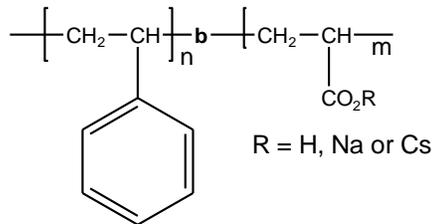


Sample Name: Poly (styrene -b- acrylic acid)

Sample #: P5965A-SAA

Structure:

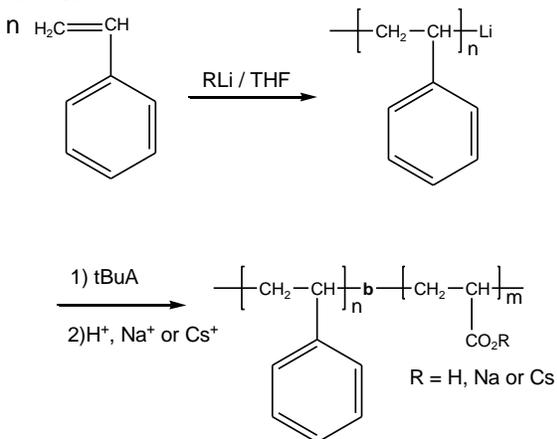


Composition:

Mn x 10 ³ PS-b-PAA	PDI
90.0-b-130.0	1.19

Synthesis Procedure:

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



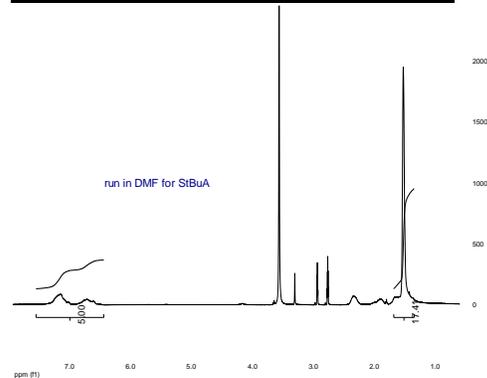
Characterization:

The product was characterized by size exclusion chromatography (SEC) and ¹H NMR.

Solubility:

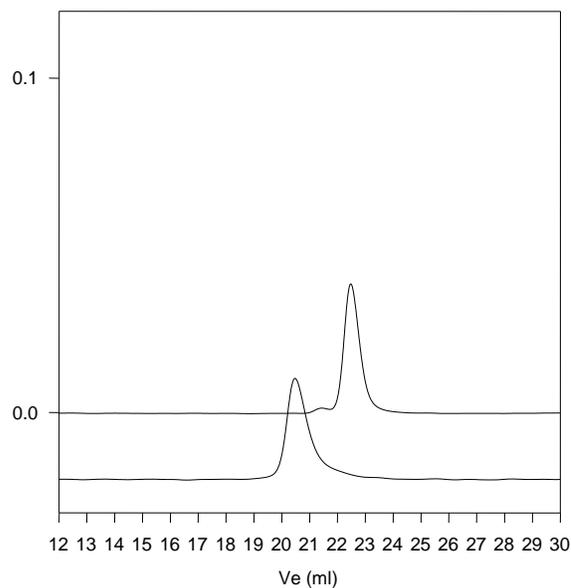
Poly (styrene-b-acrylic acid) is soluble in Hot THF, dioxane. It takes time to solubilize 100mg polymer in 20ml THF. Not a clear solution but little opaqueness due to micellization. Adding a drop of DMF result much clear solution.

H NMR spectrum of the Precursor:



SEC of the block copolymer:

P5965-StBuA (precursor for P5965A-SAA)



Size exclusion chromatography of polystyrene-b-poly(t-butyl acrylate)

— Polystyrene, M_n=90,000, M_w=94,000, PI=1.05

— Block Copolymer PS(90000)-b-PtBuA(231000), PI=1.19
after Hydrolysis of ter. Butyl ester:
Mn 90,000-b-130,000 Mw/Mn 1.19