STUDIES ON THE VILSMEIER - HAACK REACTION
REACTION OF SUBSTITUTED ACETOPHENONE OXIMES

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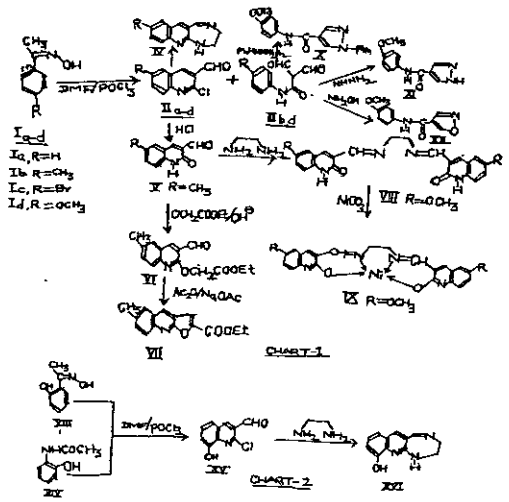
p-Substituted acetophenone oximes (Ia-d) have been converted into 2-chloroquinoline-3-carbaldehyde(II) and N-aryl-2-formyl-3-hydroxyacrylamides (III) by the action of vilsmeier-Haack reagent using excess of $POCl_3$. The



reaction involves Beckmann rearrangement of oxime with migration of aryl group to give acetanilides <u>in situ</u> followed by Vilsmeier-Haack reaction to give the products. These versatile synthetic intermediates have been used to synthesize different heterocyclic compounds (chart 1) such as diazepines (IV), linear furoquinoline (VII), Schiff bases (VIII) as chelating agents, pyrazoles (X-XI) and isoxazole (XII) derivatives. O-Hydrozyacetophenone oximes and o-acetaminophenol has been converted into 2-chloro-8-hydroxy-quinoline-3-carbaldehyde (XV) by the action of Vilsmeier-Haack reagent in one step. This in turn converted into diazepine (XVI) by reaction with ethylenediamine. (chart 2).