Electronic Supplementary Information

γ-Oxo-1-Pyrenebutyric Acid Used for Fluorescent Detection of Serum Albumins and Trypsin

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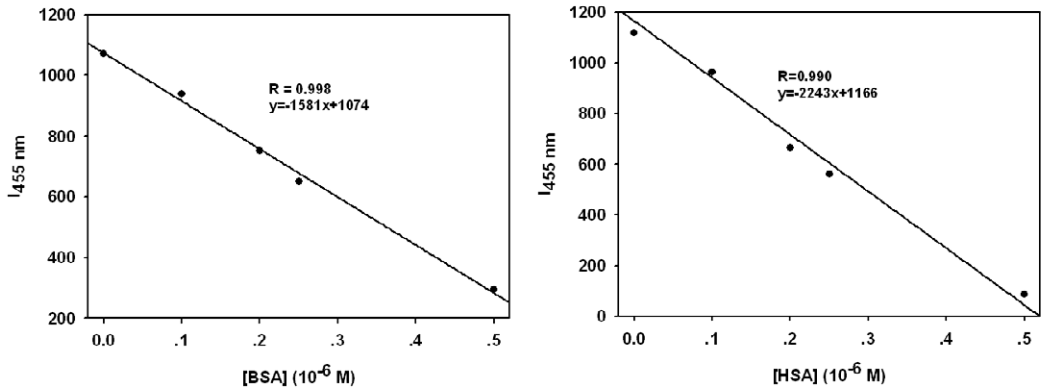


Figure S1. Straight line fit of I_{455} nm of OPBA (1×10^{-6} M) with the concentration of BSA (left) or HSA (right) between 0 and 5×10^{-7} M in aqueous solutions.

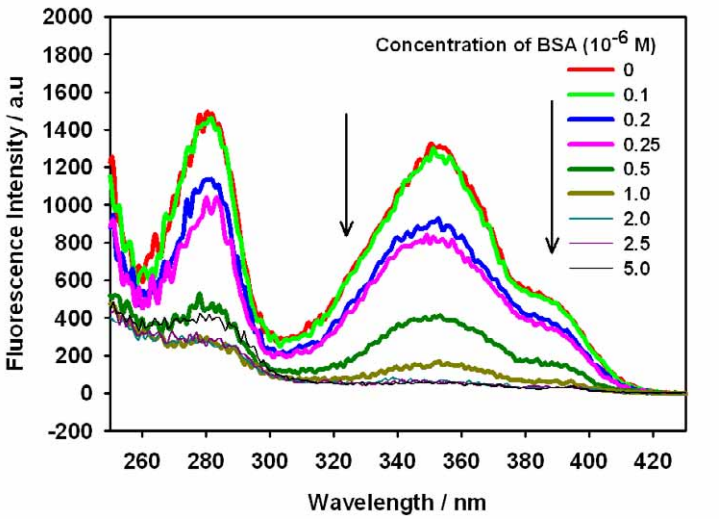


Figure S2. Fluorescence excitation spectra of OPBA (1×10^{-6} M) in the presence of BSA at various concentrations in aqueous solutions. Emission wavelength was 455 nm.

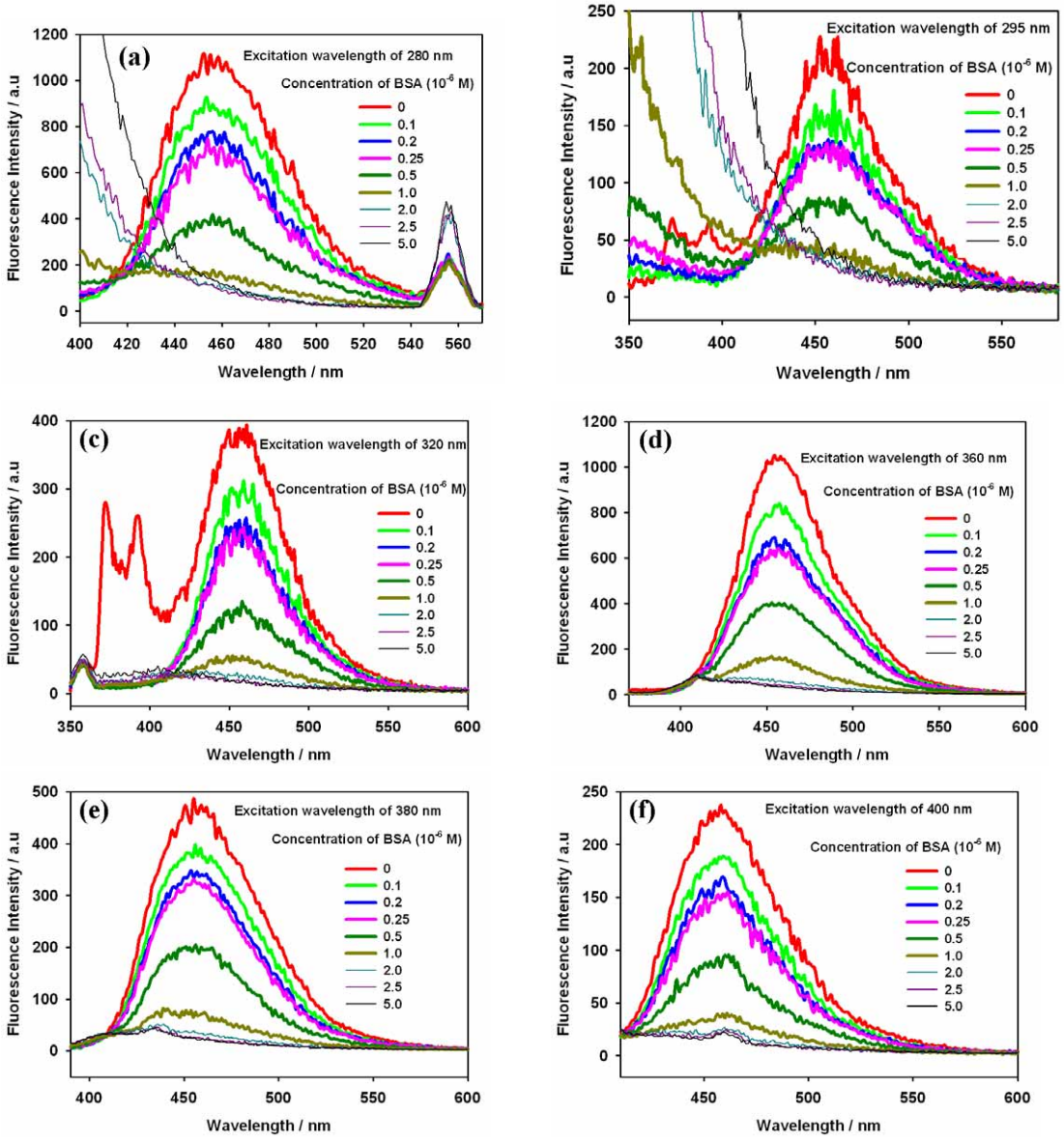


Figure S3. Fluorescence emission spectra of OPBA (1×10^{-6} M) in the presence of BSA at various concentrations in aqueous solutions. Excitation wavelength was (a) 280 nm; (b) 295 nm; (c) 320 nm; (d) 360 nm; (e) 380 nm; (f) 400 nm.

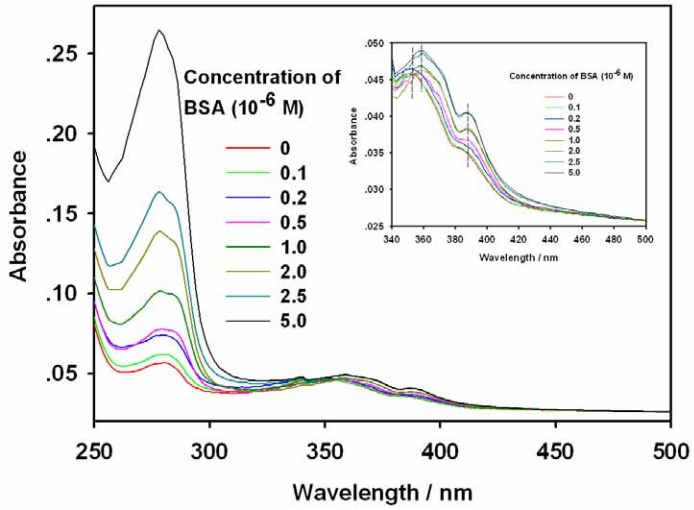
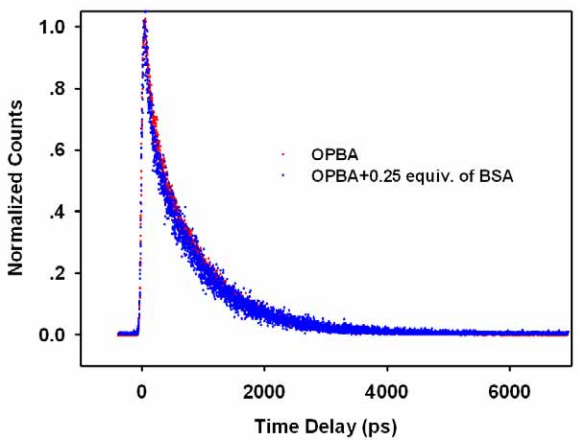


Figure S4. Absorption spectra of OPBA (1×10^{-6} M) in the presence of BSA at various concentrations in aqueous solutions. Inset showing the expand portion of the spectra.



Sample	A_1	τ_1/ps	A_2	τ_2/ps
OPBA	0.349	113	0.651	820
OPBA + 0.25 equiv. of BSA	0.427	95	0.573	840

Figure S5. Normalized time-resolved fluorescence signals spectra of OPBA (1×10^{-6} M) in the absence (red) and presence (blue) of 0.25 equiv. (2.5×10^{-7} M) of BSA (λ_{ex}=380 nm, λ_{em}=440 nm).

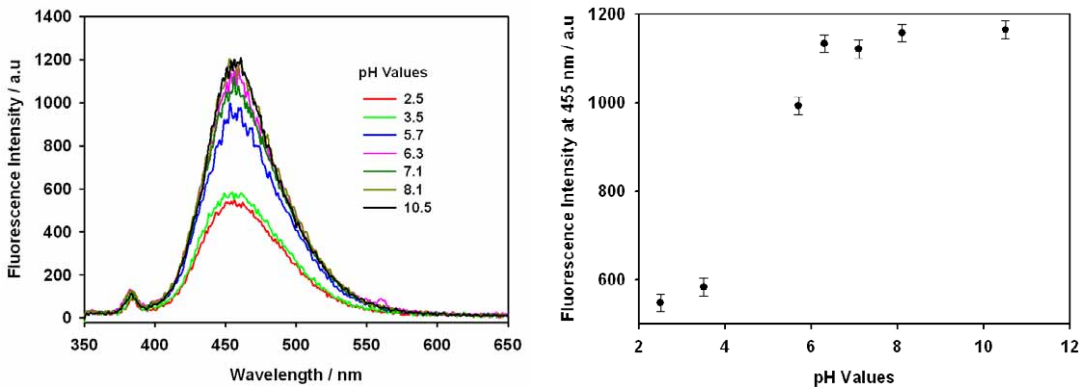


Figure S6. Effect of pH on the fluorescence of OPBA (1×10^{-6} M).

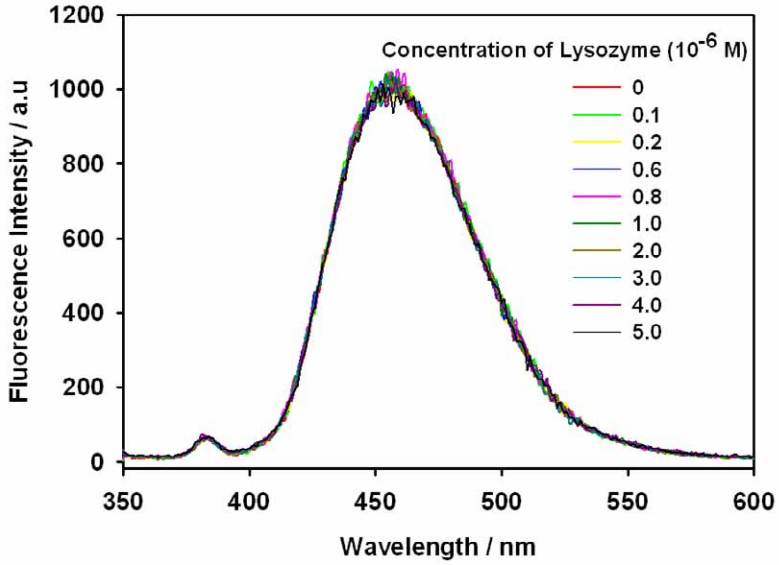


Figure S7. Fluorescence emission spectra of OPBA (1×10^{-6} M) in the presence of lysozyme at various concentrations in aqueous solutions. Excitation wavelength was 340 nm.

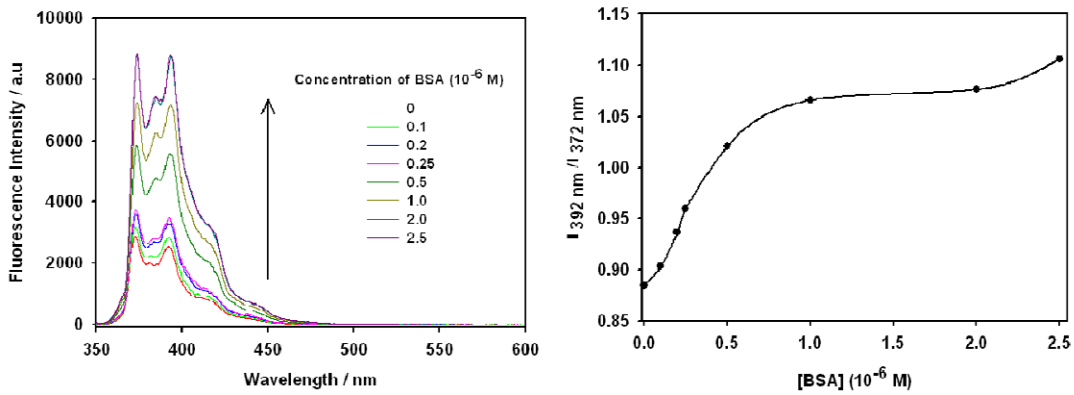


Figure S8. Fluorescence emission spectra of pyrene (1×10^{-6} M) in the presence of BSA at various concentrations in aqueous solutions. Excitation wavelength was 340 nm.

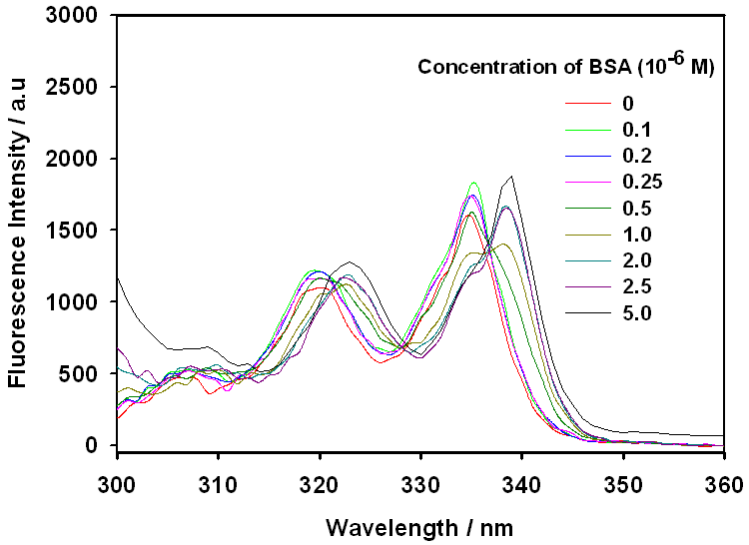


Figure S9. Fluorescence excitation spectra of pyrene (1×10^{-6} M) in the presence of BSA at various concentrations in aqueous solutions. Emission wavelength was 455 nm.

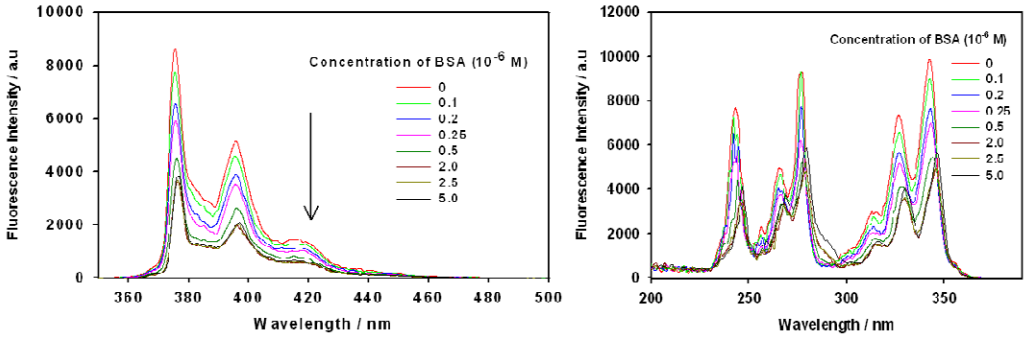


Figure S10. Fluorescence emission and excitation spectra of PBA (1×10^{-6} M) in the presence of BSA at various concentrations in aqueous solutions. Excitation wavelength was 340 nm, and emission wavelength was 375 nm.

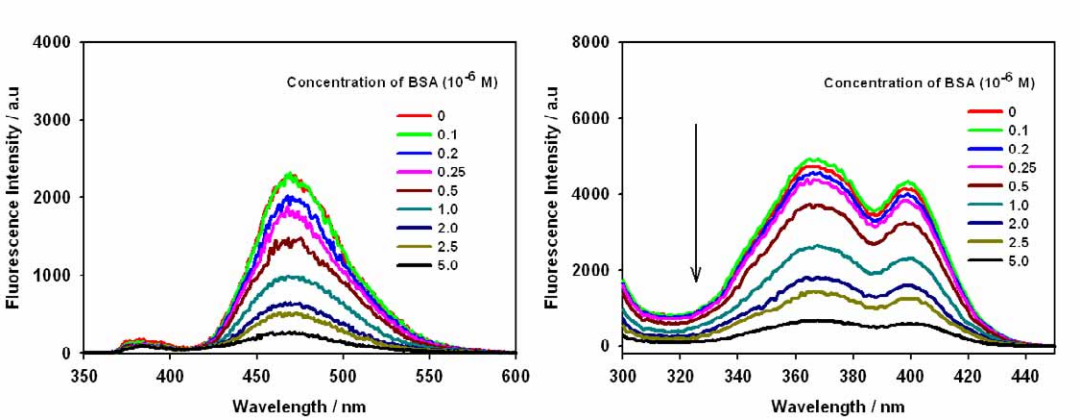


Figure S11. Fluorescence emission (left) and excitation (right) spectra of PyCHO (1×10^{-6} M) in the presence of BSA at various concentrations in aqueous solutions. Excitation wavelength was 340 nm, and emission wavelength was 470 nm.

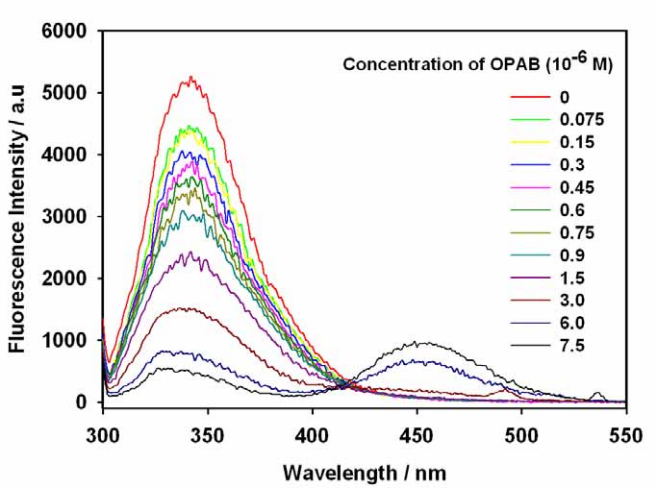


Figure S12. Fluorescence emission spectra of BSA (1×10^{-6} M) in the presence of OPBA at various concentrations in aqueous solutions. Excitation wavelength was 295 nm.

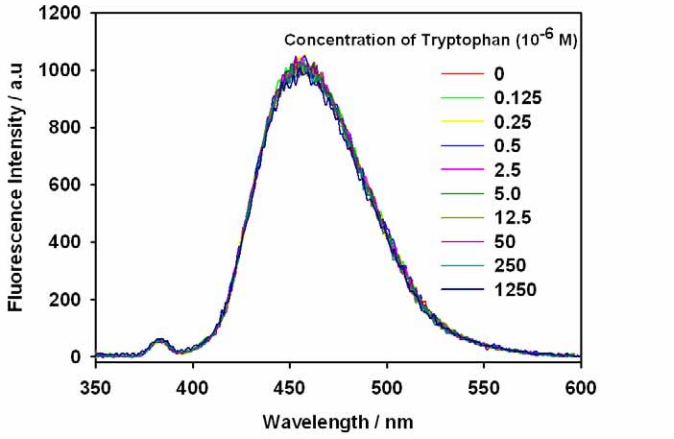


Figure S13. Fluorescence emission spectra of OPBA (1×10^{-6} M) in the presence of tryptophan at various concentrations in aqueous solutions. Excitation wavelength was 340 nm.

