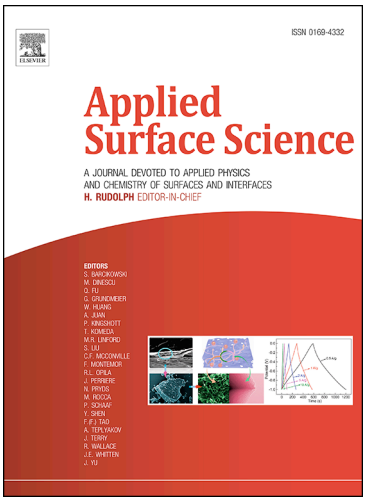

Full Length Article

Ultrathin NiFe-Layered Double Hydroxide Decorated $NiCo_2O_4$ Arrays with Enhanced Performance for Supercapacitors

Haixing Gao, Yang Cao, Yong Chen, Zheng Liu, Mingliang Guo, Shujiang Ding, Jinchun Tu, Junlei Qi

PII: S0169-4332(18)32597-2
DOI: https://doi.org/10.1016/j.apsusc.2018.09.180
Reference: APSUSC 40484

To appear in: *Applied Surface Science*

Received Date: 20 April 2018
Revised Date: 15 September 2018
Accepted Date: 21 September 2018

Please cite this article as: H. Gao, Y. Cao, Y. Chen, Z. Liu, M. Guo, S. Ding, J. Tu, J. Qi, Ultrathin NiFe-Layered Double Hydroxide Decorated $NiCo_2O_4$ Arrays with Enhanced Performance for Supercapacitors, *Applied Surface Science* (2018), doi: https://doi.org/10.1016/j.apsusc.2018.09.180

Ultrathin NiFe-Layered Double Hydroxide Decorated $NiCo_2O_4$ Arrays with Enhanced Performance for Supercapacitors

Haixing Gao[a], Yang Cao[a, b], Yong Chen[a], Zheng Liu[a], Mingliang Guo[a], Shujiang Ding[c], Jinchun Tu[a,*], Junlei Qi[d]

[a] *State Key Laboratory of Marine Resource Utilization in South China Sea, College of Materials and Chemical Engineering, Hainan University, Haikou 570228, P. R. China*

[b]*Qiongtai Normal University, Haikou 571127, P. R. China*

[c]*Department of Applied Chemistry, School of Science, Xi'an Jiaotong University, Xi'an 710049, P. R. China*

[d]*State Key Laboratory of Advanced Welding and Joining, Harbin Institute of Technology, Harbin 150001, P. R. China.*

Abstract

Designing and synthesizing core/shell nanostructures materials as binder-free electrodes is an effective strategy to enhance the electrochemical performance of supercapacitors. In this work, the hierarchical $NiCo_2O_4$@NiFe-layered double hydroxide core/shell arrays are successfully constructed via a stepwise hydrothermally grow method and investigated for application in supercapacitors. With the assistance of the hierarchical core/shell structures and the synergetic effect between $NiCo_2O_4$ and NiFe-layered double hydroxide nanosheets, the hybrid

* *Corresponding author. E-mail address: tujinchun@hainu.edu.cn (Jinchun Tu)*