Highly sensitive and selective fluorescent assay for quantitative detection of divalent copper ion in environmental water samples

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Figure S 1. Hydrodynamic diameter distributions of the the \( p \)-cresol–hydrogen peroxide-Cu(II) system in different conditions. (A): NH\(_3\)–NH\(_4\)Cl buffer (pH 11.0±0.2); (B): Borax–Na\(_2\)CO\(_3\) buffer (pH 11.0±0.2); (C): NaHCO\(_3\)–Na\(_2\)CO\(_3\) buffer (pH 11.0±0.2); (D): glycine–NaOH buffer (pH 11.0±0.2); (E): Na\(_3\)PO\(_4\)–Na\(_2\)HPO\(_4\) buffer (pH 11.0±0.2); (F): without buffer. Conditions: \( p \)-cresol concentration: \( 2.0 \times 10^{-5} \) mol L\(^{-1} \); Cu\(^{2+} \) concentration: \( 3.0 \times 10^{-5} \) mol L\(^{-1} \); Hydrogen peroxide concentration: \( 1.0 \times 10^{-6} \) mol L\(^{-1} \).
**Figure S 2.** Effect of Cu(NH$_3$)$_4^{2+}$ on $p$-cresol oxidation by hydrogen peroxide in 0.04 mol L$^{-1}$ NH$_3$–NH$_4$Cl buffer (pH 11.0±0.2). Conditions: $p$-cresol concentration: 2.0×10$^{-5}$ mol L$^{-1}$; Hydrogen peroxide concentration: 2.0×10$^{-6}$ mol L$^{-1}$. 