

# SUPPORTING INFORMATION

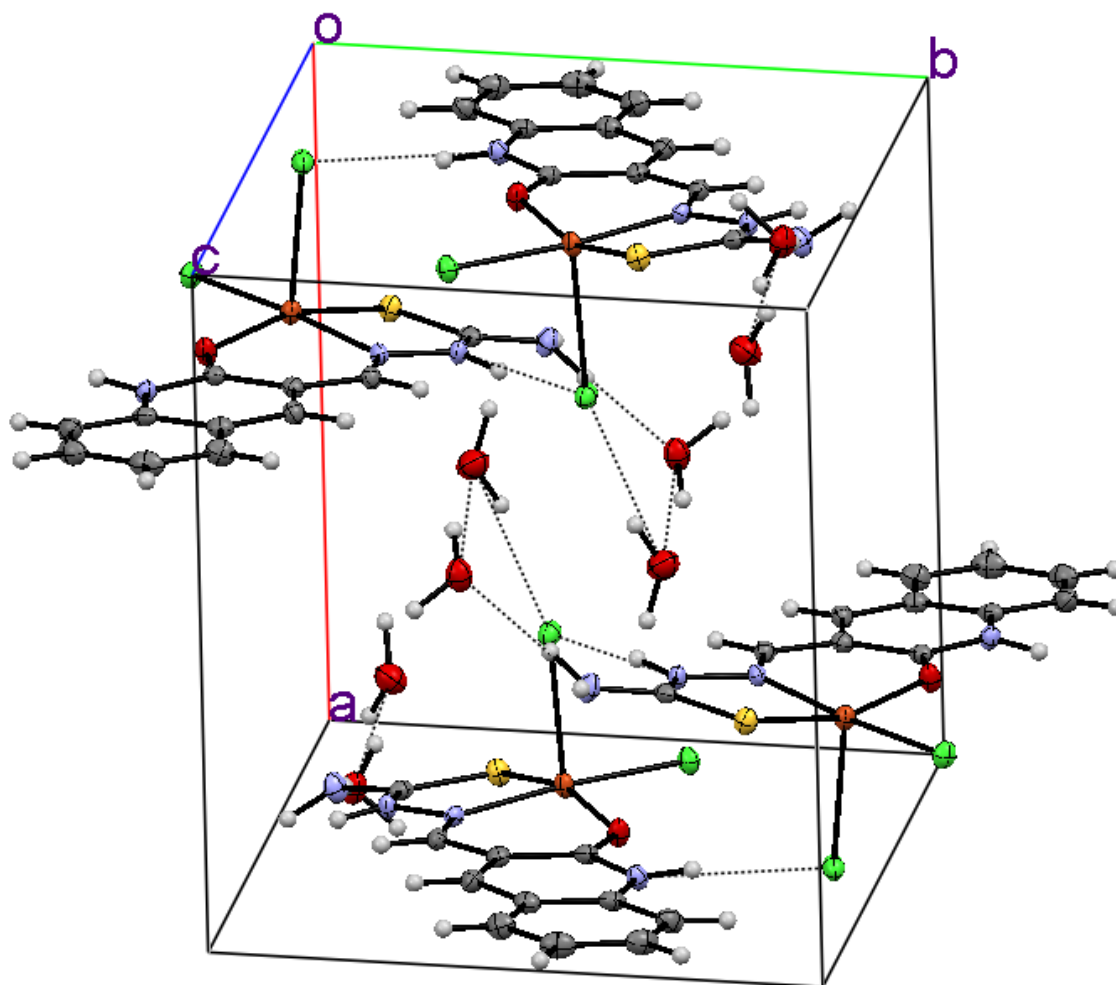
## **Effect of terminal N-substitution in 2-oxo-1,2-dihydroquinoline-3-carbaldehyde thiosemicarbazones on the Mode of Coordination, Structure, Interaction with Protein, Radical Scavenging and Cytotoxic Activity of Copper(II) complexes†**

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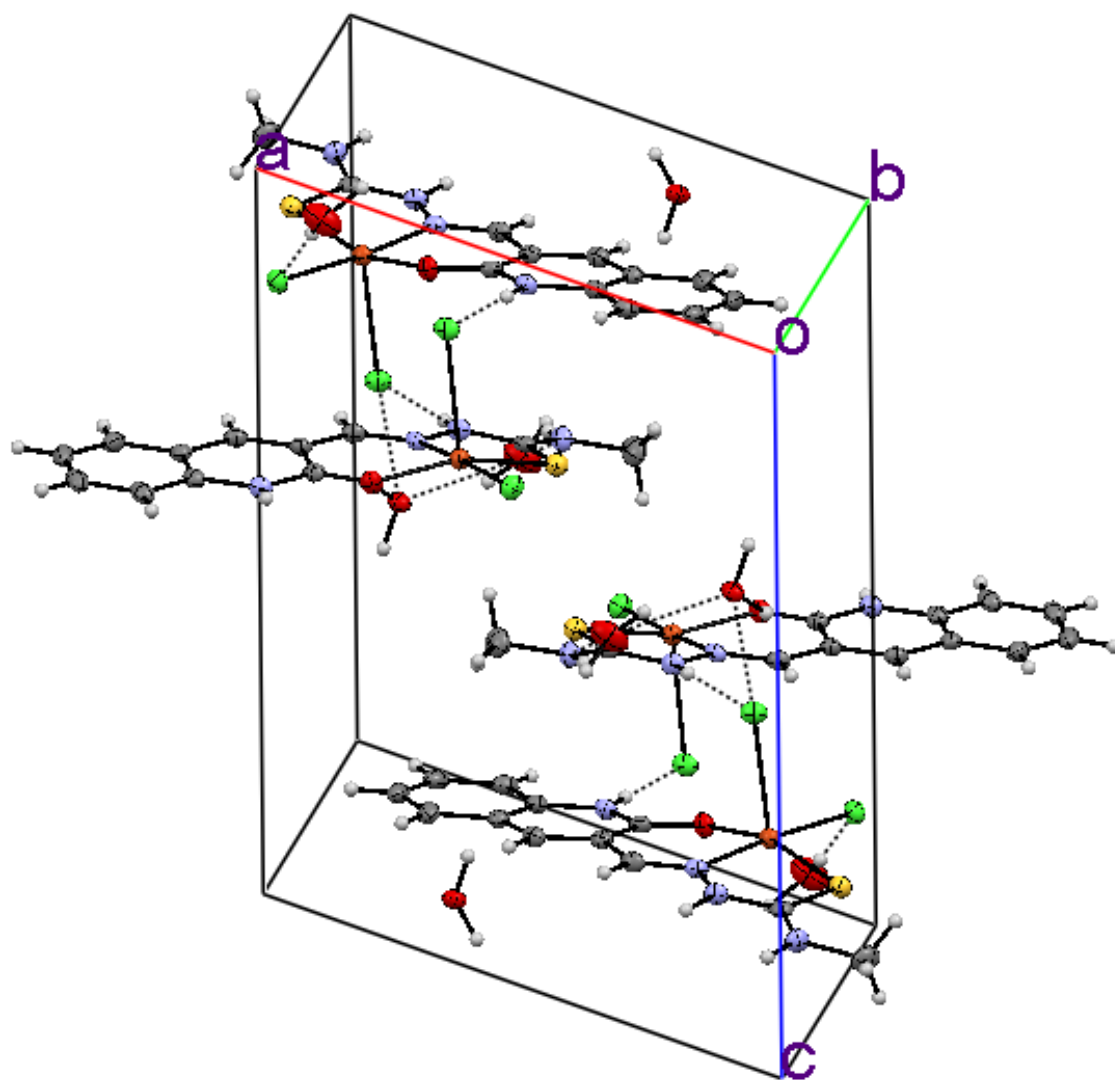
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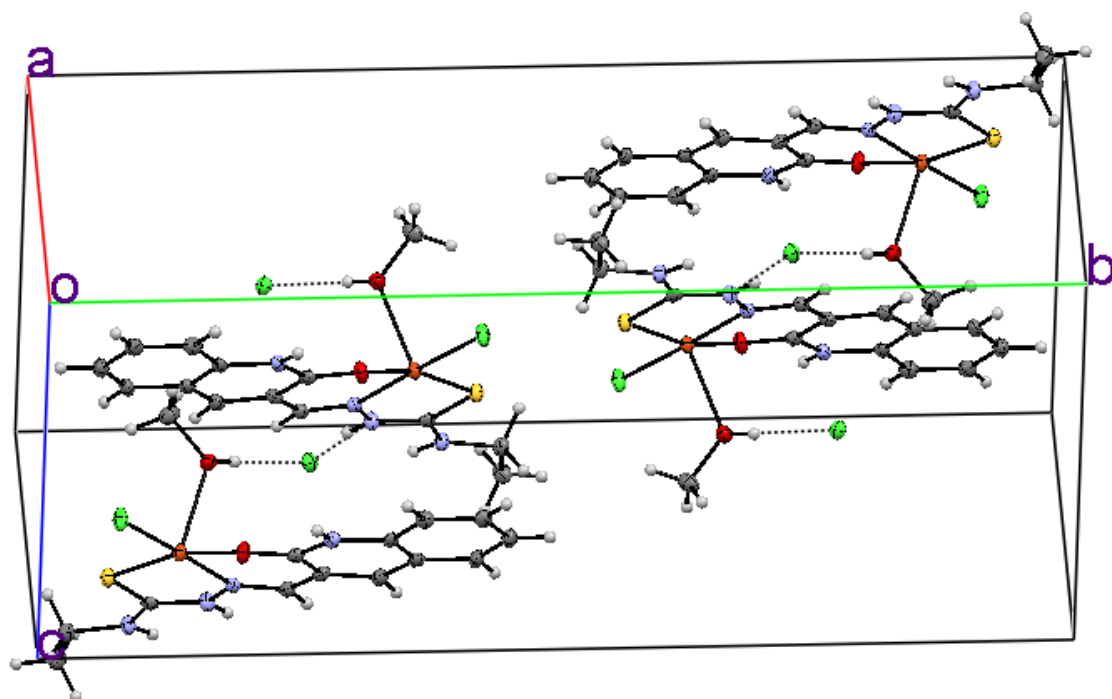
<sup>c</sup>*Department of Chemistry, Texas A&M University, College Station, TX 77843, U.S.A.*



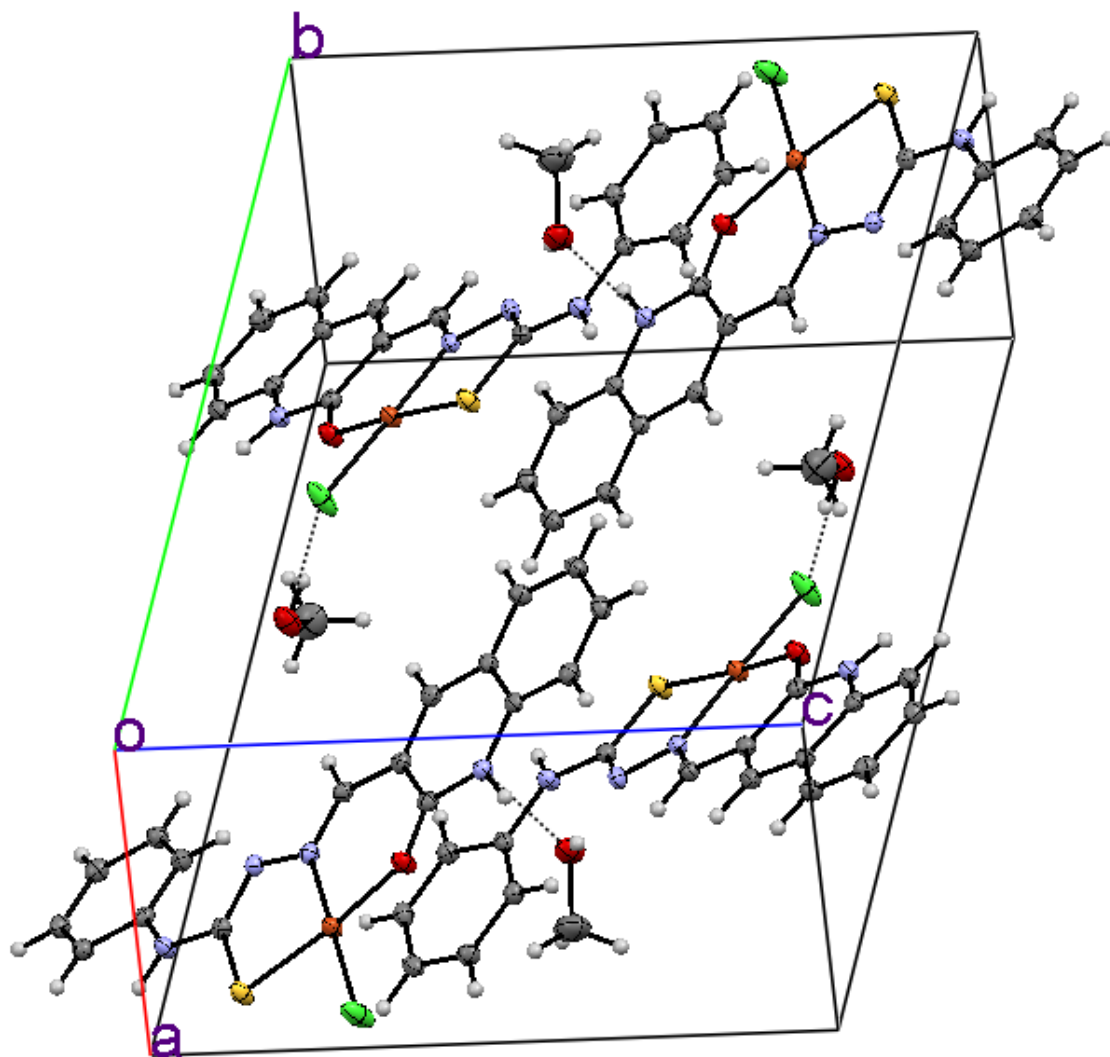
**Figure S1.** Packing diagram of the unit cell showing hydrogen bonding of **1**



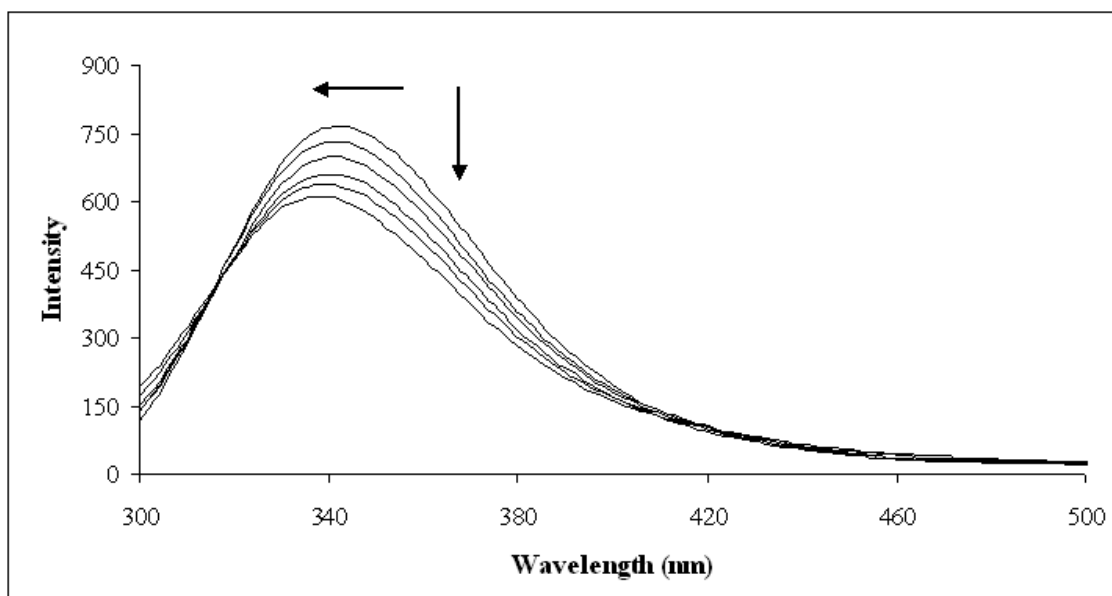
**Figure S2.** Packing diagram of the unit cell showing hydrogen bonding of **2**



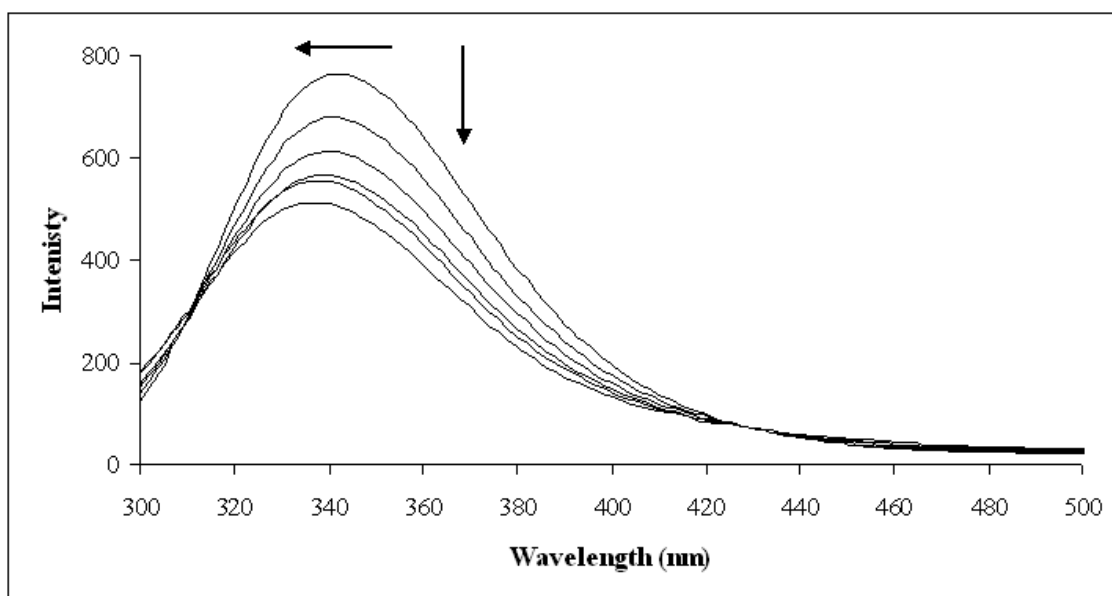
**Figure S3.** Packing diagram of the unit cell showing hydrogen bonding of **3**



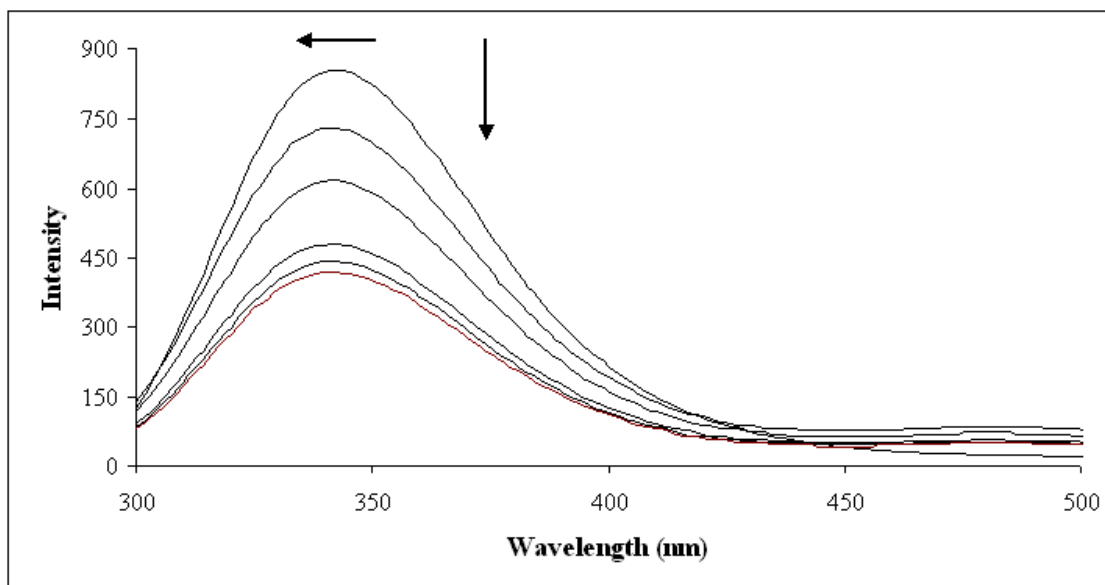
**Figure S4.** Packing diagram of the unit cell showing hydrogen bonding of **4**



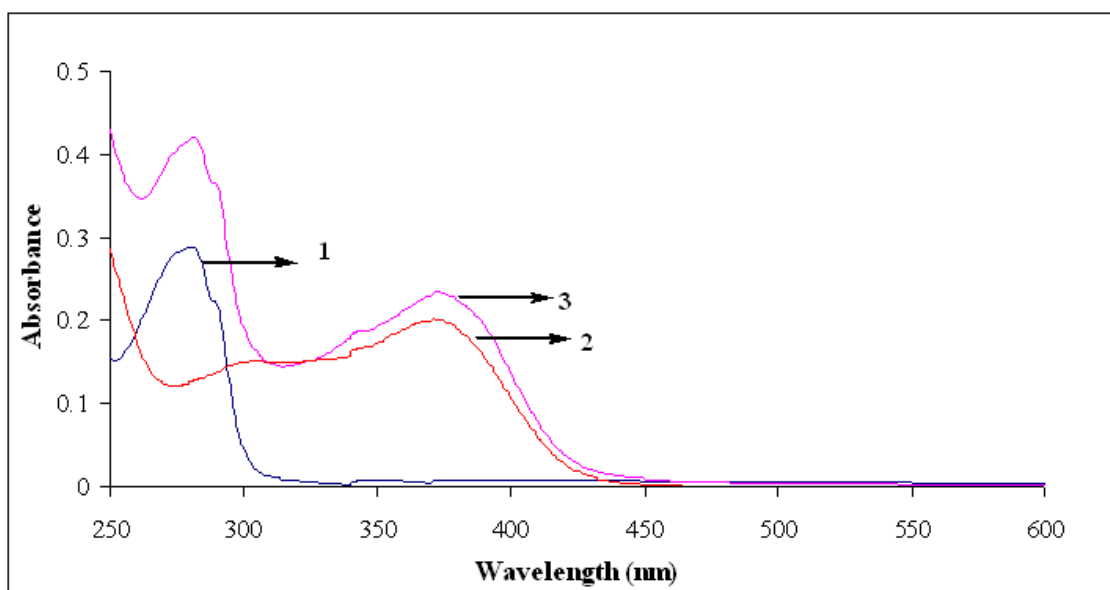
**Figure S5.** The emission spectrum of lysozyme ( $1 \times 10^{-6}$  M;  $\lambda_{\text{exi}} = 280$  nm;  $\lambda_{\text{emi}} = 347$  nm) in the presence of increasing amounts of complex **1** (0, 1, 2, 3, 4 and  $5 \times 10^{-5}$  M). Arrows show the fluorescence quenching accompanied by blue shift upon increasing concentration of complex **1**



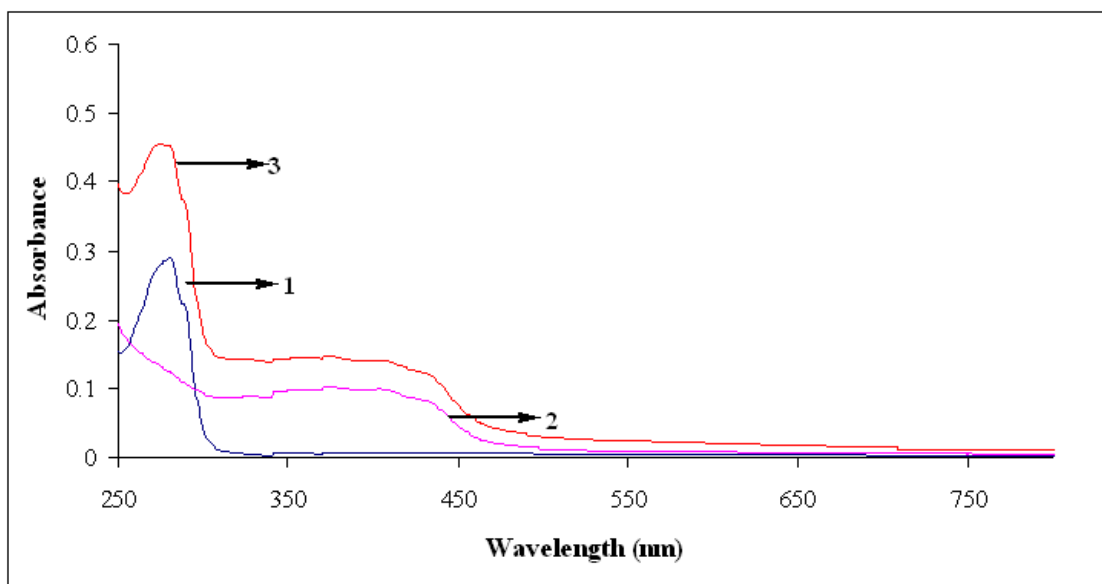
**Figure S6.** The emission spectrum of lysozyme ( $1 \times 10^{-6}$  M;  $\lambda_{\text{exi}} = 280$  nm;  $\lambda_{\text{emi}} = 347$  nm) in the presence of increasing amounts of complex **2** (0, 1, 2, 3, 4 and  $5 \times 10^{-5}$  M). Arrows show the fluorescence quenching accompanied by blue shift upon increasing concentration of complex **2**.



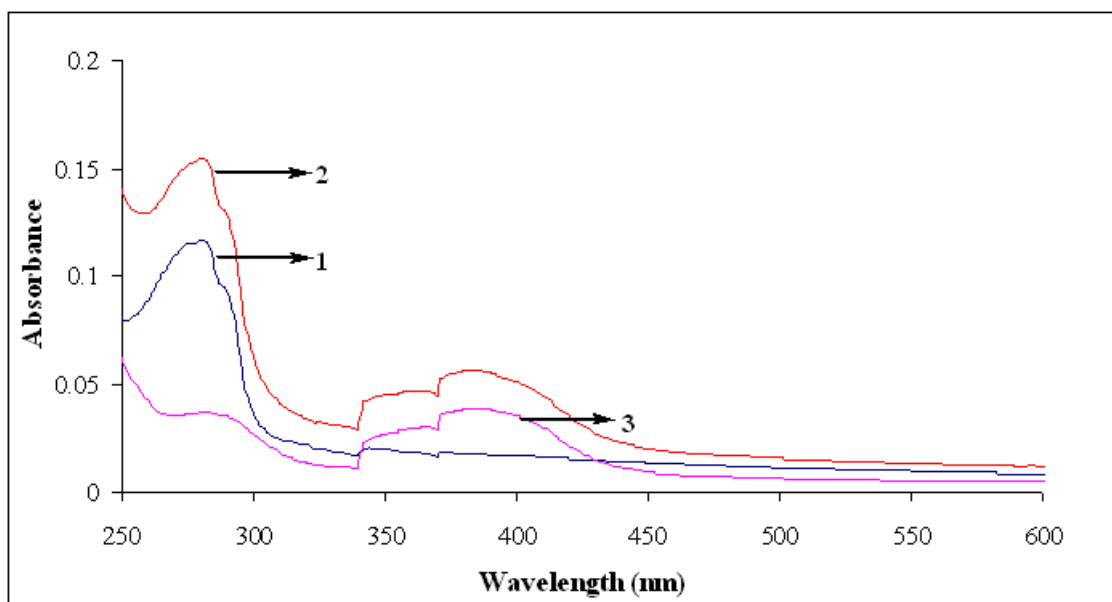
**Figure S7.** The emission spectrum of lysozyme ( $1 \times 10^{-6}$  M;  $\lambda_{\text{exi}} = 280$  nm;  $\lambda_{\text{emi}} = 347$  nm) in the presence of increasing amounts of complex **3** ( $0, 1, 2, 3, 4$  and  $5 \times 10^{-5}$  M). Arrows show the fluorescence quenching accompanied by blue shift upon increasing concentration of complex **3**.



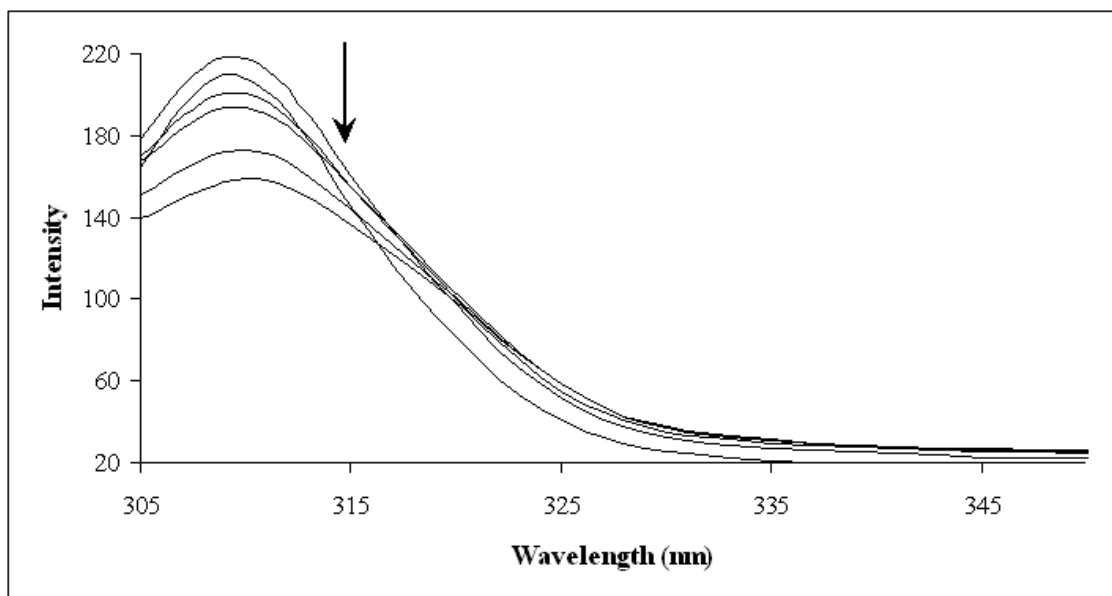
**Figure S8.** The absorption spectra of (1) Lysozyme ( $1 \times 10^{-6}$  M), (2) Complex **1** ( $1 \times 10^{-5}$  M) and (3) Lysozyme–Complex **1** [lysozyme =  $1 \times 10^{-6}$  M and Complex **1** =  $1 \times 10^{-5}$  M]



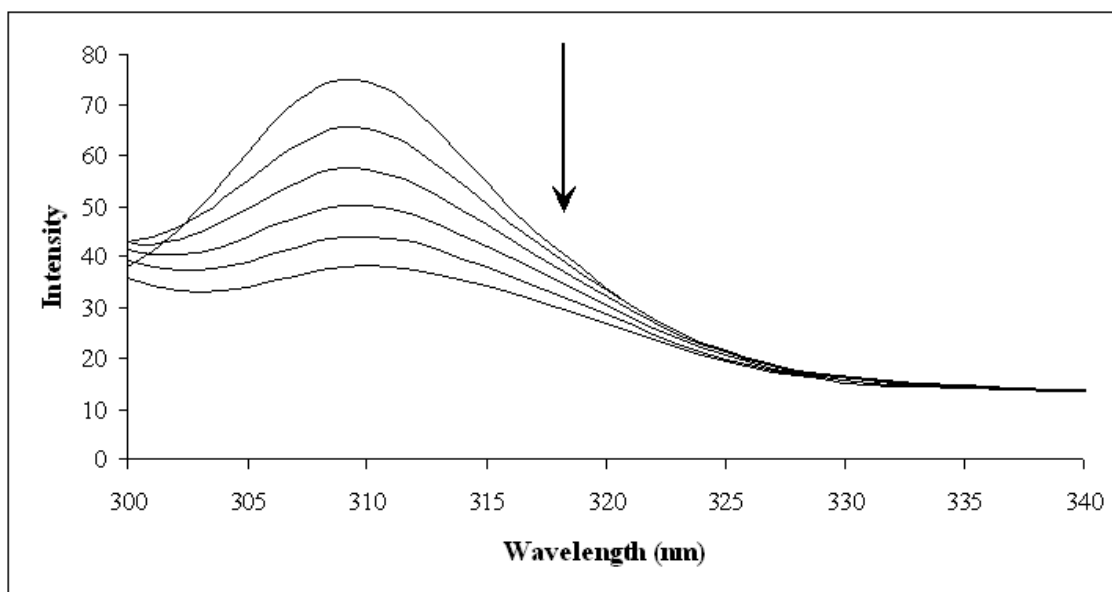
**Figure S9.** The absorption spectra of (1) Lysozyme ( $1 \times 10^{-6}$  M), (2) Complex 2 ( $1 \times 10^{-5}$  M) and (3) Lysozyme-Complex 2 [lysozyme =  $1 \times 10^{-6}$  M and Complex 2 =  $1 \times 10^{-5}$  M]



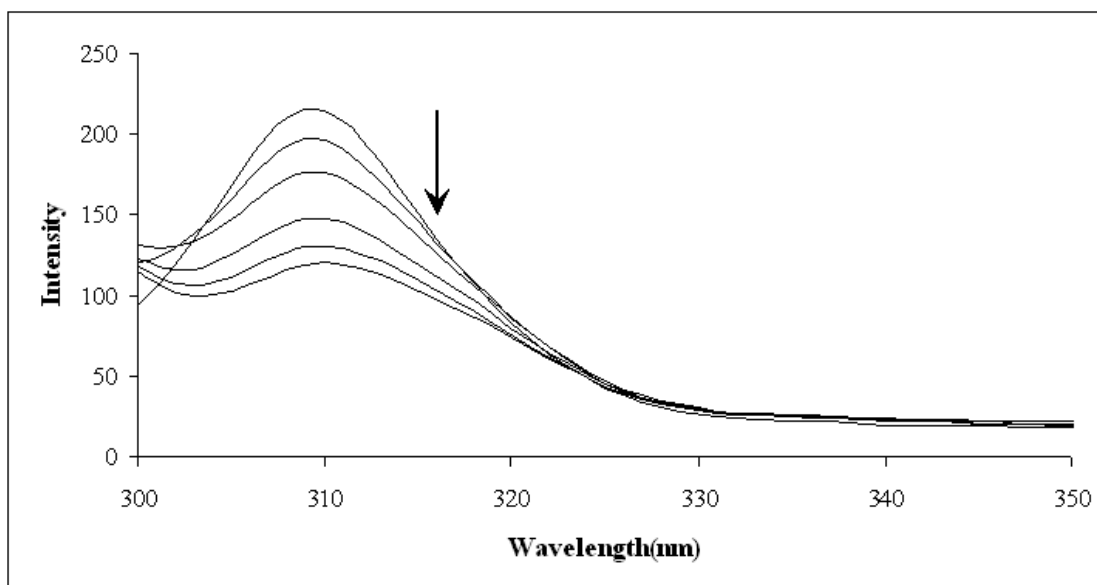
**Figure S10.** The absorption spectra of (1) Lysozyme ( $1 \times 10^{-6}$  M), (2) Complex 3 ( $1 \times 10^{-5}$  M) and (3) Lysozyme-Complex 3 [lysozyme =  $1 \times 10^{-6}$  M and Complex 3 =  $1 \times 10^{-5}$  M]



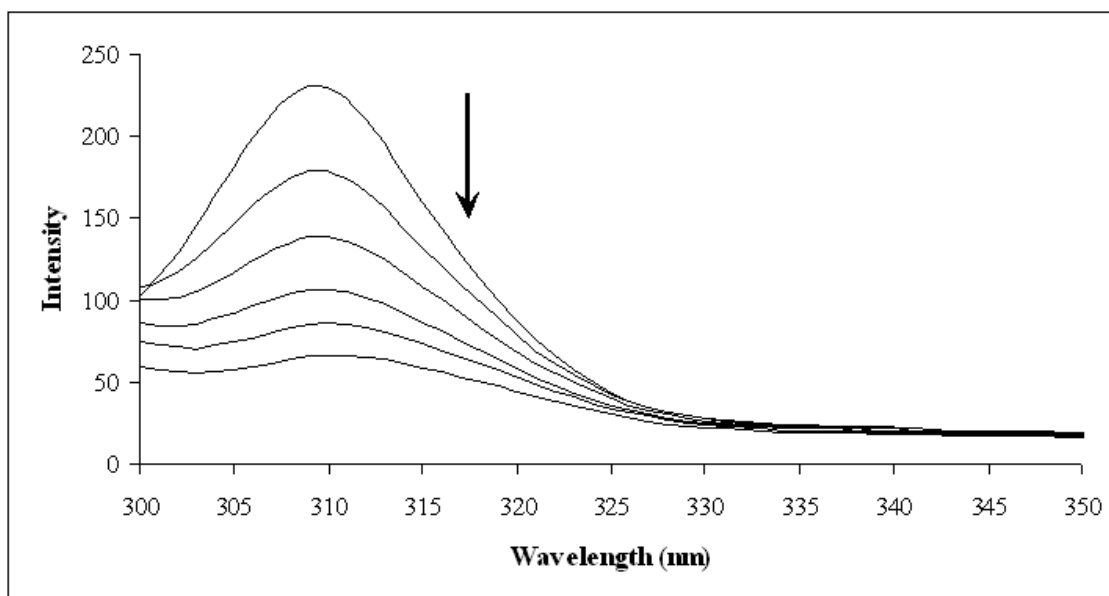
**Figure S11.** Synchronous spectra of lysozyme ( $1 \times 10^{-6}$  M) in the presence of increasing amounts of complex **1** ( $0, 1, 2, 3, 4$  and  $5 \times 10^{-5}$  M) in the wavelength difference of  $\Delta\lambda = 15$  nm. Arrow shows the emission intensity decrease upon the increasing concentration of complex **1**.



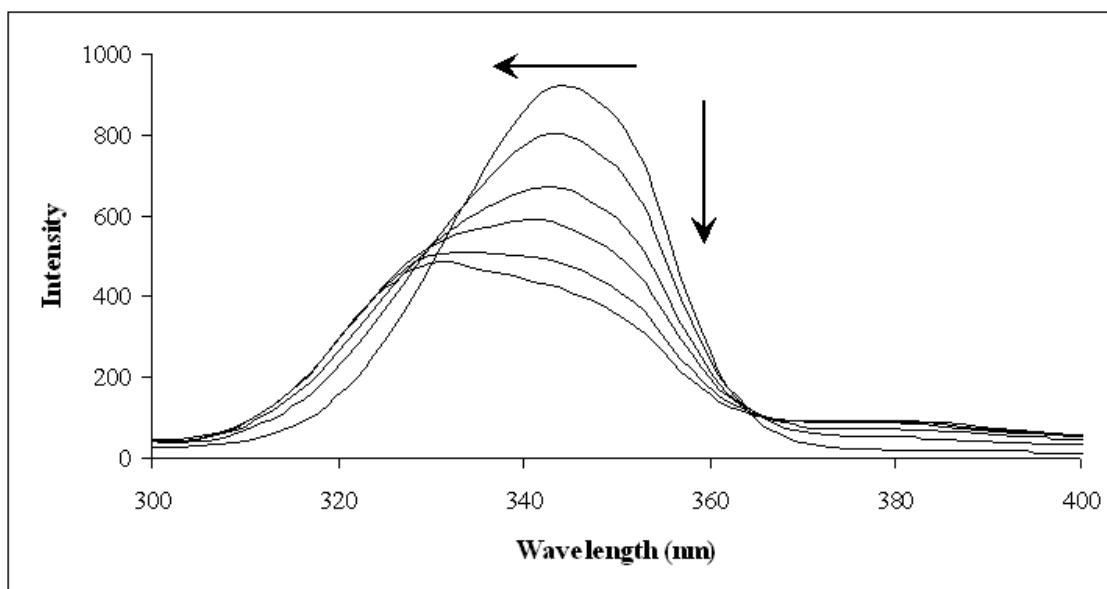
**Figure S12.** Synchronous spectra of lysozyme ( $1 \times 10^{-6}$  M) in the presence of increasing amounts of complex **2** ( $0, 1, 2, 3, 4$  and  $5 \times 10^{-5}$  M) in the wavelength difference of  $\Delta\lambda = 15$  nm. Arrow shows the emission intensity decrease upon the increasing concentration of complex **2**.



