

효소 및 미생물공학 (Enzyme and Microbial Technology)

- P0001** Characterization of the Antimicrobial Substance Produced nby *Bacillus endophyticus* 6112 against *Streptococcus parauberis*
Cheayun JI, Youllae JO
Department of Applied Microbiology and Biotechnology, Yeungnam University, Gyeongsan, Korea
- P0002** Production of Vaccine Candidate for Toxin from Anaerobic Microbes
Da Som KIM¹, So Young KIM¹, Byoung Joo SEO², Ja Young MOON², Zhili RAO¹, Minho PARK¹, Chang Gi JEONG², Jin HUR², Won Il KIM², Jung Hee PARK^{1,3}
¹Division of Biotechnology, College of Environmental & Bioresources Sciences, Chonbuk National University, Iksan, Korea, ²College of Veterinary Medicine, Chonbuk National University, Iksan, Korea, ³Chonbuk National University, Advanced Institute of Environment and Bioscience, Iksan, Korea
- P0003** Chitosan/Gelatin/Nano-Hydroxyapatite Hydrogel Prepared by a Marine-Derived Psychrophilic Tyrosinase
Dawoon JEONG, Sujin LIM, Gaeun BAE, Yoo Seong CHOI
Department of Chemical Engineering and Applied Chemistry, Chungnam National University, Daejeon, Korea
- P0004** Characterization of Cellulosic Biomass Degrading Activities from Fungal Strains Isolated from Ancient Documents and Wooden Artifacts
Dong-Min PARK, Deok-Ho KWON, Jae-Bum PARK, Suk-Jin HA
Department of Bioengineering and Technology, Kangwon National University, Chuncheon, Korea
- P0005** Synthesis of Novel Immobilized Materials Based on Nickel Foam and Study on Properties of Immobilized Enzymes
FANGZHI XIE, Jung-heon LEE
Department of Chemical Engineering, Chosun University, Gwangju, Korea
- P0006** Revealing Association of Tetrahydrodavidzein Reductase with Electron Transport Chain in (S)-Equl Production.
Hanbit SONG^{1,2}, Pyung-Gang LEE³, Joonwon KIM^{1,2}, Eun-Jung KIM², Byung-Gee KIM^{1,2}
¹School of Chemical and Biological Engineering, Institute of Engineering Research, Seoul National University, Seoul, Korea, ²Institute of Molecular Biology and Genetics, Seoul National University, Seoul, Korea, ³Harvard Medical School, Boston, MA, USA
- P0007** Production of Glutaric Acid from L-lysine Using Recombinant *Escherichia coli* as Whole Cell Biocatalyst
Hangeun CHA¹, Suyeon YANG³, Eunyoung KIM¹, Minsu KANG¹, Yejean JUNG¹, Jeongchan JU², Jung-oh AHN⁴, Yunghun YANG³, Kyungmoon PARK¹
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- P0008** *In silico* and *in vitro* Analysis of 7-hydroxyindole as an Alternative Substrate of MauG
Heejin NAM¹, Youngkook MOON¹, Moonsung CHO², Sooim SHIN^{1,3}
¹Interdisciplinary Program of Bioenergy and Biomaterials Graduate school, College of Engineering, Chonnam National University, Gwangju, Korea, ²Department of Optometry, College of Energy and Biotechnology, Seoul National University of Science and Technology, Seoul, Korea, ³Department of Bioengineering and Biotechnology, College of Engineering, Chonnam National University, Gwangju, Korea
- P0009** Purification and Characterization of the Antibacterial Substance Produced from *Pseudomonas* sp. K8
HyeonHee KIM, YouLae JO
 Department of Applied microbiology and biotechnology, Graduate School Yeungnam University, Gyeongsan, Korea
- P0010** Characterization of the Antibacterial Substance from *Pseudomonas extremorientalis* PEY1 against *Edwardsiella tarda*
HYUN SOL JO^{1,2}, YOUL LAE JO²
¹Department Research and Development, Marine Industry Research institute for East sea rim, Uljin, Korea, ²Department of applied microbiology and biotechnology graduated school Yeungnam University, Gyeongsan, Korea
- P0011** Crude Extraction of Peptides from Fish Wastewater and Test of Plant-Growth-Promoting Function on Wheat Sprout
Hyun Yi JUNG, Joong Kyun KIM
 Department of Biotechnology, Pukyong National University, Busan, Korea
- P0012** Co-expression of MelC Tyrosinase with CYP102G4 Monooxygenase Synthesized Darker Melanin Pigment with Electric Property: Structural Understanding by 15T FT-ICR Analysis
HyunA PARK, Kwon-Young CHOI
 Department of Environmental Engineering, Ajou University, Suwon, Korea
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Hyunwoo JEON, Hyungdon YUN
 Department of Systems Biotechnology Konkuk University, Seoul, Korea
- P0014** Characterization of ELP-fused ω -Transaminase and Its Application for the Biosynthesis of β -Amino Acid
Hyunwoo JEON, Hyungdon YUN
 Department of Systems Biotechnology Konkuk University, Seoul, Korea
- P0015** Parallel Anti-sense Two-step Cascade for Alcohol Amination Leading to ω -amino Fatty Acids and α, ω -diamines
Hyunwoo JEON, Hyungdon YUN
 Department of Systems Biotechnology Konkuk University, Seoul, Korea

- P0016** Production of Carotenoids by a Novel Methanotrophic Bacterium, *Methylocystis* sp., Depending on Phosphate Concentration in Culture Medium
Jaewon RYU¹, Rajendra SINGH², Si Wouk KIM^{1,2}
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- P0017** A Novel Tryptophan Halogenase and Structure-based Switch of Its Regioselectivity
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¹School of Chemical and Biological Engineering, Seoul National University, Seoul, Korea, ²Interdisciplinary Program for Biochemical Engineering and Biotechnology, Seoul National University, Seoul, Korea, ³Institute of Bioengineering, Seoul National University Seoul, Korea, ⁴Institute of Molecular Biology and Genetics, Seoul National University, Seoul, Korea
- P0018** Deep Eutectic Solvents as Cosolvents for Laccase
JeongChel YUN, SangHyun LEE
Department of Enzyme Engineering, Konkuk University, Seoul, Korea
- P0019** Improved Protein Solubility of 2'-Fucosyltransferase Using a High-throughput Screening System Based on a Split-GFP system
Jeonghwa KIM¹, Bumseok PARK¹, Byung-Gee KIM^{1,2}
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- P0020** Synthesis and Characterization of Complex Coacervate Core Micelles (C3Ms) Using Elastin-like Polypeptide (ELP) Copolymers
Jeong-Wan CHOI, Hae-Won KIM, Jong-In WON
Department of Chemical Engineering, Hongik University, Seoul, Korea
- P0021** Inducible Plasmid Display for the Selection of Protein with Improved Solubility
Jin Kyeong YANG, Chakhee KIM, Jonghyeok SHIN, Myungseo PARK, Hooyeon KIM, Yunjeong PARK, Dae-Hyuk KWEON
Department of Biotechnology and Bioengineering, Sungkyunkwan University, Suwon, Korea
- P0022** Stabilization of Enzyme Inside Cells by Immobilizer Protein on Plasmid to Improve Biotransformation Efficiency
Jin Kyeong YANG, Yunjeong PARK, Jonghyeok SHIN, Myungseo PARK, Hooyeon KIM, Chakhee KIM, Dae-Hyuk KWEON
Department of Biotechnology and Bioengineering, Sungkyunkwan University, Suwon, Korea
- P0023** Production and Optimization of 7,10-Dihydroxy-8(*E*)-hexadecenoic Acid (DHD) from Palmitoleic Acid by *Pseudomonas aeruginosa* KNU-2B
Ji-Sun MOON, Yeon-Jung LEE, Ye-Ji PARK, Hak-Ryul KIM
School of Food Science and Biotechnology, Kyungpook National University, Daegu, Korea

- P0024** Comparison of Antimicrobial Activity from Various Medium by *Lactobacillus platarum* BG001
Kyoung-Gon KANG¹, Dong-Min PARK¹, Deok-Ho KWON¹, Jae-Bum PARK¹, Byung-Keun YANG², Suk-Jin HA¹
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- P0025** Chitosan Nanoparticles Immobilized with GOx for Highly Effective Antimicrobial Approach
Li Na KIM¹, Kyung-Min YEON², Jisung YOU¹, Manab Deb ADHIKARI¹, Seok-Joon KWON³, Moon Il KIM⁴, Warayuth SAJOMSANG⁵, Jonathan S. DORDICK³, Jungbae KIM¹
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- P0026** Genome Sequence of an Ethnic Cauliflower Mushroom *Sparassis latifolia*
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- P0027** Antibiofouling Activities of Prenylated Flavonoids from *Macaranga tanarius*
Sagar Kiran KHADKE, Jintae LEE
 School of Chemical Engineering, Yeungnam University, Gyeongsan, Korea
- P0028** Inter-relation between Biofilm Formation and Extracellular Electron Transfer System of *Shewanella Oneidensis* MR-1 in Microbial Electrochemical System
Serah CHOI, In Seop CHANG
 School of Earth Sciences and Environmental Engineering, Gwangju Institute of Science and Technology (GIST), Gwangju, Korea
- P0029** Characterization of Eukaryotic Proton Pumping Rhodopsin
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- P0030** Compensatory Effect of Mitochondrial OXPHOS in Persistent Organic Pollutants(POPs) on Liver of Mouse
Songhee LEE, Sooin SHIN
 Department of Bioengineering and Biotechnology, College of Engineering, Chonnam National University, Gwangju, Korea

- P0031** Production of Bean sprouts Antibacterial Peptide Materials Using Isolated from Cheonggukjang
Songyi KIM, Dahae GAM, Hwayoung KIM, Dongho BAEK, Imamura SAYAKA, Jinwoo KIM
Department of Food Science, Sunmoon University, Asan, Korea
- P0032** Heterologous Overexpression of Carbon Monoxide Dehydrogenase (CODH) from *Hydrogenophaga pseudoflava* for Construction of Carbon Monoxide Utilizing System
Stacy REGINALD, Hyeryeong LEE, Eunmi LEE, In Seop CHANG
School of Earth Sciences and Environmental Engineering, Gwangju Institute of Science and Technology (GIST), Gwangju, Korea
- P0033** Engineering of the Biotransformation Process to Overproduce Lysolecithin from Lecithin
Su-Ah CHOI, Yeji HWANG, Ara CHO, Jin-Byung PARK
Department of Food Science and Engineering, Ewha Womans University, Seoul, Korea
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Optimization of Enzymatic Hydrolysis for Porcine Plasma Protein by Response Surface Methodology (RSM)
Su-Bin LEE, Seung-Hwa YANG, Hyun-Jae SHIN
Department of Chemical Engineering, Graduate School of Chosun University, Gwangju, Korea
- P0035** One-pot Production of 3,6-anhydro-L-galactose and D-galactose from *Gelidium amansii* Using Co-immobilized β -Agarase and α -Neogagarbiose Hydrolase on Magnetic Graphene Oxide
Teklebrahan G. WELDEMHRET¹, Grace M. NISOLA¹, Kris Niño G. VALDEHUESA¹, Angelo B. BAÑARES¹, Wook-Jin CHUNG¹, Won-Keun LEE²
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- P0036** Bioconversion of Ricinoleic Acid into 7,10,12-Trihydroxy-8(E)-Octadecenoic Acid by *Pseudomonas aeruginosa* KNU-2B
Yeon-Jung LEE, Ji-Sun MOON, Ye-Ji PARK, Hak-Ryul KIM
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- P0037** Diversity of Fungi from Brackish water
Yu Jeong JEON, Hye Yeon MUN, Hye Jin HWANG, Sangkyu PARK, Jaeduk GOH
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- P0038** Putative Carotenoid Binding Rhodopsin
Zhili RAO¹, Da Som KIM¹, So Young KIM¹, Kwang-Hwan JUNG², Jung Hee PARK^{1,3}
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P0039 Immobilization of Indigo Reducing (*Dietzia sp.* KDB1) Bacteria on Electrospun Fibers

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P0040 Enhancement of Recombinant Enzyme Activity by Repeated Integration System in *Saccharomyces cerevisiae*

Dae-Wook KANG, So-Hee JO, Soo-Wan NAM, Yeon-Hee KIM

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P0041 Polyaniline-Nanofiber-Modified Screen-printed Electrode with Intermediate Dye Amplification for Detection of Endocrine Disruptor Bisphenol A

Eun-yeong JO, Jung-heon LEE

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P0042 Antimicrobial Activity of Submerged Culture Extracts from *Talaromyces purpurogenus*

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P0043 Cell Surface Display of Catecholamine – The Application of Sticky Bacteria

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P0044 Screening of Polyphenol Compound Degradation Activity of Aquatic Fungi from Freshwater Ecosystem in Korea

Hye Yeon MUN, Yu Jeong JEON, Jaeduk GOH, Young Hwan PARK, Sangkyu PARK

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P0045 Overproduction of Recombinant Enzymes Using Amplification System of Yeast Artificial Chromosome in Yeast

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P0046 Nepodin Inhibits Biofilm Formation by *Candida albicans* and Polymicrobial Microorganisms

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- P0047** Development of New Anchoring Motif for *Bacillus subtilis* Cell Surface Display Using YuaB Biofilm Component and Application for Heavy Metal Removal
June-Hyung KIM^{1,2}, Wooil KIM¹, SangGeun BACK^{1,2}, HwaKyeong JO^{1,2}
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- P0048** *Bacillus subtilis* Spore Surface Display of α -amylase Using CotY Spore Coat Protein
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- P0049** Heavy Metal Adsorption Using the *Bacillus subtilis* Spores Display System Containing His6 tag
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- P0050** Freeze-drying and Formulation of Total Spores of *Beauveria bassiana* Produced in Liquid Media
Jungmo KOO, Hwasub SONG, Hakeung KIM
GENOBIO Co., Daejeon, Korea
- P0051** Recovery of Antioxidant Substances from Fish Waste
Nan Yonug KIM, Joong Kyun KIM
Department of Biotechnology, Pukyong National University, Busan, Korea
- P0052** Biocatalysis of Cytochrome P450 2E1 through Direct Transfer of Photo-induced Electrons
Thien Kim LE, Chul-Ho YUN
School of Biological Sciences and Technology, Chonnam National University, Gwangju, Korea
- P0053** Regioselective Hydroxylation of Phloretin by CYP102A1 Peroxygenase
Ngoc Anh NGUYEN, Chul-Ho YUN
School of Biological Sciences and Technology, Chonnam National University, Gwangju, Korea
- P0054** Screen-printed Electrodes Based Electrochemical Biosensor for Detection of Organophosphorus Pesticides
RanHee LEE, Jung-Heon LEE
Department of chemical Engineering, Chosun University, Gwangju, Korea
- P0055** Screening of Lignin Degradable Fungi for Paper-mill Wastewater Treatment
Sangkyu PARK, Jaeduk GOH, Hye Yeon MUN, Young-Hwan PARK, Hye Jin HWANG, Wonsu CHEON, Yu Jeong JEON
Microbial Research Department, Freshwater Bioresources Research Office, Nakdonggang National Institute of Biological Resources, Sangju, Korea

- P0056** Development of Mushroom Lectin Tools for Detection of Glycan Epitopes in Cancer Cell Lines
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- P0057** Inhibition of Protein Tyrosine Phosphatase 1B (PTP1B) by *Ampelopsis brevipedunculata* Extract
Se-Young KWUN, Myoung-Dong KIM
 Division of Food Biotechnology and Biosystems Engineering, Kangwon National University, Chuncheon, Korea
- P0058** The Anti-biofilm and Anti-virulence Activities of *t*-resveratrol and Oxyresveratrol Against Uropathogenic *Escherichia coli*
Yong-Guy KIM, Jin-Hyung LEE, Lochana Mangesh KOVALE, Jintae LEE
 School of Chemical Engineering, Yeungnam University, Gyeongsan, Korea
- P0059** Improvement of Indigo Production Using Fermenter and High Purity of Indigo
YouJin SEO, HaeSeon KIM, NyunHo PARK, JungHee WOO
 Marine Industry Research Institute for East sea rim (MIRE), Uljin, Korea
- P0060** Inhibition of Influenza Viral Infection by M2-derived Peptides Via Deforming Membrane
Younghun JUNG, Seokoh MOON, Hyun Seok OH, Yoonjin BAE, Jaehyeon HWANG
 Protein Engineering Laboratory, Department of Biotechnology and Bioengineering, Sungkyunkwan University, Suwon, Korea
- P0061** A Method for Generation of Narrow Dispersed Bio-aerosol Particles
Young-Su JEONG, Young-Jin KOH, Eugene CHONG, Kibong CHOI
 CBR Defense Directorate, Agency for Defense Development (ADD), Daejeon, Korea
- P0062** Analysis of Fluorescence Characteristics of Micro-sized Biological Aerosol Particles
Young-Su JEONG, Young-Jin KOH, Eugene CHONG, Kibong CHOI
 CBR Defense Directorate, Agency for Defense Development (ADD), Daejeon, Korea
- 생물공정공학 및 바이오에너지 (Bioprocess Engineering and Bioenergy)**
- P0102** Reverse Engineering of Lactic Acid Tolerant Yeast Strain for Industrial Production of Lactic Acid
Byeong-Kwan JANG, Deokyeol JEONG, Soo Rin KIM
 School of Food Science and Biotechnology, Kyungpook National University, Daegu, Korea

- P0103** Monitoring of the Indigo Reduction Process by Fluorescence Technology
Chanhee JUNG¹, Yeajin PARK², Hong Dinh DUONG², Dong Il YOO¹, Younsook SHIN³, Jong Il RHEE²
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- P0104** Biochars from Rice Husks and Maple Leaves as Enzyme Supports
Dahun JUNG, Yong-Keun CHOI, Jeong Chel YUN, Hyung Joo KIM, Sang Hyun LEE
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- P0105** Evaluation of Adsorption Characteristics of Acenaphthene from *Taxus chinensis* onto Sylopute
Da-Nim CHO, Jin-Hyun KIM
Dept. of Chemical Engineering, Kongju National University, Cheonan, Korea
- P0106** Lignocellulosic Ethanol Production by Co-immobilized Bio-capsules
DaSom KIM, Woo Hong JOO
Department of Biology and Chemistry, Changwon National University, Changwon, Korea
- P0107** Characterization of *Staphylococcus lentus* D3 to Induce Calcite Precipitation
Dong Min SHIN, Youl Lae JO
Department of Applied Microbiology and Biotechnology, Yeungnam University, Gyeongsan, Korea
- P0108** Production of Bacterial Cellulose from Lignocellulosic Biomass by *Gluconacetobacter xylinus*
Haeun KIM, Nohseong PARK, Jemin SON, Chulhwan PARK
Department of Chemical Engineering, Kwangwoon University, Seoul, Korea
- P0109** Utilization of Pectic Enzyme Derived from a Novel Wild Yeast for the Valorization of Fruit Waste
Heeyoung PARK¹, Minhee JEONG¹, Hye-ji KWON¹, Soo-yeon JEONG², Kyu-min KWON², Soo-hyeon MO³, Min-joo KIM³, Soo Rin KIM¹
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- P0110** Isolation of Electroactive Novel *Pseudomonas* sp. from Agriculture Soil for Enhanced Bioelectricity Generation and Other Applications
Himanshu KHANDELWAL, Sakuntala MUTYALA, Young Eun SONG, Jung Rae KIM
School of Chemical and Biomolecular Engineering, Pusan National University, Busan, Korea
- P0111** Adsorption Characteristics of Sylopute for the Purification of Paclitaxel from Extracts of *Taxus chinensis* Cell Cultures
Hoe-Jong KANG, Jin-Hyun KIM
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- P0112** Development of Ultrasound-assisted Fractional Precipitation Method for Purification of Paclitaxel
Hye-Won SEO, Jin-Hyun KIM
 Dept. of Chemical Engineering, Kongju National University, Cheonan, Korea
- P0113** Enhancing CO-conversion Ability of *Eubacterium limosum* KCTC13263BP to Maximize Acetate Productivity by Homo- and Heterologous Overexpression of Carbon Monoxide Dehydrogenase
Hyunsoo KANG, Soyoung OH, Minseok CHA, Jiyeong JEONG, In Seop CHANG
 School of Earth Sciences and Environmental Engineering, Gwangju Institute of Science and Technology (GIST), Gwangju, Korea
- P0114** 3-Hydroxypropionic Acid Production by Thermotolerant Yeast *Kluyveromyces marxianus* through Overexpression of a Malonyl-CoA Reductase
Jae-Bum PARK¹, Jin-Seong KIM¹, Deok-Ho KWEON¹, Dae-Hyuk KWEON², Jin-Ho SEO³, Suk-Jin HA¹
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- P0115** The Newly Developed Transparent Airlift Photobioreactor to Increase Areal Productivity of Biomass in Microalgae Mass Cultivation
Jeong Seop LEE, Byung Sun YU, Sang Jun SIM
 Department of Chemical and Biological Engineering, Korea University, Seoul, Korea
- P0116** Cell Growth and Oil Accumulation According to Substrate Concentration in Heterotrophic Culture of Microalgae
JINA KIM¹, Baek-Rock OH², Sung-Koo KIM¹, Gwi-Taek JEONG¹
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- P0117** Hydrogen Consumption at Low Dissolved Carbon Monoxide Concentration in Synthesis Gas Fermentation
Jinsung JEON, Ji-Yeon KIM, Nulee JANG, Mungyu LEE, Soyoung OH, In Seop CHANG
 School of Earth Sciences and Environmental Engineering, Gwangju Institute of Science and Technology (GIST), Gwangju, Korea
- P0118** Effect of Methanol on Physiological Properties in Acetogenic Bacterium, *Eubacterium limosum* KIST612
Ji-Yeon KIM, Jiyeong JEONG, Mungyu LEE, In Seop CHANG
 School of Earth Sciences and Environmental Engineering, Gwangju Institute of Science and Technology (GIST), Gwangju, Korea

- P0119** Optimization of Upstream Process Development for the Charge Variant Control in Afibercept Biosimilar Production
Jongeun LEE^{1,2}, Bora LEE², Yeonjun YOON², Seokeui LEE², Jieun LEE², Ouyeong JUNG², Kyunghee JUNG², Young Hye HAHM³, Sung Ho HAHM³
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- P0120** Separation and Purification of Diamines from Fermentation Broth
Jung Ho AHN^{1,2,3}, Jong An LEE^{1,2,3}, Inho KIM¹, Sheng LI¹, Sang yup LEE^{1,2,3,4}
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- P0121** [Showcase Poster]
Optimization of Pretreatment Conditions to Improve Sugars Conversion from Extracted Residue of Aronia using Statistical Methods
Kang Hyun LEE¹, Soo Kweon LEE², Ju Hun LEE², Chulhwan PARK³, Seung Wook KIM², Hah Young YOO¹
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- P0122** Altering Haematococcus Pluvialis Life Cycle for Enhancing Astaxanthin Biosynthesis and Optimization of the Extraction Process for Yield Improvement
Muhammad Imran KHAN¹, Min Yong KIM^{2,3}, Tai Sun SHIN^{3,4}, Jong Deog KIM^{1,3}
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- P0123** Enhancement of *Eubacterium limosum* KIST612 Viability in Bubble Column Reactor Operation and Biomass Boosting Operation Strategy
Mungyu LEE, Nulee JANG, Ji-Yeon KIM, Hyunsoo KANG, In Seop CHANG
School of Earth Sciences and Environmental Engineering, Gwangju Institute of Science and Technology (GIST), Gwangju, Korea
- P0124** Statistical Optimization of Alkali Pretreatment to Improve Enzymatic Saccharification of Spent Coffee Grounds
Si Won RYU, Ye Won JANG, Ye Jin PARK, Kang Hyun LEE, Hah Young YOO
Department of Biotechnology, Sangmyung University, Seoul, Korea

- P0125** Mass Transfer Properties in Modular Polymeric Thin-film Photobioreactor for Autotrophically Cultivating *Haematococcus pluvialis* Using Industrial flue gas
Sung Jin SHIM¹, Won Seok CHANG², Sang Jun SIM¹
¹Department of Chemical and Biological Engineering, Korea University, Seoul, Korea, ²Research Institute, Korea District Heating Corp., Yongin, Korea
- P0126** [Showcase Poster]
 Effect of Solvent Types on Orange Peel Pretreatment for Enzymatic Saccharification
Ye Won JANG, Si Won RYU, Ye Jin PARK, Kang Hyun LEE, Hah Young YOO
 Department of Biotechnology, Sangmyung University, Seoul, Korea
- P0127** Effects of Temperature and Solvent on Octyl Formate Production by Enzymatic Esterification
Yesol BAEK¹, Jonghwa LEE¹, Jinyoung LEE², Hah Young YOO³, Chulhwan PARK¹
¹Department of Chemical Engineering, Kwangwoon University, Seoul, Korea, ²Department of Plant and Food Science, Sangmyung University, Cheonan, Korea, ³Department of Biotechnology, Sangmyung University, Seoul, Korea
- P0128** Enhanced Methane Production by the Co-culture of Thermophilic Hydrogenotrophic Methanogens
Young Wook GO, Gyeongseok YOON, Hyunjin KIM, Anil Kuruvila MATHEW, Okkyoung CHOI, Byoung-In SANG
 Department of Chemical Engineering, Hanyang University, Seoul, Korea
- P0129** Improvement of *In-vitro* Hemozoin Production on Various Polymerization Conditions Using Enzymatic Process
Ju Hun LEE¹, Soo Kweon LEE¹, Youngsang CHUN¹, Hyeong Ryeol KIM¹, Hah Young YOO², Seung Wook KIM¹
¹Department of Chemical and Biological Engineering, Korea University, Seoul, Korea, ²Department of Biotechnology, Sangmyung University, Seoul, Korea
- P0130** Optimization of Fermentation Conditions for Ethanol Production from Xylose by *Kluyveromyces marxianus* 17694-DH1
Deok-Ho KWON, Jae-Bum PARK, Suk-Jin HA
 Department of Biotechnology and Bioengineering, College of engineering, Kangwon National University, Chuncheon, Korea
- P0131** Positive Effect of Myo-inositol Utilization for Itaconic Acid Production in *Corynebacterium glutamicum*
Gajin YU^{1,2}, Woo-Shik SHIN¹, SeungWook KIM², Dohoon LEE^{1,3}
¹Korea Institute of Industrial Technology, Cheonan, Korea, ²Department of Chemical and Biological Engineering, Korea University, Seoul, Korea, ³Green Process and System Engineering Major, Korea University of Science and Technology (UST), Daejeon, Korea

- P0132** Production of Itaconic Acid Using Metabolically Engineering Technology in *Corynebacterium glutamicum*
Gajin YU^{1,2}, Woo-Shik SHIN¹, SeungWook KIM², Dohoon LEE^{1,3}
¹Korea Institute of Industrial Technology, Cheonan, Korea, ²Department of Chemical and Biological Engineering, Korea University, Seoul, Korea, ³Green Process and System Engineering Major, Korea University of Science and Technology (UST), Daejeon, Korea
- P0133** Miniature Bioreactors for Cell Culture Optimization in *Corynebacterium glutamicum*
Woo-shik SHIN¹, Jaehoon CHO¹, Dohoon LEE^{1,2}
¹Korea Institute of Industrial Technology (KITECH), Cheonan, Korea, ²Green Process and System Engineering Major, Korea University of Science and Technology (UST), Daejeon, Korea
- P0134** Scale-up Criterion of Constant Volumetric Oxygen Mass Transfer Coefficient ($k_L a$) for Production of Itaconic Acid in a 50L Pilot-scale Fermentor by *Aspergillus terreus*
Woo-shik SHIN¹, Jaehoon CHO¹, Dohoon LEE^{1,2}
¹Korea Institute of Industrial Technology, Cheonan, Korea, ²Green Process and System Engineering Major, Korea University of Science and Technology (UST), Daejeon, Korea
- P0135** Development of Biological Treatment Process for Industrial Wastewater of High Concentration Using White rot fungi
Jaehoon CHO, Woo-Shik SHIN
Korea Institute of Industrial Technology, Cheonan, Korea
- P0136** Development of CIP process to Electrodialysis for Separation of Fermentation Broth of Cosmetic Raw Material
Jaehoon CHO¹, Woo-Shik SHIN¹, Junhak LEE^{1,2}
¹Korea Institute of Industrial Technology, Cheonan, Korea, ²ActivON Co. Ltd., Suwon, Korea
- P0137** Electrochemical Conversion *Trans*-ferulic Acid to High Value Aromatic Compounds by Controlling Functional Group
Geon young SONG, Seong cheol KANG, Ok kyoung CHOI, Byoung in SANG
Department of chemical engineering, Hanyang University, Seoul, Korea
- P0138** Enhanced Methane Production by the Co-culture of Thermophilic Hydrogenotrophic Methanogens
Gyeongseok YOON, Hyunjin KIM, Okkyoung CHOI, Byoung-In SANG
Department of Chemical Engineering, Hanyang University, Seoul, Korea
- P0139** Magnetophoretic Sorting of Microdroplets for High-throughput Screening of Fast-growing Microalgal Strains
Hyejin ROH, Young Joon SUNG, Sang Jun SIM
Department of Chemical and Biological Engineering, Korea University, Seoul, Korea

