Sample Name:
$\omega$-Hydroxy Terminated Polystyrene
Sample \#: P40314- SOH

## Structure:



Composition:

| $\mathrm{Mn} \times 10^{3}$ | PDI |
| :---: | :---: |
| 14.0 | 1.03 |

## Synthesis Procedure:

$\boldsymbol{\omega}$-Hydroxy terminated polystyrene was prepared by anionic living polymerization of styrene in THF followed by termination with ethylene oxide.

## Characterization:

The product was characterized by size exclusion chromatography (SEC) and 1H NMR.

## Thermal analysis:

Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of $10^{\circ} \mathrm{C} / \mathrm{min}$. The midpoint of the slope change of the heat flow plot of the second heating scan was considered as the glass transition temperature ( $\mathrm{T}_{\mathrm{g}}$ ).

## Solubility:

Polystyrene is soluble in DMF, THF, toluene and $\mathrm{CHCl}_{3}$. It precipitates from methanol, ethanol, water and hexanes.

HNMR of the Polymer:


## SEC elugrame:

P40314-SOH

| Conc $(\mathbf{m g} / \mathrm{mL})$ | 21.7135 |
| :--- | :--- |
| dn/dc $(\mathbf{m L} / \mathbf{g})$ | 0.1650 |
| Method | PS80k_December-2016-0004.vcm |
| Solvent | DMF w 0.023 MLiBr |
| Column | PSS |



| Sample | Mn | Mw | Mp | Mw/Mn | IV |
| :--- | :--- | :--- | :--- | :--- | :--- |
| P40314-SOH_01.vdt | 13,958 | 14,340 | 14,419 | 1.027 | 0.0541 |

