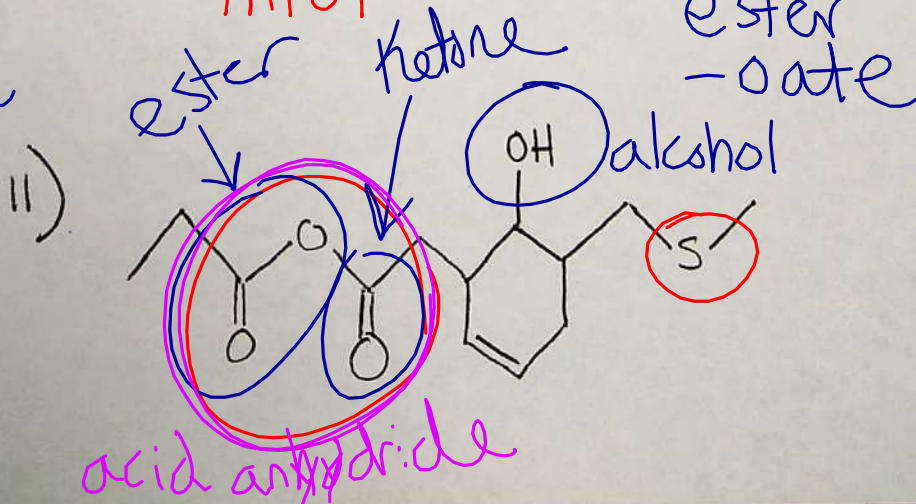
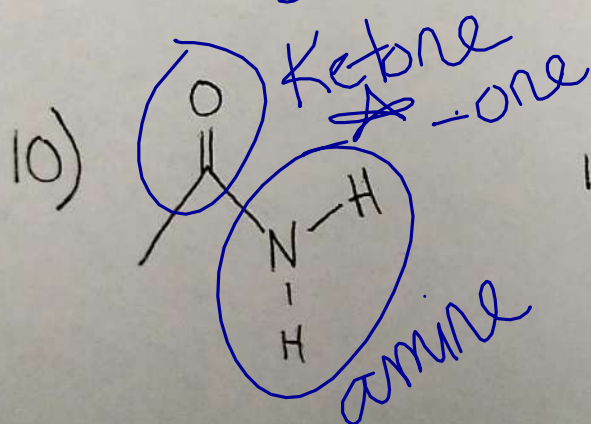
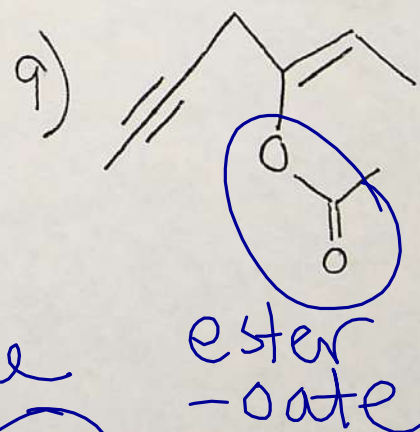
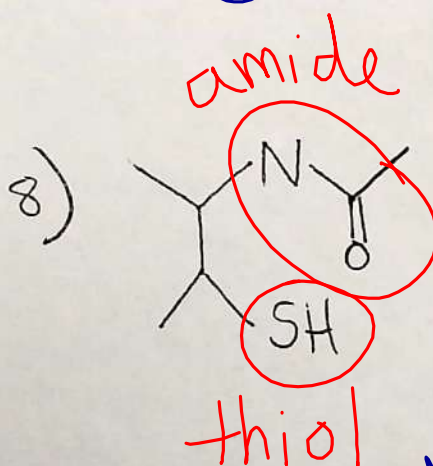
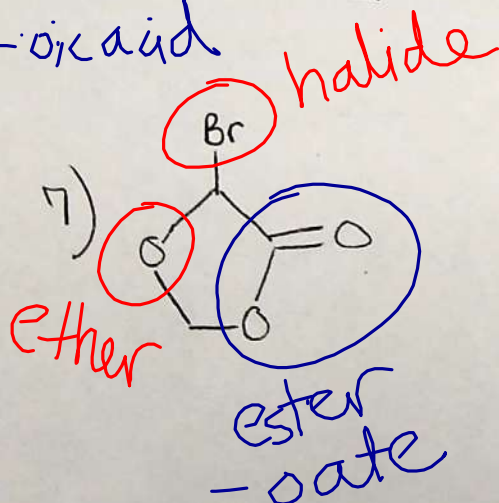
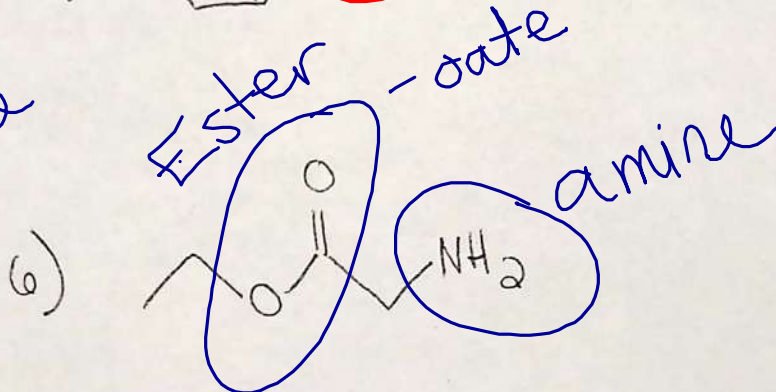
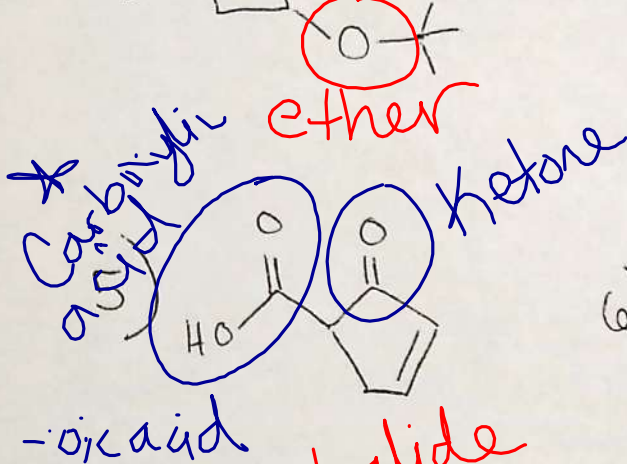
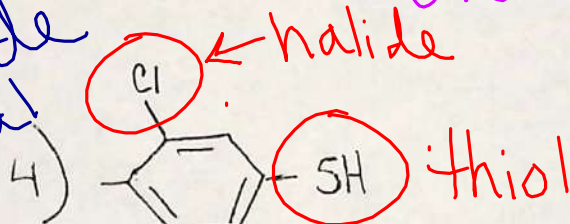
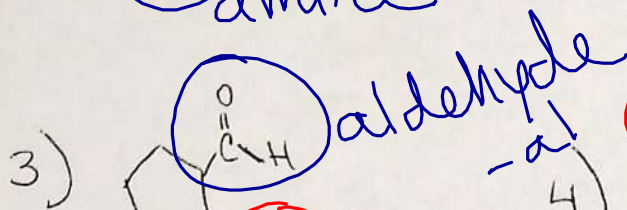
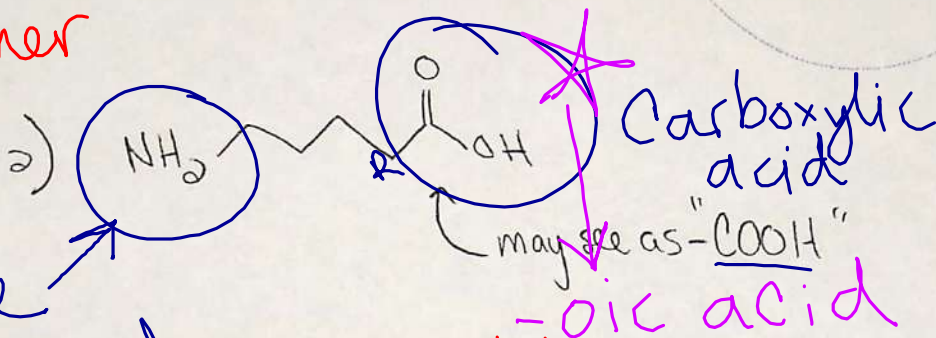
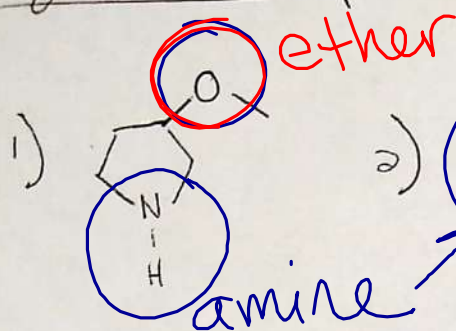
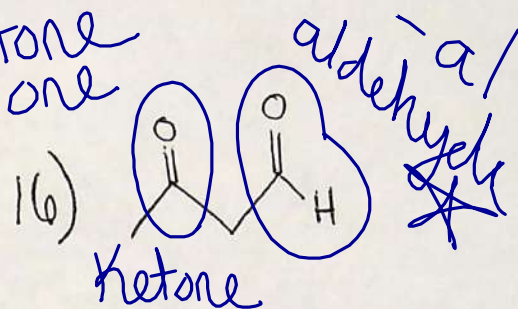
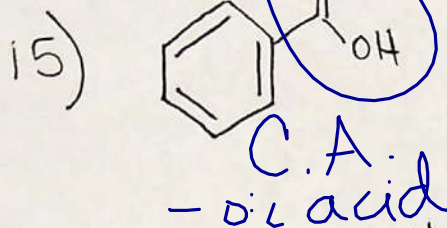
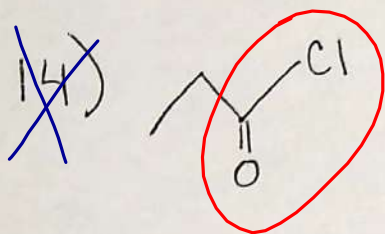
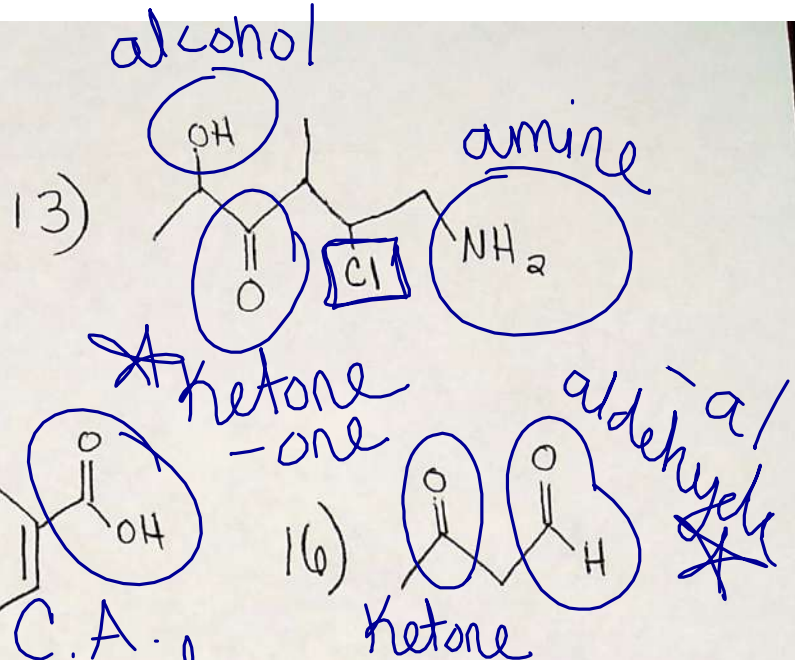


