S. JEON, S. HAN* (KOREA ADVANCED INSTITUTE OF SCIENCE AND TECHNOLOGY, DAEJEON AND INSTITUTE FOR BASIC SCIENCE, DAEJEON, REPUBLIC OF KOREA)
An Accelerated Intermolecular Rauhut–Currier Reaction Enables the Total Synthesis of (–)-Flueggenine C
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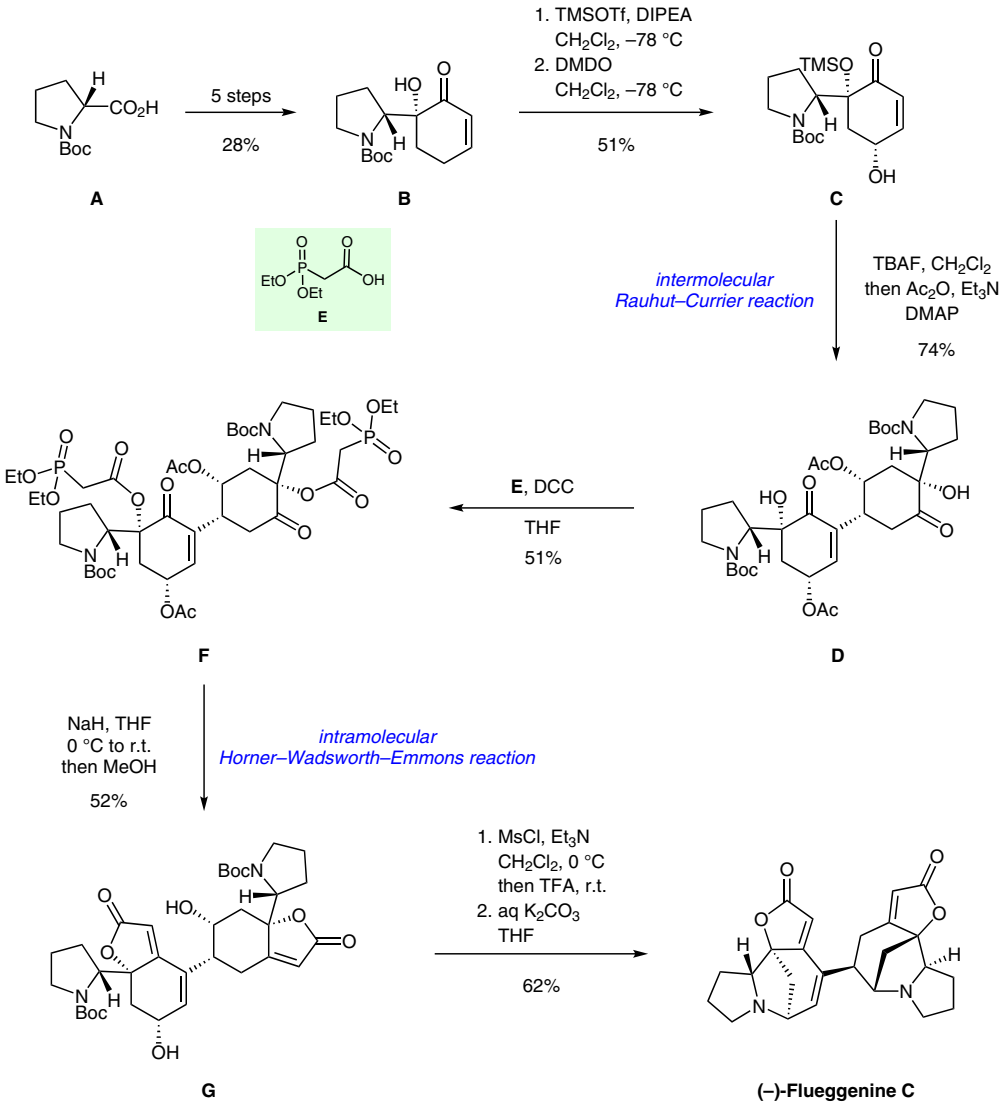
Total Synthesis of (–)-Flueggenine C



Significance: Jeon and Han report the first total synthesis of the dimeric securinega alkaloid (–)-flueggenine C. The key dimerization step is enabled by a bio-inspired Rauhut–Currier reaction accelerated by the presence of an internal nucleophile. This reaction is pertinent in the biosynthesis of dimeric and oligomeric securinega alkaloids.

Comment: After efficiently synthesizing intermediate **C** in seven steps and 14% overall yield, the pivotal Rauhut–Currier dimerization and subsequent acetylation provided **D** in 74% yield. HWE olefination of **F** afforded unsaturated lactone **G**. The final ring closure was facilitated by S_N2 displacement of a mesylate culminating at the natural product.

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Category
Synthesis of Natural Products and Potential Drugs

Key words
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(–)-flueggenine C
Rauhut–Currier reaction
dimerization
Horner–Wadsworth–Emmons reaction