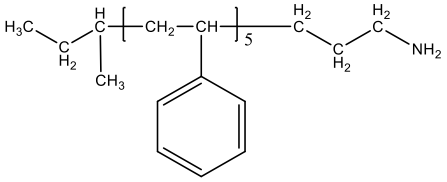
Product Profile

Identification

Product Name: Amino Terminated Polystyrene

Product Lot Number: P10460-SNH2

Chemical Architecture:

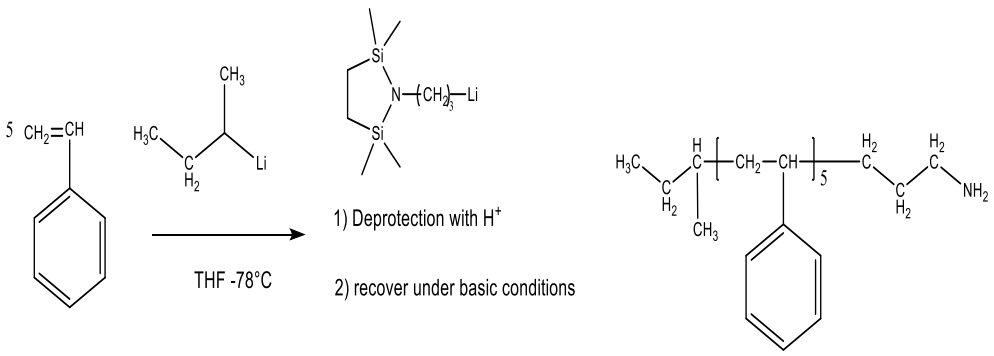


Composition:

Mn (g/mole)	**108,000**
Mw (g/mole)	**121,000**
Mw/Mn	**1.12**
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	√		

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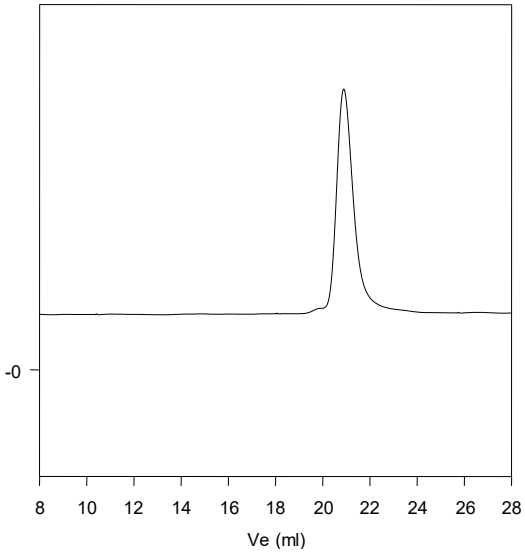
Validation of Architecture

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 $HClO_4$ using crystal violet as the indicator.

P10460-SNH2



Size exclusion chromatography of Amino Terminated polystyrene

M_n=108,000, M_w=121,000, PI=1.12 functionality > 98%

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