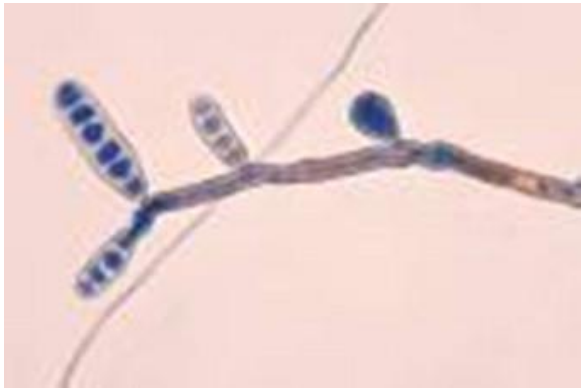
(-)-Epicoccin G, (-)-Rostratin A (Baudoin, 2019)

Introduction

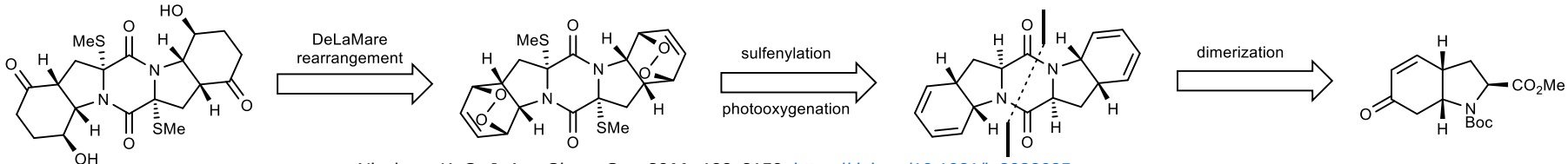
- Few completed total syntheses of dithiodiketopiperazines
  - Previous synthesis of (-)-epicoccin G by Nicolaou (2011)
- Isolated from the endophytic cordyceps-colonizing fungus *Epicoccum nigrum* growing on *Exserohilum rostratum*
  - (-)-Epicoccin G by the Che group in 2009
  - (-)-Rostratin A by the Yu group in 2010
- Inclusion of sulfur atoms presents a synthetic challenge
  - Sulfur contributes to their potent activities against viruses, bacteria, and cancer cells
- (-)-Rostratin A features two *trans* ring junctions
  - 5 kcal mol^{-1} higher in energy than the *cis* ring junction

Nicolaou, K. C. *J. Am. Chem. Soc.* **2012**, *134*, 17320 https://doi.org/10.1021/ja308429f



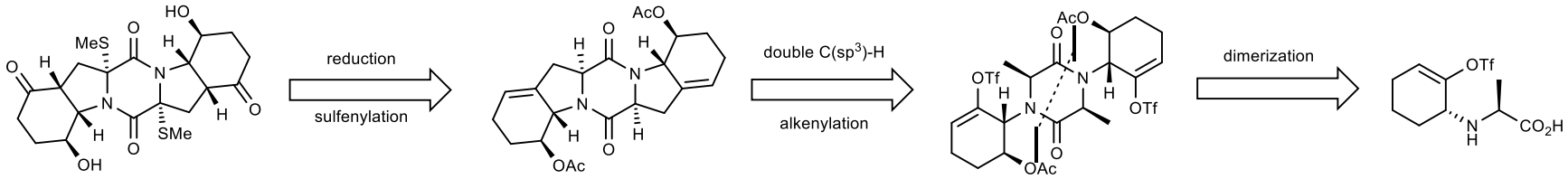
Exserohilum rostratum

Nicolaou Retrosynthesis



Nicolaou, K. C. *J. Am. Chem. Soc.* **2011**, *133*, 8150. https://doi.org/10.1021/ja2032635

Baudoin Retrosynthesis



Baudoin, O. *J. Am. Chem. Soc.* **2019**, *141*, 15779. https://doi.org/10.1021/jacs.9b09359

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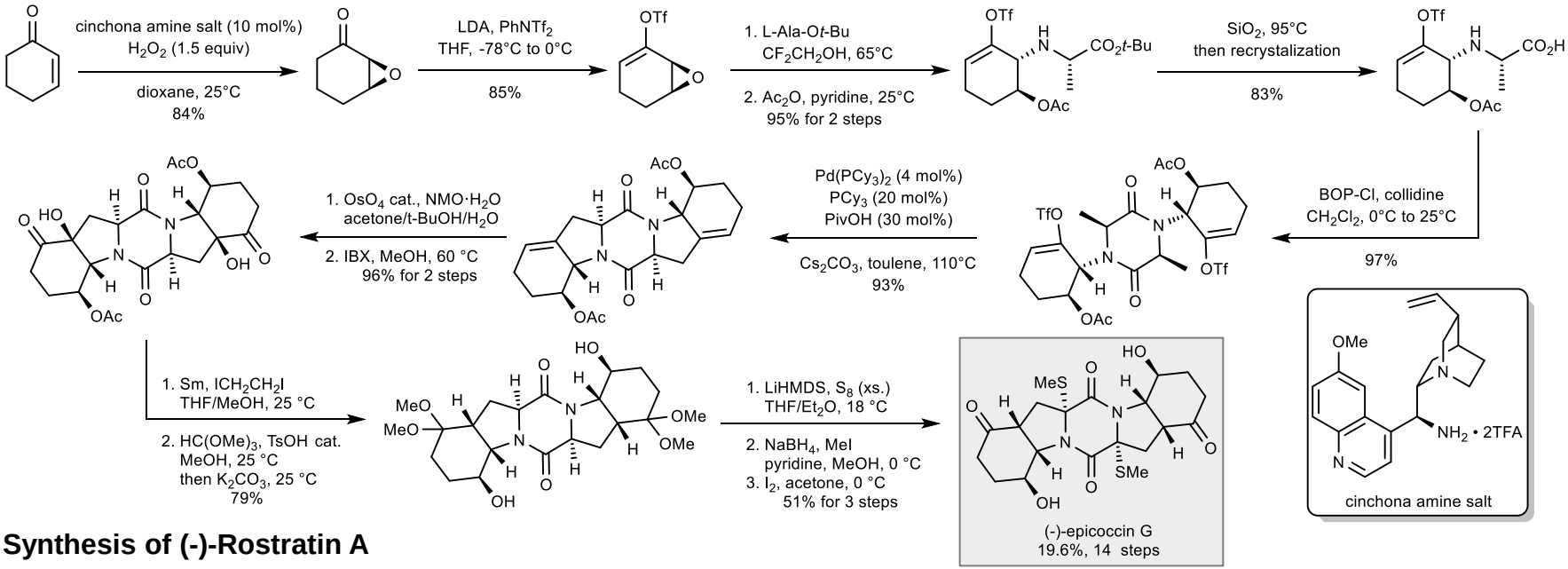
Synthesis of (-)-Epicoccin G



Synthesis of (-)-Rostratin A