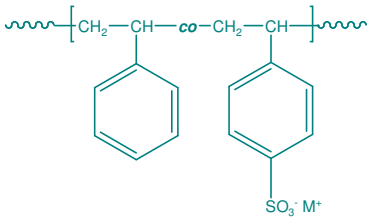
Sample Name: **Ionomer of Poly(styrene-co-4-styrene sulfonic acid)**

Sample #: **P19996-SSO3H**

Structure:



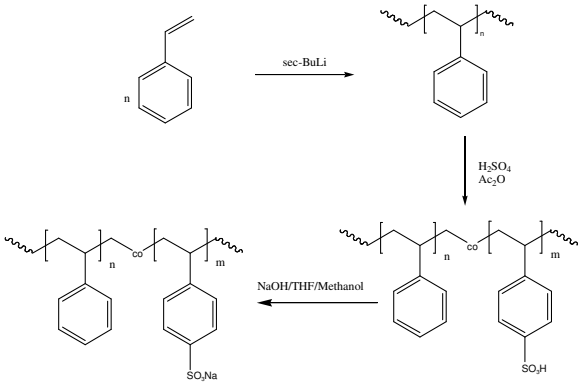
M = H

Composition:

Mn x 10^3	Mole% of SO3H	PDI
9.5	80%	1.05

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:

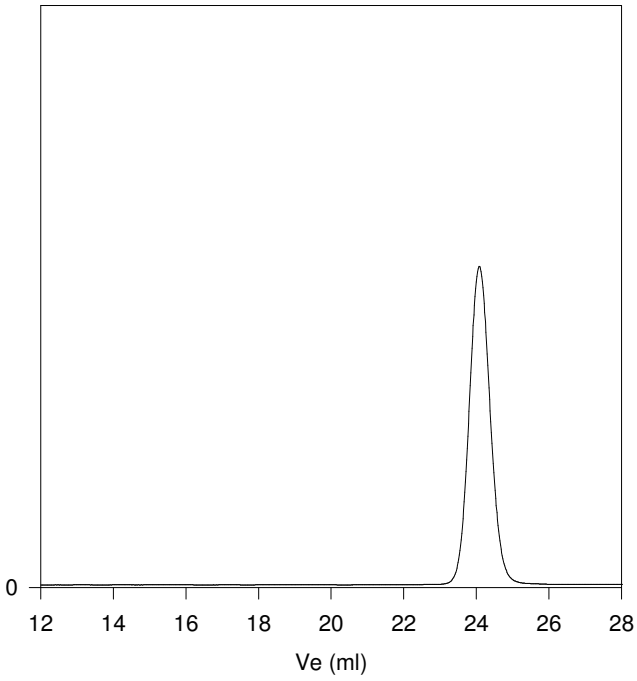
The molecular weight and polydispersity index (PDI) of parent polymer are obtained by size exclusion chromatography. The degree of sulfonation is determined by element analysis or titration.

Solubility:

Poly(styrene-co-4-styrene sulfonic acid) is soluble in DMF, chloroform, dichloroethane or alcohols depending on its chemical composition. It precipitates in hexane.

SEC elugram of Homopolymer:

P3485-S
(Precursor of P3485--SSO_3H/Na)



Size exclusion chromatograph of polystyrene:

M_n=6,000 M_w=6,300, PI=1.05

Sulfonation Degree: 80 mol%,
After Sulfonation Mn 9,500 Mw/Mn 1.05