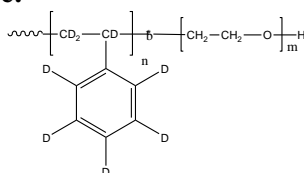


Sample Name:

Deuterated Polystyrene (d₈)- ethylene oxide (protonated)

Sample #: **P19196-dPSEO**

Structure:



Composition:

Mn x 10 ³ dPS-b-EO	PDI
54.5-b-45.0	1.08

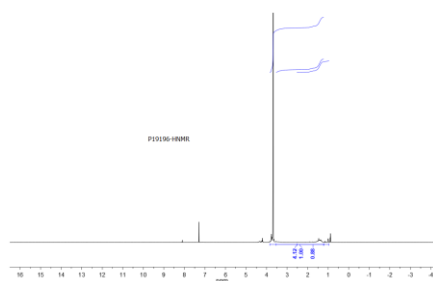
Synthesis Procedure:

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

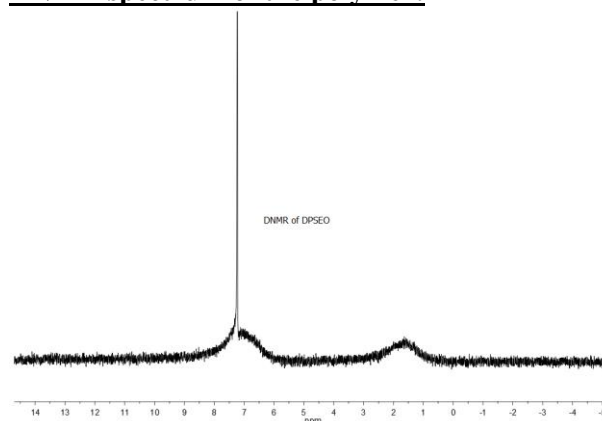
Characterization:

The molecular weight and polydispersity index (PDI) of the block copolymer are characterized by size exclusion chromatography (SEC). The composition of the block copolymer was calculated from ¹H-NMR by comparing the peak area of the phenyl polystyrene protons between 6.4 to 7.2 ppm (indicating about 1% protonated fraction) and the ethylene oxide protons at 3.65 ppm. This is given an approximate analysis. The yield of the polymer from the theoretical amount of deuterated styrene and protonated ethylene oxide monomer calculate also the compositions required.

HNMR spectrum of the Polymer:



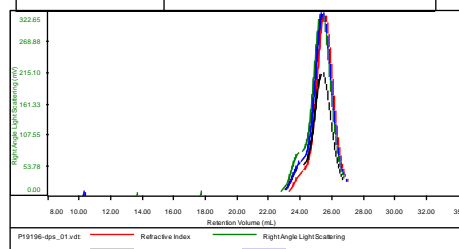
DNMR spectrum of the polymer:



SEC profile of the product:

Sample ID: P19196-dPS

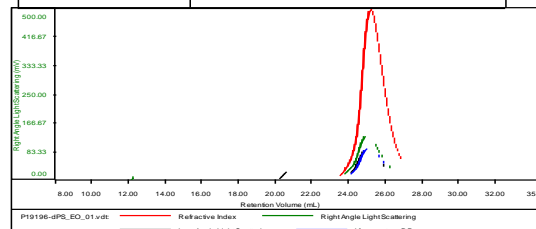
Concentration (mg/mL)	20.2549
Sample dn/dc (mL/g)	0.1850
Method File	PS80K-March6-2015-0000.vcm
Column Set	3x PL 1113-6300
Solvent	THF



Sample	MW Number Average (Da)	MW Weight Average (Da)	MW at Peak (Da)	Polydispersity	Intrinsic Viscosity (dL/g)
P19196-dps_01.vdt	54,455	58,160	53,547	1.068	0.2392

Sample ID: P19196-dPS-EO

Concentration (mg/mL)	10.3465
Sample dn/dc (mL/g)	0.1300
Method File	PS80K-March6-2015-0000.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)
P19196-dPS_EO_01.vdt	99,642	107,886	96,225	1.083	0.3074