Alkenes - Properties

1 2 3 4 5

e.g.

The C=C Bond

Bond 1

Bond 2

Overall

Testing for Alkenes

Qualitative (Yes / No)

Bromine Water -

Test :

Observation :

Positive =

Negative =

e.g.

Geometrical Isomers

1 2 3 4 5

Criteria: Molecule must have:

①

②

e.g.

Next Steps

OR

e.g.

or

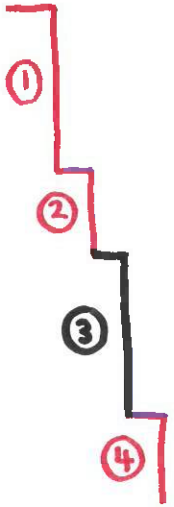
e.g.

Naming Geometric Isomers (E/Z)

1 2 3 4 5

e.g.

Cahn-Ingold Prelog System



e.g.

CHEAT



The Cis/Trans System

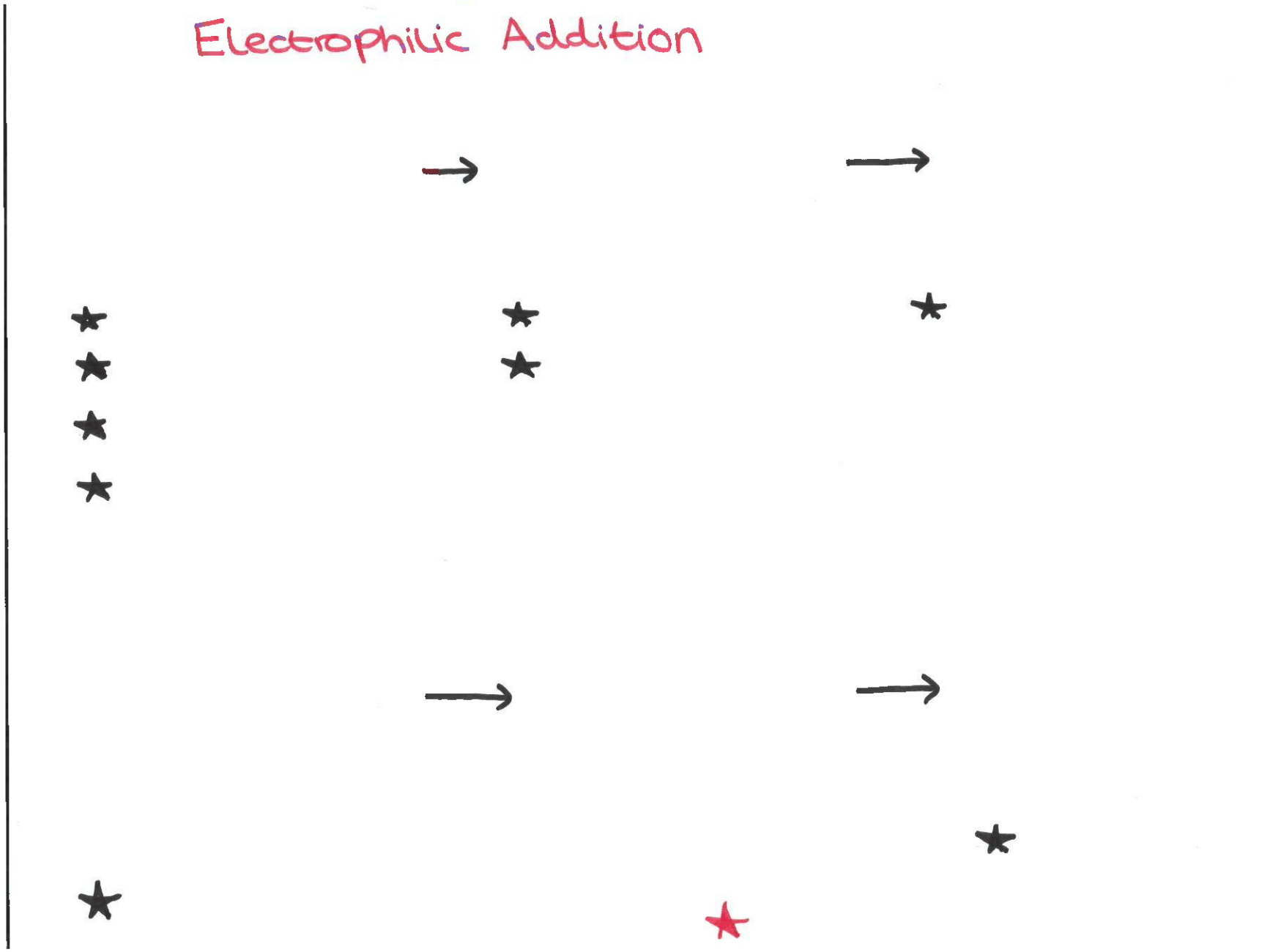
•

i.e.

