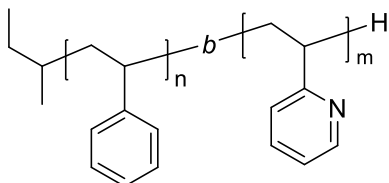


Sample Name:

**Poly(styrene)-*b*-poly(2-vinyl pyridine),**  
diblock copolymer

Sample ID #: **P42585-S2VP**

**Structure:**



**Composition:**

$M_n \times 10^3$ (g/mol) [PS- <i>b</i> -P2VP]	$M_w/M_n$
32- <i>b</i> -7	1.01

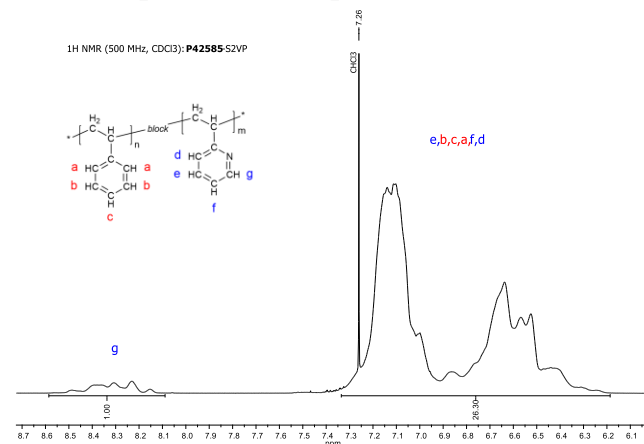
**Synthesis Procedure:**

Poly(styrene-*b*-2-vinylpyridine) was synthesized by living anionic polymerization in THF at -78°C using sec-BuLi initiator in presence of LiCl.

**Characterization:**

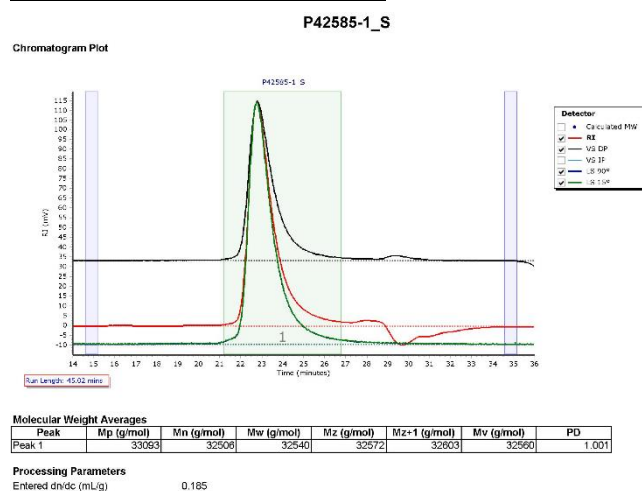
An aliquot of the anionic polystyrene block was terminated before addition of 2VP and analyzed by size exclusion chromatography (SEC) to obtain the molecular weight of the first block. The final diblock copolymer composition was calculated by proton NMR spectroscopy by comparing the peak area of aromatic protons from poly(2-vinylpyridine) and polystyrene, and using SEC data for the first block. Polydispersity index of the final product was determined by SEC.

**<sup>1</sup>H NMR spectrum of the product in chloroform-d:**



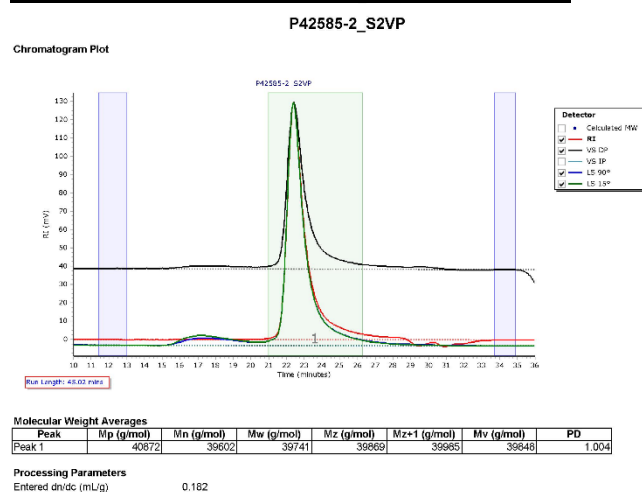
PS : P2VP ratio = 82 : 18 mol%; 82 : 18 wt%

**SEC of PS first block in THF:**



Degree of polymerization:  $D_p = 312_{[PS]} - 68_{[P2VP]}$

**SEC of PS-P2VP diblock copolymer in THF:**



dn/dc(PS in THF)=0.185; dn/dc(P2VP in THF)=0.167; dn/dc (average for S:2VP=0.82:0.18)=0.182