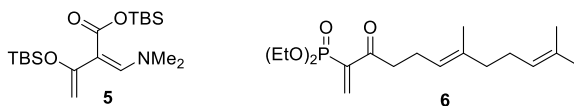


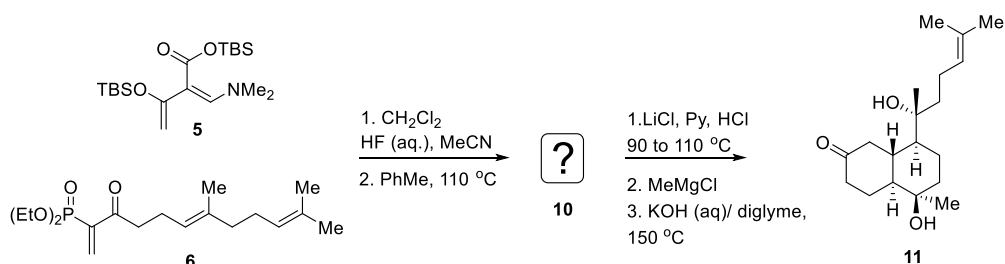
Exercise Session

Problem:

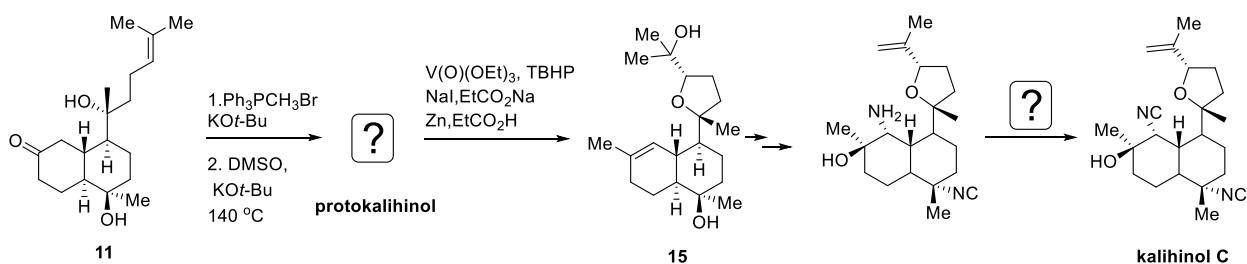
1. How will you synthesize initial building blocks **5** (from commercially available compound) and **6** (from the compound with a good smell (if you want, you can propose the way, starting from a compound with a bad smell), what the name of the compound)?



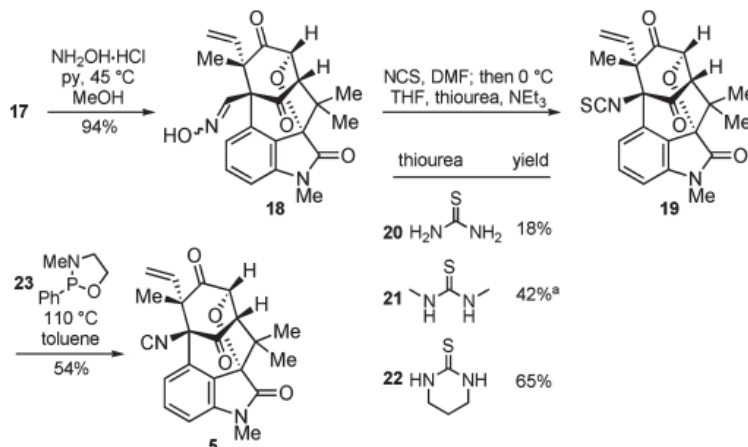
2. What is the compound **10**? (three subsequent high temperature reactions – so nice)



3. What is the structure of protokalihinol? Why NaI and Zn were used? Suggest two ways for the formation of isonitrile from the corresponding amine (one is the chemical test for detection of primary amines. What is the name of this test?).



4. In the synthesis of another molecule different interesting approach for isonitrile synthesis was used. Write the mechanisms for the transformations 18 to 19 and 19 to 5.



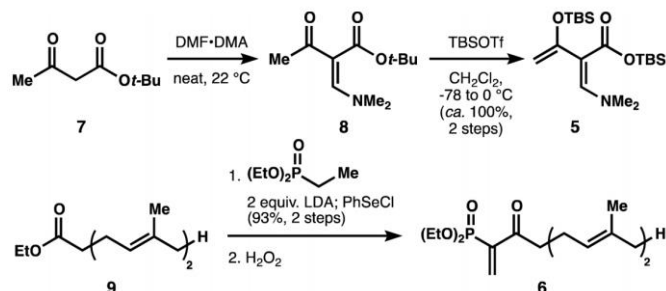
Stereocontrolled Synthesis of Kalihinol C

Christopher A. Reiher and Ryan A. Shenvi

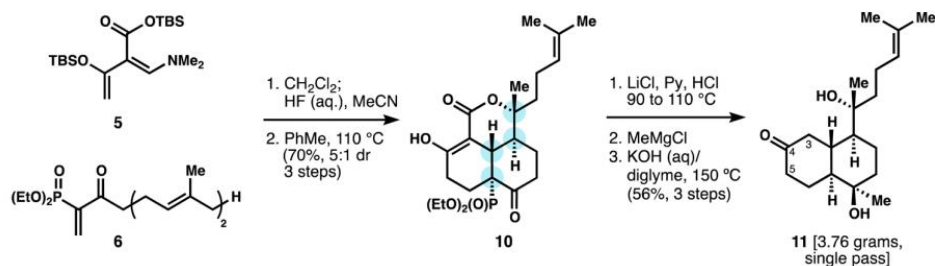
DOI: 10.1021/jacs.7b01124

J. Am. Chem. Soc. **2017**, *139*, 3647–3650

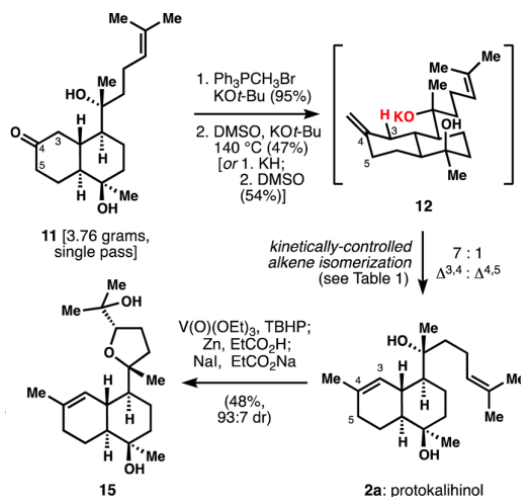
1. Synthesis of building blocks 5 and 6. Ethyl geranyl acetate.

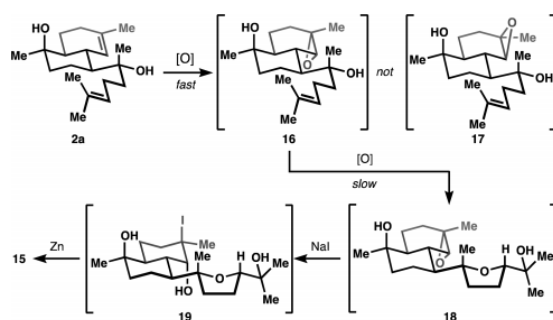


2. Compound 10.

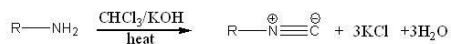


3. Isomerization. Epoxidation and deoxygenation of second epoxide with Zn and NaI.

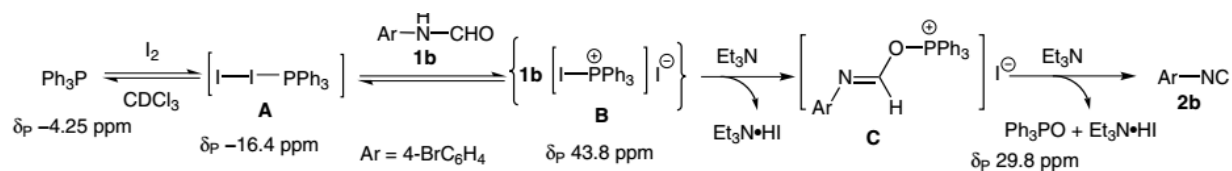
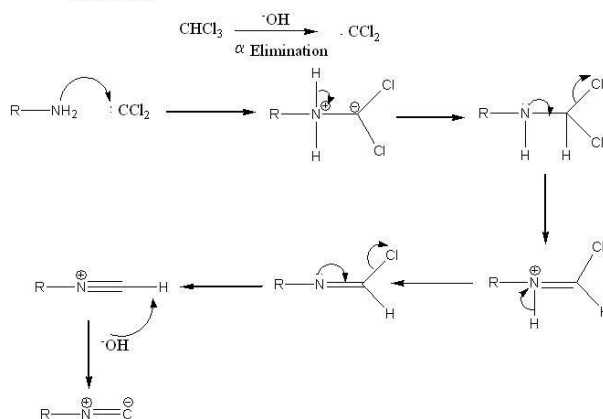




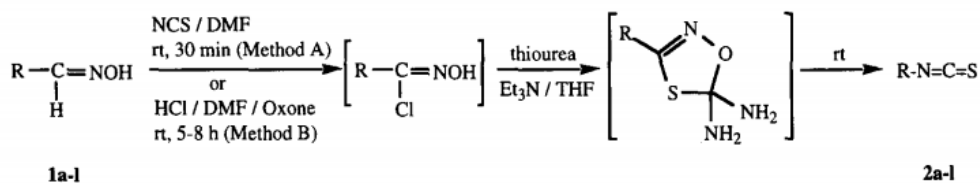
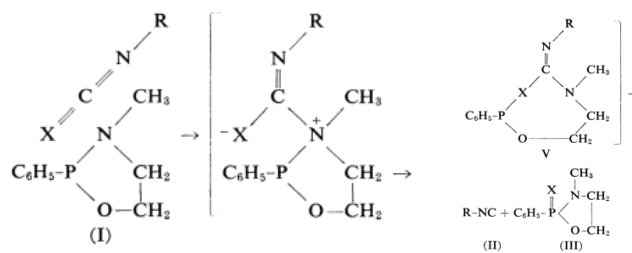
Hoffman's isocyanide test. Carbylamine reaction.



Mechanism:



4. Mechanisms for for the transformations 18 to 19 and 19 to 5.



Scheme 1