

# 45<sup>th</sup> Japanese Peptide Symposium

October 29 (Wednesday)

Young Investigator's Oral Presentations

(5F Big Hall)

(lecture 10 min + discussion 3 min)

9:00-9:10      **Opening Remarks** (Motoyoshi Nomizu)

9:10-10:15      (Chair: Takashi Sato, Hiroyuki Konno)

**Y-01**      Diastereoselective synthesis of trifluoromethylalkene dipeptide isosteres based on nucleophilic trifluoromethylation

**Kazuva Kobavashi**, Tetsuo Narumi, Shinya Oishi, Hiroaki Ohno, Nobutaka Fujii  
(Graduate School of Pharmaceutical Sciences, Kyoto University)

**Y-02**      A synthetic method for monodehydro-cyclic-dipeptides toward natural product synthesis

**Yuki Mori**<sup>1</sup>, Yuri Yamazaki<sup>1,2</sup>, Akiko Oda<sup>2</sup>, Reiko Okamoto<sup>1</sup>, Masaru Nagahara<sup>1</sup>, Yoshiaki Kiso<sup>2</sup>, Yoshio Hayashi<sup>1,2</sup> (<sup>1</sup>Department of Medicinal Chemistry, Tokyo University of Pharmacy and Life Sciences, <sup>2</sup>Department of Medicinal Chemistry, Center for Frontier Research in Medicinal Science, Kyoto Pharmaceutical University)

**Y-03**      Synthesis of peptide thioesters using N-substituted aniline derivatives

**Shugo Tsuda**, Nami Maeda, Kiyomi Bando, Akira Shigenaga, Akira Otaka (Institute of Health Biosciences and Graduate School of Pharmaceutical Sciences, The University of Tokushima)

**Y-04**      Synthesis of collagen model peptides containing thiazolidine-4-carboxylic acid as proline analogue

**Chiemi Tsuji**<sup>1</sup>, Mariko Yamamoto<sup>1</sup>, Kei Kayumi<sup>1</sup>, Takashi Nakazawa<sup>1,2</sup> (<sup>1</sup>Graduate School of Humanities and Sciences, Nara Women's University, <sup>2</sup>Department of Chemistry, Nara Women's University)

**Y-05**      Study on a novel ligation method at Xaa-Ser / Thr site

**Chinatsu Ozawa**, Hidekazu, Katayama, Akiharu Ueki, Hironobu Hojo, Yuko Nakahara, Yoshiaki Nakahara (Department of Applied Biochemistry, Institute of Glycoscience, Tokai University)

10:15-10:30      **Coffee Break**

10:30-11:50      (Chair: Hiroshi Tsutsumi, Akira Shigenaga)

**Y-06**      Identification of toxic conformation in A $\beta$ 42 aggregates using solid-state NMR

**Yuichi Masuda**<sup>1</sup>, Satoko Uemura<sup>1</sup>, Ryutarō Ohashi<sup>2</sup>, Azusa Nakanishi<sup>2</sup>, K. Takegoshi<sup>2</sup>, Kazuhiro Irie<sup>1</sup> (<sup>1</sup>Graduate School of Agriculture, Kyoto University, <sup>2</sup>Graduate School of Science, Kyoto University)

**Y-07**      Structure-activity correlation of oryctin from Oryctes rhinoceros as a novel serine protease inhibitor

**Shoichiro Horita**<sup>1</sup>, Jun Ishibashi<sup>2</sup>, Minoru Yamakawa<sup>2,3</sup>, Koji Nagata<sup>1</sup>, Masaru Tanokura<sup>1</sup> (<sup>1</sup>Graduate School of Agriculture and Life Sciences, The University of Tokyo, <sup>2</sup>National Institute of Agrobiological Sciences, <sup>3</sup>University of Tsukuba)

**Y-08**      Essential amino acid residues in the ORL1 receptor transmembrane domains for receptor activation

**Jinglan Li**<sup>1</sup>, Kaname Isozaki<sup>1</sup>, Takeru Nose<sup>1</sup>, Tommaso Costa<sup>2</sup>, Yasuyuki Shimohigashi<sup>1</sup> (<sup>1</sup>Laboratory of Structure-Function Biochemistry, Kyushu University, <sup>2</sup>Laboratorio di Farmacologia, Istituto Superiore di Sanita, Italy)

**Y-09**      19F-NMR study of collagen model peptides containing 4(R)-fluoroproline

**Kazuki Kawahara**<sup>1</sup>, Nobuaki Nemoto<sup>2</sup>, Daisuke Motooka<sup>3</sup>, Nozomi Sato<sup>3</sup>, Yoshinori Nishi<sup>3</sup>, Masamitsu Doi<sup>4</sup>, Susumu Uchiyama<sup>5</sup>, Takashi Nakazawa<sup>6</sup>, Yuji Nishiuchi<sup>7</sup>, Takuya Yoshida<sup>1</sup>, Tadayasu Ohkubo<sup>1</sup>, Yuji Kobayashi<sup>3</sup> (<sup>1</sup>Graduate School of Pharmaceutical Sciences, Osaka University, <sup>2</sup>JEOL LTD., <sup>3</sup>Division of Rational Drug Design, Osaka University of Pharmaceutical Sciences, <sup>4</sup>Department of Materials Science, Wakayama National College of Technology, <sup>5</sup>Graduate School of Engineering, Osaka University, <sup>6</sup>Department of Chemistry, Nara Women's University, <sup>7</sup>Peptide Institute Inc.)

**Y-10** Thermal stability of p53 tetramerization domain peptides derived from various species  
**Takao Nomura**, Rui Kamada, Yoshiro Chuman, Kazuyasu Sakaguchi (Department of Chemistry, Faculty of Science, Hokkaido University)

**Y-11** Analysis of POI-PO interaction using Fluorescent Labeled Analogs Designed based on "Camouflaging Substitution"

**Rinako Yoshida**<sup>1</sup>, Chihiro Awada<sup>2</sup>, Toshifumi Takao<sup>2</sup>, Takashi Sato<sup>1</sup> (<sup>1</sup>Department of Applied Biochemistry and Food Science, Saga University, <sup>2</sup>Institute for Protein Research, Osaka University)

**11:50-12:20 Educational Lecture** (Chair: Motoyoshi Nomizu)  
"Presenting through Humor" (Yoshimoto Kogyo Co., Ltd)

**12:20-13:00 Lunch Break**

**13:00-14:05** (Chair: Yoshiro Chuman, Takaki Koide)

**Y-12** Total synthesis of largazole and its biological evaluation  
**Yoshitaka Numajiri**<sup>1</sup>, Takashi Takahashi<sup>1</sup>, Motoki Takagi<sup>2</sup>, Kazuo Shin-ya<sup>3</sup>, Takayuki Doi<sup>4</sup> (<sup>1</sup>Department of Applied Chemistry, Graduate School of Science and Engineering, Tokyo Institute of Technology, <sup>2</sup>Biomedical Information Research Center (BIRC), Japan Biological Informatics Consortium (JBIC), <sup>3</sup>National Institute of Advanced Industrial Science and Technology, <sup>4</sup>Graduate School of Pharmaceutical Sciences, Tohoku University)

**Y-13** Quartz crystal microbalance study of liposome adsorption to surface-bound peptides for applications in liposome-based sensor

**Yuzo Kasuya**<sup>1</sup>, Shizuka Nosaka<sup>2</sup>, Daisuke Yamada<sup>2</sup>, Yasuyuki Ikeda<sup>1</sup>, Kazunari Matsumura<sup>2</sup> (<sup>1</sup>Graduate School of Engineering, Shibaura Institute of Technology, <sup>2</sup>Faculty of Engineering, Shibaura Institute of Technology)

**Y-14** Synthesis of fluoroalkene dipeptide isostere utilizing intramolecular redox reaction  
**Yoko Yamaki**, Akira Shigenaga, Akira Otaka (Institute of Health Biosciences and Graduate School of Pharmaceutical Sciences, The University of Tokushima)

**Y-15** Chemical synthesis of small glycoprotein  
**Yasutaka Tanabe**, Yasuhiro Kajihara (International Graduate School of Arts and Sciences, Yokohama City University)

**Y-16** Synthetic study of glycosylated ovomucoid  
**Shun Sasaoka**, Yasuhiro Kajihara (International Graduate School of Arts and Sciences, Yokohama City University)

**14:05-14:20 Coffee Break**

**14:20-15:25** (Chair: Ikuhiko Nakase, Yoshiaki Yano)

**Y-17** Multi-target of enantiomeric 9-mer peptides derived from beetle defensins  
**Takashi Iwasaki**<sup>1,2,3</sup>, Jun Ishibashi<sup>2</sup>, Hiromitsu Tanaka<sup>2</sup>, Mitsuru Sato<sup>2</sup>, Ai Asaoka<sup>2</sup>, Minoru Yamakawa<sup>1,2</sup> (<sup>1</sup>Graduate School of Life and Environmental Sciences, University of Tsukuba, <sup>2</sup>Innate Immunity Research Unit, National Institute of Agrobiological Sciences, <sup>3</sup>Research Fellow of the Japan Society for the Promotion of Science)

- Y-18** Post-translational chemical construction of backbone-thioester for DNA-programmed synthesis of backbone-cyclized non-natural peptides  
**Takashi Kawakami**<sup>1</sup>, Atsushi Ohta<sup>1</sup>, Hiroshi Ashigai<sup>1</sup>, Hiroshi Murakami<sup>2</sup>, Hiroaki Suga<sup>1,2</sup> (<sup>1</sup>Graduate School of Engineering, The University of Tokyo, <sup>2</sup>Research Center for Advanced Science and Technology, The University of Tokyo)
- Y-19** Ribosomal synthesis of histone H3 tails with complex lysine modifications  
**Satoshi Yuzawa**<sup>1</sup>, Taek Jin Kang<sup>2</sup>, Hiroaki Suga<sup>1,2</sup> (<sup>1</sup>Graduate School of Engineering, The University of Tokyo, <sup>2</sup>Research Center for Advanced Science and Technology, The University of Tokyo)
- Y-20** Fluorescent labeling for PKC delta C1b domain and its application to sensing biology  
**Nami Ohashi**<sup>1</sup>, Wataru Nomura<sup>1</sup>, Mai Kato<sup>1,2</sup>, Hiroshi Tsutsumi<sup>1</sup>, Kyoko Itotani<sup>1</sup>, Teikichi Ikura<sup>2</sup>, Nobutoshi Ito<sup>2</sup>, Kiyotsugu Yoshida<sup>3</sup>, Nancy Lewin<sup>4</sup>, Peter M. Blumberg<sup>4</sup>, Hirokazu Tamamura<sup>1,3</sup> (<sup>1</sup>Institute of Biomaterials and Bioengineering, Tokyo Medical and Dental University, <sup>2</sup>School of Biomedical Science, Tokyo Medical and Dental University, <sup>3</sup>Medical Research Institute, Tokyo Medical and Dental University, <sup>4</sup>Laboratory of Cancer Biology and Genetics, Center for Cancer Research, NCI, National Institutes of Health)
- Y-21** Identification of the biological active sites using synthetic peptides derived from laminin alpha2 chain LG4-5 modules  
**Shunsuke Urushibata**<sup>1</sup>, Nobuharu Suzuki<sup>2</sup>, Takemitsu Hayashi<sup>1</sup>, Kentaro Hozumi<sup>1</sup>, Yamato Kikkawa<sup>1</sup>, Yoshihiko Yamada<sup>2</sup>, Motoyoshi Nomizu<sup>1</sup> (<sup>1</sup>School of Pharmacy, Tokyo University of Pharmacy and Life Sciences, <sup>2</sup>Lab. of Cell and Developmental Biology, NIDCR, National Institutes of Health)

**15:25-15:40 Coffee Break**

**15:40-16:45** (Chair: Keiichi Yamada, Shinya Oishi)

- Y-22** Amyloid beta42 fibril mimic peptides inhibit the Amyloid beta42 fibrillation by binding to the prefibrillar soluble oligomers  
**Koichi Tanaka**, Masaaki Nishimura, Sho Takiguchi, Sho Kitamoto, Shuhei Hashiguchi, Yuji Ito, Kazuhisa Sugimura (Department of Bioengineering, Faculty of Engineering, Kagoshima University)
- Y-23** Facile one-pot modification with oligoarginine for intracellular delivery  
**Kentaro Takayama**, Akiko Tadokoro, Ikuhiko Nakase, Shiroh Futaki (Institute for Chemical Research, Kyoto University)
- Y-24** AG73-mediated liposomal gene transfection accelerated by bubble liposomes and ultrasound  
**Daiki Omata**<sup>1</sup>, Yoichi Negishi<sup>1</sup>, Yoko Endo<sup>1</sup>, Ryo Suzuki<sup>2</sup>, Kazuo Maruyama<sup>2</sup>, Motoyoshi Nomizu<sup>1</sup>, Yukihiko Aramaki<sup>1</sup> (<sup>1</sup>School of Pharmacy, Tokyo University of Pharmacy and Life Sciences, <sup>2</sup>School of Pharmaceutical Sciences, Teikyo University)
- Y-25** Multi-functional peptide gene vector : design and evaluation of disulfide cross-linked oligo arginine  
**Takaya Ogawa**<sup>1</sup>, Yumiko Suda<sup>1</sup>, Takanori Kanazawa<sup>1</sup>, Yuuki Takashima<sup>1</sup>, Tsunehiko Fukuda<sup>2</sup>, Hiroaki Okada<sup>1</sup> (<sup>1</sup>School of Pharmacy, Tokyo University of Pharmacy and Life Sciences, <sup>2</sup>Nagahama Institute of Bio-Science and Technology)
- Y-26** Peptide-chitosan matrices using laminin-111 peptides  
**Dai Otagiri**<sup>1</sup>, Chikara Fujimori<sup>1</sup>, Ayano Sasaki<sup>1</sup>, Yuki Wakai<sup>2</sup>, Tetsuya Uchida<sup>2</sup>, Kentaro Hozumi<sup>1</sup>, Yamato Kikkawa<sup>1</sup>, Motoyoshi Nomizu<sup>1</sup> (<sup>1</sup>School of Pharmacy and <sup>2</sup>School of Life Sciences, Tokyo University of Pharmacy and Life Sciences)

**17:00-18:30 Poster Presentations; odd numbers (2F Zuiun, Heian)**

**October 30 (Thursday)**  
**Oral Presentations**  
**(5F Big Hall)**  
**(lecture 12 min + discussion 4 min)**

**9:10-10:30** (Chair: Hironobu Hojo, Hiroshi Sakamoto)

**O-01** Purification and characterization of a new member of L-amino acid ligase from *Bacillus subtilis* NBRC3134, rhizoctin peptide-antibiotic producing microorganism

**Kuniki Kino**<sup>1</sup>, Yoichi Kotanaka<sup>1</sup>, Makoto Yagasaki<sup>2</sup> (<sup>1</sup>Department of Applied Chemistry, Faculty of Science and Engineering, Waseda University, <sup>2</sup>Technical Research Laboratories, Kyowa Hakko Kogyo Co. Ltd.)

**O-02** A novel L-amino acid ligase, which is encoded by a gene in the rhizoctin biosynthetic gene cluster from *Bacillus subtilis* NBRC3134, synthesizes oligopeptide

**Toshinobu Arai**, Masahiro Kokubo, Kuniki Kino (Department of Applied Chemistry, Faculty of Science and Engineering, Waseda University)

**O-03** Infrared study of synthetic peptide analogues of the calcium-binding site III of troponin C: the on-off switch mechanism of an EF-hand protein

**Masayuki Nara**<sup>1</sup>, Hisayuki Morii<sup>2</sup>, Masaru Tanokura<sup>3</sup> (<sup>1</sup>Laboratory of Chemistry, College of Liberal Arts and Sciences, Tokyo Medical and Dental University, <sup>2</sup>National Institute of Advanced Industrial Science and Technology (AIST), <sup>3</sup>Department of Applied Biological Chemistry, Graduate School of Agricultural and Life Sciences, University of Tokyo)

**O-04** Structure of the transmembrane-juxtamembrane region of the amyloid precursor protein

**Takeshi Sato**<sup>1</sup>, Tzu-chun Tang<sup>2</sup>, Gabriella Reubins<sup>2</sup>, Jeffrey Z. Fei<sup>2</sup>, Taiki Fujimoto<sup>1</sup>, Hiroko Tamagaki<sup>1</sup>, Pascal Kienlen-Campard<sup>3</sup>, Stefan N. Constantinescu<sup>4</sup>, Jean-Noel Octave<sup>3</sup>, Steven O. Smith<sup>1,2</sup>, Saburo Aimoto<sup>1</sup> (<sup>1</sup>Institute for Protein Research, Osaka University, <sup>2</sup>Stony Brook University, <sup>3</sup>Institute of Neuroscience, Universite, <sup>4</sup>Ludwig Institute for Cancer Research and de Duve Institute, Universite)

**O-05** Structure-activity relationship of gelatinase biosynthesis activating pheromone from the Gram-positive bacterium *Enterococcus faecalis*

**Koji Nagata**<sup>1</sup>, Kenzo Nishiguchi<sup>2</sup>, Masaru Tanokura<sup>1</sup>, Kenji Sonomoto<sup>2,3</sup>, Jiro Nakayama<sup>2</sup> (<sup>1</sup>Graduate School of Agriculture and Life Sciences, The University of Tokyo, <sup>2</sup>Faculty of Agriculture, Graduate School, Kyushu University, <sup>3</sup>Bio-architecture Center, Kyushu University)

**10:30-10:50** **Coffee Break**

**10:50-11:55** (Chair: Koji Nagata, Yuji Hidaka)

**O-06** Antimicrobial peptides acting against multi-drug resistant and bio-film forming bacterial infections

Nari Jeong<sup>2</sup>, M. Abul Farah<sup>2</sup>, Hae-Kyun Park<sup>2</sup>, Yoonkyung Park<sup>2,3</sup>, **Kyung-Soo Hahm**<sup>1,2</sup> (<sup>1</sup>Department of Cellular Molecular Medicine, College of Medicine, <sup>2</sup>Research Center for Proteinaceous Materials, <sup>3</sup>Department of Biotechnology, Chosun University)

**O-07** Analysis of antibacterial peptide activity using flow cytometry

**Neil M. O' Brien-Simpson**<sup>1</sup>, Troy J. Attard<sup>1</sup>, Katrina A. Walsh<sup>1</sup>, Carrie Chen<sup>2</sup>, Eric C. Reynolds<sup>1</sup> (<sup>1</sup>CRC for Oral Health Science, Melbourne Dental School, The University of Melbourne, <sup>2</sup>School of Dental Sciences, University of Liverpool)

**O-08** Trigonal conjugates of glutathione spontaneously self-assemble into nano-spheres in water

**Kazunori Matsuura**<sup>1,2</sup>, Takeshi Teramoto<sup>1</sup>, Keisuke Fujino<sup>1</sup>, Kazuya Murasato<sup>1</sup>, Nobuo Kimizuka<sup>1</sup> (<sup>1</sup>Graduate School of Engineering, Kyushu University, <sup>2</sup>PRESTO-JST)

**O-09** Construction of peptide array systems focusing on protein detection, Production of peptide and glycopeptide libraries and development of novel materials for microarrays

Kiyoshi Nokihara<sup>1</sup>, Akiyoshi Hirata<sup>1</sup>, Yasushi Takebayashi<sup>2</sup>, Takafumi Ohyama<sup>1</sup>, Takayasu Kawasaki<sup>1</sup>, Naeko Miyazato<sup>1</sup>, Yukiko Kodama<sup>1</sup>, Noriko Ono<sup>1</sup>, Tetsuya Sogon<sup>1</sup>, Kanae Suzuki<sup>1</sup>, Midori Miyajima<sup>1</sup>, Yasuo Oka<sup>2</sup> (<sup>1</sup>HiPep Laboratories, Kyoto, <sup>2</sup>Nippon Light Metal Company, Ltd.)

**11:55-13:00            Lunch Break**

**13:00-13:50        General Meeting of the Japanese Peptide Society**

**14:00-14:30        Lecture of the Young Investigator Award**  
(Chair: Kenichi Akaji)

**14:30-15:10        Lecture of the Akabori Memorial Award**  
(Chair: Yoshio Okada)

**15:10-15:25            Coffee Break**

**15:25-16:05        Invited Lectures** (Chair: Kozo Nakamura, Hisakazu Mihara)

**K-1**        Effects of asymmetric arginine dimethylation on RNA binding peptides. Methylation of the REV peptide either reduces or increases the binding affinity for RRE RNA  
Jaehoon Yu (Department of Chemistry and Education, Seoul National University)

**K-2**        Transcription factor-based molecular therapy for experimental hindlimb ischemia  
Jonghoe Byun (Department of Molecular Biology, BK21 Graduate Program for RNA biology, Institute of Nanosensor and Biotechnology, Dankook University)

**16:15-17:45        Poster Presentations; even numbers (2F Zuiun, Heian)**

**18:00-20:00            Banquet (2F Fukuju, Togen)**

## **October 31 (Friday)**

### **Oral Presentations**

**(5F Big Hall)**

**(lecture 12 min + discussion 4 min)**

**9:10-10:15**        (Chair: Akira Otaka, Kazuyasu Sakaguchi)

**O-10**        Calcitonin receptor-stimulating peptide and calcitonin/calcitonin gene-related peptide: Their evolutionary and functional relation in mammals

Naoto Minamino<sup>1</sup>, Tsukasa Osaki<sup>1</sup>, Hiroshi Yasue<sup>2</sup>, Takeshi Katafuchi<sup>1</sup> (<sup>1</sup>National Cardiovascular Center Research Institute, <sup>2</sup>National Institute of Agrobiological Sciences)

**O-11**        Synthetic studies on callipeltins B and E isolated from marine sponge

Hiroyuki Konno, Kazuto Nosaka, Kenichi Akaji (Department of Chemistry, Graduate School of Medical Science, Kyoto Prefectural University of Medicine)

**O-12**        Crotalphine, a highly potent analgesic peptide from the venom of the South American rattlesnake *Crotalus durissus terrificus*

Katsuhiro Konno<sup>1</sup>, Gisele Picolo<sup>2</sup>, Vanessa Gutierrez<sup>2</sup>, Patricia Brigatte<sup>2</sup>, Vanessa Zambelli<sup>2</sup>, Antonio C. M. Camargo<sup>1</sup>, Yara Cury<sup>2</sup> (<sup>1</sup>Applied Toxinology Center, Butantan Institute, <sup>2</sup>Laboratory of Pathophysiology, Butantan Institute)

- O-13** Synthesis of marinostatin, an ester-linked protein protease inhibitor from marine *Pseudoalteromonas sagamiensis*

**Misako Taichi**<sup>1,2</sup>, Toshimasa Yamazaki<sup>3</sup>, Terutoshi Kimura<sup>1</sup>, Yuji Nishiuchi<sup>1,2</sup> (<sup>1</sup>SAITO Research Center, Peptide Institute, Inc., <sup>2</sup>Department of Chemistry, Graduate School of Science, Osaka University, <sup>3</sup>Protein Research Unit, National Institute of Agrobiological Sciences)

**10:15-10:35 Coffee Break**

- 10:35-11:55** (Chair: Shiroh Futaki, Takeru Nose)

- O-14** Development of gold nanorods that accumulate into tumor

**Takuro Niidome**<sup>1,2,3</sup>, Akira Ohga<sup>1</sup>, Yasuro Niidome<sup>1</sup>, Takeshi Mori<sup>1,2</sup>, Yoshiki Katayama<sup>1,2</sup> (<sup>1</sup>Faculty of Engineering, Kyushu University, <sup>2</sup>Center for Future Chemistry, Kyushu University, <sup>3</sup>PRESTO, Japan Science and Technology Agency)

- O-15** Detection of IgE binding peptide employing in silico spot method and complementary peptide theory

**Taiki Kojima** (Aichi Cancer Center Aichi Hospital, Department of Surgery)

- O-16** High-throughput screening method for ligand peptides using capillary electrophoresis-mass spectrometry (CE-MS)

**Kazuki Saito**<sup>1,2</sup>, Mamiko Nakato<sup>3</sup>, Takaaki Mizuguchi<sup>3</sup>, Hiromasa Uchimura<sup>1</sup>, Shigeyuki Yokoyama<sup>2,4</sup>, Hiroshi Hirota<sup>2</sup>, Yoshiaki Kiso<sup>3</sup> (<sup>1</sup>Laboratory of Proteomic Sciences, 21st Century COE Program, Kyoto Pharmaceutical University, <sup>2</sup>Protein Research Group, RIKEN Genomic Sciences Center, <sup>3</sup>Department of Medicinal Chemistry, Center for Frontier Research in Medicinal Science and 21st Century COE Program, Kyoto Pharmaceutical University, <sup>4</sup>Department of Biophysics and Biochemistry, Graduate School of Science, University of Tokyo)

- O-17** Site-specific modification of amyloid beta peptides by cholesterol oxidation derivatives induces nanomolar aggregation

**Kenji Usui**<sup>1,2</sup>, Evan T. Powers<sup>1</sup>, Johan F. Paulsson<sup>1</sup>, Sarah J. Siegel<sup>1</sup>, Jeffery W. Kelly<sup>1</sup> (<sup>1</sup>The Scripps Research Institute and The Skaggs Institute for Chemical Biology, <sup>2</sup>Graduate School of Bioscience and Biotechnology, Tokyo Institute of Technology)

- O-18** Prevention of peptide aggregation by Non-detergent sulfobetaines (NDSBs)

**Kaori Wakamatsu**<sup>1</sup>, Ayaka Takei<sup>1</sup>, Yoshihiko Inaoka<sup>1</sup>, Long Xian<sup>1</sup>, Kanako Kobori<sup>1</sup>, Seri Kato<sup>1</sup>, Toshiyuki Kohno<sup>2</sup>, Nobukazu Nameki<sup>1</sup> (<sup>1</sup>Graduate School of Engineering, Gunma University, <sup>2</sup>MITILS)

**11:55-13:00 Lunch Break**

- 13:00-13:40 Invited Lecture** (Chair: Motoyoshi Nomizu)

- I-1** Development of peptides as new drug toward neurotrophic disease of the cornea

**Teruo Nishida** (Graduate School of Medicine, Yamaguchi University)

- 13:40-14:30** (Chair: Takuro Niidome, Hidehito Mukai)

- O-19** Pharmacokinetic study of the collagen-mimetic peptides in the blood of rat

**Hirovuki Yasui**<sup>1</sup>, Hiroaki Matsumoto<sup>1</sup>, Mika Uehara<sup>1</sup>, Yutaka Yoshikawa<sup>1</sup>, Takaki Koide<sup>2</sup> (<sup>1</sup>Department of Analytical and Bioinorganic Chemistry, Division of Analytical and Physical Sciences, Kyoto Pharmaceutical University, <sup>2</sup>Department of Chemistry and Biochemistry, Faculty of Advanced Science and Engineering, Waseda University)

- O-20** Utility of plasma bioactive peptides levels as biomarkers

**Fumihiko Katagiri**<sup>1</sup>, Kazuyuki Nagai<sup>2</sup>, Kenji Tomita<sup>3</sup>, Atsushi Kida<sup>2</sup>, Shinya Oishi<sup>3</sup>, Hiroki Itoh<sup>1</sup>, Ryuichiro Doi<sup>2</sup>, Nobutaka Fujii<sup>3</sup>, Masaharu Takeyama<sup>1</sup> (<sup>1</sup>Department of Clinical Pharmacy, Oita University Hospital, <sup>2</sup>Division of Hepato-Biliary-Pancreatic

- Surgery and Transplantation, Department of Surgery, Graduate School of Medicine, Kyoto University, <sup>3</sup>Graduate School of Pharmaceutical Sciences, Kyoto University)
- O-21** Novel glycopeptides that regulate phenoloxidase activity during metamorphosis of the housefly  
Chihiro Awada<sup>1,2</sup>, Rinako Yoshida<sup>1</sup>, Toshifumi Takao<sup>2</sup>, **Takashi Sato<sup>1</sup>** (<sup>1</sup>Department of Applied Biochemistry and Food Science, Saga University, <sup>2</sup>Institute for Protein Research, Osaka University)

**14:30-14:45 Coffee Break**

**14:45-16:05** (Chair: Hirokazu Tamamura, Yoshio Hayashi)

- O-22** Ultrasound imaging and gene delivery by AG73-modified bubble liposomes  
**Yoichi Negishi<sup>1</sup>**, Yuka Tsunoda<sup>1</sup>, Nobuhito Hamano<sup>1</sup>, Yoko Endo<sup>1</sup>, Norio Takagi<sup>1</sup>, Ryo Suzuki<sup>2</sup>, Kazuo Maruyama<sup>2</sup>, Chojamts Batsuren<sup>3</sup>, Makoto Emoto<sup>3</sup>, Motoyoshi Nomizu<sup>1</sup>, Yukihiro Aramaki<sup>1</sup> (<sup>1</sup>School of Pharmacy, Tokyo University of Pharmacy and Life Sciences, <sup>2</sup>School of Pharmaceutical Sciences, Teikyo University, <sup>3</sup>Department of Obstetrics & Gynecology, Fukuoka University Medical School)
- O-23** Efficient cellular uptake of Flock house virus derived peptide  
**Ikuhiko Nakase**, Hisaaki Hirose, Shiroh Futaki (Institute for Chemical Research, Kyoto University)
- O-24** Visualizing Internalization of membrane receptors using new fluorescence labeling method  
**Yoshiaki Yano**, Katsumi Matsuzaki (Graduate School of Pharmaceutical Sciences, Kyoto University)
- O-25** The biological evaluations of cyclic bifunctional peptide derivatives processing opioid agonist and NK1 antagonist activities  
**Takashi Yamamoto<sup>1,3</sup>**, Padma Nair<sup>1</sup>, Tally M. Largent-Milnes<sup>2</sup>, Neil E. Jacobsen<sup>1</sup>, Peg Davis<sup>2</sup>, Shou-wu Ma<sup>2</sup>, Edita Navratilova<sup>2</sup>, Josephine Lai<sup>2</sup>, Henry I. Yamamura<sup>2</sup>, Todd W. Vanderah<sup>2</sup>, Frank Porreca<sup>2</sup>, Victor J. Hruby<sup>1</sup> (<sup>1</sup>Departments of Chemistry and <sup>2</sup>Pharmacology, University of Arizona, <sup>3</sup>Pharmaceutical Research Laboratories, Pharmaceutical Company, Ajinomoto Co., Inc.)
- O-26** Small peptide-based medicinal chemistry for intractable disease  
**Yoshio Hayashi<sup>1</sup>**, Yuri Yamazaki<sup>1</sup>, Shigenobu Nishiguchi<sup>2</sup>, Thomas Regnier<sup>2</sup>, Yuki Mori<sup>1</sup>, Akihiro Taguchi<sup>1</sup>, Yoshiaki Kiso<sup>2</sup> (<sup>1</sup>Department of Medicinal Chemistry, Tokyo University of Pharmacy and Life Sciences, <sup>2</sup>Department of Medicinal Chemistry, Center for Frontier Research in Medicinal Science, Kyoto Pharmaceutical University)

**16:05-16:20 Closing Remarks** (Motoyoshi Nomizu)

**Poster Presentations**  
(2F Zuiun/Heian)  
(discussion 90 min)

**Odd number; October 29 (Wednesday) 17:00-18:30**

**Even number; October 30 (Thursday) 16:15-17:45**

**Set up; October 29 (Wednesday) by 13:00**

**Removal; October 31 (Friday) by 13:00**

- P-001** Inhibition by aromatic sulfinates of the reactions between orthoquinones formed by the enzymatic oxidation of orthodiphenols and amino acid residues of proteins  
Atsushi Hiraoka (Faculty of Health Sciences, Kyorin University)
- P-002** Stereocontrolled synthesis of  $\alpha$ ,  $\beta'$ -disubstituted aminomethyl (2-carboxyethyl) phosphinates as phosphinyl dipeptide isosteres  
Terumitsu Haruki, Hiroyuki Ichikawa, Jun-ichirou Mori, Takehiro Yamagishi, Sadao Hikishima, Tsutomu Yokomatsu (School of Pharmacy, Tokyo University of Pharmacy and Life Sciences)
- P-003** Synthesis and determination of chirality of optically active  $\alpha$ -cycloalkylalanines  
Takashi Yamada<sup>1</sup>, Tomoko Okumura<sup>1</sup>, Rina Mizukoshi<sup>1</sup>, Takashi Murashima<sup>1</sup>, Toshifumi Miyazawa<sup>1</sup>, Yasuko In<sup>2</sup> (<sup>1</sup>Faculty of Science and Engineering, Konan University, <sup>2</sup>Osaka University of Pharmaceutical Sciences)
- P-004** Synthesis and conformational study of tri- and hexapeptides containing  $\alpha$ , $\alpha$ -di (2-pyridyl) glycine  
Takashi Yamada, Yoshihiro Nishimaoto, Takashi Murashima, Toshifumi Miyazawa (Faculty of Science and Engineering, Konan University)
- P-005** Computational study on helical structure of  $\alpha$ , $\alpha$ -disubstituted oligopeptides containing chiral  $\alpha$ -amino acids  
Masaaki Kurihara<sup>1</sup>, Yukiko Sato<sup>1</sup>, Nanako Yamagata<sup>1</sup>, Haruhiro Okuda<sup>1</sup>, Masanobu Nagano<sup>2</sup>, Yosuke Demizu<sup>2</sup>, Mitsunobu Doi<sup>3</sup>, Masakazu Tanaka<sup>2</sup>, Hiroshi Suemune<sup>2</sup> (<sup>1</sup>National Institute of Health Sciences, <sup>2</sup>Graduate School of Pharmaceutical Sciences, Kyushu University, <sup>3</sup>Osaka University of Pharmaceuticals Sciences)
- P-006** Synthesis of amino acid derivatives having a long alkyl chain, and their application to peptide synthesis  
Ayumi Suzuki<sup>1</sup>, Yasushi Suzuki<sup>1</sup>, Kuramochi Mayuko<sup>1</sup>, Toshiyuki Inazu<sup>1,2</sup> (<sup>1</sup>Department of Applied Chemistry, School of Engineering, Tokai University, <sup>2</sup>Institute of Glycoscience, Tokai University)
- P-007** Synthesis and immunostimulatory activities of lipopeptides from Gram-positive bacteria  
Mami Katsumoto<sup>1</sup>, Yukari Fujimoto<sup>1</sup>, Maiko Furuyashiki<sup>2</sup>, Masahito Hashimoto<sup>3</sup>, Yasuo Suda<sup>3</sup>, Koichi Fukase<sup>1</sup> (<sup>1</sup>Department of Chemistry, Graduate School of Science, Osaka University, <sup>2</sup>Kagoshima University Innovation Center, <sup>3</sup>Graduate School of Science and Engineering, Kagoshima University)
- P-008** Host-guest study of collagen model peptide with pipecolic acid  
Sonu Ram Shankar<sup>1</sup>, Yuji Tanaka<sup>2</sup>, Tamaki Kato<sup>1</sup>, Norikazu Nishino<sup>1</sup> (<sup>1</sup>Graduate school of Life Science and Systems Engineering, Kyushu Institute of Technology, <sup>2</sup>Faculty of Engineering, Kyushu Kyoritsu University)
- P-009** Design and synthesis of chiral cyclic  $\alpha$ , $\alpha$ -disubstituted amino acid having azido functions and its oligopeptides  
Hiroomi Takazaki<sup>1</sup>, Masakazu Tanaka<sup>1</sup>, Naomi Kawabe<sup>1</sup>, Masanobu Nagano<sup>1</sup>, Mitsunobu Doi<sup>2</sup>, Masaaki Kurihara<sup>3</sup>, Hiroshi Suemune<sup>1</sup> (<sup>1</sup>Graduate School of Pharmaceutical Sciences, Kyushu University, <sup>2</sup>Osaka University of Pharmaceutical Sciences, <sup>3</sup>Division of Organic Chemistry, National Institute of Health Sciences)

- P-010** Diastereoselective synthesis of (Z)-fluoroalkene dipeptide isostere and the application to HIV membrane fusion inhibitor  
Hirotaka Kamitani<sup>1</sup>, Yasuyo Kodera, Tetsuo Narumi, Hiroaki Ohno, Shinya Oishi, Nobutaka Fujii (Graduate School of Pharmaceutical Sciences, Kyoto University)
- P-011** Microwave accelerated hydrolysis of protein for the pretreatment of amino acid analysis  
Tomohiko Yoshimoto<sup>1</sup>, Satoko Matsuo<sup>1</sup>, Sinya Yamaoka<sup>2</sup>, Shokichi Ohuchi<sup>1</sup> (<sup>1</sup>Graduate School of Life Science and Systems Engineering, Kyushu Institute of Technology, <sup>2</sup>Shinryo Co., Ltd)
- P-012** Degradation behavior of amino acids in case of the acid hydrolysis of protein under microwave irradiation  
Daisuke Wakino<sup>1</sup>, Hiroyuki Nakamura<sup>1</sup>, Tomohiko Yoshimoto<sup>1</sup>, Sinya Yamaoka<sup>2</sup>, Shokichi Ohuchi<sup>1</sup> (<sup>1</sup>Graduate School of Life Science and Systems Engineering, Kyushu Institute of Technology, <sup>2</sup>Shinryo Co. Ltd)
- P-013** Derivatization reaction of amino acids by use of microwave effect  
 Hiroya Osoegawa, Tomohiko Yoshimoto, Kazuyasu Konko, Shokichi Ohuchi (Graduate School of Life Science and Systems Engineering, Kyushu Institute of Technology)
- P-014** Chemical synthesis of 71-meric neuregulin 1-β1  
Taeko Kakizawa<sup>1</sup>, Shizuyo Koide-Yoshida<sup>2</sup>, Tooru Kimura<sup>1</sup>, Takaaki Mizuguchi<sup>1</sup>, Hiromasa Uchimura<sup>2</sup>, Yoshio Hayashi<sup>3</sup>, Kazuki Saito<sup>2</sup>, Yoshiaki Kiso<sup>1</sup>. (<sup>1</sup>Department of Medicinal Chemistry, Center for Frontier Research in Medicinal Science, 21st Century COE Program, Kyoto Pharmaceutical University, <sup>2</sup>Laboratory of Proteomic Sciences, 21st Century COE Program, Kyoto Pharmaceutical University, <sup>3</sup>Department of Medicinal Chemistry, School of Pharmacy, Tokyo University of Pharmacy and Life Sciences.)
- P-015** A novel ω- CONOTOXIN FVIA from Korean cone snail  
Seungkyu Lee<sup>1</sup>, Juyeon Lee<sup>1</sup>, Hyunho Jung<sup>1</sup>, Jaeha Ryu<sup>1</sup>, Sunghun Rho<sup>1</sup>, Seung-Yeol Nah<sup>6</sup>, Hyewhon Rhim<sup>5</sup>, Hong-Won Suh<sup>4</sup>, Heung Sik Na<sup>3</sup>, Hyun-Jeong Kim<sup>2</sup>, Jae Il Kim<sup>1</sup>
- P-016** Synthesis of peptide thioester by the cysteinyl proline ester (CPE) method  
Toru Kawakami, Saburo Aimoto (Institute for Protein Research, Osaka University)
- P-017** Development of an effective synthesis method for the automatic solution-phase peptide synthesizer  
Keisuke Abe<sup>1</sup>, Yuduru Mikami<sup>2</sup>, Ai Tsuruyama<sup>1</sup>, Teruaki Higashiguchi<sup>1</sup>, Kazuhiro Chiba<sup>2</sup> (<sup>1</sup>Glycomics Research Laboratory, Moritex corporation, <sup>2</sup>Laboratory of Bio-organic Chemistry, Tokyo University of Agriculture and Technology)
- P-018** The application of peptide thioacids to NCL-type sequential condensation of peptide fragments  
Yoshitake Sumikawa, Shugo Tsuda, Akira Shigenaga, Akira Otaka (Institute of Health Biosciences and Graduate School of Pharmaceutical Science, The University of Tokushima)
- P-019** Development a novel amino protecting group efficient for the peptide condensation reaction by the thioester method  
Hidekazu Katayama, Takumi Utsumi, Hironobu Hojo, Yoshiaki Nakahara (Department of Applied Biochemistry, Institute of Glycoscience, Tokai University)
- P-020** Synthesis of O-linked β-N-acetylglucosamine-containing peptides by the Boc strategy employing the HF procedure for final deprotection  
Kumiko Yoshizawa-Kumagaye<sup>1</sup>, Mitsutaka Ogawa<sup>2</sup>, Kazuo Kamemura<sup>2</sup>, Shuji Isaka<sup>1</sup>, Tadashi Teshima<sup>1,3</sup>, Tomoko Urabe<sup>1</sup>, Toshihiro Yamamoto<sup>1</sup>, Yuji Nishiuchi<sup>1,3</sup> (<sup>1</sup>SAITO Research Center, Peptide Institute, Inc., <sup>2</sup>Department of Bio-Science, Nagahama Institute of Bio-Science and Technology, <sup>3</sup>Department of Chemistry, Graduate School of Science, Osaka University)
- P-021** Total Synthesis of Halipeptin D  
Masaru Sakaguchi, Sousuke Hara, Kazuishi Makino, Yasumasa Hamada (Graduate School of Pharmaceutical Sciences, Chiba University)
- P-022** Ribosomal synthesis of C-terminally modified peptides

- Eiji Nakajima**<sup>1</sup>, Hiroshi Murakami<sup>2</sup>, Hiroaki Suga<sup>1,2</sup> (<sup>1</sup>Graduate School of Engineering, The University of Tokyo, <sup>2</sup>Research Center for Advanced Science and Technology, The University of Tokyo)
- P-023** Isopeptide method: A racemization-free peptide synthesis by segment condensation  
**Taku Yoshiya**, Youhei Sohma, Tooru Kimura, Yoshiaki Kiso (Department of Medicinal Chemistry, Kyoto Pharmaceutical University)
- P-024** A novel S-acyl isopeptide method for the synthesis of difficult sequence-containing peptide  
**Nui Ito**, Taku Yoshiya, Tooru Kimura, Yoshiaki Kiso (Department of Medicinal Chemistry, Kyoto Pharmaceutical University)
- P-025** Synthetic studies on human glycodeilins  
**Takaomi Takenouchi**, Hironobu Hojo, Hidekazu Katayama, Yuko Nakahara, Yoshiaki Nakahara (Department of Applied Biochemistry, Institute of Glycoscience, Tokai University)
- P-026** Synthesis of voltage-dependent proton channel (VSOP)(121-222)  
**Ken'ichiroh Nakamura**, Toshiaki Hara, Tomoki Kanao, Takeshi Sato, Toru Kawakami, Saburo Aimoto (Institute for Protein Research, Osaka University)
- P-027** 2-Nitrobenzylcarbamate-type photocleavable linker having Fmoc-aminoalkoxy group, preparation and application to peptide purification  
**Toshiaki Hara**, Akira Tainosho, Toru Kawakami, Saburo Aimoto (Institute for Protein Research, Osaka University)
- P-028** Methylthio groups for thiol protection that realize the sequential ligation by native chemical ligation method, followed by thioester method  
**Yuichi Akai**, Lisa Takemura, Yuko Aoki, Masazumi Waseda, Toru Kawakami, Saburo Aimoto (Institute for Protein Research, Osaka University)
- P-029** Bioorganic synthesis of end-capped HIV-1 fusion inhibitor SC35EK  
**Kazumi Kajiwara**<sup>1,2</sup>, Rei Tokiwa<sup>1,2</sup>, Kentaro Watanabe<sup>1</sup>, Hiroaki Ohno<sup>1</sup>, Kazuki Izumi<sup>3</sup>, Eiichi Kodama<sup>3</sup>, Masao Matsuoka<sup>3</sup>, Shinya Oishi<sup>1</sup>, Nobutaka Fujii<sup>1</sup> (<sup>1</sup>Graduate School of Pharmaceutical Sciences, Kyoto University, <sup>2</sup>JST Innovation Plaza Kyoto, Japan Science and Technology Agency, <sup>3</sup>Institute for Virus Research, Kyoto University)
- P-030** Purification of peptide using selective reaction between aminooxy group and isothiocyanate group, followed by Edman degradation  
**Akira Tainosho**, Toshiaki Hara, Ken'ichiroh Nakamura, Toru Kawakami, Saburo Aimoto (Institute for Protein Research, Osaka University)
- P-031** Development of surface display technique for the mass-production of antimicrobial peptides using *Lactobacillus Casei*  
Seung Pyo Hong<sup>2</sup>, Byung Jo Chae<sup>4</sup>, Moon-Hee Sung<sup>2,3</sup>, Kyung-Soo Hahm<sup>1</sup>, **Yoonkyung Park**<sup>1</sup> (<sup>1</sup>Research Center for Proteinaceous Materials (RCPM), Chosun University, <sup>2</sup>BioLeaders Corp., <sup>3</sup>Dept. of Bio-Nanochemistry, Kookmin University, <sup>4</sup>Kangwon National University)
- P-032** Structural optimization of antimicrobial peptide agent Omigard<sup>TM</sup> by increasing the activity as surfactant and the ratio of  $\alpha$ -helical structure  
**Kota B Kodama**<sup>1</sup>, Takuya Watanabe<sup>1</sup>, Naoto Kishi<sup>2</sup>, Masaya Ishibashi<sup>2</sup>, Yasufumi Kataoka<sup>1</sup> (<sup>1</sup>Department of Pharmaceutical Care and Health Sciences, Faculty of Pharmaceutical Sciences, <sup>2</sup>Shinkasoyaku Corp.)
- P-033** Syntheses of gramicidin S analogues consisting of eleven amino acid residues  
**Ichiro Sasaki**<sup>1</sup>, Aya Shirane<sup>1</sup>, Yuki Nakao<sup>1</sup>, Sakie Hirochi<sup>1</sup>, Shingo Fujita<sup>1</sup>, Mitsuno Shindo<sup>2</sup>, Masahiro Kimura<sup>2</sup>, Yoshiki Uchida<sup>2</sup>, Makoto Tamaki<sup>1</sup> (<sup>1</sup>Department of Chemistry, Toho University, <sup>2</sup>Department of Food Science and Nutrition, Osaka Shoin Women's University)
- P-034** Syntheses of gramicidin S analogues containing cis-D-Phe-Propeptide bond  
**Ichiro Sasaki**<sup>1</sup>, Manabu Kokuno<sup>1</sup>, Mitsuno Shindo<sup>2</sup>, Masahiro Kimura<sup>2</sup>, Yoshiki Uchida<sup>2</sup>, Makoto Tamaki<sup>1</sup> (<sup>1</sup>Department of Chemistry, Toho University, <sup>2</sup>Department of Food Science and Nutrition, Osaka Shoin Women's University)

- P-035** Syntheses and properties of gratsisin analogues containing Ala residue  
Yoshiki Uchida<sup>1</sup>, **Masahiro Kimura**<sup>1</sup>, Mitsuno Shindo<sup>1</sup>, Ichiro Sasaki<sup>2</sup>, Shingo Fujita<sup>2</sup>, Aya Shirane<sup>2</sup>, Sakie Hirochi<sup>2</sup>, Makoto Tamaki<sup>2</sup> (<sup>1</sup>Department of Food Science and Nutrition, Osaka Shoin Women's University, <sup>2</sup>Department of Chemistry, Toho University)
- P-036** Functional analysis of heme regulatory motifs of rat heme oxygenase-2  
**Shota Nakashima**<sup>1</sup>, Yuichiro Higashimoto<sup>2</sup>, Masato Noguchi<sup>2</sup>, Hiroshi Sakamoto<sup>1</sup> (<sup>1</sup>Graduate School of Computer Science and Systems Engineering, Kyushu Institute of Technology, <sup>2</sup>Department of Medical Biochemistry, Kurume University School of Medicine)
- P-037** Characterization of lipid-binding domains in human serum amyloid A using its fragment peptides  
**Shinya Ohta**<sup>1</sup>, Masafumi Tanaka<sup>1</sup>, Toru Kawakami<sup>2</sup>, Saburo Aimoto<sup>2</sup>, Hiroyuki Saito<sup>1</sup> (<sup>1</sup>Department of Biophysical Chemistry, Kobe Pharmaceutical University, <sup>2</sup>Institute for Protein Research, Osaka University)
- P-038** Design and synthesis of Arg-containing-peptides having various secondary structures and their biological activities  
Hiroko Ide<sup>1</sup>, **Narumi Aoki**<sup>1</sup>, Shigeyuki Terada<sup>1</sup>, Yoshiki Uchida<sup>2</sup>, Masahide Kuroki<sup>3</sup>, Sannamu Lee<sup>1</sup> (<sup>1</sup>Department of Chemistry, Faculty of Science, and <sup>3</sup>Department of Biochemistry, School of Medicine, Fukuoka University, <sup>2</sup>Department of Food Science and nutrition, Osaka Shoin Women's University)
- P-039** Structural studies of [2',6'-dimethyl-L-tyrosine]endomorphin-2 analogues containing proline mimics  
**Yuko Tsuda**<sup>1,2</sup>, Anna Miyazaki<sup>1</sup>, Takashi Yamada<sup>3</sup>, Kaname Isozaki<sup>4</sup>, Yasuyuki Shimohigashi<sup>4</sup>, Akihiro Ambo<sup>5</sup>, Yusuke Sasaki<sup>5</sup>, Katsuhiko Minoura<sup>6</sup>, Yasuko In<sup>6</sup>, Toshimasa Ishida<sup>6</sup>, Yoshio Okada<sup>1</sup> (<sup>1</sup>Faculty of Pharmaceutical Sciences, <sup>2</sup>Life Science Center for Cooperative Research, Kobe Gakuin University, <sup>3</sup>Department of Chemistry, Faculty of Science and Engineering, Konan University, <sup>4</sup>Laboratory of Structure-Function Biochemistry, Faculty and Graduate School of Science, Kyushu University, <sup>5</sup>Tohoku Pharmaceutical University, <sup>6</sup>Osaka University of Pharmaceutical Sciences)
- P-040** An X-ray crystallographic study on HIV-1 fusion inhibitor against the drug-resistant N43D variant  
**Tsuyoshi Watabe**<sup>1</sup>, Shinya Oishi<sup>1</sup>, Kentaro Watanabe<sup>1</sup>, Hiroaki Nakano<sup>1,2</sup>, Toru Nakatsu<sup>1</sup>, Hiroaki Ohno<sup>1</sup>, Hiroaki Nakano<sup>1</sup>, Kazuki Izumi<sup>3</sup>, Eiichi Kodama<sup>3</sup>, Masao Matsuoka<sup>3</sup>, Nobutaka Fujii<sup>1</sup> (<sup>1</sup>Graduate School of Pharmaceutical Sciences, Kyoto University, <sup>2</sup>School of Pharmacy, Hyogo University of Health Sciences, <sup>3</sup>Institute for Virus Research, Kyoto University)
- P-041** Development of novel GPR54 agonists with resistance to degradation by MMP  
**Kenji Tomita**, Shinya Oishi, Hiroaki Ohno, Nobutaka Fujii (Graduate School of Pharmaceutical Sciences, Kyoto University)
- P-042** Importance of tyrosine residue for filament formation of tau microtubule-binding domain  
**Chisato Nishiura**<sup>1</sup>, Katsuhiko Minoura<sup>1</sup>, Miho Sumida<sup>2</sup>, Taizo Taniguchi<sup>2</sup>, Koji Tomoo<sup>1</sup>, Toshimasa Ishida<sup>1</sup> (<sup>1</sup>Osaka University of Pharmaceutical Sciences, <sup>2</sup>Behavioral and Medical Sciences Research Consortium)
- P-043** Synthesis and priming activities of cyclic peptides, Hymenamides  
**Mika Onai**<sup>1</sup>, Daisuke Sugiyama<sup>1</sup>, Satoshi Osada<sup>1</sup>, Ichiro Fujita<sup>2</sup>, Yuhei Hamasaki<sup>2</sup>, Hiroaki Kodama<sup>1</sup> (<sup>1</sup>Department of Chemistry, Faculty of Science and Engineering, Saga University, <sup>2</sup>Department of Pediatrics, Faculty of Medicine, Saga University)
- P-044** Antimicrobial activity of various aminocyclohexylcarbonyl-polymyxin B (2-10) derivatives  
**Keiko Okimura**, Yuki Sato, Kazuhiro Ohki, Kuniharu Ohnishi, Naoki Sakura (Faculty of Pharmaceutical Sciences, Hokuriku University)
- P-045** Synthesis and biological activity of alamethicin analogs enhanced by electrostatic interaction  
**Satoko Imamura**, Junichi Taira, Satoshi Osada, Hiroaki Kodama (Department of Chemistry, Faculty of Science and Engineering, Saga University)

- P-046** Insight into methionine side-chain recognition by the FPR utilizing sulfur mimetics  
Satoshi Osada<sup>1</sup>, Daisuke Sugiyama<sup>1</sup>, Momoko Sato<sup>1</sup>, Yuhei Hamasaki<sup>2</sup>, Ichiro Fujita<sup>2</sup>, Hiroaki Kodama<sup>1</sup> (<sup>1</sup>Department of Chemistry and Applied Chemistry, Faculty of Science & Engineering, Saga University, <sup>2</sup>Department of Pediatrics, Faculty of Medicine, Saga University)
- P-047** Synthesis and biological activity of dimeric chemotactic peptide antagonist  
Daisuke Sugiyama<sup>1</sup>, Yuki Hirakawa<sup>1</sup>, Satoshi Osada<sup>1</sup>, Ichiro Fujita<sup>2</sup>, Yuhei Hamasaki<sup>2</sup>, Hiroaki Kodama<sup>1</sup> (<sup>1</sup>Department of Chemistry, Faculty of Science and Engineering, Saga University, <sup>2</sup>Department of Pediatrics, Faculty of Medicine, Saga University)
- P-048** Synthesis and opioid properties of endomorphin-2 analogues containing 4-imidazolidinone ring  
Akihiro Ambo, Hiroshi Komatsu, Kei Tanno, Yusuke Sasaki (Tohoku Pharmaceutical University)
- P-049** Structure activity relationship study on the helix-inducible motifs of HIV fusion inhibitor  
Kentaro Watanabe<sup>1</sup>, Saori Ito<sup>1</sup>, Hiroaki Ohno<sup>1</sup>, Kazuki Izumi<sup>2</sup>, Eiichi Kodama<sup>2</sup>, Masao Matsuoka<sup>2</sup>, Shinya Oishi<sup>1</sup>, Nobutaka Fujii<sup>1</sup> (<sup>1</sup>Graduate School of Pharmaceutical Sciences, Kyoto University, <sup>2</sup>Institute for Virus Research, Kyoto University)
- P-050** Design, synthesis, and antiangiogenic activity of the vitamin D binding protein-macrophage activating factor (DBP-maf)-derived synthetic peptides  
Yusuke Kohno<sup>1</sup>, Ai Tsuruyama<sup>1</sup>, Shuji Fujita<sup>1</sup>, Tomio Nagano<sup>1</sup>, Kazuhiro Chiba<sup>2</sup>, Eiji Nakata<sup>3</sup>, Yoshinori Uto<sup>3</sup>, Hitoshi Hori<sup>3</sup>, Nariaki Matsuura<sup>4</sup>, Shinya Onizuka<sup>5</sup> (<sup>1</sup>Jitsubo Co.,Ltd., <sup>2</sup>Laboratory of Bio-organic Chemistry, Tokyo University of Agriculture and Technology, <sup>3</sup>Department of Life System, Institute of Technology and Science, Graduate School, The University of Tokushima, <sup>4</sup>Department of Molecular Pathology, Osaka University Graduate School of Medicine and Health Science, <sup>5</sup>Department of Surgery/Clinical research center National Hospital Organization (NHO) Nagasaki Medical Center)
- P-051** Histidines as structurally essential residue for the delta opioid receptor activation  
Takashi Matsuo, Jinglan Li, Kaname Isozaki, Takeru Nose, Yasuyuki Shimohigashi (Laboratory of Structure-Function Biochemistry, Department of Chemistry, Faculty and Graduate School of Sciences)
- P-052** Molecular mechanism of  $\alpha$ -helix peptide that inhibits intermolecular interaction of prion protein N-terminal tetrapeptide domain  
Keita Koga, Takeru Nose, Yuji Horiuchi, and Yasuyuki Shimohigashi (Laboratory of Structure-Function Biochemistry, Department of Chemistry, Faculty and Graduate School of Sciences)
- P-053** The effects of Arg  $\rightarrow$  Trp and Lys  $\rightarrow$  Trp substitutions for Arg-Lys14-15 residues in a superagonist [Arg-Lys14-15]Nociceptin on the ORL1 receptor binding and activation  
Hirokazu Nishimura<sup>1</sup>, Jinglan Li<sup>1</sup>, Kaname Isozaki<sup>1</sup>, Okada Kazushi<sup>1</sup>, Takeru Nose<sup>1</sup>, Tommaso Costa<sup>2</sup>, Yasuyuki Shimohigashi<sup>1</sup> (<sup>1</sup>Laboratory of Structure-Function Biochemistry, Kyushu University, <sup>2</sup>Laboratorio di Farmacologia, Istituto Superiore di Sanita, Italy)
- P-054** Structure-function relationship of Yamamarin from the wild silkworm  
Keisuke Oyauchi<sup>1</sup>, Masakatsu Kamiya<sup>1</sup>, Takuya Yokoyama<sup>2</sup>, Wang Mofei<sup>2</sup>, Tomoyasu Aizawa<sup>2</sup>, Makoto Demura<sup>1</sup>, Koichi Suzuki<sup>3</sup>, Keiichi Kawano<sup>2</sup> (<sup>1</sup>Graduate School of Life Sciences, Hokkaido University, <sup>2</sup>Graduate School of Sciences, Hokkaido University, <sup>3</sup>Faculty of Agriculture, Iwate University)
- P-055** Diastereomer-specific effects of modified double-stranded peptides for HuH-7, NB-1 and A431 cells growth inhibition  
Shigeki Kobayashi, Shiori Tanaka, Aiko Ishigami, Toshiyuki Chikuma (Showa Pharmaceutical University)
- P-056** Structure-activity relationship study of CXCR4 antagonists on the cyclic pentapeptide scaffold: identification of new pharmacophore moieties  
Tomohiro Tanaka<sup>1</sup>, Hiroshi Tsutsumi<sup>1</sup>, Wataru Nomura<sup>1</sup>, Yasuaki Tanabe<sup>1,2</sup>, Nami Ohashi<sup>1</sup>, Ai Esaka<sup>3</sup>, Chihiro Ochiai<sup>1</sup>, Jun Sato<sup>1</sup>, Kyoko Itotani<sup>1</sup>, Tsutomu Murakami<sup>4</sup>,

