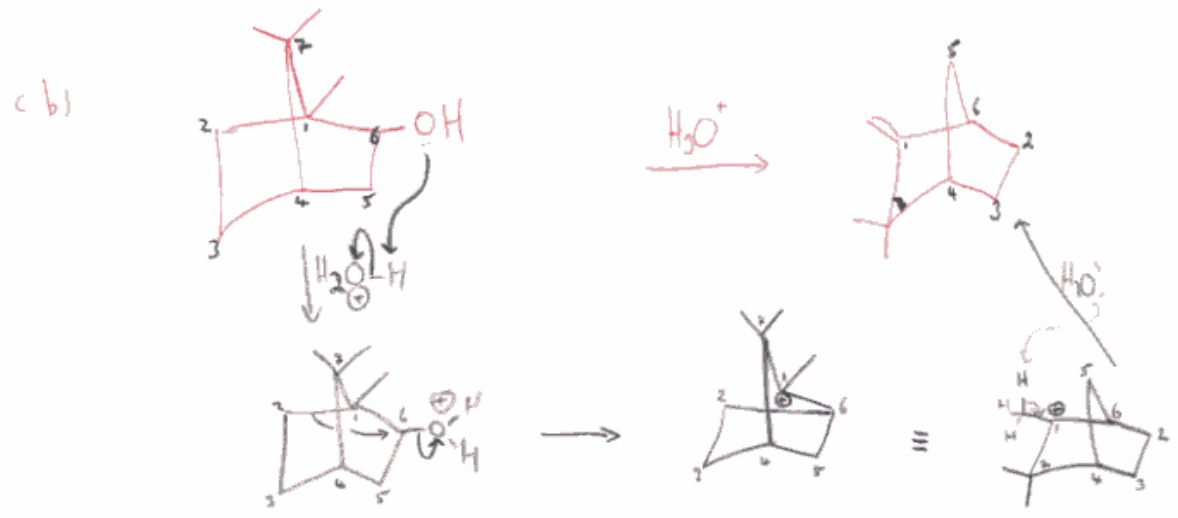
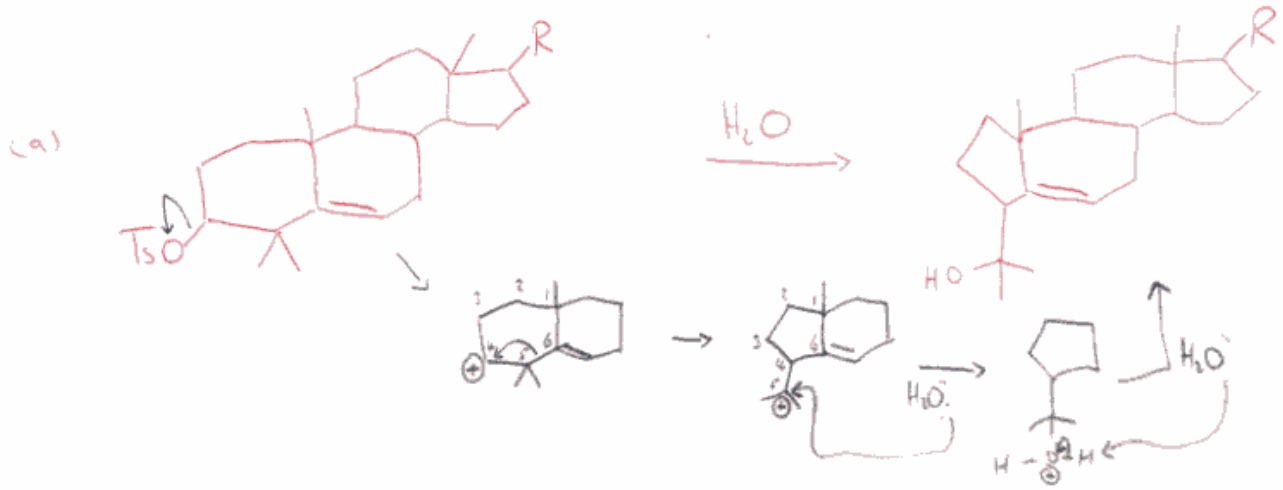


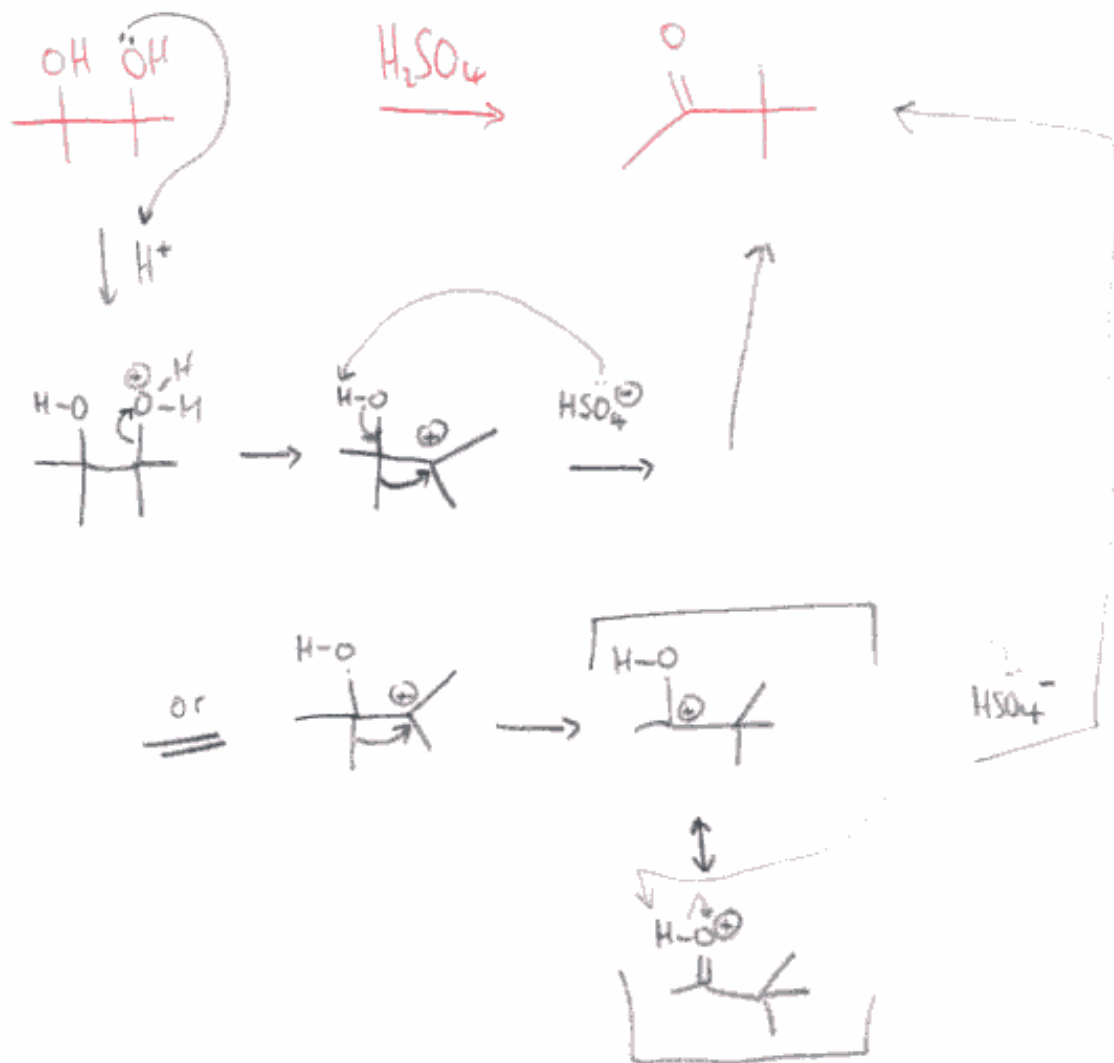
# Answers to Ch4 Problems

- *Please only use these to check **your** answers – there is no better way to get good at organic problems than trying to do them yourself.*
- *The struggle to figure out the right answer is training you to be able to answer the questions on examinations.*
- *Being lazy and cheating yourself by not attempting these problems yourself will cause you to do horribly on my quizzes and exams.*
- ***BEAR IN MIND**, the problems are **VERY** relevant to the text they follow.*
- *E.g. if we cover the Favorskii rearrangement, the problems directly after that in the text **\*MAY\*** involve some sort of similar mechanistic process.*
- *(If you are stuck, read the section in the notes directly before that problem).*
- *For the mechanisms I did not write out all possible resonance structures, I just put a resonance arrow to indicate that you can (and should) write other resonance structures.*

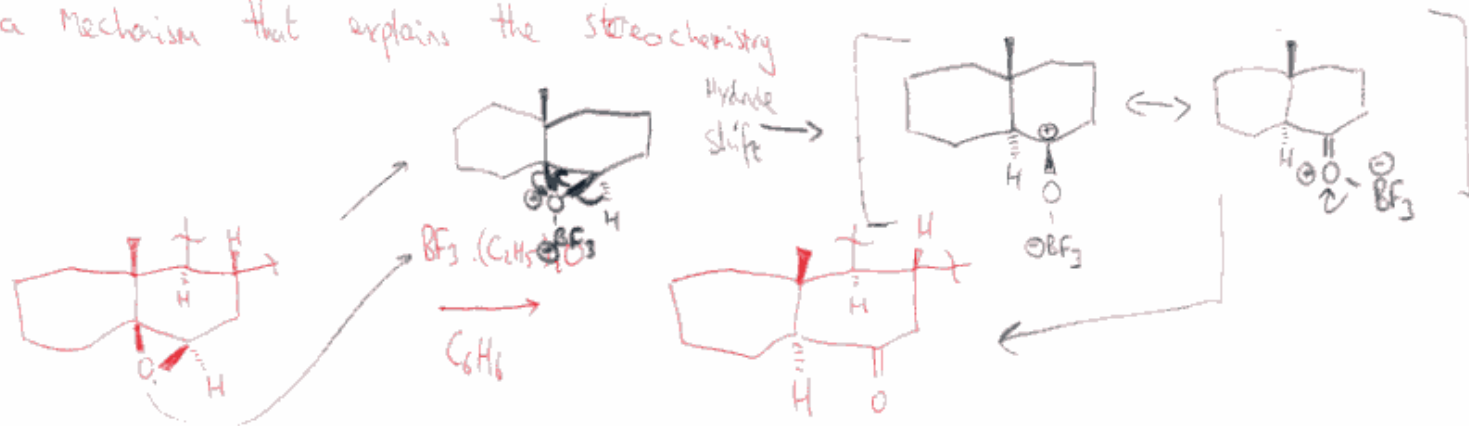
Write mechanisms for:



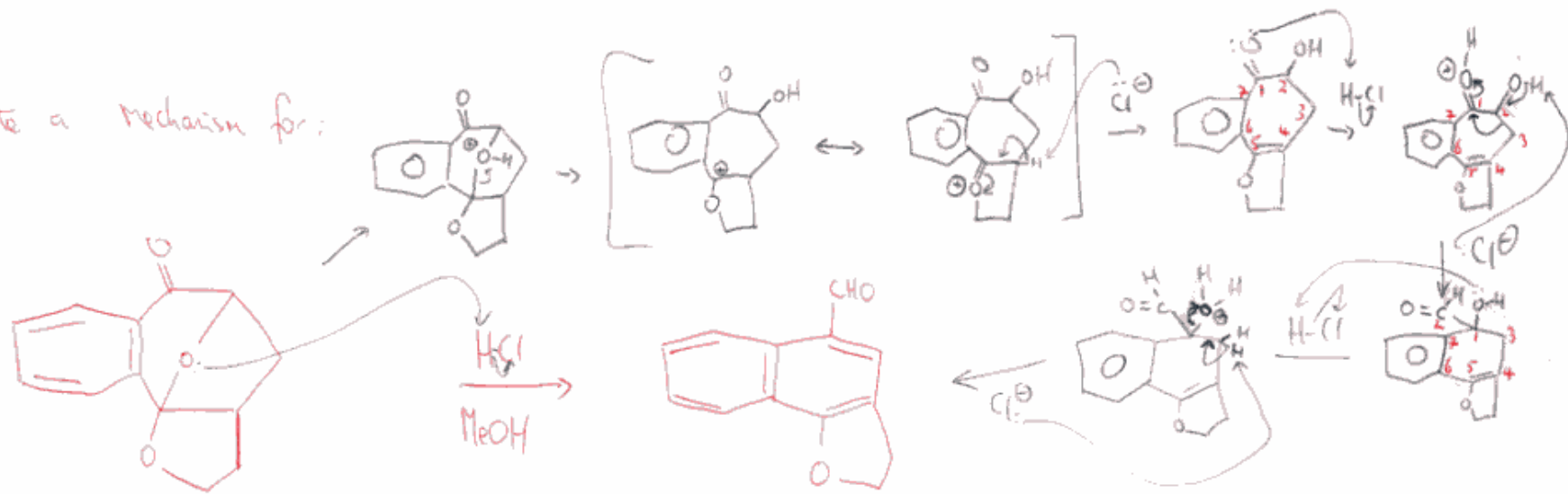
Write the mechanism for:



Write a mechanism that explains the stereochemistry

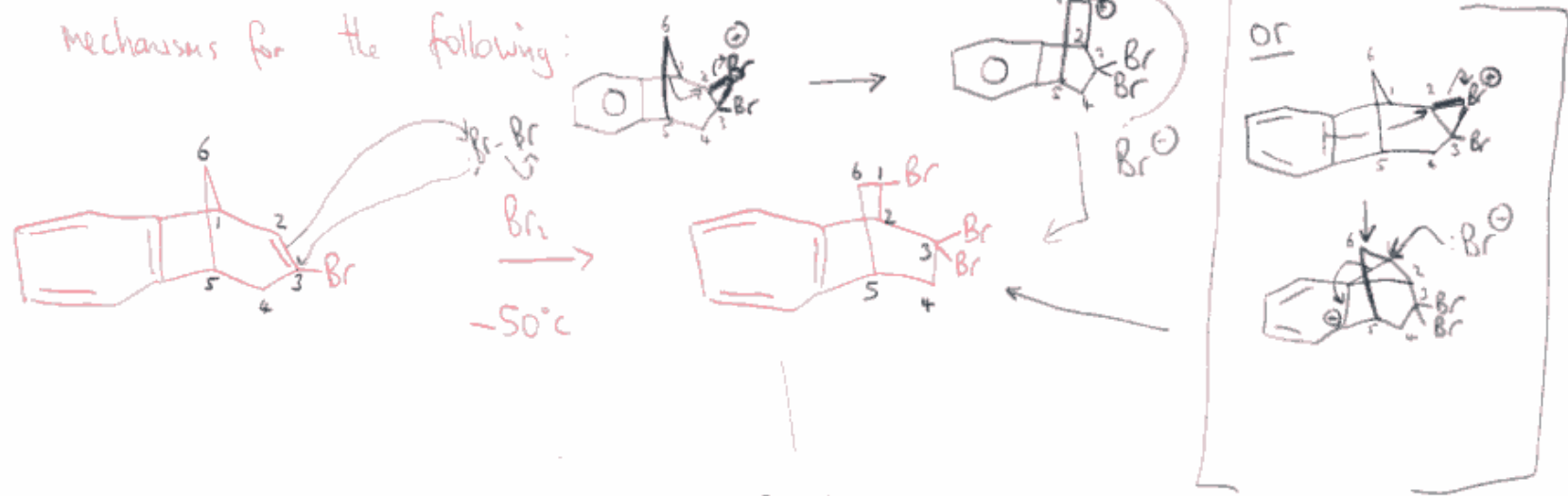


Write a mechanism for:

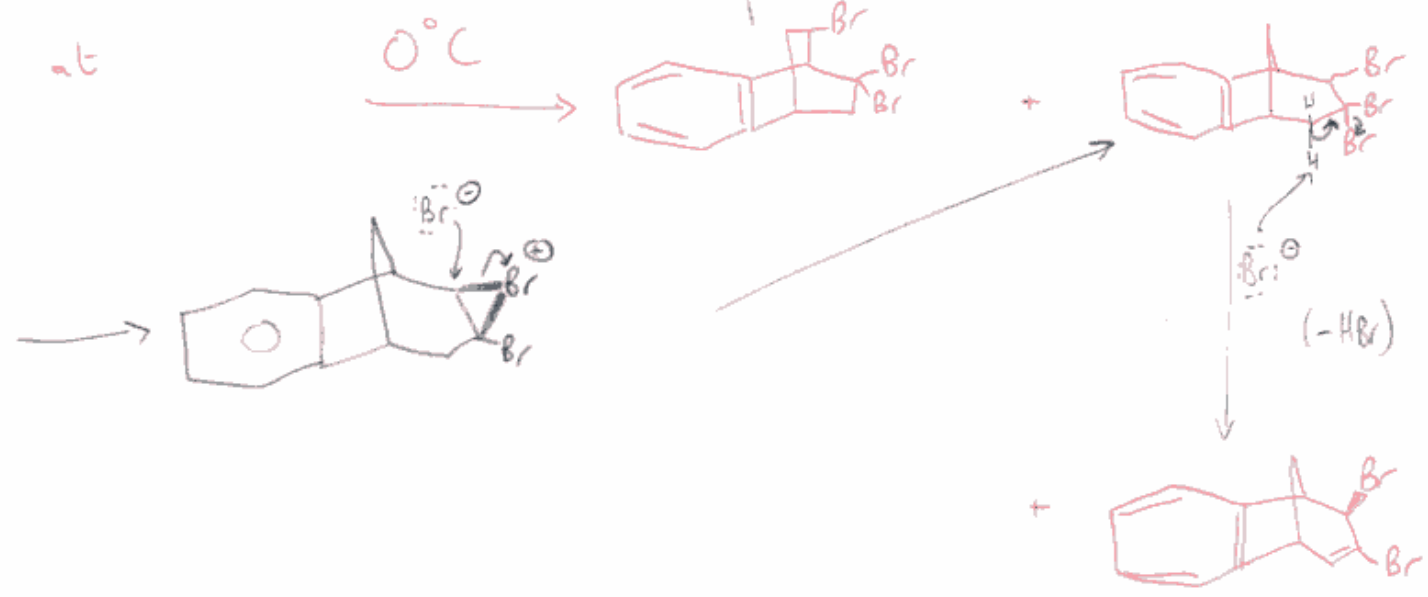


Write mechanisms for the following:

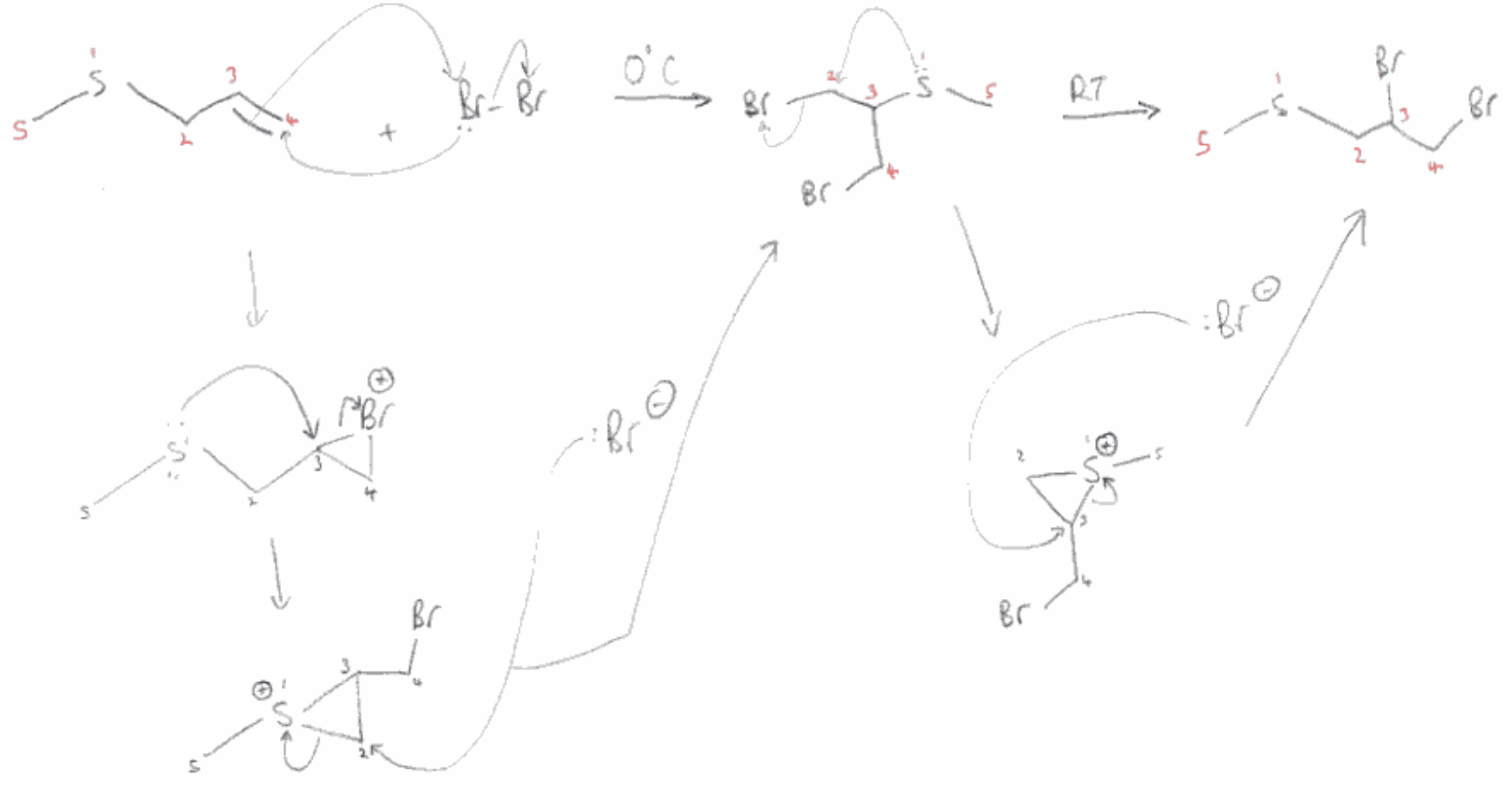
(a)



Whereas at

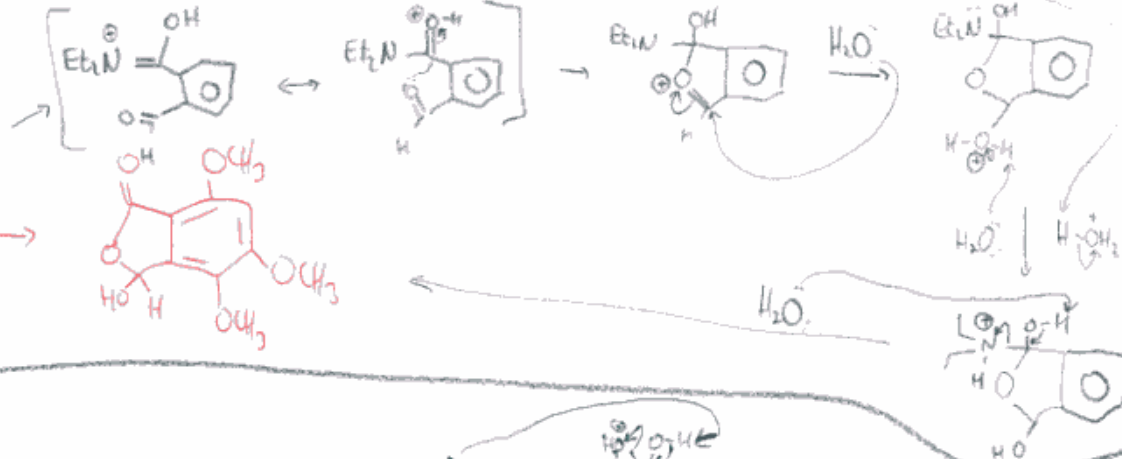
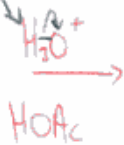
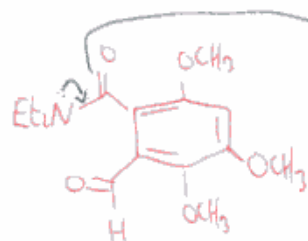


(b)

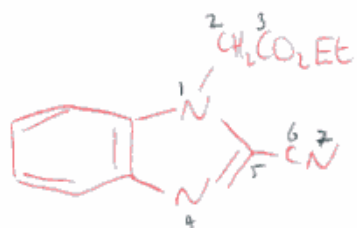


Write mechanism for the following:

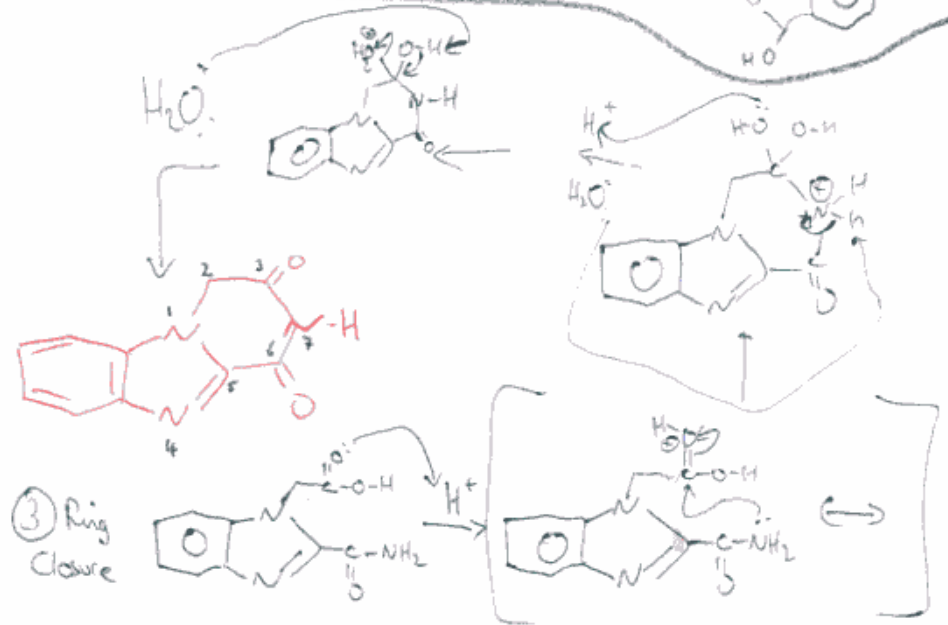
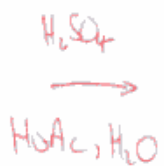
(a)



(b)



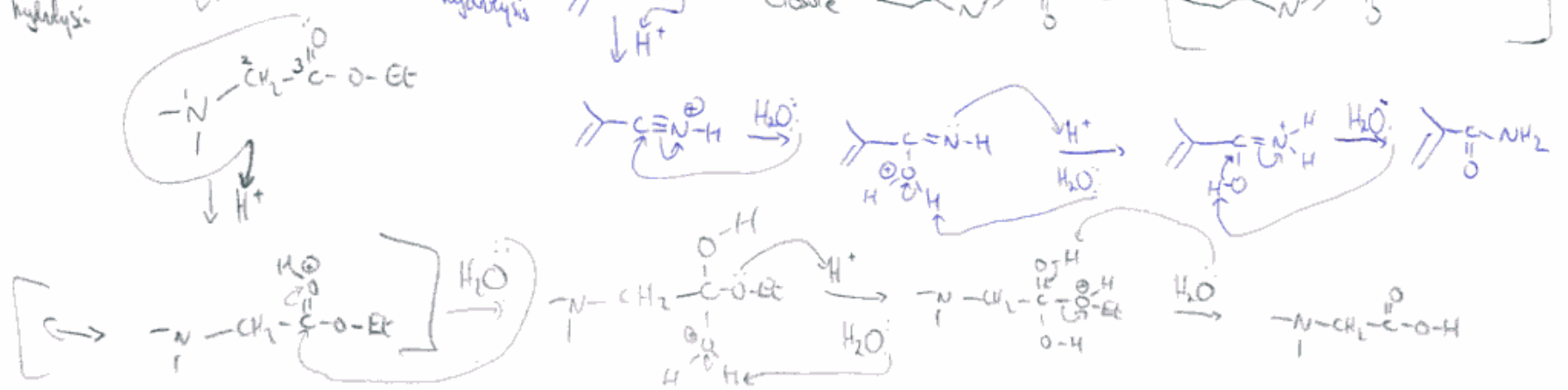
3 Parts



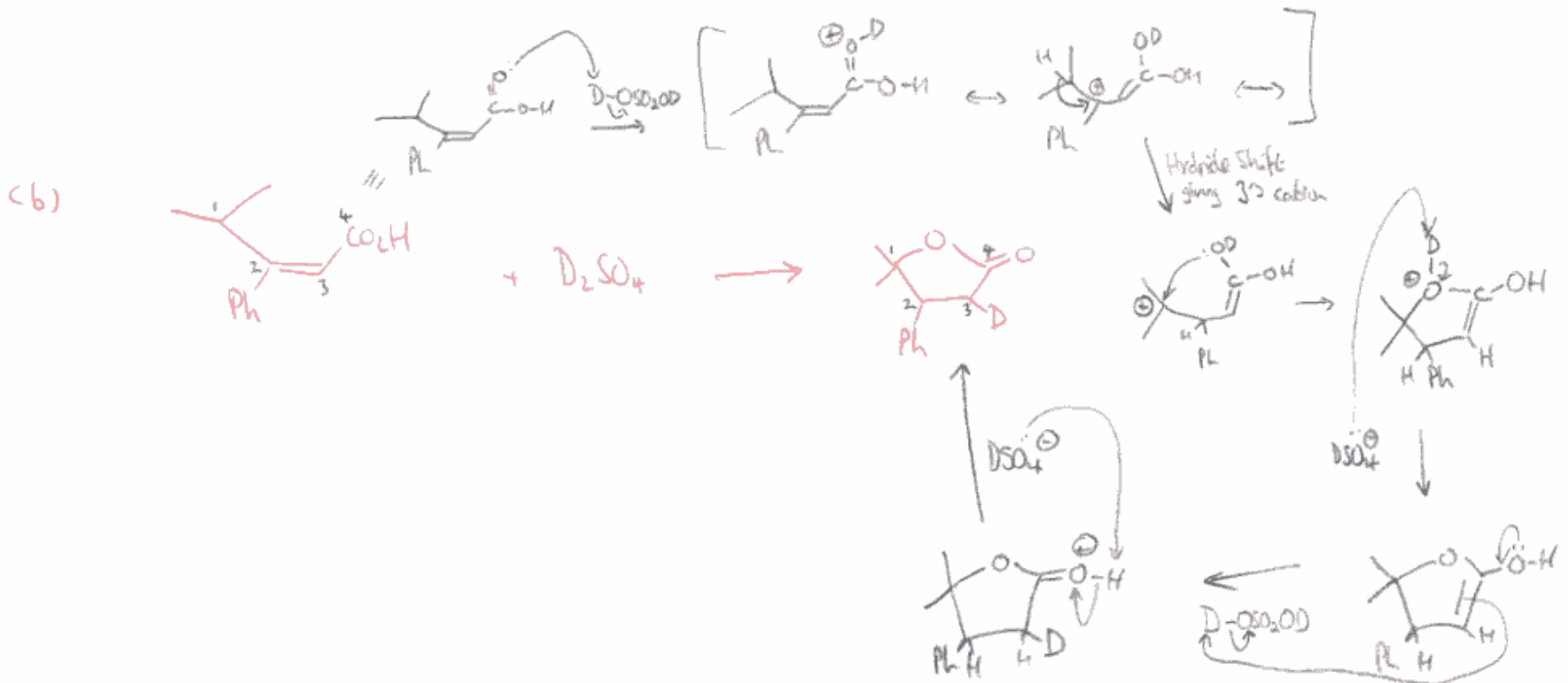
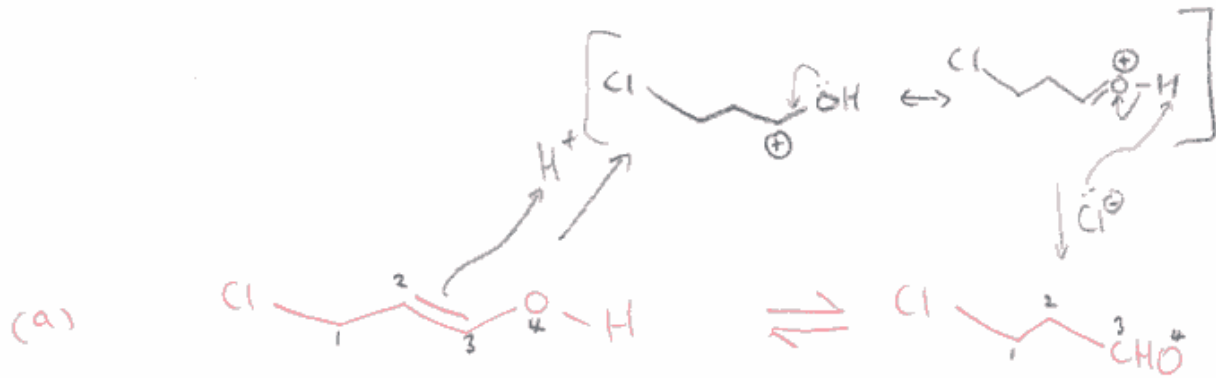
① Ester hydrolysis

② yano hydrolysis

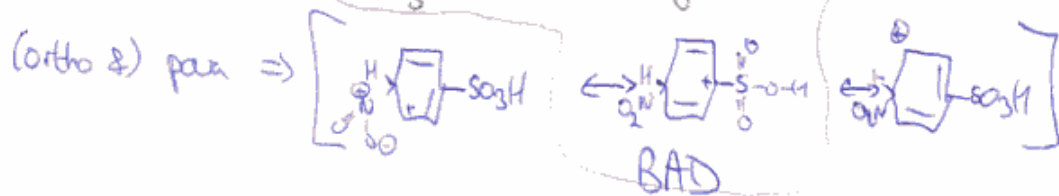
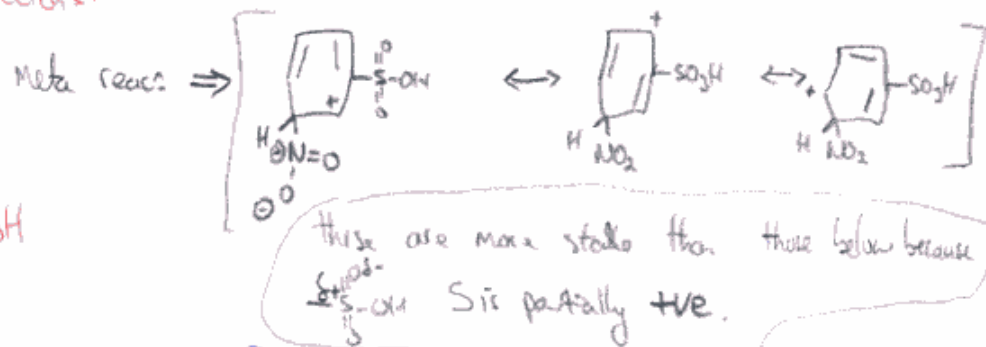
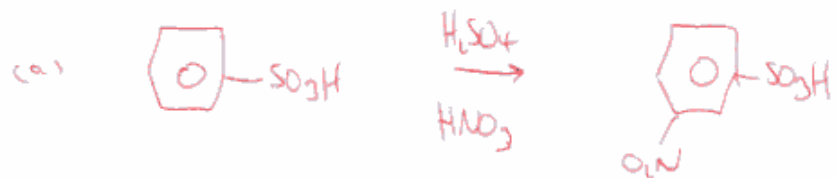
③ Ring closure



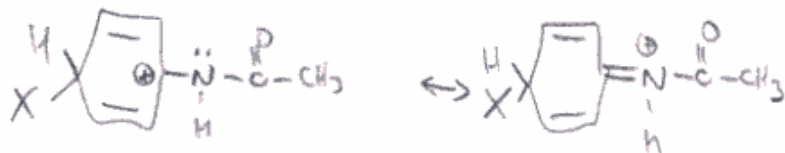
Write a mechanism for



Explain the orientation of the following reactions.

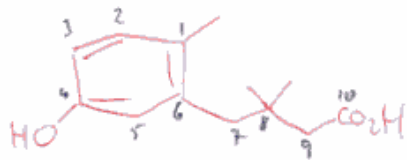
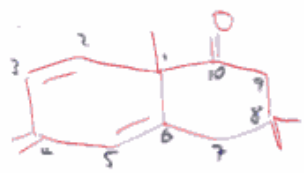


↑  
o/p director  
p preferred to o  
because of steric

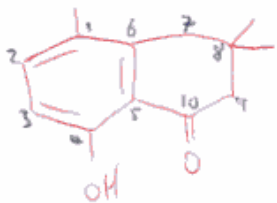


Write mechanisms for the following

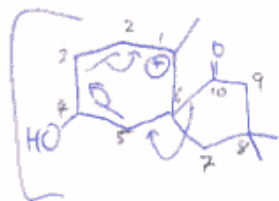
(a)



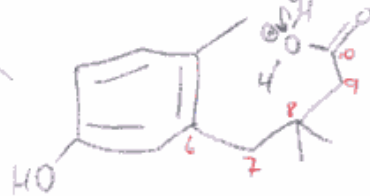
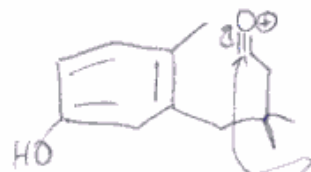
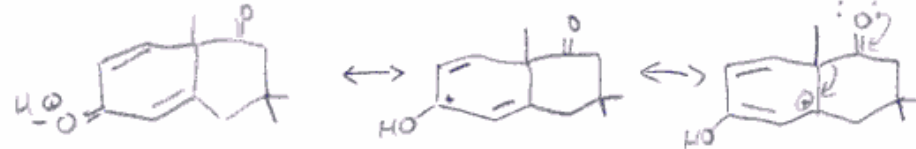
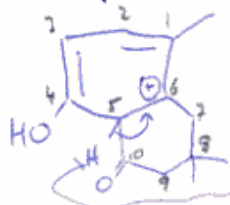
conc.  $H_2SO_4$   
 $\downarrow -H_2O$



