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THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

PRELIMINARY ANNOUNCEMENT OF THE CLEVELAND MEETING

Edited by F. R. MOULTON

PERMANENT SECRETARY

AFTER a lapse of two years during which the American Association for the Advancement of Science has held no meetings, it will meet for the fifth time in Cleveland, Ohio, from September 11 to September 16, inclusive. The previous meetings in Cleveland were held in 1853, 1888, 1913 and 1931. In 1852 a meeting scheduled for Cleveland was canceled because of an epidemic of yellow fever along the Ohio River and farther south. There have been fears that this meeting would have to be canceled because of the war.

This preliminary announcement has been delayed because of constant changes in the programs due to the uncertainties that have prevailed during the past few months. The choice has been between an early announcement that would be erroneous to an appreciable extent and an announcement so late that it would not be of maximum value. In spite of all difficulties the program will consist of many notable sessions, though in number of scientific societies meeting with the association and in the number of papers presented will fall far below several meetings immediately preceding the war. But it may be confidently expected that after the close of the war scientists will resume their normal work and their meetings with increased enthusiasm.

HOTELS AND HEADQUARTERS

General headquarters of the meeting will be at the Hotel Statler. The headquarters of sections and affiliated societies are distributed among hotels as follows:

rapidly to their original soft state when remoistened. In water they are only moderately strong and disintegrate slowly if subjected to mechanical strain. In 70 per cent. alcohol, on the other hand, they remain soft and pliable, but become quite tough and retain their structure almost indefinitely.

There are several methods by which medicinals as, for example, penicillin, sulfathiazole, sulfapyridine or other drugs can be introduced into a starch sponge. The latter may be squeezed nearly dry and filled by dipping into solution. If desired, the sponge can be filled with medicament, dried and remoistened just prior to use. A medicament, such as sulfathiazole, incorporated in the paste prior to freezing, is retained almost completely in the sponge when excess water is expressed. That the sponge would be dissolved and absorbed in the body, with consequent slow release of the medicament, is suggested by the fact that 100 mg portions of dried sponge disperse in 4 to 7 hours at 37° C. in Seitz filter-sterilized beef serum buffered to pH 7.0 to 7.6.

CLAUDE W. BICE
M. M. MACMASTERS
G. E. HILBERT

NORTHERN REGIONAL RESEARCH LABORATORY,
PEORIA, ILL.
BUREAU OF AGRICULTURAL AND INDUSTRIAL
CHEMISTRY,
AGRICULTURAL RESEARCH ADMINISTRATION,
U. S. DEPARTMENT OF AGRICULTURE

MOLECULAR WEIGHT BY ISOTHERMIC DISTILLATION

THE previously described "parallel twin capillary" method of J. B. Niederl and A. M. Lévy^{1,2} for the determination of molecular weight by isothermic distillation has now been improved by reducing the time necessary for interpretable results to 2-3 days instead of weeks. This has been accomplished by placing the capillaries containing the solutions of the standard and the unknown, "opposite" (mouth-mouth) instead of "parallel." Thus the length of the vapor bridge is reduced to 6-8 millimeters.

As before and as illustrated in Fig. 1, the apparatus consists of a capillary desiccator tube (C) and two capillaries, each 25 mm long and 1.5 mm in inner diameter (A and B). Capillary (A) contains the standard solution, while a similar, but opposite capillary (B) contains the unknown. A cotton wad (D) keeps the capillaries in place. The sealed desiccator tube containing the filled capillaries is mounted, by means of a drop of water glass solution, on a micro-

scope slide (E) provided with suitable reference lines (F).

Three trials are usually carried out simultaneously. The unknown is paired with (a) a higher molar, (b) an equimolar and (c) a lower molar standard solution, preferably 0.15, 0.1 and 0.05 molar solutions of azobenzene in acetone. The solutions of standard and unknown are thus placed in competition for solvent through a short vapor bridge in obedience to Raoult's law. Isomolarity between the unknowns and the standard results in no net change of solvent concentrations, and therefore no relative volume changes in the matched pair of capillaries containing equimolar

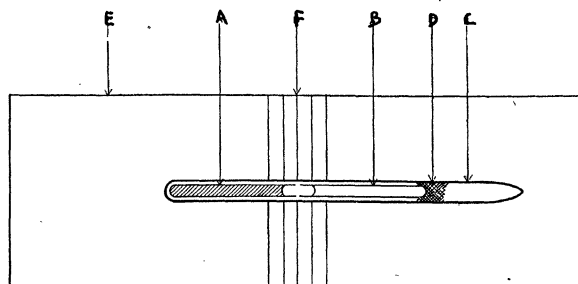


FIG. 1. Apparatus for isothermic distillation.

solutions. However, in the case of the higher molar standard solution the standard gains, while the unknown shows a corresponding loss. With the lower molar standard solution the reverse will be the case.

After an acclimatization period of 24 hours gain and loss of solvent are ascertained by observing the movement of the menisci of the solutions by means of a low-powered microscope, possessing a micrometer scale in the eye piece. Readings are taken every 24 hours. With acetone as the solvent two days of observation suffice. The readings are then plotted or tabulated and from these data the results are calculated as described before.^{1,2}

The method requires only 25 cu mm of solution per trial, involving as little as 0.5 milligram of substance, which can be recovered. The apparatus consisting of three capillaries is of utmost simplicity.

JOSEPH B. NIEDERL
DAVID R. KASANOF³

WASHINGTON SQUARE COLLEGE,
NEW YORK UNIVERSITY

³ D. R. Kasanof, M.Sc. Thesis, New York University, Graduate School, April, 1944.

BOOKS RECEIVED

- BOARDMAN, EDWARD T. *Guide to Higher Aquarium Animals*. Illustrated. Pp. 107. The Cranbrook Institute of Science. \$2.00. 1944.
- DIETZ, VICTOR R. *Bibliography of Solid Adsorbents*. Pp. lxxxi + 877. United States Cane Sugar Refiners and Bone Char Manufacturers and the National Bureau of Standards. 1944.
- ROBINSON, DAVID M. *A Short History of Greece*. Illustrated. Pp. xi + 227. Huxley House. 1936.

¹ J. B. Niederl and A. M. Lévy, *SCIENCE*, 92: 225, 1940.

² J. B. Niederl and V. Niederl, "Micromethods of Quantitative Organic Analysis," 2nd ed., pp. 230-238, New York, N. Y.: J. Wiley and Sons, 1942.

Distinctive McGraw-Hill Books

GENERAL CHEMISTRY

By JOHN ARREND TIMM, Professor of Chemistry and Director of School of Science, Simmons College. *International Chemical Series*. 691 pages, $5\frac{1}{4} \times 8\frac{1}{4}$, 188 illustrations. \$3.75

Written in a vigorous, almost conversational style and firmly based on sound scientific and pedagogical principles, *General Chemistry* is a textbook of outstanding importance. It is designed to meet the needs of those students who plan to use chemistry in their professional education, and is suitable also for use by those who have had no previous course in chemistry and by those who have completed an elementary course in a secondary school. More space than usual is devoted to a careful discussion of the fundamental theory. Repetition of important principles occurs frequently and in each case the treatment is unusually quantitative and complete. Theory is covered from a sound, modern approach. The Lowry-Brönsted acid-base definitions are used consistently. Recent industrial developments are included.

HISTORICAL GEOLOGY. The Geologic History of North America

By RUSSELL C. HUSSEY, Associate Professor of Geology, University of Michigan. 479 pages, $5\frac{3}{4} \times 8\frac{3}{4}$, 344 illustrations. \$3.50

This is a lucid and well organized introductory text that presents the geologic history of North America and its inhabitants throughout two billion years. Fundamental principles are considered first, and technical terms have been reduced to a minimum. A special attempt has been made to present broad panoramas of important events in the history of North America rather than a mass of details. A feature of the book is the large number of illustrations of exceptional quality and interest.

GENERAL ZOOLOGY

By TRACY I. STORER, Professor of Zoology, University of California at Davis. *McGraw-Hill Publications in the Zoological Sciences*. 798 pages, $5\frac{3}{4} \times 8\frac{3}{4}$, 551 figures, 5 colored plates. \$3.75

In the past 18 months this immediately successful text has been adopted by 95 colleges and universities and has won widespread recognition as an admirably organized and unusually teachable treatment of the subject. In addition to its remarkable clarity and accuracy, the text offers a wealth of distinctive illustrations.

LABORATORY MANUAL for GENERAL ZOOLOGY

By TRACY I. STORER. *McGraw-Hill Publications in the Zoological Sciences*. 131 pages, $5\frac{3}{4} \times 8\frac{3}{4}$, \$1.25

Designed to accompany Storer's *General Zoology*, this forthcoming manual for the beginning course in zoology contains a great variety of exercises, resulting in unusual flexibility in outlining a laboratory program.

SUGGESTIONS for LABORATORY INSTRUCTORS

By TRACY I. STORER. (Furnished gratis to users of the *Laboratory Manual*)

Offers suggestions regarding laboratory demonstrations and procedures, to aid the instructor in conducting his classes.

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