

Supplementary information

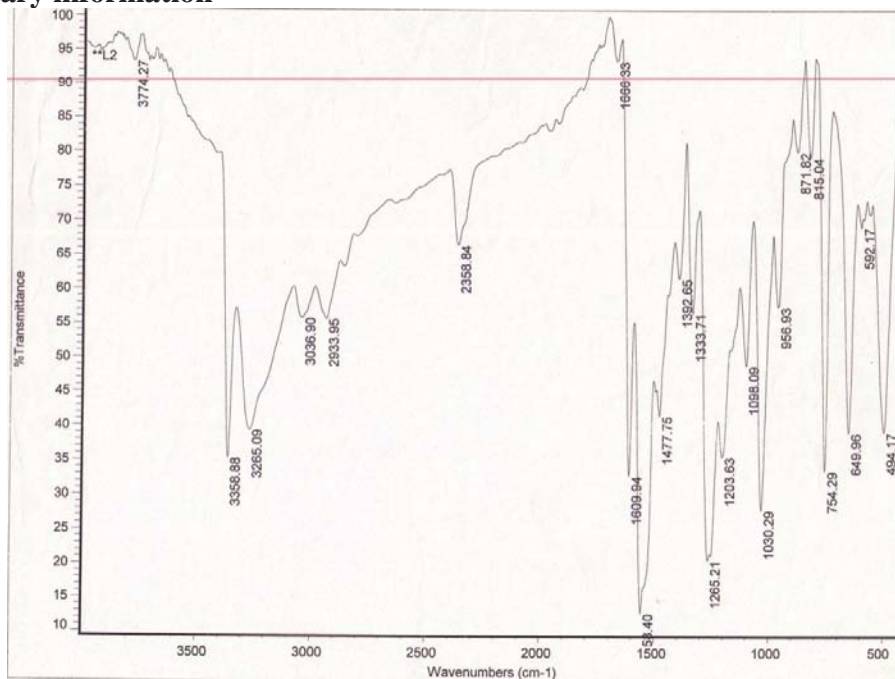


Fig. S1 IR spectrum of $[H_2-(Sal-mtsc)]$

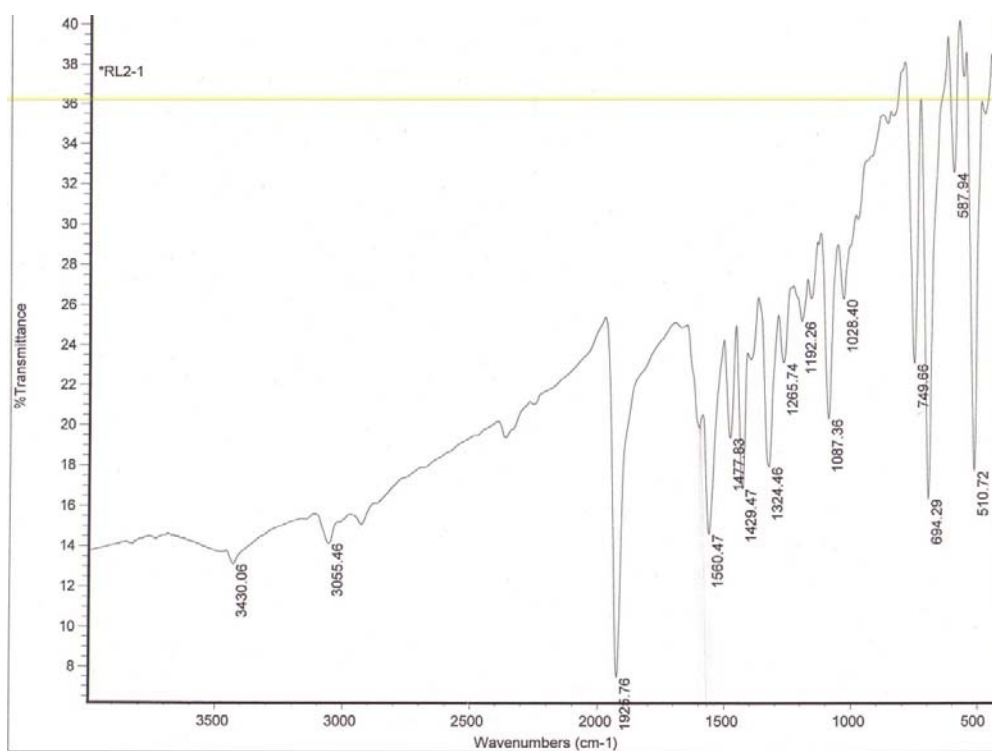


Fig. S2 IR spectrum of $[Ru(H-Sal-mtsc)(CO)Cl(PPh_3)_2](1)$

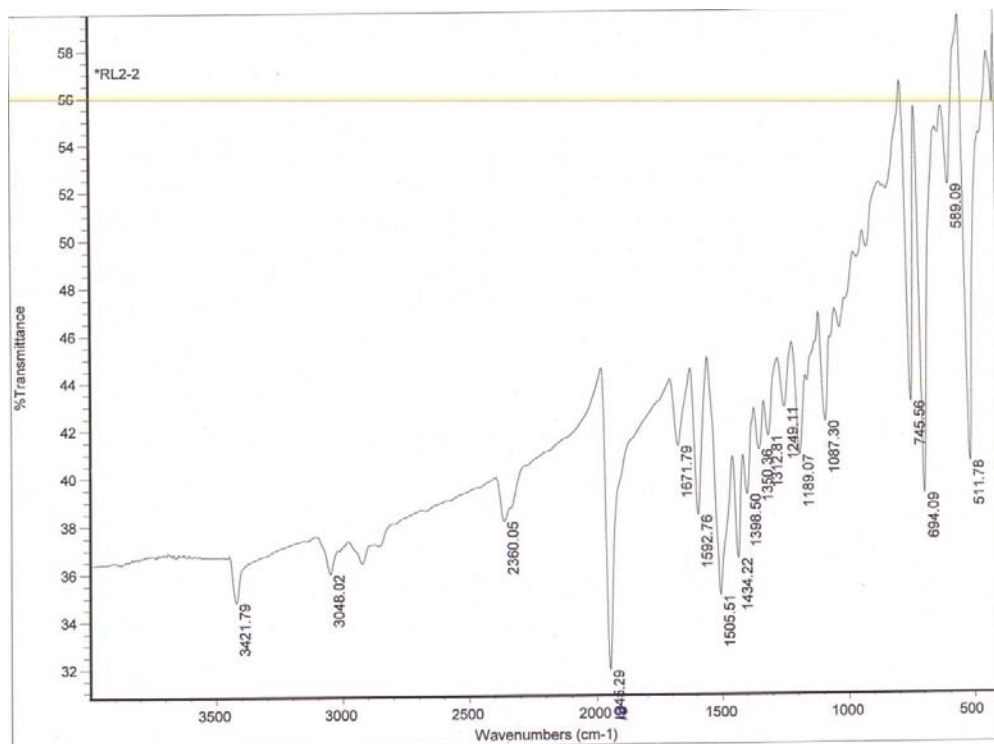


Fig. S3 IR spectrum of $[\text{Ru}(\text{Sal-mtsc})(\text{CO})(\text{PPh}_3)_2](2)$

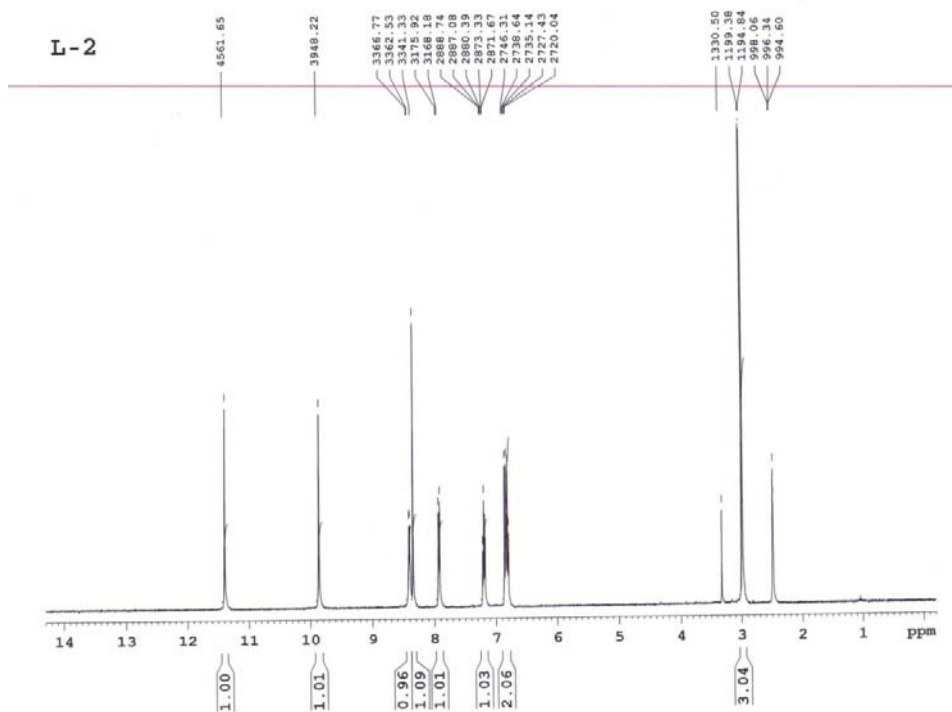


Fig. S4 ¹H-NMR spectrum of $[\text{H}_2\text{-(Sal-mtsc)}]$

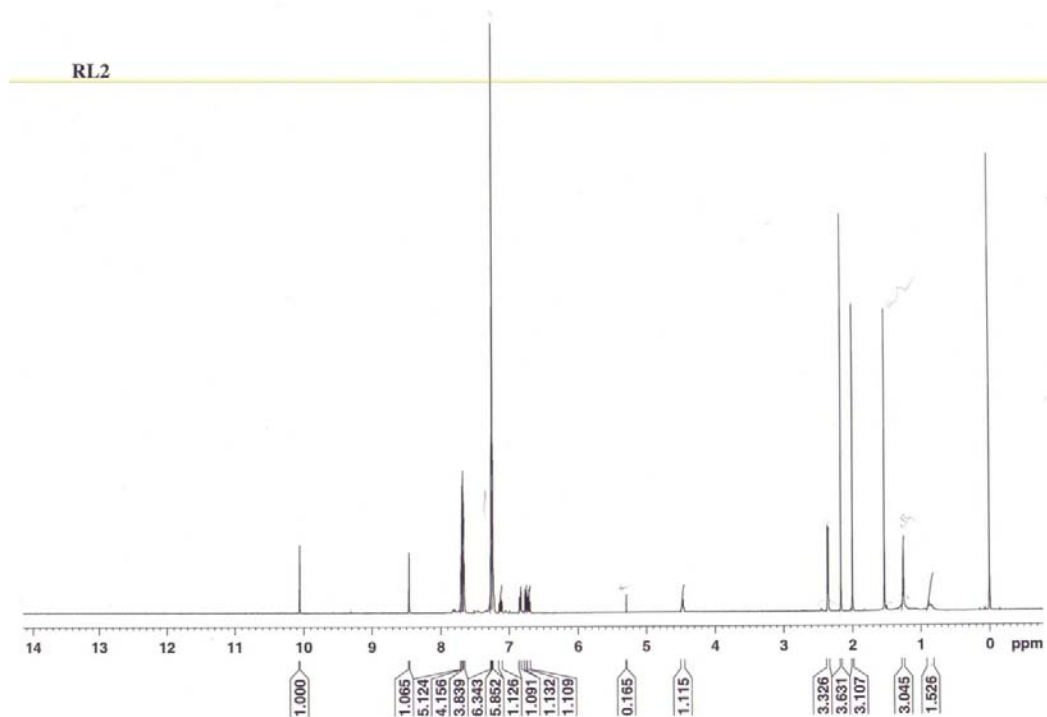


Fig. S5 ¹H-NMR spectrum of [Ru(H-Sal-mtsc)(CO)Cl(PPh₃)₂](1)

