

## **Electronic Supplementary Information (ESI) for:**

### **A sensitive colorimetric hydrogen sulfide detection approach based on copper-metal-organic frameworks with a smartphone**

Chengyi Hong<sup>1†</sup>, Dandan Li<sup>1</sup>, Ziyue Wang<sup>1</sup>, Boyuan Liu<sup>2</sup>, Wenmin Zhang<sup>3</sup>, Kailong Zhang<sup>2†</sup>, Zhiyong Huang<sup>1</sup>

1. College of Ocean Food and Biological Engineering, Fujian Provincial Key Laboratory of Food Microbiology

and Enzyme Engineering, Jimei University, Xiamen, 361021, China;

2. Fujian Provincial Key Laboratory for the Prevention and Control of Animal Infectious Diseases and

Biotechnology, Fujian Province Universities Key Laboratory of Preventive Veterinary Medicine and

Biotechnology (Longyan University), School of Life Sciences, Longyan University, Longyan 364012, P. R.

China;

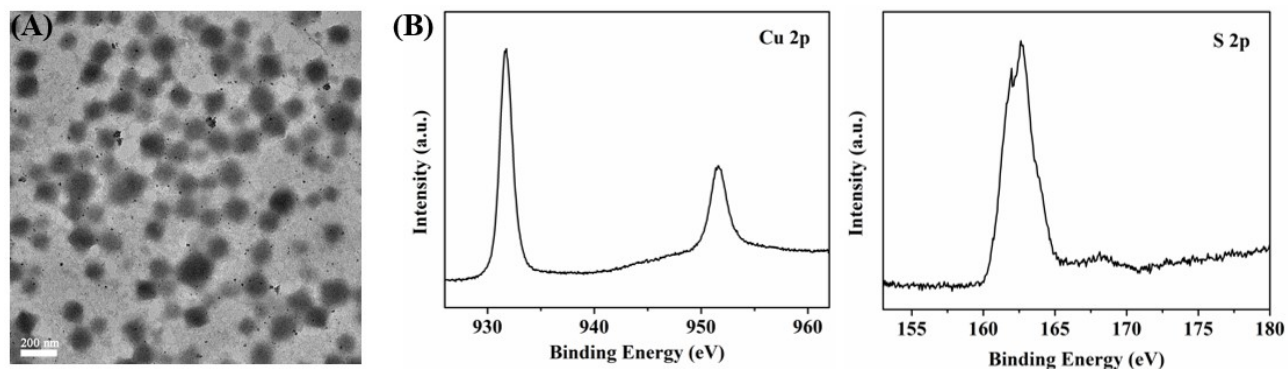
3. Department of Chemical and Biological Engineering, Minjiang Teachers College, Fuzhou, Fujian, 350108,

China.

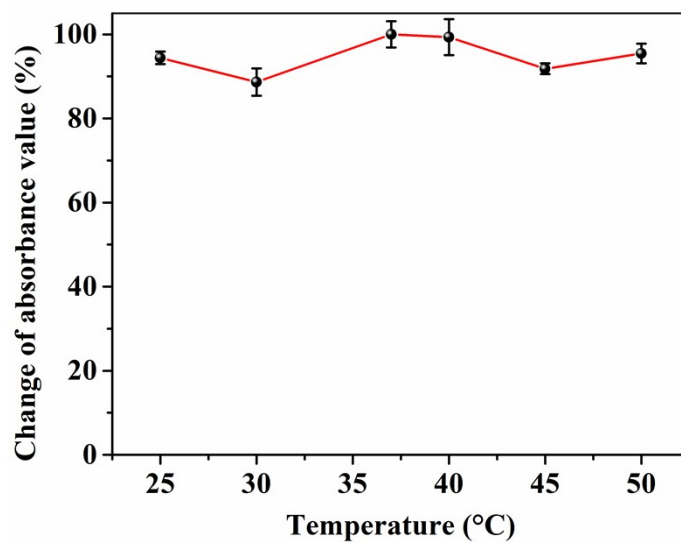
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Corresponding author. *E-mail address*: [cyhong@jmu.edu.cn](mailto:cyhong@jmu.edu.cn); [klzhang@lyun.edu.cn](mailto:klzhang@lyun.edu.cn)

