



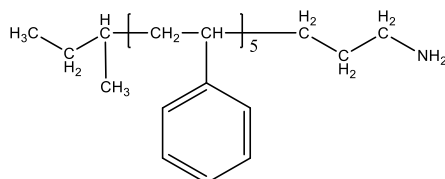
Product Profile

Identification

Product Name: Amino Terminated Polystyrene

Product Lot Number: P4034-R-SNH2

Chemical Architecture:

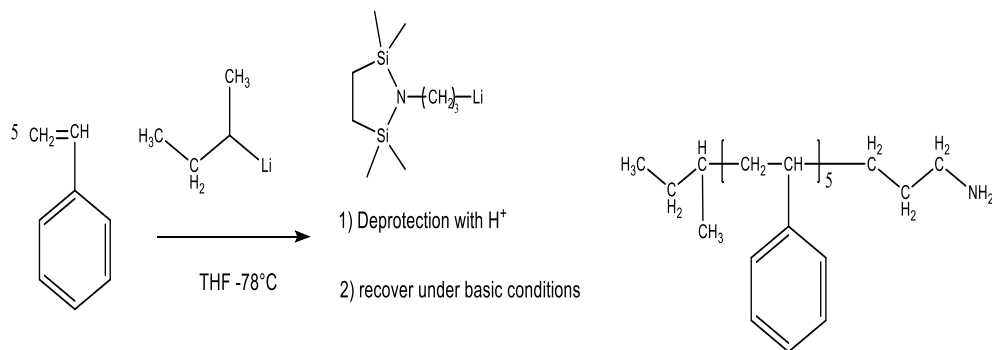


Composition:

Mn (g/mole)	126,000
Mw (g/mole)	231,000
Mw/Mn	1.80
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:



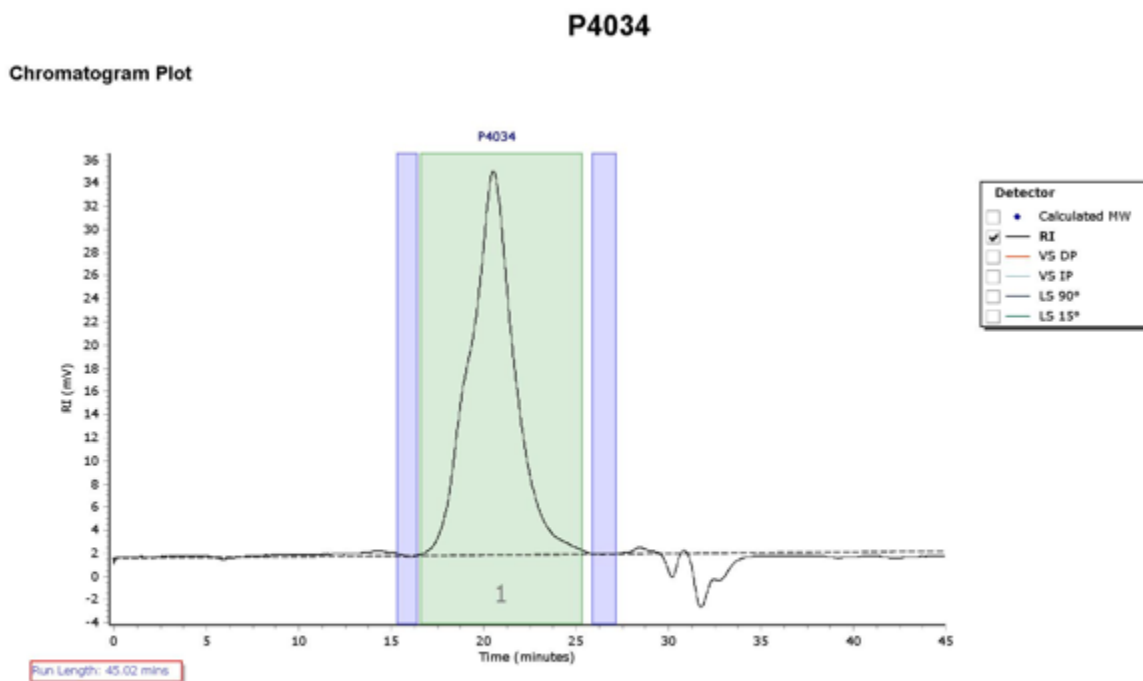
Solubility in different solvents:

THF	√	Methanol	X
CHCl_3	√	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.



Molecular Weight Averages

Peak	Mp (g/mol)	Mn (g/mol)	Mw (g/mol)	Mz (g/mol)	Mz+1 (g/mol)	Mv (g/mol)	PD
Peak 1	173306	125931	230555	375629	558185	348589	1.831