

Electronic Supplementary Information (ESI)

A fluorescent probe with aggregation-induced emission characteristics for distinguishing homocysteine over cysteine and glutathione

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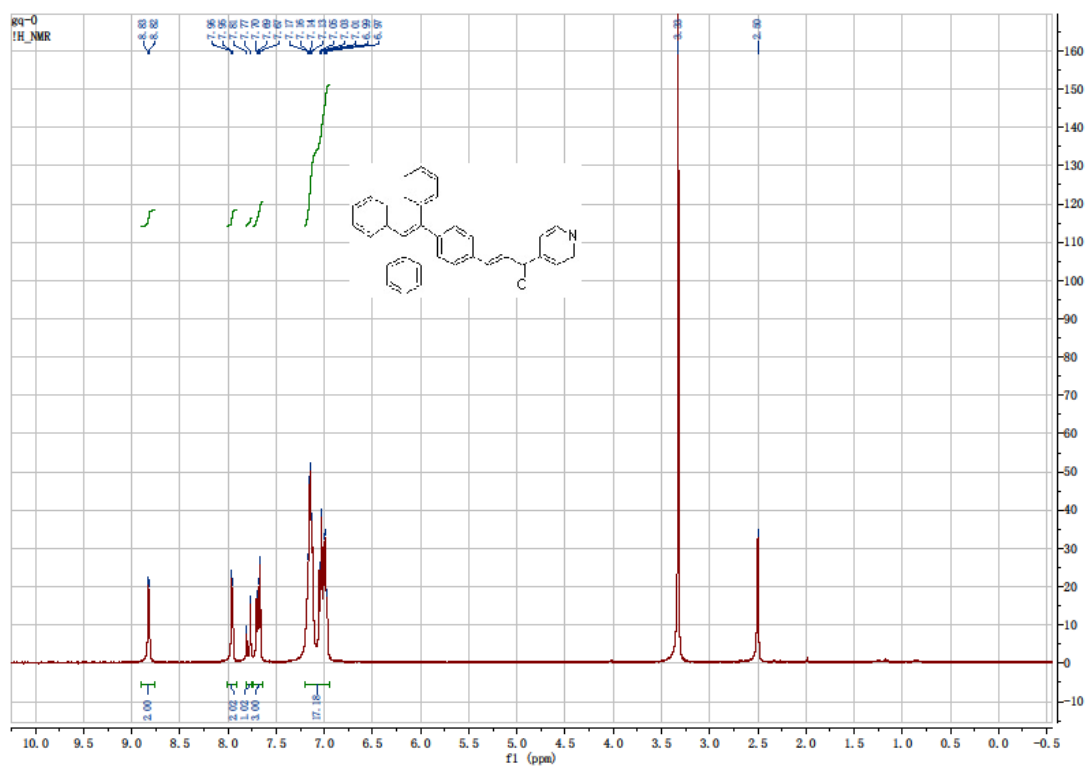


Fig. S1 ^1H NMR spectrum of TPE-Py.

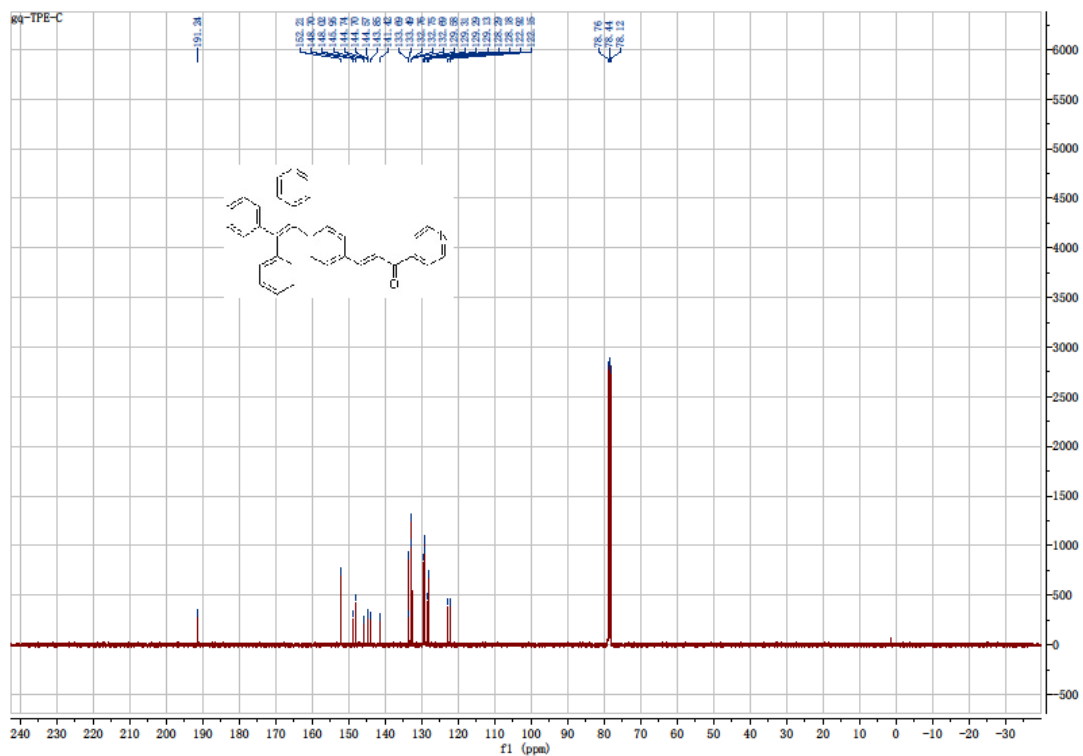


Fig. S2 ^{13}C NMR spectrum of TPE-Py.

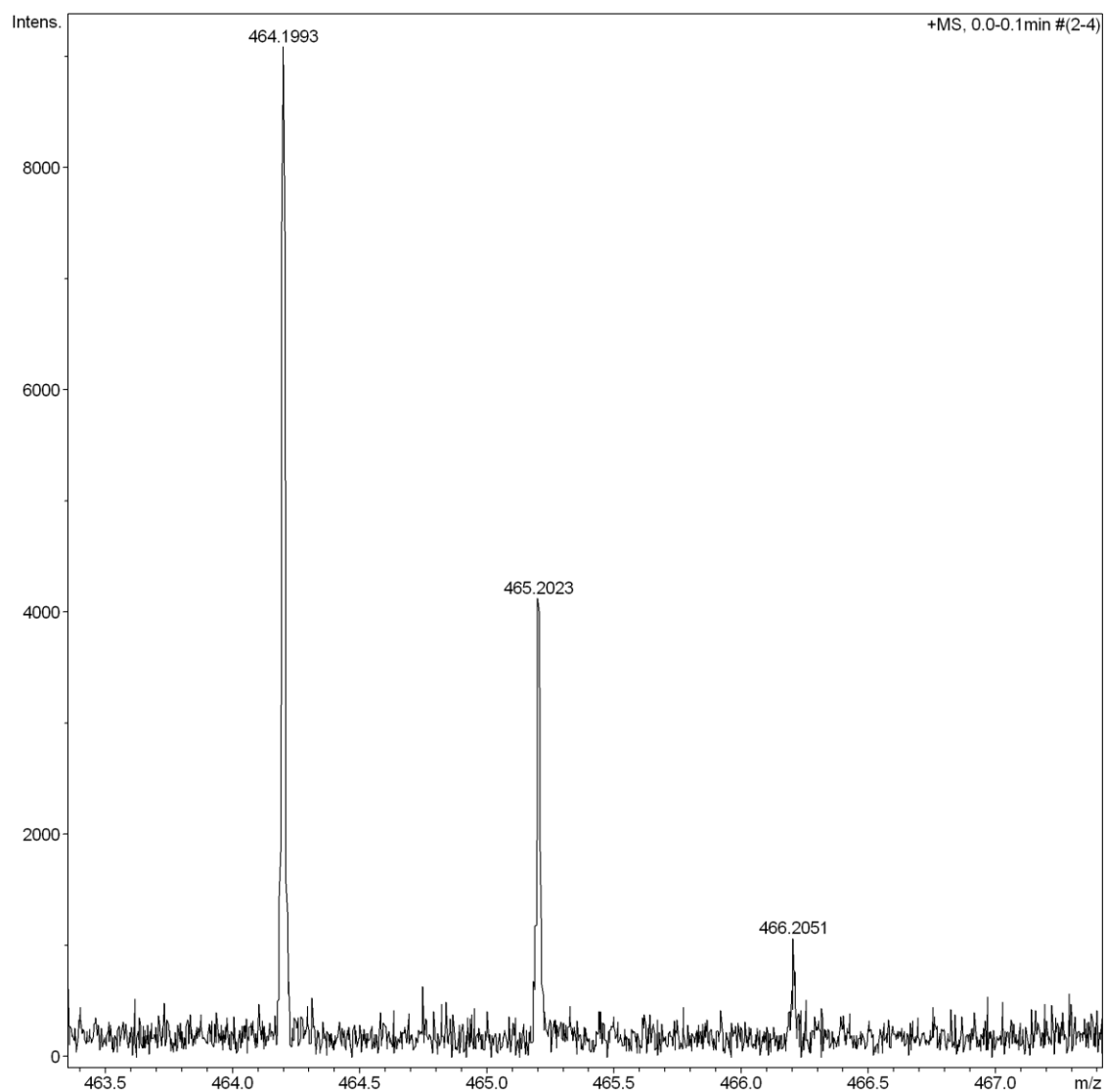


Fig. S3 High resolution mass spectrum of TPE-Py.

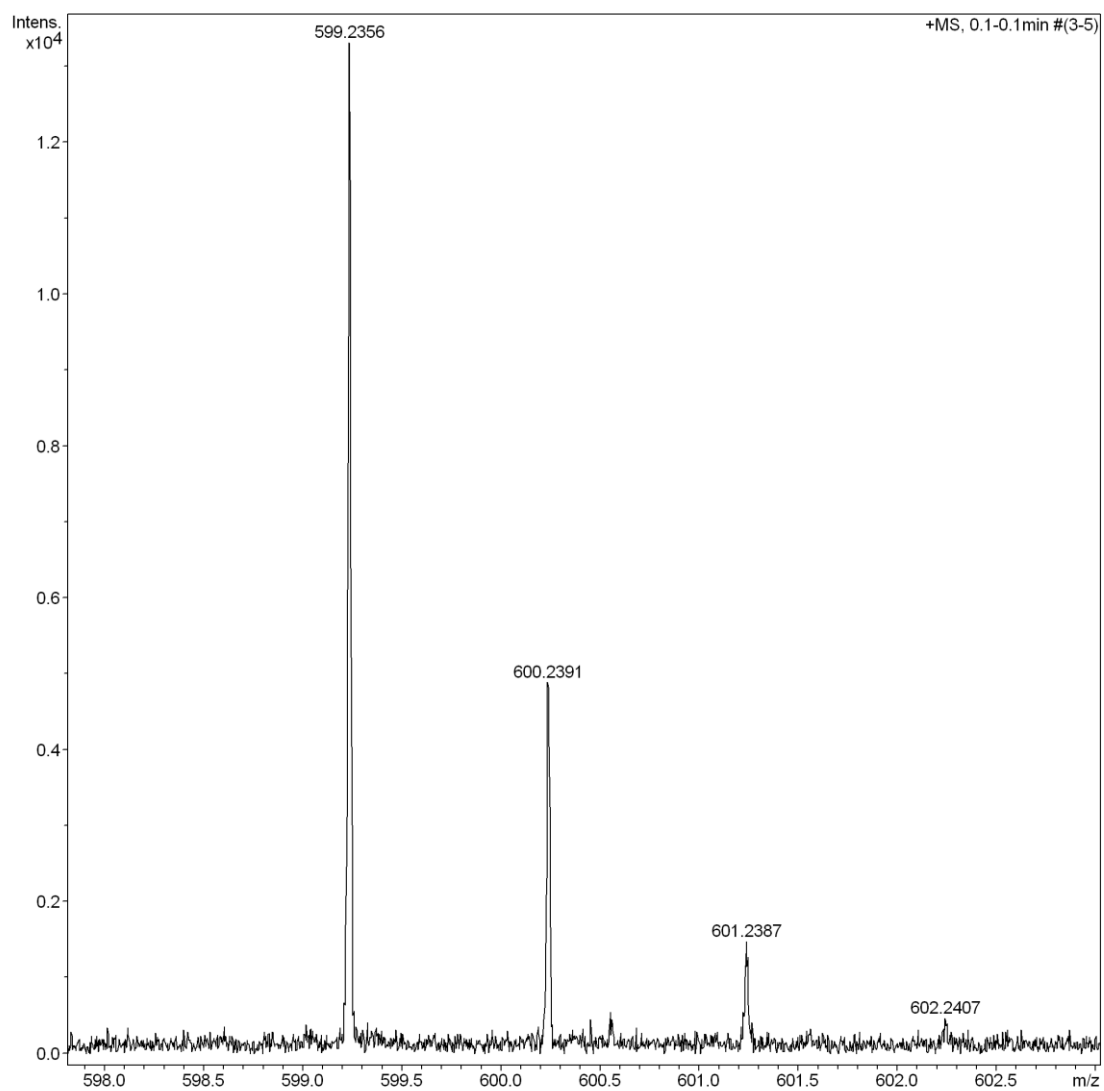


Fig. S4 High resolution mass spectrum of TPE-Py-Hcy.

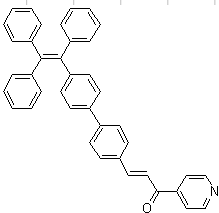


Fig. S5 ^1H NMR spectrum of TPEPh-Py.

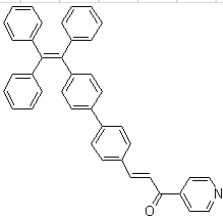


Fig. S6 ^{13}C NMR spectrum of TPEPh-Py.

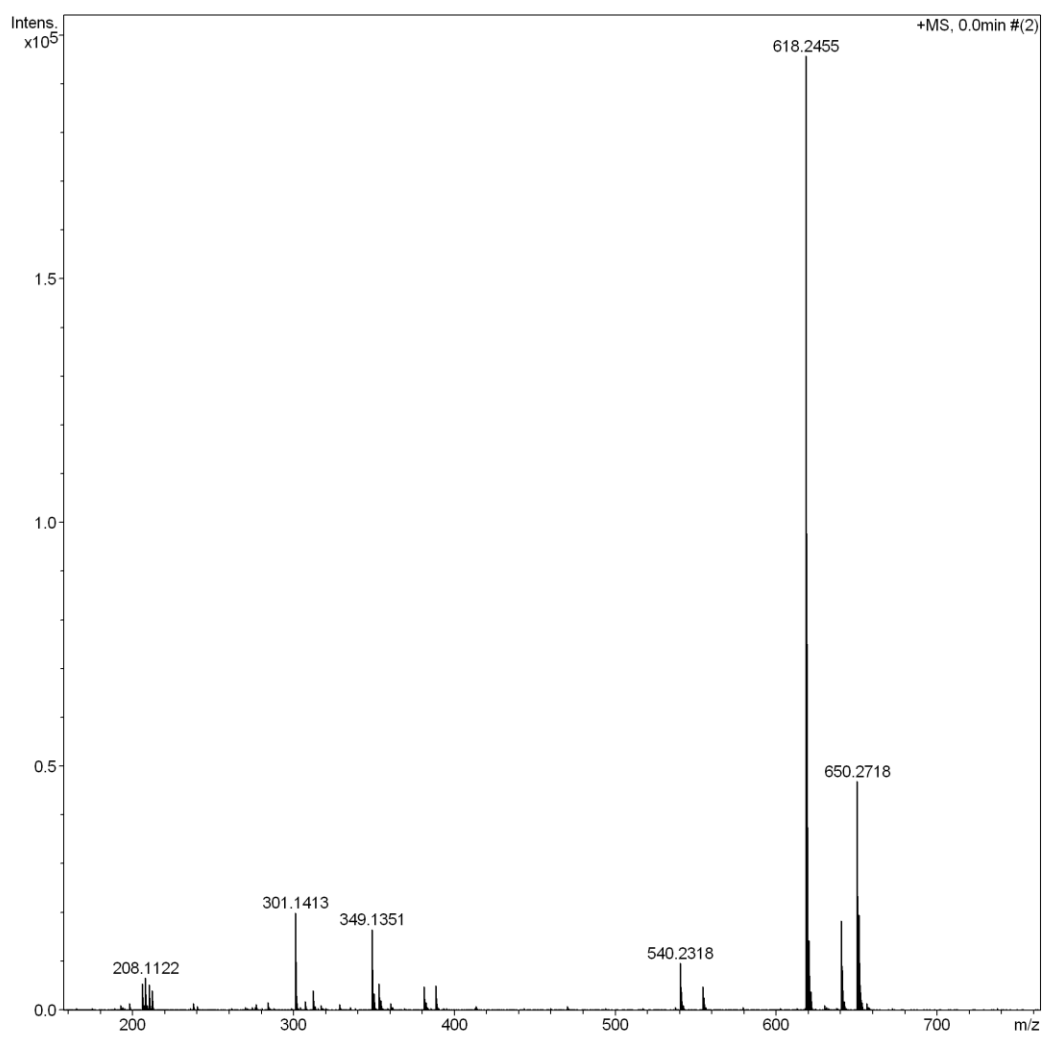


Fig. S7 High resolution mass spectrum of TPEPh-Py.

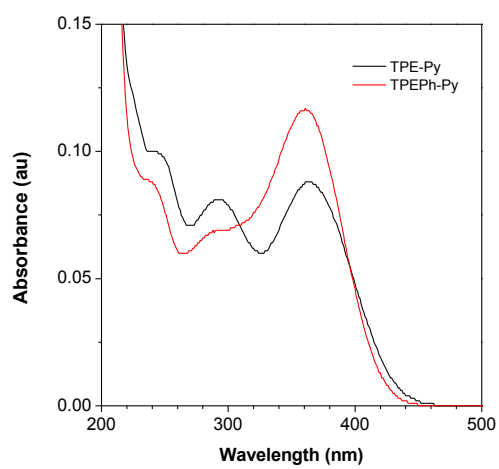


Fig. S8 UV-vis spectra of TPE-Py and TPEPh-Py ($3 \mu\text{M}$) in acetonitrile.

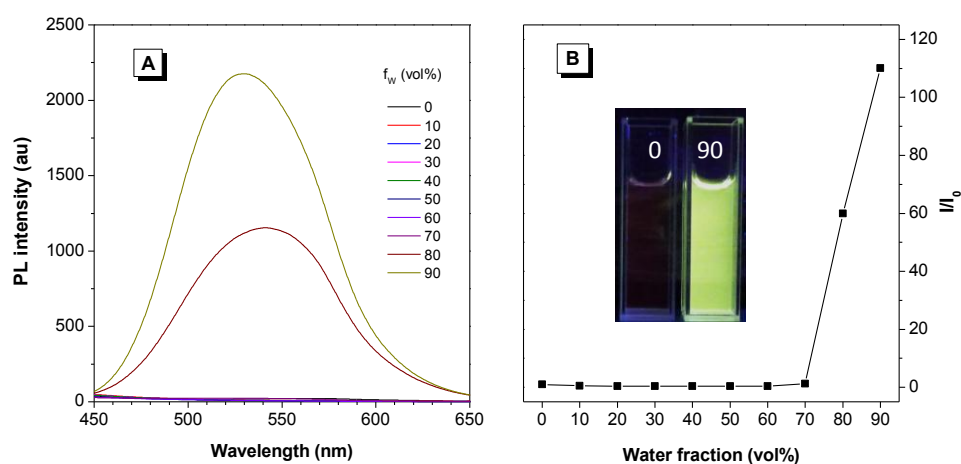


Fig. S9 (A) PL spectra of TPEPh-Py (3 μ M) in acetonitrile and acetonitrile–water mixtures with different water fractions (f_w). (B) Plots of emission intensity versus the composition of the aqueous mixtures of TPEPh-Py. Inset: photographs of TPEPh-Py in acetonitrile–water mixtures with f_w values of 0 and 90 vol%.

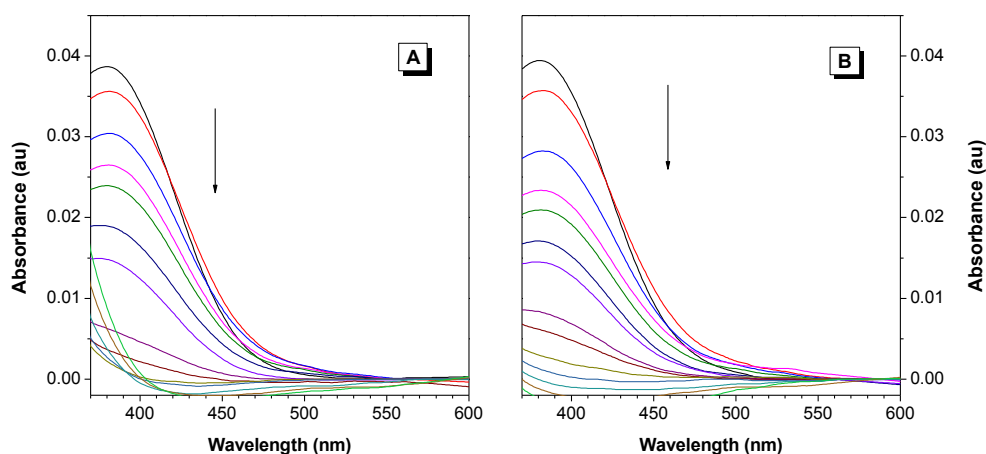


Fig. S10 UV-vis spectra of TPE-Py (3 μ M) in acetonitrile/phosphate buffer (20 : 80 v/v, 20 mM, pH 8) with different concentration of (A) Hcy and (B) Cys (0-60 mM).

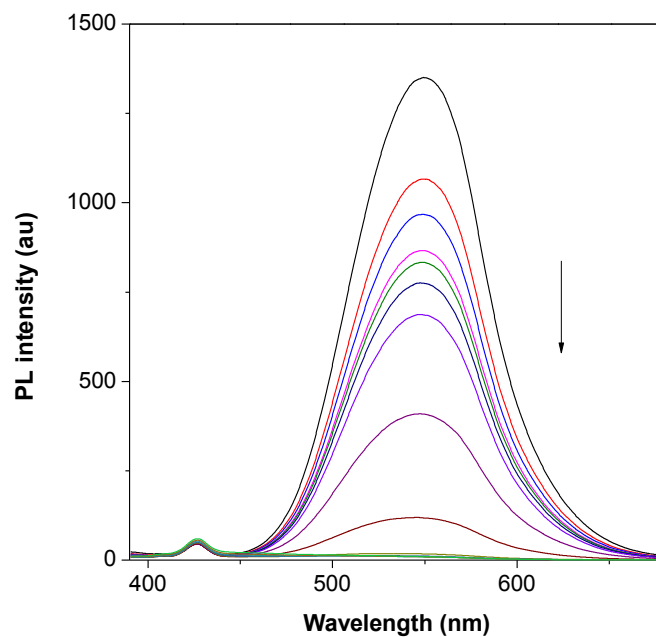


Fig. S11 PL spectra of TPE-Py ($3\text{ }\mu\text{M}$) in acetonitrile/phosphate buffer (20 : 80 v/v, 20 mM, pH 8) with different concentration of GSH (0-60 mM).

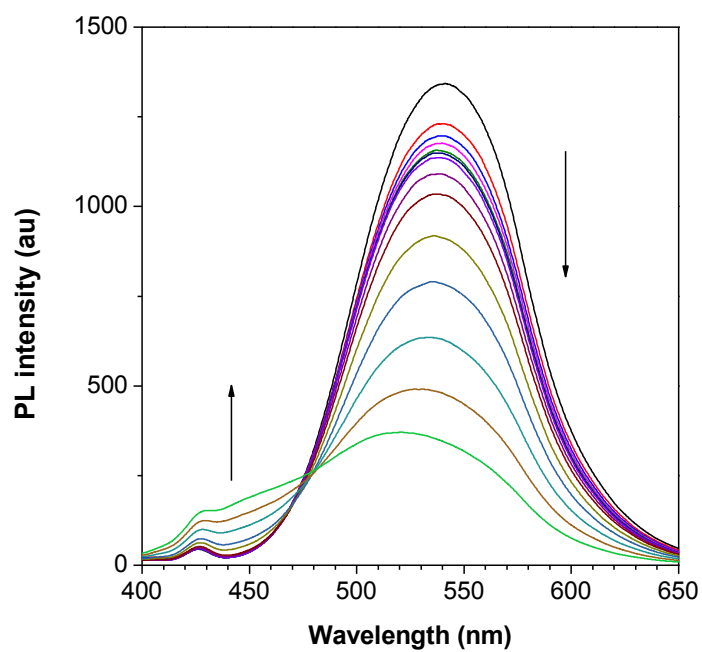


Fig. S12 PL spectra of TPEPh-Py ($3\text{ }\mu\text{M}$) in acetonitrile/phosphate buffer (20 : 80 v/v, 20 mM, pH 8) with different concentration of Hcy (0-60 mM).

