

## Total Syntheses of Strained Polycyclic Terpenes

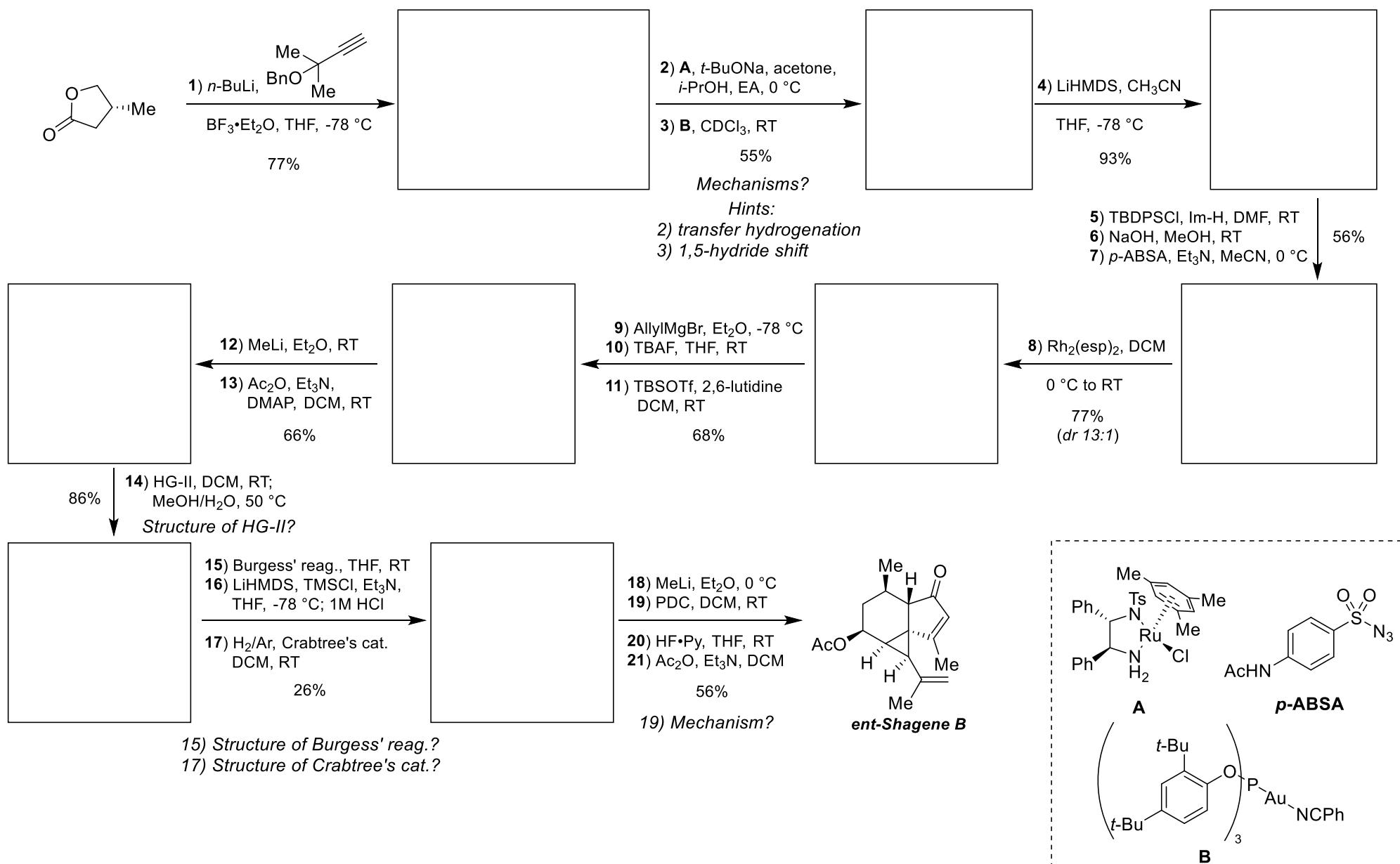
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CH-8057 Zurich, Switzerland

## Supporting Information

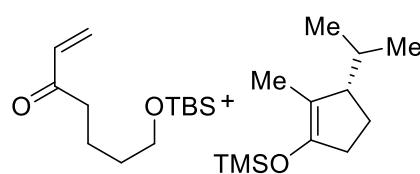
# Total Synthesis of Shagene B

C. Tsukano, R. Yagita, T. Heike, T. A. Mohammed, K. Nishibayashi, K. Irie and Y. Takemoto, *Angew. Chem., Int. Ed.*, 2021, **60**, 23106-23111

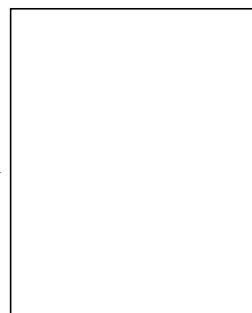


# Total Synthesis of Peyssonnosol

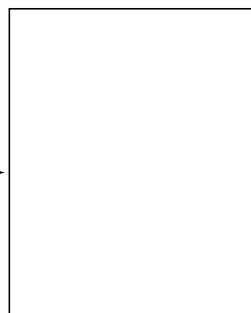
G. A. Chesnokov and K. Gademann, *J. Am. Chem. Soc.*, 2021, **143**, 14083-14088



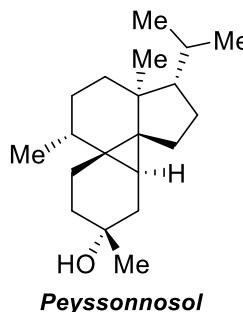
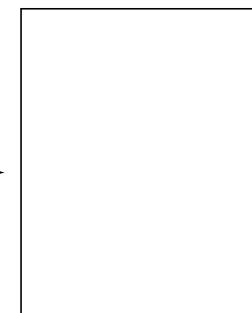
1)  $\text{BF}_3 \cdot \text{OEt}_2$ , *i*-PrOH  
DCM, -20 °C  
91%  
Name?



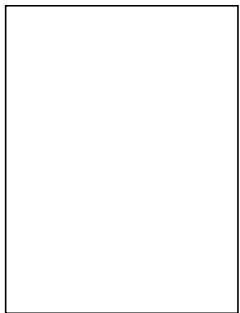
2) NaOMe, MeOH, 55 °C;  
TBSCl, Im-H, THF, RT  
85%



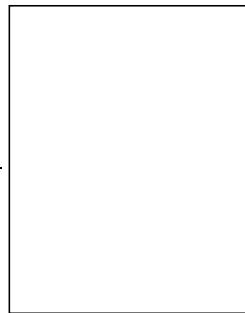
3)  $\text{NaBH}_4$ ,  $\text{CeCl}_3 \cdot 7\text{H}_2\text{O}$ ,  
MeOH, 0 °C  
4)  $\text{ZnEt}_2$ ;  $\text{CHI}_3$ , DCM, RT  
68%  
Names?



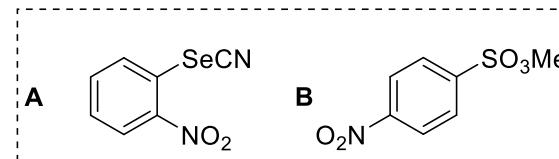
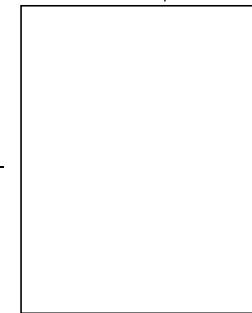
12)  $\text{Ph}_3\text{PMeBr}$ ,  $\text{KO}t\text{-Bu}$ ,  
THF, 50 °C  
13)  $\text{H}_2$ , Rh/ $\text{Al}_2\text{O}_3$ , EA/MeOH  
78%  
(*dr* 4.2:1)  
12) Name?



10) TPAP, NMO, DCM, RT  
11)  $\text{PhSiH}_3$ , **B**,  $\text{Fe}(\text{acac})_3$ ,  
 $\text{NaHCO}_3$ , MeOH/THF, 0 °C  
70%  
10) Name?  
11) Mechanism?

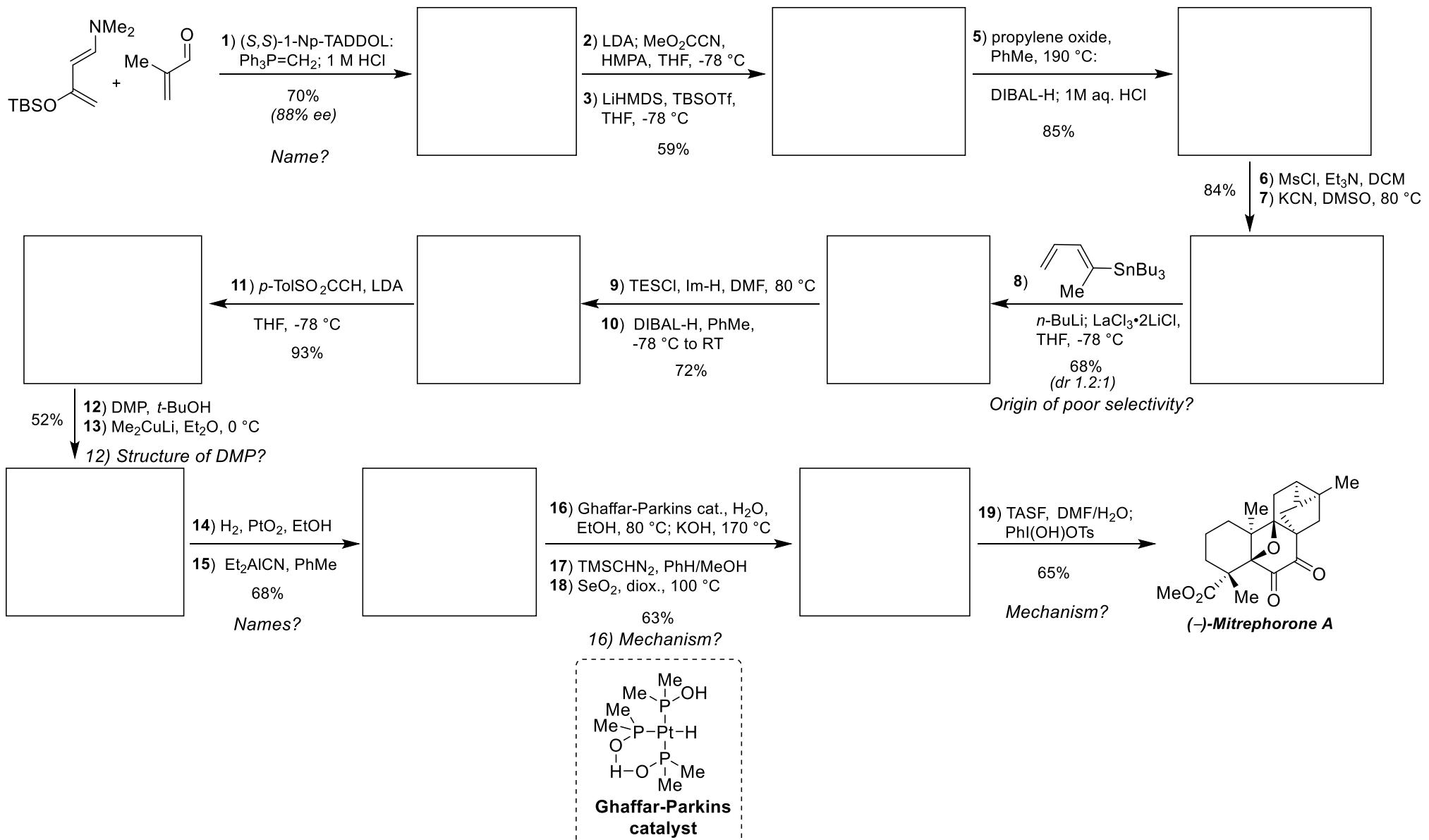


7) **A**,  $\text{PBu}_3$ , Py, THF, RT  
8) *m*-CPBA, DCM, 0 °C;  
 $\text{NET}_3$ , RT  
9) HG-II, DCM, RT  
80%  
7-8) Name and mechanism?  
9) Structure of HG-II?



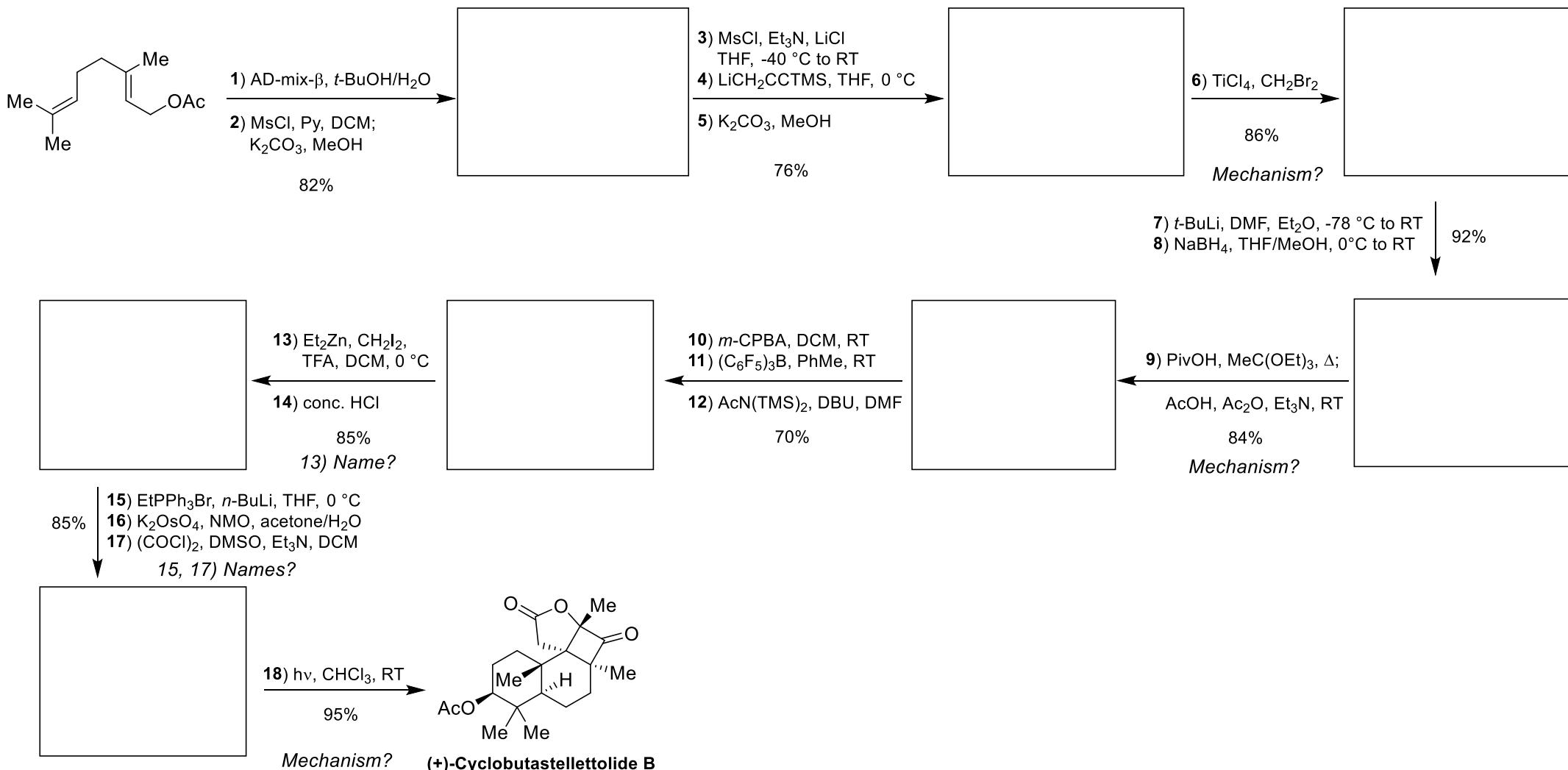
# Total Synthesis of (-)-Mitrephorone A

M. J. R. Richter, M. Schneider, M. Brandstätter, S. Krautwald and E. M. Carreira, *J. Am. Chem. Soc.*, 2018, **140**, 16704-16710



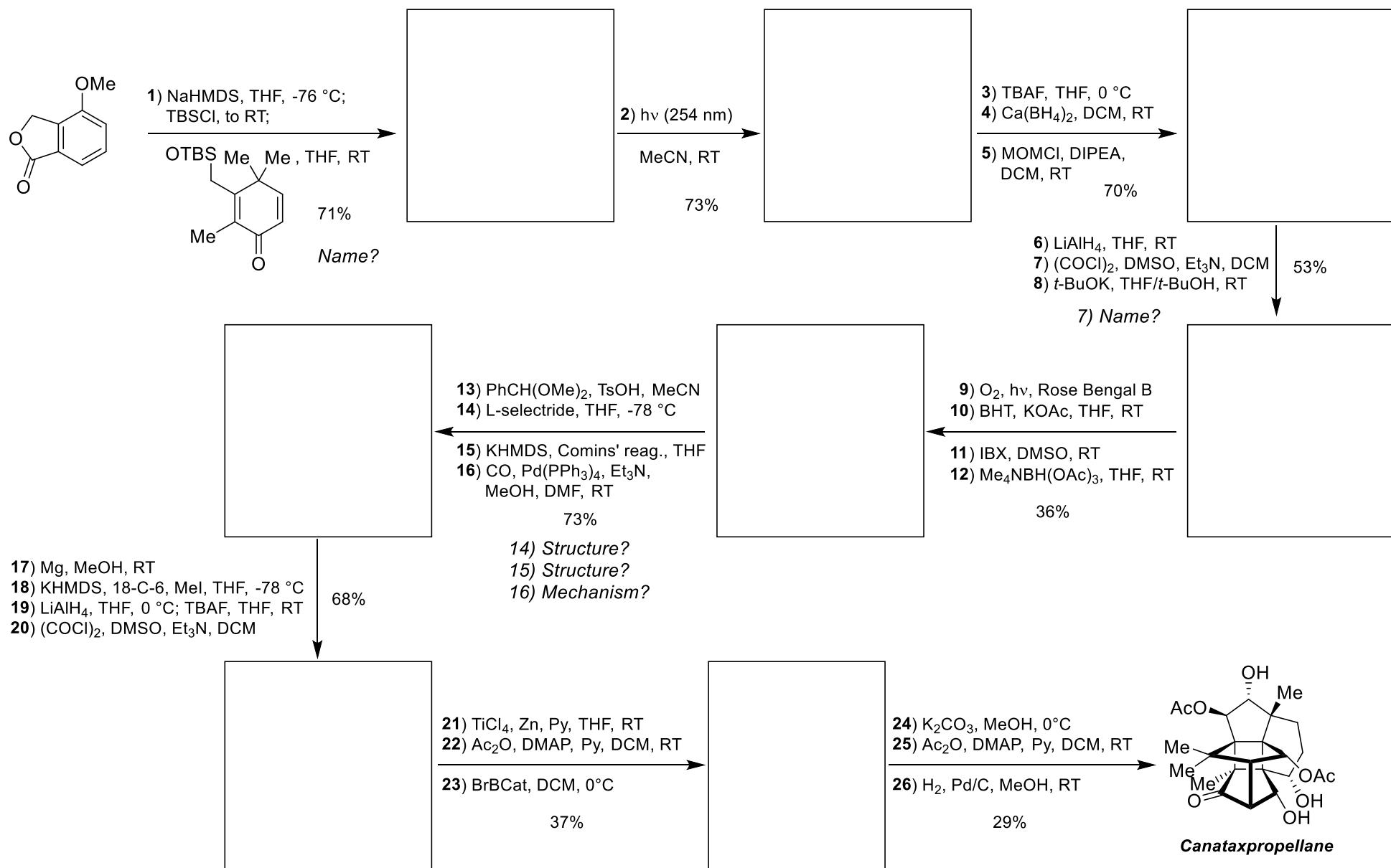
# Total Synthesis of (+)-Cyclobutastellettolide B

