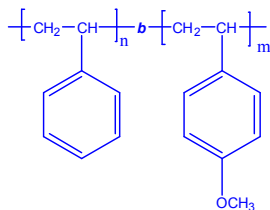


Sample Name:

Poly(styrene-b-4-methoxy styrene)

Sample #: P18009-S4MeOS

Structure:



Composition:

$M_n \times 10^3$ S-b-4MEOS	M_w/M_n (PDI)
19.0-b-16.5	1.2

Synthesis Procedure:

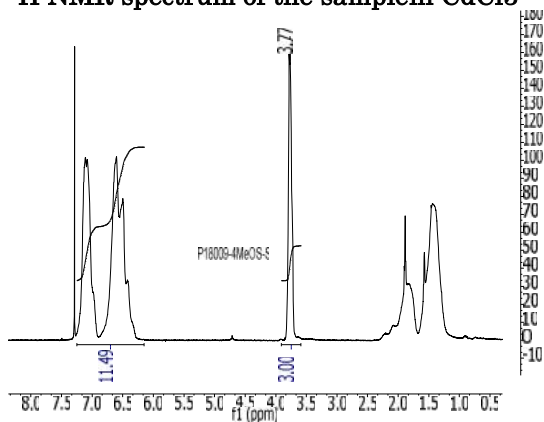
Poly(styrene-b-4-methoxy styrene) is prepared by living anionic polymerization by sequence addition of styrene followed by 4-methoxy styrene or vice versa. In this lot 4 MEOS was polymerized first followed by styrene polymerization characterization:

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:

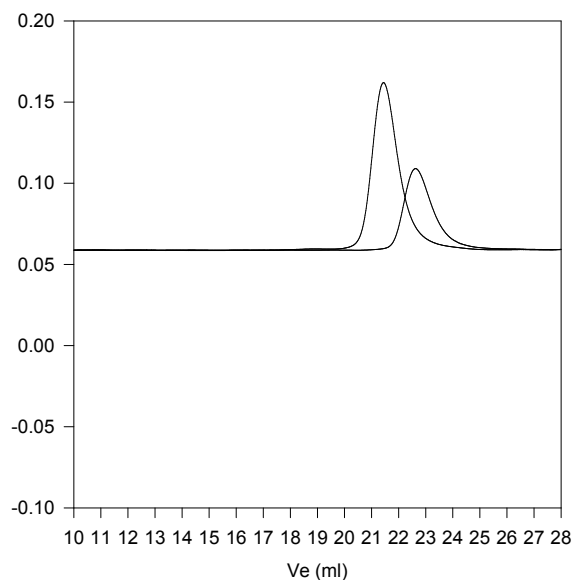
Poly(styrene-b-eth4-hydroxystyrene) is soluble in $CHCl_3$, toluene, dioxane and THF.

1H NMR spectrum of the sample in $CdCl_3$



SEC profile of the block copolymer

P18009-S4MeOS

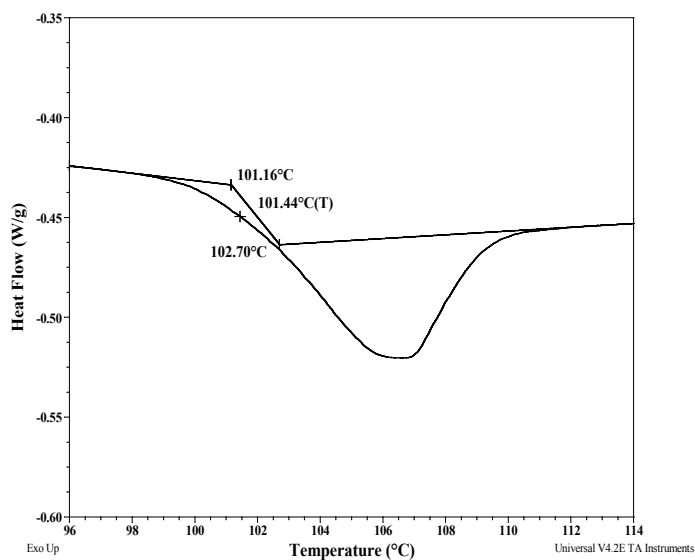


— Poly 4MeOstyrene, $M_n=16,500$, $M_w=20,000$, $PI=1.2$
— Block Copolymer P4MeOS(16,500)-b-PS(19,000), $PI=1.2$

Thermal analysis of P18009-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:

