

Proceedings of the Iowa Academy of Science

Volume 31 | Annual Issue

Article 79

1924

Some Recent Studies Concerning Organometallic Compounds

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Recommended Citation

Parker, H. H.; Schulze, F.; King, W. B.; Peterson, J. M.; and Gilman, H. (1924) "Some Recent Studies Concerning Organometallic Compounds," *Proceedings of the Iowa Academy of Science*, 31(1), 286-287.

Available at: <https://scholarworks.uni.edu/pias/vol31/iss1/79>

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ing of the grains: 2; by measuring the viscosity of flours, and starch from flour: 3; by measuring imbibition of flour, and starch from flour. The following relationships were noted on two typical flours:— 1. Large loaf, large absorption, low ash, small starch grains, large imbibition, low imbibition by starch. 2. Small loaf, high ash, large starch grain, small imbibition, low absorption, large imbibition by starch.

METABOLISM AND VITAMIN A

V. E. NELSON AND C. M. McCAY

The following determinations were made on urines of rats receiving a control diet and a diet lacking vitamin A:—volume, specific gravity, acidity, ammonia, urea, total N, uric acid, creatin, creatinine, total solids, albumin and sugar. The volume, specific gravity, total solids, acidity and ammonia were greater on the control diet. The animals on the deficient diet excreted a much larger percentage of their nitrogen in the form of urea than the animals on the complete ration. Uric acid, creatine and creatinine did not vary. Sugar was not found. Albumin was found in both cases, and appears to be a normal constituent of the urine of the rat.

A COMPARATIVE STUDY OF THE REMOVAL OF CORN AND COTTONSEED OIL STAINS FROM WOOL AND SILK

RUTH O'BRIEN AND BARBARA WENTCH

This study was made in an effort to explain the development by dry cleaning of brown stains on silk and wool garments soiled with salad oils made from vegetable oils. The results indicate that age, light, and oxygen alone are negligible factors—the chief contributing cause being heat in the presence of air. This condition is brought about by hot pressing before cleaning or drying in a tumbler in a dry cleaning plant. Corn oil is particularly troublesome, due apparently to the larger percentage of esters of unsaturated fatty acids.

SOME RECENT STUDIES CONCERNING ORGANO- METALLIC COMPOUNDS

H. H. PARKER, F. SCHULZE, W. B. KING, J. M. PETERSON
AND H. GILMAN

In connection with studies concerned with the mechanism of

reactions and the proof of structure, insofar as such work involves organometallic compounds, it is necessary to determine specifically the mode of attachment of the metal to such polyvalent elements as carbon, nitrogen, oxygen and sulfur. For this reason, experiments are in progress on organobarium and organostrontium halides, as well as organomagnesium halides where the metal is attached particularly to sulfur and to oxygen. Because the polar nature of organometallic compounds makes them of such promise in the electronic interpretation of reactions, a quantitative study is being made of the reaction with substituted ethylenic compounds. Preliminary results of this work indicate that no addition takes place. A study is also in progress of the reaction of organometallic compounds with positive and negative halogens.

In studies on the mechanism of reduction by Grignard reagents, preliminary experiments show that magnesium halogen hydrides are not formed by catalytic reduction of organo-magnesium halides.

THE PREPARATION OF PERMANENT FILTER MATS FOR GOOCH CRUCIBLES

G. N. QUAM AND H. V. WRIGHT

A porcelain filter mat has been made (Sweeney and Quam — J.A.C.S. 46, 958, 1924) which withstands the heat of a blast lamp, remains constant in weight after repeated washing with aqua regia, has uniform porosity, and has the advantages of a Monroe crucible. Methods of standardizing the mats are being studied. The building of silica filter mats in silica crucibles is being investigated. Preliminary results indicate that a silica mat can be made according to the plan of the porcelain mat and have the added advantages that silica affords.

THE RELATION OF SUBSTITUENTS IN THE HYDRO- CARBON RADICALS TO THE FORMATION AND REACTIONS OF CERTAIN MIXED ETHERS

L. CHAS. RAIFORD AND J. C. COLBERT

Preliminary work in this laboratory indicates that substituents in the ring have an influence on the formation and decomposition of certain mixed ethers. The work now in progress concerns the activating or retarding influence of groups in the para position on the formation and reduction of such ethers.