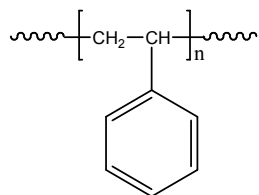


Sample Name: Polystyrene

Sample #: P10663-S

Structure:

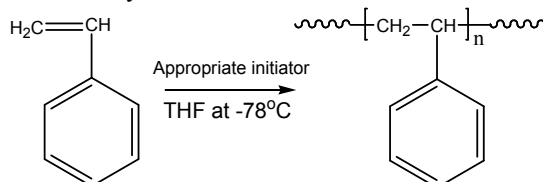


Composition:

Mn x 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.

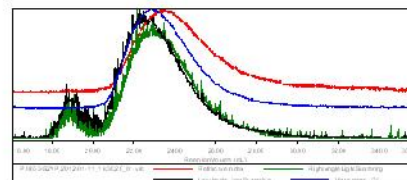
Solubility:

Polystyrene is soluble in DMF, THF, toluene and CHCl₃. It precipitates from methanol, ethanol, water and hexanes.

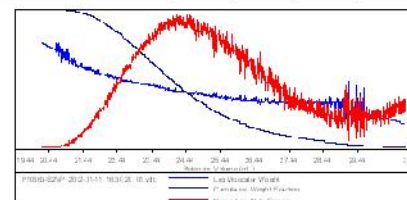
SEC of Homopolymer:

Sample ID: P10663-S.

Concentration (mg/ml)	1.0187
Sample dn/dc (mL/g)	0.1840
Method File	F:\2014\Jan620122.000C.vnm
Column Set	St. P_1-13-0300
System	System 1



Sample	Mn (Da)	Mw (Da)	Mp (Da)	Mw/Mn	IV (dL/g)
P10663-S247-21-12-01-11-15-20-21-1	1.689 e6	2.818 e6	2.850 e6	1.525	4.7990



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_g) has been considered.

T_g of polystyrene as function of molecular weight

