

1 **Target-Responsive dumbbell probe-mediated rolling circle**
2 **amplification strategy for highly sensitive Hg²⁺ detection**

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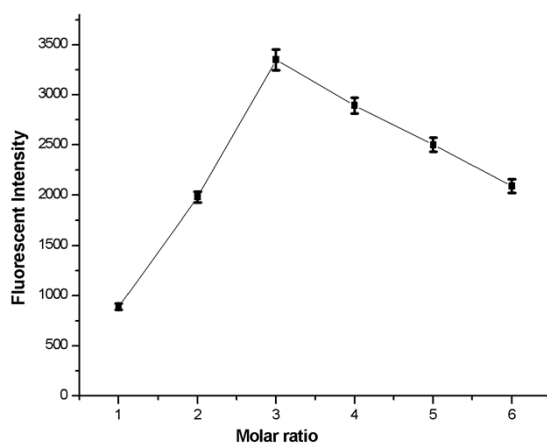
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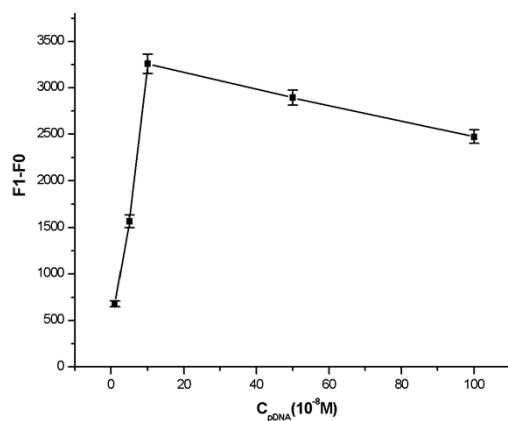
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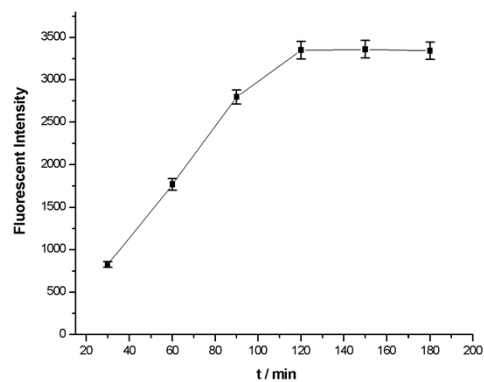
26 **Fig. S1.** The effect of the molar ratio of D-DNA to the p-DNA on the fluorescence
27 response of Hg^{2+} sensing system. Condition: Hg^{2+} : 10 nM; p-DNA: 10 nM.



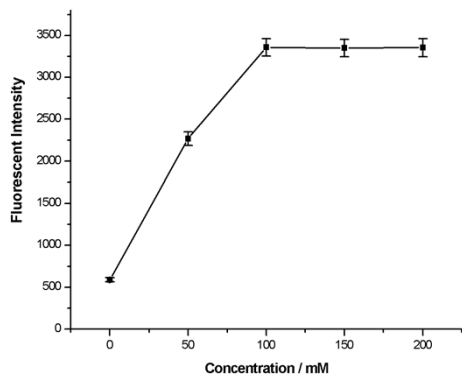
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(A)



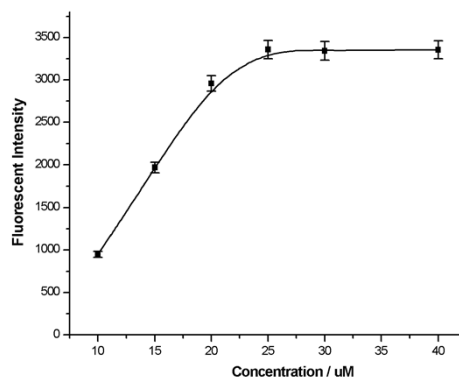
(B)



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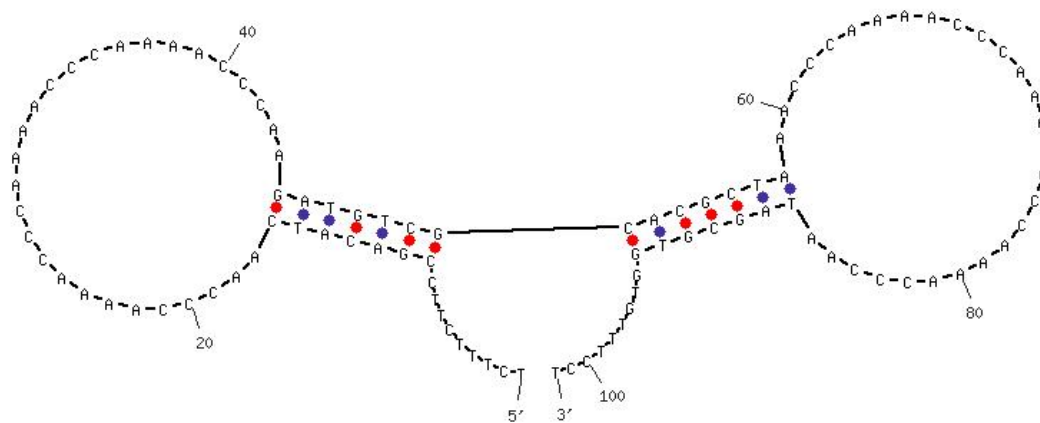
(C)



(D)

32 **Fig. S2.** The effect of (A) the concentration of Hg^{2+} -p-DNA; (B) D-RCA reaction
33 time; (C) the concentration of K^+ and (D) the concentration of NMM on the
34 fluorescent intensity signal responding to 10 nM Hg^{2+} .

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37 **Fig. S3.** Structure of the dumbbell probe (D-DNA).

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