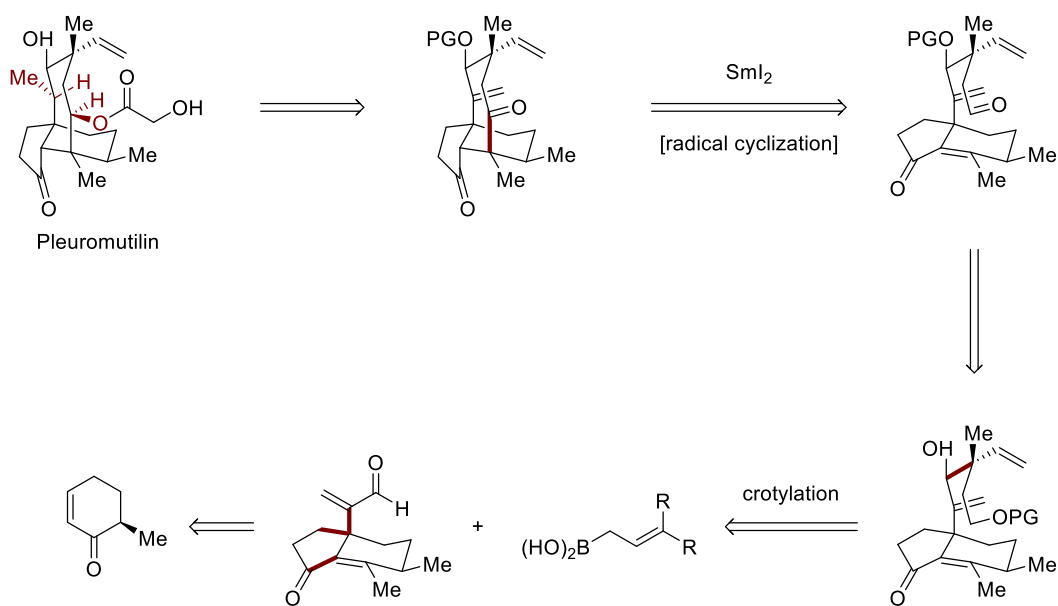


Pleuromutilin

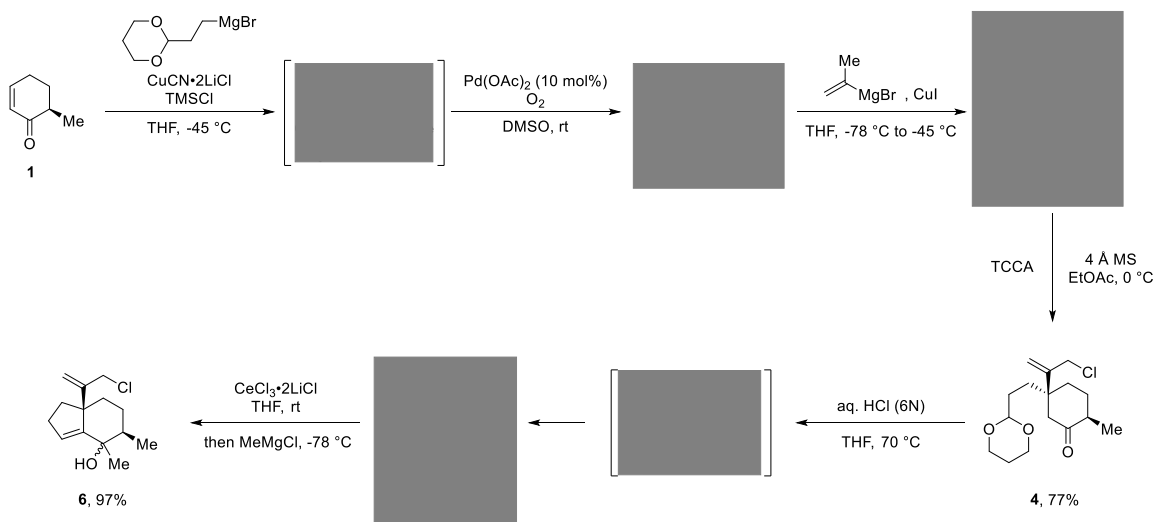
- Isolated from the fungus *Clitopilus passeckerianus* in 1951
- Structural features: 8-membered ring fused to a cis-hydrindanone, 8 stereocenters (3 quaternary)
- Binds to the enzyme *peptidyl transferase* preventing protein synthesis.
- Ester derivatives are FDA-approved antibiotics
- 18-step synthesis

E. P. Farney, S. S. Feng, F. Schäfers, S. E. Reisman, J. Am. Chem. Soc. **2018**, *140*, 1267.

Retrosynthesis:

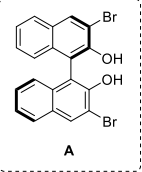
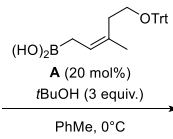
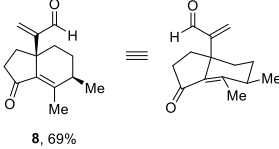
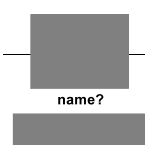
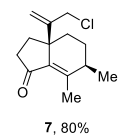


Model for the stereoselectivity:



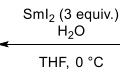
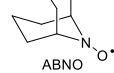
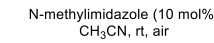
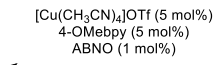
TCCA structure:



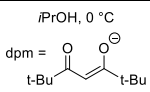
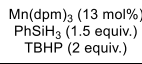
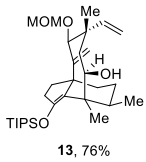
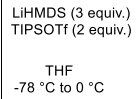


1) MOMCl, DIPEA
2) HCOOH

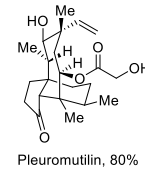
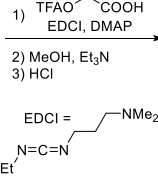
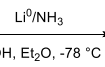
Mechanism:



Sml₂ Mechanism:



Mechanism:



SOLUTION

