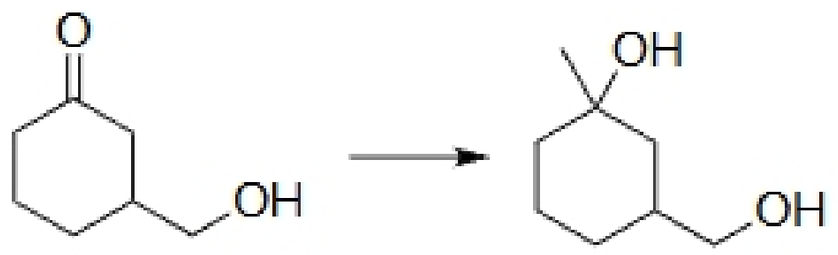
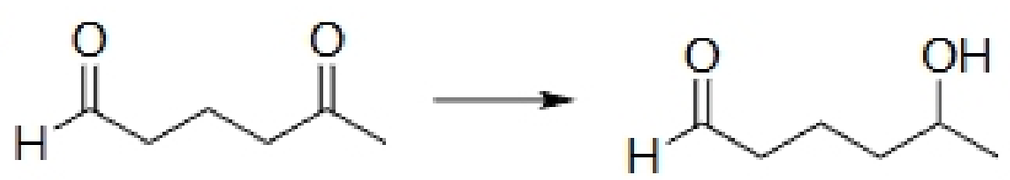
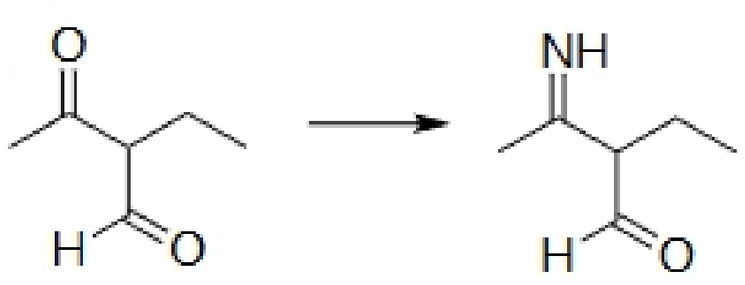
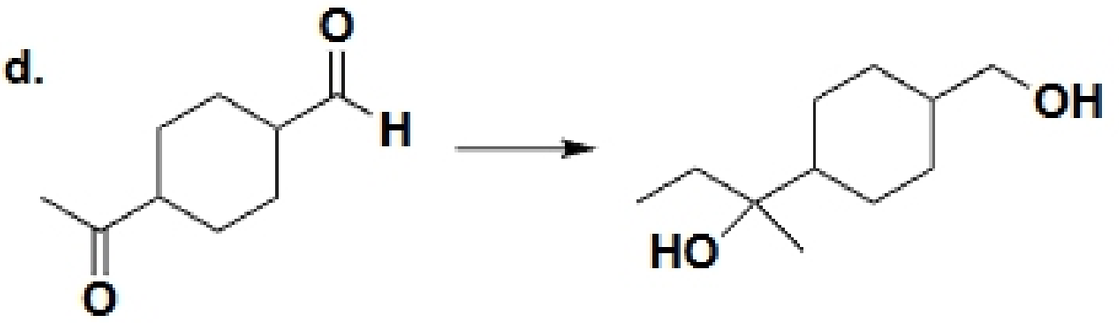
CHEM 343, Quiz 6

1. Which of the following reactions does not require a protecting group?

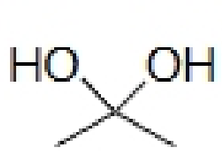
a. 

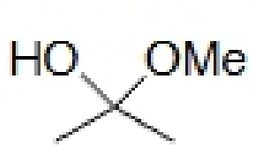
b. 

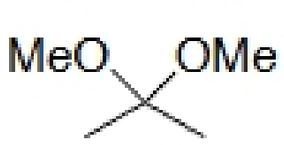
c. 

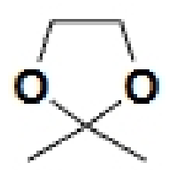
d. 

2. Which of the following would be easiest to form from the corresponding ketone?

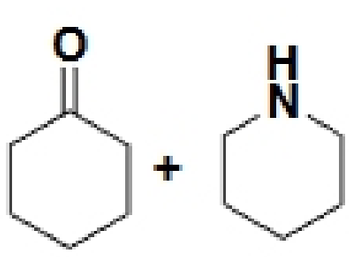
a. 

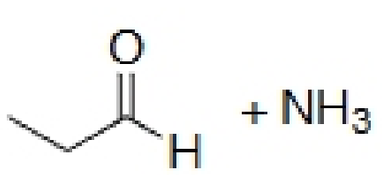
b. 

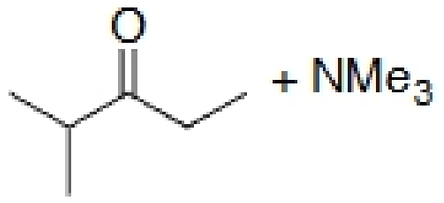
c. 

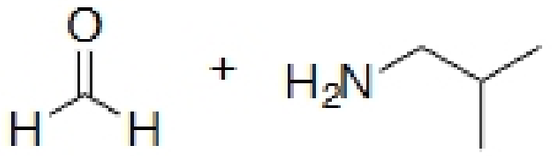
d. 

3. Which of the following would result in the formation of an enamine if treated with trace H^+?

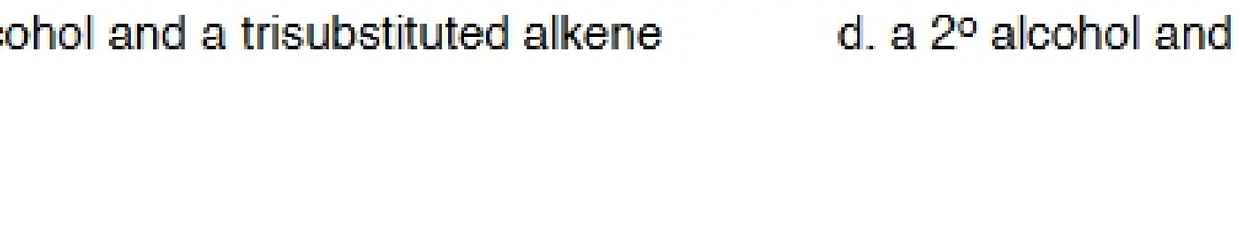
a. 

b. 

c. 

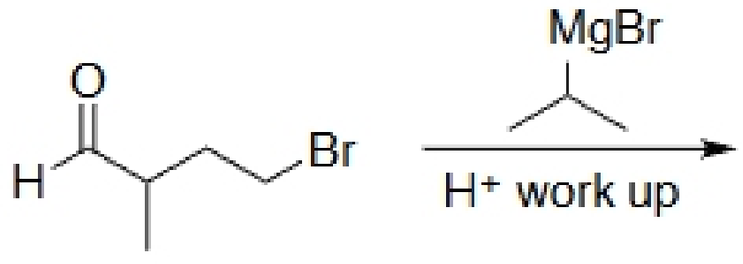
d. 

4. How many equivalents of $NaBH_4$ does the reaction below require?



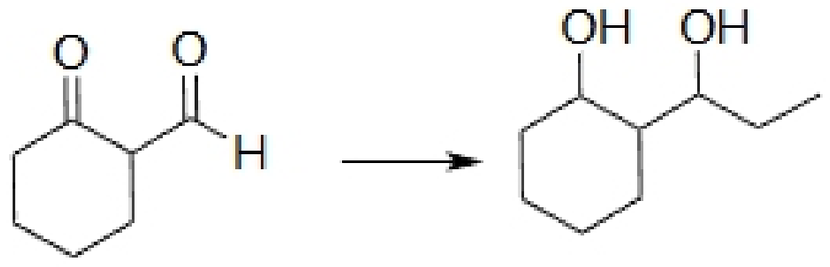
a. 0.25 **b. 0.5** c. 1 d. 2

5. After running the reaction below, two products were isolated, one of which was unexpected. What are the two products?



a. a 2° alcohol and an monosubstituted alkene b. a 2° alcohol and a 3° alcohol
c. a 3° alcohol and a trisubstituted alkene d. a 2° alcohol and a disubstituted alkene

