

Accepted Manuscript

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PII: S1386-1425(18)30571-7
DOI: doi:[10.1016/j.saa.2018.06.037](https://doi.org/10.1016/j.saa.2018.06.037)
Reference: SAA 16196

To appear in: *Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy*

Received date: 20 April 2018
Revised date: 7 June 2018
Accepted date: 11 June 2018

Please cite this article as: Hong Chen, Tao Sun, Xiao-Guang Qiao, Qian-Oian Tang, Shan-Chao Zhao, Zhan Zhou, Red-emitting fluorescent probe for detecting hypochlorite acid in vitro and in vivo. *Saa* (2017), doi:[10.1016/j.saa.2018.06.037](https://doi.org/10.1016/j.saa.2018.06.037)

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Red-emitting fluorescent probe for detecting hypochlorite acid *in vitro* and *in vivo*

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The authors declare no competing financial interest.

All authors have given approval to the final version of this manuscript.

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ABSTRACT

Due to the importance of hypochlorous acid (HClO) in biological and industrial, development of fluorescent probes for HClO has been an active research area. Here, a new red-emitting ratiometric fluorescent probe (**P**) was synthesized and well defined characterization *via* NMR, HR-MS, and fluorescence spectrum, which serves as a selective and sensitive probe for ClO⁻ group. The probe showed a ratiometric fluorescent response to hypochlorite at the emission intensities ratio (I_{480}/I_{612}) increasing from 0.28 to 27.46. The emission intensities ratio (I_{480}/I_{612}) was linearly enhanced ($I_{480}/I_{612} = 0.064 X + 0.096$) with the ClO⁻ concentration range from 1 to 30 μ M. The detection limitation for ClO⁻ in aqueous solution is 0.47 μ M. Moreover, this biocompatible red-emitting ratiometric fluorescent probe was utilized to the fluorescence imaging of ClO⁻ in living cells and Zebrafish.

Key words: Ratiometric; Fluorescent probe; Hypochlorite

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