

Supporting information

A new rosamine-based fluorescent chemodosimeter for hydrogen sulfide and its bioimaging in live cells

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According to IUPAC and the previous reported work [1-4], the detection limits were determined based on the fluorescence titrations. Probe **RosN₃** was employed at 10 μM. The emission intensity of probe **RosN₃** was measured without NaHS by 11-times and the standard deviations of blank measurements were determined. To obtain the slope, the fluorescence intensity at 590 nm was plotted against the concentration of NaHS. The detection limit was calculated according to Eq. (1):

$$\text{Detection limit} = 3\sigma/k \quad \text{Eq. (1)}$$

where σ is the standard deviation of the blank measurement, k is the slope of fluorescence intensity vs. NaHS concentration.

Table S1

Sample	1	2	3	4	5	6	7	8	9	10	11
Intensity	156.7	165.8	163.2	159.9	168.5	156.4	168.0	156.8	168.7	161.4	167.2

The standard deviations $\sigma = 4.7396$

References:

- 1 J. H. Song, D. Zhang, Y. Q. Liu, Y. F. Zhao, Y. Ye. *New J. Chem.*, 2015, **39**, 6284-6288.
- 2 Z. Li, X. Li, X. Gao, Y. Zhang, W. Shi and H. Ma. *Anal. Chem.*, 2013, **85**, 3926-3932.
- 3 W. Chen, Z. Li, W. Shi and H. Ma. *Chem. Commun.*, 2012, **48**, 2809-2811.
- 4 J. Wang, Y. Ni, S. Shao. *Talanta*, 2016, **147**, 468-472.

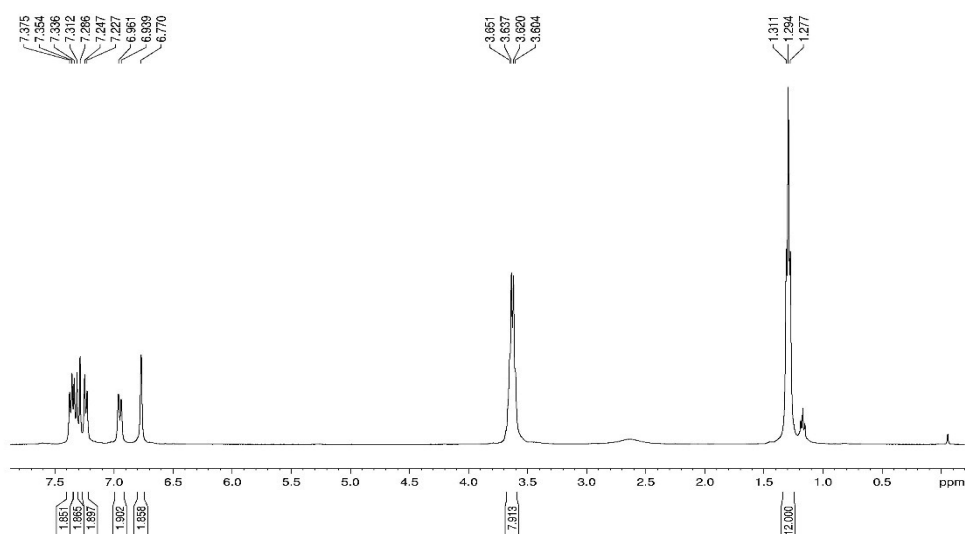


Figure S1. ¹H NMR of **RosN₃** (CDCl₃, 400 MHz).

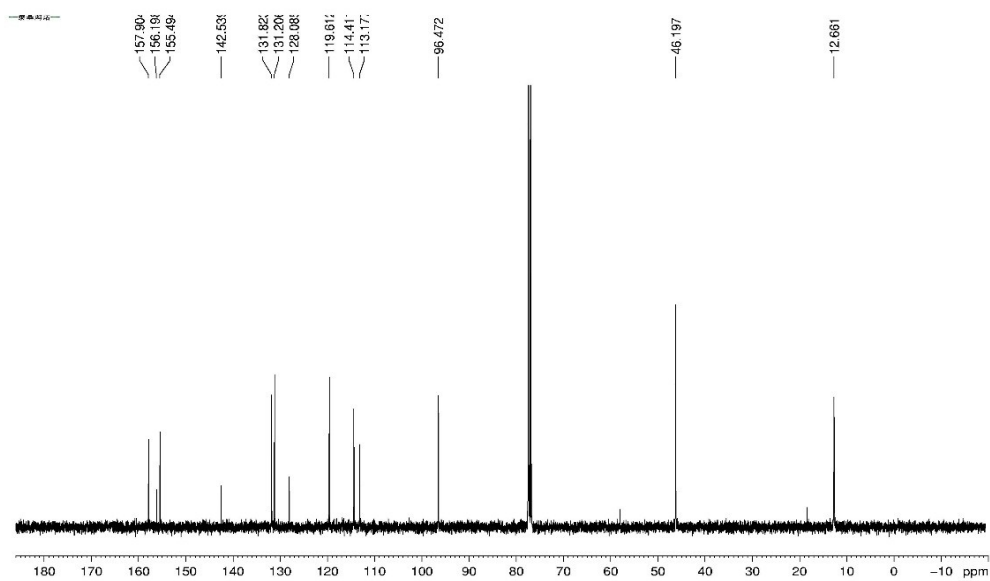


Figure S2. ^{13}C NMR of RosN_3 (CDCl_3 , 100 MHz)

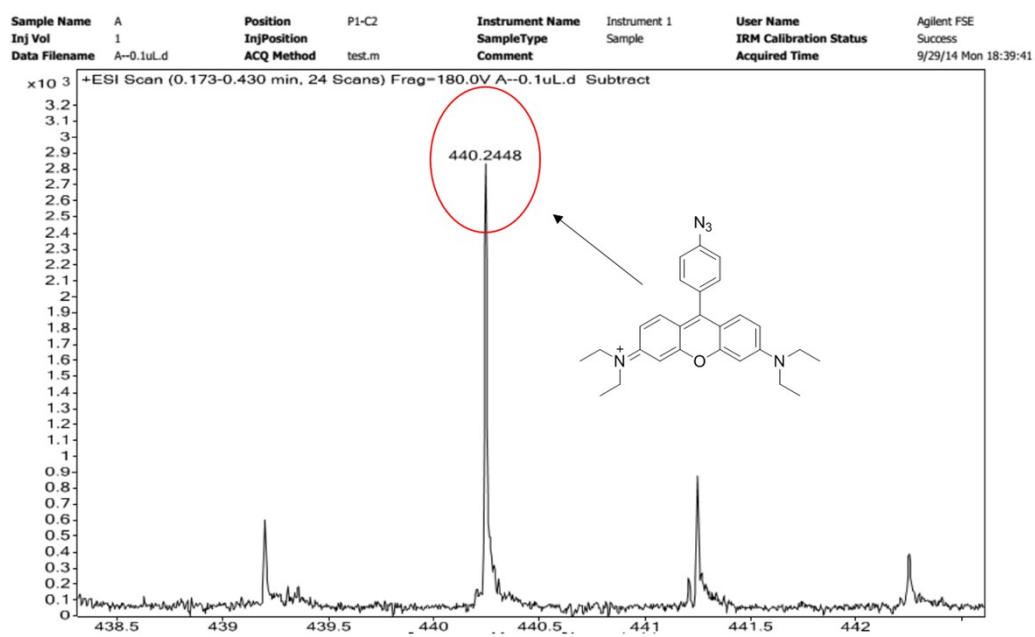


Figure S3. ESI-HRMS spectrum of RosN_3 .

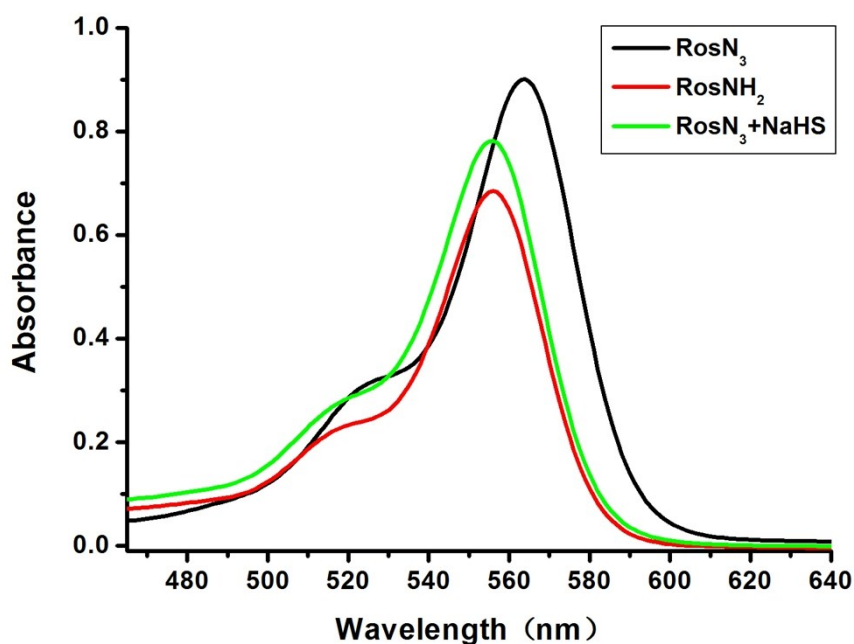


Fig. S4. Absorption spectra of **RosN₃** (10 μ M), **RosN₃** (10 μ M)+ 10 equiv. of NaHS and **RosNH₂** (10 μ M) in DMF/ phosphate buffer (6:4, v/v, 10 mM, pH = 7.4) at room temperature.

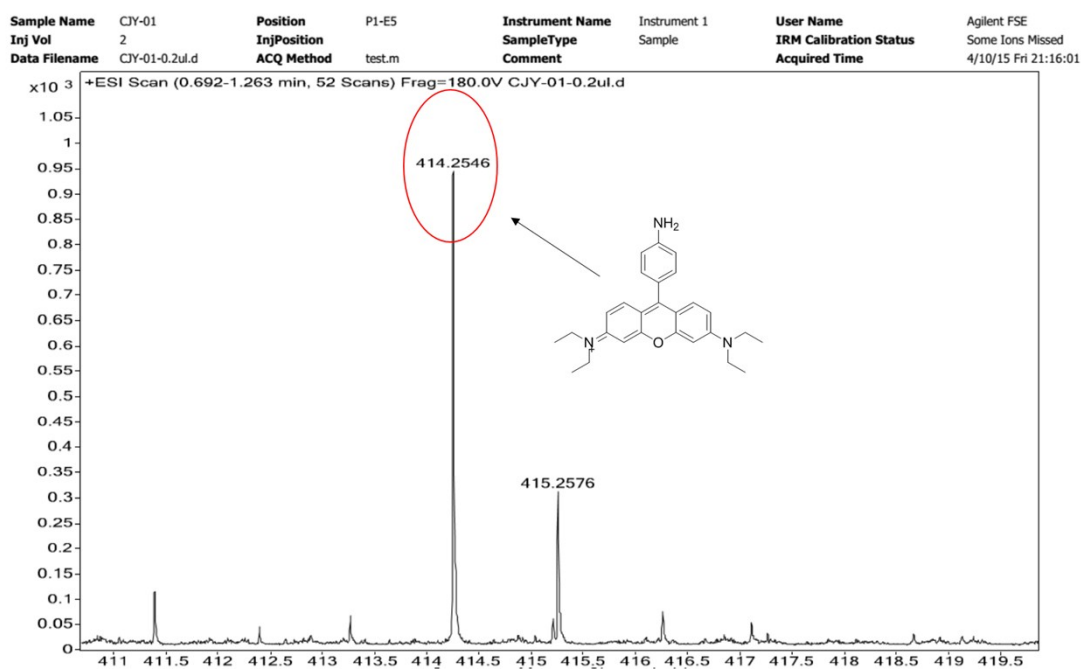


Figure S5. ESI-HRMS spectrum of solution of **RosN₃** and NaHS