Electronic Supporting Information

Functionalisation of gold nanoparticles with ruthenium(II) polypyridyl complexes for their application in cellular imaging

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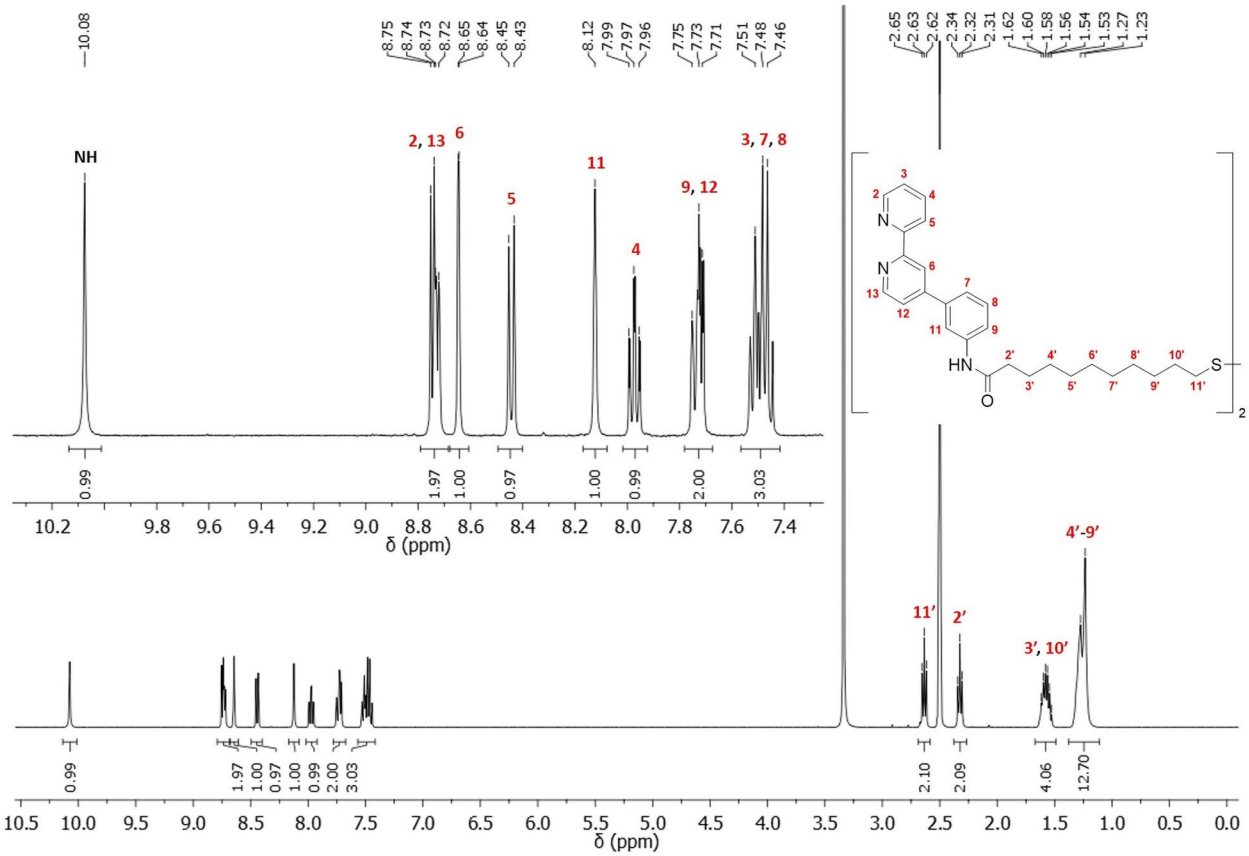

Fig. S1. ^{1}H NMR (400 MHz, DMSO-d_6) spectrum of ligand **3**.

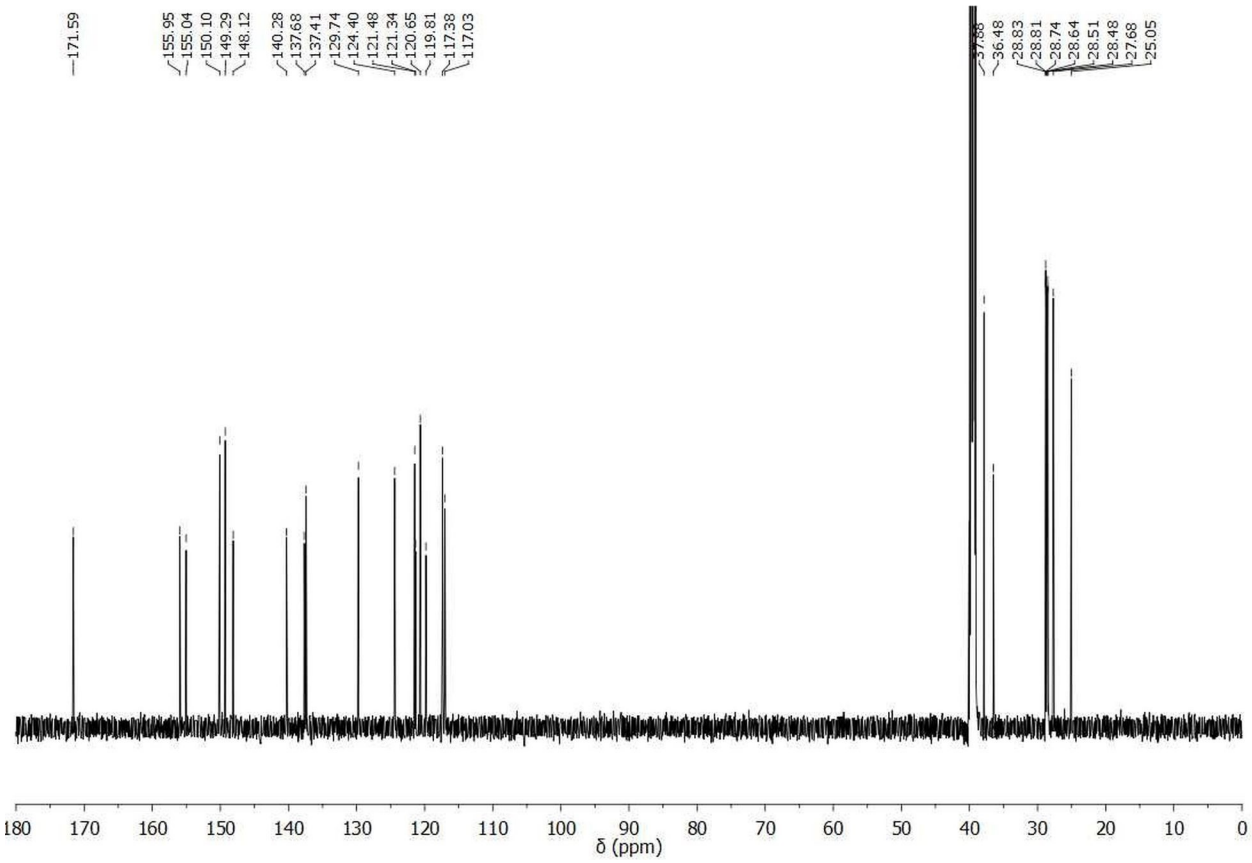

Fig. S2. ^{13}C NMR (101 MHz, DMSO-d_6) spectrum of ligand **3**.

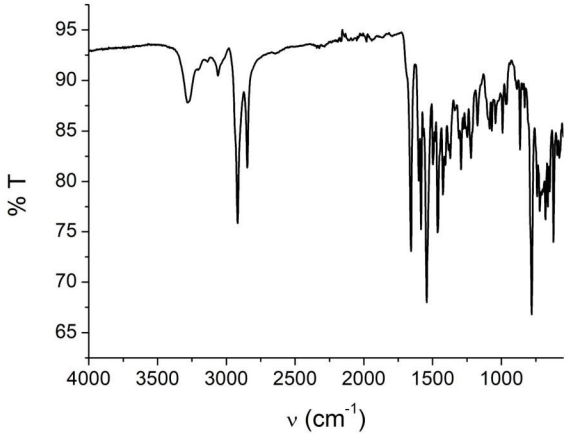

Fig. S3. FTIR spectrum of ligand **3**.

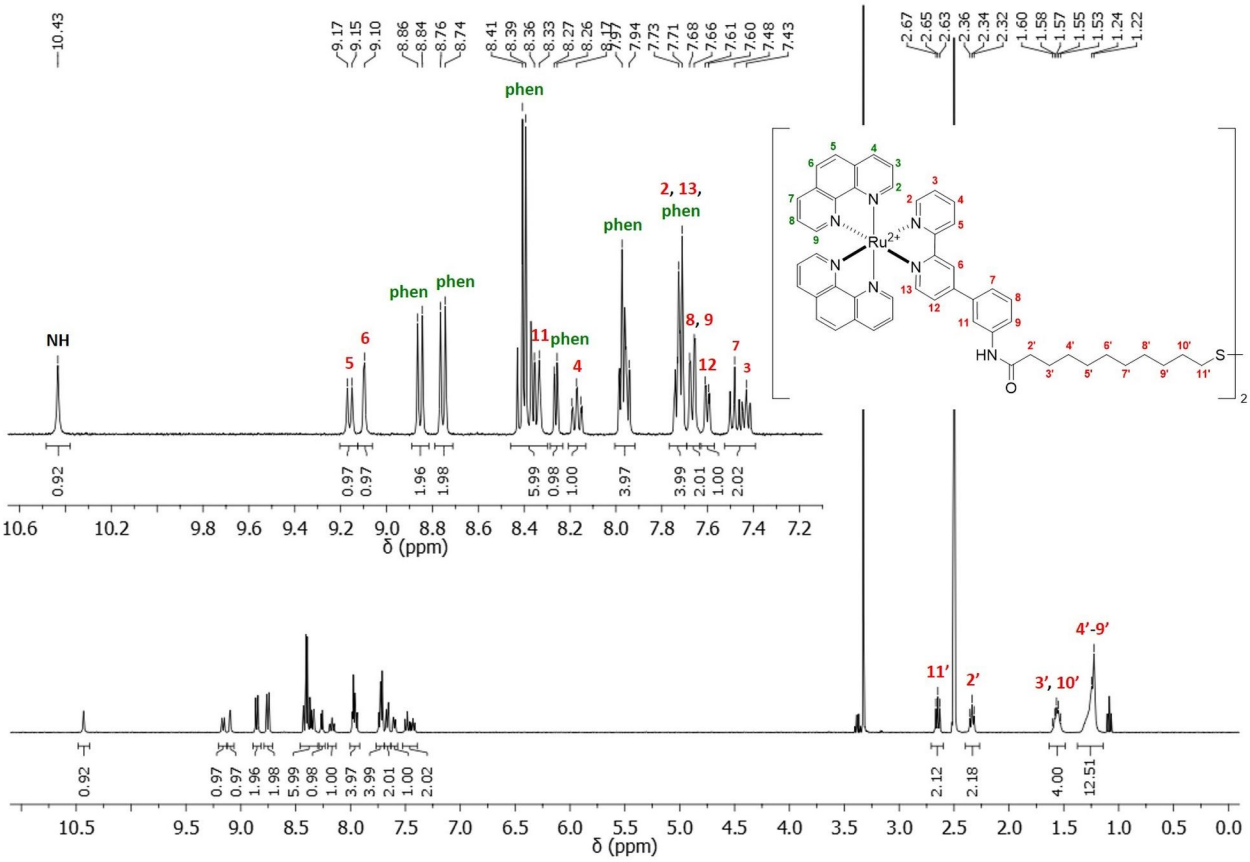

Fig. S4. ^{1}H NMR (400 MHz, DMSO-d_6) spectrum of complex **1**. Signals corresponding to **phen** ligands are in green and signals assigned to ligand **3** are in red.

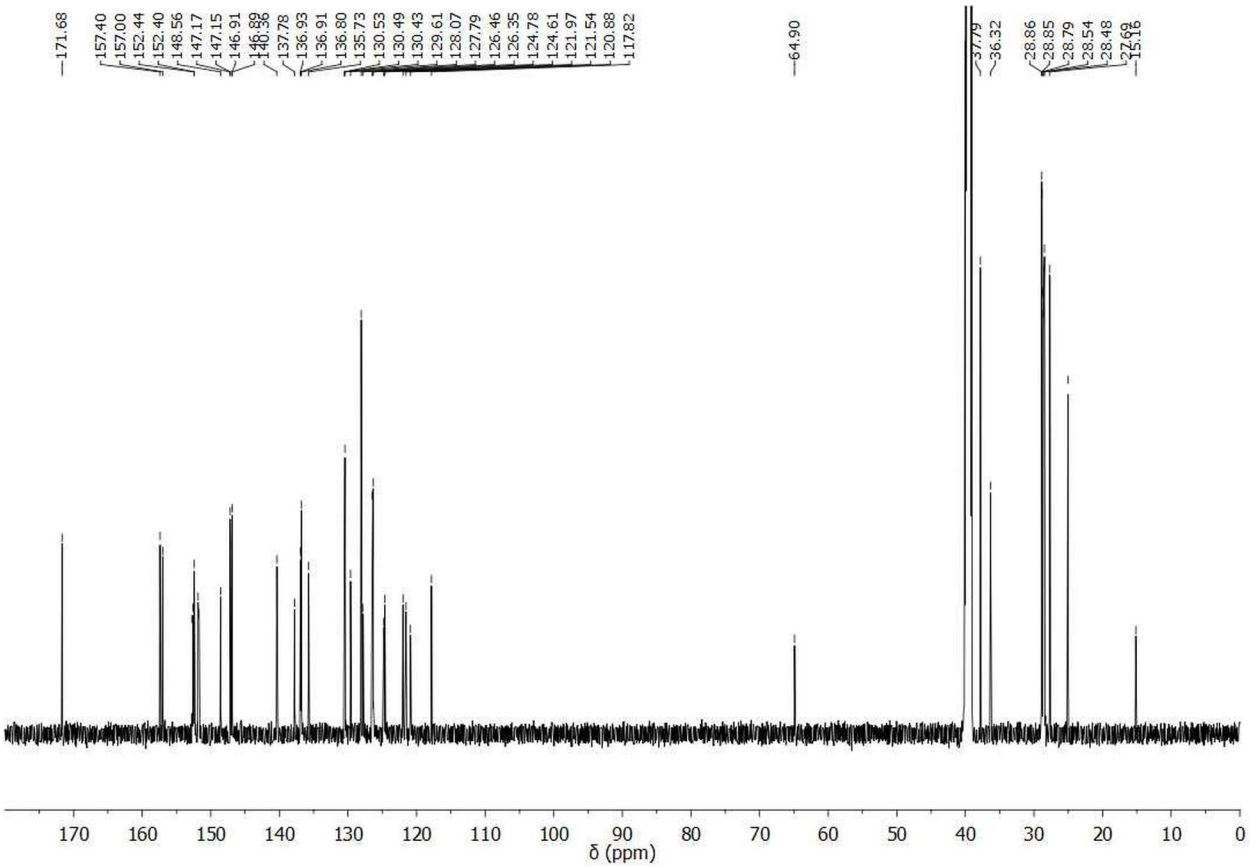

Fig. S5. ^{13}C NMR (101 MHz, DMSO-d_6) spectrum of complex **1**.

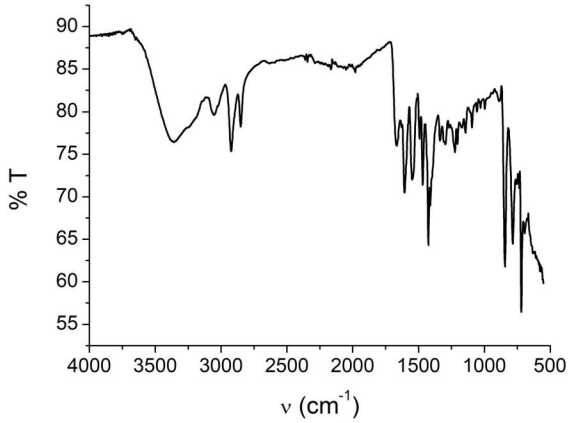

Fig. S6. FTIR spectrum of complex **1**.

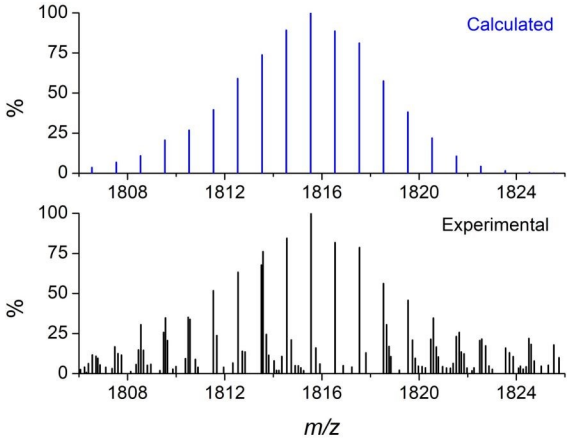

Fig. S7. Comparison between the calculated (blue) and experimental (black) isotopic distribution pattern for complex **1** from matrix-assisted laser desorption/ionisation (positive mode) high resolution mass spectrometry analysis.

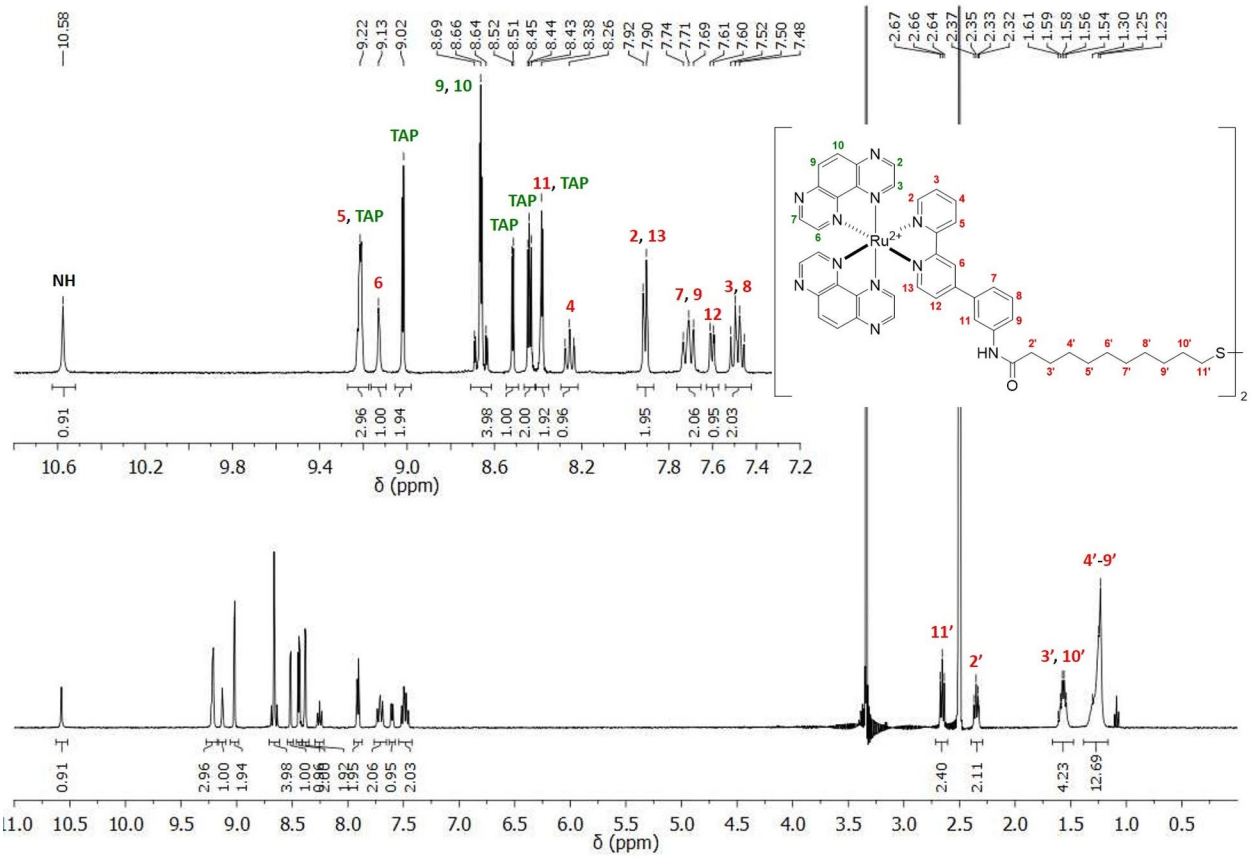

Fig. S8. ^{1}H NMR (400 MHz, DMSO-d_6) spectrum of complex **2**. Signals corresponding to **TAP** ligands are in green and signals assigned to ligand **3** are in red.

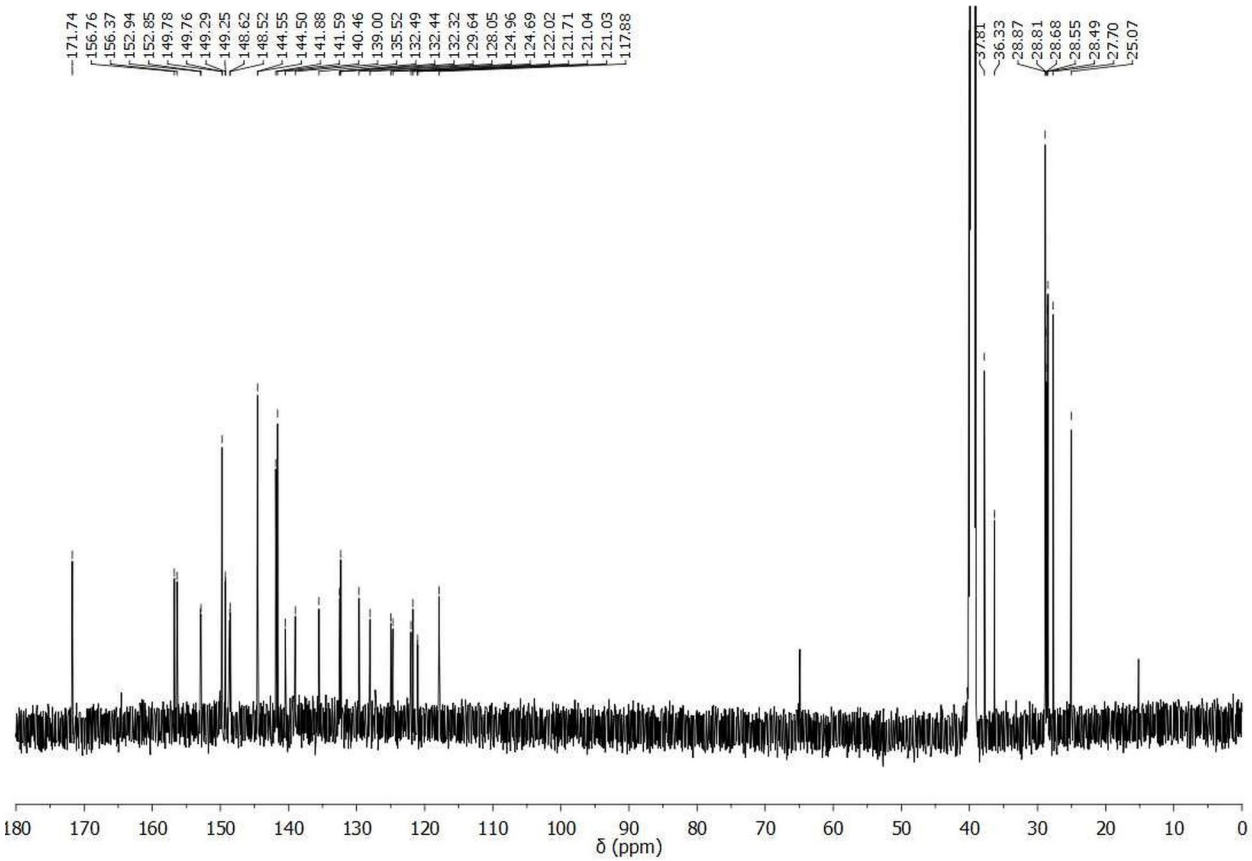

Fig. S9. ^{13}C NMR (101 MHz, DMSO-d_6) spectrum of complex **2**.

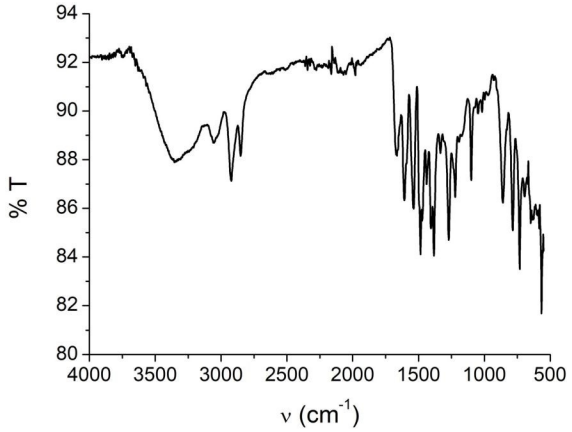

Fig. S10. FTIR spectrum of complex **2**.

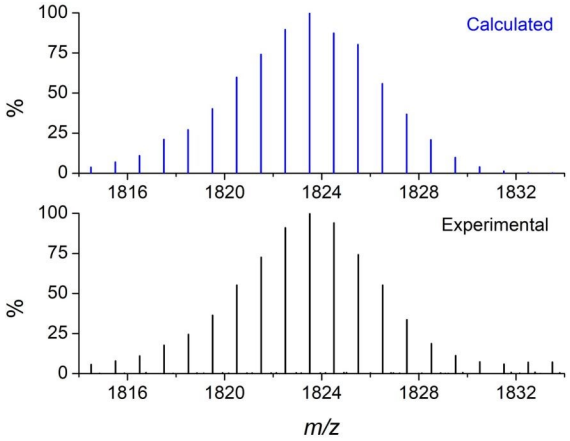

Fig. S11. Comparison between the calculated (blue) and experimental (black) isotopic distribution pattern for complex **2** from matrix-assisted laser desorption/ionisation (positive mode) high resolution mass spectrometry analysis.

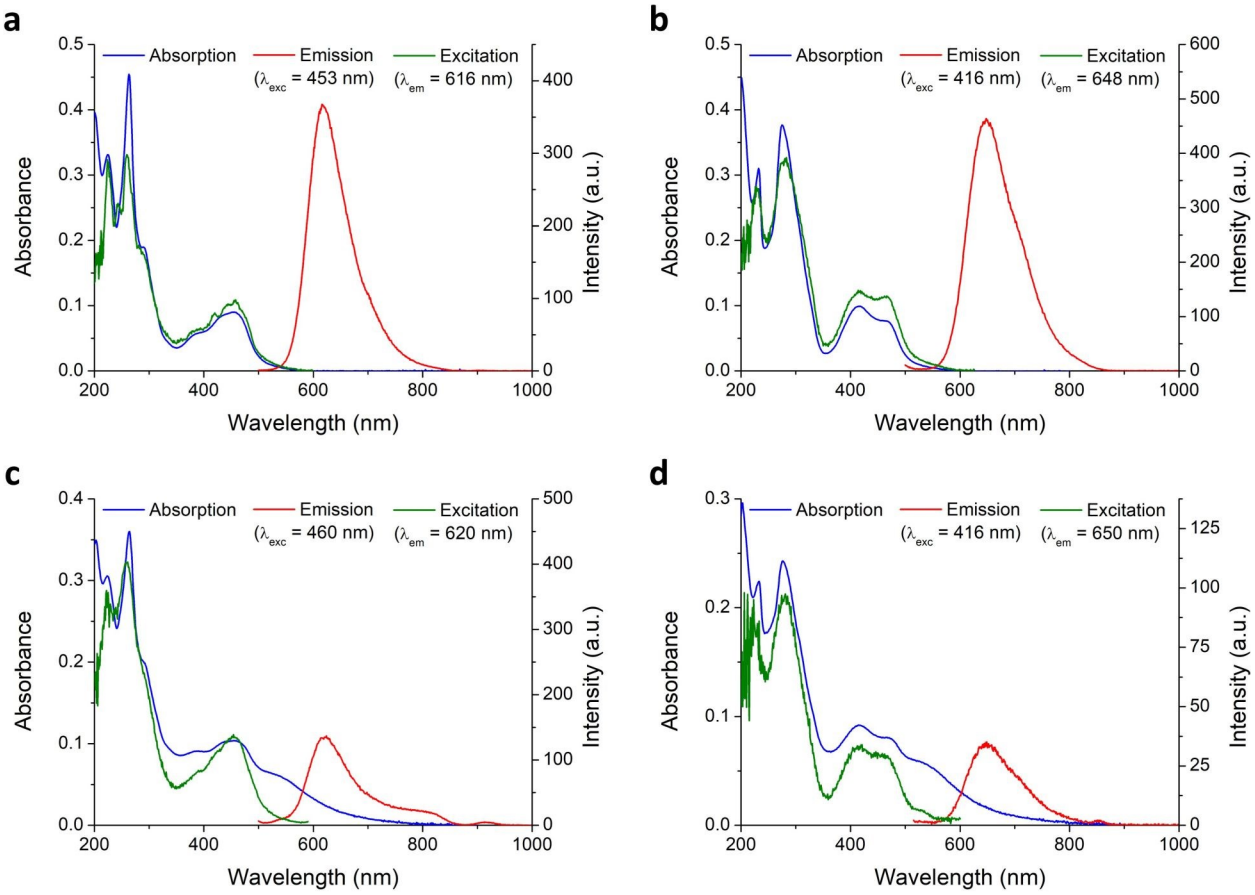

Fig. S12. UV-vis absorption, excitation and emission spectra of (a) **1**, (b) **2**, (c) **1·AuNP** and (d) **2·AuNP** in 10 mM sodium phosphate-buffered aqueous solution at pH 7.4, at 298 K.

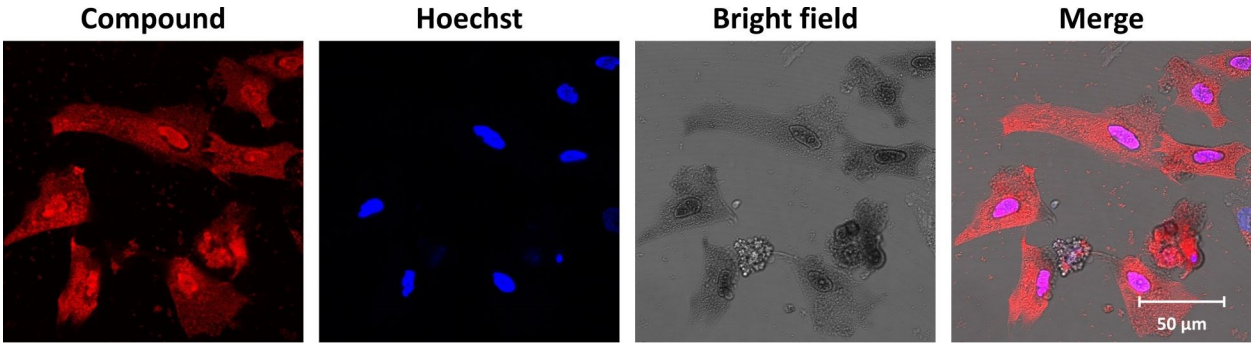

Fig. S13. Confocal fluorescence microscopy images of HeLa cells showing the nuclear uptake of **1** (red) at 20 µM after 24 h incubation. The nucleus is stained blue with Hoechst 33258.

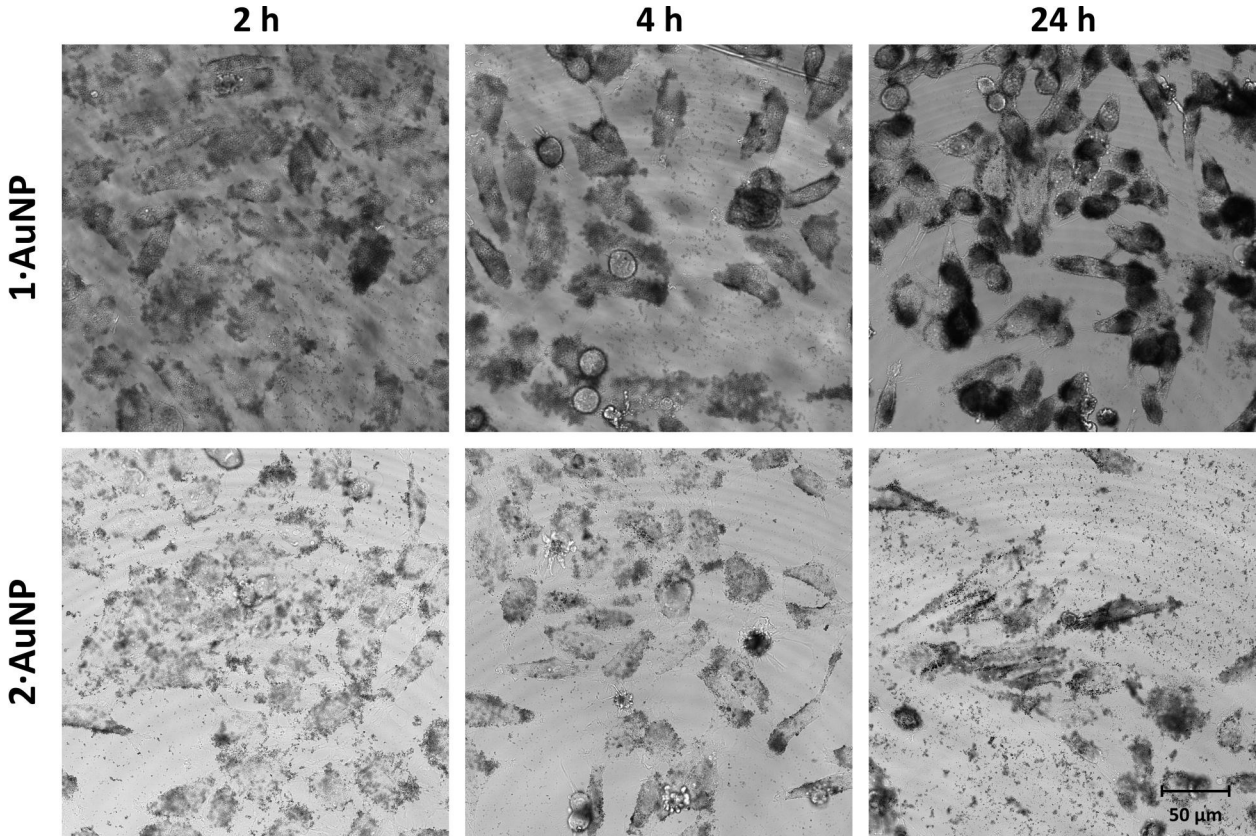

Fig. S14. Bright field images of HeLa cells showing the uptake of **1·AuNP** and **2·AuNP** at *ca.* 20 µM Ru(II) complex concentration after 2, 4 and 24 h incubation.

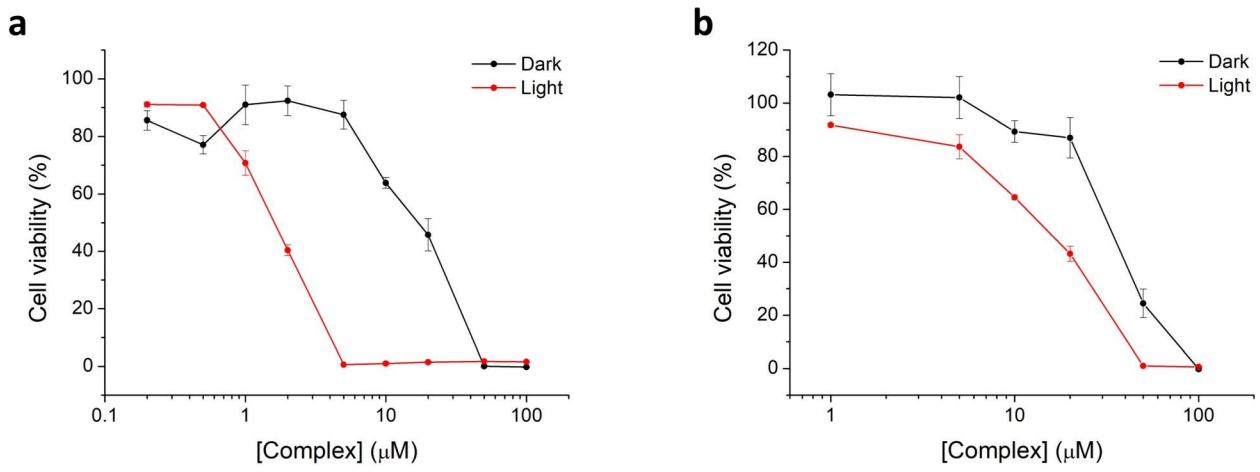

Fig. S15. Toxicity profiles of (a) **1** and (b) **2** in HeLa cells.