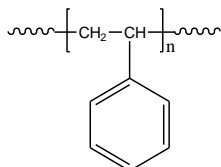


Sample Name: Polystyrene

Sample #: P19076A-S

Structure:

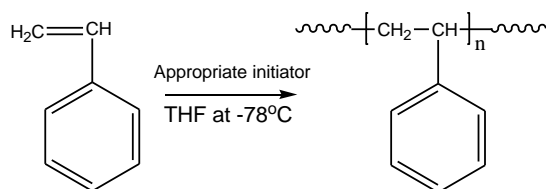


Composition:

Mn x 10 ³	PDI
169.5	1.13

Synthesis Procedure:

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



Characterization:

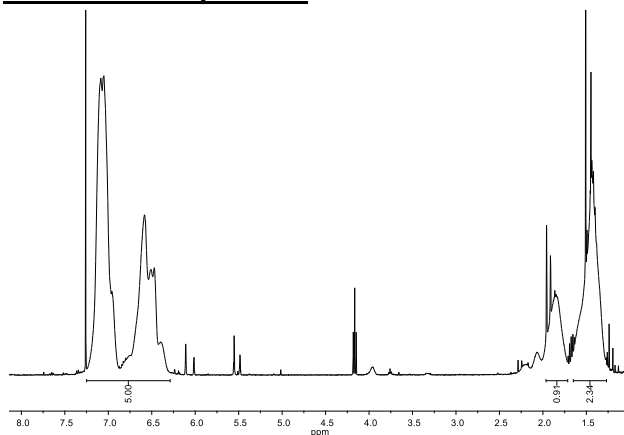
The molecular weight and polydispersity index (PDI) are obtained by size exclusion chromatography (SEC) in DMF. SEC analysis was performed on a Malven liquid chromatograph equipped with refractive and light scattering detectors.

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.

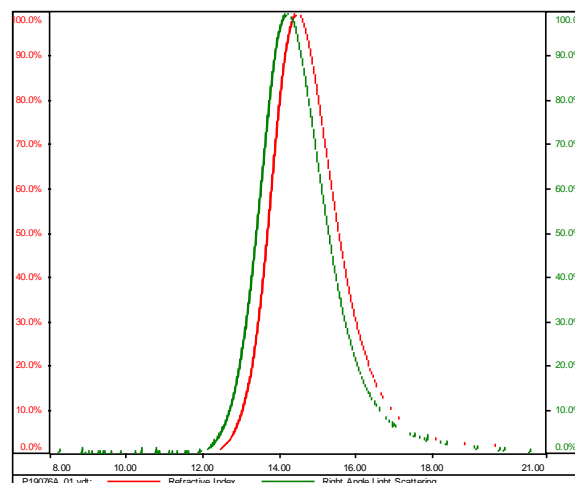
¹H NMR of the product:



SEC of the homopolymer:

P19076A

Conc	1.7377
dn/dc	0.1650
Solvent	DMF w 0.023M LiBr
Flow Rate	0.7000
Method	PS99k_2018-05-30-0000.vcm



Sample	Mn	Mw	Mp	Mw/Mn	IV
P19076A_01.vdt	169,365	190,864	180,438	1.127	1.9914

DSC thermogram of Polystyrene:

T_g of polystyrene as function of molecular weight

