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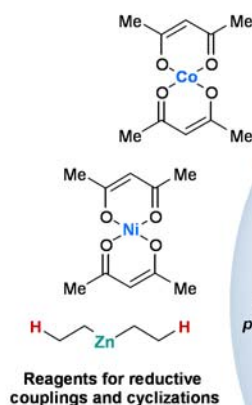
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Research Interests: organic synthesis, new reaction methodology, asymmetric catalysis, natural product synthesis

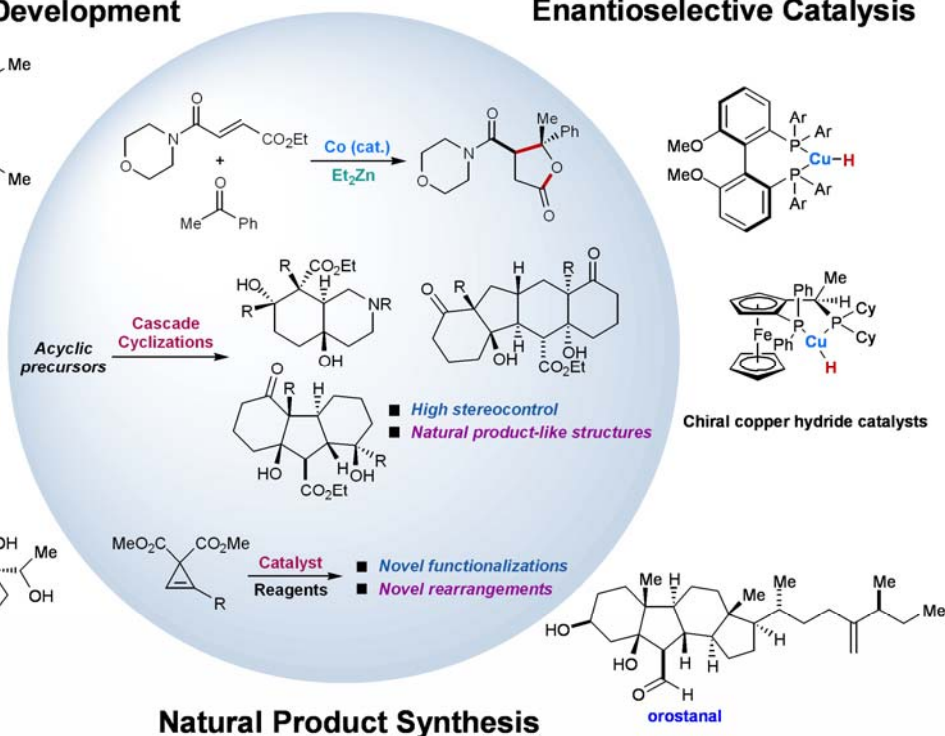
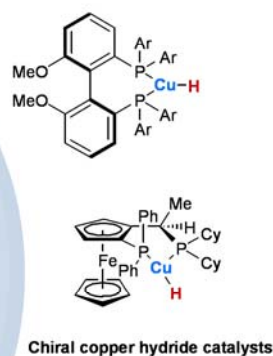


The principal objective of our research program is the development of new reaction methodology of broad utility to organic synthesis. We are particularly interested in the design of new metal-catalyzed reactions that result in rapid increases in molecular and/or stereochemical complexity. Projects involve the development of catalytic systems that operate through novel modes of action and which lead to product formation with high levels of diastereo- and enantiocontrol. Current areas of interest include: (i) the development of new reductive cyclization and coupling reactions; (ii) the generation of complex polycyclic structures through novel cascade cyclizations; (iii) investigation of the chemistry of strained small-ring systems, and (iv) application of newly developed methodology to the synthesis of biologically active molecules.

New Reaction Development



Enantioselective Catalysis



These projects will offer a comprehensive education in many aspects of organic synthesis, and will provide the foundation for successful future careers within the chemical industry or academia.

SELECTED RECENT PUBLICATIONS

1. Aromatic Heterocycles as Activating Groups for Asymmetric Conjugate Addition Reactions. Enantioselective Copper-Catalyzed Reduction of 2-Alkenylheteroarenes, Rupnicki, L.; Saxena, A.; Lam, H. W. *J. Am. Chem. Soc.* **2009**, *131*, 10386–10387.
2. Stereoselective Synthesis of Multisubstituted Enamides via Rhodium-Catalyzed Carbozincation of Ynamides, Gourdet, B.; Lam, H. W. *J. Am. Chem. Soc.* **2009**, *131*, 3802–3803.
3. Stereoselective Synthesis of Tri- and Tetrasubstituted Alkenes by Iron-Catalyzed Carbometalation–Ring-Opening Reactions of Cyclopropenes, Wang, Y.; Fordyce, E. A. F.; Chen, F. Y.; Lam, H. W. *Angew. Chem., Int. Ed.* **2008**, *47*, 7350–7353.