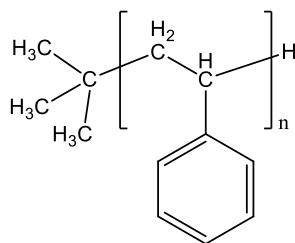


Sample Name: Polystyrene

Sample #: P18481-S

Structure:

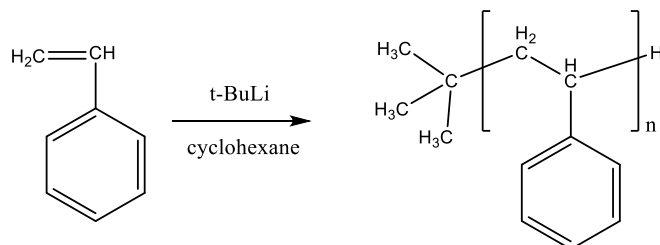


Composition:

Mn x 10 ³	PDI
2.7	1.04

Synthesis Procedure:

Polystyrene is obtained by living anionic polymerization of styrene as illustrated below:



Characterization:

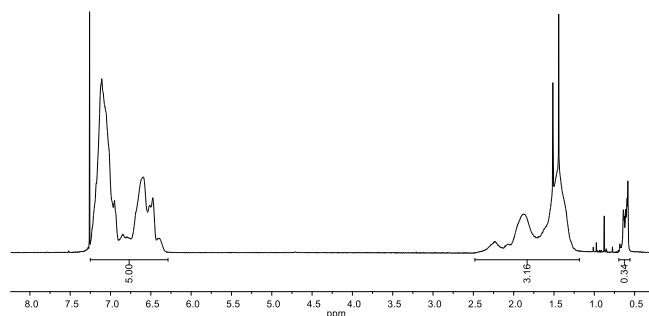
The molecular weight was calculated from ¹H NMR and polydispersity index (PDI) are obtained by size exclusion chromatography (SEC) in DMF. SEC analysis was performed on a Malven liquid chromatography equipped with refractive and light scattering detectors.

Thermal analysis of the samples was carried out using a differential scanning calorimeter (TA Q100) at a heating rate of 10°C/min.

Solubility:

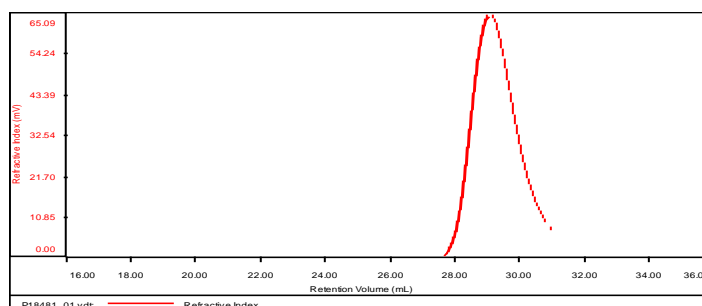
Polystyrene is soluble in DMF, THF, toluene and CHCl₃. It precipitates from methanol, ethanol, water and hexanes.

¹H NMR spectrum of the product:



SEC elugram of the homopolymer:
P18481-S

Conc	2.6641
dn/dc	0.1650
Solvent	DMF w 0.023M LiBr
Flow Rate	0.7000
Method	PS-80k_2018-04-02-0000.vcm



Sample	Mn	Mw	Mp	Mw/Mn	IV
P18481_01.vdt	2,709	2,818	2,932	1.040	0.3121

DSC thermogram of Polystyrene:

T_g of polystyrene as function of molecular weight

