Sample Name: **Poly(1,2-butadiene), ω-amino-terminated**

Sample #: **P19470-BdNH2**

Structure:
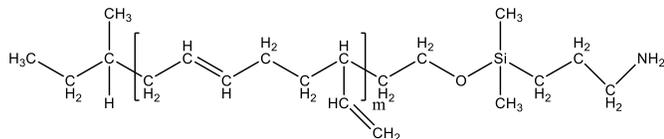
Composition:

$M_n \times 10^3$	M_w/M_n
1.8	1.05

Functionality: 95%
T_g: –31ºC

Synthesis procedure:
The polymer was synthesized by anionic polymerization 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 10ºC/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.

**^{1}H NMR of polybutadiene precursor in CDCl$_3$:**
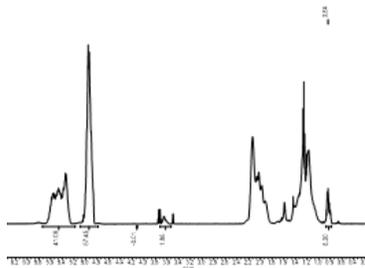
^{1}H NMR of functionalized polybutadiene in CDCl$_3$:
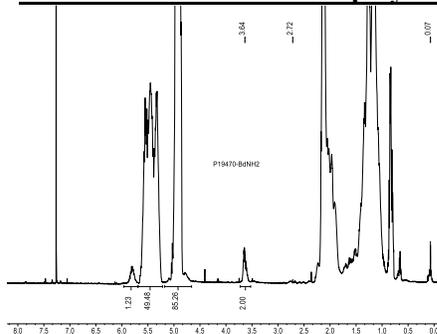
SEC profile of the Polymer

P19470-BdNH2 (1, 2 addition)

Size Exclusion Chromatography :

Mn: 1,800 Mw: 2,000 Mw/Mn 1.05 Functionality: > 98%
UV response at 290nm after end capping NH2 group with 1-Naphthyl isocynate
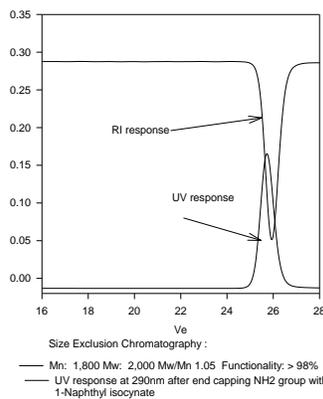
DSC thermogram of the Sample:

v.R-02