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-butyldiiodo) 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.