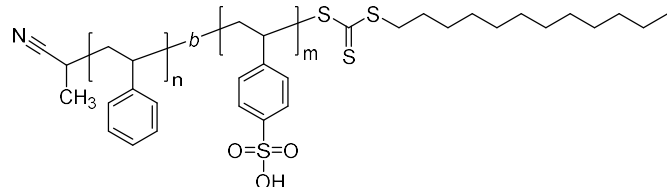


Sample Name: Poly(styrene)-b-poly (4-styrene sulfonic acid)

Sample #: P16425-S-SSO3H

Structure:

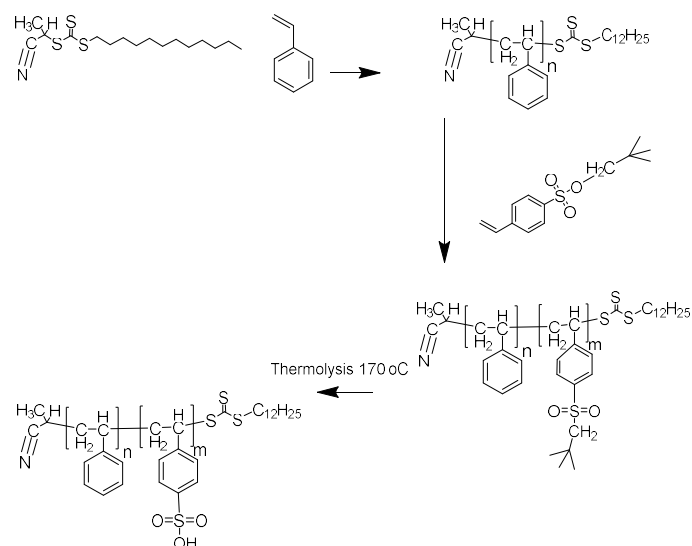


Composition:

$M_n \times 10^3$ PS-b-PSSO3H	PDI
9.5-b-8.0	1.28

Synthesis Procedure:

The polymer was synthesized by RAFT polymerization process as shown in the following reaction scheme:



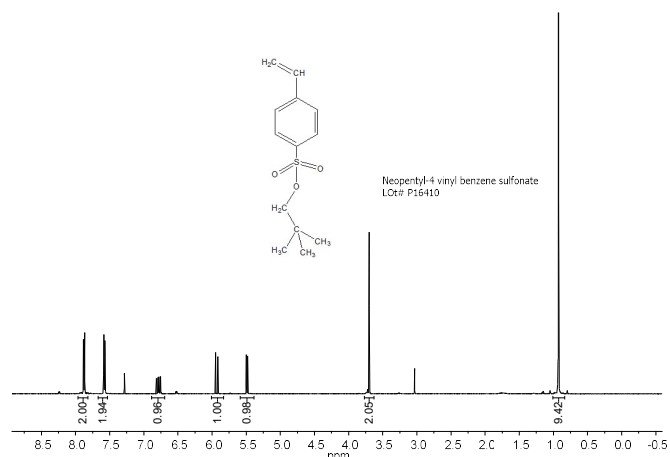
Characterization:

The molecular weight was calculated from ^1H NMR and polydispersity of product was characterized by size exclusion chromatography (SEC). The thermolysis of neopentyl group was monitored by ^1H NMR at around 0.92 ppm.

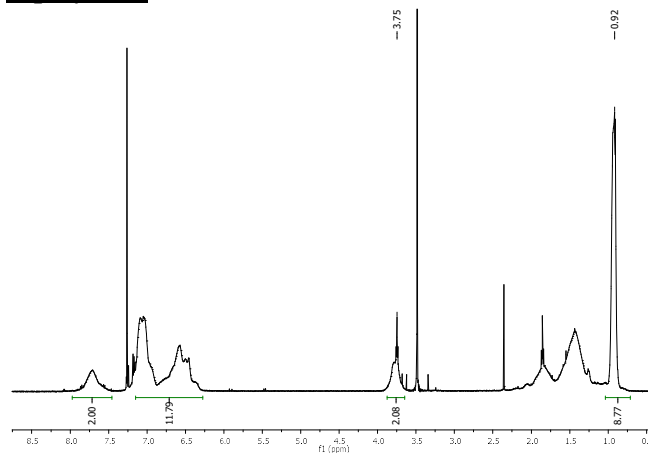
Solubility:

The polymer is soluble in DMSO and partially soluble in acetone, chloroform and THF depending on the sulfonation degree.

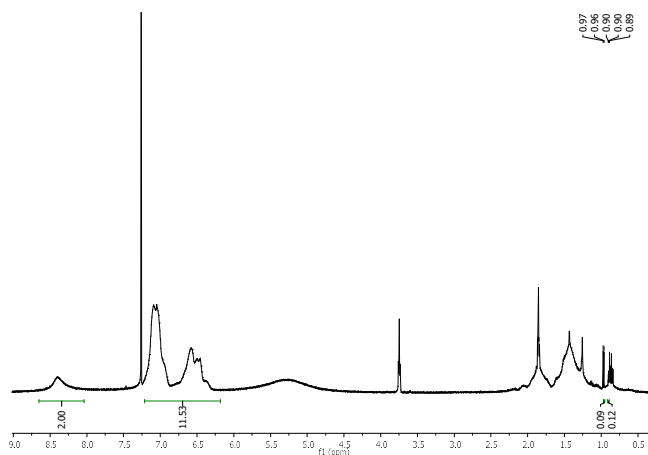
^1H NMR of neopentyl-4-styrene sulfonate (SSO3NP):



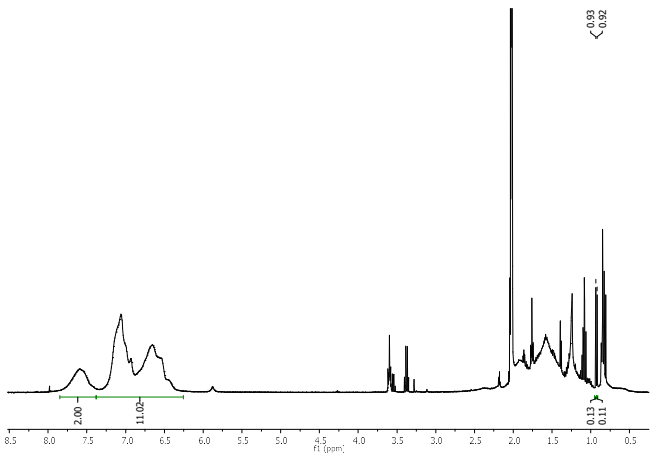
^1H NMR spectrum of the S-SSO3NP diblock copolymer:



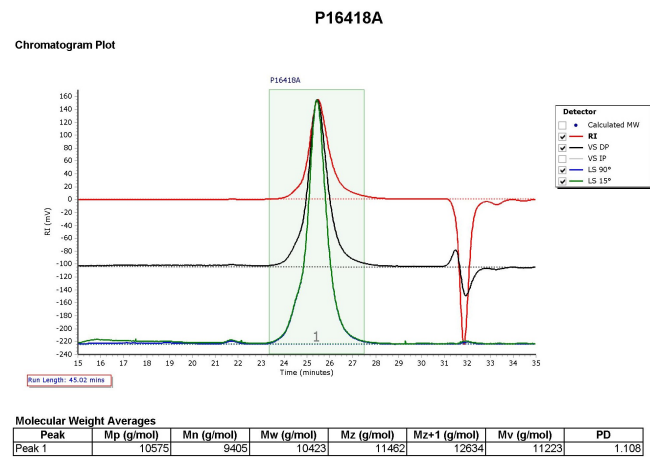
^1H NMR spectrum of the S-SSO3H after thermolysis (in CDCl_3):



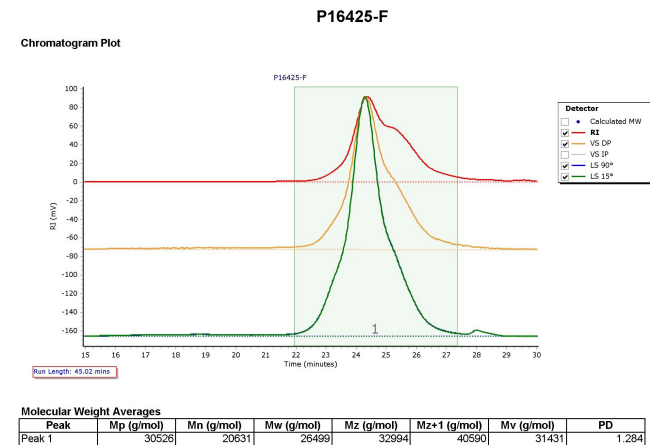
1H NMR spectrum of the S-SSO3H after thermolysis (in Acetone-d6):



SEC of first block Styrene-RAFT:



SEC of Styrene-b-SSO3NP diblock copolymer:



Molecular weight after thermolysis would be 9500-b-8000 (PS-b-PSSO3H)