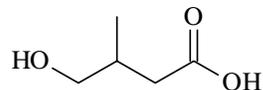


1. What is the IUPAC name of the following compound?



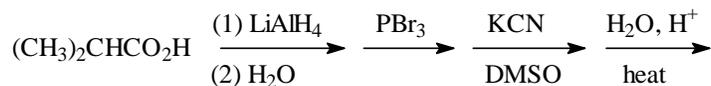
- 1) 4-hydroxy-3-methylbutanoic acid
2) 3-hydroxy-2-methylbutanoic acid
3) 1-hydroxy-2-methylbutanoic acid
4) 3-(hydroxymethyl)butanoic acid
2. Rank the following compounds in decreasing order of acidity.



- 1) B>A>C 2) B>C>A 3) C>B>A 4) C>A>B
3. The cleansing action of soaps is due to the formation of:
- 1) water insoluble micelles with lipophilic interiors.
2) water soluble micelles with lipophilic interiors.
3) water insoluble micelles with hydrophilic interiors.
4) water soluble micelles with hydrophilic interiors.
4. Which of the following is the strongest acid?
- 1) FCH₂CO₂H 2) ClCH₂CO₂H
3) BrCH₂CO₂H 4) ICH₂CO₂H
5. Rank the following three carboxylic acids in order of increasing acidity.

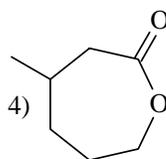
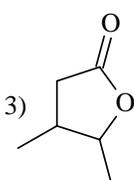
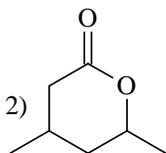
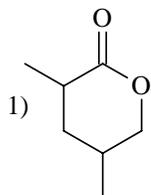
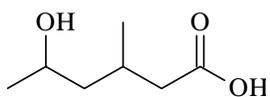
- A. 4-chlorobutanoic acid
B. 3-chlorobutanoic acid
C. 2-chlorobutanoic acid

- 1) A<B<C 2) A<C<B 3) C<A<B 4) C<B<A
6. What is the product of the following sequence of reactions?



- 1) (CH₃)₂CHCH₂CH₂NH₂ 2) (CH₃)₂C=CHCO₂H
3) (CH₃)₂CHCHBrCO₂H 4) (CH₃)₂CHCH₂CO₂H

10. Identify the lactone formed by the following hydroxy carboxylic acid.



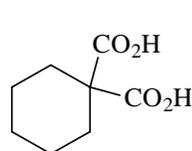
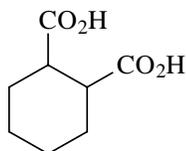
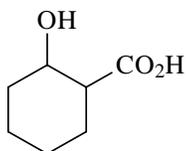
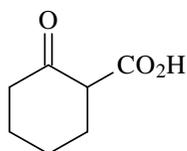
1) 1

2) 2

3) 3

4) 4

11. Which of the following undergo decarboxylation upon heating?



A

B

C

D

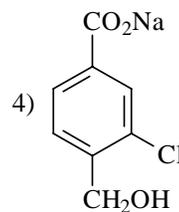
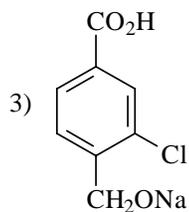
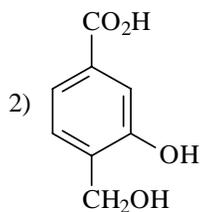
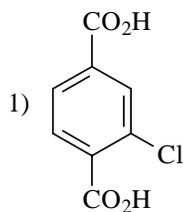
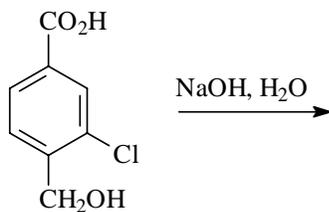
1) A and D

2) A and C

3) B and C

4) C and D

12. What is the product of the reaction shown below?



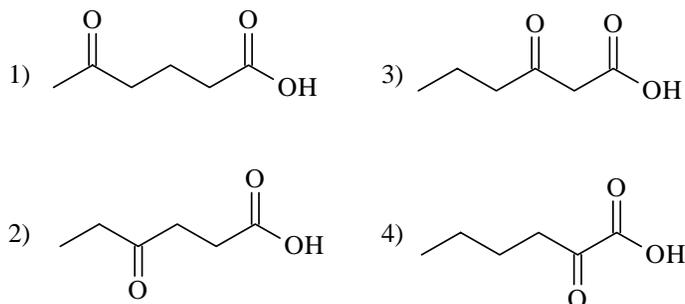
1) 1

2) 2

3) 3

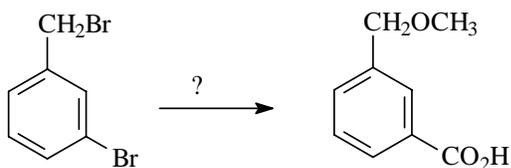
4) 4

13. Which one of the following compounds undergoes decarboxylation upon heating?



1) 1 2) 2 3) 3 4) 4

14. Only one of the reaction sequences below can carry out the following transformation. Identify which reaction sequence it is.



1) (1) Mg/diethyl ether (2) CO₂ (3) H₂O, H⁺ (4) CH₃O⁻Na⁺

2) (1) NaOH (2) Mg/diethyl ether (3) CO₂ (4) H₂O, H⁺ (5) CH₃I

3) (1) CH₃O⁻Na⁺ (2) Mg/diethyl ether (3) CO₂ (4) H₂O, H⁺

4) (1) CH₃O⁻Na⁺ (2) KCN, DMSO (3) H₂O, H₂SO₄, heat

1) 1 2) 2 3) 3 4) 4