

Brinkmann pHisolytes. New carrier ampholytes for isoelectric focusing.

pH 2	—	10
pH 2	—	4
pH 3	—	5
pH 4	—	6
pH 5	—	7
pH 6	—	8
pH 7	—	9
pH 8	—	10
pH 9	—	11



Because they contain more amphoteres than other ampholytes, Brinkmann pHisolytes provide a wider general pH range, from pH 2 to 10. pHisolytes are also available in eight individual pH ranges, each with a span of 2 pH units, from pH 2-4 to pH 9-11.

pHisolytes are composed of amphoteres synthesized from aliphatic polyamines with primary, secondary and tertiary amines and guanidine groups. They range in molecular weight from 400 to 700 and are easily separated from proteins by gel filtration techniques. pHisolytes come in sterile vials of 25 ml; each batch is tested for buffering capacity and adsorption.

For literature, just write: Brinkmann Instruments, Cantiague Rd, Westbury, N.Y. 11590. In Canada: 50 Galaxy Blvd., Rexdale (Toronto), Ont.

B Brinkmann

LETTERS

Availability of Grant Applications

A year ago, the District of Columbia Court of Appeals ruled that, since "a non-commercial scientist's research design is not literally a trade secret or item of commercial information," scientists' grant applications to governmental agencies [for example, the National Institutes of Health (NIH), the National Institute of Mental Health (NIMH), and the National Science Foundation] are not exempt from disclosure under the Freedom of Information Act (News and Comment, 15 Nov. 1974, p. 614). This decision raises important questions for the scientific community. For example, if scientists generally avail themselves of their legal right to obtain copies of their colleagues' grant applications, will applicants include less information in their applications, thus making it more difficult for study sections to evaluate them? Will colleagues with shared scientific goals tend to become secretive competitors, and will meaningful scientific exchange be reduced?

NIH has received several hundred requests for copies of grant applications, including recently two from members of the NIH intramural scientific staff. These latter two requests, together with the more general implications of the court decision, prompted the Inter-Assembly Council of the Assemblies of Scientists of NIH and NIMH (1) to transmit the following memorandum to the intramural scientific research staffs of NIH and NIMH. (It should be emphasized that the intramural staff are not involved in the grants process, either as applicants or administrators, and that, before the court decision, they did not have, nor seek, grant applications.)

As you know, applications for Research Grants have always been considered by the National Institutes of Health and the National Institute of Mental Health to be privileged documents. No scientist, either in or out of government, has had access to them other than the members and consultants of the relevant scientific review panels. Now, as required by the Freedom of Information Act, NIH and NIMH will make available upon proper request any and all approved and funded Grant Applications after informing the principal investigator and the applicant institution in the course of deleting any potentially patentable material. Renewal applications will similarly be made available prior to approval since they are considered to be continuations of previously approved and funded grants.

The Inter-Assembly Council of the Assemblies of Scientists of the National Institutes of Health and National Institute of Mental Health, while fully recognizing the legal right of scientists to make such a request, strongly urges that NIH and NIMH Intramural scientists voluntarily continue to act according to past practice and not request copies of Grant Applications. We advocate this policy because we fear

the effectiveness of the Peer Review system may be diminished and biomedical research impeded if applicants believe their Grant Applications will be widely circulated.

This recommendation is subject to revision should professional scientific societies adopt appropriate guidelines.

We suggest that all scientists adopt a similar policy and urge the professional scientific societies to consider the ethical questions raised by, and the practical consequences of, the availability of grant applications under the Freedom of Information Act (1).

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Notes

1. The intramural research scientists of all but one of the constituent institutes of NIH and NIMH have organized themselves into assemblies of scientists (roughly analogous to faculty senates); the Inter-Assembly Council consists of approximately 75 delegates from these Institute assemblies.

Earthquake Damage

The article by Page, Blume, and Joyner "Earthquake shaking and damage to buildings" (22 Aug., p. 601) gives an excellent description of earthquake damage that might be expected in the San Francisco area of California. However, potential earthquake damage in other parts of the country where construction is also governed by the Uniform Building Code cannot be inferred from Page *et al.*'s discussion of the Bay area. Unfortunately, the code is not applied as uniformly as its name implies. For example, Indiana has recently adopted the Uniform Building Code without its earthquake requirements, in spite of the fact that (indeed because) a part of the state is in zone 3, the zone of highest risk of damage. Different parts of the country may have compensating design criteria, such as those that relate to lateral loads due to winds. However, the general lack of appreciation of the dynamic character and damage that can be caused by seismically induced loads may result in a rather grim picture should large earthquakes like the Mississippi Valley (New Madrid) earthquakes of 1811-1812 or the Charleston, South Carolina, earthquake of 1886 reoccur in areas where seismic code provisions are not applied.

