Category

Organo- and Biocatalysis

Key words

N-heterocyclic carbenes

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Brook–benzoin reaction

indolecarboxaldehydes

acylsilanes

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Carbene-Catalyzed Activation of C–Si Bonds for Chemo- and Enantioselective Cross Brook-Benzoin Reaction
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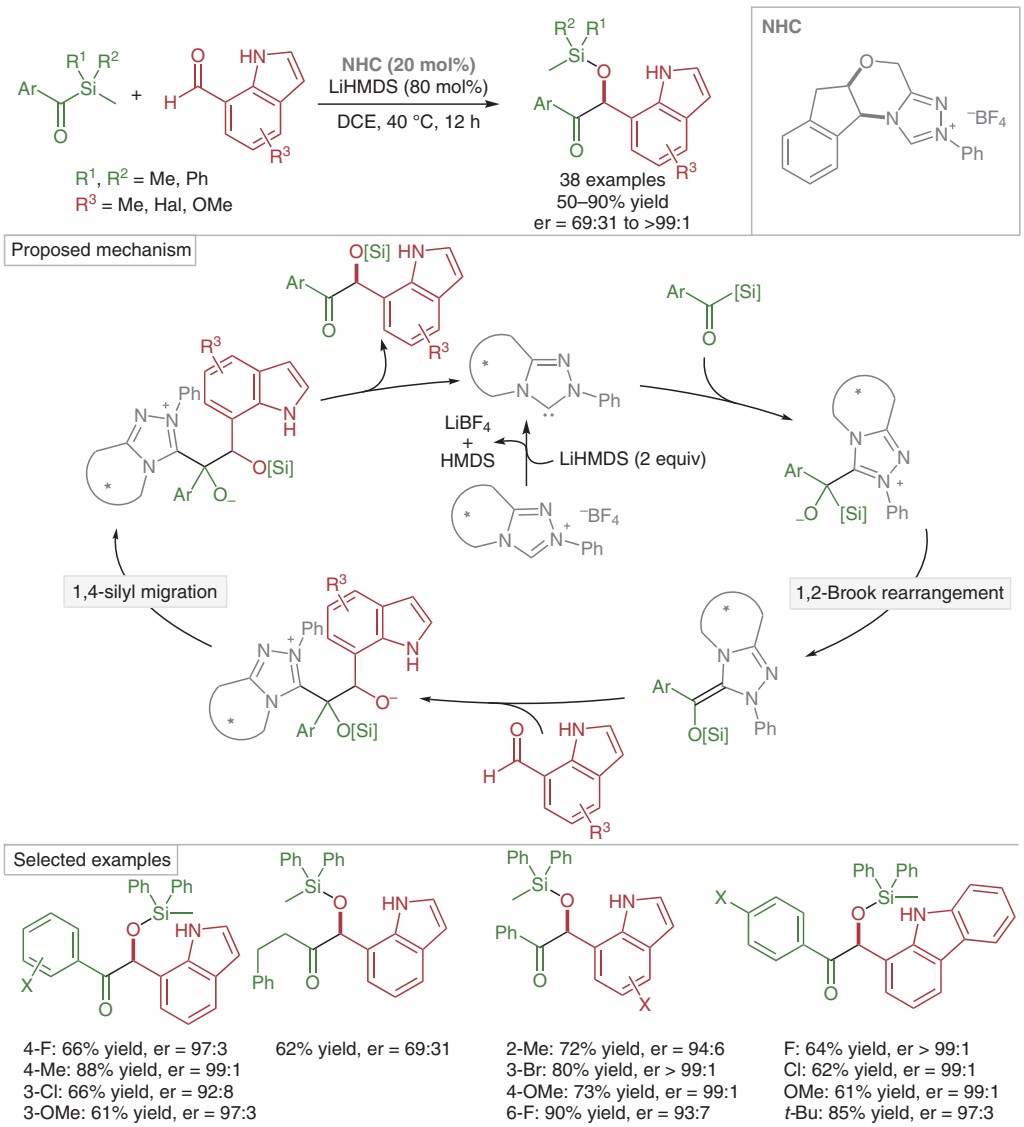
Asymmetric NHC-Catalyzed Brook–Benzoin Reaction of Acylsilanes with Indole-7-carboxaldehydes



Significance: Jin and co-workers report an N-heterocyclic carbene (NHC)-catalyzed asymmetric Brook–Benzoin reaction between acylsilanes and indole-7-carboxaldehydes. The resulting benzoin-type α-siloxyketone products are obtained in moderate to excellent yields and enantioselectivities. The reaction tolerates electron-deficient and electron-rich arene substituents on both substrates.

Comment: The authors' method introduces a facile synthesis of the agriculturally relevant, easily modifiable, indole-containing benzoin-type scaffold. Fourteen of the resultant products were shown to have superior antibacterial activity over commercial bactericides against a common bacterial canker. We look forward to modification of the reaction to reduce its dependency on the lithium base.

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