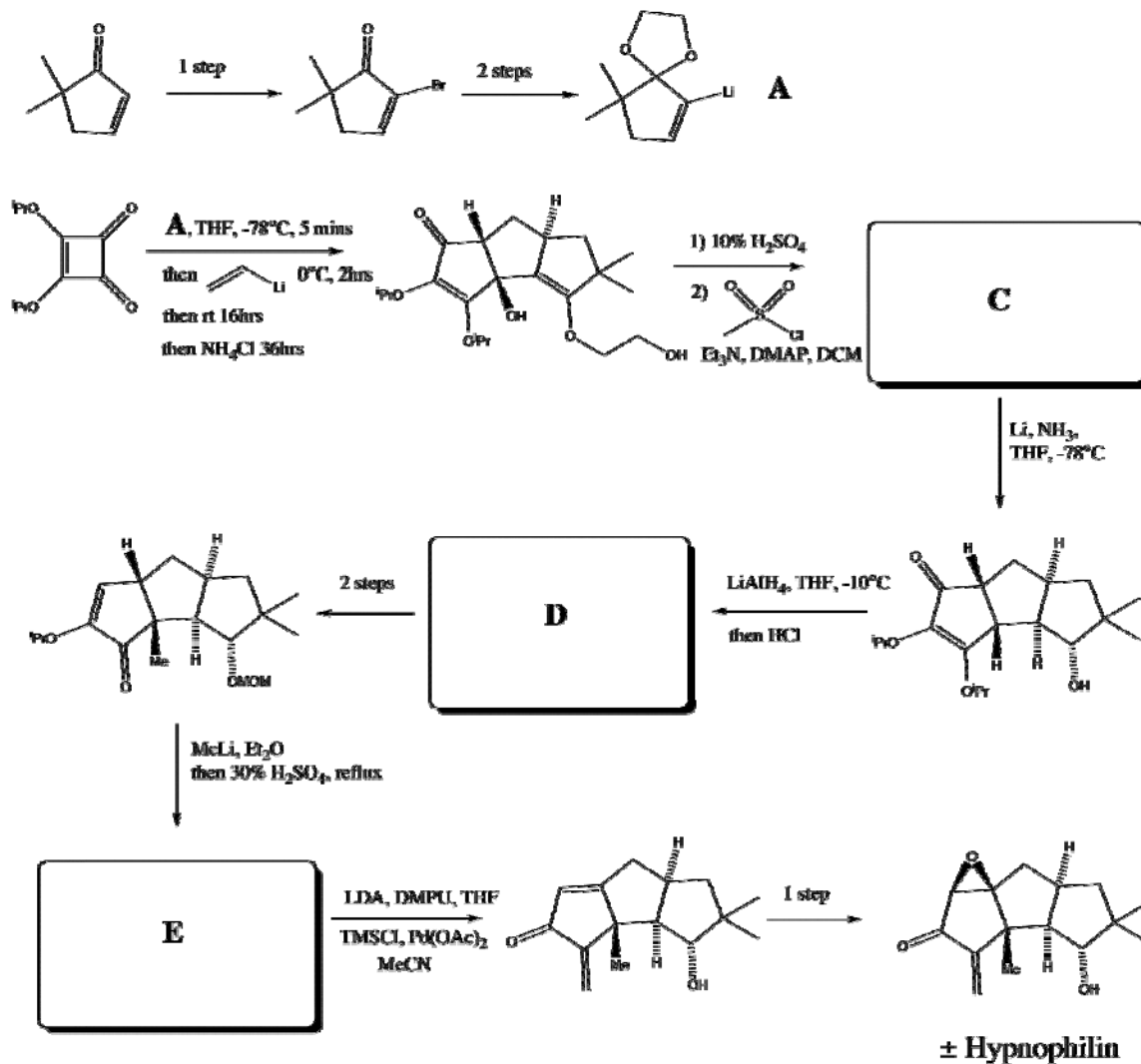


Problems

1) (\pm)-Hypnophilin is a sesquiterpenoid known for its antitumour activity and its ability to inhibit the growth of gram positive and gram negative bacteria, along with a wide variety of fungi and yeasts. Provide missing reagents, structures and mechanisms. Note that in the key step (step 3), two mechanistic pathways lead to the same product, depending on whether the addition of vinyl lithium is cis or trans.



Synthesis of Subincanadines

