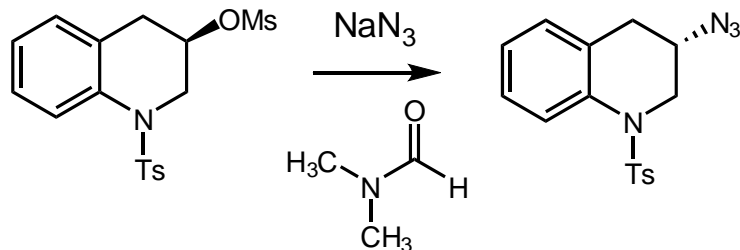


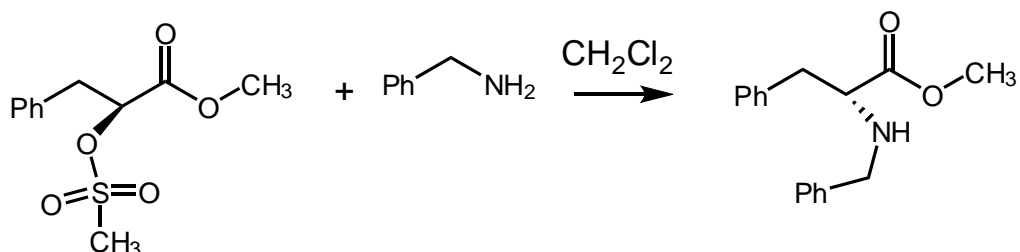
Exercise

1)



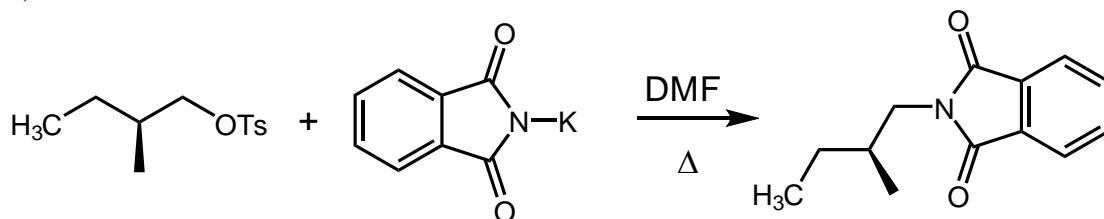
Ref.: A. R. Jagdale, R. S. Reddy and A. Sudalai, *Org. Lett.*, 2009, 11, 803-806.

2)



Ref.: E. Effenberger, U. Burkhardt & J. Willfahrt, *Angew. Chim. Int. Ed.*, 1983, 22, 65-66.

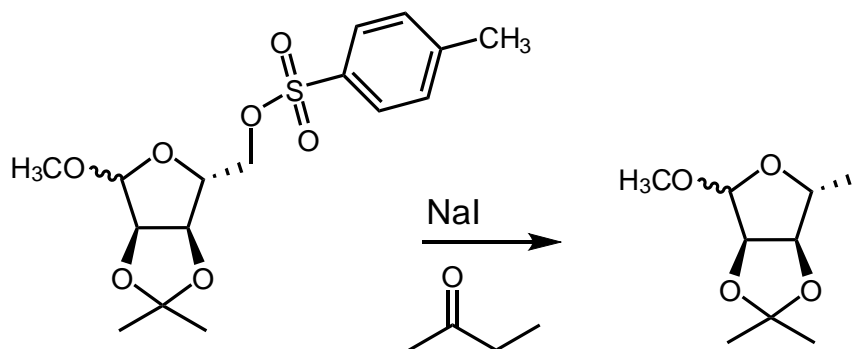
3)



Ref.: M. J. O. Anteunis, R. Callens, M. De Witte, M. F. Reyniers, L. Spiessens, *Bull. Soc. Chim. Belg.*, 1987, 96, 545-553.

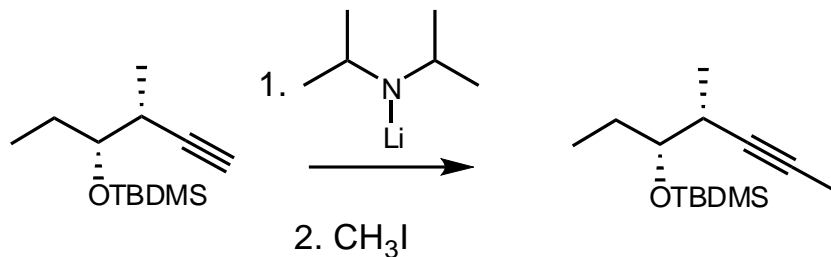
The above reaction is an example of the Gabriel Synthesis of amines.

4)



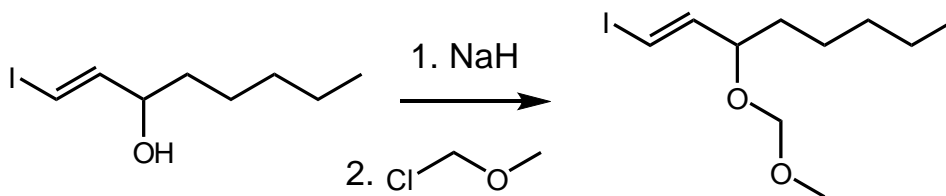
Ref.: L. J. Baird, M. S. M. Timmer, P. H. T.-Spittle & J. E. Harvey, *J. Org. Chem.*, 2009, 74, 2271-2277.

5)



Ref.: E. J. Corey, E. J. Trybulski, L. S. Melvin, Jr., K. C. Nicolaou, J. A. Secrist, R. Lett, P. W. Sheldrake, J. R. Falck, D. J. Brunelle, M. F. Haslanger, S. Kim, S.-E. Yoo, *J. Am. Chem.*, 1978, 100, 4618-4620.

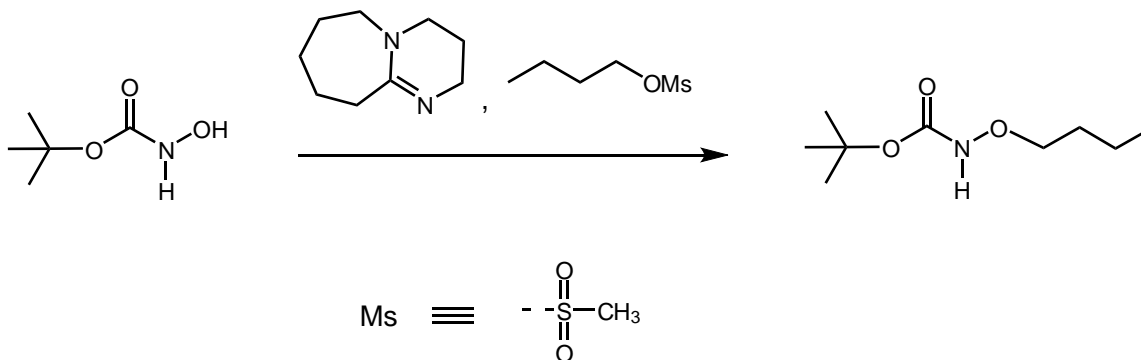
6)



Ref.: A. F. Kluge, K. G. Untch and J. H. Fried, *J. Am. Chem.*, 1972, 94, 7827-7832.

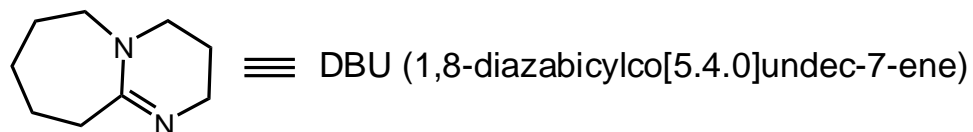
The reagent 2 has a funny common name. It is called MOM chloride (methoxymethyl chloride). The MOM group is a common protecting group for alcohols.

