



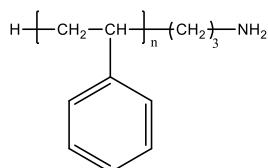
Product Profile

Identification

Product Name: Amino Terminated Polystyrene

Product Lot Number: P11123C-SNH2

Chemical Architecture:

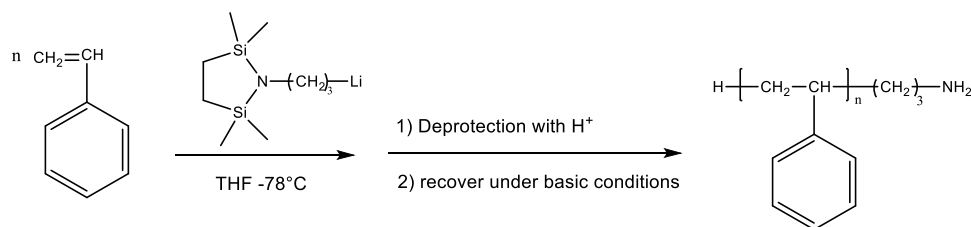


Composition:

Mn (g/mole)	21,000
Mw (g/mole)	29,000
Mw/Mn	1.40
Primary Amino group test using ninhydrin	Blue color pass

Method of Synthesis

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



Solubility in different solvents:

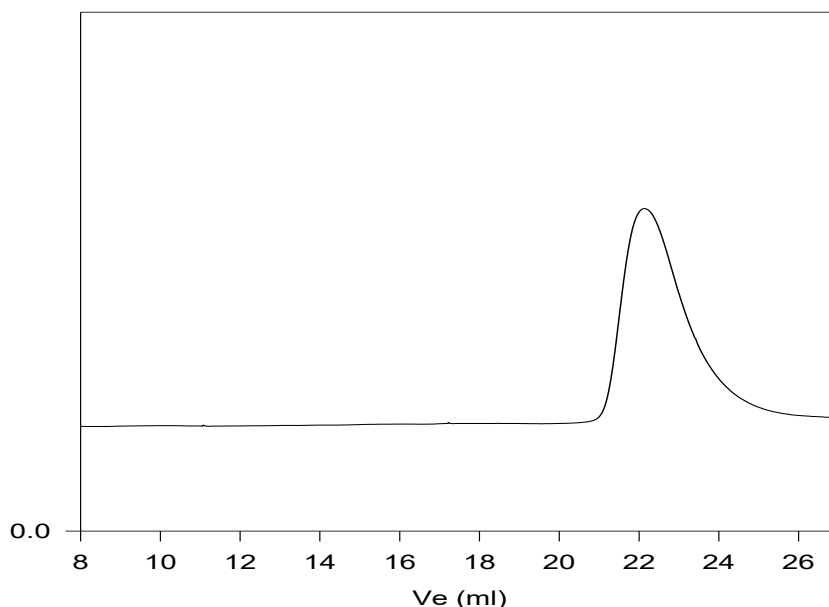
THF	√	Methanol	X
CHCl3	√	Hexane	X
Toluene	√		

Validation of Architecture

A. Gel Permeation Chromatography (GPC), SEC Profile:

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.

P11123C-SNH2



Size exclusion chromatography of monoamino terminated polystyrene.
(NH₂ group end capped with 1-naphthyl isocyanate)

$M_n=21,000$, $M_w=29,000$, , $PI=1.4$, functionality=0.98.