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We share the concern that extensive and serious earthquake damage may occur in seismically active parts of the country in which the Uniform Building Code has

been adopted but without the earthquake design provisions. A small part of Indiana lies within the zone of highest risk of earthquake damage, as defined in the Seismic Zone Map of the United States contained in the Uniform Building Code. The map, however, is based primarily on the maximum seismic intensities in the historical record without regard to the frequency of occurrence. Indiana is shown in the same zone as coastal California, but the frequency of damaging earthquakes has been much higher in coastal California. Some future edition of the code will likely contain an improved seismic zone map. In the meantime, adoption and enforcement of reasonable earthquake regulations, perhaps less stringent than those applied in California, could greatly reduce potential earthquake damage in areas of known earthquake occurrence outside the western United States.

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Mirror Making

Nicholas Wade's article "Zen and the art of big mirror making" (News and Comment, 10 Oct., p. 132) admirably conveys the consistent dependence of optical astronomy upon the judgments and manual skills of craftsmen. However, there are two statements in the article that are misleading. Glass-ceramics are described as "materials whose thermal coefficient of expansion is magically near zero," and Corning's material is called "Ultra Low Expansion Quartz." Neither statement is correct. The Corning material is prepared by flame hydrolysis from halides of titanium and silica in such proportions that the condensate is a true solution of TiO_2 in SiO_2 (1). Quartz plays no part in this process, either as a raw material or as a characterization of the final product, which is completely amorphous, that is, a glass and not a glass-ceramic.

"Magically" near-zero thermal expansion coefficients are not an intrinsic property of glass-ceramics, many of which have high expansion coefficients; nor is a near-zero coefficient unusual or unexpected in glasses. Indeed, data from the University of Arizona Optical Sciences Center (2) indicate that, between 0° and 300°C , the ex-

pected dimensional change of a ULE[®] glass mirror will be less than one-third the dimensional change in a Cer-Vit mirror, since the measured excursions in this temperature range are, respectively, $9 \times 10^{-8}/^\circ\text{C}$ and $32 \times 10^{-8}/^\circ\text{C}$.

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References

1. D. L. Evans, *J. Am. Ceram. Soc.* **53**, 7 (1970).
2. S. F. Jacobs, A. J. Malvick, J. Berthold III, in *Applied Optics Research Report, 3rd Quarter, FY-72* (Optical Sciences Center, Univ. of Arizona, Phoenix, 1972), pp. 18-22.

Cholesterol in Eggs

Although to our knowledge no evidence is available in the scientific literature, recent releases in the popular press infer that eggs laid by the Araucana fowl ("Easter egg chicken") are lower in cholesterol than eggs routinely available to the consumer. As a result, individuals have been eating Araucana eggs in an effort to lower their intake of dietary cholesterol.

At a recent meeting of the technical committee of the Southern Regional Poultry Breeding Project, data on the cholesterol content of eggs laid by various populations of Araucana fowl were discussed. In no instance was the cholesterol content of Araucana eggs found to be lower than that of eggs laid by strains of domestic fowl. We believe that these data, the result of independent studies at six separate laboratories, provide evidence to disprove the myth that low cholesterol levels are found in eggs from the Araucana fowl.

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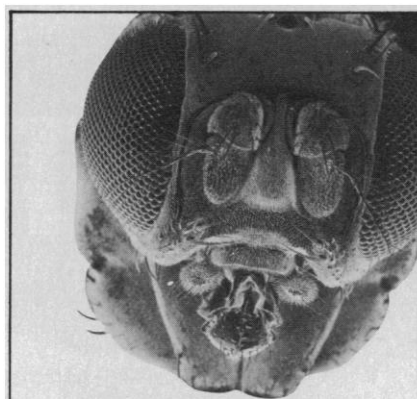
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multi-element trace analysis

Look what it found in friend fruit fly. Once again the unique capabilities of the new KEVEX X-ray energy spectrometer have given a scientist more analytical information about his sample than he anticipated.

Generally speaking, X-ray energy spectrometry (XES) has become an accepted technique because it rapidly analyzes up to 81 elements simultaneously and non-destructively, with little or no sample preparation.

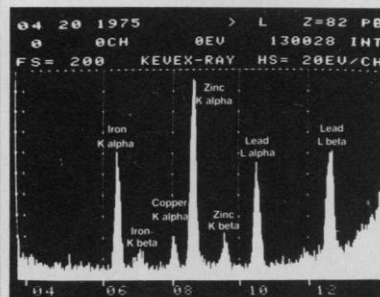
However, when you have an analysis—quantitative or qualitative—that calls for low concentration detection in a small sample mass such as this fruit fly, it's beyond the scope of ordinary X-ray energy spectrometers. Only a high-intensity system with a secondary target that emits pure mono-chromatic X-rays with low background can produce results such as shown here. And only KEVEX has a high-intensity (2,000 or 3,000 watt) XES system for trace analysis in the less than 100 parts-per-billion range for many elements in organic matrices. That's why the man with the fruit fly came to us. It might pay you to do the same. Here's how to go about it:

Phone (415) 697-6901. Ask for the APPLICATIONS DEPARTMENT. We'll discuss the possibility of a free feasibility study using your sample. Don't be bashful; we want to hear from you.

If you'd like to peruse our literature first, fine. Call, write or circle the number below for a free brochure.



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The KEVEX fruit fly multi-element analysis. Object: detect trace amounts of lead. Result: minimum detection for lead was found to be 5 nanograms. Also detected were iron, copper and zinc.