

(2018 年 03 月 22 日) 报告人: Lutz Ackermann

报告题目: Selectivity Control in C–H Activation

报告人: Lutz Ackermann

Professor of Chemistry

Georg-August-University Göttingen

Institute for Organic and Biomolecular Chemistry

Email: Lutz.Ackermann@chemie.uni-goettingen.de

Homepage: <http://www.ackermann.chemie.uni-goettingen.de/>

报告时间: 2018 年 03 月 22 日(星期四) 10:00-12:00AM

报告地点: 同济大学 化学馆 120 室

报告人简介:

Scientific Vita

Since 2017 PI at German Centre for Cardiovascular Research (DZHK)

2015 - 2017 Director of the Institute of Organic and Biomolecular Chemistry

2013 – 2015 Dean of Research, Faculty of Chemistry, Georg-August-University Göttingen

2011 – 2013 Dean of the Faculty of Chemistry, Georg-August-University Göttingen

Since 2007 Full Professor (W3) at the Georg-August-University Göttingen

2003 – 2007 Emmy Noether-Fellow (DFG): Independent research at the LMU München

2001 – 2003 Postdoctoral Studies with Prof. Robert G. Bergman, UC Berkeley, U.S.A.

1998 – 2001 Ph.D. thesis (Prof. Alois Fürstner), MPI Kohlenforschung in Mülheim

1993 – 1998 Diploma of Chemistry at the Christian-Albrechts-Universität zu Kiel Organization

Awards and Recognition (selected)

2018 Distinguished Visiting Professor, IIT Bombay, Indien

2017 Clarivate (Web of Science) Hottest Researchers

2017 Gottfried-Wilhelm-Leibniz Prize

2012 ERC Independent Researcher Consolidator Grant

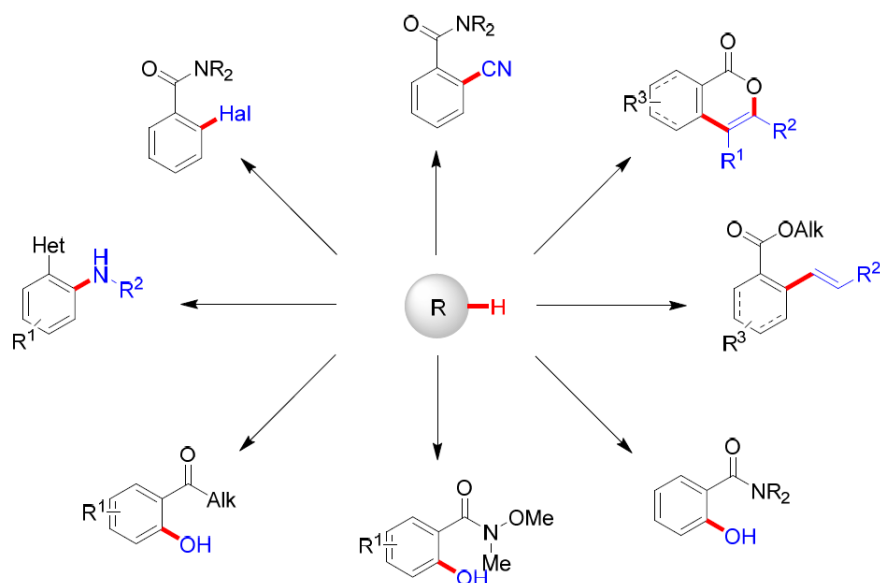
2011 AstraZeneca Excellence in Chemistry Award

Selected Memberships

Technion Gesellschaft (since 2010), ACS (since 2002), GDCh (since 1997)

报告摘要:

C–H activation has surfaced as a powerful platform in molecular synthesis, with transformative applications to material sciences and drug discovery, among others.¹ In this context, we have introduced bifunctional bases, such as phosphinous acids and carboxylates, as additives for positional selective C–H arylations and alkylations with versatile ruthenium(II) complexes,² displaying complementary selectivities as compared to palladium, nickel, cobalt, iron, copper or manganese catalysis.³ Detailed mechanistic insights into the working mode of the key C–H ruthenation step set the stage for ruthenium(II)-catalyzed twofold C–H functionalizations as well as step-economical oxidative alkyne annulations.^{4,5} The oxidative C–H functionalization strategy proved broadly applicable and enabled, among others, ruthenium(II)-catalyzed oxygenations, and nitrogenations, meta- and para-selective arene diversification.⁶ Likewise, late-stage peptide diversification⁷ and electrochemical C–H activations will be discussed.⁸



参考文献:

1. Ackermann, L.; Vicente, R.; Kapdi, A. *Angew. Chem. Int. Ed.* 2009, 48, 9792.
2. Ackermann, L. *Chem. Rev.* 2011, 111, 1315.
3. Representative examples: (a) (b) Yang, F.; Koeller, J.; Ackermann, L., *Angew. Chem. Int. Ed.* 2016, 55, 4759. (c) Ruan, Z.; Sauermann, N.; Manoni, E.; Ackermann, L., *Angew. Chem. Int. Ed.* 2017, 56, 3172.
4. Ackermann, L. *Acc. Chem. Res.* 2014, 47, 281.
5. Bechtoldt, A.; Tirlor, C.; Raghuvanshi, K.; Warratz, S.; Kornhaaß, C.; Ackermann, L., *Angew. Chem. Int. Ed.* 2016, 55, 264.
6. Li, J.; Warratz, S.; Zell, D.; De Sarkar, S.; Ishikawa, E. E.; Ackermann, L. *J. Am. Chem. Soc.* 2015, 137, 13894.
7. Bauer, M.; Wang, W.; Lorion, M. M.; Dong, C.; Ackermann, L. *Angew. Chem. Int. Ed.* 2018, 57, 203
8. a) Tian, C.; Massignan, L.; Meyer, T. H.; Ackermann, L. *Angew. Chem. Int. Ed.* 2018, 57, 2383 ;
b) Sauermann, N.; Meyer, T. H.; Tian, C.; Ackermann, L., *J. Am. Chem. Soc.* 2017, 139, 18452.