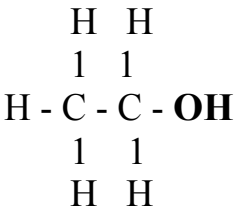
Alcohols

Alcohols
- hydrocarbon derivatives containing a hydroxide **(OH)** functional group

Naming

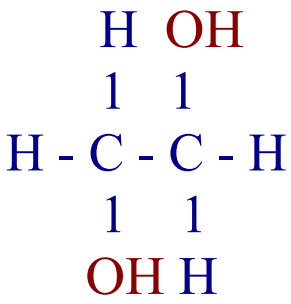
When naming alcohols, the -e is dropped from the name of the simple alkane, and it is replaced by an **-ol**.

Ex. ethan**ol**



When there are multiple hydroxyl (-OH) groups, the alkane name is given, with the suffix indicating the number of -OH groups.

Ex.



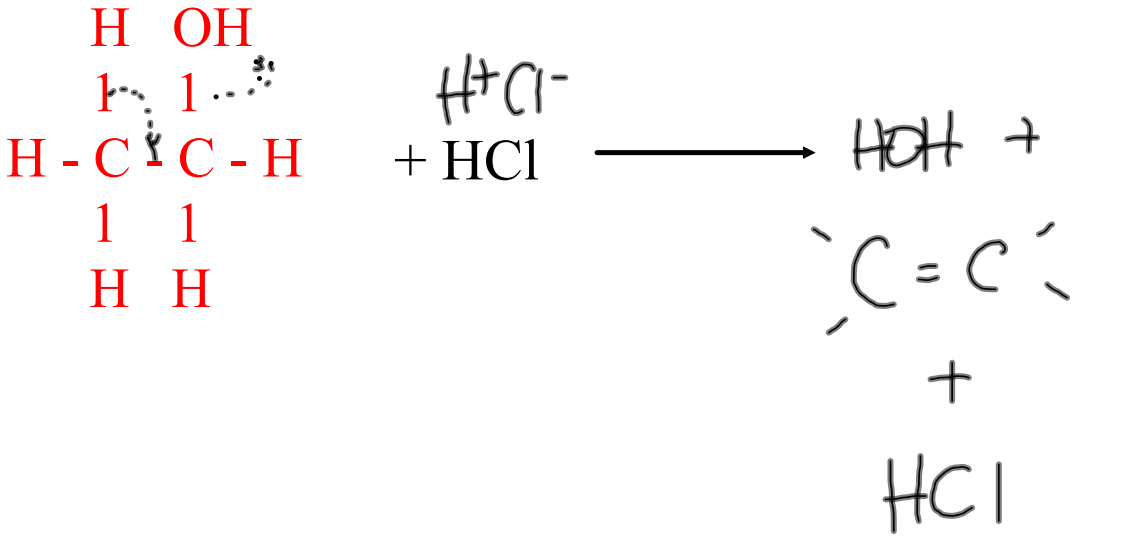
1,2-ethanediol

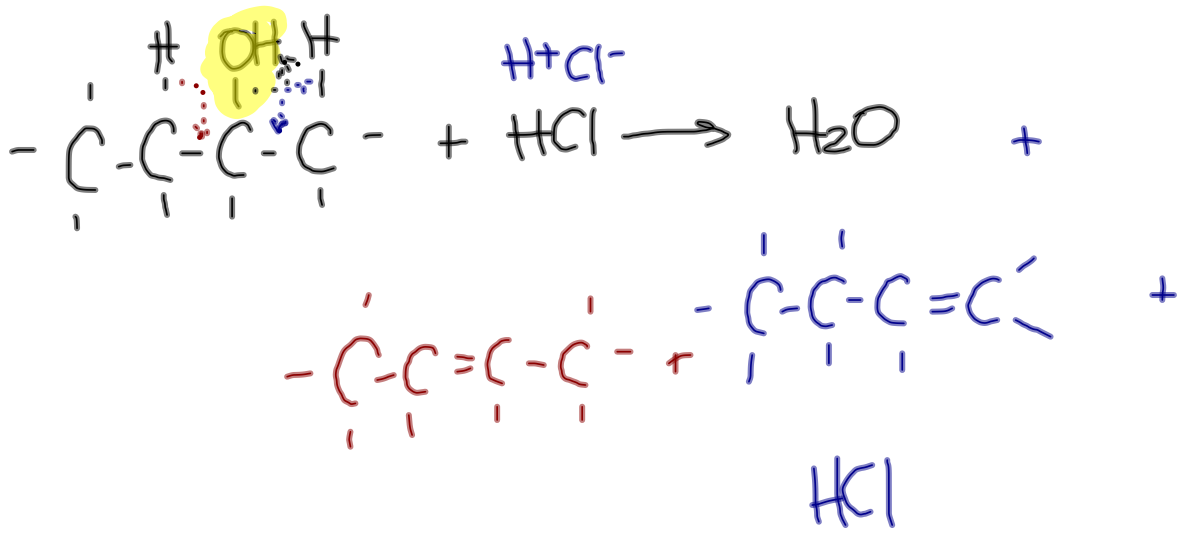
Reactions

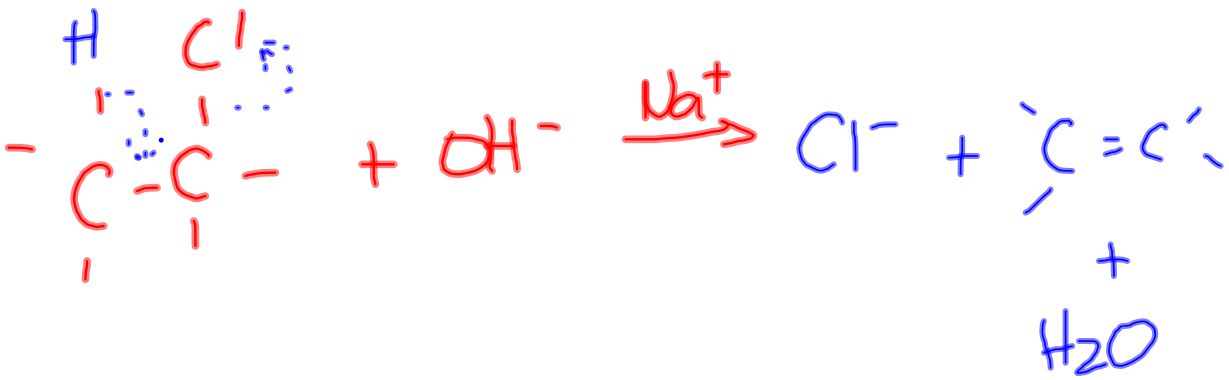
Alcohols undergo **elimination** reactions, eliminating the hydroxyl group and a hydrogen atom.

Ex.

