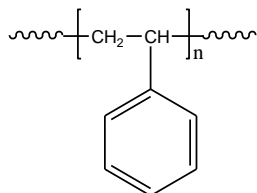


**Sample Name: Polystyrene**

**Sample #: P18229-S**

**Structure:**

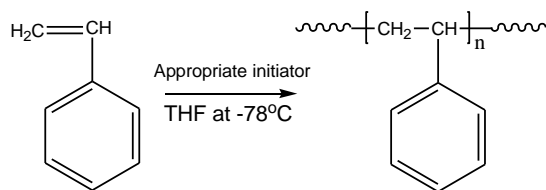


**Composition:**

Mn x 10 <sup>3</sup>	PDI
70.5	1.92

**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 DMF. SEC analysis was performed on a Varian liquid chromatograph equipped with refractive and UV light scattering detectors.

Thermal analysis of the samples 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.

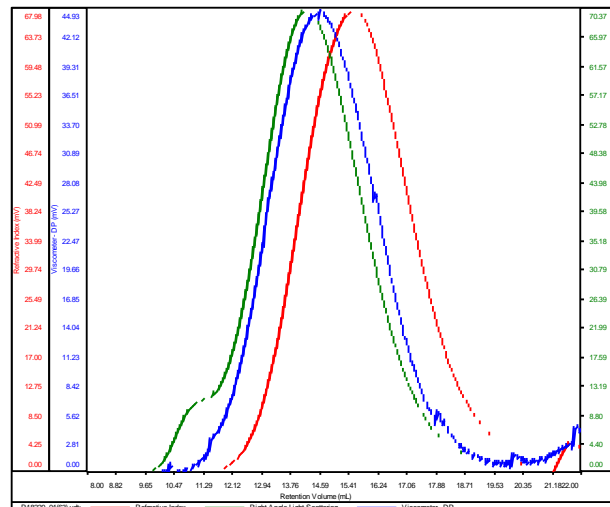
**Solubility:**

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

**SEC eluham of Homopolymer:**

**P18229**

Conc	6.4764
dn/dc	0.1650
Solvent	DMF w 0.023M LiBr
Flow Rate	0.7000
Method	PS80k_2017-11-07-0000.vcm



Sample	Mn	Mw	Mp	Mw/Mn	IV
P18229_01(63).vdt	70,750	135,926	93,082	1.921	50.0333

**DSC thermogram of PS:**

$T_g$  of polystyrene as function of molecular weight

