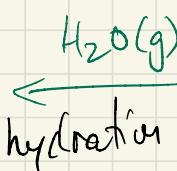
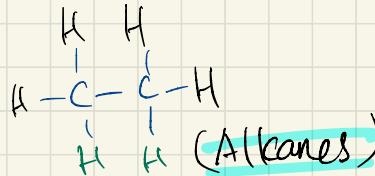


Alkene

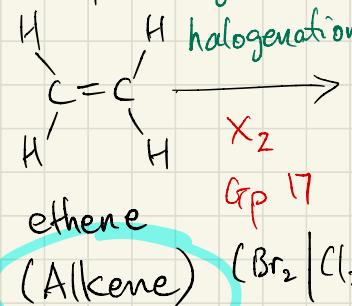


carbon to carbon double bond

(homologues)



Alcohol

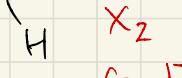


addition (type)

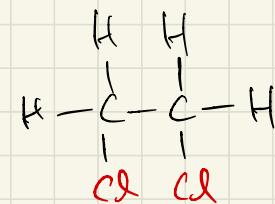
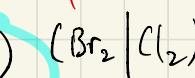


hydrogenation

H halogenation



Grp 17

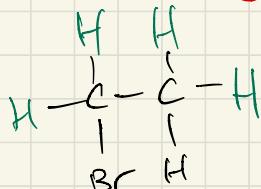


chlorination

dihalogenoalkane

hydrogen
halides

hydrohalogenation
eg $HCl \mid HBr$



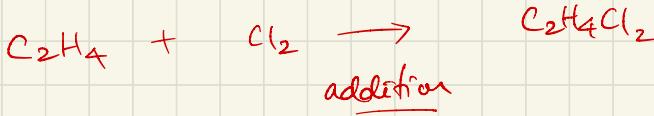
halogenoalkane

Type of Reaction

Addition

Elimination

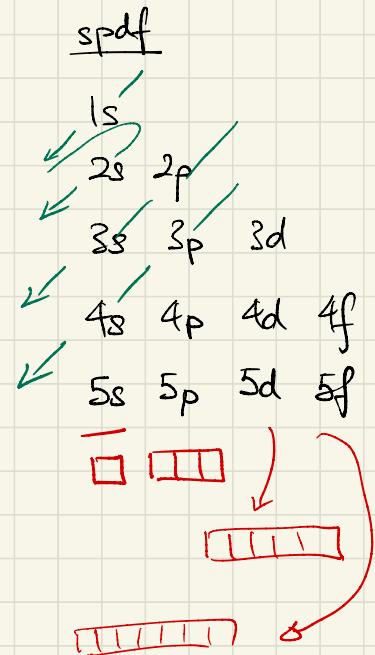
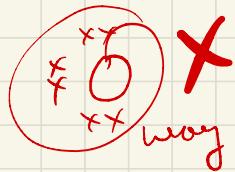
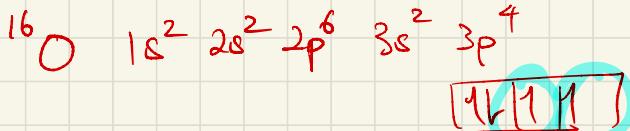
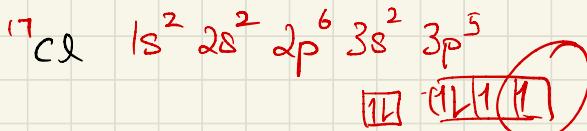
Substitution



Free Radical

Substitution

species with unpaired electrons.



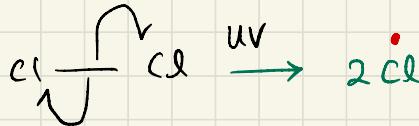
Reaction



↷ : movement of one electron

⤻ : movement of two electrons

Initiation



homolytic fission

Free radicals
are highly reactive
so as to achieve
a stable octet
structure

Propagation

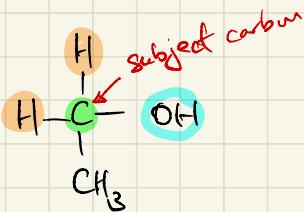


chloromethane

Termination

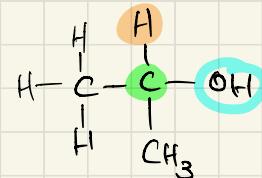
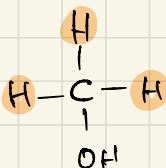
combination
of radicals



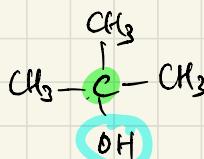


primary alcohol

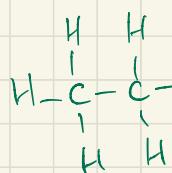
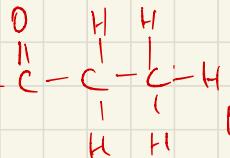
(subject carbon
connected to
2 or 3 H atoms)



secondary alcohol

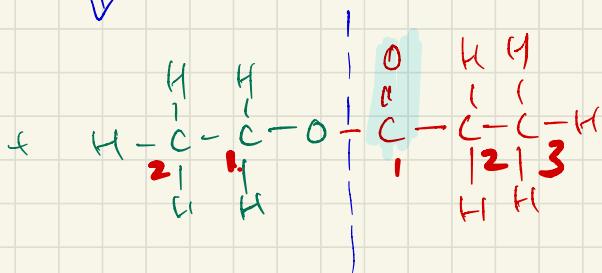


tertiary alcohol
(Oxidation is
impossible)

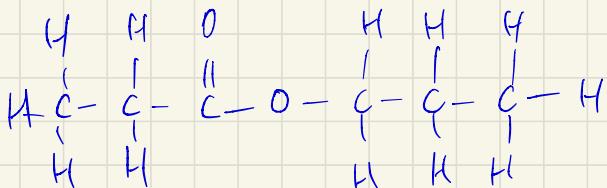
alcoholcarboxylic acid

propanoic acid

condensation / esterification

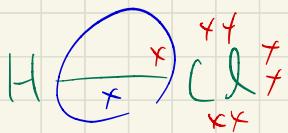


ethyl propanoate

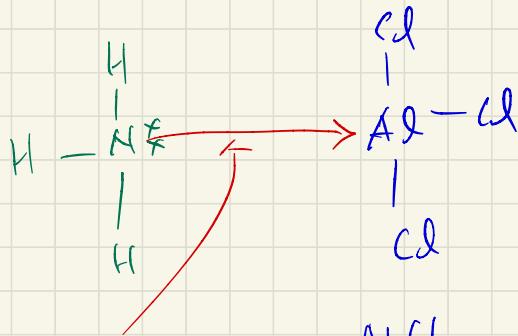
methyl ethanoatepropyl propanoate

propanoic acid

propanoate



Covalent



AlCl_3

~~Dative
covalent~~
(co-ordinate)