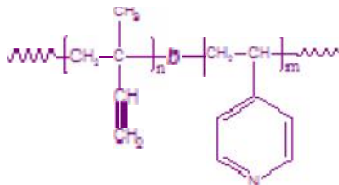


**Sample Name:** Poly(isoprene-b-4-vinyl pyridine)  
**Sample #:** P9743-IP4VP (isoprene rich in 1,2 and 3,4 addition)

**Structure:**



**Composition:**

Mn x 10 <sup>3</sup> Ip-b-4VP	Mw/Mn (PDI)
25.0-b-3.5	1.18
T <sub>g</sub> for Ip block: 0.1°C	T <sub>g</sub> for 4VP block: 49°C

**Synthesis Procedure:**

1,2 and 3,4 addition rich Poly(isoprene-b-4-vinyl pyridine) is prepared by living anionic polymerization with sequence addition of isoprene followed by 4-vinyl pyridine in THF at -78 °C.

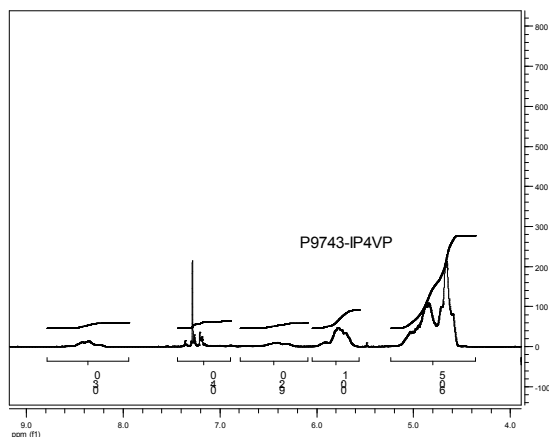
**Characterization:**

An aliquot of the anionic poly(isoprene) block was terminated before addition of isoprene and analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI). The final block copolymer composition was calculated from <sup>1</sup>H-NMR spectroscopy by comparing the peak area of the vinylic isoprene proton at about 5.6-4.8 ppm with 4-vinyl pyridine protons at 8.5 ppm. Block copolymer PDI is determined by SEC.

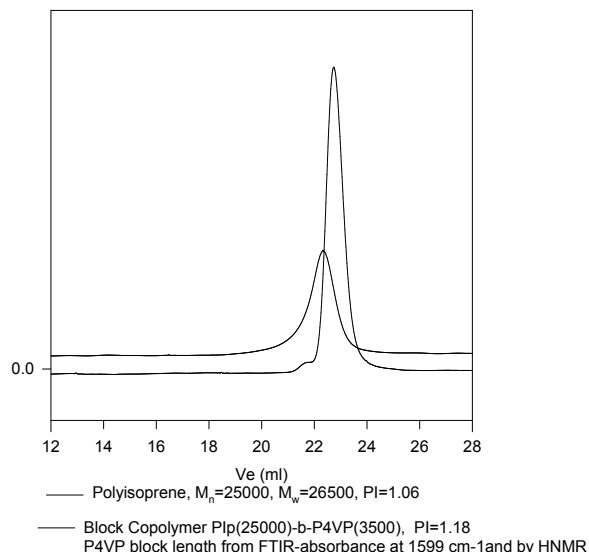
**Thermal Analysis:**

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<sub>g</sub>) of the sample has been considered.

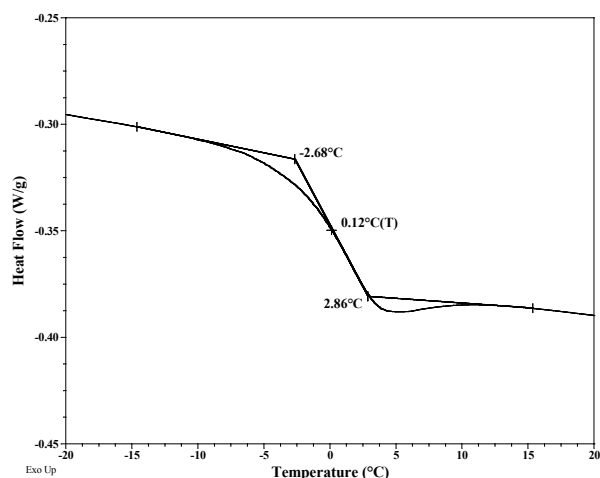
**<sup>1</sup>H NMR of the Polymer:**



**SEC profile of the block copolymer  
P9743-IP4VP**



**DSC thermogram for Ip block:**



**DSC thermogram for 4VP block:**

