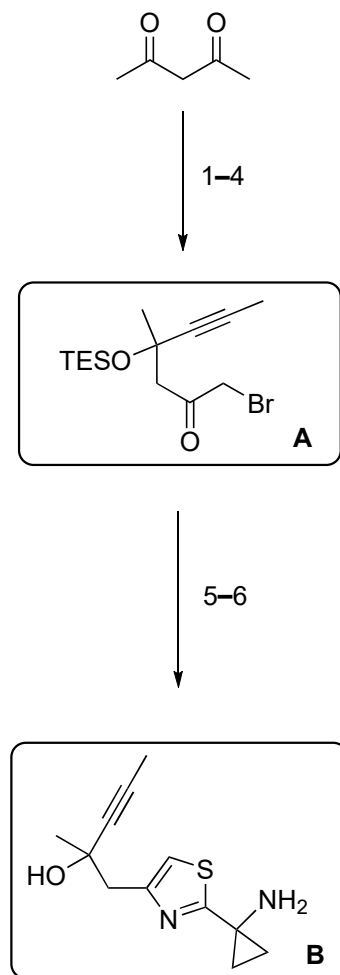


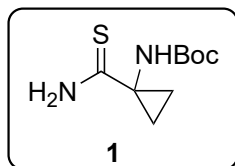
Total Synthesis of the Guangnanmycin A Alcohol

K. Yahata, A. Fürstner, Angew. Chem. Int. Ed. **2024**, 63, e202319070

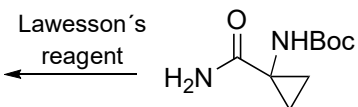


- 1) $i\text{PrMgCl}$, then MeCCMgBr
- 2) TESCl , imidazole
- 3) TBSOTf , Et_3N
- 4) NBS , NaHCO_3

5) **1**, EtOH , 70°C

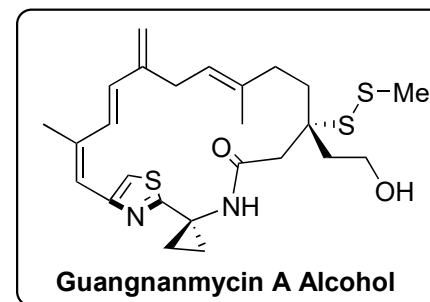
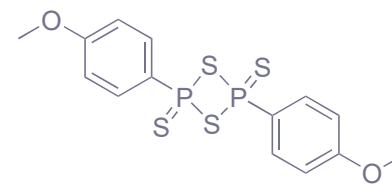


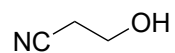
6) HCl , 1,4-dioxane



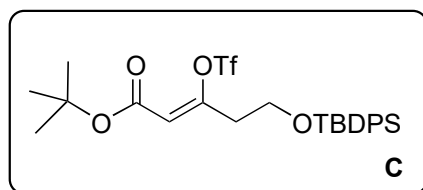
5) For this step, first prepare component **1**.

Write the structure of the Lawesson's reagent.

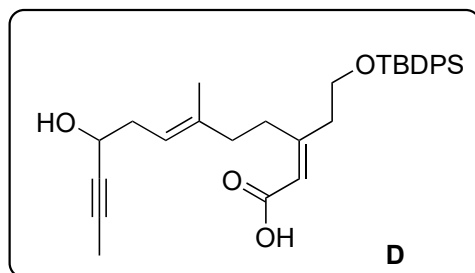




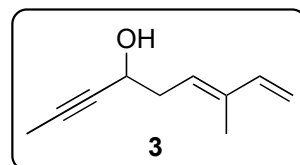
7-9



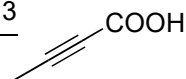
14-16



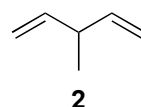
- 7) TBDPSCI, imidazole
- 8) *t*BuOOCCH₂Br, Zn, THF, 60 °C
- 9) Tf₂O, LiOH, toluene/H₂O, 0 °C



10-13



- 10) MeNH(OMe)•HCl, EDCI, Et₃N, DMAP
- 11) **2**, *sec*-BuLi, THF, -78 °C
- 12) DIBAL-H
- 13) TESCl, imidazole

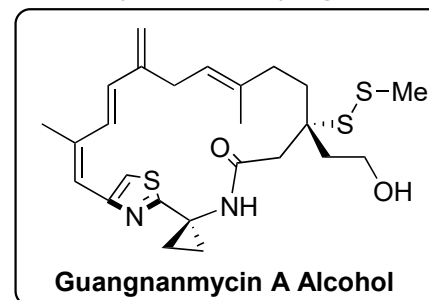


- 14) **3**, 9H-9BBN, then SM was added, [(PPh₃)₂pdCl₂], Cs₂CO₃
- 15) TMSOTf, 2,6-lutidine
- 16) Amberlyst 15, MeOH

- 8) What is the name of this reaction? *Reformatsky reaction*
- 9) Z conformer is formed.

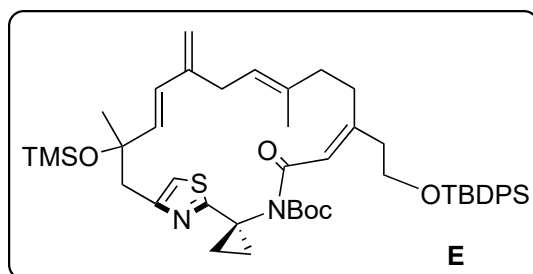
- 12) E conformer is formed.

- 14) For this step, first prepare component **3**.
Name of the second part of the reaction.
Alkyl-Suzuki coupling

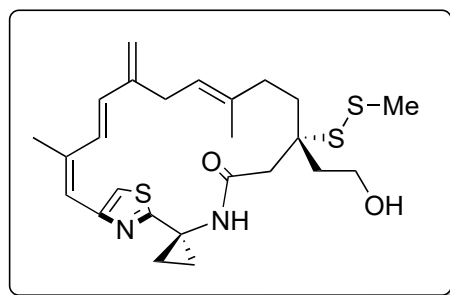


B + D

17–23

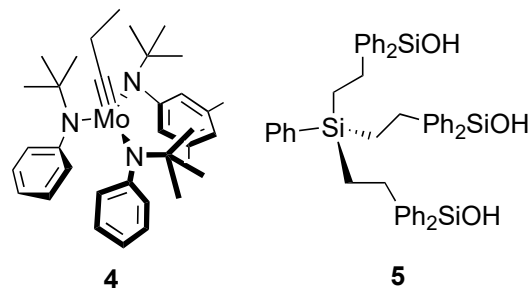


24–29



Guangnanmycin A Alcohol

- 17) HATU, iPrNEt
- 18) **4**, **5**, MS 5 Å, toluene, reflux
- 19) [CpRu(MeCN)₃]PF₆, PCy₃, NH₄PF₆, reflux
- 20) TMSCH₂Li, CeCl₃ *then* KHMDS
- 21) TMSCl, imidazole
- 22) Boc₂O, DMAP



- 23) TMSCH₂CH₂SH, DBU
- 24) PPTS
- 25) MsCl, Et₃N (3 cycles)
- 26) TMSOTf, 2,6-lutidine
- 27) [MeSSMe₂]BF₄, MeSSMe
- 28) HF•pyridine, pyridine