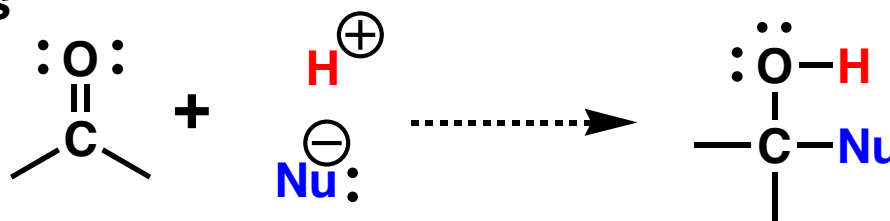


Types of Carbonyl Reactions

I. Addition reactions

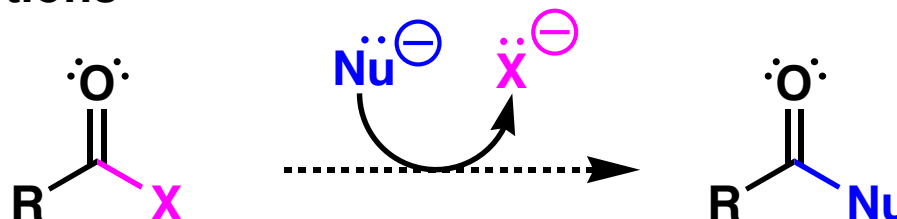
Here the carbonyl serves as an electrophile



The elements of “Nu-H” add across the C=O double bond

II. Substitution reactions

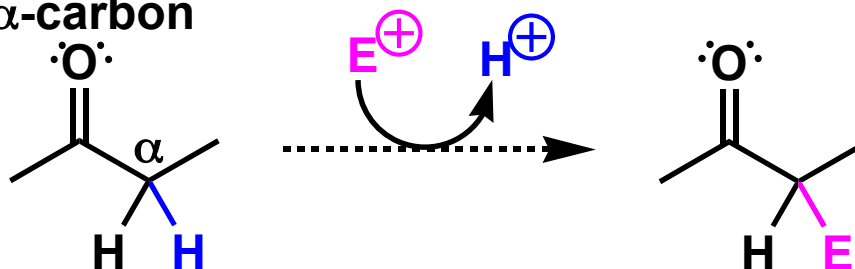
Here the carbonyl serves as an electrophile and “X” is a leaving group.



The “X” group is replaced by the “Nu” group. This is substitution at an sp² carbon.

III. Reactions at the α -carbon

Here the carbonyl serves as a nucleophile following deprotonation.



Overall result is substitution of -H at the α -carbon by -E.

