Reactivity of Alpha Hydrogens

The alpha carbon is the first carbon atom attached to a functional group, such as a carbonyl. The carbonyl group makes the alpha hydrogen (the hydrogen on the alpha carbon) slightly acidic via a resonance stabilization mechanism. This results in several different reactions of note.

Acetoacetic Ester Synthesis

Acidity of Alpha Hydrogens & Keto-enol Tautomerism

Aldol Reaction
Malonic Ester Synthesis

Michael Additions & Robinson Annulation

Synthesis of Enols and Enolates