

*Scientific Program*

Oral Presentation  
(Invited)

# May 29 (Thursday)

08:50-09:00 *Opening Remark*

09:00 – 10:30 *Chair: Minoru Mizuhata*

**I - 01** 09:00-09:30

IONIC PLASTIC CRYSTALS BASED ON FLUOROANIONS

**Kazuhiko Matsumoto** (Kyoto University, Japan)

**I - 02** 09:30 – 10:00

ELECTROLYTES BASED ON FLUOROSULFONIMIDE ANIONS FOR IMPROVING PERFORMANCES OF RECHARGEABLE LI (OR LI-ION) BATTERIES

**Zhi-Bin Zhou** (Huazhong University of Science and Technology, China)

**I - 03** 10:00 – 10:30

CYANOBORATE ANIONS WITH PERFLUOROALKYL OR ALKYL SUBSTITUENTS: BUILDING BLOCKS FOR LOW-VISCOUS IONIC LIQUIDS

**Maik Finze** (Julius-Maximilians-Universität Würzburg, Germany)

10:30 – 10:45 *Coffee break*

10:45 – 12:15 *Chair: Takashi Yamazaki*

**I - 04** 10:45 – 11:15

BIOORTHOGONAL CLICK CHEMISTRY FOR FLUORINE-18 LABELING PROTOCOLS

**Dong Wook Kim** (Inha University, Korea)

**I - 05** 11:15 – 11:45

BACKBONE-FLUORINATED AMINO ACIDS: SYNTHESIS AND APPLICATIONS

**Luke Hunter** (University of New South Wales, Australia)

**I - 06** 11:45 – 12:15

THE SYNTHESIS OF FLUORINATED CARBOHYDRATES

**Bruno Linclau** (University of Southampton, UK)

12:15 – 13:30 *Lunch*

13:30 – 15:00 *Chair: Susumu Yonezawa*

**I – 07** 13:30 – 14:00

LIQUID PHASE DEPOSITION PROCESS FOR NANOMATERIALS FABRICATION

**Minoru Mizuhata** (Kobe University, Japan)

**I – 08** 14:00 – 14:30

FLUORINE CHEMISTRY FOR THE PREPARATION OF GRAPHENE MATERIALS,  
FLUORINATED OR NOT

**Marc Dubois** (Université Blaise Pascal, France)

**I – 09** 14:30 – 15:00

DEVELOPMENT OF A DIRECT FLUORINATION METHOD “PERFECT” AND ITS  
INDUSTRIAL APPLICATIONS

**Takashi Okazoe** (Asahi Glass Co., Ltd, Japan)

15:00 – 15:15 *Coffee break*

15:15 – 16:45 *Chair: Junji Ichikawa*

**I – 10** 15:15 – 15:45

REVISITING THE USE OF FLUORIDE AS A LEAVING GROUP

**Jean-François Paquin** (Université Laval, Canada)

**I – 11** 15:45 – 16:15

PREPARATION AND ASYMMETRIC SYNTHESIS OF TRIFLUOROMETHYLATED  
COMPOUNDS

**Teck-Peng Loh** (Nanyang Technological University, Singapore)

**I – 12** 16:15 – 16:45

TRANSITION-METAL-CATALYZED DIFLUOROALKYLATION OF ARENES: A  
JOURNEY IN CATALYTIC SYNTHESIS OF FLUORINATED COMPOUNDS

**Xingnag Zhang** (Shanghai Institute of Organic Chemistry, China)

# May 30 (Friday)

09:00 – 10:30 *Chair: Yoshiaki Matsuo*

**I - 13** 09:00-09:30

NEW PHASES IN THE  $AG(F_{1-x}CL_x)_Y$  PHASE DIAGRAM FOR ENERGY STORAGE APPLICATIONS

**Wojciech Grochala** (University of Warsaw, Poland)

**I - 14** 09:30-10:00

BATTERIES BASED ON METAL HALIDES

**Maximilian Fichtner** (Ulm University and Karlsruhe Institute of Technology, Germany)

**I - 15** 10:00-10:30

SYNTHESIS AND UPCONVERSION LUMINESCENCE OF NAREF NANOPARTICLES

**Weiping Qin** (Jilin University, China)

10:30 – 10:45 *Coffee break*

10:45 – 12:15 *Chair: Hideki Amii*

**I – 16** 10:45 – 11:15

CORE-STRUCTURE-INSPIRED DEVELOPMENT OF ASYMMETRIC ADDITION REACTION: ENANTIOSELECTIVE SYNTHESSES OF BIOACTIVE TRIFLUOROMETHYLDIHYDROQUINAZOLINES AND DIHYDROBENZOXAZINONES

