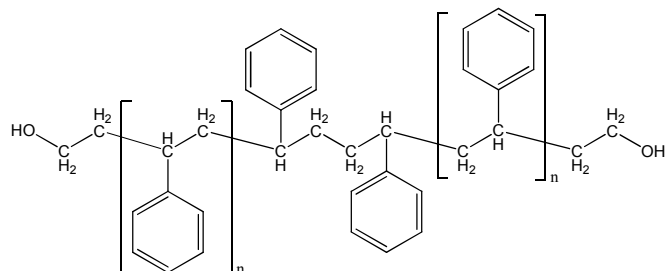


Sample Name: **α,ω -Di(hydroxy)-terminated polystyrene,**

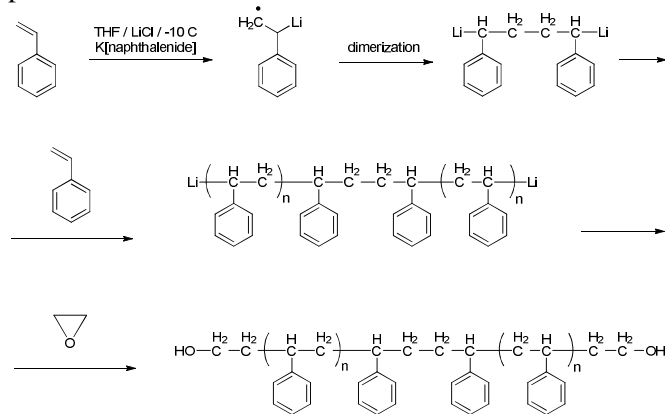
(with styrene dimer group in the middle of polymer chain)

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:

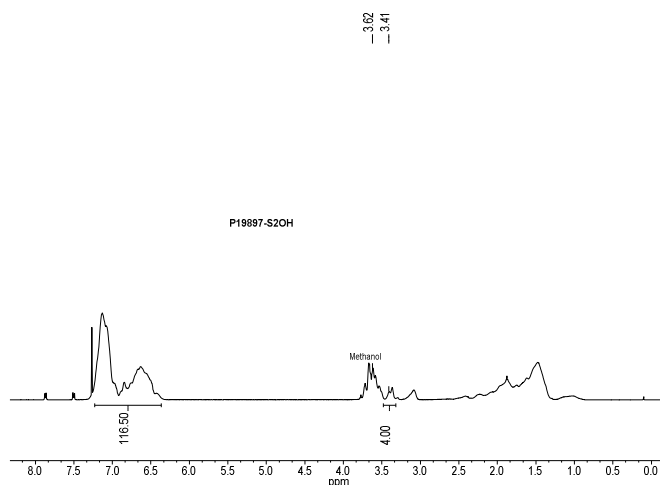
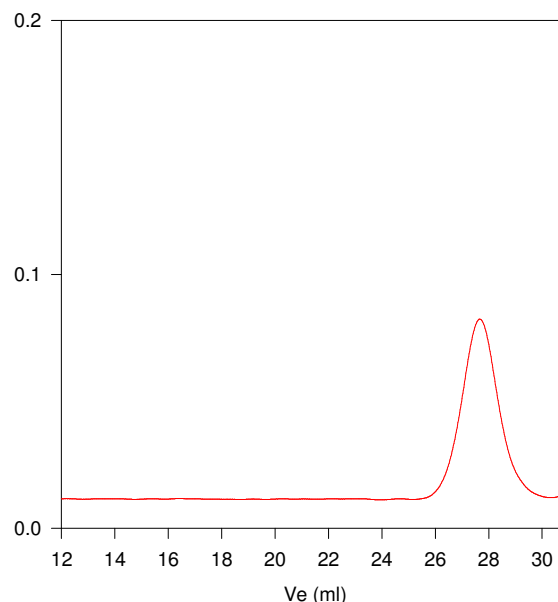
**Characterization:**

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_3 :

**SEC elugram of the polymer:****P19897-S2OH**

Size exclusion chromatography of $\omega-\alpha$ dihydroxy Terminated polystyrene:

$M_n=2,400$, $M_w=2,900$ $PI=1.20$, functionality >1.98