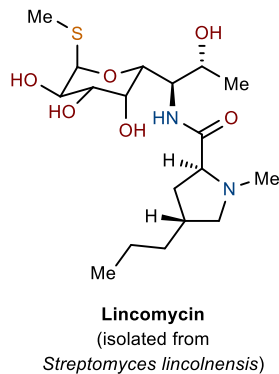
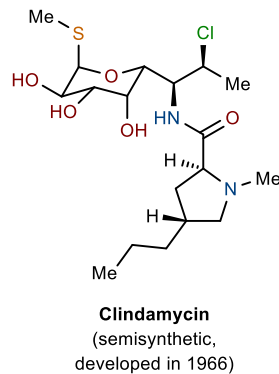


Origin and Activity



chlorination →



- A broad-spectrum antibiotic with activity against a number of Gram-positive bacteria
- Good oral bioavailability, cheap generic medication
- Not a first line of defense antibiotic due to increased risk of *Clostridium difficile* overgrowth and infection
- Hospital-acquired *C. difficile*-associated colitis (colon inflammation) and diarrhea following Clindamycin use can be severe, even fatal
- Generally prescribed to patients that have a penicillin allergy

Used in treating:

- Skin infections
- Head and neck infections
- Pneumonia
- Serious abdominal and respiratory infections

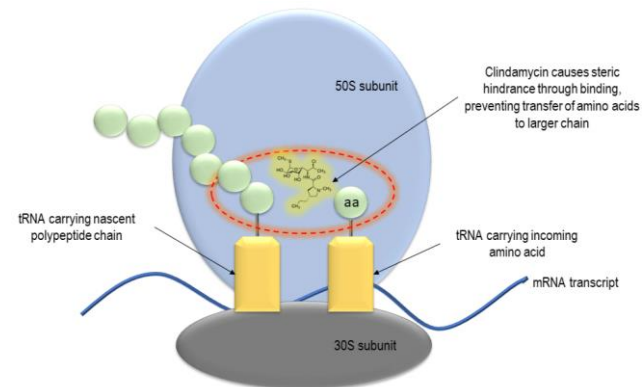
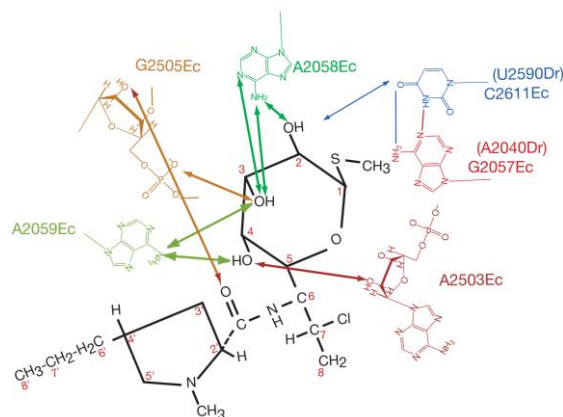
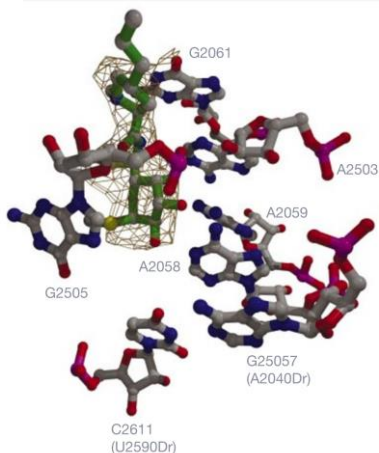
Other applications:

- Penicillin-resistant infections
- Antimalarial in combination with quinine
- Acne treatment

