Electronic Supplementary Material (ESI) for Soft Matter.

Supporting Information for

Thermo-Reversible Capture and Release of DNA by Zwitterionic Surfactants

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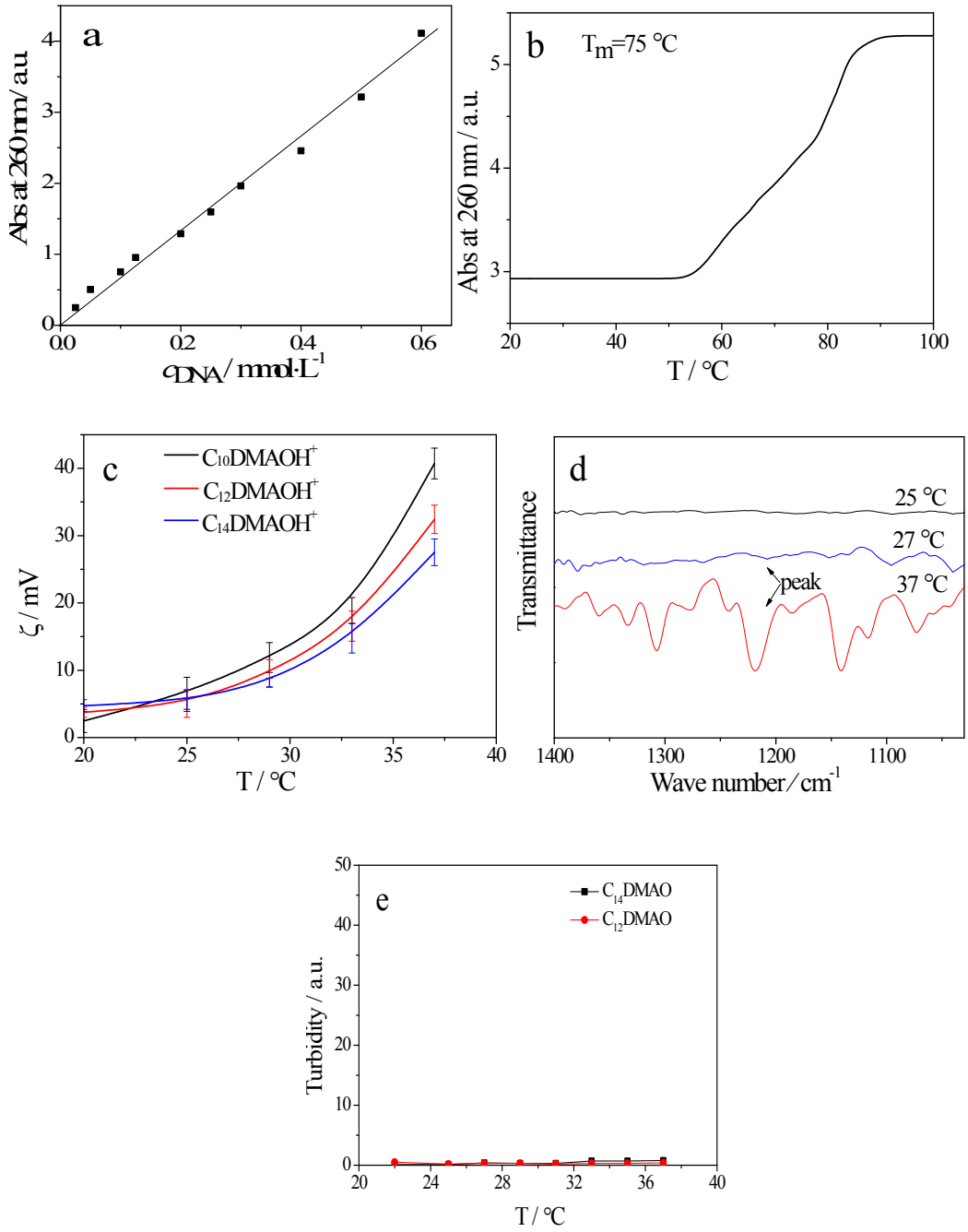

Figure S1. a) Variation of the intensity of the absorbance at 260 nm of DNA as a function in tris-HCl buffer solution with a pH of 6.8 at 25 °C; b) melting curves obtained in the presence of a tris-Hcl buffer solution, pH=6.8, c_{DNA} = 0.5 mmol·L^{-1}; c)Variation of zeta-potential (ξ) for C_nDMAOH^+ samples with varying temperatures, samples of $C_{14}DMAO$, $C_{12}DMAO$ and $C_{10}DMAO$ were prepared using tris-HCl buffer solutions with pH = 7.2, 6.8 and 6.6, respectively; d) FT-IR spectra of

C_{14}DAMO in tris-HCl solutions at different temperatures; e) Turbidity of C_{14}DAMO and C_{12}DAMO in tris-HCl solutions at different temperatures.

Table 1. cmcs of C_nDMAO in tris-HCl buffer solutions.

	[a]cmc	[b]cmc	[c]cmc
C_{10}DMAO	6 mmol·L^{-1}	10 mmol·L^{-1}	15 mmol·L^{-1}
C_{12}DMAO	0.9 mmol·L^{-1}	1.6 mmol·L^{-1}	4 mmol·L^{-1}
C_{14}DMAO	0.25 mmol·L^{-1}	0.4 mmol·L^{-1}	0.6 mmol·L^{-1}

Samples of C_{14}DMAO, C_{12}DMAO and C_{10}DMAO were prepared using tris-HCl buffer solutions with pH = 7.2, 6.8 and 6.6, respectively.

[a] CMC: The onset concentration for the change of I_1/I_3 ratio

[b] CMC: The mid-point concentration for the change of I_1/I_3 ratio

[c] CMC: The leveling off concentration for the change of I_1/I_3 ratio

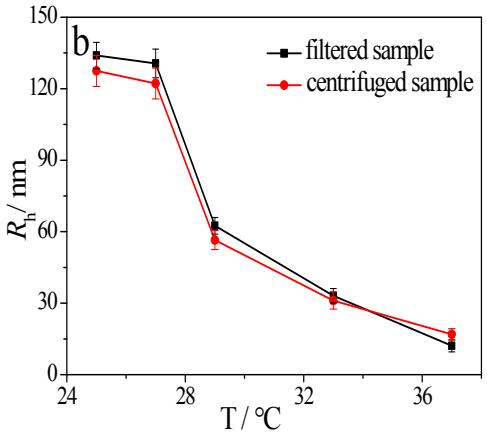

Figure S2. A comparison in hydrodynamic radii (R_h) of DNA/C_{12}DMAO system at different temperatures for the filtered and centrifuged samples. c_{DNA} = 0.5 mmol·L^{-1} and R = 20.

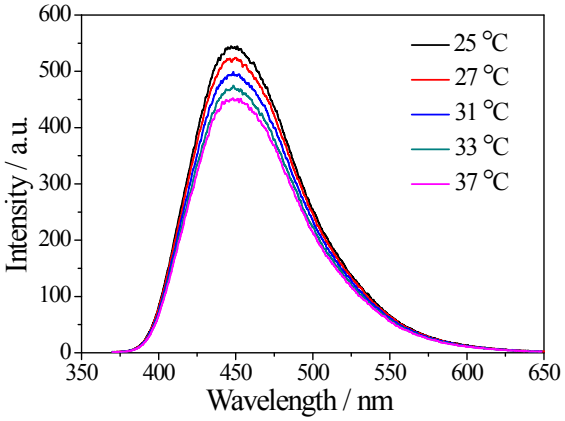

Figure S2. Fluorescence spectra of 0.5 mmol·L^{-1} DNA in tris-HCl buffer solution at different temperatures. The samples were prepared using tris-HCl buffer solution with pH = 7.2.

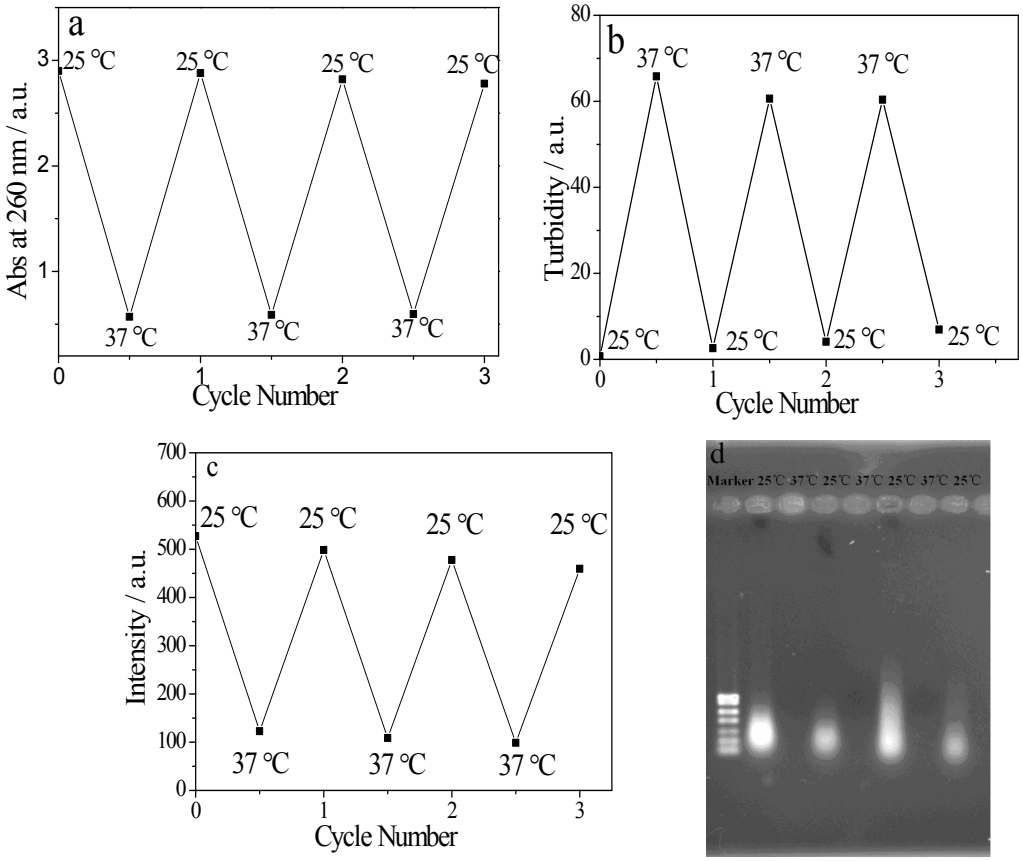

Figure S4. Variations of a) UV-vis absorbance, b) turbidity, c) fluorescence intensity (450 nm) and d) gel electrophoresis performance of DNA/C_{14}DMAO system at 25 °C and 37 °C as a function of cycle number. The samples were prepared using tris-HCl buffer solutions with pH = 7.2.