

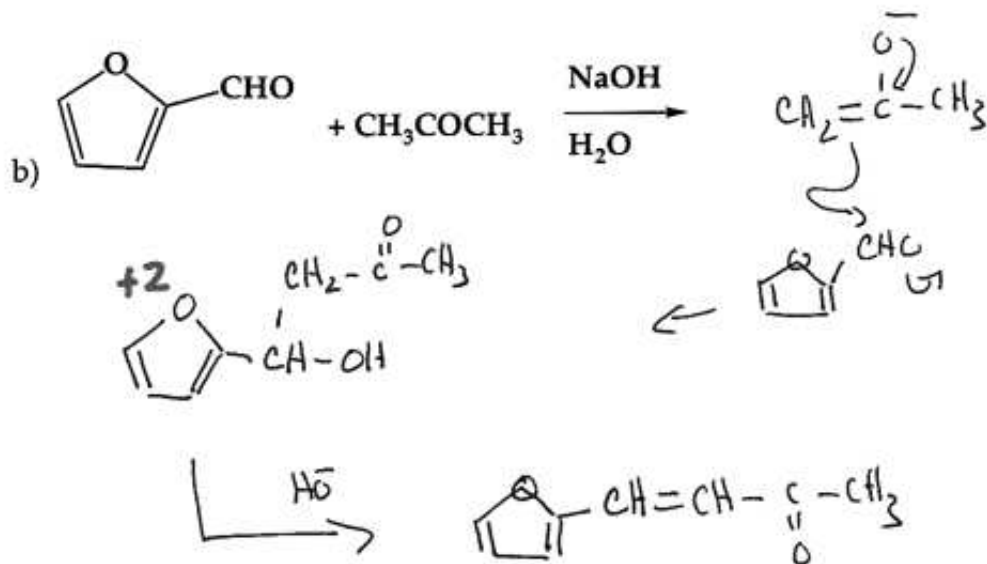
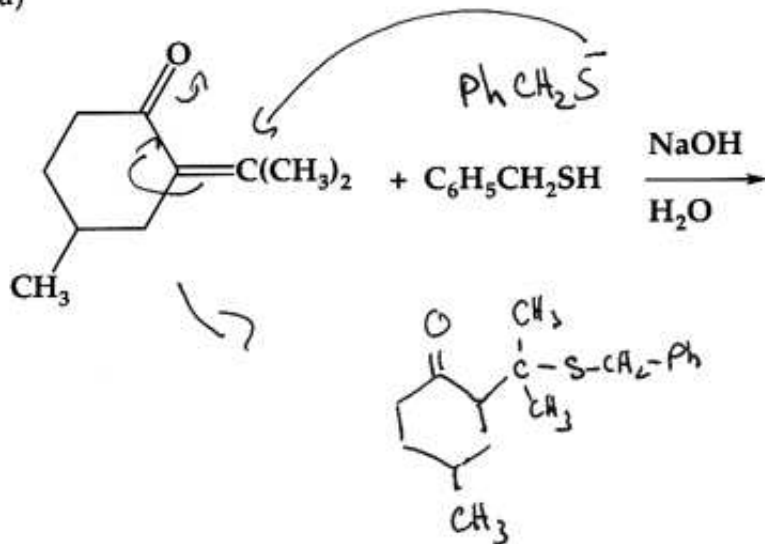
name:

Chemistry 3331-100
Organic Chemistry/Dr. Barney Ellison
Thursday: Nov. 21st @ 7:00pm → 9:00/2nd Exam/Hale 270

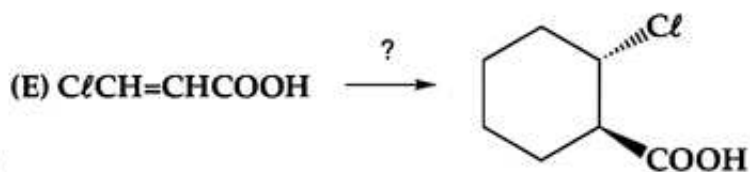
Name: Key (please print)

1. (10 pts) Write the structure of the products formed in each case.

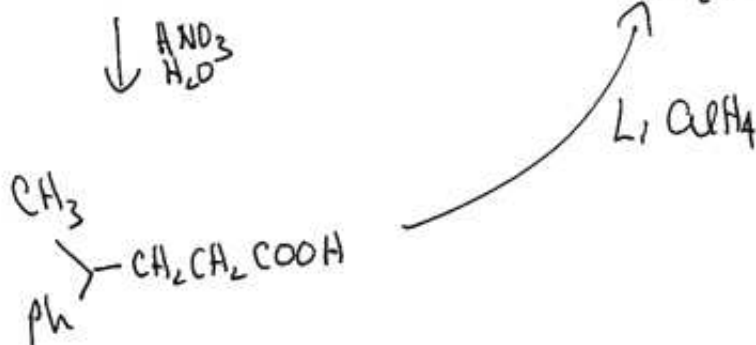
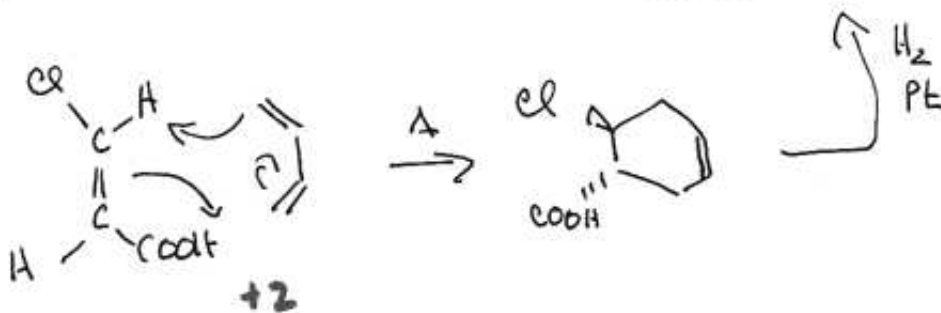
a)



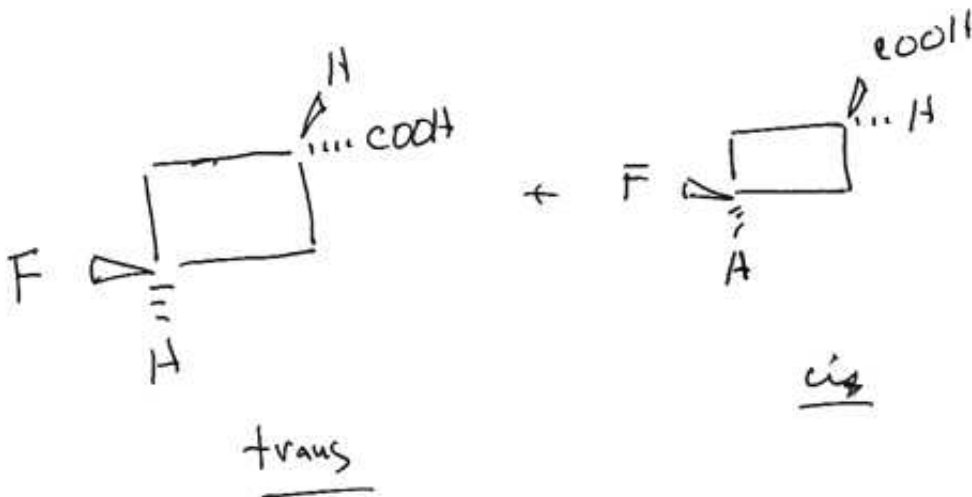
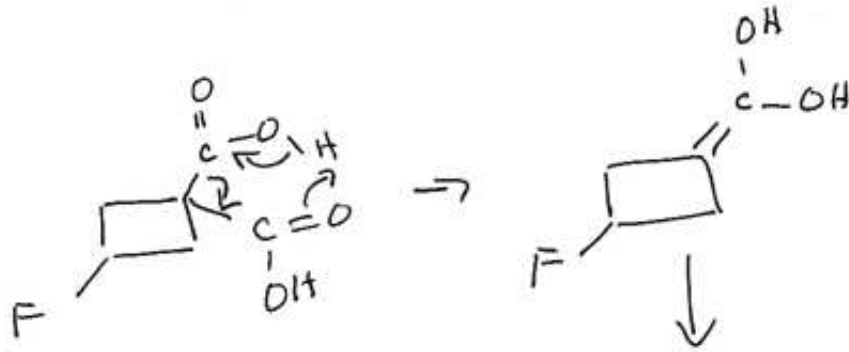
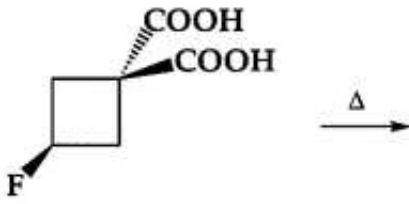
2. (10 pts) Write a synthesis for each of the following (use any reagents you need).