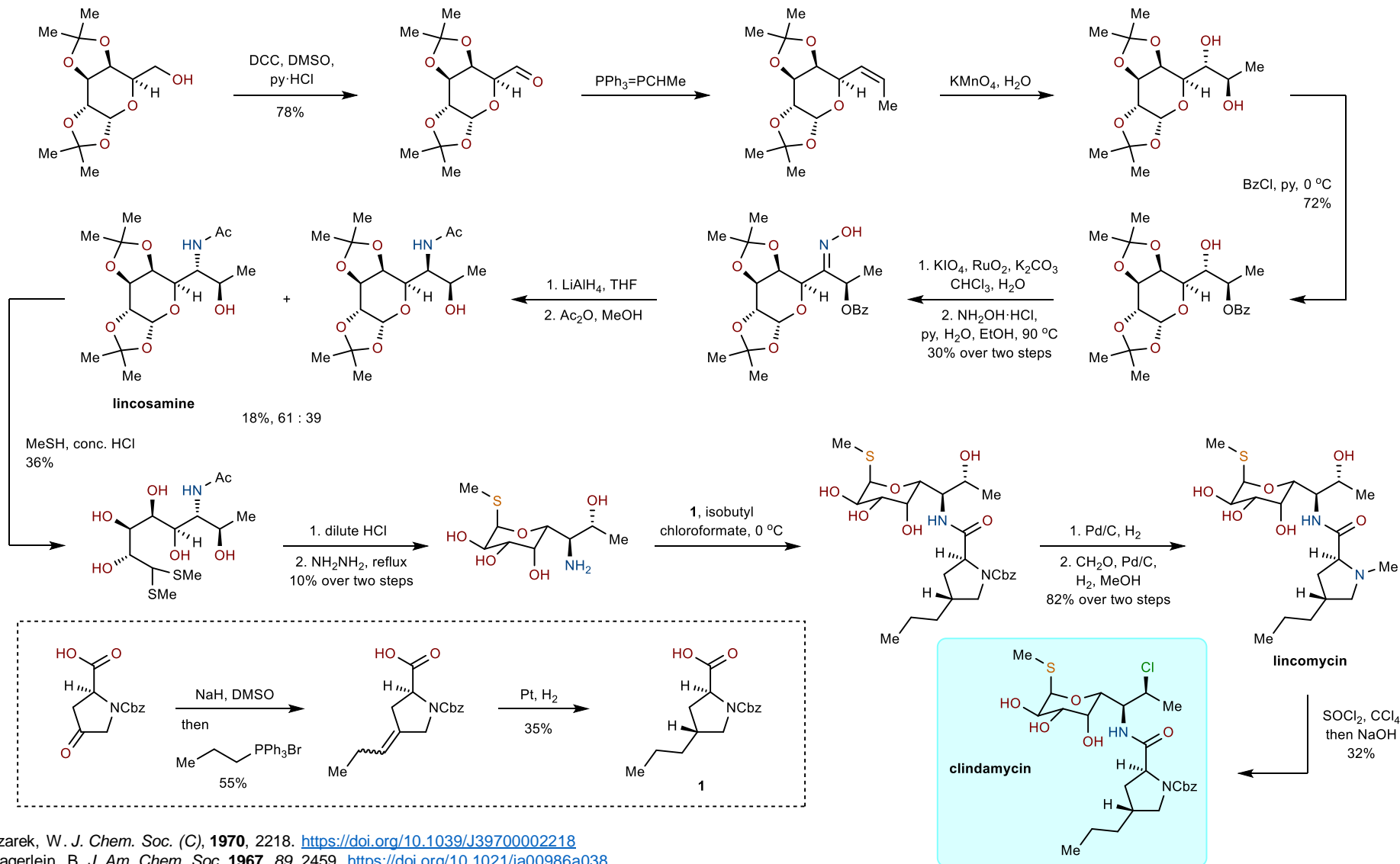
Smieja, M. *Can. J. Infect. Dis. Med. Microbiol.* **1998**, 9, 22. <https://doi.org/10.1155/1998/538090>

Mechanism of Action

- Inhibits bacterial protein synthesis at 50S ribosome, specific to prokaryotic ribosomes
- Reversibly binds in the peptidyl transferase cavity
- Same mechanism of action as macrolide antibiotics like erythromycin and azithromycin



Franceschi, F. *Nature* **2001**, 413, 814. <https://doi.org/10.1038/35101544>



Szarek, W. *J. Chem. Soc. (C)*, **1970**, 2218. <https://doi.org/10.1039/J39700002218>

Magerlein, B. *J. Am. Chem. Soc.* **1967**, *89*, 2459. <https://doi.org/10.1021/ja00986a038>

Birkenmeyer, R. *J. Med. Chem.* **1970**, *13*, 616. <https://doi.org/10.1021/jm00298a007>

Golebiowski, A.; Jurczak, J. Total Synthesis of Lincosamin and Related Chemistry. In *Recent Progress in the Chemical Synthesis of Antibiotics*; Springer: Berlin, Heidelberg, **1990**; pp 365-385.

https://doi.org/10.1007/978-3-642-75617-7_10