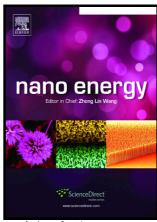
### Author's Accepted Manuscript

Partially oxidized Ni nanoparticles supported on Ni-N co-doped carbon nanofibers as bifunctional electrocatalysts for overall water splitting

Zhen-Yu Wu, Wen-Bo Ji, Bi-Cheng Hu, Hai-Wei Liang, Xing-Xing Xu, Zhi-Long Yu, Bo-Yang Li, Shu-Hong Yu



www.elsevier.com/locate/nanoenergy

PII: S2211-2855(18)30468-3

DOI: https://doi.org/10.1016/j.nanoen.2018.06.071

Reference: NANOEN2852

To appear in: Nano Energy

Received date: 11 March 2018 Revised date: 16 June 2018 Accepted date: 20 June 2018

Cite this article as: Zhen-Yu Wu, Wen-Bo Ji, Bi-Cheng Hu, Hai-Wei Liang, Xing-Xing Xu, Zhi-Long Yu, Bo-Yang Li and Shu-Hong Yu, Partially oxidized Ni nanoparticles supported on Ni-N co-doped carbon nanofibers as bifunctional electrocatalysts for overall water splitting, *Nano Energy*, https://doi.org/10.1016/j.nanoen.2018.06.071

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.

#### **ACCEPTED MANUSCRIPT**

# Partially oxidized Ni nanoparticles supported on Ni-N co-doped carbon nanofibers as bifunctional electrocatalysts for overall water splitting

Zhen-Yu Wu<sup>1</sup>, Wen-Bo Ji<sup>1</sup>, Bi-Cheng Hu<sup>1</sup>, Hai-Wei Liang\*, Xing-Xing Xu, Zhi-Long Yu, Bo-Yang Li, and Shu-Hong Yu\*

Division of Nanomaterials & Chemistry, Hefei National Center for Physical Sciences at the Microscale, CAS Center for Excellence in Nanoscience, Collaborative Innovation Center of Suzhou Nano Science and Technology, Department of Chemistry, University of Science and Technology of China, Hefei 230026, China.

hwliang@ustc.edu.cn

shyu@ustc.edu.cn.

\*Corresponding author

#### **Abstract:**

The development of efficient and low-cost bifunctional electrocatalysts for hydrogen evolution reaction (HER) and oxygen evolution reaction (OER) is crucial for the successful implementation of water splitting technologies, which represents a promising and appealing solution to the sustainable-energy conversion. In this work, a nanocomposite electrocatalyst based on partially oxidized Ni nanoparticles supported on Ni-N co-doped carbon nanofibers (PO-Ni/Ni-N-CNFs) was developed using low-cost hydrothermal carbonaceous nanofibers, pyrrole, and NiCl<sub>2</sub> as precursors. Benefiting from effective active sites, mesoporous structure, and interlinked 1D nanofiber network,

<sup>&</sup>lt;sup>1</sup> These authors contributed equally to this work.

#### Download English Version:

## https://daneshyari.com/en/article/7952320

Download Persian Version:

https://daneshyari.com/article/7952320

<u>Daneshyari.com</u>