

CHEMISTRY

Chairman: E. ST. CLAIR GANTZ, Purdue University

William G. Kessel, Indiana State Teachers College, was elected chairman for 1949.

ABSTRACTS

Should Inorganic Chemistry be Restored to the Undergraduate Curriculum? CHARLES L. RULFS, HERBERT C. BROWN, E. ST. CLAIR GANTZ, Purdue University.—In effect, inorganic chemistry is no longer being taught in the usual undergraduate curriculum. The time and attention which were once devoted to the subject in the first and second year courses in chemistry are now primarily devoted to physical chemical topics. As a result, the average chemistry major is ignorant of any but the most rudimentary facts of inorganic chemistry and is greatly handicapped as a result. Because of the large proportion of non-chemistry majors in the present General Chemistry and Qualitative Analysis courses, it is probably undesirable to attempt to shift the present emphasis on chemical theory back to descriptive inorganic chemistry. Instead, it is believed that the present deficiency can best be remedied by introducing in the junior or senior year a new course in inorganic chemistry. Such a course, required of all chemistry majors, would acquaint the students with the subject matter of inorganic chemistry much as the present organic course presents the subject matter of organic chemistry. Although others may prefer a different solution, some means must soon be found to remedy the present glaring deficiency in the training of chemistry majors.

More About the Composition of Turquoise, FRANK B. WADE, Head, Dept. of Chemistry, Shortridge High School, Indianapolis, Ind.—Further study of turquoise shows that it contains Carbon. We had previously shown that it contained nitrogen. We then suspected that the color was due to $\text{Cu}(\text{NH}_3)_4^{++}$ ion. We now suspect that the colorant may be $\text{CH}_3\text{NH}_2\text{Cu}^{++}$ ion since combustion tests show that the amount of carbon agrees well with the amount of nitrogen if $\text{CH}_3\text{NH}_2\text{Cu}^{++}$ ion is the colorant.

Table of analyses made by the Chem IV class at Shortridge High School under the direction of Walter C. Geisler follows:

Sample	CO_2	(calc.) Carbon	N equiv. (calc.)	NH_3 (calc.)	NH_3 (found)
1	.365	.099	.115	.139	.16
2	.241	.065	.075	.091	.10
3	.237	.064	.074	.089	.10
4	.296	.077	.089	.108	.12
5	.312	.085	.096	.119	.13

Determination of Fluorine in Waters, I. A Rapid Direct Method, II. A Rapid Distillation Method. W. E. THRUN, Valparaiso, University.—A dilute solution of the aluminum lake of Eriochrome cyanine buffered at pH 5.4-5.6 is the reagent used with 5 to 10 ml. samples of water. The fluoride ion destroys the color. Comparisons with standards are made 10-15 minutes later.

The distillation is performed over sulfuric acid with a 100 ml. sample plus 10 ml. of distilled water until 90 ml. have been collected. The distillate is cooled, buffered to pH 5.4-5.6, made up to 100 ml., and the fluorine determined as above. The distillation is performed by creating a high turbulence with air and a high temperature.

Since the agreement between the results by the direct method and those obtained on the distillate is excellent and since the aluminum ion deepens the color and the silicate ion destroys it, a very reasonable assumption should be that the alumina and silicate in natural waters are tied up with each other and that the fluorine exists as ions.

The Separation of Isomers of Nickel (II) Complexes by Chromatographic Adsorption. E. ST. CLAIR GANTZ and BENEDICT L. VONDRA, Purdue University.—Nickel complexes of glycine benzeneazo- β naphthol, methylglyoxime, salicylaldoxime, salicylaldehyde, benzoylacetone, and salicylaldimine were prepared. The complex with methylglyoxime is known to exist in isomeric forms. This information is lacking with regard to the other compounds. It was hoped that an adsorbent or adsorbents and eluting reagents might be discovered by which isomeric forms could be isolated. No resolutions were obtained using a variety of adsorbents including alumina, magnesium oxide, silica gel, barium sulfate, calcium sulfate, and talc. A large number of solvents were also used in an effort to obtain a separation of isomers on the various columns studied.