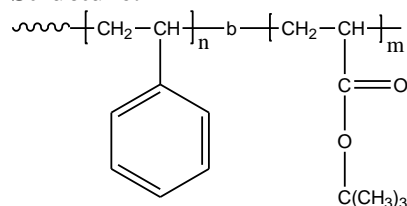


Sample Name: Poly(styrene-b-t-butyl acrylate)

Sample #: P3352-StBuA

Structure:

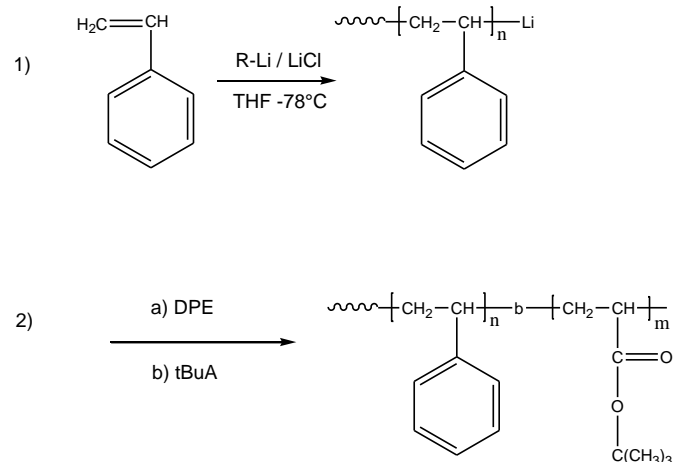


Composition:

Mn x 10 ³ S-b-BuA	PDI
215.5-b-135.0	1.10

Synthesis Procedure:

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



Characterization:

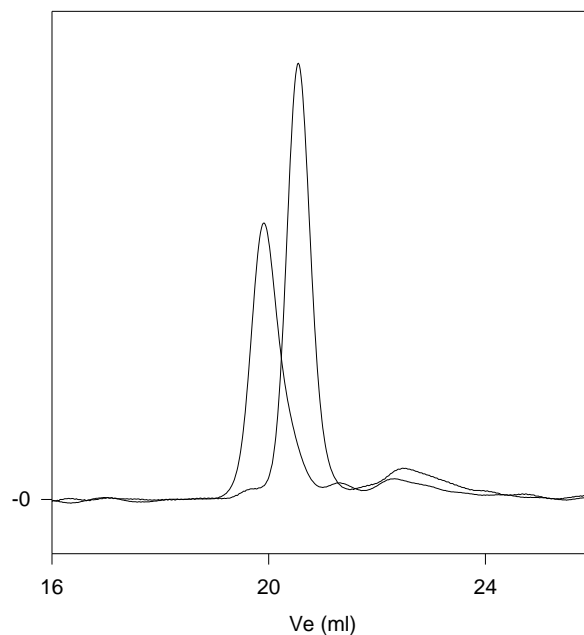
An aliquot of the polystyrene block was terminated before addition of methyl acrylate and analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI). The final block copolymer composition was calculated from ¹H-NMR spectroscopy by comparing the peak area of the styrene protons at 6.3-7.2 ppm with the peak area of t-butyl acrylate protons at 1.43 ppm. Block copolymer PDI is determined by SEC.

Solubility:

Poly(styrene-b-t-butyl acrylate) is soluble in CHCl_3 , THF, Dioxane toluene and precipitated out from methanol/water.

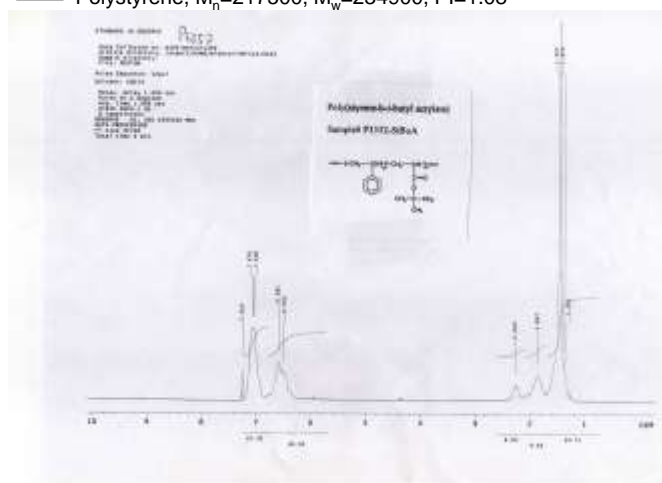
SEC of the block copolymer:

P3352-StBuA



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

Polystyrene, $M_n=217500$, $M_w=234900$, $PI=1.08$



References:

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