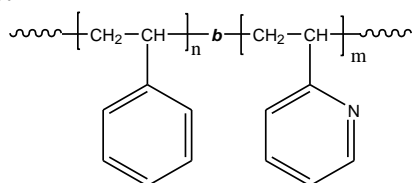


Sample Name: Poly(styrene-b-2-vinyl pyridine)

Sample #: P18545A-S2VP

Structure:

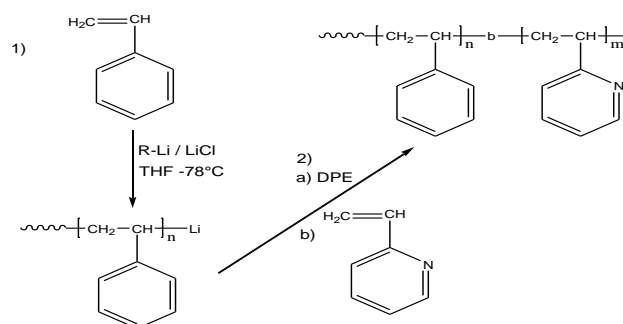


Composition:

Mn x 10 ³ S-b-2VP	PDI
54.0-b-3.0	1.05

Synthesis Procedure:

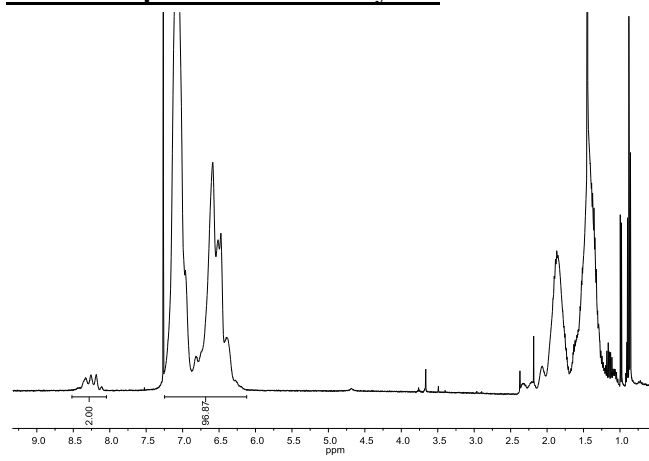
Poly(styrene-b-2-vinyl pyridine) is prepared by living anionic polymerization in THF at -78 °C in the presence of LiCl an additive. Polystyrene macroanions were end capped with a unit of diphenyl ethylene (DPE) before adding 2-vinylpyridine (2VP) monomer. For further details please see our published articles^{1,2}. The scheme of the reaction is illustrated below:



Characterization:

An aliquot of the anionic polystyrene block was terminated before addition of 2VP and analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI). The block copolymer composition was then calculated from ¹H-NMR spectroscopy by comparing the peak area of the 2VP proton at 8.2 ppm with the peak area of the aromatic protons of polystyrene at 6.3-7.2 ppm. Copolymer PDI is determined by SEC.

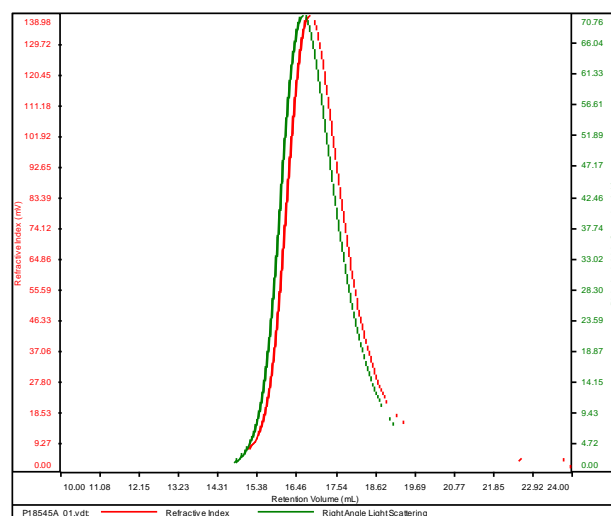
¹H-NMR Spectrum of the Polymer



SEC elugram of the Polymer:

P18545A-S2VP

Conc	6.9071
dn/dc	0.1650
Solvent	DMF w 0.023M LiBr
Flow Rate	0.7000
Method	PS-80k_2018-04-02-0000.vcm



Sample	Mn	Mw	Mp	Mw/Mn	IV
P18545A_01.vdt	56,891	59,387	59,292	1.044	0.2232

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.