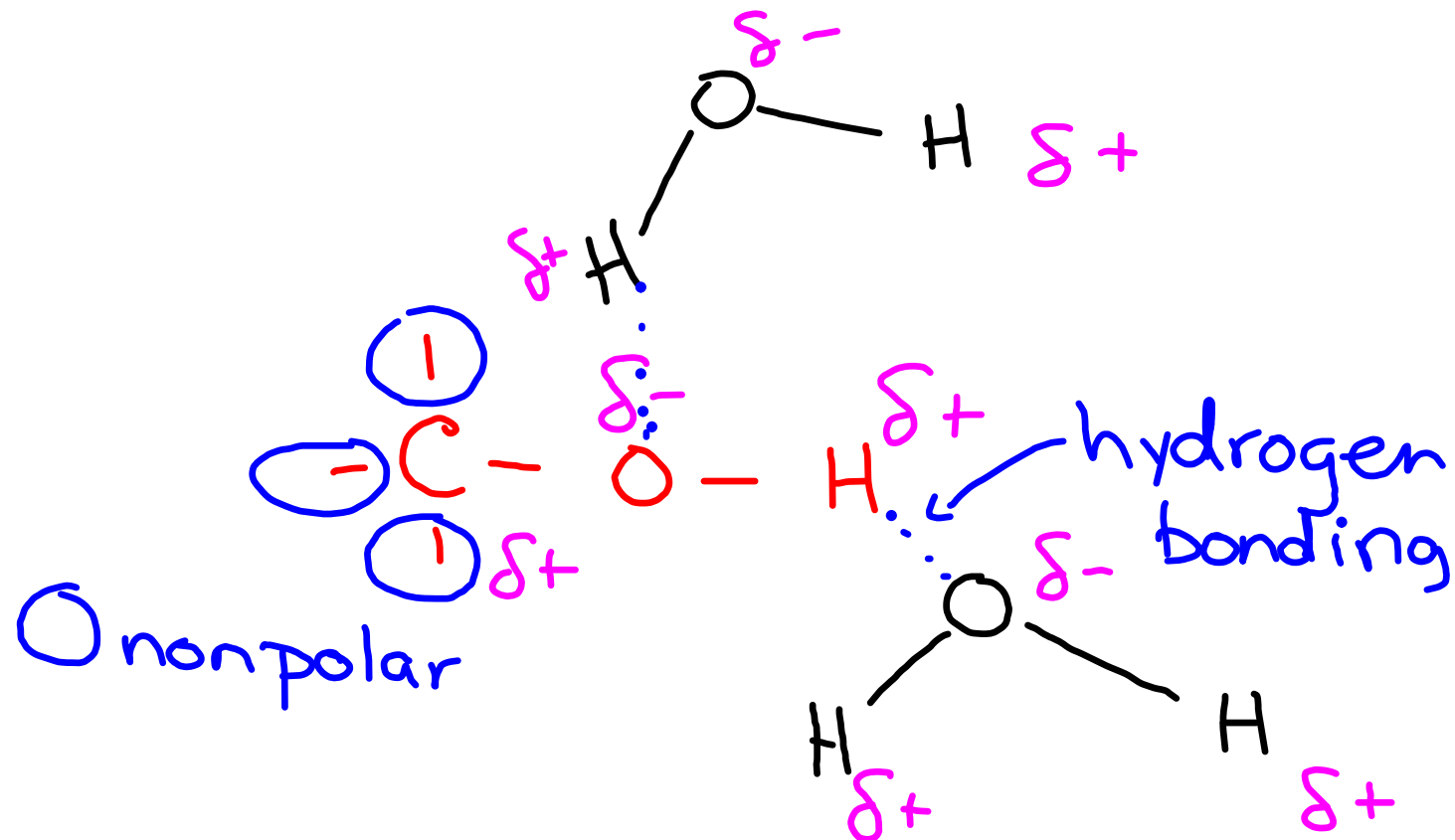


$R-OH$

Soluble in
Water



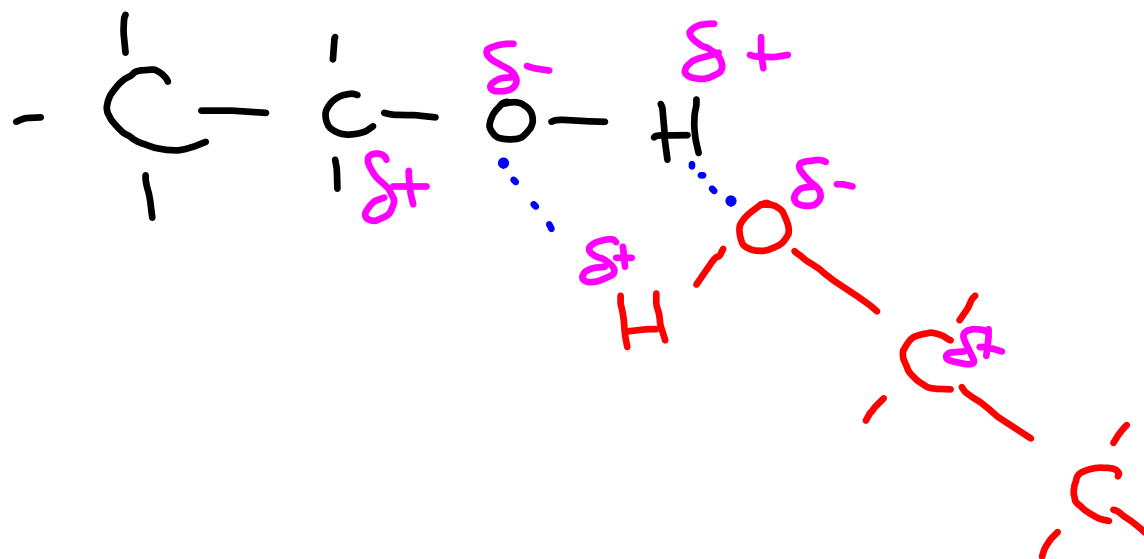
all covalently bonded!

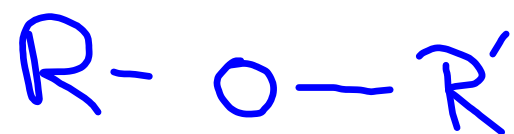
Outside the molecule
Molecule to molecule
interaction!

Van Der Waals - weakest

Dipole-Dipole - does not have
any hydrogens at either pole.

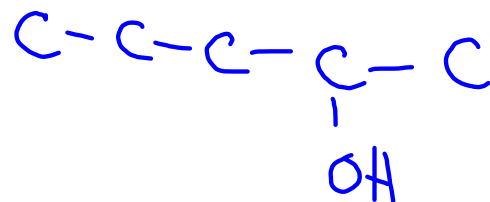
Hydrogen Bonding - strongest
must have a hydrogen
bonding to another δ^-
end of a molecule.



