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Total Synthesis of Papulacandin D
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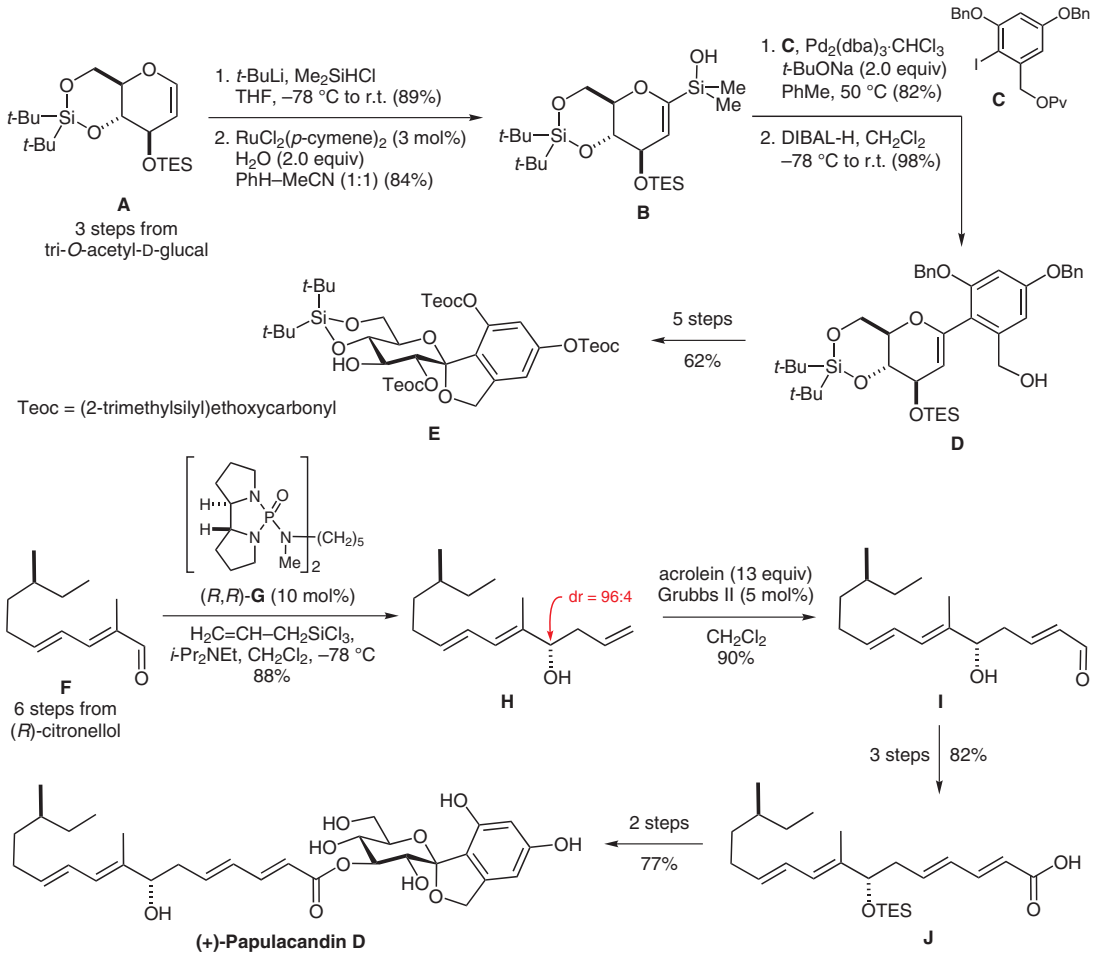
Synthesis of Papulacandin D



Significance: Papulacandin D is a potent antifungal agent. Highlights of the Denmark synthesis include (a) a Pd-catalyzed coupling of iodoarene **C** with the silanol **B** to generate the 2-arylglycal **D** and (b) the asymmetric allylation of aldehyde **F** mediated by the bisphosphoramide **G** (S. E. Denmark et al. *J. Org. Chem.* **2006**, *71*, 1513; *J. Org. Chem.* **2006**, *71*, 1523).

Comment: The only previous synthesis of papulacandin D used the nucleophilic addition of an aryllithium to a D-gluconolactone derivative to construct the *C*-aryl glycoside bond: A. G. M. Barrett, M. Peña, J. A. Willardsen *J. Org. Chem.* **1996**, *61*, 1082.

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Category

Synthesis of Natural Products and Potential Drugs

Key words

silanol cross-coupling

cross metathesis

allylation

***C*-aryl glycosides**

palladium