Kenji Ohba<sup>4</sup>, Naoki Yamamoto<sup>4</sup>, Nobutaka Fujii<sup>3</sup>, Hirokazu Tamamura<sup>1,2</sup> (<sup>1</sup>Institute of Biomaterials and Bioengineering, Tokyo Medical and Dental University, <sup>2</sup>School of Biomedical Science, Tokyo Medical and Dental University, <sup>3</sup>Graduate School of Pharmaceutical Sciences, Kyoto University, <sup>4</sup>AIDS Research Center, National Institute of Infectious Diseases)

**P-057** Finding of the chaperone peptide

**Aya Kojima**, Motomi Konishi, Masatoshi Nishi, Toshifumi Akizawa (Faculty of Pharmaceutical Science, Setsunan University)

**P-058** Cyclic  $\beta$ -sheet antimicrobial peptides with environment-sensitive fluorophores: Photophysical properties and molecular orientation in lipid bilayers

**Keiichi Yamada**<sup>1</sup>, Toshitada Yoshihara<sup>1</sup>, Takashi Katsu<sup>2</sup>, Hiroyuki Oku<sup>1</sup>, Seiji Tobita<sup>1</sup> (<sup>1</sup>Department of Chemistry and Chemical Biology, Gunma University, <sup>2</sup>Graduate School of Medicine, Dentistry and Pharmaceutical Sciences, Okayama University)

**P-059** Influences of a single amino acid deletion on lipid binding of human apolipoprotein A-I C-terminal peptides

**Toshitaka Tanaka**<sup>1</sup>, Mariko Nakadera<sup>1</sup>, Maki Iwata<sup>1</sup>, Masafumi Tanaka<sup>1</sup>, Sissel Lund-Katz<sup>2</sup>, Hiroyuki Saito<sup>1</sup> (<sup>1</sup>Department of Biophysical Chemistry, Kobe Pharmaceutical University, <sup>2</sup>The Children's Hospital of Philadelphia, University of Pennsylvania School of Medicine)

**P-060** Development of a novel bioassay system for pheromone biosynthesis-activating neuropeptide (PBAN) using the *Bombyx* PBAN receptor expressed in insect cells

**Takeshi Kawai**<sup>1</sup>, Arisa Sugisaka<sup>1</sup>, J. Joe Hull<sup>2</sup>, Shogo Matsumoto<sup>2</sup>, Koji Nagata<sup>1</sup>, Masaru Tanokura<sup>1</sup>, Hiromichi Nagasawa<sup>1</sup> (<sup>1</sup>Department of Applied Biological Chemistry, Graduate School of Agricultural and Life Sciences, The University of Tokyo, <sup>2</sup>Molecular Entomology Laboratory, RIKEN)

**P-061** Analysis of coacervation properties of Ile-containing elastin-derived pentapeptide analogues

**Iori Maeda**, Junko Ebina, Suguru Taniguchi, Machiko Nishihara, Eri Shiratsuchi, Kouji Okamoto (Department of Bioscience and Bioinformatics, Kyushu Institute of Technology)

**P-062** Biological activities of loop regions in the laminin alpha chain G domains

**Toshihiro Hara**, Yuji Yamada, Shunsuke Urushibata, Kentaro Hozumi, Yamato Kikkawa, Motoyoshi Nomizu (School of Pharmacy, Tokyo University of Pharmacy and Life Sciences)

**P-063** Screening amyloid-like structure forming peptides from laminin

**Yuzo Taguchi**<sup>1</sup>, Koichi Okabe<sup>2</sup>, Kentaro Hozumi<sup>2</sup>, Yamato Kikkawa<sup>2</sup>, Motoyoshi Nomizu<sup>2</sup> (<sup>1</sup>School of Life Sciences and <sup>2</sup>School of Pharmacy, Tokyo University of Pharmacy and Life Sciences)

**P-064** Improved proteolytic stability and blood glucose-lowering activity of glycosylated glucagon-like peptide 1

**Taichi Ueda**<sup>1</sup>, Kazuyoshi Tomita<sup>1</sup>, Yoshihide Notsu<sup>1</sup>, Takaomi Ito<sup>1,2</sup>, Masataka Fumoto<sup>1</sup>, Tomoaki Takakura<sup>1</sup>, Hirofumi Nagatome<sup>1</sup>, Akio Takimoto<sup>1</sup>, Shin-Ichi Mihara<sup>1</sup>, Hiroko Togame<sup>1</sup>, Keiko Kawamoto<sup>1</sup>, Takanori Iwasaki<sup>1</sup>, Kenji Asakura<sup>1</sup>, Takeo Oshima<sup>1</sup>, Koji Hanasaki<sup>1</sup>, Shin-Ichiro Nishimura<sup>2</sup>, Hirosato Kondo<sup>1</sup> (<sup>1</sup>Shionogi & Co., Ltd., <sup>2</sup>Graduate School of Advanced Life Science, Hokkaido University)

**P-065** Structural requirement of 7-azabicyclo[2.2.1]hept-2-ene that functions as WIP1 inhibitor

Suhkmann Kim<sup>1</sup>, Eun Sik Pak<sup>1</sup>, Song Yub Shin<sup>2</sup>, Ka Hyon Park<sup>2</sup>, Joo Hee Jung<sup>3</sup>, Mi Sook Won<sup>4</sup>, Shin Won Kwang<sup>1</sup>, **Jeong-Kyu Bang**<sup>4</sup> (<sup>1</sup>Department of Chemistry, Pusan National University, <sup>2</sup>Research Center for Proteinaceous Materials and Department of Cellular & Molecular Medicine School of Medicine, Chosun University, <sup>3</sup>Korea Basic Science Institute (KBSI), <sup>4</sup>Korea Basic Science Institute (KBSI))

**P-066** Transdermal delivery of insulin by combination of liposomes and iontophoresis

**Kentaro Kogure**<sup>1</sup>, Masahiko Yamamoto<sup>2</sup>, Misuzu Watanabe<sup>2</sup>, Akiyoshi Saito<sup>3</sup>, Kiyoshi Kanemura<sup>3</sup>, Hideyoshi Harashima<sup>2</sup>, Kazuaki Kajimoto<sup>2</sup> (<sup>1</sup>Department of Biophysical

- Chemistry, Kyoto Pharmaceutical University, <sup>2</sup>Japan Faculty of Pharmaceutical Sciences, Hokkaido University, <sup>3</sup>TTI-ellebeau Inc.)
- P-067** Small-sized CD4 mimic targeted for dynamic supramolecular mechanism of HIV-1 entry  
Chihiro Ochiai<sup>1</sup>, Yuko Yamada<sup>1</sup>, Kazuhisa Yoshimura<sup>2</sup>, Tomohiro Tanaka<sup>1</sup>, Hiroshi Tsutsumi<sup>1</sup>, Wataru Nomura<sup>1</sup>, Hiroyuki Masuno<sup>1</sup>, Kyoko Itotani<sup>1</sup>, Junji Shibata<sup>1</sup>, Makiko Hatada<sup>2</sup>, Shuzo Matsushita<sup>2</sup>, Hirokazu Tamamura<sup>1,3</sup> (<sup>1</sup>Institute of Biomaterials of and Bioengineering, Tokyo Medical and Dental University, <sup>2</sup>Center for AIDS Research, Kumamoto University, <sup>3</sup>School of Biomedical Science, Tokyo Medical and Dental University)
- P-068** Biodistribution characteristics of surface charge improved lysine dendrimers after intravenous injection in mice  
Tatsuya Okuda<sup>1</sup>, Shigeru Kawakami<sup>2</sup>, Tadahiro Maeie<sup>2</sup>, Fumiyoshi Yamashita<sup>2</sup>, Mitsuru Hashida<sup>2,3</sup> (<sup>1</sup>Department of Biomolecular Chemistry, Institute for Materials Chemistry and Engineering, Kyushu University, <sup>2</sup>Department of Drug Delivery Research, Graduate School of Pharmaceutical Sciences, Kyoto University, <sup>3</sup>Institute for Integrated Cell-Material Sciences (iCeMS), Kyoto University)
- P-069** Anti-diabetic effects of glucagon/secretin family peptides (3) -Protective effects of PACAP and its analogs on apoptotic death of rat pancreatic  $\beta$ -cells-  
Junko Hanato, Kazuki Kuriyama, Satomi Onoue, Shizuo Yamada (School of Pharmaceutical Sciences, University of Shizuoka)
- P-070** Cryptide signaling and the exocytotic mechanisms induced by amphiphilic peptides  
Hidehito Mukai<sup>1,2,3</sup>, Nobuhiko Ueki<sup>2</sup>, Kazuya Someya<sup>2,4</sup>, Masanori Kawanami<sup>2</sup>, Yuko Matsuo<sup>2</sup>, Mayumi Kiyama<sup>2</sup>, Rie Kamijo<sup>2</sup>, Mihar Kikuchi<sup>3</sup>, Shigetomo Fukuhara<sup>3,5</sup>, Eisuke Munekata<sup>3</sup>, Yoshiaki Kiso<sup>1</sup> (<sup>1</sup>21st Century COE Program, Kyoto Pharmaceutical University, Yamashina, <sup>2</sup>Laboratory of Peptide Biosignal Engineering, Mitsubishi Kagaku Institute of Life Sciences, <sup>3</sup>Institute of Applied Biochemistry, University of Tsukuba, <sup>4</sup>Department of Applied Biochemistry, Faculty of Engineering, Tokai University, <sup>5</sup>National Cardiovascular Center)
- P-071** Control of antimicrobial peptide target by introducing proline residue and positive charges  
Naoki Choda, Yuichi Imura, Katsumi Matsuzaki (Graduate School of Pharmaceutical Sciences, Kyoto University)
- P-072** Development of inhibitory peptides against HIV-1 integrase  
Yuta Nakanishi<sup>1,2</sup>, Atsushi Komano<sup>3</sup>, Hiroshi Tsutsumi<sup>1</sup>, Toru Nakahara<sup>1,2</sup>, Takayuki Yanagisawa<sup>1,2</sup>, Shintaro Suzuki<sup>1</sup>, Nami Ohashi<sup>1</sup>, Tomohiro Tanaka<sup>1</sup>, Wataru Nomura<sup>1</sup>, Emiko Urano<sup>3,4</sup>, Yan Han<sup>3</sup>, Hideyoshi Fuji<sup>5</sup>, Makiko Hamatake<sup>3</sup>, Kosuke Miyauchi<sup>3</sup>, Yoko Morikawa<sup>4</sup>, Tyuji Hoshino<sup>5</sup>, Wataru Sugiura<sup>3</sup>, Naoki Yamamoto<sup>3</sup>, Hirokazu Tamamura<sup>1,2</sup> (<sup>1</sup>Institute of Biomaterials and Bioengineering, Tokyo Medical and Dental University, <sup>2</sup>School of Biomedical Science, Tokyo Medical and Dental University, <sup>3</sup>AIDS Research Center, National Institute of Infectious Diseases, <sup>4</sup>Kitasato Institute of Life Science, Kitasato University, <sup>5</sup>Graduate School of Pharmaceutical Sciences, Chiba University)
- P-073** Significance of interaction of BACE1-Arg235 with its ligands and design of BACE1 inhibitors  
Yoshio Hamada, Hiroko Ohta, Naoko Miyamoto, Takashi Hamada, Tomoya Nakanishi, Moe Yamasaki, Abdellah Yamani, Kazuki Saito, Yoshiaki Kiso (21st Century COE Program, Kyoto Pharmaceutical University)
- P-074** SAR study of BACE1 inhibitors containing pyridine derivatives  
Hiroko Ohta<sup>1</sup>, Yoshio Hamada<sup>1</sup>, Naoko Miyamoto<sup>1</sup>, Ryoji Yamaguchi<sup>1</sup>, Abdellah Yamani<sup>1</sup>, Koushi Hidaka<sup>1</sup>, Tooru Kimura<sup>1</sup>, Kazuki Saito<sup>1</sup>, Syoichi Ishiura<sup>2</sup>, Yoshiaki Kiso<sup>1</sup> (<sup>1</sup>Department of Medicinal Chemistry, Center for Frontier Research in Medicinal Science, 21st Century COE program, Kyoto Pharmaceutical University, <sup>2</sup>Department of Life Sciences, Graduate School of Arts and Sciences, University of Tokyo)
- P-075** Effect of dipeptidomimetics on malaria parasite proliferation inhibition targeting plasmeprin

