

14.4 Alkanes

01. 0620_m21_qp_22 Q: 34

Propane reacts with chlorine.

Which row shows a condition required for this reaction and identifies the type of reaction?

	condition	type of reaction
A	phosphoric acid catalyst	addition
B	phosphoric acid catalyst	substitution
C	ultraviolet light	addition
D	ultraviolet light	substitution

02. 0620_s21_qp_21 Q: 36

Which statement about alkanes is correct?

- A** They burn in oxygen.
- B** They contain carbon, hydrogen and oxygen atoms.
- C** They contain double bonds.
- D** They contain ionic bonds.

03. 0620_s21_qp_22 Q: 35

Which pair of formulae represents two alkanes?

- A** CH_4 and C_8H_{18}
- B** C_2H_6 and C_5H_8
- C** C_3H_6 and C_5H_{12}
- D** C_{10}H_8 and C_4H_8

04. 0620_s21_qp_22 Q: 36

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05. 0620_s21_qp_23 Q: 36

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-

06. 0620_w21_qp_21 Q: 36

Alkanes react with chlorine to form chloroalkanes.

Which statement about the reactions of alkanes with chlorine is correct?

- A Alkanes react with chlorine by addition.
 - B The gaseous product turns red litmus blue.
 - C The chlorine atom in chloroethane is covalently bonded.
 - D The general formula of the chloroalkanes is $C_nH_{2n}Cl$.
-

07. 0620_w21_qp_22 Q: 19

Which reaction is a photochemical reaction?

- A addition of bromine to propene
 - B esterification of ethanol and ethanoic acid
 - C oxidation of ethanol
 - D substitution of methane with chlorine
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14.4. ALKANES

08. 0620_p20_qp_20 Q: 37

Which reaction does **not** take place in the dark?

- A $\text{CH}_4 + 2\text{O}_2 \rightarrow \text{CO}_2 + 2\text{H}_2\text{O}$
 - B $\text{CH}_4 + \text{Cl}_2 \rightarrow \text{CH}_3\text{Cl} + \text{HCl}$
 - C $\text{C}_2\text{H}_4 + \text{H}_2\text{O} \rightarrow \text{C}_2\text{H}_5\text{OH}$
 - D $\text{C}_2\text{H}_4 + \text{H}_2 \rightarrow \text{C}_2\text{H}_6$
-

09. 0620_s20_qp_21 Q: 39

Ethane, C_2H_6 , reacts with chlorine in a substitution reaction.

What are the products of this reaction?

- A chloroethane and hydrogen
 - B chloroethane and hydrogen chloride
 - C chloroethene and hydrogen
 - D chloroethene and hydrogen chloride
-

10. 0620_s20_qp_22 Q: 39

Alkanes undergo substitution reactions in the presence of UV light.

Which equation represents a substitution reaction of ethane?

- A $\text{C}_2\text{H}_6 + \text{Cl}_2 \rightarrow \text{C}_2\text{H}_4 + 2\text{HCl}$
 - B $\text{C}_2\text{H}_6 + \text{Cl}_2 \rightarrow \text{C}_2\text{H}_5\text{Cl} + \text{HCl}$
 - C $\text{C}_2\text{H}_6 + \text{Cl}_2 \rightarrow \text{C}_2\text{H}_4\text{Cl}_2 + \text{H}_2$
 - D $\text{C}_2\text{H}_6 + \text{HCl} \rightarrow \text{C}_2\text{H}_5\text{Cl} + \text{H}_2$
-

11. 0620_s20_qp_23 Q: 39

Alkanes undergo substitution reactions with chlorine in the presence of ultraviolet light.

Which equation shows a reaction of this type?

- A $\text{C}_3\text{H}_6 + \text{Cl}_2 \rightarrow \text{C}_3\text{H}_6\text{Cl}_2$
 - B $\text{C}_3\text{H}_8 + \text{Cl}_2 \rightarrow \text{C}_3\text{H}_6\text{Cl}_2 + \text{H}_2$
 - C $\text{C}_3\text{H}_8 + 2\text{Cl}_2 \rightarrow \text{C}_3\text{H}_6\text{Cl}_2 + 2\text{HCl}$
 - D $\text{C}_3\text{H}_6 + \text{Cl}_2 \rightarrow \text{C}_3\text{H}_5\text{Cl} + \text{HCl}$
-

12. 0620_w20_qp_21 Q: 36

Which chemical equation for the substitution of an alkane with chlorine is correct?

- A** $\text{C}_3\text{H}_8 + \text{Cl}_2 \rightarrow \text{C}_3\text{H}_7\text{Cl} + \text{HCl}$
B $\text{C}_3\text{H}_6 + \text{Cl}_2 \rightarrow \text{C}_3\text{H}_6\text{Cl}_2$
C $\text{C}_3\text{H}_8 + \text{Cl}_2 \rightarrow \text{C}_3\text{H}_6\text{Cl}_2 + \text{H}_2$
D $\text{C}_3\text{H}_6 + \text{Cl}_2 \rightarrow \text{C}_3\text{H}_5\text{Cl} + \text{HCl}$

13. 0620_s19_qp_21 Q: 37

Chlorine reacts with methane.

Which statements are correct?

- 1 The reaction takes place in the dark.
- 2 The reaction of chlorine with methane forms chloromethane.
- 3 Chloromethane reacts with chlorine to produce dichloromethane.
- 4 The reaction of chlorine with methane is an addition reaction.

- A** 1 and 2 **B** 1 and 3 **C** 2 and 3 **D** 3 and 4

14. 0620_s19_qp_22 Q: 37

In bright sunlight, ethane and chlorine combine in substitution reactions.

Which compound is **not** formed in these reactions?

- A** $\text{C}_2\text{H}_3\text{Cl}$ **B** $\text{C}_2\text{H}_5\text{Cl}$ **C** $\text{C}_2\text{H}_4\text{Cl}_2$ **D** HCl

19. 0620_p16_qp_20 Q: 37

Which reaction does **not** take place in the dark?

- A $\text{CH}_4 + 2\text{O}_2 \rightarrow \text{CO}_2 + 2\text{H}_2\text{O}$
- B $\text{CH}_4 + \text{Cl}_2 \rightarrow \text{CH}_3\text{Cl} + \text{HCl}$
- C $\text{C}_2\text{H}_4 + \text{H}_2\text{O} \rightarrow \text{C}_2\text{H}_5\text{OH}$
- D $\text{C}_2\text{H}_4 + \text{H}_2 \rightarrow \text{C}_2\text{H}_6$
-

20. 0620_s16_qp_22 Q: 36

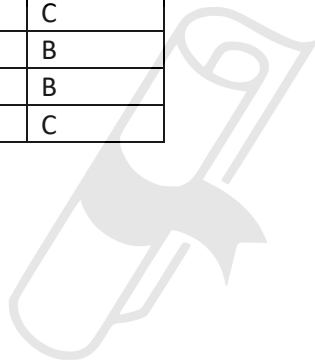
Which compound is **not** an alkane, $\text{C}_n\text{H}_{2n+2}$?

- A $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_3$
- B $(\text{CH}_3)_2\text{CHCH}_3$
- C $\text{CH}_3\text{CHCHCH}_3$
- D $(\text{CH}_3)_3\text{CH}$
-



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SN	Paper	Q. No.	Answer
01	0620_m21_qp_22	34	D
02	0620_s21_qp_21	36	A
03	0620_s21_qp_22	35	A
04	0620_s21_qp_22	36	A
05	0620_s21_qp_23	36	A
06	0620_w21_qp_21	36	C
07	0620_w21_qp_22	19	D
08	0620_p20_qp_20	37	B
09	0620_s20_qp_21	39	B
10	0620_s20_qp_22	39	B
11	0620_s20_qp_23	39	C
12	0620_w20_qp_21	36	A
13	0620_s19_qp_21	37	C
14	0620_s19_qp_22	37	B
15	0620_s19_qp_23	37	D
16	0620_w18_qp_21	35	A
17	0620_w17_qp_21	35	C
18	0620_m16_qp_22	36	B
19	0620_p16_qp_20	37	B
20	0620_s16_qp_22	36	C



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