

35<sup>th</sup> Symposium on  
Chemical Kinetics and Dynamics  
Book of Abstracts

第 35 回化学反応討論会  
講演要旨集

June 5 (WED) – 7 (FRI), 2019  
Higashi Hiroshima Arts & Culture Hall Kurara  
Higashi-Hiroshima

Hosted by  
Local Organization Committee of SCKD35

Supported by  
Higashi-Hiroshima City  
Chugoku-Shikoku branch, The Chemical Society of Japan

Cooperated by  
Atomic Collision Society of Japan  
The Chemical Society of Japan  
Japan Society for Molecular Science  
The Spectroscopical Society of Japan

## Symposium

[Venue]

Higashi Hiroshima Arts & Culture Hall

Kurara

〒739-0015

7-19, Saijosakae-machi, Higashi-Hiroshima, Hiroshima

Tel: 082-426-5900 (9:00 ~ 19:00)

## Banquet

Best poster prize award ceremony

[Venue]

Saijo HAKUWA Hotel

〒739-0047

6-5-45, Saijo-Shitami, Higashi-Hiroshima, Hiroshima

Tel: 082-431-1111

Oral talks: 1F Small Hall

Posters: 3F Salon Hall

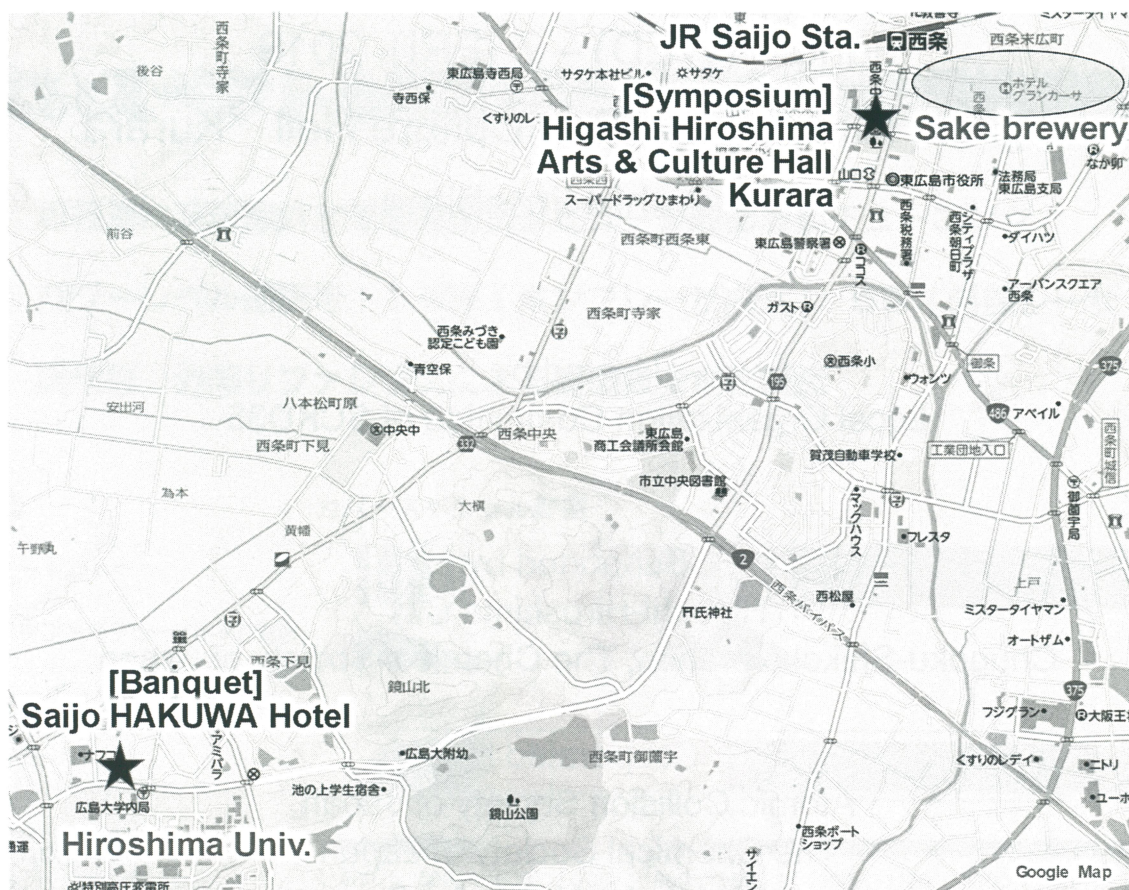
Exhibitions: 1F Gallery

Registration: 1F Robby

[Date & Time]

June 6, 2019 (Thu)

19:00 ~ 21:00



## シンポジウム

[会場]

東広島芸術文化ホール くらら  
〒739-0015  
広島県東広島市西条栄町7番19号  
電話：082-426-5900 (9:00～19:00)

口頭発表： 1階 小ホール  
ポスター発表： 3階 サロンホール  
企業展示： 1階 市民ギャラリー  
受付： 1階 ロビー

## 懇親会 ベストポスター賞 表彰式

[会場]

西条 HAKUWA ホテル  
〒739-0047  
広島県東広島市西条下見 6-5-45  
(広島大学前)  
電話：082-431-1111

[日時]

2019年6月6日(木)  
19時～21時



## Day & Time Table “SCKD35”

Day 1, WED, 5-June-2019 11:00 – 18:20	Day 2, THU, 6-June-2019 9:30 – 18:25	Day 3, FRI, 7-June-2019 9:30 – 12:10
<b>10:15 –</b> Open registration desk	<b>9:30 – 11:00</b> Chair: FUSHITANI, Mizuho <b>2A1</b> ANDO, Toshiaki <b>2A2</b> HIROI, Takashi <b>S3</b> TERASAKI, Akira	<b>9:30 – 11:00</b> Chair: NAKAJIMA, Atsushi <b>3A1</b> ISHIZUKA, Shinnosuke <b>3A2</b> TAKAJO, Daisuke <b>S6</b> WATANABE, Naoki
<b>11:00 – 11:50</b> Chair: AKASE, Dai <b>1A1</b> KAWAI, Shinnosuke <b>1A2</b> MATSUGI, Akira	11:00 – 11:20 Coffee break <b>11:20 – 12:25</b> Chair: HORIO, Takuya <b>2A3</b> SAYAMA, Atsushi <b>S4</b> WANG, Chia-Chen	11:00 – 11:20 Coffee break <b>11:20 – 12:10</b> Chair: ITAKURA, Ryuji <b>3A3</b> FUSHITANI, Mizuho <b>3A4</b> ADACHI, Shunsuke
11:50 – 13:20 Lunch time	12:25 – 13:45 Lunch time	
<b>13:20 – 14:50</b> Chair: OHSHIMA, Yasuhiro <b>1A3</b> MURAMATSU, Satoru <b>1A4</b> NAKATA, Hiroyuki <b>S1</b> ASVANY, Oskar	<b>13:45 – 15:45</b> Poster presentation, Day 2 <b>2P1 - 2P36</b>	
<b>14:50 – 16:50</b> Poster presentation, Day 1 <b>1P1 - 1P36</b>	<b>15:45 – 16:35</b> Chair: YAMAZAKI, Masakazu <b>2A4</b> SUZUKI, Toshinori <b>2A5</b> TAKAKU, Yurika 16:35 – 16:55 Coffee break	
<b>16:50 – 18:20</b> Chair: NANBU, Shinkoh <b>S2</b> NAKAI, Hiromi <b>1A5</b> YU, Le <b>1A6</b> TSUTSUMI, Takuro	<b>16:55 – 18:25</b> Chair: HONMA, Kenji <b>S5</b> ORR-EWING, Andrew J. <b>2A6</b> NOJIMA, Yuki <b>2A7</b> HAMA, Tetsuya	
	<b>19:00 – 21:00</b> Banquet at Saijo HAKUWA Hotel	

## 35th Symposium on Chemical Kinetics and Dynamics

### Invited lecture: (40 min, including discussion)

- S1** "High-resolution spectroscopy of weakly bound Helium-cation complexes"  
ASVANY, Oskar (Cologne University, Germany)  
June 5, 14:10 - 14:50
- S2** "Theoretical analyses of condensed-phase chemical reactions based on divide-and-conquer density-functional tight-binding molecular dynamics (DC-DFTB-MD) simulations"  
NAKAI, Hiromi (Waseda University, Japan)  
June 5, 16:50 - 17:30
- S3** "Evaporative cooling of liquid droplets in a vacuum"  
TERASAKI, Akira (Kyushu University, Japan)  
June 6, 10:20 - 11:00
- S4** "Probing the structures and reaction kinetics of aerosols via electronic and vibrational spectroscopy approaches"  
WANG, Chia-Chen (National Sun Yat-sen University, Taiwan)  
June 6, 11:45 - 12:25
- S5** "Ultrafast transient absorption spectroscopy of photochemical dynamics in solution"  
ORR-EWING, Andrew J. (University of Bristol, U.K.)  
June 6, 16:55 - 17:35
- S6** "Behavior of OH radical on an ice surface at low temperatures"  
WATANABE, Naoki (Hokkaido University, Japan)  
June 7, 10:20 - 11:00

### Oral presentation: (15 min talk with 10 min discussion)

- 1A1 – 1A6      June 5  
2A1 – 2A7      June 6  
3A1 – 3A4      June 7

### Poster presentation: (120 min)

- 1P1 – 1P36      June 5, 14:50 - 16:50  
2P1 – 2P36      June 6, 13:45 - 15:45

## Day 1: June 5 (Wed.)

**11:00 – 11:50 (Chair: AKASE, Dai)**

**11:00 1A1** Environmental coordinates in the structural dynamics of a dipeptide

KAWAI, Shinnosuke

(Shizuoka University)

**11:25 1A2** Third-body effects in thermal unimolecular reactions

MATSUGI, Akira

(AIST)

**11:50 – 13:20 Lunch time**

**13:20 – 14:50 (Chair: OHSHIMA, Yasuhiro)**

**13:20 1A3** Laser spectroscopy of tetracyanoquinodimethane (TCNQ) isolated in a cold free-jet: unusually long  $S_1$  lifetime and its energy dependence

MURAMATSU, Satoru<sup>1</sup>; CHAKI, Nobumasa<sup>1</sup>; IIDA, Yuji<sup>1</sup>; KENJO, Seiya<sup>1</sup>; INOKUCHI, Yoshiya<sup>1</sup>; IIMORI, Toshifumi<sup>2</sup>; EBATA, Takayuki<sup>1</sup>

(<sup>1</sup>Hiroshima University, <sup>2</sup>Muroran Institute of Technology)

**13:45 1A4** Coordination-specific photoelimination of carbonyl and nitrosyl ligands in transition-metal complex

NAKATA, Hiroyuki; NAGAMORI, Keigo; HAZE, Misato; YAMASAKI, Katsuyoshi; KOHTSUCHI, Hiroshi

(Hiroshima University)

**14:10 S1** High-resolution spectroscopy of weakly bound Helium-cation complexes

ASVANY, Oskar

(Cologne University, Germany)

**14:50 – 16:50 Poster presentation, Day 1 (1P1 – 1P36)**

**16:50 – 18:20 (Chair: NANBU, Shinkoh)**

**16:50 S2** Theoretical analyses of condensed-phase chemical reactions based on divide-and-conquer density-functional tight-binding molecular dynamics (DC-DFTB-MD) simulations

NAKAI, Hiromi

(Waseda University)

**17:30 1A5** Ab initio nonadiabatic molecular dynamics study on the photodissociation of acetone at 195 nm

YU, Le; TAKAHASHI, Masahiko

(IMRAM, Tohoku University)

**17:55 1A6** From static to dynamic picture: elucidation of dynamics effects from on-the-fly trajectory analyses

TSUTSUMI, Takuro<sup>1</sup>; ONO, Yuriko<sup>2</sup>; ARAI, Zin<sup>3</sup>; TAKETSUGU, Tetsuya<sup>1,2,4</sup>

(<sup>1</sup>Graduate School of Chemical Sciences and Engineering, Hokkaido University, <sup>2</sup>Institute for Chemical Reaction Design and Discovery (WPI-ICReDD), Hokkaido University,

<sup>3</sup>Academy of Emerging Sciences, Chubu University, <sup>4</sup>Department of Chemistry, Faculty of Science, Hokkaido University)

## Day 2: June 6 (Thu.)

**9:30 – 11:00 (Chair: FUSHITANI, Mizuho)**

**9:30 2A1** Enhancement and modulation of the  $B^2\Sigma_u^+ - X^2\Sigma_g^+$  lasing of  $N_2^+$  at 391 nm by the  $A^2\Pi_u - X^2\Sigma_g^+$  pumping using intense near-IR few-cycle laser pulses

ANDO, Toshiaki<sup>1</sup>; LÖTSTEDT, Erik<sup>1</sup>; IWASAKI, Atsushi<sup>1</sup>; LI, Helong<sup>2</sup>; FU, Yao<sup>2</sup>; WANG, Siqi<sup>2</sup>; XU, Huailiang<sup>2,3</sup>; YAMANOUCHI, Kaoru<sup>1</sup>

(<sup>1</sup>The University of Tokyo, <sup>2</sup>Jilin University, <sup>3</sup>East China Normal University)

**9:55 2A2** Electron impact excitation spectroscopy of excited  $H_2$  molecule

HIROI, Takashi<sup>1</sup>; MORIMOTO, Yuya<sup>2,3</sup>; KANYA, Reika<sup>1</sup>; YAMANOUCHI, Kaoru<sup>1</sup>

(<sup>1</sup>School of Science, The University of Tokyo, <sup>2</sup>Ludwig Maximilian University of Munich, <sup>3</sup>Max-Planck-Institute of Quantum Optics)

**10:20 S3** Evaporative cooling of liquid droplets in a vacuum

TERASAKI, Akira

(Kyushu University)

**11:00 – 11:20 Coffee break**

**11:20 – 12:25 (Chair: HORIO, Takuya)**

**11:20 2A3** Anion species dependence of solvent molecular orientation at an electrode / electrolyte solution interface

SAYAMA, Atsushi<sup>1,2</sup>; NIHONYANAGI, Satoshi<sup>1,3</sup>; OHSHIMA, Yasuhiro<sup>2</sup>; TAHARA, Tahei<sup>1,2,3</sup>

(<sup>1</sup>Molecular Spectroscopy Laboratory, RIKEN, <sup>2</sup>Department of Chemistry, Tokyo Institute of Technology, <sup>3</sup>Ultrafast Spectroscopy Research Team, RIKEN Center for Advanced Photonics (RAP))

**11:45 S4** Probing the structures and reaction kinetics of aerosols via electronic and vibrational spectroscopy approaches

WANG, Chia-Chen

(National Sun Yat-sen University, Taiwan)

**12:25 – 13:45 Lunch time**

**13:45 – 15:45 Poster presentation, Day 2 (2P1 – 2P36)**



**15:45 – 16:35 (Chair: YAMAZAKI, Masakazu)**

**15:45 2A4** Solvated electron formation from conduction band of liquid methanol  
YAMAMOTO, Yoichi; SUZUKI, Toshinori  
(Kyoto University)

**16:10 2A5** Non-adiabatic *ab initio* molecular dynamics on ultra-violet photodissociation of methylamine  
TAKAKU, Yurika; NANBU, Shinkoh  
(Sophia University)

**16:35 – 16:55 Coffee break**

**16:55 – 18:25 (Chair: HONMA, Kenji)**

**16:55 S5** Ultrafast transient absorption spectroscopy of photochemical dynamics in solution  
ORR-EWING, Andrew J.  
(University of Bristol, U.K.)

**17:35 2A6** H-up proton order at ice I<sub>h</sub> surface revealed by heterodyne-detected sum frequency generation spectroscopy and theoretical modeling  
NOJIMA, Yuki<sup>1</sup>; TORII, Hajime<sup>2</sup>; YAMAGUCHI, Shoichi<sup>1</sup>  
(<sup>1</sup>Saitama University, <sup>2</sup>Shizuoka University)

**18:00 2A7** Liquid-like behavior of water ice induced by vacuum ultraviolet irradiation at low temperatures  
HAMA, Tetsuya<sup>1</sup>; TACHIBANA, Shogo<sup>2</sup>; KOUCHI, Akira<sup>1</sup>; OBA, Yasuhiro<sup>1</sup>; PIANI, Laurette<sup>3</sup>; HIDAKA, Hiroshi<sup>1</sup>; KIMURA, Yuki<sup>1</sup>; MURATA, Ken-ichiro<sup>1</sup>; YURIMOTO, Hisayoshi<sup>4,5</sup>; WATANABE, Naoki<sup>1</sup>  
(<sup>1</sup>Institute of Low Temperature Science, Hokkaido University, <sup>2</sup>Department of Earth and Planetary Science, The University of Tokyo, <sup>3</sup>Centre de Recherches Pétrographiques et Géochimiques, France, <sup>4</sup>Department of Natural History Sciences, Hokkaido University, <sup>5</sup>Japan Aerospace Exploration Agency)

**18:30 – Transportation by BUS**

**19:00 – 21:00 Banquet at Saijo HAKUWA Hotel**

## Day 3: June 7 (Fri.)

9:30 – 11:00 (Chair: NAKAJIMA, Atsushi)

9:30 3A1 Interface-specific reaction pathways of monoterpene carbocations  
ISHIZUKA, Shimosuke<sup>1</sup>; MATSUGI, Akira<sup>2</sup>; HAMA, Tetsuya<sup>3</sup>; ENAMI, Shinichi<sup>1</sup>

(<sup>1</sup>National Institute for Environmental Studies, <sup>2</sup>National Institute of Advanced Industrial Science and Technology, <sup>3</sup>Institute of Low Temperature Science, Hokkaido University)

9:55 3A2 Mechanism of chain polymerization in self-assembled monolayers of diacetylene on graphite surface

TAKAJO, Daisuke; SUDOH, Koichi  
(Osaka University)

10:20 S6 Behavior of OH radical on an ice surface at low temperatures

WATANABE, Naoki  
(Hokkaido University)

11:00 – 11:20 Coffee break

11:20 – 12:10 (Chair: ITAKURA, Ryujii)

11:20 3A3 Electron-ion coincidence spectroscopy of Xe 4d double-core-hole states in strong XUV-FEL fields

FUSHITANI, Mizuho<sup>1,2</sup>; SASAKI, Yuma<sup>1</sup>; KAWABE, Yoshitaka<sup>1</sup>; FUJISE, Hikaru<sup>1</sup>;  
HASHIGAYA, Kasumi<sup>1</sup>; MATSUDA, Akiaka<sup>1</sup>; OWADA, Shigeki<sup>2</sup>; TOGASHI,  
Tadashi<sup>2,3</sup>; NAKAJIMA, Kyo<sup>3</sup>; YABASHI, Makina<sup>2,3</sup>; HIKOSAKA, Yasumasa<sup>2,4</sup>,  
HISHIKAWA, Akioyoshi<sup>1,2</sup>

(<sup>1</sup>Nagoya Univ., <sup>2</sup>RIKEN, Spring-8 Center, <sup>3</sup>JASRI, <sup>4</sup>Univ. of Toyama)

11:45 3A4 Non-adiabatic dynamics of benzene and its methyl derivatives studied by vacuum-UV time-resolved photoelectron spectroscopy

ADACHI, Shunsuke; SUZUKI, Takuya; KUDO, Shotaro; SUZUKI, Toshinori  
(Kyoto University)

## Poster Presentation

\*Candidate for the Best Poster Prize

### Day 1: June 5 (Wed.) 14:50 – 16:50

- 1P1** Dissociative ionization of O<sub>2</sub> via B<sup>2</sup>Σ<sub>g</sub><sup>+</sup> and 3<sup>2</sup>Π<sub>u</sub> states of O<sub>2</sub><sup>+</sup> induced by intense XUV attosecond pulse trains  
FUKAHORI, Shinichi<sup>1,2</sup>; MATSUBARA, Takuya<sup>1,2</sup>; NABEKAWA, Yasuo<sup>2</sup>;  
YAMANOUCHI, Kaoru<sup>1</sup>; MIDORIKAWA, Katsumi<sup>2</sup>  
(<sup>1</sup>Department of Chemistry, School of Science, The University of Tokyo, <sup>2</sup>Attosecond Science Research Team, RIKEN Center for Advanced Photonics)
- 1P2** VUV waveform characterization by reflectivity depletion in laser ablation of Si  
ITAKURA, Ryuji; AKAGI, Hiroshi; OTOBE, Tomohito  
(Kansai Photon Science Institute, QST)
- 1P3\*** Three-dimensional molecular frame momentum distribution of tunneling electrons from O<sub>2</sub> in intense laser fields  
IKEYA, Daimu<sup>1</sup>; FUJISE, Hikaru<sup>1</sup>; NAKAMURA, Takeru<sup>1</sup>; MATSUDA, Akitaka<sup>1</sup>;  
FUSHITANI, Mizuho<sup>1</sup>; HISHIKAWA, Akiyoshi<sup>1,2</sup>  
(<sup>1</sup>Nagoya University, <sup>2</sup>Research Center for Materials Science)
- 1P4** Coulomb explosion method for determination of bond lengths of homonuclear diatomic species  
EGASHIRA, Kazuhiro  
(Genesis Research Institute, Inc.)
- 1P5** Time-resolved photoelectron spectroscopy of acetone with 9.3 eV photoexcitation  
HORIO, Takuya; UENISHI, Ryuta; FUKUOKA, Kanae; YAMAMOTO, Yo-ichi;  
SUZUKI, Toshinori  
(Kyoto University)
- 1P6\*** Control of large amplitude vibration and rotation of biphenyl and its derivatives by ultrashort laser pulses  
NIKAIDO, Makoto; MIZUSE, Kenta; OHSHIMA, Yasuhiro  
(Tokyo Institute of Technology)
- 1P7\*** Inner structures and molecular dynamics simulation of plastic crystal  
IKUTA, Yusuke<sup>1</sup>; ISHIHARA, Koki<sup>1</sup>; ISHIMOTO, Syuichi<sup>2</sup>; KUBOTA, Satoshi<sup>2</sup>;  
FUJITA, Masahiro<sup>1</sup>; NANBU, Shinkoh<sup>1</sup>  
(<sup>1</sup>Graduate School of Science and Engineering, Sophia University, <sup>2</sup>Nippon Chemi-Con Corporation)

- 1P8\*** Reaction pathways and dynamical effects on the  $\text{CF}_3^+ + \text{CO}$  collision reaction  
ODA, Kohei<sup>1</sup>; TSUTSUMI, Takuro<sup>1</sup>; FURUYA, Kenji<sup>2</sup>; TAKETSUGU, Tetsuya<sup>1,3,4</sup>  
 (<sup>1</sup>Graduate School of Chemical Sciences and Engineering, Hokkaido University, <sup>2</sup>Faculty of Arts and Science, Kyushu University, <sup>3</sup>Department of Chemistry, Faculty of Science, Hokkaido University, <sup>4</sup>Institute for Chemical Reaction Design and Discovery (WPI-ICReDD), Hokkaido University)
- 1P9** Nonadiabatic ab initio molecular dynamics of photoisomerization reaction between 1,3-cyclohexadiene and 1,3,5-cis-hexatriene  
MORIWAKI, Kenta; OHTA, Ayumi; KOBAYASHI, Osamu; NANBU, Shinkoh  
 (Sophia University)
- 1P10\*** Theoretical study of olefin polymerization process by (pyridylamido)hafnium(IV) catalyst using computational chemical methods  
MISAWA, Nana<sup>1</sup>; SUZUKI, Yuichi<sup>1</sup>; NAGAOKA, Masataka<sup>1,2</sup>  
 (<sup>1</sup>Nagoya University, <sup>2</sup>CREST/JST)
- 1P11\*** Investigation of the energy levels of quantum dots simulated with a well potential: Investigation of the external electric field effect  
NAKAMURA, Ibuki; FUJISAKA, Hisato; FUKUSHIMA, Masaru  
 (Faculty of Information Sciences, Hiroshima City University)
- 1P12\*** Rate coefficients and the mechanism of quenching of electronically excited  $\text{S}(3p^34p^3P)$  by collisions with He and  $\text{N}_2$   
KAWABATA, Daigo; TENDO, Shogo; SHIN, Jongsik; KOHOUCHI, Hiroshi; YAMASAKI, Katsuyoshi  
 (Hiroshima Univ.)
- 1P13** ESR spectral change in L-alanine-3,3,3-d<sub>3</sub> and L-alanine-d<sub>4</sub> -A new pathway to produce the de-hydrogen radical-  
NAKAGAWA, Seiko  
 (Tokyo Metropolitan Industrial Technology Research Institute)
- 1P14\*** Two-photon absorption of  $\text{Br}(4p^45p \leftarrow 4p^5)$  detected with infrared and vacuum ultraviolet emission  
TENDO, Shogo; NISHIMURA, Ayaka; KOHOUCHI, Hiroshi; YAMASAKI, Katsuyoshi  
 (Hiroshima Univ.)
- 1P15\*** The photochemical reactions of aromatic compounds with carbon tetrahalides ( $\text{CCl}_4$ ,  $\text{CBr}_4$ )  
ADACHI, Leo; WATANABE, Akihiro  
 (KOBE City College of Technology)

- 1P16\*** Effect of central metal on NO photoelimination reactions of  $(\eta^5\text{-C}_5\text{H}_5)\text{M}(\text{CO})_2\text{NO}$  (M = Cr, Mo, W)  
NAGAMORI, Keigo; NAKATA, Hiroyuki; HAZE, Misato; MATSUGI, Takeru; MIZUTA, Tsutomu; YAMASAKI, Katsuyoshi; KOHGUCHI, Hiroshi  
 (Hiroshima University)
- 1P17\*** Visible photodissociation of  $(\text{NO})_{2,3}^+$  studied by ion imaging and theoretical calculations  
ITO, Yuri; NAKASHIMA, Yuji; OKUTSU, Kenichi; NAKANO, Motoyoshi; OHSHIMO, Keiji; MISAIZU, Fuminori  
 (Tohoku University)
- 1P18** Photodissociation dynamics of oriented halothane  
CHE, Dock-Chil<sup>1</sup>; NAKAMURA, Masaaki<sup>2</sup>; LIN, King-Chuen<sup>2</sup>; KASAI, Toshio<sup>2</sup>; PALAZETTI, Federico<sup>3</sup>; AQUILANTI, Vincenzo<sup>3</sup>  
 (<sup>1</sup>Osaka University, <sup>2</sup>National Taiwan University, <sup>3</sup>Perugia University)
- 1P19\*** Photodissociation dynamics study of dimethylamine: CH<sub>3</sub> product detection and theoretical calculations  
WANGCHINGCHAI, Peerapat; ONITSUKA, Yuuki; YAMASAKI, Katsuyoshi; KOHGUCHI, Hiroshi  
 (Hiroshima University)
- 1P20** Melting proteins in microdroplets induced by laser heating  
HONMA, Kenji<sup>1</sup>; WOODALL, Daniel W.<sup>2</sup>; CLEMMER, David E.<sup>2</sup>  
 (<sup>1</sup>Graduate School of Material Science, University of Hyogo, <sup>2</sup>Department of Chemistry, Indiana University)
- 1P21\*** Cluster effect on inclusion complexation of tetraalkylammonium chlorides with cucurbit[7]uril  
MATSUMOTO, Yuki; SUEISHI, Yoshimi  
 (Okayama University)
- 1P22\*** Impact of atmospheric water vapor on the kinetics of thermal decomposition of Mg(OH)<sub>2</sub>  
KODANI, Satoki; IWASAKI, Shun; KOGA, Nobuyoshi  
 (Hiroshima University)
- 1P23** Rotational perturbation in the excited <sup>1</sup>Π<sub>u</sub> electronic state of SiOSi  
FUKUSHIMA, Masaru; ISHIWATA, Takashi  
 (Hiroshima City Univ.)
- 1P24\*** Development of a laser photolysis / continuous wave cavity ring-down spectrometer for kinetics measurements  
YONEYAMA, Kazuki; JINDO, Tsukasa; TAGUCHI, Ko; KANNO, Nozomu  
 (Meijo University)

- 1P25** High-resolution laser spectroscopy of A-X transition of nitrogen dioxide  
KASAHARA, Shunji<sup>1</sup>; YOSHIKAWA, Takumi<sup>1</sup>; HIRATA, Michihiro<sup>1</sup>; TADA, Kohei<sup>2</sup>  
 (<sup>1</sup>Kobe University, <sup>2</sup>Kyoto University)
- 1P26\*** UV Spectroscopy of cold Ag<sup>+</sup>-benzo-crown ether complexes in the gas phase  
KITAMURA, Yuma; MURAMATSU, Satoru; EBATA, Takayuki; INOKUCHI, Yoshiya  
 (Hiroshima University)
- 1P27** Electronic spectra of jet-cooled Imidazo[1,2-*a*]pyridine and its hydrogen-bonded clusters  
YAMADA, Yuji; MAEDA, Miku; NIBU, Yoshinori  
 (Fukuoka University)
- 1P28** Topologically distinct isomers of hydrogen-bonded clusters represented by digraphs  
AKASE, Dai<sup>1,2</sup>; AIDA, Misako<sup>1,2</sup>  
 (<sup>1</sup>Hiroshima University, <sup>2</sup>QuLiS)
- 1P29** Two-dimensional correlation IR spectroscopy of pyrrole-acetone binary large clusters  
MATSUMOTO, Yoshiteru  
 (Shizuoka University)
- 1P30\*** SEIRA spectroscopic study of lanthanide complexes with bis(4-mercaptobutyl)phosphinic acid  
HIRATA, Sakiko<sup>1</sup>; HIRAO, Takehiro<sup>1</sup>; HAINO, Takeharu<sup>1</sup>; KAJIYA, Daisuke<sup>1,2</sup>;  
 SAITOW, Ken-ichi<sup>1,2</sup>; MURAMATSU, Satoru<sup>1</sup>; EBATA, Takayuki<sup>1</sup>; INOKUCHI,  
 Yoshiya<sup>1</sup>  
 (<sup>1</sup>Hiroshima University, <sup>2</sup>Natural Science Center for Basic Research and Development (N-  
 BARD))
- 1P31** Probing the molecular structure of the intact leaf cuticle by polarization modulation-  
 infrared reflection-absorption spectroscopy  
HAMA, Tetsuya<sup>1</sup>; SEKI, Kousuke<sup>2</sup>; ISHIBASHI, Atsuki<sup>1</sup>; MIYAZAKI, Ayane<sup>1</sup>;  
 KOUCHI, Akira<sup>1</sup>; WATANABE, Naoki<sup>1</sup>; SHIMOAKA, Takafumi<sup>3</sup>; HASEGAWA,  
 Takeshi<sup>3</sup>  
 (<sup>1</sup>Institute of Low Temperature Science, Hokkaido University, <sup>2</sup>Nagano Vegetable and  
 Ornamental Crops Experiment Station, <sup>3</sup>Institute for Chemical Research, Kyoto  
 University)
- 1P32\*** Dissociation pathway of methylbenzoate dication following core excitation: Analysis  
 using graph theory  
FUTAMATA, Nozomu; TAKAHASHI, Osamu  
 (Hiroshima University)

- 1P33\*** Ion desorption measurement using pulsed HV-type TOF mass spectrometer at HiSOR  
YAMAMOTO, Kamon<sup>1</sup>; HIKOSAKA, Yasumasa<sup>2</sup>; WADA, Shin-ichi<sup>1,3</sup>  
(<sup>1</sup>Department of Physical Science, Hiroshima University, <sup>2</sup>Institute of Liberal Arts and Sciences, University of Toyama, <sup>3</sup>HSRC, Hiroshima University)
- 1P34\*** X-ray emission spectroscopy of aqueous 1-propanol solutions  
AKIHIRO, Kento<sup>1,2</sup>; TAKAHASHI, Osamu<sup>1,2</sup>; YAMAMURA, Ryota<sup>1,2</sup>; HUTAMATA, Nozomu<sup>1,2</sup>; OURA, Masaki<sup>2</sup>; HORIKAWA, Yuka<sup>2,3</sup>  
(<sup>1</sup>Hiroshima University, <sup>2</sup>Riken, <sup>3</sup>Yamaguchi University)
- 1P35\*** Study on electronic states of inclusion compounds with cyclodextrin and copper ion  
NAKAMURA, Yoshihiko<sup>1</sup>; NOBUE, Ryuta<sup>1</sup>; YOSHIDA, Hiroaki<sup>1,2</sup>  
(<sup>1</sup>Department of Physical Science, Hiroshima University, <sup>2</sup>Hiroshima Synchrotron Radiation Center, Hiroshima University)
- 1P36** Development of a delay pulse generator  
TOYODA, Tomonori<sup>1</sup>; CHIBA, Hisashi<sup>2</sup>; TAKEI, Nobuyuki<sup>1,3</sup>; OHMORI, Kenji<sup>1</sup>  
(<sup>1</sup>Institute for Molecular Science, <sup>2</sup>Iwate University, <sup>3</sup>Kyoto University)

## Day 2: June 6 (Wed.) 13:45 – 15:45

- 2P1** Oxidation mechanism of PAHs in gas phase: naphthalene and related intermediate  
KIKKAWA, Koudai<sup>1</sup>; MURAKAMI, Yoshinori<sup>2</sup>; OGUCHI, Tatsuo<sup>1</sup>  
(<sup>1</sup>Toyohashi Univ. of Tech., <sup>2</sup>Natl. Inst. of Tech., Nagaoka Col.)
- 2P2** Pyrolysis of CH<sub>3</sub>I behind reflected shock waves  
YASUNAGA, Kenji<sup>1</sup>; MURAKAMI, Yoshinori<sup>2</sup>; SUGITANI, Yasuki<sup>1</sup>; YAMADA, Hiroshi<sup>1</sup>  
(<sup>1</sup>National Defense Academy of Japan, <sup>2</sup>National Institute of technology, Nagaoka College)
- 2P3\*** High temperature combustion modeling of unsymmetrical dimethylhydrazine  
HASHIMOTO, Keita; KANNO, Nozomu  
(Meijo University)
- 2P4\*** Algebraic geometric analysis of chemical reaction based on anharmonic downward distortion  
EBISAWA, Shuichi<sup>1</sup>; TSUTSUMI, Takuro<sup>1</sup>; TAKETSUGU, Tetsuya<sup>1,2,3</sup>  
(<sup>1</sup>Graduate School of Chemical Science and Engineering, Hokkaido University, <sup>2</sup>Department of Chemistry, Faculty of Science, Hokkaido University, <sup>3</sup>Institute for Chemical Reaction Design and Discovery (WPI-ICReDD), Hokkaido University)
- 2P5\*** Structure search of two-dimensional silicon using the generalized scaled hypersphere search method with the rapid nuclear motion approximation  
MIDORO, Yuuki<sup>1</sup>; KODAYA, Yoshitomo<sup>1</sup>; YAMAKADO, Hideo<sup>1</sup>; OHNO, Koichi<sup>2,3</sup>  
(<sup>1</sup>Wakayama University, <sup>2</sup>Institute for Quantum Chemical Exploration, <sup>3</sup>Tohoku University)
- 2P6\*** *Ab initio* dynamics study on the excited-state intramolecular proton transfer and dissociation of *ortho*-nitrophenol  
WADA, Sato<sup>1</sup>; TSUTSUMI, Takuro<sup>1</sup>; NITTA, Yuuki<sup>2</sup>; SEKIKAWA, Taro<sup>2</sup>; TAKETSUGU, Tetsuya<sup>1,3,4</sup>  
(<sup>1</sup>Graduate School of Chemical Sciences and Engineering, Hokkaido University, <sup>2</sup>Department of Applied Physics, Faculty of Engineering, Hokkaido University, <sup>3</sup>Department of Chemistry, Faculty of Science, Hokkaido University, <sup>4</sup>Institute for Chemical Reaction Design and Discovery (WPI-ICReDD), Hokkaido University)
- 2P7\*** Development of atomic momentum spectroscopy using a pulsed electron technique for real-time observation of atomic motion in a reacting molecule  
TACHIBANA, Yuichi<sup>1</sup>; YAMAZAKI, Masakazu<sup>2</sup>; TAKAHASHI, Masahiko<sup>1</sup>  
(<sup>1</sup>Tohoku University, <sup>2</sup>Tokyo Institute of Technology)



- 2P8\*** Photoelectron Angular Distributions of gas phase molecule in terms of Multiple-Scattering theory  
OTA, Fukiko<sup>1</sup>; SÉBILLEAU, Didier<sup>3</sup>; NAKATANI, Naoki<sup>4</sup>; YAMAZAKI, Kaoru<sup>5</sup>; UEDA, Kiyoshi<sup>6</sup>; HATADA, Keisuke<sup>2</sup>  
 (<sup>1</sup>Graduate School of Science and Engineering for Education, University of Toyama, <sup>2</sup>Faculty of Science, University of Toyama, <sup>3</sup>Département Matériaux Nanosciences, IPR, UMR UR1-CNRS 6251, Université Rennes, <sup>4</sup>Graduate School of Science and Engineering, Tokyo Metropolitan University, <sup>5</sup>Institute for Materials Research, Tohoku University, <sup>6</sup>Institute of Multidisciplinary Research for Advanced Materials, Tohoku University)
- 2P9\*** Spatiotemporal observation of the hyperfine depolarization in NO ( $A^2\Sigma^+$ )  
IKEDA, Dai; MIZUSE, Kenta; OHSIMA, Yasuhiro  
 (Tokyo Institute of Technology)
- 2P10\*** State distribution of CH<sub>3</sub> and HCO products in ultraviolet photodissociation of N,N-dimethylformamide  
SHINOHARA, Ryo; INOUE, Kosuke; YAMASAKI, Katsuyoshi; KOHOUCHI, Hiroshi  
 (Hiroshima University)
- 2P11\*** Are entangled atom-pairs produced in photodissociation of H<sub>2</sub> ?  
TORIZUKA, Yutaro<sup>1</sup>; HOSAKA, Kouich<sup>1</sup>; SCHMIDT, Philipp<sup>2</sup>; ODAGIRI, Takeshi<sup>3</sup>; KNIE, Andre<sup>2</sup>; EHRESMANN, Arno<sup>2</sup>; KOUGO, Ryoko<sup>1</sup>; KITAJIMA, Masashi<sup>1</sup>; KOUCHI, Noriyuki<sup>1</sup>  
 (<sup>1</sup>Department of Chemistry, Tokyo Institute of Technology, <sup>2</sup>Institute of Physics University of Kassel, <sup>3</sup>Department of Materials and Life Sciences, Sophia University)
- 2P12\*** Photoelimination reaction dynamics of CO and NO from ( $\eta^5$ -C<sub>5</sub>H<sub>5</sub>)W(CO)<sub>2</sub>NO  
HAZE, Misato; NAKATA, Hiroyuki; NAGAMORI, Keigo; MATSUGI, Takeru; MIZUTA, Tsutomu; YAMASAKI, Katsuyoshi; KOHOUCHI, Hiroshi  
 (Graduate School of Science, Hiroshima University)
- 2P13\*** Elucidation of exceptional electrocyclic reaction dynamics of a dithiazolylarylene derivative  
NAGASAKA, Tatsuhiro<sup>1</sup>; SOTOME, Hikaru<sup>1</sup>; SEI, Ryosuke<sup>1</sup>; KAWAI, Tsuyoshi<sup>2</sup>; MIYASAKA, Hiroshi<sup>1</sup>  
 (<sup>1</sup>Osaka University, <sup>2</sup>Nara Institute of Science and Technology)

- 2P14\*** Study on nonradiative decay process and *trans*→*cis* photoisomerization of the most simple cinnamate  
KINOSHITA, Shin-nosuke<sup>1</sup>; INOKUCHI, Yoshiya<sup>1</sup>; NAGAMORI, Keigo<sup>1</sup>; NAKATA, Hiroyuki<sup>1</sup>; ONITSUKA, Yuuki<sup>1</sup>; KOHGUCHI, Hiroshi<sup>1</sup>; AKAI, Nobuyuki<sup>2</sup>; SHIRAOGAWA, Takafumi<sup>3,4</sup>; EHARA, Masahiro<sup>3,4</sup>; YAMAZAKI, Kaoru<sup>5</sup>; HARABUCHI, Yu<sup>6,7</sup>; MAEDA, Satoshi<sup>6</sup>; TAKETSUGU, Tetsuya<sup>6</sup>; EBATA, Takayuki<sup>1</sup>  
 (<sup>1</sup>Hiroshima Univ., <sup>2</sup>Tokyo Univ. of A & T, <sup>3</sup>IMS, <sup>4</sup>SOKENDAI, <sup>5</sup>Tohoku Univ., <sup>6</sup>Hokkaido Univ., <sup>7</sup>JST-Presto)
- 2P15** Formation of closed-shell sodium oxide cluster cations investigated by ion mobility mass spectrometry  
NAKANO, Motoyoshi; ISHIMURA, Yudai; HOTTA, Riki; HEBIGUCHI, Daiki; NAGATA, Toshiaki; MISAIZU, Fuminori  
 (Tohoku University)
- 2P16** Real-time probing of ultrafast dissociation dynamics of electronically excited N<sub>2</sub><sup>+</sup> created by high-order harmonics of near-IR femtosecond laser pulses  
YAMADA, Kana; ANDO, Toshiaki; IWASAKI, Atsushi; YAMANOUCHI, Kaoru  
 (The University of Tokyo)
- 2P17\*** Asymmetric fragmentation of CH<sub>4</sub> in phase-locked two-color intense laser fields  
HASEGAWA, Hiroka<sup>1</sup>; FUJISE, Hikaru<sup>1</sup>; MATSUDA, Akitaka<sup>1</sup>; HISHIKAWA, Akiyoshi<sup>1,2</sup>  
 (<sup>1</sup>Nagoya university, <sup>2</sup>RCMS)
- 2P18** Excited-state populations of laser-driven He by multiconfiguration time-dependent Hartree-Fock method  
LÖTSTEDT, Erik<sup>1</sup>; SZIDAROVSKY, Tamás<sup>2</sup>; FAISAL, Farhad H. M.<sup>3</sup>; KATO, Tsuyoshi<sup>1</sup>; YAMANOUCHI, Kaoru<sup>1</sup>  
 (<sup>1</sup>The University of Tokyo, <sup>2</sup>Eötvös Loránd University, <sup>3</sup>Bielefeld University)
- 2P19** Time-resolved reflection spectroscopy of liquid-sheet jet of water excited by intense laser pulses  
ENDO, Tomoyuki; TSUBOUCHI, Masaaki; ITAKURA, Ryuji  
 (QST-KPSI)
- 2P20** Study on initial dissolution dynamics of CO<sub>2</sub> at the gas-liquid interface by using an ionic liquid beam  
OHOYAMA, Hiroshi; TERAMOTO, Takahiro  
 (Osaka University)

- 2P21\*** Selective observation of multicolor multistep photoisomerization reaction in laser excitation  
KISHI, Yuuya; WADA, Akihide  
 (Kobe University)
- 2P22** Kinetic evaluation of antioxidant activities of olive extract and its components against reactive oxygen species by using ESR spin-trapping method  
NII, Risako; SUEISHI, Yoshimi  
 (Graduate School of Natural Science and Technology, Okayama University)
- 2P23** Temperature dependence of the current-voltage characteristics of organic solar cells  
 TAKUMA, Katsunari; WATAI, Ryohei; FUJIYA, Takumu; HIGASHIMURA, Ayano;  
MITSUKE, Koichiro  
 (Josai Univ. Fac. Sci.)
- 2P24** Surface reactions of O<sub>2</sub> enhanced by subsurface argon nanobubbles at Pd(111)  
WATANABE, Kazuo; TANABE, Hiroki; HAYASHI, Kazutaka; HOSOI, Shun; HAMA, Naoki; YOKOTA, Yukie  
 (Tokyo University of Science)
- 2P25\*** Charge state dependence of oxidative reactivity for aluminum superatoms deposited on organic substrate  
INOUE, Tomoya<sup>1</sup>; SHIBUTA, Masahiro<sup>2</sup>; TSUNOYAMA, Hironori<sup>1</sup>; NAKAJIMA, Atsushi<sup>1,2</sup>  
 (<sup>1</sup>Keio University, <sup>2</sup>KIPAS)
- 2P26** H<sub>2</sub> formation on a low-temperature diamondlike carbon surface  
TSUGE, Masashi; HAMA, Tetsuya; KIMURA, Yuki; KOUCHI, Akira; WATANABE, Naoki  
 (Institute of Low Temperature Science, Hokkaido University)
- 2P27\*** Impact of atmospheric water vapor on the kinetics of the induction period of the thermal dehydration of lithium sulfate monohydrate  
YAMAMOTO, Yui<sup>1</sup>; FAVERGEON, Loic<sup>2</sup>; KOGA, Nobuyoshi<sup>1</sup>  
 (<sup>1</sup>Hiroshima University, <sup>2</sup>Mines Saint-Etienne)
- 2P28** Development of a new method for selective detection of RO<sub>x</sub> radicals and determination of radical yields  
KOHNO, Nanase<sup>1</sup>; LI, Jiaru<sup>1</sup>; ZHOU, Jun<sup>1</sup>; MURANO, Kentaro<sup>1</sup>; SAKAMOTO, Yosuke<sup>1,2</sup>; KAJII, Yoshizumi<sup>1,2</sup>  
 (<sup>1</sup>Kyoto University, <sup>2</sup>NIES)
- 2P29\*** Rate coefficients for vibrational relaxation of S<sub>2</sub>(X<sup>3</sup>Σ<sub>g</sub><sup>-</sup>) by collisions with He  
KOBAYASHI, Kei; TENDO, Shogo; KOHGUCHI, Hiroshi; YAMASAKI, Katsuyoshi  
 (Hiroshima Univ.)

- 2P30\*** The effects of solvents for the photochemical reactions of aromatics with carbon tetrachloride  
NAKAZAWA, Shinta; WATANABE, Akihiro  
 (KOBE City College of Technology)
- 2P31** Interpretation of toluene secondary aerosol yield curves by peroxy radical autoxidation chemistry  
SATO, Kei; MORINO, Yu; TANABE, Kiyoshi; IMAMURA, Takashi; RAMASAMY, Sathiyamurthi; FUSHIMI, Akihiro; ENAMI, Shinichi; INOMATA, Satoshi; TAKAMI, Akinori  
 (National Institute for Environmental Studies)
- 2P32\*** Rate coefficient for quenching of electronically excited O( $2p^33p^3P$ ) by collisions with He  
TANIMOTO, Yuki; TENDO, Shogo; KOHGUUCHI, Hiroshi; YAMASAKI, Katsuyoshi  
 (Hiroshima Univ.)
- 2P33** Extreme ultraviolet superfluorescence from helium ions  
HARRIES, James<sup>1</sup>; IWAYAMA, Hiroshi<sup>2</sup>; KUMA, Susumu<sup>3</sup>; OWADA, Shigeki<sup>3</sup>; INOUE, Ichiro<sup>3</sup>; TOGASHI, Tadashi<sup>4</sup>; IIZAWA, Masatomi<sup>5</sup>; SUZUKI, Norihiro<sup>5</sup>; AZUMA, Yoshiro<sup>5</sup>; SHIGEMASA, Eiji<sup>2</sup>  
 (<sup>1</sup>QST, <sup>2</sup>UVSOR/IMS, <sup>3</sup>RIKEN, <sup>4</sup>JASRI, <sup>5</sup>Sophia University)
- 2P34\*** Soft x-ray spectroscopy study of MIL-53(Al): insights into the breathing mechanism and the structure of confined water  
UGALINO, Ralph<sup>1</sup>; YAMAZOE, Kosuke<sup>1</sup>; MIYAWAKI, Jun<sup>1,2</sup>; CUI, Yi Tao<sup>1</sup>; KOSEGAWA, Yuka<sup>1</sup>; WATANABE, Ryusuke<sup>1</sup>; TSUKADA, Tomoyuki<sup>1</sup>; HARADA, Yoshihisa<sup>1,2</sup>  
 (<sup>1</sup>Department of Advanced Materials Science, The University of Tokyo, <sup>2</sup>Synchrotron Radiation Research Organization (SRRO), The University of Tokyo)
- 2P35\*** Site-selective soft X-ray emission study of carboxylic acids in aqueous solutions  
YAMAMURA, Ryouyuke<sup>1,2</sup>; SUENAGA, Taiga<sup>1,2</sup>; TOKUSHIMA, Takashi<sup>3</sup>; TAKAHASHI, Osamu<sup>1,2</sup>  
 (<sup>1</sup>Hiroshima University, <sup>2</sup>RIKEN SPring-8 Center, <sup>3</sup>Lund University)
- 2P36** Development of a NIM Module adaptor  
CHIBA, Hisashi<sup>1</sup>; TOYODA, Tomonori<sup>2</sup>; TAKEI, Nobuyuki<sup>2,3</sup>; OHMORI, Kenji<sup>2</sup>  
 (<sup>1</sup>Iwate University, <sup>2</sup>Institute for Molecular Science, <sup>3</sup>Kyoto University)