- P0140** Enhanced Cyclosporin A (CyA) Production in Submerged Culture by *Tolypocladium inflatum* ATCC 34921: Effect of Pre-culture Media Composition and Solvent Extraction
Hyeong Ryeol KIM¹, Ju Hun LEE¹, Soo Kweon LEE¹, Youngsang CHUN², Hah Young YOO³, Seung Wook KIM¹
¹Department of Chemical and Biological Engineering, Korea University, Seoul, Korea, ²Department of Interdisciplinary Bio-Micro system, College of Engineering, Korea University, Seoul, Korea, ³Department of Biotechnology, Sangmyung University, Seoul, Korea
- P0141** Bioelectrochemical CO₂ Reduction to CH₄ via Direct and Indirect Extracellular Electron Transfer by *Methanothermobacter* sp. KEPCO-1
JI SUN LEE, Jaesung CHUN, Hyojung PARK, Byoung-In SANG
 Department of Chemical Engineering, Hanyang University, Seoul, Korea
- P0142** Effect of Bioelectrochemical System on Production of 3-hydroxypropionic Acid and/or 1,3-propanediol in Engineered *Escherichia coli* BL21(DE3)
Jiyun BAEK¹, Changman KIM², Young Eun SONG¹, Jung Rae KIM¹
¹School of Chemical and Biomolecular Engineering, Pusan National University, Busan, Korea, ²Lawrence Berkeley National Laboratory, California, USA
- P0143** [Showcase Poster]
 Role of Spent Coffee Biomass for Manufacturing Well-interconnected Porous PDMS 3D Structure
Youngsang CHUN¹, Hyeong Ryeol KIM², Ju Hun LEE², Soo Kweon LEE², Hah Young YOO³, Seung Wook KIM^{1,2}
¹Department of Interdisciplinary Bio-Micro system, College of Engineering, Korea University, Seoul, Korea, ²Department of Chemical and Biological Engineering, Korea University, Seoul, Korea, ³Department of Biotechnology, Sangmyung University, Seoul, Korea
- P0144** Effect of Nitrogen and Phosphorus Starvation on Growth and Fatty Acid Production in Three Freshwater Microalgae Strains
Kyung June YIM, Chang Soo LEE, Z-Hun KIM
 Microbial Research Department, Freshwater Bioresources Research Bureau, Nakdonggang National Institute of Biological Resources, Sangju, Korea
- P0145** Production of Levulinic and Formic Acids from Glucosamine by Thermo-chemical Conversion
 Mi-Ra PARK, Hyo Sun KIM, Sung-Koo KIM, Gwi-Taek JEONG
 Department of Biotechnology, Pukyong National University, Busan, Korea
- P0146** Air Supply Method with Low Energy Consumption for Wastewater Treatment
Saeun HWANG, Hyojung PARK, Hyunjin KIM, Okkyoung CHOI, Byoung-in SANG
 Department of Chemical Engineering, Hanyang university, Seoul, Korea

- P0147** Intrinsically Disordered Peptides for Self-encapsulation and Controlled Release of Recombinant Proteins
Seung Pil PACK, Mohamed A. A. ABDELHAMID, Ki Baek YEO, Mi-Ran KI
Department of Biotechnology and Bioinformatics, Korea University, Sejong, Korea
- P0148** Stability Analysis of Rigidity of Immobilization by Sites for Stabilization of Carbonic Anhydrase II
Seung Pil PACK, Ryeo Gang SON, Eui-Kyoung JANG
Department of Biotechnology and Bioinformatics, Korea University, Sejong, Korea
- P0149** Particle Display: The Novel Aptamer Discovery Approach with High-throughput Manner
SeungPil PACK, Ki Sung PARK
Department of Biotechnology and Bioinformatics, Korea University, Sejong, Korea
- P0150** Strategy for Unification of Enzymatic Saccharification and Ethanol Fermentation from Algal Biomass in Yeast
So-Eun LEE, So-Jung KIM, Yu-Bin HONG, Yeon-Hee KIM
Biomedical Engineering and Biotechnology Major, Division of Applied Bioengineering, Dong-Eui University, Busan, Korea
- P0151** [Showcase Poster]
Improvement of Anti-oxidant and Cordycepin Production of *Cordyceps militaris* by Additional Waste Milk Powder in Submerged Cultivation
Soo Kweon LEE¹, Ju Hun LEE¹, Hyeong Ryeol KIM¹, Youngsang CHUN¹, Hah Young YOO², Seung Wook KIM¹
¹Department of Chemical and Biological Engineering, Korea University, Seoul, Korea, ²Department of Biotechnology, Sangmyung University, Seoul, Korea
- P0152** Sustainable Eco-friendly Process for the Value-added Products from Citrus Pomaces as Agricultural Waste
Subin AHN, Dahee KIM, Jun Seok NAM, Chan-Duck JUNG, Hoyong KIM, Suwan MYUNG
Center for Bio-based Chemistry, Korea Research Institute of Chemical Technology, Ulsan, Korea
- P0153** Biosilica Coated Ferritin Nanostructure for Drug Delivery System
Sung Ho KIM, Ki Baek YEO, Mi-Ran KI, Seung Pil PACK
Department of Biotechnology and Bioinformatics, Korea University, Sejong, Korea
- P0154** A Simple and Reproducible Technique for Direct Immobilization and Purification of EctP1-tagged Recombinant Enzymes Using Silica and Titania
Sung Ho KIM, Ki Ha MIN, Mohamed A. A. ABDELHAMID, Jong Ki KIM, Seung Pil PACK
Department of Biotechnology and Bioinformatics, Korea University, Sejong, Korea

- P0155** Electrospun Composite Scaffold for Bone Regeneration Using Biomineral Coating
Sung Ho KIM, Mi-Ran KI, Ki Baek YEO, Seung Pil PACK
 Department of Biotechnology and Bioinformatics, Korea University, Sejong, Korea
- P0156** Growth of Mixotrophic *Scenedesmus Acuminatus* Under Semi-continuous Culturing System
Taeyoon LEE¹, Junhyuk LIM², Junho LEE³, Chankeun YANG³
¹Department of environmental engineering, Pukyong National University, Busan, Korea, ²Department of chemical engineering, Pukyong National University, Busan, Korea, ³Training ship, Pukyong National University, Busan, Korea
- P0157** Base Catalyzed Depolymerization of Organosolv Lignin Derived in Miscanthus
Youn Il KIM¹, Byung Hwan UM²
¹Department of Chemical Engineering, Hankyung National University, Anseong, Korea, ²Department of Chemical Engineering and Interagency Convergence Energy on New Biomass Industry, Hankyung National University, Anseong, Korea
- P0158** Antimicrobial Activities of Strain *Yersinia* sp. MSG-3 and Optimization of Culture Conditions
Young Ho NAM¹, Ahyoung CHOI¹, Kiwoon BAEK², Hye Jin HWANG¹, Eu Jin CHUNG¹
¹Microbial Research Department, NNIBR, Sangju, Korea, ²Bioresources Industrialization Support Department, NNIBR, Sangju, Korea
- P0159** Improving Microalgae Removal Efficiency Using Chemically-processed Clays
Z-Hun KIM¹, Moon-Young YOON², Jung-Keug PARK³, Choul-Gyun LEE⁴
¹Algae Research Team, Nakdonggang National Institute of Biological Resources, Sangju, Korea, ²Research Institute of Biotechnology, Dongguk University, Goyang, Korea, ³Department of Medical Biotechnology/Chemical and Biochemical Engineering, Dongguk University, Goyang, Korea, ⁴Marine Bioenergy R&D Consortium and Department of Biological Engineering, Inha University, Incheon, Korea

나노바이오공학 (Nanobiotechnology)

- P0201** Novel Method for Reducing Immunogenicity of B Viral Capsid Protein Nanoparticles Using Albumin-binding Peptides
Bo-Ram LEE, Jeewon LEE
 Department of Chemical and Biological Engineering, Korea University, Seoul, Korea
- P0202** Treatment of Focal Hyperhidrosis by the Transdermally Delivered Myricetin
Choongjin BAN^{1,2}, Joon-Bum PARK³, Sora CHO⁴, Hye Rin KIM³, Yong Joon KIM³, Dae-Hyuk KWEON^{1,2,3,4}
¹Institute of Biomolecule Control, Sungkyunkwan University, Suwon, Korea, ²Biomedical Institute for Convergence, Sungkyunkwan University, Suwon, Korea, ³Department of Integrative Biotechnology, Sungkyunkwan University, Suwon, Korea, ⁴Interdisciplinary Program in BioCosmetics, Sungkyunkwan University, Suwon, Korea

- P0203** Exosome-mediated Delivery of MicroRNA-497 Enhanced the Anti-cancer Effect
Haneul KIM¹, Kyeongsoo JEONG¹, Jeong Ah KIM², Won Jong RHEE¹
¹Division of Bioengineering, Incheon National University, Incheon, Korea, ²Biomedical Omics Group, Korea Basic Science Institute, Cheongju, Korea
- P0204** Production and Characterization of Monoclonal Antibody for the Rapid Detection of DDT
Hye Ryeon YOON¹, Haseong KIM^{1,2}, Seung-Goo LEE^{1,2}, Heung-Chae JUNG¹
¹Synthetic Biology and Bioengineering Research Center, Korea Research Institute of Bioscience and Biotechnology (KRIBB), Daejeon, Korea, ²Biosystems and Bioengineering Program, University of Science and Technology (UST), Daejeon, Korea
- P0205** Trophoblast Invasion to Maternal Artery in Oxygen Regulated Microfluidic Chip
Hyeran CHO¹, Jin Hyuk WOO², Sun Min KIM², Tae-Joon JEON¹
¹Department of Bioengineering, Inha University, Incheon, Korea, ²Department of Mechanical Engineering, Inha University, Incheon, Korea
- P0206** Development of Glucose Biosensor Based on Direct Electron Transfer Using Flavin Adenine Dinucleotide (FAD)-Dependent Glucose Dehydrogenase Fused to a Gold Binding Peptide
Hveryeong LEE, Stacy REGINALD, Eunmi LEE, In Seop CHANG
School of Earth Sciences and Environmental Engineering, Gwangju Institute of Science and Technology (GIST), Gwangju, Korea
- P0207** Electrochemical Biosensor Based on DNA/hemoglobin Hybrid on Nanoporous Electrode for H₂O₂ Detection
Hyun-woong KIM, Jinhee JO, Joungpyo LIM, Jeong-Woo CHOI
Department of Chemical and Biomolecular Engineering, Sogang University, Seoul, Korea
- P0208** Flexible Electrochemical Biosensor Composed of GOx-Au-MoS₂-Au Nanofilm on Polymer Substrate for Glucose Detection
Joungpyo LIM, Jinho YOON, Hyun-Woong KIM, Jeong-Woo CHOI
Department of Chemical & Biomolecular Engineering, Sogang University, Seoul, Korea
- P0209** Accurate Point-of-care Diagnosis of AIDS Based on Label-free One-step-immunoassay
Jung-Hyuk KWON, Jeewon LEE
Department of Chemical and Biological Engineering, Korea University, Seoul, Korea
- P0210** Comparative Analysis of Integrin Tension during Adhesion and Migration of Metastatic and Non-metastatic Cancer Cells on Nano-topography
Kyung Ah KIM¹, Byoung Choul KIM²
¹Department of Bioengineering and Nano-bioengineering, Incheon National University, Incheon, Korea, ²Major of Nano-bioengineering, College of Life Sciences and Bioengineering, Incheon National University, Incheon, Korea

- P0211** Characterization of pH Dependent Properties of Mecherry Mutants
Sangmin LEE, Eunki KIM, Minji CHOI, Jeongah PARK, Minsub CHUNG
 Chemical engineering, Hongik University, Seoul, Korea
- P0212** Production of Olfactory Receptor-Embedded Nanodiscs for Multiplexed Bioelectronic Sensor
Seongyeon CHO¹, Dongseok MOON¹, Hyun Seok SONG², Tai Hyun PARK¹
¹School of Chemical and Biological Engineering, Institute of Chemical Processes, Seoul National University, Seoul, Korea, ²Sensor System Research Center, Korea Institute of Science and Technology, Seoul, Korea
- P0213** Real-time Analysis of Target RNA Based on Exponential Signal Amplification Reaction
Seoyoung LEE, Hyowon JANG, Hyun Gyu PARK
 Department of Chemical and Biomolecular Engineering, KAIST, Daejeon, Korea
- P0214** Development and Comparative Analysis of Human Urine Exosome Isolation Strategies
Siun KIM¹, Seongcheol CHO¹, Hee Cheol YANG¹, Won Jong RHEE^{1,2}
¹Department of Bioengineering and Nano-Bioengineering, Incheon National University, Incheon, Korea, ²Division of Bioengineering, Incheon National University, Incheon, Korea
- P0215** Lab-on-a-disc Based Emulsification for Droplet Digital Quantification of Nucleic Acids
Soohyun KIM¹, Min Hwan KIM², Hyun Gyu PARK¹
¹Department of Chemical and Biomolecular Engineering (BK 21+ program), KAIST, Daejeon, Korea, ²Biomedicus, Seoul, Korea
- P0216** Anti-metastatic Effect of Gold Nanoparticle Conjugated *Maclura tricuspidata* Extract on Human Hepatocellular Carcinoma Cells
Sun Young PARK¹, Beomjin KIM², Zhengwei CUI³, Geuntae PARK², Young-Whan CHOI³
¹Bio-IT Fusion Technology Research Institute, Pusan National University, Busan, Korea, ²Department of Nanomaterials Engineering, Pusan National University, Busan, Korea, ³Department of Horticultural Bioscience, Pusan National University, Myrang, Korea
- P0217** Antibody-immobilized Copper Ferrite Oxide Nanoparticles Separate and Detect Pathogenic Bacteria
Sungjin PARK, Jang Hyuk BANG, Woo Gi LEE, Ji Eun LEE, Byeong Hee HWANG
 Division of Bioengineering, Incheon National University, Incheon, Korea
- P0218** Growth Analysis of *C. elegans* Exposed to Low-frequency Vibration During Early-developmental Period
Sunhee YOON^{1,2}, Sun Min KIM^{2,3}, Tae-Joon JEON^{1,2}
¹Department of Biological Engineering, Inha University, Incheon, Korea, ²Biohybrid Systems Research Center (BSRC), Inha University, Incheon, Korea, ³Department of Mechanical Engineering, Inha University, Incheon, Korea

