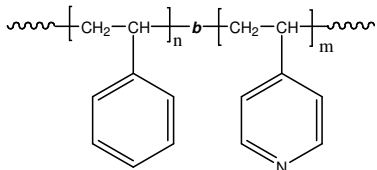


Sample Name: Poly(styrene-b-4-vinyl pyridine)

Sample #: P40068B-S4VP

**Structure:**



**Composition:**

| Mn x 10 <sup>3</sup><br>PS-b-4VP | PDI  |
|----------------------------------|------|
| 110.0-b-133.0                    | 1.26 |

|                                    |                                     |
|------------------------------------|-------------------------------------|
| T <sub>g</sub> for PS block: 105°C | T <sub>g</sub> for 4VP block: 133°C |
|------------------------------------|-------------------------------------|

**Synthesis Procedure:** The polymer was synthesized by anionic process.

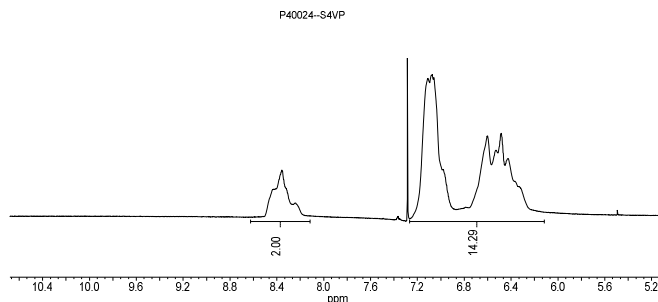
**Characterization:** The polymer was characterized by SEC and <sup>1</sup>H NMR .

The composition of the block copolymer can also be determined by titration in acetic acid/HClO<sub>4</sub> using crystal violet indicator. Copolymer PDI is determined by SEC.

Thermal analysis of the samples was carried out using a differential scanning calorimeter (TA Q100) at a heating rate of 15°C/min. The inflection glass transition temperature (T<sub>g</sub>) of the sample has been considered.

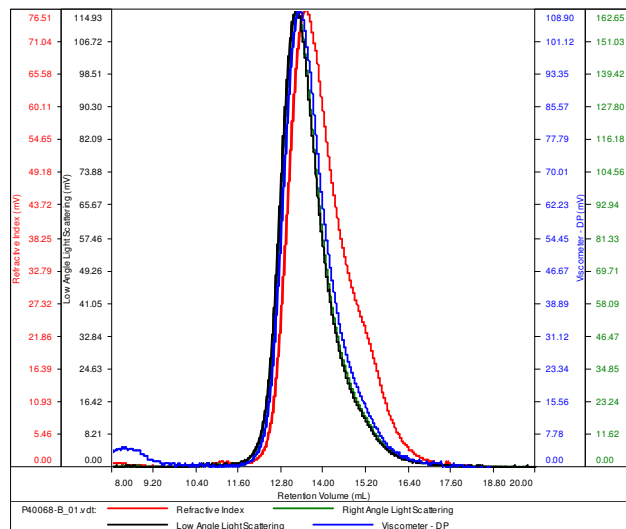
**Solubility:** Poly(styrene-b-4-vinyl pyridine) is soluble in CHCl<sub>3</sub> DMF.

**<sup>1</sup>H NMR spectrum of the polymer:**



**SEC elugram of the polymer:**  
P40068B-S4VP

|              |                               |
|--------------|-------------------------------|
| Conc (mg/mL) | 2.2772                        |
| dn/dc (mL/g) | 0.1580                        |
| Method       | PS80k-August-08-2016-0000.vcm |
| Solvent      | DMF w 0.023M LiBr             |
| Column       | PSS                           |



| Sample          | Mn      | Mw      | Mp      | Mw/Mn | IV     |
|-----------------|---------|---------|---------|-------|--------|
| P40068-B_01.vdt | 243,428 | 306,633 | 349,245 | 1.260 | 0.7977 |

**References:**

- (1). S. K. Varshney, X. F. Zhong & A. Eisenberg *Macromolecules*, **1993**, 26, 701-706.
- (2). Z.Gao, S. K. Varshney, S. Wong, A. Eisenberg *Macromolecules*, **1994**, 27, 7923-7927.