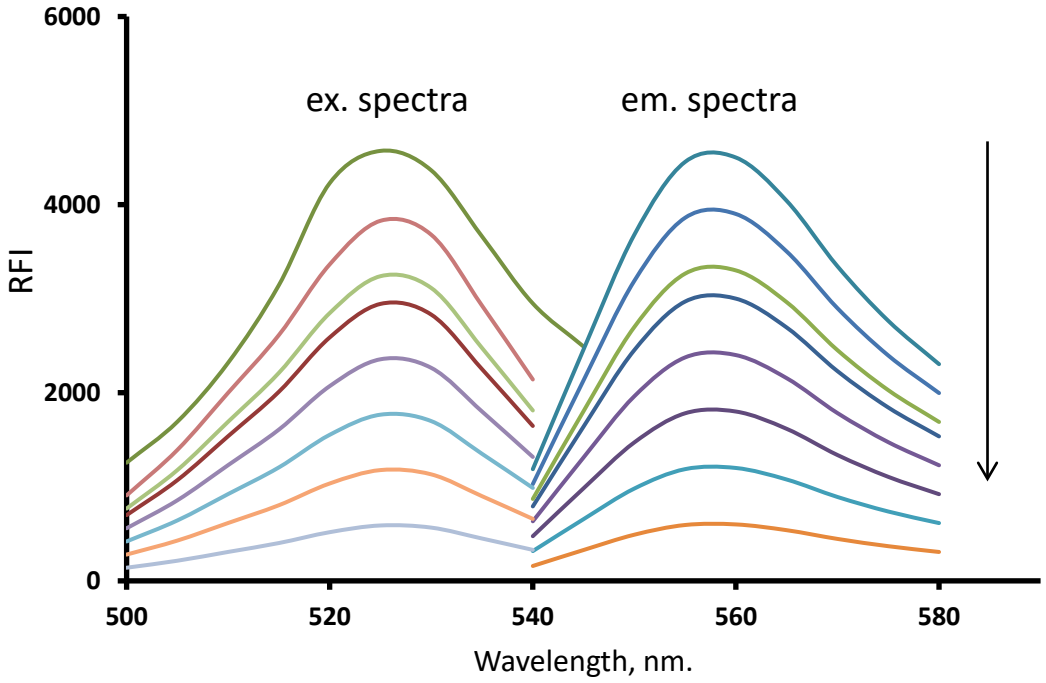
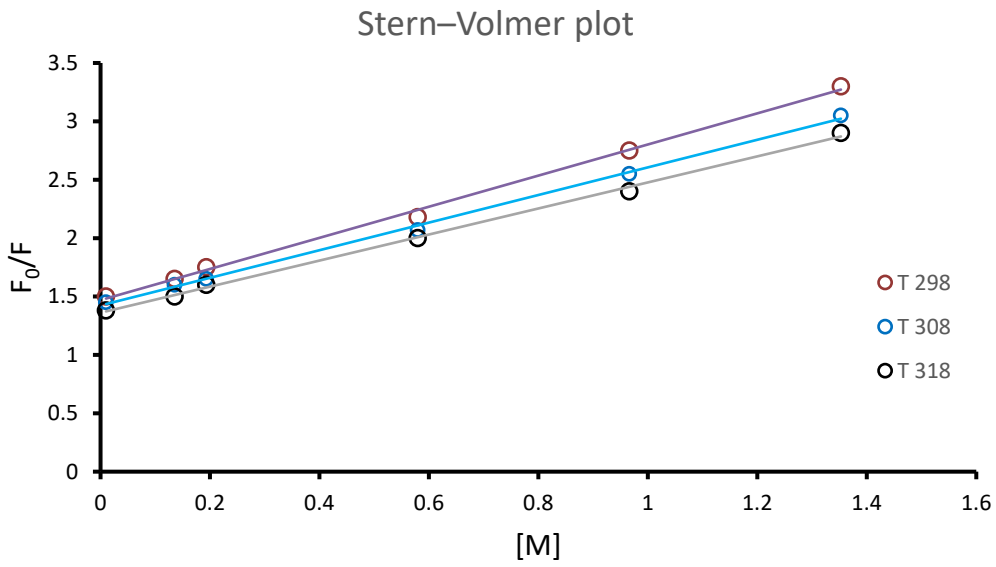
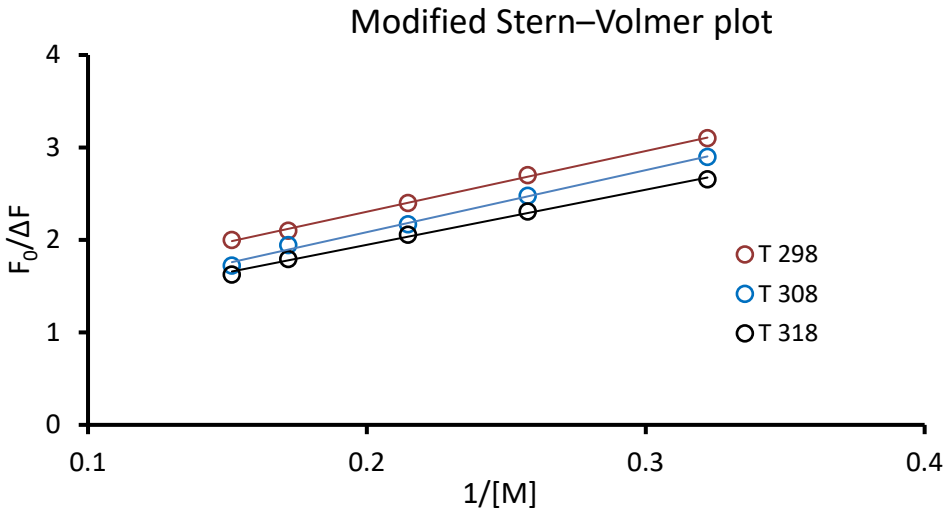
Electronic Supplementary Material (ESI) for RSC Advances.



