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,