

1/10/19

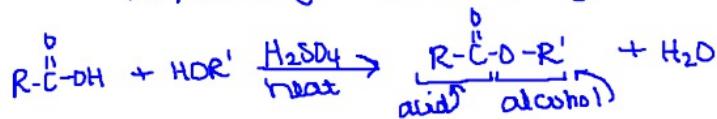
Acid Anhydrides, Esters & Amides
all contain an acyl group $R-C-$

Acid Anhydride: to name drop the term acid and add anhydride

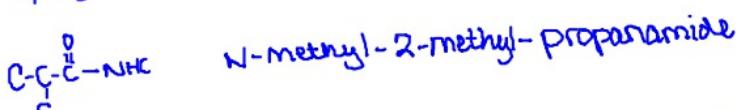


produced by the dehydration synthesis of two acid molecules

Ester: the alcohol portion is named as a branch and the acid is the PC, change the ending "-oacid" \rightarrow "-oate"



Amide: remove the "oacid" \rightarrow "amide" $\begin{array}{c} \text{O} \\ \parallel \\ \text{R}-\text{C}-\text{N}^- \end{array}$
* if there are branches off the nitrogen use the "N-" locator.

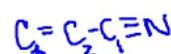


Nitrile: $\text{R}-\text{C}\equiv\text{N}$ (the prefix cyano is often used to represent the $-\text{C}\equiv\text{N}$)

the carbon of the $\overset{*}{\text{R}}-\text{C}_1\equiv\text{N}$ is the C_1 of the parent chain.

name parent chain followed by nitrile

if $-\text{C}\equiv\text{N}$ as a branch is carbonitrile



Reactions

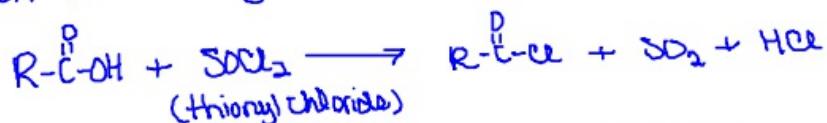
Basicity of Amines



Neutralization of an amine (formation of an amine salt)



Formation of an acyl halide



Formation of an amide from an acyl halide



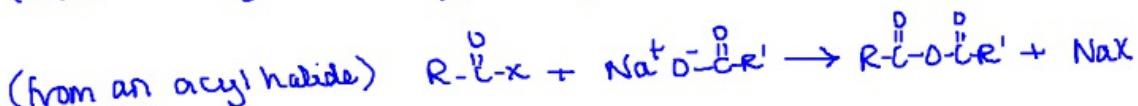
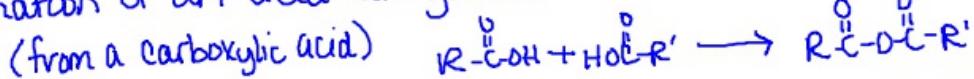
Formation of an amide from an ammonium salt



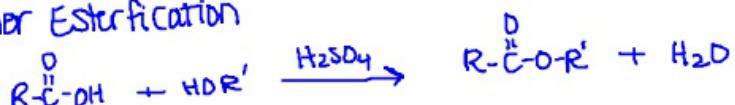
Formation of an ammonium salt



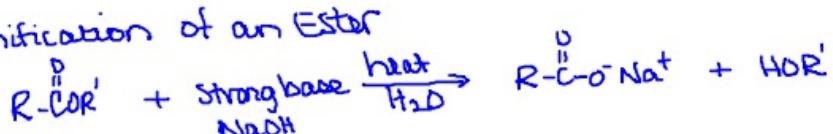
Formation of an acid anhydride



Fischer Esterification



Saponification of an Ester



Ester Hydrolysis



Reduction of an amide:

