Electronic Supplementary Material (ESI) for Journal of Materials Chemistry C.

Electronic Supplementary Information

A charged iridophosphor for time-resolved luminescent CO_2 gas identification

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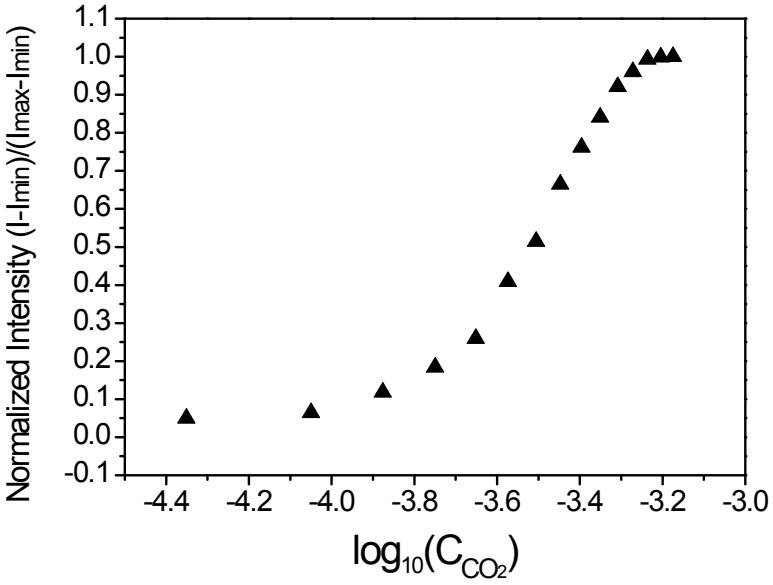

Fig. S1 Changes in the phosphorescence intensity of a solution of complex **1** in CH_3CN (10 μM) containing CH_3COO^- (3 equiv.) with various quantities of CO_2 gas. I_{min} represents the phosphorescence intensity (at 596 nm) of **1** with 3 equiv. CH_3COO^- I_{max} represents the phosphorescence intensity (at 596 nm) of **1** with 3 equiv. CH_3COO^-, followed by bubbling with 15 mL CO_2 gas.

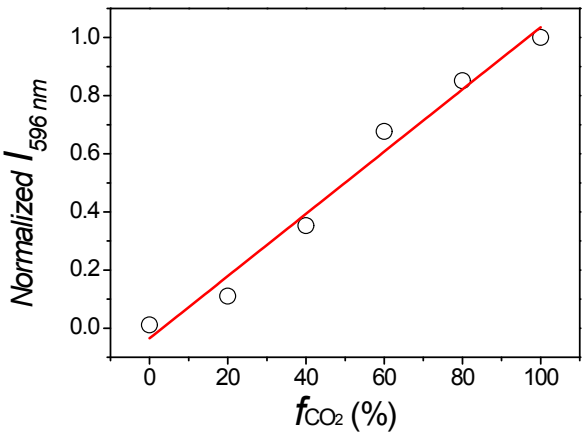

Fig. S2 A plot of PL intensity of **1** versus fraction of CO_2 (f_{CO_2}) in CO_2/N_2 mixtures.

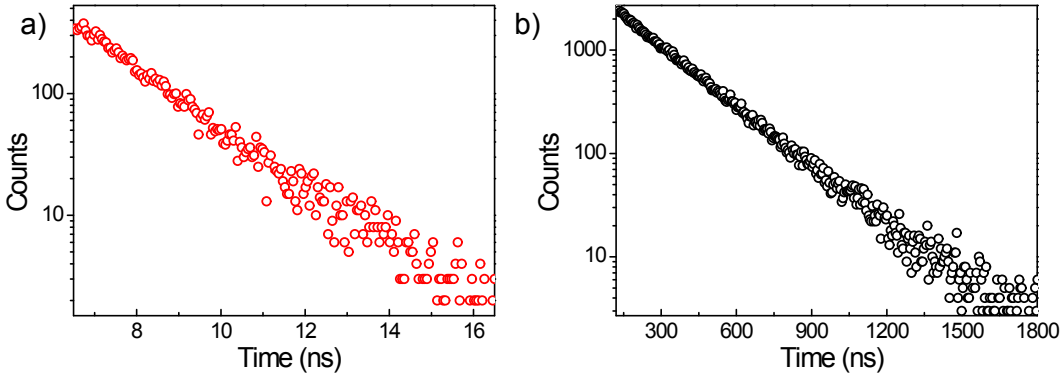

Fig. S3 Fluorescence lifetime decay profiles of (a) rhodamine B and (b) complex **1** with CH_3COO^- followed by treatment with CO_2 gas in CH_3CN using the TCSPC method with an excitation wavelength of 365 nm.

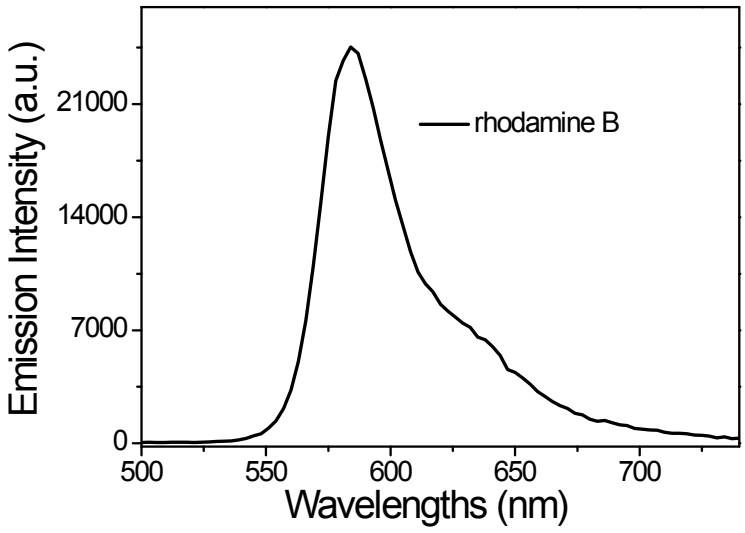

Fig. S4 PL spectra of rhodamine B in CH_3CN with an excitation wavelength of 365 nm.

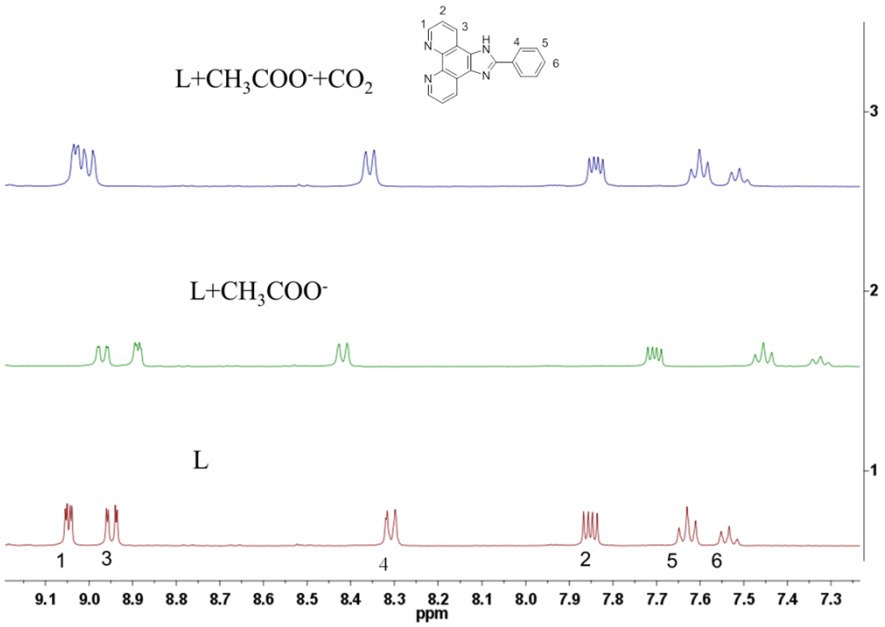

Fig. S5 ^{1}H NMR spectra of **L**, **L**+CH_3COO^- and **L**+CH_3COO^- + CO_2 in DMSO-d_6.

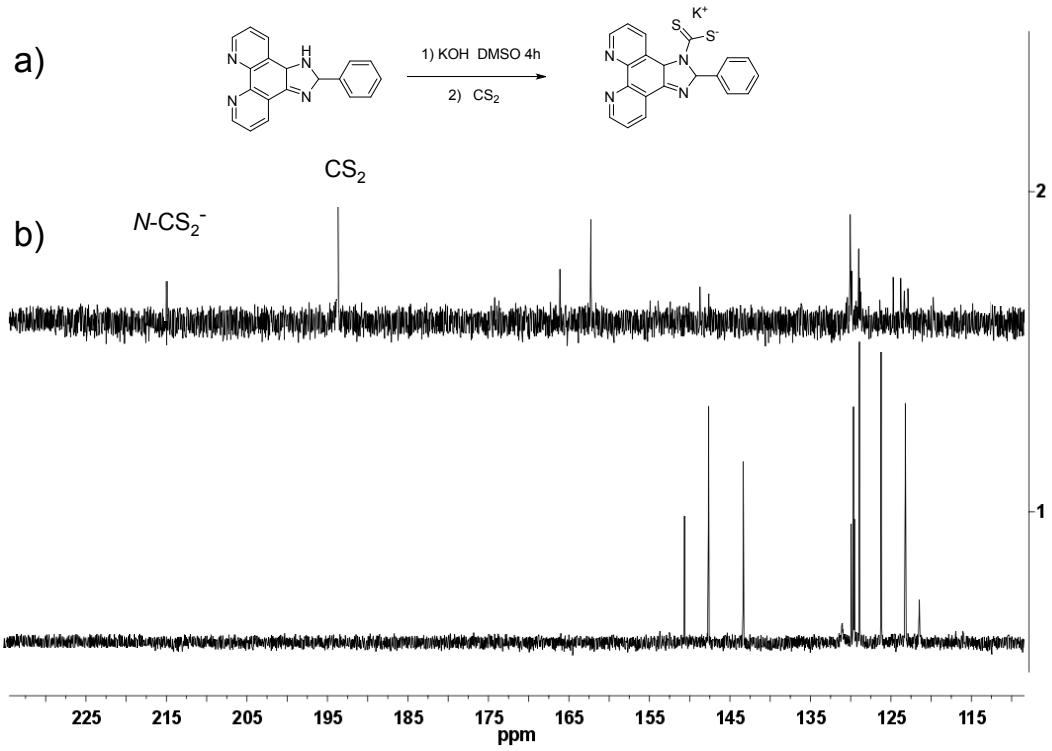

Fig. S6 (a) Proposed formation of the CS_2 adduct of 2-phenylimidazo-[4,5-*f*][1,10]phenanthroline. (b) ^{13}C NMR spectra of **L** and **L-CS$_2^-$ K$^+$** in DMSO-*d*$_6$.