# Supplementary material

## Target-triggered dual signal amplification based on HCR-enhanced nanozyme activity for sensitive visual detection of *Escherichia coli*

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**Table S1** DNA sequence used in the experiment

| DNA Name | Sequences (5'-3') |
|---|---|
| Apt-T | ATC AAA TGT GCA GAT ATC AAG ACG ATT TGT ACA AGA TCC ATG CTG AGG TGG TCA TAG CTG ATC CTA CC TGT ACA AAT CGT CTT GAT |
| H1 | AAT CGT CTT GAT GAC ACG ATC AAG ACG ATT TGT ACA |
| H2 | CGT GTC ATC AAG ACG ATT TGT ACA AAT CGT CTT GAT |

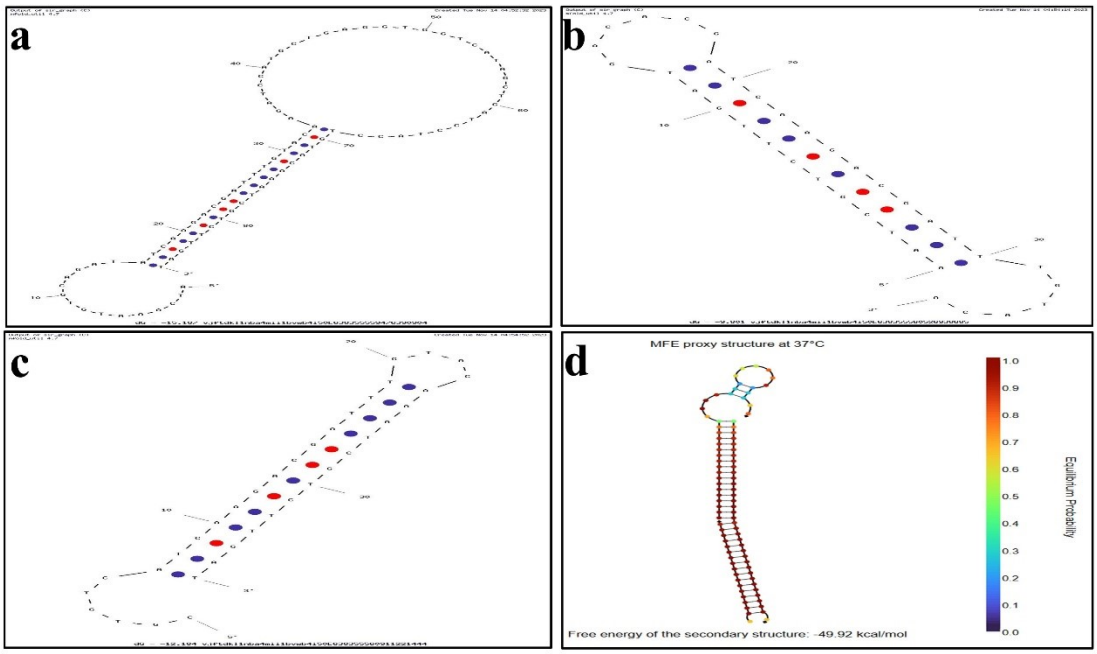


**Fig. S1.** The prediction diagrams of secondary structure of hairpin probe Apt-T, H1, H2 and the reaction product. (a) The prediction diagram of Apt-T. (b) The prediction diagram of H1. (c) The prediction diagram of H2. (d) The prediction diagrams of the reaction product.

**Detection condition optimizations**

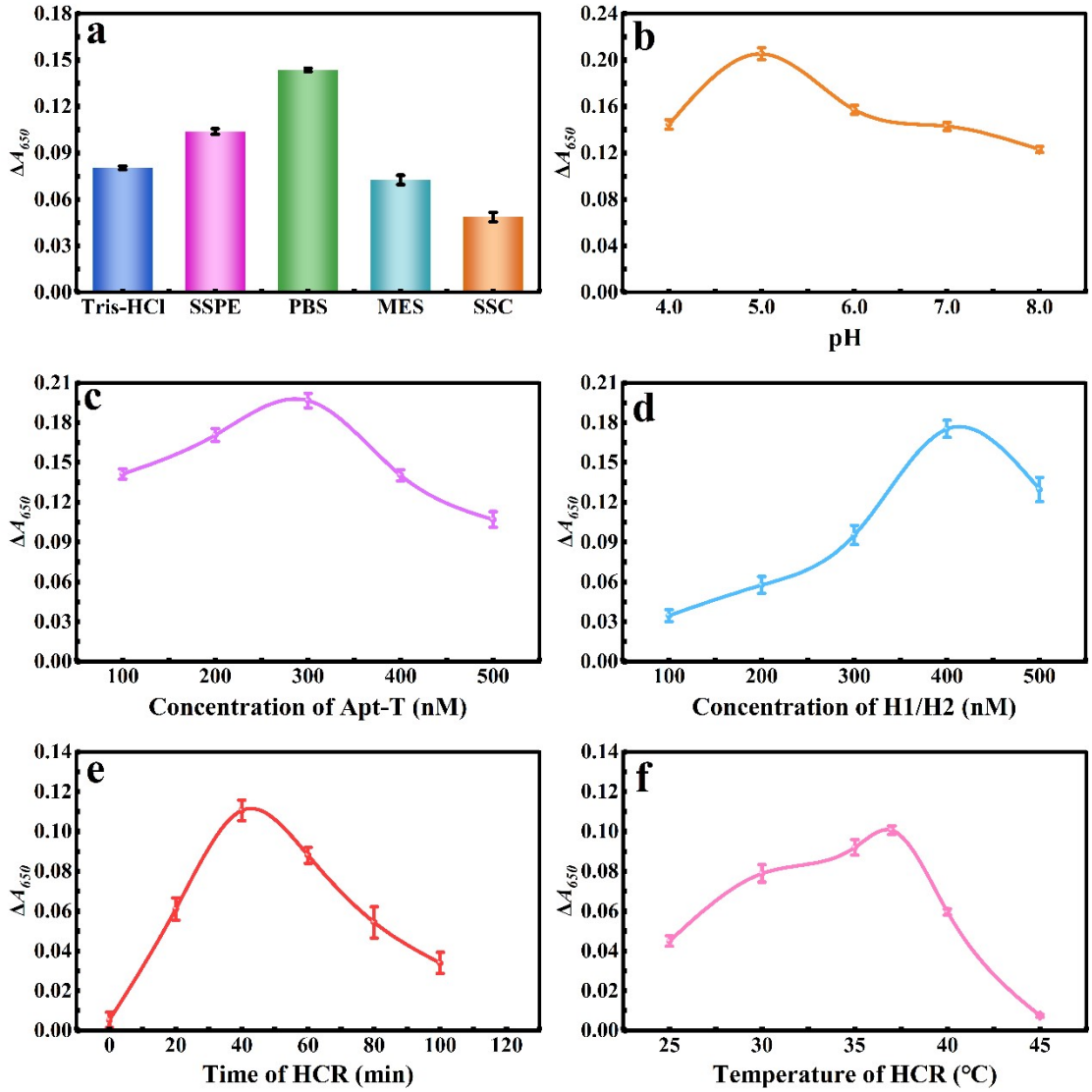


**Fig. S2.** Optimization of experimental conditions for HCR reaction system. (a) Type of buffers. (b) pH. (c) concentration of Apt-T. (d) concentration of H1/H2. (e) HCR reaction time. (f) HCR reaction temperature.

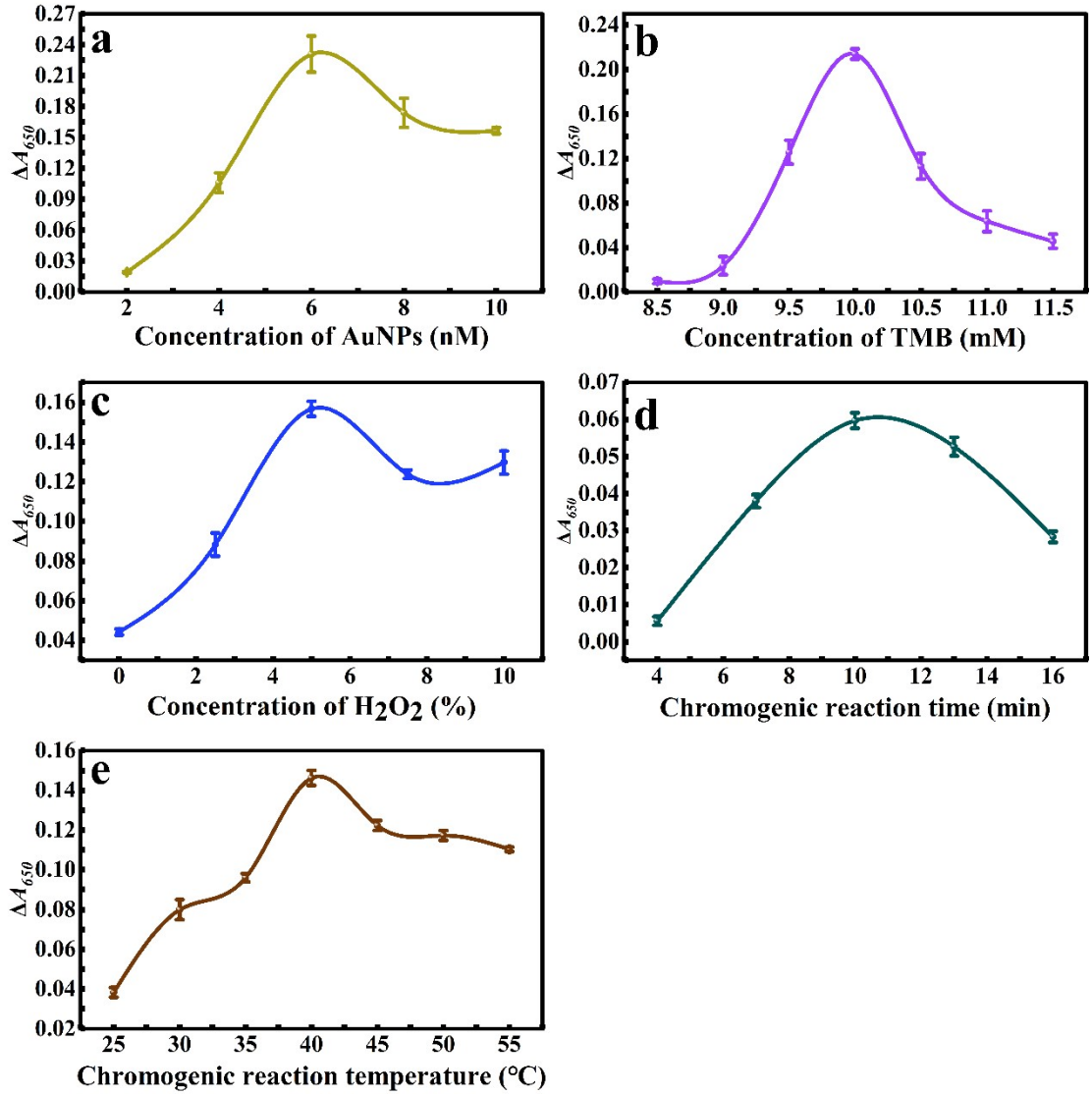


**Fig. S3.** Optimization of experimental conditions for chromogenic reaction system. (a) Concentration of AuNPs. (b) Concentration of TMB. (c) Concentration of $H_2O_2$. (d) Chromogenic reaction time. (e) Chromogenic reaction temperature.