

Supporting Information

Unveiling the catecholase activities and DNA binding interaction of mono-, di-, polymeric Cu(II) complexes derived from heterogeneous Schiff Base ligands

Ribhu Maity^a, Minakshi Maity^a, Kalyanmoy Jana^a, Tithi Maity^b, Nayim Sepay^{c*}, Bidhan Chandra Samanta^{a*}

[§]*Department of Chemistry, Mugberia Gangadhar Mahavidyalaya, Bhupatinagar, Purba Medinipur-721425, West Bengal, India*

[†]*Department of Chemistry, Prabhat Kumar College, Contai, Purba Medinipur-721401, West Bengal, India*

[¶]*Department of Chemistry, Lady Brabourne College, Kolkata-700 017, West Bengal, India*

Corresponding Email address: bidhansamanta@yahoo.in (BCS); nayimsepay@yahoo.com (NS)

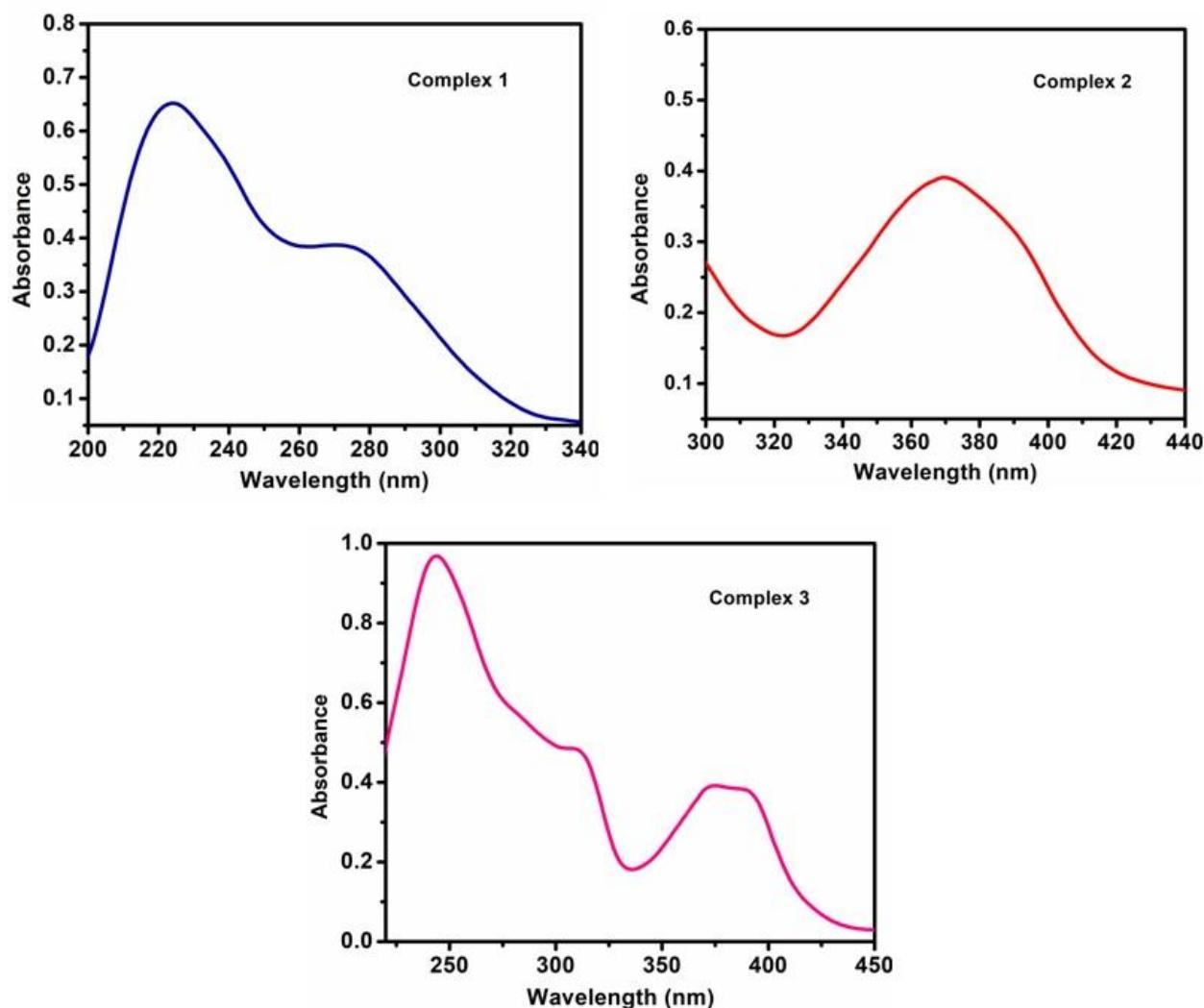


Fig S1 UVabsorption plots for complex **1**, **2** and **3**

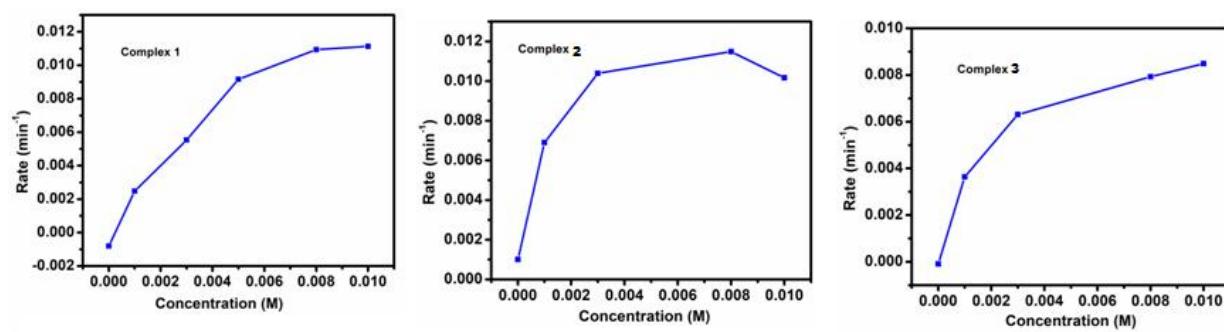


Fig S2 Rate versus concentration plots for complex **1**, **2** and **3**

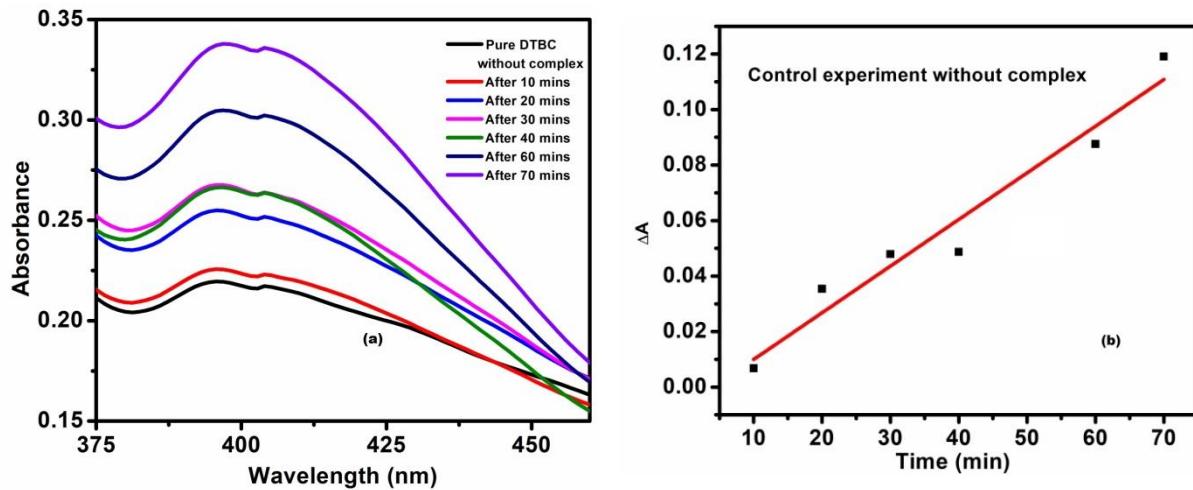


Fig S3 (a) Change in spectral pattern of 3,5-DTBC in MeOH without complex at 300 K with time
(b) ΔA vs. time plot