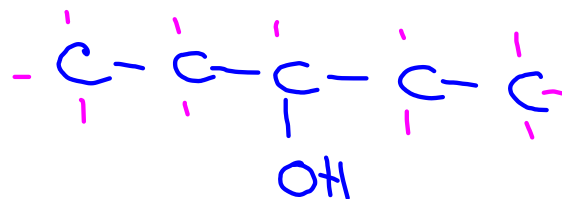




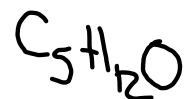
1-pentanol

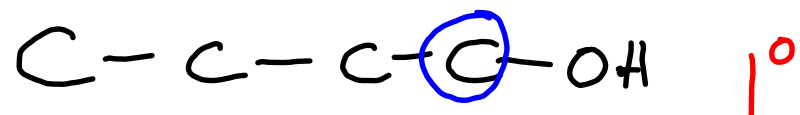


2-pentanol



3-pentanol

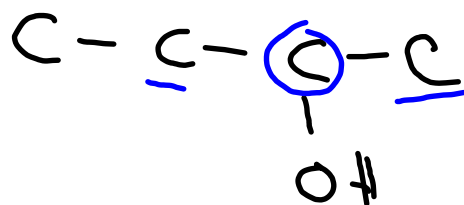




1-butanol

1° alcohol

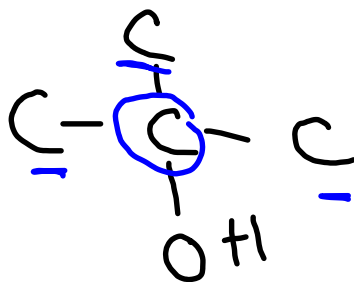
alcohol is attached to 1 C



2-butanol

2°

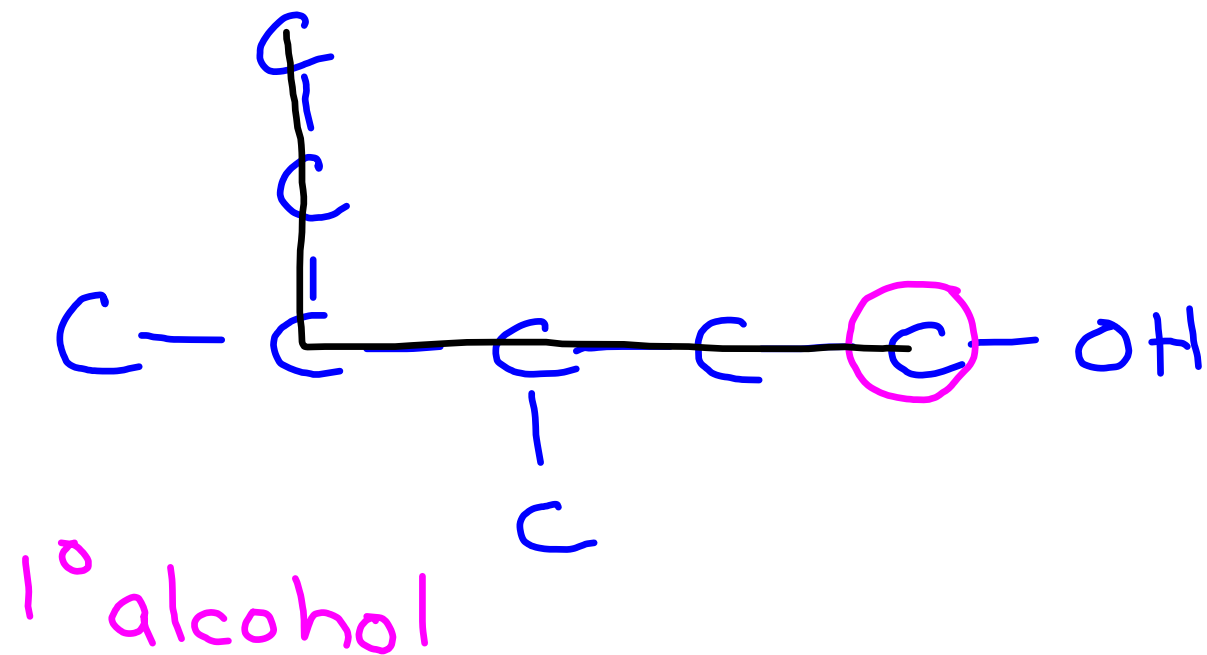
alcohol



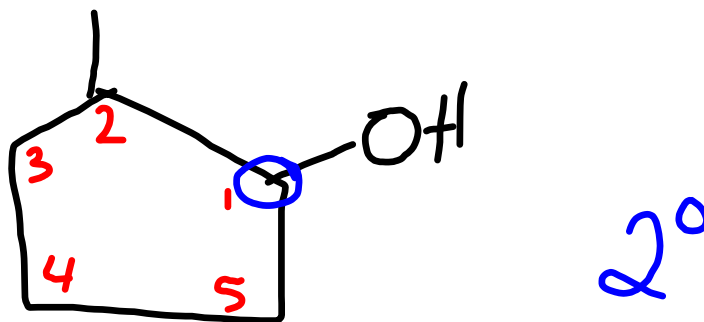
3°

alcohol

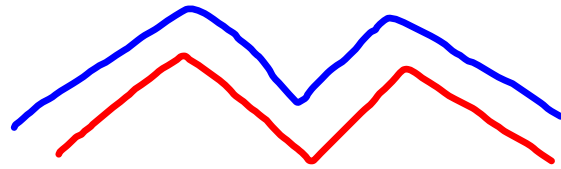
2-methyl-2-propanol



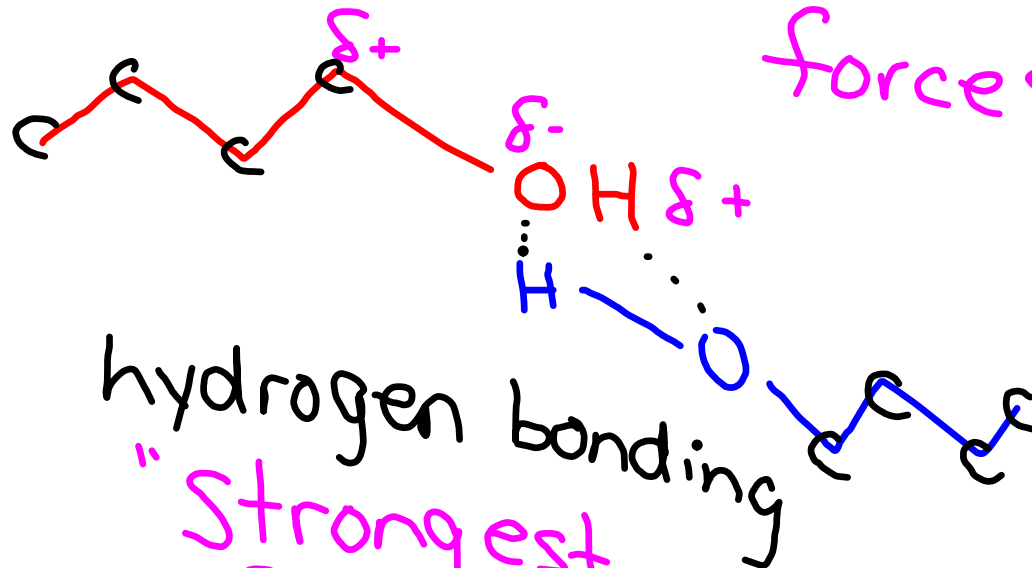
3,4dimethyl - 1- hexanol



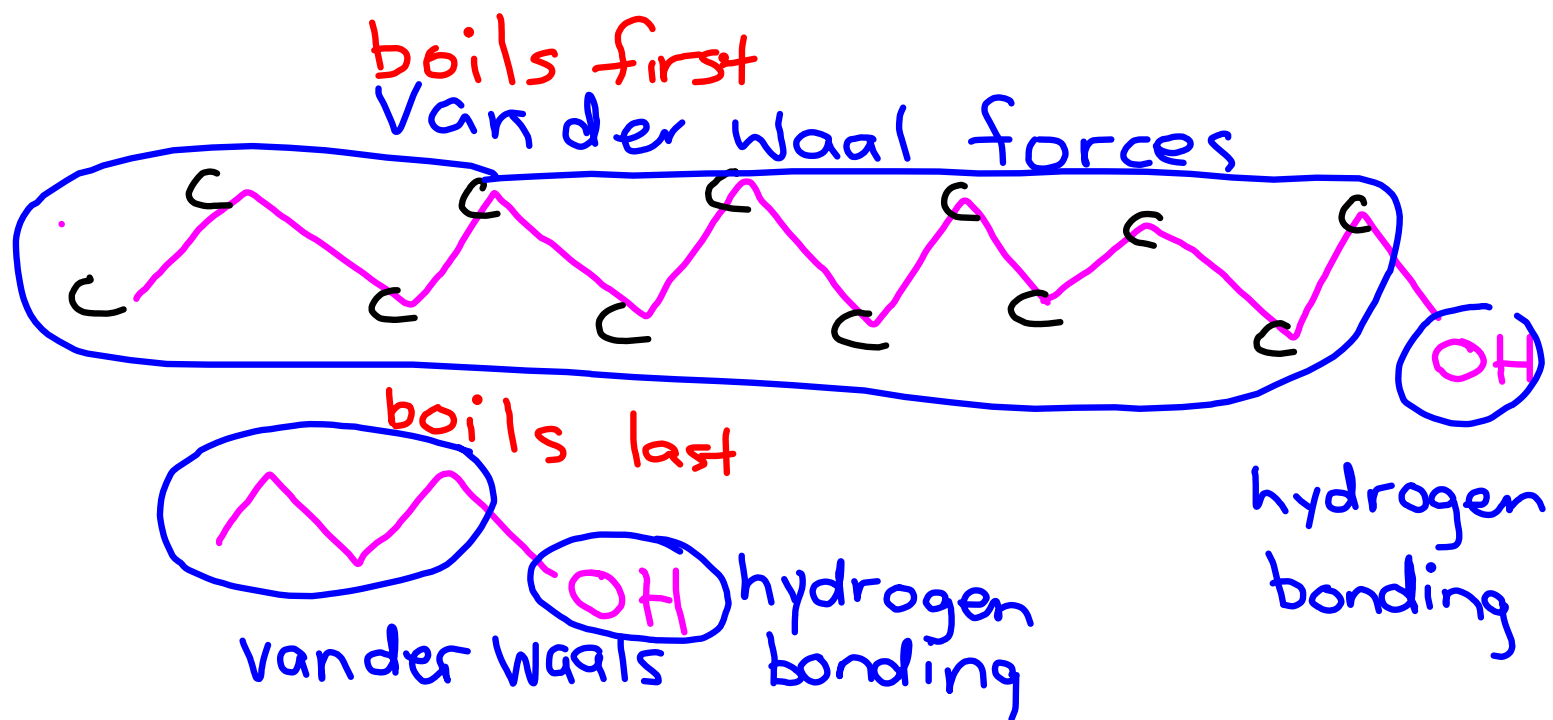
2-methyl-1-cyclopentanol



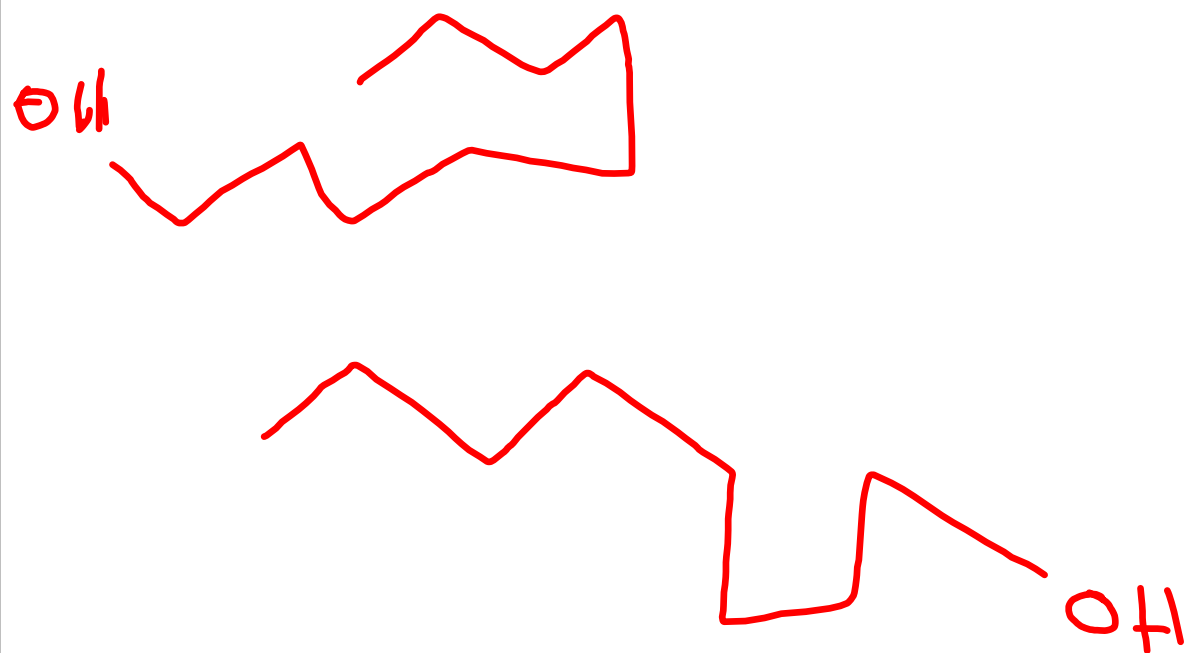
Vander Waals
 "Weakest forces"

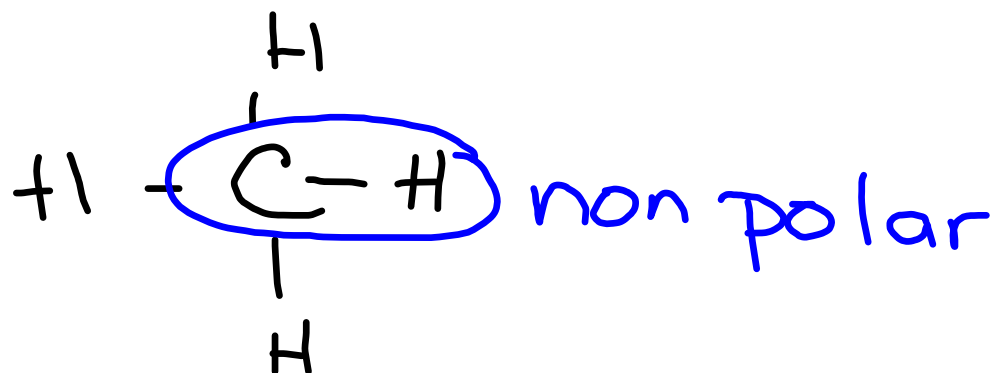


hydrogen bonding
 "Strongest forces"



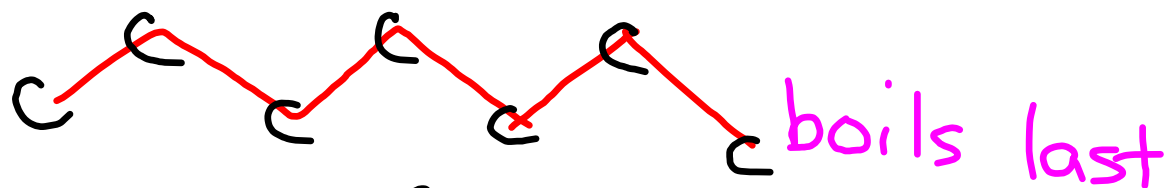
If the carbon chain is so large than the Van der Waal forces are greater.



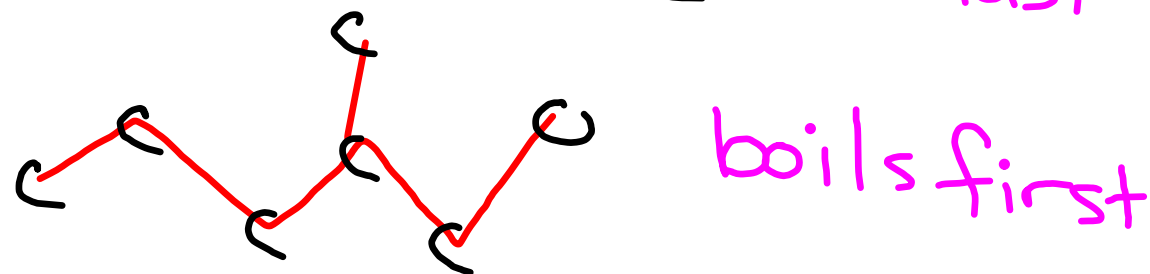


Van der Waal forces

①

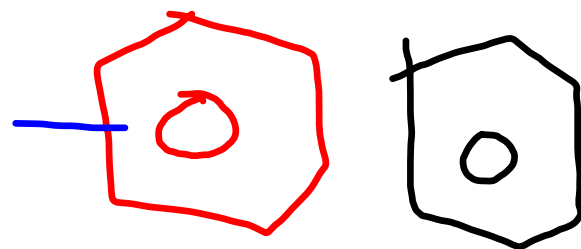


②



the methyl coming up
disrupts the other chains
making the forces weaker

1.5 bonds



Boils faster

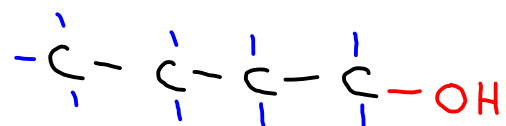
1 carbon bond



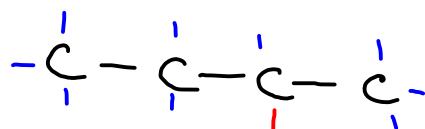
Boils latter



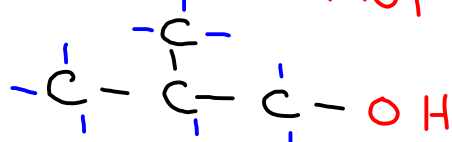
alcohols/ethers isomers!



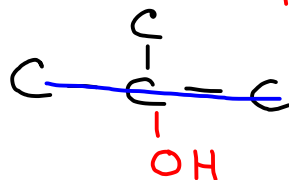
1-butanol



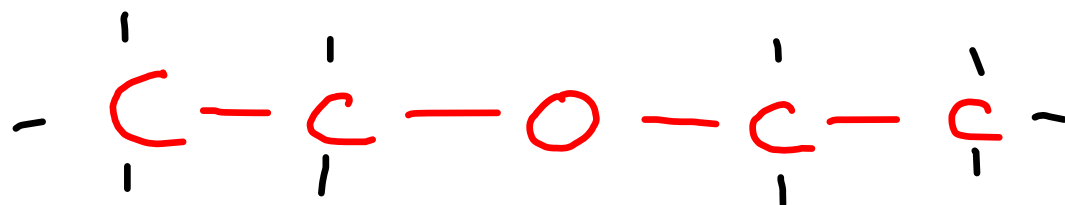
OH
2-butanol



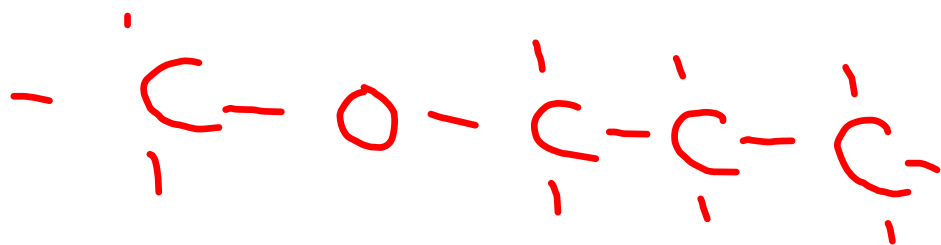
2-methy-1-propanol



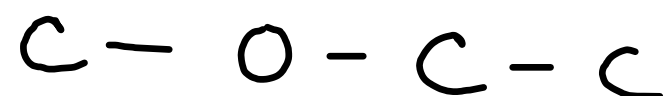
2-methyl-2-propanol



diethyl ether
ethoxy ethane



methyl propyl ether



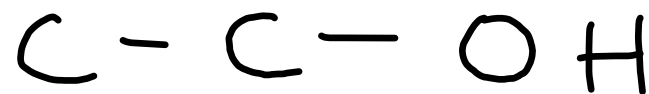
→ methyl ethyl ether

13 → methoxyethane

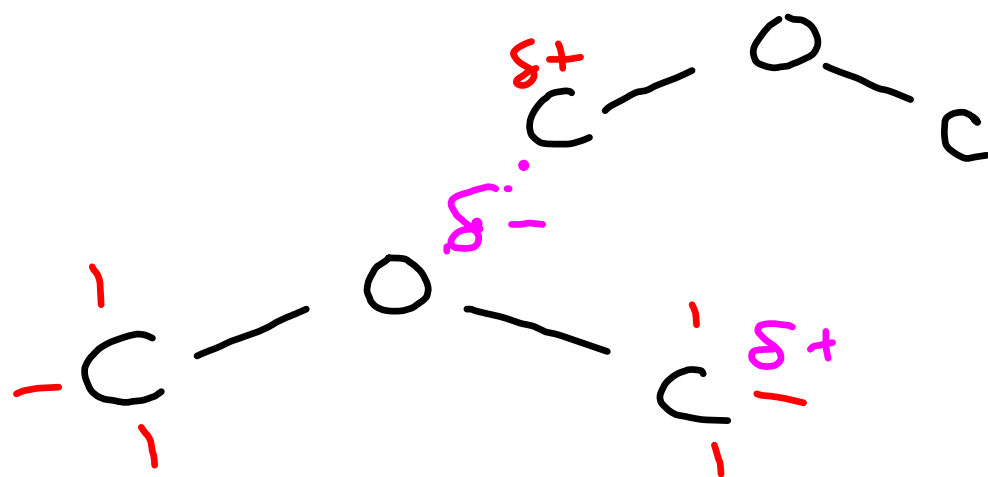


b.p.

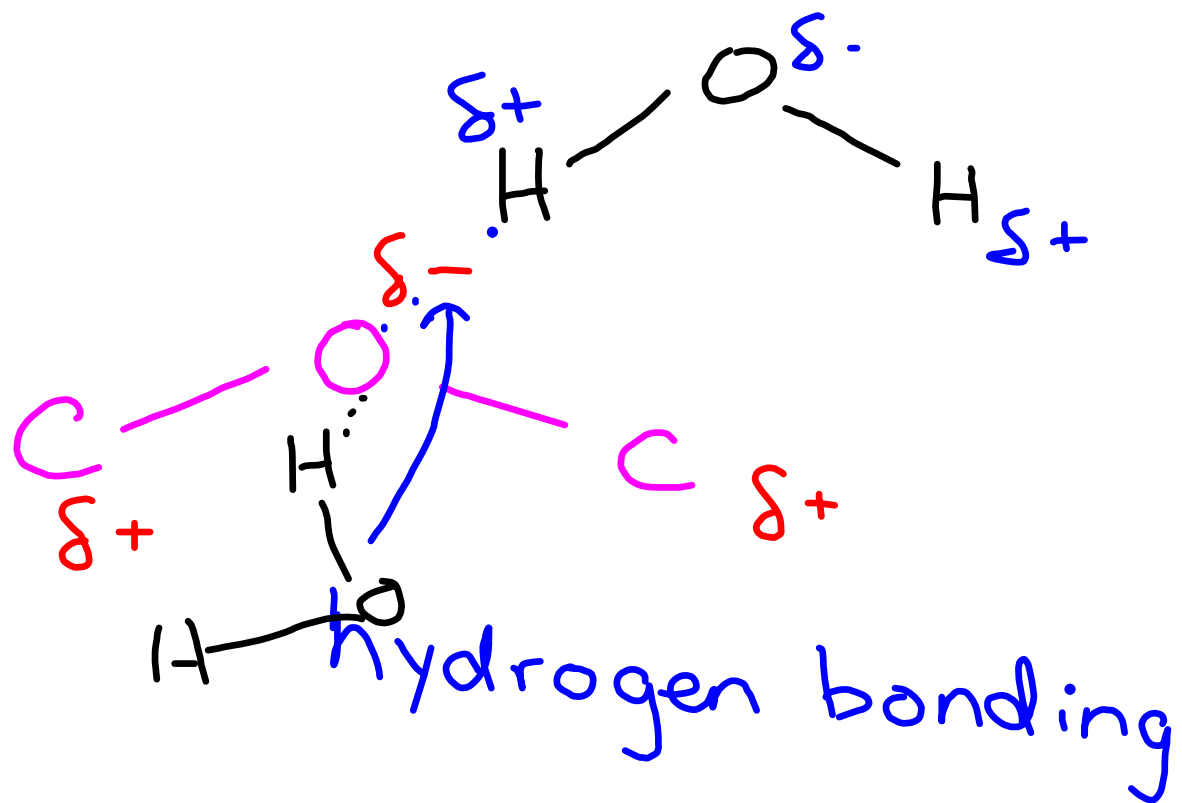
fastest
b/c no H Bond

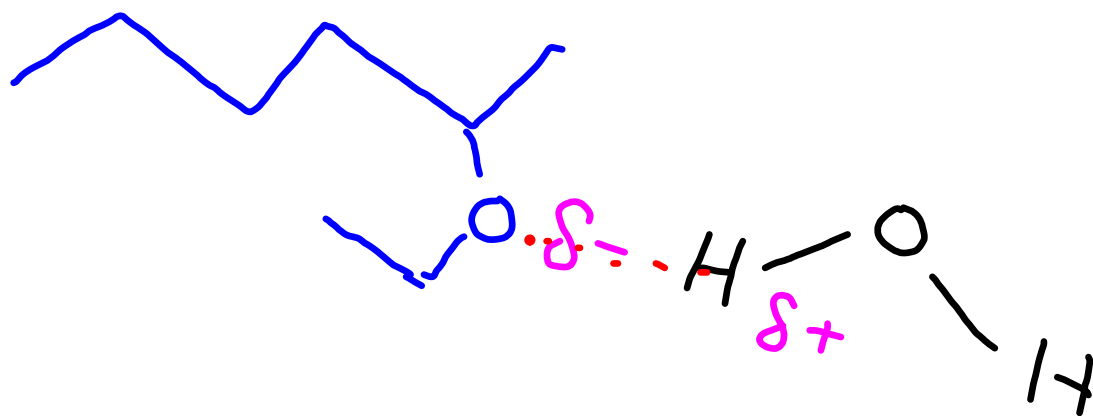
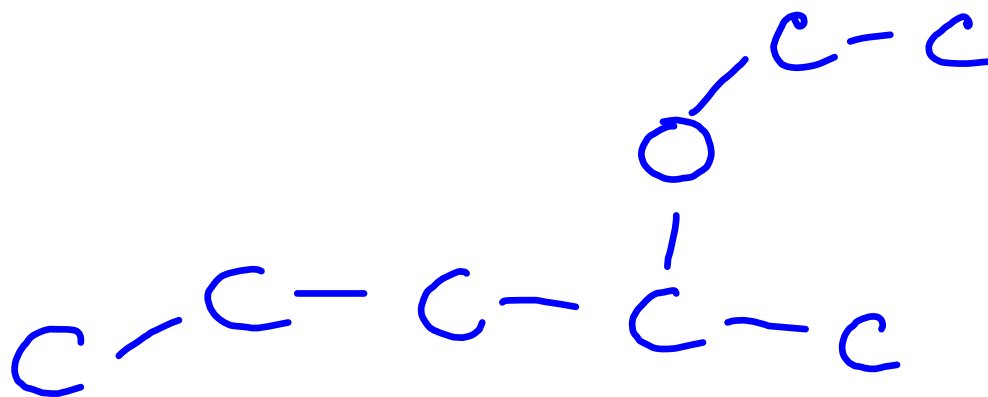