6. Select the best set of conditions to complete the synthesis below.



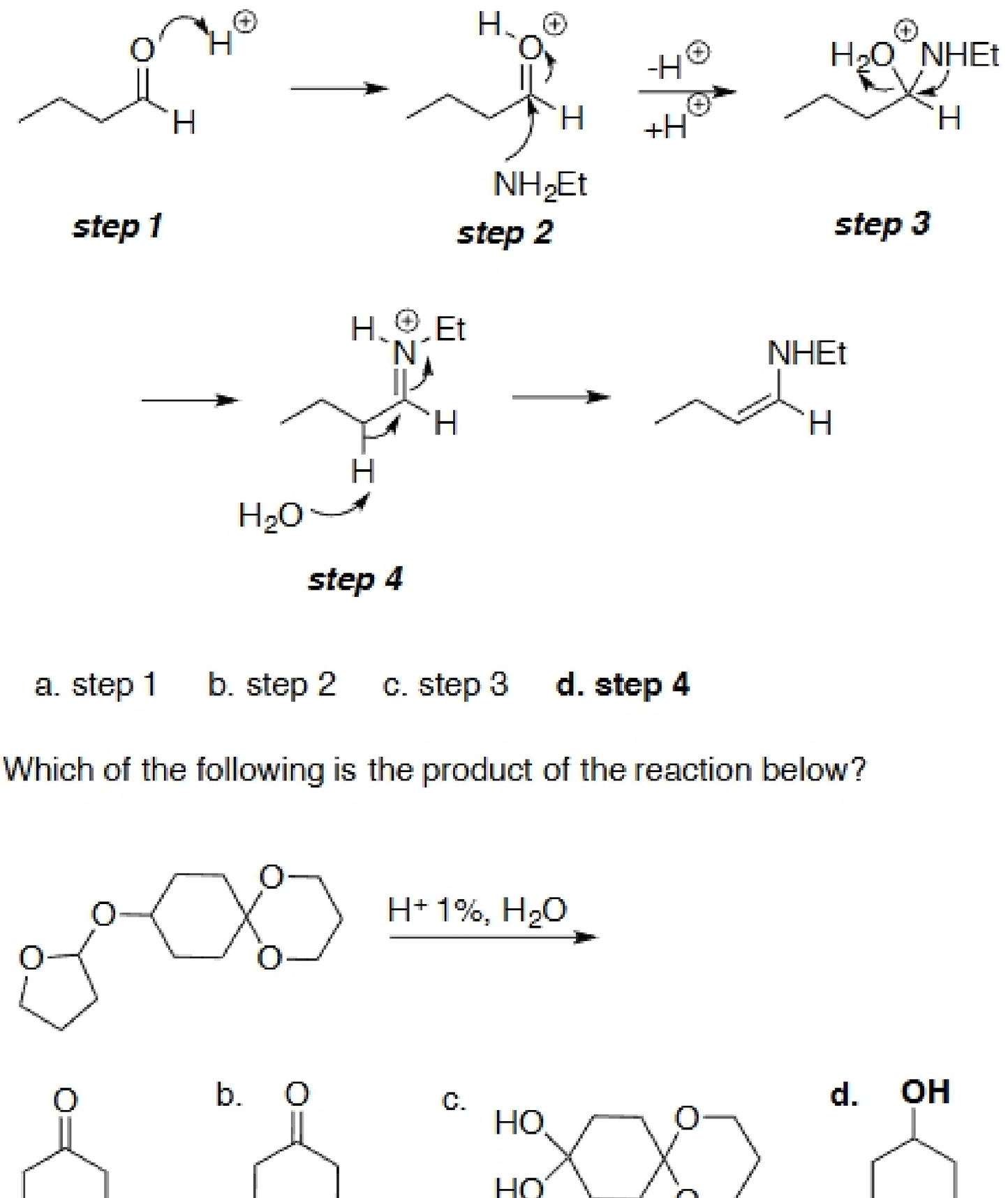
a. 1. H^+ 1%, HO⁄⁄OH 1 equiv. 2. $NaBH_4$, H^+ work up 3. H^+ 1%, H_2O 4. EtLi, H^+ work up

b. 1. EtMgBr 1 equiv. H^+ work up 2. $NaBH_4$, H^+ work up

c. 1. $NaBH_4$, H^+ work up 2. EtLi, H^+ work up

d. 1. EtLi, H^+ work up 2. $NaBH_4$, H^+ work up

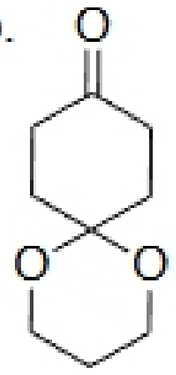
7. A mechanism is shown below, though one step is incorrect. Select the incorrect step.



a. step 1 b. step 2 c. step 3 **d. step 4**

8. Which of the following is the product of the reaction below?

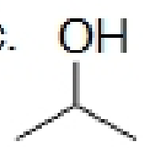
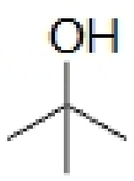
a.

b. 

c.

d.

9. Which of the following cannot be formed through Grignard addition to an aldehyde or ketone?

a. MeOH b. EtOH c.  d. 

10. To prepare for the upcoming exam, you should:

a. work through practice problems
b. make flashcards
c. re-write notes
d. ask yourself, "What would Jesse Pinkman do?"