

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) Titanium Tetraiodide Promoted Reductive Enolate Formation of *a*-Tosyloxy Ketone Derivatives and Aldol Reaction with Aldehydes  
Hachiya, I.; Inagaki, T.; Ishihara, Y.; Shimizu, M.\* *Bull. Chem. Soc. Jpn.*, in press
- (2) Research Progress of Gel Polymer Electrolytes for Lithium Ion Batteries  
Zhang, P.; Li, L.; He, D.; Wu, Y.\*; Shimizu, M. *Acta Polymerica Sinica*, **2011**, 125-131.
- (3) Efficient Mannich Reaction Using Iminium Salts Generated from Glycine Derivatives,  
Shimizu, M.\*; Kusunoki, T.; Yoshida, M.; Kondo, K.; Mizota, I. *Chem. Lett*, **2011**, *40*, 351-353.
- (4) Titanium Tetraiodide Promoted Tandem Prins Reaction of Alkynes with Acetals: Synthesis of (*Z,Z*)-1,5-Diiodo-1,3,5-triarylpenta-1,4-dienes,  
Shimizu, M.\*; Okura, K.; Arai, T.; Hachiya, I. *Chem. Lett*, **2010**, *39*, 1052-1054.
- (5) Use of *N*-Allylidene-1,1-diphenylethanamine as a Latent Acrolein Synthone in the Double Nucleophilic Addition Reaction of Ketene Silyl (Thio)acetals and Allylborolanes  
Shimizu, M.\*; Kawanishi, M.; Mizota, I.; Hachiya, I. *Org. Lett.*, **2010**, *12*, 3571-3573.
- (6) Synthesis of 3,4-Ethylenedioxythiophene (EDOT) from (*Z*)-But-2-ene-1,4-diol or But-2-yne-1,4-diol  
Hachiya, I.; Matsumoto, T.; Inagaki, T.; Takahashi, A.; Shimizu, M.\* *Heterocycles*, **2010**, *82*, 449-460.
- (7) A New Method for the Synthesis of Multi-substituted Pyrroles of Biological Interest by Double Nucleophilic Addition to  $\alpha,\beta$ -Unsaturated Imines  
Takahashi, A.; Kawai, S.; Hachiya, I.; Shimizu, M.\* *Eur. J. Org. Chem.*, **2010**, 191-200.
- (8) Reductive Aldol and Mannich-Type Reactions of Azetidin-3-ones Promoted by Titanium Tetraiodide  
Hata, S.; Fukuda, D.; Hachiya, I.; Shimizu, M.\* *Chem. Asian J.*, **2010**, *5*, 473-477.
- (9) Facile Synthesis and Ring-Opening of 4-(Tributylstannyl)pyrrolidine-2-carboxylates  
Shimizu, M.\*; Ando, H.; Shibuya, H.; Hachiya, I. *Heterocycles*, **2010**, *80*, 773-778.
- (10)  $\alpha,\beta$ -不飽和イミンへの共役付加反応を用いる新規合成反応  
八谷 巖, 清水 真\*, *有機合成化学協会誌*, **2010**, *68*, 1006-1016.
- (11) Magnesium Halides  
Shimizu, M. In *Science of Synthesis Knowledge Updates*; Ishihara K., Ed; Thieme: Stuttgart, 2010; Vol 7, Chap. 6.12, pp 21-30.

(12) Magnesium Oxide, Alkoxides, and Carboxylates

Shimizu, M. In *Science of Synthesis Knowledge Updates*; Ishihara K., Ed; Thieme: Stuttgart, 2010; Vol 7, Chap. 6.13, pp 31-40.

(13) Magnesium Amides

Shimizu, M. In *Science of Synthesis Knowledge Updates*; Ishihara K., Ed; Thieme: Stuttgart, 2010; Vol 7, Chap. 6.14, pp 41-56.

## 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) Intriguing Reactions Using Activated Imino Compounds

Shimizu, M. The 20th International Symposium on Fine Chemistry and Functional Polymers & IUPAC 6th International Symposium on Novel Materials and Synthesis, Wuhan, China, 2010.10.10-14（招待講演）.

(2) Unpoled Tandem Reaction of  $\alpha$ -Imino Esters

Shimizu, M. The 2010 International Chemical Congress of Pacific Basin Societies (Pacifichem 2010), Honolulu, Hawaii, USA, 2010.12.15-20（ポスター発表）.

(3) ヘテロ原子の特徴を活かしたワンポット多段階反応を基軸とする合成反応の開発  
清水 真, 有機合成化学協会特別賞・協会賞記念講演会, 東京, 2011.2.18（招待講演）.

## 3. 特許

(1) 電解コンデンサの駆動用電解液及びそれを用いた電解コンデンサ

国立大学法人三重大学, 清水 真  
特願 2010-144727, 2010.6.25

## 4. 学会・シンポジウム等の開催状況

(1) 平成 22 年度有機合成化学協会東海支部有機合成セミナー, 三重大学, 2010.9.13 (清水 真, 支部監事).

## 5. 受賞等

(1) 清水 真 (A01 班, 公募班員)

有機合成化学協会賞 有機合成化学協会, 2011.2.18

6. 新聞報道等

(1) **Selected by the Editorial Board of Synfacts** (*Synfacts* **2010**, 1292.)

Use of *N*-Allylidene-1,1-diphenylethanamine as a Latent Acrolein Synthon in the Double Nucleophilic Addition Reaction of Ketene Silyl (Thio)acetals and Allylborolanes

Shimizu, M.; Kawanishi, M.; Mizota, I.; Hachiya, I. *Org. Lett.*, **2010**, *12*, 3571.

7. 領域内の共同研究の準備・実施状況とその成果

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8. その他特記事項

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