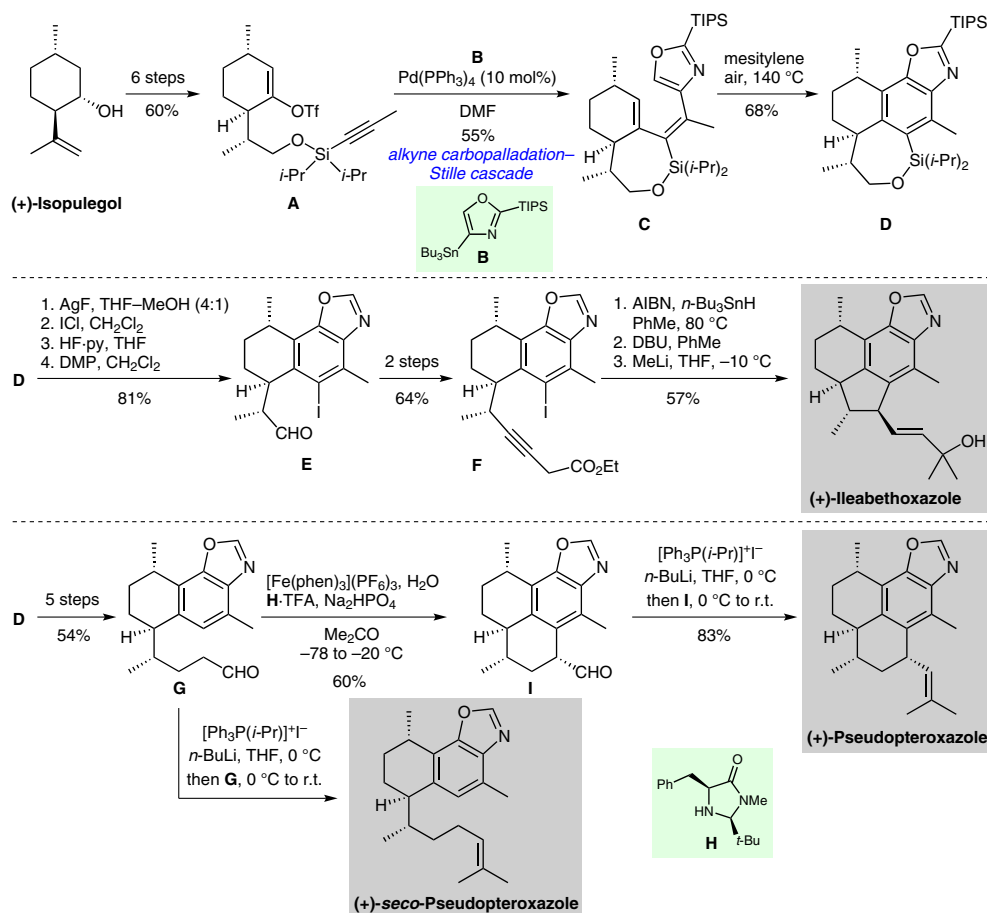


Synthesis of Ileabethoxazole, Pseudo-pteroxazole, and *seco*-Pseudo-pteroxazole



Significance: The oxazole diterpenoids ileabethoxazole, pseudo-pteroxazole and *seco*-pseudo-pteroxazole, isolated from *Pseudopterogorgia elisabethae*, possess potent inhibitory activity against *Mycobacterium tuberculosis*. Structurally, these natural products are characterized by a hexasubstituted benzene connected to an oxazole. Li and co-workers achieved the total syntheses of these targets relying on a palladium cascade reaction followed by a 6 π -electrocyclization.

Comment: Alkyne **A**, available in six steps from (+)-isopulegol, undergoes a palladium-catalyzed cascade reaction to give **C** in 55% yield. Upon heating in the presence of air, the desired 6 π -electrocyclization occurred, providing key intermediate **D**. Later, alkyne **F** was obtained, which underwent a radical cyclization ultimately leading to (+)-ileabethoxazole. Furthermore, both (+)-pseudo-pteroxazole and (+)-*seco*-pseudo-pteroxazole could be accessed from **D**.