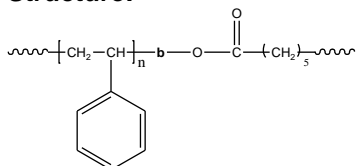


**Sample Name:** Poly(styrene-b-ε-caprolactone)

**Sample #:** P2042-SCL

**Structure:**

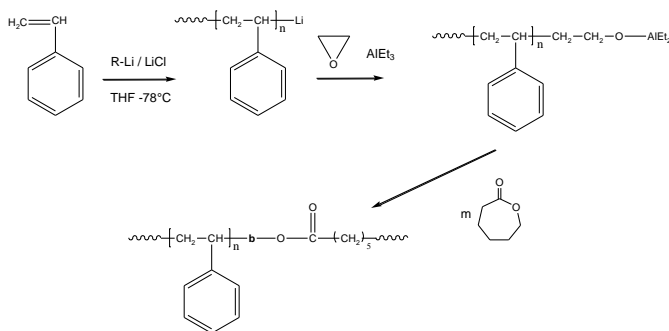


**Composition:**

Mn x 10 <sup>3</sup> S-b-CL	Mw/Mn (PDI)
9.5-b-9	1.09

**Synthesis Procedure:**

Poly(styrene-b-ε-caprolactone) is prepared by anionic polymerization with sequence addition of styrene followed by n-butyl methacrylate. The reaction scheme is shown below:



**Characterization:**

An aliquot of the polystyrene block was terminated before addition of -ε-caprolactone and analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI). The final block copolymer composition was calculated from <sup>1</sup>H-NMR spectroscopy by comparing the peak area of the styrene protons at 6.3-7.2 ppm with the peak area of -ε-caprolactone protons at 4.1 ppm. Block copolymer PDI is determined by SEC.

**Solubility:**

Poly(styrene-b-ε-caprolactone) is soluble in THF, Chloroform, DMF, and precipitated in methanol and hexanes.

**Figure: SEC profile of the block copolymer**

