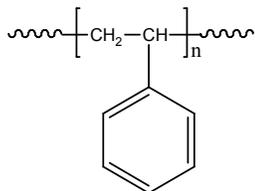


Sample Name: Polystyrene

Sample #: P4288A-S

Structure:

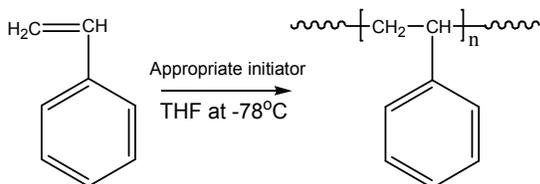


Composition:

$M_n \times 10^3$	PDI
77.0	1.03

Synthesis Procedure:

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



Characterization:

The molecular weight and polydispersity index (PDI) were 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.

Thermal analysis of the sample was carried out using a differential scanning calorimeter (TA Q100) at a heating rate of  $10^\circ C/min$ . The inflection glass transition temperature ( $T_g$ ) has been considered.

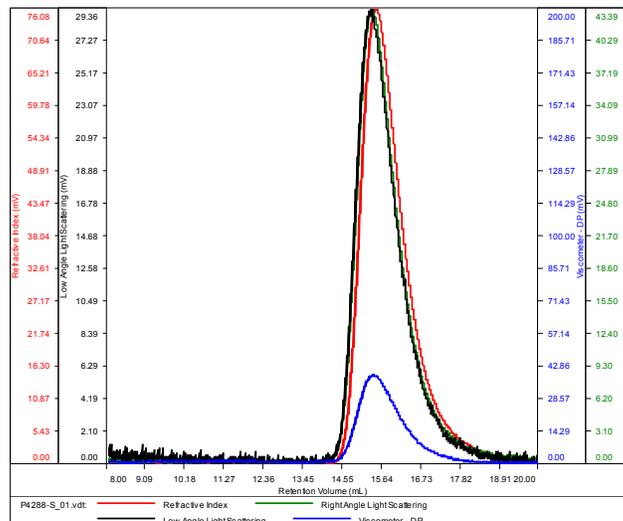
Solubility:

Polystyrene is soluble in DMF, THF, toluene and  $CHCl_3$ . It precipitates from methanol, ethanol, water and hexanes.

SEC of Homopolymer:

P4288A-S

Conc (mg/mL)	4.0127
dn/dc (mL/g)	0.1650
Method	PS80k_December-2016-0004.vcm
Solvent	DMF w 0.023M LiBr
Column	PSS



Sample	$M_n$	$M_w$	$M_p$	$M_w/M_n$	IV
P4288-S_01.vdt	77,253	79,499	77,595	1.029	0.1491

Thermogram of polymer:

$T_g$  of polystyrene as function of molecular weight

