



ABSTRACT BOOK

ACCMS - TM 2018

**Asian Consortium on Computational Materials Science
- Theme Meeting on Multiscale Modelling of Materials
for Sustainable Development**

September 7th - 9th, 2018

Vietnam National University, Hanoi

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PO1.55

Enhanced visible light photocatalytic degradation of Rhodamine B by Vanadium doped graphitic carbon nitride

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Herein, we developed a simple soft-chemical method to introduce vanadium (V^{5+}) ions into g- C_3N_4 nanosheets to enhance photocatalytic performance. Materials were characterized by powder X-ray diffraction (XRD), UV-Vis diffuse reflectance spectroscopy (UV-Vis), Fourier-transform infrared spectroscopy (FTIR), and photoluminescence spectroscopy (PL). The result of the XRD showed that the crystal phase of g- C_3N_4 did not change after doping with V. The UV-Visible Diffuse Reflectance spectra of V-doped g- C_3N_4 nanosheets exhibit redshift and enhance the light absorption in the visible region by narrowing the band gap, this is beneficial for photocatalytic ability. The result of the PL showed that there is a significant decrease in the PL intensity of V-doped g- C_3N_4 nanosheets. The photodegradation of RhB was employed to evaluate the photocatalytic activities of V-doped g- C_3N_4 photocatalysts under Xenon light irradiation. Results for g- C_3N_4 doped with 7 mol% of V exhibited the strongest photocatalytic activity, almost 100% RhB decomposed after 30 minutes exposed by Xenon lamp.

Keywords: *nanosheets, Photocatalytic activity, V-doped, g- C_3N_4 .*