

The Korean Journal of Chemical Engineering

January 2012
Volume 29, Number 1

Korean J. Chem. Eng. 29(1) 1-134
Print ISSN 0256-1115
Online ISSN 1975-7220

PROCESS SYSTEMS ENGINEERING, PROCESS SAFETY

-
- | | | |
|--|----|--|
| Hilary Rutto
and Christopher Enweremadu | 1 | Dissolution of a South African calcium based material using urea: An optimized process |
| Wende Tian, Qingjie Guo, and Suli Sun | 9 | Dynamic simulation based fault detection and diagnosis for distillation column |
| Seok Won Hong, Hyun Jun Cho,
Soo Hyun Kim, and Yeong Koo Yeo | 18 | Modeling of the non-catalytic semi-batch esterification of palm fatty acid distillate (PFAD) |
| Sungwon Hwang and Robin Smith | 25 | Application of simulated annealing (SA) to the synthesis of heterogeneous catalytic reactor |
| Namjin Jang, Jamin Koo, Dongil Shin,
Moon Shik Jo, Yi Yoon, and En Sup Yoon | 36 | Development of chemical accident database: Considerations, accident trend analysis and suggestions |

CATALYSIS, REACTION ENGINEERING

-
- | | | |
|---|----|---|
| Dong Hyun Kim and Jitae Lee | 42 | High-order approximations for unsteady-state diffusion and reaction in slab, cylinder and sphere catalyst |
| Dan Liu, Jianzhou Gui, Yong-Ki Park,
Shuang Yang, Yuhuan Gao, Xilai Peng,
and Zhaolin Sun | 49 | Deep removal of sulfur from real diesel by catalytic oxidation with halogen-free ionic liquid |

INDUSTRIAL CHEMISTRY, POLYMER, FLUIDIZATION, PARTICLE TECHNOLOGY

-
- | | | |
|------------------------------|----|---|
| Jinrui Ding and Kyo-Seon Kim | 54 | Preparation of nanostructured TiO ₂ thin films by aerosol flame deposition process |
|------------------------------|----|---|

ENERGY

-
- | | | |
|--|----|---|
| Shin-Kun Ryi, Jong-Soo Park,
Kyung-Ran Hwang, Dong-Won Kim,
and Hyo-Sun An | 59 | Pd-Cu alloy membrane deposited on alumina modified porous nickel support (PNS) for hydrogen separation at high pressure |
|--|----|---|

ENVIRONMENTAL ENGINEERING

-
- | | | |
|---|----|--|
| Gannavarapu Venkata Vamsi Aditya,
Bhagavatula Padma Pujitha,
Nalluri Chitti Babu,
and Paladugu Venkateswarlu | 64 | Biosorption of chromium onto <i>Erythrina Variegata Orientalis</i> leaf powder |
|---|----|--|

BIOTECHNOLOGY

-
- | | | |
|---|----|--|
| Mi Kyoung Kang, Sung Kyeong Hong,
Yong Chang Seo, Young Ock Kim,
Hyeon Yong Lee, and Jin-Chul Kim | 72 | Chitosan microgel: Effect of cross-linking density on pH-dependent release |
| EunJi Kim, Han Suk Choi,
Seong Woo Kang, Kwang Ho Song,
Sung Ok Han, Chulhwan Park,
and Seung Wook Kim | 77 | Enhanced production of cellobiose dehydrogenase and β -glucosidase by <i>Phanerochaete chrysosporium</i> |
| Tae Hyun Kim | 82 | Comparison of inhibition effects of various isolated lignins on enzymatic hydrolysis of cellulose |

SEPARATION TECHNOLOGY, THERMODYNAMICS

-
- | | | |
|---|----|---|
| Anusorn Boonpoke,
Siriluk Chiarakorn,
Navadol Laosiripojana,
Sirintornthep Towprayoon,
and Amnat Chidthaisong | 89 | Investigation of CO ₂ adsorption by bagasse-based activated carbon |
|---|----|---|

- Malay Kumar Ghosh, 95 **Arsenic adsorption on goethite nanoparticles produced through hydrazine sulfate assisted synthesis method**
 Gérard Eddy Jai Poinern,
 Touma B. Issa, and Pritam Singh
- Myoung Do Seo, Young Jo Kim, 103 **Measurement and correlation of the isobaric vapor-liquid equilibrium for mixtures of alcohol+ketone systems at atmospheric pressure**
 Jong Sung Lim, and Jeong Won Kang

MATERIALS (Organic, Inorganic, Electronic, Thin Films)

-
- Zahra Moridi Mahdih, 111 **Conductive chitosan/multi walled carbon nanotubes electrospun nanofiber feasibility**
 Vahid Mottaghitalab, Negin Piri,
 and Akbar Khodaparast Haghi
- Duc Quy Vo, Eun Woo Shin, 120 **Optical properties of TiO₂ nanorods modified by electron-donating stabilizers**
 Jae-Seong Kim, and Sunwook Kim
- Hai Dinh Pham, Viet Hung Pham, 125 **Synthesis of polypyrrole-reduced graphene oxide composites by in-situ photopolymerization and its application as a supercapacitor electrode**
 Eun-Suok Oh, Jin Suk Chung,
 and Sunwook Kim
- Ky Nam Hoang, Hong Tak Kim, 130 **Epitaxial gallium nitride thin films grown on silicon substrates utilizing gallium nitride seed-layer formed by liquid source precursor**
 Woosuk Jun, and Chinho Park