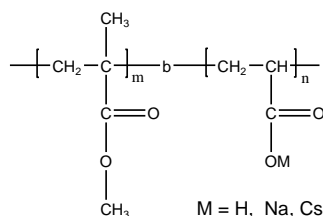


**Sample Name:** Poly(methyl methacrylate-b-sodium acrylate)

**Sample #:** P2388-MMAANa

**Structure:**

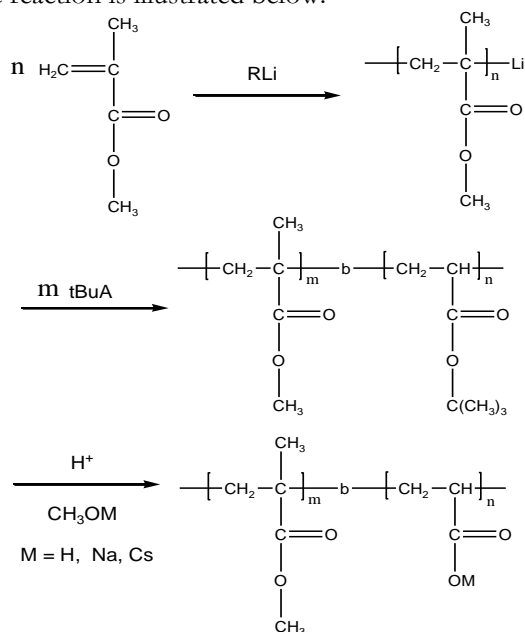


**Composition:**

$M_n \times 10^3$ PMMA-b-PANa	PDI
7.4-b-31.5	1.07

**Synthesis Procedure:**

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



**Characterization:**

An aliquot of the anionic poly(methyl methacrylate) block was terminated before addition of t-butyl acrylate and analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI). The final block copolymer composition was calculated from  $^1\text{H}$ -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- acrylic acid) is soluble in Methanol depending on the compositions. It is precipitated out from ether and hexane.

**SEC of the block copolymer:**

