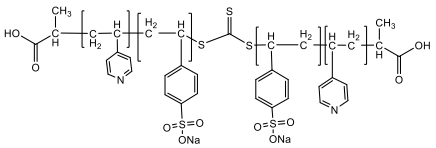
Sample Name:
Pol(4-vinyl pyridine)-b-poly(4-styrene sulfonic acid sodium salt)-b-poly(4-vinyl pyridine)

Sample #: **P41889-4VP-SSO3Na-4VP**

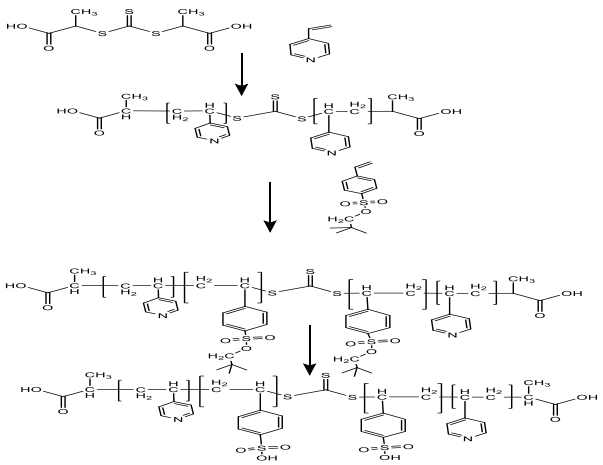
Structure:



Composition:

Mn x 10^3	PDI
4.5-b-15.0-b-4.5	1.03

Synthesis Procedure:
The polymer was synthesized by RAFT polymerization process using following bifunctional initiator:



Solubility:
In acid form polymer has highly viscous form, once converted to sodium salt, polymer has solubility in different solvents:

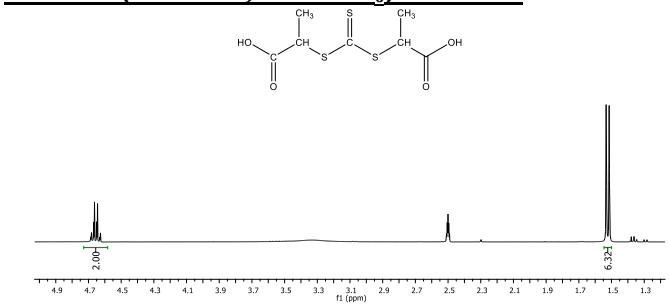
DMSO: Brown color clear solution and adding few drops of HCl solution turn white opaque solution.

Water: Clear brown color solution turn to opaque white color solution by adding drops of HCl.

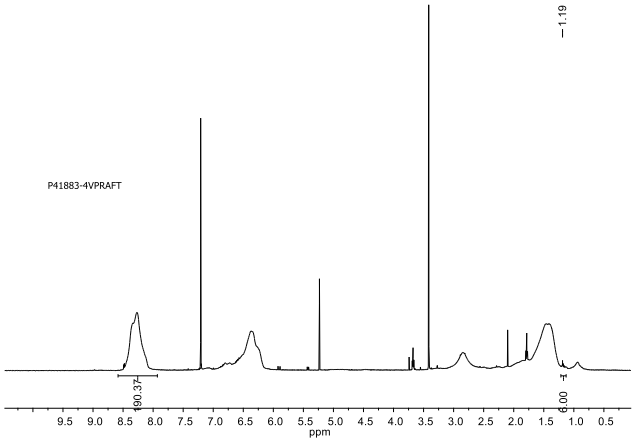
Methanol: Brown color opaque solution.

Characterization:
The chemical structure of the product was confirmed by FT-IR and ^{1}H NMR and GPC in DMF.

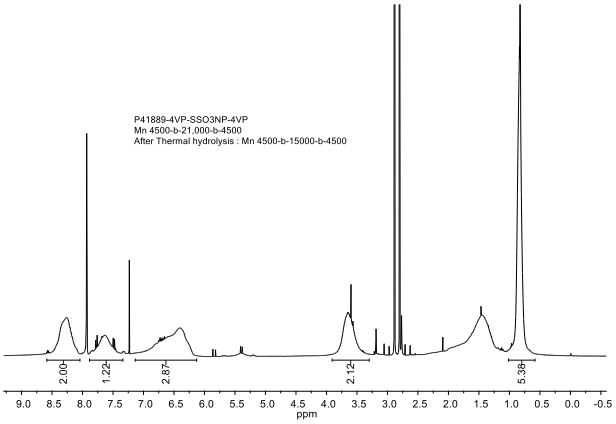
^{1}H NMR (400 MHz, DMSO-d_6) of RAFT:



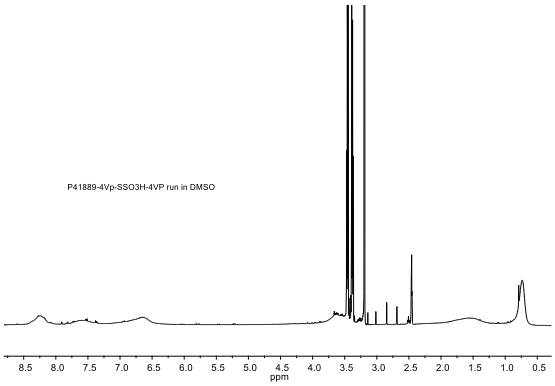
^{1}H NMR spectrum of the Polymer:



HNMR run in CDCl3 in ester form



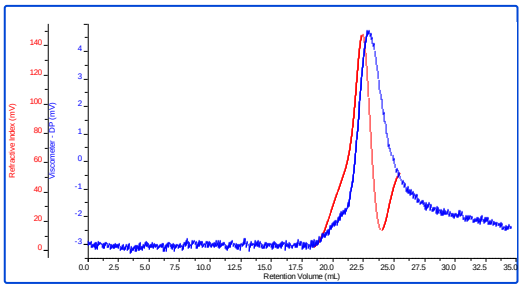
HNMR run in DMSO in ester form:



SEC chromatogram of the Sample:

P41883-4VPRAFT

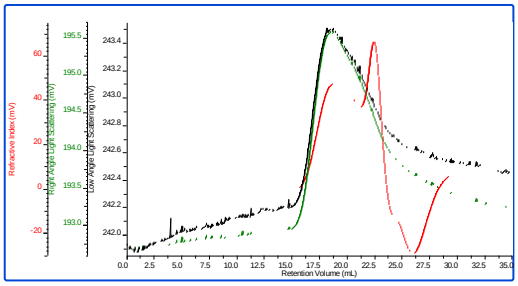
dn/dc	0.1530
Flow Rate	0.7000
Solvent	DMF with LiBr
Method	PSS column-PMMA60K-Jan3-2019-0004.vcm



Sample	Mn	Mw	Mp	Mw/Mn
P41883-4Vp-2RAFT_1	9,493	11,440	7,376	1.205

P41889-4VPSSO3NP-4VP

dn/dc	0.1530
Flow Rate	0.7000
Solvent	DMF with LiBr
Method	PSS column-PMMA60K-Jan3-2019-0004.vcm



Sample	Mn	Mw	Mp	Mw/Mn
P41889-4Vp-SSO3NP-	23,394	24,084	21,987	1.029