

研究期間全年度 研究業績

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1 . 発表論文等 (査読付き論文, 著書, 総説等の発表状況)

- (1) Multi-input-Multi-output Molecular Response System Based on Dynamic Redox Behavior of 3,3,4,4-Tetraaryldihydro[5]helicene Derivatives: Reversible Formation/Destruction of Chiral Fluorophore and Modulation of Chiroptical Properties by Solvent Polarity, Suzuki, T.*; Ishigaki, Y.; Iwai, T.; Kawai, H.; Fujiwara, K. Ikeda, H.; Kano, Y.; Mizuno, K. *Chem. Eur. J.* **2009**, *15*(37), 9434-9441.
- (2) Intramolecular methylacridan-methylacridinium complexes with a phenanthrene-4,5-diyl or related skeleton: Geometry-properties relationship in isolable C-H bridged carbocations, Suzuki, T.*; Yoshimoto, Y.; Takeda, T.; Kawai, H.; Fujiwara, K. *Chem. Eur. J.* **2009**, *15*(9), 2210-2216.
- (3) Dynamic Molecular Propeller: Supramolecular Chirality Sensing by Enhanced Chiroptical Response through the Transmission of Point Chirality to Mobile Helicity, Katoono, R.; Kawai, H.; Fujiwara, K.; Suzuki, T.* *J. Am. Chem. Soc.* **2009**, *131*(46), 16896-16904.
- (4) 4,5-Bis(diarylmethylene)-1,3-dithiole: A Novel Helical Electron Donor Exhibiting Electrochromic Behavior, Suzuki, T.*; Mikuni, S.; Ishigaki, Y.; Higuchi, H.; Kawai, H.; Fujiwara, K. *Chem. Lett.* **2009**, *38*(7), 748-749.
- (5) Preparation and X-ray Structures of *trans*-5,6-Diaryl-5,6-dihydro-1,10-phenanthroline-5,6-diols: Formation of Supramolecular Rod by Hydrogen Bonds, Suzuki, T.*; Miura, Y.; Tamaki, R.; Kawai, H.; Fujiwara, K. *Chem. Lett.* **2009**, *38*(7), 670-671.
- (6) Negligible diradical character for the ultralong C-C bond in 1,1,2,2-tetraarylpyracene derivatives at room temperature, Takeda, T.; Kawai, H.; Herges, R.; Mucke, E.; Sawai, Y.; Murakoshi, K.; H.; Fujiwara, K.; Suzuki, T.* *Tetrahedron Lett.* **2009**, *50*(26)(50th anniversary special issue), 3693-3697.
- (7) Drastic Change in Racemization Barrier upon Redox Reactions: Novel Chiral-memory Units Based on Dynamic Redox Systems, Suzuki, T.*; Wada, K.; Ishigaki, Y.; Yoshimoto, Y.; Ohta, E.; Kawai, H.; Fujiwara, K. *Chem. Commun.* **2010**, *46*(23), 4100-4102.

- (8) Intramolecular Triarylmethane-methylum Complex: Generation, Properties and X-ray Structure of C-H Bridged Carbocation,
Suzuki, T.*; Takeda, T.; Yoshimoto, Y.; Nagasu, T.; Kawai, H.; Fujiwara, K. *Pure Appl. Chem.* **2010**, *82(4)*, 1033-1044.
- (9) Intramolecular Chirality Transfer in *trans*-5,6-Diaryl-5,6-dihydro-1,10-phenanthroline-5,6-diols: Solvato- and Halochromic Responses by Circular Dichroism,
Suzuki, T.*; Miura, Y.; Nehira, T.; Kawai, H.; Fujiwara, K. *Chem. Lett.* **2010**, *39(7)*, 695-697.
- (10) Halochromic Chiroptical Response of Novel Bis(9-acridinyl)-type Fluorophores with a Helical p-Framework,
Nehira, T.; Yoshimoto, Y.; Wada, K.; Kawai, H.; Fujiwara, K.; Suzuki, T.* *Chem. Lett.* **2010**, *39(3)*, 165-167.
- (11) Phenanthrene-4,5-diylbis(10-methylacridinium) with a Short C⁺ - - C⁺ Contact: Preparation, Molecular Structure, Redox Properties, and Electrochromic Interconversion with Dihydropyrene Derivative,
Suzuki, T.*; Yoshimoto, Y.; Wada, K.; Takeda, T.; Kawai, H.; Fujiwara, K. *Heterocycles*, **2010**, *80(1)*, 149-155.
- (12) Hysteretic Tricolor Electrochromic Systems Based on the Dynamic Redox Properties of Unsymmetrically Substituted Dihydrophenanthrenes and Biphenyl-2,2'-Diyl Dications: Efficient Precursor Synthesis by a Flow Microreactor Method,
Ishigaki, Y.; Suzuki,* T.; Nishida, J.; Nagaki, A.; Takabayashi, N.; Kawai, H.; Fujiwara, K.; Yoshida, J. *Materials* **2011**, *4* (11), 1906-1926.
- (13) 1,4-Diaryl-7,10-dimethoxyquinoxalino[2,3-b]quinoxalines and their dihydro derivatives: Redox switching of NIR absorption and fluorescence,
Miura, Y.; Kawai, H.; Fujiwara, K.; Suzuki, T.* *Chem. Lett.* **2011**, *40* (*9), 975-957.
- (14) Photophysical characterization of 4,4'-bis(N-carbazolyl)tolan derivatives and their application in organic light emitting diodes,
Ohkita, M.; Endo, A.; Sumiya, K.; Nakanotani, H.; Suzuki, T.; Adachi, C. *J. Luminescence* **2011**, *131* (7), 1520-1524.
- (15) イミン架橋によって環の動的挙動を制御する主鎖型オリゴロタキサンの構築とそのスイッチング特性,
杉野寛佳, 河合英敏, 藤原憲秀, 鈴木孝紀*, *高分子論文集*, **2011**, *68* (12), 795-803.
- (16) Induced Preference for Axial Chirality in a Triarylmethylum *o,o*-Dimer upon Complexation with Natural gamma-Cyclodextrin: Strong ECD Signaling and Fixation of Supramolecular Chirality to Molecular Chirality,

- Suzuki, T.*; Tamaoki, H.; Wada, K.; Katoono, R.; Nehira, T.; Fujiwara, K. *Chem. Commun.* **2012**, 48 (22), 2812-2814.
- (17) Molecular Gyroscope with a *trans*-cyclohexane-1,4-diimine rotor unit: Isolation and characterization of a geometrical isomer as a formal intermediate of hindered rotation, Sugino, H.; Kawai, H.; Fujiwara, K.; Suzuki, T.* *Chem. Lett.* **2012**, 41 (1), 79-81.
- (18) Effects of Axle-Core, Macrocycle, and Side-Station Structures on the Threading and Hydrolysis Processes of Imine-Bridged Rotaxanes, Sugino, H.; Kawai,* H.; Umehara, T.; Fujiwara, K.; Suzuki, T. *Chem. Eur. J.* **2012**, 18(43), 13722-13733
- (19) Non-additive Substituent Effects on Expanding Prestrained C-C Bond in Crystal: X-ray Analyses on Unsymmetrically Substituted Tetraarylpyracenes Prepared by a Flow Microreactor Method, Suzuki, T.*; Uchimura, Y.; Ishigaki, Y.; Takeda, T.; Katoono, R.; Kawai, H.; Fujiwara, Nagaki, A.; Yoshida, J. *Chem. Lett.* **2012**, 41(5), 541-543.
- (20) Stable neutral radicals based on the polyazaacene skeleton that exhibit high electrochemical amphotericity, Miura, Y.; Chiba, H.; Katoono, R.; Kawai, Fujiwara, K.; Suzuki, S.; Okada, K.; Suzuki, T.* *Tetrahedron Lett.* **2012**, 53(48), 6561-6564
- (21) 7,7,8,8-Tetraaryl-o-quinodimethane Stabilized by Dibenzo-annulation: A Helical pi-Electron System that Exhibits Electrochromic and Unique Chiroptical Properties, Suzuki, T.*; Sakano, Y.; Iwai, T.; Iwashita, S.; Miura, Y.; Katoono, R.; Kawai, Fujiwara, K.; Tsuji, Y.; Fukushima, T. *Chem. Eur. J.* **2013**, 19(1), 117-123.
- (22) Hexaphenylethanes with an Ultralong C-C Bond: Expandability of the C-C Bond in Highly Strained Tetraarylpyracenes, Takada, T.; Uchimura, Y.; Kawai, H.; Katoono, R.; Fujiwara, K.; Suzuki, T.* *Chem. Lett. (Highlight Review)*, **2013**, 42(9), 954-962.
- (23) Geometrical Remote Steric Effects in 4,5-Disubstituted-9,10-dihydrophenanthrenes: Expansion of Prestrained C9-C10 Bond in Di(spiroacridan) Derivatives Wada, K.; Takeda, T.; Kawai, H.; Katoono, R.; Fujiwara, K.; Suzuki, T.* *Chem. Lett.* **2013**, 42(10), 1194-1196
- (24) Time-integrated one-pot synthesis, X-ray structure, and redox properties of electrochromic 1,3-diarylisobenzofurans Hamura, T.*; Nakayama, R.; Hanada, K.; Sakano, Y.; Katoono, R.; Fujiwara, K.; Suzuki, T.* *Chem. Lett.* **2013**, 42(10), 1244-1246

- (25) C₃-symmetric chiroptical molecular propeller based on hexakis(phenylethynyl)benzene with a threefold terephthalamide: stereospecific propeller generation through the cooperative transmission of point chiralities on the host and guest upon complexation, Katoono, R.*; Kawai, H.; Ohkita, M.; Fujiwara, K.; Suzuki, T.* *Chem. Commun.* **2013**, 49(88), 10352-10354
- (26) Preparation, properties, and X-ray structures of bis(10-methyl-9-methyleneacridan)-type electron donors with a thiophene/bithiophene/terthiophene skeleton: Redox switching of thiophene-thienoquinoid structure accompanied by UV-Vis-NIR electrochromic response
Suzuki, T.*; Hoshiyama, Y.; Wada, K.; Ishigaki, Y.; Miura, Y.; Kawai, H.; Katoono, R.; Fujiwara, K.; Fukushima, T. *Chem. Lett.* **2013**, 42(9), 1004-1006
- (27) 5,10-Dihydrobenzo[a]indolo[2,3-c]carbazole: A highly fluorescent disk-shaped electron donor exhibiting dual UV-Vis-NIR and fluorescence spectral changes upon electrolysis, Suzuki, T.*; Tokimizu, Y.; Sakano, Y.; Katoono, R.; Fujiwara, K.; Naoe, S.; Fujii, N.; Ohno, H.* *Chem. Lett.* **2013**, 42(9), 1001-1003
- (28) Oxidative conversion of tetraaryldihydrodibenzothiepins into elemental sulfur and stable cationic dyes accompanied by dual UV-Vis and CD spectral changes,
Suzuki, T.*; Kuroda, T.; Tamaoki, H.; Higasa, S.; Katoono, R.; Fujiwara, K.; Fukushima, T.; Yamada, H. *Chem. Lett.* **2013**, 42(7), 706-708
- (29) Redox switching of conjugation length using 9,9,10,10-tetraaryl-9,10-dihydrophenanthrene as an ON/OFF unit: Preparation, X-ray structure, and redox properties of perfluorobiphenyl derivative and its S_NAr reactions to pi-extended analogues,
Suzuki, T.*; Tamaoki, H.; Katoono, R.; Fujiwara, K.; Ichikawa, J.; Fukushima, T. *Chem. Lett.* **2013**, 42(7), 703-705
- (30) Hydrindacene-based acetylenic macrocycles with horizontally and vertically ordered functionality arrays,
Kawai, H.*; Utamura, T.; Motoi, E.; Takahashi, T.; Sugino, H.; Tamura, M.; Ohkita, M.; Fujiwara, K.; Saito, T.; Tsuji, T.; Suzuki, T. *Chem. Eur. J.* **2013**, 19(14), 4513-4524
- (31) Expandability of Ultralong C-C Bond: Largely Different C1-C2 Bond Length Determined by Low-temperature X-ray Analyses on Pseudopolymorphs of 1,1-Bis(4-fluorophenyl)-2,2-bis(4-methoxyphenyl)pyracene,
Suzuki, T.*; Uchimura, Y.; Nagasawa, F.; Takeda, T.; Kawai, H.; Katoono, R.; Fujiwara, K.; Murakoshi, K.; Fukushima, T.; Nagaki, A.; Yoshida, J. *Chem. Lett.*, **2014**, 43(1), 85-88.

- (32) Chiral Memory Units Based on Dynamic Redox Systems with a Dibenzoxepinone Skeleton: Drastic Change in Racemization Barrier and Electrochemical Bistability, Wada, K.; Chiba, Y.; Takeda, T.; Kawai, H.; Katoono, R.; Fujiwara, K.; Suzuki, T.* *Heterocycles*, **2014**, 88(2), 945-952 .
- (33) Cyanoazulene-based Multi-stage Redox Systems Prepared from Vinylcyclopropane-carbonitrile and Cyclopentenone via Divinylcyclopropane-rearrangement Approach, Tanino, K.*; Yamada, Y.; Yoshimura, F.; Suzuki, T.* *Chem. Lett.* **2014**, in press (doi:10.1246/cl.131149)
- (34) Electrochromic and unique chiroptical properties of helically deformed tetraarylquinodimethanes generated from less hindered dicationic precursors upon reduction, Suzuki, T.*; Sakano, Y.; Iwai, T.; Iwashita, S.; Miura, Y.; Katoono, R.; Kawai, H.; Fujiwara, K.; Tsuji, Y.; Fukushima, T. *Pure Appl. Chem.*, **2014**, in press (doi:10.1515/pac-2013-1003)
- (35) Complexation-induced inversion of helicity by an organic guest in a dynamic molecular propeller based on a tristerephthalamide host with a two-layer structure Katoono, R.*; Fujiwara, K.; Suzuki, T.* *Chem. Commun.* **2014**, in press (doi: 10.1039/C4CC00323C)
- (36) Preparation and structure of acenaphthylene-1,2-diyldi(9-acridine) derivatives with a long C=C bond, Takeda, T.*; Uchimura, Y.; Kawai, H.; Katoono, R.; Fujiwara, K.; Suzuki, T.* *Chem. Commun.* **2014**, in press (doi: 10.1039/C3CC49573F)
- (37) Electrochiroptical Response in Aqueous Media: 9,10-Dihydrophenanthrene-9,10-diyldications with Michlar's Hydrol Blue Chromophores Attached with Oligoethylene Glycol Units, Suzuki, T.*; Hanada, K.; Katoono, R.; Ishigaki, Y.; Higasa, S.; Higuchi, H.; Kikuchi, H.; Fujiwara, K.; Yamada, H.; T. Fukushima, *Chem. Lett.* submitted (cl.140163)
- (38) Oxidative Protonolysis of the Expanded Central C-C Bond in a Di(spiroacridan)-type Hexaphenylethane Derivative Accompanied by UV-vis, FL, and CD Spectral Changes, Suzuki, T.*; Kuroda, Y.; Wada, K.; Sakano, Y.; Katoono, R.; Fujiwara, K.; Kakiuchi, F.; Fukushima, T. *Chem. Lett.* submitted (cl.140192)

2 . 学会発表等 (国内外の招待講演および国際会議での発表状況)

- (1) エレクトロクロミズム系の新展開 : 双安定性と多重入力機能 (英語)
鈴木孝紀, 理化学研究所特別講演会, 和光, 2009.1.14 (招待講演)

- (2) Molecular Response Systems based on Hexaphenylethanes: Toward the Realization of Unimolecular Memory and Multi-functional Properties,
Suzuki, T.,* The Second International Symposium on Interdisciplinary Materials and Science (ISIMS-2), Tsukuba, Japan, 2009.3.9-10 (招待講演)
- (3) Intramolecular Methylacridan-acridinium Complexes: Isolation, Structure, and Reactivities of the C-H Bridged Carbocations,
Suzuki, T.* Yoshimoto, Y.; Takeda, T.; Kawai, H.; Fujiwara, K. The 13 th International Symposium on Novel Aromatic Compounds (ISNA-13), Luxembourg, 2009.7.19-24 (依頼講演)
- (4) エレクトロクロミズム系の新展開：双安定性と多重出入力機能
鈴木孝紀, 大阪大学大学院基礎工学研究院特別講演会, 豊中, 2009.10.29 (招待講演)
- (5) Multi-input-and-multi-output molecular response systems based on helical pi-framework
Suzuki, T.; Nehira, T.; Yoshimoto, Y.; Kawai, H.; Fujiwara, The 2010 International Chemical Congress of Pacific Basin Societies (Pacifichem 2010), Honolulu, Hawaii, USA, 2010.12.15-20 (ポスター発表) .
- (6) Advanced Electrochromism Based on Dynamic Redox Systems: Toward the Realization of Unimolecular Memory and Multi-functional Properties,
Suzuki, T.; 12th Chitose International Forum on Photonics Science & Technology (CIF12), Chitose, Hokkaido, 2011.10.13 (招待講演)
- (7) Intramolecular Triarylmethane-methylium Complex: Generation, Properties and X-ray Structure of a C-H Bridged Carbocations, Suzuki, T.; 2012 Hokkaido University & Peking University Joint Symposium on Organic and Organometallic Chemistry, Sapporo, Hokkaido, 2012.7.17 (招待講演)
- (8) Electrochromic and Unique Chiroptical Properties of Helically Deformed Tetraarylquinodimethanes,
Suzuki, T.* The 15 th International Symposium on Novel Aromatic Compounds (ISNA-15), Taipei, 2013.7.28-8.2 (招待講演)
- (9) Toward the World-Record Compound with the Longest C-C Bond: X-ray Analyses on Unsymmetrically Substituted Tetraarylpyracenes Prepared by a Flow Microreactor Method,
Suzuki, T.* The 8th International Symposium on Integrated Synthesis (ISIS-8), Nara, 2013.11.29-12.1 (招待講演)

4 . 学会・シンポジウム等の開催状況

- (1) 第 44 回 構造有機化学若手の会 夏の学校, 札幌市, 2012.8.2-4
(北海道大学 有機化学第一研究室主催: 鈴木孝紀、A03 計画班員).
- (2) 第 22 回万有札幌シンポジウム, 札幌, 2010.7.3
(オーガナイザー: 鈴木孝紀、A03 計画班員).

5 . 受賞等

- (1) 内村康人(修士 1 年)
ポスター賞 第 23 回基礎有機化学討論会 2012.9.18-21
- (2) 玉置瞳美 (修士 2 年)
Best Poster Award, Frontier Chemistry Center (FCC) International Symposium, 2012.12.7
- (3) 内村康人(博士 1 年)
優秀ポスター発表賞 第 3 回 CSJ 化学フェスタ 2013, 2013.11.11

8 . 領域内の共同研究の準備・実施状況とその成果

- (1) 共同研究先: 京都大学, 吉田潤一先生 (A01 班, 計画班員), 永木愛一郎先生
派遣人員 (派遣): 石垣侑祐 (博士 1 年)
派遣期間 (派遣): 2010.3.8-2010.3.25
共同研究内容: 非対称ヘキサフェニルエタン誘導体のフローマイクロリアクター合成
共同研究成果: 論文発表
* Hysteretic Tricolor Electrochromic Systems Based on the Dynamic Redox Properties of Unsymmetrically Substituted Dihydrophenanthrenes and Biphenyl-2,2'-Diyl Dications: Efficient Precursor Synthesis by a Flow Microreactor Method, Ishigaki, Y.; Suzuki,* T.; Nishida, J.; Nagaki, A.; Takabayashi, N.; Kawai, H; .Fujiwara, K.; Yoshida, J. *Materials* **2011**, 4 (11), 1906-1926.
- (2) 共同研究先: 京都大学, 吉田潤一先生 (A01 班, 計画班員)
派遣人員 (派遣): 石垣侑祐 (博士 3 年)
派遣期間 (派遣): 2011.10.9-2011.10.10
共同研究内容: 非対称テトラアリアルピラセン誘導体のフローマイクロリアクター合成
共同研究成果: 論文発表(2 編)、学会発表でのポスター賞(2 件)
* Non-additive Substituent Effects on Expanding Prestrained C-C Bond in Crystal: X-ray Analyses on Unsymmetrically Substituted Tetraarylpyracenes Prepared by a Flow Microreactor Method, Suzuki, T.*; Uchimura, Y.; Ishigaki, Y.; Takeda, T.; Katoono, R.;

Kawai, H.; Fujiwara, Nagaki, A.; Yoshida, J. *Chem. Lett.* **2012**, 41(5), 541-543.

* Expandability of Ultralong C-C Bond: Largely Different C1-C2 Bond Length Determined by Low-temperature X-ray Analyses on Pseudopolymorphs of 1,1-Bis(4-fluorophenyl)-2,2-bis(4-methoxyphenyl)pyracene, Suzuki, T.*; Uchimura, Y.; Nagasawa, F.; Takeda, T.; Kawai, H.; Katoono, R.; Fujiwara, K.; Murakoshi, K.; Fukushima, T.; Nagaki, A.; Yoshida, J. *Chem. Lett.*, **2014**, 43(1), 85-88.

* 内村康人(修士1年) ポスター賞 第23回基礎有機化学討論会, 2012.9.18-21

* 内村康人(博士1年) 優秀ポスター発表賞 第3回CSJ化学フェスタ2013, 2013.11.11

(3) 共同研究先：慶応義塾大学，垣内史敏先生（A01班，公募班員）

サンプル送付による共同研究実験

共同研究内容：集積化触媒反応で合成されたジピリジルビフェニル誘導体の酸化還元特性調査

共同研究成果：論文発表

* Oxidative Protonolysis of the Expanded Central C-C Bond in a Di(spiroacridan)-type Hexaphenylethane Derivative Accompanied by UV-vis, FL, and CD Spectral Changes, Suzuki, T.*; Kuroda, Y.; Wada, K.; Sakano, Y.; Katoono, R.; Fujiwara, K.; Kakiuchi, F.; Fukushima, T. *Chem. Lett.* submitted (cl.140192)

(4) 共同研究先：北海道大学，谷野圭持先生（A02班，計画班員）

派遣人員（受入）：山田拓正(博士1年)

派遣期間（受入）：2010.5.12

共同研究内容：集積合成されたシアノアズレン類の酸化還元特性調査

共同研究成果：論文発表

* Cyanoazulene-based Muti-stage Redox Systems Prepared from Vinylcyclopropane-carbonitrile and Cyclopentenone via Divinylcyclopropane-rearrangement Approach, Tanino, K.*; Yamada, Y.; Yoshimura, F.; Suzuki, T.* *Chem. Lett.* **2014**, in press (doi:10.1246/cl.131149)

(5) 共同研究先：京都大学，大野浩章先生（A02班，公募班員）

派遣人員（派遣）：坂野優斗(博士1年)

派遣期間（派遣）：2013.12.11-2013.12.21

共同研究内容：金触媒カスケード反応を鍵とする、ベンズインドールカルバゾールの集積合成

共同研究成果：論文発表

* 5,10-Dihydrobenzo[a]indolo[2,3-c]carbazole: A highly fluorescent disk-shaped electron donor exhibiting dual UV-Vis-NIR and fluorescence spectral changes upon electrolysis,

Suzuki, T.*; Tokimizu, Y.; Sakano, Y.; Katoono, R.; Fujiwara, K.; Naoe, S.; Fujii, N.;
Ohno, H.* *Chem. Lett.* **2013**, 42(9), 1001-1003

- (6) 共同研究先：筑波大学，市川淳士先生（A03班，公募班員）

サンプル送付による共同研究実験

共同研究内容：フッ素芳香環を分子内に含むジカチオン種の発生とそのエレクトロクロミズム特性開発

共同研究成果：論文発表

* Redox switching of conjugation length using 9,9,10,10-tetraaryl-9,10-dihydro-phennanthrene as an ON/OFF unit: Preparation, X-ray structure, and redox properties of perfluorobiphenyl derivative and its S_NAr reactions to pi-extended analogues, Suzuki, T.*; Tamaoki, H.; Katoono, R.; Fujiwara, K.; Ichikawa, J.; Fukushima, T. *Chem. Lett.* **2013**, 42(7), 703-705

* 玉置瞳美（修士2年）Best Poster Award, Frontier Chemistry Center (FCC) International Symposium, 2012.12.7

- (7) 共同研究先：関西学院大学，羽村季之先生（A03班，公募班員）

派遣人員（受入）：羽村季之先生、中山涼介(修士2年)

派遣期間（受入）：2012.8.27

共同研究内容：time-integrated 合成されたイソベンゾフランの酸化還元特性調査

共同研究成果：論文発表

* Time-integrated one-pot synthesis, X-ray structure, and redox properties of electrochromic 1,3-diarylisobenzofurans, Hamura, T.*; Nakayama, R.; Hanada, K.; Sakano, Y.; Katoono, R.; Fujiwara, K.; Suzuki, T.* *Chem. Lett.* **2013**, 42(10), 1244-1246

- (8) 共同研究先：京都大学，辻康之先生（A03班，公募班員）

サンプル送付による共同研究実験

共同研究内容：テトラアリアルオルトキノジメタン誘導体のエレクトロクロミズム特性調査

共同研究成果：論文発表(2編)

* 7,7,8,8-Tetraaryl-o-quinodimethane Stabilized by Dibenzo-annulation: A Helical pi-Electron System that Exhibits Electrochromic and Unique Chiroptical Properties, Suzuki, T.*; Sakano, Y.; Iwai, T.; Iwashita, S.; Miura, Y.; Katoono, R.; Kawai, Fujiwara, K.; Tsuji, Y.; Fukushima, T. *Chem. Eur. J.* **2013**, 19(1), 117-123.

* Electrochromic and unique chiroptical properties of helically deformed tetraarylquinodimethanes generated from less hindered dicationic precursors upon reduction, Suzuki, T.*; Sakano, Y.; Iwai, T.; Iwashita, S.; Miura, Y.; Katoono, R.; Kawai, H.; Fujiwara, K.; Tsuji, Y.; Fukushima, T. *Pure Appl. Chem.*, **2014**, in press (doi:10.1515/pac-2013-1003).