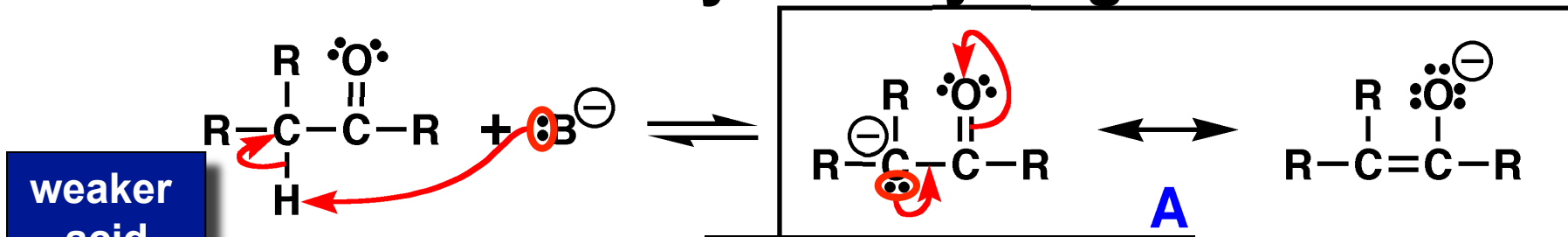
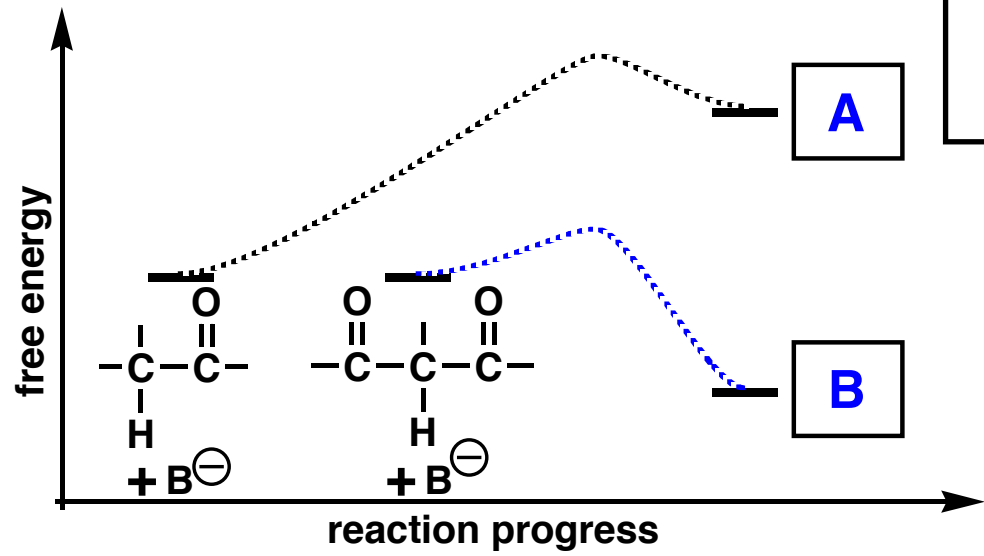
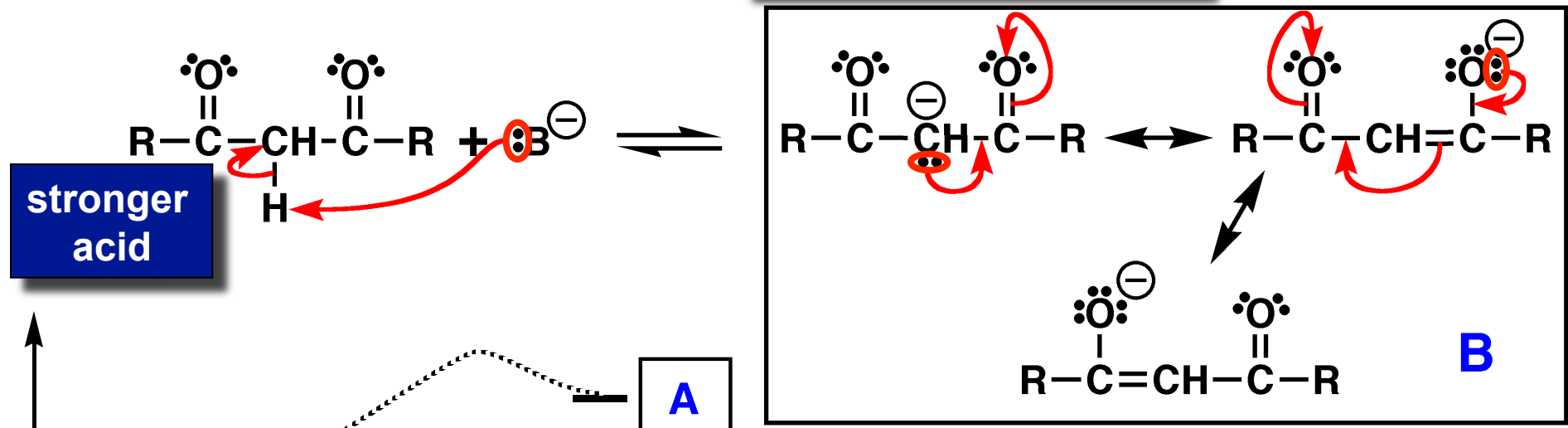


On the Acidity of α -Hydrogen



Negative charge better delocalized in B than A



C_α -H acidity correlates to the stability of the conjugate base. The more stable the conjugate base, the stronger the acid.



pKa Values of Some Carbon Acids

	pK _a		pK _a
$\begin{array}{c} \text{O} \\ \parallel \\ \text{CH}_2\text{CN}(\text{CH}_3)_2 \\ \\ \text{H} \end{array}$	30	$\begin{array}{c} \text{N}\equiv\text{CCHC}\equiv\text{N} \\ \\ \text{H} \end{array}$	11.8
$\begin{array}{c} \text{O} \\ \parallel \\ \text{CH}_2\text{COCH}_2\text{CH}_3 \\ \\ \text{H} \end{array}$	25	$\begin{array}{c} \text{O} \quad \text{O} \\ \parallel \quad \parallel \\ \text{CH}_3\text{CCHCOCH}_2\text{CH}_3 \\ \\ \text{H} \end{array}$	10.7
$\begin{array}{c} \text{CH}_2\text{C}\equiv\text{N} \\ \\ \text{H} \end{array}$	25	$\begin{array}{c} \text{O} \quad \text{O} \\ \parallel \quad \parallel \\ \text{C}_6\text{H}_5\text{CCHCCH}_3 \\ \\ \text{H} \end{array}$	9.4
$\begin{array}{c} \text{O} \\ \parallel \\ \text{CH}_2\text{CCH}_3 \\ \\ \text{H} \end{array}$	20	$\begin{array}{c} \text{O} \quad \text{O} \\ \parallel \quad \parallel \\ \text{CH}_3\text{CCHCCH}_3 \\ \\ \text{H} \end{array}$	8.9
$\begin{array}{c} \text{O} \\ \parallel \\ \text{CH}_2\text{CH} \\ \\ \text{H} \end{array}$	17	$\begin{array}{c} \text{O} \quad \text{O} \\ \parallel \quad \parallel \\ \text{CH}_3\text{CCHCH} \\ \\ \text{H} \end{array}$	5.9
$\begin{array}{c} \text{CH}_3\text{CHNO}_2 \\ \\ \text{H} \end{array}$	8.6	$\begin{array}{c} \text{O}_2\text{NCHNO}_2 \\ \\ \text{H} \end{array}$	3.6

From Paula Y. Bruice *Organic Chemistry* 4th Ed.

Conjugate addition

How conjugation changes the reactivity of carbonyl groups

Electrophilic addition to alkenes

Enolisation

Diels-Alder reactions

Direct conjugate addition with enols

Nucleophilic substitution

Conjugate addition of enolates

Elimination

Robinson annelation

Electrophilic aromatic

Dimedone synthesis

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