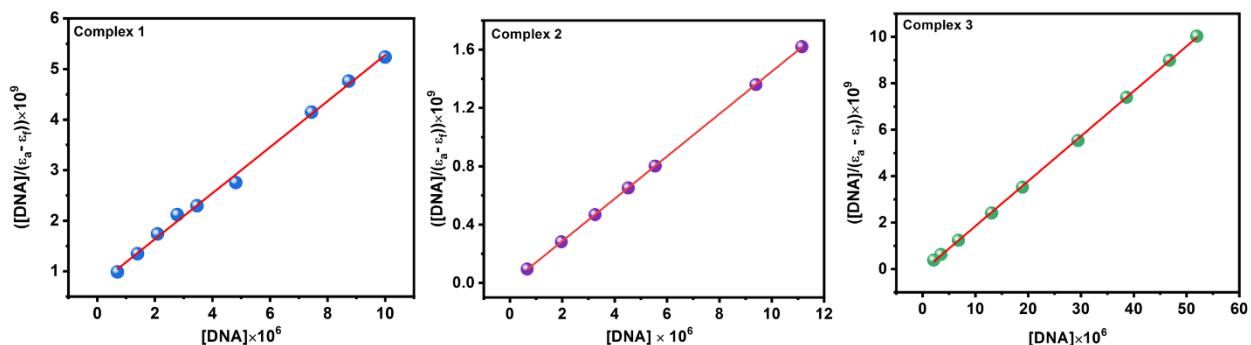


Fig S4 Plot of $[\text{DNA}]/(\epsilon_a - \epsilon_f)$ versus $[\text{DNA}]$ for the titration of DNA to complexes

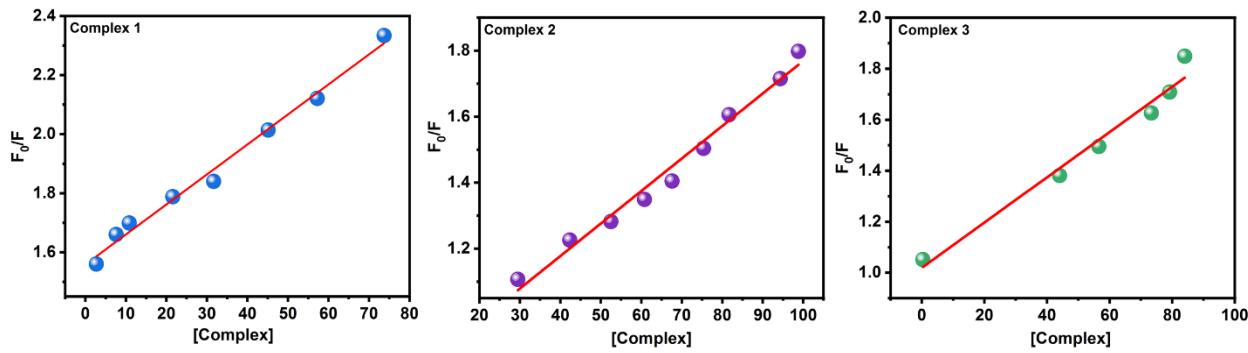


Fig S5 Stern-Volmer plots of the fluorescence data for complex **1**, **2** and **3**

