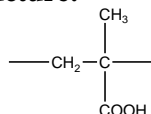


Sample Name:
Poly(methacrylic acid)

Sample #: **P4551-MAA**

Structure:

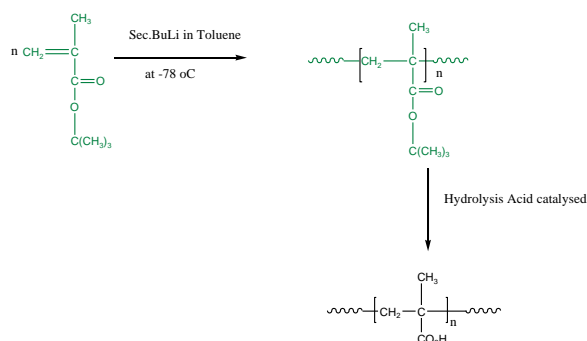


Composition:

Mn x 10 ³	PDI
10.0	1.20

Synthesis Procedure:

Poly(methacrylic acid) is synthesized by living anionic polymerization of t-butyl methacrylate followed by hydrolysis of the t-butyl group. The reaction scheme is shown below.



Characterization:

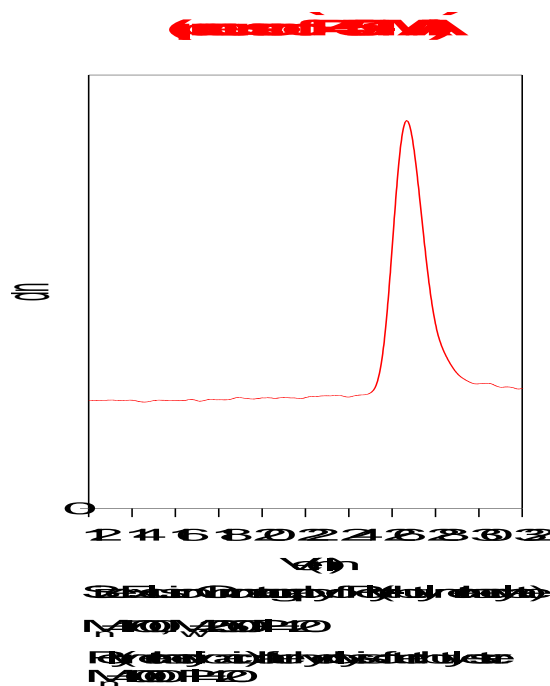
The molecular weight and polydispersity index (PDI) of Poly(methacrylic acid) are obtained by size exclusion chromatography based on its precursor in the ester form.

Hydrolysis: The removal of tert.butyl ester moiety to COOH was checked by their FTIR, disappearance of characteristics at 1365cm⁻¹.

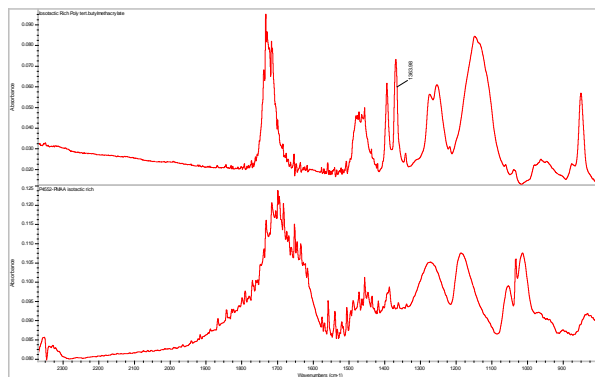
Solubility:

Polymer is soluble in methanol, ethanol.

SEC of Homopolymer:



FTIR spectrum of Ptert.BUMA and PMAA



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