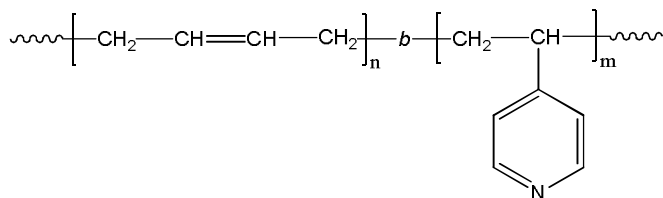


Sample Name:

Poly(1,4-butadiene)-b-Poly(4-Vinyl Pyridine)

Sample #: P73-Bd4VP**Structure:****Composition:**

Mn x 10 ³ (g/mol) Bd-b-4VP	Mw/Mn (PDI)
104.0–b–12.0	1.03

Glass transition temperatures:

T _g for PBd block	T _g for P4VP block
–59 °C	95 °C

Synthesis Procedure:

Poly(1,4-butadiene-b-4-vinyl pyridine) was prepared by living anionic polymerization with sequence addition of butadiene followed by 4-vinyl pyridine.

Characterization:

An aliquot of the anionic poly(1,4-butadiene) block was terminated before addition of methyl methacrylate and analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI).

The block copolymer composition was calculated from ¹H-NMR spectroscopy by comparing the peak area of the vinyl proton (from polybutadiene) at about 5.1 ppm with aromatic protons (from poly[4-vinyl pyridine]) at 8.5 ppm.

Thermal Analysis:

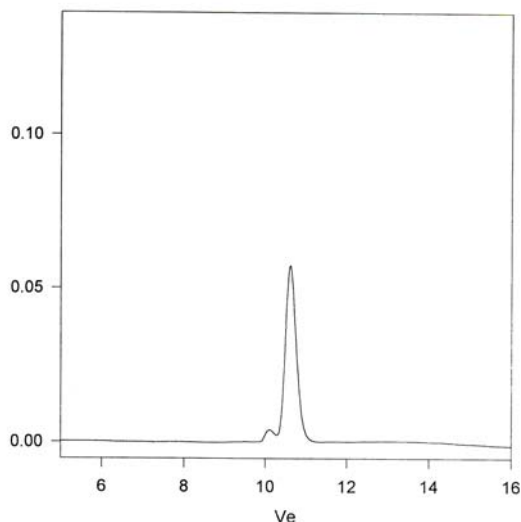
Thermal analysis of the samples was carried out using a differential scanning calorimeter (TA Q100) at a heating rate of 10°C/min.

Solubility:

Poly(1,4-butadiene-b-4-vinyl pyridine) is soluble in THF, chloroform, and toluene.

SEC elugram of the block copolymer:

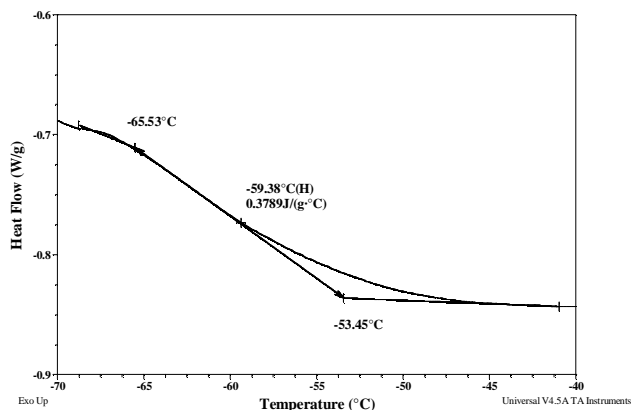
P73-B4VP



Size Exclusion Chromatography of Polybutadiene precursor:

Polybutadiene: M_n = 104000, M_w = 107200, M_w/M_n = 1.03

Block copolymer PE(104000)-b-P4VP(12000), Composition determined by Titration

DSC curve for PBd block:**DSC curve for P4VP block:**