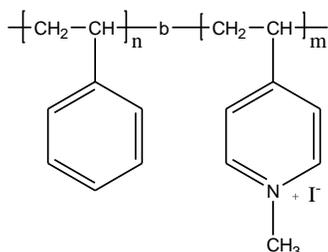


Sample Name: Poly(styrene)-b-poly (4-vinyl pyridine, quaternized with methyl iodide)

Sample #: P1039-S4VPQ

Structure:

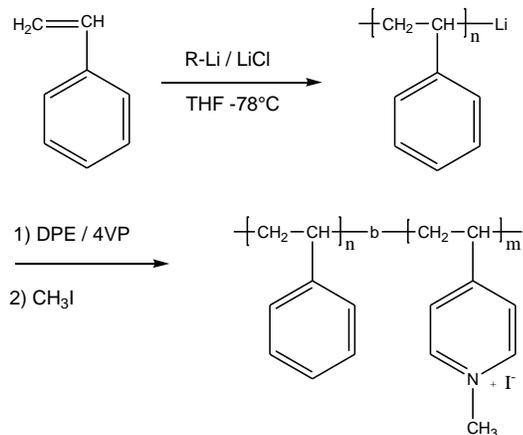


Composition:

Mn x 10 ³ PS-b-P4VPQ (k)	PDI
3.3 -b- 11.2	1.07

Synthesis Procedure:

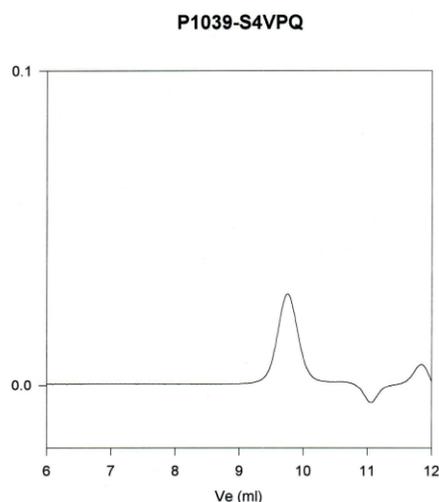
Poly(styrene -b- 4-vinyl pyridinium iodide) is prepared by living anionic polymerization with sequence addition of styrene followed by 4-vinyl pyridine and quaternization by the polymer using methyl iodide. The reaction scheme is shown below:



Characterization:

An aliquot of the polystyrene block was terminated before addition of 4-vinyl pyridine and analyzed by size exclusion chromatography (SEC) to obtain the molecular weight and polydispersity index (PDI). The final block copolymer composition was calculated from ¹H-NMR spectroscopy by comparing the peak area of the styrene protons at 6.3-7.2 ppm with the peak area of the 4-vinyl pyridine protons at about 8.5 ppm. Block copolymer PDI is determined by SEC.

SEC of the block copolymer:



Size Exclusion Chromatography of the P1037-S4VP(Precursor of P1039-S4VPQ):

Polystyrene(3300)-b-Poly(4-vinyl pyridine)(4750), M_w/M_n=1.07

Polystyrene(3300)-b-Poly N-methyl 4-vinyl pyridinium iodide(11200), M_w/M_n=1.07