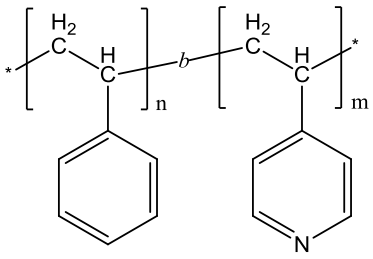
Sample Name: **Poly (styrene-b-4-vinyl pyridine)**

Sample #: **P5550-S4VP**

Structure:



Composition:

Mn × 10^3 S-b-4VP	PDI
640.5-b-131.0	1.08

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

Characterization: The product was characterized by SEC and by ^{1}H-NMR.

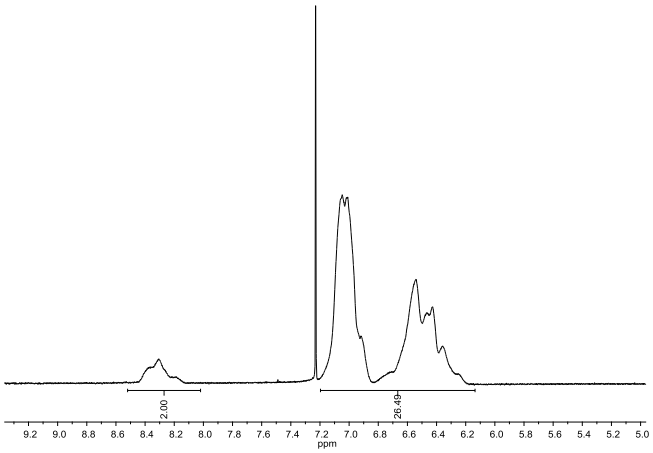
Purification of the obtained polymer:
Purification of the obtained polymer was carried out rigorously as follows to ensure the removal of the catalyst side product:

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.

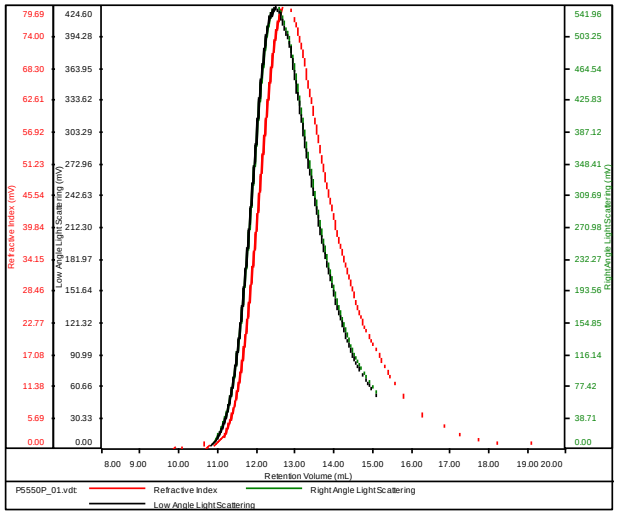
^{1}H NMR spectrum of the diblock polymer:



SEC of the diblock copolymer:

P5550-S4VP

Conc	4.4905
dn/dc	0.1650
Solvent	DMF w 0.023M LiBr
Flow Rate	0.7000
Method	PS-80k_2018-04-02-0000.vcm



Sample	Mn	Mw	Mp	Mw/Mn	IV
P5550P_01.vdt	771,435	833,965	907,570	1.081	1.1520