Electronic Supplementary Material (ESI) for Journal of Materials Chemistry C.

Supplementary Information

Tetraphenylethene-based Zn complexes for high sensitive detection of single-stranded DNA

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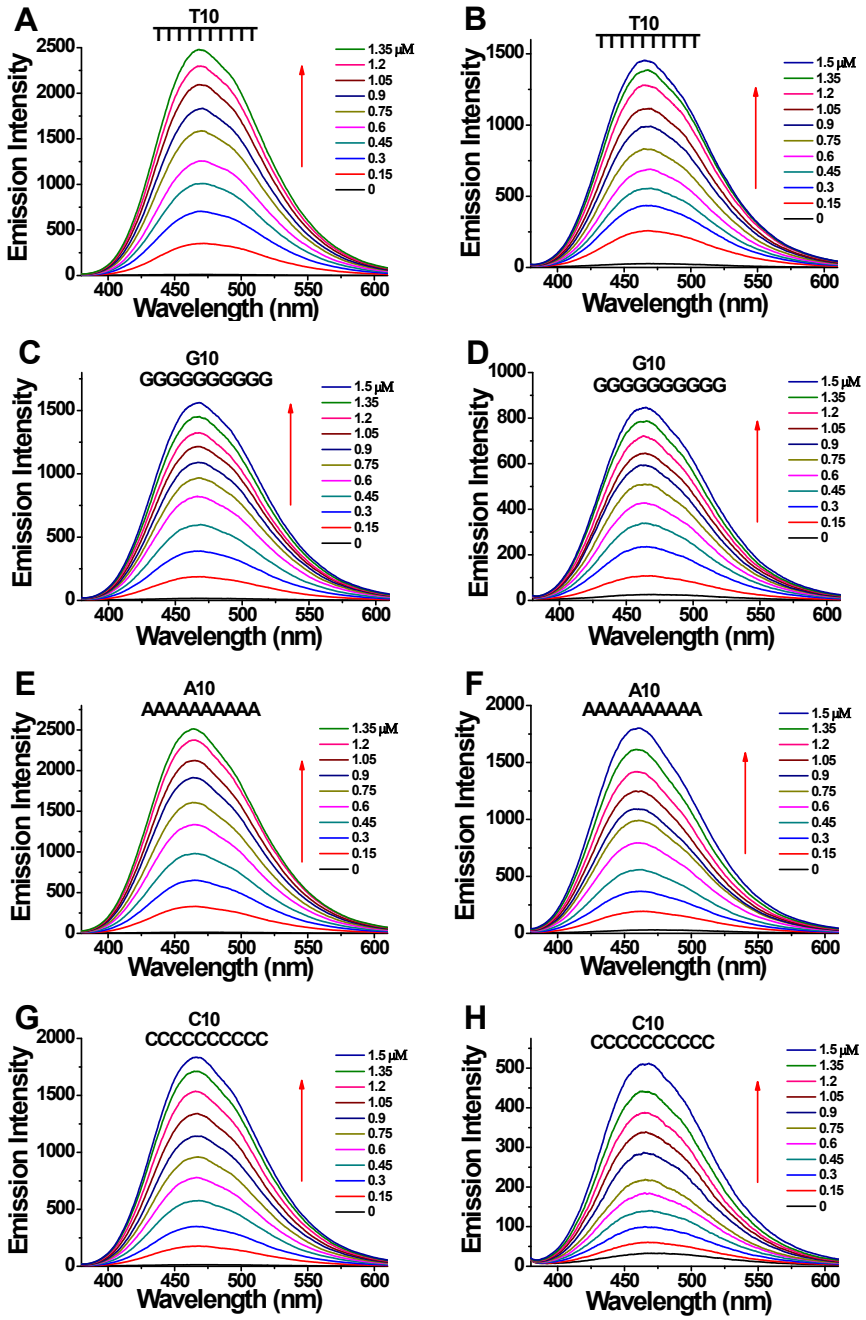

Figure S1 Fluorescence spectra of 10 μM *Z*-TPE2Zn (A, C, E, G) and *E*-TPE2Zn (B, D, F, H) upon addition of various DNA in 10 mM HEPES solutions (pH = 6.4). $[Zn(NO_3)_2]$ = 0.1 mM. λ_{ex} = 330 nm.

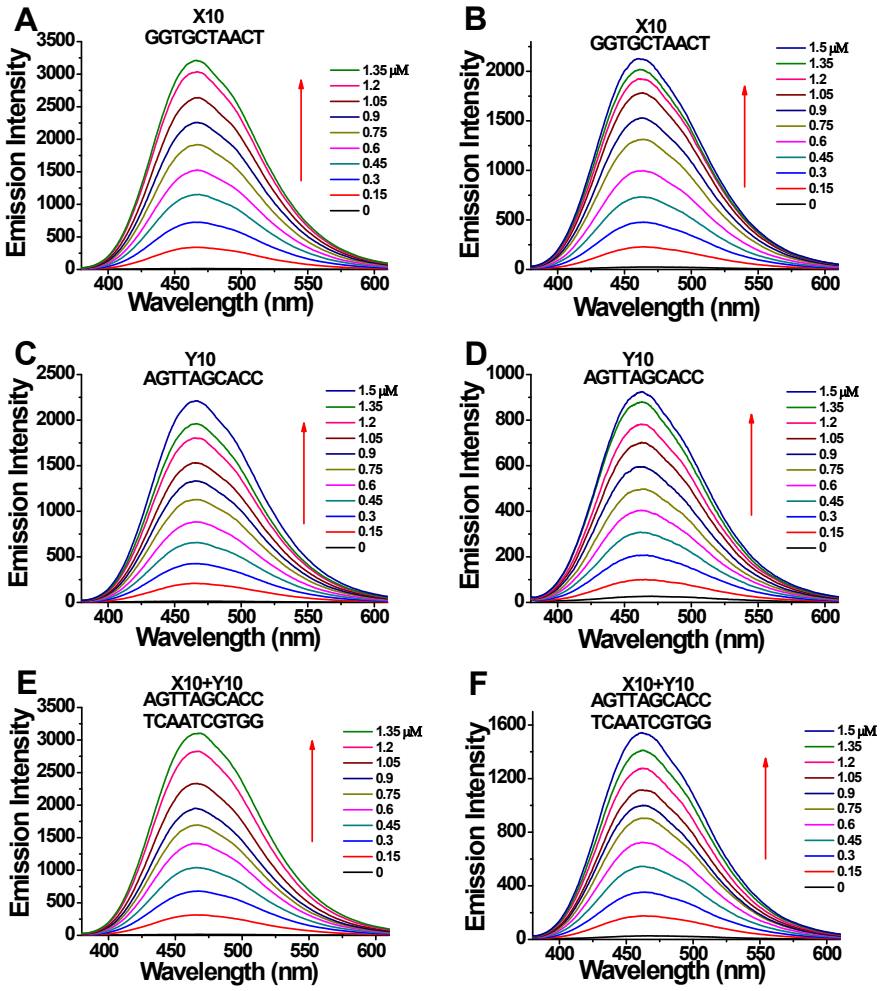

Figure S2 Fluorescence spectra of 10 μM *Z*-TPE2Zn (A, C, E) and *E*-TPE2Zn (B, D, F) upon addition of various DNA in 10 mM HEPES solutions (pH = 6.4). $[Zn(NO_3)_2]$ = 0.1 mM. λ_{ex} = 330 nm.

