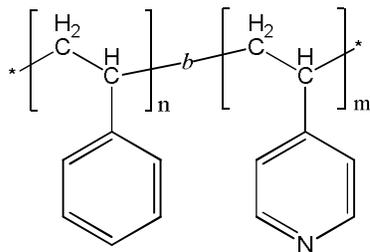


Sample Name: Poly(styrene-b-4-vinyl pyridine)

Sample #: P19204-S4VP

Structure:



Composition:

$M_n \times 10^3$ S-b-4VP 184.0–b–44.0	PDI 1.10
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:

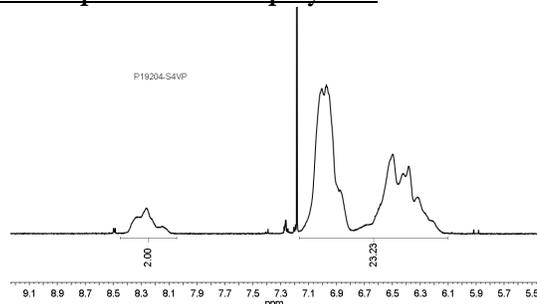
Purification of the obtained polymer was carried out rigorously as follows to ensure the removal of the catalyst side product:

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.

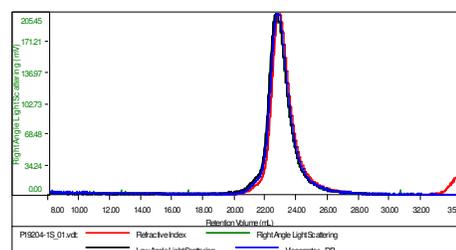
$^1\text{H NMR}$ spectrum of the polymer:



SEC of the first block and diblock copolymer:

Sample ID: P19204-S

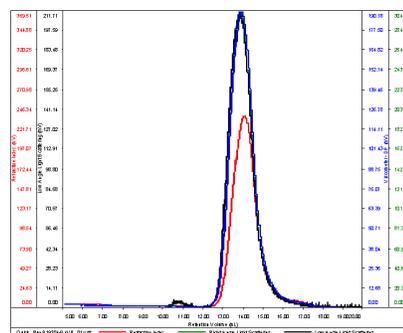
Concentration (mg/mL)	4.0329
Sample dilute (mL/g)	0.1850
Method File	PS90K-March6-2015-0000.vcm
Column Set	3x PL 1113-6300
Solvent	THF



Sample	MW Number Average (Da)	MW Weight Average (Da)	MW at Peak (Da)	Polydispersal	Intrinsic Viscosity (dL/g)
P19204-S_01.vct	183,986	193,719	187,234	1.053	0.5262

SAMPLE ID: P19204-S4VP

Cone (mg/mL)	0.6034
dilute (mL/g)	0.1590
Method	PS90K-NOV2014-0000.vcm
Solvent	DMF w 0.03M LiBr
Column	PSS



DSC thermogram of the polymer:

