

Supporting Information

AIE and ESIPT Based Kinetic Resolved Fluorescent Probe for Biothiols

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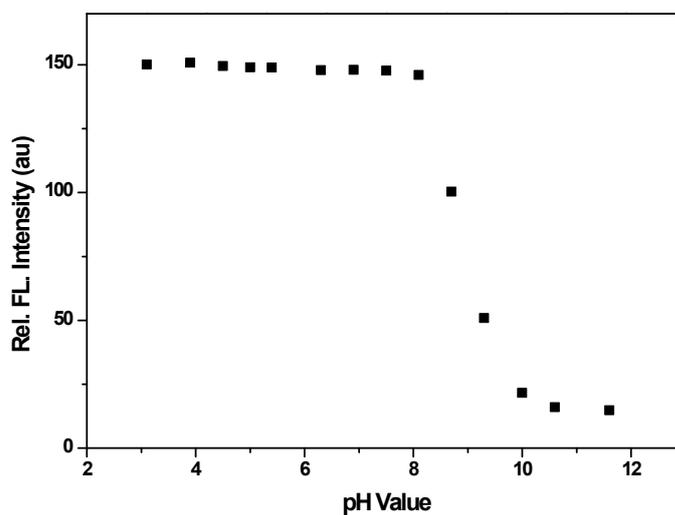


Figure S1. The pH titration of probe2 in water (contains 1% DMSO).

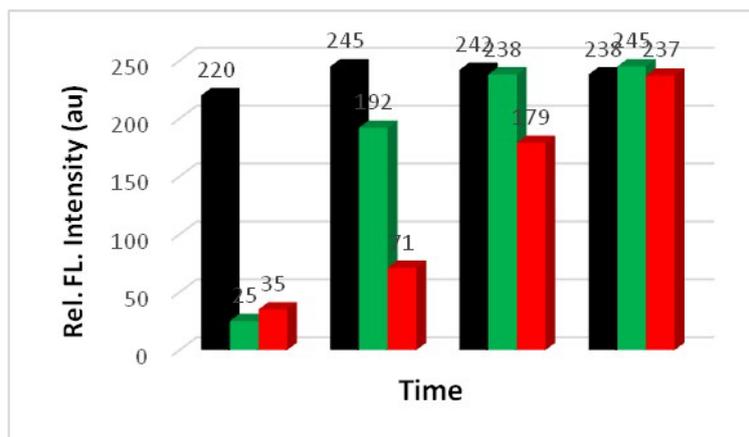


Figure S2. Time-dependence of fluorescence intensity of probe AIE-S (10 μM) upon addition of different biothiols (Cys, GSH and Hcy) in DMSO-PBS buffer (10 μM , pH 7.4, 1:99, v/v) at 25 $^{\circ}\text{C}$. There are four groups. The first is 20 min, the second is 40 min, the third is 120 min and the fourth group is 240 min. The black, green and red represent Cys, GSH and Hcy, respectively.

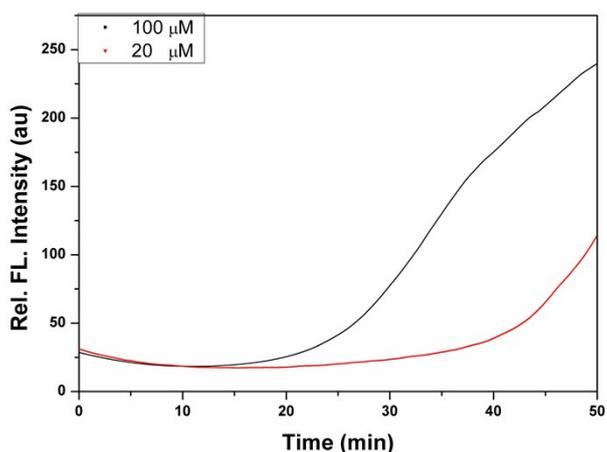


Figure S3. Time-dependent of fluorescence kinetics spectra of probe AIE-S (10 μM) upon addition of different concentration GSH (20 μM and 100 μM) in DMSO-PBS buffer (10 μM , pH 7.4, 1:99, v/v) at 25 $^{\circ}\text{C}$. All the reactions are monitored every 0.02s at 505 nm. $\lambda_{\text{ex}} = 340$ nm.

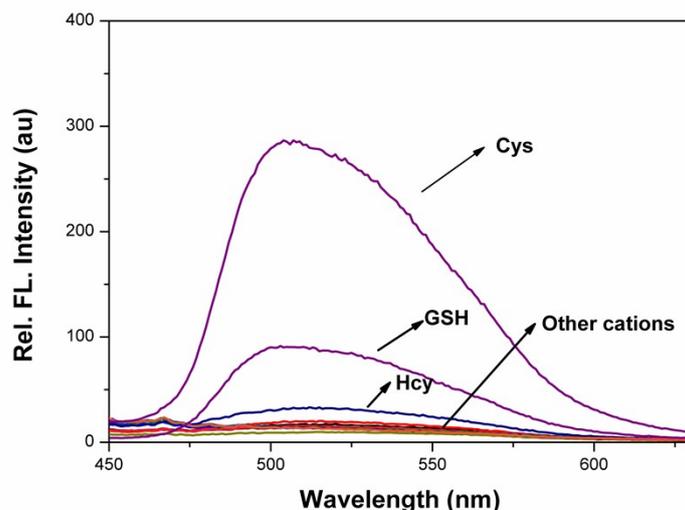


Figure S4. Selectivity of AIE-S towards Cys. Fluorescence response of AIE-S (10 μ M) at 505 nm in the presence of different cation (0.5 mM) in a PBS/DMSO mixture (99:1, v/v) with excitation wavelength: 340 nm. Each spectrum was recorded after 20 min of reaction in a mixture of PBS and DMSO (99 : 1, v/v) at r.t. Cations: Hg^{2+} ; Co^{2+} ; Cr^{3+} ; Cd^{2+} ; Fe^{3+} ; Ni^{2+} ; Zn^{2+} ; Cu^{2+} ; Al^{3+} ; Mg^{2+} ; Ca^{2+} and Ag^{+} .

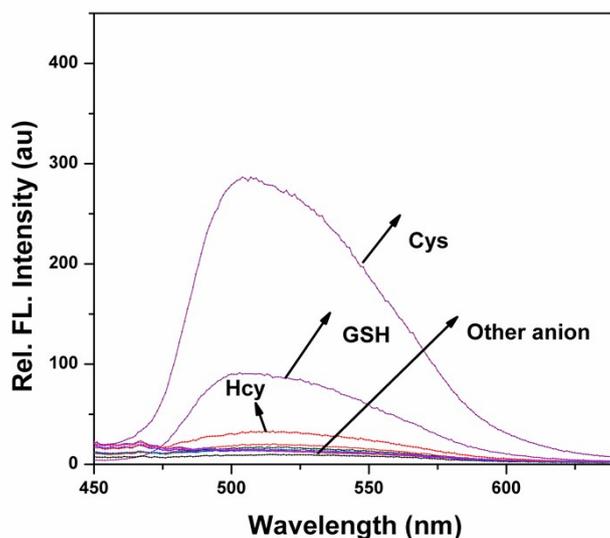


Figure S5. Selectivity of AIE-S towards Cys. Fluorescence response of AIE-S (10 μ M) at 505 nm in the presence of different anions (0.5 mM) in a PBS/DMSO mixture (99:1, v/v) with excitation wavelength: 340 nm. Each spectrum was recorded after 20 min of reaction in a mixture of PBS and DMSO (99 : 1, v/v) at r.t. Anions: F^{-} ; Cl^{-} ; Br^{-} ; I^{-} ; NO_3^{-} ; NO_2^{-} ; SCN^{-} ; CO_3^{2-} ; SO_4^{2-} ; SO_3^{2-} ; HS^{-} and S^{2-} .

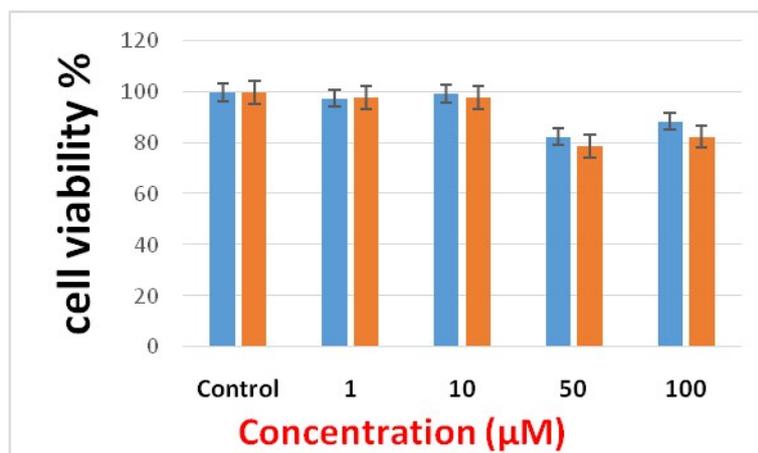


Figure S6. Cell cytotoxicity test by MTT assays. Blue and orange mean probe AIE-S and salicyldiazine dye **2**, respectively. The concentration is 1 μM, 10 μM, 50μM and 100 μM, respectively.

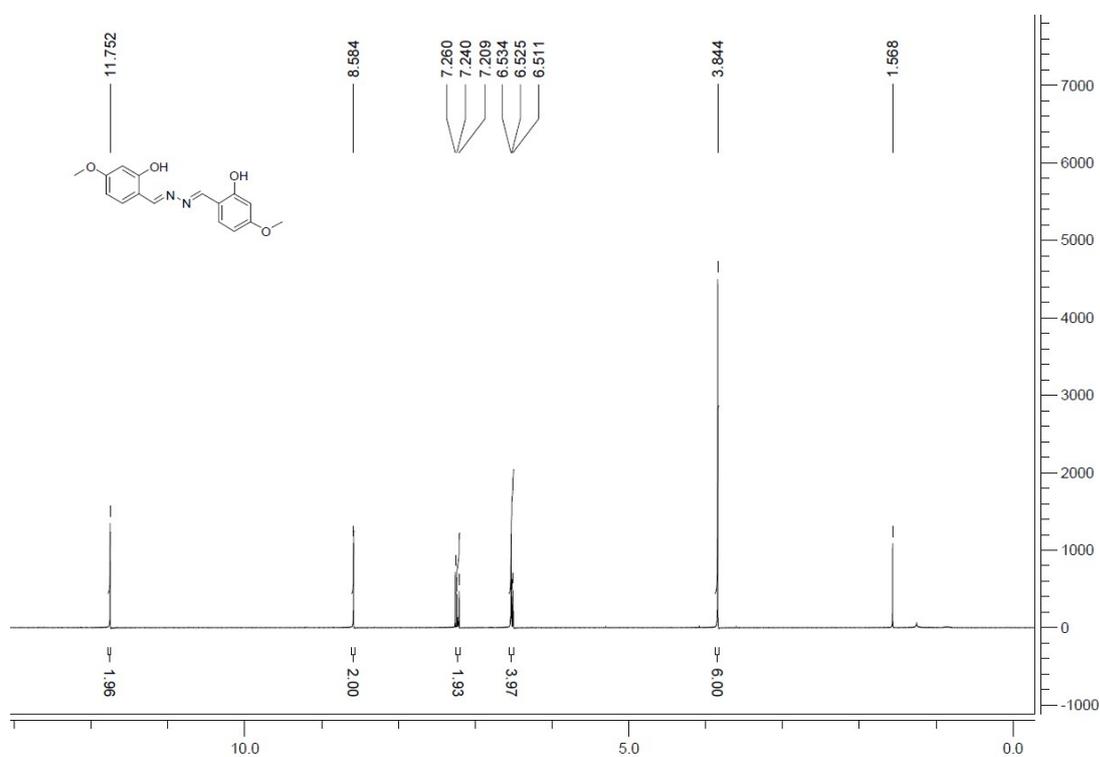


Figure S7. ^1H NMR spectrum of salicyldiazine dye **2** in CDCl_3 solution.

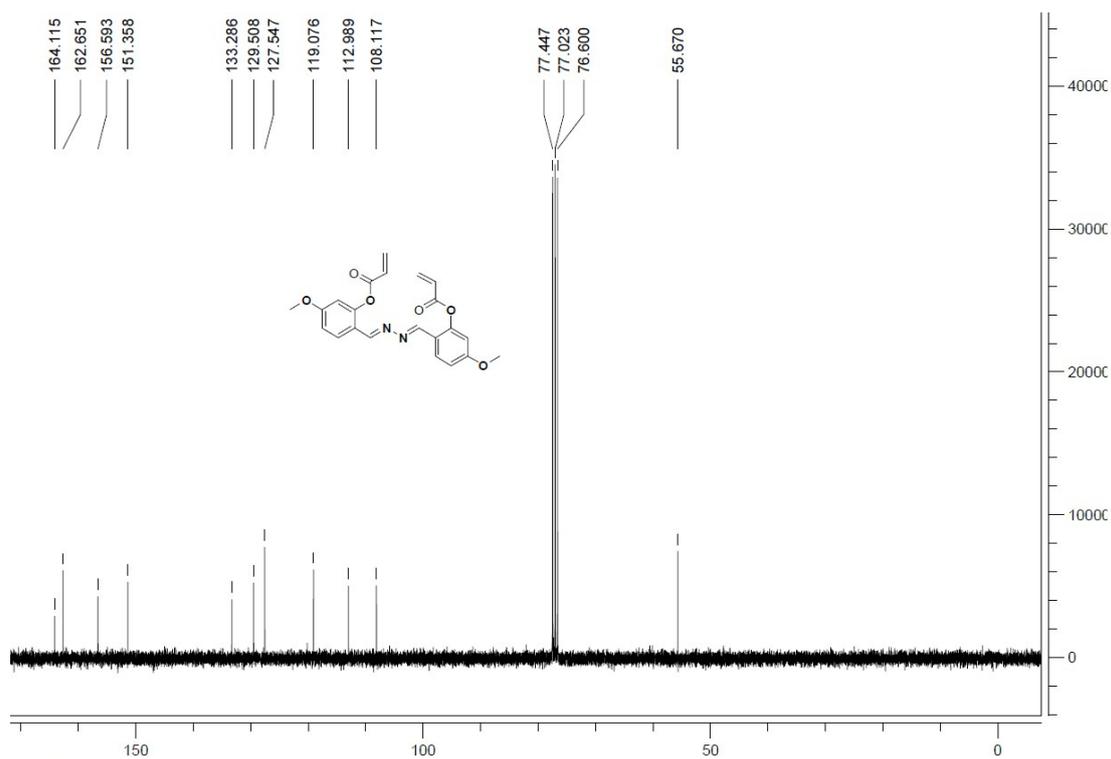


Figure S10. ^{13}C NMR spectrum of AIE-S in CDCl_3 solution.

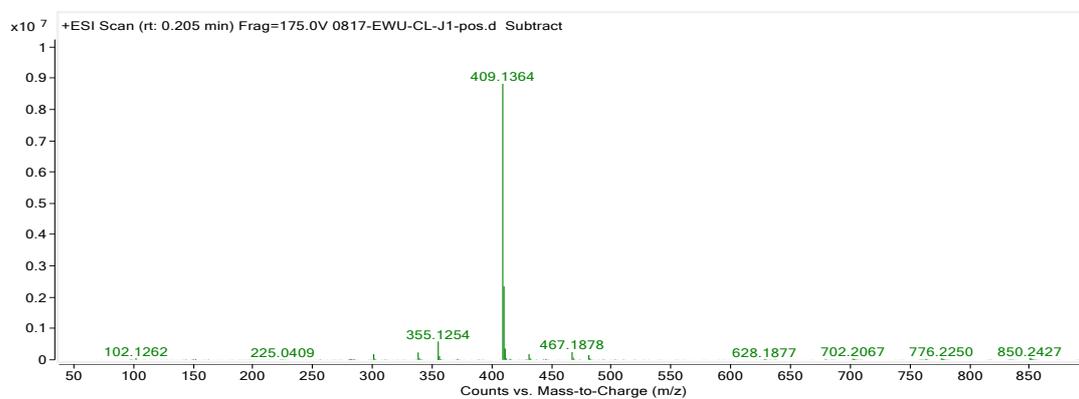


Figure S11. ESI-MS spectrum of AIE-S.