

## May 31, Saturday

Opening remarks; 9:00-9:10 Hitoshi Tamiaki (Chairman, *Ritsumeikan Univ.*)

**PL-1** 9:10-10:00 (Chairperson: H. Tamiaki, *Ritsumeikan Univ.*)  
Open-Shell Polycyclic Hydrocarbons  
Jishan Wu  
*National Univ. Singapore, Singapore; Inst. Mater. Res. Eng., Singapore*

Coffee break: 10:00-10:20

**O-1** 10:20-10:50 (Chairperson: J. Wu, *National Univ. Singapore*)  
Chemistry of Novel Fused Porphyrinoids  
Takayuki Tanaka  
*Kyoto Univ., Kyoto, Japan*

**O-2** 10:50-11:20 (Wu)  
Photochemical Reduction of CO<sub>2</sub> with Long-Wavelength Light by Covalently  
Linked Chlorophyll–Rhenium Bipyridine Complexes  
Yuichi Kitagawa, Hitoshi Tamiaki  
*Ritsumeikan Univ., Kusatsu, Japan; Hokkaido Univ., Sapporo, Japan*

**S-1** 11:20-11:30 (Wu)  
**(P31)** In Vitro Enzymatic Hydration of the 3-Vinyl Group in Zinc Chlorophyll  
Derivatives  
Misato Teramura, Jiro Harada, Tadashi Mizoguchi, Yusuke Tsukatani, Hitoshi  
Tamiaki  
*Ritsumeikan Univ., Kusatsu, Japan; Kurume Univ., Fukuoka, Japan; PRESTO,  
JST, Saitama, Japan; Tokyo Inst. Tech., Tokyo, Japan*

**S-2** 11:30-11:40 (Wu)  
**(P33)** Synthesis of Pyrrole-Based  $\pi$ -Conjugated Systems with the Ability to Form  
Ion-Pair Assemblies  
Hiromitsu Maeda, Kenta Yamaguchi  
*Ritsumeikan Univ., Kusatsu, Japan*

Group Photo: 11:40

Lunch: 11:40-12:30

Poster session: 12:30-14:00 (K309. Odd number poster presenters, please stand by during 12:30-13:15. Even number poster presenters, please stand by during 13:15-14:00.)

- O-3** 14:10-14:40 (Chairperson: S. Saito, *Nagoya Univ.*)  
Excitation Energy Transfer and Coherent Oscillations in Chlorosome Elucidated by Two-Dimensional Electronic Spectroscopy  
Sunhong Jun, Cheolhee Yang, Megumi Isaji, Hitoshi Tamiaki, Hyotcherl Ihee, Jeongho Kim  
*KAIST, Daejeon, Korea; Ritsumeikan Univ., Kusatsu, Japan; Inha Univ., Incheon, Korea*
- O-4** 14:40-15:10 (Saito)  
Optical Device Fabrication Combining Photonic Nanostructures and Organic and Natural Molecular Materials  
Takahiro Kaji  
*Adv. ICT Res. Inst. NICT, Kobe, Japan*
- O-5** 15:10-15:40 (Saito)  
Antiparallel Redox Gradients by Self-Organizing Surface-Initiated Polymerization and Stack Exchange Strategies  
Hironobu Hayashi, Adam Sobzuk, Altan Bolag, Naomi Sakai, Stefan Matile  
*Univ. Geneva, Geneva, Switzerland*

Coffee break: 15:40-16:00

- O-6** 16:00-16:30 (Chairperson: J. Kim, *Inha Univ.*)  
Single-Component Multiluminescence for Materials Imaging Technique  
Shohei Saito  
*Nagoya Univ., Nagoya, Japan*
- O-7** 16:30-17:00 (Kim)  
Application of Photosynthetic Pigments in Organic Photovoltaic Cells  
Xiao-Feng Wang, Shin-ichi Sasaki, Hitoshi Tamiaki  
*Toin Univ. Yokohama, Yokohama, Japan; Ritsumeikan Univ., Kusatsu, Japan; Nagahama Inst. Bio-Sci. Tech., Nagahama, Japan*
- O-8** 17:00-17:30 (Kim)  
Metal Complex Nanowires and Nanosheets Aiming at Photosynthetic Antenna Models  
Ryota Sakamoto  
*Univ. Tokyo, Tokyo, Japan*

Closing remarks; 17:30-17:40 Yoshitaka Saga (*Kinki Univ.*)

Banquet: 18:00- (3F) K309

## Poster Session (K309)

Please mount your poster by the noon of May 31 and stand by it during the following time: odd number, 12:30-13:15; even number, 13:15-14:00.

- P1** Enhanced Performance in Inverted Organic Thin-Film Solar Cells by Gold and Silver Nanoparticles  
Tsuyoshi Akiyama, Takuji Nishida, Taisuke Matsumoto, Yutaro Yagi, Atsushi Suzuki, Takeo Oku  
*Univ. Shiga Pref., Hikone, Japan*
- P2** Formation of Dimension-Controlled Assemblies Comprising  $\pi$ -Conjugated Ions  
Yuya Bando, Hiromitsu Maeda  
*Ritsumeikan Univ., Kusatsu, Japan*
- P3** Facile Functionalization of [60]Fullerene-Ethylenediamine Assembly and Its Photovoltaic Application  
Shoto Banya, Taisuke Matsumoto, Yuji Ono, Jo Saito, Atushi Suzuki, Takeo Oku, Tsuyoshi Akiyama  
*Univ. Shiga Pref., Hikone, Japan*
- P4** Fabrication and Photovoltaic Properties of Organic Thin-Film Solar Cells Using Solubilized Fullerene-Diamine Adducts  
Daisuke Izumoto, Kento Kimura, Yuji Ono, Shoto Banya, Takeo Oku, Tsuyoshi Akiyama  
*Univ. Shiga Pref., Hikone, Japan*
- P5** Supramolecular Assemblies of Anion-Responsive  $\pi$ -Systems Possessing Directly Linked Alkyl Chains  
Hiromitsu Maeda, Daisuke Katayama, Yuya Bando  
*Ritsumeikan Univ., Kusatsu, Japan*
- P6** Synthesis of Cyclic  $\pi$ -Systems Arranged in Acute Angles  
Hiromitsu Maeda, Kenji Kawashita  
*Ritsumeikan Univ., Kusatsu, Japan*
- P7** Synthesis and Physical Properties of Chlorophyll Derivatives Possessing the 3-Acyl Group  
Hitoshi Tamiaki, Yuki Kimura, Tomohiro Miyatake  
*Ritsumeikan Univ., Kusatsu, Japan; Ryukoku Univ., Otsu, Japan*
- P8** Synthesis of Anion-Responsive  $\pi$ -Electronic Molecules Comprising Alternately Arranged Pyrrole and Diketone Moieties  
Hiromitsu Maeda, Keita Kinoshita  
*Ritsumeikan Univ., Kusatsu, Japan*

- P9** Synthesis and Optical Properties of Chlorophyll Derivatives Possessing a  $\beta$ -Diketonate Moiety at the C3 Position  
Yusuke Kinoshita, Hitoshi Tamiaki  
*Ritsumeikan Univ., Kusatsu, Japan*
- P10** Self-Aggregation of Zinc Chlorins in an Aqueous Solution of Water-Soluble Polymers  
Tomohiro Miyatake, Takehiro Kitamura  
*Ryukoku Univ., Otsu, Japan*
- P11** Fabrication of Electrodeposited Poly(3,4-ethylenedioxy)thiophene-Gold Nanoparticle Composite Films and Its Photoelectrochemical Application  
Yuu Kumagawa, Yuki Nishimura, Atsushi Suzuki, Takeo Oku, Tsuyoshi Akiyama  
*Univ. Shiga Pref., Hikone, Japan*
- P12** Thermal and Photoinduced Transition Behavior of Azobenzene-Triphenylene Liquid Crystal with Ether Linkages  
Ryota Minobe, Yo Shimizu, Kingo Uchida  
*Ryukoku Univ., Otsu, Japan; AIST, Kansai Center, Ikeda, Japan*
- P13** Self-Aggregation Behavior of Zinc Chlorophyll Derivatives on Mesoporous Silica  
Takuya Miyanaga, Sunao Shoji, Yasutomo Goto, Shinji Inagaki, Hitoshi Tamiaki  
*Ritsumeikan Univ., Kusatsu, Japan; Toyota Central R&D Labs., Inc., Nagakute, Japan*
- P14** *In Vitro* Analysis of the Alanine-422 Residue of KaiC Involved in the Resetting of the Cyanobacterial Circadian Clock  
Kazuki Nagata, Kazuma Umehara, Katsuaki Oyama, Kazuki Terauchi  
*Ritsumeikan Univ., Kusatsu, Japan*
- P15** Preparation of Liposomes Containing Aggregates of Chlorophyll Derivatives in a Lipid Bilayer  
Tomohiro Miyatake, Souichi Nakayama  
*Ryukoku Univ., Otsu, Japan*
- P16** Biosynthetic Reduction Pathway of Isoprenoid Ester Group in Greening Process of *Arabidopsis thaliana*  
Kota Nomura, Tadashi Mizoguchi, Masahiro Kasahara, Hitoshi Tamiaki  
*Ritsumeikan Univ., Kusatsu, Japan*
- P17** Alkylation at the C13<sup>2</sup>-Position of Methyl (Pyro)Pheophorbide *a*  
Shin Ogasawara, Hitoshi Tamiaki  
*Ritsumeikan Univ., Kusatsu, Japan*
- P18** Self-Assembly of a Cationic Zinc Chlorin Assisted by Anionic Polymers  
Tomohiro Miyatake, Hisato Oki, Yuki Hasunuma, Mikiya Watanabe  
*Ryukoku Univ., Otsu, Japan*

- P19** Photophysical Properties of Nonanuclear Tb(III) Clusters with Intramolecular Interactions  
Shun Omagari, Takayuki Nakanishi, Koji Fushimi, Yasuchika Hasegawa  
*Hokkaido Univ., Hokkaido, Japan*
- P20** Fourier-Transform Infrared Spectroscopic Studies of Formylated Metallochlorins and Free-Base Chlorins  
Yoshitaka Saga, Kana Sadaoka  
*Kinki Univ., Higashi-Osaka, Japan*
- P21** Effect of Redox State of KaiA on the Cyanobacterial Circadian Clock *in Vitro*  
Yoshitaro Sanbayashi, Zhang Bei, Katsuaki Oyama, Chihiro Azai, Kazuki Terauchi  
*Ritsumeikan Univ., Kusatsu, Japan*
- P22** Effects on Esterification of Indoline-Based Carboxylic Dyes for Fabrication of Organic Solar Cells  
Shin-ichi Sasaki, Toshitaka Ikeuchi, Xiao-Feng Wang  
*Nagahama Inst. Bio-Sci. Tech., Nagahama, Japan; Toin Univ. Yokohama, Yokohama, Japan*
- P23** S<sub>N</sub>Ar Reaction at *Meso*-Position of Subporphyrin  
Daiki Shimizu, Atsuhiko Osuka  
*Kyoto Univ., Kyoto, Japan*
- P24** Synthesis and Properties of Nonaphyrin(1.1.1.1.1.1.1.1.1) Ni(II) Complexes  
Takanori Soya, Koji Naoda, Atsuhiko Osuka  
*Kyoto Univ., Kyoto, Japan*
- P25** Fabrication and Characterization of Inverted Structure Organic Solar Cells Using Silicon Phthalocyanine and Naphthalocyanine  
Takeo Oku, Satoru Hori, Kazumi Yoshida, Atsushi Suzuki, Tsuyoshi Akiyama, Yasuhiro Yamasaki  
*Univ. Shiga Pref., Hikone, Japan; Orient Chem. Ind. Co., Ltd., Osaka, Japan*
- P26** Fabrication and Characterization of Inverted Tandem Organic Solar Cells  
Atsushi Suzuki, Ryo Furukawa, Tsuyoshi Akiyama, Takeo Oku  
*Univ. Shiga Pref., Hikone, Japan*
- P27** Fabrication and Characterization of Organic Thin Film Solar Cells Using Titanyl Phthalocyanine as Hole Transport Layer  
Atsushi Suzuki, Makoto Iwase, Tsuyoshi Akiyama, Takeo Oku  
*Univ. Shiga Pref., Hikone, Japan*
- P28** Synthesis of Anion-Responsive  $\pi$ -Conjugated Molecules with Point Chirality  
Hiromitsu Maeda, Kazue Taguchi  
*Ritsumeikan Univ., Kusatsu, Japan*

- P29** Fabrication of Titanium Oxide-Plasmonic Metal Nanoparticle Composite Films by Surface Sol-Gel Process  
Takao Takishita, Tatsuo Noda, Tsuyoshi Akiyama, Suguru Higashida  
*Osaka Pref. Univ. Coll. Tech., Osaka, Japan; Univ. Shiga Pref., Hikone, Japan*
- P30** Synthesis of Dipyrrolylpyrimidines as Anion-Responsive  $\pi$ -Systems  
Hiromitsu Maeda, Yuki Tamura  
*Ritsumeikan Univ., Kusatsu, Japan*
- P31** In Vitro Enzymatic Hydration of the 3-Vinyl Group in Zinc Chlorophyll Derivatives  
Misato Teramura, Jiro Harada, Tadashi Mizoguchi, Yusuke Tsukatani, Hitoshi Tamiaki  
*Ritsumeikan Univ., Kusatsu, Japan; Kurume Univ., Fukuoka, Japan; PRESTO, JST, Saitama, Japan; Tokyo Inst. Tech., Tokyo, Japan*
- P32** Methylenation of Carbonyl Groups in Chlorophyll Derivatives with Tebbe Reagent  
Hitoshi Tamiaki, Kazuki Tsuji, Yusuke Kinoshita, Tomohiro Miyatake  
*Ritsumeikan Univ., Kusatsu, Japan; Ryukoku Univ., Otsu, Japan*
- P33** Synthesis of Pyrrole-Based  $\pi$ -Conjugated Systems with the Ability to Form Ion-Pair Assemblies  
Hiromitsu Maeda, Kenta Yamaguchi  
*Ritsumeikan Univ., Kusatsu, Japan*
- P34** Synthesis and Photophysical Properties of Eu(III) Coordination Polymers Cross-Linked with Transition Metal Complexes  
Masanori Yamamoto, Takayuki Nakanishi, Koji Fushimi, Yasuchika Hasegawa  
*Hokkaido Univ., Sapporo, Japan*
- P35** Synthesis and Photophysical Properties of Axially Ligated Si Phthalocyanine Polymer with Bulky Spacer  
Takumi Yamamoto, Shinjiro Machida, Noriaki Ikeda  
*Kyoto Inst. Tech., Kyoto, Japan*
- P36** Novel Cell-Penetrative Oligopeptides Possessing Hydrophobic Pyrene Groups  
Tomohiro Miyatake, Shohei Yamazaki, Matile Stefan  
*Ryukoku Univ., Otsu, Japan; Univ. Geneva, Geneva, Switzerland*