

20.2 Synthetic Routes

Question Paper

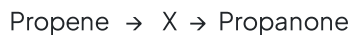
Course	DIPB Chemistry
Section	20. Organic Chemistry (HL only)
Topic	20.2 Synthetic Routes
Difficulty	Easy

Time allowed: 10
Score: /5
Percentage: /100

Question 1

Propanone is made by a two stage process.

The second stage involves oxidation.



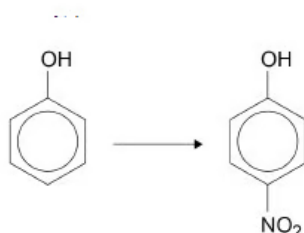
What is the functional group of compound X?

- A. COOH
- B. OH
- C. COO
- D. C=O

[1 mark]

Question 2

4-nitrophenol can be produced from phenol.



What is the name of the mechanism used to make 4-nitrophenol?

- A. Nucleophilic substitution
- B. Nucleophilic addition
- C. Electrophilic addition
- D. Electrophilic substitution

[1 mark]

Question 3

4-methylpentanal can be formed by the oxidation of 4-methylpentan-1-ol.

Which reagent is used as an oxidising agent for this conversion?

- A. NaBH_4
- B. NaOH
- C. $\text{K}_2\text{Cr}_2\text{O}_7$
- D. LiAlH_4

[1 mark]

Question 4

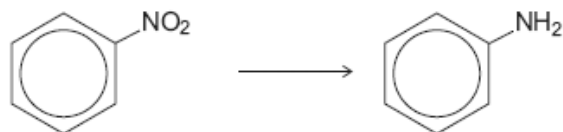
Which reaction(s) can alkenes undergo?

- I. Addition
 - II. Hydration
 - III. Reduction
- A. I and II only
 - B. I and III only
 - C. II and III only
 - D. I, II and III

[1 mark]

Question 5

Phenylamine can be formed from nitrobenzene.



What are the reagents used and the name of this reaction?

	Reagents	Reaction
A.	Sn and conc H ₂ SO ₄	Substitution
B.	NaOH	Addition
C.	Conc HNO ₃ and conc HCl	Reduction
D.	Sn and conc HCl	Reduction

[1 mark]