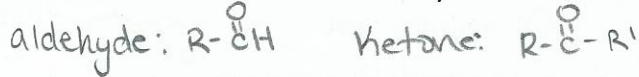
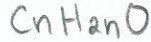


1. What is the difference between aldehydes and ketones? Write the R-formulas to show this.



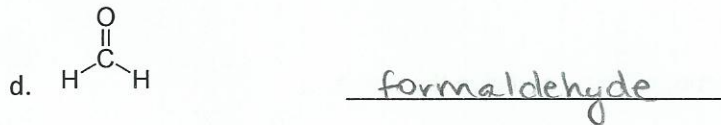
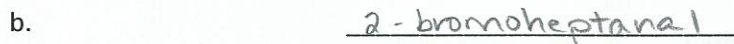
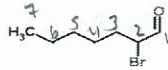
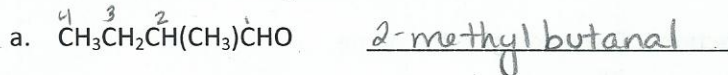
2. Aldehydes and ketones are unsaturated / saturated.
 3. What is the molecular formula for aldehydes and ketones?



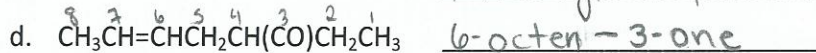
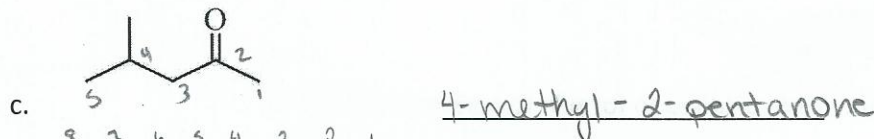
4. What is the name of the group that defines aldehydes and ketones? List characteristics of it.

- carbonyl ($C=O$)
- very polar and very reactive
- the O can form 2 hydrogen bonds

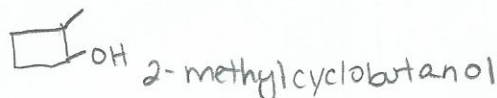
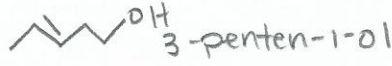
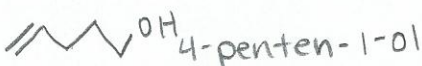
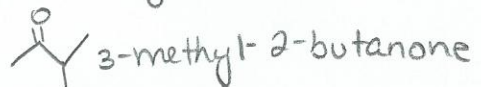
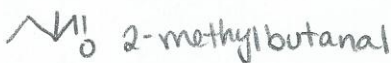
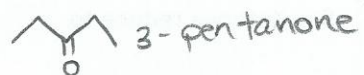
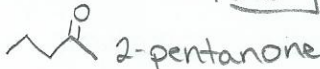
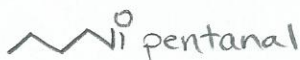
5. Name or draw the following molecules.

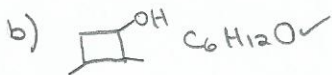
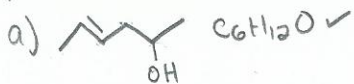


6. Name or draw the following molecules.



7. Draw and name some isomers with the formula $C_5H_{10}O$.

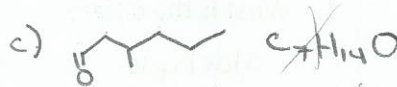




1. Which of the following will not have the formula $C_6H_{12}O$?

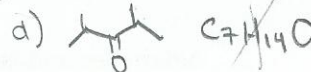
a. 4-hexen-2-ol

c. 3-methylhexanal



b. 2,3-methylcyclobutanol

d. 2,4-dimethyl-3-pentanone



2. Secondary alcohols will oxidize to

a. Aldehydes

c. alkenes

b. Esters

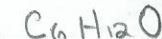
d. ketones

3. Write the molecular formula for the following molecules:

a. Octanal



b. 3-methyl-2-pentanone

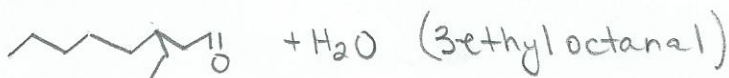


4. Oxidize the following reactions. Draw and give the name.

a. 3-ethyl-1-octanol

[O]

→



b. 3-methyl-3-hexanol

[O]

→

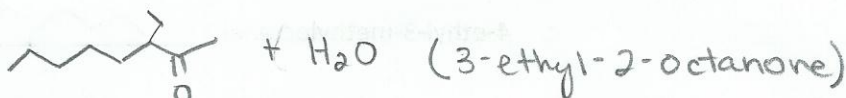


no reaction

c. 3-ethyl-2-octanol

[O]

→



5. Reduce the following reactions. Draw and give the name.

a. Butanal + H_2

Pt

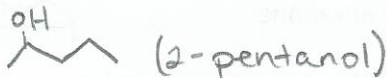
→



b. 2-pentanone + H_2

Pt

→



6. What type of alcohol oxidizes to form aldehydes?

primary

7. What type of alcohol oxidizes to form ketones?

secondary

8. Aldehydes reduce to

primary alcohols

9. Ketones reduce to

secondary alcohols