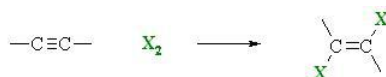


11.8: Addition of Halogen

Reaction: Halogenation of Alkynes

Summary:

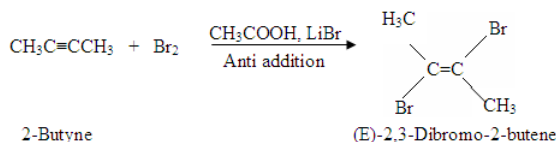


- Stereoslectivity: anti addition
- Reaction proceeds via cyclic halonium ion

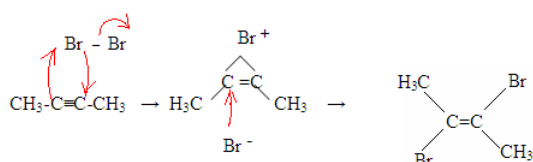
Addition of Br₂

- The addition of Br₂ to an alkyne is analogous to adding Br₂ to an alkene.
- Once Br₂ approaches the nucleophilic alkyne, it becomes polarized.
- The π electrons, from the triple bond, can now attack the polarized bromine forming a C-Br bond and displacing the bromine ion.
- Now, you will get an intermediate electrophilic carbocation, which will immediately react with the bromine ion giving you the dibromo product.

Figure 6



Mechanism:



First, you see the polarized Br₂ being attacked by the π electrons. Once you form the C-Br bond, the other bromine is released as a bromine ion. The intermediate here is a bromonium ion, which is electrophilic and reacts with the bromine ion giving you the dibromo product.

Contributors

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