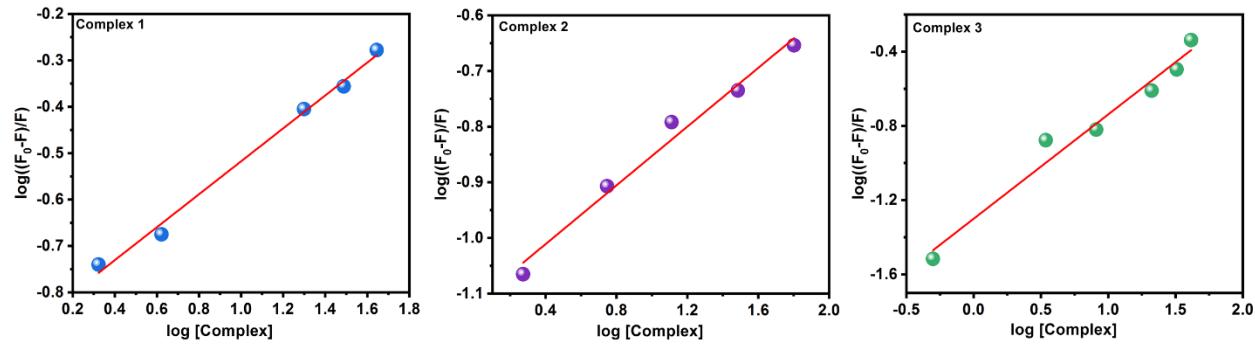


Fig S6 Scatchard plots for complexes **1**, **2** and **3** with DNA. (Here [complex] is the total concentration of the added complex)

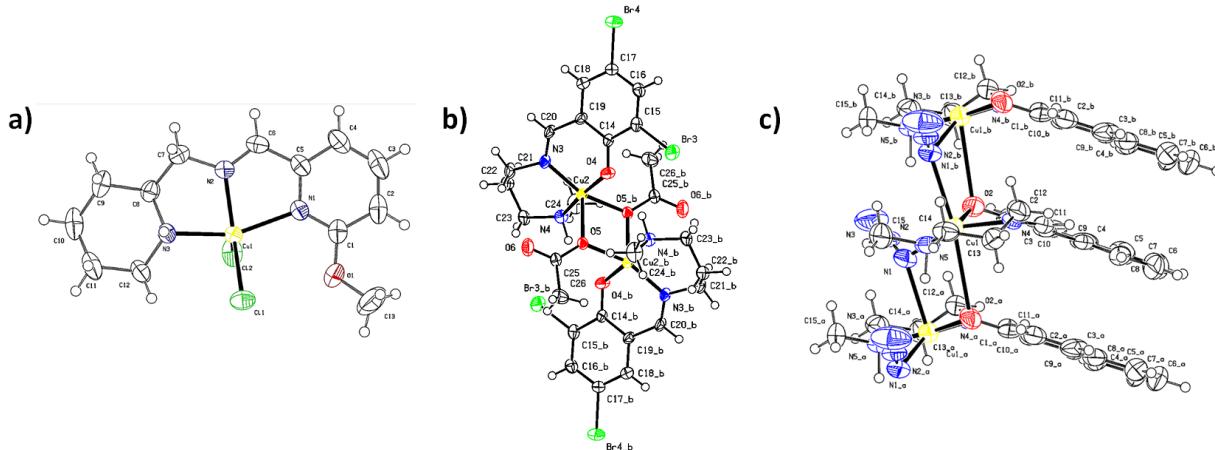


Fig. S7 a) ORTEP representation of the complex **1** showing thermal displacement ellipsoids with 50 % probability (CCDC 2012576), (b) ball-stick representation of the complex **2** (CCDC 2085212), (c) ORTEP representation of the complex **3** showing thermal displacement ellipsoids with 50 % probability (CCDC 2012577).

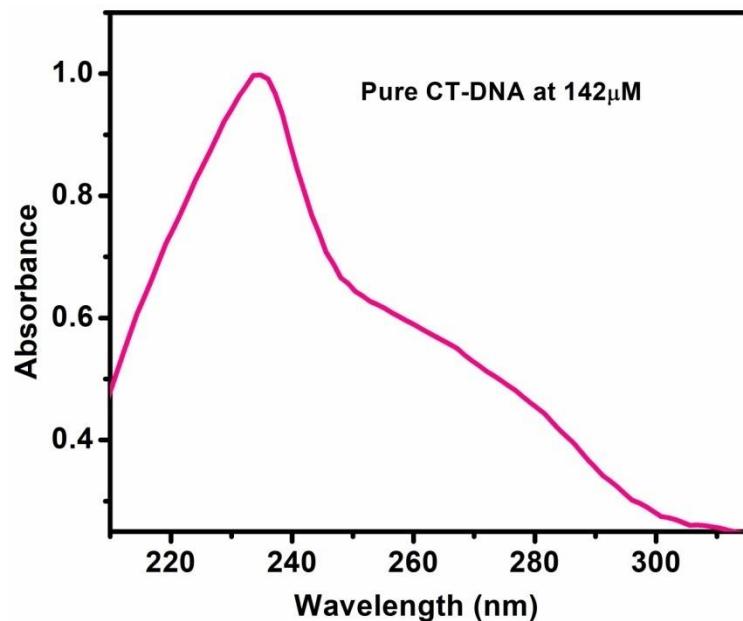


Fig S8 UV absorption spectrum of CT-DNA in the absence of the complex

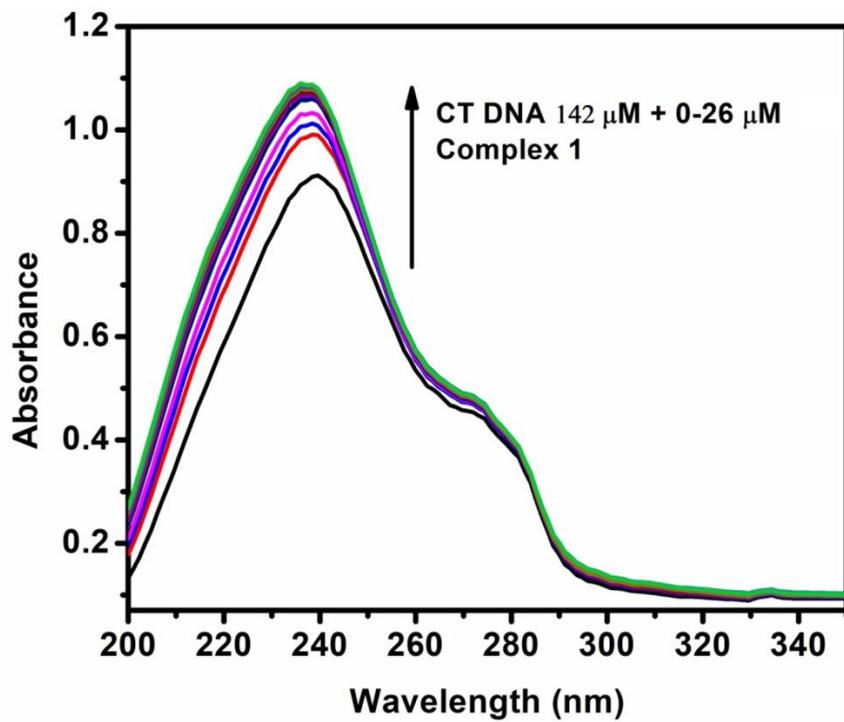


Fig S9 UV–Vis absorption spectral changes of CT-DNA (142 μ M) upon the addition of complex 1 (0–26 μ M)

References

- 1 K. Jana, U. Pramanik, K. S. Ingle, R. Maity, S. Mukherjee, S. K. Nayak, S. Chandra Debnath, T. Maity, S. Maity and B. Chandra Samanta, *J. Photochem. Photobiol. A Chem.*, 2022, **422**, 113565.
- 2 R. Maity, N. Sepay, U. Pramanik, K. Jana, S. Mukherjee, S. Maity, D. Mal, T. Maity and B. C. Samanta, *J. Phys. Chem. B*, 2021, **125**, 11364–11373.
- 3 J. A. F. de Oliveira, M. P. da Silva, B. de Souza, T. P. Camargo, B. Szpoganicz, A. Neves and A. J. Bortoluzzi, *Dalt. Trans.*, 2016, **45**, 15294–15297.
- 4 A. Wolfe, G. H. Shimer and T. Meehan, *Biochemistry*, 1987, **26**, 6392–6396.
- 5 G. M. Morris, R. Huey, W. Lindstrom, M. F. Sanner, R. K. Belew, D. S. Goodsell and A. J. Olson, *J. Comput. Chem.*, 2009, **30**, 2785–2791.