

Absolute Konfiguration von (+)-1,2,3,4,6,7,8,8a-Octahydro-6-isoquinolon-8a-carbonsäuremethylester und die Stereochemie einer Kupfer-katalysierten asymmetrischen Michael-Reaktion*

Absolute Configuration of Methyl (+)-1,2,3,4,6,7,8,8a-Octahydro-6-isoquinolone-8a-carboxylate and Stereochemistry of a Copper-Catalyzed Asymmetric Michael Reaction

Jens Christoffers, Wolfgang Frey, Heiko Scharl und Angelika Baro

Institut für Organische Chemie der Universität Stuttgart, Pfaffenwaldring 55, D-70569 Stuttgart, Germany

Sonderdruckanforderungen an Prof. Dr. J. Christoffers. Fax: (+49) 711/685 4269.

E-mail: jchr@po.uni-stuttgart.de

Z. Naturforsch. **59b**, 375 – 379 (2004); eingegangen am 6. Dezember 6, 2003

Enantiopure Boc-protected piperidine derivative (+)-**5c**, with a quaternary stereocenter, was obtained by copper-catalyzed, L-valine diethylamide-mediated Michael reaction. For determination of the absolute configuration, **5c** was derivatized by cyclization with pyrrolidine/AcOH to give compound **6** with bicyclo[4.4.0]-constitution, deprotection of the amino function with TFA and subsequent reaction with 2-iodobenzoic acid to yield the crystalline bicyclic amide **7**. X-ray crystallographic analysis confirmed the constitution of compounds **5c** and **6** and established the (*R*) configuration of **7**. Thus, starting Michael addition product (+)-**5c** has to be (*S*) configured, because an epimerization at the quaternary stereocenter is excluded. This result is in accordance with our working model of the Cu-catalyzed, auxiliary-assisted Michael reaction.

Key words: Amino Acids, Catalysis, Copper, Heterocycles, Stereochemistry