A. NÖRDER, P. HERRMANN, E. HERDTWECK, T. BACH* (TECHNISCHE UNIVERSITÄT MÜNCHEN, GARCHING, GERMANY)

Acyclic Stereocontrol in the Catalytic C–H Amination of Benzylic Methylene Groups *Org. Lett.* **2010**, *12*, 3690-3692.

Diastereoselective Catalytic C-H Amination

X = COOMe, PO(OEt)₂, SO₂Ph, NO₂, CN, OAc

Significance: The metal-mediated direct amination through C–H bond insertion is a very powerful transformation. It usually requires a metal nitrene species which undergoes C–H insertion into the most nucleophilic C–H bond. Herein, the authors report their preliminary results of a diastereoselective version of this reaction applied to acyclic substrates of type **1**, proceeding with an excellent degree of selectivity and high yields.

Comment: The authors found that especially substrates with bigger substituents $[X = PO(OEt)_2, SO_2Ph]$ gave the best selectivities. An important feature is that the C–H amination process does not affect the configuration of the stereogenic center in β -position when the reaction was carried out with enantiomerically pure starting material. Furthermore, a possible explanation for the diastereoselective outcome of the transformation has been assumed by considering the staggered conformer $\bf A$ to be more favored than conformer $\bf B$ due to dipole repulsion.

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Metal-Catalyzed Asymmetric Synthesis and Stereoselective Reactions

Key words

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