J. M. E. HUGHES, J. L. GLEASON* (MCGILL UNIVERSITY, MONTREAL, CANADA)
A Concise Enantioselective Total Synthesis of (–)-Virosaine A
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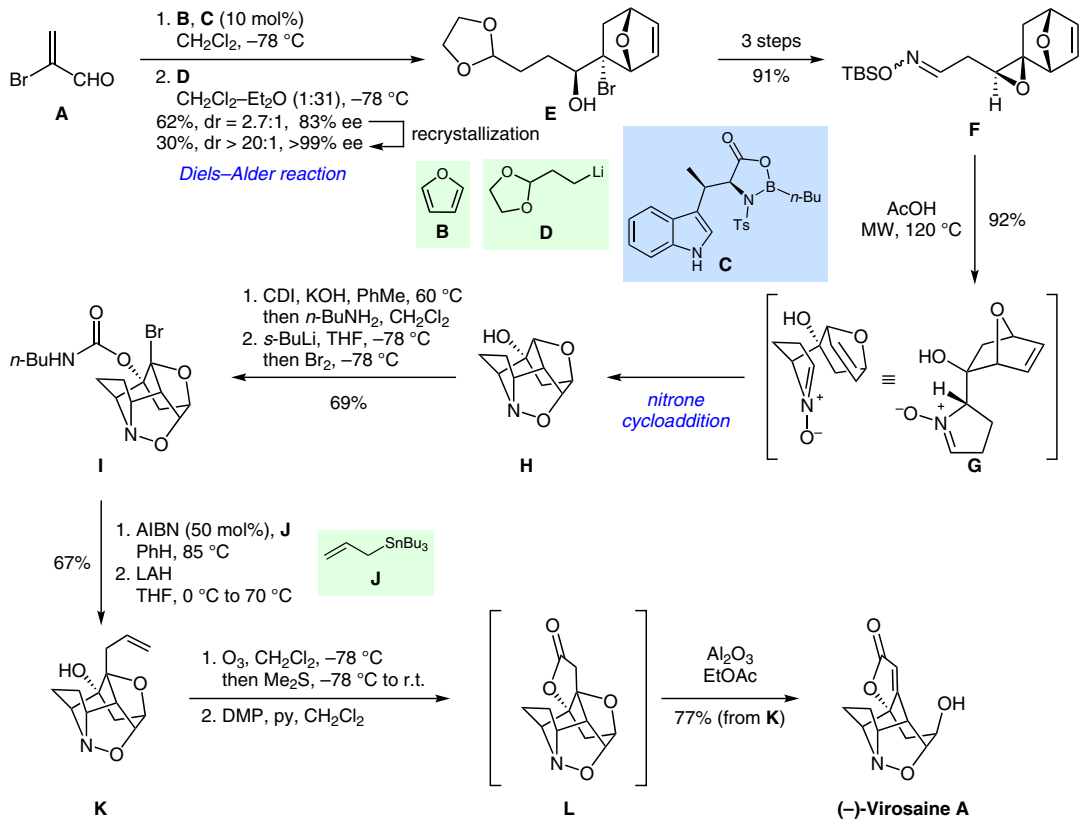
Synthesis of (–)-Virosaine A



Significance: Virosaine A is a highly congested, polycyclic member of the *Securinega* alkaloid family. In their elegant synthetic approach towards (–)-virosaine A, Gleason and Hughes rely on an epoxide opening to trigger the intramolecular [3+2] cycloaddition proposed in its biosynthesis.

Comment: Epoxide opening in oxabicycle **F** afforded nitrone **G**, which underwent an intramolecular cycloaddition reaction to give the pentacyclic core structure **H**. Subsequent alcohol protection and regioselective lithiation/bromination afforded intermediate **I**, which was converted to (–)-virosaine A by a sequence of five more transformations.

SYNFACTS Contributors: Erick M. Carreira, Nicole Hauser
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Category
Synthesis of Natural Products and Potential Drugs

Key words
virosaine A
furan Diels–Alder reaction
nitrone cycloaddition
cyclization cascade