

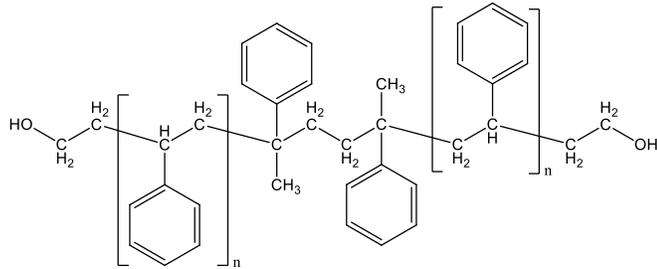
Product Name:

α,ω -Bis(hydroxy)-terminated Polystyrene

(with α -methylstyrene dimer group in the middle of polymer chain)

Product # P42677A-S2OH

Structure:

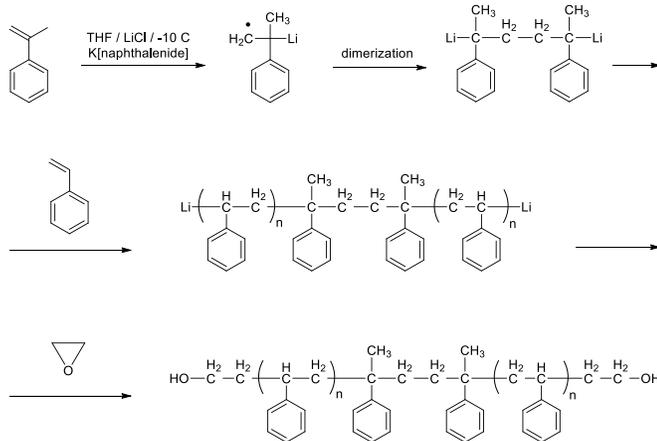


Composition:

$M_n \times 10^3$ (g/mol)	M_w/M_n
7.5	1.10
Glass transition temperature (T_g):	86 °C

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:

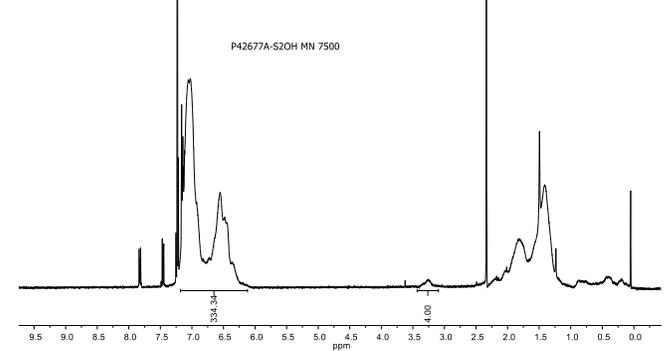
The molecular weight and polydispersity index of the polymer were determined by size exclusion chromatography (SEC) using triple detection method.

Thermal analysis was performed on TA Instruments Q100 differential scanning calorimeter (DSC) under a nitrogen atmosphere. The glass transition temperature (T_g) of the polymer was measured at a scan rate of 10°C/min shortly after creating thermal history of the sample.

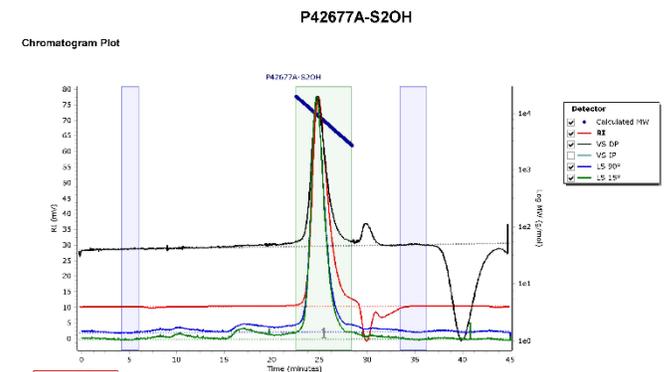
Solubility:

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

^1H NMR spectrum of the polymer:



SEC elugram of the polymer:



Peak	Mp (g/mol)	Mn (g/mol)	Mw (g/mol)	Mz (g/mol)	Mz+1 (g/mol)	Mv (g/mol)	PD
Peak 1	8983	7542	8303	8881	9503	8864	1.101

DSC thermogram of the polymer:

