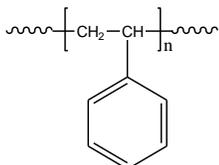


Sample Name: Polystyrene

Sample #: P19382-S

Structure:

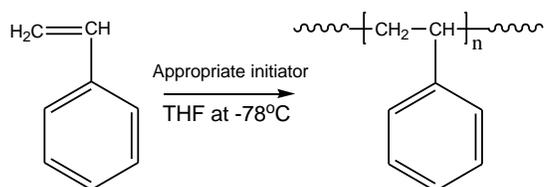


Composition:

$M_n \times 10^3$	PDI
966.0	1.17

Synthesis Procedure:

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



Characterization:

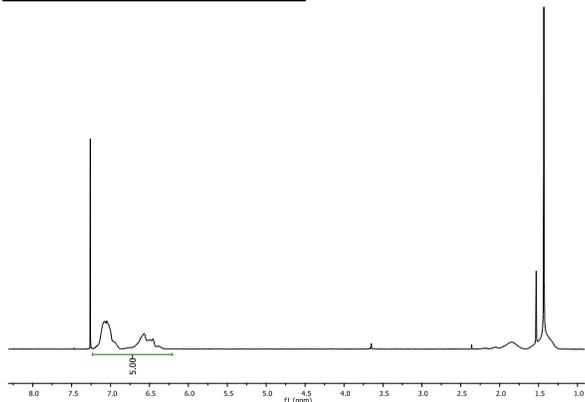
The molecular weight and polydispersity index (PDI) are obtained by size exclusion chromatography (SEC) in DMF. SEC analysis was performed on a Malven liquid chromatograph equipped with refractive and light scattering detectors.

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  $\text{CHCl}_3$ . It precipitates from methanol, ethanol, water and hexanes.

$^1\text{H}$  NMR of the product:

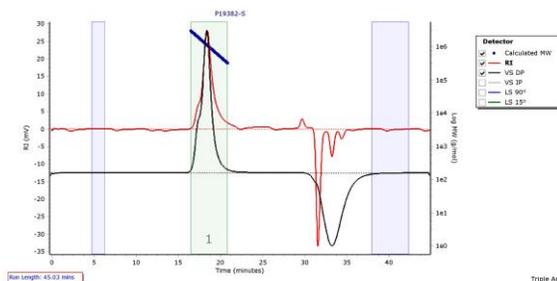


SEC of the homopolymer:

Agilent GPC/SEC Software

P19382-S

Chromatogram Plot



Molecular Weight Averages

Peak	Mp (g/mol)	Mn (g/mol)	Mw (g/mol)	Mz (g/mol)	Mz-1 (g/mol)	Mv (g/mol)	PD
Peak 1	1122238	96608	1134522	1301498	1419553	1285975	1.174

DSC thermogram of Polystyrene:

$T_g$  of polystyrene as function of molecular weight

