

Get Ready to Crack CSIR-NET 2021

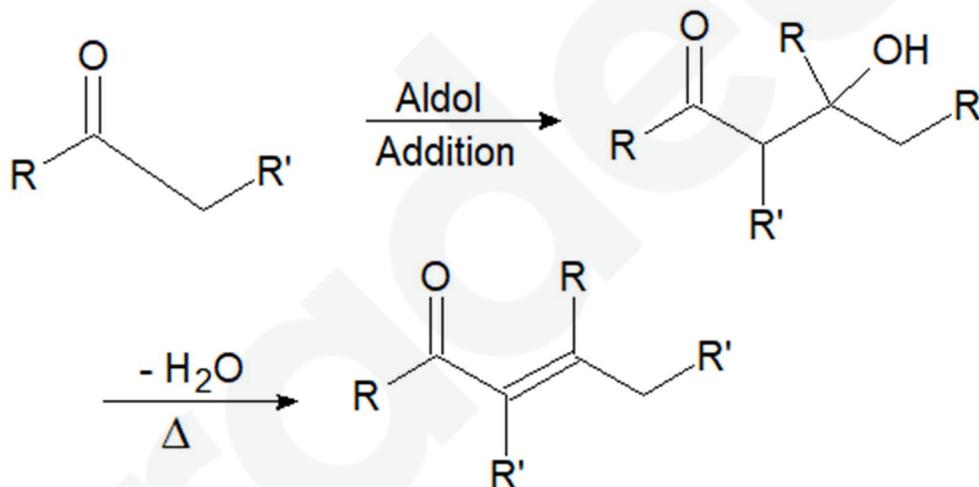
(Study Notes on Common
Reactions and
Rearrangements)



Common name reactions

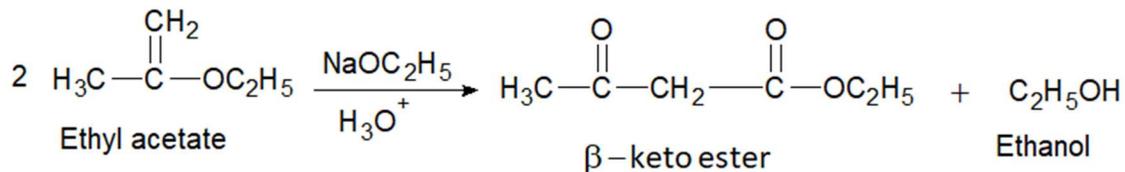
1. Aldol condensation:

It is a condensation reaction between enol and carbonyl compounds in which formation of β -hydroxyaldehyde or β -hydroxyketone takes place followed by dehydration in order to give a conjugated enone.



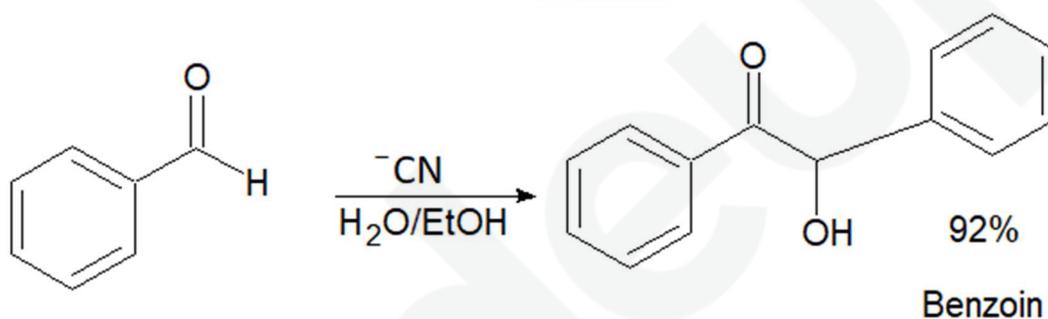
2. Claisen-Ester Condensation:

It is a reaction between two esters or one ester and carbonyl compound that takes place in the presence of a base in order to produce β -keto ester or β -diketone.



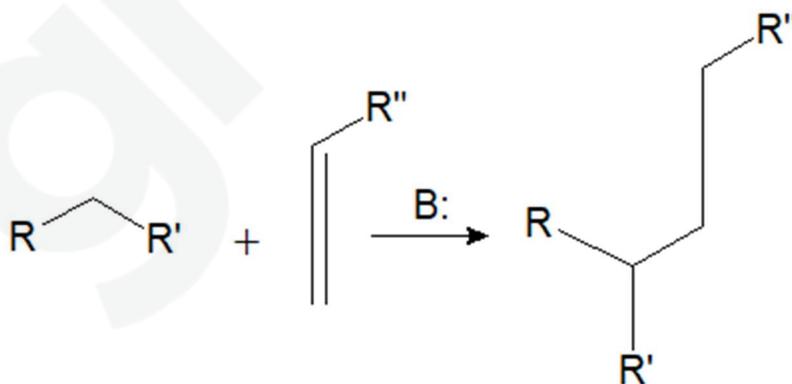
3. Benzoin condensation:

It is a type of a coupling reaction in which formation of α-hydroxyketones from two aldehydes.



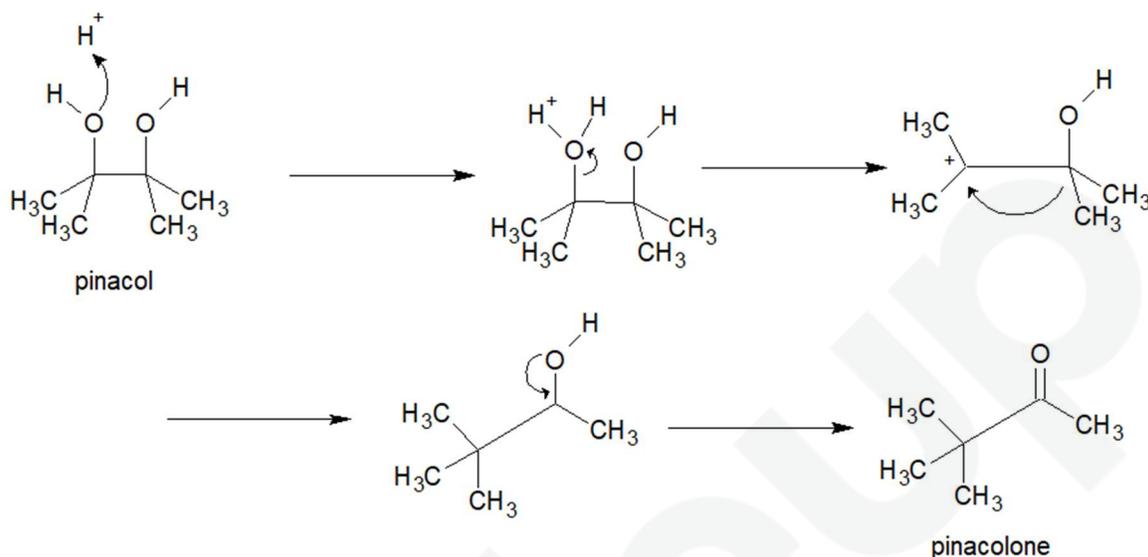
4. Michael Addition:

It is a type of 1,4- addition reaction in which addition of Nu to β carbon of carbonyl takes place while hydrogen gets added to α carbon of carbonyl.



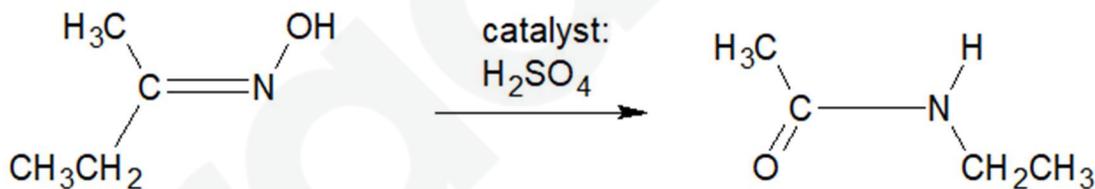
5. Pinacol-Pinacolone rearrangement:

In this rearrangement, conversion of 1,2-diols to carbonyl compounds takes place. When the condition is acidic, reaction proceeds through 1,2 rearrangement.



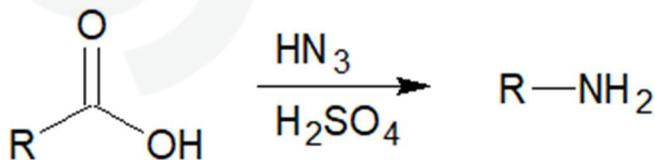
6. Beckmann rearrangement:

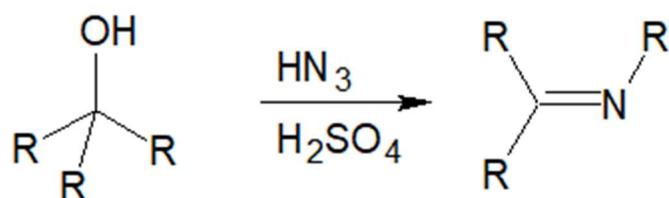
In this, formation of amides takes place from the acid catalyzed of oximes.



7. Schmidt reaction:

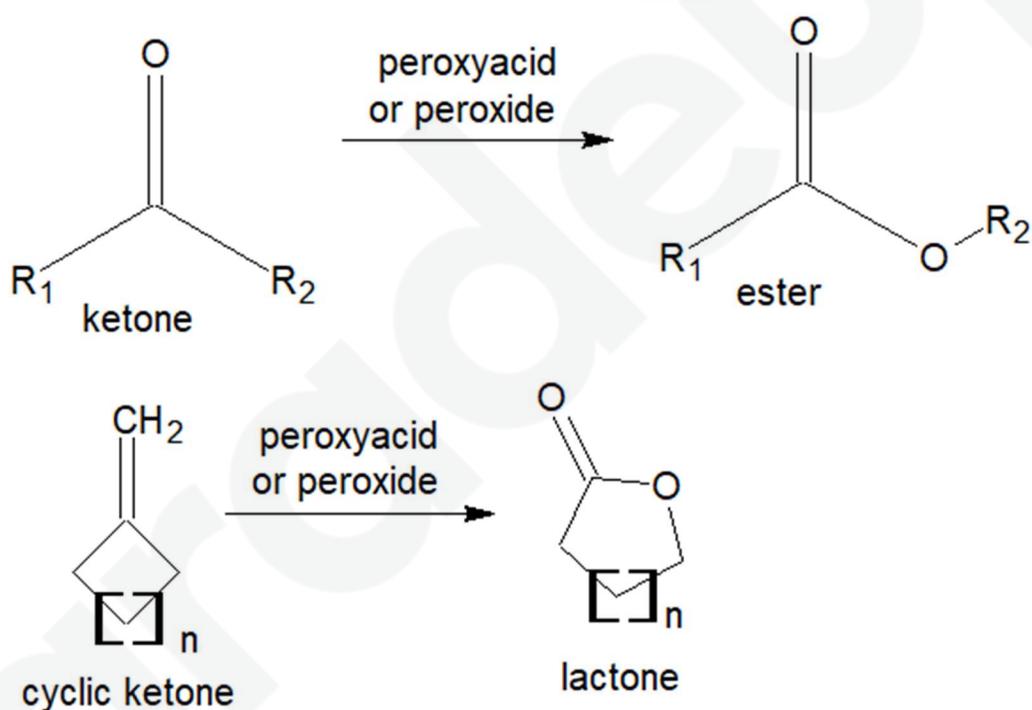
In this, reaction between azide and carbonyl derivative takes place under acidic condition which results in the formation of amine or amide.





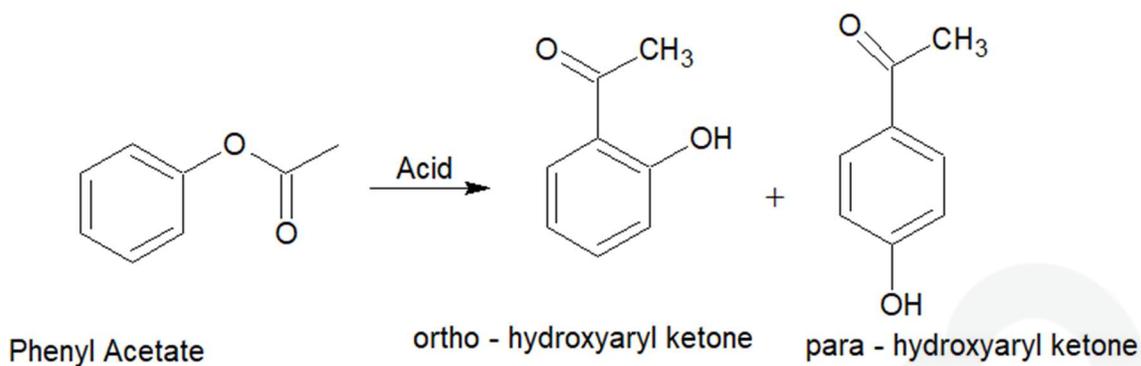
8. Baeyer-Villiger Oxidation:

In this, ketones get converted to esters while cyclic ketones to lactones. This reaction proceeds in the presence of peracids and a Lewis acid.



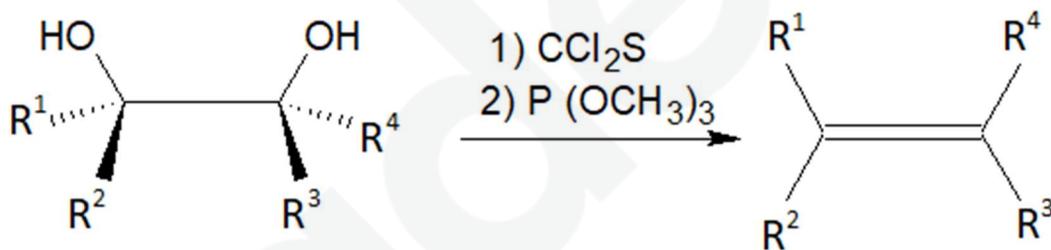
9. Fries rearrangement:

In this, formation of hydroxyaryl ketone takes place from phenolic esters in the presence of a catalyst.



10. Corey-Winter Olefination synthesis:

In this, formation of alkene takes place by the conversion of 1,2-diol. It involves the formation of a cyclic thiocarbonate.



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