

Expt. No.	Wt. of Glycine in mg.	Ethyl Butyrate in cc.	Time of Action.		Action in cc. Standard NaOH solution.
			at 35°-40°.	at 20°.	
1	116.0a	0.5	12	37	0.13
2	116.0a	0.5	22	..	0.01
3	145.1a	0.5	20	..	—0.08
4	353.0a	0.5	35	..	0.09
5	50-60a ¹	1.0	5	32-44	0.10
6	116.0a	1.0	12	37	0.20
7	116.0a	1.0	22	..	0.11
8	145.1a	1.0	20	..	0.03
9	145.3a	1.0	45	..	0.40
10	353.0a	1.0	25	..	0.25
11	359.6a	1.0	19	..	0.57
12	116.0a	2.0	12	37	0.27
13	116.0a	2.0	22	..	0.17
14	145.1a	2.0	20	..	0.16
15	353.0a	2.0	25	..	1.08
16	359.6a	2.0	19	..	1.12
17	116.0a	3.0	12	37	0.25
18	116.0a	3.0	22	..	0.32
19	145.1a	3.0	20	..	0.28
20	223.7b	3.0	23	..	0.94
21	223.7b	3.0	48	..	0.87
22	353.0a	3.0	25	..	1.06
23	359.6a	3.0	19	..	1.83
24	148.4b	1.0	43	2	0.22
25	150.6b	1.0	26	..	0.12
26	336.8b	1.0	20	..	0.37
27	336.8b	2.0	20	..	0.42
28	336.8b	3.0	20	..	0.30

The results in the table show that there is a marked hydrolytic action of ethyl butyrate due to glycine. There appears to be a very rough parallelism between the amount of action and the amounts of ethyl butyrate or of glycine used. The presence of sodium chloride had no effect.

ORGANIC LABORATORY.

NEW BOOKS.

A Text-Book of Inorganic Chemistry. By GEORGE SENTER. New York: D. Van Nostrand Company. 1911. 13×19 cm.; x+583 pp. Price, cloth, \$1.75.

The author, who is lecturer on chemistry at St. Mary's Hospital, University of London, states:

"The book is designed for use in University, Technical Institute and other general classes on the subject, and contains all that is usually included in a B.Sc. Course." The subject matter is presented in thirty-seven chapters, of which the first twenty-five are devoted to general

A number of separate experiments for which the mean action was taken.

principles, theories, non-metallic elements and periodic system; then follow eleven chapters on the metals, and a final chapter on radioactivity. It is gratifying to note that facts are presented before theories are advanced, the atomic theory, for example, being introduced in the ninth chapter after a sufficient body of facts has been given. Nevertheless, it is hardly good pedagogy to take up the kinetic theory of gases before the atomic theory. So far as the theory of Arrhenius is concerned, it receives consideration in Chapter XX, where about eleven pages are devoted to it. While the author refers to this theory as "a great step forward," it is, fortunately for the student, not used elsewhere in the text as a basis of presentation. In the five pages devoted to osmosis and osmotic pressure in Chapter XX, the author follows closely the van't Hoff ideas.

The general delineation of the subject matter is not materially different from the ordinary. More details of facts are on the whole presented than would seem wise in a text for college use. On the other hand, the subject of carbon and its compounds occupies but thirty-eight pages. The book is evidently written to meet the needs of students of chemistry in English institutions, where unfortunately the dominating spirit still is to prepare to pass certain examinations for degrees, rather than to get interested in the subject of study and thus follow it out in a thoroughly comprehensive and exhaustive manner. From the pedagogical point of view, the volume is an advance over other texts used in England, but it is doubtful if it will meet with favor in America where the spirit of preparing for examinations is not uppermost. The print is clear though rather small. The paper is of light weight, and the binding insecure. Ninety illustrations appear in the text. Some of these are good, though others leave much to be desired.

LOUIS KAHLENBERG.

Petrographic Methods. By PROF. E. WEINSCHENK, PH.D., and R. W. CLARK, A.B. The McGraw-Hill Book Co. pp. 396; 300 illust. 1912. Price, \$3.50 net.

This book is an English translation of the two well known German text-books, "Anleitung zum Gebrauch des Polarisationsmikroskops," 3d ed., and "Die Gesteinsbildenden Mineralien," 2d ed., by Prof. E. Weinschenk, of Munich. In these books Prof. Weinschenk has endeavored to present, in a clear and tangible manner, the essentials both of petrographic methods and of the optical characteristics of rock minerals, his aim throughout being to give the student a good general idea of the subject. The books are by no means exhaustive treatises and the statement in the preface by the translator, that "although there are several excellent treatises on rock minerals in thin section, there is, nevertheless, a demand for a text-book which sets forth all the methods used in a detailed study of rocks in a clear and concise manner," is possibly a little misleading. The first part of the present book covers 139 pages and is divided into six chapters; of these the first chapter treats of the microscope as an optical

instrument; the second, of its adjustment; the third, of observations in ordinary light; the fourth and fifth, of observations in parallel and convergent polarized light, respectively; the sixth, of twins and optical anomalies, with an appendix on accessory apparatus. In accord with the purpose of the book, the subject is considered in these chapters from a qualitative rather than a quantitative standpoint. The different phenomena which may be observed under the microscope are described clearly, but the methods for the measurement of the optical constants of minerals are treated less thoroughly, and often superficially.

Part 2 is devoted largely to the description of rock minerals and their optical characteristics. The descriptive section (Chapter XI) is preceded by four chapters which treat of the petrographic methods (chemical and physical) not included in Part I, and of the development of rock minerals as observed in the thin section. The mineral descriptions are clear and freely illustrated by excellent text figures. Many of the rarer minerals of metamorphic rocks are described and their distinguishing features emphasized. The descriptions in the body of the text are incomplete, however, to the extent that they do not contain the information given in the determinative tables at the end of the book. Such an arrangement no doubt saves space and has evidently been found useful in teaching.

The translation is good; here and there echoes of the German construction appear, as is to be expected, but they are not serious. In a few instances, however, the terms and expressions are used loosely and lack precision, while with some of the statements many petrographers will not agree. Taken as a whole, the book presents the subject in a clear, though essentially qualitative manner. It is printed on good paper in good type, and is unusually well illustrated. FRED. E. WRIGHT.

Studien über Pflanzenkolloide, I. Die Lösungsquelle der Stärke bei Gegenwart von Kristalloiden. By M. SAMEC. Sonderausgabe aus Kolloidchemische Beihefte. Theodor Steinkopf. M. 1.50.

This is a pamphlet covering in considerable detail one of the many fields of colloid chemistry, as indicated by the title. It is largely a report of experimental work conducted by the author, concluding with a theoretical discussion in which the interdependence of various properties of crystalloid solutions is suggested. The author justifies its publication as a separate pamphlet on the grounds of the interest which investigations of this sort may have for biology and many branches of industry.

H. ISHAM.

Methods of Sugar Analysis and Allied Determinations. By ARTHUR GIVEN. P. Blakiston's Son & Co. Price, \$2.00 net.

This little book of seventy-odd pages is made up of laboratory directions and tables selected almost exclusively from those used by the Official Agricultural Chemists. Directions are also given for making up special

reagents. For the sake of explicitness, in most cases, the author gives directions for but one method of determination.

In fact, the book is merely a recipe book as it were, and is typical of a growing class of such which meet a demand of many workers, especially those in charge of large laboratories who wish to drill expert assistants to uniform manipulation.

Hence, the book will prove a disappointment to any one who expects to learn sugar analysis and understands the subject well enough to discriminate between methods for himself.

From Mr. Given's own description of his book in the preface, it follows that little criticism of methods can be made. The title alone is most to be criticised as too ambiguous. "Laboratory Directions for Selected Methods of Sugar Analysis in Use by Official Agricultural Chemists Written Specially for Laboratory Assistants," if somewhat longer would certainly be more descriptive.

Typographically and in its general make-up the book is good. Very few errors have been noticed.

GEO. W. ROLFE.

ANNOUNCEMENT.

The President of Section Xb, Physical Chemistry, of the approaching Congress of Applied Chemistry, desires to call the attention of chemists to a notification received by him that the two following propositions will be presented at the Congress:

1. It will be moved, on behalf of the International Commission on Annual Tables of Constants and Numerical Data in Chemistry, Physics and Technology, that a committee be appointed to go over the accounts of its treasurer.

2. It will also be moved that the Eighth International Congress of Applied Chemistry meeting in New York approve the work of the International Commission on Annual Tables of Constants and Numerical Data of Chemistry, Physics and Technology, created by Congress in London in 1909, recognize the exceptional importance of the work represented by the first volume of Annual Tables published by the International Commission and continue the powers of the Commission which were given to it by the London Congress, and express the wish that the International Commission receive such financial assistance which is necessary for it to continue the work of scientific tabulation which it is doing in the interests of the pure and applied physical and chemical sciences.

W. R. WHITNEY,

President of the Section of Physical Chemistry.