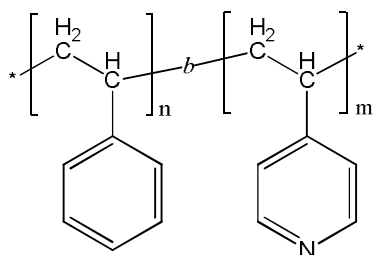


Sample Name: Poly(styrene-b-4-vinyl pyridine)

Sample #: P18637-S4VP

Structure:



Composition:

$M_n \times 10^3$ S-b-4VP	PDI
104.0–b–30.0	1.07
Tg for PS block:	104 °C
Tg for P4VP block:	153 °C

Synthesis Procedure:

Poly(styrene-b-4-vinyl pyridine) is prepared by living anionic polymerization in THF at -78 °C in the presence of LiCl an additive.

Characterization: by SEC and by $^1\text{H-NMR}$.

Purification of the obtained polymer:

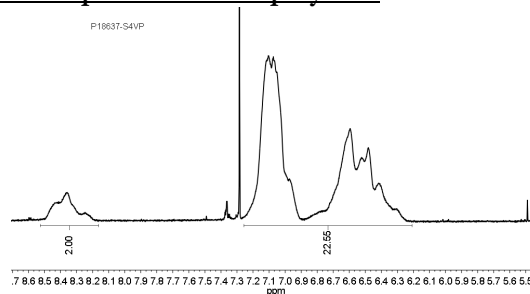
Purification of the obtained polymer was carried out rigorously as follows to ensure the removal of the catalyst side product:

1. Dissolved the polymer in CHCl_3 and wash with de-ionized distilled water to remove any soluble organic catalyst side product.
2. Polymer was extracted from water with chloroform.
3. Polymer solution in CHCl_3 was dried over anhydrous sodium sulfate.
4. Solution was filtered and then was passed through a column packed with basic Al_2O_3 .
5. Solution was concentrated on rota-evaporator
6. Solution was precipitated in cold hexane and redissolved in benzene and freeze dried.
7. Dried under vacuum for 48h at 50°C .

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.

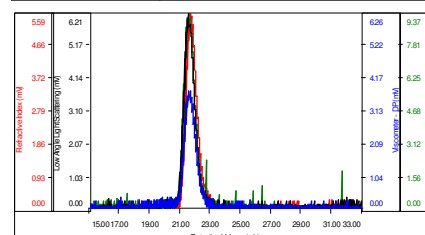
$^1\text{H NMR}$ spectrum of the polymer:



SEC of the first block and diblock copolymer:

Sample ID: P18637-S

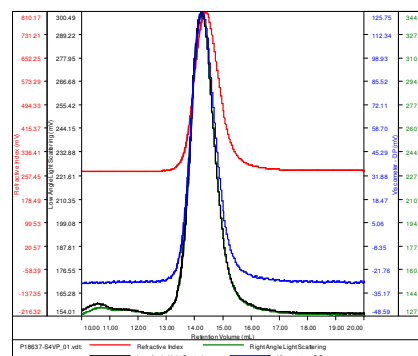
Concentration (mg/mL)	0.2708
Sample chdc (mL/g)	0.1850
Method File	PS80K-Apr15-2014-0000.vcm
Column Set	3xPL1113-6300
System	System1



Sample	Mn	Mw	Mp	Mw/Mn	IV
P18637-1_01.vdt	104,204	111,197	106,514	1.067	0.2365

SAMPLE ID: P18637-S4VP

Conc (mg/mL)	5.1596
chdc (mL/g)	0.1650
Method	ps80K42014-0000.vcm
Solvent	DMF w/ 0.03MLIBr
Column	PSS



Sample	Mn	Mw	Mp	Mw/Mn	IV
P18637-S4VP_01.vdt	134,734	143,678	136,840	1.066	0.3603

DSC thermogram:

