

Test yourself

Chapter 17

- 1 Which one of the following compounds can produce an aldehyde when oxidised?
- A 2-methylbutan-1-ol
 - B 3-methylhexan-3-ol
 - C Hexan-3-ol
 - D 2-methylbutan-2-ol
- 2 A student wanted to oxidise a secondary alcohol, so she heated it with a solution of potassium dichromate(VI). Which reagent is missing from the reaction vessel?
- A Sodium hydroxide solution
 - B Potassium manganate(VII) solution
 - C Copper(II) sulfate solution
 - D Dilute sulfuric acid
- 3 What is formed when butanone is warmed with a solution of sodium tetrahydridoborate?
- A Butanal
 - B Butanoic acid
 - C Butan-1-ol
 - D Butan-2-ol

- 4 What do we call the mechanism of the reaction between an aldehyde or ketone with hydrogen cyanide?
- A Nucleophilic addition
 - B Free-radical substitution
 - C Electrophilic addition
 - D Nucleophilic substitution
- 5 In the mechanism for the reaction between propanal and hydrogen cyanide, which species initially attacks the carbonyl carbon atom?
- A OH^- ion
 - B CN^- ion
 - C H_2O molecule
 - D H^+ ion
- 6 Which name best describes the type of product formed when ethanal reacts with HCN?
- A A cyanide
 - B A cyanohydrin
 - C A carboxylic acid
 - D An alcohol
- 7 What is the colour of the precipitate formed when 2,4-dinitrophenylhydrazine is added to propanone?
- A Blue
 - B Green
 - C Orange
 - D Purple

- 8** Name the product in the following reaction, in which the symbol [H] represents a reducing agent:



- A** Butan-1-ol
- B** But-2-ene
- C** Butanal
- D** Butan-2-ol
- 9** What would you expect to observe if ethanal is warmed with Tollens' reagent in a boiling tube?
- A** A silver mirror forms on the inside of the tube
- B** An orange precipitate is formed
- C** No change
- D** The solution turns blue
- 10** When Fehling's solution is warmed with pentan-3-one, what would you expect to observe?
- A** A silver mirror forms on the inside of the tube
- B** An orange precipitate is formed
- C** No change, the solution remains blue
- D** A gas is given off which turns red litmus paper blue