

Supporting Information for

G-quadruplex apurinic site-programmed chiral cyanine assemblies for specifically recognizing guanosine and guanine

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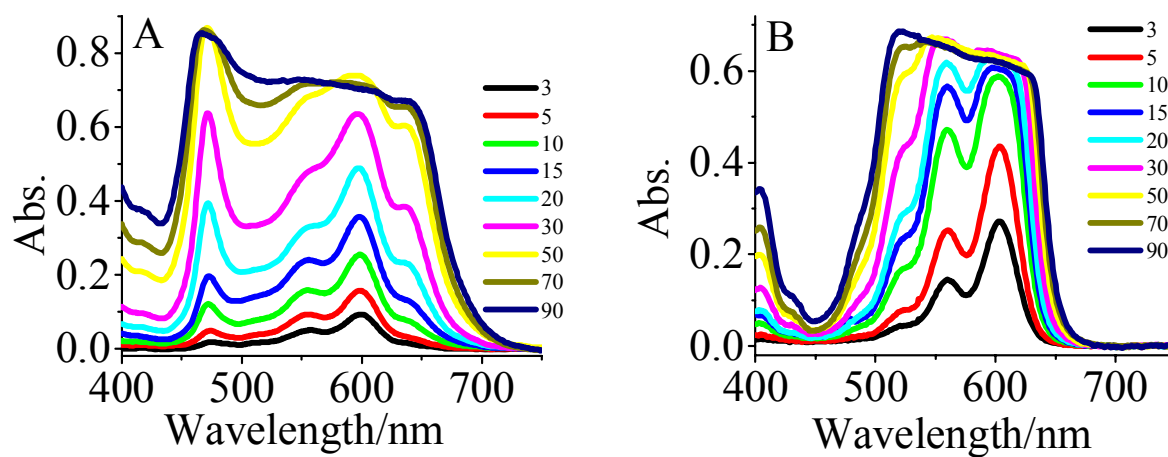


Fig. S1. The absorption spectra of PIN in (A) Tris-HCl (pH 7.0) with 100 mM K⁺ and (B) methanol. The listed numbers indicate the PIN concentration in μM.

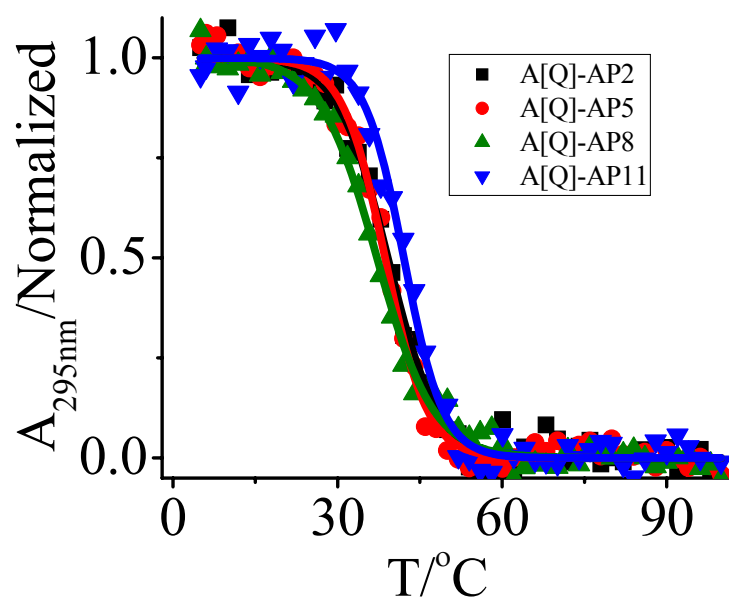


Fig. S2. Melting curves of 2 μM A[Q]-AP2, A[Q]-AP5, A[Q]-AP8 and A[Q]-AP11 in 10 mM Tris-HCl (pH 7.0) containing 100 mM K^+ .

