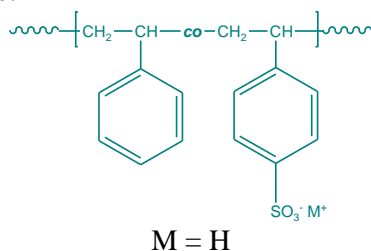


Sample Name: Ionomer of Poly (styrene-co-4-styrene sulfonic acid)

Sample #: P40906A-SSO3H

Structure:

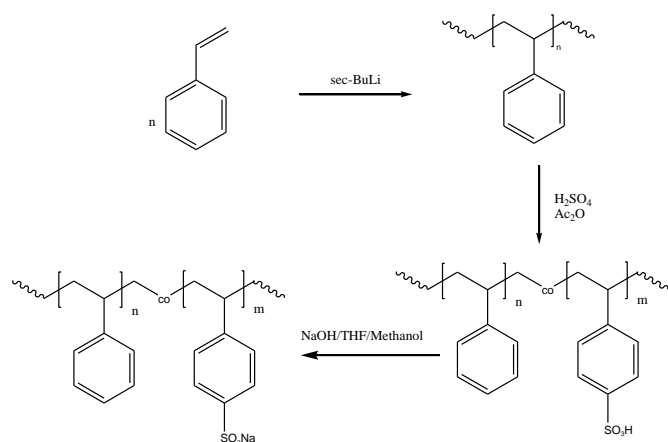


Composition:

$M_n \times 10^3$	Mole% of SO ₃ H	PDI
9.3	70%	1.09

Synthesis Procedure:

Poly(styrene-co-4-styrene sulfonic acid) is synthesized by partially sulfonation of monodispersed polystyrene and the reaction scheme is shown below.



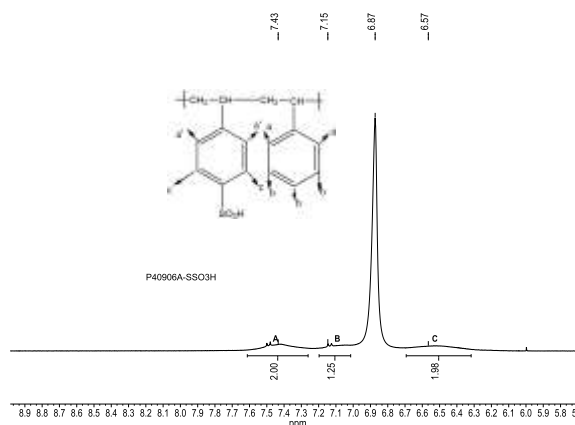
Characterization:

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

Solubility:

Poly (styrene-co-4-styrene sulfonic acid) is soluble in methanol.

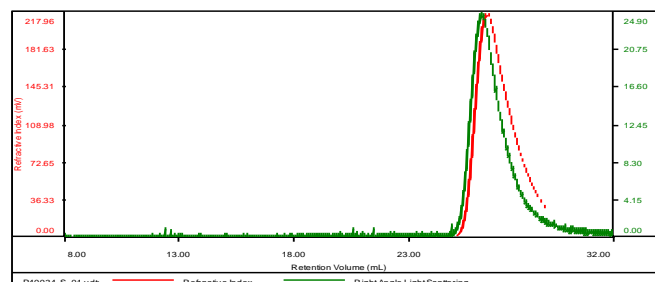
¹H NMR spectrum of the Sample runs in DMSO:



SEC elugram of Polystyrene used for sulfonation process:

Sample ID: P40034-S

Concentration (mg/mL)	7.2266
Sample dn/dc (mL/g)	0.1850
Method File	PS80K-30JUNE2016-0000.vcm
Column Set	3x PL 1113-6300
Solvent	THF



Sample	M_n (Da)	M_w (Da)	M_w/M_n	IV (dL/g)	M_p (Da)
P40034-S_01.vdt	5,962	6,540	1.097	0.1017	7,095