CV OF SHIGENOBU UMEMIYA

Personal Information

- Name: Shigenobu Umemiya
- Date of Birth: June 16, 1987
- Place of Birth: Fukushima, Japan
- Gender: Male
- Nationality: Japan
- Address: 6-3 Aoba, Aramaki, Aoba-ku, Sendai 980-8578, Japan
  Graduate School of Science, Tohoku University
- Tel: +81-(0)22-795-6583
- E-mail: shigenobu.umemiya.b5@tohoku.ac.jp
  sumemiya0398@gmail.com
- Languages: English and Japanese (spoken, written)

Education

2006-2010 **B.Sc** in Tokyo University of Science, Department of Industrial Chemistry

2010-2012 **M.Sc** in Tokyo University of Science, Department of Industrial Chemistry (Prof. Y. Hayashi)

2012-2015 **Ph.D.** in Graduate School of Science, Tohoku University (Prof. Y. Hayashi)

Research Experiences

2015-2017 **Postdoctoral Fellow**, The Scripps Research Institute (Prof. Phil S. Baran)

2017- **Assistant Professor**, Graduate School of Science, Tohoku University (Current: Prof. M. Terada)

Research Interest

Synthetic Methodology, Total Synthesis, Natural Products, Organocatalysis

Publications

1. *Organocatalytic 1,4-Addition Reaction of α,β-γ,δ-Diunsaturated Aldehyde versus 1,6-Addition Reaction*
   Y. Hayashi, D. Okamura, **S. Umemiya**, and T. Uchimaru
   ChemCatChem, **2012**, *4*, 959.

2. *Pot Economy in the Synthesis of Prostaglandin A_1 and E_1 Methyl Esters*

Y. Hayashi and **S. Umemiya**
Angew. Chem., Int. Ed, **2013**, *52*, 3450.

3. *Diphenylprolinol Silyl Ether Catalyzed Asymmetric Michael Reaction of Nitroalkanes and β,β-Disubstituted α,β-Unsaturated Aldehydes for the Construction of All-Carbon Quaternary Stereogenic Centers*
   Y. Hayashi, Y. Kawamoto, M. Honda, D. Okamura, **S. Umemiya**, Y. Noguchi, T. Mukaiyama, and I. Sato
   Chem. Eur. J. **2014**, *20*, 12072.

4. *Nef Reaction with Molecular Oxygen in the Absence of Metal Additives, and Mechanistic Insights* (**Hot paper**)
   S. Umemiya, K. Nishino, I. Sato, and Y. Hayashi
   Chem. Eur. J. **2014**, *20*, 15753.

5. *Asymmetric Formal [3+2] Cycloaddition Reaction of Succinaldehyde and Nitro-alkene Catalyzed by Diphenylprolinol Silyl Ether*
   S. Umemiya, Y. Hayashi
   Eur. J. Org. Chem. **2015***,* 4320.

6. *Asymmetric Aldol Reaction of Chloral Catalyzed by Diarylprolinol*
   Y. Hayashi, S. Watanabe, Y. Yasui, and **S. Umemiya**
   ChemCatChem, **2015**, *7*, 1646.

7. *Oxidative Amidation of Nitroalkanes with Amine Nucleophiles using Molecular Oxygen and Iodine*
   J. Li, M. J. Lear, Y. Kawamoto, **S. Umemiya**, A. R. Wong, E. Kwon, I. Sato, and Y. Hayashi
   Angew. Chem., Int. Ed, **2015**, *54*, 12986.

8. *Total Synthesis of Verruculogen and Fumitremorgin A Enabled by Ligand Controlled C─H Borylation*
   Y. Feng, D. Holte, J. Zoller, **S. Umemiya**, L. R. Simke, and P. S. Baran
   J. Am. Chem. Soc. **2015**, *137*, 10160.

9. *11-Step Total Synthesis of Pallambins C and D*

L. P. Martinez,[§] ***S. Umemiya***,[§] S. E. Wengryniuk, and P. S. Baran
§These authors contributed equally to this paper.
J. Am. Chem. Soc. **2016**, *138*, 7536.
Most Read Articles in 6/1/2016~7/1/2016 : Ranked as 1st.
Most Read Articles in 4/1/2016~4/1/2017 : Ranked as 3rd.

10. *Enantioselective Total Synthesis of Beraprost Using Organocatalyst*
S. Umemiya,[§] D. Sakamoto,[§] G. Kawauchi, and Y . Hayashi
§These authors contributed equally to this paper.
Org. Lett. **2017***, 19,* 1112.

11. *Enantio and Diastereoselective Synthesis of Latanoprost using an Organocatalyst*
G. Kawauchi, **S. Umemiya**, T. Taniguchi, K. Monde, and Y. Hayashi
Chem. Eur. J. **2018***, 24,* 8409.

12. *Domino Michael/Michael Reaction for the Formation of Chiral Spirocycles Using a Diphenylprolinol Silyl Ether*
Y. Hayashi, K. Nagai, and **S. Umemiya**
Eur. J. Org. Chem. **2019***,* 678.

13. *Asymmetric Michael Reaction of α-CF_3 Thioester and α,β-Unsaturated Aldehyde Catalyzed by Diphenylprolinol Silyl Ether*
Y. Hayashi, T. Yamada, M. Sato, S. Watanabe, E. Kwon, K. Iwasaki, **S. Umemiya**
Org. Lett. **2019** *,21,* 5183.

14. *Diarylprolinol‐Mediated Asymmetric Direct Cross‐Aldol Reaction of α,β‐Unsaturated Aldehyde as an Electrophilic Aldehyde*
Y. Hayashi, K. Nagai, **S. Umemiya**
Chem. Asian. J. **2019***, 14,* 4146.

15. *Inversion of the axial information during oxidative aromatization in the synthesis of axially chiral biaryls using organocatalyst as a key step*
S. Koshino, A. Takikawa, K. Ishida, T. Taniguchi, K. Monde, E. Kwon,
S. Umemiya, and Y. Hayashi
Chem. Eur. J. **2020***, 26,* 4524.

16. *Chiral Brønsted Acid-Catalyzed Enantioconvergent Propargylic Substitution Reaction of Racemic Secondary Propargylic Alcohols with Thiols*
    J. Kikuchi, K. Takano, Y. Ota, **S. Umemiya**, and M. Terada
    Chem. Eur. J. **2020***, ASAP. (https://doi.org/10.1002/chem.202001609)*

17. *Two-Phase Synthesis of Taxol®*
    Y. Kanda, H. Nakamura, **S. Umemiya**, R. K. Puthukanoori, V. R. M. Appala, G. K. Gaddamanugu, B. R. Paraselli, and P. S. Baran
    ChemRxiv Preprint 2020,
    (https://chemrxiv.org/articles/Two-Phase_Synthesis_of_Taxol_/12061620)

Award

2013 ***Student Presentation Award****, Japan (Annual Meeting of the Chemical Society of Japan): Total Synthesis of Prostaglandin E_1 Methyl Ester by Three Pot Sequences*

2014 ***Poster Presentation Award****, Japan (106^{th} Symposium on Organic Synthesis, Japan): Metal Free Nef Reaction with Molecular Oxygen and Mechanistic Insights*

2015 ***Student Presentation Award****, Japan (95th Annual Meeting of the Chemical Society of Japan): Metal Free Nef Reaction with Molecular Oxygen and Mechanistic Insights*

2015 ***Department of Chemistry Award****, Japan (Tohoku University)*

2015 ***Reaxys PhD Prize Finalist (Reaxys)****: Pot Economy in the Synthesis of Prostaglandin A1 and E1 Methyl Esters*

Grant

2014~2016 Research Fellow of the Japan Society for the Promotion of Sciences (DC2)
2018~2020 *Grant-in-Aid for Young Scientists*
2020~2023 *Grant-in-Aid for Young Scientists*