7)

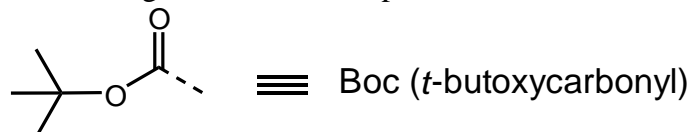


Ref.: S. Albrecht, A. Defoin and C. Tarnus, *Synthesis*, 2006, 1635-1638.

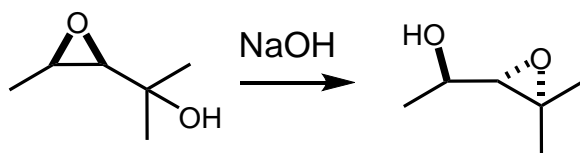
The base in the above reaction is commonly known as DBU. Due to steric hinderance, it is considered both as a good base and a poor nucleophile. The pka of the conjugate acid of DBU is about 12.



The group attached to the N atom of the starting material is commonly known as the Boc group. It is a common protecting group for nitrogen atom. Most text books show the use of this group when discussing amino acids and proteins.



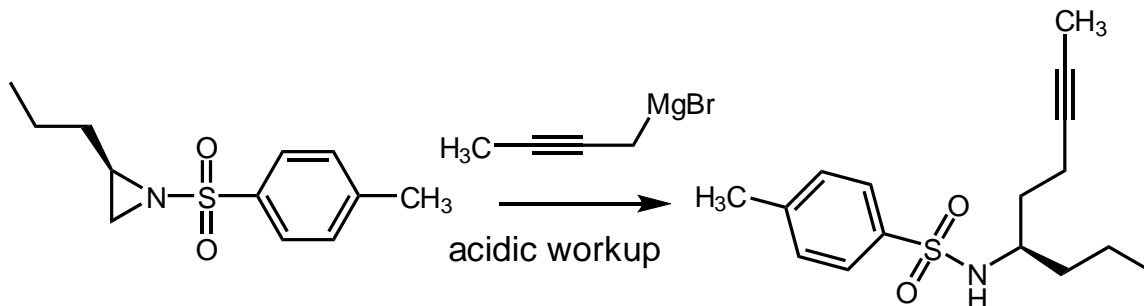
8)



Ref.: G. B. Payne, *J. Org. Chem.*, 1962, 27, 3819-3822.

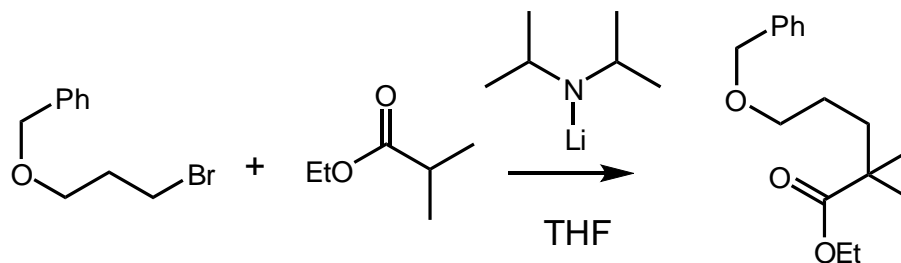
This reaction is called Payne Rearrangement.

9)



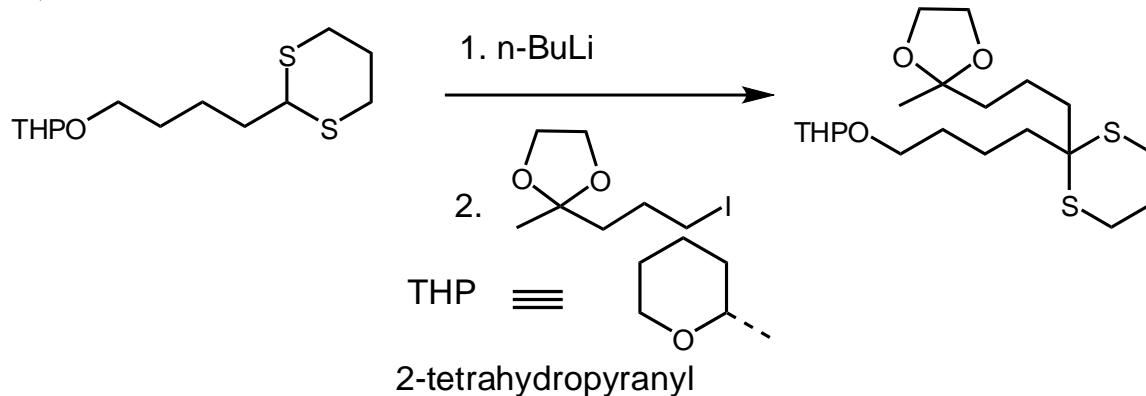
Ref.: W. Oppolzer & E. Flaskamp, *Helv. Chim. Acta*, 1977, 60, 204.

10)



Ref.: X. Huang, N. Shao, R. Huryk, A. Palani, R. Aslanian and C.S.-Dugan, *Org. Lett.*, 2009, 11, 867-870.

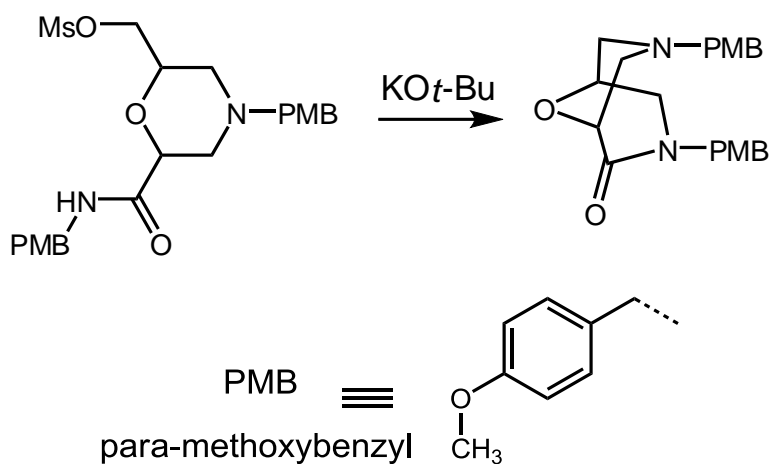
11)



Ref.: A. V. R. Rao, M. Deshmukh & G. V. M. Sharma, Tetrahedron, 1987, 43, 779-784.

THP is a common protecting group for alcohols in organic synthesis.

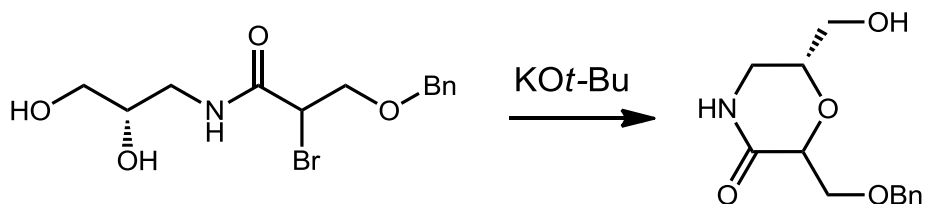
12)

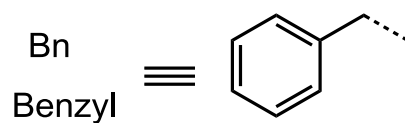


Ref.: M. Breuning, M. Steiner, C. Mehler, A. Paasche & D. Hein, J. Org. Chem., 2009, 74, 1407-1410.

The PMB group is a common protecting group in organic synthesis.

13)

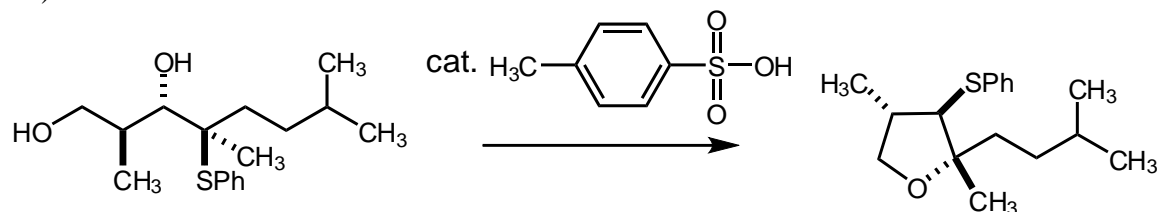




Ref.: M. Breuning, M. Steiner, C. Mehler, A. Paasche & D. Hein, *J. Org. Chem.*, 2009, 74, 1407-1410.

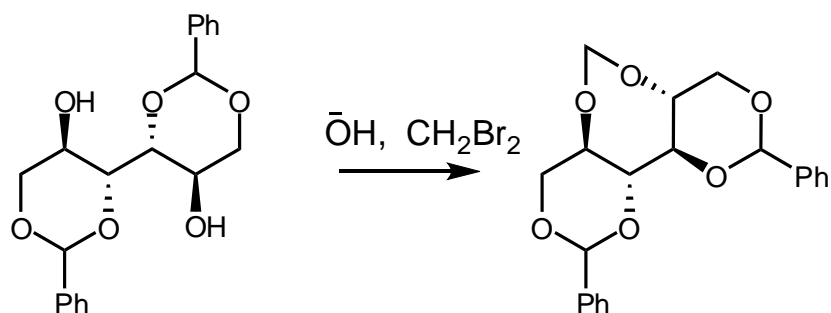
The Bn is a common protecting group in organic synthesis.

14)



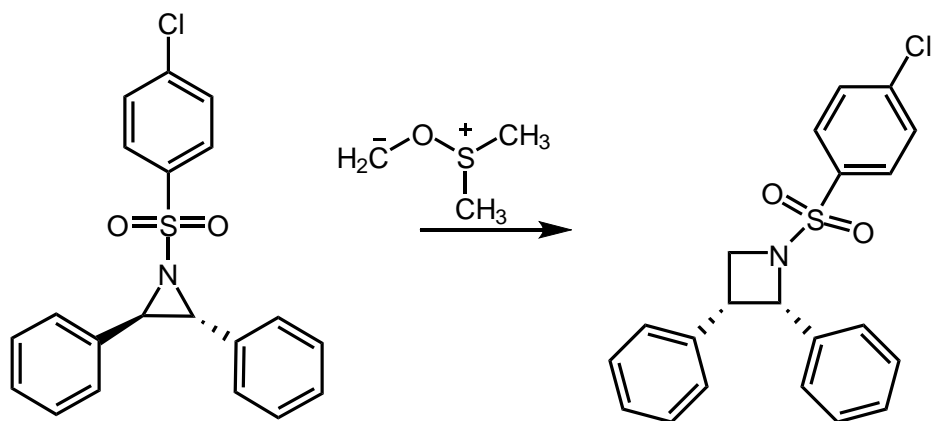
Ref.: V. K. Aggarwal, I. Coldham, S. McIntyre, F. H. Sansbury, M.-J. Villa & S. Warren, *Tetrahedron Lett.*, 1988, 4885-4888.

15)



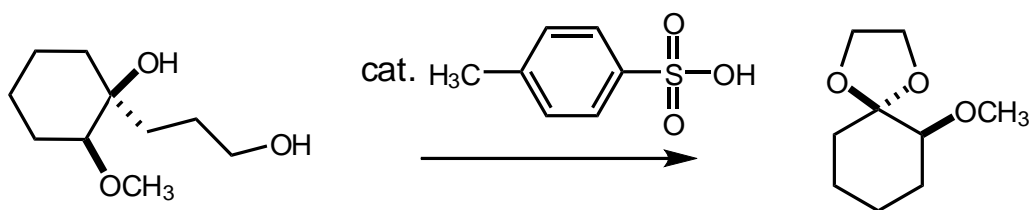
Ref.: K. Jayakanthan, S. Mohan and B. M. Pinto, *J. Am. Chem. Soc.*, 2009, 131, 5621-5626.

16)



Ref.: U. K. Nadir, R. L. Sharma & V. K. Koul, *Tetrahedron*, 1989, 45, 1851-1858.

17)



Ref.: L. A. Paquette and J. T. Negri, J. Am. Chem. Soc., 1991, 113, 5072-5073.