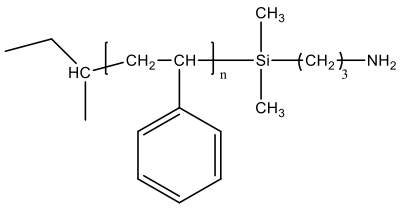
Product Profile

Identification

Product Name: Amino Terminated Polystyrene

Product Lot Number: P5143-SNH2

Chemical Architecture:

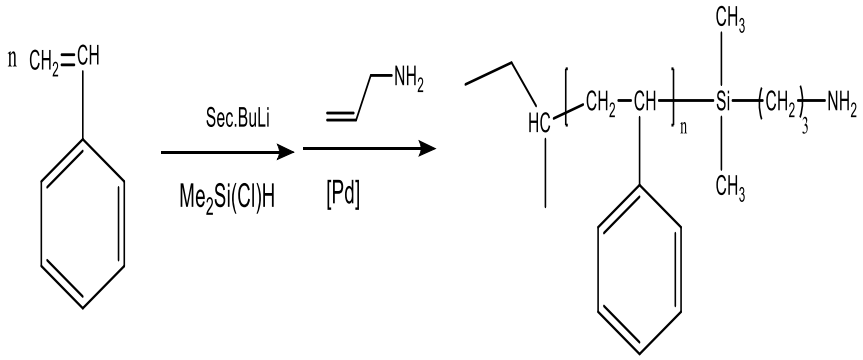


Composition:

Mn (g/mole)	**5,000**
Mw (g/mole)	**5,900**
Mw/Mn	**1.17**
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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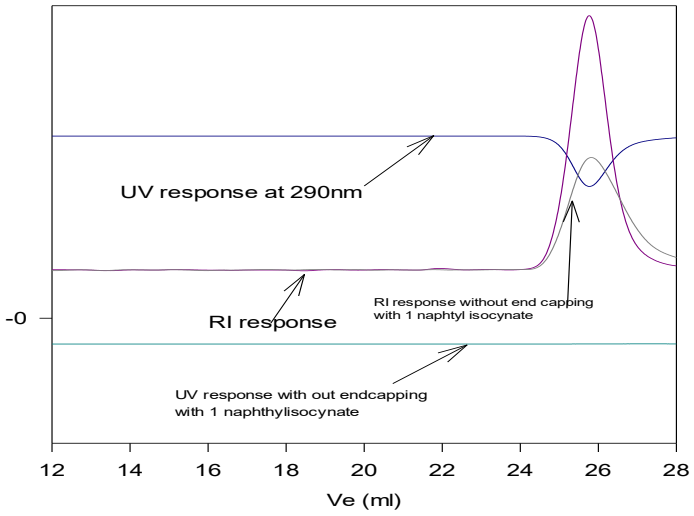
Validation of Architecture

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 HClO4 using crystal violet as the indicator.

P5143-SNH2



Size exclusion chromatography of monoamino terminated terminated polystyrene.
(NH2 group end capped with 1-naphthyl isocynate)
M_n=5000, M_w=5900, PI=1.17, functionality=0.98.

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