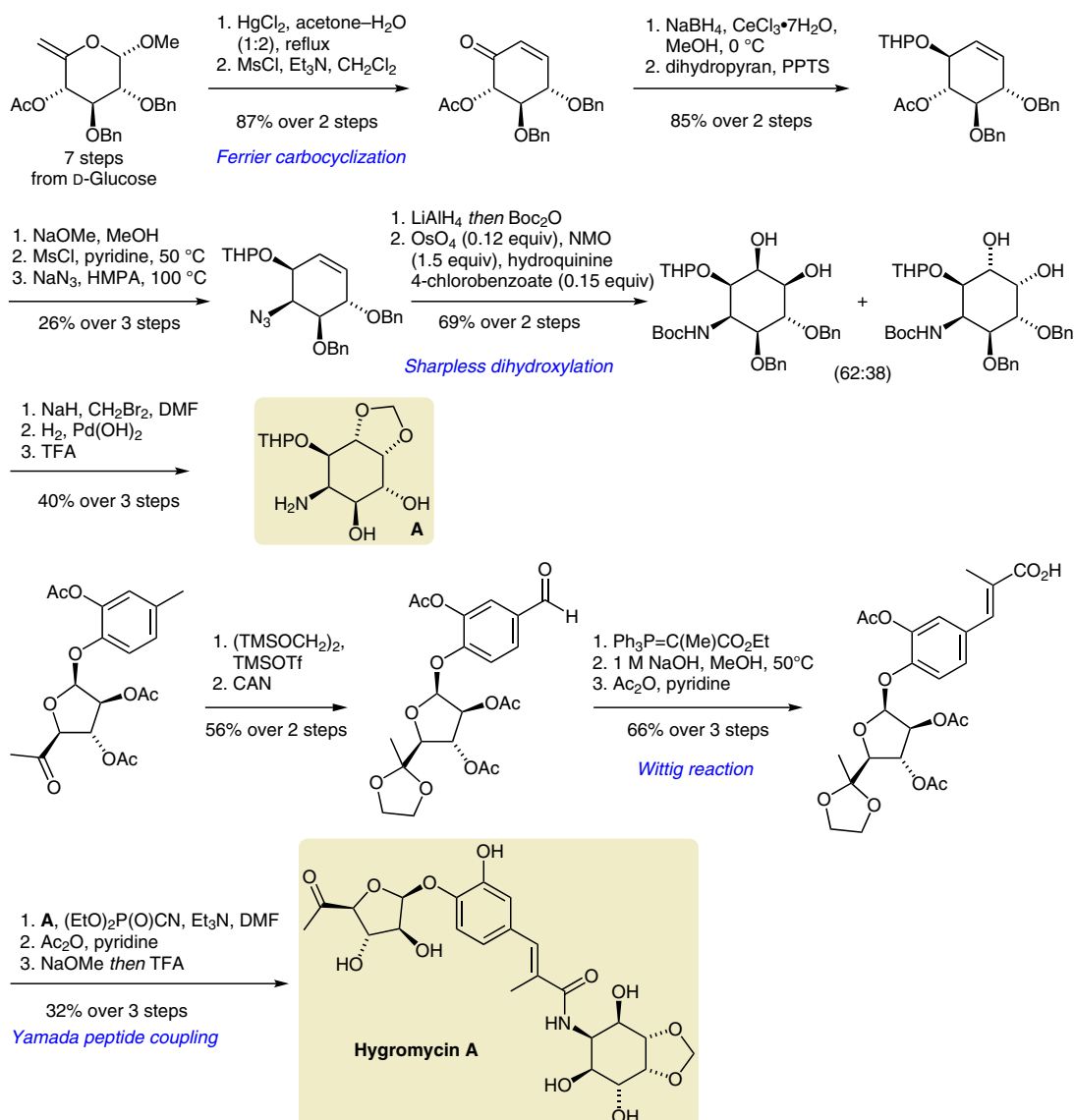


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Total Synthesis of Antibiotic Hygromycin A

J. Org. Chem. **1991**, *56*, 2976–2983, DOI: 10.1021/jo00009a009.

Hygromycin A Finds a New Purpose



Significance: Hygromycin A is a broad-spectrum antibiotic produced by *Streptomyces*. It was recently rediscovered as a potential therapy for the treatment of Lyme Disease (*Cell* **2021**, *184*, 5405). In mouse models, Hygromycin A was active against *B. burgdorferi* without disturbing the microbiome.

Comment: The first total synthesis of Hygromycin A was reported by Ogawa and co-workers in 1991. Key transformations included a Ferrier carbocyclization and a Sharpless dihydroxylation to form building block A. The furanose and aminocyclitol fragments were pieced together using a Wittig reaction followed by a Yamada peptide coupling.

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