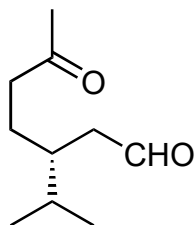


Total Synthesis of (-)-Retigeranic Acid A: A Reductive Skeletal Rearrangement Strategy

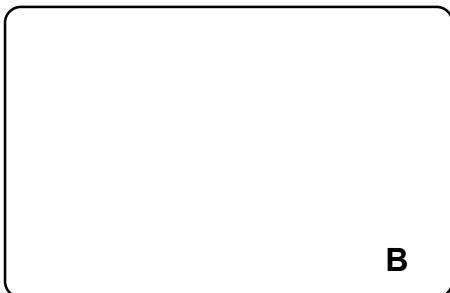
D. Sun, R. Chen, D. Tang, Q. Xia, Y. Zhao, C. Liu and H. Ding
J. Am. Chem. Soc. **2023**, 145, 11927–11932.



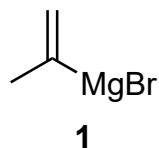
1-5



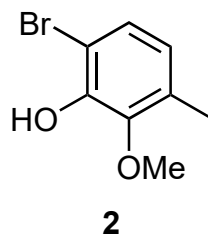
6-10



- 1) EtNO₂, NEt₃ then Ac₂O then DABCO, O₂
- 2) MeOCH₂PPh₃Cl, *t*-BuOK then aq. HCl
- 3) Zr(*n*-PrO)₄, LiOH•H₂O
- 4) I₂, DMAP, K₂CO₃
- 5) Pd(PPh₃)₄, **1**, ZnBr₂



- 6) ICH₂Cl, LiBr, TMSCH₂Li
- 7) TosMIC, *t*-BuOK then DIBAL
- 8) NaH, *n*-BuLi, **2**
- 9) PIFA, K₂CO₃
- 10) Sml₂, *t*-BuOH, H₂O



1) Name of reactions? Please suggest synthesis of the starting material.

3) *Hint: formation of 5/6 system.* Name reaction.

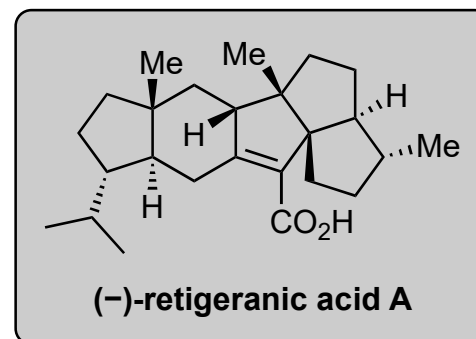
5) Name of the reaction?

6) Name of reaction?

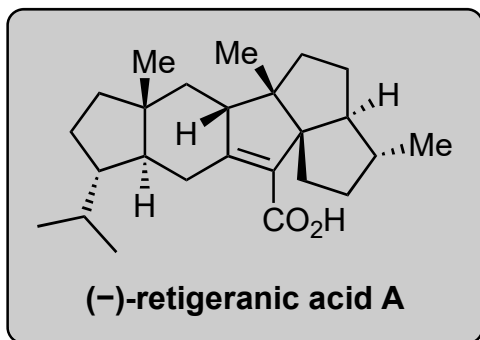
7) Name of the reaction?

9) *Hint: 2 transformations, 2 rings are formed.* Name of reactions? Please show mechanism.

10) *Hint: 5 transformations.* Show mechanism and name reactions where possible.



11-15



- 11) Crabtree's cat., H₂ *then* TCDI, DMAP, 160 °C
- 12) Pd/C, H₂ *then* PCC
- 13) TrisN₃, hν, MeOH
- 14) PyHBr₃, DBU
- 15) Mn(dpm)₃, Ph(*i*-PrO)SiH₂ *then* aq. KOH

11) Structure of Crabtree? Name of reaction for second transformation?

13) Name of reactions?