

# **A colorimetric analytical method based on TCPP- CuCo<sub>2</sub>O<sub>4</sub>-like peroxidase for the detection of trichlorfon**

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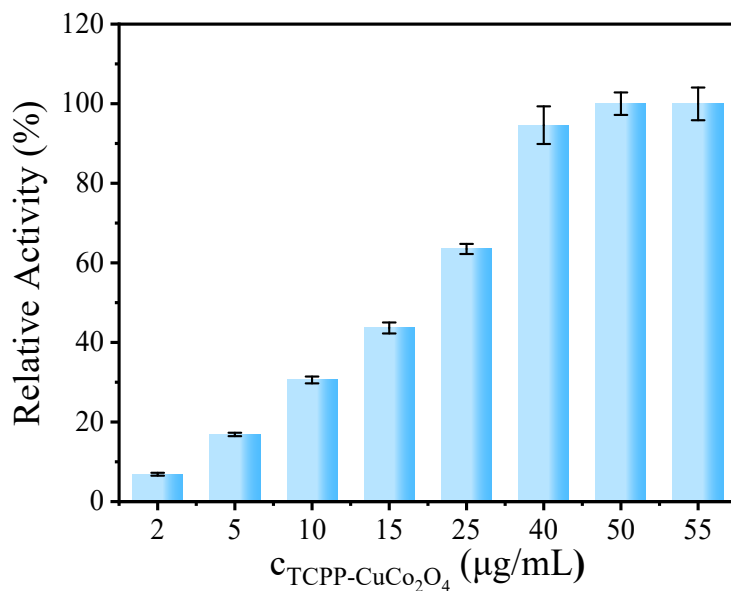
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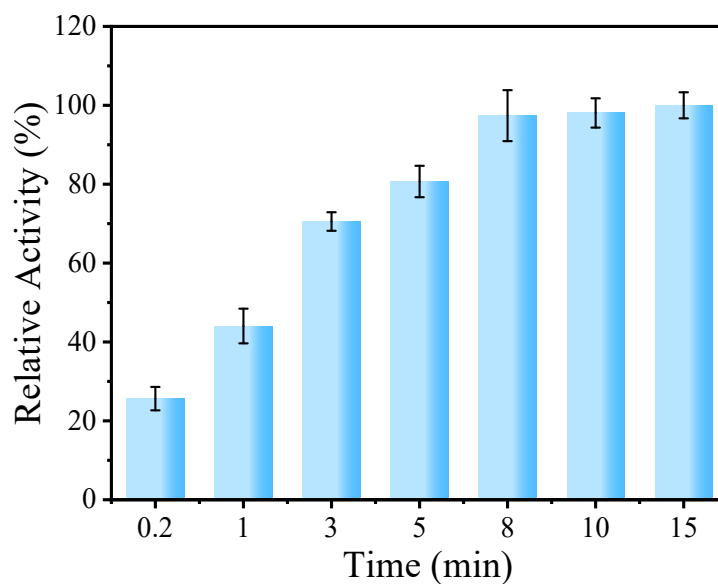
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**1. Effect of concentration of TCPP-CuCo<sub>2</sub>O<sub>4</sub> on the absorbance values of ox-TMB at 652 nm**



