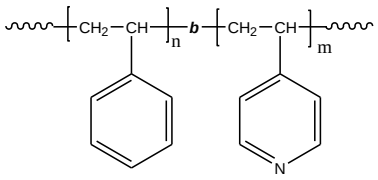
Sample Name: **Poly(styrene-b-4-vinyl pyridine)**

Sample #: **P40776-S4VP**

Structure:



Composition:

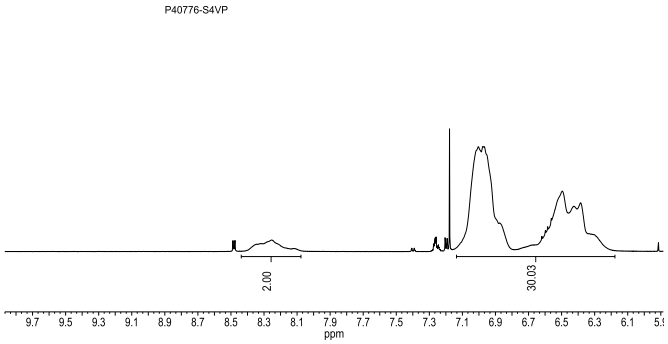
Mn x 10^3 PS-b-4VP	PDI
120.0-b-22.0	1.15
T_g for PS block: 105°C	T_g for 4VP block: 133°C

Synthesis Procedure:
The polymer was synthesized by anionic process.

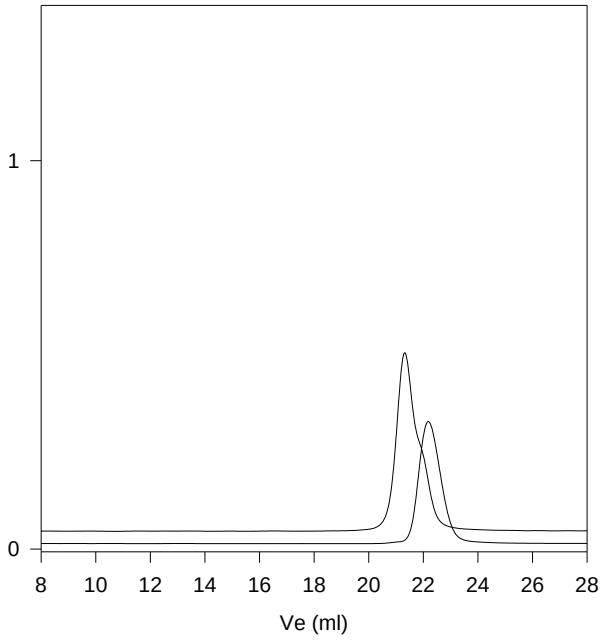
Characterization:
The polymer was characterized by SEC and ^{1}H NMR.
The composition of the block copolymer can also be determined by titration in acetic acid/HClO4 using crystal violet indicator. Copolymer PDI is determined by SEC.
Thermal analysis of the samples was carried out using a differential scanning calorimeter (TA Q100) at a heating rate of 15°C/min. The inflection glass transition temperature (T_g) of the sample has been considered.

Solubility:
Poly(styrene-b-4-vinyl pyridine) is soluble in CHCl3 DMF.

^{1}H NMR spectrum of the polymer:



SEC elugram of the diblock polymer:
P40776-S4VP



Size exclusion chromatography of poly(styrene-b-2-vinyl pyridine)

Polystyrene, M_n=120,000 Mw= 124,000 PI=1.04

Polystyrene(120,000)-b-Poly(2-vinyl pyridine)(22,000),PI=1.15

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.