Conformation study of dual stimuli-responsive core-shell diblock polymer brushes

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Table S1. Elemental analysis of PS and PSV.

	C%	H%	N%	S%	S/N[a]	S/N[b]
PS	92.31	7.69	-	-	-	-
PSV	87.20	-	0.95	4.19	4.40	4.57

[a] value from elemental analysis data

[b] theoretical value

Elemental analysis was carried on by an Elementar vario MICRO cube.

The molar ratio of VBDC and PS based on N% (0.95) and S% (4.19) is calculated as 7.07mol% and 8.24mol%, respectively. Averagely, the photoiniferter VBDC amount in PSV is ca. 7.5 mol%.

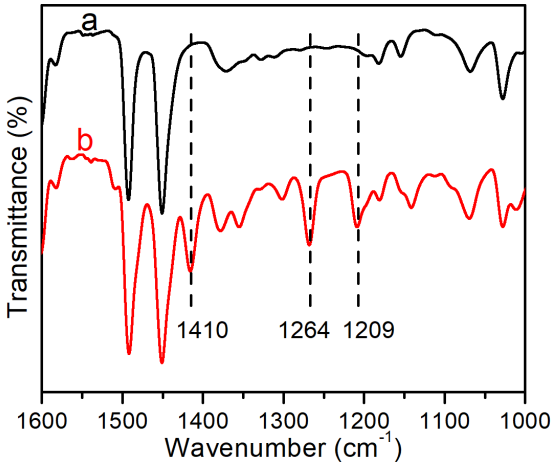

Figure S1. FTIR spectra of (a) PS and (b) PSV.

Peaks at 1410 cm-1, 1264 cm-1, and 1209 cm-1 are attributed to the stretching vibration of C=S, C-S, and C-N in photoiniferter VBDC, respectively.

Table S2. Elemental analysis of block polymer brushes and monomer conversions.

	C%	N%	S%	Conversion (%)
PSV	87.20	0.95	4.19	-
PSV@PNIPA	81.32	3.25	3.44	21.5
PSV@PNIPA-b-PAA	76.17	1.70	2.26	52.1
PSV@PAA	82.09	0.62	2.65	57.7
PSV@PAA-b-PNIPA	70.63	3.93	1.62	63.6

From Table S1, it is known that VBDC amount in PSV is 17.3wt% based on the S% data. Consequently, monomer conversions of AA and NIPA are calculated based on the S% data for different nanoparticles.

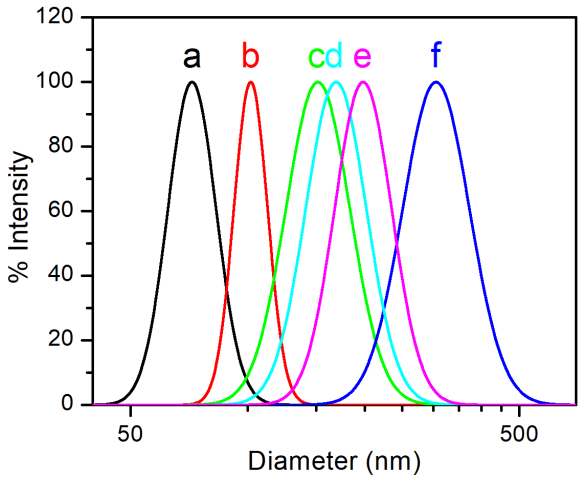

Figure S2. DLS traces of diblock polymer brushes. (a) PS; (b) PSV; (c) PSV@PNIPA; (d) PSV@PAA; (e) PSV@PAA-b-PNIPA; (f) PSV@PNIPA-b-PAA.