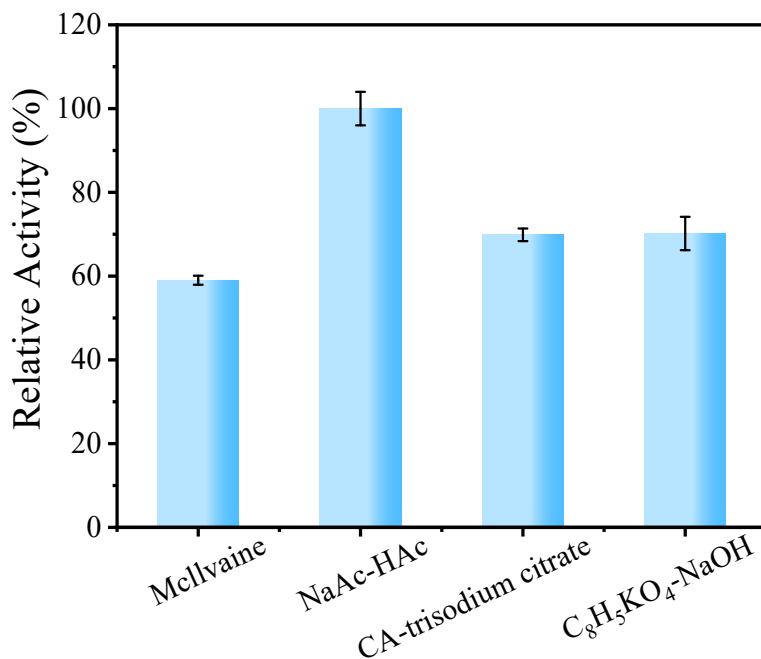
**Fig. S1** Effect of concentration of TCPP-CuCo<sub>2</sub>O<sub>4</sub> on the absorbance values in NaAc-HAc buffer (The concentration of TMB and H<sub>2</sub>O<sub>2</sub> was fixed at 0.12 mmol/L and 12 mmol/L, respectively; reaction time: 8 min; pH 4.5)

**2. Effect of reaction time on the absorbance values of ox-TMB at 652 nm**



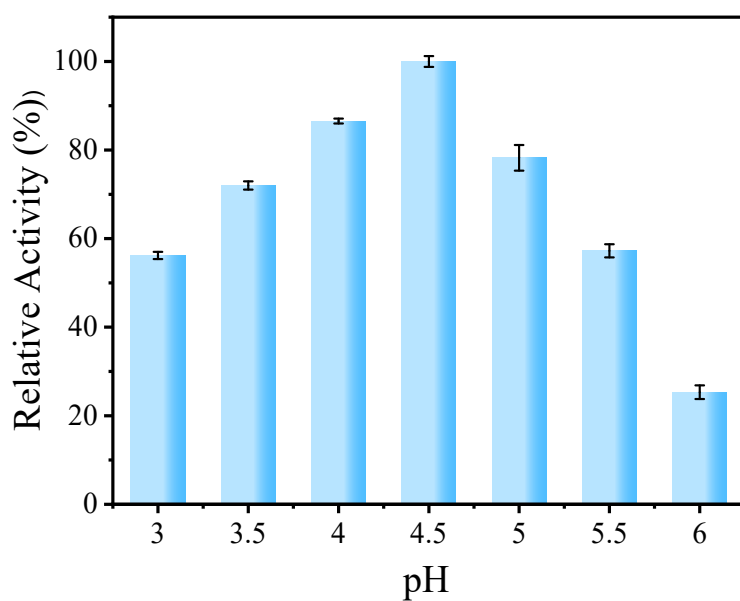
**Fig. S2.** Effect of color development time on relative activity in NaAc-HAc buffer (The concentration of TMB and H<sub>2</sub>O<sub>2</sub> was fixed at 0.12 mmol/L and 12 mmol/L, respectively; concentration of TCPP-CuCo<sub>2</sub>O<sub>4</sub> was fixed at 40 μg/mL; pH 4.5)

### 3. Effect of type of buffer solution on the absorbance values of ox-TMB at 652 nm



**Fig.S3** Effect of buffer type on relative activity (The concentration of TMB and H<sub>2</sub>O<sub>2</sub> was fixed at 0.12 mmol/L and 12 mmol/L, respectively; concentration of TCPP-CuCo<sub>2</sub>O<sub>4</sub> was fixed at 40 µg/mL; reaction time: 8 min; pH was fixed at 4.5)

### 4. Effect of pH of buffer solution on the absorbance values of ox-TMB at 652 nm



**Fig. S4** Effect of buffer pH on relative activity (The concentration of TMB and H<sub>2</sub>O<sub>2</sub> was fixed at 0.12 mmol/L and 12 mmol/L, respectively; concentration of TCPP-CuCo<sub>2</sub>O<sub>4</sub> was fixed at 40 µg/mL; reaction time: 8 min)

## 5. Effect of concentration of TCPP-CuCo<sub>2</sub>O<sub>4</sub> on $\Delta A$

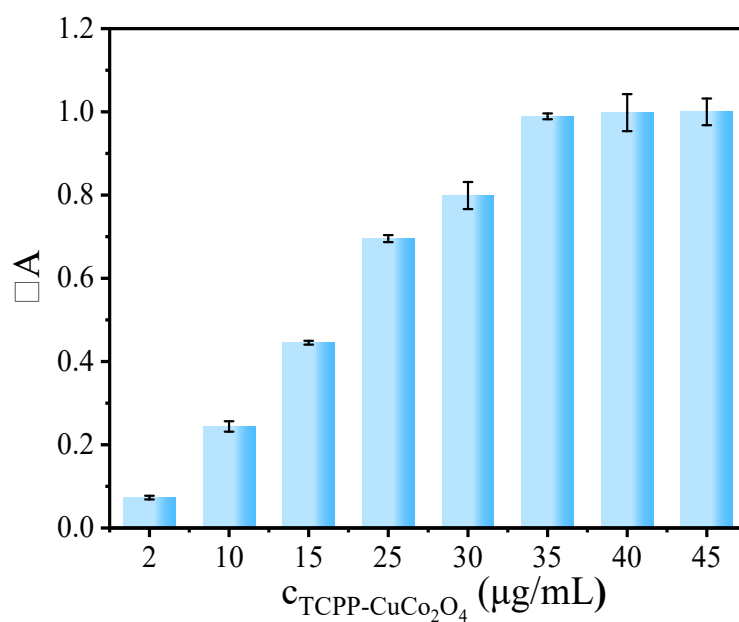


Fig. S5 Effect of concentration of TCPP-CuCo<sub>2</sub>O<sub>4</sub> on  $\Delta A$

## 6. Effect of concentration of ATCh on $\Delta A$

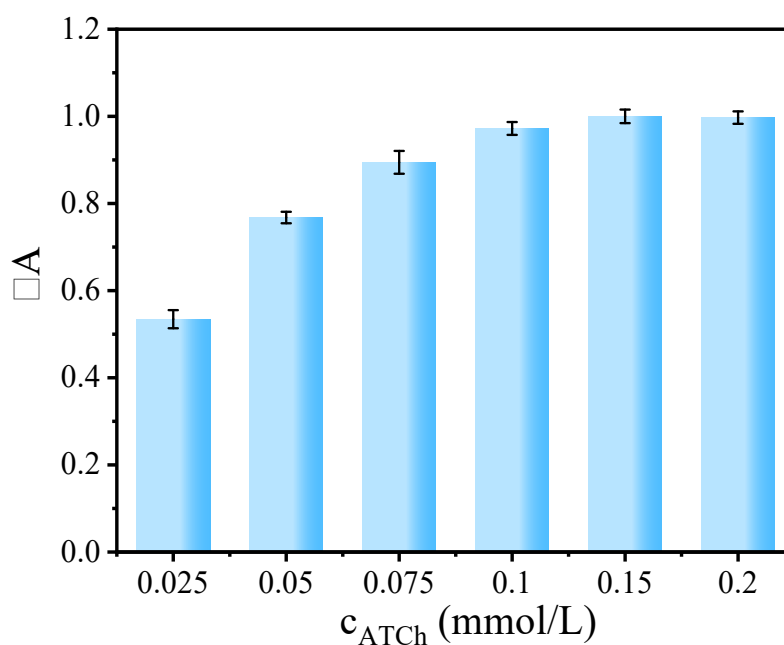


Fig. S6 Effect of concentration of ATCh on  $\Delta A$  (The concentration of TCPP-CuCo<sub>2</sub>O<sub>4</sub> was fixed at 35  $\mu\text{g/mL}$ )