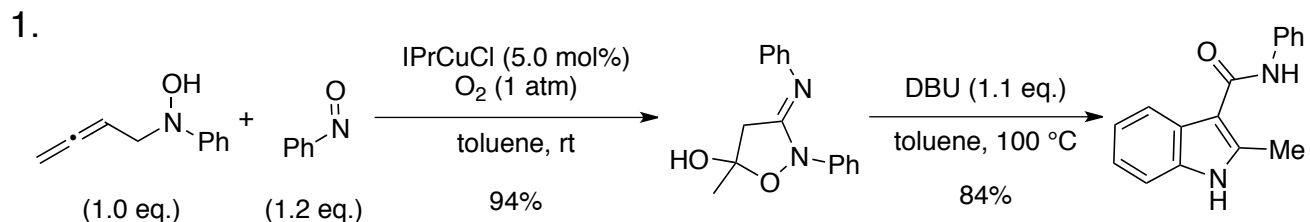
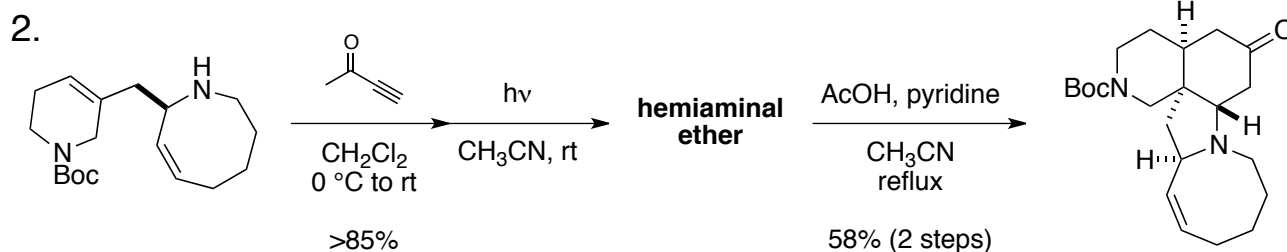


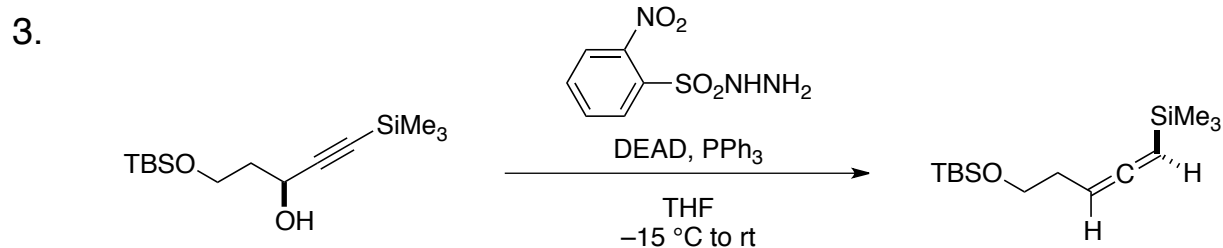
Name _____



R. S. Liu *et al.*, *Org. Lett.*, **18**, 412 (2016)

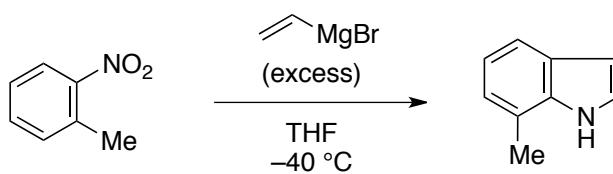


J. D. Winkler *et al.*, *Tetrahedron*, **54**, 7045 (1998)



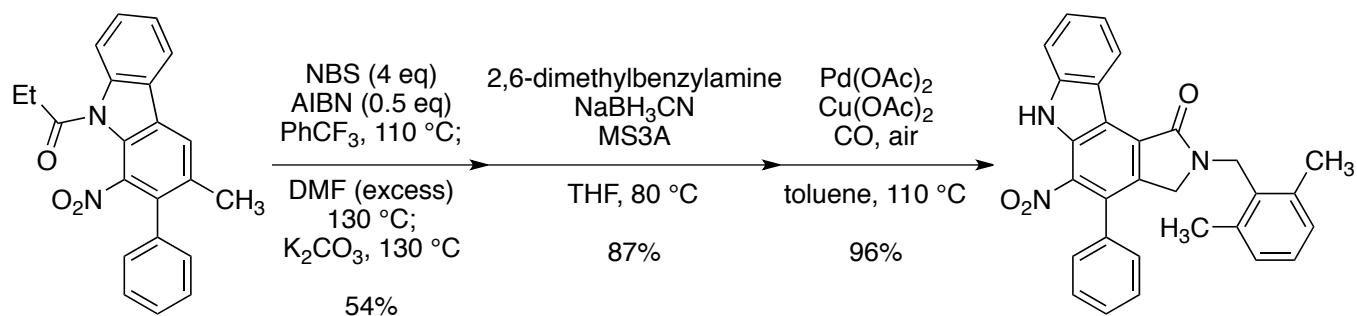
演習で学ぶ有機反応機構C66 (化学同人)
 Bartoli, G *et al.*, *J. Chem. Soc., Perkin trans. 2*, 657 (1991)

4.



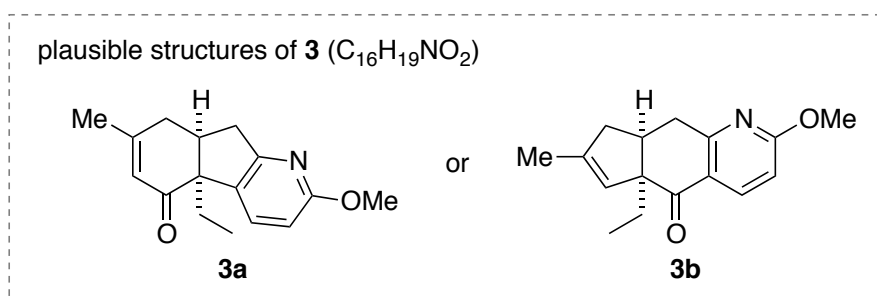
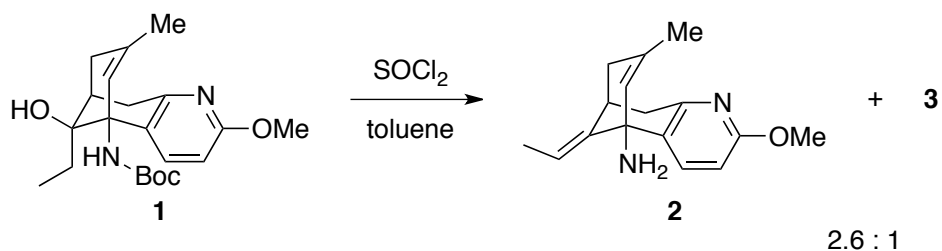
演習で学ぶ有機反応機構065 (化学同人)
Myers, A. G.; Zheng, B. J. Am. Chem. Soc., **118**, 4492 (1996)

5.



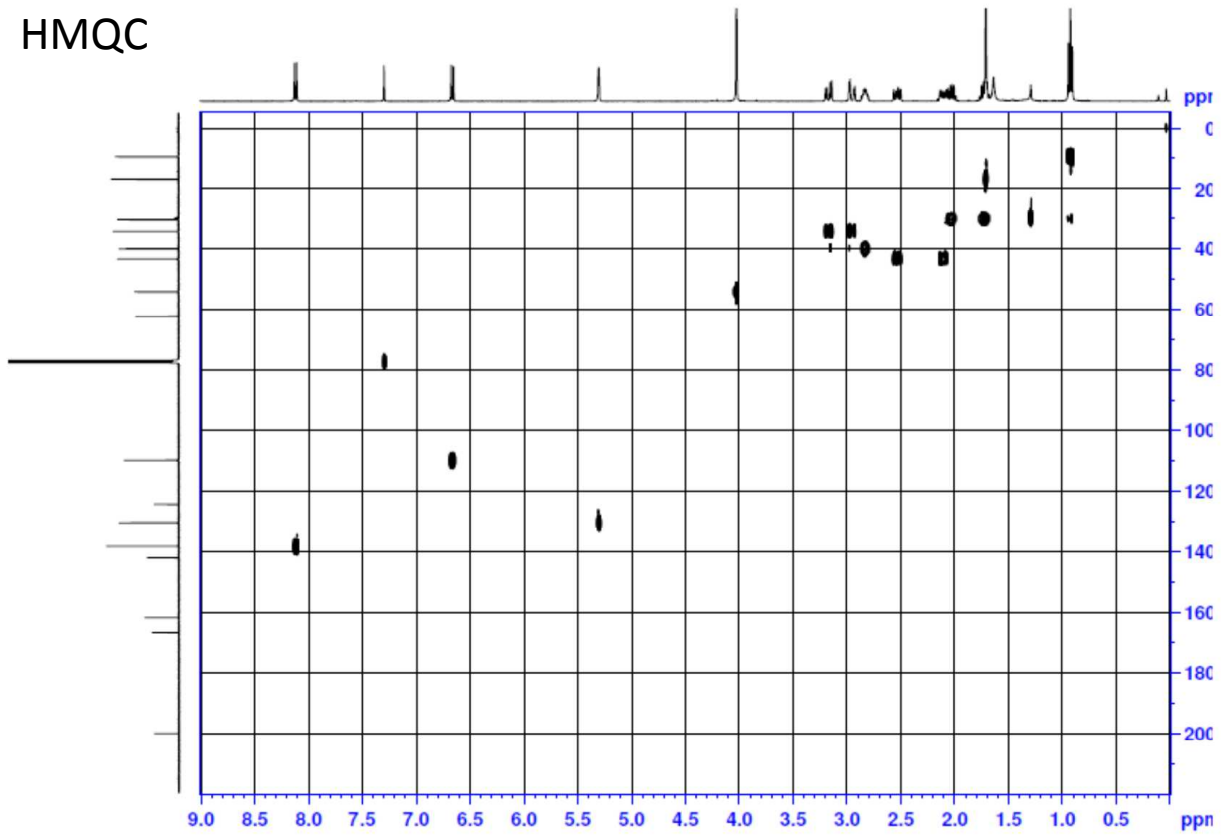
M. J. Gaunt *et al.*, *Chem. Sci.*, **7**, 2706 (2016)

6. Reaction of **1** under the designated conditions gave a 2.6:1 mixture of **2** and **3**. Through preliminary analysis, the structure of **3** was indicated as **3a** or **3b**. By using the COSY, HMQC, and HMBC spectra of compound **3**, select more proper structure for compound **3** and give the reason for your selection. In addition, draw the reaction mechanism for the transformation of **1** into **3**.

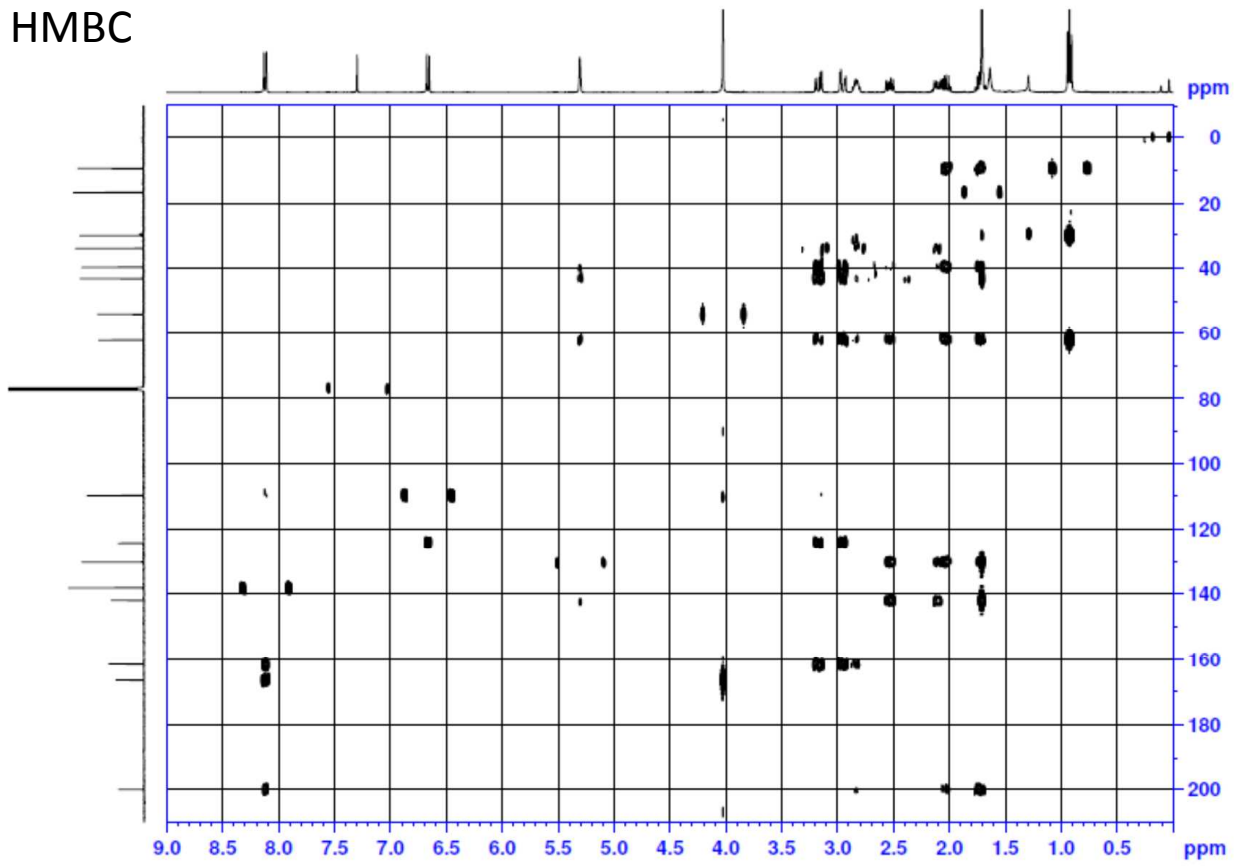


G.-Q. Lin *et al.*, *Org. Lett.*, **14**, 4446 (2012)
 G.-Q. Lin *et al.*, *Tetrahedron*, **70**, 8374 (2014)

HMQC



HMBC



COSY