- P0219** MoS₂/DNA/Au Nanohybrid Material for Resistive Switching Device
Taehyeong HA, Jinho YOON, Joungpyo LIM, Jeong-Woo CHOI
Department of Chemical & Biomolecular Engineering, Sogang University, Seoul, Korea
- P0220** Sonochemically-Synthesized Enzyme-copper Hybrid Nanoflowers for Efficient Glucose Biosensing
Tai Duc TRAN¹, Hyun Gyu PARK², Moon Il KIM¹
¹Department of BioNano Technology, Gachon University, Seongnam, Korea, ²Department of Chemical and Biomolecular Engineering, KAIST, Daejeon, Korea
- P0221** Poly(γ -glutamic acid)/Chitosan Hydrogel Nanoparticles for Effective Delivery of Fermented Herbal Extract to Enhance Hair Growth
Thao Nguyen LE¹, Hye Su KIM¹, Hye-Jin PARK², Moon Il KIM¹
¹Department of BioNano Technology, Gachon University, Seongnam, Korea, ²Department of Food Science and Biotechnology, Gachon University, Seongnam, Korea
- P0222** Novel Fusion Peptide-mediated Self-assembled Complexes for Enhanced siRNA Delivery
Yeong Chae RYU¹, Byeong Hee HWANG^{1,2}
¹Department of Bioengineering and Nano-bioengineering, Incheon National University, Incheon, Korea, ²Division of Bioengineering, Incheon National University, Incheon, Korea
- P0223** Detection of Methicillin-resistant *Staphylococcus aureus* Using Comparative Genomic Analysis-based Target Gene Selection
YeongGyu JO¹, Dong Min KIM², Seung Min YOO¹
¹School of Integrative Engineering, Chung-Ang University, Seoul, Korea, ²Center for Applied Life Science, Hanbat National University, Daejeon, Korea
- P0224** Label-free, Colorimetric Detection of Cu²⁺ based on Toehold-mediated Strand Displacement Reactions
Yeonkyung PARK, Hyun Gyu PARK
Department of Chemical and Biomolecular Engineering, KAIST, Daejeon, Korea
- P0225** Stabilization of Recombinant Glycerol Dehydrogenase for the Conversion of Glycerol to Dihydroxyacetone
Youngho WEE¹, Gudi Satheesh KUMAR¹, Xueyan ZHAO², Shunxiang XIA², Ping WANG², Jungbae KIM¹
¹Department of Chemical and Biological Engineering, Korea University, Seoul, Korea, ²Bioproducts and Biosystems Engineering, and Biotechnology Institute, University of Minnesota, Saint Paul, Minnesota, USA
- P0226** Effect of Guanidinium Group in Arginine on Phase Separation of Proteins
Yuri HONG¹, Songi HAN², DongSoo HWANG³
¹Division of Integrative Biosciences and Biotechnology, Pohang University of Science and Technology (POSTECH), Pohang, Korea, ²Department of Chemistry and Biochemistry, University of California Santa Barbara (UCSB), Santa Barbara, California, USA, ³Division of Integrative Biosciences and Biotechnology, Pohang University of Science and Technology (POSTECH), Pohang, Korea

- P0227** Immobilization of Strontium Using Microbial Process
Changhyun ROH^{1,2,3}, Joanna C. RENSHAW⁴, Susan CUMBERLAND⁴, Kieran TIERNEY⁴, Ronald J. TURNER⁴, Rebecca J. LUNN⁴, Min-Kyu KIM², Seon-Byeong KIM¹, Ilgook KIM¹, Jae-Hoon KIM², In-Ho YOON¹, Hee Chul EUN¹, Beom-Su JANG², Mansoo CHOI¹
¹Decommissioning Technology Research Division, Korea Atomic Energy Research Institute (KAERI), Daejeon, Korea, ²Advanced Radiation Technology Institute (ARTI), Korea Atomic Energy Research Institute (KAERI), Jeongseup, Korea, ³Quantum Energy Chemical Engineering, University of Science and Technology (UST), Daejeon, Korea, ⁴Department of Civil and Environmental Engineering, University of Strathclyde, Glasgow, UK
- P0228** Novel Reaction of Oxanine and Cysteine for Native Chemical Ligation-like Oligonucleotide-Peptide Conjugation
Eui Kyoung JANG, Seung Pil PACK
 Department of Biotechnology and Bioinformatics, Korea University, Sejong, Korea
- P0229** Molecular Characterization and Antitumor Effect of Ferritin-nanocaged Drug Nanoparticles
Heabin KIM, Mi-Kyeong JANG
 Department of Polymer Science and Engineering, Suncheon National University, Suncheon, Korea
- P0230** Comparison of Characteristics of Propidium Iodide and Yo-Pro-1 in Digital Electroporation System
Hye Ji KIM, Do jin IM
 Department of Chemical Engineering, Pukyong National University, Busan, Korea
- P0231** Small Molecule Detection by Employing Illusionary Activity Using Restriction Enzyme Recognition Site at the Abasic Site of Double Stranded DNA
 Hyowon JANG, Danyong LIM, Hyun Gyu PARK
 Department of Chemical and Biomolecular Engineering, KAIST, Daejeon, Korea
- P0232** Anti-inflammatory and Anti-biofilm Effects of PS1 Antimicrobial Peptides against Drug-resistant *Pseudomonas aeruginosa* and *Staphylococcus aureus* Biofilm and Planktonic Cells
Jin-Young KIM, Mi-Kyeong JANG
 Department of Polymer Science and Engineering, Suncheon National University, Suncheon, Korea
- P0233** Transfer of Plasmid DNA Tagged with Fluorescent Dye in Digital Electroporation System
Jong Gyu KIM, Do jin IM
 Department of Chemical Engineering, Pukyong National University, Busan, Korea
- P0234** A Simple and Accurate Detection of Ligand/Receptor Interaction Utilizing Protein-Induced Fluorescence Enhancement
Junhyeok YOON, Jayeon SONG, Hansol KIM, Chang Yeol LEE, Hyun Gyu PARK
 Department of Chemical and Biomolecular Engineering, KAIST, Daejeon, Korea

