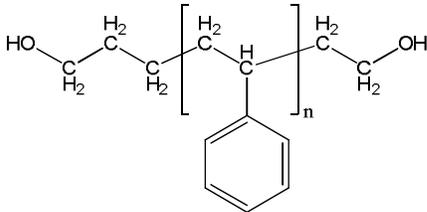


## Sample Name:

$\alpha,\omega$ -Di(hydroxy)-terminated polystyrene

## Sample # P18705A-S2OH

### Structure:

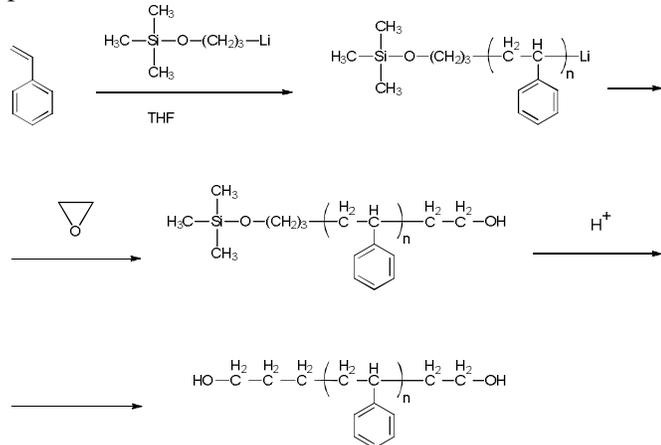


### Composition:

$M_n \times 10^3$ (g/mol)	$M_w/M_n$
14.0	1.1
-OH functionality:	> 85%

### Synthesis procedure:

$\alpha,\omega$ -Di(hydroxy)-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:

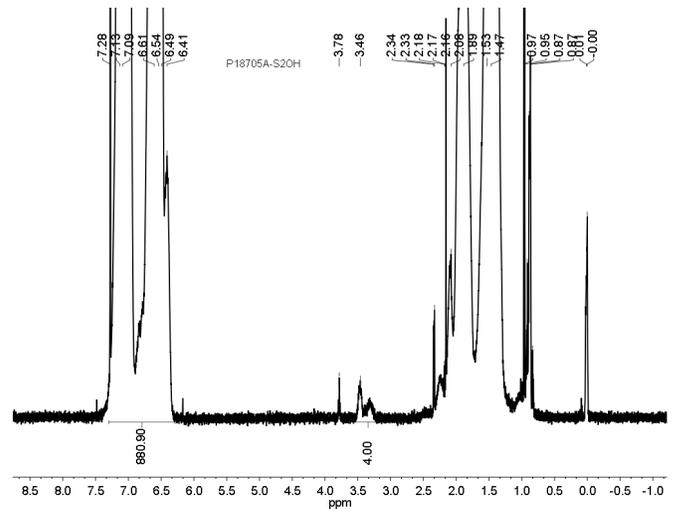
End-group functionality of the polymer was confirmed by  $^1\text{H-NMR}$  spectroscopy.

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.

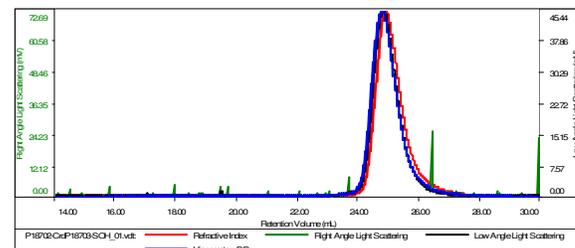
## $^1\text{H NMR}$ (500 MHz, $\text{CDCl}_3$ ):



## SEC elugram of the polymer:

Sample ID: P18705-S2OH

Concentration (mg/mL)	18.3834
Sample dn/dc (mL/g)	0.1850
Method File	PS80< Apr15 2014-0000.vcm
Column Set	3x PL 1113-6300
Solvent	THF



Sample	Mh	Mw	Mp	Mw/Mh	IV
P18702-CdP18703-SOH_01.vct	13,671	14,674	14,744	1.073	0.0588

