Total Synthesis of (±)-Myrocin C


1) TBSOTf, Et3NMe
2) *p*-benzoquinone, rt, 5 days
3) DMDO, -78 °C to 0 °C
4) NaBH4, CeCl3•7H2O

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5) Ac2O, DMAP
6) TBAF
7) NaIO4
8) NaBH4
9) TBSOTf, Et3N

10) MeONa, MeOH, aq. workup
11) PDC
12) H2O2, NaOH, MeOH
13) NaHMDS, Hendrickson–McMurray reagent
14) LiCl, Bu3SnCH2Cl2, Cl2Pd(PPh3)2

1: The thermodynamic product was separated and submitted to step 2

Explain the stereochemistry in step 2
Explain the mechanism in step 3
Name the reaction in step 4

What is the role of LiCl in step 14?
15) AcOH, TBAF
16) DMAP, Et$_3$N, MsCl
17) Me$_3$SnLi, 1.1 eq, 0 $^\circ$C, 5 min.
   Then 1.1 more eq, 5 min
18) (E)-3-methyl-4-oxobut-2-enoic acid, DCC, DMAP

What is the role of AcOH in step 15?

What is the role of AcOH in step 15? Explain the mechanism in step 17 Explain the mechanism and name the reaction in step 23. Last stage of the reaction did not take place. That is one of the roles of step 24.

22: Regioselective reaction
Explain the mechanism and name the reaction in step 23. Last stage of the reaction did not take place. That is one of the roles of step 24.
28) DMDO
29) t-BuOK, t-BuOH, O₂
30) P(OEt)₃

(±)-Myrocin C