
SUPPORTING INFORMATION

Temperature and composition dependent DNA condensation by thermo-sensitive block copolymer

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SUPPORTING FIGURES

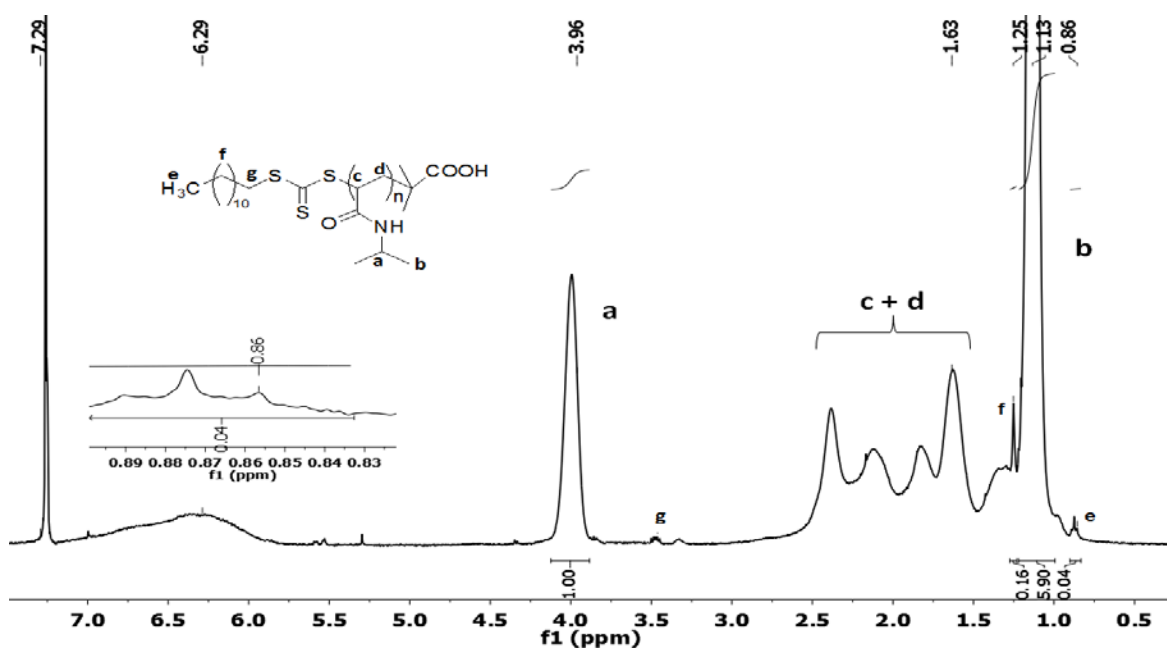


Figure S1: ^1H NMR spectra (in CDCl_3) of PNIPA macro-CTA in 400MHz.

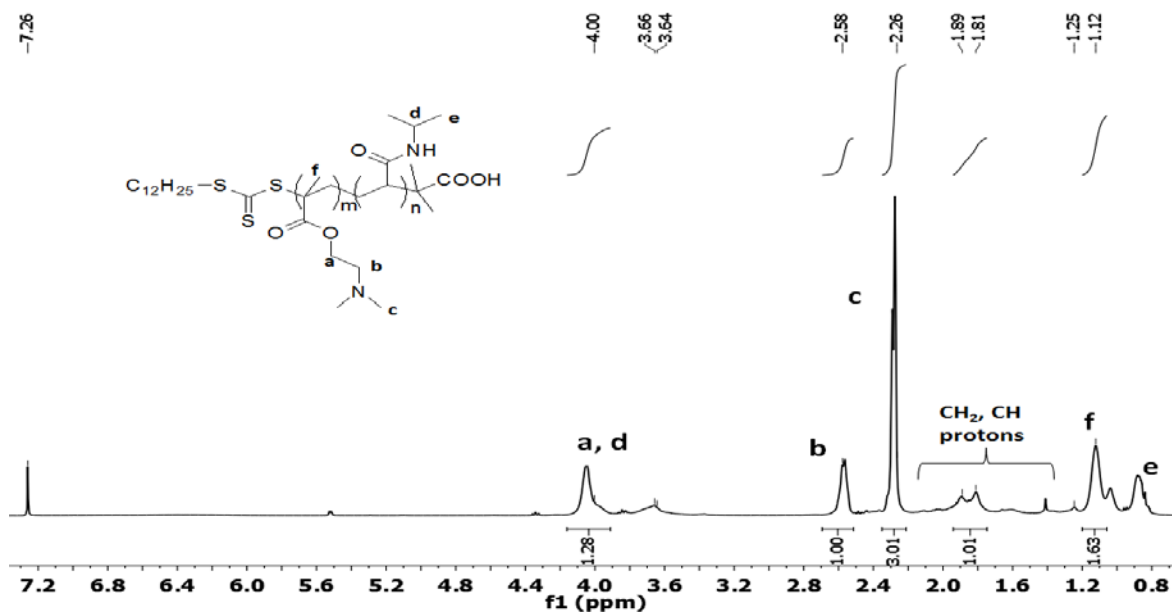


Figure S2: ^1H NMR spectra (in CDCl_3) of NIDM 135 in 400MHz.

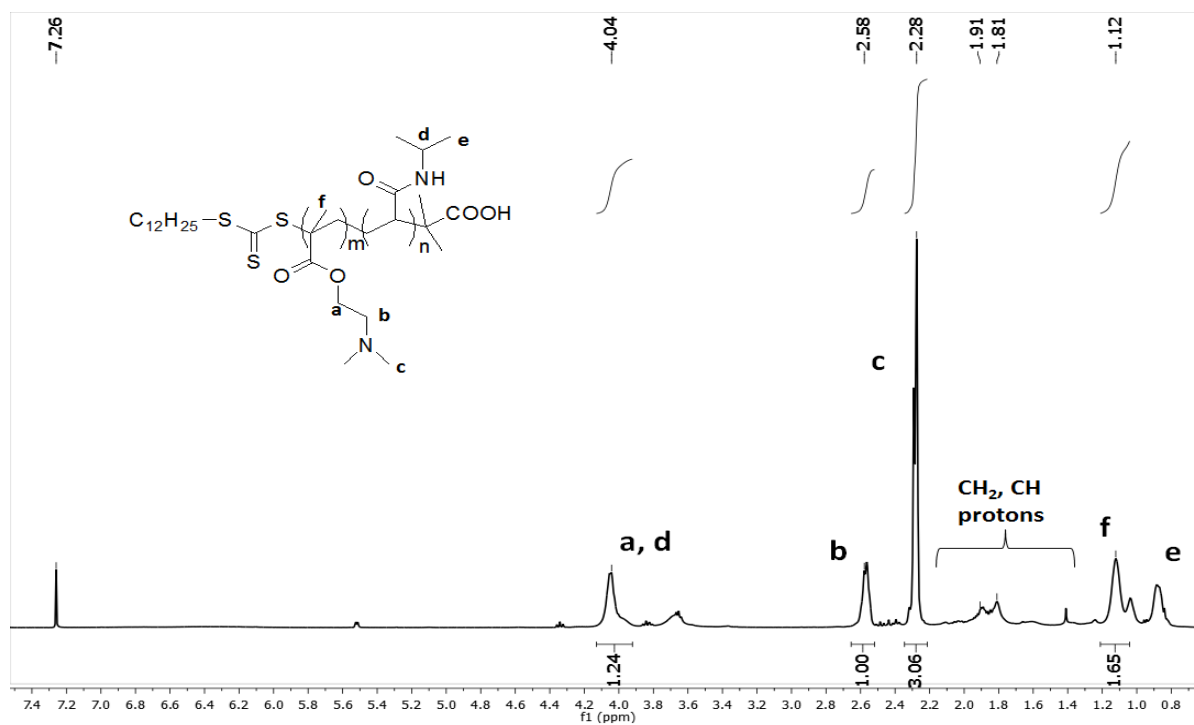


Figure S3: ^1H NMR spectra (in CDCl_3) of NIDM 158 in 400MHz.

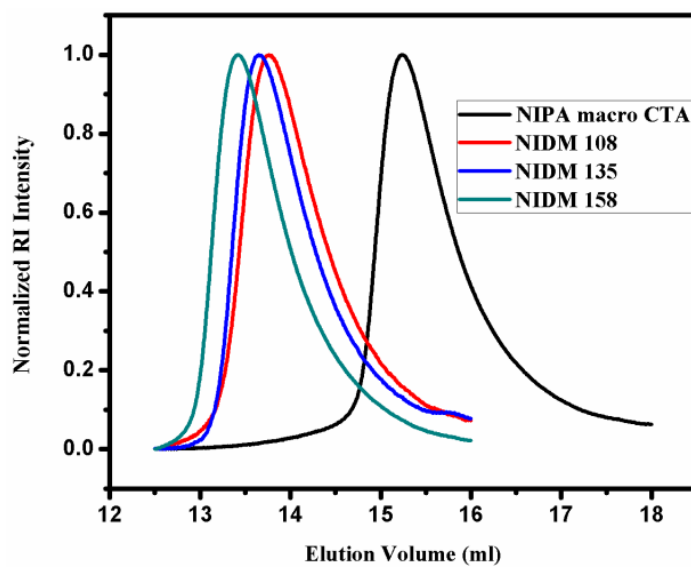


Figure S4: GPC traces of three copolymers.

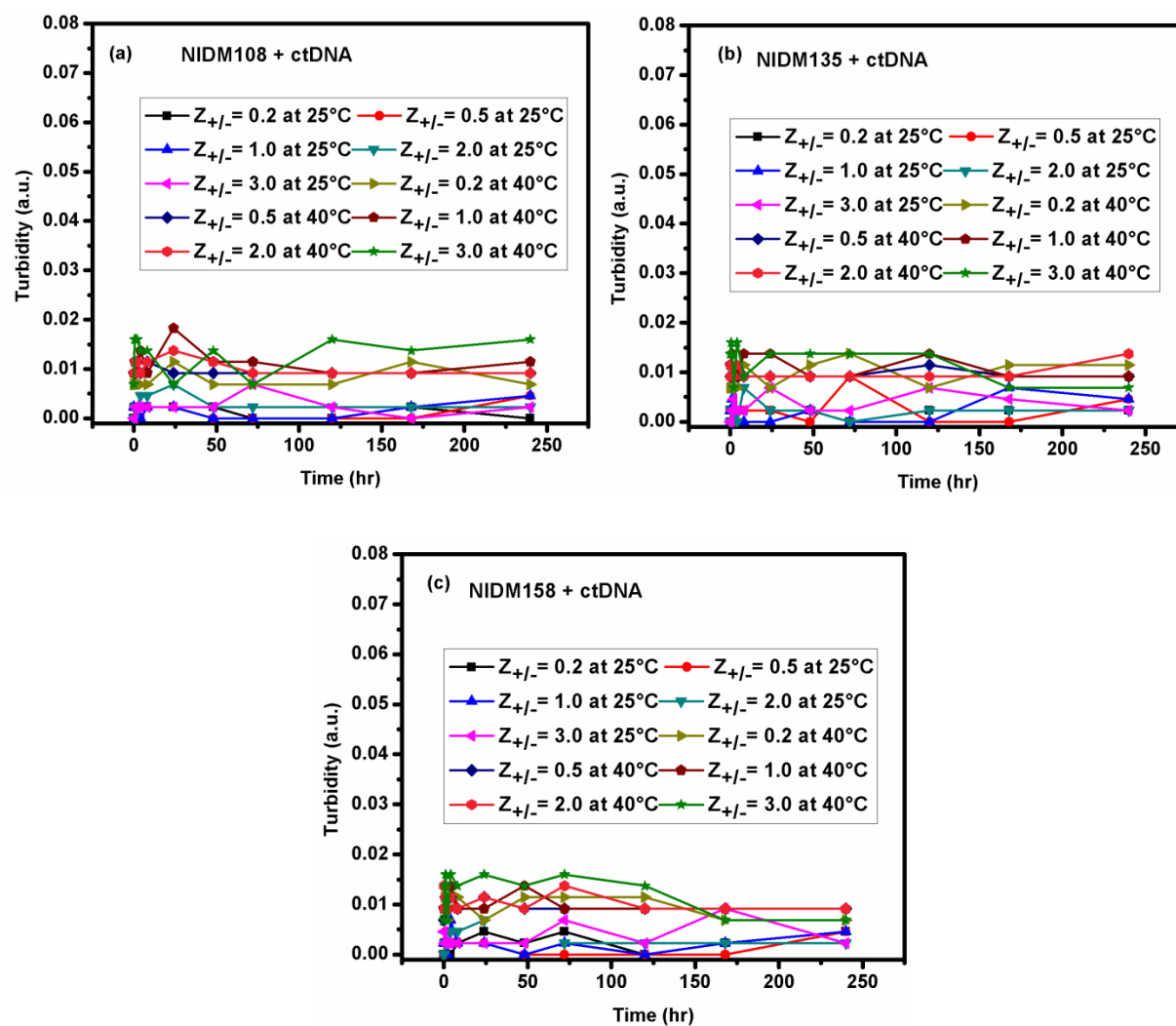


Figure S5: Turbidity measurements of polyplexes NIDM108/ctDNA (a), NIDM135/ctDNA (b) and NIDM158/ctDNA (c) at 25 °C and 40 °C.

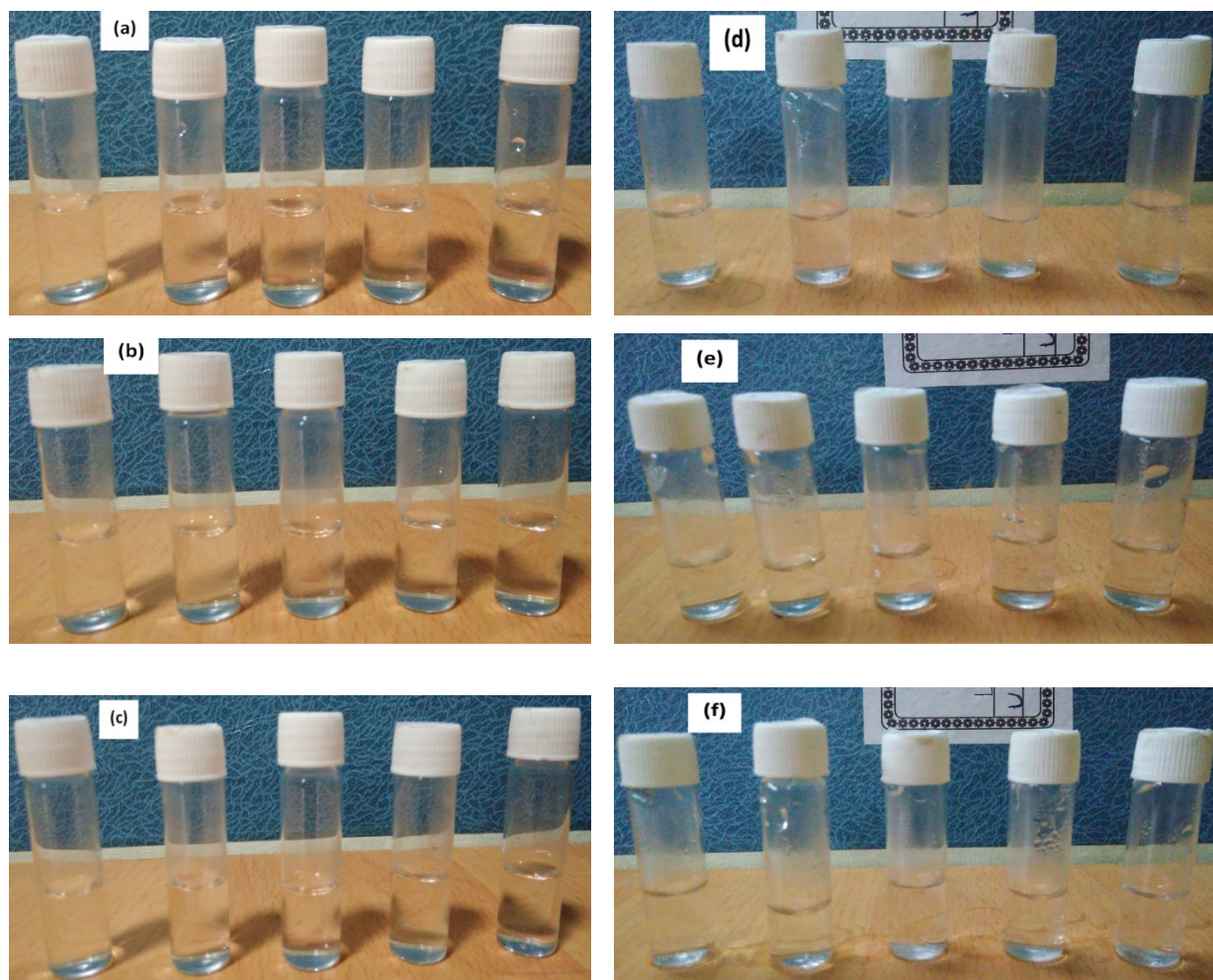


Figure S6: Images of polyplex solutions kept in vials of (a, d) NIDM108/DNA, (b, e) NIDM135/DNA and (c, f) NIDM158/DNA polyplexes. Left side and right side represent images taken at 25 °C and 40 °C, respectively. Vials from left to right - 1st: $Z_{+/-} = 0.2$; 2nd: $Z_{+/-} = 0.5$; 3rd: $Z_{+/-} = 1.0$; 4th: $Z_{+/-} = 2.0$; 5th: $Z_{+/-} = 3.0$.

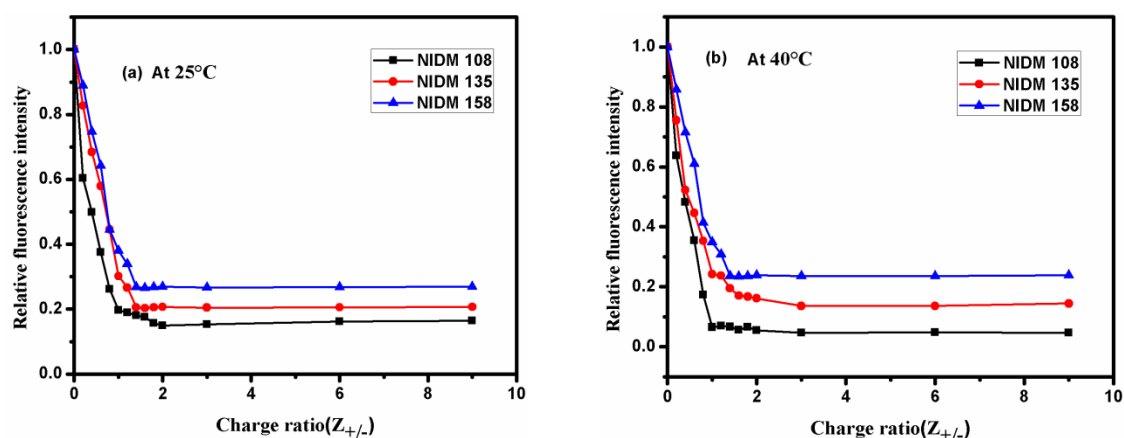


Figure S7: Temperature dependent relative fluorescence spectra of ethidium bromide (EB)-DNA complex in the presence of various amounts of cationic block copolymers plotted at 25 °C (a) and 40 °C (b).

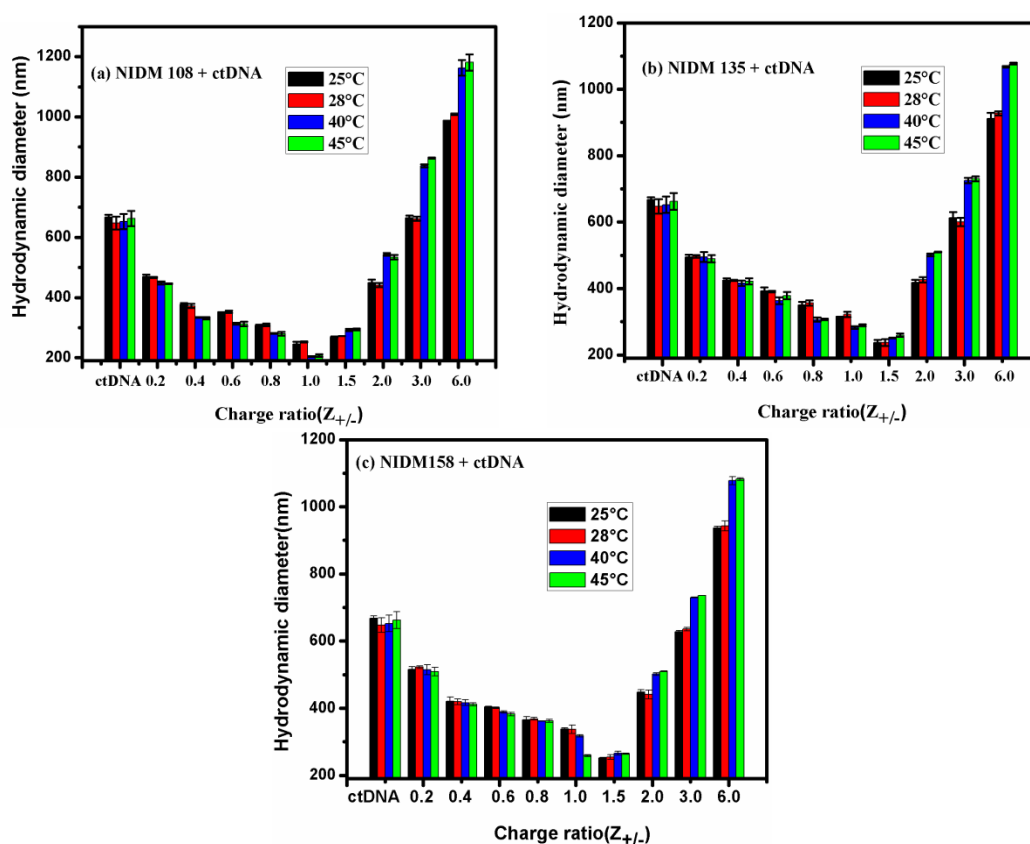


Figure S8: Temperature dependent relative Size of DNA-cationic block copolymer polyplexes NIDM108/ctDNA (a), NIDM135/ctDNA (b) and NIDM158/ctDNA (c). The complexes were formed at a fixed DNA concentration of 25 μ M and varying concentrations of (co)polymer. Particles sizes were determined at 25 °C, 28 °C, 40 °C and 45 °C.