- Koushi Hidaka**<sup>1</sup>, Tooru Kimura<sup>1</sup>, Tsuyoshi Uemura<sup>1</sup>, Adam J. Ruben<sup>2</sup>, Ernesto Freire<sup>2</sup>, Yoshiaki Kiso<sup>1</sup> (<sup>1</sup>Department of Medicinal Chemistry, Center for Frontier Research in Medicinal Science, 21st Century COE Program, Kyoto Pharmaceutical University, <sup>2</sup>Department of Biology and Johns Hopkins Malaria Research Institute, Johns Hopkins University)
- P-076** Syntheses and evaluations of peptide-based inhibitors using R188I mutant of SARS 3CL protease  
**Hironori Mitsui**, Mayako Takahashi, Hiroyuki Konno, Kazuto Nosaka, Kenichi Akaji (Department of Chemistry, Graduate School of Medical Science, Kyoto Prefectural University of Medicine)
- P-077** Generation of cationic antimicrobial peptides from natural non-antimicrobial sequences by acid-amide substitution  
 Satoshi Ueno<sup>1,2</sup>, Yasushi Tamada<sup>1</sup>, **Yusuke Kato**<sup>1</sup> (<sup>1</sup>Division of Insect Sciences, National Institute of Agrobiological Sciences, <sup>2</sup>Graduate School of Life and Environmental Sciences, University of Tsukuba)
- P-078** Inhibitory behavior of cyanidine and methylene blue for filament formation of tau microtubule-binding domain  
**Etsuko Sugino**<sup>1</sup>, Masaki Hattori<sup>1</sup>, Katsuhiko Minoura<sup>1</sup>, Yasuko In<sup>1</sup>, Miho Sumida<sup>2</sup>, Taizo Taniguchi<sup>2</sup>, Koji Tomoo<sup>1</sup>, Toshimasa Ishida<sup>1</sup> (<sup>1</sup>Osaka University of Pharmaceutical Sciences, <sup>2</sup>Behavioral and Medical Sciences Research Consortium)
- P-079** Characterisation of the enhancer peptide NP4P for membrane-disruptive anti-microbial peptides  
**Satoshi Ueno**<sup>1,2</sup>, Kohtaro Kusaka<sup>1</sup>, Hong Zhang<sup>1</sup>, Masaomi Minaba<sup>1</sup>, Yasushi Tamada<sup>1</sup>, Yusuke Kato<sup>1</sup> (<sup>1</sup>Division of Insect Sciences, National Institute of Agrobiological Sciences, <sup>2</sup>Graduate School of Life and Environmental Sciences, University of Tsukuba)
- P-080** IR analysis on amyloids of isotope-labeled amyloid  $\beta$  peptides  
**Masahiro Koike**<sup>1,2</sup>, Masayuki Nara<sup>3</sup>, Tomoko Okada<sup>1</sup>, Hisayuki Morii<sup>1</sup> (<sup>1</sup>National Institute of Advanced Industrial Science and Technology, <sup>2</sup>Tokyo University of Science, <sup>3</sup>Tokyo Medical and Dental University)
- P-081** Evolution of ASABF-6Cys- $\alpha$ , CS $\alpha$  $\beta$ -type anti-microbial peptides as a result of rearrangements of intramolecular disulphide bridges  
**Masaomi Minaba**<sup>1</sup>, Satoshi Ueno<sup>1,2</sup>, Ajitha Pillai<sup>1</sup>, Hong Zhang<sup>1</sup>, Yusuke Kato<sup>1</sup> (<sup>1</sup>Division of Insect Sciences, National Institute of Agrobiological Sciences, <sup>2</sup>Graduate School of Life and Environmental Sciences, University of Tsukuba)
- P-082** Relative quantitation of POMC-derived peptides in murine pituitary by MALDI-TOF MS and its application to experimental stress analysis  
**Yuto Aoki**, Kazuaki Iguchi, Yuka Imai, Kenichi Aiso, Satomi Nose, Minoru Hoshino (Laboratory of Bioorganic Chemistry, School of Pharmaceutical Sciences, University of Shizuoka)
- P-083** Application of Angiotensin-Converting Enzyme (ACE) assay with a fluorogenic substrate to the clinical chemistry  
**Setsuko Ando**<sup>1</sup>, Kouki Matsubara<sup>1</sup>, Bo Zhang<sup>2</sup>, Keijiro Saku<sup>2</sup>, Louis A. Watanabe<sup>3</sup>, Hidehiko Watanabe<sup>3</sup>, Haruhiko Aoyagi<sup>4</sup> (<sup>1</sup>Department of Chemistry, Faculty of Science, Fukuoka University, <sup>2</sup>Department of Cardiology, Fukuoka University School of Medicine, <sup>3</sup>Watanabe Chemical Industries, Ltd., <sup>4</sup>Kyushu nutrition Welfare University)
- P-084** Tyr-Pro-Ile-Glu-His-Gly (YPIEHG) derived from actin exhibits anxiolytic-like effect in mice  
**Mariko Yoshida**<sup>1</sup>, Kousaku Ohinata<sup>1</sup>, Masaaki Yoshikawa<sup>1,2</sup> (<sup>1</sup>Graduate School of Agriculture Kyoto University, <sup>2</sup>Graduate School of Engineering Osaka University)
- P-085** Antidiabetic activity of novokinin (RPLKPW) after oral administration in KK-Ay mice  
**Aya Muraki**<sup>1</sup>, Yoko Fujiwara<sup>1</sup>, Kousaku Ohinata<sup>1</sup>, Masaaki Yoshikawa<sup>1,2</sup> (<sup>1</sup>Graduate School of Agriculture, Kyoto University, <sup>2</sup>Graduate School of Engineering, Osaka University)
- P-086** Glutamatergic excitatory transmission in adult rat substantia gelatinosa neurons is enhanced

- more effectively by PAR-1 than PAR-2 and PAR-4 activating peptides  
**Tsugumi Fujita**, Tao Liu, Takahiro Aoyama, Daisuke Tomohiro, Terumasa Nakatsuka, Eiichi Kumamoto (Department of Physiology, Faculty of Medicine, Saga University)
- P-087** Action of galanin on synaptic transmission in substantia gelatinosa neurons of the adult rat spinal cord  
 Hai-Yuan Yue, Tsugumi Fujita, Tao Liu, Lian-Hua Piao, Kotaro Mizuta, Terumasa Nakatsuka, **Eiichi Kumamoto** (Department of Physiology, Faculty of Medicine, Saga University)
- P-088** Identification of novel HIV-1 fusion inhibitors by Template-Assisted Peptide Aldehyde Ligation  
**Michinori Tanaka**<sup>1</sup>, Kentaro Watanabe<sup>1</sup>, Hiroaki Ohno<sup>1</sup>, Kazuki Izumi<sup>2</sup>, Eiichi Kodama<sup>2</sup>, Masao Matsuoka<sup>2</sup>, Shinya Oishi<sup>1</sup>, Nobutaka Fujii<sup>1</sup> (<sup>1</sup>Graduate School of Pharmaceutical Sciences, Kyoto University, <sup>2</sup>Institute for Virus Research, Kyoto University)
- P-089** Exploration on amyloidogenic core  $\beta$ -structure causing abnormal prion  
**Masatoshi Saiki**<sup>1,2</sup>, Yuji Hidaka<sup>2</sup>, Masayuki Nara<sup>3</sup>, Hisayuki Morii<sup>1</sup> (<sup>1</sup>National Institute of Advanced Industrial Science and Technology, <sup>2</sup>School of Science and Engineering, Kinki University, <sup>3</sup>Laboratory of Chemistry, Tokyo Medical and Dental University)
- P-090** Analysis on inter-molecular alignment in amyloids using systematic tyrosine mutation for amyloid  $\beta$   
**Youske Shimizu**<sup>1,2</sup>, Nahoko Morii<sup>1,3</sup>, Takeo Konakahara<sup>3</sup>, Masaru Tanokura<sup>2</sup>, Tomoko Okada<sup>1</sup>, Hisayuki Morii<sup>1</sup> (<sup>1</sup>National Institute of Advanced Industrial Science and Technology, <sup>2</sup>Graduate School of Agricultural and Life Sciences, The University of Tokyo, <sup>3</sup>Faculty of Science and Technology, Tokyo University of Science)
- P-091** Structural and thermodynamic analysis on interaction between PPAR $\gamma$  and its ligands  
**Takahiro Maruno**<sup>1</sup>, Ryo Takahashi<sup>2</sup>, Tadanori Yoshimatsu<sup>2</sup>, Yuki Hasegawa<sup>1</sup>, Yuji Nishiuchi<sup>3</sup>, Susumu Uchiyama<sup>4</sup>, Takuya Yoshida<sup>1</sup>, Tadayasu Ohkubo<sup>1</sup>, Kiichi Fukui<sup>4</sup>, Yuji Kobayashi<sup>5</sup> (<sup>1</sup>Graduate School of Pharmaceutical Sciences, <sup>2</sup>Wakunaga Pharmaceutical Co., Ltd., <sup>3</sup>Peptide Institute, INC., <sup>4</sup>Graduate School of Engineering, Osaka University, <sup>5</sup>Osaka University of Pharmaceutical Sciences)
- P-092** Beta-lactotensin (His-Ile-Arg-Leu) derived from bovine beta-lactoglobulin suppresses food intake after oral administration in mice  
**I-ching Hou**<sup>1</sup>, Kousaku Ohinata<sup>1</sup>, Masaaki Yoshikawa<sup>1,2</sup> (<sup>1</sup>Graduate School of Agriculture Kyoto University, <sup>2</sup>Graduate School of Engineering Osaka University)
- P-093** Development of novel vasoactive intestinal peptide derivatives with improved stability; physicochemical and pharmacological characterization  
**Satomi Onoue**, Shingen Misaka, Hideyuki Sato, Yuki Ohmori, Shizuo Yamada (Department of Pharmacokinetics and Pharmacodynamics School of Pharmaceutical Sciences, University of Shizuoka)
- P-094** Efficient total synthesis of (+)-negamycin and its derivatives  
**Akihiro Taguchi**<sup>1</sup>, Shigenobu Nishiguchi<sup>2</sup>, Thomas Regnier<sup>2</sup>, Minoru Ozeki<sup>2</sup>, Manabu Node<sup>2</sup>, Yoshiaki Kiso<sup>2</sup>, Yoshio Hayashi<sup>1</sup> (<sup>1</sup>Department of Medicinal Chemistry, Tokyo University of Pharmacy and Life Sciences, <sup>2</sup>Department of Medicinal Chemistry, Center for Frontier Research in Medicinal Science, Kyoto Pharmaceutical University)
- P-095** Synthesis of side chain functionalized polylactides from a Lysine-derived homobis lactone  
 Hiromi Kodaera<sup>1</sup>, Naoki Nishishita<sup>2</sup>, Hiroyuki Yasui<sup>3</sup>, Yoshiaki Hirano<sup>4</sup>, Yoshiaki Kiso<sup>1</sup>, **Yoshio Hayashi**<sup>1,5</sup> (<sup>1</sup>Department of Medicinal Chemistry, Kyoto Pharmaceutical University, <sup>2</sup>Faculty of Engineering, Osaka Institute of Technology, <sup>3</sup>Department of Analytical and Bioinorganic Chemistry, Kyoto Pharmaceutical University, <sup>4</sup>Faculty of Chemistry, Materials and Bioengineering and Hightech Research Center, Kansai University, <sup>5</sup>Department of Medicinal Chemistry, Tokyo University of Pharmacy and Life Sciences)
- P-096** Development of enzyme immunoassays for apelin and determination of apelin in rat hypothalamus and pituitary

- Ken-ichi Aiso**, Kazuaki Iguchi, Satomi Nose, Yuto Aoki, and Minoru Hoshino (Laboratory of Bioorganic Chemistry, School of Pharmaceutical Sciences, University of Shizuoka)
- P-097** Sequence specificity of the PHSRN peptide from fibronectin on corneal epithelial migration  
**Atsushi Hattori**<sup>1,4</sup>, Kentaro Hozumi<sup>1</sup>, Ji-Ae Ko<sup>2</sup>, Tai-ichiro Chikama<sup>3</sup>, Kayo Oomikawa<sup>4</sup>, Junta Kato<sup>4</sup>, Kazuumi Ishida<sup>4</sup>, Motoyoshi Nomizu<sup>1</sup>, Teruo Nishida<sup>2</sup> (<sup>1</sup>Laboratory of Clinical Biochemistry, Tokyo University of Pharmacy and Life Science, <sup>2</sup>Department of Ophthalmology and <sup>3</sup>Ocular Pathophysiology, Yamaguchi University Graduate School of Medicine, <sup>4</sup>Nitten Pharmaceutical Co. Ltd. )
- P-098** Design and synthesis of inhibitory peptides against EGF receptor dimerization  
**Takaaki Mizuguchi**<sup>1</sup>, Hiromasa Uchimura<sup>2</sup>, Taeko Kakizawa<sup>1</sup>, Tooru Kimura<sup>1</sup>, Shigeyuki Yokoyama<sup>3,4</sup>, Yoshiaki Kiso<sup>1</sup>, Kazuki Saito<sup>2,3</sup> (<sup>1</sup>Department of Medicinal Chemistry, Center for Frontier Research in Medicinal Science and 21st Century COE Program, Kyoto Pharmaceutical University, <sup>2</sup>Laboratory of Proteomic Sciences, 21st Century COE Program, Kyoto Pharmaceutical University, <sup>3</sup>Systems and Structural Biology Center, Yokohama Institute, RIKEN, <sup>4</sup>Department of Biophysics and Biochemistry, Graduate School of Science, University of Tokyo)
- P-099** Identification of novel chemical inhibitors for p53-inducible protein phosphatase PPM1D  
**Hiroaki Yagi**, Yoshiro Chuman, Fumihiko Yoshimura, Keiji Tanino, Kazuyasu Sakaguchi (Department of Chemistry, Faculty of Science, Hokkaido University)
- P-100** Synthesis of GnRH super agonist analogs and evaluation of ability to permeate Caco-2 cell monolayer  
**Kazuhiro Gochomori**, Tsunehiko Fukuda (Graduate School of Bioscience, Nagahama Institute of Bio-Science and Technology)
- P-101** Antibiotic activity of antimicrobial peptides against drug-resistant pathogens isolated from patients with cholelithiasis  
Nari Jeong<sup>1</sup>, Ka Hyon Park<sup>1</sup>, Byung Kwan Son<sup>3</sup>, Joon Soo Hahm<sup>4</sup>, Song Yub Shin<sup>1,2</sup>, **Yoonkyung Park**<sup>1</sup>, Kyung-Soo Hahm<sup>1,2</sup> (<sup>1</sup>Research Center for Proteinaceous Materials (RCPM), Chosun University, <sup>2</sup>Department of Cellular Molecular Medicine School of Medicine, Chosun University, <sup>3</sup>Wonkwang University Sanbon Hospital, <sup>4</sup>Department of Medicine, Hanyang University Hospital)
- P-102** Antibacterial activity, mechanism and enzyme-resistant study of TRICHOGIN GA IV and its analogues against various MRSA strains  
Jin-Young Kim<sup>2</sup>, Lorenzo Stella<sup>3</sup>, Claudio Toniolo<sup>4</sup>, **Yoonkyung Park**<sup>2,3</sup>, Kyung-Soo Hahm<sup>1,2</sup> (<sup>1</sup>Department of Cellular Molecular Medicine, College of Medicine, <sup>2</sup>Research Center for Proteinaceous Materials (RCPM), Chosun University, <sup>3</sup>Dipartimento di Scienze e Tecnologie Chimiche University di Roma Tor Vergata Via della Ricerca Scientifica, <sup>4</sup>Institute of Biomolecular Chemistry, Padova Unit, CNR, Department of Chemistry, University of Padova)
- P-103** Single-chain collagen-like peptides induce collagenase from *Vibrio alginolyticus*  
**Yumi Murata**<sup>1,2</sup>, Osamu Matsushita<sup>2</sup>, Takaki Koide<sup>1</sup> (<sup>1</sup>Department of Chemistry and Biochemistry, Faculty of Advanced Science and Engineering, Waseda University, <sup>2</sup>Department of Microbiology, School of Medicine, Kitasato University)
- P-104** Identification of laminin-111 peptides active for adhesion of hepatic sinusoidal endothelial cells  
**Taneyasu Akizuki**, Yumiko Takahama, Kentaro Hozumi, Yamato Kikkawa, Motoyoshi Nomizu (School of Pharmacy, Tokyo University of Pharmacy and Life Sciences)
- P-105** Screening of biologically active peptides from the laminin alpha 2 chain N-terminus  
**Takemitsu Hayashi**, Masaya Ishikawa, Kentaro Hozumi, Yamato Kikkawa, Motoyoshi Nomizu (School of Pharmacy, Tokyo University of Pharmacy and Life Sciences)
- P-106** Influence of an amino acid sequence on kinetics of peptide bond cleavage reaction induced by a stimulus-responsive amino acid.

- Akira Shigenaga**, Naomi Nishioka, Jun Yamamoto, Hiroko Hirakawa, Yoshitake Sumikawa, Keiko Yamaguchi, Akira Otaka (Institute of Health Biosciences and Graduate School of Pharmaceutical Sciences, The University of Tokushima)
- P-107** Fibrillization of amyloid  $\beta$ -peptide by dimerized designed peptides and cytotoxicity  
**Risa Iguchi**, Tsuyoshi Takahashi, Hisakazu Mihara (Graduate School of Bioscience and Biotechnology, Tokyo Institute of Technology)
- P-108** Construction of  $\beta$ -sheet proteins embedding amyloid  $\beta$  peptide (A $\beta$ ) sequences and inhibitory activity of A $\beta$  aggregation  
**Yuko Murakoshi**, Tsuyoshi Takahashi, Hisakazu Mihara (Graduate School of Bioscience and Biotechnology, Tokyo Institute of Technology)
- P-109** Syndecan-4V cytoplasm fragment has selectivity to the membrane compositions  
**Siwon Kim**<sup>1</sup>, Sangmi Lee<sup>1</sup>, Weontae Lee<sup>2</sup>, Suhkmann Kim<sup>1</sup> (<sup>1</sup>Department of Chemistry, Pusan National University, <sup>2</sup>Department of Biochemistry, Yonsei University)
- P-110** Click peptide by use of the *O*-acyl isopeptide method: Production of amyloid  $\beta$  peptide from water-soluble analogue  
**Atsuhiko Taniguchi**<sup>1</sup>, Youhei Sohma<sup>1,2</sup>, Mariusz Skwarczynski<sup>1,3</sup>, Takuma Okada<sup>4</sup>, Keisuke Ikeda<sup>4</sup>, Halan Prakash<sup>5</sup>, Hidehito Mukai<sup>1</sup>, Tooru Kimura<sup>1</sup>, Yoshio Hayashi<sup>1,6</sup>, Shun Hirota<sup>5</sup>, Katsumi Matsuzaki<sup>4</sup>, Yoshiaki Kiso<sup>1</sup> (<sup>1</sup>Department of Medicinal Chemistry, Kyoto Pharmaceutical University, <sup>2</sup>The University of Chicago, <sup>3</sup>University of Queensland, <sup>4</sup>Graduate School of Pharmaceutical Sciences, Kyoto University, <sup>5</sup>Graduate School of Materials Science, Nara Institute of Science and Technology, <sup>6</sup>Department of Medicinal Chemistry, Tokyo University of Pharmacy and Life Science)
- P-111** Study directed toward the analysis of interaction between the spider toxin NPTX-594 and glutamate receptors  
**Takahiro Nishimaru**<sup>1</sup>, Ryutaro Moriyama<sup>1</sup>, Tetsuyuki Wada<sup>2</sup>, Shigeru Yoshida<sup>1</sup>, Keiko Shimamoto<sup>3</sup>, Mikio Nishizawa<sup>4</sup>, Seiji Ito<sup>5</sup>, Yoshihiro Yamaguchi<sup>1</sup>, Tateaki Wakamiya<sup>1</sup> (<sup>1</sup>Faculty of Science and Technology, Kinki University, <sup>2</sup>Faculty of Pharmacy, Kinki University, <sup>3</sup>Suntory Institute for Bioorganic Research, <sup>4</sup>Department of Biomedical Sciences, College of Life Sciences, Ritsumeikan University, <sup>5</sup>Department of Medical Chemistry, Kansai Medical University)
- P-112** Photo-control of DNA-binding of a zinc finger peptide containing azobenzene  
**Akiko Nomura**, Akimitsu Okamoto (Advanced Science Institute, RIKEN (The Institute of Physical and Chemical Research))
- P-113** Synthesis and property of caged RGD peptide  
**Yoshiro Tatsu**, Yuki Ohmuro-Matsuyama (National Institute of Advanced Industrial Science and Technology (AIST))
- P-114** Screening for EGFR-binding peptides by Multi-component Fluorescent labeling method  
**Yamamoto Takahiro** (Department of Bioscience and Biotechnology, Faculty of Engineering, Okayama University)
- P-115** Synthesis of modified amino acid having Zn and Cu SALOPHEN complexes in the side chain  
**Emi Kawachi**, Setsuko Ando, Kouki Matsubara (Department of Chemistry, Faculty of Science, Fukuoka University)
- P-116** A facile method for solid-phase conjugation of peptide with unprotected DOTA and synthesis of <sup>68</sup>Ga-DOTA-somatostatin  
**Koki Hasegawa**, Yousuke Kanayama, Mie Nishimura, Takeo Sako, Yasuhiro Wada, Yasuyoshi Watanabe (Molecular Imaging Research Program, RIKEN Kobe Institute)
- P-117** Development of fluorescent labeled CXCR4 specific ligand for imaging and fluorescence-based screening  
**Tomohiro Tanaka**<sup>1</sup>, Wataru Nomura<sup>1</sup>, Yasuaki Tanabe<sup>1,2</sup>, Hiroshi Tsutsumi<sup>1</sup>, Chihiro Ochiai<sup>1</sup>, Jun Sato<sup>1</sup>, Kyoko Itotani<sup>1</sup>, Kenji Ohba<sup>3</sup>, Naoki Yamamoto<sup>3</sup>, Hirokazu Tamamura<sup>1,2</sup> (<sup>1</sup>Institute of Biomaterials and Bioengineering, Tokyo Medical and Dental University, <sup>2</sup>School of Biomedical Science, Tokyo Medical and Dental University, <sup>3</sup>AIDS Research Center, National Institute of Infectious Diseases)

- P-118** Destabilization mechanism of the collagen model peptides containing 4(S)-hydroxyproline  
Daisuke Motooka<sup>1</sup>, Kazuki Kawahara<sup>2</sup>, Nozomi Sato<sup>1</sup>, Masamitsu Doi<sup>3</sup>, Susumu Uchiyama<sup>4</sup>, Yuji Nishiuchi<sup>5</sup>, Takashi Nakazawa<sup>6</sup>, Takuya Yoshida<sup>2</sup>, Yoshinori Nishi<sup>1</sup>, Tadayasu Ohkubo<sup>2</sup>, Yuji Kobayashi<sup>1</sup> (<sup>1</sup>Osaka University of Pharmaceutical Sciences, <sup>2</sup>Graduate School of Pharmaceutical Sciences, Osaka University, <sup>3</sup>Department of Materials Science, Wakayama National College of Technology, <sup>4</sup>Graduate School of Engineering, Osaka University, <sup>5</sup>Peptide Institute Inc., <sup>6</sup>Department of Chemistry, Nara Women's University)
- P-119** Development of biotin-tagged tubulin photoaffinity probes derivatized from diketopiperazine based anti-microtubule agents  
Yuri Yamazaki<sup>1</sup>, Kyoko Kohno<sup>2</sup>, Hiroyuki Yasui<sup>2</sup>, Yoshiaki Kiso<sup>2</sup>, Miki Akamatsu<sup>3</sup>, Benjamin Nicholson<sup>4</sup>, Gorgafaried Deyanat-Yazdi<sup>4</sup>, Saskia Neuteboom<sup>4</sup>, Barbara Potts<sup>4</sup>, G. Kenneth Lloyd<sup>4</sup>, Yoshio Hayashi<sup>1</sup> (<sup>1</sup>School of Pharmacy, Tokyo University of Pharmacy and Life Sciences, <sup>2</sup>Kyoto Pharmaceutical University, <sup>3</sup>Graduate School of Agriculture, Kyoto University, <sup>4</sup>Nereus Pharmaceuticals)
- P-120** Biosynthesis of functional polypeptide by use of repetitive sequence DNA by rolling circle amplification  
Takeo Yoshimura, Shokichi Ohuchi (Graduate School of Life Science and Systems Engineering, Kyushu Institute of Technology)
- P-121** Synthesis of spider toxin NPTX-594 analogues with the alkyne group for post fluorescent labeling based on click chemistry  
Kiyoe Mori, Takahiro Nishimaru, Yoshihiro Yamaguchi, Tateaki Wakamiya (Faculty of Science and Technology, Kinki University)
- P-122** Formation of photo cross-linking adduct between RNA and amphiphilic  $\alpha$ -helical peptides with photomet  
Soonsil Hyun, Jaehoon Yu (Department of Chemistry and Education, Seoul National University)
- P-123** Tailor-made amphiphilic peptides against hairpin RNA targets: Changes of both spheres of the peptide enhance specificity and affinity  
Su Jin Lee, Jaehoon Yu (Department of Chemistry & Education, Seoul National University)
- P-124** Enhanced internalization of arginine-rich peptides by fatty acid modification  
Sayaka Katayama, Hirose Hisaaki, Shiroh Futaki (Institute for Chemical Research, Kyoto University)
- P-125** Construction of target selective membrane fusion system by the use of pH-responsive coiled coil polypeptides  
Ayumi Kashiwada<sup>1</sup>, Mana Tsuboi<sup>1</sup>, Kiyomi Matsuda<sup>1</sup>, Toshihisa Mizuno<sup>2</sup>, Toshiki Tanaka<sup>2</sup> (<sup>1</sup>College of Industrial Technology, Nihon University, <sup>2</sup>Graduate School of Engineering, Nagoya Institute of Technology)
- P-126** Screening of peptides that specifically bind to fine-structured peptide nanofibers  
Toshiki Sawada, Tsuyoshi Takahashi, Hisakazu Mihara (Department of Bioengineering, Graduate School of Bioscience and Biotechnology, Tokyo Institute of Technology)
- P-127** Nano-particle materials prepared from a synthetic antigenic sequence of *Plasmodium falciparum* enolase  
Hiroyuki Oku<sup>1</sup>, Keiichi Yamada<sup>1</sup>, Kyoko Kobayashi<sup>1</sup>, Ryoichi Katakai<sup>1</sup>, Muhammad Ashfaq<sup>1</sup>, Hirofumi Hanaoka<sup>2</sup>, Yasuhiko Iida<sup>2</sup>, Keigo Endo<sup>3</sup>, Shin Hasegawa<sup>4</sup>, Yasunari Maekawa<sup>4</sup>, Kazuhiko Yano<sup>5</sup>, Shigeyuki Kano<sup>5</sup>, Mamoru Suzuki<sup>6</sup> (<sup>1</sup>Department of Chemistry & Chemical Biology, Gunma University, <sup>2</sup>Departments of Bioimaging Information Analysis and Diagnostic Radiology and <sup>3</sup>Nuclear Medicine, Gunma University Graduate School of Medicine, <sup>4</sup>Japan Atomic Energy Agency, <sup>5</sup>Research Institute, International Medical Center of Japan, <sup>6</sup>Gunma University.)
- P-128** Development of a novel tag-probe system for fluorescent imaging of proteins in living cells

- Seiichiro Abe**<sup>1,2</sup>, Hiroshi Tsutsumi<sup>1</sup>, Tomoaki Mino<sup>1,2</sup>, Masaki Haseyama<sup>1</sup>, Nami Ohashi<sup>1</sup>, Tomohiro Tanaka<sup>1</sup>, Wataru Nomura<sup>1</sup>, Hirokazu Tamamura<sup>1,2</sup> (<sup>1</sup>Institute of Biomaterials and Bioengineering, Tokyo Medical and Dental University, <sup>2</sup>School of Biomedical Science, Tokyo Medical and Dental University)
- P-129** Built up of stimulus-responsive hydrogels using self-assembling  $\beta$ -hairpin peptide  
**Naoki Nishishita**<sup>1</sup>, Yoshitaka Morimoto<sup>1</sup>, Masahito Oka<sup>2</sup>, Yoshiaki Hirano<sup>3</sup> (<sup>1</sup>Faculty of Engineering, Osaka Institute of Technology, <sup>2</sup>Faculty of Liberal Arts and Sciences, Osaka Prefecture University, <sup>3</sup>Faculty of Chemistry, Materials and Bioengineering and Hightech Research Center, Kansai University)
- P-130** Modification of PLA scaffolds using bioactive peptide-oligo (lactic acid) conjugates  
**Sachiro Kakinoki**<sup>1,2</sup>, Tomo Ehashi<sup>1,2</sup>, Tetsuji Yamaoka<sup>1,2</sup> (<sup>1</sup>Department of Biomedical Engineering, National Cardiovascular Center Research Institute, <sup>2</sup>JST, CREST)
- P-131** A new reagent on protein refolding  
**Kohsaku Tao**<sup>1</sup>, Len Ito<sup>1</sup>, Yusuke Kasai<sup>1</sup>, Hidetoshi Yamada<sup>1</sup>, Tomohisa Shibano<sup>1</sup>, Kentaro Shiraki<sup>2</sup>, Yuji Hidaka<sup>3</sup>, Masaki Okumura<sup>1</sup>, Oosuka Akiko<sup>1</sup>, Hiroshi Yamaguchi<sup>1</sup> (<sup>1</sup>School of Science and Technology, Kwansei Gakuin University, <sup>2</sup>Institute of Applied Physics, University of Tsukuba, <sup>3</sup>School of Science and Engineering, Kinki University)
- P-132** A synergic effect of amino acids and amino acid derivatives on protein crystallization  
**Tomohisa Shibano**<sup>1</sup>, Len Ito<sup>1</sup>, Kentaro Shiraki<sup>2</sup>, Yuji Hidaka<sup>3</sup>, Gen Sazaki<sup>4</sup>, Yuhei Yamasaki<sup>1</sup>, Hiroshi Yamaguchi<sup>1</sup> (<sup>1</sup>School of science and technology, Kwansei Gakuin University, <sup>2</sup>Institute of Applied Physics, University of Tsukuba, <sup>3</sup>School of Science and Engineering, Kinki University, <sup>4</sup>Institute of Low Temperature Science, Hokkaido University)
- P-133** Lipidation of the collagen model peptide to make peptide-surfactant  
**Yuji Tanaka**<sup>1</sup>, Yusuke Sugiyama<sup>1</sup>, Masayuki Naito<sup>1</sup>, Junko Kuwahara<sup>2</sup>, Norikazu Nishino<sup>3</sup>, Kozue Kaibara<sup>1</sup>, Hideo Akisada<sup>1</sup> (<sup>1</sup>Faculty of Engineering, Kyushu Kyoritsu University, <sup>2</sup>Faculty of Engineering, Fukuoka Institute of Technology, <sup>3</sup>Graduate school of Life Science and Systems Engineering, Kyushu Institute of Technology)
- P-134** Structures and properties of hydrogel nanoparticles for carriers of drugs and probes  
**Makoto Oda**, Toru Oba, Satoshi Ito, Kazuhisa Hiratani (Graduate School of Engineering, Department of Material and Environmental Chemistry, Utsunomiya University)
- P-135** Extremely long nanofibrils of Functionalized Structure-Controlled-Amyloid Peptides derived from transthyretin  
**Hiroki Sakai**<sup>1</sup>, Yuya Asanomi<sup>1</sup>, Yumiko Kobayashi<sup>1</sup>, Xinjiang Chen<sup>1</sup>, Yoshiro Chuman<sup>1</sup>, Takuya Masuda<sup>2</sup>, Kohei Uosaki<sup>2</sup>, Kazuyasu Sakaguchi<sup>1</sup> (<sup>1</sup>Laboratory of Biological Chemistry, <sup>2</sup>Physical Chemistry Laboratory, Department of Chemistry, Faculty of Science, Hokkaido University)
- P-136** Cell adherent material using synthetic peptides  
**Yuji Yamada**, Kentaro Hozumi, Motoyoshi Nomizu (School of Pharmacy, Tokyo University of Pharmacy and Life Sciences)
- P-137** Effect of mixed peptide-chitosan membranes on cell adhesion  
**Chikara Fujimori**, Dai Otagiri, Kentaro Hozumi, Yamato Kikkawa, Motoyoshi Nomizu (School of Pharmacy, Tokyo University of Pharmacy and Life Sciences)
- P-138** Expression, purification, and crystallization of proopiomelanocortin  
**Kenji Watanabe**<sup>1</sup>, Yohei Hosokawa<sup>2</sup>, Len Ito<sup>2</sup>, Ajoy Basak<sup>3</sup>, Hiroshi Yamaguchi<sup>2</sup>, Yuji Hidaka<sup>1</sup> (<sup>1</sup>Graduate School of Science and Engineering, Kinki University, <sup>2</sup>Graduate School of Science and Technology, Kwansei Gakuin University, <sup>3</sup>Regional Protein Chemistry Center, Ottawa Health Research Institute)
- P-139** Gly scan of prouroguanylin to elucidate essential amino acid residues for the intra-molecular chaperone function  
**Hironori Konishi**<sup>1</sup>, Masaki Okumura<sup>2</sup>, Masatoshi Saiki<sup>1</sup>, Hiroshi Yamaguchi<sup>2</sup>, Yuji Hidaka<sup>1</sup> (<sup>1</sup>Graduate School of Science and Engineering, Kinki University, <sup>2</sup>Graduate School of Science and Technology, Kwansei Gakuin University)

- P-140** Histone H3 N-terminal peptide directly binds to its own messenger RNA : A possible mode of feedback inhibition to control  
**Kyung Hyun Lee**, Soonsil Hyun, Jaehoon Yu (Department of Chemistry and Education, Seoul National University)
- P-141** Effective elimination of particular conformation of human IgG from antibody solution by peptide affinity column  
**Takaaki Hatanaka**<sup>1</sup>, Yuji Ito<sup>1</sup>, Soni Preeti<sup>2</sup>, Kotaro Sakamoto<sup>1</sup>, Jun Hayashida<sup>1</sup>, Shuhei Hashiguchi<sup>1</sup>, Kazuhisa Sugimura<sup>1</sup> (<sup>1</sup>Department of Bioengineering, Faculty of Engineering, Kagoshima University, <sup>2</sup>JST Miyazaki)
- P-142** Development of caged diacylglycerol-lactone derivatives and their applications  
**Yuki Serizawa**<sup>1</sup>, Wataru Nomura<sup>1</sup>, Nami Ohashi<sup>1</sup>, Yoshiaki Okuda<sup>1,2</sup>, Hironori Matsumoto<sup>1,2</sup>, Hiroshi Tsutsumi<sup>1</sup>, Toshiaki Furuta<sup>1,3</sup>, Hirokazu Tamamura<sup>1,2</sup> (<sup>1</sup>Institute of Biomaterials of and Bioengineering, Tokyo Medical and Dental University, <sup>2</sup>School of Biomedical Science, Tokyo Medical and Dental University, <sup>3</sup>Faculty of Sciences, Toho University)
- P-143** Cooperative strand invasion by peptide nucleic acid  
**Toru Sugiyama**<sup>1</sup>, Yasutada Imamura<sup>2</sup>, Masaaki Kurihara<sup>3</sup>, Atsushi Kittaka<sup>4</sup> (<sup>1</sup>Department of Life Sciences, Graduate School of Arts and Sciences, The University of Tokyo, <sup>2</sup>Faculty of Engineering, Kogakuin University, <sup>3</sup>Division of Organic Chemistry, National Institute of Health Sciences, Ministry of Health and Welfare, <sup>4</sup>Faculty of Pharmaceutical Sciences, Teikyo University)
- P-144** Isolation of chymotrypsin-like serine proteases using a thermoresponsive polymer bearing diphenyl phosphonate derivative  
**Fumie Manzaki**<sup>1</sup>, Hirofumi Kuroda<sup>2</sup>, Hiroshi Oyama<sup>3</sup>, Shin Ono<sup>1</sup> (<sup>1</sup>Graduate School of Science and Engineering, University of Toyama, <sup>2</sup>Toyama National College of Technology, <sup>3</sup>Department of Immunobiology, Nihon Pharmaceutical University)
- P-145** Design of photoactivable split-GFP by incorporation of a photolabile linker  
**Seiji Sakamoto**, Yasuyuki Araki, Takehiko Wada (Institute of Multidisciplinary Research for Advanced Materials, Tohoku University)
- P-146** Site-selective cytosine methylation with a split DNA methylase  
**Wataru Nomura**<sup>1</sup>, Hirokazu Tamamura<sup>1</sup>, Carlos F. Barbas, III<sup>2</sup> (<sup>1</sup>Institute of Biomaterials and Bioengineering, Tokyo Medical and Dental University, <sup>2</sup>Departments of Chemistry and Molecular Biology, The Scripps Research Institute)
- P-147** Theoretical design of new conjugated systems in main-chain of peptides  
**Takuya Kawaguchi**<sup>1</sup>, Yoshiaki Hirano<sup>2</sup>, Masahito Oka<sup>1</sup> (<sup>1</sup>Laboratory of Biomolecular Science, Osaka Prefecture University, <sup>2</sup>Faculty of Chemistry, Materials and Bioengineering, Kansai University)
- P-148** Molecular dynamics simulations of  $\alpha$ -hairpin structures in aqueous solution system  
Takuya Kawaguchi<sup>1</sup>, Yoshiaki Hirano<sup>2</sup>, **Masahito Oka**<sup>1</sup> (<sup>1</sup>Laboratory of Biomolecular Science, Osaka Prefecture University, <sup>2</sup>Faculty of Chemistry, Materials and Bioengineering, Kansai University)
- P-149** Affinity maturation of antibody Fc-binding peptide motif by designated phage display library  
**Sayaka Kakoi**, Yuji Ito, Jun Hayashida, Kotaro Sakamoto, Shuhei Hashiguchi, Kazuhisa Sugimura (Department of Bioengineering, Faculty of Engineering, Kagoshima University)
- P-150** Synthesis and properties of polymeric micelles consisting of depsipeptide-poly(ethylene glycol) block copolymer for drug delivery  
**Hiroaki Sunaga**<sup>1</sup>, Hiroyuki Oku<sup>1</sup>, Keiichi Yamada<sup>1</sup>, Ryoichi Katakai<sup>2</sup>, Ichiro Matsuo<sup>1</sup> (<sup>1</sup>Department of Chemistry and Chemical Biology, <sup>2</sup>Incubation Center, Gunma University)
- P-151** Two types of cation binding sites on elastomeric polypeptides: effects on self-assembly process and elastomeric functions

- Akihiko Okajima**<sup>1</sup>, Yuji Tanaka<sup>2</sup>, Junko Kuwahara<sup>3</sup>, Masayuki Nito<sup>2</sup>, Iori Maeda<sup>1</sup>, Kouji Okamoto<sup>1</sup>, Kozue Kaibara<sup>1</sup> (<sup>1</sup>Department of Biological Functions and Engineering, Kyushu Institute of Technology, <sup>2</sup>Department of Environmental Science and Technology, Kyushu Kyoritsu University, <sup>3</sup>Department of Life, Environment and Material Science, Fukuoka Institute of Technology)
- P-152** Self-assembling cyclic peptides for peptide nanotube formation  
**Tamaki Kato**<sup>1</sup>, Mai Yoshizaki<sup>1</sup>, Junko Kuwahara<sup>2</sup>, Norikazu Nishino<sup>1</sup> (<sup>1</sup>Graduate School of Life Sciences and Systems Engineering, Kyushu Institute of Technology, <sup>2</sup>Faculty of Engineering, Fukuoka Institute of Technology)
- P-153** ER $\alpha$ /ERR $\alpha$  nuclear receptor heterodimer directly linked by a FLAG peptide  
**Shin Ikeda**, Ayami Matsushima, Yasuyuki Shimohigashi (Laboratory of Structure-Function Biochemistry, Department of Chemistry, Faculty and Graduate School of Sciences, Kyushu University)
- P-154** Molecular recognition of prion protein via its N-terminal octapeptide repeat structure  
**Yuji Horiuchi**, Eriko Hattori, Satoru Yokotani, Ayami Matsushima, Yasuyuki Shimohigashi (Laboratory of Structure-Function Biochemistry, Department of Chemistry, Faculty and Graduate School of Sciences, Kyushu University)
- P-155** Bisphenol A-specific nuclear receptor ERR $\gamma$ : Structure-function analysis of the two novel isoforms lacking vital peptide fragment in the ligand binding domain  
 Yukimasa Takeda<sup>1</sup>, Xiaohui Liu<sup>1</sup>, Miho Sumiyoshi<sup>2</sup>, Ayami Matsushima<sup>1</sup>, Miki Shimohigashi<sup>2</sup>, **Yasuyuki Shimohigashi**<sup>1</sup> (<sup>1</sup>Department of Chemistry, Faculty of Science, Kyushu University, <sup>2</sup>Division of Biology, Faculty of Science, Fukuoka University)
- P-156** Rapid protein digestion by protease-immobilized microreactor  
**Hiroshi Yamaguchi**<sup>1</sup>, Masaya Miyazaki<sup>1,2</sup>, Takeshi Honda<sup>1</sup>, Hideaki Maeda<sup>1,2</sup> (<sup>1</sup>Nanotechnology Research Institute, National Institute of Advanced Industrial Science and Technology, <sup>2</sup>Interdisciplinary Graduate School of Engineering Science, Kyushu University)
- P-157** Induced-fit type ligand binding by free-rotatory Leu residue present in the 7th  $\alpha$ -helix peptide in the estrogen-related receptor (ERR $\gamma$ )  
**Ayami Matsushima**<sup>1</sup>, Hiroyuki Okada<sup>1</sup>, Xiaohui Liu<sup>1</sup>, Takatoshi Tokunaga<sup>1</sup>, Takamasa Teramoto<sup>2</sup>, Yoshimitsu Kakuta<sup>2</sup>, Yasuyuki Shimohigashi<sup>1</sup> (<sup>1</sup>Department of Chemistry, Faculty and Graduate School of Sciences, Kyushu University, <sup>2</sup>Department of Bioscience and Biotechnology, Faculty of Agriculture, Kyushu University)
- P-158** Intermolecular interactions between chlorophylls and peptide motifs in photosynthetic reaction centers  
 Toru Oba, **Tetsuya Sato**, Kanae Togo, Yoshimi Yoshioka, Kaori Doi, Satoshi Ito, Kazuhisa Hiratani (Graduate School of Engineering, Department of Material and Environmental Chemistry, Utsunomiya University)
- P-159** Expression mechanism of INS-18, one of the insulin-like peptides, in *C. elegans*  
**Yohei Matsunaga**<sup>1</sup>, Gengyo-Ando Keiko<sup>2,3</sup>, Shohei Mitani<sup>2,3</sup>, Tsuyosi Kawano<sup>1</sup> (<sup>1</sup>Department of Bioresource Sciences, Faculty of Agriculture, Tottori University, <sup>2</sup>Department of Physiology, Tokyo Women's Medical University, School of Medicine, <sup>3</sup>CREST, JST)
- P-160** Resin-bound peptide catalyzed asymmetric synthesis under aqueous conditions  
 Kengo Akagawa, Hajime Akabane, Takuma Fujiwara, Takuhiro Yamashita, Seiji Sakamoto, **Kazuaki Kudo** (Institute of Industrial Science, The University of Tokyo)
- P-161** Oligomerization of adiponectin and interaction between adiponectin and its receptor  
**Mayumi Fukuda**<sup>1</sup>, Yasuhiro Katsu<sup>1</sup>, Keiko Horikawa<sup>1</sup>, Takahiro Maruno<sup>1</sup>, Ryo Takahashi<sup>1</sup>, Kumiko Yoshizawa-Kumagaye<sup>2</sup>, Susumu Uchiyama<sup>3</sup>, Takuya Yoshida<sup>1</sup>, Tadayasu Ohkubo<sup>1</sup>, Yuji Kobayashi<sup>4</sup> (<sup>1</sup>Graduate School of Pharmaceutical Sciences, Osaka University, <sup>2</sup>Peptide Institute Inc., <sup>3</sup>Graduate School of Engineering, Osaka University, <sup>4</sup>Osaka University of Pharmaceutical Sciences)

- P-162** PPM1D430, a novel alternative splicing variant of the human PPM1D  
Yoshiro Chuman, Wataru Kurihashi, Yohei Mizukami, Takehiro Nashimoto, Hiroaki Yagi, Kazuyasu Sakaguchi (Department of Chemistry, Faculty of Science, Hokkaido University)
- P-163** Design and syntheses of fluorescent labeled peptides related to human prion and their interaction to infected mice brain homogenate  
Akiyoshi Hirata<sup>1</sup>, Takafumi Ohyama<sup>1</sup>, Midori Miyajima<sup>1</sup>, Kazuo Kasai<sup>2</sup>, Takashi Yokoyama<sup>2</sup>, Shirou Mohri<sup>2</sup>, Kiyoshi Nokihara<sup>1</sup> (<sup>1</sup>HiPep Laboratories, <sup>2</sup>Prion Disease Research Center, National Institute of Animal Health)
- P-164** NMR structural analysis of the active and inactive fragments of pheromone biosynthesis-activating neuropeptide (PBAN) from the silkworm *Bombyx mori*  
Akitoshi Okada<sup>1</sup>, Takeshi Kawai<sup>1</sup>, Arisa Sugisaka<sup>1</sup>, J. Joe Hull<sup>2</sup>, Ken-ichi Moto<sup>2</sup>, Shogo Matsumoto<sup>2</sup>, Hiromichi Nagasawa<sup>1</sup>, Koji Nagata<sup>1</sup>, Masaru Tanokura<sup>1</sup> (<sup>1</sup>Department of Applied Biological Chemistry, Graduate School of Agriculture and Life Sciences, The University of Tokyo, <sup>2</sup>Molecular Entomology Laboratory, RIKEN)
- P-165** Analysis of syndecan-mediated cell attachment and integrin-mediated cell attachment using two different peptides from laminin  
Kazuki Kobayashi, Kentaro Hozumi, Yamato Kikkawa, Motoyoshi Nomizu (School of Pharmacy, Tokyo University of Pharmacy and Life Sciences)