The 73rd General Session of the Japanese Society for Dental Materials and Devices (JSDMD)

April 20 (Saturday) - 21 (Sunday), 2019
Tokyo Dental College Suidobashi Annex School Building
2-1-14 Kanda misakicho, Chiyoda-ku, Tokyo, 101-0061, Japan

April 20 (Saturday)
• Hall A
  9:25 - 9:30 Opening Remark
  9:30 - 10:15 Young Investigator Award Challenge

A - 1 Acidity-induced release of zinc ion from BioUnion filler and its inhibitory effects on *Streptococcus mutans*
  ○Liu Yuhan, Kohno Tomoki, Tsuboi Ririko, Kitagawa Haruaki, Imazato Satoshi
  Osaka University

A - 2 Elucidation of antibacterial mechanism of Zn-incorporated porous oxide and effect on osteoblast cell activity
  ○Shimabukuro Masaya, Tsutsumi Yusuke, Nozaki Yusuke, Ashida Maki, Doi Hisashi, Hanawa Takao
  Tokyo Medical and Dental University

A - 3 Thermal diffusion of iron on titanium surfaces to improve wear resistance
  ○Yamaguchi Hirofumi, Takahashi Masatoshi, Sasaki Keiichi, Takada Yukyo
  Tohoku University

10:15 - 10:45 General Presentation (Oral Session)
A - 4 Control of isolated silanol groups for improving flexural strength of organic-inorganic composite with nano dual-network structure
  ○Ikeda Hiroshi, Nagamatsu Yuki, Shimizu Hiroshi
  Kyusyu Dental University

A - 5 *In silico* compression test of CAD/CAM composite molar crowns
  ○Yamaguchi Satoshi, Lee Chunwoo, Nakase Yutaro, Imazato Satoshi
  Osaka University Graduate School of Dentistry

14:00 - 15:00 Special Lecture
Personal identification by means of racial characteristics of the human bones
  Hashimoto Masatsugu
  Department of Forensic Odontology and Anthropology, Tokyo Dental College

15:10 - 16:40 General Presentation (Oral Session)
A - 6 Effect of yttria content on low temperature degradation of high translucent zirconia
  ○Ban Seiji, Iwata Jyunji, Asakura Masaki, Kawai Tatsushi
  Aichi Gakuin University

A - 7 Improvement of mechanical properties of conventional type dental zirconia by monoclinic zirconia nanoparticle fusing
  ○Okada Masahiro, Taketa Hiroaki, Torii Yasuhiro, Matsumoto Takuya
  Okayama University

A - 8 Cytotoxic evaluation of metals - Measurement by bioluminescence based an anti-oxidant responsive element reporter assay -
  ○Hori Miki, Suzuki Takahiro, Fujimoto Kotaro, Kawai Tatsushi
  Aichi Gakuin University

A - 9 Observation of bone regeneration and angiogenesis by an octacalcium phosphate material in rat calvarial bone defect model
  ○Kurobane Tsuyoshi¹, Shiwaku Yukari¹, Anada Takahisa¹,², Hamai Ryo¹
  Iikubo Masahiro¹, Takahashi Tetsu¹, Suzuki Osamu¹
  Tohoku University, Kyusyu University

A - 10 Bone formation of epigallocatechin gallate modified-gelatin sponge with multipotent progenitor cells in rat congenital cleft jaw
  ○Sayama Satoshi, Hara Tomoya, Honda Yoshitomo, Baba Shnsuke
  Osaka Dental University
A - 11  Evaluation of the effect of pH on in vivo mineralization
  ○Hara Emillio Satoshi, Okada Masahiro, Matsumoto Takuya
  Okayama University Graduate School

17:15 – 19:15 Banquet (Hotel Metropolitan Edmont)

• Hall B
9:40 – 16:30 General presentation (Poster Session)
  (10:50 - 11:50 Discussion)

P - 1  Investigation of build direction on the mechanical properties of three dimensional printing material
  ○Yang Shih-Hong, Yang Chin-Hsiung
  Central Taiwan University

P - 2  The development of liquid acrylamide monomer containing pulp capping materials
  ○Yoshihara Kumiko¹, Nagaoka Noriyuki¹, Yoshida Yasuhiro²
  ¹Okayama University, ²Hokkaido University

P - 3  Chemical polymerizability of novel self-adhesive resin cement G-CEM ONE neo
  ○Murakami Shogo, Arita Akishi, Kumagai Tomohiro
  GC Corporation

P - 4  Charpy impact test measuring single-edge notched dental PEEK
  ○Mizuno Masanori, Tsuruta Shozo, Kawai Tatsushi
  Aichi Gakuin University

P - 5  Discoloration of light-cured surface coating agent applied on fiberglass-reinforced composite resin
  for CAD/CAM
  ○Shiozawa Maho, Suzuki Tetsuya, Iwasaki Naohiko, Takahashi Hidekazu
  Tokyo Medical and Dental University

P - 6  Development of new composite resin using fiber fillers
  ○Miura Daisuke, Miyasaka Taira, Aokı Harumi, Aoyagi Yusuke, Harada Yuu,
  Watanabe Satoru, Ishida Yoshiki
  The Nippon Dental University

P - 7  Detection and biological effect of acrylic acid copolymer adsorbed on filler of resins composite for abutment
  ○Igarashi Kazuaki, Moriue Taisuke, Ohki Tatsuya, Saito Ryuichi, Ishida Yosinori
  Okada Hidetoshi, Sekine Hideshi
  Ohu University School of Dentistry

P - 8  Mechanical property of the new bulk fill CR "Gracefil Bulk Flo"
  ○Murata Takayuki, Ueno Takayuki, Kumagai Tomohiro
  GC Corporation

P - 9  Properties of a new injectable universal composite resin
  ○Kajikawa Tatsuya, Kita Hirotaka, Hatanaka Kenji
  Kuraray Noritake Dental

P - 10 Evaluation of the technology of surface treatment on inorganic filler of composite resin materials
  ○Higuchi Koji, Ueno Takayuki, Kumagai Tomohiro
  GC Corporation

P - 11 Marginal leakage of endodontic temporary restorative materials to access cavity prepared of pre-endodontic
  composite build-up
  ○Kameyama Atsushi, Haruyama Akiko
  Tokyo Dental College

P - 12 Development of light-cured resin cements containing porous spherical zirconia particles
  ○Mizobuchi Shingo¹², Takekawa Tomohiro¹, Nakano Takafumi¹, Kato Takahiro¹, Yamazoe Masatoshi¹
  Anraku Teruo¹, Kobiro Kazuya², Otani Masataka², Kan Kei²
  ¹YAMAKIN, ²Kochi University

P - 13 Bond strength of self-adhesive resin cement containing silane coupling agent to CAD/CAM
  hybrid resin blocks
  ○Yoshida Keiichi, Sawase Takashi
  Nagasaki University
P - 14  Effect of MMA-containing primer on bonding strength of resin cement to composite resin blocks for CAD/CAM
   ○Asakura Masaki, Hayashi Tatsuhide, Iwata Junji, Uematsu Yasuaki, Mieki Akimchi, Kawai Tatsushi
   Aichi Gakuin University

P - 15  Influence of storage periods on multipurpose primers on bonding silica with acrylic resin
   ○Koizumi Hiroyasu, Okazaki Tomoyo, Mikami Wataru, Kodaira Akihisa, Matsumura Hideo
   Yoneyama Takayuki
   Nihon University School of Dentistry

P - 16  Bond strength of light-cured bonding systems at region in root canal
   ○Shimizu Shinsuke, Noda Mamoru, Takemoto Shinji
   Iwate Medical University

P - 17  Bonding strength between different colored layers of multi-layered zirconia blocks
   ○Iwasaki Naohiro, Yasue Toru, Shiozawa Maho, Takahashi Hidekazu
   Tokyo Medical and Dental University

P - 18  Apatite formation on titanium oxide nano-tubes under a condition mimicking body fluid
   ○Nishida Hisataka1,2, Sekino Tohru1
   1Osaka University, 2Osaka Dental University

P - 19  Apatite formation ability of Co-Cr alloy treated with surface modification by incorporation of apatite nuclei
   ○Yabutsuka Takeshi
   Kyuoto University

P - 20  Thermal decomposition of carbonate apatite powder
   ○Maruta Michito, Kajimoto Noboru, Tsuru Kanji
   Fukuoaka Dental College

P - 21  Thermal analysis of dental ring liners
   ○Tsuruta Shozo, Aimu Kouki, Kawai Tatsuhi, Yamamoto Iichiro
   Aichi Gakuin University

P - 22  Fractured surface analysis of porcelain-fused to cast Ti-Cr alloy
   ○Sawada Tomofumi1,2, Sugawara Shiho1, Sasaki Kaori1, Saito Setsuo1, Taira Masayuki1, Takemoto Shinji1
   1Iwate Medical University, 2University of Tübingen

P - 23  Surface modification of low modulus TNM alloy by pulse oxidation method
   Hsu Hsueh-Chuan1, Loh Kuan-Yee1, Ho Wen-Fu2, Wu Shih-Ching1, Hsu Shih-Kuang1
   1Central Taiwan University of Science and Technology, 2National University of Kaohsiung

P - 24  Influence of strontium on properties of MgO-CaO-Al2O3-SiO2-P2O5 bioactive glass
   Wu Shih-Ching1, Hu Chia-Wei1, Hsu Shih-Kuang1, Hsu Hsueh-Chuan1, Ho Wen-Fu2
   1Central Taiwan University of Science and Technology, 2National University of Kaohsiung

P - 25  Adhesion and Proliferation of Saos-2 and Ca9-22 on the grooved and pillared titanium surfaces
   ○Kaga Naoyuki1, Akasaka Tsukasa2, Yoshida Yasuhiro1
   1Fukuoaka Dental College, 2Hokkaido University

P - 26  Influence of acid etching treatment on surface properties of titanium
   ○Okada Kei, Okada Masahiro, Matsumoto Takuya
   Okayama University

P - 27  Soft tissue attachment to surface modified zirconia implants
   ○Inuma Yohei, Hirotta Masatsugu, Ohkubo Chikahiro, Hayakawa Toru
   Tsurumi University

P - 28  Mixed adsorption of antibacterial proteins to titanium surface studied by twin QCM
   ○Nezu Takashi, Hasan Gazi Mehed, Nagano-Takebe Futami, Endo Kazuhiko
   Helth Science University of Hokkaido

P - 29  Comparison of accuracy using intraoral scanners with different lost teeth area model
   ○Shiratori Sakura1, Shinya Akikazu1, Fujishima Shin1, Niitsuma Akinori1, Kuroda Soichi1
   Hatta Minoru1, Gomi Harunori1
   1The Nippon Dental University, 2University of Turku

P - 30  Edge stability of the novel lithium disilicate glass ceramic block for CAD/CAM
   ○Akiyama Shigenori, Kojima Kenji, Kumagai Tomohiro
   GC Coporation
P - 31 Development of controlled drug-release dental materials using caged nanoporous silica particles
   ○Era Yuko¹,², Abe Shigeaki², Tsukasa Akasaka², Yasuhiro Yoshida²
   ¹Saitama Prefectural ²University, Hokkaido University

P - 32 Effect of adhesive components on the sustainability of antibacterial activities of experimental fluoride varnish
   ○Shin Seong-jin, Son Ju-Lee, Oh Seunghan, Bae Ji-Myung
   Wonkwang University

P - 33 Evaluation of dental ceramics by the weight-drop impact test
   ○Watanabe Satoru, Miyasaka Taira, Ishida Yoshiki, Harada Yuu, Aoki Harumi, Miura Daisuke, Aoyagi Yusuke
   Nippon Dental University at Tokyo

P - 34 Iosipescu shear strength of acrylic resins
   ○Nagasawa Yuko, Hibino Yasushi, Shigeta Hirotaka, Eda Yoshikazu, Matsumoto Shigeki
   Wada Kenichi, Nakajima Hiroshi
   Meikai University
April 21 (Sunday)

• Hall A
9:30 - 10:30  General Presentation (Oral Session)
A - 12  Redox and antibacterial ability of titania nanosheet with highly oriented crystal orientation
  ○ Hayashi Kenichiro, Nozaki Kosuke, Nemoto Reina, Yamashita Kimihiro, Miura Hiroyuki
    Tokyo Medical and Dental University
A - 13  Evaluating effect of supersaturated degree with respect to calcium phosphate on adsorption behavior of protein onto octacalcium phosphate
  ○ Hamai Ryo, Suzuki Osamu
    Tohoku University Graduate School of Dentistry
A - 14  Hydrothermal apatite synthesis from calcium oxide and polyphosphate (Part11)- Impurity analysis-
  ○ Narusawa Hideaki, Kataba Yu, Miyazaki Takashi
    Showa University
A - 15  Optimization of cell nanofragment mineralization for faster in vitro bone tissue synthesis
  ○ Akhter Mst Nahid, Hara Emilio Satoshi, Okada Masahiro, Matsumoto Takuya
    Okayama University

• Hall C
12:00 - 13:00  Luncheon Seminar/ Seminar for Dental Materials Adviser, Senior Adviser
Development of carbonated apatite bone graft substitute named "Cytrans" as research output from university
  Yamanaka Katsuyuki
    GC Corporation, Research and Development Department

• Hall A
13:00 - 15:00  Symposium
1. Current status and issues of digital solutions for the future
   Hotta Yasuhiro
     Dept. of conservative, Div. of Biomaterials and Engineering, Showa University school of Dentistry
2. The present and directivity of digital dentistry
   Suese Kazuhiko
     Osaka Dental University
3. Clinical application of digital technology to implant therapy
   Kondo Hisatomo
     Tsurumi University, School of Dental Medicine
4. CAD/CAM in the fixed and removable prostodontics
   Ohkubo Chikahiro
     Department of prostodontics and Oral Implantology, School of Dentistry, Iwate Medical University
5. Current status of digital dentistry in dental laboratory
   Kimura Kenji
     Kyowa Dental Laboratory Co, Ltd
6. Future prospective of Digital dentistry from company view
   Ebihara Yoshinori
     GC Corporation, Research and Development Department

15:10 - 16:40  General Presentation (Oral Session)
A - 16  Application of strontium-releasing bioactive glass to glass ionomer cement
  ○ Sasaki Jun-Ichi, Kiba Wakako, Abe Gabriela, Katata Chihiro, Kitagawa Haruaki, Imazato Satoshi
    Osaka University Graduate School of Dentistry
A - 17  Individual identification method of unidentified people in cases of widespread disasters – Similarity calculation of occlusal surface using Python -
  ○ Hori Tadasuke\textsuperscript{1,2}, Hori Miki\textsuperscript{1}, Sekine Hironao\textsuperscript{1,2}, Kawai Tatsushi\textsuperscript{1}
    \textsuperscript{1}Aichi Gakuin University, \textsuperscript{2}Alid Inc.
A - 18  Repair of enamel using Er:YAG laser deposition method
  , Minamino Tomoki\textsuperscript{1}, Hirai Mizuki\textsuperscript{1}, Hashimoto yoshiya\textsuperscript{2}, Yoshikawa Kazushi\textsuperscript{2}, ○ Hontsu Shigeki\textsuperscript{1}
    \textsuperscript{1}Kindai University, \textsuperscript{2}Osaka Dental University
A - 19 The dental application of dissolving method for polymethyl methacrylate
   ○Kajimoto Noboru, Maruta Michito, Tsuru Kanji
   Fukuoka Dental College

16:00 Closing Remark

• Hall B
15:00 - 16:00 General Presentation (Poster Session)
   (10:50 - 11:50 Discussion)

P - 35 A new precapsulated glass-ionomer cement for filling: interfacial gap-formation in Class I restoration and bond strength to tooth structure
   ○Irie Masao, Maruo Yukinori, Nishigawa Goro, Minagi Shogo, Matsumoto Takuya
   Okayama University Graduate School of Dentistry

P - 36 Study on wear of commercially resin-based luting agents
   ○Katayama Yuta, Kameyama Yuka, Wada Yuki, Ohashi Katsura, Aoki (Miyake) Kaori,
   Midono Tomoyasu, Nihei Tomotaro
   Kanagawa Dental University

P - 37 Antimicrobial effects of CAREDYNE RESTORE on *Porphyromonas gingivalis*
   ○Nagano Yasuyuki, Mori Daizaburo, Kumagai Tomohiro
   GC Corporation

P - 38 Measurement of fluorine distribution into tooth structure from fluoride-containing luting materials using by nuclear reaction
   ○Okuyama Katsushi¹, Matsuda Yasuhiro², Yamamoto Hiroko³, Shintani Kohei¹, Horiguchi Takashi¹, Saito Takashi²
   Hayashi Mikako³, Yoshida Yasuhiro¹, Tamaki Yukimichi¹
   ¹Asahi University, ²Health Science University of Hokkaido, ³Osaka University, ⁴Hokkaido University

P - 39 Effect of storage condition on shear strength of self-adhesive resin cements
   ○Eda Yoshikazu, Nagasawa Yuku, Hibino Yasushi, Shigeta Hirota
   Matsumoto Shigeki, Nakajima Hiroshi
   Meikai University

p - 40 Adhesive performance of self-adhesive resin cement -Influence of immersion in water and pretreatment-
   ○Wada Yuki, Aoki Kaori, Kameyama Yuka, Katayama Yuta, Ohashi Katsura, Nihei Tomotaro
   Kanagawa Dental University

P - 41 Influence of application time of universal adhesives on bond strength and surface free energy
   ○Takamizawa Toshiki, Imai Arisa, Ishii Ryo, Tsujimoto Akimasa, Suzuki Takayuki, Sai Keiichi
   Ouchi Hajime, Miyazaki Masashi
   Meikai University

P - 42 The development of calcium silicate based cement. (Part 3) –MTA cement with improved X-ray radiopacity–
   ○Kato Takahiro, Nakano Takafumi, Mizobuchi Shingo, Matsuura Ritaro, Yamazoe Masatoshi, Anraku Teruo
   YAMAKIN

P - 43 Study on hybrid resin composites using CAD/CAM (Part. 8) - Characteristics of commercial
   CAD/CAM hybrid resin blocks for molar -
   ○Kameyama Yuka¹, Ohashi Katsura¹, Katayama Yuta¹, Wada Yuuki¹, Miyake-Aoki Kaori¹
   Tanimoto Yasuhiro², Hirayama Satoshi², Nihei Tomotaro¹
   ¹Kanagawa Dental University, ²Nihon University School of Dentistry at Matsudo

P - 44 Improvement of gluing by surface modification of ultraviolet rays to CAD/CAM resin block
   ○Nagasaawa Sakae, Okazaki Kosuke, Kuroiwa Akihiro
   Matsumoto Dental University

P - 45 Effect of thermal cycling on retention force between resin composites and woven fiber posts
   ○Someya Tomoko¹, Kasahara Masaaki¹, Kyogoku Kei¹, Hattori Masayuki¹, Takahashi Hidekazu²
   ¹Tokyo Dental College, ²Tokyo Medical and Dental University

P - 46 Influence of background color on color differences and spectral reflectance of the structural colored resin composite
   ○Kurokawa Hiroyasu, Takimoto Masayuki, Shiratsuchi Koji, Suda Shunichi
   Takahashi Nao, Miyazaki Masashi
   Nihon University
P - 47 Wear resistance of 3D-printed crown and bridge materials
○Kato Hiroki, Ueno Takeyuki, Kumagai Tomohiro
GC Corporation

P - 48 Adhesive properties of PEEK with a chemical modification
○Okawa Seigo, Taka Norimasa, Kimura Tatsuya, Aoyagi Yuji, Izumi Kenji
Niigata University

P - 49 Influence of different enamel etching methods for universal adhesive bonding
○Tsujimoto Akimasa, Shimitani Yusuke, Nagura Yoko, Hirokaen Eizo, Nojiri Kie, Ishii Ryo
Tagamizawa Toshiki, Miyazaki Masashi
Niho University

P - 50 Effect of differences in phosphoric acid concentration and treatment time on resin adhesive strength
○Saito Ryuichi, Ohki Tatsuya, Moruie Taisuke, Igarashi Kazuaki, Shirato Takeyuki,
Ishida Yoshinori, Okada Hitotoshi
Ou University

P - 51 XPS analysis of gold surface treated with metal and multi primers
○Saitoh Setsuo1, Sugawara Shiho1, Sasaki Kaori1, Sawada Tomofumi1, Taara Masayuki1, Nagaoka Noriyuki2
Yoshihara Kumiko2, Takemoto Shinji1
1Iwate Medical University, 2Okayama University

P - 52 Evaluation of ethanol extract of propolis as a coating material of titanium
○Shintani Kohei1, Kawaki Harumi1, Tsutara Hanemi1, Ikano Kumiko2, Nakamura Genjiro2, Horiguchi Takashi1,
Okuyama Katsushi1, Kondoh N1, Hotta M1, Tamaki Yukimichi
1Asahi University, 2AKITAYAHONTEN CO., LTD.

P - 53 Effects of aging on mechanical properties and phase transformation of β-Ti alloy
Ho Wen-Fo1, Jian Zhong-Lin1, Hsu Hsueh-Chuan2, Wu Shih-Ching2, Hsu Shih-Kuang2
1National University of Kaohsiung, 2Central Taiwan University of Science and Technology

P - 54 Characterization of 316L stainless steel prepared by selective laser melting
Ho Wen-Fo1, Lin Ting-Yu1, Hou Po-Jen1, Hsu Hsueh-Chuan2, Lin Dong-Lung3
1National University of Kaohsiung, 2Central Taiwan University of Science and Technology, 3Taiwan Metal Additive Manufacturing Co., Ltd

P - 55 Preparation of chitosan/hydroxyapatite composite nanofibers by electrospinning
Ho Wen-Fo1, Tseng Hsin-I1, Hsu Hsueh-Chuan2, Wu Shih-Ching2, Hsu Shih-Kuang2
1National University of Kaohsiung, 2Central Taiwan University of Science and Technology

P - 56 Zirconia coating on titanium using molecular precursor method
○Tokunaga Yoshihiko1, Hirota Masatsugu1, Sato Mitsunobu2, Hayakawa Tohru1
1Tsurumi University, 2Kogakuin University

P - 57 The synergistic effect of chloride and fluoride on the corrosion behavior of titanium and zirconium in acidic solution
○Hasan Gazi Mehedi, Nagano-Takebe Futami, Nezu Takashi, Endo Kazuhiko
Health Science University of Hokkaido

P - 58 Light transmission of fiber posts
○Nitta Keiko1, Nomoto Rie1, Kamimoto Yoshihisa2, Tsuchikawa Masuji2, Tsubota Yuji1,2, Hayakawa Tohru1
1Tsurumi University, 2Sun Medical, 3Tsubota Dental Clinic

P - 59 Stress analysis of soft liners using SPH method-viscoelasticity analysis by creep tests-
○Onuma Hiraku, Inokoshi Masanao, Hirayama Daisuke, Inoue Minoru, Minakuchi Shunsuke
Tokyo Medical and Dental University

P - 60 Ion release capacity of a novel S-PRG filler containing denture adhesive
○Hatano Keita, Inokoshi Masanao, Shimizu Bata Makoto, Wada Takahiro, Uo Motohiro
Takahashi Rena, Minakuchi Syunsuke
Tokyo Medical and Dental University

P - 61 Effects of denture cleaners on the surface of denture liniers
○Hoshika Tomohiro1, Ikeda Masaomi2, Nishitani Yoshihiro1
1Kagoshima University, 2Tokyo Medical and Dental University

P - 62 Effect of reinforcement appliance on deformation of maxilla complete denture
○Aichi Tetsuya1,2, Toda Atushi1, Hada Tamaaki, Tsuzuki Jiro1, Minakuchi Shunsuke3

7
P - 63  Comparison of error after division of various division restoration formula models
○Matsumoto Kazuhisa
Shiken Corporation

P - 64  Relation between particle size of gold nanoparticles and adhesion to bacteria and inhibition of initial biofilm formation
○Hashimoto Masanori, Honda Yoshitomo
Osaka Dental University

P - 65  Imparting antibacterial property to dental stone model by adding cetylpyridinium chloride to mixing water
○Nagamatsu Yuki, Ikeda Hiroshi, Shimizu Hiroshi
Kyusyu Dental University

P - 66  Disinfection effect of oral care gel prepared at time of use using neutral electrolyzed water
○Nagamatsu Yuki, Nagamatsu Hiroshi, Ikeda Hiroshi, Shimizu Hiroshi
Kyusyu Dental University

P - 67  Education for programming and IoT in dentistry
○Kawai Tatsushi1,2, Hori Miki1,2, Hori Tadasuke1,2,3, Sekine Hironao1,2,3, Jincho Makoto1,2,4
Matsumoto Takanori1,4, Hasegawa Akito1,2
1Aichi Gakuin University, 2Tokai College of Dental Technology, 3Alid Incorporated, 4Eden Corporation

P - 68  Wettability of root canal sealer on dentin exposed to excimer UV irradiation
○Inoue Toshiko, Saito Makoto, Nishimura Fumio, Miyazaki Takashi
Showa University