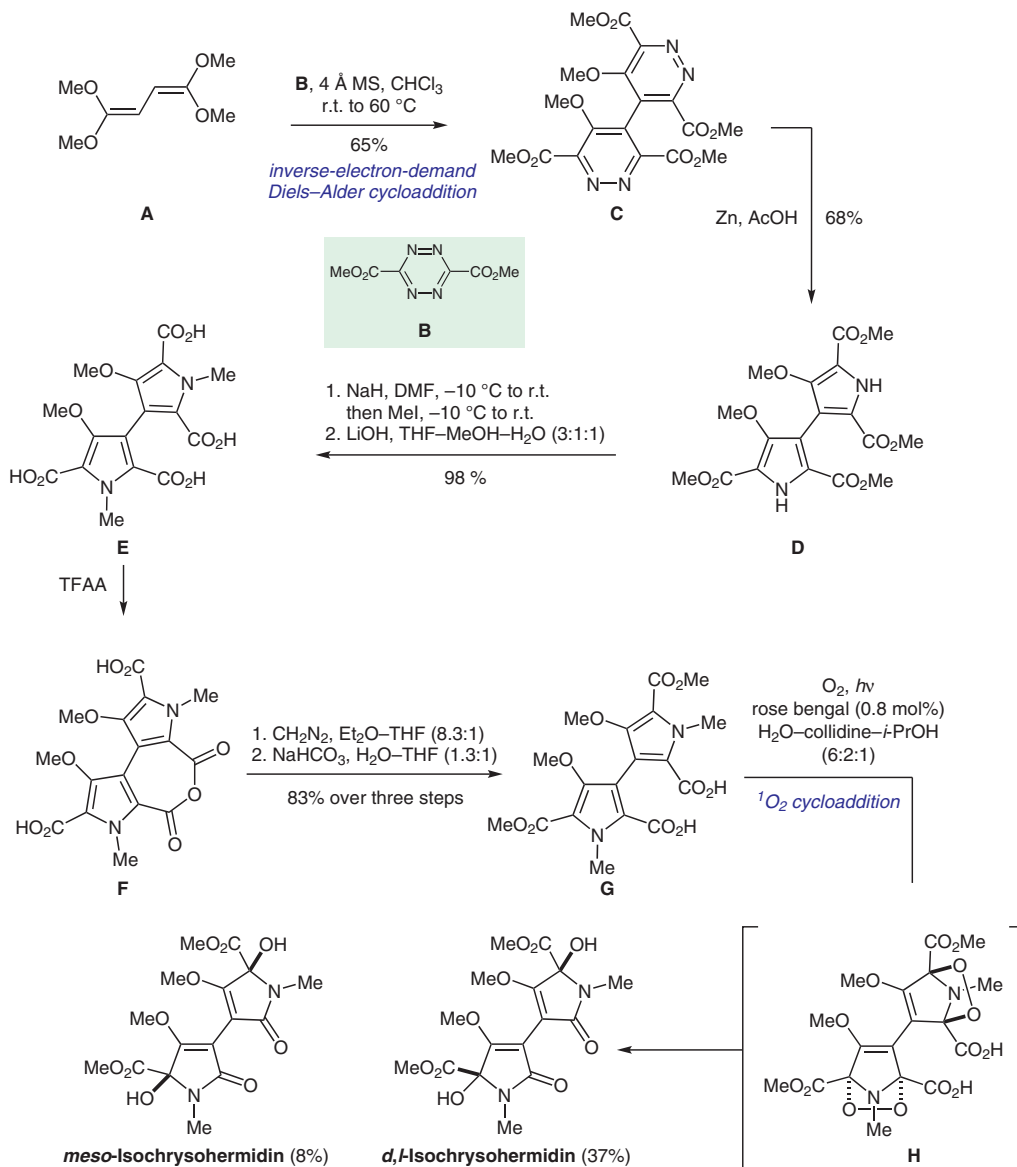


isochrysohermidin

2-oxo-3-pyrroline
dimerinverse electron-
demand Diels–Alder
reaction $^1\text{O}_2$ cycloadditionSynfact
Classic

D. L. BOGER*, C. M. BALDINO (THE SCRIPPS RESEARCH INSTITUTE, LA JOLLA, USA)
d,l- and *meso*-Isochrysohermidin: Total Synthesis and Interstrand DNA Cross-Linking
J. Am. Chem. Soc. **1993**, *115*, 11418–11425.

Total Synthesis of Isochrysohermidin



Significance: In 1993, Boger and Baldino described a concise synthesis of isochrysohermidin, a 2-oxo-3-pyrroline dimer first isolated from *Mercurialis leiocarpa*. Through their synthetic efforts, they were able to show the interstrand DNA cross-linking capabilities of isochrysohermidin.

Comment: **C** is accessed from **A** by an inverse-electron-demand Diels–Alder cycloaddition with **B** and is further elaborated to **D** by reductive ring contraction. *meso*- and *d,l*-isochrysohermidin are obtained by a singlet oxygen cycloaddition, followed by in situ decarboxylation.

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