Organic chemistry

Answers

GCSE science knowledge recall

This topic online

Q	Answer	Remember
1	plankton	They were buried in mud, so crude oil is a finite resource.
2	hydrocarbon	The name says it all: hydro (hydrogen) + carbon.
3	CnH2n+2	Double the carbons and add two to get the hydrogens.
4	methane	Order of the first four: methane, ethane, propane, butane - Monkeys Eat Peanut Butter.
5	propane	Prop- means three carbons in any organic name.
6	C4H10	Four carbons: 2 × 4 + 2 = 10 hydrogens.
7	saturated	Saturated means no more hydrogen can be added.
8	fractional distillation	Crude oil is heated until it evaporates, then the vapour cools as it rises up a column.
9	top	Small molecules have low boiling points, so they rise furthest before condensing.
10	petrol	Diesel oil is the fraction just below petrol.
11	kerosene	Other fractions include diesel oil, heavy fuel oil and liquefied petroleum gases.
12	higher	Longer molecules have stronger forces between them to overcome.
13	more viscous	Viscous means thick and slow to pour, like tar.
14	more flammable	Short chains catch fire easily, which makes them useful fuels.
15	carbon dioxide and water	Complete combustion needs plenty of oxygen.
16	oxidised	Combustion is a fast oxidation that releases a lot of energy.
17	cracking	Cracking is a type of thermal decomposition.
18	steam cracking	Both methods need high temperatures to vaporise the hydrocarbons first.
19	alkenes	Alkenes are more reactive than alkanes because of their C=C double bond.
20	orange	Alkanes leave it orange.
21	colourless	Colourless, not clear - clear can still have a colour.
22	There is more demand for short-chain fuels such as petrol than there is supply, and cracking also makes alkenes used to make polymers.	Supply and demand: too much heavy oil, not enough petrol.

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Q	Answer	Remember
23	CnH2n	Two fewer hydrogens than the alkane with the same number of carbons.
24	alcohol	Ethene plus steam makes ethanol.
25	yeast	Keep it warm and without air, around 30 °C.
26	-COOH	Ethanoic acid (CH_3COOH) is the acid in vinegar.
27	ester	Ethanol plus ethanoic acid gives ethyl ethanoate, which smells sweet.
28	addition	The C=C double bond opens up so the monomers can link into a chain.
29	water	Condensation means a small molecule is lost, unlike addition where nothing is.
30	DNA	Its monomers are nucleotides. Proteins, starch and cellulose are other natural polymers.

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