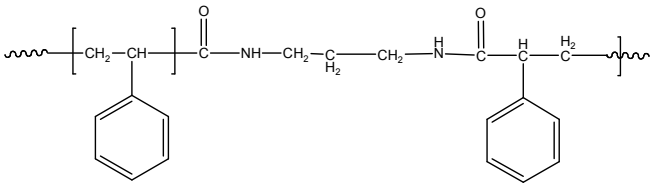
Sample Name:

Polystyrene bearing amide linkage in the center of chain

Sample #: P10549B-SNH-NHS



Composition:

$Mn \times 10^3$	PDI
18.0	1.14
T_g (^oC)	102

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.

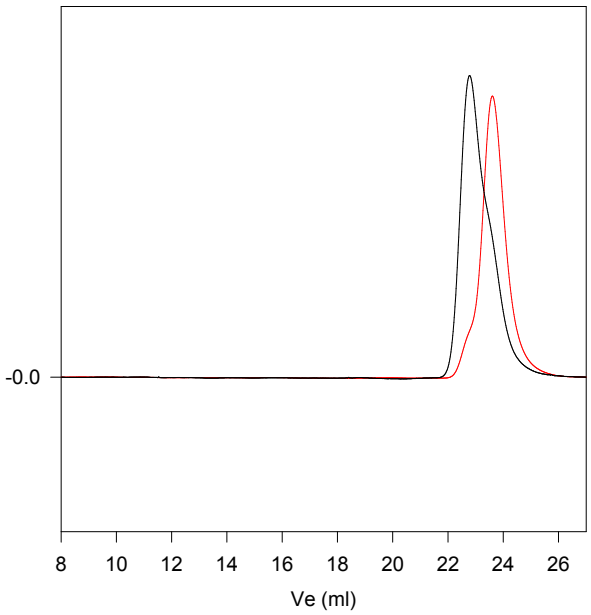
Thermal analysis:

Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of 10^oC/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).

Solubility: Polymer is soluble in THF, CHcl3 toluene and precipitated out from methanol and hexane.

SEC of Sample:

P10549B-SNH2



Size exclusion chromatography of monoamino terminated polystyrene
M_n=9000, M_w=10500 PI=1.09,
After linkage reaction : Mn 18,000 Mw/Mn 1.15