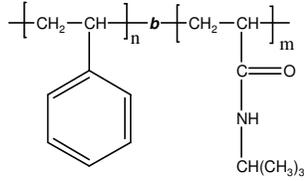


Sample Name:

Poly(styrene-*b*-N-isopropyl acrylamide)

Sample #: P14960-SNIPAM

Structure:



Composition:

Mn x 10 ³ S- <i>b</i> -NIPAM	Mw/Mn (PDI)
14.5- <i>b</i> -5.0	1.1

Polystyrene content: 77 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.

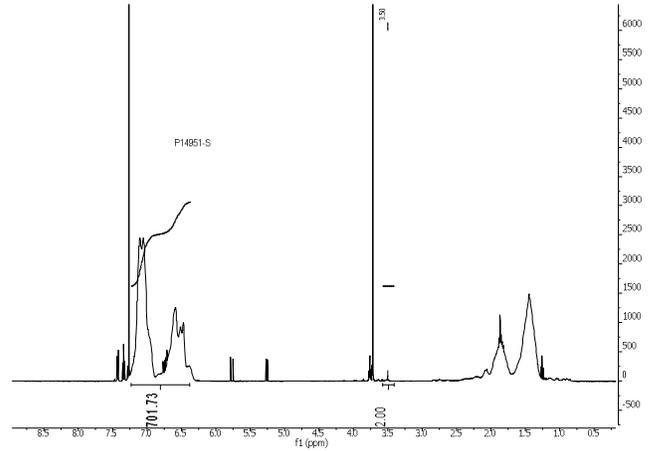
Thermal analysis

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).

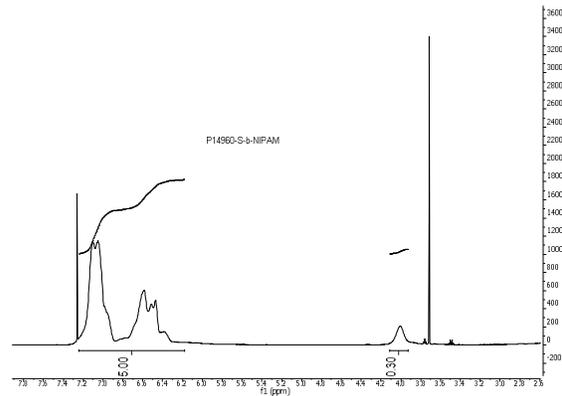
Solubility:

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

¹H NMR spectrum of the first block polystyrene



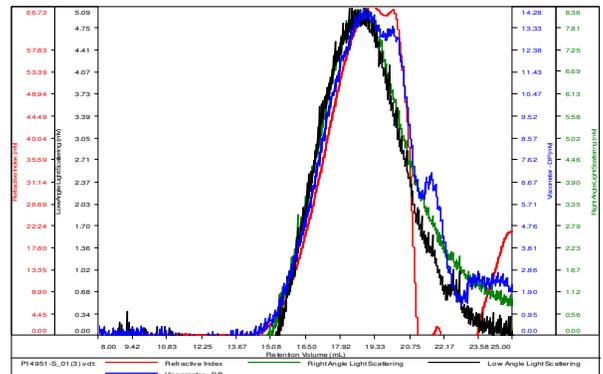
¹H NMR spectrum of the block copolymer S-*b*-NIPAM



SEC of first block polystyrene

SAMPLE ID: P14951-S

Conc (mg/mL)	5.4951
dn/dc (mL/g)	0.1650
Method	ps80k-21,Jan2016-DMF-0000.vcm
Solvent	DMF w 0.023M LiBr
Column	PSS

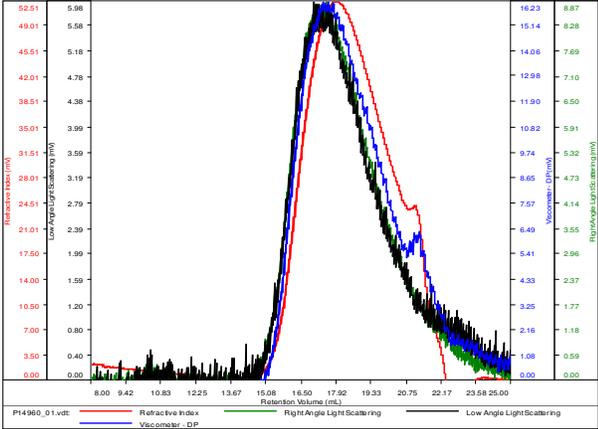


Sample	Mn	Mw	Mp	Mw/Mn	IV
P14951-S_01(3).vdt	14,623	15,270	14,319	1.044	0.1077

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

SAMPLE ID: P14960-SNIPAM

Conc (mg/mL)	5.2431
dn/dc (mL/g)	0.1450
Method	ps80k-21Jan2016-DMF-0000.vcm
Solvent	DMF w0.023M LiBr
Column	PSS



Sample	Mn	Mw	Mp	Mw/Mn	IV
P14960_01.vdt	19,538	21,313	20,745	1.091	0.1263