

Corinna Schindler

Associate Professor of Chemistry
University of Michigan

Presented by Layhna Plagmann on September 29, 2020



Background and Education

- Born and raised in Schwaebisch Hall, Germany
- 1999-2004: Undergraduate work in organometallic chemistry, Technical University of Munich
 - Diploma Thesis at Scripps Research Institute with K.C. Nicolaou
- 2005-2010: Ph.D at ETH Zurich in Switzerland with Erick M. Carreira
 - Developed novel synthetic methods and successful synthesis of Banyaside A and Microcin SF608
- 2010-2013: Feodor Lynen Postdoctoral Fellow at Harvard with Eric N. Jacobsen
 - Worked in the field of asymmetric catalysis
- 2013-Present: Assistant/Associate Professor of Chemistry, University of Michigan

<https://www.schindlerresearchgroup.com>



<https://www.flickr.com/photos/14128645@N05/36754382520>

Selected Recent Awards

2020 ACS Pure Chemistry Award
2020 Presidential Early Career Award for Scientists and Engineers (PECASE)
2019 ChemComm Emerging Investigator Award
2018 Nature Inspiring Science Award – Shortlist
2018 Amgen Young Investigator Award
2018 Camille Dreyfus Teacher-Scholar Award
2017 C&E News Talented Twelve
2017 ACS Green Chemistry GreenX: Rising Star
2016 NSF Career Award

Research Interests

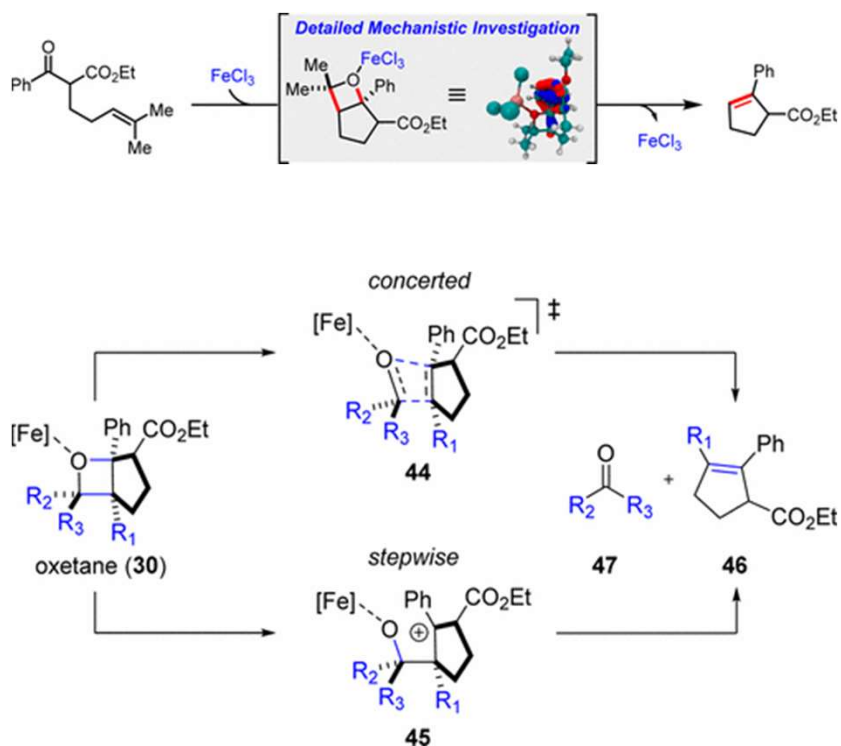
Schindler Research Group

- Innovations in modern synthetic organic and organometallic chemistry
- Synthesis of biologically active molecules
- Development of new methodologies utilizing Earth-abundant metals
- Synthesis of natural products
- Investigation into the biological activity of natural products and their analogs

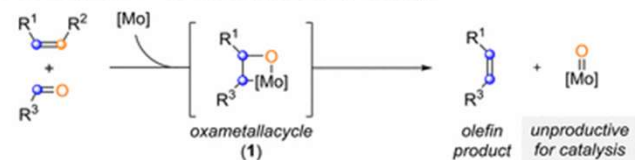


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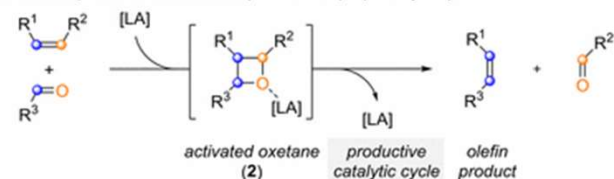
Mechanistic Investigations of the Iron(III)-Catalyzed Carbonyl-Olefin Metathesis Reaction



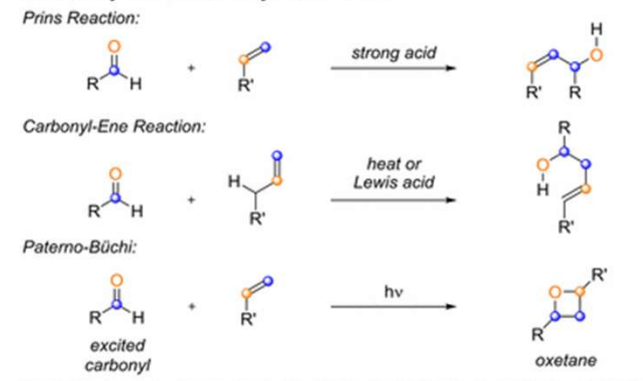
A Carbonyl-Olefin Metathesis (stoichiometric in metal):



B Carbonyl-Olefin Metathesis (Lewis acid (LA)-catalyzed):

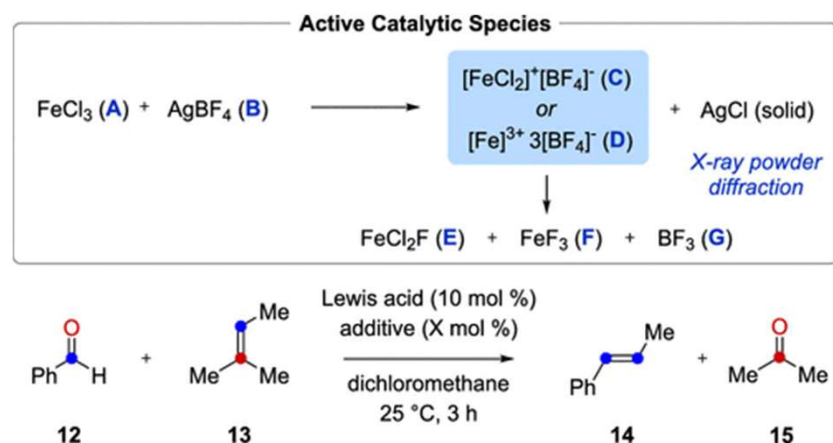
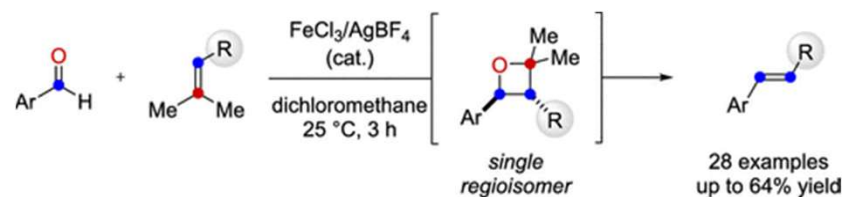


C Reactivity Between Carbonyls and Olefins:

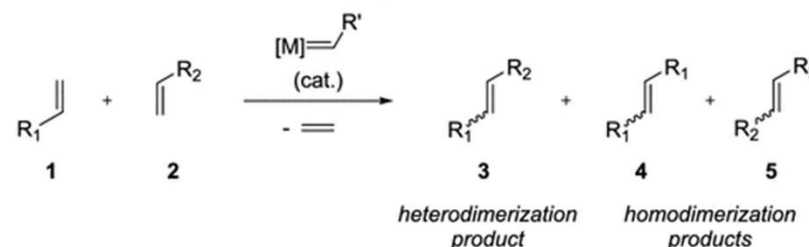


J. Am. Chem. Soc. 2017, 139, 31, 10832–10842

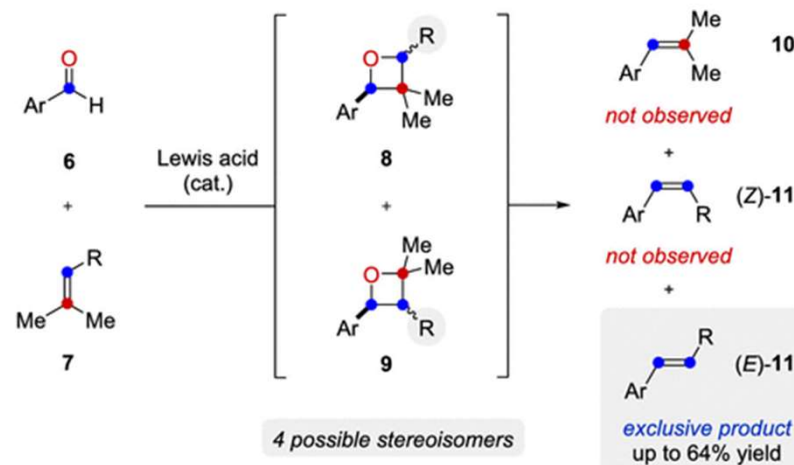
Superelectrophilic Fe(III)–Ion Pairs as Stronger Lewis Acid Catalysts for (E)-Selective Intermolecular Carbonyl–Olefin Metathesis



A. Olefin-Olefin Cross-Metathesis (CM).



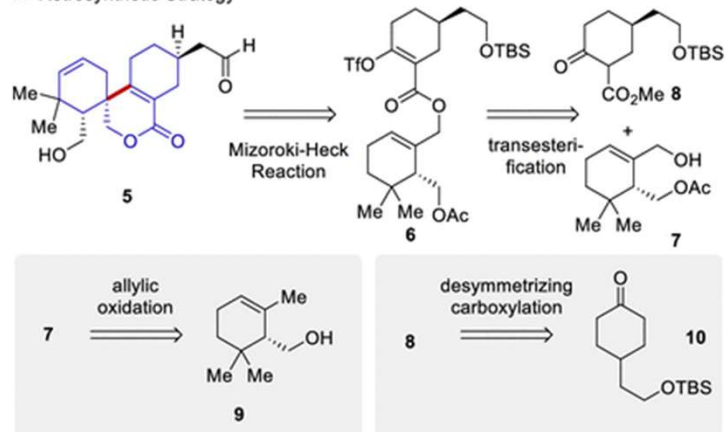
B. This work: (E)-Selective Carbonyl–Olefin Metathesis.



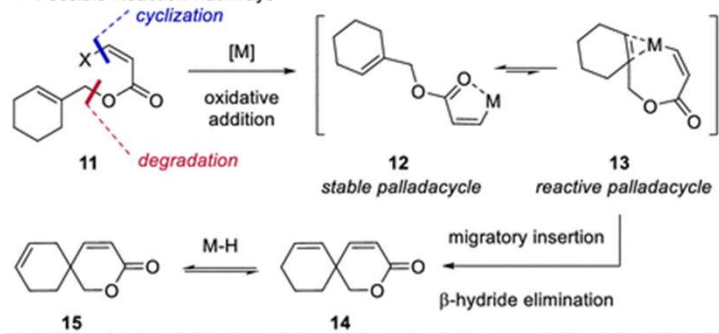
Org. Lett. 2020, 22, 8, 3155–3160

High-Throughput Approach toward the Development of a Mizoroki–Heck Reaction To Access Tricyclic Spirolactones

A. Retrosynthetic Strategy

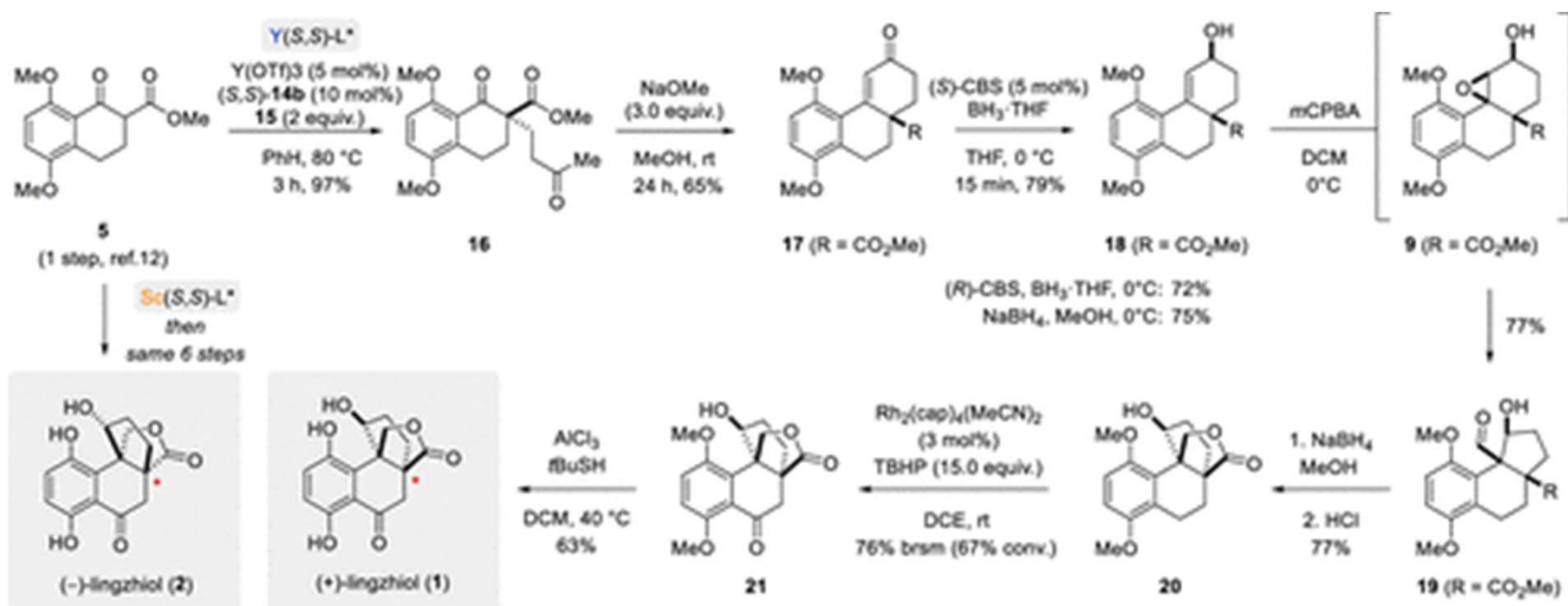


B. Possible Reaction Pathways



J. Org. Chem. 2020, 85, 14, 9071–9079

Eight-Step Enantiodivergent Synthesis of (+)- and (–)-Lingzhiol



Org. Lett. 2020, 22, 1, 290–294