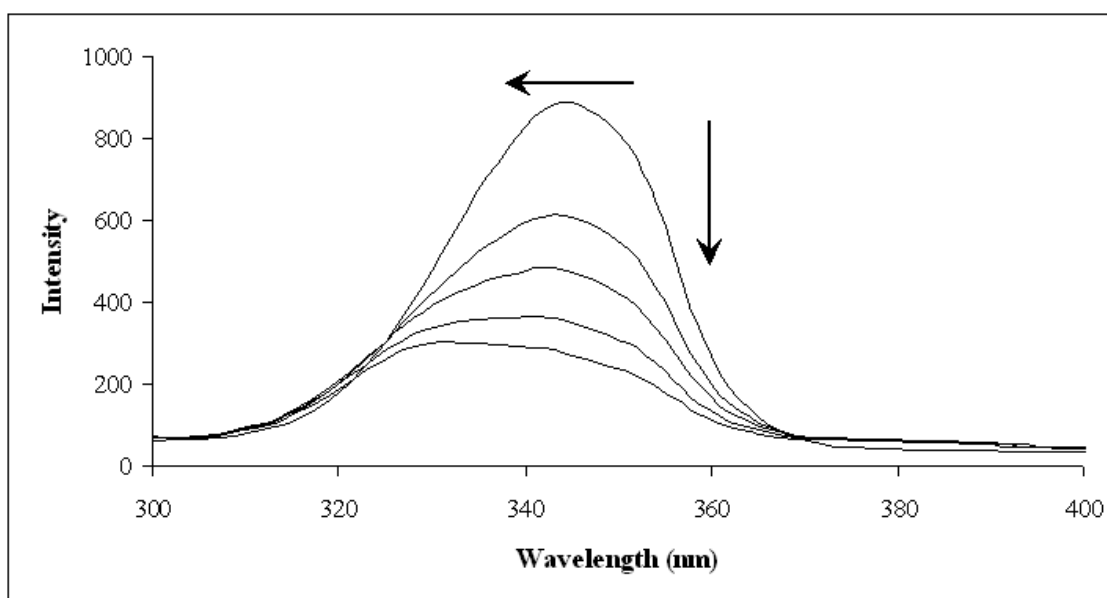
**Figure S13.** Synchronous spectra of lysozyme ( $1 \times 10^{-6}$  M) in the presence of increasing amounts of complex **3** ( $0, 1, 2, 3, 4$  and  $5 \times 10^{-5}$  M) in the wavelength difference of  $\Delta\lambda = 15$  nm. Arrow shows the emission intensity decrease upon the increasing concentration of complex **3**.



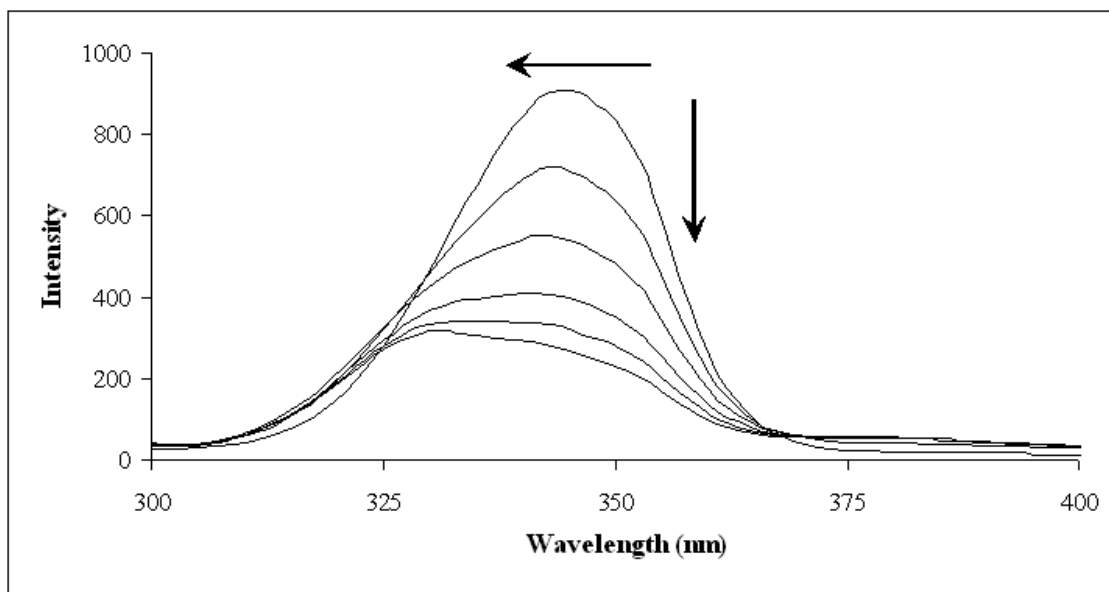
**Figure S14.** Synchronous spectra of lysozyme ( $1 \times 10^{-6}$  M) in the presence of increasing amounts of complex **4** ( $0, 1, 2, 3, 4$  and  $5 \times 10^{-5}$  M) in the wavelength difference of  $\Delta\lambda = 15$  nm. Arrow shows the emission intensity decrease upon the increasing concentration of complex **4**.



**Figure S15.** Synchronous spectra of lysozyme ( $1 \times 10^{-6}$  M) in the presence of increasing amounts of complex **1** ( $0, 1, 2, 3, 4$  and  $5 \times 10^{-5}$  M) in the wavelength difference of  $\Delta\lambda = 60$  nm. Arrows show the emission intensity decrease accompanied by blue shift upon the increasing concentration of complex **1**.



**Figure S16.** Synchronous spectra of lysozyme ( $1 \times 10^{-6}$  M) in the presence of increasing amounts of complex **2** ( $0, 1, 2, 3, 4$  and  $5 \times 10^{-5}$  M) in the wavelength difference of  $\Delta\lambda = 60$  nm. Arrows show the emission intensity decrease accompanied by blue shift upon the increasing concentration of complex **2**.



**Figure S17.** Synchronous spectra of lysozyme ( $1 \times 10^{-6}$  M) in the presence of increasing amounts of complex **3** ( $0, 1, 2, 3, 4$  and  $5 \times 10^{-5}$  M) in the wavelength difference of  $\Delta\lambda = 60$  nm. Arrows show the emission intensity decrease accompanied by blue shift upon the increasing concentration of complex **3**.