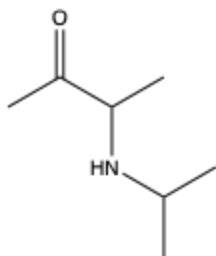


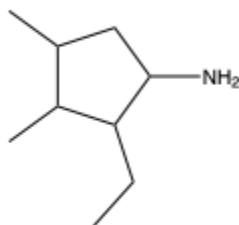
## CHEM 2300 Solution 12

1. Name/Draw the following nitrogen compounds

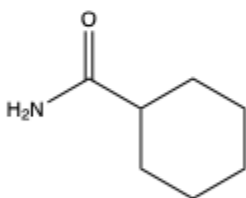


3 - isopropylaminobutan - 2 - one  
or

3 - amino - N - isopropylbutan - 2 - one



2 - ethyl - 3,4 - dimethyl - 1 - cyclopentanamine

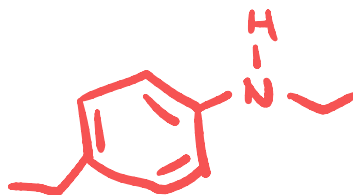


cyclohexanecarboxamide

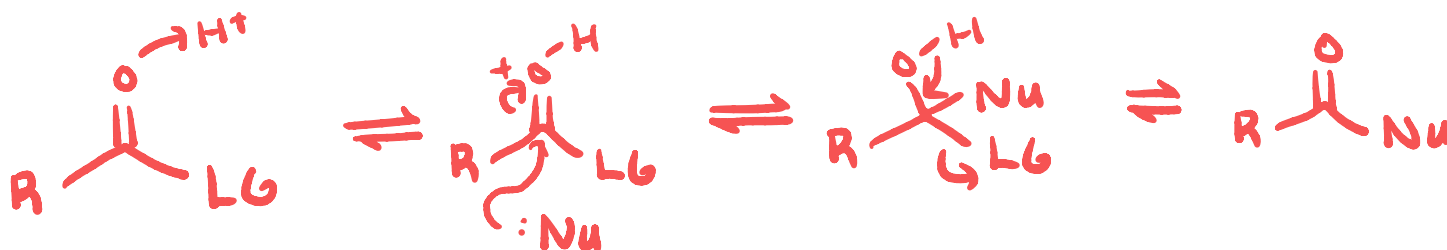
3-methylbutanamide



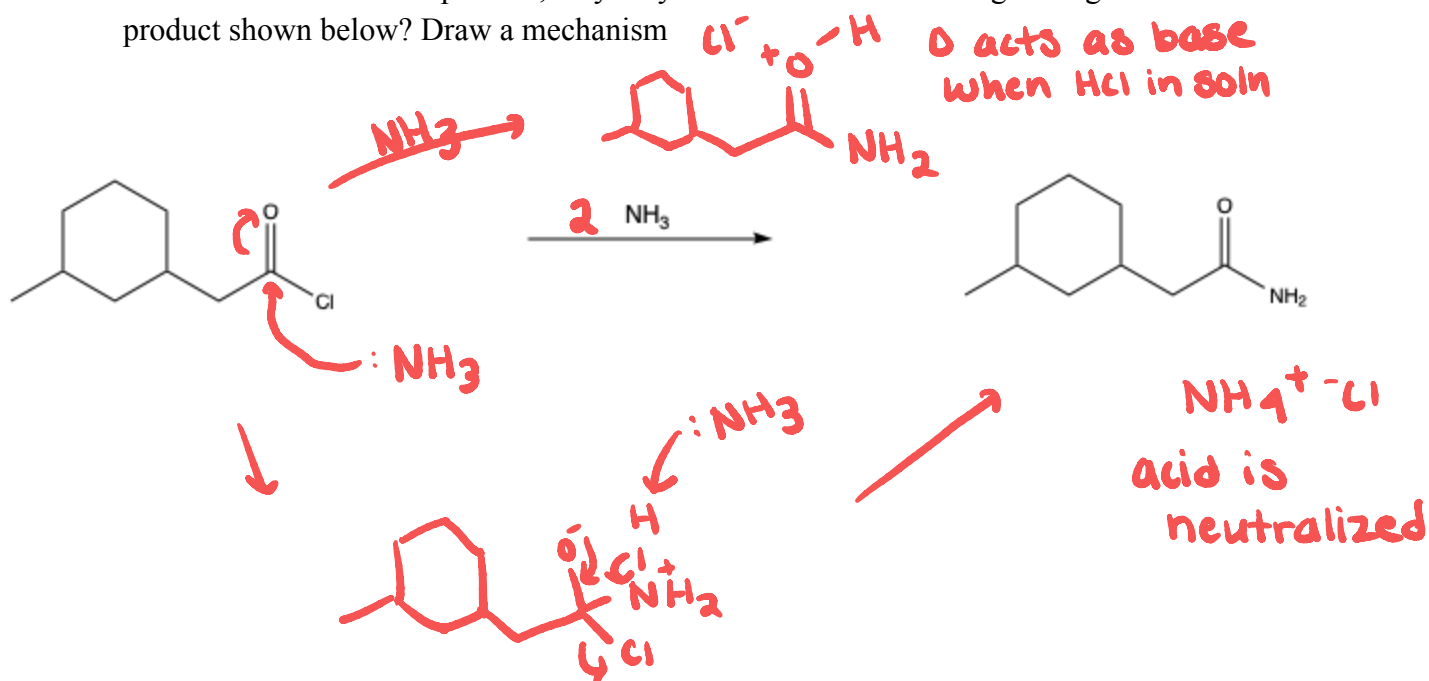
N,4-diethylaniline



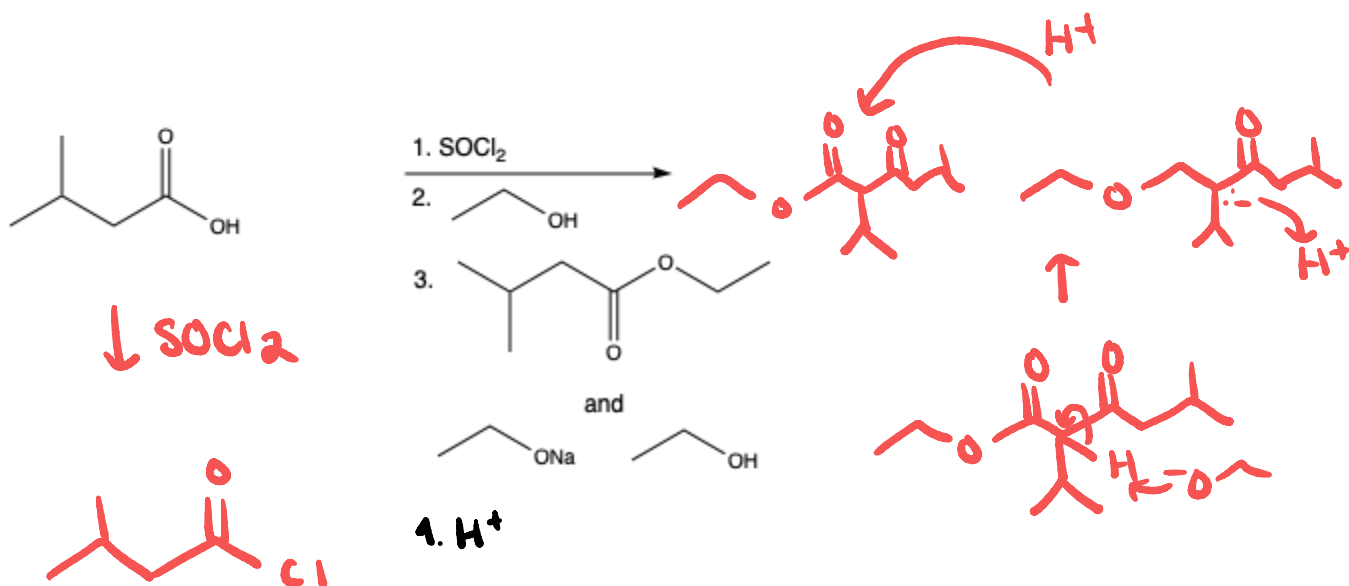
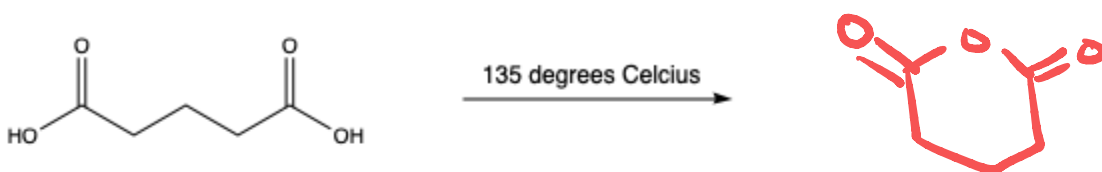
2. Show the general mechanism for carboxylic acid reactions (assume weak nucleophile)

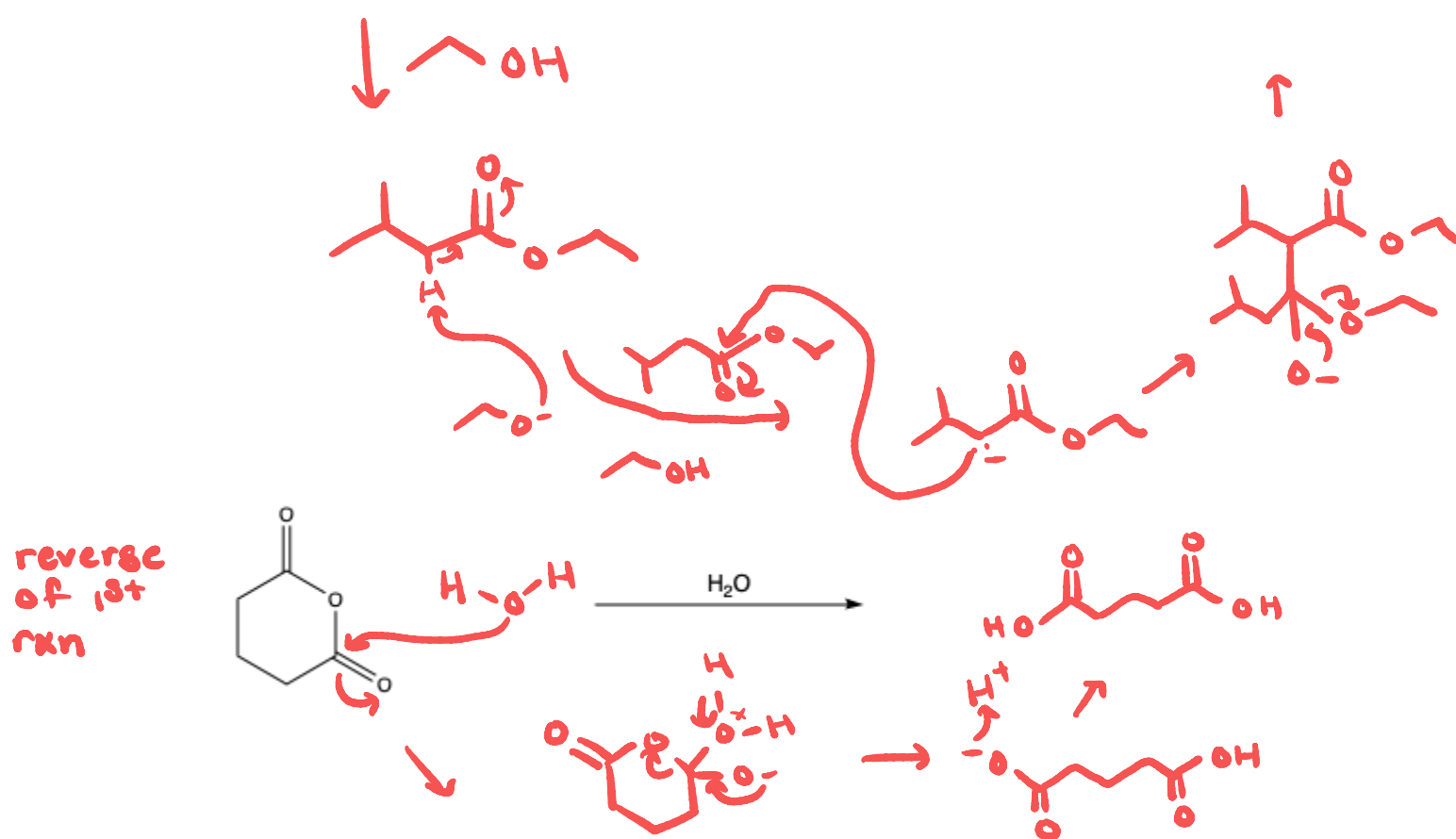


3. We do the following reaction below but end up getting a compound that is soluble in water unlike our desired product, why do you think that is? How might we get the product shown below? Draw a mechanism

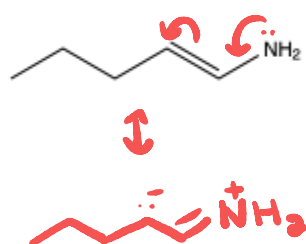
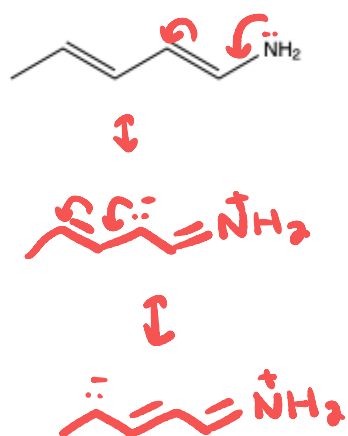


4. Give the major product for the following reactions





5. Which compound is more basic and why? Use resonance structures to explain answer



lone pair isn't as delocalized so more available to grab  $H^+$ ,  
**MORE BASIC**

6. How might we synthesize the following molecule from benzene? Give a synthetic route