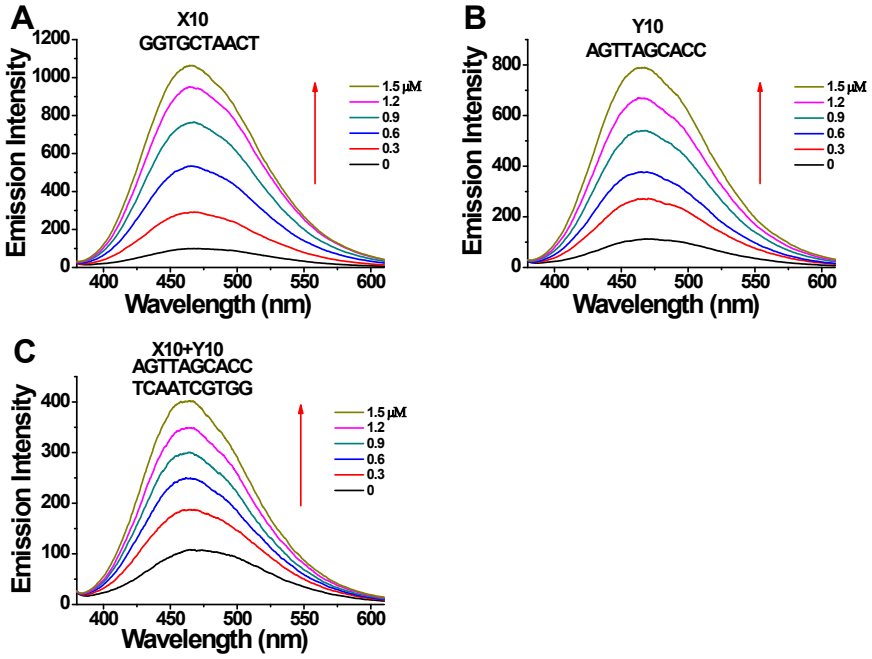

Figure S3 Fluorescence spectra of 10 μM TPE4Zn (A, B, C) upon addition of various DNA in 10 mM HEPES solutions (pH = 6.4). $[Zn(NO_3)_2]$ = 0.1 mM. λ_{ex} = 330 nm.

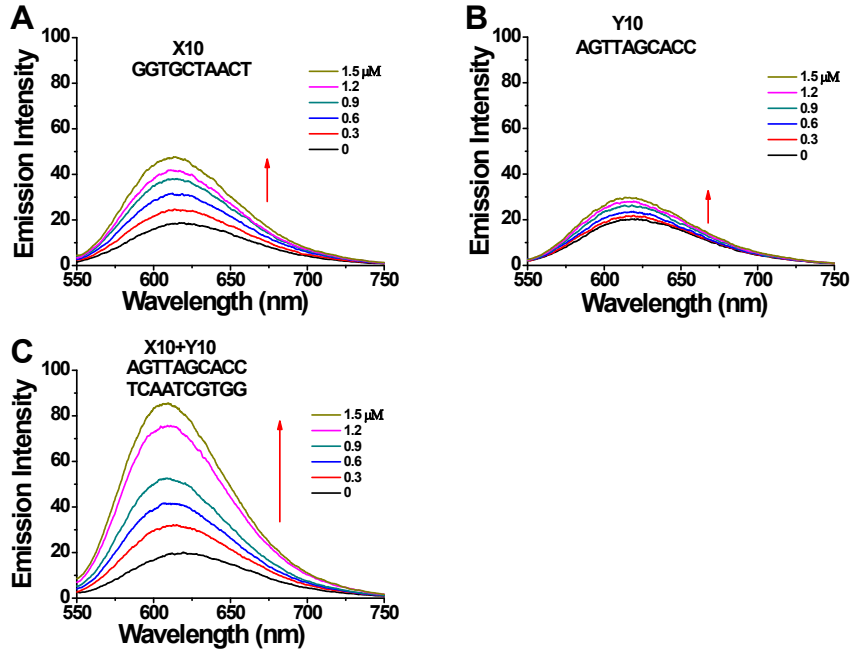

Figure S4 Fluorescence spectra of 10 μM EB (A, B, C) upon addition of various DNA in 10 mM HEPES solutions (pH = 6.4). $[Zn(NO_3)_2]$ = 0.1 mM. λ_{ex} = 530 nm.

