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**Two 3-hydroxyflavone derivatives as two-photon fluorescence turn-on  
chemosensors for cysteine and homocysteine in living cells**

Qianqian Wu<sup>a1</sup>, Kangnan Wang<sup>a1</sup>, Zian Wang<sup>a</sup>, Yatong Sun<sup>a</sup>, Duxia Cao<sup>a,\*</sup>, Zhiqiang  
Liu<sup>b\*</sup>, Ruifang Guan<sup>a</sup>, Songfang Zhao<sup>a</sup>, Xueying Yu<sup>a</sup>

<sup>a</sup>School of Material Science and Engineering, University of Jinan, Jinan 250022,  
Shandong, China

<sup>b</sup>State Key Laboratory of Crystal Materials, Shandong University, Jinan 250100,  
Shandong, China

duxiaocao@ujn.edu.cn (D. X. Cao);

zqliu@sdu.edu.cn (Z. Q. Liu).

\*Corresponding author

**ABSTRACT**

Two 3-hydroxyflavone derivatives as one- and two-photon fluorescent chemosensors for cysteine (Cys) and homocysteine (Hcy) were synthesized. The recognition properties and mechanism of the chemosensors for Cys and Hcy were investigated systematically. The experiment results indicate that 3-hydroxyflavone compound **1** (6-bromo-2-(9-ethyl-9*H*-carbazol-3-yl)-3-hydroxy-chromen-4-one) after the addition of nickel ions exhibits good recognition properties for Cys and Hcy with fluorescence enhancement and 65 nm absorption peak blue shift based on nickel displacement reaction mechanism. The detection limits (DL) with fluorescence as detected signal

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<sup>1</sup> Q. Q. Wu and K. N. Wang contributed equally.

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