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Total Synthesis of Vilmoraconitine

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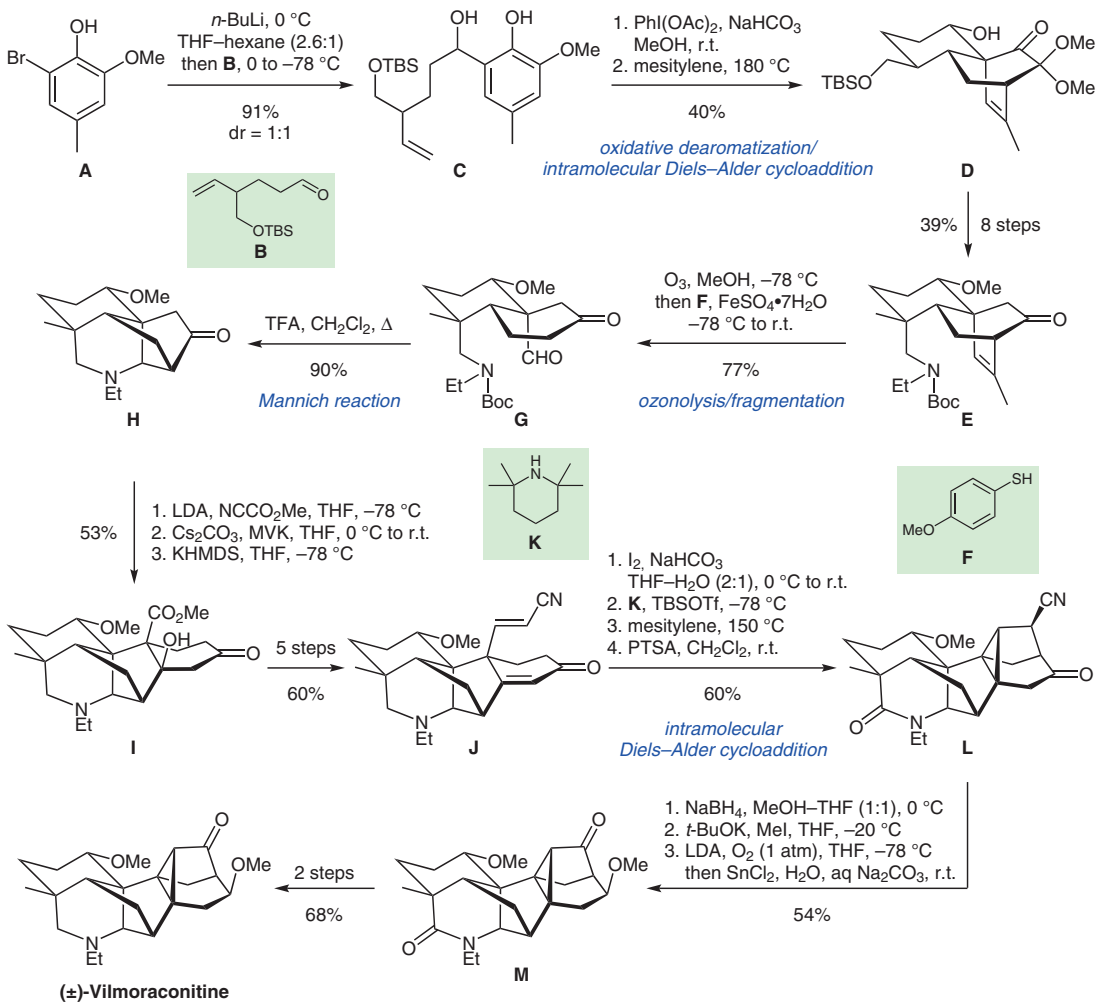
Synthesis of (±)-Vilmoraconitine



Significance: Liu, Qin, and co-workers report the first total synthesis of (±)-vilmoraconitine, a norditerpenoid alkaloid isolated in 2008 from *Aconitum vilmorinianum*. Vilmoraconitine was the first aconitine-type alkaloid reported with a heptacyclic framework incorporating a congested cyclopropane. The aconitines and their synthetic analogues display significant anti-inflammatory, analgesic, and cardioactive effects.

Comment: Oxidative dearomatization/Diels–Alder cycloaddition sequence of phenol **B** quickly assembled ketone **D**. Ozonolytic cleavage of the resulting alkene in **E** followed by fragmentation led to aldehyde **G**. Mannich reaction in presence of TFA forged tetracycle **H** in a single step. After oxidation of **J**, silyl enol ether formation and intramolecular Diels–Alder reaction installed the congested cyclopropane in **L** and completed the heptacyclic framework of (±)-vilmoraconitine.

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