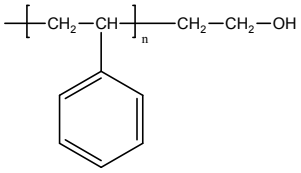
Sample Name:
ω -Hydroxy Terminated Polystyrene

Sample #: P9074- SOH

Structure:

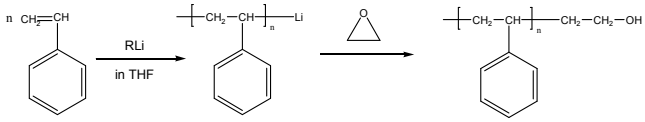


Composition:

Mn x 10^3	PDI
73.0	1.05
T_g (°C)	98

Synthesis Procedure:

ω–Hydroxy terminated Polystyrene was prepared by living anionic polymerization of styrene using a monofunctional initiator in THF followed by termination with ethylene oxide. The scheme of the reaction is illustrated below:



Characterization:

The molecular weight and polydispersity index of this polymer were determined by size exclusion chromatography (SEC) using a Varian liquid chromatograph equipped with a UV and refractive index detector. Polymer functionality was determined by titration with NaOH using phenolphthalein as the indicator.

Thermal analysis:

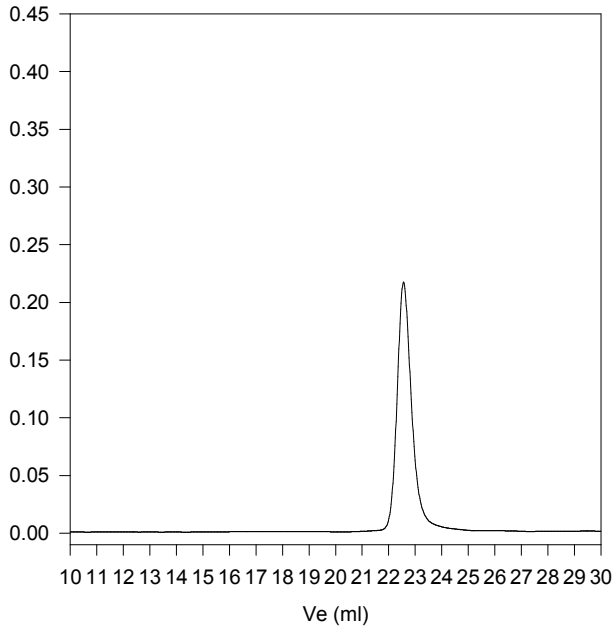
Thermal analysis of the samples was carried out using a differential scanning calorimeter (TA Q100) at a heating rate of 10°C/min.The inflection glass transition temperature (T_g) has been considered.

Solubility:

Polymer is soluble in toluene, THF, $CHCl_3$ and can be precipitated in water and cold methanol.

SEC of Sample:

P9074-SOH



Size Exclusion chromatography of Hydroxy end poly styrene

—— Polystyrene, M_n=73,000, M_w=76,500 PI=1.05

DSC thermogram for the polymer: