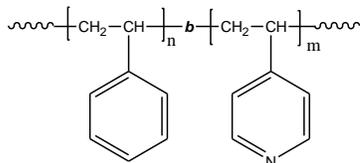


Sample Name: Poly(styrene-b-4-vinyl pyridine)

Sample #: P43554-S4VP

**Structure:**



**Composition:**

Mn × 10 <sup>3</sup> S-b-4VP	PDI
122.0-b-75.0	1.06

Tg for PS block: 104 °C
Tg for 4VP 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 as an additive.

**Characterization:**

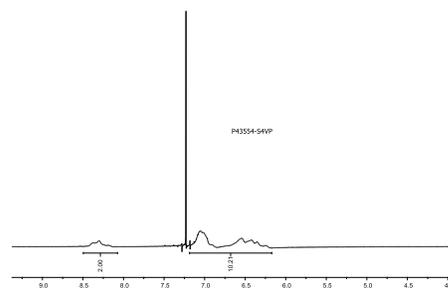
The product was characterized by size exclusion chromatography (SEC) and <sup>1</sup>H NMR data analysis.

**Purification:**

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<sub>3</sub> and wash with de-ionized distilled water to remove the any soluble organic catalyst side product.
2. Polymer extracted from water with chloroform.
3. Polymer solution in CHCl<sub>3</sub> was dried over anhydrous sodium sulfate.
4. Solution filtered and than passed through a column packed with basic Al<sub>2</sub>O<sub>3</sub>.
5. Solution concentrated on rota-evaporator.
6. Solution precipitated in cold hexane and redissolved in benzene and freeze dried.
7. Final dried under vacuum for 48h at 50°C.

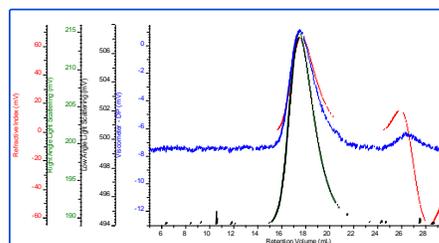
**<sup>1</sup>H NMR Spectrum of the Polymer**



**SEC elugram of the PS Block:**

P43554-1

dn/dc	0.1650
Flow Rate	0.7000
Solvent	DMF with LiBr
Method	Calibration_2020-11-25_PMMA-85K-0003.vcm

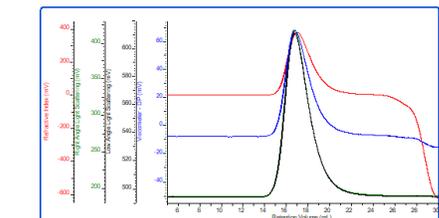


Sample	Mn	Mw	Mp	Mw/Mn
P43554-1_1_2021-11-25	122.001	127.337	121.285	1.044

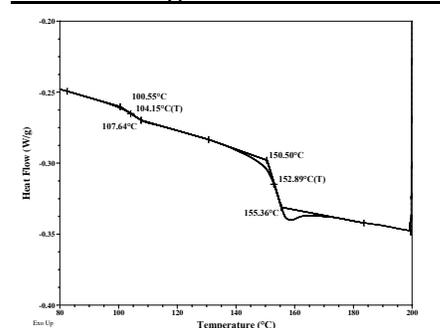
**SEC elugram of the Polymer:**

P43554-2

dn/dc	0.1650
Flow Rate	0.7000
Solvent	DMF with LiBr
Method	Calibration_2020-11-25_PMMA-85K-0003.vcm



**DSC thermogram for the PS block:**



**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.