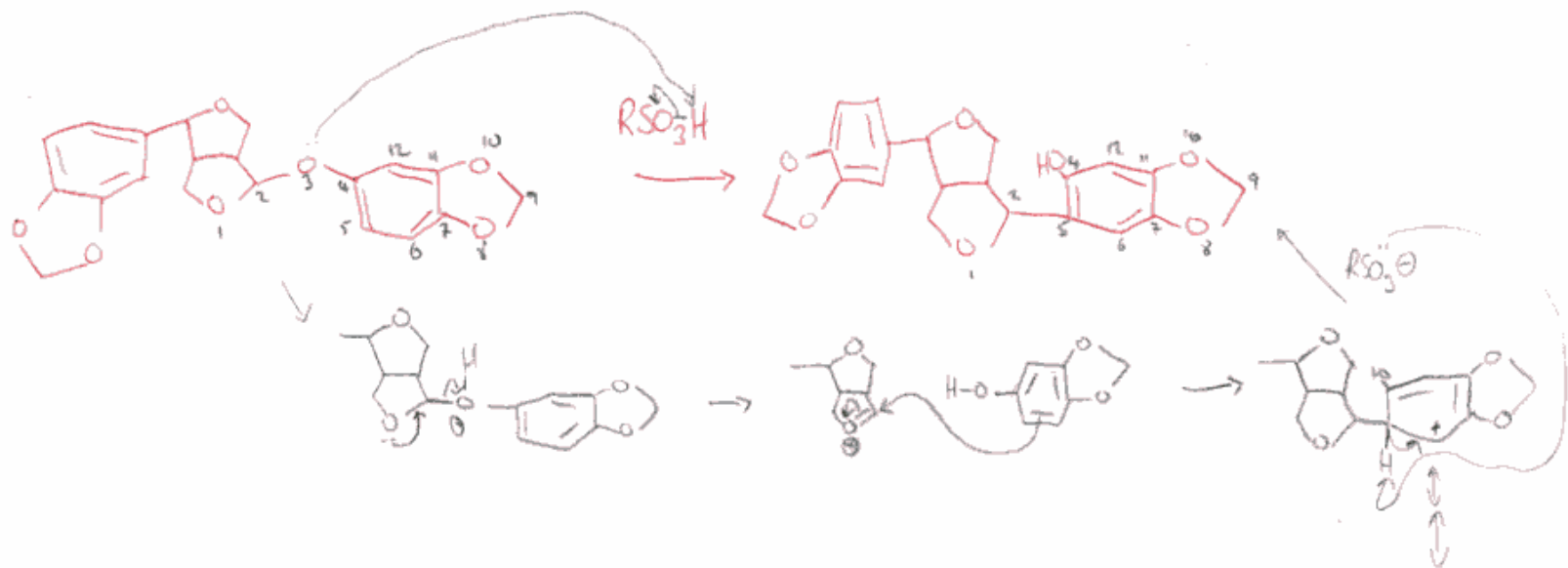
acyl shift



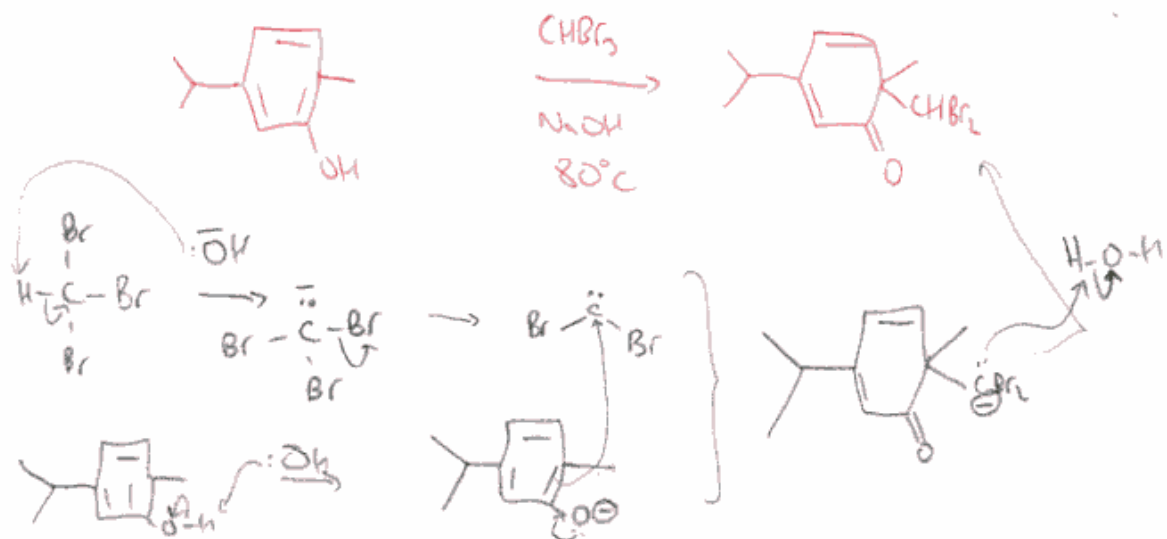
another acyl shift



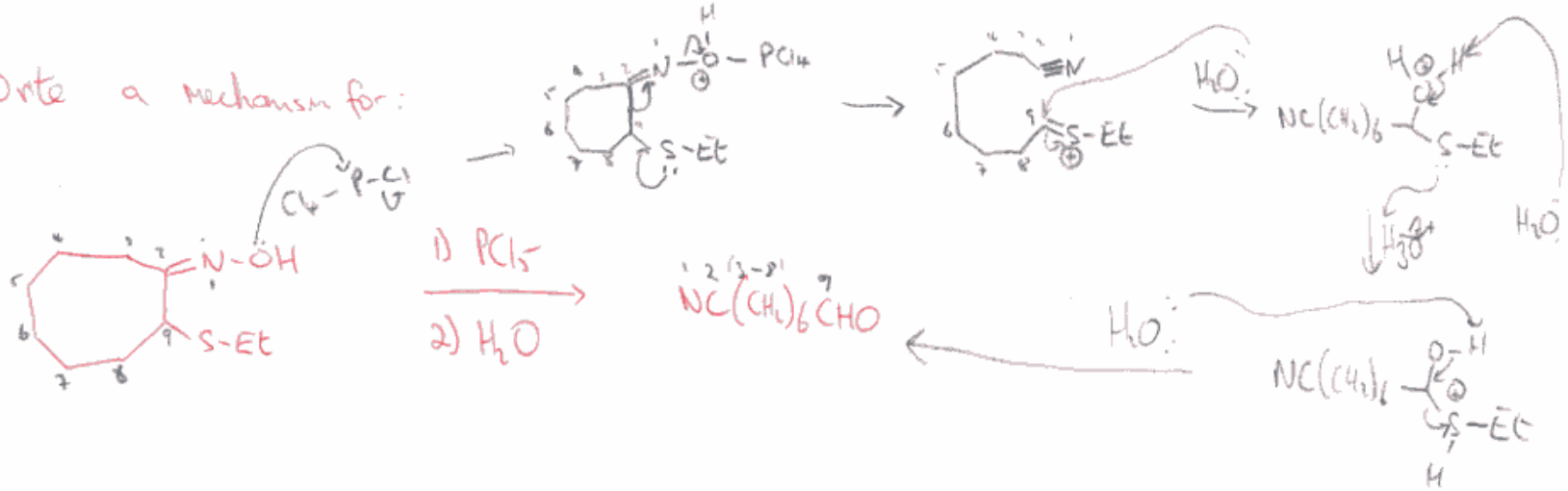
(b)



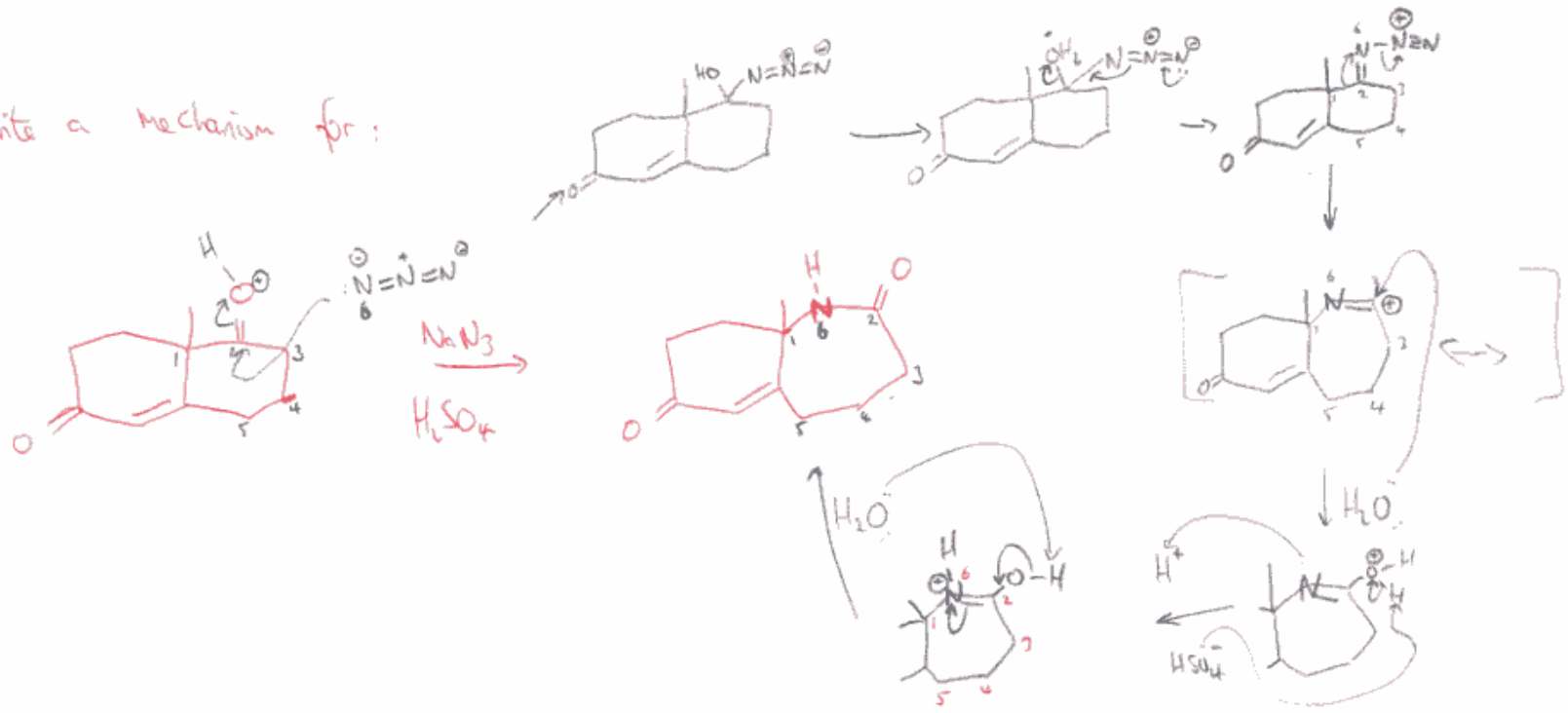
Write the mechanism for:



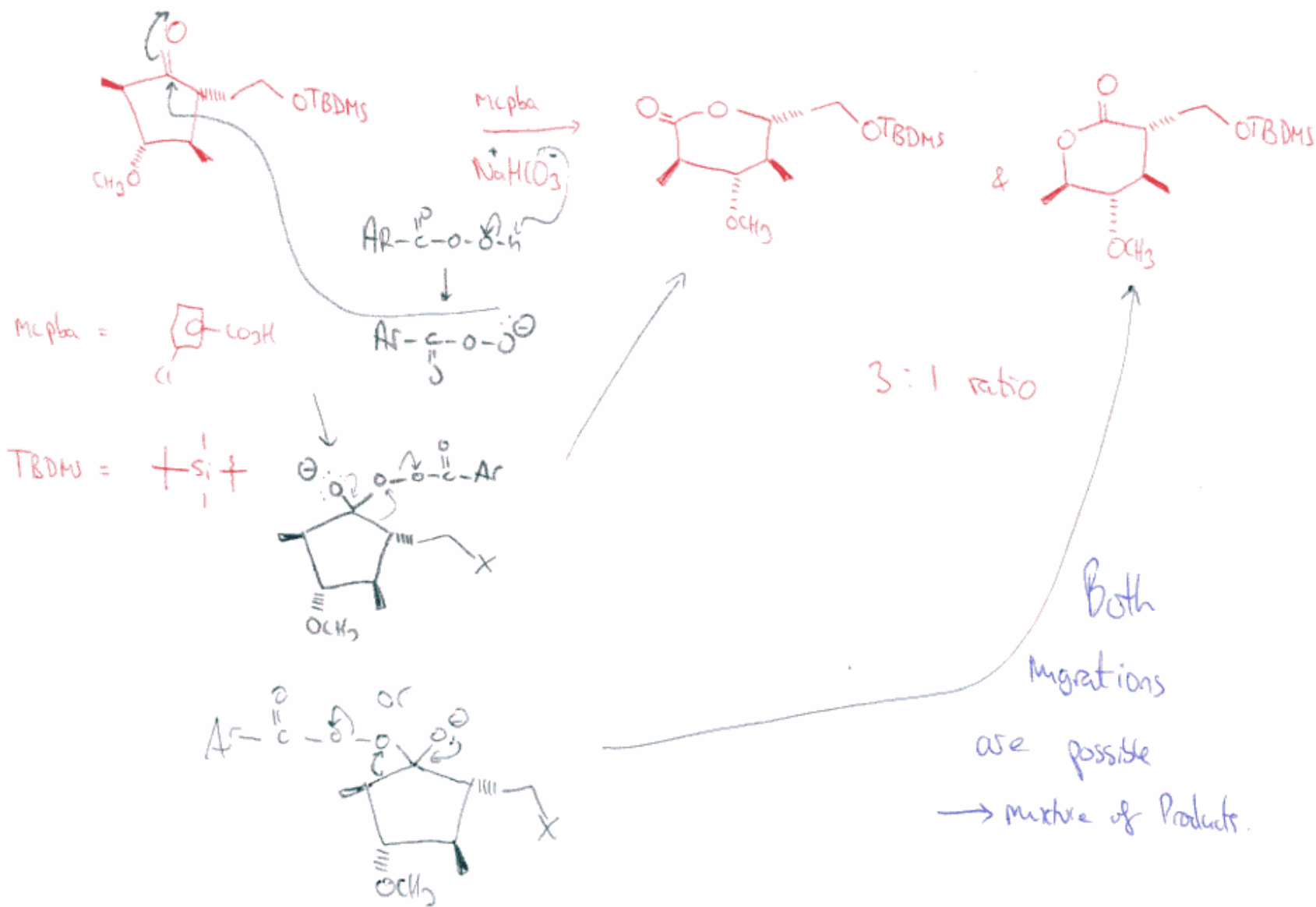
Write a mechanism for:



Write a mechanism for:



Write a mechanism & comment on the mixture of products.

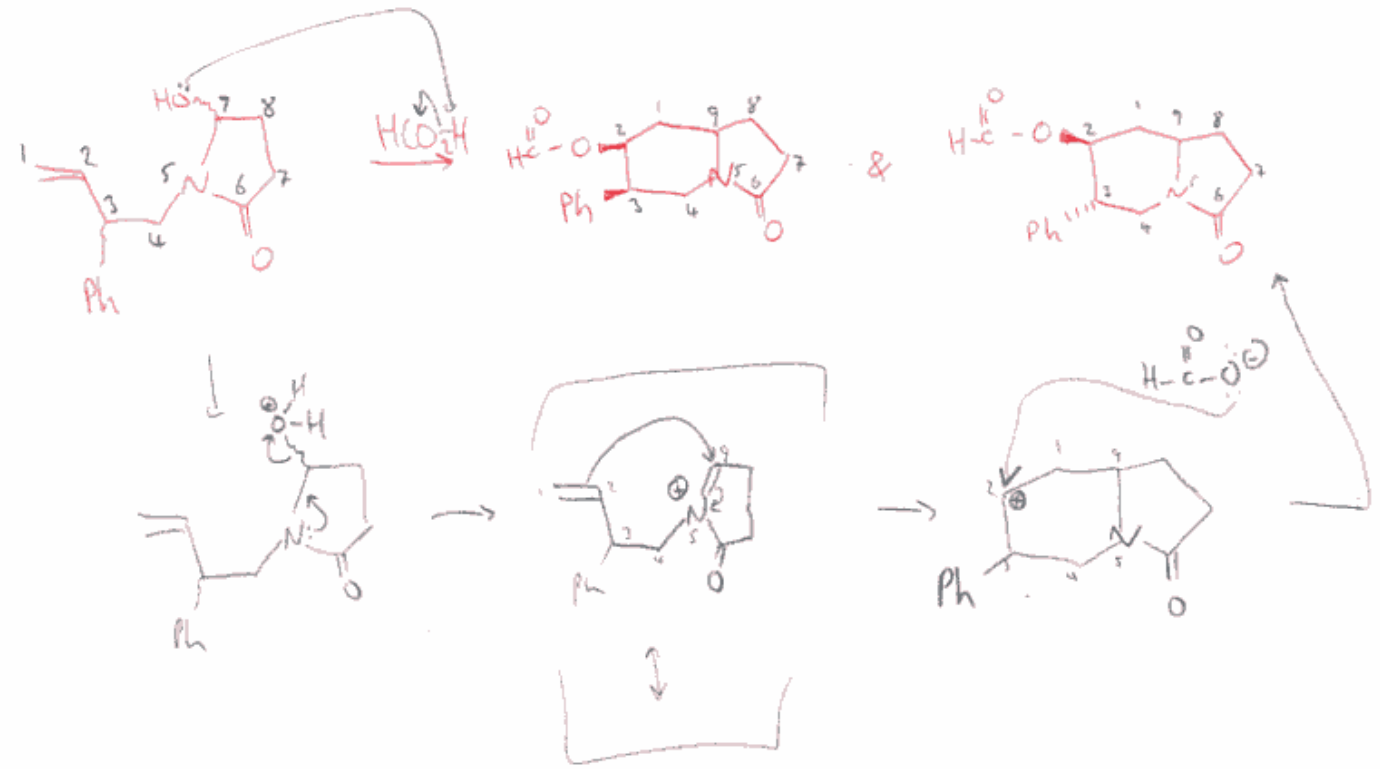


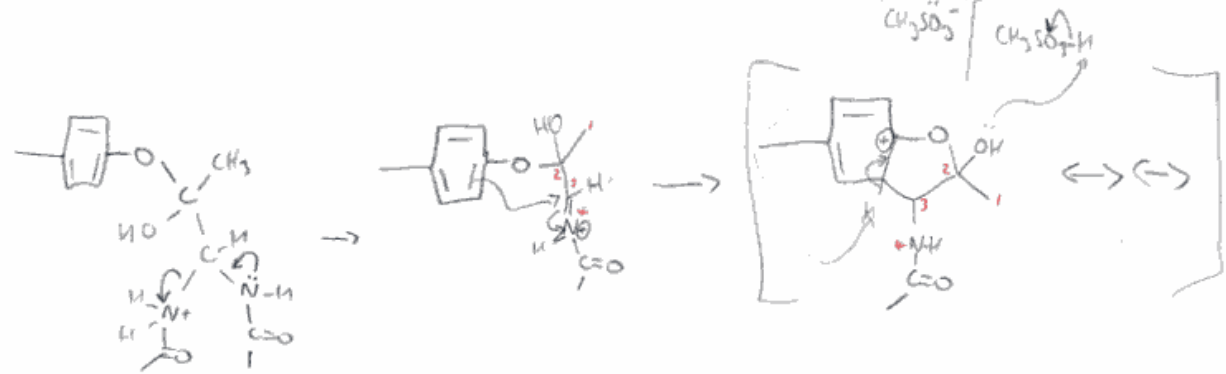
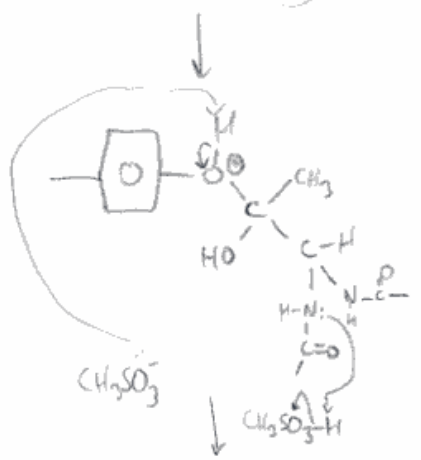
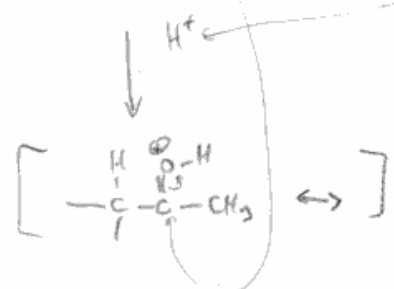
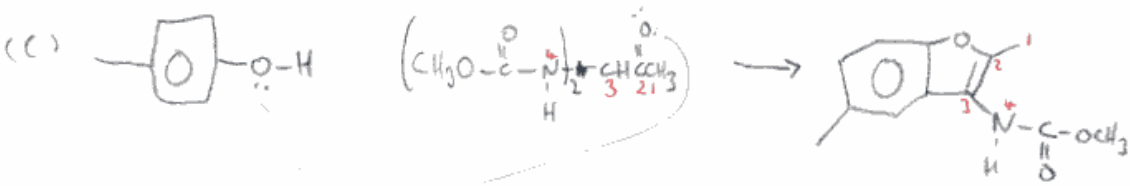
Write mechanisms for the following:

(a)

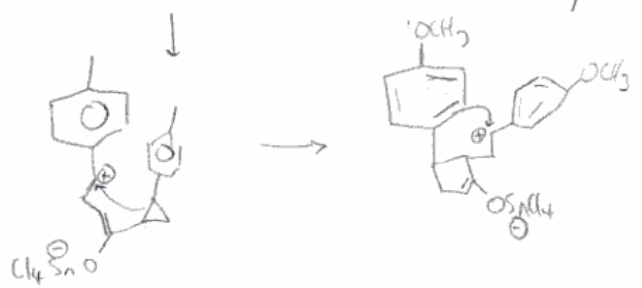
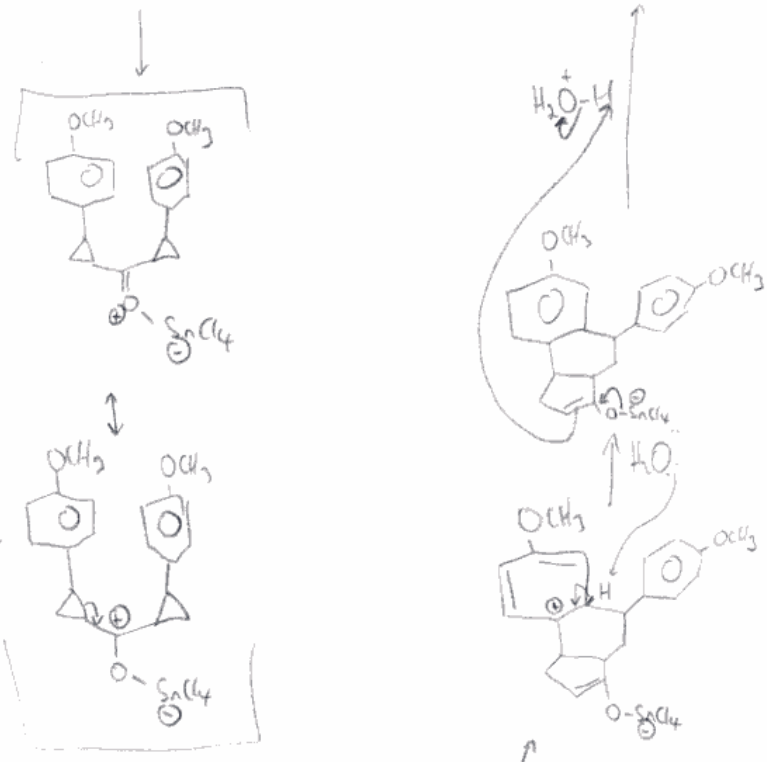
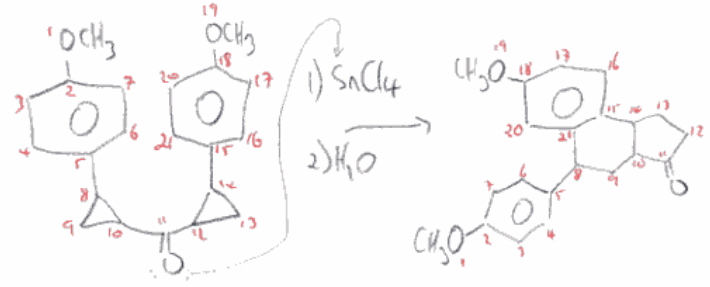


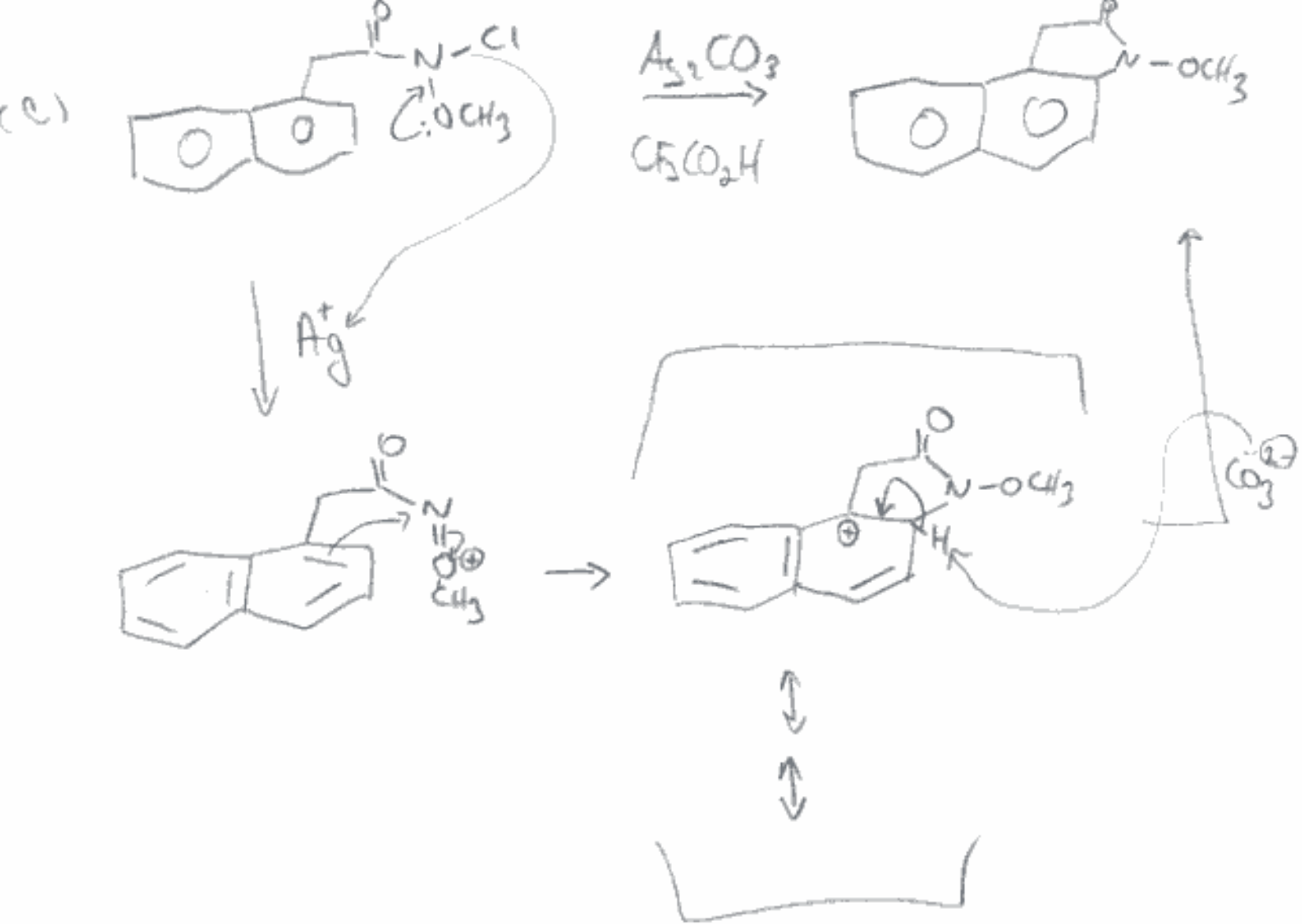
(b)





(d)





(f)

