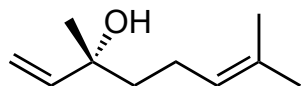
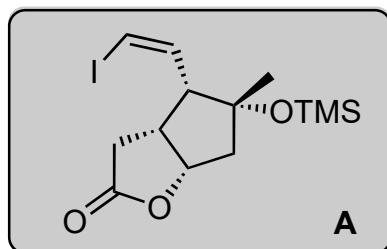


Total Synthesis of the Norcembranoid Scabrolide B and Its Transformation into Sinuscalide C, Ineleganolide, and Horiolide

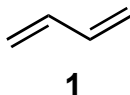
Lin, D. S.; Späth G.; Meng Z.; Wiese L. H. E.; Fares C.; Fürstner A. *J. Am. Chem. Soc.* **2024**, *146*, 24250–24256



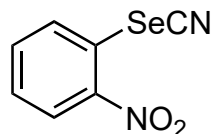
1-12



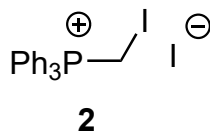
- 1) HG-II, THF, *then* NaH, TBSCl
- 2) *t*BuOOH, RuCl₃, Mg(OAc)₂, DCM
- 3) **1**, AlCl₃, toluene



- 4) L-selectride, THF, –78 °C
- 5) O₃, DCM, *then* PPh₃
- 6) PCC, 4Å MS, DCM, 0 °C
- 7) NaBH₄, THF, 0 °C
- 8) Bu₃P, H₂O₂, THF,



- 9) HF·py, THF
- 10) TMSOTf, Et₃N, THF
- 11) O₃, DCM, *then* PPh₃
- 12) **2**, NaHMDS, THF, –78 °C



1) name or source of the starting material?

(*R*)-Linalool, mint, citrus fruit

1) structure of HG-II

4) structure of L-selectride?

Li[(*sec*-butyl)₃BH]

5) *hint: a ring closure*

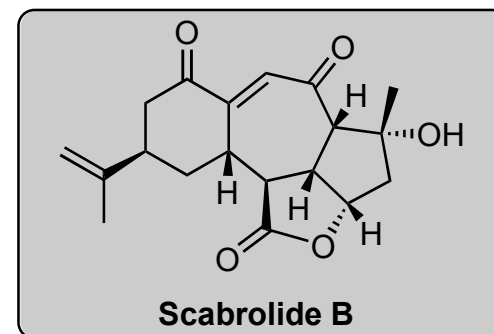
8) name of the reaction?

provide a reaction mechanism

Grieco elimination; phosphine kicks out CN, alcohol attacks P and leaves Se anion, which attacks carbon and kicks P(=O)Bu₃, followed by oxidation and elimination

12) Name of the reaction?

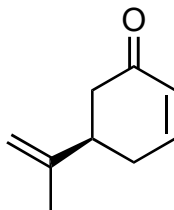
Stork-Zhao olefination (*Z*-isomer)



A

13-18

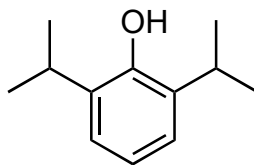
13) TMP, TIPSOTf, *then* La(OTf)₃, **3**, DCM



3

14) TBAF, THF, -78 °C

15) *t*BuOK, Pd(PPh₃)₄, toluene, 60 °C

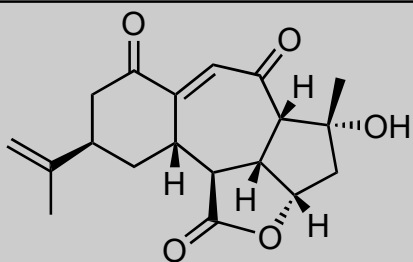


16) O₂, P(OMe)₃, DBU, MeCN

17) MeReO₃, toluene, 60 °C

18) MnO₂, DCM

16 and 17) *hint: double-bond shift*



Scabrolide B