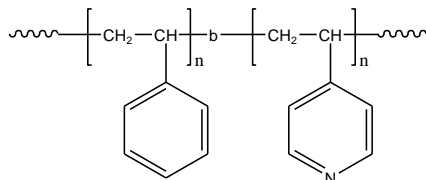


Sample Name: Poly(styrene-b-4-vinyl pyridine)  
Sample #: P18315-S4VP

### Structure:



### Composition:

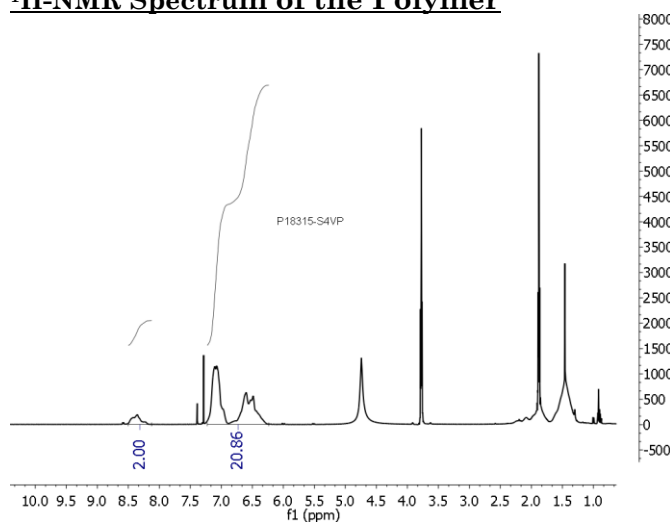
$M_n \times 10^3$ S-b-4VP	PDI
43.5-b-11.5	1.13

By anionic polymerization process.

### Characterization:

An aliquot of the anionic polystyrene block was terminated before addition of 4VP and analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI). The Block copolymer composition was then calculated from  $^1\text{H-NMR}$  spectroscopy by comparing the peak area of the 4VP proton at 8.2 ppm with the peak area of the aromatic protons of polystyrene at 6.3-7.2 ppm. The composition of the block copolymer can also be determined by titration in acetic acid/ $\text{HClO}_4$  using crystal violet indicator. Copolymer PDI is determined by SEC.

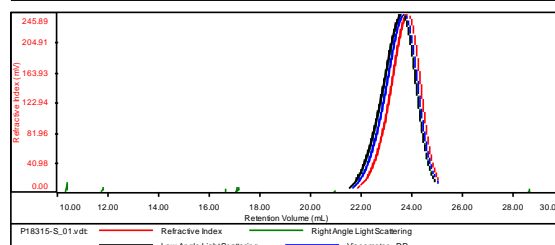
### $^1\text{H-NMR}$ Spectrum of the Polymer



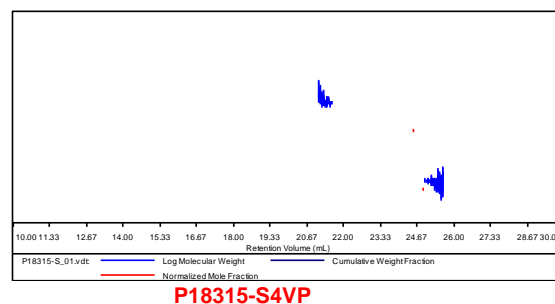
### SEC of the polymer:

Sample ID: P18315-S

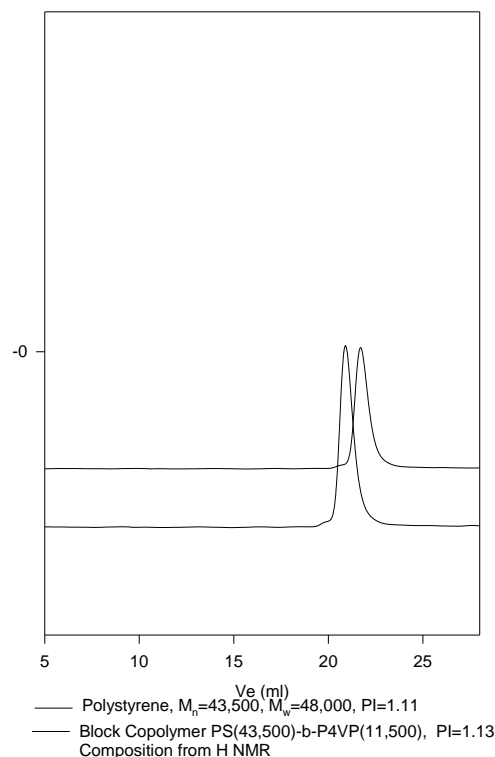
Concentration (mg/mL)	7.3506
Sample dn/dc (mL/g)	0.1850
Method File	PS80K-NOV-2013-0001.vcm
Column Set	3x PL 1113-6300
System	System 1



Sample	$M_n$	$M_w$	$M_p$	$M_w/M_n$	IV
P18315-S_01.vdt	43,457	48,498	42,658	1.116	0.4032



P18315-S4VP



### References:

- (1). S. K. Varshney, X. F. Zhong and A. Eisenberg *Macromolecules*, **1993**, 26, 701-706.
- (2). Z. Gao, S. K. Varshney, S. Wong, A. Eisenberg *Macromolecules*, **1994**, 27, 7923-7927.