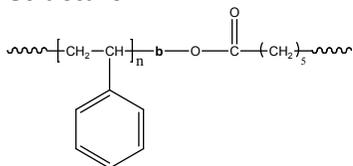


Sample Name: Poly(styrene-b-ε-caprolactone)

Sample #: P2034-SCL

Structure:

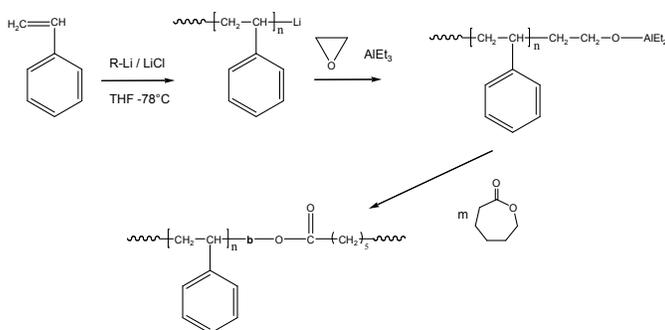


Composition:

$M_n \times 10^3$ S-b-CL	M_w/M_n (PDI)
10-b-4.3	1.17

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 $^1\text{H-NMR}$ 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

