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Total Synthesis of Dalesconol A by Pd(0)/Norbornene-Catalyzed Three-Fold Domino Reaction and Pd(II)-Catalyzed Trihydroxylation

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Total Synthesis of (±)-Dalesconol A

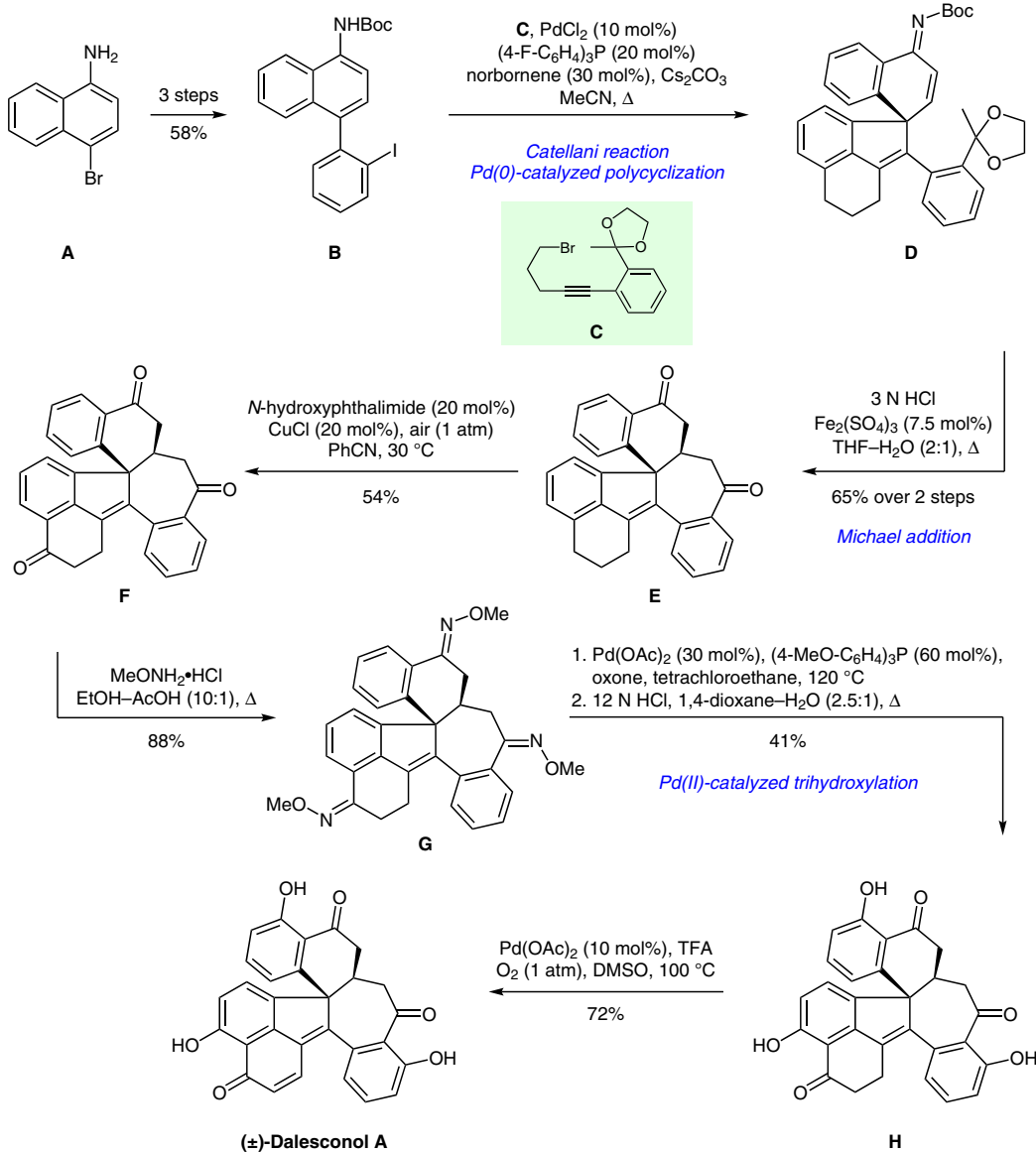
Category

Synthesis of Natural Products and Potential Drugs

Key words

(±)-Dalesconol A
palladium catalysis
polycyclization
Catellani reaction
Michael addition
C–H hydroxylation

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Significance: (±)-Dalesconol A was first isolated from the fungus *Daldinia eschscholzii* and displays significant immunosuppressive properties. The natural product features a heptacyclic, highly oxidized carbon skeleton.

Comment: Heptacycle **E** was efficiently accessed via norbornene/Pd(0)-catalyzed coupling and cyclization reaction of **B** and **C**, followed by an intramolecular Michael addition. Pd(II)-catalyzed trihydroxylation of **G** gave triol **H**, which was further elaborated into (±)-dalesconol A.

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