a)

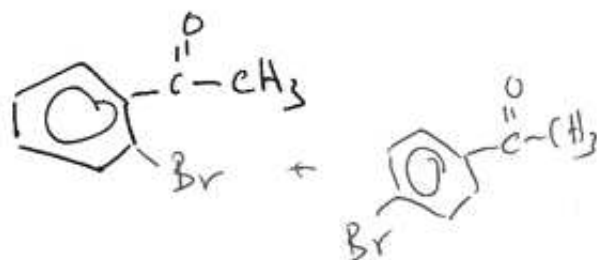


3. (10 pts) When this dicarboxylic acid is heated, two isomeric products are formed. What are they?

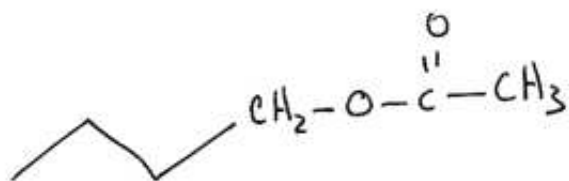


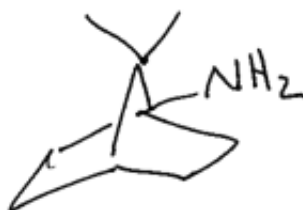
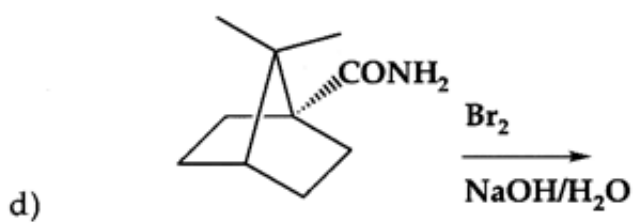
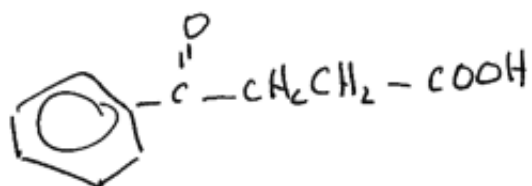
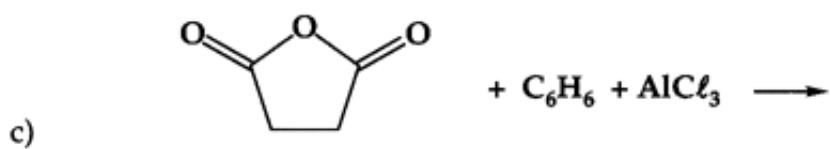
4. (20 pts) Write the structure of the products formed in each case.

a) bromobenzene + $\text{CH}_3\text{COCl} + \text{AlCl}_3 \rightarrow ?$

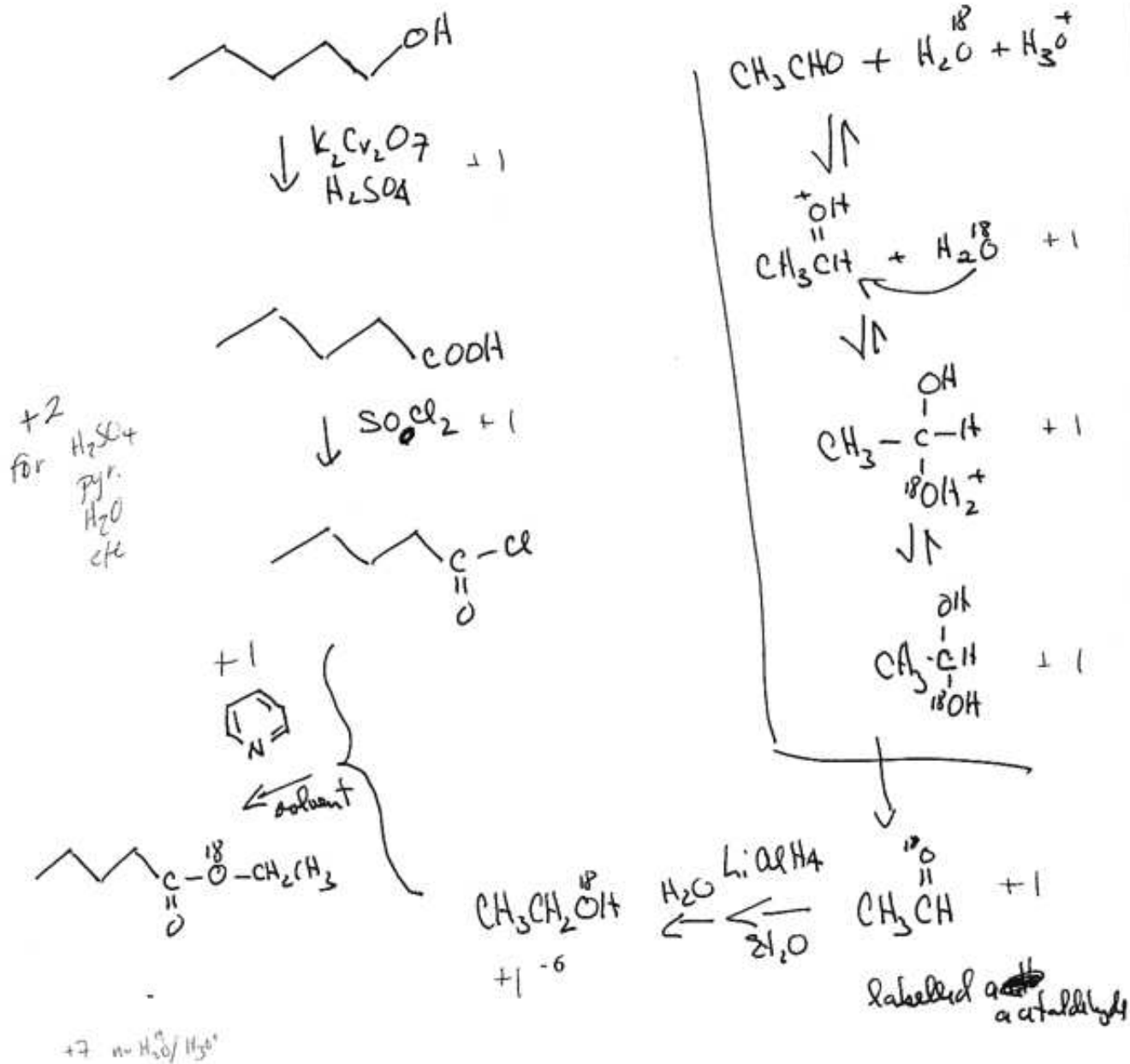
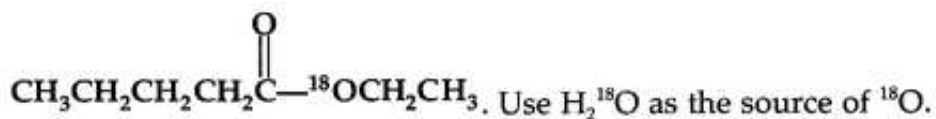


b) 1-butanol + $\text{CH}_3\text{COCl} \rightarrow ?$



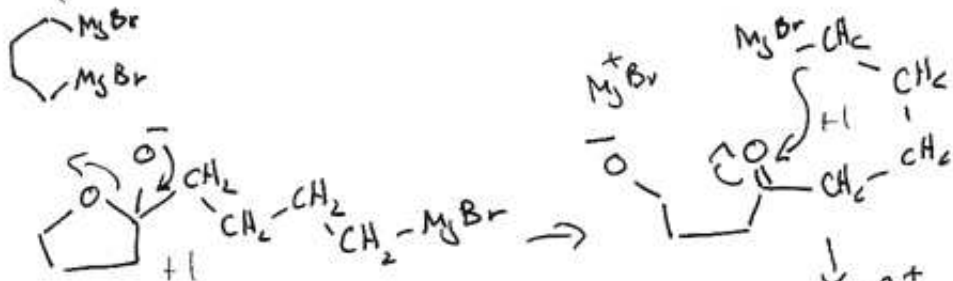
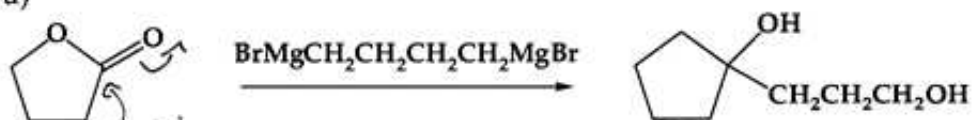


5. (10 pts) Starting with 1-pentanol and CH_3CHO devise a synthesis of the isotopically labelled ester:

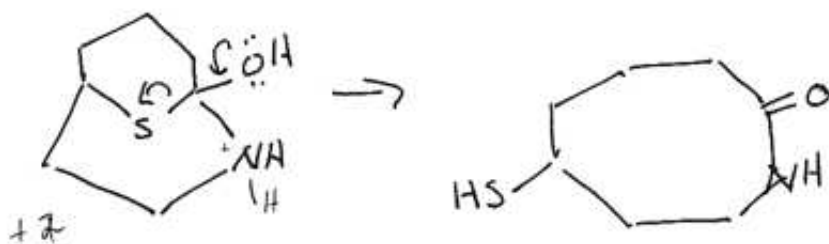
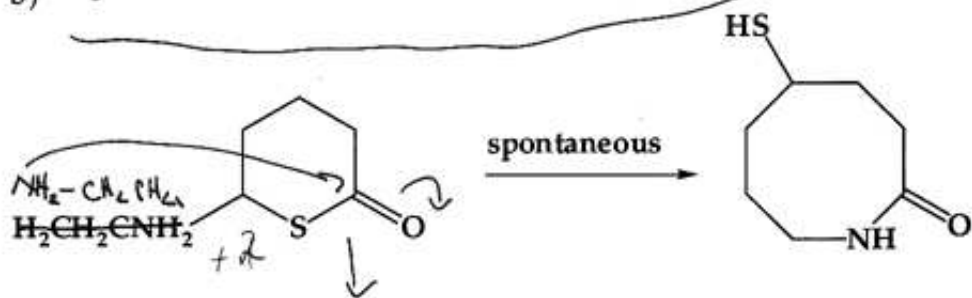
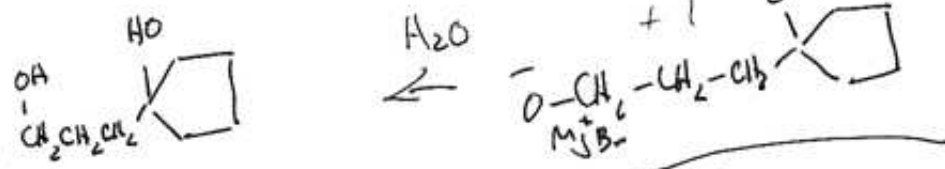


6. (10 pts) Outline reasonable mechanisms for each of the following.

a)

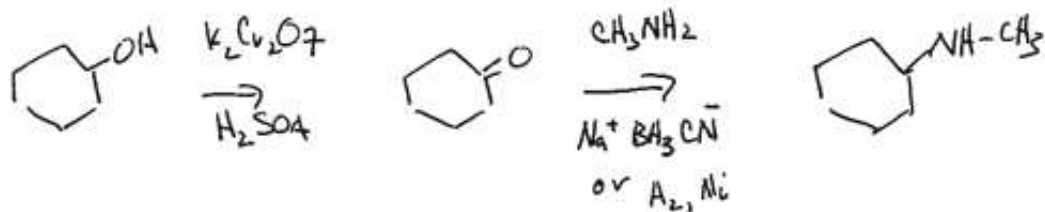


b)

