

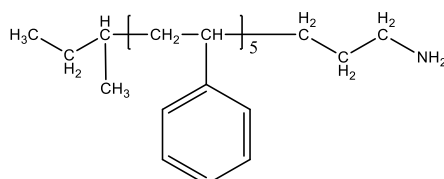
Product Profile

Identification

Product Name: Amino Terminated Polystyrene

Product Lot Number: P11124C-SNH2

Chemical Architecture:

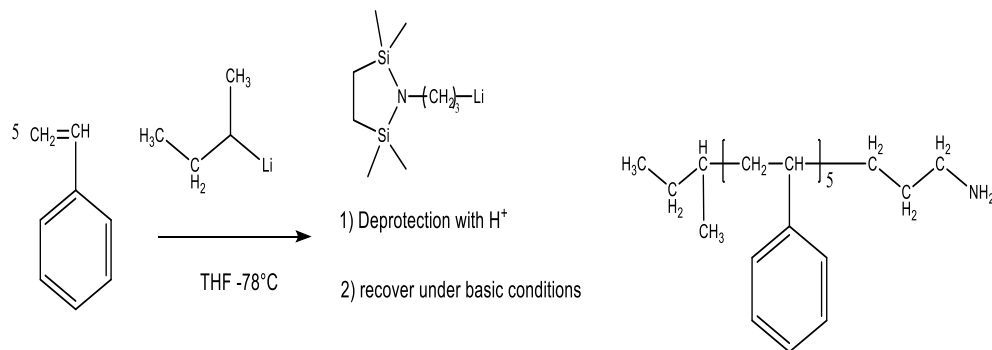


Composition:

Mn (g/mole)	350,000
Mw (g/mole)	433,000
Mw/Mn	1.25
Tg	102 °C
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	√		

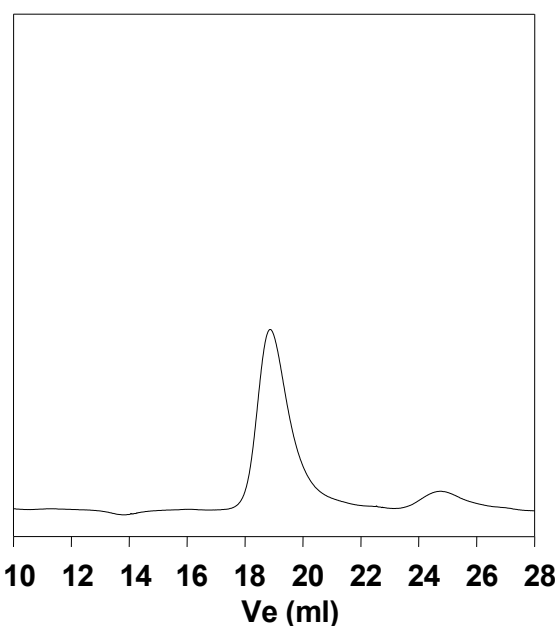


Validation of Architecture

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.

P11124C-SNH₂



Size exclusion chromatography of Amino Terminated polystyrene
M=350,000, Mw=433,000, PI=1.25 functionality>0.98