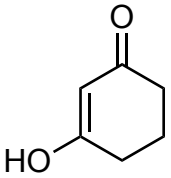
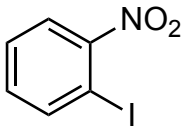
# Total Synthesis of (±)-Aspidophylline

W. Ren, Q. Wang, J. Zhu, *Angew. Chem. Int. Ed.* **2014**, *53*, 1818–1821.

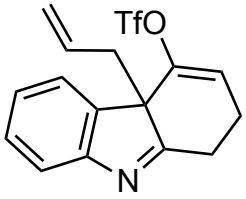



1) $K_2CO_3$, **1**
2) $K_2CO_3$, allyl bromide
3) Toluene, 180 °C
4) TMSCl, DMAP, $Et_3N$
5) CsF, $PhNTf_2$
6) $NH_4OAc$, $TiCl_3$

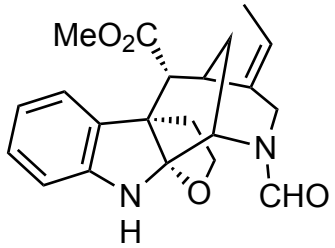



**1**

3) Named reaction? Claisen rearrangement




**A**

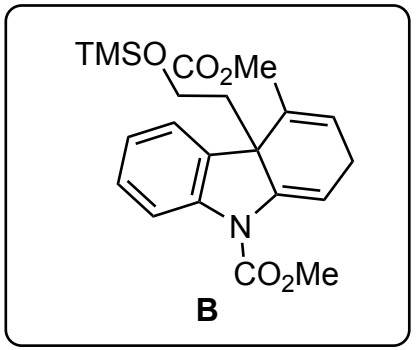



**(±)-Aspidophylline**

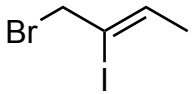
**A**

7) NaH, $ClCO_2Me$
8) $OsO_4$, NMO *then* $NaIO_4$
9) $NaBH_4$ *then* HCl (1 M)
10) $Pd(PPh_3)_4$, $Et_3N$, CO, MeOH
11) TMSOTf, 2,6-lutidine

8) Named reaction? Upjohn dihydroxylation then glycol cleavage
9) Two reactions take place



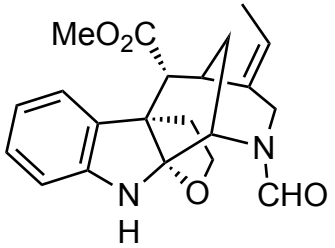

**B**




**2**

12) $NaN_3$, CAN
13) $PPh_3$, $H_2O$
14) $Cs_2CO_3$, **2**
15) *t*-BuLi, HMPA, TMSCl
16) $Ac_2O$, formic acid
17) NaOMe, MeOH

12) Azidoalkoxylation
13) Named reaction? Staudinger reduction




**(±)-Aspidophylline**