P. A. WENDER*, C. D. JESUDASON, H. NAKAHIRA, N. TAMURA, A. L. TEBBE, Y. UENO (STANFORD UNIVERSITY, USA)

The First Synthesis of a Daphnane Diterpene: The Enantiocontrolled Total Synthesis of (+)-Resiniferatoxin

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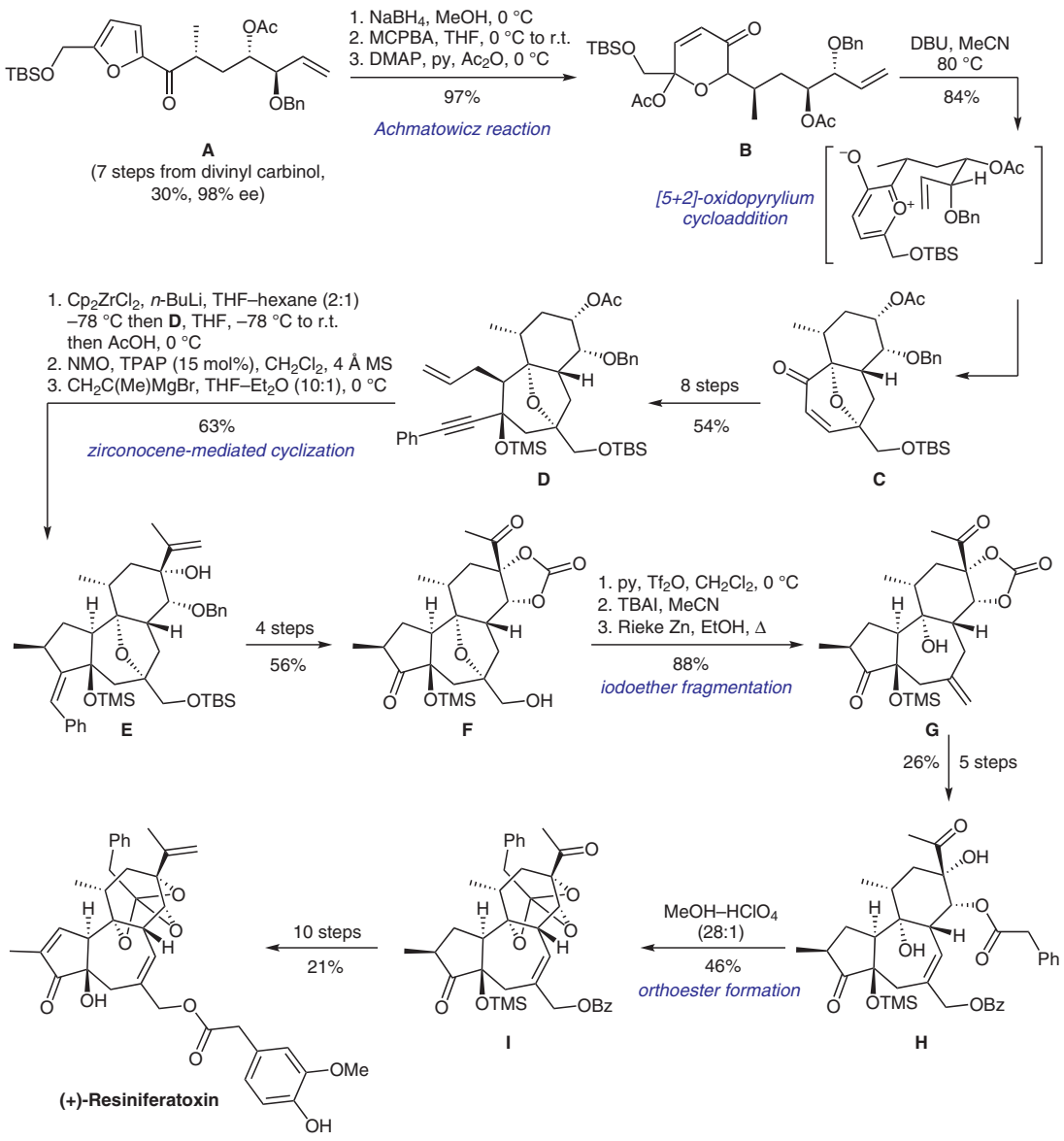
The First Total Synthesis of (+)-Resiniferatoxin



Significance: In 1997, Wender and co-workers reported the first total synthesis of (+)-resiniferatoxin, a daphnane diterpenoid isolated from spurge *Euphorbia resinifera*. Mediated by TRPV1, it exhibits analgesic potencies 10^3 to 10^5greater than capsaicin. It also has a score of 16 billion on the Scoville scale.

Comment: In their seminal work, the authors employed a [5+2]-oxidopyrylium cycloaddition to generate a [6,7]-scaffold. **C** was further elaborated by Cp_2ZrBu_2-mediated cyclization and reductive iodoether fragmentation en route to the target, which was completed in a total of 45 steps.

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