

Supporting Information

Increasing the cytotoxicity of Ru(II) polypyridyl complexes by tuning the electron donating ability of 1,10-phenanthroline ligands

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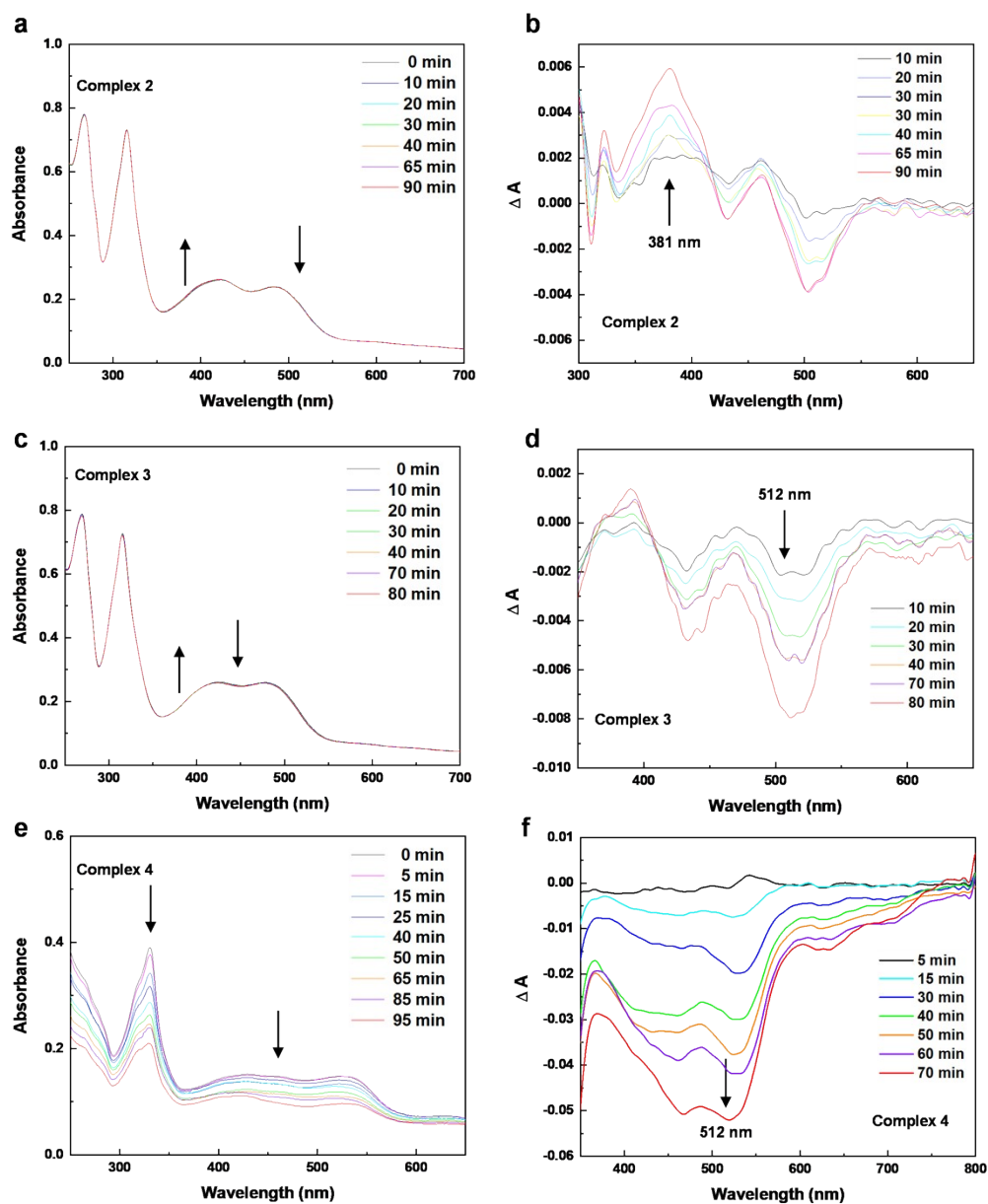


Fig. S1 a) b) Time evolution of UV-Vis difference spectra during the interaction of the complex 2, c) d) complex 3, and e) f) complex 4 ($\Delta A = A_t - A_0$).

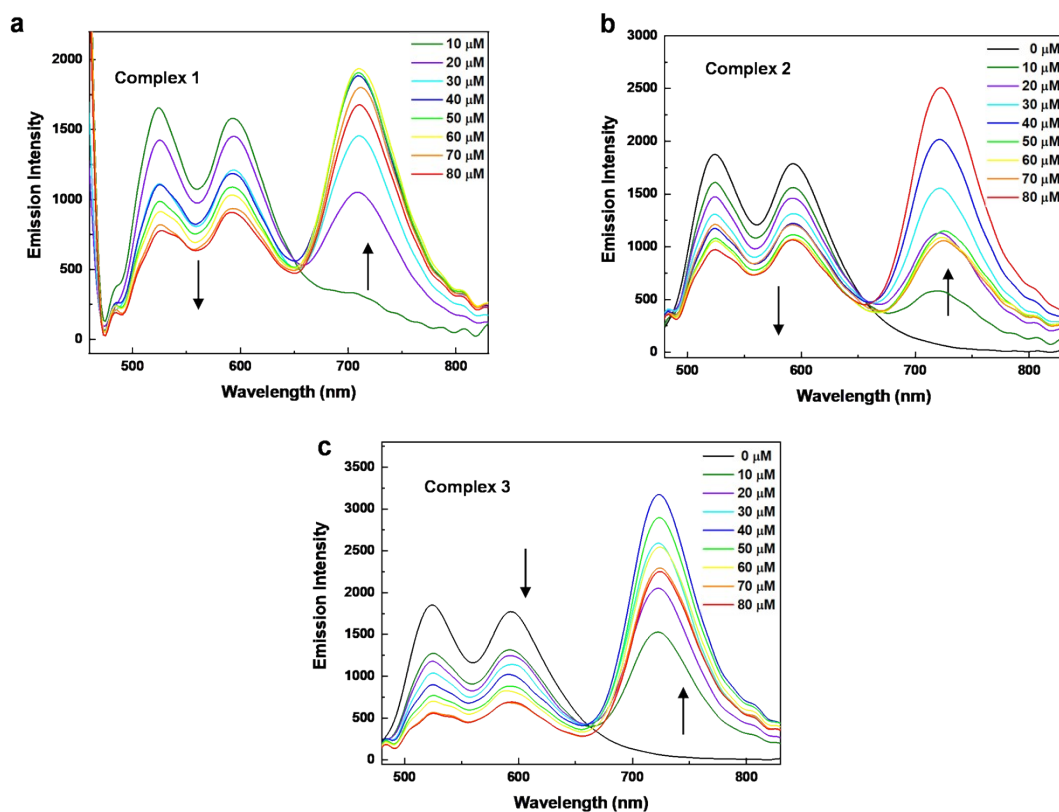


Fig. S2 a) - c) Emission spectra of EB bound to DNA in the presence of complexes 1-3.

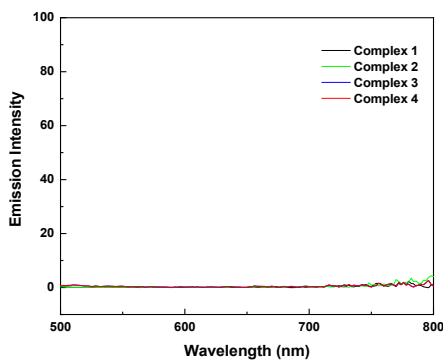
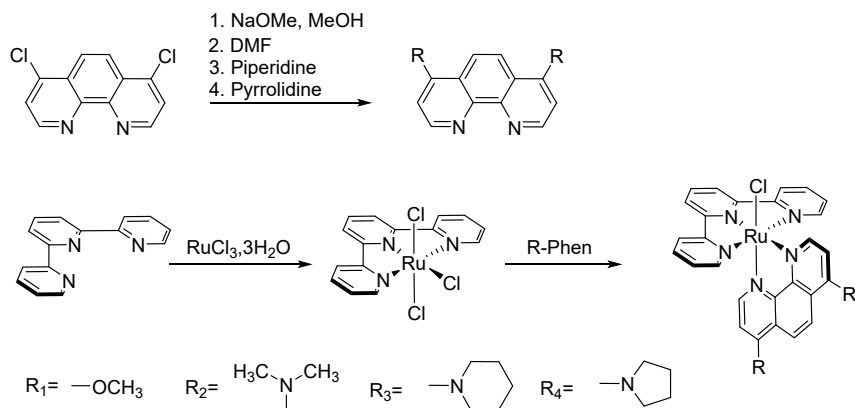


Fig. S3 Emission spectra of pristine complexes 1-4.



Scheme 1 Synthesis route of complexes 1-4.

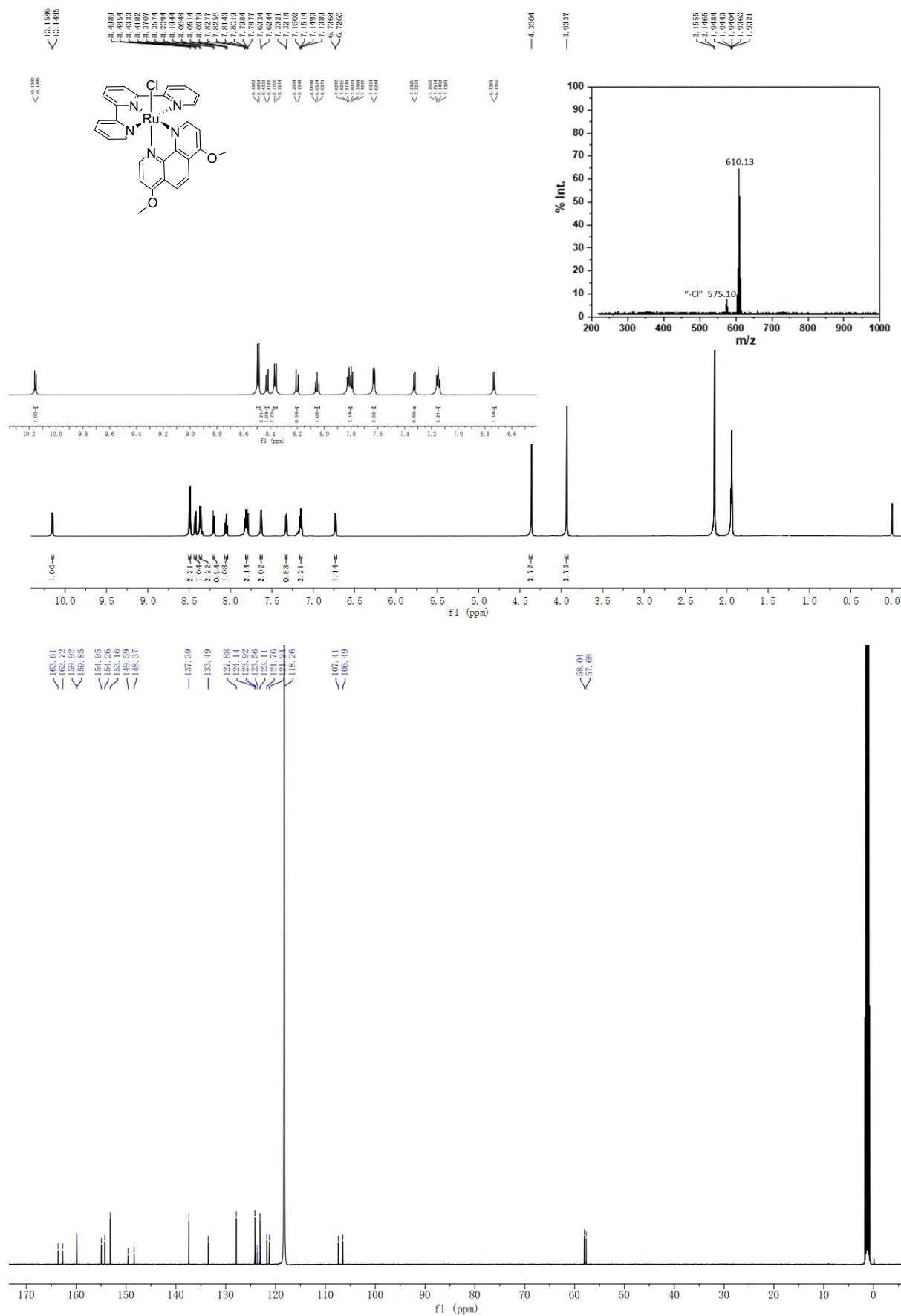


Fig. S4 ¹H NMR(600 MHz, CD₃CN), ¹³C (125 MHz, CD₃CN), and MALDI-TOF mass spectra of [Ru(tpy)(MeO-phen)Cl](PF₆) (1).

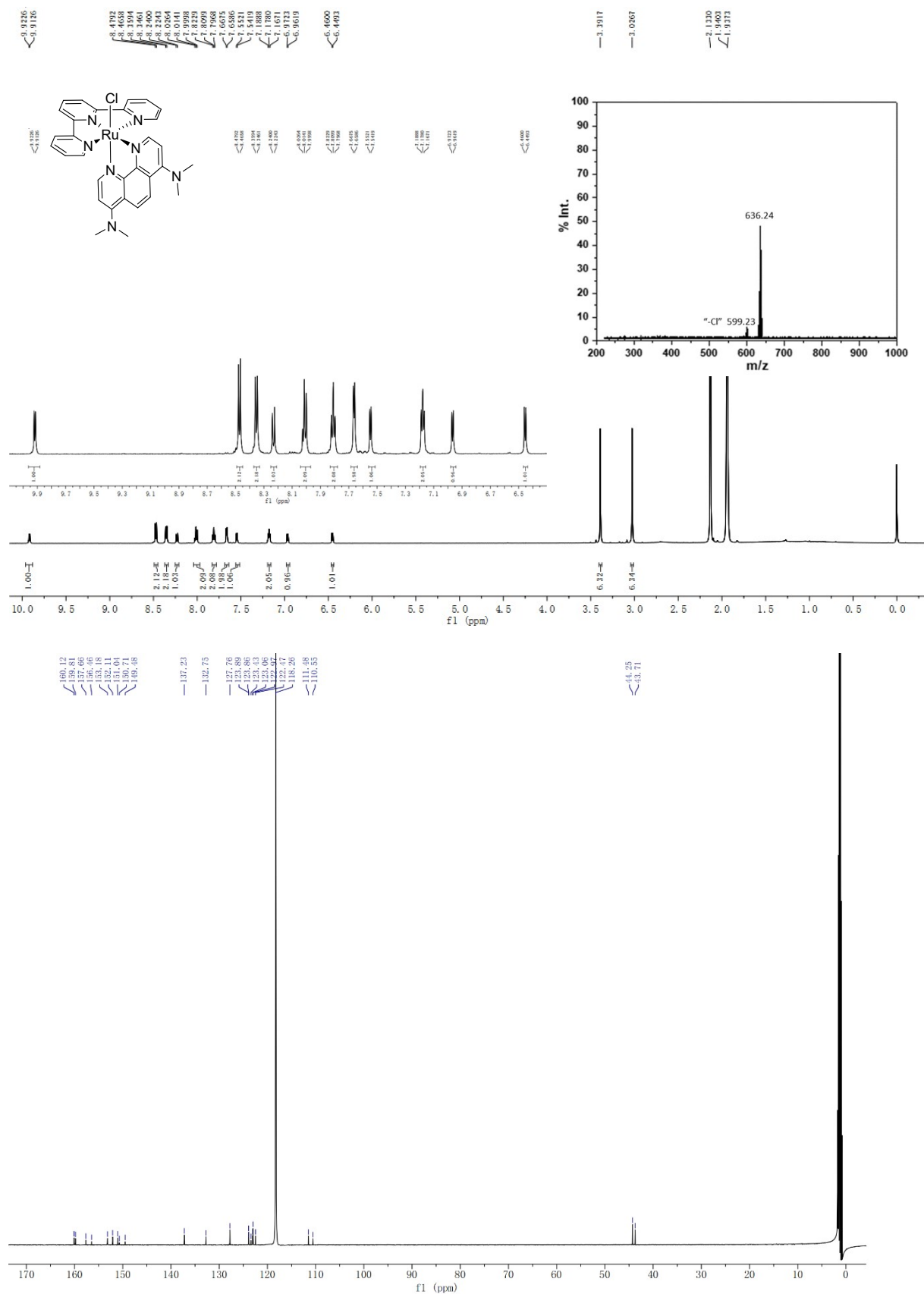


Fig. S5 ^1H NMR(600 MHz, CD_3CN), ^{13}C (125 MHz, CD_3CN), and MALDI-TOF mass spectra of $[\text{Ru}(\text{tpy})(\text{Amn-phen})\text{Cl}](\text{PF}_6)$ (**2**).

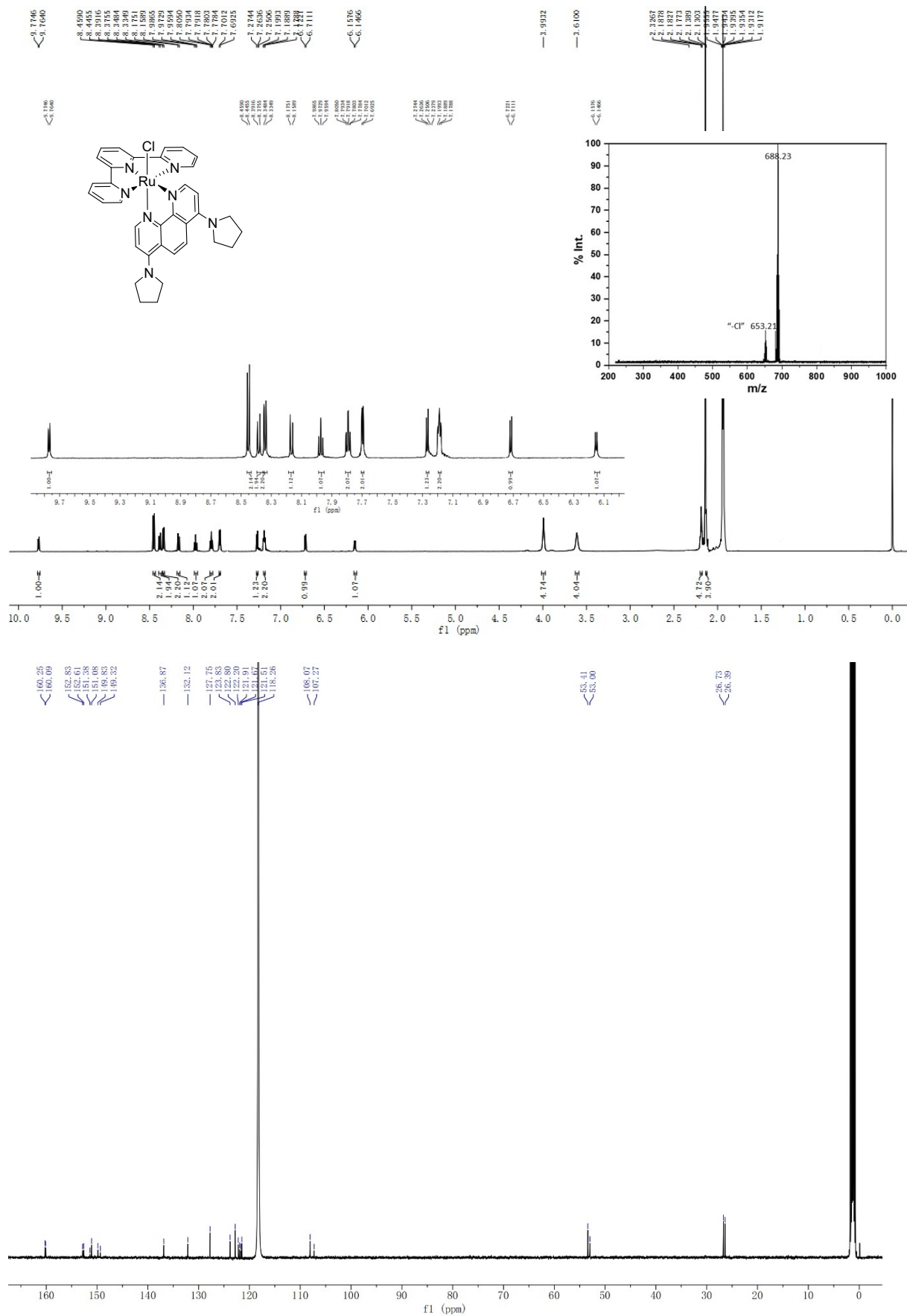


Fig. S7 ¹H NMR (600 MHz, CD₃CN), ¹³C (125 MHz, CD₃CN), and MALDI-TOF mass spectra of [Ru(tpy)(Pyr-phen)Cl](PF₆) (**4**).

Table S1. Observed pseudo-first order rate constants as a function of ligand concentration and temperature for the substitution reactions between complexes and L-His in 25 mM Hepes buffer containing 30 mM NaCl (pH=7.6).

Compound	$\lambda(\text{nm})$	$10^3 C_L/\text{M}$	$10^4 k_{\text{obsd}}/\text{s}^{-1}$
Complex 1	464	4.0	2.99 (2) ^a
		3.0	2.33 (2)
		2.1	1.86 (2)
		1.0	1.31(2)
		0.6	0.46 (2)
Complex 2	381	4.0	3.58 (2)
		3.0	2.66 (2)
		2.1	1.99 (2)
		1.0	1.51 (2)
		0.6	0.75 (2)
Complex 3	512	4.0	4.55 (2)
		3.0	3.58 (2)
		2.1	2.33 (2)
		1.0	1.76 (2)
		0.6	1.21 (2)
Complex 4	512	4.0	7.20 (2)
		3.0	5.30 (2)
		2.1	3.60 (2)
		1.0	2.44 (2)
		0.6	2.00 (2)

^a Number of runs in parenthesis