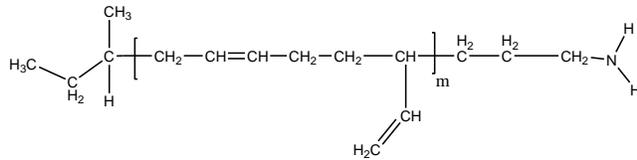


Sample Name: Amino Terminated Polybutadiene, 1, 2- rich microstructure

Sample #: P18667-BdNH2

Structure:

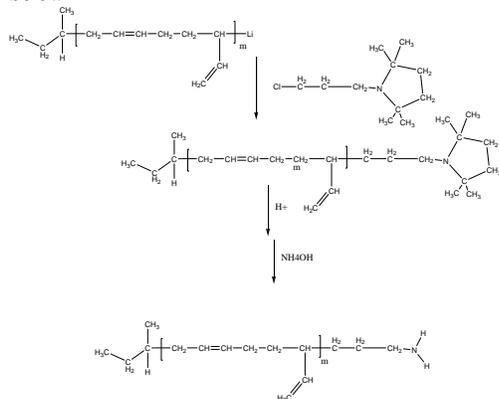


Composition:

Mn x 10 ³	PDI
1.0	1.10
Functionality	>90%
T _g	-31°C

Synthesis Procedure:

Amino terminated polybutadiene (1,2 addition) was prepared by anionic living polymerization of butadiene in polar solvent such as THF initiated by Sec. BuLi initiator followed by termination with 2,2,5,5-tetramethyl-1-(3-chloropropyl)-1-aza-2,5-disilacyclopentane. The deprotection of NH₂ functional group in acidic conditions followed by neutralization with base to get free Amino end terminated polymer. The scheme of the reaction is illustrated below:



Characterization:

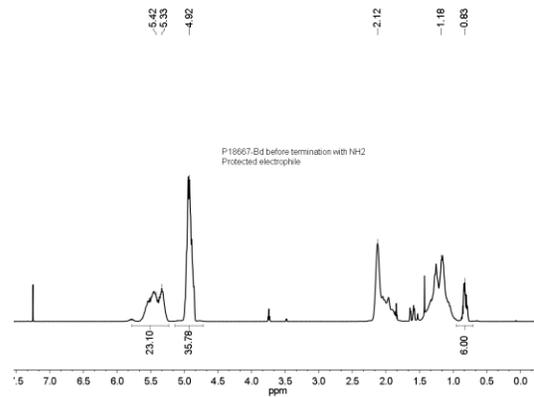
By size exclusion chromatography (SEC) in THF. SEC analysis was performed on a Varian liquid chromatograph equipped with refractive and UV light scattering detectors. Three SEC columns from Supelco (G6000-4000-2000 HXL) were used with triple detectors from Viscotec Co.

Functionality: The functionality of polymer was determined by the titration with HClO₄ using crystal violet as the indicator

Thermal Analysis:

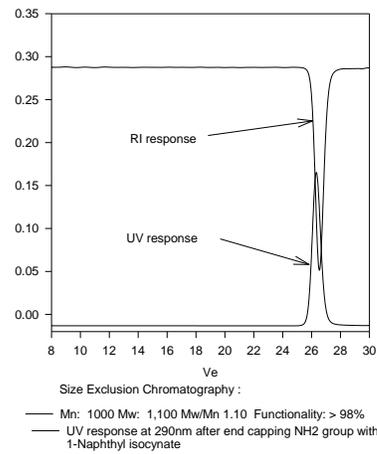
Thermal analysis of the samples was carried out using a differential scanning calorimeter (TA Q100) at a heating rate of 10°C/min. The inflection glass transition temperature (T_g) of the sample has been considered.

Solubility: Amino terminated polybutadiene is soluble in THF, toluene, hexane, cyclohexane and CHCl₃. It precipitates from cold methanol, ethanol.

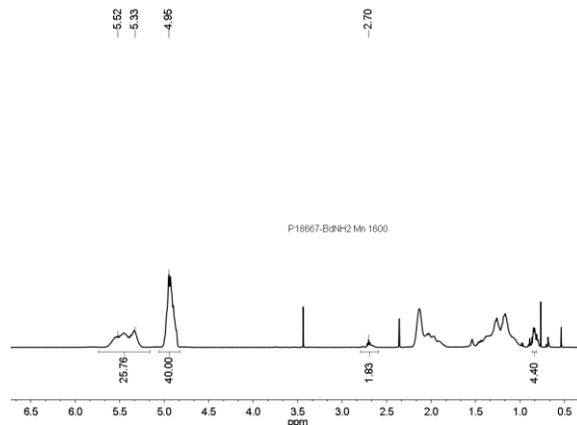


SEC of the Polymer

P18667-BdNH2 (1, 2 addition)



PBd- NH2



DSC thermogram for the sample:

