

NAME: _____

If you do **not** wish to have your script placed outside my office, then please check this box ___

1) Name the general class of organic molecules that each of these molecules belong to, and **circle** the most reactive molecule with respect to undergoing nucleophilic attack. (7pts)



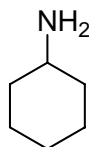
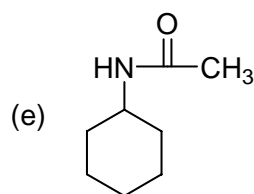
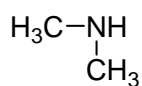
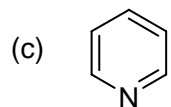
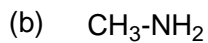
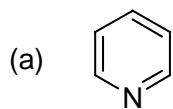
2) Draw a Lewis structure including lone pairs for a molecule of the following general classes: (10pts)

Tetra-alkyl Ammonium Salt

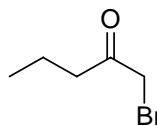
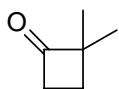
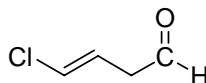
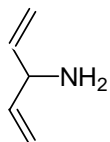
Aldehyde Hydrate

Amide

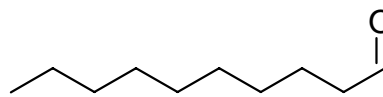
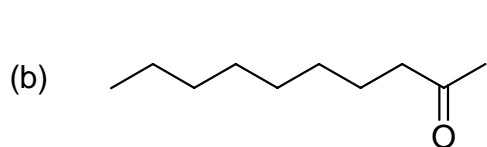
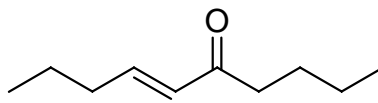
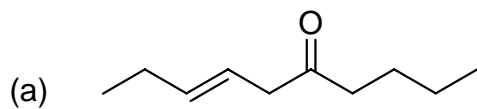
3) Circle the **stronger** base in the following pairs. (10pts)



4) Name the following compounds in IUPAC acceptable terms. (12pts)

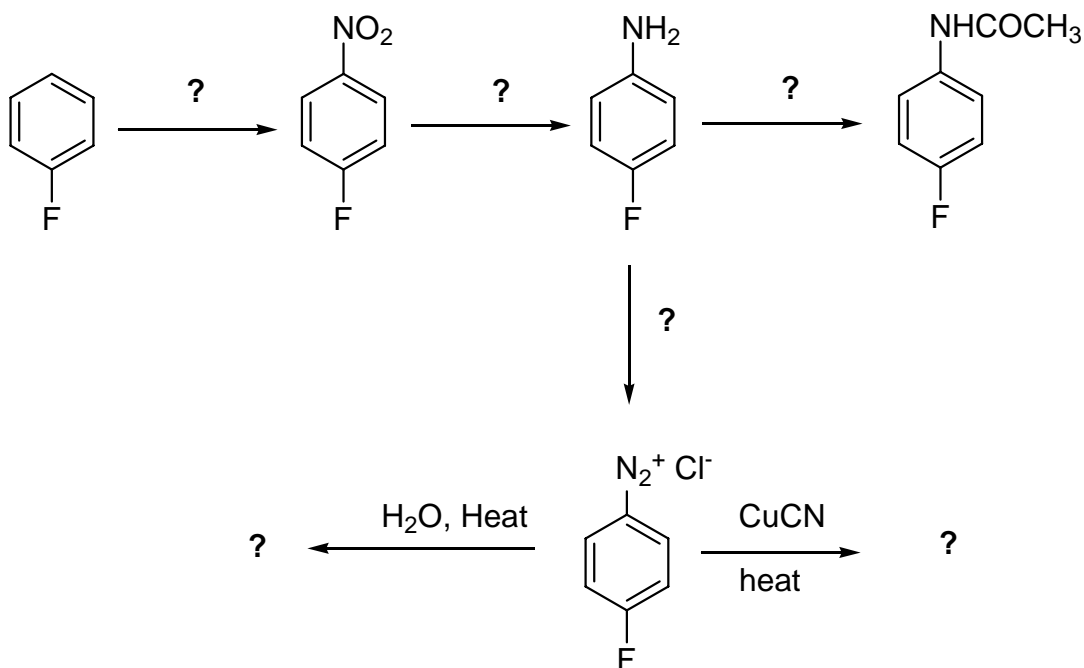


5) Circle the more stable molecule in these pairs. (4pts)

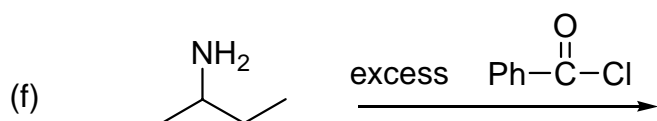
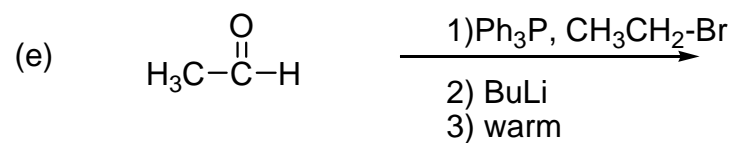
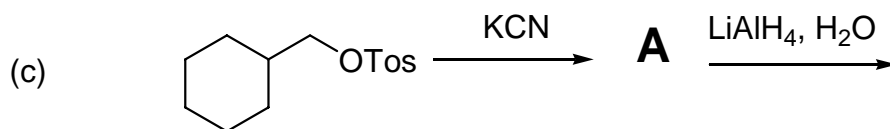
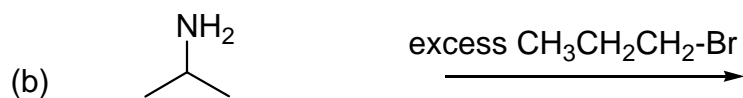
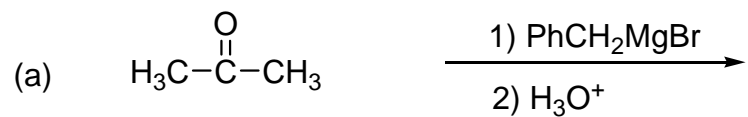


6) Write the mechanism for the reaction of a PRIMARY AMINE with an ACID CHLORIDE to generate an AMIDE and H-Cl. (6pts)

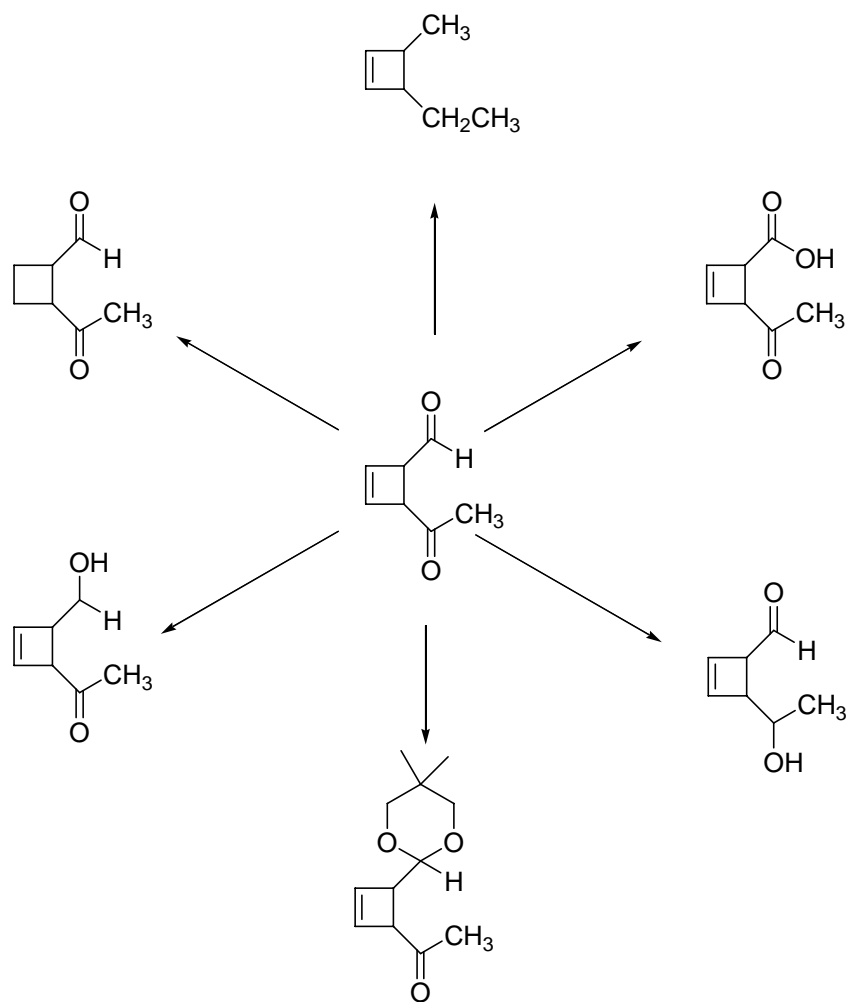
7) Fill in the question marks with reagents / products. (18pts)



8) Give the products formed in **five** of the following reactions. (15pts)



9) Give reagents for the following transformations. (18pts)



***Bonus question* (up to 3pts)**

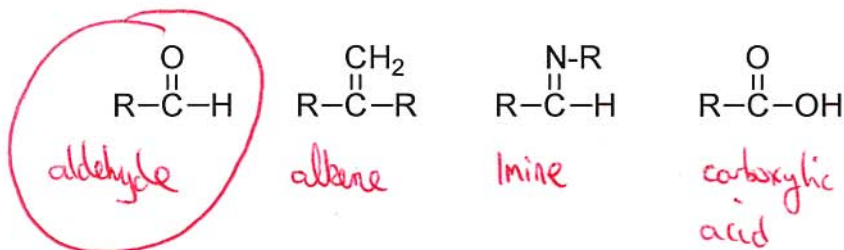
Write the mechanism for the reaction of a primary amine reacting with a ketone (in the presence of acid) to generate an imine.

NAME:

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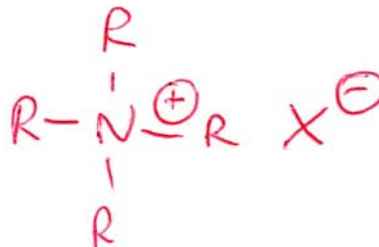
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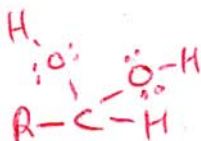


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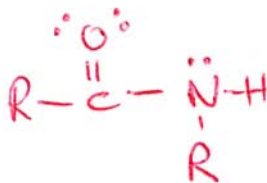
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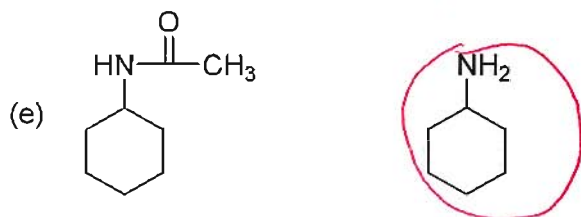
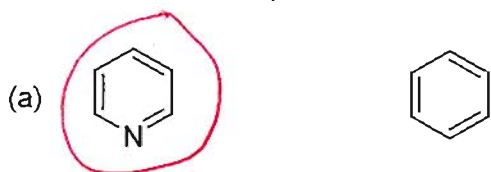
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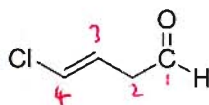
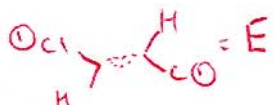
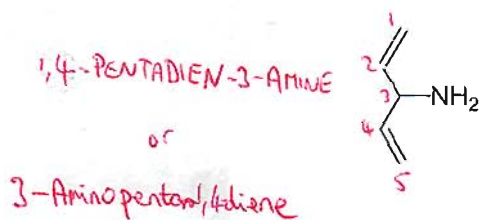
Amide



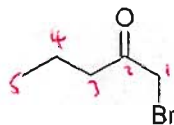
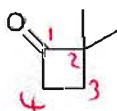
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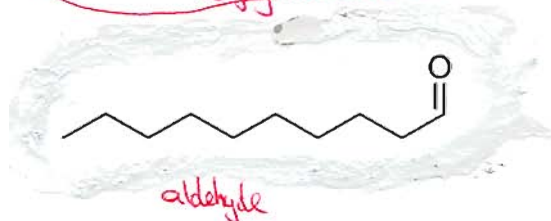
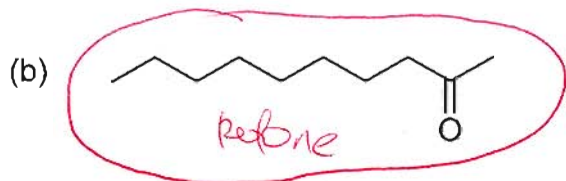
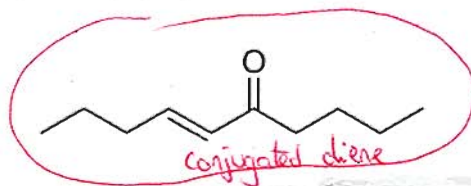
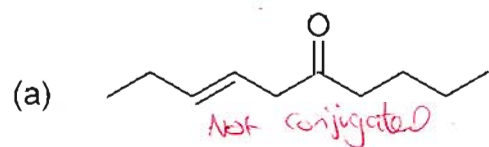
4-CHLORO-(3,E)-BUTENAL



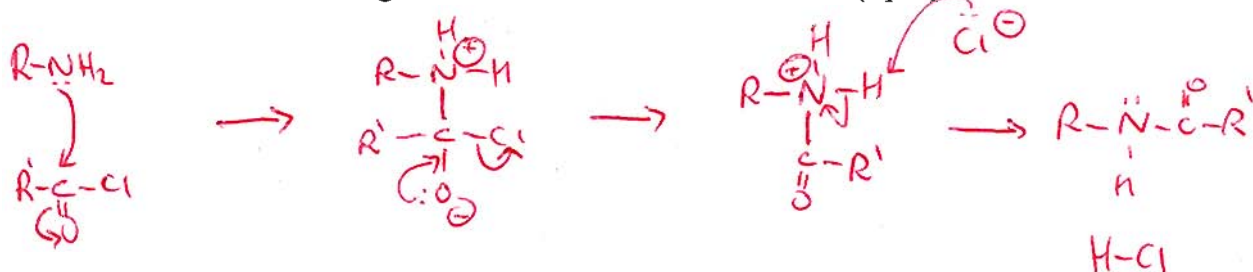
1-BROMO-2-PENTANONE

2,2-dimethylcyclobutanone

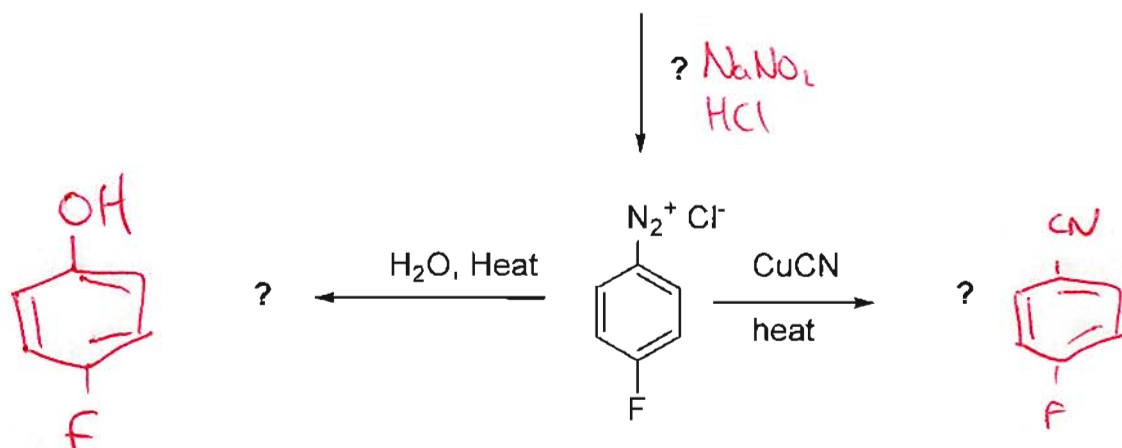
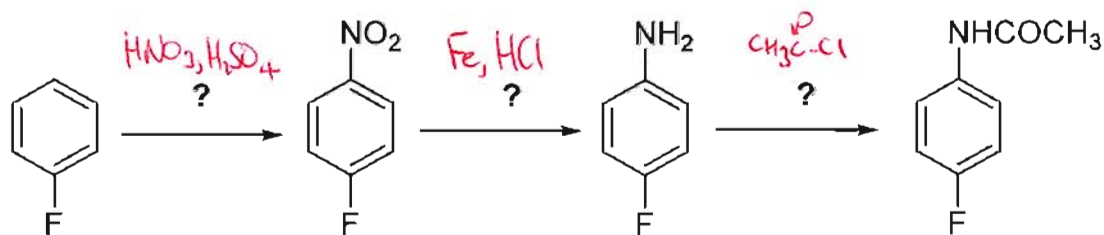
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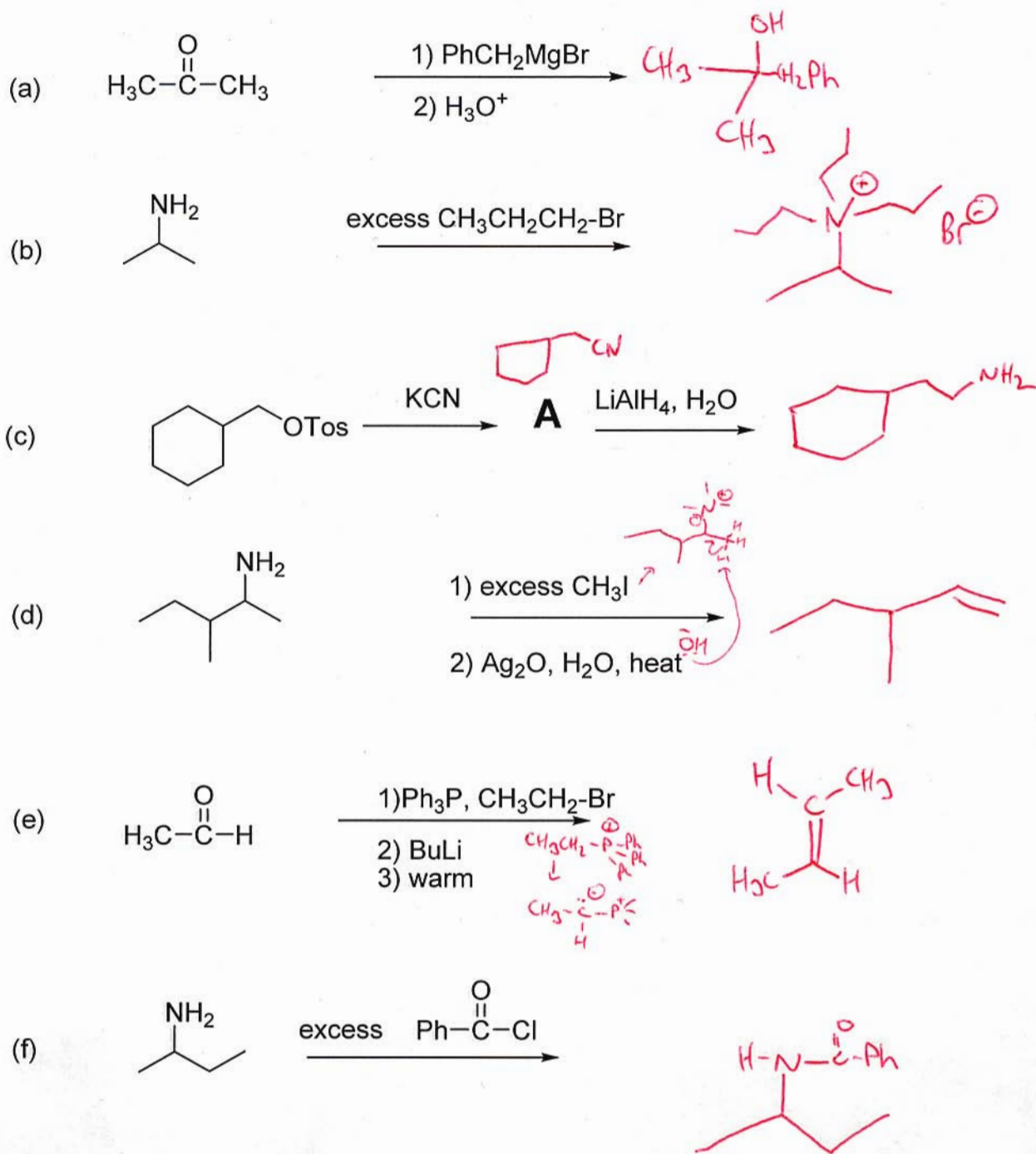
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