

(4:17:1) both proved satisfactory, but the former was found to be preferable as it gave more compact spots.

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Note

Similar results were described by T. WIELAND, G. LÜBEN AND H. DETERMAN, *Experientia*, 18 (1962) 430, on September 15th, 1962, and it is unlikely that these had reached Australia when this paper was sent off (October 24th, 1962).

THE EDITOR

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Notes

A gas chromatographic trap designed to collect compounds which tend to form aerosols

A number of gas-liquid chromatographic trap designs have been reported in the literature¹⁻⁶, but no simple device has been described for the recovery of aerosol-forming compounds. Conventional cold traps are very inefficient for the collection of compounds such as the polynuclear aromatic hydrocarbons, sterols and high molecular weight paraffins. Yields are often as low as 60%⁵. In this laboratory, for example, a 2 ft. × 5 mm O.D. glass coil cooled in liquid air gave recoveries of 50-60% for many aromatic hydrocarbons.

We wish to describe a Pyrex glass trap which has been used successfully to collect samples eluted from 1/4 in. to 5/8 in. GLC columns at flow rates of from 40 to 200 ml/min with recoveries greater than 92%.

This trap (Fig. 1) is designed to achieve a differential temperature between the outer wall and the inner wall of the condensing surface. The inner wall is kept at room temperature by directing a flow of air into the inner well while the outside wall is kept at the temperature of liquid air. The temperature differential between the two walls through which the exit gas must flow creates a turbulence, thus increasing the number of contacts of the aerosol particle with the cold wall and improving the trapping efficiency.

The exit line leading to the cold trap is 1/8 in. O.D. stainless steel tubing. This

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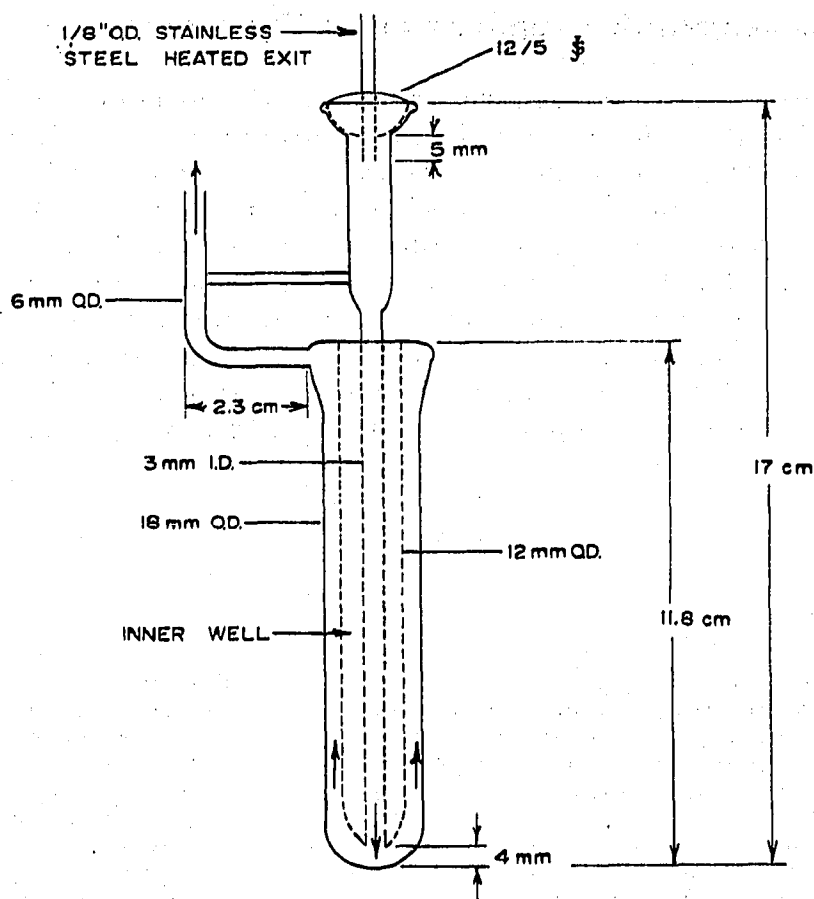


Fig. 1. Gas chromatographic collection trap.

line is heated up to the ball joint and is kept at the temperature of the detector, usually about 20° higher than the column temperature. A 5 mm extension of the $1/8$ in. tubing beyond the male ball joint decreases the possibility of contamination of the joint with the previous eluate. A collected sample can be quantitatively recovered from the trap by rinsing with 2 to 3 ml of the appropriate solvent.

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