

G: Bioseparation

[Oral Session] (Day 2 – Friday, October 31st, 13:30-17:21)

[Separation Processes of Biologics] (Special Session)

GO-01 13:30-13:50

Predicting the Efficiency of Capture Chromatography of Proteins
Noriko Yoshimoto, Yu Isakari, and Shuichi Yamamoto* (Yamaguchi Univ., Japan)

GO-02 13:50-14:10

Continuous Chromatography PROS & CONS from a Practical Point of View
Oliver Kaltenbrunner (AMGEN, USA)

GO-03 14:10-14:30

Modern Downstream Process Development:
Automated High Throughput Screening Seamless to Pilot Scale
Günter Dospil, Miriam Ritter, and Tim Schroeder* (ATOLL, Germany)

GO-04 14:30-14:50

Understanding mAb Monomer/Aggregate Separation:
Mechanistic Analysis of Cation Exchange Variants Using CLSM and Chromatography Techniques
Matthias Jöhnck*, Dominic Zorn, Bernd Stanislawski (Merck, Germany)

GO-05 14:50-15:10

Mixed-mode Chromatography for Mab Separations
Yi Feng Lee, Simon Kluters, and Christian Frech* (U.Mannheim, Germany)

GO-06 15:10-15:30

Strategies for Virus Separations
Aleš Podgornik (COBIK, Slovenia)

[15:30-15:50] Coffee Break

[Separation Processes of Small Molecules and Bio-Nanotechnology] (General Session)

GO-07 15:50-16:03

Enzymatic Resolution of Racemic Ibuprofen Based on Immobilized and Stabilized Lipase in Polyaniline Nanofibers
Sung-Gil Hong, and Jungbae Kim* (Korea Univ., Korea)

GO-08 16:03-16:16

Water-Dispersibility of the Complex between Paclitaxel and Casein Hydrolyasate
Asuka Inada, Tatsuya Oshima*, Yoshinari Baba (Univ. of Miyazaki, Japan)

GO-09 16:16-16:29

Succinate Production from CO₂-Grown Microalgal Biomass Using Metabolically-Engineered Bacteria for Adsorptive Separations of Xenon/Krypton Mixtures
Jungseok Lee, Sang Jun Sim, Michael Bott, Youngsoon Um, Min-Kyu Oh, and Han Min Woo* (Korea Institute of Science and Technology, Korea)

GO-10 16:29-16:42

Metal Affinity Immobilized Liposome Chromatography for Peptide Recognition
Hiroshi Umakoshi*, Hideto Nagami, Gary Lee Thompson III, Takenori Kitaura, and Toshinori Shimanouchi (Osaka Univ., Japan)

GO-11 16:42-16:55

A RNA Producing DNA Gel as a Protein Production Platform
Soong Ho Um* (Sungkyunkwan Univ., Korea)

GO-12 16:55-17:08

Photo-Triggered Transfer of Biomolecules from/to Organic Solution
by Using Triphenylmethane Derivative
Ryoko M. Uda* (Nara National College of Technology, Japan)

GO-13 17:08-17:21

Fabrication of Nano Structures Multi-Catalyst System Entrapping Fe₃O₄ Magnetic Nanoparticles and Oxidases for Colorimetric Biosensing
Moon Il Kim, Kyungmee Lee, and Hyun Gyu Park* (KAIST, Korea)

[Poster Session] (Day 3 – Saturday, November 1st, 9:00-11:00 / 11:20-13:00)**<Bio/Medical>**

GP-01 Microfluidic Separation Systems for Efficient Screening of Microalgal Strains and Lipid Analysis
Sang Jun Sim*, Won Seok Chang (Korea Univ., Korea)

GP-02 Use of Rayleigh Scattering to Reveal the Dynamics of APOE4-Mediated β Amyloid Aggregation
Min-Kyung Kang, and Sang Jun Sim* (Korea Univ., Korea)

GP-03 Surface Enhanced Raman Scattering Analysis of Phospholipid Membrane Modified on Au Nanoparticle
Tomohiro Yoshida¹, Keishi Suga¹, Haruyuki Ishii², Yukihiro Okamoto¹, and Hiroshi Umakoshi^{1*}
(1: Osaka Univ., 2: Tohoku Univ., Japan)

GP-04 Preparation of Smart Vesicle Modified with C-Glycoside Ketohydrazon for the Development of Novel DDS
Madoka Kiriishi¹, Keita Hayashi², Keishi Suga¹, and Hiroshi Umakoshi^{1*}
(1: Osaka Univ., 2: Nara National College of Technology, Japan)

GP-05 Mass Spectroscopy Assisted Label-Free Multiplex Detection of Genitourinary Infection Pathogens
Kyungmee Lee, Jung Hun Park, and Hyun Gyu Park* (KAIST, Korea)

GP-06 Characterization of Phase Separation Behavior of Heterogeneous Supported Lipid Membranes Using Fluorescence Microscopy
Yuki Takaya, Keishi Suga, Yukihiro Okamoto, and Hiroshi Umakoshi* (Osaka Univ., Japan)

GP-07 Peptide Mixture as a Complexing Agent for the Enhancement of Water-Solubility or Water-Dispersibility of Nutrients and Drugs
Tatsuya Oshima*, Asuka Inada, Risa Yamashita, Nao Matsushita, Yoshinari Baba
(Univ. of Miyazaki, Japan)

GP-08 Preparation of the Complex between Carotenoids and Casein Hydrolysate for the Enhancement of Water-Dispersibility
Takeru Iwakiri, Mariko Sugawara, Tatsuya Oshima*, Kaoru Ohe, and Yoshinari Baba
(Univ. of Miyazaki, Japan)

<Materials>

GP-09 Alcohol-Dispersed Polystyrene-Based Electrospun Nanofibers for Separation Platform
Seung-Hyun Jun†, and Jungbae Kim* (Korea Univ., Korea)

GP-10 Development of New Chiral Materials Based on Self-Assembly Behavior of Fatty Acids
Dai Kondo, Keishi Suga, Yukihiro Okamoto, and Hiroshi Umakoshi* (Osaka Univ., Japan)

GP-11 Synthesis of Functional Metallic Nanoparticles from Recovery of Rare Metal Ions in Waste Water by a Bioreduction
Kazuki Sugiura, Yuta Nakanishi, Noriaki Sano*, and Hajime Tamon (Kyoto Univ., Japan)

GP-12 Improved Recoverability and Reusability of Immobilized Chitosanase Prepared Using Magnetic Agar Gel Supports
Takashi Kuroiwa*, Yuta Nakagawa, and Akihiko Kanazawa (Tokyo City Univ., Japan)

GP-13 Effective Antifouling Platform with Stabilized Acylase in Magnetically-Separable Nanoscale Enzyme Reactors
Byoungsoo Lee, Kyung-Min Yeon, Sang-Ryoung Kim, Jongmin Shim, Chung-Hak Lee, Jinwoo Lee, and Jungbae Kim* (Korea University, Korea)

<Enzyme/Cells>

GP-14 *Flavobacterium faecale* sp. nov., an Agarase-Producing Species Isolated from Stools of Antarctic penguins
Jin Ho Kim, Min Kyung Kong, Hee Jin Hwang, Sun Hyoung Choi, Jin Won Kim, See Yeon Ju, Hye Yeong Bae, Bo Hyun Choi, Jun Ho Lee, and Pyung Cheon Lee* (Ajou University, Korea)

GP-15 Production and Separation of D-Polylactic Acid by Developing Thermostable D-Lactate Dehydrogenase
Yong Hwan Kim* (Kwangwoon Univ., Korea)

GP-16 Hydroxylation of the Flavonoid Compounds using *Streptomyces* species
Junehyung Kim (Dong-A University, Korea)

GP-17 Improving CO₂ Fixation Efficiency of Microalgae by a Sequential Operating System in a Tubular Photobioreactor
Jooyeong Lee, Wonseok Chang and Sangjun Sim* (Korea Univ., Korea)

GP-18 Inactivating Effect of Phenolic Unit Structures on the Biodegradation of Lignin Peroxidase from *Phanerochaete chrysosporium*
Le Thanh Mai Pham, Yong Hwan Kim* (Kwangwoon Univ., Korea)

GP-19 *Enterococcus faecalis* subsp. *antarcticus* subsp. nov. isolated from a South Polar Brown Skua
Jin Ho Kim and Pyung Cheon Lee* (Ajou Univ., Korea)

GP-20 *Enterococcus faecalis* subsp. *kingsejongensis* subsp. nov. isolated from a South Polar Brown Skua
Jin Ho Kim and Pyung Cheon Lee* (Ajou Univ., Korea)

(GP-21) Magnetophoretic Harvesting of Oleaginous Microalgae Using Magnetic Particles for Biodiesel Feedstock Production
You-Kwan Oh*, Kyubock Lee, So Yeun Lee, Bohwa Kim, Ramasamy Praveenkumar, Jung Yoon Seo, Hyun Gi Koh, Byeong-Ryool Jeong, and Seung Bin Park (Korea Institute of Energy Research, Korea)

GP-22 Optimization of Adsorption Condition for Thermal Stabilization of Protein Adsorbed on Plant Biomass Charcoal
Shunichi Kurihara¹, Hidetaka Noritomi^{1*}, Nobuyuki Endo² and Satoru Kato¹
(1: Tokyo Metropolitan Univ., 2: EEN Co., Ltd, Japan)

<Solvent/Hetero>

GP-23 Solvent Effect on the Activity of Protease Immobilized onto Bamboo Charcoal Prepared at Low Temperatures
Junpei Nishigami¹, Hidetaka Noritomi^{1*}, Nobuyuki Endo², and Satoru Kato¹
(1: Tokyo Metropolitan University, 2: EEN Co., Ltd., Japan)

GP-24 Effect of Operating Conditions on the Recovery of Ionic Liquids from Mixture through Ultrasound Atomization
Sung Ho Ha* (Hannam University, Korea)

GP-25 Physicochemical Properties of Phospholipid Vesicles Prepared Using Supercritical CO₂ Reverse-Phase Evaporation Method
Shogo Taguchi¹, Keishi Suga¹, Yukihiro Okamoto¹, Hiroshi Umakoshi^{1†}, Keita Hayashi², and Hidemi Nakamura^{2*} (1: Osaka University, 2: National Institute of Technology, Nara College, Japan)

- GP-26** Preparation of Self-Assembled Complexes Composed of Non-Ionic Surfactants and Evaluation of Interfacial Properties
Hideka Iwai¹, Keita Hayashi^{1*}, Toshinori Shimanouchi², Hiroshi Umakoshi³, Tomoyuki Iwasaki⁴, Ayako Kato¹, and Hidemi Nakamura^{1**} (1: National Institute of Technology, Nara College, 2: Okayama University, 3: Osaka University, 4: Ehime University, Japan)
- GP-27** Liposome-Assisted Catalytic Molecular Conversion of 5-Hydroxymethylfurfural
Toshinori Shimanouchi, Koji Deguchi, Yuki Takahashi, Yukitaka Kimura (Okayama Univ., Japan)
- GP-28** Homochiral Polymerization of Amino Acids on Liposome Membrane in Aqueous Media
Yoshinori Kaneko, Takaaki Ishigami, Keishi Suga, Yukihiro Okamoto, and Hiroshi Umakoshi* (Osaka Univ., Japan)
- GP-29** Coexistence Effect of Liposome Membrane on L-Proline Catalyzed Michael Addition
Masanori Hirose, Takaaki Ishigami, Keishi Suga, Yukihiro Okamoto, and Hiroshi Umakoshi * (Osaka Univ., Japan)