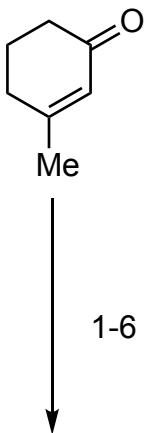
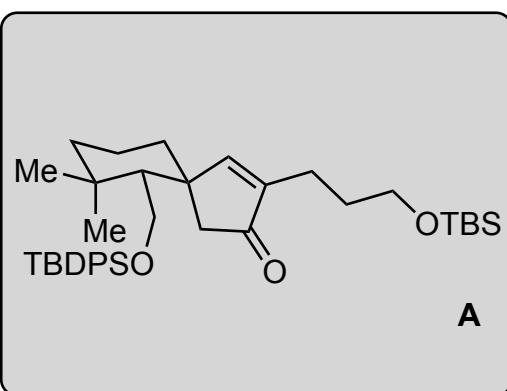


Total Synthesis of the Isodon Diterpene Sculponeatin N

B.J. Moritz, D.J. Mack, L. Tong, R.J. Thomson.
Angew. Chem. Int. Ed. **2014**, *53*, 2988–2991.

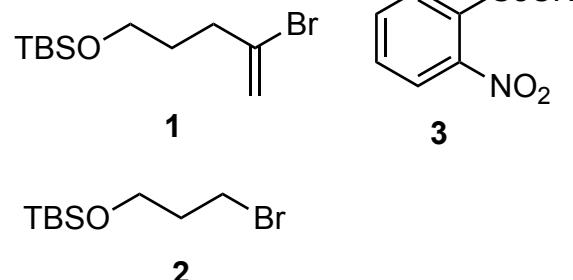


1-6



7-12

- 1) MeMgBr, CuI, LiCl *then* CH₂O
- 2) TBDPSCl, Imidazole
- 3) TMSCH₂CO₂Et, LDA
- 4) Me(OMe)NH·HCl, *i*PrMgCl
- 5) 1, *t*BuLi
- 6) AlCl₃



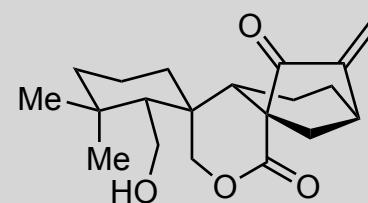
- 7) 2, *t*BuLi, (2-thiophene)-Cu(CN)Li, BF₃·Et₂O
- 8) HF, MeCN
- 9) 3 (2.5 eq.), Bu₃P (3 eq.), *then* H₂O₂
- 10) TMSOTf, NEt₃
- 11) MeLi, allyl iodide
- 12) Grubbs II

3) Name reaction?
Peterson olefination

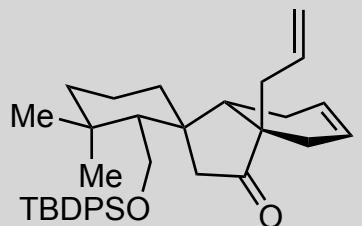
6) Name reaction?
Nazarov cyclization

9) Name reaction?
Grieco elimination

8) Hint: regioselective
deprotection



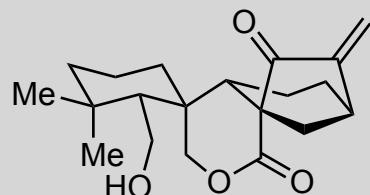
Sculponeatin N



B

13-22

- 13) PdCl_2 , CuCl , O_2
- 14) KHMDS, Comins reagent
- 15) TBAF, THF, rt
- 16) Bu_3SnH , AIBN, *then* HCl
- 17) SeO_2 , $t\text{BuOOH}$
- 18) TMSOTf, NEt_3
- 19) O_3 , pyridine, *then* Me_2S
- 20) LiBH_4 , 50°C
- 21) TBAF
- 22) MnO_2

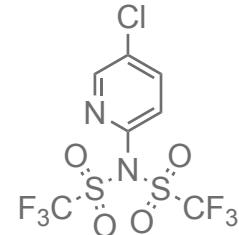


Sculponeatin N

13) Name reaction?

Wacker oxidation

14) Structure of Comins reagent?



15) Hint: no deprotection, think of TBAF as mild base

17) Name reaction?

Riley-Oxidation

19) Hint: only the more electron-rich double bond reacts