

Proceedings of the Iowa Academy of Science

Volume 38 | Annual Issue

Article 37

1931

The Micro Determination of Citric Acid by the Thunberg Methylene Blue Method

Adrian C. Kuyper
State University of Iowa

Copyright ©1931 Iowa Academy of Science, Inc.

Follow this and additional works at: <https://scholarworks.uni.edu/pias>

Recommended Citation

Kuyper, Adrian C. (1931) "The Micro Determination of Citric Acid by the Thunberg Methylene Blue Method," *Proceedings of the Iowa Academy of Science*, 38(1), 172-172.

Available at: <https://scholarworks.uni.edu/pias/vol38/iss1/37>

This Research is brought to you for free and open access by the Iowa Academy of Science at UNI ScholarWorks. It has been accepted for inclusion in Proceedings of the Iowa Academy of Science by an authorized editor of UNI ScholarWorks. For more information, please contact scholarworks@uni.edu.

periments on the fatty acids of beef heart muscle and liver. The unsaturated acids were separated by two methods, crystallization of the bromine derivatives and fractional distillation of the methyl esters. The method of Armstrong and Hilditch was used for the oxidation of the unsaturated acids and the results obtained up to this time indicate that the first double bond nearest the carboxyl group is in the 9:10 position. Azelaic acid is the only dibasic acid which has been separated from the oxidation products. Evidence of the formation of other dibasic acids has been obtained, but these have not been identified as yet.

BIOCHEMICAL LABORATORY,
STATE UNIVERSITY OF IOWA,
IOWA CITY, IOWA.

THE MICRO DETERMINATION OF CITRIC ACID BY THE THUNBERG METHYLENE BLUE METHOD

ADRIAN C. KUYPER

The method depends on the specific property of citric acid as a hydrogen donator in accelerating the decolorization of methylene blue by an enzyme found in cucumber seed. It gives reliable results only when enzyme extracts are prepared in the same way and used at the same age. Sodium, calcium and hexose-diphosphate do not interfere unless present in concentrations higher than those found in the blood. Oxalic acid does interfere because it changes the minimum amount of citrate necessary for maximum speed of decolorization. The sensitivity is directly proportional to the amount of methylene blue present in the reaction tube.

BIOCHEMICAL LABORATORY,
STATE UNIVERSITY OF IOWA,
IOWA CITY, IOWA.

THE ANTIOXIDANT OF LETTUCE

H. S. OLCOVICH AND H. A. MATTILL

The unsaponifiable lipids of lettuce were fractionally crystallized from a number of organic solvents. The distribution of vitamin E was determined by the effects on female rats on a sterility producing ration; that of the antioxidant, by the capacity to prolong the