

Supporting information of

Temperature responsive behavior of polymer brush/polyelectrolyte multilayer composites

Samantha Micciulla,[†] Olaf Soltwedel,[‡] Oliver Löhmann,[†] and Regine von
Klitzing^{*,†}

*Stranski-Laboratorium, Institut für Chemie, Technische Universität Berlin, Strasse des 17. Juni
124, D-10623 Berlin, Germany, and Max-Planck-Institute for Solid State Research, Outstation at
MLZ, Lichtenbergstr. 1, 85747 Garching, Germany*

E-mail: klitzing@chem.tu-berlin.de

Table S1: Density of D₂O as a function of temperature taken from Ref. 1 and calculated scattering length density (SLD) values from the calculator available in the Motofit package of Igor.

Temperature [°C]	Density [g/cm ³]	SLD (10 ⁻⁶) [Å ⁻²]
15	1.1059	6.36
35	1.1017	6.34
65	1.0878	6.26

*To whom correspondence should be addressed

[†]Technische Universität Berlin

[‡]Max-Planck-Institute for Solid State Research, Outstation at MLZ, Lichtenbergstr. 1, 85747 Garching, Germany

Table S2: Fitting parameters thickness d , scattering length density SLD and roughness, σ , obtained from the fit of the reflectivity curves. Silicon substrate ($SLD= 2.07 \cdot 10^{-6}$), silicon dioxide ($SLD=3.46 \cdot 10^{-6}$) and D_2O ($SLD= 6.36/6.34/6.26 \cdot 10^{-6}$) were kept fixed for all fits. The layer number is counted from the silicon substrate to the D_2O medium.

P(NIPAM-b-DMAEMA)				
Temperature [°C]	No. layer	d [Å]	SLD (10^{-6}) [Å ⁻²]	σ [Å]
15	1	1288	4.18	134
	2	177	5.81	49
	3	470	6.15	53
35	1	571	3.38	126
	2	504	5.49	55
65	1	572	2.65	50
	2	73	4.17	14
	3	478	6.17	19
P(NIPAM-b-DMAEMA)(dPSS/PDADMAC) ₂				
Temperature [°C]	No. layer	d [Å]	SLD (10^{-6}) [Å ⁻²]	σ [Å]
15	1	381	3.95	123
	2	340	5.24	77
	3	336	5.50	62
35	1	385	3.57	44
	2	80	4.21	21
	3	365	4.59	62
65	1	285	2.25	17
	2	81	2.88	47
	3	300	4.26	16

References

- (1) De Podesta, M. *Understanding the properties of matter*; Routledge Chapman and Hall, 2002; Vol. 2; p 277.