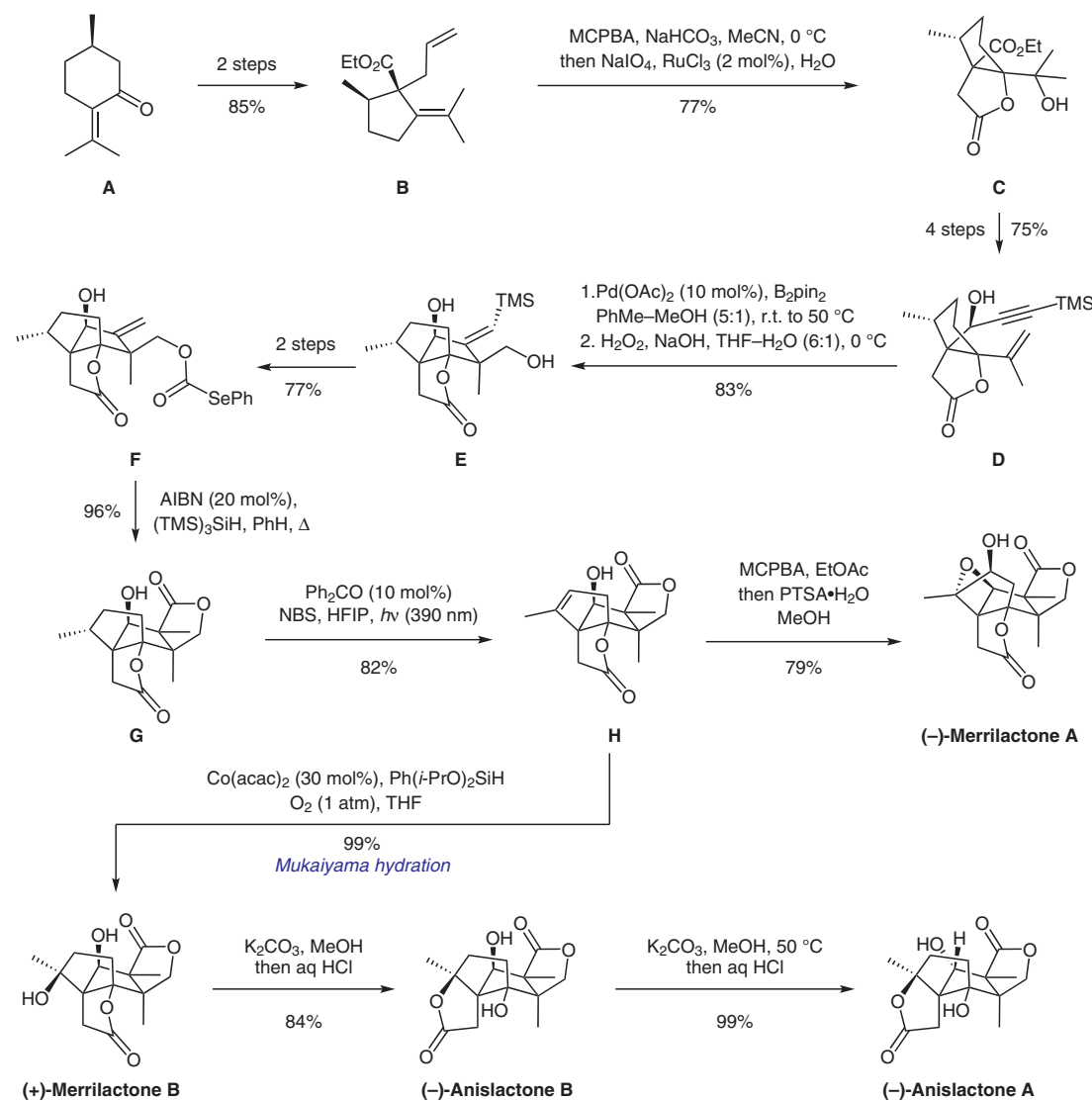


Synthesis of (–)-Merrilactone A, (+)-Merrilactone B, and (–)-Anislactones A and B



Significance: Zhang, Zhang and co-workers report the total synthesis of (–)-merrilactone A. Isolated from *Illicium merrillianum*, the natural product possesses potent neurotrophic activities. The highly oxygenated 5-5-4-5-5 ring system features an oxetane as well as two lactones. Further elaboration of intermediate **H** allows for the preparation of four additional *Illicium* sesquiterpenes.

Comment: Oxidative cyclization of ester **B** furnished lactone **C**, which was elaborated to alcohol **D**. Pd-catalyzed cyclization led to olefin **E**, which was transformed to selenocarbonate **F**. Radical cyclization gave rise to lactone **G** which was photochemically desaturated. Epoxidation of the resulting olefin **H** followed by acid-mediated ring opening furnished the natural product.