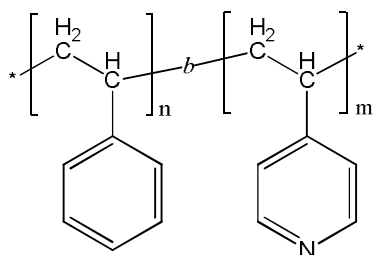


Sample Name: Poly(styrene-b-4-vinyl pyridine)

Sample #: P18709-S4VP

Structure:



Composition:

$M_n \times 10^3$ S-b-4VP	PDI
233.0–b–133.0	1.13
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 °C in the presence of LiCl an additive.

Characterization: by SEC and by ¹H-NMR.

Purification of the obtained polymer:

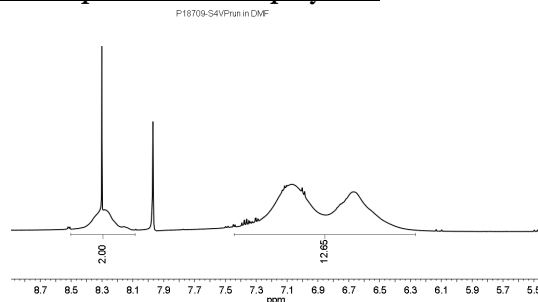
Purification of the obtained polymer was carried out rigorously as follows to ensure the removal of the catalyst side product:

1. Dissolved the polymer in CHCl₃ 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 CHCl₃ was dried over anhydrous sodium sulfate.
4. Solution was filtered and then was passed through a column packed with basic Al₂O₃.
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.

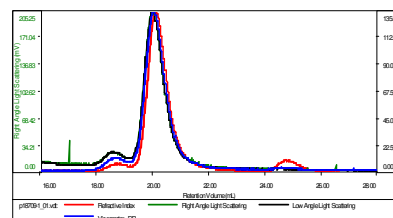
¹H NMR spectrum of the polymer:



SEC of the first block and diblock copolymer:

Sample ID: P18709-S

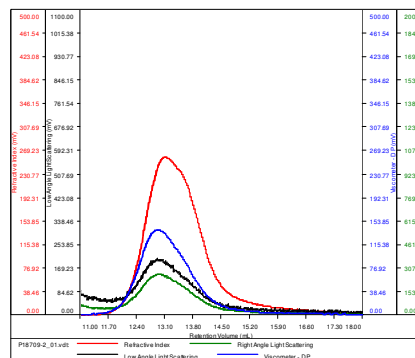
Concentration (mg/mL)	3.1816
Sample/dil (mL/g)	0.1850
Method File	PS80K-Apr15-2014-0000.vcm
Column Set	3x PL 1113.6300
Solvent	THF



Sample	Mn	Mw	Mp	Mw/Mn	IV
p18709-1_01.vtl	232,734	250,733	229,159	1.077	0.4105

SAMPLE ID: P18709-S4VP

Conc (mg/mL)	3.6796
dil/dc (mL/g)	0.1850
Method	ps80k-May2014-0003.vcm
Solvent	DMF w 0.03M LiBr
Column	PSS



Sample	Mn	Mw	Mp	Mw/Mn	IV
P18709-2_01.vtl	366,568	413,486	361,119	1.128	0.6167

DSC thermogram:

