

# 重庆大学药学院

## 学术报告第一百五十二讲

**报告题目:** Catalytic Enantioselective Redox-Neutral Reactions and Divergent Heterocycle Syntheses

**报告人:** 赵宇 教授 (National University of Singapore)

**时 间:** 2019年3月4日(周一) 16:00

**地 点:** 重庆大学药学院学术报告厅

报告人简介:

### Employment

Jul 2017-present	Associate Professor of Chemistry, NUS
Aug 2011-Jun 2017	Assistant Professor of Chemistry, NUS
2008-2011	Postdoctoral associate with Prof. Richard R. Schrock Massachusetts Institute of Technology



### Education

2002- 2008	Ph.D. in Chemistry with Profs. Marc L. Snapper & Amir H. Hoveyda, Boston College
1998- 2002	B.S. in Chemistry with Prof. Limin Qi, Peking University

### Research interests

- Efficient catalytic methodology development
- Medicinal chemistry
- Pharmaceutical manufacturing
- Organic material and polymer chemistry

### Selected Publication

- 1) "Rhodium-Catalyzed Enantioconvergent Isomerization of Homoallylic and Bishomoallylic Secondary Alcohols," Huang, R.-Z.; Lau, K. K.; Li, Z.; Liu, T.-L.;\* Zhao, Y. *J. Am. Chem. Soc.* **2018**, *140*, 14647-14654.
- 2) "Pd-Titanium Relay Catalysis Enables Switch of Alkoxide- $\pi$ -Allyl to Dienolate Reactivity for Spiro- Heterocycle Synthesis," Yang, L.-C.; Tan, Z. Y.; Rong, Z.-Q.; Liu, R.; Wang, Y.-N.; Zhao, Y. *Angew. Chem. Int. Ed.* **2018**, *57*, 7860-7864.

- 3) "Visible-Light-Driven Alkyne Hydro-/Carboxylation Using CO<sub>2</sub> via Iridium/Cobalt Dual Catalysis for Divergent Heterocycle Synthesis," Hou, J.; Ee, A.; Feng, W.; Xu, J.-H.; Zhao, Y.;\* Wu, J.\* *J. Am. Chem. Soc.* **2018**, *140*, 5257-5263.
- 4) "Transition Metal-Free Decarboxylative Propargylic Substitution/Cascade Cyclization with Azolium Enolates or Acyl Anions," Lu, S.;<sup>†</sup> Ong, J.-Y.;<sup>†</sup> Poh, S. B.; Tsang, T.; Zhao, Y. *Angew. Chem. Int. Ed.* **2018**, *57*, 5714-5719.
- 5) "Highly Regio- and Stereodivergent Access to 1,2-Amino Alcohols or 1,4-Fluoro Alcohols by NHC-Catalyzed Ring Opening of Epoxy enals," Poh, S. B.; Ong, J. Y.; Lu, S.;\* Zhao, Y.\* *Angew. Chem. Int. Ed.* **2018**, *57*, 1645-1649.
- 6) "Pd-Catalyzed Enantioselective [6+4] Cycloaddition of Vinyl Oxetanes with Azadienes to Access Ten-Membered Heterocycles," Wang, Y. N.;<sup>†</sup> Yang, L. C.;<sup>†</sup> Rong, Z.-Q.; Liu, T.-L.; Liu, R.; Zhao, Y. *Angew. Chem. Int. Ed.* **2018**, *57*, 1596-1600.
- 7) "Nine-Membered Benzofuran-Fused Heterocycles: Enantioselective Synthesis by Pd-Catalysis and Rearrangement via Transannular Bond Formation," Rong, Z.-Q.;<sup>†</sup> Yang, L.-C.;<sup>†</sup> Liu, S.; Yu, Z.; Wang, Y.-N.; Tan, Z. Y.; Huang, R.-Z.; Lan, Y.;\* Zhao, Y.\* *J. Am. Chem. Soc.* **2017**, *139*, 15304-15307.
- 8) "Enantioselective Synthesis of Tetrahydroquinolines Using Borrowing Hydrogen: Cooperative Catalysis by Achiral Iridacycle and Chiral Phosphoric Acid," Lim, C. S.; Quach, T. T.; Zhao, Y. *Angew. Chem. Int. Ed.* **2017**, *56*, 7176-7180 (VIP).
- 9) "Rhodium-Catalyzed Enantioselective Isomerization of Secondary Allylic Alcohols," Liu, T.-L.; Ng, T. W.; Zhao, Y. *J. Am. Chem. Soc.* **2017**, *139*, 3643-3646.
- 10) "Construction of Nine-Membered Heterocycles through Palladium-Catalyzed Formal [5+4] Cycloaddition," Yang, L.-C.;<sup>†</sup> Rong, Z.-Q.;<sup>†</sup> Wang, Y.-N.; Tan, Z. Y.; Wang, M. Zhao, Y. *Angew. Chem. Int. Ed.* **2017**, *56*, 2927-2931.