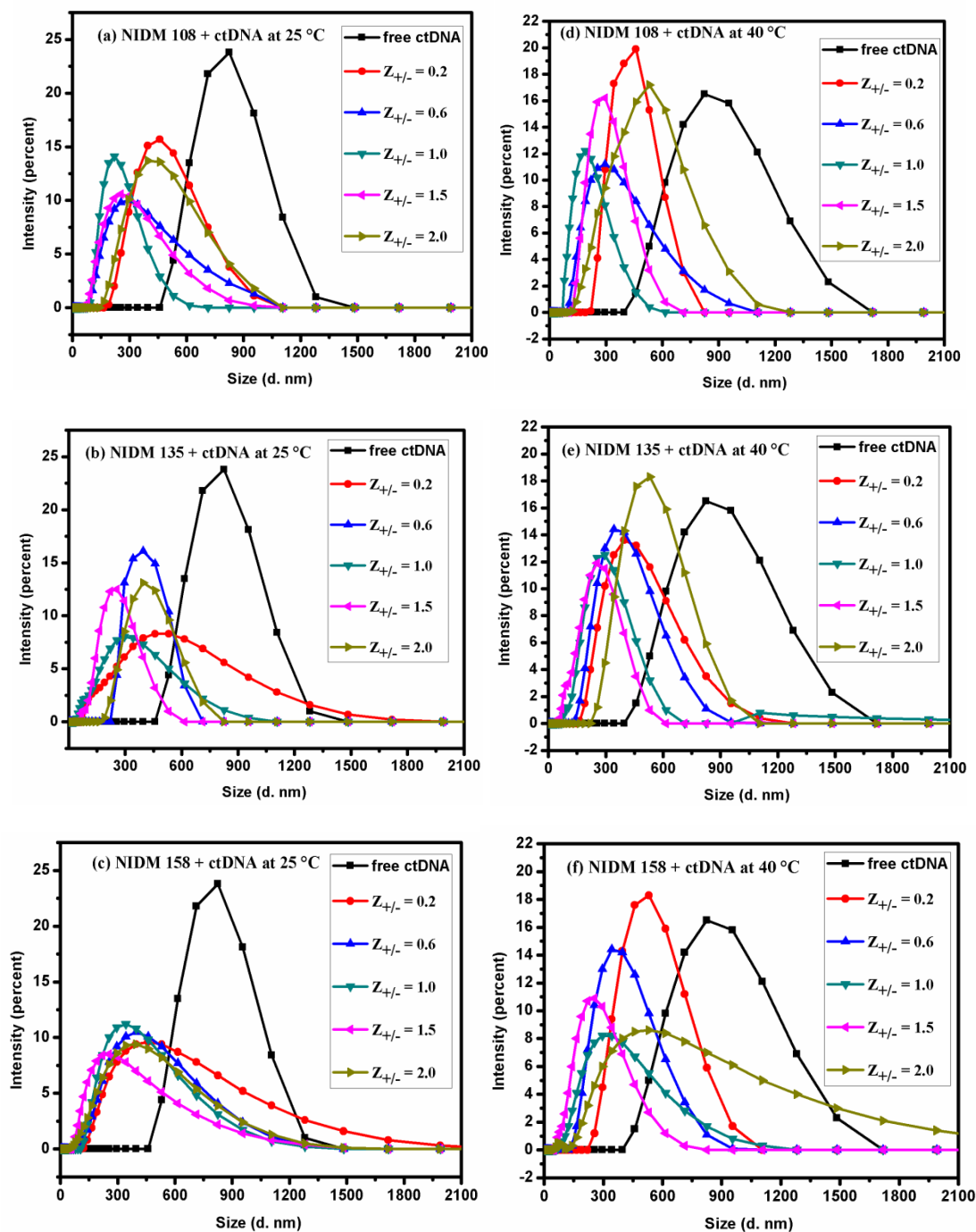


Figure S9: Intensity-weighted size distribution of formed polyplexes NIDM108/ctDNA (a, d), NIDM135/ctDNA (b, e) and NIDM158/ctDNA (c, f) obtained from DLS.

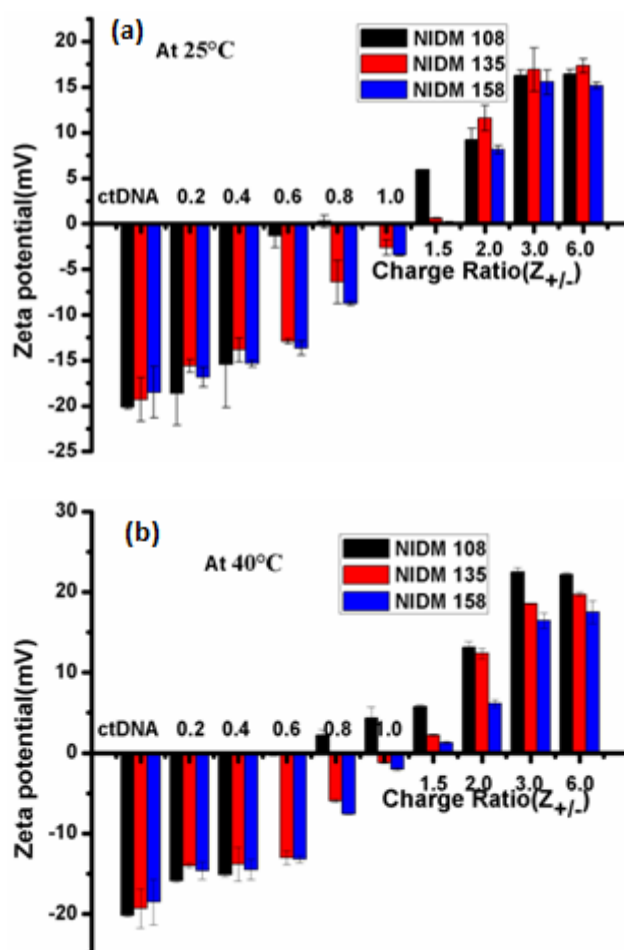


Figure S10: Temperature dependent zeta potential (ζ) of DNA–cationic block copolymer polyplexes complexes at a fixed DNA concentration of 25 μ M and varying concentrations of (co)polymer. zeta potentials were determined at 25 °C (a) and 28 °C (b).

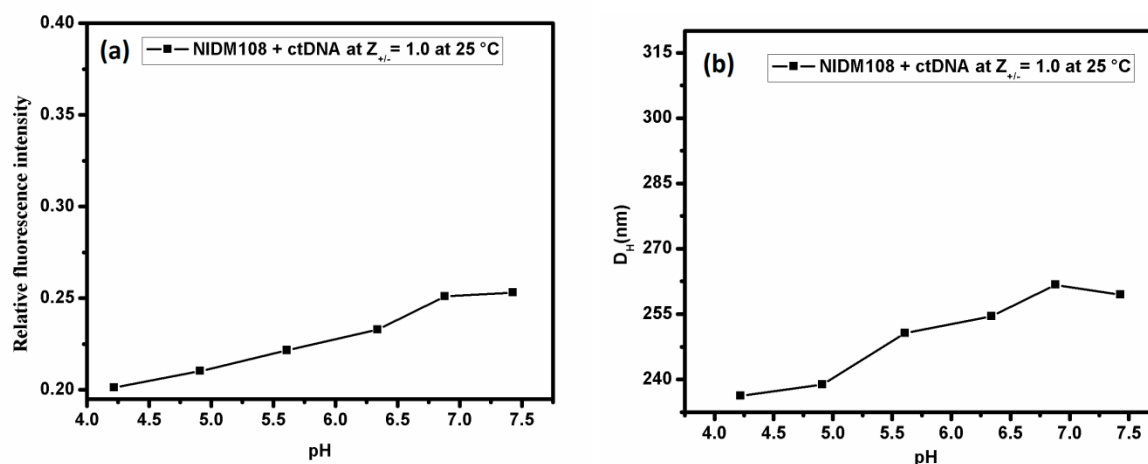


Figure S11: (a) Relative fluorescence intensity and (b) hydrodynamic size of the NIDM108/ctDNA polyplex at $Z_{+/-} = 1.0$. The polyplex was first prepared at pH = 4.2 following which the pH was increased by addition of dilute NaOH. 15 Min of equilibration time was provided at each pH before recording spectra.

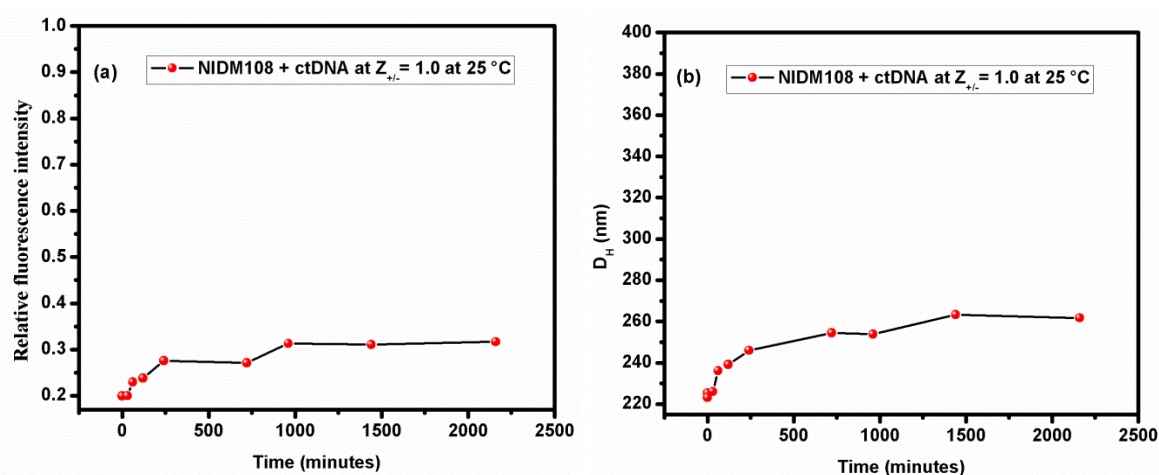


Figure S12: (a) Relative fluorescence intensity and (b) hydrodynamic size of the NIDM108/ctDNA polyplex at $Z_{+/-} = 1.0$. The polyplex was first prepared at pH = 4.2 following which the pH was increased to 7.4 at once by addition of dilute NaOH. EB exclusion and hydrodynamic size were monitored with time.