

Supporting Information

Modulating in situ fluorogenic reaction for the label-free ratiometric detection of biothiols

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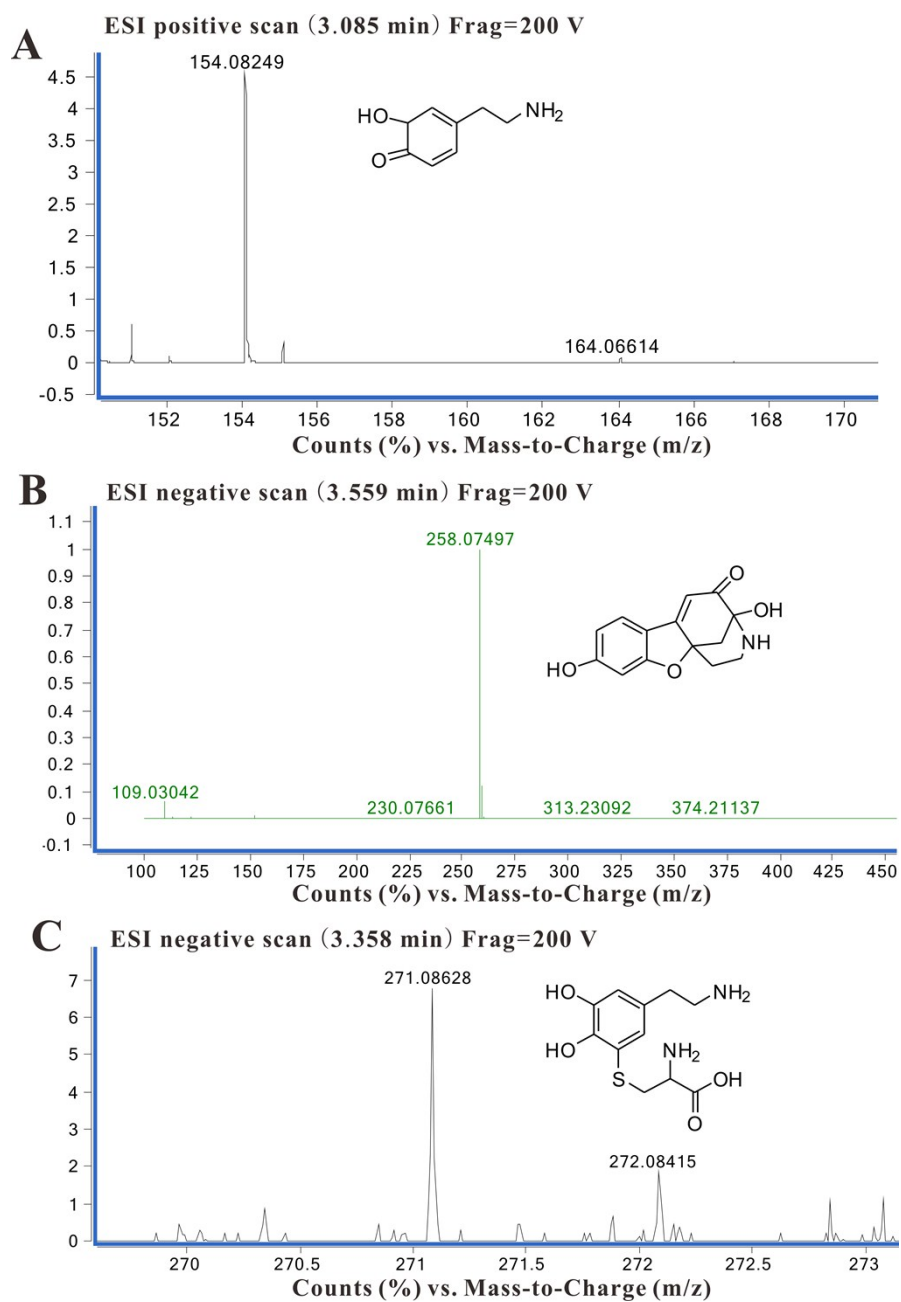


Fig. S1. ESI-Mass spectra of the resultant solution of (A) dopamine, (B) dopamine and resorcinol and (C) dopamine and Cys in alkaline PB, respectively.

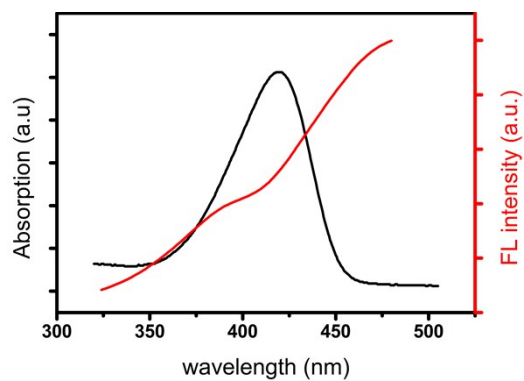


Fig. S2. UV-vis absorption spectrum (black line) of azamondine and fluorescence excitation spectrum (red line) of MPA-CdTe QDs.

