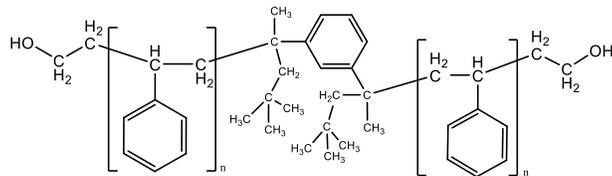


Sample Name:

**Poly(styrene),  $\alpha,\omega$ -bis(hydroxy)-terminated, with dialkyl-benzene group in center of polymer chain**

Sample #: P43725A-S2OH

**Structure:**

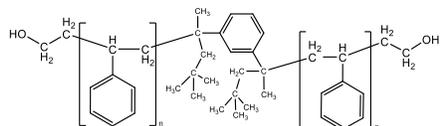
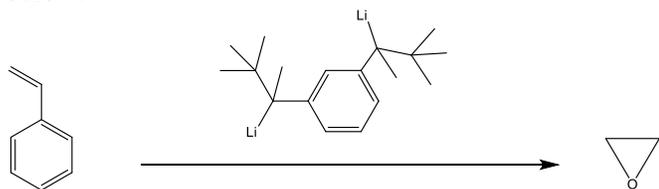


**Composition:**

|                           |           |
|---------------------------|-----------|
| $M_n \times 10^3$ (g/mol) | $M_w/M_n$ |
| 0.4                       | 1.10      |

**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:**

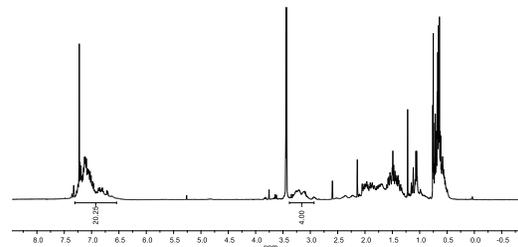
End-group functionality of the polymer was confirmed by  $^1\text{H-NMR}$  spectroscopy.

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.

**$^1\text{H-NMR}$  of the polymer run in  $\text{CDCl}_3$ :**



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