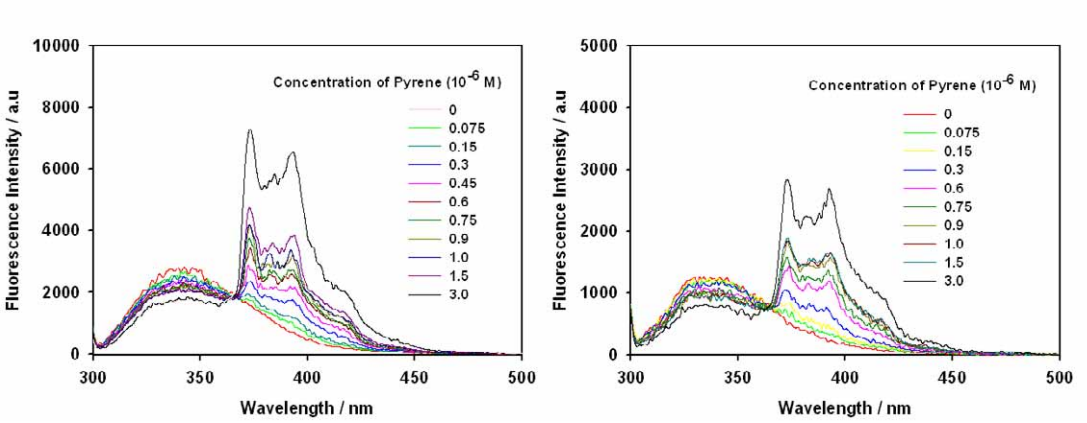


Figure S14. Fluorescence emission spectra of BSA (left, 1×10^{-6} M) and HSA (right, 1×10^{-6} M) in the presence of pyrene at various concentrations in aqueous solutions. Excitation wavelength was 295 nm.

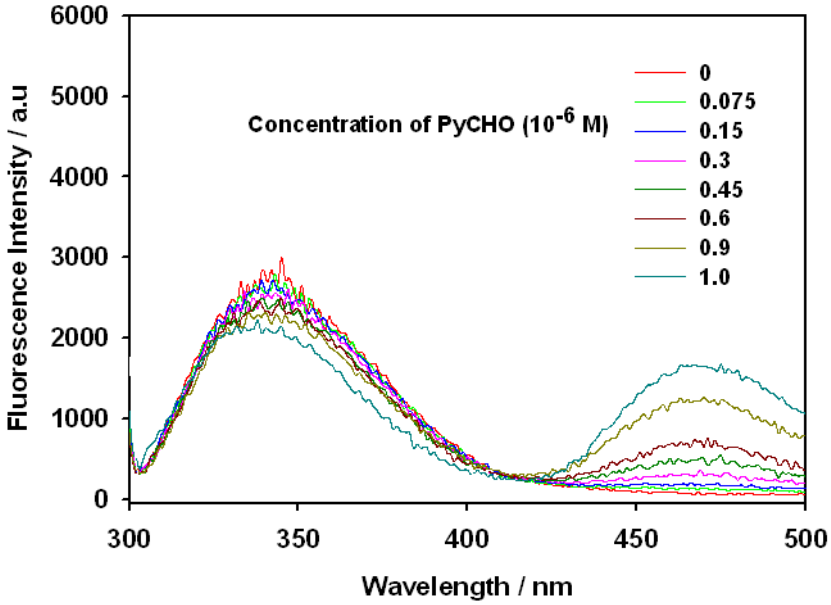


Figure S15. Fluorescence emission spectra of BSA (1×10^{-6} M) in the presence of PyCHO at various concentrations in aqueous solutions. Excitation wavelength was 295 nm.