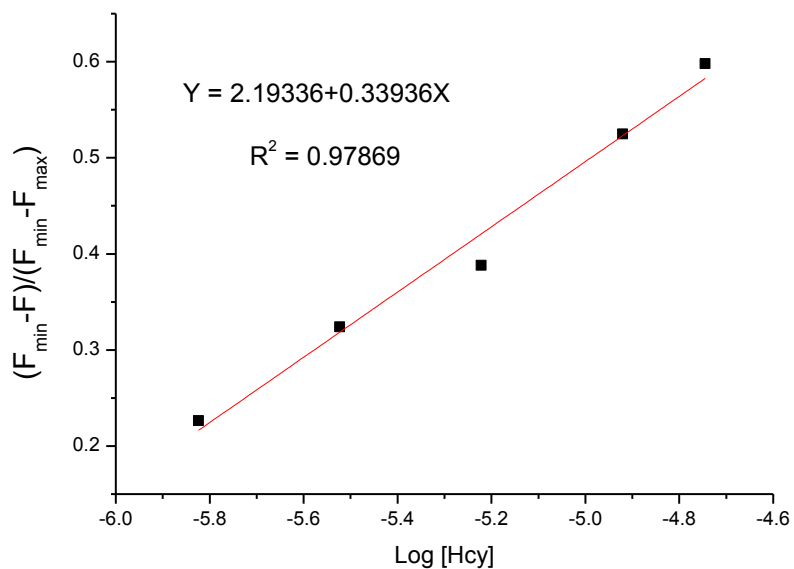


Fig. S13 Normalized fluorescence responses of TPE-Py (3 μM) to changing Hcy concentrations (1.5, 3.0, 6.0, 12.0, 18.0 μM) in acetonitrile/phosphate buffer (20 : 80 v/v, 20 mM, pH 8). Detection limit = 3.46×10^{-7} M. $F = I_{455}/I_{550}$.

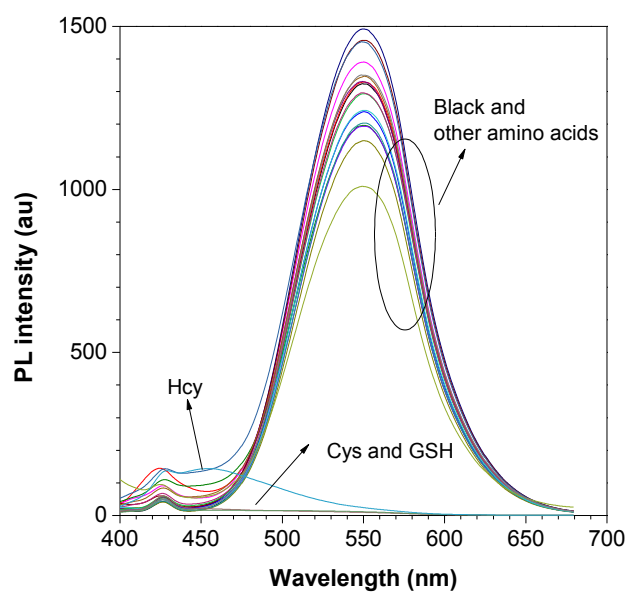


Fig. S14 PL spectra of TPE-Py (3 μM) in acetonitrile/phosphate buffer (20 : 80 v/v, 20 mM, pH 8) with different amino acids (60 mM).

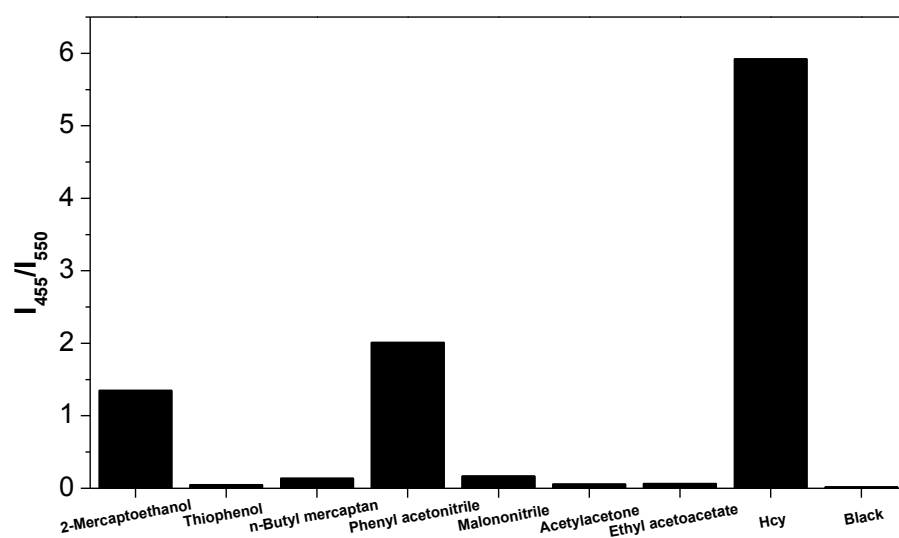


Fig. S15 Emission ratio I_{455}/I_{550} of TPE-Py in the absence or presence of 60 mM typical typical thiol compounds and non-thiol nucleophiles.