

Tuesday, 8th August, 2023

Opening Remarks 9:00-9:10

Prof. Akihiro Morita (Advisor of 2023 Summer School)

Yukun Bai (The chairperson of the Summer School)

Chairperson: Toshiaki Yamanaka (Takizawa Lab.)

O-1 9:10-9:30

Fabrication and Finite Element Analysis of Piezo-Functionally Graded Composites for Energy Harvesting Applications

Kohei Maruyama, Zhenjin Wang, Fumio Narita

Keywords: Composite design; Spin coating; Piezoelectric polymer; Functionally graded; Energy harvesting

O-2 (Invited) 9:30-10:00

Composite material for DLP 3D printing

Weronika Chuda, Karolina Laszczyk, Piotr Kamedulski

Wroclaw University of Science and Technology, Poland

Keywords: 3D Printing (DLP); Sepiolite and graphene-based composite; Mechanical properties of printed structure

Short Break 10:00-10:15

Chairperson: Zhixiang Liu (Kasai lab.)

Keynote Lecture 1 10:15-11:15

Supramolecular approach toward theranostic agents on the basis of metal complexes

Nobuhiko Iki

Graduate School of Environmental Studies, Tohoku University

Keywords: Multifunctional metal complexes; Thiocalixarene; Diradical complex; Lanthanide; Platinum; Theranostics; MRI; Neutron capture therapy; Capillary electrophoresis

Short Break 11:15-11:30

Chairperson: Banerjee Trishit (Takahashi Lab.)

O-3 (AMC) 11:30-11:45
Elucidating fusion dynamics of FUS protein droplets using fluorescence microscopy and optical tweezers
Syamil M. A. Husna, Atsumi Hando, Satoshi Takahashi, Kiyoto Kamagata
Keywords: Liquid-liquid phase separation; FUS; Droplet fusion; Force; Two color fluorescence

O-4 (AMC) 11:45-12:00
Raman Spectroscopy Study on Temperature-Induced Phase Transition of Ti₃O₅
Nathawuth Wongwutcharanukoun
Keywords: Raman spectroscopy; Titanium oxides; Phase transition

O-5 (AMC) 12:00-12:15
Development of an optochemical tool controlling the formation and dissociation of mitochondria–endoplasmic reticulum contact sites
Quan Minh Duong, Toshiyuki Kowada, Shin Mizukami
Keywords: Optochemical control; Mitochondria-ER contact sites

O-6 (AMC) 12:15-12:30
Surface tension analysis of sessile droplets in atmospheric chemistry
YiZe Zhang, Gen Masao, Akihide Hibara
Keywords: Surface tension; Sessile droplets; Atmospheric chemistry

Lunch Break 12:30-13:30

Poster Session 1 13:30-14:30
Poster Number: P-1 ~ P-28, P-68 ~

Short Break 14:30-14:45

Chairperson: Daisuke Sato (Sasaki Lab.)

O-7 14:45-15:05
Synthetic study of (–)-morphine by an organocatalyst mediated reaction as a key step
Yutaro Hatano, Naoki Mori, Yujiro Hayashi
Keywords: Total synthesis of natural product; Organocatalyst; Asymmetric reaction; All-carbon quaternary center

O-8 (Invited) 15:05-15:35

Formation of Enantioenriched Quaternary Centers via Ir-Catalyzed Asymmetric Allylic Alkylation of Stabilized Carbon Nucleophiles

Farbod A. Moghadam, Elliot F. Hicks, Zachary P. Sercel, Alexander Q. Cusumano, Michael D. Bartberger, Brian M. Stoltz
California Institute of Technology, USA

Keywords: Transition metal catalysis; Allylic alkylation

Short Break 15:35-15:50

Chairperson: Nozomu Ishiwata (Hashimoto Lab.)

O-9 15:50-16:10

Evaluation of Physical Properties of a Porous Molecular Conductor with Two-Dimensional Coordination Network

Tappei Tanabe, Kenta Ueno, Momoka Miyata, Kentaro Fuku, Shinya Takaishi, Ryojun Toyoda, Liyuan Qu, Ryotaro Matsuda, Ryota Sakamoto, Hiroaki Iguchi

Keywords: Naphthalenediimide; Molecular conductor; MOF

O-10 (Invited) 16:10-16:40

***In-situ* electrodeposited Ag/Cu for electrochemical reduction of acetic acid to nanodiamond film at low applied potential**

Nattaphon Hongrutai, Petra Ágota Szilágyi, Maria-Magdalena Titirici, Kageeporn Wongpreedee, Joongjai Panpranot
Chulalongkorn University, Thailand

Keywords: In-situ electrochemical reduction; Ag-C Layers; Nanocrystalline carbon films; Hexagonal diamond; Anti-tarnish

Banquet 17:30-

Wednesday, 9th August, 2023

Chairperson: Ryuuta Nagai (Ye Lab.)

O-11 (Invited) 9:10-9:40

Metallacarborane-based silica nanohelices: innovative chiral nanocatalysts for asymmetric transformations in water

Hao Wang, Emilie Pouget, Reiko Oda, Sylvain Nlate

Université de Bordeaux, France

Keywords: Silica nanohelices; Cobaltabisdicarbollide; Chirality transfer; Enantioselective catalysis; Photooxidation

Short Break 9:40-9:55

Chairperson: Mazin A. Silman (Doi Lab.)

Keynote Lecture 2 9:55-10:55

Medicinal Chemistry for Neurodegenerative Disorders

Minoru Ishikawa

Graduate School of Life Sciences, Tohoku University

Keywords: Medicinal chemistry; Chemical biology

Short Break 10:55-11:10

Chairperson: Sakiya Kawada (Umetsu Lab.)

O-12 11:10-11:30

Development of Near-Infrared Light-Responsive Nano-Prodrug@Hydrogel for Cancer Locoregional Therapy

Zhixiang Liu, Yoshitaka Koseki, Ryuju Suzuki, Hitoshi Kasai

Keywords: Photothermal therapy (PTT); Poly(N-isopropylacrylamide) (pNIPAM) hydrogel; Polydopamine (PDA); Drug nanoparticle; Combination therapy

O-13 (invited) 11:30-12:00

FRET-based intracellular investigation of organic nanoparticles utilizing 3D cell culture toward highly efficient anticancer drug delivery

Tim Voeroes, Farsai Taemaitree, Yoshitaka Koseki, Ryuju Suzuki, Hitoshi Kasai

Ulm University, Germany

Keywords: Organic nanoparticles; FRET; 3D Cell culture, Intracellular fate

Lunch Break 12:00-13:00

Poster Session 2 13:00-14:00

Poster Number: P-29 ~ P-67

Short Break 14:00-14:15

Chairperson: Masaki Harada (Konno Lab.)

O-14 14:15-14:35

Role of Oxygen in the Formation of the Solid-Electrolyte Interphase (SEI)

Bingbing Li, Baoxu Peng, Aimin Ge, Ken-ichi Inoue, Shen Ye

Keywords: Solid-electrolyte interphase (SEI); Li-ion batteries; Oxygen reduction reaction (ORR)

O-15 (invited) 14:35-15:05

***In-situ* dynamic tracking of electrocatalytic reaction on the heterogeneous metallic interface by Raman spectroscopy**

Yu-Lin Sun, Jin-Chao Dong and Jian-Feng Li

Xiamen University, China

Keywords: In-situ Raman spectroscopy; Heterogeneous interface; Oxygen-related reaction; Intermediates

Short Break 15:05-15:20

Chairperson: Satoshi Sasaki (Fukumura Lab.)

O-16 15:20-15:40

Ionic Liquid Crystal Thin Film-based Resistive Random Access Memory

Zhang Wenzhong, Haruka Komatsu, Shingo Maruyama, Kenichi Kaminaga, Yuji Matsumoto

Keywords: Ionic liquid crystal; Thin film; Smectic A phase; Resistive switching; Nonvolatile memory; Trap charge limited current

O-17 (Invited) 15:40-16:10

Orientation, growth and stability of ultrathin films of the ionic liquid [C₁C₁Im][Tf₂N] on different metals investigated by angle-resolved X-ray photoelectron spectroscopy (ARXPS)

Timo Talwar, Stephen Massicot, Jade Barreto, Leonhard Winter, Florian Maier, Hans-Peter Steinrück

Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany

Keywords: Ultrathin films; ARXPS; [C₁C₁Im][Tf₂N]; Metal interfaces

Short Break 16:10-16:25

Chairperson: Keiryō Kubota (Terada Lab.)

O-18 16:25-16:45

Synthetic Study of Highly Functionalized Clovane-type Terpenoids

Daigo Ninomiya, Shota Nagasawa, Yoshiharu Iwabuchi

Keywords: Terpenoids; Total synthesis

O-19 (Invited) 16:45-17:15

Total Synthesis of Darobactin A

David Ryffel, Marko Nestic, Jonathan Maturano, Michael Shevlin, Scott R. Pollack, Donald R. Gauthier Jr., Pablo Trigo-Mouriño, Li-Kang Zhang, Danielle M. Schultz, Jamie M. McCabe Dunn, Louis-Charles Campeau, Niki R. Patel, David A. Petrone, David Sarlah

University of Illinois at Urbana-Champaign, Urbana, USA

Keywords: Antibiotics; Peptides; Macrocycles; Total Synthesis

Closing remarks 17:15-17:25

Prof. Yujiro Hayashi (The chief of GP-Chem program)

Program (Poster Session)

P-1

Photo-control of drug activity using a novel photo-induced cyclization reaction

Arisa Kawamori, Hidenori Okamura, Mamiko Ozawa, Fumi Nagatsugi

Keywords: Photochemistry; N-Containing aromatics; Prodrug

P-2

Reversible regulation of DNA duplex formation driven by host-guest interaction

Takeyuki Yao, Hidenori Okamura, Fumi Nagatsugi

Keywords: DNA; Modified nucleosides; Host-guest interaction

P-3

Pd-Catalyzed Aromatic C-H/C-H Annulative Coupling for Synthesis of Cyclopenta-fused Polycyclic Heteroarenes

Masaki Kawata, Tienan Jin, Masahiro Terada

Keywords: Pd-Catalyzed; Cyclopenta-fused; C-H/C-H Coupling; Polycyclic heteroarenes

P-4

Cyanosilylation of Carbonyl Compounds by a Silicon Porphyrin Complex

Keitaro Watanabe, Shintaro Ishida, Takeaki Iwamoto

Keywords: Aryl aldehyde; Cyanosilylation; Organosilicon chemistry; Porphyrin

P-5

Synthetic Study on Thiophosphoryl Radical and Related Phosphorus Compounds

Yusuke Yoshida, Shintaro Ishida, Takeaki Iwamoto

Keywords: Main group chemistry; Phosphorus, Sulfur; Radical

P-6

Active-Ester-based Functionalization of Siloxanes and their Applications

Tomoki Sato, Huie Zho, Masaya Mitsuishi

Keywords: Polymer chemistry; Organic chemistry; Siloxane, Organic-inorganic materials

P-7

Synthesis of Reprocessable Siloxane Networks Using Boronic Acid Esters

Kan Aoki, Soyeon Kim, Masaya Mitsuishi

Keywords: Cross-linking; Dynamic covalent bonds; Siloxane; Thiol-ene reaction

P-8

Ion Current Rectification of Fluidic Ionic Diodes from Nanoporous Hybrid Films

Narumi Kumakura, Yuya Ishizaki, Shunsuke Yamamoto, Masaya Mitsuishi

Keywords: Polymer chemistry; Organic electronics

P-9

Development of fast-blinking fluorophores for real-time single-molecule super-resolution imaging

Bochao Li, Toshiyuki Kowada, Takahiro Fujiwara, Shin Mizukami

Keywords: Single-molecule localization microscopy; Fluorescent probe

P-10

Development of photo-responsive protein degraders for tag-fused proteins

Akihiro Matsuo, Toshiyuki Kowada, Himadri S. Sarkar, Toshitaka Matsui, Shin Mizukami

Keywords: Protein degradation; eDHFR; Photo-switching; Photochromism

P-11

Exploring various tetrazine-distortions in the molecular design to tune the reactivity

Ryota Maki, Ippei Takashima, Ira Novianti, Shin Mizukami

Keywords: iEDDA reaction; Click chemistry; Tetrazine

P-12

Quantitative imaging of subcellular Zn²⁺ using localizable small-molecule fluorescent probes

Rong Liu, Toshiyuki Kowada, Shin Mizukami

Keywords: Zn²⁺ Concentration; Organelles; Quantitative imaging; HaloTag

P-13

Development of fluorescent probes to detect sulfatase 2 activity for tumor imaging

Yi Ding, Toshiyuki Kowada, Norihiko Sasaki, Toshitaka Matsui, Shin Mizukami

Keywords: Bioimaging; Fluorescent probe; Sulfatase

P-14

Synthetic study on citrifuran A, an aromatic polyketide composed of azaphilone and furanone derivatives

Yuto Goto, Ayaka Machiya, Taichi Okumura, Yusuke Oka, Osamu Ishibashi, Yasuhiro Meguro, Shigefumi Kuwahara, Masaru Enomoto

Keywords: Bioinspired Synthetic Strategy; Azaphilone; 3-Furanon

P-15

Synthetic study on rossinone B, a bioactive meroterpenoid isolated from an Antarctic ascidian

Ryo Sato, Katsuya Saito, Ayaka Machiya, Osamu Ishibashi, Yasuhiro Meguro, Shigefumi Kuwahara, Masaru Enomoto

Keywords: Bioinspired; Tetracyclic skeleton; Vinyl quinone Diels-Alder

P-16

Synthetic Studies on Streptoglycerides with a Unique Tricyclic Ring System

Riri Hiruma, Eiichi Hanzawa, Masaru Enomoto, Shigefumi Kuwahara, Yasuhiro Meguro

Keywords: Total synthesis; Streptoglyceride; Tricyclic skeleton

P-17

Catalytic Hydrogenation of Alkynes Using HSiEt₃/I₂ System

Tomoya Akada, Koto Noguchi, Kanako Kumada, Masanori Shigeno, Yoshinori Kondo

Keywords: Transition-metal-free condition; Catalytic Hydrogenation; Regio- and stereoselective reaction

P-18

Combined Brønsted base for hydrolysis of trifluoromethylarenes

Moe Kiriya, Koki Izumi, Keita Sasaki, Ozora Sasamoto, Masanori Shigeno, Yoshinori Kondo

Keywords: Combined Brønsted base; Trifluoromethyl arenes

P-19

Defluorinative transformation of (2,2,2-trifluoroethyl)arenes catalyzed by the phosphazene base *t*-Bu-P2

Amane Soga, Yoshiteru Shishido, Masanori Shigeno, Yoshinori Kondo

Keywords: Organic synthetic chemistry

P-20

Dicarboxylations of allylbenzenes by a combined Brønsted base

Eito Toyama, Kazuya Hanasaka, Ozora Sasamoto, Masanori Shigeno, Yoshinori Kondo

Keywords: Combined Brønsted base; Dicarboxylation; CO₂

P-21

Regioselective Sonogashira Coupling of Iodine-containing 2,4,7-Multihalobenzo[*b*]thiophene

Keita Nakayama, Kozo Toyota

*Keywords: Sonogashira coupling; Regioselectivity; Benzo[*b*]thiophene*

P-22

JA-Ile-lactone enhanced alkaloid biosynthesis in Tomato

Taichi Okumura, Rina Saito, Takuya Kaji, Hiroshi Abe, Minoru Ueda

Keywords: Plant hormone; Jasmonic acid; Secondary metabolites; Mode-of-Action

P-23

Synthesis and identification Δ^4 -dinor-iso-OPDA as a novel ancestral jasmonate in *Marchantia polymorpha* and synthesis of deuterium-labeled standard

Hidenori Yoshimatsu, Takuya Kaji, Gangqiang Yang, Guillermo H. Jimenez-Aleman, Robert Solano, Minoru Ueda

Keywords: Chemical Biology; Natural product synthesis

P-24

In planta activity evaluation of jasmonate receptor subtype-specific ligands by GFP-reporter system

Hikaru Hoshikawa, Wataru Kozaki, Yuki Nukadzuka, Yuho Nishizato, Yousuke Takaoka, Minoru Ueda

Keywords: Phytohormone; Protein degradation; Protein-protein interaction; Chemical biology

P-25

(3R,7S)-12-Hydroxy-jasmonoyl-L-isooleucine is the genuine bioactive stereoisomer of a jasmonate metabolite in Arabidopsis thaliana

Toshiya Muto, Rina Saito, Haruyuki Urano, Tsumugi Kitajima, Nobuki Kato, Kwon Eunsang, Minoru Ueda

Keywords: Plant hormone; Jasmonate; Hormone metabolism; Arabidopsis thaliana

P-26

Exploration of wound-induced SlCYP94 orthologs, potential metabolic enzymes of phytohormone JA-Ile in tomato

Sayaka Saito, Rina Saito, Takuya Kaji, Minoru Ueda

Keywords: Natural products chemistry; Phytohormone; Jasmonate; Metabolic enzyme; Gene expression; CYP

P-27

Synthesis and properties of Donor-Acceptor π -conjugated polymers incorporating benzodifuran-2,6-dione

Shohei Wada, Kohsuke Kawabata, Kazuo Takimiya

Keywords: Semiconducting polymer; Near-infrared absorption; Carrier transport property

P-28

Synthesis and properties of naphthodithiophenediimide-based non-conjugated polymers

Yo Hishinuma, Kohsuke Kawabata, Kazuo Takimiya

Keywords: Semiconducting polymer; Electronic structure; Carrier transport property

P-29

Synthetic Study for Stalobacin I

Kosuke Ohsawa, Tatsuya Inagaki, Takayuki Doi

Keywords: Organic chemistry; Natural product; Total synthesis

P-30

Synthetic Study for Plumisclerin A

Masaatsu Adachi, Akihiro Shimbo, Takayuki Doi

Keywords: Organic synthetic chemistry; Natural product, Total synthesis

P-31

***Endo*-selective 1,4-addition of thiols to (–)-levoglucosenone: an inversion of classical stereoselectivity**

Reo Hasegawa, Atsushi Tahara, Takayuki Doi

Keywords: Synthetic organic chemistry; (–)-Levoglucosenone; 1,4-Addition; Cytotoxicity toward cancer cell lines

P-32

Introduction of C-F bond into fungal diterpenes with chemoenzymatic synthesis for expanding structural diversity

Hikaru Sekiya, Akihiro Sugawara, Yohei Morishita, Taro Ozaki, Teigo Asai

Keywords: Terpenoids; Chemoenzymatic synthesis; Fluorinated geranylgeranyl diphosphate; C-F Bond activation

P-33

Progress in electron spin resonance dosimetry for wild animals after Fukushima Daiichi Nuclear Power Plant

Yusuke Mitsuyasu

P-34

Crystal Structures of AMPA Receptor Complexed With a Ligand by X-ray Free Electron Laser

Hansel Adriel, Takaaki Fujiwara, Kyohei Soga, Shigeki Kiyonaka, Eriko Nango

Keywords: Serial Femtosecond crystallography; X-ray crystallography; AMPA receptor

P-35

Zinc/NHC-Mediated Stereoselective Hydroxyallylation of Cyclopropenes with Cyclopropanols

Kento Tsukiji, Kazuya Kanemoto, Naohiko Yoshikai

Keywords: Cyclopropanol; Homoenate; Cyclopropene; Carbometallation; NHC

P-36

N-Terminal Selective One-Pot [3+2] Cycloaddition of Peptides with Dehydroalanine Derivatives

Masaki Iwata, Kazuya Kanemoto, Naohiko Yoshikai

Keywords: N-terminal modification; Dehydroalanine; Azomethine ylide; [3+2] Cycloaddition

P-37

Multisubstituted Enolates from Unactivated Alkynes: Oxyalkylidenation of Alkynyl Enolates

Shuma Sasaki, Jun Kikuchi, Shingo Ito, Naohiko Yoshikai

Keywords: Enolate; Alkyne; Aldehyde; Aldol reaction; Hypervalent iodine

P-38

Stereoselective Synthesis of Multisubstituted N-Vinylazoles via trans Iodo(III)azolation of Alkynes

Roi Nakajima

Keywords: Azole; Alkyne; Hypervalent iodine

P-39

Secondary Amine-Mediated Domino Reaction for the Synthesis of Substituted Quinolines from Dicyanoalkenes and Enynals

Xiaolei Han, Naoki Mori, Yujiro Hayashi

Keywords: Domino reaction; Organocatalyst; Quinoline

P-40

Synthetic studies towards sofosbuvir

Hugo Alberto Salazar Gómez, Satrajit Indu, Yujiro Hayashi

Keywords: Asymmetric synthesis; Natural products; Organocatalysis

P-41

Synthetic studies on asymmetric Michael reactions using organocatalysts

Riku Fukami, Satrajit Indu, Yujiro Hayashi

Keywords: Organocatalyst; Asymmetric Michael reaction

P-42

Epitaxial synthesis of bismuth-based mixed-anion thin films by mist chemical vapor deposition

Zhengkang Peng, Daichi Oka, Yasushi Hirose, Tomoteru Fukumura

Keywords: Solid-state chemistry; Thin film epitaxy

P-43

Epitaxial growth and electrical properties of lanthanum hydride thin films

Takumi Kosaka, Hideyuki Kawasoko, Tomoteru Fukumura

Keywords: Lanthanum; Hydrides; Epitaxial thin films; Electrical conduction

P-44

Synthetic study of a putative biosynthetic intermediate of the paralytic shellfish toxin, saxitoxin

Ryosuke Hirozumi, Yuko Cho, Yuta Kudo, Keiichi Konoki, Kazuo Nagasawa, Mari Yotsu-Yamashita

Keywords: Guanidine alkaloids; Voltage-gated sodium channels; Saxitoxin

P-45

Synthesis and identification of decarbamoyloxysaxitoxins in the toxic microalgae for elucidation of saxitoxin biosynthesis

Mayu Hakamada, Chihiro Tokairin, Hayate Ishizuka, Kanna Adachi, Toma Osawa, Ryosuke Hirozumi, Yuko Cho, Yuta Kudo, Keiichi Konoki, Yasukatsu Oshima, Kazuo Nagasawa, and Mari Yotsu-Yamashita

Keywords: Saxitoxin; Paralytic shellfish toxins; Biosynthesis

P-46

Evaluation of inhibitory activities of synthetic saxitoxin derivatives to voltage-gated sodium channels

Takumi Kobayashi, Shutaro Yoshio, Osamu Chiba, Ayato Nureki, Yuka Takayanagi, Hayate Ishizuka, Yuta Kudo, Yuko Cho, Mari Yotsu-Yamashita, Kazuo Nagasawa, Keiichi Konoki

Keywords: Saxitoxin; Voltage-gated sodium channels; Whole-cell patch-clamp recordings

P-47

Bioactivity of downstream metabolites of cis-OPDA independent of canonical jasmonate signaling

Yuho Nishizato, Rina Saito, Misuzu Nakayama, Nobuki Kato, Tumugi Kitajima, Yosuke Takaoka, Yoshinori Yoshimatu, Minoru Ueda

Keywords: Plant hormone; Natural product chemistry; Chemical biology

P-48

Study of Solid Electrolyte Interphase (SEI) in Li-ion battery by in-situ Surface-Enhanced Infrared Spectroscopy(SEIRAS)

Kota Nemoto, Ryuta Nagai, Ken-ichi Inoue, Shen Ye

Keywords: Lithium ion battery; SEI; In-situ SEIRAS

P-49

Determination of Excited-State Energy of Red-Shifted Chlorophyll-f in Photosystem I of Dark-Adapted Cyanobacterium by Polarization Anisotropy Analysis of Single-Molecules

Rin Taniguchi, Shinoda Toshiyuki, Tatsuya Tomo, Shen Ye, Yutaka Shibata

Keywords: Chlorophyll-f; Photosystem I; Single-molecule spectroscopy

P-50

Construction of Catalytic Target RNA Cleavage Function Installed Chimeric Artificial Nucleic Acids (CANA) toward Development of COVID-19 Treatments

Kazutoshi Fujita, Nozomu Ishiwata, Masahito Inagaki, Masaki Nishijima, Hironori Hayashi, Yu Mikame, Yasuyuki Araki, Tsuyoshi Yamamoto, Asako Yamayoshi, Eiichi Kodama, Takehiko Wada

Keywords: Oligonucleotide therapeutics; RNase H; Catalytic cleavage; RNA cleavage; Chimeric Artificial Nucleic Acids

P-51

Study of circularly polarized luminescence from the TICT state using novel chiral compound

Ren Obayashi, Yasuyuki Araki, Reiko Oda, Takehiko Wada

Keywords: Physical organic chemistry; Circularly polarized luminescence

P-52

Construction of Chimeric Artificial Nucleic Acids (CANA) toward Pancreatic Cancer Treatments by Inhibition of Transcription Factor BACH1

Yuto Horiuchi, Nozomu Ishiwata, Kazutoshi Fujita, Masaki Nishijima, Yasuyuki Araki, Masaki Sato, Mitsuyo Matsumoto, Kazuhiko Igarashi, Takehiko Wada

Keywords: Oligonucleotide Therapeutics; Chimeric Artificial Nucleic Acids; Catalytic cleavage of target RNA; RNase H; Pancreatic Cancer; BACH1

P-53

Study of Compounds with Inverted Double Bonds between Group 14 Elements

Takuro Shiojima, Takumi Nukazawa, Takeaki Iwamoto

Keywords: Bicyclic Structure; Double Bond; Inverted Geometry

P-54

Synthesis and Oligomerization of Molecular Silicon Clusters

Yukihiro Morino, Shintaro Ishida, Takeaki Iwamoto

Keywords: Molecular silicon clusters; Oligomerization

P-55

Scalable Total Synthesis of Leucascandrolide A Macrolactone Using a Chiral Phosphoric Acid/CuX Combined Catalytic System

Shigenobu Umemiya, Naoya Shinagawa, Masahiro Terada

Keywords: Organocatalyst; Chiral phosphoric acid; Macrolide; Total synthesis

P-56

Ag-Catalyzed para-Selective Sulfenyl Group Transfer of N-Sulfenylanilides

Ichiro Muranushi, Takato Asoh, Masahiro Terada and Itaru Nakamura

Keywords: Organic chemistry; Sulfenylanilide

P-57

Epitaxial growth of CuPc thin films on PTCDI-C8 giant grains

Shuhei Tanaka, Shingo Maruyama, Kenichi Kaminaga, Yuji Matsumoto

Keywords: Thin film; Organic semiconductor; Epitaxial growth

P-58

Orientation control of organic ionic plastic crystals by ionic liquid-assisted vacuum deposition

Yota Matsuoka, Shingo Maruyama, Kenichi Kaminaga, Yuji Matsumoto

Keywords: Thin film; Plastic crystal

P-59

Formation of organic-inorganic hybrid perovskite thin films from vacuum-deposited DDAI/SnI₂ bilayers

Ren Abe, Shingo Maruyama, Kenichi Kaminaga, Yuji Matsumoto

Keywords: Thin film; Organic-inorganic hybrid materials; Vacuum deposition

P-60

Humidity control of reversible change of solid-liquid form in NaBH₄ thin films

Takumi Sato, Kenichi Kaminaga, Shingo Maruyama, Yuji Matsumoto

Keywords: Thin Films; Borohydride; CW-IR laser deposition

P-61

Fabrication of compositionally-graded epitaxial thin films of ternary cathode materials for lithium-ion secondary batteries

Takuto Tobe, Kenichi Kaminaga, Shingo Maruyama, and Yuji Matsumoto

Keywords: Thin films; Lithium-ion secondary batteries

P-62

Chemo- and Site-selective C-H Functionalization of N-Ary Glycine Derivatives via Iron Phthalocyanine-Catalyzed Aerobic Oxidation

Kei Yoshida, Masato Yamanashi, Nagao Kobayashi, Hirofumi Ueda, Hidetoshi Tokuyama

Keywords: Amino acid; Peptide; Oxidation; C-H functionalization; Iron phthalocyanine

P-63

Unified Divergent Synthesis of Heptacyclic Discorhabdin Congener from Discorhabdin B

Kohta Ide, Masashi Shimomura, Juri Sakata, Hidetoshi Tokuyama

Keywords: Discorhabdin; Total synthesis; Pyrroloiminoquinone; Michael reaction

P-64

Investigation of luminescent properties in dinuclear lanthanide complexes with polyoxometalate ligand for imaging probes

Motoki Nakahara, Ryunosuke Karashimada, Nobuhiko Iki

Keywords: Lanthanide; Polyoxometalate; Dinuclear complex; Luminescence

P-65

Development of Nano-gels Loaded with Lanthanide-Thiacalix[4]arene Complex for Imaging and Therapeutic Agents

Nanaho Shindo, Ryota Sawamura, Ryunosuke Karashimada, Nobuhiko Iki

Keywords: Lanthanide; Thiacalixarene; Nanogel; Drug delivery

P-66

Topographic evaluation of embryonic and mesenchymal stem cells using scanning ion conductance microscopy

Kota Nozawa, Yuji Nashimoto, Hiroya Abe, Kosuke Ino, Hitoshi Shiku

Keywords: Mesenchymal stem cells; Embryonic stem cells; Topography; Scanning ion conductance microscopy; Differentiation

P-67

Evaluation of mesenchymal stem cells during differentiation using electrochemical and microfluidic techniques

An Konno, Kosuke Ino, Kaoru Hiramoto, Yuji Nashimoto, Hiroya Abe, Hitoshi Shiku

Keywords: Electrochemistry; Microfluidics; Cell culture

P-68

Developing appendable memory system for artificial intelligence to acquire new knowledge after deployment

Kazunori Yamada, Shun Kodate

Keywords: Learning with random values; Neural networks; Long-term memory; Appendable memory; Permanent memory

P-69

Penalty Gradient Normalization for Generative Adversarial Networks

Tian Xia

Keywords: Gradient normalization; Gradient penalty; GANs

P-70

Garment recognition and reconstruction using object SLAM

Zhang Yilin, Hashimoto Koichi

Keywords: Garment reconstruction; Object SLAM; Instance segmentation

P-71

Glia dictate fear perception and the long-term fate of fear Memory

Hiroki Yamao, Ko Matsui

Keywords: Glial cells; Memory; Emotion; Fear; Optogenetics

P-72

Investigating the Impact of Motor Mappings on Interhemispheric Interaction and Brain Connectivity during Bimanual Coordination

Chatrin Phunruangsakao, Mitsuhiro Hayashibe

Keywords: Brain-computer interface; Bimanual coordination; Motor learning; Brain connectivity; Electroencephalography

P-73

Computational Exploration of Lung Function Genetics Across Populations via Public GWAS Data Integration

Afeefa Zainab, Hayato Anzawa, Kengo Kinoshita

Keywords: Chronic obstructive pulmonary disease; GWAS; Genetic diversity; Population-specific study; Trans-ethnic GWAS analysis

P-74

Social response could cause recurring epidemic outbreaks: A mathematical model

Ying Xie, Hiromi Seno

Keywords: Epidemic dynamics; Recurring outbreaks; SIS model; Social response; Social sensitivity

P-75

Evaluating the Robustness of Large Language Models: Focusing on Lexical Negation

Mengyu Ye, Tatsuki Kuribayashi, Jun Suzuki, Goro Kobayashi, Hiroaki Funayamai

Keywords: Natural Language Processing; Prompting; Large Language model

P-76

Detecting loneliness in older-adult using a combination of virtual avatar communication system and simultaneous facial-brain measurement

Ayumi Takemoto, Motoaki Sugiura

Keywords: Virtual avatar communication; Facial expression recognition; fMRI Study; Emotion detection

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Neural mechanisms of attitudinal prosody perception in a second language: an fMRI study

Victoria-Anne Flood, Diego Elisandro Dardon, Motoaki Sugiura, Hyeonjeong Jeong

Keywords: Attitudinal prosody; Second language; fMRI

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ECM dynamics modulate endocytosis and EGFR signaling to regulate the abdominal epithelium remodeling in Drosophila

Kevin Yuswan, Xiaofei Sun, Daiki Umetsu, Erina Kuranaga

Keywords: Tissue remodelling; Growth and Development; Cell Death; Extracellular Matrix

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Are you interested in brain research using MRI?

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Keywords: MRI; Brain; Research; Collaboration

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Human Relationship Recognition Based on Interactions and Gazes through Video Analysis

Tanonwong Matus, Hashimoto Koichi

Keywords: Deep learning; Behavior prediction; Human mutual gaze detection; Social relationship

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The Impact of Retirement on Mental Health: Evidence from China

Sixian Shu, Midori Wakabayashi

Keywords: Retirement; Mental health; Fuzzy regression discontinuity design; China

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Spatial heterogeneity analysis from the perspective of data distribution: A Moran eigenvector-based quantile regression approach

Zhan Peng, Ryo Inoue

Keywords: Spatial heterogeneity; Spatial data analysis; Moran eigenvector; Quantile regression

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Epigenetic modifications during rice anther development and their alteration in cold injury

Ahmad Aisha Abu, Atsushi Higashitani

Keywords: Epigenetic; Modifications; Anther; Development; Cold injury

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The Effect of Waning Immunity on the Dynamics of an Epidemics in a Scale Free Network

Ikpe ThankGod Ifreke Sylvanus, Naoya Fujiwara

Keywords: Waning immunity; Scale free network; Network epidemiology

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Unraveling the Genetic Markers of Liver Cirrhosis in a Japanese Population

Yovita Ardiyani, Hafumi Nishi, Kengo Kinoshita

Keywords: GWAS; Liver cirrhosis; Japanese population; Genetic variant

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Junta and A-valued Functions on the Slice

Steven Surya Tanujaya, Akihiro Munemasa

Keywords: Junta; A-valued Functions; Slice; Boolean Functions; Hypercube

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Effect of the habitat fragmentation on the persistence of native species against an alien invasion

Victor Schneider, Hiromi Seno

Keywords: Mathematical Biology; Population Dynamics; ODE model; Habitat fragmentation

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Extraction Of Medaka Behavior

Zou Jingyi

Keywords: Behavior; Classify; Medaka

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A Methemathical Consideration for the Effect of Regional Lockdown on Endemic Size

Zhiqiong FU, Hiromi SENO

Keywords: Epidemic dynamics, Mathematical model, Ordinary differential equations, Lockdown, Endemic size