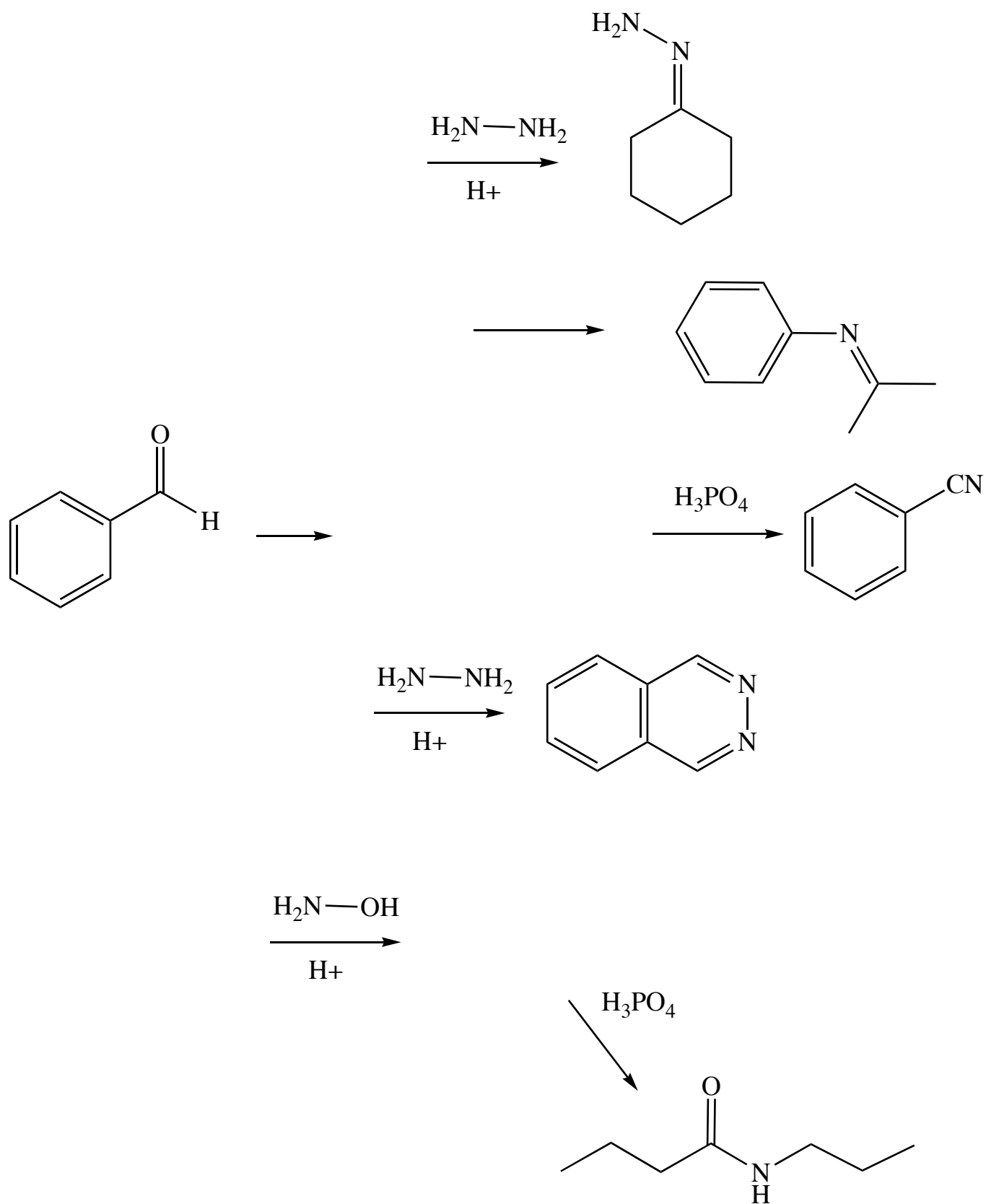


Exercise 103 - C=N Formation

Question One

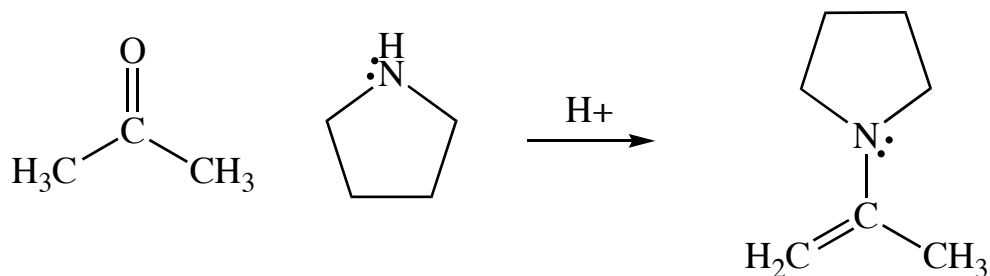
Fill in the missing product or reactant.



Question Six

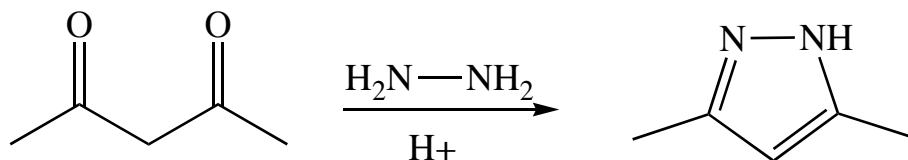
The following shows the reaction of acetone and pyrrolidine to give a molecule known as an enamine. Give a mechanism for its formation.

ii) Enamines are nucleophilic, the nucleophilic atom being the CH₂ of the C=C bond. Show a resonance structure of the enamine which help rationalize this.



Question Two

i) Give a mechanism for the following reaction:



ii) When the product is protonated, which N atom gets the proton? The product is unusually basic. Why? Hint: how do we rationalize the acidity of carboxylic acids?