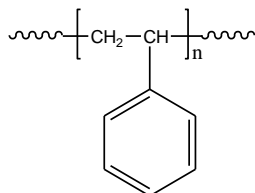


**Sample Name: Polystyrene**

**Sample #: P11056-S**

**Structure:**

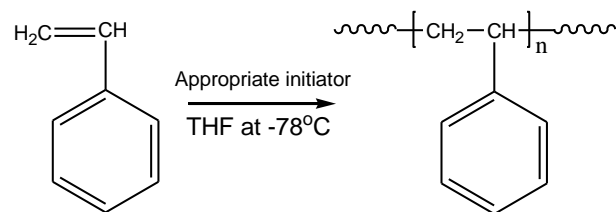


**Composition:**

Mn x 10 <sup>3</sup>	PDI
313.5	1.21

**Synthesis Procedure:**

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



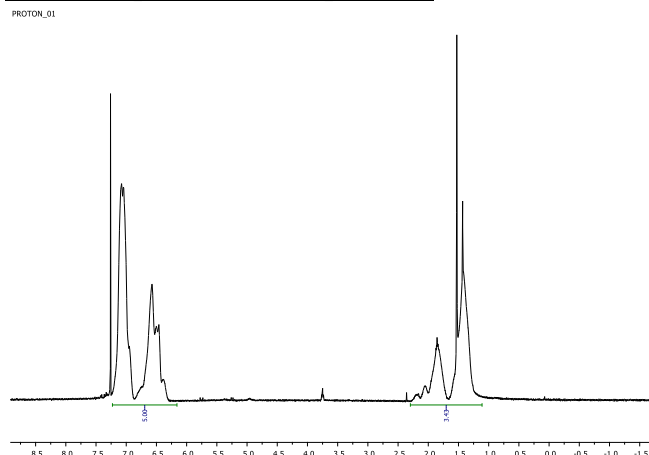
**Characterization:**

The molecular weight was calculated from <sup>1</sup>H NMR and polydispersity index (PDI) are obtained by size exclusion chromatography (SEC) in THF. 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 CHCl<sub>3</sub>. It precipitates from methanol, ethanol, water and hexanes.

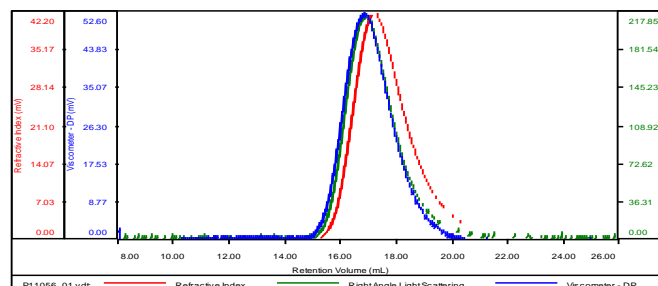
**<sup>1</sup>H NMR spectrum of the product:**



**SEC elugram of the homopolymer:**

**P11056-S**

Concentration (mg/mL)	3.3150
Sample dn/dc (mL/g)	0.1850
Method File	PS80K_2017-12-21-0000.vcm
Column Set	3x PL 1113-6300
Solvent	THF



Sample	Mn (Da)	Mw (Da)	Mw/Mn	IV (dL/g)	Mp (Da)
P11056_01.vdt	313,264	377,896	1.206	0.7577	399,206

**DSC thermogram of Polystyrene:**

T<sub>g</sub> of polystyrene as function of molecular weight

