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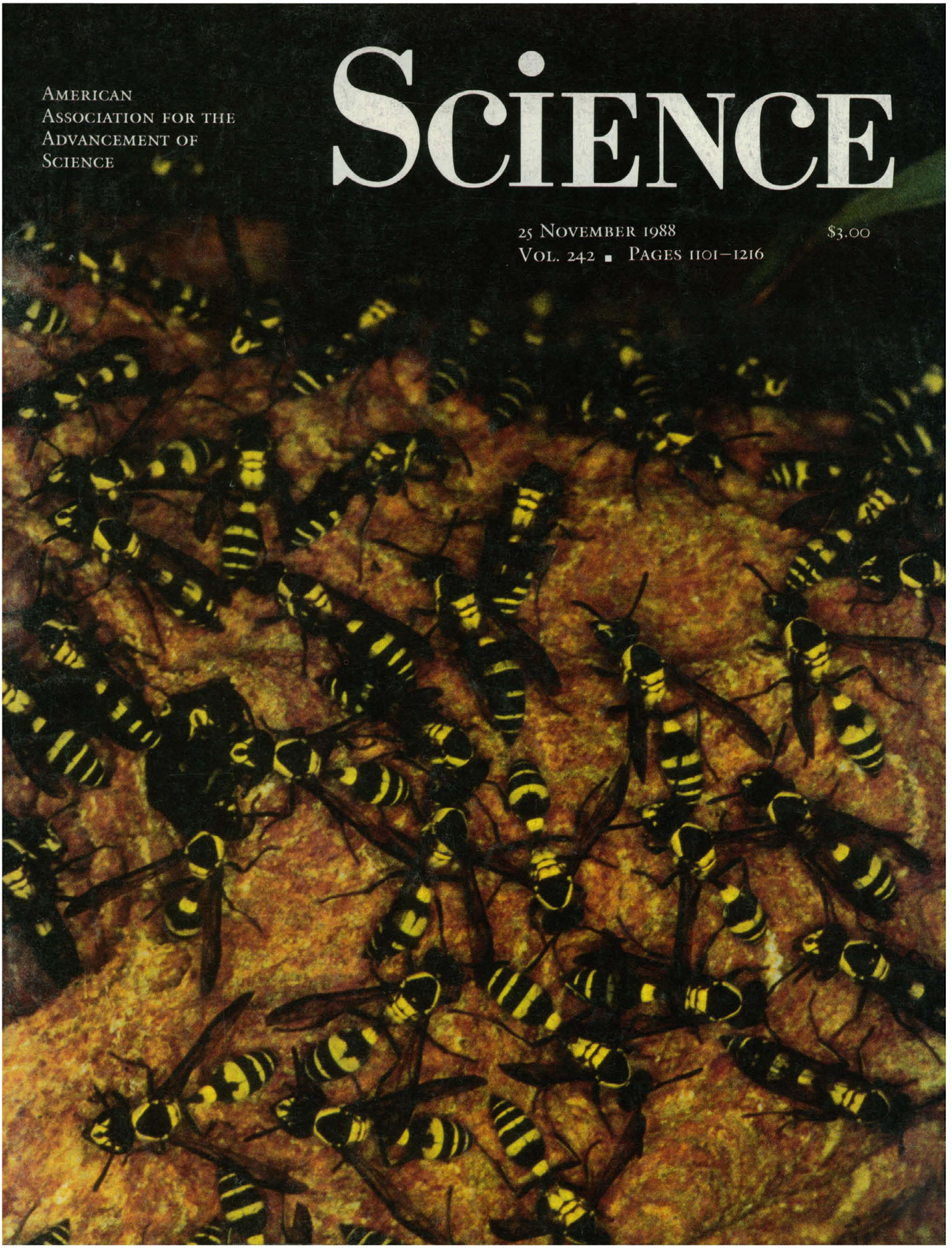
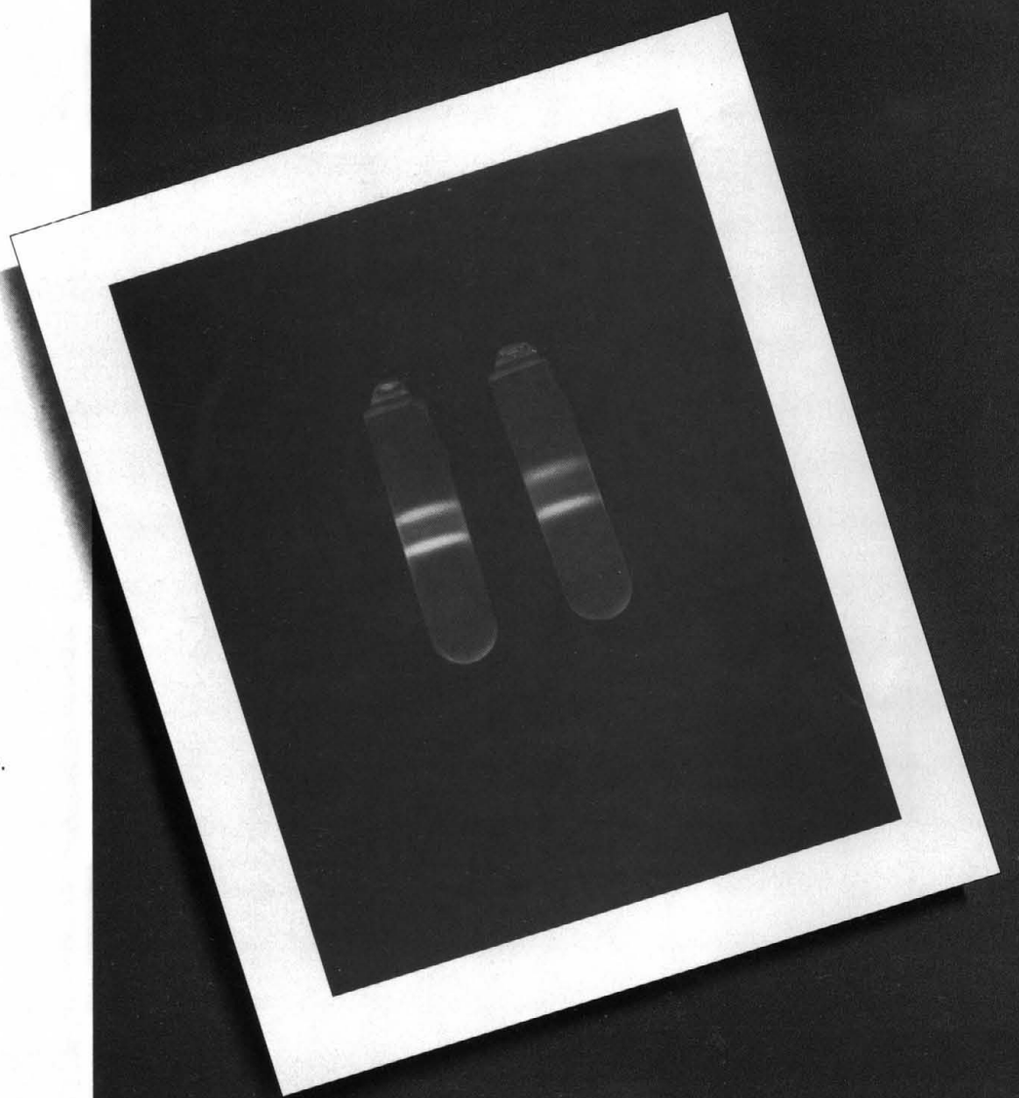


Screening Large Numbers of Plasmids?



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COVER Colonies of the social wasp, *Polybia occidentalis* (yellows have been enhanced by the electronic flash), often have multiple queens as do colonies of many other neotropical wasps. The presence of multiple egg layers is expected to lower relatedness within colonies. The first estimates of relatedness for these wasps show that it is very low in one species, but in two other species it is not markedly lower than relatedness in some single-queen species. See page 1155. [Colin R. Hughes, Department of Biology, Rice University, Houston, TX 77251]

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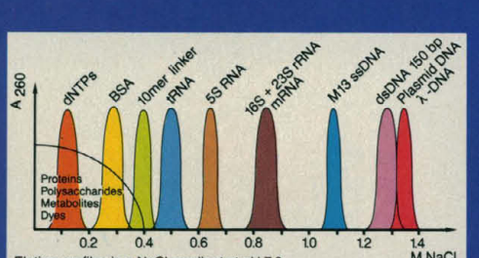

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Magnetic moments

A new microanalytic technique developed by Renne and Onstott measures magnetization characteristics of individual mineral grains in rocks that have multiple magnetization components (page 1152). With laser-selective demagnetization it is not necessary to extract grains from bulk specimens (a requirement of other microanalytic techniques) because magnetic moments are determined in thin sections. Furthermore, distinctions can be made among grains that, sharing chemical or physical properties, could not easily be separated from each other for single-grain analyses. Pulses from a ruby laser are directed through the optical system of a microscope onto thin sections of rock; each pulse produces a "pit" and demagnetizes a small region of the rock. Magnetic moments are measured before each suite of pits is emplaced and afterward. The resolution of grains that have distinctive magnetization properties should provide new insights into the paleomagnetic histories of terrestrial and extraterrestrial rocks that contain heterogeneous mineral assemblages.

Cellulolytic nitrogen-fixing anaerobes

CELLULOSE, the main polysaccharide of plant cell walls, is an abundant natural compound; on the order of 10^{11} tons are produced worldwide each year. Studies by Leschine *et al.* show that cellulose can be used as an energy source for nitrogen fixation (the conversion of atmospheric dinitrogen to ammonia) by anaerobic bacteria (page 1157). Four strains of anaerobic cellulolytic nitrogen-fixing bacteria were isolated from forest soil and from mud of a shallow freshwater pond. All had nitrogenase enzyme activity (which mediates fixation), all fermented sugars, and all were similar morphologically. Several previously described anaerobic cellulolytic bacteria were also shown to fix nitrogen while they fermented cellulose. Thus, such organisms, like the cellulose they ferment, appear to be widespread in the environment, and their metabolic activities may contribute significantly to carbon and nitrogen cycling globally. Because these bacteria rely on atmospheric rather than combined nitrogen, they could be of use in cellulose-rich nitrogen-poor environments (such as agricultural or municipal waste sites) for improvement of soil fertility and degradation of cellulose-rich waste materials.

Cell-free translation

FOR more than 25 years, cell-free systems for the synthesis of polypeptides from messenger RNA molecules have been evaluated; those that were functional typically worked for only short periods of time, and the yields were invariably low. A high-yield cell-free translation system has now been designed by Spirin *et al.* (page 1162). The reaction mixture was housed in a flow chamber replenished constantly with amino acids and energy donors; the polypeptide products were continuously removed through filters that ensured retention of messenger RNA molecules inside the chamber. Both prokaryotic and eukaryotic translation machinery effectively translated unrelated messenger RNA molecules; the systems functioned steadily for tens of hours, producing polypeptides in high yield.

Fidelity of reverse transcriptases

HOW accurately does the reverse transcriptase of HIV-1 (the AIDS virus) catalyze synthesis of double-stranded DNA molecules in vitro? Not very, according to reports by Preston *et al.* (page 1168) and Roberts *et al.* (page 1171). Extensive DNA sequence diversity has been noted among HIV-1 isolates (as well as among isolates of other retroviruses); this hypermutability in the genome may account for the ability of HIV-1 to evade the host's immune defenses, and it bodes poorly for vaccine development. HIV-1 reverse transcriptases regularly inserted the wrong bases into growing chains of DNA, with certain sites being especially error-prone. In addition, exonuclease activity could not be detected in association with the reverse transcriptase activities; some other enzymes that have DNA polymerase activity have an associated exonuclease activity that proofreads newly synthesized double-stranded DNA and repairs errors. It may be possible to take advantage of this low-fidelity enzyme to insert into the HIV-1 genome base analogs that would interfere with viral viability.

T cell progenitors

MATURE thymus-derived lymphocytes that express CD4 surface markers and those that express CD8 markers develop from a common progenitor that expresses neither marker (the $CD4^-8^-$ cell). During lymphocyte differentiation, a cell that expresses both markers (the $CD4^+8^+$ cell) develops, but its role—progenitor or dead-end cell—has been ambiguous. Carbone *et al.* predict from a study of methylation patterns of CD8 genes in various thymus-derived lymphocytes that the $CD4^+8^+$ cell is also a progenitor of $CD8^+$ and $CD4^+$ cells (page 1174). In $CD4^-8^-$ cells, the CD8 gene is completely or almost completely methylated. Demethylation of this gene and surface CD8 expression proceed concurrently in maturing T cells. The extent of CD8 demethylation proved to be similar in $CD4^+$ and $CD4^+8^+$ cells, suggesting that CD8 was once expressed in the $CD4^+$ cell line; expression and demethylation may have stopped together as cells matured, leaving a residual demethylation pattern on the transiently expressed gene.

Buckminsterfullerene

Articles in *Science* this week (page 1139) and last (page 1017) describe the exceptional chemical and physical properties of 60-carbon clusters, their special stability, and where and how they form.

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New Horizons in Medicine

New technologies continue to bombard biomedical research and the practice of medicine. This was evident in a recent symposium in which progress in the use of nuclear magnetic resonance (NMR) was emphasized.* Applications of NMR that were discussed included structural determinations of proteins and use of NMR in clinical diagnosis, including localization of pathology and detection of aberrant metabolic patterns.

In studies of protein structure, NMR is a useful supplement to x-ray determinations and can provide information not obtainable with x-rays. With NMR one can investigate the behavior of proteins and other macromolecules in an aqueous medium. Thus one can observe effects of *p*H and determine binding of water both in the interior of a protein and also at its surface. NMR has a particular advantage in dealing with proteins and peptides that cannot be crystallized. X-ray crystallography is not applicable to such substances.

Structures of about 50 proteins have been determined. Their molecular weights are in the range of about 5,000 to 15,000. Larger molecules present difficulties since the NMR ^{1}H spectra are exceedingly complex. At the symposium, the use of three-dimensional Fourier transform NMR and of ^{15}N-labeled amino acids was mentioned, along with advanced computer programs. However, speakers suggested that a molecular weight of 40,000 might be an upper limit for determination of structures by NMR.

The application of NMR to clinical medicine has expanded rapidly. In 1981, only two magnetic resonance imaging (MRI) devices were in use in the United States. In 1987, 600 were being used here and another 100 in Europe. MRI is particularly helpful for imaging soft tissue, including skeletal musculature, and especially the pelvic region in both females and males. In tissues with tumor involvement, delineation of the pathology by MRI is often superior. Accurate knowledge of the extent of tumors is crucial to choice of appropriate surgery or other therapy. Determination of the existence and location of tumors in the brain can often best be done by MRI. One can follow the evolution of hematomas with time, and one speaker reported that MRI techniques had facilitated detection of an earlier contusion in a battered child. The usefulness of MRI in clinical diagnosis has been such that equipment is reportedly occupied two shifts a day, 7 days a week, in some places.

In development of improved instruments for clinical use, there are some limitations. To obtain higher resolution and better performance one would wish to operate at higher magnetic fields than those currently employed (1.5 to 2 teslas, that is, 15,000 to 20,000 gauss). However, obstacles to higher fields include large, expensive magnets, costly site preparation, and reported feelings of discomfort when volunteers exposed to 4 teslas move their heads.

A promising area for further investigation is in vivo studies of the distribution and metabolism of ^{13}C and ^{31}P compounds. George K. Radda at Oxford has studied 2000 patients in whom he has made observations on distribution of phosphate compounds in normal and diseased states. He can detect and monitor about eight different entities including adenosine triphosphate (ATP), phosphocreatine, and inorganic phosphate. If circulation of blood is limited, oxygen needed for the production of ATP is not available in sufficient quantity, and pain, heart failure, and stroke ensue. Examination of phosphorus constituents of muscle has been particularly useful. Radda has also noted that phosphocreatine increases in liver tumors. Brain was more difficult to study, but again patterns of phosphorus were changed in tumors. He also found that epileptics had abnormal phosphocreatine compared with ATP.

R. G. Shulman of Yale reported use of glucose tagged with ^{13}C in the one carbon position. He was able to follow the conversion of glucose to glycogen in skeletal muscle and note differences between normal and diabetic patients. He also showed that the path of conversion in the brain of glucose to γ-aminobutyric acid proceeds via glutamic acid.

During the past few years applications of NMR in biomedical research have expanded rapidly. Prospects are excellent for continued expansion as techniques evolve and there is a further increase in the use of computers and computer graphics.—PHILIP H. ABELSON

*Third International Conference on New Horizons in Medicine, held at the Scripps Clinic and Research Foundation, La Jolla, CA, 30 October to 1 November 1988. Honorary chairman, Cecil H. Green, and co-chairmen, Richard A. Lerner and Peter E. Wright.

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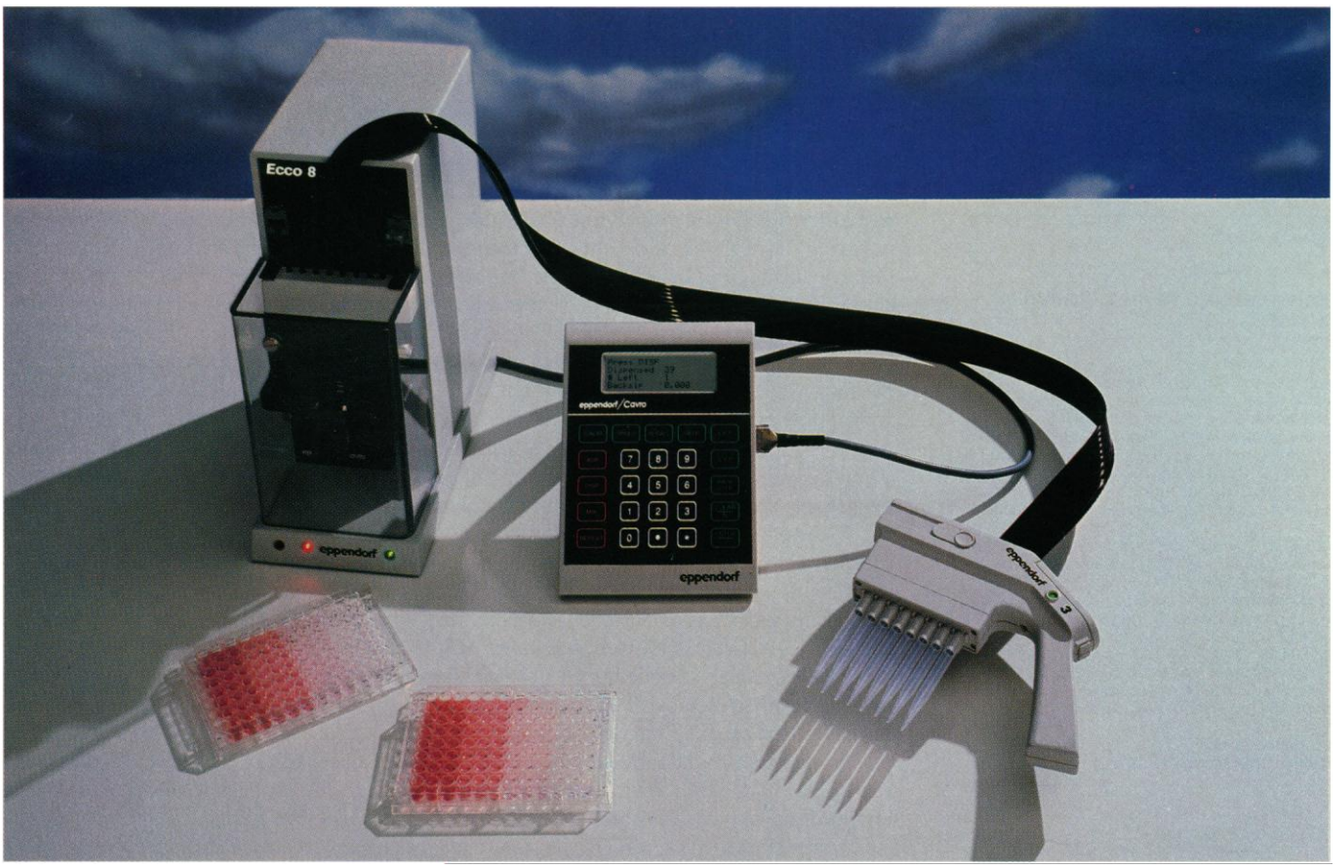

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Grant suggests that UVB meters be placed in rural areas far removed from air pollution. Best suited for this purpose is a station in Mauna Loa, Hawaii, which is sparsely populated and lies at 3.4 kilometers above sea level. Preliminary analysis of data from this site shows no apparent increase in UVB radiation from 1974 to 1985. While Mauna Loa is relatively free of urban air pollution, it must be noted that during this same period surface ozone has increased at Mauna Loa (*2*), consistent with the increasing levels of tropospheric ozone observed in other rural areas of the Northern Hemisphere (*3*).

We agree that more research is needed to measure the effects of tropospheric pollution on solar UVB radiation penetrating to the earth's surface. The influence of sulfur dioxide in reducing the erythemal-weighted solar flux at certain urban locations has already been noted (*4*). As data on air pollution, UVB levels, and ozone become available at various locations, it will be important to also take into account air transport, that is, movement of aerosols, cloud cover, and atmospheric pollutants across urban and rural areas. Also useful will be measurements of UVB at several altitudes in different geographic areas. This information, when combined with details of the changes in the vertical distribution of ozone and aerosols, should help us evaluate the impact of atmospheric pollutants that could inhibit the amount of UVB reaching the earth's surface or impair the sensitivity of ultraviolet meters.

JOSEPH SCOTTO
Biostatistics Branch, National Cancer Institute, Bethesda, MD 20892
GERALD COTTON
National Oceanic and Atmospheric Administration, Silver Spring, MD 20910
FREDERICK URBACH
DANIEL BERGER
Health Sciences Center, Temple Unversity, Philadelphia, PA 19140
THOMAS FEARS
Biostatistics Branch, National Cancer Institute

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2. R. C. Schell and R. M. Rosson, Eds., *Geophysical Monitoring for Climatic Change No. 15: Summary Report 1986* (National Oceanic and Atmospheric Administration, Boulder, CO 1987).
3. A. Volz and D. Kley, *Nature* **332**, 240 (1988).
4. C. S. Zerefos, H. T. Mantis, A. F. Bais, I. C. Ziomas, N. Zoumakis, *Atmos. Ocean* **24**, 292 (1986).

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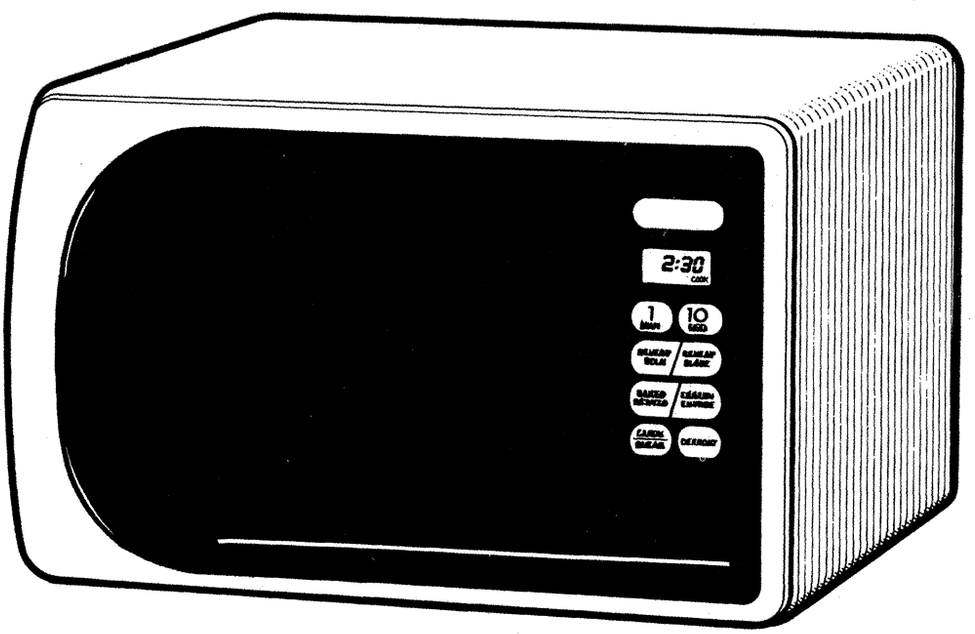

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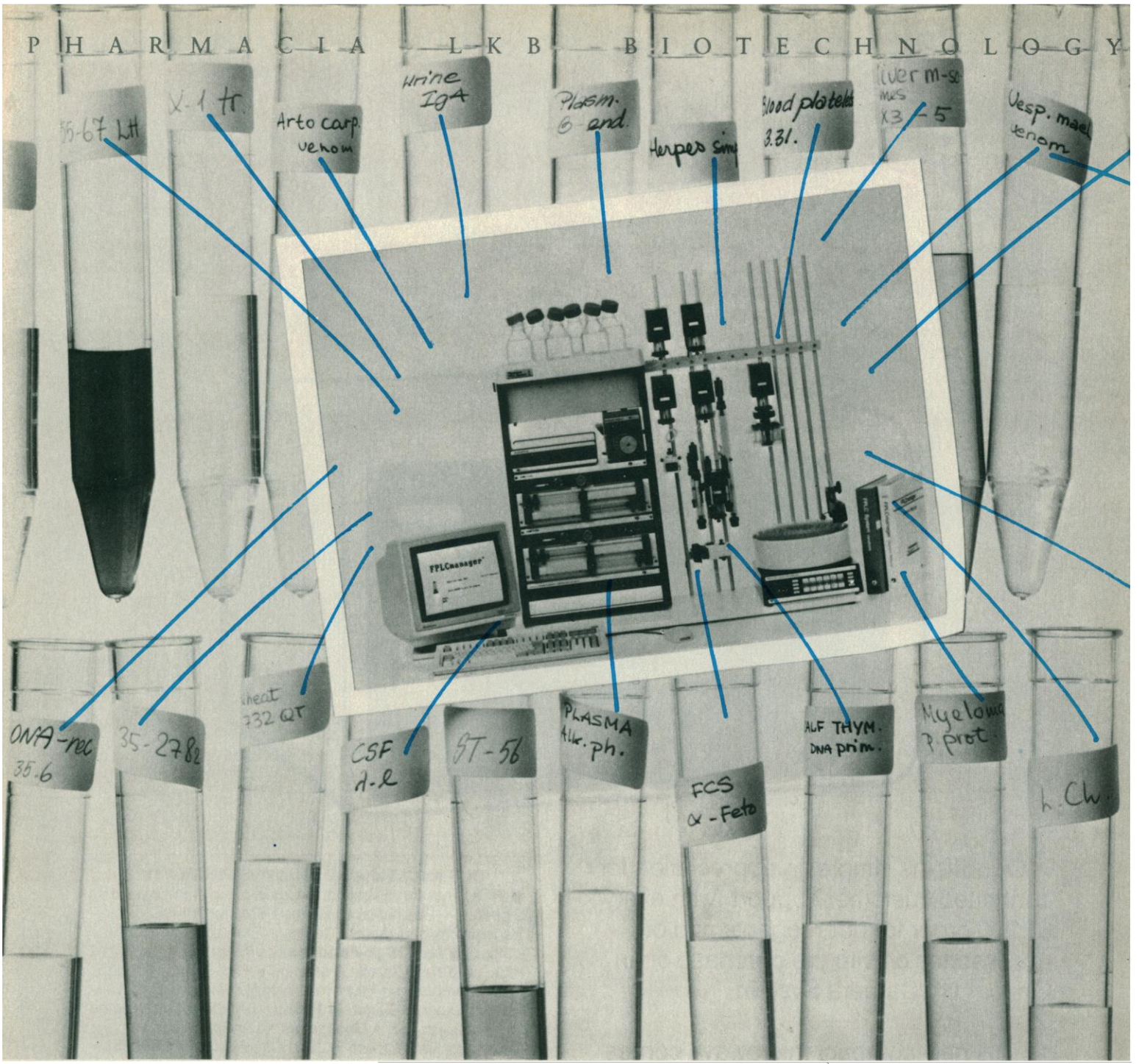

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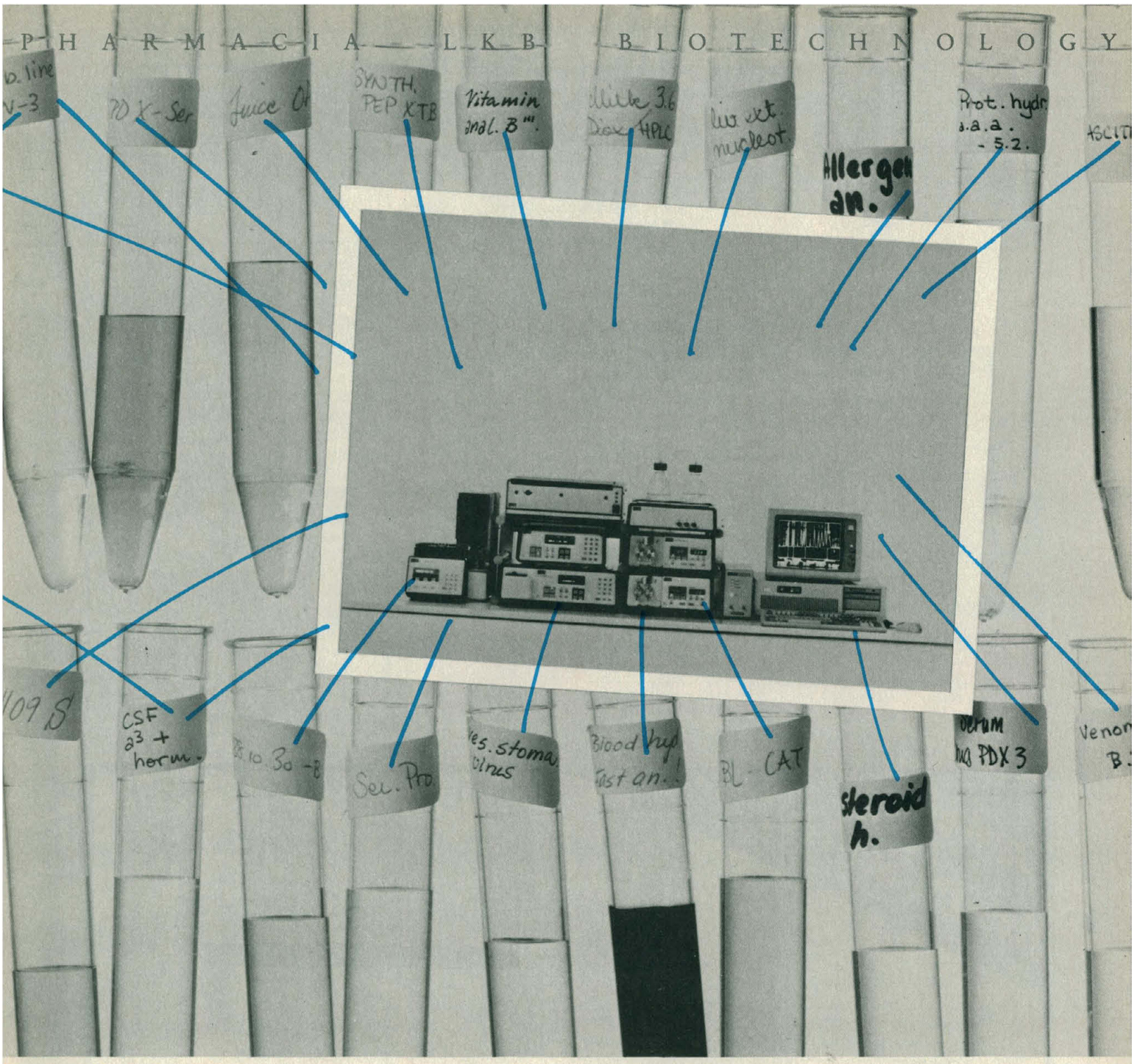

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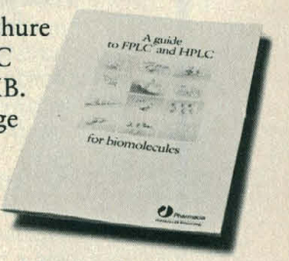

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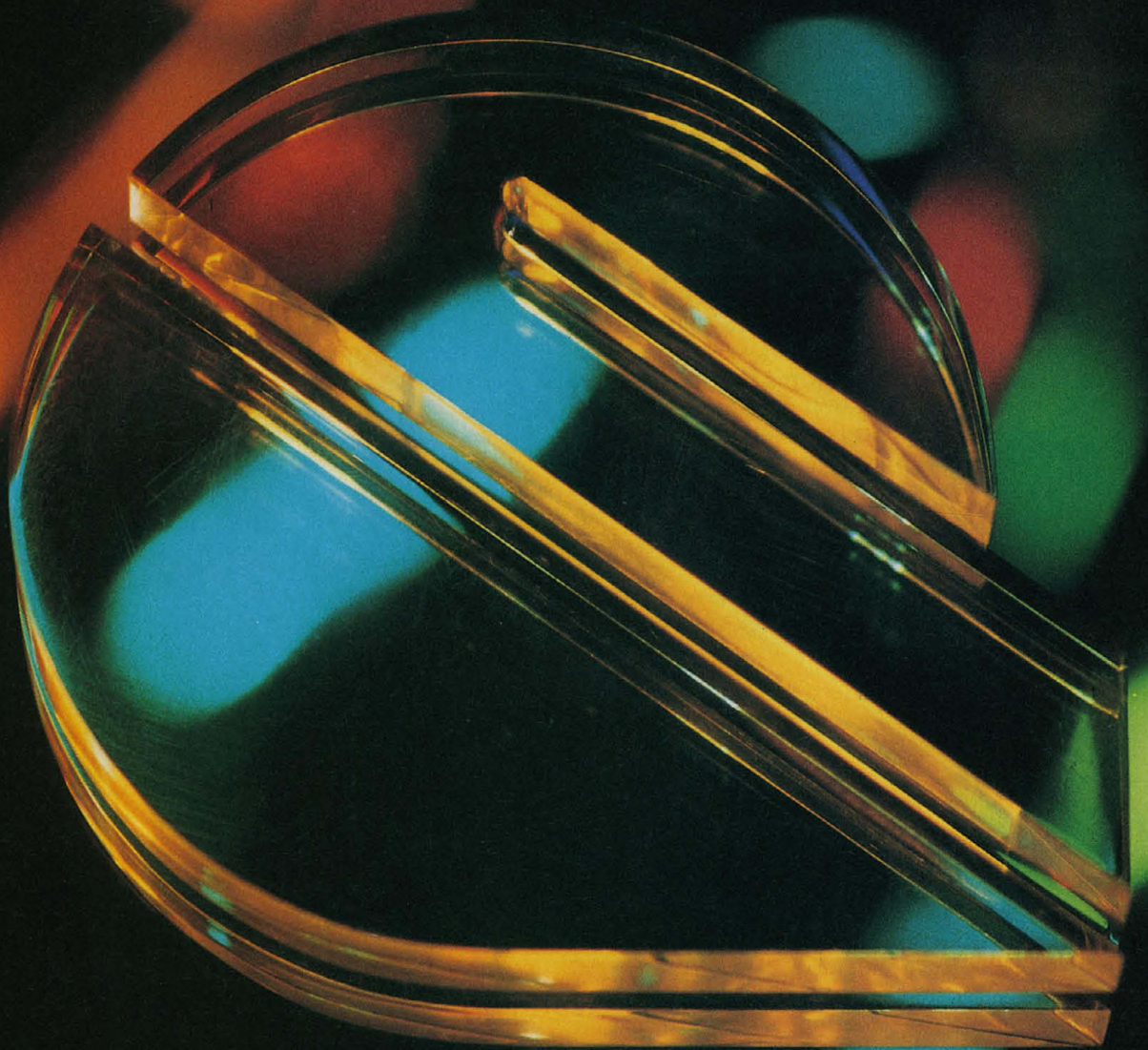

Some of the international meetings scheduled for 1989 are:

Unexplained Infertility: Basic and Clinical Aspects
Rome, Italy/March 7-8
Scientific Organization: G. Benagiano (I), K.J. Catt (USA) and G. Spera (I)

Symposium on the Pathogenesis and Control of Viral Infections
Beijing, Republic of China/April 24-26
Scientific Organization: F. Aiuti (I), Z. Zonghan (PRC) and S. Guoxian (PRC)

8th Workshop on Development and Function of the Reproductive Organs
Touraine, France/May 23-25
Scientific Organization: N. Josso (F)

1st International Congress on G.I.F.T.: from Basics to Clinics
Rapallo, Italy/June 8-10
Scientific Organization: R.H. Asch (USA) and L. De Cecco (I)

Membrane Technology in Clinical Pathology, Biochemistry and Pharmacology
L'Aquila, Italy/June 19-23
Scientific Organization: R. Verna (I), R.P. Blumenthal (USA), J.A. Hannover (USA) and R.P. Garay (F)

Cardiovascular and Neurological Function and Ovarian Secretions
Dubrovnik, Jugoslavia
Aug. 31-Sept. 1
Scientific Organization: F. Naftolin (USA)

Establishment of a Successful Human Pregnancy
Cambridge, U.K./September 21-23
Scientific Organization: R.G. Edwards (UK)

Developmental Endocrinology
Geneva, Switzerland/October 23-24
Scientific Organization: P.C. Sizonenko (CH) and M. Aubert (CH)

Advanced Course in Molecular Pathology and Biotechnology
Rome, Italy/November 6-10
Scientific Organization: L. Frati (I)

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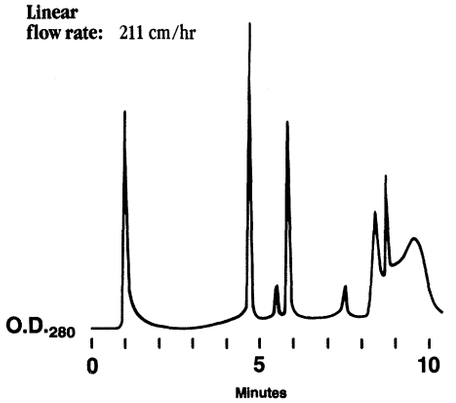
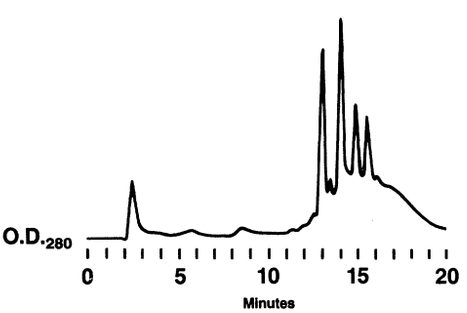


Preparative HRLC MA7 Q column

Column: Analytical Mono® Q column, 5 x 50 mm
Sample: Human lymphoblastoid extract containing human interferon α-Ly.
Flow rate: 0.4 ml/min
Linear flow rate: 122 cm/hr



Analytical Mono Q column

For rapid, high resolution protein and nucleic acid purification, nothing equals HRLC columns from Bio-Rad. Our HRLC MA7 **non-porous** columns out-perform conventional **porous** columns by a significant margin.

What can the HRLC MA7 columns do for you?

- Rapid purification and regeneration even in preparative columns. Run times typically under 15 minutes for reduced biomolecule contact time.
- High resolution: minimal band broadening due to rapid, non-diffusion-limited kinetics.
- Easy scale-up: analytical to preparative columns using the same non-porous matrix.
- Full range of strong and weak, cation and anion exchangers.
- Excellent flow rate and chemical stability.

Compare for yourself. One chromatogram is the well known Mono Q porous type ion exchanger in an analytical column format. The other is our HRLC MA7 Q non-porous type ion exchanger in a preparative column format. Clearly, superior biomolecular purification can be yours in half the time using Bio-Rad's HRLC MA7 column chemistries.

You win both ways. Preparative HRLC MA7 columns for biomolecule purification, or analytical HRLC MA7 columns for methods development. Same superior resolution and performance—both at half the price of the competition!

Call us at 1-800-843-1412, or contact your local Bio-Rad representative to learn more about HRLC MA7 column chemistries.

Mono®Q and Mono® beads are registered trademarks of Pharmacia AB.

Comparison of HRLC MA7 beads and Mono® beads*

Parameter	HRLC MA7 beads	MONO beads
Packing material	Non-porous polymer ion exchanger	Porous polymer ion exchanger
Particle size	7 μm	10 μm
Maximum linear flow rate	600-3,000 cm/hr	300-2,100 cm/hr
pH stability	pH 2-12	pH 2-12
Pressure limit	100-200 bar	30-100 bar
Exchange kinetics	Rapid, non-diffusion limited (non-porous matrix)	Slow, diffusion limited (porous matrix)

*Based on manufacturers recommendations which vary with column dimensions.

BIO-RAD **Chemical Division**

1414 Harbour Way South
Richmond, CA 94804
(415) 232-7000
800-843-1412

Also in Rockville Centre, NY; Hornsby, Australia; Vienna, Austria; Brussels, Belgium; Mississauga, Canada; Watford, England; Paris, France; Munich, Germany; Hong Kong; Milan, Italy; Tokyo, Japan; Utrecht, The Netherlands; and Glattbrugg, Switzerland.

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Gordon Research Conferences — *"Frontiers of Science"*

	Colby-Sawyer College (N) New London, NH	Colby-Sawyer College (S) New London, NH	New Hampton School New Hampton, NH	Kimball Union Academy Meriden, NH	Tilton School Tilton, NH
June 12-16	Nuclear Chemistry T. L. Khoo	Mammary Gland Biology I. H. Mather	Nucleic Acids P. Dervan, W. McClure	Second Messengers & Protein Phosphorylation E. Neer	Molecular Pharmacology P. Taylor
June 19-23	Catalysis L. D. Schmidt	Genetic Toxicology D. A. Casciano	Atmospheric Chemistry C. J. Howard Analytical Pyrolysis J. W. deLeeuw	Atheroscelrosis A. M. Fogelman, T. Innerarity	Animal Cells & Viruses S. Goff, P. Sharp
June 26-30	Polymers J. P. Kennedy	Extrachromosomal Elements B. Polisky	Proteins G. Rose, E. Lattman	Lipid Metabolism E. A. Dennis	Carbohydrates G. O. Aspinall
July 3-7	Fiber Science B. C. Goswami	Thermosetting Polymers N. J. Johnston	Hormonal Carcinogenesis J. A. McLachlan	Enzymes, Coenzymes & Metabolis Pathways J. P. Klinman, V. L. Schramm	Cell Contact & Adhesion D. McClay
July 10-14	Elastomers G. Ver Strate	Molecular & Genetic Basis of Cell Proliferation W. J. Pledger	Heterocyclic Compounds D. Liotta	Bones & Teeth I. M. Shapiro	Metal Hydrides F. D. Manchester
July 17-21	Corrosion H. J. Grabke	Chemotherapy of Clinical & Experimental Cancer K. D. Tew	Organic Reactions & Processes B. E. Maryanoff	Interfaces, Chemistry at R. Johnson	Nuclear Physics S. Kawalski Superconducting Films D. Gubser
July 24-28	Free Radical Reactions F. D. Greene	Applied & Environmental Microbiology R. Crawford	Natural Products J. V. Heck	Mechanisms of Toxicity J. A. Thomas	Fluids in Permeable Media H. J. Ramey
July 31-August 4	Medicinal Chemistry R. C. Allen	Ion-Containing Polymers G. Wilkes	Statistics in Chemistry & Chemical Engineering L. B. Sheiner	Hormone Action D. J. Shapiro, F. M. Finn	Epithelial Differentiation & Keratinization S. H. Yuspa
August 7-11	X-Ray Physics R. Colella	Parasitism, Molecular & Biochemical Aspects of E. R. Pfefferkorn	Analytical Chemistry I. Levin	Elastin J. Davidson	Physical Metallurgy J. C. Williams
August 14-18	Ceramics, Solid State Studies in U. Chowdhry	Ciliated Protozoa, Molecular Biology of L. A. Klobutcher	Adhesion, Science of R. A. Pike	Chemical Oceanography M. Kastner	Quanitative Structure Activity Relationships W. Dunn, III
August 21-25					

Tentative 1990 Winter Schedule — California

Jan. 8-12	Polymers	Properties of the Solid Hydrogens
Jan. 15-19	Electrochemistry	Sensory Transduction in Microorganisms
Jan. 22-26	Metals in Biology	Angiotensin
Jan. 29-Feb. 2	Oxygen Radicals in Biology	Prolactin
Feb. 5-9	Peptides	Alcohol
Feb. 12-16	Organic Thin Films	Macromolecular & Polyelectrolyte Solutions
Feb. 19-23	Marine Natural Products	Isotopes in the Physical & Life Sciences
Feb. 26-Mar. 2	Electronic Materials	Magnesium in Biochemical Processes
Mar. 5-9	Bioanalytical Sensors	Immunochemistry & Immunobiology
Mar. 12-16	Nondestructive Evaluation	Crystal Growth

GENERAL INFORMATION

The Summer Gordon Research Conferences will be held June 12-August 18, 1989 in New Hampshire and June 19-August 25, 1989 in Rhode Island.

The chairperson of each conference is requested to have the detailed program in our office January 1, 1989, and the entire Summer program with application will be published in the March 3, 1989 issue of *Science*.

Requests for applications to the Summer Conferences, or for additional information should be addressed to: Dr. Alexander M. Cruickshank, Director, Gordon Research Conferences, Gordon Research Center, University of Rhode Island, Kingston, RI 02881-0801. Telephone: (401) 783-4011 or (401) 783-3372. FAX No.: (401) 783-7644.

The 1990 Winter Gordon Research Conferences, as shown above, will be held January 8-March 16, 1990 in California. Fixed Conference fees and host sites have not been established at this time.

The chairperson of each conference is requested to have the detailed program in the Director's office September 1, 1989 and the detailed Winter program will be published in the October 6, 1989 issue of *Science*.

1989 Schedule — New Hampshire & Rhode Island

Proctor Academy Andover, NH	Holderness School Plymouth, NH	Brewster Academy Wolfeboro, NH	Plymouth State College (N) Plymouth, NH	Plymouth State College (S) Plymouth, NH	Salve Regina College Newport, RI
Hemostasis C. T. Esmon	Physical Organic Chemistry B. E. Smart	Cardiac Inotropic Agents T. W. Smith	Plant Cell & Tissue Culture W. A. Keller	Calcium Oxalate H. Arnott	Not Available
Plant Molecular Biology R. Beachy	Biological Regulatory Mechanisms S. Kustu, P. O'Farrell	Liquid Crystals A. C. Griffin	Magnetic Resonance W. G. Clark	Three-Dimensional Electron Microscopy of Macromolecules D. DeRosier	Polyamines P. McCann, R. H. Davis
Developmental Biology D. Melton, J. Kimble	Phagocytes R. Snyderman	Condensed Matter Physics M. Pinkham	Mycotoxins & Phycotoxins H. L. Trenholm	Chronobiology T. Page	Neural Development J. M. Lauder
Molecular Membrane Biology H. E. Lodish	Mechanisms of Membrane Transport Proteins C. Miller	Atomic Physics D. J. Wineland	Electron Distribution & Chemical Bonding B. Craven	Inorganic Thin Films G. W. Cullen	Molecular Mechanisms of Microbial Adhesion B. Eisenstein
Polymer Colloids I. Piirma	Biocompatibility & Biomaterials R. E. Baier	Molecular Energy Transfer E. Weitz	Structural Macromolecules: Collagen R. Mayne, B. de Crombrugghe	Supramolecules & Assemblies, Chemistry of D. F. O'Brien	Purines, Pyrimidines & Related Compounds R. E. Parks
Organic Photochemistry G. B. Schuster	Drug Metabolism P. F. Hollenberg	Neural Plasticity C. Shatz	Laster Diagnostics in Combustion R. K. Chang	Point & Line Defects in Semiconductors G. A. Baraff	Organometallic Chemistry H. Bryndza, R. T. Baker
Solid State Ionics J. B. Bates	Bioenergetics B. L. Trumpower	Nonlinear Optics & Lasers J. Feinberg	Aging, Biology of D. Gershon	Population Biology & Evolution of Microorganisms M. Riley	Calcium Phosphates L. C. Chow, W. J. Landis
Coatings & Films G. P. Bierwagen	Metals & Semiconductor Clusters P. A. Montano	Inorganic Chemistry T. J. Marks	Reverse Osmosis, Ultrafiltration & Gas Separation W. J. Koros	Gravitational Effects in Materials & Separation Processes S. R. Coriell	Reactive Polymers, Ion Exchangers & Adsorbents L. Wang
Dynamics of Gas Surface Interaction D. Auerbach	Fertilization & Activation of Development V. D. Vacquier	Molten Salts & Liquid Metals M. L. Saboungi	Red Cells J. Lingrel	Holography & Optical Information Processing S. A. Benton	Molecular Genetics R. Kucherlapati
Inorganic Geochemistry D. Rye	Liquids, Chemistry & Physics of S. C. Greer	Barrier Function of Mammalian Skin R. H. Guy	Pineal Cell Biology D. C. Klein	Biological Structure & Gene Expression S. Penman	Staphylococcal Pathogenesis R. A. Proctor Cancer N. Fausto

FIXED CONFERENCE FEES, 1989

Fixed Fees (New Hampshire Sites)

Conferee (double occupancy).....$360.00
($310 if postmarked 3 weeks prior to conference)
Non-Resident Conferee (meals, no room).....$320.00
($270 if postmarked 3 weeks prior to conference)
Guest (room and meals).....$270.00
($220 if postmarked 3 weeks prior to conference)

Fixed Fees (Rhode Island Site)**

Conferee (double occupancy).....$375.00
($325 if postmarked 3 weeks prior to conference)
Non-Resident Conferee (meals, no room).....$320.00
($270 if postmarked 3 weeks prior to conference)
Guest (room and meals).....$285.00
($235 if postmarked 3 weeks prior to conference)

Children must be at least 12 years of age to have accommodations (room and meals) at Conference host site.

**All rooms at the Rhode Island site are double with bath.

1. Full fixed fee charged regardless of time conferee attends Conference. Please note fees.
2. Fixed fee cannot be prorated or reduced for anyone (speakers, discussion leaders, conferees).
3. Non-resident conferees are expected to eat all meals in the Conference Dining Room and, therefore, the Fixed Fee for non-residents includes the full meal charge.
4. Refunds — See General Information under cancellations.

PAYMENT:

The full fixed fee will be required IN ADVANCE of *ALL* PARTICIPANTS AND GUESTS. Attendance and/or accommodations will NOT be reserved unless this fee is received in our office 3 weeks prior to the Conference. Foreign participants will also be required to pay Gordon Research Conferences in advance in U.S. dollars payable by wire only to a U.S. bank. Checks drawn on Canadian banks and foreign banks cannot be accepted and will be returned. Scientists in Canada must use a bank draft obtained from their bank payable in U.S. dollars and drawn on a U.S. bank. Remittance information on the transfer must include the conferee's name, conferee number and Conference title. Detailed information on payment, travel, etc. mailed with registration material.