

B: Distillation & Absorption

[Oral Session] (Day 3 – Saturday, November 1st, 9:00-12:40)

BO-01 9:00-9:20

Comparative Study between the Extractive and Azeotropic Distillation for IPA Dehydration
Manish POKHREL, Dong Sun KIM and Jungho CHO* (Kongju National University, Korea)

BO-02 9:20-9:40

A Novel HIDIC Distillation System Developed for Energy Saving of Enrichment Process of Bioethanol
Kunio KATAOKA*, Hideo NODA, Hiroshi YAMAJI, Tadahiro MUKAIDA and Goro NISHIMURA
(Kansai Chemical Engineering Co., Ltd, Japan)

BO-03 9:40-10:00

Comparison of Energy Consumption of Two-Column Configuration and Three-Column Configuration in the Extractive Distillation Process for the High Purity Refinement of Ethanol
Xuefei WU, Dong Sun KIM and Jungho CHO* (Kongju National University, Korea)

BO-04 10:00-10:20

New Heat Integration Arrangement Gives Superior Energy Conservation in HIDiC
Toshihiro WAKABAYASHI* (Toyo Engineering Corporation, Japan) and Shinji HASEBE (Kyoto University, Japan)

BO-05 10:20-10:40

Simulation and Optimization Study on the Pressure-Swing Distillation of Ethanol-Benzene Azeotrope
Hoey Kyung PARK, Dong Sun KIM and Jungho CHO* (Kongju National University, Korea)

BO-06 10:40-11:00

Iterative Procedure for Updating the Temperature Profile in Distillation Columns with Heat-Integrated Stages
J. Rafael ALCÁNTARA-AVILA*, Ken-Ichiro SOTOWA and Toshihide HORIKAWA (The University of Tokushima, Japan)

[11:00-11:20] Coffee Break

BO-07 11:20-11:40

Comparative Study between Pressure-Swing Distillation and Extractive Distillation for the Separation Process of Maximum-Boiling Azeotropic System of Water-Ethylenediamine
Alyssa Marie FULGUERAS, Dong Sun KIM and Jungho CHO* (Kongju National University, Korea)

BO-08 11:40-12:00

Equation-Based Modelling of Distillation Processes for Plant Design Optimization
Shigeru KASHIWAYA* (Process Systems Enterprise Limited, Japan)

BO-09 12:00-12:20

Comparative Study between Pressure Swing Distillation and Extractive Distillation on the Separation Process of Tetrahydrofuran-Water System
Leah Jessica SEBASTIAN, Dong Sun KIM and Jungho CHO* (Kongju National University, Korea)

BO-10 12:20-12:40

Selection and Development of Specific Synthetic Amine Absorbents for CO₂ Capture
Firoz Alam CHOWDHURY*, Tsuguhiro KATO, Kazuya GOTO (Research Institute of Innovative Technology for the Earth, Japan), Yoichi MATSUZAKI (Nippon Steel & Sumitomo Metal Corporation, Japan), Takayuki HIGASHII (Research Institute of Innovative Technology for the Earth, Japan) and Masami ONODA (Nippon Steel & Sumitomo Metal Corporation, Japan)

[Poster Session] (Day 2 – Friday, October 31st, 13:30-17:30)

(3 minutes flash presentations: 13:30-14:30, even-numbered posters presentation: 14:30-15:30, odd-numbered posters presentation: 16:00-17:00)

