

Exercise 9.34 – Properties of halogenoalkanes

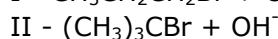
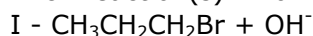
Q934-01 Which of the following types of reagents attack halogenoalkanes?

- A. oxidising agents
 - B. nucleophiles
 - C. electrophiles
 - D. reducing agents
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Q934-02 Which formula is that of a secondary halogenoalkane?

- A. $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{Br}$
 - B. $\text{CH}_3\text{CHBrCH}_2\text{CH}_3$
 - C. $(\text{CH}_3)_2\text{CHCH}_2\text{Br}$
 - D. $(\text{CH}_3)_3\text{CBr}$
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Q934-03 Which reaction(s) involve(s) the formation of a positive ion?



- A. I only
 - B. I and II only
 - C. Both I and II
 - D. Neither I nor II
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Q934-04 Which compound reacts fastest with water?

- A. $(\text{CH}_3)_3\text{CBr}$
 - B. $(\text{CH}_3)_3\text{CCl}$
 - C. $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{Br}$
 - D. $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{Cl}$
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Q934-05 Which molecule does not act as a nucleophile in a reaction with a halogenoalkane?

- A. Ethane
 - B. Ethanol
 - C. Ethylamine
 - D. Water
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Q934-06 What is the reaction type when $(\text{CH}_3)_3\text{CBr}$ reacts with aqueous sodium hydroxide to form $(\text{CH}_3)_3\text{COH}$ and NaBr

- A. Addition
 - B. Elimination
 - C. $\text{SN}1$
 - D. $\text{SN}2$
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Q934-07 The alkaline hydrolysis of primary halogenoalkane usually follows an $\text{SN}2$ mechanism. For which compound would the rate of hydrolysis be fastest?

- A. $\text{CH}_3\text{CH}_2\text{CH}_2\text{F}$
 - B. $\text{CH}_3\text{CH}_2\text{CH}_2\text{Cl}$
 - C. $\text{CH}_3\text{CH}_2\text{CH}_2\text{Br}$
 - D. $\text{CH}_3\text{CH}_2\text{CH}_2\text{I}$
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Exercise 9.34 – Properties of halogenoalkanes

Q934-08 What is the major product when an halogenoalkane is reacted with a large excess of ammonia

- A. An amine
 - B. An amide
 - C. A tetraalkyl ammonium halide
 - D. An alkene
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Q934-09 Which compound reacts most rapidly by a SN1 mechanism?

- A. $(\text{CH}_3)_3\text{CCl}$
 - B. $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{Br}$
 - C. $(\text{CH}_3)_3\text{CBr}$
 - D. $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{Cl}$
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Q934-10 Which statement about the reactions of halogenoalkanes with aqueous sodium hydroxide is correct?

- A. Primary halogenoalkanes react mainly by an SN1 mechanism
 - B. Chloroalkanes react faster than iodoalkanes
 - C. Tertiary halogenoalkanes react faster than primary halogenoalkanes
 - D. The rate of an SN1 reaction depends on the concentration of aqueous sodium hydroxide
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