Electronic Supplementary Material (ESI) for Dalton Transactions.

Cellular membrane-targeting ruthenium complexes as an efficient photosensitizer for broad-spectrum antibacterial activity

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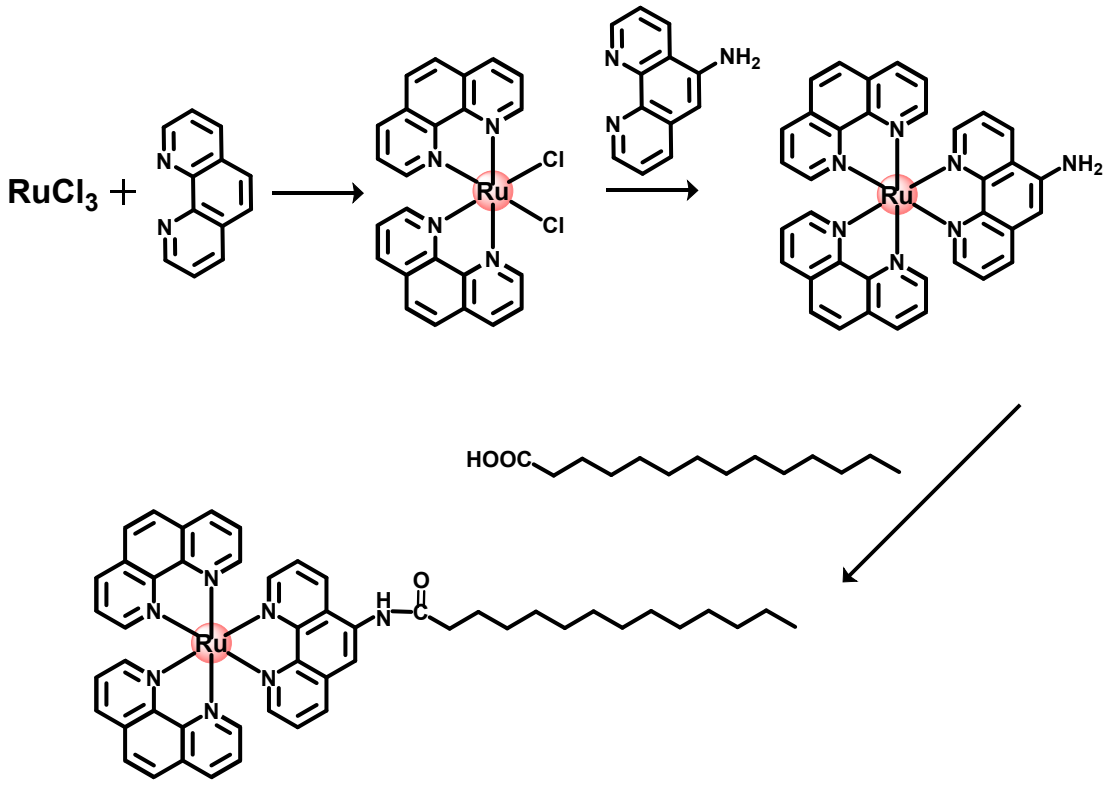

Fig. S1. The synthetic route of Ru-C14

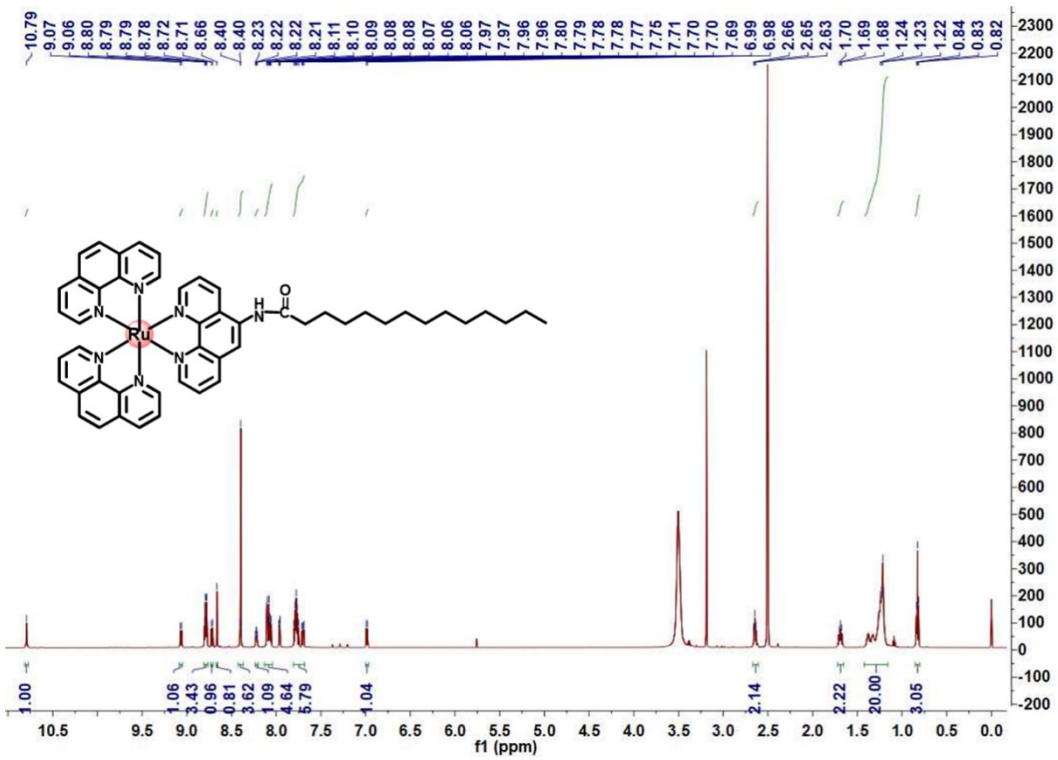

Fig. S2. The 500 MHz ^{1}H NMR spectrum of Ru-C14 in the DMSO-d^{6} solution.

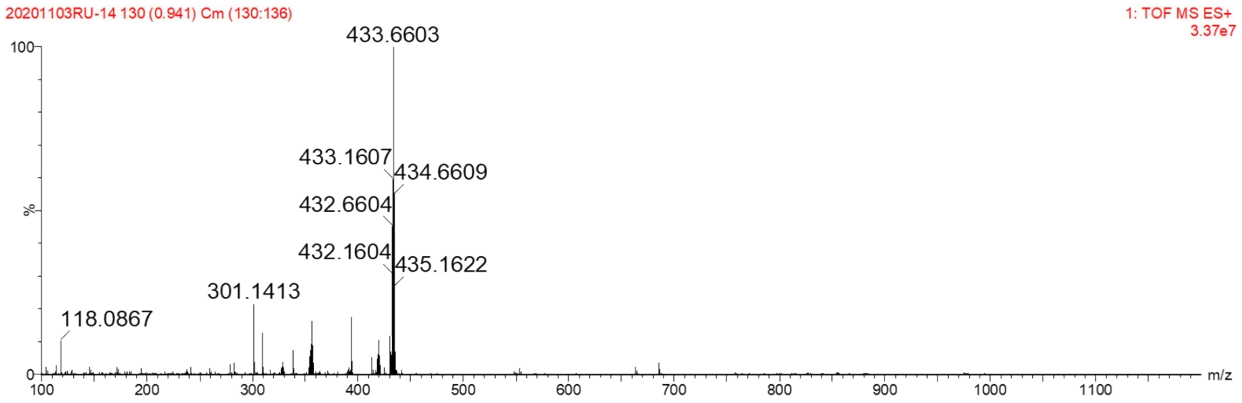

Fig. S3. The ESI-MS spectrum of Ru-C14 in CH_3OH.

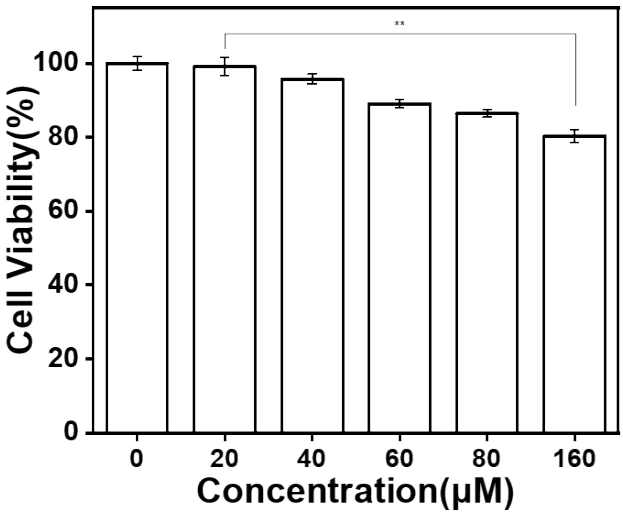

Fig.S4 The viability of HUVEC cells after incubation with different concentrations of Ru-C14 under dark.

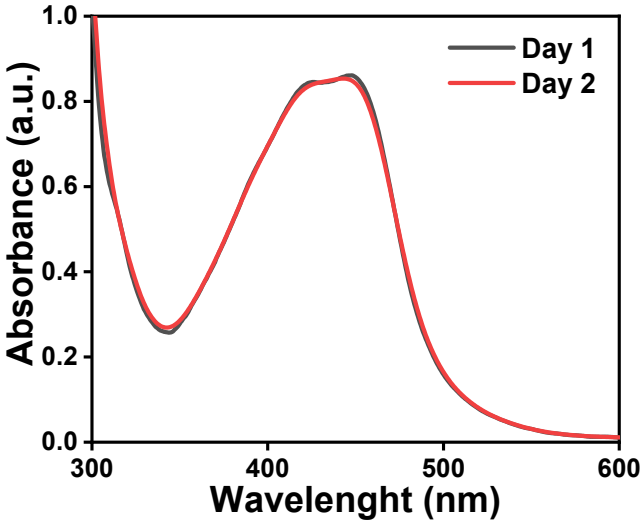

Fig.S5 UV-vis spectra of Ru-C14 in PBS solution for 2days.

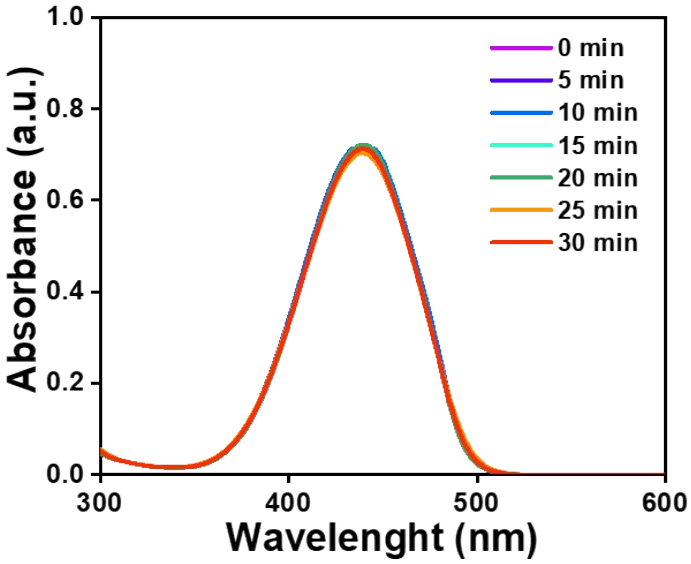

Fig.S6 Study on ROS generation of Ru-C14 under dark.

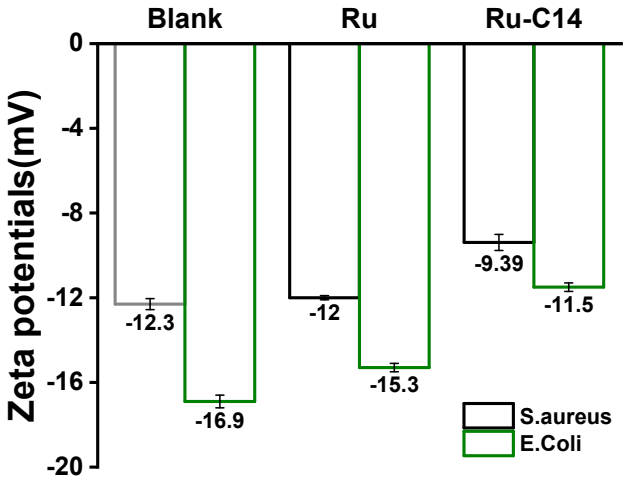

Fig.S7 Trend of zeta potential change of bacterial liquid after the treatment of different complexes.

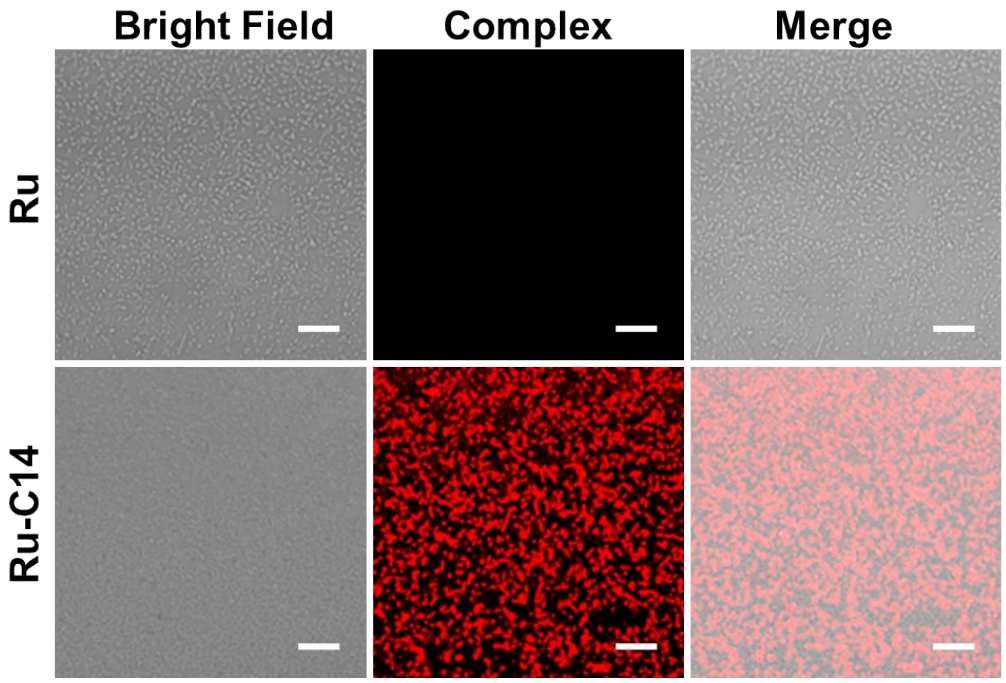

Fig.S8 Fluorescence of *E.coli* treated with Ru and Ru-C14 at the same concentration and time. (scale bars:100 μm)

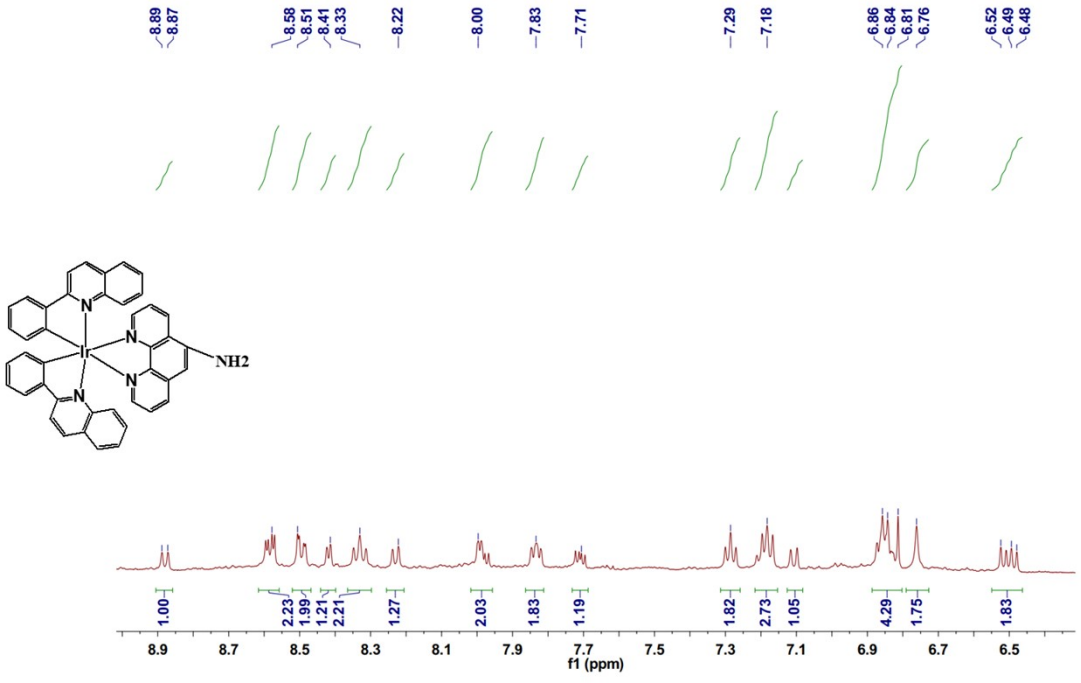

Fig. S9. The 500 MHz ^{1}H NMR spectrum of Ir-NH_2 in the DMSO-d^6 solution.

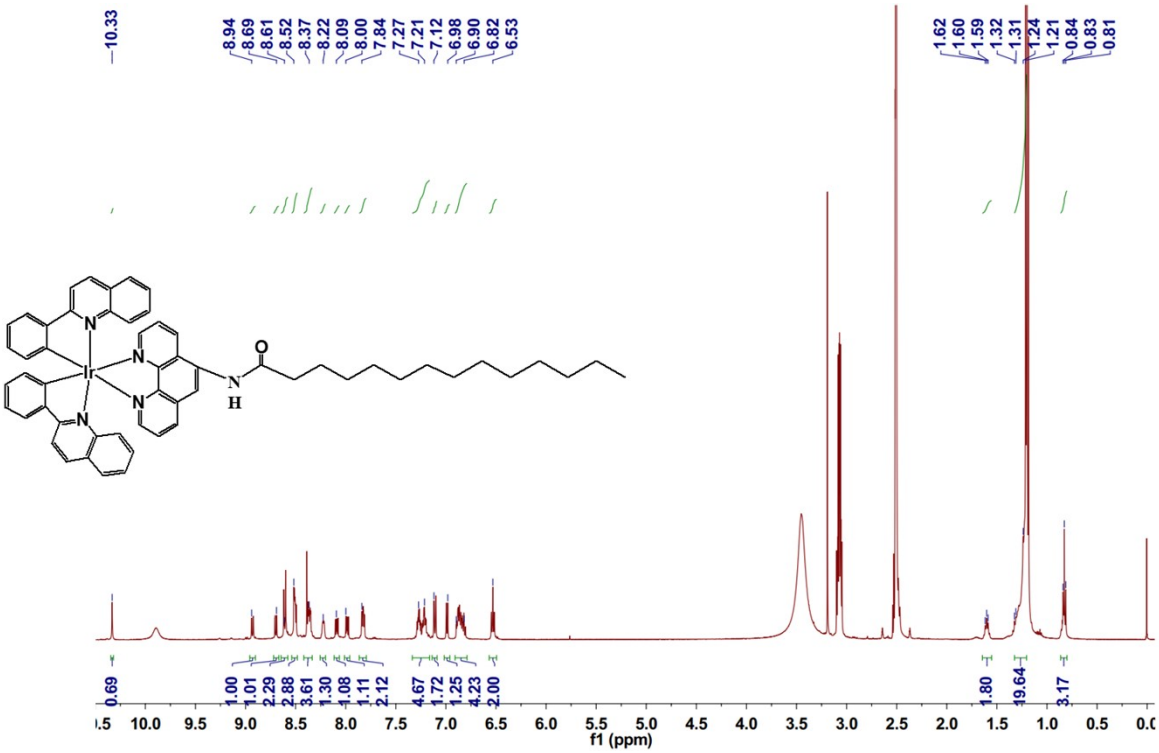

Fig. S10. The 500 MHz ^{1}H NMR spectrum of Ir-NH_2-C14 in the DMSO-d^6 solution.

Table S1. Antibacterial effect on two kinds of bacteria

Samples	Gram negative strains *E.coli*				Gram positive strains *S.Aureus*			
	Dark		Light		Dark		Light	
	MIC/μM	MBC/μM	MIC/μM	MBC/μM	MIC/μM	MBC/μM	MIC/μM	MBC/μM
Ru	＞100	＞100	＞100	＞100	＞100	＞100	＞100	＞100
Ru-C14	50.0±0.11	50.0	12.5±0.14	12.5	6.25±0.23	6.25	3.125±0.03	3.125
Ir	＞100	＞100	＞100	＞100	＞100	＞100	＞100	＞100
Ir-C14	50.0±0.45	50.0	25±0.11	25	50±0.32	50	25±0.72	25
Meticillin	12.5±0. 54	12.5	/	/	6.25±0.17	6.25	/	/
Streptomycin	25.0±0.58	25.0	/	/	25.0±0.42	25.0	/	/