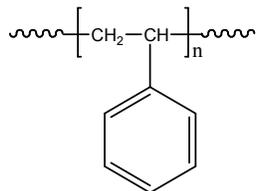


Sample Name: Polystyrene

Sample #: P10663-S

Structure:

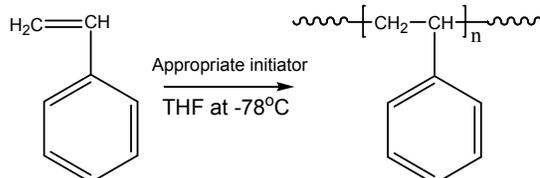


Composition:

$M_n \times 10^3$	PDI
1,690	1.4

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.

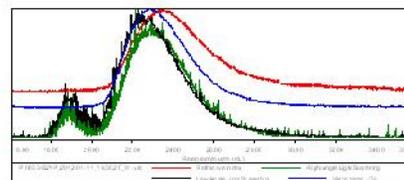
Solubility:

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

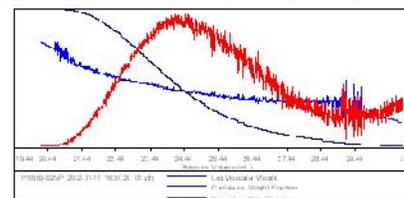
SEC of Homopolymer:

Sample ID: P10663-S.

Concentration (mg/ml)	1.17187
Sample dn/dc (mL/g)	0.1840
Method File	F:\S01\Jan62012\2.000C.vi
Column Set	St. F_ 1_ 13-0300
System	System 1



Sample	M _n (Da)	M _w (Da)	M _p (Ca)	M _w /M _n	IV (dL/g)
P10663-S2VF_2112-01-11_16:50:21_U	1.689 e6	2.318 e6	2.350 e6	1.375	4.7990



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.

T_g of polystyrene as function of molecular weight

