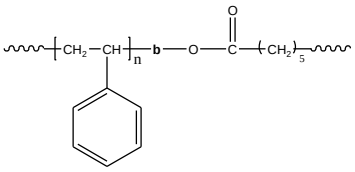
Sample Name: **Poly(styrene-b-ε-caprolactone)**

Sample #: **P2046-SCL**

Structure:

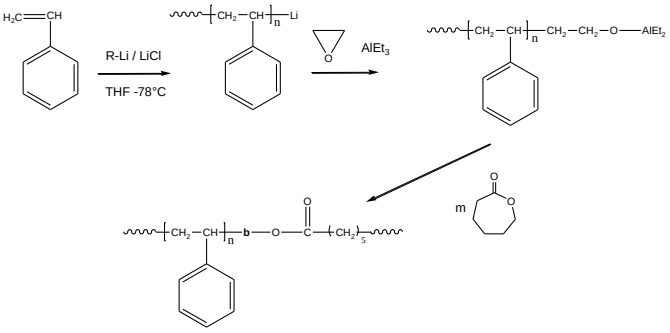


Composition:

Mn x 10^3 S-b-CL	Mw/Mn (PDI)
32.6-b-20.0	1.25

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 ^{1}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