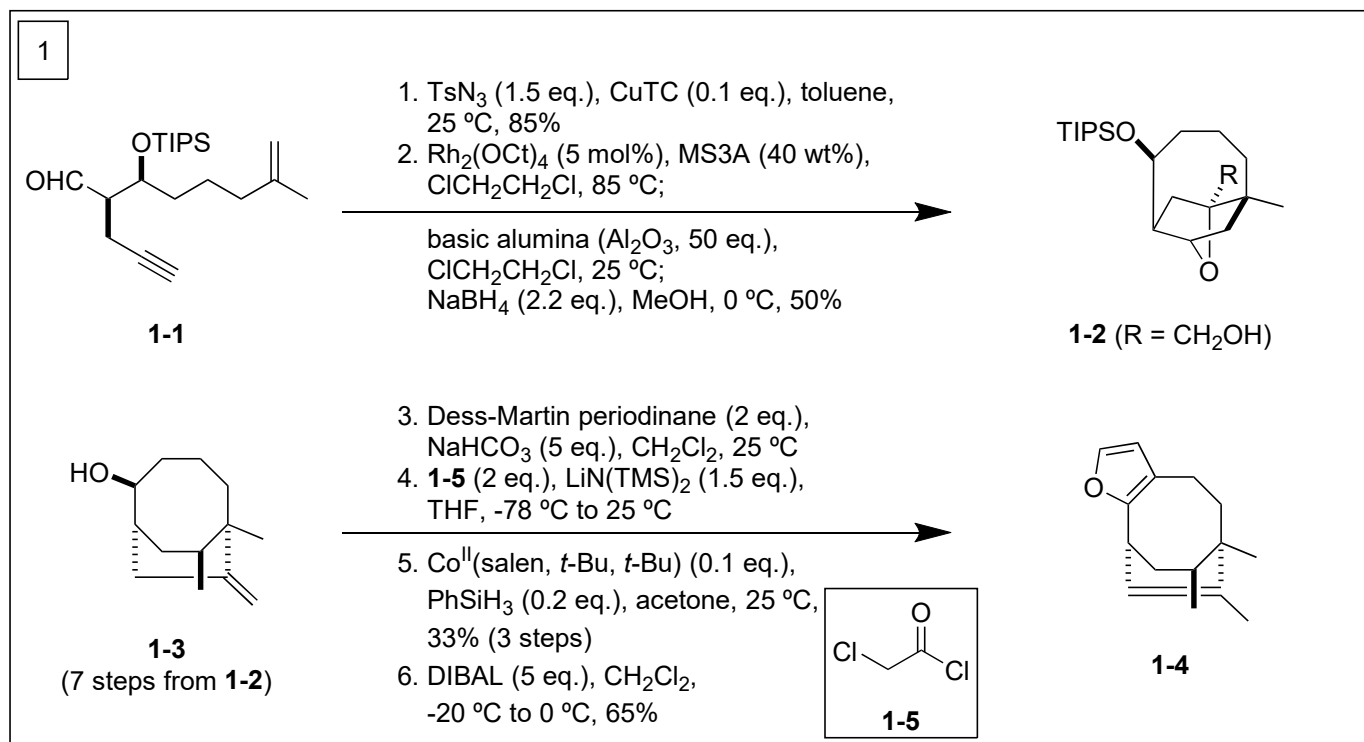
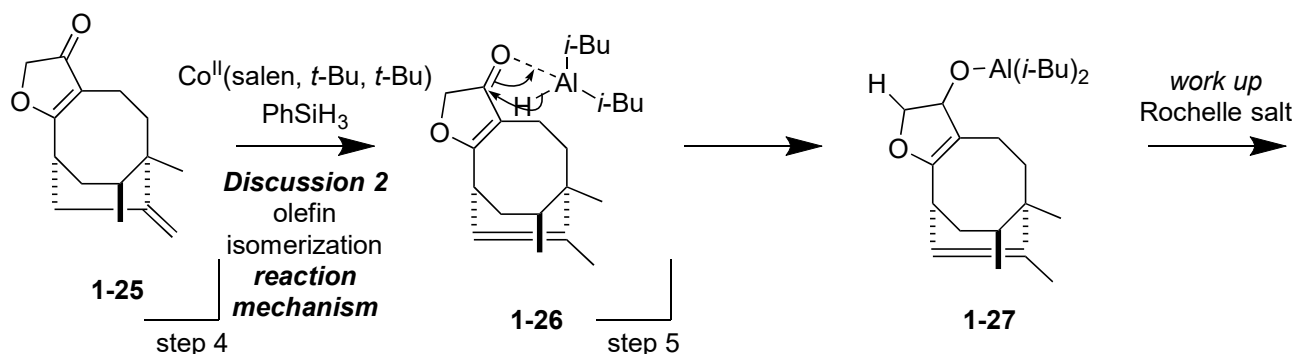
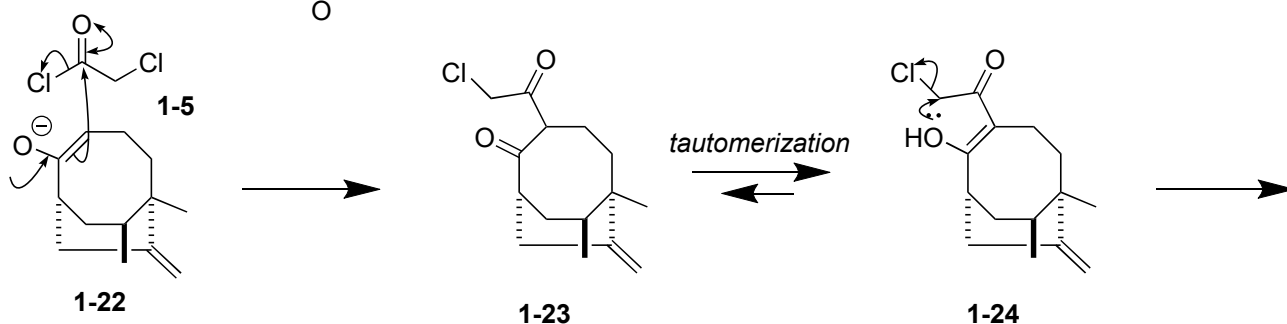
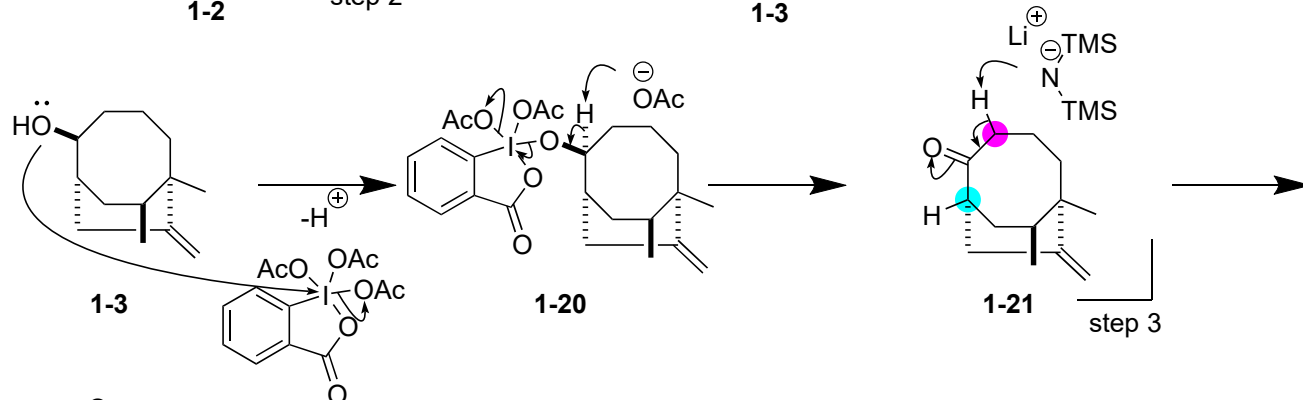
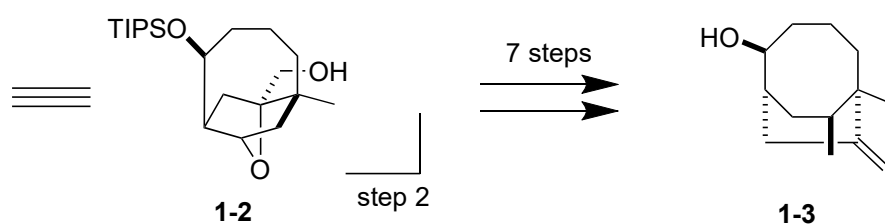
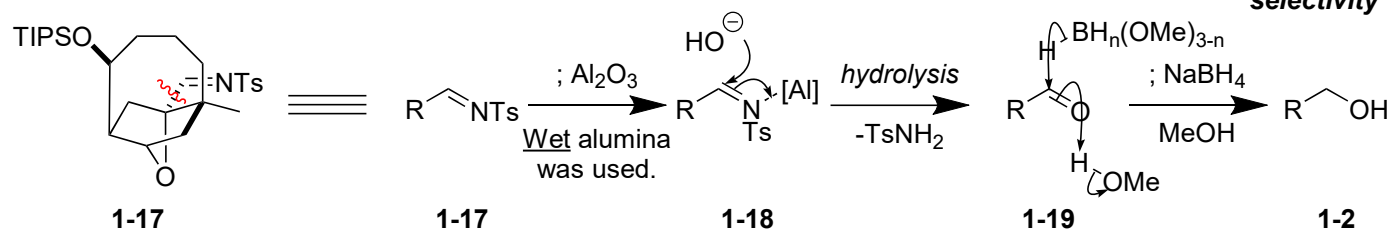
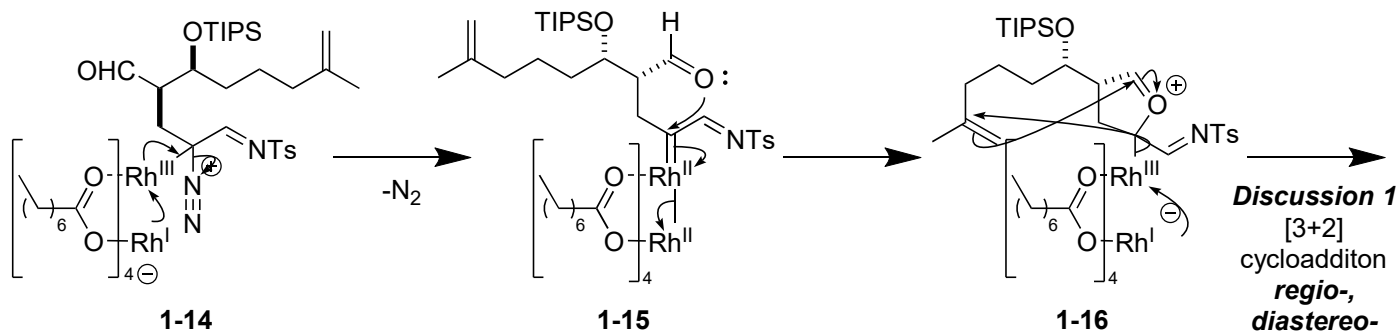


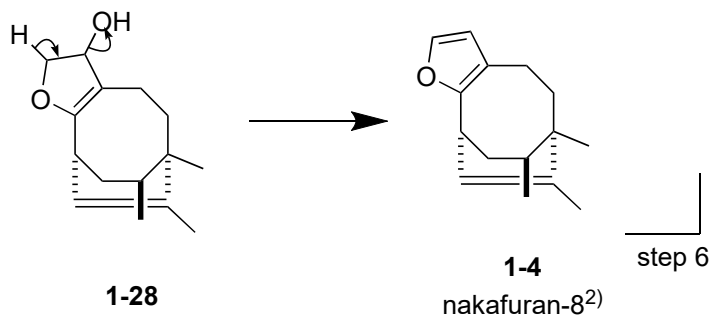
Problem Session (2) -Answer-

2021/11/06 Wataru Shigematsu

Topic: Ring construction by [3+2] dipolar cycloadditions catalyzed by Rhodium (II) catalyst

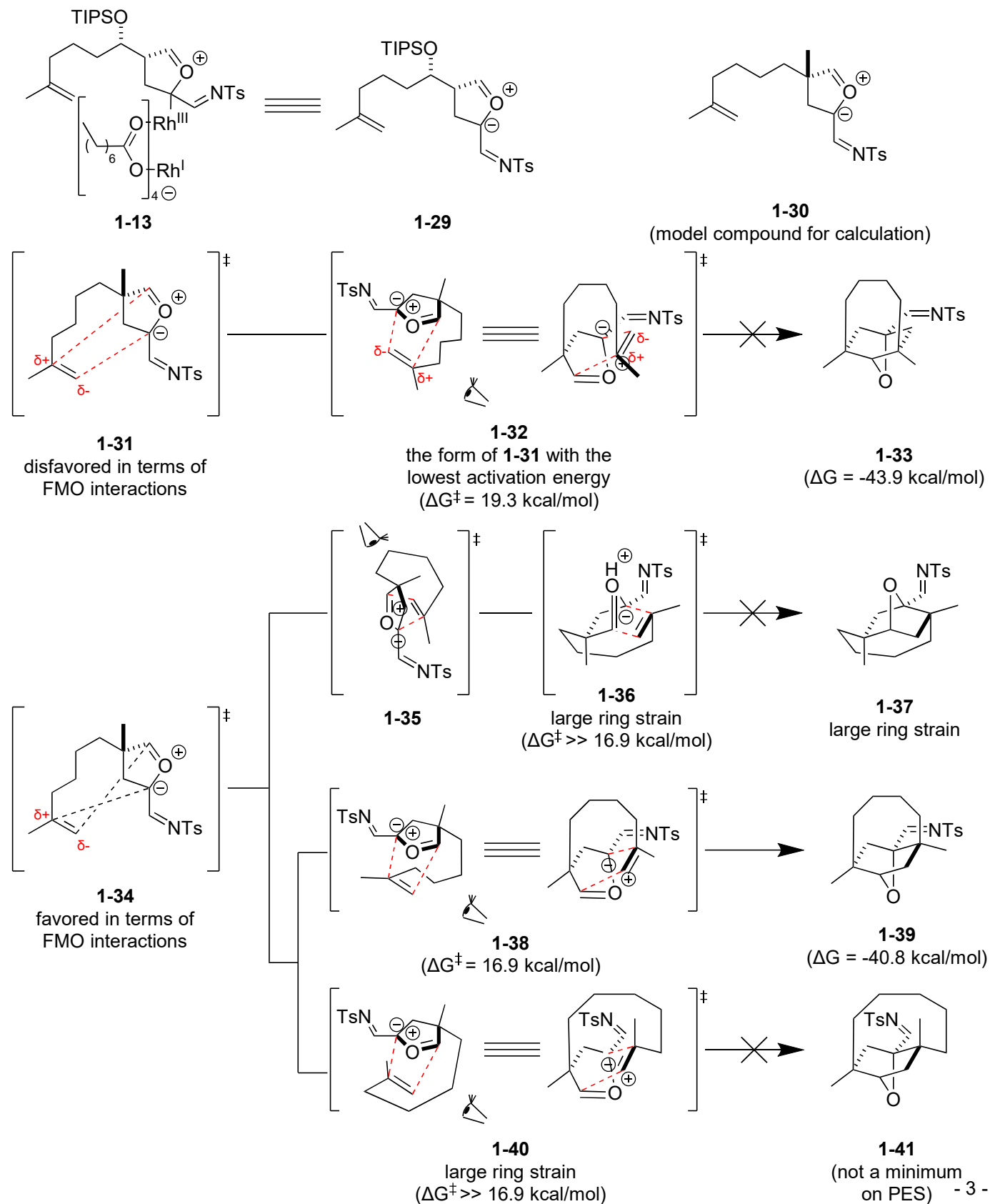


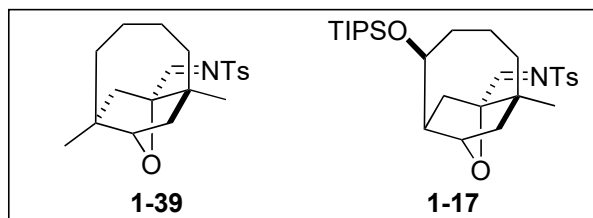




- 1) Worrell, B. T.; Malik, J. A.; Fokin, V. V. *Science*, **2013**, *340*, 457.
- 2) Schulte, G.; Sheuer, P. J.; McConnell, O. J. *Helv. Chim. Acta*, **1980**, *63*, 2159.

Discussion 1: Regio- and diastereoselectivity of [3+2] dipolar cycloaddition

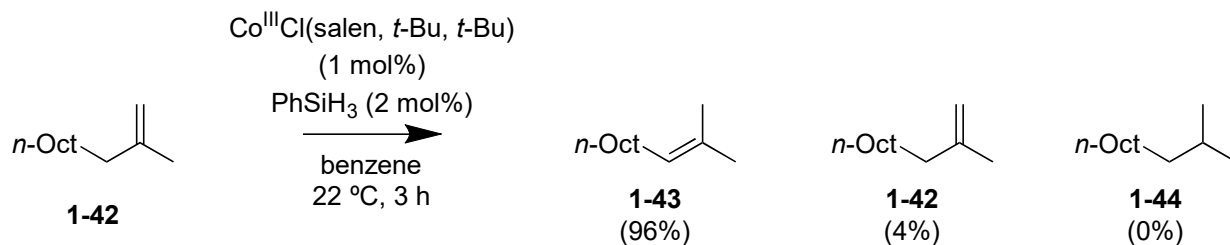




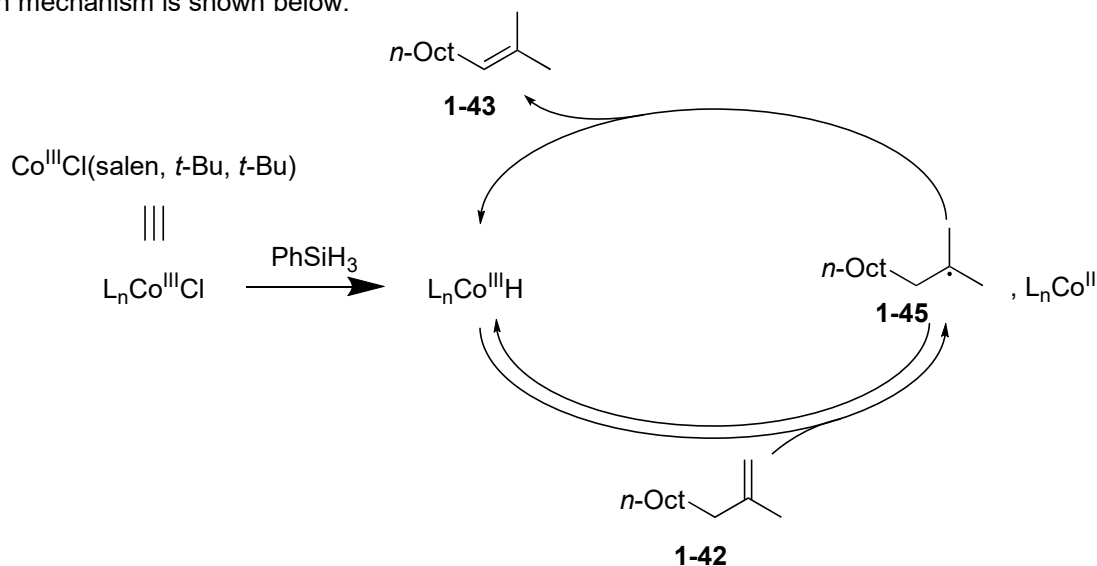
Discussion 2: Olefin isomerization

1-2. Studies of Shenvi's group

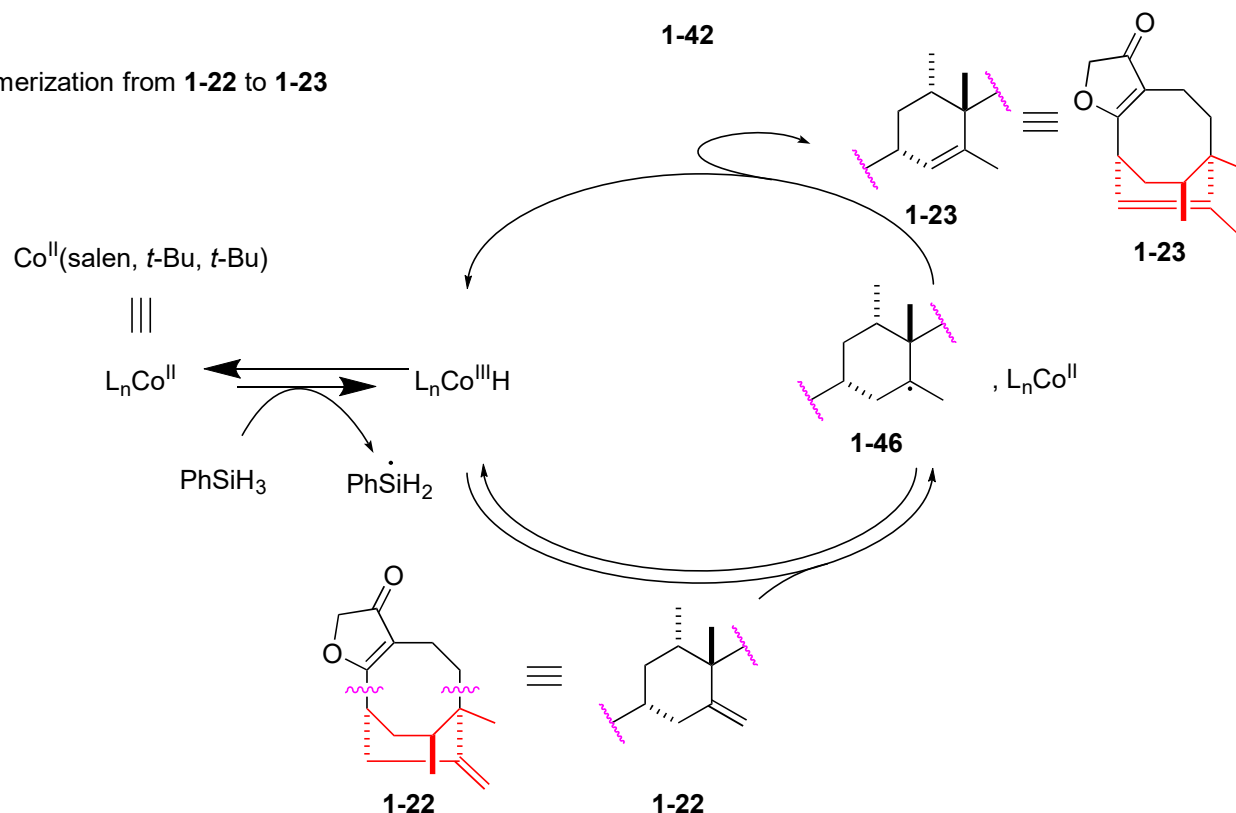
1-2-1. Isomerization of 2-methyl-1-decene **1-42**

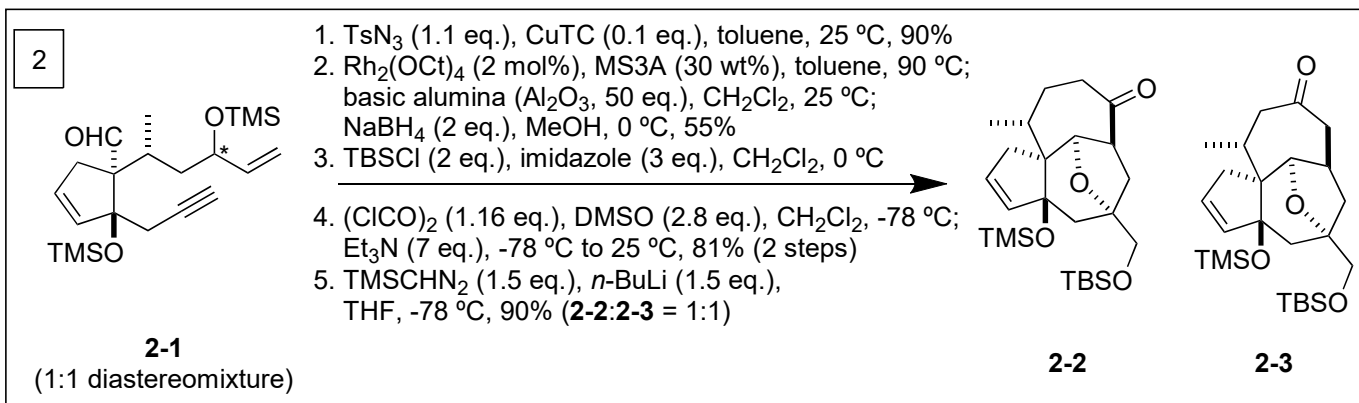


Shenvi's group reported the isomerization of 2-methyl-1-decene with Co^{III} catalyst with PhSiH_3 . Proposed reaction mechanism is shown below.

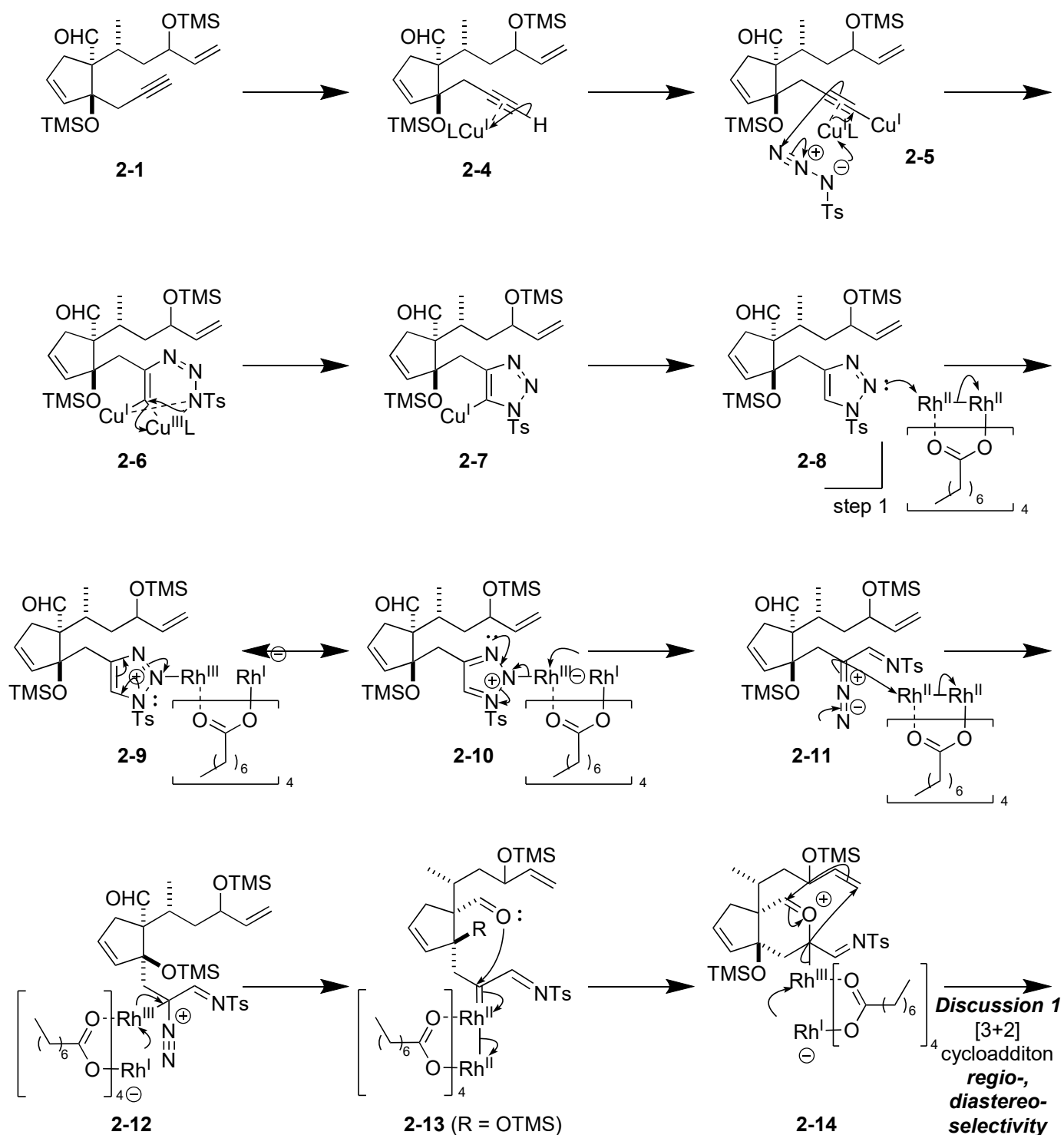


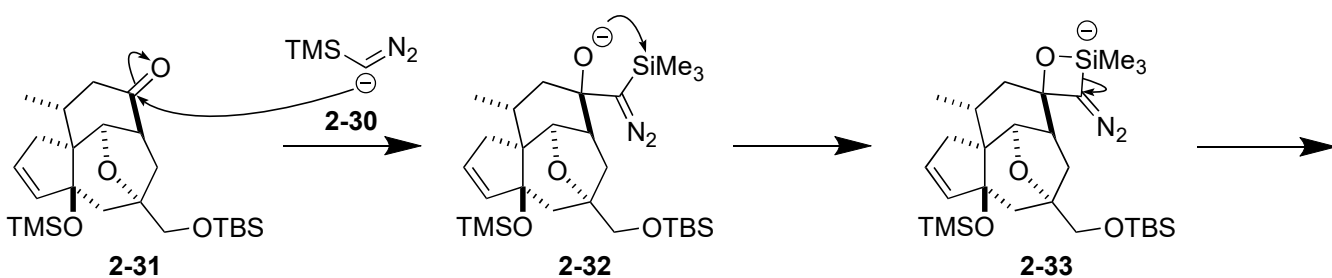
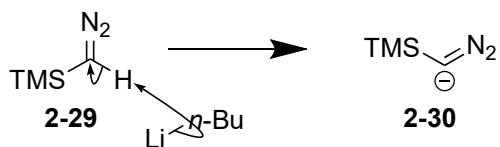
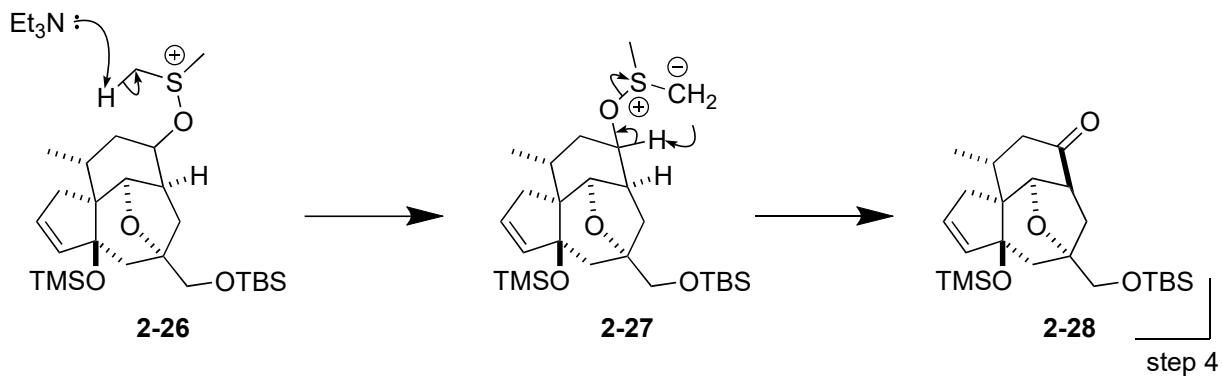
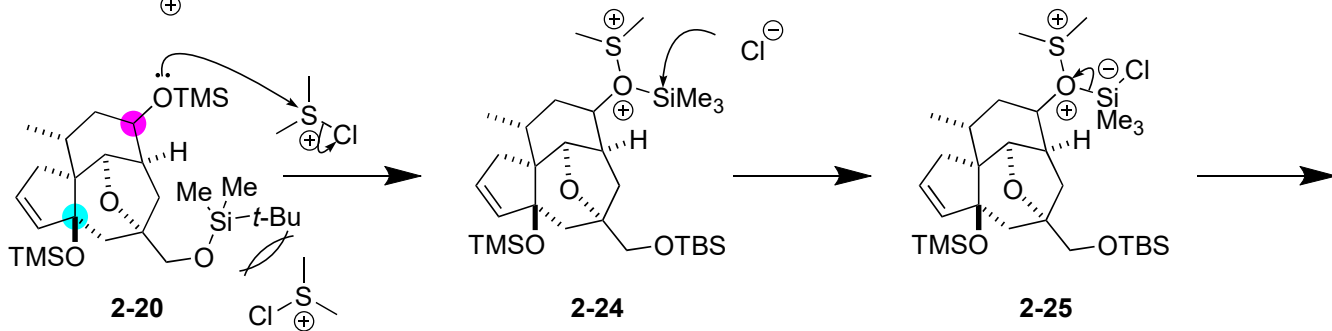
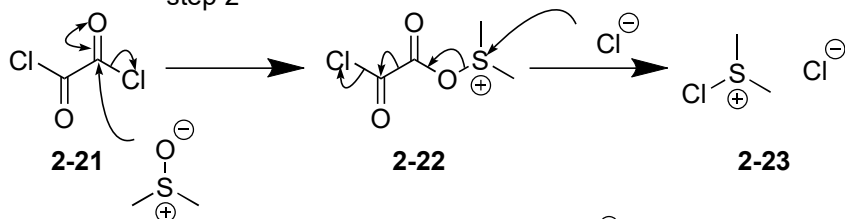
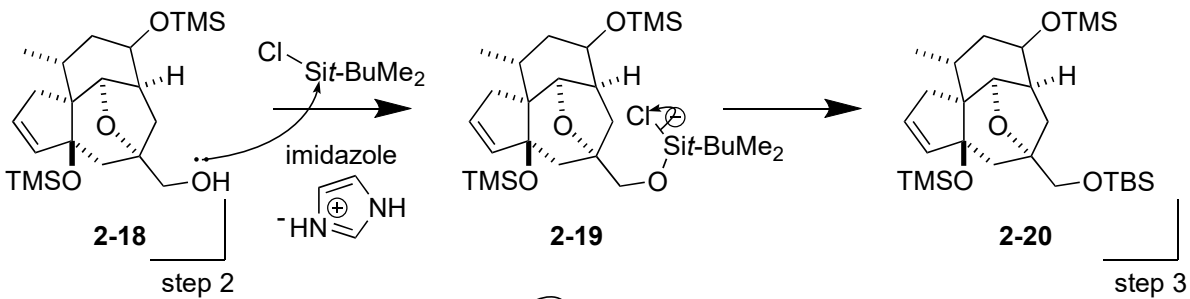
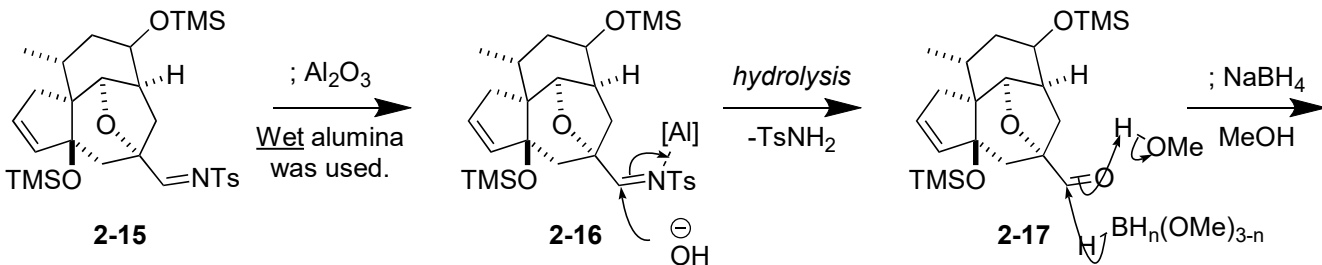
1-2-2. Isomerization from **1-22** to **1-23**

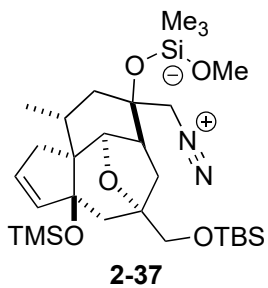
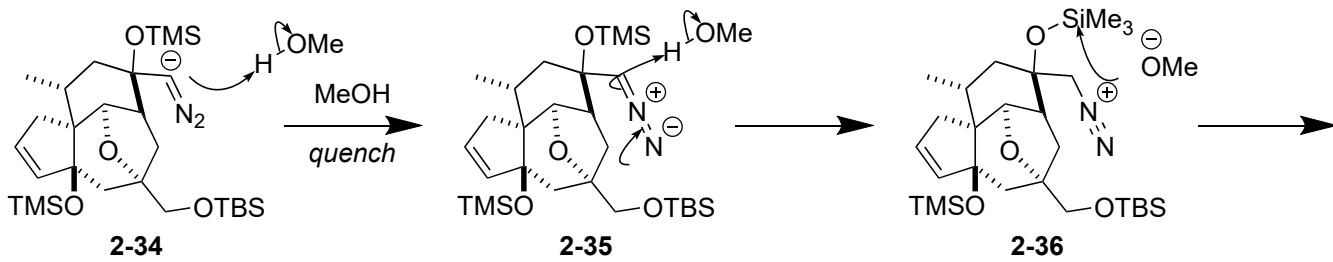




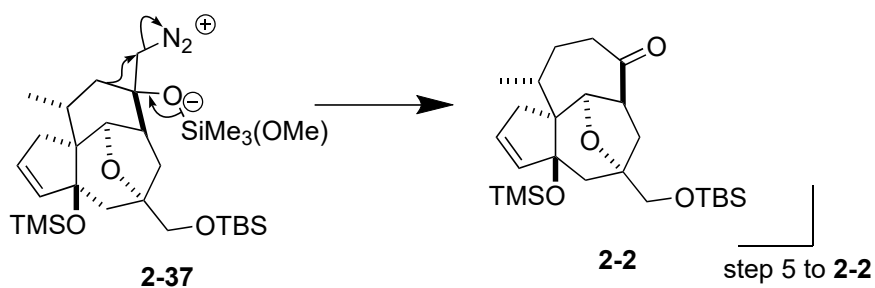
Hou, B.-L.; Li, L.-X.; Li, C.-C. *Org. Lett.* **2021**, *23*, 7771.



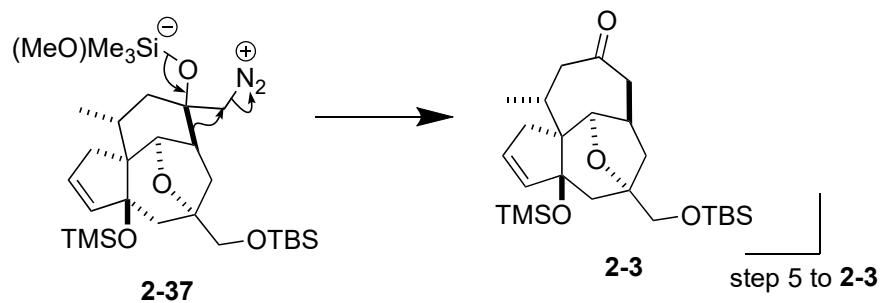




-from **2-37** to **2-2**-



-from **2-30** to **2-3**-



Discussion 1: Regio- and diastereoselectivity of [3+2] dipolar cycloaddition

