



Professional 1-1 Chemistry Tuition

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ChemistryTuition.Net

Dr Simon Orchard

Halogenoalkanes Quiz

These slides may be downloaded at <https://www.chemistrytuition.net/>

1. Give the names of the following substances:



2. Write the displayed formulae for:

a. 2-bromo-2-methylpropane

a. 1-chloro-2-iodobutane

3.

a. Give the equation, using structural formulae, for the reaction of bromoethane with sodium hydroxide solution.

b. What mechanism does this reaction occur by?

c. Draw the mechanism out, using curly arrows.

d. Using this mechanism, define the term nucleophile.

e. The experiment was repeated using chloroethane. How would the rate of reaction differ from the reaction above? Explain why this rate change occurs.



Answers on
the way...

LET'S

1. Give the names of the following substances:



1-iodopropane

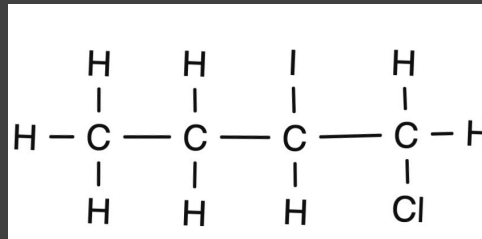
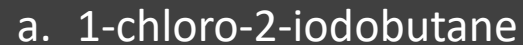
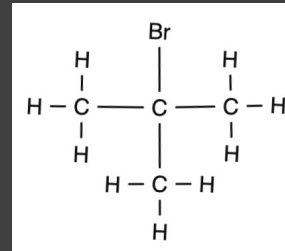
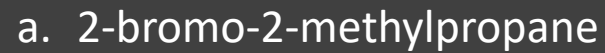


2,3-dichlorobutane



1-bromo-2-methylpropane

2. Write the displayed formulae for:

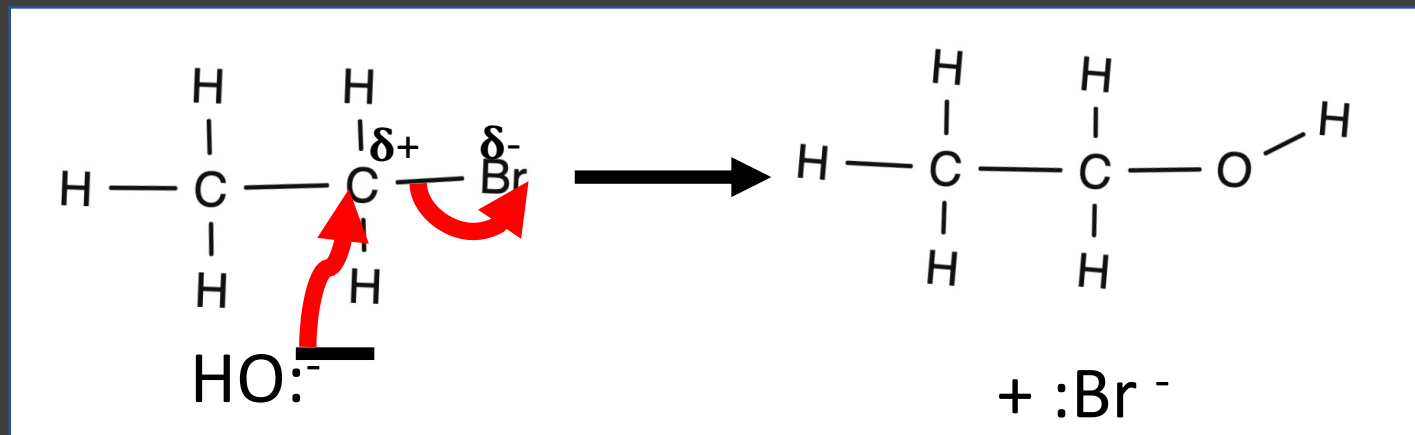


3.

- Give the equation, using structural formulae, for the reaction of bromoethane with sodium hydroxide solution.
- What mechanism does this reaction occur by?
- Draw the mechanism out, using curly arrows.



Nucleophilic Substitution



- Using this mechanism, define the term nucleophile.
- The experiment was repeated using chloroethane. How would the rate of reaction differ from the reaction above? Explain why this rate change occurs.

An electron pair donor. OH^- donates a pair of electrons to $\text{C}^{\delta+}$

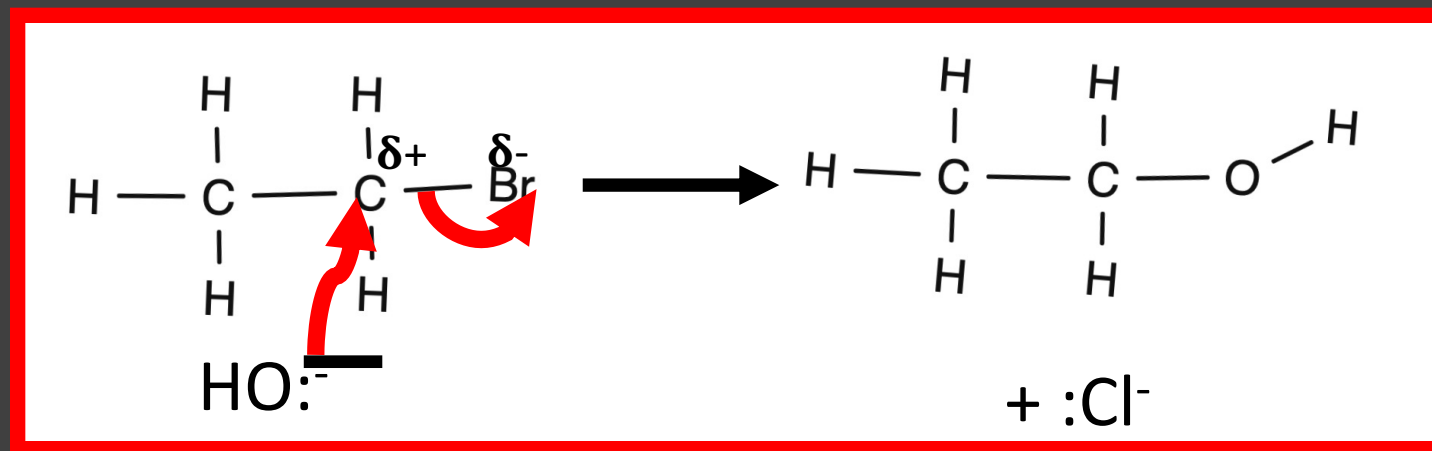
Slower, $\text{C}-\text{Cl}$ bond is shorter and stronger so requires more energy to break.

3.

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