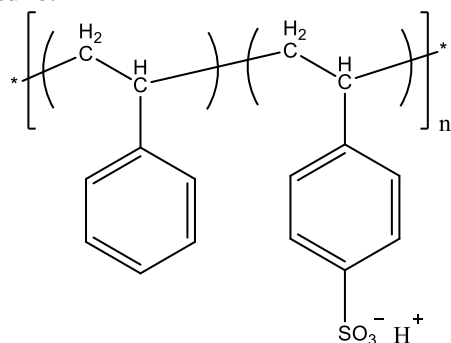


Sample Name: Ionomer of Poly (styrene-co-4-styrene sulfonic acid)

Sample #: P16407A-SSO3H

Structure:

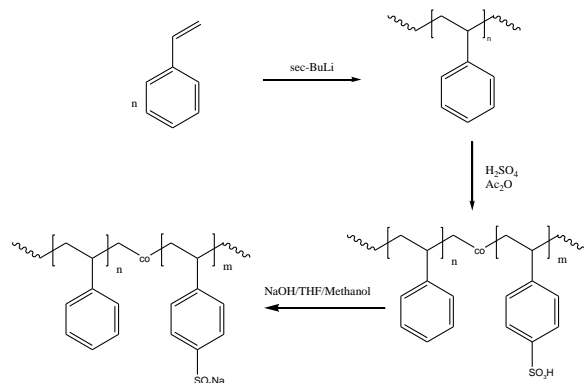


Composition:

Mn x 10 ³	Mole% of SO ₃ H	PDI
13.5	45%	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.



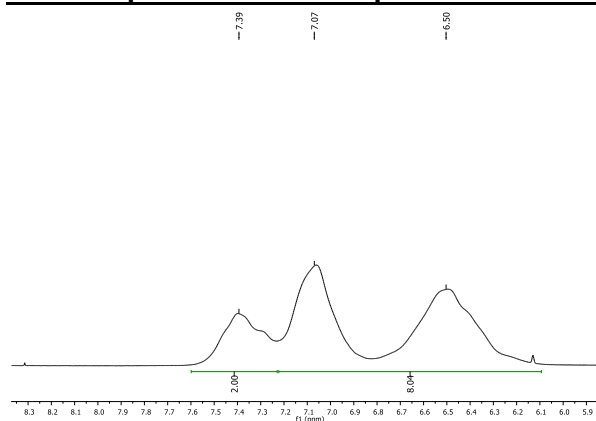
Characterization:

The product was characterized by size exclusion chromatography (SEC) and ¹H NMR.

Solubility:

The polymer is soluble in CHCl₃, acetone, DMSO and methanol depending on the sulfonation degree.

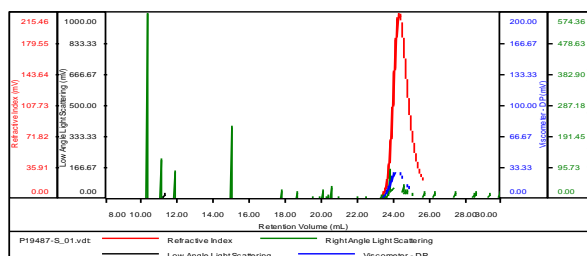
¹H NMR spectrum of the Sample runs in DMSO:



SEC elugram of Polystyrene used for sulfonation process:

Sample ID:P19487-S

Concentration (mg/mL)	1.1844
Sample dn/dc (mL/g)	0.1850
Method File	PS80K-June30-2015-0000.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)
P19487-S_01.vdt	9,918	10,864	9,912	1.095	0.5175