

Answer on Question #53794 – Chemistry – Organic Chemistry

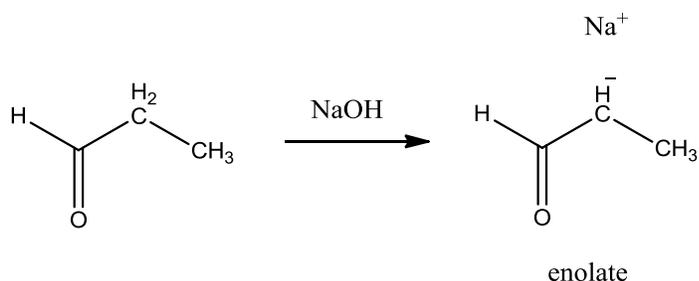
Question

Explain aldol condensation with suitable examples.

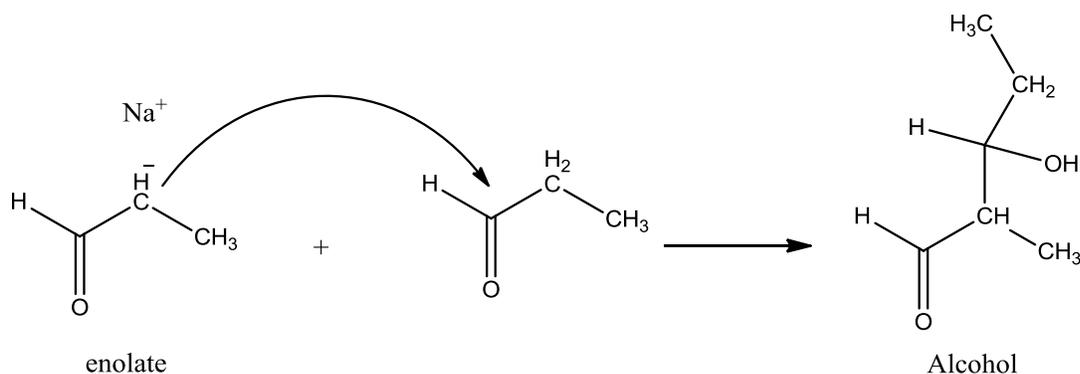
Answer:

Aldol reaction is the nucleophilic addition of enolate to carbonyl compound resulting in formation of alcohol, that undergoes dehydration forming enone under basic/acidic conditions or heating. The last step is called aldol condensation.

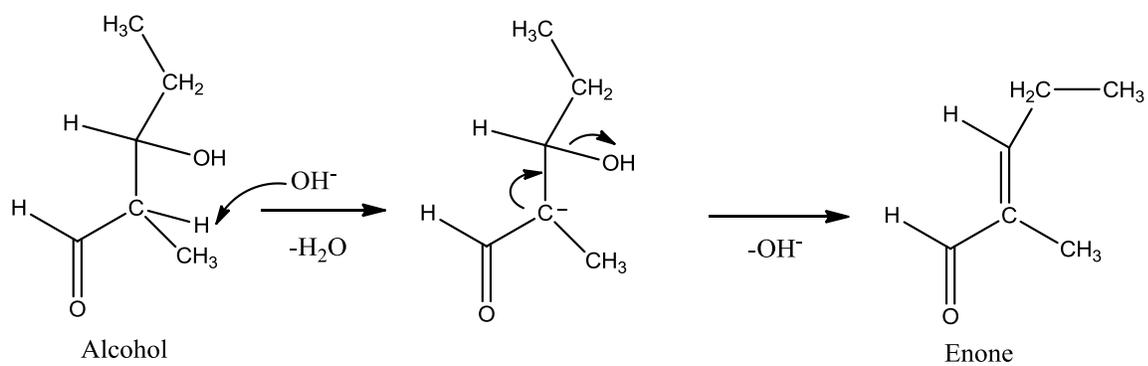
Enolate is produced by addition of catalytic amount of strong base to aldehyde or ketone:



This strong nucleophilic agent attacks electrophilic carbonyl group of aldehyde producing alcohol:



The water molecule can be eliminated from the product, which is conditioned by the formation of conjugated system of two double bonds:



The total reaction can be depicted:

