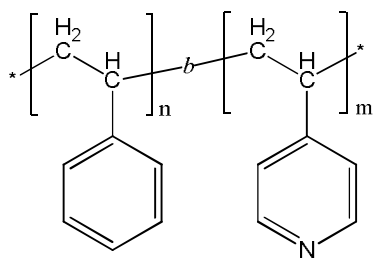


Sample Name: Poly(styrene-b-4-vinyl pyridine)

Sample #: P18635-S4VP

Structure:



Composition:

Mn $\times 10^3$ S-b-4VP	PDI
121.0–b–35.0	1.08
T _g for PS block:	104 °C
T _g for P4VP block:	153 °C

Synthesis Procedure:

Poly(styrene-*b*-4-vinyl pyridine) is prepared by living anionic polymerization in THF at $-78\text{ }^{\circ}\text{C}$ in the presence of LiCl as an additive.

Characterization: by SEC and by ^1H -NMR.

Purification of the obtained polymer:

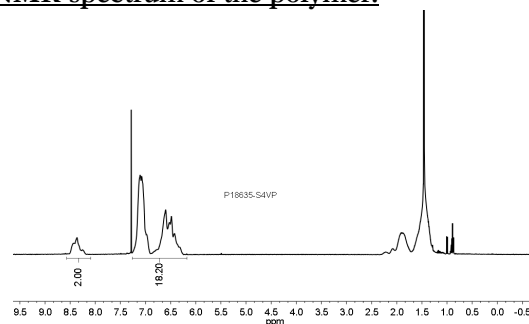
Purification of the obtained polymer was carried out rigorously as follows to ensure the removal of the catalyst side product:

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.

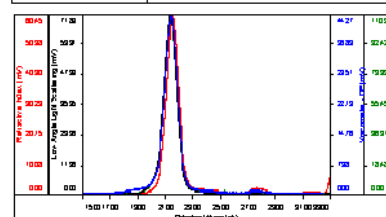
¹H NMR spectrum of the polymer:



SEC of the first block and diblock copolymer:

Sample ID: P18635-S

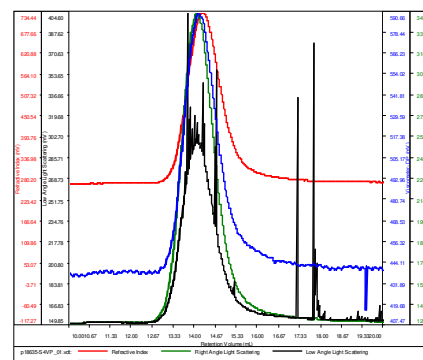
Concentration(mg/mL)	3.8504
Sample chide (m L/g)	0.6950
Method file	PSS01-Apr15-2014\60000.icm
Column Set	3x PL 1113-6300
System	System 1



Sample	Mn	Mw	Mp	Mw/Mn	PDI
P 186_01adit	120,874	130,884	122,519	1.083	0.2672

SAMPLE ID: P18635-S4VP

Conc (mg/mL)	5.3599
dn/dc (mL/g)	0.1650
Method	ps80k042014-0000.vcm
Solvent	DMF w 0.03M LiBr
Column	PSS



Sample	Mn	Mw	Mp	Mw/Mn	IV
p18635-S4VP_01.vdt	154,666	167,155	158,765	1.081	0.4237

DSC thermogram:

