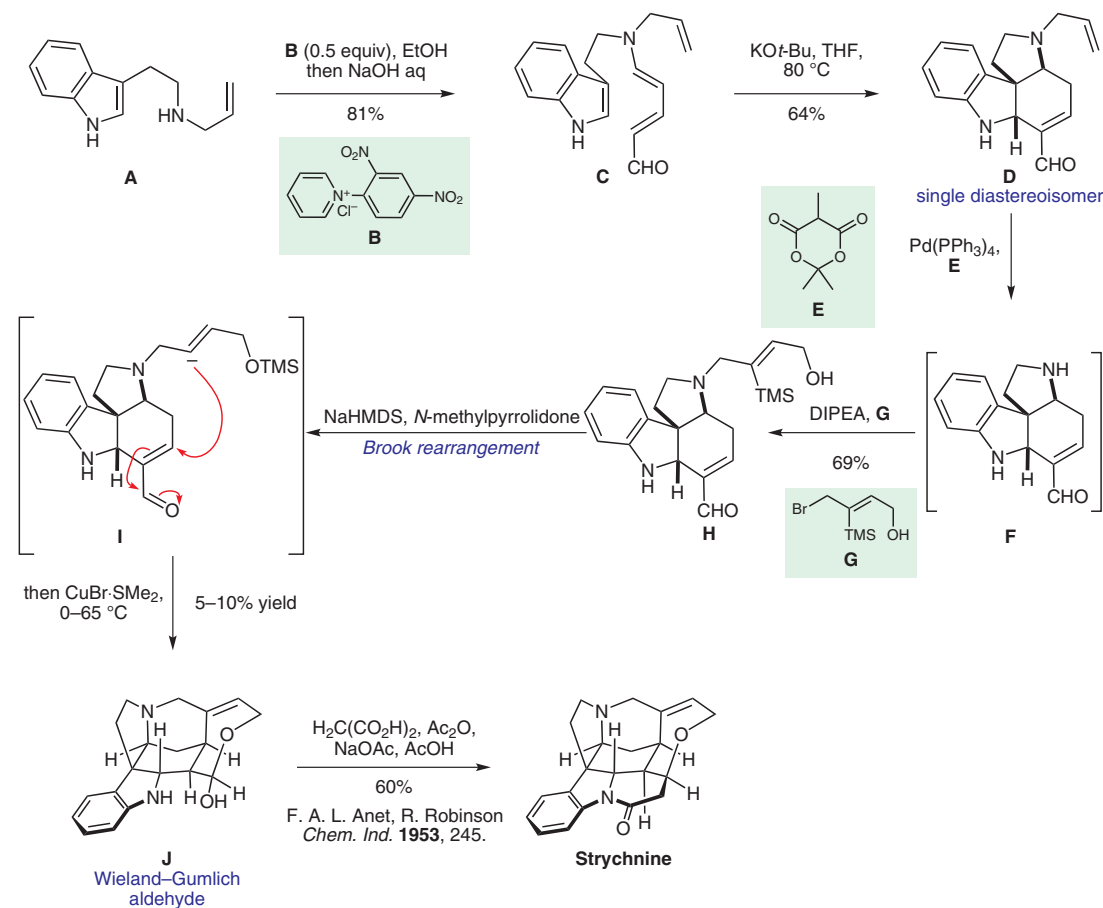


Synthesis of Strychnine



Significance: Strychnine is a highly toxic alkaloid isolated from seeds of the *Strychnos nux vomica* tree. It was first synthesized by Woodward and co-workers in 1954, and has since proved a popular target within the synthetic community. This approach is highly efficient and only requires six steps in the longest linear sequence.

Comment: The conversion of Zincke aldehyde **C** into tetracycle **D** via base-mediated cyclization proceeded efficiently and in good yield (D. B. Martin, C. Vanderwal *J. Am. Chem. Soc.* **2009**, *131*, 3472). Alkylation of bromide **G** (three steps from 1,4-butanediol) with amine **F** provided alcohol **H**. This underwent a 1,4-Brook rearrangement in situ, which upon treatment with a copper(I) source provided the core of strychnine. Unfortunately, after extensive optimization, the yield remained low and the major byproduct was due to protodesilylation.