Electronic supplementary information (ESI)

For

A Colorimetric and Fluorescent Merocyanine-Based Probe for Biological Thiols

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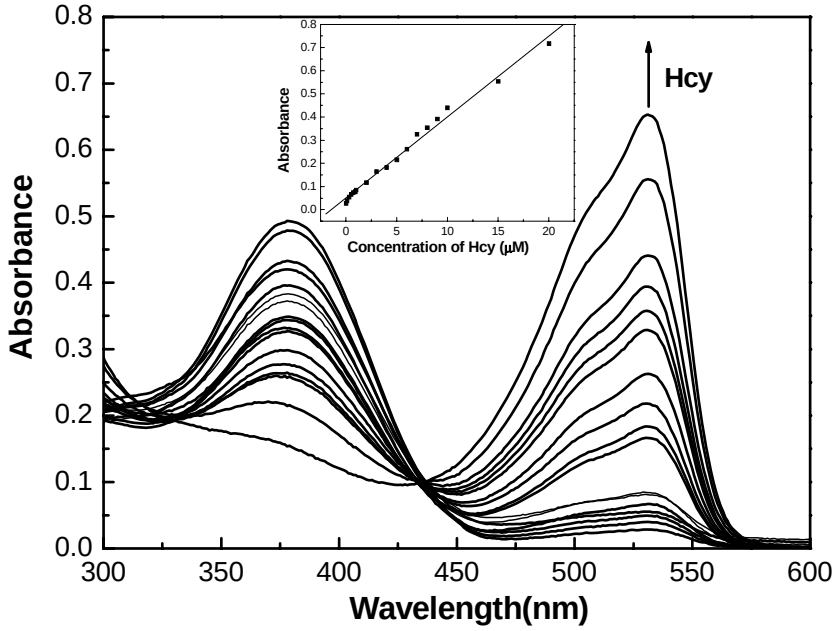

Figure S1. UV–vis spectra of **2** in the presence of Hcy in pH 7.40 phosphate buffer solution ($MeOH/H_2O$ = 3:7, v/v). Each spectrum is recorded 15 min. after Hcy addition. Inset: plot of absorbance at 530 nm against concentration of Hcy. [**2**] = 2.0×10^{-5} M, [Hcy] = 0, 0.1, 0.3, 0.5, 0.7, 0.9, 1.0, 2.0, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0, 9.0, 10, 15 and 20.0 μM, respectively.

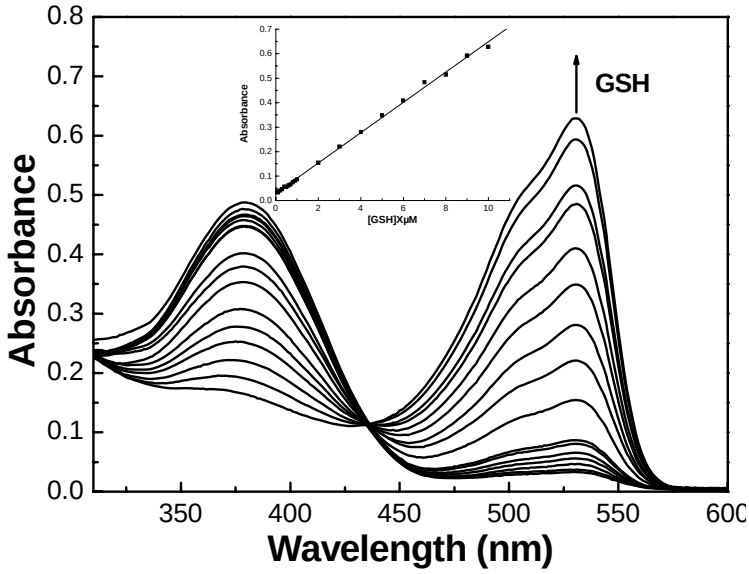

Figure S2. UV–vis spectra of **2** in the presence of GSH in pH 7.40 phosphate buffer solution (MeOH/H_2O = 3:7, v/v). Each spectrum is recorded 15 min. after GSH addition. Inset: plot of absorbance at 530 nm against concentration of GSH. [**2**] = 2.0×10^{-5} M, [GSH] =0, 0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9, 1.0, 2.0, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0 , 9.0, and 10.0 μM.

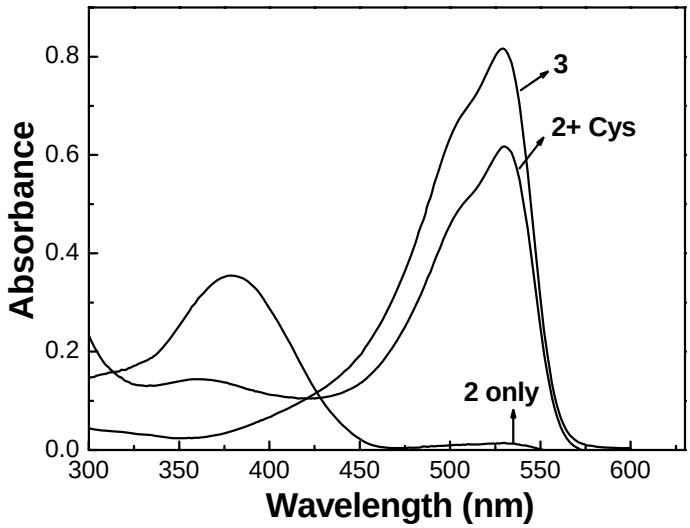

Figure S3. UV–vis spectra of **2** only, **2** with Cys, and **3** in pH 7.40 phosphate buffer solution (MeOH/H_2O = 3:7, v/v). [**2**] = 2.0×10^{-5} M, [**3**] = 1.0×10^{-5} M, [Cys] = 8.0×10^{-6}M.

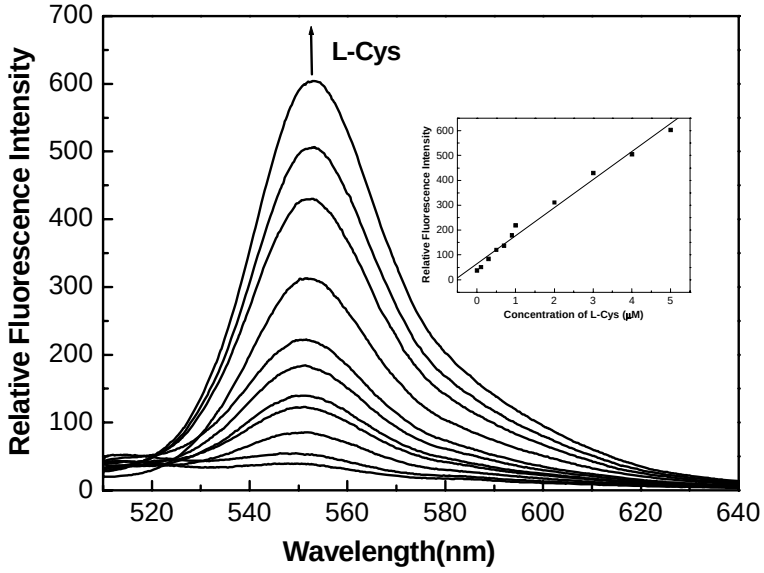

Figure S4. Fluorescence responce of **2** in pH 7.40 of phosphate buffer (0.01 M) solution (MeOH/H_2O = 3:7, v/v) in the presence of Cys with an exitation at 490 nm. Inset: fluorescence intensity at 553 nm as a functionof Cys concentration. [**2**] = 1.0×10^{-5} M, [Cys] = 0, 0.1, 0.3, 0.5, 0.7, 0.9, 1.0, 2.0, 3.0, 4.0 and 5.0 μM, respectively.

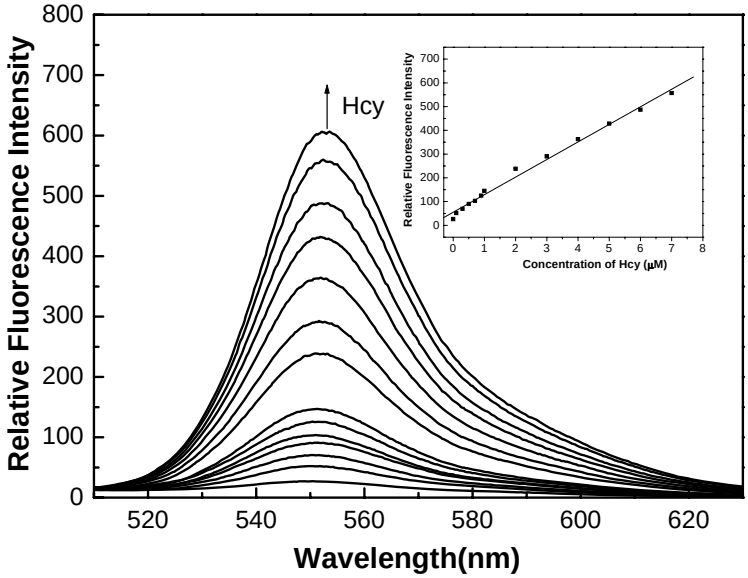

Figure S5. Fluorescence responce of **2** in pH 7.40 of phosphate buffer (0.01 M) solution (MeOH/H_2O = 3:7, v/v) in the presence of Hcy with an exitation at 490 nm. Inset: fluorescence intensity at 553 nm as a functionof Hcy concentration. [**2**] = 1.0×10^{-5} M, [Hcy] = 0, 0.1, 0.3, 0.5, 0.7, 0.9, 1.0, 2.0, 3.0, 4.0 , 5.0, 6.0 and 7.0 μM, respectively.

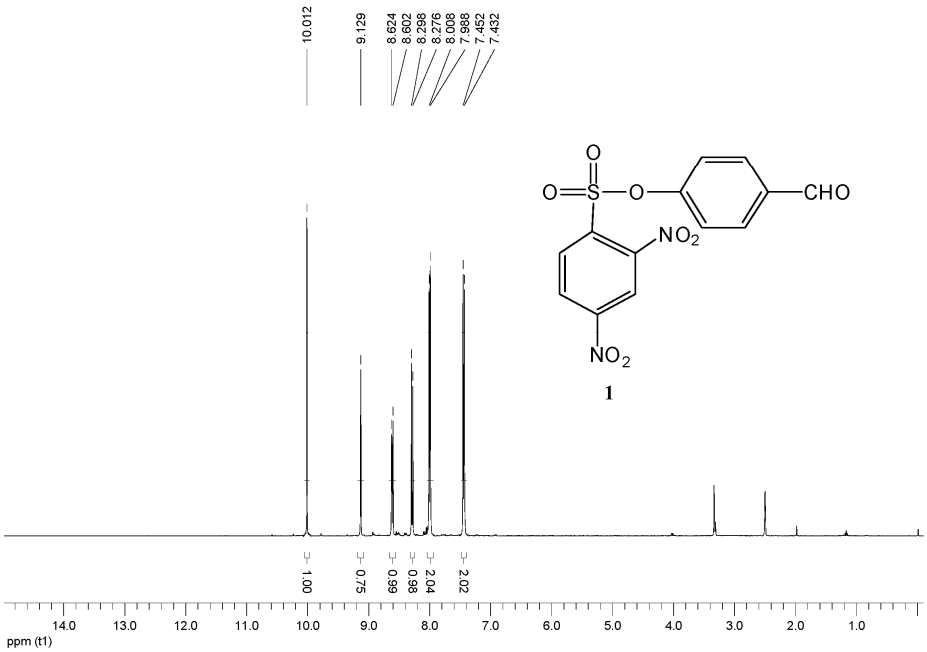

Figure S6. ^{1}H NMR spectra of compound **1** (DMSO-d6).

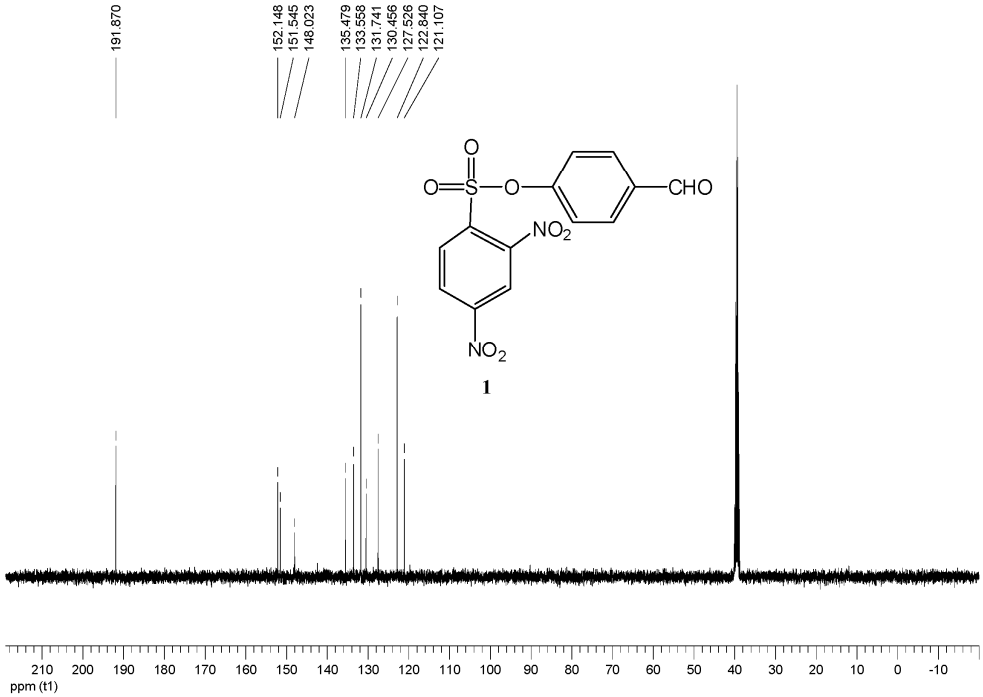

Figure S7. ^{13}C NMR spectra of compound **1** (DMSO-d6).

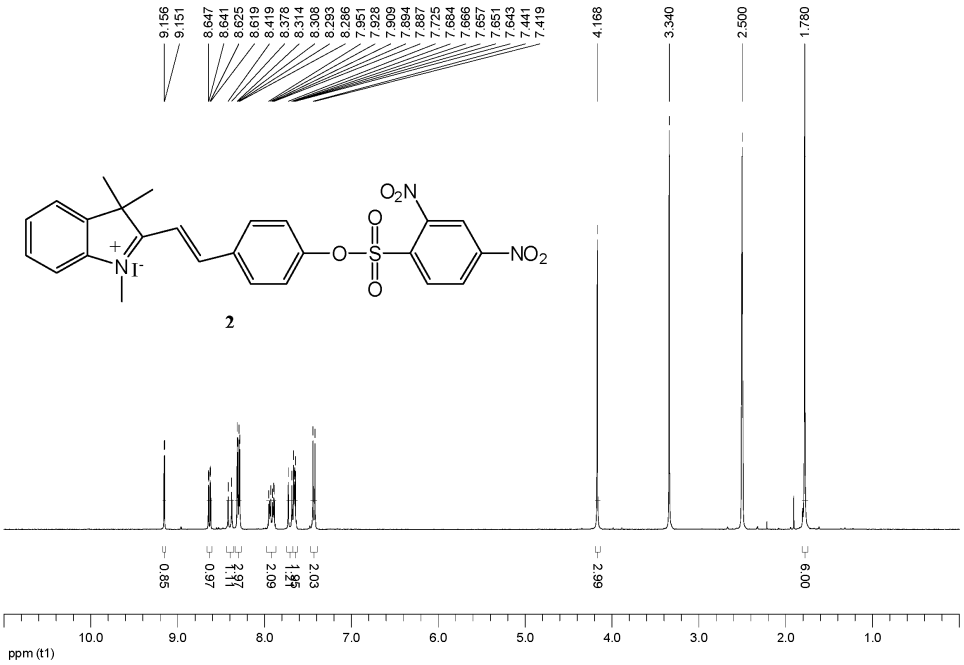

Figure S8. ^{1}H NMR spectra of compound **2** (DMSO-d6). δ3.34(H_2O), δ2.50(DMSO residual peak)

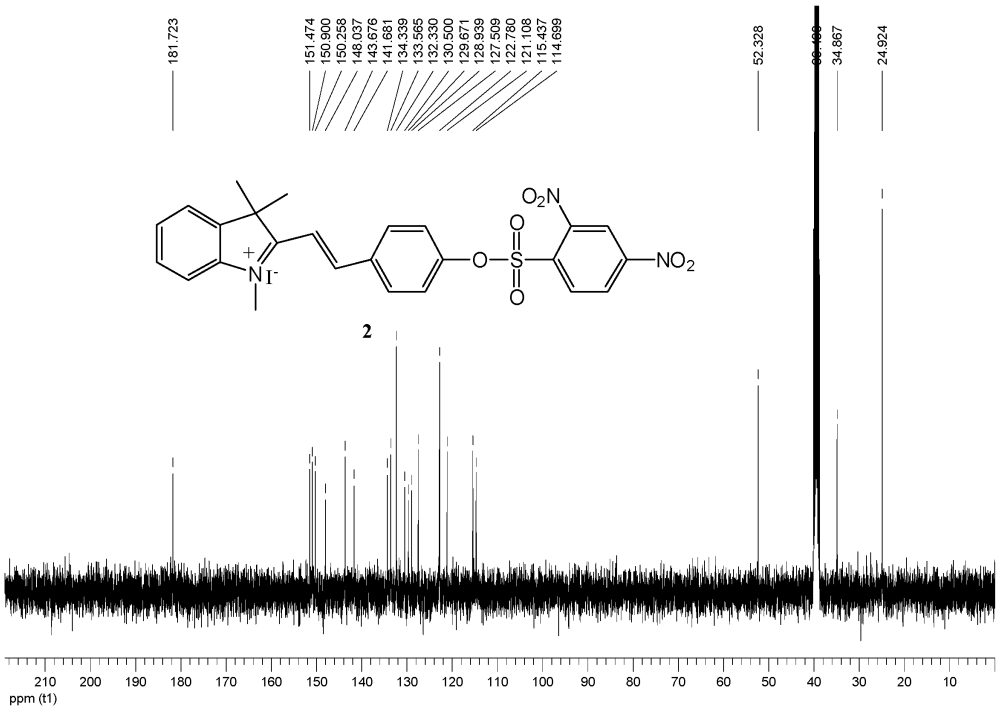

Figure S9. ^{13}C NMR spectra of compound **2** (DMSO-d6).

