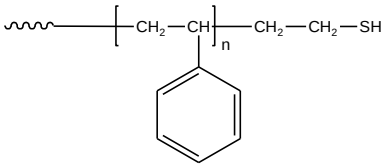
Sample Name: **Thiol Terminated Polystyrene**

Sample #: **P42100-SSH**

Structure:



Composition:

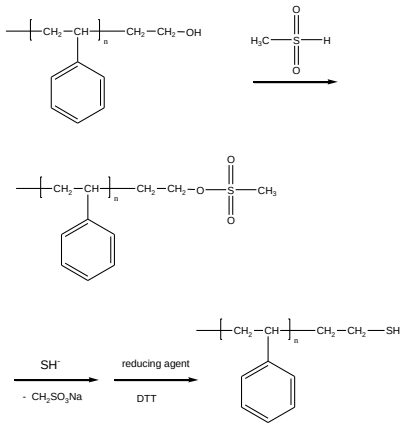
Mn × 10^3	PDI
38.0	1.11

SH- Functionality	>95%
T_g (°C)	96

Synthesis Procedure:

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 a UV and refractive index detector. Polymer functionality was verified by oxidation of thiol to disulfide.

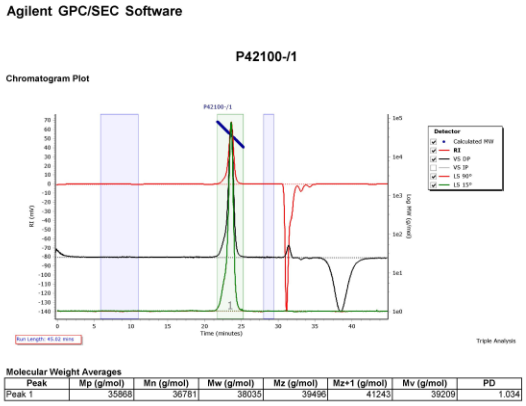
Thermal Analysis:

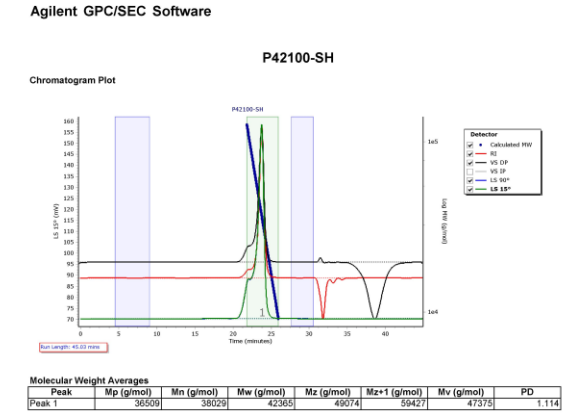
Thermal analysis of the samples was carried out using a differential scanning calorimeter (TA Q100) at a heating rate of 10°C/min. The inflection glass transition temperature (T_g) of the sample has been considered.

Solubility:

Polymer is soluble in THF, $CHCl_3$ and toluene.

SEC of Sample:





DSC thermogram for the polymer: