

Supporting Information

Synergistic Coordination and Hydrogen Bonding Interaction Modulate the Emission of Iridium Complex for Highly Sensitive Glutamine Imaging in Live Cells

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Figure S1. ESI-MS spectrum of Ir1 complex.

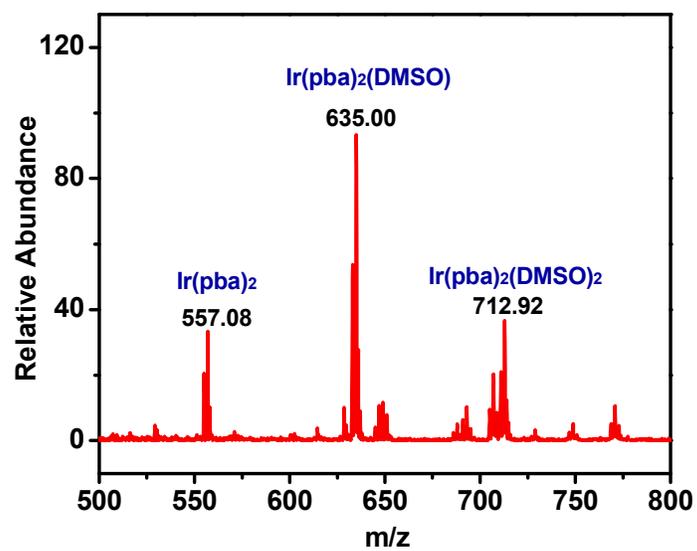


Table S1. Photophysical characterization of Ir1 Complex

Species	Absorption λ_{abs} (nm)	Emission λ_{em} (nm)	Φ_{a} (%)	τ_{a} (ns)
$\text{Ir}(\text{pba})_2(\text{DMSO})_2$ (Ir1)	281, 318, 420	557	0.04	100
$\text{Ir}(\text{ppy})_2$ (DMSO) ^b	420	Non-emissive	<0.01	–

a Quantum yields were measured using a DMSO/PBS solution (v/v, 1/49, 10 mM) saturated with Ar gas at room temperature. b The values of $\text{Ir}(\text{ppy})_2(\text{DMSO})_2$.S1

Figure S2. Fluorescent spectra of Ir1 (a) and Ir1-Gln complex (b) (20 mM in PBS/DMSO solution, v/v = 1/49) before and after 7 days of storage. Inset: photograph of Ir1 and Ir1-Gln complex in PBS/DMSO solution; Comparison of the fluorescence spectra of Ir1 (c) and Ir1-Gln complex (d) in the absence and presence of cellular environment. $\lambda_{ex} = 368$ nm.

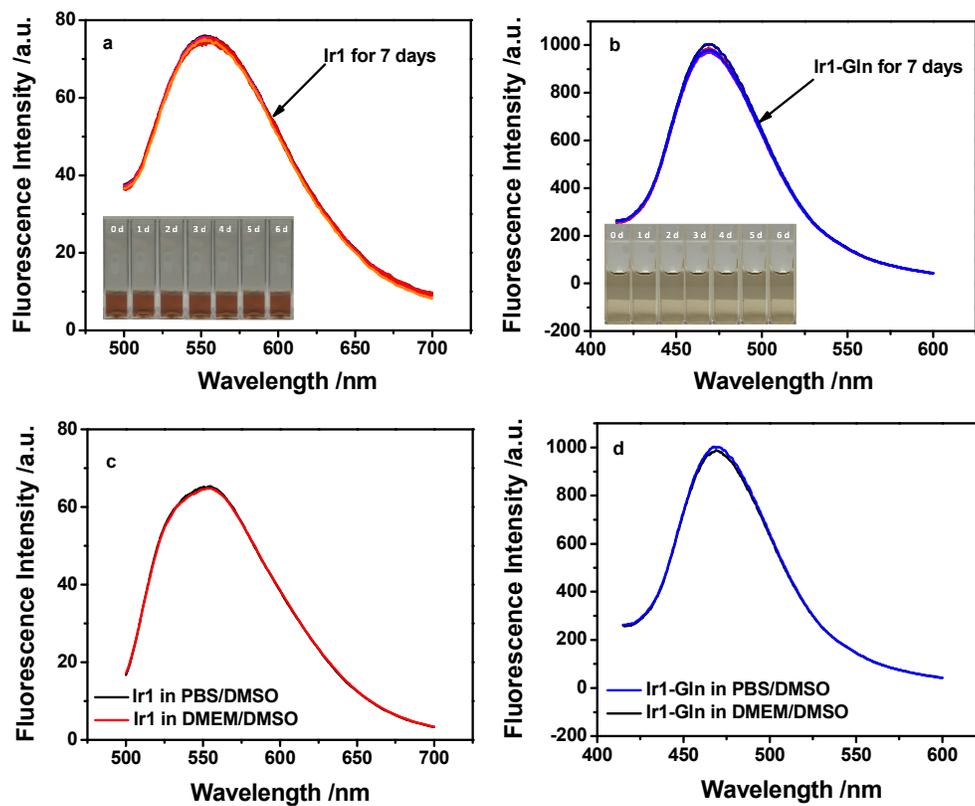


Figure S3. MALDI-TOF spectrum of Ir1/Arg complex

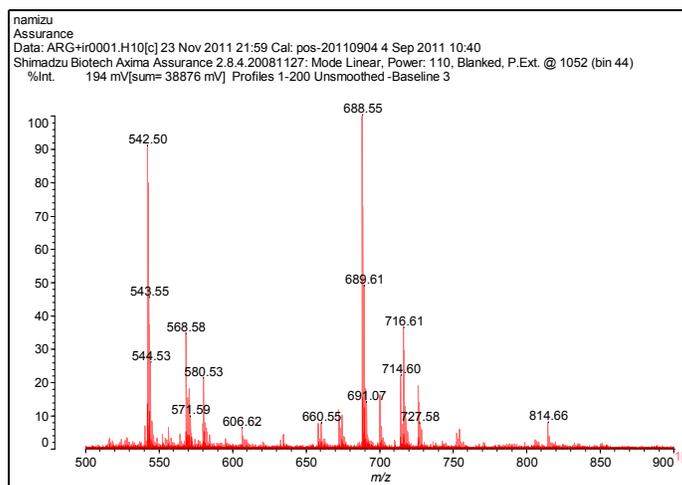


Figure S4. MALDI-TOF spectrum of Ir1/His complex

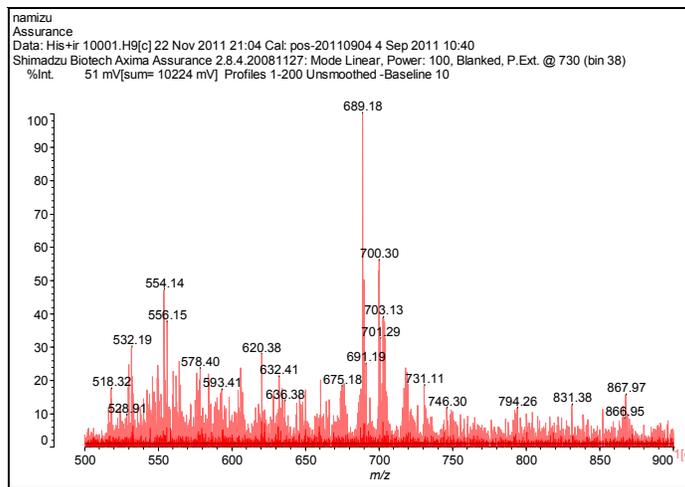


Figure S5. Cell viability (%) of HeLa cells treated with different concentration of Ir1 (0, 20, 40, 60, 80, 100 μ M) for 24 h.

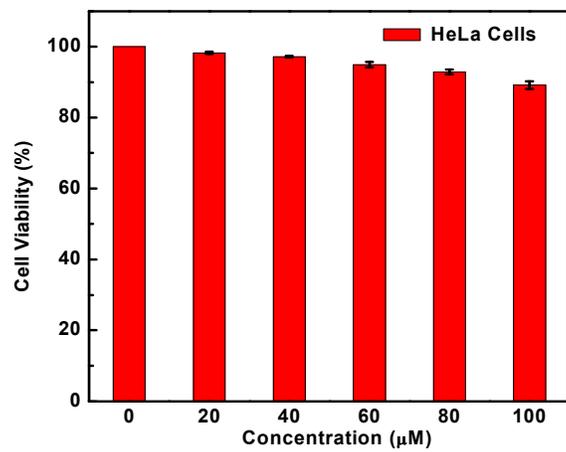
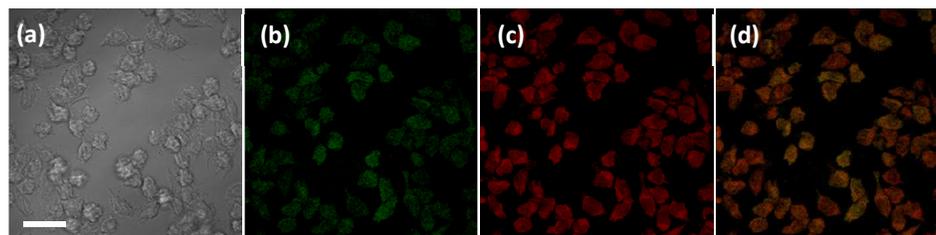


Figure S6. CLSM images of HeLa cells incubated with 20 μM Ir1 in DMSO/PBS (pH 7.0, 1/49, v/v, 10mM) for 1 h at 37 $^{\circ}\text{C}$ and then further incubated with 2 μM rodamine123 for 10 min under the same condition: (a) Bright field image; (b) blue channel at 420-490 nm (λ_{ex} : 405 nm); (c) green channel at 500-600 nm (λ_{ex} : 488 nm); Merged image (d) of blue channel and green channel. Scale bar, 20 μm .



Reference

S1. C. Y. Li, M. X. Yu, Y. Sun, Y. Q. Wu, C. H. Huang, F. Y. Li, *J. Am. Chem. Soc.* 2011, 133, 11231-11239.