- P0235** Synthesis and Characterization of Thermo-responsive DNA Nanohydrogels
Kyungene LEE, Young Min KIM, Young Hoon ROH
Department of Biotechnology, Yonsei University, Seoul, Korea
- P0236** Enhanced Fluorescence Imaging of Aptamer-Targeted Cancer Cells via Polydopamine Deposition
Miso KIM, Hawon LEE, Young-Pil KIM
Department of Life Science, Hanyang University, Seoul, Korea
- P0237** Antibacterial Activity of Ag-Cu Alloy Nanoparticle in Polyethylenimine / Polyacrylic Acid Multilayered Film
MyeongKun KIM^{1,2}, Do-Hyeon YANG², Jae Sup SHIN², Chang-Soo LEE¹
¹Bionanotechnology Research Center, Korea Research Institute of Bioscience and Biotechnology, Daejeon, Korea, ²Department of Chemistry, Chungbuk National University, Cheongju, Korea
- P0238** Transfection of DNA and RNA in Digital Electroporation System Using Microalgae
Seo Jun BAE, Do jin IM
Department of Chemical Engineering, Pukyong National University, Busan, Korea
- P0239** Transferrin Receptor-mediated Gene Delivery in Cancer Cell via Gambogic acid-tagged Nanoparticle
Seong-Cheol PARK, Mi-Kyeong JANG
Department of Polymer Science and Engineering, Suncheon National University, Suncheon, Korea
- P0240** Curcumin as a Targeting Ligand on Breast Cancer Cells
Seong-Cheol PARK, Mi-Kyeong JANG
Department of Polymer Science and Engineering, Suncheon National University, Suncheon, Korea
- P0241** Isothermal Signal Amplification Method for Real-time Target Nucleic Acid Detection Based on DNA Three Way Junction structure
Seoyoung LEE, Hyowon JANG, Yejin OH, HyunGyu PARK
Department of Chemical and Biomolecular Engineering, KAIST, Daejeon, Korea
- P0242** Synthesis of Dual-targeting Nanoparticles for Polymeric siRNA Delivery to HER2 and CD44 Overexpressed Cancer Cell
Taehyung KIM, Ha Na HYUN, Keonwook NAM, Kyungjik YANG, Young Min KIM, Young Hoon ROH
Department of Biotechnology, Yonsei University, Seoul, Korea
- P0243** Immobilization of Organophosphorus Hydrolase, Lysine Decarboxylase, Glutamate Decarboxylase and ω -Transaminases onto Various Polymer Nanofibers for Enzyme Stabilization and Recycling
XIAO JIE WU, Jung-heon LEE
Department of Chemical and Biochemical Engineering, Chosun University, Gwangju, Korea

- P0244** Enzyme-free and Label-free Colorimetric Detection of Uracil DNA Glycosylase Activity Based on Toehold-Mediated DNA Strand Displacement Circuit
 Youna KIM, Jinhwan LEE, Hyun Gyu PARK
 Department of Chemical and Biomolecular Engineering, KAIST, Daejeon, Korea

바이오산업 (화장품부문) (Bioindustry / Cosmetic Engineering)

- P0301** Optimization of Ultrasound-assisted Extraction Conditions for the Extraction of Bioactive Materials with Skin Whitening and Skin Regeneration Effects from Garlic Husk
 Dahae GAM, Songyi KIM, Jiwoo HONG, Seongjin JEON, Gayeong EOM, Jinwoo KIM
 Department of Food Science, Sunmoon University, Asan, Korea

- P0302** A 1,1' biuracil from *Epidermidibacterium keratini* EPI 7 Shows Anti aging Effects on Human Dermal Fibroblasts
 Dong-Geol LEE¹, Yeong Geun LEE², Misun KIM¹, Minji KIM¹, Chaeyun BAEK¹, HyungWoo JO¹, Hyeonju YEO¹, Nam In BAEK², Seunghyun KANG¹
¹COSMAX BTL, Seongnam, Korea, ²Kyung Hee University, Yong-in, Korea

- P0303** Characterization of Lignin Extracted Using Deep Eutectic Solvents
 Eunjin YOO¹, Yujin OH¹, Saerom PARK¹, Keehoon WON², Sang Hyun LEE¹
¹Department of Biological Engineering, Konkuk University, Seoul, Korea, ²Department of Chemical and Biochemical Engineering, Dongguk University-Seoul, Seoul, Korea

- P0304** Epigallocatechin-3-gallate Suppresses the Expression of TNF- α -induced MMP-1 Via MAPK Signaling Pathways in Human Dermal Fibroblast
 Hea-Ryeon WON¹, Da-min JUNG¹, Pyeong-Jae LEE², Yong-Min KIM¹
¹School of Cosmetic Science and Beauty Biotechnology, Semyung University, Jecheon, Korea, ²School of Industrial Bio-pharmaceutical Science, Semyung University, Jecheon, Korea

- P0305** Fine Tuning of Complex Coacervates of Protamine and Multivalent Anions
 Hyungbin KIM¹, Byoung-jin JEON², Sangsik KIM^{1,3}, YongSeok JHO⁴, Dong Soo HWANG^{1,3}
¹Division of Integrative Biosciences and Biotechnology, Pohang University of Science and Technology (POSTECH), Pohang, Korea, ²Materials Department, University of California, Santa Barbara, Santa Barbara, CA, USA, ³Division of Environmental Science and Engineering, Pohang University of Science and Technology (POSTECH), Pohang, Korea, ⁴Department of Physics and Research Institute of Natural Science, Gyeongsang National University, Jinju, Korea

- P0306** Improvement of Biological Activity of *Rhodiola sachalinensis* by Bioconversion
 Hyun-Ji PARK¹, Min-Ju KIM², Eun-Ji KIM², Ji-Won JEOUNG², Mi-Jin KWON³, Gye Won LEE^{1,2}, Young Ho CHO^{1,2}
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- P0307** Anti-oxidant and Whitening Activity of *Panax notoginseng* Extracts in Melan-a Cells
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- P0308** The Synergy Effects of Carnosic Acid, Ursolic Acid and Rosmarinic Acid Extracted from Rosemary (*Rosmarinus officinalis*, L.), on Improvement of Skin Conditions
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- P0309** Study on Skin Efficacy of Mevastatin in Human Keratinocyte Inflammatory Model
Min Young KIM, Da Hee CHOI, Hyung Seo HWANG
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- P0310** Study on the Whitening Efficacy and Skin Barrier of Egg Lysosome-related Organelle Extract (LOE)
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- P0311** Synthesis and Characterization of Quercetin Derivatives with High Antioxidant Activity and Low Toxicity
Moon-Hee CHOI, Seung-Hwa YANG, Hyun-Jae SHIN
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- P0312** Dissolution and Regeneration of Cellulose for Development of Magnetic Cellulose Microspheres
Saerom PARK, Yujin OH, Eunjin YOO, Sang Hyun LEE
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- P0313** Natural Deep Eutectic Solvents for Extraction of Metabolites in Onion Peel
Yujin OH, Saerom PARK, Eunjin YOO, Sang Hyun LEE
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- P0314** High Efficient Fermentative Production of Cosmetic Peptides in Yeast
ByungJo YU, Jiyeon JANG, Inseung JANG, SungJin LEE, Yihyang KIM, Yerin HONG
Intelligent Sustainable Materials R&D group, Korea Institute of Industrial Technology(KITECH), Cheonan, Korea
- P0315** Development of Cosmetic Ingredients by Fermenting Oleaginous Yeast
Kyung Min LEE, Gil-Yong LEE, Miyoung LEE, Eunsoo KANG, Hee-Won CHO, YoonHwan CHOI
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P0316 Inhibition of Melanogenesis by *Albizia Kalkora Prain* Extract

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P0317 Anti-inflammatory Effects of *Torreya nucifera seed* Oil in RAW264.7 Macrophages

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