**Jun-An Ma** (Tianjin University, China)

**I – 17** 11:15 – 11:45

HIGHLY STABILIZED CARBANIONS BY FLUORINATED SUBSTITUTENTS

**Hikaru Yanai** (Tokyo University of Pharmacy and Life Sciences, Japan)

**I – 18** 11:45 – 12:15

IODOPERFLUOROALKANES: USEFUL TECTONS IN SUPRAMOLECULAR CHEMISTRY

**Pierangelo Metrangolo** (Politecnico di Milano, Italy)

12:15 – 13:30 *Lunch*

13:30 – 15:00 *Chair: Rika Hagiwara*

**I – 19** 13:30 – 14:00

CURIOSITIES IN XEF<sub>2</sub> CHEMISTRY

**Gašper Tavčar** (Jožef Stefan Institute, Slovenia)

**I – 20** 14:00 – 14:30

SULFUR TETRAFLUORIDE: LEWIS ACID INTERACTIONS IN THE SOLID STATE AND ITS UTILITY IN INORGANIC CHEMISTRY

**Michael Gerken** (University of Lethbridge, Canada)

**I – 21** 14:30 – 15:00

NOVEL METAL FLUORIDES: A MATRIX-ISOLATION AND QUANTUM-CHEMICAL STUDY

**Sebastian Riedel** (Freie Universität Berlin, Germany)

15:00 – 15:15 *Coffee break*

15:15 – 16:45 *Chair: Hideo Sawada*

**I – 22** 15:15 – 15:45

CRITICAL EFFECT OF STEREOREGULARITY ON SURFACE REPELLENCY AND CRYSTALLINITY OF POLY(2-PERFLUOROHEXYLETHYL ACRYLATE)S

**Takehiro Kitaura** (Osaka University, Japan)

**I – 23** 15:45 – 16:15

SYNTHESIS, PROPERTIES, AND N-TYPE PERFORMANCES OF ELECTRONEGATIVE PI-CONJUGATED SYSTEMS HAVING FLUORINE SUBSTITUENTS

**Yutaka Ie** (Osaka University, Japan)

**I – 24** 16:15 – 16:45

NOVEL LOW EW, WATER INSOLUBLE PERFLUOROSULFONIMIDE (PFSI) IONOMERS AND EVOLUTION OF ACADEMIC BARRICADES FOR USE OF TETRAFLUOROETHYLENE (TFE)

**Joseph S. Thrasher** (Clemson University and The University of Alabama, USA)

16:45-16:55 *Closing Remark*

*Scientific Program*

Poster Presentation

# May 29 (Thursday) 17:00 – 19:00

(Pacífico Annex Hall) Poster Board Size: H 2100 x W 900 mm

*Poster can be displayed on the board from 13:30, May 29.*

- P-01** PREPARATION AND CHARACTERIZATION OF  $\text{CaSiO}_3$  PARTICLES USING FLUORINATED  $\text{SiO}_2$   
Kaoru Maekawa, Jae-Ho Kim, Susumu Yonezawa, Masayuki Takashima (University of Fukui)
- P-02** PREPARATION AND CHARACTERIZATION OF  $\text{Li}_4\text{Ti}_5\text{O}_{12}$  USING SURFACE-FLUORINATED  $\text{TiO}_2$   
Miwa Kouno, Jae-Ho Kim, Susumu Yonezawa, Masayuki Takashima (University of Fukui)
- P-03** QUANTITATIVE CHEMICAL ANALYSIS FOR TERBIUM CONTAINING OXIDE FLUORIDE GLASSES AUGER ELECTRON SPECTROSCOPY  
F. Nishimura, J. H. Kim, S. Yonezawa, M. Takashima (University of Fukui)
- P-04** HEAVILY ERBIUM-DOPED FLUOROTELLURITE GLASS FIBERS FOR 2.7  $\mu\text{M}$  LASER APPLICATIONS  
Guanshi Qin, Zhixu Jia, Ruosong Wang, Chuanfei Yao (Jilin University)
- P-05** MOLTEN SALT ELECTROLYTE BASED ON ALKALI (TRIFLUOROETHOXYLSULFONYL) (TRIFLUOROMETHANESULFONYL)IMIDE  
Fei Xu, Cheng-Yong Liu, Wen-Fang Feng, Jin Nie, Zhi-Bin Zhou (Huazhong University of Science and Technology)
- P-06** SYNTHESIS OF  $\text{Ni}_x\text{Co}_{(1-x)}\text{F}_2$  FOR LITHIUM ION BATTERIED APPLICATION  
Yin Ting Teng, Rachid Yazami, Fengxia Wei (Nanyang Technological University)
- P-07** PREPARATION AND ELECTROCHEMICAL PROPERTIES OF LITHIUM-RICH LAYERED CATHODE MATERIALS CONTAINING FLUORINE  
Kengo Kanbara, Kosuke Maeda, Yoshiaki Matsuo, Yasuji Muramatsu (University of Hyogo)
- P-08** PREPARATION AND CHARACTERIZATION OF CATHODE ACTIVE MATERIAL USING A FLUORINATED PRECURSOR FOR LITHIUM ION BATTERY  
Shunsuke Yamada, Jae-Ho Kim, Susumu Yonezawa, Masayuki Takashima
- P-09** PROPERTIES OF INORGANIC-ORGANIC HYBRID IONIC LIQUIDS BASED ON  $\text{N}(\text{SO}_2\text{F})_2$  – AS ELECTROLYTES FOR SODIUM SECONDARY BATTERIES  
Takafumi Hosokawa<sup>1</sup>, Kazuhiko Matsumoto<sup>1</sup>, Toshiyuki Nohira<sup>1</sup>, Rika Hagiwara<sup>1</sup>, Koma Numata<sup>2</sup>, Atsushi Fukunaga<sup>2</sup>, Shoichiro Sakai<sup>2</sup>, Koji Nitta<sup>2</sup>, Shinji Inazawa<sup>2</sup> (<sup>1</sup>Kyoto University, <sup>2</sup>Sumitomo Electric Industries Ltd.)

- P-10** IRON (III) FLUORIDE SYNTHESIZED BY A FLUOROLYSIS METHOD FOR A POSITIVE ELECTRODE MATERIAL OF LIBS  
Shinya Tawa, Kazuhiko Matsumoto, Rika Hagiwara (Kyoto University)
- P-11** THERMAL AND STRUCTURAL ANALYSIS OF TETRABUTYLPHOSPHONIUM AND TETRABUTYLAMMONIUM SALTS BASED ON BF<sub>4</sub>  
Ukyo Harinaga, Ryo Tanaka, Kazuhiko Matsumoto, Rika Hagiwara (Kyoto University)
- P-12** HYDROGEN ADSORPTION PROPERTIES OF SINGLE WALLED CARBON NANOTUBES MODIFIED BY ELEMENTAL FLUORINE  
Y. Hattori<sup>1</sup>, Y. Ikeyama<sup>1</sup>, K. Takahashi<sup>2</sup>, and H. Touhara<sup>1</sup> (<sup>1</sup>Shinshu University, <sup>2</sup>Institute of Research and Innovation)
- P-13** DECOMPOSITION OF PERFLUORINATED IONIC LIQUID ANIONS USING SUBCRITICAL AND SUPERCRITICAL WATER  
Akihiro Takahashi, Yoshinari Noda, Takehiko Sakamoto, Hisao Hori (Kanagawa University)
- P-14** FULLEROPYRROLIDINE DERIVATIVES FOR ORGANIC PHOTOVOLTAICS: INFLUENCE OF INTRODUCED FLUORINE ATOMS ON DEVICE PERFORMANCE  
Takabumi Nagai<sup>1</sup>, Makoto Karakawa<sup>2</sup>, Yutaka Ie<sup>2</sup>, Kenji Adachi<sup>1</sup>, Yoshio Aso<sup>2</sup> (<sup>1</sup>Daikin Industries Ltd., <sup>2</sup>Osaka University)
- P-15** DEVELOPMENT OF SILICON PHOTO-ETCHING WITH N-FLUOROPYRIDINIUM SALTS  
Kenji Adachi<sup>1</sup>, Takabumi Nagai<sup>1</sup>, Junichi Uchikoshi<sup>2</sup>, Masaki Otani<sup>2</sup>, Toshinori Hirano<sup>2</sup>, Kentaro Kawai<sup>2</sup>, Mizuho Morita<sup>2</sup> (<sup>1</sup>Daikin Industries, <sup>2</sup>Osaka University)
- P-16** CRYSTAL ENGINEERING STUDY OF CONSTITUTIONALLY ASYMMETRIC DOUBLE-HEADED TRIFLUOROLACTATES  
Tomohiro Hamaguchi, Keisuke Kataoka, Toshimasa Katagiri (Okayama University)
- P-17** HYDROGEN GAS STORAGE AND RELEASE BY 2.5 Åφ TUNNEL MICROPORES FORMED IN THE CRYSTALS OF DOUBLE-HEADED TRIFLUOROLACTATES  
Yoshihiro Noro, Keisuke Kataoka, Toshimasa Katagiri (Okayama University)
- P-18** SYNTHESIS AND PHYSICO-CHEMICAL PROPERTIES OF 4-(2-PERFLUOROHEXY)-ETHYLTHIO-4'-X-BIPHENYL COMPOUNDS  
Tomohiro Yoshida, Seiji Tsutsumi, Tomofumi Hayakawa, Masahiro Miura, Yuki Morita, Hiroaki Okamoto (Yamaguchi University)
- P-19** SYNTHESIS AND PHYSICAL PROPERTIES OF NOVEL LOW MOLECULAR-MASS ORGANIC GELATORS HAVING PERFLUOROALKYL GROUPS AT BOTH TERMINAL POSITIONS  
Tomohiro Yoshida, Toru Nakamura, Yasuhiro Yamada, Yuki Morita, Hiroaki Okamoto (Yamaguchi University)



