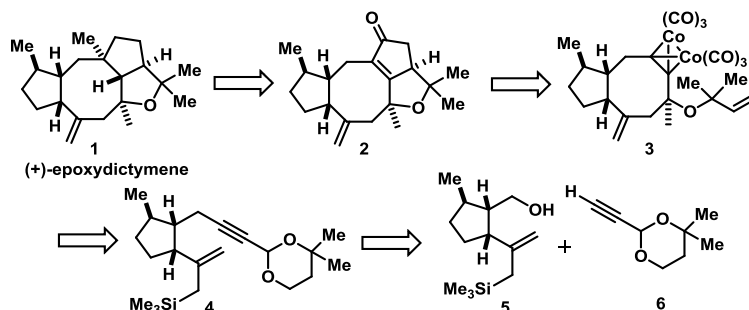


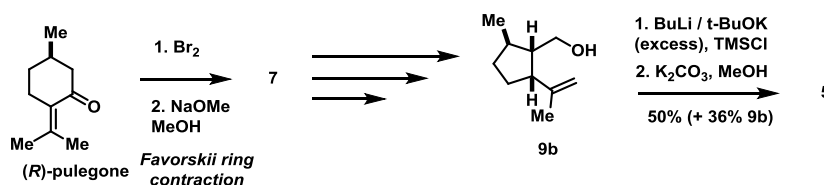
Tandem Use of Cobalt-Mediated Reactions to Synthesize (+)-Epoxydictymene

L. Schreiber, *J. Am. Chem. Soc.* **1997**, *119*, 4353

Retrosynthetic analysis:



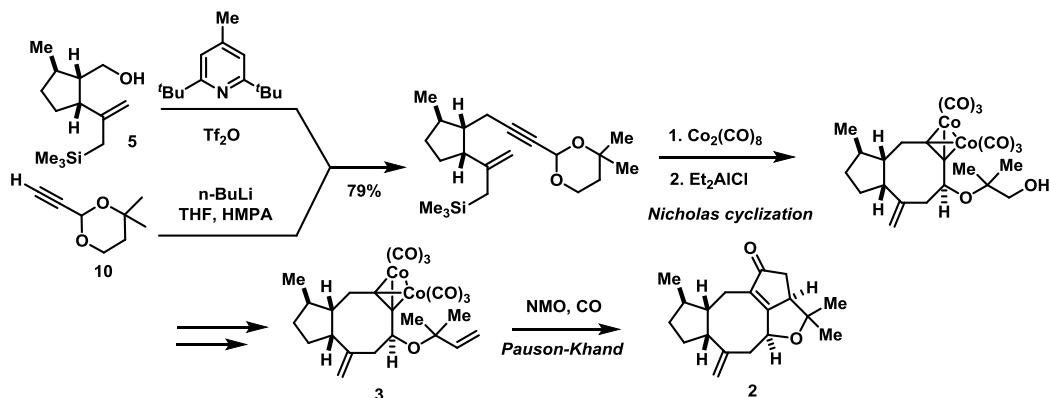
Synthesis of fragment 5:



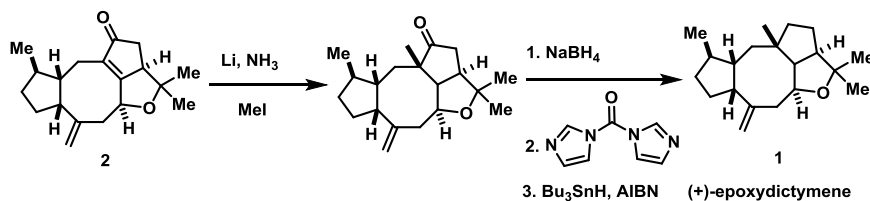
Describe the mechanisms of the Favorskii reaction and of the formation of 5.

BuLi / tBuOK mixed together is a superbases called Schlosser's base which conjugated acid's pKa is around 70 ! Explain why it is such a strong base.

Synthesis of fragment 2:



Give the mechanisms of the Nicolas and the Pauson-Khand reactions. The Pauson-Khand reaction only initiate in the presence of NMO. Explain why.



Give the mechanisms of both reactions.