Synthesis of (-)-11-*O*-Debenzoyltashironin: Neurotropic Sesquiterpenes cause Hyperexcitation

M. Ohtawa, M. J. Krambis, R. Cerne, J. M. Schkeryantz, J.M. Witkin,
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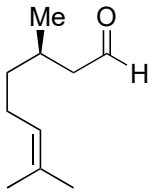
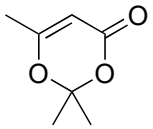


1-4

1) $Br_2/(PhO)_3P$
NEt_3
2) KO*t*-Bu
3) O_3, then DMS
4) $Mo(CO)_6$, TBAB

A



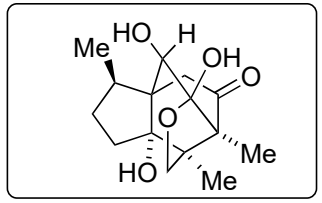
5-6

5) Hydroxyacetone 120 °C
6) silica gel

B

Name of the starting material?

Name of step 4?



A

9

9) LDA, -78 °C,
then **B**, -100 °C
then Ti(O*i*-Pr)$_4$, LDA, 0 °C

Draw the mechanism!
Which product is obtained upon acidic work up without the addition of Ti(O*i*-Pr)$_4$ and additional LDA?

C

10-14

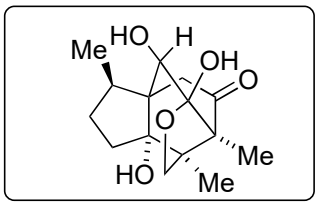
10) MeI, K_2CO_3,
11) NaOH, H^+
12) Me_2NH, Me_3Al
13) TMSCl, NEt_3
then $SOCl_2$
14) H^+, $HC(OMe)_3$

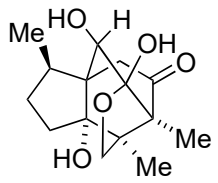
D

15-18

15) $LiNMe_2$, HMPA
then O_2, $P(OEt_3)$
16) HCl
17) $Co(acac)_2$, $PhSiH_3$, O_2
18) $TsOH•H_2O$

Name of step 17?
Draw the mechanism!





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