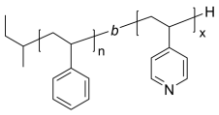
Sample Name:
**Poly(styrene)-b-oligo(4-vinyl pyridine)**
***Bearing different degree of 4VP units***

Sample #: **P43803-S4VP**

**Structure:**




**Composition:**

| Mn × $10^3$<br>S-b-4VP | PDI |
|---|---|
| 30-b-0.31 | 1.06 |

| Dp of each unit<br>288-b-3 |
|---|
| Tg for PS block: 104 °C |

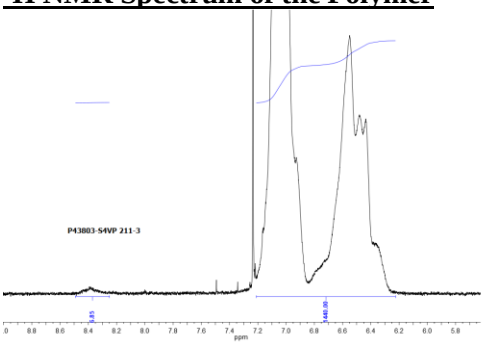
**Synthesis Procedure:**
Polymers were prepared by living anionic polymerization in THF at –78 °C in the presence of LiCl as an additive.

**Characterization:**
The product was characterized by size exclusion chromatography (SEC) and $^1$H NMR and FTIR data analysis.

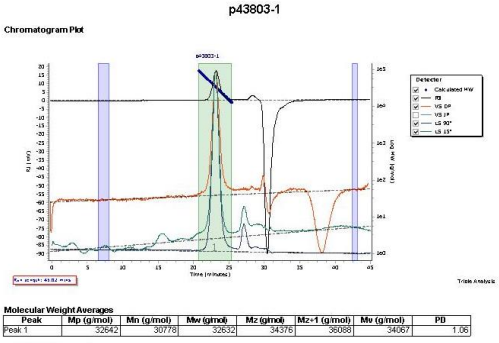
**Purification:**
Purification of the obtained polymer was carried out rigorously as follows to ensure the removal of the catalyst side product:

1. Dissolved the polymer in $CHCl_3$ 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 $CHCl_3$ was dried over anhydrous sodium sulfate.
4. Solution filtered and than passed through a column packed with basic $Al_2O_3$.
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.

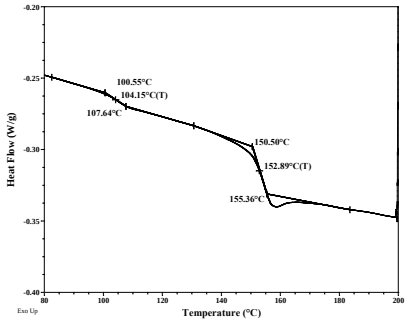
**$^1$H NMR Spectrum of the Polymer**



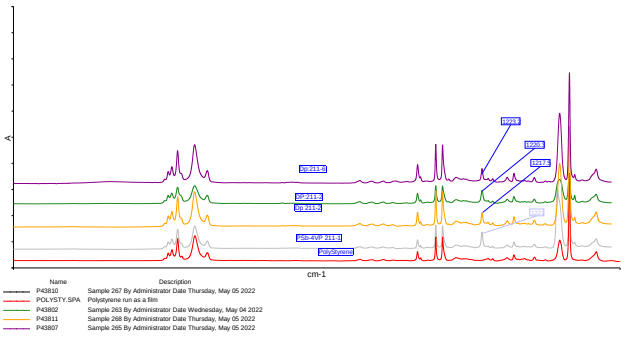

**SEC elugram of the Polymer:**




**DSC thermogram for the PS block:**




**FTIR spectrum of Samples:**




***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.