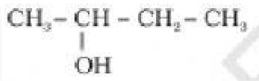
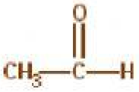
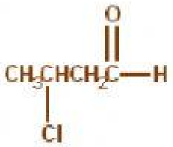
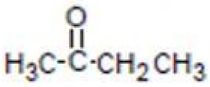
Worksheet - ROH, Aldehydes and Ketones

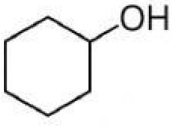
1. Use systematic nomenclature to name the following structures.

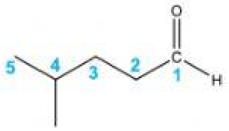

$CH_3-\underset{\underset{OH}{|}}{CH}-CH_2-CH_3$

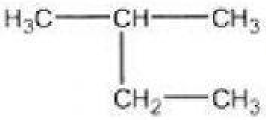

$CH_3-\overset{\overset{O}{||}}{C}-H$

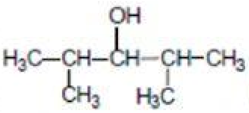

$CH_3\underset{\underset{Cl}{|}}{C}HCH_2\overset{\overset{O}{||}}{C}-H$

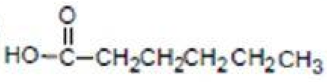

$H_3C-\overset{\overset{O}{||}}{C}-CH_2CH_3$

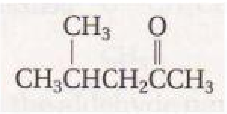


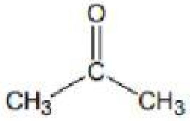


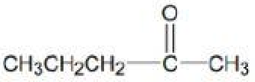

$H_3C-\underset{\underset{CH_2-CH_3}{|}}{CH}-CH_3$

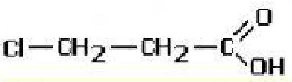

$H_3C-\underset{\underset{CH_3}{|}}{CH}-\overset{\overset{OH}{|}}{CH}-\underset{\underset{H_3C}{|}}{CH}-CH_3$

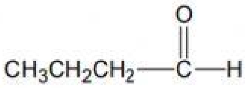

$HO-\overset{\overset{O}{||}}{C}-CH_2CH_2CH_2CH_2CH_3$

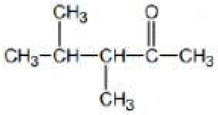

$CH_3\overset{\overset{CH_3}{|}}{C}HCH_2\overset{\overset{O}{||}}{C}CH_3$

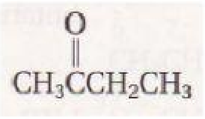


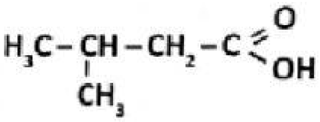

$CH_3CH_2CH_2-\overset{\overset{O}{||}}{C}-CH_3$

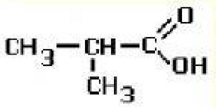


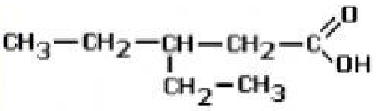

$CH_3CH_2CH_2-\overset{\overset{O}{||}}{C}-H$


$CH_3-\overset{\overset{CH_3}{|}}{CH}-\underset{\underset{CH_3}{|}}{CH}-\overset{\overset{O}{||}}{C}-CH_3$


$CH_3\overset{\overset{O}{||}}{C}CH_2CH_3$







2. For each pair of compounds on the left, select a correct structural characterization from the response list on the right. Responses on the right may be used more than once.

___ 1-Butanol
2-Butanol
___ 2-methyl propanol
Butanal
___ 3-Chlorophenol
3-heptanol
___ Cyclohexanol
Phenol
___ 2-methylbutanal
2,3-pentanediol

a) are isomers
b) have the same number of carbon atoms and same number of oxygen atoms but are not constitutional isomers
c) have the same number of carbon atoms but a different number of oxygen atoms
d) have the same number of oxygen atoms but a different number of carbon atoms

3. True or False:

1. ethylene glycol contains two carbon atoms and two hydroxyl groups __
2. acetone is the second ketone __
3. 2-propanol is a secondary alcohol __
4. ethanol is more toxic than ethanal __
5. the simplest aldehyde is etanol __
6. the simplest ketone is acetone __
7. silver mirror is a test reaction for carbonyl group __
8. alcohol is a base __
9 test reaction for glycerol is interaction with Cu(OH) __
10 phenol is ketone