

# Korean Chemical Engineering Research

June 2018  
Volume 56, Number 3

Korean Chem. Eng. Res., 56(3) 297-434 (2018)  
PISSN 0304-128X, EISSN 2233-9558

## Article

- Industrial Chemistry(Electrochemistry, Analytical Chemistry) · Drug Delivery System · Functional Coating Technology · Biomedical Materials**  
Preparation of the Hollow Fiber Type Perovskite Catalyst for Methane Complete Oxidation  
..... Seong Woon Lee, Eun Ju Kim, Hong Joo Lee and Jung Hoon Park **297**  
Synthesis and Electrochemical Characteristics of Silicon/Carbon Anode Composite with Binders and Additives  
..... Ji Yong Park and Jong Dae Lee **303**  
Functional Cosmetic Characteristics of the *Oxalidaceae* Extracts  
..... Donggyun Han, Daeyoung Noh, Haeun Shim, Sunha Jeong, Sukho Park, Heesun Choi and Donguk Kim **309**  
Variation of Hydrogen Peroxide Concentration during Fenton Reaction for Test the Membrane Durability of PEMFC  
..... Sohyung Oh, Jeongjae Kim, Daewoong Lee and Kwonpil Park **315**  
Electrochemical Performance of Graphite/Silicon/Carbon Composites as Anode Materials for Lithium-ion Batteries  
..... Yoon Ji Jo and Jong Dae Lee **320**  
Preparation of Water-Repellent Coating Solutions from Tetraethoxysilane and Methyltriethoxysilane by Sol-Gel Method  
..... Dong Gu Kim, Byung Wha Lee and Ki Chang Song **327**
- Process System Engineering · Plant Design · Process Safety · Plant Engineering**  
HAZOP Study for Risk Assessment and Safety Improvement Strategies of CO<sub>2</sub> Separation Process  
..... Chanhee You and Jiyong Kim **335**
- Multi-phase Flow Process · Multi-phase Reaction · Polymer · New Energy**  
Effects of Molecular Weight of PC on Mechanical Properties of PC/ABS Blends using High-Shear Rate Processing  
..... Eun Ju Lee, Hee Jung Park, Se Mi Kim, Seung Goo Lee and Kee Yoon Lee **343**
- Separation Technology · Thermodynamics · Membrane Technology · Supercritical Fluid Extraction · Ionic Liquids**  
Effects of Concentration of Precipitants and Aging Time on Synthesis of Mn-Substituted Barium Hexaaluminates by Homogeneous  
Precipitation  
..... Ji Yun Park, You Shick Jung and Young Woo Rhee **349**  
Study on Electrospun Activated Carbon Mats for the Filtration of Particulate Matter and Volatile Organic Compound in the Air  
..... Sangil Han **356**  
Preparation of Highly Tough Ethylene Vinyl Acetate (EVA) Heterogeneous Cation Exchange Membranes and Their Properties of  
Desalination  
..... In Sik Kim, Dae Young Ko, Ali Canlier and Taek Sung Hwang **361**
- Biochemical Engineering · Biochip Technology · Biomedical Technology**  
Decreasing Particle Size of (+)-Dihydromyricetin Using Hydrophilic Polymer in Fractional Precipitation  
..... Seong Bin Ji and Jin-Hyun Kim **370**  
Recovery of Astaxanthin from microalgae Using Simple and Energy-efficient Method  
..... Sun Young Kim, You-Kwan Oh and Sung Ho Ha **376**
- Energy/Environment · New Renewable Energy · Waste Treatment/Energy Recovery Technology**  
A Study of Upgrading Real Biogas via CO<sub>2</sub> Precipitation Route Under Indian Scenario  
..... Avneesh Kumar Gehlout, Ankur Gaur, Shabih Ul Hasan and Jin-WonPark **381**  
Investigation on Design Requirements of Vent Lines for Sodium-Water Reaction Pressure Relief System of Prototype  
Generation-IV Sodium-Cooled Fast Reactor  
..... Sun Hee Park and Ji-Woong Han **388**  
Hierarchical Porous 3D gel of the Co<sub>3</sub>O<sub>4</sub>/graphene with Enhanced Catalytic Performance for Green Catalysis  
..... Jae-Min Jeong, Sukhyeun Jang, Yunsu Kim, Hyun Bin Kim and Do Hyun Kim **404**
- Materials(Inorganics/Organics, Electronics, Semiconductor) · Nano Technology · Semiconductor Technology · Microreactor**  
Preparation and characterization of expanded graphite/Ag nanoparticle composites for the improvement of thermal diffusion  
..... Seok Hwan Hong and Won Gyu Lee **410**
- Catalysis/Reaction Engineering · Reactor Development/Modeling · Numerical Analysis · Transport Phenomena**  
Kinetics and Optimization of Dimethyl Carbonate Synthesis by Transesterification using Design of Experiment  
..... Kilwoo Lee and Kye Sang Yoo **416**  
Process Simulation and Optimization of Fuel Cell System including CFD Modeling of Diesel Desulfurizer Unit Process  
..... Chang Yong Choi and Do Jin Im **421**
- Short Communication**  
Estimation of Diffusion Coefficient and Mass Transfer Coefficient in Microwave-Assisted Drying of Paclitaxel for Removal  
of Residual Methylene Chloride  
..... Jin-Hyun Kim **430**