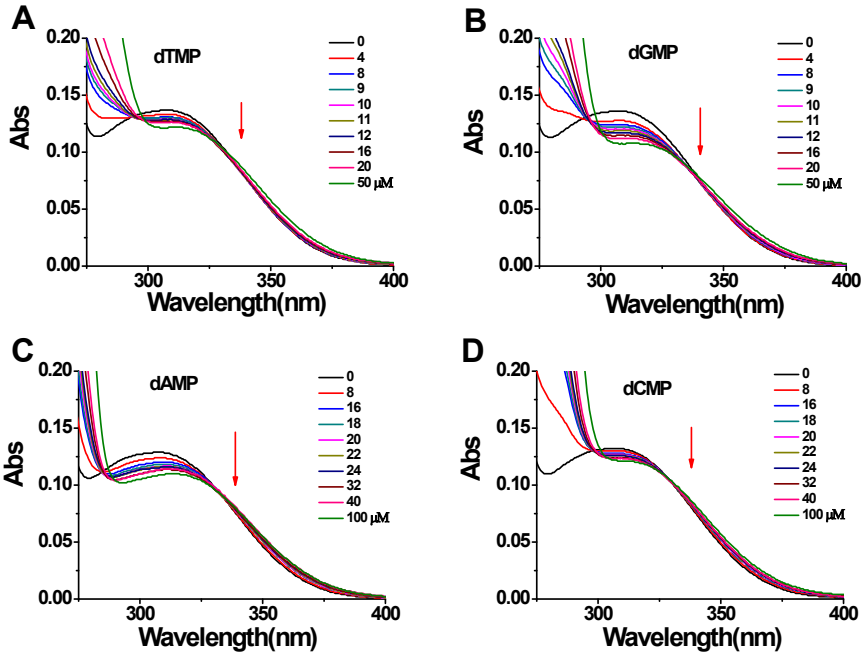

Figure S5 Absorption spectra of 10 μM *E*-TPE2Zn (E, F, G, H) upon addition of various nucleotides in 10 mM HEPES solutions (pH = 6.4). $[Zn(NO_3)_2]$ = 0.1 mM.

