

Accepted Manuscript

A Novel Method for Preparation of Molybdenum Disulfide/Graphene Composite

Minh N. Dang, Thi Dieu Thuy Ung, Hong N. Phan, Quang Duc Truong, Thang H. Bui, Minh N. Phan, Liem Quang Nguyen, Phong D. Tran

PII: S0167-577X(17)30200-8
DOI: <http://dx.doi.org/10.1016/j.matlet.2017.02.018>
Reference: MLBLUE 22120

To appear in: *Materials Letters*

Received Date: 1 December 2016
Revised Date: 3 February 2017
Accepted Date: 6 February 2017

Please cite this article as: M.N. Dang, T.D.T. Ung, H.N. Phan, Q.D. Truong, T.H. Bui, M.N. Phan, L.Q. Nguyen, P.D. Tran, A Novel Method for Preparation of Molybdenum Disulfide/Graphene Composite, *Materials Letters* (2017), doi: <http://dx.doi.org/10.1016/j.matlet.2017.02.018>

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.



A Novel Method for Preparation of Molybdenum Disulfide/Graphene Composite

Minh N. Dang,^{a,b} Thi Dieu Thuy Ung,^b Hong N. Phan,^{b*} Quang Duc Truong,^c Thang H. Bui,^b
Minh N. Phan,^b Liem Quang Nguyen,^b and Phong D. Tran^{a*}

^a*Department of Advanced Materials Science and Nanotechnology, University of Science and Technology of Hanoi (USTH), Vietnam Academy of Science and Technology. 18 Hoang Quoc Viet, Hanoi, Vietnam. Email: tran-dinh.phong@usth.edu.vn*

^b*Institute of Materials Science, Vietnam Academy of Science and Technology. 18 Hoang Quoc Viet, Hanoi, Vietnam. Email: hongpn@ims.vast.ac.vn*

^c*Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, 2-1-1 Katahira, Aobaku, Sendai 980-8577, Japan*

Abstract

We describe herein a novel method for preparation of MoS₂/graphene composites by employing mild experimental conditions. The method is developed by coupling electrochemical exfoliation of graphene sheets from a graphite electrode and electrodeposition of MoS₂ from a [MoS₄]²⁻ deposition bath. This method offers an attractive alternative to reported methods like chemical vapor deposition, hydrothermal synthesis for preparation of MoS₂/graphene composites.

Keywords: composite, graphene, MoS₂, dichalcogenide

Download English Version:

<https://daneshyari.com/en/article/5463332>

Download Persian Version:

<https://daneshyari.com/article/5463332>

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