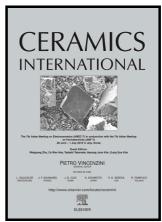
Author's Accepted Manuscript

MnCo₂O₄ nanospheres for improved lithium storage performance

Shuangxi Zhou, Xiangwei Luo, Lin Chen, Changjie Xu, Dongliang Yan



www.elsevier.com/locate/ceri

PII: S0272-8842(18)31702-4

DOI: https://doi.org/10.1016/j.ceramint.2018.06.256

Reference: CERI18700

To appear in: Ceramics International

Received date: 24 May 2018 Revised date: 20 June 2018 Accepted date: 29 June 2018

Cite this article as: Shuangxi Zhou, Xiangwei Luo, Lin Chen, Changjie Xu and Dongliang Yan, $MnCo_2O_4$ nanospheres for improved lithium storage p e r f o r m a n c e , *Ceramics* International, https://doi.org/10.1016/j.ceramint.2018.06.256

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

$MnCo_2O_4$ nanospheres for improved lithium storage performance

Shuangxi Zhou ^a, Xiangwei Luo ^b, Lin Chen ^c, Changjie Xu ^a, Dongliang Yan ^{b,*}

^a School of Civil Engineering and Architecture, East China Jiaotong University, Nanchang 330013, PR China

^bGuangxi Key Laboratory of Information Materials, Guilin University of Electronic Technology, Guilin 541004, PR China

^c Department of Material and Chemistry Engineering, Pingxiang University, Pingxiang 337055, PR China

*Corresponding author Tel.: +86 773 2291159; fax: +86 773 2191903. *E-mail addresses*: dlyan@guet.edu.cn (DL Yan)

ABSTRACT

Mesoporous $MnCo_2O_4$ nanospheres with an average diameter of approximately 480 nm have been synthesized by a polyvinyl pyrrolidone (PVP)-assisted solvothermal method followed by thermal annealing. $MnCo_2O_4$ nanospheres consist of many nanoparticles having sizes in range of 20-50 nm, the specific area of the sample being 24.4 m² g⁻¹. When used as the anode material for lithium ion batteries, the mesoporous $MnCo_2O_4$ nanospheres show not only an excellent cycling stability, but also an outstanding rate capability. More specially, the discharge capacities of 749.1 and 629.6 mAh g⁻¹ can be retained at current densities of 200 and 400 mA g⁻¹ after 50

Download English Version:

https://daneshyari.com/en/article/8948458

Download Persian Version:

https://daneshyari.com/article/8948458

<u>Daneshyari.com</u>