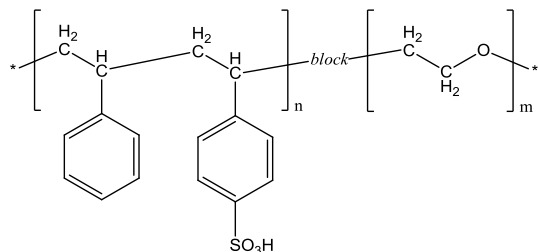


Sample Name:

**Poly (styrene sulfonic acid-*b*-ethylene oxide)**

Sample #: **P40903A-SSAEO**

**Structure:**



**Composition:**

$M_n \times 10^3$ SSA-b-EO	$M_w/M_n$	Degree of sulfonation:
12.0-b-10.0	1.07	20%

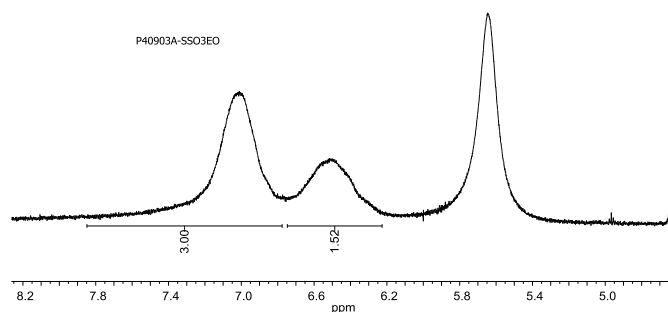
**Synthesis:**

The polymer was synthesized by anionic polymerization process followed by sulfonation.

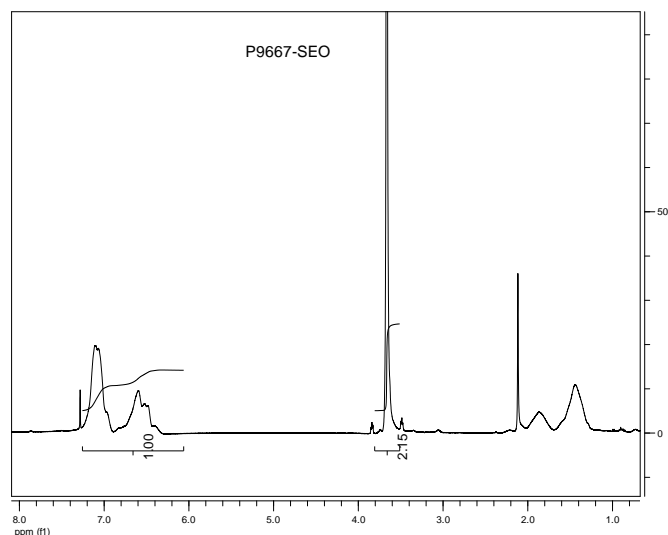
**Characterization:**

The product was characterized by size exclusion chromatography (SEC) and  $^1\text{H}$  NMR.

**$^1\text{H}$  NMR of the polymer in DMSO:**

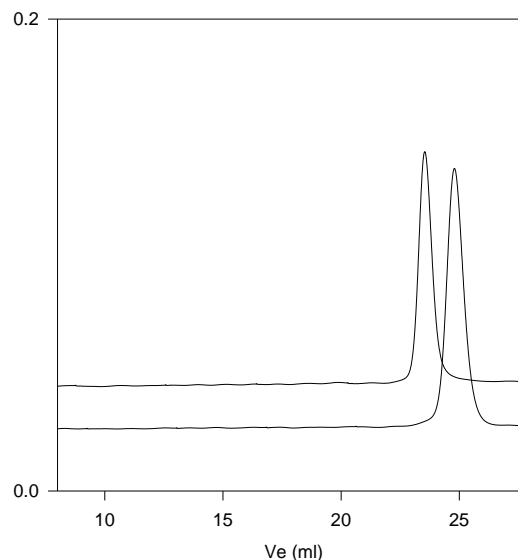


**$^1\text{H}$  NMR spectrum of the Polymer used for sulfonation:**



**SEC profile of the Polymer used for sulfonation:**

**P9667-SEO**



Size Exclusion Chromatography:

- Polystyrene,  $M_n=9,000$ ,  $M_w=9,500$ ,  $PI=1.05$
- Block Copolymer Polystyrene-*b*-Poly(ethylene oxide)
- $M_w$ : PS(9,000)-*b*-PEO(10,000),  $PI=1.07$