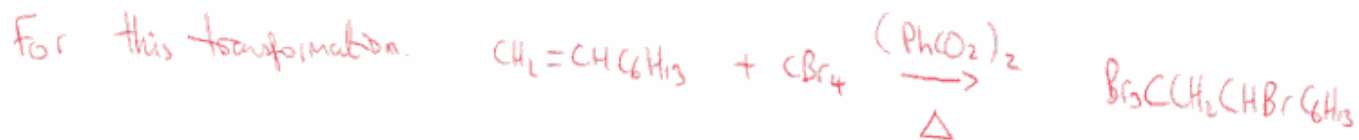
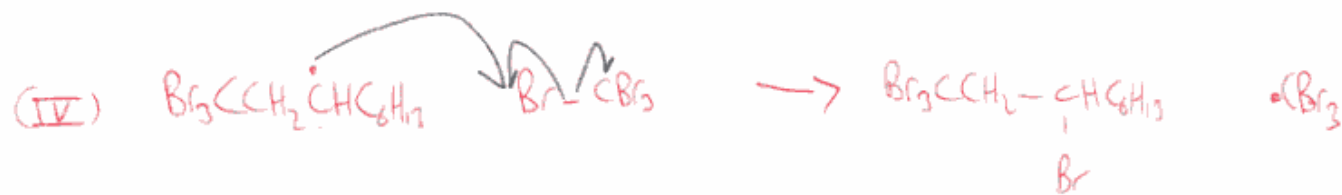
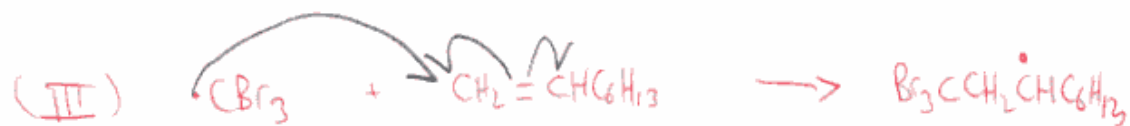


# Answers to Ch2 Problems

- *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 Stevens' 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.*



a) Draw in the (single barb) arrows for each step:

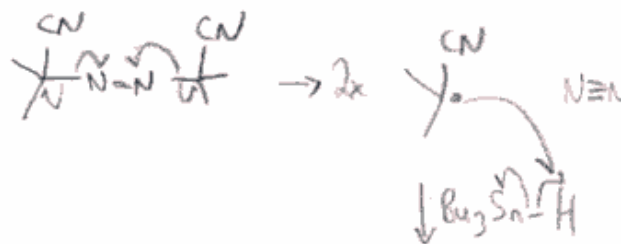
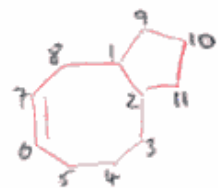
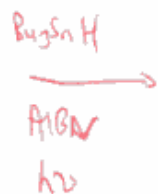
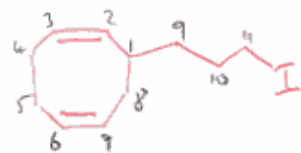


Initiation

Propagation

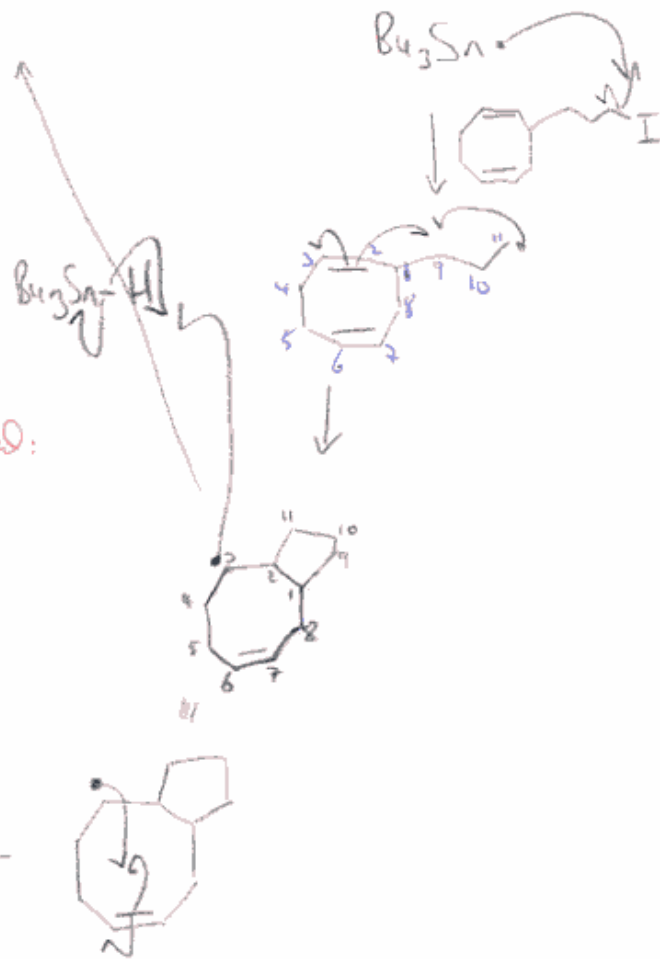
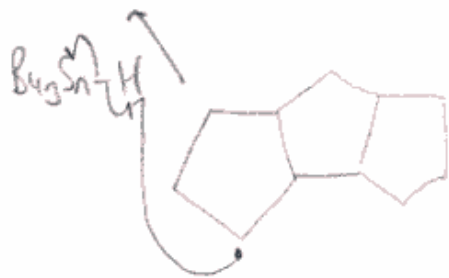
- (b) What are initiation & propagation steps?  
 (c) Why is (III) regioselective? More highly substituted radical formed

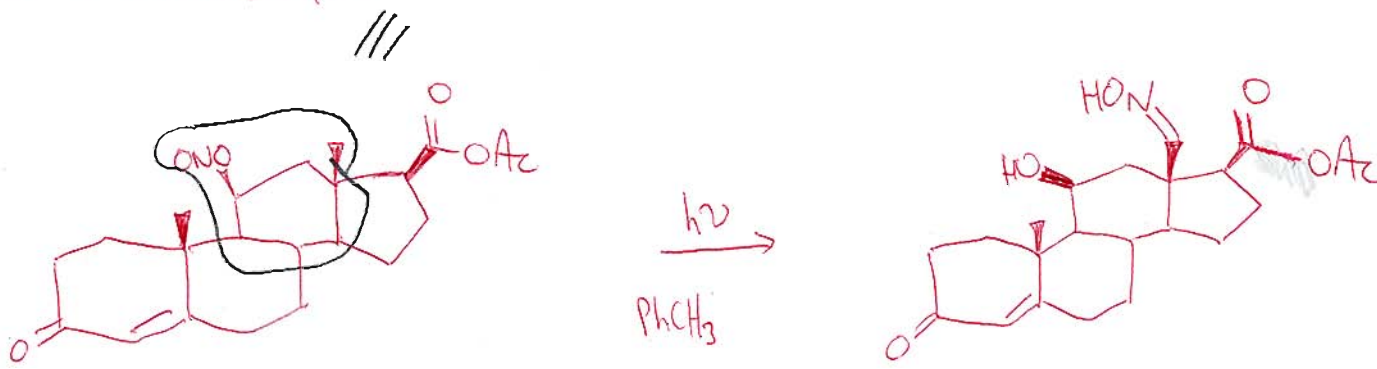
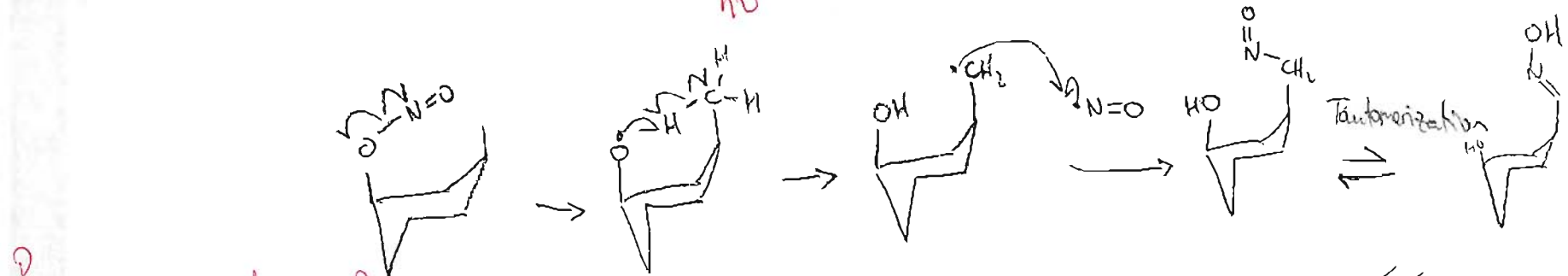
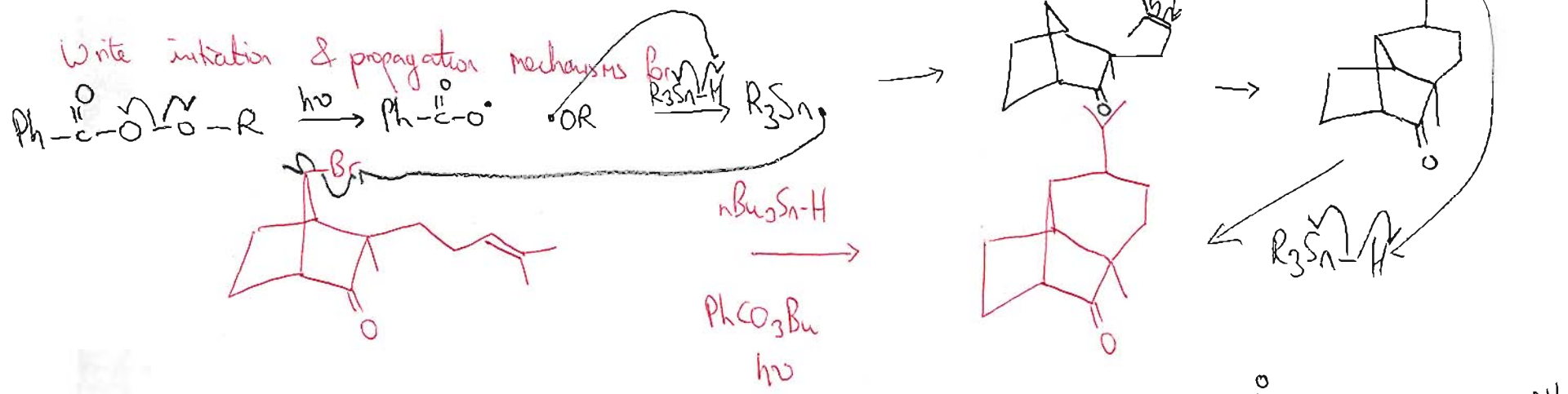
For the following reaction



(a) write the mechanism (identify initiation & propagation steps).

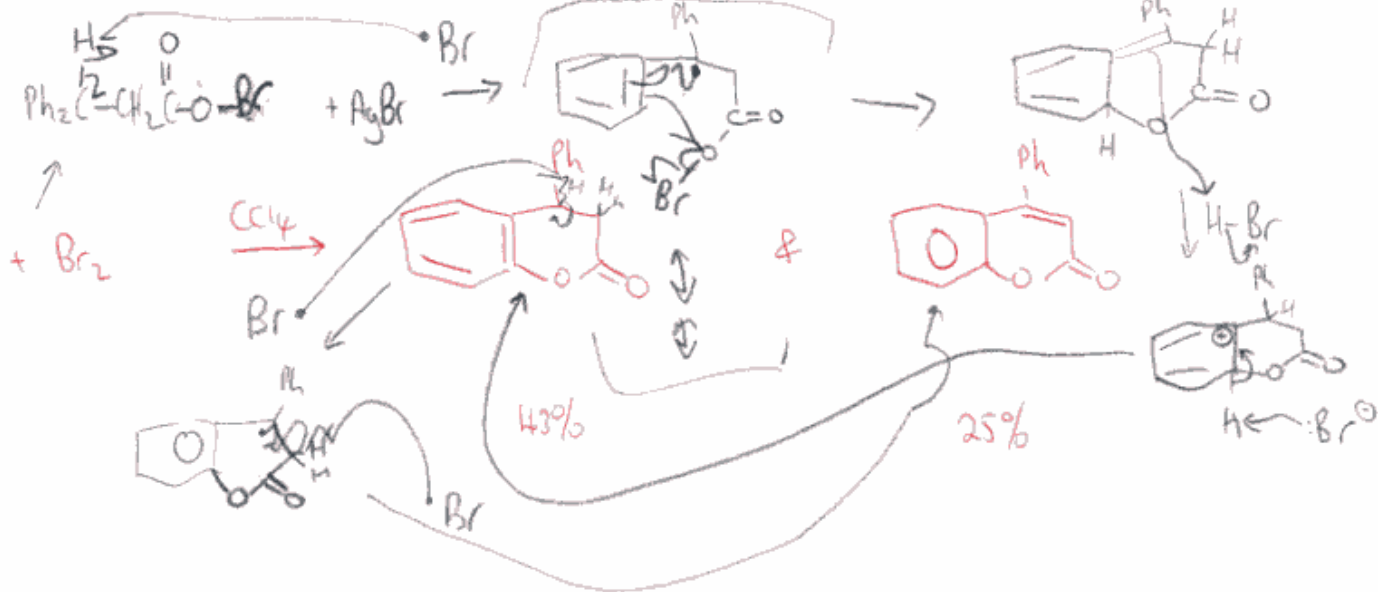
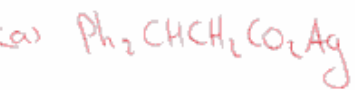
(b) This side product is a minor product. Show how it might be formed:



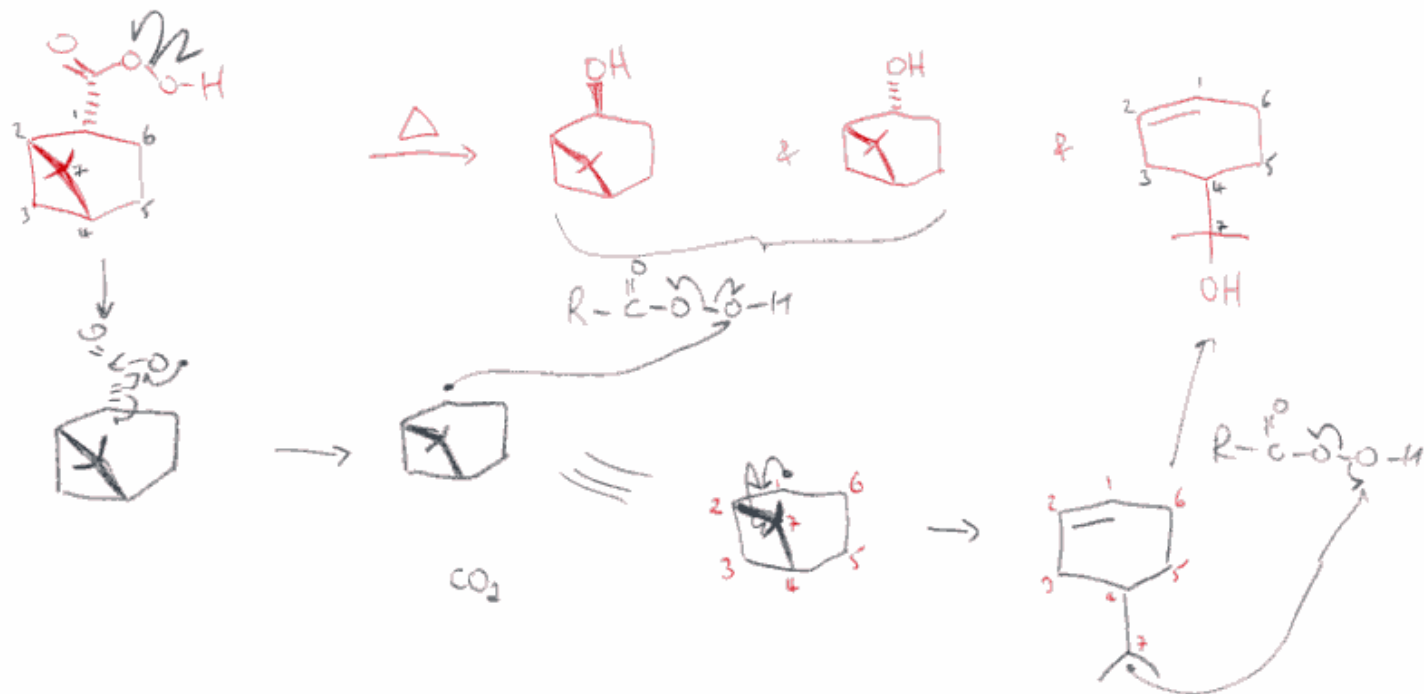


(Barton Nitrite Photolysis : steroid functionalization)  
in hard to reach places.

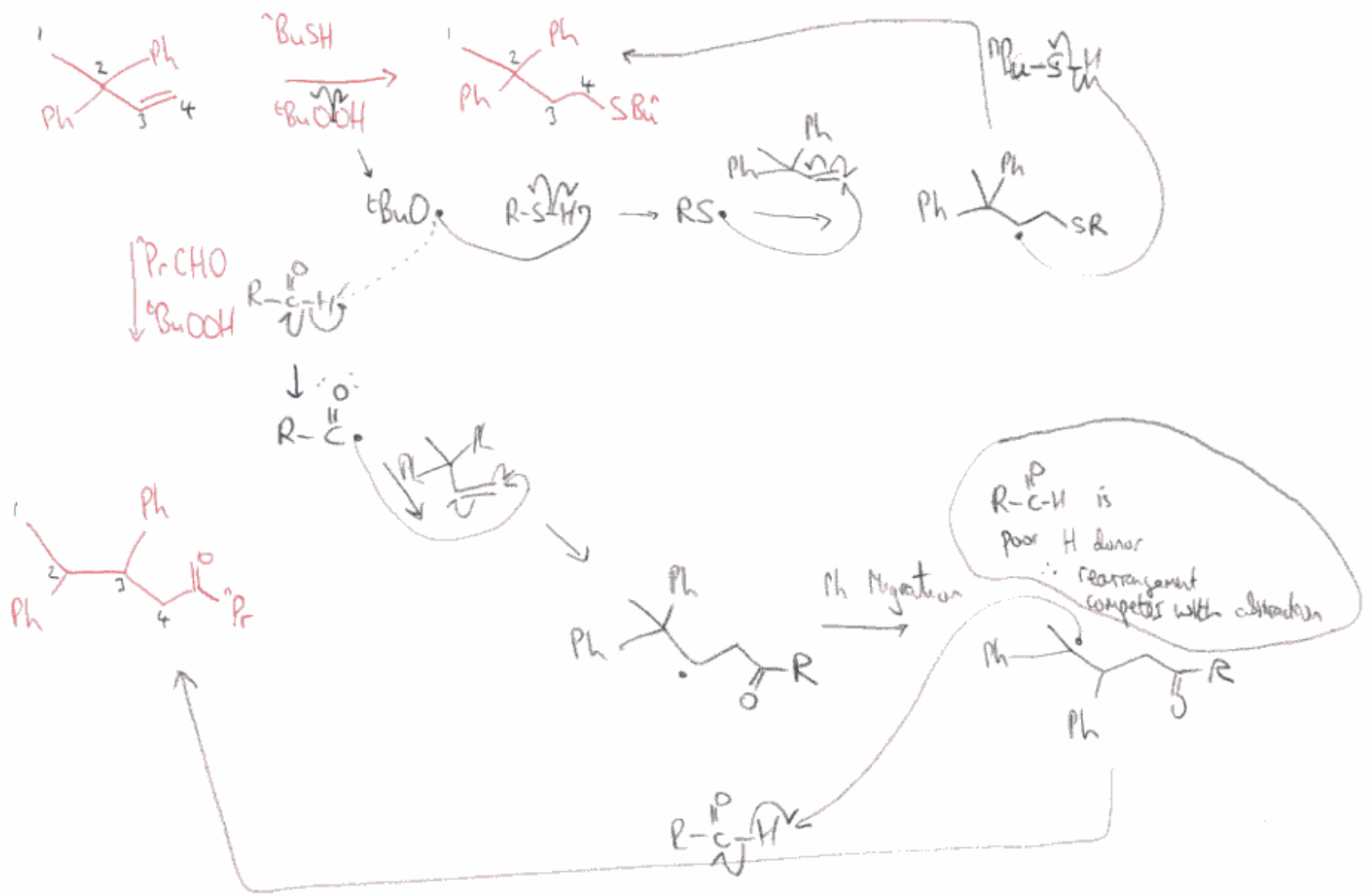
Write mechanism for:



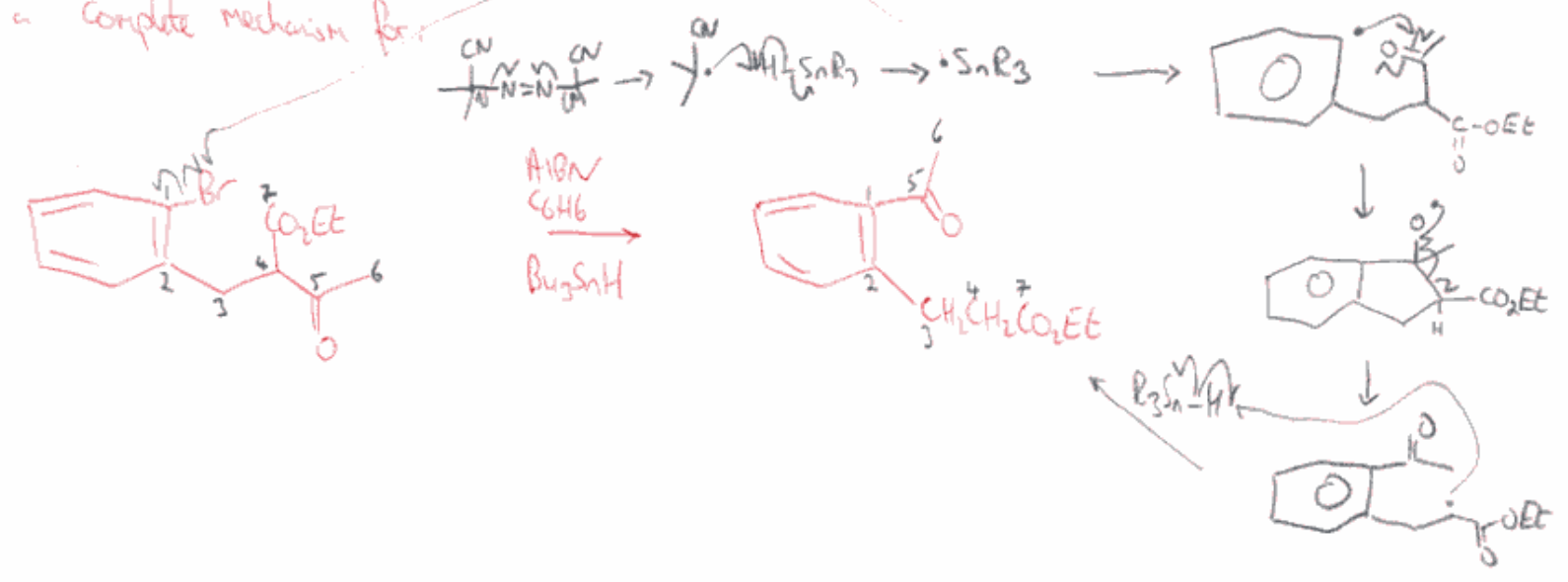
b)



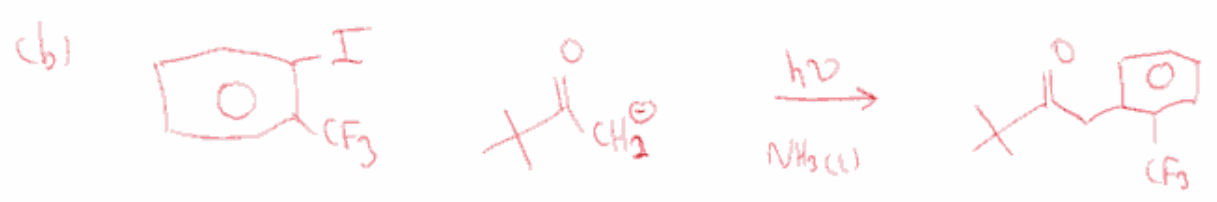
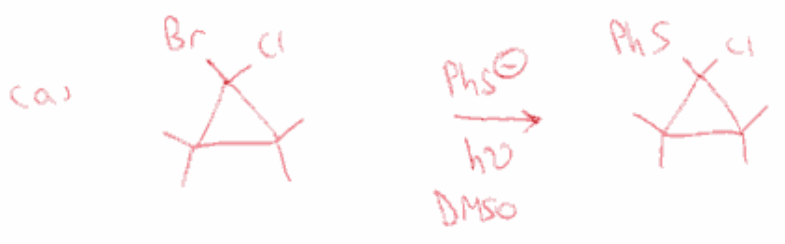
Write mechanisms for both process below, & explain why one rearranges:

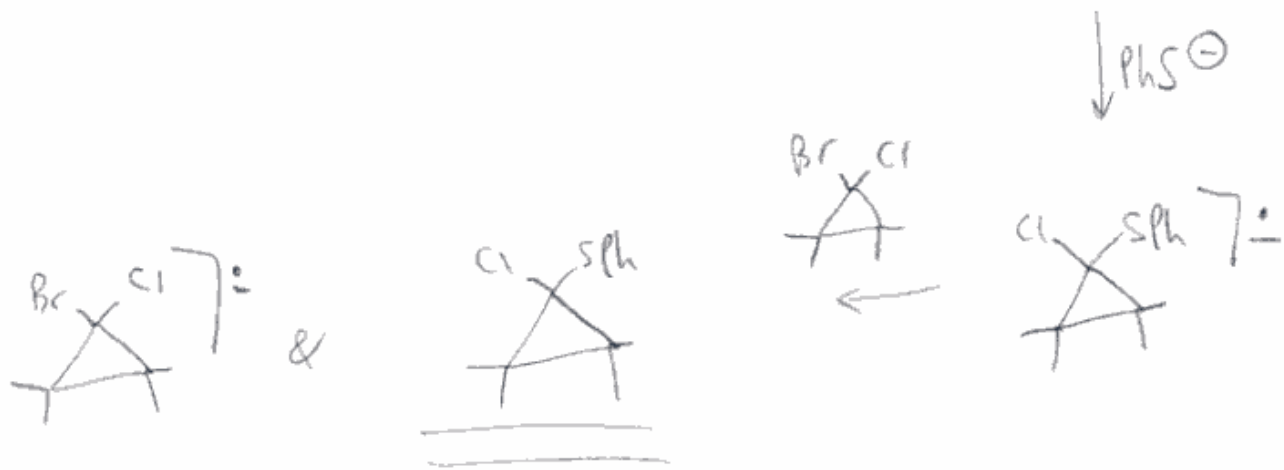
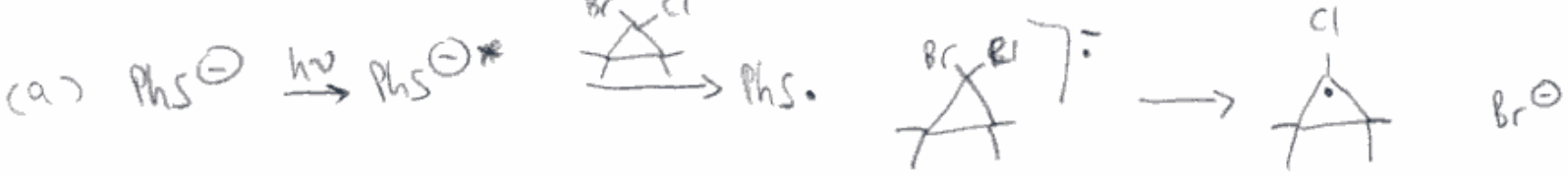


Write a complete mechanism for:

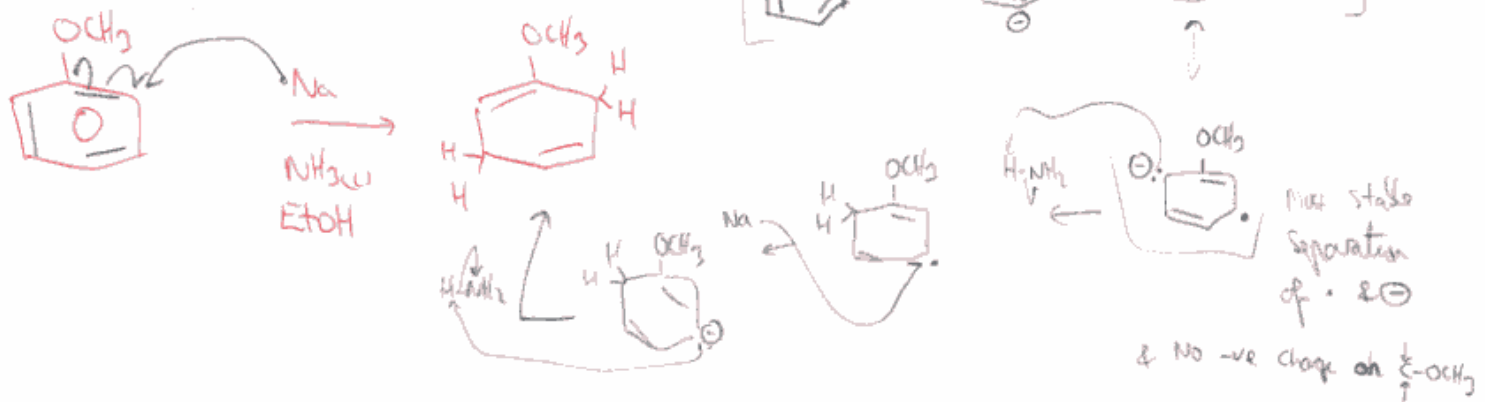


Write mechanisms for the following:

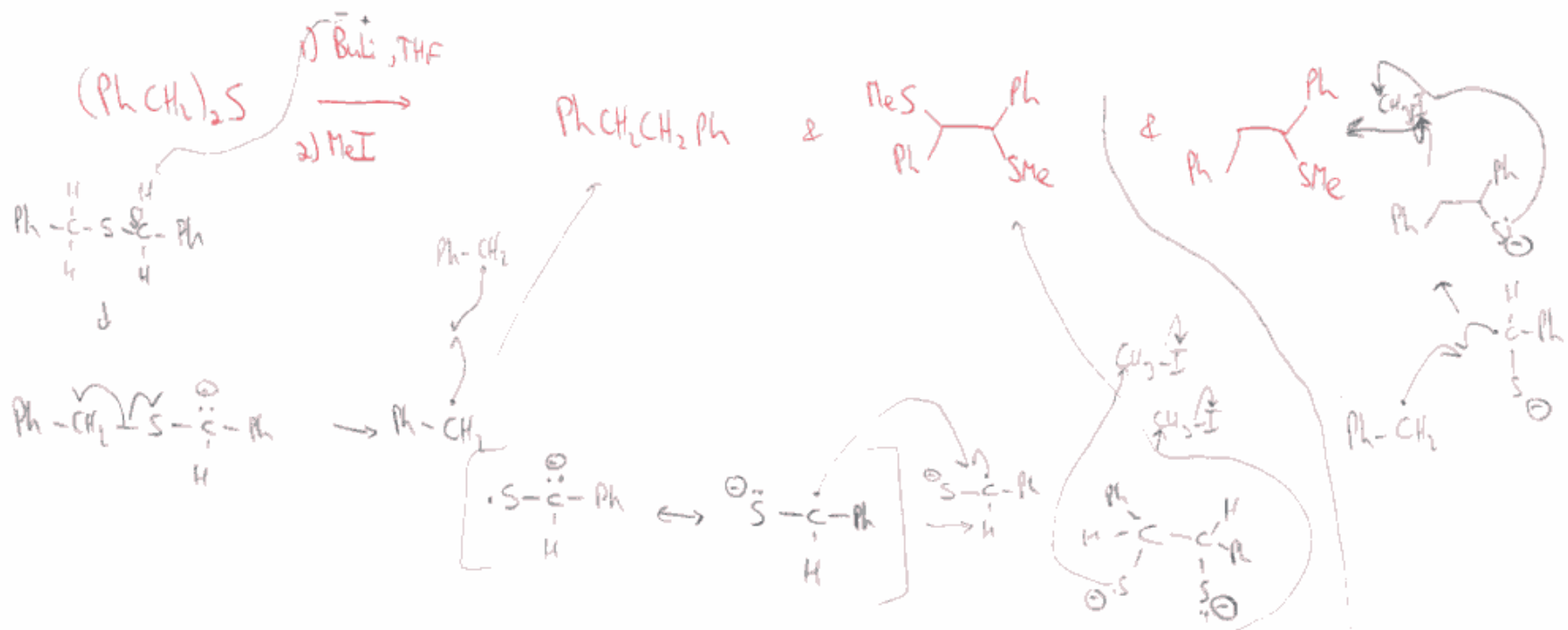




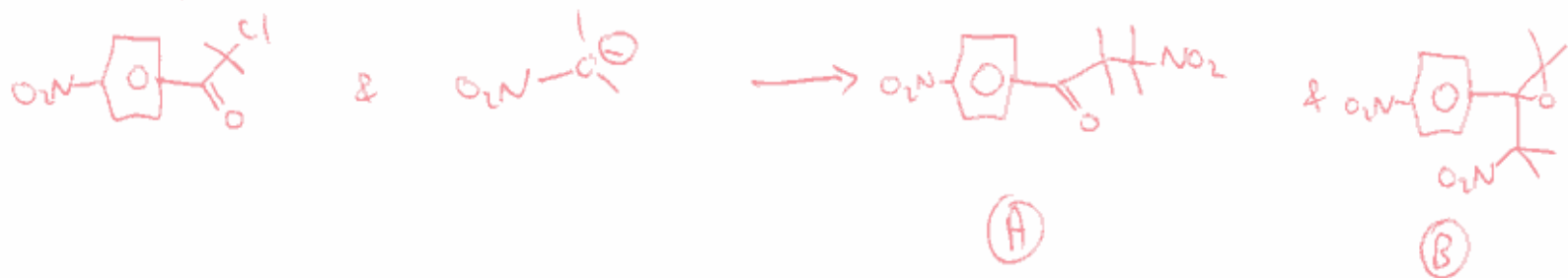
Write a mechanism which explain the regiochemistry of



Write a mechanism which explain all these products



Use the following experimental data to write mechanisms leading to the two products.



- Exptl data:
- (1) A was not formed in the presence of added  $\text{CH}_3\text{NO}$  ( $\Rightarrow$  Radical Process gives A)
  - (2) B increased in yield if the reaction was performed in the dark. ( $\Rightarrow$  B from non radical process)
  - (3) A decreased in yield in the dark. ( $\text{h}\nu$  gives A.)

(A) looks like it is formed from  $\text{S}_{\text{N}}1$ , (B) comes from Nuc. Acyl. Attack & intramolecular epoxide formation

(See next page).



