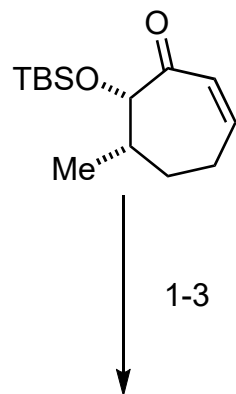


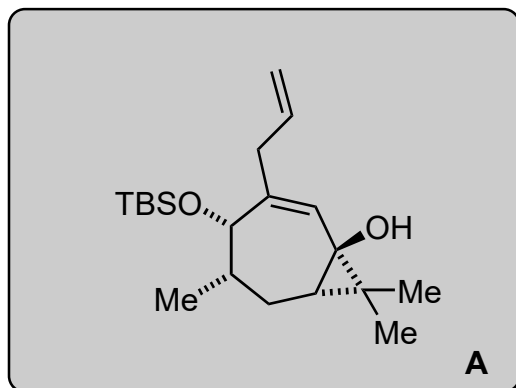
Total Synthesis of Diterpenoid Steenkrotin A

Pan, S.; Xuan, J.; Gao, B.; Zhu, A.; Ding, H.

Angew. Chem. Int. Ed. **2015**, *54*, 6905–6908.

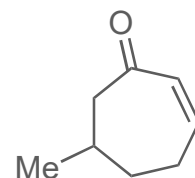


1-3

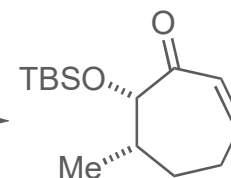


4-9

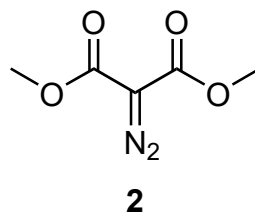
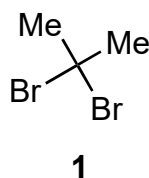
Suggest a possible route to prepare the starting material.



- 1) Silyl enoether formation
- 2) Rubottom Oxidation
- 3) TBS protection

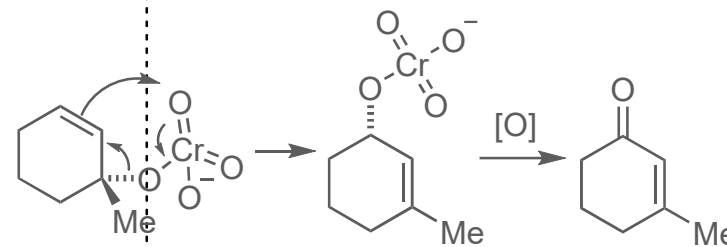


- 1) AllylBr, Li
- 2) 2 eq. PCC, 5 eq. SiO₂
- 3) TMSOTf, Et₃N, -40°C then **1** and *n*-BuLi

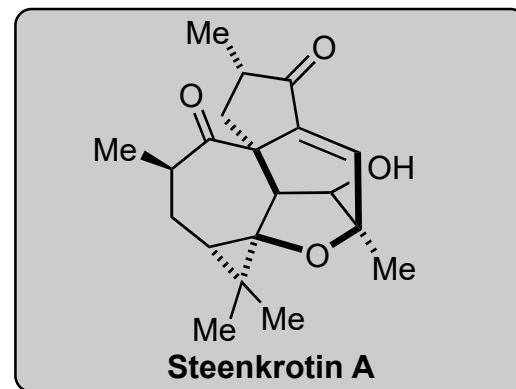


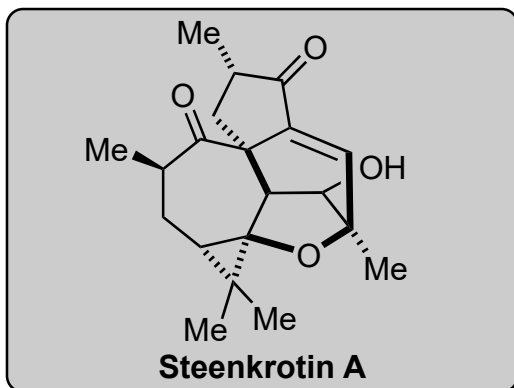
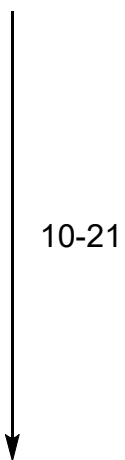
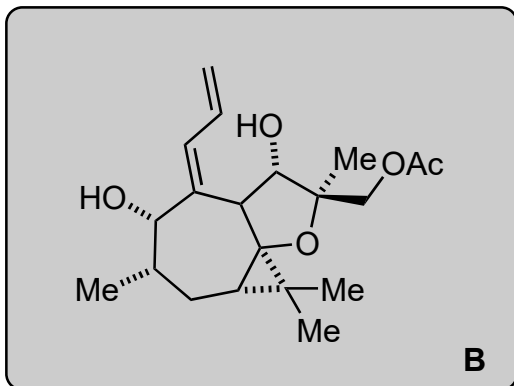
2) Please name the reaction and describe the mechanism. Why is SiO₂ used?

Dauben-Michno oxidative rearrangement; SiO₂ is used to remove the chromium tar that forms

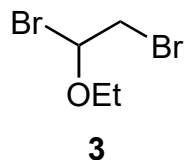


- 4) Rh₂(OAc)₄, **2**
- 5) NaH, MeI
- 6) LiAlH₄
- 7) 3 eq. Ac₂O, 5 eq. Et₃N
- 8) DMP, NaHCO₃
- 9) 10 eq. HF Py





- 10) **3**, Me₂NPh
- 11) Sml₂, HMPA
- 12) Bz₂O, DMAP, Et₃N
- 13) PTSA, acetone/water
- 14) Sml₂, HMPA, 5:1 d.r.



- 15) DMP, NaHCO₃
- 16) KOH, benzene, heat *then* MeOH
- 17) DBU, toluene, heat
- 18) TPAP, NMO
- 19) NaBH₄, MeOH
- 20) PCC
- 21) LiOH, toluene

11) Please name the reaction.
Ueno-Stork reaction

17) Hint. isomerization