

## Accepted Manuscript

Title: Graphene quantum dots modified with adenine for efficient two-photon bioimaging and white light-activated antibacteria

Authors: Zhimin Luo, Dongliang Yang, Chen Yang, Xiangyang Wu, Yanling Hu, Ying Zhang, Lihui Yuwen, Edwin Kok Lee Yeow, Lixing Weng, Wei Huang, Lianhui Wang



PII: S0169-4332(17)33067-2  
DOI: <https://doi.org/10.1016/j.apsusc.2017.10.121>  
Reference: APSUSC 37464

To appear in: *APSUSC*

Received date: 8-6-2017  
Revised date: 11-10-2017  
Accepted date: 16-10-2017

Please cite this article as: Zhimin Luo, Dongliang Yang, Chen Yang, Xiangyang Wu, Yanling Hu, Ying Zhang, Lihui Yuwen, Edwin Kok Lee Yeow, Lixing Weng, Wei Huang, Lianhui Wang, Graphene quantum dots modified with adenine for efficient two-photon bioimaging and white light-activated antibacteria, *Applied Surface Science* <https://doi.org/10.1016/j.apsusc.2017.10.121>

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.

# Graphene quantum dots modified with adenine for efficient two-photon bioimaging and white light-activated antibacteria

Zhimin Luo,<sup>a,#</sup> Dongliang Yang,<sup>a,#</sup> Chen Yang,<sup>a</sup> Xiangyang Wu,<sup>d</sup> Yanling Hu,<sup>a</sup> Ying Zhang,<sup>a</sup> Lihui Yuwen,<sup>a</sup> Edwin Kok Lee Yeow,<sup>d</sup> Lixing Weng,<sup>c</sup> Wei Huang<sup>a,b</sup> and Lianhui Wang<sup>a,\*</sup>

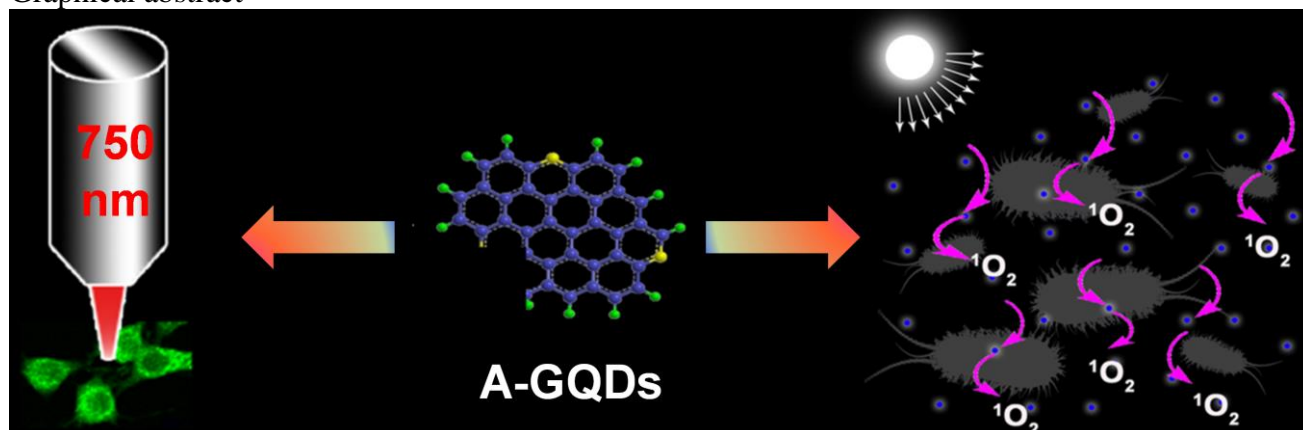
<sup>a</sup>Key Laboratory for Organic Electronics and Information Display (KLOEID) and Institute of Advanced Materials (IAM), Jiangsu National Synergetic Innovation Center for Advanced Materials (SICAM), Nanjing University of Posts and Telecommunications, 9 Wenyuan Road, Nanjing 210023, China.

<sup>b</sup>Key Laboratory of Flexible Electronics (KLOFE) and Institute of Advanced Materials (IAM), Jiangsu National Synergistic Innovation Center for Advanced Materials (SICAM), Nanjing Tech University (NanjingTech), 30 South Puzhu Road, Nanjing 211816, China.

<sup>c</sup>College of Geography and Biological Information, Nanjing University of Posts and Telecommunications, 9 Wenyuan Road, Nanjing 210023, China.

<sup>d</sup>Division of Physics and Applied Physics, School of Physical and Mathematical Sciences, Nanyang Technological University, 21 Nanyang Link, Singapore 637371, Singapore.

Graphical abstract



## Highlights:

1. An facile microwave method was developed for preparing adenine-modified graphene quantum dots (A-GQDs) with excellent fluorescence
2. Adenine-modified graphene quantum dots exhibit highly efficient photoactivated antibacterial activity towards *E. coli* under white light and wide spectrum of light ( $\lambda = 450, 535, 635$  nm).

**Keywords:** Graphene quantum dots, adenine, fluorescence, two-photon bioimaging, white light-activated antibacteria.

Download English Version:

<https://daneshyari.com/en/article/7836159>

Download Persian Version:

<https://daneshyari.com/article/7836159>

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