Direct vs. Conjugate Addition

Nucleophiles that are weak bases tend to give conjugate addition products.
Nucleophiles that are strong bases tend to give direct addition products.

C=O addition - loss of carbonyl oxygen

- Conjugate addition
- Electrophilic addition to alkenes
- Diels-Alder reactions
- Nucleophilic substitution

Understanding Direct vs. Conjugate Addition (Kinetic vs. Thermodynamic Control)

- Conjugate addition **is** irreversible
- Direct addition **may be** reversible
- Direct addition is **faster** than conjugate

Whether or not direct addition is reversible depends on the ability of the -Nu to act as a good **leaving group**. (More about this in the next lesson)