Y.-W. HUANG, K. KONG, J. L. WOOD* (BAYLOR UNIVERSITY, WACO, USA)
Total Synthesis of (+)- and (±)-Hosieine A
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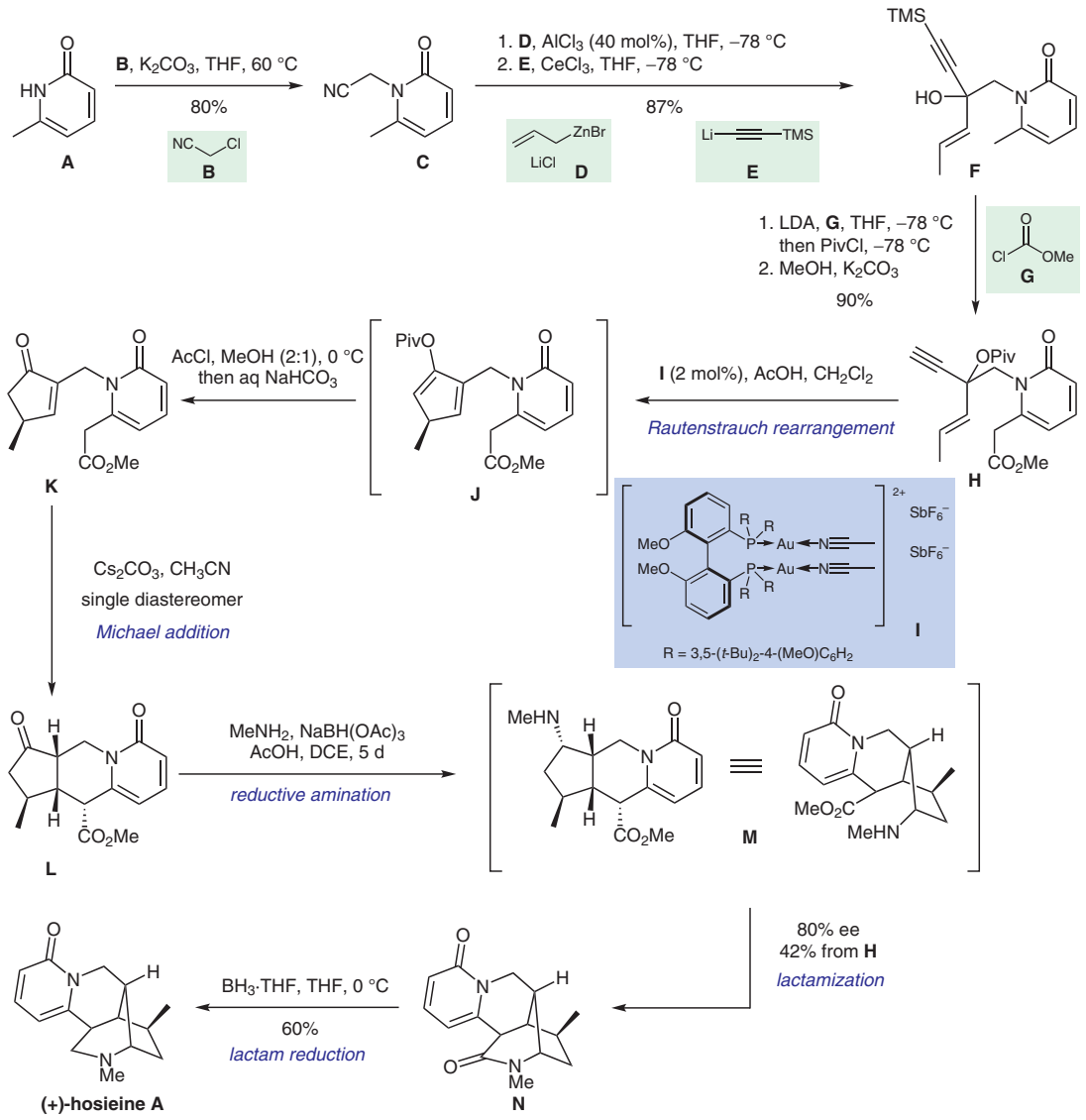
Total Synthesis of (+)-Hosieine A



Significance: The authors report a nine-step total synthesis of enantioenriched (+)-hosieine A. Natural products of the hosieine family were isolated from *O. hosiei* and show nanomolar activity against the nicotinic acetylcholine receptors (nAChRs). For a previous synthesis of (–)-hosieine A, see: J. Ouyang, R. Yan, X. Mi, R. Hong *Angew. Chem. Int. Ed.* **2015**, *54*, 10940.

Comment: The synthesis relied on a gold-catalyzed, enantioconvergent Rautenstrauch rearrangement that afforded enone **K**. After base-induced Michael addition to form **L** and reductive amination, spontaneous lactamization took place to give **N**. The lactam was reduced eventually with borane to give enantioenriched (+)-hosieine A.

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Category
Synthesis of Natural Products and Potential Drugs

Key words
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enantioconvergent gold catalysis
Michael addition

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