

LXII Yamada Conference

2008

“Topological Molecules”

Program & Abstracts

1st – 4th September, 2008

**Awaji Yumebutai International Conference
Center, Hyogo, Japan**

Organizing Committee

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"Stress and Symbiosis on Supramolecules" Program

of the Ministry of Education Program, Culture, Sports, Science and Technology, Japan.

Osaka University GCOE Program "Creation of Integrated EcoChemistry"

Purpose

“Topological Molecules”

Venue: Awaji Yumebutai (Hyogo, Westin Hotel)
September 1st to 4th, 2008

In recent years, much attention has been focused on topological molecules, such as rotaxanes, catenanes, and knots, because of their unique structures and functions. In catenanes and rotaxanes, for example, a ring part can move back and forth along a linear chain and can rotate around the chain. Accordingly, rotaxanes and catenanes are expected to be a prototype of molecular devices and molecular machines. This kind of movement reminds us of that of molecular machines in biological systems, such as flagella, cilium, and muscle proteins such as actins and myosins. The concept of topological molecules like knots is closely related to “knot theory” in mathematics. When this kind of background is taken into considerations, it is of great importance to discuss this subject among chemists, biologists, physicists, and mathematicians from all over the world.

Lecture and poster contributions in this conference serve to exchange ideas, realizing above mentioned purposes.

The organizing committee is grateful to a sponsor and supports for their support. On behalf of the organizing committee, I would like to welcome to this conference and wish to all the participants a successful and pleasant conference.

September 2008



Prof. Akira HARADA

Osaka University

Chairman

Organizing Committee

Policy of the Conference

LXII Yamada Conference 2008 is a follow-up of this initiative, focusing on “Topological Molecules”, especially the following areas,

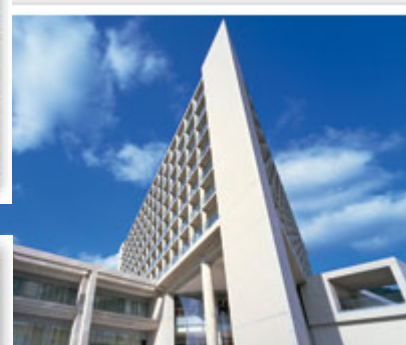
1. Supramolecular Chemistry
2. Macromolecule-Metal Complexes
3. Polynuclear Complexes
4. Self-Assembly and Supramolecular Complexes
5. Photophysical Functions (Energy Transfer, Electron Transfer, Photoenergy Conversion)
6. Functions and Applications (Electronic, Optical, Magnetic)
7. Biological Applications
8. Dendrimers
9. Supramolecular Dynamics

Venue

Awaji Yumebutai International Conference Center

1 Yumebutai, Awaji City, Hyogo 656-2306, Japan

Phone: 81-799-74-1020; FAX: 81-799-74-1021



Access

Awaji Island is almost at the center of Japan's archipelago, and is close to Kobe, Osaka, and Kyoto. Awaji is connected with the mainland (Honshu) by the Akashi Kaikyo Bridge, the largest suspension bridge in the world. At the southern end the Onaruto Bridge links Awaji to Shikoku. Access to the conference site from airport is shown below

Web Site: <http://www.yumebutai.org/english/index.html>

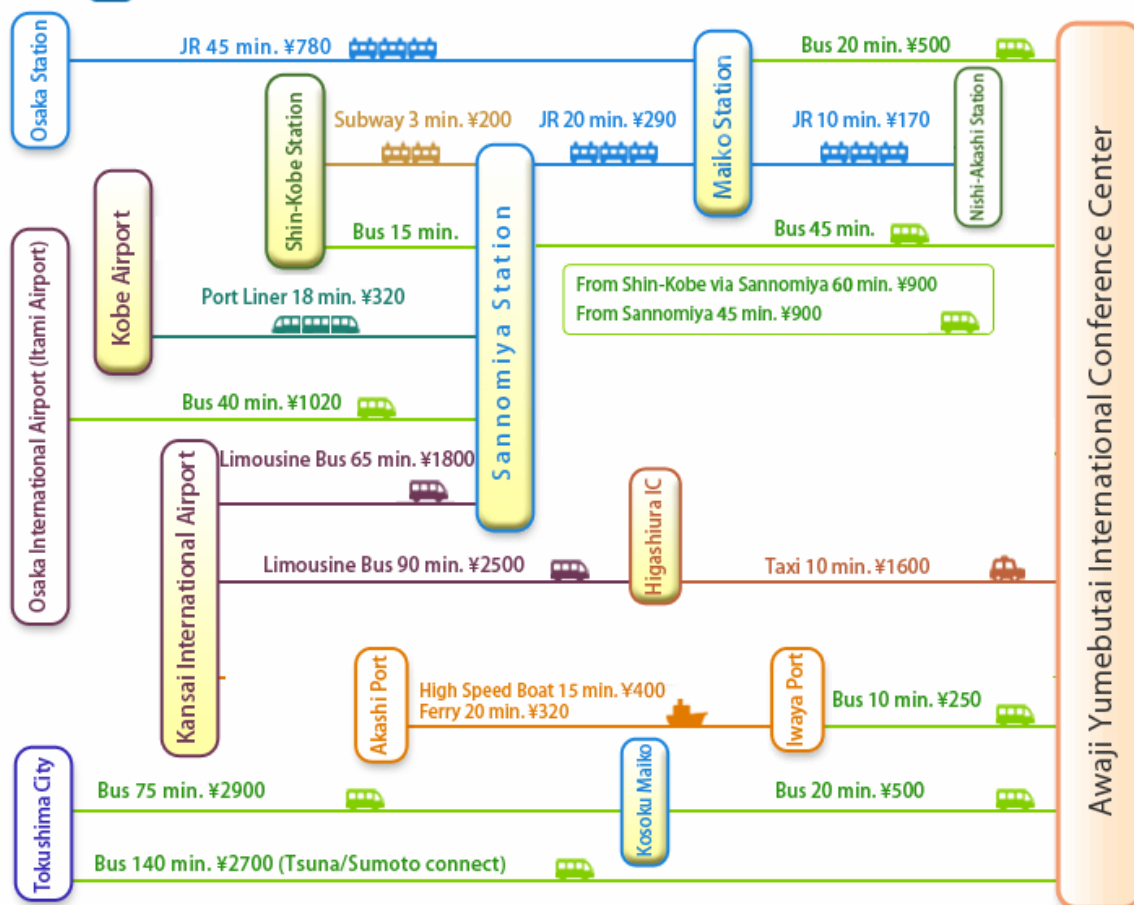


The most convenient means of transportation is to take a direct flight to the Kansai International Airport (KIX). Other possibilities are to fly to Narita Airport (NRT) or Fukuoka (FUK), and then fly to Osaka Itami Airport (ITM) or Kansai International Airport (KIX).

A detailed access to the Yumebutai International Conference center is shown below:

★ at <http://www.yumebutai.org/english/access/access.html>

Click  for detailed directions.



* The bus timetable is included on page 28 - 32 of this abstract

Accommodation

The Westin Awaji Island Resort is the official hotel for the conference, which is next to the conference center. It will offer accommodation for participants of the LXII Yamada Conference 2008 at a special rate.

http://www.chem.sci.osaka-u.ac.jp/yamada_conference/index.htm

The Westin Awaji Island Resort and Conference Center

E-mail: infor@westin-awaji.com

Tel: +81-799-74-1111, Fax: +81-799-74-1110

Social Program

Registration

LXII Yamada Conference 2008 Registration Desk will be available from 15:00 on 1st Sep., and 8:30 on 2nd Sep. and 3rd Sep. at the reception counter (2F).

Welcome Reception Party

The Reception Party will start at 18:30 on Sep. 1th. The Reception Party will be in the room "Stella" (1F) of Westin Hotel Awaji. In your conference bag, there should be a ticket for the Reception Party. Please submit it to the conference staffs at the entrance of the room.

Conference Photograph

A photographer will take a photo of the entire group of attendees before lunch on 2nd September at the front of the conference center. The photo will be uploaded onto the homepage of Yamada Conference.

Lunch

Lunch box for attendees will be provided in the conference center in the room "Reception Hall B" (2F) in the conference center. In your conference bag, there should be two tickets for lunch. Please submit it to the conference staffs. Lunch for invited speakers will be provided at reception room No. 103.

Invited Speaker's Dinner

The Speaker's Dinner will start at 19:00 on Sep. 2nd. The Invited Speaker's Dinner will be in Westin Hotel Awaji in the room "Tierra" (1F) of Westin Hotel Awaji.

Banquet

The Banquet will start at 18:30 on Sep. 3th. The Banquet will be in the room "Stella" (1F) of Westin Hotel Awaji. In your conference bag, there should be a ticket for Banquet. Please submit it to the conference staffs at the entrance of the room.

Breakfast

For guests of Westin Hotel Awaji, buffet-style breakfast will be provided in the room "COCCOLARE" (2F) of Westin Hotel Awaji. The room charge covers breakfast.

Information for Scientific Sessions

Lectures

Plenary Lecture: 45 min. in total including 5 min. for discussion

Oral Lecture: 35 min. in total including 5 min. for discussion

LCD projector is the standard medium for presentations (overhead projector is also available in case). Power Point presentations by using your own note PCs are recommended. If you permit us to install your presentation file to our computer, please bring CD-ROM or USB memory stick including your presentation file to the Registration Desk before your presentation. We will copy your presentation file onto our PCs and check if your presentation is displayed properly on our PCs. We provide a LCD projector and a PC switcher with 8 port connections. We would appreciate it if you could bring your PC and connect it to the switcher during the break before your session. You could preview and check your presentations in advance. When you use Macintosh PC, please prepare it by yourself.

Poster Session

Poster session is scheduled on Sep. 3rd. The posters of odd numbers should be presented on 16:30 – 17:15, while those of even numbers on 17:15 – 18:00. All posters should be posted on 2nd Sep. and picked them off before 8:45 on Sep. 4th. A 90 cm width and 180 cm height board is available for each poster.

Conference Language

The official language of the conference is English.

Internet Connection

You can connect to the Internet by optical fiber to the Yumebutai International Conference Center, or by wireless LAN, cable LAN, or CATV modem at the international conference center or in the rooms of the Westin Hotel Awaji.

International Conference Center: Connection at public space

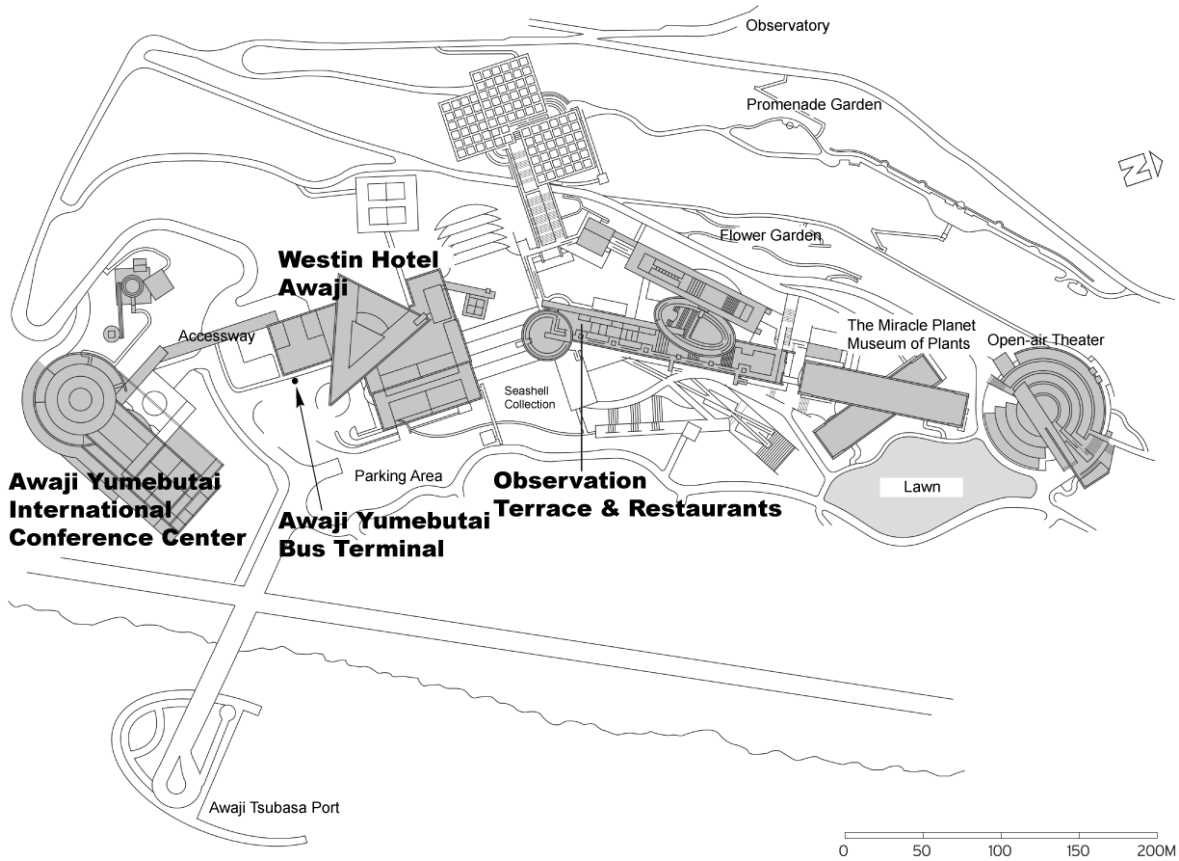
At public space, lobby or foyers, etc., on each floor you can connect to the Internet by wireless LAN for free.

Connection in guestrooms and lobby of Westin Hotel Awaji

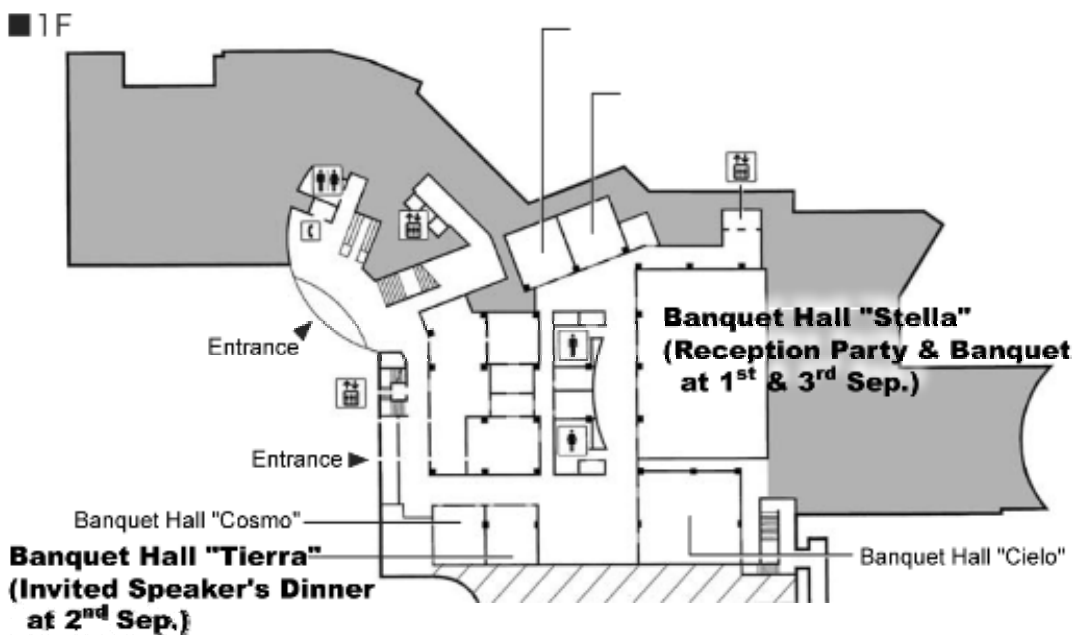
Internet connection by wired LAN is available in all guestrooms and near the hotel front desk.