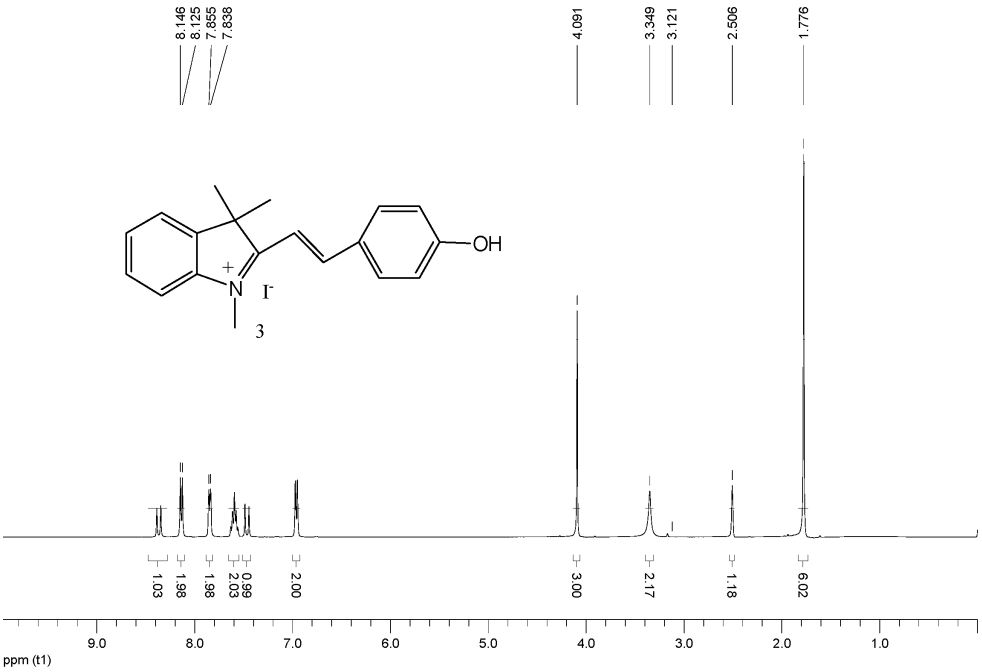

Figure S10. ^{1}H NMR spectra of compound **3** (DMSO-d6).

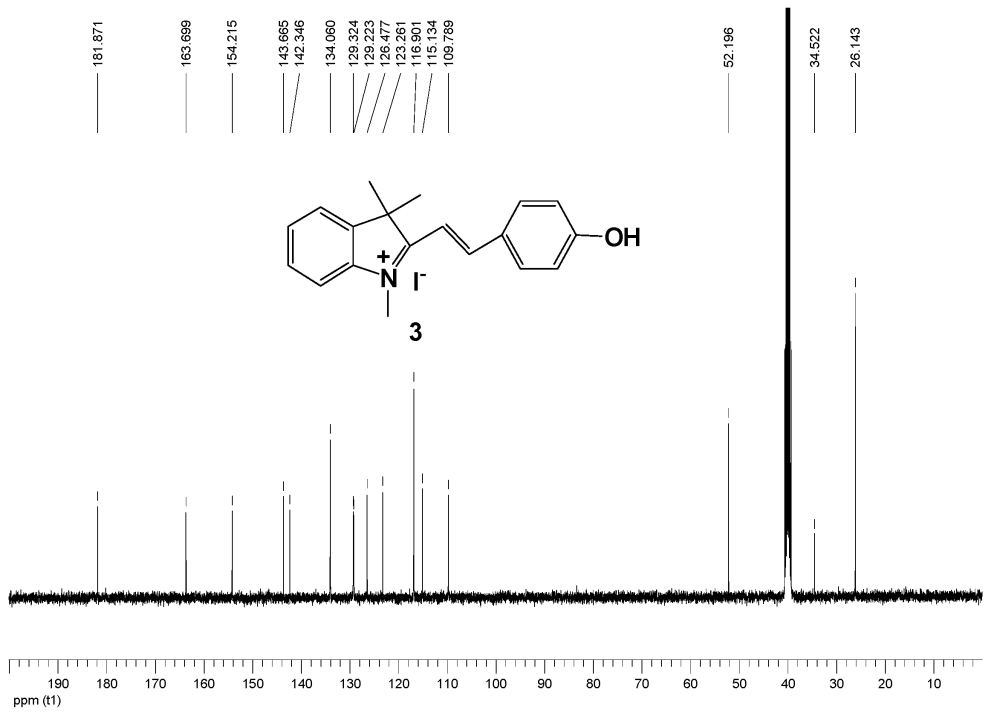

Figure S11. ^{13}C NMR spectra of compound **3** (DMSO-d6).