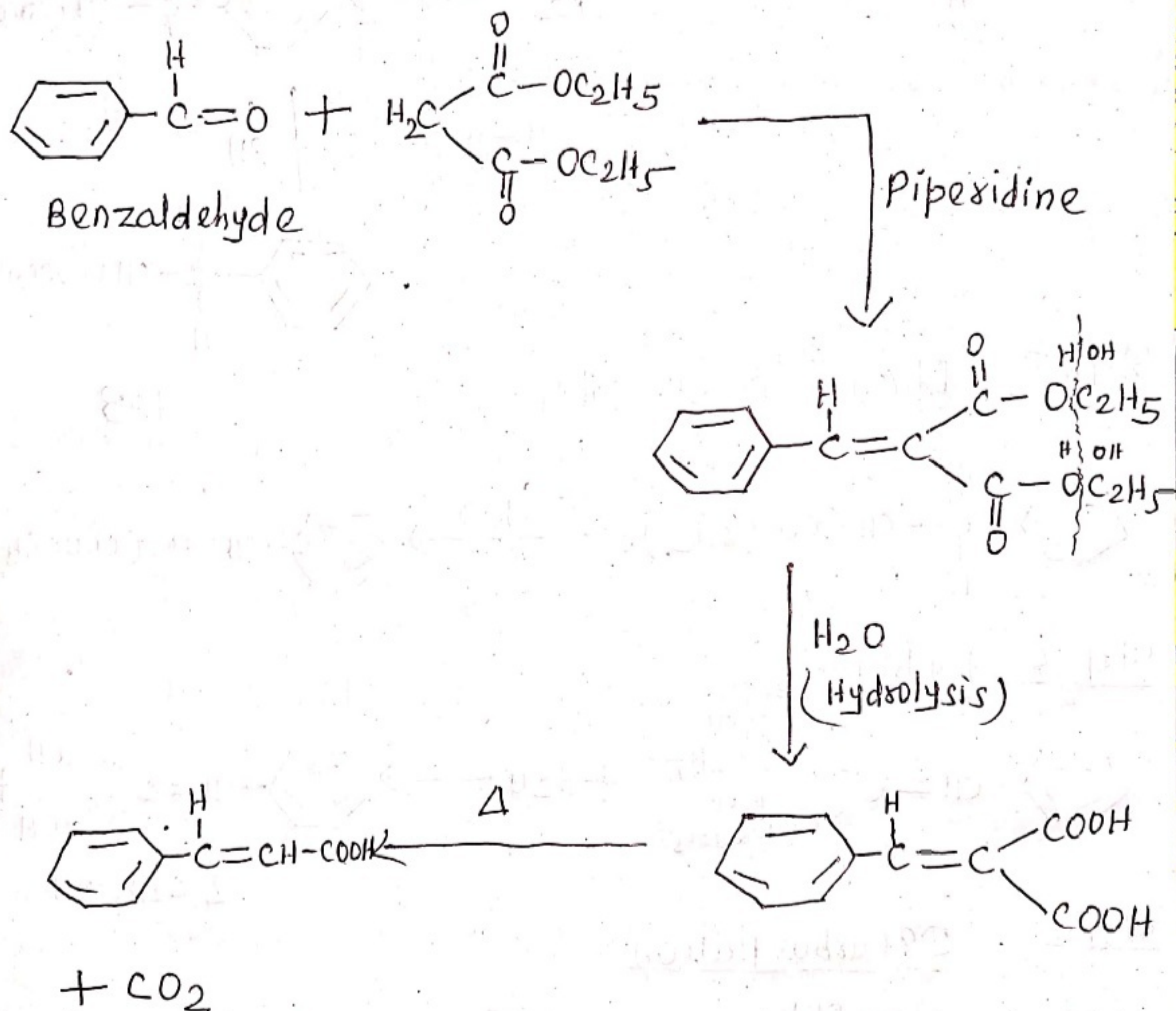
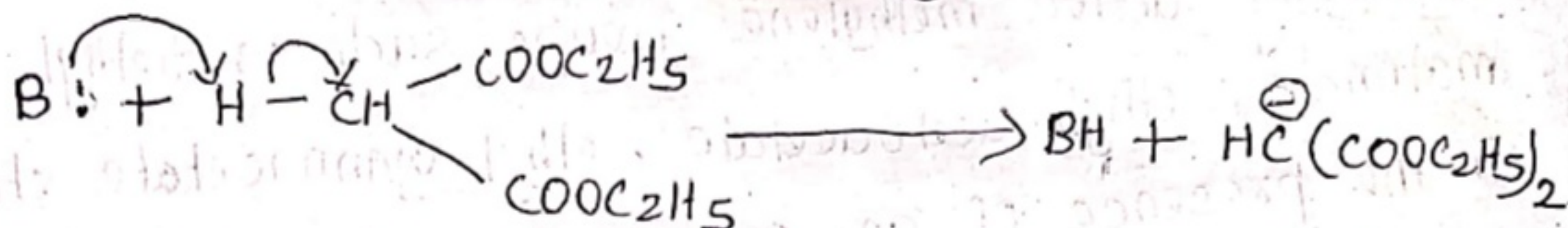