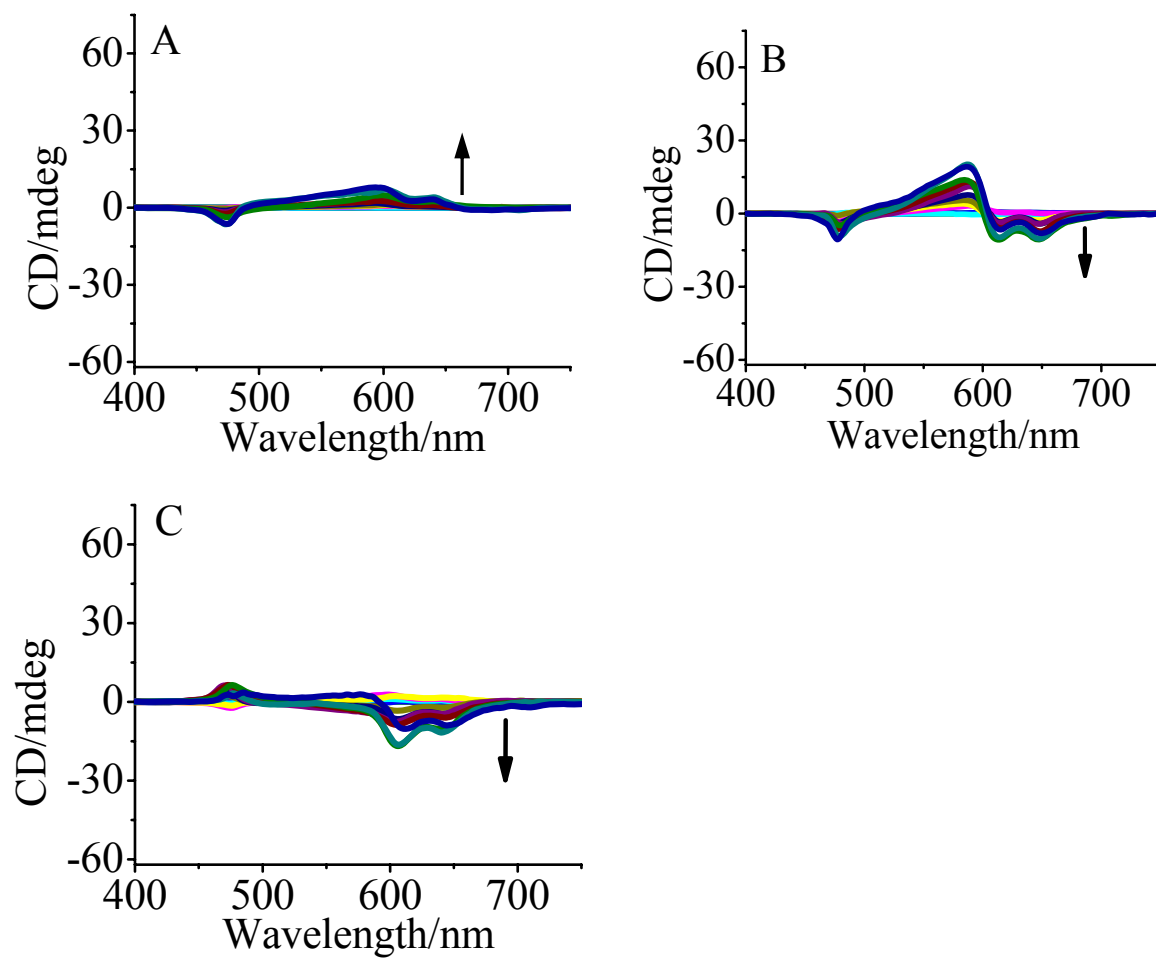


Fig. S3. CD spectra of PIN upon increasing its concentration in the (A) absence of and presence of 0.1 μM (B) A[Q]-AP5 and (C) A[Q]-AP8, respectively. Arrows show the PIN concentration increasing from 5 to 80 μM .

