

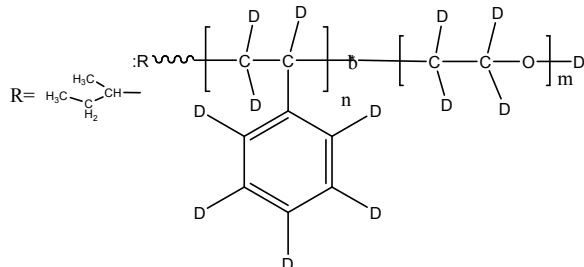
SEC of the product:

Sample Name:

Deuterated Polystyrene (d₈)- deuterated ethylene oxide (d₄)

Sample #: P10718A-dPSdPEO

Structure:



Composition:

Mn x 10 ³ dPS-b-dPEO	PDI
4.8-b-18.5	1.06
Dp; 43 units-b-385 units	

Synthesis Procedure:

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

Characterization:

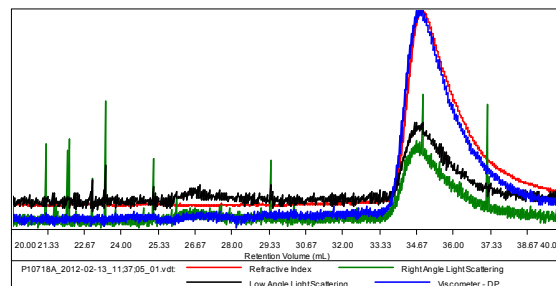
The molecular weight and polydispersity index (PDI) of the block copolymer are characterized by size exclusion chromatography (SEC).

Solubility:

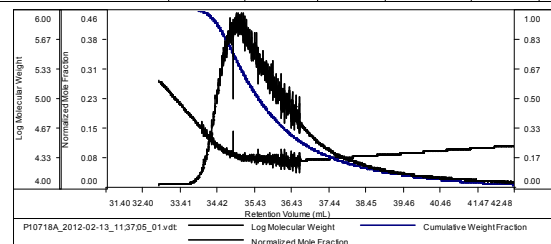
The polymer is soluble in THF (at 35 °C), CHCl₃, benzene, toluene, dioxane. Low molecular weight SEO with high contents of the polyethylene oxide block can also be solubilized in methanol and water.

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P10718A-DPSdPEO

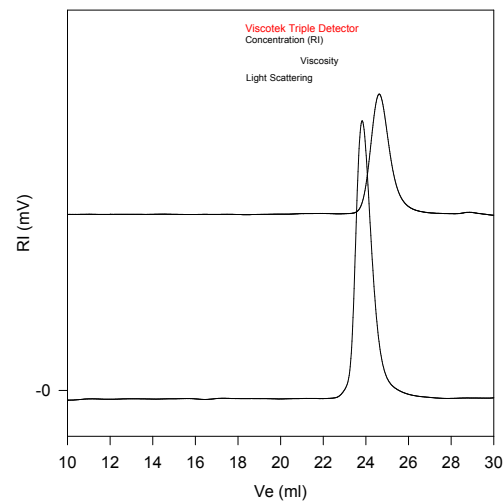
Concentration	3.1350
Sample dn/dc (mL/g)	0.0800
Method File	PS80K-Jan52012-2-0000.vcm
Column Set	3x PL 1113-6300
System	System 1



Sample	MW Number Average (Da)	MW Weight Average (Da)	MW Z-Average (Da)	Polydispersity	Intrinsic Viscosity (dL/g)	Hydrodynamic Radius (nm)
P10718A_2012-02-13_11:37:05_01.vdt	22,589	23,505	25,069	1.041	0.2765	6.13



P10718A-dPSdPEO



Size Exclusion Chromatography of polymer;

— For deuterated Polystyrene block: $M_n = 4,800$, $M_w = 52,000$, $M_w/M_n = 1.08$
Block Copolymer: dPS-b-dPEO : 4800-b-18,500: M_w/M_n 1.06

References for further information:

1. S. K. Varshney, R. Fayt, Ph. Teyssie, and J.P. Hautekeer US Patent 5,264,527 (1993)
2. S. K. Varshney, Jian-Xin Zhang. US patent 7009,033 B3 2006.