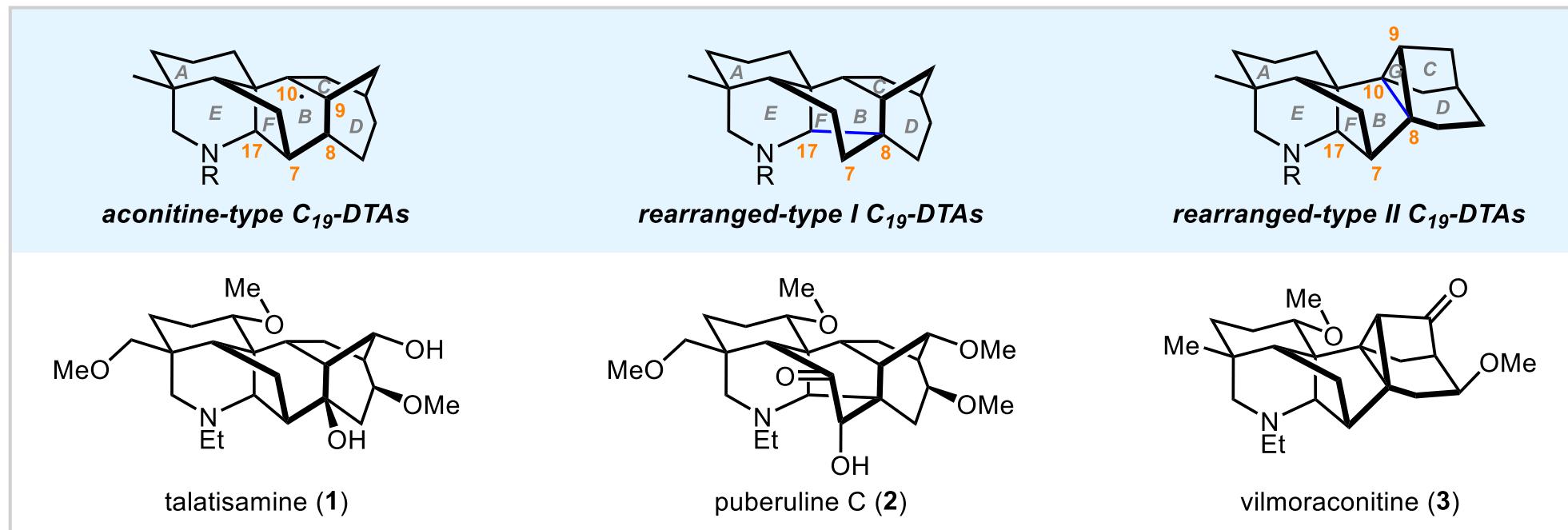
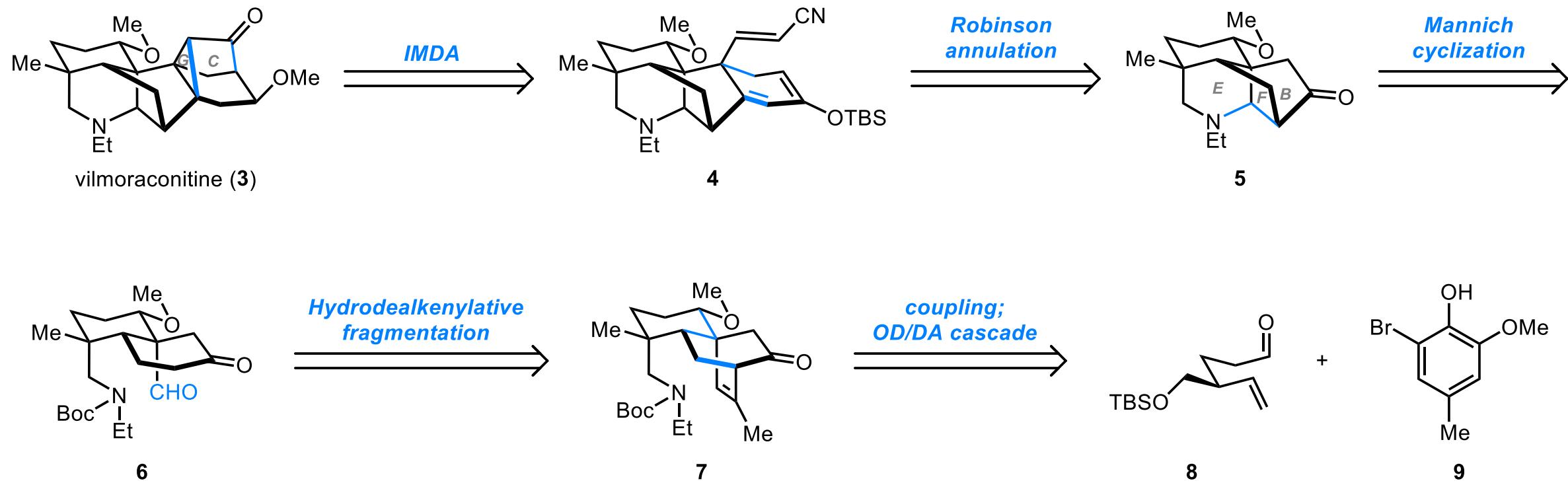


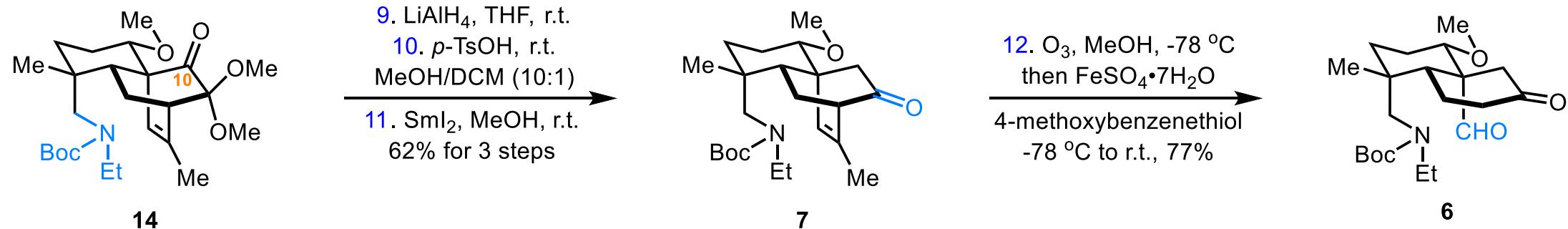
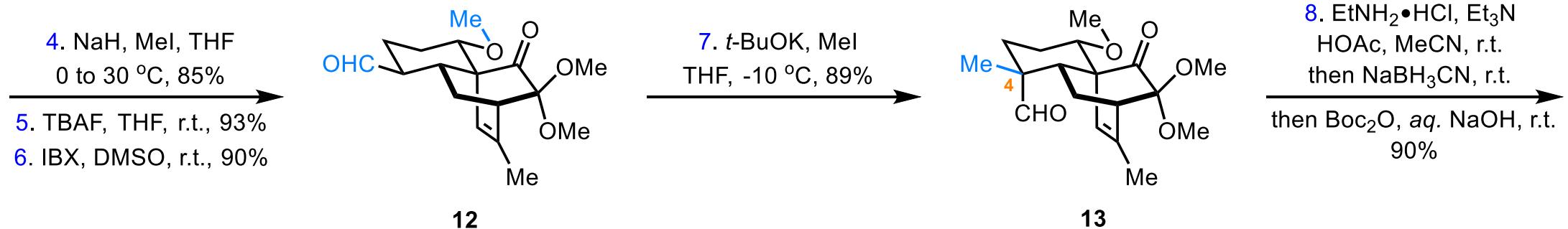
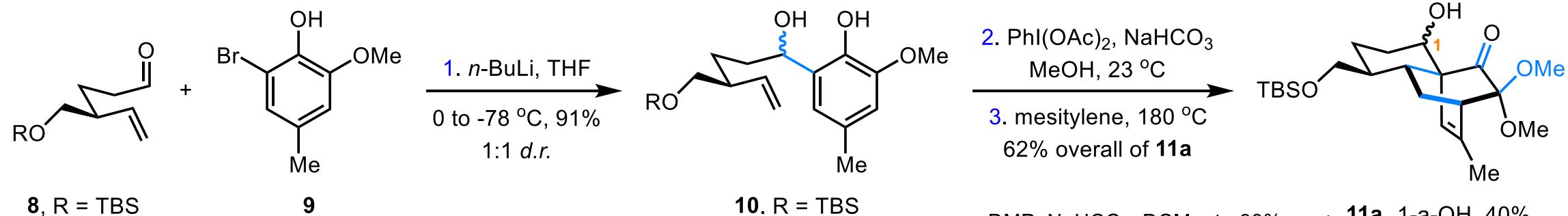
Total Synthesis of Vilmoraconitine

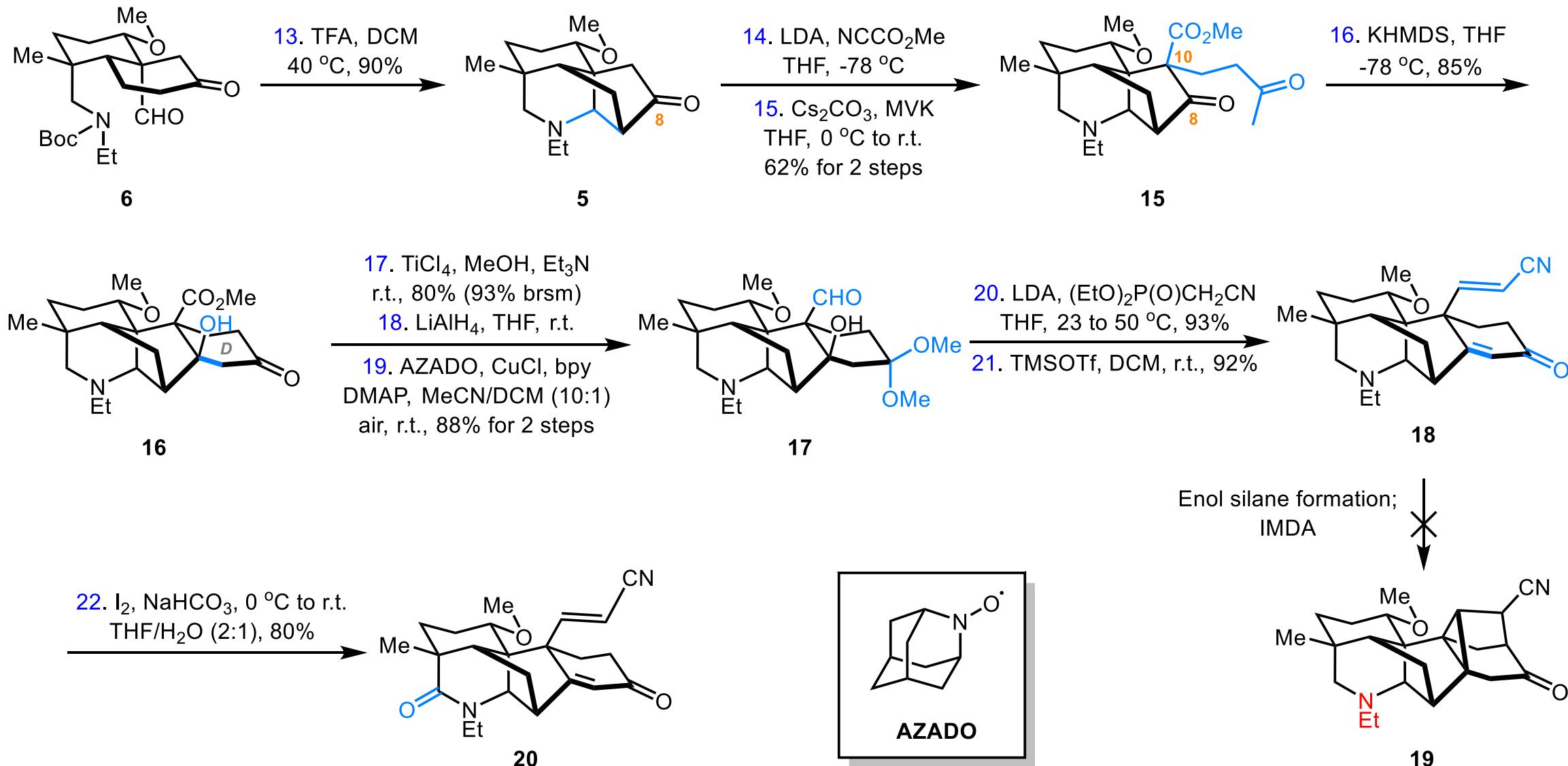
Jiujian Ji, Jiajun Chen, Sixun Qin, Wanye Li, Jun Zhao, Guozhao Li, Hao Song, Xiao-Yu Liu*, and Yong Qin*

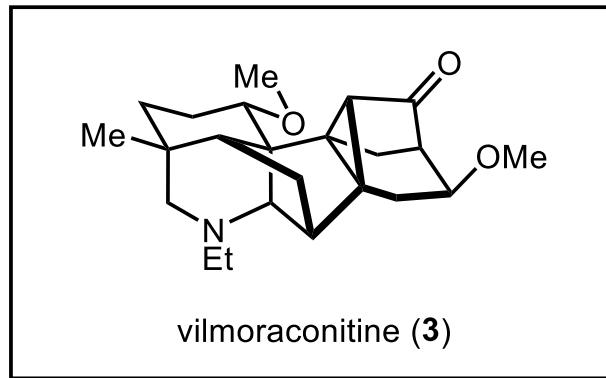
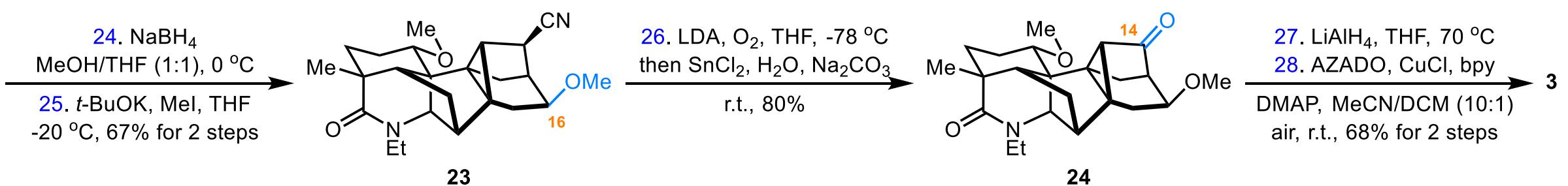
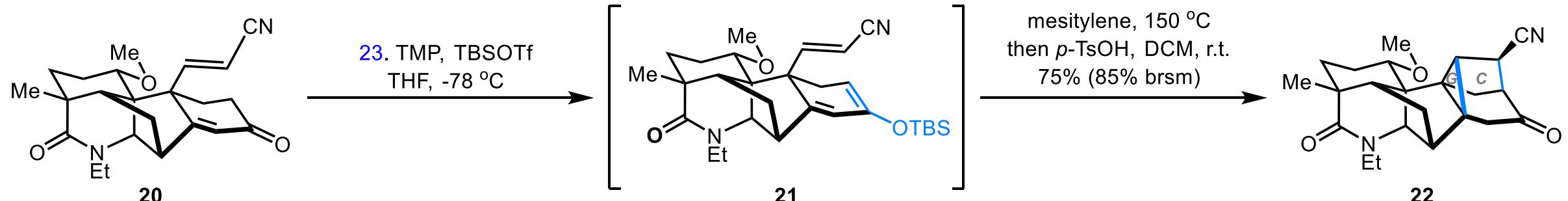


