

Electronic Supplementary Information

DNA, BSA binding and cytotoxic properties of copper(II) and iron(III) complexes with arylhydrazone of ethyl 2-cyanoacetate or formazan ligands

Nuno M. R. Martins,^a Sellamuthu Anbu,^{*a} Kamran T. Mahmudov,^{*a,b,c} Rajendran
Ravishankaran,^d M. Fátima C. Guedes da Silva,^a Luísa M. D. R. S. Martins,^{a,e}
Anjali A. Karande,^d Armando J. L. Pombeiro^{*a}

^a Centro de Química Estrutural, Instituto Superior Técnico, Universidade de Lisboa, Av. Rovisco Pais, 1049-001 Lisbon, Portugal

^b Department of Chemistry, Baku State University, Z. Xalilov Str. 23, Az 1148 Baku, Azerbaijan

^c Organic Chemistry Department, RUDN University, 6 Miklukho-Maklaya str., Moscow 117198, Russian Federation

^d Department of Biochemistry, Indian Institute of Science, Bangalore-560 012, India

^e Chemical Engineering Department, ISEL, R. Conselheiro Emídio Navarro, 1959-007 Lisboa, Portugal

*Corresponding authors. Phone: +351 218419237.

E-mail addresses: bioinorg_anbu@yahoo.com (S. Anbu)

kamran_chem@yahoo.com, kamran_chem@mail.ru (K.T. Mahmudov),

pombeiro@tecnico.ulisboa.pt (A.J.L. Pombeiro).

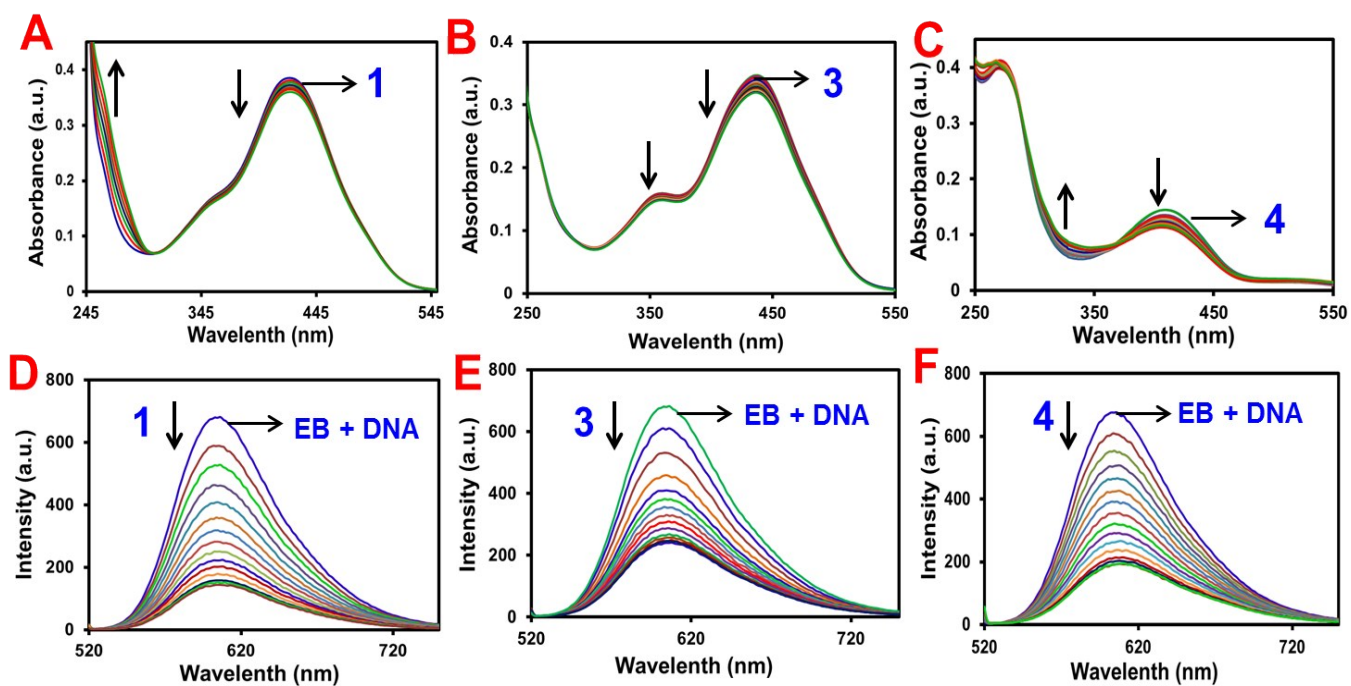


Figure S1. (A-C) Absorption spectra of the complexes **1**, **3** and **4** (1×10^{-5} M) in the absence and presence of increasing amounts of CT DNA ($0-25 \times 10^{-6}$ M) at 25 °C in 5 mM Tris-HCl/50 mM NaCl buffer (pH = 7.5). Arrow shows the absorbance changing upon increasing DNA concentrations. (D-F) Emission spectra of EB bound to DNA in the presence of the complexes **1**, **3** and **4** ($[EB] = 3.3 \mu\text{M}$, $[DNA] = 40 \mu\text{M}$, $[\text{complex}] = 0-250 \mu\text{M}$, $\lambda_{\text{ex}} = 510 \text{ nm}$). Arrow shows the emissions changing upon increasing complex concentrations.

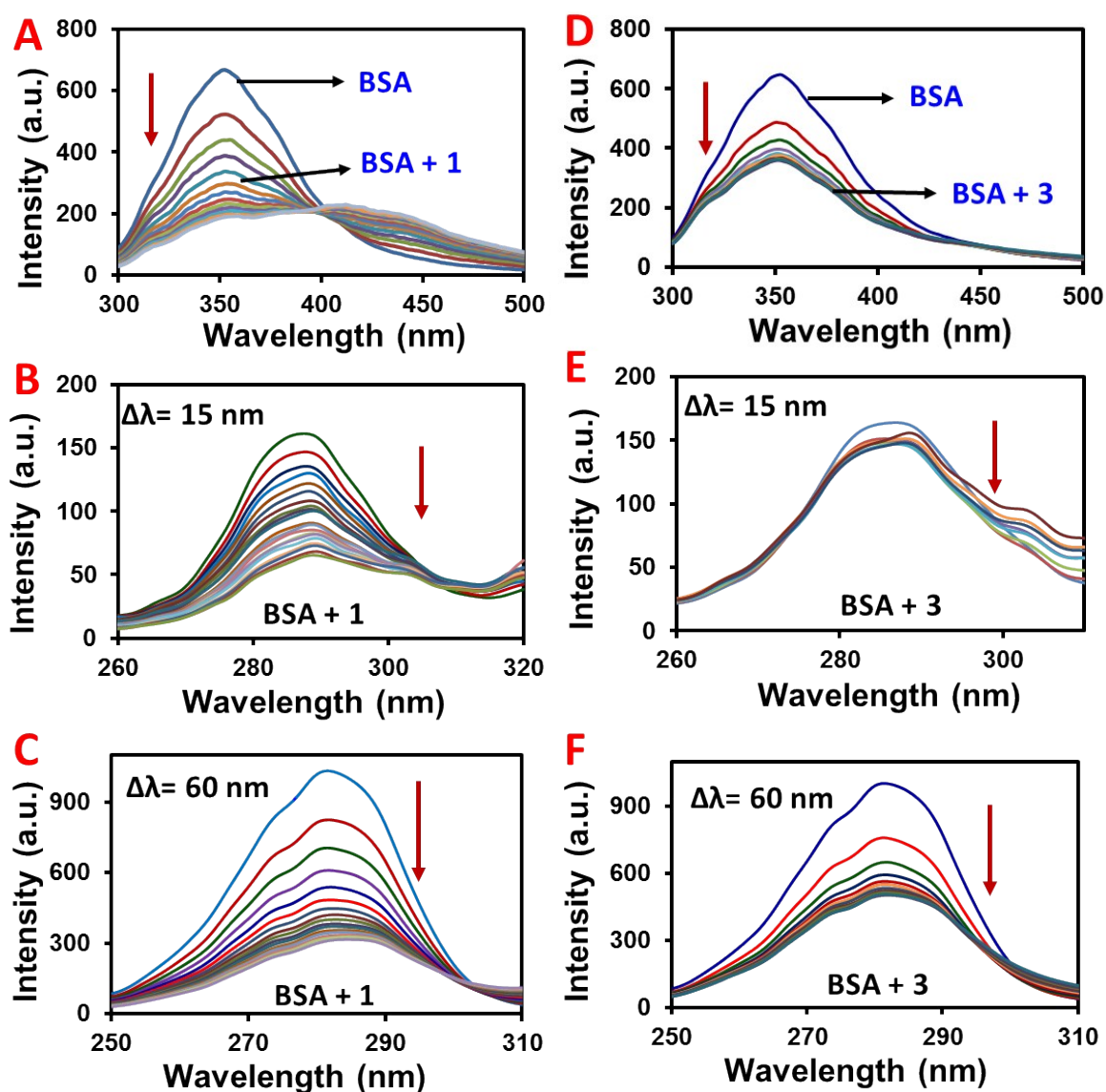


Figure S2. (A-B) The inner filter effect corrected emission spectrum of BSA (1×10^{-6} M; $\lambda_{\text{ex}} = 285$ nm; $\lambda_{\text{em}} = 346$) in the presence of increasing amounts of the complexes **1** (A) and **3** (D) ($0-5 \times 10^{-6}$ M). (B, C, E and F) Synchronous spectra of BSA (5 mM Tris-HCl/50 mM NaCl buffer, pH = 7.5), in the presence of complexes **1** and **3** in increasing amounts ($0-50 \mu\text{M}$), with wavelength difference of (B, C) $\Delta\lambda = 15$ nm (E, F) $\Delta\lambda = 60$ nm. Arrows show the emission intensity decrease upon increasing the concentration.