



ABSTRACT BOOK

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	Hoang Thao Ly	
PO1.48	Kinetics of vitamin C and total phenolics degradation in low-temperature microwave-assisted drying of bitter melon slices (<i>Momordica charantia</i> L.) <u>Linh T.V. Nguyen</u> , Long B. Huynh, and Phong T. Huynh	173
PO1.49	Nanoencapsulation of Essential Oils: Fundamental and applications <u>Anh – Tam Nguyen</u> , Viet Thang Nguyen, and Xuan – Cuong Luu	174
PO1.50	Design-Expert® Software tool approaches to optimize the ginger (<i>Zingiber officinale</i>) oil extraction process <u>Thien Hien Tran</u> , Phu Thuong Nhan Nguyen, Pham Tri Nhut, Dai-Viet N. Vo, Trinh Duy Nguyen, and Long Giang Bach	175
PO1.51	Influence of crystallization time on structural, ferroelectric properties and energy storage density of lead-free $\text{Bi}_{0.5}(\text{Na}_{0.8}\text{K}_{0.2})_{0.5}\text{TiO}_3$ films <u>Nguyen Dang Co</u> , Tran Van Tu, Le Viet Cuong, Pham Duc Thang, Bui Dinh Tu, Vu Ngoc Hung, and Ngo Duc Quan	176
PO1.52	Enhanced energy-storage density in PLZT/BNKT heterolayered thin films prepared by sol-gel method <u>Nguyen Dang Co</u> , Vu Van Duy, Le Viet Cuong, Pham Duc Thang, Vu Ngoc Hung, and Ngo Duc Quan	177
PO1.53	Thermodynamic property of interstitial alloys FeH and FeC with bcc structure at zero pressure: dependence on temperature and concentration of interstitial atoms Nguyen Quang Hoc, Nguyen Thi Hoa, <u>Dinh Quang Vinh</u> , and Tran Dinh Cuong	178
PO1.54	Fabrication and investigation of silicone oil based carbon nanotubes nanofluid for solar absorption <u>Nguyen Trong Tam</u> , Bui Hung Thang, and Phan Ngoc Minh	179
PO1.55	Enhanced visible light photocatalytic degradation of Rhodamine B by Vanadium doped graphitic carbon nitride Le Thi Mai Oanh, <u>Do Danh Bich</u> , Pham Manh Cuong, Lam Thi Hang, <u>Nguyen Manh Hung</u> , and Nguyen Van Minh	180
PO1.56	Fe-embedded g-C_3N_4: effective catalyst for Rhodamine B decomposition <u>Le Thi Mai Oanh</u> , Do Danh Bich, Lam Thi Hang, Pham Manh Cuong, and Nguyen Van Minh	181
PO1.57	Optical simulation of planar $\text{CH}_3\text{NH}_3\text{PbI}_3$ perovskite solar cells <u>Duc Cuong Nguyen</u> and Soonil Lee	182
PO1.58	Insights into the adsorption of carbon dioxide on metal-organic frameworks Nguyen Dinh Thoai, Nguyen Ngoc Ha, Tran Thanh Hue, and <u>Nguyen Thi Thu Ha</u>	183

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 .