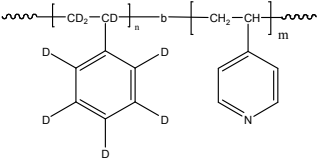


Sample Name: Deuterated Polystyrene (d₈)- 4 vinyl pyridine (protonated)

Sample #: P40499-dPS4VP

Structure:



Composition:

Mn x 10 ³ (dPS-b-4VP)	PDI
16.0-b-13.0	1.15
T _g for dPS block	75° C
T _g for 4VP block	133° C

Synthesis Procedure:

Deuterated poly(styrene-b-4-vinyl pyridine) diblock copolymer is prepared by living anionic polymerization.

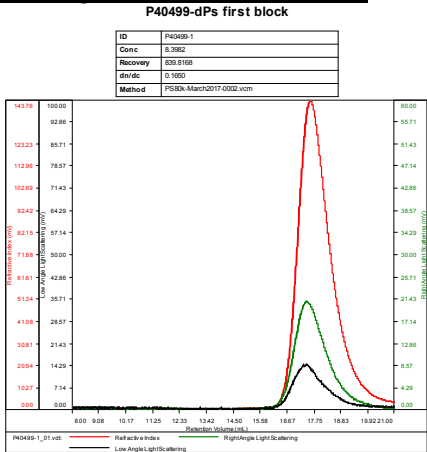
Characterization:

The product was characterized by size exclusion chromatography (SEC).

Thermal analysis:

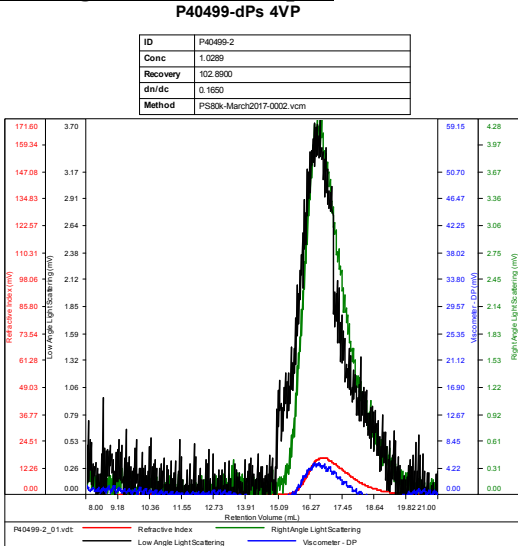
Thermal analysis was performed on TA Instruments Q100 differential scanning calorimeter (DSC) under a nitrogen atmosphere. The glass transition temperature (T_g) of the polymer was measured at a scan rate of 10°C/min shortly after creating thermal history of the sample.

SEC elugram of the dPS Block:



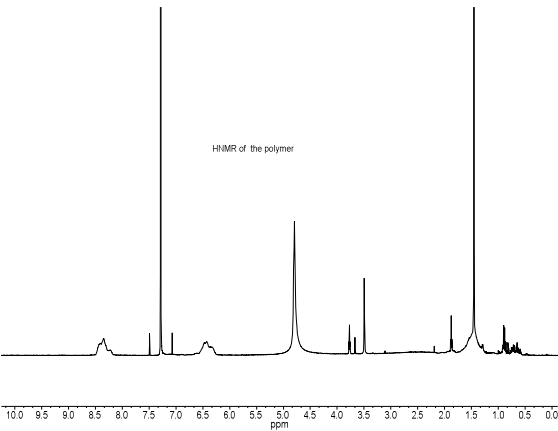
Sample	Mn	Mw	Mp	Mw/Mn	IV
P40499-1_01.vdt	16,015	16,860	16,232	1.053	0.0635

SEC elugram of the Sample:

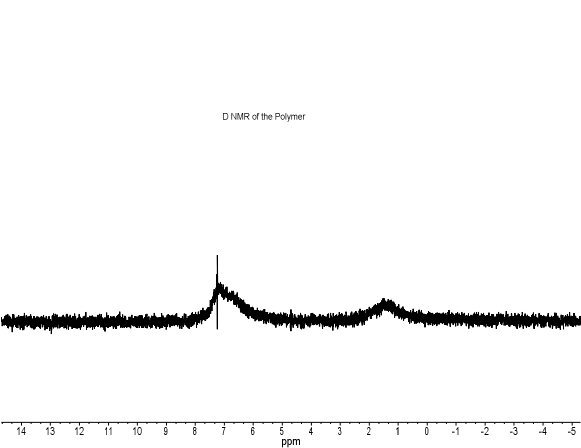


Sample	Mn	Mw	Mp	Mw/Mn	IV
P40499-2_01.vdt	29,369	33,892	29,448	1.154	0.0714

H NMR of the Sample:



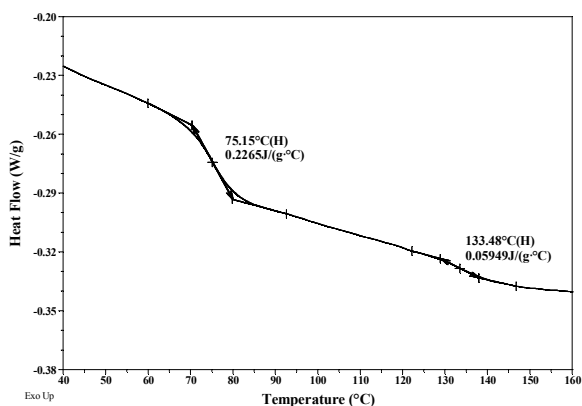
D NMR of the Sample:



DSC thermograms for dPS-P4VP diblock copolymer (2nd heating scan, 10°C/min):

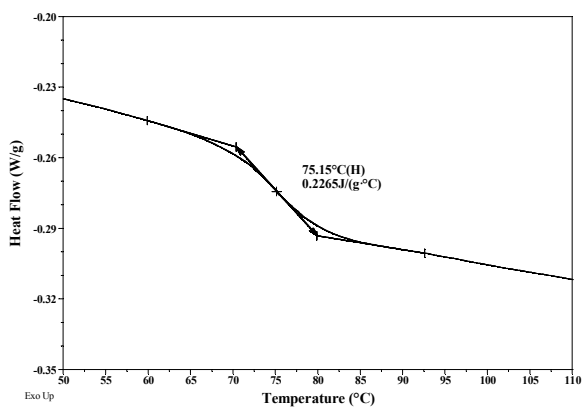
Sample: P40499_dPS-P4VP
Size: 7.6000 mg

File: P40499-dPS4VP.001



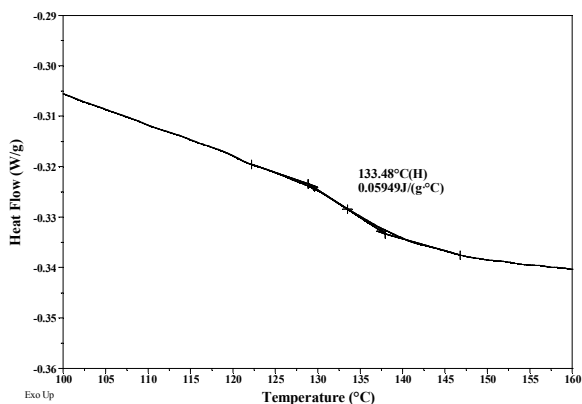
Sample: P40499_dPS-P4VP
Size: 7.6000 mg

File: P40499-dPS4VP.001



Sample: P40499_dPS-P4VP
Size: 7.6000 mg

File: P40499-dPS4VP.001



References for further information:

1. S. K. Varshney, R. Fayt, Ph. Teyssie, and J.P. Hautekeer US Patent 5,264,527 (1993)

2. S. K. Varshney, Jian-Xin Zhang. US Patent 7009,033 B3 2006.