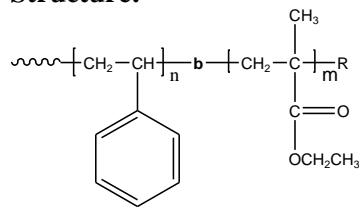Sample Name:
Poly(styrene-b-ethyl methacrylate)

Sample #: **P3364-SEMA**

Structure:
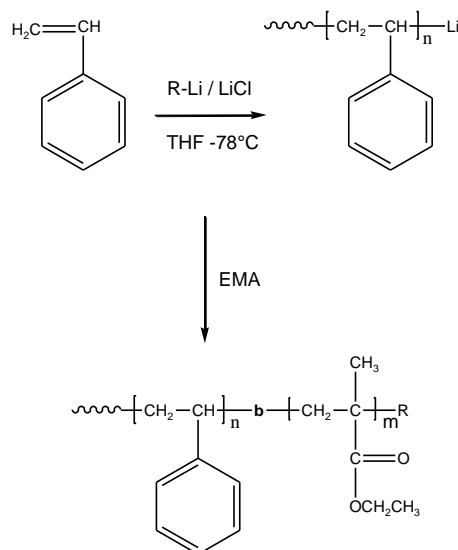

Composition:

Mn x 10^3 S-b-EMA	Mw/Mn (PDI)
35.5-b-42.0	1.07

Synthesis Procedure:
Poly(styrene-b-ethyl methacrylate) is prepared by living anionic polymerization with sequence addition of styrene followed by ethyl methacrylate. The reaction scheme is shown below:


Characterization:
An aliquot of the polystyrene block was terminated before addition of hexamethyl cyclotrisiloxane 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}H-NMR spectroscopy by comparing the peak area of the styrene protons at with the peak area of ethyl methacrylate. Block copolymer PDI is determined by SEC.
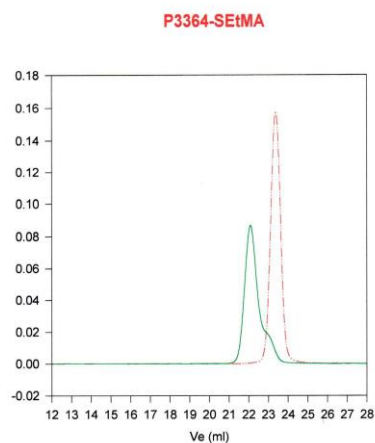
Solubility:
Poly(styrene-b-ethyl methacrylate) is soluble in THF, toluene, dioxane and $CHCl_3$. This polymer readily precipitates from methanol, ethanol, hexanes and water.

Figure:^{1}H NMR spectrum of the sample
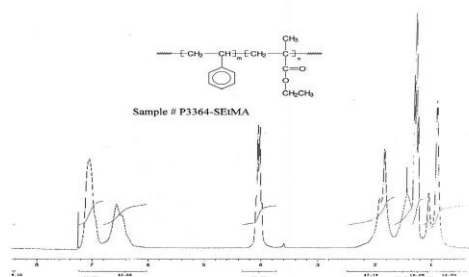
Figure: SEC profile of the block copolymer