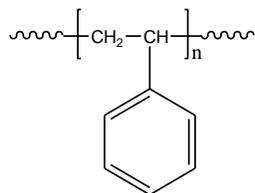


Sample Name: Polystyrene

Sample #: P8641-S

Structure:

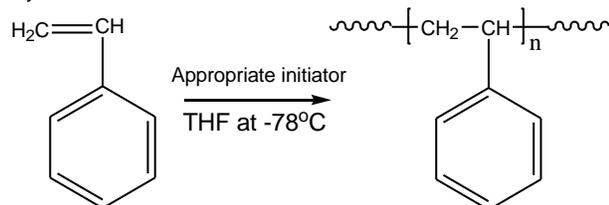


Composition:

$M_n \times 10^3$	PDI
520.0	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:

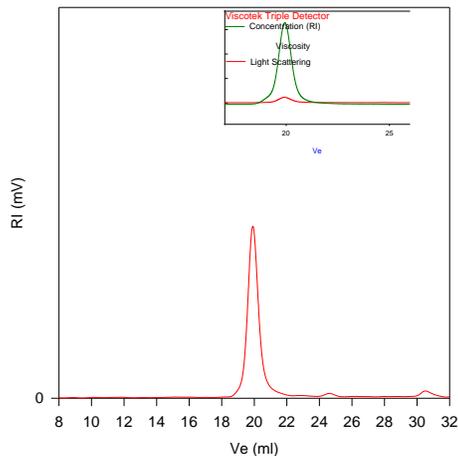
Thermal analysis of the sample was carried out using a differential scanning calorimeter (TA Q100) at a heating rate of $10^\circ C/min$. The inflection glass transition temperature (T_g) has been considered.

Solubility:

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

SEC of Homopolymer:

P8641-S



Size Exclusion Chromatography of polystyrene;

$M_n = 520,000$, $M_w = 572,000$, $M_w/M_n = 1.10$

In box Light Scattering data from Triple detectors:
 dn/dc in THF 0.185ml/g Solution Viscosity in THF at $35^\circ C$: 1.852dl/g
 R_{90} : 32.10nm

T_g of polystyrene as function of molecular weight

