

The Korean Journal of Chemical Engineering

July 2008
Volume 25, Number 4

Korean J. Chem. Eng. 25(4) 613-946
Print ISSN 0256-1115
Online ISSN 1975-7220

PROCESS SYSTEMS ENGINEERING, PROCESS SAFETY, TRANSPORT PHENOMENA

- Eun Ho Lee, Tae Young Kim, and Yeong Koo Yeo 613 Prediction and quality control of the melt index during production of high-density polyethylene
- Jin Soo Park, Minkyoo Seo, Hyun Jung Oh, and Jae Hak Jung 623 Silicon ingot diameter modeling in Czochralski process and its dynamic simulation
- Su Whan Sung, Cheol Ho Je, Jietae Lee, and Dong Hyun Lee 631 Improved system identification method for Hammerstein-Wiener processes
- Md. Shamsuzzoha and Moonyong Lee 637 PID controller design for integrating processes with time delay
- Wanwisa Skolpap, Somboon Nuchprayoon, Jeno M. Scharer, Nurak Grisdanurak, Peter L. Douglas, and Murray Moo-Young 646 Fed-batch optimization of recombinant α -amylase production by *Bacillus subtilis* using a modified Markov chain Monte Carlo technique

CATALYSIS, REACTION ENGINEERING, INDUSTRIAL CHEMISTRY

- Prapan Kuchonthara, Tharapong Vitidsant, and Atsushi Tsutsumi 656 Catalytic effects of potassium on lignin steam gasification with γ - Al_2O_3 as a bed material
- Nathaporn Areerachakul, Saravanamuthu Vigneswaran, Huu Hao Ngo, and Jaya Kandasamy 663 A continuous photocatalysis system in the degradation of herbicide
- Zhong-Ming Wang, Jin-Suk Lee, Ji-Yeon Park, Chuang-Zhi Wu, and Zhen-Hong Yuan 670 Optimization of biodiesel production from trap grease via acid catalysis
- Xiaojun Guo, Chongpin Huang, and Biaohua Chen 675 One-step synthesis of methylmethacrylate from methacrolein over Keggin-type heteropoly compounds
- Sorood. Zahedi. Abghari, Jafar. Towfighi. Darian, Ramin. Karimzadeh, and Mohammad Reza Omidkhal 681 Determination of yield distribution in olefin production by thermal cracking of atmospheric gasoil
- Ji-Yeon Ahn, Hye-Lim Shim, Kyung-Hoon Kim, Il Kim, Sang-Wook Park, and Dae-Won Park 693 Effect of cocatalyst and carbon dioxide pressure on the synthesis of polycarbonate from phenyl glycidyl ether and carbon dioxide
- Xiaojun Guo, Chongpin Huang, and Yingxia Li 697 Effect of cesium content on the structure and catalytic performances of heteropoly compounds in one-step synthesis of methylmethacrylate from methacrolein
- Sangkorn Kongjao, Somsak Damronglerd, and Mali Hunsom 703 Simultaneous removal of organic and inorganic pollutants in tannery wastewater using electrocoagulation technique
- Kyung Won La, Heesoo Kim, Ji Chul Jung, Joohyung Lee, Dong Ryul Park, Sang Hee Lee, and In Kyu Song 710 Preparation of $\text{H}_3\text{PMo}_{10}\text{V}_2\text{O}_{40}$ catalyst immobilized on spherical carbon and its application to the vapor-phase 2-propanol conversion reaction (Short Communication)

ENERGY AND ENVIRONMENTAL ENGINEERING

- Chul-Woo Jung and Hee-Jong Son 714 The relationship between disinfection by-products formation and characteristics of natural organic matter in raw water