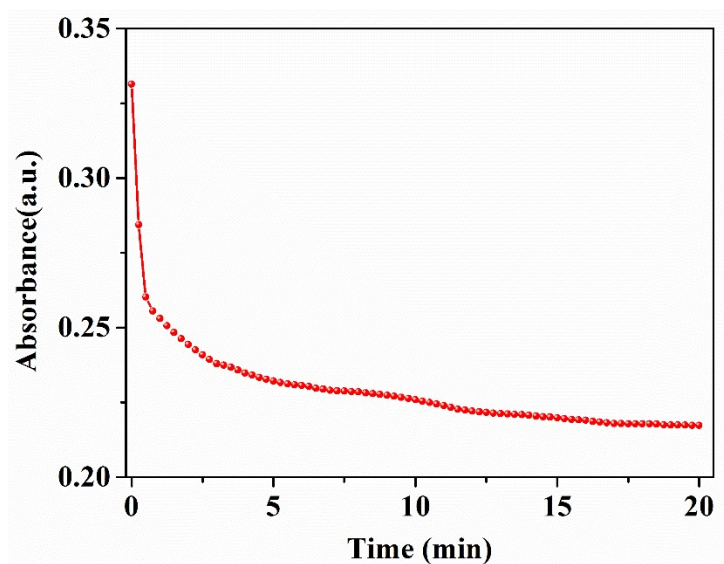
## Supporting Figures



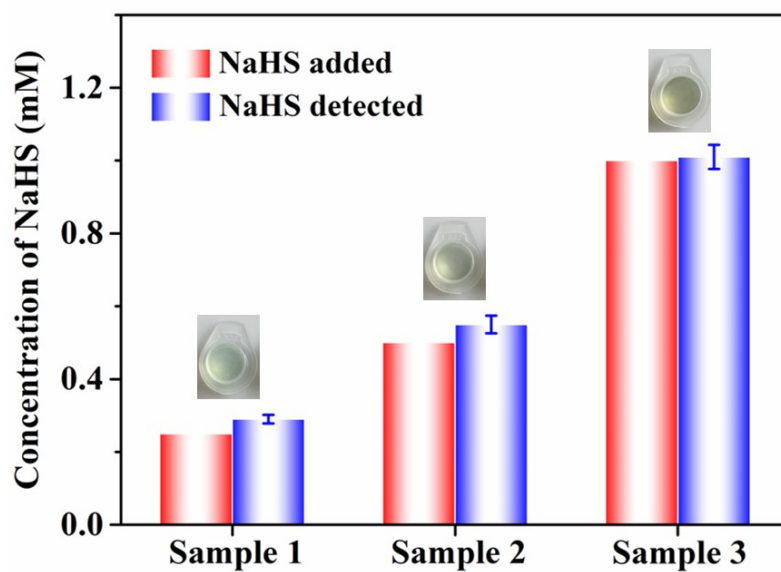
**Figure S1.** TEM image (A) and XPS spectrum (B) of the copper-sulfur complex.



**Figure S2.** Effects of temperature on the detection system.



**Figure S3.** The time-dependent absorbance changes at 700 nm after Cu-MOFs incubating with NaHS.



**Figure S4.** The comparison of the result between added NaHS concentration (red bars, from sample 1 to 3: 0.25, 0.50 and 1.00 mM) and detected values (blue bars, from sample 1 to 3: 0.29, 0.55 and 1.01 mM) in lake samples using the proposed method.

## Supporting Table

**Table S1.** Comparison of results measured by the proposed method and the methylene blue method.

Methods	Spiked concentration (mM)	Detected concentration (mM)	Recovery (%)	RSD (%)
This work	0.25	0.241±0.008	96.4	3.3
	0.5	0.505±0.032	101.0	6.3
	1	1.126±0.068	112.6	6.0
methylene blue method	0.25	0.247±0.004	98.8	1.6
	0.5	0.488±0.020	97.6	4.1
	1	1.033±0.029	103.3	2.8