

Dr Michael Greaney Reader in Organic Chemistry

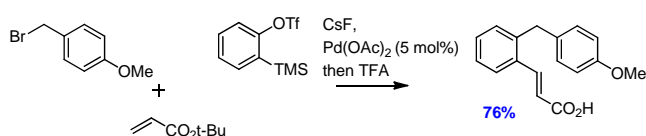
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Research Interests: Synthetic organic chemistry, chemical biology, natural product synthesis, asymmetric catalysis, medicinal chemistry



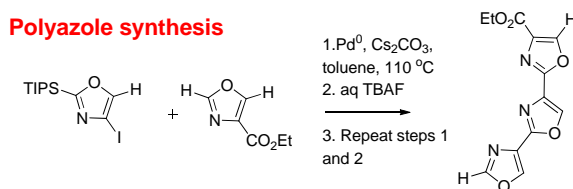
The MFG group is broadly based in organic synthesis. At the fundamental level, we look to develop new methods that enable faster, cleaner and better synthesis. We then apply these methods to the construction of complex molecule targets that have interesting biological roles and functions. These targets are usually drawn from natural product or medicinal chemistry. Finally, we look to apply our core expertise in synthetic chemistry to problems at the interface of chemistry and biology.

Reactive Intermediates - Arynes

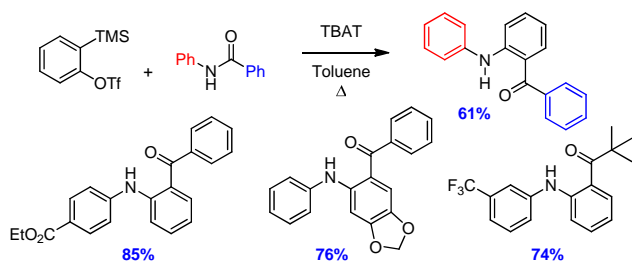


C-H Activation

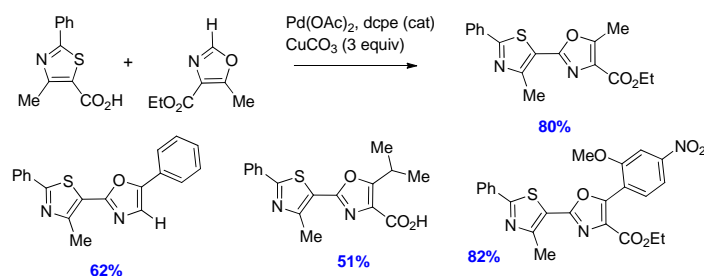
Polyazole synthesis



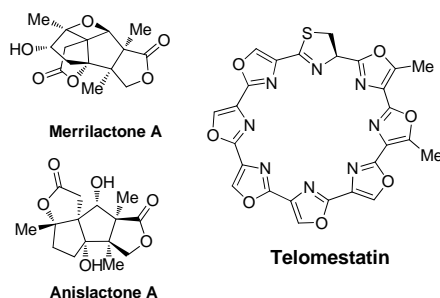
Amide Insertion



Decarboxylative C-H arylation

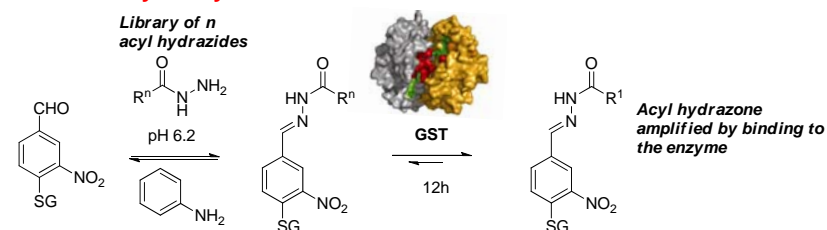


Natural Product Targets



Dynamic Covalent Chemistry

Aniline-catalysed hydrazone formation



SELECTED RECENT PUBLICATIONS

1. Bhat, V. T.; Caniard, A. M.; Luksch, T.; Brenk, R.; Campopiano, D. J.; Greaney, M. F. 'Nucleophilic catalysis of acylhydrazone equilibration for protein-directed dynamic covalent chemistry' *Nature Chem.* **2010**, *2*, 490-497.
2. Zhang, F.; Greaney, M. F. 'Decarboxylative C-H arylation of azoles' *Angew. Chem. Int. Ed.* **2010**, *49*, 2768-2771.
3. Ohnmacht, S. O.; Culshaw, A. J.; Greaney, M. F. "Direct Arylation of 2H-Indazoles" *Org. Lett.*, **2010**, *12*, 224-226.
4. Pintori, D. G.; Greaney, M. F. 'Insertion of benzene rings into the amide bond. One pot synthesis of Acridines and acridones' *Org. Lett.* **2010**, *12*, 168-171.
5. Cant, A. A.; Bertrand, G. V. H.; Henderson, J. L.; Roberts, L. Greaney, M. F. 'The Benzyne-Aza Claisen Reaction' *Angew. Chem. Int. Ed.* **2009**, *48*, 5199-5202.