

INVITED REVIEW PAPER

Mazhar Ul-Islam,
Muhammad Wajid Ullah,
Shaikat Khan, and Joong Kon Park

- 925 **Production of bacterial cellulose from alternative cheap and waste resources: A step for cost reduction with positive environmental aspects**

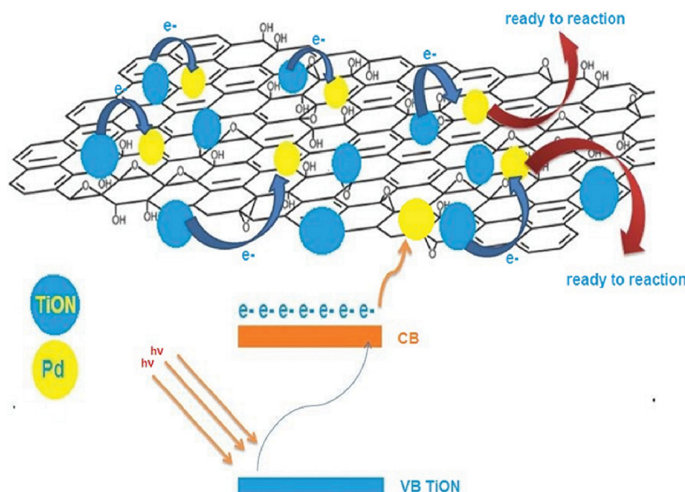
CATALYSIS, REACTION ENGINEERING

Yeonsun Sohn, Dong-gun Kim,
Ji Ho Lee, Sujin Lee, In Seon Hwang,
Soo-Hyoung Lee, Sung Jong Yoo,
and Pil Kim

- 938 **Defect-controlled Fe-N-doped carbon nanofiber by ball-milling for oxygen reduction reaction**

Hossein Mahdavi, Mahdi Rezaei,
Leila Ahmadian-Alam,
and Mostafa Mohammadpour Amini

- 946 **A novel ternary Pd-GO/N-doped TiO₂ hierarchical visible-light sensitive photocatalyst for nanocomposite membrane**



A series of PVDF-based photocatalytic nanocomposite membranes filled with Pd-GO/TiON as a visible light sensitive photocatalyst were fabricated. Evaluating the yield of Pd-GO/TiON photocatalysts is obtained around 99% and 70% for heterogeneous system and the prepared PhNM containing 3% Pd-GO/TiON, respectively.

Tianlin Ma, Jianfei Ding, Xueli Liu,
Gangling Chen, and Jiandong Zheng

- 955 **Gas-phase dehydration of glycerol to acrolein over different metal phosphate catalysts**

Ping Dai, Xiaowei Sun,
Dongyan Xu, and Feng Tan

- 961 **Kinetics and mechanism study of H-acid degradation by peroxymonosulfate activation with Co₃O₄-Fe₂O₃/Al₂O₃**

ENVIRONMENTAL ENGINEERING

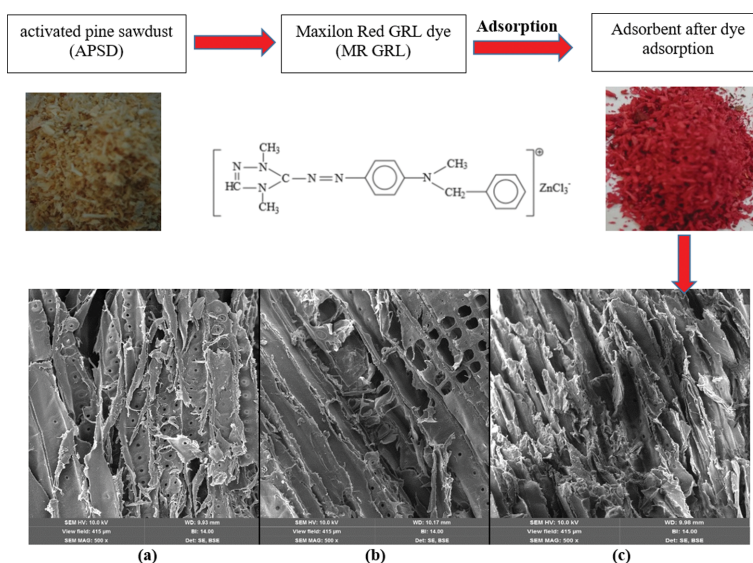
Reza Ali Fallahzadeh,
Mohammad Hassan Ehrampoush,
Mohsen Nabi Meybodi,
Mohammad Taghi Ghaneian,
Arash Dalvand, Fariborz Omid,
Mohammad Hossein Salmani,
Hossien Fallahzadeh,
and Amir Hossein Mahvi

- 969 **Application of photoelectro-fenton process modified with porous cathode electrode in removing resistant organic compounds from aquatic solutions: modeling, toxicity and kinetics**

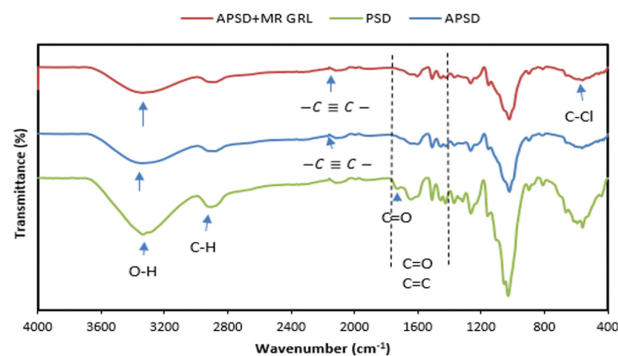
Yanxin Wei, Aimin Ding, Fabao Luo,
Na Li, and Chengli Yao

- 978 **Comparison of polysilicic acid (PSiA) and magnesium sulfate modified polysilicic acid (PMSiS) for effective removal of Congo red from simulated wastewater**

985 **Highly efficient removal from aqueous solution by adsorption of Maxilon Red GRL dye using activated pine sawdust**



SEM images of adsorbents (a) PSD (b) APSD before MR GRL adsorption (c) APSD after MR GRL adsorption.



FTIR spectra of PSD, APSD and APSD+MR GRL.

BIOTECHNOLOGY

- | | | |
|--|------|--|
| Thi Hoa Le, Dal Ho Lee,
Ji Hyeon Kim, and Sang Joon Park | 1000 | Synthesis of enhanced fluorescent graphene quantum dots for catecholamine neurotransmitter sensing |
| Samy M. Shaban and Dong-Hwan Kim | 1008 | The influence of the Gemini surfactants hydrocarbon tail on in-situ synthesis of silver nanoparticles: Characterization, surface studies and biological performance |
| Hongjie Bian, Gaoyang Wang,
Mengfei Cao, Ziyuan Wang,
and Jiandong Cui | 1020 | Improved biodegradation of polyvinyl alcohol by hybrid nanoflowers of degrading enzymes from <i>Bacillus niacini</i> |

SEPARATION TECHNOLOGY, THERMODYNAMICS

- | | | |
|---|------|---|
| Ji Hye Park, Haroon Ur Rasheed,
Kwang Hee Cho, Hyung Chul Yoon,
and Kwang Bok Yi | 1029 | Effects of magnesium loading on ammonia capacity and thermal stability of activated carbons |
| Hong Joo Lee, Min Kwang Kim,
Seung Hwan Lee, and Jung Hoon Park | 1036 | CH₄/CO₂ separation from biogas stream using porous hydrophobic ceramic hollow fiber membrane contactors |
| Tentu Nageswara Rao, Sanjit Gaikwad,
Tentu Manohra Naidu, and Sangil Han | 1042 | Extraction and determination of pesticide residues in water using carbon nanotubes coupled with gas chromatography-mass spectroscopy |
| Gi Hyeon Moon, Sungjin Park,
Seul Chan Park, Byung Su Kim,
Jaeyoung Jang, and Yong Soo Kang | 1050 | Intrinsically microporous oligomers as organic porogens for mixed-matrix membranes |

Seoin Hwang, Jae-Ryoung Song, 1057 **Enhanced separation performance of three-zone simulated moving bed chromatography with ModiCon strategy**
 Ngoc Lan Mai, and Yoon-Mo Koo

MATERIALS (Organic, Inorganic, Electronic, Thin Films)

Dong-seob Jeong, 1066	Investigation on the performance of SnS solar cells grown by sputtering and effusion cell evaporation
Vasudeva Reddy Minnam Reddy, Mohan Reddy Pallavolu, Haeyun Cho, and Chinho Park	
Young-Sang Cho, Hyeong Jin Lee, 1071	Photocatalytic degradation of methylene blue using three-dimensional porous graphene-titania microparticles under UV light
and Sohyeon Sung	
Jin-Seok Kim and Ho Young Jo 1086	Formation of calcium carbonates from $\text{Ca}(\text{OH})_2\text{-H}_2\text{O}$-supercritical CO_2 using a rapid spraying method
Huiyuan Guan, Jundong Wang, 1097	A facile method to synthesize magnetic nanoparticles chelated with Copper(II) for selective adsorption of bovine hemoglobin
Siyuan Tan, Qiang Han, Qionglin Liang, and Mingyu Ding	