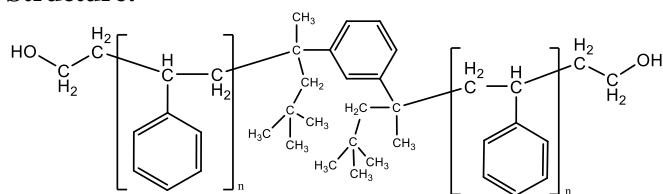


Sample Name:

**Poly(styrene),  $\alpha,\omega$ -bis(hydroxy)-terminated**  
(with *p*-[bis-*tert*-butyl ethyl]benzene group in the middle of polymer chain)

Sample #: **P43725-S2OH**

**Structure:**

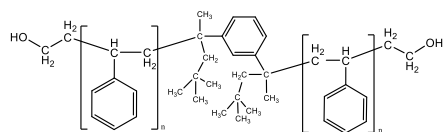
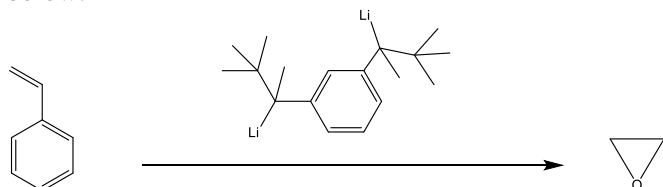


**Composition:**

$M_n \times 10^3$ (g/mol)	$M_w/M_n$
3.7	1.09

**Synthesis procedure:**

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



**Characterization:**

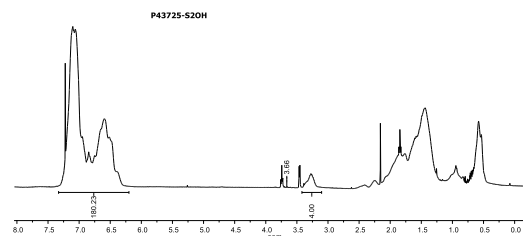
End-group functionality of the polymer was confirmed by  $^1\text{H}$ -NMR spectroscopy.

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. It precipitates from cold methanol, and water.

**HNMR of the polymer run in  $\text{CDCl}_3$ :**



**SEC elugram of the polymer: A series of Polymers:**

