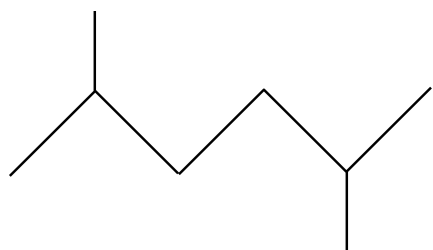
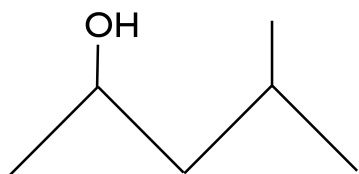


1. Name the following 3 compounds







9. Draw the following

3 methyl hexanal

2 methyl-butyl octanoate

2 butanone

3 methyl 2 pentene

ethyl ethyl amine

methyl butyl ether

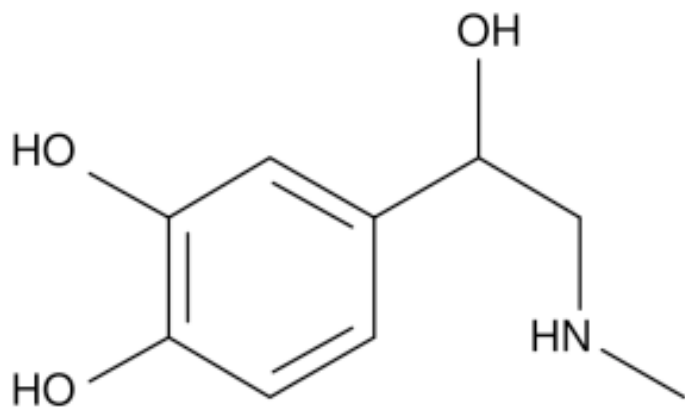
2,3 dimethyl dodecane

10. What products would you predict form from a condensation reaction of butanoic acid and methanol?

Draw and name the organic molecule.

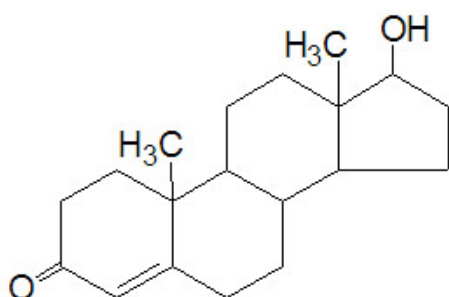
11. How many geometric isomers are there for chloro pentane? Name them all. (assume an unbranched pentane chain and ignore any stereo isomers).

12. Does this molecule (epinephrine/adrenaline) have any chiral centers? If so, clearly mark the chiral center(s) with an arrow at the central atom.



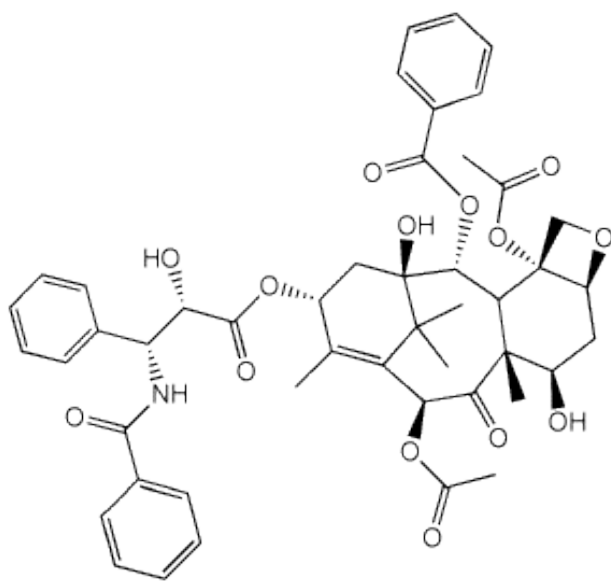
How many isomers are there for chloro-phenol? Draw them.

For the following molecules point out all the functional groups and label what they are along with any chiral centers



testosterone

For this one, but label the functional groups



Taxol