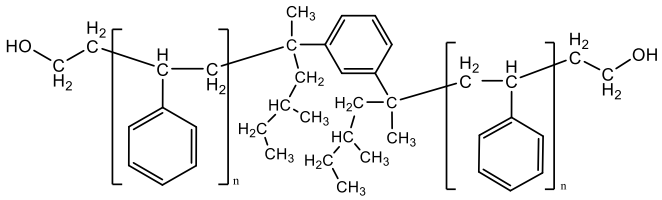
Sample Name:

Poly(styrene), α,ω-bis(hydroxy)-terminated
(*with p-[bis-Sec.-butyl ethyl]benzene group in the middle of polymer chain*)

Sample #: **P43735-S2OH**

Structure:

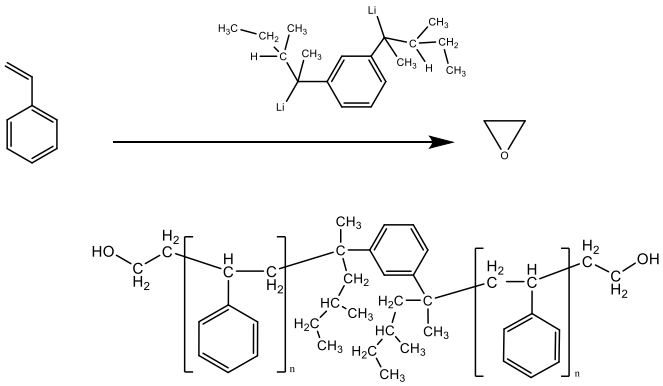


Composition:

$M_n \times 10^3$ (g/mol)	M_w/M_n
5.3	1.18

Synthesis procedure:

α,ω-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:

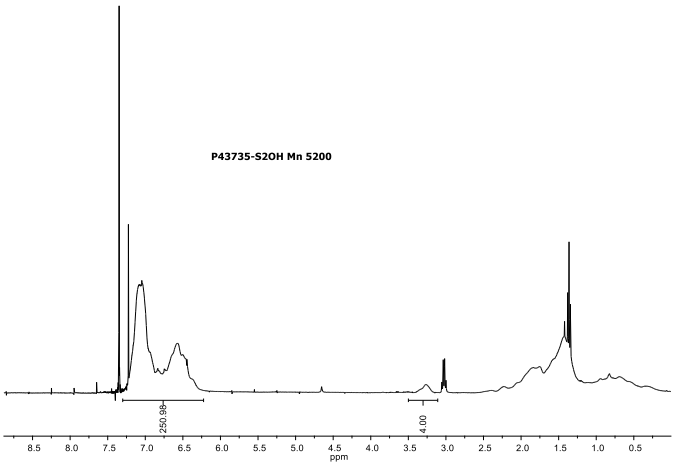
End-group functionality of the polymer was confirmed by ^{1}H-NMR spectroscopy.

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.

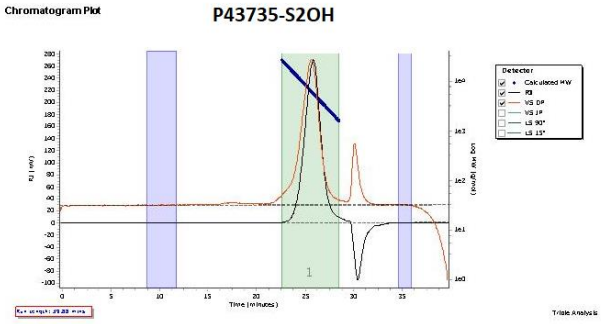
Solubility:

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

^{1}HNMR of the polymer run in CdCl3:



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	5740	5357	6343	7507	8940	7377	1.184