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Asymmetric Total Synthesis of Naphthospironone A
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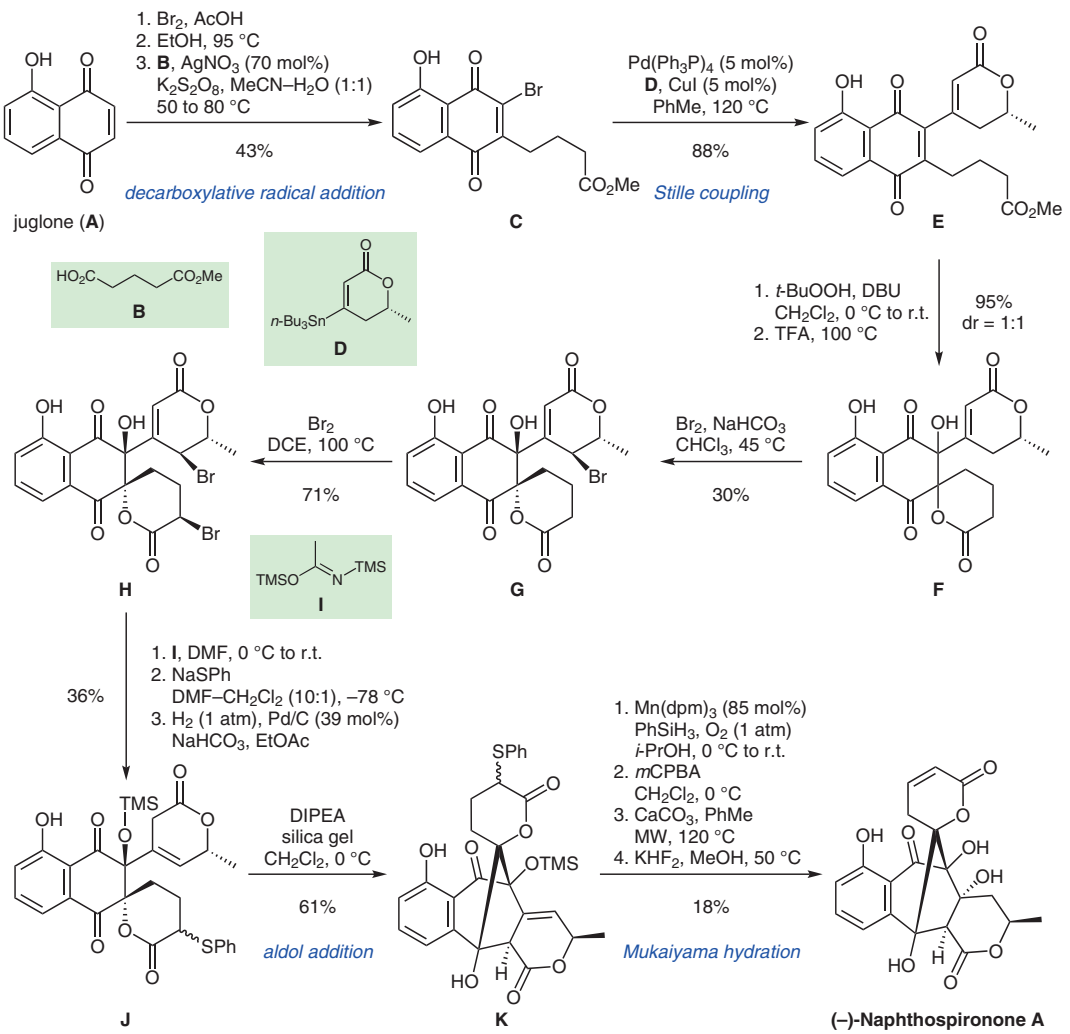
Total Synthesis of (–)-Naphthospironone A



Significance: Xu, Lu, Gong and co-workers present the first and asymmetric total synthesis of (–)-naphthospironone A. Isolated from an alkalophilic actinomycete in 2010, (–)-naphthospironone A exhibits moderate cytotoxic and antibiotic bioactivities.

Comment: Early-stage Stille coupling of bromide **C** and stannane **D** assembled all carbon atoms of the natural product. Subsequent nucleophilic epoxidation and epoxide opening/lactonization provided spirocycle **F**. An intramolecular aldol cyclization of **J** completed the bridged carbocyclic skeleton. Mukaiyama hydration, sulfoxide formation/elimination and deprotection furnished (–)-naphthospironone A.

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