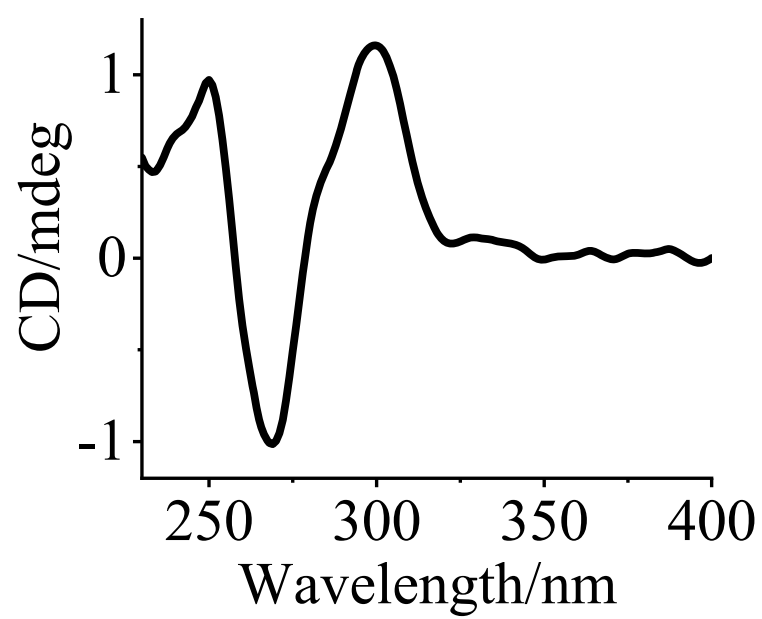


Fig. S4. CD spectra of A[Q] (8 μ M) in 100 mM Na⁺.

