

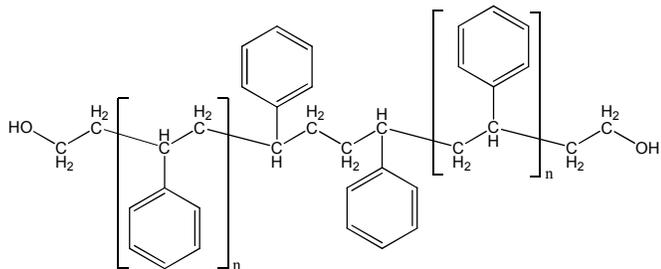
Sample Name:

α,ω -Di(hydroxy)-terminated polystyrene,

(with styrene dimer group in the middle of polymer chain)

Sample # P19897-S2OH

Structure:

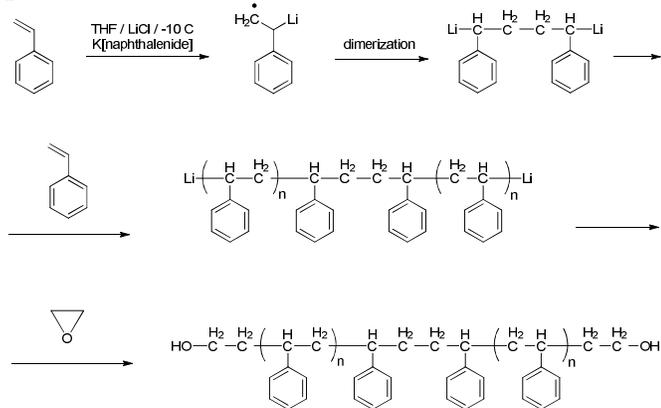


Composition:

$M_n \times 10^3$ (g/mol)	M_w/M_n
2.4	1.2
OH functionality	>99%

Synthesis procedure:

α,ω -Di(hydroxyl)-terminated polystyrene was prepared by living anionic polymerization of styrene using a bifunctional initiator in THF followed by termination with ethylene oxide. The scheme of reaction is presented below:



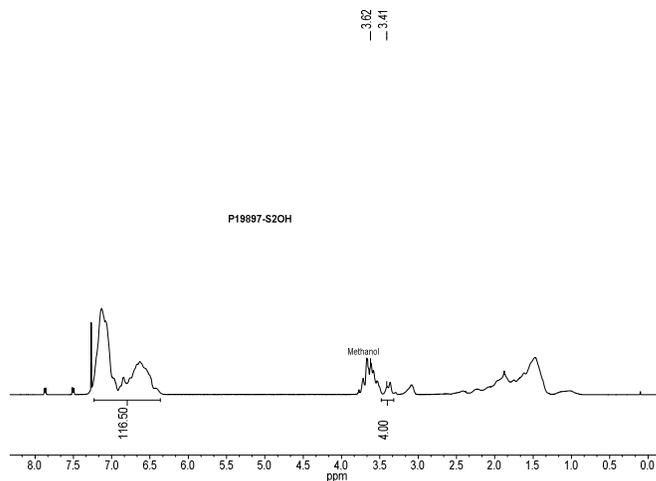
Characterization:

The molecular weight and polydispersity index of the polymer were determined by size exclusion chromatography (SEC) using a Varian liquid chromatograph equipped with a UV and refractive index detectors.

Solubility:

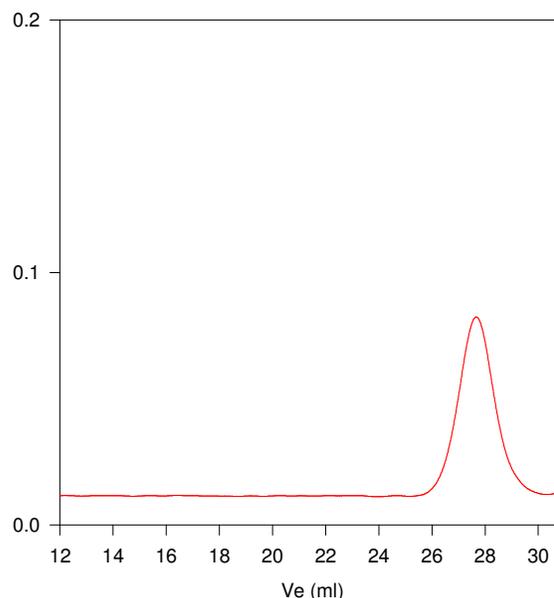
Polystyrene is soluble in toluene, THF, chloroform; and it precipitates from cold methanol, water.

^1H NMR of the Polymer in CdCl_2 :



SEC elugram of the polymer:

P19897-S2OH



Size exclusion chromatography of ω - α dihydroxy Terminated polystyrene:
 $M_n=2,400$, $M_w=2,900$ PI=1.20, functionality >1.98