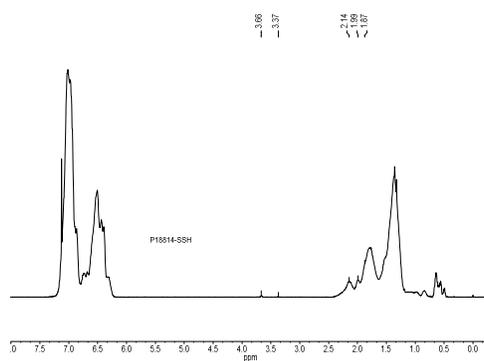
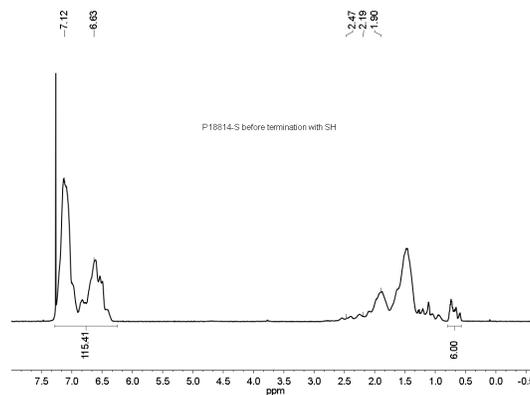
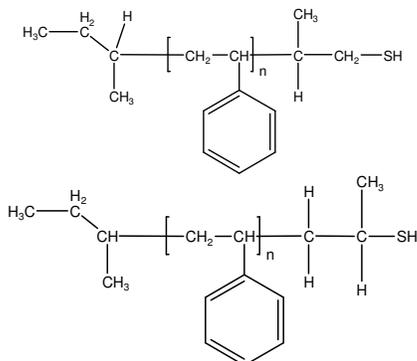


**Sample Name: Thiol Terminated Polystyrene**

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

**Sample # P18814-SSH**

**Route 2: (possible architectures)**



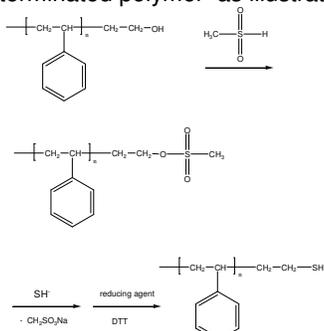
**Composition:**

Mn x 10 <sup>3</sup> (g/mol)	Mw/Mn	-SH functionality
3.0	1.13	>95%

**Synthesis:**

SH end-functionalized polystyrene can be synthesized quantitatively by 2 different approaches:

1. From hydroxy terminated polymer as illustrated below:



2. From 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.

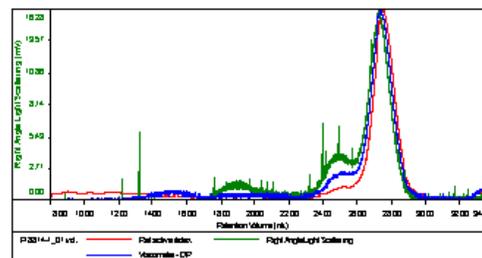
**Characterization:**

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.

**SEC:**

**Sample ID: P18814**

Concentration (mg/L)	20382
Sample concn (m Lg)	0.1880
Mixed file	PS6004d11y11-2014-0000.um
Column Set	3x PL 1113-6000
Solvent	THF



Sample	Mn	Mw	Mp	Mw/Mn	IV
P 18814-1_01 udt	3,005	3,415	3,177	1.135	0.3282