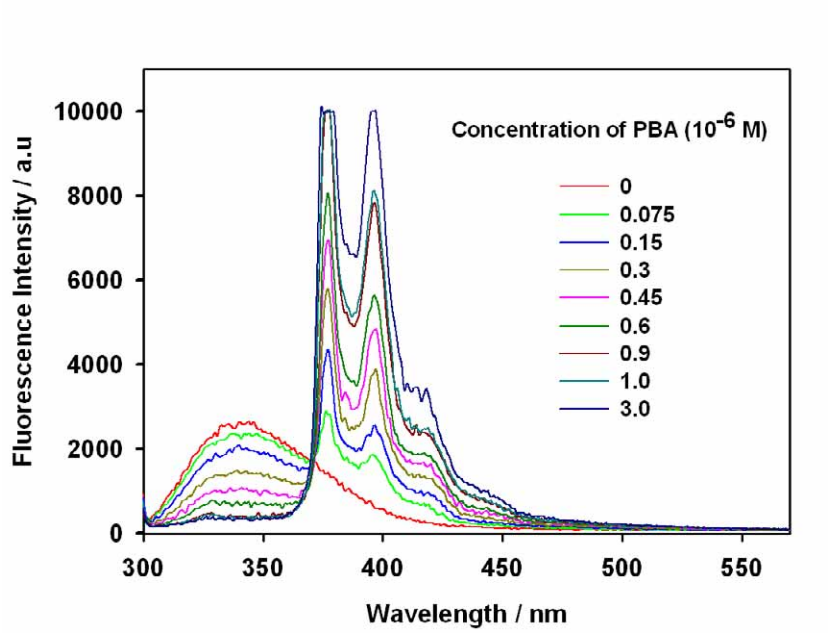


Figure S16. Fluorescence emission spectra of BSA (1×10^{-6} M) in the presence of PBA at various concentrations in aqueous solutions. Excitation wavelength was 295 nm.

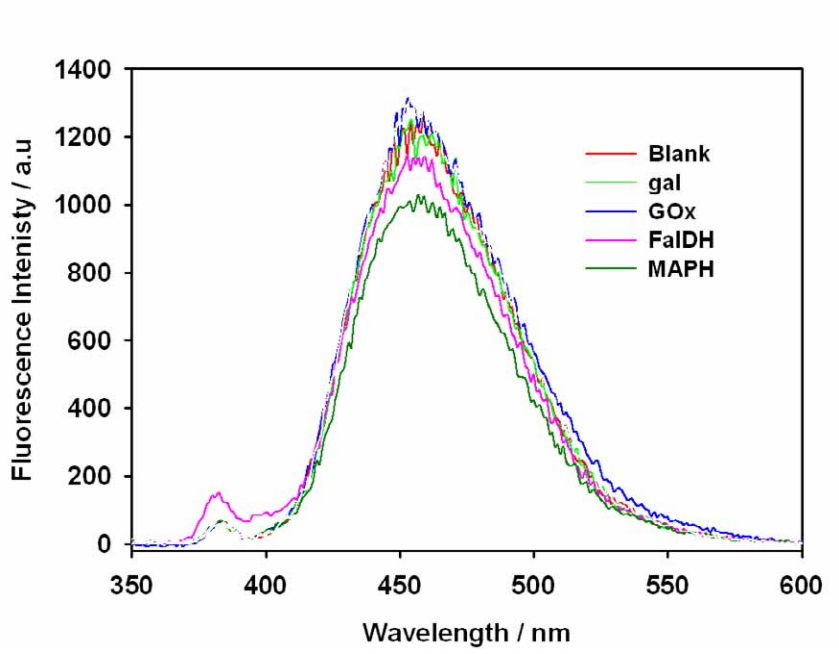


Figure S17. Fluorescence emission spectra of OPBA (1.2×10^{-6} M) in the presence of 1mg/mL beta-gal, GOx, MAPH and FalDH in aqueous solutions. Excitation wavelength was 340 nm.

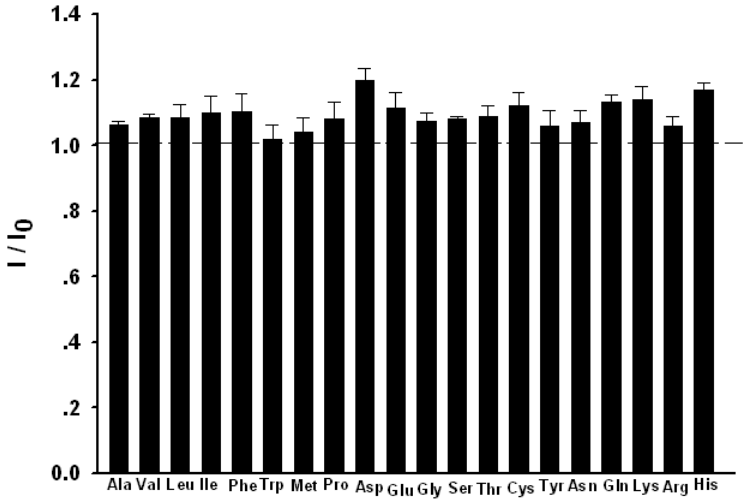


Figure S18. Fluorescence emission spectra of OPBA (1.0×10^{-6} M) in the presence of 100 equiv. of 20 kinds of amino acids. I_0 and I are the fluorescence intensity of OPBA at 455 nm in the absence and presence of the amino acids, respectively.

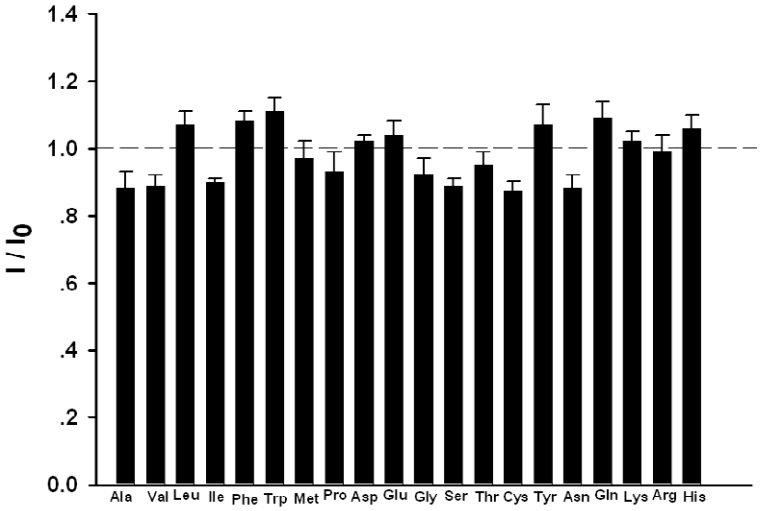


Figure S19. Fluorescence emission spectra of OPBA/BSA (1.0×10^{-6} M/1.0×10^{-6} M) in the presence of 100 equiv. of 20 kinds of amino acids. I_0 and I are the fluorescence intensity of OPBA/BSA (1.0×10^{-6} M/1.0×10^{-6} M) at 455 nm in the absence and presence of the amino acids, respectively.

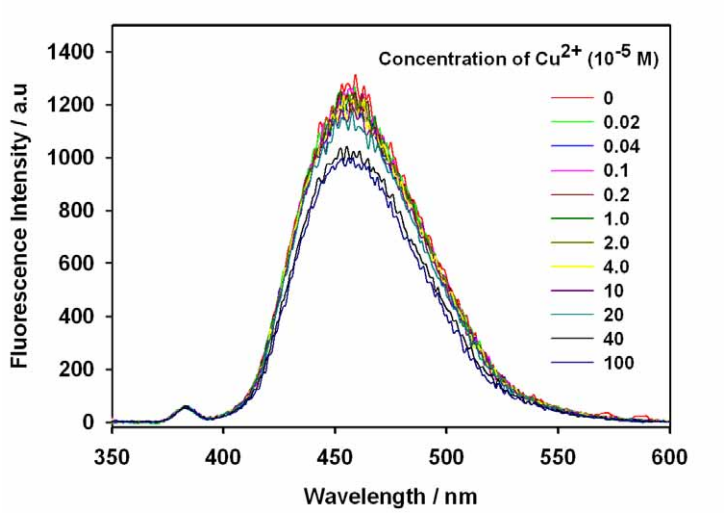


Figure S20. Emission spectra of OPBA (1.2×10^{-6} M) in the presence of different amounts of copper cations in aqueous solutions. Excitation wavelength was set at 340 nm.