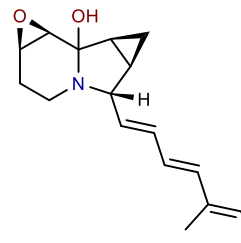


Introduction

- Indolizomycin was isolated in 1984 from two inactive streptomyces strains (*Streptomyces tenjimariensis* and *Streptomyces grisline*) joined by protoplast fusion.
- Interestingly the stereochemistry of the hemiaminal is unknown.
- The only completed synthesis of (±)-indolizomycin was reported by Danishefsky in 1990. This was followed up by a full paper describing the alternate routes and how an ultimately, unique and unprecedented strategy was used to complete the total synthesis.



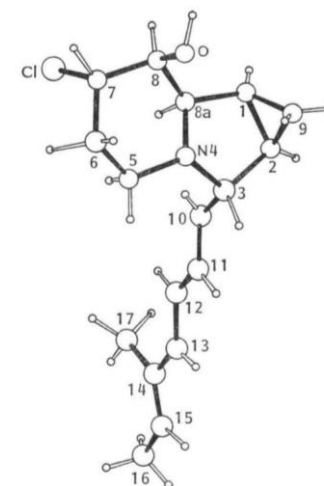
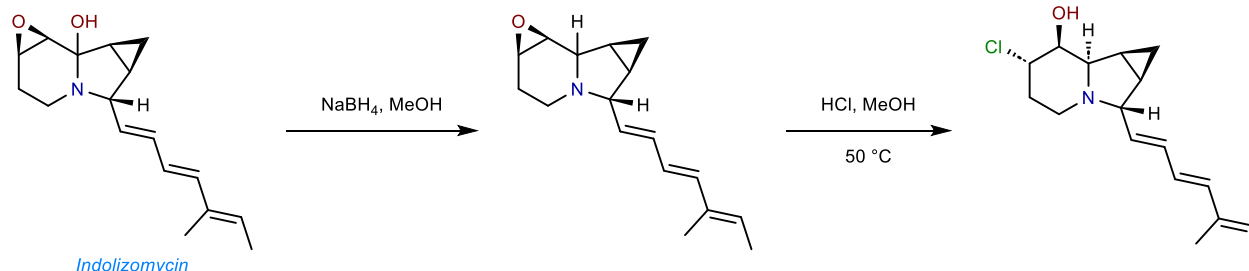
Indolizomycin



Danishefsky, S. *J. Am. Chem. Soc.* **1990**, 112, 2003-2005. <https://doi.org/10.1021/ja00161a059>

Danishefsky, S. *J. Am. Chem. Soc.* **1993**, 115, 30-39. <https://doi.org/10.1021/ja00054a005>

Structure Conformation



- Indolizomycin's hemiaminal is unstable, and the configuration remains unknown. Even after the total synthesis was completed!
- The stereochemistry of the chlorohydrin was determined by X-ray crystallography

Umezawa, H. *J. Antibiot.* **1984**, 37, 1491-1494. <https://doi.org/10.7164/antibiotics.37.1491>

Synthesis

