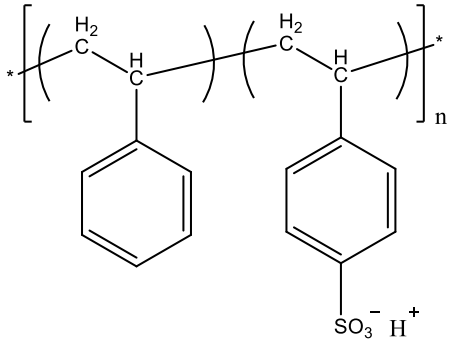
Sample Name: **Ionomer of Poly (styrene-co-4-styrene sulfonic acid)**

Sample #: **P16407B-SSO3H**

Structure:

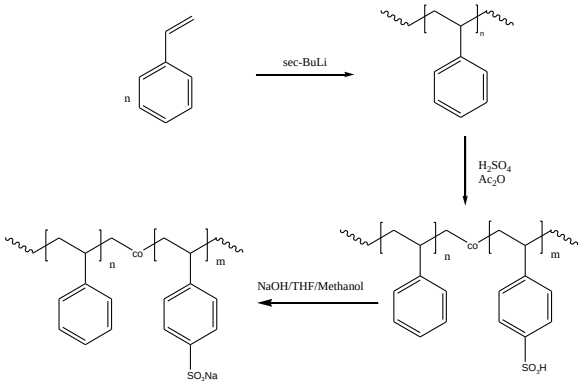


Composition:

Mn x 10^3	Mole% of SO3H	PDI
12.0	26 %	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.



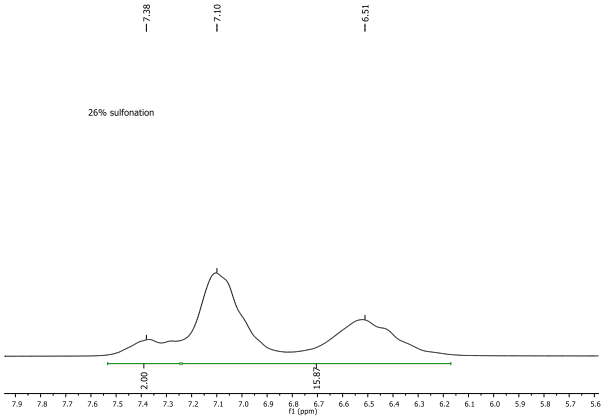
Characterization:

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

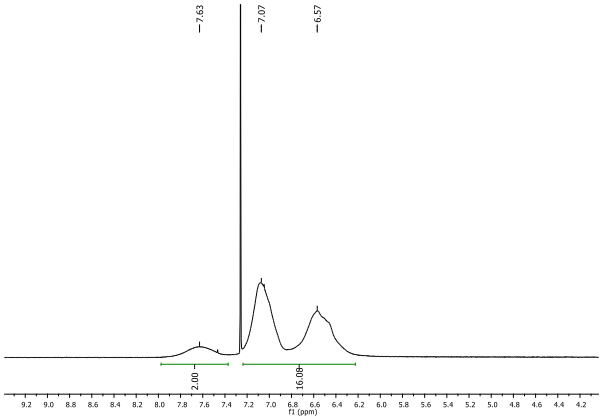
Solubility:

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

^{1}HNMR spectrum of the Sample runs in DMSO:



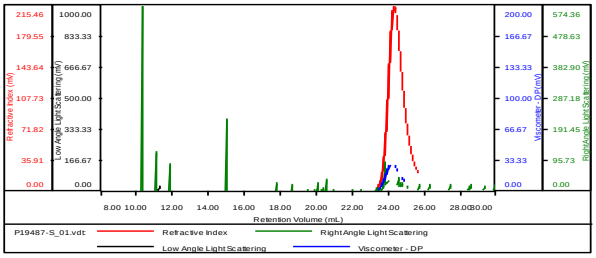
^{1}HNMR spectrum of the Sample runs in CDCl3:



SEC elugram of Polystyrne 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