

Maharaja College, Ara.
Chemistry department

Semester - II

Core Course - VIII

Organic Chemistry - II

by :

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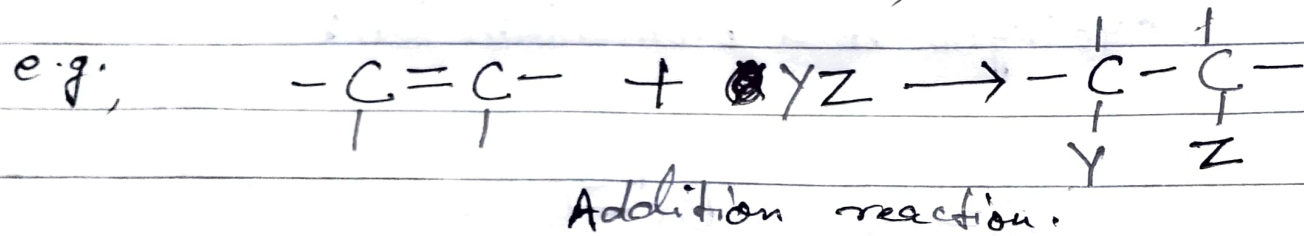
Unit - I Addition to Carbon - Carbon Multiple Bonds:

Introduction:

There are four types of reactions in Organic Chemistry.

1. Addition reaction.
2. Elimination reaction.
3. Substitution reaction.
4. Rearrangement reaction.

Let us know about the Addition reaction, particularly addition to Carbon-Carbon multiple bonds. The double bond consists of a strong σ (sigma) bond and a weak π (pi) bond;

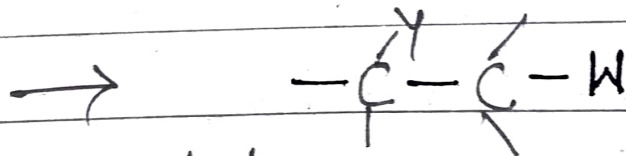
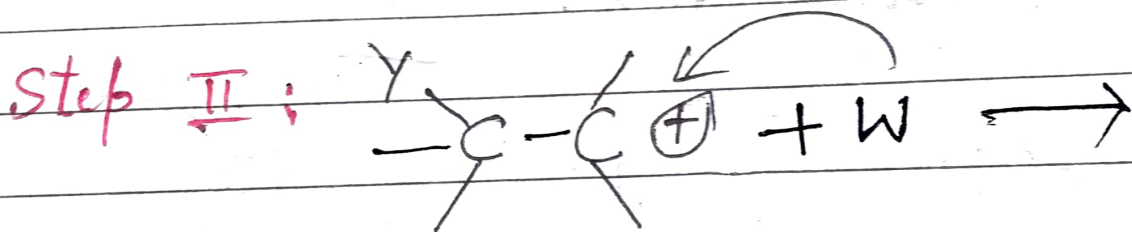
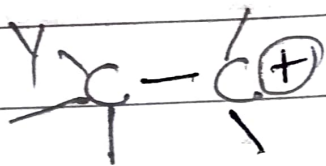
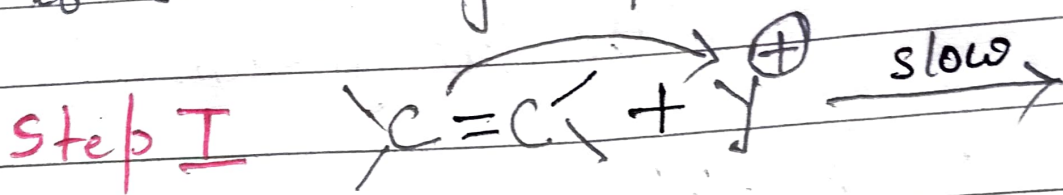


"The reaction in which two molecules combine to yield a single molecule of product is called an addition reaction."

Mechanism and stereochemical aspects of the addition reactions involving electrophiles.

In this type of mechanism, a positive species (electrophile) approaches the double or triple bond.

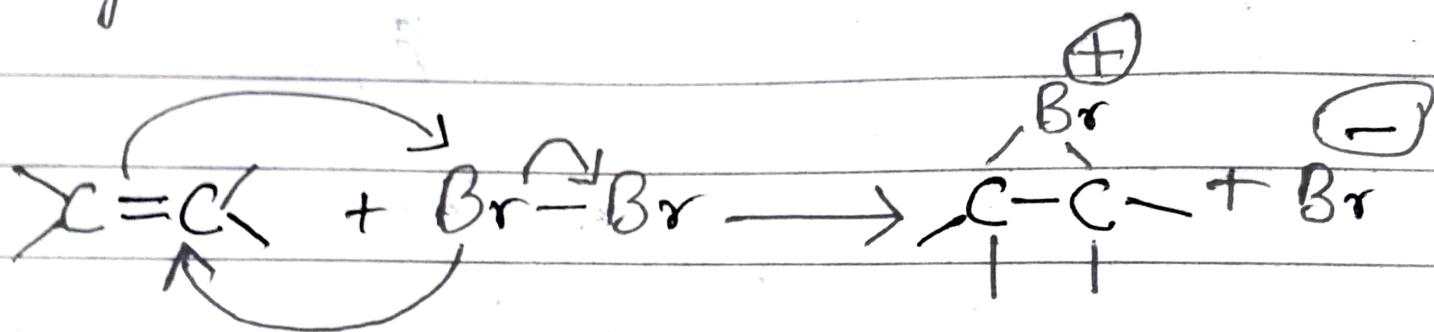
and in the first step forms a bond by donation of the pair of pi (π) electrons to the electrophilic species to form a sigma pair as follows:



In the second step intermediate formed in the first step combines with the species (W) carrying an electron pair, generally, it is negatively charged.

In bromination: The intermediate

formed in first step, very rapidly cyclizes to a bromonium ion:



In ~~both~~ both the cases, the mechanism is called electrophilic addition, bimolecular.

~~X~~

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