Electronic Supplementary Material (ESI) for Analytical Methods.

Electronic Supplementary Information

Several fluorescent probes based on hemicyanine for the detection of SO_2 derivatives

Xue Li, [a†] Di Jin, [a†] Yuchao Du, [a] Ying Liu, [a] Bowei Wang [abc*] and Ligong Chen [abc*]

[a] School of Chemical Engineering and Technology, Tianjin University, Tianjin 300350, P. R. China.
[b] Collaborative Innovation Center of Chemical Science and Engineering (Tianjin), Tianjin 300072, P. R. China.
[c] Tianjin Engineering Research Center of Functional Fine Chemicals, Tianjin, P. R. China.
† These authors contributed equally to this work.
* Corresponding author. E-mail: bwwang@tju.edu.cn (Bowei Wang); lgchen@tju.edu.cn (Ligong Chen)

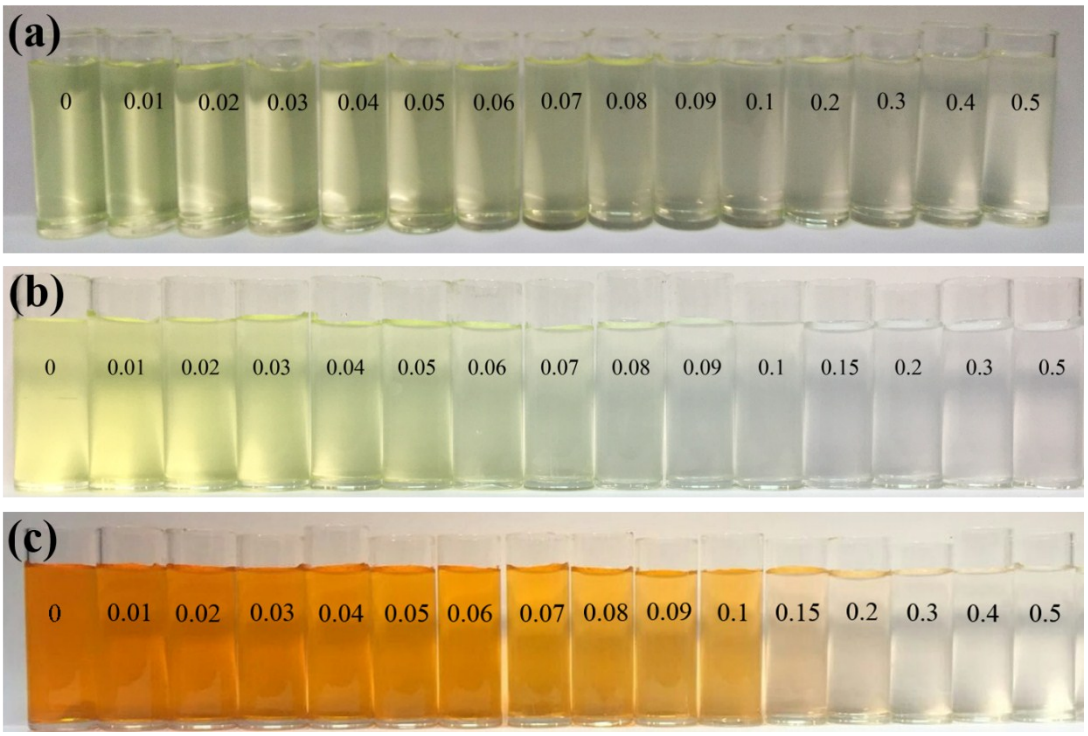

Fig. S1 Visual color changes of (a)probe **Hcy-NO_2**, (b)probe **Hcy-CH_3**, (c)probe **Hcy-NH_2** upon addition of HSO_3^- (0-0.5 mM) in DMSO/PBS solution (v/v = 1/9, pH 7.4).

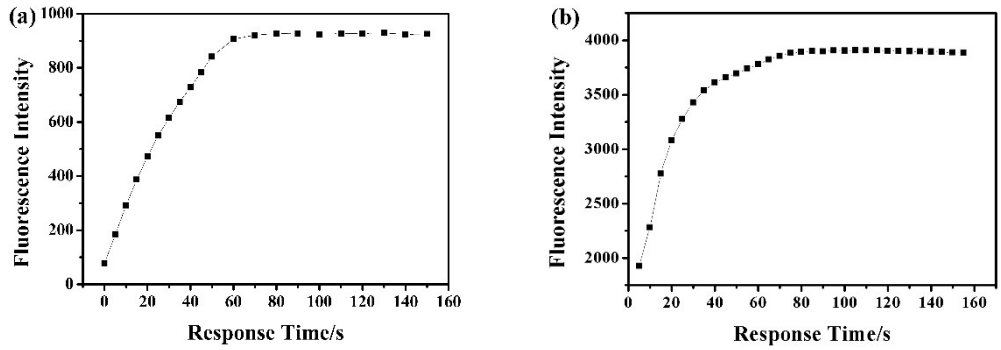

Fig. S2 (a)Time-dependent fluorescence spectra of probe **Hcy-CH$_3$** (1×10^{-4} M) in DMSO/PBS solution (v/v = 1/9, pH 7.4) with the addition of HSO_3^- (0.1 mM) λ_{ex} = 290 nm. (b)Time-dependent fluorescence spectra of probe **Hcy-NH$_2$** (1×10^{-4} M) with the addition of HSO_3^- (0.2 mM) λ_{ex} = 300 nm.

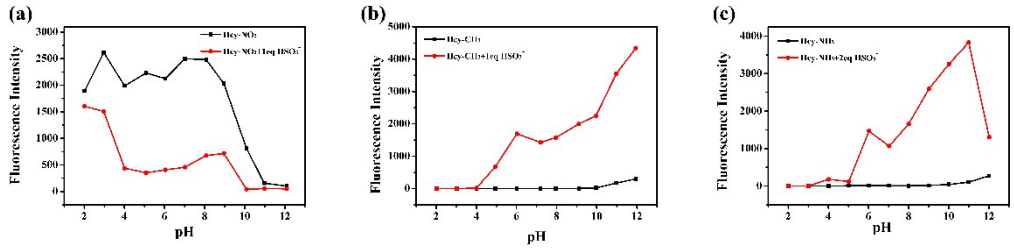

Fig. S3 Effect of pH on the fluorescence intensity of (a)probe **Hcy-NO$_2$**, (b)probe **Hcy-CH$_3$**, (c)probe **Hcy-NH$_2$** in the absence (black line) or presence (red line) of HSO_3^-.

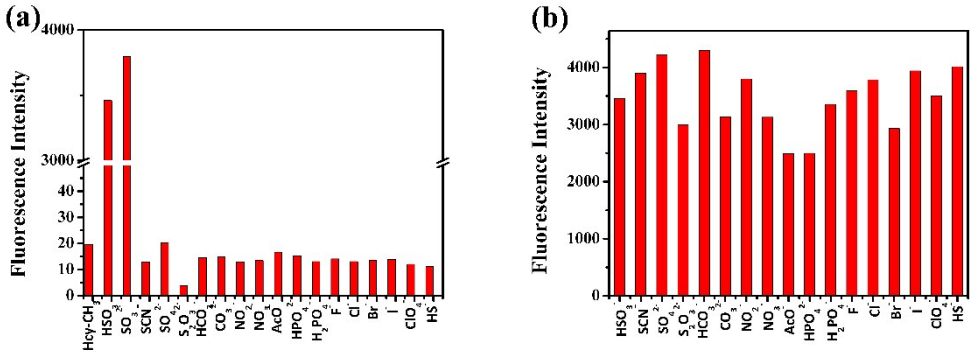

Fig. S4 Fluorescence intensity at 390 nm of probe **Hcy-CH$_3$** (a)with different anions and (b)with 1 equiv. HSO_3^- and 10 equiv. competitive anions in DMSO/PBS solution (v/v = 1/9, pH 7.4).

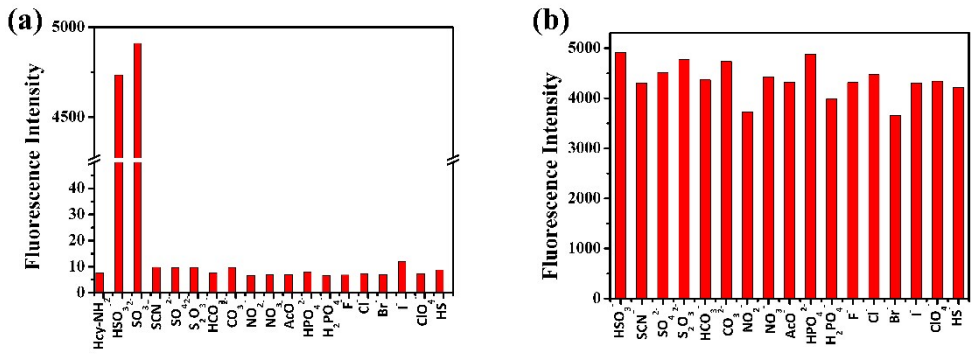

Fig. S5 Fluorescence intensity at 381 nm of probe **Hcy-NH$_2$** (a)with different anions and (b)with 2 equiv. HSO_3^- and 10 equiv. competitive anions in DMSO/PBS solution (v/v = 1/9, pH 7.4).

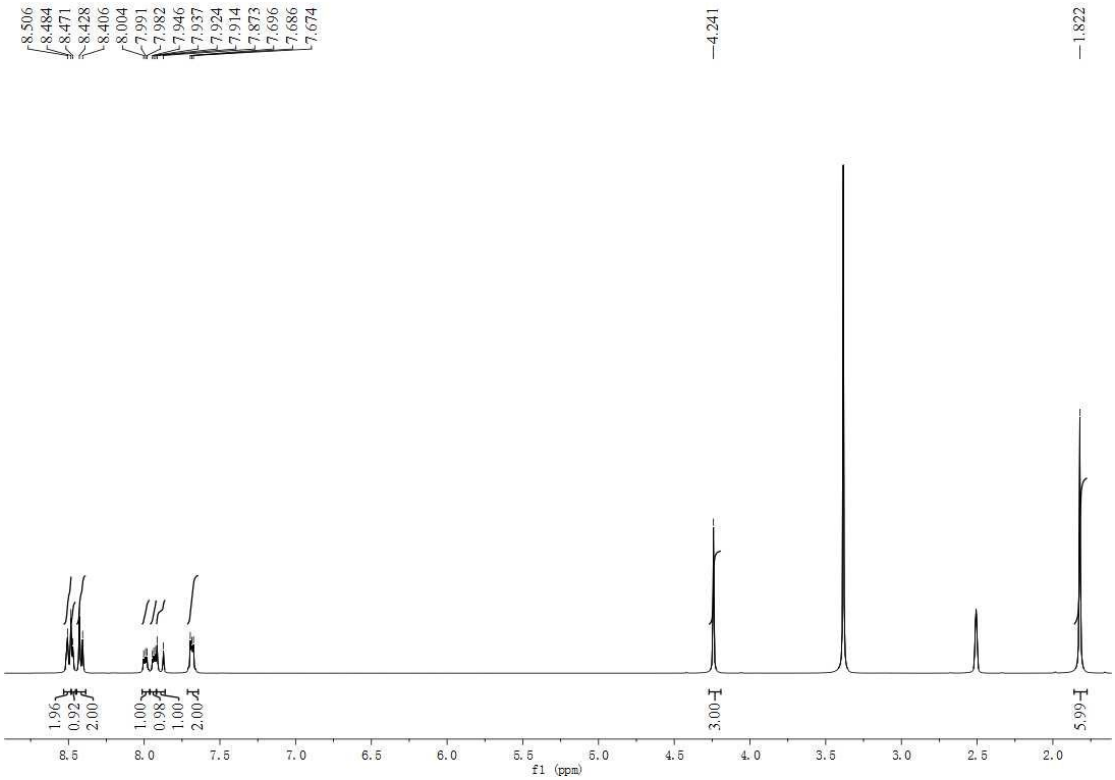

Fig. S6 ^{1}H NMR spectrum of probe **Hcy-NO$_2$** in DMSO-d_6.