ethanol + acid ⇒ water + ethene + acid




OH
H+Cl-
HCl
H2O
HCl

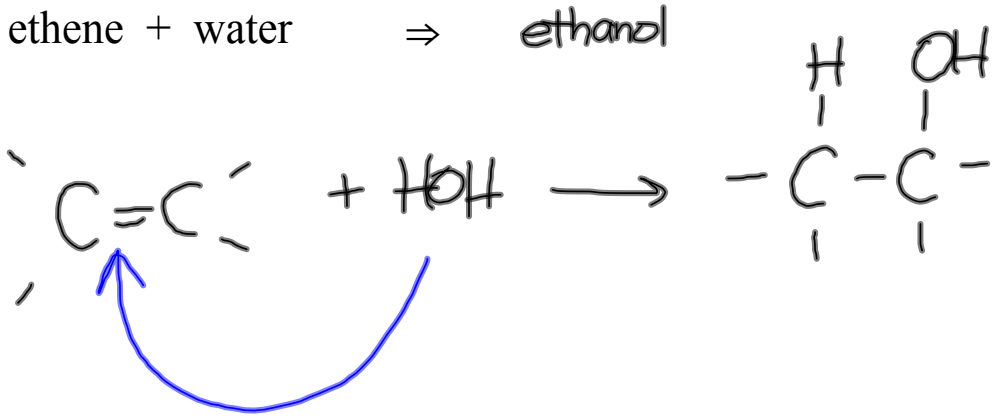


Reactions

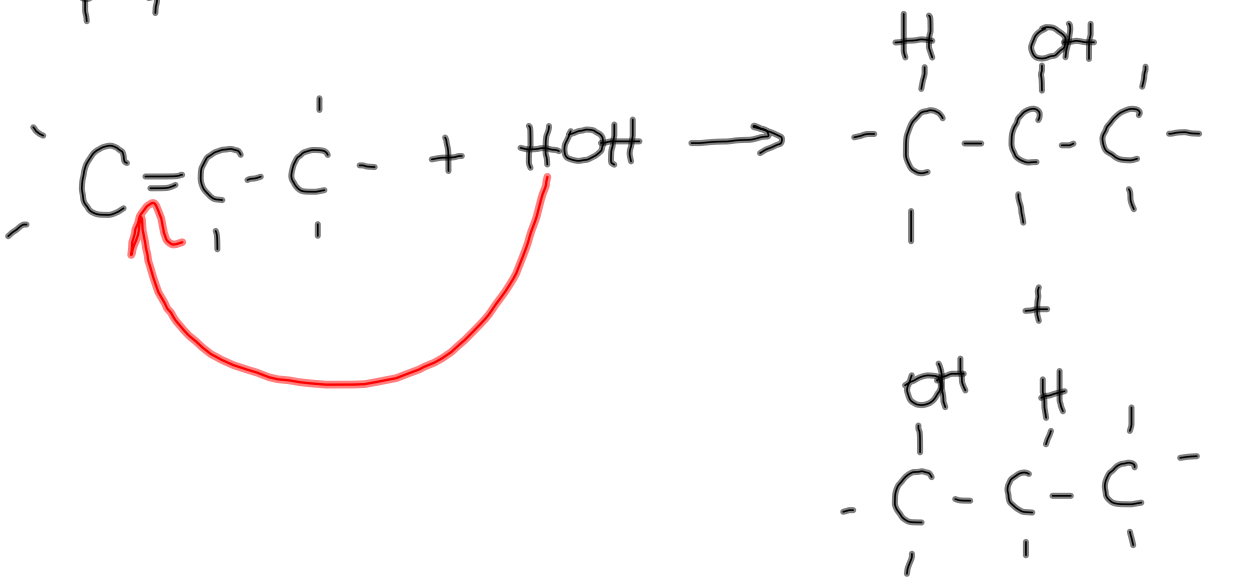
Alcohols can be prepared through **addition (hydration)** reactions, adding water to an alkene

Ex.

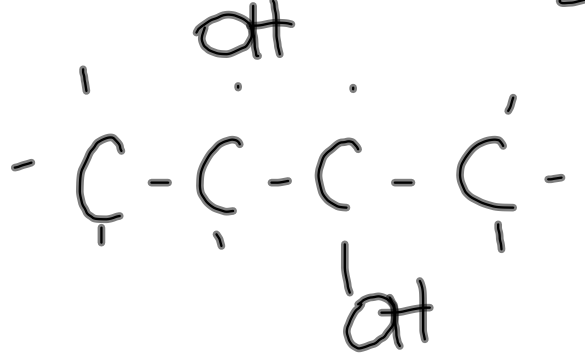
ethene + water ⇒ ethanol



propene + water ⟶ 2-propanol + 1-propanol



2 - butanol



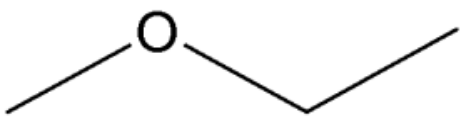
2,3-butanediol

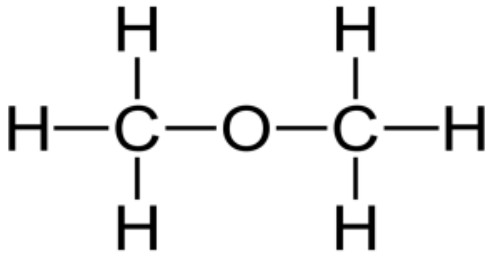
Ethers

Ethers are organic molecules in which an oxygen is bonded to two carbon groups.

R - O - R'

The alkyl groups attached to the oxygen atom are named in alphabetical order and are followed by the word *ether*.

Ex. 

Ex. 

Homework

Worksheet