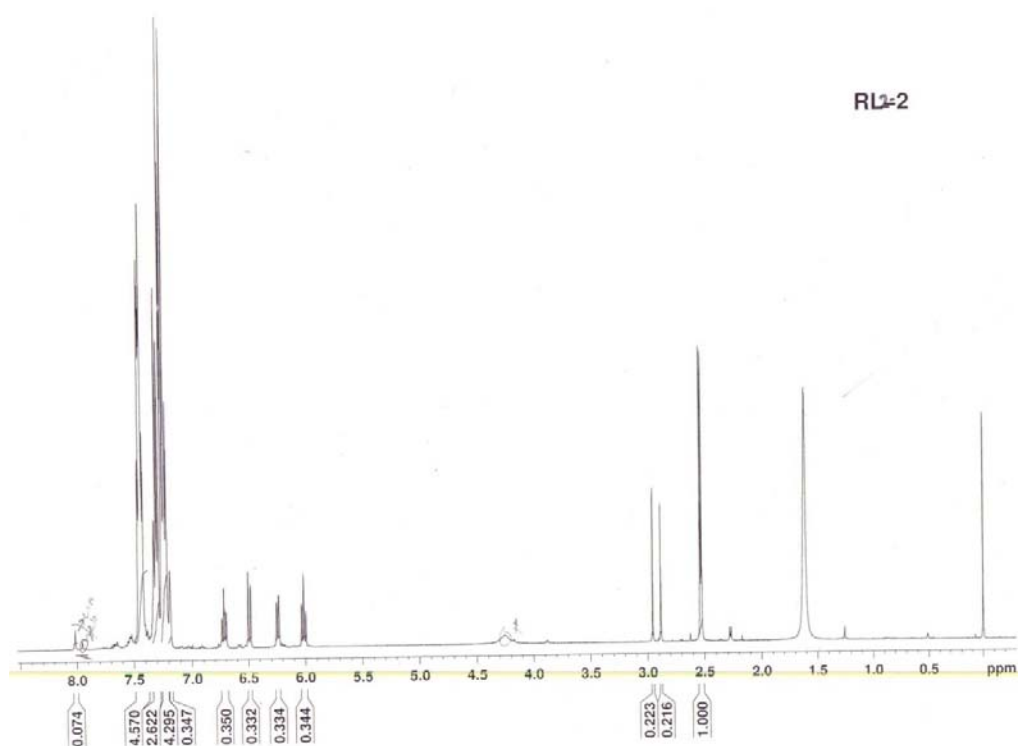
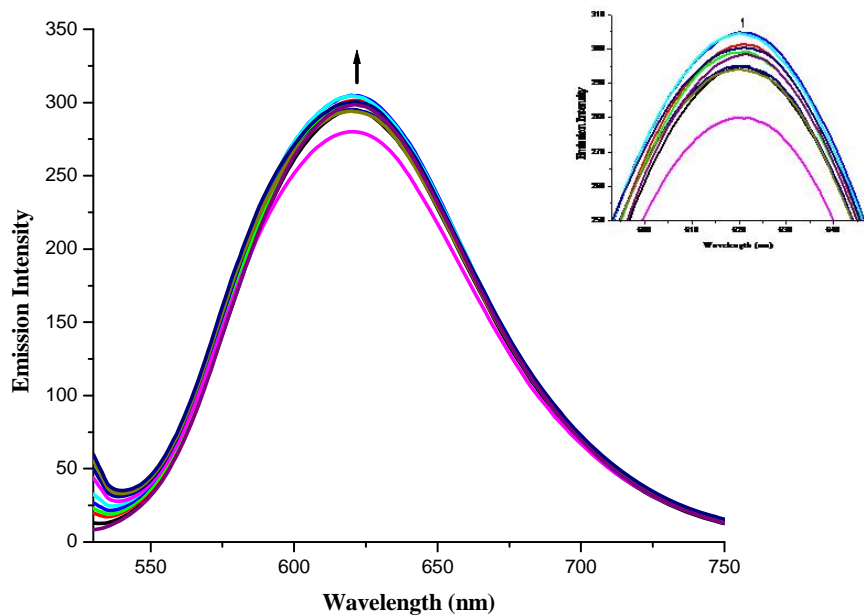
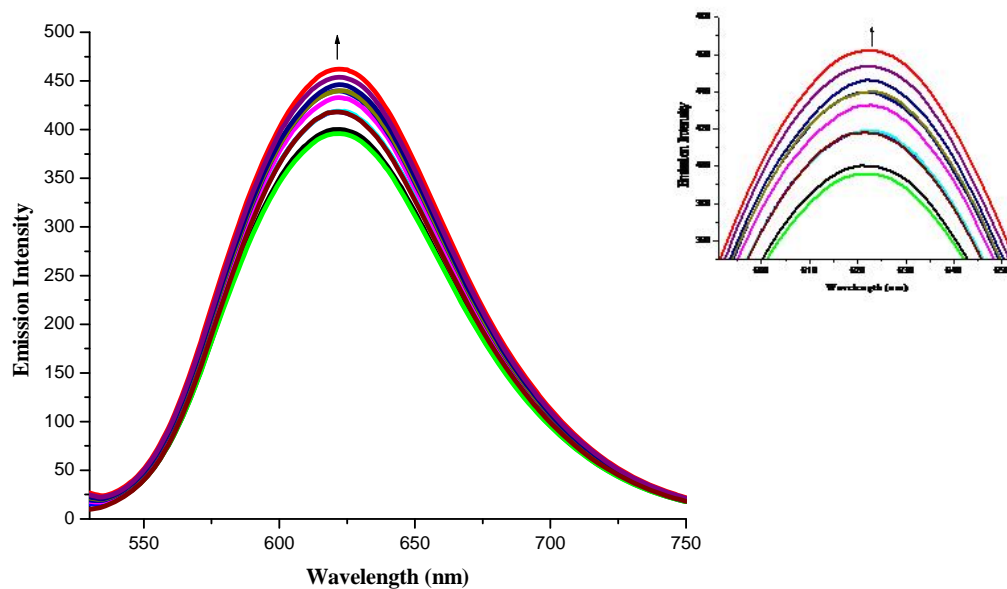


