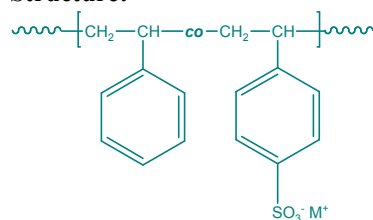


Sample Name: Poly(styrene-co-4-styrene sulfonic acid) sodium salt form

Sample #: P3016-5-SSO₃H

Structure:



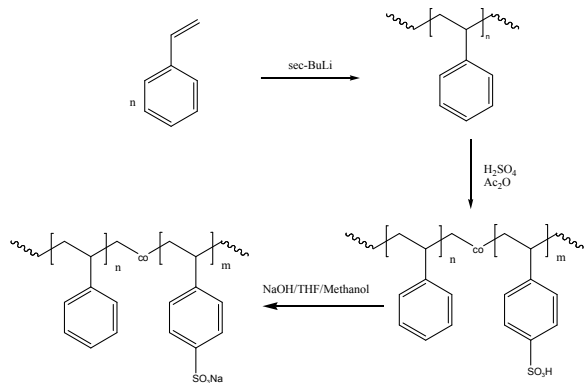
M = H

Composition:

Mn x 10 ³	Mole% of SO ₃ H	PDI
20.5	38.3	1.03

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:

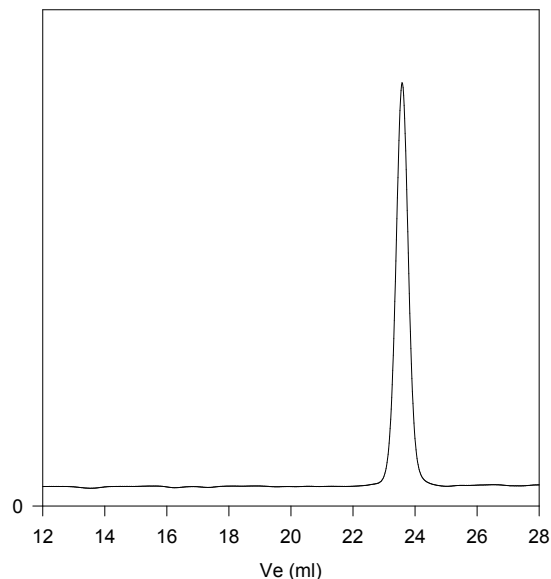
The molecular weight and polydispersity index (PDI) of parent polymer are obtained by size exclusion chromatography. The degree of sulfonation is determined by element analysis or titration.

Solubility:

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

SEC of Homopolymer:

P3011-S
(Precursor of P3016-5-SSO₃H/Na)



Size exclusion chromatograph of polystyrene:

M_n=14800 M_w=15300, PI=1.03

Sulfonation Degree: 38.3mol%, M_n=20500, M_w=21200, PI=1.043
after conversion to sodium salt: Mn:21500