SYNFACTS

Highlights in Current
Synthetic Organic
Chemistry

REPRINT



Thieme

**Category**

**Synthesis of Natural Products and Potential Drugs**

**Key words**

**amphidinolides**

**aldol reaction**

**macrolides**

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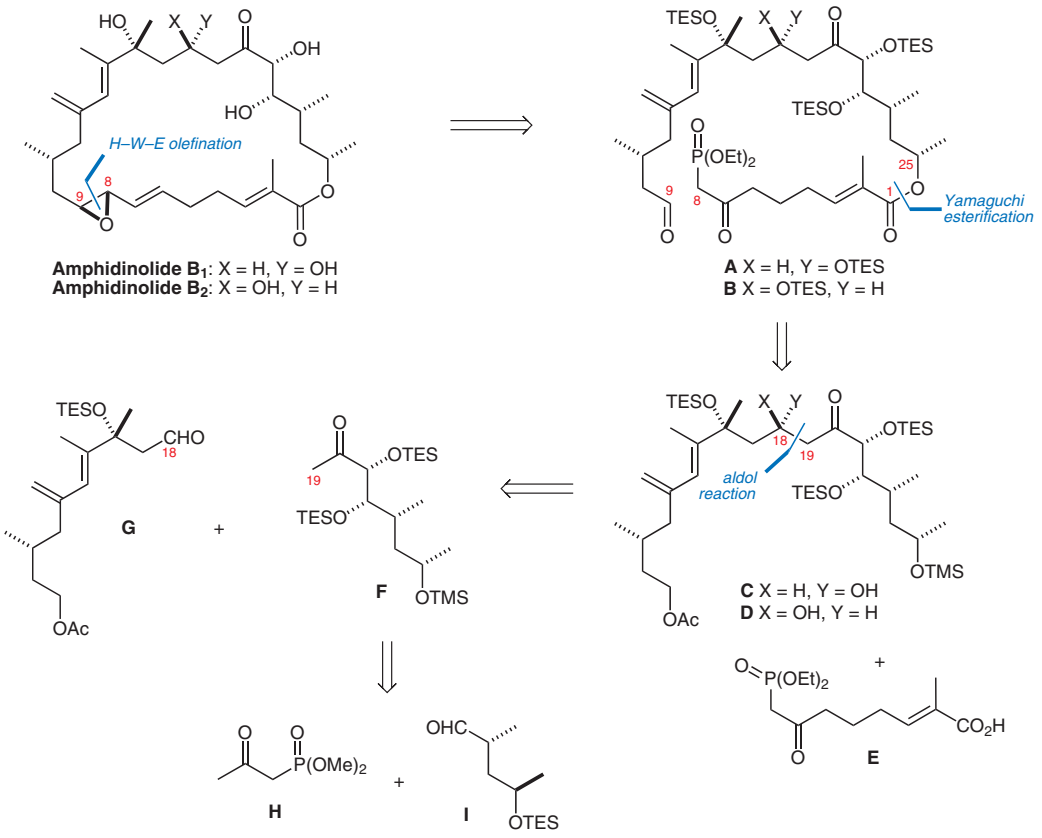
Total Synthesis of Cytotoxic Macrolide Amphidinolide $B_1$ and the Proposed Structure of Amphidinolide $B_2$
*J. Am. Chem. Soc.* **2008**, *130*, 7253-7255.

# Synthesis of Amphidinolides $B_1$ and $B_2$




**Significance:** Amphidinolides $B_1$ and $B_2$ possess cytotoxic activity against certain cancer lines. This first total synthesis of amphidinolides $B_1$ and $B_2$ 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 $B_2$.

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