

# List of Poster Presentations

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- P001** Design and Synthesis of Nucleoside Phosphonate Constructed on a Branched-Tetrofuranose Skeleton  
Yuichi Yoshimura, Y. B. Kiran, Hideaki Wakamatsu, Yoshihiro Natori, Hiroki Takahata  
Tohoku Pharmaceutical University
- P002** Kinetic analysis of hydrolytic reaction of homo- and heterochiral RNA dimers including adenine and uracil bases.  
Iroha Shibata, Yuki Nakatani, Atsushi Sato, Osamu Nakagawa, Shun-ichi Wada, Hidehito Urata  
Osaka University of Pharmaceutical Sciences
- P003** Synthesis of  $O^6$ -phosphoryl inosine derivatives by phosphitylation of carbonyl oxygen  
Natsuhisa Oka, Yasuhiro Morita<sup>1)</sup>, Yuta Itakura<sup>1)</sup>, Kaori Ando<sup>1)</sup>  
Gifu University, Faculty of Engineering, Department of Chemistry and Biomolecular Science
- P004** Acyclic Nucleoside Bisphosphonates as Inhibitors of 6-Oxopurine Phosphoribosyltransferases  
Dana Hocková<sup>1)</sup>, Dianne T. Keough<sup>2)</sup>, Petr Špaček<sup>1)</sup>, Zlatko Janeba<sup>1)</sup>, Lieve Naesens<sup>3)</sup>, Michael D. Edstein<sup>4)</sup>, Marina Chavchich<sup>4)</sup>, Tzu-Hsuan Wang<sup>2)</sup>, John de Jersey<sup>2)</sup>, Luke W. Guddat<sup>2)</sup>  
1) Institute of Organic Chemistry and Biochemistry, Academy of Sciences of the Czech Republic, 2) School of Chemistry and Molecular Biosciences, University of Queensland, QLD-4072, Brisbane, Australia, 3) Rega Institute for Medical Research, KU Leuven, B-3000, Belgium, 4) Australian Army Malaria Institute, Enoggera, QLD-4051, Brisbane, Australia
- P005** Synthesis and the property of a novel 2',4'-BNA with 2,6-dioxabicyclo[3.2.1]oct-3-ene skeleton  
Takashi Osawa, Yoshiyuki Hari, Satoshi Obika  
Graduate School of Pharmaceutical Sciences, Osaka University
- P006** Sequence specific Adenine modification of RNA by functionality- transfer ODN accelerated by metal cations  
Ikuya Oshiro, Daichi Jitsuzaki, Atsusi Nishimoto, Kazumitsu Onizuka, Yosuke Taniguchi, Shigeki Sasaki  
Kyushu University, Graduate School of Pharmaceutical Sciences
- P007** Syntheses and properties of nucleic acids having constrained pyranose as the sugar moiety  
Kazuto Mori<sup>1)</sup>, Tetsuya Kodama<sup>2)3)</sup>, Satoshi Obika<sup>1)</sup>  
1) Graduate School of Pharmaceutical Sciences, Osaka University, 2) Graduate School of Pharmaceutical Sciences, Nagoya University, 3) Structural Biology Research Center and Division of Biological Science, Graduate School of Science, Nagoya University
- P008** Synthesis of nucleosides possessing fluorescent group *via* nucleobase-exchange reaction of thymidine phosphorylase  
Akihiko Hatano, Kouhei Kawabata, Masayuki Kurosu  
Shibaura Institute of Technology, Department of Chemistry

- P009** Selenomethylene Locked Nucleic Acid (SeLNA) Bearing a Purine Base  
Yoshihiro Moai<sup>1)</sup>, Tetsuya Kodama<sup>1)2)</sup>, Kunihiro Morihira<sup>3)4)</sup>, Hidekazu Hiroaki<sup>1)2)5)</sup>, Satoshi Obika<sup>3)4)</sup>  
 1) Graduate School of Pharmaceutical Sciences, Nagoya University, 2) Structural Biology Research Center and Division of Biological Science, Graduate School of Science, Nagoya University, 3) Graduate School of Pharmaceutical Sciences, Osaka University, 4) Laboratory of Biopharmaceutical Research, National Institute of Biomedical Innovation (NIBIO), 5) Cellular and Structural Physiology Institute (CeSPI), Nagoya University
- P010** Fluorescent “on-off” Switching under Hybridization of DNA and RNA with Dansyl-modified Oligonucleotides  
Yoshio Suzuki<sup>1)</sup>, Keiko Kowata<sup>2)</sup>, Yasuo Komatsu<sup>2)</sup>  
 1) National Institute of Advanced Industrial Science and Technology, Biomedical Research Institute, 2) National Institute of Advanced Industrial Science and Technology, Bioproduction Research Institute
- P011** Synthesis and properties of functionalized dumbbell oligodeoxynucleotides by Cu(I) catalyzed alkyne-azide cycloaddition  
Takuya Sunadome, Hideaki Ueno, Satoshi Ichikawa, Akira Matsuda  
 Hokkaido University, Faculty of pharmaceutical Sciences
- P012** Chemical synthesis of U1 snRNA derivatives  
Haruki Kobayashi, Akihiro Ohkubo, Makoto Suzuki, Takashi Kanamori, Yoshiaki Masaki, Kohji Seio, Mitsuo Sekine, Hideya Yuasa  
 Tokyo Institute of Technology, Department of Life Science
- P013** Studies on Effects of Introduction of Phenylboronic Acids Derivatives upon Anti - Syn Orientation Control of Peptide Ribonucleic Acids (PRNA) toward Cancer Cell Specific Oligonucleotide Therapeutics  
Ryohei Uematsu<sup>1)</sup>, Tatsuya Mizutani<sup>1)</sup>, Yasuyuki Araki<sup>1)</sup>, Seiji Sakamoto<sup>1)</sup>, Junpei Ariyoshi<sup>2)</sup>, Asako Yamayoshi<sup>2)</sup>, Akira Murakami<sup>2)</sup>, Takehiko Wada<sup>1)</sup>  
 1) Tohoku University, Institute of Multidisciplinary Research for Advanced Materials, 2) Kyoto Institute of Technology, Graduate School of Science and Technology
- P014** Synthesis and evaluation of GFP-inspired nucleosides for photoregulation of DNA duplex formation  
Yuya Sakata, Taichiro Arai, Isao Yamamoto, Asako Yamayoshi, Akira Murakami, Akio Kobori  
 Kyoto Institute of Technology, Department of Biomolecular Engineering
- P015** Effect of pseudo-pyrimidine bases on peptide nucleic acid duplex formation stability  
Kenji Takagi, Kunihiro Kaihatsu, Zhou Yiting, Nobuo Kato  
 The Institute of Scientific and Industrial Research
- P016** Development of the Oxidation Induced Cross-link Reaction  
Shuhei Kusano<sup>1)</sup>, Takuya Haruyama<sup>1)</sup>, Nao Iwamoto<sup>1)</sup>, Shinya Hagihara<sup>2)</sup>, Fumi Nagatsugi<sup>1)</sup>  
 1) Tohoku University, IMRAM, 2) Nagoya University, WPI-ITbM
- P017** ODN containing functionalized thioguanosine: Useful tools for selective guanosine RNA targeting.  
Jan Bárta, Daichi Jitsuzaki, Yosuke Taniguchi, Shigeki Sasaki  
 Kyushu University - Bioorganic and Synthetic Chemistry
- P018** SYNTHESIS OF ACYCLIC AND MACROCYCLIC URACIL OLIGOMERS - OLIGONUCLEOTIDE ANALOGUES  
Anton Nikolaev, Vyacheslav Semenov, Liliya Saifina, Vladimir Reznik  
 A.E. Arbusov Institute of Organic and Physical Chemistry

- P019** Synthesis of pro-drug type oligonucleotides having biodegradable protecting groups  
Naoki Sagawa, Takahito Tomori, Hisao Saneyoshi, Itaru Okamoto, Akira Ono  
 Kanagawa University, Department of Material and Life Chemistry
- P020** Nucleobase modified neamines with L-lysine as a linker, their binding toward hairpin RNAs  
Ryo Inoue, Kentaro Watanabe, Toyofusa Katou, Yasunori Ikezawa, Keita Hamasaki  
 Shibaura Institute of Technology, Department of Applied Chemistry
- P021** Development of hypoxia activatable protecting groups for nucleotides and oligonucleotides for pro-drug approach  
Koichi Iketani, Itaru Okamoto, Hisao Saneyoshi, Akira Ono  
 Kanagawa University, Department of Material and Life Chemistry
- P022** Synthesis and evaluation of novel 3-(3,5-dimethylbenzyl) uracil analogs as potential anti-HIV-1 agents  
Norikazu Sakakibara<sup>1)</sup>, Takayuki Hamasaki<sup>2)</sup>, Masanori Baba<sup>2)</sup>, Yosuke Demizu<sup>3)</sup>, Masaaki Kurihara<sup>3)</sup>, Kohji Irie<sup>1)</sup>, Masatoshi Iwai<sup>1)</sup>, Yoshihisa Kato<sup>1)</sup>, Tokumi Maruyama<sup>1)</sup>  
 1) Tokushima Bunri University, Faculty of Pharmaceutical Sciences at Kagawa Campus, 2) Kagoshima University, Division of Antiviral Chemotherapy, Center for Chronic Viral Diseases, Graduate School of Medical and Dental Sciences, 3) National Institute of Health Sciences, Division of Organic Chemistry
- P023** Synthesis and Biological Evaluation of Targeted Transcriptional Activators  
Abhijit Saha<sup>1)</sup>, Ganesh N. Pandian<sup>2)</sup>, Junichi Taniguchi<sup>1)</sup>, Shinsuke Sato<sup>2)</sup>, Kaori Hashiya<sup>1)</sup>, Toshikazu Bando<sup>1)</sup>, Hiroshi Sugiyama<sup>1)2)</sup>  
 1) Department of Science, Graduate School of Science, Kyoto University, Sakyo, Kyoto 606-8502, 2) Institute for Integrated Cell-Material Sciences (iCeMS), Kyoto University, Yoshida Ushinomiya-cho, Sakyo, Kyoto 606-8502
- P024** Regulation of ribosomal frameshift by RNA interacting ligand in cells  
Tamaki Endoh<sup>1)</sup>, Naoki Sugimoto<sup>1)2)</sup>  
 1) Frontier Institute for Biomolecular Engineering Research (FIBER), Konan University, 2) Faculty of Frontiers of Innovative Research in Science and Technology (FIRST), Konan University
- P025** Effect of nucleation site on DNA hybridization kinetics at living cell surface  
Ambadas B. Rode<sup>1)</sup>, Tamaki Endoh<sup>1)</sup>, Hisae Tateishi-Karimata<sup>1)</sup>, Shuntaro Takahashi<sup>1)</sup>, Naoki Sugimoto<sup>1)2)</sup>  
 1) Frontier Institute for Biomolecular Engineering Research (FIBER), Konan University, 2) Faculty of Frontiers of Innovative Research in Science and Technology (FIRST), Konan University
- P026** Development of 2'-O-Methyldithiomethyl-Modified RNA as Prodrug-siRNA: Reducing-Environment-Dependent Uncatalyzed Chemical Transforming RNA, "REDUCT-RNA"  
Osamu Nakagawa, Yosuke Ochi, Katsunori Sakaguchi, Katsuma Sobo, Tomohiro Mikami, Shun-ichi Wada, Hidehito Urata  
 Osaka University of Pharmaceutical Sciences
- P027** Thermodynamic analyses reveal the G-quadruplex stability is reduced at phospholipid membrane surface  
Smritimoy Pramanik<sup>1)</sup>, Hisae Tateishi-Karimata<sup>1)</sup>, Naoki Sugimoto<sup>1)2)</sup>  
 1) Frontier Institute for Biomolecular Engineering Research (FIBER), Konan University, 2) Faculty of Frontiers of Innovative Research in Science and Technology (FIRST), Konan University
- P028** Formation of Silver(I) ion-mediated C-T mispair by DNA polymerases  
Junko Nakamura, Tatsuya Funai, Osamu Nakagawa, Shun-ichi Wada, Hidehito Urata  
 Osaka University of Pharmaceutical Sciences

- P029** G-quadruplex-based drug delivery carrier in response to target mRNA  
Hide Nobu Yaku<sup>1)2)3)</sup>, Takashi Murashima<sup>2)3)</sup>, Daisuke Miyoshi<sup>2)3)</sup>, Naoki Sugimoto<sup>2)3)</sup>  
 1) Panasonic Corporation, Advanced Technology Research Laboratories, 2) Konan University, Faculty of Frontiers of Innovative Research in Science and Technology (FIRST), 3) Konan University, Frontier Institute for Biomolecular Engineering Research (FIBER)
- P030** Formation of consecutive thymine-Hg<sup>II</sup>-thymine base pairs catalyzed by DNA polymerases  
Chizuko Tagawa<sup>1)</sup>, Tatsuya Funai<sup>1)</sup>, Osamu Nakagawa<sup>1)</sup>, Shun-ichi Wada<sup>1)</sup>, Hidetaka Torigoe<sup>2)</sup>, Akira Ono<sup>3)</sup>, Hidehito Urata<sup>1)</sup>  
 1) Osaka University of Pharmaceutical Sciences, 2) Department of Applied Chemistry, Faculty of Science, Tokyo University of Science, 3) Department of Material & Life Chemistry, Faculty of Engineering, Kanagawa University
- P031** Biochemical and thermodynamic properties of a cyclobutane thymine-N<sup>4</sup>-methylcytosine dimer  
Junpei Yamamoto, Tomoko Oyama, Tomohiro Kunishi, Shigenori Iwai  
 Division of Chemistry, Graduate School of Engineering Science, Osaka University
- P032** Positional Effect of 2', 4'-BNA/LNA Introduction into DNA/RNA Duplexes on Thermodynamic Parameters  
Saori Tahara<sup>1)2)</sup>, Erisa Tomita<sup>1)</sup>, Hidekazu Nagai<sup>1)2)</sup>, Satoshi Obika<sup>3)</sup>, Junji Kawakami<sup>1)2)</sup>  
 1) Konan University, FISRT, 2) Konan University, FIBER, 3) Osaka University, Graduate School of Pharmaceutical Sciences
- P033** Functional design of natural and artificial nucleic acids via *ab initio* order-*N* elongation method: computational approaches  
Yuuichi Orimoto<sup>1)</sup>, Liu Kai<sup>1)</sup>, Yuriko Aoki<sup>1)2)</sup>  
 1) Kyushu University, Department of Material Sciences, Faculty of Engineering Sciences, 2) Japan Science and Technology Agency, CREST
- P034** Thermodynamics of non-canonical DNA structures in the presence of polylysine copolymers with hydrophilic graft chain  
Daisuke Miyoshi<sup>1)2)</sup>, Atsushi Maruyama<sup>3)</sup>, Yu-mi Ueda<sup>1)</sup>, Naohiko Shimada<sup>3)</sup>, Shu-ichi Nakano<sup>1)2)</sup>, Naoki Sugimoto<sup>1)2)</sup>  
 1) Konan University, Faculty of Frontiers of Innovative Research in Science and Technology (FIRST), 2) Konan University, Frontier Institute for Biomolecular Engineering Research (FIBER), 3) Tokyo Institute of Technology, Graduate School of Bioscience and Biotechnology
- P035** Synthesis and photophysical properties of environmentally sensitive 8-aza-7-deazapurine nucleosides forming stable Watson-Crick base pairs  
Azusa Suzuki<sup>1)</sup>, Yuki Yamasaka<sup>1)</sup>, Isao Saito<sup>2)</sup>, Yoshio Saito<sup>1)</sup>  
 1) College of Engineering, Nihon University, Department of Chemical Biology and Applied Chemistry, 2) College of Engineering, Nihon University, NEWCAT Institute
- P036** Photooxidation of guanine in quadruplex DNA by UVA radiation with riboflavin  
Masayuki Morikawa<sup>1)</sup>, Takanori Oyoshi<sup>2)</sup>, Masayo Suzuki<sup>1)</sup>, Takanobu Kobayashi<sup>1)</sup>, Hiroshi Miyazawa<sup>1)</sup>, Katsuhito Kino<sup>1)</sup>  
 1) Tokushima Bunri University, Kagawa School of Pharmaceutical Sciences, 2) Shizuoka University, Department of Chemistry, Faculty of Science
- P037** Improving gene regulation ability of bacterial small RNAs by scaffold engineering  
Yuta Sakai<sup>1)2)</sup>, Koichi Abe<sup>1)2)</sup>, Saki Nakashima<sup>1)2)</sup>, Wataru Yoshida<sup>1)2)</sup>, Stefano Ferri<sup>1)2)</sup>, Koji Sode<sup>1)2)</sup>, Kazunori Ikebukuro<sup>1)2)</sup>  
 1) Tokyo University of Agriculture and Technology, Department of Biotechnology and Life Science, 2) Japan Science and Technology Agency, CREST

- P038** Sequence-Dependent Binding of the Amphiphilic DNA to Lipid Bilayer Membrane  
Koichi Matsuzaki<sup>1)</sup>, Tomonori Shibata<sup>1)</sup>, Shingo Makishi<sup>1)</sup>, Chikara Dohno<sup>1)2)</sup>, Kazuhiko Nakatani<sup>1)</sup>  
 1) Osaka University; The institute of Scientific and Industrial Research, 2) PRESTO, Japan Science and Technology Agency
- P039** Evaluation of the activity of Tet protein by using 5'-dCGmCGCG-3'  
Seiichiro Kizaki<sup>1)</sup>, Hiroshi Sugiyama<sup>1)2)</sup>  
 1) Kyoto University, Graduate School of Science, Department of Chemistry, 2) Kyoto University, Institute for Integrated Cell-Material Sciences (iCeMS)
- P040** FRET-based detection of G-quadruplexes in the 5'-UTR of cancer related mRNAs  
Ryuichi Maeda<sup>1)</sup>, Valérie Gabelica<sup>2)</sup>, Hidenobu Yaku<sup>1)3)4)</sup>, Takashi Murashima<sup>1)3)</sup>, Naoki Sugimoto<sup>1)3)</sup>, Daisuke Miyoshi<sup>1)3)</sup>  
 1) Konan University, Faculty of Frontiers of Innovative Research in Science and Technology (FIRST), 2) University of Bordeaux, U869 ARNA Laboratory, 3) Konan University, Frontier Institute for Biomolecular Engineering Research (FIBER), 4) Panasonic Corp., ATRL
- P041** Synthesis and characterization of thrombin aptamers containing an imidazole-tethered base  
Satoshi Katsube<sup>1)</sup>, Makoto Miyagishi<sup>2)</sup>, Shigenori Iwai<sup>1)</sup>  
 1) Osaka University, Graduate School of Engineering Science, 2) National Institute of Advanced Industrial Science and Technology, Biomedical Research Institute
- P042** Electron Transport through 5-Substituted Pyrimidines in DNA  
Takeo Ito, Ryohsuke Kurihara, Nihiro Utsumi, Kazuhito Tanabe  
 Kyoto University, Department of Energy and Hydrocarbon Chemistry
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Yoshikazu Hashimoto, Tatsuya Toga, Isao Kuraoka, Shigenori Iwai  
 Osaka University, Graduate School of Engineering Science
- P044** Generation of high-affinity DNA aptamers using a genetic alphabet expansion system  
Ken-ichiro Matsunaga<sup>1)</sup>, Michiko Kimoto<sup>1)2)</sup>, Masami Aoki-Kawasumi<sup>1)</sup>, Ichiro Hirao<sup>1)2)</sup>  
 1) Synthetic Molecular Biology Team, Division of Structural and Synthetic Biology, RIKEN Center for Life Science Technologies, 2) TagCyx Biotechnologies, Japan
- P045** Fluorescent properties of DNA triplexes containing deoxyuridines modified with 4-(*p*-hydroxybenzylidene)-5-imidazolinone derivatives.  
Akihiro Takamura<sup>1)</sup>, Takashi Kanamori<sup>2)</sup>, Yoshiaki Masaki<sup>1)</sup>, Akihiro Ohkubo<sup>1)</sup>, Mitsuo Sekine<sup>1)</sup>, Kohji Seio<sup>1)</sup>  
 1) Tokyo Institute of Technology, School and Graduate School of Bioscience and Biotechnology, 2) Tokyo Institute of Technology, Education Academy of Computational Life Science
- P046** Development of the new DNA and RNA photocrosslinker having threoninol skeleton with 3-cyanovinylcarbazole  
Yuuya Tanaka<sup>1)</sup>, Takashi Sakamoto<sup>1)</sup>, Kenzo Fujimoto<sup>1)2)</sup>  
 1) School of Materials Science, Japan Advanced Institute of Science and Technology, 2) Research Center for Bio-Architecture, Japan Advanced Institute of Science and Technology
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Kazuki Futai, Makoto Komiyama  
 University of Tsukuba, Life Science Center of Tsukuba Advanced Research Alliance

- P048** Synthesis of a RNA detecting probe which binds a 3'-end sequence of a target RNA and increase fluorescence intensity  
Kentaro Ohno, Hisao Saneyoshi, Akira Ono, Itaru Okamoto  
 Kanagawa University, Faculty of Engineering, Department of Material & Life Chemistry
- P049** Chromosome painting by using click chemistry: A light-up approach  
Takumi Ishizuka, Yan Xu  
 University of Miyazaki, Division of Chemistry, Department of Medical Sciences Faculty of Medicine
- P050** Synthesis and properties of the DNA probe having modified pyrimidine bases  
Kana kozo, Hisao Saneyoshi, Itaru Okamoto, Akira Ono  
 Kanagawa University, Department of Material and Life Chemistry
- P051** DNA-based Epigenetic Switches to Control Cell Fate  
Ganesh N. Pandian<sup>1)</sup>, Han Le<sup>2)</sup>, Junichi Taniguchi<sup>2)</sup>, Shinsuke Sato<sup>1)</sup>, Syed Junetha<sup>2)</sup>, Toshikazu Bando<sup>2)</sup>, Hiroshi Sugiyama<sup>1)2)</sup>  
 1) WPI-iCeMS, Kyoto University, 2) Department of Chemistry, Graduate School of Science, Kyoto University, Sakyo, Kyoto 606-8501, Japan.
- P052** Study on non-enzymatic depurination of nucleic acids: factors and mechanism  
Ran An, Yu Jia, Baihui Wan, Jing Li, Xingguo Liang  
 Ocean University of China, College of Food Science and Engineering
- P053** Site-selective lysine modification in the DNA replication initiator DnaA by nucleic acids carrying 1,4-dicarbonyl groups  
Bo Yang, Kazuteru Usui, Hiroshi Suemune, Mariko Aso  
 Kyushu University, Graduate School of Pharmaceutical Sciences
- P054** Allosteric control of DNA-hydrolyzing deoxyribozyme by short oligonucleotides  
Kazuhiro Furukawa, Noriaki Minakawa  
 The University of Tokushima
- P055** The calculated stability of DNA duplexes containing DNA damages pairing with guanine  
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 Tokushima Bunri University
- P056** Fluorogenic biosensors based on site-specific binding of perylenediimide derivatives to unstable sites in nucleic acids  
Kosato Yamaguchi, Tadao Takada, Mitsunobu Nakamura, Kazushige Yamana  
 University of Hyogo, Department of Materials Science and Chemistry
- P057** Synthesis of circular decoy DNA containing unnatural base pair ImO<sup>N</sup>: NaN<sup>O</sup> by CuAAC reaction  
Yosuke Higuchi, Kazuhiro Furukawa, Noriaki Minakawa  
 The University of Tokushima, Graduate School of Pharmaceutical Sciences
- P058** Consideration of insufficient yield in oligonucleotide synthesis containing 4'-selenonucleosides  
Koya Hayashi<sup>1)2)</sup>, Noriko Tarashima<sup>1)</sup>, Maki Terasaki<sup>2)</sup>, Kazuhiro Furukawa<sup>1)</sup>, Shinji Fukuda<sup>2)</sup>, Noriaki Minakawa<sup>1)</sup>  
 1) The University of Tokushima, Graduate School of Pharmaceutical Sciences, 2) Nihon Waters K.K.



- P059** DNA-templated oligomerization of perylene diimide chromophores via Schiff base formation  
Misa Ido, Tadao Takada, Mitsunobu Nakamura, Kazushige Yamana  
University of Hyogo, Department of Materials Science and Chemistry
- P060** An artificial riboswitch driven by a synthetic RNA-binding ligand  
Chikara Dohno<sup>1)2)</sup>, Izumi Kohyama<sup>1)</sup>, Maki Kimura<sup>1)</sup>, Masaki Hagihara<sup>1)</sup>, Kazuhiko Nakatani<sup>1)</sup>  
1) Osaka University, the Institute of Scientific and Industrial Research, 2) PRESTO, JST
- P061** Synthesis and Properties of Novel Oligocationic Peptides which Recognize the Structures of Nucleic Acid Duplexes  
Yusuke Maeda<sup>1)2)</sup>, Rintarou Iwata<sup>1)2)</sup>, Takeshi Wada<sup>1)2)3)</sup>  
1) Tokyo University of Science, Faculty of Pharmaceutical Sciences, Department of Medicinal and Life Science, 2) JST-CREST, 3) The University of Tokyo, Department of Medical Genome Sciences
- P062** Inhibition of DNA chain elongation by topoisomerase inhibitors in *Xenopus* egg extract  
Shunji Izuta, Natsumi Tohnoue, Noriaki Harada  
Kumamoto University, Graduate School of Science and Technology
- P063** DNA aptamers for receptor signaling inhibition  
Ryosuke Ueki, Shinsuke Sando  
Kyushu University, INAMORI Frontier Research Center
- P064** Unique binding mode of choline ions affecting the structural stability of Watson-Crick base pairs in DNA duplex  
Miki Nakano<sup>1)</sup>, Hisae Tateishi-Karimata<sup>1)</sup>, Naoki Sugimoto<sup>2)</sup>  
1) Konan University, Frontier Institute for Biomolecular Engineering Research (FIBER), 2) Konan University, Frontiers of Innovative Research in Science and Technology (FIRST)
- P065** Optimized sequence specific alkylation of tandem Py-Im polyamides  
Rhys Taylor<sup>1)</sup>, Yusuke Kawamoto<sup>1)</sup>, Kaori Hashiya<sup>1)</sup>, Toshikazu Bando<sup>1)</sup>, Hiroshi Sugiyama<sup>1)2)</sup>  
1) Kyoto University Department of Chemistry, 2) iCeMS, Kyoto University
- P066** Design of linear probe which can detect target RNA and its application to the fluorescent imaging of mRNA in cells.  
Mariko Akahane, Yukiko Kamiya, Hiromu Kashida, Hiroyuki Asanuma  
Nagoya University
- P067** Synthesis and evaluation of novel Hoechst derivatives for cooperative binding to repeating DNA sequences  
Hironori Koda<sup>1)</sup>, John Brazier<sup>2)</sup>, Shigeki Sasaki<sup>1)</sup>  
1) Graduate School of Pharmaceutical Sciences, Kyushu University, 2) School of Pharmacy, University of Reading
- P068** Synthesis and Properties of  $\beta$ -Hairpin Peptides which Bind to Nucleic Acid Duplexes  
Haruna Fujimaki<sup>1)2)3)</sup>, Yusuke Maeda<sup>2)3)</sup>, Takeshi Wada<sup>1)2)3)</sup>  
1) The University of Tokyo, Department of Medical Genome Science, 2) JST-CREST, 3) Tokyo University of Science, Department of Medicinal and Life Science
- P069** Synthesis of the restrained naphthyridine dimer and the exploration for binding RNA by *in vitro* selection  
Yue Di, Takahiro Otabe, Jinxing Li, Asako Murata, Kazuhiko Nakatani  
Osaka University, The Institute of Scientific and Industrial Research

