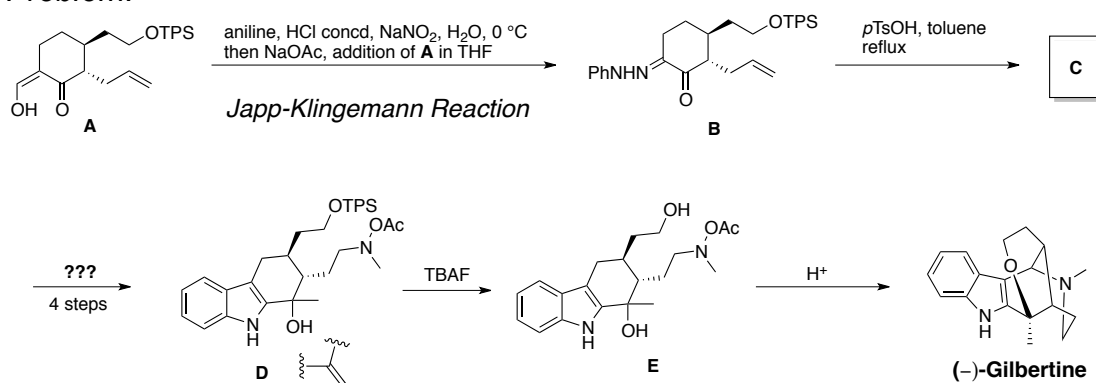


Enantioselective Synthesis of (-)-Gilbertine via a Cationic Cascade Cyclization

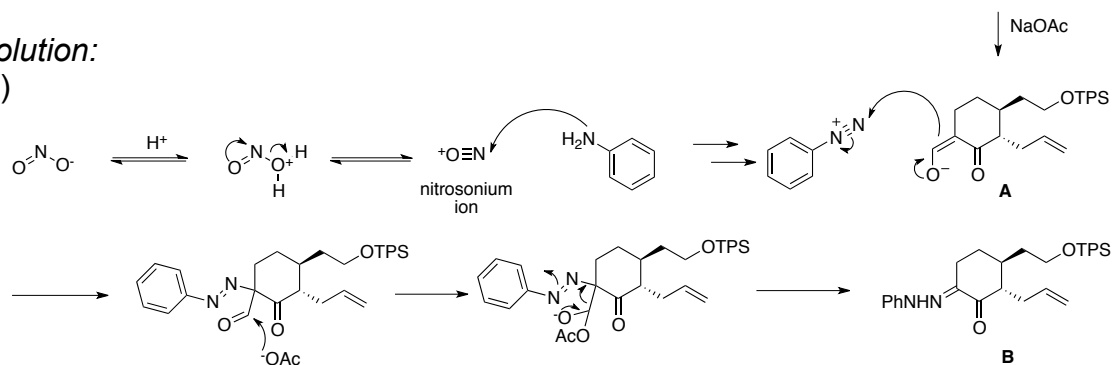
Problem:



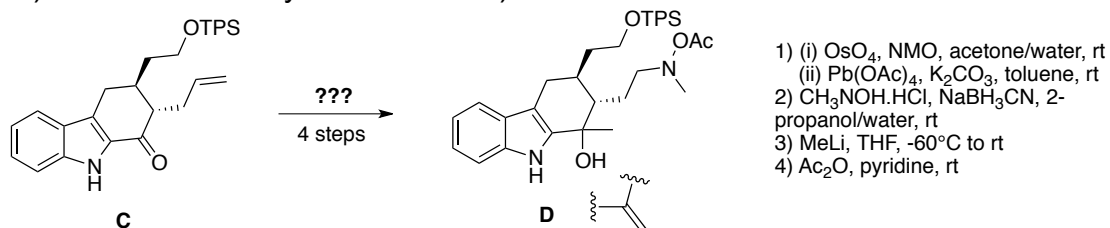
- 1) Propose a mechanism for the *Japp-Klingemann Reaction*!
- 2) What's compound **C** and how is this transformation called?
- 3) Propose briefly the 4 unknown steps (**C** \rightarrow **D**!)
- 4) How is this cationic pathway going on (**E** \rightarrow Gilbertine)?

Solution:

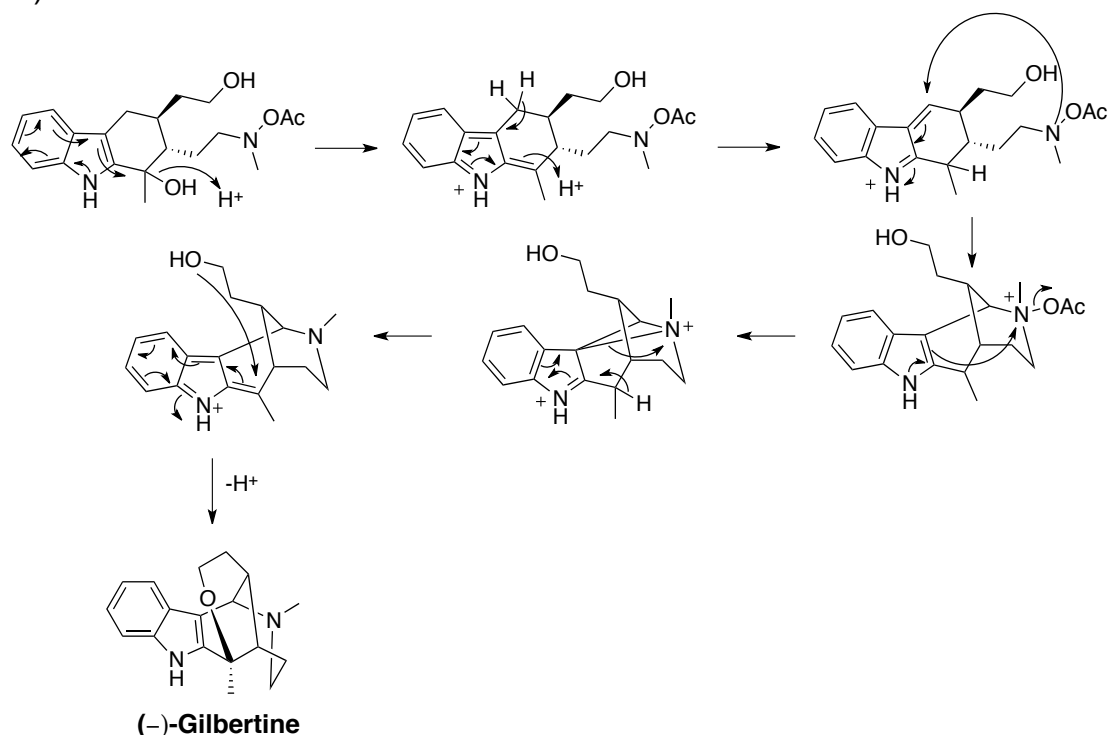
1.)



2.) Fischer Indole Synthesis and 3.)



4.)



Comments:

References:

Jiricek, J. Blechert, S. *JACS* **2004**, *126*, 3534.

Keywords:

Japp-Klingemann reaction, Fischer Indole Synthesis, Cationic Cyclization Cascade