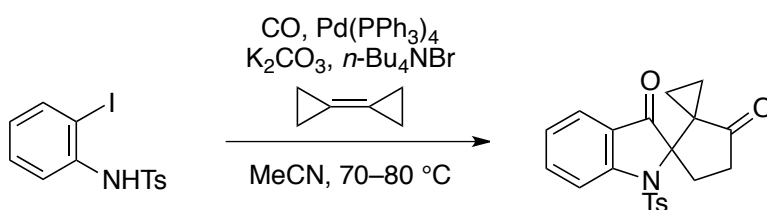


Name _____

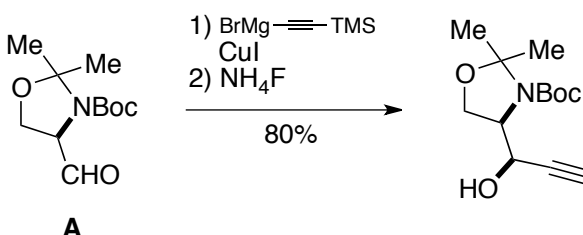
1.



演習で学ぶ有機反応機構 (化学同人) C87
A. de Meijere, *et al.*, *Eur. J. Org. Chem.*, 3268 (2002)

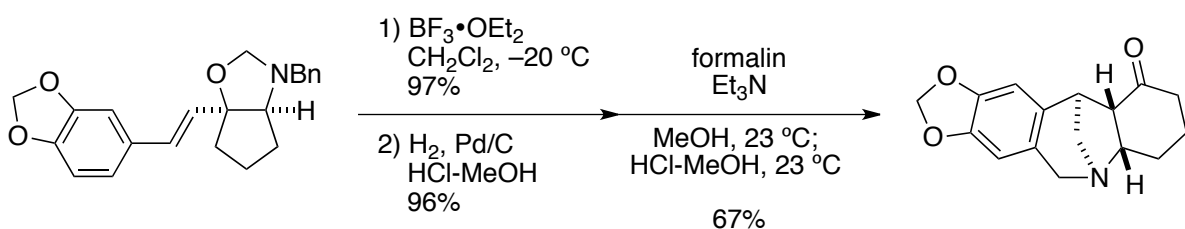
2.

- (1) Write a synthetic method of Garner's aldehyde (**A**) from D-serine below 4 steps.
(2) Give the reason why the stereoselectivity arises in the following reaction.



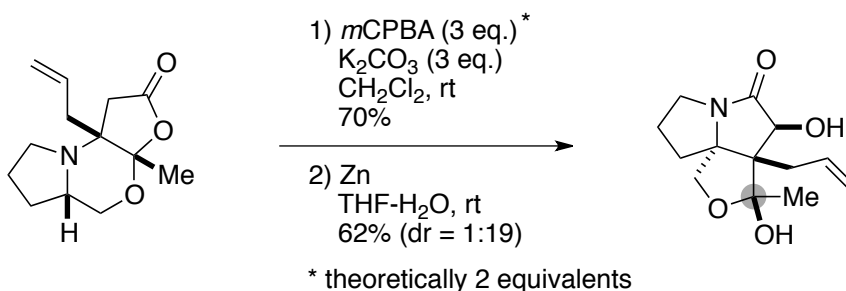
M. Bols *et al.*, *J. Chem. Soc., Perkin Trans. 1*, 2136 (2001)

3.



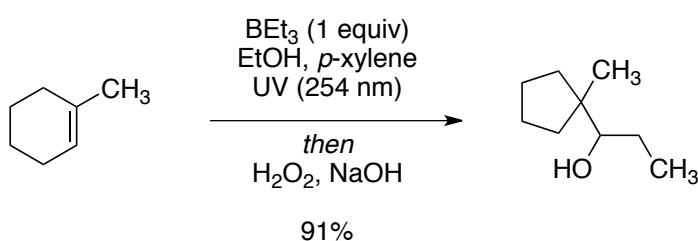
problem 09/29/2018 Q2
L. E. Overman *et al.*, *J. Org. Chem.*, **56**, 5005 (1991)

4.



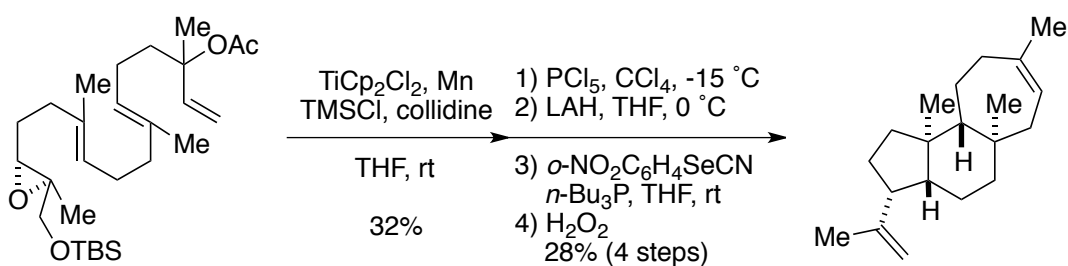
problem 12/08/2018 Q4
Y-. J. Li *et al.*, *Eur. J. Org. Chem.*, 1932 (2011)

5.



O. V. Larionov *et al.*, *J. Am. Chem. Soc.*, **139**, 11365 (2017)

6.



A. F. Barrero *et al.*, *J. Nat. Prod.*, **82**, 9 (2019)