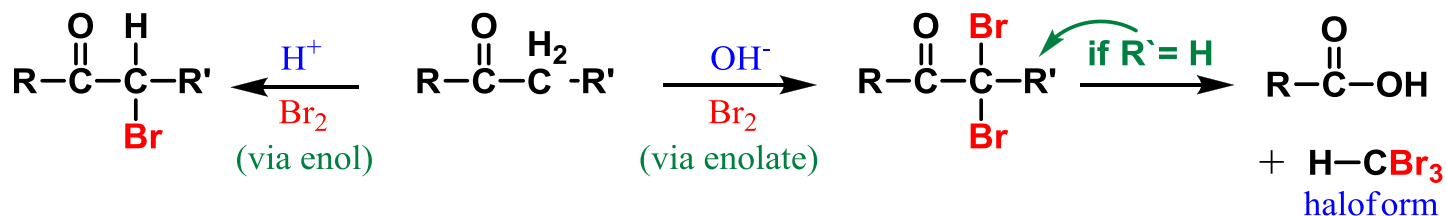
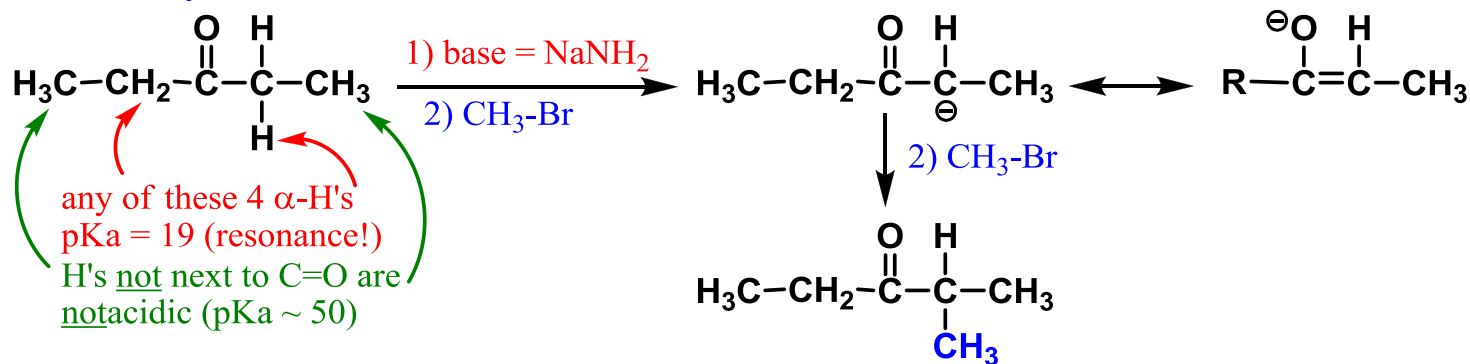


## Overheads: - Outline

## Recap Wednesday: Halogenations of Enols/Enolates



## B) Alkylation of Enolates

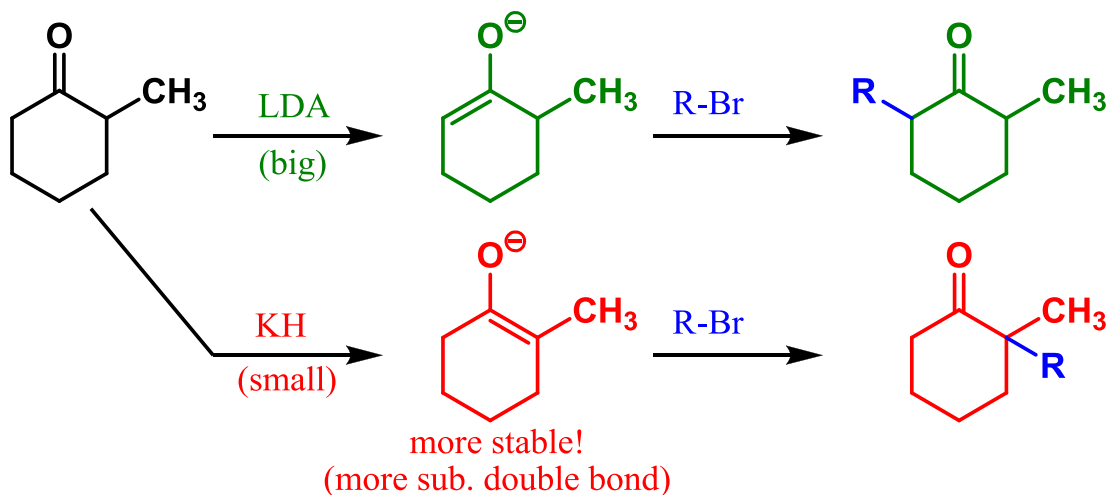


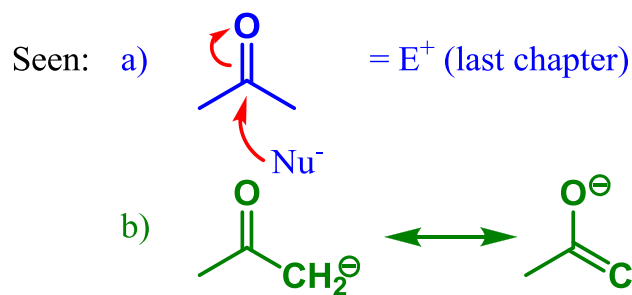
## Note on bases:

$\text{OH}^-$   $\text{pK}_a(\text{H}_2\text{O}) = 15 \rightarrow$  only deprotonates small fraction (1/10000)

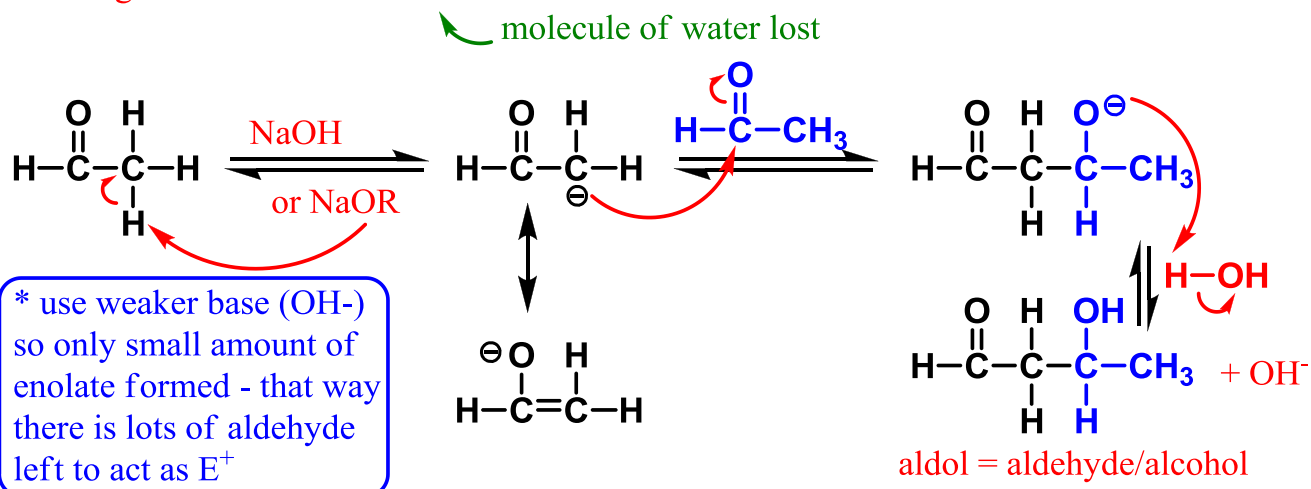
$\text{NH}_2^- / \text{NR}_2^-$   $\text{pK}_a(\text{NH}_3) = 35 \rightarrow$  deprotonates all

LDA (lithium diisopropylamide) =  $\text{Li}^+ \ominus \text{N} \begin{array}{c} \diagup \\ \diagdown \end{array} = \text{bulky base}$

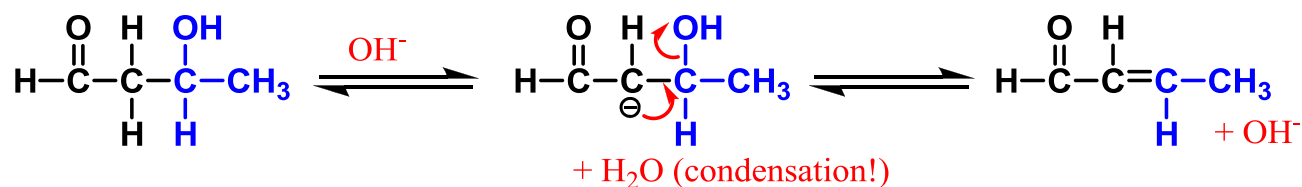




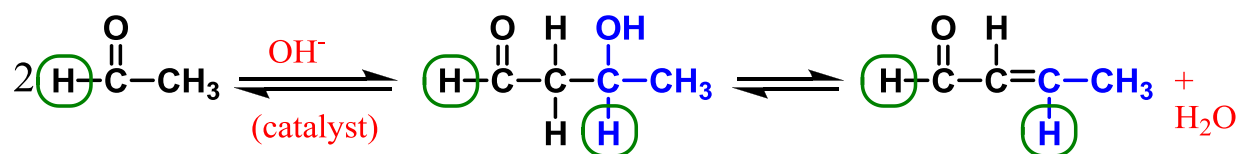
Put it together: ALDOL Condensation



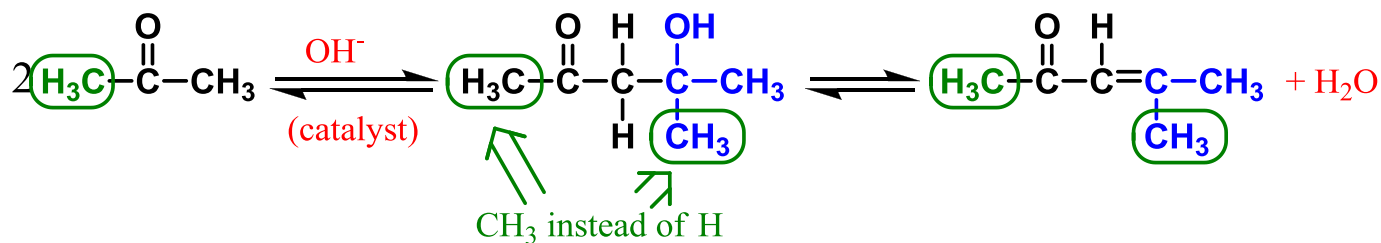
THEN: aldol easily loses H<sub>2</sub>O if heated:



Overall:

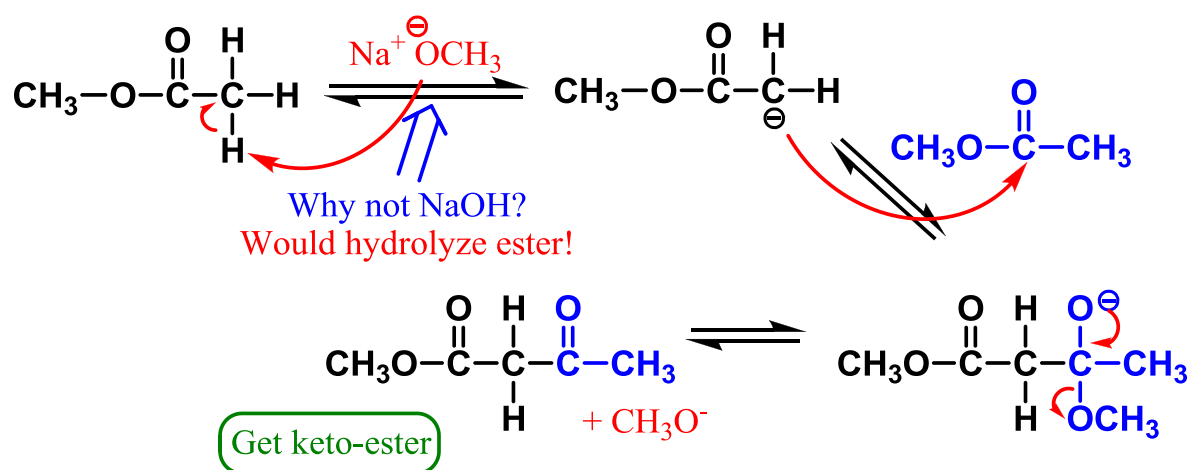


Note: Same reaction works with ketones:



\*\*Except under special circumstances, must always add two of same ketone/aldehyde or get mixtures!

## Similar Reaction for esters: Claisen Condensation



*The End*