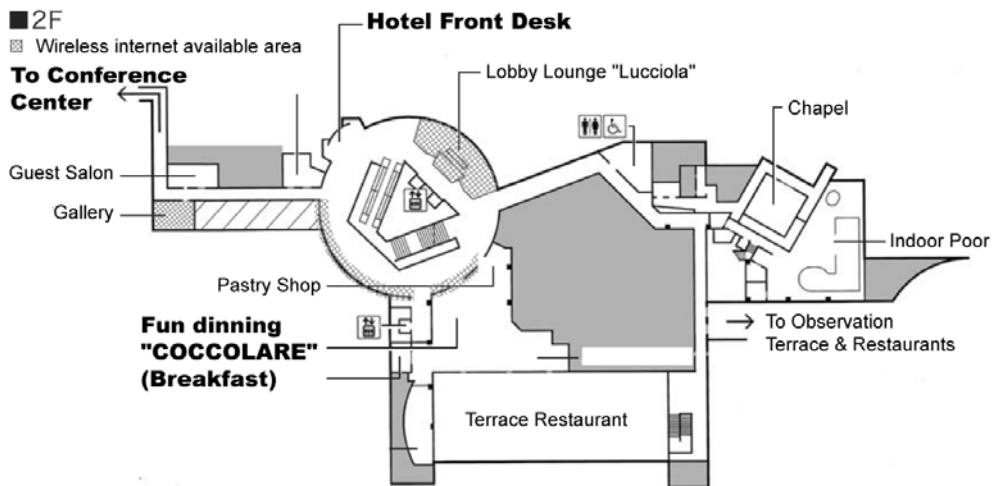
Floor Guide

Overall view of Awaji Yumebutai International Conference Center and Westin Hotel Awaji

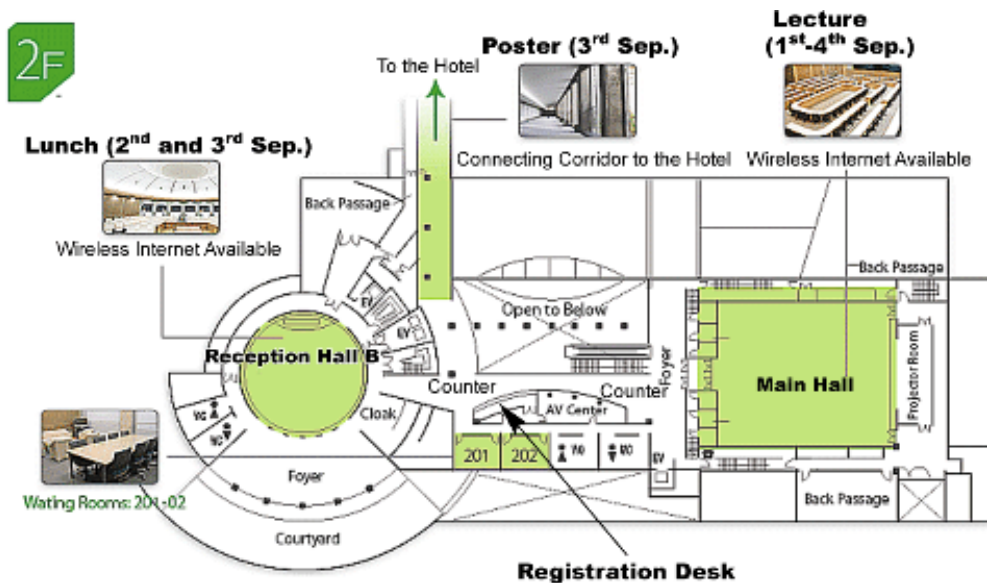
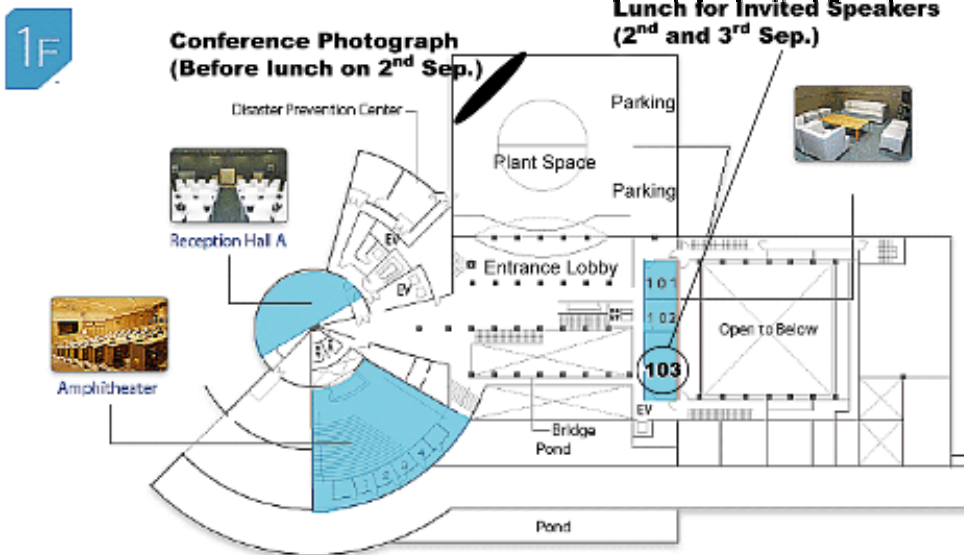


Floor Guide in Westin Hotel Awaji





Floor Guide in Awaji International Conference Center



Time Schedule

Time	2008/9/1	2008/9/2	2008/9/3	2008/9/4
9:00		PL-2	PL-7	PL-10
9:10		9:00-9:50	9:00-9:50	9:00-9:50
9:20		Sauvage	Nolte	Raymond
9:30				
9:40				
9:50		IL-1	IL-5	IL-9
10:00		9:50-10:30	9:50-10:30	9:50-10:30
10:10		Tezuka	Nakashima	Takata
10:20				
10:30		Coffee Break	Coffee Break	Coffee Break
10:40				
10:50		PL-3	PL-8	PL-11
11:00		10:50-11:40	10:50-11:40	10:50-11:40
11:10		Meijer	Feringa	Stoddart
11:20				
11:30				
11:40		IL-2	IL-6	Closing Harada
11:50		11:40-12:20	11:40-12:20	
12:00		Shionoya	Yui	
12:10				
12:20		Conference Photograph	Lunch	
12:40		Lunch 12:40-14:00	12:20-14:00	
14:00		PL-4	PL-9	
14:10		14:00-14:50	14:00-14:50	
14:20		Shinkai	Frechet	
14:30				
14:40				
14:50		IL-3	IL-7	
15:00	Registration 15:00-17:00	14:50-15:30	14:50-15:30	
15:10		Fujita	Ito	
15:20				
15:30		PL-5	IL-8	
15:40		15:30-16:20	15:30-16:10	
15:50		Leigh	Osakada	
16:00				
16:10			Coffee Break	
16:20			Coffee Break	
16:30				
16:40		IL-4	Poster	
16:50	17:00- Welcome Address	16:40-17:20	16:30-18:00	
17:00	Opening Remarks	Kawauchi		
17:10	PL-1			
17:20	17:10-18:00	PL-6		
17:30	Breslow	17:20-18:10		
17:40		Anderson		
17:50				
18:00				
18:10				
18:20				
18:30	Reception		Banquet	
18:40	18:30-20:30		18:30-20:30	
18:50				
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20:30				
Time	2008/9/1	2008/9/2	2008/9/3	2008/9/4

Program

Sep. 1st (Mon)

- 15:00 - Registration
- 17:00 - 17:10 **Tetsuo Shiba** (*Director of Yamada Science Foundation & Protein Research Foundation*)
[Main Hall (2F)] “Welcome Address “
- Akira Harada** (*Graduate School of Science, Osaka University*)
“Opening Remarks “
- <Chairperson : Ichiro Murata>
- 17:10 – 18:00 **Ronald Breslow** (*Department of Chemistry, Columbia University*)
PL-1 “Work on Organized Molecular Systems Leads to a Proposal for the Origin of Prebiotic Homochirality ”
- 18:30 - 20:30 **Reception Party**
[Westin Hotel Awaji Banquet Hall “Stella” (1F)]

Sep. 2nd (Tue)

- [Main Hall (2F)] <Chairperson : Eiichi Kimura >
09:00 - 09:50 **PL-2** **Jean-Pierre Sauvage** (*Laboratoire de Chimie Organo-Minérale, Institut de Chimie, University of Strasbourg and CNRS*)
“From Chemical Topology to Molecular Machines”
- <Chairperson : Mitsuhiro Shionoya >
09:50 - 10:30 **IL-1** **Yasuyuki Tezuka** (*Department of Organic and Polymeric Materials, Tokyo Institute of Technology*)
“Topological Polymer Chemistry: A Quest for Strange Polymer Rings”
- 10:30 - 10:50 **Coffee Break**
- <Chairperson : Makoto Fujita >
10:50 - 11:40 **PL-3** **Bert Meijer** (*Laboratory of Macromolecular and Organic Chemistry, Laboratory of Chemical Biology, and Institute for Complex Molecular Systems, Eindhoven University of Technology*)
“The Non-Covalent Synthesis of Supramolecular Systems Chirality as a Muse”
- 11:40 - 12:20 **IL-2** **Mitsuhiro Shionoya** (*Department of Chemistry, Graduate School of Science, The University of Tokyo*)
“Multicomponent Self-Assembly for Nanoscale Molecular-Architecture”
- 12:20 - 12:40 **Conference Photograph**
[The front of the conference center (1F)]
- 12:40 - 14:00 **Lunch**
Invited speakers : [“Reception Room No. 103” (1F)]
Attendees : [“Reception Hall B” (2F)]

<Chairperson : Nobuhiko Yui >

14:00 - 14:50
PL-4 **Seiji Shinkai** (*Sojo University / Institute of Systems, Information Technologies and Nanotechnologies*)
“Supra-macromolecular Chemistry”

14:50 - 15:30
IL-3 **Makoto Fujita** (*Department of Applied Chemistry, School of Engineering, The University of Tokyo*)
“Reactions in Self-Assembled Coordination Hosts”

<Chairperson : Keiji Hirose >

15:30 - 16:20
PL-5 **David A. Leigh** (*School of Chemistry, University of Edinburgh*)
“Synthetic Molecular Motors and Machines”

16:20 - 16:40
Coffee Break

<Chairperson : Kohzo Ito >

16:40 - 17:20
IL-4 **Akio Kawauchi** (*Department of Mathematics, Graduate School of Science, Osaka City University*)
“Topology of Spatial Graphs”

17:20 - 18:10
PL-6 **Harry L. Anderson** (*Department of Chemistry, Oxford University, Chemistry Research Laboratory*)
“Rotaxanes and Polyrotaxanes for Optoelectronics: Encapsulated π -Systems and Insulated Molecular Wires”

Sep. 3rd (Wed)

- [Main Hall (2F)] <Chairperson : Kohtaro Osakada >
09:00 - 09:50 **PL-7** **Roeland J. M. Nolte** (*Institute for Molecules and Materials, Radboud University Nijmegen*)
“Processive Rotaxane Catalysts”
- 09:50 - 10:30 **IL-5** **Naotoshi Nakashima** (*Department of Applied Chemistry, Graduate School of Engineering, Kyushu University*)
“Design of Novel Carbon Nanotubes/Polymer Nanocomposites with High Conductivity”
- 10:30 - 10:50 **Coffee Break**
- 10:50 - 11:40 **PL-8** <Chairperson : Yasuyuki Tezuka >
B. L. Feringa (University of Groningen)
- 11:40 - 12:20 **IL-6** **Nobuhiko Yui** (*Japan Advanced Institute of Science & Technology, JST, CREST*)
“Emerging Biomedical Functions through “Mobile” Polyrotaxanes”
- 12:20 - 14:00 **Lunch**
Invited speakers : [“Reception Room No. 103” (1F)]
Attendees : [“Reception Hall B” (2F)]
- 14:00 - 14:50 **PL-9** <Chairperson : Naotoshi Nakashima >
Jean M. J. Fréchet (*College of Chemistry, University of California, Berkeley*)
“Highly Branched Macromolecules: from Enzyme Mimics to Therapeutic Dendrimers”
- 14:50 - 15:30 **IL-7** **Kohzo Ito** (*Graduate School of Frontier Sciences, The University of Tokyo*)
“Slide-Ring Materials Using Polyrotaxane”
- 15:30 - 16:10 **IL-8** <Chairperson : Kiyotaka Onitsuka >
Kohtaro Osakada (*Chemical Resources Laboratory Tokyo Institute of Technology*)
“Structure and Dynamic Behaviors of Organometallic Rotaxanes”
- 16:10 - 16:30 **Coffee Break**
- 16:30 - 18:00 **Poster Presentation**
Odd numbers : 16:30 – 17:15
Even numbers : 17:15 – 18:00
- 18:30 - 20:30 **Banquet**
[Westin Hotel Awaji Banquet Hall “Stella” (1F)]

Sep. 4th (Thu)

- [Main Hall (2F)] <Chairperson : Masumi Asakawa >
09:00 - 09:50 **Kenneth N. Raymond** (*Department of Chemistry, University of California, Berkeley*)
PL-10
“Topological Chirality in Supramolecular Metal – Ligand Clusters”
- 09:50 - 10:30 **Toshikazu Takata** (*Department of Organic and Polymeric Materials, Tokyo Institute of Technology*)
IL-9
“New Aspects of Crown Ether-*sec*-Ammonium Rotaxane: Significant Roles in Biological and Material Sciences”
- 10:30 - 10:50 **Coffee Break**
- 10:50 - 11:40 <Chairperson : Akira Harada >
Fraser Stoddart (*Northwestern University*)
PL-11
- 11:40 - 11:50 **Akira Harada** (*Graduate School of Science, Osaka University*)
“Closing Remarks”

Poster Session

- Poster-01** “Supramolecular Nanotubes with 10-100 nm Inner Diameters for Encapsulation and Release of Biomacromolecules”
Naohiro Kameta, Mitsutoshi Masuda, and Toshimi Shimizu
SORST, Japan Science and Technology Agency (JST), Nanotube Research Center (NTRC), National Institute of Advanced Industrial Science and Technology (AIST)
- Poster-02** “Instant Preparation of Metal-Complexed Lipid Nanotubes”
M. Kogiso, M. Asakawa, and T. Shimizu
Nanotube Research Center (NTRC), National Institute of Advanced Industrial Science & Technology (AIST)
- Poster-03** “Linker Effect on [3]Rotaxane Synthesis via Olefin Metathesis”
Hajime Iwamoto, Yukimi Yawata, Takeharu Haino, and Yoshimasa Fukazawa
Department of Chemistry, Graduate School of Science, Hiroshima University
- Poster-04** “Synthetic Study of [5]Catenane via Olefin Metathesis Reaction”
Shinzi Tafuku, Hajime Iwamoto, and Takeharu Haino
Department of Chemistry, Graduate School of Science, Hiroshima University
- Poster-05** “Synthesis of Rotaxanes and Catenanes by Copper-Catalyzed Oxidative Coupling of Alkynes. A "Catalytic Threading" Approach”
Shinichi Saito
Faculty of Science, Tokyo University of Science
- Poster-06** “Rotaxanes Composed of Ferrocene-Containing Crown Ether and Dialkylammonium and Its Photo- and Electrochemical Properties”
Yuji Suzaki, Eriko Chihara, and Kohtaro Osakada
Chemical Resources Laboratory R1-3, Tokyo Institute of Technology
- Poster-07** “[5]Rotaxanes Composed of α -Cyclodextrin and Amphiphilic Pt(II) or Pd(II) Complexes”
Toshiaki Taira, Yuji Suzaki, and Kohtaro Osakada
Chemical Resources Laboratory R1-3, Tokyo Institute of Technology
- Poster-08** “Crystal Synthesis of Ferrocene Containing [2]Pseudorotaxanes and Their Dynamic Motion in the Solid State”
Tomoko Abe, Yuji Suzaki, and Kohtaro Osakada
Chemical Resources Laboratory R1-3, Tokyo Institute of Technology

- Poster-09** “Host-Guest Energy Transfer: Quenching of Bisanthracene Emission within a Self-Assembled Organometallic Cage”
J. K. Klosterman¹, M. Iwamura², T. Tahara², and M. Fujita¹
¹*School of Engineering, University of Tokyo*; ²*Molecular Spectroscopy Laboratory, RIKEN (The Institute of Physical and Chemical Research)*
- Poster-10** “Synthesis and Inclusion Behavior of Novel Pyromellitic Diimide-Based Macrocyclic Host Molecule with Naphthalene Spacers”
Takeshi Nakagaki^{1,2}, Shin-ichiro Kato^{1,2}, and Teruo Shinmyozu¹
¹*Institute for Materials Chemistry and Engineering (IMCE) and Department of Chemistry*; ²*Graduate School of Sciences, Kyushu University*
- Poster-11** “Elasticity of the Capsule Macrocyclic: Variation in Ring-size on the Change of Solvent Molecule”
Aya Harano^{1,2}, Minako Irie^{1,2}, Kenta Goto¹, and Teruo Shinmyozu¹
¹*Institute for Materials Chemistry and Engineering (IMCE)*; ²*Department of Chemistry, Graduate School of Sciences, Kyushu University*
- Poster-12** “Loose Polyrotaxanes: Polyrotaxane with Minimized Interaction between Linear Molecule and Cyclic Compounds”
Yuichiro Kobayashi, Ryo Katoono, and Nobuhiko Yui
JAIST
- Poster-13** “Electron-State Control of Planar Nickel and Cobalt Complexes by d-p Interactions within Organic Pillared Coordination Cages”
Kosuke Ono¹, Michito Yoshizawa^{2,3}, Munetaka Akita², Tatsuhisa Kato⁴, Yoshihide Tsunobuchi⁵, Shinichi Ohkoshi⁵, and Makoto Fujita¹
¹*Department of Applied Chemistry, School of Engineering, The University of Tokyo*; ²*Chemical Resources Laboratory, Tokyo Institute of Technology*; ³*PRESTO*; ⁴*Faculty of Science, Josai University*; ⁵*Department of Chemistry, School of Science, The University of Tokyo*
- Poster-14** “Synthesis and Property of Polyacetylenes bearing Rotaxane Moieties with Axially Asymmetric Wheel in the Side Chain”
Fumitaka Ishiwari, Kei-ichiro Fukasawa, Takashi Sato, Yasuhito Koyama, and Toshikazu Takata
Department of Organic and Polymeric Materials, Tokyo Institute of Technology
- Poster-15** “Selective Isolation of Stacked Pyrene-4,5-dione Assemblies within Organic-Pillared Coordination Cages”
Yoshihiro Yamauchi¹, Michito Yoshizawa^{2,3}, Munetaka Akita², and Makoto Fujita¹
¹*Department of Applied Chemistry, School of Engineering, The University of Tokyo*; ²*Chemical Resources Laboratory, Tokyo Institute of Technology*; ³*PRESTO (JST)*

- Poster-16** “Formation of Minimal Nucleotide Duplexes via Encapsulation within Self-Assembled Cages”
Tomohisa Sawada¹, Michito Yoshizawa¹, Sota Sato¹, and Makoto Fujita^{1, 2}
¹*The University of Tokyo*; ²*CREST*
- Poster-17** “Logic Gate based on a Topological Co(II) Complex”
Hiroyuki Miyake and Hiroshi Tsukube
Department of Chemistry, Graduate School of Science, Osaka City University
- Poster-18** “Organic Nanotube as an Adsorption and Control Release Material”
Masaru Aoyagi, Masumi Asakawa, Masaki Kogiso, and Toshimi Shimizu
NTRC-AIST, SORST-JST
- Poster-19** “Graft Polyrotaxane: Polymer with Graft Chain Connected to Main Chain by Topological Bonding”
Yasuhiro Kohsaka, Kazuko Nakanozo, Yasuhito Koyama, and Toshikazu Takata
Department of Organic and Polymeric Materials, Tokyo Institute of Technology
- Poster-20** “Entropy- and Hydrolytic-Driven Positional Switching of Macrocyclic between Imine- and Hydrogen-Bonding Stations in Rotaxane-Based Molecular Shuttles”
Hidetoshi Kawai^{1,2}, Takeshi Umehara¹, Kenshu Fujiwara¹, and Takanori Suzuki¹
¹*Department of Chemistry, Faculty of Science, Hokkaido University*; ²*PRESTO, Japan Science and Technology Agency (JST)*
- Poster-21** “Nanoscale Surface Structures of Slide-Ring Gels”
Yasuhiro Sakai¹, Yasushi Okumura², and Kohzo Ito¹
¹*Department of Advanced Materials Science, Graduate School of Frontier Sciences, The University of Tokyo*; ²*Department of Macromolecular Science, Graduate School of Science, Osaka University*
- Poster-22** “Silicone-Based Polyrotaxane and Slide-Ring Gel”
Kazuaki Kato, Masatoshi Kidowaki, and Kohzo Ito
Graduate School of Frontier Sciences, The University of Tokyo
- Poster-23** “Main Chain-Type Polyrotaxane: Synthetic Study Directed Toward Well-Defined Polyrotaxanes”
Young-Gi Lee, Yasuhito Koyama, Morio Yonekawa, and Toshikazu Takata
Department of Organic and Polymeric Materials, Tokyo Institute of Technology
- Poster-24** “Structure of Silahydrocarbon Rotaxane”
Wataru Setaka^{1,2}, Son Thanh Phan¹, and Mitsuo Kira¹
¹*Department of Chemistry, Graduate School of Science, Tohoku University*; ²*PRESTO, Japan Science and Technology Agency (JST)*

- Poster-25** “Synthesis and Host-Guest Property of para-Bridged “Pillar[5]arene””
Tomoki Ogoshi, Suguru Kanai, Shuhei Fujinami, Tada-aki Yamagishi, and Yoshiaki Nakamoto
Graduate School of Natural Science and Technology, Kanazawa University
- Poster-26** “Supramolecular Control of Polyplex Dissociation and Cell Transfection: Efficacy of Amine and Cyclodextrin in Biocleavable Polyrotaxanes”
A. Yamashita¹, D. Kanda¹, R. Katoono¹, N. Yui¹, T. Ooya², A. Maruyama³, H. Akita⁴, and H. Harashima⁴
¹*Japan Advanced Institute of Science and Technology*; ²*Toyama Prefectural University*; ³*Kyushu University*; ⁴*Hokkaido University*
- Poster-27** “Synthesis of Bacteriochlorophyll-d Analogues by Chemical Modification of Octaethylporphyrin”
Michio Kunieda and Hitoshi Tamiaki
Department of Bioscience and Biotechnology, Faculty of Science and Engineering, Ritsumeikan University
- Poster-28** “Anisotropic Layer-By-Layer Film by Ionic Conjugated Polymers and SWNTs Composite”
Naoya Adachi, Mutsumi Kimura, and Hirofusa Shirai
Department of Functional Polymer Science, Faculty of Textile Science and Technology
- Poster-29** “Electrical Resistivity of Molecular Nanowire composed of TTF Derivatives-F4TCNQ Charge Transfer Complex Characterized by Conducting-AFM.”
Yoko Tatewaki, Tatsuya Hatanaka, Mutsumi Kimura, and Hirofusa Shirai
Department of Functional Polymer Science, Faculty of Textile Science and Technology, Shinshu University
- Poster-30** Formation of One-Handed Nanocoils by Self-Assembly of Norbornene-Appended Hexabenzocoronene Derivatives”
Takuya Yamamoto¹, Takanori Fukushima^{1,2}, and Takuzo Aida^{1,2}
¹*ERATO-SORST Nanospace Project, Japan Science and Technology Agency (JST), National Museum of Emerging Science and Innovation*; ²*Department of Chemistry and Biotechnology, School of Engineering, The University of Tokyo*
- Poster-31** “Molecular Propellers Based on Tetraaryltterephthalamide Derivatives with Biased Helicity through Transmission of Chirality”
Ryo Katoono¹, Hidetoshi Kawai², Kenshu Fujiwara², and Takanori Suzuki²
¹*School of Materials Science, Japan Advanced Institute of Science and Technology*; ²*Department of Chemistry, Faculty of Science, Hokkaido University*

- Poster-32 “Topologically Unique Multi-Porphyrinoids Arrays via Successive Coordination”**
Mitsuhiro Morisue, Wataru Suzuki, Takefumi Morita, and Yasuhisa Kuroda
Department of Biomolecular Engineering, Kyoto Institute of Technology
- Poster-33 “Host-Guest Interactions in the Supramolecular Hydrogels”**
Yuko Kamikawa, Travis W. Baughman, and E. W. Meijer
Macromolecular and Organic Chemistry, Chemical Engineering and Chemistry, Eindhoven University of Technology
- Poster-34 “The Electronic Structure of Knotted Peptides”**
Fabio Pichierri
G-COE Laboratory, Department of Applied Chemistry, Graduate School of Engineering, Tohoku University
- Poster-35 “Synthetic Method for a Highly Insulated Conjugated Polymer Using Host-Guest Bridged Pseudorotaxane as a Monomer”**
Jun Terao¹, Yuji Tanaka², Susumu Tsuda², and Nobuaki Kambe²
¹Department of Energy and Hydrocarbon Chemistry, Graduate School of Engineering, Kyoto University; ²Department of Applied Chemistry, Graduate School of Engineering, Osaka University
- Poster-36 “Synthesis of a Highly Insulated Conjugated Molecule”**
Jun Terao¹, Tomoka Maekawa², Yuji Tanaka², Susumu Tsuda², and Nobuaki Kambe²
¹Department of Energy and Hydrocarbon Chemistry, Graduate School Kyoto University; ²Department of Applied Chemistry, Graduate School of Engineering, Osaka University
- Poster-37 “Ionene Polymers as Novel Polymeric Gelators: Synthesis, Properties and X-ray Study on the Model Compounds”**
Masaru Yoshida¹, Yoshihiro Misawa¹, Nobuyuki Tamaoki¹, Nagatoshi Koumura² and Hajime Matsumoto³
¹Nanotechnology Research Institute, National Institute of Advanced Industrial Science and Technology (AIST); ²Photonics Research Institute, AIST; ³Research Institute for Ubiquitous Energy Devices, AIST
- Poster-38 “Thermal and Mechanical Properties of Polyurethanes Containing an Azobiscrown Compound as a Crosslink Point”**
Hiroto Murakami, Ryosuke Kusano, Shinji Ohira, Ken Kojio, Mutsuhisa Furukawa, and Takamasa Sagara
Department of Materials Engineering and Molecular Science, Graduate School of Science and Technology, Nagasaki University

- Poster-39** “Synthesis, Properties, and n-Type FET Performances of Difluorodioxocyclopentene-Annulated Oligomers”
Yutaka Ie, Makoto Okabe, Yoshikazu Umemoto, and Yoshio Aso
The Institute of Scientific and Industrial Research, Osaka University
- Poster-40** “Synergistic Luminescence Functions of d–f Heterodinuclear Complexes”
Satoshi Shinoda and Hiroshi Tsukube
Department of Chemistry, Graduate School of Science, Osaka City University
- Poster-41** “Development of Ion-Channels Formed by Self-Organization of Liquid-Crystalline Ammonium Salts”
Takahiro Ichikawa¹, Masafumi Yoshio¹, Atsushi Hamasaki², Tomohiro Mukai², Hiroyuki Ohno², and Takashi Kato¹
¹*Department of Chemistry and Biotechnology, School of Engineering, the University of Tokyo;*
²*Department of Biotechnology, Faculty of Engineering, Tokyo University of Agriculture and Technology*
- Poster-42** “Main Chain-Type Polyrotaxanes Consisting of Crown Ethers and *sec*-Ammonium Salts”
Tomonori Ishino, Kazuko Nakazono, Yasuhito Koyama, and Toshikazu Takata
Department of Organic and Polymeric Materials, Tokyo Institute of Technology
- Poster-43** “Efficient Electron Transfer within 1,2,3-Triazole-Linked Dendritic Porphyrins”
Mutsumi Kimura, Yasuhiro Nakano, Naoya Adachi, Yoko Tatewaki, and Hirofusa Shirai
Department of Functional Polymer Science, Faculty of Textile Science and Technology, Shinshu University, and Collaborative Innovation Center of Nanotech Fiber (nanoFIC), Shinshu University
- Poster-44** “Hierarchical Construction of Higher Order Architectures Composed of 4+4 Supramolecular Clusters”
Norimitsu Tohnai, Shinji Uehara, Atsushi Yamamoto, Ichiro Hisaki, and Mikiji Miyata.
Material & Life Science, Graduate School of Engineering, Osaka University
- Poster-45** “Syntheses of Highly Insulated and Soluble Molecular Wires by Polymerization of [1]Rotaxanes”
Jun Terao¹, Susumu Tsuda², Keisuke Tsurui², and Nobuaki Kambe²
¹*Department of Energy and Hydrocarbon Chemistry, Graduate School of Engineering, Kyoto University;* ²*Department of Applied Chemistry, Graduate School of Engineering*
- Poster-46** “Microsphere vs Microbelt Morphology of Ionic Palladium(II) Complexes”
Shin A. Kim, Cho-Rong Kim, and Ok-Sang Jung
Department of Chemistry, Pusan National University

- Poster-47 “Interconversion Between Cyclotrimer and Chain Palladium(II) Complex”**
Tae Hwan Noh, Yoon-Kyung Ryu, and Ok-Sang Jung
Department of Chemistry, Pusan National University
- Poster-48 “Formation of Cyclodimeric Crystals vs Cyclotrimeric Spheres. Unprecedented Control of Morphology via Solvent Effects on Metallacyclization”**
Hyun Ji Kang, Chi Won Kim, and Ok-Sang Jung
Department of Chemistry, Pusan National University
- Poster-49 “Photoinduced Electron Transfer Reaction of Functional Dendrimers with Rigid Backbone Structure”**
Takane Imaoka and Kimihisa Yamamoto
Keio University, Department of Chemistry, Faculty of Science and Technology
- Poster-50 “Anion-Driven Helical Structures Based on Acyclic Oligopyrroles”**
Yohei Haketa¹ and Hiromitsu Maeda^{1,2}
¹*College of Pharmaceutical Sciences, Institute of Science and Engineering, Ritsumeikan University;*
²*PRESTO, Japan Science and Technology Agency (JST)*
- Poster-51 “Synthesis, Structure, and Properties of 2,5,8,11,14,17-Hexamethyltriphenylene [2,1-b:3,4-b':6,5-b'':7,8-b''':10,9-b''''':11,12-b''''']hexathiophene”**
Masaru Endou, Yutaka Ie, and Yoshio Aso
The Institute of Scientific and Industrial Research, Osaka University
- Poster-52 “Topological Control in Coordination Macrocycles by Bond Formation”**
Takashi Hashimoto¹ and Hiromitsu Maeda^{1,2}
¹*College of Pharmaceutical Sciences, Institute of Science and Engineering, Ritsumeikan University;*
²*PRESTO, Japan Science and Technology Agency (JST)*
- Poster-53 “Molecular Bevel Gear: Transmission of Oscillation Frequency in Synthetic Molecular Gears”**
Soichiro Ogi^{1,2}, Tomohiro Ikeda³, Seiji Shinkai³, and Masayuki Takeuchi^{1,2}
¹*University of Tsukuba;* ²*National Institute for Materials Science;* ³*Kyushu University*
- Poster-54 “Structure and Property of Neutral Rotaxanes Having Crown Ether Wheel”**
Kazuko Nakazono and Toshikazu Takata
Department of Organic and Polymeric Materials, Tokyo Institute of Technology
- Poster-55 “Redox Induced Reversible Change of Helical Conformation in Chiral Ruthenium-Acetylide Polymer”**
Kiyotaka Onitsuka
Department of Macromolecular Science, Graduate School of Science, Osaka University

- Poster-56 “Molecular Puzzle Ring: pseudo[1]Rotaxane from Flexible Cyclodextrin Derivative”**
Atsuhisa Miyawaki, Yoshinori Takashima, Hiroyasu Yamaguchi, and Akira Harada
Department of Macromolecular Science, Graduate School of Science, Osaka University
- Poster-57 “Thiophene Donor-Acceptor [2]Rotaxanes”**
Taichi Ikeda, Masyoshi Higuchi, and Dirk G. Kurth
 Functional Modules Group, Organic Nanomaterials Center National Institute for Materials Science
- Poster-58 “Alcohol Vapor Inclusion in Single-Crystal Adsorbents [MII 2(bza)4(py_z)_n]_n”**
S. Takamizawa, C. Kachi-Terajima, M. Kohbara, and T. Akatsuka
International Graduate School of Arts and Sciences, Yokohama City University
- Poster-59 “Gas-Adsorbing Ability of tris-Ethylenediamine Metal Complexes (M = Co(III), Cr(III), Rh(III), Ir(III)) as Transformable Ionic-Single Crystal Hosts”**
 Satoshi Takamizawa, Masa-aki Kohbara, Takamasa Akatsuka, and Ryosuke Miyake
International Graduate School of Arts and Sciences, Yokohama City University
- Poster-60 “Application of “Slide-Ring Materials” Consisting of Polyrotaxane and Polyrotaxane Derivatives to Materials Science”**
Jun Araki
International Young Researchers Empowerment Center, Shinshu University
- Poster-61 “Photochemical Control of Polymerization of Lactones Initiated by Modified Cyclodextrins”**
Motofumi Osaki, Yoshinori Takashima, Hiroyasu Yamaguchi, and Akira Harada
Department of Macromolecular Science, Graduate School of Science, Osaka University
- Poster-62 “Control and Observation of Rotary Movement of Modified Cyclodextrins with Bulky Substituent Based on Rotaxanes”**
 Dai Nishimura, Tomoya Oshikiri, Yoshinori Takashima, Hiroyasu Yamaguchi, and Akira Harada
Department of macromolecular science, Graduate school of science, Osaka University
- Poster-63 “Single-Molecular Imaging of Rotaxane Based on Glass Substrates: Observations of Rotary Movement of a Rotor”**
 Dai Nishimura¹, Yoshinori Takashima¹, Hiroyuki Aoki², Toshiaki Takahashi², Hiroyasu Yamaguchi¹, Shinzaburo Ito², and Akira Harada¹
¹*Department of Macromolecular Science, Graduate School of Science, Osaka University;* ²*Kyoto University*
- Poster-64 “A Hydrogen Evolution System Using Artificial Porphyrin-Antibody Complexes”**
Hiroyasu Yamaguchi, Takeshi Onji, Noriaki Ikeda, and Akira Harada
Department of Macromolecular Science, Graduate School of Science, Osaka University

- Poster-65** “Asymmetric Hydrogenation with Antibody-Achiral Rhodium Complex”
Hiroyasu Yamaguchi, Tohko Hirano, Hideaki Kiminami, and Akira Harada
Department of Macromolecular Science, Graduate School of Science, Osaka University
- Poster-66** “Construction of Chemical-Responsive Supramolecular Gels Using Guest-Modified Cyclodextrins”
Wei Deng, Hiroyasu Yamaguchi, Yoshinori Takashima, and Akira Harada
Department of Macromolecular Science, Graduate School of Science, Osaka University
- Poster-67** “Photoswitching between Supramolecular Dimer and Non-Threaded Supramolecular Self-Assembly of Stilbene Amide α -Cyclodextrin”
Kazuhiro Yamauchi, Yoshinori Takashima, Akihito Hashidzume, Hiroyasu Yamaguchi, and Akira Harada
Department of Macromolecular Science, Graduate School of Science, Osaka University
- Poster-68** “A Signal Amplification Method in a Biosensing System with Antibodies”
Kojiro Yugawa, Hiroyasu Yamaguchi, and Akira Harada
Department of Macromolecular Science, Graduate School of Science, Osaka University
- Poster-69** “Transportation of Guest Molecules in Sliding-Host Gel”
Yuji Toyota, Yasushi Okumura, Yoshinori Takashima, Hiroyasu Yamaguchi, and Akira Harada
Department of Macromolecular Science, Graduate School of Science, Osaka University
- Poster-70** “Dependency on pH and Substituent Groups of Cyclodextrin in the Formation of Rotaxanes”
Koji Omori, Tomoya Oshikiri, Yoshinori Takashima, Hiroyasu Yamaguchi, and Akira Harada
Department of Macromolecular Science, Graduate School of Science, Osaka University
- Poster-71** “Macromolecular Recognition : Interaction of Cyclodextrin Dimers with Alternating Copolymers Bearing Adamantyl Side Chains”
Paul Kuad, Daisuke Taura, Yoshinori Takashima, Akihito Hashidzume, Hiroyasu Yamaguchi, and Akira Harada
Department of Macromolecular Science, Graduate School of Science, Osaka University
- Poster-72** “Acyl Group Migration Behavior of Cyclodextrins Esterified with Cinnamoyl or Stilbene Carboxyl Groups on the Secondary Hydroxyl Side”
Akira Kanaya, Yoshinori Takashima, Hiroyasu Yamaguchi, and Akira Harada
Department of Macromolecular Science, Graduate School of Science, Osaka University
- Poster-73** Synthesis of [2]Rotaxane Dimer by Using the Formation of Supramolecular Dimer
Asami Kambe, Yoshinori Takashima, Hiroyasu Yamaguchi, and Akira Harada
Department of Macromolecular Science, Graduate School of Science, Osaka University

- Poster-74 “Synthesis of a Dendrimer Monomolecularly Imprinted with Fructose and Manipulation of Its Selectivity”**
Akihito Hashidzume and Steven C. Zimmerman
Graduate School of Science, Osaka University and Department of Chemistry, University of Illinois
- Poster-75 “Interaction of Cyclodextrins with Alternating Copolymers Bearing Adamantyl Side Chains with Different Molecular Weights”**
Daisuke Taura, Akihito Hashidzume, and Akira Harada
Department of Macromolecular Science, Graduate School of Science, Osaka University
- Poster-76 “Preparation of Monoclonal Antibodies against Ruthenium Tris-Bipyridine Complexes toward Enantioselective Molecular Recognition”**
Tamaki Gionn, Hiroyasu Yamaguchi, and Akira Harada
Department of Macromolecular Science, Graduate School of Science, Osaka University
- Poster-77 “Photoinduced Electron Transfer by the Supramolecular Complex Formation of Porphyrin with Cyclodextrin Bearing Viologen”**
Y. Takeda, W. Deng, N. Ikeda, H. Yamaguchi, Y. Takashima, and A. Harada
Department of Macromolecular Science, Graduate School of Science, Osaka University
- Poster-78 “Acidity Control of Carboxylic Acids by Photoinduced ON/OFF Switching of Intramolecular NH...O Hydrogen Bond”**
Takashi Matsuhira, Hitoshi Yamamoto, Taka-aki Okamura, and Norikazu Ueyama
Department of Macromolecular Science, Graduate School of Science, Osaka University
- Poster-79 “Preparation of the Rotaxane Containing the Axis Bearing Bipyridine Group”**
Yang Yuting, Atsuhisa Miyawaki, Yoshinori Takashima, Hiroyasu Yamaduchi, and Akira Harada
Department of Macromolecular Science, Graduate School of Science, Osaka University
- Poster-80 “Photoisomerization Behavior of Stilbene Derivatives in the Presence of Bovine Serum Albumin”**
Mayako Tada, Hiroyasu Yamaguchi, and Akira Harada
Department of Macromolecular Science, Graduate School of Science, Osaka University
- Poster-81 “Development of Massive Synthesis of Self-Assembled Organic Nanotubes -Mass-Production and Safety Assessment Paving the Way for Industrial Applications”**
Masumi Asakawa^{1,2}, Masaru Aoyagi^{1,2}, Naohiro Kameta², Masaki Kogiso^{1,2}, and Toshimi Shimizu^{1,2}
¹Nanotube Research Center (NTRC), AIST; ²JST-SORST
- Poster-82 “Molecular Machines with Reversible Brake Function for Threading, Shuttling, and Rocking Motions”**
Keiji Hirose, Kazuaki Ishibashi, Yoshinobu Shiba, and Yoshito Tobe
Division of Frontier Materials Science, Graduate School of Engineering Science, Osaka University

- Poster-83 “Hydrogen Sulfate Selective Fluorescent Chemosensor with Cone Conformer of Calixarene with Pyrene Urea Derivatives”**
Nam Joong Jeon, Byung Ju Ryu, and Kye Chun Nam
Department of Chemistry, and Institute of Basic Science, Chonnam National University
- Poster-84 “Aromatic Phosphonium Derivatives for Colorimetric Anion Sensors”**
Hyoungh Min Yeo, Byung Ju Ryu and Kye Chun Nam
Department of Chemistry, and Institute of Basic Science, Chonnam National University
- Poster-85 “A Novel 1,3-Alternate Calix[4]arene Chemosensor as a New Fluorophore”**
Ah Leum Lee and Kye Chun Nam
Department of Chemistry, and Institute of Basic Science, Chonnam National University
- Poster-86 “Fluorophore from Calix[4]arene Pyrene Urea Derivatives for Pyrophosphate”**
Bong Hoo Lee and Kye Chun Nam
Department of Chemistry, and Institute of Basic Science, Chonnam National University
- Poster-87 “Room-Temperature Synthesis of Lipid Nanotubes and Simultaneous Encapsulation of Biopolymers”**
Mitsutoshi Masuda^{1,2}, Nahoko Morii², Naohiro Kameta², Masumi Asakawa^{1,2}, Hiroyuki Minamikawa^{1,2} and Toshimi Shimizu^{1,2}
¹*Nanotube Research Center (NTRC), National Institute of Advanced Industrial Science and Technology (AIST);* ²*SORST, Japan Science and Technology Agency (JST)*
- Poster-88 “Self-Assembled Helical Ribbon and Tubes of Alanine-Based Amphiphiles Induced by Two Different Formation Mechanisms”**
Soo Jin Lee^{1,2}, Jong Hwa Jung¹, Masaki Kogiso^{2,3}, Mitsutoshi Masuda^{2,3}, and Toshimi Shimizu^{2,3}
¹*Department of Chemistry, Research Institute of Natural Science, Gyeongsang National University (GSNU);* ²*Nanotube Research Center (NTRC), National Institute of Advanced Industrial Science and Technology (AIST);* ³*SORST, Japan Science and Technology Agency (JST)*
- Poster-89 “Structural Analysis of Wet Glycoipid Nanotubes”**
Hiroyuki Minamikawa^{1,2}, Mitsutoshi Masuda^{1,2}, and Toshimi Shimizu^{1,2}
¹*Nanotube Research Center (NTRC), National Institute of Advanced Industrial Science and Technology (AIST);* ²*SORST, Japan Science and Technology Agency (JST)*
- Poster-90 “Ultrafast dynamics of Photoactive Yellow Protein probed via the Photo-Excitation and Emission Processes”**
Ryousuke Nakamura¹, Hideki Ichida², Norio Hamada³, Hitoshi Yamamoto³, and Yasuo Kanematsu³
¹*Graduate school of science, Tohoku University;* ²*Graduate school of science, Osaka University;* ³*Venture Business Laboratory, Center for Advanced Science and Innovation, Osaka University*

Poster-91 “Spectroscopic Study of Interaction between Molecular Probes and Photoactive Yellow Protein”

Norio Hamada¹, Ryousuke Nakamura², Hideki Ichida³, Hitoshi Yamamoto¹, and Yasuo Kanematsu³

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Poster-92 “Surface Assembling of “Canopied” Ruthenium Complexes with Multipod Anchoring Groups on ITO Electrode”

Masa-aki Haga, Keiichi Terada, and Katsuaki Kobayashi

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