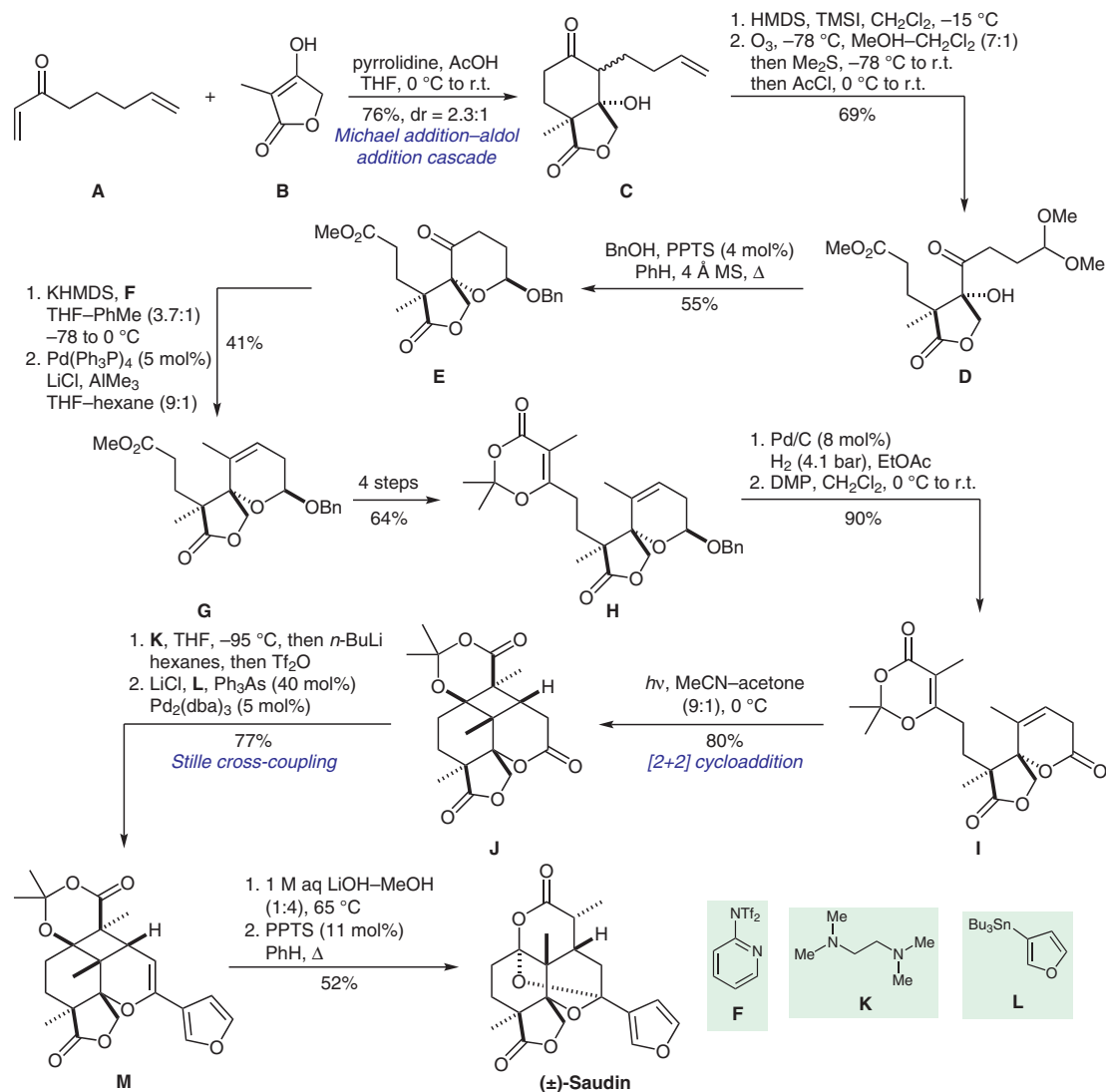


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The First Total Synthesis of (±)-Saudin

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## Synthesis of (±)-Saudin



**Significance:** Saudin is a diterpenoid that was isolated from *Cluytia richardiana* in 1985. It possesses a highly oxidized rearranged labdane skeleton and exhibits potent noninsulin dependent hypoglycemic activity. In 1999, Winkler and Doherty reported the first total synthesis of (±)-saudin by photochemical [2+2] cycloaddition of diene **I**.

**Comment:** A Michael addition-aldol cascade of **A** and **B** afforded **C**. Irradiation of **I** gave cyclobutane **J** as a single diastereomer. The furyl substituent was introduced by ketene acetal triflate formation and Stille cross-coupling. The natural product was obtained by treating **M** first with aqueous base and then with acid.

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[2+2] cycloaddition

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Michael addition-aldol addition cascade

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