9 March 1984 • Vol. 223 • No. 4640

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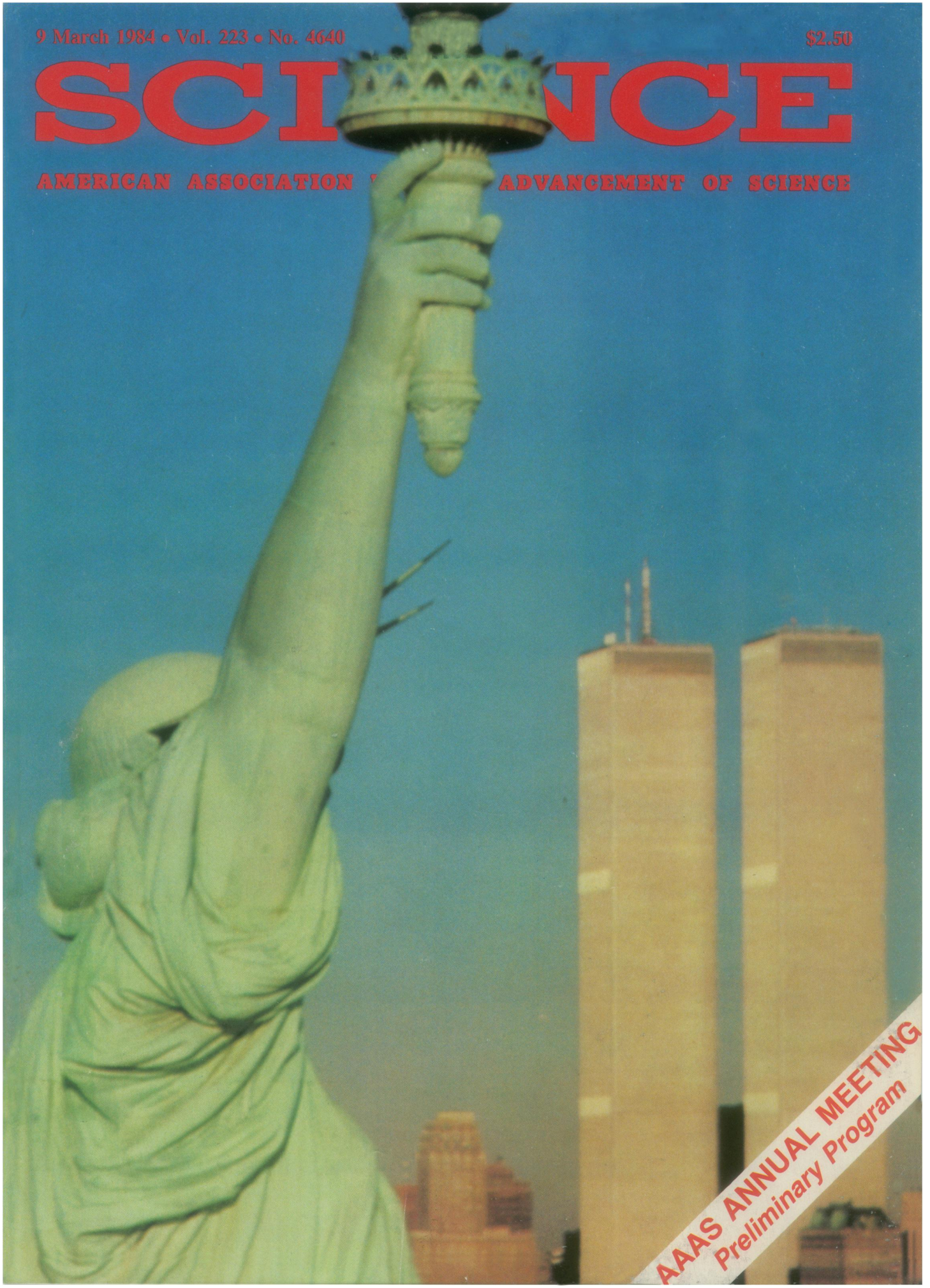
SCIENCE

AMERICAN ASSOCIATION [illegible] ADVANCEMENT OF SCIENCE



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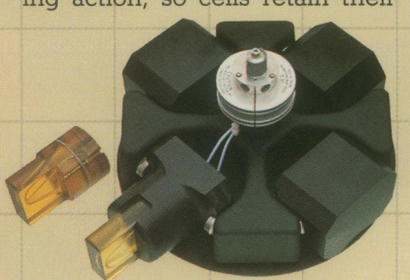

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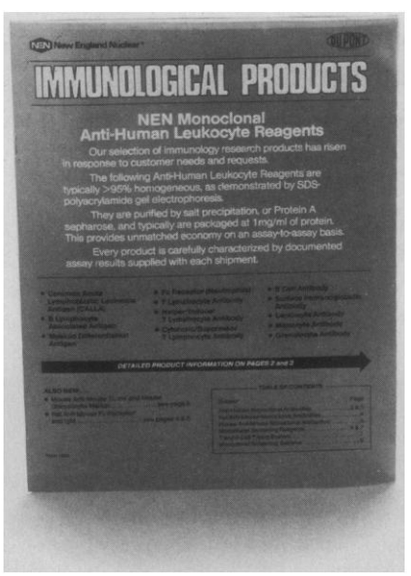

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9 March 1984

Volume 223, No. 4640

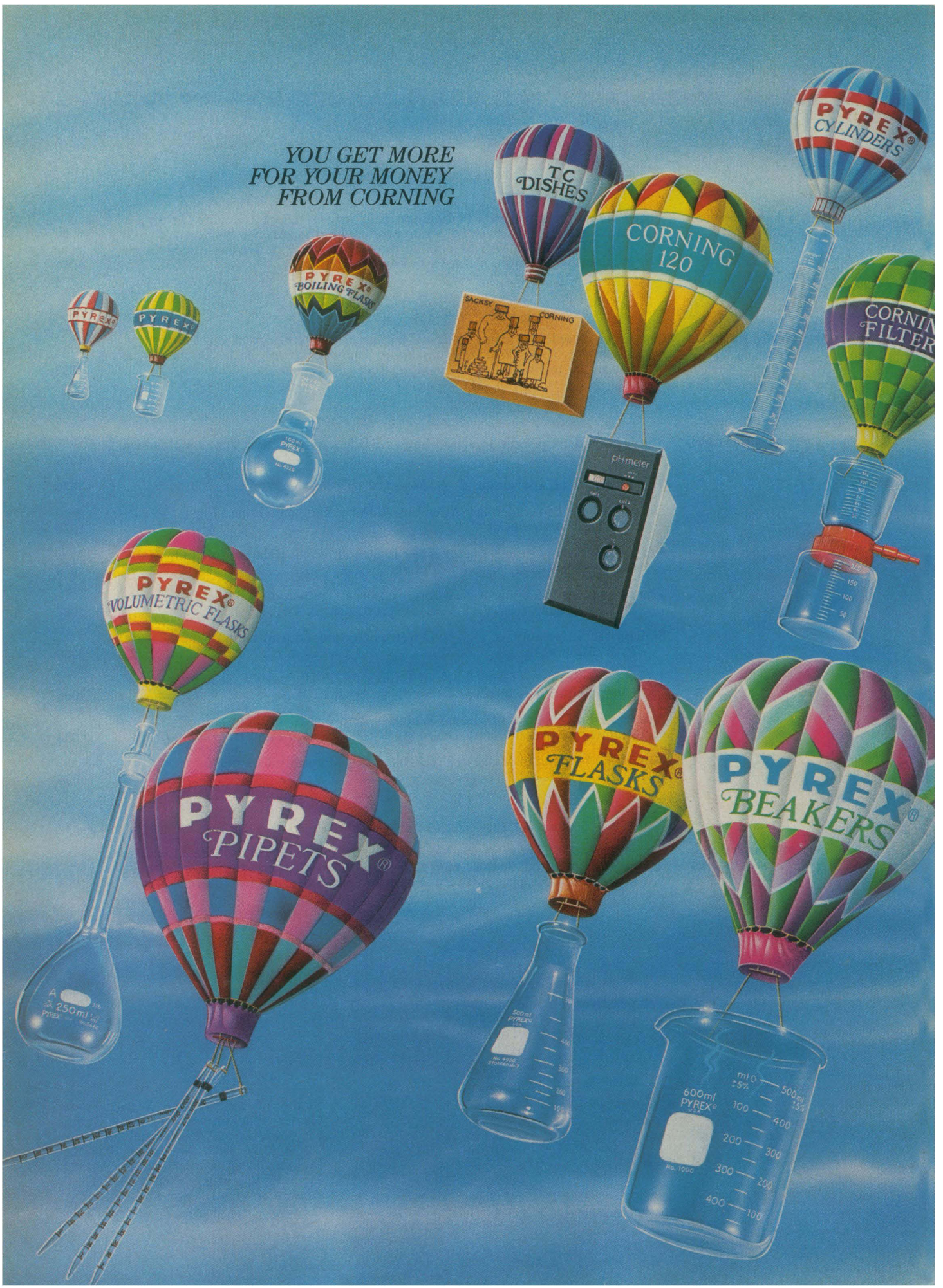
SCIENCE

SCIENCE is published weekly on Friday, except the last week in December, by the American Association for the Advancement of Science, 1515 Massachusetts Avenue, NW, Washington, D.C. 20005. Second-class postage (publication No. 484460) paid at Washington, D.C., and at an additional entry. Now combined with **The Scientific Monthly®** Copyright © 1984 by the American Association for the Advancement of Science. Domestic individual membership and subscription (51 issues): $53. Domestic institutional subscription (51 issues): $90. Foreign postage extra: Canada $24, other (surface mail) $27, air-surface via Amsterdam $65. First class, airmail, school-year, and student rates on request. Single copies $2.50 ($3 by mail); back issues $3 ($3.50 by mail); Biotechnology issue, $5 ($5.50 by mail); classroom rates on request. **Change of address:** allow 6 weeks, giving old and new addresses and seven-digit account number. **Postmaster:** Send Form 3579 to *Science*, 1515 Massachusetts Avenue, NW, Washington, D.C. 20005. *Science* is indexed in the *Reader's Guide to Periodical Literature* and in several specialized indexes.

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

COVER

Statue of Liberty and World Trade Center (background) in New York City, site of AAAS Annual Meeting, 24–29 May 1984. See page 1055 for Preliminary Program of the Annual Meeting. [Courtesy of New York Convention & Visitors Bureau]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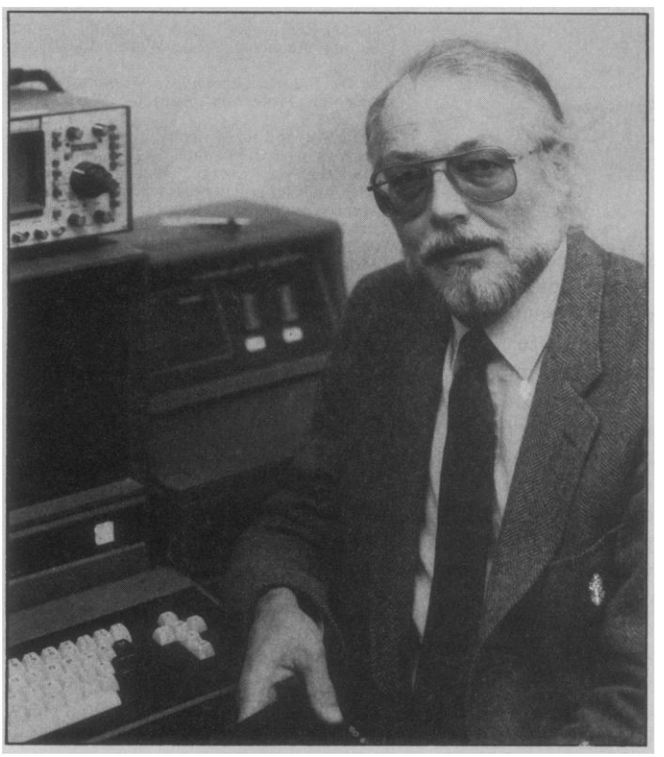


