

Sample Name: Poly(4-vinyl pyridine-b-styrene-b-4-vinyl pyridine)

Sample #: P1639-4VPS4VP

Structure:



Composition:

Mn x 10 ³ 4VP-b-PS-b-4VP	PDI
23.0-b-21.0-b-23.0	1.17
T _g for PS block: 103°C	T _g for 4VP block: 144°C

Synthesis Procedure:

Poly(4-vinyl pyridine-b-styrene-b-4-vinyl pyridine) is prepared by living anionic polymerization using a bifunctional initiator with sequence addition of styrene followed by 4-vinylpyridine (4VP).

Characterization:

The molecular weight and polydispersity index of this polymer were determined by size exclusion chromatography (SEC) using a Varian liquid chromatograph equipped with a UV and refractive index detector.

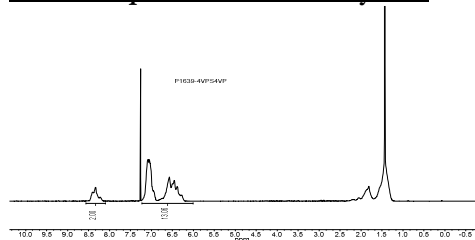
Thermal analysis:

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_g).

Solubility:

Poly(4-vinyl pyridine-b-styrene-b-4-vinyl pyridine) is soluble in DMF, CHCl₃. The polymer can also be solubilized in THF depending on its chemical composition. The polymer readily precipitates from hexanes and diethyl ether.

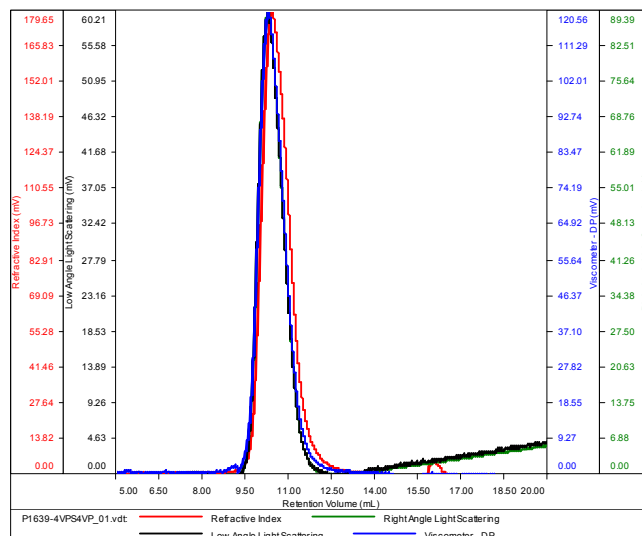
HNMR Spectrum of the Polymer:



SEC of the polymer:

SAMPLE ID: P1639-4VPS4VP

Conc (mg/mL)	3.9566
dn/dc (mL/g)	0.1580
Method	PS80K-NOV2014-0000.vcm
Solvent	DMF w 0.03M LiBr
Column	PSS



Sample	Mn	Mw	Mp	Mw/Mn	IV
P1639-4VPS4VP_01.vdt	66,213	77,538	82,771	1.171	0.2454

DSC thermograms for the sample:

