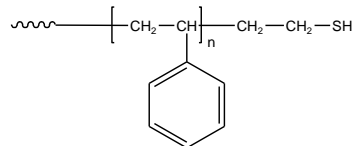


Sample Name: Poly(styrene), ω -thiol-terminated

Sample #: P41869-SSH

Structure:



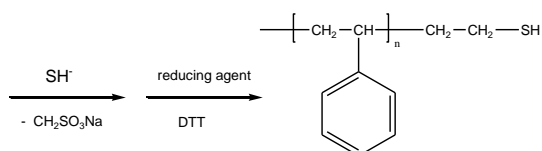
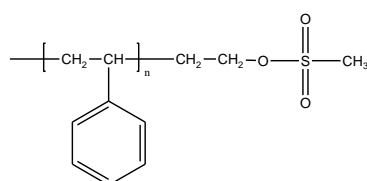
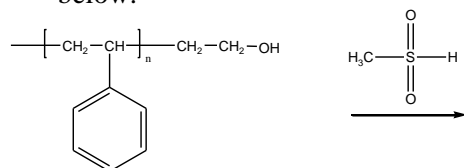
Composition:

Mn x 10 ³	PDI
50.0	1.01
SH- Functionality	>90%
T _g (°C)	105

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.

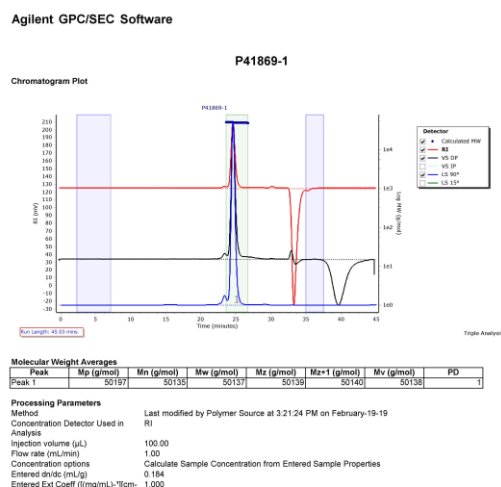
Thermal Analysis:

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.

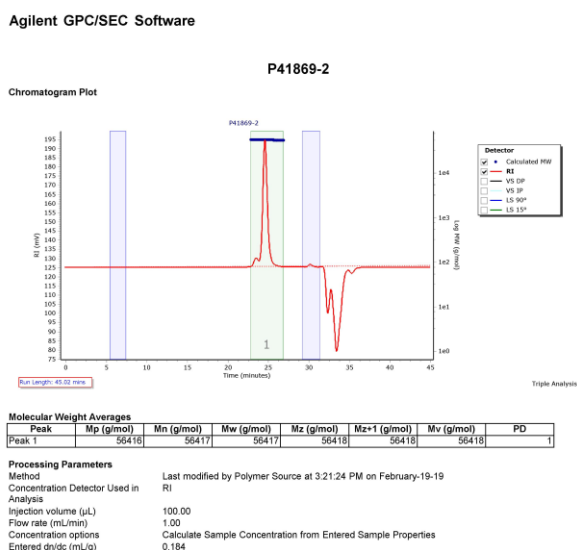
Solubility:

The polymer is soluble in THF, CHCl₃ and toluene.

SEC elugram of the Sample before Attaching SH end group:



SEC elugram of the Sample after SH-functionalization:



DSC thermogram for P41869 SSH:

