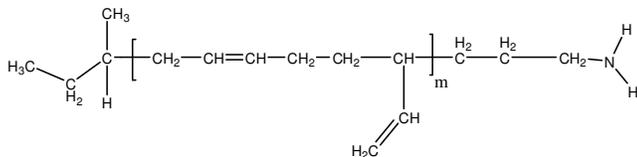


Sample Name: α -Amino-terminated Polybutadiene, (predominantly 1, 2-addition)

Sample # P19469-BdNH2

Structure:



Composition:

$M_n \times 10^3$	M_w/M_n	Functionality
3.0	1.05	> 95%
T_g		-31°C

Synthesis procedure:

The polymer was synthesized by anionic process.

Characterization:

The molecular weight and polydispersity index (M_w/M_n) were obtained by size exclusion chromatography (SEC) in THF. SEC analysis was performed on a Varian liquid chromatograph equipped with refractive and UV light scattering detectors. Three SEC columns from Supelco (G6000-4000-2000 HXL) were used with triple detectors from Viscotek Co.

Functionality:

Functionality of the polymer was determined by the titration with $HClO_4$ using crystal violet as the indicator.

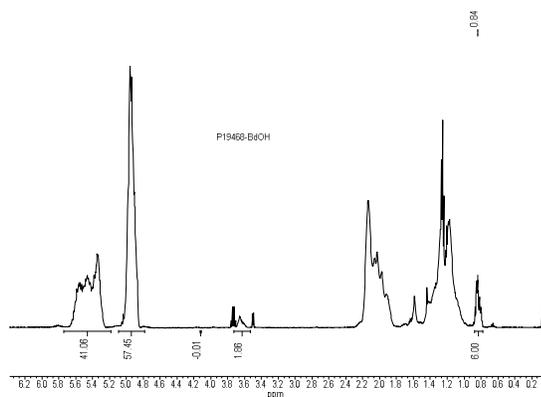
DSC thermal analysis:

Thermal analysis of the samples was carried out using a differential scanning calorimeter (TA Q100) at a heating rate of 10°C/min. The inflection glass transition temperature (T_g) of the sample has been considered.

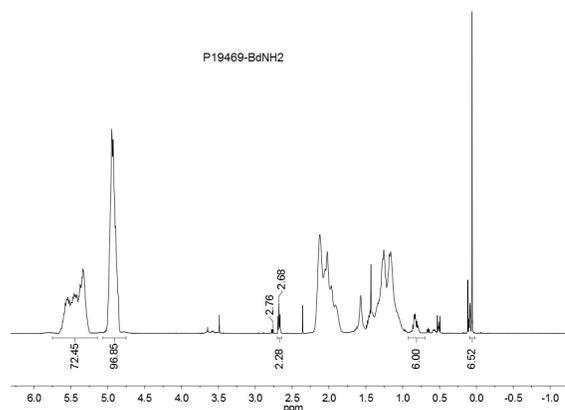
Solubility:

Amino-terminated polybutadiene is soluble in THF, toluene, hexane, cyclohexane, and chloroform. It precipitates from cold methanol and ethanol.

1H NMR of polybutadiene precursor in $CDCl_3$:

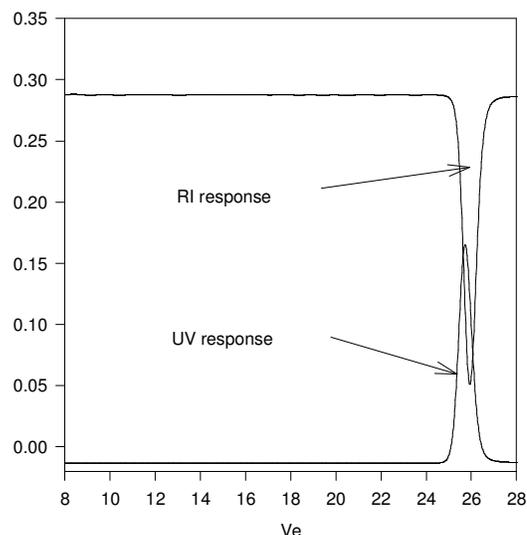


1H NMR of functionalized polybutadiene in $CDCl_3$:



SEC of the Polymer

P19469-BdNH2 (1, 2 addition)



Size Exclusion Chromatography :

- M_n : 3,000 M_w : 3,300 M_w/M_n 1.05 Functionality: > 98%
- UV response at 290nm after end capping NH_2 group with 1-Naphthyl isocyanate

DSC thermogram:

