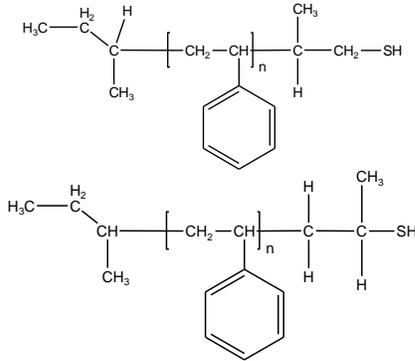


Sample Name: **Thiol Terminated Polystyrene**

Sample # **P40725-SSH**

Structure:

Route 2: (possible architectures)



Composition:

Mn x 10 ³ (g/mol)	Mw/Mn	-SH functionality
201.0	1.19	>90%
Tg		105 °C

Synthesis:

The polymer was synthesized by direct termination of anionic living polymerization of styrene by ethylene sulfide or propylene sulfide. Polymerization of styrene by *sec*-BuLi in THF at -78°C and termination by purified ethylene sulfide or propylene sulfide.

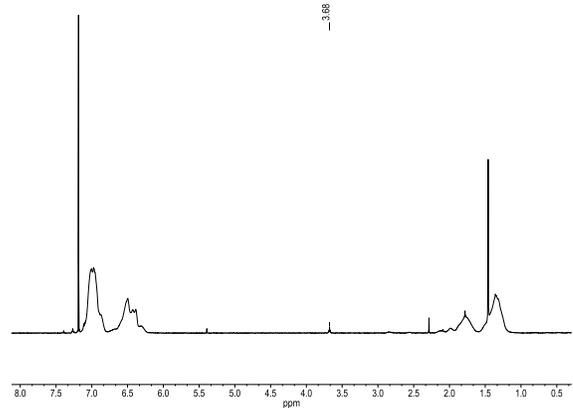
Characterization:

The molecular weight and polydispersity index of the hydroxyl terminated polymer were determined before functionalization with thiol by size exclusion chromatography (SEC) using a Varian liquid chromatograph equipped with UV-vis and refractive index detectors. Polymer functionality was verified by oxidation of thiol to disulfide.

Functionality:

It was determined by oxidation reaction with iodine.

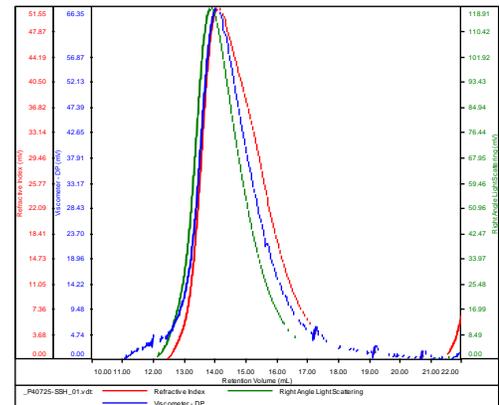
¹H NMR spectrum (500 MHz, CDCl₃) of the Sample:



SEC elugram of the Sample:

P40725-SSH

Conc	2.8879
dn/dc	0.1650
Solvent	DMF w 0.023M LiBr
Flow Rate	0.7000
Method	PS80K_2017-July-05-0000.vcm



Sample	Mn	Mw	Mp	Mw/Mn	IV
P40725-SSH_01.vdt	201,100	239,498	262,501	1.191	0.5518

DSC of the Polymer:

