

# Quiz: HALOALKANE AND HALOARENES 1

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**Q1: What is the IUPAC name of CH<sub>3</sub>CH<sub>2</sub>CH<sub>2</sub>Br?**

- A) 1-Bromopropane
- B) 2-Bromopropane
- C) Bromomethane
- D) 1-Bromobutane

**Q2: Which of the following is an example of a \*primary\* haloalkane?**

- A) 2-Bromo-2-methylbutane
- B) 1-Bromo-2-methylbutane
- C) 2-Bromo-3-methylbutane
- D) 3-Bromo-2-methylbutane

**Q3: Which compound will undergo the \*fastest S<sub>N</sub>1\* reaction?**

- A) 1-Chloro-3-methylbutane
- B) 1-Bromo-3-methylbutane
- C) 1-Iodo-3-methylbutane
- D) 1-Fluoro-3-methylbutane

**Q4: The reaction of a haloalkane with \*aqueous KOH\* typically shows:**

- A) Substitution
- B) Elimination
- C) Addition
- D) Oxidation

**Q5: Which of the following is a \*haloarene\*?**

- A) C<sub>6</sub>H<sub>6</sub>
- B) C<sub>6</sub>H<sub>5</sub>Br
- C) CH<sub>3</sub>CH<sub>2</sub>OH
- D) CH<sub>3</sub>CH<sub>2</sub>Cl

**Q6: The general formula for haloalkanes is:**

- A) C<sub>n</sub>H<sub>{2n+2}</sub>X
- B) C<sub>n</sub>H<sub>{2n}</sub>X
- C) C<sub>n</sub>H<sub>{2n-2}</sub>X
- D) C<sub>n</sub>H<sub>{2n+1}</sub>X

**Q7: Which of the following is \*not\* a haloarene?**

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

**Q8: What type of reaction is the hydrolysis of CH<sub>3</sub>CH<sub>2</sub>Br with aq. NaOH?**

- A) S<sub>N</sub>1
- B) S<sub>N</sub>2
- C) E1

D) E2

**Q9: Which of the following is a \*geminal dihalide\*?**

- A) CH<sub>2</sub>Cl-CH<sub>2</sub>Cl
- B) CHCl<sub>2</sub>-CH<sub>3</sub>
- C) CCl<sub>4</sub>
- D) CH<sub>2</sub>Cl<sub>2</sub>

**Q10: Which of the following is a \*benzyl halide\*?**

- A) C<sub>6</sub>H<sub>5</sub>-CH<sub>2</sub>Cl
- B) CH<sub>3</sub>-CH<sub>2</sub>-Cl
- C) CH<sub>2</sub>=CH-CH<sub>2</sub>Cl
- D) C<sub>6</sub>H<sub>5</sub>-Cl

**Q11: SN1 reaction is fastest for which alkyl halide?**

- A) 1-Chlorobutane
- B) 2-Chlorobutane
- C) 2-Bromo-2-methylpropane
- D) 1-Bromopropane

**Q12: Reaction of haloalkanes with alcoholic KOH gives:**

- A) Alkanes
- B) Alkenes
- C) Alcohols
- D) Ethers

**Q13: The order of \*SN2 reactivity\* for halides is:**

- A) RI > RBr > RCl > RF
- B) RF > RCl > RBr > RI
- C) RCl > RBr > RI > RF
- D) RI > RF > RBr > RCl

**Q14: Which reagent converts alcohols to haloalkanes?**

- A) PCl<sub>5</sub>
- B) SOCl<sub>2</sub>
- C) PBr<sub>3</sub>
- D) All of the above

**Q15: Which product forms when propene reacts with HBr in presence of peroxides?**

- A) 1-Bromopropane
- B) 2-Bromopropane
- C) Propane
- D) Allyl bromide

**Q16: In haloarenes, the carbon to which halogen is bonded is:**

- A) sp hybridized
- B) sp<sup>2</sup> hybridized
- C) sp<sup>3</sup> hybridized
- D) None of the above

**Q17: Which of the following will undergo \*E2 elimination\* readily?**

- A) Tertiary bromoalkane with strong base
- B) Primary bromoalkane with weak base
- C) Vinyl chloride
- D) Aryl chloride

**Q18: Order of \*bond dissociation energy\* (C-X) from highest to lowest is:**

- A) C-F > C-Cl > C-Br > C-I
- B) C-I > C-Br > C-Cl > C-F
- C) C-Cl > C-F > C-Br > C-I
- D) C-Br > C-Cl > C-F > C-I

**Q19: Which of the following is true about haloarenes compared to haloalkanes?**

- A) They undergo SN1 easily
- B) They undergo SN2 easily
- C) They resist nucleophilic substitution under normal conditions
- D) They are more reactive in addition reactions

**Q20: Reaction of chlorobenzene with NaNH2 gives:**

- A) Aniline
- B) Benzene
- C) Chlorobenzene remains unchanged
- D) Phenol

**Q21: Which will undergo \*SN1\* reaction most rapidly?**

- A) tert-butyl chloride
- B) isopropyl chloride
- C) ethyl chloride
- D) methyl chloride

**Q22: Which of the following is an \*allylic halide\*?**

- A) CH<sub>2</sub>=CH-CH<sub>2</sub>Br
- B) CH<sub>3</sub>CH<sub>2</sub>Br
- C) C<sub>6</sub>H<sub>5</sub>CH<sub>2</sub>Br
- D) CH<sub>3</sub>CH(Br)CH<sub>3</sub>

**Q23: What type of reaction is CH<sub>3</sub>CH<sub>2</sub>Br + NaOH(aq) \to CH<sub>3</sub>CH<sub>2</sub>OH?**

- A) Elimination
- B) Substitution (SN2)
- C) Oxidation
- D) Addition

**Q24: Which reagent is commonly used to prepare haloalkanes from alcohols?**

- A) PCl<sub>5</sub>
- B) SOCl<sub>2</sub>
- C) PBr<sub>3</sub>
- D) All of the above

**Q25: Which of the following is a \*benzyl halide\*?**

- A) C<sub>6</sub>H<sub>5</sub>CH<sub>2</sub>Cl
- B) C<sub>6</sub>H<sub>5</sub>Cl
- C) CH<sub>3</sub>CH<sub>2</sub>Br
- D) CH<sub>2</sub>=CHBr

**Q26: Order of \*leaving group ability\* (best first) is:**

- A) I<sup>-</sup> > Br<sup>-</sup> > Cl<sup>-</sup> > F<sup>-</sup>
- B) F<sup>-</sup> > Cl<sup>-</sup> > Br<sup>-</sup> > I<sup>-</sup>
- C) Cl<sup>-</sup> > Br<sup>-</sup> > I<sup>-</sup> > F<sup>-</sup>
- D) Br<sup>-</sup> > Cl<sup>-</sup> > I<sup>-</sup> > F<sup>-</sup>

**Q27: Which will undergo \*E2 elimination\* most readily with alcoholic KOH?**

- A) 1-Bromopropane
- B) 2-Bromopropane
- C) tert-Butyl bromide
- D) Chlorobenzene

**Q28: Which haloarene does not undergo nucleophilic substitution easily?**

- A) Chlorobenzene
- B) Bromobenzene
- C) Fluorobenzene
- D) All of the above

**Q29: Which of the following compounds is a \*geminal dihalide\*?**

- A) CH<sub>2</sub>Cl-CH<sub>2</sub>Cl
- B) CHCl<sub>2</sub>-CH<sub>3</sub>
- C) CH<sub>3</sub>CH<sub>2</sub>Cl
- D) CCl<sub>4</sub>

**Q30: Which of these is a \*vinyl halide\*?**

- A) CH<sub>2</sub>=CHCl
- B) CH<sub>3</sub>CH<sub>2</sub>Cl
- C) CH<sub>2</sub>Br<sub>2</sub>
- D) C<sub>6</sub>H<sub>5</sub>Br

**Q31: Which reagent can convert CH<sub>3</sub>CH<sub>2</sub>Br to CH<sub>3</sub>CH<sub>2</sub>OH?**

- A) NaCN
- B) KOH(aq)
- C) NaH
- D) AlCl<sub>3</sub>

**Q32: Which of the following undergoes \*SN1\* exclusively?**

- A) Benzyl chloride
- B) Ethyl chloride
- C) Chlorobenzene
- D) Isopropyl chloride

**Q33: Which has the highest \*C-X bond polarity\*?**

- A) C-F
- B) C-Cl
- C) C-Br
- D) C-I

**Q34: Which of the following is \*not\* a haloalkane?**

- A) CH<sub>3</sub>CH<sub>2</sub>Br
- B) CH<sub>3</sub>Cl
- C) C<sub>6</sub>H<sub>5</sub>Br
- D) CH<sub>3</sub>CH<sub>2</sub>CH<sub>2</sub>I

**Q35: Which of the following reactions is an example of \*nucleophilic substitution\*?**

- A) Hydrolysis of R-Cl
- B) Dehydrohalogenation
- C) Addition to alkene
- D) Free radical halogenation

**Q36: Which of these is a \*secondary haloalkane\*?**

- A) CH<sub>3</sub>CH(Br)CH<sub>3</sub>
- B) CH<sub>3</sub>CH<sub>2</sub>Br
- C) CH<sub>3</sub>CH<sub>2</sub>CH<sub>2</sub>Cl
- D) (CH<sub>3</sub>)<sub>3</sub>CBr

**Q37: Which reagent promotes elimination to give alkene from R-Br?**

- A) KOH(aq)
- B) KOH(alc)
- C) NaCl
- D) H<sub>2</sub>O

**Q38: Which of the following haloalkanes will be most reactive in SN2?**

- A) methyl chloride
- B) 1-chlorobutane
- C) 2-chloro-2-methylpropane
- D) chlorobenzene

**Q39: Which is a characteristic reaction of haloarenes with diazonium salts?**

- A) Sandmeyer reaction
- B) Wurtz reaction
- C) Cannizzaro reaction
- D) Aldol condensation

**Q40: When propene reacts with HBr under peroxides, the major product is:**

- A) 2-Bromopropane
- B) 1-Bromopropane
- C) Propane
- D) Allyl bromide

**Q41: Which of the following is true about haloarenes compared to haloalkanes?**

- A) More reactive in SN2
- B) Less reactive in nucleophilic substitution
- C) More reactive in elimination
- D) React easily with NaOH(aq)

**Q42: Which of the following is a primary haloalkane?**

- A) CH<sub>3</sub>CH<sub>2</sub>Br
- B) CH<sub>3</sub>CH(Br)CH<sub>3</sub>
- C) CH<sub>3</sub>C(Br)(CH<sub>3</sub>)<sub>2</sub>
- D) C<sub>6</sub>H<sub>5</sub>Br

**Q43: The hybridization of the carbon bearing the halogen in haloalkanes is:**

- A) sp
- B) sp<sup>2</sup>
- C) sp<sup>3</sup>
- D) none

**Q44: Which reagent can convert chlorobenzene to phenol (via substitution)?**

- A) NaOH (aq), heat
- B) KOH(alc)
- C) LiAlH<sub>4</sub>
- D) HCl

**Q45: Which of the following halides undergoes only SN2, not SN1?**

- A) 1-Bromopropane
- B) tert-Butyl bromide
- C) Benzyl chloride
- D) 2-Bromo-2-methylpropane

**Q46: Which of the following is a common example of a \*polyhalogen compound\* used as solvent?**

- A) Chloroform (CHCl<sub>3</sub>)
- B) Methane
- C) Ethanol
- D) Benzene

**Q47: Which reagent will replace halogen with CN in R-X?**

- A) NaCN
- B) H<sub>2</sub>O
- C) NaOH(aq)
- D) Zn

**Q48: Which haloalkane is likely to form a carbocation intermediate?**

- A) tert-Butyl chloride
- B) methyl chloride
- C) 1-Chloropropane
- D) Vinyl chloride

**Q49: Which of the following undergoes dehydrohalogenation to give alkene under basic conditions?**

- A) CH<sub>3</sub>CHBrCH<sub>3</sub>
- B) CH<sub>3</sub>CH<sub>2</sub>Cl
- C) C<sub>6</sub>H<sub>5</sub>Cl
- D) CH<sub>3</sub>Cl

**Q50: Which halide is most reactive in nucleophilic substitution?**

- A) CH<sub>3</sub>I
- B) CH<sub>3</sub>Br
- C) CH<sub>3</sub>Cl
- D) CH<sub>3</sub>F

**Q51: In haloalkanes, halogen is bonded to carbon of which hybridization?**

- A) sp
- B) sp<sup>2</sup>
- C) sp<sup>3</sup>
- D) none

**Q52: Which halide is expected to show least S<sub>N</sub>2 reactivity?**

- A) CH<sub>3</sub>Cl
- B) CH<sub>3</sub>Br
- C) CH<sub>3</sub>I
- D) tert-Butyl chloride

**Q53: Which of the following is an \*aryl halide\*?**

- A) C<sub>6</sub>H<sub>5</sub>Cl
- B) CH<sub>3</sub>CH<sub>2</sub>Cl
- C) BrCH<sub>2</sub>CH<sub>3</sub>
- D) CH<sub>3</sub>Cl

**Q54: Which reagent replaces halogen with OH in aromatic ring via nucleophilic substitution?**

- A) Hot aq. KOH
- B) HCl
- C) Zn/HCl
- D) H<sub>2</sub>/Pd

**Q55: Which haloalkane yields alkene upon heating with alcoholic KOH?**

- A) CH<sub>3</sub>CHBrCH<sub>3</sub>
- B) CH<sub>3</sub>CH<sub>2</sub>Br
- C) CH<sub>3</sub>Cl
- D) C<sub>6</sub>H<sub>5</sub>Cl

**Q56: Which of the following is least reactive in S<sub>N</sub>1 reaction?**

- A) tert-Butyl chloride
- B) C<sub>6</sub>H<sub>5</sub>CH<sub>2</sub>Cl
- C) 1-Chloropropane
- D) Benzyl chloride

**Q57: Which of the following is an example of heterolytic cleavage?**

- A) C-Br bond breaking to give Br<sup>-</sup> and carbocation
- B) C-C bond homolysis
- C) Cl<sub>2</sub> splitting to radicals
- D) None

**Q58: Which haloalkane upon reaction with Zn and dry ether yields Wurtz product?**

- A) CH<sub>3</sub>Cl
- B) CH<sub>3</sub>Br
- C) Both
- D) Neither

**Q59: Which factor does \*not\* affect S<sub>N</sub>2 reaction rate?**

- A) Nature of substrate
- B) Strength of nucleophile
- C) Leaving group ability
- D) Solubility of product

**Q60: Which reaction involves backside attack on carbon bearing halogen?**

- A) S<sub>N</sub>1
- B) S<sub>N</sub>2
- C) E1
- D) E2

**Q61: The IUPAC name of CH<sub>3</sub>CH(Br)CH<sub>2</sub>CH<sub>3</sub> is:**

- A) 1-Bromobutane
- B) 2-Bromobutane
- C) 1-Bromopropane
- D) 2-Bromopropane

**Q62: Which of the following is an example of a \*voltage effect\* that favors anti-Markovnikov addition?**

- A) Peroxides in addition of HBr
- B) Heat with KOH(aq)
- C) Light with Br<sub>2</sub>
- D) Cold conditions

**Q63: Which reaction mechanism involves a \*backside attack\*?**

- A) S<sub>N</sub>1
- B) S<sub>N</sub>2
- C) E1
- D) E1cB

**Q64: Which is \*not\* a typical characteristic of haloarenes?**

- A) Undergo S<sub>N</sub>2 easily
- B) Bonded halogen to sp<sup>2</sup> carbon
- C) Less reactive than haloalkanes
- D) Require harsh conditions for substitution

**Q65: Which of the following is a \*tertiary haloalkane\*?**

- A)  $(CH_3)_3CBr$
- B)  $CH_3CH_2Br$
- C)  $CH_3CH(Br)CH_3$
- D)  $C_6H_5CH_2Br$

**Q66: Which reagent converts alcohols to haloalkanes with inversion of configuration?**

- A)  $PCl_5$
- B)  $SOCl_2 + \text{pyridine}$
- C)  $HCl / ZnCl_2$
- D)  $Br_2 / h\nu$

**Q67: Which of these halogen substituents is \*most reactive in SN1\*?**

- A)  $CH_3Cl$
- B)  $CH_3Br$
- C)  $CH_3I$
- D)  $CH_3F$

**Q68: Which of the following is an \*aryl halide\*?**

- A)  $C_6H_5Cl$
- B)  $CH_3CH_2Cl$
- C)  $CH_2Br_2$
- D)  $C_2H_5Br$

**Q69: Which reagent is needed for the Wurtz reaction?**

- A) Sodium in dry ether
- B)  $H_2/Pd$
- C)  $KOH(aq)$
- D)  $HBr$

**Q70: Which of the following undergoes \*E2 elimination\* readily?**

- A) tert-Butyl bromide with alcoholic KOH
- B) Methyl chloride with aqueous KOH
- C) Chlorobenzene with water
- D) Vinyl chloride with cold base

**Q71: Which of these is a \*geminal dihalide\*?**

- A)  $CH_2Cl-CH_2Cl$
- B)  $CHCl_2-CH_3$
- C)  $CH_3CH_2Cl$
- D)  $CCl_4$

**Q72: The mechanism in which a carbocation intermediate is formed is:**

- A)  $SN2$
- B)  $SN1$
- C)  $E2$
- D) Free radical substitution

**Q73: Which of the following will give an \*alcohol\* when hydrolyzed with aq. KOH?**

- A) CH<sub>3</sub>Br
- B) C<sub>6</sub>H<sub>5</sub>Br
- C) CH<sub>2</sub>=CHBr
- D) CH<sub>3</sub>CHBrCH<sub>3</sub>

**Q74: Fluorobenzene differs from other haloarenes in that it is:**

- A) More reactive in SN1
- B) Most reactive in SN2
- C) Less reactive generally
- D) Soluble in water

**Q75: Which type of carbon immediately attached to X in haloalkanes is sp<sup>3</sup> hybridized?**

- A) Aryl
- B) Alkyl
- C) Vinyl
- D) All of the above

**Q76: Which product is formed by elimination of HBr from 2-bromobutane with alcoholic KOH?**

- A) But-1-ene
- B) But-2-ene
- C) Butane
- D) 1-Bromobutane

**Q77: Which reagent does NOT typically replace -OH with -Cl?**

- A) PCl<sub>5</sub>
- B) SOCl<sub>2</sub>
- C) PBr<sub>3</sub>
- D) HCl/ZnCl<sub>2</sub>

**Q78: Benzyl chloride on reaction with NaCN gives:**

- A) Benzyl cyanide
- B) Benzoic acid
- C) Phenol
- D) Benzene

**Q79: Which reagent is used to prepare alkyl fluorides from alcohols?**

- A) HF/P<sub>2</sub>O<sub>5</sub>
- B) HCl
- C) HBr
- D) HI

**Q80: Which process describes the Wurtz reaction?**

- A) Coupling of alkyl halides
- B) Elimination of HX
- C) Hydrohalogenation of alkenes
- D) Free radical bromination

**Q81: When phenyl chloride reacts with hot alkali, it forms:**

- A) Phenol
- B) Chlorobenzene
- C) Benzene
- D) Aniline

**Q82: The general formula of haloalkanes is:**

- A)  $\text{C}_n\text{H}_{\{2n+2\}}\text{X}$
- B)  $\text{C}_n\text{H}_{\{2n\}}\text{X}$
- C)  $\text{C}_n\text{H}_{\{2n-2\}}\text{X}$
- D)  $\text{C}_n\text{H}_{\{2n+1\}}\text{X}$

**Q83: Which of these is educationally classified as a \*vinyl halide\*?**

- A)  $\text{CH}_2=\text{CHCl}$
- B)  $\text{C}_6\text{H}_5\text{Cl}$
- C)  $\text{CH}_3\text{Br}$
- D)  $\text{CH}_2\text{Br}_2$

**Q84: Which halide is most easily eliminated to give an alkene?**

- A) tert-Butyl bromide
- B) Methyl chloride
- C) Vinyl chloride
- D) Chlorobenzene

**Q85: Which process converts haloalkanes to hydrocarbons?**

- A) Reduction with  $\text{Zn}/\text{HCl}$
- B) Hydrolysis with  $\text{NaOH}(\text{aq})$
- C) Reaction with  $\text{NaCN}$
- D) Addition to alkenes

**Q86: What is the common name of  $(\text{CH}_3)_2\text{CHCl}$ ?**

- A) Isopropyl chloride
- B) Ethyl chloride
- C) Methyl chloride
- D) n-Propyl chloride

**Q87: Which of the following is an example of vinyl halide?**

- A)  $\text{CH}_2=\text{CHCl}$
- B)  $\text{C}_6\text{H}_5\text{CH}_2\text{Cl}$
- C)  $\text{CH}_3\text{CH}_2\text{Cl}$
- D)  $\text{CH}_2\text{Br}_2$

**Q88: Which of the following reagents is most suitable for preparing alkyl fluorides from alcohols?**

- A)  $\text{HF}/\text{P}_2\text{O}_5$
- B)  $\text{PCl}_5$
- C)  $\text{HBr}$
- D)  $\text{HCl}$

**Q89: Which of the following is NOT correct about haloarenes?**

- A) More reactive in SN2 than haloalkanes
- B) Halogen attached to sp<sup>2</sup> carbon
- C) Less reactive towards nucleophilic substitution
- D) Require harsh conditions for substitution

**Q90: Which of the following is a benzyl halide?**

- A) C<sub>6</sub>H<sub>5</sub>CH<sub>2</sub>Cl
- B) C<sub>6</sub>H<sub>5</sub>Cl
- C) CH<sub>3</sub>CH<sub>2</sub>Br
- D) CH<sub>3</sub>CH<sub>2</sub>CH<sub>2</sub>Cl

**Q91: What is the IUPAC name of CH<sub>2</sub>Cl<sub>2</sub>?**

- A) Dichloromethane
- B) Chloromethane
- C) Methane dichloride
- D) Methylene chloride

**Q92: Which of the following undergoes nucleophilic substitution by SN1 mechanism preferentially?**

- A) Benzyl chloride
- B) Ethyl chloride
- C) Chlorobenzene
- D) Methyl chloride

**Q93: Which haloalkane on elimination with alcoholic KOH gives predominantly but-2-ene?**

- A) 2-Bromobutane
- B) 1-Bromobutane
- C) tert-Butyl chloride
- D) Chlorobenzene

**Q94: Which of the following reacts fastest with aqueous AgNO<sub>3</sub> to give a precipitate?**

- A) CH<sub>3</sub>I
- B) CH<sub>3</sub>Br
- C) CH<sub>3</sub>Cl
- D) CH<sub>3</sub>F

**Q95: Which reagent is used in Grignard reagent preparation?**

- A) Dry ether
- B) Alcoholic KOH
- C) Aqueous NaOH
- D) Conc. HCl

**Q96: Which of the following is a polyhalogen compound often used as solvent?**

- A) Chloroform (CHCl<sub>3</sub>)
- B) Ethanol
- C) Cyclohexane
- D) Acetone

**Q97: Which of the following conditions does NOT favor SN1 reactions?**

- A) Polar protic solvents
- B) Tertiary haloalkanes
- C) Strong nucleophiles
- D) Stable carbocation

**Q98: Which of these compounds is least reactive towards SN2?**

- A) CH<sub>3</sub>Cl
- B) CH<sub>3</sub>Br
- C) CH<sub>3</sub>I
- D) tert-Butyl chloride

**Q99: In haloalkanes, the carbon attached to the halogen is always:**

- A) sp<sup>3</sup> hybridized
- B) sp<sup>2</sup> hybridized
- C) sp hybridized
- D) sp<sup>3d</sup>

**Q100: Which of the following haloalkanes on reaction with NaCN gives a nitrile?**

- A) CH<sub>3</sub>Br + NaCN
- B) C<sub>6</sub>H<sub>5</sub>Br + NaCN
- C) CH<sub>2</sub>=CHCl + NaCN
- D) Chlorobenzene + NaCN

**Q101: Which of the following does NOT undergo SN2 under normal conditions?**

- A) Methyl chloride
- B) 1-Bromopropane
- C) Chlorobenzene
- D) CH<sub>3</sub>CH<sub>2</sub>Br

**Q102: Which of the following haloalkanes gives predominantly an ether with sodium ethoxide?**

- A) CH<sub>3</sub>Br
- B) 2-Bromopropane
- C) 1-Chlorobutane
- D) Chlorobenzene

**Q103: Which reagent will replace halogen with OH in aromatic ring under harsh conditions?**

- A) Hot aqueous KOH
- B) Cold aq. NaOH
- C) NaBH<sub>4</sub>
- D) LiAlH<sub>4</sub>

**Q104: In haloalkane nomenclature, which type of halide has two halogens on adjacent carbons?**

- A) Geminal dihalide
- B) Vicinal dihalide
- C) Polyhalide
- D) Isohalide

**Q105: Which of the following will undergo elimination to form an alkene?**

- A) tert-Butyl bromide with alcoholic KOH
- B) Methyl chloride with water
- C) Vinyl chloride with cold base
- D) Chlorobenzene with aq. base

**Q106: Which halogen has the strongest C-X bond in haloalkanes?**

- A) F
- B) Cl
- C) Br
- D) I

**Q107: Which of the following is \*not\* a typical reagent to convert alcohols into haloalkanes?**

- A)  $\text{PCl}_5$
- B)  $\text{SOCl}_2$
- C) HBr
- D)  $\text{NaOH}(\text{aq})$

**Q108: Which of the following is an \*allylic halide\*?**

- A)  $\text{CH}_2=\text{CH}-\text{CH}_2\text{Br}$
- B)  $\text{CH}_3\text{CH}_2\text{Br}$
- C)  $\text{CH}_3\text{CHBrCH}_3$
- D)  $\text{C}_6\text{H}_5\text{Br}$

**Q109: Which of the following is true about haloalkanes' boiling points?**

- A) Increase with molecular mass
- B) Decrease with molecular mass
- C) Independent of molecular mass
- D) All are gases

**Q110: Which halide yields a Grignard reagent with Mg in dry ether?**

- A) Alkyl halide
- B) Aryl halide
- C) Vinyl halide
- D) All of the above

**Q111: Which of these reacts fastest in  $\text{S}_{\text{N}}2$ ?**

- A)  $\text{CH}_3\text{I}$
- B)  $\text{CH}_3\text{Br}$
- C)  $\text{CH}_3\text{Cl}$
- D)  $\text{CH}_3\text{F}$

**Q112: Which of the following reagents is used to test for halide ions by precipitating  $\text{AgX}$ ?**

- A)  $\text{AgNO}_3$
- B)  $\text{BaCl}_2$
- C)  $\text{FeCl}_3$
- D) Tollens' reagent

**Q113: Which haloalkane is most likely to undergo E1 elimination?**

- A) tert-Butyl chloride
- B) Methyl chloride
- C) 1-Chloropropane
- D) Vinyl chloride

**Q114: Which of the following is not a haloalkane or haloarene?**

- A) C<sub>6</sub>H<sub>5</sub>Cl
- B) CH<sub>3</sub>Cl
- C) CH<sub>3</sub>OH
- D) CH<sub>2</sub>Br<sub>2</sub>

**Q115: Which effective reagent forms ethers from haloalkanes?**

- A) RO-
- B) H<sub>2</sub>O
- C) Dil. HCl
- D) O<sub>2</sub>

**Q116: Which hybridization does the carbon attached to halogen have in haloalkanes?**

- A) sp
- B) sp<sup>2</sup>
- C) sp<sup>3</sup>
- D) none

**Q117: What is the product when CH<sub>3</sub>CH<sub>2</sub>Br reacts with NaOH (aq)?**

- A) Ethanol
- B) Ethene
- C) Ethane
- D) Diethyl ether

**Q118: Which haloarene reacts with hot NaOH to form phenol?**

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

**Q119: Which reagent is used for free radical halogenation of alkanes?**

- A) Cl<sub>2</sub> / hν
- B) NaOH(aq)
- C) Pd/H<sub>2</sub>
- D) SOCl<sub>2</sub>

**Q120: Which of the following is a \*vicinal dihalide\*?**

- A) CHCl<sub>2</sub>-CHCl<sub>2</sub>
- B) CH<sub>2</sub>Cl-CH<sub>3</sub>
- C) CH<sub>3</sub>CH<sub>2</sub>Cl
- D) C<sub>6</sub>H<sub>5</sub>Cl

**Q121: Which haloalkane can form stable carbocation readily aiding SN1?**

- A) tert-Butyl chloride
- B) CH<sub>3</sub>Cl
- C) CH<sub>3</sub>CH<sub>2</sub>Cl
- D) Vinyl chloride

**Q122: Which of the following alkanes upon chlorination can give optically active products?**

- A) 2-Butane
- B) Propane
- C) Butane
- D) Methane

**Q123: Which halide is least reactive towards SN2?**

- A) CH<sub>3</sub>F
- B) CH<sub>3</sub>Cl
- C) CH<sub>3</sub>Br
- D) CH<sub>3</sub>I

**Q124: People practice Haloalkanes & Haloarenes MCQs because they are present in which exam section?**

- A) Organic Chemistry - Reactions
- B) Inorganic Chemistry
- C) Physical Chemistry only
- D) Mathematics

**Q125: Hot alcoholic KOH converts haloalkanes to:**

- A) Alkenes
- B) Alcohols
- C) Alkanes
- D) Ethers