

Supporting information

Preparation a special fluorescent probe with aggregation-induced emission effect for detecting hydrazine in water

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Caption:

Fig. S1 The ^1H NMR spectra of **compound 2 (PCB)**

Fig. S2 The ^{13}C NMR spectra of **compound 2 (PCB)**

Fig. S3 The LC-MS spectra of **compound 2 (PCB)**

Fig. S4 The ^1H NMR spectra of **PCBI**

Fig. S5 The ^{13}C NMR spectra of **PCBI**

Fig. S6 The LC-MS spectra of **PCBI**

Fig. S7 The ^1H NMR spectra of **PCBI** after reaction with trace N_2H_4

Fig. S8 Fluorescence spectra and the linear matching curve of **PCBI** probe with different concentrations of N_2H_4 when $f_w=60\%$

Fig. S9 Electron distribution of bimolecular **PCBI**

Equation S1 The calculation formula of LOD

Fig. S1

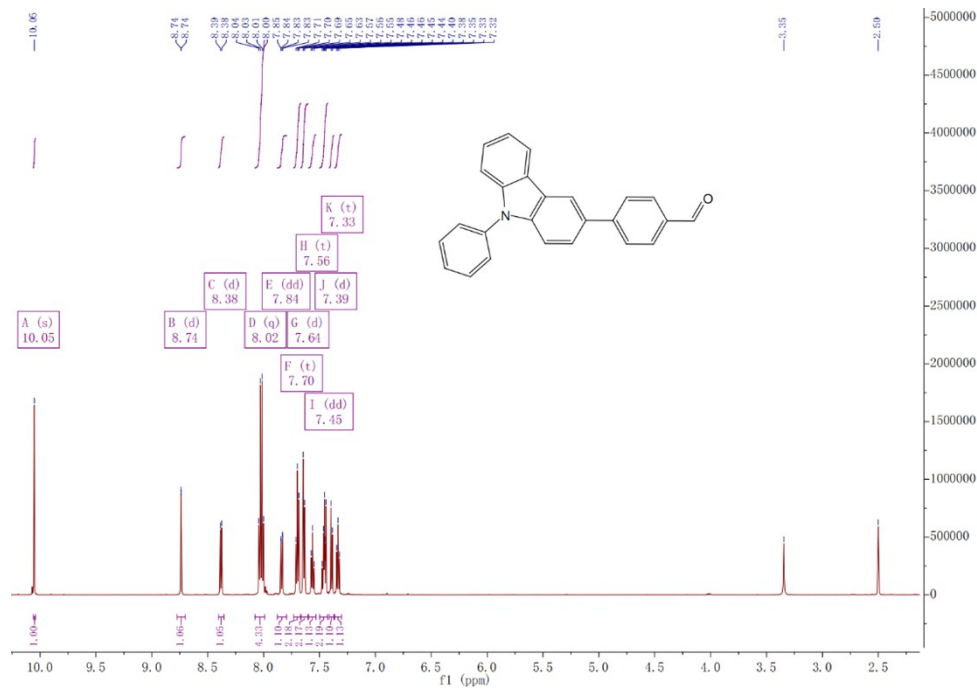


Fig. S2

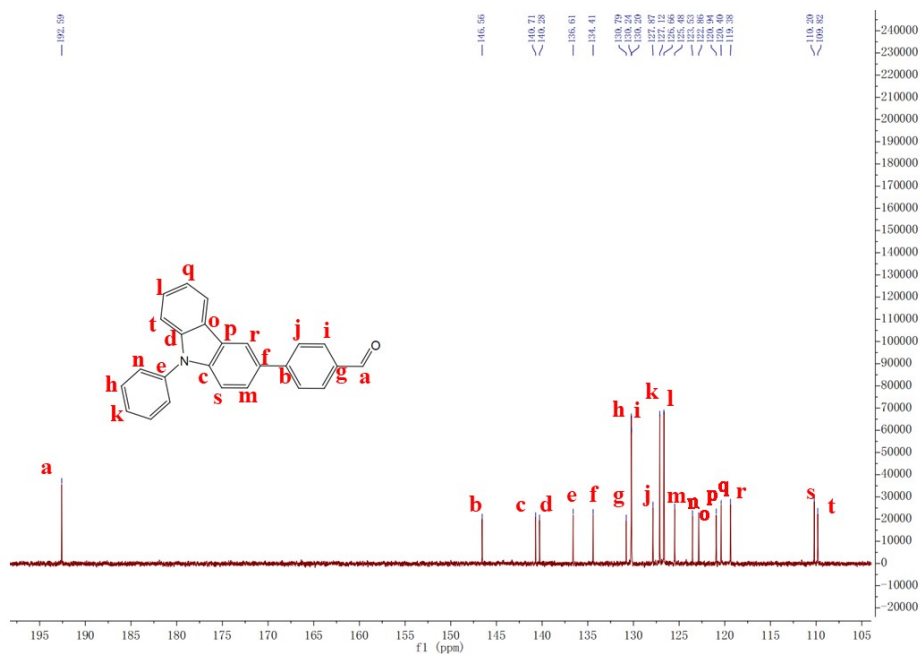


Fig. S3

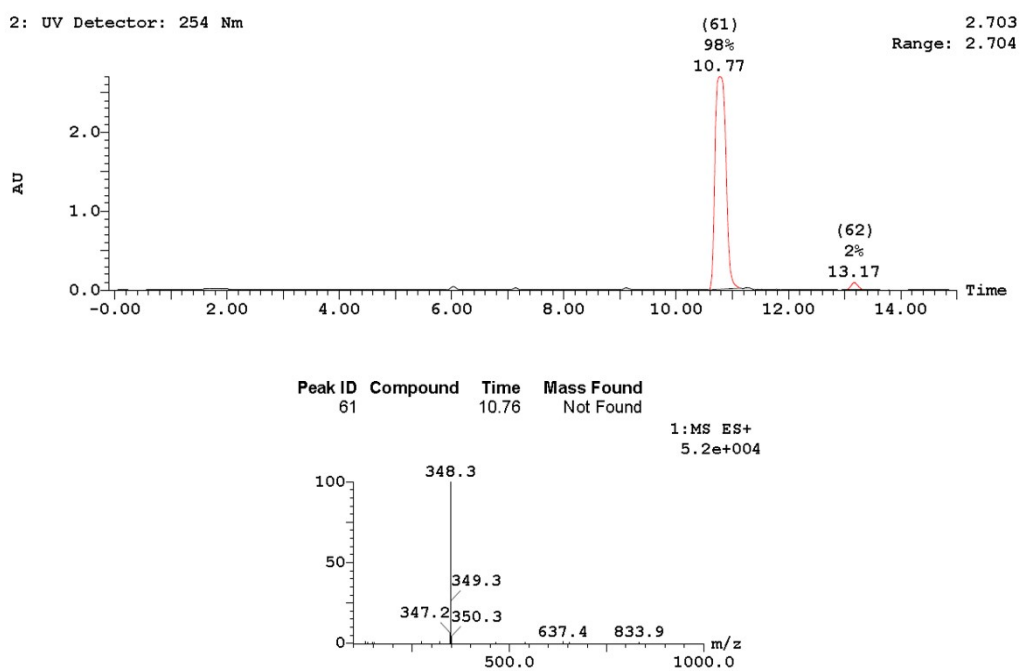


Fig. S4

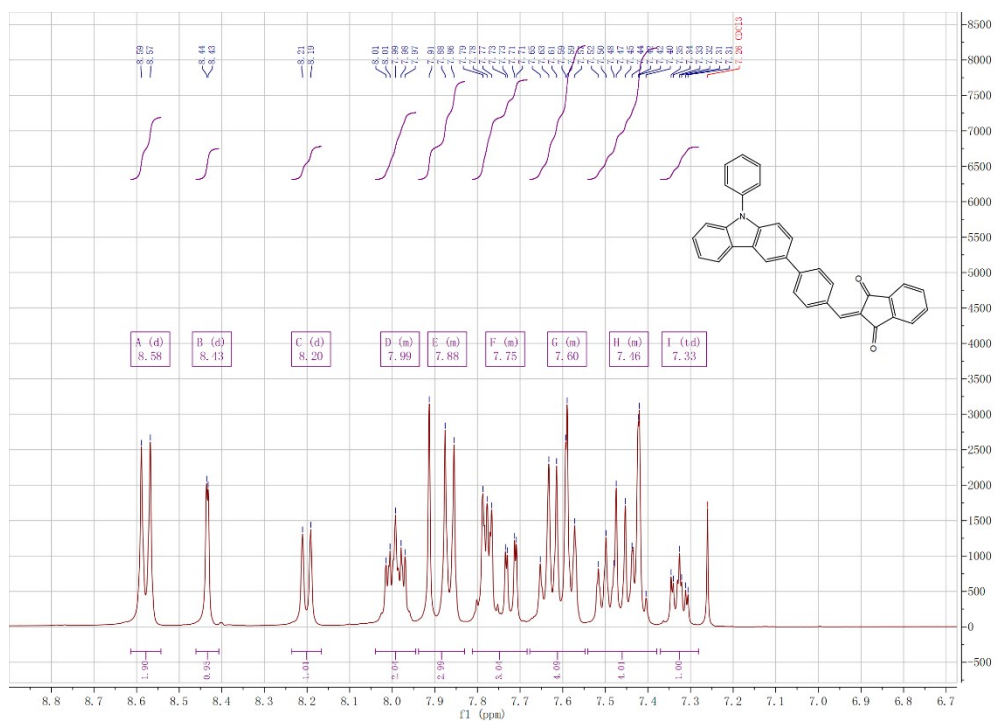


Fig. S5

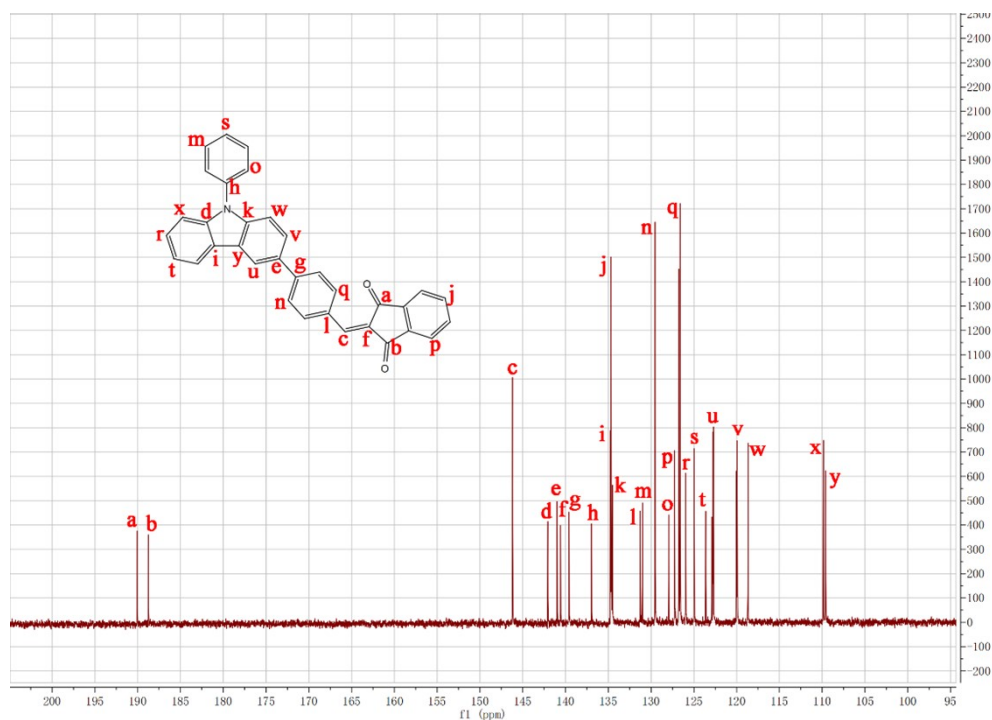


Fig. S6

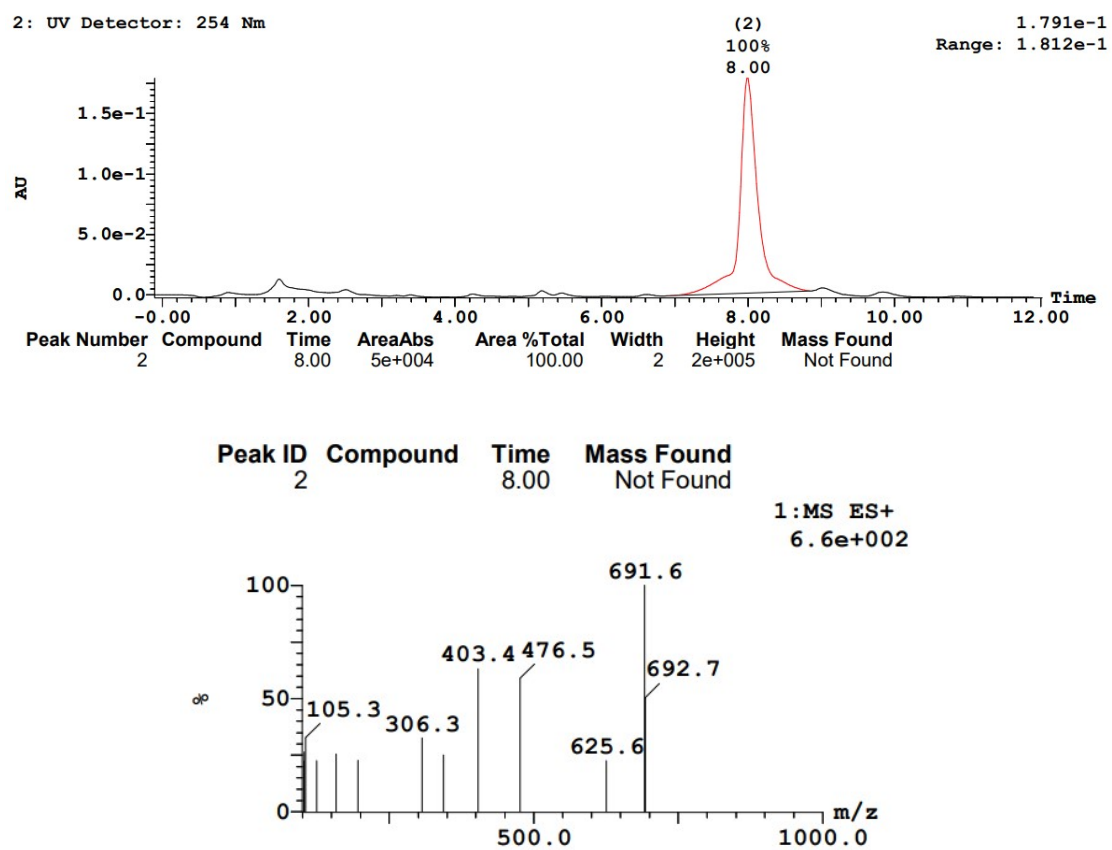


Fig. S7

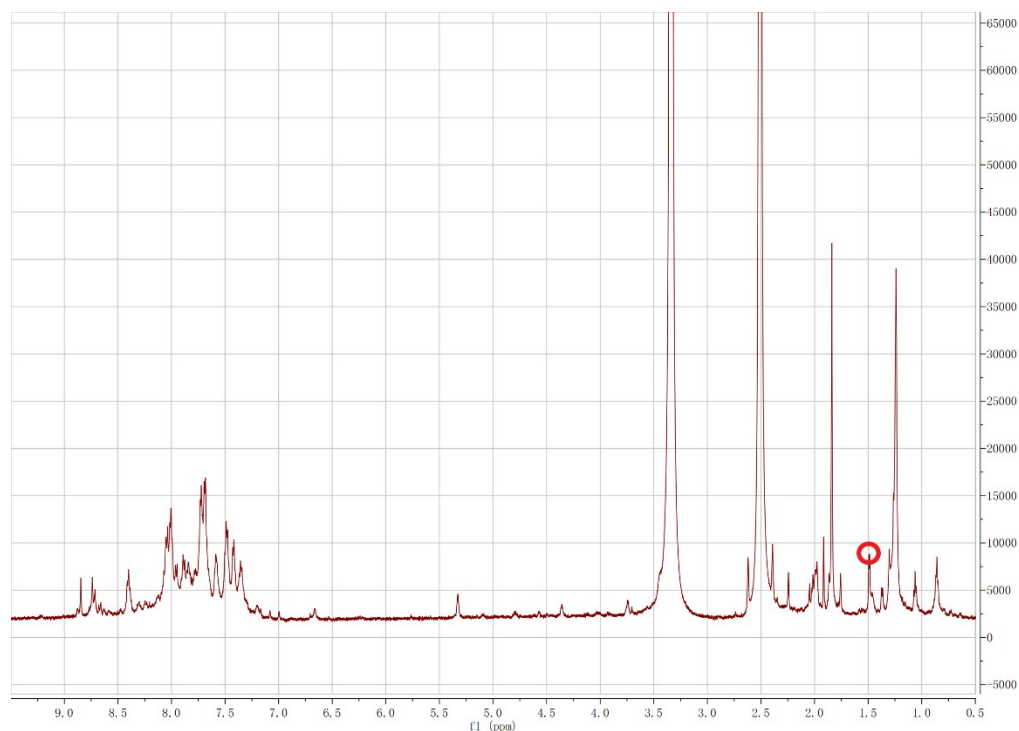


Fig. S8

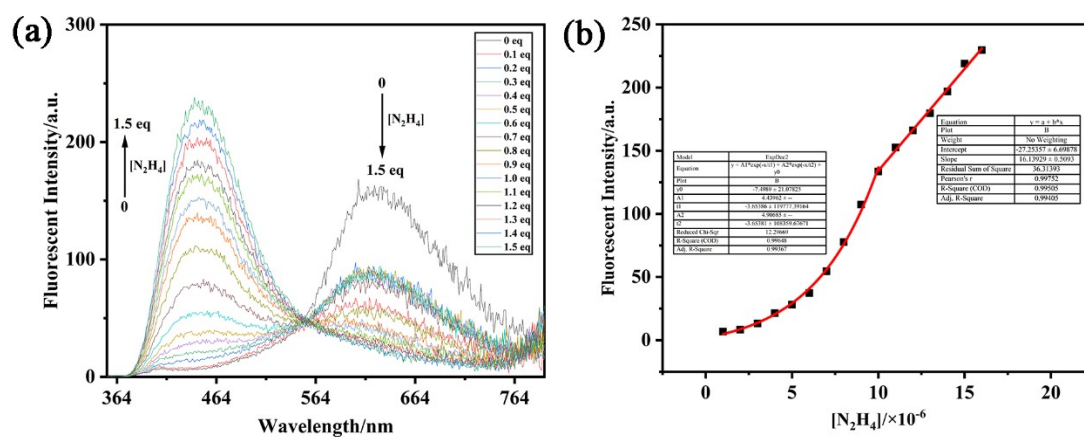
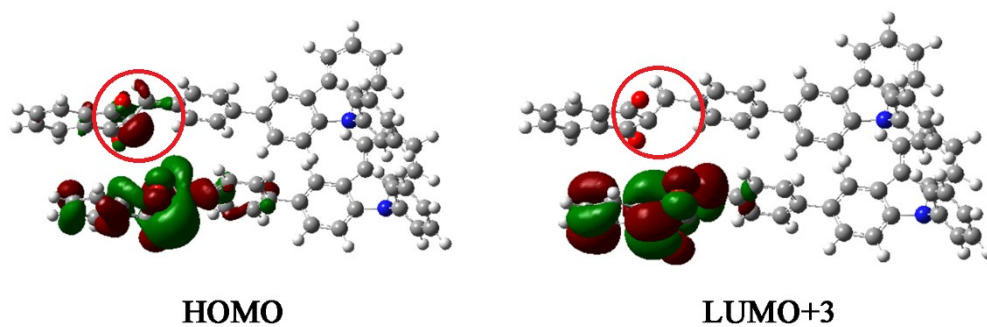


Fig. S8 (a) Fluorescence spectra of PCBI probe with different concentrations ($0-6 \times 10^{-6} \text{ mol} \cdot \text{L}^{-1}$) of N_2H_4 when $f_w=60\%$. (b) The linear matching curve of fluorescence intensity and the concentration of N_2H_4 ($0-6 \times 10^{-6} \text{ mol} \cdot \text{L}^{-1}$) at 447 nm.

Fig. S9



Equation S1

$$LOD = \frac{3\sigma}{s} \tag{1}$$

In which σ represents the standard deviation of fluorescence detection, and its value is 7.66. s refers to the slope of linear relationship, and its value is 4.65×10^7 .

Therefore, the LOD of PCBI for N_2H_4 is $4.94 \times 10^{-7} \text{mol} \cdot \text{L}^{-1}$.