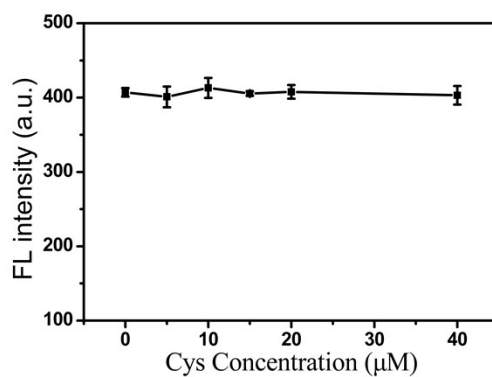


Fig. S3. The fluorescence intensity of MPA-CdTe QDs in response to different concentrations of Cys (0-40 μM).

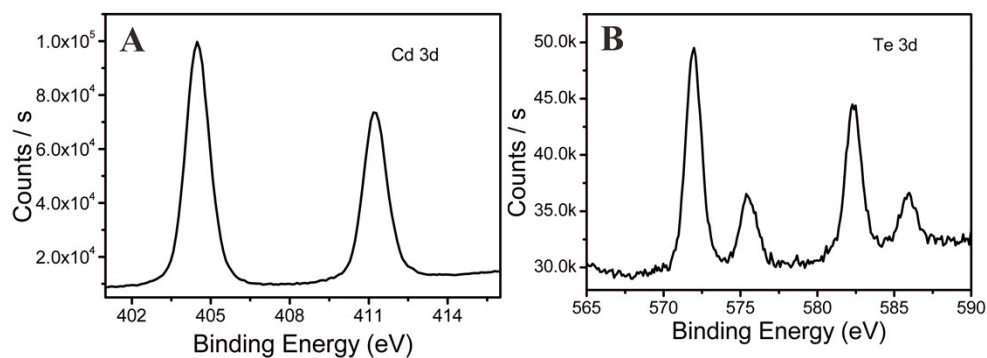


Fig. S4. XPS spectra of Cd 3d (A) and Te 3d (B) for the MPA-CdTe QDs.

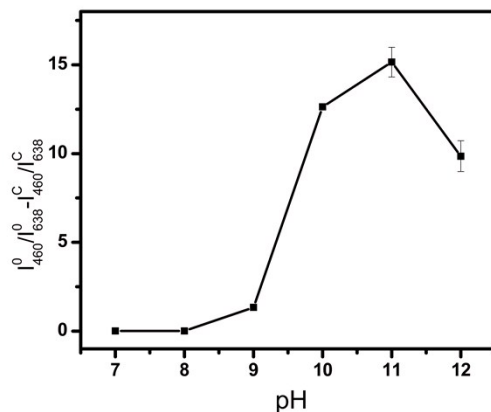


Fig. S5. Response of the proposed method in the presence of Cys (10 μM) in different pH PB solution (I_{460}^0/I_{638}^0 was the fluorescence intensity ratio of azamonardine to MPA-CdTe QDs in the absent of Cys while I_{460}^C/I_{638}^C was the fluorescence intensity ratio of azamonardine to MPA-CdTe QDs in the present of Cys).

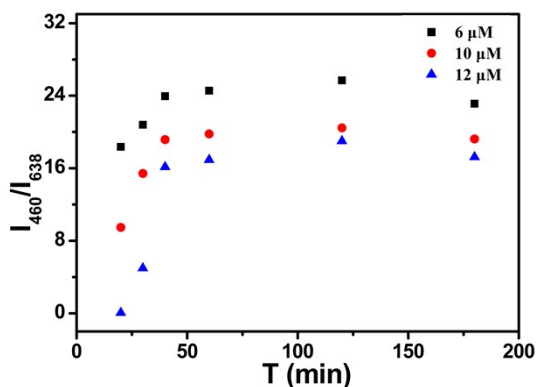


Fig. S6. The fluorescence intensity ratio (I_{460}/I_{638}) as a function of incubation time with different concentrations of Cys (6 μM , 10 μM , 12 μM) in PB solution (pH 11, 20 mM).

Table S1. Comparison of different methods for Cys determination.

Method	Linear range (μM)	Detection limit (μM)	Reference
ECL	1.3-35	0.87	1
PEC	100-800, 60-500	12.8, 12.6	2
Amperometry	1.3-720.8	0.8	3
Fluorescence	0.3-3.0	0.1	4
Fluorescence	10-100	1	5
Luminescence	0-120	1.26	6
Fluorescence	30-200	1.4	7

Fluorescence	2-12	0.6	This work
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Reference

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