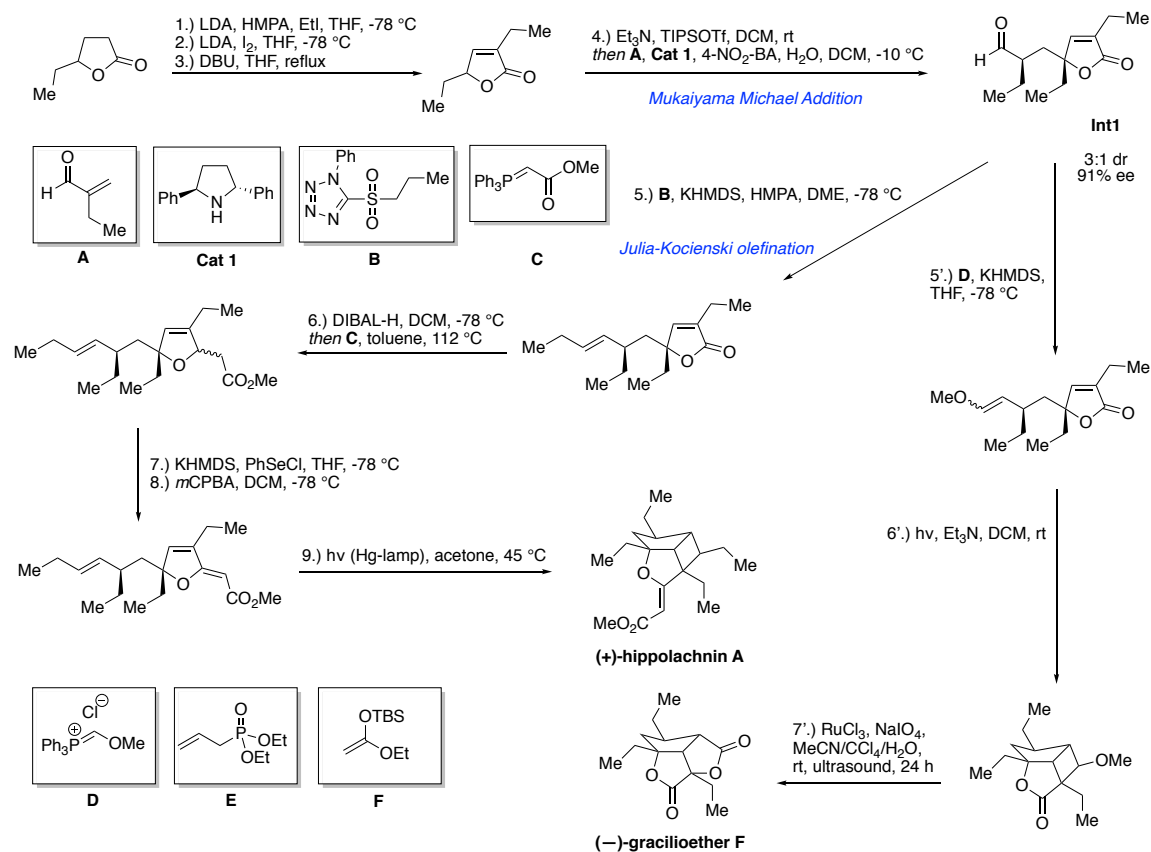
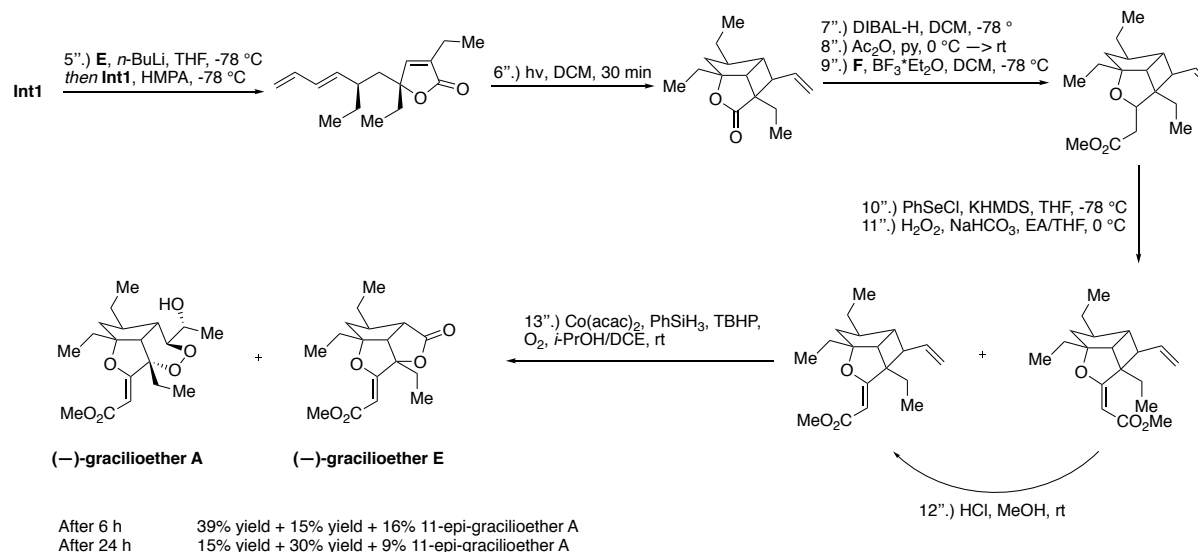


# E157: Enantioselective Total Syntheses of (+)-Hippolachnin A, (+)-Gracilioether A, (–)-Gracilioether E, and (–)-Gracilioether F

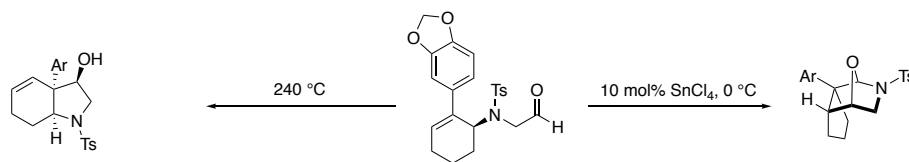


- [1] Q. Li, K. Zhao, A. Peuronen, K. Rissanen, D. Enders, Y. Tang, *J. Am. Chem. Soc.* **2018**, *140*, 1937 – 1944.  
 [2] T. Nishimata, M. Mori, *J. Org. Chem.* **1998**, *63*, 7586 – 7587.

# E157: Enantioselective Total Syntheses of (+)-Hippolachnin A, (+)-Gracilioether A, (-)-Gracilioether E, and (-)-Gracilioether F



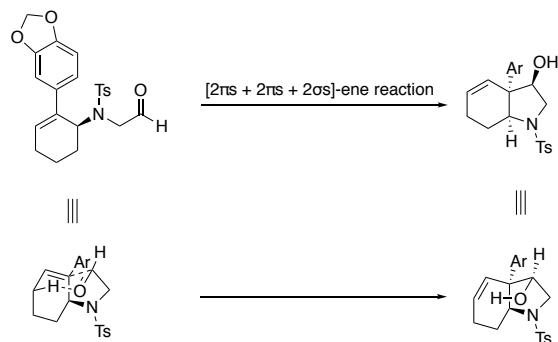
Bonus:



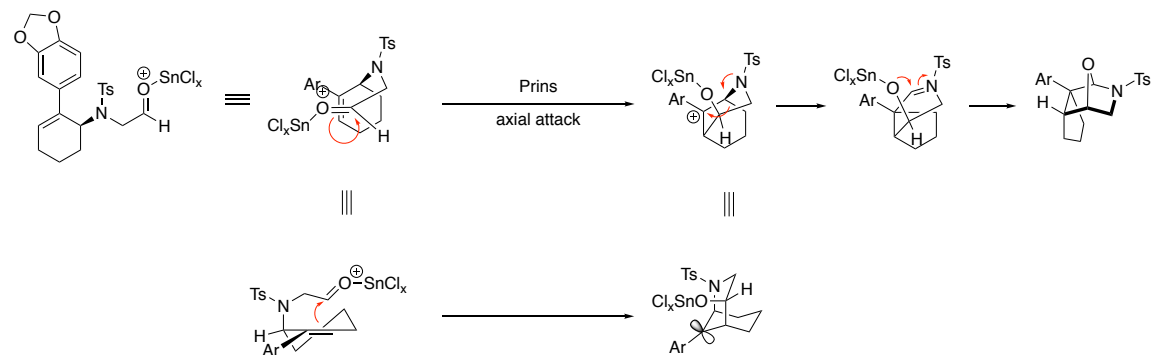
- [1] Q. Li, K. Zhao, A. Peuronen, K. Rissanen, D. Enders, Y. Tang, *J. Am. Chem. Soc.* **2018**, *140*, 1937 – 1944.  
 [2] T. Nishimata, M. Mori, *J. Org. Chem.* **1998**, *63*, 7586 – 7587.

# E157: Enantioselective Total Syntheses of (+)-Hippolachnin A, (+)-Gracilioether A, (–)-Gracilioether E, and (–)-Gracilioether F

## Mechanism 1



## Mechanism 2



- [1] Q. Li, K. Zhao, A. Peuronen, K. Rissanen, D. Enders, Y. Tang, *J. Am. Chem. Soc.* **2018**, *140*, 1937 – 1944.  
[2] T. Nishimata, M. Mori, *J. Org. Chem.* **1998**, *63*, 7586 – 7587.