

although both give rise to similar patterns, under appropriate conditions.

In order to establish unequivocally the nature of the crystals giving rise to the arc patterns from heated layers, a structure analysis of copper stearate is necessary. Such an analysis has, as yet, not been made, due possibly to the difficulty of obtaining sufficiently large single crystals of copper stearate.

Finally, Brummage claims to have reported earlier⁴ similar results to those I obtained by heating molecular layers of stearic acid on copper. This earlier paper, however, contains no mention of the appearance of sharp rings on heating, but only the disappearance of the grease bands (for films of 7–11 molecular layers) at a temperature of 90–100° C. In Fig. 2 of ref. 2, quite strong grease bands (co-existing with strong sharp rings) are evident at a temperature of 95° C. Such grease bands did not disappear until at \approx 110° C.

While Brummage has pointed out that all long-chain compounds give similar transmission patterns, his assertion that similar arc patterns to those attributed to copper stearate can also be obtained from rubbed films of stearic acid on stainless steel can be misleading.

My thanks are due to Dr. A. L. G. Rees for permission to use the electron diffraction camera of the Chemical Physics Section of the Division of Industrial Chemistry of this Organisation, and for his constant advice and criticism.

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¹ Brummage, K. G., *Nature*, 164, 244 (1949).

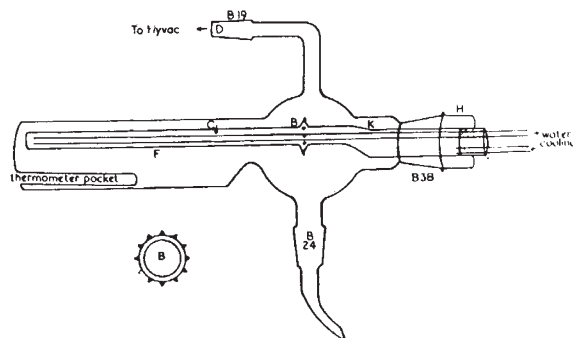
² Spink, J. A., *Nature*, 163, 441 (1949).

³ Brummage, K. G., *Proc. Roy. Soc., A*, 188, 414 (1947).

⁴ Brummage, K. G., *Proc. Roy. Soc., A*, 191, 243 (1947).

A Simplified Design for a Molecular Still of the Horizontal Type

THE use of the horizontal-type still for molecular distillation has been developed by P. Meunier and Y. Raoul¹, and has the advantage of being simple in operation. The present apparatus we have designed eliminates the mechanical part usually attached to the still. Indeed, during operation of the horizontal still, tilting of the apparatus is necessary in order to effect the flow of the liquid along the condenser. This repeated operation results in a gradual concentration of the liquid at one part of the apparatus, thus leaving a big area of the condenser ineffective during the distillation.



This difficulty has been avoided in the present apparatus, and furthermore, it is possible to vary the distance between the condenser and the underside of the apparatus, thus keeping constant the distance condenser–liquid-level during a whole operation.

The diagram shows a design of the new apparatus which has now been used. The bulb is so attached to the vacuum line by the ground-joint *D* that a constant tilt is maintained by the system during the whole operation. This avoids any contact with rubber tubing, as happens with the ordinary type of apparatus.

The condenser *C* is so designed that turning the joint *H* has the effect of altering the distance from the condenser to the lower side of the apparatus from 3 cm. to 1.8 cm. This is due to the condenser being off-centred in *K* by 1 cm. from the axis of the bulb.

Furthermore, the tilt of the apparatus, and therefore that of the condenser, is very much reduced by finely grinding the outer surface of the condenser *F*; this leads to greater wettability of the glass by the liquid distilling and results in a continuous flow of the liquid in thin laminae, no drop of the liquid being formed before *B* is reached. *B* is also shown in the inset diagram. The different points are so arranged that the liquid flowing on the condenser will form a drop on the lowest point for a given position of the condenser. The apparatus has been found useful for distilling polyethylene oxide derivatives.

We are grateful to Dr. J. H. Schulman for much help and advice.

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Dec. 1.

¹ Meunier, P., and Raoul, Y., *Bull. Soc. chim.*, 11, 368 (1944).

Hæmerythrin in *Priapulus caudatus* Lam.

WHEN the body wall of *Priapulus* is punctured, large amounts of a pinkish fluid can be obtained. The coelomic fluid contains erythrocytes composing about 2 per cent of its total volume. By hæmolysis with distilled water the pigment of the erythrocytes goes into solution. The properties of this solution are similar to those described from studies with hæmerythrin solutions^{1,2}. The preparation of hæmerythrin crystals according to the method given by Florkin, however, was not successful. Probably the hæmerythrins from different species are not identical, but differ in respect to their protein components.

The erythrocytes are biconvex, disk-formed cells with a central nucleus. They are provided with a distinct cell membrane. The cytoplasm contains vacuoles, granules and sometimes birefringent crystals. Besides erythrocytes, amoebocytes occur in the coelomic fluid.

The occurrence of erythrocytes containing hæmerythrin gives support to the view that the Priapulids are more closely related to the Sipunculids than to any other systematic group of animals. As shown by several authors, the coelomic fluid of *Sipunculus*, *Phascolosoma* and other Sipunculids is characterized by erythrocytes which possess hæmerythrin.