Chapter Summary Worksheet

Chapter 7 Carbonyl compounds

Print out and complete this worksheet to generate a summary for Chapter 7.

1 The compound that gave a yellow precipitate with 2,4-dinitrophenylhydrazine, a pale yellow precipitate with iodine in alkali, and a silver mirror with Tollens' reagent is:

- ☐ **A** $CH_3COCH_2CH_2OH$
- ☐ **B** $CH_3CH(OH)CH_2CHO$
- ☐ **C** $CH_3CH_2CH(OH)CHO$
- ☐ **D** $CH_3CH(OH)CH{=}CH_2$

2 The first step in the addition of HCN to a carbonyl compound is:

- ☐ **A** the movement of π-electrons in C=O to form $^{+}C{-}O^{-}$
- ☐ **B** attack by $^{\delta+}H$ of HCN on $^{\delta-}O$ of C=O
- ☐ **C** attack by CN^- on $^{\delta+}C$ of C=O
- ☐ **D** attack by $^{\delta-}C$ of HCN on $^{\delta+}C$ of C=O

3 Which does **not** form intermolecular hydrogen bonds?

- ☐ **A** CH_3CH_2COOH
- ☐ **B** $CH_3CH(OH)CH_3$
- ☐ **C** CH_3CH_2CHO
- ☐ **D** $(CH_3)_3COH$

4 Which is the correct order of boiling temperatures?

- ☐ **A** propan-1-ol > propanone > propene > propane
- ☐ **B** propan-1-ol > propanone >propane > propene
- ☐ **C** propanone > propan-1-ol > propene > propane
- ☐ **D** propanone > propan-1-ol > propane > propene

5 Which will give a racemic mixture of organic product?

- ☐ **A** pentan-3-one and 2,4-dinitrophenylhydrazine
- ☐ **B** pentan-3-one and hydrogen cyanide
- ☐ **C** pentan-2-one and 2,4-dinitrophenylhydrazine
- ☐ **D** pentan-2-one and hydrogen cyanide

6 Which would **not** be reduced by lithium aluminium hydride?

- ☐ **A** $CH_3CH(OH)CN$
- ☐ **B** $CH_2{=}CHCH_3$
- ☐ **C** $CH_2{=}CHCHO$
- ☐ **D** CH_3COCH_3

© Philip Allan Updates