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Total Synthesis of Cytotoxic Macrolide Amphidinolide B₁ and the Proposed Structure of Amphidinolide B₂


Synthesis of Amphidinolides B₁ and B₂

**Significance:** Amphidinolides B₁ and B₂ possess cytotoxic activity against certain cancer lines. This first total synthesis of amphidinolides B₁ and B₂ focuses on the aldol condensation of fragments F and G. For a correction to the article see: J. Am. Chem. Soc. 2008, 130, 11834.

**Comment:** Treatment of F with LDA at −100 °C in the presence of TMEDA followed by addition of G gave an 8:1 mixture of C.D. When the reaction was performed in −40 °C the ratio of C.D was 1.2:1. The epimers were separated and submitted to the next steps independently. Significant amounts of the aldehyde B formed during a TPAP oxidation underwent a spontaneous intramolecular H–W–E reaction to provide macrocyclic precursor of amphidinolide B₂.