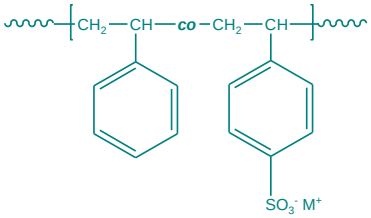
Sample Name: **Ionomer of Poly (styrene-co-4-styrene sulfonic acid)**

Sample #: **P40902A-SSO3H**

Structure:



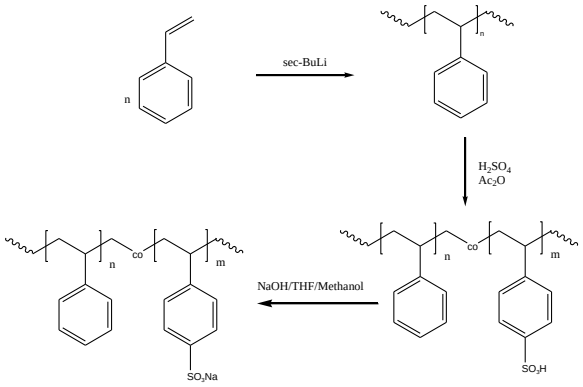
M = H

Composition:

Mn x 10^3	Mole% of SO3H	PDI
8.0	48%	1.09

Synthesis:

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



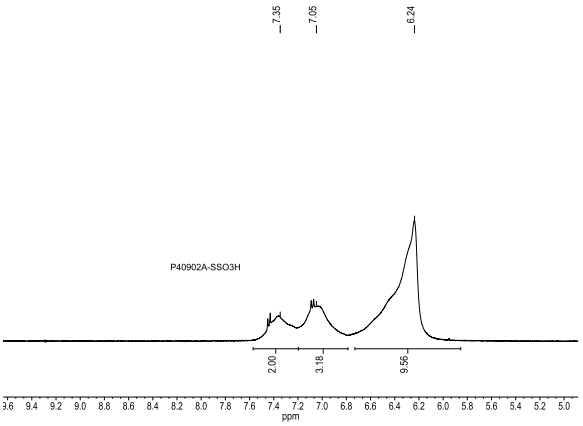
Characterization:

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

Solubility:

The polymer is soluble in methanol.

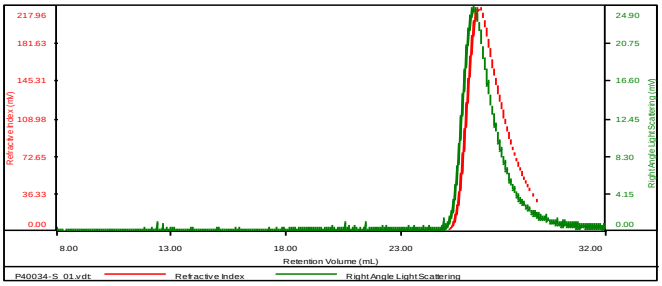
^{1}HNMR spectrum of the Sample runs in DMSO:



SEC elugram of Polystyrne 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	Mn (Da)	Mw (Da)	Mw/Mn	IV (dL/g)	Mp (Da)
P40034-S_01.vdt	5,962	6,540	1.097	0.1017	7,095