Electronic supplementary Information for

A coumarin-base "off-on" fluorescent probe for highly selective detection of hydrogen sulfide and imaging in living cells

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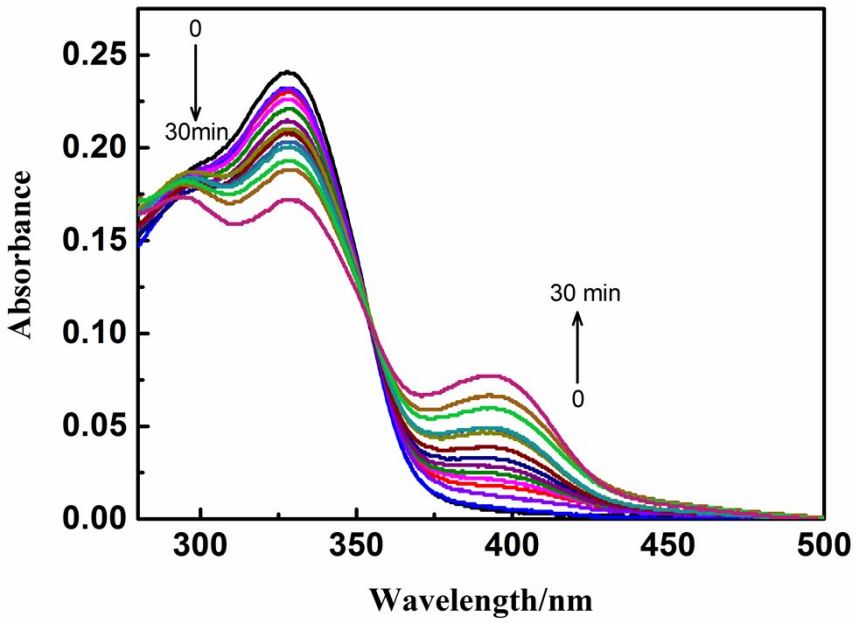

Figure S1 The absorption spectral changes of **CMHS** (10 μM) with time upon addition of H_2S (20μM) in PBS buffer （pH 7.4, 10% CH_3CN).

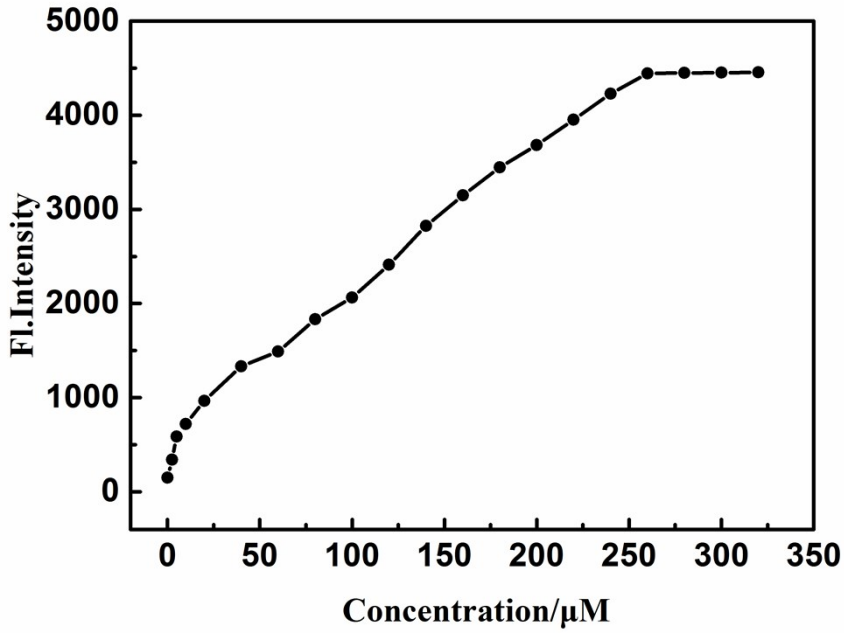

Figure S2 The fluorescent intensity changing with H_2S to **CMHS** ratio. 10 μM of **CMHS** titrated with increasing concentrations of H_2S.

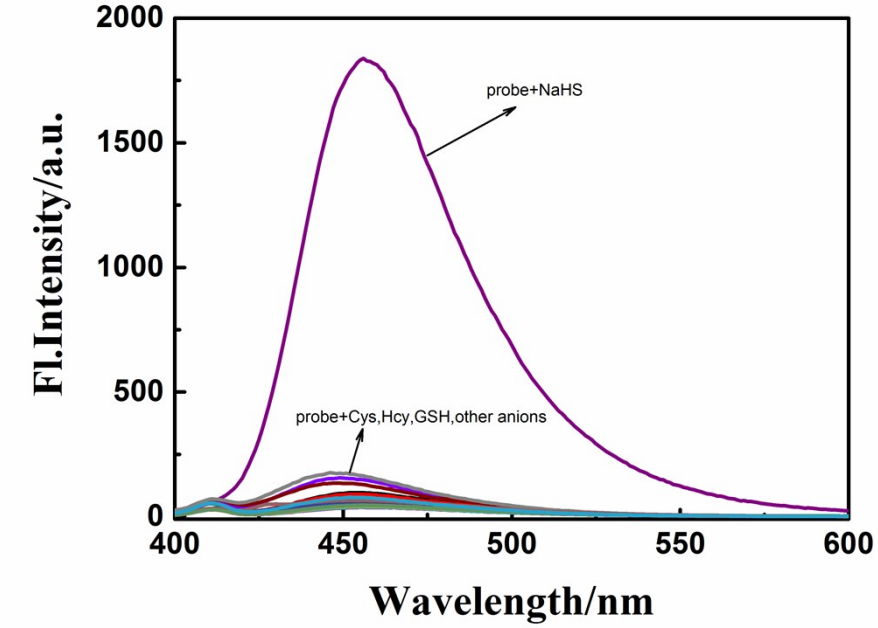

Figure S3 The fluorescence spectra changes of probe **CHMS** (10 μM) in the presence of various analytes (50 μM) (F^-, Cl^-, Br^-, I^-, HCO_3^-, NO_3^-, HSO_4^-, SO_3^{2-}, SO_4^{2-} , CN^-, $S_2O_3^{2-}$, AcO^-, H_2O_2, ClO^-, GSH, Hcy, Cys, NaHS) in PBS buffer (pH 7.4, 10% CH_3CN).

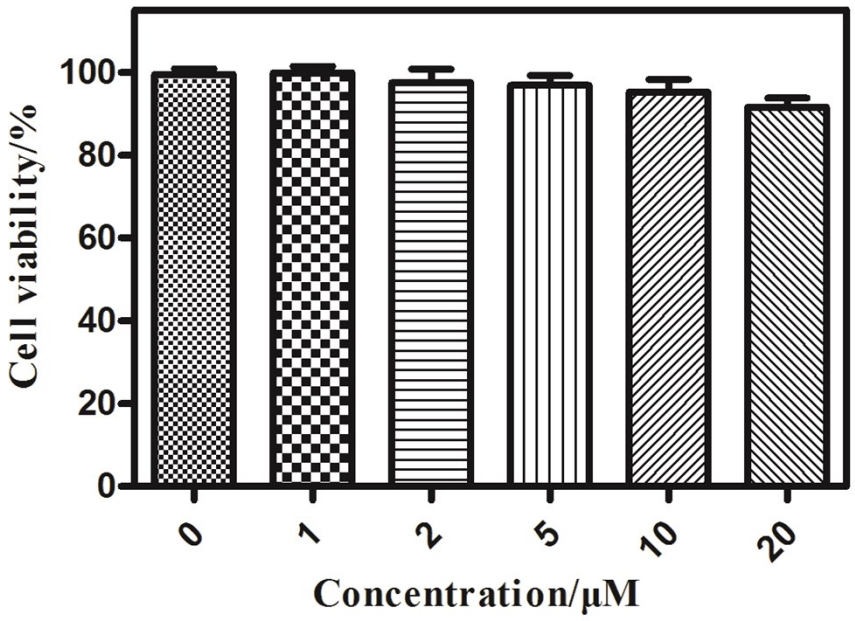

Figure S4 MTT asssay for estimating cell viability(%) of Hela cells. The concentration of probe **CMHS** were used: 0μM, 1μM, 2μM, 5μM, 10μM, 20μM.

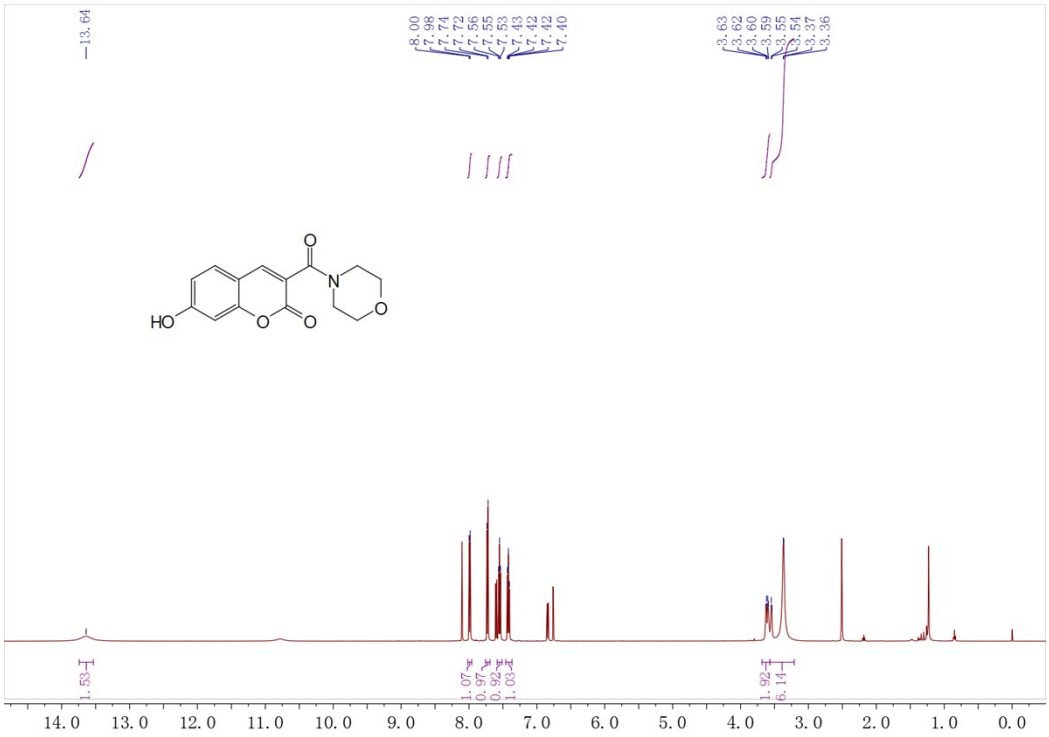

Fig. S5 ^{13}C NMR spectrum of compound **CMHS-OH** in DMSO-*d6*

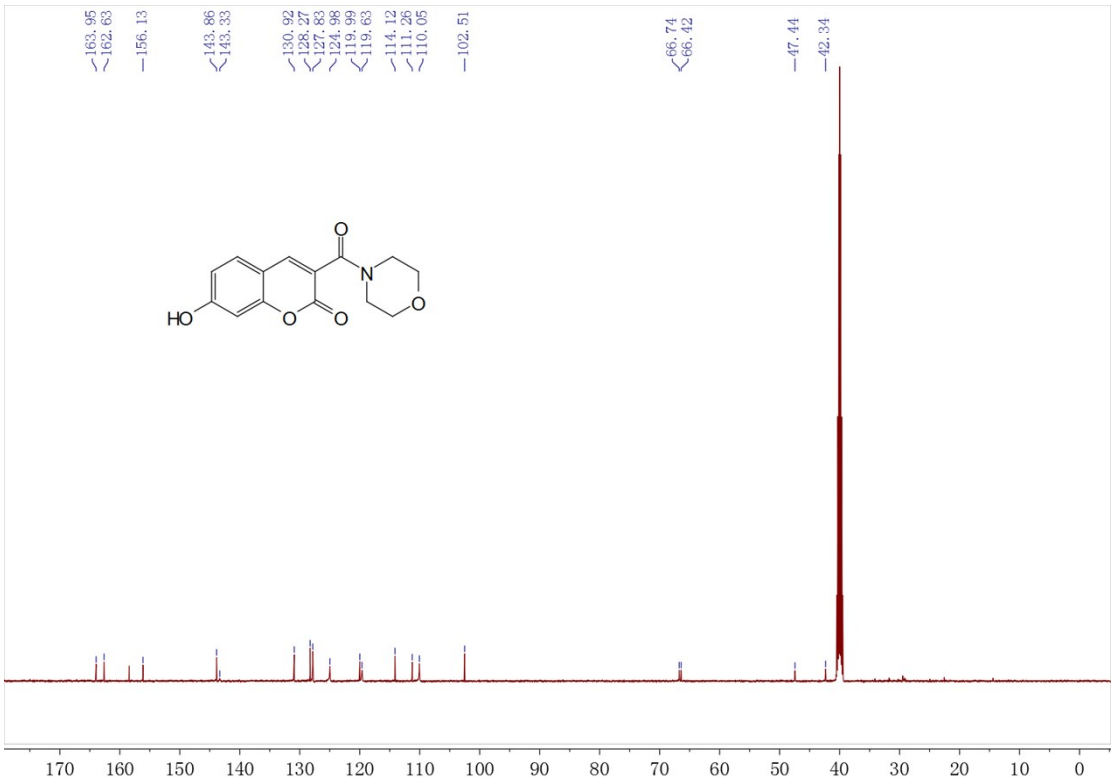

Fig. S6 ^{13}C NMR spectrum of compound **CMHS-OH** in DMSO-*d6*

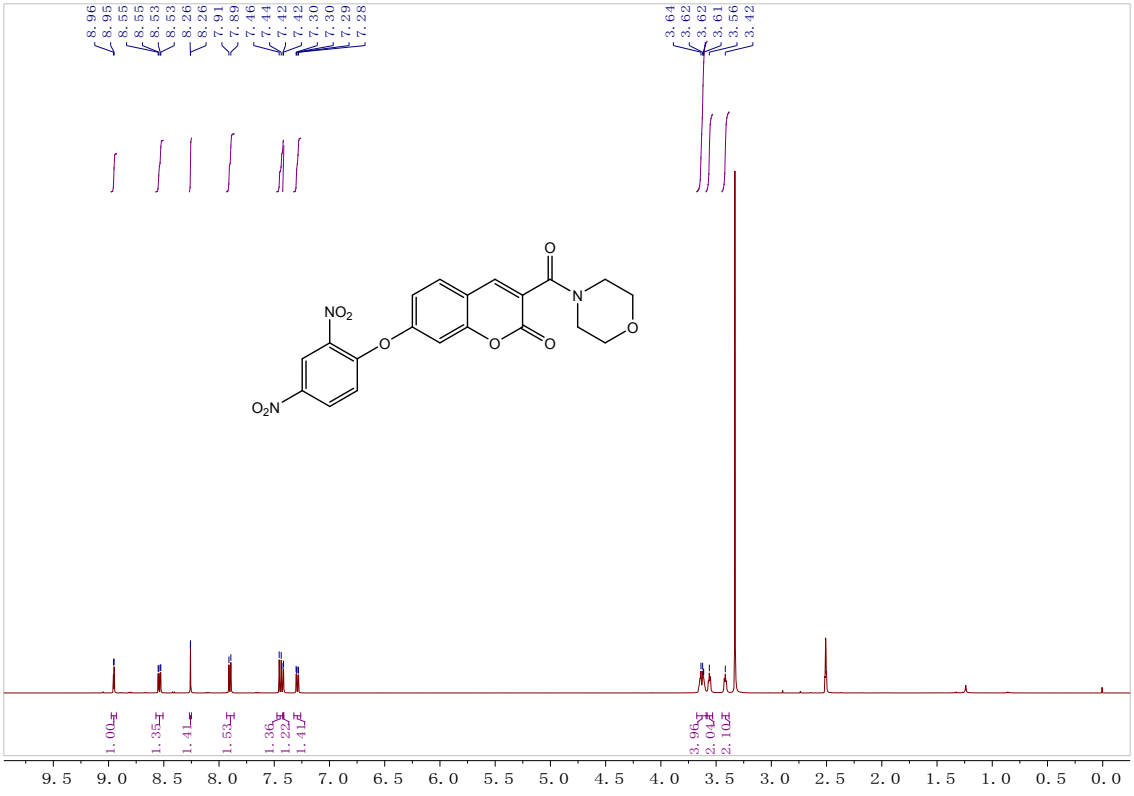

Figure S7 ^{1}H-NMR (DMSO-d_6) spectrum of **CMHS.**

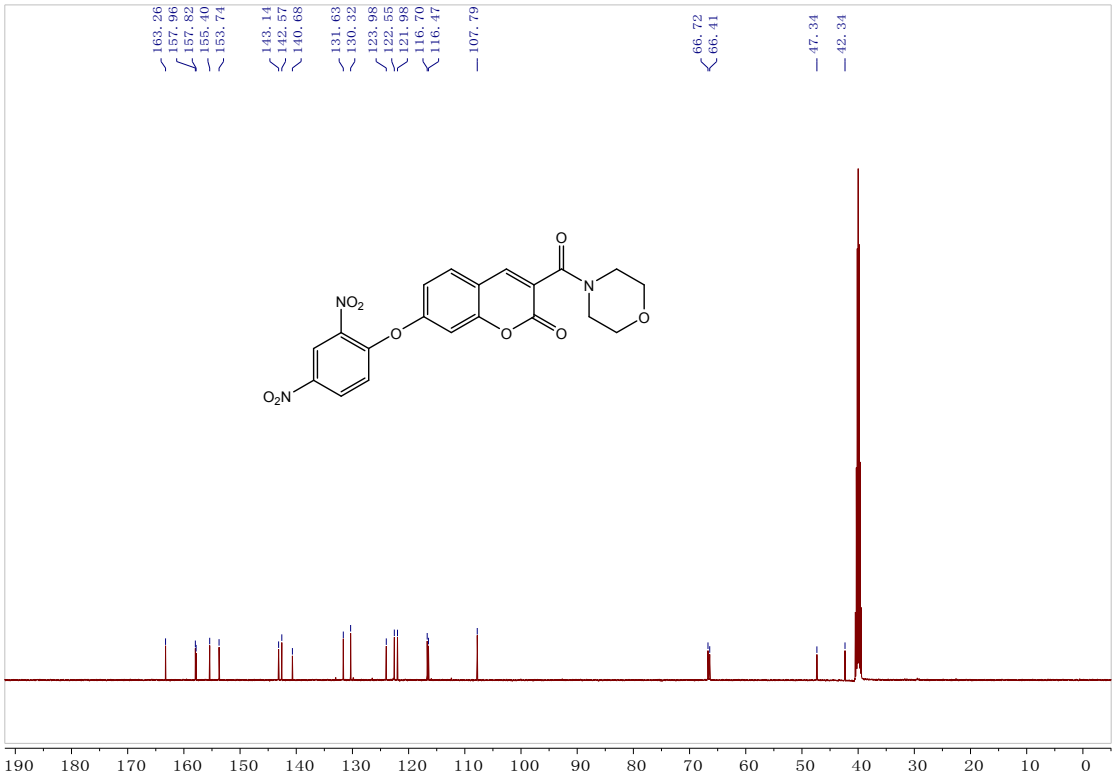

Figure S8 ^{13}C-NMR (DMSO-d_6) spectrum of **CMHS.**

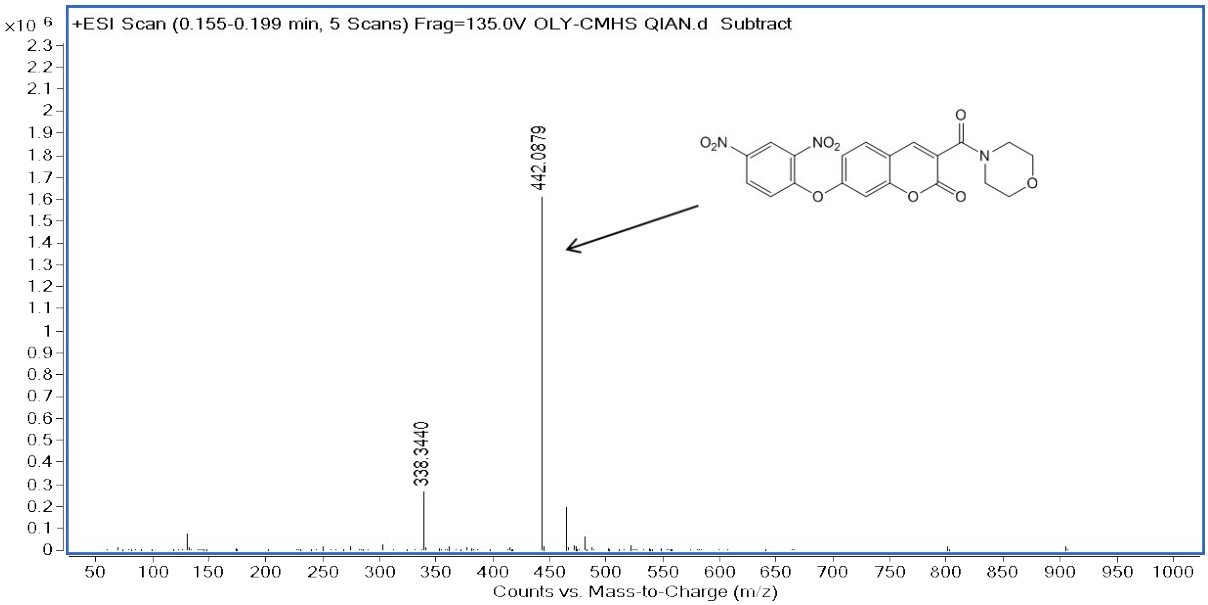

Figure S9 HRMS spectrum of compound **CMHS**. Compound **CMHS**:$C_{20}H_{15}N_3O_9$; HRMS m/z calculated for $C_{20}H_{15}N_3O_9$,$[M + H]^+$:442.0881. Found 442.0879.

