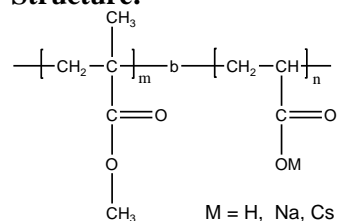


Sample Name: Poly (methyl methacrylate-*b*-Sodium acrylate)

Sample #: P2390- MMAANa

Structure:

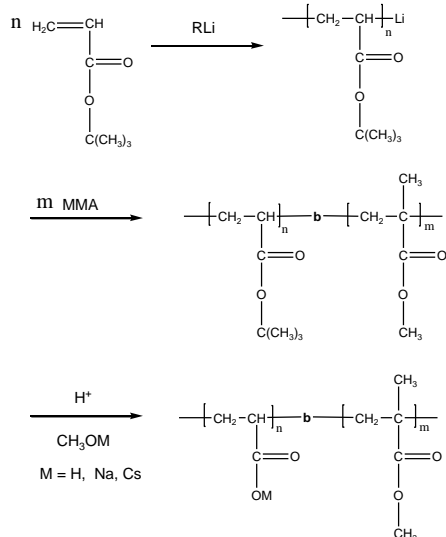


Composition:

Mn x 10 ³ PMMA-ANa	PDI
4.3- <i>b</i> -17.5	1.09

Synthesis Procedure:

Poly (methyl methacrylate-*b*- sodium acrylate) is prepared by living anionic polymerization with sequence addition of *t*-butyl acrylate followed by methyl methacrylate and hydrolysis of the *t*-butyl group. The scheme of the reaction is illustrated below:



Characterization:

An aliquot of the anionic poly(*t*-butyl acrylic acid) block was terminated before addition of methyl methacrylate and analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI). The final block copolymer composition was calculated from ¹H-NMR spectroscopy by comparing the peak area of the *t*-butyl methacrylate protons at 1.43 ppm with the peak area of the methyl methacrylate protons at 3.6 ppm. Copolymer PDI is determined by SEC.

Solubility:

Poly (methyl methacrylate-*b*-Sodium acrylate) can be solubilize in DMF and water depending on the compositions.

SEC of the block copolymer:

