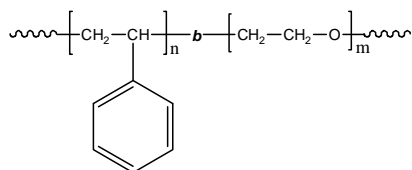


Sample Name: Poly(styrene-b-ethylene oxide)

Sample #: P18912-SEO

Structure:



Composition:

$M_n \times 10^3$	PDI
65.0-b-85.0	1.08

Synthesis procedure:

Poly(styrene-b-ethylene oxide) diblock copolymer was prepared by living anionic polymerization.

Characterization:

The polymer was characterized by size exclusion chromatography (SEC) and by 1H -NMR spectroscopy.

Solubility:

The polymer is soluble in THF (at 35 °C), $CHCl_3$, benzene, toluene, dioxane. Low molecular weight SEO with high contents of the polyethylene oxide block can also be solubilized in methanol and water.

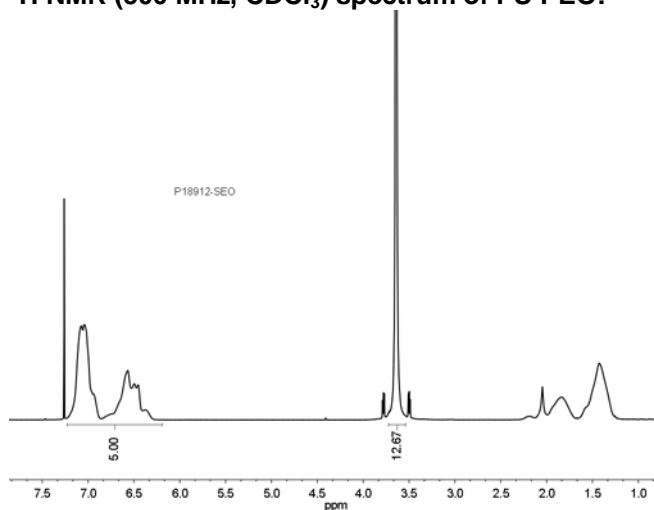
Thermal analysis:

Thermal analysis was done on a TA Q100 differential scanning calorimeter (DSC) at a heating rate of 20°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).

The melting temperature (T_m) was taken as a maximum of the endothermic peak.

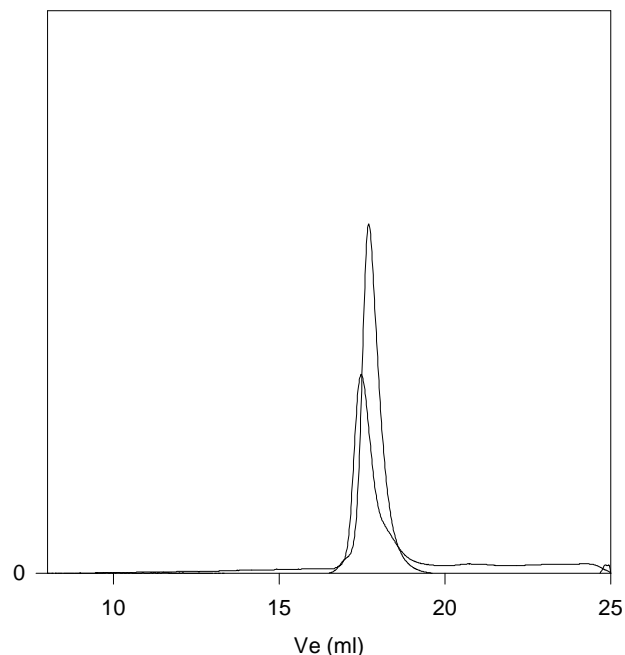
PS block:	$T_g = 85^\circ C$
PEO block:	$T_g = -63^\circ C$
	$T_m = 61^\circ C$

1H NMR (500 MHz, $CDCl_3$) spectrum of PS-PEO:



SEC elugrams of PS and PS-PEO:

P18912-SEO



Size exclusion chromatography of poly(styrene-b-ethylene oxide)

— Poly(styrene), $M_n=65,000$, $M_w=68,000$, $PI=1.05$

— Block Copolymer PSt(65,000)-b-PEO(85,000), $PI=1.08$