Room 1515-S, 4 Irving Pl., New York 3.)

13–16. Human Biochemical Genetics, Ciba Foundation symp., London England. (G. E. W. Wolstenholme, Ciba Foundation, 41 Portland Pl., London, W.1.)

14–15. Operations Research Soc. of America, Washington, D.C. (H. J. Miser, Rt. 2, Box 211, Vienna, Va.)

14–16. Acoustical Soc. of America, Ottawa, Canada. (W. Waterfall, 335 E. 45 St., New York 17.)

14–17. American Acad. of Dental Medicine, 13th annual, Atlantic City, N.J. (H. A. Lentz, 619 Main Ave., Passaic, N.J.)

14–16. American Assoc. of Physical Anthropologists, Madison, Wis. (E. E. Hunt, Jr., Peabody Museum, Harvard Univ., Cambridge 38, Mass.)

17–21. American Ceramic Soc., 61st annual, Chicago, Ill. (C. S. Pearce, ACS, 4055 N. High St., Columbus 14, Ohio.)

17–21. Institute of Food Technologists, 19th annual, Philadelphia, Pa. (C. S. Lawrence, IFT, 176 W. Adams St., Chicago 3, Ill.)

17–23. Antibiotics, intern. symp., Prague, Czechoslovakia. (M. Heřmanský, Antibiotics Research Inst., Roztoky near Prague, Czechoslovakia.)

17–23. Mass Spectrometry, 7th, Los Angeles, Calif. (A. G. Sharkey, Jr., U.S. Bureau of Mines, 4800 Forbes Ave., Pittsburgh 13, Pa.)

18–20. Instrumentation Methods of Analysis, 5th natl. symp., Houston, Tex. (H. S. Kindler, Director of Technical and Educational Services, ISA, 313 Sixth Ave., Pittsburgh 22, Pa.)

19–23. American Assoc. of Mental Deficiency, Milwaukee, Wis. (N. A. Dayton, Mansfield State Training School & Hospital, Mansfield Depot, Conn.)

20–22. Education of the Scientist in a Free Society, conf., Milwaukee, Wis. (A. B. Drought, College of Engineering, Marquette Univ., 1515 W. Wisconsin Ave., Milwaukee 3.)

21–23. American Assoc. for the History of Medicine, 32nd annual, Cleveland, Ohio. (Miss E. H. Thomson, Yale Univ. School of Medicine, New Haven, Conn.)

21–27. Veterinary Cong., 16th intern., Madrid, Spain. (J. Jensen, General Secretary of Permanent Committee, Belstraat 168, Utrecht, Netherlands; or W. A. Hagan, Dean, Cornell Univ., New York State Veterinary College, Ithaca, N.Y.)

24–29. National Tuberculosis Assoc., Chicago, Ill. (Mrs. W. B. White, 1790 Broadway, New York 19.)

24–29. Social Welfare, natl. conf. and annual forum, San Francisco, Calif. (National Conference on Social Welfare, 22 W. Gay St., Columbus 15, Ohio.)

25–27. American Gynecological Soc., Hot Springs, Va. (A. A. Marchetti, 3800 Reservoir Rd., NW, Washington 7.)

25–27. American Soc. for Quality Control, Cleveland, Ohio. (L. S. Eichelberger, A. O. Smith Corp., Milwaukee, Wis.)

25–27. Chemical Inst. of Canada, 42nd annual conf., Halifax, Nova Scotia. (Chemical Inst. of Canada, 18 Rideau St., Ottawa, Ontario, Canada.)

25–27. Telemetering, natl. conf., Denver, Colo. (R. Schmidt, AVCO Mfg. Co., 201 Lowell St., Wilmington, Mass.)

25–28. Smoking and Lung Cancer, and Pulmonary Emphysema, symps., American Trudeau Soc., Chicago, Ill. (H. W. Harris, Medical Sessions Committee, ATS, 1790 Broadway, New York 19.)

25–29. American College of Cardiology, 8th annual, Philadelphia, Pa. (P. Reichert, ACC, Empire State Bldg., New York 1.)

25–29. Transistors and Associated Semi-Conductor Devices, intern. conv., London, England. (Institution of Electrical Engineers, Savoy Pl., London, W.C.2.)

25–31. Electroheat, 4th intern. cong., Stresa, Italy. (International Union for Electroheat, 14, rue de Stäel, Paris 15e.

28–30. American Ophthalmological Soc., Hot Springs, Va. (M. C. Wheeler, 30 W. 59 St., New York 19.)

29–30. International Assoc. for Bronchology, 9th cong., Madrid, Spain. (J. Abello, IAB, Lagascar 13, Spain.)

30–5. Applications of Atomic Energy to the Petroleum Industry, symp., 5th World Petroleum Congress, New York, N.Y. (C. E. Davis, General Secretary, 5th World Petroleum Congress, 527 Madison Ave., New York 22.)

31–3. Special Libraries Assoc., 50th annual conv., Atlantic City, N.J. (Miss M. E. Lucius, 31 E. 10 St., New York 3.)

Equipment

The information reported here is obtained from manufacturers and from other sources considered to be reliable, and it reflects the claims of the manufacturer or other source. Neither Science *nor the writer assumes responsibility for the accuracy of the information. A coupon for use in making inquiries concerning the items listed appears on page 798.*

■ METERING PUMPS handle flows from 0.65 to 13.10 gal/hr at a maximum pressure of 1000 lb/in². A screw adjustment on a driving crank adjusts the stroke while the pump is stopped. Accuracy is ± 1 percent when the pump is operated between 10 and 100 percent of stroke length. Parts in contact with corrosive liquids may be machined of Hastalloy alloys. (American Meter Company, Dept. 674)

■ SIEVE SHAKER combines horizontal and vertical motions at vibration rates adjustable from 500 to 900 per minute. Sieves up to 16 in. in diameter can be accommodated in stacks up to 18 in. high. (Fisher Scientific Co., Dept. 690)

■ EMERGENCY POWER SUPPLY furnishes 110 v, 60 cy/sec, single-phase power up to 200 w continuously for 8 hr. The unit is portable and can be recharged with a-c or d-c current. (Francis Bros., Dept. 697)

■ DIGITAL VOLTMETER adds a fifth digit to the manufacturer's previous four-digit model. The instrument thus achieves accuracy of ± 0.01 percent ± 1 digit in four automatic ranges from 0.0001 to 1000.0 v d-c without loss of accuracy in the transition between ranges. (Kintel Division, Cohu Electronics, Dept. 698)

■ REFRIGERATED BLOWER is designed to fit into and become part of a standard 19-in. rack. The device has capacity of 6000 Btu and can be preset to control in the range 60° to 100°F. Insulated cabinets are available in standard depths for mounting electronic equipment panels above the blower. Ducts can be supplied to direct cooled air to specific points. (Western Devices, Inc., Dept. 699)

■ PRESSURE CUTOFF simultaneously connects or cuts off 30 separate pressure lines. The device is designed to connect wind-tunnel pressures to measuring devices and then trap the pressure within the measuring unit at the desired time. The unit operates on 48 v d-c on a pulse of 0.25 sec or longer duration. Pressures to 125 lb/in². are accommodated. (Datex Corporation, Dept. 703)

■ MATRIX STICK MICROMETER comprises a micrometer head reading in 0.001-in. increments, a 1-in. spherical endpiece and additional pieces ranging in length from 1 to 24 in. Sets range from 3-in.-

to-2-ft capacity to 6-in.-to-40-ft capacity. Anvils are tipped with stellite. Swiveling screw joints permit faces to meet squarely. A cover tube on each section provides insulation against temperature changes. (Engis Equipment Co., Dept. 701)

■ ANGLE TRANSDUCER detects angular changes within 0.25 sec of arc. The output signal of the transducer is suitable for feeding into a servomechanism to correct the change or may be used to actuate a chart recorder. (Keuffel & Esser Co., Dept. 700)

■ BORON ANALYZER operates by detecting B^{10}. The neutron-absorption principle is used. Neutrons are produced by a radium-beryllium wafer and are slowed to thermal velocities by paraffin. The liquid stream to be analyzed passes between the neutron source and a counter tube. Boron concentration is a function of the time required for a preset count to be recorded. Accuracy is ± 1 percent by volume. (Mine Safety Appliance Co., Dept. 702)

■ ULTRACENTRIFUGE ATTACHMENT permits separation, identification, and characterization of materials at temperatures as high as 120° or as low as 0°C. The attachment consists of a radiation shield and heating element mounted in the rotor chamber, heat-reflecting baffles, and a temperature-indicating and control unit. Rotor temperature can be controlled to within ± 0.1°C. The auxiliary can be added to the manufacturer's model E ultracentrifuge without structural changes. (Beckman/Spinco Division, Dept. 704)

■ *p*H ELECTRODE ASSEMBLY is designed for use with samples ranging in size from one drop upward. The reference and measuring electrodes can together be inserted into an opening 0.7 mm in diameter. The flexible electrode support permits the user to squeeze the electrodes together to accommodate a single-drop sample, for example, in the tip of a centrifuge tube. The measuring electrode is self-shielded. Range is 1 to 11.5 *p*H units with sample temperature range 15° to 40°C. (Leeds and Northrup Co., Dept. 705)

■ MILLIAMETER for d-c measurements employs a pen-sized probe that can be clipped around a wire without interrupting the circuit. Measurement ranges from 3 ma to 1 amp are covered in six steps. Accuracy is ± 3 percent ± 0.1 ma. Direct currents are measured in the presence of alternating current. (Hewlett-Packard Co., Dept. 710)

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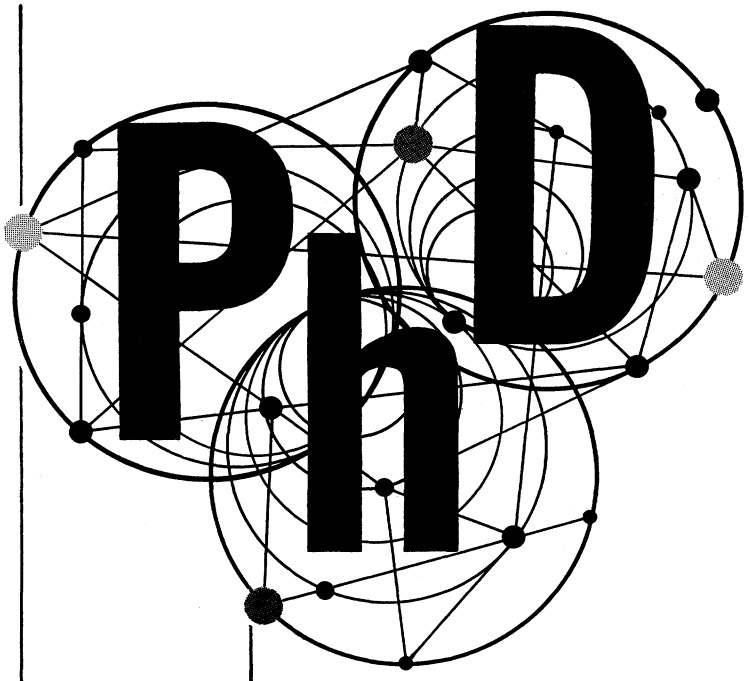

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Application: Radioisotopic yield determination is of particular utility in solving tough analytical problems in which quantitative separation of the desired material ("A") is difficult, time-consuming, or impossible because of certain interfering materials in the crude sample. In removing these interfering materials, an unknown and variable amount of the sought compound may be lost. Radioisotopic yield determination tells how much of the sought compound was lost in purification, and thus provides a correction factor which is the missing link in the analysis.

Yield determination by the use of radioisotopes is simple, inexpensive, and precise. It can be used for any analysis for which a radioactive constituent is available. Since hundreds of radioactive compounds and elements are readily available from commercial suppliers, immediate application of the technique can be made. Only infinitesimal amounts of radioactivity need be used.

Principle: Before removing the interfering substances and applying a regular analytical procedure, add a minute amount of *radioactive compound A* to the crude sample. The yield of radioactivity in the final sample indicates how much compound A was lost in the purification procedure. This information permits correction back to the amount initially present.

Procedure:

A. Add a minute amount of radioactive A to the unknown sample.

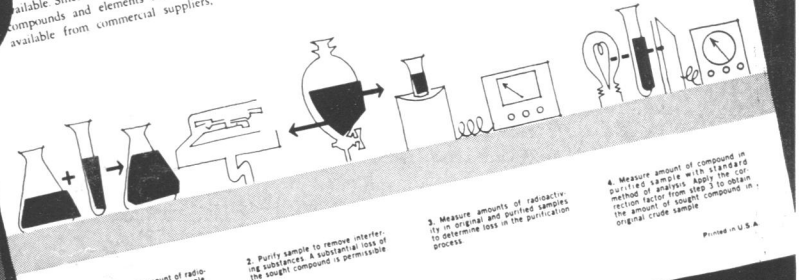
The amount of radioactivity required depends on the yield in the purification step. An activity of 1,000 counts/minute ("cpm") is convenient for the final sample. Thus, a yield of 10% would require an initial investment of 10,000 cpm.

B. Apply the purification step.

It is not necessary to end up with pure compound A. All that is needed is a mixture to which an ordinary quantitative analytical method for determining A can be applied. Only substances interfering with the analytical method need be removed. For small amounts of material, chromatography, solvent partition and sublimation are probably best suited.

C. Measure the amounts of radioactivity in the original and purified samples.

β-Emitters (H^3, C^{14}, P^{32}, S^{35}, etc.) are usually spread out in a thin uniform



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