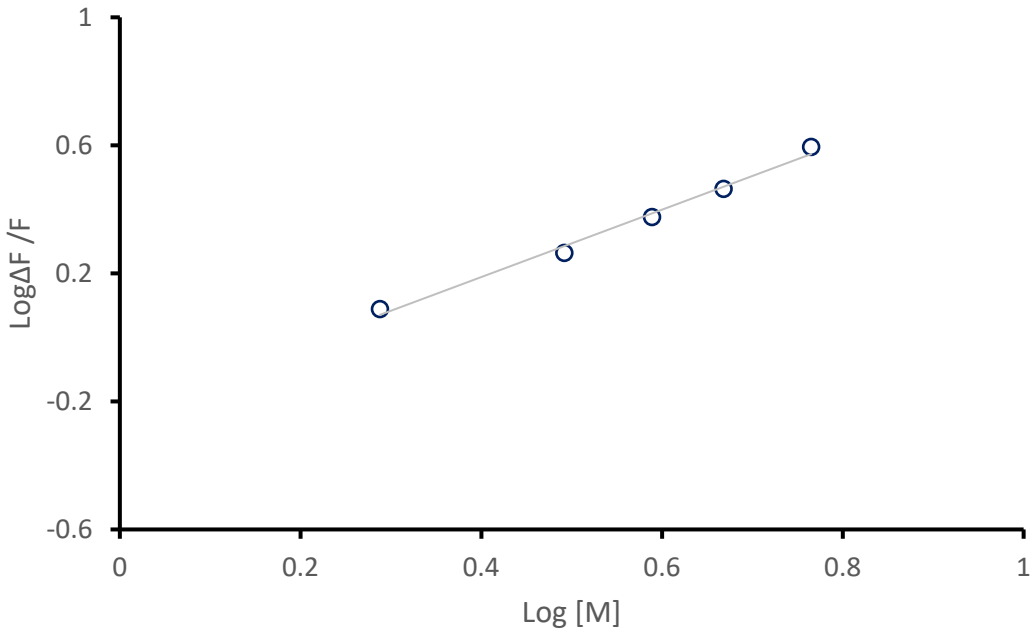
SI 1: The quantitative experiment spectrra for the fluorescent spectra at different concentrations of the investigated drug.



