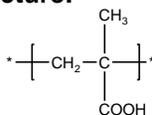


Sample Name:

Poly(methacrylic acid) rich in syndiotactic or isotactic contents

Sample #: **P18153A-MAA (rich in syndio contents)**

Structure:



Composition:

Mn x 10 ³	PDI
4.2	1.3

Synthesis Procedure:

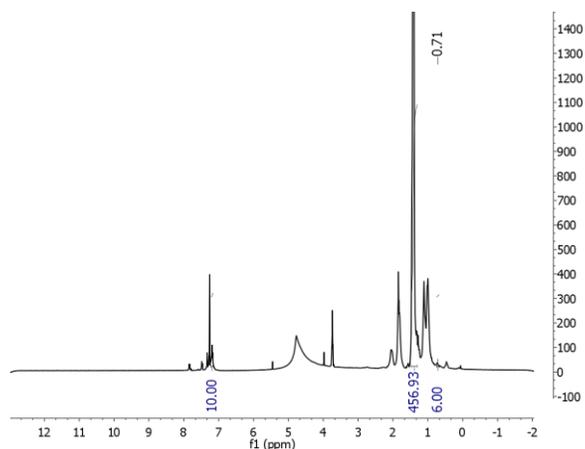
Poly(methacrylic acid) can be synthesized by living anionic polymerization of t-butyl methacrylate or ethoxy ethyl methacrylate or trimethyl siloxy methacrylate followed by hydrolysis of the ester group.

Characterization:

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

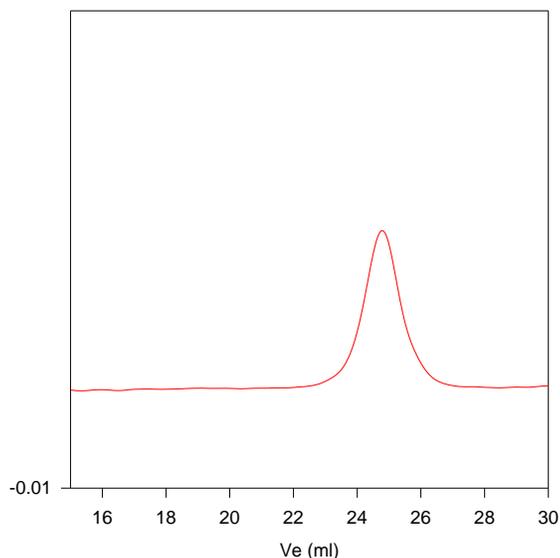
Hydrolysis: The removal of ester moiety to COOH was checked by their FTIR.

Solubility: Polymer is soluble in methanol, ethanol.



SEC of Homopolymer:

P18153-tBuMA



Size Exclusion Chromatography of Poly(t-butyl methacrylate)

M_n=7,000, M_w=9,000, M_w/M_n=1.3

References:

1. 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