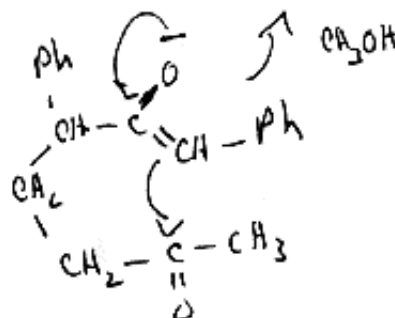
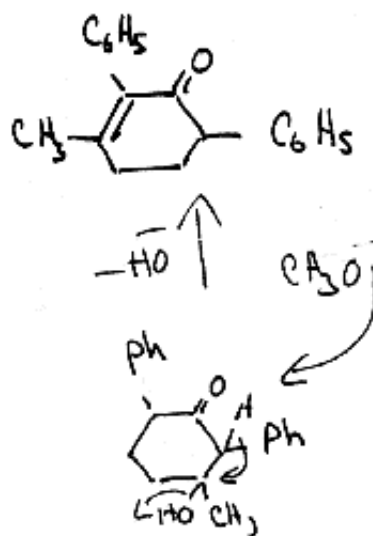
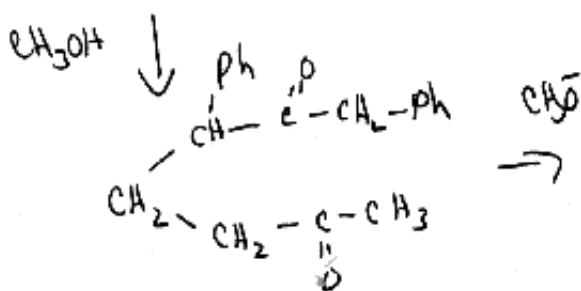
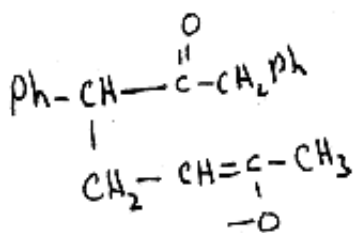
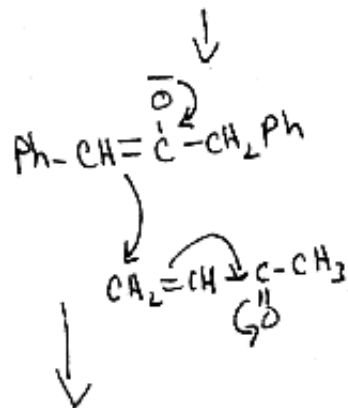
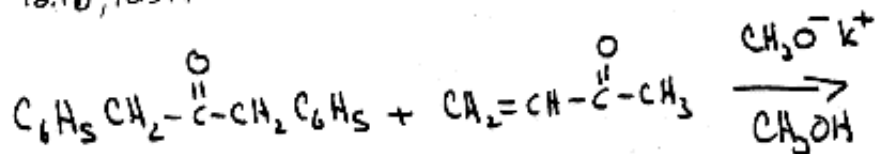
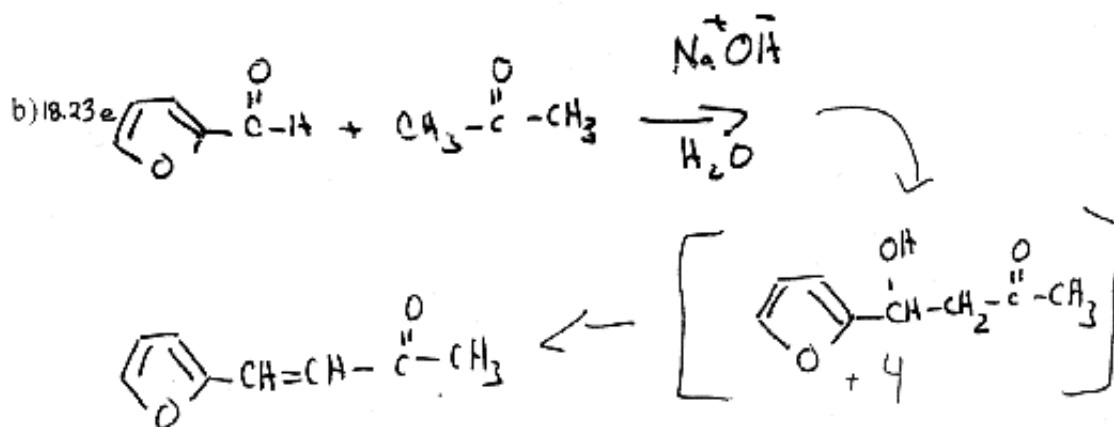
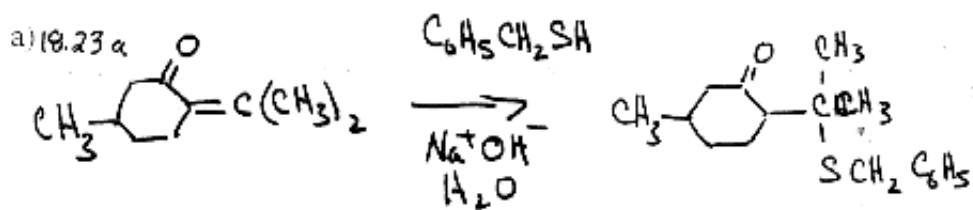


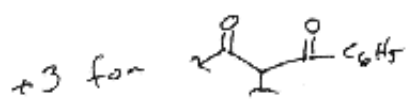
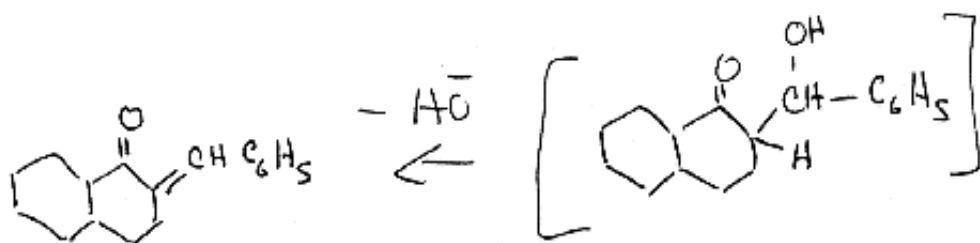
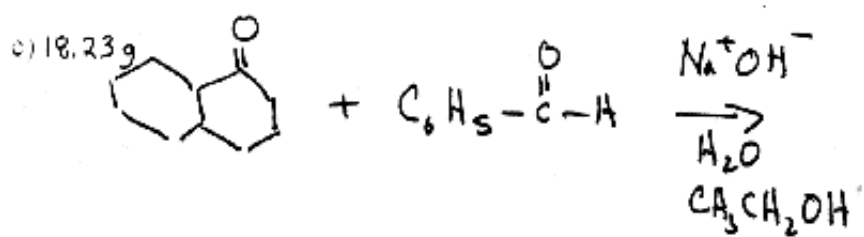
Name: Key (please print)

