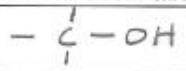
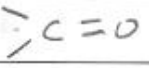
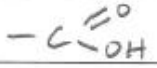
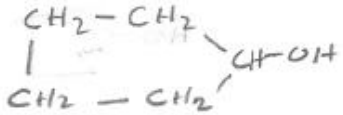
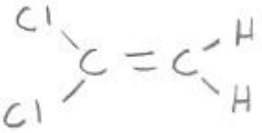
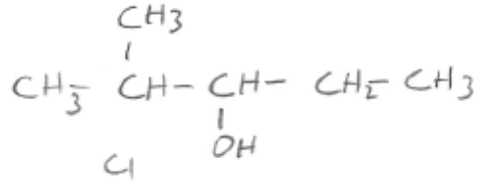
8.2 Review Question

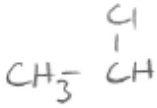
(p. 427) **8.2 Review Questions**

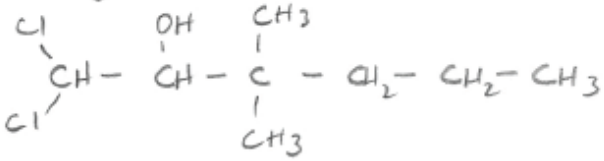
1. oxygen and nitrogen are also common in organic compounds.
2. A functional group is an atom, group of atoms or organization of bonds in an organic molecule that reacts in a characteristic manner. Examples include alkenes, alkynes, alcohols, ethers, esters etc.
3. Halogens.
4. Complete the following table:

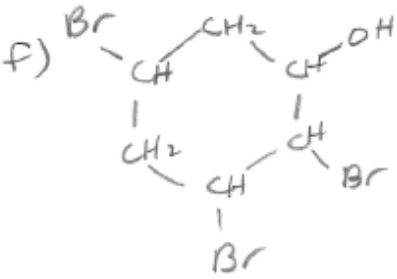
| Name of group | Atoms and their arrangement |
|---|---|
| hydroxyl |  |
| carbonyl |  |
| carboxyl |  |

5. a) 2,2-dichloropropane
   b) 2-bromo-3-chloro-3-methyl-1-pentanol
   c) 1,2,3,4-tetrachlorocyclobutane
   d) 4-bromo-2-hexene
   e) pentanoic acid
   f) 1,3,5-trifluorobenzene
6. a) 
   b) 

c) 

d) 

e) 

f) 

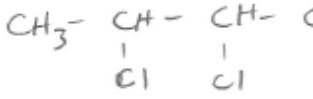
7. In an ionic compound, the –OH group is a hydroxide group. In an organic compound, the –OH group is a hydroxyl group or an alcohol group.

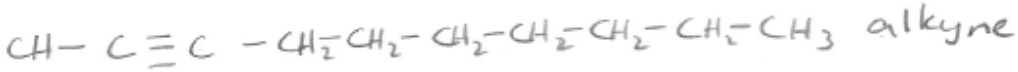
8a) alcohols, ethers

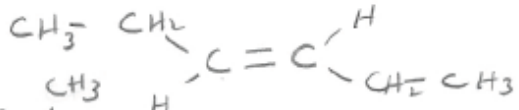
b) aldehydes, ketones, carboxylic acids, esters, amides

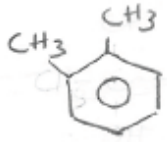
c) carboxylic acids, and esters

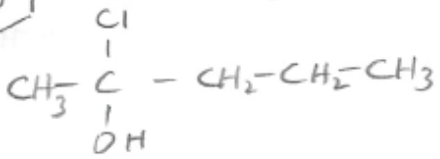
9. An amide contains a nitrogen atom bonded to a carbon that is double bonded to an oxygen atom. A carboxylic acid does not contain a nitrogen atom. Both amides and carboxylic acids contain a carbon atom that is double bonded to an oxygen atom.

10. a)  alkyl halide

b)  alkyne

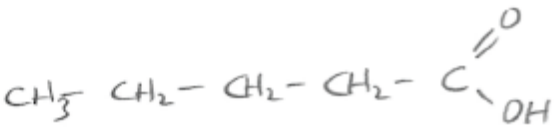
c)  alkene

d)  aromatic

e)  alkyl halide and alcohol

f) amide

g) aldehyde

h) 


11. a) aldehyde

b) aromatic, carboxylic acid

c) ketone

d) alkyl halide

e) alcohol

f) ester

g) amine

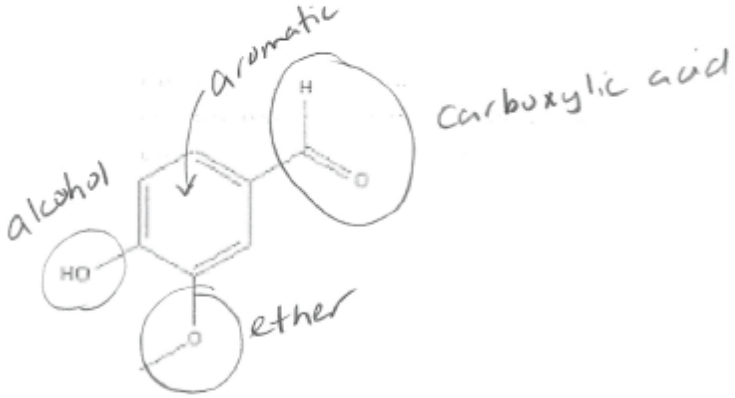
h) amide

i) alkene

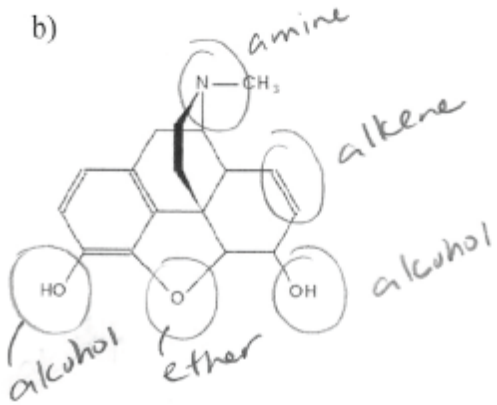
j) ether

12.

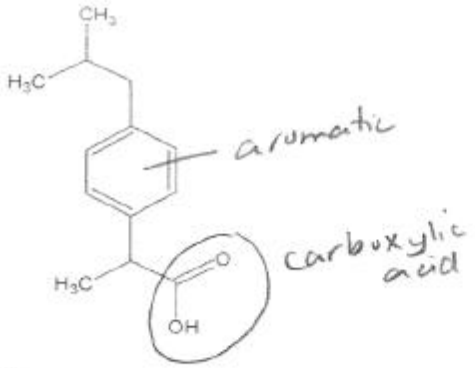
a) Vanillin – a food flavoring



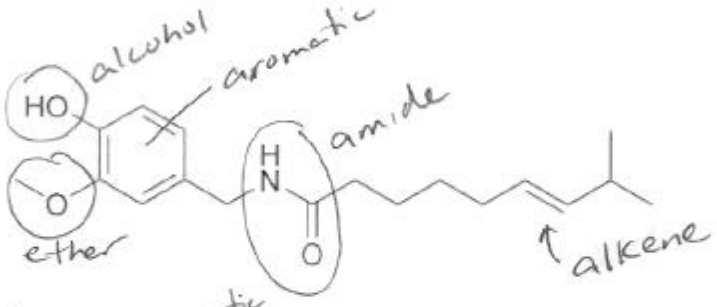

b)



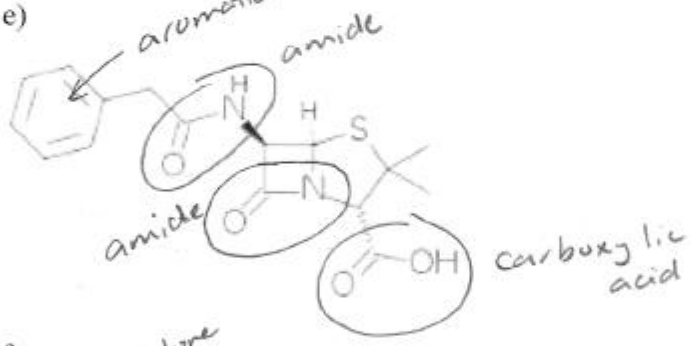
c)


aromatic
carboxylic acid

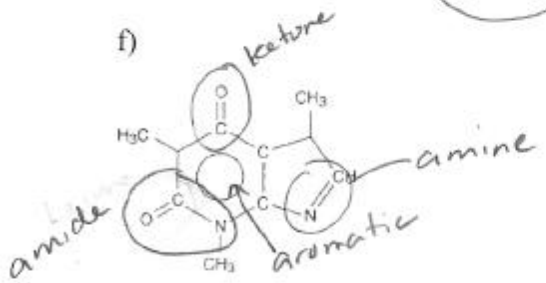
d)


alcohol
aromatic
amide
ether
alkene

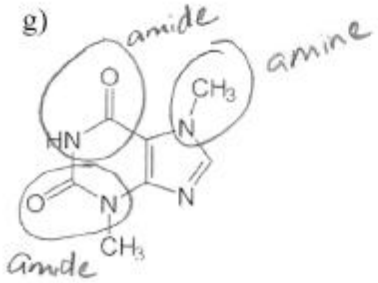
e)


aromatic
amide
amide
carboxylic acid

f)


ketone
amine
amide
aromatic

g)


amide
amine
amide