- P070** Construction of expression system of human 8-oxoguanine glycosylase 1 for its mechanistic analysis  
Daichi Sato<sup>1)</sup>, Momoko Yoneyama<sup>2)</sup>, Ikumi Kawahara<sup>2)</sup>, Kyoko Furuita<sup>2)</sup>, Yoshinori Kondo<sup>1)</sup>, Chojiro Kojima<sup>2)</sup>, Yoshiyuki Tanaka<sup>1)</sup>  
 1) Tohoku University, Graduate School of Pharmaceutical Sciences, 2) Osaka University, Institute for Protein Research
- P071** Origin of the anti-prion activity of quadruplex  
Tsukasa Mashima<sup>1)</sup>, Fumiko Nishikawa<sup>2)</sup>, Yuji O. Kamatari<sup>3)</sup>, Masayuki Saimura<sup>1)</sup>, Takashi Nagata<sup>1)4)</sup>, Satoshi Nishikawa<sup>2)</sup>, Kazuo Kuwata<sup>5)</sup>, Masato Katahira<sup>1)4)</sup>  
 1) Kyoto University, Institute of Advanced Energy, 2) National Institute of Advanced Industrial Science and Technology, 3) Gifu University, Life Science Research Center, 4) Kyoto University, Graduate School of Energy Science, 5) Gifu University, United Graduate School of Drug Discovery and Medical Information Sciences
- P072** Cell Adhesion Control by Cell Surface Anchored Aptamer  
Kohei Kuwahata, Takeshi Tokunaga, Akira Tsuchiya, Shinsuke Sando  
 Kyushu University, INAMORI Frontier Research Center
- P073** Analysis of the HIV Rev-RRE complex using a bacterial reporter assay  
Satoshi Tanamura, Hiroto Terakado, Kazuo Harada  
 Tokyo Gakugei University, Department of Life Sciences
- P074** Design, synthesis, and evaluation of DNA-modified nano materials for drug delivery system  
Rina Hoshika, Akira Tsuchiya, Shinsuke Sando  
 Kyushu university, INAMORI Frontier Research Center
- P075** Multi-site binding of high affinity aptamers against AML1 Runt domain  
Ryo Amano<sup>1)</sup>, Yusuke Nomura<sup>1)2)</sup>, Takashi Nagata<sup>3)4)</sup>, Naohiro Kobayashi<sup>5)</sup>, Yoko Mori<sup>1)</sup>, Junichi Fukunaga<sup>6)</sup>, Yoichiro Tanaka<sup>6)</sup>, Masato Katahira<sup>3)4)</sup>, Yoshikazu Nakamura<sup>7)8)</sup>, Tomoko Kozu<sup>6)</sup>, Taiichi Sakamoto<sup>1)</sup>  
 1) Department of Life and Environmental Sciences, Faculty of Engineering, Chiba Institute of Technology, 2) Department of Applied Chemistry, Faculty of Science, Tokyo University of Science, 3) Institute of Advanced Energy, Kyoto University, 4) Department of Fundamental Energy Science, Kyoto University, 5) Institute for Protein Research, Osaka University, 6) Research Institute for Clinical Oncology, Saitama Cancer Center, 7) Department of Basic Medical Sciences, Institute of Medical Science, University of Tokyo, 8) RIBOMIC Inc.
- P076** Screening and Improvement of DNA Aptamers against Hepatocyte Growth Factor by *in silico* Approaches  
Tomomi Yokoyama<sup>1)</sup>, Wataru Yoshida<sup>1)2)</sup>, Taiki Saito<sup>1)</sup>, Kazunori Ikebukuro<sup>1)2)</sup>  
 1) Department of Biotechnology and Life Science, Graduate School of Engineering, Tokyo University of Agriculture and Technology, 2) JST, CREST
- P077** Novel sequence-specific DNA binding small molecules for gene silencing  
Junetha Syed<sup>1)2)</sup>, Ganesh N. Pandian<sup>2)</sup>, Anandhakumar Chandran<sup>1)</sup>, Shinsuke Sato<sup>2)</sup>, Kaori Hashiya<sup>1)</sup>, Toshikazu Bando<sup>1)</sup>, Hiroshi Sugiyama<sup>1)2)</sup>  
 1) Department of chemistry, Graduate School of Science, Kyoto University, 2) Institute for Integrated Cell-Material Sciences (iCeMS), Kyoto University, Yoshida Ushinomiya-cho, Sakyo-Ku, Kyoto 606-8501, Japan.
- P078** Synthesis of peptide-DNA conjugates as imaging reagent for biological sodium ion  
Yuki Imaichi<sup>1)</sup>, Kojiro Sota<sup>1)</sup>, Haruka Koga<sup>2)</sup>, Koji Nakazawa<sup>2)</sup>, Shinobu Sato<sup>1)3)</sup>, Shigeori Takenaka<sup>1)3)</sup>  
 1) Kyushu Institute of Technology, Department of Applied Chemistry, 2) The University of Kitakyushu, 3) Kyushu Institute of Technology, Research Center for Bio-microsensing Technology



- P079** NMR analysis of xanthine:cytosine mismatch in DNA duplex  
Tomohiro Imagawa<sup>1)</sup>, Seung Pil Pack<sup>2)</sup>, Kunihiko Tajima<sup>1)</sup>, Kenji Kanaori<sup>1)</sup>  
1) Kyoto Institute of Technology, Department of Biomolecular Engineering, 2) Korea University, Department of Biotechnology and Bioinformatics
- P080** Interaction of DNA with novel cyclic naphthalene diimide derivative  
Yugo Esaki<sup>1)</sup>, Shinobu Sato<sup>1)2)</sup>, Satoshi Fujii<sup>3)</sup>, Shigeori Takenaka<sup>1)2)</sup>  
1) Kyushu Institute of Technology, Department of Applied Chemistry, 2) Kyushu Institute of Technology, Research Center for Bio-microsensing Technology, 3) Kyushu Institute of Technology, Department of Bioscience and Bioinformatics
- P081** Synthesis and mercury(II) ion binding of a thymine dimer in which two thymines are linked by an alkyl chain  
Shunichi Takasaki, Hiroyuki Yabe, Hisao Saneyoshi, Itaru Okamoto, Akira Ono  
Kanagawa University, Department of Material and Life Chemistry
- P082** Synthesis of series of the peptide-DNA conjugates as imaging reagent for biological potassium ion  
Naoto Sakamoto<sup>1)</sup>, Kojiro Sota<sup>1)</sup>, Shinsuke Ohzawa<sup>1)</sup>, Keiichi Ohtsuka<sup>1)</sup>, Shinobu Sato<sup>1)2)</sup>, Shigeori Takenaka<sup>1)2)</sup>  
1) Kyushu Institute of Technology, Department of Applied Chemistry, 2) Kyushu Institute of Technology, Research Center for Bio-microsensing Technology
- P083** Detection of DNA methylation and histone modification by enzyme fused zinc finger protein  
Jinhee Lee, Wataru Yoshida, Daisuke Hiraoka, Aki Kezuka, Koichi Abe, Kazunori Ikebukuro  
Department of Biotechnology and Life Science, Graduate School of Tokyo University of Agriculture and Technology
- P084** Switch molecules designed from 2',4'-BNA aptamers  
Yuuya Kasahara<sup>1)</sup>, Yuuta Irisawa<sup>1)</sup>, Naoto Honda<sup>1)</sup>, Kunihiko Morihira<sup>2)</sup>, Satoshi Obika<sup>2)</sup>, Masayasu Kuwahara<sup>1)</sup>  
1) Graduate School of Science and Technology, Gunma University, 2) Graduate School of Pharmaceutical Sciences, Osaka University
- P085** TAR RNA induces FRET by folding Tat peptide of which placed as a linker between two florescent proteins  
Kazuki Inazawa, Tomoya Tanaka, Atsuko Kikuchi, Keita Hamasaki  
Shibaura Institute of Technology, Department of Applied Chemistry
- P086** Chemical and electrochemical analysis of dynamic structural change of UV-damaged DNA  
Shun Watanabe<sup>1)</sup>, Shun Aoki<sup>2)</sup>, Junya Chiba<sup>2)</sup>, Junpei Yamamoto<sup>1)</sup>, Masahiko Inouye<sup>2)</sup>, Shigenori Iwai<sup>1)</sup>  
1) Osaka University, Graduate School of Engineering Science, 2) University of Toyama, Graduate School of Medicine and Pharmaceutical Sciences
- P087** Interaction between silver ions and mismatched pyrrolo-dC-modified duplex DNA  
Kanako Deguchi, Hidetaka Torigoe  
Department of Applied Chemistry, Faculty of Science, Tokyo University of Science
- P088** Cation Exchange Induced G-Quadruplex Structural Dynamics Studied by Circular Dichroism Spectroscopy  
Yasuyuki Araki, Yoshiki Hamada, Makoto Murakami, Seiji Sakamoto, Takehiko Wada  
IMRAM, Tohoku University

- P089** NMR analysis of *HAC1* mRNA using site-specific isotope labeling  
Ikumi Kawahara<sup>1)2)</sup>, Yuta Ashihara<sup>2)</sup>, Kaichiro Haruta<sup>2)</sup>, Yoshiyuki Tanaka<sup>2)</sup>, Chojiro Kojima<sup>1)</sup>  
 1) Osaka University, Institute for Protein Research, 2) Tohoku University, Graduate School of Pharmaceutical Sciences
- P090** Hairpin RNA as a scaffold capable of assembling two fluorescent proteins via TAR-Tat or RRE-Rev interactions  
Yutaro Shirasaka, Takashi Harada, Daisuke Watanabe, Keita Hamasaki  
 Shibaura Institute of Technology, Department of Applied Chemistry
- P091** NMR structure of an abasic site-containing DNA captured by disulfide bond formation  
Kyoko Furuita<sup>1)</sup>, Masashi Fujita<sup>2)</sup>, Shun Watanabe<sup>2)</sup>, Toshimichi Fujiwara<sup>1)</sup>, Shigenori Iwai<sup>2)</sup>,  
 Chojiro Kojima<sup>1)</sup>  
 1) Institute for Protein Research, Osaka University, 2) Graduate School of Engineering Science, Osaka University
- P092** Inhibition of DNA Replication of Human Papillomavirus by Artificial Zinc-Finger Nucleases  
Tomoaki Mori<sup>1)2)</sup>, Takashi Mino<sup>2)</sup>, Yasuhiro Aoyama<sup>2)3)</sup>, Takashi Sera<sup>1)2)</sup>  
 1) Graduate School of Natural Science and Technology, Okayama University, 2) Graduate School of Engineering, Kyoto University, 3) Faculty of Science and Engineering, Doshisha University
- P093** Effects of tail strands on the binding activity of G-quadruplex DNA aptamers for small molecules  
Hiroto Fujita<sup>1)</sup>, Yuri Imaizumi<sup>1)</sup>, Yuuya Kasahara<sup>1)</sup>, Hiroaki Ozaki<sup>1)2)</sup>, Masayasu Kuwahara<sup>1)2)</sup>  
 1) Graduate School of Science and Technology, Gunma University, 2) Division of Molecular Science, Faculty of Science and Technology, Gunma University
- P094** Effect of chemical modifications on thermodynamic properties of duplexes under molecular crowding conditions  
Yukiko Hashizume, Hiroshi Noguchi, Hidetaka Torigoe  
 Department of Applied Chemistry, Faculty of Science, Tokyo University of Science
- P095** Efficient RNAi by DNA/RNA chimeric siRNA is associated with TRBP binding to the siRNA non-seed region.  
Tomoko Takahashi<sup>1)</sup>, Shuhei Zenno<sup>2)</sup>, Kenji Nishi<sup>1)</sup>, Kumiko Ui-Tei<sup>1)</sup>  
 1) The University of Tokyo, Graduate School of Science, Department of Biophysics and Biochemistry, 2) Maebashi Institute of Technology
- P096** Structure of Human Argonaute2 Protein and Chemically Modified siRNA  
Ayumi Takashina, Masayuki Fujii  
 Kinki University, Department of Chemistry
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Yohei Matsuyama, Asako Yamayoshi, Akio Kobori, Akira Murakami  
 Kyoto Institute of Technology, Department of Biomolecular Engineering
- P098** Diazirine-containing RNA photocrosslinking probes for capturing miRNA targets  
Kosuke Nakamoto, Yoshihito Ueno  
 Gifu University, Course of Applied Life Science, Faculty of Applied Biological Science

- P099** Synthesis and evaluation of the chemically modified dangling ends on double-stranded RNA: an RNA interference investigation  
Shunsuke Ogawa<sup>1)</sup>, Remi Nakashima<sup>2)</sup>, Mahmoud Kandeel<sup>2)</sup>, Yoshiaki Kitamura<sup>1)</sup>, Masato Ikeda<sup>2)</sup>, Yukio Kitade<sup>1)2)</sup>  
 1) Gifu University, Graduate School of Engineering, 2) Gifu University, United Graduate School of Drug Discovery and Medical Information Sciences
- P100** Hammerhead ribozyme which is responsible for a point mutation in a substrate RNA  
Mituhiko Kuriyama<sup>1)</sup>, Hisaaki Tateoka<sup>1)</sup>, Yoshinori Kondo<sup>1)</sup>, Yoshio Kato<sup>2)</sup>, Yoshiyuki Tanaka<sup>1)</sup>  
 1) Tohoku University, Graduate School of Pharmaceutical Sciences, 2) National Institute of Advanced Industrial Science and Technology, Biomedical Research Institute
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Yuichiro Aiba<sup>1)</sup>, Jiabin Hu<sup>1)</sup>, Jing Liu<sup>1)</sup>, Qin Xiang<sup>2)</sup>, Carlos Martinez<sup>2)</sup>, David R. Corey<sup>1)</sup>  
 1) University of Texas Southwestern Medical Center, Departments of Pharmacology and Biochemistry, 2) Sigma Life Science
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 Kyoto Institute of Technology, Department of Biomolecular Engineering
- P103** Synthesis and properties of modified siRNAs bearing 1,2-dideoxy-D-ribofuranose in their 3'-dangling end  
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 1) Gifu University, Graduate School of Engineering, 2) Gifu University, United Graduate School of Drug Discovery and Medical Information Sciences
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Remi Nakashima<sup>1)</sup>, Miwa Kawade<sup>2)</sup>, Yoshiaki Kitamura<sup>2)</sup>, Masato Ikeda<sup>1)2)</sup>, Yukio Kitade<sup>1)2)</sup>  
 1) Gifu University, United Graduate School of Drug Discovery and Medical Information Sciences, 2) Gifu University, Graduate School of Engineering
- P105** Development of an ultra-sensitive fluorescent probe composed of artificial nucleic acid  
Keiji Murayama, Yoshihiro Tanaka, Hiromu Kashida, Hiroyuki Asanuma  
 Nagoya University, Department of Molecular Design and Engineering
- P106** Nuclease resistance and RNAi activity of a modified double-stranded RNA containing amide-linked RNA and 2'-O-methyluridine  
Reiko Iwase, Ryouhei Takeda, Hiromasa Inagaki, Junpei Ueno  
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- P107** Cationic comb-type copolymer enhances MNzyme activity for nucleic acid detection  
Jueyuan Gao<sup>1)</sup>, Naohiko Shimada<sup>2)</sup>, Atsushi Maruyama<sup>2)</sup>  
 1) Kyushu University, School of Engineering, 2) Bioscience and Biotechnology, Tokyo Institute of Technology
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Yuta Takamatsu<sup>1)</sup>, Tadao Takada<sup>1)</sup>, Mitsunobu Nakamura<sup>1)</sup>, Kazusuke Maenaka<sup>2)</sup>, Kazushige Yamana<sup>1)</sup>  
 1) University of Hyogo, Department of Materials Science and Chemistry, 2) University of Hyogo, Department of Electrical Engineering and Computer Sciences

- P109** An advanced isothermal RCA method based on self-circularization of target sequence and its application  
Xingyu Wang<sup>1)2)</sup>, Xin Yu<sup>1)</sup>, Xiaoliang Wang<sup>1)</sup>, Masatomo Suzuki<sup>2)</sup>, Hiroyuki Asanuma<sup>2)</sup>, Ping Dong<sup>1)</sup>, Xingguo Liang<sup>1)</sup>  
 1) College of Food Science and Engineering, Ocean University of China., 2) Department of Molecular Design and Engineering, Graduate School of Engineering, Nagoya University, Chikusa, Nagoya 464-8603, Japan
- P110** Ureido-modified cationic copolymers for acceleration of DNA strand exchange reaction  
Wei Song<sup>1)2)</sup>, Naohiko Shimada<sup>2)</sup>, Atsushi Maruyama<sup>2)</sup>  
 1) Kyushu University, Department of Chemistry and Biochemistry, 2) Tokyo Institute of Technology, 4259 Nagatsuta-cho, Midori-ku, Yokohama, Kanagawa 226-8503, Japan
- P111** Sequence-specific detection of a single base pair mismatches by tolane-modified peptide nucleic acid  
Miku Okazaki, Tenko Hayashi, Kunihiro Kaihatsu, Shinjiro Sawada, Nobuo Kato  
 The Institute of Scientific and Industrial Research
- P112** Classification of periodontal disease-causing bacterium by Fourier transform infrared spectroscopy  
Masahiro Takeda<sup>1)</sup>, Satoshi Fujii<sup>2)</sup>, Toshinori Okinaga<sup>3)</sup>, Wataru Ariyoshi<sup>3)</sup>, Tatsuji Nishihara<sup>3)</sup>, Shinobu Sato<sup>1)4)</sup>, Shigeori Takenaka<sup>1)4)</sup>  
 1) Kyushu Institute of Technology, Department of Applied Chemistry, 2) Kyushu Institute of Technology, Department of Bioscience and Bioinformatics, 3) Kyushu Dental University, 4) Kyushu Institute of Technology, Research Center for Bio-microsensing Technology
- P113** Construction of a molecular switchboard by assembling ribonucleopeptide biosensors.  
Chiara Annoni<sup>1)2)</sup>, Fong Fong Liew<sup>1)</sup>, Shun Nakano<sup>1)3)</sup>, Eiji Nakata<sup>1)3)</sup>, Maria Luisa Gelmi<sup>2)</sup>, Takashi Morii<sup>1)3)</sup>  
 1) Kyoto University, Institute of Advanced Energy, 2) University of Milan, Pharmaceutical Science Department, 3) CREST, JST
- P114** Synthesis of novel ferrocenylnaphthalene diimide carrying beta-cyclodextrin as an electrochemical gene detection  
Saori Yagawa<sup>1)</sup>, Yuta Umeda<sup>1)</sup>, Shinobu Sato<sup>1)2)</sup>, Shigeori Takenaka<sup>1)2)</sup>  
 1) Kyushu Institute of Technology, Department of Applied Chemistry, 2) Kyushu Institute of Technology, Research Center for Bio-microsensing Technology
- P115** A novel real-time PCR assay for the pinpoint detection of methylated DNA  
Kenta Takanashi, Teru Kato  
 Tokyo University of Technology, Graduate School of Bionics, Computer and Media Sciences
- P116** Detection of cytokine by Membrane-based microwave mediated electrochemical ELISA  
Fuminori Takenaka<sup>1)</sup>, Irmina Diala<sup>2)</sup>, Masaki Morishita<sup>3)</sup>, Michihiko Usui<sup>3)</sup>, Keisuke Nakashima<sup>3)</sup>, Tatsuji Nishihara<sup>3)</sup>, Shinobu Sato<sup>1)4)</sup>, Shigeori Takenaka<sup>1)4)</sup>  
 1) Kyushu Institute of Technology, Department of Applied Chemistry, 2) Gene net, 3) Kyushu Dental University, 4) Kyushu Institute of Technology, Research Center for Bio-microsensing Technology
- P117** Sequence-specific release of the immobilized DNA from the surface of graphene oxide through toehold-mediated strand exchange  
Yusuke Kitamura<sup>1)2)</sup>, Takaaki Miyahata<sup>1)</sup>, Toshihiro Ihara<sup>1)2)</sup>  
 1) Kumamoto University, Department of Applied Chemistry and Biochemistry, 2) JST, CREST

- P118** Electrochemical DNA detection based on the combination of ferrocenylnaphthalene diimide with  $\beta$ -cyclodextrin  
Shinobu Sato<sup>1)2)</sup>, Hirotomo Takenaka<sup>1)</sup>, Shigeori Takenaka<sup>1)2)</sup>  
 1) Kyushu Institute of Technology, Department of Applied Chemistry, 2) Kyushu Institute of Technology, Research Center for Bio-microsensing Technology
- P119** Development of Quencher-Free Dumbbell-Form Molecular Beacon Probe Having the Silylated Pyrene  
Tomohisa Moriguchi, Noriko Takayama, Shinji Watanabe, Nozomi Kanazawa, Kazuo Shinozuka  
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- P120** Development and application of Cancer detection by electrochemical telomerase assay (ECTA)  
Yuki Hori<sup>1)</sup>, Naohiro Fujimoto<sup>2)</sup>, Tetsurou Matsumoto<sup>2)</sup>, Shinobu Sato<sup>1)3)</sup>, Shigeori Takenaka<sup>1)3)</sup>  
 1) Kyushu Institute of Technology, Department of Applied Chemistry, 2) University of Occupational and Environmental Health, 3) Kyushu Institute of Technology, Research Center for Bio-microsensing Technology
- P121** Physical properties of 2D-DNA-nanostructures on lipid bilayer membrane  
Shingo Makishi<sup>1)</sup>, Tomonori Shibata<sup>1)</sup>, Koichi Matsuzaki<sup>1)</sup>, Sonia A. Contera<sup>3)4)</sup>, Chikara Dohno<sup>1)2)</sup>, Kazuhiko Nakatani<sup>1)</sup>  
 1) The Institute of Scientific and Industrial Research (ISIR), Osaka University, 2) PRESTO, JST, 3) University of Oxford, Physics Department, 4) Oxford Martin School
- P122** Site-specific covalent modification of DNA origami by functional proteins  
Eiji Nakata<sup>1)2)</sup>, Huyen Thi Thu Dinh<sup>1)</sup>, Tien Anh Ngo<sup>1)</sup>, Masayuki Saimura<sup>1)</sup>, Takashi Morii<sup>1)2)</sup>  
 1) Kyoto University, Institute of Advanced Energy, 2) CREST, JST
- P123** Sugar bearing diblock copolymers for targeted nucleic acids delivery to the liver  
Maria Chiara Munisso<sup>1)</sup>, Satoshi Obika<sup>2)</sup>, Tetsuji Yamaoka<sup>1)</sup>  
 1) Department of Biomedical Engineering, National Cerebral and Cardiovascular Center Research Institute, 2) Graduate School of Pharmaceutical Science, Osaka University, Suita, Osaka 565-0871, Japan.
- P124** Aggregation of diketopyrrolopyrrole derivative using DNA  
Koji Tsuto, Mitsunobu Nakamura, Tadao Takada, Kazushige Yamana  
 University of Hyogo
- P125** Programmed DNA nanostructures: photocontrollable assembly to construct pre-designed multidirectional patterns  
Yangyang Yang<sup>1)</sup>, Masayuki Endo<sup>2)</sup>, Yuki Suzuki<sup>1)</sup>, Kumi Hidaka<sup>1)</sup>, Hiroshi Sugiyama<sup>1)2)</sup>  
 1) Kyoto University, Graduate School of Science, 2) Institute for Integrated Cell-Material Sciences, Kyoto University
- P126** Wrapping DNA origami with DNA Sudare  
Masafumi Kaino<sup>1)</sup>, Shinya Minamida<sup>1)</sup>, Mirai Hashizume<sup>1)</sup>, Akinori Kuzuya<sup>1)2)</sup>, Yuichi Ohya<sup>1)</sup>  
 1) Kansai University, Department of Chemistry and Materials Engineering, 2) PRESTO, JST
- P127** Dynamic assembly/disassembly processes of photo-responsive DNA origami nanostructures captured by high-speed atomic force microscopy  
Yuki Suzuki<sup>1)3)</sup>, Masayuki Endo<sup>2)3)</sup>, Yangyang Yang<sup>1)</sup>, Hiroshi Sugiyama<sup>1)2)3)</sup>  
 1) Kyoto University, Graduate School of Science, 2) Institute for Integrated Cell-Material Science (WPI-iCeMS), 3) CREST Japan Science and Technology Corporation (JST)

- P128** Gene delivery system responding to small G protein kinase activated by G protein-coupled receptors  
Jeong-Hun Kang<sup>1)</sup>, Akira Tsuchiya<sup>2)</sup>, Daisuke Asai<sup>3)</sup>  
 1) National Cerebral and Cardiovascular Center Research Institute, Department of Biomedical Engineering,  
 2) Kyushu University, Inamori Frontier Research Center, Division of science and technology for soft materials,  
 3) St. Marianna University School of Medicine, Department of Microbiology
- P129** Novel DNA origami tubular structures with variable arrangements  
Seigi Yamamoto<sup>1)</sup>, Masayuki Endo<sup>2)3)</sup>, Tomoko Emura<sup>1)</sup>, Kumi Hidaka<sup>1)</sup>, Hiroshi Sugiyama<sup>1)2)3)</sup>  
 1) Kyoto University, Graduate School of Science, 2) Institute of Integrated Cell-Material Science (WPI-iCeMS),  
 3) CREST Japan Science and Technology Corporation (JST)
- P130** DNA Terminal Breathing Regulated by Metal Ions for Colloidal Logic Gates  
Naoki Kanayama, Tohru Takarada, Masahiro Fujita, Mizuo Maeda  
 RIKEN, Bioengineering Laboratory
- P131** Binding of Ag(I) ions by cytosine-cytosine pairs in DNA duplexes  
Masato Sugimoto, Hisao Saneyoshi, Itaru Okamoto, Akira Ono  
 Kanagawa University, Department of Material and Life Chemistry
- P132** Fine-tuning of the orientation and positioning of L7Ae RNA-binding protein on the triangular RNA  
Shoji J. Ohuchi<sup>1)</sup>, Fumihiko Sagawa<sup>1)</sup>, Taiichi Sakamoto<sup>2)</sup>, Tan Inoue<sup>1)</sup>  
 1) Kyoto University, Graduate School of Biostudies, 2) Chiba Institute of Technology, Faculty of Engineering
- P133** Metal ion binding by modified pyrimidine pairs in DNA duplexes  
Yuki Ando, Hisao Saneyoshi, Itaru Okamoto, Akira Ono  
 Kanagawa University, Department of Material and Life Chemistry
- P134** Synthesis of Tandem Hairpin Pyrrole-Imidazole Polyamide for Human Telomeric DNA  
Yusuke Kawamoto<sup>1)</sup>, Toshikazu Bando<sup>1)</sup>, Fukumi Kamada<sup>2)</sup>, Kaori Hashiya<sup>1)</sup>, Yue Li<sup>1)</sup>,  
 Kazuhiro Maeshima<sup>2)3)</sup>, Hiroshi Sugiyama<sup>1)4)5)</sup>  
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- P135** Synthetic study of modified oligonucleotides containing 5-aminopyrimidine nucleosides  
Shion Tanisaki, Itaru Okamoto, Hisao Saneyoshi, Akira Ono  
 Kanagawa University, Department of Material and Life Chemistry
- P136** DNA strand exchange stimulated by vinylcarbazole mediated photocrosslinking  
Hirokazu Hashimoto<sup>1)</sup>, Shigetaka Nakamura<sup>1)</sup>, Satoshi Kobayashi<sup>2)</sup>, Kenzo Fujimoto<sup>1)3)</sup>  
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