1. (10 pts) What is the mechanism for the following reaction?
 18.1b, 18.37f

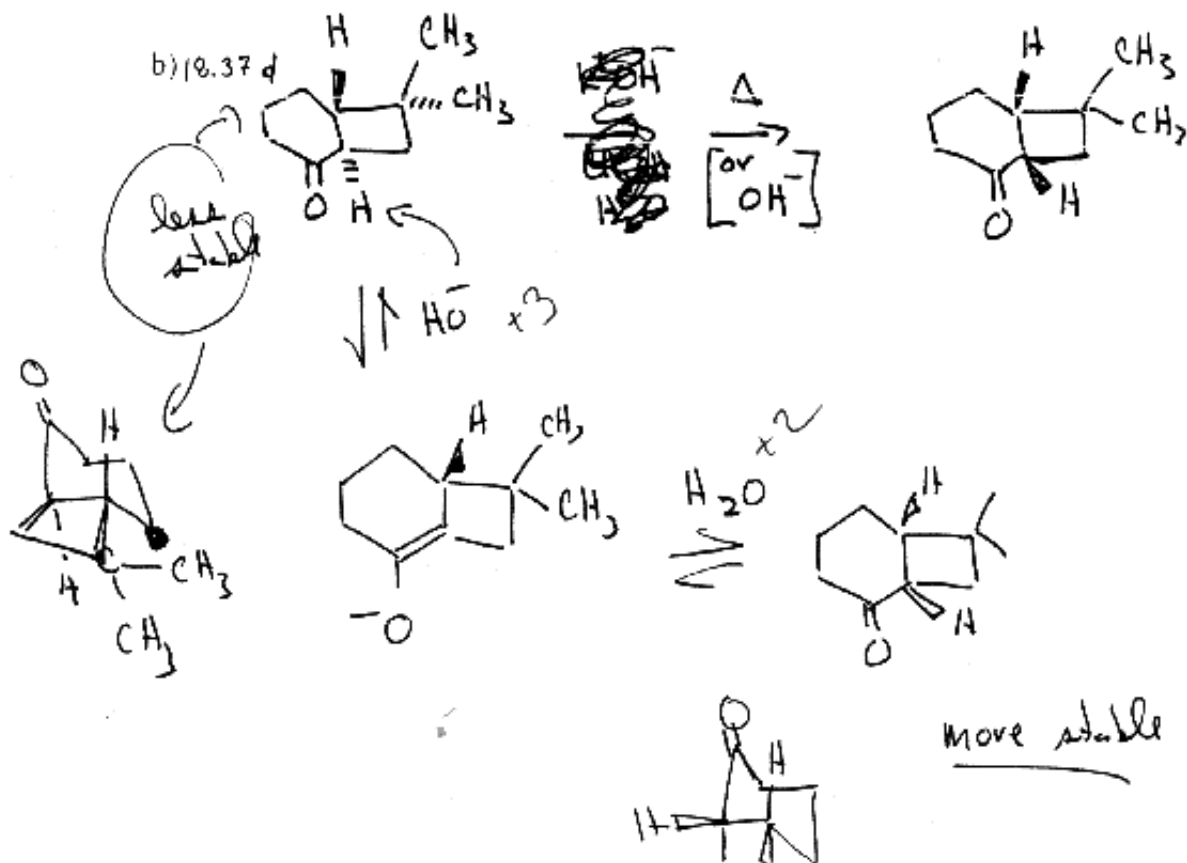
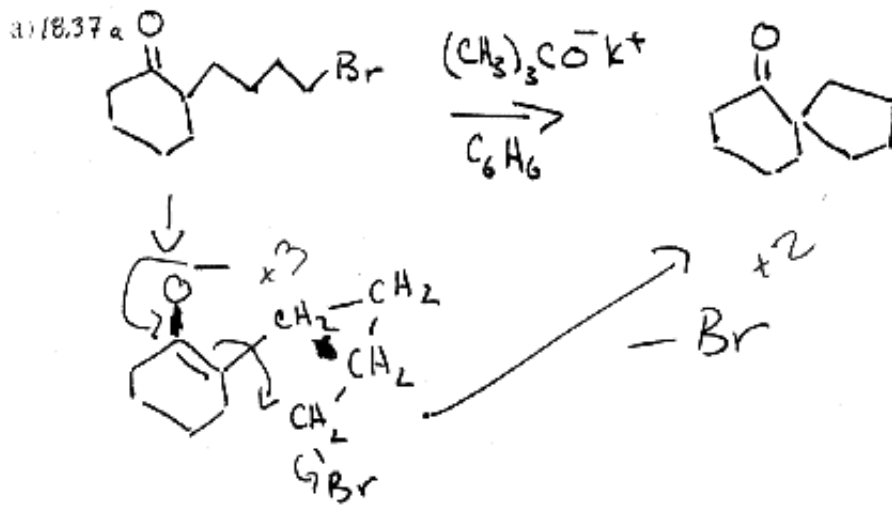


