**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 alkenes 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.

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**Total Synthesis of Endiandric Acids**