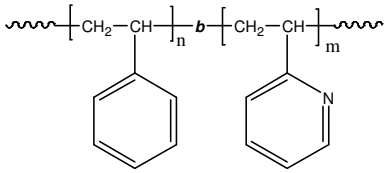
Sample Name:

Polystyrene-*block*-poly(2-vinyl pyridine)

Sample #: P18561-S2VP

Structure:



Composition of PS-*b*-P2VP diblock copolymer:

M_n x 10^3 (g/mol)	PDI
55.0–*b*–56.0	1.07

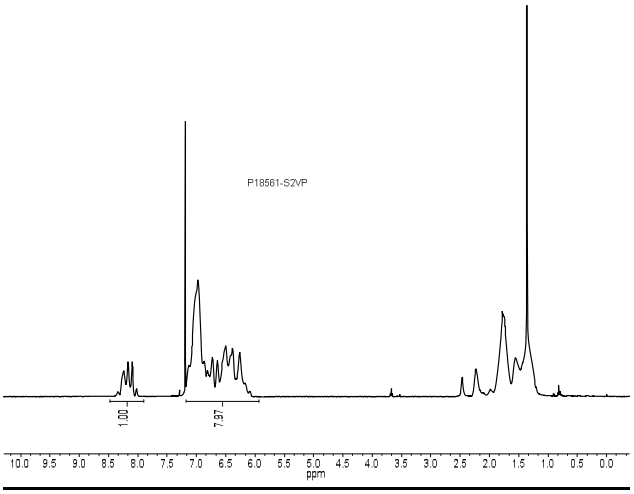
Synthesis:

Polystyrene-*b*-poly(2-vinyl pyridine) was prepared by living anionic polymerization in THF at –78°C in the presence of LiCl as an additive.

Characterization: Polymer was analyzed by size exclusion chromatography (SEC) to obtain its molecular weight and polydispersity index (PDI).

The block copolymer composition was calculated from its ^{1}H-NMR spectrum by comparing the peak area of the 2VP protons (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 PS-b-P2VP in acetic acid/HClO4 using crystal violet indicator. PDI of block copolymer was determined by SEC.

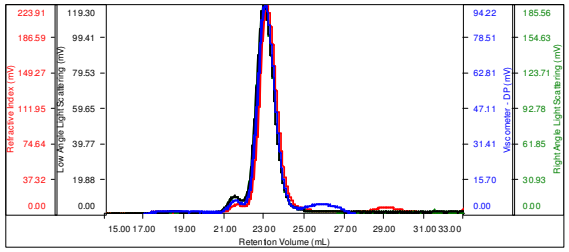
^{1}H NMR spectrum of PS-b-P2VP:



SEC of PS-b-P2VP:

Sample ID: P18561-S

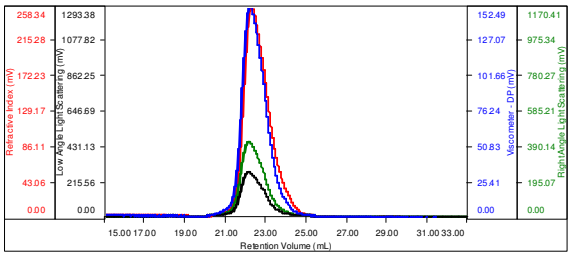
Concentration (mg/mL)	3.0041
Sample dn/dc (mL/g)	0.1850
Method File	PS80K-March13-2014-0000.vcm
Column Set	3x PL 1113-6300
System	System 1



Sample	Mn	Mw	Mp	Mw/Mn	IV
P18561_01.vdt	54,978	57,921	57,230	1.054	0.6239

Sample ID: P18561-S2VP

Concentration (mg/mL)	5.0088
Sample dn/dc (mL/g)	0.1750
Method File	PS80K-March13-2014-0000.vcm
Column Set	3x PL 1113-6300
System	System 1



Sample	Mn	Mw	Mp	Mw/Mn	IV
P18561-S2VP_01.vdt	110,110	118,009	122,544	1.072	0.8228

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.