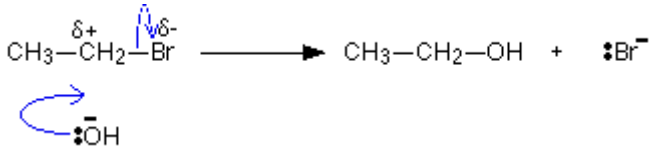
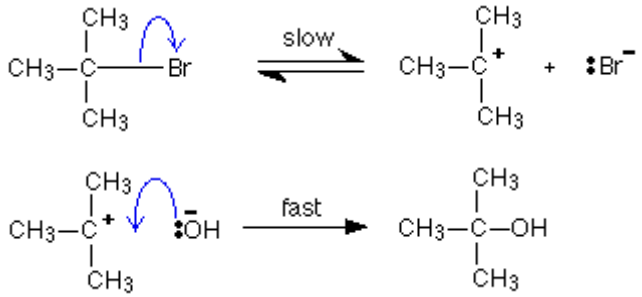
ARYL HALIDES: REACTIVITY

1. Halogenoalkanes (where the halogen atom is attached to a carbon chain) react with hydroxide ions in two different ways depending on what sort of halogenoalkane you have got.

   Primary halogenoalkanes react like this:



   Tertiary halogenoalkanes react in two stages like this:



   Secondary ones do a bit of both mechanisms.

   a) Both of these mechanisms are examples of nucleophilic substitution. What is nucleophilic substitution?

   b) Explain in words what is happening in the mechanism used by primary halogenoalkanes.

   c) Explain in words what is happening in the mechanism used by tertiary halogenoalkanes.

   d) Explain why chlorobenzene can't react with hydroxide ions using a mechanism similar to the one used by primary halogenoalkanes.

   e) Explain why chlorobenzene doesn't react with hydroxide ions using a mechanism similar to the one used be tertiary halogenoalkanes.