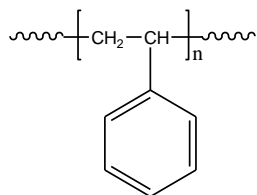


Sample Name: Polystyrene

SEC of Homopolymer:

Sample #: **P8613-S**

Structure:

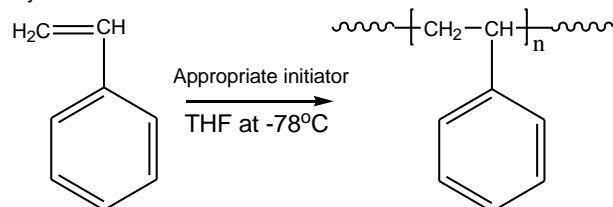


Composition:

Mn x 10 ³	PDI
410.0	1.10

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.

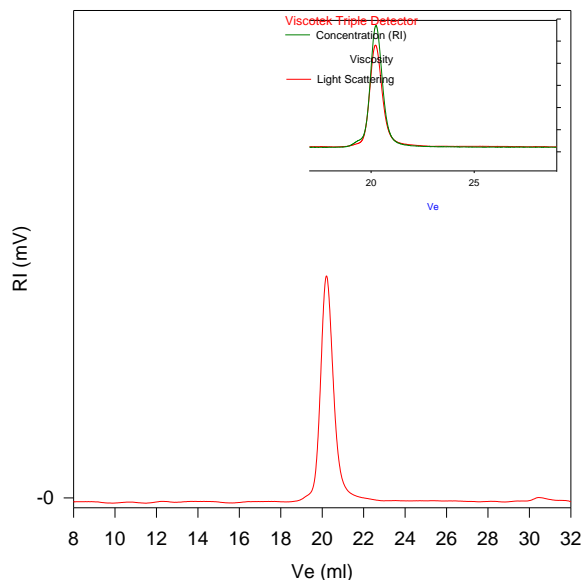
Thermal analysis:

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

Solubility:

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

P8613-S



Size Exclusion Chromatography of polystyrene;

— $M_n = 410,000$, $M_w = 451,000$, $M_w/M_n = 1.10$

In box Light Scattering data from Triple detectors:
 dn/dc in THF 0.185ml/g Solution Viscosity in THF at 35°C : 1.50
 R_{90} : 27.06nm

