

The Korean Journal of Chemical Engineering

May 2015
Volume 32, Number 5

Korean J. Chem. Eng. 32(5) 787-1000
Print ISSN 0256-1115
Online ISSN 1975-7220

REVIEW PAPER

- Reyhaneh Saadi, Zahra Saadi, 787 **Monolayer and multilayer adsorption isotherm models for sorption from aqueous media**
Reza Fazaeli, and Narges Elmi Fard

PROCESS SYSTEMS ENGINEERING, PROCESS SAFETY

- Ji Hyun Lee, No Sang Kwak, 800 **Performance and economic analysis of commercial-scale coal-fired power plant with post-combustion CO₂ capture**
In Young Lee, Kyung Ryoung Jang,
Dong Woog Lee, Se Gyu Jang,
Byung Kook Kim, and Jae-Goo Shim
- Dooyong Park, Eun-Ji Woo, 808 **Adsorption breakthrough dynamics of zeolites for ethylene recovery from fluid catalytic cracking fuel-gas**
Ji Won Choi, Hyungwoong Ahn,
and Chang-Ha Lee

TRANSPORT PHENOMENA

- Feng Ling Yang, Shen Jie Zhou, 816 **Turbulent flow and mixing performance of a novel six-blade grid disc impeller**
and Cui Xun Zhang
- Arunkumar Seshadri, 826 **Measurement of liquid film thickness in air - water two phase flows in conventional and mini channels using image processing**
Swetha Mahadevan,
and Venkatesan Muniyandi

CATALYSIS, REACTION ENGINEERING

- Preeti Dauthal 837 **Agro-industrial waste-mediated synthesis and characterization of gold and silver nanoparticles and their catalytic activity for 4-nitroaniline hydrogenation**
and Mausumi Mukhopadhyay
- Jeom-In Baek, Tae Hyoung Eom, 845 **Cleaning of gaseous hydrogen chloride in a syngas by spray-dried potassium-based solid sorbents**
Joong Beom Lee, Seong Jegarl,
Chong Kul Ryu, Young Cheol Park,
and Sung-Ho Jo
- Min Su, Hongjiu Su, Baolei Du, 852 **Mesoporous silica with monodispersed pores synthesized from the controlled self-assembly of silica nanoparticles**
Xiaotong Li, Gaoyuan Ren,
and Shudong Wang
- Chung-Hsin Wu, Chao-Yin Kuo, 860 **Effects of nitrogen and carbon doping on properties and photocatalytic activity of TiO₂-In₂O₃ composite**
Jui-Tai Wu, Pui-Kwan Andy Hong,
Chih-Hao Lai, and Wei-Yang Chung

ENERGY

- Sun-Hwa Yeon, Wook Ahn, 867 **Carbide-derived carbon/sulfur composite cathode for multi-layer separator assembled Li-S battery**
Kyoung-Hee Shin, Chang-Soo Jin,
Kyu-Nam Jung, Jae-Deok Jeon,
Sungnam Lim, and Youngchul Kim

ENVIRONMENTAL ENGINEERING

- Nilofar Nasirpour, 874 **Biodegradation potential of hydrocarbons in petroleum refinery effluents using a continuous anaerobic-aerobic hybrid system**
Seyyed Mohammad Mousavi,
and Seyyed Abbas Shojaosadati

- Arshad Mehmood, Sheher Bano, Aisha Fahim, Riffat Parveen, and Shazia Khurshid 882 **Efficient removal of crystal violet and eosin B from aqueous solution using *Syzygium cumini* leaves: A comparative study of acidic and basic dyes on a single adsorbent**
- Hatairat Sukpreabprom, Orn-anong Arqueropanyo, Wimol Naksata, Ponlayuth Sooksamiti, and Sorapong Janhom 896 **Single and binary adsorption of Cd (II) and Zn (II) ions from aqueous solutions onto bottom ash**
- Davood Ghanbari and Masoud Salavati-Niasari 903 **Hydrothermal synthesis of different morphologies of MgFe₂O₄ and magnetic cellulose acetate nanocomposite**

BIOTECHNOLOGY

- Ruddaraju Lakshmi Kalyani, Jella Venkatraju, Pratap Kollu, Nammi Hanumantha Rao, and Sri Venkata Narayana Pammi 911 **Low temperature synthesis of various transition metal oxides and their antibacterial activity against multidrug resistance bacterial pathogens**
- Jung Won Shin, Ok Kyung Lee, Hwan Hee Park, Hee Sook Kim, and Eun Yeol Lee 917 **Molecular characterization of a novel oligoalginate lyase consisting of AlgL- and heparinase II/III-like domains from *Stenotrophomonas maltophilia* KJ-2 and its application to alginate saccharification**

SEPARATION TECHNOLOGY, THERMODYNAMICS

- Danial Husseinzadeh and Akbar Shahsavand 925 **Reliable estimation of adsorption isotherm parameters using adequate pore size distribution**
- Cong Luo, Ying Zheng, Yongqing Xu, Haoran Ding, Chuguang Zheng, Changlei Qin, and Bo Feng 934 **Cyclic CO₂ capture characteristics of a pellet derived from sol-gel CaO powder with Ca₁₂Al₁₄O₃₃ support**
- Minkyu Kim and Jaeon Chang 939 **Monte Carlo simulation of free energy for the solid-liquid equilibrium of methane**
- Selin Şahin 950 **A novel technology for extraction of phenolic antioxidants from mandarin (*Citrus deliciosa* Tenore) leaves: Solvent-free microwave extraction**
- Yoon-Seok Jang, Yong Seok Choi, and Hun-Soo Byun 958 **Phase behavior for the poly(2-methoxyethyl acrylate)+supercritical solvent+cosolvent mixture and CO₂+2-methoxyethyl acrylate system at high pressure**
- Junghwa Park, Hoang Anh Dam, and Dukjoon Kim 967 **Selective sorption behavior of metal(II) ion-imprinted polymethacrylate microspheres synthesized via precipitation polymerization method**

MATERIALS (Organic, Inorganic, Electronic, Thin Films)

- Nanasaheb Madhukar Shinde, Ajay Dattu Jagadale, Vijay Shamrao Kumbhar, Tanka Raj Rana, JunHo Kim, and Chandrakant Dnyandev Lokhande 974 **Wet chemical synthesis of WO₃ thin films for supercapacitor application**

POLYMER, INDUSTRIAL CHEMISTRY

- Tanita Sirirat, Terdthai Vatanatham, Nanthiya Hansupalak, Garry Llewellyn Rempel, and Wanvimon Arayapranee 980 **Kinetics and modeling of methyl methacrylate graft copolymerization in the presence of natural rubber latex**
- Mahendra Yadav, Dipti Sharma, and Sumit Kumar 993 **Thiazole derivatives as efficient corrosion inhibitor for oil-well tubular steel in hydrochloric acid solution**