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Supporting Information

A two-photon fluorescent probe for detecting endogenous hypochlorite in living cells

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1 Spectroscopic Properties of HQ and HQ+ClO^-

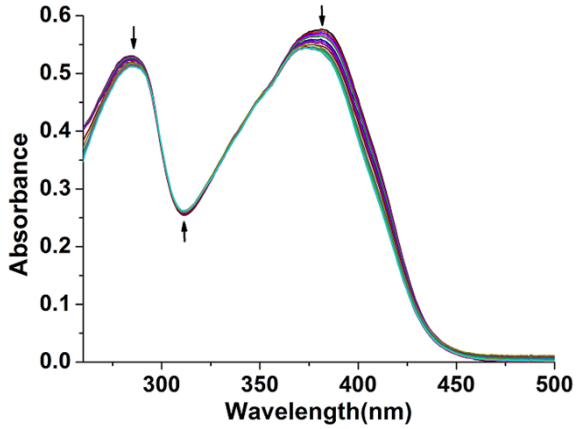

Fig. S1 UV/vis spectra of **HQ** (20 μM) titrated with ClO^- (0-120μM) in pH 7.4 PBS/DMSO (1:9, v/v). The arrows indicate the changes in the absorption intensities with the increased ClO^- concentration.

2 Calibration curve for ClO^-

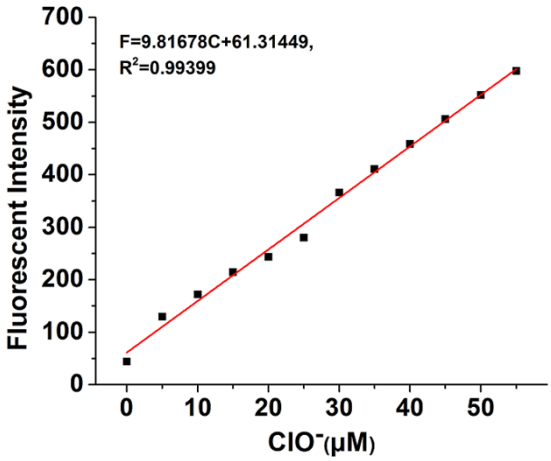

Fig. S2 Calibration curve for ClO^-. Working conditions: pH 7.4 PBS/DMSO (1:9, v/v,λex = 370 nm)., Reaction time : 15 min.

3 Spectroscopic Properties of compound 2 and 3

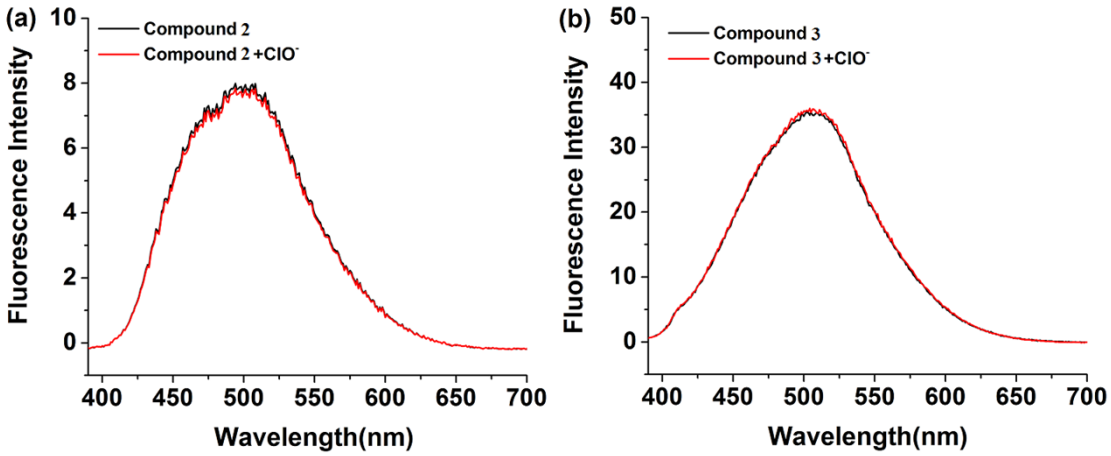

Fig.S3 (a) Emission spectra of compound **2** (20 μM) in the presence of ClO^- (120 μM) in pH 7.4 PBS/DMSO (1:9, v/v, λ_{ex} = 370 nm). **(b)** Emission spectra of **Compound 3** (20 μM) in the presence of ClO^- (120 μM) in pH 7.4 PBS/DMSO (1:9, v/v, λ_{ex} = 370 nm).

4 The IR spectra of HQ and HQ+ClO^-

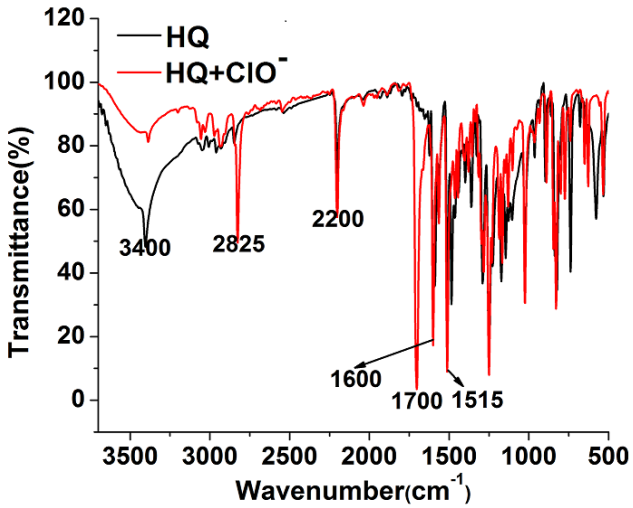

Fig. S4 The IR spectra of **HQ** and **HQ+ClO^-** in KBr tablet. Black line represent the IR spectra of **HQ**. Red line represent the IR spectra of **HQ+ClO^-**.

5 Competitive experiments

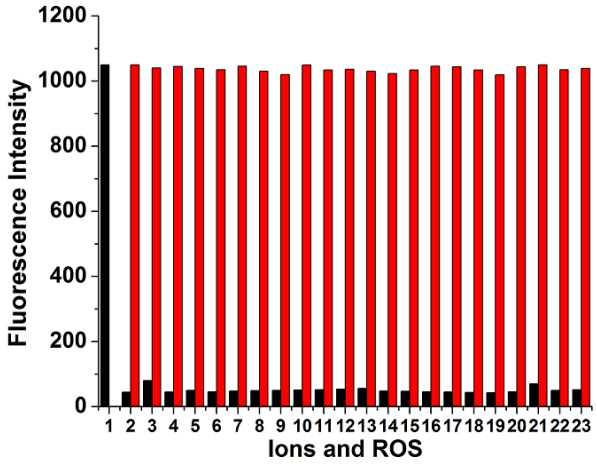

Fig. S5 Fluorescence intensity(I_{495nm}) of **HQ** to various ions (1-23: ClO^-, Na^+, Cu^{2+}, Co^{2+}, Ba^{2+}, Cd^{2+}, Pb^{2+}, Hg^{2+}, Zn^{2+}, Cl^-, Br^-, I^-, ClO_4^-, SO_4^{2-}, SO_3^{2-}, NO_2^-, NO_3^-, $NO\cdot$, $^1O_2$, t-BuOOH, •OH, H_2O_2) in pH 7.4 PBS/DMSO (1:9, v/v, λ_{ex} = 370 nm). The black bars represent the emission of HQ in the presence of 6 equiv of various ions to **HQ**. The red bars represent the emission that occurs upon subsequent addition of ClO^- (120 μM) to the solution (λ_{ex} = 370 nm).

6 Effect of pH on the Fluorescence Intensity

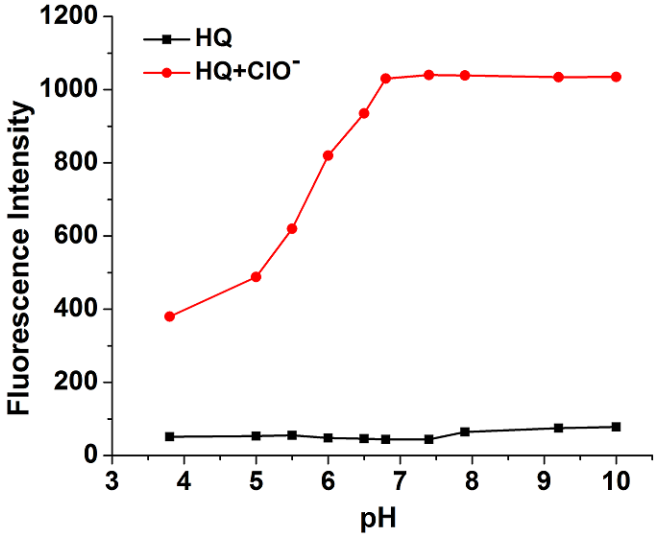

Fig. S6. F_{495nm} of **HQ** and **HQ**+ClO^- at various pH values in pH PBS/DMSO (1:9, v/v, λ_{ex} = 370 nm). Each spectrum was recorded after 15 min.

7 MALDI-TOF MS spectrum of compound 2, 3 and HQ

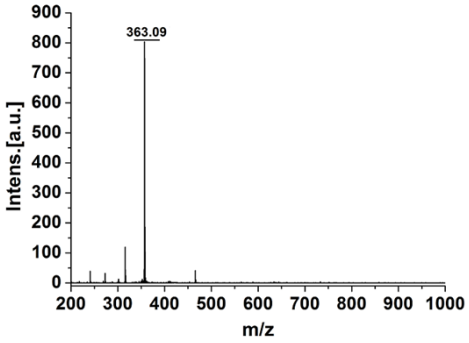

Fig. S7. MALDI-TOF MS spectrum of compound **2** (DCTB as matrix).

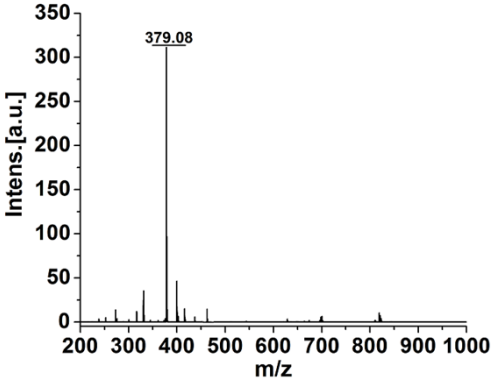

Fig. S8. MALDI-TOF MS spectrum of compound **3** (DCTB as matrix).

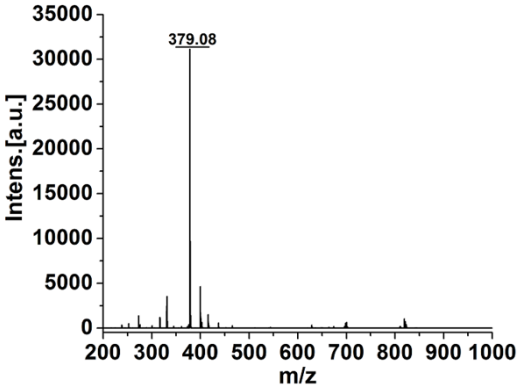

Fig. S9. MALDI-TOF MS spectrum of **HQ** (DCTB as matrix).

8 NMR spectra

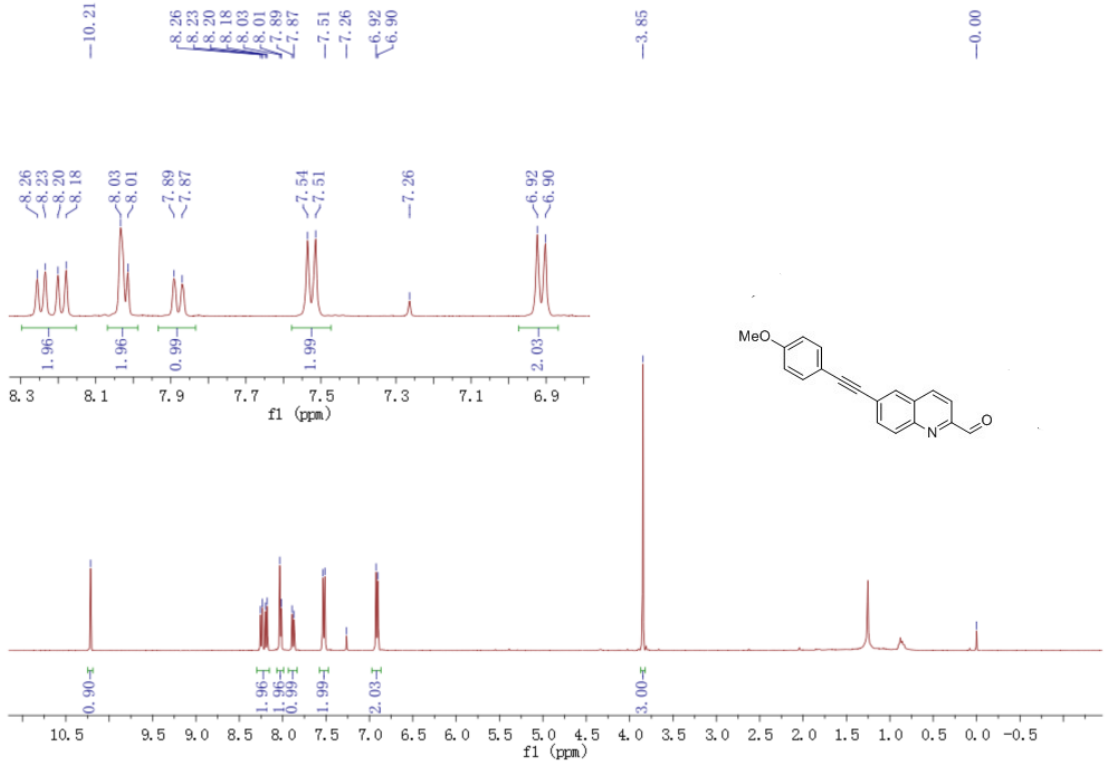

Fig. S10 ^{1}H NMR of compound **1** in $CDCl_3$

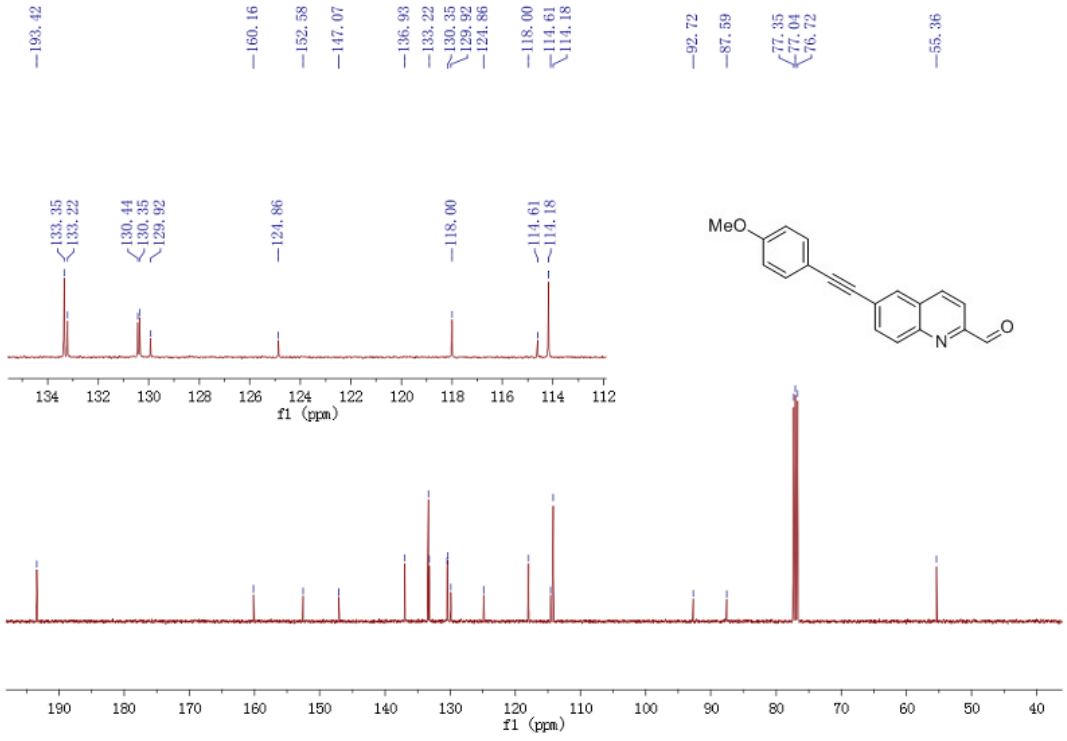

Fig. S11 ^{13}C NMR of compound **1** in $CDCl_3$

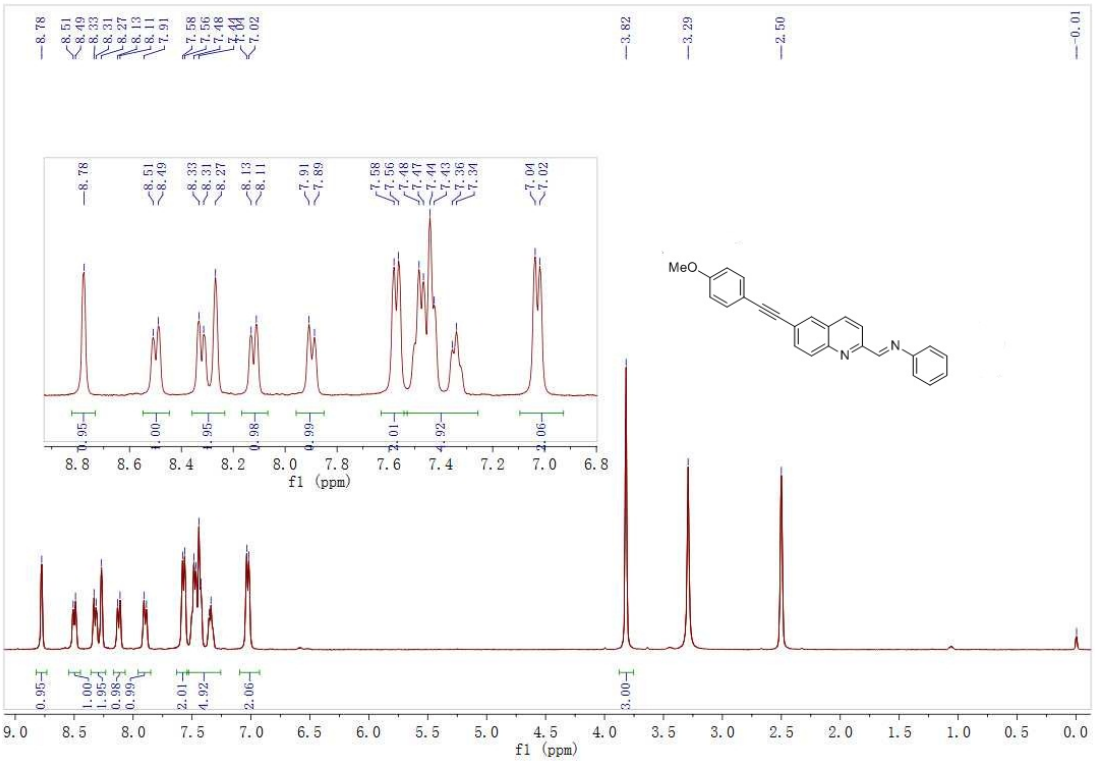

Fig. S12 ^{1}H NMR of compound **2** in DMSO

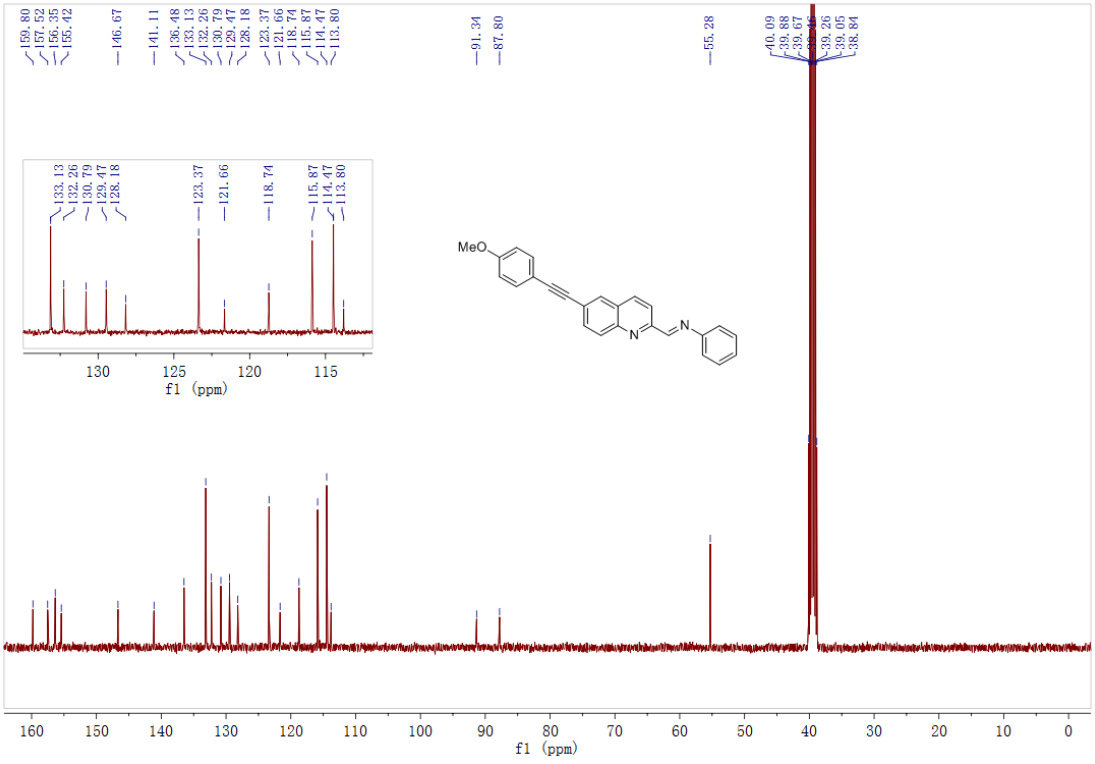

Fig. S13 ^{13}C NMR of compound **2** in DMSO

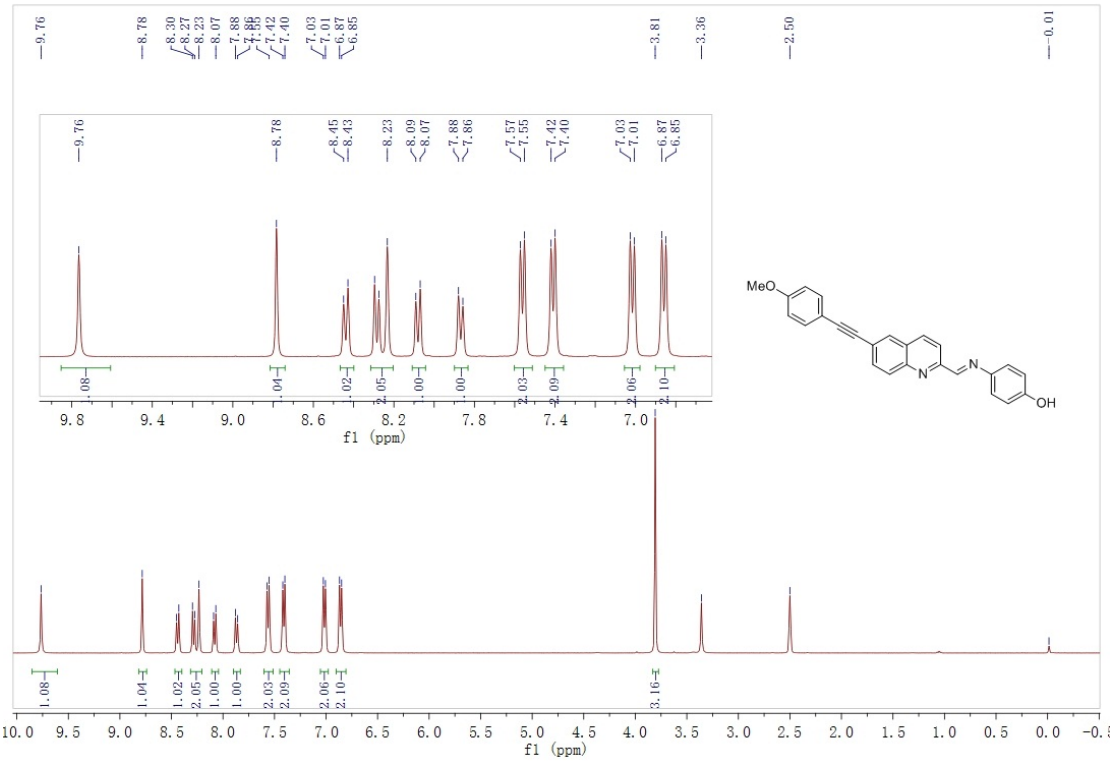

