Hydrocarbons

A-Level Chemistry · Vocabulary in context

Word	Example
alkane /ˈælkeɪn/	Methane and ethane are each an **alkane**.
hydrogenation /haɪˈdrɒdʒəneɪʃn/	**Hydrogenation** of vegetable oil makes margarine.
alkene /ˈælkiːn/	Ethene is an **alkene**.
cracking /ˈkrækɪŋ/	**Cracking** breaks long hydrocarbons into shorter ones.
combustion /kəmˈbʌstʃn/	**Combustion** of petrol powers a car.
complete combustion /kəmˈpliːt kəmˈbʌstʃn/	**Complete combustion** gives carbon dioxide and water.
incomplete combustion /ɪŋkəmˈpliːt kəmˈbʌstʃn/	**Incomplete combustion** happens when there is not enough oxygen.
carbon monoxide /ˈkɑːbən mʌˈnɒksaɪd/	**Carbon monoxide** is a poisonous gas with no smell.
free-radical substitution /friː ˈrædɪkl ˌsʌbstɪˈtjuːʃn/	Methane reacts with chlorine by **free-radical substitution**.
free radical /friː ˈrædɪkl/	A chlorine atom with one unpaired electron is a **free radical**.
ultraviolet light /ˌʊltrəˈvaɪəlɪt laɪt/	**Ultraviolet light** starts the reaction between methane and chlorine.
initiation /ɪˌnɪʃiˈeɪʃn/	In **initiation**, ultraviolet light splits chlorine into two radicals.

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homolytic fission /ˌhɒmə'lɪtɪk 'fɪʃn/	In **homolytic fission**, each atom takes one electron from the bond.
heterolytic fission /ˌhetrə'lɪtɪk 'fɪʃn/	In **heterolytic fission**, one atom takes both electrons from the bond.
propagation /ˌprɒpə'geɪʃn/	In **propagation**, each step uses one radical and makes another.
termination /ˌtɜːmɪ'neɪʃn/	In **termination**, two radicals join and the chain stops.
crude oil /kruːd ɔɪl/	Petrol and diesel come from **crude oil**.
fraction /'frækʃn/	Petrol is one **fraction** of crude oil.
polarity /pəʊ'lærɪti/	The **polarity** of water helps it dissolve salt.
catalytic converter /ˌkætə'lɪtɪk kən'vɜːtə/	A **catalytic converter** cleans a car's exhaust.
elimination /ɪˌlɪmɪ'neɪʃn/	In **elimination**, a small molecule is removed and a double bond forms.
halogenoalkane /'heɪləʊdʒnəʊlkeɪn/	Bromoethane is a **halogenoalkane**.
dehydration /ˌdiːhaɪ'dreɪʃn/	**Dehydration** of ethanol gives ethene and water.
alcohol /'ælkəhɒl/	Ethanol is an **alcohol**.
electrophilic addition /ɪˌlektrəʊ'fɪlɪk ə'dɪʃn/	Ethene reacts with bromine by **electrophilic addition**.

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steam /sti:m/	Ethene reacts with **steam** to make ethanol.
hydrogen halide /ˈhaɪdrədʒn ˈhælaɪd/	HCl is a **hydrogen halide**. HCl
diol /dɪˈɒl/	Ethane-1,2-diol is a **diol**: it has two –OH groups. -1,2- –OH
ketone /ˈketəʊn/	Propanone is a **ketone**.
carboxylic acid /ˌkɑːbəkˈsɪlɪk ˈæsɪd/	Ethanoic acid is a **carboxylic acid**.
bromine water /ˈbrəʊmaɪn ˈwɔːtə/	An alkene turns orange **bromine water** colourless.
addition polymerisation /əˈdɪʃn ˌpɒlɪməraɪˈzeɪʃn/	Ethene molecules join by **addition polymerisation**.
polymer /ˈpɒlɪmə/	Poly(ethene) is a **polymer**.
electrophile /ɪˌlektrəʊˈfaɪl/	Bromine acts as an **electrophile** when it attacks a double bond.
carbocation /ˌkɑːbəˈkeɪʃn/	A **carbocation** has a positive charge on a carbon atom.
induced dipole /ɪnˈdjuːst ˈdaɪpəʊl/	A nearby dipole causes an **induced dipole** in the next molecule.
inductive effect /ɪnˈdʌktɪv ɪˈfekt/	Alkyl groups push electrons towards a carbon: the **inductive effect**.
Markovnikov's rule /ˈmɑːkəvnɪkɒvz ruːl/	**Markovnikov's rule** predicts the main product of adding HBr to propene. HBr

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