

平成23年度 研究業績

勝村成雄 (関西学院大学理工学部化学科、A02班 公募班員)

1. 発表論文等 (査読付き論文, 著書, 総説等の発表状況)

- (1) 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.
- (2) Effect of sphingomyelin head group size on molecular properties and interactions with cholesterol
Björkbom, A.; Róg, T.; Kaszuba, K.; Kurita, M.; Yamaguchi, S.; Lönnfors, T. K. M.; Nyholm, T. K.M; Vattulainen, I.; Katsumura, S.*; Slotte, J. P. *Biophys. J.* **2011**, *99*, 3300-3308.
- (3) [1,5]-H Shift of Aldehyde Hydrogen in Dienal Compounds to Produce Ketenes
Sakaguchi, T; Okuno, Y.; Tsutsumi, Y.; Thuchikawa, H.; Katsumura, S.* *Org. Lett.* **2011**, *13*, 4292-4295.
- (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) Effects of sphingosine 2*N*- and 3*O*-methylation on palmitoyl ceramide properties in bilayer membranes
Maula, T.; Yamaguchi, S.; Kurita, M., Yamamoto, T.; Katsumura, S.*; Slotte, J.P. *Biophys J.*, **2011**, *101*, 2948-2956.
- (6) Exploring a Unique Reactivity of 6*π*-Azaelectrocyclization to Enzyme Inhibition, Natural Products Synthesis, and Molecular Imaging: An Approach to Chemical Biology by Synthetic Chemists
Tanaka, K.; Fukase, K.; Katsumura S*. *SYNLETT*, **2011**, 2115-2139.
- (7) N- and O-Methylation of sphingomyelin markedly affects its membrane properties and interactions with cholesterol
Björkbom, A.; Róg, T.; Kankaanpää, 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.
- (8) Singlet and triplet state spectra and dynamics of structurally modified peridinins
Fuciman, M.; Enriquez, M. M.; Kaligotla, S.; Niedzwiedzki, D. M.; Kajikawa, T.;

- Aoki, K.; Katsumura, S.*; Frank, H. A. *J. Phys. Chem. B* **2011**, *115*, 4436-4445.
- (9) Structure-activity relationship of sphingomyelin analogs with sphingomyelinase from *Bacillus cereus*
Niinivehmas, C. S.; Maula, T.; Kurita, M.; Yamaguchi, S.; Yamamoto, T.; Katsumura, S.*; Slotte, J. P. *Biochim. Biophys. Acta.* , **2012**, *1818*, 474-480.
- (10) New type of azacyclization: thermal preparation of 4,6-disubstituted 2-piperidinone from N-sulfonyldienamide and its substituted effect
Maekawa, Y.; Sakaguchi, T.; Thuchikawa, H.; Katsumura, S.* *Tetrahedron Lett.* **2012**, *53*, 837-841.
- (11) Stereocontrolled total synthesis of fucoxanthin and its polyene chain-modified derivatives
Kajikawa, T.; Okumura, S.; Iwashita, T.; Kosumi, D.; Hashimoto, H.; Katsumura, S.* *Org. Lett.* **2012**, in press.

海洋性カロテノイドの効率的なエネルギー伝達のしくみを分子レベルで解き明かす
梶川敬之, 勝村成雄, 化学と生物, **2011**, *49* (4), 281-286.

5. 受賞等

- (1) 梶川敬之 (博士3年)

奨励賞, 第53回天然有機化合物討論会, 2011.12.19.