- P-20** DESIGN, SYNTHESIS AND PHOTOCYTOTOXICITY OF TRIFLUOROETHOXY-COATED PHTHALOCYANINE CONJUGATED WITH TETRAZOLE  
Satoru Mori, Yang Yu-Dong, Etsuko Tokunaga, Norio Shibata (Nagoya Institute of Technology)
- P-21** SYNTHESIS OF AND PROPERTIES OF TRIFLUOROMETHYLATED PHTHALOCYANINES  
Norihito Iida, Xiu-Hua Xu, Kenta Tanaka, Etsuko Tokunaga, Norio Shibata (Nagoya Institute of Technology)
- P-22** BIS(PENTAFLUOROSULFANYL)PHENYL AZIDE AS AN EXPEDITIOUS TOOL FOR CLICK CHEMISTRY TOWARD ANTITUMOR PHARMACEUTICALS  
Etsuko Tokunaga, Yu-Dong Yang, Hidehiko Akiyama, Norio Shibata (Nagoya Institute of Technology)
- P-23** SYNTHESIS, STRUCTURE AND ANTIFUNGAL ACTIVITY OF FLUORINATED ORGANOBISMUTH COMPOUNDS  
Mayu Ooji, Saki Tamura, Toshihiro Murafuji, Isamu Miyakawa, Katsuya Ishiguro, Keisuke Tao, Shin Kamijo (Yamaguchi University)
- P-24** SYNTHESIS OF [<sup>18</sup>F] LABELED IMAGING AGENTS FOR MGLUR5  
Hiroshi Yamaguchi (Akita Research Institute for Brain and Blood Vessels)
- P-25** STUDIES ON PHOTOINDUCED DIMERIZATION/PERFLUOROALKYLATION OF ANTHRACENE  
Emiko Nogami, Tomoko Yajima (Ochanomizu University)
- P-26** EFFECT OF FLUORINE ATOMS ON THERMOSTABILITY OF NEAR-INFRARED ABSORBING ORGANIC DYES  
Kazumasa Funabiki, Kazutaka Yagi, Yasuhiro Kubota, Masaki Matsui (Gifu University)
- P-27** TRUE-BLUE PHOSPHORESCENCE OF NOVEL CATIONIC IRIIDIUM COMPLEXES  
Keiko Fukuda, Eisuke Murotani, Yusuke Takahira, Varun Vohra, Hideyuki Murata (Asahi Glass Co., Ltd.)
- P-28** FLUOROALKYL END-CAPPED OLIGOMERS POSSESSING NON-FLAMMABLE CHARACTERISTIC IN CALCIUM CARBONATE NANOCOMPOSITES  
Hideo Sawada, Tomoya Saito (Hirosaki University)
- P-29** UNIQUE PROPERTIES OF HEAD-TO-HEAD TYPE STYRENE DIMERS BEARING TWO FLUOROALKYL END-GROUPS  
Masato Yoshida<sup>1</sup>, Mari Iizuka<sup>1</sup>, Keita Okuno<sup>2</sup>, Hideo Sawada<sup>2</sup> (<sup>1</sup>Shimane University, <sup>2</sup>Hirosaki University)

