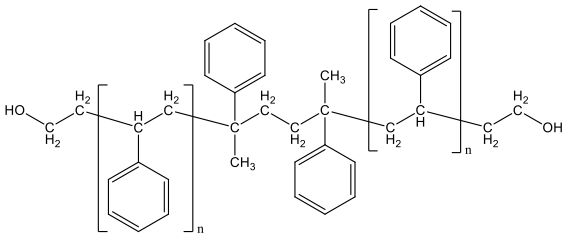
Sample Name:
**α,ω-Di(hydroxy)-terminated polystyrene,**
(*with α-methyl styrene dimer group in the middle of polymer chain*)

Sample#: **P5306C-S2OH**

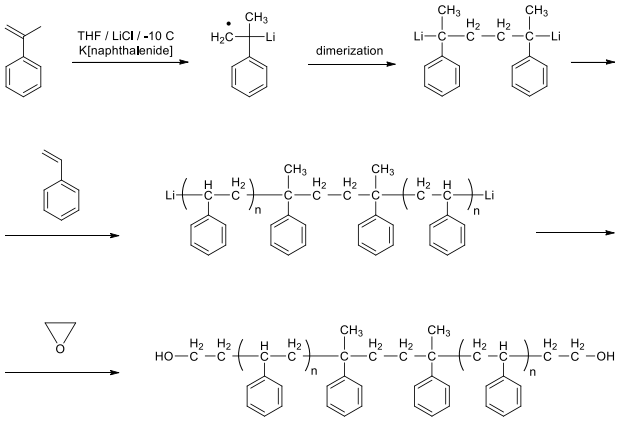
**Structure:**



**Composition:**

| $M_n \times 10^3$ (g/mol) | $M_w/M_n$ |
|---|---|
| 7.0 | 1.12 |

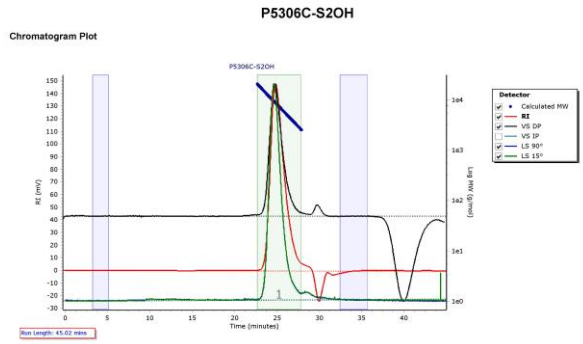
**Synthesis procedure:**
α,ω-Di(hydroxyl)-terminated polystyrene was prepared by living anionic polymerization of styrene using a bifunctional initiator in THF followed by termination with ethylene oxide. The scheme of reaction is presented below:




**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.

**SEC elugram of the polymer:**




Molecular Weight Averages

| Peak | Mp (g/mol) | Mn (g/mol) | Mw (g/mol) | Mz (g/mol) | Mz+1 (g/mol) | Mv (g/mol) | PD |
|---|---|---|---|---|---|---|---|
| Peak 1 | 8763 | 7151 | 8036 | 8848 | 9592 | 8700 | 1.124 |