

CEM 852 Presentation

Protecting-Group-Free Enantioselective Synthesis of (-)-Pallavicinin and (+)-Neopallavicinin

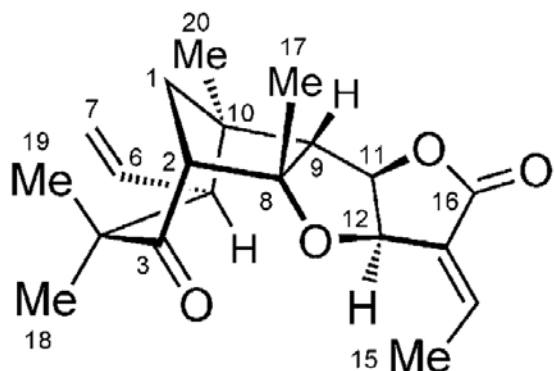
Bin Huang, Lei Guo, and Yanxing Jia

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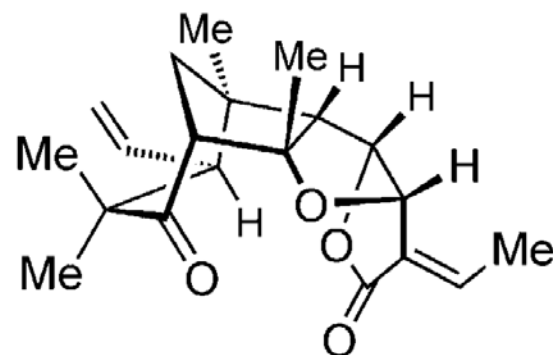
Ankush Chakraborty
03.03.2018

Major Highlights

- Palladium-catalyzed enantioselective decarboxylative allylation to form the chiral all-carbon quaternary stereocenter.
- Palladium-catalysed oxidative cyclization to form a [3.2.1]-bicyclic moiety.
- An unprecedented LiBHET₃-induced fragmentation/protonation of an α-hydroxy epoxide to form the α-furan ketone.



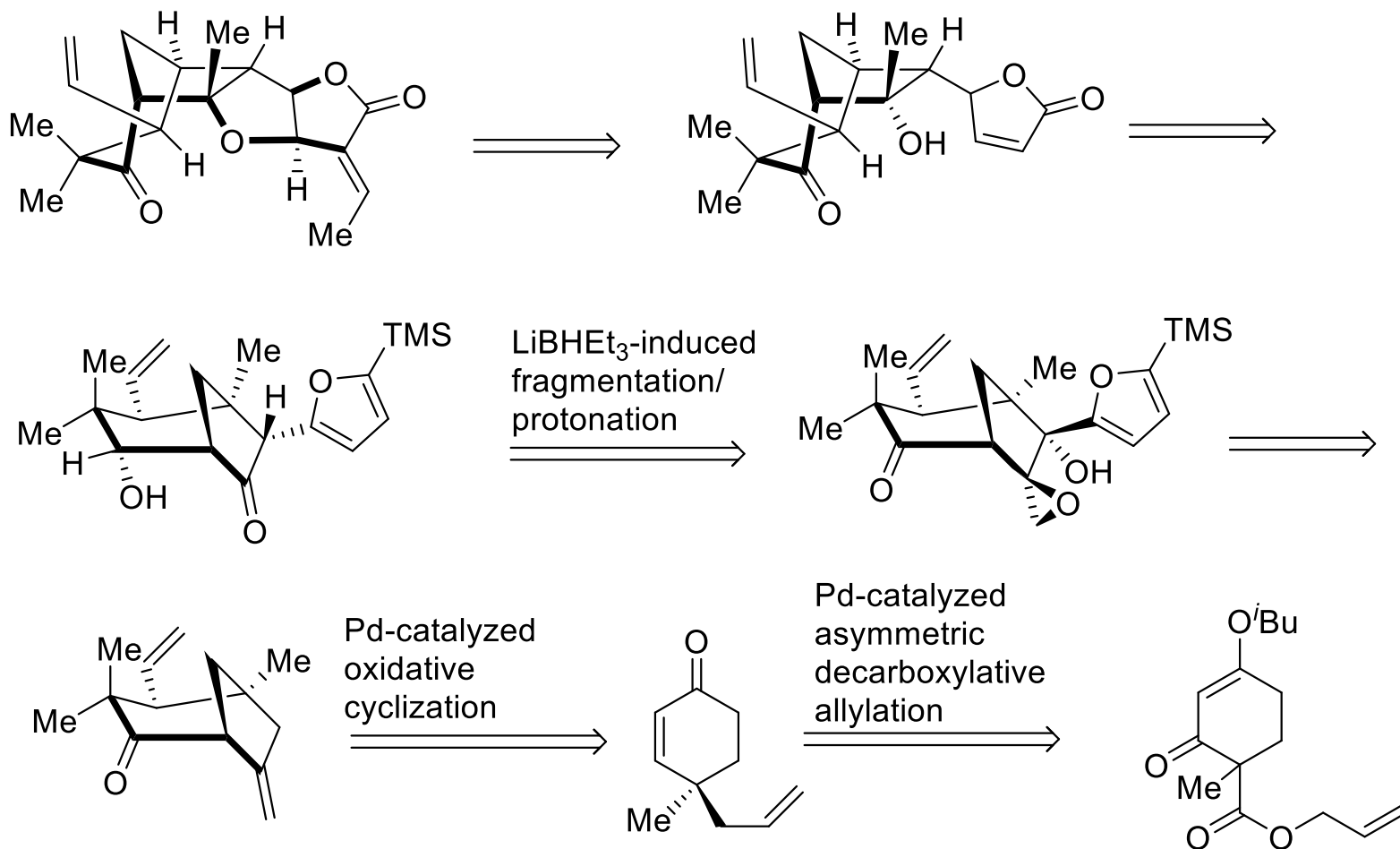
(−)-pallavicinin [(−)-1]



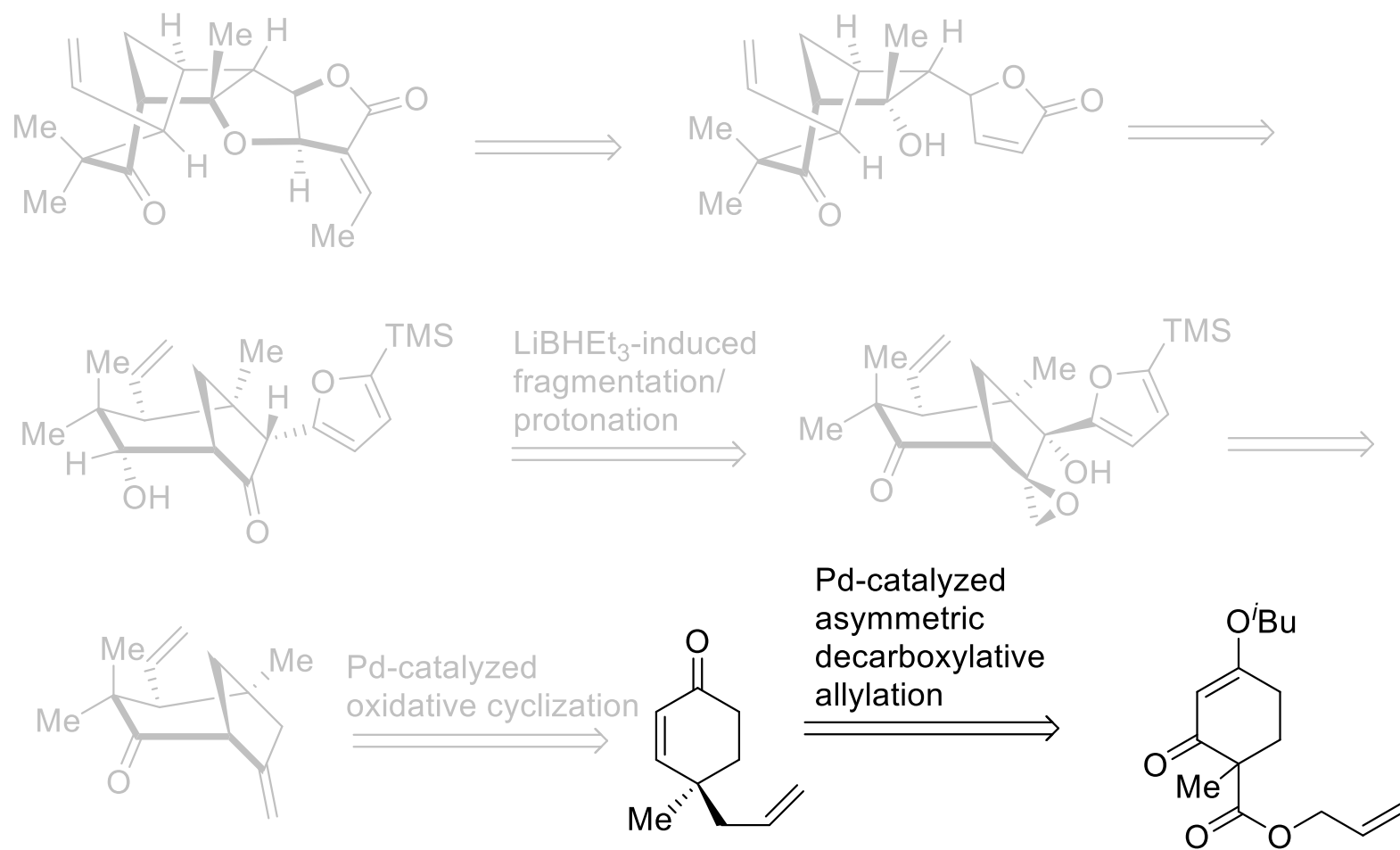
(+)-neopallavicinin [(+)-2]

- Novel [6-5-5-5] tetracyclic skeleton
- Bicyclo[3.2.1] moiety
- 7 contiguous stereocenters
- 1 chiral all-carbon quaternary center

