

Program

Day 1: November 18 (Wed)

9:35-9:45	Opening Remarks		
9:45-10:00	Oral Session 1 Chair: Shuntaro Takahashi Konan University	10-01	NMR structural basis of DNA recognition by bivalent mismatch-binding ligands: stacking versus backbone distortion <u>Shuhei Sakurabayashi</u> ^{1,2,3,*} Yohei Shinno, ¹ Ayano Nakamachi, ² Yuki Yoshiizumi, ¹ Koichi Miyagawa, ⁴ Kyoko Furuita, ^{3,5} Tomonori Shibata, ² Chikara Dohno, ² Yohei Miyanoiri, ³ Kazuhiko Nakatani, ^{2,*} Chojiro Kojima ^{1,3,*} ¹ Graduate School of Engineering Science, Yokohama National University, ² SANKEN, the University of Osaka, ³ Institute for Protein Research, the University of Osaka, ⁴ Center for Computational Sciences, University of Tsukuba, ⁵ Institute for Chemical Research, Kyoto University
10:00-10:15		10-02	NMR study of the structure and interaction of an RNA aptamer targeting α-synuclein <u>Xiang Li</u> ^{1,2} Yudai Yamaoki, ^{1,2,3} Takashi Nagata, ^{1,2,3} Kazuma Murakami, ⁴ Masato Katahira ^{1,2,3,*} ¹ Institute of Advanced Energy, Kyoto University, ² Graduate School of Energy Science, Kyoto University, ³ Integrated Research Center for Carbon Negative Science, Institute of Advanced Energy, Kyoto University, ⁴ Graduate School of Agriculture, Kyoto University
10:15-10:30		10-03	Structural, Physicochemical, and Dynamic Properties of Antisense Morpholino Oligomers <u>Shin Ando</u> , ¹ Jiro Kondo ^{2,*} ¹ Graduate School of Science and Technology, Sophia University, ² Department of Materials and Life Sciences, Faculty of Science and Technology, Sophia University
10:30-10:45	Chair: Fumi Nagatsugi Tohoku University	10-04	Ultrafast infrared spectroscopy of CPD formation and photohydration of oligonucleotides <u>Toshinori Suzuki</u> ,* Yuki Obara, Srijon Ghosh, Yuto Nomura Department of Chemistry, Graduate School of Science, Kyoto University
10:45-11:00		10-05	Backbone Conformational Entropy: The Chemical Strategy to Differently Utilize RNA and DNA <u>Lutan Liu</u> , ¹ Shuntaro Takahashi, ^{1,2,*} Marko Trajkovski, ³ Janez Plavec, ³ Naoki Sugimoto ^{1,*} ¹ Frontier Institute for Biomolecular Engineering Research (FIBER), Konan University, ² Graduate School of Frontiers of Innovative Research in Science and Technology (FIRST), Konan University, ³ Slovenian NMR Center, National Institute of Chemistry
11:00-11:15		10-06	Photoactivatable G-Quadruplex Ligands: Design, Photochemical Reactivity, and Covalent DNA Alkylation Giorgia Fracchioni, ¹ Daisy Ferracin, ² Federica Ferrari, ¹ Tommaso Boselli, ¹ Matteo Nadai, ² Ilaria Frasson, ² <u>Filippo Doria</u> ¹ ¹ Dept. of Chemistry, University of Pavia, ² Dept. Molecular Medicine, University of Padova
11:15-11:30	Break		
11:30-12:10	Invited Lecture Chair: Naoki Sugimoto Konan University	IL-01	Targeting G-Quadruplexes to Enhance Chemosensitivity and Overcome Drug Resistance in Cancer <u>Antonio Randazzo</u> * Department of Pharmacy, University of Naples Federico II
12:10-13:25	Lunch Break		
13:25-14:55	Poster Presentations (1P-n) 13:25-14:10: n = odd 14:10-14:55: n = even		
15:00-15:15	Oral Session 2 Chair: Yousuke Katsuda Kumamoto University	10-07	Genome-wide analysis of G-quadruplexes using mice expressing a G4-binding probe <u>Sefan Asamitsu</u> , ^{1,*} Kyohei Mikami, ¹ Kenta Kudo, ² Kazuo Matsuo, ² Norifumi Shioda ^{2,*} ¹ RIKEN Center for Integrative Medical Sciences, ² Institute of Molecular Embryology and Genetics, Kumamoto University
15:15-15:30		10-08	From Ligand-Responsive RNA G-Quadruplex Identification to Genome-Wide Mapping in Dengue Virus <u>Mohammad Jafar Sheikh</u> , Hikaru Kondo, Yutaro Imachi, Kazuo Nagasawa, Masayuki Tera* Department of Biotechnology and Life Science, Faculty of Engineering, Tokyo University of Agriculture and Technology

15:30-15:45		10-09	Beyond B-DNA: G-quadruplexes and non-B structures in the T2T era <u>Václav Brázda</u> , ^{1,2,*} <u>Rafael Han</u> , ³ <u>Rieko Ohki</u> , ⁴ ¹ Institute of Biophysics, Czech Academy of Sciences, ² Faculty of Chemistry, Brno University of Technology, ³ Korea Institute of Science and Technology, ⁴ National Cancer Center
15:45-16:25	Invited Lecture Chair: Hisae Tateishi-Karimata Konan University	IL-02	Beyond the Natural Alphabet: Chemically Modified Nucleotides and Nucleic Acids across Biological Systems <u>Stephanie Kath-Schorr</u> [*] Department of Chemistry and Biochemistry, University of Cologne
16:25-16:40	Break		
16:40-16:55	Oral Session 3 Chair: Natsuhisa Oka Gifu University	10-10	A phosphorofluoridate [P(V)-F] approach to oligonucleotide synthesis <u>Nana Mihara</u> , ¹ <u>Satoshi Abe</u> , ¹ <u>Kazuho Okunishi</u> , ¹ <u>Syuya Inoue</u> , ¹ <u>Tsubasa Inokuma</u> , ¹ <u>Yuta Ito</u> , ² <u>Yoshiyuki Hari</u> , ² <u>Noriaki Minakawa</u> , ¹ <u>Noriko Saito-Tarashima</u> ^{1,*} ¹ Graduate School of Pharmaceutical Sciences, Faculty of Pharmaceutical Sciences, Tokushima University, ² Faculty of Pharmaceutical Sciences, Tokushima Bunri University
16:55-17:10		10-11	Distinctive consequences on nucleosome properties brought by platinum adducts with different modes of action <u>Takafumi Furuhashi</u> , ¹ <u>Xuanyu Liao</u> , ¹ <u>Takuro Shirai</u> , ² <u>Yoshimasa Takizawa</u> , ² <u>Hitoshi Kurumizaka</u> , ² <u>Akimitsu Okamoto</u> ^{1,*} ¹ Graduate School of Engineering, The University of Tokyo, ² Institute for Quantitative Bioscience, The University of Tokyo
17:10-17:25		10-12	Interstrand crosslink formation in 2'-deoxythioguanosine- functionalized oligo DNA duplexes <u>Jamila A. Osman</u> , ^{1,2} <u>Kazumitsu Onizuka</u> , ^{1,2,*} <u>Yuuhei Yamano</u> , ^{1,2} <u>Fumi Nagatsugi</u> ^{1,2,*} ¹ Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, ² Department of Chemistry, Graduate School of Science, Tohoku University
17:25-17:40	Chair: Toshihiro Ihara Kumamoto University	10-13	Engineering m7G-cap-independent translation with m1Ψ-compatible eIF4E-binding RNA aptamers <u>Fumiya Ito</u> , ^{1,2} <u>Tatsuyuki Yoshii</u> , ² <u>Ayako Sakamoto</u> ³ , <u>Takuhiro Ito</u> , ^{3,4} <u>Shungo Adachi</u> , ⁵ <u>Hirohide Saito</u> ^{1,2,*} ¹ Institute for Quantitative Biosciences (IQB), The University of Tokyo, ² Center for iPS Cell Research and Application (CiRA), Kyoto University, ³ Laboratory for Translation Structural Biology, RIKEN Center for Integrative Medical Sciences, ⁴ Structural Life Science and Cell Biology Collaboration Team, RIKEN Center for Biosystems Dynamics Research, ⁵ Department of Proteomics, National Cancer Center Research Institute
17:40-17:55		10-14	Aromatic Oligoamide DNA Mimic Foldamers: Expanding the Scope for Protein Surface Recognition <u>Nikolas Schneider</u> , <u>Niklas Böcher</u> , <u>Manuel Loos</u> , <u>Céline Douat</u> , <u>Ivan Huc</u> [*] Institute for Chemical Epigenetics (ICE-M), Ludwig-Maximilians-Universität
17:55-18:10		10-15	Modification of single-chain fragment variables (scFv) using anti-scFv DNA aptamers and photoreactive G4 ligands <u>Rina Hamasaki</u> , <u>Mai Hamasaki</u> , <u>Yuma Tanaya</u> , <u>Masayuki Tera</u> , <u>Kazuo Nagasawa</u> , <u>Kazuo Ikebukuro</u> , <u>Ryutaro Asano</u> [*] Graduate School of Engineering, Tokyo University of Agriculture and Technology

Online Abstracts



Day 2: November 19 (Thu)

9:30-9:45	Oral Session 4 Chair: Kazunori Ikebukuro Tokyo University of Agriculture and Technology	20-01	Self-Reporting DNA-Extended crRNA Enables Cas12a Fluorescence Anisotropy Detection of Carbapenem Resistance Genes in Positive Blood Cultures David Septian Sumanto Marpaung,¹ Ya-Yu Chen,² Yu-Chieh Liao,³ Po-Yu Liu,⁴ Han-Chieh Wu,⁵ Ci-Hong Liou,⁵ Feng-Jui Chen,⁵ <u>Min-Chieh Chuang^{1,2,*}</u> ¹ International Ph.D. Program in Biomedical & Materials Science, Tunghai University, ² Department of Chemistry, Tunghai University, ³ Institute of Population of Health Sciences, National Health Research Institutes, ⁴ Division of Infectious Diseases, Department of Internal Medicine, Taichung Veterans General Hospital, ⁵ National Institute of Infectious Diseases and Vaccinology, National Health Research Institutes
9:45-10:00		20-02	Target-Responsive Hybridization and Sequence-Encoded Bead Readout for Multicomponent Bioanalysis <u>Tatsuya Nishihara,*</u> Masato Sugawara, Reoto Mio, Jungsur Koh, Kazuhito Tanabe* College of Science and Engineering, Aoyama Gakuin University
10:00-10:20	Pioneering Research in Nucleic Acids Chemistry from Asia Chair: Yoshiya Ikawa University of Toyama	20-03	Experimental Exploration of Functional RNA Sequence Space <u>Yohei Yokobayashi*</u> Nucleic Acid Chemistry and Engineering Unit, Okinawa Institute of Science and Technology Graduate University
10:20-11:00		IL-03	A programmable ribozyme for RNA signal transduction <u>Sherry Aw,^{1,*}</u> Mandy Yu-Theng Lim, ¹ Chermaine Tan, ¹ Charannya Subhramanyam, ¹ Shi Jie Teo, ¹ Louis DeFalco, ² Samuel Kevin Pasaribu, ¹ Chong Hui Koh, ¹ Dheeraj Rayamajhi, ¹ Jieying Chi, ¹ Shengnan Li, ¹ Keng Boon Wee, ¹ Sudipto Roy, ¹ Roland G. Huber ² ¹ Institute of Molecular and Cell Biology, Agency for Science, Technology and Research, Singapore, ² Bioinformatics Institute, Agency for Science, Technology and Research, Singapore
11:00-11:15	Break		
11:15-11:55	Pioneering Research in Nucleic Acids Chemistry from Asia Chair: Yohei Yokobayashi OIST	IL-04	Conformationally Constrained PyrrolidinyI PNA: From Molecular Design to Biosensing, Bioimaging, and Therapeutic Applications <u>Tirayut Vilaivan*</u> Department of Chemistry, Faculty of Science, Chulalongkorn University
11:55-12:35		IL-05	Ionic Liquids as Molecular Stabilizers for Nucleic Acids: Towards Room-Temperature, Cold-Chain-Free Preservation <u>Sanjib Senapati,*</u> Ananya Asmita Department of Biotechnology, Bhupat and Jyoti Mehta School of Biosciences, Indian Institute of Technology Madras
12:35-13:40	Lunch Break		
13:40-15:10	Poster Presentations (2P-n) 13:40-14:25: n = odd 14:25-15:10: n = even		
15:15-16:00	JSNAC General Meeting		
16:00-16:30	Ikehara Award Prize Lecture Chair: TBA	SL-01	TBA
16:30-17:00	Ikehara Award Prize Lecture Chair: TBA	SL-02	TBA
17:00-18:15	Transit		
18:30-20:30	Exchange meeting at Rizzan Sea Park Hotel		

Day 3: November 20 (Fri)

9:30 -9:45	Oral Session 5 Chair: Ken Yamada University of Massachusetts Medical School	30-01	Tuning the efficiency of DNA amplification by dual-scaffolded catalytic condensates <u>Nutchaya Muksombat</u>, Sukasem Kiatsukasem, Chayasith Uttamapinant* School of Biomolecular Science and Engineering, Vidyasirimedhi Institute of Science and Technology (VISTEC)
9:45-10:00		30-02	Translation activation of circular RNA by introduction of branched Cap structure <u>Fumitaka Hashiya</u>,¹ Kousuke Fukuchi,² Shiryu Kajihara,² Mizuki Tada,² Meng Zheyu,² Masahito Inagaki,² Naoko Abe,² Satoshi Uchida,^{3,4} Yasuaki Kimura,² Hiroshi Abe^{1,2,5,*} ¹ Research Center for Materials Science, Nagoya University, ² Graduate School of Science, Nagoya University, ³ Medical Research Institute, Institute of Science Tokyo, ⁴ Innovation Center of NanoMedicine (iCONM), Kawasaki Institute of Industrial Promotion, ⁵ Institute for Glyco-core Research (iGCORE), Nagoya University
10:00-10:15		30-03	Application of Chemically Stable DNA Barcodes to the Construction of a Macrocyclic N-Methyl Peptide Library <u>Jumpei Morimoto</u>, Masumi Shirakawa, Daisuke Seko, Aoi Yoshida, Shinsuke Sando* Department of Chemistry and Biotechnology, Graduate School of Engineering, The University of Tokyo
10:15-10:30	Chair: Robert Hudson Western University	30-04	Engineered enzymatic pathways for targeted functionalization and analysis of DNA and RNA <u>Saulius Klimašauskas</u>,^{1,*} Vaidotas Stankevičius,¹ Liepa Gasiulė,¹ Kotryna Kvederavičiūtė,¹ Bernadeta Masiulionytė,¹ Zdislav Staševskij,¹ Edita Kriukienė,¹ Giedrius Vilkaitis,¹ Gražina Petraitytė,^{1,2} Viktoras Masevičius^{1,2} ¹ Life Sciences Center, Vilnius University, ² Faculty of Chemistry, Vilnius University
10:30-10:45		30-05	Stability-Aware Quantitative Profiling of RNA Modifications by Standard-Free Mass Spectrometry <u>Norman H. L. Chiu</u>,* Frank M. Shnaider Department of Chemistry and Biochemistry, University of North Carolina Greensboro
10:45-11:00		30-06	Development of an integrated computational platform for open modification search of nucleic acids by LC-MS/MS <u>Teppei Matsuda</u>,^{1,*} Kohei Nishino,² Takeo Suzuki,³ Akira Hirata,^{4,*} Ryota Yamagami^{1,*} ¹ Department of Applied Chemistry, Graduate School of Science and Engineering, Ehime University, ² Institute of Advanced Medical Sciences, Tokushima University, ³ Department of Medical Biochemistry, Graduate School of Medicine, University of the Ryukyus, ⁴ Department of Natural Science, Division of Science and Technology, Graduate School of Sciences and Technology for Innovation, Tokushima University
11:00-11:25	Break		
11:25-11:40	Oral Session 6 Chair: Keisuke Fukunaga Miyazaki University	30-07	Programmable L-RNA aptamer–ASO conjugates control oncogenic RNA G-quadruplex function <u>Tian-Ying Wu</u>,¹ Jiuming Wang,² Rachelle J. Santoso,¹ Maryana Yarshova,¹ Jianning Kang,³ Ying Feng,¹ Yi Xue,³ Yu Li,² Fang Zhang,^{4,5,*} Chun Kit Kwok^{1,6,*} ¹ Department of Chemistry and State Key Laboratory of Marine Environmental Health, City University of Hong Kong, ² Department of Computer Science and Engineering, Chinese University of Hong Kong, ³ Beijing Frontier Research Center for Biological Structure, School of Life Sciences, Tsinghua University, ⁴ Research Institute for Microbiology and Department of Food Science and Nutrition, The Hong Kong Polytechnic University, ⁵ College of Biological Science and Engineering, Fuzhou University, ⁶ Shenzhen Research Institute of City University of Hong Kong
11:40-11:55		30-08	Programmable and reversible protein degradation via G-quadruplex assembled PROTACs for cancer therapy <u>Shiyu Wang</u>, Hisao Saneyoshi, Yan Xu* Division of Chemistry, Department of Medical Sciences, Faculty of Medicine, University of Miyazaki

11:55-12:10	Chair: Shinsuke Sando The University of Tokyo	3O-09	Point mutation selective photo-cross-linking reactions by diazirine-derivatized ODNs <u>Akio Kobori</u> , [*] Daiki Unita, Koki Takeda, Kentaro Kobata, Kazuya Matsuo, Tomonori Waku Faculty of Molecular Chemistry and Engineering, Kyoto Institute of Technology
12:10-12:25		3O-10	Investigation of the binding structure of an alphasynuclein oligomer-binding DNA aptamer <u>Yuki Hara</u> , ¹ Akari Sato, ² Haruka Kawai, ³ Taiji Oyama, ^{1,2} Kaori Tsukakoshi, ³ Kazunori Ikebukuro ^{1,*} ¹ Department of Biotechnology and Life Science, Graduate School of Engineering, Tokyo University of Agriculture and Technology, ² JASCO Corporation ³ Department of Chemistry, Faculty of Science, Tokyo University of Science
12:25-12:40		3O-11	Development and Evaluation of Photosensitizer-Modified Plasmids and PNAs for DNA Repair Studies and Gene Regulation <u>Takashi Kanamori</u> , ^{1,*} Yoshitaka Kawasoe, ^{2,*} Yuma Yaginuma, ¹ Masashi Ozawa, ¹ Hideya Yuasa ¹ ¹ School of Life Science and Technology, Institute of Science Tokyo, ² Department of Biology, Faculty of Science, Kyushu University
12:40-12:45	Closing Remarks		

Online Abstracts



Poster Session 1 (November 18, Wed)

Poster Presentations

Odd Numbers: Nov. 18 (Wed) 13:25-14:10

Even Numbers: Nov. 18 (Wed) 14:10-14:55

1P-01	Targeted Gene Suppression through L-aTNA-Mediated Tandem G4 Formation Kengo Takaki,¹ Ryunoshein Nakamura,¹ Hiroyuki Asanuma,² Masaki Hagihara,³Yousuke Katsuda,^{1,4,5} Shin-ichi Sato,^{1,4} Toshihiro Ihara^{1*} ¹Faculty of Advanced Science and Technology, Kumamoto University, ²Graduate School of Engineering, Nagoya University, ³Graduate School of Science and Technology, Hirosaki University, ⁴StapleBio Inc. ⁵Institute For Integrated Cell-Material Sciences, Kyoto University
1P-02	Optimization of DNAzyme Activity Using the Improved Nearest-Neighbor Parameters Shuntaro Takahashi,^{1,2,*} Hisae Tateishi-Karimata,^{1,2} Tomohiro Nishimura,³ Tsukasa Fukunaga,⁴ Michiaki Hamada,³ Naoki Sugimoto^{2,*} ¹Frontier Institute for Biomolecular Engineering Research (FIBER), Konan University, ²Graduate School of Frontiers of Innovative Research in Science and Technology (FIRST), Konan University, ³Waseda University, Faculty of Science and Engineering, ⁴Waseda University., WIAS
1P-03	Structure-based design of a SNP-detecting probe that mimics the ribosomal RNA A-site motif Kanna Yamaguchi,¹ Yura Inomata,² Tomoka Ito,² Kotomi Ishikawa,¹ Jiro Kondo^{1,2,*} ¹Graduate School of Science and Technology, Sophia University ²Department of Materials and Life Sciences, Sophia University
1P-04	Fluorogenic L-RNA aptamer reporting of specific RNA G-quadruplex (FLARE-rG4) reveals rG4-dependent stress responses Hill Lam Lau,^{1,†} Yanxin Li,^{3,†} Maryana Yarshova,¹ Tian-ying Wu,¹ Yunshu Lu,³ Xing Li,⁴ Qirong Zhang,⁵ Chun Kit Choi,^{3,*} Chun Kit Kwok^{1,2,*} ¹Department of Chemistry and State Key Laboratory of Marine Environmental Health, City University of Hong Kong, ²Shenzhen Research Institute of City University of Hong Kong, ³Department of Chemical Pathology, The Chinese University of Hong Kong, ⁴Interdisciplinary Science Center, State Key Laboratory of Integrated Management of Pest Insects and Rodents, Institute of Zoology, Chinese Academy of Sciences, ⁵Department of Biomedical Engineering, City University of Hong Kong, [†]These authors contributed equally to this work.
1P-05	Development of photoreactive oligonucleotide probes for the detection of 5-formylcytosine modifications Hiroaki Shirahama,¹ Ibuki Kariya,¹ Yu Mikame,¹ Hiroki Kanazawa,² Jiro Kondo,² Chikara Dohno,³ Tsuyoshi Yamamoto,⁴ Takehiko Wada,^{5,6} and Asako Yamayoshi^{1,*} ¹Department of Life science and Technology, Institute of Science Tokyo, ²Department of Materials and Life Sciences, Sophia University, ³SANKEN (The Institute of Scientific and Industrial Research), The University of Osaka, ⁴Graduate School of Biomedical Sciences, Nagasaki University, ⁵NICHe (New Industry Creation Hatchery Center), Tohoku University, ⁶INGEM (Advanced Research Center for Innovations in Next-Generation Medicine), Tohoku University
1P-06	Programmable bimolecular group I intron splicing by oligonucleotide control and genetic selection Lara Sellés Vidal, Yohei Yokobayashi* Nucleic Acid Chemistry and Engineering Unit, Okinawa Institute of Science and Technology Graduate University
1P-07	Synthesis and Transcriptional Incorporation of a Photosensitizer-Modified Cytidine Triphosphate for Highly Selective Photodynamic Therapy Ayako Kikuchi, Takashi Kanamori,* Hideya Yuasa* School of Life Science and Technology, Institute of Science Tokyo
1P-08	Discovery of Molecular Helicases for G-Quadruplexes Robert Hudson,^{1,*} David Monchaud² ¹Department of Chemistry, Western University ²Institut de Chimie Moléculaire de l'Université de Bourgogne
1P-09	Cyclization of oligonucleotides using P(V)-F chemistry Mana Kawaguchi, Suzune Nishihara, Nana Mihara, Jun Tsukimoto, Noriko Saito-Tarashima, Noriaki Minakawa* Graduate School of Pharmaceutical Sciences, Tokushima University
1P-10	G-quadruplex Stability Switches Nucleolin-Mediated Transcription Efficiency Asim Bisoi,¹ Hisae Tateishi-Karimata,^{1,2,*} Shuntaro Takahashi,^{1,2} Smritimoy Pramanik,^{1,3} Naoki Sugimoto^{1,*} ¹Frontier Institute for Biomolecular Engineering Research (FIBER), Konan University, ²Graduate School of Frontiers of Innovative Research in Science and Technology (FIRST), Konan University, ³Department of Chemistry, University of Calcutta

1P-11	Crystal Structure of DNA Containing Cu(II)-Mediated Base Pairs Formed by N4-Carboxymethylcytosine Kai Kosugi,¹ Azusa Terashima,² Akira Ono,³ Jiro Kondo^{1,2,*} ¹ Graduate School of Science and Technology, Sophia University, ² Department of Materials and Life Sciences, Sophia University, ³ Department of Material and Life Chemistry, Faculty of Engineering, Kanagawa University
1P-12	Characterization of an RNA Aptamer That Induces Fluorescence in a GFP-like Fluorescent Ligand Haruka Yamamoto,^{1,2} Yuichi Furuhata,² Shino Aburaya,³ Yoshiya Ikawa,^{3,4} Yoshio Kato,² Taiichi Sakamoto^{1,*} ¹ Graduate School of Advanced Engineering, Chiba Institute of Technology, ² Molecular Biosystems Research Institute, National Institute of Advanced Industrial Science and Technology (AIST), ³ Graduate School of Pharma-Medical Sciences, University of Toyama, ⁴ Graduate School of Science and Engineering, University of Toyama
1P-13	Highly Bright and High-Affinity FIT-PNA Probes with a Cyclopentane Backbone for Targeting RNA Duplex Structures Sayuri Tanaka,¹ Naomu Wataka,¹ Yusuke Sato,^{1,2} Eylon Yavin,³ Seiichi Nishizawa^{1,*} ¹ Department of Chemistry, Graduate School of Science, Tohoku University, ² JST FOREST, Japan Science and Technology Agency, ³ School of Pharmacy, Institute for Drug Research, The Hebrew University of Jerusalem
1P-14	Development of a Photo-crosslinking mediated Fluorine Magnetic Resonance Probe toward miRNA Tatsushi Noda, Matomo Sakari, Kenzo Fujimoto Bioscience, Biotechnology, and Biomedical Engineering, Japan Advanced Institute of Science and Technology
1P-15	Simultaneous monitoring of transcription and translation with a fluorescent RNA and a fluorescent protein Yoshiki Tsukada, Norito Takeuchi, Hiina Seino, Rena Nohara, Masayuki Tera, Kazunori Ikebukuro* Department of Biotechnology and Life Science, Graduate School of Engineering, Tokyo University of Agriculture and Technology
1P-16	Cyano-Group-Mediated Post-Synthetic Functionalization of Nucleic Acids with Amino Acids Natsuhisa Oka,^{1,2,3*} Takumi Yoshida¹ ¹ Department of Chemistry and Biomolecular Science, Faculty of Engineering, Gifu University, ² Institute for Glyco-core Research (iGCORE), Gifu University, ³ Center for One Medicine Innovative Translational Research (COMIT), Institute for Advanced Study, Gifu University
1P-17	High-Throughput Screening of RNA Switches for Next-Generation Gene Therapies Tomoya Noma, Yohei Yokobayashi* Nucleic Acid Chemistry and Engineering Unit, Okinawa Institute of Science and Technology Graduate University
1P-18	Development and Evaluation of Chlorambucil-Conjugated PIPs Targeting ATCC DNA Repeats in Prostate Cancer Takumi Terada,^{1,2} Ganesh Pandian Namasivayam,^{1,2,*} Hiroshi Sugiyama^{2,*} ¹ Graduate School of Engineering, Kyoto University, ² iCeMS, Kyoto University
1P-19	Formation of PNA/DNA Membranes Templated by Microscale DNA Liquid Crystals Tetsunao Makino,¹ Koki Matsuzuka,¹ Shunto Aoki,² Yuichiro Aiba,^{2,*} Makiko Tanaka^{1,*} ¹ Department of Engineering Science, Graduate School of Informatics and Engineering, The University of Electro-Communications, ² Department of Chemistry, Graduate School of Science, Nagoya University
1P-20	Synthesis of multiply sugar-conjugated DNA using a phosphoramidite-based on-support approach Asuka Hirano, Remi Arie, Daiki Shimamura, Kohji Seio, Yoshiaki Masaki* School of Life Science and Technology, Institute of Science Tokyo
1P-21	Probing the Folding and Accessibility of Hic-5 mRNA Using Gapmer ASOs and a DNA Random Library Haruka Tanabe,¹ Eitaro Murakami,¹ Kohji Seio^{1,*} ¹ Department of Life Science and Technology, Institute of Science Tokyo
1P-22	Enhancement of Oligomeric Nucleoside Therapeutics Using Lipid-Modified RNA as a Carrier Strand Moeko Yamada, Kunihiro Morihiro, Akimitsu Okamoto* Department of Chemistry and Biotechnology, Graduate School of Engineering, The University of Tokyo
1P-23	Structural Analysis of CGG Trinucleotide Repeats of DNA and RNA Sara Amilia Nakagawa,¹ Shin Ando,² Jiro Kondo^{1,2,*} ¹ Department of Materials and Life Sciences, Sophia University, ² Graduate School of Science and Technology, Sophia University

1P-24	Development of unnatural nucleosides capable of reversibly controlling G4 stability via host-guest interaction <u>Yu Inoue</u>,¹ Hidenori Okamura,^{1,2,3,*} Fumi Nagatsugi,^{2,3} Yosuke Taniguchi^{1,*} ¹Faculty of Medicine, Dentistry and Pharmaceutical Sciences, Okayama University, ²Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, ³Graduate School of Science, Tohoku University
1P-25	Triggering Molecular Cargo Release by ATP Using a Structure-Switching DNA Aptamer Enclosed in Microgels <u>Rosa Márquez-Costa</u>, Yohei Yokobayashi* <i>Nucleic Acid Chemistry and Engineering Unit, Okinawa Institute of Science and Technology Graduate University,</i>
1P-26	Elucidation of Sequence-Dependent RNA Recognition by the 8–17 DNAzyme Using Molecular Dynamics and Fragment Molecular Orbital Calculations <u>Shuhei Miyakawa</u>,¹ Shu Ohno,² Satoko Nakajima,¹ Haruki Ikemoto,¹ Rikuto Maruyama,¹ Kosuke Chiba,¹ Takao Yamaguchi,^{1,2} Satoshi Obika,^{1,2,3} Kaori Fukuzawa^{1,2,*} ¹Graduate School of Pharmaceutical Sciences, The University of Osaka, ²School of Pharmaceutical Sciences, The University of Osaka, ³National Institutes of Biomedical Innovation, Health and Nutrition
1P-27	Exploring the Roles of Nucleic Acid Structures Depending on Local Environments on Using Pseudo-Organelle Systems <u>Hisae Tateishi-Karimata</u>,^{1,2,*} Shuntaro Takahashi,¹ Naoki Sugimoto^{1,*} ¹Frontier Institute for Biomolecular Engineering Research (FIBER), Konan University, ²Graduate School of Frontiers of Innovative Research in Science and Technology (FIRST), Konan University
1P-28	Development of a PNA-modified Substrate with Nuclease Resistance for Controlling Cell Adhesion Strength <u>Yuma Ono</u>,¹ Riku Katsuki,² Ryo Sudo,^{1,3} Tadahiro Yamashita^{1,3,*} ¹Department of System Design Engineering, Faculty of Science and Technology, Keio University, ²Faculty of Science and Technology, Keio University, ³School of Integrated Design Engineering, Graduate School of Science and Technology, Keio University
1P-29	Optimized Staple Oligomer Design Enables Ligand-Free In Vivo Therapeutic Efficacy in Extrahepatic Tissues <u>Rena Nagata</u>,¹ Tomoki Kida,¹ Miko Kato,¹ Takahiro Hiraide,² Yoji Hakamata,³ Masahiko Fujisawa,³ Toshihiro Ihara,¹ Masaharu Kataoka,⁴ Shin-ichi Sato,^{1,5} Yousuke Katsuda,^{1,5,6*} ¹Faculty of Advanced Science and Technology, Kumamoto University, ²Department of Cardiology, Keio University School of Medicine, ³Department of Veterinary Nursing and Technology, Faculty of Veterinary Medicine, Nippon Veterinary and Life Science University, ⁴The Second Department of Internal Medicine, University of Occupational and Environmental Health, Japan, ⁵StapleBio Inc., ⁶Institute For Integrated Cell-Material Sciences, Kyoto University
1P-30	Chemical Editing of the Minor Groove: Redesigning Guanine N3 Function in RNA and DNA <u>Hisao Saneyoshi</u>, Shiyu Wang, Yan Xu* Division of Chemistry, Department of Medical Sciences, Faculty of Medicine, University of Miyazaki
1P-31	From Cell-SELEX to Target Identification: Mapping DNA Aptamer Binding Sites in Multidrug-Resistant <i>Pseudomonas aeruginosa</i> <u>Jaya Lakshmi Narayanan</u>,* Hariprasad P. Environmental Biotechnology Laboratory, Centre for Rural Development and Technology, Indian Institute of Technology, Delhi
1P-32	Pseudo-C as a Novel Nucleic Acid Analogue Forming Non-Canonical Base Pairs <u>Ryo Miyahara</u>,² Yosuke Taniguchi¹ ¹Faculty of Medicine, Dentistry and Pharmaceutical Sciences, Okayama University, ²Graduate School of Pharmaceutical Sciences, Kyushu University
1P-33	Quantum Mechanical Interaction Energy Analysis between Pioneer Transcription Factors and Nucleosomal DNA <u>Naoko Konami</u>,¹ Koji Okuwaki,¹ Noboru Sato,² Kaori Fukuzawa^{1*} ¹Graduate School of Pharmaceutical Sciences, The University of Osaka, ²Faculty of medicine, Oita University,
1P-34	Suppression of miRNA-like off-target effects of siRNA utilizing base-modified nucleoside analogues. <u>Taketo Inoue</u>, Ayano Ebisui, Makoto Yahata, Yuhei Nogi, Jun Tsukimoto, Noriko Saito-Tarashima, Noriaki Minakawa* Graduate School of Pharmaceutical Sciences, Tokushima University

1P-35	High-resolution NMR Structure of the d(CAG/CAG) Complex with the Small-Molecule Ligand NA Saho Kariatsumari,¹ Shuhei Sakurabayashi,^{1,2,3} Yohei Miyanoiri,³ Kazuhiko Nakatani,² Chikara Dohno,² Chojiro Kojima^{1,3,*} ¹ Graduate School of Engineering Science, Yokohama National University, ² Department of Regulatory Bioorganic Chemistry, SANKEN, Osaka University, ³ Institute for Protein Research, Osaka University
1P-36	Structural Analysis of an Internal Loop in the Promoter Region of Influenza Virus Genomic RNA Kaho Terabe¹, Fumika Baba¹, Erika Kiuchi², Jiro Kondo^{1,2,*} ¹ Graduate School of Science and Technology, Sophia University, ² Department of Materials and Life Sciences, Sophia University
1P-37	Development of AND-Gate Artificial Oligonucleotides for Tumor Microenvironment-Responsive Cell Membrane Anchoring Yui Kurozumi, Risa Yamada, Daichi Oka, Tatsuya Nishihara,* Kazuhito Tanabe* College of Science and Engineering, Aoyama Gakuin University
1P-38	Clonal RNA expression from RCA-based DNA nanoparticles and hydrogels for in drop RNA evolution Shigeyoshi Matsumura,^{1,2,*} Takumi Ishihara,² Yoshiya Ikawa^{1,2} ¹ Graduate School of Science and Engineering, University of Toyama ² Graduate School of Pharma-Medical Sciences, University of Toyama
1P-39	Liquid-liquid phase separation induced by triplex DNA and RNA Haruto Soyama, Yui Asanuma, Sumit Shil, Keiko Kawauchi, Daisuke Miyoshi* Frontiers of Innovative Research in Science and Technology, Konan University
1P-40	Exonic Sequence Context for Splicing Riboswitch-Mediated Gene Regulation Masayuki Yasuda,^{1,2} Seiichi Hirano,¹ Hirohide Saito^{1,3,*} ¹ Institute for Quantitative Biosciences, The University of Tokyo, ² Graduate School of Pharmaceutical Sciences, The University of Tokyo, ³ Center for iPS Cell Research and Application, Kyoto University
1P-41	Structure-Guided Development of Aminoacyl-Adenylate Conjugates for Targeting Lysyl-tRNA Synthetase of <i>Plasmodium falciparum</i> Kalinga H. Nayak,¹ Bipasa Dey,² Yogavel Manickam,² and Amit Sharma,^{2,*} Pradeepkumar P.I.^{1,*} ¹ Department of Chemistry, Indian Institute of Technology Bombay, ² Structural Parasitology Laboratory, Department of Molecular Medicine, International Centre for Genetic Engineering and Biotechnology
1P-42	Development of Vinylquinazolinone-Modified Oligonucleotide Probes toward Base-Selective Interstrand Crosslinking Rei Amemiya,^{1,2} Nadya Soemawisastra,^{1,2} Yuuhei Yamano,^{1,2} Kazumitsu Onizuka,^{1,2} Fumi Nagatsugi,^{1,2,*} ¹ Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, ² Department of Chemistry, Graduate School of Science, Tohoku University
1P-43	X-Ray analysis of a G4 structure formed in the NRAS mRNA Akina Sera,¹ Shin Ando,¹ Keiko Kawauchi,² Daisuke Miyoshi,² Jiro Kondo^{1,3,*} ¹ Graduate School of Science and Technology, Sophia University, ² FIRST, Konan University, ³ Department of Materials and Life Sciences, Sophia University
1P-44	Sequence-Based Detection of Programmed Ribosomal Frameshifts Margaux Aubel,¹ Amit Alon,² Oded Rechavi,² Yitzhak Pilpel,³ Paola Laurino^{1,*} ¹ Okinawa Institute of Science and Technology (OIST), ² Tel Aviv University, ³ Weizman Institute of Science
1P-45	Stereoselective Synthesis of Nucleotide Analog Prodrugs (ProTides) and Nucleoside N-Acyl Phosphoramidates Monta Nakamura, Kiyoshi Kakuta, Kazuki Sato, Takeshi Wada* Graduate School of Pharmaceutical Sciences, Tokyo University of Science
1P-46	Dynamics of base-pair opening for cell cycle-synchronized cells by in-cell NMR Daisuke Numata,^{1,2} Yudai Yamaoki,^{1,2} Shohei Yamamoto,^{1,2} Takashi Nagata,^{1,2} Masato Katahira^{1,2} ¹ Institute of Advanced Energy, Kyoto University, ² Graduate School of Energy Science, Kyoto University
1P-47	Selection of RNA aptamers specific to macrolide antibiotics from total RNA library Daito Koga,¹ Makoto Kawatani,² Kaori Honda,² Shinya Hagihara,² Asako Murata^{3,*} ¹ Interdisciplinary Graduate School of Engineering Sciences, Kyushu University, ² Chemical Resource Development Research Unit, RIKEN Center for Sustainable Resource Science, ³ Faculty of Engineering Sciences, Kyushu University

1P-48	Phosphorothioate-Free Anti-miR-21 Oligonucleotide Based on Acyclic Nucleic Acid Bearing Pseudo-Complementary Bases <u>Yukiko Kamiya</u>^{1,2,*}, Fuminori Sato,² Kiyoka Sakashita,² Xueying Liu,³ Naoki Yamada,⁴ Kanjiro Miyata,⁴ Sjaikhurrazal El Muttaqien,³ Hiroaki Kinoh,³ Kazunori Kataoka,³ Hiroyuki Asanuma^{2,*} ¹Kobe Pharmaceutical University, ²Department of Biomolecular Engineering, Graduate School of Engineering, Nagoya University, ³Innovation Center of NanoMedicine, Kawasaki Institute of Industrial Promotion, ⁴Department of Materials Engineering, Graduate School of Engineering, The University of Tokyo
1P-49	Studies on transesterification of nucleotide phosphite triesters catalyzed by 1H-tetrazole <u>Yuki Nagaya</u>, Yukiko Onishi, Yoshiaki Masaki* <i>School of Life Science and Technology, Institute of Science Tokyo</i>
1P-50	Design of Fluorescent Peptide Probes Based on Force Restriction of Intermolecular Rotation of Thiazole Orange for RNA G-Quadruplexes Sensing <u>Syarifah Fara Salma Az Zahra</u>, Yuito Sato, Yusuke Sato, Seiichi Nishizawa* Department of Chemistry, Graduate School of Science, Tohoku University
1P-51	Capabilities and Limitations of Transformer-Based RNA 3D Structure Reconstruction from Distance Maps <u>Yusuke Takashima</u>^{1,*}, Masataka Kuroda¹, Tatsuo Yamaguchi¹, Yayoi Natsume-Kitatani^{1,2,3}, Suyong Re¹ ¹National Institutes of Biomedical Innovation, Health and Nutrition, ²Institute for Protein Research, The University of Osaka, ³Graduate School of Pharmaceutical Sciences, The University of Osaka
1P-52	Synthesis of 2'-Deoxy-4'-Aminoethyl DNA Analogues Containing Purine Bases <u>Kota Fujiki</u>¹, Hiroki Ueda,² Yuri Kakisawa,² Yoshihito Ueno^{1,2,3,*} ¹The United Graduate School Agricultural Science, Gifu University, ²The Graduate School of Natural Science and Technology, Gifu University, ³Center for One Medicine Innovative Translational Research (COMIT), Institute for Advanced Study, Gifu University
1P-53	Site-specific alkylation and functionalization of RNA with vinylquinazolinone derivatives via a guide DNA-directed approach <u>Takahito Hasegawa</u>^{1,2}, Kazumitsu Onizuka,^{1,2,*} Kosuke Tsuzuki,^{1,2} Hina Hatayama,^{1,2} Fumi Nagatsugi^{1,2,*} ¹IMRAM, Tohoku University, ²Graduate School of Science, Tohoku University
1P-54	RNA hacking-mediated upregulation of gene expression through mRNA stabilization <u>Ririka Taniguchi</u>¹, Yua Hasegawa,¹ Toshihiro Ihara,¹ Shin-ichi Sato,^{1,2} Yousuke Katsuda^{1,2,3*} ¹Faculty of Advanced Science and Technology, Kumamoto University, ²StapleBio Inc., ³Institute For Integrated Cell-Material Sciences, Kyoto University
1P-55	RNA G-Quadruplexes Enable Solubilization and Photoactivation of Protoporphyrin IX <u>Kiyohiko Kawai</u>^{1,*}, Tadao Takada,² Yasuko Osakada,³ Mamoru Fujitsuka,³ Junko Takahashi^{4,*} ¹Department of Life Science and Technology, School of Life Science and Technology, Institute of Science Tokyo, ²Department of Applied Chemistry, Graduate School of Engineering, University of Hyogo, ³SANKEN, The University of Osaka, ⁴Graduate School of Information, Production and Systems, Waseda University
1P-56	Establishment of a Nucleic Acid Design Strategy for Cell-Specific Death via miRNA-Triggered Hybridization Chain Reaction <u>Hiroki Oiwa</u>, Akimitsu Okamoto* Department of Chemistry and Biotechnology, Graduate School of Engineering, The University of Tokyo
1P-57	Development of a Novel Internucleotide linkage Formation Reaction using H-Phosphorylating reagents <u>Shion Horiike</u>, Tomoki Kameya, Harumi Okutsu, Kazuki Sato, Takeshi Wada* Graduate School of Pharmaceutical Sciences, Tokyo University of Science
1P-58	RNA synthesis from small amounts of template DNAs through coupled RCA and transcription, followed by self-processing with hydrolytic ribozymes <u>Yoshiya Ikawa</u>^{1,2}, Takumi Ishihara², Ryo Horiuchi², Takaki Koyama¹, Takashi Usui¹, Kotaro Ishihara¹, Shigeyoshi Matsumura^{1,2,*} ¹Graduate School of Science and Engineering, University of Toyama, ²Graduate School of Pharma-Medical Sciences, University of Toyama

Online Abstracts



Poster Session 2 (November 19, Thu)

Poster Presentations

Odd Numbers: Nov. 19 (Thu) 13:40-14:25

Even Numbers: Nov. 19 (Thu) 14:25-15:10

2P-01	Development of a Single-Stranded DNA Chemical Probing Method for R-loop Detection Sumika Maeda, Eitaro Murakami, Kohji Seio* Department of Life Science and Technology, Institute of Science Tokyo
2P-02	RNA Aptamers Targeting E2 Ubiquitin-Conjugating Enzymes for Functional Applications Mahiro Ohtani,¹ Yousuke Katsuda,^{1,2,3} Shin-ichi Sato,^{1,3} Toshihiro Ihara^{1,*} ¹ Faculty of Advanced Science and Technology, Kumamoto University, ² Institute For Integrated Cell-Material Sciences, Kyoto University, ³ StapleBio Inc.
2P-03	Large-scale profiling across RNA and chemical space toward prediction of RNA–small molecule interactions Asako Murata,^{1,*} Naoki Hatanaka,¹ Daito Koga,² Chaofan Zheng² ¹ Faculty of Engineering Sciences, Kyushu University, ² Interdisciplinary Graduate School of Engineering Sciences, Kyushu University
2P-04	Constructing synthetic routes to 1,2,3-triazolymethyl nucleoside mimics from azidomethylated nucleobases Yoshiaki Kitamura,^{1,2,3,4,*} Ryoga Sawahata,¹ Yuna Kohama,² Mari Yoshida² ¹ United Graduate School of Drug Discovery and Medical Information Sciences, Gifu University, ² Graduate School of Natural Science and Technology, Gifu University, ³ Faculty of Engineering, Gifu University, ⁴ Center for One Medicine Innovative Translational Research (COMIT), Institute for Advanced Study, Gifu University
2P-05	Molecular Connectivity Converts an Inactive Oligonucleotide into a Functional Staple Oligomer Ayu Matsumoto,¹ Masaki Hagihara,² Yousuke Katsuda,^{1,3,4} Shin-ichi Sato,^{1,3} Toshihiro Ihara^{1,*} ¹ Division of Materials Science and Chemistry, Faculty of Advanced Science and Technology, Kumamoto University ² Faculty of Science and Technology, Hirosaki University, ³ StapleBio Inc., ⁴ Institute For Integrated Cell-Material Sciences, Kyoto University
2P-06	Template-Independent DNA Elongation-Driven Photoelectrochemical Sensor for Highly Sensitive Nucleic Acid Detection Rina Suzuki, Aki Tanaka, Mitsunobu Nakamura, Tadao Takada* Department of Applied Chemistry, Graduate School of Engineering, University of Hyogo
2P-07	Development of DNA Probes for Multiplexed Biomolecule Detection Toward Single-Cell Analysis Masato Sugawara, Reoto Mio, Shogo Nishida, Tatsuya Nishihara,* Kazuhito Tanabe* College of Science and Engineering, Aoyama Gakuin University
2P-08	Photocontrol of morphology and composition of UGGAA repeat RNA foci by photoswitchable RNA-binding ligand Chikara Dohno,* Yusuke Fujiwara, Tomonori Shibata SANKEN, The University of Osaka, 8-1 Mihogaoka, Ibaraki, Osaka 567-0047, Japan
2P-09	Unexpectedly Slow Association and Dissociation of Triplex-forming SNA and Natural Duplexes Tamaki Endoh,^{1,*} Jumpei Ariyoshi,³ Yukiko Kamiya,³ and Eriks Rozners⁴ ¹ Frontier Institute for Biomolecular Engineering Research (FIBER), Konan University, ² Graduate School of Frontiers of Innovative Research in Science and Technology (FIRST), Konan University, ³ Laboratory of Bioanalytical Chemistry, Kobe Pharmaceutical University, ⁴ Department of Chemistry, Binghamton University
2P-10	Molecular Design and Intracellular Delivery of DNA Conjugated with Fluoroalkyl and Ionizable Units Elsayed M. Mahmoud*,^{‡1} Ryosuke Ito,^{‡1} Minako Narita,¹ Ai Kohata,¹ Masafumi Sugiyama,¹ Kunihiro Morihiro,¹ Akimitsu Okamoto,¹ Satoru Homma,² Takashi Okazoe,² Daisuke Kawaguchi^{1,*} ¹ Department of Chemistry and Biotechnology, Graduate School of Engineering, the University of Tokyo, ² Materials Integration Laboratories, AGC Inc.
2P-11	Inhibition of the interaction between the HIV-1 Vif-containing complex and the host factor A3G by an RNA aptamer. Saki Maeda,¹ Tomohiro Shinozaki,¹ Kentaro Tozawa,² Keisuke Kamba,² Kayoko Nagata,² Masato Katahira,^{2,3} Takashi Nagata,^{2,3} Taiichi Sakamoto^{1,*} ¹ Dept. of Life Sci., Grad. Sch. of Adv. Eng., Chiba Inst. Tech., ² Inst. of Adv. Energy., Kyoto Univ., ³ Grad. Sch. of Energy Sci., Kyoto Univ.

2P-12	Structural Characterization of DNA Fragments Bearing Long Alkyl Chains <u>Haruto Matsuda</u> , ¹ Kai Kosugi, ¹ Kaori Sawada, ² Takahiro Atsugi, ³ Akira Ono, ² Jiro Kondo ^{1,3,*} ¹ Graduate School of Science and Technology, Sophia University, ² Department of Material and Life Chemistry, Faculty of Engineering, Kanagawa University, ³ Department of Materials and Life Sciences, Sophia University
2P-13	Artificial Modulation of isomiR Production via Control of DCL1 Cleavage Site mediated by targeted RNA Strand Displacement <u>Konatsu Ishikawa</u> , Eitaro Murakami, Kohji Seio* Department of Life Science and Technology, Institute of Science Tokyo
2P-14	Fluorescent Ligands for Imaging and Regulating Guanine-quadruplexes in Living Cells <u>Takashi Sakamoto</u> ,* Nana Yamada, Tomoyuki Higuchi, Shiori Kasai Graduate School of Systems Engineering, Wakayama University
2P-15	Evaluation of drug response during nucleolar stress based on nucleolar RNA changes using fluorescent monomethine cyanine dyes <u>Masaaki Nagaoka</u> , Yusuke Sato, Seiichi Nishizawa* Graduate School of Science, Tohoku University
2P-16	High-Resolution Separation of Phosphorothioate Oligonucleotide Diastereomers by RP-HPLC <u>Rintaro Iwata Hara</u> ,* Kota Suzuki, Hidenori Asahina NucleoTIDE and PepTIDE Drug Discovery Center, Institute of Biomedical Engineering, Institute of Science Tokyo
2P-17	Structure-based design of a DNA-based mercury ion sensor that mimics the ribosomal RNA A-site motif <u>Emi Sasamoto</u> , ¹ Mai Goto, ² Manami Kasai, ² Jiro Kondo ^{1,2,*} ¹ Graduate School of Science and Technology, Sophia University, ² Department of Materials and Life Sciences, Sophia University
2P-18	A FRET Fluorescent Reporter of G-quadruplex RNA for Photodynamic Diagnosis <u>Rie Iwakiri</u> ^{1,2} , Shiyu Wang ¹ , Yan Xu ^{*1,2} ¹ Division of Chemistry, Department of Medical Sciences, Faculty of Medicine, University of Miyazaki, ² Graduate School of Medicine and Veterinary Medicine, University of Miyazaki
2P-19	Functional Characterization of BANA, a Novel Pyranose-Bridged Nucleic Acid, and Its Application to Antisense Oligonucleotides for Aicardi-Goutières Syndrome <u>Tomoki Yoshimura</u> , ¹ Yota Sakurai, ¹ Chiaki Inagaki, ³ Takao Yamaguchi, ^{1,2} Taisuke Nakahama, ^{2,3} Yukio Kawahara, ^{2,3} Satoshi Obika ^{1,2,*} ¹ Graduate School of Pharmaceutical Sciences, The University of Osaka, ² Institute for Open and Transdisciplinary Research Initiatives (OTRI), The University of Osaka, ³ Graduate School of Medicine, The University of Osaka
2P-20	Structural insights into lab-coevolved RNA-RBP pairs and applications of synthetic riboswitches in cell-free system <u>Keisuke Fukunaga</u> , ^{1,2,3,*} Takamasa Teramoto, ⁴ Momoka Nakashima, ⁴ Toshitaka Ohtani, ² Riku Katsuki, ⁵ Tomoaki Matsuura, ² Yohei Yokobayashi, ^{3,*} Yoshimitsu Kakuta ^{4,*} ¹ Institute for Tenure Track Promotion, University of Miyazaki, Miyazaki, ² Earth-Life Science Institute (ELSI), Institute of Science Tokyo, ³ Nucleic Acid Chemistry and Engineering Unit, Okinawa Institute of Science and Technology Graduate University (OIST), ⁴ Department of Bioscience and Biotechnology, Faculty of Agriculture, Kyushu University, ⁵ Department of Engineering Science, Graduate School of Informatics and Engineering, The University of Electro-Communications (UEC)
2P-21	Discovery of a high-affinity G-quadruplex binding peptide via mRNA display <u>Miki Imanishi</u> , ^{1,*} Naka Kudo-Ida, ¹ Yoshimasa Kawaguchi, ¹ Shiroh Futaki, ² ¹ Institute for Chemical Research, Kyoto University, ² Graduate School of Pharmaceutical Sciences, Kyoto University
2P-22	Systematic analysis of sequence-context effects on DANP fluorescence in DNA duplexes <u>Fumie Takei</u> , ^{1,*} Ryoko Tamaki, ¹ Masaki Horigome, ¹ Takumi Sakamoto, ¹ Kaori Kamata, ¹ Chikara Dohno ² ¹ Faculty of Medicine, National Defense Medical College, ² SANKEN, The University of Osaka
2P-23	Structure–Accumulation Relationships of Oligodeoxynucleotides Bearing Alkylated Nitrobenzyl Groups in Hypoxic Cells <u>Yu Uchida</u> , Tatsuya Nishihara, Kazuhito Tanabe College of Science and Engineering, Aoyama Gakuin University

2P-24	Characterization of a ssDNA aptamer targeting the E protein of tick-borne encephalitis Virus by SPR and NMR Tomohiro Shinozaki,¹ Yuji Fujii,^{2,3} Kentaro Yoshii,² Taiichi Sakamoto^{1,*} ¹Department of Life Science, Faculty of Advanced Engineering, Chiba Institute of Technology, ²Department of Viral Ecology, Research Center for the Control and Prevention of Infectious Diseases, Nagasaki University, ³Experimental Animal Research Division, Research Center for the Control and Prevention of Infectious Diseases, Nagasaki University
2P-25	APOBEC3C Deaminase Activity: Dependence on dC Position and Modulation by the HIV-1 Vif Complex Kentaro Tozawa,^{1,2} Yudai Yamaoki,^{1,2} Keisuke Kamba,¹ Takashi Nagata,^{1,2} Masato Katahira^{1,2,*} ¹Inst. Adv. Energy, Kyoto Univ., ²Grad. Sch. Energy Sci., Kyoto Univ.
2P-26	Treading a fine line: A concise and unified synthetic route to 5'-cyclopropylene-DNA phosphoramidites via pyrimidine-to-purine transglycosylation Pasin Mapaisansin,¹ Takashi Nakamura,¹ Tsunayoshi Takehara,² Takeyuki Suzuki,² Takao Yamaguchi,¹ Satoshi Obika^{1,3,*} ¹Graduate School of Pharmaceutical Sciences, The University of Osaka, ²Institute of Scientific and Industrial Research (SANKEN), The University of Osaka, ³Institute for Open and Transdisciplinary Research Initiatives (OTRI), The University of Osaka
2P-27	DNA G-quadruplex dynamics during mouse spermatogenesis Takumi Ishizuka,[*] Kham Mo Aung, Yoshitaka Hishikawa[*] Department of Anatomy, Histochemistry and Cell Biology, Faculty of Medicine, University of Miyazaki
2P-28	CPD formation in (dT)18 studied by time-resolved infrared spectroscopy and ELISA Yuki Obara, Srijon Ghosh, and Toshinori Suzuki[*] Department of Chemistry, Graduate School of Science, Kyoto University
2P-29	Construction and Photoluminescence Properties of a Multichromophore Assembly on a DNA Scaffold Yui Miyaji, Mitsunobu Nakamura, Tadao Takada[*] Department of Applied Chemistry, Graduate School of Engineering, University of Hyogo
2P-30	Local helical-axis definitions alter calculated base-flipping angles in ADAR-RNA complexes Yuto Nagatsuka,¹ Masayuki Sakurai,^{2,5} Koya Shimokawa,^{3,5} Naoyuki Koike^{4,5,*} ¹Department of Mathematics, Graduate School of Science, Tokyo University of Science, ²Research Institute for Biomedical Sciences, Tokyo University of Science, ³Department of Mathematics, Ochanomizu University, ⁴Department of Mathematics, Faculty of Science, Tokyo University of Science, ⁵Division of Joint Research of Geometry and Natural Science, Research Institute for Science and Technology at Tokyo University of Science
2P-31	Development of Phosphate-Modified 7,8-Diiodo-7-Deaza-dG as an hMTH1 Inhibitor Mahiro Kono, Hidenori Okamura, Yosuke Taniguchi[*] Faculty of Medicine, Dentistry and Pharmaceutical Sciences, Okayama University
2P-32	Synthesis and Functional Evaluation of Oligonucleotides Modified with Structurally Diverse Fatty Acids Miu Kumagai,¹ Yuga Okada,¹ Ban Kinoshita,¹ Yaohong Shi,¹ Yamato Hasegawa,¹ Yutaro Saito,^{1,2} Shinsuke Sando^{1,*} ¹Graduate School of Engineering, Department of Chemistry and Biotechnology, The University of Tokyo, ²Department of Life Science and Technology, Institute of Science Tokyo
2P-33	Engineering ordered macroscopic architectures via valence and direction controlled self-assembly of DNA-decorated hydrogels Harikrishnan Kaloore Surendran, Yohei Yokobayashi[*] Nucleic Acid Chemistry and Engineering Unit, Okinawa Institute of Science and Technology Graduate University
2P-34	FMO analysis of Base-Base interactions in diverse DNA structures Mikoto Yamada, Shuhei Miyakawa, Naoko Konami, Yu-Shi Tian, Daisuke Takaya, Kaori Fukuzawa The University of Osaka
2P-35	Photoisomerization Dynamics and Structural Control of Azobenzene-Modified DNA Sato Imai,¹ Kiyohiko Kawai,² Mitsunobu Nakamura,¹ Yasuko Osakada,³ Mamoru Fujitsuka,³ Tadao Takada^{1,*} ¹Department of Applied Chemistry, Graduate School of Engineering, University of Hyogo, ²Department of Life Science and Technology, Institute of Science Tokyo, ³The Institute of Scientific and Industrial Research, Osaka University

2P-36	Development of unnatural alkynylated purine-pyridone base pairs bearing pseudo-nucleobases Hidegori Okamura,^{1,2,3,*} Wenjue Fan,^{2,3} Zhuoxin Dong,^{2,3} Giang Hoang Trinh,^{2,3} Yosuke Taniguchi,¹ Fumi Nagatsugi^{2,3,*} ¹Graduate School of Medicine, Dentistry and Pharmaceutical Sciences, Okayama University, Okayama, ²Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, ³Graduate School of Science, Tohoku University
2P-37	Selection of Membrane-Binding RNA Aptamers as a Model for Protocell Formation Arshjot Mann,¹ Keisuke Fukunaga,² Tomoaki Matsuura^{1,*} ¹Earth-Life Science Institute, Institute of Science Tokyo, ²Institute for Tenure Track Promotion, University of Miyazaki
2P-38	Expanding the Substrate Scope of P(V)-F Oligonucleotide Synthesis Satoshi Abe,¹ Nana Mihara,¹ Kazuho Okunishi,¹ Yuta Ito,² Yoshiyuki Hari,² Noriaki Minakawa,¹ Noriko Saito-Tarashima^{1,*} ¹Graduate School of Pharmaceutical Sciences, Faculty of Pharmaceutical Sciences, Tokushima University, ²Faculty of Pharmaceutical Sciences, Tokushima Bunri University
2P-39	Properties of Cationic N-Alkyl Oligopeptides Which Bind to A-Type Oligonucleotide Duplexes Shota Masuda, Tomomi Shiraishi, Kazuki Sato, Takeshi Wada[*] Graduate School of Pharmaceutical Sciences, Tokyo University of Science
2P-40	Investigating substrate range of the 2'-O-linear-alkyl modifications for enzymatic oligonucleotide synthesis Kenta Ishida,^{1,2} Hidekazu Hoshino,^{1,2} Fumi Itou,¹ Kaito Nitatouge,^{1,2} Rei Mitamura,^{1,2} Tomoki Yoshimura,² Satoshi Obika,^{2,3} Yuuya Kasahara^{1,2,*} ¹National Institutes of Biomedical Innovation, Health and Nutrition, ²Graduate School of Pharmaceutical Sciences, The University of Osaka, ³Institute for Open and Transdisciplinary Research Initiatives, The University of Osaka
2P-41	Less Ligand-PEG, More Selectivity: Ligand Density Shapes Disease-State-Dependent mRNA Delivery in Liver Fibrosis Chi-Cheng Ko,¹ Yu-Zhen Wang,¹ Kanatee Tippayajan,¹ Yu-Chen Wang,² Kan-Yen Hsieh,¹ Yung-Yi Cheng^{1,2,*} ¹School of Pharmacy, College of Pharmacy, Kaohsiung Medical University, ²Department of Medical Research, Kaohsiung Medical University Hospital
2P-42	In vivo gene regulation in tumor hypoxia by functional oligodeoxynucleotides bearing dialkylnitrobenzyl units Ryo Sato, Daigo Maehara, Tatsuya Nishihara, Kazuhito Tanabe[*] Graduate School of Science and Engineering, Aoyama Gakuin University
2P-43	Photo-Crosslinking-Based Fluorescent Labeling of GQuadruplexes via Click Chemistry Yutaro Imachi, Kazuki Yanagita, Kazuo Nagasawa, Masayuki Tera[*] Graduate School of Engineering, Tokyo University of Agriculture and Technology
2P-44	Conformational tuning of the catalytic core enhances the activity of the 10-23 DNAzyme Bitsaem Kim¹, Jiro Kondo^{1,2,*} ¹Graduate School of Science and Technology, Sophia University, ²Department of Materials and Life Sciences, Sophia University
2P-45	Programmable RNA Logic Gates by Cooperative G-Quadruplex Induction with Staple Oligomer Miko Kato,¹ Rinka Ohno,² Riko Yokoyama,² Tomoki Kida,¹ Yousuke Katsuda,^{1,3,4} Masaki Hagihara,² Shin-ichi Sato,^{1,3} Toshihiro Ihara^{1,*} ¹Faculty of Advanced Science and Technology, Kumamoto University, ²Faculty of Science and Technology, Hiroshima University, ³StapleBio Inc., ⁴Institute For Integrated Cell-Material Sciences, Kyoto University
2P-46	Development of U1 snRNA-recruiting oligonucleotides to promote exon inclusion Yuhei Nogi, Jun Tsukimoto, Noriko-Saito Tarashima, Noriaki Minakawa[*] Graduate School of Pharmaceutical Science, Tokushima University
2P-47	Evaluation of the Effects of DNA Methylation on qPCR and RCA Erika Yoshimura,¹ Shintaro Inaba,² Kazunori Ikebukuro^{2,*} ¹Department of Industrial Technology and Innovation, Graduate School of Engineering, Tokyo University of Agriculture and Technology, ²Department of Biotechnology and Life Science, Graduate School of Engineering, Tokyo University of Agriculture and Technology
2P-48	Effect of the Intracellular Molecular Environment on the Stability of 2'-MOE-Modified RNA Duplexes Kun Chen,¹ Hisae Tateishi-Karimata,^{1,2,*} Saki Matsumoto,¹ Naoki Sugimoto^{1,*} ¹Frontier Institute for Biomolecular Engineering Research (FIBER), Konan University, ²Graduate School of Frontiers of Innovative Research in Science and Technology (FIRST), Konan University

2P-49	Construction of a CO₂-fixing compartment using a shape-transforming DNA scaffold HuiYang,¹ Peng Lin,¹ Eiji Nakata,¹ Takashi Morii^{2,*} ¹ Institute of Advanced Energy, Kyoto University, ² Office of Institutional Advancement and Communications, Kyoto University
2P-50	Synthesis and Properties of β-Galactosidase-Responsive Prodrug-Type Oligonucleotides with O⁶-Modified Guanine Keita Takeuchi, Kento Miyaji,* Eitaro Murakami, Kohji Seio Department of Life Science and Technology, Institute of Science Tokyo
2P-51	The Effect of Cap Structure and Poly(A) Positioning on mRNA Translation Efficiency Mizuki Tada,¹ Naoko Abe,¹ Masahito Inagaki,¹ Yuko Nakashima,¹ Sana Ohashi,^{1,2} Haruka Hiraoka¹, Priyanka Uttamrao Deshmukh,¹ Yasuaki Kimura,¹ Fumitaka Hashiya,^{1,2} Hiroshi Abe^{1,3,*} ¹ Graduate School of Science, Nagoya University ² Integrated Research Consortium on Chemical Sciences (IRCCS), Nagoya University ³ Institute for Glyco-core Research (IGCORE), Nagoya University
2P-52	A small molecule activates transcription of the C19MC miRNA cluster Chaofan Zheng,¹ Jérôme Cavaillé,² Asako Murata^{3,*} ¹ Interdisciplinary Graduate School of Engineering Sciences, Kyushu University, ² Molecular, Cellular and Developmental biology department, Centre de Biologie Intégrative, University of Toulouse, ³ Faculty of Engineering Sciences, Kyushu University
2P-53	The Role of Loop Length in Liquid-Liquid and Liquid-Solid Phase Separation of G-Quadruplex and i-Motif DNA Ryosuke Suzuki, Naoki Kosaka, Yuno Mekari, Keiko Kawauchi, Daisuke Miyoshi* Frontiers of Innovative Research in Science and Technology, Konan University
2P-54	Difference between 5'- and 3'-extended pegRNAs on mismatch discrimination in Prime Editing Ayano Iwake, Yoshiaki Masaki* School of Life Science and Technology, Institute of Science Tokyo
2P-55	Synthesis, Purification, and Structural Characterization of DNA-Silver Nanostructures Ami Nakabori,¹ Kai Kosugi,¹ Takahiro Atsugi,² Tom Vosch,³ Jiro Kondo^{2,*} ¹ Graduate School of Science and Technology, Sophia University, ² Department of Materials and Life Sciences, Sophia University, ³ Department of Chemistry, University of Copenhagen
2P-56	Modulating RNA Condensates Through Aptamer-Ligand Interactions Bochen Zhu, Yohei Yokobayashi* Nucleic Acid Chemistry and Engineering Unit, Okinawa Institute of Science and Technology Graduate University
2P-57	Cellular adaptation to disruption of the tRNA modification network in <i>E. coli</i> Karolina Honzejkova,¹ Gen-Ichiro Uechi,¹ Paola Laurino^{1,2,*} ¹ Protein Engineering and Evolution Unit, Okinawa Institute of Science and Technology Graduate University, Onna, Japan, ² Institute for Protein Research, Osaka University
2P-58	Acyclic artificial nucleic acids as a chemical strategy for safer gapmer antisense oligonucleotides Jumpei Ariyoshi,¹ Masaya Higuchi,² Mioka Okuno,¹ Nozomi Tanigawa,¹ Ayano Otsuka,¹ Manaka Yamaoka,¹ Hiroyuki Oyama,¹ Hiroyuki Asanuma,² Yukiko Kamiya^{1,2,*} ¹ Faculty of Pharmaceutical Sciences, Kobe Pharmaceutical University, ² Graduate School of Engineering, Nagoya University

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