

平成23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) Illusory Molecular Expression of “Penrose Stairs” by an Aromatic Hydrocarbon
Nakanishi, W.; Matsuno, T.; Ichikawa, J.*; Isobe, H. *Angew. Chem. Int. Ed.* **2011**, *50*, 6048–6051.
- (2) Domino Friedel–Crafts-Type Cyclizations of Difluoroalkenes Utilizing the α -Cation-Stabilizing Effect of Fluorine: An Efficient Method for Synthesizing Angular PAHs
Fuchibe, K.; Jyono, H.; Fujiwara, M.; Kudo, T.; Yokota, M.; Ichikawa, J.* *Chem. Eur. J.* **2011**, *17*, 12175–12185.
- (3) Facile Synthesis of β,β -Difluorostyrenes via the Negishi Coupling of Thermally Stable 2,2-Difluorovinyl Zinc-TMEDA Complex
Fujita, T.; Ichitsuka, T.; Fuchibe, K.; Ichikawa, J.* *Chem. Lett.* **2011**, *40*, 986–988.
- (4) NHC-Catalyzed Difluorocarbene Generation and Its Application to Aryl Difluoromethyl Ether Synthesis
Fuchibe, K.; Koseki, Y.; Sasagawa, H.; Ichikawa, J.* *Chem. Lett.* **2011**, *40*, 1189–1191.
- (5) NHC-Catalyzed Generation of Difluorocarbene and its Application to Difluoromethylation of Oxygen Nucleophiles
Fuchibe, K.; Koseki, Y.; Aono, T.; Sasagawa, H.; Ichikawa, J.* *J. Fluorine Chem.* **2012**, *133*, 52–60.
- (6) Facile Synthesis of Substituted 1,1-Difluoroallenes via C=O Difluorovinylideneation
Oh, K.; Fuchibe, K.; Yokota, M.; Ichikawa, J.* *Synthesis*, **2012**, *44*, 857–861.
- (7) 1,1-Difluoro-1-alkenes as New Electrolyte Additives for Lithium Ion Batteries
Kubota, T.; Ihara, M.; Katayama, S.; Nakai, H.; Ichikawa, J.* *J. Power Sources*, **2012**, *207*, 141–149.

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) フルオロアルケンの求電子的活性化と環化反応 –含フッ素ヘテロ環化合物から多環式芳香族炭化水素まで–
市川淳士, 東ソー・エフテック株式会社, 周南, 2011.6.2 (招待講演)
- (2) フルオロアルケンの求電子的活性化と環化反応 –含フッ素ヘテロ環化合物から多環式芳香族炭化水素まで–
市川淳士, イハラニッケイ化学工業株式会社, 清水, 2011.6.3 (招待講演)

- (3) フルオロアルケンの求電子的活性化と環化反応 -含フッ素ヘテロ環化合物から多環式芳香族炭化水素まで-
市川淳士, 第1回大塚有機合成シンポジウム, 徳島, 2011.8.22 (招待講演)
- (4) In(III) -Catalyzed Synthesis of F-PAHs: Domino Cyclization- Ring Expansion Reactions of 1,1-Difluoroallenes
Fuchibe, K.; Zhao, N.; Mayumi, Y.; Ichikawa, J. OMCOS-16, Shanghai, 2011.7.24-28 (ポスター発表)
- (5) Electrophilic Cyclization of Fluoro Alkenes Directed toward PAH Synthesis
Ichikawa, J., NTU-JSPS Joint Symposium, Singapore, 2011.8.2 (招待講演)
- (6) Electrophilic Cyclization of Fluoro Alkenes Directed toward PAH Synthesis
Ichikawa, J., 242nd ACS National Meeting, Denver, 2011.8.28 (招待講演)
- (7) Synthesis of F-PAHs by In(III)-Catalyzed Domino Cyclization-Ring Expansion of 1,1-Difluoroallenes
Fuchibe, K.; Zhao, N.; Mayumi, Y.; Ichikawa, J., ISIS-7, Kobe, 2012.10.10 (ポスター発表)
- (8) Metal-Catalyzed Domino Difluorocyclopropanation-Ring Expansion of 2-Siloxy-1,3-dienes: Synthesis of Fluorinated Cyclic Silyl Enol Ethers
Aono, T.; Sasagawa, H.; Fuchibe, K.; Ichikawa, J., ISOR-10, Yokohama, 2011.11. 21-24 (ポスター発表)
- (9) Sequential Substitutions of 2-Trifluoromethyl-1-alkenes: Regioselective Synthesis of 3-Fluoropyrazoles
Takahashi, M.; Hattori, M.; Fuchibe, K.; Ichikawa, J., ISOR-10, Yokohama, 2011.11. 21-24 (ポスター発表)
- (10) Synthesis of Aryl Difluoromethyl Ethers Based on N-Heterocyclic Carbene-Catalyzed Generation of Difluorocarbene
Koseki, Y.; Fuchibe, K.; Ichikawa, J., 1st Int. Sympo. on Creation of Functional Materials, Tsukuba, 2011.12.17 (ポスター発表)
- (11) Facile Difluorovinylolation with Thermally Stable Difluorovinylzinc-Diamine Complex via the Negishi Coupling Reaction
Ichitsuka, T.; Takanohashi, T.; Fujita, T.; Ichikawa, J., 1st Int. Sympo. on Creation of Functional Materials, Tsukuba, 2011.12.17 (ポスター発表)
- (12) Synthesis of Difluoromethylated Heterocycles via Intramolecular Radical Cyclizations of 1,1-Difluoro-1-alkenes
Sanada, S.; Chiba, Y.; Fujita, T.; Ichikawa, J., 1st Int. Sympo. on Creation of Functional Materials, Tsukuba, 2011.12.17 (ポスター発表)

- (13) Regioselective Synthesis of 3-Fluoropyrazoles: Sequential Double Substitutions of 2-Trifluoromethyl-1-alkenes with Hydrazine Derivatives
Takahashi, M.; Fuchibe, K.; Ichikawa, J., 1st Int. Sympo. on Creation of Functional Materials, Tsukuba, 2011.12.17 (ポスター発表)
- (14) Indium-Catalyzed Cationic Cyclization Ring Expansion of 1,1-Difluoroallenes: Synthesis of Fluorinated Polycyclic Aromatic Hydrocarbons
Zhao, N.; Mayumi, Y.; Fuchibe, K.; Ichikawa, J., 1st Int. Sympo. on Creation of Functional Materials, Tsukuba, 2011.12.17 (ポスター発表)
- (15) Synthesis of Large PAHs: Tandem Friedel-Crafts-type Cyclization of 1,1-Difluoro-1-alkenes
Matsuno, H.; Fuchibe, K.; Ichikawa, J., 2nd Int. Sympo. on Creation of Functional Materials, Tsukuba, 2012.2.9 (ポスター発表)
- (16) Lewis-Acid Promoted Domino Cyclization of 2-Trifluoromethyl-1-alkenes Directed toward Fluorinated Acene Synthesis
Miura, M.; Yuka Nishikiori, Fuchibe, K.; Ichikawa, J., 2nd Int. Sympo. on Creation of Functional Materials, Tsukuba, 2012.2.9 (ポスター発表)
- (17) Facile Synthesis of Asymmetrically Disubstituted 1,1-Diarylethene-2,2-difluoroethenes
Suzuki, N.; Ichitsuka, T.; Fujita, T.; Ichikawa, J., 2nd Int. Sympo. on Creation of Functional Materials, Tsukuba, 2012.2.9 (ポスター発表)
- (18) Dihydroanthracene-Based Dication as Organic Two-Electron Oxidant
Takahashi, I.; Shinjo, M.; Fujita, T.; Ichikawa, J., 2nd Int. Sympo. on Creation of Functional Materials, Tsukuba, 2012.2.9 (ポスター発表)

3. 特許

該当なし

4. 学会・シンポジウム等の開催状況

該当なし

5. 受賞等

(1) 藤田健志 (助教)

研究企画賞 (セントラル硝子) 2011年度有機合成化学協会, 2011.12.6

(2) 高橋正樹 (修士2年)

最優秀ポスター賞 10th International Symposium on Organic Reactions, 2011.11.21-24

(3) 趙男 (修士2年)

優秀ポスター賞 第22回基礎有機化学討論会, 2011.9.22

6. 新聞報道等

(1) Molecular Visual Illusion, Chemistry Views, 2011.6

(http://www.chemistryviews.org/details/ezone/1077237/Molecular_Visual_Illusion.html)

(2) 芳香環を使った分子のだまし絵 シクロビス [4] ヘリセンの合成

深澤愛子(紹介記事執筆者), 月刊化学, 2012.1

7. 国民との科学・技術対話

該当なし

8. 領域内の共同研究の準備・実施状況とその成果

該当なし