed by hydrolysis of ester.

Characterization:

The molecular weight and polydispersity index (PDI) of Poly(methacrylic) are obtained by size exclusion chromatography based on its precursor in the ester form.

Hydrolysis:

The removal of tert.butyl ester moiety to COOH was checked by their FTIR, disappearance of characteristics at 1365cm^{-1} .

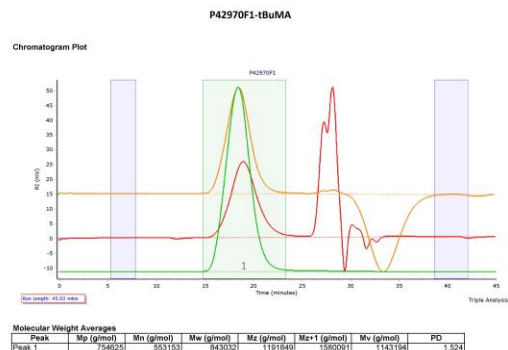
Thermal analysis:

Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of $10^\circ\text{C}/\text{min}$. The midpoint of the slope change of the heat flow plot of the second heating scan was considered as the glass transition temperature (T_g).

Solubility:

Polymer is soluble in methanol and ethanol.

SEC elugram of Homopolymer:



PMAA after Hydrolysis : 339,000

References:

S. K. Varshney, Z. Gao, Xing Fu Zhong, A. Eisenberg “Effect of Lithium Chloride on the “Living” Polymerization of tert-Butylmethacrylate and Polymer Microstructure Using Monofunctional Initiators” *Macromolecules*, 1994, 27, 1076.