Impact of New Synthetic Methods on Drug Discovery

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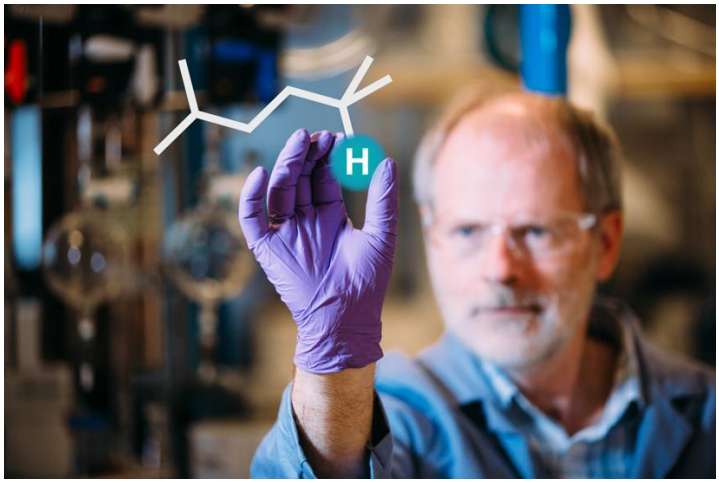
New synthetic methods offer opportunities to access chemical space that was previously beyond reach in a reasonable way. We have been involved in the design of catalysts to control site selective C-H functionalization and cyclopropanations reactions. This presentation will describe the development of these catalysts and their impact on organic synthesis. The synthetic utility of this methodology will be illustrated by various collaborative applications with pharmaceutical companies including the synthesis of chiral scaffolds of pharmaceutical interest and a focused drug discovery program towards treatments agents for cystic fibrosis.



Background References

1. H. M. L. Davies and K. Liao, "Dirhodium tetracarboxylates: privileged catalysts for selective intermolecular C-H functionalization" Nature Rev. Chem. **3**, 347-360 (2019).
2. H. M. L. Davies, "Finding opportunities from surprises and failures. Development of rhodium-stabilized donor/acceptor carbenes and their application to catalyst-controlled C-H functionalization" J. Org. Chem. **84**, 12722 (2019).