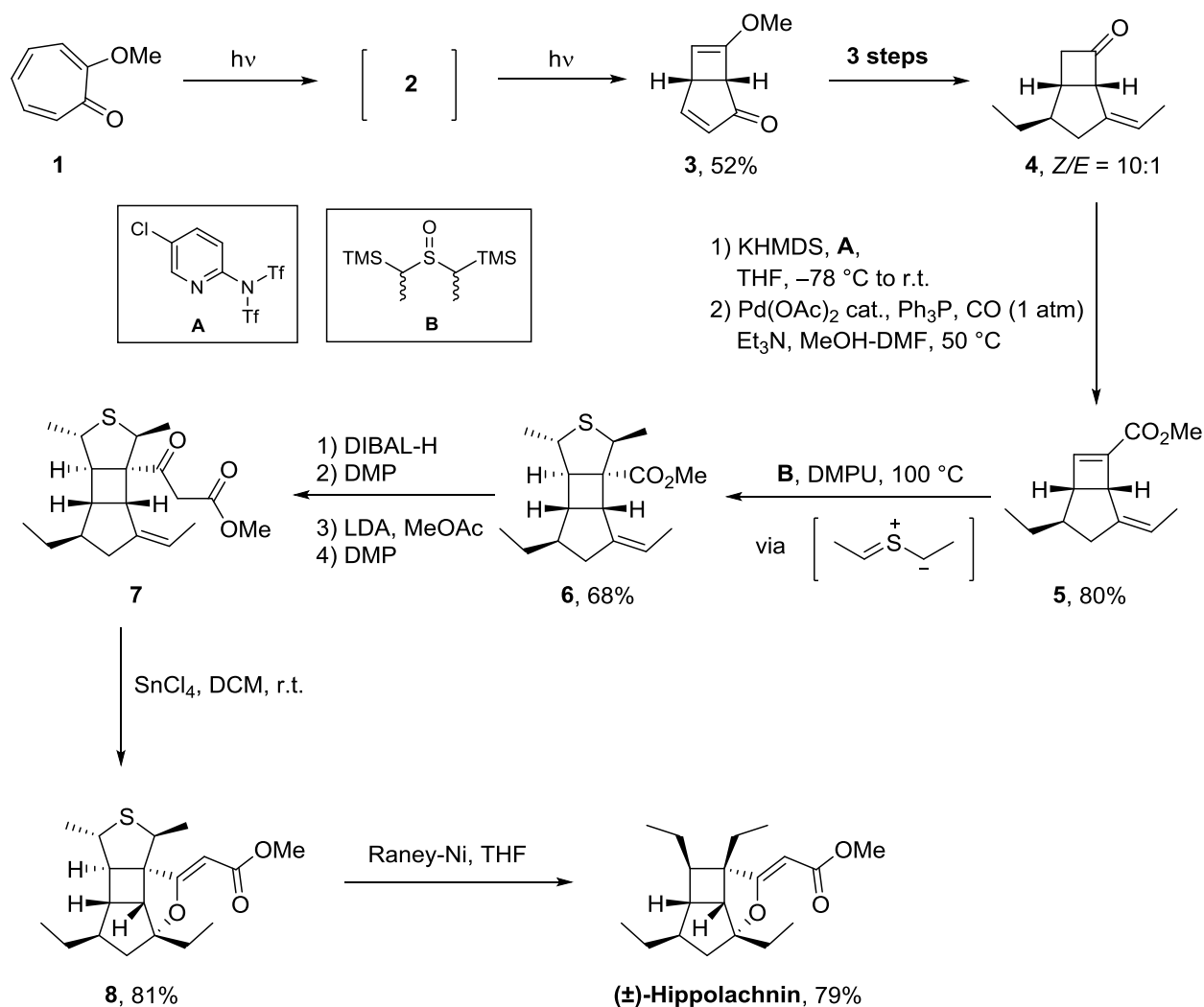
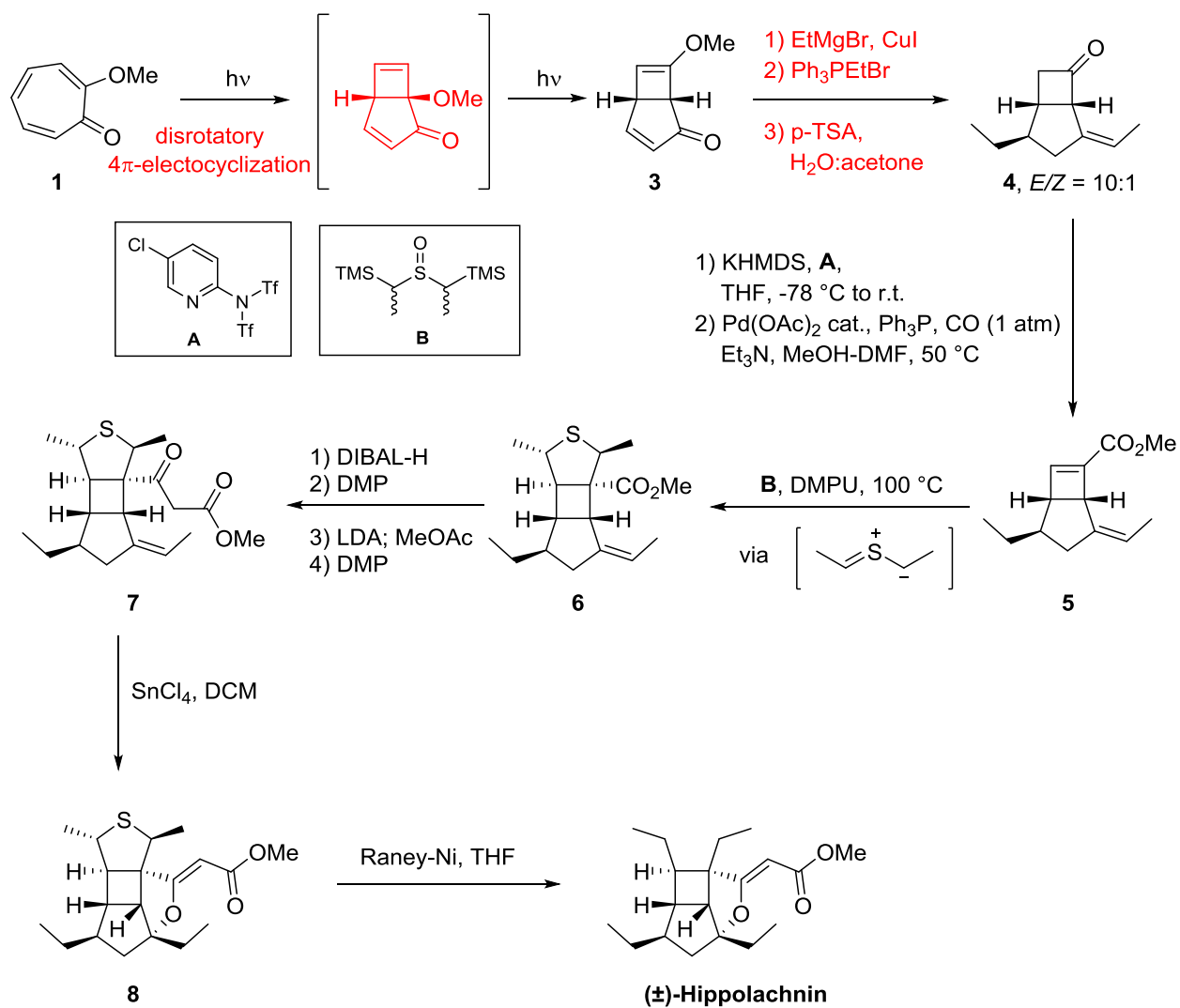


Total Synthesis of (\pm)-Hippolachnin A

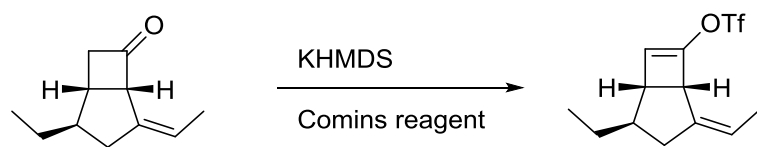
- 1) Give the intermediate **2** (explain the relative stereochemistry).
- 2) Propose 3 steps to form bicyclic ketone **4**.
- 3) What is the mechanism for the homologation to form unsaturated ester **5** from ketone **4**?
- 4) Propose a mechanism for the formation of tetrahydrothiophene **6**.
- 5) Give the mechanism for the tin-catalyzed o-alkylation to form **8**.

Bonus (if there is time)

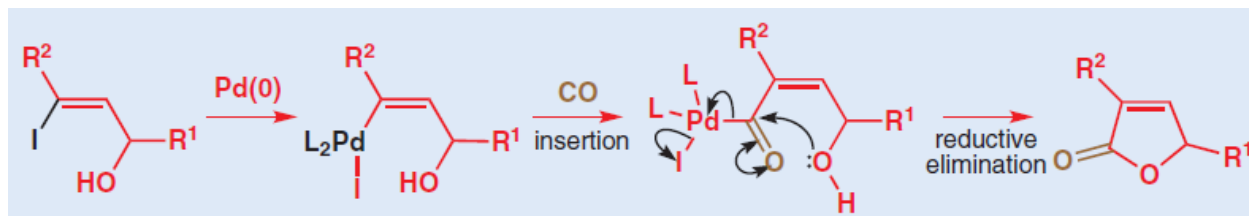
Propose a mechanism for the rearrangement to form **3**.

Total Synthesis of (\pm)-Hippolachnin A

4 to 5

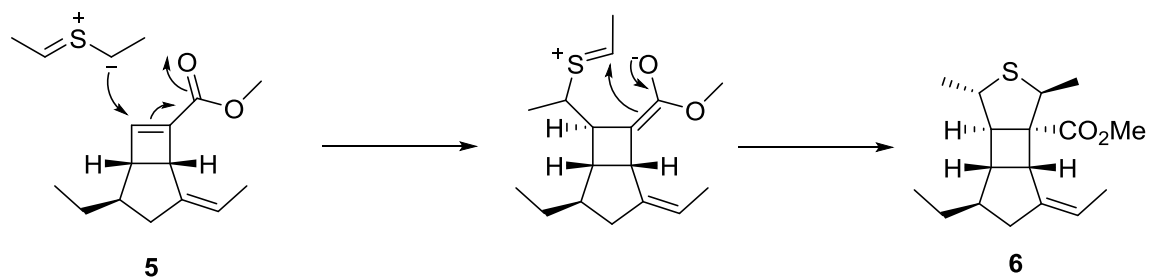


Then carbomethoxylation



Same reaction but trapping intermolecular with methanol! In our case I is TfO.

5 to 6



Stepwise process because the two methyl-groups are anti to each other!

