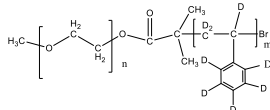


**Sample Name: Deuterated Polystyrene (d<sub>8</sub>)- ethylene oxide (protonated)**

**Sample #: P44013A-dPSEO**

**Structure:**

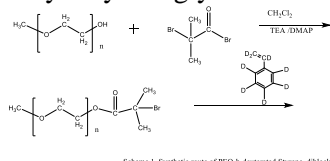


**Composition:**

Mn x 10 <sup>3</sup> dPS-b-EO	PDI
7.0-b-5.0	1.27

**Synthesis Procedure:**

Deuterated Poly(styrene-b-ethylene oxide) diblock copolymer is prepared by ATRP Process using Bromo end functionalized Poly ethylene glycol.

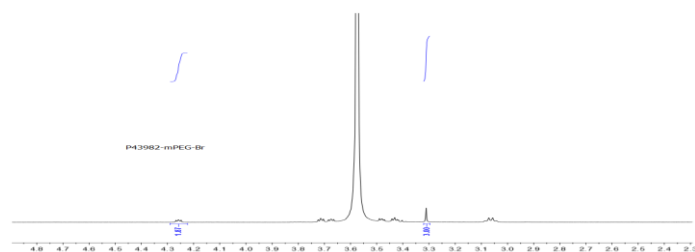


Scheme 1: Synthetic route of PEO-b-deuterated Styrene diblock copolymer

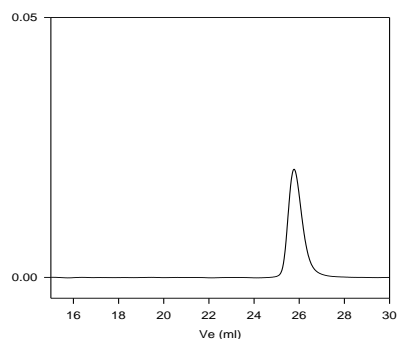
**Characterization:**

The product was characterized by size exclusion chromatography (SEC) and <sup>1</sup>H NMR data analysis.

**HNMR spectrum of the PEG-Br used:**

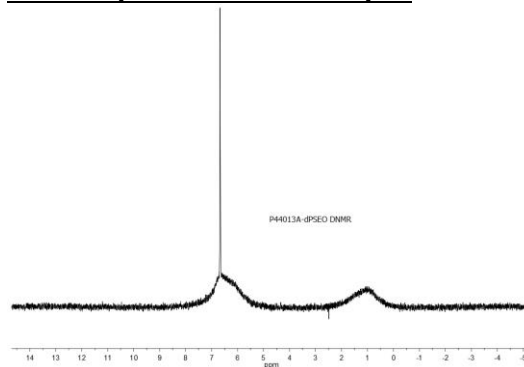


**SEC profile of the PEG-Br used::**

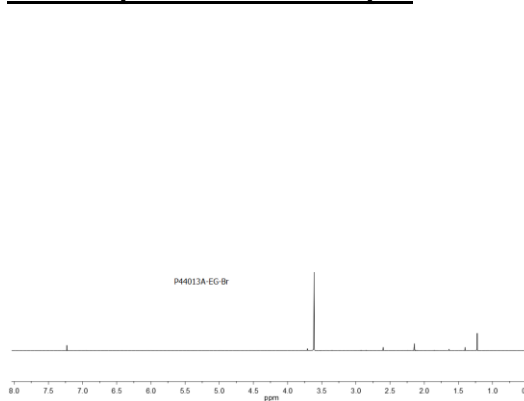


Size exclusion chromatography:  
— Bromo terminated Poly(ethylene glycol methyl ether),  
M<sub>n</sub>=5,000, M<sub>w</sub>=5,400, PDI=1.06

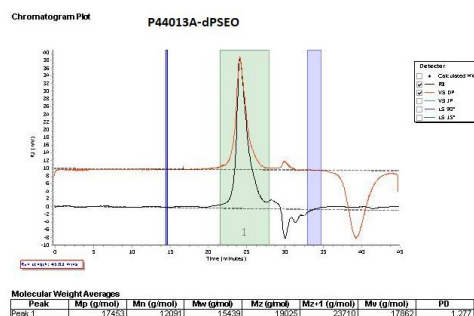
**DNMR spectrum of the Sample:**



**HNMR spectrum of the Sample:**



**SEC profile of the Sample:**



Peak	Mp (g/mol)	Mn (g/mol)	Mw (g/mol)	Mz (g/mol)	Mz+1 (g/mol)	Mz (g/mol)	PDI
Peak 1	17453	12091	15439	19025	23710	17682	1.277