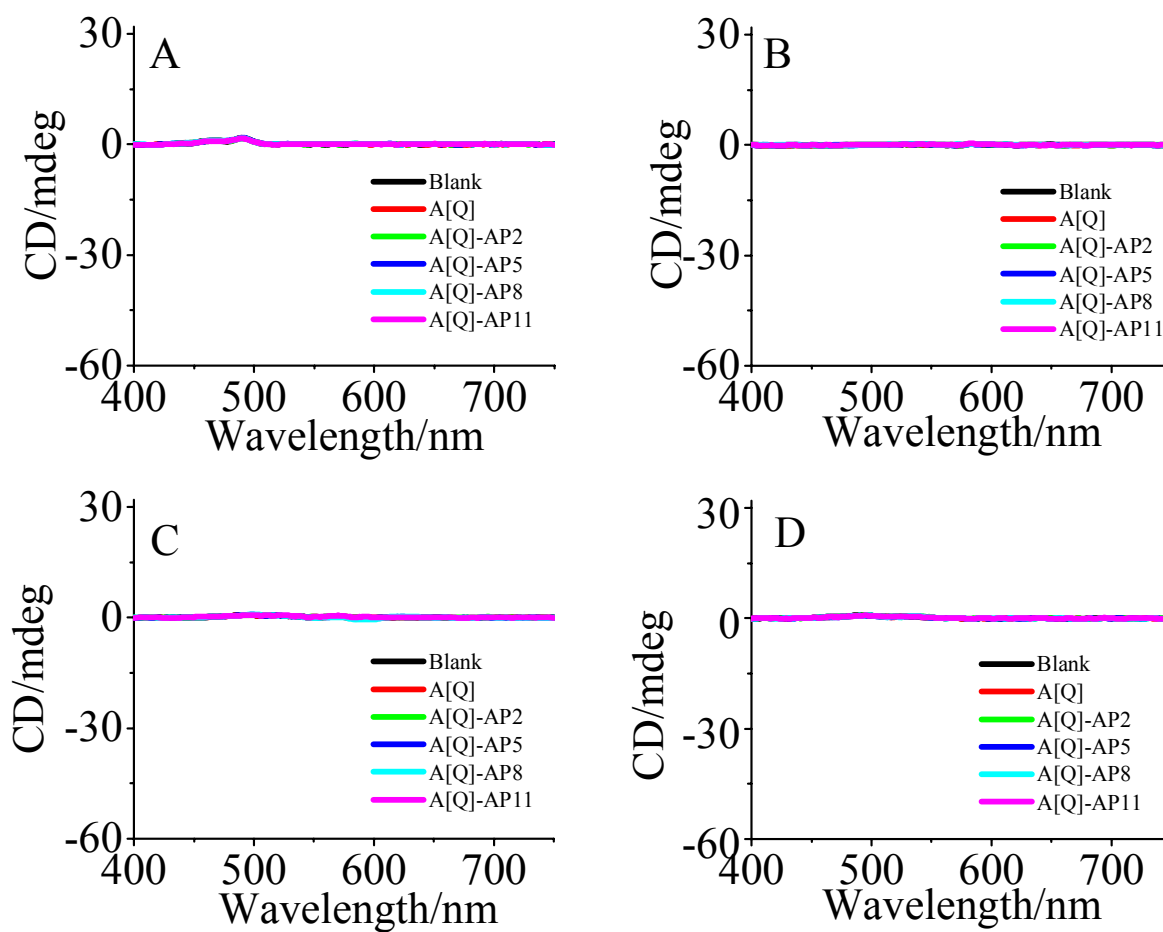


Fig. S5. (A and B and C and D) CD spectrum of 70 μM (A) $\text{DiOC}_2(3)$; (B) $\text{DiOC}_2(5)$; (C) $\text{DiSC}_3(3)$; (D) PIC in the presence of 0.1 μM A[Q], A[Q]-AP2, A[Q]-AP5, A[Q]-AP8 and A[Q]-AP11.

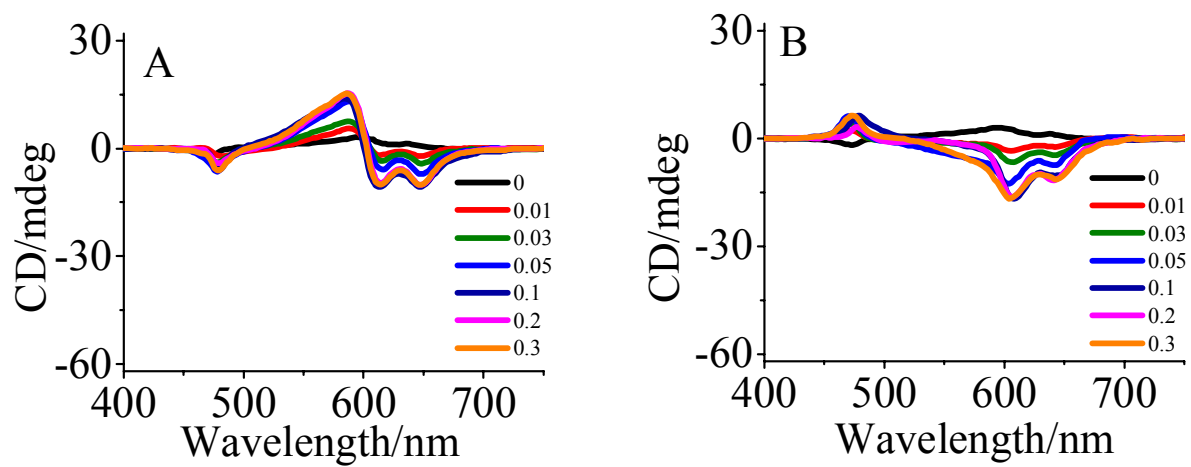


Fig. S6. CD spectra of PIN (70 μ M) upon titration with (A) A[Q]-AP5 and (B) A[Q]-AP8, respectively.

