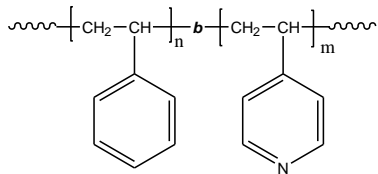


Sample Name: Poly(styrene-b-4-vinyl pyridine)

Sample #: P40765-S4VP

Structure:



Composition:

Mn x 10 <sup>3</sup> PS-b-4VP	PDI
12.0-b15.0	1.08
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.

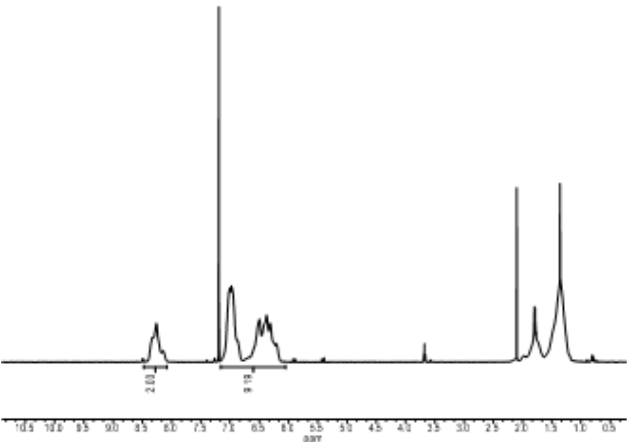
Characterization:

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.

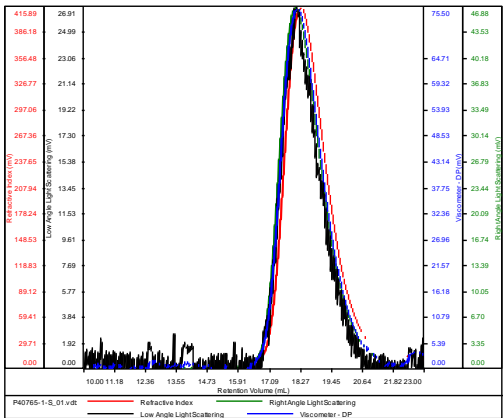
<sup>1</sup>H NMR spectrum of the polymer:



SEC elugram of the polystyrene block:

P40765-1-S

Conc	36.9318
dn/dc	0.1650
Solvent	DMF w 0.023M LiBr
Flow Rate	0.7000
Method	PS-80k_2017-September-22-0000.vcm

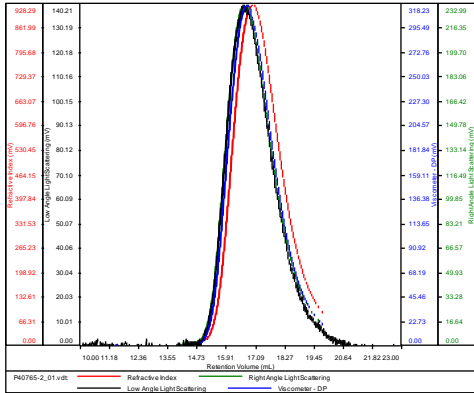


Sample	Mn	Mw	Mp	Mw/Mn	IV
P40765-1-S_01.vdt	12.323	12.991	12.670	1.054	0.0459

SEC elugram of the diblock polymer:

P40765-2-S4VP

Conc	101.1724
dn/dc	0.1600
Solvent	DMF w 0.023M LiBr
Flow Rate	0.7000
Method	PS-80k_2017-September-22-0000.vcm



Sample	Mn	Mw	Mp	Mw/Mn	IV
P40765-2_01.vdt	27.231	29.470	28.476	1.082	0.0804

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.