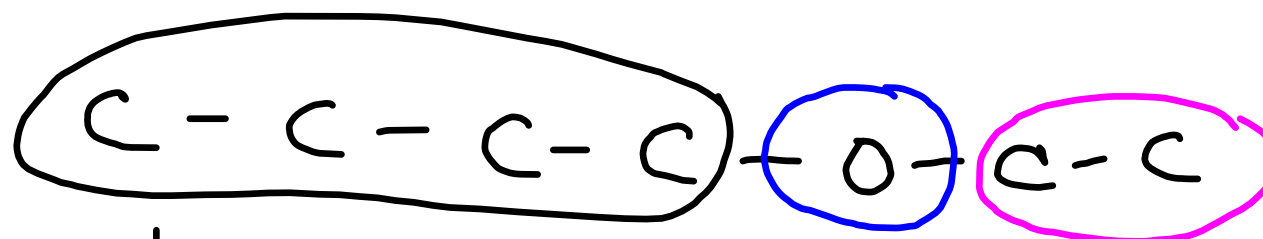
last



dipole to dipole bonding

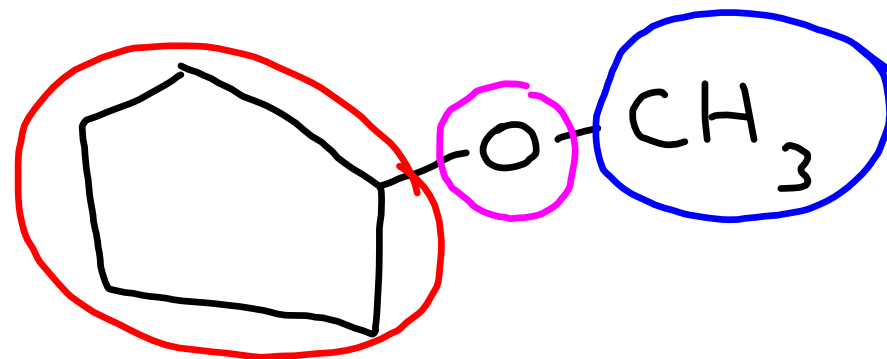




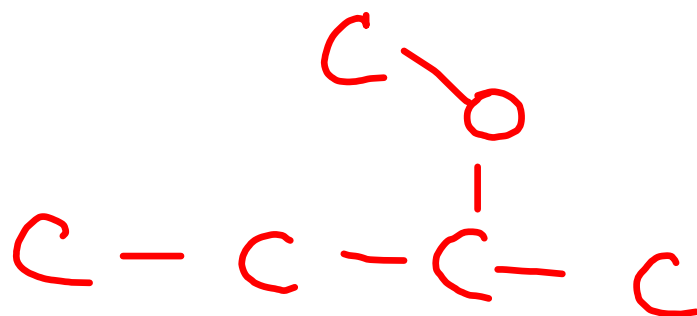


butyl ethyl ether

1- eth oxy butane

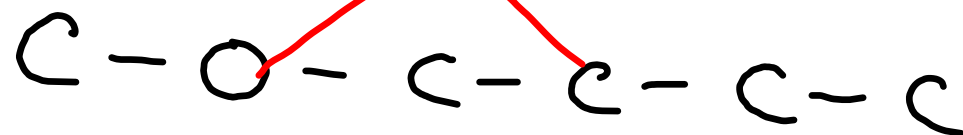


methyl cyclopentyl ether
methoxy cyclopentane



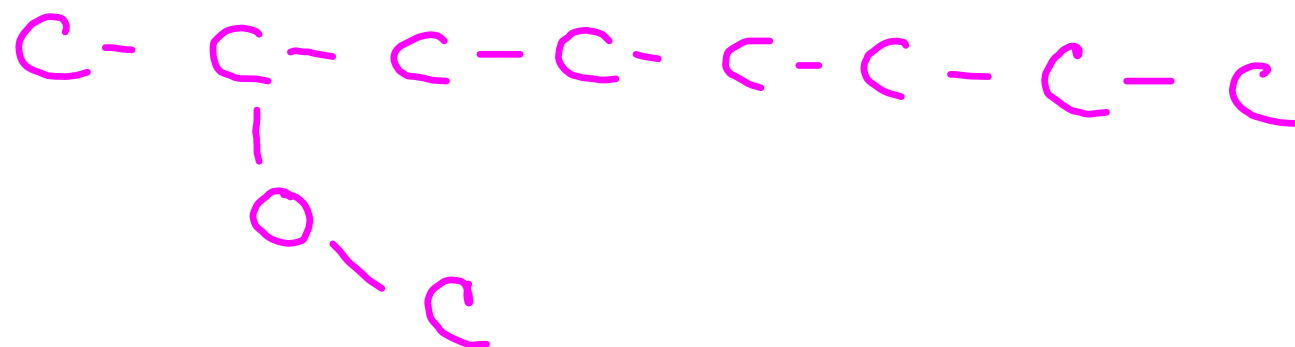
2-methoxy butane

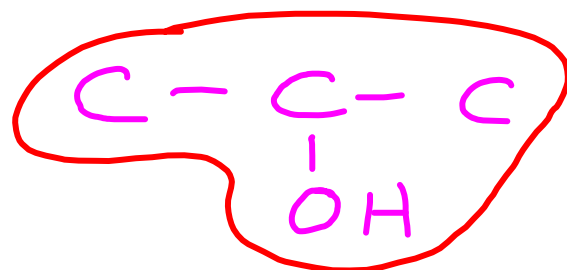
~~methyl butyl ether~~



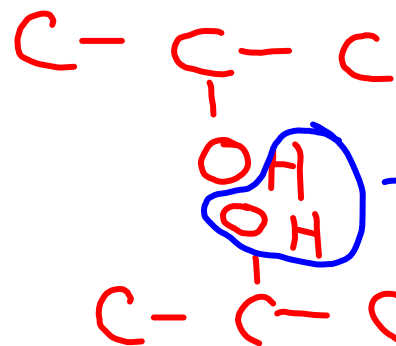
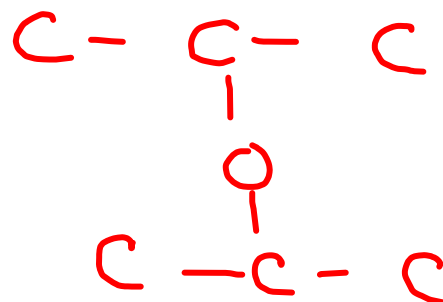


b.

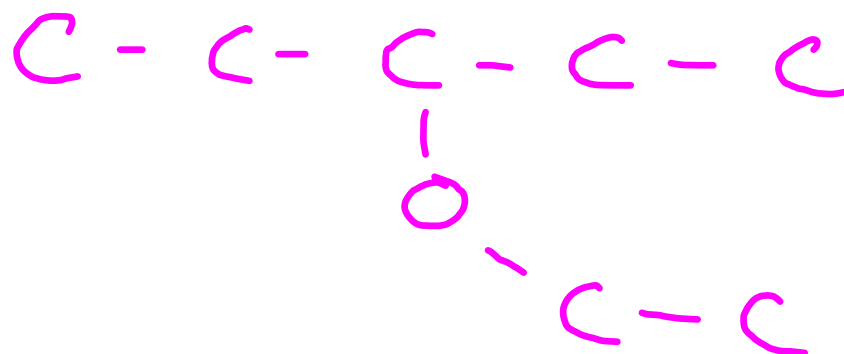




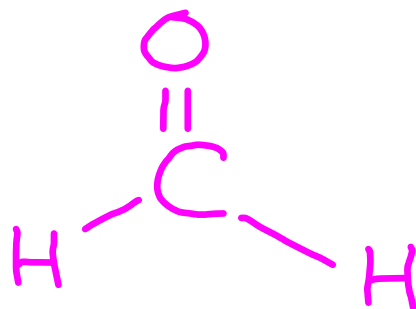
2° alcohol



d.



✓.

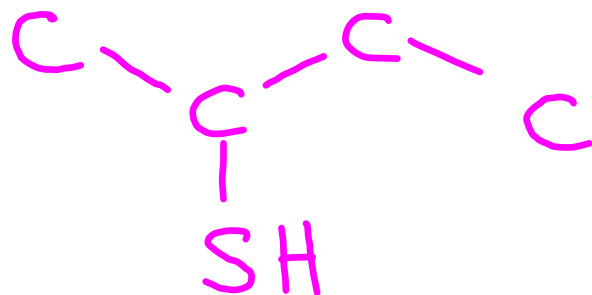


methanal

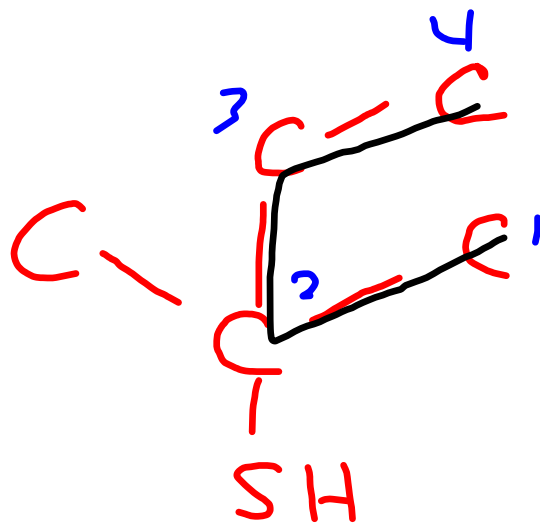
SH = thiol



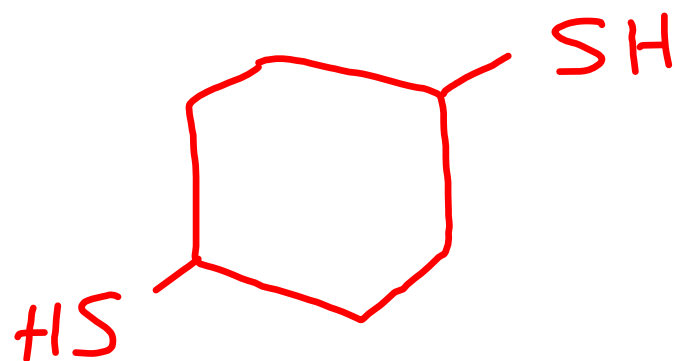
1-propanethiol



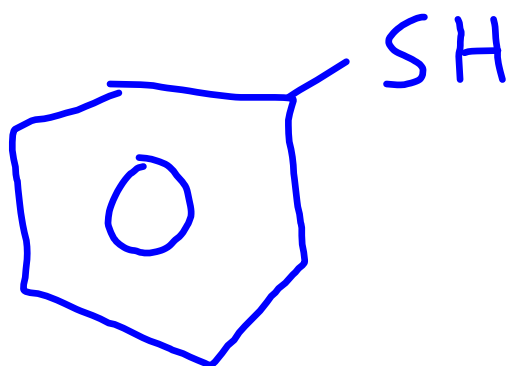
2-butanethiol



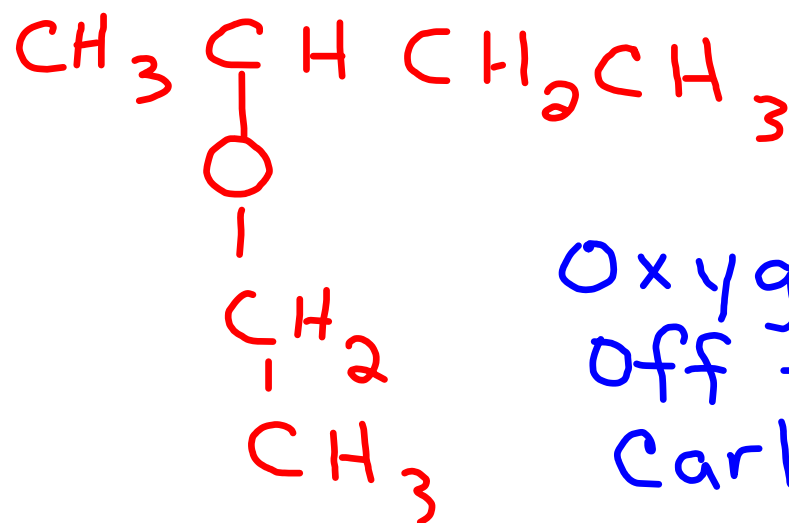
2-methyl- 2- butane thiol



1,4-cyclohexane dithiol



1-benzenethiol

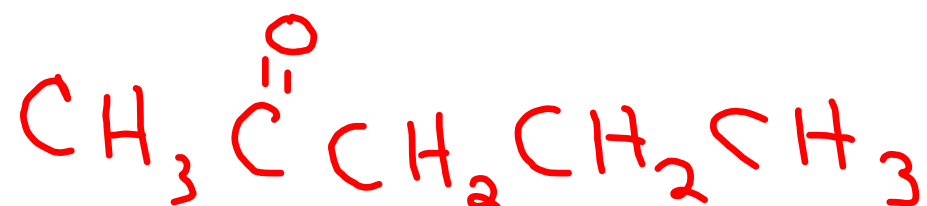
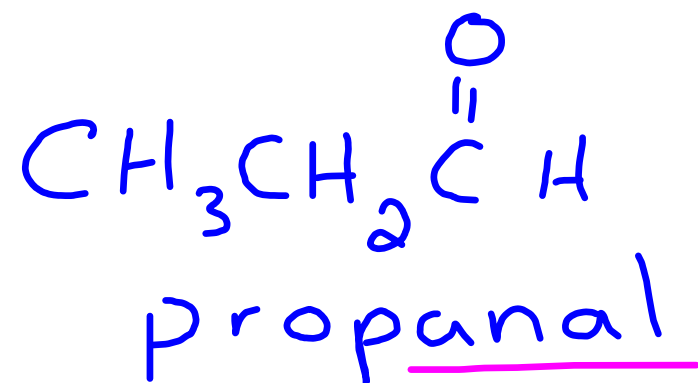


