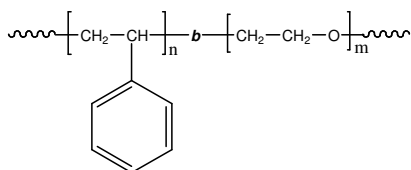


Sample Name: Poly(styrene-b-ethylene oxide)

Sample #: P18875B-SEO

Structure:



Composition:

Mn x 10 ³	PDI
13.5-b-35.0	1.07

Synthesis Procedure:

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

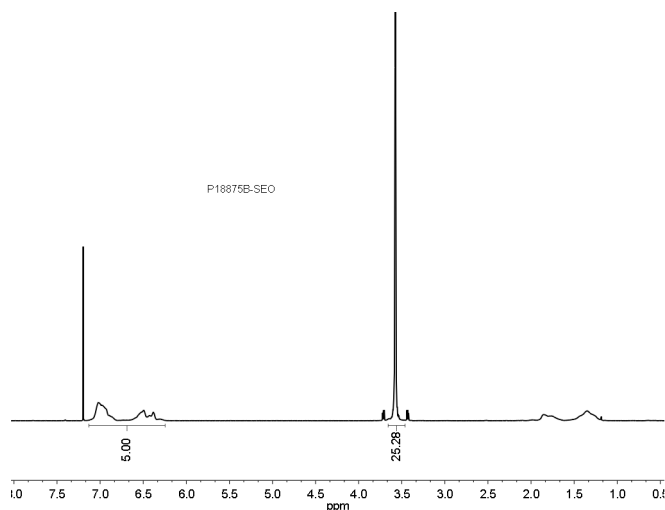
Characterization:

By size exclusion chromatography (SEC) and by ¹H-NMR.

Solubility:

The polymer is soluble in THF (at 35 °C), CHCl₃, benzene, toluene, dioxane. Low molecular weight SEO with high contents of the polyethylene oxide block can also be solubilized in methanol and water.

¹H NMR spectrum of the sample:



Thermal analysis results

Thermal analysis was done on a TA Q100 differential scanning calorimeter 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).

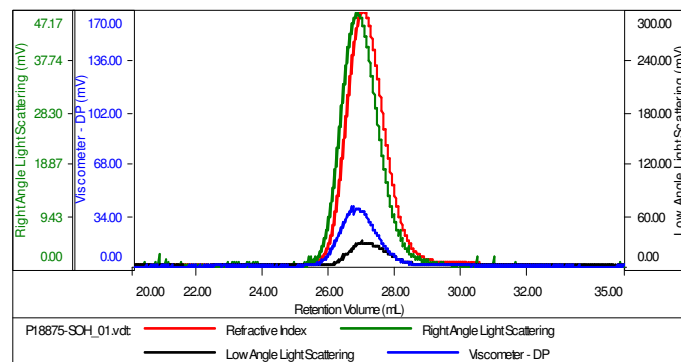
The melting temperature (T_m) was taken as a maximum of the endothermic peak.

For PS block: T _g : 85°C	
For PEO block:	
T _g : -63°C	T _m : 61°C

SEC elugram of the block copolymer:

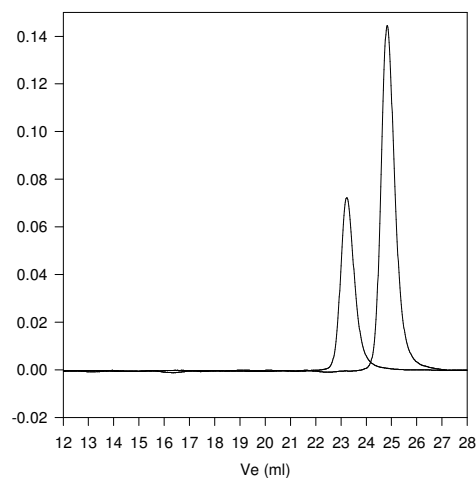
Sample ID: P18875-SOH

Concentration (mg/mL)	5.0210
Sample dn/dc (mL/g)	0.1850
Method File	PS90K-0903-2014-0000.vcm
Column Set	3x PL 1113-6300
Solvent	THF



Sample	MW Number Average (Da)	MW Weight Average (Da)	MW at Peak (Da)	Polydispersity	Intrinsic Viscosity (dL/g)
P18875-SOH_01.vdt	13,490	14,628	14,063	1.084	0.1923

P18875B-SEO



Size exclusion chromatography of poly(styrene-b-ethylene oxide)
 — Poly(styrene), M_n=13,500, M_w=14,500, PI=1.08
 — Block Copolymer PSt(13,500)-b-PEO(35,000), PI=1.07