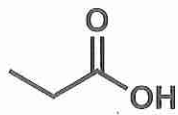


Key

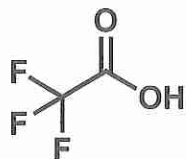
February 2017, Week 4 Problem Solving Session

Print Name _____

Acidity/Basicity/Stability: Rank the following molecules with respect to relative acidity. Place 1 under the most acidic molecule and a 4 under the least acidic.



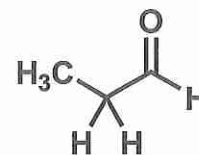
2



1

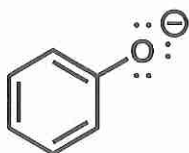


3

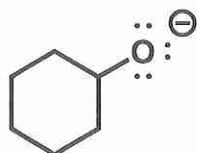


4

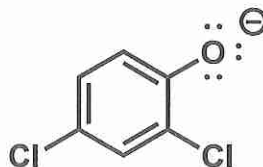
Rank the following molecules with respect to relative **BASICITY**. Place 1 under the **most** basic molecule, and 4 under the **least** basic.



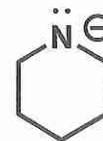
3



2



4



1

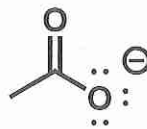
Rank the following molecules with respect to relative anion stability. Place a 1 under the **least** stable anion, and a 4 under the **most** stable anion.



2



4



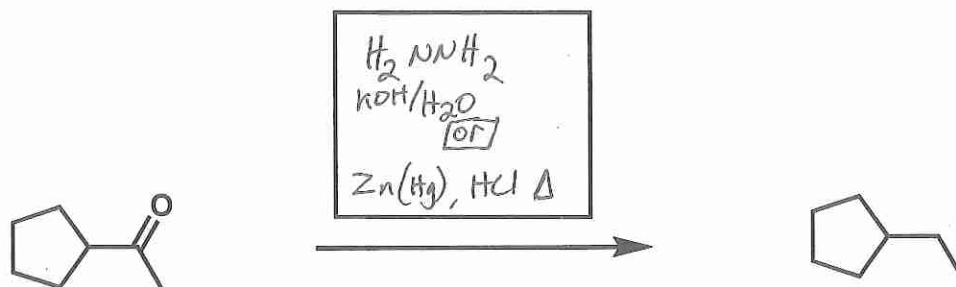
3



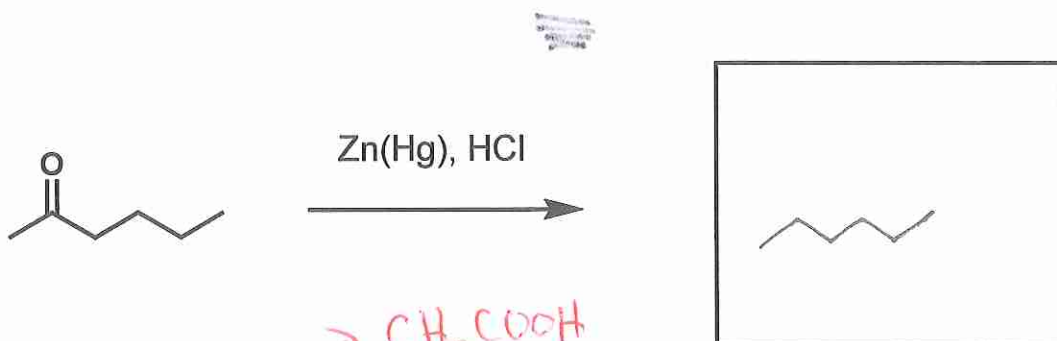
1

Box Problems: Fill in the boxes with the major product, reagent, or starting material required to achieve the transformation. If a chiral center is created and a racemic mixture is formed you must draw both enantiomers and write racemic under the structure. Use wedges and dashes to indicate stereochemistry.

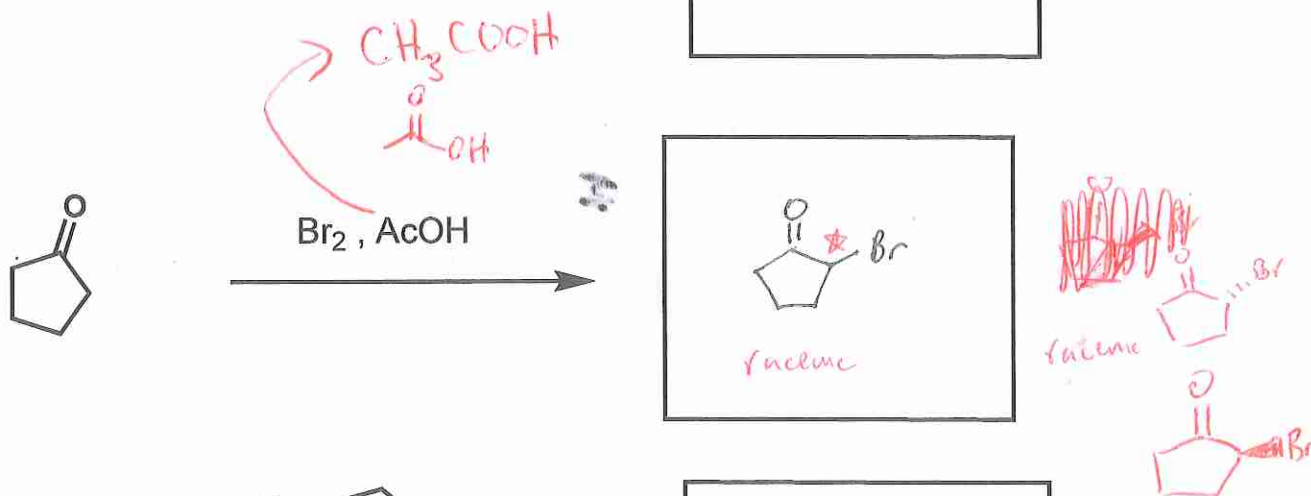
a)



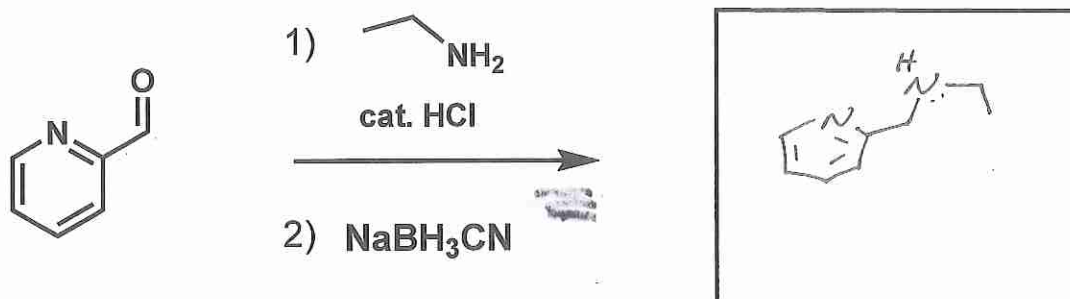
b)



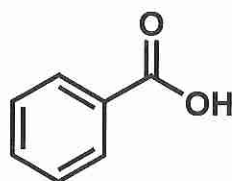
c)



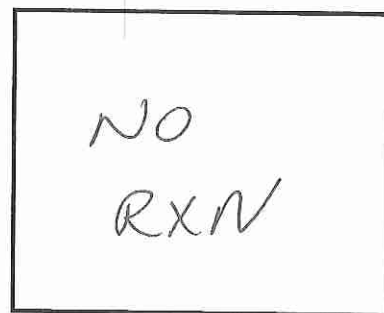
d)



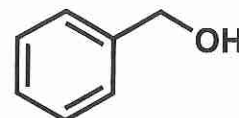
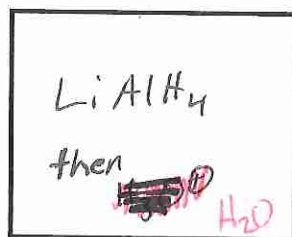
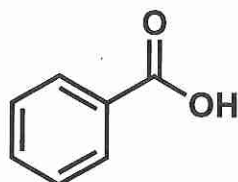
e)



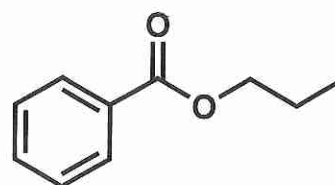
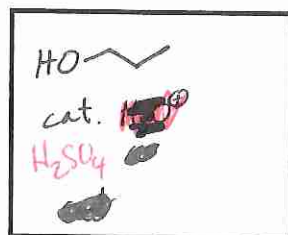
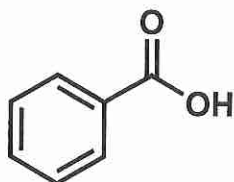
NaBH₄



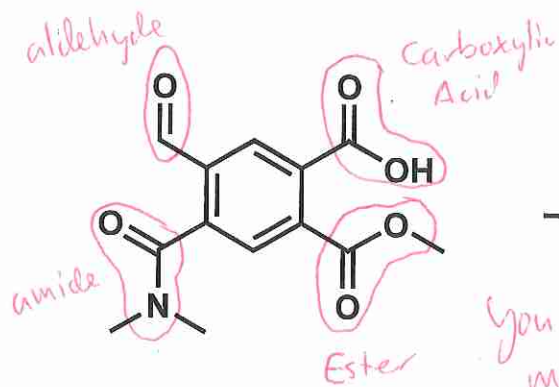
f)



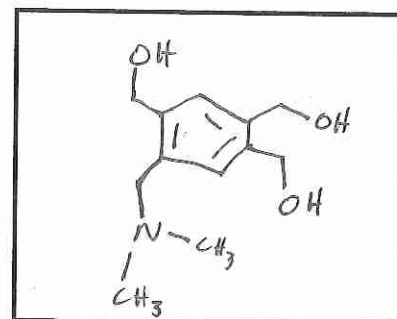
g)



h)



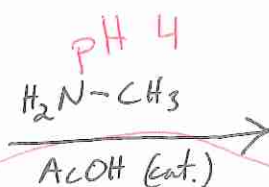
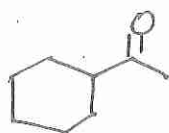
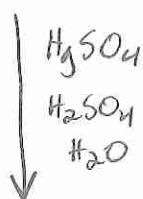
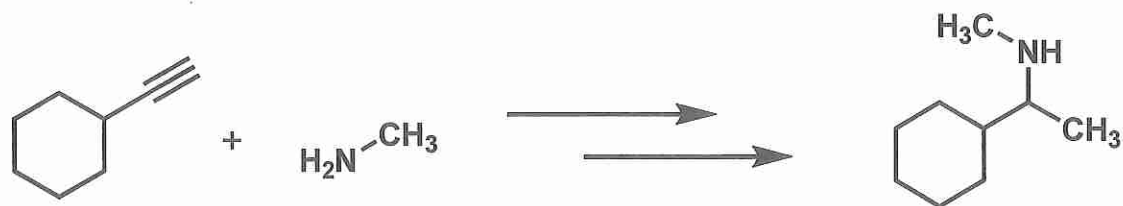
LiAlH₄ (excess),
then ~~H₂O~~ H₂O



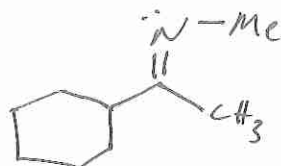
You don't know
most of these yet?

Synthesis: Using the following starting materials as your only source of carbon, provide a synthesis for the following transformation. Show all reagents, steps, and intermediates.

HINT: methylamine is used in a later step. Can be done in 3 steps.



Dean Stark trap
Benzene, Δ



This is just so you know how we would run it in lab - you only need what's above the arrow

Synthesis: Using the following starting material as your only source of carbon, provide a synthesis for the following transformation. Show all reagents, steps, and intermediates.

