Sample Name: Poly(2-vinyl naphthalene-b-n-butyl acrylate)

Sample # P3311B-VNnBuA

Composition:

Mn x 10^3 VN-b-nBuA	PDI
30.8-b-46.2	1.09

Synthesis Procedure:

The details are given in the following paper:

Faquan Zeng, Mu Yang, Jianxin Zhang, Sunil K. Varshney. ***Synthesis and characterization of block copolymers from 2-vinylnaphthalene by anionic polymerization***, Journal of Polymer Science Part A: Polymer Chemistry, 40, 24, 4387-4397 2002.

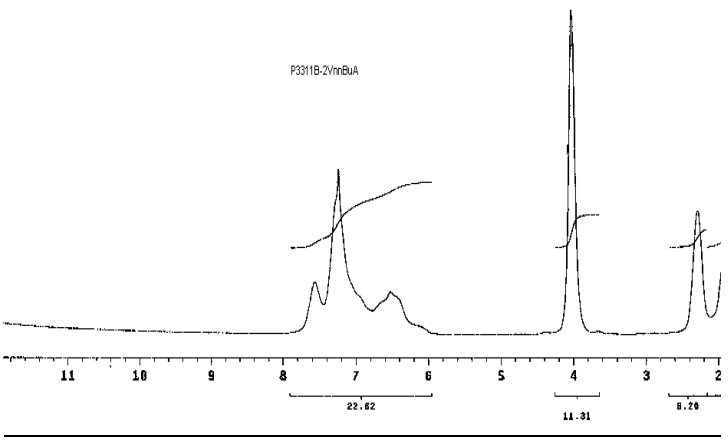
Characterization:

An aliquot of the anionic poly 2-vinyl naphthalene block was terminated before addition of nBuA and analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI). The final block copolymer composition was calculated from ^{1}H-NMR spectroscopy.

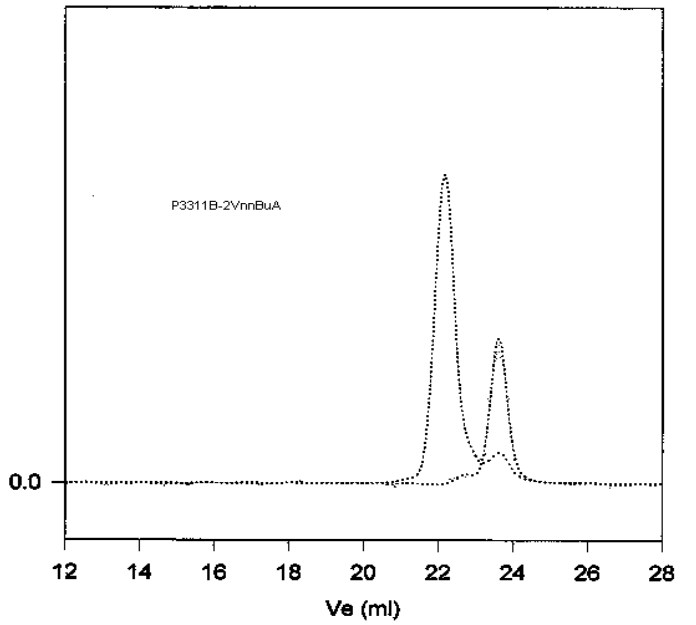
Solubility:

Poly(2-vinyl naphthalene-b-n-butyl acrylate) block copolymer is soluble in toluene, cyclohexane, hexane, THF, $CHCl_3$, The polymer can be precipitated from ethanol, methanol, water.

^{1}H-NMR Spectrum of the block copolymer:



SEC of the block copolymer:



Size exclusion chromatography of
poly(2Vinyl naphthalene-b-tert.butylacrylate)
Molecular weight determined on line light scattering detector
Viscotek

..... Poly(2 vinyl naphthalene), M_n=30800, M_w=, PI=1.09

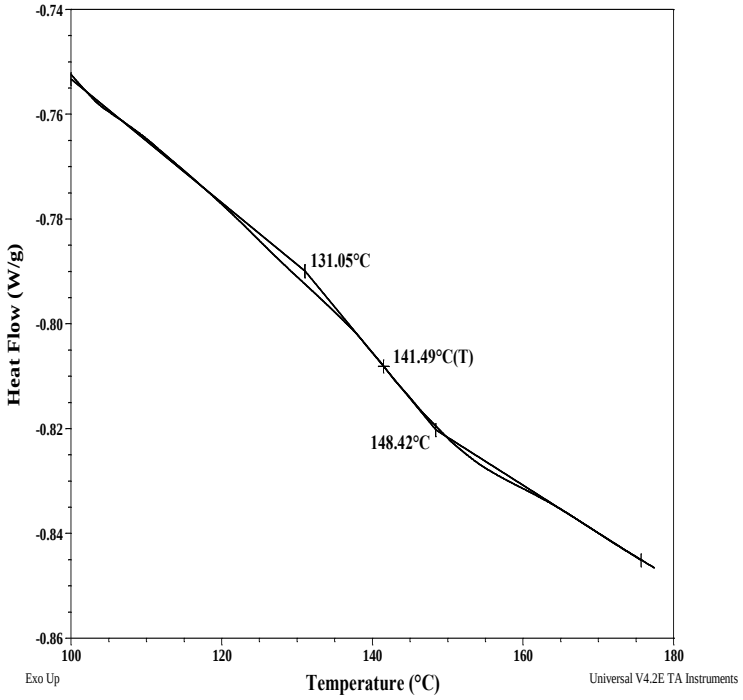
Thermal analysis of sample P3311B-2VNnBuA

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_g).

Glass transition temperature at a glance

T_g for PS block	141°C
T_g for nBuA block	-46°C

Thermogram of P2VN block:



Thermogram for nBuA block