Filtration and quantitative transfer of lambda amounts of liquids

The common problem of taking a sample of a few micrograms in a few microliters of a solvent, in order to transfer it to a paper chromatogram, is fairly frequently complicated by the fact that some of the material may be insoluble.

In such cases, quantitative filtration and transfer was achieved as follows: a capillary pipette was made from a soft glass tube (internal diameter 6 mm) and plugged firmly with a 3–4 mm wad of cotton-wool, with the help of a capillary glass rod. Another plug of cotton-wool was inserted close to the mouth of the pipette, in order to protect the operator in case of breakage. The lower end of the pipette was cut off just below the plug, and a small mark was made with a glass-cutter immediately above it; this makes it easy to remove the tip of the pipette together with the cotton-wool plug.

The solution to be filtered was then sucked through the cotton-wool plug, which acted as a filter, and the residue was washed with a few additional μl of the solvent and sucked up in the same way. This additional solvent served also for the washing of the filter. A small amount of air was then sucked into the pipette, the tip broken, the plug removed and the filtered contents transferred to a micro-test tube, or spotted directly onto a sheet of filter paper for chromatography.

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The preparation of lambda amounts of serum for paper electrophoresis

The study of serum proteins by means of paper electrophoresis when only very small amounts of blood are available presents a rather difficult problem. This occurs quite frequently when small animals, such as mice, are being used.

In the case of mice we have perfected the following technique: a sample of blood of about 100 μl was collected from the orbital vein by means of a capillary tube. It was then brought to the middle of the tube, by suction or just by tipping the tube,

and the narrower end was sealed in a micro-bunsen burner. The tube was then cut at the level of the sample, wrapped in cotton-wool placed in a 15 ml centrifuge tube and centrifuged at 3,500 r.p.m. for 15 min.

This separates the clot at the bottom of the capillary tube, from which it can be easily removed by cutting the tube at the level of the clot. The serum so obtained can be easily transferred to a capillary pipette for measurement by touching the freshly cut end of the tube with the tip of the capillary pipette.

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BOOK REVIEWS

V. Congresso Nucleare, published in two volumes by the Rassegna Internazionale Elettronica Nucleare e Teleradiocinematografica, Via della Scrofa 14, Roma, 914 pages.

The two volumes containing the various symposia of the Fifth Nuclear Congress (June, 1960) have just appeared. The symposium on the preparation of radioisotopes for medical and industrial use (246 pages of Vol. 2), with contributions from Saclay, Oak Ridge, and other institutes throughout the world including Russia, contains much of interest to workers in the field of chromatography, such as descriptions of an ^{132}I generator and a ^{90}Y generator.

This is followed by a special session containing also those papers that were not grouped into special symposia. It includes a paper by SAUVAGNAC AND ROSA on the separation of K–Rb–Cs from fission products, one by BERTOLACCINI AND BERTOLACCINI on the use of organic substances as moderators and refrigerants in nuclear reactors, one by LO MORO, PUCINI AND RIGALI on the coprecipitation of radioelements with organic reagents and one by BECKMANN AND LEDERER on the adsorption chromatography of polonium on cellulose.

The volumes are attractively prepared and all papers are in English, French or Italian.