

Supporting Information:

Visualization of Exhaled Hydrogen Sulfide on Test Paper with an Ultrasensitive and Time-Gated Luminescent Probe

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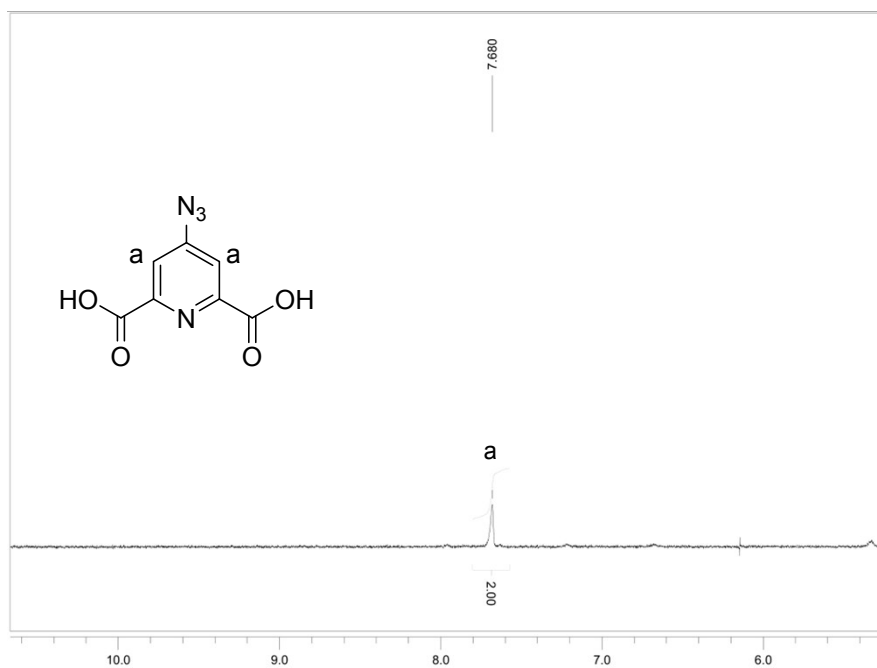


Fig. S1 ¹H NMR spectrum of DPA-N₃.

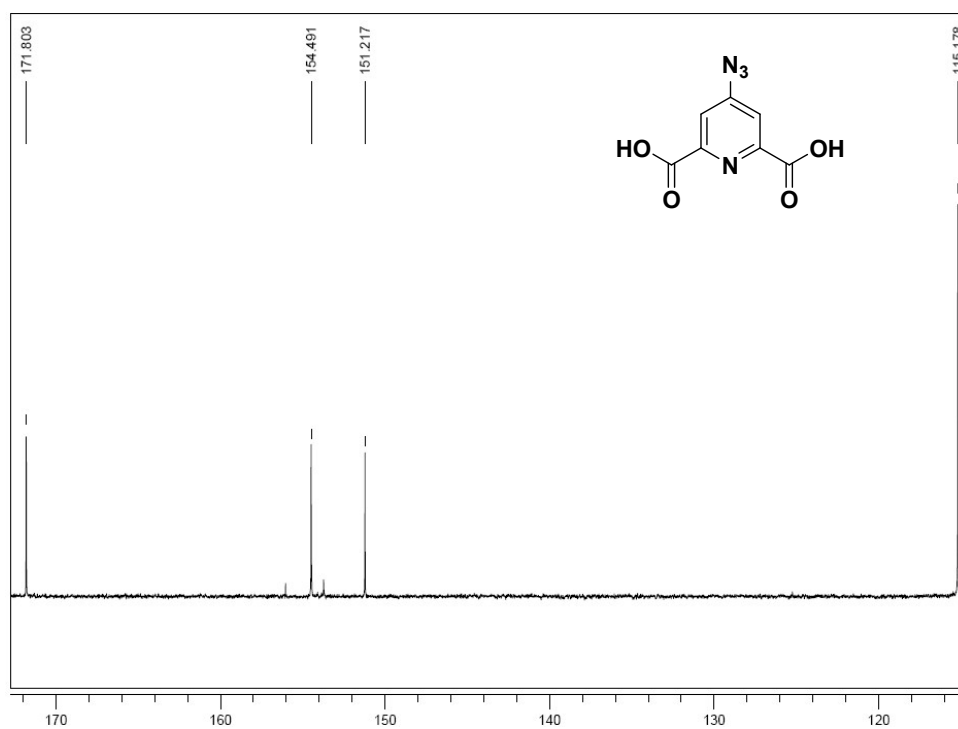


Fig. S2 ¹³C NMR spectrum of DPA-N₃.

