

Supporting Information for:

Colorimetric detection of biological hydrogen sulfide using fluorosurfactant functionalized gold nanorods

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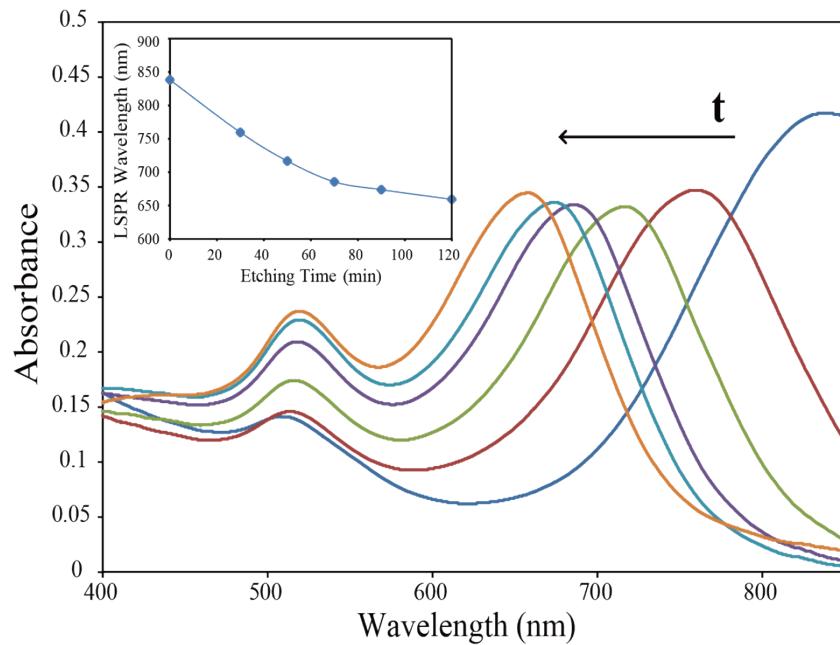


Fig. S1. Etching of gold nanorods. The absorption spectra of AuNRs solution with the increase of etching time. Inset: Corresponding LSPR peak wavelength of the AuNRs during the etching. The solution was a mixture of the as-synthesized CTAB–AuNRs and 0.2% FSN, then subjected 2 hours of ultrasonic vibration at room temperature.

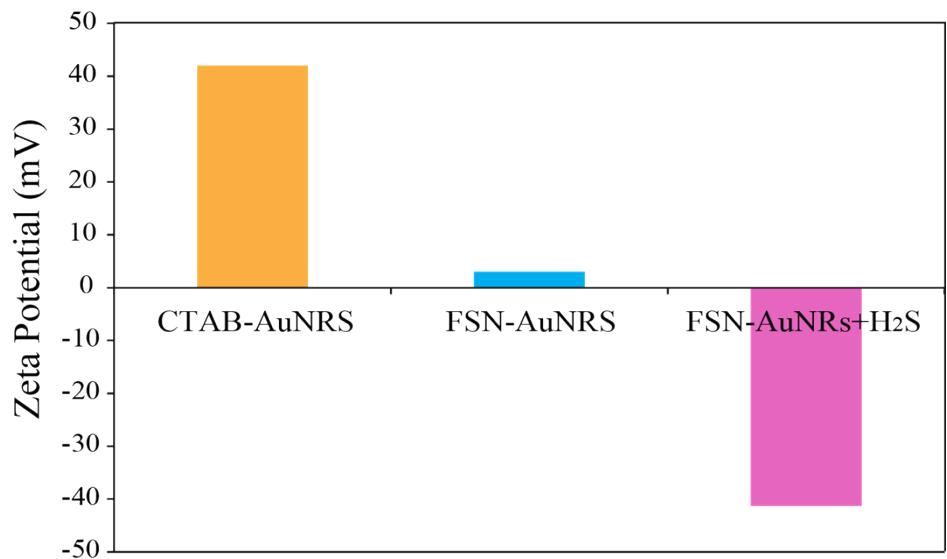


Fig. S2. The zeta potentials of the CTAB–AuNRs, FSN–AuNRs and FSN–AuNRs+H₂S.

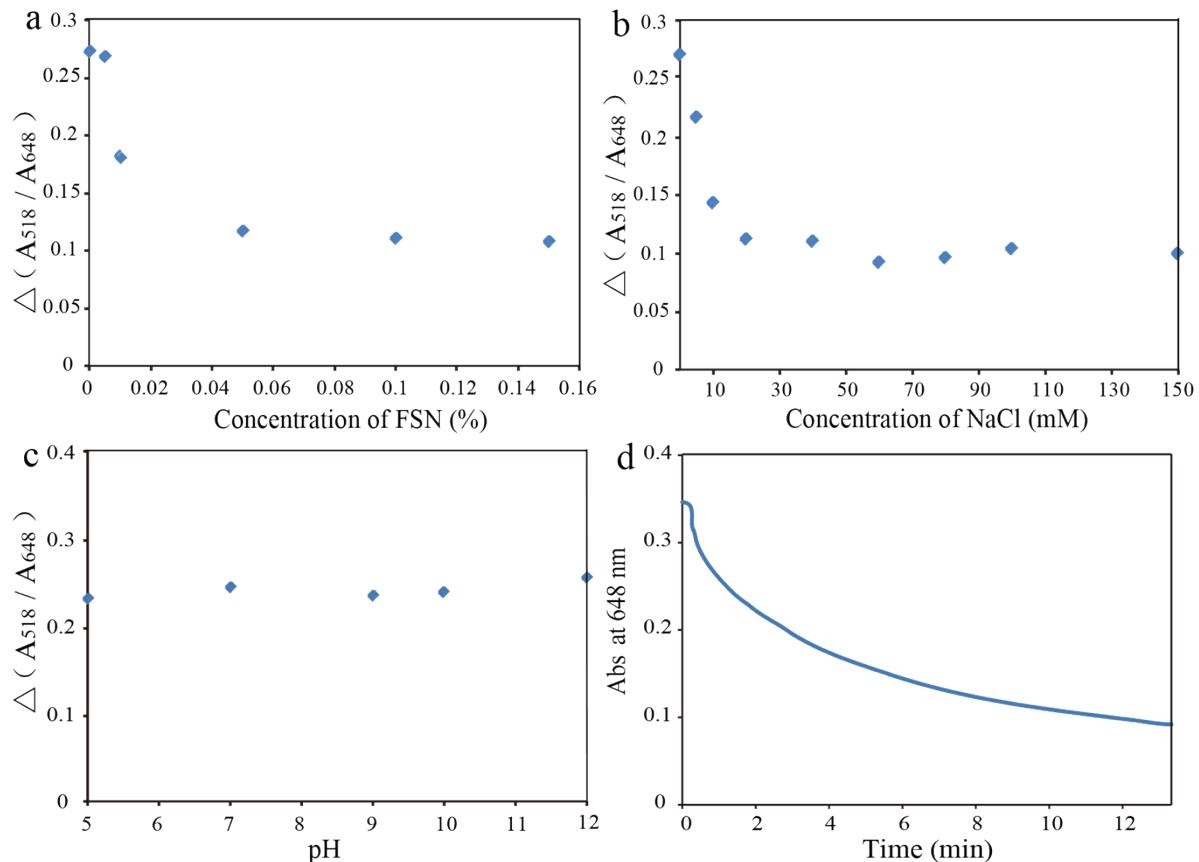


Fig. S3. Effects of free FSN (a), NaCl concentration (b) and solution pH (c) on the detection of H_2S ($3 \mu\text{M}$). (d) Time-dependent absorbance decrease of FSN–AuNRs in presence of H_2S ($5 \mu\text{M}$) at 648 nm.

Table S1

The comparison of this work with some other reported methods for H₂S detection^a

#	Strategy	Probe	Detection		Biological		Ref.
			limit	Media	H ₂ S		
1	radioimmunoassay	AzMC	0.2 μM	–	–	–	1
2	colorimetry	Au–Ag Core–Shell nanoparticles	50 nM	serum	yes	yes	2
3	colorimetry	gold nanoparticles	30 nM	air	no	no	3
4	colorimetry	copper nanoparticles	8.1 μM	water samples	no	no	4
5	colorimetry	Cu@Au nanoparticles	0.3 μM	–	no	no	5
6	Chemiluminescence	CLSS–1	0.7±0.3	cell lysate	yes	yes	6
7	Chemiluminescence	CHS–1	5.4 μM	vivo	yes	yes	7
8	kinetic spectral	AuNR–Ag nanoprobes	0.1 μM	cell	yes	yes	8
9	fluorimetry	lanthanide coordination polymer	0.3 μM	serum	yes	yes	9
10	fluorimetry	DNS–Az (2)	1 μM	serum	yes	yes	10
11	fluorimetry	benzopyran derivative 1–NH ₂	3.05 μM	cell	yes	yes	11
12	fluorimetry	DNPOCy	1 μM	cell	yes	yes	12
13	colorimetry	FSN–AuNRs	0.2 μM	serum	yes	This study	

^aUnavailable measurement are represented by –.

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