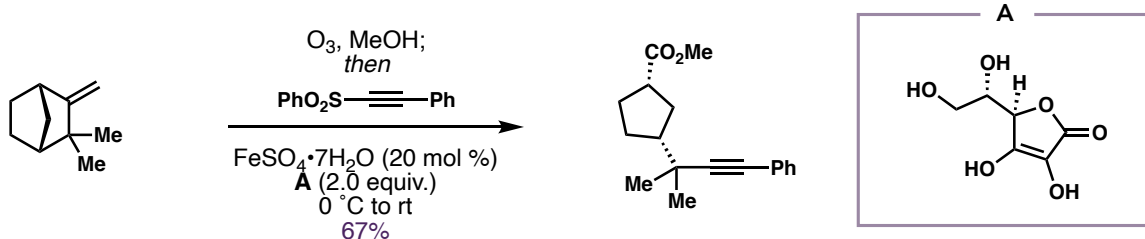
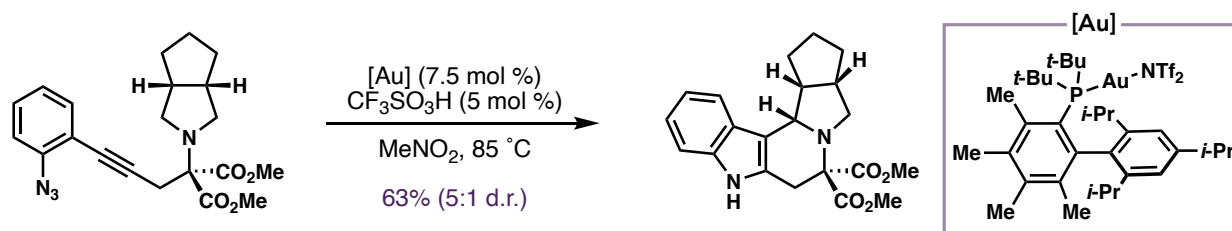


1. Propose a mechanism for the following transformation. What is the name of molecule **A**?



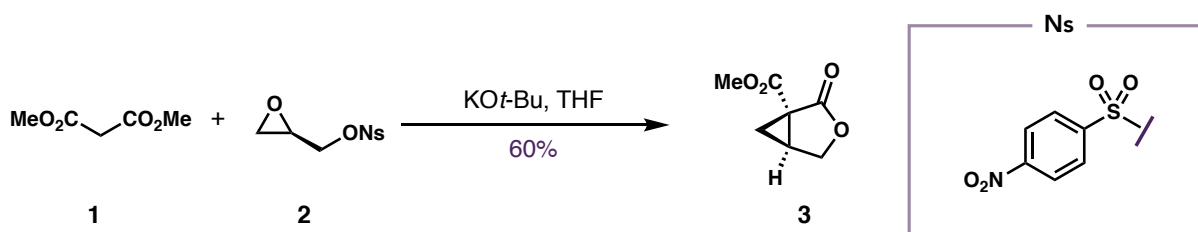
Swain, M.; Bunnell, T. B.; Kim, J.; Kwon, O. *J. Am. Chem. Soc.* **2022**, 144, 14828.

2. Propose a mechanism for the following transformation.



León Rayo, D. F.; Mansour, A.; Wu, W.; Bhawal, B. N.; Gagosz, F. *Angew. Chem. Int. Ed.* **2023**, 62, e202212893.

3. **Undergraduate Problem:** Propose a mechanism for the following transformation. What is the name of feedstock chemical used to prepare compound **2**?



Zutter, U. et al. *Org. Process Res. Dev.* **2011**, 15, 515.