

Korean Chemical Engineering Research

August 2021
Volume 59, Number 3

Korean Chem. Eng. Res., 59(3) 305-480 (2021)
PISSN 0304-128X, EISSN 2233-9558

Review

- A Review on the Screw Configuration of Intermeshing Co-rotating Twin Screw Extruder
..... Shichoon Lee and Hyungsu Kim 305
- A Review of Research Trends in Microplastic Analysis in an Aquatic System
..... Soorim Oh and Do Gyun Lee 316

Article

Industrial Chemistry(Electrochemistry, Analytical Chemistry)

- Electrochemical Performances of Spherical Silicon/Carbon Anode Materials Prepared by Hydrothermal Synthesis
..... Na Hyun Choi and Jong Dae Lee 326
- Reducing the Test Time for Chemical Durability of PEMFC Polymer Membrane
..... Sohyeong Oh, Wonjin Cho, Daehyeon Lim, Donggeun Yoo and Kwonpil Park 333
- Durability Test of PEMFC Membrane by the Combination of Chemical/Mechanical Degradation
..... Daehyeon Lim, Sohyeong Oh, Sunggi Jung, Jihong Jeong and Kwonpil Park 339

Process System Engineering · Plant Design · Process Safety · Plant Engineering

- Design and Economic Analysis of Low Pressure Liquid Air Production Process using LNG cold energy
..... Haneul Mun, Geonho Jung and Inkyu Lee 345
- Hazard Evaluation of Minimum Ignition Energy by Electrostatic Voltage in Suspended Dust Particles
..... Oue-Sup Han 359

Biochemical Engineering · Biochip Technology · Biomedical Technology

- Force Transmission in Cellular Adherens Junction Visualized by Engineered FRET Alpha-catenin Sensor
..... Yoon-Kwan Jang, Jung-Soo Suh, Myungeun Suk and Tae-Jin Kim 366
- Fabrication and Characterization of Enzyme Electrode for Lactate Fuel Cell
..... YanQing Zhang and Chang-Joon Kim 373
- Development of An Improved Acetone-Water Fractional Precipitation Process for Purification of Paclitaxel from *Taxus chinensis*
and Its Kinetic and Thermodynamic Analysis
..... Hoe-Jong Kang and Jin-Hyun Kim 379

Energy/Environment · New Renewable Energy · Waste Treatment/Energy Recovery Technology

- Modeling to Estimate the Cycle Life of a Lithium-ion Battery
..... Jaewoo Lee, Dongcheul Lee, Chee Burm Shin, So-Yeon Lee, Seung-Mi Oh, Jung-Je Woo and Il-Chan Jang 393

Fluidization Engineering · Climate Change Technology · Fuel Conversion Technology · Particulate and Powder Engineering

- A Study on Synthesis of Ca and Mg Compounds from Dolomite with Salt Additional React ($MgCl_2 \cdot 6H_2O$)
..... Dae Ju Hwang, Young Hwan Yu, Kye Hong Cho and Jong Dae Lee 399
- Electrochemical Performance of PFO Pitch coated Natural Graphite using Dry Speed Mixer
..... Jae Woong Youn and Jong Dae Lee 410
- Anthracite Oxygen Combustion Simulation in 0.1MW_{th} Circulating Fluidized Bed
..... Eun Sol Go, Jin Woo Kook, Kwang Won Seo, Su Been Seo, Hyung Woo Kim, Seo Yeong Kang and See Hoon Lee 417

Transport Phenomena · Drug Delivery System · Functional Coating Technology · Biomedical Materials

- Fabrication and Characterization of Dissolving Microneedles Containing Lecithin for Transdermal Drug Delivery
..... Won-Ho Choi and Bumsang Kim 429

Materials(Inorganics/Organics, Electronics, Semiconductor) · Nano Technology · Semiconductor Technology · Microreactor

- Effect of Water Wash and Dry Temperature in Homogeneous Precipitation Method on the Manufacture of Mn-added Barium Hexaaluminates
..... Ji Yun Park, Seo Young Kim and Young Woo Rhee 435
- Manufacturing and Characteristics of Biodegradable Materials Based on Starch-Citric Acid for Anti-Particulate Scattering
..... Ji Sung Lee and Won Gyu Lee 443
- Fabrication and Evaluation of CdS/ZnS Quantum Dot Based Plastic Scintillator
..... Su Jung Min, Ha Ra Kang, Byung Chae Lee, Bum Kyung Seo, Jae Hak Cheong, Changhyun Roh and Sang Bum Hong 450
- Experimental Investigation on Finasteride Microparticles Formation via Gas Antisolvent Process
..... Mohammad Najafi, Nadia Esfandiari, Bizhan Honarvar and Zahra Arab Aboosadi 455

Catalysis/Reaction Engineering · Reactor Development/Modeling · Numerical Analysis

- Effects of Reactor Type on the Economy of the Ethanol Dehydration Process: Multitubular vs. Adiabatic Reactors
..... Kee-Youn Yoo 467