Supplementary Material for

Three Pt(II) complexes based on Thiosemicarbazone: synthesis, HSA interaction, cytotoxicity, apoptosis and cell cycle arrest

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

Fig. S1-2. $^{13}$C NMR spectrum of Ligand 1.
Fig. S1-3. $^1$H NMR spectrum of Ligand 2.

Fig. S1-4. $^{13}$C NMR spectrum of Ligand 2.
Fig. S1-5. $^1$H NMR spectrum of Ligand 3.

Fig. S1-6. $^{13}$C NMR spectrum of Ligand 3.
**Fig. S2-1.** Fluorescence spectra of HSA in the different concentrations of 1 at room temperature.

**Fig. S2-2.** Fluorescence spectra of HSA in the different concentrations of 2 at room temperature.

**Fig. S2-3.** UV-vis absorption spectra of HSA in the absence and presence of 1.
Fig. S2-4. UV-vis absorption spectra of HSA in the absence and presence of 2.

Fig. S2-5. Synchronous fluorescence spectra of HSA upon addition of 1.

Fig. S2-6. Synchronous fluorescence spectra of HSA upon addition of 2.

Fig. S3-1. Hoechst 33342 staining detected apoptosis in HeLa cells after treatment by 1 for 48 h at the concentrations of 0, 2.5, 5, and 10 μM.
Fig. S3-2. Hoechst 33342 staining detected apoptosis in HeLa cells after treatment by 2 for 48 h at the concentrations of 0, 2.5, 5, and 10 μM.

Fig. S4-1. The quantitative analysis of the proportion of viable, necrosis and apoptosis cells against HeLa cells after the treatment with 1 for 48 h at concentration of 0, 2.5, 5, and 10 μM.

Fig. S4-2. The quantitative analysis of the proportion of viable, necrosis and apoptosis cells against HeLa cells after the treatment with 2 for 48 h at concentration of 0, 2.5, 5, and 10 μM.

Fig. S5. Clonogenic assay (crystal violet staining) in HeLa cells exposed to varying concentrations of 3.