

AQA Chemistry A-level

Topic 3.1 - Organic Chemistry Introduction

Flashcards



Define empirical formula.



Define empirical formula.

Simplest whole number ratio of atoms in a molecule



Define molecular formula.



Define molecular formula.

Gives the actual number of atoms of different elements in a molecule



Define displayed formula





Define displayed formula

Shows every atom and every bond in a molecule



Define structural formula



Define structural formula

Shows arrangement of atoms in a molecule
without showing every bond



Define skeletal formula



Define skeletal formula

Drawn as lines with each vertex being a carbon atom. Carbon atoms not drawn, assumed each C atom has all unspecified bonds as C-H



Give the suffixes for:

- a) No double bonds
- b) At least one double bond
- c) An alcohol
- d) An aldehyde
- e) A ketone
- f) A carboxylic acid



Give the suffixes for:

- a) No double bonds **-ane**
- b) At least one double bond **-ene**
- c) An alcohol **-ol**
- d) An aldehyde **-al**
- e) A ketone **-one**
- f) A carboxylic acid **-oic acid**



Give the prefixes for:

- a) CH_3 group
- b) C_2H_5 group
- c) C_3H_7 group
- d) C_4H_9 group
- e) Cl group
- f) Br group
- g) I group



Give the prefixes for:

- a) CH_3 group methyl-
- b) C_2H_5 group ethyl-
- c) C_3H_7 group propyl-
- d) C_4H_9 group butyl-
- e) Cl group chloro-
- f) Br group bromo-
- g) I group iodo-



Define structural isomerism



Define structural isomerism

When molecules have the same molecular formula but different structural formula



What is positional isomerism?



What is positional isomerism?

Functional group is attached to the main chain at a different place



What is functional group isomerism?



What is functional group isomerism?

Same atoms but a different functional group due to a different arrangement of atoms



What is chain isomerism?



What is chain isomerism?

Hydrocarbon chain organised differently e.g.
branched chains



Define stereoisomerism.



Define stereoisomerism.

When molecules have the same structural and molecular formula, but have a different arrangement of atoms in space



What is E-Z isomerism and
how are the E and Z
isomers decided?



What is E-Z isomerism and how are the E and Z isomers decided?

E-Z isomerism is caused by the limited rotation about C=C double bonds

If the two substituents with the highest molecular mass are on the same side of the double bond, it is the Z (zusammen) isomer

If they are on different sides, it is the E (entgegen) isomer

