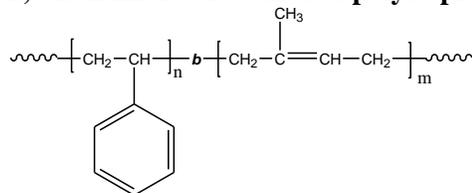


Sample Name: Poly (styrene-b-isoprene)
(Polyisoprene rich in 1,4-addition)

Sample #: P42606-SIp

1,4-rich microstructure for polyisoprene block:

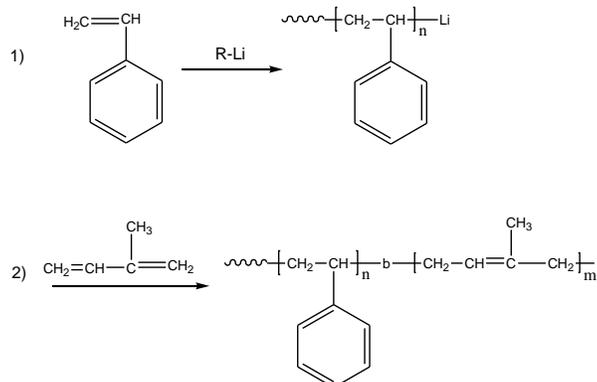


Composition:

$M_n \times 10^3$ S-b-IP	Mw/Mn (PDI)
88.5-b-36.0	1.02

Synthesis Procedure:

Poly (styrene-b-isoprene) is prepared by living anionic polymerization in non-polar solvent with sequence addition of styrene followed by isoprene. The scheme of the reaction is illustrated below:



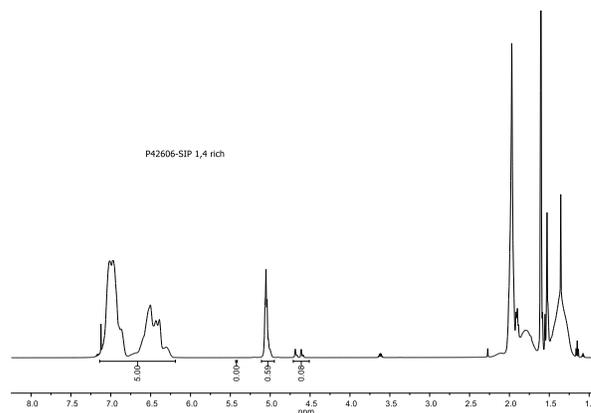
Characterization:

An aliquot of the anionic polystyrene block was terminated before addition of isoprene and analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI). The block copolymer composition was then calculated from ¹H-NMR spectroscopy by comparing the peak area of the vinylic isoprene proton at 5.1 ppm with the aromatic protons of polystyrene at 6.3-7.2 ppm. Copolymer PDI is determined by SEC.

Solubility:

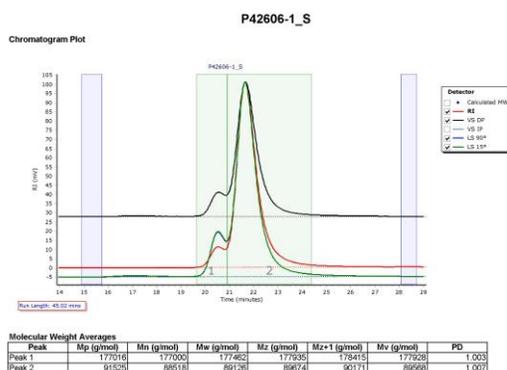
Poly (styrene-b-isoprene) is soluble in THF, toluene, dioxane and CHCl₃. This polymer readily precipitates from methanol, ethanol, and water.

¹H-NMR Spectrum of the block copolymer:



SEC elugram of the Styrene block:

Agilent GPC/SEC Software



SEC elugram of the Sample:

Agilent GPC/SEC Software

