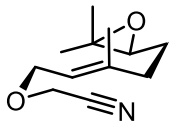
Total Synthesis of (±)-Leonuketal

Grant, P. S.; Furkert, D. P.; Brimble, M. A. *Org. Lett.* **2020**, 22, 8735-8740.



1 - 5

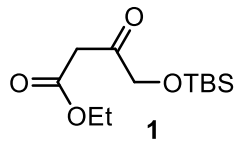
A

6 - 13

B

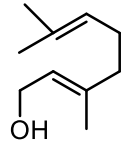
1) Cp_2TiCl_2, Zn *then* aq. KH_2PO_4
2) ethylene glycol, TsOH
3) DMP, pyridine
4) L-selectride
5) aq. HCl

6) $TsNHNH_2$, PPTS
7) MeLi
8) TIPSOTf, DIPEA
9) MeLi, CH_2O
10) MsCl, Et_3N
11) NaI
12) NaH, **1**
13) TsOH *then* K_2CO_3



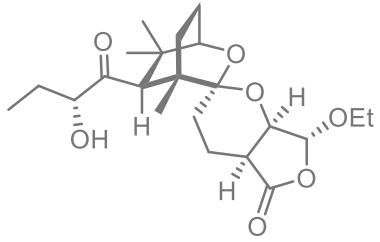
1

How would you synthesize the starting material from geraniol?



Hint: steps 2-5 overall epimerization sequence

Step 7: Name of the reaction



(±)-Leonuketal

14 - 18

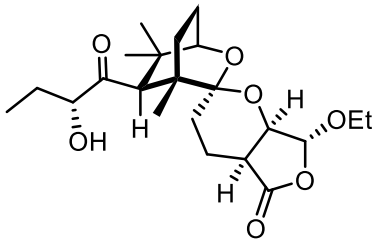
C

14) AuCl•DMS, PPTS
15) H_2, Rh-Al_2O_3
16) LiOH
17) DMP
18) PPTS, EtOH

Step 14: Suggest possible mechanism

Step 15: proceeds with epimerization

19 - 23



(±)-Leonuketal

19) TBAF
20) DMP
21) *n*PrMgBr
22) DMP
23) O_2, LiHMDS *then* $P(OEt)_3$