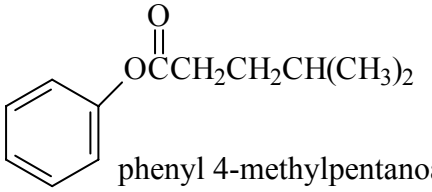
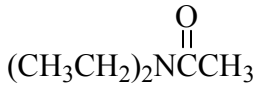
Chemistry 202 Name_____
Practice questions from CH 20-21

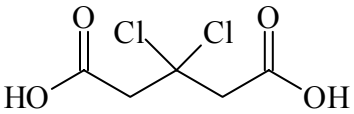
1.(12) Name the following compounds:

a) 

phenyl 4-methylpentanoate

b) 

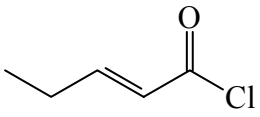
N,N-diethylacetami

c) 

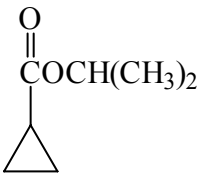
β,β-dichloroglutaric acid
3,3-dichloropentanedioic acid

2.(8) Draw the following compounds:

a) (E) 2-pentenoyl chloride

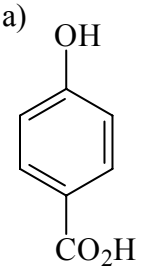


b) isopropyl cyclopropane carboxylate

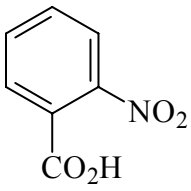


3.(10) Arrange the following compounds in order of **increasing pKa** (1 = lowest pKa)

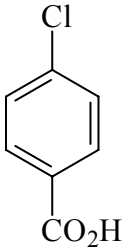
a)



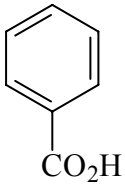
5



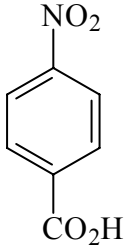
1



3



4

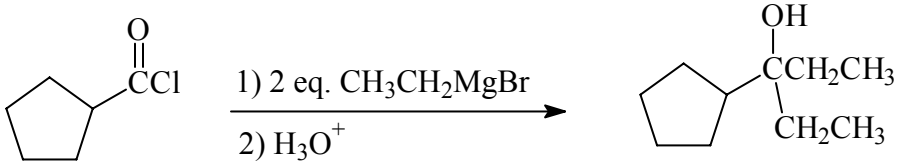


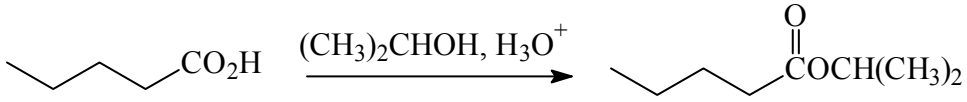
2

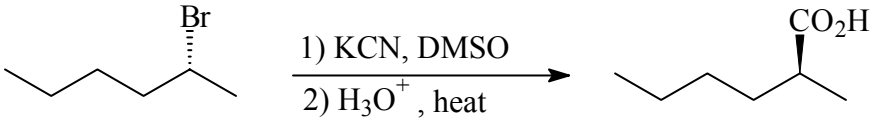
b) $CH_3CH_2CO_2H$, $CCl_3CH_2CO_2H$, $CH_3CH_2CH_2OH$, $CF_3CH_2CO_2H$, HCl

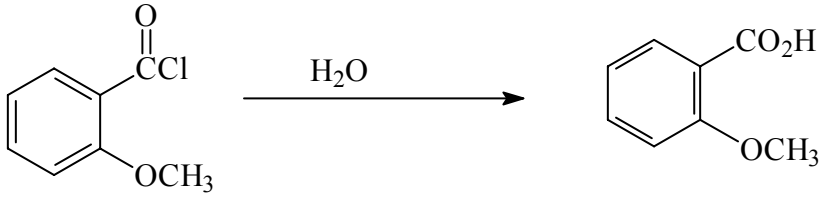
4 **3** **5** **2** **1**

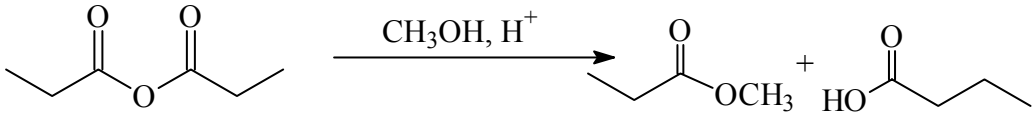
4.(40) Give the major products of the following reactions. Where 2 organic products are formed, draw them both.

