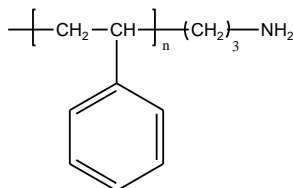


Sample Name: Amino Terminated Polystyrene

Sample #: P3965-SNH2

Structure:

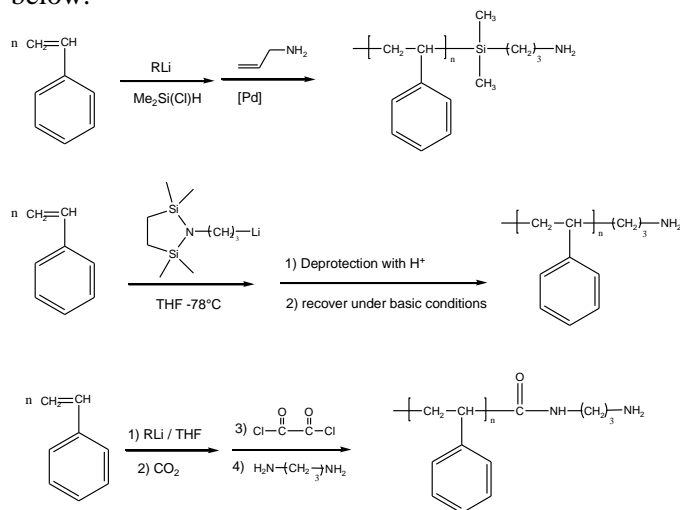


Composition:

$M_n \times 10^3$	PDI	functionality
9.5	1.16	>98%

Synthesis Procedure:

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



Characterization:

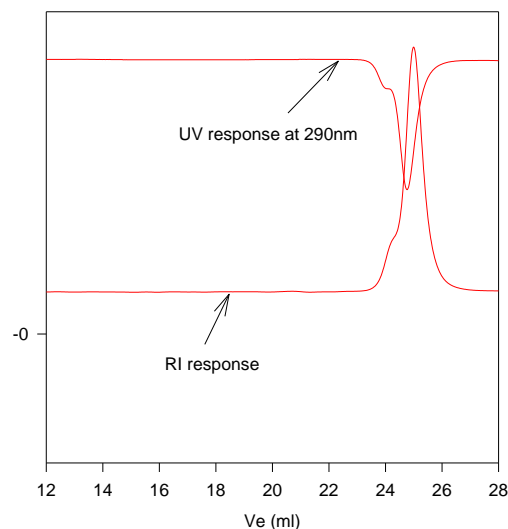
The molecular weight and polydispersity index of this polymer were determined by size exclusion chromatography (SEC) using a Varian liquid chromatograph equipped with a UV and refractive index detector. However, amino terminated polystyrene was found to interact with chromatography columns and therefore 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 $HClO_4$ using crystal violet as the indicator.

Solubility:

Polymer is soluble in THF, $CHCl_3$, and toluene. It precipitated out from methanol and hexane.

SEC profile of the Sample:

P3965-SNH2



Size exclusion chromatography of monoamino terminated polystyrene. (NH₂ group end capped with 1-naphthyl isocyanate)
 $M_n=9500$, $M_w=11000$, $PI=1.16$, functionality=0.98.