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Concise Total Synthesis of Tronocarpine
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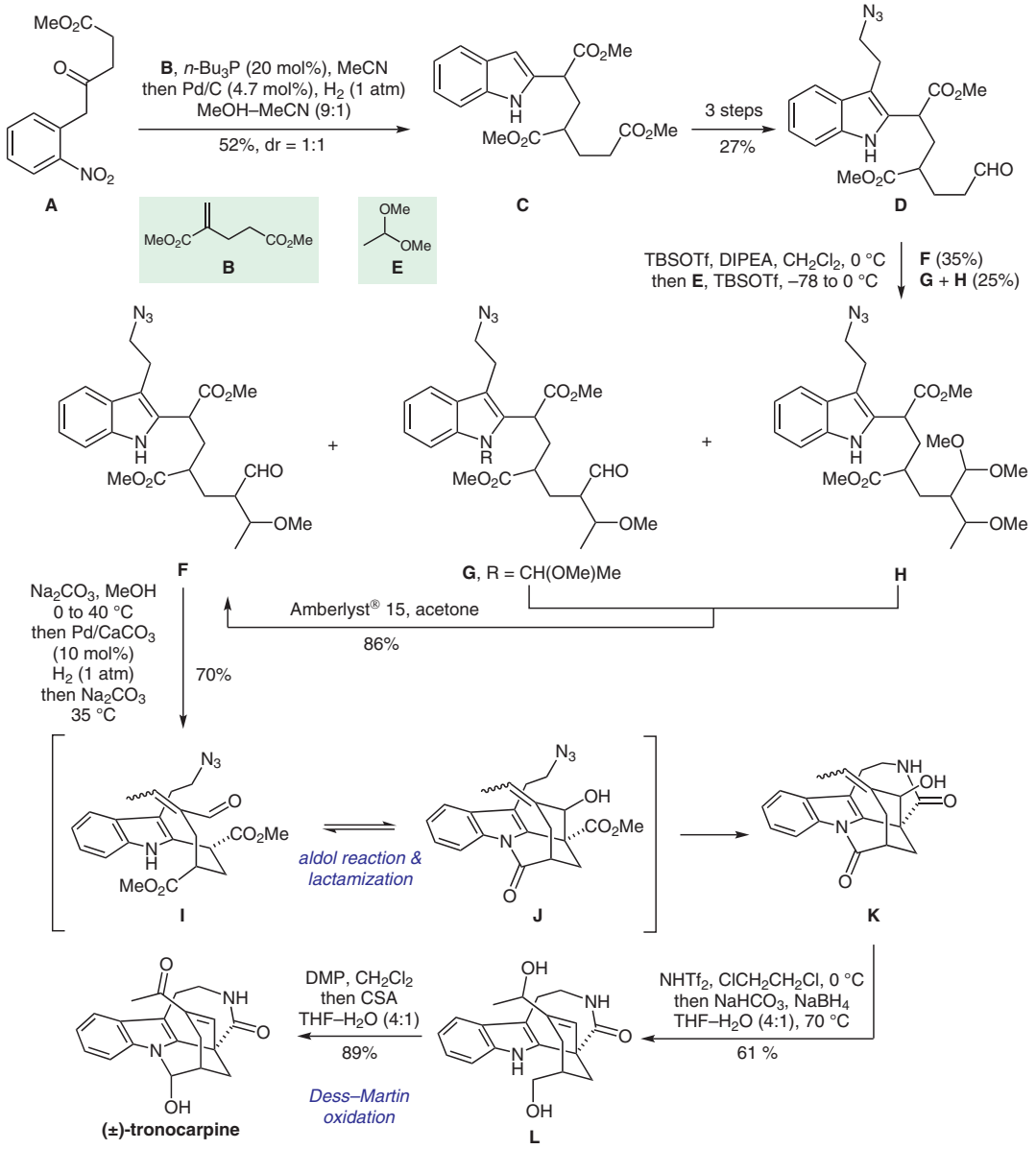
Total Synthesis of (±)-Tronocarpine



Significance: Nakayama, Kamba and co-workers report a total synthesis of tronocarpine, a chippiine-type indole alkaloid containing an azabicyclo[3.3.1]nonane core. The synthesis features a tandem cyclization consisting of unsaturated aldehyde formation, intermolecular aldol reaction, and lactamization.

Comment: Indole **D** was obtained from known precursors in four steps. **D** gave rise to **F** and an inseparable mixture of **G** and **H**, which could be converted to **F** in one step. Tandem cyclization was achieved by subsequent treatment with Na_2CO_3 and $Pd/CaCO_3$. Tronocarpine was obtained in two steps from **K**.

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Category
Synthesis of Natural Products and Potential Drugs

Key words
(±)-tronocarpine
chippiine alkaloids
tandem cyclization
Dess–Martin oxidation

Synfact of the Month

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