

Flash Presentations & Poster Session

Convention Hall B, Makuhari-Messe, Chiba, Japan, September 4-5, 2014.

Poster session 1 (September 4, morning)

- A101 Consideration of Inner and Outer Phase Formation in Tube Radial Distribution Phenomenon(TRDP) Using Various Types of Mixed Solvent Solutions
**Satoshi Fujinaga1, Masahiko Hashimoto1, Kazuhiko Tsukagoshi1,2, Jiro Mizushima1*
1 Department of Applied Chemistry, Graduate School of Science and Engineering, Doshisha University, Japan, 2 Tube Radial Distribution Phenomenon Research Center, Doshisha University, Japan
- A102 Continuous-flow electromagnetophoretic separation of microparticles by hollow fiber-embedded PDMS micro-chip
**Ayaka Tanaka1, Yoshinori Iiguni1, Hajime Ohtani1*
1 Graduate School of Engineering, Nagoya Institute of Technology
- A103 Electrochemical sugar recognition of using a ferrocene assembled on the gold nanoparticles
**Naoto Kishi1, Akira Endo1, Takeshi Hashimoto1, Takashi Hayashita1*
1 Sophia University
- A104 Chromatographic behavior of low molecular compounds in low-temperature RP-HPLC using liquid carbon dioxide as a mobile phase
**Tomohiro Motono1, Shinya Kitagawa1, Hajime Ohtani1*
1 Graduate School of Engineering, Nagoya Institute of Technology
- A105 Development of Ditopic Type Probe/cyclodextrin Complex Sensors Possessing Guest-induced Supramolecular Chirality
**Kentaro Nonaka1, Mai Yamaguchi1, Masashi Yasui1, Shoji Fujiwara1, Takeshi Hashimoto1, Takashi Hayashita1*
1 Sophia University
- A106 Simultaneous Determination of Pesticide Residues in Soybean oil using GPC-GC-MS/MS
**Lili Qian1*
1 Shimadzu (China) Co., Ltd, Shanghai, China
- A107 Photometric and fluorometric micro-flow analysis based on organic optical devices
**Toshihiko Imato1*
1 Kyushu University
- A108 Fluorescence correlation spectroscopy of single water droplets in the air
**Tomoki Ishikawa1, Shoji Ishizaka1, Terufumi Fujiwara1*
1 Department of Chemistry, Graduate School of Science, Hiroshima University
- A109 The QYM-01 Photoreaction Quantum Yield Evaluation System
**Hirokazu Taniguchi1, Tsuyoshi Tsuchibuchi1, Takahide Hiramatsu1*
1 Shimadzu Corporation
- A110 Detection of enzyme activity using local redox cycling-based electrochemical chip devices with densified electrochemical sensors
**Hirokazu Komaki1, Kosuke Ino1, Yusuke Kanno1, Hitoshi Shiku1, Tomokazu Matsue1,2*
1 Tohoku University, Graduate School of Environmental Studies, 2 Tohoku University, Advanced Institute for Materials Research
- A111 Characterization of track-etched microporous membrane electrodes fabricated by wet plating
**Naoto Yoshikawa1, Shinya Sato1, Takuya Henmi1, Tomomi Sato1, Genki Hayakawa1, Masamitsu Iiyama2, Hitoshi Mizuguchi1*
1 Department of Biochemical Engineering, Graduate School of Science and Engineering, Yamagata University, 2 Nomura Micro Science Co. Ltd.
- A112 NANOWIRE DEVICES FOR EXOSOMAL MEMBRANE PROTEIN DETECTION
**Yuki Konakade1, Takao Yasui1, Takeshi Yanagida2, Noritada Kaji1, Yong He2, Masaki Kanai2, Kazuki Nagashima2, Hiroshi Yukawa2, Tomoji Kawai2, Yoshinobu Baba1,3*
1 Department of Applied Chemistry, Graduate School of Engineering, Nagoya University, Japan, 2 Institute of Scientific and Industrial Research, Osaka University, Japan, 3 Health Research Institute, National Institute of Advanced Industrial Science and Tec

- A113 Development of a low-volume air sampler for personal exposure of organic solvents
**Koji Kawamura1, Manabu Suzuki1, Kazumasa Miyazawa1, Hiroaki Honma1
 1 Komyo Rikagaku Kogyo K.K.*
- A114 Spontaneous Chemical Oscillation Mechanism in water/oil/water system: Effect of electrolyte in the acceptor phase
**Kazuma Goto1, Tomonori Nomoto1, Taro Toyota2, Masanori Fujinami1
 1 Department of Applied Chemistry and Biotechnology, Chiba University, 2 Department of Basic Science, Graduate School of Arts and Sciences, The University of Tokyo*
- A115 A novel energy- and angle-selective electron detector for SEMs
**Ken-ichi Yamashita1, Takeshi Otsuka1, Motohiro Nakamura1, Masaya Hara1, Felix Timischl2, Kazuhiro Honda1, Masato Kudo2, Shin-ichi Kitamura1
 1 JEOL Ltd., 2 JEOL Technics Ltd.*
- A116 Development of co-culture device for micro model of angiogenesis in tumor tissue
**Noriaki Machida1, Kin-ichi Tsunoda1, Kiichi Sato1
 1 Gunma University*
- A117 Biothiols analysis by hydrophilic interaction chromatography with fluorescence detection
**Muneki Isokawa1, Takashi Funatsu1, Makoto Tsunoda1
 1 Graduate School of Pharmaceutical Sciences, University of Tokyo*
- A118 Ionic interaction between thermoresponsive polymers and surfactants for bio/medical applications
**Mikako Mori1, Nobuo Uehara1
 1 Grad. School of Eng. Univ. Utsunomiya*
- A119 Single Cell RNA Extraction by Bioinspired Silicification
**YUKIHIRO OKAMOTO1,3, TOMOKI OKAWA2, DAISUKE ONOSHIMA3,4, HIROSHI YUKAWA4,
 MANABU TOKESHI3,6, YOSHINOBU BABA2,3,4,5
 1 Grad. Sch. of Engineering Science, Osaka University, 2 Grad. Sch. of Engineering, Nagoya University, 3 Institute of Innovation for Future Society, Nagoya University, 4 FIRST Research Center for Innovative Nanobiodevices, Nagoya University, 5 National I*
- A120 Automated pre-treatment system with an on-line pre-concentration column for the determination of metal ions in urine samples by GFAAS
**Alejandro Ayala1, Georgia Giakisikli1, Junpei Tanaka1, Hiroya Murakami1, Tadao Sakai1, Norio Teshima1
 1 Aichi Institute of Technology*
- A121 Extraction of single nucleus in a picoliter chamber
**Ryo KOYAMA1, Takao YASUI1, Noritada KAJII, Tetsuya HIGASHIYAMA2,3, Yoshinobu BABA1,4
 1 Graduate School of Engineering, Nagoya Univ., 2 Institute of Transformative Bio-molecules, 3 JST・ERATO, 4 Health Research Institute, AIST*
- A122 Cell-free protein synthesis from single DNA in microdroplet array
**Hiroto Kizoe1, Yi Zhang1, Kazuhito V Tabata1,2, Hiroyuki Noji1
 1 Department of Applied Chemistry, The University of Tokyo, 2 PRESTO, JST*
- A123 Signal Amplification in DNA Sensing Using Toehold-mediated Strand Exchange on Graphene Oxide
**Takaaki Miyahata1, Tomoya Matsuo1, Yusuke Kitamura1,2, Toshihiro Ihara1,2
 1 Graduate School of Science and Technology, Kumamoto University, 2 CREST, Japan Science and Technology Agency*
- A124 Single particle detection of influenza virus by micro droplet array
**Shuho Kidokoro1, Kazuhito V Tabata1,2, Hiroyuki Noji1
 1 Department of Applied Chemistry, Graduate School of Engineering, The University of Tokyo, 2 PRESTO, JST*
- A125 Chiral metabolomics approach using a novel optically active derivatization reagent (DMT-3(S)-Apy) for carboxylic acids.
**Takahiro Takayama1, Tomohiro Kuwabara1, Toshio Maeda1, Ichiro Noge2, Yutaka Kitagawa2, Kenichiro Todoroki1, Koichi Inoue1, Jun Zhe Min1, Toshimasa Toyo'oka1
 1 School of Pharmaceutical Sciences, University of Shizuoka, 2 Numazu City Hospital*

- A126 Poly-epsilon-lysine modified nanocarbon electrode for LPS detection without LAL reagent
**Atsumu Oda*^{1,2}, *Dai Kato*², *Mutsuo Tanaka*², *Tomoyuki Kamata*^{2,3}, *Masami Todokoro*⁴, *Osamu Niwa*^{1,2}
1 Graduate School of Pure and Applied Sciences, University of Tsukuba, 2 National Institute of Technology Advanced Industrial Science and Technology, 3 Chiba Institute of Technology, 4 JNC Corporation
- A127 An efficient and continuous extraction of metal ions by using droplet-based microreactor
*Ramachandra Rao Sathuluri*¹, *Masatoshi Maeki*^{1,2}, *JeeYoung Kim*³, *Yuki Ueda*³, *Keisuke Ohto*³, **Masaya Miyazaki*^{1,4}
1 Measurement Solution Research Center, National Institute of Advanced Industrial Science and Technology (AIST), 807-1 Shuku, Tosu, Saga 841-0052, Japan, 2 Division of Biotechnology and Macromolecular Chemistry, Faculty of Engineering, Hokkaido University
- A128 3D culture of human normal dermal fibroblast cells in a microchip
**Yuko Hayashi*¹, *Kin-ichi Tsunoda*¹, *Kiichi Sato*¹
1 Gunma University
- A129 The method development of various elements speciation by LC-ICP-MS
**Chiho Kiriyama*¹
1 Global Application Development Center, Analytical & Measuring Instruments Division, Shimadzu Corporation, Japan
- A130 Detection of bacteria by using fluorescent silica nanoparticles modified by dipicolylamino probes
**Yuji Tsuchido*¹, *Hiroyuki Kobayashi*¹, *Yuna Kasai*¹, *Aya Yamasawa*¹, *Takeshi Hashimoto*¹, *Nobuyuki Kanzawa*¹, *Takashi Hayashita*¹
1 Sophia University
- A131 Observation of potential dependence of tip-enhanced Raman spectra of adsorbed p-aminothiophenol on gold
**Tomonori NOMOTO*¹, *Masanori FUJINAMI*¹
1 Department of Applied Chemistry and Biotechnology, Chiba University
- A132 Facile synthesis of NaLuGdF₄:Yb,Er phosphors for selective detection of Hg²⁺ ions
**Zayakhuu Gerelkhuu*¹, *Bui The Huy*¹, *Jong Won Chung*¹, *Yong-Ill Lee*¹
1 Anastro Laboratory, Department of Chemistry, Changwon National University, Changwon 641-773, Korea
- A133 Preparation of reduced Immunoglobulin G fragments for specific labeling of gold nanoparticle
**Sachiho Kuwabara*¹, *Kazuhiko Fujiwara*¹, *Nobuaki Ogawa*¹
1 Department of Life Science, Graduate School of Engineering and Resource Science, Akita University
- A134 The Evaluation of the Hydrous Lens Using SPM
**Ryohei KOKAWAI*¹
1 Analytical & Measuring Instruments Div., Shimadzu Corp.
- A135 Discrimination and blend ratio estimation between Arabica and Robusta coffee species using Direct Inlet Probe/Ion Attachment ionization Mass Spectrometry
*Ryohei Okumura*¹, *Noriko Kumata*¹, **Takahisa Tsugoshi*², *Yuji Mishima*³, *Hideki Koizumi*³
1 Kirin Co., Ltd., 2 National Institute of Advanced Industrial Science and Technology, 3 Tsurui Chemical Co., Ltd.
- A136 Measurements and Test Statistic in Nondeterministic Polynomials(NP)
**Hsiehchia Hsieh*¹, *Pei-Gin Hsieh*²
1 Providence University, 2 Chung-cheng University
- A137 pH measurement of culture solution with the unique pH electrode
**hisashi yamanouchi*¹
1 HORIBA, Ltd.

Poster session 2 (September 4, afternoon)

- A201 Development of selective sugar adsorption supramolecular gels based on phenylboronic acid azoprobe/cyclodextrin complexes
**Taiji Yamada1, Masafumi Yamazaki1, Takeshi Hashimoto1, Takashi Hayashita1
1 Sophia University*
- A202 Quantitative Ligand Immobilization Using Alginate Hydrogel Formed in a Capillary: Application for Online Affinity Concentration
**Yudai Fukushima1, Toyohiro Naito1, Takuya Kubo1, Koji Otsuka1
1 Department of Material Chemistry, Graduate School of Engineering, Kyoto University*
- A203 Development of solid phase extraction utilizing temperature-responsive polymer
**Kohei Okubo1, Michiko Akimaru1, Yuki Hiruta1, Hideko Kanazawa1
1 Faculty of Pharmacy, Keio University*
- A204 4-(4,6-Dimethoxy-1,3,5-triazin-2-yl)-4-methylmorpholinium chloride as an enantioseparation enhancer for fluorescence chiral derivatization - Liquid Chromatographic analysis of DL-lactic acid
*Goto Kanoko1, *Nakano Tatsuki 1, Ishii Yasuhiro1, Todoroki Kenichiro 1, Jun Zhe Min1, Inoue Koichi 1, Toyo`oka Toshimasa 1
1 Department of Analytical and Bio-Analytical Chemistry, University of Shizuoka*
- A205 Construction of a Liquid-core/Liquid-cladding Optical Waveguide Using Tube Radial Distribution Phenomenon
**Manami Nakamura1, Kiichi Sato1, Kin-ichi Tsunoda1
1 Gunma University*
- A206 3D analysis of crystalline phase distribution in inhomogeneous samples by confocal XRD
**Satsuki Awaji1, Shogo Sugaya1, Hiromi Eba1, Shigeru Nishio2
1 Tokyo City University, 2 The Wakasa Wan Energy Reserch Center*
- A207 Ultrafast simultaneous measurement of enhanced Raman scattering and AFM images
**Nobuyuki Naka1, Yasushi Nakata1, Masayuki Nishi2, Hiroki Itasaka2, Koji Okuda2, Kazuyuki Hirao2
1 Scientific & Semiconductor Instrument Development Department, HORIBA, Ltd., 2 Department of Material Chemistry, Graduate School of Engineering, Kyoto University*
- A208 Evaluation of Quick-drying Ink and Disappearing Ink by FTIR - Analysis by Rapid Scan and Time-Course Measurement -
**Shoko Iwasaki1
1 Shimadzu Corporation*
- A209 Flow-based electrochemical analysis on compact disk-type microchip
**Toshihiko Imato1
1 Kyushu University*
- A210 Recoupling ¹H Chemical Shift Anisotropy with Ultrafast MAS Solid-State NMR
**Manoj Kumar Pandey1, Michal Malon1,2, Yusuke Nishiyama1,2
1 RIKEN CLST NMR Facility, Yokohama Campus, Japan, 2 Jeol Resonance Inc., Japan*
- A211 Determination of phosphate using simultaneous injection effective mixing flow analysis (SIEMA) system with heating unit
*Mai Yamashita1, Wasin Wongwilai3, *Kanokwan Kiwo2, Norio Teshima1, Kate Grudpan2,3, Tadao Sakai1
1 Department of Applied Chemistry, Aichi Institute of Technology, 1247 Yachigusa, Yakusa-cho, Toyota 470-0392, Japan, 2 Department of Chemistry, Faculty of Science and Center of Excellence for Innovation in Analytical Science and Technology, Chiang Mai*
- A212 Ultra Low Voltage Electron Microscopy for the Enhancement of Energy-Filtered BSE image
**Yoichiro Hashimoto1, Toshiyuki Yokosuka2, Hiroyuki Ito1, Shuichi Takeuchi1
1 Application Development Department, Hitachi High-Technologies Corporation, 2 Process Control Systems Research and Development Department, Hitachi High-Technologies Corporation*
- A213 Analysis of Protein Organization during Cell Death Using Super-resolution Microscopy
**Yusuke Nasu1, Alexander Benke2, Suliana Manley2, Takeaki Ozawa1
1 Department of Chemistry, School of Science, The University of Tokyo, 2 Laboratory of Experimental Biophysics, Ecole Polytechnique Federale de Lausanne*

- A214 An Antibody-Free Microfluidic Paper-Based Analytical Device (microPAD) for the Determination of Tear Fluid Lactoferrin
**Kentaro Yamada¹, Shunsuke Takaki¹, Koji Suzuki¹, Daniel Citterio¹*
¹ Department of Applied Chemistry, Faculty of Science and Technology, Keio University
- A215 Development of microfluidic vascular and extracellular matrix model for permeation assay
**Ai Kumada¹, Kae Sato¹*
¹ Japan Women's University
- A216 Monitoring viability of *Saccharomyces cerevisiae* by time-resolved fluorescence spectroscopy
**Sakiko Akaji¹, David McLoskey², Graham Hungerford²*
¹ HORIBA, Ltd., ² HORIBA Jobin Yvon IBH Ltd.
- A217 Design and Synthesis of Fluorescent Probe for Copper Imaging
**Saya Shiino¹, Yoshiyuki Kaneko¹, Yutaka Shindo¹, Kotaro Oka¹, Naoko Iwasawa¹, Daniel Citterio¹, Koji Suzuki¹*
¹ Keio University
- A218 Analysis of Enantiomeric Amino Acids in a Single Cell via Capillary Electrophoresis Coupled with an Online Sample Preconcentration Method
**Takayuki Kawai^{1,2}, Amit Patel¹, Stanislav S Rubakhin¹, Jonathan V Sweedler¹*
¹ Department of Chemistry, University of Illinois at Urbana-Champaign, USA, ² Quantitative Biology Center, RIKEN, Japan
- A219 Development of dipicolylamine modified cyclodextrin for phosphate anions sensing in water
**Shoji Fujiwara¹, Kohei Katano¹, Keiko Ogura¹, Mariko Samizo¹, Tatsuru Yamada¹, Takeshi Hashimoto¹, Takashi Hayashita¹*
¹ Sophia University
- A220 Analysis of single-molecule dynamics of signal transduction molecule Akt in living cells
**Hideaki Yoshimura¹, Takeaki Ozawa¹*
¹ Department of Chemistry, School of Science, The University of Tokyo
- A221 Development of ultrafast and single-step immunoassay device using functional graphene release capillary
**Akihiro Shirai¹, Terence G. Henares¹, Kenji Sueyoshi¹, Tatsuro Endo¹, Hideaki Hisamoto¹*
¹ Osaka Prefecture University
- A222 Analysis of D- and L-amino acids using automated pre-column derivatization and liquid chromatography-electrospray ionization mass spectrometry
**Yoshiko Hiraol*
¹ Hidetoshi Terada; Yoshiko Hiraol; Kiyomi Arakawa; Yoshihiro Hayakawa
- A223 Development of the laser-induced surface deformation microscope and its application for the non-contact viscoelastic measurements of cell membranes in single living cells
**Toshinori Morisaku¹, Yuhei Wada¹, Yuriko Kido¹, Hiroharu Yui¹*
¹ Graduate School of Chemical Science and Technology, Tokyo University of Science
- A224 Inhibitor Assay of Xanthine Oxidase by Photometric Flow Injection Analysis with Bindschedler's Green Leuco Base
**Ayumi Kimura¹, Tomoki Yabutani^{1,2}, Toshio Takayanagi^{1,2}*
¹ Graduate School of Advanced Technology and Science, The University of Tokushima, ² Institute of Technology and Science, The University of Tokushima
- A225 Newly designed ionic liquid and its application for SEM observation of biological specimens
**Mari Sakaue¹, Masamichi Shiono¹, Mami Konomi¹, Eiko Nakazawa¹, Koji Kawai²*
¹ Hitachi High-Technologies Corporation, ² MIYOSHI OIL & FAT CO., LTD.
- A226 State Analysis of Methyl Cellulose Thermo Reversible Hydrogels Containing Polyethylene Glycol and Salt
**Hiroki Eguchi¹, Eita Shimoda¹, Toshiyuki Suzuki², Yuko Nishimoto¹*
¹ Kanagawa Univ., ² PerkinElmer Japan
- A227 VOC-Adsorption and Desorption Properties of Charcoal and Steam Activated Charcoal Prepared from Waste
**Naoya Inomata¹, Takuto Shiraishi¹, Toshihiro Okabe¹, Takahisa Tsugoshi², Yuko Nishimoto¹*
¹ Kanagawa Univ., ² NMIJ AIST

- A228 Environmental Radioactivity Measurement using Electron Tracking Compton Camera (ETCC)
**Akio Uesaka¹, Hiroshi Ito¹, Kazuo Nishihagi¹, Akira Nabetani², Dai Tomono³, Atsushi Takada³, Toru Tanimori³, Naoto Bando¹*
1 HORIBA, Ltd., 2 Canon INC., 3 Department of Physics, Kyoto University
- A229 Smart Nanochannels based on a thiolated temperature-responsive polymer
**Misato Shinomiya^{1,2}, Atsushi Harada², Yan Xu¹*
1 Nanoscience and Nanotechnology Research Center, Osaka Prefecture University, 2 Department of Applied Chemistry, Graduated School of Engineering, Osaka Prefecture University
- A230 Plasmonic properties of gold nano conjugates composed of gold clusters and thiol compounds
**Chikara Haneishi¹, Nobuo Uehara¹*
1 Graduate School of Engineering Utsunomiya University
- A231 Quantitative Analysis of Uric acid based on CdTe Nanoparticles with uricase/peroxidase enzymatic system
*Min-Ho Seol, *Bui The Huy^{1,2}, Yong-Il Lee¹*
1 Anastro Laboratory, Department of Chemistry, Changwon National University, Changwon 641-773, Korea, 2 NhaTrang Institute of Technology Research and Application, VAST, 2 Hung Vuong, Nha Trang, VietNam
- A232 Effect of a Chemical Functionalization for Cytotoxicity of Gold Nanoparticle
**Yuki Nagano¹, Kazuhiko Fujiwara¹, Nobuaki Ogawa¹*
1 Department of Life Science, Graduate School of Engineering and Resource Science, Akita University
- A233 Applications of ultra fast MAS NMR
**Koji Yazawa¹, Yuki Endo¹, Takahiro Nemoto¹, Yusuke Nishiyama¹*
1 JEOL RESONANCE Inc.
- A234 Speciation and structure analysis of Li⁺ in the Li⁻glyme solvate ionic liquids as new electrolytes for next generation lithium batteries.
**Soshi Saito¹, Hiroyuki Doi¹, Hikari Watanabe¹, Seiji Tsuzuki², Shiro Seki³, Kaoru Dokko⁴, Masayoshi Watanabe⁴, Yasuhiro Umebayashi¹*
1 Graduate School of Science and Technology, Niigata University, 2 National Institute of Advanced Industrial Science and Technology, 3 Materials Science Research Laboratory, Central Research Institute of Electric Power Industry, 4 Department of Chemistry
- A235 Various Gas Applications of High-Sensitivity Analysis by Using GC-BID
**Tasuku Murata¹*
1 Shimadzu Corporation Analytical and Measuring Instrument Division Global Application Development Center
- A236 Molecular crowding improves single DNA molecules detection by on-bead rolling circle amplification
**Yoshitaka Gunji¹, Kae Sato², Naoki Sasaki¹*
1 Faculty of Science and Engineering, Toyo University, JAPAN, 2 Faculty of Science, Japan Women's University, JAPAN
- A237 Artificial Darwinian selection using microwell array chip
**Shusuke Sato¹, Takumi Fukuda¹, Shingo Ueno¹, Manish Biyani¹, Takanori Akagi¹, Takanori Ichiki¹*
1 Graduate School of Engineering, The University of Tokyo, JAPAN

Poster session 3 (September 5, morning)

- A301 Development of Monolithic Materials for a Miniaturized LC Device
**Akihiro Kunisawa¹, Toyohiro Naito¹, Takuya Kubo¹, Koji Otsuka¹
1 Graduate School of Engineering, Kyoto University*
- A302 Surface nanobubble modulated liquid chromatography: Retention mechanism and separation efficiency
**Keisuke Nakamura¹, Shingo Saito¹, Masami Shibukawa¹
1 Graduate School of Science and Engineering, Saitama University*
- A303 High-sensitivity and High-resolution Analysis of Proteins Based on Two-dimensional Digital Electrophoresis Using Layered Structure of Functionalized Hydrogels
*Tadamasa Kanaoka¹, Keita Matsuda¹, *Kenji Sueyoshi¹, Tatsuro Endo¹, Hideaki Hisamoto¹
1 Department of Applied Chemistry, Graduate School of Engineering, Osaka Prefecture University*
- A304 In-situ analysis of lithium ion batteries using combined measurements of color confocal system and fiber Raman system
**Kenta Hashimoto¹, Tomoko Numata², Atsuhiko Shimojima², Yoshihiro Nishimura³, Makoto Torizawa³, Seiji Morishita³
1 HORIBA TECHNO SERVICE Co.,Ltd, 2 HORIBA ,Ltd, 3 Lasertec Co.*
- A305 Micro Sampling pH Monitor
**Kazuhiro Miyamura¹, Koji Ueda¹, Yoshihiro Mori¹
1 HORIBA, Ltd.*
- A306 Ratiometric Fluorescence Sensor for Dissolved Oxygen Based on PtFTPP/BBS Embedded in Sol-gel Matrix
**Ting-xiu Ye¹, Xi Chen²
1 Department of Pharmacy, Xiamen Medical College, 2 State Key Laboratory of Marine Environmental Science, Xiamen University*
- A307 pH-Responsive Fluorescence Polymer Probe for Tumor pH Targeting
**Yuki Hiruta¹, Takaaki Funatsu¹, Minami Matsuura¹, Teruo Okano², Hideko Kanazawa¹
1 Faculty of Pharmacy, Keio University, 2 Institute of Advanced Biomedical Engineering and Science, Tokyo Women's Medical University*
- A308 Development of Fluorescence Probe for Cellular Imaging utilizing a Temperature Responsive Polymer
**Arisa Yamada¹, Jian Wang¹, Yuki Hiruta¹, Hideko Kanazawa¹
1 Faculty of Pharmacy, Keio University*
- A309 Microscale in situ padlock RCA for DNA counting in a cell: Effects of blocking reagents
**Yuri Ishigaki¹, Kae Sato¹
1 Japan Women's University*
- A310 Detection of avidin with thermo-responsive polymers having biotin group by light scattering
**Yoshifumi Hagimoto¹, Nobuo Uehara¹
1 Graduate School of Engineering Utsunomiya University*
- A311 Hydrophilic chromatographic separation of catechol compounds
**Takahiro Kanamori¹, Takashi Funatsu¹, Makoto Tsunoda¹
1 Graduate School of Pharmaceutical Sciences, The University of Tokyo*
- A312 CRYSTAL HABIT MODIFICATION OF PROTEIN USING MICROFLUIDIC CHIP
*Masatoshi Maeki¹, Ashtamurthy. S. Pawate², Keiichi Watanabe³, Manabu Tokeshi¹, Paul J. A. Kenis², *Masaya Miyazaki⁴
1 Hokkaido University, 2 University of Illinois-Urbana Champaign, 3 Saga University, 4 National Institute of Advanced Industrial Science and Technology*
- A313 Application of inkjet for western blotting
**Hiroshi Uno¹, Hulie Zeng¹, Hizuru Nakajima¹, Syungo Kato¹, Katsumi Uchiyama¹
1 Department of Applied Chemistry, Tokyo Metropolitan University*
- A314 Sensitive MicroRNA Detection on Power-Free Microfluidic Chip Using Quantum Dots
**Kazuki Hasegawa^{1,2}, Ryo Ishihara¹, Mutsuyoshi Matsumoto², Kazuo Hosokawa¹, Mizuo Maeda^{1,2}
1 RIKEN, 2 Tokyo University of Science*

- A315 Chemoresistance of glioma stem cells affected by co-culture with dying endothelial cells on a microfluidic chip
**Junming Wang1, Caihou Lin1,2, Zongqing Zheng1,2, Jin-Ming Lin1*
1 Department of Chemistry, Tsinghua University, Beijing 100084, China, 2 Department of Neurosurgery, the First Affiliated Hospital of Fujian Medical University, Fuzhou 350005, China
- A316 Detection of Cellular Metabolite Molecule by Using a Membrane-based Multilayer Microfluidic Device Coupled with Mass Spectrometry
**Qichen Zhuang1, Shiqi Wang1, Jie Zhang1, Jin-Ming Lin1*
1 Department of Chemistry, Tsinghua University, Beijing 100084, China
- A317 Imitation of Drug Intestinal Absorption, Hepatic Metabolism, and Bioactivity to Assessment of Combination Therapies by Using a Microfluidic Device Coupled to Mass Spectrometric Detection
**Mingsha Jie1,2, Haifang Li1, Qiushui Chen1, Jinming Lin1*
1 Department of Chemistry, Tsinghua University, Beijing 100084, China, 2 State Key Laboratory of Chemical Resource Engineering, Beijing University of Chemical Technology, Beijing, 100029, China
- A318 Detection of HPV16 E6-E7 Transcripts by Nucleic Acid Amplification Technologies and Microchip Electrophoresis
**Quanli Liu1,2, Xuexia Lin1,2, Linglu Yi1,2, Haifang Li2, Jin-Ming Lin2*
1 State Key Laboratory of Chemical Resource Engineering, Beijing University of Chemical Technology, 2 Department of Chemistry, Beijing Key Laboratory of Microanalytical Methods and Instrumentation, Tsinghua University
- A319 Study on the Effects and Mechanisms between Glioma Stem Cells and Endothelial Cells on Microfluidic Platform
**Caihou Lin1,2, Junming Wang1, Zongqing Zheng1,2, Zhixiong Lin2, Jin-Ming Lin1*
1 Department of Chemistry, Tsinghua University, Beijing 100084, China, 2 Department of Neurosurgery, the First Affiliated Hospital of Fujian Medical University, Fuzhou, 350005, China
- A320 MALDI-MS Cytometry Platform by DNA Labeling and Signal Amplification
**Ziyi He1, Qiushui Chen1, Xuexia Lin1, Jin-Ming Lin1*
1 Department of Chemistry, Tsinghua University, Beijing 100084, China
- A321 3D Cell Co-culture Platform on a Microfluidic Chip to Mimic Cancer Niche and Its Application in Multi-drug Resistance Research
**Shiqi Wang1, Qichen Zhuang1, Qiushui Chen1, Jin-Ming Lin1*
1 Department of Chemistry, Tsinghua University, Beijing 100084, China
- A322 Droplet-Based Microfluidic Platforms for Encapsulation Glioma Cells and Fibroblasts to Study the Interaction
**Min Li1, Qiushui Chen1, Ziyi He1, Shiqi Wang1, Jin-Ming Lin1*
1 Department of Chemistry, Tsinghua University, Beijing 100084, China
- A323 Toxicity sensor using Euglena living cells confined in a microfluidic chip
**Kazunari Ozasa1, Jeessoo Lee2, Simon Song2, Mizuo Maeda1*
1 RIKEN, 2-1 Hirosawa, Wako, Saitama, Japan, 2 Hanyang University, Seoul, Korea
- A324 Multi-residue analysis of pyrethroids in soil and sediment using QuEChERS and LC/MS/MS
**Yuka Fujito1, Kiyomi Arakawa1, Yoshihiro Hayakawa1*
1 Shimadzu Corporation
- A325 Vapor concentration monitoring utilizing infrared absorption spectroscopy for MOCVD process
**Masakazu Minami1*
1 HORIBA STEC, Co., Ltd., Emcore Corporation, HORIBA International Incorporated
- A326 Development of Gradient Extended-nano Chromatography
**Kento Sakoya1,2, Hisashi Shimizu1,2, Kazuma Mawatari1,2, Takehiko Kitamori1,2*
1 Department of Applied chemistry, the University of Tokyo, 2 CREST, Japan Science and Technology Agency
- A327 Terahertz spectra of plastic crystals and its alteration caused by phase transition
**Kyoko Umeno1, Takenori Tanno2, Kazuhiko Fujiwara1, Nobuaki Ogawa1*
1 Department of Life Science, Graduate School of Engineering and Resource Science, Akita University, 2 Venture Incubation Center, Akita University
- A328 Protein Functionalization of Gold Nanoparticle Via a Self-Assembled Monolayer
**Takuya Odashima1, Kazuhiko Fujiwara1, Nobuaki Ogawa1*
1 Department of Life Science, Graduate School of Engineering and Resource Science, Akita University

- A329 Improving chemiluminescence performance of H₂O₂-HSO₃⁻ system through multifunctional Cu₂O catalyst
**Dingkun Zhang¹, Yongzan Zheng¹, Jin-Ming Lin¹*
¹ Department of Chemistry, Tsinghua University, Beijing, 100084, China
- A330 Single-step formation of monodisperse porous polymer microparticles with inkjet technology
**Jianmin Yang¹, Hulie Zeng¹, Hizuru Nakajima¹, Katsumi Uchiyama¹*
¹ Department of Applied Chemistry, Tokyo Metropolitan University, Japan
- A331 Controllable Injection of Ultra-Small Volume by Inkjet in Capillary Electrophoresis
**Ying Rang¹, Hulie Zeng¹, Hizuru Nakajima¹, Katsumi Uchiyama¹*
¹ Department of Applied Chemistry, Graduate School of Urban Environmental Sciences, Tokyo Metropolitan University
- A332 Integrated T-junction Parallels on Chip for High-throughput Drop formation
**Luyao Lin¹*
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- A333 Preparation of temperature responsive membrane for the control of liquid permeability using multi-capillaryplate
**Mitsuaki Hida¹, Hulie Zeng¹, Hizuru Nakajima¹, Syungo Kato¹, Katsumi Uchiyama¹*
¹ Department of Applied Chemistry, Tokyo Metropolitan University
- A334 Dielectric Relaxation spectroscopic speciation analysis of N-methylimidazole equimolar mixture with acetic acid
**Hiroyuki Doi¹, Thomas Sonnleitner², Hikari Watanabe¹, Soshi Saito¹, Richard Buchner², Yasuhiro Umebayashi¹*
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- A335 Microfluidic mixing chemical pen
**Sifeng Mao¹, Hulie Zeng¹, Katsumi Uchiyama¹*
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- A336 Development of extended-nano heat pipe device
**Kentarō Kasai¹, Chenxi Wang^{1,2}, Yutaka Kazoe^{1,2}, Kyojirou Morikawa^{1,2}, Hisashi Shimizu^{1,2}, Kazuma Mawatari^{1,2}, Takehiko Kitamori^{1,2}*
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- A401 The elution behavior of biomolecules by using the tube radial distribution chromatography (TRDC)
**Hyo Kan¹, Masahiko Hashimoto¹, Kazuhiko Tsukagoshi^{1,2}
1 Department of Applied Chemistry, Graduate School of Science and Engineering, Doshisha University, Japan, 2 Tube Radial Distribution Phenomenon Research Center, Doshisha University, Japan*
- A402 A novel dispersive liquid-liquid microextraction coupled with high performance liquid chromatography for the analysis of organophosphorus pesticides
**Ketsarin Seebunrueng¹, Yanawath Santaladchaiyakit², Tadao Sakai³, Norio Teshima³, Supalax Srijaranai¹
1 Materials Chemistry Research Center, Department of Chemistry, Faculty of Science, Khon Kaen University, Khon Kaen, Thailand, 2 Department of Chemistry, Faculty of Engineering, Rajamangala University of Technology Isan, Khon Kaen Campus, Khon Kaen, Thailand*
- A403 Evaluation of Liquid-liquid Extraction Kinetics Utilizing Microfluidic Droplets and Hydrodynamic Filtration
**Natsuki Nakajima¹, Shunta Kakegawa¹, Masumi Yamada¹, Minoru Seki¹
1 Chiba University*
- A404 Dress-up chiral column: a new separation device for chiral compounds
**Yasuhiro Ishii¹, Kenichiro Todoroki¹, Takafumi Ide², Jun Zhe Min¹, Koichi Inoue¹, Yoshitaka Hamashima², Toshimasa Toyo'oka¹
1 Department of Analytical and Bio-Analytical Chemistry, University of Shizuoka, 2 Department of Synthetic Organic Chemistry, University of Shizuoka*
- A405 Development of correlation spectroscopy between X-ray and ultraviolet-visible absorption for analysis of Fe ions in liquid solution
**Satoru Mitsuhashi¹, Takeharu Sugiyama², Akira Harata¹
1 Interdisciplinary Graduate School of Engineering Sciences, Kyushu University, 2 Research Center for Synchrotron Light Applications, Kyushu University*
- A406 Raman spectroscopic evaluation of redox state alteration in mammalian cells induced by cell fixation reagent
**Hiroki Segawa¹, Takeaki Ozawa¹
1 Department of Chemistry, School of Science, the University of Tokyo*
- A407 Sensing of Ovalbumin Using an Electroactive Peptide Probe
**Kazuharu Sugawara¹, Hiroki Shinohara¹, Toshihiko Kadoya¹
1 Maebashi Institute of Technology*
- A408 An Electrochemical Flow Cell Fabricated Using Track-Etched Microporous Membrane Electrodes and Its Applications in Flow Analysis
**Hitoshi Mizuguchi¹
1 Graduate School of Science and Engineering, Yamagata University*
- A409 Surface Tension Distribution around a Camphor Boat Moving Spontaneously on a Water Surface
**Yuichiro Karasawa¹, Tomonori Nomoto¹, Taro Toyota², Masanori Fujinami¹
1 Dept. of Applied Chemistry & Biotechnology, Chiba University, 2 Dept. of Basic Science, The University of Tokyo*
- A410 Fluctuation measurement of free-standing bilayer lipid membranes by laser-induced surface deformation spectroscopy
**Tomohiko Takei¹, Tatsuya Yaguchi¹, Tomonori Nomoto¹, Taro Toyota², Masanori Fujinami¹
1 Department of Applied Chemistry and Biotechnology, Chiba University, 2 Department of Basic Science, The University of Tokyo*
- A411 Simultaneous electrical and optical detection in microfluidic device
**Hirotohi Yasaki¹, Takao Yasui¹, Sakon Rahong¹, Takeshi Yanagida², Noritada Kaji¹, Masaki Kanai², Kazuki Nagashima², Tomoji Kawai², Yoshinobu Baba²
1 Nagoya Univ., 2 Osaka Univ.*
- A412 Development of Electro-Magnetically Spinning (EMS) Viscometer
**Miki Nakamura¹, Masanori Yasuda¹, Keiji Sakai²
1 Kyoto Electronics Manufacturing Co., LTD., 2 Institute of Industrial Science, University of Tokyo*

- A413 Development of a Monolithic Capillary with Selective Molecular Recognition Ability and its Application to CE Analysis
**Kenta Kuroda1, Toyohiro Naito1, Takuya Kubo1, Koji Otsuka1*
1 Graduate School of Engineering, Kyoto University
- A414 Development of self-driven micro fuel cell device based on specific properties of extended-nano space
**Jin Uemura1, Yuriy Pihosh1,2, Kazuma Mawatari1,2, Takehiko Kitamori1,2*
1 Department of Applied Chemistry, The University of Tokyo, 2 Japan Science and Technology Agency, Core Research for Evolutional Science Technology
- A415 Real-time monitoring of primer generation - rolling circle amplification using an ethidium ion selective electrode
**Ayaka Seichi1, Nanami Kozuka1, Miyuki Tabata2, Akira Matsumoto2, Tatsuro Goda2, Yuji Miyahara2, Daniel Citterio1, Koji Suzuki1*
1 Keio University, 2 Tokyo Medical and Dental University
- A416 Design and Synthesis of a Highly Sensitive Reagent for the Clinical Analysis of Serum Copper
**Yoshiyuki Kaneko1, Yuka Miyashiro1, Kenyu Kina2, Naoko Iwasawa1, Daniel Citterio1, Koji Suzuki1*
1 Keio University, 2 Ryukyuu University IICC
- A417 Hematopoietic differentiation of mouse ES cells using OP-9 co-culture system in microfluidic devices.
**Sayaka Ishii1, Ryoko Miwa1, Kenji Kitajima2, Takahiko Hara2, Kae Sato1*
1 Japan Women's University, 2 Tokyo Metropolitan Institute of Medical Science
- A418 On-chip FRET Graphene Oxide Aptasensor: Improved Procedure for Immobilizing Aptamer With a Double-stranded DNA Module
**Yuko Ueno1, Andrew Tin1, Kazuaki Furukawa1, Hiroki Hibino1*
1 NTT Basic Research Laboratories, NTT Corporation
- A419 Rapid Formation of Vascular Tissue Models within Hydrogel Microchannels and their Characterization
**Keita Kinoshita1, Masaki Iwase1, Yuya Yajima1, Masumi Yamada1, Minoru Seki1*
1 Chiba University
- A420 Enhanced Near-infrared Luminescence by f-f Communication Based on Hetero Tri-nuclear Lanthanide Cluster Complex
**Ryunosuke Karashimada1, Hitoshi Hoshino1, Nobuhiko Iki1*
1 Graduate School of Environmental Studies, Tohoku University
- A421 Fast fluorescence detection of single transporter activity with attoliter-sized arrayed lipid bilayer chamber system
**Naoki Soga1, Rikiya Watanabe1,2, Hiroyuki Noji1*
1 Department of Applied Chemistry, The University of Tokyo, 2 PREST, JST
- A422 Estimation of body fat amount of a laboratory mouse by Near-Infrared Spectroscopy
**Yoshiaki Sato1, Kazuhiko Fujiwara1, Nobuaki Ogawa1, Kyoji Okada2*
1 Department of Life Science, Graduate School of Engineering & Resource Science, Akita University, 2 Department of Physical Therapy, Akita University Graduate School of Medicine
- A423 Development and Sensitivity Enhancement of Quantitative Analysis of iPS Cell Related Proteins by ELISA Using a Capillary Electrophoresis Apparatus
*Tomoko Kato2, Kentaro Izumoto1, *Kenji Sueyoshi1, Tatsuro Endo1, Hideaki Hisamoto1*
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- A424 Surface protein profiling of individual extracellular vesicles by on-chip immunoelectrophoresis
**Takanori Akagi1, Nami Hanamura1, Takanori Akagi1*
1 Graduate School of Engineering, University of Tokyo
- A425 Elucidation of accumulation mechanism for Ag and Pt in unicellular algae by synchrotron X-ray analysis
**Yu Imamura1, Akiko Hokura1*
1 Tokyo Denki University
- A426 Development of adsorbent for selenium by surface modification of iron and steel making slags
**Shun Watanabe1, Nobuo Uehara1*
1 Graduate School of Engineering Utsunomiya University

- A427 Paper-based sensor for fluorescence detection of histamine
**Yusuke Suemura¹, Kentaro Yamada¹, Koji Suzuki¹, Daniel Citterio¹*
1 Keio University
- A428 Bio-separation by Ice Grain Boundary Electrophoresis
**Arinori Inagawa¹, Tetsuo Okada¹*
1 Department of Chemistry, Graduate School of Science and Engineering, Tokyo Institute of Technology
- A429 Microfluidic paper-based analytical devices (microPADs) using surface modification of copy paper with silane coupling agents
**Kei Nakata¹, Nobutoshi Komuro¹, Kento Maejima¹, Koji Suzuki¹, Daniel Citterio¹*
1 Keio University
- A430 Development of plasma separation microchip using microfluidic effect and filtering
**Mariko Kumagai^{1,2}, Hisashi Shimizu^{1,2}, Kazuma Mawatari^{1,2}, Emi Mori¹, Ryo Miyake³, Takehiko Kitamori^{1,2}*
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- A431 Salt effects on microdroplet spontaneous emulsification
**Junpei Yasukawa¹, Mao Fukuyama², Akihide Hibara²*
1 Department of Applied Chemistry, The University of Tokyo, 2 Department of Chemistry, Tokyo Institute of Technology
- A432 Photoluminescence-property of L-Cysteine capped CdTe-Quantum Dots and its effect on toxicity
**Jan Di Kim¹, Bui The Huy¹, Hye Jung Choi², Seung Kyun Shin³, Min Jae Lee³, Yong-Ill Lee¹*
1 Anastro Laboratory, Department of Chemistry, Changwon National University, 2 Department of Biology, Changwon National University, 3 Department of Applied Chemistry, Kyung Hee University
- A433 Thin film measurement using X-ray spectrum
*Seiji Higuchi¹, Shintaro Miyasaka², *Kusuo Ueno¹*
1 Application R&D Center, HORIBA,Ltd., 2 Scientific Instruments 1, Sales Division, HORIBA,Ltd.
- A434 Raman and NMR spectroscopic speciation analysis of proton carrier in imidazole and acetic acid equimolar mixture as pseudo-protic ionic liquids of new proton conductors
**Hikari Watanabe¹, Tatsuya Umecky², Hiroyuki Doi¹, Soshi Saito¹, Ryo Kanzaki³, Toshiyuki Takamuku², Yasuhiro Umebayashi¹*
1 Graduate School of Science and Technology, Niigata University, 2 Graduate School of Science and Engineering, Saga University, 3 Graduate School of Science and Engineering, Kagoshima University
- A435 Development of molecular tracer for measuring velocity distribution in extended nanochannels
**Yojiro Hiramatsu¹, Yutaka Kazoe¹, Kazuma Mawatari¹, Takehiko Kitamori¹*
1 Department of Applied Chemistry, The University of Tokyo, Japan
- A436 Pharmaceutical Impurity Profiling Analysis by Using High Concentration Samples with Novel i-DReC Data Analysis Technique
**Wan Tung Liw¹, Jie Xing¹, Zhaoqi Zhan¹*
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