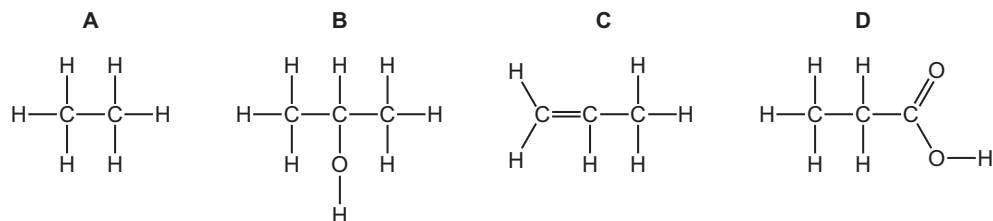


32 Petroleum is separated by fractional distillation.

Which statement about the fractions produced is correct?

- A** Bottled gas for heating and cooking is obtained from the naphtha fraction.
- B** Diesel oil is used as a fuel for jet aircraft.
- C** Substances used to make polishes are obtained from the lubricating fraction.
- D** The kerosene fraction contains many useful waxes.

33 Which structure represents a compound in the alcohol homologous series?

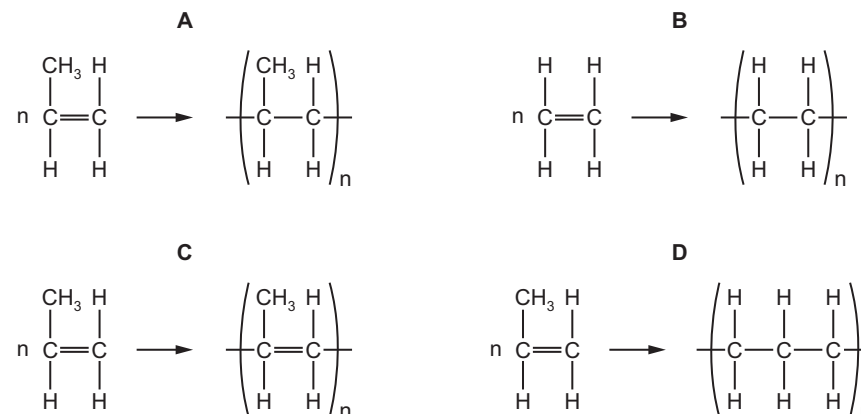


34 Ethane reacts with chlorine.

Which row identifies the type of reaction and the formulae of the products formed?

	reaction	products
A	addition	$\text{CH}_3\text{CH}_2\text{Cl} + \text{H}_2$
B	addition	$\text{CH}_3\text{CH}_2\text{Cl} + \text{HCl}$
C	substitution	$\text{CH}_3\text{CH}_2\text{Cl} + \text{HCl}$
D	substitution	$\text{CH}_3\text{CH}_2\text{Cl} + \text{H}_2$

35 Which equation represents the formation of poly(propene) from propene?



36 Ethene reacts with hydrogen in an addition reaction to form ethane.

Which catalyst is used for this reaction?

- A** iron
- B** nickel
- C** vanadium(V) oxide
- D** yeast

37 What is produced by the bacterial oxidation of ethanol?

- A** ethene
- B** sodium ethanoate
- C** ethyl ethanoate
- D** vinegar

38 Which statement about addition polymers or condensation polymers is correct?

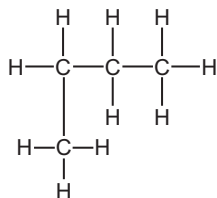
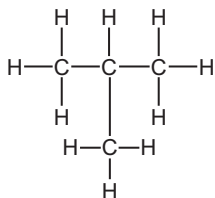
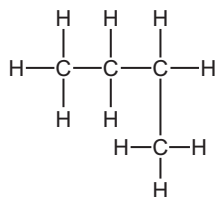
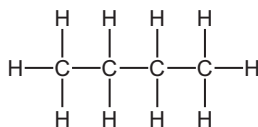
- A** Addition polymers only contain carbon and hydrogen atoms.
- B** One of the monomers used to make a polyester is a diamine.
- C** Addition polymers contain carbon–carbon double bonds in the main chain.
- D** Water is an additional product in the formation of a protein from amino acids.

32 The alkenes are a homologous series.

Which statement about the members of the homologous series of the alkenes is correct?

- A** They have the same functional group.
- B** They have the same relative molecular mass.
- C** They have different chemical properties.
- D** They have different general formulae.

34 Which structures are structural isomers of each other?



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

36 Which row shows the products obtained by the cracking of a large alkane?

	alkene	hydrogen	water
A	✓	✓	✓
B	✓	✓	✗
C	✓	✗	✓
D	✗	✓	✓

key

✓ = yes

✗ = no