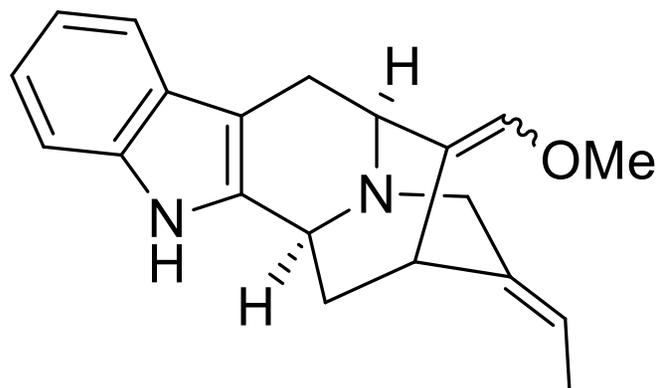


Total Synthesis of Vellosimine (1)



CEM 852

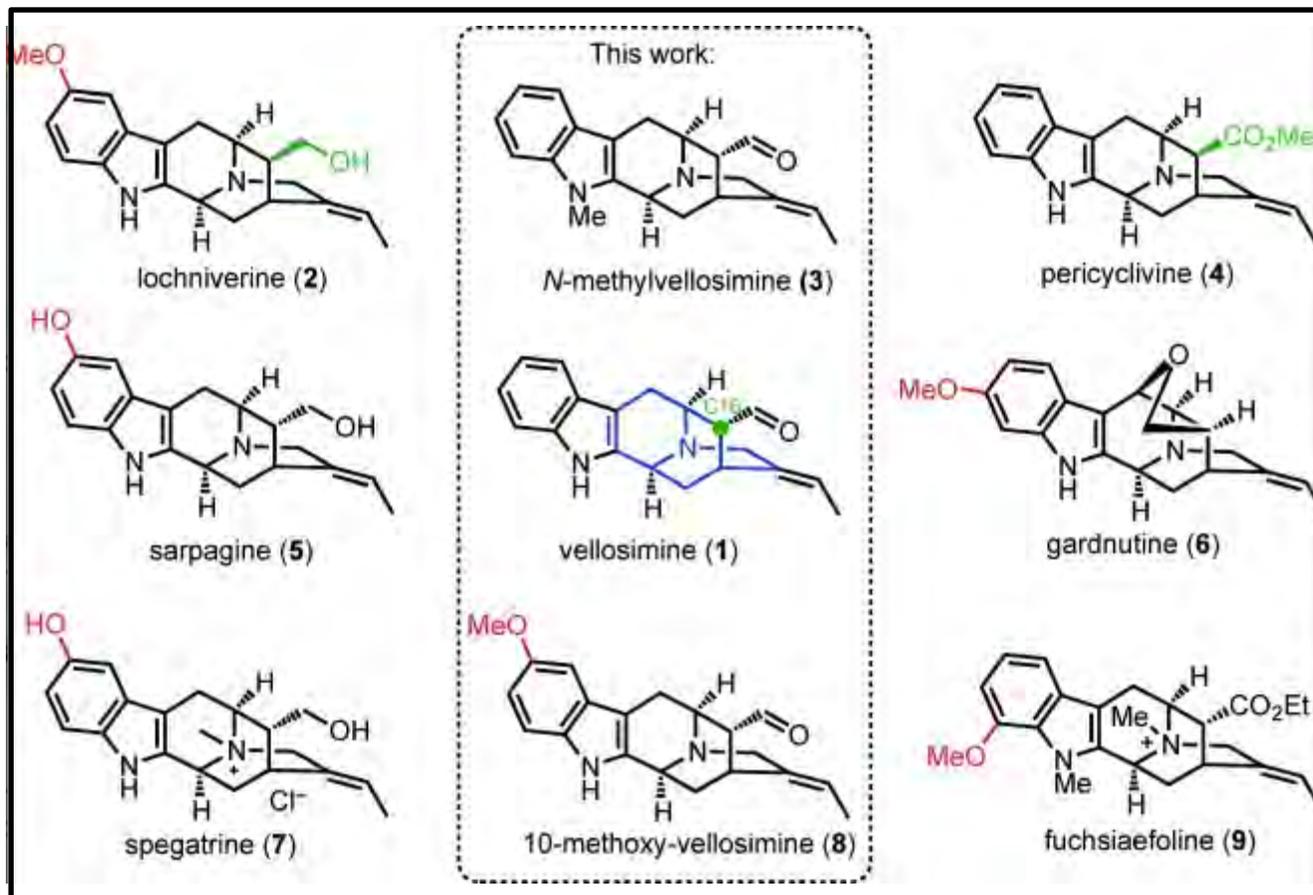
Niloofar Safaie

Angew. Chem. Int. **2015**, *54*, 315-317.

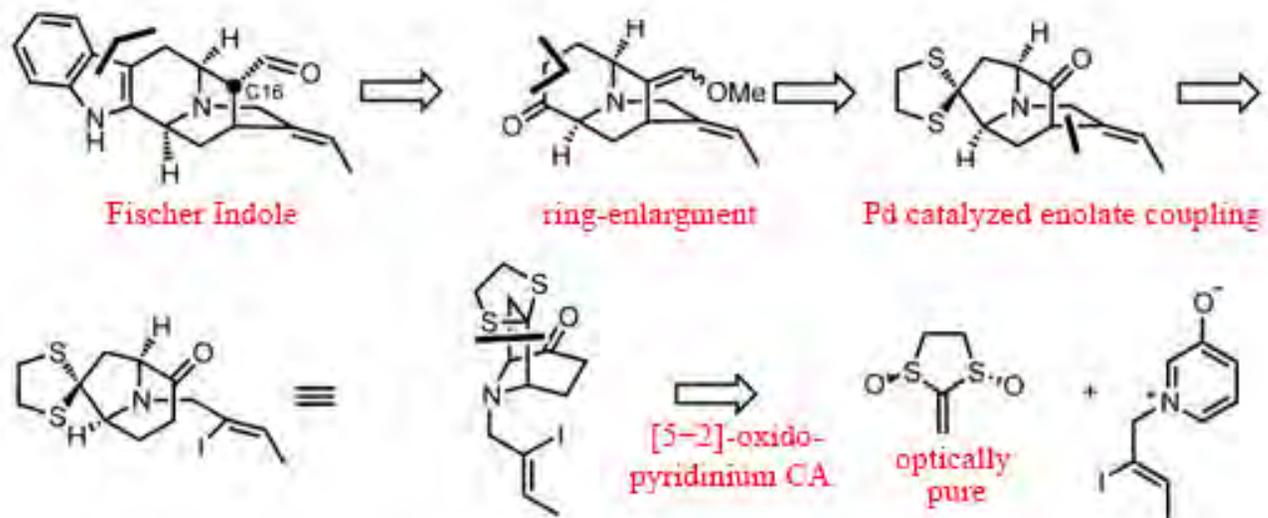
Background

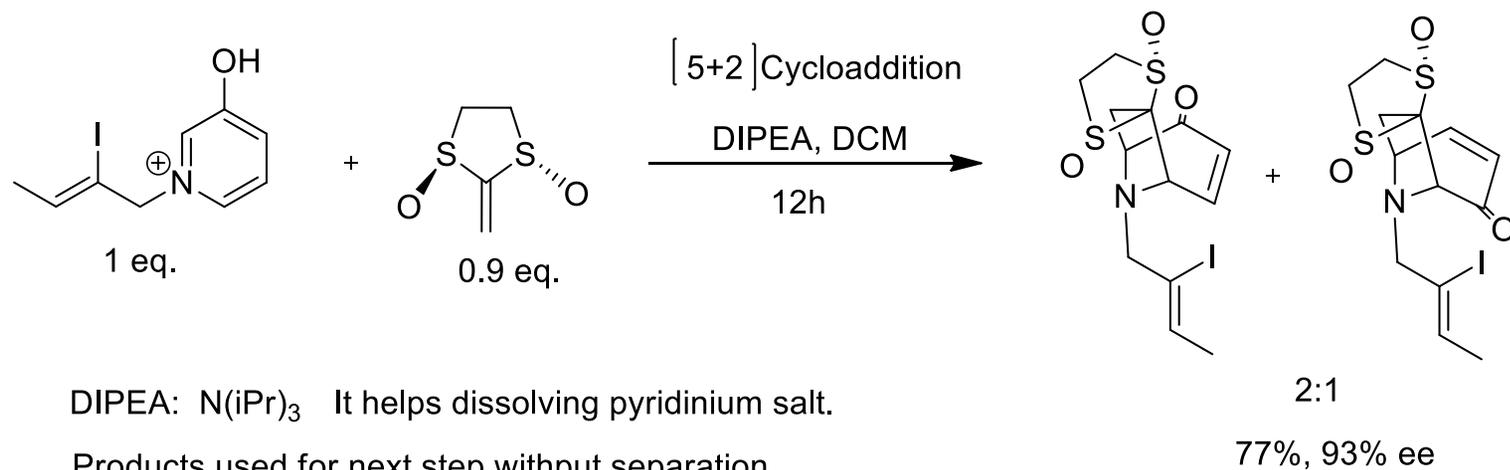
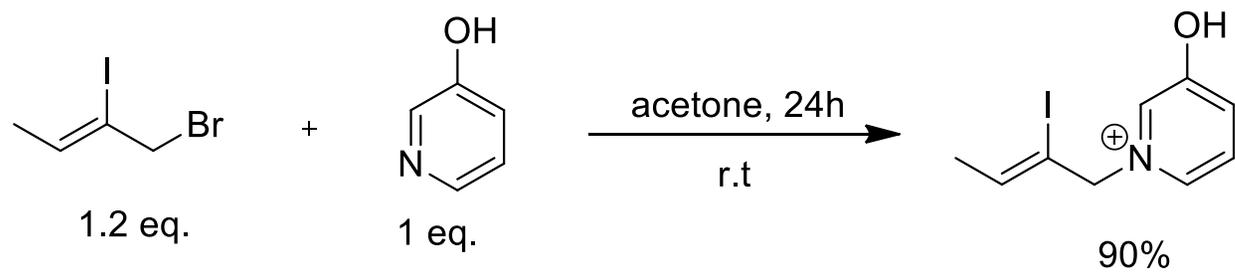
- Spargine alkaloids belong to a group of monoterpenoid indole alkaloids.
- This family has 90 congeners and is extracted from the plant family Apocynaceae.
- Scarcity of natural product and lack of synthetic method hampered biological investigation.
- Substructures of Sarpagines revealed potent tyrosine kinase inhibitors.
- In this report, authors aimed at solving the material supply for this family and also accomplishing a joint synthetic sequence was important.
- They introduced a privileged intermediate that can be used for synthesis of other molecules in this family.

sarpaine alkaloids



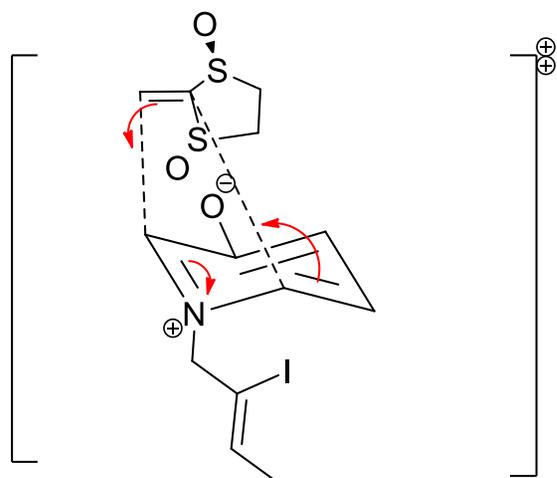
Retrosynthetic analysis

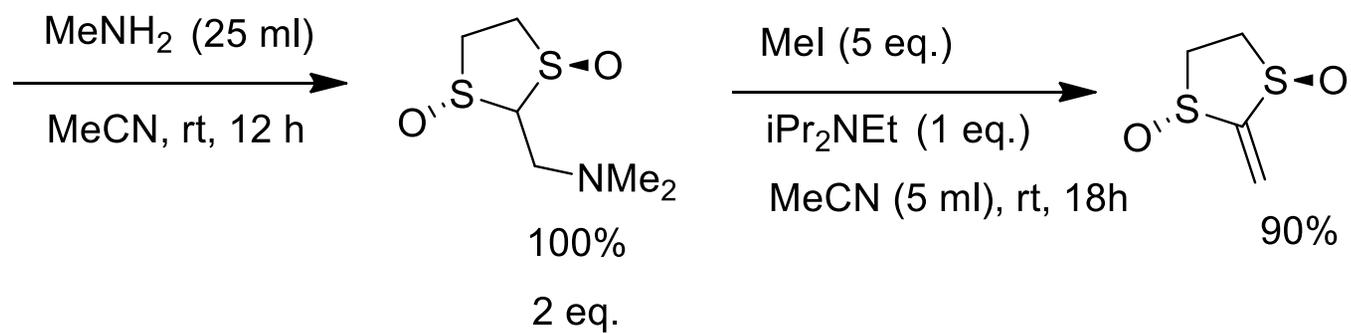
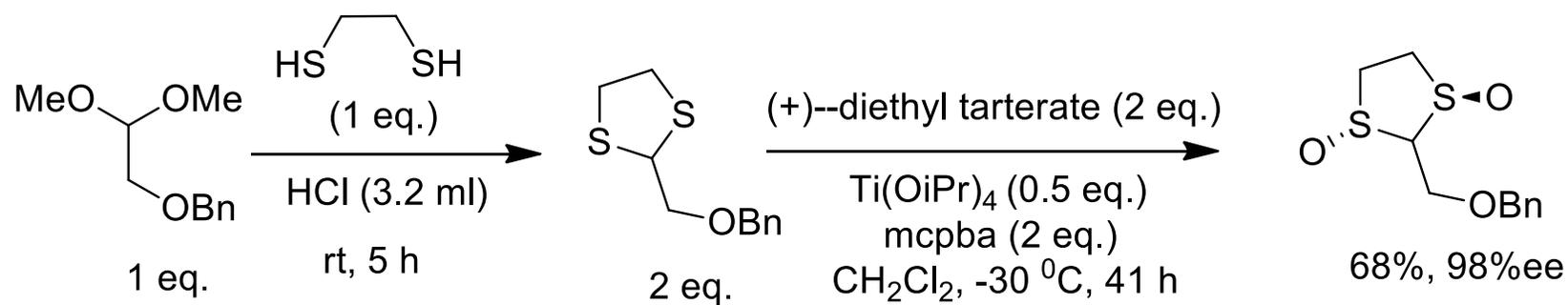


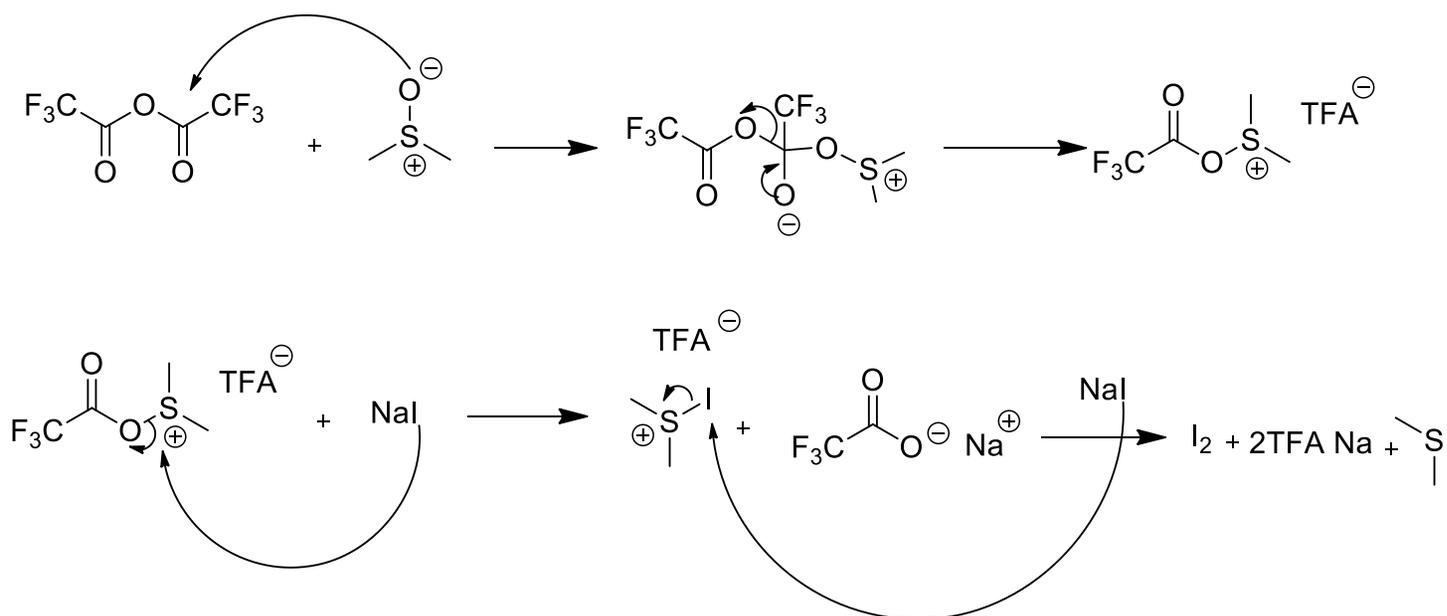
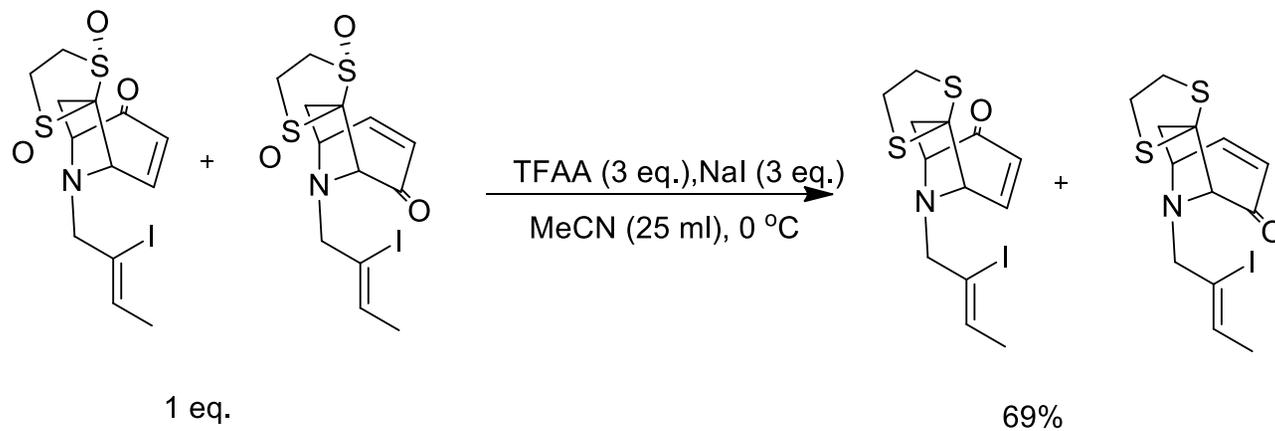


DIPEA: $\text{N}(\text{iPr})_3$ It helps dissolving pyridinium salt.

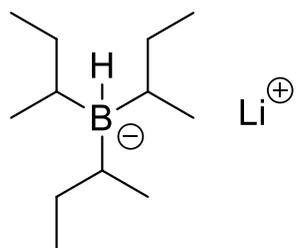
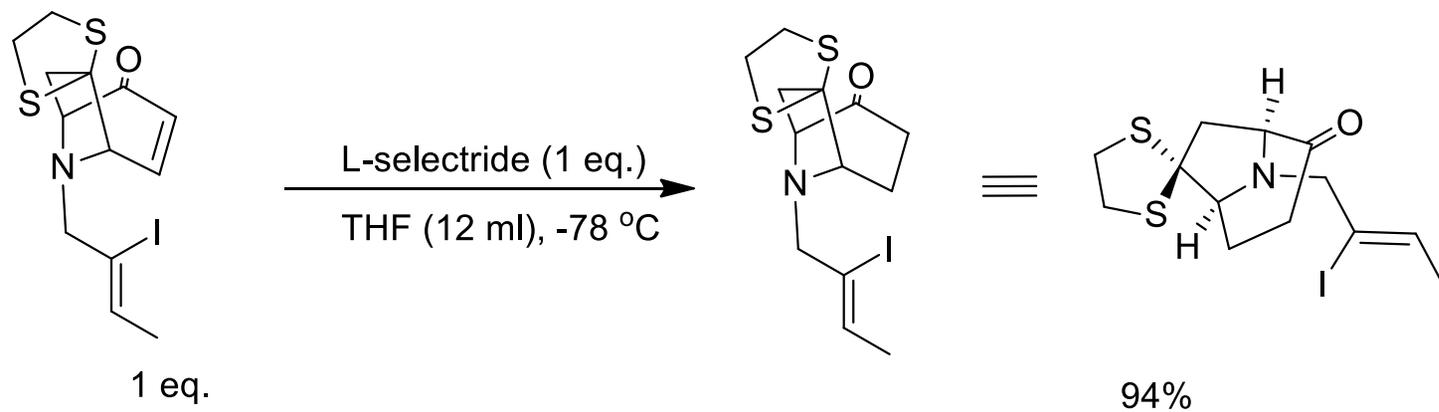
Products used for next step without separation.





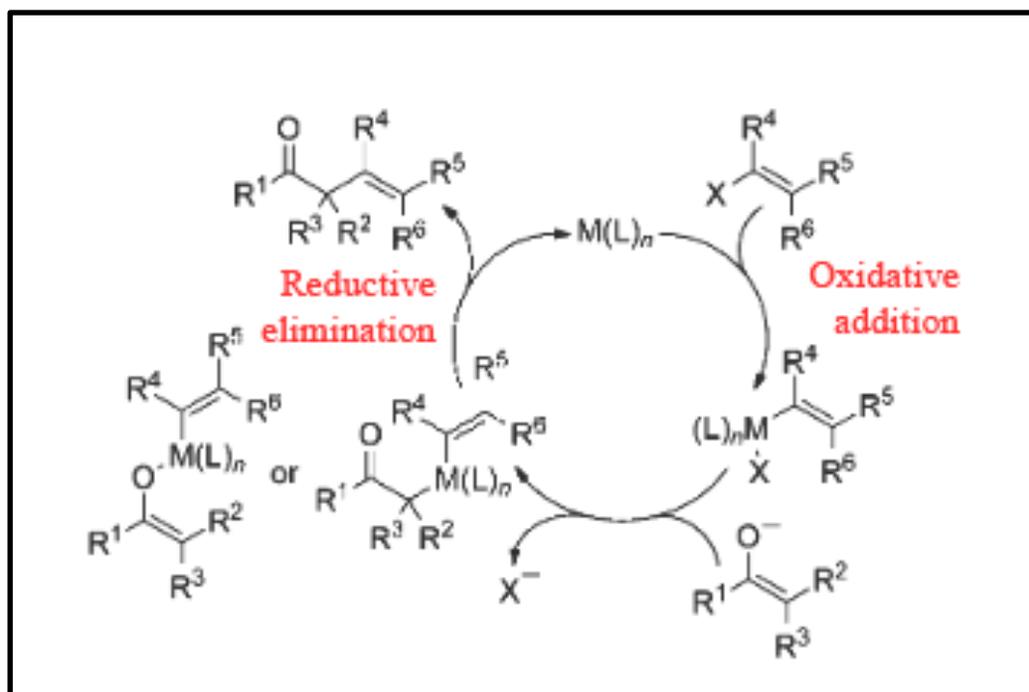
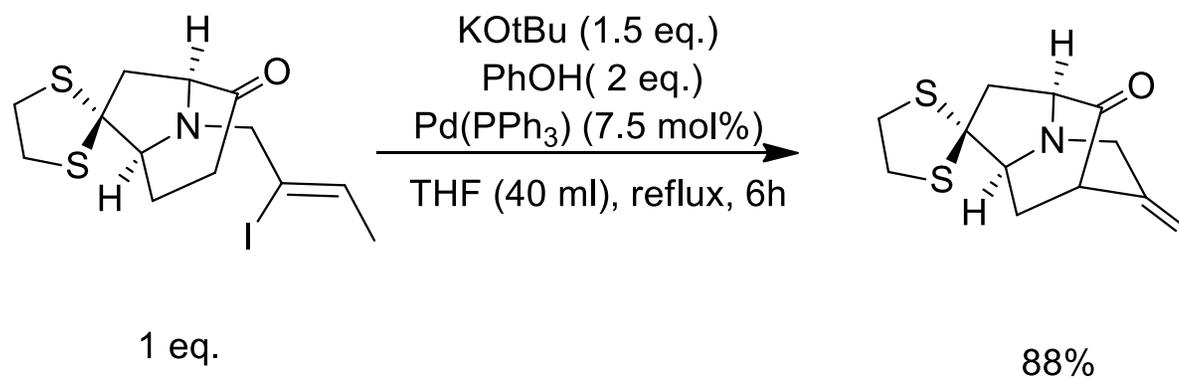


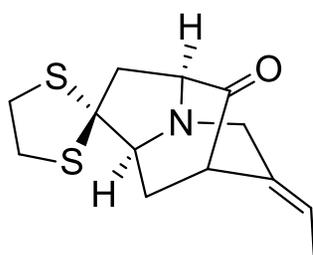
ARKIVOC 2007 , 6, 112-171.



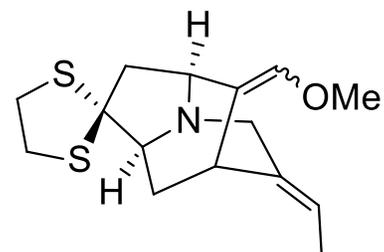
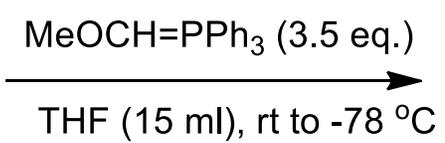
Li⁺

Selectively reduces enones.

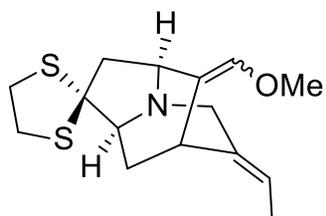




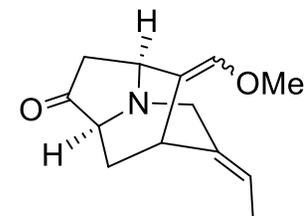
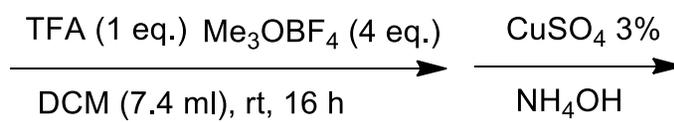
1 eq.



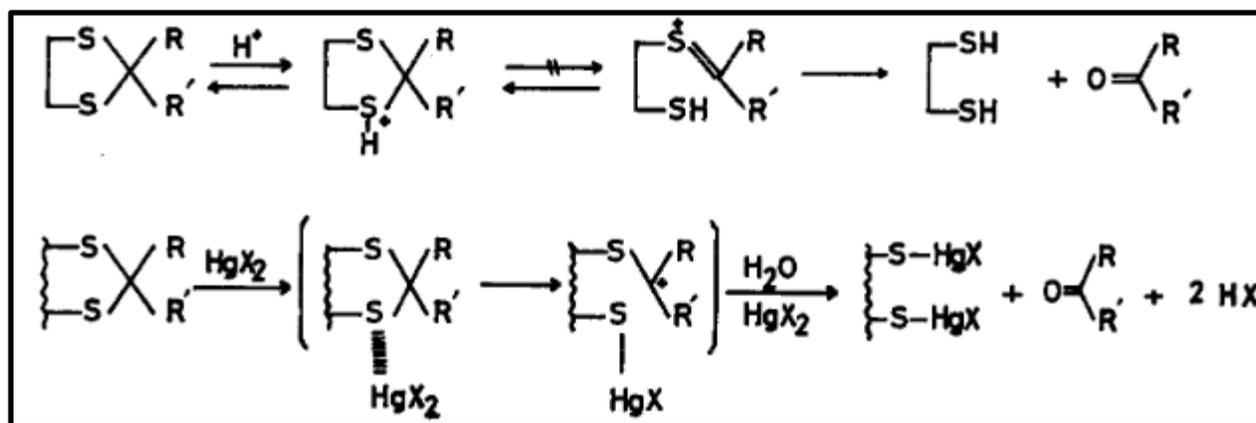
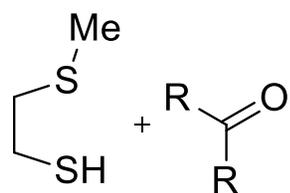
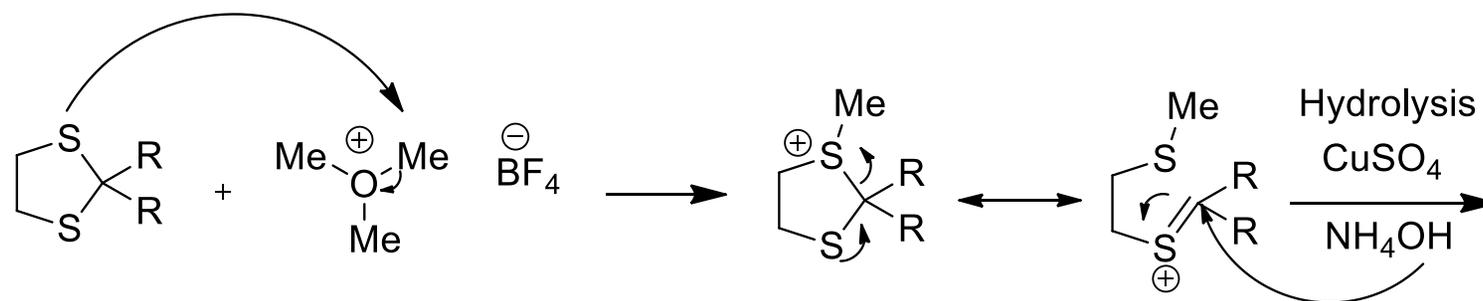
78%



1 eq.

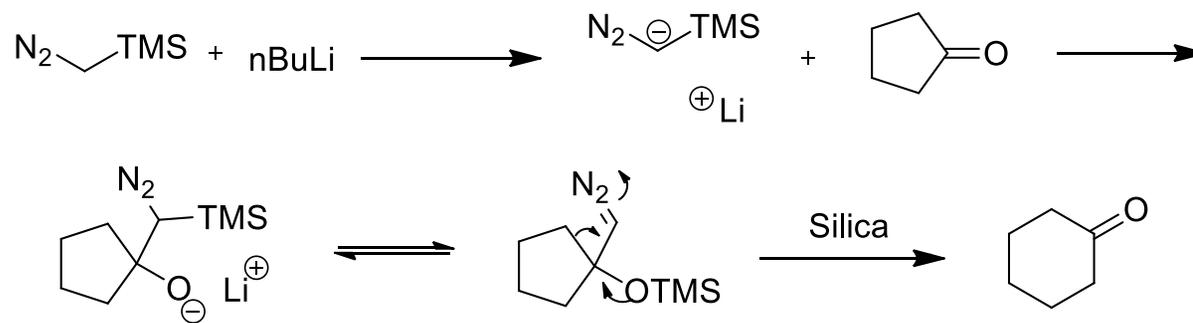
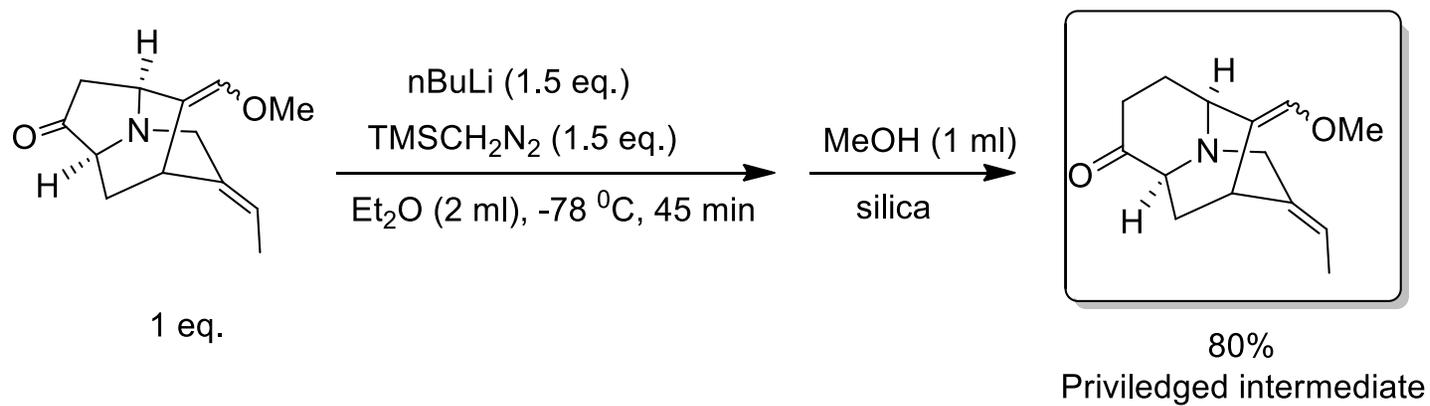


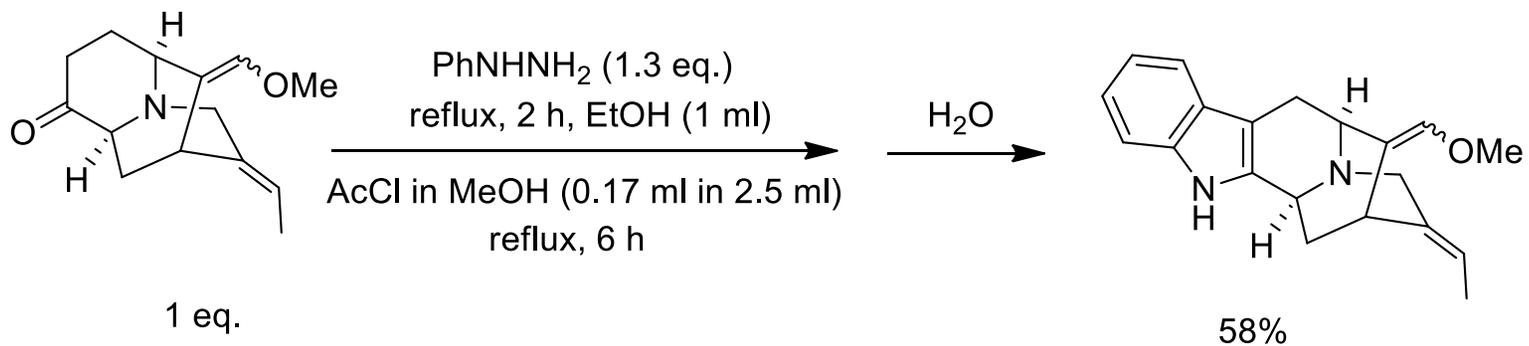
74%



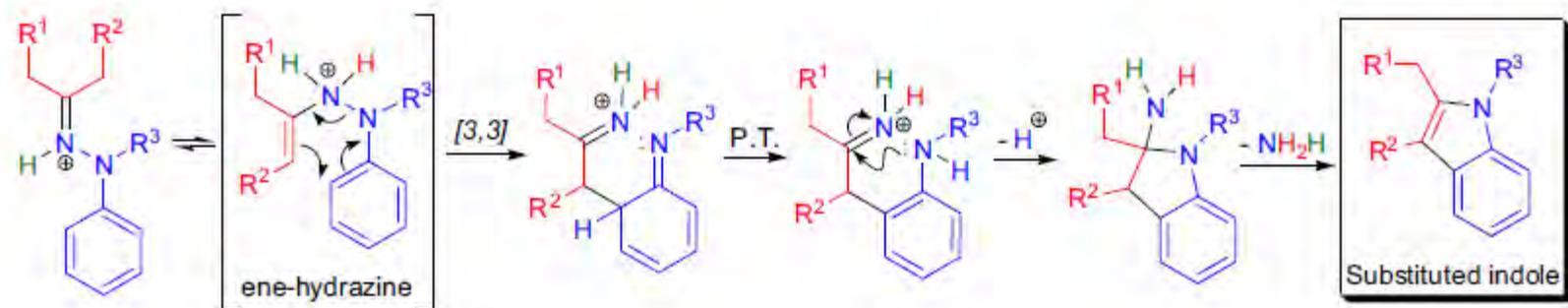
Tetrahedron Lett. **1974**, *1*, 11-14.

Tetrahedron Lett. **1972**, *13*, 1085-1088.





Fisher- indole synthesis:



How to make two other molecules?

