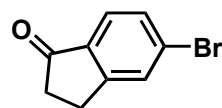


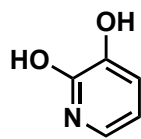
Total Synthesis of (–)-Flueggeacosine C

Liu, L.; Olson, T. L.; Wood, J. L.

Org. Lett., **2024**, 26, 7341–7346.



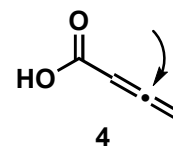
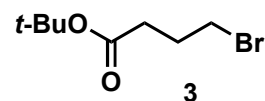
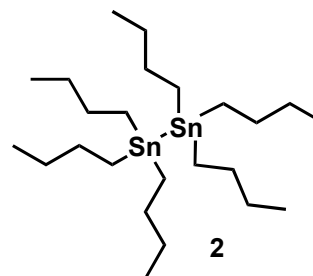
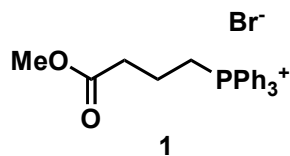
1-11



12-17



1. **1**, KHMDS, THF, 0 → 25 °C
2. TFA, CHCl₃, 25 °C
3. BH₃, THF *then* NaOH, H₂O₂, H₂O, 0 → 25 °C
4. DMP, CH₂Cl₂, 25 °C
5. NH₂OH•HCl, *i*-PrOH, 40 °C
6. PIDA, AcOH, 25 °C
7. LiOMe, THF, 0 °C
8. Zn, AcOH, 110 °C
9. DIBAL-H, CH₂Cl₂, –78 °C
10. BF₃•OEt₂, Et₃SiH, CH₂Cl₂, 0 °C
11. Pd(PPh₃)₄, **2**, PhMe, 110 °C



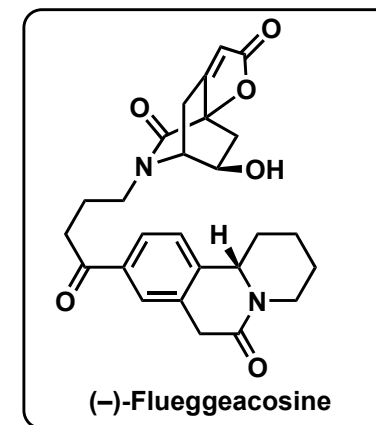
12. KOH, BnBr, EtOH, 0 → 40 °C
13. NaH, **3**, DMF, 0 → 25 °C
14. H₂ (1 atm), Pd/C, EtOH, 25 °C
15. DCC, **4**, CH₂Cl₂, 45 °C, MW
16. TMSOTf, 2,6-lutidine, CH₂Cl₂, 25 °C
17. DMAP, DCC, TolSH, CH₂Cl₂, 25 °C

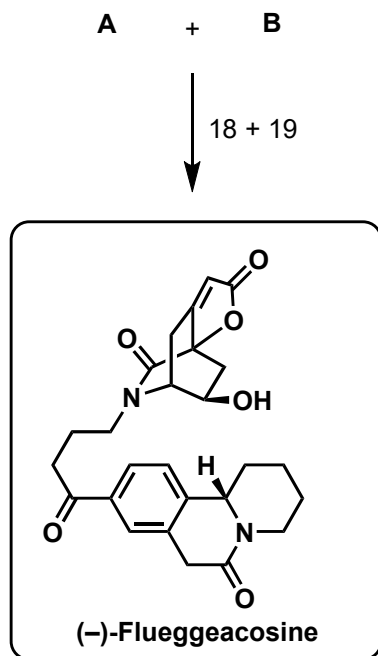
Step 1: Name of the unsubstituted hydrocarbon in the starting material?

Step 6 + 7: Which name reaction is this sequence reminiscent of?

Step 10: What is the name of the heterocyclic scaffold generated?

Step 15: How would you make **4**?
Estimate the ¹³C NMR shift of the highlighted carbon.
Name at least 5 alternative reagents to DCC.





18. **A, B**, Pd₂(dba)₃, CuDPP, AsPPh₃, THF/Hex, 25 °C
 19. CuCl, Xantphos, B₂pin₂, LiOt-Bu, H₂O, THF, 60 °C
then NaBO₃, H₂O, 25 °C

Step 18: Name of the reaction?

Step 19: Justify the stereo- and regioselectivity.