

Carbon-Carbon Bond Formation (MCQ)

1. Which of the following reactions produce propan-1-ol?

- 1 The alkaline hydrolysis of 1-chloropropane.
- 2 The acid hydrolysis of propyl methanoate.
- 3 The acid hydrolysis of propanenitrile.

- A** 1, 2 and 3
B Only 1 and 2
C Only 2 and 3
D Only 1

Your answer

[1]

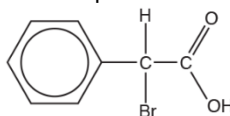
2. Which of these reagent(s) will **not** react with $\text{HOCH}_2\text{CH}_2\text{CH}_2\text{COOH}$?

- A** NaCN in ethanol
B $\text{C}_2\text{H}_5\text{OH}$ in the presence of an acid catalyst
C $(\text{CH}_3\text{CO})_2\text{O}$
D concentrated H_2SO_4

Your answer

[1]

3. Which of the following could react with the compound below to form a carbon-carbon bond?



- 1 CH_3Cl and Al Cl_3
- 2 KCN in ethanol
- 3 CH_3OH and H_2SO_4

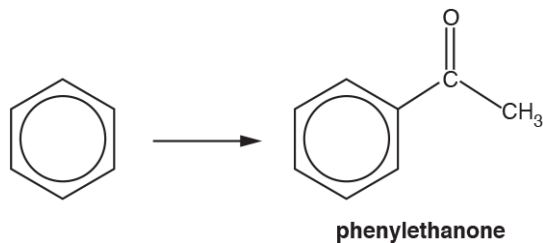
- A** 1, 2 and 3
B Only 1 and 2
C Only 2 and 3
D Only 1

Your answer

[1]

6.2.4 Carbon-Carbon Bond Formation MCQ

4. Benzene reacts with an organic reagent in the presence of a halogen carrier to form phenylethanone.



Which organic reagent is required?

- A $\text{CH}_3\text{CH}_2\text{OH}$
- B CH_3CHO
- C CH_3COCl
- D CH_3COOH

Your answer

[1]

END OF QUESTION PAPER

Mark scheme – Carbon-Carbon Bond Formation (MCQ)

Question			Answer/Indicative content	Marks	Guidance
1			B	1 (AO2.3)	
			Total	1	
2			A	1 (AO1.1)	
			Total	1	
3			B	1	<p><u>Examiner's Comments</u></p> <p>Candidates found this question difficult, presumably as it involved reactions of different functional groups within the same compound. Many candidates identified B as the correct response. The most common incorrect responses were C and D.</p>
			Total	1	
4			C	1	<p><u>Examiner's Comments</u></p> <p>Almost all candidates identified C (CH_3COCl) as the reagent required for this reaction.</p>
			Total	1	