Alkene → Halogenoalkane

1 2 3 4 5

Electrophilic Addition



Markovnikov's Rule

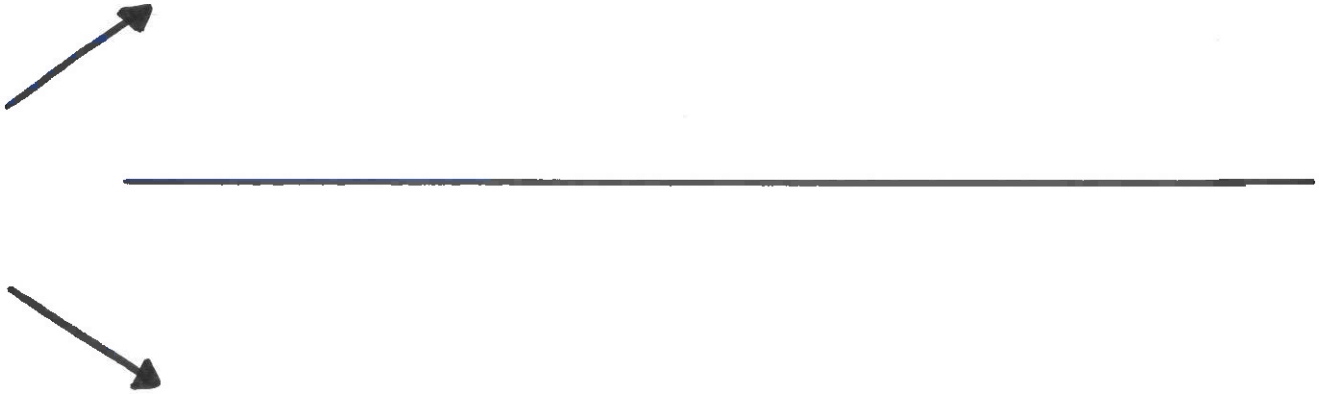
1 2 3 4 5

TT

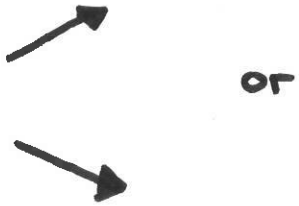
Markonikov's Rule

_____:

Assymetrical



★ RULE



or

Alkene + conc. H_2SO_4

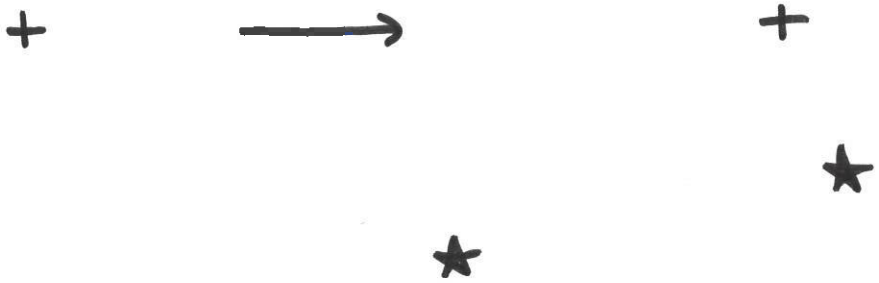
Electrophilic Addition





NB. Markovnikov's Rule also applies here!

Hydration



Alkenes - Hydrogenation & Hydration

1 2 3 4 5

Hydrogenation



e.g.





e.g.

Hydration

e.g.



NB. Markovnikov's Rule applies here! No mechanism needed, but know that the MAJOR PRODUCT ....

Hydration of Alkenes- Mechanism

1 2 3 4 5

REAGENT :



NB,,

NB,,

Addition Polymerisation

1 2 3 4 5

Method –

e.g.

→

e.g.

→

Finding the Monomer

①

②

=

Important Facts!

Waste Polymers

1 2 3 4 5

Recycling

Incineration

Feedstock

Degradable Plastics: