

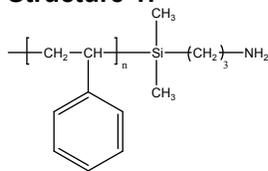
Sample Name:

Amino Terminated Polystyrene

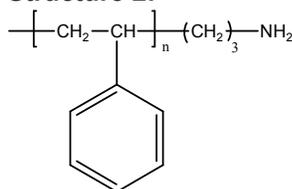
Sample #: P3702-SNH2

architecture # 1.

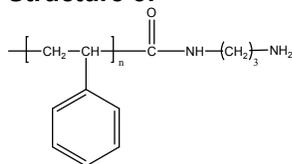
Structure 1:



Structure 2:



Structure 3:

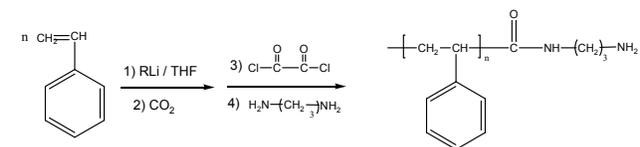
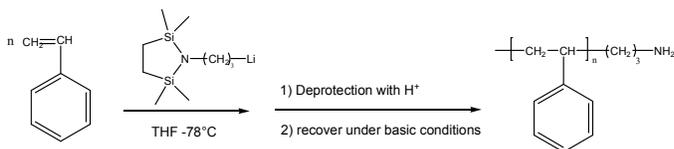
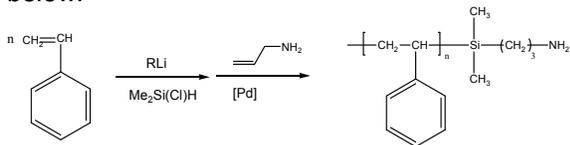


Composition:

Mn x 10 ³	PDI
32.0	1.04

Synthesis Procedure:

α , ω -amino terminated polystyrene was synthesized by anionic living polymerization with different end-grouping strategies. The reaction schemes are shown below:



Characterization:

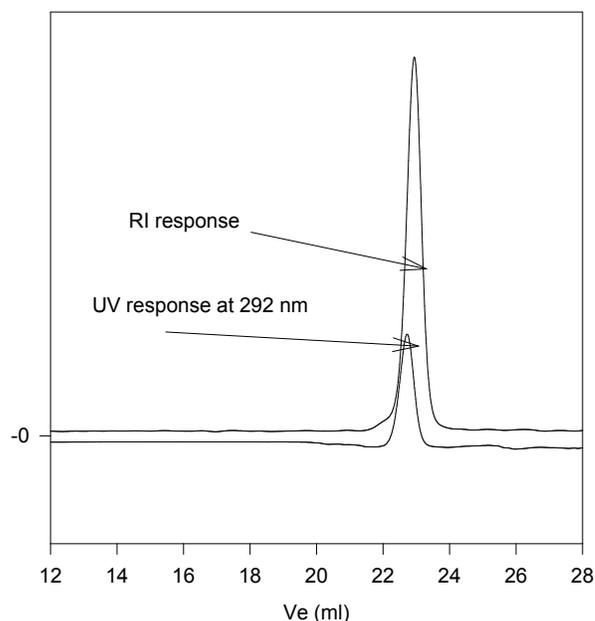
The molecular weight and polydispersity index of this polymer were determined by size exclusion chromatography (SEC) using a Varian liquid chromatograph equipped with a UV and refractive index detector. However, amino terminated polystyrene was found to interact with chromatography columns and therefore the amino group was protected by reaction with 1-naphthyl isocyanate before GPC analysis. Removal of the protecting group was confirmed by UV spectroscopy and the degree of functionality was confirmed by titration with HClO₄ using crystal violet as the indicator.

Solubility:

Polymer is soluble in THF, CHCl₃, toluene and precipitated out from methanol and hexane.

SEC of Sample:

P3702-SNH2



Size exclusion chromatography of Amino Terminated polystyrene end capped with 1-naphthyl isocyanate:

32000, M_w=33500, PI=1.04, functionality>0.98