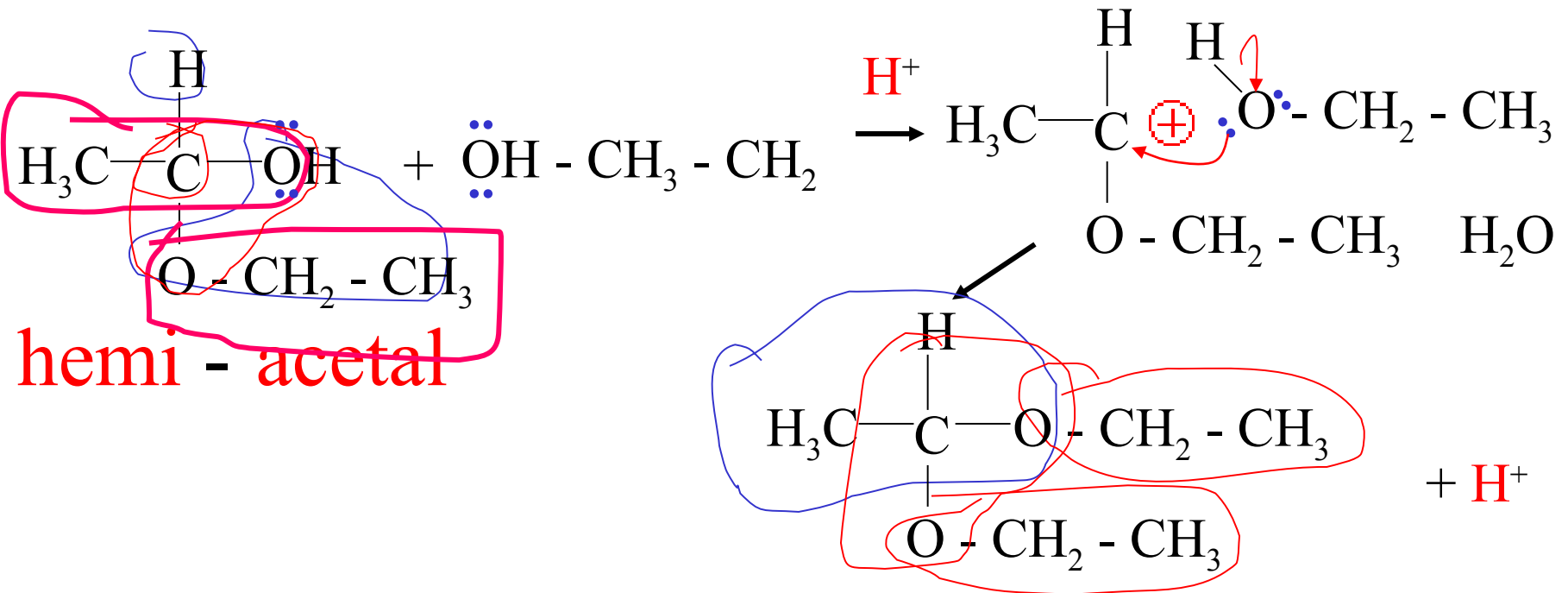


Nucleophilic substitution



aldehyde + alcohol + alcohol \longrightarrow acetal

condensation reaction

hemi-acetal + alcohol \longrightarrow acetal + H_2O