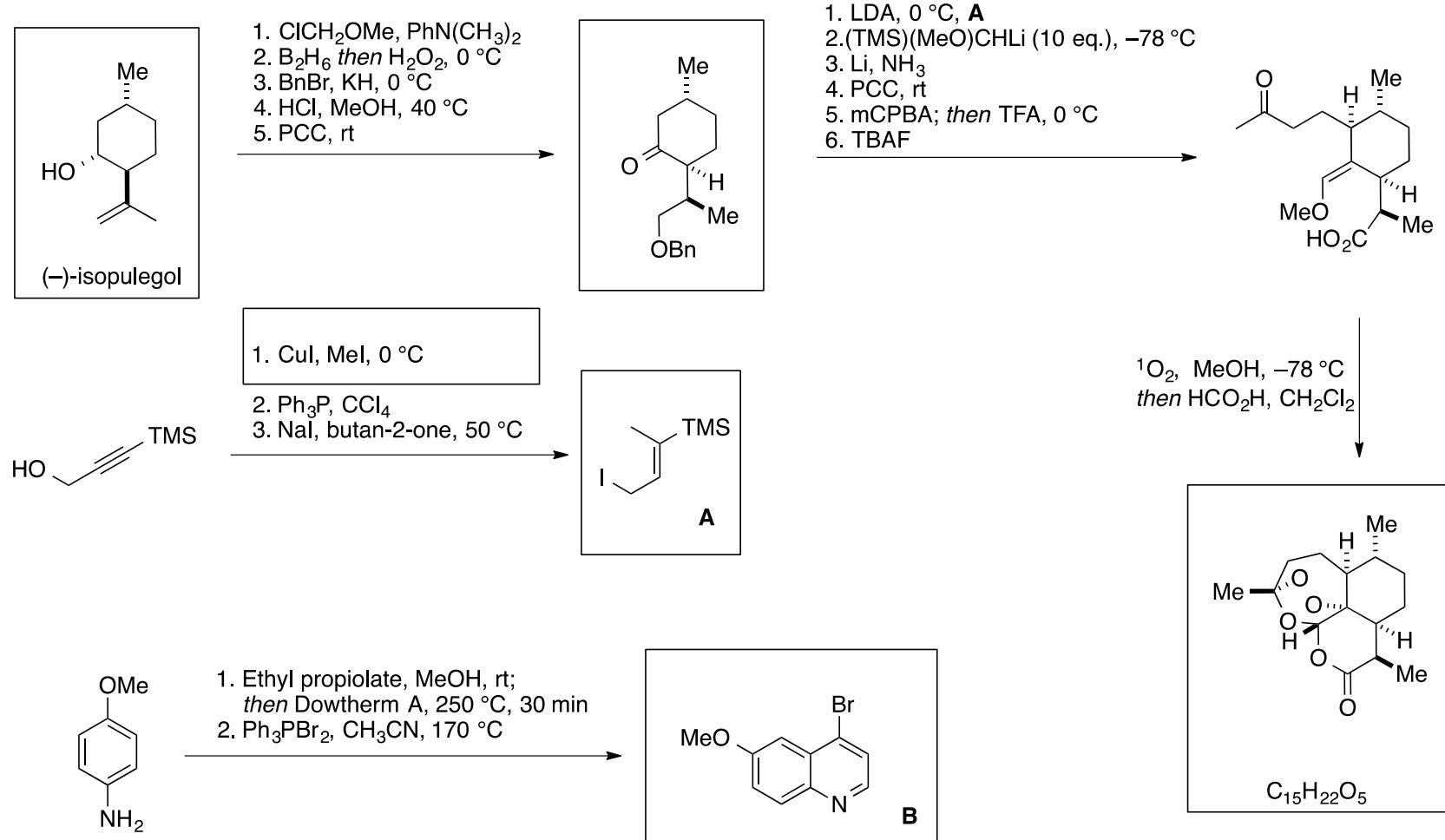
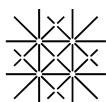


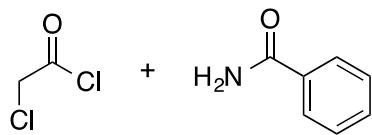
E71: Synthesis of (-)-Artemisinin and Quinine^[1,2]



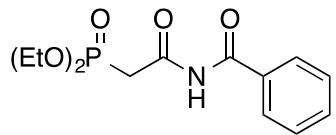
^[1] G. Schmid, W. Hofheinz, *JACS* **1983**, *105*, 624.

^[2] I. T. Raheem, S. N. Goodman, E. N. Jacobsen, *JACS* **2004**, *126*, 706.



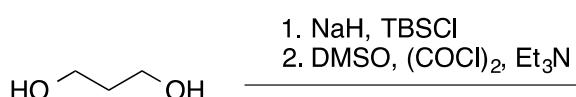
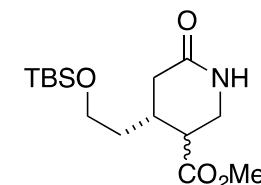


1. 110 °C, neat
2. (COP(=O)(OEt)2)3P, 80 °C

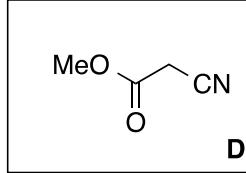
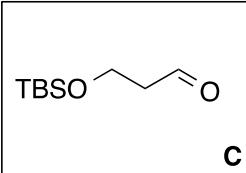


1. *n*-BuLi, -78 °C; then **C**, 0 °C
2. **D**, **cat** (5 mol%), rt
3. Raney Ni, H₂

C, **D**, cat (5 mol%), 3 steps

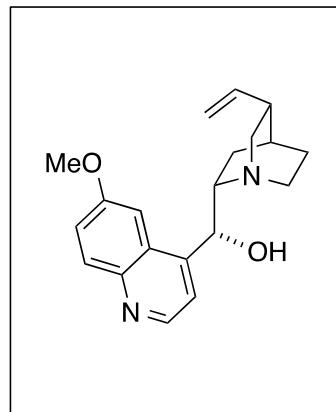
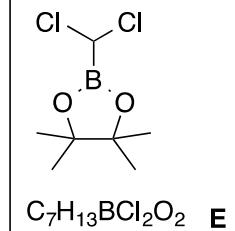
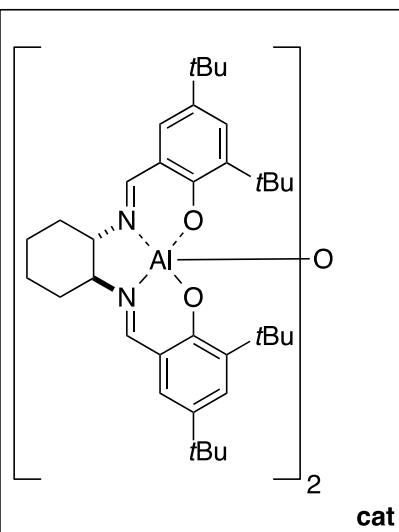


1. NaH, TBSCl
2. DMSO, (COCl)2, Et₃N

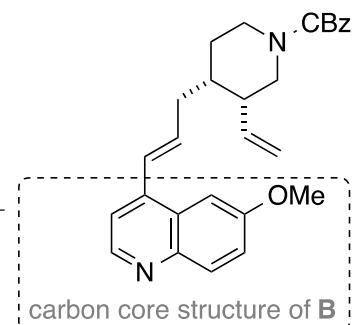


1. LiAlH₄; then CBz2O, Et₃N
2. n-Pr4NRuO4, NMO
3. Ph3PCH3Br, KOtBu, 0 °C
4. TBAF
5. n-Pr4NRuO4, NMO
6. **E**, CrCl₂, LiI

7. **B**, Pd(OAc)₂, SPhos, K3PO4.H2O

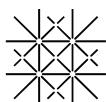


1. ADmix-β, CH3SO2NH2, *t*BuOH
2. trimethylorthoacetate, PPTS
then acetyl bromide
then K2CO3 MeOH
3. Et2AlCl, thioanisole, 0 °C
then μ w, 200 °C



[1] G. Schmid, W. Hofheinz, *JACS* **1983**, *105*, 624.

[2] I. T. Raheem, S. N. Goodman, E. N. Jacobsen, *JACS* **2004**, *126*, 706.



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09.05.2018
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