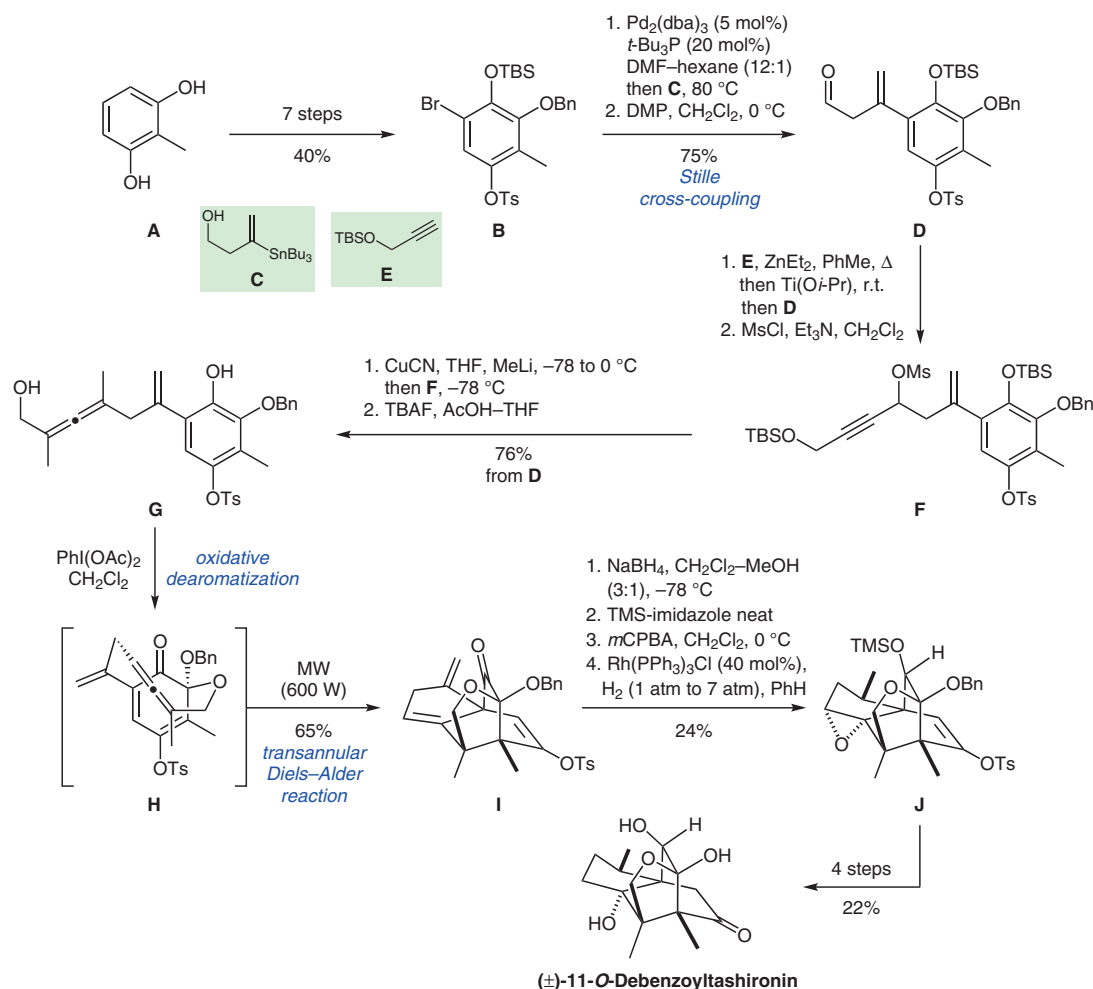


Total Synthesis of (±)-11-O-Debenzoyltashironin



Significance: Danishefsky and co-workers report the first total synthesis of the sesquiterpene (±)-11-O-debenzoyltashironin. The natural product, isolated from the pericaps of *Illicium merrillianum*, exhibits potent neurotrophic activity in fetal-rat cortical neurons. The synthesis relies in a remarkable tandem oxidative dearomatization/transannular Diels–Alder reaction, which rapidly assembles the tetracyclic core of the target molecule.

Comment: The synthesis commenced with elaboration of 2-methylresorcinol (**A**) into aromatic bromide **B**. Stille cross-coupling of **B** with vinyl stannane **C** followed by oxidation returned aldehyde **D**, which was subjected to alkyne addition mediated by Zn(Et)₂/Ti(O*i*-Pr)₄. The resulting propargylic alcohol was mesylated and substituted by S_N2' nucleophilic methylation furnishing key allene **G**. Oxidation with PIDA followed by microwave irradiation of **G** triggered the tandem oxidative dearomatization/Diels–Alder reaction yielding tetracycle **I**. The tertiary alcohol in the natural product was installed via epoxide **J**.