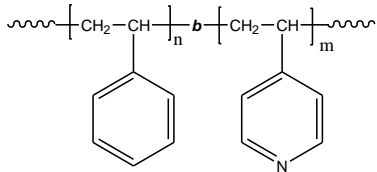


Sample Name: Poly (styrene-b-4-vinyl pyridine)

Sample #: P40951-S4VP

Structure:



Composition:

Mn x 10 <sup>3</sup> PS-b-4VP	PDI
187.0-b-70.0	1.05
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 polymerization process.

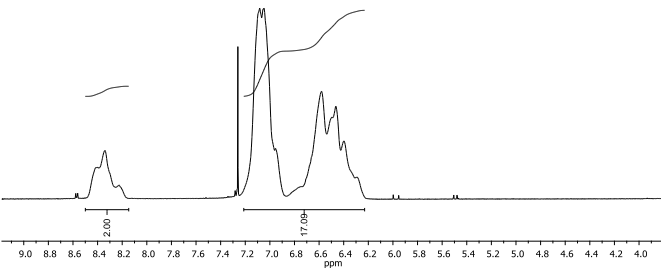
Characterization:

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.

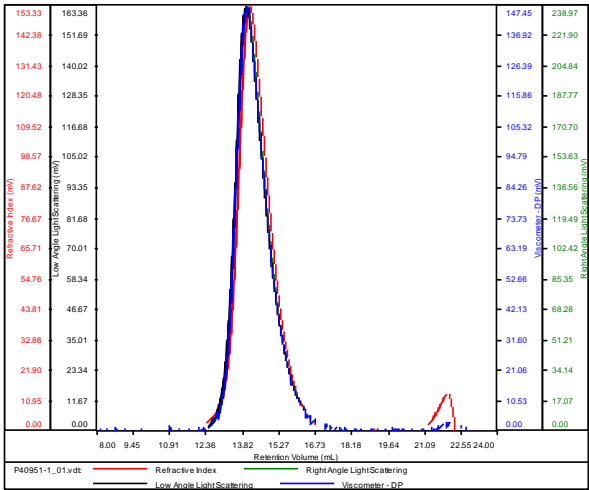
<sup>1</sup>H NMR spectrum of the polymer:



SEC elugram of the PS block:

P40951-S

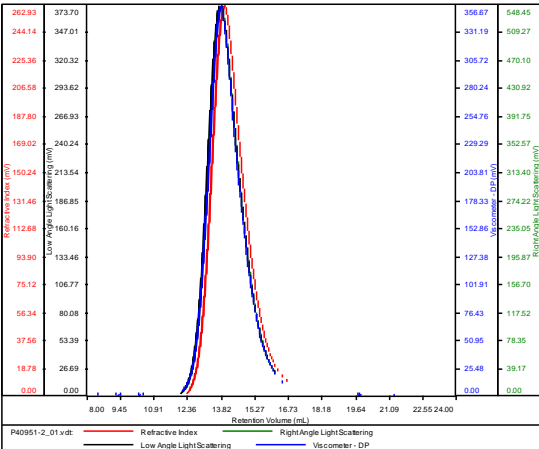
Conc	5.9975
dn/dc	0.1650
Solvent	DMF w 0.023M LiBr
Flow Rate	0.7000
Method	PS80k_2018-01-24-0000.vcm



Sample	Mn	Mw	Mp	Mw/Mn	IV
P40951-1_01.vdt	186,913	189,761	187,526	1.015	0.4147

SEC elugram of the diblock polymer:

Conc	11.9146
dn/dc	0.1600
Solvent	DMF w 0.023M LiBr
Flow Rate	0.7000
Method	PS80k_2018-01-24-0000.vcm



Sample	Mn	Mw	Mp	Mw/Mn	IV
P40951-2_01.vdt	257,284	269,986	257,622	1.049	0.5668

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.