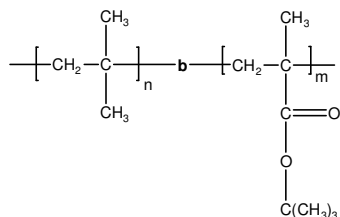


**Sample Name:** Poly(isobutylene-b-t-butyl methacrylate)

**Sample #:** P9248-IbtBuMA

**Structure:**



**Composition:**

Mn x 10 <sup>3</sup> Ib-b-tBuMA	Mw/Mn (PDI)
5.0-b-11.0	1.4
T <sub>g</sub> for Ib block: -60°C	T <sub>g</sub> for tBuMA block: 79°C

**Synthesis Procedure:**

Poly(isobutylene-b- tert.butylmethacrylate) is prepared by cationic polymerization of isobutylene to obtain functionalized poly isobutylene. The end groups were converted to anionic species followed by living anionic polymerization of tert.butylmethacrylate in the presence of LiCl as additive.

**Characterization:** An aliquot of the poly(isobutylene) 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 <sup>1</sup>H-NMR spectroscopy by comparing the peak area of the isobutylene protons at 1.1 ppm with the peak area of tert.butyl methacrylate protons at 1.4 ppm. Block copolymer PDI is determined by SEC

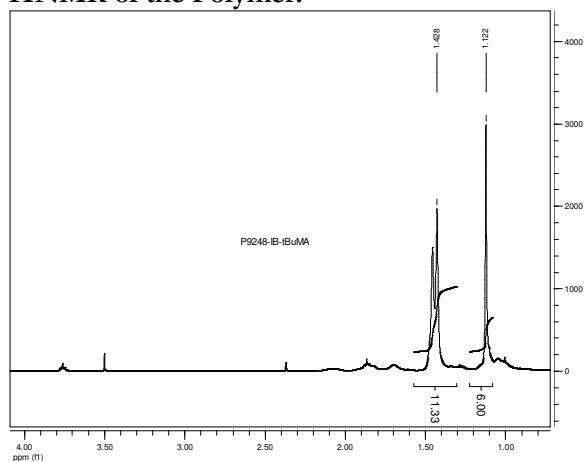
**Thermal analysis:**

Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of 10°C/min. The midpoint of the slope change of the heat flow plot of the second heating scan was considered as the glass transition temperature (T<sub>g</sub>).

**Solubility:**

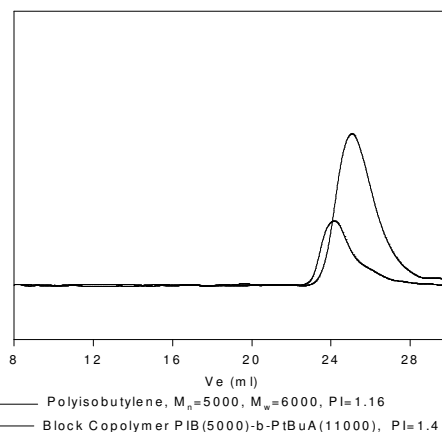
Poly(1,4-isoprene-b-4-vinyl pyridine) is soluble in THF, toluene, hexane, pentane and cyclohexane.

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

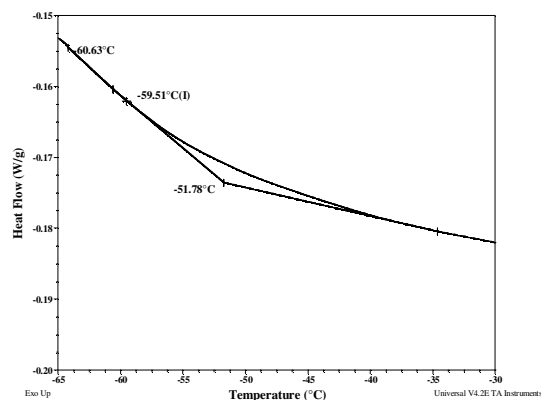


**SEC profile of the block copolymer:**

P9248-IB-tBuMA



**DSC thermograms for Ib block:**



**DSC thermograms for tBuMA block:**

