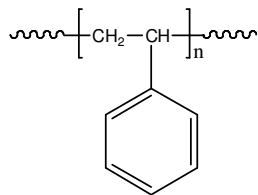


## Sample Name: Polystyrene

Sample #: P5157-S

### **Structure:**

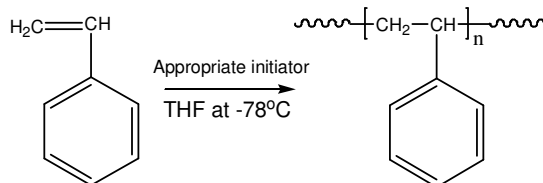


### **Composition:**

Mn x 10 <sup>3</sup>	PDI
130.0	1.05

### **Synthesis Procedure:**

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



### **Characterization:**

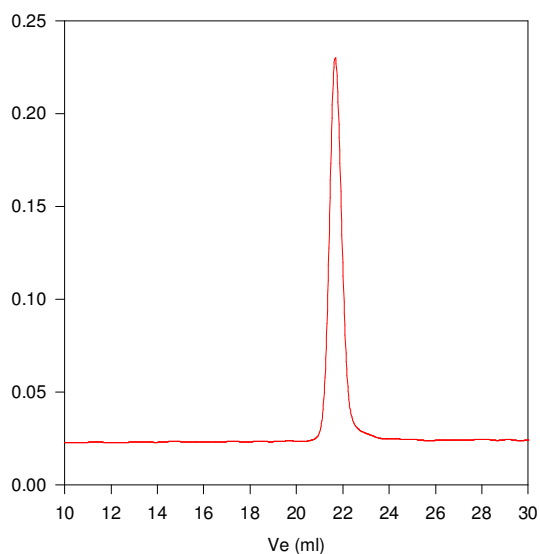
The molecular weight and polydispersity index (PDI) are obtained by size exclusion chromatography (SEC) in THF. SEC analysis was performed on a Varian liquid chromatograph equipped with refractive and UV light scattering detectors. Three SEC columns from Supelco (G6000-4000-2000 HXL) were used with triple 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.

### **SEC of Homopolymer:**

**P5157-S**



Size exclusion chromatograph of polystyrene:

$M_n=130000$   $M_w=136500$   $PI=1.05$

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.

