D. R. WHITE, J. T. HUTT, J. P. WOLFE* (UNIVERSITY OF MICHIGAN, ANN ARBOR, USA)
Asymmetric Pd-Catalyzed Alkene Carboamination Reactions for the Synthesis of 2-Aminoindane Derivatives
J. Am. Chem. Soc. **2015**, *137*, 11246–11249.

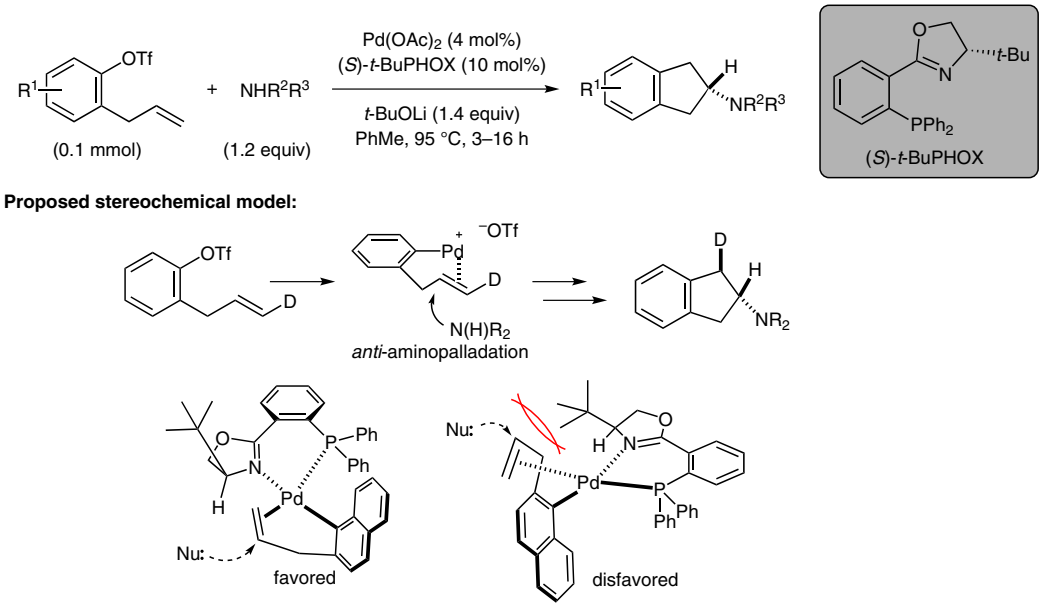
Category

Metal-Catalyzed Asymmetric Synthesis and Stereoselective Reactions

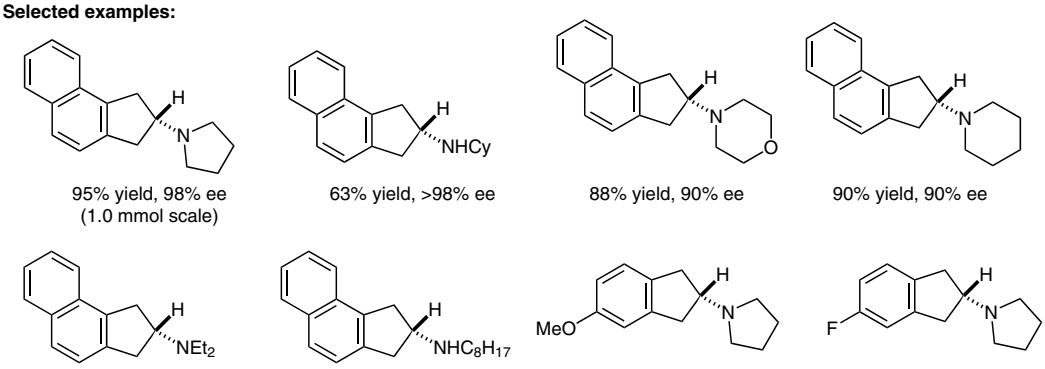
Key words

palladium
aminopalladation
stereoselectivity
carboamination
alkenes
aminoindanes

Palladium-Catalyzed Asymmetric Carboamination of Alkenes



Selected examples:



Significance: The authors presented an asymmetric alkene carboamination reaction that uses an external amine nucleophile. A combination of a palladium(II) salt and the (S)-*t*-BuPHOX ligand worked efficiently to deliver 2-aminoindane derivatives in high yields and excellent enantioselectivities (>98% ee).

Comment: The intermolecular *anti*-aminopalladation with an external amine nucleophile is the major highlight of this work. This group previously reported an intramolecular *anti*-aminopalladation for the synthesis of cyclic sulfonamides (*Chem. Eur. J.* **2014**, *20*, 8782). A deuterium-labelling study supported the *anti*-aminopalladation pathway. The choice of the chiral ligand and nucleophile are crucial for high yields and selectivities.

SYNFACTS Contributors: Hisashi Yamamoto, Ramesh C. Samanta
Synfacts 2015, 11(11), 1169 Published online: 19.10.2015
DOI: 10.1055/s-0035-1560686; **Reg-No.:** H12915SF

2015 © THIEME STUTTGART • NEW YORK

This document was downloaded for personal use only. Unauthorized distribution is strictly prohibited.