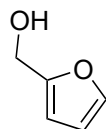


Total Synthesis of Rameswaralide Utilizing a Pharmacophore-Directed Retrosynthetic Strategy

Nathanyal J. Truax, Safiat Ayinde, Jun O. Liu, and Daniel Romo *J. Am. Chem. Soc.* **2022**, Article ASAP

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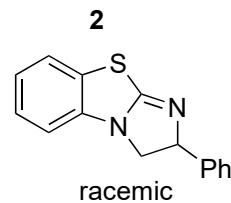
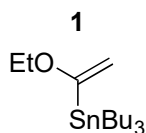


1-8



9-14

- 1) μ W, H₂O, 200 °C
- 2) TBSCl
- 3) I₂, DMAP
- 4) **1**, CuTC, AsPh₃, Pd₂(dba)₃
- 5) MeLi
- 6) TBAF
- 7) acryloyl chloride, **2**, DIPEA
- 8) NBS



- 9) TESOTf, 2,6-lut.
- 10) AIBN, Bu₃SnH
- 11) TBAF
- 12) ZnEt₂ then CHBr₃, O₂
- 13) LiBr, CAN, NBS
- 14) DBU

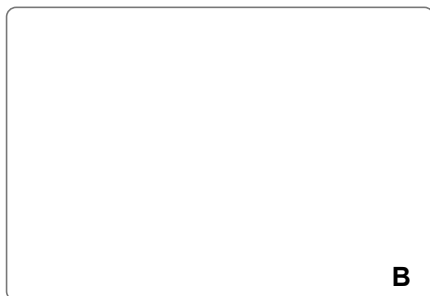
1) Name of the reaction? Mechanism?

4) Name of the reaction?

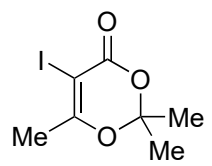
7) What is reactive intermediate in this reaction?

8) How would you call this transformation?

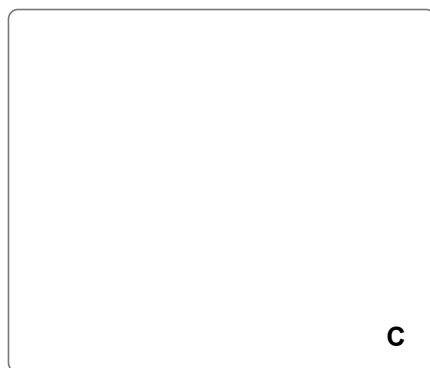
12) Name of the reaction? Role of O₂?



B



15-16



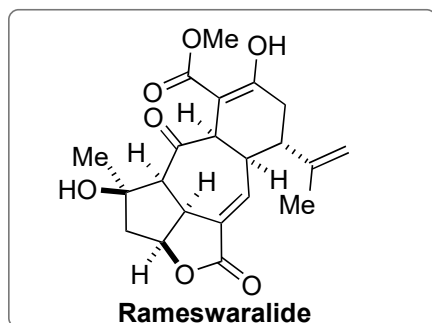
C

15) KHMDS, 0 °C
then allyliodide, -78 °C
16) *n*BuLi, Bu₃SnCl

B + C

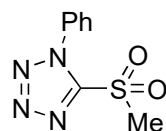


17-23



- 17) CuTC, AsPh₃, Pd₂(dba)₃
- 18) Et₃N, TESOTf (2.0 equiv)
- 19) TBAF, AcOH
- 20) air, CuCl, Pd(OAc)₂
- 21) pyrrolidine, pyrrolidine•HCl, 23 °C
- 22) **3**, LiHMDS
- 23) MeOH, mesitylene, 120 °C

3



20) Name of the reaction?

22) Name of the reaction? Alternatives for this transformation?