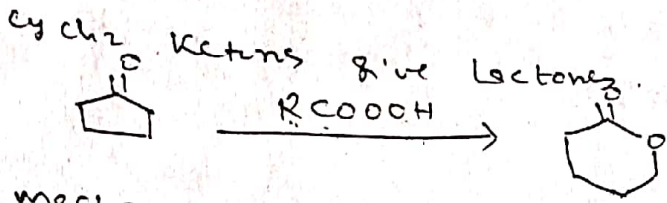
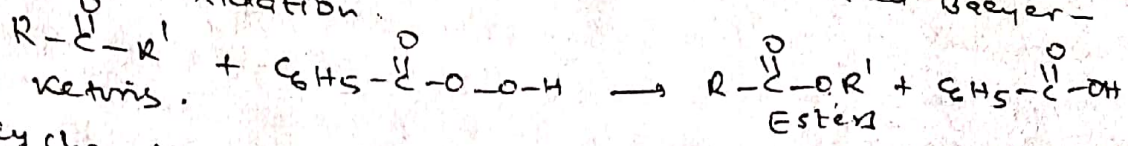


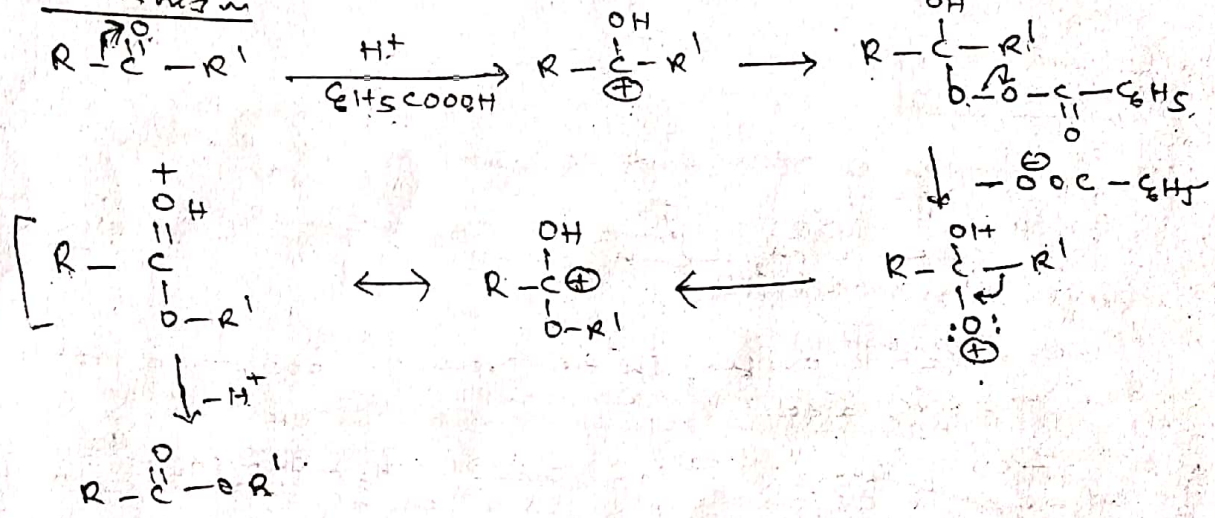
Baeyer-Villiger Oxidation

(6)

Oxidation of ketones to esters with peracids such as perbenzoic acid, peracetic acid etc is called Baeyer-Villiger oxidation.



Mechanism



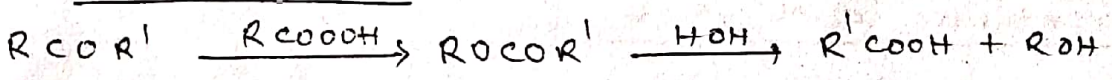
produced can be easily hydrolysed. This divides the molecule into two fragments for easier identification.

The rate of reaction is accelerated by electron-donating groups in the ketone and any electron-withdrawing group in the peracids.

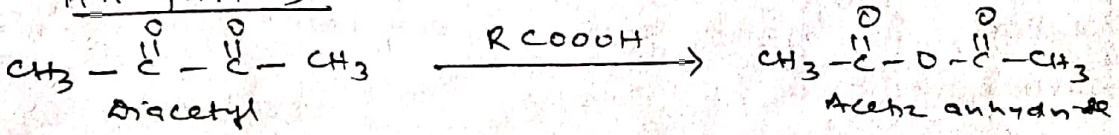
Applications

1) Baeyer-Villiger oxidation is frequently used for the synthesis of many following types of compounds —

(a) Esters to Acids

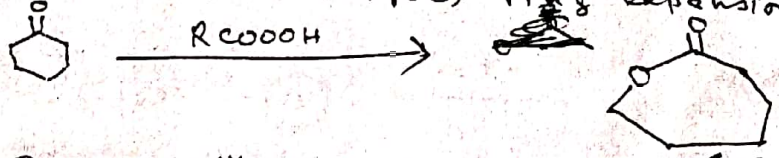


(b) Anhydrides



(c) Lactones

cyclic ketones undergoes ring expansion with peracid



(ii) The Baeyer-Villiger rearrangement is also useful in the degradation of organic molecules for proof of structure. This is because a carbon-carbon bond is broken and the ester