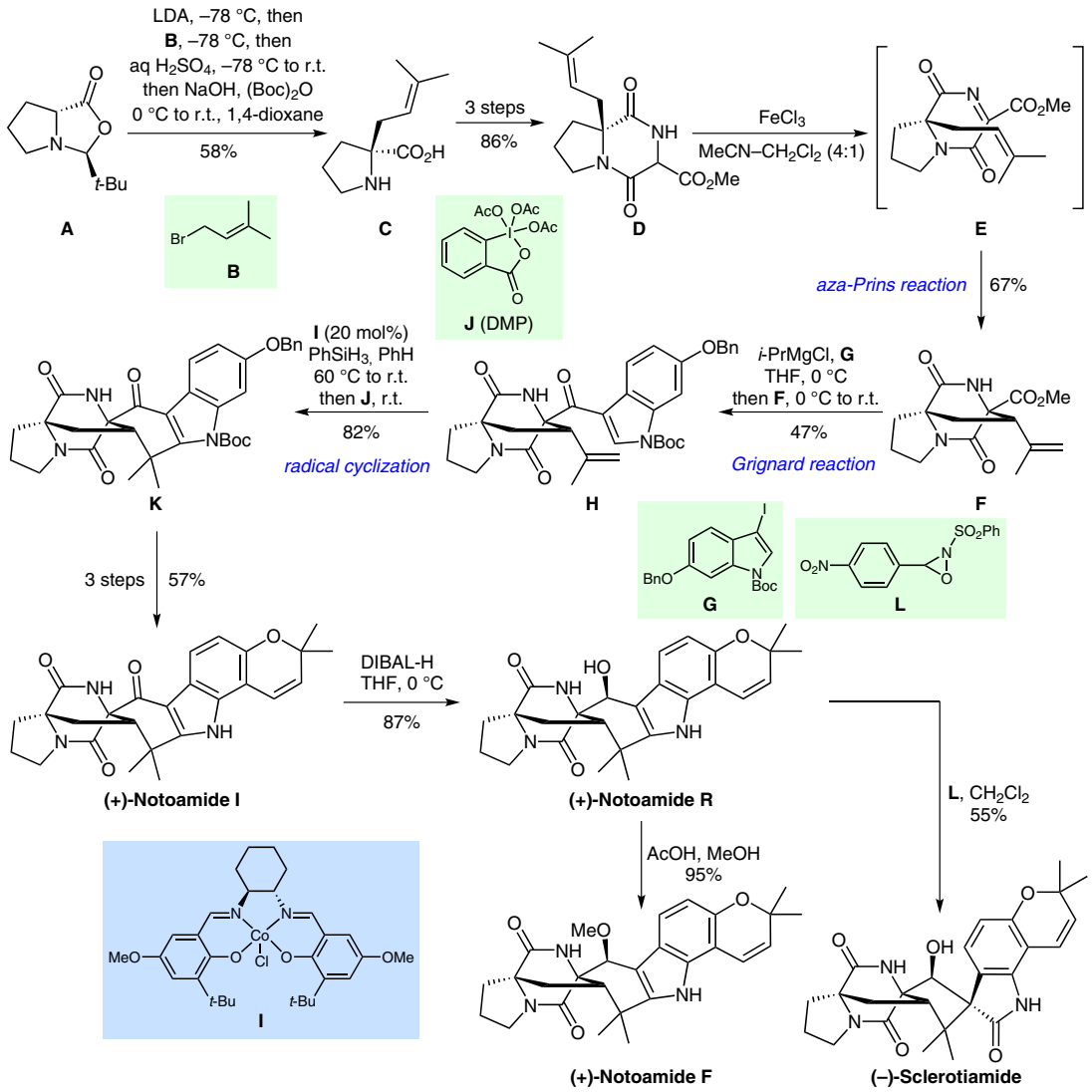
B. ZHANG, W. ZHENG, X. WANG, D. SUN,* C. LI* (SHANGHAI INSTITUTE OF ORGANIC CHEMISTRY AND NINGBO UNIVERSITY OF TECHNOLOGY, P. R. OF CHINA)
Total Synthesis of Notoamides F, I, and R and Sclerotiamide
Angew. Chem. Int. Ed. **2016**, *55*, 10435–10438.

Synthesis of (+)-Notoamides F, I, and R and (–)-Sclerotiamide



Significance: Herein, the authors describe the first total synthesis of (+)-notoamides F, I, and R, and (–)-sclerotiamide, isolated from the marine fungi *Aspergillus* sp. The synthetic strategy relies on a cobalt-mediated radical cycloisomerization and an aza-Prins cyclization to construct the bicyclo[2.2.2]diazaoctane core.

Comment: Treatment of diamide **D** with $FeCl_3$ induces an oxidative aza-Prins cyclization to give ester **F** in 67% yield. After Grignard addition of indole **G**, cobalt-mediated radical cyclization delivers **K**, which can be further transformed into (+)-notoamide I in three steps. From there, the other three natural products can be accessed.

SYNFACTS Contributors: Erick M. Carreira, Marco Brandstätter
Synfacts 2016, 12(10), 0999 Published online: 19.09.2016
DOI: 10.1055/s-0036-1589184; **Reg-No.:** C05016SF

Category
Synthesis of Natural Products and Potential Drugs

Key words
(+)-notoamide F
(+)-notoamide I
(+)-notoamide R
(–)-sclerotiamide
aza-Prins reaction
cobalt
radical cyclization