Organic Molecules w/ functional Groups

Chp 2.1 - Fundamentals

"Class Practice"





~~17) halide~~


18) amine

~~19) amide~~

(20) ester

21) ketone



22) carboxylic acid 

~~23) nitrile~~

24) alcohol

25) aldehyde

~~26)~~ Carboxylic acid anhydride

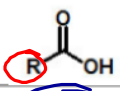
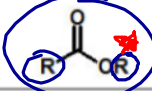

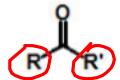
~~27) Arene~~

~~28)~~ alkane / alkene / alkyne

~~29)~~ sulfide vs. thiol

~~30~~) Carboxylic acid chloride

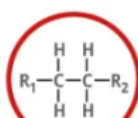
Functional Groups In Order

Hierarchy	Functional Group	Class of Compound	Suffix
1	Abbreviation: -COOH 	Carboxylic acid	-oic acid
2		Ester	-oate
3	Abbreviation: -CHO 	Aldehyde	-al
4		Ketone	-one (pronounced "own")
5	<u>R-OH</u>	Alcohol	-ol
6	<div> $R-NH_2$ Primary Amine </div> <div> $R-NH-R'$ Secondary Amine </div> <div> $R-N(R')_2$ Tertiary Amine </div>	Amine	-amine
NO Functional Group			-e

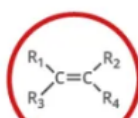
Additional "Functional" groups (some on the image are not technically FG's)

FUNCTIONAL GROUPS ARE GROUPS OF ATOMS IN ORGANIC MOLECULES THAT ARE RESPONSIBLE FOR THE CHARACTERISTIC CHEMICAL REACTIONS OF THOSE MOLECULES. IN THE GENERAL FORMULAE SHOWN BELOW FOR EACH FUNCTIONAL GROUP, 'R' REPRESENTS THE REST OF THE MOLECULE, AND 'X' REPRESENTS ANY HALOGEN ATOM.

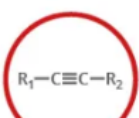
● HYDROCARBONS ● SIMPLE OXYGEN HETEROATOMICS ● HALOGEN HETEROATOMICS ● CARBONYL COMPOUNDS ● NITROGEN-BASED ● SULFUR-BASED ● AROMATIC



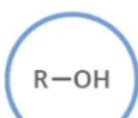
ALKANE
Naming: -ane
e.g. ethane



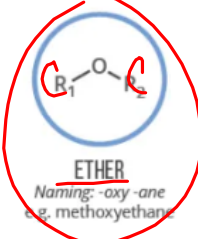
ALKENE
Naming: -ene
e.g. ethene



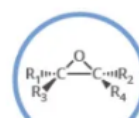
ALKYNE
Naming: -yne
e.g. ethyne



ALCOHOL
Naming: -ol
e.g. ethanol



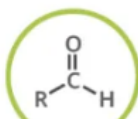
ETHER
Naming: -oxy -ane
e.g. methoxyethane



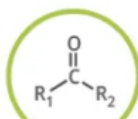
EPOXIDE
Naming: -ene oxide
e.g. ethene oxide



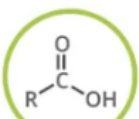
HALOALKANE
Naming: halo-
e.g. chloroethane



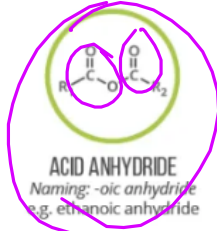
ALDEHYDE
Naming: -al
e.g. ethanal



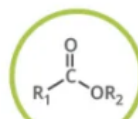
KETONE
Naming: -one
e.g. propanone



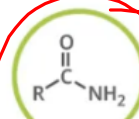
CARBOXYLIC ACID
Naming: -oic acid
e.g. ethanoic acid



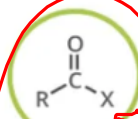
ACID ANHYDRIDE
Naming: -oic anhydride
e.g. ethanoic anhydride



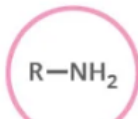
ESTER
Naming: -yl -oate
e.g. ethyl ethanoate



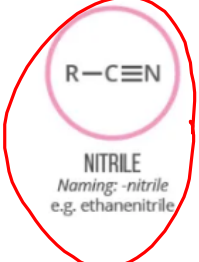
AMIDE
Naming: -amide
e.g. ethanamide



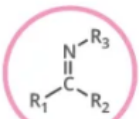
ACYL HALIDE
Naming: -oyl halide
e.g. ethanoyl chloride



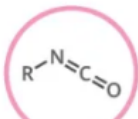
AMINE
Naming: -amine
e.g. ethanamine



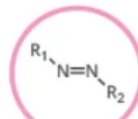
NITRILE
Naming: -nitrile
e.g. ethanenitrile



IMINE
Naming: -imine
e.g. ethanimine



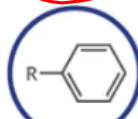
ISOCYANATE
Naming: -yl isocyanate
e.g. ethyl isocyanate



AZO COMPOUND
Naming: -azo-
e.g. azoethane



THIOL
Naming: -thiol
e.g. methanethiol



ARENE
Naming: -yl benzene
e.g. ethyl benzene