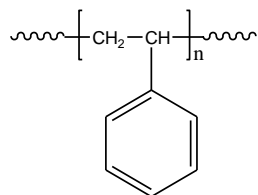


Sample Name: Polystyrene

Sample #: P8649A-S

Structure:

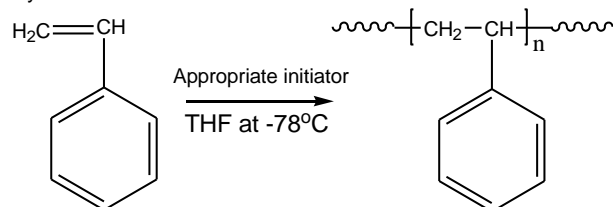


Composition:

Mn x 10 ³	PDI
790.0	1.08

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:

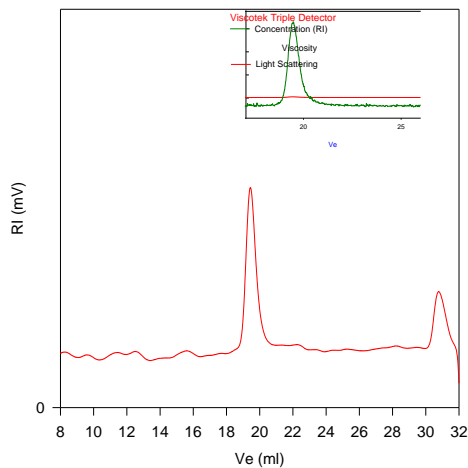
Thermal analysis of the sample was carried out using a differential scanning calorimeter (TA Q100) at a heating rate of 10°C/min. The inflection glass transition temperature (T_g) has been considered.

Solubility:

Polystyrene is soluble in DMF, THF, toluene and CHCl₃. It precipitates from methanol, ethanol, water and hexanes.

SEC of Homopolymer:

P8649A-S



Size Exclusion Chromatography of polystyrene;

— $M_n = 790,000$, $M_w = 853,000$, $M_w/M_n = 1.08$

In box Light Scattering data from Triple detectors:
dn/dc in THF 0.185ml/g Solution Viscosity in THF at 35 °C: 2.49dl/g
Rgw:40.86m

T_g of polystyrene as function of molecular weight

