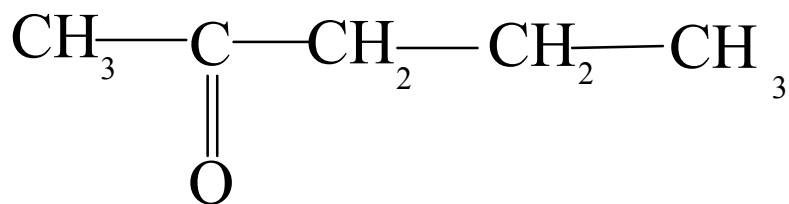
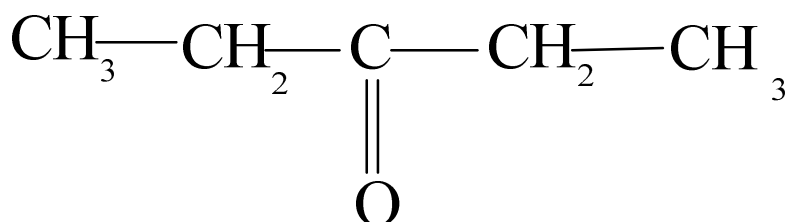


Draw and name all of the structural isomers that are ketones with five carbon atoms in its longest chain and the molecular formula  $C_5H_{10}O$ . Can this molecular formula also have an aldehyde structure? If so, illustrate and name the aldehyde. Can this be drawn as an ether? Explain.

Structural isomers of  $C_5H_{10}O$  with five carbon atoms in the longest chain.

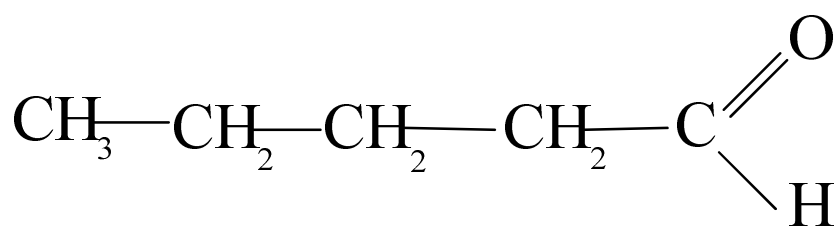


2-pentanone



3-pentanone

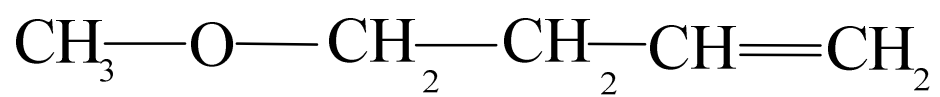
An aldehyde structure of  $C_5H_{10}O$  with five carbon atoms in the longest chain.



pentanal

**Ethers** are a class of organic compounds that contain an ether group — an oxygen atom connected to two alkyl or aryl groups — of general formula  $R-O-R'$ .

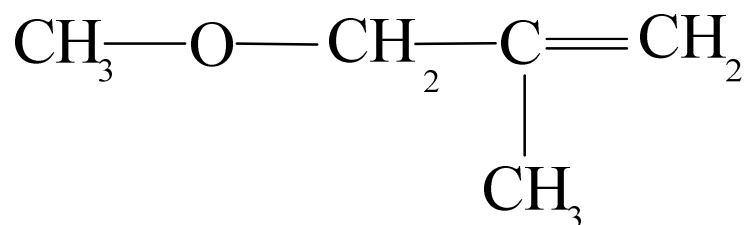
We can't draw the ether structure of  $C_5H_{10}O$  with five carbon atoms in the longest chain because we have only five carbon atoms and we get only one alkyl or aryl groups. But we can draw the following structures. For example:



4-methoxy-1-

butene

or



3-methoxy-2-methyl-1-

propene

and others...