

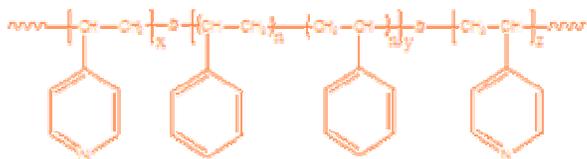
Sample Name: Poly(4-vinyl pyridine-b-styrene-b-4-vinyl pyridine)

SEC of the polymer:

Sample #: P1644-4VPS4VP

P1644-4VPS4VP

Structure:



Composition:

$M_n \times 10^3$ 4VP-b-PS-b-4VP	PDI
4.5-b-38.0-b-4.5	1.10
T_g for PS block: 108°C	T_g for 4VP block: 152°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:

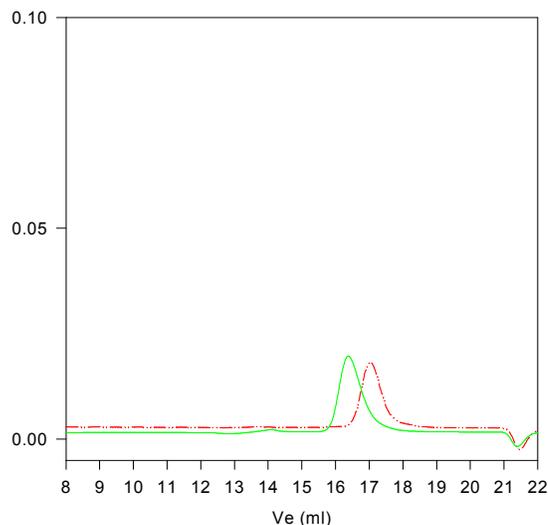
The molecular weight and polydispersity index of this polymer were determined by size exclusion chromatography (SEC) using a Varian liquid chromatograph equipped with a UV and refractive index detector.

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-vinylpyridine-b-styrene-b-4-vinyl pyridine) is soluble in DMF, $CHCl_3$. The polymer can also be solubilized in THF depending on its chemical composition. The polymer readily precipitates from hexanes and diethyl ether.



SEC analysis carried out in DMF at 40 °C
Polystyrene, $M_n=38000$, $M_w=40000$, $PI=1.06$

Block Copolymer P4VPS4VP : 4VP (4500)-b-PS(38000)-4VP(4500) M_w/M_n 1.10

DSC thermograms for the sample:

