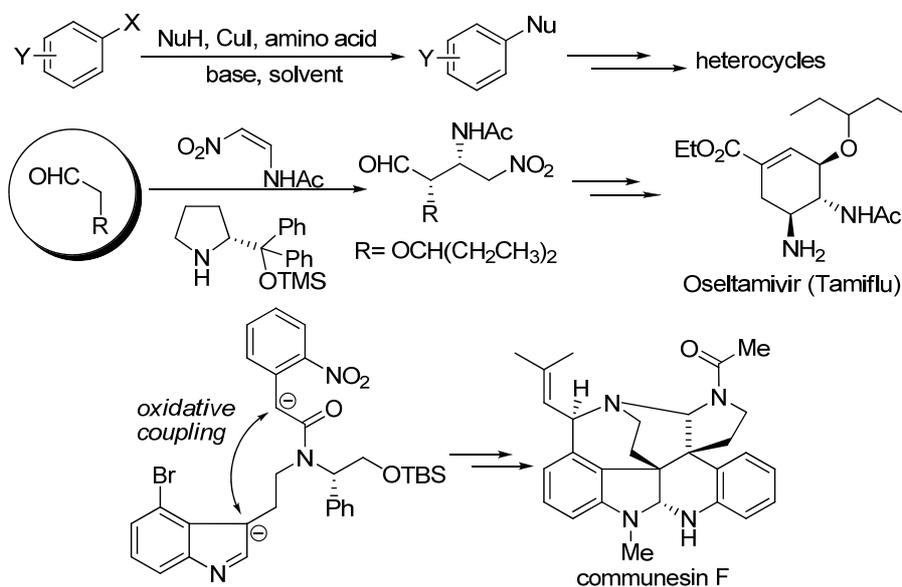


Target Synthesis Directed Methodology Development

Dawei Ma

State Key Laboratory of Bioorganic and Natural Products Chemistry, Shanghai Institute of Organic Chemistry, Chinese Academy of Sciences, 354 Fenglin Lu, Shanghai 200032, China
E-mail: madw@mail.sioc.ac.cn

Development of new synthetic methodologies plays an irreplaceable role in the synthesis of natural products and designed molecules. Novel methods may make the known target molecules more readily accessible. On the other hand, target synthesis may prompt the creation of new synthetic methodologies. This lecture will summarize our recent results on methodology development, which are initially discovered during the synthesis of bioactive molecules. These methods include amino acid promoted Ullmann-type reactions and their applications in the synthesis of pharmaceutically important heterocycles;¹ organocatalytic Michael addition of functionalized nitroolefins;² and preparation of spiro-fused indolines via intramolecular oxidative coupling.³



References:

- (1) a) Ma, D.; Cai, Q. *Acc. Chem. Res.* **2008**, *41*, 1450. b) Ma, D.; Xie, S.; Xue, P.; Zhang, X.; Jiang, Y. *Angew. Chem. Int. Ed.* **2009**, *48*, 4222. c) Ma, D.; Geng, Q.; Zhang, H.; Jiang, Y. *Angew. Chem. Int. Ed.* **2010**, *49*, 1291. d) Zou, B.; Yuan, Q.;

- Ma, D. *Angew. Chem. Int. Ed.* **2007**, *46*, 2598. e) Ma, D.; Lu, X.; Shi, L.; Zhang, H.; Jiang, Y.; Liu, X. *Angew. Chem. Int. Ed.* **2011**, *50*, 1118.
- (2) a) Zhu, S.; Yu, S.; Ma, D. *Angew. Chem. Int. Ed.* **2008**, *47*, 545. b) Zhu, S.; Yu, S.; Wang, Y.; Ma, D. *Angew. Chem. Int. Ed.* **2010**, *49*, 4656.
- (3) a) Zuo, Z.; Xie, W.; Ma, D. *J. Am. Chem. Soc.* **2010**, *132*, 13226. b) Zuo, Z. Ma, D. *Angew. Chem. Int. Ed.* **2011**, in press.