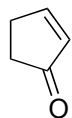


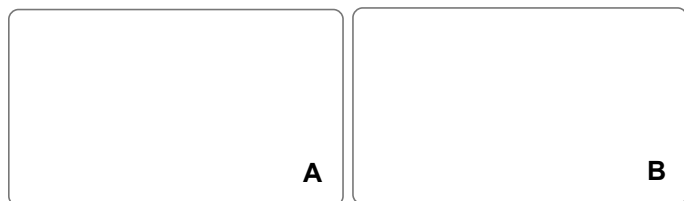
Total Synthesis of the Meroterpenoid Manginoid A as Fueled by a Challenging Pinacol Coupling and Bicycle-forming Etherification

Yu-An Zhang, Amanda Milkovits, Valay Agarawal, Cooper A. Taylor, and Scott A. Snyder*

Angew. Chem. Int. Ed 2021, 60, 11127-11132

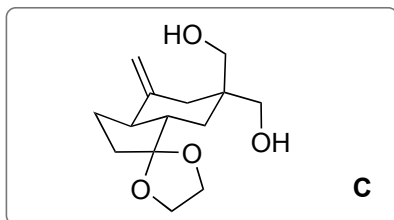


1-2

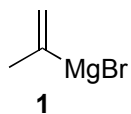


1 : 2.5

6 - 10

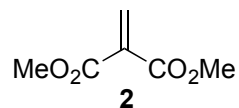


- 1) **1**, CuI, TMSCl, HMPA, -78 °C
- 2) TIPSOTf, KHMDS

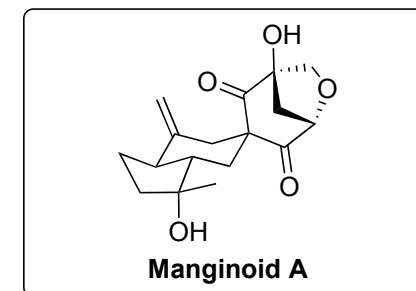


2) Tip: A and B are regioisomeric silyl enol ethers

- 6) **2**, SnCl₄
- 7) ethylene glycol, *p*-TsOH•H₂O, CH(OMe)₃
- 8) TCCA
- 9) NaH
- 10) LiAlH₄



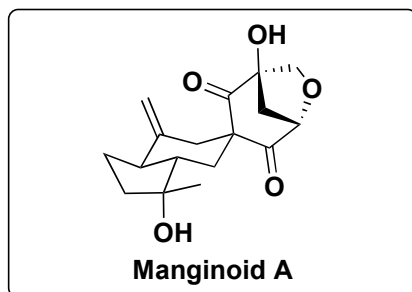
8) What is the structure of TCCA?



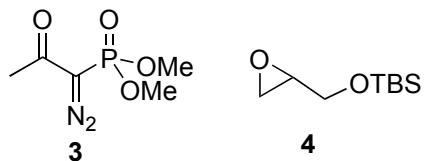
10 - 15



16-22



- 10) NIS; DMP
- 11) **3**, K₂CO₃, MeOH
- 12) LiHMDS, BF₃•OEt, **4**
- 13) Zn, AcOH
- 14) Pd/C, H₂, quinoline
- 15) DMP



- 16) Sml₂, -78 °C
- 17) NBS *then* H₂O *then* K₂CO₃, MeOH
- 18) *n*-BuLi, -78 °C *then* TBAF
- 19) K₂CO₃, MeOH
- 20) Swern oxidation
- 21) FeCl₃ in acetone
- 22) MeMgBr, LaCl₃•2LiCl, -78 °C

11) Named reaction?

16) Named reaction? Provide a rationale on why a single diastereomer was produced.

17) Justify selectivity.

20) Tip: Double Swern.