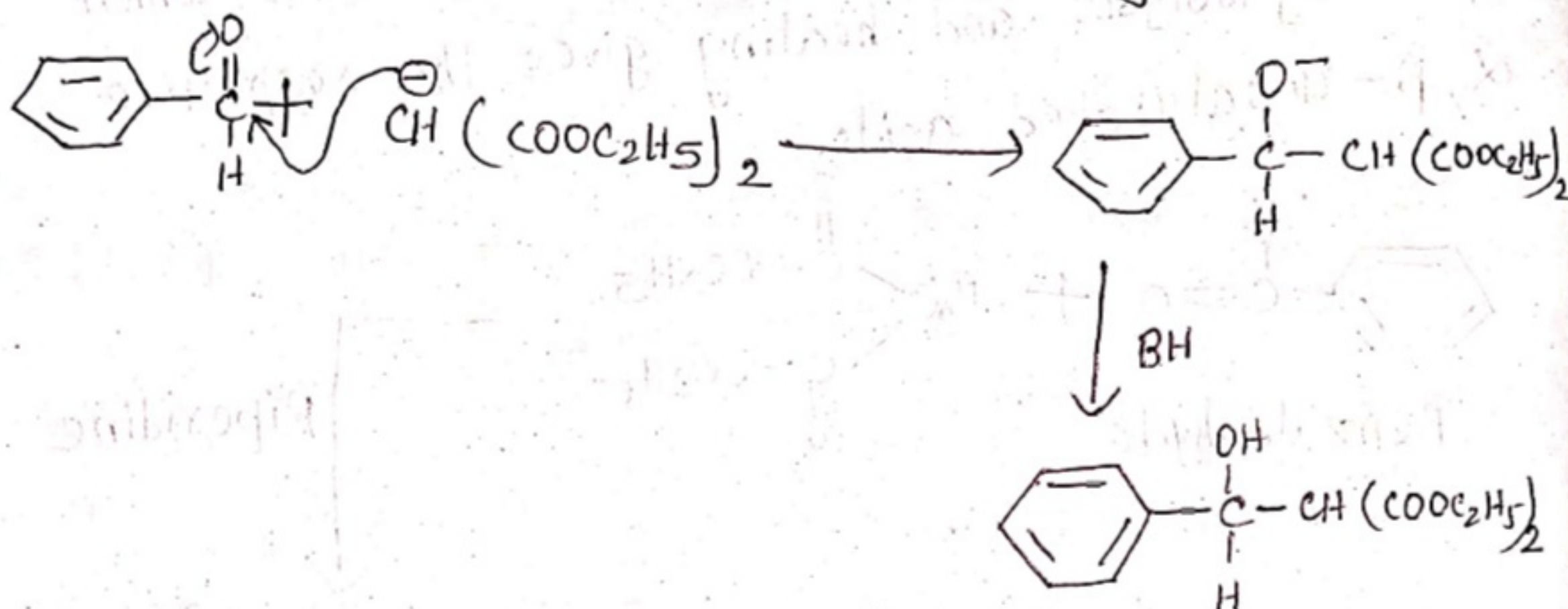


## (Lecture-5)

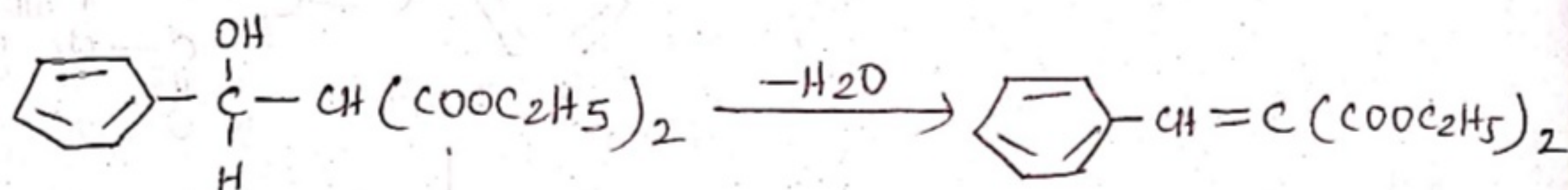
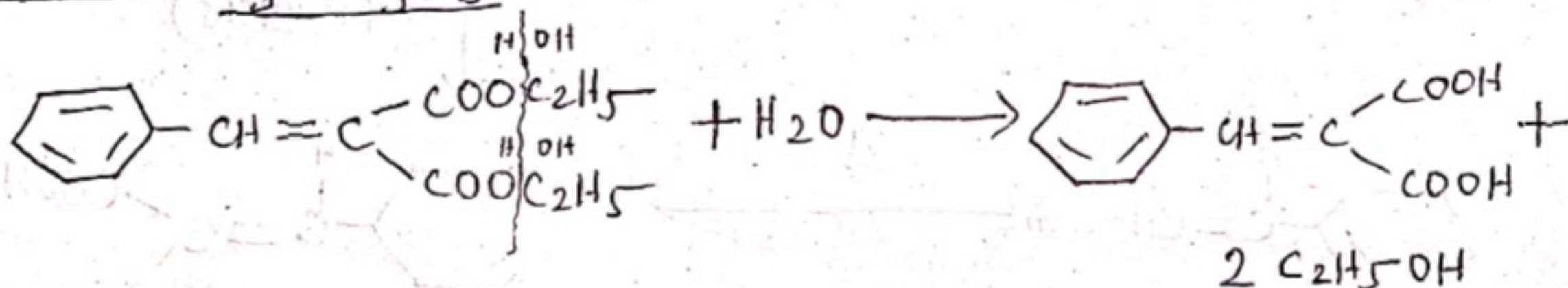
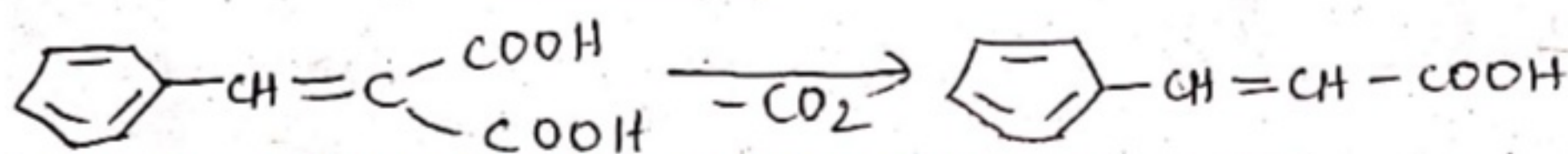
Benzaldehyde undergoes condensation with substances containing active methylene groups such as diethyl malonate, ethyl acetoacetate, ethyl cyanoacetate etc, in the presence of an organic base (piperidine, pyridine) to form  $\alpha, \beta$ -unsaturated esters which upon hydrolysis and heating gives the respective  $\alpha, \beta$ -unsaturated acids.





Step: 1Proton abstraction by base (B).Step: 2Nucleophilic attack at the carbonyl carbon.Step: 3Elimination of water; -

+ B

Step: 4HydrolysisStep: 6Decarboxylation**To be continued in next lecture... Cinnamic Acid.**