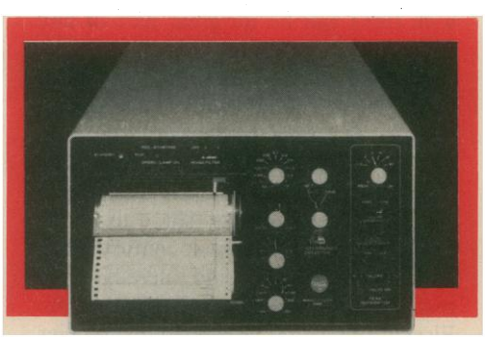
HOW TO BUY A VARIABLE LC DETECTOR

Dr. Geoffrey B. Crooks, ISCO chief design engineer:

When you're buying a variable wavelength LC detector, you'll have to sort through a lot of specifications and promises to find the right one. Here is some information I think will help you make your decision.

Performance. Baseline noise is a better indication of the detector's sensitivity than the minimum absorbance range available. You can expect a good detector to have a dry cell, peak-to-peak noise of no more than 3 x 10^{-5} A with a 0.5 second rise time, at all wavelengths from 200 to 300 nm. Noise should be less if measured at a longer response time or only in the 240 nm region. Remember, noise specified ± looks twice as good as peak-to-peak. Most detectors use a low-cost passive (resistor-capacitor) filter which reduces noise but also reduces response speed and distorts peak shape. Better detectors have active filters, but they're not all the same — one highly-reputed instrument has an active filter with bad overshoot which is covered up by automatic baseline correction.

Make sure that the bandwidth is narrow enough to give good quantitation, and that the flow cell volume is small. Good detectors have bandwidths in the 4-6 nm range and cell volumes on the order of 8 µl per cm of optical pathlength.



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Versatility. The more flow cells available, the less limited you'll be. If you can't later buy a 1 µl or smaller cell for your detector, you won't be doing any µLC. Versatility is also enhanced by a wide wavelength range and the ability to read %T.

Operating ease. Consider the warm-up time required. Look to see how easy flow cell changing is: an easy-to-see cell isn't necessarily easy to remove. A plug-in cell cassette is best. Ask if you have to physically remove one lamp and put in another to change from UV to VIS, or whether you can just flip a switch. Is N_2 purge required for coldroom or short wavelength operation? That can be a real nuisance. And does the detector have any special features that will be useful to you? For example, our V4 can be supplied with a built-in 10 cm recorder and can control a fraction collector to put different peaks into different test tubes. Other detectors have different features, such as automatic wavelength scanning.

Value. Always consider features and performance in relation to purchase and operating costs. See if the visible lamp and other necessary items are included in the base price. You should find out expected deuterium lamp life: 1000 hours is typical; over 5000 hours is exceptional, but it can be done. Is the lamp life wasted by using it at visible wavelengths or for long warm-ups? You can easily spend as much on lamp relacement over a three to five year period as you did on the detector itself.

You and I know that sales literature often doesn't tell the whole story, and that some manufacturers use specifications obtained under questionable conditions. You should try the instrument first, or at least buy it on approval so you can send it back if it's not what you really want. And finally, how long is the warranty and what does it give you if something goes wrong?

We designed the ISCO V4 with all these points in mind. It has top specifications and many special features that make it a pleasure to use, yet it's almost the lowest priced variable detector you can buy. To learn about it, write or call us toll-free **[800] 228-4250** for your catalog. ISCO, P.O. Box 5347, Lincoln, NE 68505.

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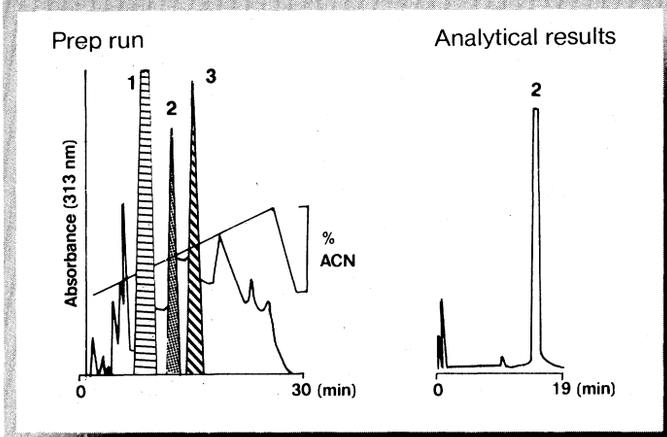

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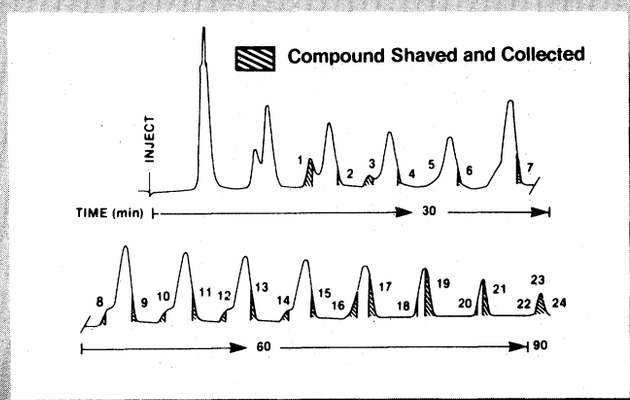
Flow Rate:	150 ml/min
Detection:	UV, 313 nm

Purify natural product isomers with high yield



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Sample:	0.75 g Labdatriene Isomers
Cartridge:	PrepPAK® 500 Silica, 57 mm x 60 cm
Mobile Phase:	n-Hexane
Flow Rate:	250 ml/min
Detector:	RI

[1] *Journal of Liquid Chromatography* **4(3)** 525-532, (1981)

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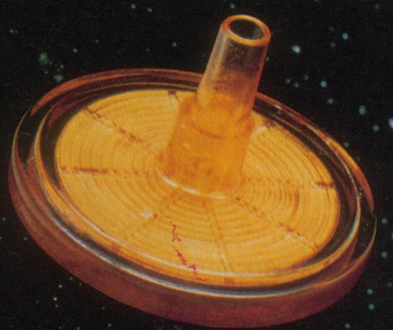

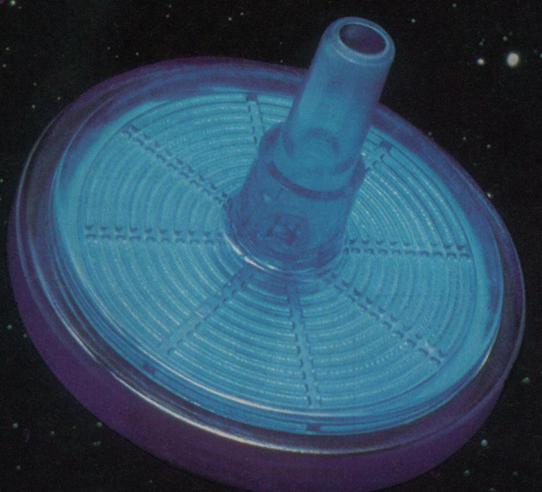

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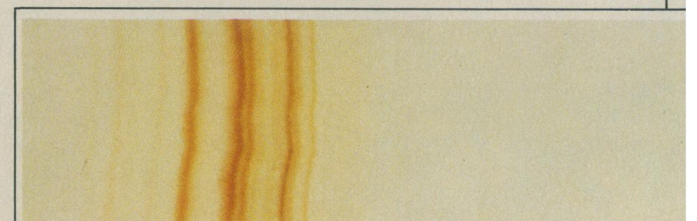
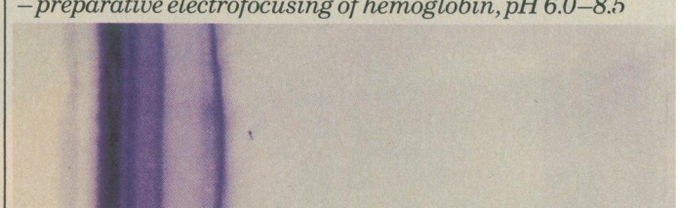
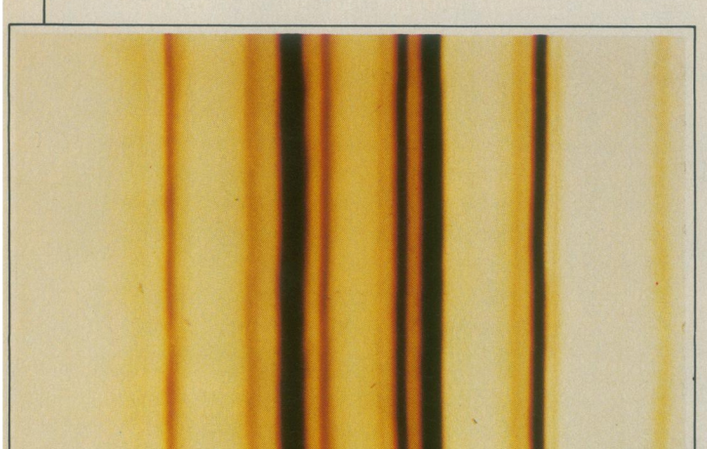


– preparative electrofocusing of hemoglobin, pH 6.0–8.5



–preparative isotachophoresis of human serum proteins



Preparative isotachophoresis is the third choice offered by the LKB Horizontal Electrophoresis System, and is a low-cost alternative giving good resolution for separations based on protein mobility. The twin integral buffer reservoirs permit gels to be run either across or along the length of the cooling plate.

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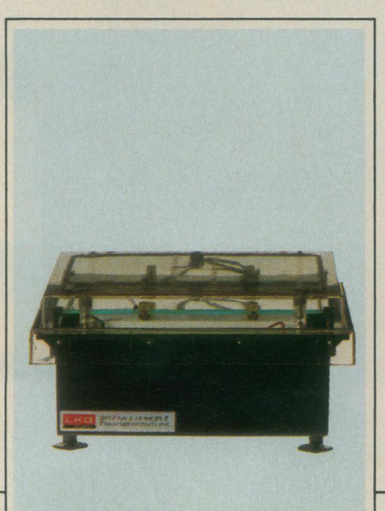

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9 March 1984, Volume 223, Number 4640 **SCIENCE**

Field Access: A Growing Problem

A foreign policy of science has emerged that sweeps into its domain many nonscientific practices. A particularly troubling instance is the use of a political-bureaucratic process to control access to field sites. Restrictions on field access can seriously impede disciplines in which progress is made through observing conditions that are not present in any single nation or world area. Anthropology, archeology, botany, entomology, geology, primatology, and linguistics are such disciplines.

The criteria invoked in granting clearances to investigators vary from one discipline to the next and from one country to the next. Seldom, however, are the criteria exclusively scientific. Issues raised include: Could the foreign researcher exhaust a site or topic that should be preserved for local scholars? Could foreign-sponsored research put the host country at a commercial or military disadvantage? Could it prove politically embarrassing? Is it disrespectful to the local culture?

In the majority of cases, such questions are satisfactorily answered, visas granted, and field research proceeds. But often enough to cause concern, research today is impeded, redirected, postponed, or, if a scholar expects bureaucratic hassle, never proposed.

The requirement for formal procedures to obtain clearance for research projects is largely a post–World War II development. It is somewhat explicable when one takes into account the rhetoric, now widespread, which attaches each nation's investment in science to its security and its welfare. Science, not least of all international science, is in practice and rhetoric now tightly linked with sovereignty and national security.

If it is too late in the history of world politics to detach science from national sovereignty, and all the protective impulses this promotes, it is not too late to minimize damage to those disciplines whose work depends on field observation. Four things would help.

First, the obligations of individual field researchers must be clarified. These include affirming the universality of scientific standards as well as insisting on full reporting of research findings. But the foreign scholar also has obligations to the host country and should take up residence only if willing to comply with indigenous moral and legal codes. Irresponsible personal behavior that insults or places in jeopardy segments of the local community invites restrictions on research even when the offending behavior is unrelated to the conduct of research.

Second, overseas centers that have experience in negotiating clearances for researchers need to be strengthened and their responsibilities extended. These centers have accumulated goodwill with the local officials who administer the increasingly complex set of rules governing access and can help guide the inexperienced field researcher.

Third, a collaborative effort is needed by the various academies of the world, especially the newer ones being established in Third World countries. The academies can advise those who write and implement the rules restricting field access and help negotiate arrangements for visiting investigators.

