

The Korean Journal of Chemical Engineering

August 2014
Volume 31, Number 8

Korean J. Chem. Eng. 31(8) 1289-1504
Print ISSN 0256-1115
Online ISSN 1975-7220

INVITED REVIEW PAPER

Dung The Nguyen and Kyo-Seon Kim 1289 **Functionalization of magnetic nanoparticles for biomedical applications**

REVIEW PAPER

Dongyeop Xris Oh, Sara Shin, 1306 **Surface forces apparatus and its applications for nanomechanics of underwater adhesives**
Hee Young Yoo, Chanoong Lim,
and Dong Soo Hwang

RAPID COMMUNICATION

Md Ariful Hoque and Kiseok Kim 1316 **Effects of water vapor and temperature upon combustion stability of CeZrO₂-modified Pd-Pt/Al₂O₃ catalyst**

PROCESS SYSTEMS ENGINEERING, PROCESS SAFETY

-
- Truong Nguyen Luan Vu 1321 **Smith predictor based fractional-order PI control for time-delay processes**
and Moonyong Lee
- Wenliang Chen, Chonghua Yao, 1330 **Mathematical modeling and modification of an activated sludge benchmark process evaluated by multiple performance criteria**
and Xiwu Lu
- Thiyam Tamphasana Devi 1339 **Scale up criteria for dual stirred gas-liquid unbaffled tank with concave blade impeller**
and Bimlesh Kumar

TRANSPORT PHENOMENA

Peyman Zahedi, Reza Saleh, 1349 **Influence of fluid properties on bubble formation, detachment, rising and collapse; Investigation using volume of fluid method**
Roberto Moreno-Atanasio,
and Kianoosh Yousefi

CATALYSIS, REACTION ENGINEERING

-
- Neha Mittal, Grace M. Nisola, 1362 **Metal-free mild oxidation of 5-hydroxymethylfurfural to 2,5-diformylfuran**
Lenny B. Malihan, Jeong Gil Seo,
Seong-Poong Lee,
and Wook-Jin Chung
- Mingxing Tang, Hui Ge, Weibin Fan, 1368 **Presulfidation and activation mechanism of Mo/Al₂O₃ catalyst sulfided by ammonium thiosulfate**
Guofu Wang, Zhanjun Lyu,
and Xuekuan Li
- Fan Ouyang, Yan Zhou, Zhang-Min Li, 1377 **Tetrabutylphosphonium amino acid ionic liquids as efficient catalysts for solvent-free Knoevenagel condensation reactions**
Na Hu, and Duan-Jian Tao

ENERGY

Sehkyu Park and Branko N. Popov 1384 **Effect of membrane-electrode-assembly configuration on proton exchange membrane fuel cell performance**

ENVIRONMENTAL ENGINEERING

Jasmin Shah, Muhammad Rasul Jan, 1389 **Conversion of waste polystyrene through catalytic degradation into valuable products**
and Adnan

- Fariba Sadat Kamelian, 1399 **Preparation of acrylonitrile-butadiene-styrene membrane : Investigation of solvent/nonsolvent type and additive concentration**
Seyed Mahmoud Mousavi,
Ali Ahmadpour,
and Vahideh Ghaffarian
- Donglei Shi, Yu Lu, Zhe Tang, 1405 **Removal of elemental mercury from simulated flue gas by cerium oxide modified attapulgite**
Fennv Han, Ruoyu Chen, and Qi Xu
- Oluranti Agboola, Jannie Maree, 1413 **Deposition of toxic metal particles on rough nanofiltration membranes**
Richard Mbaya,
Caliphs Musa Zvinowanda,
Gomotsegang Fred Molelekwa,
Nora Jullok, Bart Van der Bruggen,
Alexander Volodine,
and Chris Van Haesendonck

BIOTECHNOLOGY

- Mohammad Javad Asadollahzadeh, 1425 **Efficient storage and utilization of CO₂ in open raceway ponds for cultivation of microalgae**
Mehdi Ardjmand, Ali Akbar Seafkordi,
and Seyed Mohammad Heydarian
- Charles Seo, Hong Won Lee, 1433 **Improvement of fermentative production of exopolysaccharides from *Aureobasidium pullulans* under various conditions**
Arumuganainar Suresh, Ji Won Yang,
Jun Ki Jung, and Yeu-Chun Kim

SEPARATION TECHNOLOGY, THERMODYNAMICS

- Xiao-Hua Ma, Yu Bai, Yue Cao, 1438 **Effect of polymer and additive on the structure and property of porous stainless steel hollow fiber**
and Zhen-Liang Xu
- Yun Wu, Zhongze Zhou, Ruiwen Yan, 1444 **Biosorption of Zn²⁺ and Pb²⁺ from aqueous solutions using native and microwave treated *Flammulina velutipes* stipe**
and Jun Zheng
- Mehdi Shirzad-Siboni, 1451 **Comparative removal of two textile dyes from aqueous solution by adsorption onto marine-source waste shell : Kinetic and isotherm studies**
Alireza Khataee, Fatemeh Vafaei,
and Sang Woo Joo
- Jareena Shaik, 1460 **Orientation effect on sign and magnitude of excess thermodynamic functions of non electrolyte solutions at different temperatures (303.15 K, 308.15 K, and 313.15 K)**
Manukonda Gowri Sankar,
Dittakavi Ramachandran,
and Chintala Rambabu
- Davis Castro dos Santos, 1470 **New carbon composite adsorbents for the removal of textile dyes from aqueous solutions : Kinetic, equilibrium, and thermodynamic studies**
Matthew Ayorinde Adebayo,
Simone de Fátima Pinheiro Pereira,
Lizie Daniela Tentler Prola,
Renato Cataluña, Eder Cláudio Lima,
Caroline Saucier,
Caline Rodrigues Gally,
and Fernando Machado Machado

MATERIALS (Organic, Inorganic, Electronic, Thin Films)

- Priyanka Pandey, Smita Mohanty, 1480 **Influence of thermally induced, dehydroxylated nanoclay on polymer nanocomposites**
and Sanjay Kumar Nayak

POLYMER, INDUSTRIAL CHEMISTRY, FLUIDIZATION, PARTICLE TECHNOLOGY

- Yingfen Li, Weiping Gan, 1490 **Dispersion mechanisms of Arabic gum in the preparation of ultrafine silver powder**
Xiaogang Liu, Tao Lin, and Bei Huang
- Eissa Mohamed El-Moghawry Shokir, 1496 **Development of artificial neural network models for supercritical fluid solvency in presence of co-solvents**
Emad Souliman Al-Homadhi,
Osama Al-Mahdy,
and Ayman Abdel-Hamid El-Midany

