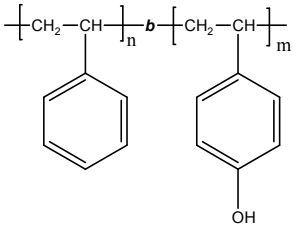
Sample Name:
Poly(styrene-b-4-hydroxy styrene)

Sample #: **P8616-S4OHS**

Structure:

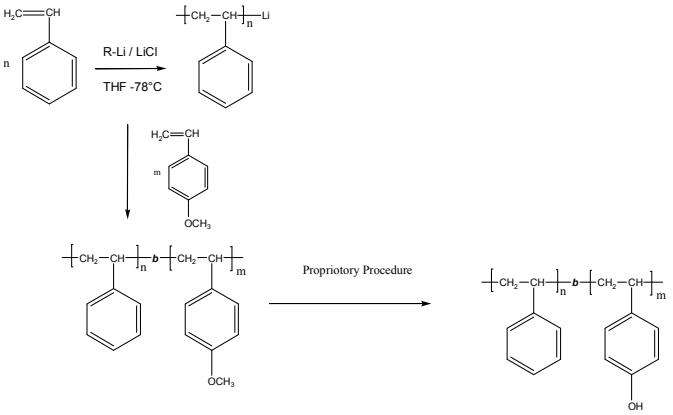


Composition:

Mn x 10^3 S-b-4HOS	Mw/Mn (PDI)
9.0-b-6.0	1.12

Synthesis Procedure:

Poly(styrene-b-4-hydroxy styrene) is prepared by living anionic polymerization by sequence addition of styrene followed by 4-methoxyl styrene. The obtained polymer converted to Poly (styrene-b-4 Hydroxy styrene) di block copolymer. The reaction scheme is shown below:



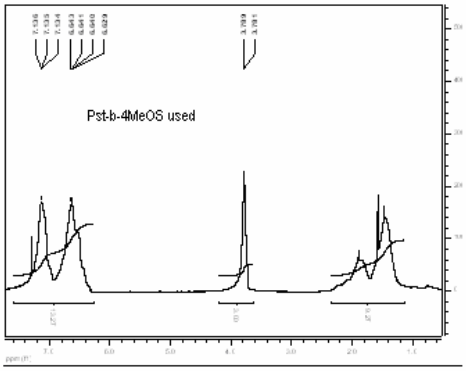
Characterization:

An aliquot of the polystyrene block was terminated before addition of 4-hydroxystyrene 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 4-hydroxy styrene at 3.4ppm. Block copolymer PDI is determined by SEC.

Solubility:

Poly(styrene-b-eth4-hydroxystyrene) is soluble in THF.

Figure: ^{1}H NMR spectrum of the sample P(S-b-4MeOS):



P(S-b-4OHS)

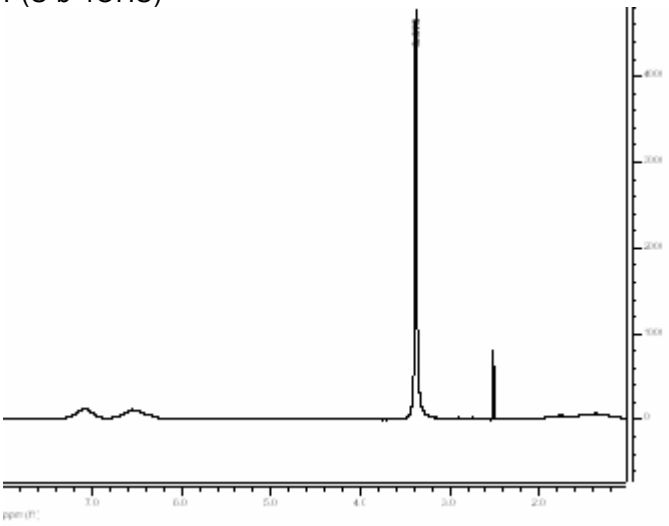
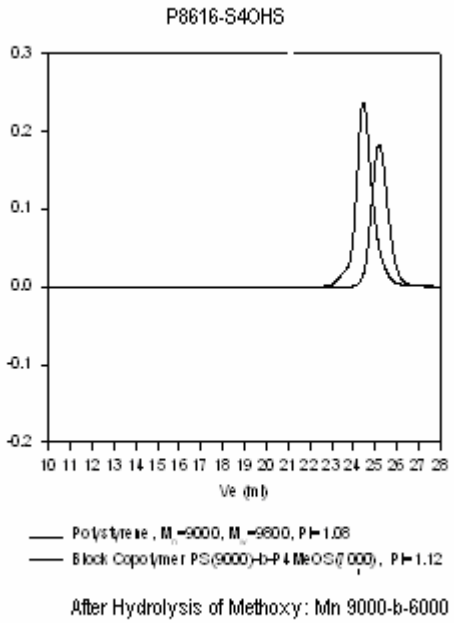


Figure: SEC profile of the block copolymer



After Hydrolysis of Methoxy: Mn 9000-b-6000