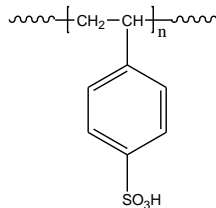


Sample Name: Poly (4-styrene sulfonic acid)
Or Poly (styrene sulfonic acid)

Sample #: P41859-SSO3H

dialysed form

Structure:



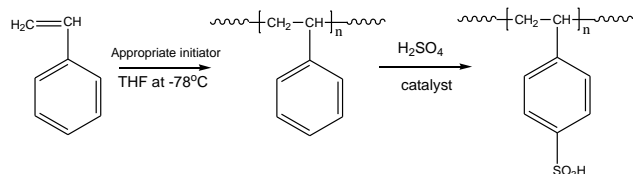
Composition:

$M_n \times 10^3$	PDI
62.0	1.02

Sulfonation degree > 95%

Synthesis Procedure:

Poly (styrene sulfonic acid) is obtained from the sulfonation of polystyrene. Polystyrene was obtained by anionic living polymerization. The molecular distribution of the obtained polystyrene sulfonic acid remains same as of the parent polymer. Furthermore the HNMR and FTIR spectroscopy of the polymer shows the sulfonation is predominately at par position of phenyl group. The reaction scheme is illustrated below:



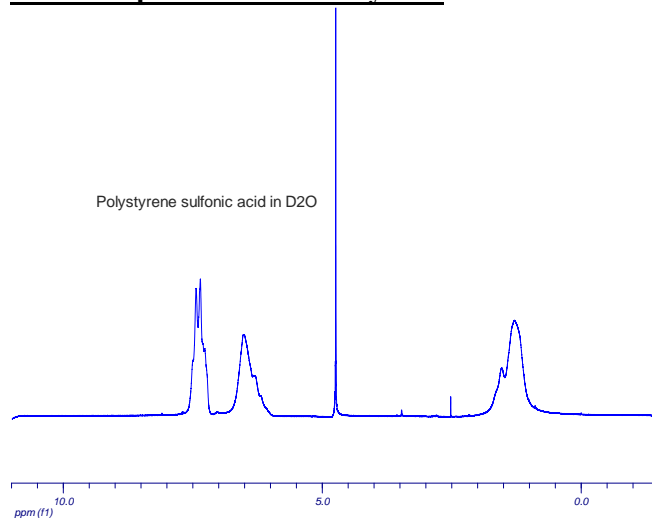
Characterization:

The molecular weight and polydispersity index (PDI) of poly (styrene sulfonic acid) are obtained by size exclusion chromatography. The degree of sulfonation is determined by acid/base titration and by elemental analysis.

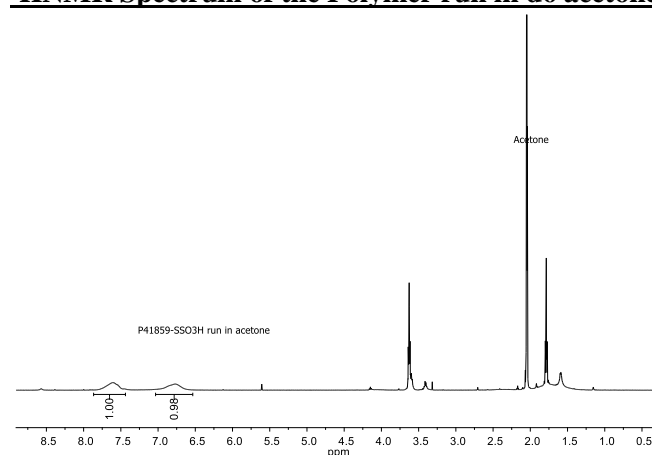
Solubility:

Poly (styrene sulfonic acid) is soluble in methanol, water and precipitated out from the hexane, THF, toluene.

¹HNMR Spectrum of the Polymer:

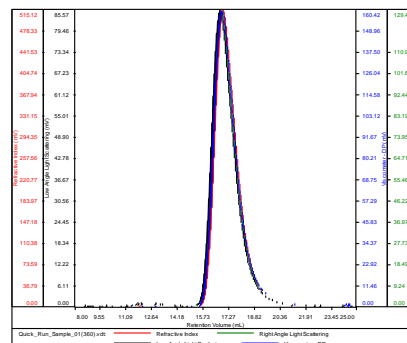


¹HNMR Spectrum of the Polymer run in d6 acetone



SEC of Homopolymer used for the sulfonation Lot# P40382 Mn 34,000 Mw/Mn 1.02

P40382-S	
Conc (mg/mL)	30.0201
dn/dc (mL/g)	0.1650
Method	PS80X_December-2016-0004.ucm
Solvent	DMF w/0.023M LiBr
Column	PSS



Sample	Mn	Mw	Mp	Mw/Mn	IV
Quick_Run_Sample_01(360).uvt	34,062	34,782	33,225	1.021	0.0942