

## Accepted Manuscript

Title: Titanium oxide nanofibers decorated nickel-rich cathodes as high performance electrodes in lithium ion batteries

Authors: T. Subburaj, Yong Nam Jo, K. Prasanna, Ki Jae Kim, Chang Woo Lee



PII: S1226-086X(17)30110-7  
DOI: <http://dx.doi.org/doi:10.1016/j.jiec.2017.03.005>  
Reference: JIEC 3318

To appear in:

Received date: 28-11-2016  
Revised date: 28-2-2017  
Accepted date: 4-3-2017

Please cite this article as: T.Subburaj, Yong Nam Jo, K.Prasanna, Ki Jae Kim, Chang Woo Lee, Titanium oxide nanofibers decorated nickel-rich cathodes as high performance electrodes in lithium ion batteries, Journal of Industrial and Engineering Chemistry <http://dx.doi.org/10.1016/j.jiec.2017.03.005>

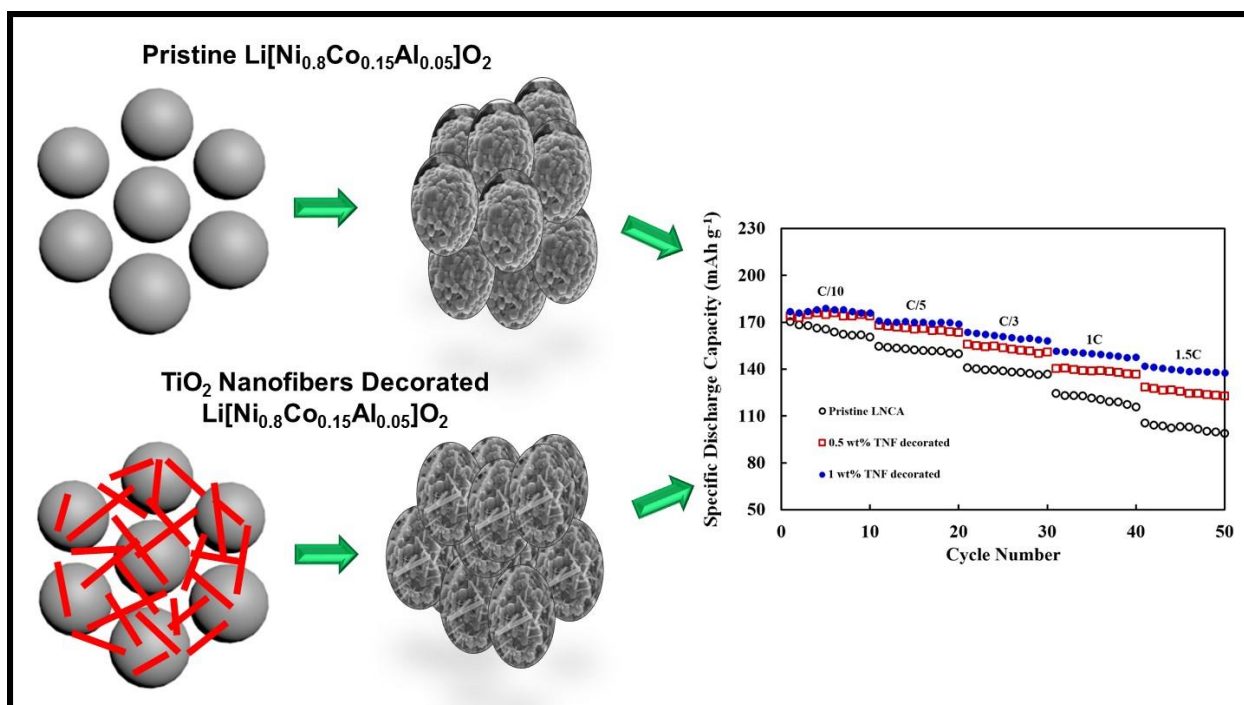
This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please 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.

# Titanium oxide nanofibers decorated nickel-rich cathodes as high performance electrodes in lithium ion batteries

T. Subburaj<sup>§</sup>, Yong Nam Jo<sup>§</sup>, K. Prasanna, Ki Jae Kim, Chang Woo Lee<sup>\*</sup>

Department of Chemical Engineering, College of Engineering, Kyung Hee University, 1732 Deogyong-daero, Gihung, Yongin, Gyeonggi 17104, South Korea

## Graphical Abstract



## ABSTRACT

TiO<sub>2</sub> nanofibers (TNF) are prepared by electrospinning method and they are decorated over the surface of Li[Ni<sub>0.8</sub>Co<sub>0.15</sub>Al<sub>0.05</sub>]O<sub>2</sub> (LNCA) cathodes at three different ratios. The structural, electrochemical, and thermal characteristics of TNF-decorated LNCAs are compared with pristine LNCA. The TNF-decorated LNCA electrodes demonstrate better cycleability and specific capacity than those of the pristine LNCA. Under the current density of a C/10 rate, 1 wt% TNF-decorated LNCA delivers 89.2% and 81.4% of capacity retention at room temperature and elevated temperature, respectively. The onset temperature of

Download English Version:

<https://daneshyari.com/en/article/6668240>

Download Persian Version:

<https://daneshyari.com/article/6668240>

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