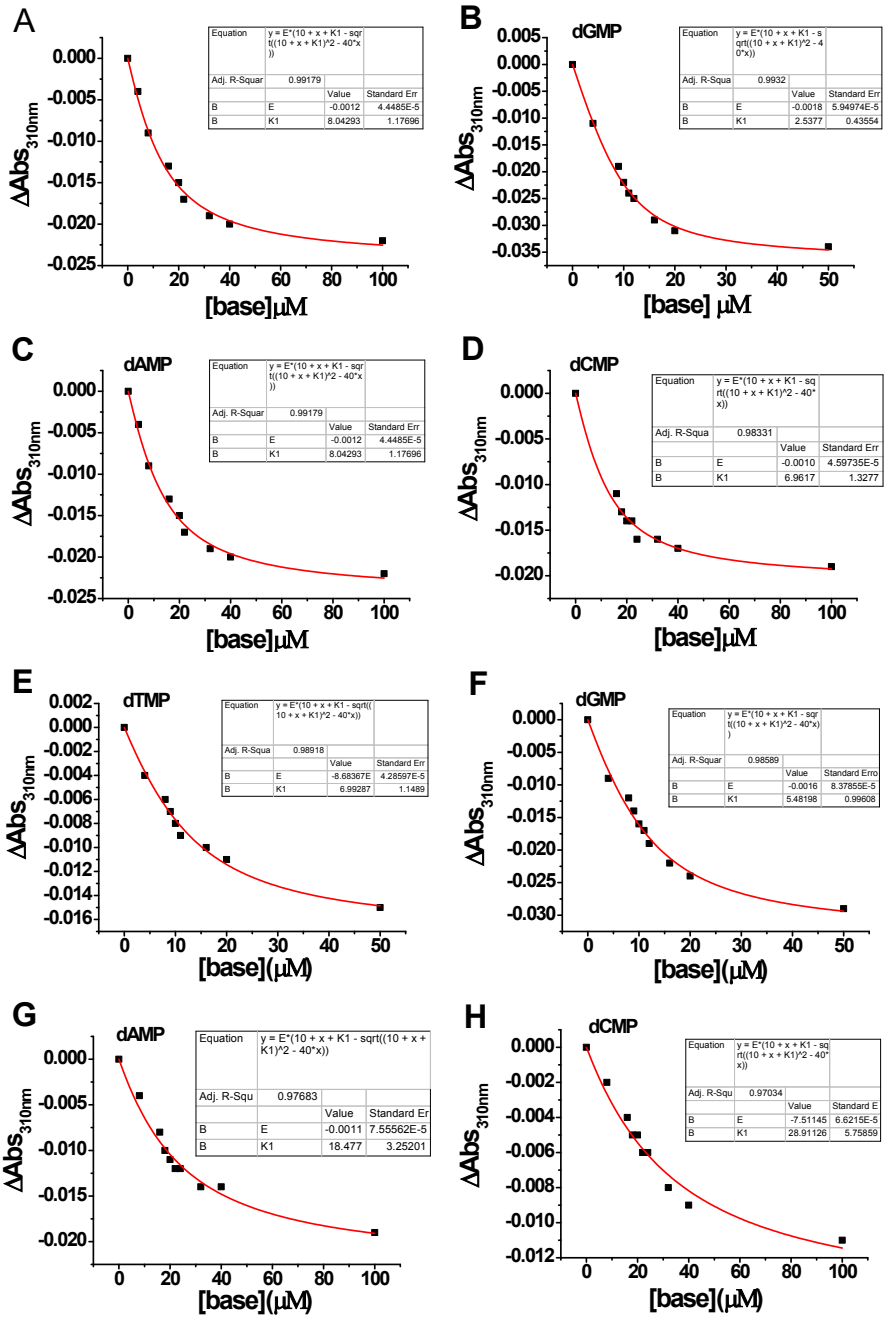

Figure S6 The nonlinear relationship of the aborption intensity of 10 μM *Z*-TPE2Zn (A, B, C, D) and *E*-TPE2Zn (E, F, G, H) decrease of various nucleotides in 10 mM HEPES solutions (pH = 6.4) at room temperature. $[Zn(NO_3)_2]$ = 0.1 mM. Insert: K_1 is dissociation constant.

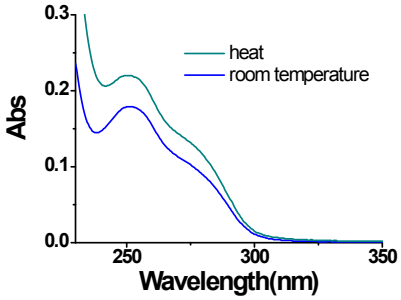

Figure S7 Absorption spectra of 2.5 μM G5 at room temperature and then heated over 80 ℃ in 10 mM HEPES solutions (pH = 6.4). [$Zn(NO_3)_2$] = 0.1 mM.

Table S1. The fluorescence quantum yields of TPE2Zn in the presence of various DNA[a]

	Z-TPE2Zn	*E*-TPE2Zn
No DNA	0.005	0.01
T5	0.65	0.29
G5	0.53	0.18
A5	0.013	0.04
C5	0.014	0.013
T10	0.66	0.13
G10	0.44	0.22
A10	0.72	0.46
C10	0.47	0.12
X10	0.75	0.31
Y10	0.55	0.31

[a][Base] = 15 μM. [TPE2Zn] = 10 μM. Buffer: 10 mM HEPES (pH = 6.4). [$Zn(NO_3)_2$] = 0.1 mM.