

Synthesis

1. A solid organic compound can be purified by recrystallisation.

Which statement(s) about recrystallisation is/are true?

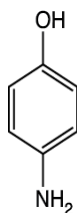
- 1 The organic compound is more soluble in hot solvent.
- 2 The hot solution is cooled before the purified organic compound is collected.
- 3 The melting point of the purified organic compound is lower than the impure compound.

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

Your answer

[1]

2. The compound shown below can be prepared from phenol.



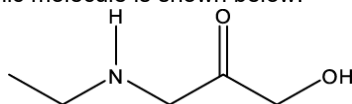
Which reagent(s) is/are required?

- A** Concentrated NH₃
B Dilute NH₃
C Dilute HNO₃ and then concentrated HCl / Sn
D Dilute HNO₃ and then NaBH₄

Your answer

[1]

3. The skeletal formula of an organic molecule is shown below.



Which of the following statements is / are correct?

- 1: The molecule contains an amine group.
- 2: The molecule contains a carboxylic acid group.
- 3: The molecule contains an amide group.

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

Your answer

[1]

END OF QUESTION PAPER

Mark scheme - Synthesis

Question			Answer/Indicative content	Marks	Guidance
1			B	1	<u>Examiner's Comments</u> Many candidates correctly selected B. Option A proved a good distractor, presumably as candidates linked melting point to recrystallisation without fully interpreting statement 3.
			Total	1	
2			C	1	
			Total	1	
3			D	1	
			Total	1	