



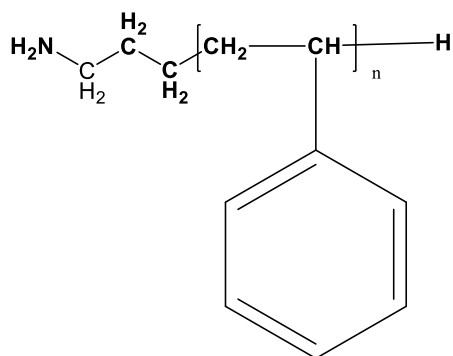
Product Profile

Identification

Product Name: Amino Terminated Polystyrene

Product Lot Number: P19596-SNH2

Chemical Architecture:

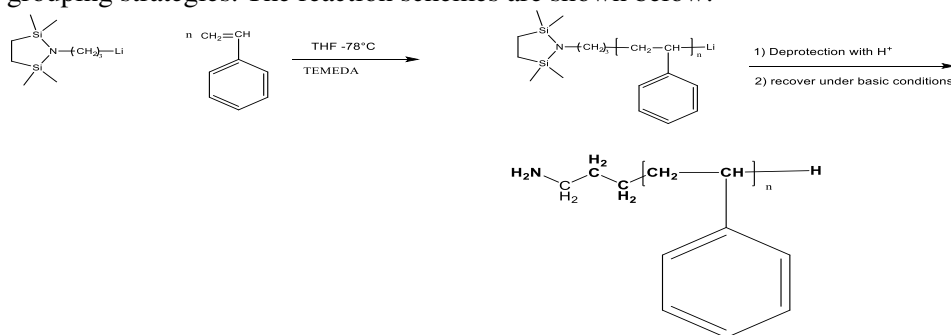


Composition:

| | |
|--|-----------------|
| Mn (g/mole) | 19,500 |
| Mw (g/mole) | 20,500 |
| Mw/Mn | 1.06 |
| Primary Amino group test using ninhydrin | Blue color pass |

Method of Synthesis

α -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 | √ | | |

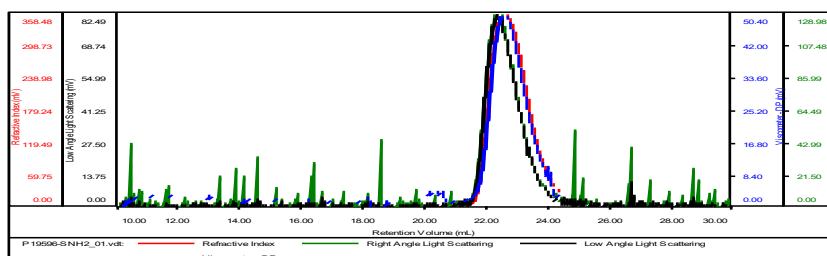
Validation of Architecture

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.

Sample ID-P19596-SNH2

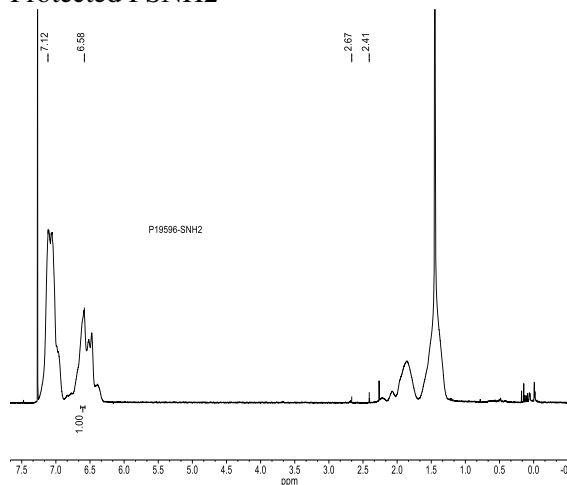
| | |
|-----------------------|----------------------------|
| Concentration (mg/mL) | 2.6760 |
| Sample dn/dc (mL/g) | 0.1850 |
| Method File | PS80K-June30-2015-0000.vcm |
| Column Set | 3x PL 1113-6300 |
| Solvent | THF |



| Sample | MW Number Average (Da) | MW Weight Average (Da) | MW at Peak (Da) | Polydispersity | Intrinsic Viscosity (dL/g) |
|--------------------|------------------------|------------------------|-----------------|----------------|----------------------------|
| P19596-SNH2_01.vdt | 19,522 | 20,741 | 23,123 | 1.062 | 0.7318 |

B. ¹H NMR:

Protected PSNH2



Free SNH2:

