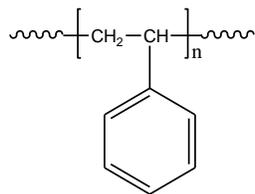


# Sample Name: Polystyrene

Sample #: P8092-S

Structure:

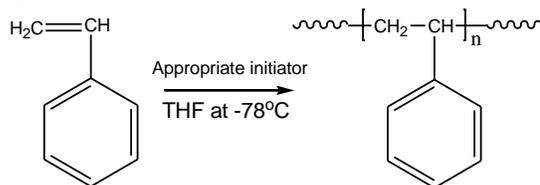


Composition:

Mn x 10 <sup>3</sup>	PDI
0.5	1.2

Synthesis Procedure:

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



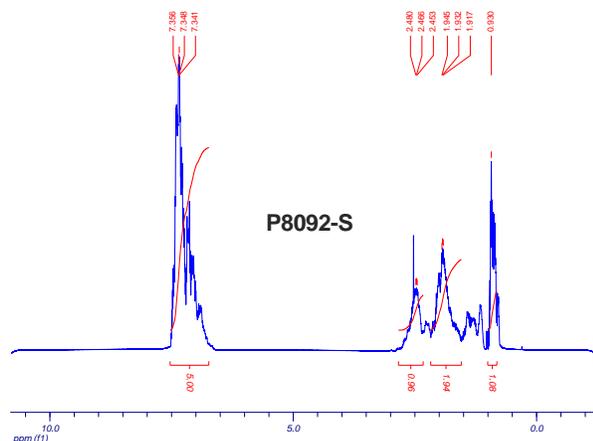
Characterization:

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:

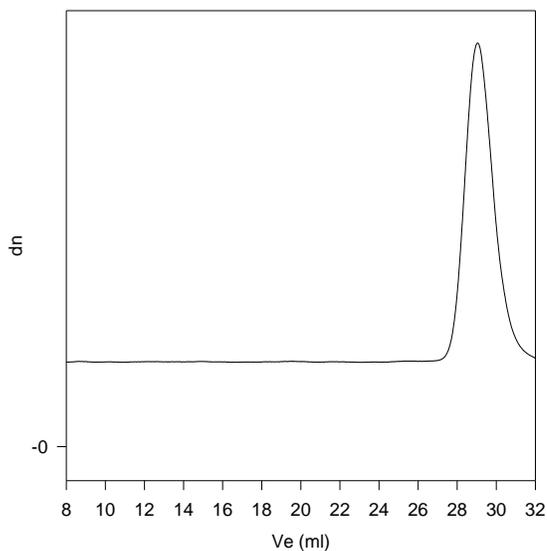
Polystyrene is soluble in DMF, THF, toluene and CHCl<sub>3</sub>. It precipitates from methanol, ethanol, water and hexanes.

H NMR of the Product:



SEC of Homopolymer:

P8092-S



Size Exclusion Chromatography of polystyrene

M<sub>n</sub>=500, M<sub>w</sub>=600, M<sub>w</sub>/M<sub>n</sub>=1.20

Mn by HNMR: 550

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

T<sub>g</sub> of polystyrene as function of molecular weight

