

Calyciphylline B-Type Alkaloids: Total Synthesis of (-)-Daphlongamine H and (-)-Isodaphlongamine H



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Communication

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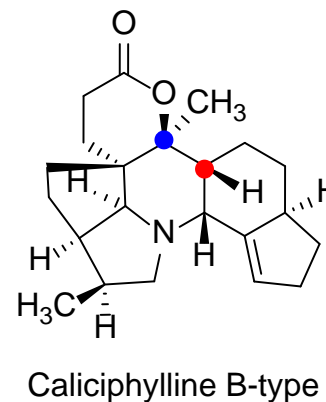
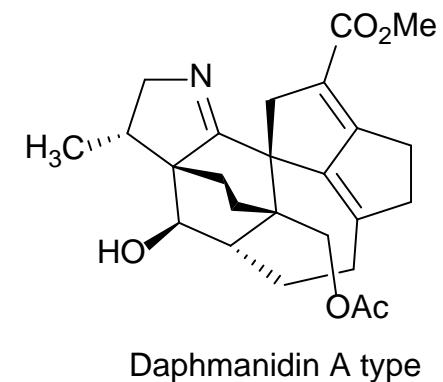
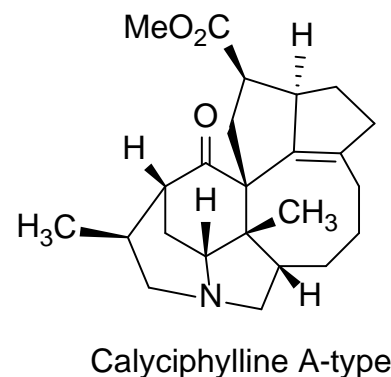
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Presenter: Charles Anamoah

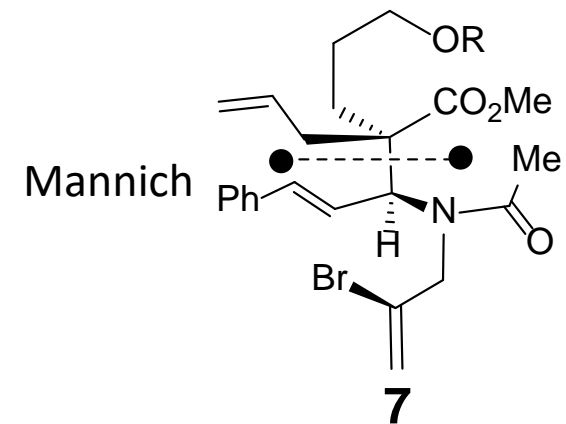
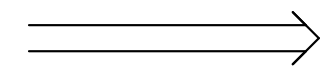
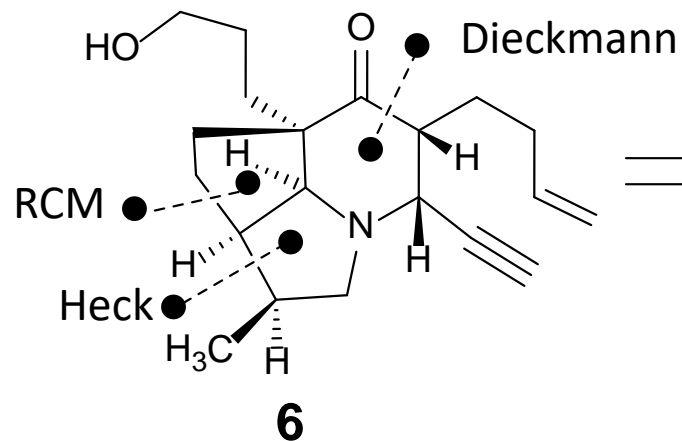
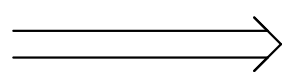
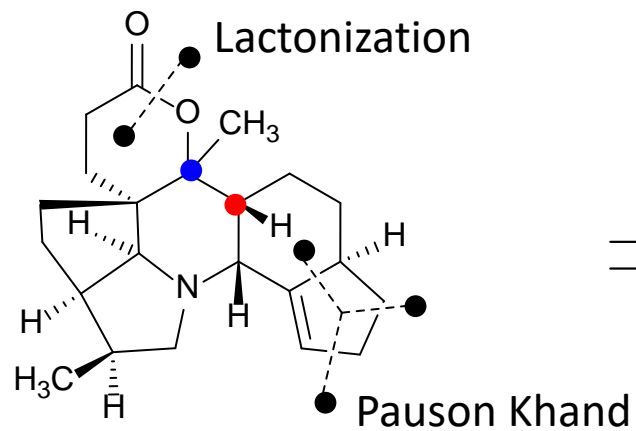
Natural sources and pharmacological activities

- ❖ Daphniphyllum alkaloids are derived from the flowering plant Genus that bears its namesake
- ❖ First member of the group was reported in 1966
- ❖ Showed varied biological activities such as: antioxidant and cytotoxic against cancer cell lines

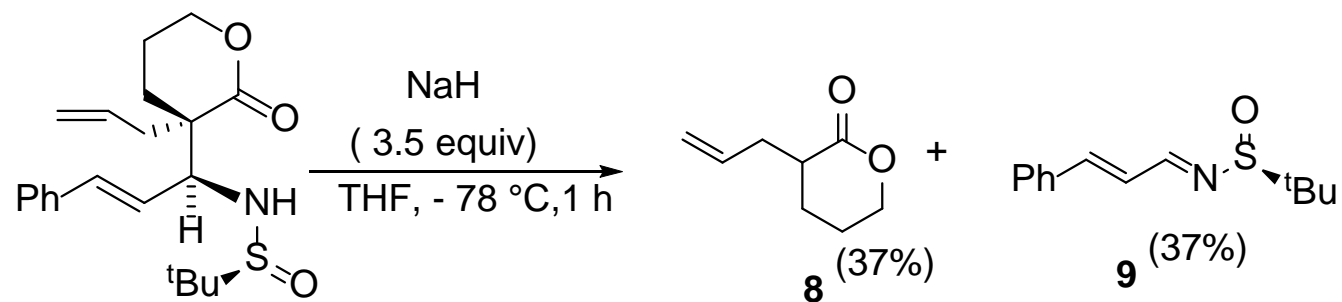
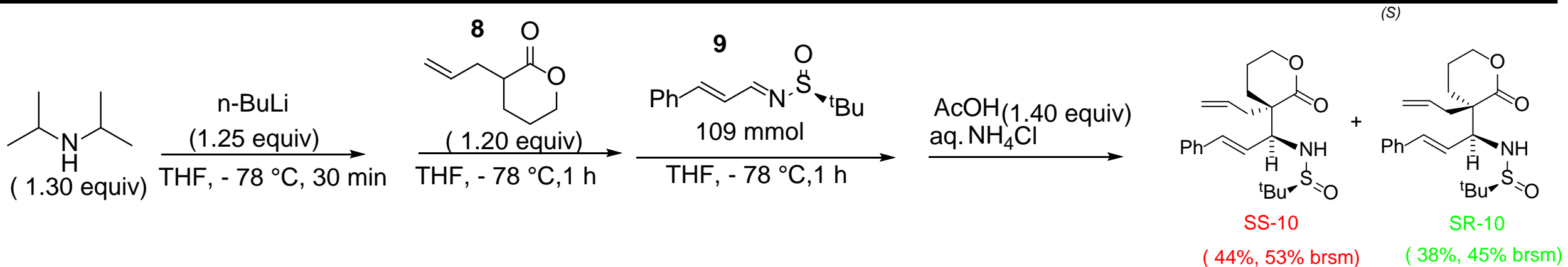


- C5, C6
- R, S 1 Calyciphylline B (N oxide)
- R, S 2 deoxycalyciphylline B
- S, S 3: deoxyisocalyciphylline B
- S, R 4: Daphlongamine H
- R, R 5: Isodaphlongamine H

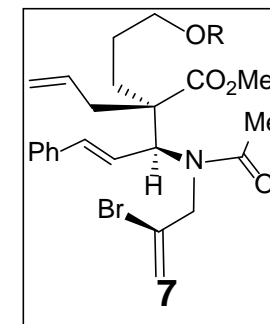
Retrosynthetic analysis

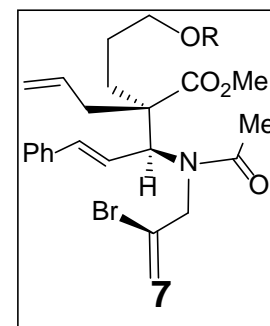
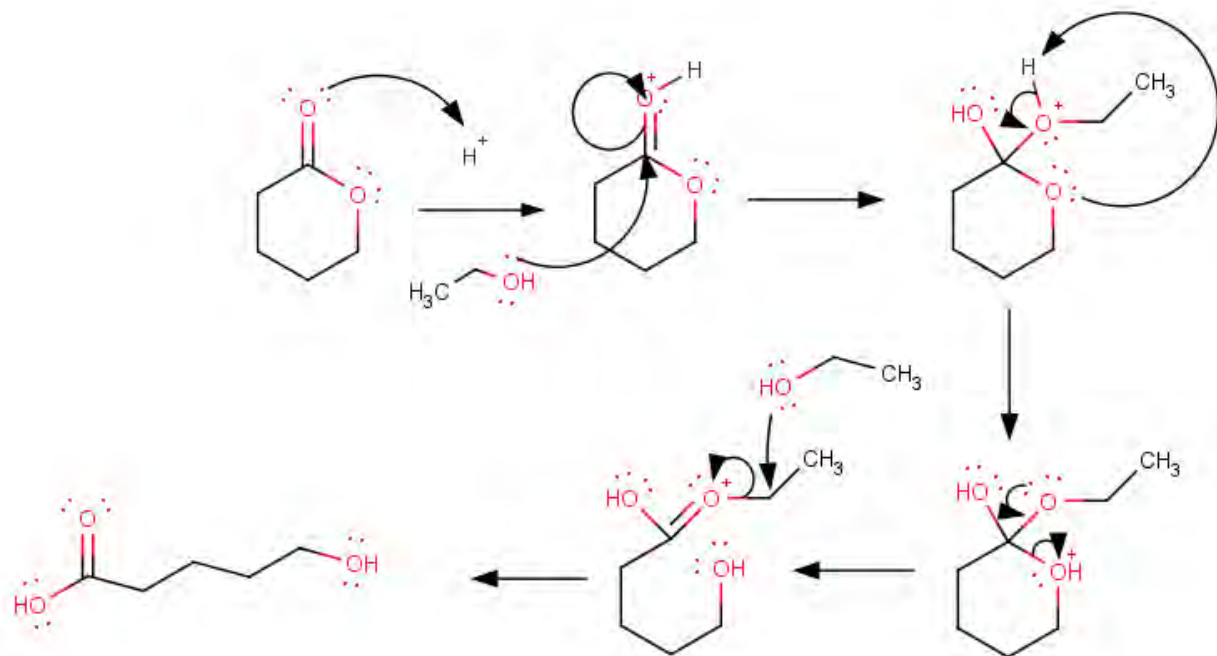
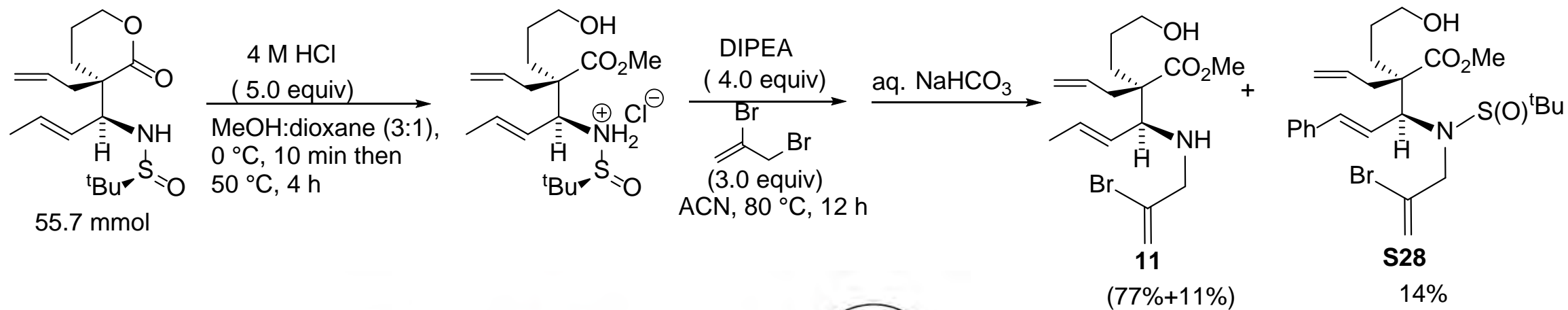


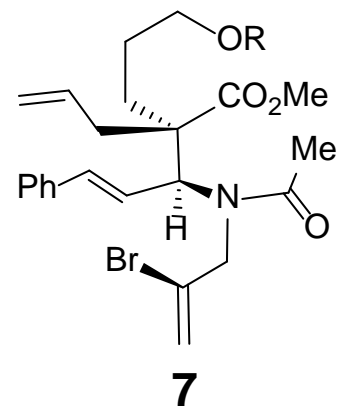
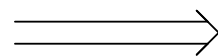
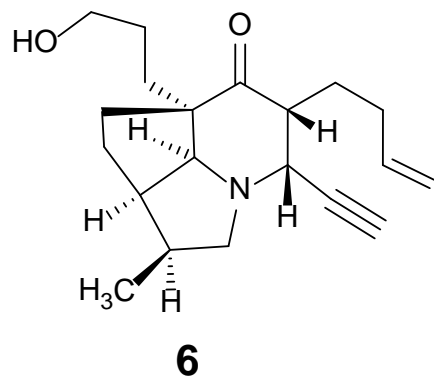
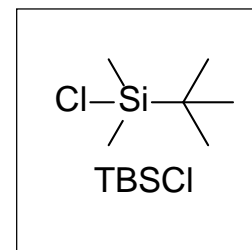
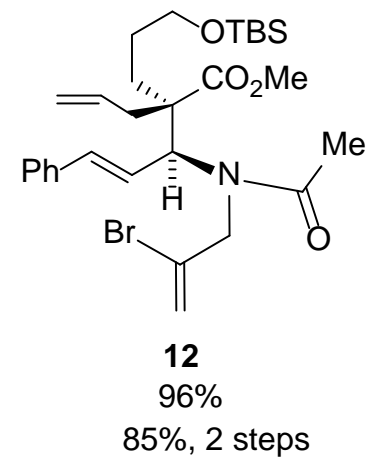
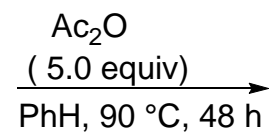
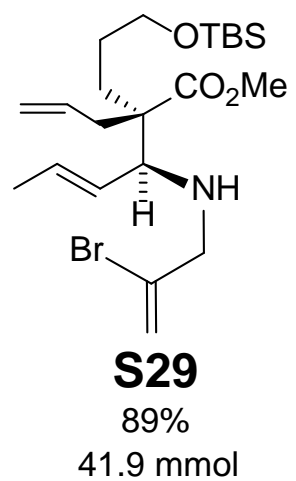
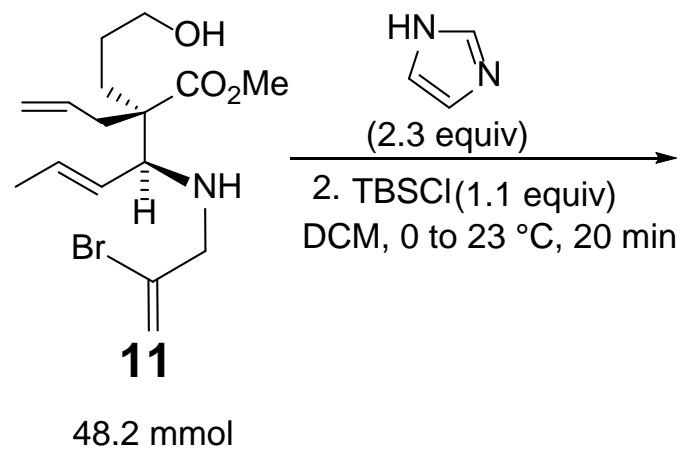
Synthesis of retron 7

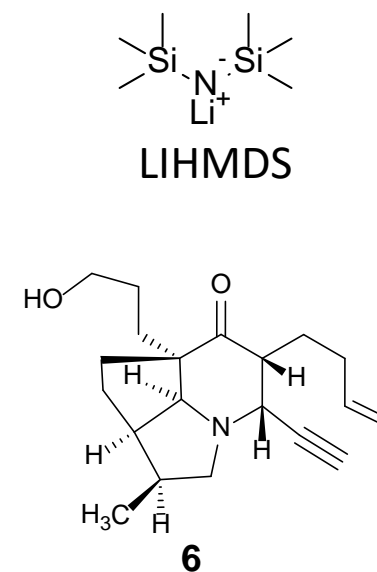
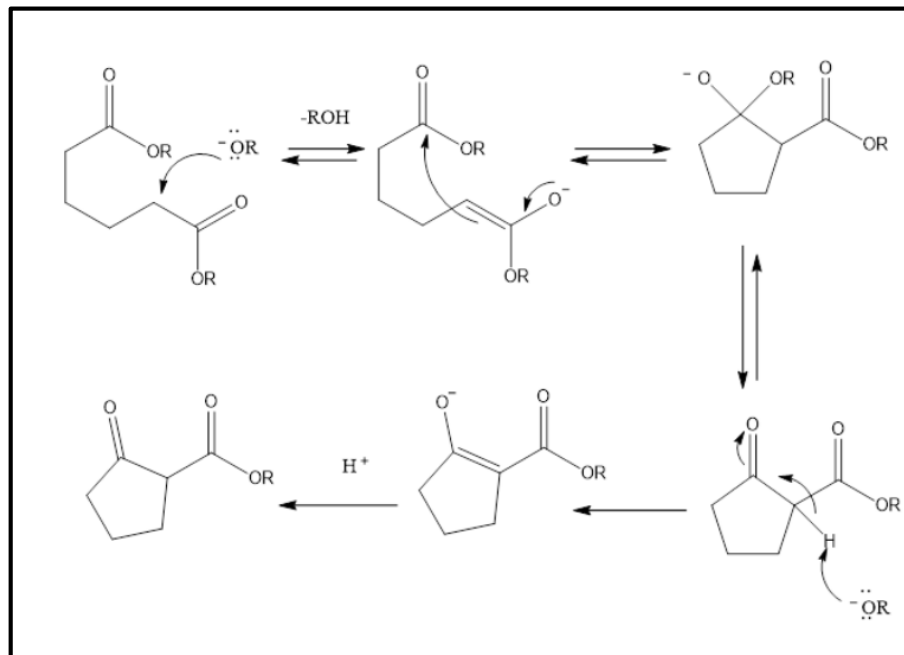
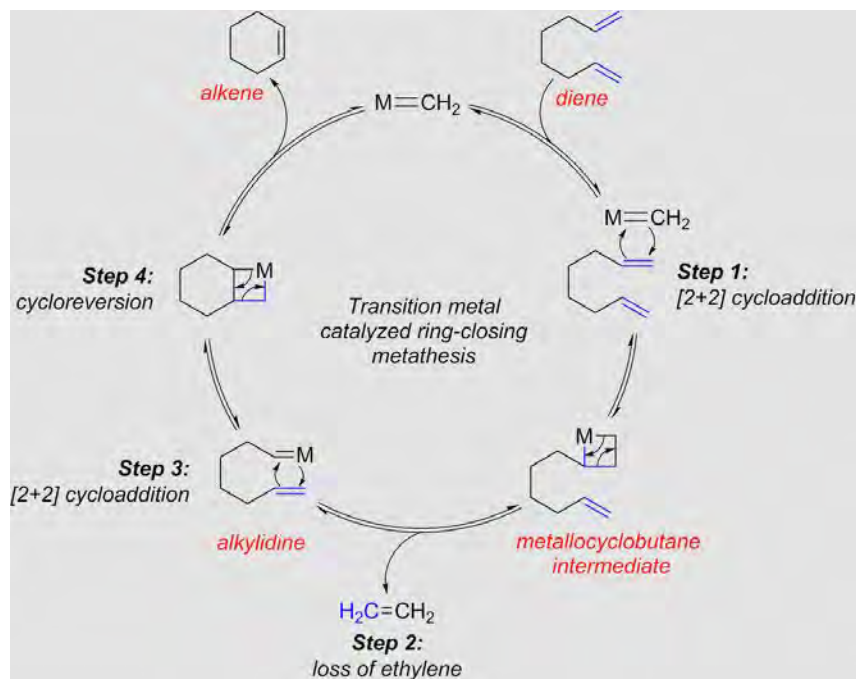
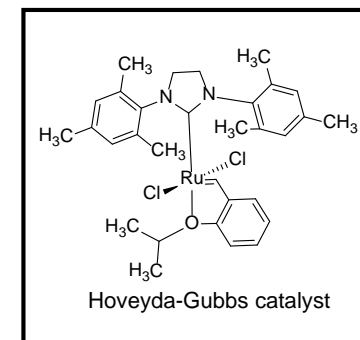
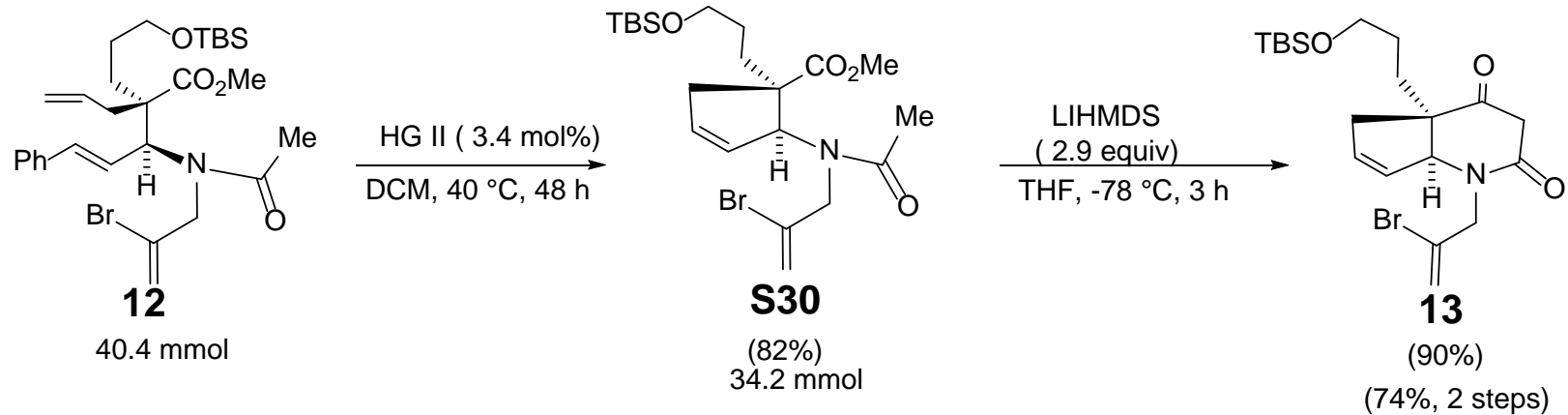


SS-10

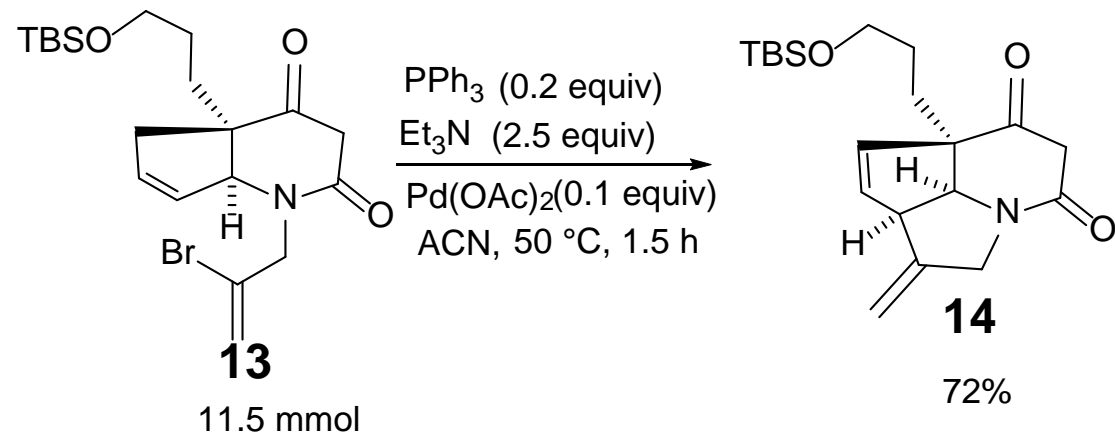


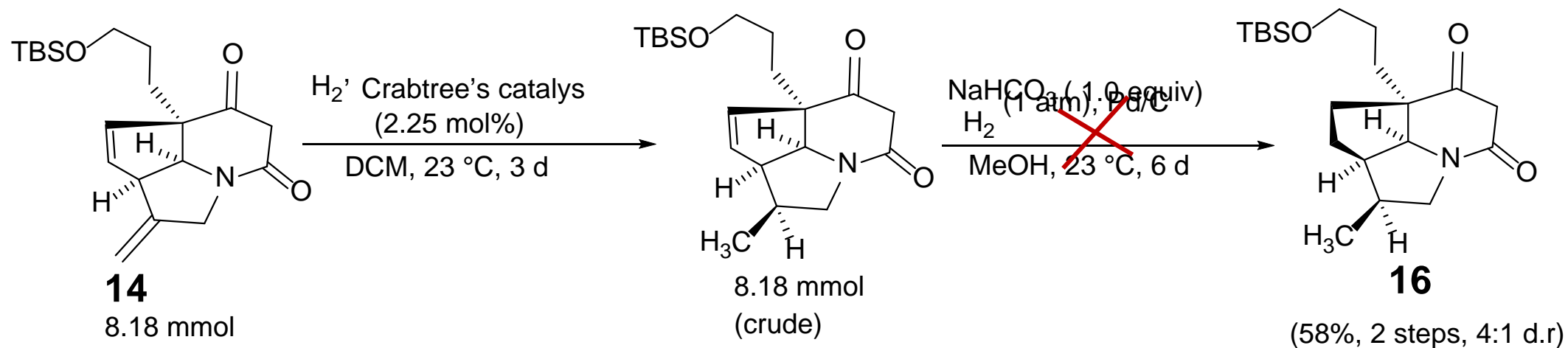






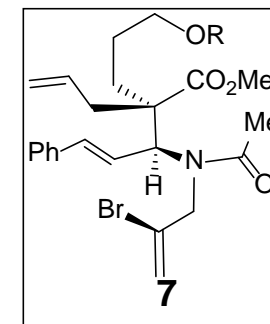
Heck coupling

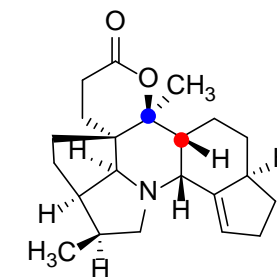
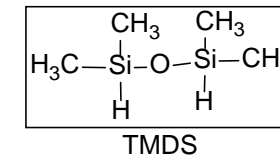
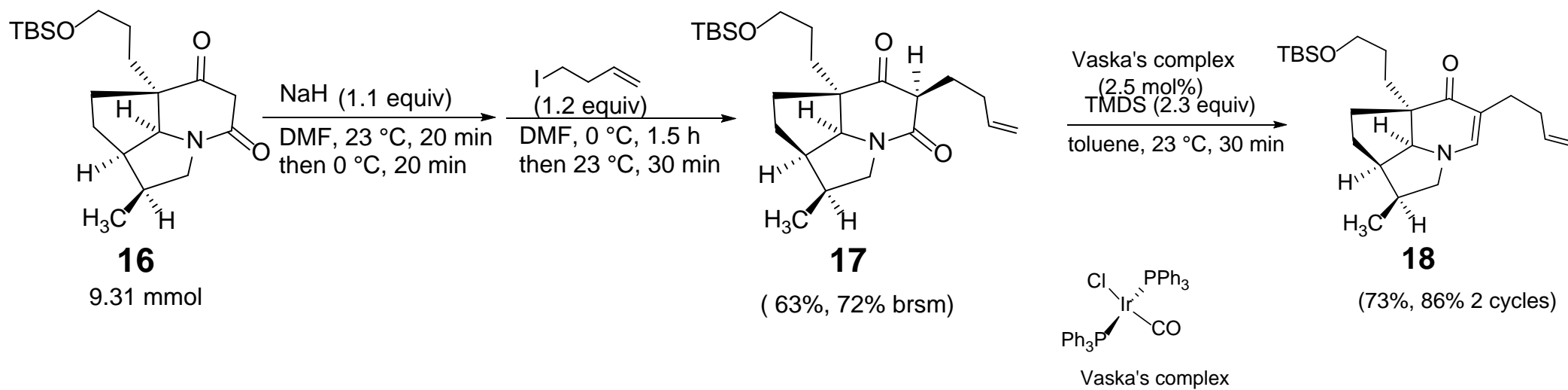
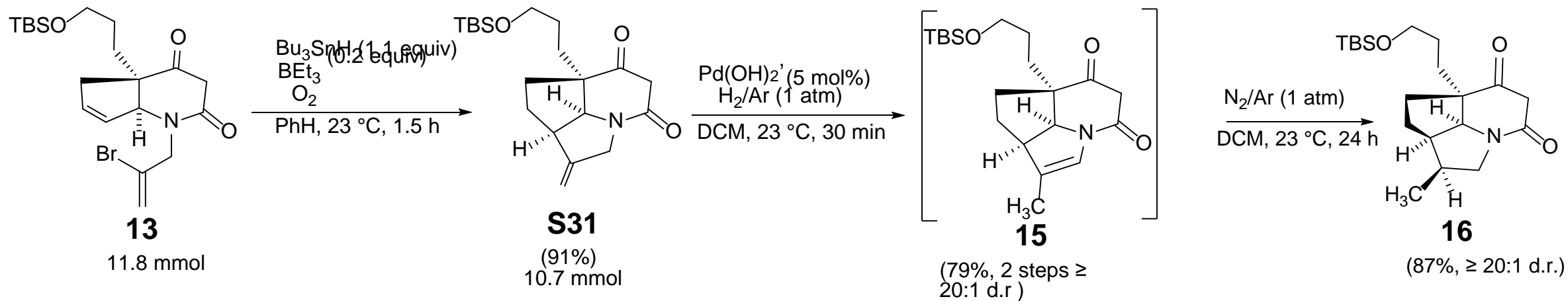


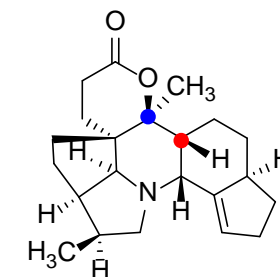
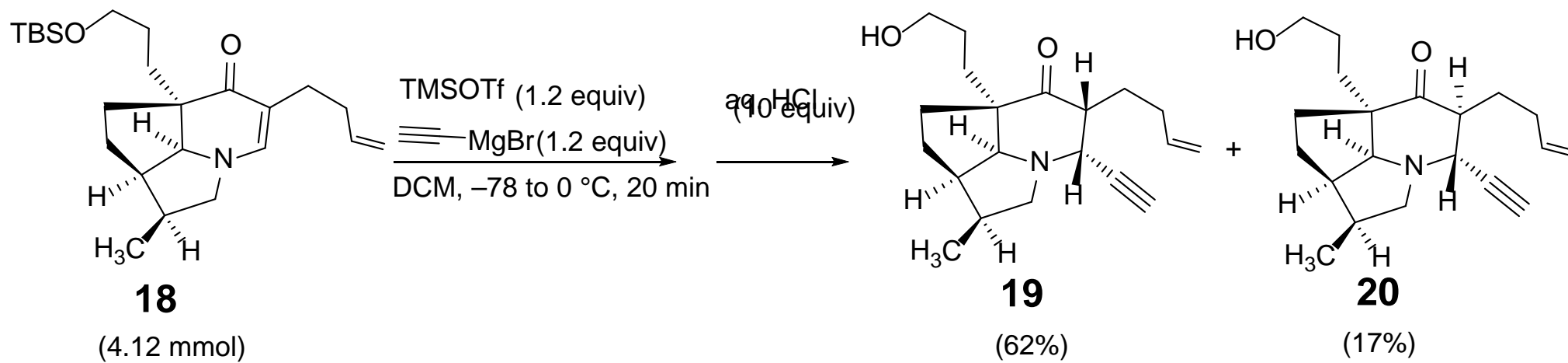


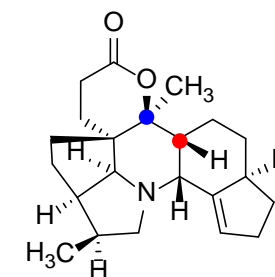
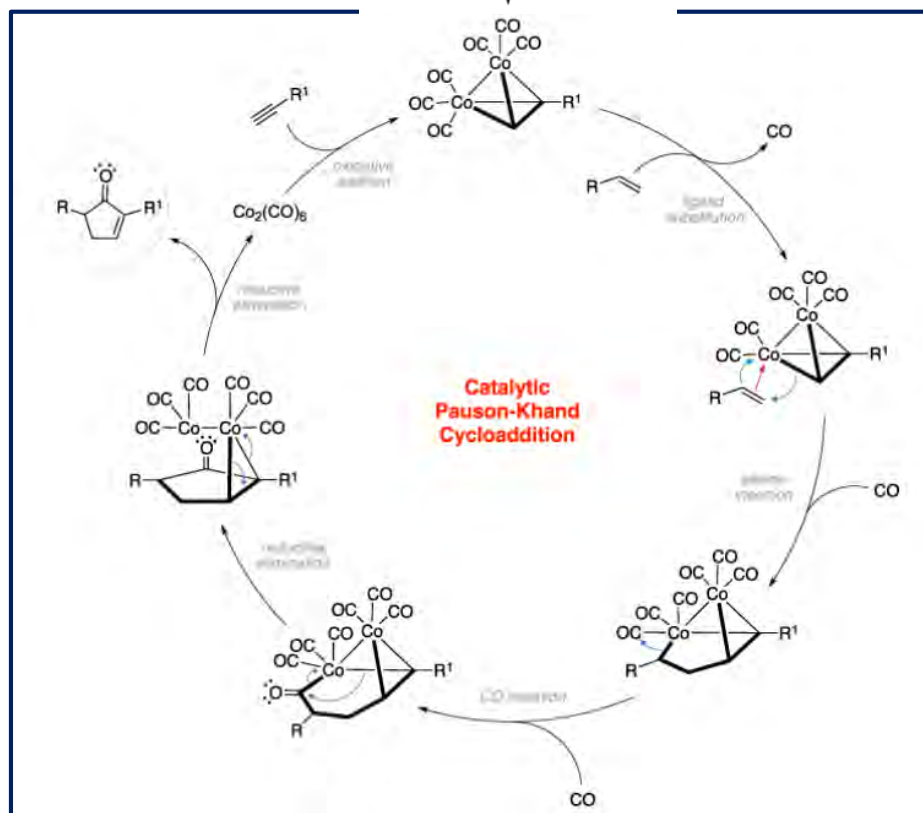
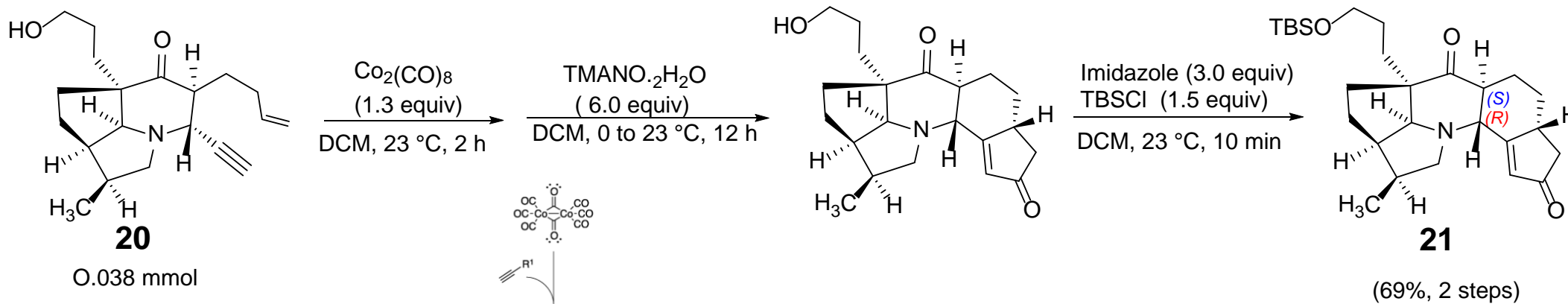
❖ Route impractical on larger scale due

- I. Extended reaction times
- II. Difficult separation of diastereomers

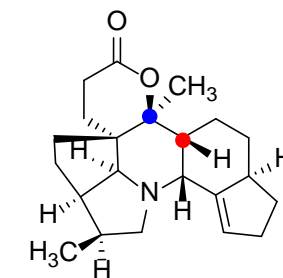
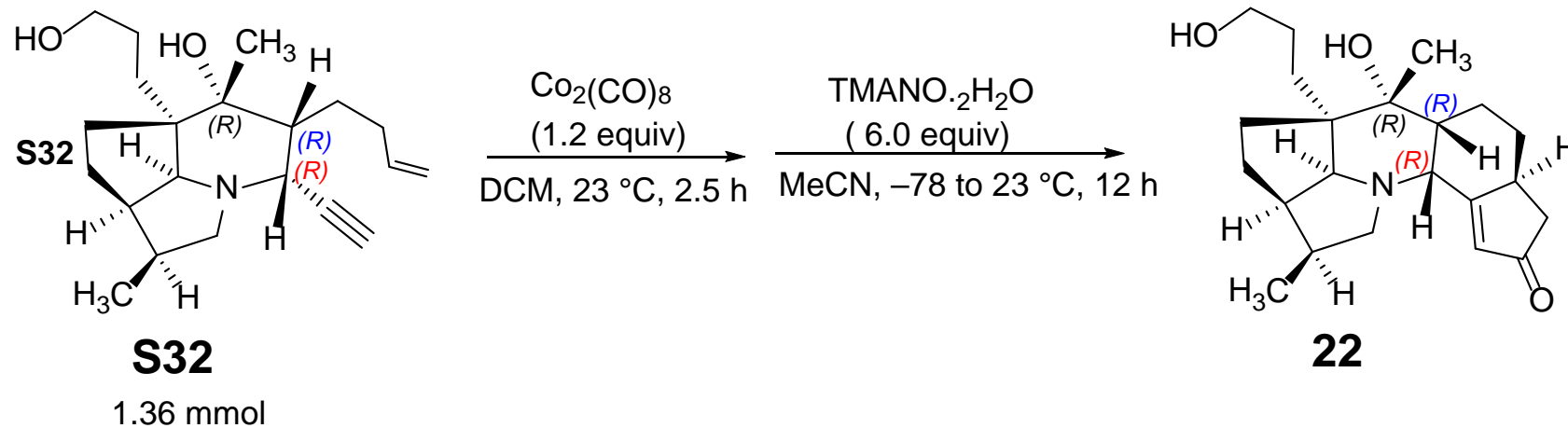
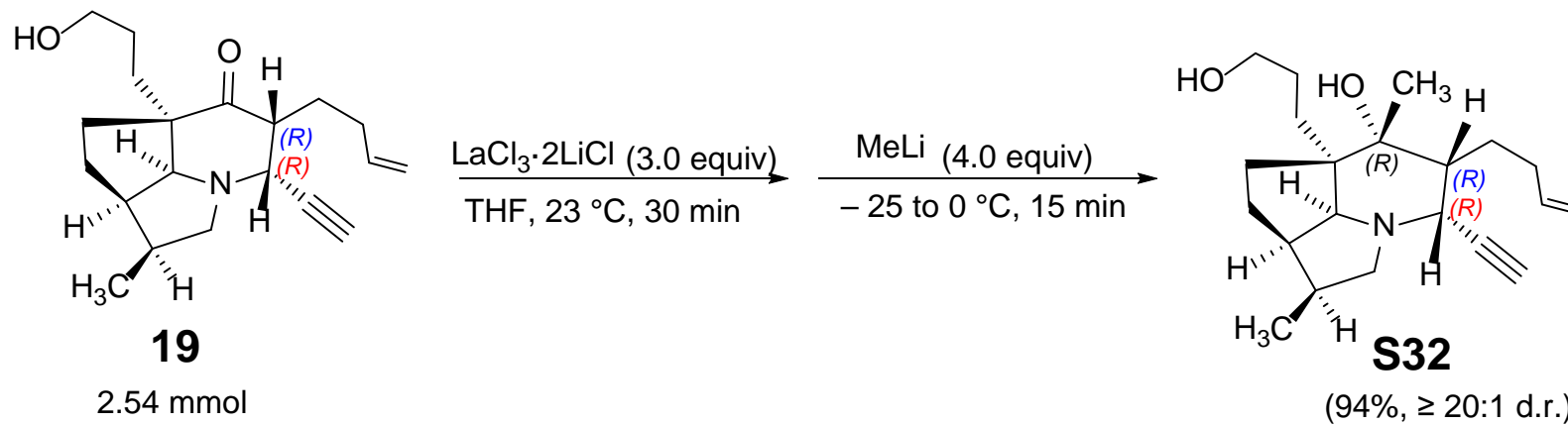


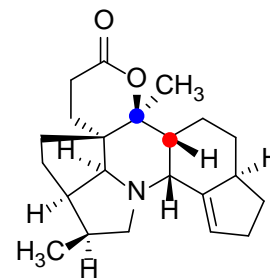
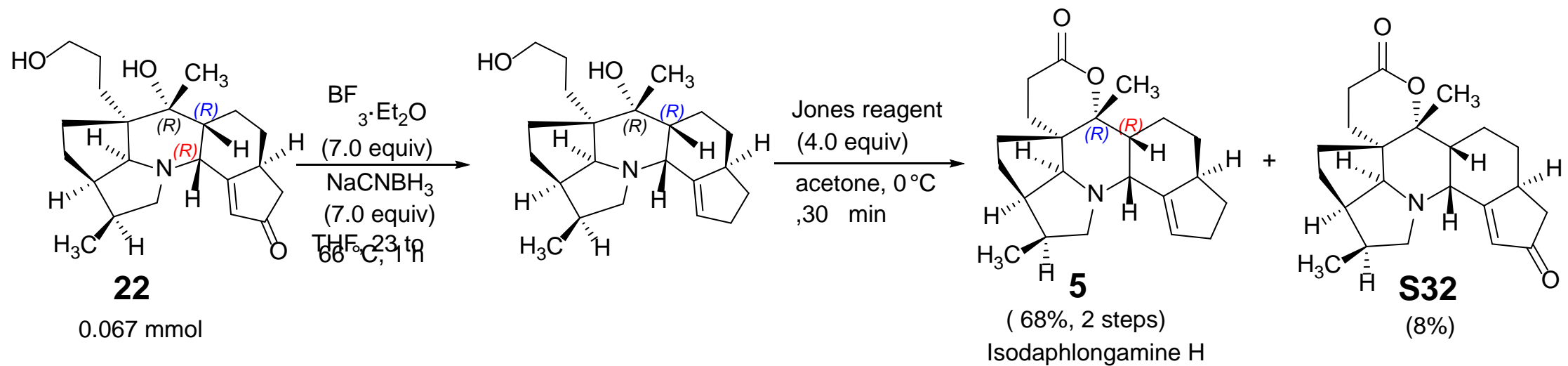


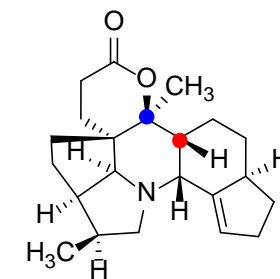
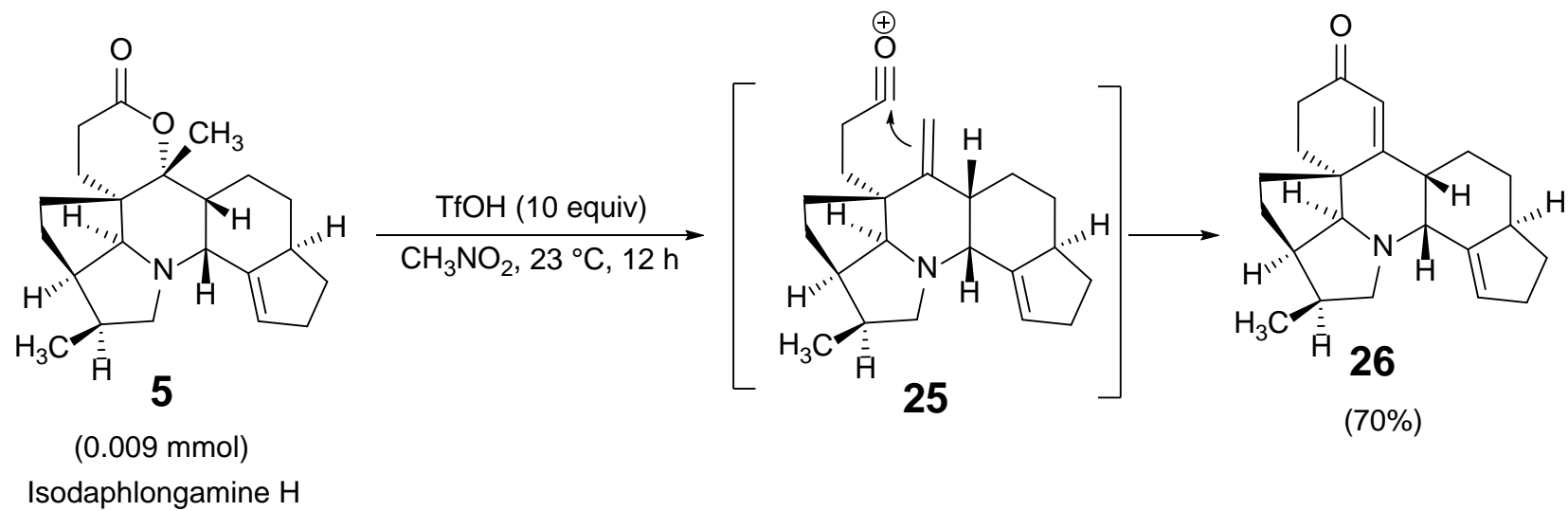


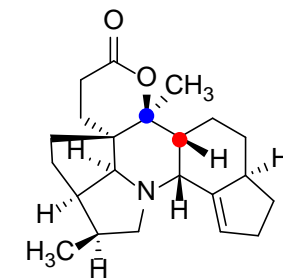
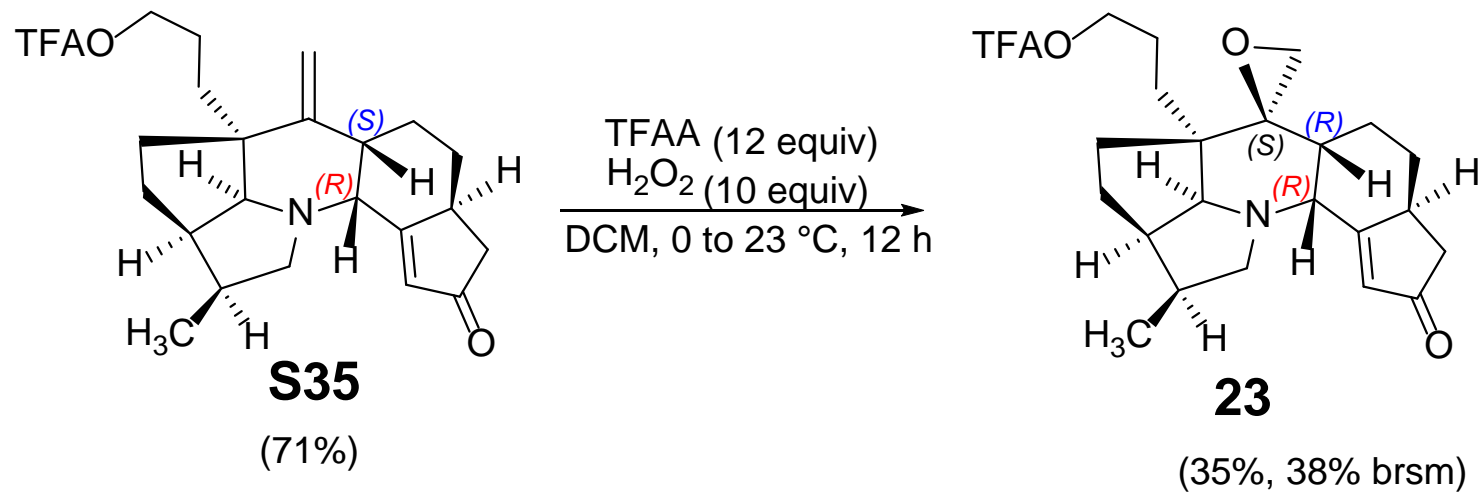
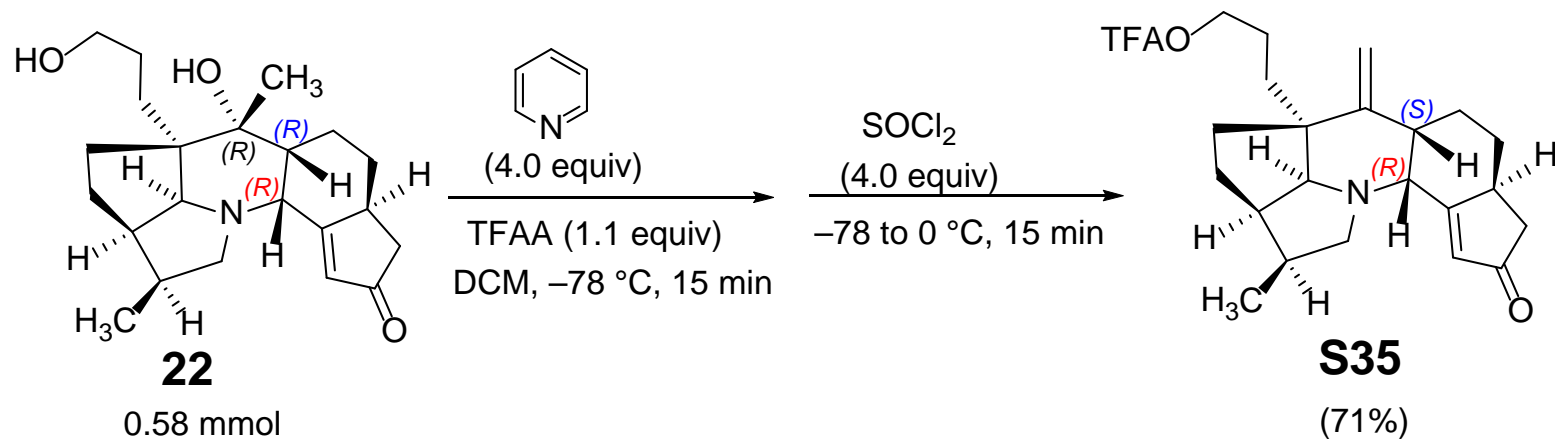


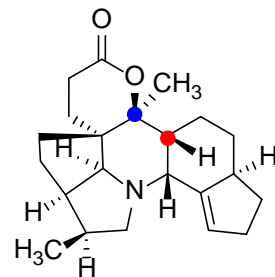
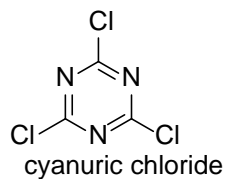
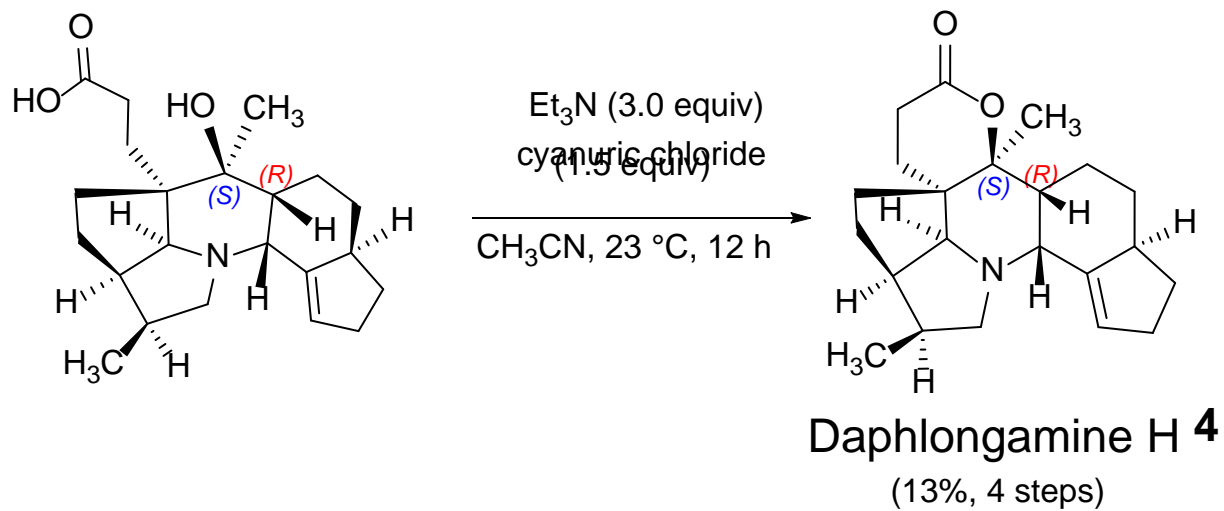
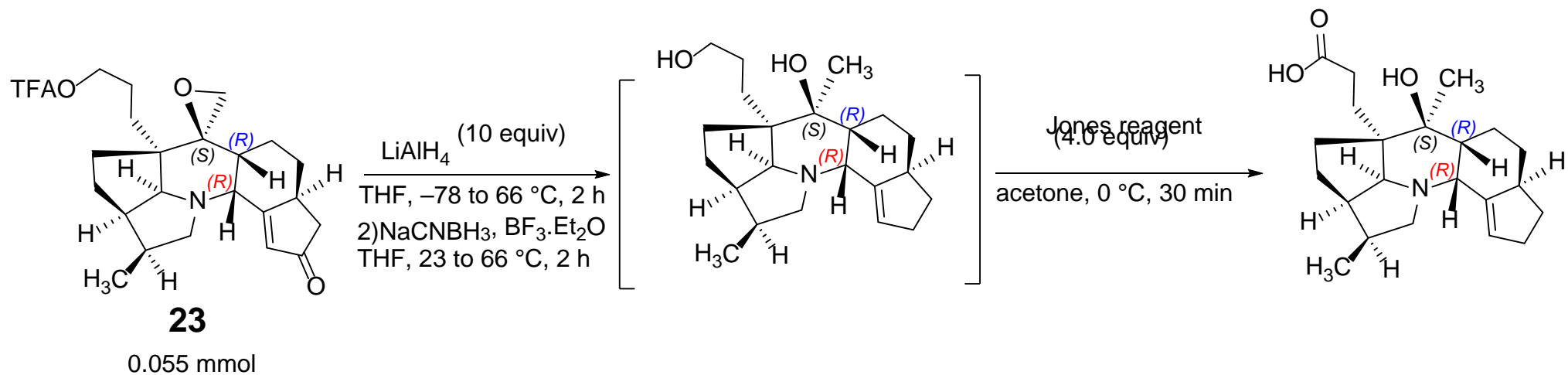
<https://www.name-reaction.com/pauson-khand-reaction>



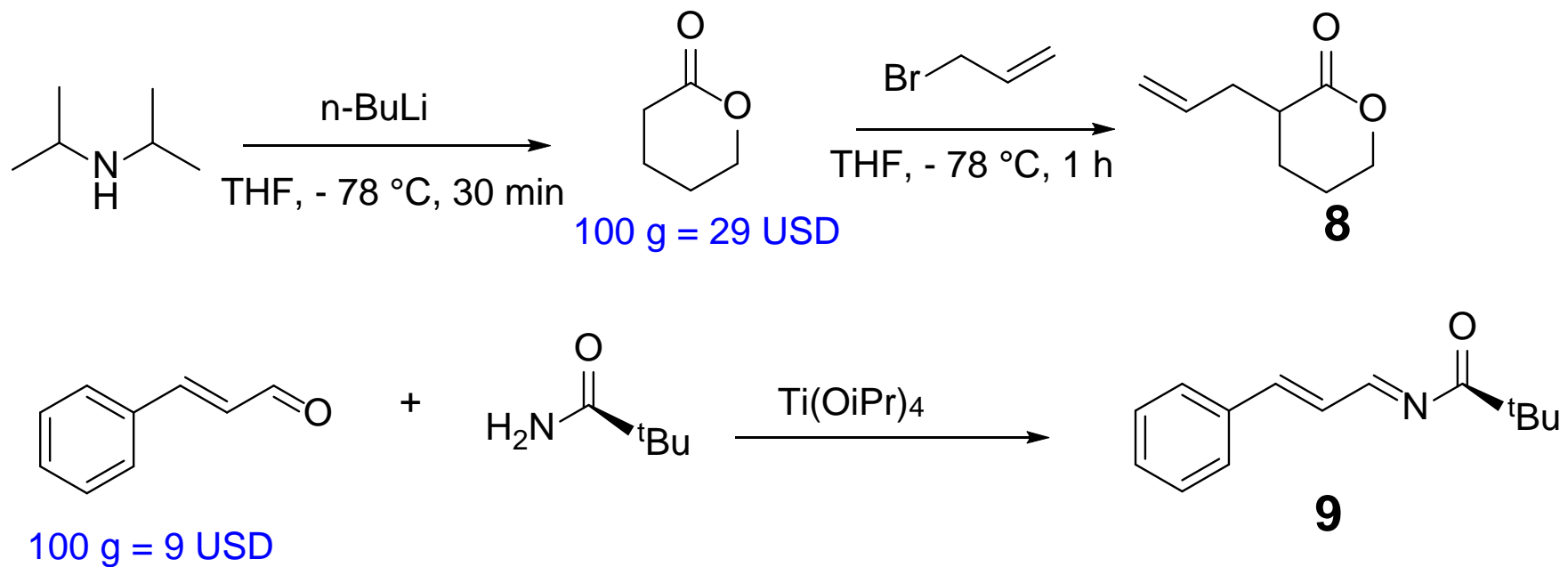








Making the starting material





THANK YOU

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