Z. Zhang, S. Chen, F. Tang, K. Guo, X.-T. Liang, J. Huang and Z. Yang, *J. Am. Chem. Soc.*, 2021, **143**, 18287-18293



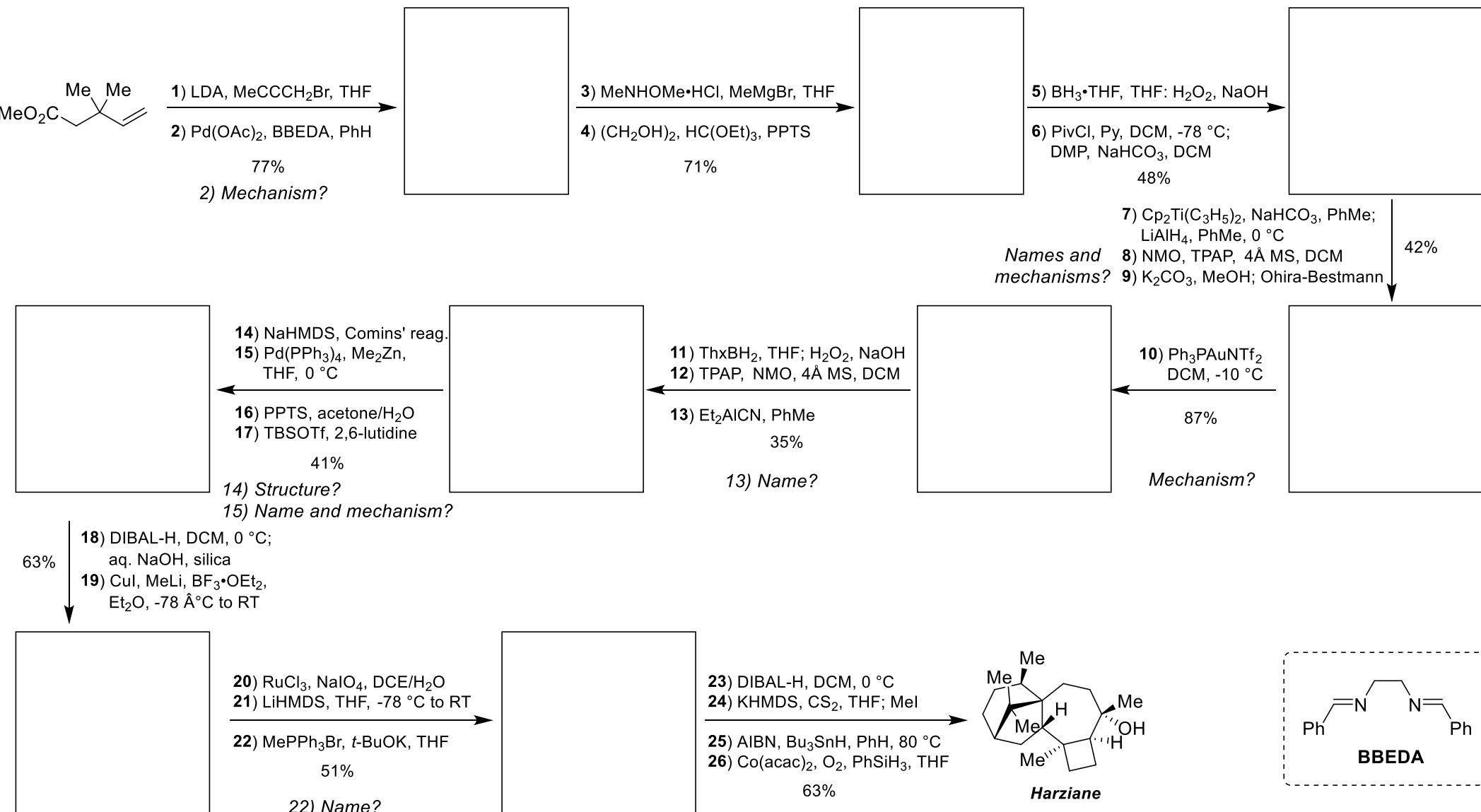
# Total Synthesis of Canataxpropellane

F. Schneider, K. Samarin, S. Zanella and T. Gaich, *Science*, 2020, **367**, 676-681.



# Total Synthesis of Harziane

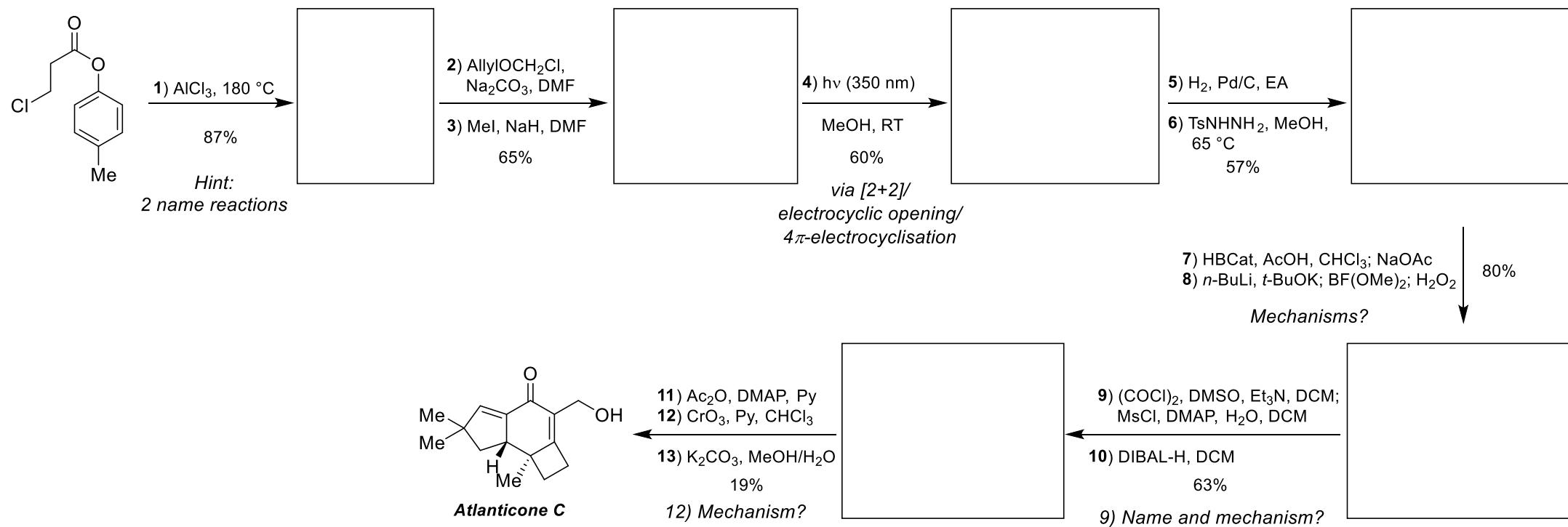
M. Höning and E. M. Carreira, *Angew. Chem., Int. Ed.*, 2020, **59**, 1192-1196



24-26) Names and mechanisms?

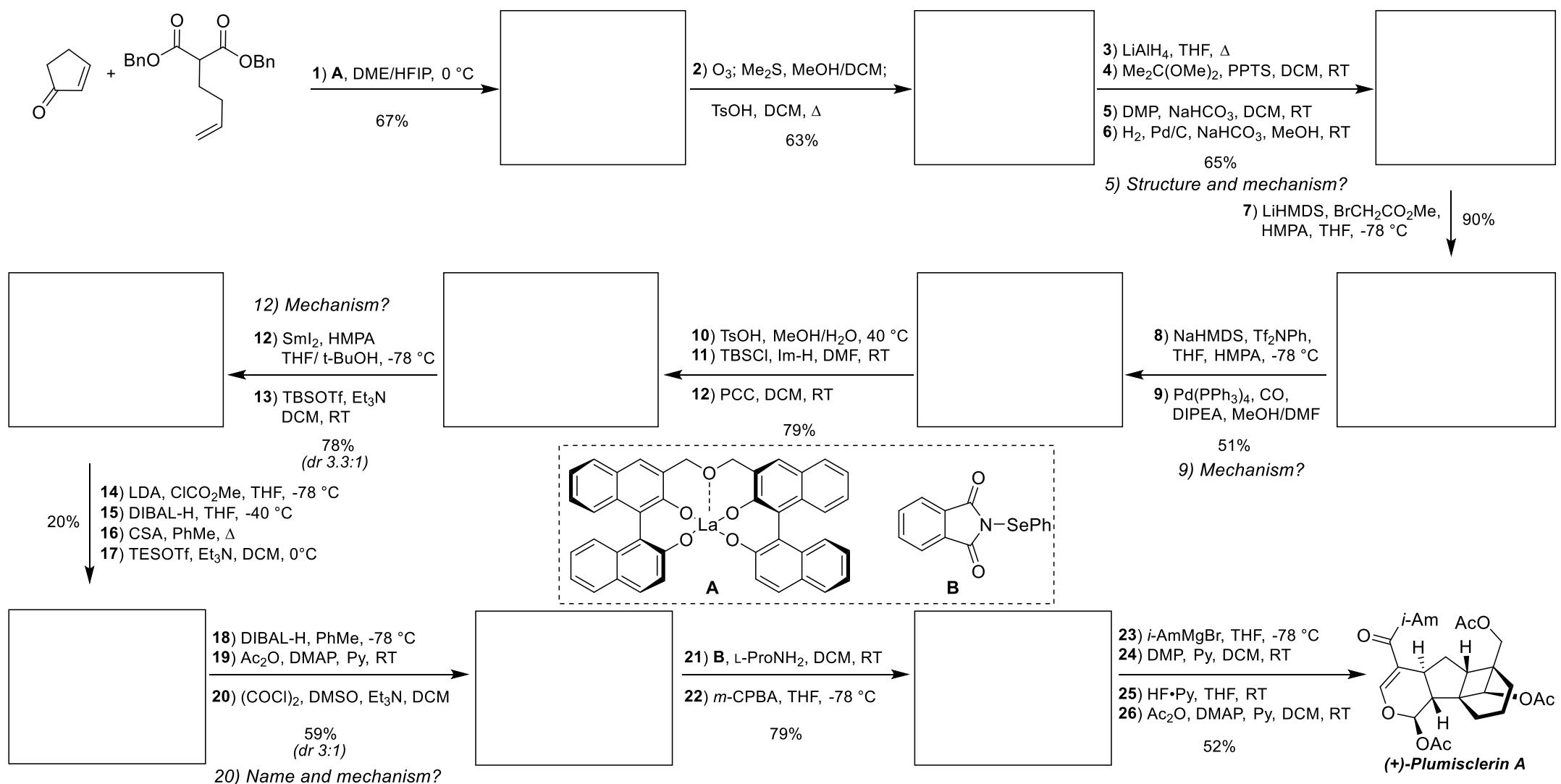
# Total Synthesis of Atlanticone C

A. Zech, C. Jandl and T. Bach, *Angew. Chem., Int. Ed.*, 2019, **58**, 14629-14632.



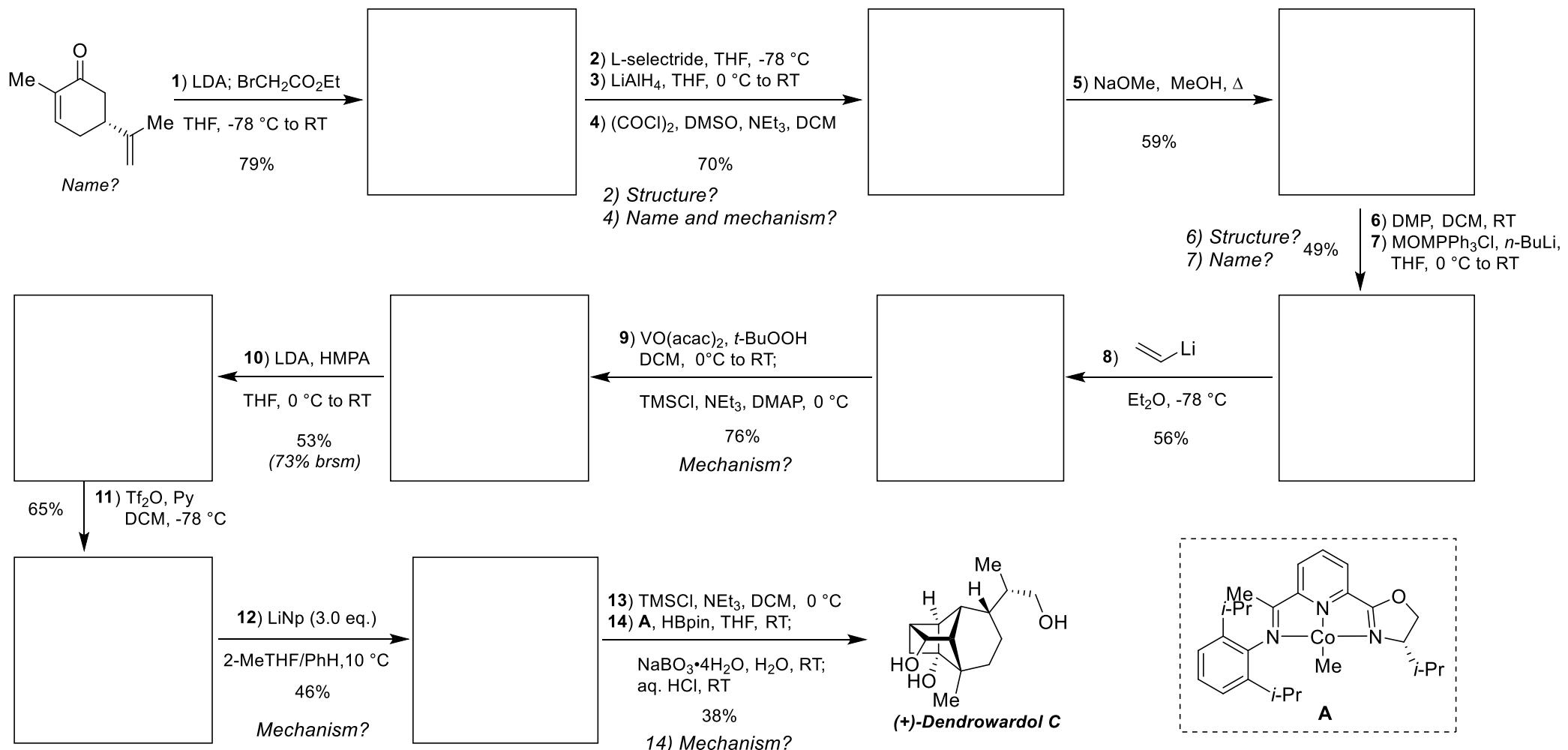
# Total Synthesis of (+)-Plumisclerin A

M. Gao, Y.-C. Wang, K.-R. Yang, W. He, X.-L. Yang and Z.-J. Yao, *Angew. Chem., Int. Ed.*, 2018, **57**, 13313-13318.



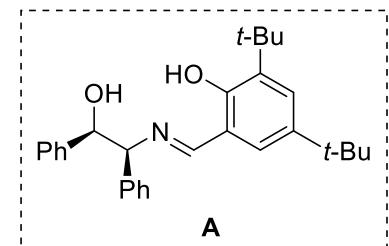
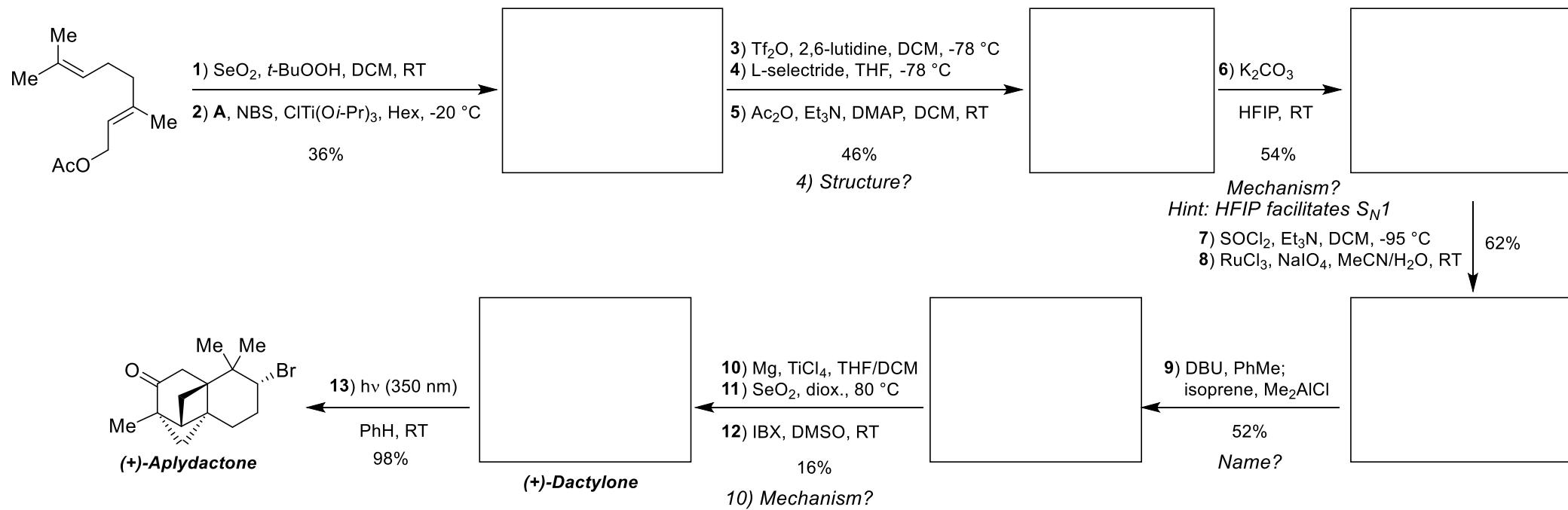
# Total Synthesis of (+)-Dendrowardol C

H. Wolleb and E. M. Carreira, *Angew. Chem., Int. Ed.*, 2017, **56**, 10890-10893.



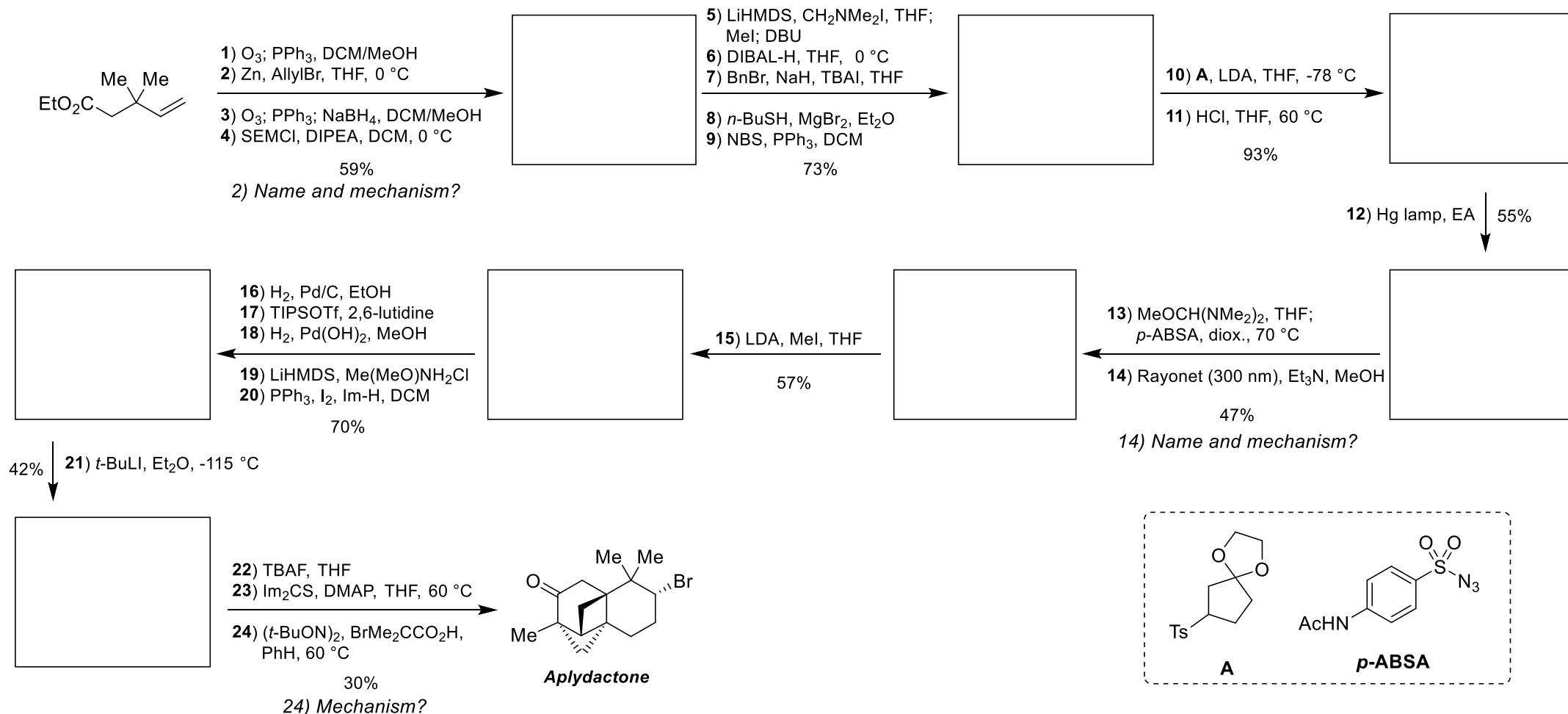
# Total Synthesis of (+)-Aplydactone

A. J. Burckle, V. H. Vasilev and N. Z. Burns, *Angew. Chem., Int. Ed.*, 2016, **55**, 11476-11479.



# Total Synthesis of Aplydactone

R. Meier and D. Trauner, *Angew. Chem., Int. Ed.*, 2016, **55**, 11251-11255.



# Total Synthesis of Aplydactone

C. Liu, R. Chen, Y. Shen, Z. Liang, Y. Hua and Y. Zhang, *Angew. Chem., Int. Ed.*, 2017, **56**, 8187-8190.

