Supporting Information

Near-infrared turn-on fluorescent probe for discriminative detection of Cys and application in vivo imaging

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Fig. S2 Fluorescence of NIRHA in the presence of various interfering substance: 480 eq GSH and 48 eq other
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Fig. S4 fluorescence signal of compound 2.
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Table S1. Comparison of the representative Cys probes with the present work.\(^1-7\).

| Previous literatures                    | Solvent system          | LOD    | time   | λ<sub>ex</sub>/λ<sub>em</sub> |
|----------------------------------------|-------------------------|--------|--------|------------------------------|
| *Angewandte Chemie International Edition, 2011, 50*, 10690-10693 | PBS                     | 0.13 μM | 10 min | 470/585 nm                   |
| *Chemical Communications, 2012, 48*, 8341-8343     | EtOH/PBS = 2:8          | 0.11 uM | 9 min  | 304/487 nm                   |
| *Sensors and Actuators B: Chemical, 2019, 290*, 47-52   | C<sub>2</sub>H<sub>5</sub>OH/PBS = 1:99 | 0.12 μM | 30 min | 570/615 nm                   |
| *Analytical Chemistry, 2015, 87*, 4856-4863 | DMSO/H<sub>2</sub>O = 1:19 | 0.16 μM | 5 min  | 670/697 nm                   |
| *RSC Advances, 2017, 7*, 18867-18873          | CAN/HEPES = 2:8         | 0.158 μM | 90 min | 470/565 nm                   |
| *Sensors and Actuators B: Chemical, 2018, 267*, 76-82 | PBS/DMSO = 4/1          | 0.122 μM | 5 min  | 445/500 nm                   |
| *Sensors and Actuators B: Chemical, 2019, 298*, 126844 | H<sub>2</sub>O/CH<sub>3</sub>CN = 3/1 | 2.31 μM | 10 min | 370/464 nm                   |
| This work                                   | PBS/DMF = 99:1          | 0.0776 μM | 15 min | 650/710 nm                   |

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