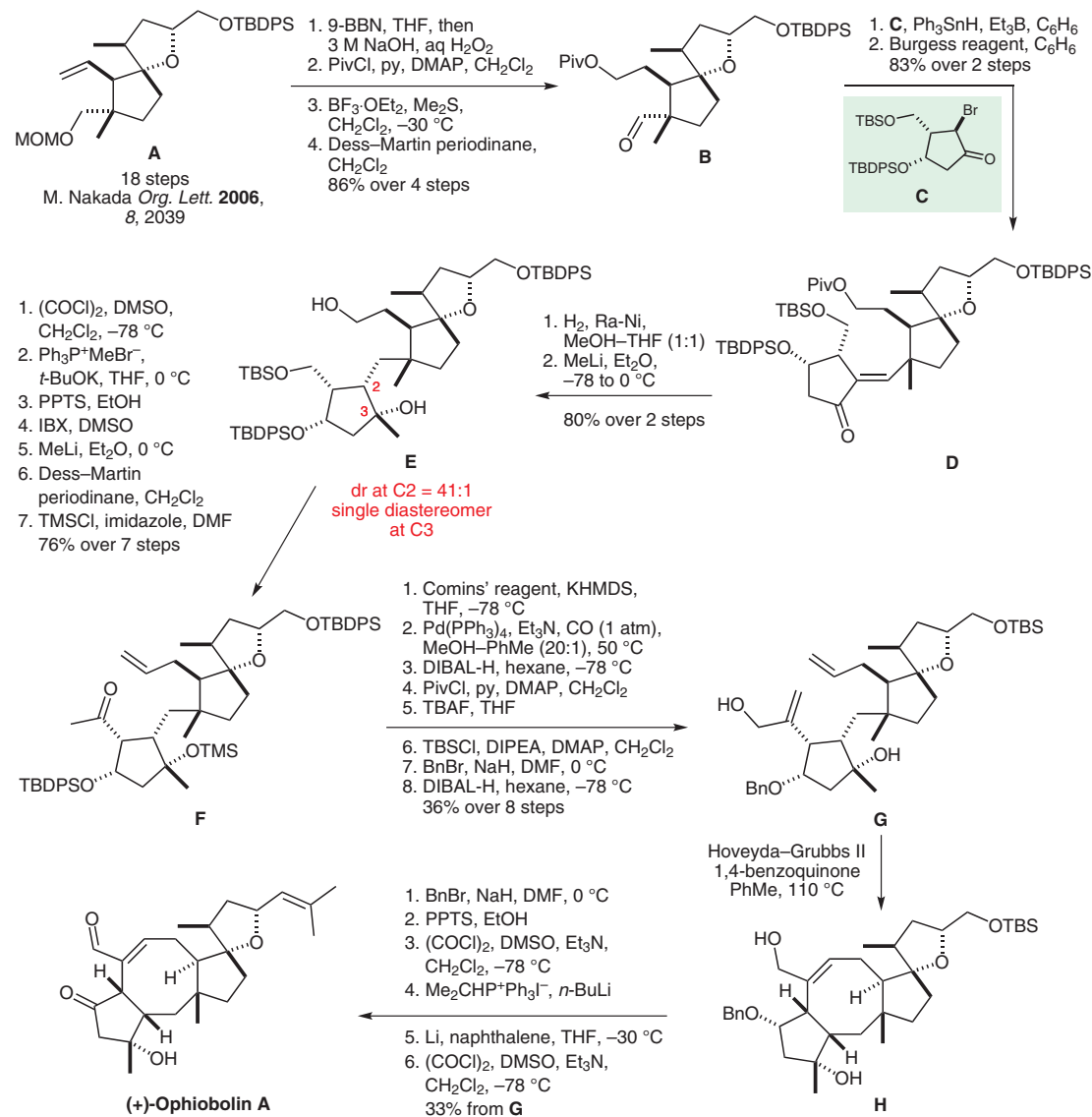


# Synthesis of (+)-Ophiobolin A



**Significance:** (+)-Ophiobolin is a naturally occurring sesterterpene isolated from the pathogenic plant fungus *Ophiobolus miyabeanus* in 1958. It exhibits bioactivity against a range of nematodes, fungi, and bacteria. Herein, the first total synthesis of (+)-ophiobolin is reported.

**Comment:** This synthesis utilizes Utimoto's conditions (*Tetrahedron Lett.* 1988, 29, 1041) for the Reformatsky-type coupling of  $\alpha$ -bromo ketone **C** and aldehyde **B** in high yield. Stereoselective hydrogenation and methyl addition are utilized to install the stereocenters at C2 and C3 with excellent selectivity. A ring-closing metathesis is used to form the unsaturated eight-membered ring.