

HALALKANES AND HALOARENES

1. Which of the following is most reactive towards SN1 reaction?

- A) 1-chlorobutane
 - B) 2-chlorobutane
 - C) tert-butyl chloride
 - D) benzyl chloride
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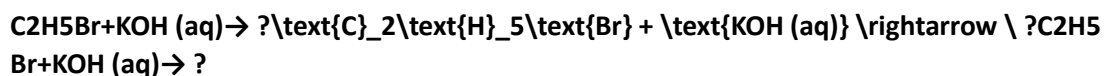
2. Which of the following does not undergo nucleophilic substitution easily?

- A) C₆H₅Cl
 - B) C₆H₅CH₂Cl
 - C) CH₃CH₂Cl
 - D) (CH₃)₃CCl
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3. The major product formed when chlorobenzene reacts with NaOH at 623 K and 300 atm is:

- A) Phenol
 - B) Benzyl alcohol
 - C) Benzoic acid
 - D) Aniline
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4. In the reaction:



The product formed is:

- A) C₂H₆
 - B) C₂H₅OH
 - C) C₂H₅OK
 - D) CH₃COOH
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5. Which of the following is optically active?

- A) 2-bromobutane
 - B) 1-bromobutane
 - C) 1,2-dibromoethane
 - D) 2-chloropropane
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6. Which is the correct order of reactivity of alkyl halides towards SN2 reaction?

- A) 3° > 2° > 1°
 - B) 1° > 2° > 3°
 - C) 2° > 1° > 3°
 - D) 3° > 1° > 2°
-

7. Which halide is least reactive towards nucleophilic substitution?

- A) R-I
 - B) R-Br
 - C) R-Cl
 - D) R-F
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8. The best reagent for the conversion of alcohol to alkyl bromide is:

- A) PCl_5
 - B) HBr
 - C) PBr_3
 - D) SOCl_2
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9. Which of the following compounds reacts fastest with AgNO_3 in ethanol?

- A) CH_3Cl
 - B) $\text{CH}_3\text{CH}_2\text{Cl}$
 - C) $(\text{CH}_3)_3\text{CCl}$
 - D) $\text{C}_6\text{H}_5\text{Cl}$
-

10. Which compound is used in the preparation of freons?

- A) CH_4
 - B) CHCl_3
 - C) CCl_4
 - D) CH_3OH
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11. Which of the following will give a racemic mixture on hydrolysis?

- A) 2-bromobutane
 - B) 1-bromobutane
 - C) 2-chloropropane
 - D) Bromomethane
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12. Which reaction is used to convert alkyl halide to alkene?

- A) Dehydrohalogenation
 - B) Dehalogenation
 - C) Hydrolysis
 - D) Ozonolysis
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13. Which of the following cannot be prepared by Sandmeyer reaction?

- A) Chlorobenzene
- B) Bromobenzene
- C) Iodobenzene
- D) Fluorobenzene

14. Which of the following is most stable carbocation?

- A) CH_3^+
 - B) CH_3CH_2^+
 - C) $(\text{CH}_3)_2\text{CH}^+$
 - D) $(\text{CH}_3)_3\text{C}^+$
-

15. Which product is formed when benzene reacts with Cl_2 in presence of FeCl_3 ?

- A) Chlorobenzene
 - B) Benzyl chloride
 - C) Dichlorobenzene
 - D) Phenol
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16. Which of the following is used as anesthetic?

- A) CHCl_3
 - B) CCl_4
 - C) CH_3Cl
 - D) $\text{C}_2\text{H}_5\text{Cl}$
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17. Wurtz reaction involves:

- A) $\text{RX} + \text{KOH}$
 - B) $\text{RX} + \text{Mg}$
 - C) $\text{RX} + 2\text{Na}$
 - D) $\text{RX} + \text{NH}_3$
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18. Which of the following undergoes electrophilic substitution?

- A) $\text{CH}_3\text{CH}_2\text{Cl}$
 - B) $\text{C}_6\text{H}_5\text{Cl}$
 - C) CH_3Cl
 - D) $\text{CH}_3\text{CH}_2\text{Br}$
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19. The nature of the C–Cl bond in chlorobenzene is:

- A) Purely ionic
 - B) Purely covalent
 - C) Polar covalent with resonance stabilization
 - D) Non-polar covalent
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20. Which of the following is a Freon?

- A) CCl_2F_2
- B) CHCl_3

C) CH_2Cl_2

D) CCl_4

Answer Key

1. C

2. A

3. A

4. B

5. A

6. B

7. D

8. C

9. C

10. B

11. A

12. A

13. D

14. D

15. A

16. A

17. C

18. B

19. C

20. A