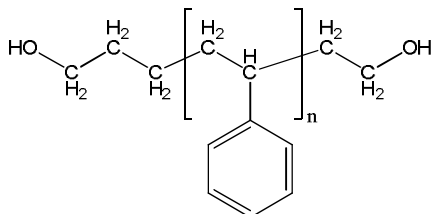
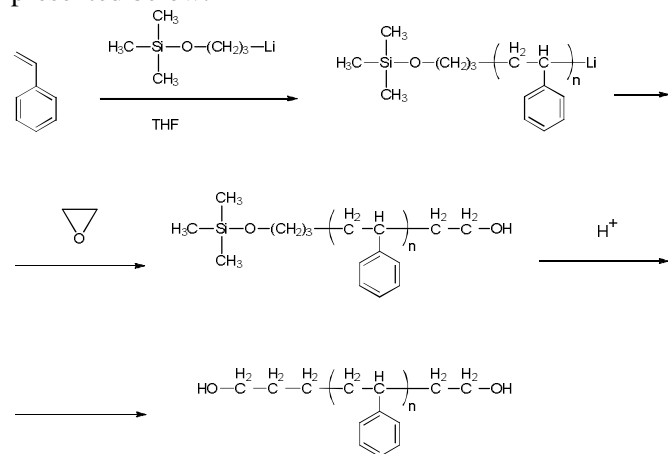


**Sample Name:** **$\alpha,\omega$ -Di(hydroxy)-terminated polystyrene****Sample # P18109-S2OH****Structure:****Composition:**

$M_n \times 10^3$ (g/mol)	$M_w/M_n$
428.5	1.18

**Synthesis procedure:**

$\alpha,\omega$ -Di(hydroxyl)-terminated polystyrene was prepared by living anionic polymerization of styrene using a hydroxyl-protected initiator, followed by termination with ethylene oxide. The scheme of reaction is presented below:

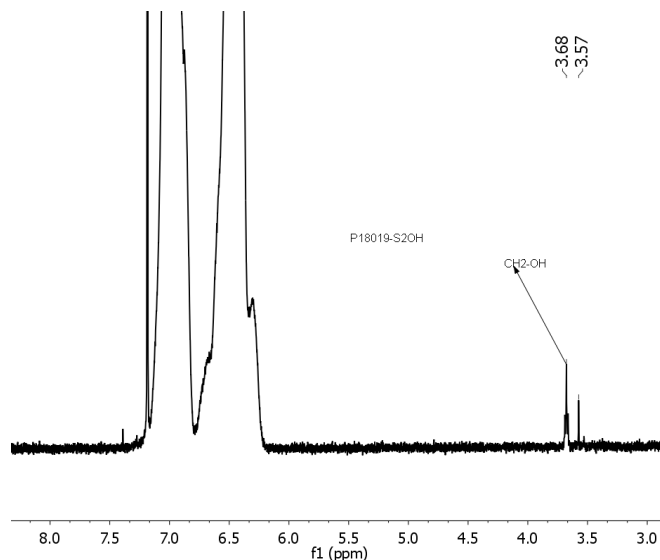
**Characterization:**

End-group functionality of the polymer was confirmed by  $^1\text{H}$ -NMR spectroscopy.

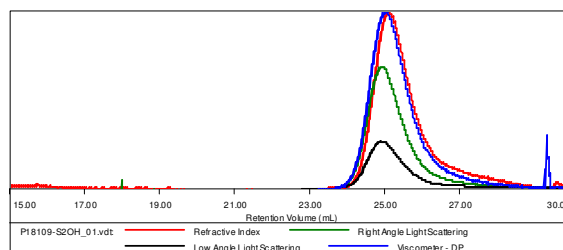
The molecular weight and polydispersity index of the polymer were determined by size exclusion chromatography (SEC) using a Varian liquid chromatograph equipped with a UV and refractive index detectors.

**Solubility:**

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

 **$^1\text{H}$  NMR (500 MHz,  $\text{CDCl}_3$ ):****SEC elugram of the polymer:****Sample ID: P18109-S2OH**

Concentration (mg/mL)	0.9577
Sample dn/dc (mL/g)	0.1850
Method File	PS80K-July-2013-0000.vcm
Column Set	3x PL 1113-6300
System	System 1



Sample	$M_n$	$M_w$	$M_p$	$M_w/M_n$	IV
P18109-S2OH_01.vdt	428,664	506,207	528,831	1.181	1.5281

