Electronic Supplementary Material (ESI) for Analyst

Supplementary materials

New Probe Design Strategy by Cooperation of Metal/DNA-Ligation and Supermolecule Inclusion Interaction: Application to Detection of Mercury Ions(II)

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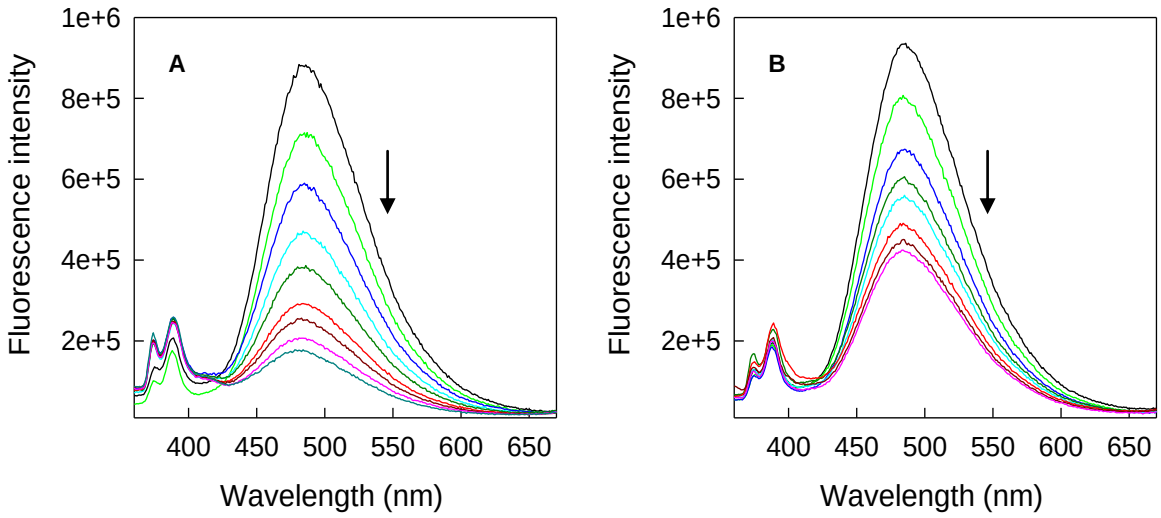

Figure S1. Spetra of 100 nM P2 upon different concentrations of Cu^{2+} (A) and Cd^{2+} (B). (Arrow is pyrene-dimer fluorescence change with the increase concentrtion of Cu^{2+} or Cd^{2+}). Excitation wavelength was 345 nm.

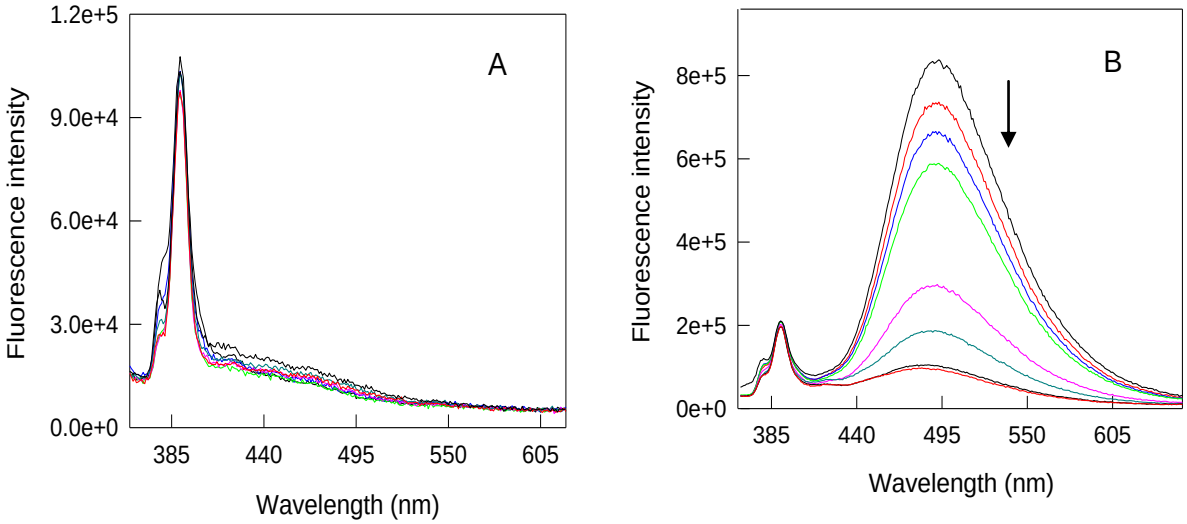

Figure S2. Fluorescence emission spectra of P1 (A) or P2 (B) upon different concentrations of Hg^{2+} (arrow is pyrene-dimer fluorescence change with the increase concentrtion of Hg^{2+}). The concentration of P1 or P2 is 100 nM and the excitation was at 345 nm.

