

# V A B I L O

na predavanje z naslovom

## SYNTHESIS OF DIPYRIDOIMIDAZOLES AND BENZO- AND AZA-ANALOGUES VIA TANDEM METAL- CATALYSED AMINATIONS

predaval bo

**Prof. Dr. Bert U.W. Maes**

**Department of Chemistry, University of Antwerp, Belgium**

**Abstract:** Since its discovery in the mid nineties the substrate scope of the Buchwald-Hartwig reaction seriously expanded and the reaction has been successfully adopted in heterocyclic chemistry for the decoration and construction of nitrogen containing heterocyclic skeletons. Within the latter research field one of the most recent challenges is to search for tandem metal-catalyzed (Pd and/or Copper) processes involving multiple consecutive bond formation in one single reaction step. These provide a serious advantage since relatively complex entities can be built up in a one pot process starting from readily available building blocks, and may prove to be highly valuable in library development in pharmaceutical and agrochemical discovery programs. Known as well as new heterocyclic skeletons can be easily accessed. Only a few tandem Pd-catalyzed aminations have been reported in the literature for the construction of heteroaromatic skeletons. The synthesis of the dipyrido[1,2-*a*:3',2'-*d*]imidazole skeleton via auto tandem Pd-catalyzed aminations as well as the preparation of the regioisomeric dipyrido[1,2-*a*:2',3'-*d*]imidazole nucleus via auto tandem Pd- or orthogonal tandem Pd- and Cu-catalyzed aminations will be discussed [1-3]. The orthogonal tandem metal-catalyzed aminations developed by our lab are the first examples reported in the literature. During the lecture an insight in the different types of tandem catalysis will be given on the basis of published literature examples.

- [1] Loones, K.T.J.; Maes, B.U.W.; Dommissse, R.A.; Lemièrè, G.L.F. *Chem. Commun.* **2004**, *21*, 2466.
- [2] Loones, K.T.J.; Maes, B.U.W.; Meyers, C.; Deruytter, J. *J. Org. Chem.* **2006**, *71*, 260.
- [3] Loones, K.T.J.; Maes, B.U.W.; Herrebout, W.A.; Dommissse, R.A.; Lemièrè, G. L. F.; Van der Veken, B.J. *Tetrahedron* **2007**, *63*, 3818.

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Janez Košmrlj  
Fakulteta za kemijo in  
kemijsko tehnologijo