

## Author's Accepted Manuscript

Copper Nanodot-Embedded Graphene Urchins of Nearly Full-Spectrum Solar Absorption and Extraordinary Solar Desalination

Jijian Xu, Feng Xu, Meng Qian, Li Zhi, Peng Sun, Zhanglian Hong, Fuqiang Huang



PII: S2211-2855(18)30629-3  
DOI: <https://doi.org/10.1016/j.nanoen.2018.08.067>  
Reference: NANOEN2997

To appear in: *Nano Energy*

Received date: 15 June 2018  
Revised date: 28 August 2018  
Accepted date: 30 August 2018

Cite this article as: Jijian Xu, Feng Xu, Meng Qian, Li Zhi, Peng Sun, Zhanglian Hong and Fuqiang Huang, Copper Nanodot-Embedded Graphene Urchins of Nearly Full-Spectrum Solar Absorption and Extraordinary Solar Desalination, *Nano Energy*, <https://doi.org/10.1016/j.nanoen.2018.08.067>

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 galley proof before it is published in its final citable 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.

**Copper Nanodot-Embedded Graphene Urchins of Nearly Full-Spectrum Solar Absorption and Extraordinary Solar Desalination**

*Jijian Xu<sup>a,b</sup>, Feng Xu<sup>b</sup>, Meng Qian<sup>b</sup>, Li Zhi<sup>b</sup>, Peng Sun<sup>b</sup>, Zhanglian Hong<sup>a\*</sup>, Fuqiang Huang<sup>a,b\*</sup>*

<sup>a</sup>State Key Laboratory of Silicon Materials, School of Materials Science and Engineering, Zhejiang University, Hangzhou 310027, P.R. China;

<sup>b</sup>State Key Laboratory of High Performance Ceramics and Superfine Microstructure, Shanghai Institute of Ceramics, Chinese Academy of Sciences, Shanghai 200050, P.R. China;

hong\_zhanglian@zju.edu.cn

huangfq@mail.sic.ac.cn

\*Corresponding authors.

**Abstract:**

Black materials are the key to convert solar light to thermal energy, but it is not easy to economically achieve full solar-spectrum light absorption and maximally harvest solar energy. Herein, we develop a “popcorn” approach based on a space-confined pyrolysis of copper carbodiimide to synthesis Cu nanodot-embedded N-doped graphene urchins. In situ formed Cu nanodots are rigidly fixed and spatially scaffolded in the graphene matrix, achieving nearly full-spectrum solar light

Download English Version:

<https://daneshyari.com/en/article/10135898>

Download Persian Version:

<https://daneshyari.com/article/10135898>

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