Korean Journal of Chemical Engineering

June 2022 Volume 39, Number 6

Korean J. Chem. Eng. 39(6) 1361-1658 Print ISSN 0256-1115 Online ISSN 1975-7220

INVITED REVIEW PAPER

Gaochen Jin and Bomyi Lim 1361 Epigenome editing and epigenetic gene regulation in disease phenotypes

RAPID COMMUNICATION

Anbarasu Krishnan, Duraisami Dhamodharan, Thanigaivel Sundaram, Vickram Sundaram, and Hun-Soo Byun

and Jin-Kuk Kim

Anbarasu Krishnan, 1368 Computational discovery of novel human LMTK3 inhibitors by high throughput isami Dhamodharan, virtual screening using NCI database



Human LMTK3 protein kinase structure

Virtual screening using NCI database

Molecular Docking using GLIDE

Molecular dynamics simulations using DESMOND at 25 ns

Free energy calculation using MM/GBSA

ADME Prediction using QlkProp

PROCESS SYSTEMS ENGINEERING, PROCESS SAFETY

desalination

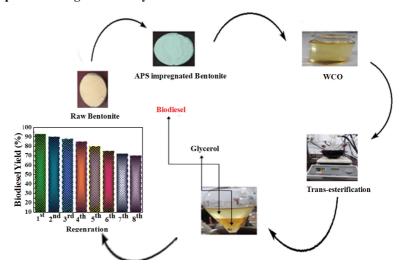
Miae Kim, Michael Binns, 1375 Process modeling and design of reverse osmosis membrane system for seawater

Yiduo Wang, Cheng Liu, Sheng Wang, and He Dong	1384	Investigation on flow characteristic and reaction process inside an EVA autoclave reactor using CFD modeling combined with polymerization kinetics
Changbeom Hong, Se-Kyu Oh, and Yeonsoo Kim	1396	Sensitivity analysis for parameter classification of energy balance-integrated single particle model for battery cells
		TRANSPORT PHENOMENA
Jianglin Tu, Cong Qi, Liang Sun, Yuxing Wang, and Zhibo Tang	1412	Numerical simulation of thermal performance of bionic waste heat utilization equipment filled with nanofluids
Apinan Namkanisorn, Santi Wattananusorn, Winatta Sakdasri, and Eakarach Bumrungthaichaichan	1424	CFD prediction of mixing performance for circular and non-circular jet mixing tanks
Morteza Khoshvaght-Aliabadi, Amir Feizabadi, Aida Salimi, and Mohammad Mehdi Rashidi	1436	Temperature nonuniformity management in heat sinks through applying counterflow design complex minichannels

CATALYSIS, REACTION ENGINEERING

Muhammad Farooq, Ihtisham Wali Khan, Zahid Ali Ghazi, Tooba Saeed, and Muhammad Hamayun

Abdul Naeem, Shah Zaman, 1450 Biodiesel production from waste cooking oil employing natural bentonite supported heterogeneous catalyst: Waste to biodiesel



Hagos Birhane Asfha, Na Young Kang, Kiwoong Kim, and Yong-Ki Park

Ashenafi Hailu Berta, Ho Dong Hwang, 1460 Reaction mechanism and kinetic modeling of olefin conversion over phosphorus modified ZSM-5 catalyst

ENERGY

Hee-Chul Eun, Keunyoung Lee, Hyungsub Kim, and Maengkyo Oh

Min Ku Jeon, Sung-Wook Kim, 1472 Recycling of Li(Ni,Co,Mn)O₂ via a chlorination technique

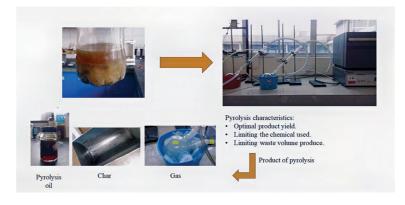
and Jinsoo Kim

The Ky Vo, Seung-Soo Kim, 1478 Pyrolysis characteristics and quantitative kinetic model of microalgae Tetralselmis sp.

ENVIRONMENTAL ENGINEERING

Mohamad Arsyad Abdul Khalid, Nurhayati Abdullah, Mohamad Nasir Mohamad Ibrahim, Rahmad Mohd Taib. Salmiah Jamal Mat Rosid, Nurasmat Mohd Shukri, NoorFatimah Yahaya, and Wan Nazwanie Binti Wan Abdullah

1487 Catalytic pyrolysis of waste oil into hydrocarbon fuel utilizing cerium oxide catalyst



Shokouh Mahpishanian, Bahar Forouzesh Rad, Mehran Janmohammadi, and Majid Baghdadi

Mahnaz Movafaghi Ardestani, 1496 Preparation and characterization of room-temperature chemically expanded graphite: Application for cationic dye removal

Ruifeng Ming, Bin Zhang, and Hai Lu

Jianhui Wang, Guolong Xie, Xin Qi, 1507 Kinetics of pentachlorophenol co-metabolism removal by micro-aeration sequencing batch reactor process

Meiying Xie, Fengzhi Tan, and Fan Yang

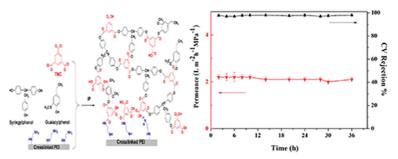
Yongli Chen, Weijie Cai, Meng Zhang, 1517 Highly elastic aerogel derived from spent coffee grounds as oil removal adsorbent

BIOTECHNOLOGY

- Yanhui Yuan, Ronald Chance, and Jay Hyung Lee
- Seongwhan Kang, Matthew J. Realff, 1524 Global evaluation of economics of microalgae-based biofuel supply chain using **GIS-based framework**
 - Sun-Wook Jeong, Jung Eun Yang, and Yong Jun Choi
- 1542 Microbial treatment of Pb(II) using a newly isolated Pb(II)-resistant Methylobacterium sp. MTS1 strain

SEPARATION TECHNOLOGY, THERMODYNAMICS

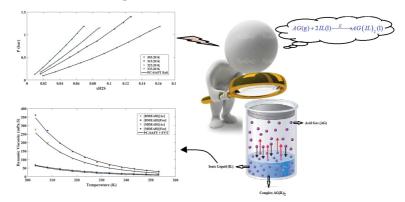
- Seung-Wook Baek and Sang-Do Yeo 1549
- Solubility and crystallization of ibuprofen in the presence of solvents and antisolvents
 - and Majid Peyravi
 - Setareh Salehi, Mohsen Jahanshahi, 1557 Feasibility of hydrophobized PES membrane in hybrid MD/FO process using magnetic draw solution
 - Dandan Cheng, Mengying Li, and Lei Wang
- Ayang Zhou, Ying Wang, 1566 Effective interfacially polymerized polyarylester solvent resistant nanofiltration membrane from liquefied walnut shell



Polyarylester nanofiltration membrane prepared from monomers of liquefied walnut shell and trimesoyl chloride shows stable separation performance in DMF.

and Seyyed Hamid Esmaeli-Faraj

Alireza Afsharpour 1576 Application of PC-SAFT EoS for calculating gas solubility and viscosity of ammonium-based ionic liquids



Byeong Jun Jeong, Jae Yeon Hwang, Young Chan Choi, and Jung Hoon Park

Xuelong Zhuang, Min Chang Shin, 1588 Desalination and lignin concentration in a lignin aqueous solution by nano-filtration process: Advanced γ-Al₂O₃ film-coated porous α-Al₂O₃ hollow fiber membrane

MATERIALS (Organic, Inorganic, Electronic, Thin Films)

Semin Jeong, Chanmin-Lee, Jun-young Lee, and Ki-Seob Hwang

1597 Hydrophobic films for optical detection of dry carbon dioxide based on ion pairing and an amine polymer

Paurnima Talele, Anita Kundlik Tawade, Kirankumar Kakchingtabam Sharma, Sawanta Subhash Mali, Chang Kook Hong,

Bhagyashri Bajirao Kamble, 1604 In situ soft templated synthesis of polyfluorene-molybdenum oxide (PF-MoO₃) nanocomposite: A nanostructure glucose sensor

and Mohamed Khitouni

and Shivaji Nemchand Tayade

Rakia Daly, Juan Jose Sunol, 1614 Structural and thermal properties of the Fe-based alloys prepared by mechanical milling

Wonmi Lee, Gyunho Park, 1624 **Performance enhancement of alkaline organic redox flow battery using catalyst** Daniel Schröder, and Yongchai Kwon including titanium oxide and Ketjenblack

POLYMER, INDUSTRIAL CHEMISTRY

Jinsoo Yoon, Joohyun Kim, Soomin Park, Yong Won Jeong, Changha Lee, and Seong-Geun Oh	1632	Fabrication of Ag-doped ZnO/PAN composite nanofibers by electrospinning: Photocatalytic and antiviral activities
Yang Ling, Jiang Wu, Lingtao Yang, and Dongjing Liu	1641	${\bf ZnS\text{-}modified\ carbon\ nitride\ nanosheet\ with\ enhanced\ performance\ of\ elemental\ Hg\ removal:\ An\ experimental\ and\ density\ functional\ theory\ study}$
Chul-Woong Cho and Yeoung-Sang Yun	1651	In silico prediction and analysis of dielectric constant of ionic liquids