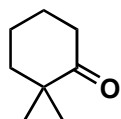
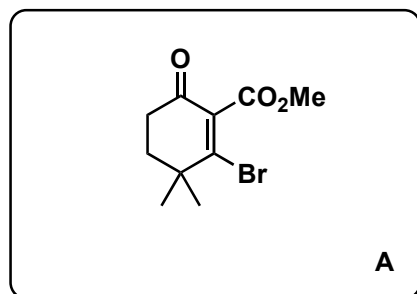


Total Synthesis of (-)-Oridonin: An Interrupted Nazarov Approach

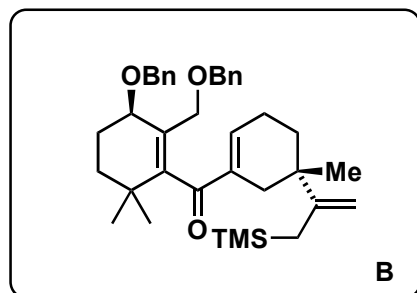
L. Kong, F. Su, H. Yu, Z. Jiang, Y. Lu, and T. Luo, *J. Am. Chem. Soc.* **2019**, *141*, 20048-20052



1-4

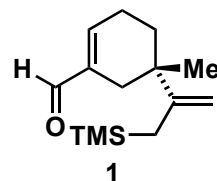


5-8



- 1) PBr₃, DMF
- 2) NaH₂PO₄, H₂O₂, NaClO₂
- 3) K₂CO₃, MeI
- 4) CrO₃, AcOH

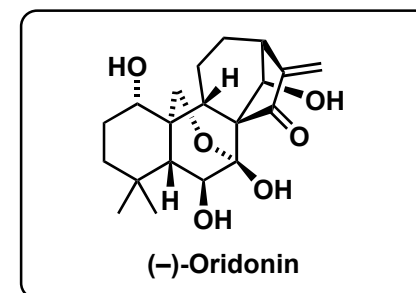
- 5) (*S*)-CBS, BH₃·SMe₂
- 6) NaH, BnBr
- 7) *t*-BuLi, then **1**
- 8) PDC



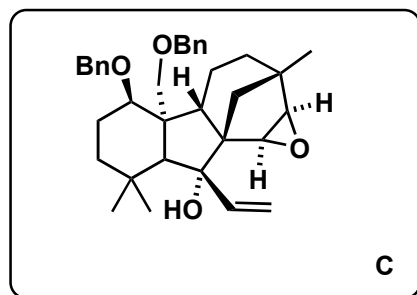
Step 1+2: Please provide the name for this transformation.

Vilsmeier reaction and Pinnick oxidation

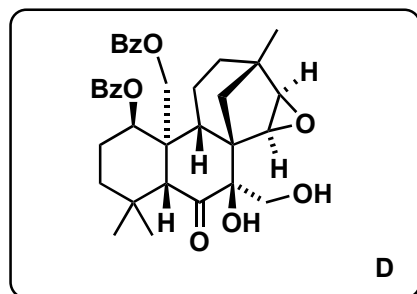
Hint for Step 6: Two Bn groups are introduced.




9–13



14–16

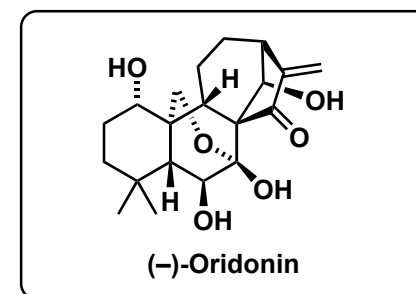
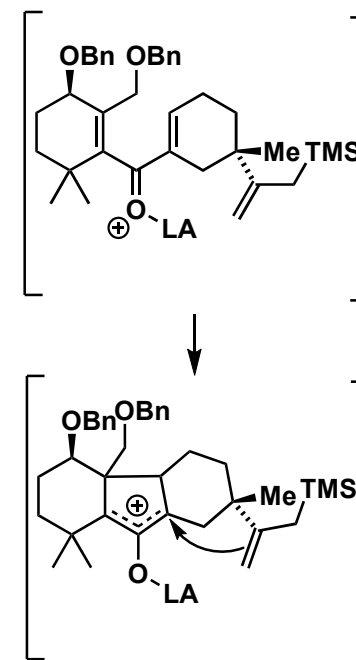


- 9) EtAlCl_2
- 10) $^1\text{O}_2$ then Ac_2O
- 11) $\text{RhCl}(\text{PPh}_3)_3$, toluene, reflux
- 12) 
- 13) *m*CPBA

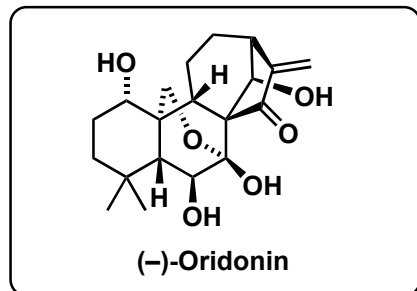
- 14) NBS
- 15) RuCl_3 , NaIO_4 then DBU
- 16) cat. OsO_4 , NMO

Step 9: Please propose a mechanism.

Hint for Step 13: Only one functional group is selectively transformed.



17-22



- 17) EtAlCl_2
- 18) LiAlH_4
- 19) NaIO_4
- 20) $p\text{TsOH}$, $\text{Me}_2\text{C}(\text{OMe})_2$, *then* DMP
- 21) DIBAL-H, *then* Red-Al, *then* HCl
- 22) $^1\text{O}_2$, Boc_2O , *then* HCl

Hint for Step 18: One carbonyl group is reduced and two protecting groups are removed.

Hint for Step 20: Two DMP oxidations occur.