

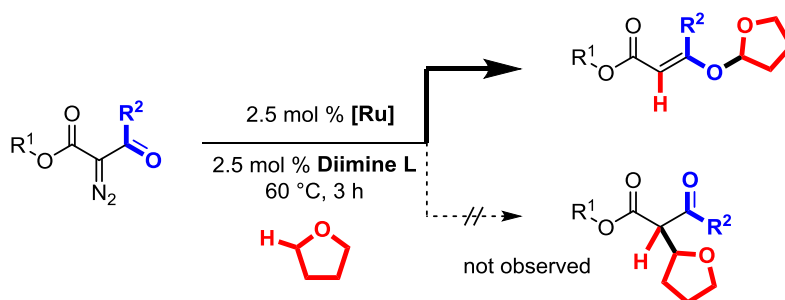
## Stereoselective synthesis & catalysis with metal carbenes

Jérôme Lacour

Department of Chemistry & Biochemistry, University of Geneva, Geneva 1211, Switzerland

[jerome.lacour@unige.ch](mailto:jerome.lacour@unige.ch)

In the context of the Frontiers in Chemistry conference, recent studies on metal-catalyzed reactions and processes will be presented – and those involving Rh(II)- and Ru(II)-catalyzed decompositions of  $\alpha$ -diazocarbonyls in particular.<sup>1-7</sup> An attention will be given to routes affording functionally rich midsize and macrocyclic polyether derivatives. Against traditional wisdom, the processes couple up to four separated components in one-pot under high concentration ( $\geq 1$  M) and non-templated conditions.<sup>3,5,7</sup> Also, THF derivatives may react and lead to original products of 1,4-C–H insertion. In contrast with previous results, only novel enol-acetal motifs are obtained through intermolecular C–O instead of C–C bond forming reactions.<sup>1</sup> Mechanistic investigations will be particularly detailed during the lecture.



1. Tortoreto, C.; Achard, T.; Zeghida, W.; Austeri, M.; Guénée, L.; Lacour, J. *Angew. Chem. Int. Ed.* **2012**, *51*, 5847.
2. Sharma, A.; Besnard, C.; Guénée, L.; Lacour, J. *Org. Biomol. Chem.* **2012**, *10*, 966.
3. Ballesteros-Garrido, R.; Rix, D.; Besnard, C.; Lacour, J. *Chem. Eur. J.* **2012**, *18*, 6626.
4. Sharma, A.; Guénée, L.; Naubron, J.-V.; Lacour, J. *Angew. Chem. Int. Ed.* **2011**, *50*, 3677.
5. Rix, D.; Ballesteros-Garrido, R.; Zeghida, W.; Besnard, C.; Lacour, J. *Angew. Chem. Int. Ed.* **2011**, *50*, 7308.
6. Austeri, M.; Rix, D.; Zeghida, W.; Lacour, J. *Org. Lett.* **2011**, *13*, 1394.
7. Zeghida, W.; Besnard, C.; Lacour, J. *Angew. Chem. Int. Ed.* **2010**, *49*, 7253.