**Supplementary Material (ESI) for Journal of Materials Chemistry**
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# Supporting Information

# Dinuclear iridium(III) complexes as phosphorescent trackers to monitor mitochondrial dynamics

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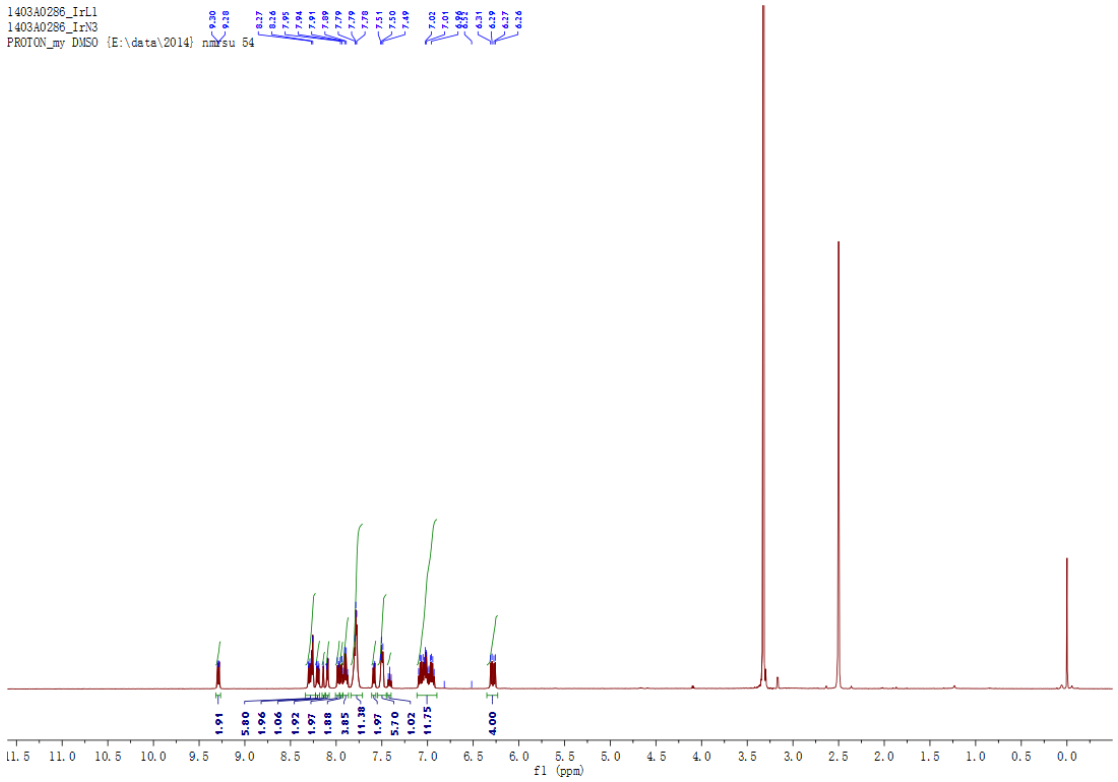


**Fig. S1** $^1$H NMR spectra of **Ir1** in $d_6$-DMSO, 500 MHz

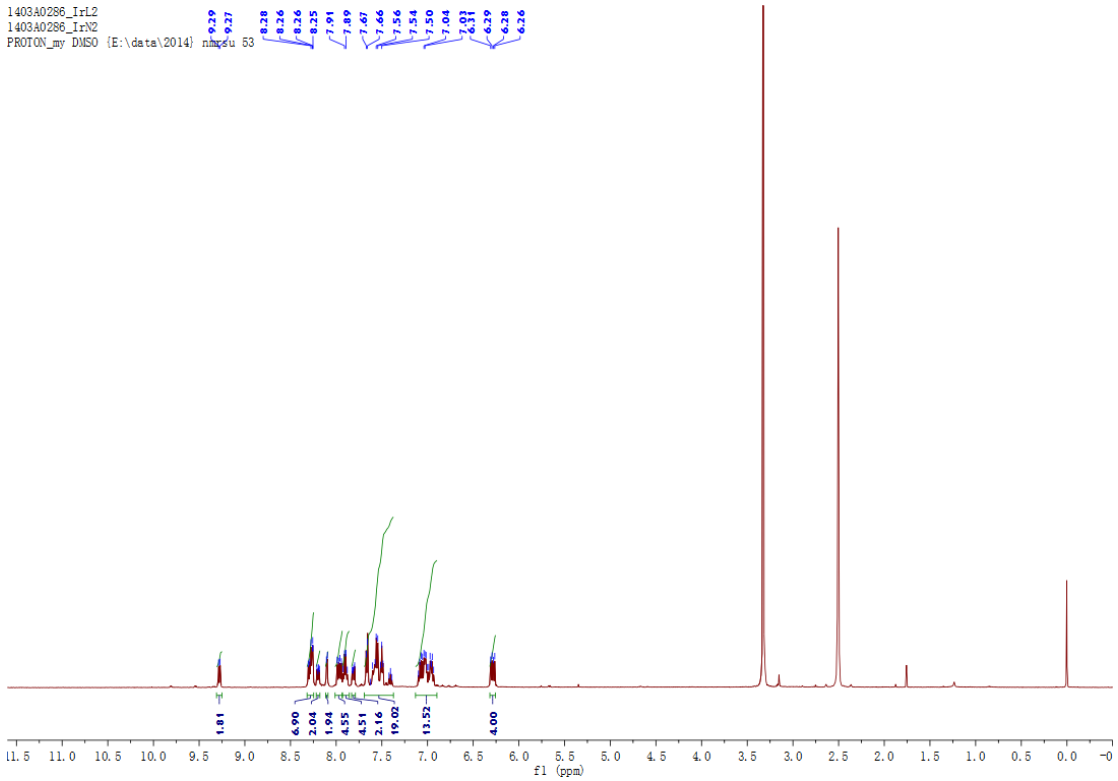


**Fig. S2** $^1$H NMR spectra of **Ir2** in $d_6$-DMSO, 500 MHz

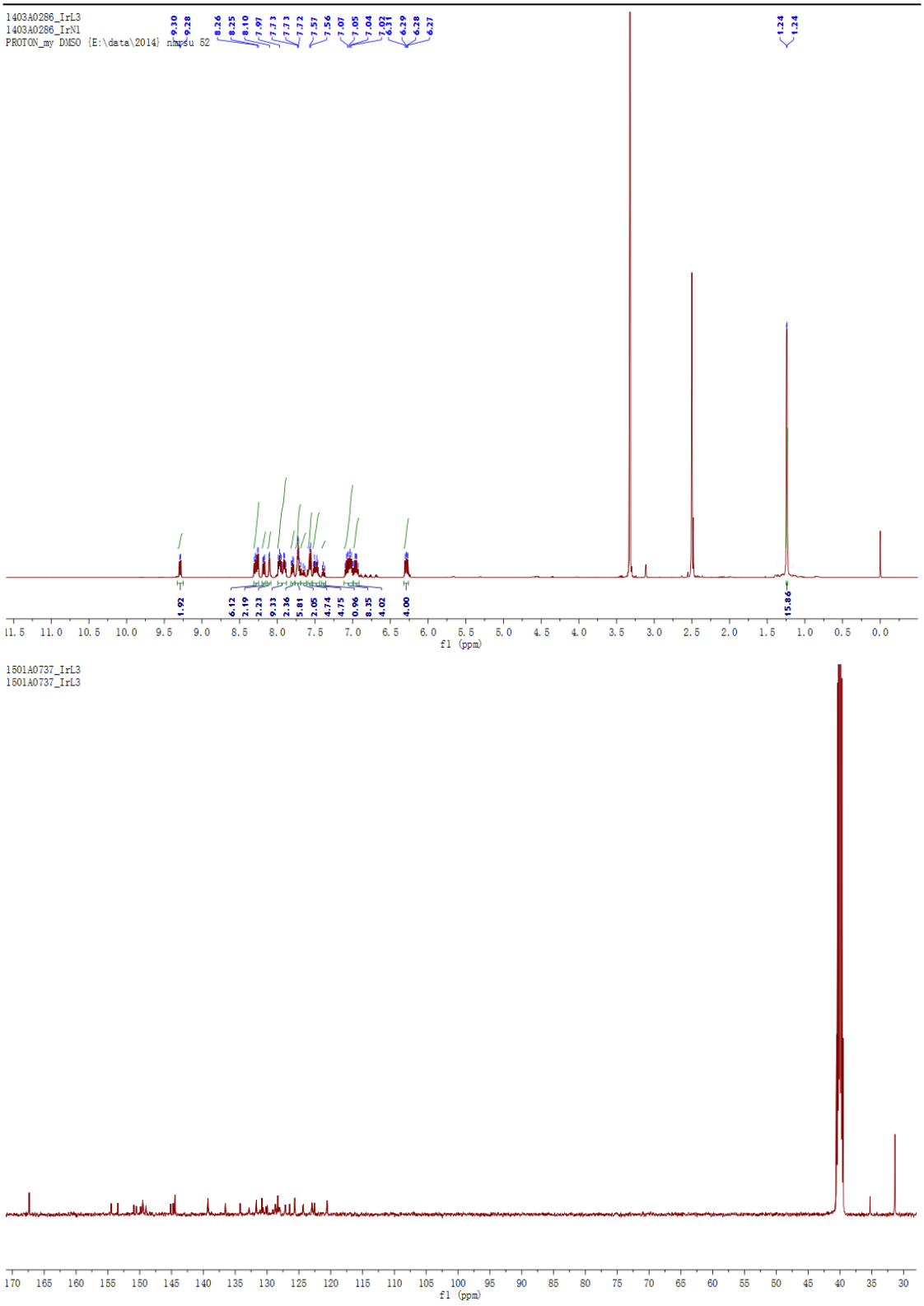


**Fig. S3** $^{1}$H NMR spectra of **Ir3** in $d_6$-DMSO, 500 MHz

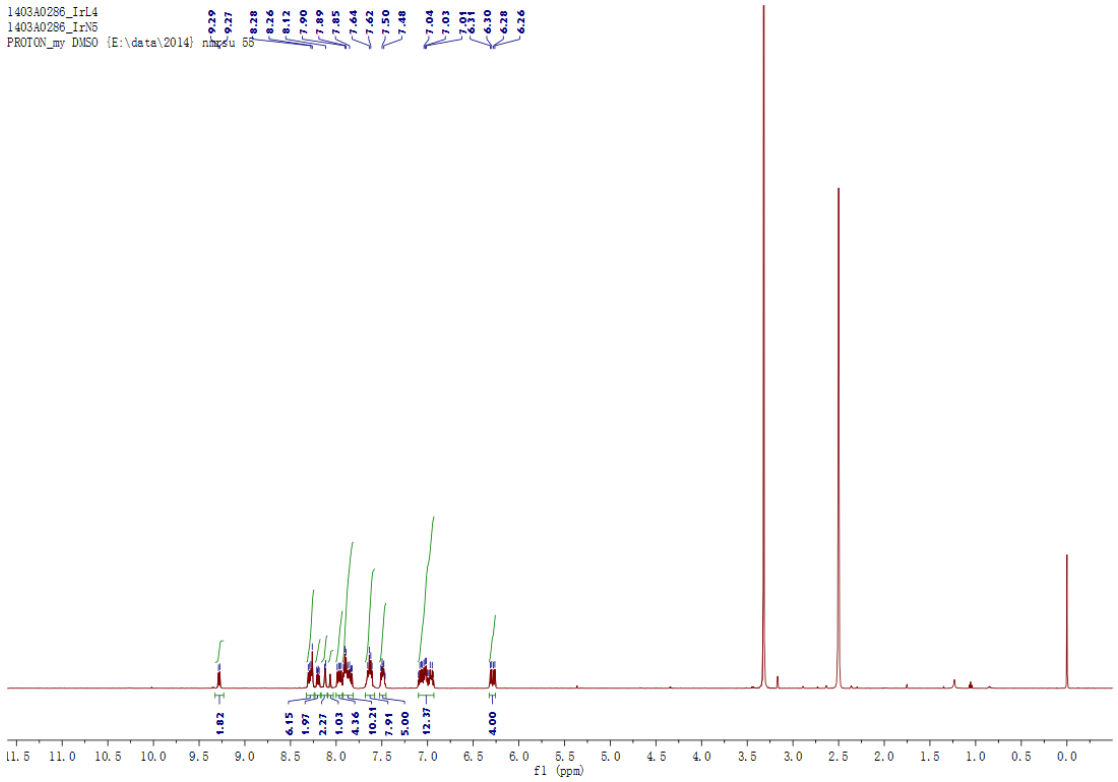


**Fig. S4** $^1$H NMR spectra of **Ir4** in $d_6$-DMSO, 500 MHz

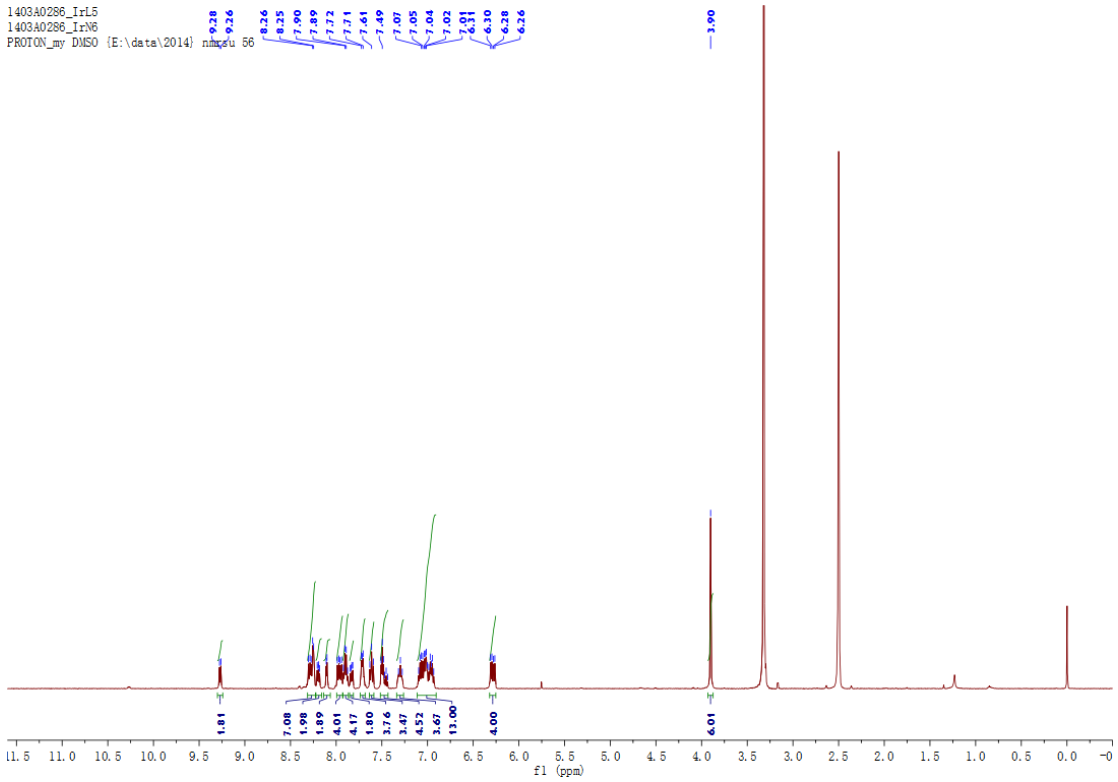


**Fig. S5** $^1$H NMR spectra of **Ir5** in $d_6$-DMSO, 500 MHz

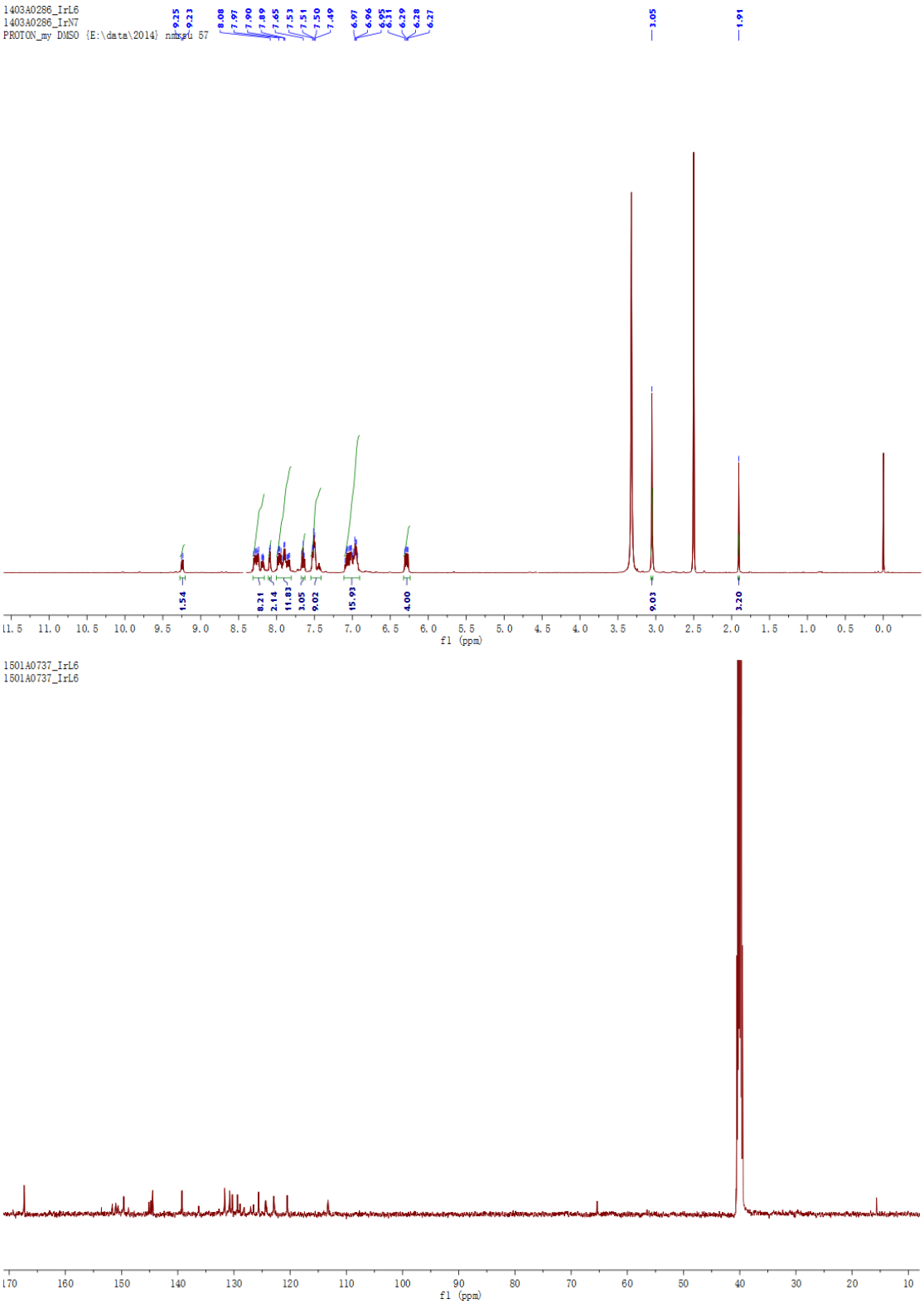


**Fig. S6** $^1$H NMR spectra of **Ir6** in $d_6$-DMSO, 500 MHz

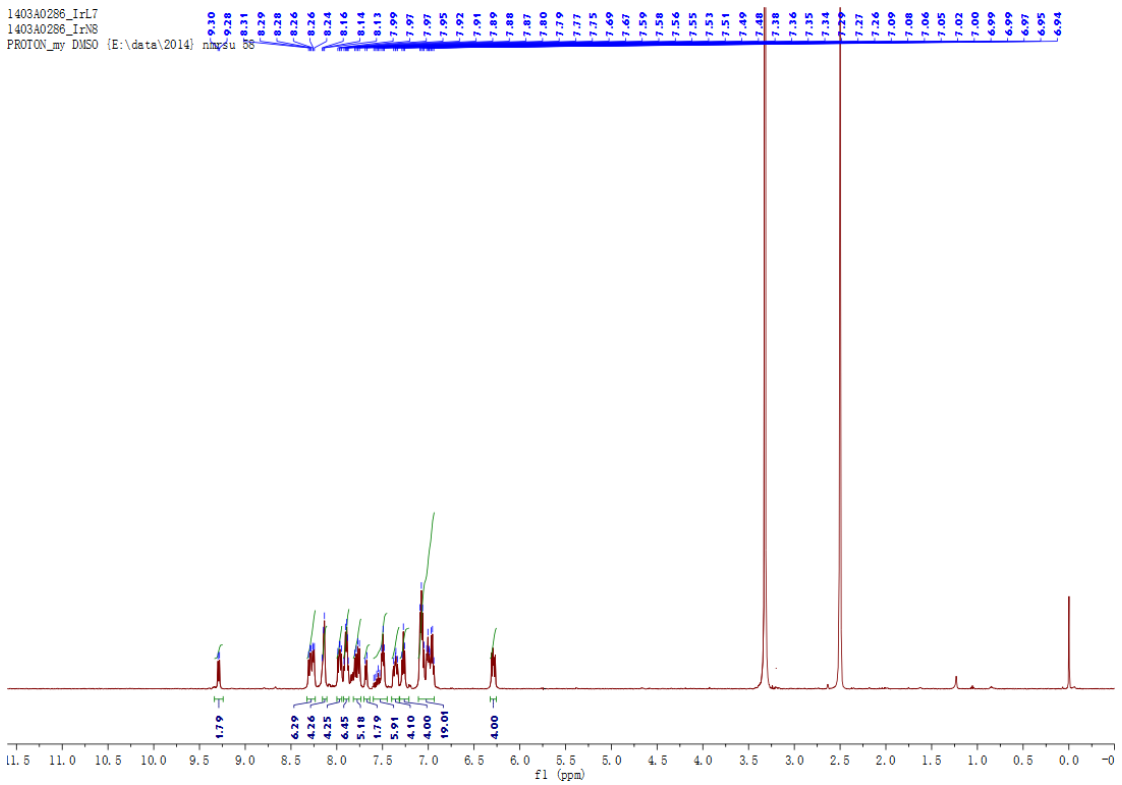


**Fig. S7** $^1$H NMR spectra of **Ir7** in $d_6$-DMSO, 500 MHz

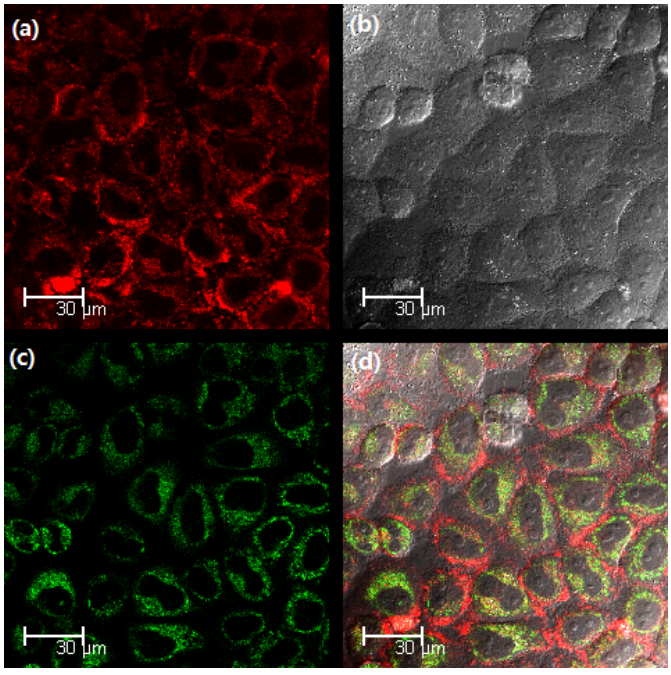


**Fig. S8** Confocal phosphorescence image, bright field image and their overlay of living HeLa cells incubated with 5 μM of **Ir1** in DMSO and PBS (pH = 7.4, 1:99, v/v) for 30 min at 37 ºC, followed by 50 nM of MTR. (a) confocal phosphorescence images of **Ir1**; (b) bright field images; (c) confocal luminescence images of MTR; (d) overlay of a, b and c. Excitation wavelength: 405 nm for **Ir1** and 488 nm for MTG; emission filter: 580 ± 10 nm for Ir1 and 520 ± 10 nm for MTG.

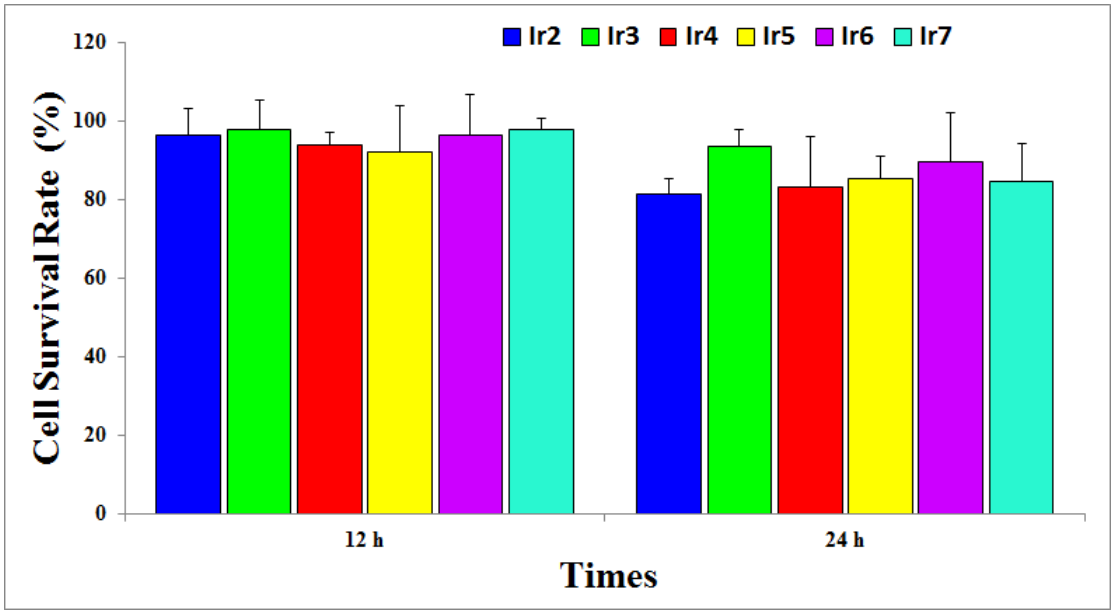


Fig. S9 *In vitro* cell viability of HeLa cells incubated with 5 μM of **Ir2**-**Ir7** at 37 ºC for 12 h and 24 h, respectively.

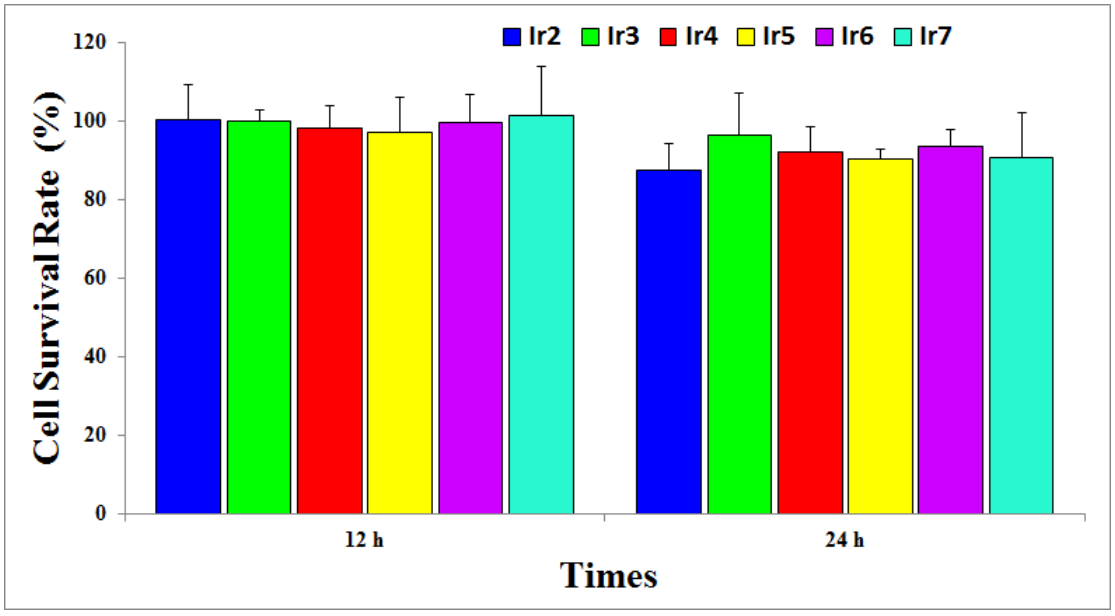


Fig. S10 *In vitro* cell viability of LO2 cells incubated with 5 μM of **Ir2**-**Ir7** at 37 ºC for 12 h and 24 h, respectively.