

Study Notes On Baeyer Villiger Oxidation





BAEYER VILLIGER OXIDATION

Baeyer Villiger oxidation can also be termed as Baeyer Villiger Rearrangement or Baeyer-Villiger reaction.

It is an oxidative cleavage of C-C bond adjacent to carbonyl. This reaction involves conversion of a ketone to an ester by insertion of an oxygen atom next to the carbonyl.

It may also lead to formation of lactone from a cyclic ketone using peroxides or peroxyacids as the oxidant.

The reaction involves initial addition of a peroxide to the carbonyl carbon. The resulting addition product (adduct) undergoes rearrangement to form an ester; due to which it is known as Baeyer Villiger Rearrangement.

Reagent Used: This reaction is carried out in presence of mCPBA, or hydrogen peroxide and lewis acid, or TFAA/ TFA

General Reaction-

Reaction Mechanism-



$$\begin{array}{c} & & & \\ & &$$

Note:

- **1.** It shows retention in configuration).
- **2.** The regiospecificity of the reaction depends on the relative migratory ability of the substituents attached to the carbonyl.



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