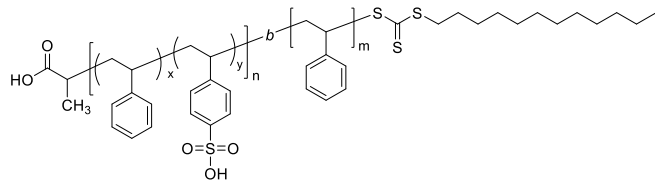


Product Name: Poly(styrene-*co*-styrene sulfonic acid)-*block*-polystyrene

Product # P42596D2-SSSO3Hran-b-S

Structure:

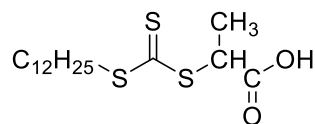


Composition:

$M_n \times 10^3$ (g/mol) [SSSO ₃ Hran- <i>b</i> -S]	M_w/M_n	Sulfonation in the 1 st block
34.5-40.0	1.2	14 mol%

Synthesis procedure:

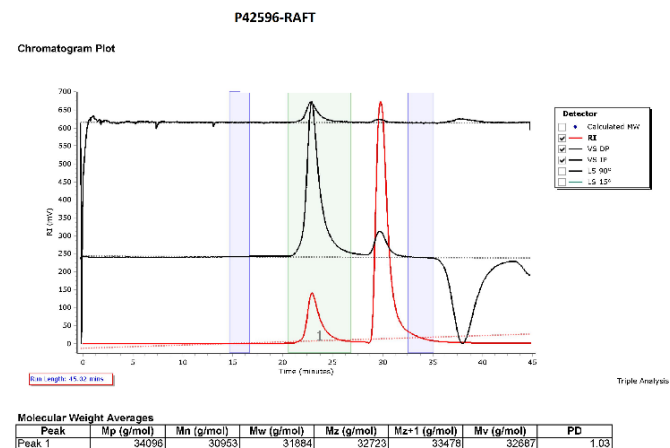
Polymer was prepared by RAFT process, using the following RAFT reagent:



Characterization:

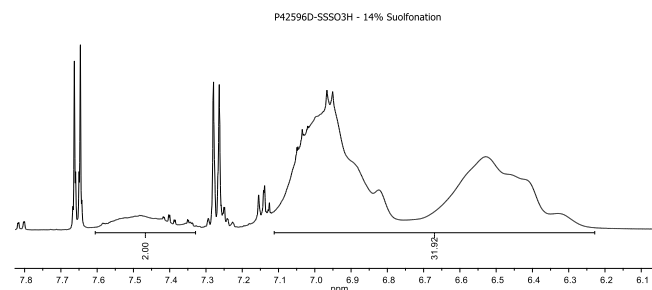
The degree of sulfonation and molecular weight were calculated by proton NMR spectroscopy. The polydispersity index was determined by size exclusion chromatography.

SEC of the 1st block before sulfonation:

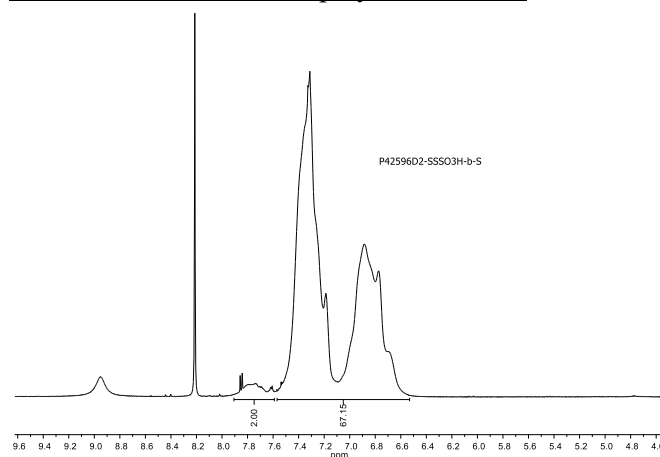


For 14% sulfonation: $M_n = 34,500$.

¹H NMR of the 1st block (PSSSO₃Hran) in acetone-d₆:



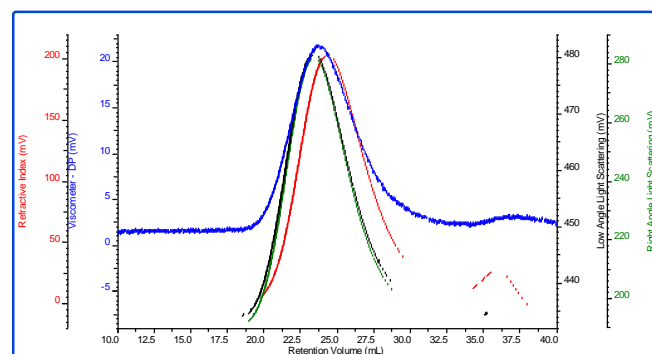
¹H NMR of the diblock copolymer in DMF:



SEC of the final product:

P42596-D2

dn/dc	0.1650
Flow Rate	0.7000
Solvent	DMF with LiBr
Method	PSS column-PMMA60K-Jan3-2019-0014.vcm



Sample	Mn	Mw	Mp	Mw/Mn
P42596-D2_1_2020-09-22	131,800	158,183	148,161	1.200

Molecular weight was calculated from proton NMR data. SEC chromatogram demonstrates absence of the unlinked random first block.