The Korean Journal of Chemical Engineering 계재 논문 목차

January 2008~March 2010

Volume 25, Number 1~Volume 27, Number 2 Online ISSN 1975-7220 JOURNAL REVIEW Friendly production of bacterial inclusion bodies Elena García-Fruitós and Antonio Villaverde 27(2) 385 PROCESS SYSTEMS ENGINEERING, PROCESS SAFETY, TRANSPORT PHENOMENA Simulation of CO₂ removal with aqueous sodium glycinate solutions in a pilot plant Seungmoon Lee, Ho-Jun Song, Sanjeev Maken, Seung-Kwan Yoo, Jin-Won Park, Seonwook Kim, Jae Goo Shim and Kyung-Ryong Jang $\cdots 25(1) \cdots 1$ Optimal operation of the boil-off gas compression process using a boil-off rate model for LNG storage tanks Multi-way principal component analysis for the endpoint detection of the metal etch process using the whole optical emission spectra ······· Kyounghoon Han, Kun Joo Park, Heeyeop Chae and En Sup Yoon ···· 25(1) ····· 13 Evaluation of mixing conditions using an on-line monitoring techniqueSang Goo Kim, Keun Joo Choi, Pyung Jong Yu, Seung Hyun Kim and Yong Doo Lee 25(1) 19 Hydraulic-jump behavior of a thin film flowing down an inclined plane under an electrostatic field Transient free convection flow over an isothemal vertical cylinder with temperature dependent viscosity ······ Hari Ponnamma Rani and Chang Nyung Kim ···· 25(1) ······ 34 A numerical study on drying of porous mediaNima Amanifard and Akbar Khodaparast Haghi25(2) 191 Onset of convection in a porous mush during binary solidification In Gook Hwang and Chang Kyun Choi 25(2) 199 Adaptive monitoring statistics with state space model updating based on canonical variate analysis Counter-current flow limitation velocity measured in annular narrow gaps formed between large diameter 3D CFD analysis of the hydrogen releases and dispersion around storage facilities CFD modeling of the effect of absorbent size on absorption performance of a packed bed column Synthesis of nonsharp distillation sequences via genetic programming Prediction and quality control of the melt index during production of high-density polyethylene

Eun Ho Lee, Tae Young Kim, and Yeong Koo Yeo ··· 25(4) ···· 613

····· Jin Soo Park, Minkyo Seo, Hyun Jung Oh, and Jae Hak Jung ··· 25(4) ···· 623

Silicon ingot diameter modeling in Czochralski process and its dynamic simulation

Print ISSN 0256-1115

Improved system identification method for Hammerstein-Wiener processes
Su Whan Sung, Cheol Ho Je, Jietae Lee, and Dong Hyun Lee ···· 25(4) ····· 631
PID controller design for integrating processes with time delay \cdots Md. Shamsuzzoha and Moonyong Lee \cdots 25(4) \cdots 637
Fed-batch optimization of recombinant α -amylase production by <i>Bacillus subtilis</i> using a modified Markov chain Monte Carlo technique
Wanwisa Skolpap, Somboon Nuchprayoon, Jeno M. Scharer, Nurak Grisdanurak, Peter L. Douglas, and Murray Moo-Young 25(4) 646 Multivariate monitoring for time-derivative non-Gaussian batch process Min Han Kim and Chang Kyoo Yoo 25(5) 947
thm:pata:conciliation:Development of an object-oriented software tool
Effect of alumina nanoparticles in the fluid on heat transfer in double-pipe heat exchanger system Byung-Hee Chun, Hyun Uk Kang, and Sung Hyun Kim ··· 25(5) ···· 966
Model predictive control of condensate recycle process in a cogeneration power station: Controller design and numerical application
Onset of buoyancy-driven convection in melting from below Min Chan Kim, Dong Won Lee, and Chang Kyun Choi 25(6) 1239
Application of a thermally coupled distillation column with separated main columns to gas concentration process
The use of dilute acetic acid for butyl acetate production in a reactive distillation: Simulation and control studies
An early warning generation and emergency advisory system and its application to power plants
Enhanced frequency response estimator to guarantee pre-specified phase angle and static disturbance rejection with all harmonics removedSu Whan Sung and Jietae Lee 25(6) 1273
Multiresponse optimization based on the desirability function for a pervaporation process for producing anhydrous ethanol
Modeling and control of the melt index in HDPE process
A Ram Seong, Eun Ho Lee, Kyung Nam Lee, and Yeong Koo Yeo ···· 26(1) ······· 7
A recursive PLS-based soft sensor for prediction of the melt index during grade change operations in HDPE plant
Onset of solutal convection in liquid phase epitaxy system Min Chan Kim and Sang Goo Lee 26(1) 21
Transient responses of two-dimensional viscoelastic film casting processes to sinusoidal disturbances Seung Won Choi, Dong Myeong Shin, Joo Sung Lee, Ju Min Kim, Hyun Wook Jung, and Jae Chun Hyun ··· 26(1) ····· 26
Iterative identification of temperature dynamics in single wafer rapid thermal processing Wonhui Cho, Thomas F. Edgar, and Jietae Lee ···· 26(2) ····· 307
A comparison on predictive models of gas explosions
The comparison study on the operating condition of gasification power plant with various feedstocks
The spatiotemporal instability on mixed convection in porous media
Evaluation of jet performance in drop-on-demand (DOD) inkjet printing
Byoung Wook Jo, Ayoung Lee, Kyung Hyun Ahn, and Seung Jong Lee 26(2) 339

Prediction of the surface tension of binary systems based on the partial least squares method Sung Young Kim, Sung Soo Kim, and Bomsock Lee … 26(2) … 349
Onset of Soret convection in a nanoparticles-suspension heated from above
CFD modeling of shell-and-tube heat exchanger header for uniform distribution among tubes
Optimization of process variables for a biosorption of nickel(II) using response surface method Shreela Murugesan, Sheeja Rajiv, and Murugesan Thanapalan $\cdots 26(2)$ $\cdots 364$
Dynamics and stability of ethylene polymerization in multizone circulating reactors
A scenario-based robust framework for short-term and long-term operation planning problems
Analytical design of PID controller cascaded with a lead-lag filter for time-delay processes M. Shamsuzzoha, Seunghyun Lee, and Moonyong Lee ··· 26(3) ···· 622
Approximate estimation of operational variables in fully thermally coupled distillation columns using pseudo-pinch points
Process systems engineering approaches to speed-up the auto-titrator operations
A multi-phase model for VOC emission from single-layer dry building materials
$Stability of buoyancy-driven convection in directional solidification of a binary melt\\In Gook Hwang and Chang Kyun Choi \cdots 26(4) \cdots 930(4) $
$Development\ of\ MBPLS\ based\ control\ for\ serial\ operation\ processes\ \cdots\cdots\cdots\cdots\cdots\ Junghui\ Chen\ and\ Ren-Kai\ Tsai\ \cdots\cdots\ 26(4)\ \cdots\cdots\ 935000000000000000000000000000000000000$
A numerical study of the Dufour and Soret effects on unsteady natural convection flow past an isothermal vertical cylinder \cdots Hari Ponnamma Rani and Chang Nyung Kim \cdots 26(4) \cdots 946
Optimization of the heat plant of district energy systems
$\begin{tabular}{lllllllllllllllllllllllllllllllllll$
Mapping multi-class cancers and clinical outcomes prediction for multiple classifications of microarray gene expression data \cdots Yong Su Kim, Sun Jin Hwang, Jong Min Oh, Gye Dae Whang, and Chang Kyoo Yoo \cdots 26(4) \cdots 969
Support vector regression with parameter tuning assisted by differential evolution technique: Study on pressure drop of slurry flow in pipeline \cdots Sandip Kumar Lahiri and Kartik Chandra Ghanta \cdots 26(5) \cdots 1175
Study on flow fields of centrally fuel rich swirl burner and its applications
A new predictive PID controller for the processes with time delay \cdots Kyung Nam Lee and Yeong Koo Yeo \cdots 26(5) \cdots 1194
Application of experimental non-linear control based on generic algorithm to a polymerization reactor Gülay Özkan, Öznur Tekin, and Hale Hapoğlu … 26(5) … 1201

Developing a new model to predict mass transfer coefficient of salicylic acid adsorption onto IRA-93: Experimental and modeling ······ Somayeh Kananpanah, Nader Dizadji, Hossein Abolghasemi, and Babak Salamatinia ···· 26(5) ··· 1208
$Computational\ fluid\ dynamic\ simulation\ of\ MVG\ tray\ hydraulics\ \cdots\ Taleb\ Zarei, Rahbar\ Rahimi,\ and\ Mortaza\ Zivdar\ \cdots 26(5)\ \cdots\ 121300000000000000000000000000000000000$
Modelling of crystallization process and optimization of the cooling strategy Do Yeon Kim, Michaella Paul, Jens-Uwe Repke, Güter Wozny, and Dae Ryook Yang … 26(5) … 1220
Network numerical simulation of two-dimensional nonlinear micropolar hydrodynamics in a Darcian porous medium ······· Joaquin Zueco, Osman Anwar Bég, and Tong-Bou Chang ···· 26(5) ··· 1226
A loss control management system for the petrochemical industry
Development of a new automatic system for fault tree analysis for chemical process industries
Thermal instability of a fluid layer when cooled isothermally from above
Estimation method for determining surface film conductance during cooling of fish packages
Combined run-to-run and LQG control of a 12-inch RTP equipment Wangyun Won, Woohyun Yun, Sang Hyun Ji, Byung-Cheol Na, and Kwang Soon Lee ···· 26(6) ··· 1453
Onset of marangoni convection in an initially quiescent spherical droplet subjected to the transient heat conduction
$Two-level\ multiblock\ statistical\ monitoring\ for\ plant-wide\ processes\ \cdots\cdots\cdots\cdots\cdots \ Zhiqiang\ Ge\ and\ Zhihuan\ Song\ \cdots\cdots\ 26(6)\ \cdots\ 146766666666666666666666666666666666666$
A systematic approach towards accident analysis and prevention
Optimization of district heating systems based on the demand forecast in the capital region
$\begin{tabular}{lllllllllllllllllllllllllllllllllll$
$Simulation \ and \ optimization \ of \ ethanol \ amine \ production \ plant \\$
Optimal design of multi-nozzle etching process for shadow mask
Minkyo Seo, Jin Soo Park, Sangdae Park, and Jae Hak Jung … 26(6) … 1519 Flow visualization and numerical analysis of a new mixing equipment with vibratory fins (Rapid Communication) Yoshihito Kato, Setsuro Hiraoka, Shogo Fukumoto, Yutaka Tada, Yuichiro Nagatsu, Ryushin Ohmasa, Sung Tae Koh, and Young Sei Lee … 27(1)
Optimal operation of the integrated district heating system with multiple regional branches Ui Sik Kim, Tae Chang Park, Lae-Hyun Kim, and Yeong Koo Yeo ··· 27(1) ··· ·· 6
Double-command fuzzy control of a nonlinear CSTR Morteza Mohammadzaheri and Lei Chen 27(1) 19
Preparation of polymethacrylate-based side-chain liquid crystalline polymers with various lengths of aliphatic spacer and their electrorheology \cdots Young Dae Kim and Jong Chon Jung \cdots 27(1) \cdots 32

Sensitivity of spinning process with flow-induced crystallization kinetics using frequency response method
Jang Ho Yun, Dong Myeong Shin, Joo Sung Lee, Hyun Wook Jung, and Jae Chun Hyun ···· 27(1) ····· 37
Hydrodynamic behavior of an electrified thin film flowing down an inclined plane at high Reynolds numbers
Sunyoung Park and Hyo Kim ····27(2) ···· 390
Development of a risk assessment program for chemical terrorism
Younghee Lee, Jinkyung Kim, Junghwan Kim, Jiyong Kim, and Il Moon ···· 27(2) ···· 399
Effect of aspect ratio and fluid elasticity on chain orientation in isothermal film casting process
Joo Sung Lee and Ju Min Kim ··· 27(2) ···· 409
Scaling behavior of a wormlike polyelectrolyte chain by mesoscopic Brownian dynamics simulations
CATALYSIS, REACTION ENGINEERING, INDUSTRIAL CHEMISTRY
Effect of Al ₂ O ₃ -ZrO ₂ xerogel support on hydrogen production by steam reforming of LNG over Ni/Al ₂ O ₃ -ZrO ₂
catalyst ····· Jeong Gil Seo, Min Hye Youn, Kyung Min Cho, Sunyoung Park, Sang Hee Lee, Joohyung Lee and In Kyu Song ···· 25(1) ······ 41
Degradation of 2-chlorophenol by Fenton and photo-Fenton processes
Seong-Hoon Hong, Byung-Hyuk Kwon, Jea-Keun Lee and Il-Kyu Kim ···· 25(1) ······ 46
Catalytic reduction of nitric oxide by methane over CaO catalyst
••••••••••••••••••••••••••••••••••••••
A semi-empirical model for the air oxidation kinetics of UO ₂ Byung Heung Park and Chung-Seok Seo25(1) 55
High temperature desulfurization over nano-scale high surface area ceria for application in SOFC
Rajesh Shivanahalli Kempegowda, Navadol Laosiripojana and Suttichai Assabumrungrat25(2) 223
Immobilization of H ₃ PMo ₁₂ O ₄₀ catalyst on the nitrogen-containing mesoporous carbon and its application to the vapor-phase 2-propanol conversion reaction ··················Heesoo Kim, Ji Chul Jung, Dong Ryul Park, Joohyung Lee,
Effect of support on hydrogen production by auto-thermal reforming of ethanol over supported nickel catalysts
(Short Communication)
Sunyoung Park, Sang Hee Lee and In Kyu Song 25(2) 236
Deactivation of barium oxide-based NO _x storage and reduction catalyst by hydrothermal treatment
Ji Won Park, Se Min Park, Young San Yoo, Hyun-Sik Han and Gon Seo ···· 25(2) ····· 239
Adiabatic runaway studies for methyl ethyl ketone peroxide with inorganic acids by vent sizing package 2
Jiann-Rong Chen, Jo-Ming Tseng, Yan-Fu Lin, Shu-Yu S. Wang and Chi-Min Shu 25(3) 419
Influence of type and positioning of N-aryl substituents on vinyl polymerization of norbomene by Ni(II) α -diimine
complexes ·······Vinukrishnan Appukuttan, Jin Hyuk Kim, Chang Sik Ha and Il Kim ···· 25(3) ····· 423
Recovery of useful chemicals from oil palm shell-derived oil using zirconia supporting iron oxide catalysts
Duangkamol Na-Ranong, Ratanaporn Yuangsawad, Teruoki Tago and Takao Masuda 25(3) 426
Preparation of Pt-Co catalysts on mesoporous carbon and effect of alloying on catalytic activity in oxygen
electro-reduction
\cdots Ji Bong Joo, You Jung Kim, Wooyoung Kim, Nam Dong Kim, Pil Kim, Younghun Kim, Youn-Woo Lee and Jongheop Yi \cdots 25(3) \cdots 431
High efficiency ester condensation using hydrophobic zeolite membranes
Tomoya Inoue, Yuta Nemoto, Takako Nagase, Yasuhisa Hasegawa, Yoshimichi Kiyozumi, Koichi Sato,
Masateru Nishioka, Satoshi Hamakawa, Toshikazu Nishide and Fujio Mizukami ···· 25(3) ····· 437

Electrochemical deposition of Pt nanoparticles on CNTs for fuel cell electrode
······································
Application of physical vapor deposition process to modify activated carbon fibers for ozone reduction
Yu-Chih Lin, Chung-Liang Chang, Tser-Sheng Lin, Hsunling Bai, Ming-Gu Yan, Fu-Hsiang Ko,
Chia-Tien Wu and Cheng-Hsiung Huang ···· 25(3) ····· 440
Kinetic of CO ₂ absorption and carbamate formation in aqueous solutions of diethanolamine
Cellular automata modeling of continuous stirred tank reactors
Effect of pressure on direct synthesis of DME from syngas over metal-pillared ilerites and metal/metal-
pillared ilerites ······Sung-Hwan Ahn, Song-Hyoung Kim, Kwang-Bo Jung and Hyun-Sik Hahm ···· 25(3) ····· 460
Catalytic performance of pyridinium salt ionic liquid in the synthesis of cyclic carbonate from carbon dioxide
and butyl glycidyl ether (Short Communication)
$\cdots \cdots \text{Hye-Young Ju, Ji-Yeon Ahn, Mamparambath-Dharman Manju, Kyung-Hoon Kim and Dae-Won Park} \cdots 25(3) \cdots \cdots 47$
Modification of soybean oil for intermediates by epoxidation, alcoholysis and amidation
Catalytic effects of potassium on lignin steam gasification with γ-Al ₂ O ₃ as a bed material
Prapan Kuchonthara, Tharapong Vitidsant, and Atsushi Tsutsumi ···· 25(4) ····· 650
A continuous photocatalysis system in the degradation of herbicide
Nathaporn Areerachakul, Saravanamuthu Vigneswaran, Huu Hao Ngo, and Jaya Kandasamy ···· 25(4) ····· 66.
Optimization of biodiesel production from trap grease via acid catalysis
Zhong-Ming Wang, Jin-Suk Lee, Ji-Yeon Park, Chuang-Zhi Wu, and Zhen-Hong Yuan ···· 25(4) ····· 670
One-step synthesis of methylmethacrylate from methacrolein over Keggin-type heteropoly compounds
Determination of yield distribution in olefin production by thermal cracking of atmospheric gasoil
Effect of cocatalyst and carbon dioxide pressure on the synthesis of polycarbonate from phenyl glycidyl ether
and carbon dioxideJi-Yeon Ahn, Hye-Lim Shim, Kyung-Hoon Kim, Il Kim, Sang-Wook Park, and Dae-Won Park 25(4) 69.
Effect of cesium content on the structure and catalytic performances of heteropoly compounds in one-step synthesis of methylmethacrylate from methacrolein
Simultaneous removal of organic and inorganic pollutants in tannery wastewater using electrocoagulation technique
Preparation of $H_5PMo_{10}V_2O_{40}$ catalyst immobilized on spherical carbon and its application to the vapor-phase
2-propanol conversion reaction (Short Communication)
Thermal decomposition kinetics of 5-fluorouracil from thermogravimetric analysis (Short Communication)
Qing-yang Liu, Yi-ling Bei, Gui-bin Qi, and Yuan-jun Ding 25(5) 980
Alkylation of isobutane and butene using chloroaluminate imidazolium ionic liquid as catalyst: Effect of
organosulfur compound additive
Effect of Ni in palladium β -zeolite on hydroisomerization of n -decane
25(5) 90

Application of KF/MgO as a heterogeneous catalyst in the production of biodiesel from rapeseed oilTao Wan, Ping Yu, Shangkun Gong, Qiang Li, and Yunbai Luo25(5) 99
Synthesis of cyclic carbonate from allyl glycidyl ether and ${\rm CO_2}$ over silica-supported ionic liquid catalysts prepared by sol-gel method ········ Mi-Kyung Lee, Hye-Lim Shim, Manju Mamparambath Dharman, Kyung-Hoon Kim, Sang-Wook Park, and Dae-Won Park ···· 25(5) ··· 100
$Synthesis of isoamyl salicylate using a novel mesoporous titania superacid as a catalyst \\ \cdots \\ Qian Zhao, Jinyu Chu, Tingshun Jiang, and Hengbo Yin \cdots \\ 25(5) \cdots 100000000000000000000000000000000000$
Synthesis of superacidic mesoporous alumina and its application in the dehydration of glycerol (Short Communication) \cdots Lina Yang, Ji Bong Joo, You Jung Kim, Seogil Oh, Nam Dong Kim, and Jongheop Yi \cdots 25(5) \cdots 101
Effect of reaction conditions on the catalytic performance of $H_3PW_{12}O_{40}$ heteropolyacid catalyst in the direct preparation of dichloropropanol from glycerol in a liquid-phase batch reactor (Short Communication)Sang Hee Lee, Dong Ryul Park, Heesoo Kim, Joohyung Lee, Ji Chul Jung, Sung Yul Woo, Won Seob Song, Myong Suk Kwon, and In Kyu Song25(5) 101
lem:matter:mat
$Hydrothermal\ synthesis\ and\ characterization\ of\ Fe(III)-substituted\ mordenites\\$
Effect of fluid velocity and temperature on the corrosion mechanism of low carbon steel in industrial water in the absence and presence of 2-hydrazino benzothiazole
Effect of dissolved oxygen concentration and light intensity on photocatalytic degradation of phenol
Partial oxidation of n-butane over ceria-promoted nickel/calcium hydroxyapatiteJung Hun Kwak, Sang Yup Lee, Suk-Woo Nam, Tae Hoon Lim, Seong-Ahn Hong, and Ki June Yoon25(6) 130
Effect of reaction conditions on the catalytic performance of $\text{Co}_9\text{Fe}_3\text{Bi}_1\text{Mo}_1\text{O}_{51}$ in the oxidative dehydrogenation of n-butene to 1,3-butadieneJi Chul Jung, Howon Lee, Sunyoung Park, Young-Min Chung, Tae Jin Kim, Seong Jun Lee, Seung-Hoon Oh, Yong Seung Kim, and In Kyu Song25(6) 131
Preparation of CuO-CeO ₂ -Al ₂ O ₃ catalyst with mesopore structure for water gas shift reaction
Jun-Keun Kim, Younghun Kim, Joo-Won Park, Jong-Soo Bae, Do-Young Yoon, Jae-Goo Lee, Jae-Ho Kim, and Choon Han 26(1) 3
Thermal decomposition of trichloroethylene under a reducing atmosphere of hydrogen ········· Yang-Soo Won ···· 26(1) ······ 3
LB energy-saving high temperature shift catalyst and its adsorption thermodynamics Lingchao Wei, Fu'An Wang, Yi Liu, and Yongli Chai ···· 26(1) ····· 4
Kinetic study and hydrogen peroxide consumption of phenolic compounds oxidation by Fenton's reagent
Catalytic synthesis of thiophene from the reaction of n-butanol and carbon disulfide over K_2CO_3 -promoted Cr_2O_3/γ -alumina catalyst
Separation and characterization of bitumen from Athabasca oil sand Songhun Yoon, Sharad Durgashanker Bhatt, Wonkyu Lee, Heung Yeoun Lee, Soon Yong Jeong, Jin-Ook Baeg, and Chul Wee Lee 26(1) 6
Control of acidity on the external surface of zeolite Y for <i>m</i> -xylene isomerization using a mechanochemical neutralization method

Selective catalytic oxidation of H_2S using nonhydrolytic vanadia-titania xerogels
Direct preparation of dichloropropanol from glycerol and hydrochloric acid gas in a solvent-free batch reactor:
Effect of experimental conditions Sun Ho Song, Sang Hee Lee, Dong Ryul Park, Heesoo Kim, Sung Yul Woo, Won Seob Song, Myong Suk Kwon, and In Kyu Song 26(2) 382
Simulation of DME synthesis from coal syngas by kinetics model
The effect of phase transition of methanol on the reaction rate in the alkylation of hydroquinone Jung Je Park, Soo Chool Lee, Sang Sung Lee, Suk Yong Jung, Soo Jae Lee, and Jae Chang Kim •••• 26(3) •••• 649
Oxidation of cyclopentene catalyzed by tungsten-substituted molybdophosphoric acids
Preparation, characterization, and catalytic activity of $H_5 PMo_{10}V_2O_{40}$ immobilized on nitrogen-containing mesoporous carbon ($PMo_{10}V_2/N-MC$) for selective conversion of methanol to dimethoxymethane
Reactivity of Brönsted acid ionic liquids as dual solvent and catalyst for Fischer esterifications
Physico-chemical variation in bentonite by sulfuric acid activation Amin Salem and Leila Karimi 26(4) 980
Catalytic oxidation of 1,3-diisopropylbenzene using imidazolium ionic liquid as catalyst Shuai Xu, Chongpin Huang, Jie Zhang, Jia Liu, and Biaohua Chen ···· 26(4) ···· 985
Catalytic conversion of urea to biuret: A catalyst screening study (Rapid Communication)
Effect of $Cs_xH_{3-x}PW_{12}O_{40}$ addition on the catalytic performance of $ZnFe_2O_4$ in the oxidative dehydrogenation of n-butene to 1,3-butadiene ······· Howon Lee, Ji Chul Jung, Heesoo Kim, Young-Min Chung, Tae Jin Kim, Seong Jun Lee, Seung-Hoon Oh, Yong Seung Kim, and In Kyu Song ···· 26(4) ···· 994
Properties of unsupported MoS_2 species produced in the preparation of MoS_2/Al_2O_3 using a sonochemical method Jae Hyun Koh, Ara Cho, Sang-il Lee, and Sang Heup Moon 26(4) 999
Direct incorporation of vanadium into three-dimensional KIT-6: 1. Optimization of synthesis conditions Balasamy Rabindran Jermy, Sang-Yun Kim, Kanattukara Vijayan Bineesh, Manickam Selvaraj, and Dae-Won Park 26(5) 1235
Direct incorporation of vanadium into three-dimensional KIT-6: 2. Reactivity test for styrene oxidation Balasamy Rabindran Jermy, Sang-Yun Kim, Kanattukara Vijayan Bineesh, Manickam Selvaraj, Seung-Kug Song, Jong-Woo Ryu, and Dae-Won Park 26(5) 1241
Optimization of the process parameters for an electrochemical preparation of strontium perchlorate Subramanyan Vasudevan ···· 26(5) ···· 1246
Effect of CeO ₂ -addition sequence on the performance of CeO ₂ -modified Ni/Al ₂ O ₃ catalyst in autothermal reforming of iso-octane Sang Ok Choi, In Young Ahn, and Sang Heup Moon 26(5) 1252 Preparation of Pt/C electrocatalysts using an incipient precipitation method
Han-Ik Joh, Sang Joon Seo, Hyun Tae Kim, and Sang Heup Moon ···· 27(1) ····· 45
NO oxidation over supported cobalt oxide catalysts Dae Su Kim, Yun Ha Kim, Jae Eui Yie, and Eun Duck Park 27(1) 49
The difference in hydrogenation performance between Ni-in- Al_2O_3 and Ni-on- Al_2O_3 for hydrotreating of crude 2-ethylhexanol
Catalytic hydrocracking of bitumen at mild experimental condition (Letter to the Editors)

A kinetic model for glycerol chlorination in the presence of acetic acid catalyst $\mbox{\ }$ Zheng-Hong Luo, Xiao-Zi You, and Hua-Rong Li $\mbox{\ }$ 27(1) $\mbox{\ }$ $\mbox{\ }$ 6
Catalytic pyrolysis of Japanese larch using spent HZSM-5 (Rapid Communication)
Catalytic decomposition of nitrous oxide over Fe-BEA zeolites: Essential components of iron active sites
$\label{eq:continuous} \begin{array}{llllllllllllllllllllllllllllllllllll$
Effect of preparation method on structure and catalytic activity of Cr-promoted Cu catalyst in glycerol hydrogenolysis Nam Dong Kim, Seogil Oh, Ji Bong Joo, Kwang Seop Jung, and Jongheop Yi … 27(2) … 43
$Photocatalytic \ removal \ of \ methyl \ orange \ in \ an \ aqueous \ solution \ by \ a \ WO_3/TiO_2 \ composite \ film \\$
Preparation of Pt/C catalysts by electroless deposition for proton exchange membrane fuel cells Noparat Sriring, Nisit Tantavichet, and Kejvalee Pruksathorn ···· 27(2) ····· 43
Cycloaddition of carbon dioxide to butyl glycidyl ether using imidazolium salt ionic liquid as a catalyst Jeong-In Yu, Hye-Young Ju, Kyung-Hoon Kim, and Dae-Won Park 27(2) 44
Reduction of lean NO_2 with diesel soot over metal-exchanged ZSM5, perovskite and γ -alumina catalysts
Removal of sulfur dioxide from dibenzothiophene sulfone over Mg-based oxide catalysts prepared by spray pyrolysis
Acidity and acid catalysis of polyatom-substituted $H_nPW_{11}M_1O_{40}$ (M = V, Nb, Ta, and W) Keggin heteropolyacid catalysts (Rapid Communication)
Dong Ryul Park, Ung Gi Hong, Sun Ho Song, Jeong Gil Seo, Sung-Hyeon Baeck, Jin Suk Chung, and In Kyu Song 27(2) 46
ENERGY AND ENVIRONMENTAL ENGINEERING (2008~)
A review on UV/TiO ₂ photocatalytic oxidation process (Journal Review)
Ramesh Thiruvenkatachari, Saravanamuthu Vigneswaran and Il Shik Moon ···· 25(1) ······ 6
Improvement of combustion efficiency and reduction of NO_x emission by external oscillation of reactants in an oil burner ············Seong Cheon Kim and Young Nam Chun ···· 25(1) ······· 7
Characterization of fly ash-pastes synthesized at different activator conditions Sang-Sook Park and Hwa-Young Kang 25(1) 7
Reduction of NOx in diesel engine emissions by using a plasmatron fuel reformer
Reduction of NOX in diesel engine emissions by using a plasmatron fuel reformer Wadim Yu. Plaksin, Heon-Ju Lee, Valentin A. Riaby, Young Sun Mok, Sang Hoon Lim and Ji Hun Kim … 25(1) 8
Heterogeneous photocatalytic degradation of ethylene glycol and propylene glycol
Hydrogen production by steam reforming of LNG over Ni/Al ₂ O ₃ -ZrO ₂ catalysts: Effect of ZrO ₂ and preparation method of Al ₂ O ₃ -ZrO ₂ (Short Communication)
Jeong Gil Seo, Min Hye Youn, Sunyoung Park, Joohyung Lee, Sang Hee Lee, Howon Lee and In Kyu Song 25(1) 9
Color mixing between phosphorescence and fluorescence by incomplete Förster energy transfer (Short Communication)Jaesoo Choi, Dong-Hyun Lee, Heeyeop Chae, Chinho Park and Sung M. Cho25(1) 9

Testing of PEM fuel cell performance by electrochemical impedance spectroscopy: Optimum condition for low relative humidification cathode
Removal characteristics of metal cations and their mixtures using micellar-enhanced ultrafiltration Hojeong Kim, Kitae Baek, Bo-Kyong Kim, Hyun-Jae Shin and Ji-Won Yang … 25(2) … 253
Performance evaluation and mathematical modelling of granular activated carbon biofiltration in wastewater treatment
Hydrogen evolution performance of magnesium alanate prepared by a mechanochemical metathesis reaction method
Excess Gibbs free energy of butyl acetate with cyclohexane and aromatic hydrocarbons at 308.15 KSanjeev Maken, Naveen Verma, Ankur Gaur, Ho-Jun Song, Krishan Chander Singh and Jin-Won Park 25(2) 273
Characteristics of absorption and regeneration of carbon dioxide in aqueous 2-amino-2-methyl-1-propanol/ammonia solutions Dong-Hyeon Lee, Won-Joon Choi, Seung-Jae Moon, Soo-Ho Ha, Im-Gyung Kim and Kwang-Joong Oh 25(2) 279
A modeling study of the impact of natural and urban forest on ambient ozoneKwang Jin Kim, Yoo-Jung Kim, Young-Il Ma, Jo-Chun Kim and Young Sunwoo25(3) 483
Hydrodechlorination of 2,4,6-trichlorophenol for a permeable reactive barrier using zero-valent iron and catalyzed iron ————————————————————————————————————
Purification and removal of <i>Ascaris</i> and <i>Fasciola hepatica</i> eggs from drinking water using roughing filtersJafar Nouri, Amir Hossein Mahvi, Reza Saeedi, Kavoos Dindarloo, Mohammad Rafiee and Sina Dobaradaran25(3) 501
Improvement in the coagulation performance by combining Al and Fe coagulants in water purification Sun-Jong Lee, Yoon-Jin Lee and Sang-ho Nam ··· 25(3) ···· 505
The relationship between disinfection by-products formation and characteristics of natural organic matter in raw water
Biomass gasification in internal circulating fluidized beds: a thermodynamic predictive tool Francesco Miccio, Karel Svoboda, Jean-Pierre Schosger, and David Baxter 25(4) 721
Electrochemical inactivation of coliforms by in-situ generated hydroxyl radicals Yanqing Cong, Zucheng Wu, and Yuqiong Li ···· 25(4) ····· 727
Sulfonated poly(arylene ether sulfone) membranes based on biphenol for direct methanol fuel cellsSe Joon Im, Rajkumar Patel, Se Jong Shin, Jong Hak Kim, and Byoung Ryul Min ···· 25(4) ····· 732
Partial oxidation reforming of biomass fuel gas over nickel-based monolithic catalyst with naphthalene as model compound ·······Chen Guang Wang, Tie Jun Wang, Long Long Ma, Yan Gao, and Chuang Zhi Wu ···· 25(4) ····· 738
Filtration and regeneration behavior of polytetrafluoroethylene membrane for dusty gas treatment
Design and performance evaluation of hydrocyclones for removing micron particles suspended in water Hee-Soo Shin, Jae-Keun Lee, and David Pui ··· 25(4) ··· 754
Production of low ash coal by thermal extraction with <i>N</i> -methyl-2-pyrrolidinone Sang Do Kim, Kwang Jae Woo, Soon Kwan Jeong, Young Jun Rhim, and Si Hyun Lee ··· 25(4) ···· 758
Fe(II)-initiated reduction of hexavalent chromium in heterogeneous iron oxide suspension Jeongyun Choi, Yoojin Jung, and Woojin Lee ···· 25(4) ····· 764
Methanol-tolerant PdPt/C alloy catalyst for oxygen electro-reduction reaction Ji Bong Joo, You Jung Kim, Wooyoung Kim, Nam Dong Kim, Pil Kim, Younghun Kim, and Jongheop Yi 25(4) 770

Preparation of platinum-doped hollow spheres and their electrocatalytic activity in water electrolysis Hong Rok Kim, Jayeeta Chattopadhyay, Jae Ik Son, and Daewon Pak 25(4) 775
NH ₃ removal using the dielectric barrier discharge plasma-V-TiO ₂ photocatalytic hybrid system
\sim Ji-Young Ban, Hyun II Kim, Suk-Jin Choung, Harim Jeong, and Misook Kang \sim 25(4) \sim 780 Nitrogen requirement for the mesophilic and thermophilic upflow anaerobic filters of a simulated papermill wastewater \sim Johng-Hwa Ahn \sim 25(5) \sim 1022
Formic acid oxidation by carbon-supported palladium catalysts in direct formic acid fuel cell Jae Ho Choi, Soon Young Noh, Sam Duck Han, Soo Kyung Yoon, Chang-Soo Lee, Taek-Sung Hwang, and Young Woo Rhee 25(5) 1020
$\label{lem:cobalt} Cobalt (III) - mediated oxidative destruction of phenol using divided electrochemical cell \\$
Optimization of organic bi-layer solar cell through systematic study of anode treatment and material thickness
Zirconium mesostructures immobilized in calcium alginate for phosphate removal
Thermogravimetric characteristics and kinetic study of biomass co-pyrolysis with plasticsJayeeta Chattopadhyay, Chulho Kim, Raehyun Kim, and Daewon Pak $\cdots 25(5) \cdots 104$
Autothermal reforming of methane to syngas with palladium catalysts and an electric metal monolith heater Kyoungmo Koo, Jaekyung Yoon, Changha Lee, and Hyunku Joo … 25(5) … 1050
Experimental studies on gasification of the Shenmu coal char with ${\rm CO_2}$ at elevated pressures
Comparison of electrocoagulation and chemical coagulation with fiber filters for water treatment \cdots Young Man Cho, Gi Weon Ji, Pyeong Jong Yoo, Chang Weon Kim, and Ki Baek Han \cdots 25(6) \cdots 1320
Synthesis, crystal structure and dehydration kinetics of $NaB(OH)_4 \cdot 2H_2O$
Design considerations and economics of different shaped surface aeration tanks Achanta Ramakrishna Rao and Bimlesh Kumar ···· 25(6) ··· 1338
Characteristics of a nuclides distribution during a melt decontamination of radioactive aluminum wastes
Production of biodiesel from soapstock using an ion-exchange resin catalystJi-Yeon Park, Deog-Keun Kim, Zhong-Ming Wang, Joon-Pyo Lee, Soon-Chul Park, and Jin-Suk Lee25(6) 1350
Photocatalytic production of oxygen in a dual bed system using a reversible redox mediator on Ir - TiO_2 catalyst (Short Communication) ····································
Screen printing of silver nanoparticle suspension for metal interconnects Weiwei Yin, Dong-Hyun Lee, Jaesoo Choi, Chinho Park, and Sung Min Cho ···· 25(6) ··· 1350
Development of a reactive puff model for simultaneous consideration of plume dispersion and plume chemistry
Decision model for coagulant dosage using genetic programming and multivariate statistical analysis for coagulation/flocculation at water treatment processSooyee Park, Hyeon Bae, and Changwon Kim 25(6) 1372
Effect of reduction temperature on the preparation of zero-valent iron aerogels for trichloroethylene dechlorination \dots Jihye Ryu, Dong Jin Suh, Young-Kwon Park, and Young-Woong Suh \dots 25(6) \dots 137'

Novel method for removal of NO_x and SO_2 by sustainable electrochemical process using $Ag(I)/Ag(II)$ redox mediator
Preparation, electrochemical properties, and cycle mechanism of $\text{Li}_{1-x}\text{Fe}_{0.8}\text{Ni}_{0.2}\text{O}_2$. Li_xMnO_2 (Mn/(Fe + Ni + Mn) = 0.8) materialGum-Jae Park, Jung-Bae Heo, Seung-Hyun Cho, Sang-Ho Park, Hee-Sung Ahn, and Yun-Sung Lee 25(6) 1389
Spectroscopic observation of H_2 migration in structure-I clathrate hydrate Sukjeong Choi, Kyuchul Shin, Jong-Ho Cha, and Huen Lee $\cdots 25(6) \cdots 139(6)$
Analysis of the distribution of lead concentration under steady state conditions in urban multimedia environment
ENERGY (2009~)
Computational fluid dynamic analyses of catalytic combustors for 100 kW-class molten carbonate fuel cell Hai-Kyung Seo, Donghoon Shin, Jae Hwa Chung, Beomjoo Kim, Soo Man Park, and Hee Chun Lim ···· 26(1) ······ 7
Xerographic properties of metal/metal-free phthalocyanine composites in a double-layered photoconductor Jong Dae Lee and Hong Bae Kim ··· 26(3) ···· 67:
Effects of curing condition of solution cast Nafion® membranes on PEMFC performance Singaram Vengatesan, Eunae Cho, Hyoung-Juhn Kim, and Tae-Hoon Lim ···· 26(3) ····· 679
Analysis of micro-leak sodium-water reaction phenomena in a sodium-cooled fast reactor steam generator
${ m CO_2}$ gasification of Thai coal chars: Kinetics and reactivity studies Supaporn Sawettaporn, Kunchana Bunyakiat, and Boonyarach Kitiyanan ${ m \cdots 26(4)}$ ${ m \cdots 1000}$
Preparation of silica-based proton conductors for intermediate temperature fuel cells Dongho Seo, Sangsun Park, and Yong-Gun Shul 26(4) 1010
Production of synthesis gas from methane using compression ignition reformer
Ternary $Pt_{45}Ru_{45}M_{10}/C$ (M = Mn, Mo and W) catalysts for methanol and ethanol electro-oxidation
Electrochemical characteristics of amophous carbon coated silicon electrodes
Performance characterization of direct formic acid fuel cell using porous carbon-supported palladium anode catalysts Sam Duck Han, Jae Ho Choi, Soon Young Noh, Kunyik Park, Soo Kyung Yoon, and Young Woo Rhee 26(4) 1040
The effect of additive chemicals on the viscosity of coal-petroleum coke-water slurry fuel for a gasification process
Degradation of proton exchange membrane by Pt dissolved/deposited in fuel cells
Study of pyrolysis kinetics of Alberta oil sand by thermogravimetric analysis Young Cheol Park, Jin-Young Paek, Dal-Hee Bae, and Dowon Shun ···· 26(6) ··· 1606
A study on vortex generators to improve the mixing rate in the dry sorbent injection process of the flue gas desulfurization system
Effect of heat treatment on electrochemical characteristics of spinel lithium titanium oxide Sung-Chul Hong, Heon-Pyo Hong, Byung-Won Cho, and Byung-Ki Na … 27(1) 9

Prediction of thickness and fouling rate in pulsating flow heat exchangers, using FLUENT simulator Nasser Saghatoleslami, Mehdi Koolivand Salooki, and Mohammad Ali Armin ···· 27(1) ······ 9
Physical degradation of MEA in PEM fuel cell by on/off operation under nitrogen atmosphere Dongho Seo, Sangsun Park, Yukwon Jeon, Sung-Won Choi, and Yong-Gun Shul — 27(1) — 10-
Recovery of cellulases by adsorption/desorption using cation exchange resins
Effects of organic acid catalysts on the hydrogen generation from NaBH $_4$ Go Young Moon, Sang Seo Lee, Ga Ram Yang, and Kwang Ho Song \cdots 27(2) \cdots 47-
Suppression of carbon formation in steam reforming of methane by addition of Co into Ni/ZrO $_2$ catalysts
Studies on the modeling of a molten carbonate fuel cell (MCFC) 5 kW class stack Sung-Yoon Lee, Hee-Chun Lim, and Gui-Yung Chung \cdots 27(2) \cdots 48
ENVIRONMENTAL ENGINEERING (2009~)
$Simultaneous\ biofiltration\ of\ H_2S, NH_3\ and\ toluene\ using\ cork\ as\ a\ packing\ material\\$
$Simultaneous \ removal \ of \ particulates \ and \ NO \ by \ the \ catalytic \ bag \ filter \ containing \ MnOx \ catalysts \\ \cdots $
Control of corrosive water in advanced water treatment plant by manipulating calcium carbonate precipitation potential \cdots Do-Hwan Kim, Jae-Hwan Cha, Soon-Heon Hong, Dong-Youn Kim, and Chang-Won Kim \cdots 26(1) \cdots 900
Decomposition of acetic acid by advanced oxidation processes \cdots Ju Young Park and In Hwa Lee \cdots 26(2) \cdots 38
Enhanced photocatalytic oxidation properties in $Pt-TiO_2$ thin films by grounding Wooseok Nam, Jong Hyeok Park, and Gui Young Han $\cdots 26(2) \cdots 39$.
Decomposition of 2-chlorophenol by supercritical water oxidation with zirconium corrosion
An evaluation on PAH degradation and characteristics as media of PVA-derivative hydrogels prepared by using a CGA technique \cdots Sung Hyun Kwon, Mi-hae Yoon, In Hyoung Rhee, and Daechul Cho \cdots 26(2) \cdots 40
Identification of dominant microbial community in aerophilic biofilm reactors by fluorescence <i>in situ</i> hybridization and PCR-denaturing gradient gel electrophoresis Youngo Kim, Taeho Lee, Taejoo Park, Heesu Park, and Sanghyup Lee ···· 26(3) ····· 68.
Surface wettability and spectroscopic studies on miscibility and ion adsorption of binary biomimetic self-assembled monolayers on gold surfaces ······· Gil Sun Lee, Tai Young Kim, Hyun Choi, and Dong June Ahn ···· 26(3) ····· 69
Advanced water treatment of high turbidity source by hybrid module of ceramic microfiltration and activated carbon adsorption: Effect of organic/inorganic materials Hyuk Chan Lee, Jin Yong Park, and Do-Young Yoon 26(3) 69
Effects of promoter and moisture on the deactivation of FSO ₃ H catalyst in the synthesis of HFC-152a by hydrofluorination of acetylene(Short Communication)
Young-Ho Lee, Jae-Duck Kim, Jaehoon Kim, Hwayong Kim, and Youn-Woo Lee ···· 26(3) ····· 70.
$Simultaneous \ absorption \ of \ CO_2 \ and \ SO_2 \ into \ aqueous \ AMP/NH_3 \ solutions \ in \ binary \ composite \ absorption \ system \\ \cdots $
Effects of Cu_xTiO_y nanometer particles on biological toxicity during zebrafish embryogenesis Min-Kyeong Yeo and Misook Kang 26(3) 71

Applying spray pyrolysis to synthesize MnO_x for decomposing isopropyl alcohol in ozone- and thermal-catalytic oxidation
Electrochemical recovery of silver from waste aqueous $Ag(I)/Ag(II)$ redox mediator solution used in mediated electro oxidation process
Removal of iron from drinking water by electrocoagulation: Adsorption and kinetics studies Subramanyan Vasudevan, Jeganathan Jayaraj, Jothinathan Lakshmi, and Ganapathy Sozhan ···· 26(4) ··· 105
CFD study on hydraulic performance of subsurface flow constructed wetland: Effect of distribution and catchment area Liwei Fan, Reti Hai, and Zexiang Lu ··· 26(5) ··· 127
Diffusion of some chemical species through a granite considering their geochemical properties \cdots Chung-Kyun Park and Min-Hoon Baik \cdots 26(5) \cdots 1276
$Improving \ the \ SO_2 \ absorption \ rate \ of \ CeFeMg-based \ sorbent \ promoted \ with \ titanium \ promoter \\$
The effect of metal ions in MNaY-zeolites for the adsorptive removal of tetrahydrothiophene
Photocatalytic reduction of hexavalent chromium (Cr(VI)) using rotating TiO_2 mesh
Influences of humic acids and photoreactivation on the disinfection of <i>Escherichia coli</i> by a high-power pulsed UV irradiation \cdots Eunyoung Lee, Hyejung Lee, Wonyoung Jung, Soonho Park, Dongjin Yang, and Kisay Lee \cdots 26(5) \cdots 130
Gaseous ozone decomposition using a nonthermal plasma reactor with adsorbent and dielectric pellets
Speed-up of the disaggregation of emission inventories and increased resolution of disaggregated maps using landuse data
Exposure assessment of engineered nanomaterials in the workplace (Journal Review) Junsu Park, Byoung Kyu Kwak, Eunjoo Bae, Jeongjin Lee, Kyunghee Choi, Jongheop Yi, and Younghun Kim 26(6) 1630
The optimization of the photo-oxidation parameters to remediate wastewater from the textile dyeing industry in a continuous stirred tank reactor
Removal of the antibiotic tetracycline by Fe-impregnated SBA-15
A GIS-based national emission inventory of major VOCs and risk assessment modeling: Part II - quantitative verification and risk assessment using an air dispersion model
A GIS-based national emission inventory of major VOCs and risk assessment modeling: Part I - methodology and spatial pattern of emissions
Jong Ho Kim, Byoung Kyu Kwak, Hyeon-Soo Park, Nam Gyu Kim, Kyunghee Choi, and Jongheop Yi ···· 27(1) ···· 12
Kinetics of the thermal degradation of wax materials obtained from pyrolysis of mixed waste plastics $\mbox{Kyong-Hwan Lee}$ and Sea Cheon Oh $\mbox{W} 27(1)$ $\mbox{W} 13(1)$
$Removal \ of \ Pb(II) \ from \ aqueous \ solution \ by \ adsorption \ using \ activated \ tea \ waste \ \cdots\cdots\cdots \ Monoj \ Kumar \ Mondal \ \cdots \ 27(1) \ \cdots\cdots \ 14-100000000000000000000000000000000000$
Adsorption of Nickel from aqueous solution by the use of low-cost adsorbents

Bimlesh Kumar, Ajey Kumar Patel, and Achanta Ramakrishna Rao 27(1) 159
Thermogravimetric characteristics and pyrolysis kinetics of Giheung Respia sewage sludge Mohd Roslee Othman, Young-Hun Park, Thanh An Ngo, Seung-Soo Kim, Jinsoo Kim, and Kwang Seok Lee 27(1) 163
Comparison of catalytic ozonation of phenol by activated carbon and manganese-supported activated carbon prepared from brewing yeast
Settling state detection of SBR based on DO profile analysis using dynamic time warping
Yejin Kim, Hyeon Bae, Hyosoo Kim, Jungphil Shin, and Changwon Kim ···· 27(2) ···· 504
Evaluation of the buffing volume in last third flocculation basin using CFD
Surface hydrophobicity alteration of fractionated paraffin wax, crude by-product polyolefin wax and their blend
Comparison of thermal properties of crude by-product polyolefin wax, fractionated paraffin wax and their blend Eun Ju Lee, Joong Kon Park, Yong-Se Lee, and Kwang-Hee Lim 27(2) 524
Analysis and removal of the stench emitted from indoor dust Yeon-Hong Kim, Hana Jung, Sunwoo Changshin, and Do-Heyoung Kim 27(2) 531
BIOTECHNOLOGY
Effect of co-substrate on anaerobic slurry phase bioremediation of TNT-contaminated soil Byung-Hoon In, Joon-Seok Park, Wan Namkoong, Eui-Young Hwang and Joung-Dae Kim ···· 25(1) ····· 102
Purification of homoharringtonine and removal of residual solvents by spray drying
Degradation of 2,4-dichlorophenol in aqueous solution by sono-Fenton method
Praveena Juliya Dorathi. Ranjit, Kandasany Palanivelu and Chang-Soo Lee ···· 25(1) ····· 112
Comparison of packing materials in biofilter system for the biological removal of hydrogen sulfide:
$Polypropylene\ fibrils\ and\ volcanic\ stone\ \cdots Gwi-Taek\ Jeong, Gwang-Yeon\ Lee, Jin-Myoung\ Cha\ and\ Don-Hee\ Park\ \cdots 25(1)\cdots 118(1)$
Asymmetric reduction of chloroacetophenones to produce chiral alcohols with microorganisms Zhimin Ou, Jianping Wu, Lirong Yang and Peilin Cen ···· 25(1) ····· 124
Biological nutrient removal with volatile fatty acids from food wastes in sequencing batch reactor Seong-Jin Lim, Eun-Young Kim, Yeong-Hee Ahn and Ho-Nam Chang …25(1) … 129
Optimization of adhesive strength to plywood of gelatin processed from dorsal skin of yellowfin tuna (<i>Thunnus albacares</i>) Jae-Hwan Yoon, Jin-Wook Woo, Hye-Jin Rho, Ju-Ryun Ahn, Sung-Jae Yu, Yang-Bong Lee, Chang-Kwon Moon and Seon-Bong Kim 25(1) 134
Effects of nitrogen sources on toluene degradation by <i>Pseudomonas putida</i> BZ918 Eung Sup Lee, Jae Yeon Park, Sung Ho Yeom and Young Je Yoo25(1) 139
Optimization of synthesizing leucine-binding nano-sized magnetite by a two-step transformation
The enrichment of loxoprofen enantiomer by 6-columns simulated moving bed chromatography

Enhanced stability of Candida antarctica lipase B in ionic liquids
Sung Ho Ha, Sang Hyun Lee, Dung Thanh Dang, Min Sik Kwon, Woo-Jin Chang, Yong Jae Yu,
II Suk Byun and Yoon-Mo Koo ···· 25(2) ····· 29
Effect of mesenchymal cells on human hair growth and death
Bo-Young Yoo, Young-Kwon Seo, Hee-Hoon Yoon, Youn-Ho Shin, Kye-Yong Song and Jung-Keug Park 25(2) 29
Kinetic studies of hemicellulose hydrolysis of corn stover at atmospheric pressure
Differential expression of liver proteins in streptozotocin-induced diabetic rats in response to hypoglycemic mushroom polysaccharides
Enhanced β -carotene production by <i>Rhodotorula glutinis</i> using high hydrostatic pressure (Short Communication)
The effect of ultrasound in combination with thermal treatment on the germinated barley's alpha-amylase activity Maryam Yaldagard, Seyed.Ali. Mortazavi and Farideh. Tabatabaie 25(3) 51
Percolation bacterial leaching of low-grade chalcopyrite using acidophilic microorganisms
Bio-dissolution of copper from Khetri lagoon material by adapted strain of <i>Acidithiobacillus ferrooxidans</i>
Removal of volatile fatty acids (VFA) by microbial fuel cell with aluminum electrode and microbial community identification with 16S rRNA sequence ······ Chang Moon Jeong, Jin Dal Rae Choi, Yeonghee Ahn and Ho Nam Chang ···· 25(3) ····· 53
Application of spent sulfidic caustics for autotrophic denitrification in a MLE process and their microbial characteristics by fluorescence <i>in situ</i> hybridization
Jeung-Jin Park, So-Ra Park, Dong-Jin Ju, Jeong-Keun An, Im-Gyu Byun and Tae-Joo Park 25(3) 54
Characterization of a carbon composite electrode for an electrochemical immunosensor
Eun Chan Cho, Byong Ok Jang, Eui Jung Kim and Kee-Kahb Koo ···· 25(3) ····· 54
Non-steady state estimation of biodegradability of dyeing wastewater using respirometer
Bio-denitrification of the nitrate waste solution from the lagoon sludge in a continuous bio-reduction process (Short Communication) ···· 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 ···· 25(4) ····· 78
Characteristics of nitrogen and phosphorus removal in SBR and SBBR with different ammonium loading rates Dong-Seog Kim, No-Sung Jung, and Young-Seek Park 25(4) 79
Immobilization of α -amylase from $\textit{Bacillus licheniformis}$ on developed support using microbial transglutaminase (Short Communication) \cdots Hong-Wei Wang, In Hae Kim, Chang-Su Park, and Jae-Hwa Lee \cdots 25(4) \cdots 80
Efficient cell surface display of organophosphorous hydrolase using N-terminal domain of ice nucleation protein in <i>Escherichia coli</i> ······Dong Gyun Kang, Lin Li, Jeong Hyub Ha, Suk Soon Choi, and Hyung Joon Cha ···· 25(4) ····· 80
Biological synthesis of bimetallic Au/Ag nanoparticles using Persimmon (<i>Diopyros kaki</i>) leaf extract (Short Communication) ————————————————————————————————————
Production of bacterial cellulose by a static cultivation using the waste from beer culture brothJung Hwan Ha, Omer Shehzad, Salman Khan, Seung Yong Lee, Joon Won Park, Taous Khan, and Joong Kon Park 25(4) 81

Removal of Basic Blue 3 from aqueous solution by <i>Corynebacterium glutamicum</i> biomass: Biosorption and precipitation mechanisms ·······Juan Mao, Sung Wook Won, Jiho Min, and Yeoung-Sang Yun ····25(5) ··· 1060
A simple unstructured model-based control for efficient expression of recombinant porcine insulin precursor by <i>Pichia pastoris</i> (Short Communication)
Effect of thermal pretreatment on recovery of nickel and cobalt from Sukinda lateritic nickel ore using microorganismsSmaranika Mohapatra, Chandan Sengupta, Bansi Dhar Nayak, Lala Bihari Sukla, and Barada Kanta Mishra 25(5) 1070
Synthesis and characterization of a novel soil stabilizer based on biodegradable poly(aspartic acid) hydrogel Jun Yang, Fang Wang, and Tianwei Tan ····25(5) ··· 1076
Multiple-copy-gene integration on chromosome of <i>Escherichia coli</i> for beta-galactosidase production
Xylitol fermentation by <i>Candida subtropicalis</i> WF79 immobilized in polyacrylic hydrogel films
A CFD model for predicting the flow patterns of viscous fluids in a bioreactor under various operating conditions Byung-Hwan Um and Thomas R. Hanley25(5) 1094
Lipid body formation by <i>Thraustochytrium aureum</i> (ATCC 34304) in response to cell ageEun-Jin Jeh, Rangarajulu Senthil Kumaran, and Byung-Ki Hur25(5) 1103
A fermentation strategy for production of recombinant protein subjected to plasmid instability Shu-Jen Chen, Bo-Shun Ke, and I-Chung Chiu ··· 25(5) ··· 1110
Fabrication of functional biomolecular layer using recombinant technique for the bioelectronic device Sang-Uk Kim, Young Jun Kim, Cheol-Heon Yea, Junhong Min, and Jeong-Woo Choi …25(5) … 1115
Determination of meaty peptide in enzymatic hydrolyzate of beef protein by HPLC-MS (Short Communication) Songrong Zeng, Yanping Wang, Xiaojia Bai, Weili Lin, Ming Yang, and Haipeng Xing25(5) 1120
Analysis and comparison of cloning methods for the preparation of repetitive polypeptides Hun Su Chu, Cha Yong Choi, and Jong In Won ···· 25(5) ··· 1125
Characterization of thiosulfate-oxidizing <i>Enterobacter hormaechei</i> JH isolated from barnyard manureSung-Hyun Kim, In Hae Kim, Won Jae Lee, and Jae-Hwa Lee25(5) 1131
Effects of di-(2-ethylhexyl) phthalate (DEHP) released from laboratory equipments Dung H. Nguyen, Duc T. M. Nguyen, and Eun-Ki Kim25(5) 1136
Performance control of asymmetric poly(phthalazinone ether sulfone ketone) ultrafiltration membrane using gelation Peiyong Qin, Binbing Han, Cuixian Chen, Jiding Li, and Benhui Sun ····25(6) ··· 1407
Protoplast from β -carotene-producing fungus <i>Blakeslea trispora</i> : Preparation, regeneration and validation
Fermentation strategy for the production of poly(3-hydroxyhexanoate) by <i>Aeromonas sp.</i> KC014
Kinetic investigation on asymmetric bioreduction of ethyl 4-chloro acetoacetate catalyzed by baker's yeast in an organic solvent-water biphasic system
Antibacterial and anti-mildew behavior of chitosan/nano-TiO ₂ composite emulsion Lei Shi, Yan Zhao, Xiaodong Zhang, Haijia Su, and Tianwei Tan ····25(6) ··· 1434
Fluorometric analysis on physicochemical properties of phosphatidylcholine-based W/O microemulsion involved with enzymatic reactivity in phospholipid hydrolysis

CMC and dynamic properties of poly(VA- <i>b</i> -St) copolymer micelles for drug delivery Guang-Hua Li and Chang-Gi Cho ··· 25(6) ··· 144
Nitrifying bacterial communities and its activities in aerobic biofilm reactors under different temperature conditions ———————————————————————————————————
Influence of ionic liquids under controlled water activity and low halide content on lipase activity Sang Hyun Lee, Yoon-Mo Koo, and Sung Ho Ha ··· 25(6) ··· 145
Inhibition of melanogenesis by <i>Erigeron canadensis</i> via down-regulating melanogenic enzymes in B16F10 melanoma cellsEun-Suk Hong, Duc Thi Minh Nguyen, Dung Hoang Nguyen, and Eun-Ki Kim 25(6) 146
Simple fabrication of functionalized surface with polyethylene glycol microstructure and glycidyl methacrylate moiety for the selective immobilization of proteins and cells \cdots Hwan-Moon Song and Chang-Soo Lee \cdots 25(6) \cdots 146
Studies on auramine dye adsorption on psidium guava leaves
Biological leaching of nickel and cobalt from lateritic nickel ore of Sukinda mines
Gene expression profiling in streptozotocin-induced diabetic rat liver in response to fungal polysaccharide treatment
$Immobilization \ of \ lipase \ on \ surface \ modified \ magnetic \ nanoparticles \ using \ alkyl \ benzene sulfonate \\$
Enhanced oral absorption of salmon calcitonin-encapsulated PLGA nanoparticles by adding organic substances
Properties of bacterial cellulose produced in a pilot-scale spherical type bubble column bioreactor (Short Communication) \cdots Chang Nam Choi, Hyo Jeong Song, Myong Jun Kim, Mi Hwa Chang, and Seong Jun Kim \cdots 26(1) \cdots 13
Pilot-scale production of bacterial cellulose by a spherical type bubble column bioreactor using saccharified food wastes
Phase diagram prediction of recycling aqueous two-phase systems formed by a light-sensitive copolymer and dextran \cdots Zhihua Shao, Fanqi Kong, and Xuejun Cao \cdots 26(1) \cdots 14
Preparation of colloidal silver nanoparticles by chemical reduction method
Increased production of S-adenosyl-L-methionine using recombinant <i>Saccharomyces cerevisiae</i> sake K6 Eun-Sil Choi, Bu-Soo Park, Sang-Woo Lee, and Min-Kyu Oh ···· 26(1) ····· 15
Improvement of sensitivity in an interferometry by controlling pore size on the anodic aluminum oxide chip pore-widening technique \cdots Hee Chul An, Jin Young An, and Byung-Woo Kim \cdots 26(1) \cdots 16
Continuous production of poly(3-hydroxybutyrate- co -3-hydroxyvalerate): Effects of C/N ratio and dilution rate on HB/HV ratio \cdots Shwu-Tzy Wu, Yi-Chun Lin, and Jui-Rze Too \cdots 26(2) \cdots 41
Nanoassembly of CdTe nanowires and Au nanoparticles: pH dependence and reversibility of photoluminescence \cdots Jaebeom Lee, Hongxia Chen, Kwangnak Koh, Chulhun L. Chang, Cheol-Min Kim, and Soo-Hyung Kim \cdots 26(2) \cdots 41
Optimization of citric acid production by <i>Aspergillus niger</i> NRRL 567 grown in a column bioreactor Suzelle Barrington, Jun Seok Kim, Li Wang, and Jin-Woo Kim ··· 26(2) ···· 42
Fermentation process development for hyaluronic acid production by <i>Streptococcus zooepidemicus</i> ATCC 39920

Molecular design of anti-biofouling materials from natural phenolic compounds
Do-Young Yoon and Dong-Shik Kim ···· 26(2) ····· 43
Enhancing the sporulation of Streptomyces kasugaensis by culture optimization
Optimal culture condition for the production of phenyalanine ammonia lyase from <i>E. coli</i> Jian-dong Cui and Yan Li ···· 26(2) ···· 44
Effect of pH on fractional precipitation for pre-purification of paclitaxel from plant cell cultures (Rapid Communication) \cdots Seul-Gi Kim and Jin-Hyun Kim \cdots 26(2) \cdots 44
Preparation of D-phenylalanine imprinted microbeads by the modified suspension polymerization using a magnetic impeller (Rapid Communication) \cdots Jae Seung Lee and Joong Kon Park \cdots 26(2) \cdots 45
Metal recovery by aged beads prepared using cell-suspension from the waste of beer fermentation broth \cdots Seong Bok Choi and Joong Kon Park \cdots 26(2) \cdots 45
$Application \ of full \ permeate \ recycling \ to \ very \ high \ gravity \ ethanol \ fermentation \ from \ corn \ (Short \ Communication)$ $\cdots \cdots \ Zhongyang \ Ding, \ Liang \ Zhang, \ Yaye \ Fang, \ Ling \ Xu, \ Kechang \ Zhang, \ and \ Gui Yang \ Shi \ \cdots \ 26(3) \ \cdots \ 71$
Comparison of granular activated carbon bio-sorption and advanced oxidation processes in the treatment of leachate effluent ······ Javeed Mohammed Abdul, Saravanamuthu Vigneswaran, Ho Kyong Shon, Areerachakul Nathaporn, and Jaya Kandasamy ···· 26(3) ····· 72
Effects of moderate pressure on premeability and viability of <i>Saccharomyces cerevisiae</i> cells
$ Effect of \ Ni^{2+}, V^{4+} \ and \ Mo^{6+} \ concentration \ on \ iron \ oxidation \ by \ \emph{Acidithiobacillus ferrooxidans} \ \\ $
Effect of pH on phase separation of globular protein Sang Gon Kim, Young Chan Bae, and Jae-Jun Kim 26(3) 74
Increased generation of electricity in a microbial fuel cell using <i>Geobacter sulfurreducens</i> Ngoc Trung Trinh, Jong Hyeok Park, and Byung-Woo Kim ···· 26(3) ····· 74
Optimization of culture media for <i>Bacillus</i> species by statistical experimental design methods
Improvement of the catalytic performance of immobilized penicillin acylase through assembly of macromolecular reagents in nanopore to create a crowding environment
Cost-cutting of nitrogen source for economical production of cellulolytic enzymes by $Trichoderma\ inhamatum$ KSJ1 Hongxian Li, Myong-Jun Kim, and Seong-Jun Kim 26(4) 107
Production of polysaccharides by submerged mycelial culture of entomopathogenic fungus <i>Cordyceps takaomontana</i> and their apoptotic effects on human neuroblastoma cells ····· Sung Hak Lee, Hee Sun Hwang, and Jong Won Yun ···· 26(4) ··· 107
Production of hydrocortisone by <i>Absidia coerulea</i> in moderate pressure bioconversion system Shi Ru Jia and Jian Dong Cui ···· 26(4) ··· 108
$\begin{tabular}{lllllllllllllllllllllllllllllllllll$
An alternative sequential extraction process for maximal utilization of bioactive components from Korean red ginseng (Rapid Communication)

Production of dehydrated fuel ethanol by pressure swing adsorption process in the pilot plant Jun-Seong Jeong, Byung-Uk Jang, Young-Ran Kim, Bong-Woo Chung, and Gi-Wook Choi 26(5) 130
Purification and partial characterization of milk-clotting enzyme extracted from glutinous rice wine mash liquor Yanping Wang, Qiaoling Cheng, Zaheer Ahmed, Xiaoxue Jiang, and Xiaojia Bai ···· 26(5) ···· 131
Analysis of methane production inhibition for treatment of sewage sludge containing sulfate using an anaerobic continuous degradation process \cdots Tae-Young Jeong, Hyung-Keun Chung, Sung Ho Yeom, and Suk Soon Choi \cdots 26(5) \cdots 131
A bioreactor with an internal contactor for primary recovery of bovine serum albumin from yeast suspension Sejoon Yoon, Huijun Sim, Jun Seok Kim, and Suk-In Hong \cdots 26(5) \cdots 132
Rapid differentiation of new isolates with MALDI-TOF mass spectrometry via discriminant function analysis based on principal components \cdots Berna Sariyar-Akbulut \cdots 26(6) \cdots 164
Production of antifungal lipopeptide from $Bacillus\ subtilis$ in submerged fermentation using shake flask and fermentor \cdots Ing-Lung Shih, Chih-Yang Lin, Jane-Yii Wu, and Chienyan Hsieh \cdots 26(6) \cdots 165
$\label{thm:continuous} Integrated an aerobic/aerobic biodegradation in an internal airlift loop reactor for phenol wastewater treatment \\$
Recovery of copper values from bio-heap leaching of low grade Malanjkhand chalcopyrite ore Lala Behari Sukla, Kailash Chandra Nathsarma, Joystna Rani Mahanta, Sradhanjali Singh, Snehasis Behera, Karanam Srinivas Rao, Tondepu Subbaiah, and Barada Kanta Mishra 26(6) 166
Preparation and characterization of PVA/PVP/glycerin/antibacterial agent hydrogels using γ -irradiation followed by freeze-thawing
Production of 3-hydroxypropionic acid by recombinant <i>Klebsiella pneumoniae</i> based on aeration and ORP controlled strategy Jian-Guo Zhu, Xiao-Jun Ji, He Huang, Jun Du, Shuang Li, and Yue-Yue Ding 26(6) 167
Characterization of PVA/glycerin hydrogels using γ -irradiation for advanced wound dressings \cdots Hui-Jeong Gwon, Youn-Mook Lim, Sung-Jun An, Min-Ho Youn, Seol-Hee Han, Ho-Nam Chang, and Young-Chang Nho \cdots 26(6) \cdots 168
Production of bacterial cellulose in static conditions by a simple fed-batch cultivation strategy Omer Shezad, Salman Khan, Taous Khan, and Joong Kon Park ···· 26(6) ··· 168
Simple preparation of immobilized-metal affinity chromatography media (Rapid Communication) Jin-Ho Kim, Wu Sung Hwang, and In Ho Kim ··· 26(6) ··· 169
Effect of <i>Fomitopsis pinicola</i> extract on blood glucose and lipid metabolism in diabetic rats
Optimization of medium for phenylalanine ammonia lyase production in <i>E. coli</i> using response surface methodology
A simple and cost-effective method to prepare template DNAs for cell-free protein synthesis Ju-Young Byun, Kyungmoon Park, and Dong-Myung Kim ···· 27(1) ····· 17
Strain improvement of <i>Rhizopus oryzae</i> for over-production of fumaric acid by reducing ethanol synthesis pathway (Rapid Communication)
Bio-hydrogen production from a marine brown algae and its bacterial diversity ———————————————————————————————————
Removal of nitrogen in wastewater by polyvinyl alcohol (PVA)-immobilization of effective microorganisms Jintae Lee and Moo Hwan Cho ··· 27(1) ··· 19
A modelling study on hydrolysis of whey lactose and stability of β -galactosidase

Generation behavior of electricity in a microbial fuel cell
Effects of nitrogen source and carbon/nitrogen ratio on batch fermentation of glutathione by <i>Candida utilis</i> Dahui Wang, Gongyuan Wei, Min Nie, and Jian Chen ··· 27(2) ···· 55
Influence of pulsed electric field on growths of soil bacteria and pepper plant Ha Na Seo, Bo Young Jeon, Hung Thuan Tran, Dae Hee Ahn, and Doo Hyun Park ···· 27(2) ···· 56
Changes in total lipid contents of marine diatom <i>Nitzschia frustulum</i> at various tem- peratures under Si deficiency Keungarp Ryu and Gregory L. Rorrer ··· 27(2) ···· 56
Improvement of cephalosporin C production by <i>Acremonium chrysogenum</i> M35 in submerged culture with glass beads or silicone rubber ···································
Issues with increasing bioethanol productivity: A model directed study
Overexpression of ethionine resistance gene for maximized production of S-adenosylmethionine in <i>Saccharomyces cerevisiae sake</i> kyokai No. 6 (Rapid Communication) Sang-Woo Lee, Bu-Soo Park, Eun-Sil Choi, and Min-Kyu Oh ···· 27(2) ···· 58
SEPARATION TECHNOLOGY, THERMODYNAMICS
Ultrafiltration behaviors of pectin-containing solution extracted from citrus peel on a ZrO ₂ ceramic membrane pilot unit ····································
Equilibrium and crystallographic measurements of the binary tetrahydrofuran and helium clathrate hydrates ··Sun-Hwa Yeon, Jeasung Park, Youngjune Park, Sukjeong Choi, Kyuchul Shin, Jiwoong Seol, Minjun Cha and Huen Lee ···· 25(1) ····· 15
Separation of As(III) and As(V) by hollow fiber supported liquid membrane based on the mass transfer theory Tatchanok Prapasawat, Prakorn Ramakul, Chairit Satayaprasert, Ura Pancharoen and Anchaleeporn W. Lothongkum 25(1) 15
Liquid-liquid equilibrium for the quaternary system of o -xylene(1) + water(2) + butyric acid(3) + ethyl acetate(4) at 25°C and atmospheric pressure \cdots Dong-Seok Ok, Young-Kyu Kim and Dong-Won Park \cdots 25(1) \cdots 16
Melting treatment of waste asbestos using mixture of hydrogen and oxygen produced from water electrolysis
Hierarchical clustering analysis for the distribution of origanum-oil components in dense CO_2
Improved algorithm for calculation of binary liquid-liquid equilibrium compositions with NRTL model based on equal area ruleDoo-Hwan Cha, Jihoon Im, Moon Sam Shin and Hwayong Kim 25(2) 34
Fabrication of nontoxic natural dye from sappan wood Dong-Kyu Lee, Dong-Hoe Cho, Jin-Hui Lee and Hun Yong Shin25(2)35
Solubility of 4-(3,4-dichlorophenyl)-1-tetralone in eleven alcohols with the temperature range from 283 K to 323 K (Short Communication)
Composite group vector space method for estimating melting and boiling point of pure organic compound
A new estimation algorithm of physical properties based on a group contribution and support vector machine Chang Jun Lee, Gibaek Lee, Won So and En Sup Yoon 25(3) 56
Recrystallization of phenylbutazone using supercritical fluid antisolvent process ····· Su-Jin Park and Sang-Do Yeo ···· 25(3) ····· 57

$ \ \text{Micronization of arbutine using supercritical anti-solvent} \cdots \cdots \text{Chan Ik Park, Moon Sam Shin and Hwayong Kim} \cdots 581 $
$Adsorption\ is otherms\ of\ caffeine\ on\ molecular\ imprinted\ polymer\ \cdots\ Yinzhe\ Jin, Dae-Ki\ Choi,\ and\ Kyung\ Ho\ Row\ \cdots\cdots\ 25(4)\ \cdots\cdots\ 816(4)$
Mass transfer of carbon dioxide in aqueous colloidal silica solution containing <i>N</i> -methyldiethanolamineSang-Wook Park, Byoung-Sik Choi, Seong-Soo Kim, and Jae-Wook Lee 25(4) 819
$Water adsorption in activated carbons with different burn-offs and its analysis using a cluster model \\Supunnee Junpirom, Chaiyot Tangsathitkulchai, Malee Tangsathitkulchai, and Yuvarat Ngernyen 25(4) 825$
Vapor-liquid equilibrium correlations for systems containing amines using a lattice fluid equation of state with hydrogen bonding ············Alexander Breitholz, Ki-Pung Yoo, Jong Sung Lim, Chul Soo Lee, and Jeong Won Kang ···· 25(4) ····· 833 Adsorption characteristics of bamboo activated carbon (Short Communication) ····································
Effects of magnetic field on calcium carbonate precipitation: Ionic and particle mechanisms
Electrochemical characterization of phosphonic acid cation exchange membrane prepared by plasma-induced graft polymerization (Short Communication) \cdots Eun-Young Choi and Seung-Hyeon Moon \cdots 25(5) \cdots 1151
Adsorption characteristics of binary vapors among acetone, MEK, benzene, and tolueneSong-Woo Lee, Jae-Kee Cheon, Heung-Jai Park, and Min-Gyu Lee 25(5) 1154
Excess molar enthalpies for the binary and ternary mixtures of ether compounds (di -isopropyl ether, di -butyl ether, propyl vinyl ether) with ethanol and isooctane at 298.15 K Moon-Gab Kim, So-Jin Park, and In-Chan Hwang 25(5) 1160
The development of a high functional continuous filtration system for sericite powders $\cdots\cdots\cdots$ Heekyu Choi, Ochirhuyag Bayanjargal, JunIchiro Tsubaki, Takamasa Mori, Tadamitsu Sugimoto, and JungEun Lee $\cdots 25(5) \cdots 1165$
Protein binding study of catechin hydrate and genistein by high-performance frontal analysis (Short Communication)
Removal of particulate matter from an air stream by a packed dielectric barrier discharge
$\label{eq:VLE} VLE\ calculation\ of\ carbon\ dioxide + n-alkanes\ binary\ mixtures\ with\ MHV2\ mixing\ rule\ (Short\ Communication) \\$
Performance of hollow fiber supported liquid membrane on the extraction of mercury(II) ions Ekapong Uedee, Prakorn Ramakul, Ura Pancharoen, and Anchaleeporn W. Lothongkum \cdots 25(6) \cdots 1486
Phase equilibria behavior of carbon dioxide-n-hexane-naphthalene ternary systemInas Muen AlNashef, Rasheed S. Al-Ameeri, Taher A. Al Sahhaf, and Salah E. M. Hamam25(6) 1495
A correlation for heat of vaporization of pure compoundsJovan D. Jovanović and Duğan K. Grozdanić 25(6) 1499
Performance and applications of flow-guided sieve trays for distillation of highly viscous mixturesQun Shen Li, Chun Ying Song, Hai Long Wu, Hui Liu, and Yi Qiu Qian $\cdots 25(6) \cdots 1509$
A new vapor pressure equation for pure substances (Short Communication)
Adsorption and desorption characteristics of $\operatorname{CF_4}$ on fixed bed column
Sung-Sup Suh, Neung Gyun Ahn, and Byung-Ki Na ···· 25(6) ··· 1518
Porosity distribution in highly compressible cake: Experimental and theoretical verification of the dense skinSung Sam Yim and Yun Min Song 25(6) 1524
$\label{eq:microwave-assisted} \begin{tabular}{lll} Microwave-assisted dissolution of UO_2 with TBP-HNO$_3$ complex (Short Communication) &$

$Equation \ of \ state \ for \ the \ systems \ containing \ aqueous \ salt: \ Prediction \ of \ high \ pressure \ vapor-liquid \ equilibrium \\$
Kinetics of nucleation and growth of L-sorbose crystals in a continuous MSMPR crystallizer with draft tube: Size-independent growth model approach
Bogusl/awa Wierzbowska, Krzysztof Piotrowski, Joanna Koralewska, Nina Hutnik, and Andrzej Matynia 26(1) 17
Nonlinear isotherm of benzene and its derivatives by frontal analysis
Vapor-liquid equilibria of water + monoethanolamine system
Sung Jin Park, Hun Yong Shin, Byoung-Moo Min, Ara Cho, and Jeon-Seop Lee $\cdots 26(1) \cdots 18$
$ Effects \ of \ pH, \ salt \ type, \ and \ ionic \ strength \ on \ the \ second \ virial \ coefficients \ of \ aqueous \ bovine \ serum \ albumin \\ solutions $
Cloud point behavior for poly(isodecyl methacrylate) + supercritical solvents + co- solvent and vapor-liquid behavior for CO_2 + isodecyl methacrylate systems at high pressure
Sang-Eon Kim, Soon-Do Yoon, Ki-Pung Yoo, and Hun-Soo Byun ···· 26(1) ···· 19
$\label{lem:measurement} \begin{tabular}{lll} Measurement of VLE data for propane + 1,1-diffuoroethane at various temperatures from 268.15 to 333.15 K \\ & & Gimyeong Seong, Ah Ram Kim, Ki-Pung Yoo, and Jong Sung Lim \cdots 26(1) \cdots 26(1)$
Molecular modeling and experimental verification of lipase-catalyzed enantioselective esterification of racemic naproxen in supercritical carbon dioxide \cdots Cheong Hoon Kwon, Jeong Yeong Jeong, and Jeong Won Kang \cdots 26(1) \cdots 21
Measurement of excess enthalpies using a high-pressure flow microcalorimeter and determination of binary interaction parameters for thermodynamic models \cdots Chae Ku Yi, YoonKook Park, and Seong-Sik You \cdots 26(1) \cdots 27
A multi-fluid nonrandom lattice fluid model for mixtures containing nonionic surfactants
Nonrandom lattice fluid group contribution parameter for vapor-liquid equilibrium of esters and their mixtures
Modified Guggenheim-Huggins-Miller combinatorial factor and its application to lattice fluid equation of state \dots Ju Ho Lee, Moon Sam Shin, and Hwayong Kim \dots 26(1) \dots 23
Correlation of measured excess enthalpies of binary systems composed of n-alkane + 1-alkanol
Solubility and growth rate of reactive blue49 and black8 dyes in salting-out system
Soybean hull functionalized by phosphoric acid for sorption of copper from aqueous solution
Effects of mass transfer on simulated moving bed process
Numerical and experimental investigation on a new modified valve in a valve tray column
Size-selective Pd nanoparticles stabilized by dialkylmorpholinium ionic liquids Jong-Ho Cha, Ki-Sub Kim, and Huen Lee 26(3) 76
Reduction of concentration polarization at feeding interphase of a hollow fiber supported liquid membrane by using periodic operation
Suici Tituosuang, Shapop Bulliak, and Ota Failendtoch 20(5)

Physical and electrochemical properties of lithium-doped 1-butyl-3-methylimidazolium salts Ki-Sub Kim 26(3) 770
Absorption of carbon dioxide into aqueous colloidal silica solution with different sizes of silica particles containing monoethanolamine
Byung-Jin Hwang, Sang-Wook Park, Dae-Won Park, Kwang-Joong Oh, and Seong-Soo Kim 26(3) 77:
Absorption of carbon dioxide into glycidyl methacrylate solution containing the triethylamine immobilized ionic liquid on MCM-41 catalyst
Efficient transport and selective extraction of Cr(VI) from waste pickling solution of the stainless steel-cold rolled plate process using Aliquat 336 via HFSLM
Parnuwat Usapein, Anchaleeporn W. Lothongkum, Prakorn Ramakul, and Ura Pancharoen ···· 26(3) ····· 79
Rejection of salt mixtures from high saline by nanofiltration membranes Habis Al-Zoubi and Waid Omar 26(3) 799
Excess molar volumes and molar enthalpies in the binary mixtures of $\{x_1CH_3CHClCH_2Cl + x_2CH_3(CH_2)_{n-1}OH\}$ (n = 1 to 4) at T = 298.15 K Dipak Sen and Moon-Gab Kim 26(3) 800
Chromatographic retention of nine solutes by the using of linear solvation energy relationships in RP-HPLC Ye Wang, Dandan Han, Minglei Tian, and Kyung Ho Row ··· 26(3) ···· 812
A comparative study on the carbon dioxide capture power between 30 wt% 2-amino-2-methyl-1-propanol and 30 wt% methyldiethanol amine aqueous solutions
Monte Carlo simulation on the adsorption properties of carbon tetrachloride, neopentane, and cyclohexane in MCM-41 Sung Doo Moon and Dae Woong Choi ••• 26(4) ••• 1090
Production of pure ethanol from azeotropic solution by pressure swing adsorption Pit Pruksathom and Tharapong Vitidsant ···· 26(4) ··· 1100
Measurement and modeling of solubility of H ₂ S in aqueous diisopropanolamine solution Hassan Pahlavanzadeh and Masoumeh Farazar ···· 26(4) ··· 1112
Recrystallization of tetracycline hydrochloride using supercritical anti-solvent process Junho Chu, Hanho Lee, Hwayong Kim, and Youn-Woo Lee ··· 26(4) ··· 1119
Solvent effect on particle morphology in recrystallization of HMX (cyclotetramethylenetetranitramine) using supercritical carbon dioxide as antisolvent ···· Chang-Ki Kim, Byung-Chul Lee, Youn-Woo Lee, and Hyoun Soo Kim ···· 26(4) ··· 112:
High-pressure solubility of carbon dioxide in imidazolium-based ionic liquids with anions [PF ₆] and [BF ₄] Bang-Hyun Lim, Woo-Hyuk Choe, Jae-Jin Shim, Choon Sup Ra, Dirk Tuma, Heun Lee, and Chul Soo Lee ··· 26(4) ··· 1130
Effect of hydrotropes on solubility and mass transfer coefficient of lauric acid Saghadevan Thenesh Kumar, Dhakshina Gnana Prakash, and Nagaraja Nagendra Gandhi ···· 26(5) ···· 132
Application of [hmim][BF ₄] ionic liquid in reversed-phase simulated moving bed for the separation of 3- and 4-hydroxybenzoic acid ······ Thai-Hoang Le, Ju Weon Lee, Jeung Kun Kim, and Yoon-Mo Koo ···· 26(5) ···· 133-
Surface modification and adsorption of eucalyptus wood-based activated carbons: Effects of oxidation treatment, carbon porous structure and activation method
Application of ionic liquids as mobile phase additives and surface-bonded stationary phase in liquid chromatography Dandan Han, Minglei Tian, Dong Wha Park, Dae Ki Choi, and Kyung Ho Row 26(5) 1353
Absorption of carbon dioxide into glycidyl methacrylate solution with quaternary onium salts Young-Sik Son, Sang-Wook Park, Dae-Won Park, Kwang-Joong Oh, and Seong-Soo Kim ··· 26(5) ··· 1359
Salt-induced protein separation in an aqueous electrolyte solution Sang Ha Choi and Young Chan Bae 26(5) 136:

Vapor-liquid equilibrium in low pressure water + congener mixtures Claudio Alonso Faúndez, Felipe Andrés Urbina, and José Omar Valderrama ···· 26(5) ··· 1373
Adsorption of 2,4-dichlorophenol on metal-nitrate modified activated carbon
Sorption kinetics of carbon dioxide onto rubidium carbonate
Hydrogen sorption characteristics of Zonguldak region coal activated by physical and chemical methods Turkan Kopac and Atakan Toprak ···· 26(6) ··· 1700
Recovery of flared gas through crude oil stabilization by a multi-staged separation with intermediate feeds: A case study
Mesoscopic simulation for the structural change of a surfactant solution using dissipative particle dynamics
Preconcentration and determination of chromium in water with flame atomic absorption spectrometry by thiourea-formaldehyde as chelating resin
Adsorption of zinc (II), cadmium (II), and copper (II) with PTFE Selective Resin containing primary amine N1923 and Cyanex925 ····································
Modeling of aqueous electrolyte solutions based on perturbed-chain statistical associating fluid theory incorporated with primitive mean spherical approximation \cdots Bong-Seop Lee and Ki-Chang Kim \cdots 26(6) \cdots 1733
Surface modified granular activated carbon for enhancement of nickel adsorption from aqueous solution Sang-Hoon Byeon, Dhamodaran Kavitha, Kanagasabai Muruganandam Ponvel, Kyung-min Kim, and Chang-Ha Lee $\cdots 26(6) \cdots 1748$
High-pressure vapor-liquid equilibrium measurement for the binary mixtures of carbon dioxide + n-butanol \cdots Jong Sung Lim, Cheol Hun Yoon, and Ki-Pung Yoo \cdots 26(6) \cdots 1754
Layered liquid-liquid flow in microchannels having selectively modified hydrophilic and hydrophobic walls
Experimental and modeling approach to study separation of water in crude oil emulsion under non-uniform electrical field
Investigation of cake deposition on various parts of the surface of microfiltration membrane due to fouling Sayed Siavash Madaeni, Masoud Rahimi, and Mahdiah Abolhasani …27(1) … 206
Extraction of benzene from a narrow cut of naphtha via liquid-liquid extraction using pure-sulfolane and 2-propanol-sulfolane-mixed solvents \cdots Jafar Mahmoudi and Mohammad Nader Lotfollahi \cdots 27(1) \cdots 214
Removal of lead and cobalt using lignocellulosic fiber derived from <i>Citrus reticulata</i> waste biomass
Separation of esbiothrin and D-acetylene C permethrin in electric-mosquito coils by gas chromatography Junyu Liu and Kyung Ho Row … 27(1) … 228
Simulated moving-bed for separation of mandelic acid racemic mixtures Eun Lee, Moon Bae Park, Jong Min Kim, Woo Sik Kim, and In Ho Kim ···· 27(1) ····· 231
Development of a hydrogen purifier with Pd-based composite membrane Shin-Kun Ryi, Jong-Soo Park, Sung-Hyun Kim, Dong-Won Kim, Byong-Il Woo, and John Ross Grace •••• 27(1) ••••• 235
Adsorption of carbon dioxide onto PDA-CP-MS41 adsorbent

A linear variation of the thermal expansivity with the isothermal compressibility for ammonia solid III near the melting point
Water and mercaptan adsorption on 13X zeolite in natural gas purification process Babak Shirani, Tahereh Kaghazchi, and Masoud Beheshti ···· 27(1) ····· 253
$\label{thm:light} \begin{tabular}{lllllllllllllllllllllllllllllllllll$
Study on the activity coefficients and solubilities of amino acids in aqueous solutions with perturbed-chain statistical associating fluid theory $\cdots 27(1) \cdots 26(1) \cdots 27(1) \cdots $
Calculation of phase equilibrium for water + carbon dioxide system using nonrandom lattice fluid equation of state \cdots Cheong Hoon Kwon, Chang-Ha Lee, and Jeong Won Kang \cdots 27(1) \cdots 278
Vapor-liquid equilibria of carbon dioxide + n-propanol at elevated pressure Jun-Hyuk Yim, Youn Geun Jung, and Jong Sung Lim ···· 27(1) ····· 284
An empirical near-critical correction for a quasi-chemical nonrandom lattice fluid \cdots Ju Ho Lee, Gap Su Han, Alexander Breitholz, Ki-Pung Yoo, Moon Sam Shin, and Hwayong Kim \cdots 27(1) \cdots 289
Sorption of C. I. Disperse Red 60 in polystyrene and PMMA films and polyester and Nylon 6 textiles in the presence of supercritical carbon dioxide Sang-Cheol Park, Dirk Tuma, Sunwook Kim, Yong Rok Lee, and Jae-Jin Shim 27(1) 299 Equation of state for gaseous ethane determined from isotropic model potentials
Transfer rate measurement of lysozyme by liquid-liquid extraction using reverse micelles with dense CO_2 \cdots Sun-Mi Jung, Un-Mi Shin, Md. Salim Uddin, Sun-Young Park, Hideki Kishimura, Gordon Wilkinson, and Byung-Soo Chun \cdots 27(2) \cdots 596
Adsorption and desorption of m-xylene vapor on organically modified montmorillonite Chun-Yong Ryu and Sang-Do Yeo ··· 27(2) ··· 602
Modeling and simulation of a simulated moving bed for adsorptive para-xylene separation Jinsuk Lee, Nam Cheol Shin, Youngsub Lim, and Chonghun Han …27(2) … 609
Purification of naphthalene from eutectic mixture by continuous column crystallization ———————————————————————————————————
Removal of sulfur compounds in FCC raw C_4 using activated carbon impregnated with CuCl and $PdCl_2$
Breakthrough data analysis of adsorption of volatile organic compounds on granular activated carbon Kwang-Joong Oh, Dae-Won Park, Seong-Soo Kim, and Sang-Wook Park ···· 27(2) ···· 632
Jung-Decontamination of radioactive soil wastes using an agglomeration-leaching process Joon Lee, Jeikwon Moon, Gye-Nam Kim, and Kune-Woo Lee ··· 27(2) ···· 639
MATERIALS (Organic, Inorganic, Electronic, Thin Films), POLYMER, FLUIDIZATION, PARTICLE TECHNOLOGY (2008~)
Improvement of bioavailability of water insoluble drugs: Estimation of intrinsic bioavailability (Short Communication)
Single-layer organic-light-emitting devices fabricated by screen printing methodDong-Hyun Lee, Jaesoo Choi, Heeyeop Chae, Chan-Hwa Chung and Sung M. Cho \cdots 25(1) \cdots 176
Temperature stability of electro-optic properties of polymer dispersed liquid crystal with different crosslinking monomer in PN393 base pre-polymer ············ Young-Seok No, Jae Hong Kim, Chan-Wook Jeon and Si-Hyun Park ···· 25(1) ····· 181
Influence of processing temperature on the image transfer characteristics of an image guide made of polymer optical fibers \cdots Byung-Wook Park, Do-Young Yoon and Soeun Park \cdots 25(1) \cdots 185

Reductive crystallization of each metal in composite particles spray-pyrolyzed from silver/nickel mixed nitrates
Photocatalytic activities and specific surface area of TiO ₂ films prepared by CVD and sol-gel method
Sang-Chul Jung ···· 25(2) ····· 36
Characteristics of Nylon 6 nanofilter for removing ultra fine particles
Gil Tae Kim, Young Chull Ahn and Jae Keun Lee ··· 25(2) ···· 36
Reduction of proximity effect in electron beam lithography by deposition of a thin film of silicon dioxide
Chang-Ho Seo and Kahp-Yang Suh ···· 25(2) ····· 37
Feasibility study to design a particle deposition unit utilizing electrophoresis for off-line measurements
Jung Hyeun Kim 25(2) 37
$\it In\textsc{-situ}$ observation of deposition of gold nanoparticles on the amine-functionalized surface by open liquid-AFM (Short Communication) ————————————————————————————————————
Highly selective modification of silicon oxide structures fabricated by an AFM anodic oxidation
(Short Communication) ····· Inhee Choi and Jongheop Yi ···· 25(2) ····· 38
pH-dependent release property of dioleoylphosphatidyl ethanolamine liposomes
Seong Min Cho, Hyeon Yong Lee and Jin-Chul Kim ···· 25(2) ····· 39
A new correlation for VLE data: Application to binary mixtures containing nitrogen Angel Mulero, Daniel Larrey and Francisco Cuadros ···· 25(2) ····· 39
Analysis of ball movement for research of grinding mechanism of a stirred ball mill with 3D discrete element method ·······Seongsoo Kim and Woo Sik Choi ···· 25(3) ····· 58
Influence of the silicon surface treatment by plasma etching and scratching on the nucleation of diamond
grown in HFCVD - a comparative studyShafeeque G. Ansari, Mushtaq Ahmad Dar, Young-Soon Kim,
Hyung-Kee Seo, Gil-Sung Kim, Rizwan Wahab, Zubaida A. Ansari, Jae-Myung Seo and Hyung-Shik Shin 25(3) 59
Effect of biobased and biodegradable nucleating agent on the isothermal crystallization of poly(lactic acid)
Highly ordered anodic alumina nanotemplate with about 14 nm diameter (Short Communication)
Tae-Yong Kim and Soo-Hwan Jeong ···· 25(3) ····· 60
Formation of deagglomerated PLGA particles and PLGA-coated ultra fine powders by rapid expansion of
supercritical solution with ethanol cosolvent Project Variable Wei Charles Atombi Tortonia Winest Torthogogichele an and Torontolei Charles with 1 25(4) 25(4) 25(4)
Benjapol Kongsombut, Wei Chen, Atsushi Tsutsumi, Wiwut Tanthapanichakoon, and Tawatchai Charinpanitkul ···· 25(4) ····· 83
Poly(o-anisidine) on brass: Synthesis and corrosion behavior
Dispersion polymerization of NVCA in compressed liquid dimethyl ether in the presence of PDMS-g-pyrrolidone carboxylic acid: Effects of initiators

Synthesis and characterization of zeolite NaY from rice husk silica
Aqueous solubility of poorly water-soluble drugs: Prediction using similarity and quantitative structure-property relationship models
structure-property relationship models
Diffraction efficiency change in PVA/AA photopolymer films by photosensitive inorganic compound addition
Diffraction efficiency change in F v A/AA photopolymer finns by photosensitive morganic compound addition Daeheum Kim, Seungwoong Nam, and Jiyun Lim ··· 25(4) ····· 87

Silicon oxidation by aerial diffusion of active oxygen species from UV-irradiated ${ m TiO_2}$
Effect of gas environment on properties of particles prepared by spray pyrolysis of metal nitrates Eun Kyung Park, Sangchun Rah, and Sun-Geon Kim ··· 25(4) ···· 885
Synthesis and characterization of carbon-doped titania as a visible-light-sensitive photocatalyst Suseung Lee, Chang Yeon Yun, Mi Sun Hahn, Jeongjin Lee, and Jongheop Yi 25(4) 892
Effect of pressure fluctuations on the heat transfer characteristics in a pressurized slurry bubble column
Distance transform algorithm for measuring nanofiber diameter Mohammad Ziabari, Vahid Mottaghitalab, and Akbar Khodaparast Haghi 25(4) 905
Simulated image of electrospun nonwoven web of PVA and corresponding nanofiber diameter distribution (Short Communication)Mohammad Ziabari, Vahid Mottaghitalab, and Akbar Khodaparast Haghi 25(4) 915
Evaluation of electrospun nanofiber pore structure parameters
The control of diameter of carbon nanotube over Co-loaded Zeolite Y \cdots Misook Kang \cdots 25(4) \cdots 933
Effect of pulse modulation on particle growth during SiH_4 plasma process \cdots Dong-Joo Kim and Kyo-Seon Kim \cdots 25(4) \cdots 939 Hydrodynamic characteristics of activated carbon in air- and water-fluidized beds
Development of novel two-interconnected fluidized bed system
$Epitaxial\ growth\ of\ GaN\ on\ (0001)\ Al_2O_3\ via\ solution-cast\ seed\ layer\ formation\ process\ using\ Ga(mDTC)_3\\$
Surface modification of polypropylene by nitrogen-containing plasma ——————————————————————————————————
Preparation and barrier property of poly(vinyl alcohol)/SiO $_2$ hybrid coating films ·······Seong Woo Kim ··· 25(5) ··· 1195
Fabrication of ethyl cellulose microspheres: Chitosan solution as a stabilizer Xiao Wei Li and Tian Fu Yang 25(5) 1201
Preparation of CeO ₂ -ZrO ₂ mixed oxide with high surface area and high thermal stability (Short Communication)
Fracture behavior of carbon/epoxy laminated composite reinforced by iron powderHeekyu Choi, Hao Huang, Dong-Uk Kim, and Chee-Ryong Joe25(5) 1208
Improvement of polymer electrolyte membrane by radiation-induced grafting of styrene onto FEP film with subsequent sulfonation ·········Byung-Nam Kim, Dong-Hwa Lee, Seung-Woo Lee, and Do-Hung Han ···· 25(5) ··· 1212
Liposomes incorporating hydrophobically modified glucose oxidaseSeong-Min Jo, Yang Xia, Hyeon Yong Lee, Youn Cheol Kim, and Jin-Chul Kim 25(5) 1221
Preparation of graphite composite bipolar plate for PEMFC ············Saowaluck Bhlapibul and Kejvalee Pruksathorn ···· 25(5) ··· 1226
Photocatalytic degradation of methylene blue and acetaldehyde by TiO ₂ /glaze coated porous red clay tileSeung-Joon Yoo, Se-Il Lee, Dong-Heui Kwak, Kwang-Gil Kim, Kyung-Jun Hwang, Jae-Wook Lee, Un-Yeon Hwang, Hyung-Sang Park, and Jong-Ok Kim ···· 25(5) ··· 1232
Photochemical reduction of molecular weight and number of double bonds in natural rubber film Pienpak Tasakorn and Wannipha Amatyakul ···· 25(6) ··· 1532

Effects of silyl concentration, hydrogen concentration, ion flux, and silyl surface diffusion length on microcrystalline silicon film growth \cdots Shutang Wen, Liwei Zhang, Jingxiao Lu, Yuxiao Li, and Zhiyong Du \cdots 25(6) \cdots 1539
Hydrothermal synthesis of zeolite L in a Na $^+$ /K $^+$ mixed alkali system
Effects of polycarboxylate-type superplasticizer on fluidity and hydration behavior of cement pasteJin-Yong Shin, Ji-Sook Hong, Jeong-Kwon Suh, and Young-Seak Lee25(6) 1553
MATERIALS (Organic, Inorganic, Electronic, Thin Films) (2009~)
Electrochemical characteristics of Al-Mg alloy in seawater for leisure ship: Stress corrosion cracking and hydrogen embrittlement \cdots Seong-Jong Kim, Min-Su Han, and Seok-Ki Jang \cdots 26(1) \cdots 250
Applications of silver nanoplates as colorimetric indicators of pH-induced conformational changes in cytochrome c (Short Communication) \cdots Junsu Park, Do-Young Yoon, and Younghun Kim \cdots 26(1) \cdots 258
$Synthesis \ of \ nanometer \ sized \ Bi_2WO_6s \ by \ a \ hydrothermal \ method \ and \ their \ conductivities \\ \cdots$
Thin film silver deposition by electroplating for ULSI interconnect applications
Brownian diffusion effect on nanometer aerosol classification in electrical mobility spectrometer \cdots Panich Intra and Nakorn Tippayawong \cdots 26(1) \cdots 269
Enhanced light emission of nano-patterned GaN via block copolymer thin films Yo-Han Cho, Kyunghee Lee, Kyunghoon Kim, Kwang Hyun Baik, Jinhan Cho, Jihyun Kim, Kyusoon Shin, and Joona Bang $\cdots 26(1)$ $\cdots 277$
Synthesis and characterization of high purity aluminum sec-butoxide from aluminum dross Seung-Joon Yoo, Dong-Heui Kwak, Se-Il Lee, Jae-Wook Lee, Un-Yeon Hwang, Jin-Geol Kim, Heung-Jo Jung, Ho-Sung Yoon, and Hee Dong Jang ···· 26(1) ···· 281
Electrical characterizations of Neutron-irradiated SiC Schottky diodes Geunwoo Ko, Hong-Yeol Kim, Joona Bang, and Jihyun Kim … 26(1) … 285
Synthesis and structural properties of lithium titanium oxide powder as-synthesized by two step calcination process (Short Communication)
$\cdots Soo\ Ho\ Kim, Hoon\ Park, Seung\ Hyun\ Jee, Ho\ Sang\ Ahn, Dong-Joo\ Kim, Ji\ Won\ Choi, Seok\ Jin\ Yoon, and\ Young\ Soo\ Yoon \\ \cdots 26(2) \\ \cdots 485000000000000000000000000000000000000$
Application of near infrared diffuse reflectance spectroscopy for on-line measurement of coal properties
Effect of laser beam focusing point on AFM measurements Younghun Kim, Young In Yang, Inhee Choi, and Jongheop Yi ···· 26(2) ···· 496
Influence of sintering temperature on microstructural changes of ceramic Raschig ring Mehdi Salehi and Amin Salem … 26(2) … 500
Film properties of nitrogen-doped polycrystalline silicon for advanced gate material Sang Ho Woo, Yil Wook Kim, Pyung Yong Um, Hae-Min Lee, and Chang-Koo Kim ··· 26(3) ···· 824
Synthesis of hexagonal mesoporous aluminophosphate using Al dross
Characterization of FePt film electrodeposited with a ferric electrolyte \cdots Serhiy Cherevko, Jie Fu, Ki Youn Song, and Chan-Hwa Chung \cdots 26(6) \cdots 1766
Experimental characterization of a short electrical mobility spectrometer for aerosol size classification Panich Intra and Nakorn Tippayawong 26(6) 1770

$ \begin{array}{c} \text{Characterization of octadecyltrichlorosilane self-assembled monolayers on silicon (100) surface} \\ $
Synthesis and optimization of porous anodic aluminum oxide nano-template for large area device applications \cdots Younghee Na, Umme Farva, Sung Min Cho, and Chinho Park \cdots 26(6) \cdots 178:
Controlled thin layer coating of carbon nanotube-polymer composites for UV-visible light protection Jaebeom Lee, Sang-Jun Park, Young-Kyun Moon, Soo-Hyung Kim, and Kwangnak Koh ···· 26(6) ··· 1790
Characterization of zero valent iron prepared from by-product of pickling line and its decomposition reaction activity
Study on electrochemical mechanical polishing process of copper circuit on PCB Nadiia Kulyk, Chang Yong An, Jung Hoon Oh, Sung Min Cho, Changsup Ryu, Young Kwan Ko, and Chan-Hwa Chung 27(1) 310
Formation of PbTiO $_3$ films from multilayered structures of primitive oxides Byung Sun Kang and Won Gyu Lee \cdots 27(1) \cdots 31:
CO_2 conversion to O_2 by chemical lung in the presence of potassium superoxide in the silicone polymer matrix
Dependence of approaching velocity on the force-distance curve in AFM analysis
Measurement of adsorption characteristics of alumina and activated carbon using a quartz crystal resonator with i -butane Byoung Chul Kim, Takuji Yamamoto, Yoon Sup Byun, and Young Han Kim $\cdots 27(1) \cdots 32i$
Mechanical properties and durability of PMMA impregnated mortar Priya Nair, Du Hyun Ku, Chul Woo Lee, Jung Soon Park, Hun Young Park, and Won Mook Lee •••• 27(1) ••••• 33- Sintering characteristics of TiO ₂ nanoparticles by microwave processing ••••• Sukwon Jung and Jung Hyeun Kim •••• 27(2) •••• 64-
Effect of chemical treatments of wood fibers on the physical strength of polypropylene based composites Jae Gyoung Gwon, Sun Young Lee, Sang Jin Chun, Geum Hyun Doh, and Jung Hyeun Kim … 27(2) … 65
Rheological property and curing behavior of poly(amide-co-imide)/multi-walled carbon nanotube composites Seung Hwan Lee, Sheong Hyun Choi, Jin Il Choi, Jae Rock Lee, and Jae Ryoun Youn ···· 27(2) ····· 65
Preparation of ADNBF with low-acidity by reactive crystallization Jun-Woo Kim, Jae-Kyeong Kim, Eui Jung Kim, Hyoun-Soo Kim, and Kee-Kahb Koo ··· 27(2) ···· 660
Photo-catalytic degradation of rhodamine B using microwave powered electrodeless discharge lamp Jeong-Seok Chae, Dong-Suk Jung, Yeong-Seon Bae, Sung Hoon Park, Do-Jin Lee, Sun-Jae Kim, Byung Hoon Kim, and Sang-Chul Jung 27(2) 67:
Characterization of differently shaped carbon fiber composites prepared from naphtha cracking bottom oil Sang-Yong Eom, Dae-Woong Pyo, and Seung-Kon Ryu 27(2) 67
Enhanced efficiency of white polymer light-emitting diodes with inorganic nanodots
Antibacterial activity of silver nanoparticles prepared by a chemical reduction method Sung Min Lee, Ki Chang Song, and Bum Suk Lee ···· 27(2) ····· 68
Optical characterizations of GaN nanorods fabricated by natural lithography Byung-Jae Kim, Joona Bang, Sung Hyun Kim, and Jihyun Kim ···· 27(2) ····· 69
Fabrication of CdS thin films assisted by Langmuir deposition, self-assembly, and dip-pen nanolithography Gil Sun Lee, Ji Hwon Lee, Hyun Choi, and Dong June Ahn 27(2) 69

POLYMER, FLUIDIZATION, PARTICLE TECHNOLOGY (2009~)

Hydrodynamic characteristics of a horizontal flow ejector in a rectangular chamber Og Sin Kim, Yoong Lee, and Dong Hyun Lee ··· 26(1) ···· 285
Enthalpy profile-cure state relationship of compounded rubber by differential scanning calorimetry Kyo-Chang Choi, Eun-Kyoung Lee, and Sei-Young Choi ···· 26(1) ···· 295
A comparative study of particle size analysis in fine powder: The effect of a polycomponent particulate system Heekyu Choi, Woong Lee, Dong-Uk Kim, Shalendra Kumar, Jonghak Ha, Seongsoo Kim, and Jungeun Lee 26(1) 300
Reactivity study of combustion for coals and their chars in relation to volatile content
Hydrodynamics of Geldart group A particles in gas-solid fluidized beds Lii-Ping Leu and Fu-Chien Tsai 26(2) 513
Synthesis and characterization of poly(ether sulfone) grafted poly(styrene sulfonic acid) for proton conducting membranes
Syngas combustion characteristics of four oxygen carrier particles for chemical-looping combustion in a batch fluidized bed reactor
Measurement of radiative heat transfer coefficient in a high temperature circulating fluidized beds Seung Chul Lee and Gui Young Han ··· 26(5) ··· 1395
Prevention of bed agglomeration with iron oxide during fluidized bed incineration of refuse-derived fuels
CFD simulation of gas-solid bubbling fluidized bed containing FCC particles Seyyed Hossein Hosseini, Rahbar Rahimi, Mortaza Zivdar, and Abdolreza Samimi26(5) 1405
Morphologies and properties of NiO particles prepared from NiCl $_2$ ·6H $_2$ O by spray pyrolysis
Application of grinding kinetics analysis of inorganic powders by a stirred ball mill Heekyu Choi, Woong Lee, Seongsoo Kim, and Jinyeon Hwang …26(6) … 1806
Preparation of molecularly imprinted polymer membrane with blending trimethoprim-MIP and polysulfone and its transport properties ————————————————————————————————————
Effect of a non-ionic surfactant on skin-retention of cationic minoxidil microparticles suspended in an anionic surfactant solution $3 \text{ in-Chul Kim} \cdots 26(6) \cdots 182$
Comparison of gamma ray and electron beam irradiations on the degradation of carboxymethylcellulose Jong-il Choi, Jae-Hun Kim, Kwang-Won Lee, Beom-Suk Song, Yohan Yoon, Myung-Woo Byun, and Ju-Woon Lee 26(6) 1825
A simplified mathematical modeling for thermo-catalytic decomposition of methane over carbon black catalyst in a fluidized bed reactor (Rapid Communication)
A new approach for optimization of electrospun nanofiber formation process Mohammad Ziabari, Vahid Mottaghitalab, and Akbar Khodaparast Haghi … 27(1) … 340
Numerical and experimental investigation of a fluidized bed chamber hydrodynamics with heat transfer
Control of molecular weight distribution of polyethylene in gas-phase fluidized bed reactors
Effect of added ionomer on morphology and properties of PP/organoclay nanocomposites
Hyung Tag Lim, Hongzhe Liu, Kyung Hyun Ahn, Seung Jong Lee, and Joung Sook Hong 27(2) 705

Polymer-coated magnetic carbonyl iron microparticles and their magnetorheological characteristics
Bong Jun Park, Fei Fei Fang, Ke Zhang, and Hyoung Jin Choi ···· 27(2) ····· 716
Ultrasound assisted batch-processing of EVA-organoclay nanocomposites
Youngjoon Ahn, Hyungsik Kim, and Jae Wook Lee ···· 27(2) ····· 723
THE 7TH KOREA-CHINA CLEAN ENERGY TECHNOLOGY SYMPOSIUM
$Gasification \ of \ rice \ husk \ in \ a \ cyclone \ gasifier \cdots Shaozeng \ Sun, \ Yijun \ Zhao, \ Fengming \ Su, \ and \ Feng \ Ling \ \cdots \ 26(2) \ \cdots \ 528(2) \$
Application of gain scheduling for modeling the nonlinear dynamic characteristics of NO_x emissions from utility boilers Liang Kong, Yanjun Ding, Yi Zhang, Lichuan Yuan, and Zhansong Wu 26(2) 534
$Multi-method\ mercury\ specification\ from\ lignite-fired\ power\ plants\ \cdots\cdots\cdots\cdots\ Ping\ Lu, Jiang\ Wu, and\ Wei-ping\ Pan\ \cdots\cdots\ 26(2)\ \cdots\cdots\ 542(2)\ \cdots\cdots\ 542(2)\ \cdots\cdots\ 542(2)\ \cdots$
Pyrolysis of wood species based on the compositional analysis
$Kinetic\ analysis\ of\ NO-Char\ reaction\ \cdots\ Shaozeng\ Sun, Juwei\ Zhang, Xidong\ Hu, Penghua\ Qiu, Juan\ Qian, and\ Yukun\ Qin\ \cdots 26(2)\ \cdots \ 554(2)$
Behavior of mercury release during thermal decomposition of coals
Shaoqing Guo, Jianli Yang, Zhenyu Liu, and Yong Xiao ···· 26(2) ···· 560
Removal of COD from coking-plant wastewater in the moving-bed biofilm sequencing batch reactor JieYing Jing, Jie Feng, WenYing Li, and Ying Xu ··· 26(2) ··· 564
$Local\ resistance\ characteristics\ of\ highly\ concentrated\ coal-water\ slurry\ flow\ through\ fittings\\$
Effects of carbon on the sulfidation and hydrodesulfurization of CoMo hydrating catalysts Hui Ge, Xuekuan Li, Zhangfeng Qin, Feixue Liang, and Jianguo Wang ··· 26(2) ··· 576
Desulfurization using ZnO nanostructure prepared by matrix assisted method
Tae Jin Lee, In Hak Cho, and No-Kuk Park ···· 26(2) ···· 582
Multiple effects of operating variables on the bubble properties in three-phase slurry bubble columns
Reactivity of a CaSO ₄ -oxygen carrier in chemical-looping combustion of methane in a fixed bed reactor
Two phase (air-molten carbonate salt) flow characteristics in a molten salt oxidation reactor Yung-Zun Cho, Hee-Chul Yang, and Yong Kang ··· 26(3) ··· 828
Analysis on thermal stress deformation of rotary air-preheater in thermal power plant Hongyue Wang, Lingling Zhao, Zhigao Xu, and Hyungtaek Kim ··· 26(3) ··· 833
Kinetic modeling of non-hydrocarbon/nitric oxide interactions in a flow reactor above 1,400 K
Shaozeng Sun, Huali Cao, Zhiqiang Wang, Lin Qian, and Yukun Qin ···· 26(3) ···· 840
Continuous O_2 - CO_2 production using a Co-based oxygen carrier in two parallel fixed-bed reactors
Characterization, activity and selectivity of ethylenediamine modified Co/SiO ₂ FT catalyst prepared by sol-gel method
Thermogravimetric analysis and pyrolysis of waste mixtures of paint and tar slag
Ling Tao, Guang-Bo Zhao, Juan Qian, and Yu-Kun Qin ···· 26(3) ···· 856

Effects of nitrogen dilution for coal synthetic gas fuel on the flame stability and NO_x formation
Chan Lee and Hyun Gwon Kil ···· 26(3) ···· 86
Flow characteristics and dynamic behavior of dense-phase pneumatic conveying of pulverized coal with variable moisture content at high pressure \cdots Liang Cai, Chen Xiaoping, Zhao Changsui, Pu Wenhao, Lu Peng, and Fan Chunlei \cdots 26(3) \cdots 86
$Effect of bed height on the carbon dioxide capture by carbonation/regeneration cyclic operations using dry potassium-based sorbents \\ \cdots \\ Young Cheol Park, Sung-Ho Jo, Keun-Woo Park, Yeong Seong Park, and Chang-Keun Yi \\ \cdots \\ 26(3) \\ \cdots \\ 87(3)$
Numerical simulation of gas-solid flow in the axisymmetric inlets square separator
Diao Yong-Fa, Li Xun, Gu Ping-Dao, and Li Hao ···· 26(3) ····· 87
$Effects\ of\ preparation\ methods\ for\ V_2O_5\text{-}TiO_2\ aerogel\ catalysts\ on\ the\ selective\ catalytic\ reduction\ of\ NO\ with\ NH_3\\$
Carbon dispersed iron-manganese catalyst for light olefin synthesis from CO hydrogenation
Effect of pyrolysis temperature on the char micro-structure and reactivity of NO reduction $\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$
$\label{eq:methanol} \begin{tabular}{lll} Methanol selective oxidation to dimethoxymethane on H_3PMo$_{12}O$_{40}/SBA-15 supported catalysts $$\dots$_{12}O$_{12}O$_{13}O$_{14}O$_{15}O$_$
$Agglomeration \ of \ particles \ during \ coal \ combustion \ in \ multistage \ spouted \ fluidized \ tower\\$
Catalytic dry oxidation of aniline, benzene, and pyridine adsorbed on a CuO doped activated carbon \cdots Bingzheng Li, Zhenyu Liu, Zhiping Lei, and Zhanggen Huang \cdots 26(3) \cdots 91
Numerical simulation of the influence of over fire air position on the combustion in a single furnace boiler with dual circle firing \cdots Hiu Liu, Nana Xin, Qingxi Cao, Long Sha, Dezhi Sun, and Shaohua Wu \cdots 26(4) \cdots 113
CFD simulation of coal-water slurry flowing in horizontal pipelines Liangyong Chen, Yufeng Duan, Wenhao Pu, and Changsui Zhao ···· 26(4) ··· 114
Sulfation diffusion model for SO ₂ capture on the T-T sorbent at moderate temperatures
Yuran Li, Lizhai Yang, Changfu You, and Haiying Qi ····26(4) ··· 115
CO ₂ capture from flue gases using a fluidized bed reactor with limestone
Fan Fang, Zhen-shan Li, and Ning-sheng Cai ···· 26(5) ···· 141