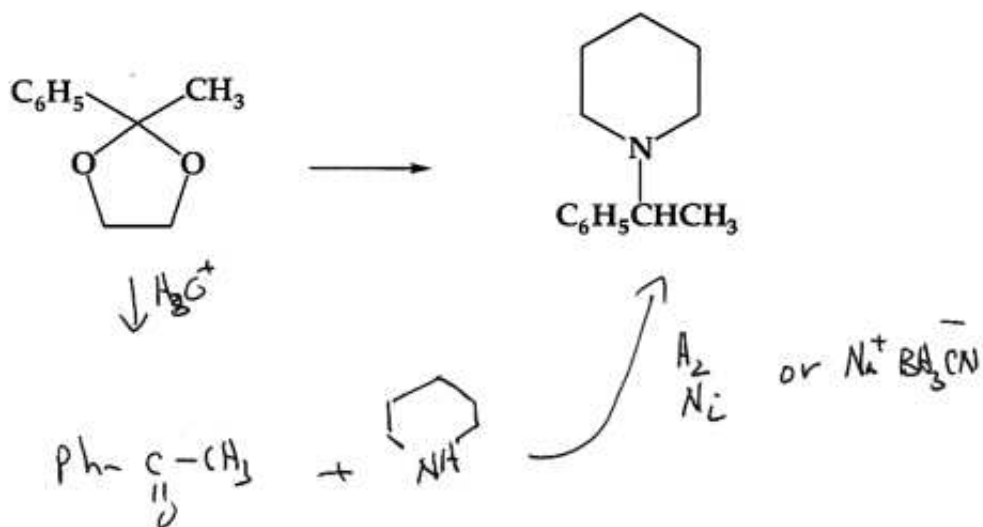


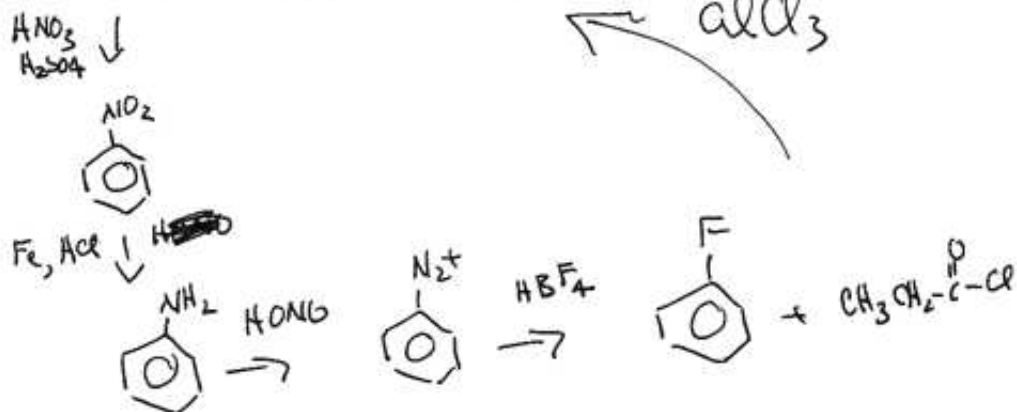
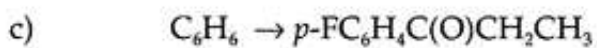
7. (20 pts) Write a synthesis for each of the following (use any reagents you need).

a) cyclohexanol to N-methylcyclohexylamine

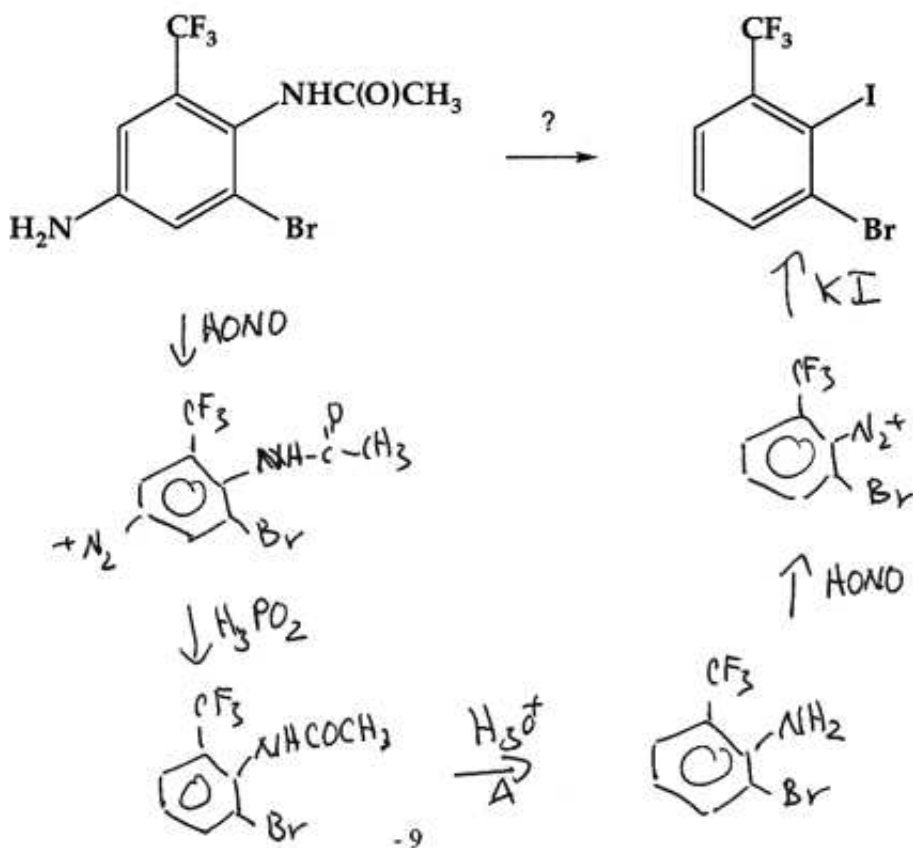


b)





d)



8. (10 pts) Suggest reactions that will carry out the following transformation.



Lindlar catalyst \downarrow H_2
 Ni

