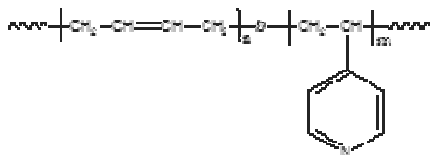


Sample Name:

Poly(1,4-butadiene-b-4-vinyl pyridine)

Sample #: **P18932-Bd4VP**

Structure:



Composition:

Mn x 10 ³ Bd-b-4VP	Mw/Mn (PDI)
53.5–11.5	1.07
T _g for Bd block: –72°C	T _g for 4VP block: 83°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 final block copolymer composition was calculated from ¹H-NMR spectroscopy by comparing the peak area of the vinylic butadiene proton at about 5.1 ppm with 4-vinyl pyridine protons at 8.5 ppm. Block copolymer PDI is determined by SEC.

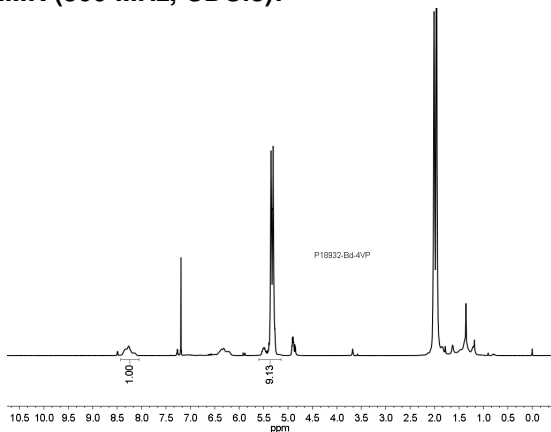
Thermal Analysis:

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:

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

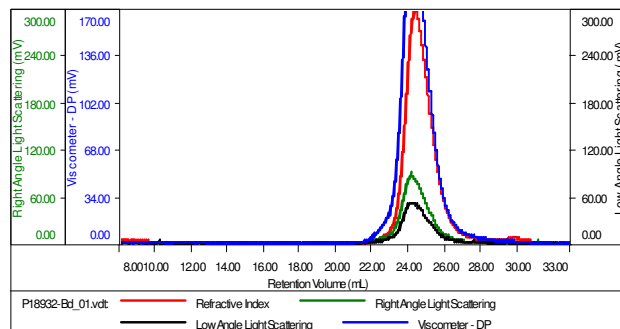
¹H NMR (500 MHz, CDCl₃):



SEC elugram:

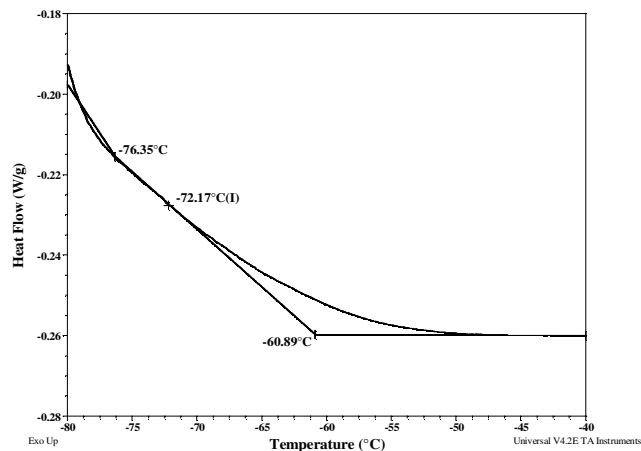
Sample ID: P18932-Bd Block

Concentration (mg/mL)	1.5199
Sample dn/dc (mL/g)	0.1250
Method File	PS80K-1020-2014-0000.vcm
Column Set	3x PL 1113-6300
Solvent	THF



Sample	MW Number Average (Da)	MW Weight Average (Da)	MW at Peak (Da)	Polydispersity	Intrinsic Viscosity (dL/g)
P18932-Bd_01.vdt	53,470	57,115	51,835	1.088	5.6315

DSC thermogram for Bd block:



Thermogram for 4VP block:

