

ANALYTICAL APPLICATIONS OF SOME NEW OXIMES

BY

J. S. DAVE AND A. M. TALATI

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As a part of our investigations on the chemistry of oximes of acetoacetamides, we have prepared the oximes of α isonitrosoacetoacet-(aryl) amides and investigated certain of their reactions of analytical importance; preliminary results are presented here.

The oximes of the anilide, *o*-toluidide and *o*-chloranilide of α isonitrosoacetoacetic acid were prepared from the anilide, *o*-toluidide and *o*-chloranilide of acetoacetic acid respectively, by isonitrosation with nitrous acid, followed by oximation with hydroxylamine hydrochloride. The products obtained are α isonitroso- β oximino-acetoacetanilide (I), m.p. 192° C., α isonitroso- β oximino-acetoacet-*o*-toluidide (II) (found: N, 17.49%; $C_{11}H_{13}N_3O_3$ requires N, 17.86%), m.p. 195° C. and α isonitroso- β oximino-acetoacet-*o*-chloranilide (III) (found: N, 16.94%; $C_{10}H_9N_3O_3Cl$ requires N, 16.42%), m.p. 144° C.

It is observed that like dimethyl glyoxime, these dioximes give yellowish red precipitates with nickel salts and yellow precipitates with palladium salts; besides, these reagents give reddish brown precipitates with cobalt salts and brown precipitates with copper salts. The precipitation of palladium, copper and nickel che-

lates of these dioximes has been found to be quantitative. Palladium is completely precipitated at a pH as low as 0.1-0.2 by all the three dioximes; copper and nickel are completely precipitated at and above pH values stated below:

Dioxime	pH for copper	pH for nickel
I anilide	4.3	6.2
II <i>o</i> -toluidide	3.0	5.1
III <i>o</i> -chloranilide	2.1	4.4

The metal chelates formed in these cases are found to have the general composition $M(DH)_2$ where M: Pd, Cu or Ni and DH_2 is a dioxime molecule.

Microanalyses were carried out by Shri S. S. Lele.

Chemistry Dept.,
Faculty of Science,
M. S. University of Baroda,
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J. S. DAVE.
A. M. TALATI.²

1. Knorr and Reuter, *Ber.*, 1894, 27, 1169.
2. Address: Petlad College, Petlad (Via Anand).