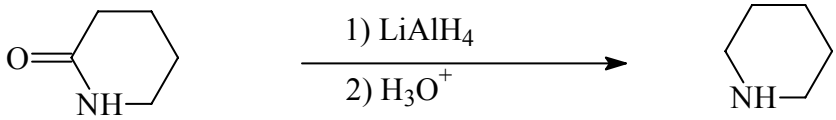
a) 

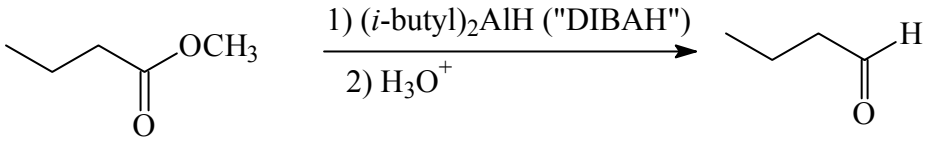
b) 

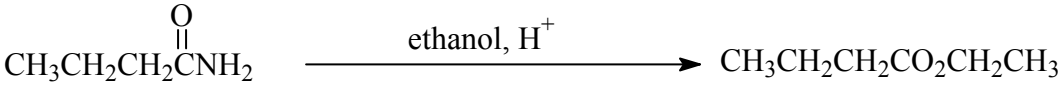
c) 

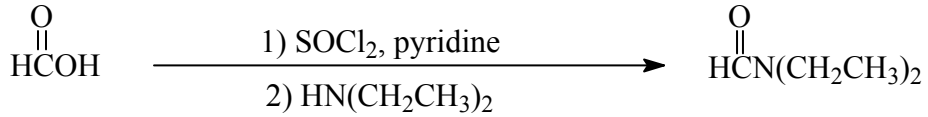
d) 

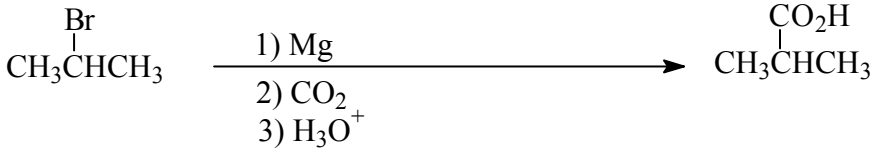
e) 

f) 

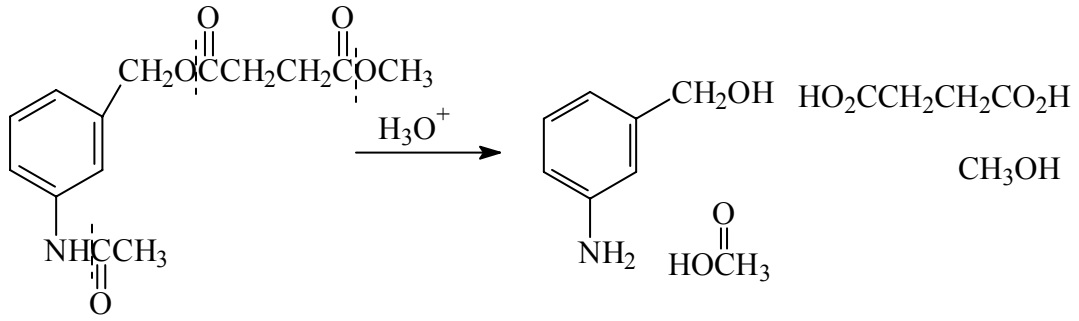
g) 

h) 

i) 

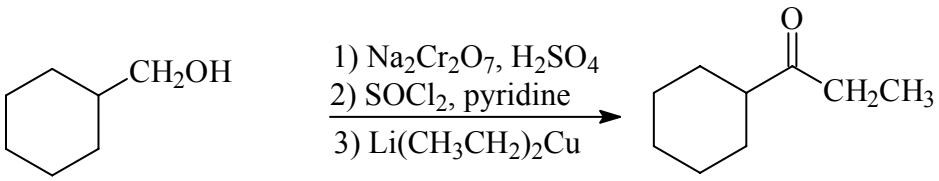
j) 

5.(8) Draw all of the products that would result from the complete acid catalyzed *hydrolysis* of the following compound:

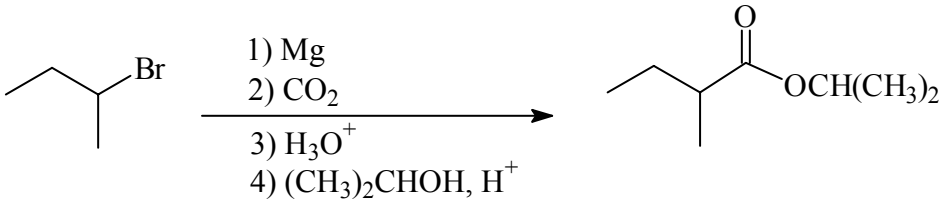


6.(12) Give the reagents in the proper order in order to carry out the following transformations.

a)



b)



7.(10) Provide a clear, coherent mechanism for the following transformation. Use only the reagents provided and show electron flow with arrows.