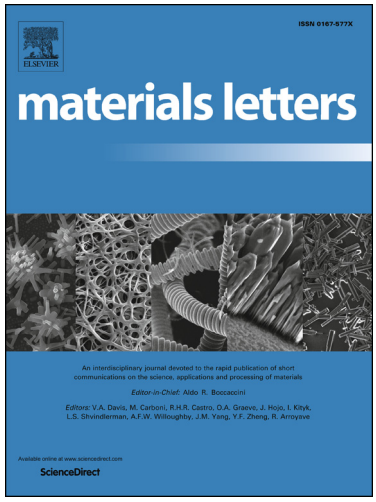

Synthesis, structural and optical properties of electrospun magnesium aluminate nanofibers

Ronariddh Nakhowong, Sert Kiennork, Pakawat Wongwanwattana, Tosawat Seetawan, Romteera Chueachot

PII: S0167-577X(18)30381-1
DOI: https://doi.org/10.1016/j.matlet.2018.03.024
Reference: MLBLUE 23985

To appear in: *Materials Letters*

Received Date: 16 June 2017
Revised Date: 10 December 2017
Accepted Date: 3 March 2018

Please cite this article as: R. Nakhowong, S. Kiennork, P. Wongwanwattana, T. Seetawan, R. Chueachot, Synthesis, structural and optical properties of electrospun magnesium aluminate nanofibers, *Materials Letters* (2018), doi: https://doi.org/10.1016/j.matlet.2018.03.024

Synthesis, structural and optical properties of electrospun magnesium aluminate nanofibers

Ronariddh Nakhowong[a,*], Sert Kiennork[a], Pakawat Wongwanwattana[a], Tosawat Seetawan[b], Romteera Chueachot[c]

[a]Program of Physics, Faculty of Science, Ubon Ratchathani Rajabhat University, Ubon Ratchathani 34000, Thailand

[b]Program of Physics, Faculty of Science and Technology, Sakon Nakhon Rajabhat University, Sakon Nakhon 74000, Thailand

[c]Program of Chemistry, Faculty of Science, Ubon Ratchathani Rajabhat University, Ubon Ratchathani 34000, Thailand

*Corresponding author. Tel: +66-45-352-000 #1421/Fax: +66-45-352-070.

E-mail address: ronariddh.n@ubru.ac.th

Abstract

Magnesium aluminate ($MgAl_2O_4$) nanofibers were successfully synthesized by a combination of electrospinning and calcination processes. The as-spun fibers were calcined at 700, 800, and 900 °C for 2 h to crystallization of $MgAl_2O_4$. X-ray diffraction result detected the crystalline phase of $MgAl_2O_4$. Field emission scanning electron microscopy and transmission electron microscopy images revealed that $MgAl_2O_4$ nanofibers had rough surfaces with