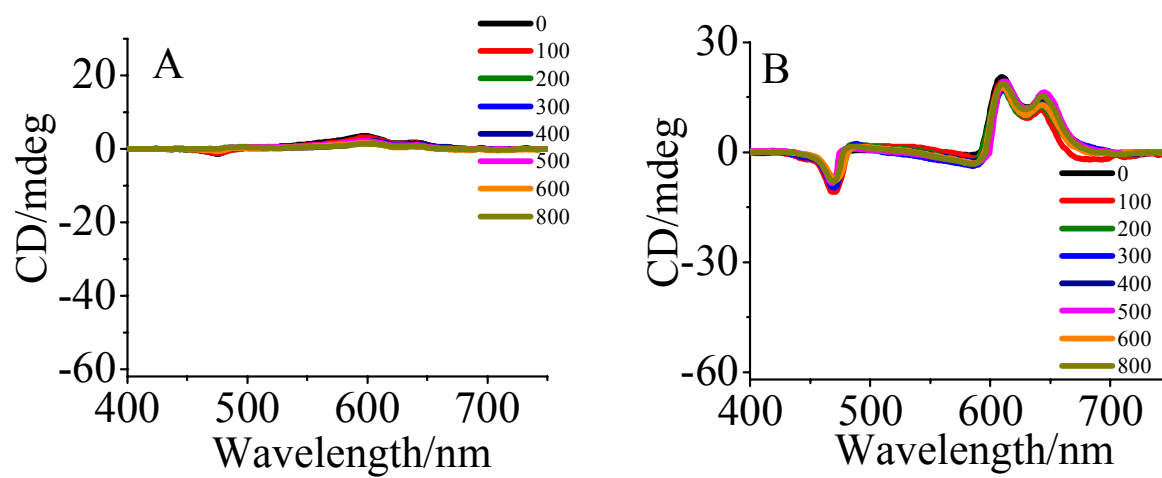


Fig. S7. CD spectra of PIN (70 μ M) (A) alone and (B) containing 0.1 μ M A[Q] in the absence and presence of 100, 200, 300, 400, 500, 600, 800 μ M guanosine.

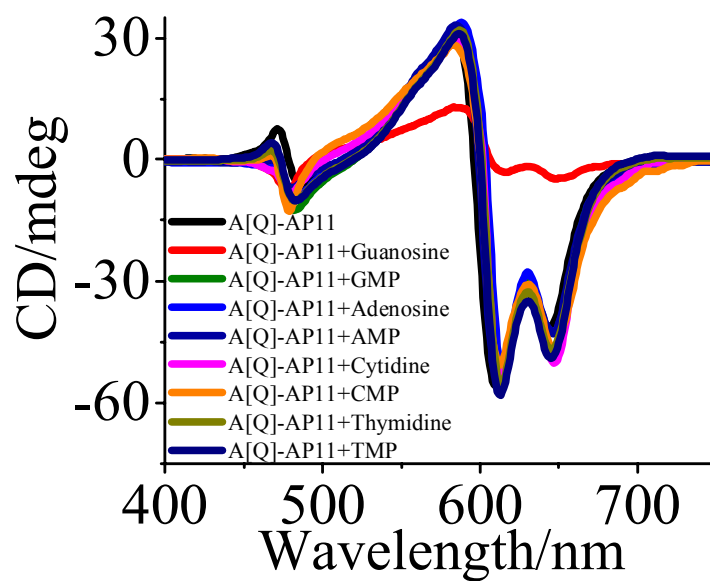


Fig. S8. CD spectra and (E) ICD change (Δ CD) of PIN (70 μ M) at 610 nm in the presence of A[Q]-AP11 (0.1 μ M) with addition of guanosine, GMP, adenosine, AMP, cytidine, CMP, thymidine, and TMP (500 μ M), respectively.

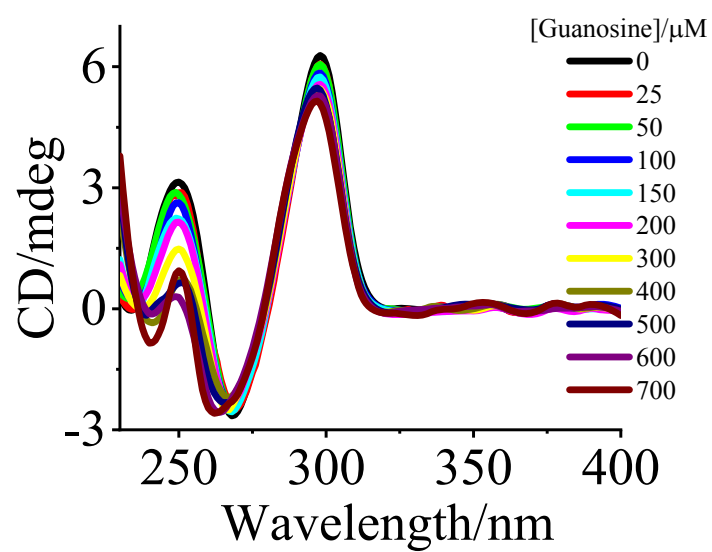


Fig. S9. CD spectra of 8 μM A[Q]-AP11 in the absence and presence of different concentration of guanosine.

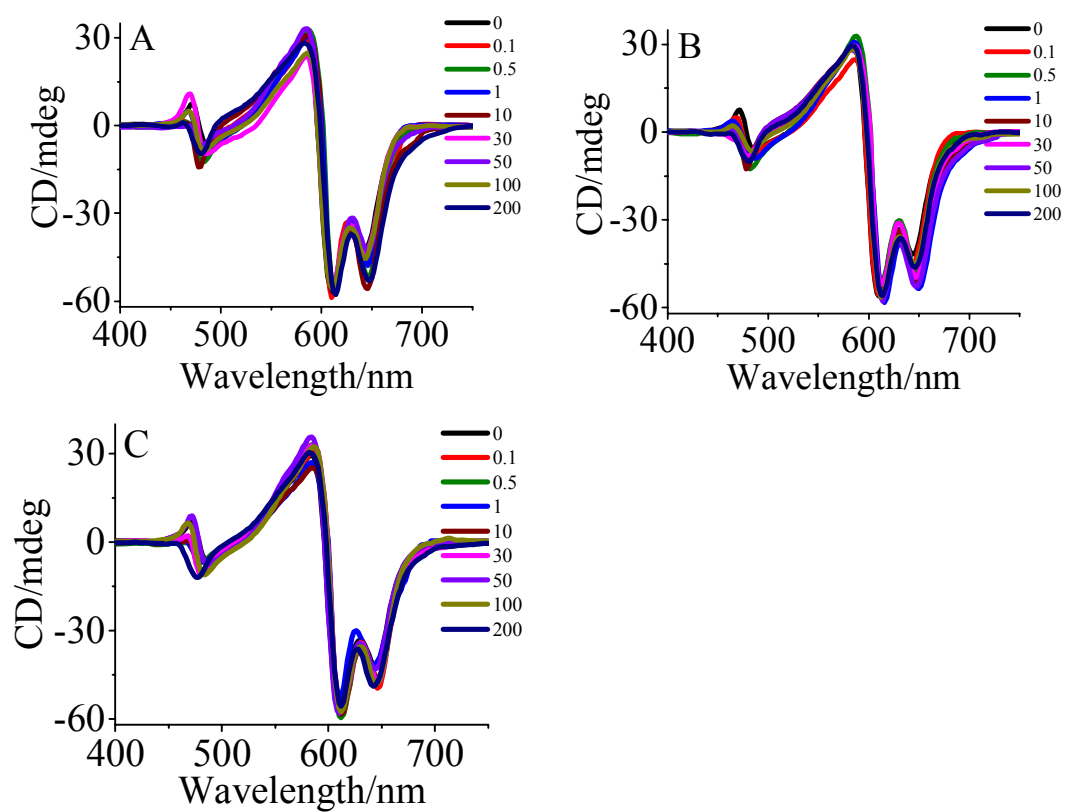


Fig. S10. (A and B and C) CD spectra of PIN (70 μM) in the presence of A[Q]-AP11 (0.1 μM) with addition of increasing concentration of (A) adenine, (B) cytidine and (C) thymine.

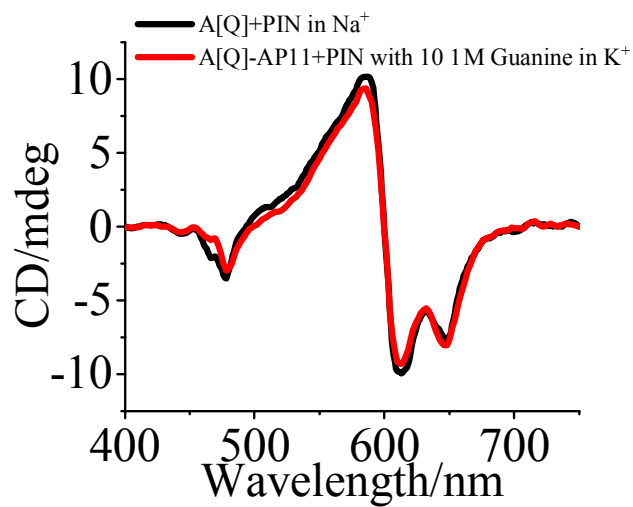


Fig. S11. CD spectra of PIN (70 μM) in the presence of A[Q] (0.1 μM) in 100 mM Na^+ (black line) and in the presence of A[Q]-AP11 (0.1 μM) in 100 mM K^+ with addition of 10 μM guanine (red line).