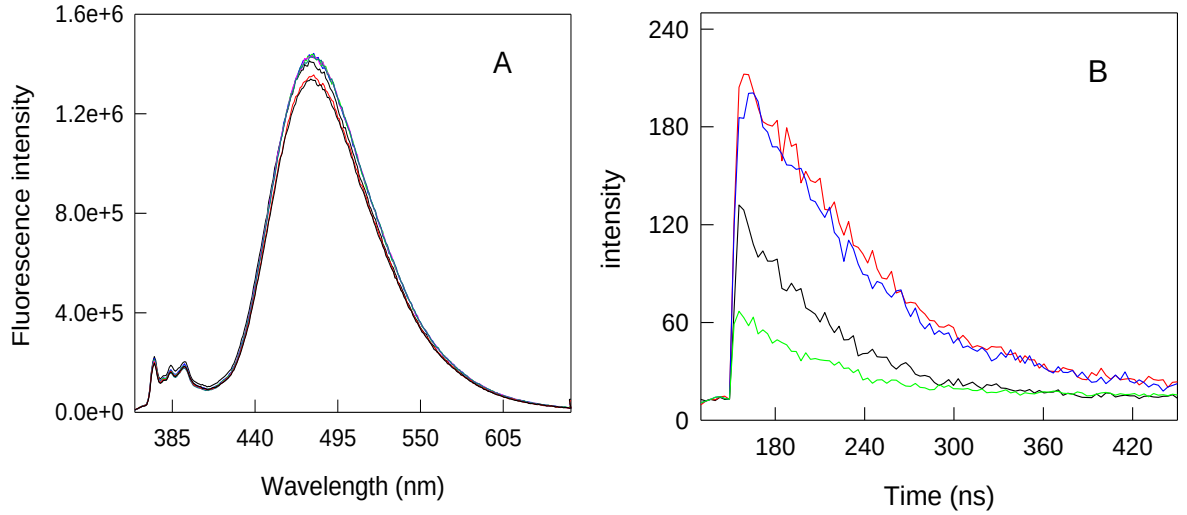

Figure S3. Effect of γ-CD on the pyrene dimer. (A) Fluorescence records of 100 nM P2 upon different concentrations of Hg^{2+} in the presence of 5mM γ-CD. (B) Fluorescence decays of P2 under different conditions. Curve a, 100 nM of P2; Curve b, 100 nM of P2 + 5 μM of Hg^{2+}; Curve c, 100 nM of P2 + 5 mM of γ-CD; Curve d, 100 nM of P2 + 5 mM of γ-CD + 5 μM of Hg^{2+}.

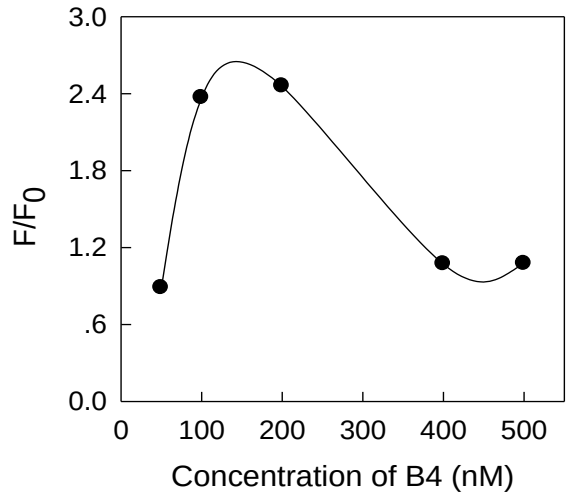

Figure S4. Optimization of the concentration of block DNA (B4). Excitation wavelength was 345 nm and fluorescence records were carried out at 478nm. Where F_0 and F are the fluorescence intensity of P1 in the absence and presence of 5 μM Hg^{2+}, respectively. The reaction solution contains 100 nM of P1 and 5 mM of γ-CD.

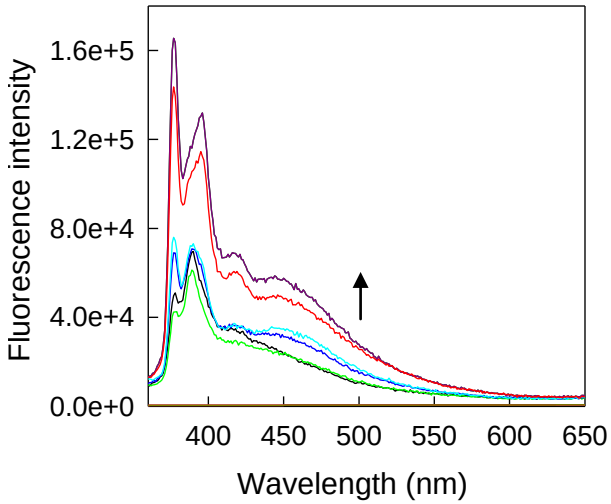

Figure S5. Fluorescence spectra of 100 nM of P1 and 200 nM of B4 with different concentration of γ-CD. Excitation wavelength was 345 nm (arrow is pyrene-dimer fluorescence change with the increase concentration of γ-CD).