- BP-01** Solubility of Carbon Dioxide in Various Physical Solvents
Ji Won KIM(Korea National University of Transportation, Korea), Gyo Hee KIM, Won Hi HONG(Korea Advanced Institute of Science and Technology, Korea), Jong Kyun YOU(Korea Institute of Energy Research, Korea) and Yeon Ki HONG*(Korea National University of Transportation, Korea)
- BP-02** CO₂ Absorption into Aqueous Solutions of Hindered Amines
Kazuya GOTO*, Hidetaka YAMADA and Takayuki HIGASHII (Research Institute of Innovative Technology for the Earth, Japan)
- BP-03** Carbon Dioxide Absorption into Aqueous Mixtures of K₂CO₃ and Sterically Hindered Alkanolamine Additives
Taesung JUNG*, Hyung Chul YOON, Dong Woo CHO and Jong-Nam KIM (Korea Institute of Energy Research, Korea)
- BP-04** Operating Condition of Post Combustion CO₂ Capture System Applying Solid-Liquid Separation Process Using 2-Amino-2-Methyl-1-Propanol
Shunsuke SATO*, Takao NAKAGAKI (Waseda University, Japan), Hiroshi SATO (Research Laboratory, IHI Corporation, Japan) and Yasuro YAMANAKA (Energy & Plant Operations, IHI Corporation, Japan)
- BP-05** Energy Saving CO₂ Separation Using Phase Transition Solvent
Hiroshi MACHIDA*, Takashi TOMIKAWA and Hirotoishi HORIZOE (Nagoya University, Japan)
- BP-06** CO₂ Absorption in Seawater to Reduce the Emission from Cruising Ships
Susumu NII*, Katsuroku TAKAHASHI (Nagoya University, Japan), Ken KANAI, Kazunori SATO (The Shipbuilding Research Center of Japan, Japan) and Shogo YAMAGUCHI (Mitsubishi Heavy Industries. Ltd., Japan)
- BP-07** Efficiency Penalty of Coal-Fired Power Plant Combined with CO₂ Absorption Process
Satoshi KODAMA*(Tokyo Institute of Technology, Japan), Kazuya GOTO (Research Institute of Innovative Technology for the Earth, Japan) and Hidetoshi SEKIGUCHI (Tokyo Institute of Technology, Japan)
- BP-08** Separation Performance of Dehydration of IPA Solution Using Adsorption - Distillation Hybrid System
Takehiro YAMAKI(Yamagata University, Japan, National Institute of Advanced Industrial Science and Technology, Japan), Akira ENDO(Yamagata University, Japan, National Institute of Advanced Industrial Science and Technology, Japan) and Keigo MATSUDA* (Yamagata University, Japan)
- BP-09** Development of LiCl Salt Distillation Equipment for Post-Treatment of Recovered Metal after Electrolytic Reduction Process
Byung Heung PARK*(Korea National University of Transportation, Korea), Jin-Mok HUR and Eun-Young CHOI (Korea Atomic Energy Research Institute, Korea)
- BP-10** Safety Assessments of Waste Solvent Distillation
Masafumi KONO*, Akiyoshi ODA, Takamasa KATO and Kiyoshi NAKATA (Nippon Refine Co., Ltd., Japan)
- BP-11** Application of Diabatic DWC to Gas Separation Process
Young Han KIM* (Dong-A University, Korea)
- BP-12** Proof of the Energy Saving of Modified Petlyuk Process
Naoki TODOROKI*(Daicel, Japan) and Hideki MORI (Nagoya Institute of Technology, Japan)
- BP-13** Improvement of Stage IV Non-Small Cell Lung Cancer Used the Traditional Hydro-Distillation of Herbal Medicine Treated with Korean Medicine Therapy
Wonjun CHO*, Hyejin YU, Dong-Hyun LEE, Shin SEONG, Sung-Su KIM and Jae-Bok HAN (Soram Korean Medicine Hospital, Korea)

- BP-14** Separation Characteristics of a Pervaporation-Distillation Hybrid Process for Acetic Acid Dehydration
Miho KOBAYASHI, Yusuke KONISHI, Ryo NAGUMO, Shuichi IWATA(Nagoya Institute of Technology, Japan), Joon Man LEE(Yeungnam College of Science & Technology, Korea) and Hideki MORI*(Nagoya Institute of Technology, Japan)
- BP-15** Application of Membrane Module for Natural Gas Processing
Wonjun CHO*(Korea Gas Corporation R&D, Korea), Yonggi MO(Korea Gas Corporation R&D, Korea, Hanyang University, Korea), Yunsik CHO(Westminster Catawba Christian School, Korea) and Young Chai KIM(Hanyang University, Korea)
- BP-16** Energy Efficiency of Pressure Driven Distillation System for Separation of Bioethanol
Kouhei ITO, Ken-Ichiro SOTOWA*, Toshihide HORIKAWA and J. Rafael Alcántara AVILA (The University of Tokushima, Japan)
- BP-17** Simulation of Refrigeration Cycle Using Helium as a Refrigerant for the Cryogenic Separation of Hydrogen Isotopes Using Various Simulators
Alyssa Marie FULGUERAS, Jaehyun NOH(Kongju National University, Korea), Hyeon Gon LEE, Sei Hun YUN(National Fusion Research Institute, Korea), Dong Sun KIM and Jungho CHO*(Kongju National University, Korea)
- BP-18** Developed High Performance of T-type Packing(MC Pack) with MC-Distributor for Aqueous Application
Kazuo WATARI * and Eiichi HIROSE (Matsui Machine Ltd., Japan)
- BP-19** Simulation Studies on the Production Process of Propylene Glycol Monomethyl Ether Acetate
Youn-Soo SHIN and Jongkee PARK* (Korea Institute of Energy Research, Korea)
- BP-20** Experimental Study of an Internally Heat-Integrated Batch Distillation Column
Yasuhiko SUZUKI, Takehiro YAMAKI and Keigo MATSUDA* (Yamagata University, Japan)