Fig. S14 ^{1}H NMR of compound **3** in DMSO

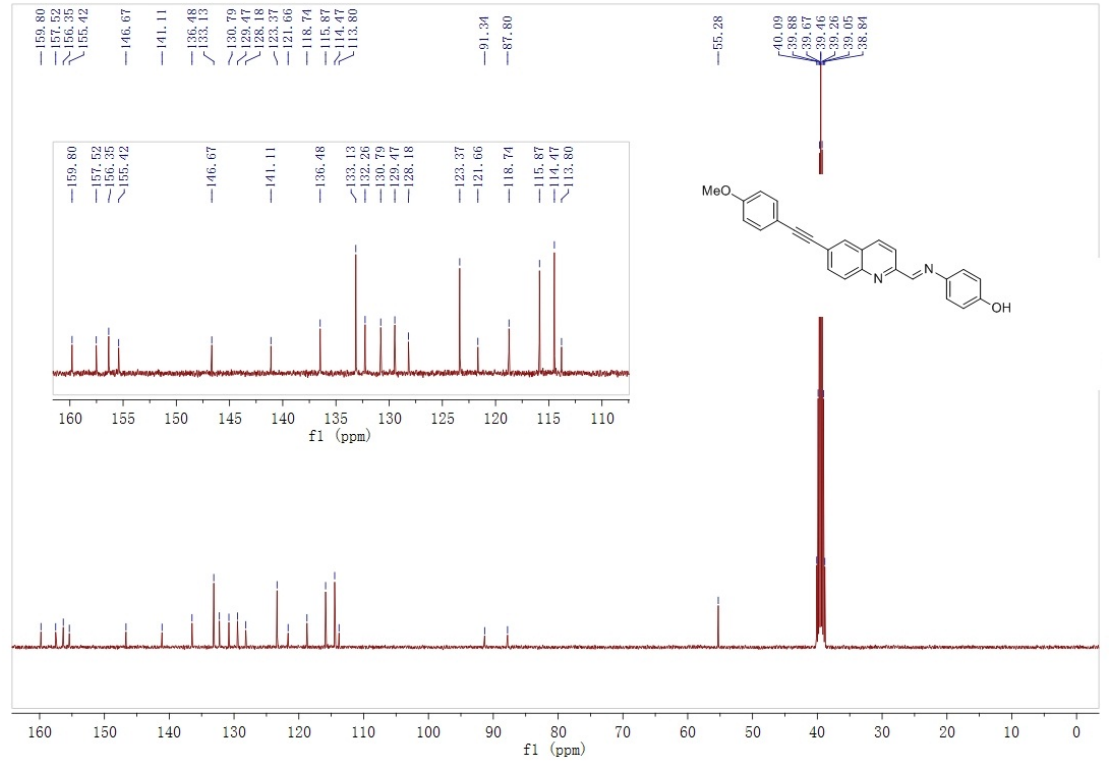

Fig. S15 ^{13}C NMR of compound **3** in DMSO

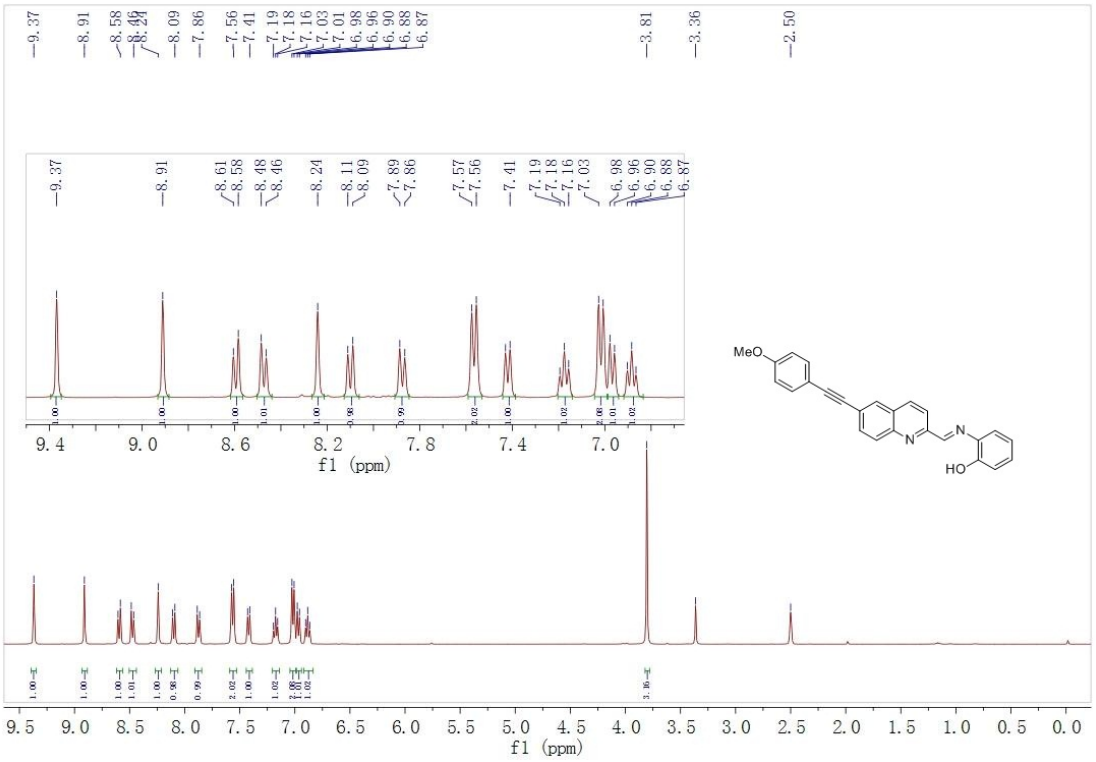