- Francesco Miccio, Karel Svoboda, Jean-Pierre Schosger, and David Baxter 721 **Biomass gasification in internal circulating fluidized beds: a thermodynamic predictive tool**
- Yanqing Cong, Zucheng Wu, and Yuqiong Li 727 **Electrochemical inactivation of coliforms by in-situ generated hydroxyl radicals**
- Se Joon Im, Rajkumar Patel, Se Jong Shin, Jong Hak Kim, and Byoung Ryul Min 732 **Sulfonated poly(arylene ether sulfone) membranes based on biphenol for direct methanol fuel cells**
- Chen Guang Wang, Tie Jun Wang, Long Long Ma, Yan Gao, and Chuang Zhi Wu 738 **Partial oxidation reforming of biomass fuel gas over nickel-based monolithic catalyst with naphthalene as model compound**
- Deqiang Jiang, Weidong Zhang, Junteng Liu, Wang Geng, and Zhongqi Ren 744 **Filtration and regeneration behavior of polytetrafluoroethylene membrane for dusty gas treatment**
- Hee-Soo Shin, Jae-Keun Lee, and David Pui 754 **Design and performance evaluation of hydrocyclones for removing micron particles suspended in water**
- Sang Do Kim, Kwang Jae Woo, Soon Kwan Jeong, Young Jun Rhim, and Si Hyun Lee 758 **Production of low ash coal by thermal extraction with *N*-methyl-2-pyrrolidinone**
- Jeongyun Choi, Yoojin Jung, and Woojin Lee 764 **Fe(II)-initiated reduction of hexavalent chromium in heterogeneous iron oxide suspension**
- Ji Bong Joo, You Jung Kim, Wooyoung Kim, Nam Dong Kim, Pil Kim, Younghun Kim, and Jongheop Yi 770 **Methanol-tolerant PdPt/C alloy catalyst for oxygen electro-reduction reaction**
- Hong Rok Kim, Jayeeta Chattopadhyay, Jae Ik Son, and Daewon Pak 775 **Preparation of platinum-doped hollow spheres and their electrocatalytic activity in water electrolysis**
- Ji-Young Ban, Hyun Il Kim, Suk-Jin Choung, Harim Jeong, and Misook Kang 780 **NH₃ removal using the dielectric barrier discharge plasma-V-TiO₂ photocatalytic hybrid system**

BIOTECHNOLOGY

-
- O Mi Lee, Jong Hyeok Oh, Marie Libert, Doo Seong Hwang, Yun Dong Choi, Jin Ho Park, Un Soo Chung, Byung Real Jo, Min Ju Kim, and Sang- Joon Lee 787 **Bio-denitrification of the nitrate waste solution from the lagoon sludge in a continuous bio-reduction process (Short Communication)**
- Dong-Seog Kim, No-Sung Jung, and Young-Seek Park 793 **Characteristics of nitrogen and phosphorus removal in SBR and SBBR with different ammonium loading rates**
- Hong-Wei Wang, In Hae Kim, Chang-Su Park, and Jae-Hwa Lee 801 **Immobilization of α -amylase from *Bacillus licheniformis* on developed support using microbial transglutaminase (Short Communication)**
- Dong Gyun Kang, Lin Li, Jeong Hyub Ha, Suk Soon Choi, and Hyung Joon Cha 804 **Efficient cell surface display of organophosphorous hydrolase using N-terminal domain of ice nucleation protein in *Escherichia coli***
- Jae Yong Song and Beom Soo Kim 808 **Biological synthesis of bimetallic Au/Ag nanoparticles using Persimmon (*Diopyros kaki*) leaf extract (Short Communication)**
- Jung Hwan Ha, Omer Shehzad, Salman Khan, Seung Yong Lee, Joon Won Park, Taous Khan, and Joong Kon Park 812 **Production of bacterial cellulose by a static cultivation using the waste from beer culture broth**

SEPARATION TECHNOLOGY, THERMODYNAMICS

-
- Yinzhe Jin, Dae-Ki Choi, and Kyung Ho Row 816 **Adsorption isotherms of caffeine on molecular imprinted polymer**

- Sang-Wook Park, Byoung-Sik Choi, Seong-Soo Kim, and Jae-Wook Lee 819 **Mass transfer of carbon dioxide in aqueous colloidal silica solution containing *N*-methyldiethanolamine**
- Supunnee Junpirom, Chaiyot Tangsathitkulchai, Malee Tangsathitkulchai, and Yuvarat Ngernyen 825 **Water adsorption in activated carbons with different burn-offs and its analysis using a cluster model**
- Alexander Breitholz, Ki-Pung Yoo, Jong Sung Lim, Chul Soo Lee, and Jeong Won Kang 833 **Vapor-liquid equilibrium correlations for systems containing amines using a lattice fluid equation of state with hydrogen bonding**

MATERIALS (Organic, Inorganic, Electronic, Thin Films), POLYMER, FLUIDIZATION, PARTICLE TECHNOLOGY

- Benjapol Kongsombut, Wei Chen, Atsushi Tsutsumi, Wiwut Tanthapanichakoon, and Tawatchai Charinpanitkul 838 **Formation of deagglomerated PLGA particles and PLGA-coated ultra fine powders by rapid expansion of supercritical solution with ethanol cosolvent**
- Ali Tuncay Ozyilmaz, Gul Ozyilmaz, Ercan Yilmaz, and Nureddin Çolak 846 **Poly(o-anisidine) on brass: Synthesis and corrosion behavior**
- Kyoung Shil Oh, Won Bae, Dong Woo Cho, Youn-Woo Lee, and Hwayong Kim 854 **Dispersion polymerization of NVCA in compressed liquid dimethyl ether in the presence of PDMS-g-pyrrolidone carboxylic acid: Effects of initiators**
- Jatuporn Wittayakun, Pongtanawat Khemthong, and Sanchai Prayoonpokarach 861 **Synthesis and characterization of zeolite NaY from rice husk silica**
- Junhyoung Kim, Dong Hyun Jung, Hokyoun Rhee, Seung-Hoon Choi, Min Jae Sung, and Woo Sik Choi 865 **Aqueous solubility of poorly water-soluble drugs: Prediction using similarity and quantitative structure-property relationship models**
- Daeheum Kim, Seungwoong Nam, and Jiyun Lim 874 **Diffraction efficiency change in PVA/AA photopolymer films by photosensitive inorganic compound addition**
- Cheon-Kwang Ko and Won Gyu Lee 881 **Silicon oxidation by aerial diffusion of active oxygen species from UV-irradiated TiO₂**
- Eun Kyung Park, Sangchun Rah, and Sun-Geon Kim 885 **Effect of gas environment on properties of particles prepared by spray pyrolysis of metal nitrates**
- Suseung Lee, Chang Yeon Yun, Mi Sun Hahn, Jeongjin Lee, and Jongheop Yi 892 **Synthesis and characterization of carbon-doped titania as a visible-light-sensitive photocatalyst**
- Suk-Hwan Kang, Sung-Mo Son, Yong Kang, Jong-Wook Bae, and Ki-Won Jun 897 **Effect of pressure fluctuations on the heat transfer characteristics in a pressurized slurry bubble column**
- Mohammad Ziabari, Vahid Mottaghitlab, and Akbar Khodaparast Haghi 905 **Distance transform algorithm for measuring nanofiber diameter**
- Mohammad Ziabari, Vahid Mottaghitlab, and Akbar Khodaparast Haghi 919 **Simulated image of electrospun nonwoven web of PVA and corresponding nanofiber diameter distribution (Short Communication)**
- Mohammad Ziabari, Vahid Mottaghitlab, and Akbar Khodaparast Haghi 923 **Evaluation of electrospun nanofiber pore structure parameters**
- Misook Kang 933 **The control of diameter of carbon nanotube over Co-loaded Zeolite Y**
- Dong-Joo Kim and Kyo-Seon Kim 939 **Effect of pulse modulation on particle growth during SiH₄ plasma process**