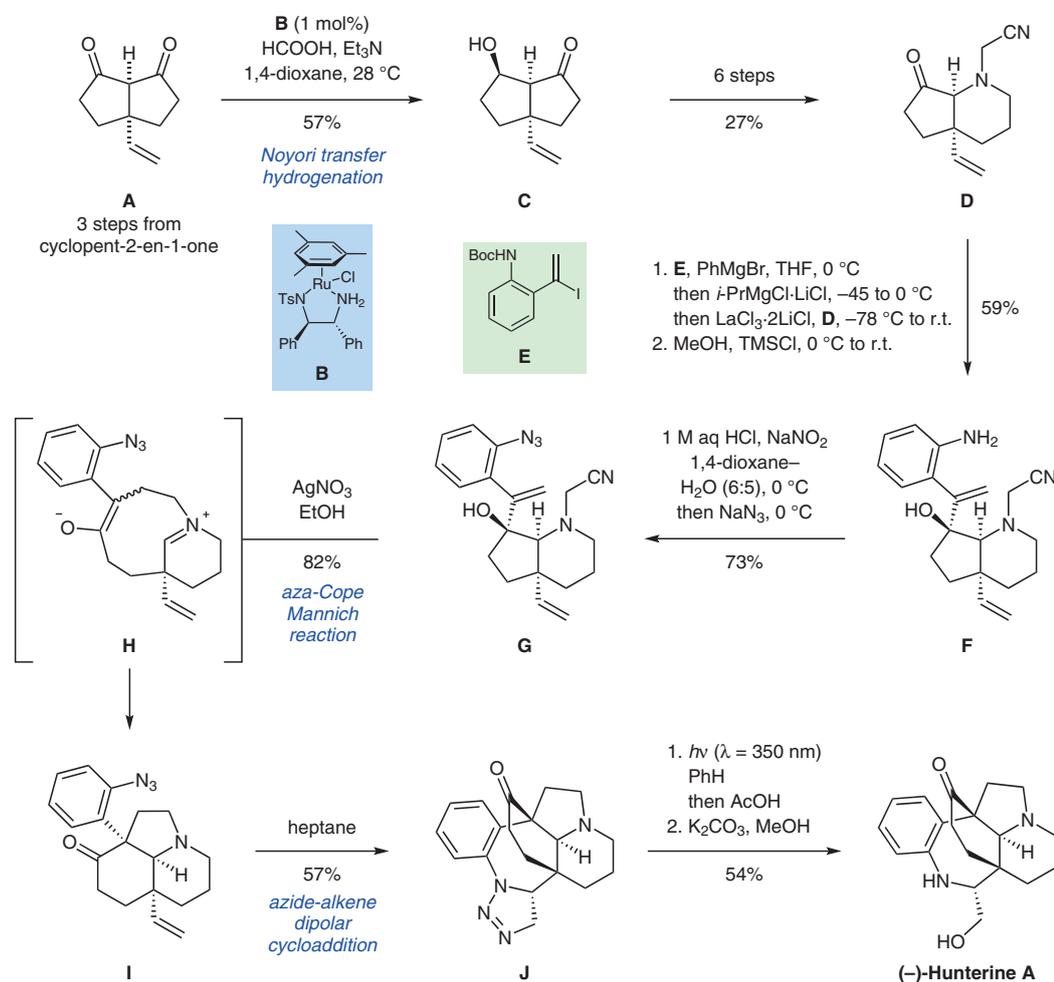


E. F. HICKS, K. INOUE, B. M. STOLTZ* (CALIFORNIA INSTITUTE OF TECHNOLOGY, PASADENA, USA)

Enantioselective Total Synthesis of (–)-Hunterine A Enabled by a Desymmetrization/Rearrangement Strategy

J. Am. Chem. Soc. **2024**, *146*, 4340–4345, DOI: 10.1021/jacs.3c13590.

Total Synthesis of (–)-Hunterine A



Significance: Stoltz and co-workers present the first total synthesis of (–)-hunterine A. This rearranged monoterpene indole alkaloid was isolated in 2019 and features a pentacyclic core structure. The synthesis hinges on a desymmetrization, an aza-Cope/Mannich sequence, and an azide-alkene dipolar cycloaddition.

Comment: Desymmetrization of diketone **A** was achieved through Noyori transfer hydrogenation, furnishing ketone **C**. Upon treatment with silver(I) nitrate in ethanol, allylic alcohol **G** underwent an aza-Cope/Mannich sequence, giving rise to ketone **I**, which is the substrate for an azide-alkene dipolar cycloaddition. Triazolone **J** was transformed to (–)-hunterine A through irradiation, opening of the resulting putative aziridine with acetic acid, and hydrolysis.

SYNFACTS Contributors: Erick M. Carreira, Lukas J. Sprenger
Synfacts 2024, 20(05), 0447 Published online: 15.04.2024
DOI: 10.1055/s-0043-1763714; Reg-No.: C03224SF

© 2024, Thieme. All rights reserved.
Georg Thieme Verlag KG, Rüdigerstraße 14, 70469 Stuttgart, Germany

Category

Synthesis of Natural Products

Key words

(–)-hunterine A

rearranged monoterpene indole alkaloid

Noyori transfer hydrogenation

aza-Cope/Mannich reaction

azide-alkene dipolar cycloaddition

Synfact of the Month

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