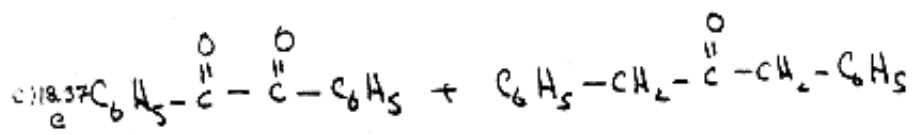
2. (15 pts) Predict the product in each case, showing stereochemistry where appropriate.



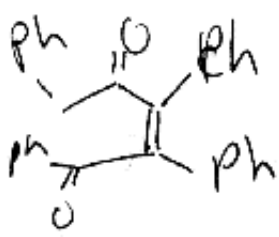
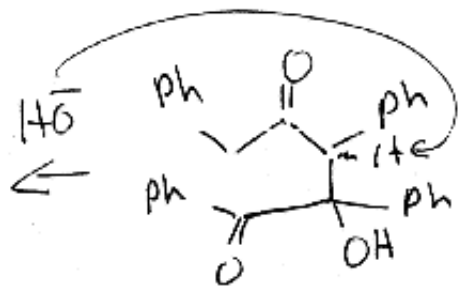
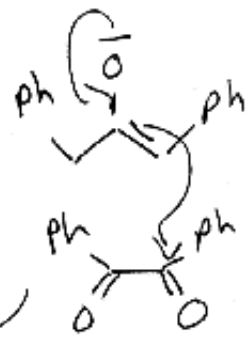
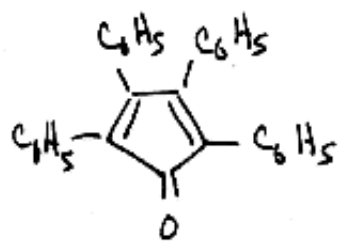


3. (15 pts) Write reasonable mechanism for each of the following

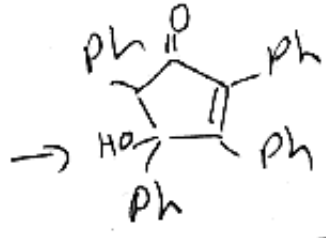
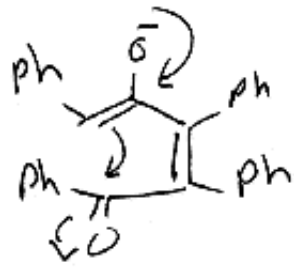




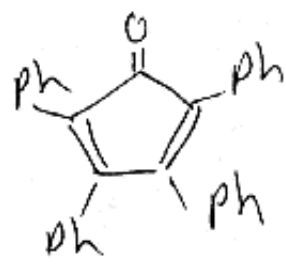
$\text{KOH} \downarrow \text{CH}_3\text{CH}_2\text{OH}$



$\text{HO}^- \rightarrow$

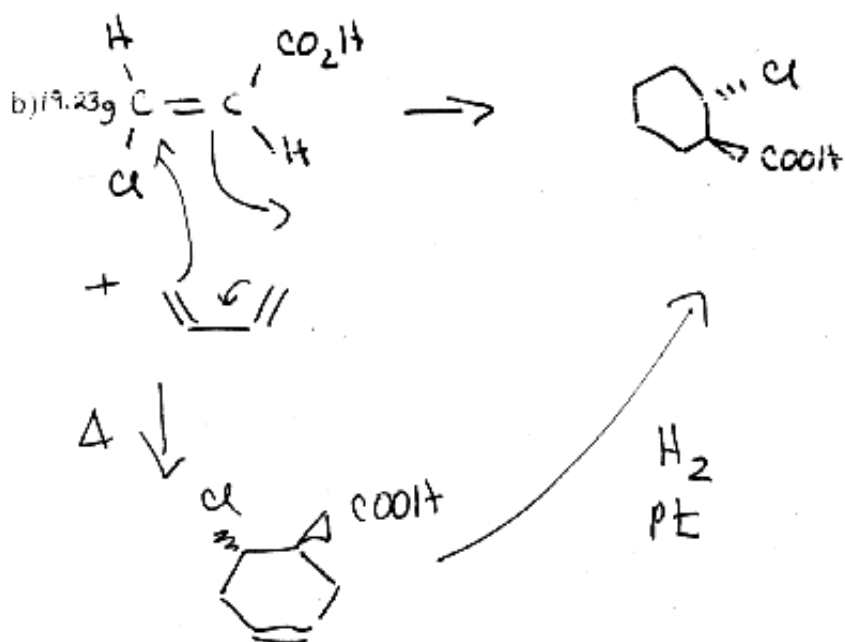
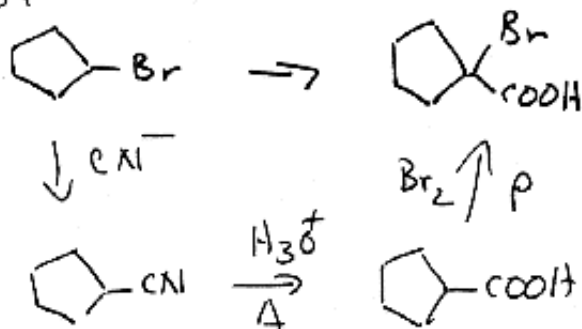


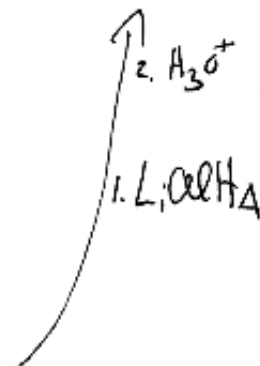
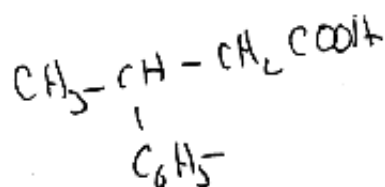
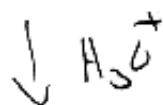
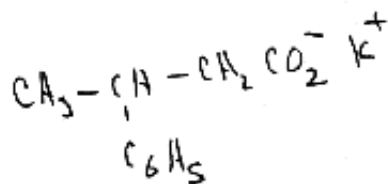
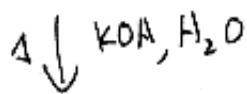
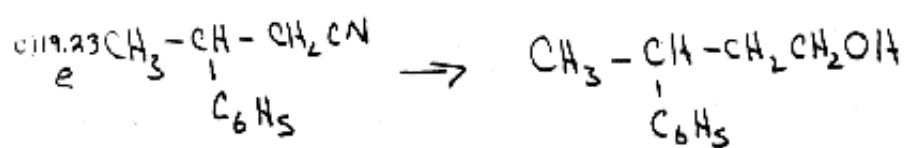
$\downarrow -\text{HO}^-$



4. (15 pts) Synthesize the indicated species from the indicated starting material and any necessary organic or inorganic reagents

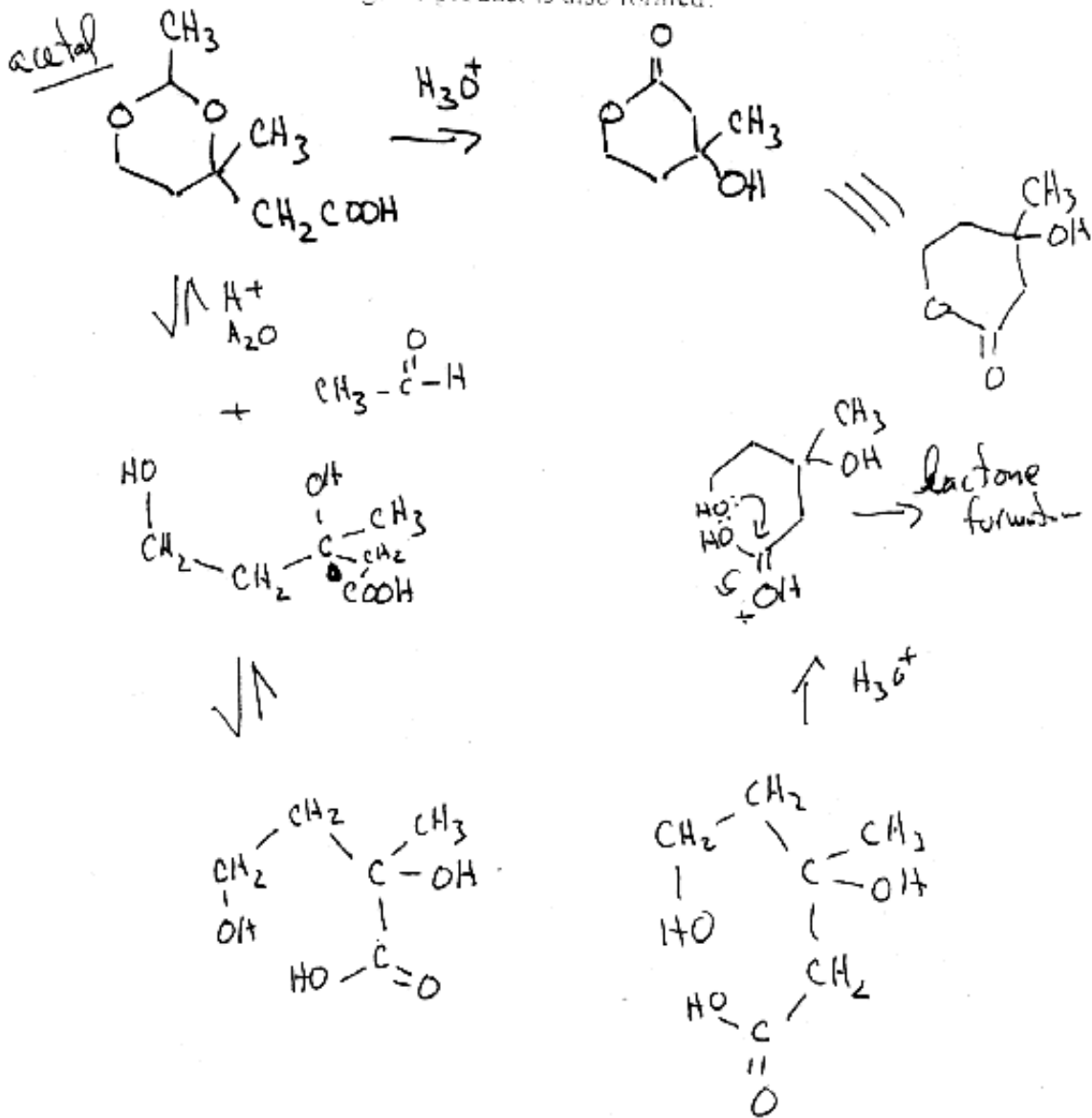
a) (9.23 f)





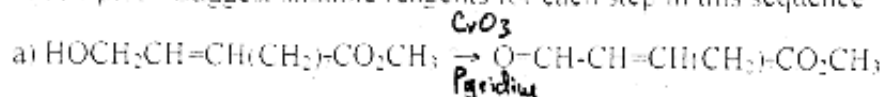
19.29

5 (10 pts) On standing in dilute aqueous acid, compound A is smoothly converted into mevalonolactone. Suggest a reasonable mechanism for this reaction. What other organic product is also formed?