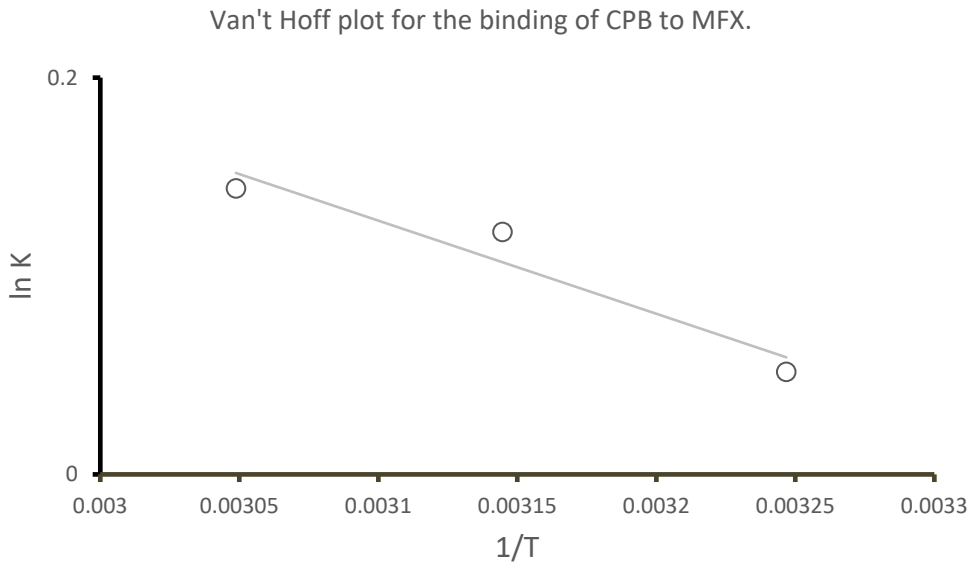
SI 2: MFX-induced CPB quenching depicted in the Stern–Volmer graph at three temperature levels.



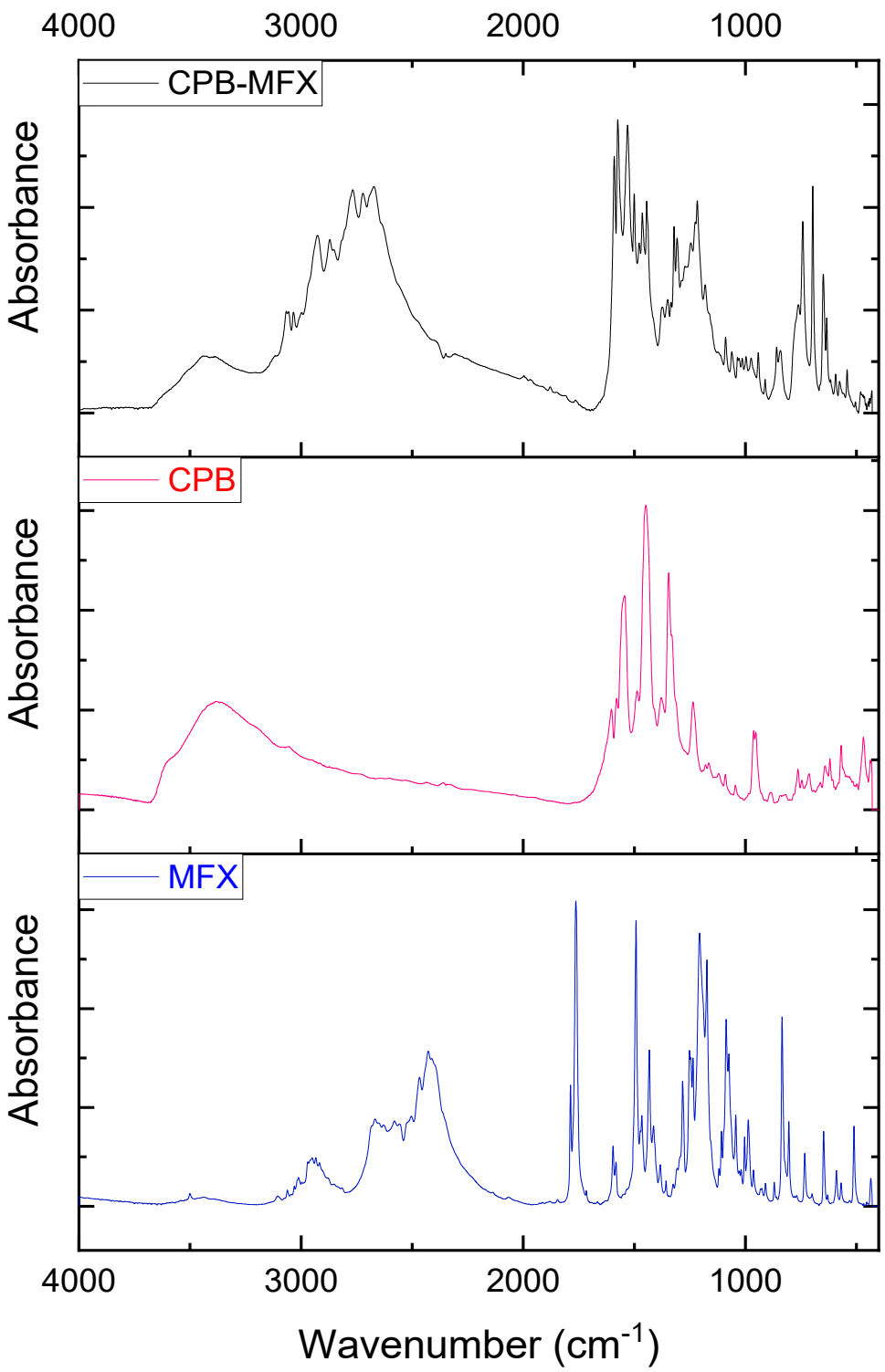
SI 3: The Modified Stern–Volmer charting for the MFX and CPB stain binding.



SI 4: The charting of log ΔF/F to log [M] at operating temperature to determine the binding site(s).



SI 5: Van't Hoff charting for the thermodynamic criteria



SI 6: FTIR spectra of the drug, dye, and newly formed product.

SI 7: A list of equations.

The equation	Equ. No.
$f_0/f = 1 + k_{sv}[M] = 1 + k_{q\tau_o}\,[M]$	(1)
$k_q = k_{sv}/\tau_o$	(2)
$f_0/\Delta f = \left[\frac{1}{f_a K_a}\right]\left[\frac{1}{[M]}\right] + 1/f_a$	(3)
$log\,\frac{(f_0-f)}{f} = log\,k_d + n\,log[M]$	(4)
$\ln K_T = -\Delta H/RT + \Delta S/R$	(5)
$\Delta G^\circ = \Delta H^\circ - T\,\Delta S^\circ$	(6)

F_0 / F: The relative fluorescence amplitudes of the dye and analyte-dye.

K_{SV}: Volmer dynamic suppressing constant.

k_q: The bimolecular suppressing rate constant.

[M]: the analyte molar concentration.

K_a: The suppression constant.

F_a: The initial fluorescence that can be quenched by the quencher.

ΔF: The fluorescence difference.

n: The number of linking sites.

R: The gas constant, K_T is the coupling constant, and T is the temperature (in kelvin scale).

ΔG: free energy, ΔS, entropy changes, and ΔH is enthalpy change.