Fourth, there should be increased sponsorship of cross-national research projects. Because cross-national collaboration does not always or everywhere make scientific sense, it should be resisted as the necessary entry price for field access. But when scientifically appropriate, such collaboration can greatly ease problems of access, as the international program of the National Science Foundation has successfully demonstrated.

These are modest actions, but if they replace the present inattention to what is a steadily worsening situation, we may yet avoid a world in which large numbers of scholars and research topics are subjected to the political veto power of host nations.—KENNETH PREWITT, *President, Social Science Research Council,* and *Fellow, Center for Advanced Study in the Behavioral Sciences, Stanford, California 94305*

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Annual Meeting
New York
24-29 May 1984

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Choice of hotel: 1. _____ 2. _____

Room: ☐ Single ☐ Double ☐ Twin **Suite:** ☐ 1 Bedroom ☐ 2 Bedrooms **Preferred Rate:** $ _____

Please indicate special housing needs due to a handicap: ☐ Wheelchair accessible room.

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(Be sure to list definite arrival and departure date and time. Reservations will be held only until 6 p.m. unless accompanied by 1 night's deposit.)

- All hotel reservations must be submitted to the AAAS Housing Department in writing **(use form above; type or print).**
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- Rooms are assigned on a first come, first served basis. If room rate requested is no longer available, the next available higher rate will be assigned.
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Annual Meeting
New York
24-29 May 1984

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- Use separate form (photocopy) if you wish to submit additional registrations other than spouse's.
- Preconvention program, badge, and voucher for full program and abstracts will be mailed to registrants in mid April.
- **Registrations received after 11 May** will be held at the *Advance Registrants' Desk* at the New York Hilton Hotel.
- **Refund requests** for registration fees must be made by letter or telegram before 18 May 1984 and will be honored **after** the Annual Meeting. **No refunds are made on cancellation requests received after this date.**
- Special one-day attendance registration will be available at on-site registration desks only.

Registration Category	Regular		Student or Retired	
	Single	Double	Single	Double
☐ AAAS Member	☐ $43	☐ $ 58	☐ $24	☐ $39
☐ Non-Member:				
☐ Meeting registration only	☐ $53	☐ $ 68	☐ $24	☐ $39
☐ Register and join: Single membership	☐ $99	☐ $114	☐ $59	☐ $74
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SURVEY OF ATTENDANTS

Annual Meeting, New York, 24-29 May 1984

Your answers to the following questions will help us to plan future Annual Meetings. Please complete the form and either return it with your registration form or send it separately (to the same address) if you wish to respond anonymously (the two forms will be processed separately).

Principal Professional Interest
11 ☐ Physical, mathematical
12 ☐ Biological, medical
13 ☐ Engineering
14 ☐ Social, behavioral
15 ☐ Science policy
16 ☐ _____ (other)

Principal Professional Activity
21 ☐ Teaching, education
22 ☐ Health practice
23 ☐ Other practice, consulting
24 ☐ Research, development
25 ☐ Administration
26 ☐ _____ (other)

Institutional Affiliation Type
31 ☐ University, 4-year college
32 ☐ Other educational
33 ☐ Industrial, commercial
34 ☐ Other Private
35 ☐ Government
36 ☐ _____ (other)

Highest Educational Level
41 ☐ Doctoral Degree
42 ☐ Master's Degree
43 ☐ Other professional
44 ☐ Bachelor's Degree
45 ☐ _____ (other)

Age
51 ☐ Under 26 years
52 ☐ 26 to 35 years
53 ☐ 36 to 45 years
54 ☐ 46 to 55 years
55 ☐ 56 to 65 years
56 ☐ Over 65 years

Number of Past AAAS Meetings Attended
61 ☐ None
62 ☐ One
63 ☐ Two
64 ☐ Three
65 ☐ Four
66 ☐ Five or more

Distance Traveled to Meeting
71 ☐ Under 51 miles
72 ☐ 51 to 150 miles
73 ☐ 151 to 400 miles
74 ☐ 401 to 1000 miles
75 ☐ 1001 to 3000 miles
76 ☐ Over 3000 miles

AAAS

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