Definitions

Homologous series – Series having the same functional group and general formula

Saturated – Single bonds only

Unsaturated – Contains a C=C

Structural Formula – shows minimum detail of arrangement of atoms in a molecule

Skeletal – Shows only the carbon skeleton with the Hydrogen's removed

Structural isomer – Same molecular formula, different arrangement of atoms

Stereo isomer – Same structural formula, different spatial arrangement of atoms

Homolytic fission – Bond breaking where one electron from the bond goes to each atom forming radicals

Heterolytic fission – Bond breaking where both electrons in the bond go to one atom forming ions

Free radical – Species with unpaired electrons

Nucleophile – Donates a pair of electrons to a **δ+** carbon forming a covalent bond

Electrophile – Accepts a pair of electrons from electron rich centre to form a covalent bond

Addition reaction – Where a reactant is added to an unsaturated molecule

Substitution reaction – Where an atom or group is replaced with another atom or group in a molecule

Elimination – Removal of a molecule from a saturated molecule to form an unsaturated molecule

Catalyst – Increases the rate of a reaction by providing a route with lower Ea and comes out unchanged

Polymer – Long chain molecules made up of monomers

Volatility – How easy a liquid turns to a gas

Limiting reagent – The reagent in a chemical reaction that is used up first

Molecular ion, M^+ - The positive (molecular) ion formed in mass spec when it loses an electron

Enthalpy – Heat content stored in a chemical system

Exothermic – Enthalpy change giving heat to the surroundings. When enthalpy of reactants > enthalpy of products

Endothermic – Enthalpy change takes in from surroundings. When enthalpy of products > enthalpy of products

Activation energy – Minimum energy required to break the bonds of reactants

Standard conditions – 1 atmosphere pressure, 298 Kelvin, 1 molar solutions

Standard enthalpy change of combustion – one mole of substance reacts completely with oxygen forming combustion products in their standard states under standard conditions

Standard enthalpy change of formation – one mole of compound is formed from their elements in their standard states under standard conditions

(Average) Bond enthalpy – The (average) enthalpy change to break 1 mole of bonds homolytically in the gaseous state

Hess' Law – The total enthalpy change for a reaction is independent of the route with the same initial and final conditions

Rate of reaction – Change of concentration in a given time

Heterogeneous Catalyst – Reactants and Catalyst in different state

Homogeneous Catalyst – Reactants and Catalyst in the same state

Dynamic equilibrium – The rate of forward and reverse reactions are the same in a closed system

Le Chatelier's principle – The system in equilibrium will shift the position of its equilibrium to minimise any change