

K. C. NICOLAOU\*, N. A. PETASIS, R. E. ZIPKIN, J. UENISHI (UNIVERSITY OF PENNSYLVANIA, PHILADELPHIA, USA)

The Endiandric Acid Cascade. Electrocyclizations in Organic Synthesis. 1. Stepwise, Stereocontrolled Total Synthesis of Endiandric Acids A and B

*J. Am. Chem. Soc.* **1982**, *104*, 5555–5557.

K. C. NICOLAOU\*, N. A. PETASIS, J. UENISHI, R. E. ZIPKIN

The Endiandric Acid Cascade. Electrocyclizations in Organic Synthesis. 2. Stepwise, Stereocontrolled Total Synthesis of Endiandric Acids C–G

*J. Am. Chem. Soc.* **1982**, *104*, 5557–5558.

K. C. NICOLAOU\*, R. E. ZIPKIN, N. A. PETASIS

The Endiandric Acid Cascade. Electrocyclizations in Organic Synthesis. 3. "Biomimetic" Approach to Endiandric Acids A–G. Synthesis of Precursors

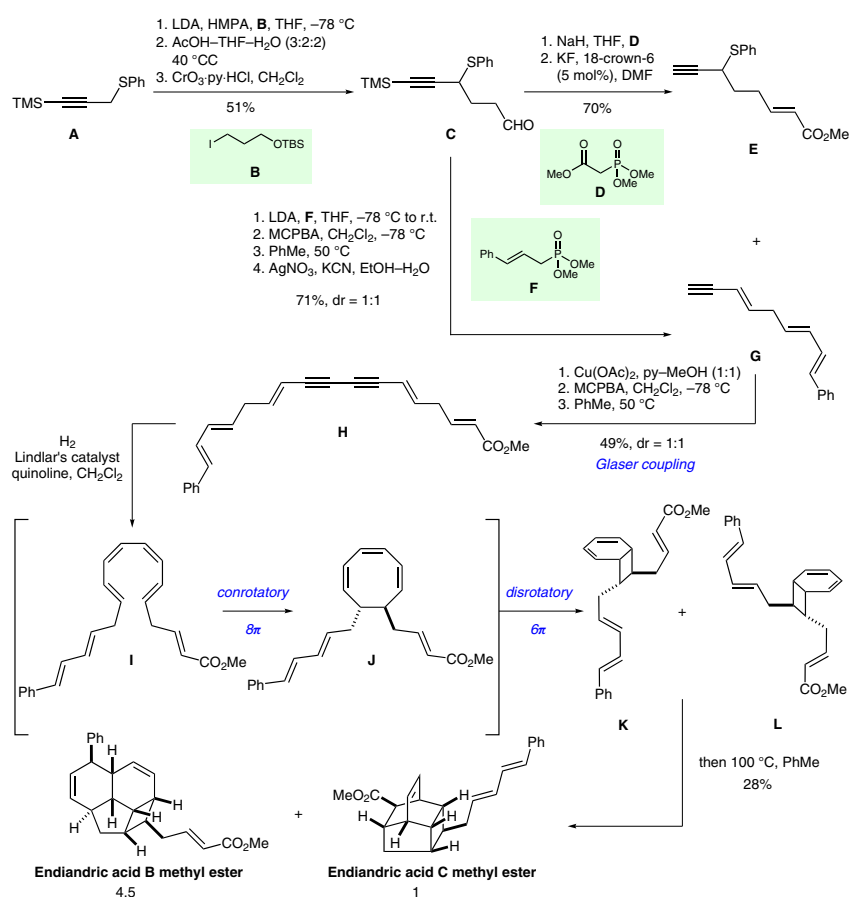
*J. Am. Chem. Soc.* **1982**, *104*, 5558–5560.

K. C. NICOLAOU\*, N. A. PETASIS, R. E. ZIPKIN

The Endiandric Acid Cascade. Electrocyclizations in Organic Synthesis. 4. Biomimetic Approach to Endiandric Acids A–G. Total Synthesis and Thermal Studies

*J. Am. Chem. Soc.* **1982**, *104*, 5560–5562.

## Total Synthesis of Endiandric Acids



**Significance:** Nicolaou and co-workers describe the total synthesis of the endiandric acids. Their approach exploits a cascade of pericyclic reactions, which allow assembly of the carbon skeletons in one step. This pathway had been hypothesized to be the biosynthetic origin of these natural products.

**Comment:** Aldehyde **C** was chosen as a common intermediate for the synthesis of alkynes **E** and **G**. Glaser coupling, oxidation, and elimination results in the formation of dialkyne **H**. Partial reduction to polyolefin **I** results in a series of electrocyclizations and cycloadditions giving rise to the target structures.

**SYNFACTS Contributors:** Erick M. Carreira, Felix Pultar  
Synfacts 2019, 15(06), 0589 Published online: 20.05.2019  
DOI: 10.1055/s-0037-1611622; Reg-No.: C02819SF