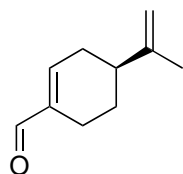


A Unified Synthetic Approach to the Pleurotin Natural Products

Y. Gao, Q. Xia, A. Zhu, W. Mao, Y. Mp, H. Ding, and J. Xuan.

J. Am. Chem. Soc. **2024**, *146*, 18230–18235.



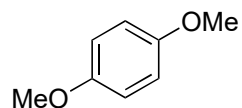
1 - 5



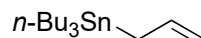
A

6 - 11

- 1) **1**, *n*BuLi, TMEDA *then* TFA, Et₃SiH
- 2) O₃, pyridine, isoprene *then* Me₂S
- 3) piperidine, AcOH *then* NaBH₄
- 4) MeC(OEt)₃, PivOH, 145 °C
- 5) 9-BBN *then* BH₃·Me₂S *then* NaOH, H₂O₂



1



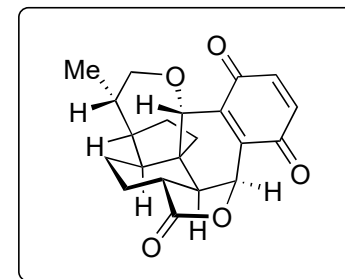
2

- 6) TBDPSCI, NEt₃, DMAP
- 7) CBr₄, PPh₃
- 8) DIBAL-H *then* *p*-TsOH·H₂O
- 9) **2**, *n*-BuLi, HMPA
- 10) 9-BBN *then* NaOH, H₂O₂
- 11) DMP, NaHCO₃

- 1) Name of the starting material
- 2) *Hint*: regioselective ozonolysis. Role of isoprene?
- 4) Name of the reaction?
- 5) *Hint*: both alkene react.

- 6) *Hint*: mono-protection.

- 8) Name of the reaction?

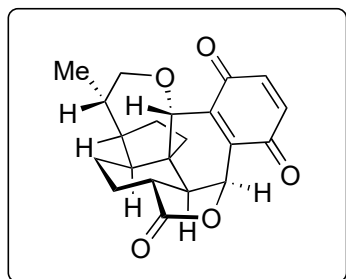


(-)-pleurotin



B

12 - 16



(-)-pleurotin

17



(+)-leucopleurotin

- 12) $[\text{Ir}(\text{dtbbpy})(\text{ppy})_2][\text{PF}_6]$, piperidine, 2,4,6-triisopropylbenzenethiol, 450 nm, Blue LEDs
- 13) NaClO_2 , Na_2HPO_4 , 2-methyl-2-butene *then* $p\text{-TsOH} \cdot \text{H}_2\text{O}$
- 14) DDQ, AcOH, 4 Å MS
- 15) DDQ, AcOH, 4 Å MS
- 16) CAN

- 17) Zn, AcOH

12) *Hint*: draw **B** like the natural product & a ring is closed.

13) Name of the reaction?