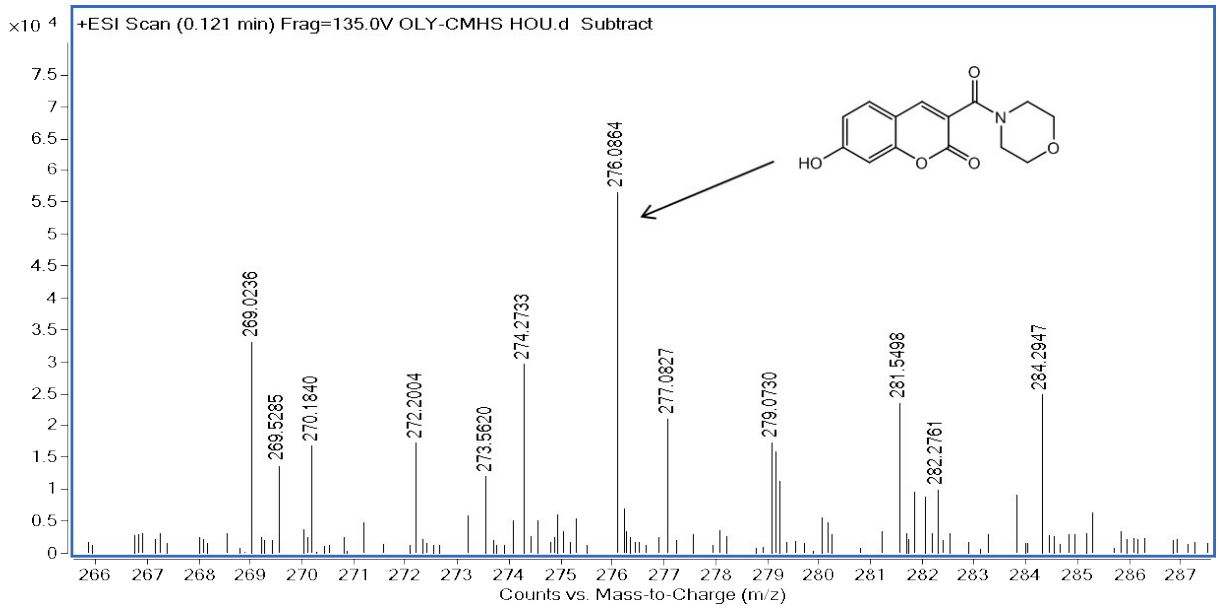

Figure S10 HRMS spectrum of compound **CMHS-OH**. Compound **CMHS-OH**:$C_{14}H_{13}NO_5$; HRMS m/z calculated for $C_{14}H_{13}NO_5$,$[M + H]^+$:276.0866. Found 276.0864.