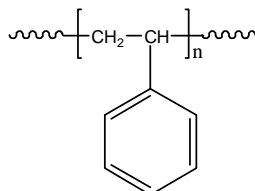


Sample Name: Polystyrene (electronic grade)

Sample #: P2446-S

Structure:

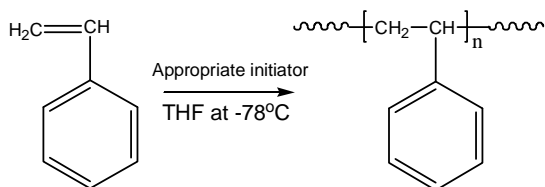


Composition:

$M_n \times 10^3$	PDI
102.5	1.06

Synthesis Procedure:

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



Characterization:

The molecular weight and polydispersity index (PDI) were 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 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.

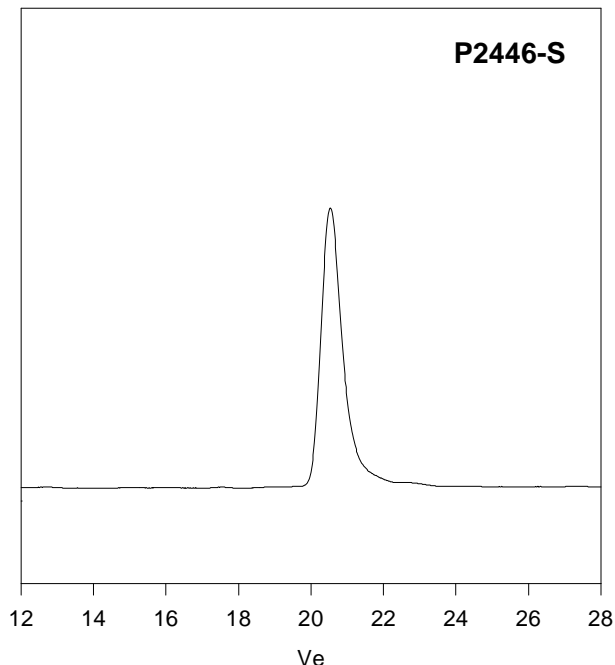
Solubility:

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

Purification:

The obtained polymer was dissolved in benzene and filter through a membrane $0.5\ \mu$ nylon filter. The obtained solution was freeze-dried under reduced pressure.

SEC elugram of the product:



Size Exclusion Chromatography of Polystyrene:

$M_n = 102500$, $M_w = 108700$, $PI = 1.06$

DSC results for polystyrene:

