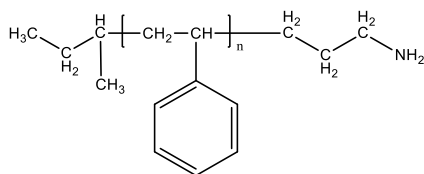


Sample Name: Amino Terminated Polystyrene

Sample #: P43086-SNH2

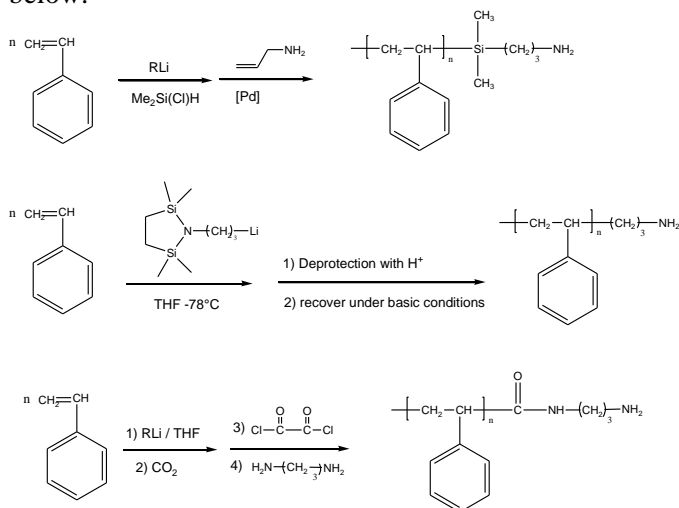


Composition:

$M_n \times 10^3$	PDI
25	1.04

Synthesis Procedure:

ω -amino terminated polystyrene was synthesized by anionic living polymerization with different end-grouping strategies. The reaction schemes are shown below:



Characterization:

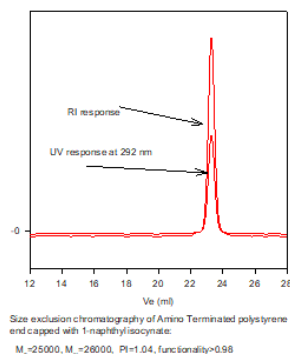
The molecular weight and polydispersity index of this polymer were determined by size exclusion chromatography (SEC) using a Varian liquid chromatograph equipped with a UV and refractive index detector. However, amino terminated polystyrene was found to interact with chromatography columns and therefore 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.

Solubility: Polymer is soluble in THF, CHCl_3 toluene and precipitated out from methanol and hexane.

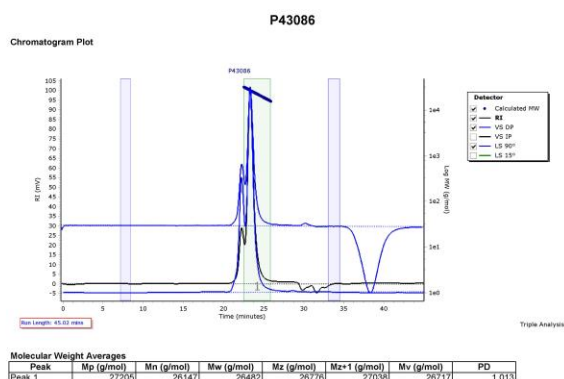
Thermal analysis:

Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of $10^\circ\text{C}/\text{min}$. The midpoint of the slope change of the heat flow plot of the second heating scan was considered as the glass transition temperature (T_g).

SEC elugram of the Sample:



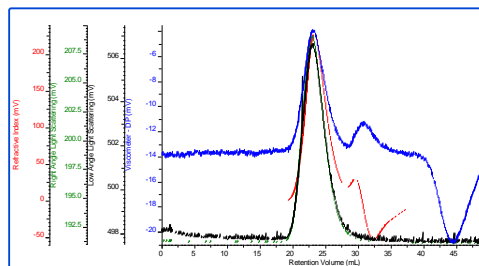
SEC in THF without endcapping with 1-naphthyl isocyanate :



SEC run in DMF:

P43086

dn/dc	0.1650
Flow Rate	0.7000
Solvent	DMF with LiBr
Method	Calibration_2020-11-25_PMMA-85K-0003.vcm



Sample	Mn	Mw	Mp	Mw/Mn
P43086_1_2021-03-10	24,714	26,232	24,352	1.061