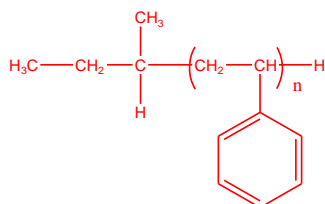


Sample Name: Polystyrene

Sample #: P40707-S

**Structure:**

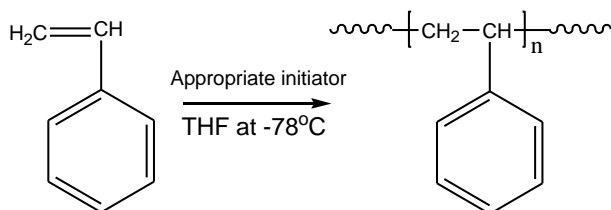


**Composition:**

Mn x 10 <sup>3</sup>	PDI
33.0	1.07
T <sub>g</sub>	100 °C

**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 chromatography 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.

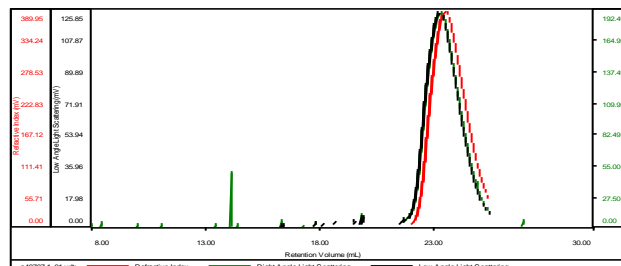
**Solubility:**

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

**SEC elugram of the polymer in THF:**

P40707-1

Concentration (mg/mL)	25.5248
Sample dn/dc (mL/g)	0.1850
Method File	PS80K-august2017-0000.vcm
Column Set	3x PL 1113-6300
Solvent	THF



Sample	Mn (Da)	Mw (Da)	Mw/Mn	IV (dL/g)	Mp (Da)
p40707-1_01.vdt	32,941	35,412	1.075	0.1387	35,367

**DSC thermogram of the polymer:**

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

