

Supporting Information

Fluorescence Quenching Determination of Iron(III) Using Rhodamine 6G Hydrazide Derivative

Chunhua Ma^a, Liping Lin^b, Yanyan Du^b, Liang-bi Chen^a, Feng Luo^c, Xi Chen^{b*}

^a College of Tea and Food Science, Wuyi University, 354300, China

^b State Key Laboratory of Marine Environmental Science, Xiamen University, Xiamen 361005, China

^c Fujian Research Institute of Metric Science; Fuzhou 350003

*Corresponding author. Tel: +86 592 2184530; fax: +86 592 2184530; e-mail: xichen@xmu.edu.cn.

Supplementary Results

Figure Captions

Fig. S1 Dependence of fluorescence intensity on the excitation time for R6GD ($\lambda_{\text{ex}}/\lambda_{\text{em}} = 500 \text{ nm}/552 \text{ nm}$)

Fig. S2 (a) Fluorescence intensity change of R6GD of different concentrations in HAc-NaAc solution of pH 3.2; Insert: fluorescence intensity of R6GD of different concentrations. (b) Fluorescence intensity change (552 nm) of R6GD of different concentrations with the addition of 2 μM Fe(III). ($\lambda_{\text{ex}}/\lambda_{\text{em}} = 500 \text{ nm}/552 \text{ nm}$)

Fig. S3 (a) Effect of the KI concentration on the fluorescence response of 1 μM R6GD in HAc-NaAc buffer solution of pH 3.2; (b) Fluorescence intensity change (575 nm) of R6GD-KI of different KI concentrations with the addition of 2 μM Fe(III). ($\lambda_{\text{ex}}/\lambda_{\text{em}} = 500 \text{ nm}/552 \text{ nm}$; R6GD concentration: 1 μM)

Fig. S4 Fluorescence spectra of R6GD without (a) and with (b) the addition of Fe(III) (2 eq) in HAc-NaAc solution of different pH values (insert: fluorescence intensity (552 nm) of R6GD in different pH values) ($\lambda_{\text{ex}}/\lambda_{\text{em}} = 500 \text{ nm}/552 \text{ nm}$)

Fig. S5 (a) Fluorescence spectra of R6GD at different temperatures in HAc-NaAc buffer solution of pH 3.2, (insert: the fluorescence intensity of R6GD (552 nm) in different temperatures); (b) Relationship between the relative fluorescence intensity of R6GD and temperature in the present of 2 μM Fe(III). ($\lambda_{\text{ex}}/\lambda_{\text{em}} = 500 \text{ nm}/552 \text{ nm}$; R6GD concentration: 1 μM)

Fig. S6 Fluorescence intensity of R6GD in HAc-NaAc buffer solution of pH 3.2 for different times (1: R6GD, 2: R6GD-KI, 3~7: R6GD-KI-Fe(III), curves 3~7 represented the time reaction between KI and Fe^{3+} were 1, 3, 5, 10, 15 min, respectively (R6GD concentration: 1 μM ; KI concentration: 0.001 M; Fe(III) concentration: 10 μM ; $\lambda_{\text{ex}}/\lambda_{\text{em}} = 500 \text{ nm}/552 \text{ nm}$)

Fig. S7 Fluorescence spectra of R6GD (1 μM)-KI- Fe^{3+} in HAc-NaAc buffer solution of pH 3.2 (insert: relationship of $(F_0-F)/F_0$ and Fe^{3+}); ($\lambda_{\text{ex}}/\lambda_{\text{em}} = 500 \text{ nm}/552 \text{ nm}$)

Fig. S8 A curve of linearity between $(F_0-F)/F_0$ and Fe^{3+} at different concentrations in the range of 0.5~6.0 μM

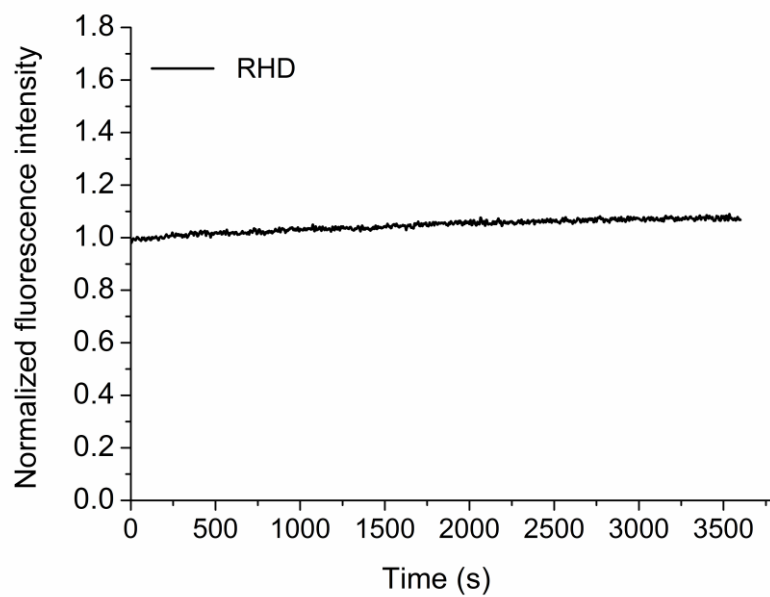


Fig. S1 Dependence of fluorescence intensity on the excitation time for R6GD

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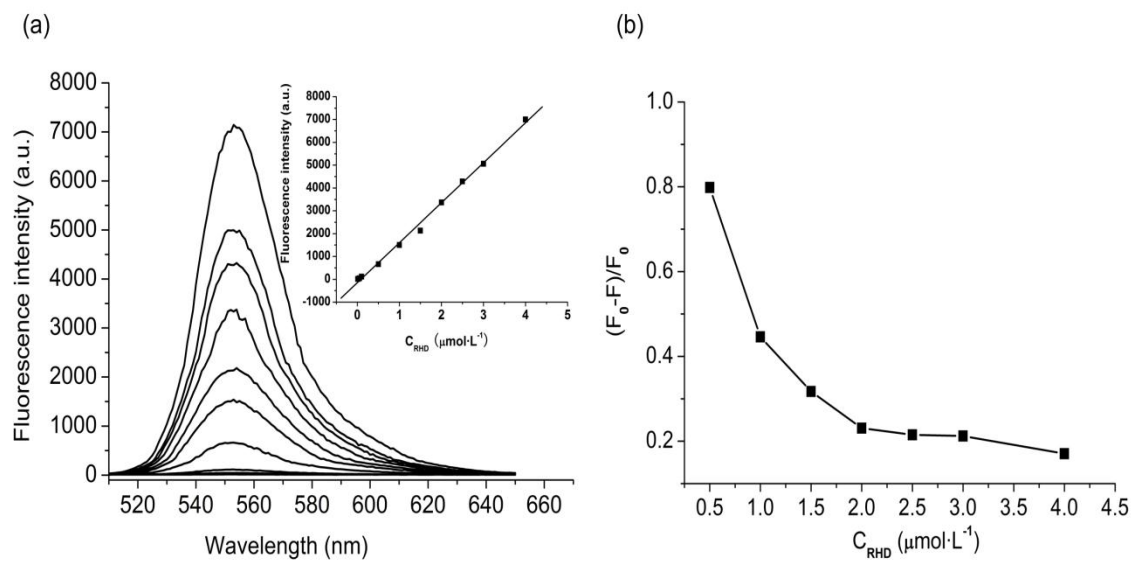


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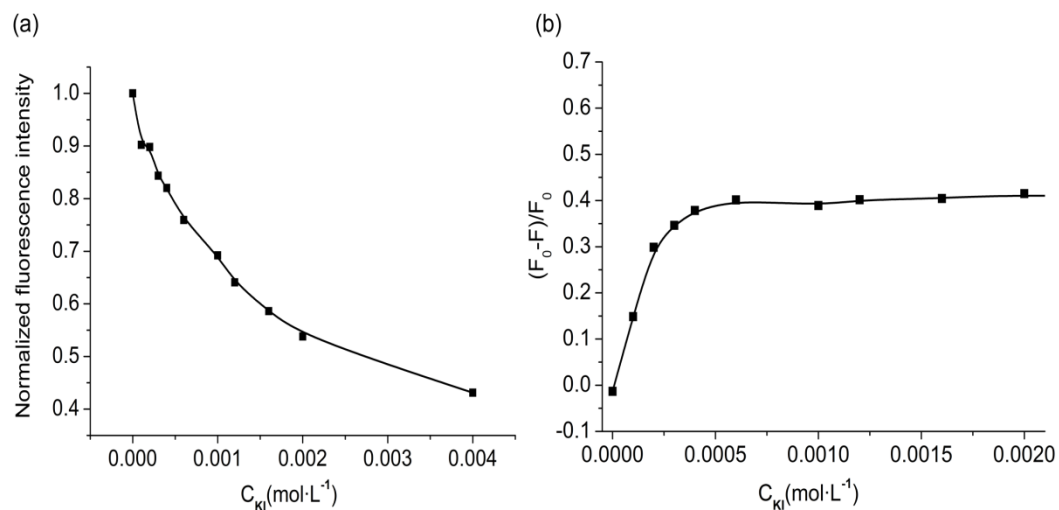


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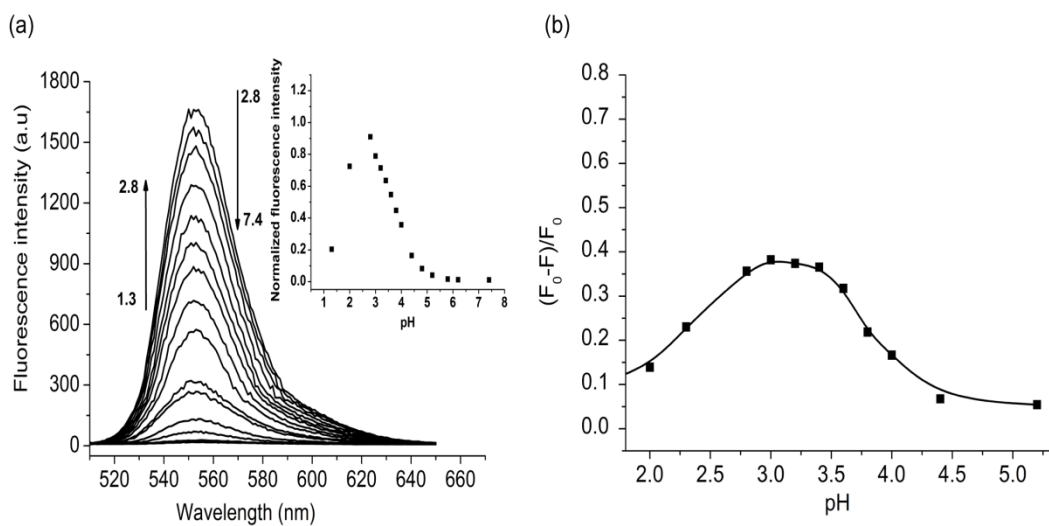


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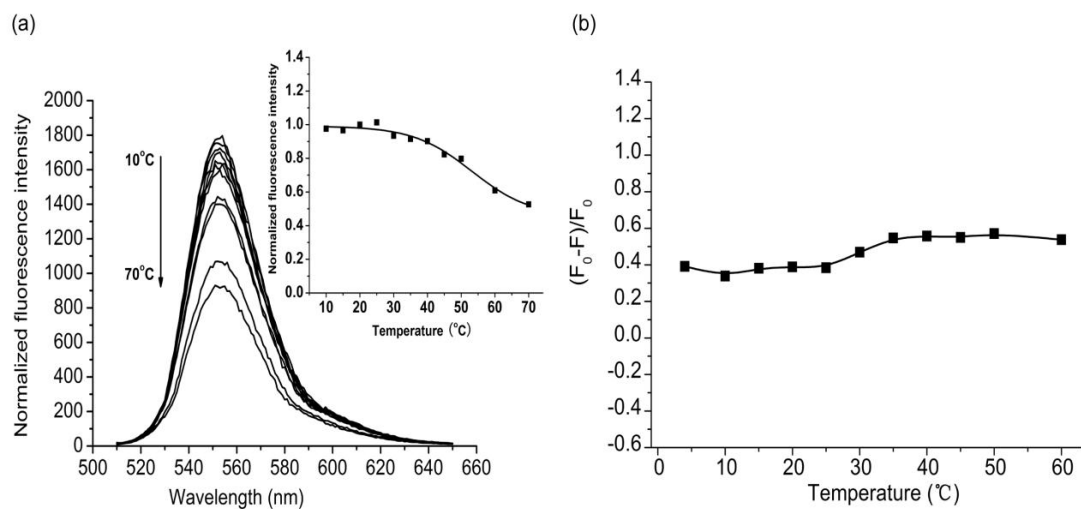


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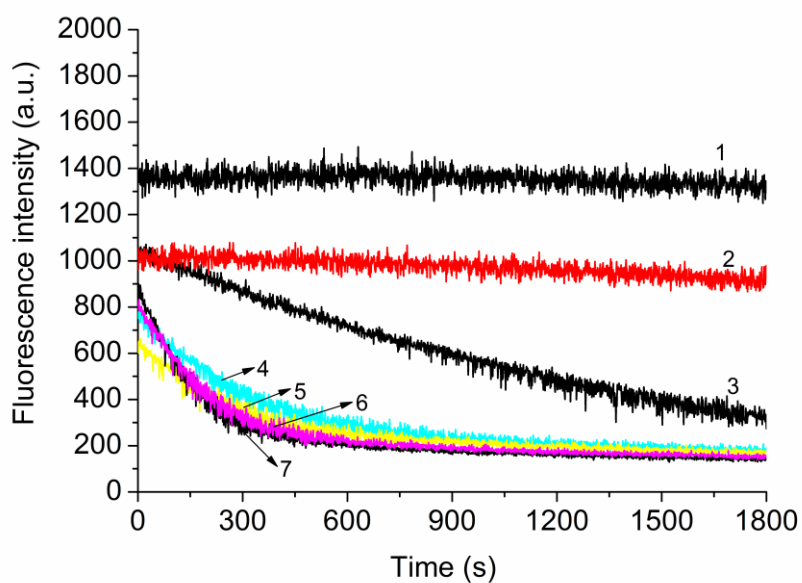


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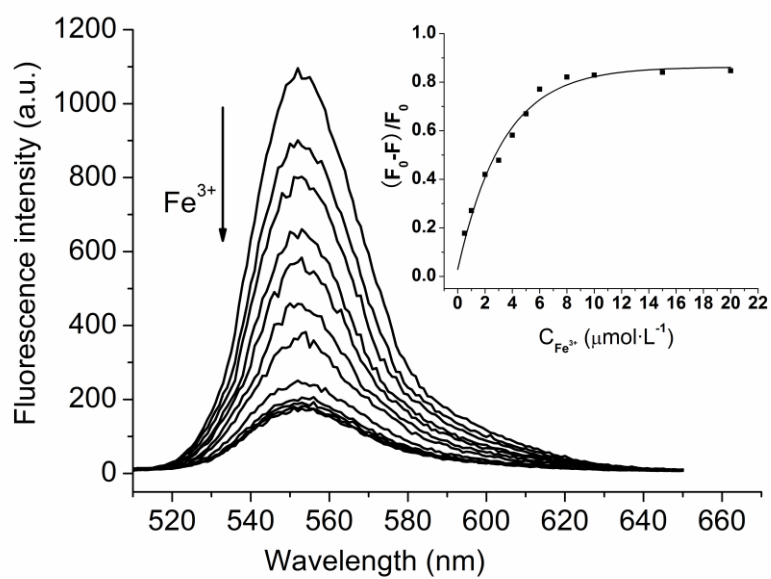


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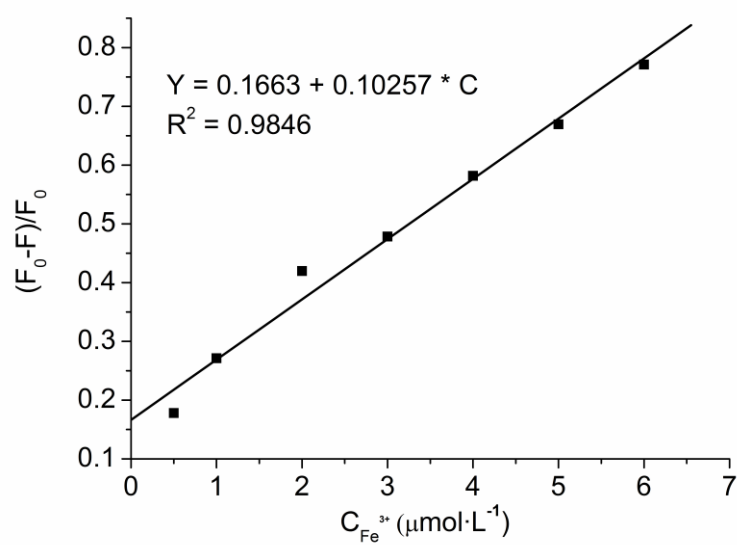


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