

A Concise Total Synthesis of (-)-Himalensine A



Communications



Natural Products

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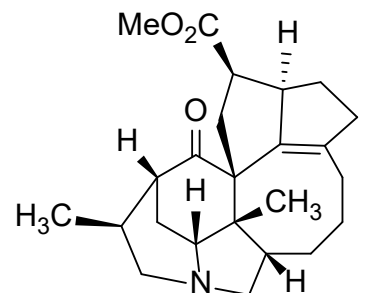
A Concise Total Synthesis of (–)-Himalensine A

*Yuye Chen, Jingping Hu, Lian-Dong Guo, Weihe Zhong, Chengqing Ning, and Jing Xu**

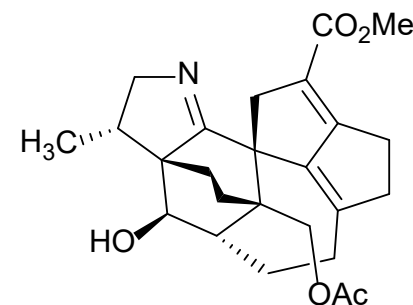
Presenter: Charles Anamoah

Natural sources and pharmacological activities

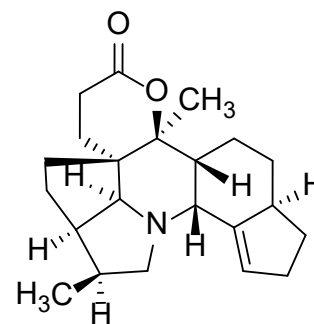
- ❖ Daphniphyllum alkaloids belongs to a broad class of alkaloids.
- ❖ First member of the group was reported in 1966
- ❖ Showed varied biological activities such as: antioxidant and cytotoxic against cancer cell lines
- ❖ Himalensine A belongs to caliciphylline A-type



Caliciphylline A-type

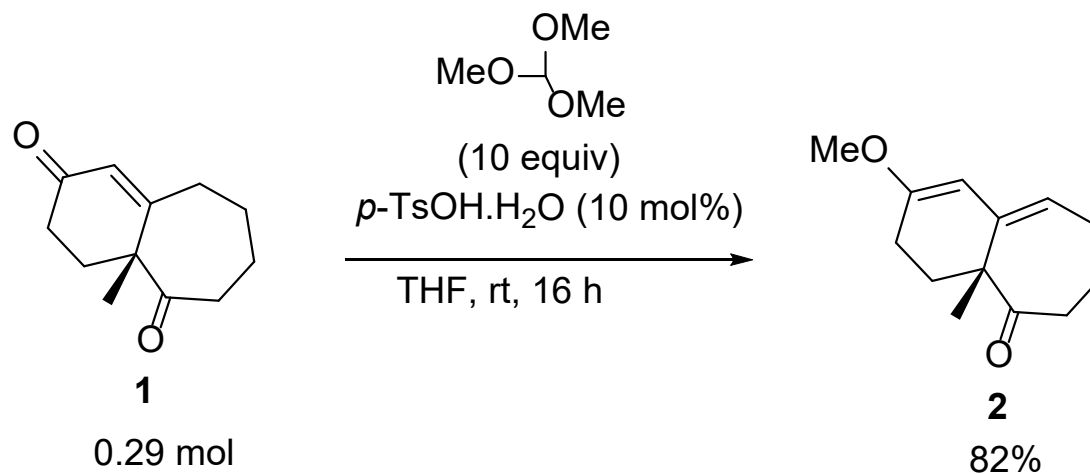
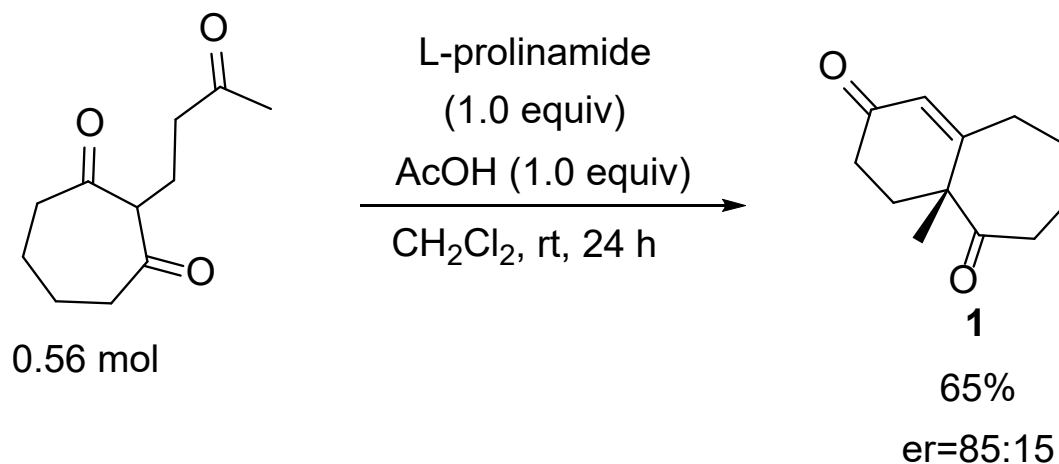


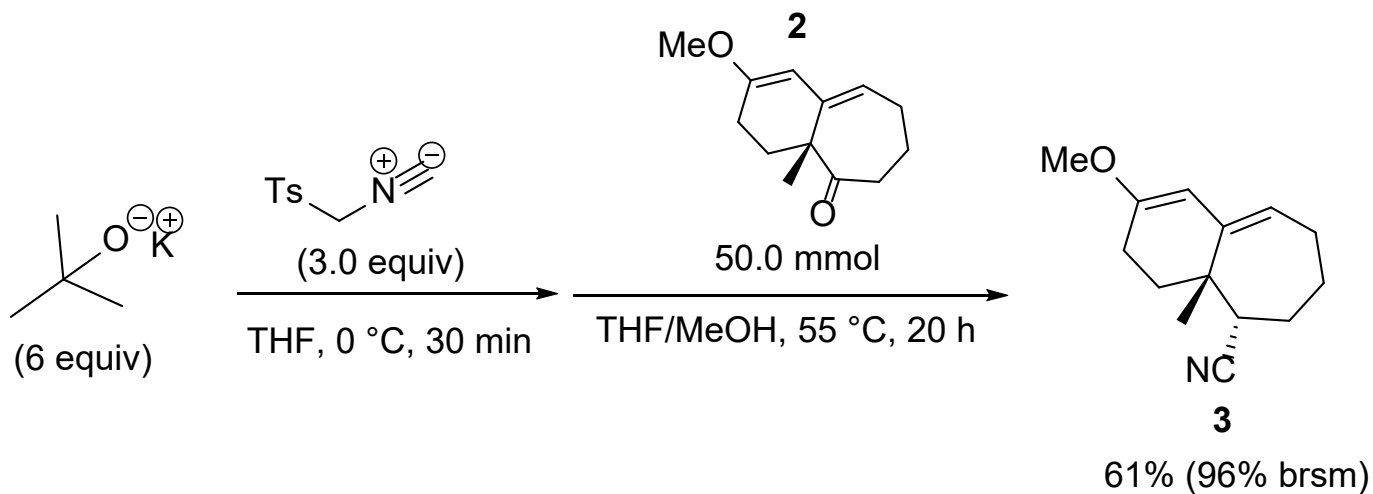
Daphmanidin A type

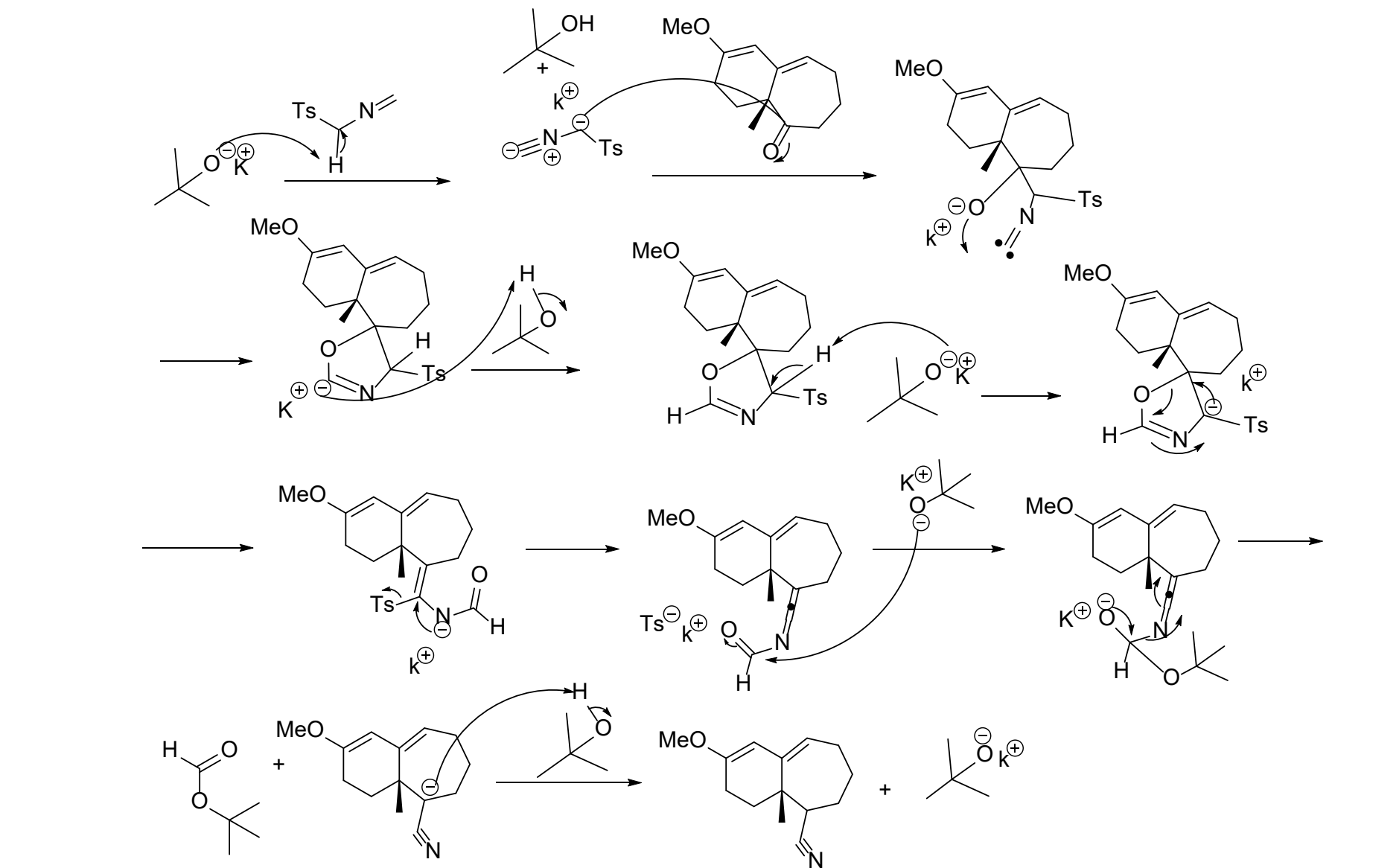


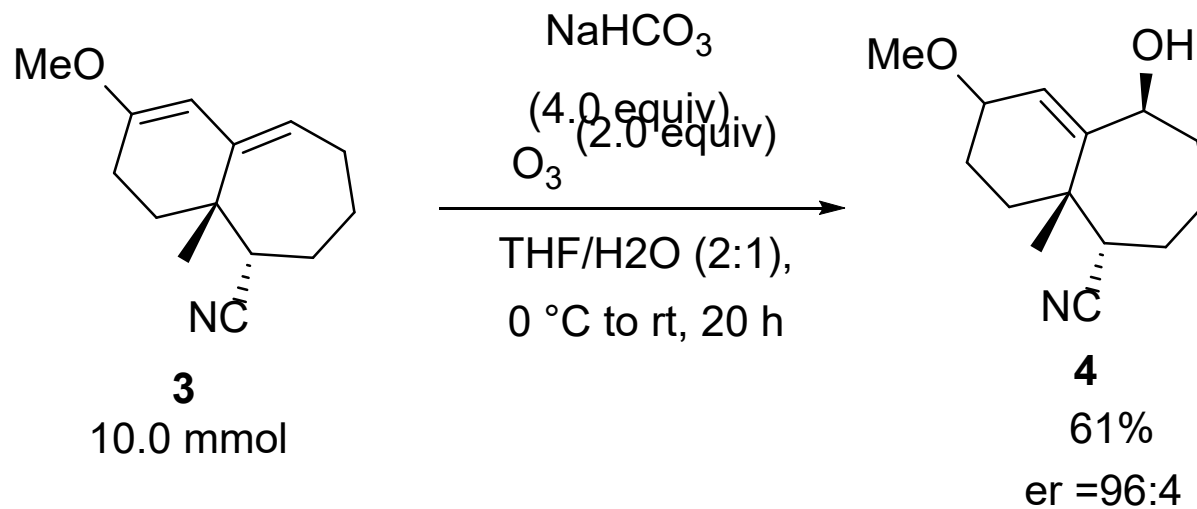
Caliciphylline B-type

Generating Starting material and Step 1

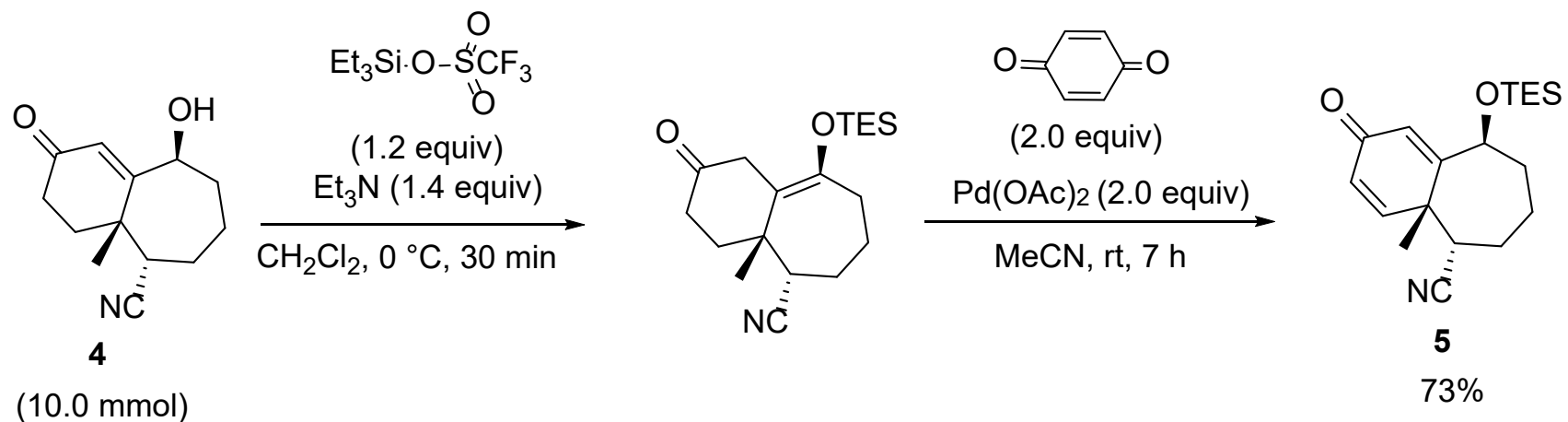






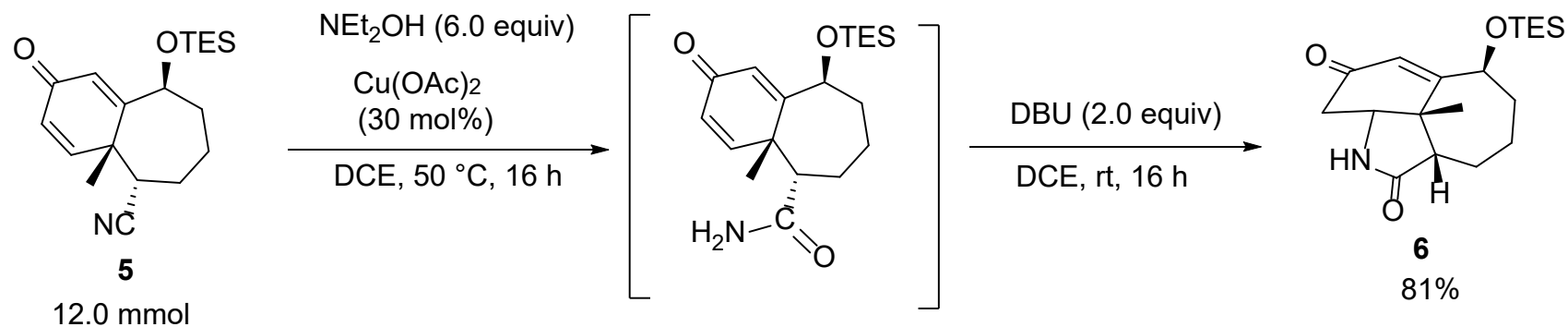


Silylation followed by Saegusa-Ito Oxidation

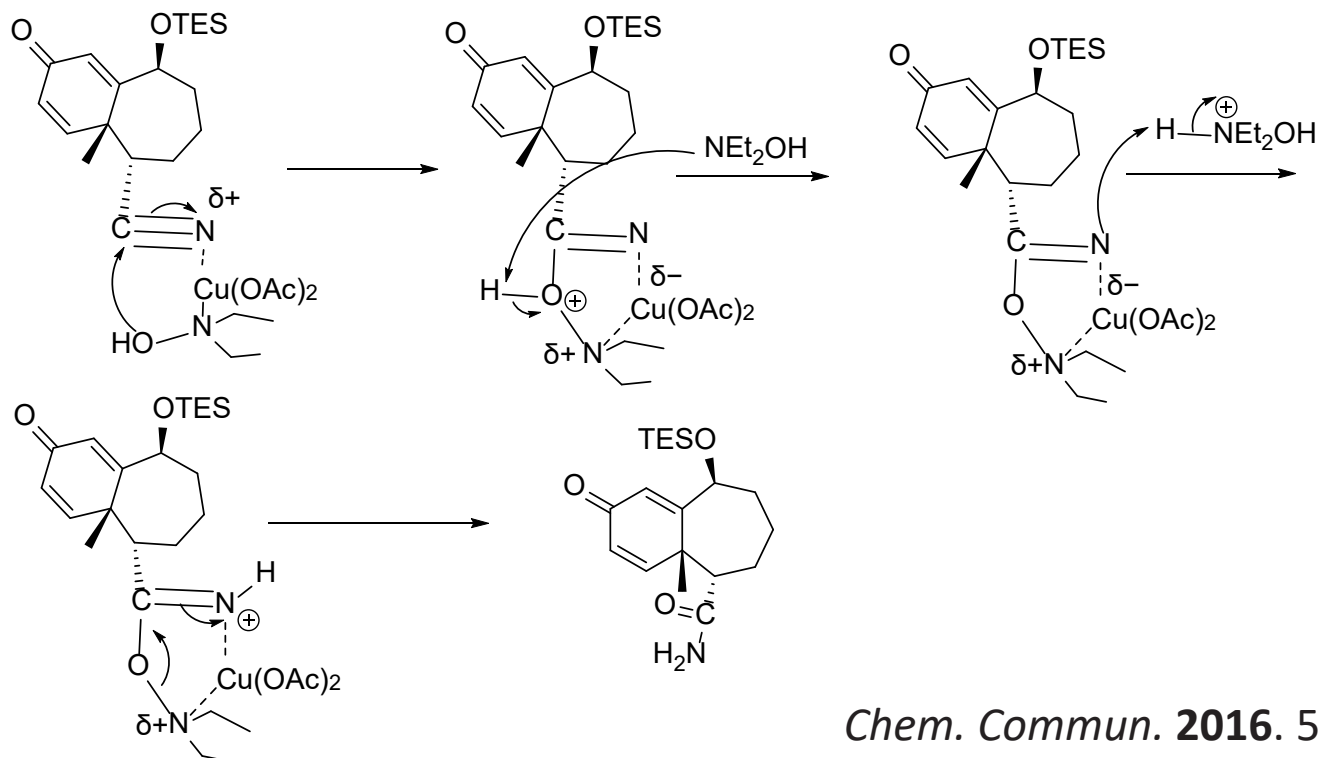


https://link.springer.com/content/pdf/10.1007/978-3-319-03979-4_240.pdf

Copper catalyzed hydration of nitriles

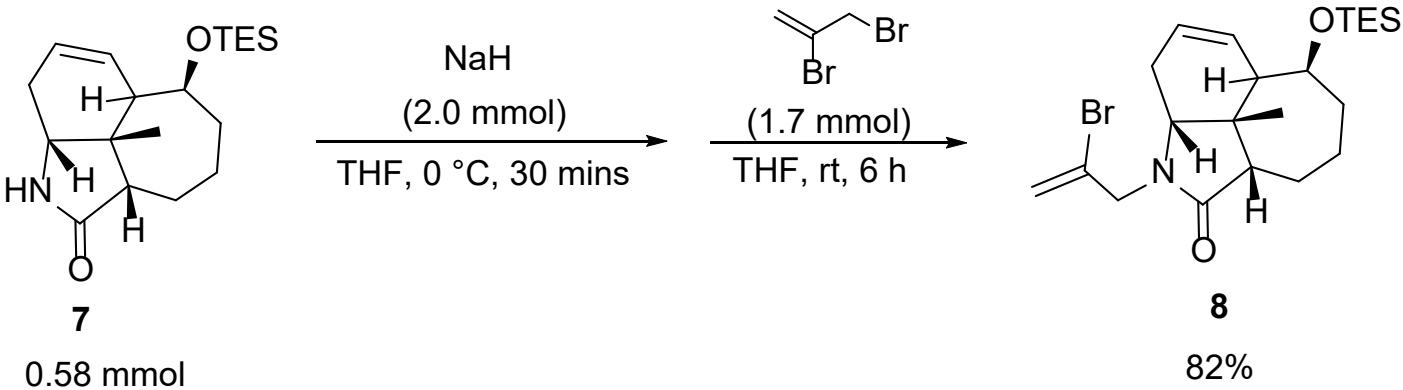
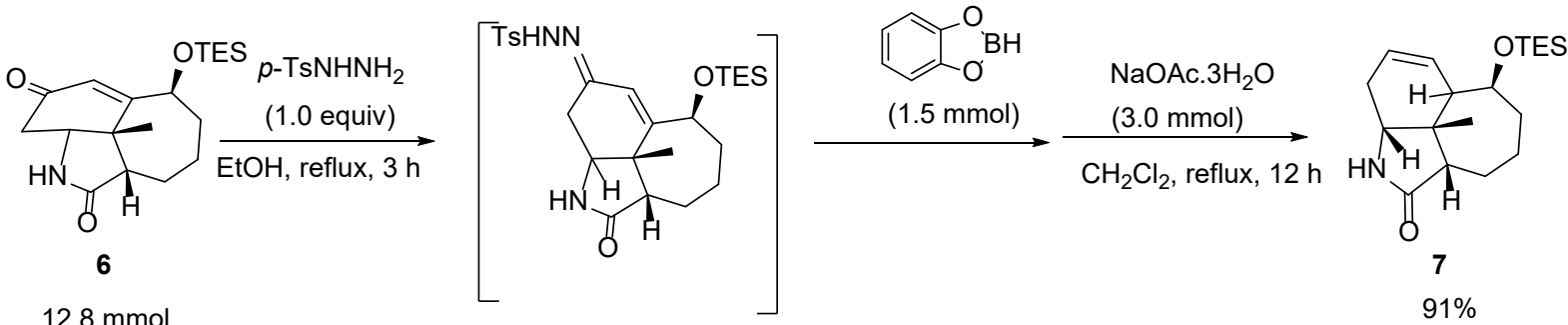


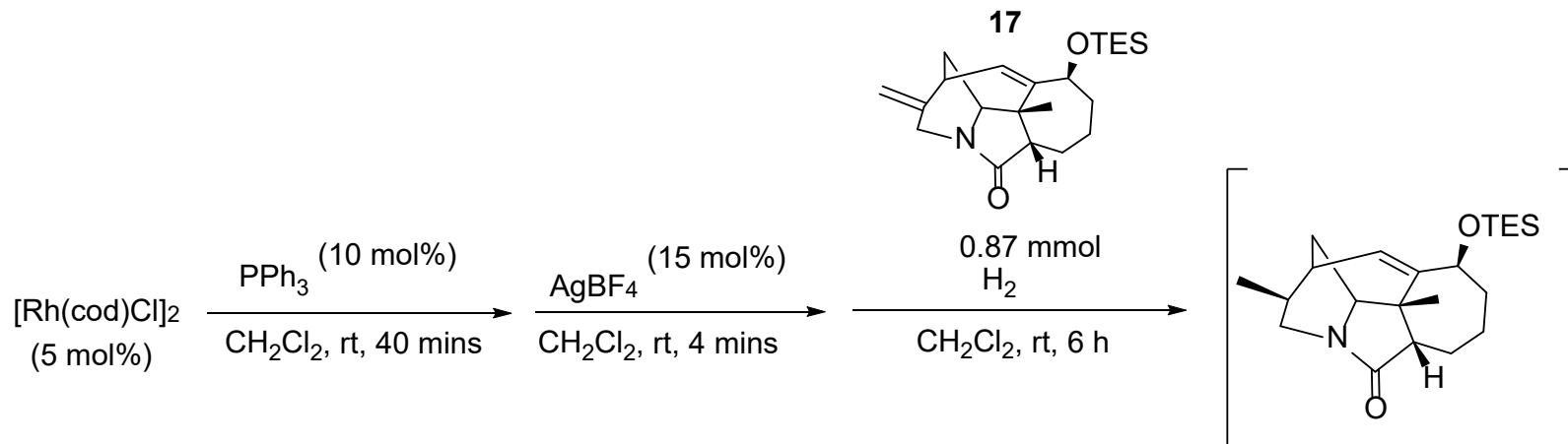
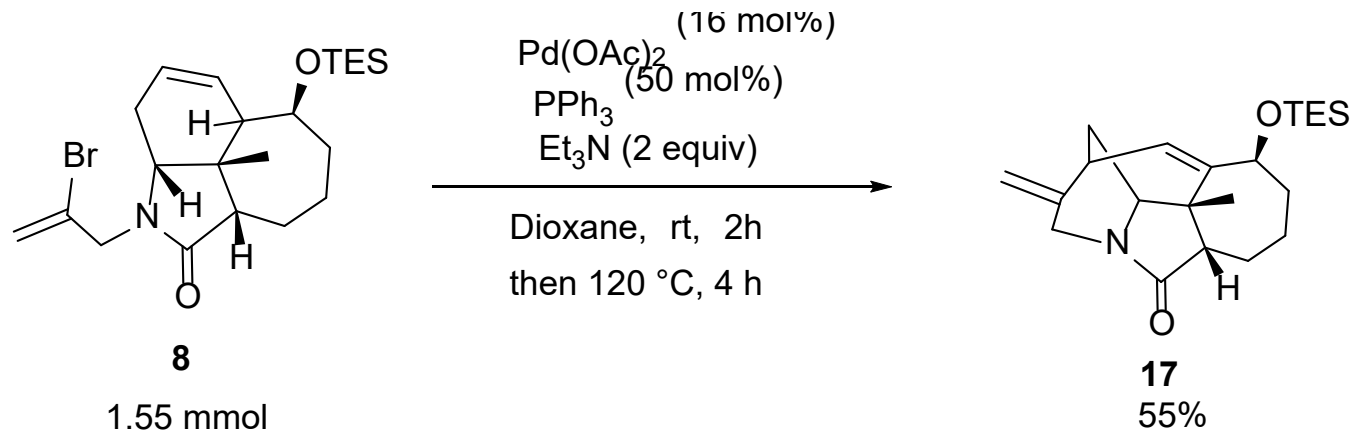
Proposed mechanism

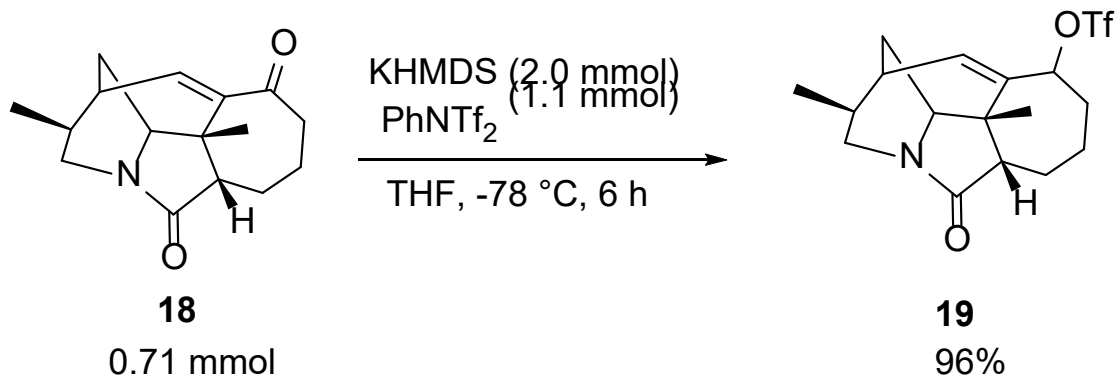
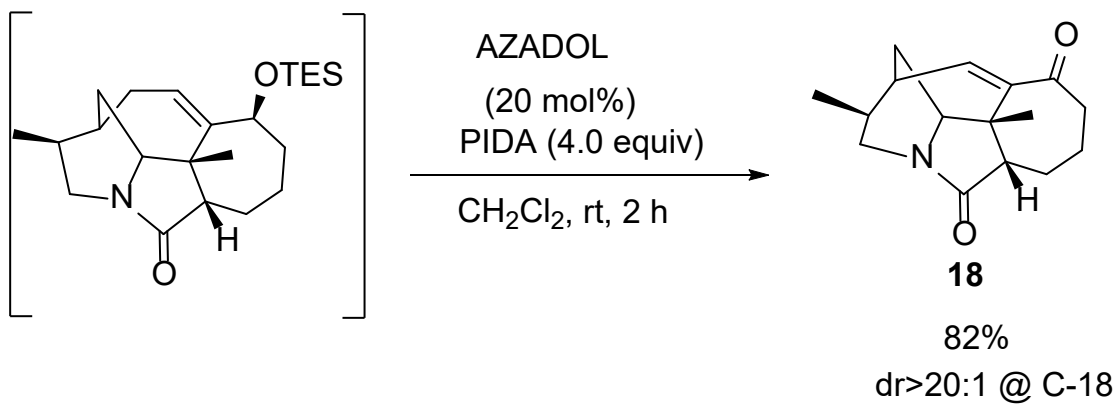


