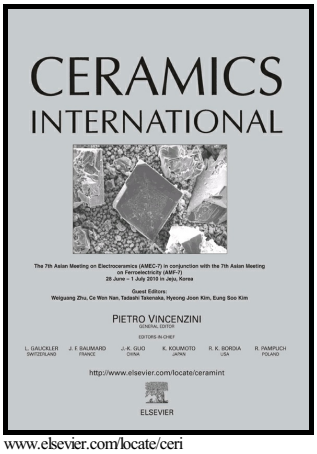

www.elsevier.com/locate/ceri

Microwave combustion synthesis, magneto-optical and electrochemical properties of $NiMoO_4$ nanoparticles for supercapacitor application

K. Seevakan, A. Manikandan, P. Devendran, A. Shameem, T. Alagesan

PII: S0272-8842(18)31110-6
DOI: https://doi.org/10.1016/j.ceramint.2018.04.235
Reference: CERI18152

To appear in: *Ceramics International*

Received date: 19 April 2018
Revised date: 26 April 2018
Accepted date: 27 April 2018

Cite this article as: K. Seevakan, A. Manikandan, P. Devendran, A. Shameem and T. Alagesan, Microwave combustion synthesis, magneto-optical and electrochemical properties of $NiMoO_4$ nanoparticles for supercapacitor application, *Ceramics International,* https://doi.org/10.1016/j.ceramint.2018.04.235

Microwave combustion synthesis, magneto-optical and electrochemical properties of $NiMoO_4$ nanoparticles for supercapacitor application

K. Seevakan [a], A. Manikandan [b,] *, P. Devendran [c], A. Shameem [c], T. Alagesan [a,] *

[a] PG and Research Department of Physics, Presidency College, Chennai - 600 005, Tamil Nadu

[b] Department of Chemistry, Bharath Institute of Higher Education and Research (BIHER), Bharath University, Chennai – 600 073, Tamil Nadu

[c] International Research Centre, Department of Physics, Kalasalingam University Krishnankoil-626 126, Tamil Nadu

mkavath15@gmail.com (A. Manikandan)

talagesan@yahoo.com (T. Alagesan)

***Corresponding author:**

Abstract

Nickel molybdate ($NiMoO_4$) nanoparticles (NPs) were synthesized by a simplistic one-pot microwave-combustion method using urea as the fuel. The produced NPs have been examined by powder X-ray diffraction (XRD), Fourier transform infrared (FT-IR) analysis, scanning electron microscope (SEM), energy dispersive X-ray (EDX), high-resolution transmission electron microscopy (HR-TEM) analysis. Further, optical and electronic properties were determined by UV-Visible and Photoluminescence (PL) analysis, respectively. The magnetic performance of the NPs was investigated by vibrating sample magnetometer (VSM)