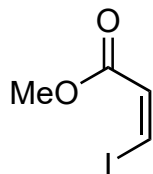


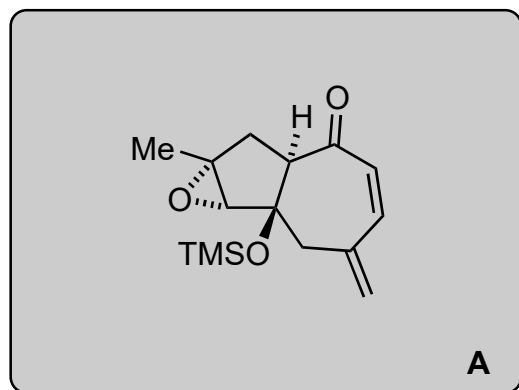
Total Synthesis of Resiniferatoxin

Vasilev, V. H.; Spessert, L.; Yu, Kuan; Maimone T. J.*

J. Am. Chem. Soc. **2022**, *144* (36), 16332–16337

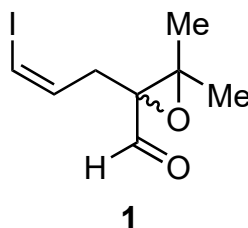


1-5



6-11

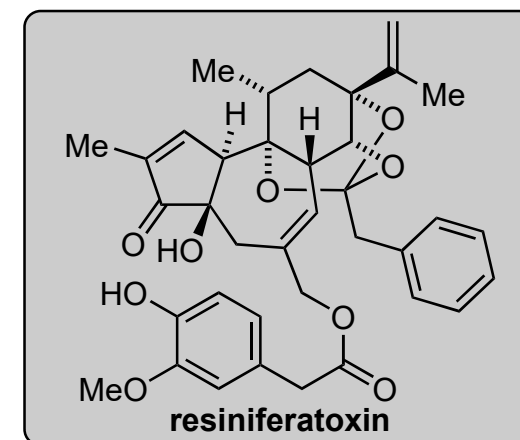
- 1) DIBAL
- 2) 3-methyl-2-cyclopentenone, LHMDS, *then*, SM, *then*, Et₃N, TMSCl
- 3) allylmagnesium bromide, *then* HCl, Et₃N, *then* Pd(PPh₃)₄
- 4) TMSCl, imidazole, *then* SiO₂
- 5) DMP, NaHCO₃, *then* *m*-CPBA

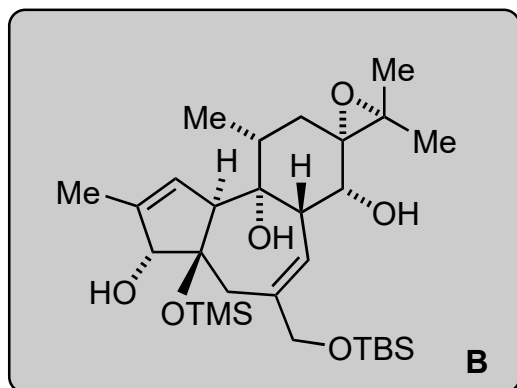


- 6) CuCl, NaOt-Bu, B₂pin₂, *then* NaBO₃
- 7) DATMP
- 8) TBSCl, imidazole
- 9) (±)-**A**, LHMDS, *then* (±)-**1**, *then* acetic acid
- 10) Sml₂
- 11) LiAlH₄

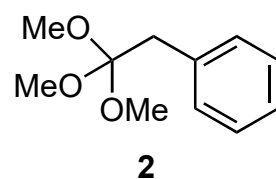
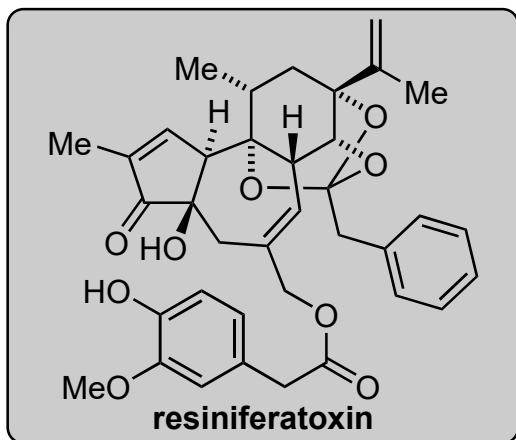
3) Name the reaction and describe this cyclization.
7-exo Heck reaction

10) Draw out mechanism.





12-15



- 12) **2**, CSA, then SiO₂
- 13) DMP, NaHCO₃
- 14) TBAF
- 15) homovanillic acid, DBAD, PPh₃

15) Name of the reaction?
Mitsunobu reaction

solution to step 10:

