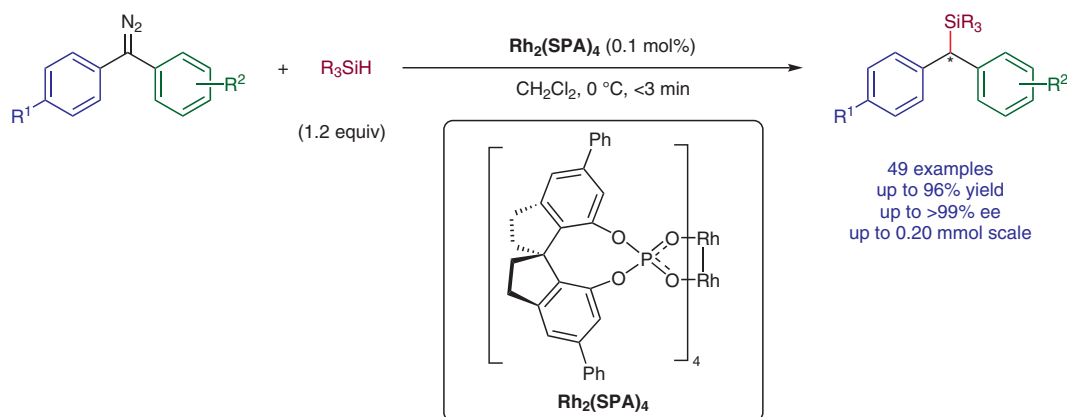


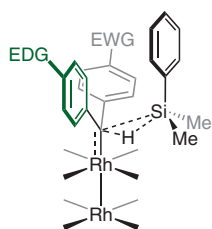
L.-L. YANG, D. EVANS, B. XU, W.-T. LI, M.-L. LI, S.-F. ZHU*, K. N. HOUK*, Q.-L. ZHOU* (NANKAI UNIVERSITY, TIANJIN, P. R. OF CHINA AND UNIVERSITY OF CALIFORNIA, LOS ANGELES, USA)

Enantioselective Diarylcarbene Insertion into Si-H Bonds Induced by Electronic Properties of the Carbenes
J. Am. Chem. Soc. **2020**, *142*, 12394–12399.

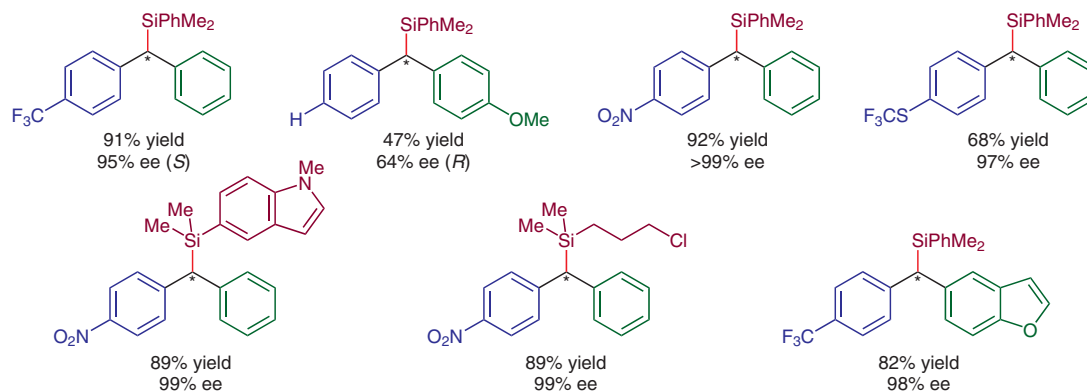
Rhodium-Catalyzed Enantioselective Diarylcarbene Insertion into Si-H Bonds



Model for selectivity:



Selected examples:



Significance: The authors describe a rhodium-catalyzed asymmetric coupling of silanes with diaryldiazomethanes. The enantioselection is shown to be induced by the electronic properties of the aryl substituents of the carbene rather than sterics.

Comment: DFT studies support the conclusion that, in the favored transition state, the more electron-rich aryl group is coplanar with the carbene empty p-orbital while the other ring is orthogonal, resulting in their differentiation.

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