Retrosynthetic Analysis





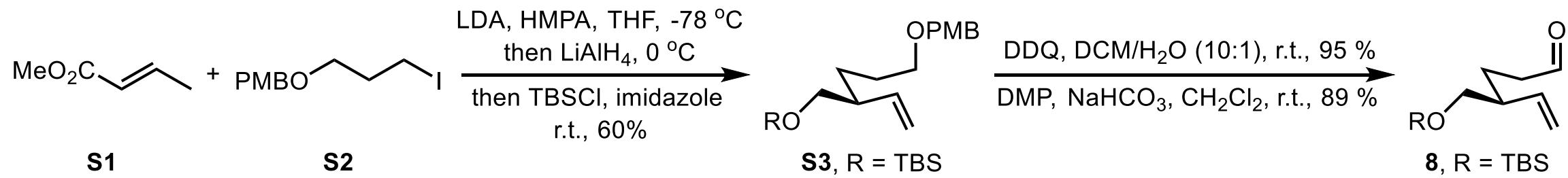






Before Step 1

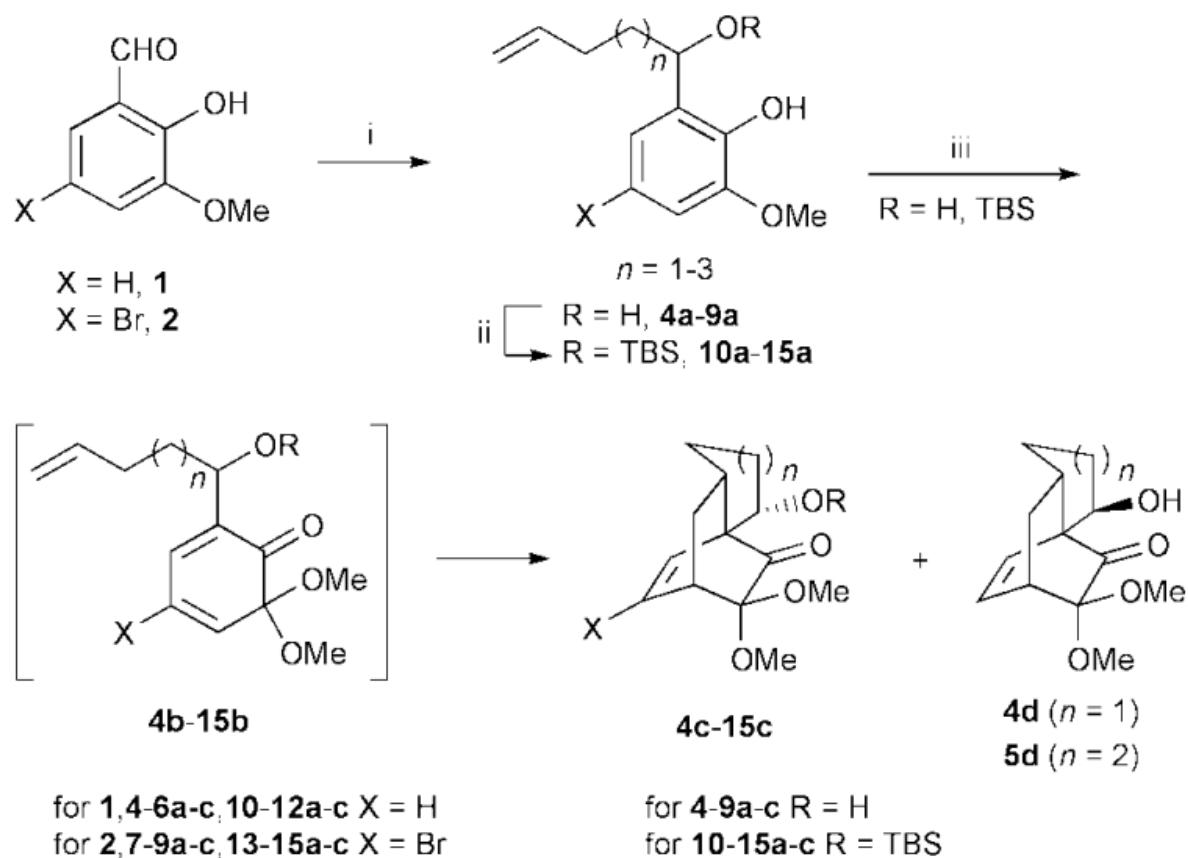
Preparation of **8**





Step 2

OD / DA Dimerization & retro DA / IMDA cascade

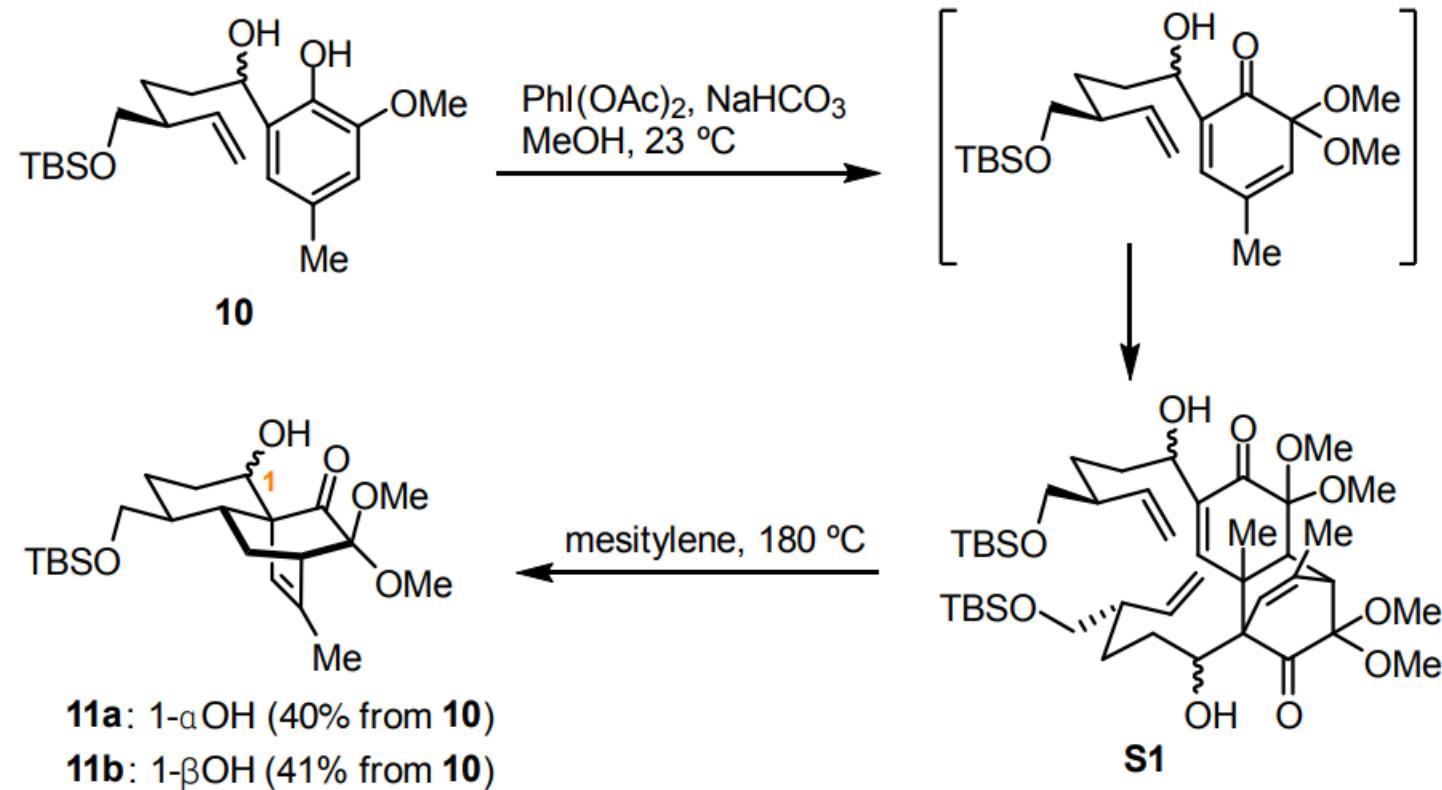


Scheme 2 Reagents and conditions: (i) $\text{CH}_2\text{CH}(\text{CH}_2)_{n+1}\text{MgBr}$, THF, rt (80–92%); (ii) TBSOTf, 2,6-lutidine, CH_2Cl_2 , -10°C (89–100%); (iii) DAIB, MeOH (Methods A and B).



