

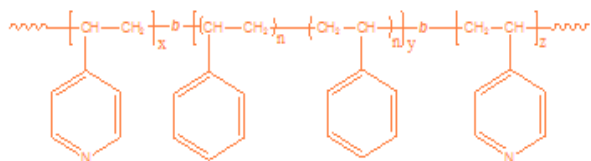
**Sample Name:** Poly(4-vinyl pyridine-b-styrene-b-4-vinyl pyridine)

**SEC of the polymer:**

**Sample #:** P9560-4VPS4VP

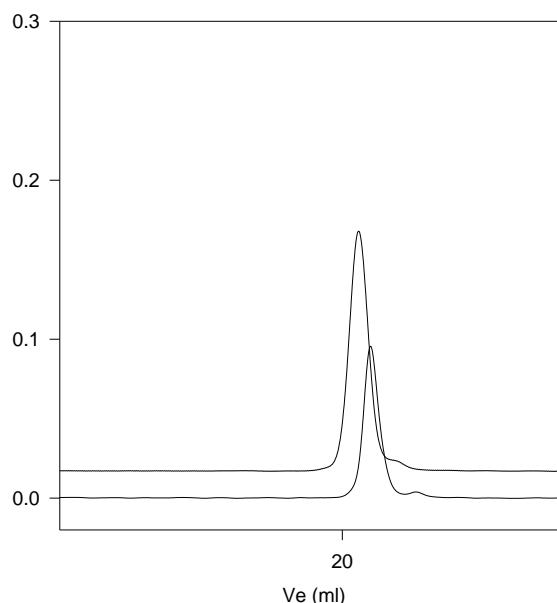
**P9560-4VPS4VP**

**Structure:**



**Composition:**

$M_n \times 10^3$ 4VP-b-PS-b-4VP	PDI
4.0-b-74.0-b-4.0	1.09
$T_g$ for PS block: 102°C	$T_g$ for 4VP block: 135°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-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 profile in DMF at 30 oC.  
Polystyrene,  $M_n=74000$ ,  $M_w=80,600$   $PI=1.09$   
— Block Copolymer 4VP (4000)-PS(74000)-b-P4VP(4000),  $PI=1.09$   
(composition by titration and by H NMR)

**DSC thermograms for the sample:**

