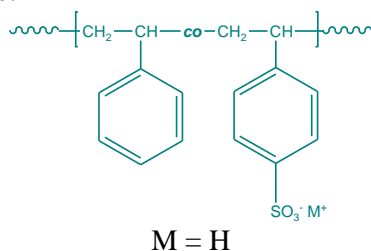


Sample Name: Ionomer of Poly (styrene-co-4-styrene sulfonic acid)

Sample #: P40908-SSO3H

Structure:

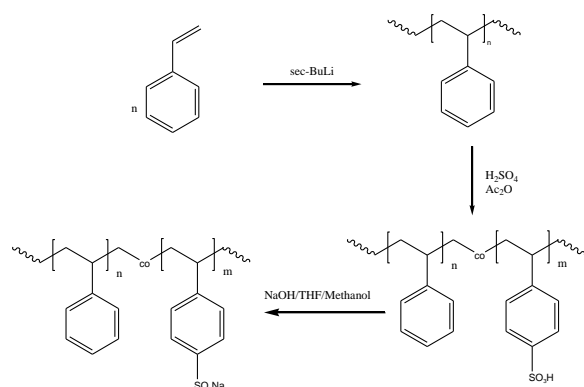


Composition:

Mn x 10 ³	Mole% of SO ₃ H	PDI
168.0	38.0%	1.04

Synthesis:

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



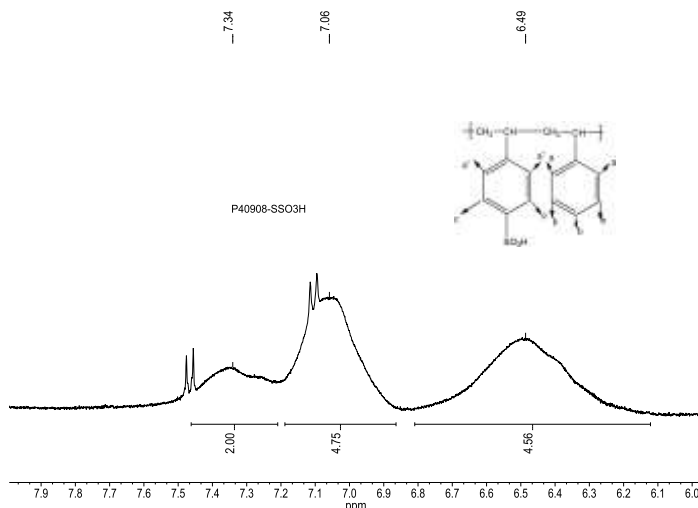
Characterization:

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

Solubility:

The polymer is soluble in methanol.

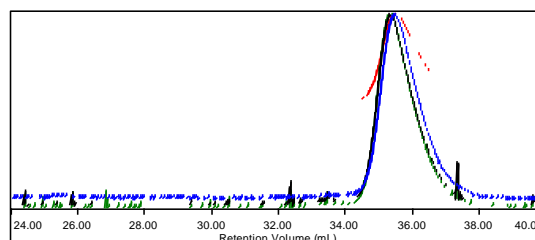
¹H NMR spectrum of the Sample runs in DMSO:



SEC elugram of Polystyrene used for sulfonation process:

Sample ID: P10447-S

Concentration (mg/mL)	1.0627
Sample dn/dc (mL/g)	0.1850
Method File	PS80K-July-0000.vcm
Column Set	3x PL 1113-6300
System	System 1



Sample	Mn (Da)	Mw (Da)	Mp (Da)	Mw/Mn	IV (dL/g)
P10447_2011-10-03_11:46:24_01.vdt	129,718	135,801	132,436	1.047	1.0116

