Supplementary information for

Multifunctional oligomer incorporation: a potent strategy to enhance the transfection activity of poly(L-lysine)

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Figure S1. ¹H NMR spectrum of PMAEL (CDCl₃, 400 MHz).



Figure S2. GPC spectra of PMAEL, P(MAEL-b-NIPAM) and P(MAEL-b-Vlm). GPC measurements were conducted at 40 °C with THF as elution at the flow rate of 1 mL/min.



Figure S3. (a) Complex sizes of P(DMAEL-b-Vlm)-x/DNA/PLL ternary complexes. (b) Zeta potentials of P(DMAEL-b-Vlm)-x/DNA/PLL ternary complexes.



Figure S4. Agarose gel retardation assay of P(DMAEL-b-NIPAM)/pDNA/PLL (a) and P(DMAEL-b-Vlm)/pDNA/PLL complexes (b). FA or GSH functionalization on the oligomers does not affect the pDNA condensation ability. "0, 1, 2, 3, 4" represents the weight multiple of oligomers to that of PLL.



Figure S5. Cellular uptake fluorescence images of 293T cells transfected with P(DMAEL-b-NIPAM)-R/DNA/PLL-FITC complexes at the N/P ratio of 16. The multiple of the weight of copolymers to that of PLL was 2 and "0" represents PLL/DNA binary complex.