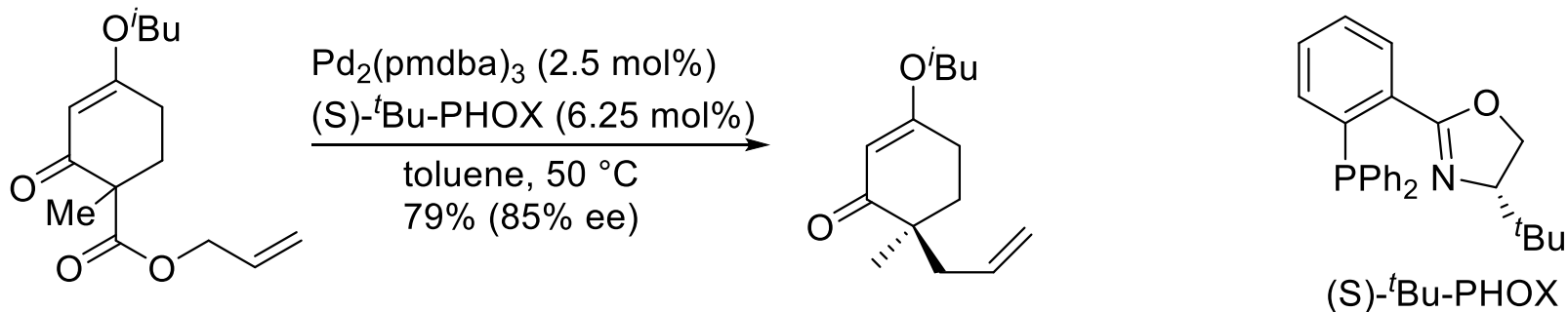
Retro-Synthetic Analysis



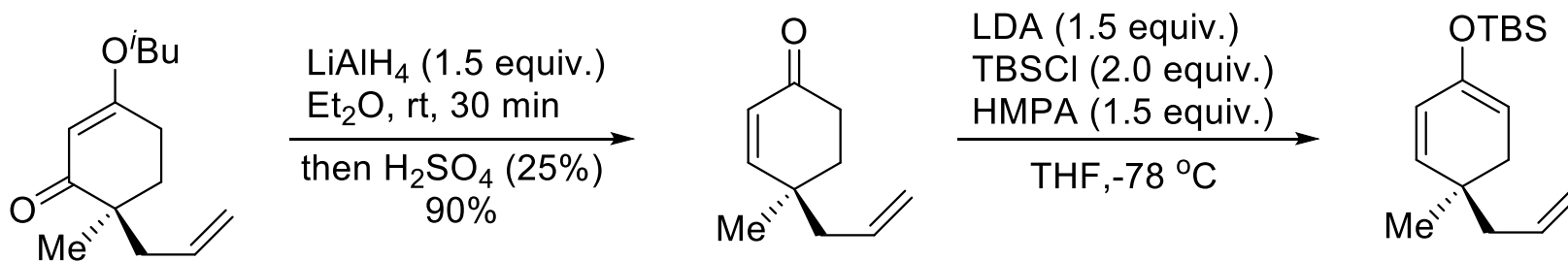
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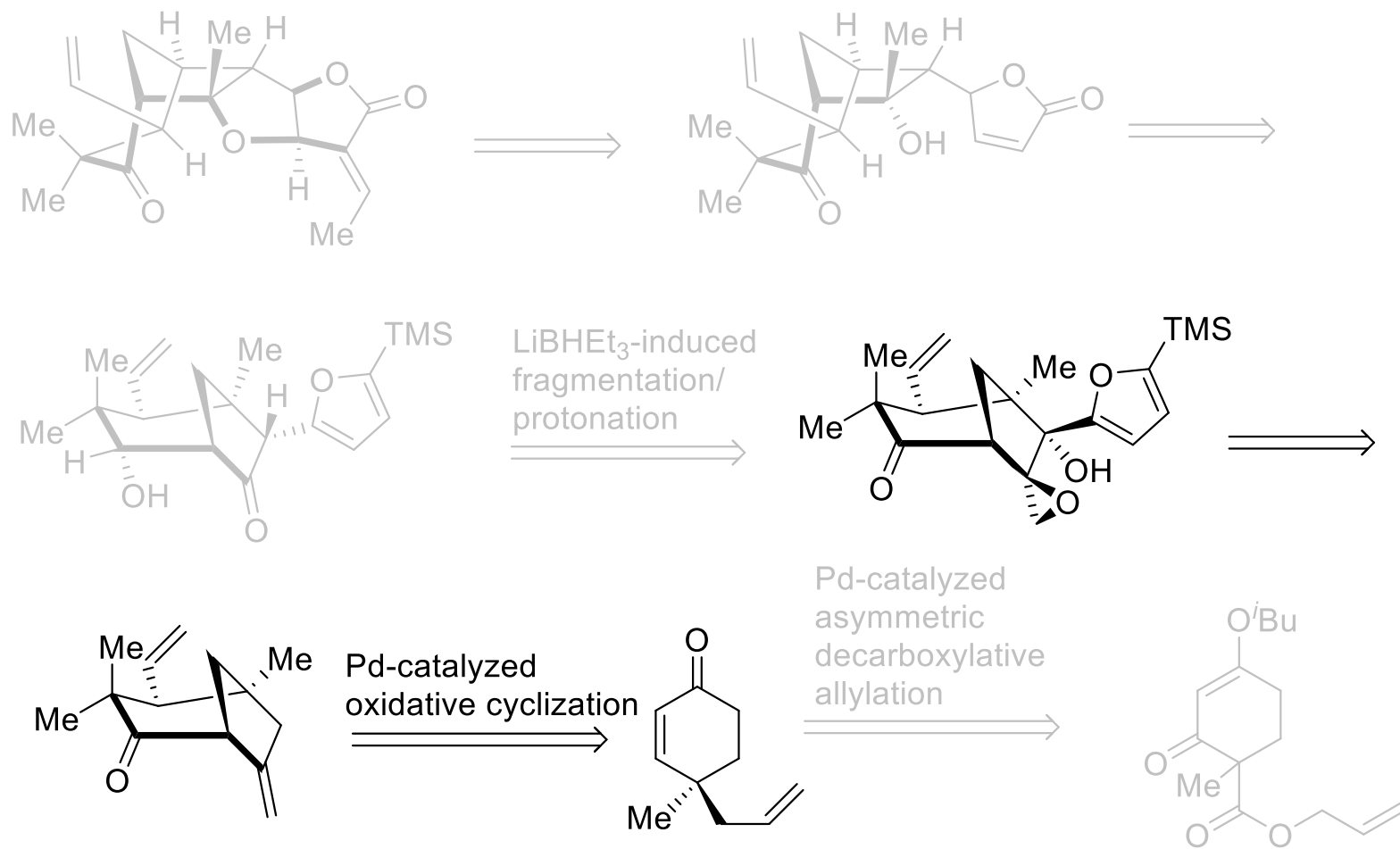


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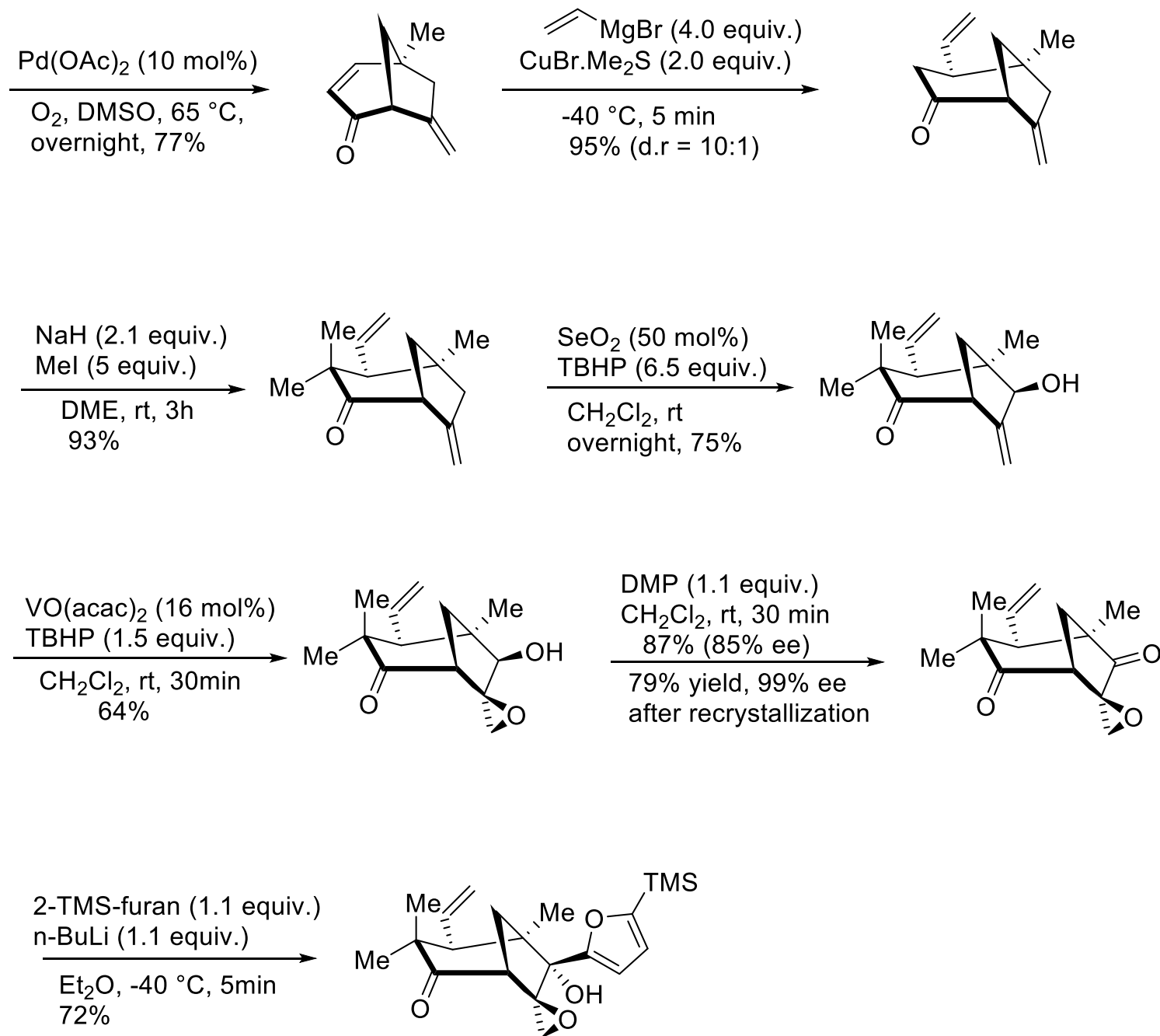


decarboxylative-allylation

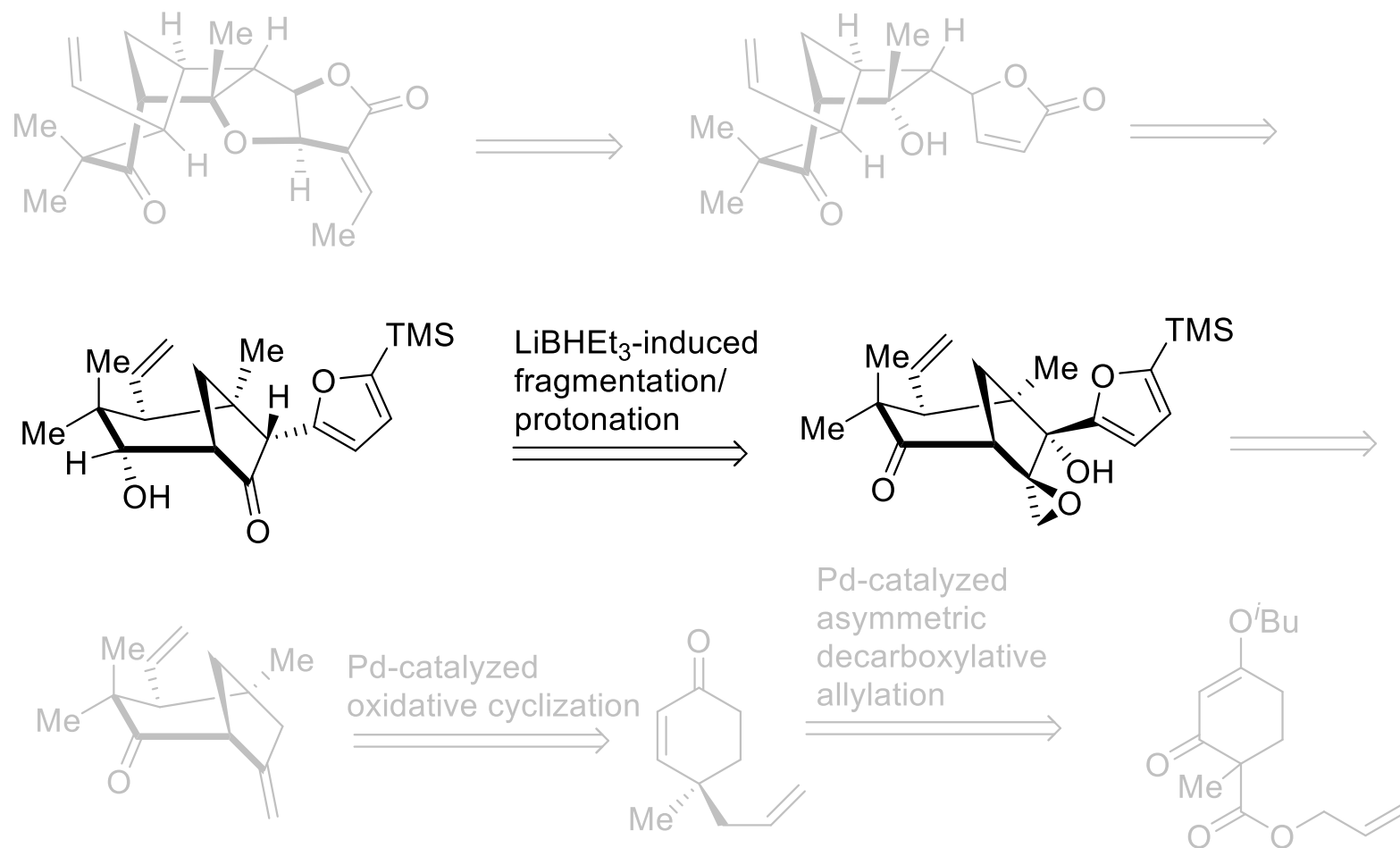




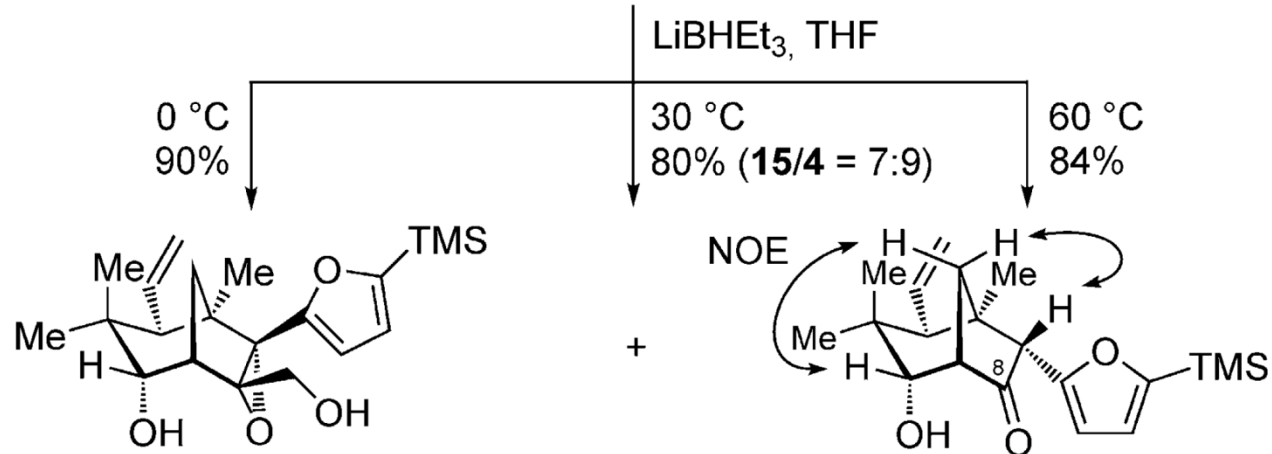
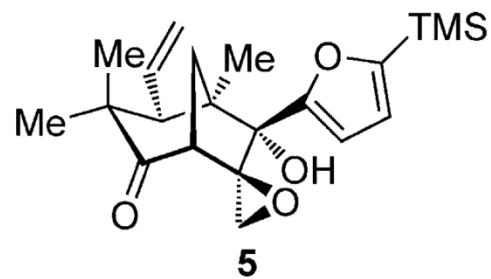
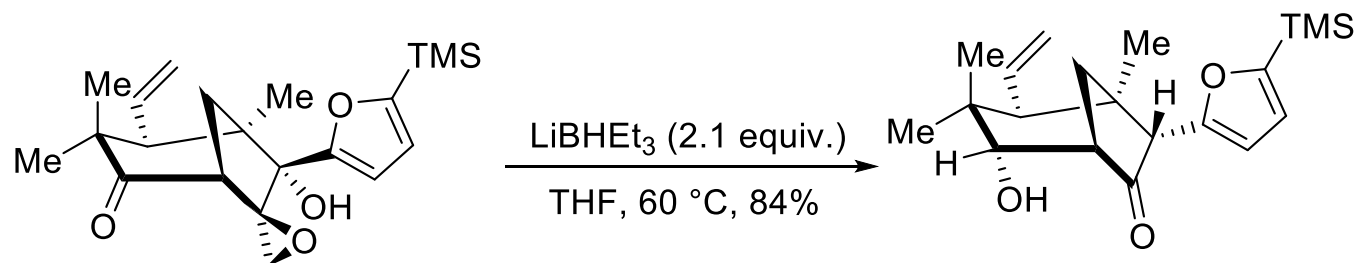
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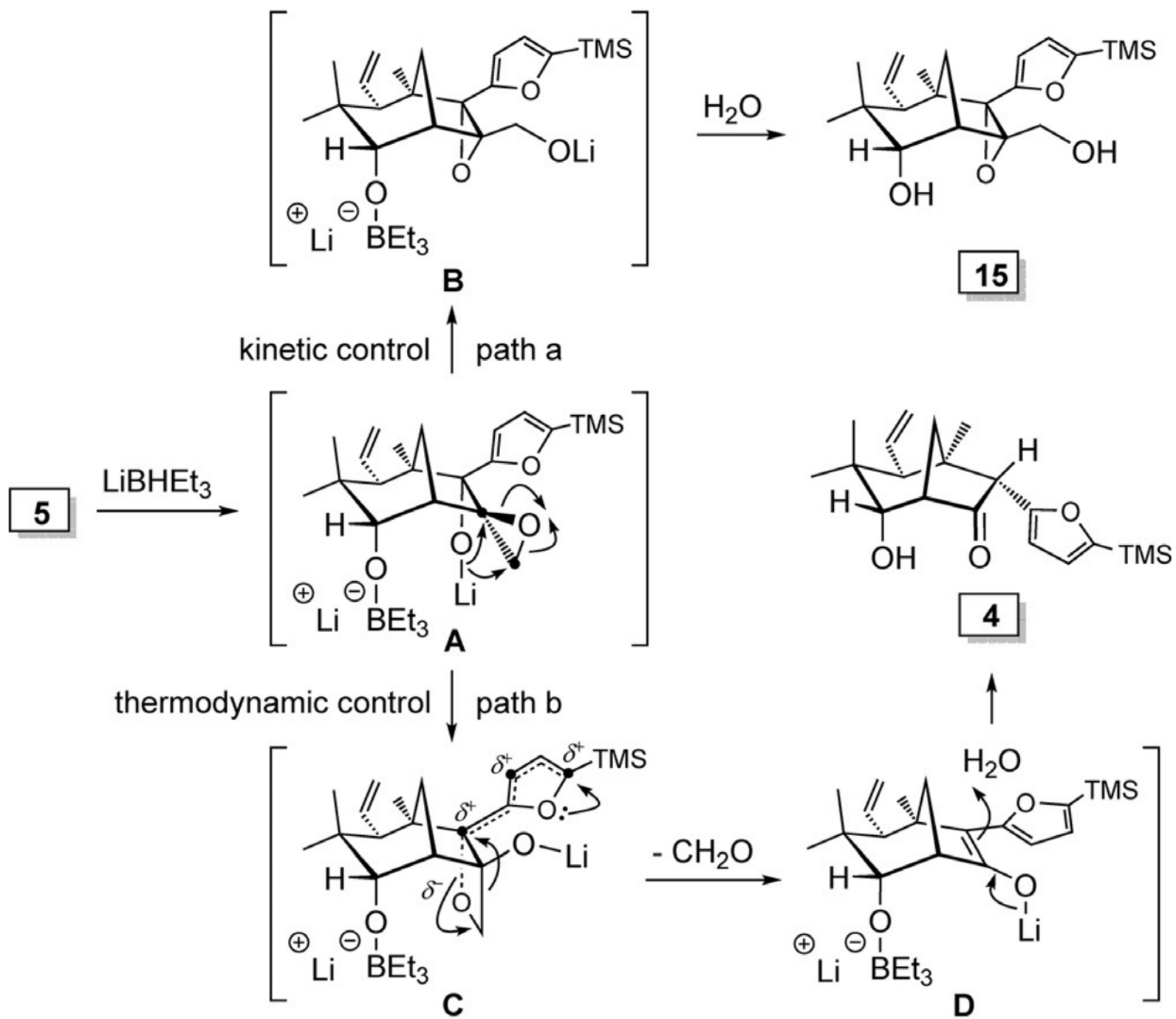
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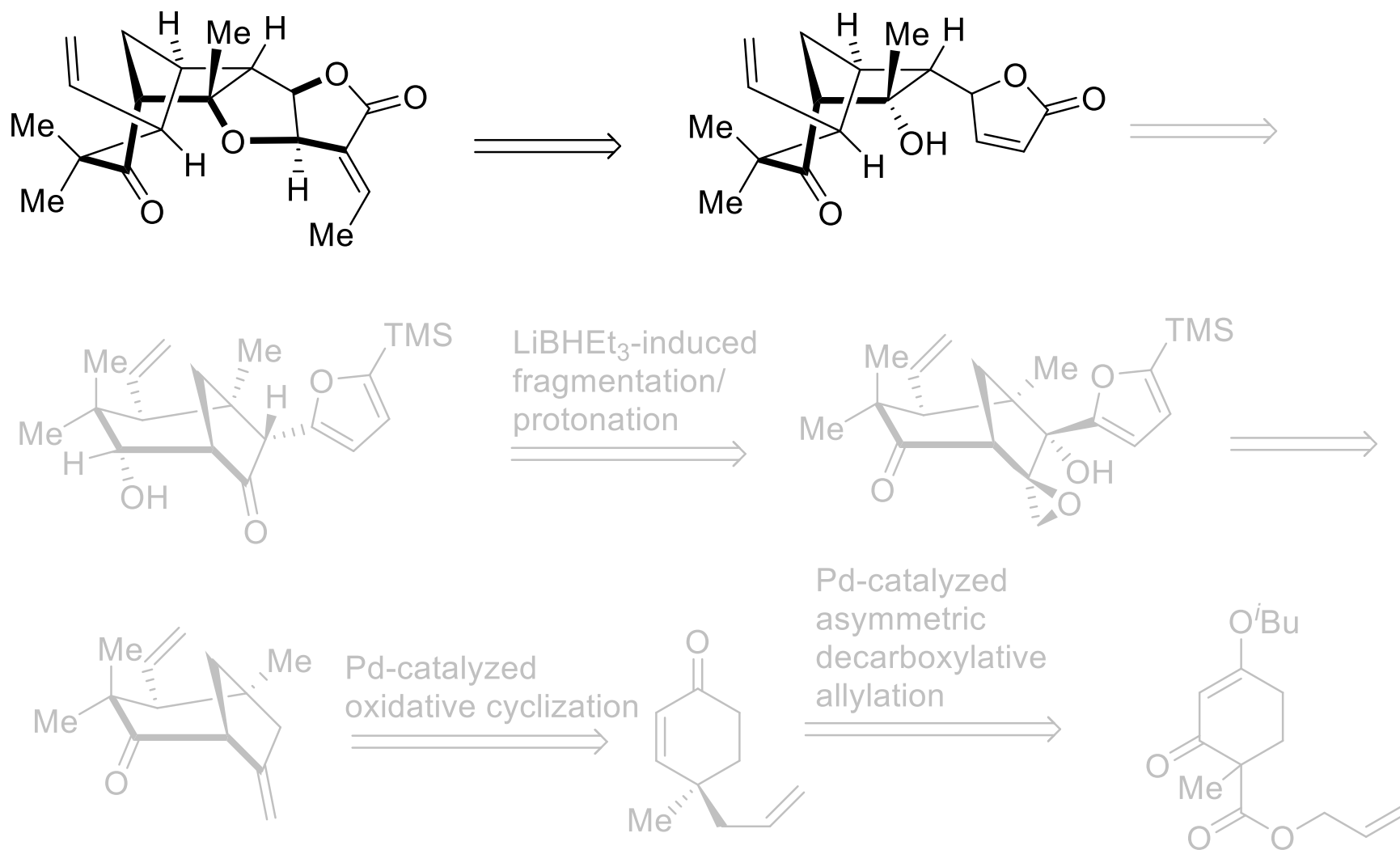


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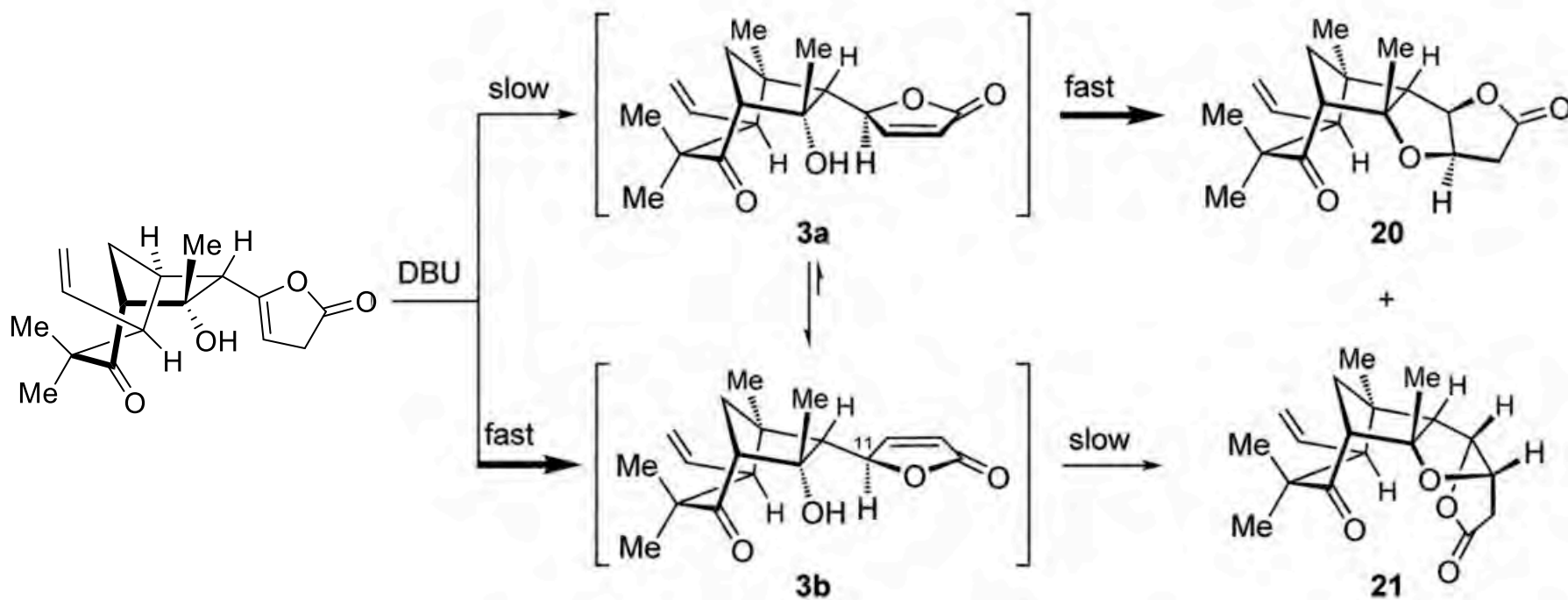
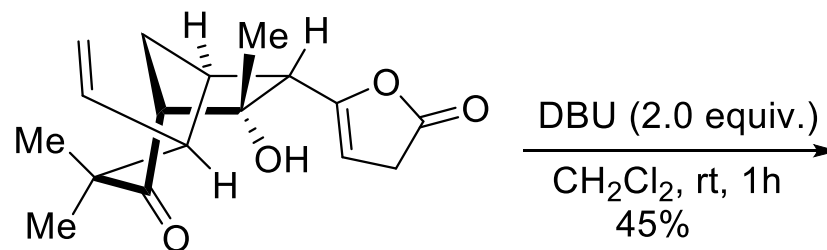
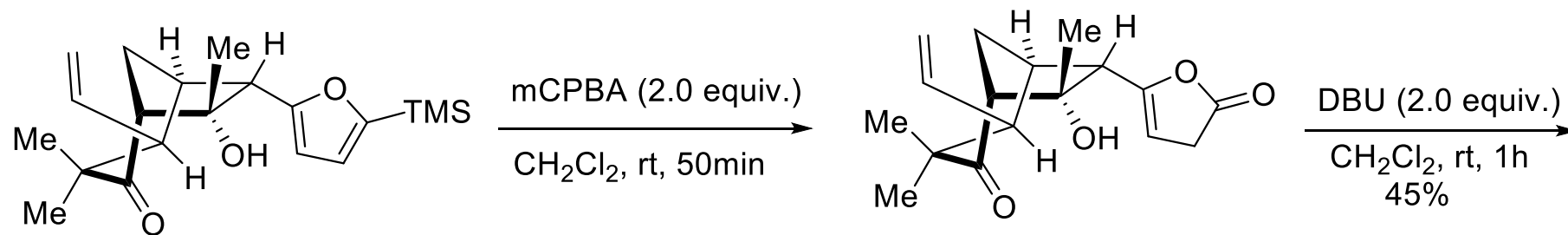
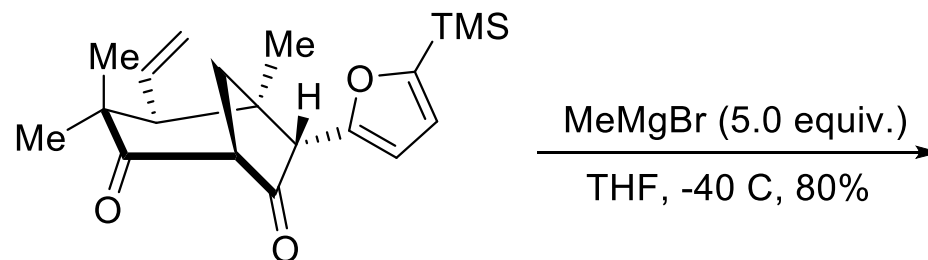
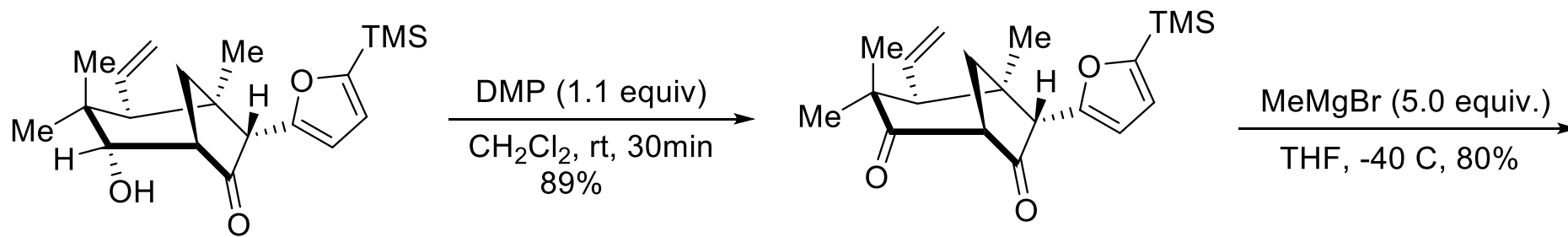


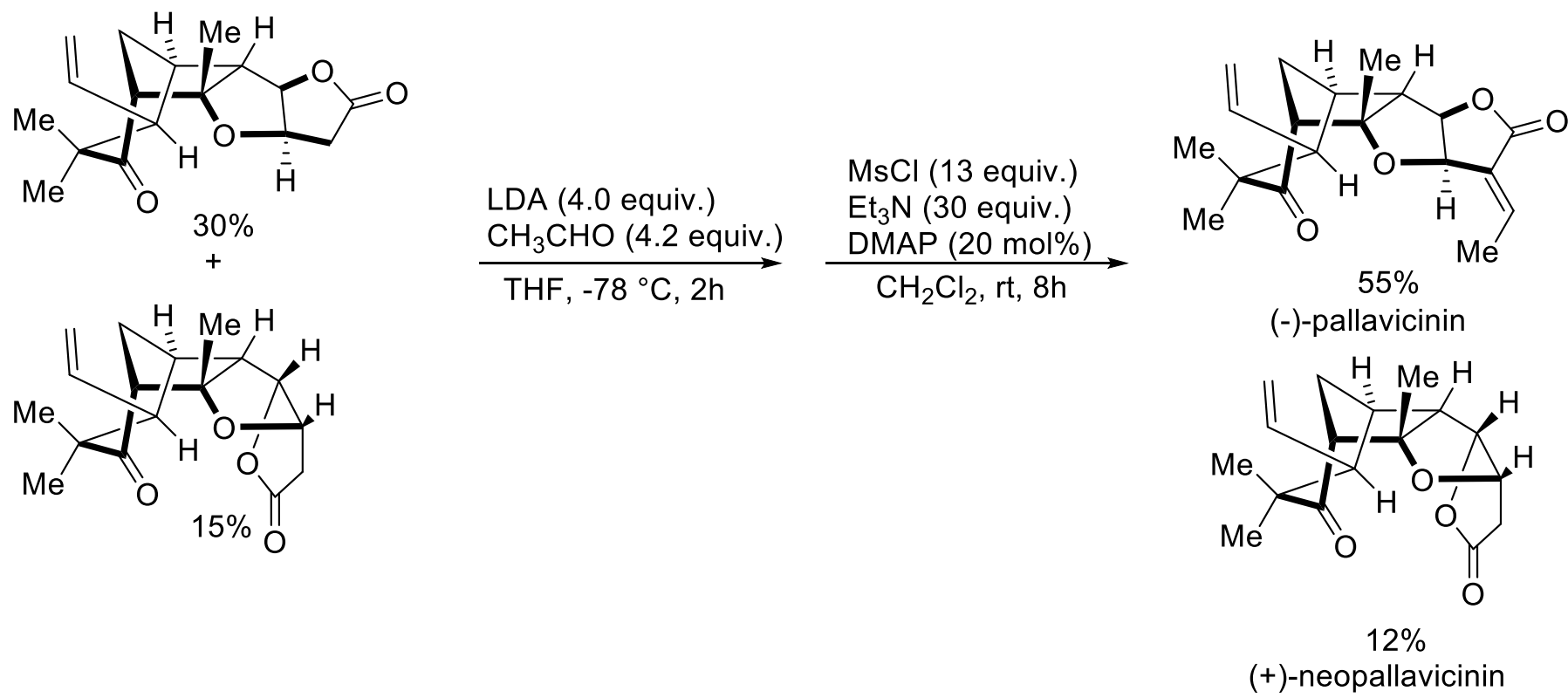
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*Thank
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