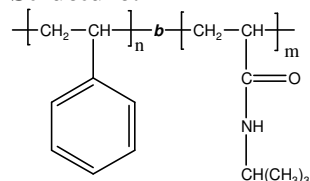


Sample Name:
Poly(styrene-*b*-N-isopropyl acrylamide)

Sample #: P14966-SNIPAM

Structure:



Composition:

Mn x 10 ³ S- <i>b</i> -NIPAM	Mw/Mn (PDI)
11.5- <i>b</i> -24.0	1.2

Polystyrene content: 34 mol %

Synthesis Procedure:

Poly(styrene-*b*-N-isopropyl acrylamide) is prepared by RAFT polymerization with sequence addition of styrene followed by N-isopropyl acrylamide. The polymer was obtained by precipitating into cold diethyl ether/hexane.

Characterization:

The final block copolymer composition and molecular weight was calculated from ¹H-NMR spectroscopy by comparing the peak area of the aromatic protons on styrene between about 6.5-7.5 ppm with the proton of NCH on NIPAM at 3.9 ppm. The PDI of block copolymer is determined by SEC.

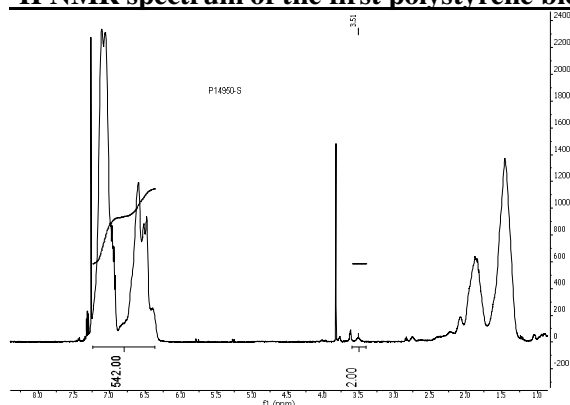
Thermal analysis

Thermal analysis of the samples was carried out on a TA Q100 differential scanning calorimeter at a heating rate of 15°C/min. The midpoint of the slope change of the heat flow plot of the second heating scan was considered as the glass transition temperature (T_g).

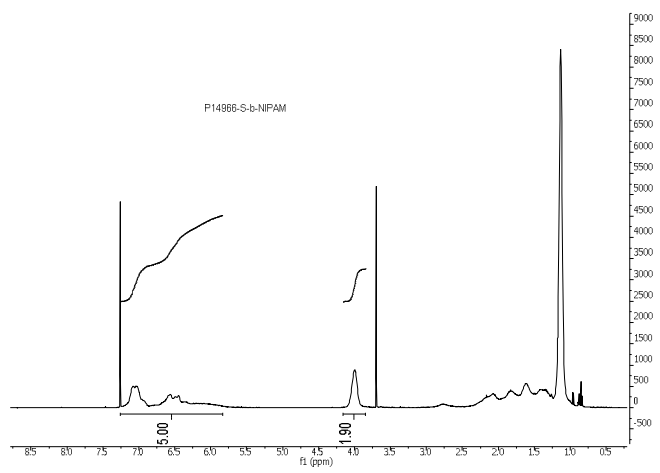
Solubility:

Poly(styrene-*b*-N-isopropyl acrylamide) block copolymer is soluble in DMF.

¹H NMR spectrum of the first polystyrene block



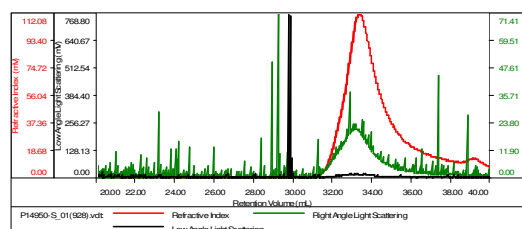
¹H NMR spectrum of the block copolymer S-*b*-NIPAM



SEC of first polystyrene block

Sample ID-P14950-S

Concentration (mg/mL)	1.5929
Sample dn/dc (mL/g)	0.1850
Method File	PS80K-Jan-2016-0000.vcm
Column Set	3x PL 1113-6000
Solvent	THF

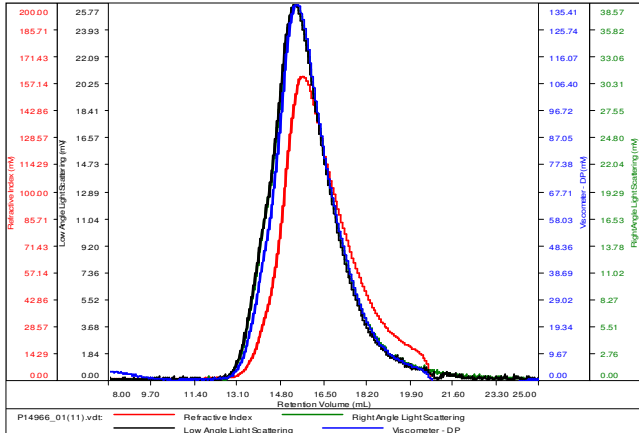


Sample	MW Number Average (Da)	MW Weight Average (Da)	MW at Peak (Da)	Polydispersity	Intrinsic Viscosity (dL/g)
P14950-S_01(928).vcl	11,340	12,530	12,981	1.104	0.2521

SEC of diblock poly(styrene-b- N-isopropyl
acrylamide)

SAMPLE ID: P14966-SNIPAM

Conc (mg/mL)	16.0903
dn/dc (mL/g)	0.1080
Method	ps80k21Jan2016-DMF-0000.vcm
Solvent	DMF w 0.023M LiBr
Column	PSS



Sample	Mn	Mw	Mp	Mw/Mn	IV
P14966_01(11).vdt	35,680	41,910	41,323	1.175	0.2434