Step 2

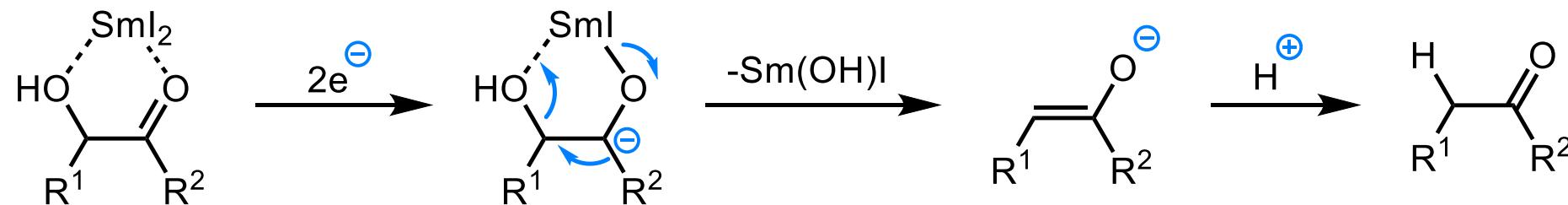
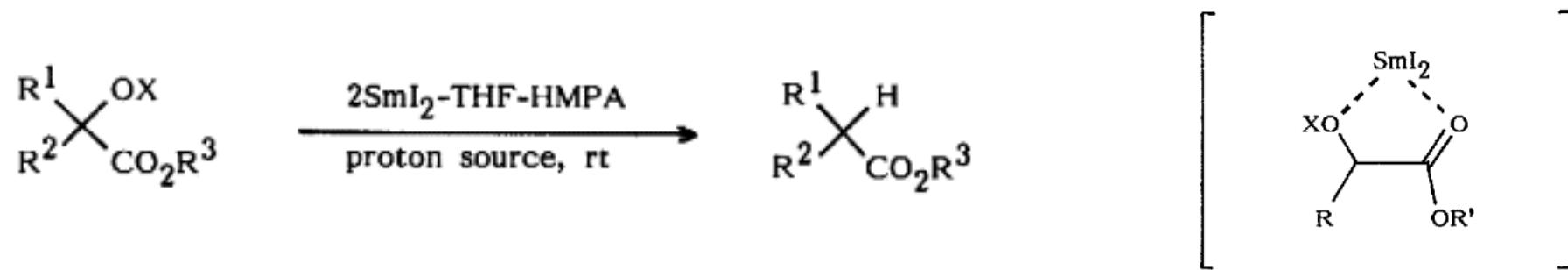
OD / DA Dimerization & retro DA / IMDA cascade



←

Step 11

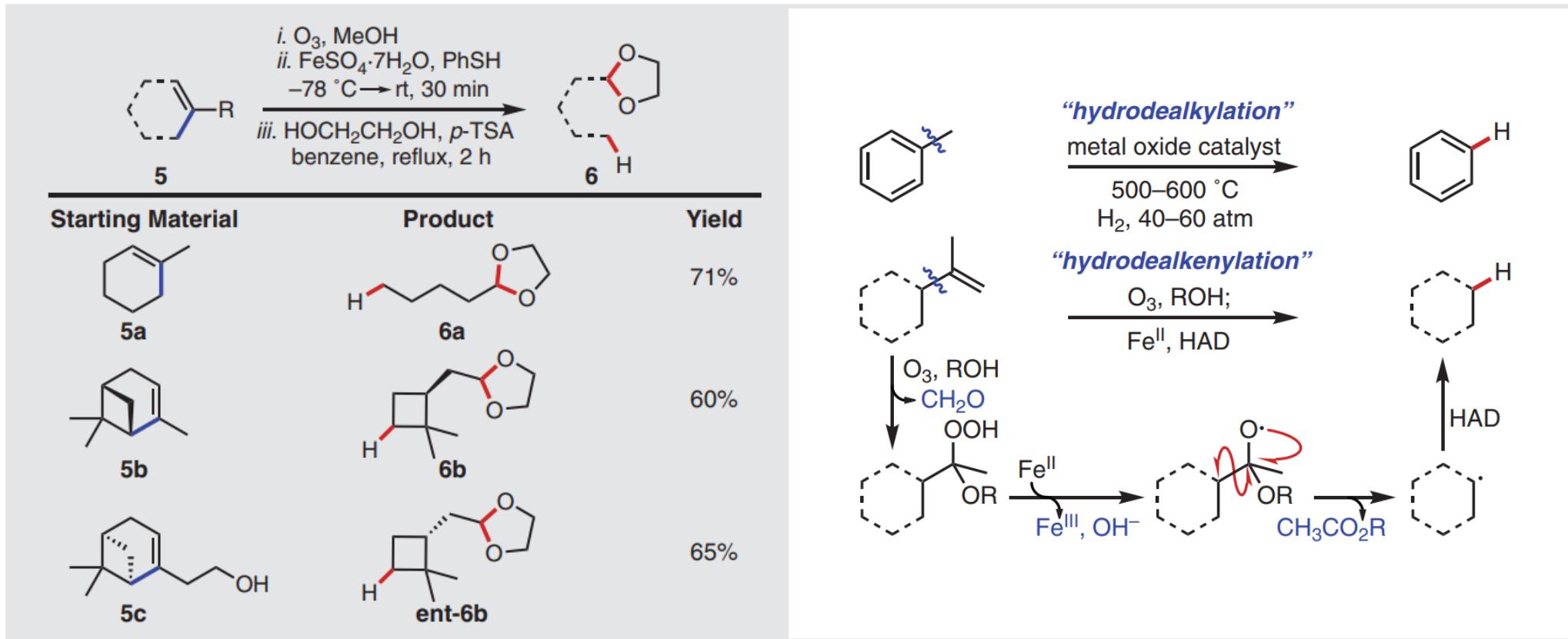
Deoxygenation of α -Hydroxy Ketones with SmI_2





Step 12

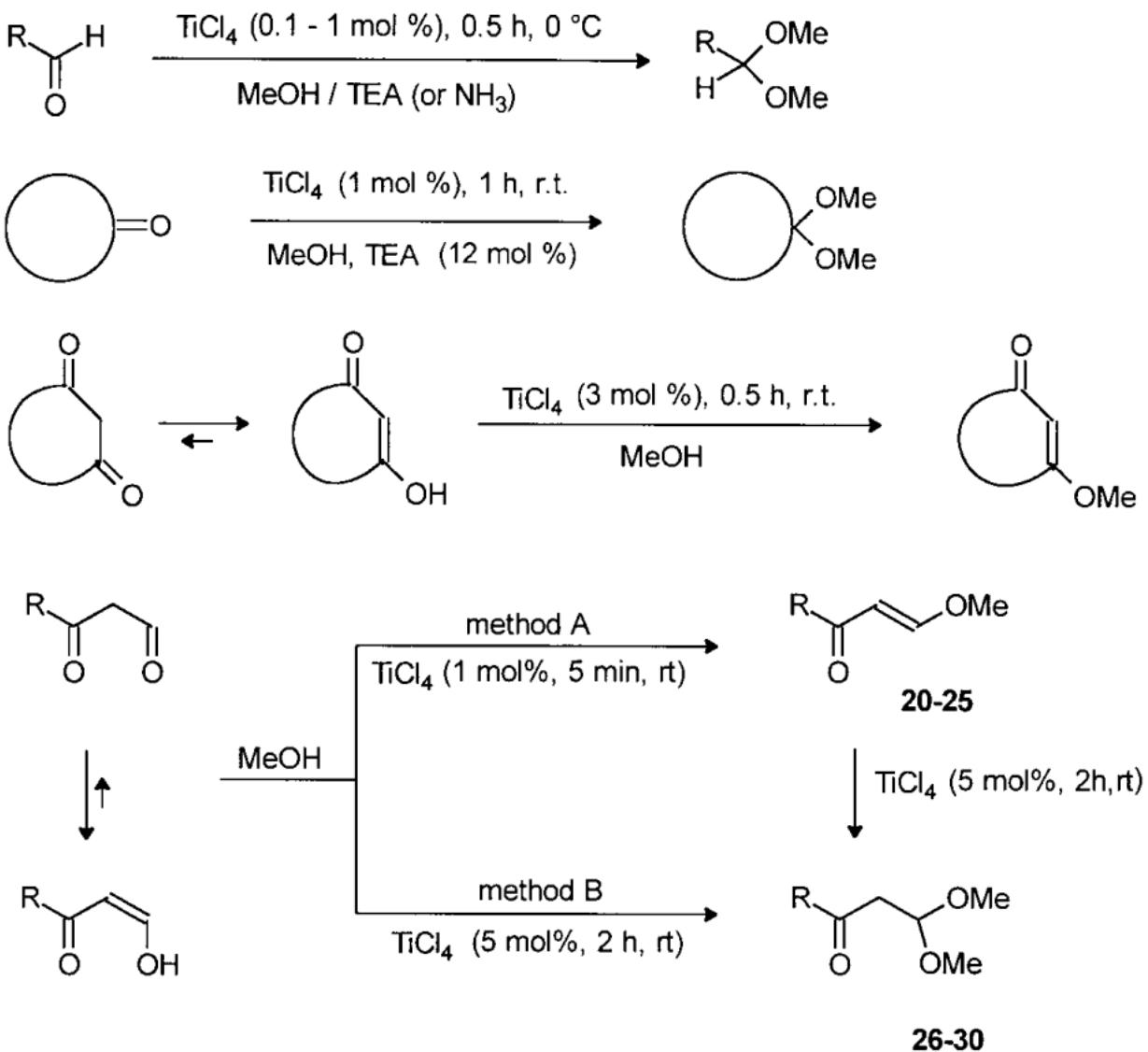
Hydrodealkenylative Fragmentation





Step 17

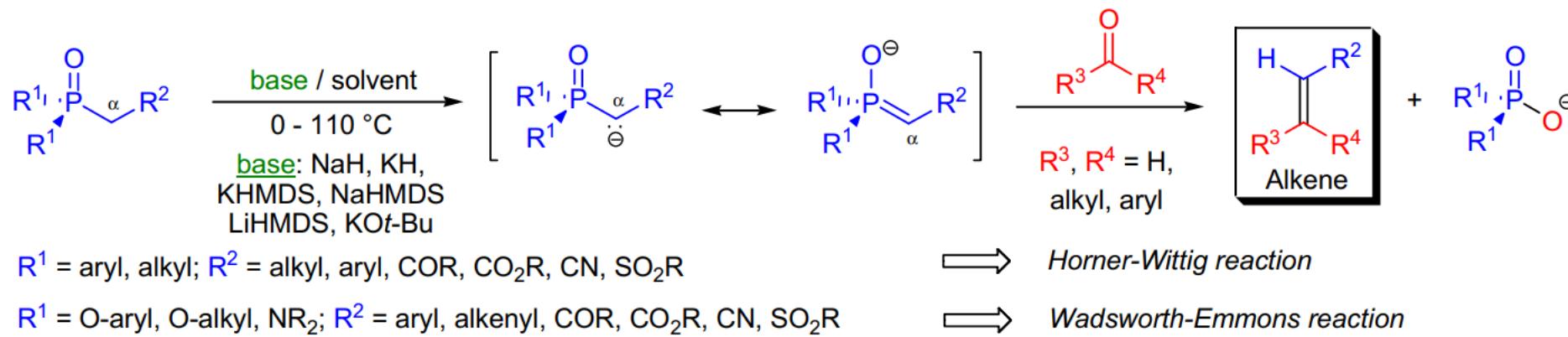
Mild Acetalisation catalysed TiCl_4





Step 20

Horner-Wadsworth-Emmons Olefination

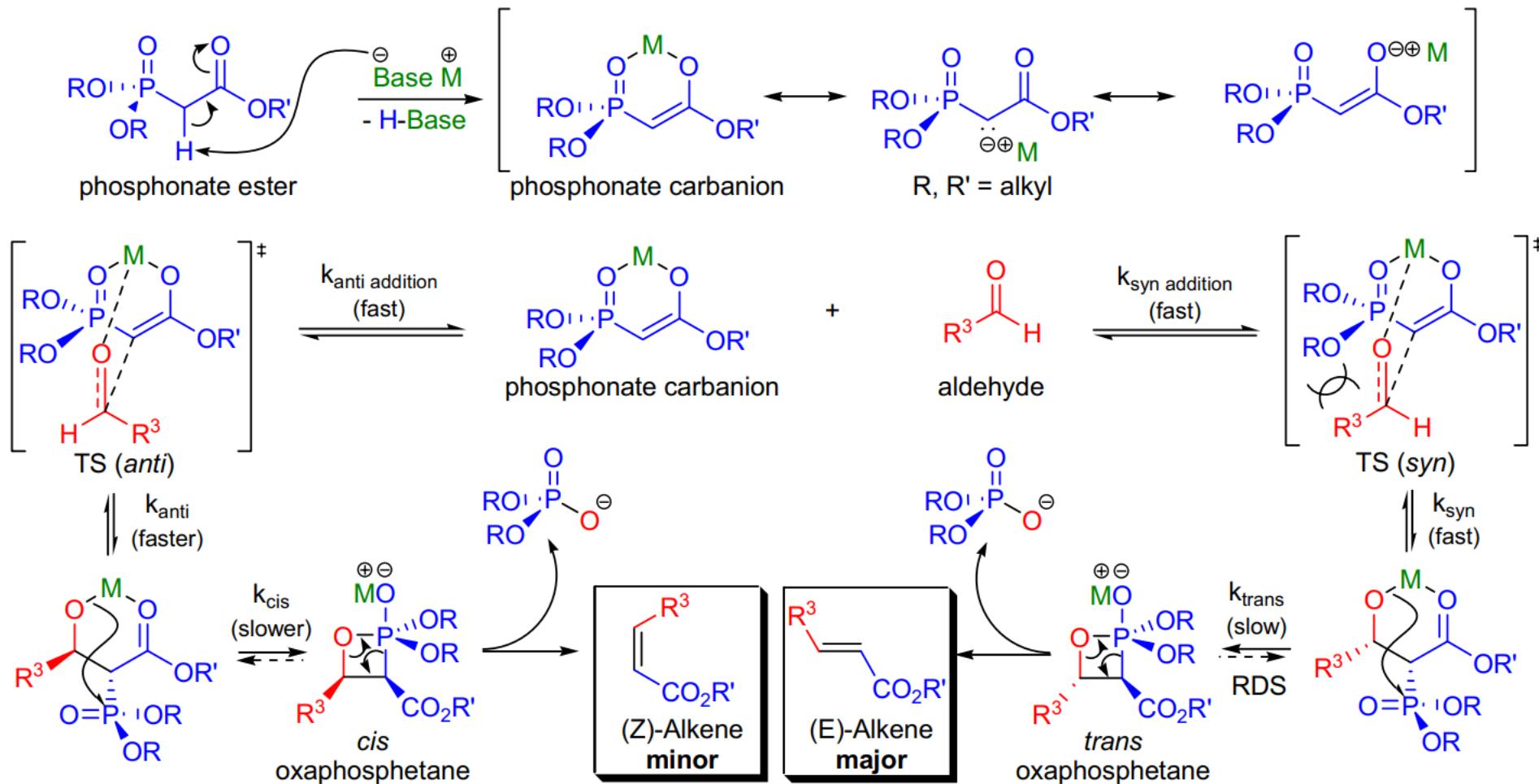




Step 20

Horner-Wadsworth-Emmons Olefination

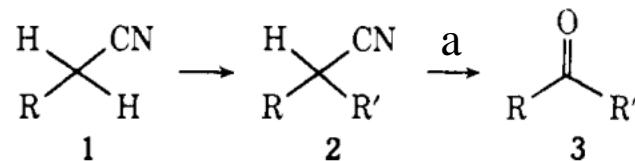
Mechanism: ^{47,9,48,11}





Step 26

Oxidative Decyanation of Secondary Nitriles



a: LDA, O₂, THF, -78°C; then SnCl₂, *aq.* HCl

