

## Accepted Manuscript

Title: N, P-doped carbon quantum dots as a fluorescent sensing platform for carbendazim detection based on fluorescence resonance energy transfer

Authors: Yixia Yang, Danqun Huo, Huixiang Wu, Xianfeng Wang, Junsheng Yang, Minghong Bian, Yi Ma, Changjun Hou

PII: S0925-4005(18)31381-9  
DOI: <https://doi.org/10.1016/j.snb.2018.07.130>  
Reference: SNB 25099

To appear in: *Sensors and Actuators B*

Received date: 1-3-2018  
Revised date: 16-7-2018  
Accepted date: 27-7-2018

Please cite this article as: Yang Y, Huo D, Wu H, Wang X, Yang J, Bian M, Ma Y, Hou C, N, P-doped carbon quantum dots as a fluorescent sensing platform for carbendazim detection based on fluorescence resonance energy transfer, *Sensors and amp; Actuators: B. Chemical* (2018), <https://doi.org/10.1016/j.snb.2018.07.130>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.



# **N, P-doped carbon quantum dots as a fluorescent sensing platform for carbendazim detection based on fluorescence resonance energy transfer**

Yixia Yang<sup>1</sup>, Danqun Huo<sup>1</sup>, Huixiang Wu<sup>1</sup>, Xianfeng Wang<sup>1</sup>, Junsheng Yang<sup>1</sup>,  
Minghong Bian<sup>2</sup>, Yi Ma<sup>2,a</sup>, Changjun Hou<sup>1,a</sup>

<sup>1</sup>Key Laboratory for Biorheological Science and Technology of Ministry of Education  
, State and Local Joint Engineering Laboratory for Vascular Implants  
, Bioengineering College of Chongqing University, Chongqing 400044, PR China

<sup>2</sup>Liquor Making Biology Technology and Application of Key Laboratory of Sichuan  
Province, College of Bioengineering, Sichuan University of Science and Engineering,  
Zigong, 643000, PR China

<sup>a</sup>Corresponding author

E-mail addresses: houcj@cqu.edu.cn Tel.: +86 23 6511 2673

Zhangyer2008@suse.edu.cn Tel.: +86 813 5505 979

## **Highlight**

- N, P-CQDs used in this sensing platform show strong green fluorescence and high fluorescence quantum yield.
- This is the first report based on N, P-CQDs and Au NPs for carbendazim detection.
- Carbendazim detection based on this sensing platform have high sensitivity.
- This sensing platform showed excellent anti-interference capability for carbendazim.
- This sensing platform could serve as a good model for the design of new fluorescence-based FRET biosensors.

## **Abstract**

In this work, a simple, sensitive and reliable fluorescence resonance energy transfer (FRET) sensing platform was established to determine carbendazim based on N, P-doped carbon quantum dots (N, P-CQDs) and gold nanoparticles (Au NPs). N, P-CQDs with strong green fluorescence were prepared via one-pot hydrothermal

Download English Version:

<https://daneshyari.com/en/article/7138670>

Download Persian Version:

<https://daneshyari.com/article/7138670>

[Daneshyari.com](https://daneshyari.com)