

## Accepted Manuscript

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PII: S0925-4005(17)31442-9  
DOI: <http://dx.doi.org/doi:10.1016/j.snb.2017.08.020>  
Reference: SNB 22887

To appear in: *Sensors and Actuators B*

Received date: 3-4-2017  
Revised date: 31-7-2017  
Accepted date: 2-8-2017

Please cite this article as: Youming Shen, Xiangyang Zhang, Youyu Zhang, Yanyang Wu, Chunxiang Zhang, Yuandao Chen, Junling Jin, Haitao Li, A mitochondria-targeted colorimetric and ratiometric fluorescent probe for hydrogen peroxide with a large emission shift and bio-imaging in living cells, *Sensors and Actuators B: Chemical* <http://dx.doi.org/10.1016/j.snb.2017.08.020>

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# **A mitochondria-targeted colorimetric and ratiometric fluorescent probe for hydrogen peroxide with a large emission shift and bio-imaging in living cells**

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The highlights of this paper are as follows:

- a)** A novel mitochondria-targeted fluorescent probe based on a coumarin as the fluorophore and a boronate moiety as the reaction site was designed and synthesized.
- b)** Our designed compound can be used as a colorimetric and ratiometric fluorescence dual-channel sensor for detection of H<sub>2</sub>O<sub>2</sub> through modulating ICT process. The probe showed quantitative, highly selective and sensitive for H<sub>2</sub>O<sub>2</sub> with a large emission change with 105 nm shifted.

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