Cockr um, McCauley, Younggren—Biology—New!

Over 500 clear, teaching illustrations complement the text material. About 800 pages, with 500 illus. * About $9.00 * New! Ready April.

Accompanying Laboratory Manual

By Russell Davis, Ph.D., University of Arizona; the late James R. Dawson, Ph.D., Southern Oregon College; and DRs. Cockrum and McCauley.

This laboratory manual to accompany Cockr um-McCauley-Younggren—Biology contains more than enough exercises for a one-year course with one 2- or 3-hour lab period per week. Instructions to both teacher and student are clear and complete. Experiments are neither entirely molecular, taxonomic, structural, functional, cellular, nor organismic, but are rather an integration of all these approaches.

About 500 pages * Illustrated * About $5.75 * New! Ready April.


By C. Donnell Turner, Ph.D., Duquesne University.

In this most thorough revision, the author presents endocrinology on a truly biological level incorporating significant material from all recent literature on the subject. The central theme of this new edition is the reciprocal interrelationship of the nervous and endocrine systems. The author stresses the concept that no sharp line of demarcation can be drawn between these two coordinate systems, and that they must be considered as an entity—the neuroendocrine system. In keeping with this theme, more space has been devoted to the problem of how hormones act upon the central nervous system to determine and condition reproductive behavior.

The chapter on invertebrate endocrinology has been moved to the


By Benjamin Harrow, Ph.D., Emeritus, City College, City U. of New York; and Abraham Mazur, Ph.D., City College, City U. of New York.

This revision of a long-respected text gives a sound, timely picture of the basic facts of biochemistry and their applications today—written for the serious introductory course in biochemistry. Because of the rapid changes in the field of science and the new concepts in theory and teaching biological sciences and biochemistry, the authors have shifted the emphasis in this new edition. Cell structure and function are more strongly stressed. The role of genetics and physics in the chemistry of body functions has been integrated into the basic concepts. Physical chemistry is pursued to a lesser degree, but established mechanisms are carefully considered and explained.

Throughout the text, structural formulas lend dimensional depth to understanding biochemical reactions and systems. A core of biochemistry is represented by the first thirteen chapters of this text, which present the unifying concepts of biochemistry. The second half of the book presents an introduction to more specialized areas in biological chemistry in order to stimulate an interest in the relationships that may be found to exist among chemical structures, their reactivities, and their biological functions.

Topics presented include The Cell, Proteins, Enzymes, Nucleic Acids, Biological Oxidations, Eclipses, Carbohydrate metabolism, Nucleic Acid Metabolism, Urea Synthesis, Blood, Respiration, Kidneys, Tissues, Nutrition, Vitamins, and Hormones.

Looking for new advances in your field?

LASERS:

Generation of Light By Stimulated Emission

By BÉLA A. LENGYEL, Hughes Research Laboratories. Describes the physics and engineering of lasers and explains the newest developments to a large technical audience. 1962. 125 pages. $6.95.

Chemical Physics of Ionic Solutions


Progress in Physical Organic Chemistry

Volume 3

Edited by SAUL G. COHEN, Brandeis University; ANDREW streitwieser, Jr., University of California, Berkeley; and ROBERT W. TAFT, University of California, Irvine. Concerns the application of the basic theories and methods of physical chemistry to the broad areas of knowledge of organic reactions and organic structural theory. This series provides a forum for critical and authoritative reviews in which the author is encouraged to present his personal views. An Interscience Book. 1965. 388 pages. $16.00.

Valence Theory

By J. N. MURRELL, University of Sussex, England; S. F. A. KETTLE, University of Sheffield, England; and J. M. TEDDER, University of St. Andrews, Scotland. Emphasizing problems, this book is pitched at a level between the elementary and advanced works on the subject. 1965. 430 pages. $7.75.

Polymeric Sulfur and Related Polymers

By ARTHUR TOBOLSKY and WILLIAM J. MacKNIGHT, both of Princeton University. Discusses the chemical and physical properties of polymeric sulfur and of related organic and inorganic polymers containing disulfide and polysulfide linkages. Polymer Reviews—Volume 13. 1965. Approx. 152 pages. $7.75.

Cognition and Thought

An Information Processing Approach

By WALTER R. REITMAN, University of Michigan. Presents an introduction to computer simulation and a critical analysis of information processing concepts and their psychological implications. 1965. 312 pages. $7.95.

Solar Radio Astronomy

By MUKUL R. KUNDU, Cornell University. Reviews and coordinates the observations, interpretations and the associations of the sun's radio emissions and shows the extent to which they contribute toward the basic understanding of Solar Physics and the sun-earth environment. 1965. 660 pages. $19.75.

Trace Analysis: Physical Methods

Edited by GEORGE H. MORRISON, Cornell University. Brings together the various aspects of modern physical methods that collectively contribute to the specialized field of trace analysis. An Interscience Book. 1965. 582 pages. $16.00.

Dynamic Aspects of Molecular Energy States

By T. L. COTTRELL, University of Edinburg. Covers the following topics: molecular energy states and possible transition mechanisms, the absorption and emission of radiation, electron impact, chemical reaction and related topics, molecular collisions and how transitions take place. 1966. Prob. $2.25.

New North-Holland (Interscience) books...

Progress In Optics


Potential Scattering

By V. DE ALFARO, and T. REGGE, both of the University of Turin, Italy. 1966. 205 pages. $8.00.

The Growth of Crystals From The Melt


Primary Photoprocesses In Biology

By J. B THOMAS, State University of Utrecht, The Netherlands. 1965. 323 pages. $11.50.

JOHN WILEY & SONS, Inc., 605 Third Avenue, New York, N.Y. 10016
The etceteras are up to you. We found a dozen names for the new Electroscan 30, but we’re sure there are more. In fact, we think the Electroscan 30 is a complete electrochemical laboratory.

It's been evaluated for coulometric titrations, chronopotentiometry, three-electrode polarography, cyclic voltammetry, rapid scan voltammetry, electrodeposition, chronoamperometry, stripping analysis, pH and ORP measurements. What else it will do is up to you, your problems, and your imagination.

The standard Electroscan 30 features a controlled DC current power supply, a high-speed, high-impedance, 10-inch recorder, and a wide variety of electrodes and sensors. It is also available with a built-in potentiostat accessory which converts the controlled current supply into a controlled voltage supply. And it's backed by Beckman's 30 years experience as the leader in electrochemical measurement.

If you've had to build your own electrochemical instruments, or if you've never taken advantage of the techniques of electroanalysis, find out what the Electroscan 30 can do for you. For details and specifications, and a copy of the informative new electrochemical primer, contact your Beckman Sales Engineer or write for Data File LES-165.

Then tell us about your etceteras.
NEW!

Two-phase lock-in amplifier simultaneously recovers in-phase and quadrature signals from noise

The PAR Model JB-6 Two-Phase Lock-In Amplifier permits simultaneous measurements of both the in-phase and quadrature components of extremely weak signals buried in noise. This instrument operates essentially as an extremely narrow band detector, the center frequency of which is "locked" to a particular frequency at which the signal information has been made to appear. As a result, complete freedom from drift between the detector center frequency and the characteristic signal frequency is obtained regardless of how narrow the detection band-width is made.

The JB-6 provides, for each phase component, individual outputs for strip chart recording, independent filtering selection and separate meter displays. An internal signal is also provided for convenient adjustments of orthogonality between channels over the entire operating frequency range. In experiments where the in-phase and quadrature components of the signal are to be determined, and where the signal information can be made to appear as such, the Two-Phase Lock-In Amplifier will prove to be most useful.

Frequency Range: 1.5CPS to 150KC continuously tunable in five ranges.

Time Constants: 0, 0.001, 0.01, 0.1, 1, 3, 10 seconds and EXT, for each channel. Single and double section RC filtering.

Gain: (rms AC in to push-pull DC out) Greater than 9,000. "In-Phase Mixer Gain" control permits making the gain of the two channels identical.

Outputs: a) ±5 volts DC maximum balanced to ground into high impedance load
b) ±1 ma or ±1/2 ma switch selectable into pen recorder of less than 2K input impedance (independent outputs for each channel at rear of instrument).

Operating Modes: External, Selective External or Internal Reference. Lock-in accepts sinusoidal or non-sinusoidal reference signal or provides sinusoidal 5V peak-to-peak reference from internal oscillator.

Price: $1,750.00

Write for bulletin No. 119 on the JB-6 or ask for information on PAR’s complete line of Lock-In Amplifiers and accessories.
Radionuclides Available From Stock

A wide selection of accelerator and reactor produced radionuclides of highest radiopurity, minimum solids content, and highest possible specific activity are available for immediate delivery. Pertinent processing and production data are included with shipment. More than 70 radionuclides are in stock.

for Life Sciences

- Calcium-45
- Chlorine-36
- Chromium-51
- Iodine-125 & 131
- Iron-55 & 59
- Krypton-85 (gas or solution)
- Mercury-197 & 203
- Phosphorus-32
- Rubidium-86
- Selenium-75
- Sodium-22
- Strontium-85
- Sulfur-35

for Physical Sciences

- Bismuth-207
- Cobalt-57
- Cobalt-58
- Germanium-68
- Manganese-54
- Tin-113
- Tin-119m
- Titanium-44

Our new 1966 Radionuclide Brochure is now available — write for your copy.
Mr. and Mrs. Robert B. Greenlee, were relaxing on their fiberglass-screened, roofed patio in Dunnellon, Florida. The temperature was in the 90's, the sky was overcast, and there was a slight drizzle; the Greenlees had heard thunder some distance to the west of their immediate vicinity. Mrs. Greenlee and a neighbor, Mrs. Riggs, were seated a few feet apart in aluminum chairs, and Mr. Greenlee was standing about three feet from Mrs. Greenlee. Mrs. Greenlee had just swatted a fly when a ball of lightning the size of a basketball appeared immediately in front of her. The ball was later described as being of a color and brightness comparable to the flash seen in arc welding, with a fuzzy appearance around the edges. Mrs. Riggs did not see the ball itself, but saw the flyswatter "edged in fire" dropping on the floor. The movement of the ball to the floor was accompanied by a report "like a shotgun blast." The entire incident was over in seconds.

None of the witnesses felt any heat from the ball, and Mrs. Greenlee showed no signs of external injuries, although she complained of pain in the back of her neck and had had occasional headaches since. The explosion was heard by a neighbor about 150 feet away, and it was subsequently learned that another neighbor's electric range had been shorted out at the same time. There was no damage of any sort at the Greenlees, nor were there any marks on the patio floor where the flyswatter had fallen.

With regard to the fly, Mrs. Riggs commented, "You sure got him that time."

FREDERICK B. MOHR
Aerospace Technology Division,
Library of Congress, Washington, D.C.

Animal-Care Legislation: Why Scientists Do Object

Morris Goldman's letter (17 Dec. 1965, p. 1536) urging passage of federal legislation controlling the procurement, care, and use of laboratory animals makes nonspecific and unsupported charges of "frivolous and cruel usage" of animals and sets up straw men to destroy. Responsible scientists do not ask, as Goldman suggests that they do, "Why should [I] be penalized" for occasional errors of others?

The persons in the scientific community who are opposing regulatory legislation at the federal level do so primarily on the grounds that such legislation would be contrary to the public interest. I testified for the National Society for Medical Research on 30 September 1965 before the Subcommittee on Health and Welfare of the House Committee on Interstate and Foreign Commerce. The transcript of the hearing will show that I concluded one portion of my testimony by saying "Let me assure you of one thing. It is not scientists as persons who would be hurt by passing bills like H.R. 10049. It is the public which would be hurt." Scientists who oppose legislation that would multiply the bureaucratic red tape involved in research and teaching in which animals are used do so not because it would complicate their lives, but because it would delay or prevent scientific discovery, cause deterioration in medical and other biological education, and increase the cost of the biological science enterprise out of proportion to any probable benefit to animal welfare.

Goldman depreciates the importance of self-regulation in maintenance of standards of ethical concern for animal welfare. It would be interesting to know whether he has any proof that laboratory animals are in general better treated in Great Britain where there is national regulation than they are in the United States where there is not. I have worked in both countries and it is my impression that in the institutions in which I have worked, the self-regulation in the United States has resulted in conditions as good as, and in many instances much better than, those in the nationally regulated laboratories in Britain. Furthermore, the British system has not been compatible with effective work on many problems in relation to which American scientists have made great progress, as in open-heart and other surgery, the management of burns and traumatic shock, and in other important human problems.

If any scientists are opposing federal regulation of animal experimentation simply because it would be troublesome to them, they should cease and desist. The pertinent and valid objection to such regulatory legislation resides in the damage it would do to the public welfare.

MAURICE B. VISSCHER
Department of Physiology,
University of Minnesota, Minneapolis
Fits the needs of any laboratory

'Baker Analyzed' reagent chemicals are versatile. Equally suited for research, analytical or developmental work. Because every 'Baker Analyzed' reagent is manufactured and controlled to the highest standards of purity. Select from our complete lines of inorganic and organic chemicals and consolidate your purchases for added economy. J. T. Baker's service-in-depth includes the latest in functional package design — in the sizes you need. Fast delivery too.

J. T. Baker Chemical Co. Phillipsburg, N. J.