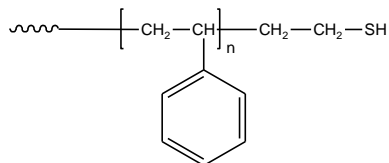


Sample Name: Thiol Terminated Polystyrene

Sample #: P42100A-SSH

Structure:



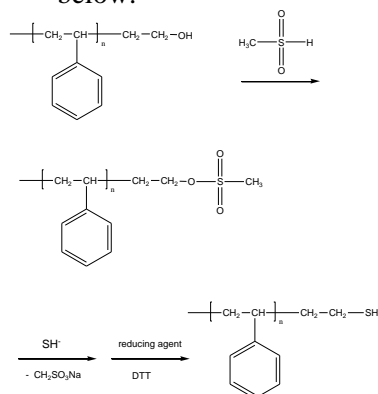
Composition:

$M_n \times 10^3$	PDI
51.0	1.07
SH- Functionality	>90%
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 oC 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:

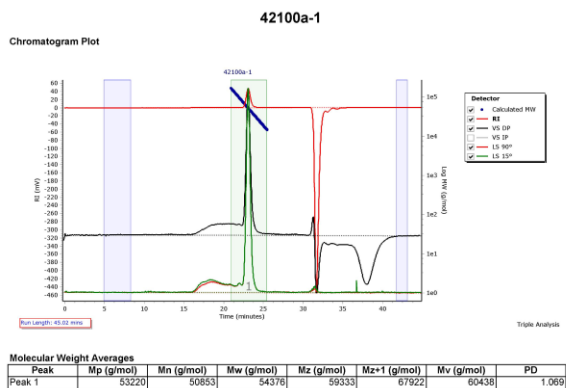
Thermal analysis of the samples was carried out using a differential scanning calorimeter (TA Q100) at a heating rate of 10°C/min. The inflection glass transition temperature (T_g) of the sample has been considered.

Solubility:

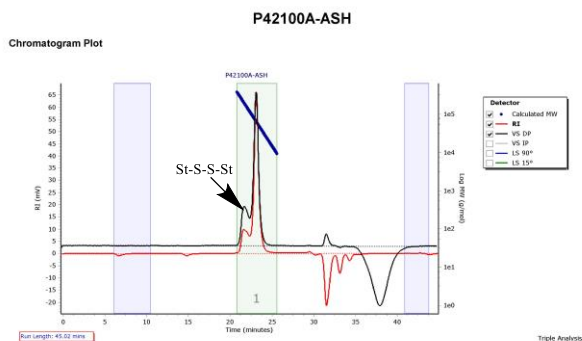
Polymer is soluble in THF, CHCl_3 and toluene.

SEC of Sample:

Agilent GPC/SEC Software



Agilent GPC/SEC Software



DSC thermogram for the polymer:

