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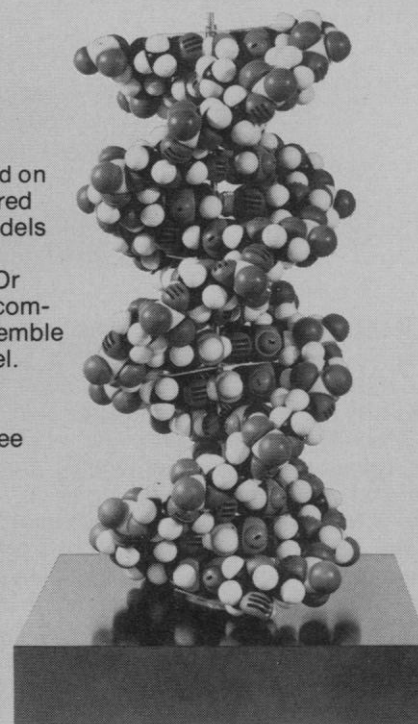
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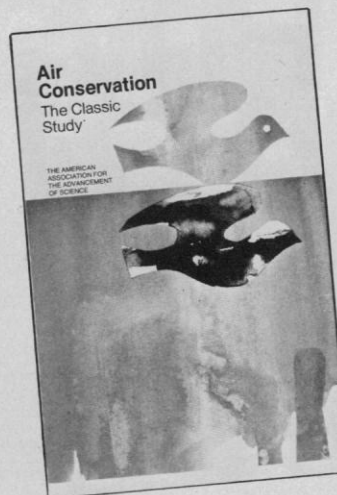


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SCIENCE, VOL. 186

# PRODUCTS and MATERIALS

## Solid State Control System

The Logic Box has applications in training and in research. It includes four input shapers, six three-input "and" gates, three input "or" gates, three logic inverters, four "D" binaries, two pulse formers, a ten-position stepper, four time bases, a two-digit pre-determining counter, a probability gate, an adjustable time base, two interval timers, two 3-ampere power drivers, six 0.5-ampere power drivers, and two three-digit LED counter displays. Most of the above components have indicator lamps for ease of programming. Inputs and outputs are optically isolated for reliable operation. Programming is done directly on the front panel with stackable leads. The Logic Box comes with a booklet devoted to logic and programming. LVB Corporation. Circle No. 966 on Readers' Service Card.

## Two-Speed Liquid Dispenser

The Accuramatic uses a peristaltic pump that runs constantly. Output is periodically directed to a delivery tube. The device dispenses 0.5 milliliter to 550 milliliters at the touch of a button or automatically at set intervals with accuracy approximating  $\pm 1$  percent midrange. No moving parts are in contact with the liquid. In-line filtration may be accommodated. Two speeds are available and two bore sizes of tubing. The unit may be set up for remote delivery. The tubing assembly is easily removed for sterilization and quickly replaced. Wheaton Scientific. Circle No. 970 on Readers' Service Card.

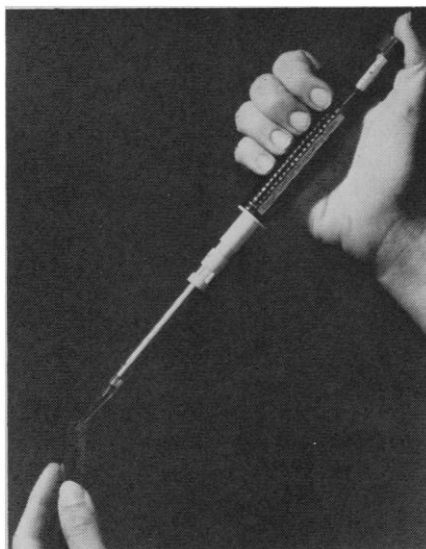
Newly offered instrumentation, apparatus, and laboratory materials of interest to researchers in all disciplines in academic, industrial, and government organizations are featured in this space. Emphasis is given to purpose, chief characteristics, and availability of products and materials. Endorsement by *Science* or AAAS is not implied. Additional information may be obtained from the manufacturers or suppliers named by circling the appropriate number on the Readers' Service Card (see pages 94A and 158C) and placing it in the mailbox. Postage is free.—RICHARD G. SOMMER

## Glassware Washer

The Miele Automatic G19 performs thermoisinfection of anesthesiologic and surgical equipment in addition to washing and disinfection of laboratory ware. The device is operated by program cards to provide control and repeatability of procedures. Other features are two-level loading capacity, three automatic detergent dispensers, built-in water softener, and distilled water pump. Baltimore Instrument Company. Circle No. 977 on Readers' Service Card.

## Density Meter

The DMA50 offers analog output of  $\pm 5$  volts and a precision of  $1.0 \times 10^{-5}$  gram per cubic centimeter. An optional remote cell is available. This device provides rapid measurement of density or specific gravity of liquids and gases from 0 to 4 grams per cubic centimeter from  $-10^\circ$  to  $60^\circ\text{C}$ . Determination of weight, volume, and temperature are unnecessary with this meter. Other models are available with increased capacity for display of results. When



static or continuous-flow measurements are made, nondestructive testing requires as little as 0.6 to 0.7 milliliter of sample material. Nearly 100 percent of the sample is recovered and without contamination. Mettler Instrument Corporation. Circle No. 974 on Readers' Service Card.

## Micropipettes

The sampler model Q (Fig. 1) is a 5-microliter pipetting system for vessel-to-vessel transfer of samples. The device is precise to within  $\pm 0.1$  percent and it uses the disposable nonwetting tips. The plunger has forward and reverse modes to permit handling of aqueous or viscous fluids. Oxford Laboratories. Circle No. 972 on Readers' Service Card.

## Fraction Collector

The Varicol (Fig. 2) permits sequential programming of up to 288 tubes. Each fraction may be specified with either a time or a volume mode. The solid-state digital programmer is removable for remote applications. The programmer can program column procedures as well as fraction collection. The device accepts tubes from 12 by 120 millimeters to 16 by 160 millimeters. It features removable racks of up to 72 tubes each and a tube tray. The drop-counting range is from 1 to 990 drops per tube and the time range is from 0.1 to 99 minutes. Operating temperature range is from  $-5^\circ$  to  $50^\circ\text{C}$ . Camag Incorporated. Circle No. 976 on Readers' Service Card.

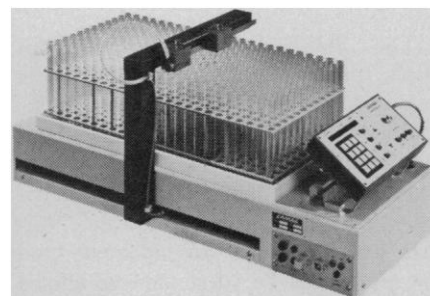


Fig. 1 (left). Oxford Laboratories now offers two different 5-microliter pipetting methods. Shown here is the model Q handheld micropipetter. Fig. 2 (right). Camag's Varicol features a moving collection arm which follows a square wave pattern and may be used to program column procedures as well as for fraction collection.

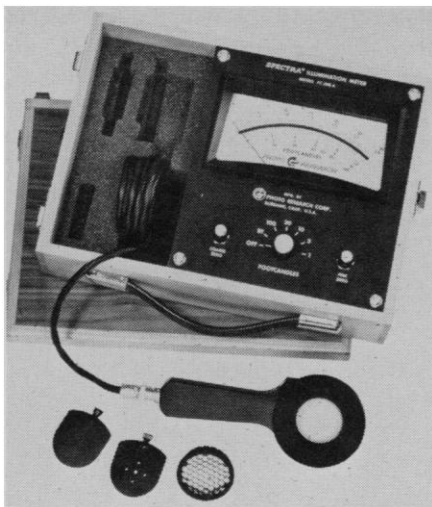


Fig. 3. The Photo Research Spectra FC-200 photometer is self-contained and field portable. The photocell probe may be used at a distance from the readout.

### Monitor for Oxides of Nitrogen

The Enolyzer measures concentration of nitrogen oxide and nitrogen dioxide separately or simultaneously. The device has two direct-reading, dual range meters. Nitrogen oxide is measured from 0 to 10 parts per million and from 0 to 50 parts per million with accuracy of  $\pm 1$  percent full scale. The ranges of the nitrogen dioxide meter are 0 to 1 part per million and 0 to 5 parts per million with accuracy of  $\pm 2$  percent full scale. Operation may be battery powered or from standard current. Recorder outputs are separate for the two gases but they are transmitted through the same cable. Energetics Science, Incorporated. Circle No. 971 on Readers' Service Card.

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### Multiple-Range Photometer

The Spectra FC-200 (Fig. 3) measures illuminance and brightness from 0.1 to 30,000 footcandles. Metric calibration is optional. The photocell is cosine corrected and color corrected to match the human visual response. It is contained in a lightweight probe that can be used remotely. The battery-powered meter is portable and comes in a rugged carrying case. Photo Research Division, Kollmorgen Corporation. Circle No. 967 on Readers' Service Card.

### X-Y Plotter for Pulmonary Data

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### Microsurgical Instruments

Interchangeable MicroSurgical Instruments (Fig. 4) are designed for neurosurgery, eye surgery, and other microscopic operations. The line consists of 23 tip configurations for such steps as cutting, retraction, hooking, clamping, and others. Each of the tips may be ground on any of 13 different shafts mounted on either of two balanced handles—a total of 598 different instruments. The instruments are made of stainless steel and may be selected individually or in sets. Shafts with tips may be ordered without handles for use with micromanipulators. Circon Corporation. Circle No. 973 on Readers' Service Card.

### Disk System

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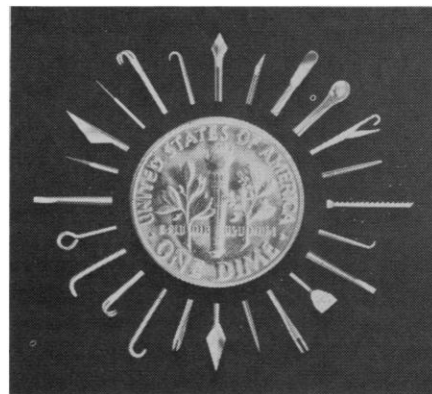


Fig. 4. Each of these MicroSurgical tips may be ground on any of 13 different shafts affixed to either of two handles for a total of 598 different instruments for delicate and microscopic surgery.

capacity, high-speed random access storage. Microprogram editing is facilitated because commands are controlled from the front panel. More than 116 million eight-bit bytes may be stored on each drive unit and up to four drives may be handled by each controller. Software is supplied and the units are compatible with the software for most of the minicomputers now in use. The disk packs may also be used with other systems. Peripheral Interface Corporation. Circle No. 969 on Readers' Service Card.

### Literature

*The Radiometer Electrode Program* is a 36-page catalog of chemical measuring electrodes. London Company. Circle No. 978 on Readers' Service Card. *On Schedule with Biological Research* describes services including veterinary medicine, toxicology, microbiology, drug efficacy, and others. Bio/Tox Research Laboratories, Incorporated. Circle No. 979 on Readers' Service Card.

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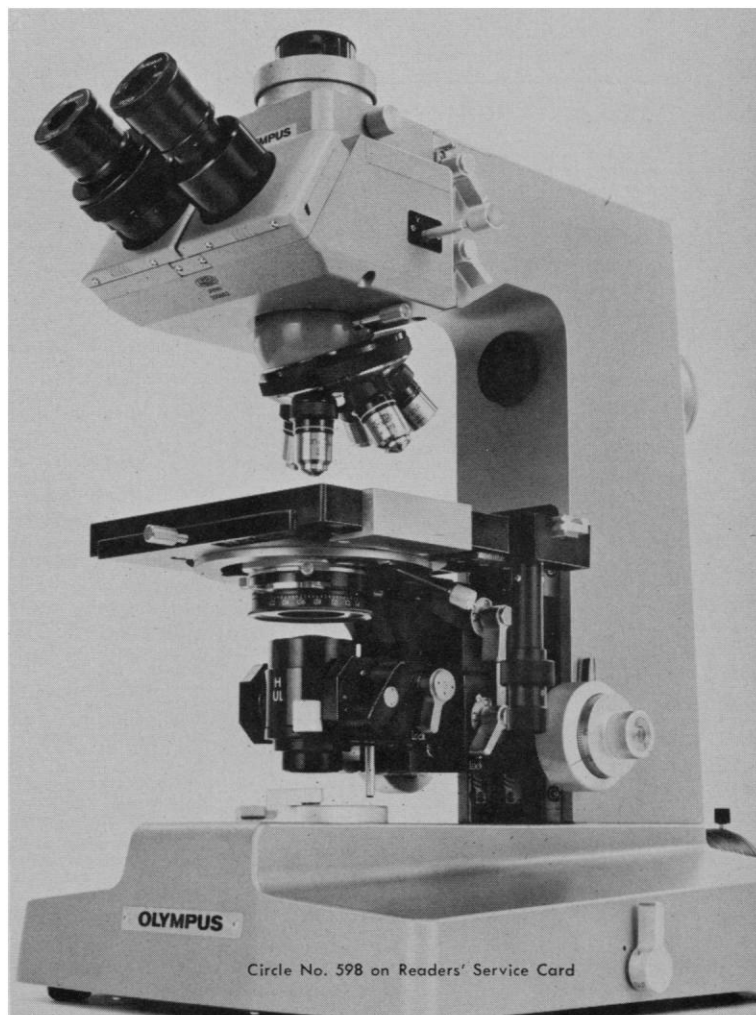
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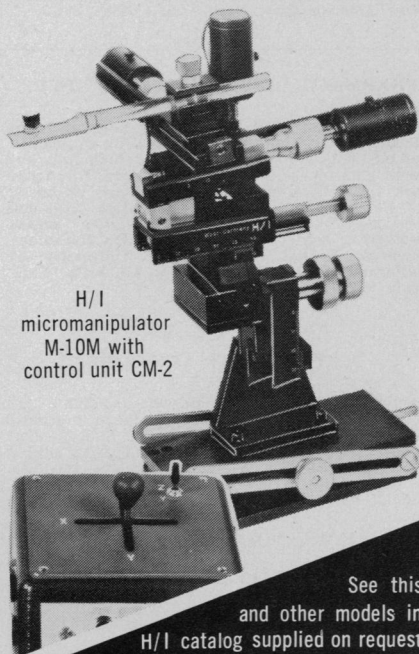
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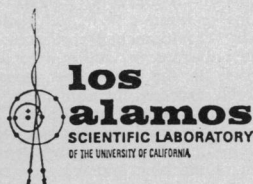
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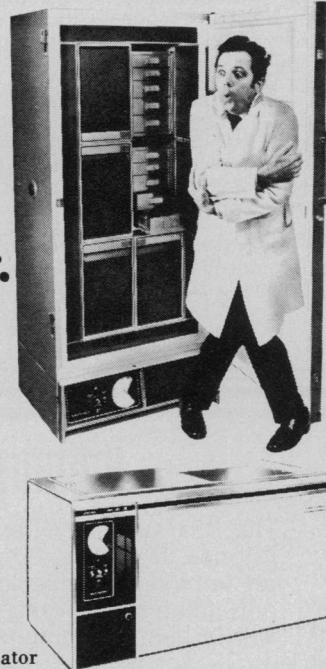
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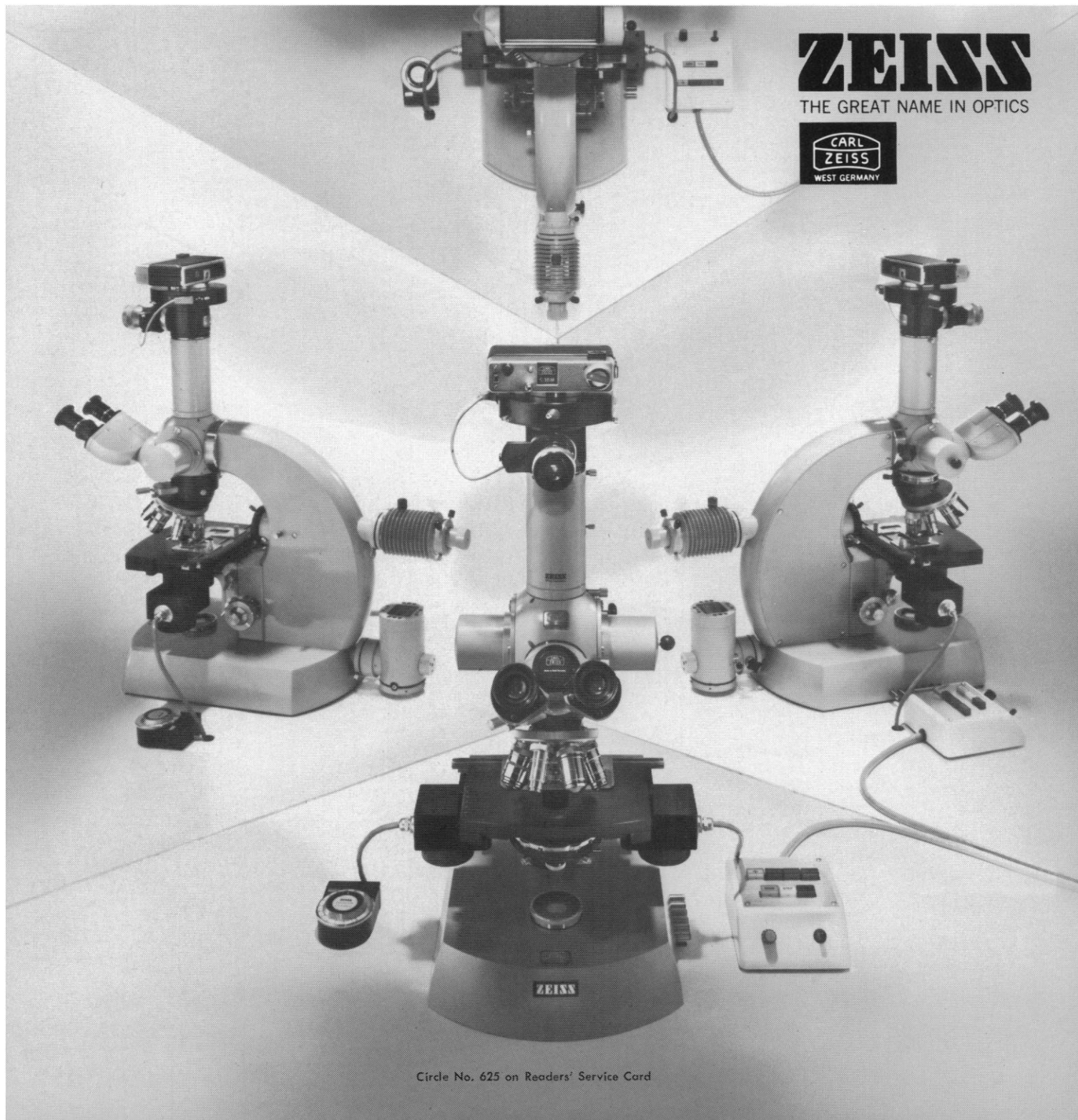
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
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2433-56	Deoxyguanosine 5'-Triphosphate, Tetrasodium [8- <sup>3</sup> H]	>10,000	40./1 mc 165./5 mc
3122-31	Glycine [ <sup>14</sup> C] (0.01 N HCl sol.) (U)	95-100	60./500 uc 110./1 mc
1433-59	Guanosine 5'-Triphosphate, Tetralithium [8- <sup>3</sup> H]	5,000-15,000	40./1 mc 165./5 mc
1433-60	Guanosine 5'-Triphosphate, Tetrasodium [8- <sup>3</sup> H]	5,000-15,000	40./1 mc 165./5 mc
3122-41	L-Leucine [ <sup>14</sup> C] (0.01 N HCl sol.) (U)	270-320	170./500 uc 320./1 mc
3122-45	L-Lysine [ <sup>14</sup> C] (0.01 N HCl sol.) (U)	270-300	170./500 uc 320./1 mc
3122-49	L-Phenylalanine [ <sup>14</sup> C] (0.01 N HCl sol.) (U)	405-495	170./500 uc 320./1 mc
3122-51	L-Proline [ <sup>14</sup> C] (0.01 N HCl sol.) (U)	225-265	170./500 uc 320./1 mc
3122-53	L-Serine [ <sup>14</sup> C] (0.01 N HCl sol.) (U)	135-165	170./500 uc 320./1 mc
2533-83	Thymidine [methyl- <sup>3</sup> H] (st. aq. sol.)	360	60./5 mc 260./25 mc
2533-84	Thymidine [methyl- <sup>3</sup> H] (st. aq. sol.)	1900	60./5 mc 260./25 mc
2533-85	Thymidine [methyl- <sup>3</sup> H] (st. aq. sol.)	3000	60./5 mc 260./25 mc
2533-86	Thymidine [methyl- <sup>3</sup> H] (st. aq. sol.)	6000	60./5 mc 260./25 mc
2533-87	Thymidine [methyl- <sup>3</sup> H] (st. aq. sol.)	>10,000	60./5 mc 260./25 mc
2533-88	Thymidine [methyl- <sup>3</sup> H] (st. aq. sol.)	40,000-60,000	60./5 mc 260./25 mc
2433-94	Thymidine 5'-Triphosphate, Tetralithium [methyl- <sup>3</sup> H]	>40,000	40./1 mc 150./5 mc
*2433-95	Thymidine 5'-Triphosphate, Tetrasodium [methyl- <sup>3</sup> H]	>40,000	40./1 mc 150./5 mc
1533-94	Uridine [5- <sup>3</sup> H] (st. aq. sol.)	2000	50./5 mc 220./25 mc
1533-95	Uridine [5- <sup>3</sup> H] (st. aq. sol.)	4000	50./5 mc 220./25 mc
1533-96	Uridine [5- <sup>3</sup> H] (st. aq. sol.)	8000	50./5 mc 220./25 mc
1533-97	Uridine [5- <sup>3</sup> H] (st. aq. sol.)	>20,000	50./5 mc 220./25 mc
1533-92	Uridine [5,6- <sup>3</sup> H] (st. aq. sol.)	40,000-60,000	50./5 mc 220./25 mc
1433-89	Uridine 5'-Triphosphate, Tetralithium [5- <sup>3</sup> H]	10,000-25,000	40./1 mc 165./5 mc
1433-90	Uridine 5'-Triphosphate, Tetrasodium [5- <sup>3</sup> H]	10,000-25,000	40./1 mc 165./5 mc
3122-61	L-Valine [ <sup>14</sup> C] (0.01 N HCl sol.) (U)	225-265	140./500 uc 260./1 mc

Also available: <sup>125</sup>I - Bovine Serum Albumin (specific activity ~43 C/mM). . . . please inquire