

平成22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) Singlet and Triplet State Spectra and Dynamics of Structurally-modified Peridinin  
Fuciman, M.; Enriquez, M.; Kaligotla, S.; Niedzwiedzki, D.; Kajikawa, T.; Aoki, K.; Katsumura, S.; Frank, H. A. *J. Physic. Chem.* **2011**, Manuscript ID: jp-2010-10092c.R2.
- (2) Total synthesis of (-)-20-epiuleine via stereocontrolled one-pot asymmetric azaelectrocyclization followed by novel 1,4-addition reaction  
Sakaguchi, T.; Kobayashi, S.; Katsumura, S. *Org. Biomol. Chem.* **2011**, *9*, 257-264.
- (3) N- and O-methylation of sphingomyelin markedly affects its membrane properties and interactions with cholesterol  
Björkbom, A.; Kankaanpää, T. Ró, P.; Lindroos, D.; Kaszuba, K.; Kurita, M.; Yamaguchi, S.; Yamamoto, T.; Jaikishan, S.; Paavolainen, L.; Päivärinne, J.; Nyholm, T. K. M.; Katsumura, S.; Vattulainen, I.; Slotte, J. P. *Biochim. Biophys. Acta* **2011**, *1808*, 1179-1186.
- (4) N-cholesteryl sphingomyelin - A synthetic sphingolipid with unique membrane properties  
Sergelius, C.; Yamaguchi, S.; Yamamoto, T.; Slotte, J. P.; Katsumura, S. *Biochim. Biophys. Acta* **2011**, *1808*, 1054-1062.
- (5) Stark absorption spectroscopy of peridinin and allene-modified analogues  
Kusumoto, T.; Horibe, T.; Kajikawa, T.; Hasegawa, S.; Iwashita, T.; Cogdell, R. J.; Birge, R. R.; Frank, H. A.; Katsumura, S.; Hashimoto, H. *Chem. Physics* **2010**, *373*, 71-79.
- (6) An Approach Based on Organic Synthesis Toward Elucidating the Mechanism of Super Energy Transfer Efficiencies of Peridinin in Photosynthesis  
Kajikawa, T.; Furuichi, N.; Katsumura, S. *Yuki Gosei Kagaku Kyokaiishi* **2010**, *68*, 625-637.
- (7) Syntheses of ylidenbutenolide-modified derivatives of peridinin and their stereochemical and spectral characteristics  
Kajikawa, T.; Aoki, K.; Iwashita, T.; Niedzwiedzki, D. M.; Frank, H. A.; Katsumura, S. *Org. Biomol. Chem.* **2010**, *8*, 2513-2516.
- (8) New Strategy in Synthetic Biology: from Enzyme Inhibition and Natural Products Synthesis to PET Imaging by  $6\pi$ -Azaelectrocyclization  
Tanaka, K.; Fukase, K.; Katsumura, S. *Chemical Record* **2010**, *10*, 119-139.

## 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) One-pot Asymmetric  $6\pi$ -Azaelectrocyclization as a Strategy for Alkaloid Synthesis (1);  
Total Syntheses of (-)-Dendroprimine, (-)-Hippodamine  
Katsumura, S.; Kobayashi, T.; Fujita, S. The 18<sup>th</sup> International Conference on Organic Synthesis (ICOS-18), Grieghallen Culture & Convention Centre, Bergen, Norway, 2010.8.1-6（ポスター発表）.
- (2) One-pot Asymmetric  $6\pi$ -Azaelectrocyclization as a Strategy for Alkaloid Synthesis (2);  
Syntheses of Indole Alkaloids  
Sakaguchi, T.; Kobayashi, T.; Li, Y.; Kitamura, T.; Kobayashi, S.; Katsumura, S. The 18<sup>th</sup> International Conference on Organic Synthesis (ICOS-18), Grieghallen Culture & Convention Centre, Bergen, Norway, 2010.8.1-6（ポスター発表）.
- (3) Syntheses of *Peridinin* Analogues Toward Elucidation of its Highly Efficient Energy Transfer Mechanism in Photosynthesis  
Kajikawa, T.; Hasegawa, S.; Iwashita, T.; Kusumoto, T.; Niedzwiedzki, D. M.; Hashimoto, H.; Frank, H. A.; Katsumura, S. The 18<sup>th</sup> International Conference on Organic Synthesis (ICOS-18), Grieghallen Culture & Convention Centre, Bergen, Norway, 2010.8.1-6（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

該当なし

## 6. 新聞報道等

該当なし

7. 領域内の共同研究の準備・実施状況とその成果

該当なし

8. その他特記事項

該当なし