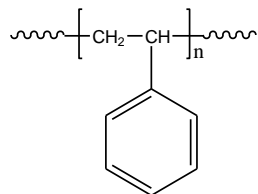


## Sample Name: Polystyrene

Sample #: P6021-S

### Structure:

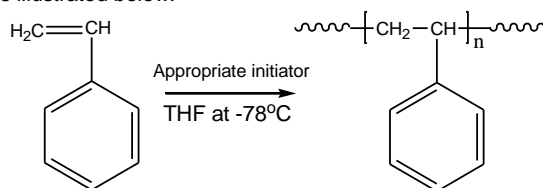


### Composition:

Mn x 10 <sup>3</sup>	PDI
1367.0	1.30

### 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.

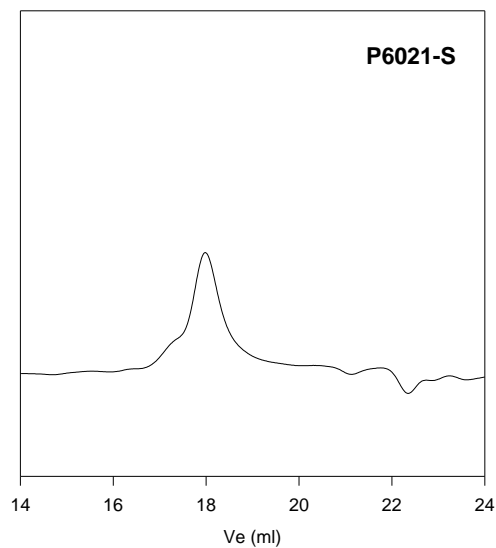
### Thermal analysis:

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



Size exclusion chromatograph of polystyrene:

M<sub>n</sub>=1367000, M<sub>w</sub>=1777000, PI=1.30

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

