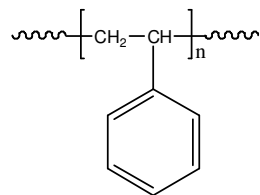


Sample Name: **Polystyrene**

Sample #: **P3911-S**

**Structure:**

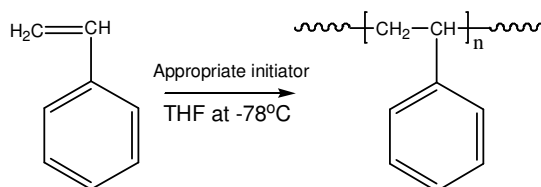


**Composition:**

$M_n \times 10^3$	PDI
77.0	1.05

**Synthesis Procedure:**

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



**Characterization:**

The molecular weight and polydispersity index (PDI) 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.

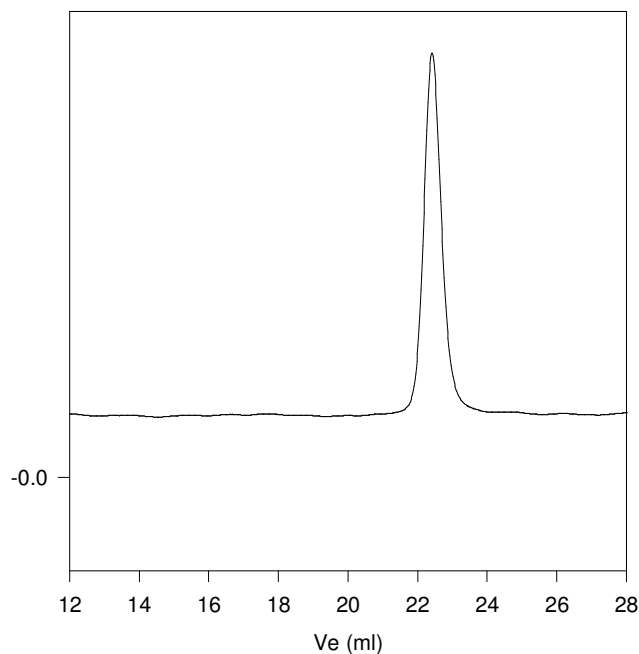
Thermal analysis of the sample was carried out using a differential scanning calorimeter (TA Q100) at a heating rate of  $10^\circ\text{C/min}$ . The inflection glass transition temperature ( $T_g$ ) has been considered.

**Solubility:**

Polystyrene is soluble in DMF, THF, toluene and  $\text{CHCl}_3$ . It precipitates from methanol, ethanol, water and hexanes.

SEC of Homopolymer:

**P3911-S**



Size exclusion chromatograph of polystyrene:

$M_n=77000$   $M_w=80500$ ,  $PI=1.05$

Light scattering data:  $M_w$ : 80500

solution Intrinsic Viscosity in THF at 30 OC: 0.48dl/g

Radius of Gyration: 11.16 nm

