

A B S T R A C T

Abstract of this dissertation entitled " KINETIC STUDY OF THE OXIDATION OF HYDRAZIDES" which has been submitted by Mr.M.D.Mali to the Shivaji University, Kolhapur for the award of the degree of "Master of Philosophy in Chemistry", is given below.

For the sake of convenience, the content of this dissertation has been divided into four chapters. Oxidation of aromatic acid hydrazides has been carried out by chloramine-T in basic buffered solution. The detailed path of the oxidation of hydrazides has been established on the basis of various mechanistic criteria.

Chapter I-contains a) Introduction. It gives a clear picture of background and fundamental ideas of chemical kinetics and related important informations.

b) 'Chloramine-T' (A reagent) - Here chemical properties of chloramine-T have been described.

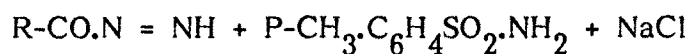
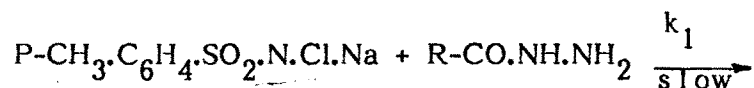
c) 'Literature Survey' - This includes upto date literature survey of work carried out by different scientists on the kinetics and mechanism of oxidation reactions by chloramine-T.

d) Object and Scope of the Work - This chapter deals with the information such as the importance of present investigations in different fields

Chapter - II - In this chapter the experimental part is described. It includes the preparation of the reactants and the method of iodometric titration which ultimately estimates the amount of chloramine-T.

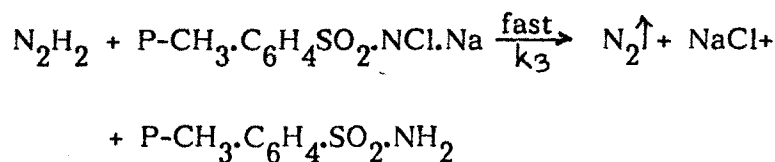
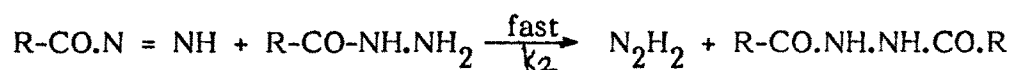
Chapter - III - In this chapter kinetic analysis of oxidation of salicylic acid hydrazide and ortho-chloro benzoic acid hydrazide in the basic buffered medium has been given. The kinetic study is carried out taking into consideration the different variables such as concentration of hydrazides, concentration of chloramine-T, Temperature, change in pH, effect of addition of salt and change in water/methanol composition. These different variables have been studied and their results are given here. Similarly activation parameter values that have been investigated are also given in this chapter.

Chapter - IV - The product analysis shows the presence of p-toluene-sulphonamide, Bis hydrazide (R-CO.NH.NH.CO-R) and nitrogen gas. On the basis of the foregoing evidences, the following sequence of reactions can be proposed.



Acyl-di-imide

It is slowest and rate determining step.



At the end of each chapter the necessary references have been given separately.