

1936

Basic Strength of Ketimines by the Use of the Glass Electrode

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Recommended Citation

Culbertson, J. B. and Young, DeWalt (1936) "Basic Strength of Ketimines by the Use of the Glass Electrode," *Proceedings of the Iowa Academy of Science*, 43(1), 203-203.

Available at: <https://scholarworks.uni.edu/pias/vol43/iss1/46>

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BASIC STRENGTH OF KETIMINES BY THE USE OF
THE GLASS ELECTRODE

J. B. CULBERTSON AND DEWALT YOUNG

The relative strengths of the ketimines as organic nitrogen bases has been considered one of the prime factors affecting the stability of the ketimine salts toward hydrolysis to ketones. A measurement of the hydrogen (hydronium) ion concentration of ketimine salts (hydrochlorides) furnishes the information necessary for the calculation of these basic strengths.

Four years ago a report ¹ was made on a portion of these measurements by the use of the quinhydrone electrode. Other results had been obtained with the hydrogen electrode and by colorimetric methods. Due no doubt to catalytic hydrogenation in the case of the hydrogen electrodes and to reactions with quinhydrone and with indicators, these previous figures on ketimine basic strengths have been considered open to some doubt as to accuracy, and were so reported.

The advent of the glass electrode has suggested a tool for these determinations free from the above sources of error. With it measurements have been made upon phenolic ketimines, which caused the greatest trouble in the previous work, and stable potentials quite commensurate with the hydrolytic stability of their ketimine salts have been obtained. The results on a number of other ketimines, not previously described, are also given in this report.

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ANTIOXIDANTS AND THE AUTOXIDATION OF FATS
V. MODE OF ACTION OF ANTI- AND
PRO-OXIDANTS

L. A. HAMILTON AND H. S. OLCOTT

Experiments on the oxidation of purified methyl oleate support the view that its induction period, and probably that of natural oils, is due to the presence of inhibitors and that purified unsaturated compounds have no induction period, other than the time required for gaseous oxygen to diffuse into the liquid.

Experiments with antioxidants indicate that phenolic inhibitors

¹ Culbertson, Bieber and Zavodsky. Iowa Acad. Science, 39:177.