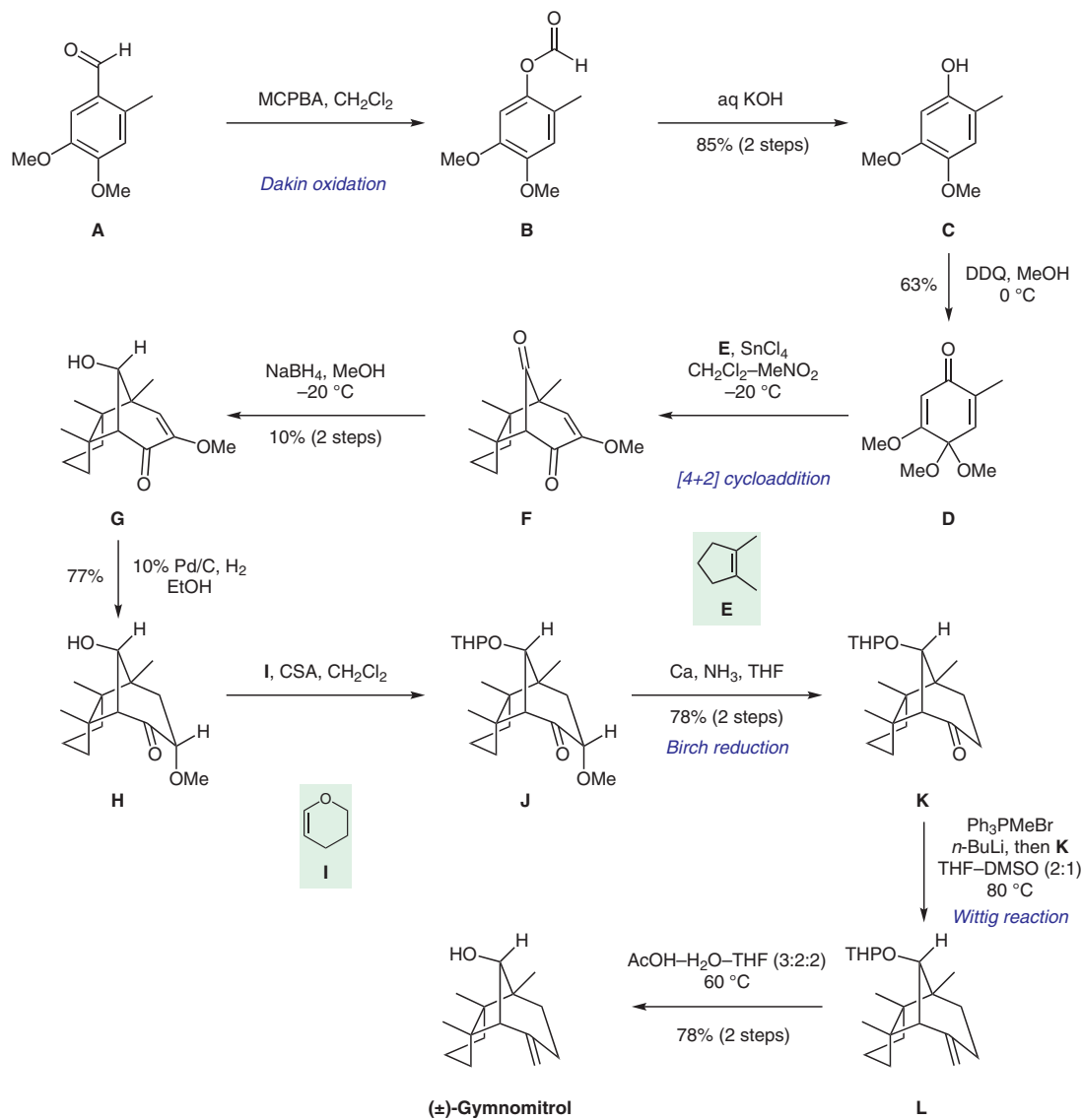


Synthesis of (±)-Gymnomitrol



Significance: In 1979, Büchi and Chu reported the total synthesis of (±)-gymnomitrol, a sesquiterpenoid isolated from the liverwort *Gymnomitrium obtusum* (Lindb) Pears. Structural features of the natural product include a tricyclo[5.3.1.0^{2,6}]undecane skeleton containing five contiguous stereocenters and an exocyclic methylene.

Comment: Aldehyde **A** was converted into alcohol **C** by Dakin oxidation. Dearomatization afforded ketone **D** which underwent [4+2] cycloaddition with cyclopentene **E** to furnish the carbon skeleton of the natural product. Further elaboration yielded (±)-gymnomitrol.