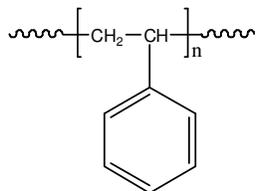


Sample Name: Polystyrene

Sample #: P5016B-S

Structure:

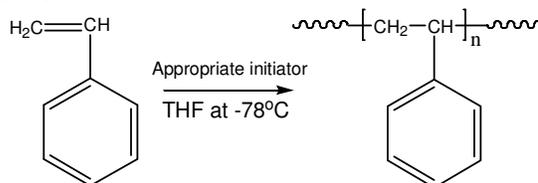


Composition:

Mn x 10 ³	PDI
132.8	1.19

Synthesis Procedure:

Polystyrene is obtained by living anionic polymerization of styrene as illustrated below:



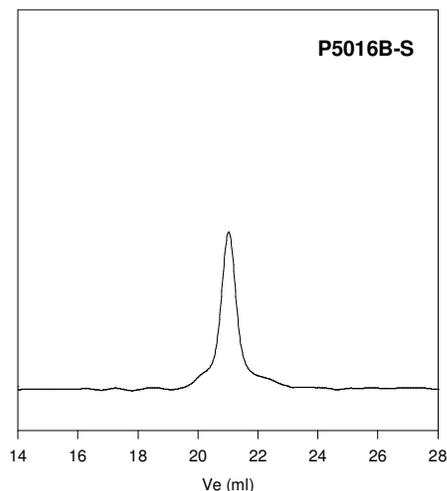
Characterization:

The molecular weight and polydispersity index (PDI) are obtained by size exclusion chromatography (SEC) in THF. SEC analysis was performed on a Varian liquid chromatograph equipped with refractive and UV light scattering detectors. Three SEC columns from Supelco (G6000-4000-2000 HXL) were used with triple detectors from Viscotek Co.

Solubility:

Polystyrene is soluble in DMF, THF, toluene and $CHCl_3$. It precipitates from methanol, ethanol, water and hexanes.

SEC of Homopolymer:



Size Exclusion Chromatography of polystyrene
 $M_n=132,800$, $M_w=158,000$, $M_w/M_n=1.19$

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

T_g of polystyrene as function of molecular weight

