

演題: Diamination of Alkenes with High Oxidation State Reagents

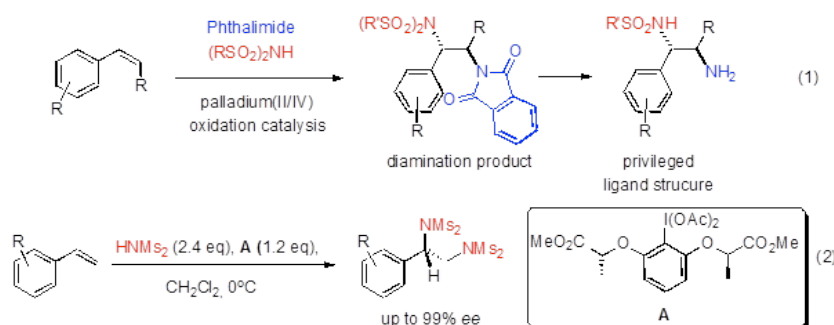
講師: Prof. Kilian Muñiz

Institute of Chemical Research of Catalonia (ICIQ), Spain

日時: 2014年7月7日(月) 15:00~16:30

場所: 工学部材料・化学棟中会議室 (MC102)

要旨: The first part of the lecture will focus on concepts for palladium catalysed synthesis of vicinal diamines from alkenes.^{1,2} Key methodology is the use of high oxidation state metal catalysis such as palladium(II/IV) catalysis.³ These reactions have been elaborated for terminal and internal alkenes with and proceed under complete regio- and diastereoselectivity (eq. 1).^{4,5} The final products can be converted readily into different ligand motifs.



Within our ongoing programme to develop new metal-free amination reactions, we have recently reported novel transformations using defined hypervalent iodine reagents in combination with bisulfonimides as nitrogen sources.⁶ Unprecedented transformations of this type include the first enantioselective diamination of alkenes (eq. 2)^{7,8} and first examples of selective diamination of butadienes.⁹ Related transformations including allylic amination¹⁰ and amination of acetylenes¹¹ will also be discussed.

(1) A. Iglesias, E. G. Pérez, K. Muñiz, *Angew. Chem. Int. Ed.* 2010, 49, 8109.

(2) K. Muñiz, J. Kirsch, P. Chávez, *Adv. Synth. Catal.* 2011, 353, 689.

(3) K. Muñiz, *Angew. Chem. Int. Ed.* 2009, 48, 9412.

(4) C. Martínez, K. Muñiz, *Angew. Chem. Int. Ed.* 2012 51, 7031.

(5) Á. Iglesias, R. Álvarez, Á. R. de Lera, K. Muñiz, *Angew. Chem. Int. Ed.* 2012 51, 2225.

(6) J. A. Souto, C. Martínez, I. Velilla, and K. Muñiz, *Angew. Chem. Int. Ed.* 2013, 52, 1324.

(7) C. Röben, J. A. Souto, Y. González, A. Lishchynskiy, K. Muñiz, *Angew. Chem. Int. Ed.* 2011, 50, 9478.

(8) J. Souto, Y. González, A. Iglesias, D. Zian, A. Lishchynskiy, K. Muñiz, *Chem. Asian J.* 2012, 7, 1103.

(9) A. Lishchynskiy, K. Muñiz, *Chem. Eur. J.* 2012, 18, 2213.

(10) J. A. Souto, D. Zian, K. Muñiz, *K. J. Am. Chem. Soc.* 2012, 134, 7242.

(11) J. A. Souto, P. Becker, A. Iglesias, K. Muñiz, *K. J. Am. Chem. Soc.* 2012, 134, 15505.

本講演は、大学院総合化学院『化学研究先端講義/総合化学特別研究第二』の一部として認定されています。

連絡先: 工学研究院有機プロセス工学部門 大熊 毅 (内線: 6599)
文部科学省特別経費「分子構築イノベーション」