- P-30** SYNTHESIS AND PROPERTIES OF  $\Pi$ -CONJUGATED POLYMERS HAVING PERFLUOROARYLENE UNIT IN THE MAIN CHAIN  
Takuya Ishihara, Naoki Shida, Ikuyoshi Tomita, Shinsuke Inagi (Tokyo Institute of Technology)
- P-31** GRADUAL INTRODUCTION OF FLUORO-FUNCTIONALTY ONTO CONDUCTING POLYMER SURFACE  
Shinsuke Inagi, Naoki Shida, Toshio Fuchigami (Tokyo Institute of Technology)
- P-32** LOW PERMEATION MULTI-LAYER TUBE AND HOSE FOR LEV3  
Yuki Kuwajima, Kozue Komazawa (Daikin Industries, Ltd.)
- P-33** DISCLIMINANT ANALYSIS OF ETFE COPOLYMERS BY PYROLYSIS-GC/TOFMS COMBINED WITH MULTIVARIATE DATA ANALYSIS  
Toshifumi Kakiuchi, Minami Kikuchi, Yoji Nakajima (Asahi Glass Co. Ltd.)
- P-34** BRONSTED ACID-CATARIZED DEHYDRATIVE CYCLOAROMATAIZATION PROMOTED IN 1,1,1,3,3,3-HEXAFLUOROPROPAN-2-OL  
Ikko Takahashi, Jingchen Wang, Takeshi Fujita, Junji Ichikawa (University of Tsukuba)
- P-35** HIGHLY STEREOSELECTIVE SYNTHESIS OF VARIOUS  $\beta$ -FLUOROALLYLIC ALCOHOLS AND THEIR APPLICATION TO FLUOROALKENE DIPEPTIDE ISOSTERES  
Natsumi Ikeda, Seiya Tanishima, Tsutomu Konno (Kyoto Institute of Technology)
- P-36** ENANTIOSELECTIVE SYNTHESIS OF FLUOROALKENE DIPEPTIDE ISOSTERES THROUGH C-F BOND FUNCTIONALIZATION  
Azusa Sato, Hikaru Yanai, Hitomi Ando, Yoko Tsutsumi, Daiki Suzuki, Takashi Matsumoto, Midori Okad1, Takeo Taguchi (Tokyo Women's Medical University)
- P-37** SYNTHESIS AND APPLICATIONS OF  $\beta$ -(DIFLUOROMETHYL) VINYL SULFONIUM SALT  
Takuya Ishikawa, Takeshi Hanamoto (Saga University)
- P-38** REGIOSELECTIVE SYNTHESIS OF  $CF_3$ -DIHYDOROPYRROLES VIA RING-OPENING REACTION OF  $CF_3$ -THREE-MEMBERED RINGS  
Noritaka Kasai, Takeshi Hanamoto (Saga University)
- P-39** CYCLOADDITION REACTION OF 2-TRIFLUOROMETHYL-NTOSYLAZIRIDINE WITH NITRILES  
Michiya Yoshiki, Rie Ishibashi, Takeshi Hanamoto (Saga University)
- P-40** THE SYNTHETIC UTILITY OF  $\alpha$ -BROMO- $\alpha$ -FLUORO- $\beta$ -LACTAM AS A MONOFLUORINATION TOOL  
Atsushi Tarui, Ayumi Tanaka, Kazuyuki Sato, Masaaki Omote, Akira Ando (Setsunan University)

- P-41** SYNTHESIS OF 5,5,5-TRIFLUOROPENT-3-EN-1-YNES USING SONOGASHIRA CROSS-COUPPLING REACTION  
Akari Ikeda, Masaaki Omote, Kana Kusumoto, Miki Tanaka, Atsushi Tarui, Kazuyuki Sato, Ando Akira (Setsunan University)
- P-42** STEREOCONTROL OF CF<sub>3</sub>-CONTAINING ALCOHOLS VIA CLAISEN REARRANGEMENT  
Kazuya Orimo, Tomoko Kawasaki-Takasuka, Takashi Yamazaki (Tokyo University of Agriculture and Technology)
- P-43** SYNTHETIC APPLICATION OF 4,4,4-TRIFLUORO-2-BUTYN-ONES  
Yo Nakajima, Tomoko Kawasaki-Takasuka, Takashi Yamazaki (Tokyo University of Agriculture and Technology)
- P-44** SYNTHESIS OF GEM-DIFLUOROMETHYLENE BUILDING BLOCKS THROUGH REGIOSEWLECTIVE ALLYLATION OF GEMDIFLYOROCYCLOPROPANES  
Kent Narita, Daisuke Munemori, Toshiki Nokami, Toshiyuki Itoh (Tottori University)
- P-45** AN EFFICIENT SYNTHESIS OF FLUOROALKYL-SUBSTITUTED PHTHALIDES  
Masanori Inaba, Shun Shinada, Yuta Nishina, and Hideki Amii (Gunma University)
- P-46** DECARBOXYLATIVE TRANSFORMATIONS FOR THE SYNTHESIS OF gem-DIFLUOROMETHYLENE COMPOUNDS  
Hitomi Kimura, Eri Tomizawa, and Hideki Amii (Gunma University)
- P-47** NEW AND HIGHLY EFFICIENT DIFLUOROMETHYLATION REAGENTS FOR SP<sup>3</sup>-C NUCLEOPHILIES  
Xin Wang, Guokai Liu, Etsuko Tokunaga and Norio Shibata (Nagoya Institute of Technology)
- P-48** REGIOSELECTIVE 1,4-TRIFLUOROMETHYLATION OF  $\alpha$ ,  $\beta$ -UNSATURATED KETONES  
Satoshi Okusu, Yutaka Sugita, Etsuko Tokunaga, Norio Shibata (Nagoya Institute of Technology)
- P-49** COPPER CATALYZED TRIFLUOROMETHYLATION OF ARYL- AND VINYL BORONIC ACIDS WITH A CF<sub>3</sub><sup>+</sup> REAGENT  
Sadayuki Arimori, Norio Shibata (Nagoya Institute of Technology)
- P-50** SYNTHESIS OF CHIRAL ARYL IODINE COMPOUNDS BY NUCLEOPHILIC ENANTIOSELECTIVE TRIFLUOROMETHYLATION OF O-IODOARYL KETONES AND ITS EXTENSION FOR CHIRAL HYPERVALENT IODINE REAGENTS  
Hiromi Taira, Xiu-Hua Xu, Takayuki Nishimine, Etsuko Tokunaga, and Norio Shibata (Nagoya Institute of Technology)

- P-51** ENANTIOSELECTIVE FLUORINATION OF  $\alpha$ -BRANCHED ALDEHYDES WITH A NEW PRIMARY AMINE CATALYST  
Hiroshi Morikawa, Yoshiyuki Abe, Kazutaka Shibatomi, Seiji Iwasa (Toyohashi University of Technology)
- P-52** ORGANOCATALYTIC ENANTIOSELECTIVE FLUORINATION OF  $\alpha$ -CHLOROALDEHYDES  
Takuya Okimi, Yoshiyuki Abe, Akira Narayama, Nami Nakamura, Kazutaka Shibatomi, Seiji Iwasa (Toyohashi University of Technology)
- P-53** CATALYTIC FLUORINATION REACTION USING HYPERVALENT IODINE  
Kazunobu Fukushi, Satoru Suzuki, Tomohiro Kamo, Takaaki Hiramatsu, Etsuko Tokunaga, Norio Shibata (Nagoya Institute of Technology)
- P-54** DEVELOPMENT OF AROMATIC TRIHALOMETHYLATIONS BETWEEN AROMATIC GRIGNARD REAGENTS AND DIBROMODIFLUOROMETHANE  
Masahiro Shiosaki, Munenori Inoue (Sagami Chemical Research Institute)
- P-55** NOVEL INTRODUCTION OF THE TETRAFLUOROETHYLENE UNIT INTO AROMATIC RINGS  
Yusuke Watanabe, Tsutomu Konno (Kyoto Institute of Technology)
- P-56** NOVEL SYNTHESIS OF VARIOUS PRIMARY AMINES POSSESSING A TETRAFLUOROETHYLENE FRAGMENT  
Eiichiro Yoshimoto, Tsutomu Konno (Kyoto Institute of Technology)
- P-57** FLUORINATED ZWITTERION CATALYSIS: ADDITION REACTION OF SILICON ENOLATES AND SYNTHETIC APPLICATION  
Nobuyuki Ishii, Takashi Matsumoto, Hikaru Yanai (Tokyo University of Pharmacy and Life Sciences)
- P-58** CHEMOSELECTIVE MUKAIYAMA ALDOL REACTION CATALYZED BY FLUORINATED ZWITTERION  
Yuichi Sasaki, Takashi Matsumoto, Hikaru Yanai (Tokyo University of Pharmacy and Life Sciences)
- P-59** A NEW EFFECTIVE SYNTHESIS OF SUBSTITUTED XANTHONES BY UTILIZING FLUOROAROMATIC COMPOUNDS  
Yuuki Fujimoto, Hiroki Hoshi, Haruhito Kurokawa, Hiromi Ito, Yumina Ito, Ayano Takemura, Ryohei Itakura, Yoshio Ando, Keisuke Suzuki, Yasuo Dobashi, Hikaru Yanai, Takashi Matsumoto (Tokyo University of Pharmacy and Life Sciences)
- P-60** SYNTHESIS AND STRUCTURES OF FERROCENE COMPLEXES CONTAINING PERFLUOROCYCLOPENTENE UNIT  
Hiroki Fukumoto, Takaaki Hosoya Toshio Kubota (Ibaraki University)

- P-61** PREPARATION AND STRUCTURE OF FLUORINE-CONTAINING POLYCYCLIC AROMATIC COMPOUNDS  
Shogo Iwashita, Hiroki Fukumoto, Toshio Kubota (Ibaraki University)
- P-62** KINETIC RESOLUTION OF ALLYLIC FLUORIDE BY ENANTIOSELECTIVE ALLYLIC SUBSTITUTION REACTION BASED ON AILICON-ASSISTED C-F BOND CLEAVAGE  
Takayuki Nishimine, Satoru Mori, Kazunobu Fukushi, Naoyuki Shibata, Hiromi Taira, Etsuko Tokunaga, and Norio Shibata (Nagoya Institute of Technology)
- P-63** SYNTHESIS OF 4,4,4-TRIFLUOROCROTONALDEHYDE AND ITS USE IN CATALYTIC ASYMMETRIC SYNTHESIS  
Yohei Kawasaki, Akira Narayama, Yoshiyuki Abe, Kazutaka Shibatomi, Seiji Iwasa (Toyoashi University of Technology)
- P-64** ASYMMETRIC ALKYLATION OF  $\alpha$ -PENTAFLUOROPHENYL CYCLIC KETONES  
Kohei Matsuzaki, Kenta Okuyama, Etsuko Tokunaga, and Norio Shibata (Nagoya Institute of Technology)
- P-65** REGIOSELECTIVE SYNTHESIS OF FLUORINATED CYCLOPENTANONES VIA ORGANOCATALYTIC GENERATION OF DIFLUOROCARBENE  
Ryo Takayama, Kohei Fuchibe, Junji Ichikawa (University of Tsukuba)
- P-66** REDUCTION OF CARBON-FLUORINE BONDS BY THE COMBINED USE OF  $\text{Et}_3\text{SiH-TiCl}_4$   
Takayuki Yamada, Kodai Saito, Takahiko Akiyama (Gakushuin University)
- P-67** STRUCTURAL PROPERTIES OF TRIFLUOROMETHYLATED AMINO ACID DERIVATIVES WITH INTRAMOLECULAR INTERACTION ABILITY  
Minoru Wakia, Toshimasa Katagirib, Kenji Matsunoo, Hiroyuki Miyachia (Okayama University)
- P-68** FLUORIDE LEAVING GROUP FOR FLUOROARYLATION: CHEMISTRY OF THE LOCALIZED BIRADICAL  
Shigekazu Ito, Yasuhiro Ueta, and Koichi Mikami (Tokyo Institute of Technology)