Fig. S6 ¹H-NMR spectrum of [Ru(Sal-mtsc)(CO)(PPh₃)₂](2)



1



2

Fig. S7 The emission spectra of the DNA-EB system ($\lambda_{\text{exc}} = 515 \text{ nm}$, $\lambda_{\text{em}} = 530\text{--}750 \text{ nm}$), in the presence of complex **1** and **2**. [DNA] = 10 μM , [Complex] = 0–50 μM , [EB] = 10 μM . The arrow shows the emission intensity changes upon increasing complex concentration.

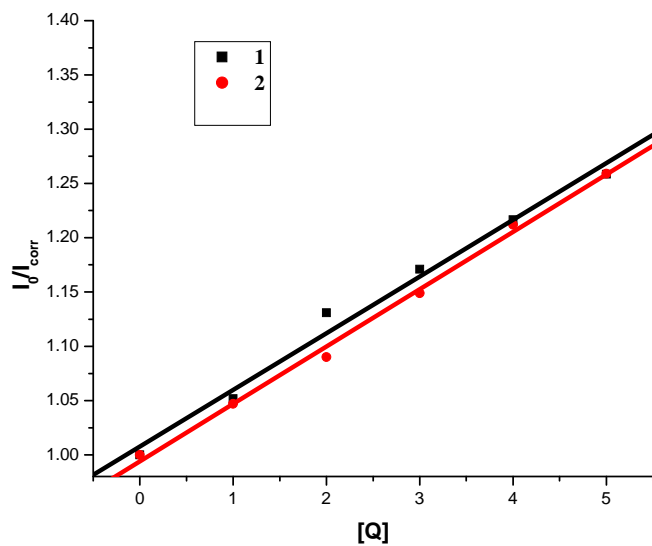


Fig. S8 The stern Volmer curves of fluorescence quenching of lysozyme by Complexes 1 (square) and 2 (circle)

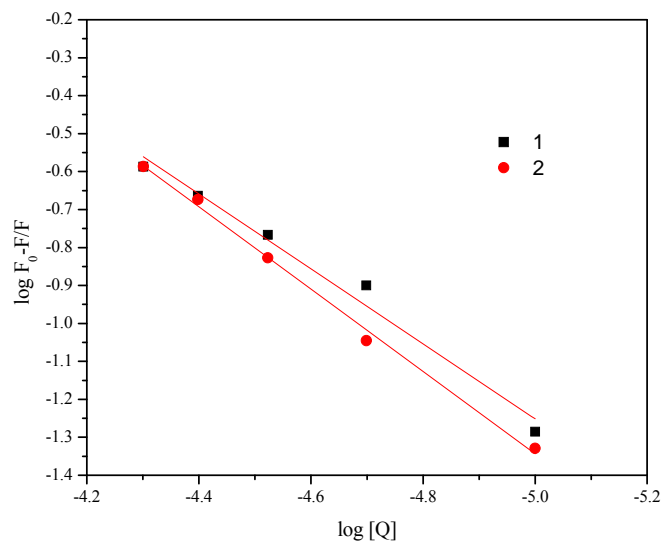


Fig. S9 Double- log plot of complex 1 and 2 quenching effect on lysozyme at 25° C.

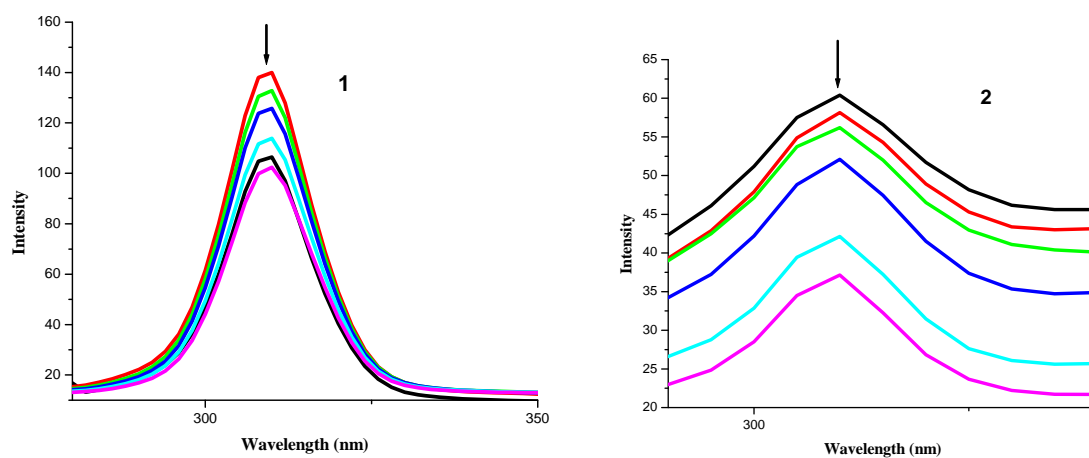


Fig. S10 Synchronous spectra of lysozyme (1×10^{-6} M) in the absence and presence of **1** and **2** ($0-5 \times 10^{-5}$ M) in the wavelength difference of $\Delta\lambda = 15$ nm

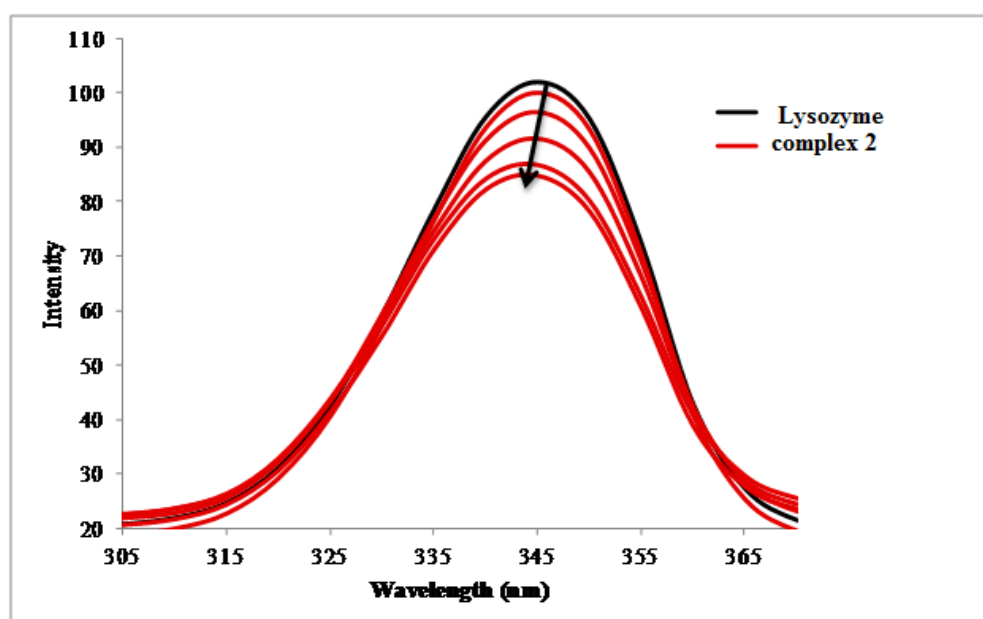


Fig. S11 Synchronous spectra of lysozyme (1×10^{-6} M) in the absence and presence of **2** ($0-5 \times 10^{-5}$ M) in the wavelength difference of $\Delta\lambda = 60$ nm

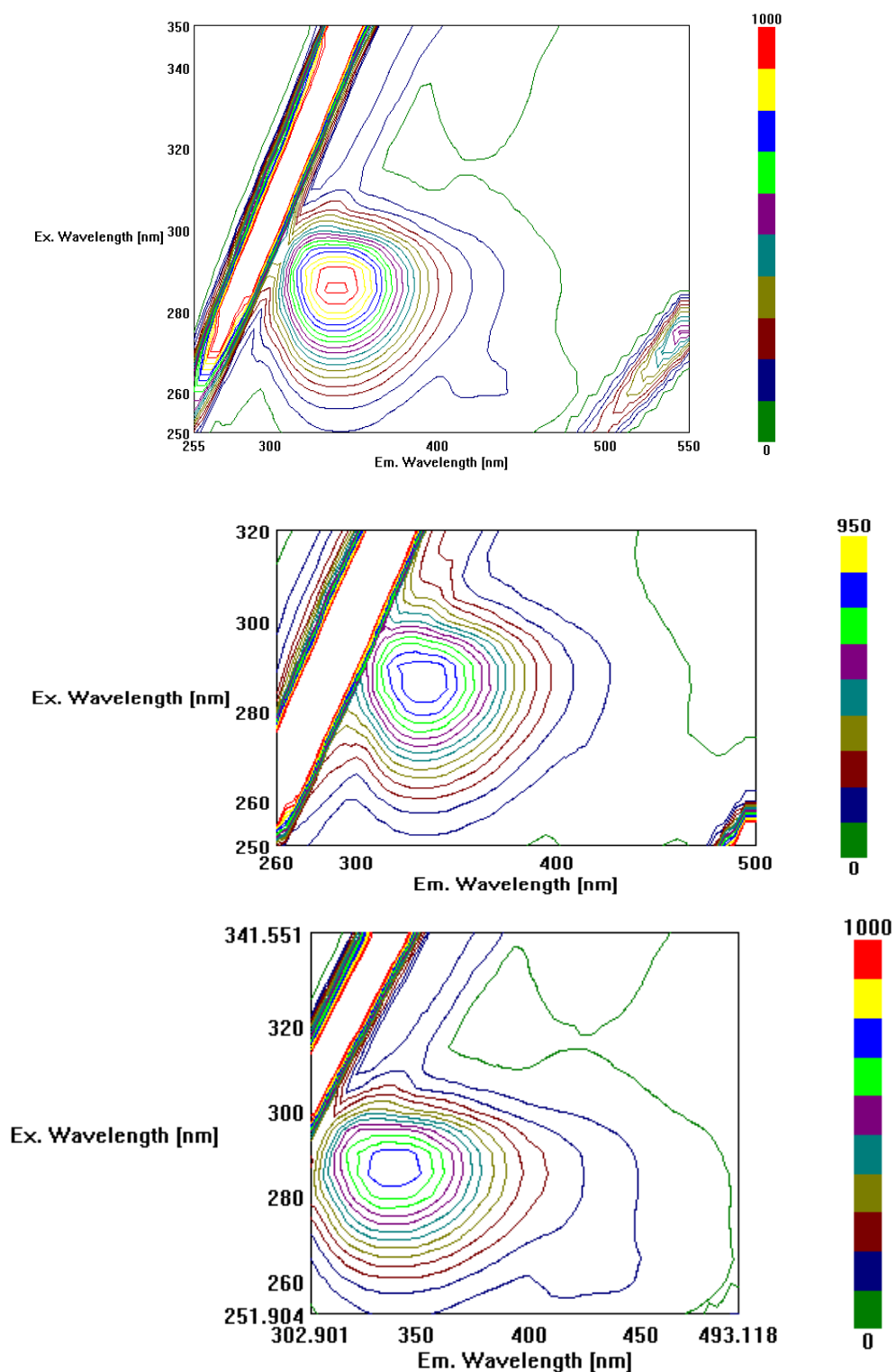


Fig. S12 The three-dimensional fluorescence contour map of free Lysozyme (a) and presence of Complexes 1(b) and 2(c)