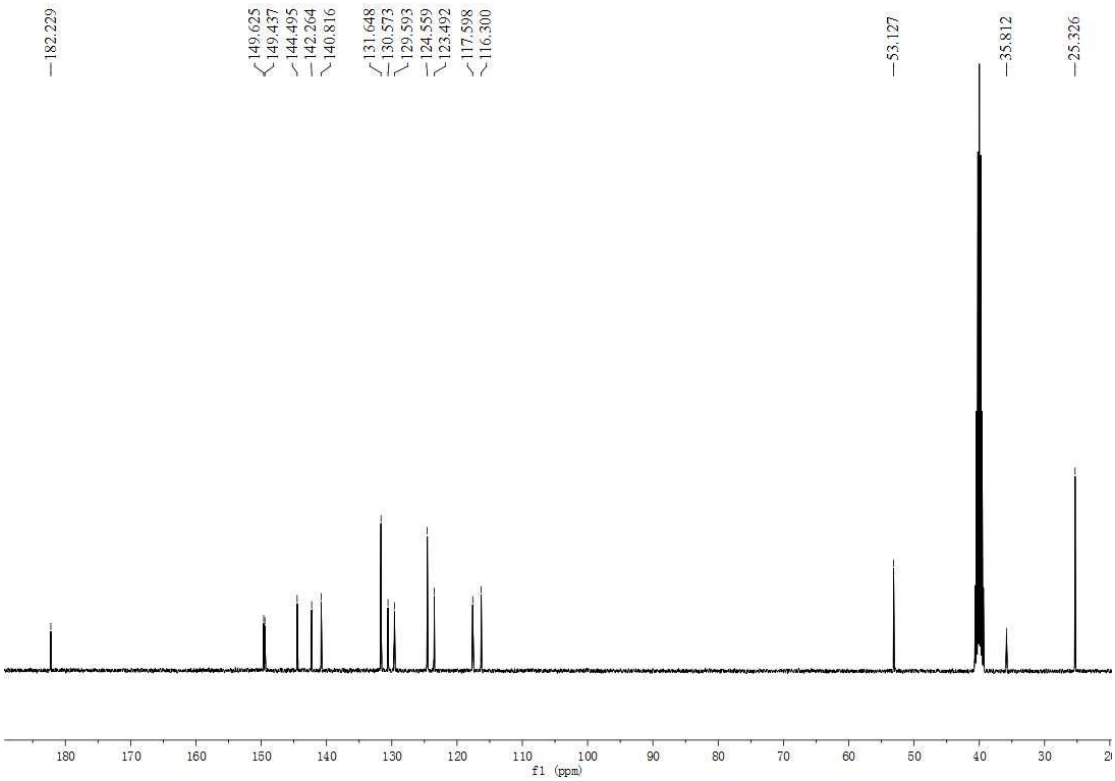

Fig. S7 ^{13}C NMR spectrum of probe **Hcy-NO$_2$** in DMSO-d_6.

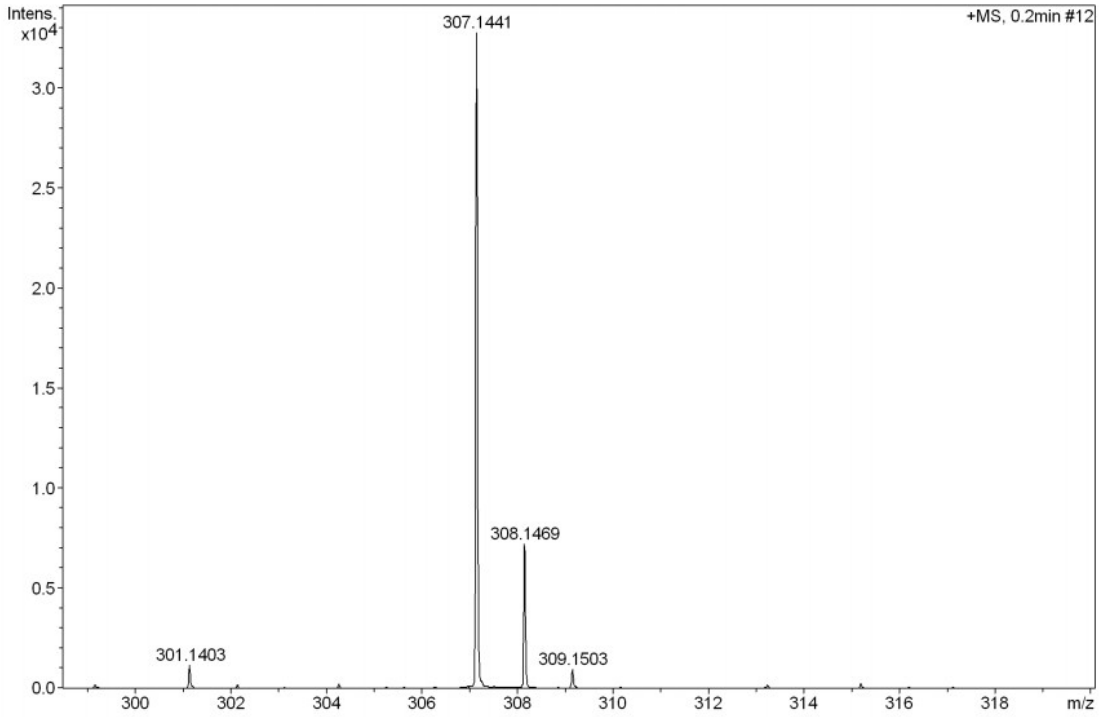

Fig. S8 HRMS spectrum of probe **Hcy-NO$_2$**.

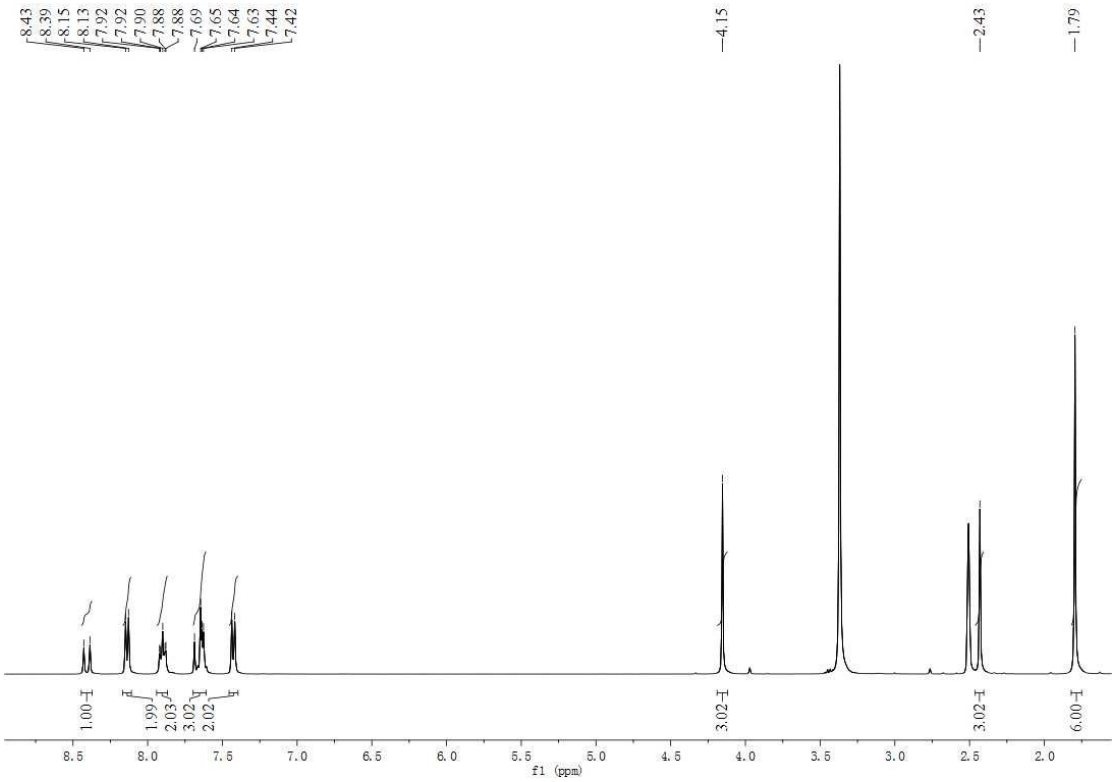

Fig. S9 ^{1}H NMR spectrum of probe **Hcy-CH$_3$** in DMSO-d_6.

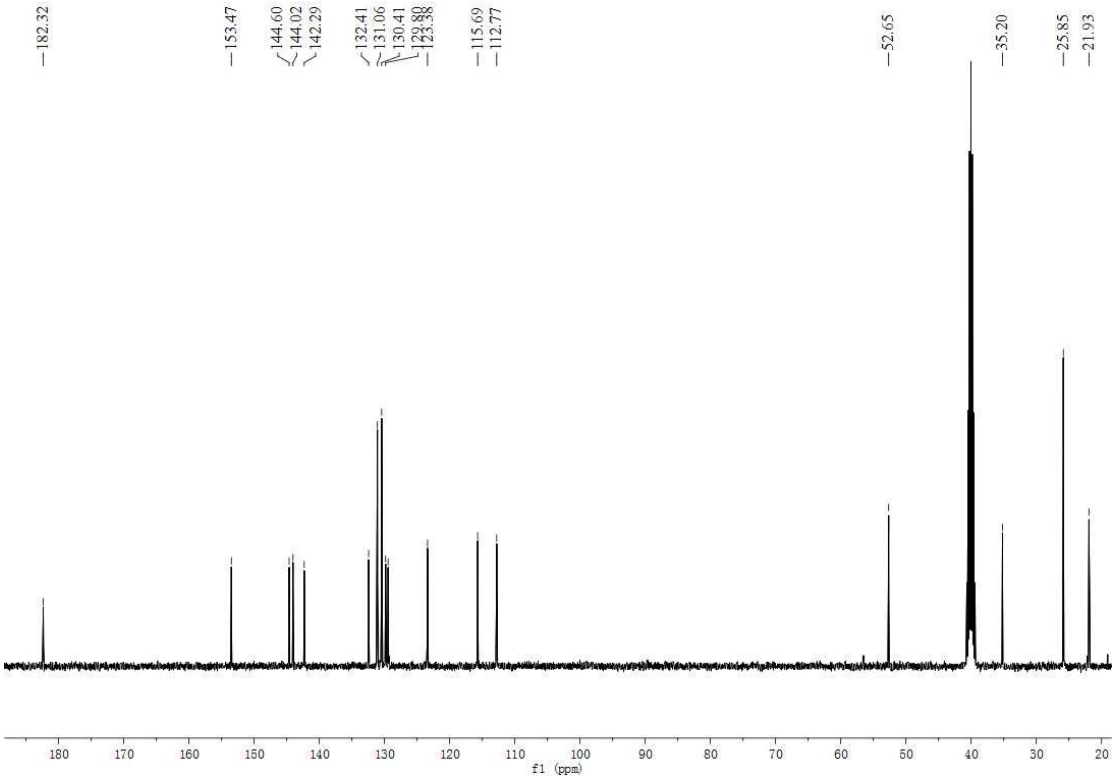

Fig. S10 ^{13}C NMR spectrum of probe **Hcy-CH$_3$** in DMSO-d_6.

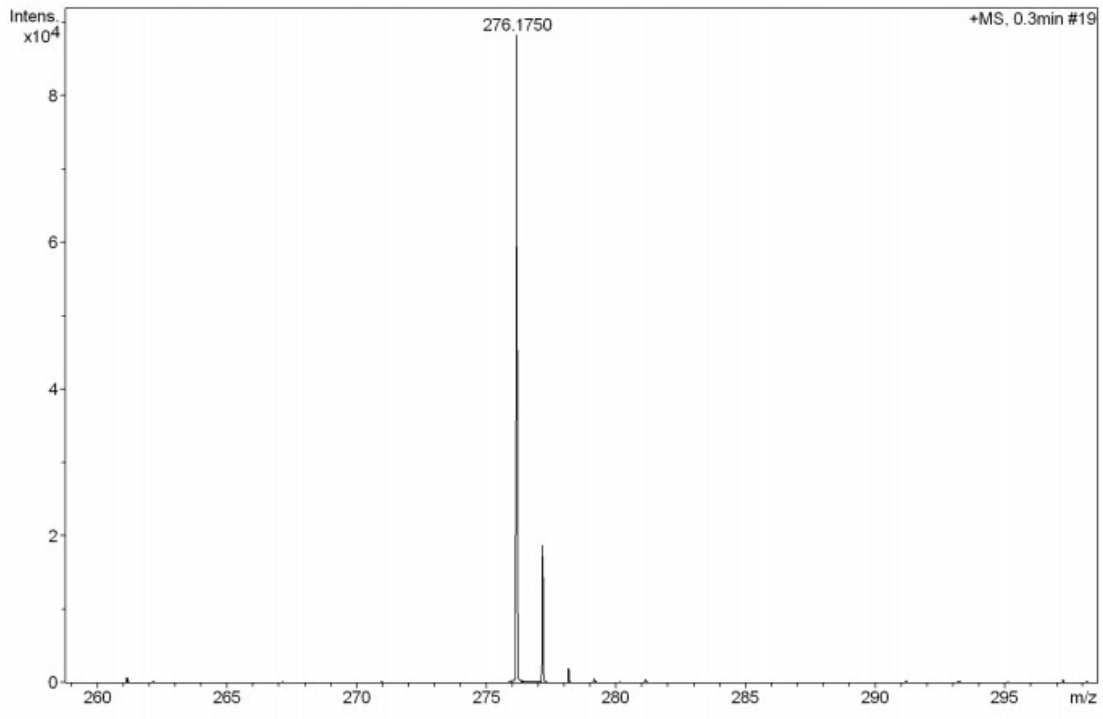

Fig. S11 HRMS spectrum of probe **Hcy-CH_3**.

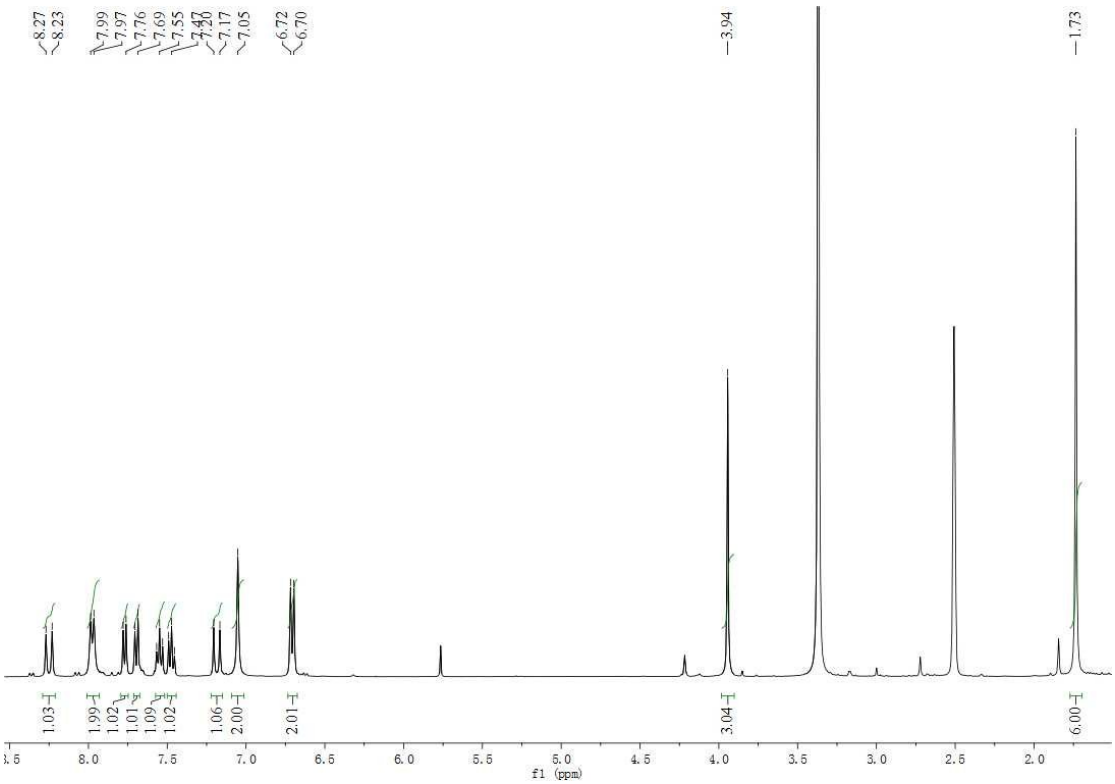

Fig. S12 ^{1}H NMR spectrum of probe **Hcy-NH_2** in DMSO-d_6.

