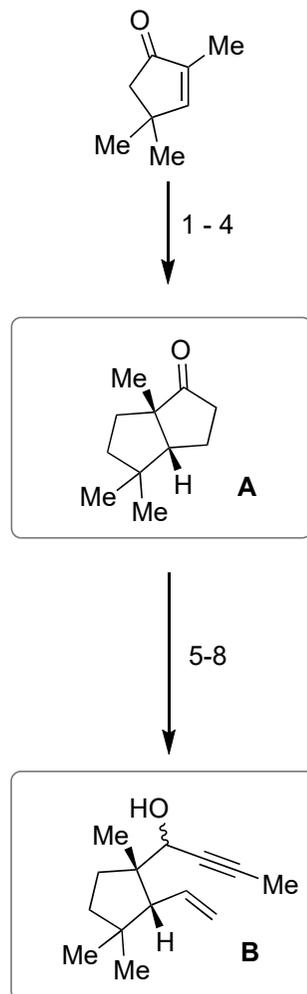
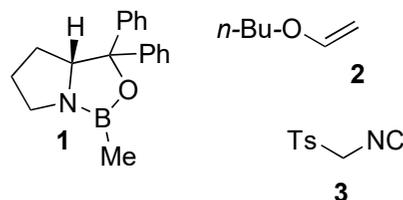


Total Syntheses of (-)-Conidiogenone B, (-)-Conidiogenone, and (-)-Conidiogenol

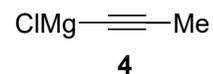
Bo Xu, Wen Xun, Shaobin Su, Hongbin Zhai *Angew. Chem. Int. Ed.* **2020**, *59*, 16475–16479.



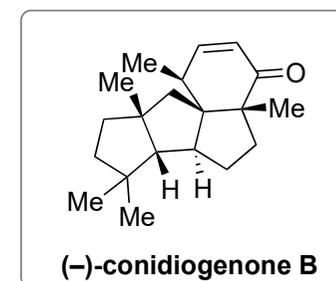
- 1) **1**, catecholborane, toluene/THF
- 2) **2**, Hg(OAc)₂, Et₃N, 170 °C
- 3) **3**, *t*-BuOK, THF
- 4) PhSiH₃, Fe(acac)₃, HFIP/EtOH



- 5) TMSOTf, Et₃N, CH₂Cl₂; *then* MeReO₃, pyridine, H₂O₂, HOAc/MeCN
- 6) **4**, THF
- 7) Pb(OAc)₄, CH₂Cl₂; *then* CeCl₃, NaBH₄, MeOH
- 8) *n*-Bu₃P, *o*-NO₂C₆H₄SeCN; *then* H₂O₂

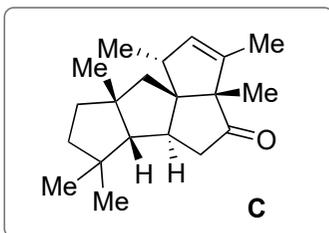


- 1) Name of reaction?
hint: the new stereocenter is (S)-configured
Corey–Bakshi–Shibata (CBS) reduction
- 2) Name of reaction?
Claisen rearrangement
- 3) Name reagent + name of reaction
TosMIC, van Leusen reaction
- 5) Name of reaction?
hint: standard conditions with *m*-CPBA
Rubottom oxidation
- 8) Name of reaction?
Grieco elimination

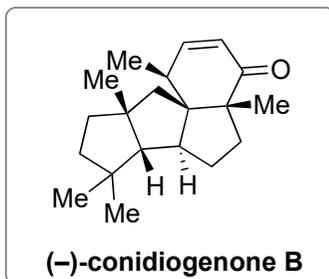


B

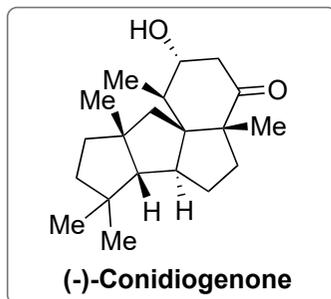
9-10



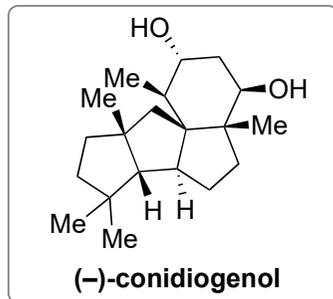
11-14



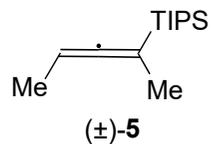
15-16



17)



- 9) $\text{Co}_2(\text{CO})_8$, CH_2Cl_2 , TFA, $\text{BH}_3 \cdot \text{SMe}_2$; then NMO
10) **5**, TiCl_4 , CH_2Cl_2 ; then $\text{BF}_3 \cdot (\text{HOAc})_2$



- 11) NaBH_4 , MeOH
12) NaH, CS_2 , MeI, THF
13) $n\text{-Bu}_3\text{SnH}$, AIBN, toluene
14) O_3 , CH_2Cl_2 ; then Me_2S ; then 3 M HCl, THF, reflux

- 15) Triton B, TBHP, THF
16) Sml_2



- 17) *L*-Selectride

- 9) Hint: Two reactions will occur in series. Name both reactions.
Nicholas reaction (reductive),
Pauson-Khand reaction

- 13) Name of the reaction?
Barton-McCombie reaction