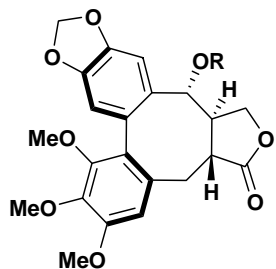
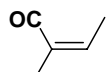


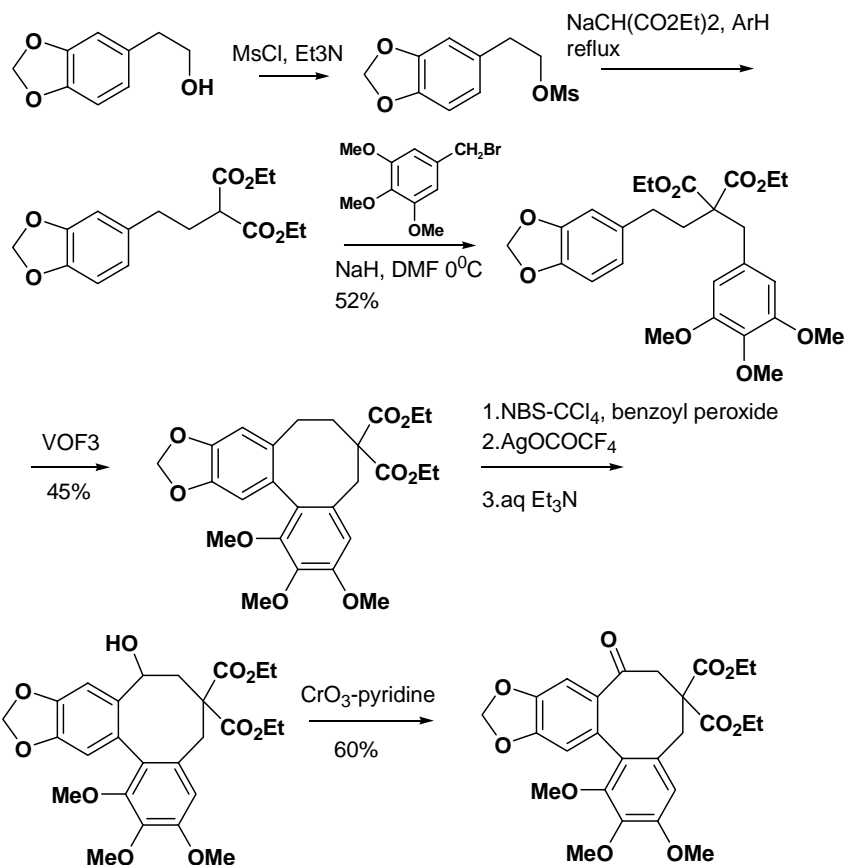
Steganone



R: Ac Steganacin
R: H Steganol
R:  Steganangin

Total synthesis of Steganacin (Kende et al. *JACS*, 1976, 98, 267)

Non Phenolic oxidation methodology



Introduction:

- Isolation from *Steganothaenia araliacea* in 1972 from Kupchan
- Belong to the category of lignans

Biological Properties:

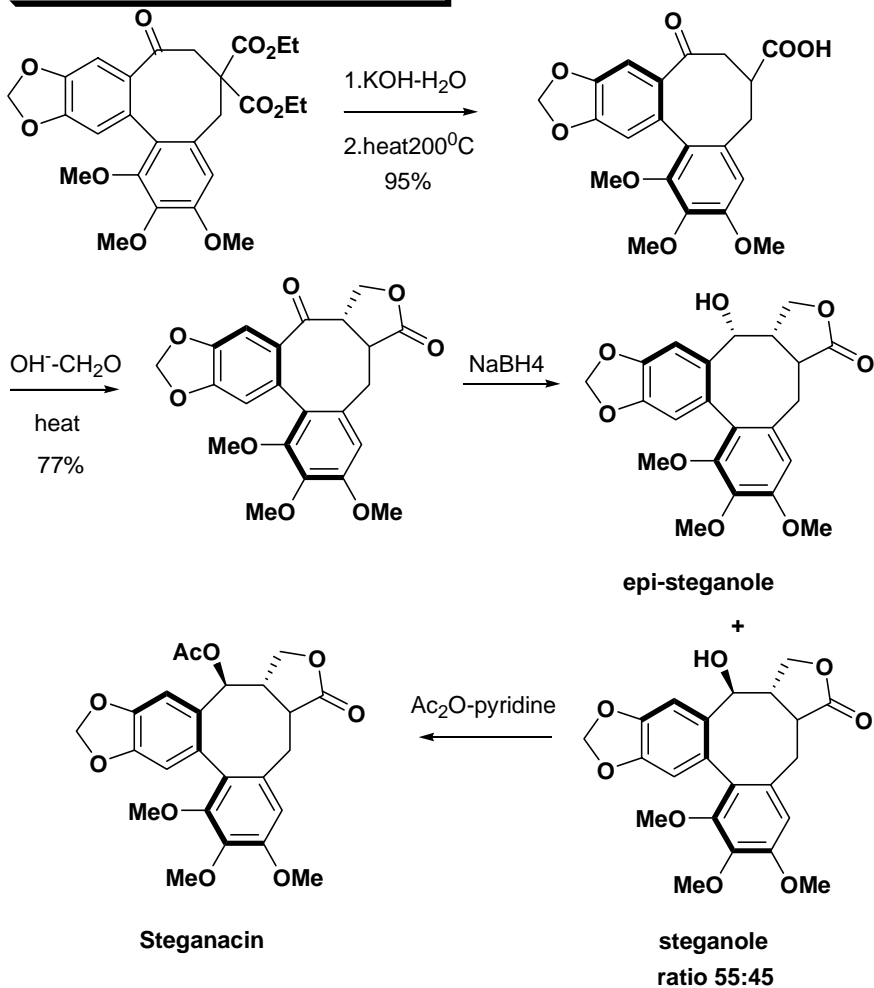
- Significant activity in vivo against P-388 leukemia in mice and in vitro against cells derived from human carcinoma of the nasopharynx

Synthesis of Stegane natural products:

- First synthesis in 1976 by Kende
- Nine total synthesis of racemic stegane natural products.
- Five total synthesis of asymmetric stegane natural products

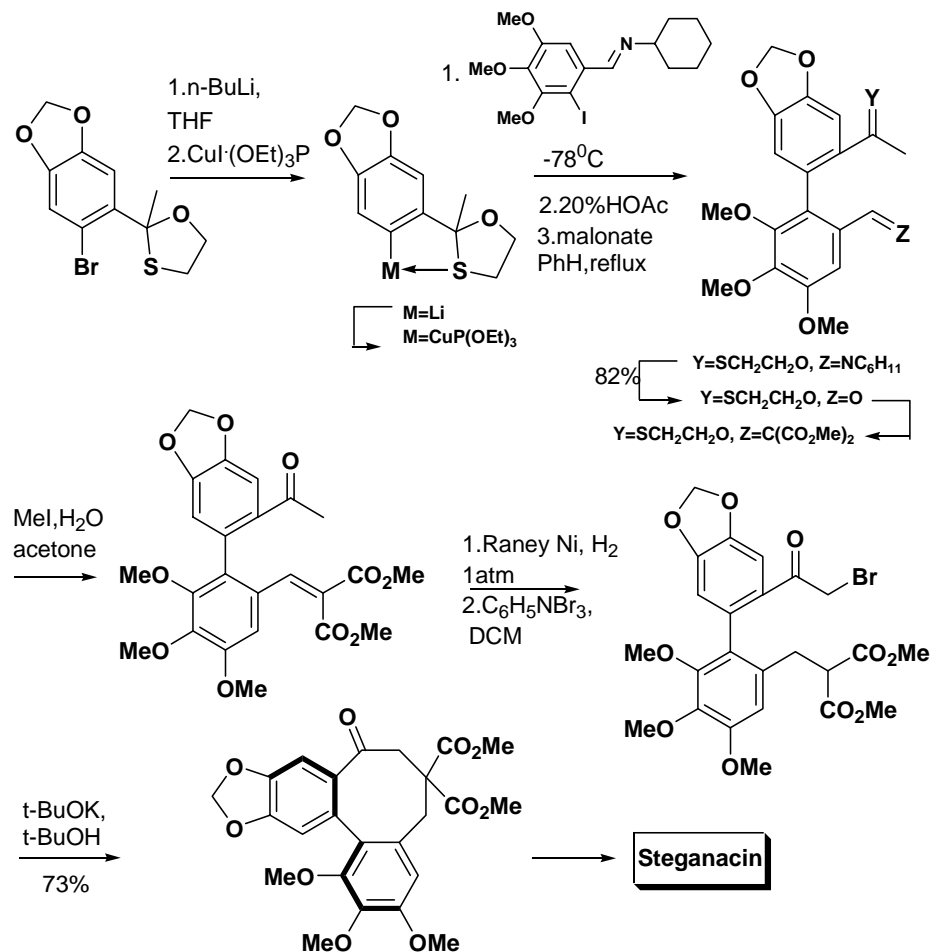
Total synthesis of Steganacin Kende et al. (continue)

Non Phenolic oxidation methodology



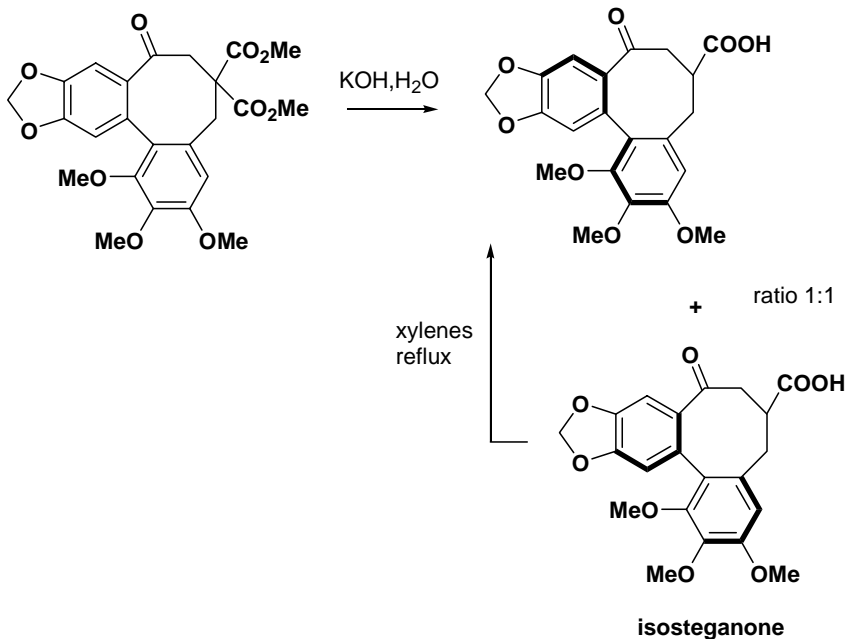
Total synthesis of Steganacin (Ziegler et al. JACS, 1980, 102, 790)

Application of Ullmann Reaction



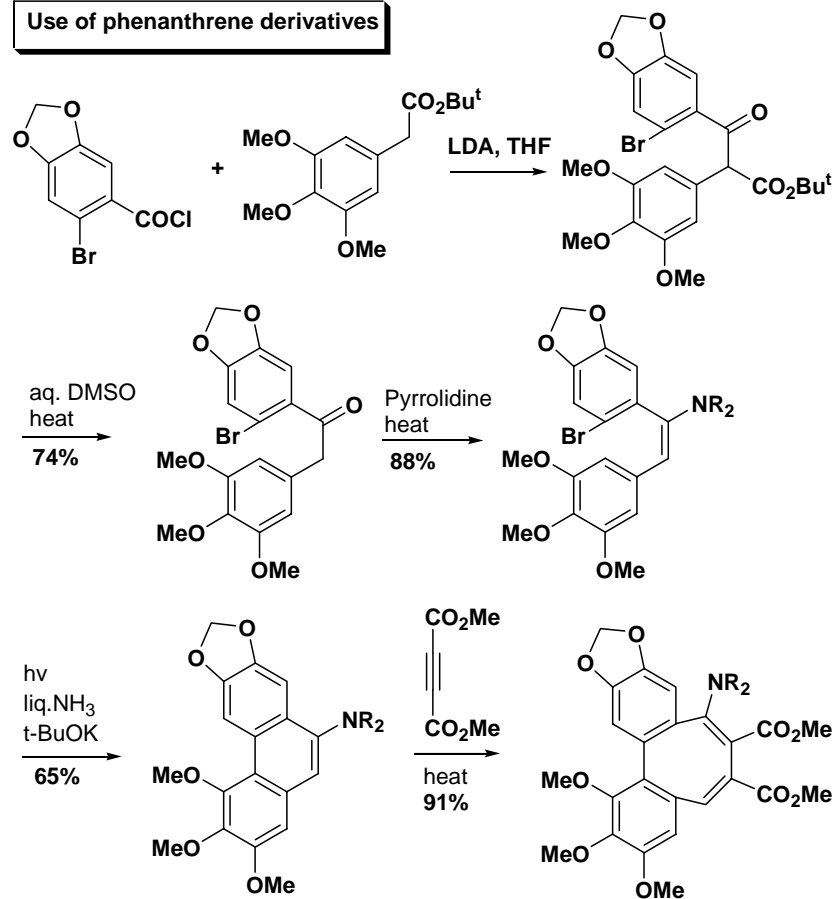
Total synthesis of Steganacin Ziegler et al. (continue)

Application of Ullmann Reaction



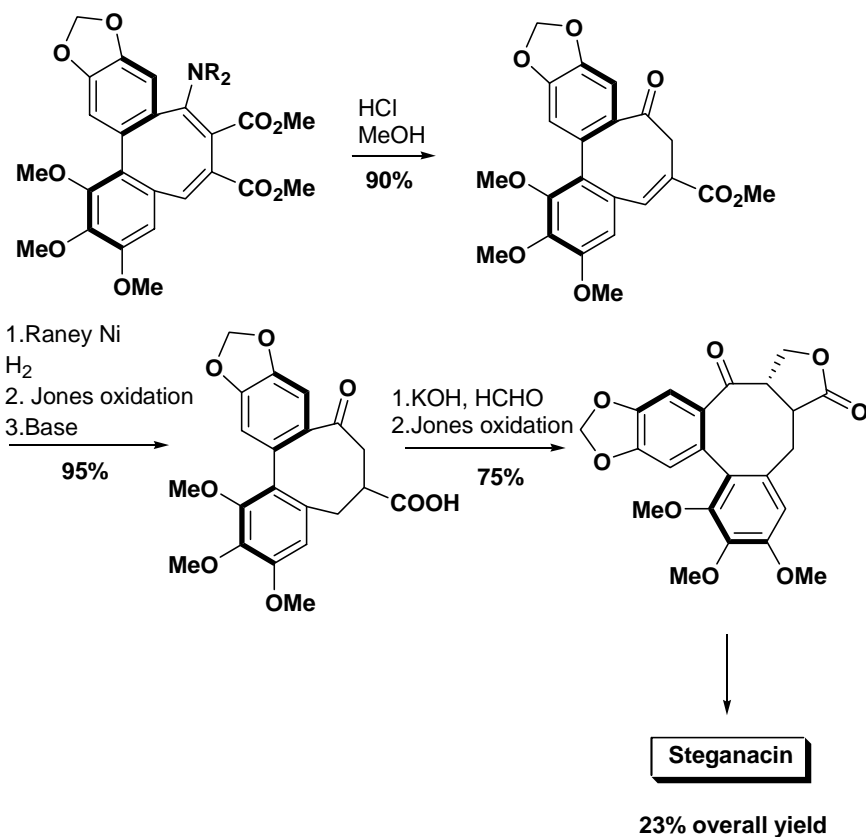
Total synthesis of Steganacin (by Raphael. *J. Chem Soc Perkin Trans 1*, 1977, 1674)

Use of phenanthrene derivatives



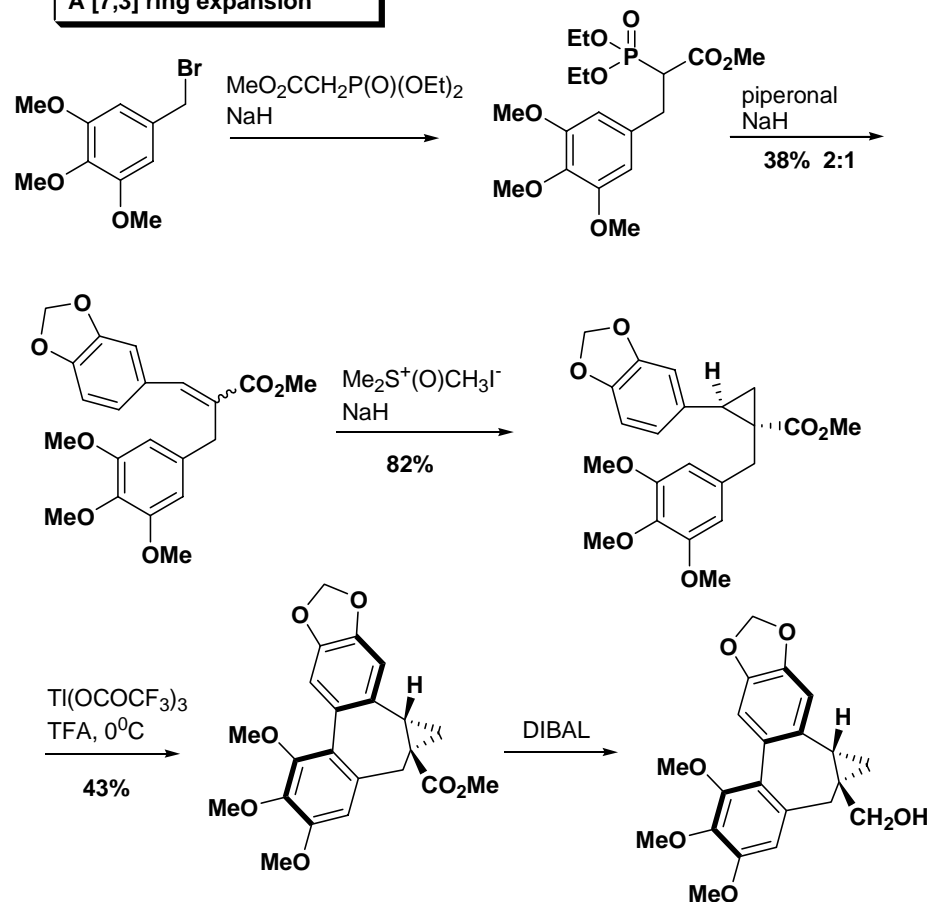
Total synthesis of Steganacin by Raphael (continue)

Use of phenanthrene derivatives



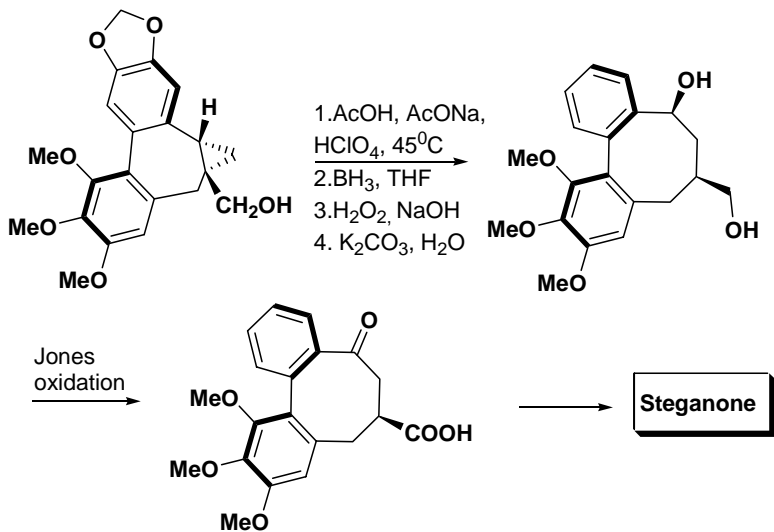
Total synthesis of Steganone Magnus et al. (*J. Am. Chem. Soc.* 1985, 4984)

A [7,3] ring expansion

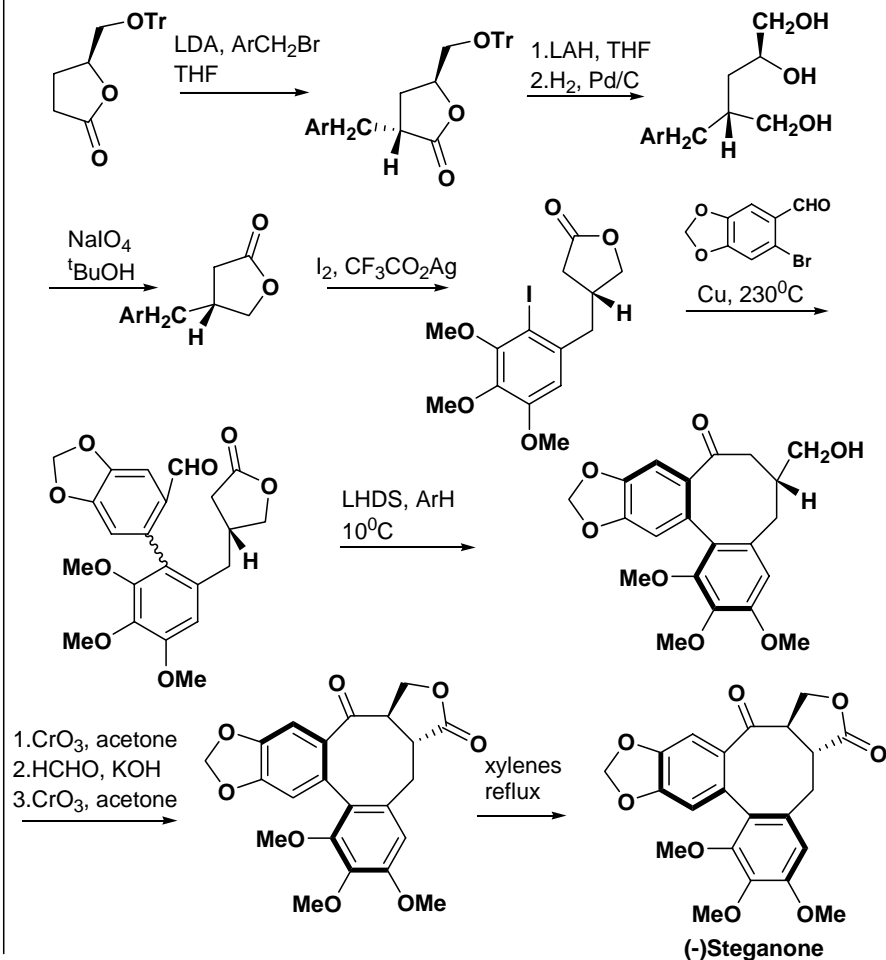


Total synthesis of Steganone Magnus et al. (*continue*)

A [7,3] ring expansion



Asymmetric Total synthesis of (-)-Stegane Robin et al. (*Tetrahedron Lett.*, 1980, 21, 2709)



Asymmetric Total synthesis of (-)-Stegane Meyers et al.

(JACS., 1987, 109, 5447)