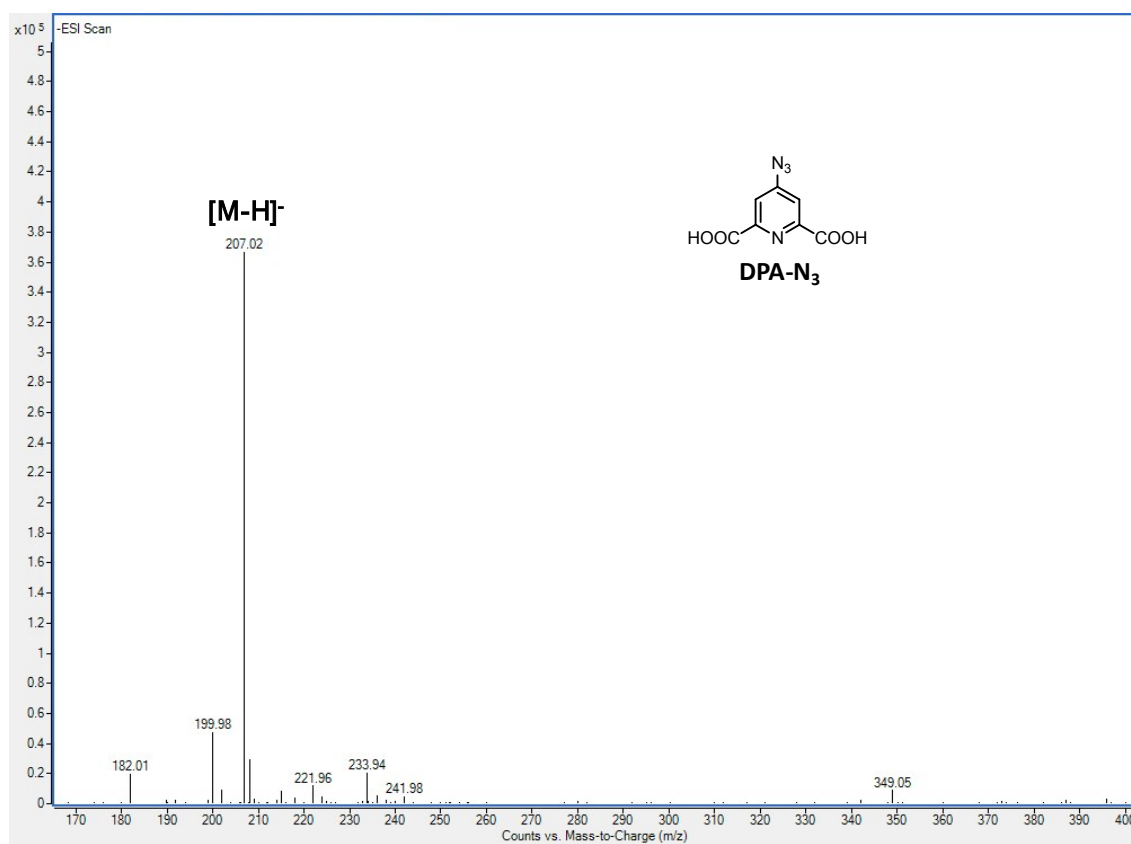


Fig. S3 MS spectrum of DPA-N₃.

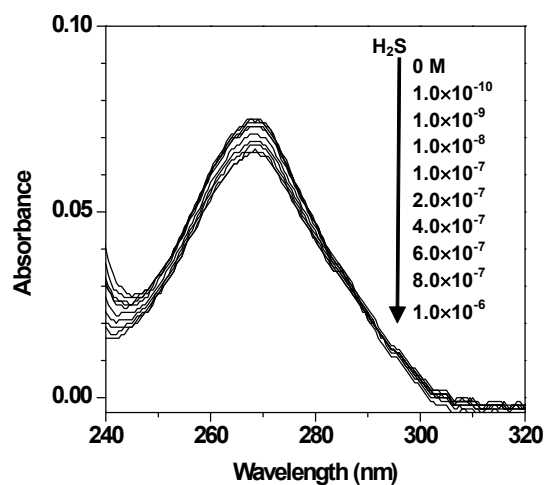


Fig. S4 UV-visible absorption spectra of the probe $\text{Na}_3[\text{Tb}(\text{DPA}-\text{N}_3)_3]$ with the addition of H_2S .

Tab. S1. The setting of Cary Eclipse fluorescence spectrophotometer for the H_2S detection using probe $\text{Na}_3[\text{Tb}(\text{DPA}-\text{N}_3)_3]$.

