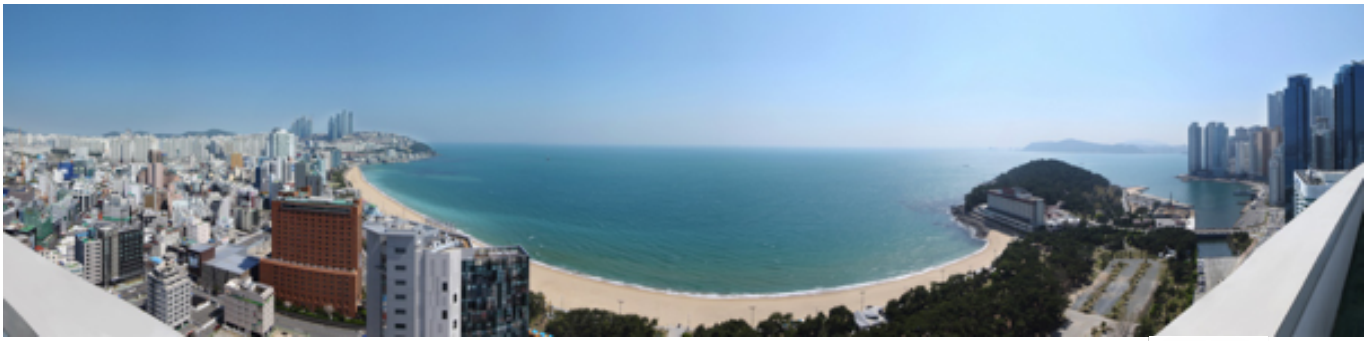
ICSST 17

The 11th International Conference on Separation Science and Technology

PROGRAM AND GENERAL INFORMATION



Airrane Co., Ltd.

ATI Korea Co., Ltd.

Aquatic Biomass Research Center

Center for Convergent Chemical Process

Functional Crystallization Center

Gens Engineering Co., Ltd.

Korea CCS R&D Center

Micrometrics Instrument Corp

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November 9 – November 11, 2017

Haeundae Grand Hotel, Busan, Korea

Organized by

The Division of Separation Technology, The Korean Institute of Chemical Engineers

The Society of Separation Process Engineers, Japan

사단법인 한국화학공학회 THE KOREAN INSTITUTE OF CHEMICAL ENGINEERS

SSPEJ

CHAIRMEN'S ADDRESS

Since its start in 1987 in Kyungju, Korea, the International Conference on Separation Science and Technology (ICSST) has been held every three years for the advancement of separation technology and the enhancement of mutual understanding and friendship among researchers in the area of separation sciences and technologies.

The aim of the conference is to provide a platform for scientists and engineers in the field of separation science and technology to exchange their ideas and progress they have made, and to promote the international cooperation and communications in solving important separation challenges that can change the world. We hope the participants will greatly benefit from the discussion and lectures during the conference. Around 360 papers will be presented for the following sessions including four plenary lectures: Phase Equilibria/Transport Properties; Distillation/Absorption; Crystallization; Adsorption/Chromatography/Ion Exchange, Membrane Separation/Fluid-Solid Separation; Extraction/Supercritical Fluid Technology; New or Hybrid Separation Process & Materials for Energy & Environment.

We would like to express our deep gratitudes to Program Chairmen, Organizing Committee, Steering Committee, and Secretary Members for their efforts in organizing this event, as well as all Session Organizers and Session Chairmen who each took on the crucial task of organizing all sessions. Also, we would like to express our gratitude to institutions and companies for their financial contributions.

It is our great pleasure to welcome you to the 11th International Conference on Separation Science and Technology (ICSST17) in Busan, Korea!

Jong-Nam KIM 김종남

Hideki MORI 森秀樹

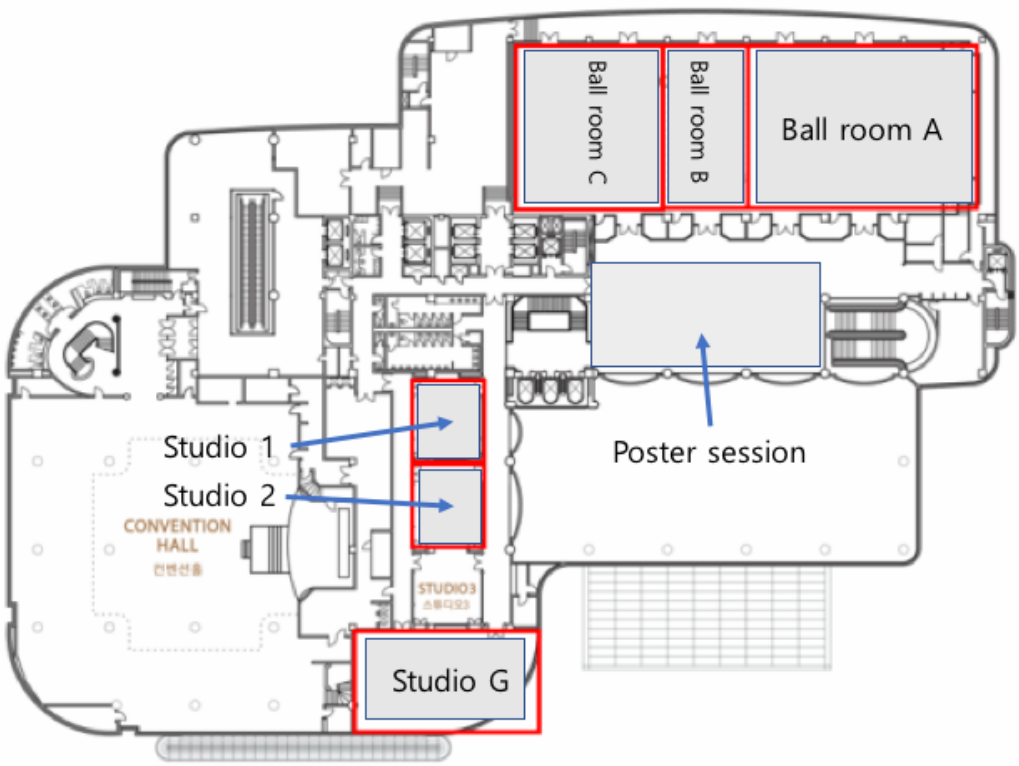
Chairmen of ICSST 17

CONFERENCE VENUE

The 11th International Conference on Separation Science and Technology (ICSST 17) takes place at **The Haeundae Grand Hotel**, Busan.

Haeundae-Beach Road 217, Haeundae-gu, Busan

2nd floor (conference venue)



* Poster session will be held at the lobby on 2nd floor

ORGANIZATION

Conference Chairperson	**Jong-Nam KIM** (Korea Institute of Energy Research)	**Hideki MORI** (Nagoya Institute of Technology)
Program Chairperson	**Kwang Bok YI** (Chungnam National Univ.) **Chang-Ha LEE** (Yonsei Univ.)	**Motonobu GOTO** (Nagoya Univ.) **Hiroshi TAKIYAMA** (Tokyo Univ. of Agriculture and Technology)
Organizing Committee	**Youn Yong LEE** (KIST) **Chul Soo LEE** (Korea Univ.) **Won Hi HONG** (KAIST) **Hwayong KIM** (Seoul National Univ.) **Soon Haeng CHO** (GENS Engineering) **Sung Hyun KIM** (Korea Univ.) **Ki Pung YOO** (Sogang Univ.) **Hee MOON** (Chonnam National Univ.) **Dae Ki CHOI** (KIST) **Seung-Tae KOH** (Dongyang Univ.) **Woo-Sik KIM** (Kyung Hee Univ.)	**Toshihiko HIAKI** (Nihon Univ.) **Peter CUMMINGS** (Vanderbilt Univ.) **Masakuni MATSUOKA** (Tokyo Univ. of Agriculture and Technology) **Tadanori MISAWA** (Kagaku Kogyousya Inc.) **Kunio NAGAHAMA** (Tokyo Metropolitan Univ.) **Kenji OCHI** (Nihon Univ.) **V. K. RATTAN** (Panjab Univ.) **Katsumi TOCHIGI** (Nihon Univ.) **Hiroshi YAGI** (HyChem Techno)
Secretary Members	**Hyung Chul YOON** (KIER) **Ki Bong LEE** (Korea Univ.) **Youn-Sang BAE** (Yonsei University) **Yongchul G. CHUNG** (Pusan National Univ.)	**Susumu NII** (Kagoshima Univ.) **Shiro MISAWA** (Kagaku Kogyousya Inc.) **Masaki OKADA** (Nihon Univ.) **Keishi SUGA** (Osaka Univ.) **Kazuhiro MOCHIZUKI** (ReToCA Lab.) **Hiroyuki MATSUDA** (Nihon Univ.)

SESSION ORGANIZER* and SESSION CHAIRMEN

A: Phase Equilibria / Transport Properties	
Jeong Won KANG*(Korea Univ.) Min Chan KIM*(Jeju Nat'l Univ.) Yongwon SEO(UNIST) Hun Yong SHIN(SEOULTECH)	Yoshio IWAI*(Kyushu Univ) Hiroshi INOMATA*(Tohoku Univ) Kazuhiro TAMURA(Kanazawa Univ) Takashi MAKINO(AIST)
B: Distillation / Absorption	
Moonyong LEE*(Yeungnam Univ.) Jong Kyun YOU*(KIER) Yeon Ki HONG(Korea Nat'l Univ. of Transportation) Ki Joon KANG(Benit M Co. Ltd.)	Kazuya GOTO*(Research Institute of Innovative Technology for the Earth) Masakazu SASAKI*(Toyo Engineering Corp.) Keigo MATSUDA(Yamagata Univ) Mitsuhiro KANAKUBO(AIST) Takehiro YAMAKI(AIST)
C: Crystallization	
DaeRyook YANG*(Korea Univ.) Jonghwi LEE*(ChungAng Univ.) Taekyung Yu(Kyung Hee Univ.)	Koji MAEDA*(Universiy of Hyogo) Norihito DOKI(Iwate Univ) Kunio FUNAKOSHI(Nagaoka Univ. of Technology) Koichi IGARASHI(Osaka City Univ) Tomomichi HINO(Mitsubishi Chemical Holdings Corp.)
D: Adsorption/Chromatography/Ion Exchange	
Jae Chang KIM*(Kyungpook Nat'l Univ.) Youn-Sang BAE*(Yonsei Univ.) Sangil HAN(Changwon Univ.) Ki Bong LEE(Korea Univ.)	Akio KODAMA*(Kanazawa Univ) Katsunori YOGO*(Research Institute of Innovative Technology for the Earth) Akira ENDO(AIST) Hideki TANAKA(Kyoto Univ.) Kazuyuki NAKAI(MicrotracBEL Corp.)
E: Membrane Separation/Fluid-solid Separation	
Jung Hoon PARK*(Dongguk Univ.) Pyung Soo LEE*(KRICT)	Masashi IWATA*(Osaka Prefecture Univ.) Tomohisa YOSHIOKA*(Kobe Univ.) Mikihiro NOMURA(Sibaura Institute of Technology) Masakoto KANEZASHI(Hiroshima Univ.) Kazuho NAKAMURA(Yokohama National Univ.)

F: Extraction/Supercritical Fluid Technology	
Byung-Soo CHUN*(Pukyong Nat'l Univ.) Jaehoon KIM*(Sungkyunkwan Univ.) Hong-Shik LEE(Korea Institute of Industrial Technology)	Takeshi SAKO*(Shizuoka Univ.) Susumu NII*(Kagoshima Univ.) Yasuhiro NISHII(NIT, Niihama College) Idzumi OKAJIMA(Shizuoka Univ.)
G: New or Hybrid Separation Process &Materials	
Young-Seak LEE*(Chungnam Nat'l Univ.) Minkee CHOI*(KAIST) Kanghee CHO(KIER)	Takeo YAMAGUCHI*(Tokyo Institute of Technology) Hiroshi UMAKOSHI*(Osaka Univ.) Yuhei OSHIBA(Tokyo Institute of Technology) Toshinori SHIMANOUCHI(Okayama Univ.) Kazuhiko TANIMURA(Hitachi Zosen Corp.)

INSTRUCTION FOR PRESENTATION

Oral Presentation

Oral presentations will be allotted 15-20 minutes(30 minutes for plenary lectures) including discussion and change of speakers. A beam projector and a PC (Windows) will be available in the session rooms where speakers are invited to upload their presentation in advance, in order to avoid last minute problem. Speakers must bring backup data of the presentation slides stored in a USB drive. All the speakers are recommended to check if their slides are properly projected on a screen before the start of their session.

The PC installed with MS office will be provided by the conference. Mac users may bring their own Mac book. However, participants should be aware that the projector has only a usual analog min Dsub 15 pin connector. Speakers should bring an adapter for the interface conversion if necessary. Also, speakers are advised to bring pdf version of the presentation file to escape from a worst case situation.

Poster Presentation

Panels for posters have a width of 120 cm and a height of 180 cm. For the sake of readability, we recommend authors to prepare posters roughly with size of A0 (84 cm * 120 cm). Poster panels ([Session] P - [panel number], e.g., AP-01) will be identified by the same number assigned to the poster in the Technical Program. Poster sessions will be held on the following schedule.

Poster presentation 1: 13:30 – 17:30 on November 10 (Fri)

Poster presentation 2: 09:00 – 13:00 on November 11 (Sat)

Posters will be mounted on and removed from the supporting panels by the authors. Presenters are supposed to mount the poster by themselves. Pins with

handles Thumb tack(push pin) and trasparent sticky tapes will be provided by the conference. During the sessions, presenters are requested to be presented at their posters. Right after the poster session, the authors must remove their posters. Posters left on panels after each session will be discarded.

Please note that there will be flash presentation sessions for session B(Distillation/Absorption) and session D(Adsorption/Chromatography/Ion Exchange) for all of poster presenters. Please be advised with the time table for detailed schedule for flash presentation and poster for the session B and D.

GENERAL INFORMATION

Reception/Registration

The welcome desk will be opened in the main lobby on the 2nd floor (right in front of the grand ball room) from November 9th, Thursday.

November 9th, Thursday 15:00 - 18:00
November 10th, Friday 09:00 - 17:00
November 11th, Saturday 09:00 - 11:00

At your arrival,

you will be given your badge and your conference materials including conference abstract etc. Please note that the meeting, breaks and exhibition area are accessible only with your badge.

Language of Conference

The language of the conference is English.

Insurance

The organizers do not accept responsibility for individual medical, travel or personal insurance. Participants are strongly advised to take out their own insurance policies.

Internet

Wireless internet access will be available for all participants.

Currency and Bank

The official currency is Korean Won, KRW. Currencies can be exchanged in banks which you can find in the city center and the airport.

Emergency Calling

Medical care: 119
Police: 112

GENERAL TIMETABLE

Day 1. Thursday, November 9th

14:00-18:00	Registration
18:00-19:00	Chairmen's Meeting
19:00-20:30	Welcome Reception

Day 2. Friday, November 10th

09:00-09:30	Opening Ceremony				
09.30-10:30	Plenary Session 1 (Grand ball room)				
10:30-10:45	Coffee Break				
10:45-11:45	Plenary Session 2 (Grand ball room)				
12:00-13:30	Lunch (Hotel restaurant)				
13:30-15:30	Oral session1 (Studio G) Phase equilibria/ Transport Properties	Ora session2 (Ball room B) Distillation/Absorption	Oral session3 (Ball room C) Crystallization	Oral session4 (Ball room A) Adsorption/ Chromatography /Ion exchange	Poster Session 1 Membrane separation/Fluid-Solid Separation Extraction /Supercritical Fluid Technology New or Hybrid Separation Process & Material
15:30-15:50	Coffee break (This may vary with the sessions' schedule)				
15:50-17:30	Oral session1 (Studio G) Phase equilibrium/ Transport Properties	Oral session2 (Ball room B) Distillation/Absorption	Oral session3 (Ball room C) Crystallization	Flash PT for posters 1 (1/2) (Ball room A) Adsorption/ Chromatography /Ion exchange	
18:00-20:00	Banquet				

Day 3, Saturday, November 11th

09:00-11:00	Oral session5 (Ball room A) Membrane separation/ Fluid-Solid Separation	Oral session6 (Ball room A) Extraction/ Supercritical Fluid Technology	Oral session7 (Ball room C) New or Hybrid Separation Process & Material	Flash PT for posters 2 (2/2) (Studio G) Adsorption/ Chromatography /Ion exchange (09:00~10:00) Flash PT for posters 2 (Studio 2) Distillation/ Absorption (09:00~11:00)	Poster Session 2 Phase equilibria/ Transport Properties Distillation /Absorption (11:00-13:00) Crystallization Adsorption/ Chromatography/ Ion exchange (10:00-13:00)
11:00-11:20	Coffee break (This may vary with the sessions' schedule)				
11:20-13:00	Oral session5 Membrane separation/ Fluid-Solid Separation	Oral session6 Extraction/ Supercritical Fluid Technology	Oral session7 New or Hybrid Separation Process & Material		
13:00 -	Wrap-up				

PLENARY LECTURES

Day2-Friday, November 10th, 09:30-11:45 @Grand ball room

Session chairmen: Kwang Bok YI(Chungnam Nat'l Univ.),
Hiroshi TAKIYAMA(Tokyo Univ. of Agriculture and Technology)

PL-01	09:30-10:00 DEVELOPMENT OF ENVIRONMENTAL CRYSTALLIZATION AND CHALLENGE Izumi Hirasawa*(Waseda Univ.)
PL-02	10:00-01:30 RATIONAL DESIGN OF SOLID ADSORBENT FOR POST-COMBUSTION CO_2 CAPTURE Minkee CHOI*(KAIST)
10:30-10:45 COFFEE BREAK	
PL-03	10:45-11:15 RESARCH AND DEVELOPMNET OF CO_2 CAPTURE TECHNOLOGY FOR CCS Kazuya GOTO*(RITE)
PL-04	11:15-11:45 MAXIMIZING THE RIGHT STUFF: HOW TO OVERCOME THE TRADE-OFF BETWEEN MEMBRANE PERMEABILITY AND SELECTIVITY Ho Bum PARK*(Hanyang Univ.)

SESSION PROGRAM

A: Phase Equilibria / Transport Properties

[Oral Session] (Day2-Friday, Nov 10th, 13:30-17:30) @Studio G

Session chairmen : Hun Yong SHIN(SEOULTECH), Takashi MAKINO(AIST)

AO-01	13:30-13:50 MOLECULAR SIMULATION ON THE DUALITY OF SUPERCRITICAL FLUIDS ACROSS THE SUPERCRITICAL GAS-LIQUID BOUNDARY Tae Jun YOON, Min Young HA, Won Bo LEE* and Youn-Woo LEE*(Seoul National Univ.)
AO-02	13:50-14:10 A NEW ACTIVITY COEFFICIENT MODEL TO SIMULTANEOUSLY CORRELATE LIQUID-LIQUID EQUILIBRIA FOR TERNARY SYSTEMS AND VAPOR-LIQUID EQUILIBRIA FOR CONSTITUTIVE BINARY SYSTEMS Yoshio IWAI*(Kyushu Univ.)
AO-03	14:10-14:30 STUDY ON CORRELATION METHODOLOGY OF SOLUBILITY OF NATURAL COMPONENTS IN SUPERCRITICAL CO_2 WITH/WITHOUT ETHANOL CO-SOLVENT – A VERSATILE AGGREGATION PARAMETER BASED ON THERMAL PRESSURE COEFFICIENT Masaki OTA, Yoshiyuki SATO, Richard Lee SMITH Jr. and Hiroshi INOMATA*(Tohoku Univ.)
AO-04	14:30-14:50 DYNAMIC SIMULATION AND ENERGY ANALYSIS OF TES SYSTEM IN COMBINED CYCLE Jaecheol LEE*(Schneider-electric Software), Shihwang LEE and Min OH(Hanbat National Univ.)
AO-05	14:50-15:10 RECOMMENDED REFERENCE DATA FOR PHASE EQUILIBRIUM STUDISE JeongWon KANG*(Korea Univ.), Ala BAZYLEVA and Vladimir DIKY(NIST)

AO-06	15:10-15:30 SOLID-LIQUID EQUILIBRIA FOR PRODUCTION OF HIGH-PURITY DIPHENYL CARBONATE Hiroyuki MATSUDA*, Yuki OHASHI, Kiyofumi KURIHARA and Katsumi TOCHIGI(Nihon Univ.)
Coffee Break **15:30-15:50**	

Session chairmen: Jeong Won KANG(Korea Univ.), Kazuhiro TAMURA(Kanazawa Univ.)

AO-07	15:50-16:10 CO_2 SOLUBILITY IN AND PHYSICAL PROPERTIES OF CARBOXYLATE IONIC LIQUIDS Takashi MAKINO*, Mitsuhiro KANAKUBO(AIST) and Tatsuya UMECKY(Saga Univ.)
AO-08	16:10-16:30 PRECIPITATION BEHAVIOR OF POLYMER SOLUTIONS FOR CO_2 SPRAY PAINTING: PHASE SEPARATION ANALYSIS WITH THE SOLUBILITY PARAMETER Yoshiyuki SATO*, Kohei ABE and Hiroshi INOMATA(Tohoku Univ.)
AO-09	16:30-16:50 INVESTIGATION OF THERMODYNAMIC INSTABILITY TRANSFORMATION APPEARING IN CO_2^{+3},3-DIMETHYL-1-BUTANOLsHHYDRATE Heejoong KIM, Yunseok LEE, Seokyoon MOON and Youngjune PARK*(GIST)
AO-10	16:50-17:10 PHASE BEHAVIOR AND STRUCTURAL TRANSFORMATION DURING CH_4-CO_2 REPLACEMENT OCCURRING IN VARIOUS GAS HYDRATE STRUCTURES Yohan LEE and Yongwon SEO*(UNIST)

[Poster Session] (Day3-Saturday, Nov 11th, 09:00-13:00)

Session chairmen: Yongwon SEO(UNIST),
Hiroshi INOMATA(Tohoku Univ.),
Yoshio IWAI(Kyushu Univ.)

AP-01	MEASUREMENT OF WATER SOLUBILITY IN CARBON DIOXIDE RICH PHASE INCLUDING NITROGEN AT HIGH PRESSURES WonGu RHO, Jeong Won KANG*(Korea Univ.), Seong-Sik YOU(Korea Univ. of Technology and Education), and ChulSoo LEE(Korea Univ.)
AP-02	PREDICTION OF PVT AND ENTHALPIES USING MODIFIED SRK EQUATION OF STATE WITH NEW REPULSIVE TERM Katsumi TOCHIGI*, Koichiro MURAMATSU, Hiroyuki MATSUDA and KIyofumi KURIHARA(Nihon Univ.)
AP-03	EFFECT OF CROSS-DIFFUSION ON THE ONSET OF GRAVITATIONAL INSTABILITY MinChan KIM*(Jeju National Univ.)
AP-04	MODIFICATION OF CDSAP MODEL AND APPLICATION TO VAPOR-LIQUID AND LIQUID-LIQUID EQUILIBRIA FOR NON-AQUEOUS SYSTEMS Yujiro SAKURADA and Yoshio IWAI*(Kyushu Univ.)
AP-05	DENSITIES AND EXCESS VOLUMES OF AQEOUS N-METHYLDIETHANOLAMINE AND 2-AMINO-2-METHYL-1-PROPANOL SYSTEMS Jaeseok NA(SEOULTECH), Byoeng-Moo MIN, Young Cheol PARK, Jong-Seop LEE(KIER) and HunYong SHIN*(SEOULTECH)
AP-06	SHAPE OF TINY DROPLET ON VERTICALLY VIBRATING PLATE CONTAINING SOLUBLE SURFACTANTS Naoki MIYATA, Shuichi IWATA*, Hideki MORI, Ryo NAGUMO(Nagoya Institute of Technology) and Rie MOGAMI(FANCL Corporation)
AP-07	VAPOR-LIQUID EQUILIBRIUM OF WATER + DIISOPROPYLAMINE AND WATER + N-METHYLDIETHANOLAMINE SYSTEMS BY STATIC METHOD Sung-Rae KIM,(SEOULTECHJ) Byoung-Moo MIN, Jong-Ho MOON, Jong-Seop LEE(KIER), and Hun Yong SHIN*(SEOULTECH)
AP-08	VAPOR-LIQUID EQUILIBRIA OF BINARY MIXTURES CONTAINING ETHYL LACTATE FOR CONSIDERATING EFFECT OF ETHYL LACTATE AS ENTRAINER Takuya KOBAYASHI, Shoko ISHIKAWA, Takaki ONOO, Hiroyuki MATSUDA*, Kiyofumi KURIHARA and Katsumi TOCHIGI(Nihon Univ.)

AP-09	TITANIUM OXIDE NANOPARTICLES MODIFIED WITH STEARIC ACID IN SUPERCRITICAL CARBON DIOXIDE Kazuhiro TAMURA* and Masatoshi SHIMURA(Kanazawa Univ.)
AP-10	PHASE EQUILIBRIUM OF 2,3-BUTANEDIOL + WATER + ORGANIC SOLVENT(2-METHYL-1-PENTANOL) AT SEVERAL TEMPERATURE. JeongAh CHO and Jongsung LIM*(Sogang Univ.)
AP-11	PHASE EQUILIBRIUM OF 2,3-BUTANEDIOL + WATER + ORGANIC SOLVENT (3-METHYL-3-PENTANOL) AT SEVERAL TEMPERATURE. YuGyeom KIM and JongSung LIM*(Sogang Univ.)
AP-12	MEASUREMENT AND CORRELATION OF CO_2 SOLUBILITY IN 1-ETHYL-3-METHYLIMIDAZOLIUM([EMIM])CATION BASED IONIC LIQUIDS:[EMIM][Ac], [EMIM][Cl], [EMIM][$MeSO_4$] Seung-Jae HA and JongSung LIM*(Sogang Univ.)

B: Distillation / Absorption

[Oral Session] (Day2-Friday, Nov 10th, 13:30-17:40) @Ball room B

Session chairmen: Jong Kyun YOU(KIER), Takehiro YAMAKI(AIST)

BO-01	13:30-13:50 DISTILLATION PROCESS INTENSIFICATION FOR PRODUCING ABSOLUTE BIOETHANOL WITH A GREAT EFFECT OF ENERGY SAVING Kunio KATAOKA* and Hideo NODA(Kansai Chemical Engineering Co.)
BO-02	13:50-14:10 ENERGY EFFICIENCY ANALYSES OF SOLVENT-BASED CARBON CAPTURE PROCESSES FOR A 300 MW IGCC Hyun-Taek OH(Yonsei Univ.), Woo-Sung LEE(Yonsei Univ.), Jae-Cheol LEE(Yonsei Univ. ,Schneider Electric Korea), Min OH(Hanbat National Univ.) and Chang-Ha LEE*(Yonsei Univ.),
BO-03	14:10-14:30 DEVELOPMENT OF A CONTINUOUS MULTI-STAGE FALLING LIQUID FILM EVAPORATOR/DISTILLER NAMED "WW MURTON®" Tadahiro MUKAIDA*, Kunio KATAOKA, Hiroshi YAMAJI, and Hideo NODA(Kansai Chemical Engineering Co.) and Naoto OHMURA(Kobe Univ.)
BO-04	14:30-14:50 ENHANCED ACTIVE VAPOR DISTRIBUTOR FOR IMPROVING OPERABILITY OF DIVIDING WALL COLUMN Ki Joon KANG*, Gregorius Rionugroho HARVIANTO(Benit M Co) and Moonyong LEE*(Yeungnam Univ.)
BO-05	14:50-15:10 EXPERIMENTAL STUDY OF MASS TRANSFER IN A PACKED-COLUMN DISTILLATION PROCESS Goro NISHIMURA*, Kunio KATAOKA, and Hideo NODA(Kansai Chemical Engineering Co.)

BO-06	15:10-15:30 INTRODUCTION FOR BATCH DISTILLATION SIMULATION, UTILIZATION EXAMPLE IN PHARMACEUTICAL PROCESS INDUSTRY Tomoyuki TAGUCHI(Chiyoda Co.)
Coffee Break 15:30-15:40	

Session chairmen : Yeon Ki HONG(Korea Nat'l Univ. of Transportation), Mitsuhiro KANAKUBO(AIST)

BO-07	15:40-16:00 DEVELOPMENT OF ENERGY-SAVING CO_2 CAPTURE PROCESS USING PHASE SEPARATION SOLVENT Hiroshi MACHIDA*, Takehiro ESAKI, Tsuyoshi YAMAGUCHI, Koyo NORINAGA(Nagoya Univ.), Akira KISHIMOTO, Akira MATSUOKA, Katsuya AKIYAMA and Makoto NISHIMURA (Kobe Steel)
BO-08	16:00-16:20 GLOBAL SENSITIVITY ANALYSIS FOR CRUDE OIL DISTILLATION USING A METAMODELING REGRESSION METHOD Le Quang MINH, Pham Luu Trung DUONG and Moonyong LEE*(Yeungnam Univ.)
BO-09	16:20-16:40 SEPARATION PERFORMANCE OF A HORIZONTAL TYPE DISTILLATION SYSTEM Yusuke SHIMADA, Ken-Ichiro SOTOWA*, Jesús Rafael ALCANTARA-AVILA and Toshihide HORIKAWA(Tokushima Univ.)
BO-10	16:40-17:00 CHEMICAL REACTION AND MASS TRANSFER RATES IN AMINE ABSORBER Young-Il Lim* and Dung A Dung(Hankyong National Univ.)
BO-11	17:00-17:20 DESIGN OF HEAT-INTEGRATED DISTILLATION COLUMNS (HIDiC) WITH COMPACT MULTI-STREAM HEAT EXCHANGERS Morihiro TANAKA, J. Rafael ALCANTARA-AVILA*, Ken-Ichiro SOTOWA, Toshihide HORIKAWA(Tokushima Univ.) and Hao-Yeh LEE(National Taiwan Univ. of Science and Technology)
BO-12	17:20-17:40 DEVELOPMENT OF CFU SIMULATOR AND PHYSICAL PROPERTIES ESTIMATION SYSTEM Hyun-Jung LEE and Jongkuk WON(Hanwha Total Petrochemical. Ltd)

[Short Oral Presentations for Poster Presenters] @Studio 2

(Day3-Saturday, Nov 11th, 09:00-11:00) (5 min each)

Session chairmen: Ki Joon KANG(Benit M Co. Ltd.), Keigo MATSUDA(Yamagata Univ.)

BP-01	OPTIMUM TEMPERATURE PROFILE IN THE ABSORPTION COLUMN IN AN AMINE SCRUBBING PROCESS Jayeop KIM, Huiyong KIM, Jeonghwan KIM and Kwang Soon LEE*(Sogang Univ.)
BP-02	EFFECTS OF SOLVENT ON CO_2 CAPTURE OF AMINES IN NON-AQUEOUS SYSTEMS Mitsuhiro KANAKUBO*, Takashi MAKINO (AIST) and Tatsuya UMECKY(Saga Univ.)
BP-03	AMINE-IONIC LIQUID BLENDED SOLVENTS AS ALTERNATIVE ABSORBENT OF CO_2 CAPTUREPROCESS Sehee KANG(Pusan National Univ. and Korea Institute of Industrial Technology), Honggi JEONG(Korea Institute of Industrial Technology and Yonsei Univ.), Sukyeong KIM(Korea Institute of Industrial Technology), Yongchul-Greg CHUNG(Pusan National Univ.) and Hojun SONG*(Korea Institute of Industrial Technology)
BP-04	ACETIC ACID CONCENTRATION USING SIDE-COLUMN AZEOTROPIC DISTILLATION PROCESS ByoungChul KIM(Kyungnam Coll.), YoungHun LEE and YoungHan KIM*(Dong-A Univ.)
BP-05	A SIMPLE DESIGN PROCEDURE OF EXTRACTIVE DISTILLATION COLUMNS USING A SHORTCUT METHOD Daisuke KAWAI*, Takumi KAWAMOTO, Ryo NAGUMO, Shuichi IWATA (Nagoya Institute of Technology), Joon Man LEE(Yeungnam Univ.) and Hideki MORI(Nagoya Institute of Technology)
BP-06	VOLUME CELL-BASED LIQUID DISTRIBUTION MODEL FOR A STRUCTURED PACKING COLUMN UNDER OFFSHORE CONDITIONS Yongho SON, Sangyoon LEE, Songhee HAN, Huiyong KIM(Sogang Univ.), Kwangjoon MIN(GS Engineering & Construction), and KwangSoon LEE(Sogang Univ.)
BP-07	INFLUENCE OF GAS-LIQUID SLUG LENGTH IN MICROCHANNEL ON GAS ABSORPTION RATE Junya MATSUSHITA, Ken-Ichiro SOTOWA*, Toshihide HORIKAWA and Jesús Rafael ALCANTARA-AVILA(Tokushima Univ.)
BP-08	REGENERATION CHARACTERISTICS OF NONAQUEOUS ABSORBENTS BY POLARITY SWING IN CO_2 CAPTURE PROCESS WooYoung LEE(Korea National Univ. of Transportation), JongKyun YOU (KIER) and YeonKi HONG*(Korea National Univ. of Transportation)

BP-09	RECOVERY OF 2,3-BUTANEDIOL FROM FERMENTATION BROTH USING MULTI-EFFECT-EVAPORATION-ASSISTED DISTILLATION CONFIGURATION Jimin HONG, Nguyen Van Duc LONG, Junaid HAIDER, Gregorius Rionugroho HARVIANTO and Moonyong LEE*(Yeungnam Univ.)
BP-10	ENERGY SAVING PERFORMANCE OF HEAT PUMP ASSISTED ISTILLATION-MEMBRANE HYBRID PROCESSES IN ROPYLENE-PROPANE SEPARATION. Kei TAKANE, Kenta SUZUKI(Yamagata Univ.), Takehiro YAMAKI(AIST) and Keigo MATSUDA*(Yamagata Univ. and AIST)
BP-11	A NOVEL ENERGY INTENSIFIED COLUMN WITH SIDE-REACTOR(SRC) CONFIGURATION FOR ETHYLBENZENE PROCESS Arif HUSSAIN and Moonyong LEE*(Yeungnam Univ.)
BP-12	DEVELOPMENT AND PERFORMANCE EVALUATION OF A SMALL SCALE PRESSURE DRIVEN DISTILLATION SYSTEM Takahiro AOYAMA, Ken-Ichiro SOTOWA*, Jesús Rafael ALCANTARA-AVILA and Toshihide HORIKAWA(Tokushima Univ.)
BP-13	NOVEL ABSORBER-REGENERATOR CONFIGURATIONS FOR ENHANCING AN ACID GAS REMOVAL PROCESS Jimin HONG , Le Cao NHIEN, Andika RIEZQA, Nguyen Van Duc LONG and Moonyong LEE*(Yeungnam Univ.)
BP-14	SEPARATION PERFORMANCE FOR PROPYLENE-PROPANE MIXTURE USING MEMBRANE SEPARATION AND HYBRID MEMBRANE SEPARATION-DISTILLATION PROCESSES Takehiro YAMAKI*, Miki YOSHIMUNE, Nobuo HARA, Hideyuki NEGISHI(AIST), Kenta SUZUKI(Yamagata Univ.) and Keigo MATSUDA(Yamagata Univ., AIST)
BP-15	ABSORPTION CHARACTERISTICS OF CO_2 USING DIETHYLENETRIAMINE(DETA)AQUEOUS SOLUTIONS CONTAINING PHYSICAL SOLVENTS HwaYoung LEE(Korea National Univ. of Transportation), JongKyun YOU(KIER) and YeonKi HONG*(Korea National Univ. of Transportation)
BP-16	ACETIC ACID PRODUCTION USING REACTIVE DISTILLATION PROCESS INTENSIFIED BY METHANOL DEHYDRATION Hyeongcheol JEON and Myungwan HAN*(Chungnam National Univ.)
BP-17	DEHUMIDIFICATION OF WATER-ELECTROLYZED HYDROGEN USING IONIC LIQUIDS Mitsuhiro KANAKUBO*, Mariko KUROSAKA, Shota ARAKI, Tetsuhiko MAEDA, Takashi MAKINO, Yuki KOHNO(AIST), Daisuke KODAMA(Nihon Univ.), Yohei MIZUGUCHI and Tsutomu WATANABE(Nippon Chemical Industrial Co.)
BP-18	PROCESS DESIGN AND DYNAMIC SIMULATION OF NGL RECOVERY PROCESS Sekwang YOON, Jin-Sik OH and Jin-Kuk KIM*(Hanyang Univ.)

BP-19	EFFICIENT SOLID OXIDE CATALYST-AIDED REGENERATION OF MEA SOLVENT FOR POST-COMBUSTION CO_2 CAPTURE PROCESS Umair Hassan BHATTI(KIER, University of Science and Technology), DaeHo LIM, SooHyun CHOI and IlHyun BAEK*(KIER)
BP-20	DEVELOPMENT OF CASCADE TYPE BINARY CYCLE POWER GENERATION SYSTEM THROUGH THE LOW-HEAT ENERGY Ryosuke AKIMOTO*(Yamagata Univ.), Yuki DOMORI(AIST) and Keigo MASTUDA(Yamagata Univ., AIST)
BP-21	THERMAL STABILITY-ENHANCED HOLLOW FIBER SORBENTS FOR POST-COMBUSTION CO_2 CAPTURE SungHyun PARK(KIST), Chaehoon KIM, Minkee CHOI(KAIST), SeungYong LEE(KIST) and JongSuk LEE*(Sogang Univ.)
BP-22	MODELING AND OPTIMIZATION OF NITROGEN REMOVAL PROCESSES FROM NATURAL GAS Mun-Gi JANG(Hanyang Univ.), Yonggi MO(Korea Gas Co.) and Jin-Kuk KIM*(Hanyang Univ.)
BP-23	HIGH ENERGY-SAVING EVAPORATION CONCENTRATOR "SOLSTEP-HP" Akiyoshi ODA*, Takao SUZUKI, Tadashi NOUMI(Nippon Refine Co.), Yukinori KIHIRA, and Masuo YUASA(Sasakura Engineering Co.)

[Poster Session] (Day3-Saturday, November 11th, 11:00-13:00)

Session chairmen: Ki Joon KANG(Benit M Co. Ltd.),
Keigo MATSUDA(Yamagata Univ.)

C: Crystallization

[Oral Session] (Day2-Friday, Nov 10th, 13:30-17:30) @Ball room C

Session chairmen: DaeRyook YANG(Korea Univ.),
Kouji MAEDA (Univ. of Hyogo)

CO-01	13:30-13:50 CONCENTRATION OF CHAETOCEROS GRACILIS CELLS BY MELT CRYSTALLIZATION OF ICE Kouji MAEDA*, Kazuhiro ITOH, Yasuhiro KASHINO(Univ. of Hyogo), Kentaro IFUKU(Kyoto Univ.), Koji ARAFUNE and Takuji YAMAMOTO(Univ. of Hyogo)
CO-02	13:50-14:10 MATHEMATICAL MODELING AND OPTIMAL OPERATING STRATEGY FOR POLYMORPHIC TRANSFORMATION IN ANTISOLVENT CRYSTALLIZATION OF L-HISTIDINE Kiho PARK, DoYeon KIM, Nari LEE, and DaeRyook YANG*(Korea Univ.)
CO-03	14:10-14:30 FORMATION AND ELECTROCHEMICAL PROPERTIES OF HYDROXYAPATITE-ADHERED PHOTOCATALYSTS Kunio FUNAKOSHI*(Nagaoka Univ.), Yusuke IMAYA(NIT, Suzuka College) and Toru NONAMI(Chukyo Univ.)
CO-04	14:30-14:50 SEMICLATHRATE-BASED CO_2 CAPTURE FROM FUEL GAS IN THE PRESENCE OF TETRA-N-BUTYL AMMONIUM BROMIDE Wonhee LEE and Seong-Pil KANG*(KIER)
CO-05	14:50-15:10 CRYSTAL MATERIAL INFLUENCE ON FRAGMENT GENERATION AND PARENT CRYSTAL ABRASION CAUSED BY CRYSTAL PARTICLE COLLISIONS WITH IMPELLER BLADES Eri ASAHINA, Shota MIYAUCHI, Ryuta MISUMI* and Meguru KAMINOYAMA(Yokohama National Univ.)

CO-06	15:10-15:30 CHIRAL SYMMERY BREAKING OF SODIUM CHLORATE IN CRYSTALLIZATION: EFFECT OF TURBULENT FLOW Jaekyu AHN(Univ. of Rouen), Woo-Sik KIM(Kyung Hee Univ.), DoHyun KIM(KAIST) and Gerard COQUEREL*(Univ. of Rouen)
Coffee Break **15:30-15:50**	

Session chairmen: Taekyung Yu(Kyung Hee Univ.),
Kunio FUNAKOSHI(Nagoaka Univ. of Technology)

CO-07	15:50-16:10 THE CONDITION AND SCALE FORMATION DYNAMICS DURING START-UP OPERATION IN SUSPENSION MELT CRYSTALLIZATION FOR ORGANIC COMPOUND Shoji KUDO*(Tokyo Univ. of Agriculture and Technology), Tomomichi HINO(Mitsubishi Chemical Holdings Corp.) and Hiroshi TAKIYAMA(Tokyo Univ. of Agriculture and Technology)
CO-08	16:10-16:30 PREDICTION OF MORPHOLOGY AND CLEAVING BEHAVIOR OF CRYSTALS USING MOLECULAR MODELING METHOD AYoung CHO(Korea Univ.), O-Pil KWON(Ajou Univ.), Seong-Sik YOU(Korea Univ. of Technology and Education) and JeongWon KANG*(Korea Univ.)
CO-09	16:30-16:50 CRYSTALLIZATION OF A TRIPEPTIDE FROM THE OIL PHASE Koichi IGARASHI*(Osaka City Univ.) and Hiroshi OOSHIMA(Osaka City Univ., Kansai Chemical Engineering Co.)
CO-10	16:50-17:10 PRODUCTION OF COPPER(II)-AMINO ACID CHELATES BY REACTIVE CRYSTALLIZATION Wang-Soo KIM and Kee-Kahb KOO*(Sogang Univ.)

[Poster Session] (Day3-Saturday, Nov 11th, 09:00-13:00)

Session chaimen: Jonghwi LEE(ChungAng Univ.),
Tomomichi HINO(Mitsubishi Chemical Holdings Corp.),
Koichi IGARASHI(Osaka City Univ.)

CP-01	PROLONGED LIFE OF NICKEL-HYDROGEN BATTERY BY HIGH PRESSURE AT FAST CHARGE-DISCHARGE CYCLE Hisashi KAGOTA, Kouji MAEDA*, Koji ARAFUNE, Kazuhiro ITOH(Univ. of Hyogo), Hidetoshi KURAMOCHI(National Institute for Environmental Studies), Shinji YAE, Naoki FUKUMURO and Takuji YAMAMOTO(Univ. of Hyogo)
CP-02	THERMODYAMIC AND SPECTROSCOPIC ANALYSES OF BINARY NEOPENTYL ALCOHL CLATHRATE HYDRATES Seokyoon MOON(GIST), Yun-Ho AHN(KAIST), Heejoong KIM, Sujin HONG and Youngjune PARK*(GIST)
CP-03	HETEROGENEOUS INTERFACE ADSORPTION OF COLLOIDAL PARTICLES Dong Woo KANG, Jin Hyun LIM and Bum Jun PARK*(Kyung Hee Univ.)
CP-04	INVESTIGATION OF Sr ION INCORPORATION IN THE PROCESS OF HYDROXYAPATITE REACTION CRYSTALLIZATION Ryo SHIMAZU* and Izumi HIRASAWA(Waseda Univ.)
CP-05	HIGHLY EFFICIENT CATALYST RECOVERY SYSTEMS USING FLUID INTERFACE ADSORPSION AND MAGNETITE NANOPARTICLES JinHyun LIM, Ahyoung CHO, Kyungmin IM, Jinsoo KIM, Taekyung YU and BumJun PARK*(Kyung Hee Univ.)
CP-06	RECOVERY OF CALCIUM CITRATE FROM NICKEL CITRATE PLATING WASTEWATER Kurumi EGAMI* and Izumi HIRASAWA(Waseda Univ.)
CP-07	REDUCTION AND OXIDATION PROPERTY OF VARIOUS ILMENITE FOR CHEMICAL LOOPING COMBUSTION YongHan JEONG, No-Kuk PARK, Misook KANG, SiOk RYU, TaeJin LEE*(Yeungnam Univ.), Jeom-In BAEK(KEPRI) and Ho-Jung RYU (KIER)
CP-08	INVESTIGATION OF KEY FACTORS FOR DERACEMIZATION OF SODIUM CHLORATE: CRYSTAL SIZE, SIZE DIFFERENCE AND FRACTION OF D- AND L-SEED CRYSTALS Bo-Wen ZHANG(Kyung Hee Univ.), DoHyun KIM(KAIST), Gerard COQUEREL(Universite de Rouen) and Woo-Sik KIM*(Kyung Hee Univ.)

CP-09	SYNTHESIS OF PEROVSKITE NANOCRYSTALS IN TAYLOR VORTEX FLOW Xiao-Tong SUN, Yong-Biao HUA(Kyung Hee Univ.), Do-Hyun KIM*(KAIST), Sang-Hyuk IM*(Korea Univ.) and Woo-Sik KIM*(Kyung Hee Univ.)
CP-10	MORPHOLOGY CONTROLLED SYNTHESIS OF Cu7S4 NANOCRYSTALS: THE ROLE OF HALIDES ANIONS Zengmin TANG, Taekyung YU*and Woo-Sik KIM*(Kyung Hee Univ.)
CP-11	RECOVERY OF 2,3-BUTANEDIOL FROM A FERMENTATION BROTH BY BLOCK FREEZE CONCENTRATION Ji-Won ROH, Jae-Eun LEE and Jae-Kyung KIM, Kee-Kahb KOO*(Sogang Univ.)
CP-12	QUALITY CONTROL OF ALUMINIUM SULFATE CRYSTALS FROM ACIDIC WASTEWATER Atsushi SONOHARA* and Izumi HIRASAWA(Waseda Univ.)
CP-13	SEPARATION OF p-PHENYLENEDIAMINE AND AMMONIUM IODIDE BY DROWNING-OUT Hyun-Ju LEE, Jae-Kyung KIM(Sogang Univ.), Sang-Yong LEE(KRICT and Sogang Univ.), Yong-Ki PARK(KRICT) and Kee-Kahb KOO*(Sogang Univ.),
CP-14	HABIT MODIFICATION OF TAMOXIFEN CRYSTALS USING ANTISOLVENT CRYSTALLIZATIONS Dae-Chul KIM, Seung-Wook BAEK and Sang-Do YEO*(Kyungpook National Univ.)
CP-15	QUALITY CONTROL DURING COCRYSTALLIZATION BY USING TWO KINDS OF SUPERSATURATION OPERATION Momoko NISHIMARU*, Shoji KUDO, and Hiroshi TAKIYAMA(TUAT)
CP-16	Co-CRYSTALLIZATION OF CARBAMAZEPINE(CBZ) AND POLYPHENOLS CheongCheon LEE(Chung-Ang Univ.), AYoung CHO(Korea Univ.), Woojin Yoon(Ajou Univ.) Hoseop YUN(Ajou Univ.), JeongWon KANG(Korea Univ.) and Jonghwi LEE*(Chung-Ang Univ.)
CP-17	SEPARATION OF AMINO ACIDS BY FRACTIONAL CRYSTALLIZATION WITH IONIC LIQUIDS Yuya KIHIRA and Michiaki MATSUMOTO*(Doshisha Univ.)
CP-18	CONTROLLED ADSORPTION OF BIOCOMPATIBLE POLYMERS TO SURFACES OF POLYPHENOL CRYSTALS Kyuhyung CHOI and Jonghwi LEE*(Chung-Ang Univ.)
CP-19	GRANULAR HYDROGEL SYSTEM WITH DROWNING-OUT CRYSTALLIZATION Seungvin CHO and Jonghwi LEE*(Chung-Ang Univ.)

CP-20	CONTINUOUS ANTI-SOLVENT CRYSTALLIZATION OF GLUTAMIC ACID USING SLUG FLOW Taishu OKAZAKI, Ken-Ichiro SOTOWA*, Toshihide HORIKAWA and Jesús Rafael ALCANTARA-AVILA(Tokushima Univ.)
CP-21	TAILORING THE PROPERTIES OF QUERCETIN BY USING A POLYMER-DIRECTED CRYSTALLIZATION METHOD Hyeongju KIM and Jonghwi LEE*(Chung-Ang Univ.)
CP-22	CRYSTALLIZATION OF ORGANIC NONLINEAR OPTIC CRYSTALS CONSISTING OF PUSH-PULL π-CONJUGATED CHROMOPHORES Ji-Ah LEE, Seung-Heon LEE, Seung-Chul LEE, Hoseop YUN and O-Pil KWON*(Ajou Univ.)
CP-23	CRYSTALLIZATION OF NAPHTHALENE DIIMIDE CRYSTALS WITH VARIOUS N-SUBSTITUTED GROUPS FOR UNDERSTANDING THEIR SUPRAMOLECULAR INTERACTIONS Su-Kyo JUNG, Seung-Chul LEE, Hoon-Joo JUNG, Hoseop YUN and O-Pil KWON*(Ajou Univ.)
CP-24	SYNTHESIS OF IN Ga As/ZnSe TYPE I QUANTUM DOTS BY COLLOIDAL METHOD Soo-Wung PARK, Hae-Un SEO, Joong-Pill PARK, and Sang-Wook KIM* (Ajou Univ.)
CP-25	THROUGH THE CATION EXCHANGE, TRANSFER $Cu_{2-x}S$ NANODISKS TO $Cu_{2-x}S@CuInS_2$ HETERONANODISKS Jae-Young NOH, Seungmin BAEK, seungyeol LEE and Sang-Wook KIM*(Ajou Univ)
CP-26	SEPARATION METHOD OF SUCCINIC ACID BY EFFICIENT SALTING-OUT EunKyeong AN, EunHye KIM, Seong-Sik YOU and Jeongwon KANG*(Korea Univ.)
CP-27	AQUEOUS-PHASE SYNTHESIS OF HYDROXIDE NANOPLATES AND HYDROXIDE/PLATINUM AND THEIR ELECTROCHEMICAL PROPERTIES Euiyoung JUNG, Ahyoung CHO, Hyungsuk CHOI and Taekyung YU*(Kyung Hee Univ.)
CP-28	ANALYSIS ON SEEDING EFFECT OF PT REDUCTION CRYSTALLIZATION Chisayo MATSUMOTO and Izumi HIRASAWA*(Waseda Univ.)
CP-29	ENHANCEMENT OF CRYSTAL NUCLEATION RATE BY RECIPROCATINGPLASTIC PIECEINL-ALANINESOLUTION Takaki KOBAYSHI, Koichi IGARASHI*(Osaka City Univ.), and Hiroshi OOSHIMA(Osaka City Univ., Kansai Chemical Engineering CO.)

CP-30	ESTIMATE OF SUPERSATURATION OF AMYLOIDGENIC PROTEINS USING THE EFFECT OF INHIBITORS AND LIPID MEMBRANES Toshinori SHIMANOUCHI, Maho SHIMIZU and Yukitaka KIMURA*(Okayama Univ.)
CP-31	MOLECULAR DYNAMICS STUDY OF REACTION CHARACTERISTICS OF Ni-Al NANOLAYERS GwanYeong JUNG, WooCheol JEON(UNIST), Sang-Hyun JUNG, SooGyeong CHO (Agency for Defense Development) and SangKyu KWAK*(UNIST)
CP-32	LARGE SCALE SYNTHESIS OF ZINC OXIDE NANOBOLTS IN AQUEOUS PHASE Jiyong CHUNG and Taekyung YU*(Kyung Hee Univ.)

D: Adsorption / Chromatography / Ion exchange

[Oral Session] (Day2-Friday, Nov 10th, 13:30-15:30) @Ball room A

Session Chiarmen: Youn-Sang BAE(Yonsei Univ.), Hideki TANAKA(Kyoto Univ.)

DO-01	13:30-13:45 LIQUID PHASE ADSORPTION OF ANTIVIRAL DRUG OSELTAMIVIR AND ITS METABOLITE OSELTAMIVIR CARBOXYLATE BY CARBON NANOTUBES Wen-Long WANG(AIST, Tsinghua Univ., and Graduate School at Shenzhen), Qian-Yuan WU(Graduate School at Shenzhen), Zheng-Ming WANG*(AIST) and Hong-Ying HU(Tsinghua Univ., and Graduate School at Shenzhen)
DO-02	13:45-14:00 DEVELOPMENT OF WATER ADSORPTION CHILLER USING HIGHLY-PERFORMING NEW ADSORBENT Kanghee CHO, Hee-Tae BEUM, Dong-Woo CHO, Hyung Chul YOON and Jong-Nam KIM*(KIER)
DO-03	14:00-14:15 AMMONIA ADSORPTION OF PRUSSIAN BLUE ANALOGUES IN TRACE CONCENTRATION Akira TAKAHASHI, Yutaka SUGIYAMA, Keiko NODA and Tohru KAWAMOTO*(AIST)
DO-04	14:15-14:30 H_2 PRESSURE SWING ADSORPTION PROCESS FOR EFFLUENT GAS FROM WATER GAS SHIFT REACTOR Yongha PARK, Dong-Kyu MOON and Chang-Ha LEE*(Yonsei Univ.)

Session chiarmen: Jae Chang KIM(Kyungpook Nat'l Univ.), Kazuyuki NAKAI(MicortracBEL Corp.)

DO-05	14:30-14:45 IMPREGNATION OF TETRAETHYLENEPENTAMINE AND IMIDAZOLES IN MESOPOROUS CELLULAR FOAM SILICA FOR CO_2 CAPTURE Quyen Thi VU(Nara Institute of Science and Technology), Hidetaka YAMADA and Katsunori YOGO*(Nara Institute of Science and Technology, Research Institute of Innovative Technology for the Earth)

DO-06	14:45-15:00 ADSORPTIVE XENON/KRYPTON SEPARATION USING A SERIES OF FUNCTIONALIZED MOFS Seung-Joon LEE and Youn-Sang Bae*(Yonsei Univ.)
DO-07	15:00-15:15 MESOPOROUS SILICA-POLYVINYL BUTYRAL HYBRID COATINGS BY ELECTROPHORETIC DEPOSITION ON ALUMINUM SUBSTRATES: FABRICATION AND WATER VAPOR ADSORPTION-DESORPTION PROPERTIES Hideyuki NEGISHI* and Akira ENDO(AIST)
DO-08	15:15-15:30 CO_2 CAPTURE USING AMINE FUNCTIONALIZED MIL-101 DOPPED BY Mg, Zn, Cu METALS Sanjit GAIKWAD and Sangil HAN*(Changwon National Univ.)

[Short Oral Presentations for Poster Presenters (1/2)] @Ball room A (Day2-Friday, Nov 10th, 15:50-17:30) (4 min each)

Session chairmen: Sangil HAN(Changwon Univ.), Katsunori YOGO(Research Institute of Innovative Technology for the Earth)

DP-01	NANOPOROUS MICROSPHERE ASSEMBLY OF IODINE-FUNCTIONALISED SILVER NANOPARTICLES AS A NOVEL MINI-ELECTRODE FOR ADSORPTION ENRICHING AND SENSING Xiaoli WU(National Institute of Advanced Industrial Science and Technology, and Sichuan Univ.), Hao-Yi WU, Zheng-Ming WANG*, Hideki AIZAWA(AIST) and Ying-Hao CHU(Sichuan Univ.)
DP-02	SYNTHESIS OF NANOPROUS ADSORBENT CONTAINING CuCl SPECIES THAT EXHIBIT HIGH ADSORPTION CAPACITY AND SELECTIVITY OF CARBON MONOXIDE Kanghee CHO, Taesung JUNG(KIER), Jeong-Su KIM(KIER, Chungnam National Univ.), Hee-Tae BEUM , Jong-Nam Kim and Sang Sup HAN*(KIER)

DP-03	SEPARATION OF SILOXANE AND AMMONIA SPECIES FROM LAND-FILL GAS USING NEW RENEWABLE ADSORBENTS Kanghee CHO, Hyung Chul YOON, Hee-Tae BEUM, Sang-Sup HAN and Jong-Nam KIM*(KIER)
DP-04	ENRICHMENT OF CH_4 AND CO_2 FROM BIOGAS BY ADSORBENT PACKED BED HEAT EXCHANGER OPERATED WITH TEMPERATURE SWING Nur Izdiharr ZAINOL, Michiaki ISODA, Yugo OSAKA, Takuya TSUJIGUCHI and Akio KODAMA*(Kanazawa Univ.)
DP-05	CHARACTERIZATION OF METAL-TREATED ACTIVATED CARBON FOR AMMONIA ADSORPTION AND DESORPTION Ra Hyun HWANG, Ji Hye PARK(Chungnam National Univ.), Hyoung Chul YOON(KIER) and Kwang Bok YI*(Chungnam National Univ.)
DP-06	A FACILE Cu(I) LOADING IN A MOF AND EXCELLENT PROPYLENE/PROPANE SEPARATION PERFORMANCE Ah-Reum KIM, Tae-Ung YOON, Eun-Jung KIM, Jung Woon YOON, Seo-Yul KIM and Youn-Sang BAE*(Yonsei Univ.)
DP-07	CYCLIC SORPTION/DESORPTION BEHAVIOR OF THE LOW CONCENTRATION CO_2 IN K_2CO_3/Na_2CO_3 HONEYCOMB Kanae SHIMONO*(Seibu Giken Co., Ltd., Kanazawa Univ.) Hiroshi OKANO(Seibu Giken Co., Ltd.) and Akio KODAMA(Kanazawa Univ.)
DP-08	HIGHLY SELECTIVE ADSORPTION OF CO OVER CO_2 IN A Cu(I)-CHELATED POROUS ORGANIC POLYMER Jung Woon YOON, Tae-Ung YOON, Eun-Jung KIM, Ah-Reum KIM(Yonsei Univ.), Tae-Sung JUNG, Sang-Sup HAN (KIER) and Youn-Sang BAE*(Yonsei Univ.)
DP-09	THEORETICAL STUDY ON THE ADSORPTION OF MEA MOLECULE ON RUTILE(110) SURFACE Su Hwan KIM, So-Dam SOHN, Hyung-Joon SHIN and Sang Kyu KWAK*(UNIST)
DP-10	DEVELOPMENT OF DESICCANT WHEEL WITH CARBON DIOXIDE REMOVAL CAPABILITY Masahiko KUIDA, Yugo OSAKA, Akio KODAMA*(Kanazawa Univ.), Kanae SHIMONO(Kanazawa Univ., Seibu Giken Co., Ltd.) and Hiroshi OKANO(Seibu Giken Co., Ltd.)

DP-11	ADSORPTIVE SEPARATION OF CO_2 FROM NATURAL GAS Hyung Chul YOON, Phani Brahma RALLAPALLI, Sang Sup HAN, Kanghee CHO, Hee Tae BEUM, Dong Woo CHO and Jong-Nam KIM*(KIER)
DP-12	MANUFACTURING OF HIGH-PERFORMANCE ZEOLITE ADSORBENTS BY ION-EXCHANGE PROCESS Eunji WOO, Woojin PARK, Eui Geun JUNG, Kyu Ho SONG, Nam Jin JANG, Jin Ho PARK and Wan-Jae MYEONG*(Hanwha Chemical Corp.)
DP-13	ADSORPTIVE SEPARATION OF Ni AND Sn FROM POLISHING SLUDGE USING ION EXCHANGE FIBER Taiga SAKAMOTO, Keita HAYASHI and Hidemi NAKAMURA*(Nara College)
DP-14	VOLUME CELL-BASED LIQUID DISTRIBUTION MODEL FOR A STRUCTURED PACKING COLUMN UNDER OFFSHORE CONDITIONS Yongho SON, Sangyoon LEE, Songhee HAN, Huiyong KIM(Sogang Univ.), Kwangjoon MIN(GS Engineering & Construction) and Kwang Soon LEE*(Sogang Univ.)
DP-15	COMPARISON OF ADSORPTION EQUILIBRIA AND KINETICS OF OLEFIN AND PARAFFIN BETWEEN HYDROPHOBIC AND HYDORPHILIC ADSORBENTS Jae-Jeong KIM, Seung-Jun LIM(Yonsei Univ.), Jong-San CHANG(KRICT), Hyungwoong AHN(The Univ. of Edinburgh) and Chang-Ha LEE*(Yonsei Univ.)
DP-16	INTRINSIC THERMAL MANAGEMENT CAPABILITIES OF FLEXIBLE METAL-ORGANIC FRAMEWORKS FOR CO_2 SEPARATION Hideki TANAKA*, Shotaro HIRAIDE, Narutomo ISHIKAWA and Minoru T. MIYAHARA(Kyoto Univ.)
DP-17	PREPARATION OF MODIFIED ACTIVATED CARBONS FOR SIMULATED RADIOACTIVE CHEMICAL REMOVAL Keon HO(Yonsei Univ.), Rae-Seok PARK, Taehyun IM(Agency for Defense Development), Young Kyu HWANG(KRICT) and Chang-Ha LEE*(Yonsei Univ.)

DP-18	ADSORPTION PROPERTY OF POROUS MATERIALS FOR REMOVAL OF SMALL CONTENT MERCURY CONTAINED IN COAL GAS No-Kuk PARK, Byung Chan KWON, Yong Han JEONG, Misook KANG, Tae Jin LEE*(Yeungnam Univ.), Seung Jong LEE(Institute for Advanced Engineering) and Jin-Pyo HONG(Korea Electric Power Corporation)
DP-19	CORE-SHELL TYPE TITANIA-CARBON SPHERE COMPOSITE AND ITS APPLICATION FOR POLLUTANT PHOTODEGRADATION Hao-Yi WU(AIST), Xiao-Li WU(AIST and Sichuan Univ.), Zheng-Ming WANG*, Shuzo KUTSUNA, Hiroshi AOKI and Nobuaki NEGISHI(AIST)
DP-20	ADSORPTION PERFORMANCE OF H_2/N_2 GASES USING ACTIVATED CARBON AND ZEOLITE LIX Tae Young KIM, Ho Jin CHAE, Soo Chool LEE(Kyungpook National Univ.), Young Lae KIM, Suk Yong JUNG(Wonik Materials), Chang Won YOON(KIST) and Jae Chang KIM*(Kyungpook National Univ.)
DP-21	EFFECTS OF PORE SIZE ON CO_2 SORPTION PROPERTIES OF AMINE BASED SORBENTS Min Young RYU, Seong Bin JO, Ho Jin CHAE, Min Sun CHO(Kyungpook National Univ.), Soo Chool LEE(Research Institute of Advanced Energy Technology, Kyungpook National Univ.) and Jae Chang KIM*(Kyungpook National Univ.)
DP-22	PREPARTION OF AMINE-FUNCTIONALIZED ZEOLITE FOR HIGH CO_2 CAPTURE CAPACITY Lei LIU, Seongmin JIN(Yonsei Univ.), Young Cheol PARK(KIER) and Chang-Ha LEE*(Yonsei Univ.)

[Short Oral Presentations for Poster Presenters (1/2)] @Studio G (Day3-Saturday, Nov 11th, 09:00-10:00) (4 min each)

Session chairmen: Ki Bong LEE(Korea Univ.), Akira ENDO(AIST)

DP-23	MODELING OF CARBON MOLECULAR SIEVE USING NON-EQUILIBRIUM CVD SIMULATION Yasuyuki YAMANE(Kyoto Univ., Osaka Gas Chemicals, Ltd), Hideki TANAKA, Taira ADACHI(Kyoto Univ.), Kenji SEKI(Osaka Gas Chemicals, Ltd.) and Minoru T. MIYAHARA*(Kyoto Univ.)
DP-24	ADSORPTION ISOTHERMS OF XYLENE ISOMERS ON MODIFIED-ZEOLITE IN THE LIQUID PHASE Han-Yong CHO, Hong-Sik GUIM(Yonsei Univ.) and Chang-Ha LEE*(Yonsei Univ.)
DP-25	ADSORPTION EQUILIBRIUM AND BREAKTHROUGH DYNAMICS FOR N_2O RECOVERY FROM EFFLUENT GAS OF ADIPIC ACID PROCESS Dooyong PARK(Yonsei Univ.), Jeong-Hoon KIM(KRICT), Hyungwoong AHN(Univ. of Edinburgh) and Chang-Ha LEE*(Yonsei Univ.)
DP-26	DEHUMIDIFICATION BEHAVIOR OF AN ADSORBENT-COATED HEAT EXCHANGER OPERATED WITH THERMAL SWING Akio KODAMA*, Takuya TSUJIGUCHI, Yugo OSAKA and Mikio KUMITA(Kanazawa Univ.)
DP-27	A NOVEL LIGAND-FRAGMENT CO-ASSEMBLY METHOD FOR IMPROVING METHANE STORAGE AND DELIVERY Seo-Yul KIM, Ah-Reum KIM, Jung Woon YOON and Youn-Sang BAE*(Yonsei Univ.)
DP-28	POWER PARTIAL-DISCARD OPERATION FOR OBTAINING EHNHANCED PERFORMANCE OF SIMULATED MOVING BED PROCESS Ji-Woo CHUNG, Hyeong-Seok HAN, Tae-Ung YOON, Seung-Ik KIM and Youn-Sang BAE*(Yonsei Univ.)
DP-29	STUDY ON H_2/D_2 SEPARATION BY RAPID-PSA USING QUANTUM MOLECULAR SIEVE EFFECT Hirofumi OGAWA, Yugo OSAKA, Takuya TSUJIGUCHI and Akio KODAMA*(Kanazawa Univ.)

DP-30	A STUDY ON HYDROGEN BREAKTHROUGH BEHAVIORS FOR CRYOGENIC ADSORPTION Woo-Chan JUNG*, Pil-Kap JUNG , Hung-Man MOON(Cryogenic Research Institute of Daesung Industrial Gases), Sei-Hun YUN and Hyeon-Gon LEE (National Fusion Research Institute)
DP-31	DEVELOPMENT OF FUNCTIONALIZED POROUS MATERIALS FOR VOCs REMOVAL Kashyap PATIL and Sangil HAN*(Changwon National Univ.)
DP-32	RESPONSE OF ROTARY ADSORBER TO A CHANGE OF REGENERATION HEAT AMOUNT AND MINIMIZATION OF FLUCTUATION OF DEHUMIDIFYING PERFORMANCE Keigo SAITO, Yugo OSAKA,Takuya TSUJIGUCHI,Akio KODAMA*(Kanazawa Univ.), Soichiro MASUDA and Hideyuki KISHI(Toho Gas Co., Ltd.)
DP-33	SYNTHESIS OF MAGNESIUM OXIDE COMPOSITES FOR HIGH CO_2 CAPTURE CAPACITY IN INTERMEDIATE TEMPERATURE SORPTION PROCESS Seongmin JIN, Keon HO and Chang-Ha LEE*(Yonsei Univ.)
DP-34	SYNTHESIS OF HOLLOW GRAPHENE NANOSPHERES FROM VACUUM RESIDUE OIL REACTION USING SUPERCRITICAL SOLVENT AND ITS APPLICATION TO BATTERY ELECTRODE Sunhee KIM, Katie H. LIM, Seunghyun MOON, Heejun KWEON, Hansung KIM* and Chang-Ha LEE*(Yonsei Univ.)
DP-35	ADSORPTION EQUILIBRIUM AND KINETIC INVESTIGATIONS FOR COPPER (II) ION REMOVAL FROM AQUEOUS SOLUTION USING ACTIVATED CARBON PREPARED FROM PETROLEUM COKE XiangZhou YUAN*, Soo Ik IM, Seung Wan CHOI and Ki Bong LEE*(Korea Univ.)

[Poster Session] (Day3-Saturday, November 11th, 10:00-13:00)

Session chairmen:

Sangil HAN(Changwon Univ.),
Katsunori YOGO(Research Institute of Innovative Technology for the Earth)
Ki Bong LEE(Korea Univ.),
Akira ENDO(AIST)

E: Membrane Separation / Fluid-Solid Separation

[Oral Session] (Day3-Saturday, Nov 11th, 9:00-13:05) @Ball room A

Session chairmen: Jung Hoon PARK(Dongguk Univ.), Masashi IWATA(Osaka Prefecture Univ.)

EO-01	9:00-9:15 HIGHLY ORIENTED SILICEOUS ZEOLITE MEMBRANE FOR EFFECTIVE SEPARATION OF POST-COMBUSTION GAS Jin Chul KIM, Jeong Hyeon LEE(UNIST), Jungkyu CHOI (Korea Univ.) and Sang Kyu KWAK*(UNIST)
EO-02	9:15-9:30 CO_2 CAPTURE BY POLYMERIC MEMBRANES FOR NEGATIVE CARBON EMISSION Ikuo TANIGUCHI*(Kyushu Univ.)
EO-03	9:30-9:45 DEMONSTRATION OF CO_2 SEPARATION PROCESS USING POLYMERIC MEMBRANE FROM FLUE GAS Sang Hoon HAN, Sujung JEONG, Chung-Seop LEE(Airrane Co., Ltd.), Jeong-Gu YEO (KIER), Hyung Chul KOH and Seong Yong HA*(Airrane Co., Ltd.)
EO-04	9:45-10:00 TAILORING THE AMORPHOUS SILICA NETWORKS VIA FLUORINE DOPING FOR GAS SEPARATION MEMBRANES Masakoto KANEZASHI*, Takuya MATSUTANI, Hiroki NAGASAWA and Toshinori TSURU (Hiroshima Univ.)
EO-05	10:00-10:15 ZEOLITE MEMBRANES SYNTHESIZED FROM DIRECTLY SYNTHESIZED ZEOLITE NANOSHEETS Pyungsoo LEE*, You-In PARK, Seung-Eun NAM(KRICT), Mi-Young JEON and Michael TSAPATSIS(Univ. of Minnesota)
EO-06	10:15-10:30 INORGANIC/ORGANIC COMPOSITE ION GEL MEMBRANE WITH HIGH MECHANICAL STRENGTH AND HIGH CO_2 SEPARATION PERFORMANCE Fatemeh RANJBARAN, Eiji KAMIO and Hideto MATSUYAMA*(Kobe Univ.)

EO-07	10:30-10:45 ZIF-67 CONTAINING MIXED MATRIX MEMEBRANES FOR EXCEPTIONAL C_3H_6/C_3H_8 SEPARATIONS Jong Suk LEE* and Heseong AN(Sogang Univ.)
EO-08	10:45-11:00 SULFURIC ACID SEPARATION THROUGH INORGANIC REVERSE OSMOSIS MEMBRANES Mikihiro NOMURA*, Hiroki KITAO, Ayumi IKEDA, Toshichika TAKEUCHI and Chihiro SUGIMOTO(Shibaura Institute of Technology)
Coffee Break **11:00-11:20**	

Session chairmen: Pyung Soo LEE(KRICT),
Tomohisa YOSHIOKA(Kobe Univ.)

EO-09	11:20-11:35 EFFECT OF AERATION ON FILTRATION CHARACTERISTICS OF HOLLOW FIBER MICROFILTRATION MEMBRANE Kenji KAWASAKI*, Hirokazu HOSOKAWA(Ehime Univ.) and Tomoki KAWAGISHI (Mitsubishi Chemical Co., Ltd.)
EO-10	11:35-11:50 OPTIMIZATION OF REVERSE OSMOSIS PROCESS USING INTERNALLY STAGED DESIGN (ISD) AND SPLIT PARTIAL (SP) : MODEL BASE SCENARIO STUDY Seung Ji LIM(GIST), Kwanho JEONG (Nanyang Technological Univ.) and Joon Ha KIM* (GIST)
EO-11	11:50-12:05 FABRICATION OF HIGHLY STABLE STACKED NIOBATE NANOSHEET MEMBRANES FOR NANOFILTRATION Keizo NAKAGAWA*, Tomohiro SERA, Hiroharu YAMASHITA, Daisuke SAEKI, Tomohisa YOSHIOKA, Takuji SHINTANI, Eiji KAMIO and Hideto MATUSYAMA(Kobe Univ.)

EO-12	12:05-12:20 OXYGEN PERMEATION PROPERTIES OF $Ce_{0.8}Sm_{0.2}O_{2-\delta}$ COATED $Ba_{0.5}Sr_{0.5}Co_{0.8}Fe_{0.2}O_{3-\delta}$ HOLLOW FIBER MEMBRANES Jinwoong CHAE, Sungsik JEONG, Min Kwang KIM, Edardo MAGNONE and Jung Hoon PARK*(Dongguk Univ.)
EO-13	12:20-12:35 EVALUATION OF MICROBIAL CAKE CHARACTERISTICS UNDER HIGH PRESSURE CONDITIONS Nobuyuki KATAGIRI*, Yuya KUWAJIMA, Hirotaka KAWAHARA and Eiji IRITANI(Nagoya Univ.)
EO-14	12:35-12:50 PROPYLENE FACILITATED TRANSPORT MEMBRANE BASED ON PEMA-g-PPG/TCNQ/$AgBF_4$ SYSTEM Jung Pyo JUNG, Min Su PARK and Jong Hak KIM*(Yonsei Univ.)
EO-15	12:50-13:05 CHARACTERIZATION OF CAKE LAYER STRUCTURE BY STREAMING POTENTIAL MEASUREMENT Kazuho NAKAMURA* and Takahiro KOJIMA(Yokohama National Univ.)

[Poster Session] (Day2-Friday, November 10th, 13:30-17:30)

Session chairmen: Jung Hoon Park(Dongguk Univ.),
Mikihiro NOMURA(Sibaura Institute of Technology),
Masakoto KANEZASHI(Hiroshima Univ.),
Kazuho NAKAUMRA(Yokohama Nat'l Univ.)

EP-01	ACETIC ACID PERMSELECTIVE ZEOLITE MEMBRANES PREPARED ON POROUS SILICA SUBSTRATES Mikihiro NOMURA*, Kohei SUZUKI, Hikari UEHARA(Shibaura Institute of Technology), Takuya OKUNO, Hiromasa TAWARAYAMA, Shinji ISHIKAWA and Kazuya KUWAHARA (Sumitomo Electric Industries, LTD.)
EP-02	A CALCULATION ALGORITHM FOR VAPOR PERMEATION OF MULTICOMPONENT MIXTURES Motoko NOGUCHI, Shuichi IWATA, Ryo NAGUMO and Hideki MORI*(Nagoya Institute of Technology)
EP-03	TUNING THE PERFORMANCE OF ULTRATHIN GRAPHENE OXIDE MEMBRANE VIA SURFACE MORPHOLOGY CONTROL OF SUPPORT Yoon Tae NAM, Seon Joon KIM, Kyung Min KANG, Dae Woo KIM and Hee-Tae JUNG*(KAIST)
EP-04	DEVELOPMENT OF INORGANIC HOLLOW FIBER MEMBRANE CONTACTORS MODULE AND PROCESS FOR CO_2 CAPTURE Hong Joo LEE, Yu Gang PARK, Seung Hwan LEE, Jin Woo KIM and Jung Hoon PARK*(Dongguk Univ.)
EP-05	PREPARATION AND CHARACTERIZATION OF CARBON MOLECULAR SIEVING MEMBRANE INCLUDING POLYHEDRAL OLIGOMERIC SILSESQUIOXANE (POSS) STRUCTURE Yuuki TOMARINO, Masakoto KANEZASHI*, Hiroki NAGASAWA and Toshinori TSURU (Hiroshima Univ.)
EP-06	ENHANCED CO_2 SEPARATION PERFORMANCE USING MIXED MATRIX MEMBRANE CONTAINING PEDOT-PSS Jae Hun LEE, Na Un KIM, Chang Soo LEE and Jong Hak KIM*(Yonsei Univ.)
EP-07	SYNTHESIS OF SECONDARY GROWN SAPO-34 MEMBRANE USING NOVAL DRY SEEDING METHOD Syed Fakhar ALAM, Min-Zy KIM, Hye Ryeon LEE(Chungnam National Univ.), Pankaj SHARMA(UNIST) and Churl Hee CHO*(Chungnam National Univ.)

EP-08	FABRICATION OF DEFECT-FREE CHA ZEOLITE/ALUMINA COMPOSITE MEMBRANES FOR SOLVENT DEHYDRATION Min-Zy KIM, Syed Fakhar ALAM, Hye Ryeon LEE and Churl-Hee CHO*(Chungnam National Univ.)
EP-09	NETWORK TUNING OF 1,2-BIS(TRIEHOXYSILYL)ETHANE (BTESE)-DERIVED ORGANOSILICA MEMBRANES FOR IMPROVED PERFORMANCE N. MORIYAMA, H. NAGASAWA, M. KANEZASHI(Hiroshima Univ.), K. ITO(National Institute of Advanced Industrial Science and Technology) and T. TSURU*(Hiroshima Univ.)
EP-10	VAPOR-PERMEATION DEHYDRATION OF ISOPROPANOL BY FLEXIBLE ORGANOSILICA MEMBRANES Mamoru MURATA(Hiroshima Univ.), Genghao GONG(Tianjin Polytechnic Univ.), Hiroki NAGASAWA, Masakoto KANEZASHI and Toshinori TSURU*(Hiroshima Univ.)
EP-11	OLEFIN/PARAFFIN SEPARATION USING FUNCTIONAL PHTHALTE MATRIX AND MgO NANOSHEET Cheol Hun PARK, Byung Joo PARK, Jung Yup LIM and Jong Hak KIM*(Yonsei Univ.)
EP-12	TO INVESTIGATION ON CARBON MOLECULAR SIEVES (CMS) MEMBRANE WITH PHENOLIC-RESIN Se-Jin KIM, Seong-Joong KIM, Pyung Soo LEE, You-In PARK*, and Kyung-Youl BAEK*(KRICT)
EP-13	PREPARATION AND GAS PERMEATION PROPERTIES OF TRIES (TRIETHOXYSILANE)-DERIVED MEMBRANES Tsukasa TANAKA, Masakoto KANEZASHI*, Hiroki NAGASAWA and Toshinori TSURU (Hiroshima Univ.)
EP-14	OPTIMIZATION OF FABRICATION PROCESS FOR SUPPORTED CARBON MOLECULAR SIEVE (CMS) HOLLOW FIBER MEMBRANE AND ITS PROPYLENE/PROPANE SEPARATION PROPERTIES Seong-Joong KIM, Pyung Soo LEE(KRICT and UST), Se-Jin KIM, Seung-Eun NAM(UST), Hosik PARK and You-In PARK*(KRICT and UST)
EP-15	ELECTROKINETIC RESPONSE OF SOLID-LIQUID MIXTURE DURING MECHANICAL EXPRESSION Haruna SADAI, Kazuya SHIMOIZU, Tomohiro IWASAKI(Osaka Prefecture Univ.), Mohammed Saedi JAMI(International Islamic Univ. Malaysia) and Masashi IWATA* (Osaka Prefecture Univ.)

EP-16	DEVELOPMENT OF NEW DELIQUORING METHOD WITH BYPASS DISCHARGE MECHANISM IN CENTRIFUGE Hitoshi NISHIMURA, Tomohiro IWASAKI(Osaka Prefecture Univ.), Mohammed Saedi JAMI(International Islamic Univ. Malaysia) and Masashi IWATA*(Osaka Prefecture Univ.)
EP-17	SIMULATION RESEARCH REGARDING THE CARBON DIOXIDE EMISSION OF MEMBRANE-BASED DESALINATION AND SALINITY GRADIENT POWER PROCESSES Sung Ho CHAE(GIST), Jihye KIM(K-water Research Institute) and Joon Ha KIM*(GIST)
EP-18	DEVELOPMENT OF DEHYDRATION RECYCLING SYSTEM FOR WATER-SOLUBLE DETERGENT USING NANOCERAMIC MEMBRANES Shimpei ISHIKAWA(Nara College), Shinichi NAKANO(Aqua chemical Co., Ltd.), Keita HAYASHI and Hidemi NAKAMURA*(Nara College)
EP-19	NON-EQUILIBRIUM MOLECULAR DYNAMICS SIMULATION OF WATER TRANSPORT THROUGH TiO_2 NANOPOROUS MEMBRANES Yuta SUZUKI, Tomohisa YOSHIOKA*, Keizo NAKAGAWA, Takuji SHINTANI(Kobe Univ.), Yasushi MINO(Okayama Univ.), Eiji KAMIO and Hideto MATSUYAMA(Kobe Univ.)
EP-20	HIGHLY PERFORMING AND DURABLE FORWARD OSMOSIS MEMBRANE USING POROUS POLYOLEFIN SUPPORTS Soon Jin KWON, Sang-Hee PARK and Jung-Hyun LEE* (Korea Univ.)
EP-21	CHARACTERIZATION OF NANOPOROUS TITANIA-ZIRCONIA COMPOSITE MEMBRANES PREPARED BY USING ORGANIC CHELATING LIGANDS Yuki SADA, Tomohisa YOSHIOKA*, Keizo NAKAGAWA, Takuji SHINTANI, Eiji KAMIO and Hideto MATSUYAMA(Kobe Univ.)
EP-22	TEMPERATURE-RESPONSIVE PROPERTY OF DRAW SOLUTIONS FOR FORWARD OSMOSIS DESALINATION: A MOLECULAR SIMULATION STUDY Saki SADAHISA, Tomohisa YOSHIOKA*, Keizo NAKAGAWA, Takuji SHINTANI(Kobe Univ.), Yasushi MINO(Okayama Univ.), Eiji KAMIO and Hideto MATSUYAMA(Kobe Univ.)
EP-23	EVALUATION OF THE GAP BETWEEN PARTICLES IN CAKE LAYER BY STREAMING POTENTIAL METHOD Ryosuke FUNABA and Kazuho NAKAMURA*(Yokohama National Univercity)
EP-24	A STUDY ON THE CHARACTERISTICS OF POLYAMIDE-BASED RO (REVERSE OSMOSIS) COMPOSITE MEMBRANE FOR WATER SEPARATION FROM 2,3-BDO Hang-Kyu CHO and Jong Sung LIM*(Sogang Univ.)

EP-25	CHARACTERISTICS OF Pd-BASED METAL HYDROGEN MEMBRANE BY ELECTROLESS PLATING WITH VACUUM PUMP Soo-Min LIM, Min-Chang SHIN, Edoardo MAGNONE and Jung-Hoon PARK* (Dongguk Univ.)
EP-26	FRACTAL STRUCTURE OF FLOC FORMED BY COMPOSITE POWDER FLOCCULANT Ryoko FUJIWARA, Tomohiro IWASAKI(Osaka Prefecture Univ.), Mohammed Saedi JAMI(International Islamic Univ. Malaysia) and Masashi IWATA*(Osaka Prefecture Univ.)
EP-27	FILTRATION PROPERTIES OF PARTICLE SUSPENSIONS BY SUBMERGED PLEATED FILTER WITH BUBBLE JET FUNCTION Toshiki TSUCHIE and Yasuhito MUKAI*(Nagoya Univ.)
EP-28	EFFECT OF NANOSHEET PREPARATION METHODS ON THE MEMBRANE PERFORMANCE OF STACKED NIOBATE NANOSHEET MEMBRANES Tomohiro SERA, Keizo NAKAGAWA*, Hiroharu YAMASHITA, Misato KUNIMATSU, Daisuke SAEKI, Takuji SHINTANI, Tomohisa YOSHIOKA, Eiji KAMIO and Hideto MATSUYAMA(Kobe Univ.)
EP-29	$Ti_3C_2T_X$ NANOFILTRATION MEMBRANE INHANCED BY COMPOSITE WITH GO Kyoung Min KANG, Dae Woo KIM (KAIST), Chang E. REN (Drexel Univ.), Kyeong Min CHO, Seon Joon KIM, Jung Hoon CHOI, Yoon Tae NAM (KAIST), Yury GOGOTSI* (Drexel Univ.) and Hee-Tae JUNG*(KAIST)
EP-30	MOLECULAR SIMULATION OF CYCLIC PEPTIDE NANOTUBES FOR NOVEL WATER CHANNEL Tomohisa YOSHIOKA*(Kobe Univ.), Hao-Chen WU(Hroshima Univ.), Keizo NAKAGAWA, Takuji SHINTANI, Hiroki NAGASAWA, Masakoto KANEZASHI, Toshinori TSURU(Kobe Univ.), Daisuke SAEKI and Hideto MATSUYAMA(Hiroshima Univ.)
EP-31	AFFINITY SEPARATION AND RECOVERY OF PROTEIN BY CIBACRON BLUE-SUPPORTED NANOFIBER MEMBRANE Yasuhito MUKAI*, Takuro SUMI(Nagoya Univ.), Yoshiyuki BANDO and Tatsuya MASUI (Morimatsu Industry Co., Ltd.)

F: Extraction / Supercritical Fluid Technology

[Oral Session] (Day3-Saturday, Nov 11th, 9:00-12:50) @Ball room B

Session chairmen: Jaehoon KIM(Sungkyunkwan Univ.), Takeshi SAKO(Shizuoka Univ.)

FO-01 Invited lecture	9:00-9:30 EXTRACTION OF BIO-FUEL OIL USING HIGH PRESSURE CO_2 AND EXPANDED HEXANE WITH CO_2 Idzumi OKAJIMA*, Shin-ya TAKANO(Shizuoka Univ.) Yooko TSUCHIYA(Central Research Institute of Electric Power Industry) and Takeshi SAKO(Shizuoka Univ.)
FO-02	9:30-9:45 CO_2 SORPTION BEHAVIOR ON CLAY MINERALS FROM SUBCRITICAL TO SUPERCRITICAL CONDITIONS FOR GEOLOGICAL CO_2 SEQUESTRATION: EXPERIMENTS AND MONTE CARLO SIMULATION Pil Rip JEON and Chang-Ha LEE*(Yonsei Univ.)
FO-03	9:45-10:00 OPERATIONAL CONDITION EFFECTS ON FLOW BEHAVIOR AND DROP SIZE DISTRIBUTIONS IN THE MIXING ZONE OF AN ANNULAR CENTRIFUGAL CONTACTOR Sanae OKAMOTO, Ryuta MISUMI*, Meguru KAMINOYAMA(Yokohama National Univ.), Yuichi SANO, Atsushi SAKAMOTO, Masayuki WATANABE and Kenji KOIZUMI (Nuclear Fuel Cycle Engineering Laboratories)
FO-04	10:00-10:15 SOLUBILITY ON TETRAHYDROFURFURYL ACRYLATE EFFECT FOR THE POLY[TETRAHYDROFURFURYL ACRYLATE] IN SUPERCRITICAL CARBON DIOXIDE AND DIMETHYL ETHER Bong-Seop LEE*(Kyungnam Univ.) and Hun-Soo BYUN*(Chonnam National Univ.)
FO-05	10:15-10:30 HIGH-THROUGHPUT AND HIGH-EFFICIENCY LIQUID-LIQUID EXTRACTION TECHNOLOGY -WINTRAY®- Keiichi NISHIDA* and Takashi NAKAYAMA(JGC CORPORATION)

FO-06	10:30-10:45 SUBCRITICAL WATER TREATMENT FOR THE BIOFUNCTIONAL HYDROLYSATES FROM TUNA SKIN AND COLLAGEN Raju AHMED and Byung-Soo CHUN*(Pukyong National Univ.)
FO-07	10:45-11:00 PROTEIN SEPARATION USING REVERSE MICELLAR SOLUTION IN A MICROCHANNEL REACTOR Yasuhiro NISHII*, Takamasa ICHIRYU, Tomoya OASA and Takumi KINUGASA(NIT, Niihama College)
Coffe Break **11:00-11:20**	

Session chairmen: Byung-Soo CHUN(Pukyong Nat'l Univ), Susumu NII(Kagoshima Univ.)

FO-08 **Invited lecture**	11:20-11:50 SUPERCRITICAL CO_2-ASSISTED ENZYMATIC PRODUCTION OF BIODIESEL IN A PACKED-BED REACTOR Hong-Shik LEE(KITECH), Aldricho Alpha POLLARDO(KITECH and Sungkyunkwan Univ.), Dohoon LEE, Sangyong KIM*,(KITECH and UST) and Jaehoon KIM(Sungkyunkwan Univ.)
FO-09	11:50-12:05 BIOBUTANOL DEHYDRATION USING SUB-CRITICAL BUTANE EXTRACTION Hiroshi MACHIDA*, Akio WATANABE, Naoki NAKATA and Hirotoshi HORIZOE(Nagoya Univ.)
FO-10	12:05-12:20 REMOVAL OF NAPHTHENIC ACIDS FROM HIGH ACID CRUDE BY ESTERIFICATION WITH METHANOL Muhammad Kashif KHAN, Jaehoon KIM*(Sungkyunkwan Univ.)

FO-11	12:20-12:35 EFFECT OF CYCLODEXTRIN ADDITION ON THE MICROWAVE-ASSISTED CATALYTIC HYDROLYSIS OF RUTIN UNDER HYDROTHERMAL CONDITIONS Takuto HOBO, Armando T. QUITAIN, Tetsuya KIDA, and Mitsuru SASAKI*(Kumamoto Univ.)
FO-12	12:35-12:50 UPGRADING OF EXTRA-HEAVY OIL USING ACTIVATED CARBON IN SUPERCRITICAL HYDROCARBON SOLVENT Doo-Wook KIM and Chang-Ha LEE*(Yonsei Univ.)

[Poster Session] (Day2-Friday, November 10th, 13:30-17:30)

Session chairmen: Hong-Shik LEE(Korea Institute of Industrial Technology), Yasuhiro NISHII(NIT, Niihama College), Idzumi OKAJIMA(Shizuoka Univ.)

FP-01	HIGH PRESSURE COUNTER-CURRENT EXTRACTION OF HOPS EXTRACT Yuki HOSHINO, Masaki OTA*, Yoshiyuki SATO, Richard Lee SMITH Jr. and Hiroshi INOMATA(Tohoku Univ.)
FP-02	EXTRACTION OF ETHANOL FROM AZEOTROPIC MIXTURES USING DEEP EUTECTIC SOLVENTS Ho Seong SEO, Kwan Min LEE and Byung Heung PARK*(Korea National Univ. of Transportation)
FP-03	MICROWAVE EXTRACTION AS APPLIED TO RECOVERY POLYPHENOLS FROM CITRUS PEEL Saya YAMAFUKU, Armando T. QUITAIN*, Mitsuru SASAKI and Tetsuya KIDA(Kumamoto Univ.)
FP-04	REGENERATION OF FATTY ACID-ADSORBED γ-ALUMINA USING SUPERCRITICAL METHANOL Hee Suk WOO, Seoungmok SHIN, Tae Jun YOUN and Youn-Woo LEE*(Seoul National Univ.)

FP-05	DEVELOPMENT OF GREEN EXTRACTION TECHNOLOGY OF FUNCTIONAL COMPONENTS FROM CITRUS PEEL Saya YAMAFUKU, Armando T. QUITAIN*, Mitsuru SASAKI and Tetsuya KIDA(Kumamoto Univ.)
FP-06	RESEARCH ON CHARACTERISTIC OF SUPERCRITICAL EXTRACTION OF STYRAX JAPONICA OIL TO CONCENTRATE AN UNSATURATED FATTY ACID Hwi-Sung LEE, Dongjoon KIM, Kyungseok YU, Hanbin SEO and Youn-Woo LEE*(Seoul National Univ.)
FP-07	CLASSIFICATION OF LIPID EXTRACTED FROM MICROALGAE *NANNOCHLOROPSIS OCEANICA* BY LIQUEFIED DIMETHYL ETHER Naomasa YAMAMOTO, Kazuya MURAKAMI, Masaki HONDA, Wahyudiono (Nagoya Univ.), Hideki KANDA* (Nagoya Univ., Japan Science and Technology Agency (JST)/Japan International Corporation Agency (JICA)) and Motonobu GOTO(Nagoya Univ.)
FP-08	A NEW METHOD FOR RECYCLING OF CROSS-LINKED ETHYLENE-VINYL ACETATE(EVA) Geon Hwan PARK, Gi Young HONG and Youn-Woo LEE*(Seoul National Univ.)
FP-09	ESTIMATION OF SOLUBILITY ON SUPERCRITICAL FLUID EXTRACTION OF BUTTER-MILK COMPONENTS Erika ODA, Masaki OTA, Yoshiyuki SATO, Richard Lee SMITH Jr. and Hiroshi INOMATA*(Tohoku Univ.)
FP-10	MICROENCAPSULATION OF BIOACTIVE PIGMENT FROM MARINE BROWN SEAWEED USING SUPERCRITICAL CARBON DIOXIDE TECHNIQUES Tri Vo DIHN, Periaswamy Sivagnanam SARAVANA, Hee-Chul WOO and Byung-Soo CHUN*(Pukyong National Univ.)
FP-11	QUANTIFICATION OF DISPERSION PHASE CONCENTRATION DISTRIBUTION IN HIGH CONCENTRATION LIQUID-LIQUID STIRRED TANK USING IMAGE ANALYSIS Koji SUGIYAMA, Ryuta MISUMI and Meguru KAMINOYAMA*(Yokohama National Univ.)
FP-12	HOW CAN THE CITRUS SEEDS LEVERAGE THE SC-CO_2 EXTRACTION OF CAROTENOIDS FROM THE CITRUS PEELS? John NDAIYSHIMIYE and Byung Soo CHUN*(Pukyong National Univ.)

FP-13	REMOVAL OF SALT IN GARBAGE-DERIVED FUEL PLANT USING SUBCRITICAL WATER Takeshi SAKO* and Idzumi OKAJIMA(Shizuoka Univ.)
FP-14	EXTRACTION OF PHOSPHOLIPIDS FROM DE-OILED SALMON RESIDUE USING SUPERCRITICAL CO_2 AND ETHANOL AS A MODIFIER Monjurul HAQ and Byung-Soo CHUN*(Pukyong National Univ.)
FP-15	LIPOSOME PRODUCTION USING LIQUEFIED DIMETHYL ETHER Tsubasa KATSUBE*, Wahyudiono, Hideki KANDA and Motonobu GOTO(Nagoya Univ.)
FP-16	SEPARATION PROCESS FOR THE PRODUCTION OF HIGHER YIELD OF NON-CATALYTIC LIQUEFACTION OF DEWATERED SEWAGE SLUDGE Rana MUJAHID(Sungkyunkwan Univ.), Muhammad Irshad(SKKU Advanced Institute of Nano Technology (SAINT)) and Jaehoon KIM*(Sungkyunkwan Univ. and SKKU Advanced Institute of Nano Technology (SAINT))
FP-17	ULTRASONICALLY ENHANCEMENT OF MASS-TRANSFER IN SLUG-FLOW EXTRACTION OF IODINE Tenshi NISHIMUTA, Susumu NII*, Kei MIZUTA and Takashi GOSHIMA(Kagoshima Univ.)
FP-18	UPGRADING LOW-BOILING-FRACTION FAST PYROLYSIS BIO-OIL USING SUPERCRITICAL ALCOHOL Heuntae JO and Jaehoon KIM* (Sungkyunkwan Univ.)
FP-19	SUPERCRITICAL ANTI-SOLVENT PROCESS USING MICRO SWIRL MIXER Motonobu GOTO*, Chiho UEMORI, Tomohiko KODAMA, Wahyudiono, Hideki KANDA (Nagoya Univ.) and Shin-ichiro KAWASAKI (AIST)
FP-20	UNDERSTANDING RELATIONSHIP BETWEEN LIGNIN STRUCTURE AND DEPOLYMERIZATION BEHAVIORS Jaeyong PARK, Asim RIAZ, Rizki INSYANI and Jaehoon KIM*(Sungkyunkwan Univ.)

FP-21	SELECTIVE PERMEATION OF ALICYCLIC COMPOUNDS USING IONIC LIQUID IMPREGNATED BACTERIAL CELLULOSE MEMBRANES Akito TSURUMI and Michiaki MATSUMOTO*(Doshisha Univ.)
FP-22	BIOACTIVES OBTAINED FROM BROWN SEAWEED USING IONIC LIQUIDS COMBINED WITH PRESSURIZED FLUID EXTRACTION Periaswamy Sivagnanam SARAVANA, Hee Chul WOO and Byung Soo CHUN*(Pukyong National Univ.)

G: New or Hybrid Separation Process & Materials

[Oral Session] (Day3-Saturday, Nov 11th, 08:40-13:00) @Ball room C

Session chairmen: Minkee CHOI(KAIST),
Hiroshi UMAKOSHI(Osaka Univ.)

GO-01	08:40-09:00 2D DYNAMICS OF PROTEIN ASSEMBLIES ON LIPID MEMBRANES Toshinori SHIMANOUCHI, Mikio TANAKA and Yukitaka KIMURA*(Okayama Univ.)
GO-02	09:00-09:20 FABRICATION OF FUNCTIONAL FILMS FOR PULSATILE DRUG RELEASE SYSTEM Yasuhiro NISHII*, Riho AKASE, Toshihiro YOKOYAMA, Itsuki NAGINATA, Tomomi ISOZAKI, Haruka MURAKAMI, Takumi KINUGASA(NIT, Niihama College), and Eric NUXOLL(Univ. of Iowa)
GO-03	09:20-09:40 HIGH-SENSITIVE MOLECULAR DETECTION USING SMALL PORE SPACE IN BIOMOLECULAR-RECOGNITION GATING MEMBRANE Hiroto OKUYAMA, Yuhei OSHIBA and Takeo YAMAGUCHI*(Tokyo Institute of Technology)
GO-04	09:40-10:00 LADDER-STRUCTURED POLYSILSESQUIOXANE-INDUCED ANTI-AGING OF POLYIMIDE MEMBRANES Hyun Jung YU and Jong Suk LEE*(Sogang Univ.)
GO-05	10:00-10:20 POROUS POLYMER MICROBEADS FOR CO_2 CAPTURE Nesibe A. DOGAN, Ercan OZDEMIR and Cafer T. YAVUZ*(KAIST)
GO-06	10:20-10:40 HIERARCHICALLY STRUCTURED POROUS CARBONS FOR CO_2 ADSORPTION Sul Ki PARK, Min Sung CHOI and Ho Seok PARK*(Sungkyunkwan Univ.)
Coffee Break 10:40-11:00	

Session chairmen: Young-Seak LEE(Chungnam Nat'l Univ.), Yuhei OSHIBA(Tokyo Institute of Technology)

GO-07	11:00-11:20 IN SILICO MODIFICATION OF METAL-ORGANIC FRAMEWORKS Ohmin KWON, Sanghoon PARK, Sanggyu CHONG and Jihan KIM*(KAIST)
GO-08	11:20-11:40 IONIC LIQUID-AQUEOUS TWO-PHASE SYSTEM FOR ENZYMATIC SACCHARIFICATION PROCESS Kazuhiko TANIMURA(Osaka Univ. and Hitachi Zosen Corporation), Ryosuke KUME, Winnie H SHI, Keishi SUGA, Yukihiro OKAMOTO(Osaka Univ.) Makoto YOSHIMOTO(Yamaguchi Univ.) and Hiroshi UMAKOSHI*(Osaka Univ.)
GO-09	11:40-12:00 DEVELOPMENT OF ACHIRAL SURFACTANT ASSEMBLIES FOR CHIRAL SELECTIVE ALKYLATION PROCESS IN AQUEOUS MEDIA Keishi SUGA, Fumihiko IWASAKI, Ryota ITO, Yukihiro OKAMOTO and Hiroshi UMAKOSHI*(Osaka Univ.)
GO-10	12:00-12:20 DEVELOPMENT OF CDI ELECTRODE AND SYSTEM FOR THE WATER TREATMENT PROCESS Namsoo PARK(SIONTECH and Chungnam National Univ.), Kyungseok KANG (SIONTECH) and Young-Seak LEE*(Chungnam National Univ)
GO-11	12:20-12:40 THIN PORE-FILLING POLYMER ELECTROLYTE MEMBRANES WITH LOW EW PERFLUOROSULFONIC ACID POLYMER FOR POLYMER ELECTROLYTE FUEL CELLS Yuhei OSHIBA, Jin TOMATSU(Tokyo Institute of Technology) and Takeo YAMAGUCHI* (Tokyo Institute of Technology, KISTEC)
GO-12	12:40-13:00 3D POROUS CARBON MATERIALS FOR ENVIRONMENTAL APPLICATIONS Sung-Chan JANG, Ilsong LEE, Muruganantham Rethinasabapathy(Inha Univ.), Changhyun ROH(KAERI) and Yun Suk HUH*(Inha Univ.)

[Poster Session] (Day3-Saturday, November 10th, 13:30-17:30)

Session chairmen: Kanghee CHO(KIER),
Toshinori SHIMANOUCHI(Okayama Univ.),
Kazuhiko TANIMURA(Hitach Zosen Corp)

GP-01	LIPOSOME-BASED REACTION AND SEPARATION PROCESSES FOR CHIRAL COMPOUNDS Hiroshi UMAKOSHI*, Yukihiro OKAMOTO and Keishi SUGA(Osaka Univ.)
GP-02	BINDING OF HORSE RADISH PEROXIDASE TO VESICULAR MEMBRANES FOR A CONTROL OF ENZYMATIC POLYMERIZATION REACTION Saki FUKUMA, Toshinori SHIMANOUCHI, Yukitaka KIMURA*(Okayama Univ.) and Keita HAYASHI(National Institute of Technology, Nara College)
GP-03	CHANGE OF THE MEMBRANE PROPERTIES OF LIPOSOME BY DEHYDROCHOLIC ACID OR DEHYDROCHOLIC ACID DERIVATIVE Kazutoshi MORIMOTO, Keita HAYASHI*(Nara College) Sosaku ICHIKAWA(Univ. of Tsukuba), Toshiyuki KAMEI, Hidemi NAKAMURA(Nara College)
GP-04	DESIGN AND CHARACTERIZATION OF LIPOSOME MEMBRANE AS PLATFORM FOR RNA RECOGNITION Nozomi WATANABE, Keishi SUGA, Yukihiro OKAMOTO, Hiroshi UMAKOSHI* (Osaka Univ.)
GP-05	INGESTED CESIUM REMOVAL FROM GASTROINTESTINAL TRACT: NONTOXIC, STABLE, AND EDIBLE DECORPORATION AGENTS Ilsong LEE, Sung-Chan JANG, Muruganantham Rethinasabapathy(Inha Univ.), Changhyun ROH(KAERI), Yun Suk HUH*(Inha Univ.)
GP-06	SERS-BASED MELAMINE SENSOR USING NOVEL NANOSTRUCTURED GOLD NANOPARTICLES Cheol Hwan KWAK, Seo Yeong OH, Jinwoon KIM(Inha Univ.), Sang-Woo JOO(Soongsil Univ.) and Yun Suk HUH*(Inha Univ.)
GP-07	HIGH SENSITIVE DETECTION OF AMYLOID BETA USING THE QUARTZ CRYSTAL MICROBALANCE METHOD COMBINED WITH THE IMMOBILIZATION OF LIPID MEMBRANES Toshinori SHIMANOUCHI, Saki FUKUMA and Yukitaka KIMURA*(Okayama Univ.)

GP-08	PHYSICOCHEMICAL BEHAVIORS OF BIOLOGICAL STEROLS IN MODEL CELL MEMBRANES Tham Thi BUI, Keishi SUGA, Yukihiro OKAMOTO and Hiroshi UMAKOSHI*(Osaka Univ.)
GP-09	APTAMER-CONJUGATED POLYMER FOR ACUTE MYOCARDIAL INFARCTION DIAGNOSTIC GATING MEMBRANE Yuhei OSHIBA, Akito ICHIHASHI, Hidenori OHASHI and Takeo YAMAGUCHI*(Tokyo Institute of Technology)
GP-10	CHARACTERIZATION OF CHLOROPHYLL *a* INCORPORATED LIPOSOMES AND BICELLES AS PHOTOSYNTHESIS PLATFORM Shogo TAGUCHI, Keishi SUGA(Osaka Univ.), Keita HAYASHI(Nara College), Yukihiro OKAMOTO(Osaka Univ.), Hidemi NAKAMURA(Nara College) and Hiroshi UMAKOSHI*(Osaka Univ.)
GP-11	UV BLOCKING PROPERTY OF VERMICULITE AND ITS APPLICATION Do Hee Kim and Do Hyun Kim*(KAIST)
GP-12	DESIGN TO THE 3D STRUCTURES OF POROUS TIO_2 BY USING MACHINE LEARNING VIA MULTISCALE STRUCTURE ANALYSIS Masaki OTANI(Yamagata Univ.) and Keigo MATSUDA*(Yamagata Univ and AIST)
GP-13	HYBRID MATERIAL COMBINED METAL CATALYST WITH GEL MATRIX AND LIPID MEMBRANES Yuki KITAGAWA, Nishiguchi RYOTA, Toshinori SHIMANOUCHI and Yukitaka KIMURA* (Okayama Univ.)
GP-14	PREPARATION OF LIPOSOMES EMBEDDING METAL COMPLEX FOR POLY(LACTIC ACID) POLYMERIZATION Marina OHTSUKA, Toshinori SHIMANOUCHI and Yukitaka KIMURA*(Okayama Univ.)
GP-15	POLYMERIZATION IN EMULSION UNDER HYDROTHERMAL CONDITIONS FOR NANO-SIZED PARTICLES Daichi HIROTA, Toshinori SHIMANOUCHI and Yukitaka KIMURA*(Okayama Univ.)
GP-16	CHARACTERIZATION OF LIPID MEMBRANE SURFACES AS CATALYTIC PLATFORM IN AQUEOUS MEDIA Masanori HIROSE, Keishi SUGA, Yukihiro OKAMOTO and Hiroshi UMAKOSHI*(Osaka Univ.)

GP-17	BROMINATION/DEBROMINATION-INDUCED THERMAL CROSSLINKING OF 6FDA-DURENE FOR AGGRESSIVE GAS SEPARATIONS Heseong AN and Jong Suk LEE*(Sogang Univ.)
GP-18	PREPARATION OF TiO_2 DOPED ACTIVATED CARBON FIBERS AND THEIR CAPACITIVE DEIONIZATION CHARACTERISTICS Da Hee KANG, Min-Jung JUNG, Hanjoo JO, Ye Ji CHOI and Young-Seak LEE*(Chungnam National Univ.)
GP-19	EFFECT OF DIRECT-FLUORINATION ON ACTIVATED CARBON FOR CAPACITIVE DEIONIZATION Kyung Hoon KIM, Hanjoo JO, Da Hee KANG, Ye Ji CHOI and Young-Seak LEE*(Chungnam National Univ.)
GP-20	EFFECTIVE ASYMMETRIC CAPACITIVE DEIONIZATION USING FLUORINATED ACTIVATED CARBONS AS ELECTRODE MATERIALS Hanjoo JO, Kyung Hoon KIM and Young-Seak LEE*(Chungnam National Univ.)
GP-21	PREPARATION OF FEW-LAYERED GRAPHENE USING TALYOR-COUETTE FLOW Donghyuk SEO, Seunghwan SEOK(KAIST), Woo-Sik KIM(Kyung Hee Univ.) and Do Hyun KIM*(KAIST)
GP-22	IMPROVED SO_2 GAS ADSORPTION PROPERTIES OF DUAL-SIMULTANEOUS TREATED ACTIVATED CARBON FIBERS Yun Jeong CHOI, Byong Chol BAI(KRICT and Chungnam National Univ.), Ji Sun IM* (KRICT and UST) and Young-Seak LEE(Chungnam National Univ.)
GP-23	POROUS CARBON NANOFIBERS BY TEMPLATED METHOD FOR HYDROGEN STORAGE Min-Jung JUNG, Da Hee KANG, Ye Ji CHOI and Young-Seak LEE*(Chungnam National Univ.)
GP-24	TOXIC GAS REMOVAL BY FUNCTIONALIZED ACTIVATED CARBON FIBER Yun Jeong CHOI(KRICT and Chungnam National Univ.), Ji Sun IM*(KRICT and UST), Byong Chol BAI(KRICT and Chungnam National Univ.) and Young-Seak LEE (Chungnam National Univ.)
GP-25	DESALINATION BY SINGLE WALLED CARBON NANOTUBE'S SIDE-WALLED NANOHOLE Jiyun LEE, Sang Kyu KWAK*(UNIST)

GP-26	REACTION CHARACTERISTICS AND KINETICS OF Ni-BASED OXYGEN CARRIERS FOR CHEMICAL LOOPING COMBUSTION (CLC) Ji Hye PARK, Ra Hyun HWANG(GEST, Chungnam National Univ.), Jeom-In BAEK (KEPRI), Ho-Jung RYU(KIER) and Kwang Bok YI*(Chungnam National Univ.)
GP-27	PORE SITE PARTITION BY SIZE-MATCHING LIGAND INSERTION OF METAL-ORGANIC FRAMEWORKS FOR CO_2 CAPTURE IN THE PRESENCE OF WATER Bong Lim SUH, Sangwon LEE and Jihan KIM*(KAIST)
GP-28	COMPUTATIONAL PREDICTION OF RECORD BREAKING V-MOF-74 STRUCTURE FOR METHANE STORAGE Seokwon HYEON (KAIST), Young-Chul KIM(Hyundai Motor Group) and Jihan KIM* (KAIST)
GP-29	EPOXIDE-MODIFIED POLYETHYLENEIMINE FOR SYNTHESIS OF EXTRA-STABLE CO_2 ADSORBENT IN TEMPERATURE SWING PROCESS Woosung CHOI and Minkee CHOI*(KAIST)
GP-30	ETHYLENEDIAMINE-GRAFTED Y ZEOLITE AS A HIGHLY REGENERABLE CARBON DIOXIDE ADSORBENT FOR TEMPERATURE SWING PROCESS Chaehoon KIM and Minkee CHOI*(KAIST)
GP-31	CONTROLLED DISORDERING OF LTA ZEOLITE: CONTINUOUS TUNING OF THE MOLECULAR SIEVING EFFECT FOR MOLECULAR SEPARATION Hyeonbin KIM, Chaehoon KIM and Minkee CHOI*(KAIST)

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