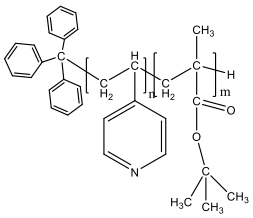
Sample Name:
Poly (4-vinyl pyridine -b-t-butyl methacrylate)

Sample #: **P43690-4VPtBuMA**

Structure:



Composition:

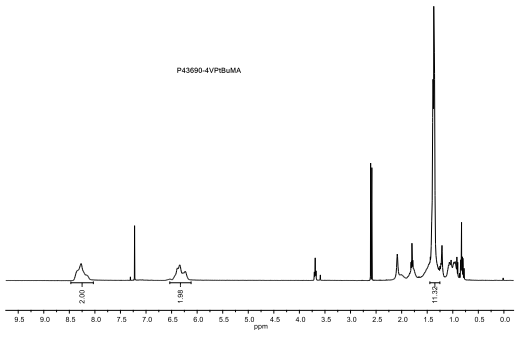
Mn × 10^3 4VP-tBuMA	PDI
42.0-b-76.0	1.3

T_g for tBuMA block: 127 °C
T_g for 4VP block: 152 °C

Synthesis Procedure:
Poly(4VP-t-butyl methacrylate) is synthesized by anionic polymerization process. 4VP monomer was polymerized in Hexamethylphosphoramide (HMPTA) aprotic solvent, it selectively solvates cations and maintain solubility of living anions of Poly 4VP, avoid the agglomeration of anions in THF-HMPTA. tBuMA monomer was added after polymerization of 4VP and polymerization of tBuMA was carried out in ice water for 8h.

Characterization:
The product was characterized by size exclusion chromatography (SEC) and ^{1}H NMR analysis.

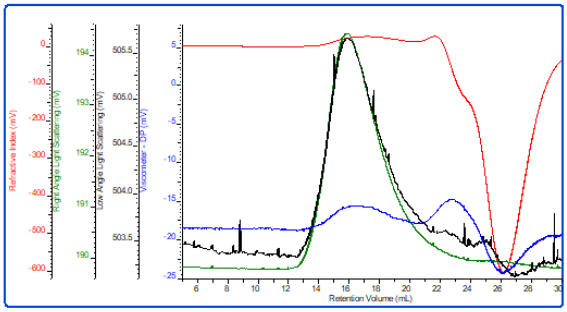
^{1}H NMR Spectrum of the block copolymer:



SEC elugram of the first Block:

P43690-4VP

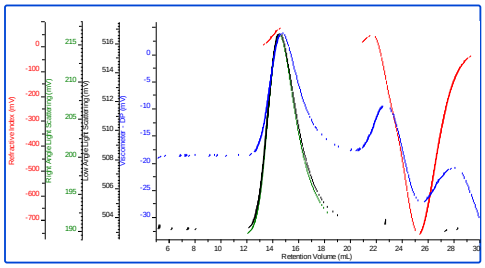
dn/dc	0.1530
Flow Rate	0.7000
Solvent	DMF with LiBr
Method	Calibration_2020-11-25_PMMA-85K-0004.vcm



SEC elugram of the polymer:

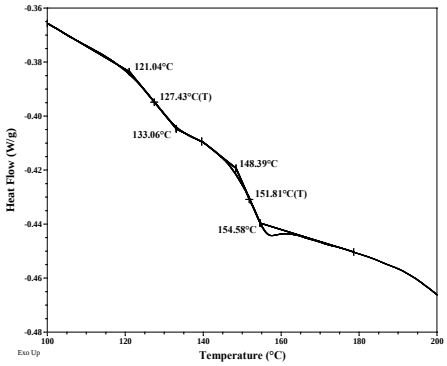
P43690-4VP-tBuMA

dn/dc	0.0950
Flow Rate	0.7000
Solvent	DMF with LiBr
Method	Calibration_2020-11-25_PMMA-85K-0004.vcm



Sample	Mn	Mw	Mp	Mw/Mn
P43690-2_1_2022-03-11	119,813	157,581	158,344	1.315

DSC Thermogram of the polymer:



Reference:
S. K. Varshney, X. F. Zhong and A. Eisenberg *Macromolecules, 1993, 26, 701-706.*