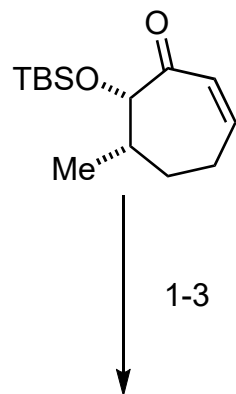
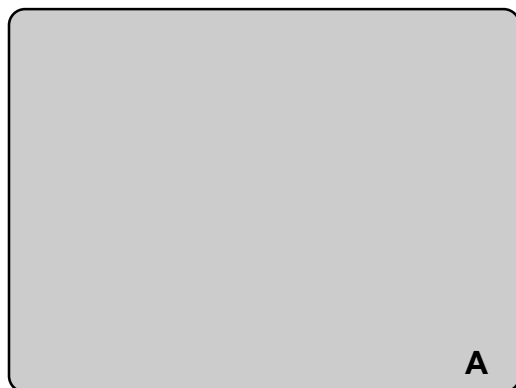


## Total Synthesis of Diterpenoid Steenkrotin A

Pan, S.; Xuan, J.; Gao, B.; Zhu, A.; Ding, H.  
*Angew. Chem. Int. Ed.* **2015**, *54*, 6905–6908.

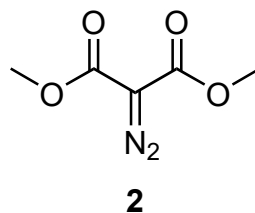
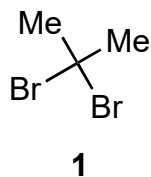


1-3



4-9

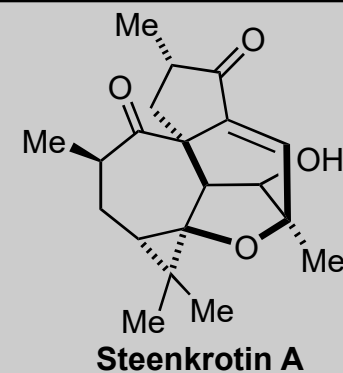
- 1) AllylBr, Li
- 2) 2 eq. PCC, 5 eq. SiO<sub>2</sub>
- 3) TMSOTf, Et<sub>3</sub>N, -40°C *then* **1** and *n*-BuLi

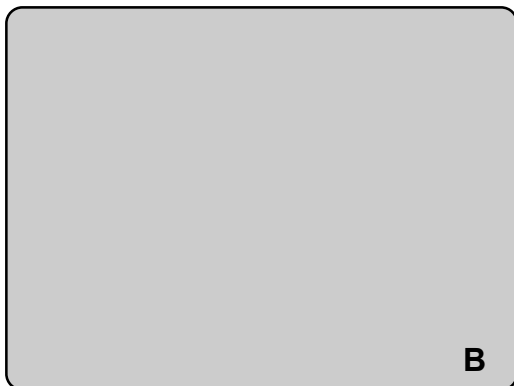


- 4) Rh<sub>2</sub>(OAc)<sub>4</sub>, **2**
- 5) NaH, MeI
- 6) LiAlH<sub>4</sub>
- 7) 3 eq. Ac<sub>2</sub>O, 5 eq. Et<sub>3</sub>N
- 8) DMP, NaHCO<sub>3</sub>
- 9) 10 eq. HF Py

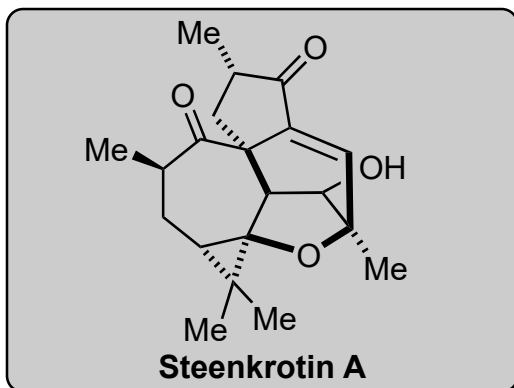
Suggest a possible route to prepare the starting material.

2) Please name the reaction and describe the mechanism. Why is SiO<sub>2</sub> used?

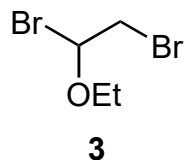




10-21



- 10) **3**, Me<sub>2</sub>NPh
- 11) Sml<sub>2</sub>, HMPA
- 12) Bz<sub>2</sub>O, DMAP, Et<sub>3</sub>N
- 13) PTSA, acetone/water
- 14) Sml<sub>2</sub>, HMPA, 5:1 d.r.



- 15) DMP, NaHCO<sub>3</sub>
- 16) KOH, benzene, heat *then* MeOH
- 17) DBU, toluene, heat
- 18) TPAP, NMO
- 19) NaBH<sub>4</sub>, MeOH
- 20) PCC
- 21) LiOH, toluene

17) Hint. isomerization