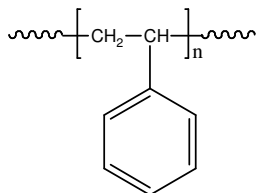


**Sample Name:** Polystyrene-Broad distribution

**Sample #:** P19966-S

**Structure:**

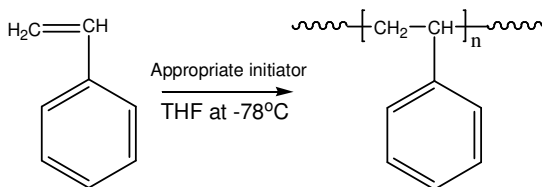


**Composition:**

$M_n \times 10^3$	PDI
322.0	1.25

**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.

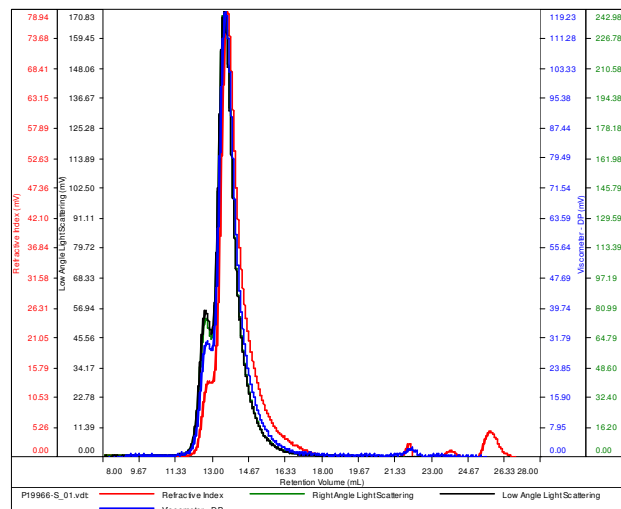
**Solubility:**

Polystyrene is soluble in DMF, THF, toluene and  $CHCl_3$ . It precipitates from methanol, ethanol, water and hexanes.

**SEC elugram of Homopolymer:**

**P19966-S**

Conc (mg/mL)	2.2194
dn/dc (mL/g)	0.1650
Method	PS80k-May-25-2016-0000.vcm
Solvent	DMF w 0.023M LiBr
Column	PSS



Sample	$M_n$	$M_w$	$M_p$	$M_w/M_n$	IV
P19966-S_01.vdt	321,682	399,294	405,523	1.241	0.6998

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

**Thermogram of polymer:**