Mode: Phosphorescence	Excitation: 280 nm
Total decay: 0.02 s	Delay: 0.1 ms
Gate: 2 ms	PMT voltage: 600 V
Excitation slit width: 5 nm	Emission slit width: 5 nm

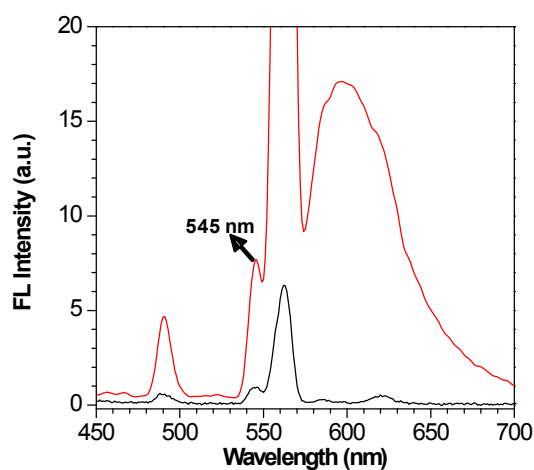


Fig. S5 The steady-state fluorescent spectra of $\text{Na}_3[\text{Tb}(\text{DPA}-\text{N}_3)_3]$ before (black curve) and after (green curve) the addition of H_2S with the excitation of 280 nm.

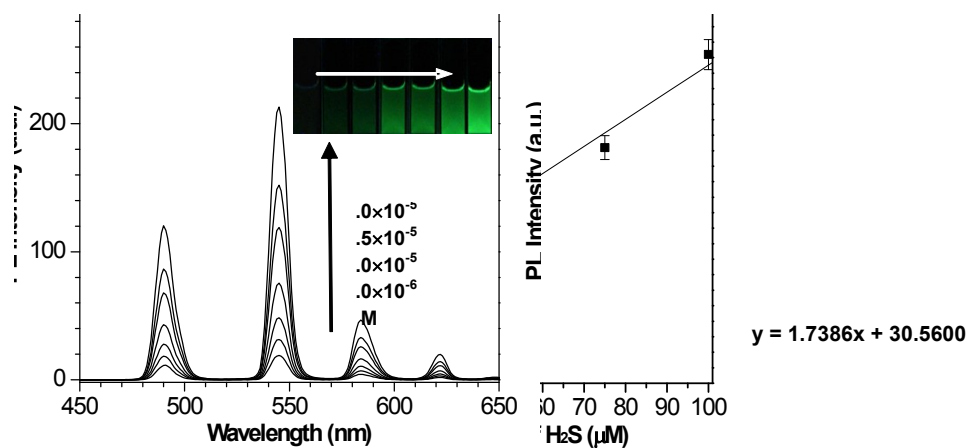


Fig. S6 (A) Time-gated luminescent spectra of $\text{Na}_3[\text{Tb}(\text{DPA}-\text{N}_3)_3]$ (50 μM) with the addition of H_2S at the excitation wavelength of 280 nm. The insets are the corresponding photographs under a 254 nm UV lamp. (B) The plots of luminescence enhancement at 545 nm versus H_2S concentrations.

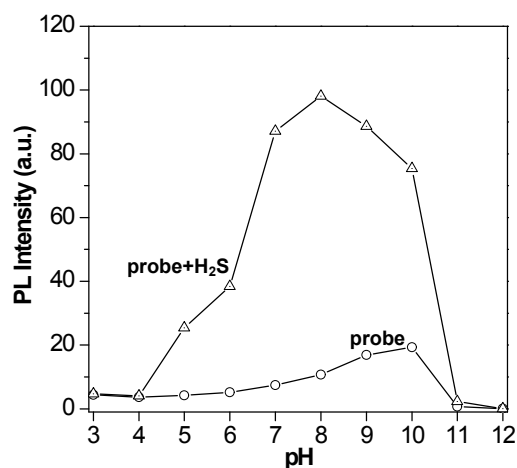


Fig. S7 pH Effects of $\text{Na}_3[\text{Tb}(\text{DPA}-\text{N}_3)_3]$ (50 μM) response to H_2S (25 μM).

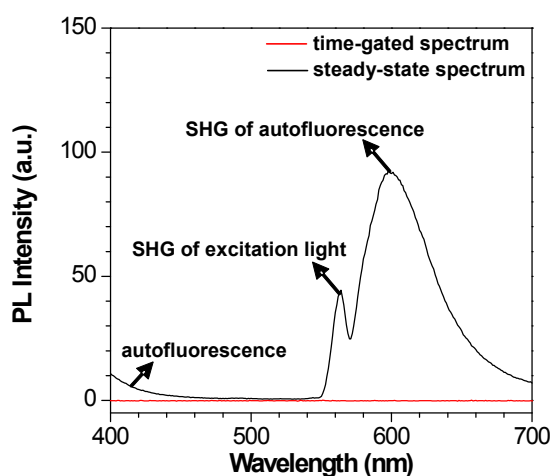


Fig. S8 Time-gated (red curve) and steady-state (black curve) luminescent spectra of pure plasma with the excitation of 280 nm. The delay time of time-gated spectrum is 0.1 ms.