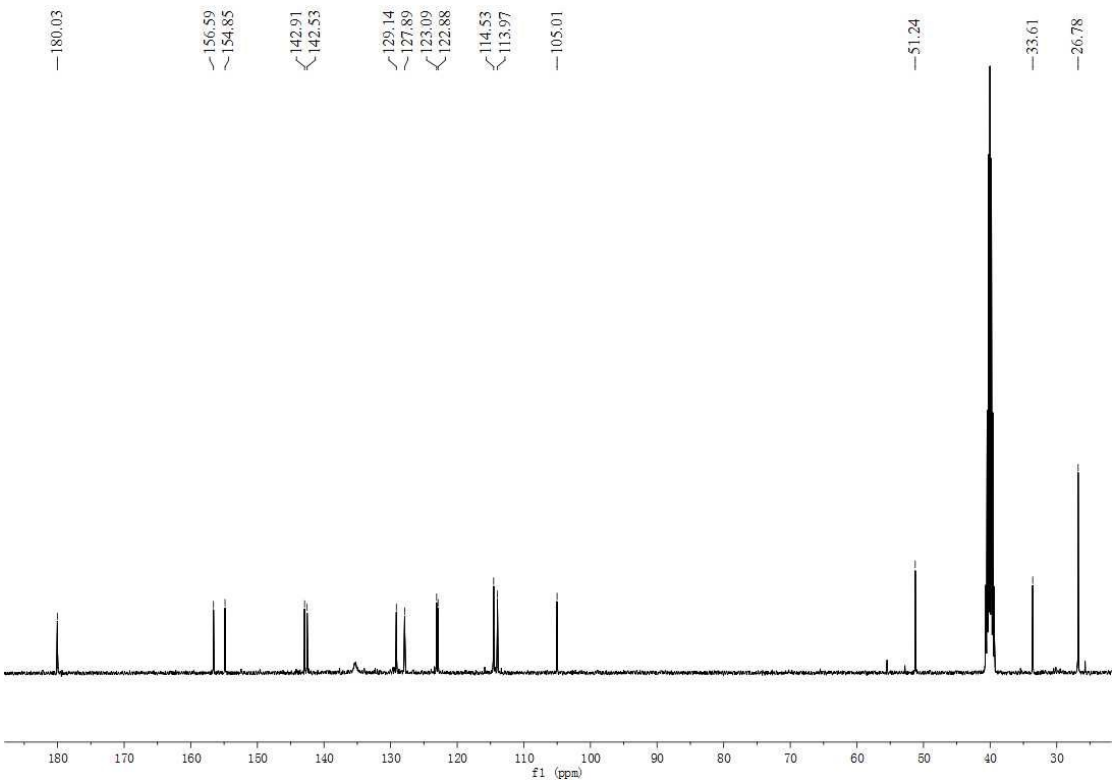

Fig. S13 ^{13}C NMR spectrum of probe **Hcy-NH$_2$** in DMSO-d_6.

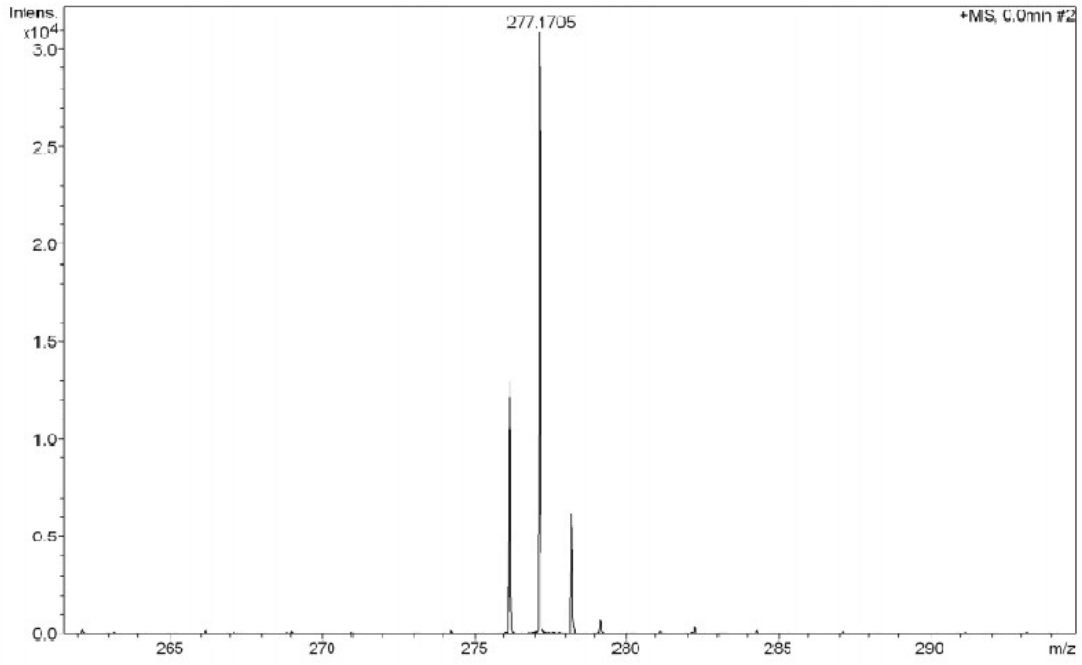

Fig. S14 HRMS spectrum of probe **Hcy-NH$_2$**.