Short Communication

Mesoporous TiO₂ Nanofibers as Advanced Sulphur Host Materials for Lithium Storage

Xiaomin Yang

Department of Electrical and Mechanical Engineering, Yongcheng Vocational College, Yongcheng 476600, China

E-mail: yangxiaominy@aliyun.com

doi: 10.20964/2019.06.73

Received: 19 February 2019 / *Accepted:* 8 April 2019 / *Published:* 10 May 2019

With the development of the science and technology, many electric vehicles have been emerged in the markets. Therefore, advanced energy storage systems must provide sufficient energy for the electric vehicles. Among many energy systems, Li-S batteries are the most suitable system for them due to their high specific capacity and energy density. However, the poor cycle stability is the main obstacle for the application into electric vehicles. Herein, mesoporous TiO₂ nanofibers are prepared and used as advanced host materials for sulfur in the Li-S batteries. The mesoporous TiO₂ nanofibers could adsorb the polysulfide and promote the transport or electronics during discharge and charge cycles. As a result, the MTO/S composites show excellent electrochemical performance.

Keywords: Nanofibers, Li-S batteries, Polysulfide, Mechanical, Electrical Vehicle

[FULL TEXT](#)

© 2019 The Authors. Published by ESG (www.electrochemsci.org). This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution license (<http://creativecommons.org/licenses/by/4.0/>).