

Accepted Manuscript

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PII: S1386-1425(18)30514-6
DOI: doi:[10.1016/j.saa.2018.05.114](https://doi.org/10.1016/j.saa.2018.05.114)
Reference: SAA 16148

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

Received date: 12 February 2018
Revised date: 14 May 2018
Accepted date: 28 May 2018

Please cite this article as: Jinhua Gao, Yuanfang Tao, Nannan Wang, Jinling He, Jian Zhang, Weili Zhao, BODIPY-based turn-on fluorescent probes for cysteine and homocysteine. *Saa* (2017), doi:[10.1016/j.saa.2018.05.114](https://doi.org/10.1016/j.saa.2018.05.114)

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BODIPY-based turn-on fluorescent probes for Cysteine and Homocysteine

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Abstract

Cysteine (Cys), homocysteine (Hcy), and glutathione (GSH) are interconnected and play essential roles in many biological processes. It is significant importance to detect these thiols for investigating their functions in cells and disease diagnosis. In this work, we have designed and synthesized two novel BODIPY-based turn-on fluorescent probes (**BDP-Ph** and **BDP-R-Ph**) carrying 4-methoxythiophenol moiety at *meso* position as good leaving group for highly selective detection of Cys and Hcy. Furthermore, the probes have been successfully applied to detect intracellular Cys and Hcy by fluorescent imaging in living cells.

Keywords: BODIPY, fluorescent probe, Cys/Hcy, cell imaging

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