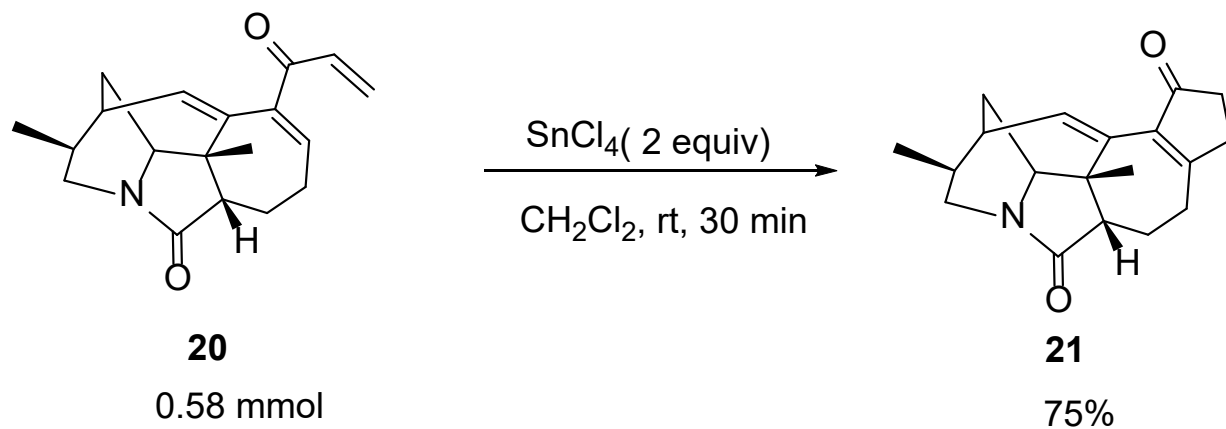
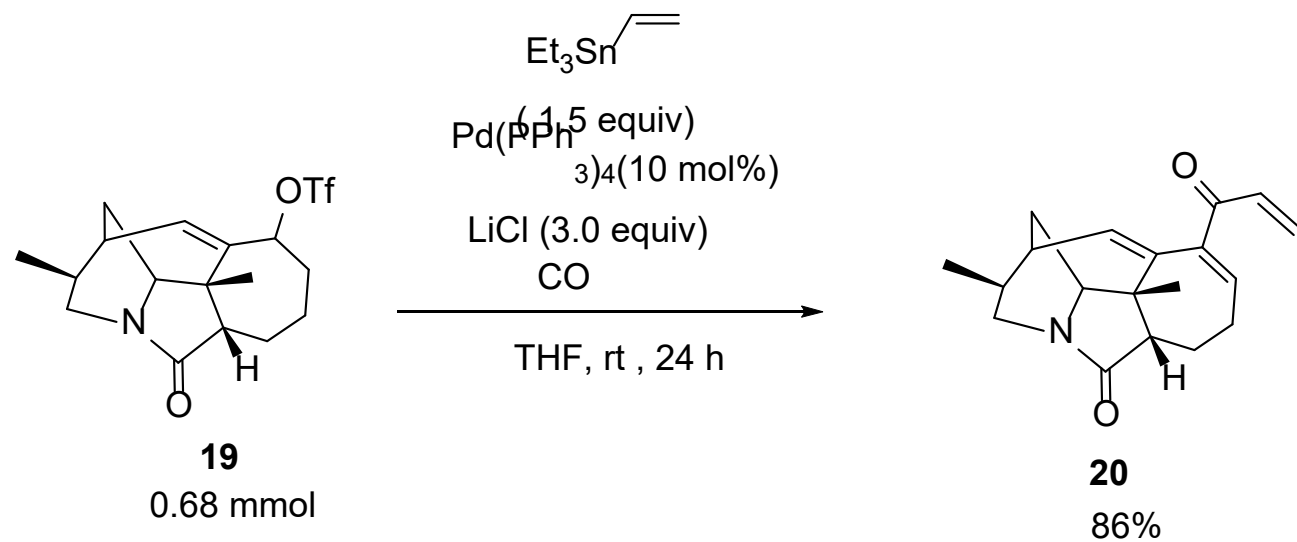
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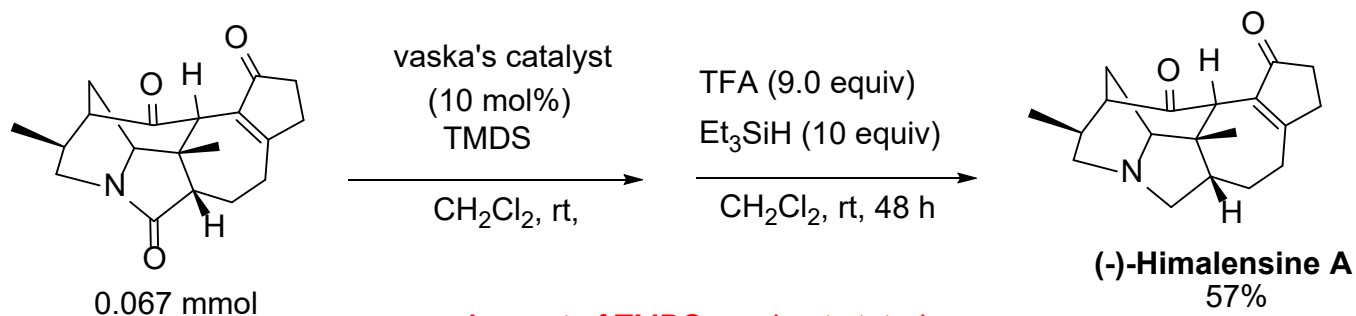
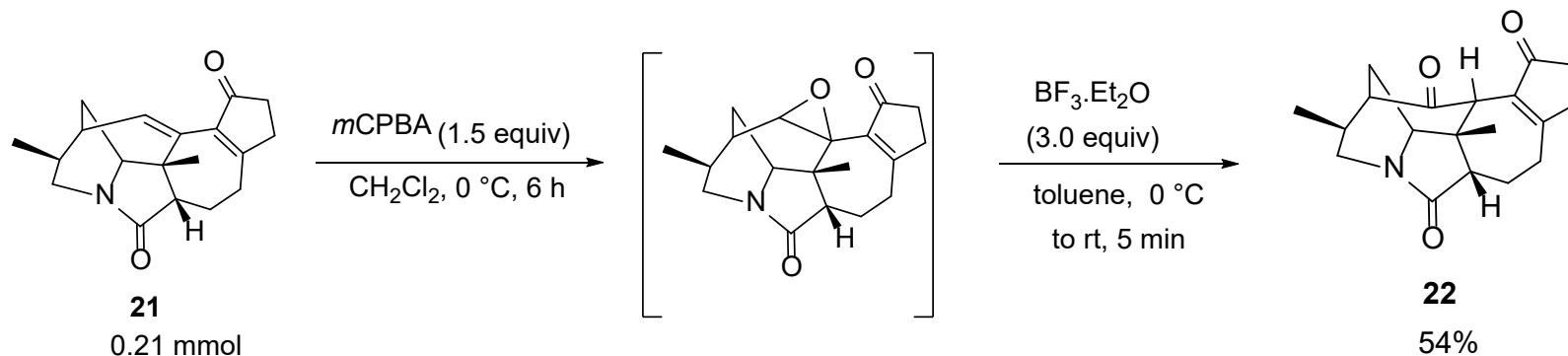
Step 6 & 7











Amount of TMSD used not stated
reaction time was not stated