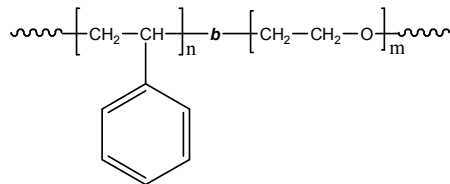


Sample Name: Poly (styrene-b-ethylene oxide)

Sample #: P40298E-SEO

Electronic Grade

Structure:



Composition:

$M_n \times 10^3$ S-b-EO	PDI
5.0-b-2.5	1.02

Synthesis Procedure:

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

Characterization:

The product was characterized by size exclusion chromatography (SEC) and ^1H NMR.

Solubility:

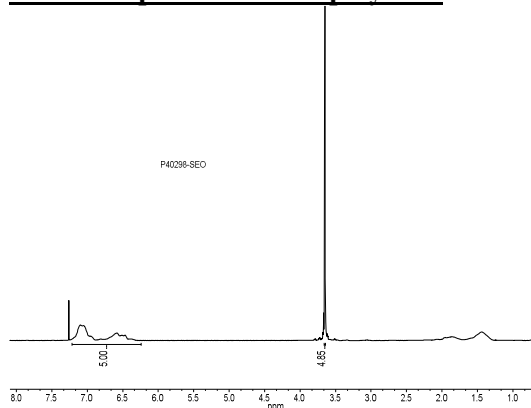
The polymer is soluble in THF (at 35 °C), CHCl_3 , benzene, toluene, and dioxane. Low molecular weight SEO with high contents of the polyethylene oxide block can also be solubilized in methanol and water.

Purification

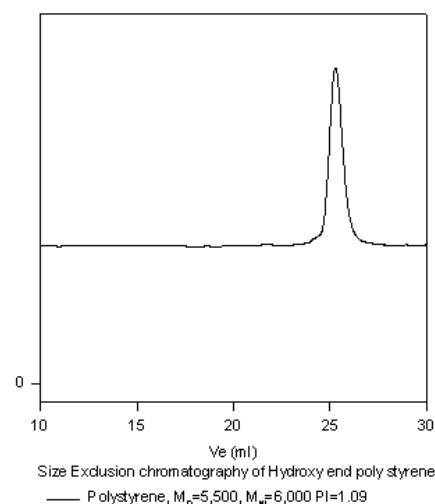
Purification of the obtained polymer was carried out rigorously as follows to ensure the removal of the catalyst side product:

1. Dissolved the polymer in CHCl_3 and wash with de-ionized distilled water to remove the any soluble organic catalyst side product.
2. Polymer extracted from water with chloroform.
3. Polymer solution in CHCl_3 was dried over anhydrous sodium sulfate.
4. Solution filtered and then passed through a column packed with basic Al_2O_3 .
5. Solution concentrated on rota-evaporator
6. Solution precipitated in cold methanol and redissolved in dioxane and freeze dried.
7. Final dried under vacuum for 48h at 50°C.

^1H NMR spectrum of the polymer:

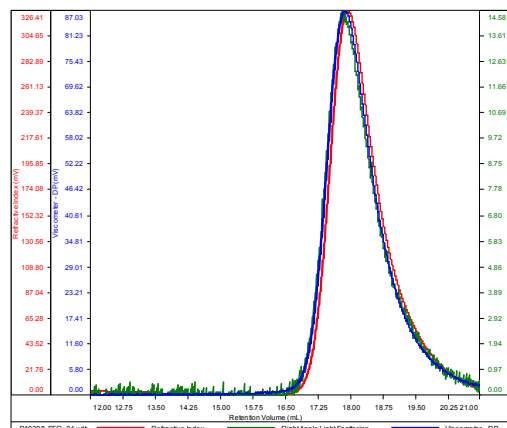


SEC of the SOH used in the synthesis
SOH



SEC elugram of the block copolymer:
P40298-SEO

Conc (mg/mL)	21.6216
divdc (mL/g)	0.1300
Method	PS80k_December-2016-0004.vcm
Solvent	DMF w 0.023M LiBr
Column	PSS



Sample	Mn	Mw	Mp	Mw/Mn	IV
P40298-SEO_01.vdt	7,391	7,564	7,298	1.024	0.0625