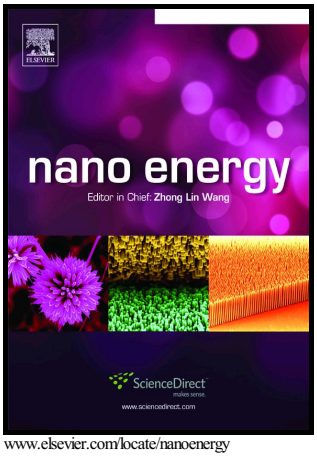

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PII: S2211-2855(18)30479-8
DOI: https://doi.org/10.1016/j.nanoen.2018.06.084
Reference: NANOEN2865

To appear in: *Nano Energy*

Received date: 11 May 2018
Revised date: 22 June 2018
Accepted date: 28 June 2018

Cite this article as: Laiying Jing, Gang Lian, Feier Niu, Jian Yang, Qilong Wang, Deliang Cui, Ching-Ping Wong and Xizheng Liu, Few-Atomic-Layered Hollow Nanospheres Constructed from Alternate Intercalation of Carbon and MoS_2 Monolayers for Sodium and Lithium Storage, *Nano Energy,* https://doi.org/10.1016/j.nanoen.2018.06.084

Few-Atomic-Layered Hollow Nanospheres Constructed from Alternate Intercalation of Carbon and MoS_2 Monolayers for Sodium and Lithium Storage

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Abstract

Despite high theoretical specific capacity and uniform interlayer channel for accommodation of ions, poor cycling stability and rate capacity have been identified as critical roadblocks to further development of MoS_2-based lithium ion batteries (LIBs) or sodium ion batteries (SIBs). In this study, few-atomic-layered MoS_2 hollow nanospheres with expanded interlayer spacing, due to alternate intercalation of N-doped monolayer carbon (m-C) between the adjacent MoS_2 monolayers, have been designed and synthesized via an annealing-followed