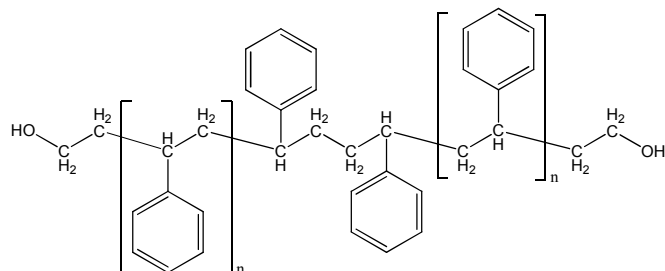


Sample Name:

α,ω -Di(hydroxy)-terminated polystyrene,
(with styrene dimer group in the middle of polymer chain)

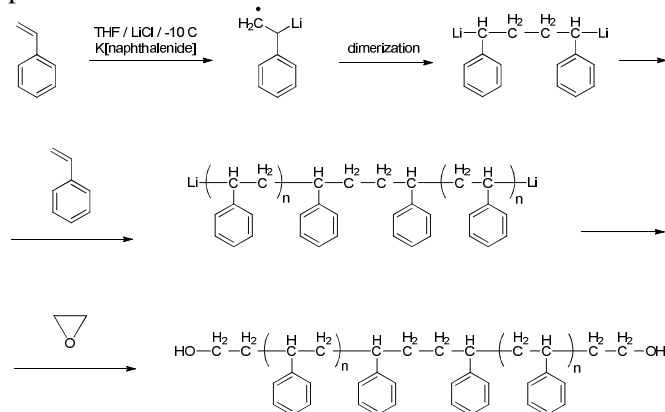
Sample # P19888-S2OH

Structure:**Composition:**

$M_n \times 10^3$ (g/mol)	M_w/M_n
5.0	1.2
-OH functionality:	> 98%

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:

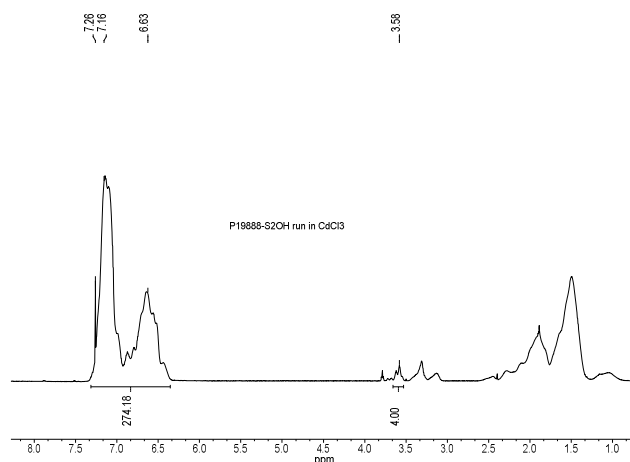
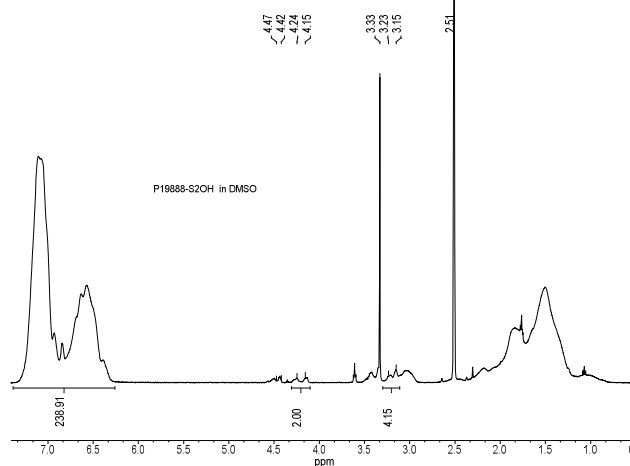
**Characterization:**

End-group functionality of the polymer was confirmed by ^1H -NMR spectroscopy.

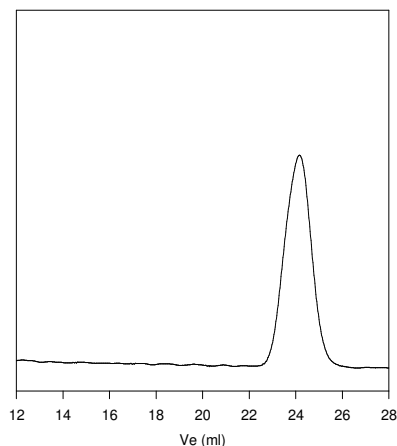
The molecular weight and polydispersity index of the polymer were determined by size exclusion chromatography (SEC) using a Varian liquid chromatograph equipped with a UV and refractive index detectors.

Solubility:

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

 ^1H NMR spectrum (500 MHz, CDCl_3): **^1H NMR spectrum (500 MHz, $\text{DMSO}-d_6$):****SEC elugram of the polymer:**

P19888-S2OH



Size exclusion chromatography of α,ω -dihydroxy Terminated polystyrene:
 $M_n=5,000$, $M_w=6,000$, $PI=1.2$, functionality=1.9