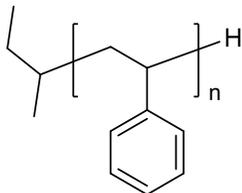


Sample Name: Polystyrene

Sample ID #: P42569-S

CAS registry number: 9003-53-6

Structure:

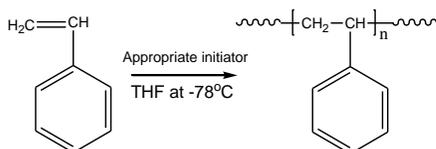


Composition:

$M_n \times 10^3$ (g/mol)	M_w/M_n
85	1.01

Synthesis Procedure:

Polystyrene was obtained by living anionic polymerization of styrene. The scheme of reaction is presented below.



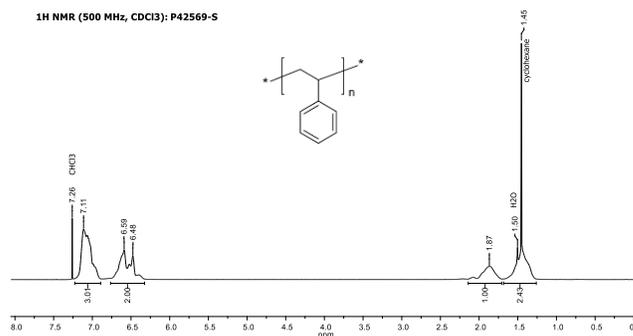
Characterization:

The purity of the product was checked by proton NMR spectroscopy. The molecular weight and polydispersity index (M_w/M_n) of the polymer were determined by size exclusion chromatography (SEC) in THF at 30°C. SEC analysis was performed on Agilent Technologies 1260 Infinity II GPC/SEC System equipped with triple detector.

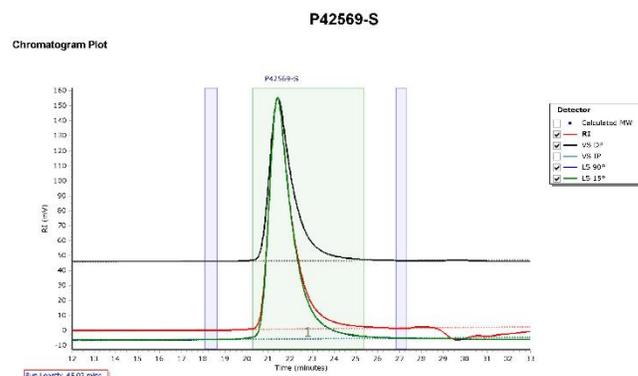
Solubility:

Polystyrene is soluble in chloroform, tetrahydrofuran (THF), dimethylformamide (DMF), and toluene. The product precipitates from methanol, ethanol, water, and hexanes.

¹H NMR spectrum of the polymer in chloroform-d:



SEC chromatogram of the polymer in THF:



Peak	Mp (g/mol)	Mn (g/mol)	Mw (g/mol)	Mz (g/mol)	Mz+1 (g/mol)	Mv (g/mol)	PD
Peak 1	84523	84206	84210	84215	84220	84214	1

Peak	Mp (g/mol)	Mn (g/mol)	Mw (g/mol)	Mz (g/mol)	Mz+1 (g/mol)	Mv (g/mol)	PD
Peak 1	85546	85543	85543	85543	85543	85543	1

Processing Parameters
Entered dn/dc (mL/g) 0.165