Lab

Homework

Types of Chemical Reactions

I. Combustion

The reaction of a substance with oxygen to produce oxides and energy.

↓ light or heat

Ex. fuel + oxygen ⇒ oxides + energy

+ O_2 ⟶

Complete Combustion

Substance being "burned" completely.

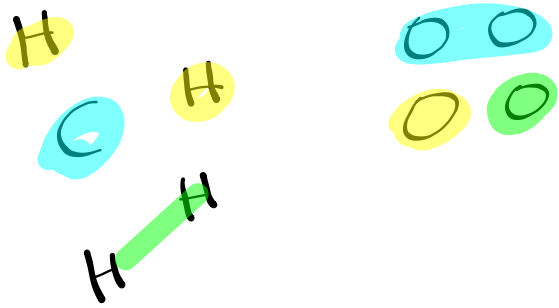
For hydrocarbons, the products will always be carbon dioxide and water vapour.

Ex. butane + oxygen ⇒ carbon dioxide + water vapour

$2C_4H_{10} + 13O_2 \longrightarrow 8CO_2 + 10H_2O$

(complete combustion)

$$CH_4 + 2O_2 \rightarrow CO_2 + 2H_2O$$



Incomplete Combustion

Occurs when there is not enough oxygen available to burn a substance completely.

For hydrocarbons, the products will be carbon dioxide, carbon monoxide, carbon and water vapour.

Ex. butane + oxygen ⇒ carbon dioxide + carbon monoxide + carbon + water vapor

$C_4H_{10} + 4O_2 \longrightarrow CO_2 + CO + 2C + 5H_2O$

(incomplete)

Read p. 230-232
#1, 3-5

COMPLETE

propane + oxygen →

INCOMPLETE

propane + oxygen →