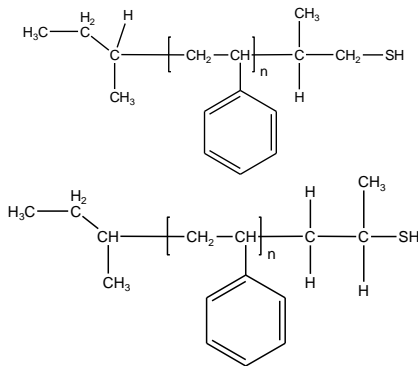


**Sample Name: Thiol Terminated Polystyrene**

**Sample # P40778-SSH**

**Structure:**

**Route 2:** (possible architectures)



**Composition:**

Mn x 10 <sup>3</sup> (g/mol)	Mw/Mn
1.5	1.14

-SH functionality	>98%
Tg	53 °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.

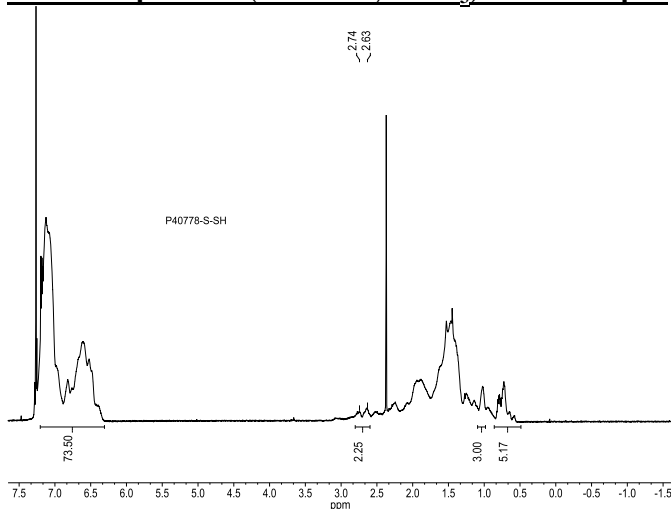
**Characterization:**

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:**

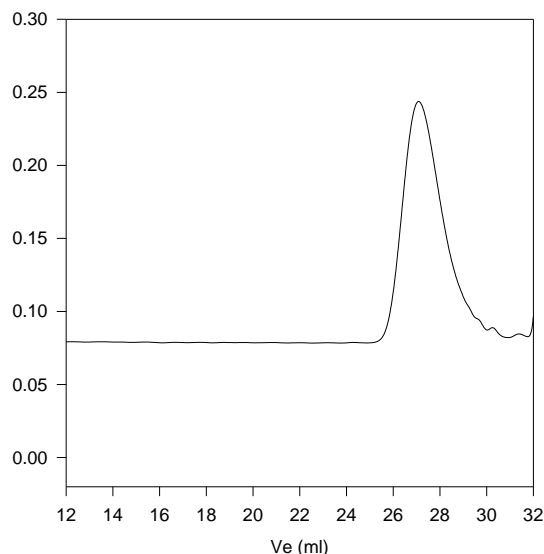
It was determined by oxidation reaction with iodine.

**<sup>1</sup>H NMR spectrum (500 MHz, CDCl<sub>3</sub>) of the Sample:**



**SEC elugram of the Sample:**

**P40778-SSH**



Size exclusion chromatograph of thiol terminated polystyrene:

— M<sub>n</sub>=1,500 M<sub>w</sub>=1,700 PI=1.14 Before termination with Propylene sulfide

**DSC thermogram of the Polymer:**

