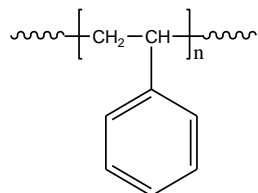


**Sample Name:**  
**Polystyrene-Broad distribution**

**Sample #:** P8274-S

**Structure:**

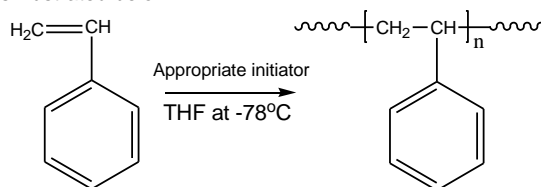


**Composition:**

Mn x 10 <sup>3</sup>	PDI
181.0	1.8

**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:**

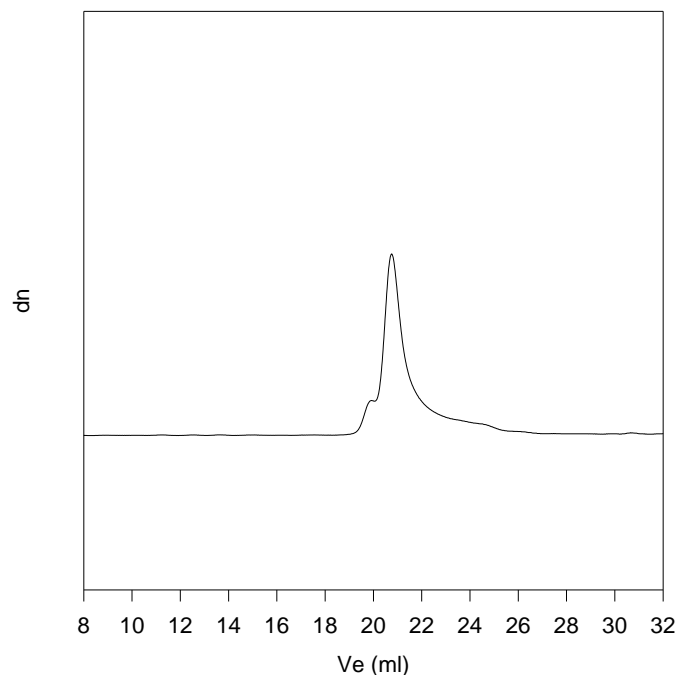
Thermal analysis of the sample was carried out using a differential scanning calorimeter (TA Q100) at a heating rate of 10°C/min. The inflection glass transition temperature (T<sub>g</sub>) has been considered.

**Solubility:**

Polystyrene is soluble in DMF, THF, toluene and CHCl<sub>3</sub>. It precipitates from methanol, ethanol, water and hexanes.

**SEC of Homopolymer:**

**P8274-S**



Size Exclusion Chromatography of polystyrene

M<sub>n</sub>=181000, M<sub>w</sub>=325000, M<sub>w</sub>/M<sub>n</sub>=1.80

Solution Viscosity in THF at 35°C: 1.099 dl/g  
dn/dc: in THF at 35°C: 0.185 ml/g

T<sub>g</sub> of polystyrene as function of molecular weight

