# SiS Reference Sheets on

## Selectacel

# **ION EXCHANGE CELLULOSES**

for use in chromatographic columns

New Selectacel Ion Exchange Celluloses have remarkable properties when used with ionic and colloidal materials of high molecular weight.

Such applications include -

- ENZYMES
- LIPIDS
- PROTEINS
- NUCLEIC
- HORMONES
- ACIDS

These materials produce separations that far exceed what usually can be accomplished alone by ion exchange resins, chromatography, electrochromatography, or electrophoresis.

There are several kinds of Selectacel Ion Exchange Celluloses:

#### ANION EXCHANGERS

Type	Grade	Capacity
DEAE	Standard	meq/g
(Diethyl-	20	0.9
aminoethyl	40	

Separation and purification of proteins, peptides, enzymes, hormones and re-lated materials.

Type Grade  ECTEOLA Standard (Epichlorohydrin triethanolamine) 40	Capacity meq/g 0.3
---	--------------------------

Separation and purification of viruses.

#### **CATION EXCHANGERS**

Туре	Grade	Capacity
CM	Standard	meq/g
(Carboxymethyl	20	0.7
Cellulose)	40	

Weakly acidic-most effective at pH's slightly above 4.

Type P (Cellulose Phosphate)	<b>Grade</b> Standard	Capacity meq/g 0.9
Phosphate)		l

Bifunctional – containing both strongly acidic and weakly acidic groups. Relatively high exchange capacities.

MAIL COUPON **TODAY** 

Send for these new free Selectacel Reference Sheets today - no obligation of course.

Carl Schleicher & Schuell Co. Keene. New Hampshire Department S-5

	-	-		
Send F	REE	Selectacel	Reference	Sheets.

NAME COMPANY\_ ADDRESS\_ STATE

Selectacel is manufactured by Brown Company and exclusively packaged and distributed for laboratory use by S & S.

13-16. Institute of Aerospace Sciences and American Rocket Soc., Los Angeles, Calif. (Inst. of Aerospace Sciences, 2 E. 64 St., New York 21)

13-18. Nuclear Congress, 6th, Rome, Italy. (Ufficio Stampa e Relazioni Pubbliche-CNEN, Via Belisario 15, Rome)

14-16. Applied Mechanics Conf., Chicago, Ill. (American Soc. of Mechanical Engineers, Meetings Dept., 29 W. 39 St., New York 18)

14-16. Semiconducting Compounds, conf., Schenectady, N.Y. (W. W. Tyler, General Electric Research Laboratory, Schenectady)

14-16. Theory of Weak and Strong Interactions, conf., La Jolla, Calif. (T. A. Manar, Scripps Institution of Oceanography, La Jolla)

14-17. American Assoc. of Bioanalysts, Dallas, Tex. (L. D. Hertert, 490 Post St., Room 1049, San Francisco 2, Calif.)

16-17. Meteoritical Soc., Nantucket, Mass. (G. L. Rowland, Long Beach City College, Long Beach 8, Calif.)

17-21. American Nuclear Soc., Boston Mass. (O. J. Du Temple, ANS, 86 E. Randolph St., Chicago 1, Ill.)

18-21. American Astronomical Soc., Nantucket, Mass. (J. A. Hynek, Dearborn Observatory, Northwestern Univ., Evanston, Ill.)

18-23. American Meteorological Soc., 193rd natl., and Pacific Div., AAAS, 42nd annual, Davis, Calif. (AMS, 45 Beacon St., Boston 8, Mass.)

18-23. American Soc. of Medical Technologists, Seattle, Wash. (Miss R. Matthaei, Suite 25, Hermann Professional Bldg., Houston 25, Tex.)

19-21. American Soc. of Pharmacognosy, annual summer meeting, Houston, Tex. (R. S. Westby, Eli Lilly and Co., 740 S. Alabama St., Indianapolis 6, Ind.)

19-21. Space Flight and Re-entry Trajectories, symp. by Intern. Acad. of Astronautics, Paris, France. (Secretariat, IAA, 12 rue de Gramont, Paris 2)

19-23. Conference on Carbon, 5th biennial, University Park, Pa. (Fifth Carbon Conf., Pennsylvania State Univ., Conference Center, University Park)

19-23. Current Aspects of Internal Medicine, postgraduate course, American College of Physicians, Iowa City, Iowa. (E. C. Rosenow, Jr., Executive Director, ACP, 4200 Pine St., Philadelphia 4, Pa.)

19-24. Feed Microscopy, annual meeting and special short course, Denver, Colo. (C. Jones, Colorado Department of Agriculture, 3130 Zuni St., Denver 11)

19-30. Astrophysics Seminar, Cloudcroft, N.M. (J. R. Foote, P.O. Box 1053, Holloman Air Force Base, N.M.)

21-1. International Plastics Exhibition and Convention, London, England. (British Plastics, Dorset House, Stanford St., London, S.E.1)

22-23. American Rheumatism Assoc., New York, N.Y. (F. E. Demartini, 622 W. 168 St., New York 32)

22-23. Computers and Data Processing, 8th annual symp., Estes Park, Colo. (W. H. Eichelberger, Denver Research Inst., Univ. of Denver, Denver, Colo.)

22-24. Endocrine Soc., New York, N.Y. (H. H. Turner, 1200 N. Walker, Oklahoma City 3, Okla.)

(See issue of 21 April for comprehensive list)

NEWS I ABOUT

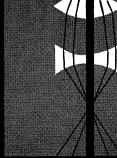
## PLANO (FLAT FIELD) OPTICS

The well known Zeiss planachromatic series of flat field objectives is now supplemented by the introduction of the new PLANAPOCHROMATS. The latter are currently manufactured in the following magnifications: 4, 10, 25 and 100x. High-dry systems are to be added at a later

For best results we suggest that these objectives be used with an aplanatic condenser and compensating/plano eyepieces.

For complete information write Brinkmann Instruments, 115 Cutter Mill Road, Great Neck, New York. Six other offices to serve you: Philadelphia, Cleveland, Houston, Miami, Menlo Park, Calif., St. Louis.





BRINKMAN

#### 

## Calcification in Biological Systems AAAS Symposium Volume No. 64

Edited by R. F. Sognnaes

July 1960

526 pp., 283 illus., \$9.75, AAAS members' cash orders, \$8.50

This monograph deals comprehensively with the mechanism of mineral deposition throughout the animal kingdom. Current research approaches, findings and hypotheses are presented by investigators representing disciplines ranging from physical chemistry and histochemistry to electron microscopy and tissue culture. The central theme revolves about the question, "Why do certain normal and pathological tissues calcify?"

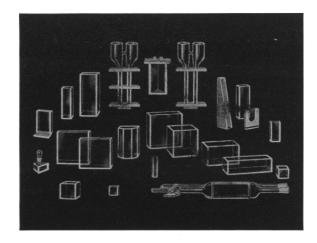
The 22 chapters are organized in an evolutionary sequence; (1) calcification within unicellular organisms and various lower animals, that is, the shells of the molluse, the gastrolith and exoskeleton of the lobster, the mineralizing leg tendon of the turkey and the otolithic organ of the rat; (2) elements and mechanisms involved in the calcification of cartilage, bone, dentin, enamel and various pathological concretions; (3) experimental observations in organ transplants and in tissue culture; and culminating with (4) the physical and chemical nature of culminating with (4) the physical and chemical nature of and relationship between the ultimate inorganic and organic building blocks most typical of normal calcification in the human organism.

English Agents: Bailey Bros. & Swinfen, Ltd. West Central Street London W.C.1, England

#### AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

1515 Massachusetts Avenue, NW Washington 5, D.C.

#### **GLASS ABSORPTION** made CELLS Ьv



SCIENTIFIC APPARATUS

Klett-Summerson Photoelectric Colorimeters—
Colorimeters— Nephelometers— Fluorimeters—
Bio-Colorimeters— Comparators— Glass Standards—Klett Reagents.

Klett Manufacturing Co. 179 East 87 Street, New York, New York

# PERSONNEL PLACEMENT

CLASSIFIED: Positions Wanted. 25¢ per word, minimum charge \$4. Use of Box Number counts as 10 additional words. Payment in advance is required.

COPY for ads must reach SCIENCE 2 weeks before date of issue (Friday of every week).

week).
DISPLAY: Positions Open. Rates listed below—no charge for Box Number. Rates net. No agency commission. No ash discount. Minimum ad: 1 inch. Ads over 1 inch will be billed to the nearest quarter inch. Frequency rate will apply to only repeat of same ad. No copy changes. Payment in advance is required except where satisfactory credit has been established.

Single insertion 4 times in 1 year

For PROOFS on display ads, copy must reach SCIENCE 4 weeks before date of issue (Friday of every week).

Replies to blind ads should be addressed as follows:

Box (give number)

Science 1515 Massachusetts Ave., NW Washington 5, D.C.

#### POSITIONS WANTED

Biochemist. Academic appointment. Research and teaching. Graduate faculty. Publications. Dr. J. H. Schneider, American University. Beirut, Lebanon. 5/26; 6/9

Biologist, Ph.D., 5 years' experience, desires teaching-research position, Northeast or Midwest. Box 95, SCIENCE. 5/12

Microbiologist, Ph.D.; 8 years of teaching experience. Research with viruses in animals and cell cultures. Desires academic appointment with teaching and research. Available 1 July 1961. Box 99, SCIENCE. 5/12

#### POSITIONS WANTED

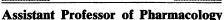
**Biologist**, Ph.D.; 5 years' university teaching-research; desires academic position. Box 103, SCIENCE.

M.D., firm background mathematics, chemistry speculative bent, Mensa, desires position theoretic biology. Box 102, SCIENCE. X

Pharmacologist. B.S., male; 11 years of industrial pharmaceutical research. Publications. Desires challenging industrial position. Box 101, SCIENCE. 5/12

#### COURSES

#### POSITIONS OPEN



The University of Alberta invites applications for the position of Assistant Professor of Pharmacology commencing 1 September 1961 at a salary of \$7000 per annum or more depending on qualifications. This position involves both teaching and research.

Applications should include a curriculum vitae, a recent photograph, and names of three referees, and should be sent to the Dean, Faculty of Medicine, University of Alberta, Edmonton. Alberta, Canada.

# COURSES

#### INTRODUCTION TO GENERAL PATHOLOGY for graduate students and investigators who do not have a medical background

26 June-15 July 1961 HARVARD MEDICAL SCHOOL, Boston, Mass.

The course will be geared to graduate students and Ph.D.'s. It is intended to present the most important areas of General Pathology to investigators in the biological field who do not have a medical background, and wish to become acquainted with the basic mechanisms of disease at the level of cells and tissues.

Experimental methods will be emphasized. The course will consist of lectures, laboratories, and demonstrations. The following areas will be covered:

#### DISEASE AT THE LEVEL OF CELLS - INFLAMMATION -CIRCULATORY DISTURBANCES - TUMORS - ALLERGY

No Tuition. A limited number of fellowships will be available.

Information: Dr. G. Majno, Department of Pathology, Harvard Medical School, 25 Shattuck Street, Boston 15, Mass.

# BIOCHEMIST-Ph.D.

#### THE MAN:

—imaginative; good academic qualifica-tions; ability and interest in working with both scientists and management; facility in oral and written communication

#### THE JOB:

-important role in research and development of new therapeutic agents, including design of laboratory and clinical studies; interpretation of data and evaluation of

Opportunity for attending appropriate scientific meetings and making outside contacts with other scientists and clinicians.

Send complete resume including salary re-

- W. R. HALL -

#### Smith Kline & French Laboratories

1584 Spring Garden Street Philadelphia 1, Pa.

All qualified applicants will receive consideration for employment without regard to race, creed, color or national origin.

#### Director of Chemical Research

Prominent national pharmaceutical company seeking well-qualified and experienced organic (medicinal) chemist to head all phases of company's chemical research programs.

Candidate must have Ph.D. degree with a minimum of ten years' experience. All replies held in strictest confidence.

**Box 105, SCIENCE** 

#### PHARMACOLOGIST

Ph.D., recent graduate or with some experience. General pharmacodynamics in fields of analgesia and inflammation. Excellent working conditions in new research installation. Salary commensurate with background and experience.

#### **PATHOLOGIST**

M.D., D.V.M., or Ph.D., recent graduate. Specific interest in experimental pathology with some knowledge of diagnostic pathology. To work with head of pathology section in new research installation.

Please write Richard Cordell, Personnel Department

ABBOTT LABORATORIES North Chicago, Illinois

#### RADIATION BIOLOGIST

Manager of Radiobiology Department will perform and supervise theoretical and experimental studies. Should be capable of originating new projects. Knowledge of health physics, radiation dosimetry, and radiobiology desirable. Ph.D. or equivalent and related experience required. Salary \$9000-\$12,000. Controls for Radiation, Inc., 130 Alewife Brook Parkway, Cambridge 40, Massachusetts

#### POSITIONS OPEN

#### Faculty of Agriculture

The University of Alberta invites applications for a position in the Department of Animal Science as Assistant Professor (poultry genetics) at a starting salary of \$6600, with excellent prospects for advancement. Candidates must have a Ph.D. or equivalent in genetics. Preference will be given to applicants with training in biochemical genetics. Duties, to commence 1 September 1961, will include fundamental and applied research on methods of predicting production and reproduction traits in poultry, cooperation in research projects on genetic-mutritional-environmental interactions, teaching, and limited extension work.

mental interactions, teaching, and infinite catch sion work.

Forward applications, accompanied by a recent photograph, curriculum vitae, transcript of academic record, and names and addresses of three references to the Head, Department of Animal Science, University of Alberta, Edmonton, Alberta. Closing date: 30 June 1961.

5/19

#### FELLOWSHIPS

Predoctoral and Postdoctoral Fellowships in Medical Physics. Opportunities are available to do graduate work in the basic medical sciences. Emphasis is on the fields of radiation biology, radiation physics, and the clinical use of radioisotopes. Fellowship support is offered for study programs leading to the M.S. and Ph.D. degrees in medical physics and also for postdoctoral research. Stipends vary with training and dependents. Write to Chairman, Department of Radiology, Medical Center, University of California, Los Angeles 24, California. 5/26; 6/9

BOOKS . SERVICES . SUPPLIES . EQUIPMENT

### SUPPLIES AND EQUIPMENT

#### HYPOPHYSECTOMIZED RATS

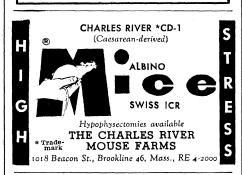
Shipped to all points via Air Express For further information write

HORMONE ASSAY LABORATORIES. Inc. 8169 South Spaulding Ave., Chicago 29, III.



Serums, antiserums and bloods of all kinds for technicians and tissue culture laboratories. No salesman will call.

COLORADO SERUM CO. 4950 York St. • MAin 3-5373 • Denver 16, Colo.



1919 - 1961 LaMotte Chemical Chestertown, Maryland, U.S.A. Specialists in

Colorimetric Techniques

Reagents-Standards-Comparators

Dept. H

Send for Illustrated Controls Handbook

#### BOOKS AND MAGAZINES

#### Your sets and files of scientific journals

are needed by our library and institutional customers. Please send us lists and description of periodical files you are willing to sell at high market prices. Write Dept. A3S, CANNER'S, Inc.

Boston 20. Massachusetts

#### BOOKS AND MAGAZINES

FOR UP-TO-DATE INFORMATION ON

#### GAS CHROMATOGRAPH

READ AEROGRAPH RESEARCH NOTES

write for your subscription

WILKENS INSTRUMENT & RESEARCH INC. Box 313-A • Walnut Creek, Calif.

#### LOW-LEVEL IRRADIATION

Editor: Austin M. Brues

A symposium organized by the AAAS Section on Zoological Sciences, cosponsored by the U.S. Atomic Energy Commission and the Division of Biological and Medical Research of the Argonne National Laboratory.

Public debate on global fallout has been acrimonious because scientific facts about radiation and human implications regarding nuclear warfare have become confused. Scientists have consequently been thought guilty of ignorance or of partisanship. The Symposium on Low-Level Irradiation deals in a considered way with the many points of view that have brought this about and indicates possible solutions.

Scientific Backaround: Introduction-National and Artificial Radiation Background of Man—Meteorological Factors and Fallout Distribution—Genetic Effects -Somatic Effects

Implications: Introduction—Radiation as a Public Health Problem-Responsibilities of the Press-Legal and Political Implications—Science and Morality

Summary and Conclusions-Index

December 1959, 158 pages, \$3.75 AAAS Members' Cash Orders \$3.25

English Agents: Bailey Bros. & Swinfen, Ltd.
Hyde House, West Central
Street, London W.C.I

#### AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

1515 Massachusetts Ave., NW Washington 5, D.C.

# In PRECISION... SIMPLICITY... PRICE... here's an entirely NEW BLOOD CELL COUNTER ideal for both the large and small hospital

MODEL 75 SANBORN-FROMMER CELL COUNTER GIVES ACCURATE, DIRECT-READING COUNTS IN 25 SECONDS

... MAKES CELL COUNTING EXTREMELY SIMPLE

... PRICE \$1800 F.O.B., WALTHAM, MASS.

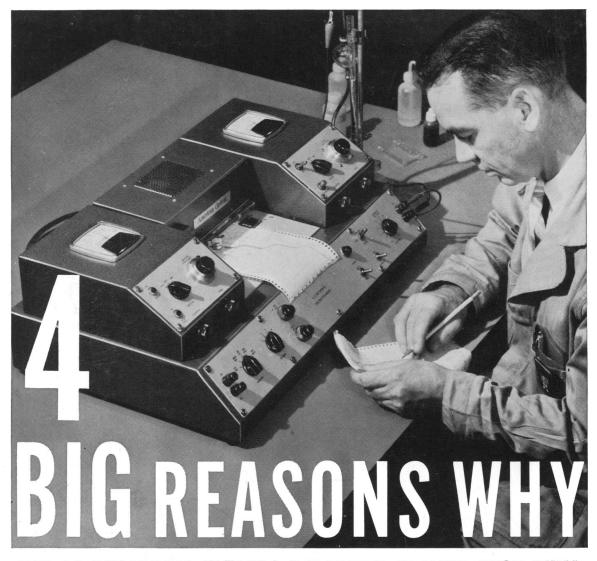
Pour the sample — press the lever — within seconds read the cell count directly on the panel meter. This fast, simple procedure for accurate counting of red and white cells is now made possible by the new, economically priced Sanborn instrument of unique optical-electronic design.

Cell count is determined by the percent of time individual cells are present in a photoelectrically-observed portion of a "dark field" illuminated chamber. The large number of cells sampled reduces chance of statistical error. Direct readout of cell count on the panel meter, without correction or conversion — and simple, positive instrument calibration — assure continuing efficiency and economy of operation.

For red or white cells, normal or abnormal blood specimens, the Model 75 is ideally suited for hospital admittance, clinical, research and similar laboratories where speed, accuracy and economy are essential. And this new Sanborn instrument has the same nationwide service facilities of 46 Branch Offices and Service Agencies offered all Sanborn owners. For complete details, contact your nearby Sanborn man or write the Inquiry Director in Waltham.







# THE AO RECORDING ELECTRO-POLARIZER IS YOUR BEST BUY!

- 1. ACCURACY: Efficient Varian Recorder uses economical 5-inch chart... provides reproducible measurement readings to 0.25% accuracy. This is 4 times greater than the generally recognized 1% limit for overall accuracy of the polarographic method. So why pay more... hundreds of dollars more... for an instrument with a large chart.
- 2. BUILT-IN CALIBRATION: An Eplab Standard Cell is incorporated into the instrument to accurately standardize the bridge. You don't use the voltmeter, thus you completely eliminate possibility of voltmeter error and consequent inaccuracy of readings.
- 3. UNLIMITED POLARIZATION RANGE: Only the AO Polarograph provides two identical polarization bridges. You use initial voltage bridge to set starting point of polarogram . . . the span voltage bridge to select your polarization range. You select any polarization range you want . . . you're not limited to fixed ranges!
- 4. NEW LOW PRICE: Now you can buy the AO Recording Electro-Polarizer direct . . . for \$1195.00 . . . hundreds of dollars less than comparable instruments. Send for complete detailed information and specifications on the AO Recording Electro-Polarizer.



American Optical Company

INSTRUMENT DIVISION, BUFFALO 15, NEW YORK

Please send full inform Electro-Polarizer.	nation on the AO Recordin	ng	
Name			
Address			
City	Zone	State	