Oxygen not
off the first
carbon

2-ethoxy butane



$\overset{\overset{O}{\parallel}}{C}$ is in the
middle



2-pentanone

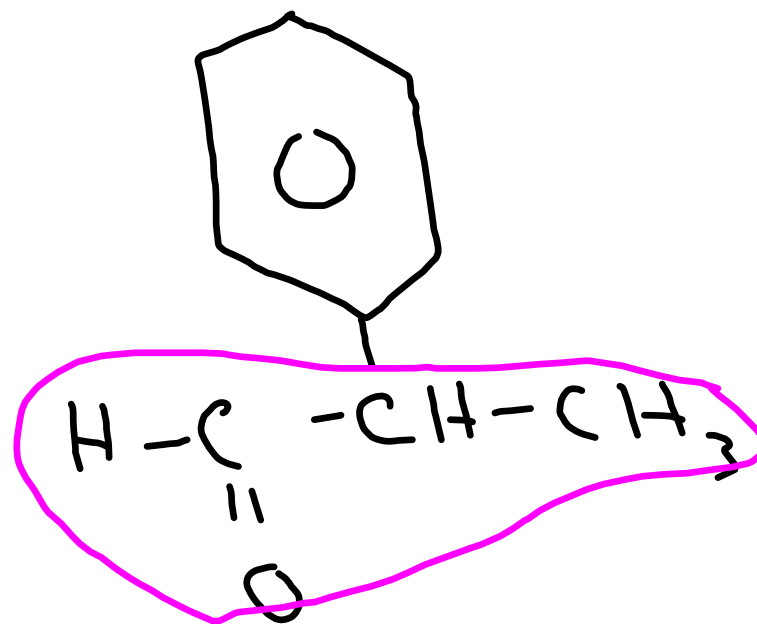
Ketone

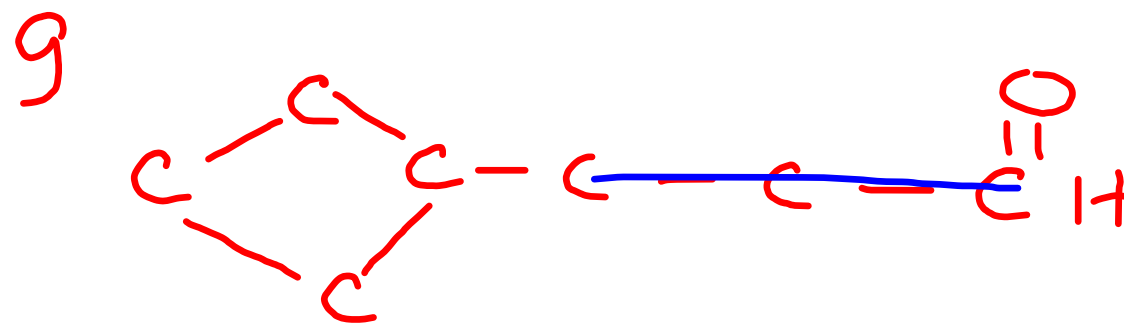
1. a. 2-chloroethanal

b. 2-butanone

c. 3-methyl-2-pentanone

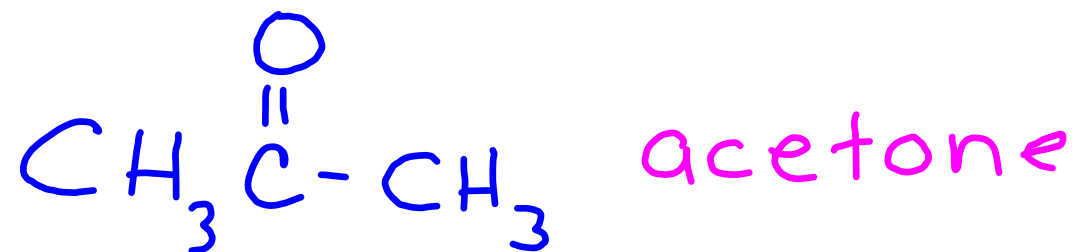
e. 2-benzyl propanal
2-phenyl propanal





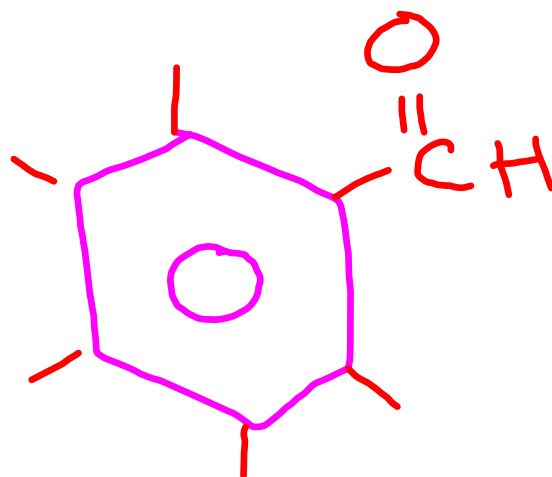
3-Cyclobutyl propanal

1j

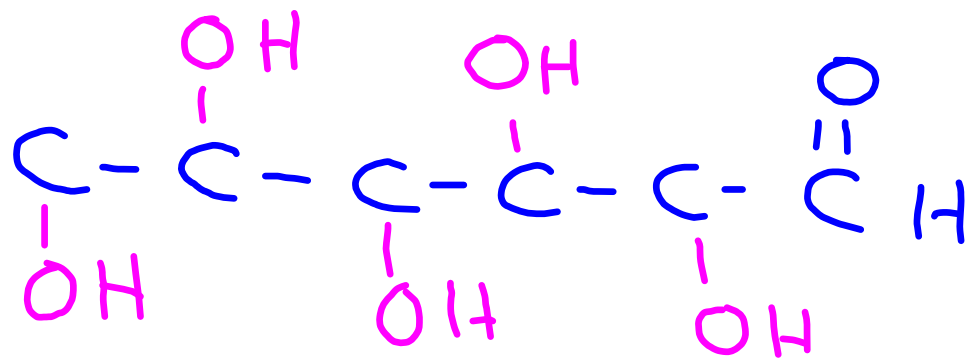


2-propanone

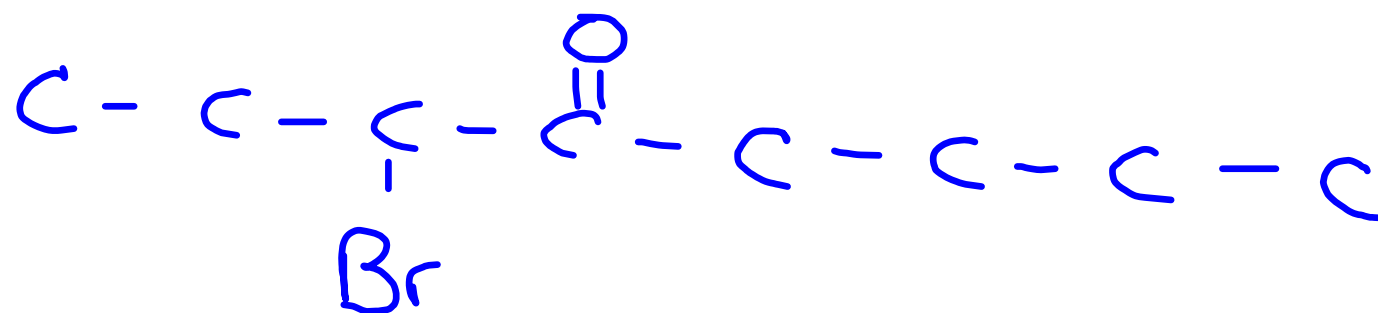
K



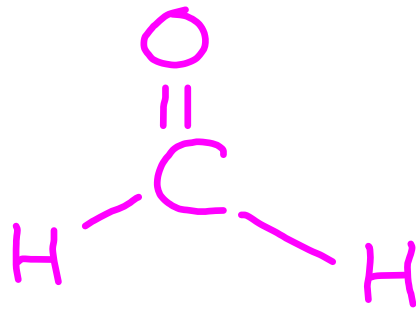
0 2, 3, 4, 5, 6 - pentahydroxy
hexanal



P 3-bromo-4-octanone



✓.



methanal