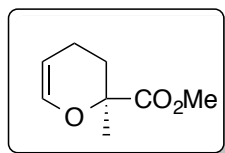


Total synthesis of (+)-aspergillin PZ

(S. M. Canham, L. E. Overman, P. S. Tanis, *Tetrahedron*, 2011, 67, 9837 - 9843.)



1) *m*-CPBA, MeOH, 0 °C
 2) TBSCl, imid., DMF
 3) DIBAL-H, Et₂O, -78 °C
 (43 %, 3 steps)

A

4) Zn(OTf)₂, NEt₃,
 (+)-*N*-methylephedrine

 (92 %)

B

5) TBSOTf, Pyr.,
 CH₂Cl₂, -78 °C
 6) Lindlar cat. H₂,
 Et₂O
 (80 %, 2 Steps)

C

7) SnCl₄,
 CH₂Cl₂, 0 °C
 (49 %)

D

E

Prins-Pinacol

F

G

Minor

H

2-oxonia(3,3)sigmatropic/aldol

I

J

Major

J

08) TBAF, AcOH
 09) NaClO₂, NaH₂PO₄, 2-methyl-2-butene
 10) EDCI, HOBT, DMAP

(51 %, 3 Steps)

Mono deprotection

K

11) DBU,
 PhH, reflux.
 (83 %)

L

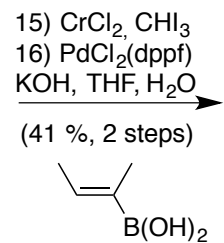
12) LAH
 13) TBDPSCI,
 DMAP, Pyr.
 14) TPAP,
 NMO, 4 AMS

(63 %, 3 steps)

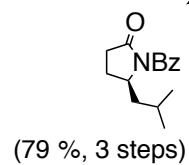
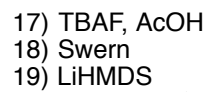
G

Total synthesis of (+)-aspergillin PZ

(S. M. Canham, L. E. Overman, P. S. Tanis, *Tetrahedron*, 2011, 67, 9837 - 9843.)

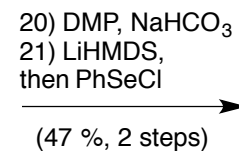


N

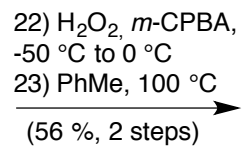


Mono deprotection

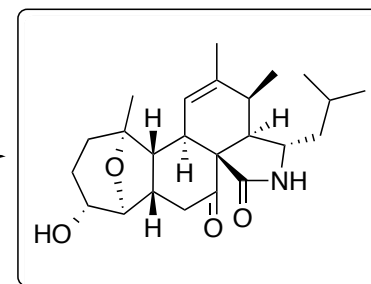
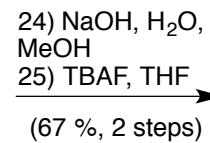
O



P



Q



(+)-aspergillin PZ