Supplementary information

Synthesis of Ru(II)-benzene complexes containing aroylthiourea ligand, and their binding with biomolecules and in vitro cytotoxicity through apoptosis

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Fig. S1 $^1$H NMR spectrum of 1

Fig. S2 $^1$H NMR spectrum of 2
Fig. S3 $^1$H NMR spectrum of 3

Fig. S4 $^1$H NMR spectrum of 4
Fig. S5 $^{13}$C NMR spectrum of 1

Fig. S6 $^{13}$C NMR spectrum of 2
Fig. S7 $^{13}$C NMR spectrum of 3

Fig. S8 $^{13}$C NMR spectrum of 4
Fig. S9 Absorption spectra of complexes (1-3) in Tris-HCl buffer upon addition of CT DNA. [Complex] = 2.5 × 10^{-5} M, [DNA] = 0-50 μM. The arrow shows that the absorption intensity decreases upon increasing the DNA concentration.
Fig. S10 Fluorescence quenching curves of EB bound to DNA in the presence of 1-3. [DNA] = 5 µM, [EB] = 5 µM and [complex] = 0-50 µM.
Fig. S11 (a) Cleavage of supercoiled pBR322 DNA (40 μM) by complex 3 in a buffer containing 5 % DMF/5 mM Tris HCl/50 mM NaCl at pH = 7.2 and 37 °C with an incubation time of 4 h. Lane 1, DNA; lane 2, DNA + NaN₃ (0.2 mM) + 3 (50 μM); lane 3, DNA + DMSO (2 μL) + 3 (50 μM); lane 4, DNA + 3 (50 μM). Forms SC and NC are supercoiled and nicked circular DNA, respectively.
Fig. S12 Fluorescence quenching curves of BSA in the absence and presence of 1, 3 and 4. 
[BSA] = 1 µM and [complex] = 0-20 µM.
Fig. S13 Synchronous spectra of BSA (1 μM) as a function of concentration of 1, 3 and 4 (0-20 μM) with Δλ = 15 nm.
Fig. S14 Synchronous spectra of BSA (1 µM) as a function of concentration of 1, 3 and 4 (0-20 µM) with Δλ = 60 nm.
**Fig. S15** Comparison of anticancer activity of synthesized complexes (1-4) against MCF7 cancer cells. Data are mean ± SD of three independent experiments with each experiment conducted in triplicate.

**Fig. S16** Comparison of anticancer activity of the complexes (1-4) against SKOV3 cancer cells. Data are mean ± SD of three independent experiments with each experiment conducted in triplicate.