Fig. S16 [1]H NMR of compound **HQ** in DMSO

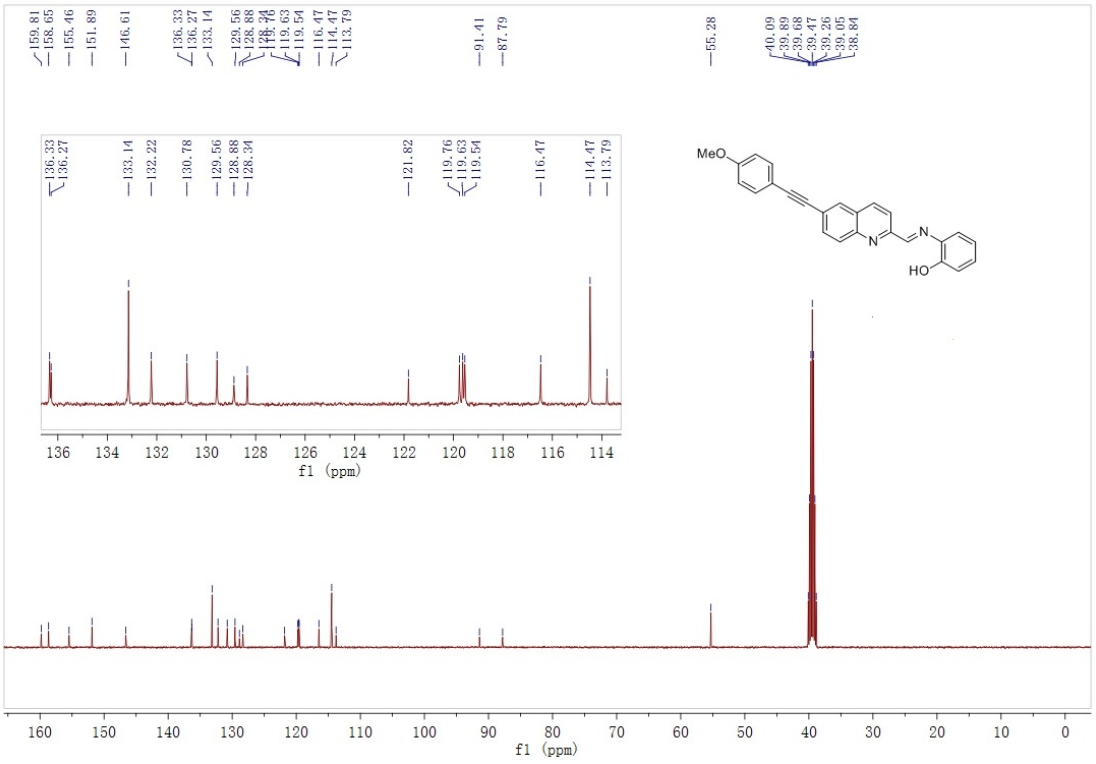

Fig. S17 [13]C NMR of compound **HQ** in DMSO