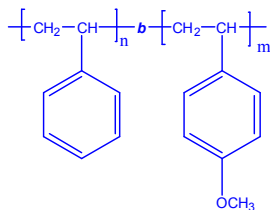
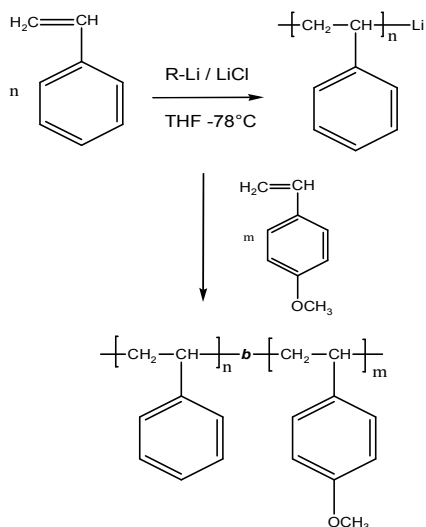


Sample Name:Poly(styrene-*b*-4-methoxy styrene)**Sample #:** P8619-S4MeOS**Structure:****Composition:**

Mn x 10 ³ S-b-4HOS	Mw/Mn (PDI)
9.5-b-18.0	1.09

Synthesis Procedure:

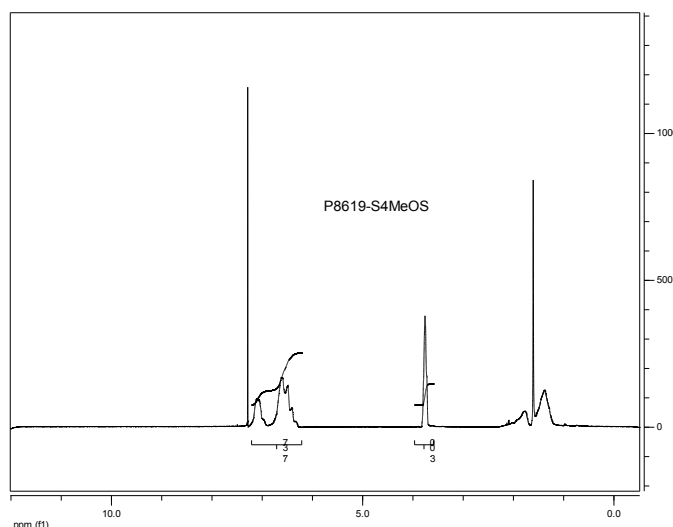
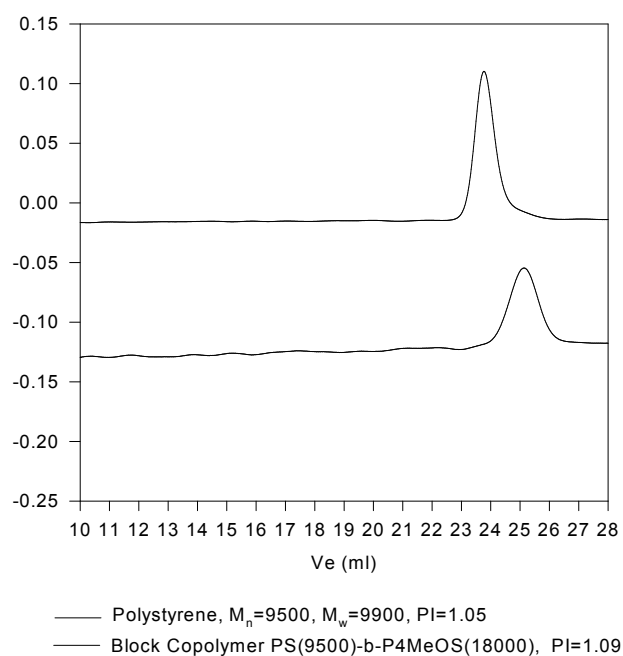
Poly(styrene-*b*-4-methoxy styrene) is prepared by living anionic polymerization by sequence addition of styrene followed by 4-methoxy styrene. The reaction scheme is shown below:

**Characterization:**

An aliquot of the polystyrene block was terminated before addition of 4-methoxy styrene and analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI). The final block copolymer composition was calculated from ¹H-NMR spectroscopy by comparing the peak area of the styrene protons at 6.3-7.2 ppm with the peak area of 4-methoxy at 3.8 ppm. Block copolymer PDI is determined by SEC.

Solubility:

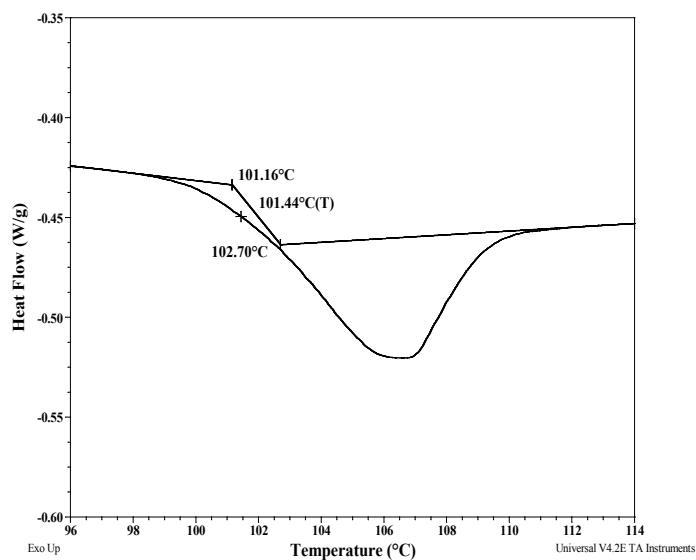
Poly(styrene-*b*-eth4-hydroxystyrene) is soluble in CHCl₃, toluene, dioxane and THF.

¹H NMR spectrum of the sample:**SEC profile of the block copolymer****P8619-S4MeOS**

Thermal analysis of P8619-S4MeOS

Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of 10°C/min. The midpoint of the slope change of the heat flow plot of the second heating scan was considered as the glass transition temperature (T_g).

DSC thermogram for PS block:



Thermal analysis results at a glance:

Polymer block	T_g (°C)
PS	101
4MeOS	200

DSC thermogram for 4 MeOS block:

