Category

Synthesis of Natural Products and Potential Drugs

Key words

(±)-hibiscone C

furanosesquiterpenoid

Stork-Danheiser transposition

[2+2] cycloaddition

Paal-Knorr furan synthesis



E. R. KOFT, A. B. SMITH, III* (UNIVERSITY OF PENNSYLVANIA, PHILADELPHIA, USA) Total Synthesis of Hibiscone C (Gmelofuran)

J. Am. Chem. Soc. 1982, 104, 5568-5570.

Synthesis of (±)-Hibiscone C

Significance: In 1982, Koft and Smith reported the first total synthesis of (±)-hibiscone C, a furanosesquiterpenoid which was isolated from the heart wood of *Hibiscus elatus*. The synthesis featured the first example of a photochemical intramolecular enone–alkyne cycloaddition.

Comment: Alkylation of **A** with **B** followed by reductive Stork–Danheiser transposition afforded **C**. Irradiation of **C** gave an inconsequential mixture of **D** and **E**, which was converted into **G** via ozonolysis and Paal–Knorr furan synthesis. Allylic oxidation followed by α -methylation yielded (\pm)-hibiscone C.