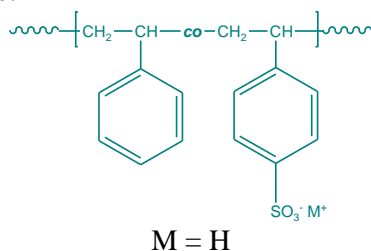


Sample Name: Ionomer of Poly (styrene-co-4-styrene sulfonic acid)

Sample #: P16313D-SSO3H

Structure:

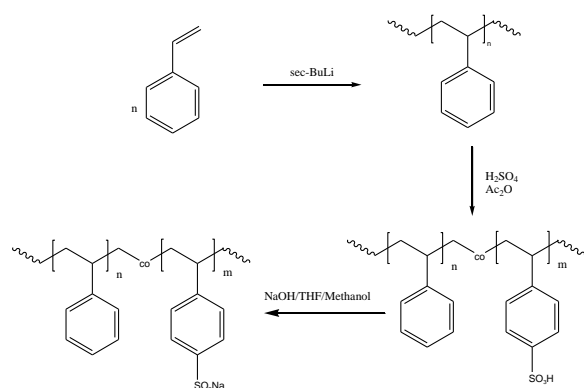


Composition:

$M_n \times 10^3$	Mole% of SO ₃ H	PDI
22.5	33%	1.03

Synthesis Procedure:

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



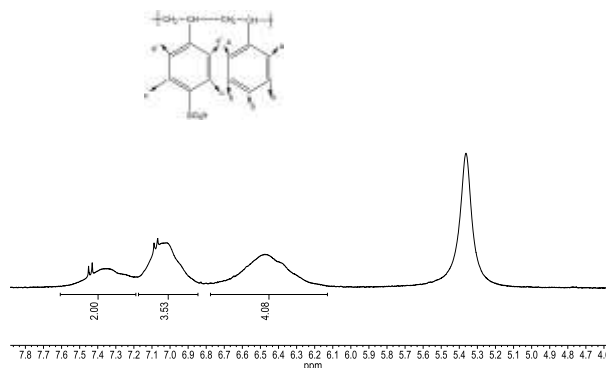
Characterization:

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

Solubility:

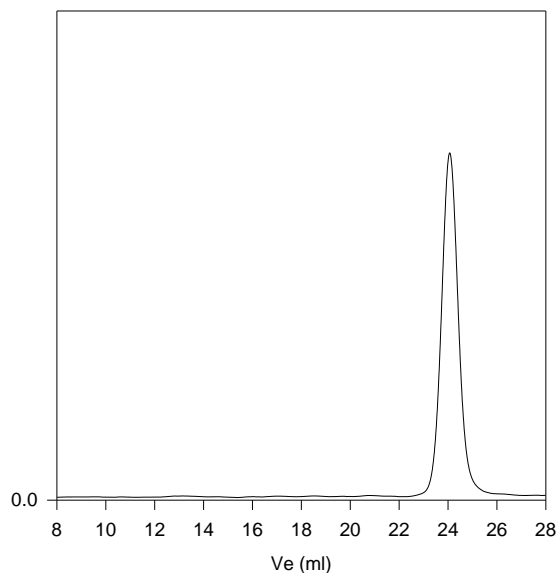
The polymer is soluble in methanol.

¹H NMR spectrum of the Sample runs in DMSO:



SEC elugram of Polystyrene used for sulfonation process:

P16313-S used for sulfonation



Size exclusion chromatograph of polystyrene:

$M_n=15,500$, $M_w=16,000$, $PI=1.03$