Poster Program

## July 25th (Thu)
## Oral Presentation 13:25–14:40 (Main Hall)　◆ Oral Presenter
## Discussion 14:40–15:50 (Annex Hall)

1P-01　Sodium Hypochlorite Pentahydrate: Effective Oxidant for Organic Reactions
Tomohide Okada*（Market Development Department, Chemicals Division, Nippon Light Metal Company, Ltd.）

1P-02　Antidiabetic Materials Produced by *Paenibacillus* Fermentation
San-Lang Wang* [1], Van Bon Nguyen [2]（[1] Department of Chemistry, Tamkang University, [2] Department of Science and Technology, Tay Nguyen University）

1P-03　Synthesis and Characterization of Epoxies Using Self-Assembled Nanofibrillar as Scaffolds
Wei-Chi Lai*, Ruey-Yi Hsia（Department of Chemical and Materials Engineering, Tamkang University）

1P-04　One-Pot Preparation of 3-Arylpyrazoles and 3-Arylisoxazolines from Arenes
Takahiro Yamamoto*, Hideo Togo（Graduate School of Science, Chiba University）

1P-05　Advantages of Metal Ligand Complexes/Pre-Catalysts in Catalytic Reactions Compared to *in situ* Systems
Yoshiaki Horiguchi*（Precious Metals Chemistry, Umicore Japan KK.）

1P-06　One-Pot Transformation of Primary Alcohols into 3-Aryl- and 3-Alkylisoxazoles and-pyrazoles.
Eiji Kobayashi*, Hideo Togo（Graduate School of Science, Chiba University）

1P-07　Structure and Reactivity of Aromatic Radical Cations Generated by $FeCl_3$
Takahiro Horibe*, Shuhei Ohmura, Kazuaki Ishihara（Graduate School of Engineering, Nagoya University）

1P-08　Establishment of the Continuous Synthesis of Ceramide (D-*erythro*-CER[NDS]) *via* Oxo-Tethered Ruthenium Complex Catalyzed Asymmetric Transfer Hydrogenation using Pipe-Flow Reactor
Masahiro Kuwana* [1,2], Taichiro Touge [1], Yasuhiro Komatsuki [1], Shigeru Tanaka [1], Hideki Nara [1],Kazuhiko Matsumura [1], Noboru Sayo [1], Yoshinobu Kashibuchi [2], Takao Saito [2]（[1] Corporate Research & Development Division, Takasago International Corporation, [2] Process Development Department, Takasago Chemical Corporation）

1P-09　Highly Efficient Synthesis of Pyrrole-Imidazole Amide Sequence for Application to DNA-Binding Polyamides

Takahiko Murata*, Shohei Yamamoto, Akira Nishiyama（Pharma & Supplemental Nutrition Solutions Vehicle, KANEKA CORPORATION）

1P-10　Device Performance Improvement of Double-unit Air Gap Membrane Distillation Module for Seawater Desalination

Chii-Dong Ho* [1], Luke Chen [2], Yu-An Chen [1], Chi-Hsiang Ni [1]（[1] Department of Chemical and Materials Engineering, Tamkang University, [2] Water Resources and Environmental Engineering Department, Tamkang University）

1P-11　*anti*-Selective Catalytic Asymmetric Nitoaldol Reaction of α-Keto Esters: Intriguing Solvent Effect, Synthesis of APIs, and Flow Reaction

Tomoya Karasawa* [1], Raphaël Oriez [2], Naoya Kumagai [2], Masakatsu Shibasaki [2]（[1] Process Research & Development Laboratories, Sumitomo Dainippon Pharma Co., Ltd., [2] Institute of Microbial Chemistry (BIKAKEN)）

1P-12　◆　Development of New Catalytic Synthetic Methods of *N*-Unprotected Ketimines

Hiroyuki Morimoto*, Yuta Kondo, Kazuhiro Morisaki, Tetsuya Kadota, Yoshinobu Hirazawa, Takashi Ohshima（Graduate School of Pharmaceutical Sciences, Kyushu University）

1P-13　Safe and Scalable Aerobic Oxidation by 2-azaadamantan-2-ol (AZADOL)/NOx Catalysis: Large-Scale Preparation of Shi's Catalyst

Yusuke Sasano [1], Hikaru Sato* [2], Shinsuke Tadokoro [2], Masami Kozawa [2], Yoshiharu Iwabuchi [1]（[1] Department of Organic Chemistry, Graduate School of Pharmaceutical Sciences, Tohoku University, [2] Chemical Research Laboratory, Nissan Chemical Corporation）

1P-14　Research on the Adsorptive Condition of Copper（Ⅱ）Ion with the Use of Ephippia

Azusa Oyama*, Saya Oikawa*, Nanami Kannno*, Noa Haneishi*, Kazunari Takahashi（Iwate Prefectural Mizusawa High School）

1P-15　Efficient Synthesis of a 5α-Reductase Inhibitor, 3-(Tetrazol-5-yl)-3,5-pregnadien-20-one through Allylic Rearrangement of Cyanophosphates

Shinya Harusawa*, Hiroki Yoneyama, Yoshihide Usami（Osaka University of Pharmaceutical Sciences）

1P-16　◆　Catalytic Transfer Hydration of Cyanohydrins to alpha-Hydroxyamides

Tomoya Kanda, Asuka Naraoka, Hiroshi Naka*（Graduate School of Science and Research Center for Materials Science, Nagoya University）

1P-17　Stereo-Defined Scaffold Strategy for Tamoxifens from (*E*)-1-Bromo-2-iodoalkenes.
Yoshino Fujii*, Yuka Tamura, Nako Hashimoto, Naoki Endo, Tetsuo Iwasawa（Department of Materials Chemistry, Ryukoku University）

1P-18　Crystallization Mechanisms Hiding Between Your Samples
Mayu Nakatsukasa*, Des O'Grady（AutoChem Team, BU LAB Instruments, Mettler Toledo K.K.）

1P-19　VARIOUS MANUFACTURING APPROACHES TO POORLY SOLUBLE PEPTIDES
Go Shiino*, Aiko Hasegawa, Takaharu Matsuura, Shunsuke Ochi, Yoshinori Murata（API R&D Laboratory, CMC R&D Division, Shionogi & Co., Ltd.）

1P-20　◆　Development of an Efficient Manufacturing Process for E2212 toward Rapid Clinical Introduction
Minetaka Isomura*, Taiju Nakamura, Katsuya Tagami（API Research Japan, Pharmaceutical Science & Technology CFU, Medicine Development Center, Eisai Co. Ltd.）

1P-21　Asymmetric route to a chiral heterocyclic amine toward efficient manufacturing process
Sayuri Hirano*, Masatoshi Yamada, Mitsuhisa Yamano（Chemical R&D Division, Spera Pharma, Inc.）

1P-22　Aromatic Halogenation Using *N*-Halosuccinimide and PhSTMS or PhSSPh
Yuuka Hirose, Mirai Yamazaki, Misa Nogata, Akira Nakamura, Tomohiro Maegawa*（Laboratory of Medicinal Chemistry, School of Pharmaceutical Sciences, Kindai University）

1P-23　Stereospecific Synthesis of 1,5-Disubstituted Tetrazoles from Ketoximes via Beckmann Rearrangement Utilizing Diphenyl Phosphorazidate
Kotaro Ishihara*, Yuki Kobayashi, Takayuki Shioiri, Masato Matsugi（Faculty of Agriculture, Meijo University）

1P-24　Post-treatment Free Synthesis of Fairy Chemicals Using Fine Bubble and Flow Optimization Method
Keiya Matsuo*, Kohei Sato, Tetsuo Narumi, Nobuyuki Mase（Applied Chemistry and Biochemical Engineering Course, Department of Engineering, Graduate School of Integrated Science and Technology, Shizuoka University）

1P-25　Reaction Optimization Using Microwave-assisted Continuous Flow Reactor with In-line Analysis
Takuya Kon*, Kohei Sato, Tetsuo Narumi, Kazuhiro Takeda, Nobuyuki Mase（Applied Chemistry and Biochemical Engineering Course, Department of Engineering, Graduate School of Integrated

Science and Technology, Shizuoka University)

1P-26 Synthesis of polymer-supported *cis*-2,4-disubstituted pyrrolidine derivatives and their application to asymmetric reactions
Hidenori Ochiai* [1], Akira Nishiyama [1], Naoki Haraguchi [2], Shinichi Itsuno [2] ([1] Pharma & Supplemental Nutrition Solutions Vehicle, Kaneka Co., [2] Graduate School of Engineering, Toyohashi University of Technology)

1P-27 ◆ Application of Macroporous Polystyrene-Triphenylphosphine Monolith to Palladium-Catalyzed Cross-Coupling Reaction in Flow System
Hikaru Matsumoto* [1], Yu Hoshino [1], Tomohiro Iwai [2], Masaya Sawamura [2,3], Yoshiko Miura [1] ([1] Department of Chemical Engineering, Kyushu University, [2] Department of Chemistry, Faculty of Science, Hokkaido University, [3] Institute for Chemical Reaction Design and Discovery (WPI-ICReDD), Hokkaido University)

1P-28 Preparation of Oil-based Stable Sliver Nanoparticle Suspensions
Trong-Ming Don*, Wen-Shan Yang, Tung-Wen Cheng (Department of Chemical and Materials Engineering, Tamkang University)

1P-29 ◆ Design Space Success Stories: Reaction and Crystallization Processes
Leela Christian-Tabak* [1], Hiroaki Tanaka [1], Haitao Zhang [2], Minoru Toshima [1], Mikio Sasaki [1] ([1] Technology Research and Development Divison, Process Research and Development Laboratories, Sumitomo Dainippon Pharma, [2] Chemical Process Research and Development, Sunovion Pharmaceuticals)

1P-30 Process development of β—Lactamase inhibitor key intermediate
Masato Murai* [1], Jun Takehara [2], Ryoma Miyake [3], Takanobu Iura [3], Hiroshi Kawabata [3] ([1] Process Research & Development Laboratory, Technology Division API Corporation, [2] Functional Organic Materials Laboratory, Fukuoka R&D Center, Mitsubishi Chemical Corporation, [3] Biotechnology Laboratory, Science & Innovation Center, Mitsubishi Chemical Corporation)

1P-31 Nitrones with Benzylic Bromides, Zinc, and Isobutyl Nitrite
Kei Yanai*, Hideo Togo (Graduate School of Science, Chiba University)

1P-32 2-Amino-4-arylthiazoles through One-Pot Transformation of Alkylarenes with NBS and Thioureas
Kaho Shibasaki*, Hideo Togo (Graduate School of Science, Chiba University)

1P-33 Biocatalysts for Hydroxylation
Hiroshi Kadono*, Taiki Nishioka (Strategic Research Planning Department, Research &

Development Division, MicroBiopharm Japan Co., Ltd.）

1P-34　Oxidative Construction of 2-Arylquinolines from β-Arylpropionitriles with Aryllithium and NIS through Iminyl Radical-mediated Cyclization
Hiroki Naruto*, Hideo Togo（Graduate School of Science, Chiba University）

1P-35　Novel and Practical Deprotection Method of *t*-Boc Group for Preparation of Cefcapene Pivoxil Hydrochloride Hydrate Using Formic Acid and Lithium Chloride
Takanori Kurita*, Yoshiko Tanaka, Teruo Iizuka（Chemical Development, Production Technology Department, Shionogi Pharma Co., Ltd.）

1P-36　The development for manufacturing process of methyl ester reduction with $LiBH_4$ prepared in-situ
Takayuki Toyama*, Naoki Miyake, Yusuke Sato, Takanori Kurita（Chemical Development, Production Technology Department, Shionogi Pharma Co., Ltd.）

1P-37　Continuous Flow Lipase-Catalyzed Dynamic Kinetic Resolution of Alcohols
Koichi Higashio* [1], Satoko Katsuragi [1], Franziska Kühn [2], Niklas Adebar [2], Carmen Plass [2], Harald Gröger [2], Shuji Akai [1] ([1] Graduate School of Pharmaceutical Sciences, Osaka University, [2] Faculty of Chemistry, Bielefeld University）

1P-38　Chemoselective demethylation of methoxypyridine
Kosho Makino* [1], Yuki Tanaka [1], Yumi Hasegawa [2], Takahide Inoue [1], Koji Araki [2], Hidetsugu Tabata [2], Tetsuta Oshitari [2], Kiyomi Ito [3], Hideaki Natsugari [4], Hideyo Takahashi [1] ([1] Faculty of Pharmaceutical Sciences, Tokyo University of Science, [2] Faculty of Pharma Sciences, Teikyo University, [3] Research Institute of Pharmaceutical Sciences, Musashino University, [4] Faculty of Pharmaceutical Sciences, The University of Tokyo）

1P-39　A Case Study of Theoretical Purge Factor for Mutagenic Impurity Management by Collaboration among 6 Pharmaceutical Companies
Shinji Tamura* [1], Yasufumi Kawanaka [1], Yusuke Nagato [2], Kenichiro Sato* [3], Yosuke Mino [4], Takashi Watanabe [4], Muneki Kishida [5], Hiroki Ueoka [6], Yu Haranosono [6] ([1] Ono Pharmaceutical Co., Ltd., [2] Fujifilm Corporation, [3] Asahi Kasei Pharma Corporation, [4] Japan Tobacco Inc., [5] Mitsubishi Tanabe Pharma Corporation, [6] Senju Pharmaceutical Co., Ltd.）

1P-40　Novel Preparation of Aromatic Nitriles from Aryl Bromides and Arenes via Imino-nitrogen-centered Radicals.
Ko Uchida*, Hideo Togo（Graduate School of Science, Chiba University）

1P-41　Pd/Cu-catalyzed Anti-Markovnikov Oxidation of Aliphatic Alkenes to Terminal Acetals

Saki Komori*, Yoshiko Yamaguchi, Yasutaka Kataoka, Yasuyuki Ura（Department of Chemistry, Biology, and Environmental Science, Faculty of Science, Nara Women's University）

1P-42　Heterogeneous Metal Catalyzed Aerobic Dehydrogenative Biaryl Coupling of Aniline Derivatives

Kenji Matsumoto*, Satoshi Takeda, Yasunori Toubaru, Tsukasa Hirokane, Masahiro Yoshida（Faculty of Pharmaceutical Sciences, Tokushima Bunri University）

1P-43　PAT: Optimize Processes From Liquids to Solids

Yoichi Yamasaki*, Wittkamp Brian, Stephan Woods（AutoChem Business Unit, Mettler-Toledo）

1P-44　Palladium and Niobic Acid on Carbons-Catalyzed Facile Hydrogenative Deprotection of *N*-Benzyl Groups

Yuta Yamamoto* [1], Kazuho Ban [1], Yukio Takagi [2], Masatoshi Yoshimura [2], Yoshinari Sawama [1], Hironao Sajiki [1]（[1] Laboratory of Organic Chemistry, Gifu Pharmaceutical University, [2] Catalyst Development Center, N. E. Chemcat Corporation）

1P-45　Pt/C-catalyzed oxidative annulation of diols to Iactones

Ryoya Takakura*, Kazuho Ban, Hironao Sajiki, Yoshinari Sawama（Gifu Pharmaceutical University）

1P-46　Aromatic Aldehyde-Selective Functionalization via Pyridinium Salt Intermediates

Takahiro Kawajiri* [1], Hiromichi Fujioka [2], Hironao Sajiki [1], Yoshinari Sawama [1]（[1] Laboratory of Organic Chemistry, Gifu Pharmaceutical University, [2] Graduate School of Pharmaceutical Sciences, Osaka University）

1P-47　Chiral Macrocyclic Lithium Binaphtholate Catalysts for Enantioselective Addition of Lithium Acetylides to Ketones

Manabu Hatano*, Kenji Yamashita, Kazuaki Ishihara（Graduate School of Engineering, Nagoya University）

1P-48　Generation of ynolates via double deprotonation of 2,6-di-*tert*-butylphenol esters

Jun Sun* [2], Toshiya Yoshiiwa [2], Takayuki Iwata [1], Mitsuru Shindo [1]（[1] Institute for Materials Chemistry and Engineering, Kyushu University, [2] Interdisciplinary Graduate School of Engineering Sciences, Kyushu University）

1P-49　Synthetic Studies of Libraries of Polymers from Half-esters Obtained by Practical Selective Monohydrolysis of Symmetric Diesters

Satomi Niwayama*, Jianjun Shi（Graduate School of Engineering, Muroran Institute of Technology）

1P-50　Pd/Cu-catalyzed Aerobic Anti-Markovnikov Oxidation of Vinylarenes to Aldehydes and Terminal Acetals

Yasuyuki Ura*, Sonoe Nakaoka, Yuka Murakami, Satoko Matsumura, Ruriko Sato, Wakana Yokotani, Yasutaka Kataoka（Department of Chemistry, Biology, and Environmental Science, Faculty of Science, Nara Women's University）

1P-51　◆　Biocatalytic Process Design – Challenges and Solutions

Stefan Mix*, Gareth Brown, Iain Miskelly（Department of Biocatalysis and Isotope Chemistry, Almac Group）

1P-52　Hydrosilane-Promoted Facile Deprotection of *tert*-Butyl Groups in Esters, Ethers, Carbonates, and Carbamates

Zhenzhong Zhang*, Takuya Ikeda, Yukihiro Motoyama（Department of Advanced Science and Technology, Toyota Technological Institute）

1P-53　Synthesis of 7-Deazaguanosine Derivatives via Glycosylation

Koki Nakano*, Natsuhisa Oka, Akane Fukuta, Ayumi Mori, Kaori Ando（Department of Chemistry and Biomolecular Science, Faculty of Engineering, Gifu University）

1P-54　Stereoselective Synthesis of Furanosyl Sulfones and Their Application to Julia-Kocienski Reaction

Kanna Suzuki*, Natsuhisa Oka, Ayumi Mori, Kaori Ando（Department of Chemistry and Biomolecular Science, Faculty of Engineering, Gifu University）

1P-55　One-Step Synthesis of Cyclopentene Derivatives from Julia-Kocienski Reagents Derived from Nucleosides

Minami Furuzawa*, Natsuhisa Oka, Mayuka Kanda, Kaori Ando（Department of Chemistry and Biomolecular Science, Faculty of Engineering, Gifu University）

1P-56　Selective Synthesis of Azoxybenzenes from Nitrobenzenes by Photoreduction with Flow Microreactors

Akira Fujii*, Yasuhiro Nishiyama, Hajime Mori（Industrial Technology Center of Wakayama Prefecture）

1P-57　Highly efficient synthesis of aromatic α-keto acids from acetophenones using nitrosylsulfuric acid as an oxidant

Tadafumi Matsunaga*, Yasuhiro Kataoka, Shun Tanimura, Masato Kawamura（Health and Crop Sciences Research Laboratory, Sumitomo Chemical Co., Ltd.）

1P-58　Palladium-catalyzed deoxygenative deuteration of aryl nonaflates

Masami Kuriyama*, Kotaro Tsukuda, Hirotoshi Kiba, Tetsuro Morimoto, Kosuke Yamamoto, Osamu Onomura（Graduate School of Biomedical Sciences, Nagasaki University）

1P-59　Efficient Synthetic Study of Multi-functionalized Biheteroaromatics by Suzuki Coupling
Masahiro Hamada*, Ryota Fujimoto, Noriyuki Nakajima（Department of Pharmaceutical Engineering and Biotechnology Research Center, Toyama Prefectural University）

1P-60　Precise Control of the Mutagenic Impurity Production by Flow Synthesis
Masahiro Hosoya*, Takahiro Oshima, Yuki Masuda, Masashi Tanaka, Noriyuki Kurose（API R&D Laboratory, CMC R&D Division, Shionogi & Co., Ltd.）

1P-61　Selective Synthesis of Benzofuran Isomers Using Rearrangement Reaction of Hydroxychalcone and the Application to Synthesis of Natural Product
Yuichiro Ikegami*, Fei Rao, Akira Imamiya, Akira Nakamura, Tomohiro Maegawa（School of Pharmaceutical Sciences, Kindai University）

1P-62　New Deprotection Method of PMB Protective Group of Alcohols Using Weak Acid in $CF_3CH_2OH$ and Remarkable Acceleration of Deprotection of PMB Protected 4-phenylbutanol.
Yugo Kotera*, Misa Matsumura, Hiroko Kawasaki, Norihiko Yamagami, Akira Nakamura, Tomohiro Maegawa（School of Pharmaceutical Sciences, Kindai University）

1P-63　Design of Novel Halogen Bonding Donors with $SF_5$ and $SO_2CF_3$ Functional Groups on Iodobenzenes
Yuji Sumii*, Kenta Sasaki, Norio Shibata（Department of Life and Applied Chemistry, Nagoya Institute of Technology）

1P-64　Quick and Continuous Synthesis of Methyl Cinnamates Using a Flow-microwave Applicator
Hiroki Yoneyama*, Naoki Oka, Megumi Yoshii, Shinya Harusawa, Yoshihide Usami（Osaka University of Pharmaceutical Sciences）

1P-65　Utilization of Naturally Occurring Glycosylated Forms for the Synthesis of Flavonoids
Takeshi Sugai*, Ryuji Tsunekawa, Kazuki Kurahayashi, Rie Fujita, Kengo Hanaya, Shuhei Higashibayashi（Department of Pharmaceutical Sciences, Keio University）

1P-66　$^{13}C$ NMR Spectroscopic Studies of Intra-and Intermolecular Interactions of Amino Acids and Dipeptide Derivatives in Solutions
Yoshikazu Hiraga [1], Ryosuke Hoshide* [1], Satomi Niwayama [2]（[1] Graduate School of Science and Technology, Hiroshima Institute of Technology, [2] Graduate School of Engineering, Muroran Institute of Technology）

1P-67 Simple Nucleophiles of Acetamide Equivalents: BENAC-K, PM-BENAC-K, and 2,4-DM-BENAC-K

Yumika Koike*, Atsunori Hira, Toshiki Tatematsu, Takeo Sakai, Yuji Mori（Faculty of Pharmacy, Meijo University）

1P-68 Three subjects in *Organic Syntheses*: Simple, useful, but hitherto inaccessible building blocks

Yuichro Ashida*, Takeshi Tsutsumi, Satomi Kajimoto, Hiroshi Nishikado, Hidefumi Nakatsuji, Yoo Tanabe（Determent of Chemistry, School of Science and Technology, Kwansei Gakuin University）

1P-69 Thermal hazard analysis of self accelerating decomposition via acid production of dimethyl sulfoxide (DMSO)

Yuto Koizumi* [1], Yu-ichiro Izato [1], Atsumi Miyake [1], Yoshikuni Deguchi [2], Masafumi Kono [3] ([1] Yokohama National University, [2] Kaneka Corporation, [3] Nippon Refine Corporation）

1P-70 *In situ* analysis of liquid phase oxidation of nitric acid/formic acid mixtures using thermal and raman spectroscopic analyses

Mahoko Ando*, Michiya Fujita, Yu-ichiro Izato, Atsumi Miyake（Yokohama National University）

1P-71 Efficient Removal of Nitrate Ions Through Calcium Alginate Membrane Immobilizing Activated Carbon Particles as Adsorbents

Keita Kashima* [1], Kota Teshima [1], Masahide Hagiri [2], Masanao Imai [3] ([1] Department of Materials Chemistry and Bioengineering, National Institute of Technology, Oyama College, [2] Department of Materials Chemistry and Bioengineering, National Institute of Technology, Fukushima College, [3] Graduate School of Bioresource Sciences, Nihon University）

1P-72 Molecular Separation of Sugars via Calcium Alginate Membrane with Polysaccharide Network Precisely Controlled Polymeric Structure

Kaito Yosida* [1], Keita Kashima [1], Masanao Imai [2] ([1] Department of Materials Chemistry and Bioengineering, National Institute of Technology, Oyama College, [2] Graduate School of Bioresource Sciences, Nihon University）

1P-73 Preparation and Characterization of Biocompatible Chitin/Chitosan Membrane Prepared through an Acetylation Process of Glucosamine Units

Haruki Koya* [1], Keita Kashima [1], Masanao Imai [2] ([1] Department of Materials Chemistry and Bioengineering, National Institute of Technology, Oyama College, [2] Graduate School of Bioresource Sciences, Nihon University）

1P-74 Effect of Monomer Composition on the Laccase/$O_2$-Catalyzed Oxidation of Aniline and

*p*-Aminodiphenylamine in the Presence of Anionic Vesicles

Tomoyuki Fujisaki* [1], Keita Kashima [1], Peter Walde [2] ([1] Department of Materials Chemistry and Bioengineering, National Institute of Technology, Oyama College, [2] Department of Materials, ETH Zurich)

1P-75 ◆ Application of Highly Efficient Chiral Spiro Catalysts In the Synthesis of Key Chiral Intermediates of APIs

Yuanqiang Li*, Guoliang Zhu, Pucha Yan (R&D, CDMO unit, Zhejiang Raybow Pharmaceutical Co. Ltd./ Zhejiang Jiuzhou Pharmaceutical Co., Ltd.)

1P-76 Metal-Free Asymmetric Synthesis of Dihydroquinoxalinones and 4-Imidazolidinones from α-Amino Acid Precursors via Dehydrogenative N-H/C-H Coupling

Kyalo Stephen Kanyiva* [1], Masashi Horiuchi [2], Marina Tane [2], Takanori Shibata [2] ([1] Global Center of Science and Engineering, Advanced School of Science and Engineering, Waseda University, [2] Department of Chemistry and Biochemistry, Advanced School of Science and Engineering, Waseda University)

1P-77 COF Derived N,P Co-Doped Carbon as a Metal-Free Catalyst for Highly Efficient Oxygen Reduction Reaction

Chao Yang*, Shinya Maenosono (School of Materials Science, Japan Advanced Institute of Science and Technology)

1P-78 Preparation of 1,3-Substituted Pyrroles under Basic Conditions

Kwesi Prah Thomford*, Zheyang Zhou, Yasunori Kama, Keita Kimura, Toshihide Maki (Graduate School of Biomedical Sciences, Nagasaki University)

July 26th (Fri)
Oral Presentation 13:05–14:20 (Main Hall)　◆ Oral Presenter
Discussion 14:20–15:30 (Annex Hall)

2P-01　Ligand-Free Kumada Coupling Catalyzed by Iron(II) Nanoparticle
Yuki Wada* [1], Toshiki Akiyama [1], Tetsuo Honma [2], Yusuke Tamenori [2], Hiromichi Fujioka [1], Yoshihiro Sato [3], Mitsuhiro Arisawa [1] ([1] Graduate School of Pharmaceutical Sciences, Osaka University, [2] Japan Synchrotron Radiation Research Institute, [3] Faculty of Pharmaceutical Sciences, Hokkaido University)

2P-02　Heterogeneous Palladium on Titania-Catalyzed Ligand-Free Suzuki–Miyaura Coupling of Aryl Chlorides
Hayato Masuda* [1], Tsuyoshi Yamada [1], Kwihwan Park [1], Takumu Tachikawa [1], Tomohiro Ichikawa [1], Masatoshi Yoshimura [2], Yukio Takagi [2], Yoshinari Sawama [1], Hironao Sajiki [1] ([1] Laboratory of Organic Chemistry, Gifu Pharmaceutical University, [2] Catalysts Development Center, N.E.Chemcat Corporation)

2P-03　Enantioselective Friedel-Crafts Alkylation Reaction of 4,7-Dihydroindole to Trifluoromethylated *N*-H Ketimines by Means of Chiral Phosphoric Acid
Riku Suzuki*, Masaru Yoshida, Masamichi Miyagawa, Taka hi ko Aki yama（Department of Chemistry, Faculty of Science, Gakushuin University）

2P-04　AJIPHASE®: Practical Oligonucleotide Synthesis Achieved by Solution Phase Approach
Taisuke Ichimaru*, Kunihiro Hirai, Satoshi Inoue, Takuya Hamagaki, Takayuki Hamada, Daisuke Takahashi（Research Institute For Bioscience Products & Fine Chemicals, AJINOMOTO Co., Inc.）

2P-05　Ion-Pair Extraction of Ammoniums Using Tetracyanocyclopentadienides
Miho Ito*, Naotaka Noda, Chisato Fujimoto, Takeo Sakai, Yuji Mori（Faculty of Pharmacy, Meijo University）

2P-06　Ultrafast enantiomeric separations using 1.6μm chiral column “CHIRALPAK U series”
Daisuke Fukuda*, Takafumi Onishi, Ryota Hamasaki, Atsushi Ohnishi（Life Science Development Center, CPI Company, DAICEL Corporation）

2P-07　Orthogonal selectivity controlled by organic bases in arylation for 2-pyridones with diaryliodonium salts
Yusuke Abe*, Natsumi Hanazawa, Shinpei Ono, Masami Kuriyama, Kosuke Yamamoto, Osamu Onomura（Graduate School of Biomedical Sciences, Nagasaki University）

2P-08　Total syntheses of all six chiral natural pyrethrins from available synthetic pyrethroids, directing for process chemistry: accurate determination of the physical properties and insecticidal activities

Momoyo Kawamoto*, Yuichiro Ashida, Noritada Matsuo, Yoo Tanabe（Department of Chemistry, School of Science and Technology, Kwansei Gakuin University）

2P-09　Process Development for Large-scale Synthesis of Baloxavir marboxil (Xofluza®)

Nobuaki Fukui* [1], Setsuya Shibahara [1], Toshikatsu Maki [1], Tomohiro Fukuda [1], Kosuke Anan [2], Takayuki Tsuritani [1]（[1] API R&D Laboratory, CMC R&D Division, Shionogi & Co., Ltd., [2] Shionogi Pharmaceutical Research Center, Shionogi & Co., Ltd.）

2P-10 ◆　Deacetylative Amination of Acetyl Arenes and Alkanes under Transition-Metal-Free Conditions

Kengo Hyodo* [1], Genna Hasegawa [2], Kingo Uchida [2]（[1] Department of Chemistry, School of Science and Engineering, Kindai University, [2] Department of Materials Chemistry, Faculty of Science and Technology, Ryukoku University）

2P-11　Application of the Palladium-loaded Monolithic Ion Exchange Resin to a Continuous Flow Processing

Shinji Nakamura* [1], Hitoshi Takada [1], Tsuyoshi Yamada [2], Yoshinari Sawama [2], Hironao Sajiki [2]（[1] Functional Material Development Department, R&D Center, Organo Co., [2] Laboratory of Organic Chemistry, Gifu Pharmaceutical University）

2P-12　Development of Boronic Ester-Mediated Ligand-Directed Protein Acylation

Christopher Adamson*, Kenzo Yamatsugu, Motomu Kanai (Department of Pharmaceutical Sciences, University of Tokyo)

2P-13　C-H γ,γ,γ-Trifluoroalkylation of Quinolines via Visible-light-induced Sequential Radical Additions

Yuhei Kumagai*, Nanami Murakami, Futa Kamiyama, Ryo Tanaka, Tatsuhiko Yoshino, Masahiro Kojima, Shigeki Matsunaga（Faculty of Pharmaceutical Sciences, Hokkaido University）

2P-14　Chlorocarbonysulfenyl chlorides: A unique bifunctional electrophilic reagent for the syntheses of heterocyclic compounds, directing for process chemistry

Masatoshi Kakuno*, Shotaro Izawa, Taichi Takemoto, Yoo Tanabe（Department of Chemistry, School of Science and Technology, Kwansei Gakuin Univ.）

2P-15 ◆　The Catalytic Synthesis of Cyclic Amines from Lactams using Ru-MACHO Family

Osamu Ogata* [1], Hideki Nara [1], Kazuhiko Matsumura [1], Yoshihito Kayaki [2]（[1] Takasago International Corporation, [2] Tokyo Institute of Technology）

2P-16　Catalytic asymmetric Mukaiyama aldol addition using 1,3-bis(siloxy)diene promoted by a $Ti(OiPr)_4$ / (*S*)-BINOL catalyst, directed for process chemistry

Takeshi Tsutsumi, Mizuki Moriyama*, Yoo Tanabe（Determent of Chemistry, School of Science and Technology, Kwansei Gakuin University）

2P-17　Catalytic oxidation reaction for synthesis of triarylmethane blue dyes

Tomoya Okada* [1], Akihiro Nomoto [1], Yuki Yamamoto [1], Mika Yamamoto [1], Michio Ueshima [1], Akiya Ogawa [1], Tamotsu Nishigahana [2], Keiji Itoh [2], Gohei Kobata [2]（[1] Department of Applied Chemistry, Graduate School of Engineering, Osaka Prefecture University, [2] Kobata Sangyo Co., Ltd.）

2P-18　Synthesis of α-*exo*-Methylene Ketones from α,α-Disubstituted Allyl Alcohols by Electrochemical Oxidative Migration

Kosuke Yamamoto*, Naoto Kikuchi, Tohru Hamamizu, Hirofumi Yoshimatsu, Masami Kuriyama, Yosuke Demizu, Osamu Onomura（Graduate School of Biomedical Sciences, Nagasaki University）

2P-19　Metal-free Oxidative Synthesis of Imine Derivatives Catalyzed by Salicylic Acid

Akihiro Nomoto*, Chun Ping Dong, Shintaro Kodama, Michio Ueshima, Akiya Ogawa（Department of Applied Chemistry, Graduate School of Engineering, Osaka Prefecture University）

2P-20　◆　Autocatalytic Decomposition of Dimethyl Sulfoxide (DMSO)

Yoshikuni Deguchi* [1], Masafumi Kono [2], Yuto Koizumi [3], Yu-ichiro Izato [3], Atsumi Miyake [3]（[1] Kaneka Corporation, [2] Nippon Refine Co. Ltd., [3] Yokohama National University）

2P-21　◆　Development of Vanadium-catalyzed Organic Reactions in Water

Makoto Sako* [1], Nadine Zumbrägel [2], Tomohiro Takiishi [1], Lukas Schober [2], Harald Gröger [2], Shinobu Takizawa [1], Hiroaki Sasai [1]（[1] The Institute of Scientific and Industrial Research (ISIR), Osaka University, [2] Department of Chemistry, Bielefeld University）

2P-22　AI-Assisted Optimization for Synthesis of Spirooxindole Analogues via Enantioselctive Domino Reaction in Flow System

H. D. P. Wathsala*, Masaru Kondo, Makoto Sako, Yutaro Hanatani, Satoshi Hara, Kazunori Ishikawa, Takayuki Takaai, Takashi Washio, Shinobu Takizawa, Hiroaki Sasai（The Institute of Scientific and Industrial Research (ISIR), Osaka University）

2P-23　Development of Composite Materials Comprised of Porphyrin Dyes and Nanocarbons：Effect of Preparation Methods

Yuko Takao*, Kazuyuki Moriwaki, Takumi Mizuno, Toshinobu Ohno（Organic Materials Research Division, Osaka Municipal Technical Research Institute）

2P-24　Benzylisoquinoline alkaloids production by bacteria for drug discovery
Akira Nakagawa*, Hiromichi Minami（Research Institute for Bioresources and Biotechnology, Ishikawa Prefectural University）

2P-25　Synthesis of tofogliflozin as an SGLT2 inhibitor *via* intramolecular cycloaddition
Masatoshi Murakata, Akira Kawase*, Nobuaki Kimura, Takuma Ikeda, Masahiro Nagase, Masatoshi Koizumi, Kazuaki Kuwata, Kenji Maeda, Hitoshi Shimizu（API Process Development Department, Chugai Pharmaceutical Co., Ltd.）

2P-26　Strong Base-Catalyzed Hydroamination of Aminoalkenes
Yasutomo Yamamoto*, Maki Terashita, Mio Yamanoue, Masako Yukawa, Akari Miyawaki, Kiyoshi Tomioka（Faculty of Pharmaceutical Sciences, Doshisha Women's College of Liberal Arts）

2P-27　◆　Rapid and Practical Synthesis of Fluoren-9-ones Using a Carbon Monoxide Surrogate
Hideyuki Konishi*, Suguru Futamata, Xi Wang, Kei Manabe（School of Pharmaceutical Sciences, University of Shizuoka）

2P-28　Activation of Nucleophilic Aromatic Substitution Reaction by Using Silyl Amide Reagent
Takashi Shigeta*[1], Shiho Suzuki[1], Nanomi Murata[2], Yuka Gonno[2], Minoru Ozeki[2], Ikuo Kawasaki[2], Masahiro Egi[1]（[1] School of Food and Nutritional Sciences, University of Shizuoka, [2] Graduate School of Pharmaceutical Sciences, Mukogawa Women's University）

2P-29　Chemoselective Transformations of Aromatic Methoxymethyl Ethers Using Trialkylsilyl Triflate and 2,2'-Bipyridyl
Mizushi Yanagihara*, Reiya Ohta, Kenichi Murai, Mitsuhiro Arisawa, Hiromichi Fujioka（Graduate School of Pharmaceutical Sciences, Osaka University）

2P-30　Acceptor-controlled Transfer Dehydration of Amides to Nitriles
Asuka Naraoka*, Hiroyuki Okabe, Takahiro Isogawa, Shunsuke Oishi, Hiroshi Naka（Graduate School of Science, Institute of Transformative Bio-Molecules (WPI-ITbM), and Research Center for Materials Science, Nagoya University）

2P-31　Hydroperoxide-Mediated Chemoselective, Decarboxylative Acylation of Amine.
Takeshi Nanjo, Natsuki Kato*, Xuan Zhang, Yoshiji Takemoto（Graduate School of Pharmaceutical Sciences, Kyoto University）

2P-32　Polymorphic Solubility Ratio of Pharmaceutical Drugs in Various Solvents
Yoshihiro Takebayashi*, Kiwamu Sue, Takeshi Furuya, Satoshi Yoda（Research Institute for Chemical Process Technology, AIST）

2P-33　Development of Palladium Phosphine Complexes for the Practical Cross-Coupling Reactions

Yosuke Imanaka*, Shinji Ueno（Numazu Chemical Catalysts Group, Chemical Catalysts R&D Dept., Catalysts Development Center, N.E.Chemcat Corporation）

2P-34　Development of a Synthetic Process for K-8986, an H1-receptor Antagonist

Tomoaki Fukuda* [1,2], Takeaki Hara [1], Shinji Ina [1], Tetsuhiro Nemoto [2], Takeshi Oshima [1]（[1] Tokyo New Drug Research Laboratories, Pharmaceutical Division, Kowa Co., LTD., [2] Graduate School of Pharmaceutical Sciences, Chiba University）

2P-35　Development of *gem*-Diboronic Acids as Dehydrative Peptide Synthesis Catalysts

Kenichi Michigami*, Tatsuhiko Sakaguchi, Yoshiji Takemoto（Graduate School of Pharmaceutical Sciences, Kyoto University）

2P-36　A Bulky P-Chiral Phosphine Ligand (BulkyP*): Synthesis and Application in Rh-Catalyzed Asymmetric Hydrogenation

Yuuki Sawatsugawa*, Ken Tamura, Natsuhiro Sano, Tsuneo Imamoto（Specialty Products R&D Department, Nippon Chemical Industrial Co., Ltd.）

2P-37　Gas-Liquid Flow Synthesis Using Monolithic Catalysts

Yusuke Saito* [1], Tomohito Mizukami [1], Yushi Nakamura [2], Nobuyuki Mase [2]（[1] Cataler Corporation, [2] Shizuoka University）

2P-38　Quality by Design (QbD) Approach by Automated Robustness Study to Develop the Design Space

Kazuhide Konishi*, Sergey Galushko（ChromSword Japan Co., Ltd.）

2P-39　High Quality Peptide APIs from Sophisticated One-Pot Peptide Synthesis AJIPHASE®

Tatsuji Inomata*, Takayoshi Torii, Shin Muronoi, Ryotaro Nakaya, Daisuke Takahashi（Research Institute for Bioscience Products and Fine Chemicals, AJINOMOTO Co., Inc.）

2P-40　Platinum on Carbon Bead-Catalyzed Continuous-Flow Dehydrogenation of 2-Propanol under Microwave-Irradiation

Tomohiro Ichikawa [1], Takumu Tachikawa* [1], Tomohiro Matsuo [1], Wataru Teranisihi [1], Tsuyoshi Yamada [1], Yoshinari Sawama [1], Yasunari Monguchi [2], Hironao Sajiki [1]（[1] Laboratory of Organic Chemistry, Gifu Pharmaceutical University, [2] Laboratory of Organic Chemistry, Daiichi University of Pharmacy）

2P-41　Characterization of chiral column by analyzed of column screening result

Takunori Ueda*, Masahiro Miyamoto, Ryota Hamasaki, Atsushi Ohnishi (Life Science Development center, CPI Company, DAICEL Corporation)

2P-42 Asymmetric cross-aldol reaction of aldehydes via organocatalyst
Yujiro Hayashi*, Kaito Nagai (Department of Chemistry, Graduate School of Science, Tohoku University)

2P-43 Atomeconomical Approach to Allylsilanes through Iridium-Catalyzed Hydrosilylation of Allenes
Ichino Takeuchi*, Shoko Samoto, Yasuyuki Ura, Yasutaka Kataoka (Department of Chemistry, Biology, and Environmental Science, Faculty of Science, Nara Women's University)

2P-44 Stable Triazinone-Based Reagent for *O*-*p*-Methoxybenzylation under Mild Heating Conditions
Hikaru Fujita* [1], Hiromitsu Terasaki [1], Satoshi Kakuyama [1], Kazuhito Hioki [2], Munetaka Kunishima [1] ([1] Faculty of Pharmaceutical Sciences Institute of Medical, Pharmaceutical, and Health Sciences, Kanazawa University, [2] Faculty of Pharmaceutical Sciences, Kobe Gakuin University)

2P-45 Catalytic Regioselective Ring Opening of Epoxides by Unprotected Amines
Yuse Kuriyama*, Yusuke Sasano, Shogo Matsui, Akihito Noguchi, Yoshihiko Hoshino, Shun-ichiro Uesugi, Yoshiharu Iwabuchi (Graduate School of Pharmaceutical Sciences, Tohoku University)

2P-46 Transition Metal-Free One-pot Synthesis of 3-Benzo[*b*]thienyl Thioethers via Benzo[*b*]thiophenone
Nanae Habara*, Koichi Mitsudo, Seiji Suga (Division of Applied Chemistry, Graduate School of Natural Science and Technology, Okayama University)

2P-47 Risks from Rising Temperature
Yoshifumi Fujisawa*, Urs Groth, Fabio Visentin (AutoChem team, BU LAB Instruments, Mettler-Toledo K.K.)

2P-48 Mechanistic Analysis in Lithiation-Methylation Reaction of Trifluorobenzoic Acid
Yuya Orito*, Guy C. Lloyd-Jones (Process Technology Research Laboratories, Pharmaceutical Technology Division, Daiichi-Sankyo Co., Ltd.)

2P-49 The Enhanced Enantio-recognition of Chiral Acylazolium in Kinetic Resolution of Chiral Secondary Alcohol by Carboxylate Additive
Ken-ichi Yamada*, Yinli Wang, Satoru Kuwano, Tsubasa Inokuma, Yousuke Yamaoka, Kiyosei Takasu (Graduate School of Pharmaceutical Sciences, Tokushima University)

2P-50 ◆ Synthetic Route Scouting and Process Development of Dolutegravir Sodium
Tatsuro Yasukata*, Yasunori Aoyama（API R&D Laboratory, CMC R&D Division, Shionogi & Co., Ltd.）

2P-51 Modernize Synthesis
Naomi Fukuda*（AutoChem Team, BU LAB Instruments, Mettler Toledo K.K.）

2P-52 Photoctalytic N-Methylation of Amino Acids with Methanol
Ivven Huang*, Yuna Morioka, Susumu Saito, Hiroshi Naka（Graduate School of Science and Research Center for Materials Science, Nagoya University）

2P-53 Platinum on carbon-bead-catalyzed energetically efficient, continuous hydrogen production method from methylcyclohexane enhanced by the microwave irradiation
Tomohiro Ichikawa* [1], Tomohiro Matsuo [1], Takumu Tachikawa [1], Tsuyoshi Yamada [1], Takeo Yoshimura [2], Masatoshi Yoshimura [3], Yukio Takagi [3], Yoshinari Sawama [1], Jun-ichi Sugiyama [4], Yasunari Monguchi [1,5], Hironao Sajiki [1]（[1] Laboratory of Organic Chemistry, Gifu Pharmaceutical University, [2] SAIDA FDS Incorporated, [3] Catalyst Development, N.E.Chemcat Corporation, [4] National Institute of Advanced Industrial Science and Technology, [5] Laboratory of Organic Chemistry, Daiichi University of Pharmacy）

2P-54 One-pot Preparation of $\alpha,\beta$-Unsaturated Aldehydes by Julia-Kocienski Reaction and Hydrolysis
Haruka Watanabe*, Zhu Xiaoxian, Kaori Ando（Department of Chemistry and Biomolecular Science, Faculty of Engineering, Gifu University）

2P-55 Enhanced Development and Control of Continuous Processes Using Real-Time In Situ FTIR－What's Happening in Your Flow Chemistry?
Yuki Hara*, Brian Wittkamp（LAB Instruments Business Unit, Mettler-Toledo）

2P-56 Expansion of Substrate Scope of Nitroxyl Radical/Copper-Catalyzed Aerobic Alcohol Oxidation
Yusuke Sasano, Ryota Sasaki*, Koki Kasabata, Naoki Kogure, Shota Nagasawa, Yoshiharu Iwabuchi（Graduate School of Pharmaceutical Sciences, Tohoku University）

2P-57 Palladium-Catalyzed Reaction of Silyl-Substituted Allyl Acetates with Water Proceeding through 1,2-Shift of a Substituent on Silyl Group
Yoshikazu Horino, Mayo Ishibashi*, Kosuke Nakasai, Hitoshi Abe（Graduate School of Science and Engineering, University of Toyama）

2P-58　Scale-up Synthesis of Icatibant using Molecular Hiving Technology

Daisuke Kubo* [1], Kazuaki Kanai [1], Rino Araki [1], Yu Ito [1], Natsumi Iwanaga [1], Kousuke Suzuki [1], Hideaki Suzuki [1], Ichiro Shima [1], Takashi Yamasaki [1], Yohei Okada [2], Hidehiro Kamiya [2], Kazuhiro Chiba [2]（[1] JITSUBO Co., Ltd., Life Science Research Center, [2] Tokyo University of Agriculture and Technology）

2P-59　One-pot Preparation of Julia-Kocienski Sulfides and Sulfones from Alcohols

Kaori Ando*, Junichiro Hattori（Department of Chemistry and Biomolecular Science, Faculty of Engineering, Gifu University）

2P-60　Rapid Removal and Release ability of DualPore Metal Scavenger in High Flow System

Riichi Miyamoto* [1], Hong-zhi Bai [1], Makoto Tsujisaka [2], Yoshiki Sohrin [2]（[1] DPS Inc., [2] Institute for Chemical Research, Kyoto University）

2P-61　Synthesis of Aryl and Heteroaryl Tetrafluoro-λ$^6$-sulfanyl Chlorides

Kiyoteru Niina* [1], Ibrayim Saidalimu [1], Yumeng Liang [1], Kazuhiro Tanagawa [1],Norimichi Saito [2], Norio Shibata [1]（[1] Department of Nanopharmaceutical Sciences and Department of Life Science and Applied Chemistry Nagoya Institute of Technology, [2] Pharmaceutical Division, Ube Industries, Ltd.）

2P-62　Ab initio modeling for Michael addition reaction of acrylic acid

Michiya Fujita* [1], Yu-ichiro Izato [1], Atsumi Miyake [2]（[1] Graduate School of Environment and information Sciences/ [2] Institute of Advanced Sciences, Yokohama National University）

2P-63　Attractive reaction yield on hydrolysis of phospholipid by immobilized phospholipase A1 with hydrophobic porous carrier

Yusuke Hayakawa* [1], Ryoichi Nakayama [2], Norikazu Namiki [2], Masanao Imai [1]（[1] Course in Bioresource Utilization Sciences, Graduate School of Bioresource Sciences, Nihon University, [2] Department of Environmental Chemistry & Chemical Engineering, School of Advanced Engineering, Kogakuin University）

2P-64　Catalyst-free Decarboxylatiave functionalization of Lithium Pyridylacetate

Ryouta Kawanishi*, Lacksany Phongphane, Kosuke Nakada, Seiji Iwasa, Kazutaka Shibatomi（Department of Applied Chemistry and Life Science, Toyohashi University of Technology）

2P-65　◆　Synthetic Strategy for Process Optimization of a PDE10A Inhibitor Consisting of Pyrazolopyrimidine and Quinoxaline as Key Units

Takafumi Yamagami*, Noriaki Moriyama, Eiji Toyofuku, Hideki Horiuchi, Shinichi Izumoto, Ryo Kobayashi（Mitsubishi Tanabe Pharma Corporation）

2P-66　Nucleophilic C2-arylation of quinolines using diaryliodonium salts

Tatsuya Sugiyama*, Kosuke Yamamoto, Masami Kuriyama, Osamu Onomura（Graduate School of Biomedical Sciences, Nagasaki University）

2P-67　Preparation of Diaryl Ether Using Ullmann Reaction and Its Application to Ellagitannin Synthesis

Haruka Imai*, Kazuma Shioe, Yoshiyasu Kato, Daichi Ogura, Yoshikazu Horino, Hitoshi Abe（Graduate School of Innovative Life Science, University of Toyama）

2P-68　Investigation of Purity Determination of Hygroscopic Compound using qNMR

Hiroo Sugawara*, Toru Miura, Yoshiaki Iwamoto（Functional Materials Research Laboratories, FUJIFILM Wako Pure Chemical Corporation.）

2P-69　Regioselective Formylation of Pyrrole Derivatives with Crystalline Vilsmeier reagent

Takuya Warashina*, Daisuke Matsuura, Yoshikazu Kimura（Research & Development department, Iharanikkei Chemical Industry Co., Ltd.）

2P-70　Development of multi-functional NHC catalysts bearing pyridine moiety: Application to catalytic asymmetric reactions

Takahiro Soeta*, Yuichi Hatanaka, So Mizuno, Yutaka Ukaji（Division of Material Chemistry, Graduate School of Natural Science and Technology, Kanazawa University）

2P-71　Synthesis of Ethynyl Benziodoxolone (EBX)–Acetonitrile Complex and Reaction with Sulfonamide

Daisuke Shimbo*, Masaharu Yudasaka, Norihiro Tada, Eiji Yamaguchi, Akichika Itoh（Gifu Pharmaceutical University）

2P-72　Divergent and scalable synthesis of ß-amino acid analogues by catalytic enantioselective addition of glyoxylate cyanohydrin to imines

Xuan Zhang, Yusuke Tokuhiro*, Takeshi Nanjo, Yoshiji Takemoto（Graduate School of Pharmaceutical Sciences, Kyoto University）

2P-73　Developmental Research of Ynamides Synthesis Method Using Copper Catalyst and Hypervalent Iodine Compounds

Ryogo Takai*, Norihiro Tada, Eiji Yamaguchi, Akichika Itoh（Gifu Pharmaceutical Univercity）

2P-74　Synthetic Study of Total Synthesis of Sigillin A

Yousuke Yamaoka*, Takamori Nakayama, Syota Kawai, Hiroshi Takikawa, Kiyosei Takasu（Graduate School and Faculty of Pharmaceutical Sciences, Kyoto University）

2P-75　KHMDS-Promoted Enolate–Olefin Metathesis

Kiyosei Takasu, Kazuma Sugimoto*, Shun Fujimura, Ken-ichi Yamada, Hiroshi Takikawa, Yousuke Yamaoka（Graduate School of Pharmaceutical Sciences, Kyoto University）

2P-76　Assessment of 4-Methyltetrahydropyran (4-MeTHP) as an Organic Reaction Solvent
Tomoki Tamura*, Takashi Kawakami, Saki Yoshimoto, Araki Masuyama, Shoji Kobayashi（Graduate School of Engineering, Osaka Institute of Technology）

2P-77　Preparation of carboxymethyl cellulose, calcium alginate and chitosan membrane involved with mechanical strength
Tomohiro Nakata*, Masanao Imai（Course in Bioresource Utilization Sciences, Graduate School of Bioresource Sciences, Nihon University）