

## Supporting information

### **A new G-triplex based strategy for sensitivity enhancement detection of endonuclease and inhibitor**

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## CD spectra

CD spectra analysis has been investigated as shown in Fig.S1, in the presence of  $K^+$ , the reaction products were folded into G-triplex (red line) according to the reported article [1], and the structure is also stable when it binds with hemin (black line).

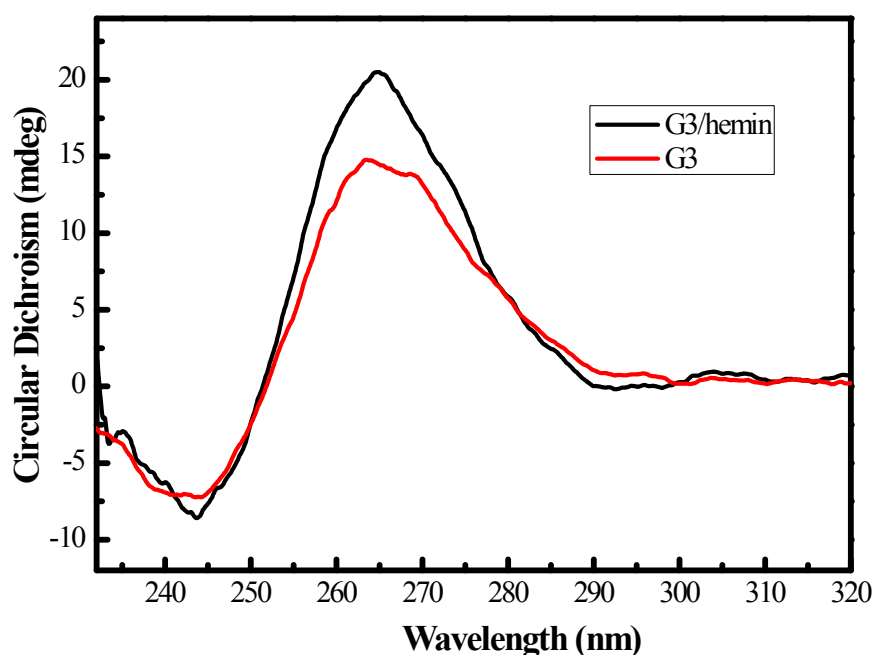


Fig S1. CD spectra of G3 (5 $\mu$ M) and G3 (5 $\mu$ M) with hemin.

## Optimization of Reaction Conditions

Optimized experimental parameters including the amount of DNA, hemin and TMB, and the incubation time of EcoRI. Figure S2, Figure S3, Figure S4, Figure S5 are the optimization of concentration of DNA probe, the reaction time of EcoRI, concentration of hemin, and the volume of TMB, respectively.

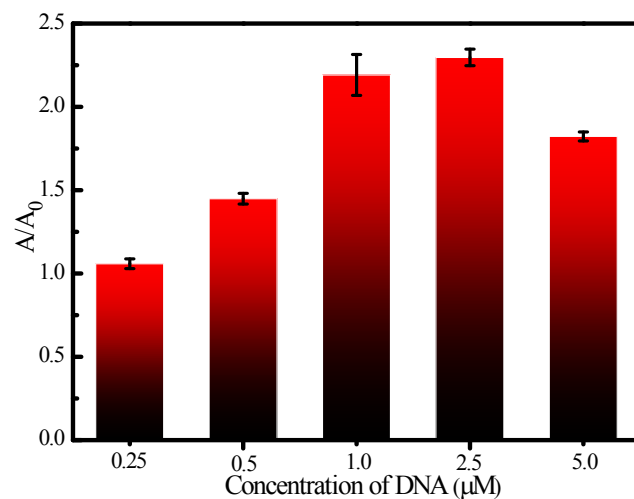


Fig. S2 Optimization of concentration of DNA probe (0.25 $\mu\text{M}$ , 0.5 $\mu\text{M}$ , 1.0 $\mu\text{M}$ , 2.5 $\mu\text{M}$ , 5.0 $\mu\text{M}$ ).

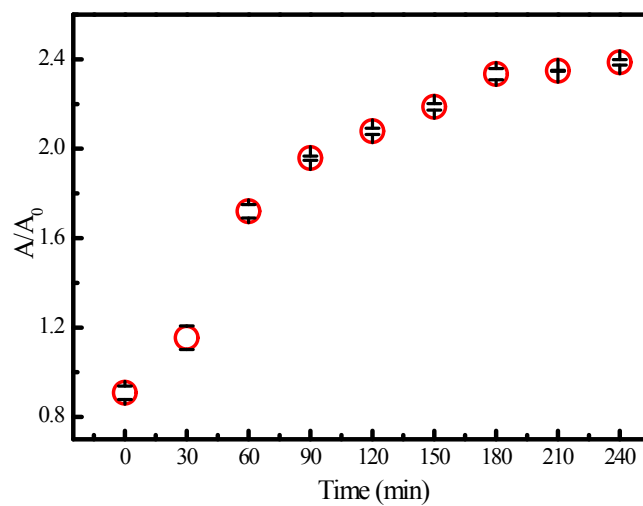


Fig. S3 Optimization of the reaction time (0, 30 min, 60 min, 90 min, 120 min, 150 min, 180 min, 210 min, 240 min) of EcoRI.

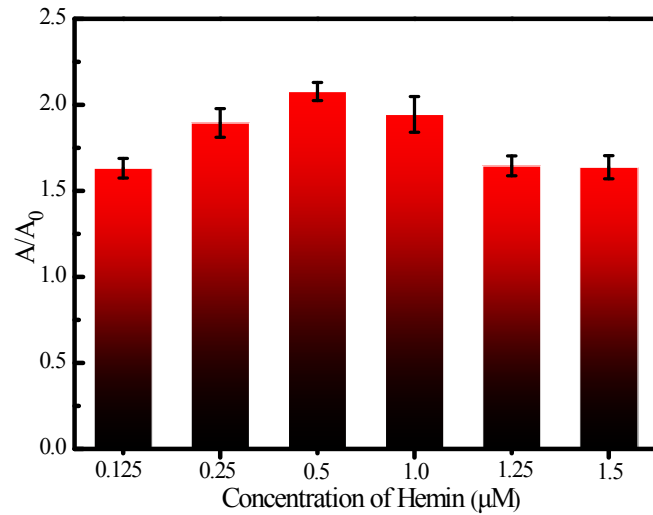


Fig. S4 Optimization of concentration of hemin (0.125 $\mu\text{M}$ , 0.25 $\mu\text{M}$ , 0.5 $\mu\text{M}$ , 1.0 $\mu\text{M}$ , 1.25 $\mu\text{M}$ , 1.5 $\mu\text{M}$ )

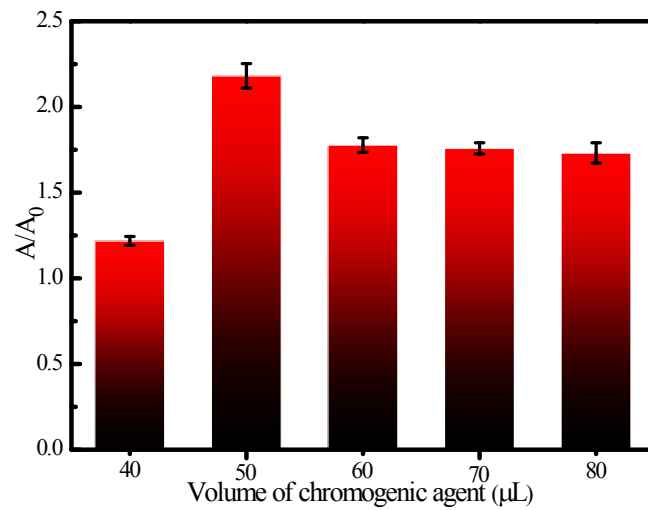


Fig. S5 Optimization of volume of TMB (40  $\mu\text{L}$ , 50  $\mu\text{L}$ , 60  $\mu\text{L}$ , 70  $\mu\text{L}$ , 80  $\mu\text{L}$ ).

## References

1. Li, R., et al., G-triplex/hemin DNAzyme: An ideal signal generator for isothermal exponential amplification reaction-based biosensing platform. *Analytica Chimica Acta*, 2019. 1079: p. 139-145.