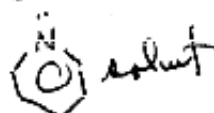
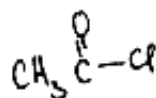
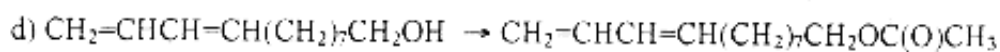
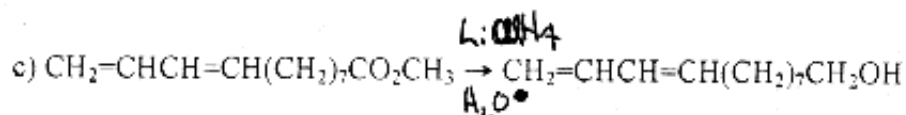
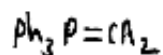
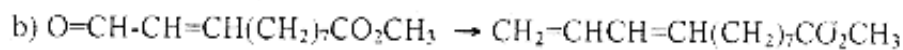
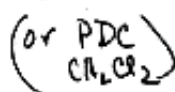


20.35 (a-d)

(10 pts) Suggest suitable reagents for each step in this sequence

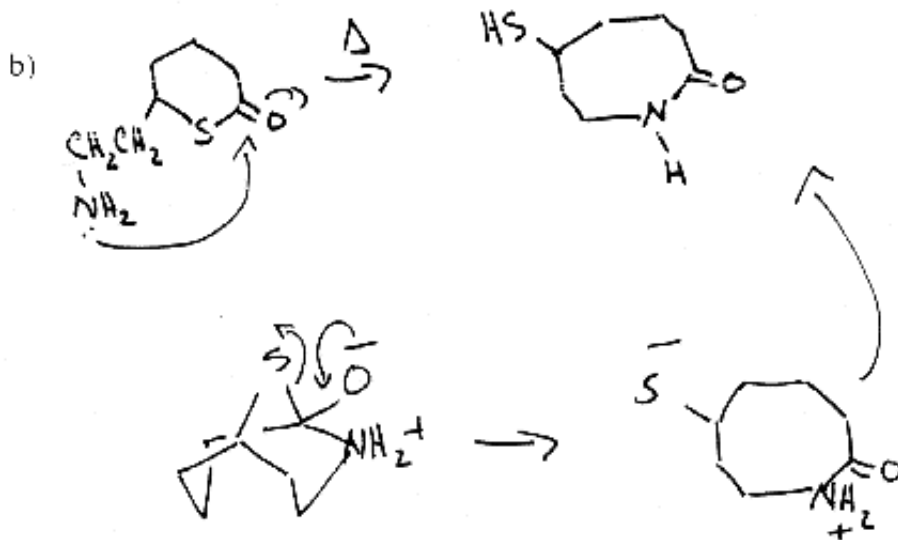
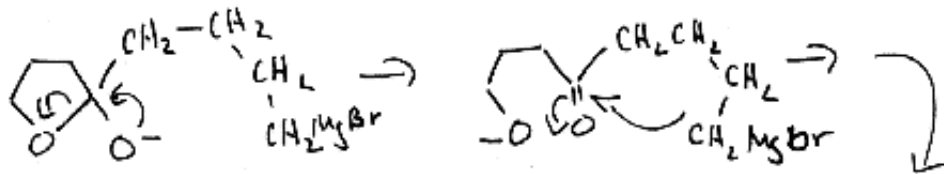
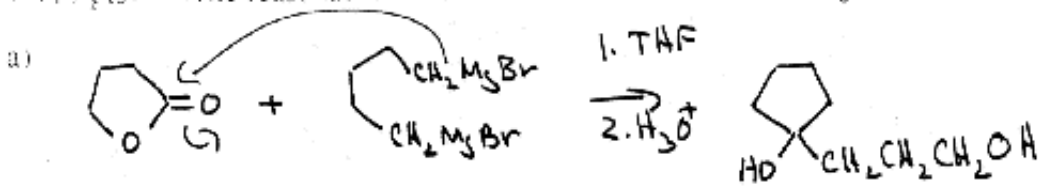


E isomer



20.36 (a-b)

7 (10 pts) Write reasonable mechanism for each of the following.



20327

8 (15 pts) Write the structural formulae, including stereochemistry, for compounds A and B

