Total Syntheses of Dalesconol A and B

1) DBU, LiCl, A
2) TFA/ H₂O, Ac₂O, NaOAc
3) H₂, Pd/C, NaOMe
4) NaH, BnBr
5) PDBBA

6) NaOH, KOH, 210 °C
7) NaH, Me₂SO₄
8) NBS
9) NaH, MOMCl
10) n-BuLi, DMF

Which variant of the HWE reaction represents step 5? What is the role of LiCl?

A

Hint step 5: PDBBA can be prepared by admixing DIBAL-H with KOT-Bu.
What is the advantage over DIBAL-H?

Name the reaction in step 6?
12) POCI₃, DMF
12) NaBH₄
13) PBr₃
14) KHMDS, HP(O)(OEt)₂
15) KOt-Bu, then B
16) n-BuLi, then C

Name the reaction in step 12?

Name the reaction in step 15?
17) H₂, Pd/C; TFA; Ph(OAc)₂
18) Pd/C, H₂
19) HCl, THF
20) DDQ; BBr₃
21) KHMDS, MOMCl
22) Pd(OAc)₂, t-BuOOH
23) DMP
24) BBr₃

Provide a mechanism for step 17

Step 22: Under these conditions usually hydroperoxides or ketones are formed; please come up with a mechanism.