infected parent plants were placed in a solution of the inactivator for several days and later grafted on healthy stock. This treatment did not prevent the appearance of typical symptoms of each disease. Sets of detached leaves from mosaic and healthy plants were placed with their petioles in a solution of the inactivator and in distilled water for 9 days. A study of different combinations of juices from these leaves showed that although the inactivator had entered the leaves evidence for its entrance into the living cells and the destruction of the virus therein was not conclusive.

The activity of the substance is destroyed by heating with 1N NaOH on a boiling water bath but is unaffected by 2N HCl under the same conditions. In some cases an increase in activity was detected after the acid treatment. Treatment with trypsin or emulsin does not impair its activity. The usual protein tests are negative. Microchemical analysis of the purified substance gave: N—negligible, C—39.70 per cent., H—5.85 per cent., S—0 per cent., Chlorides—1.40 per cent., and ash—negligible. Fehling's solution is not reduced, but a strongly positive Molisch's alpha-napthol test is shown. On the basis of this test and the ratio of C to H it is suggested that the substance is a polysaccharide.

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SCIENTIFIC APPARATUS AND LABORATORY METHODS

A NEW PETRI DISH COVER AND TECHNIQUE FOR USE IN THE CULTIVATION OF ANAEROBES AND MICRO-AEROPHILES

THIS Petri dish cover, which has been designed to work in combination with a solid medium containing a reducing agent, makes possible the surface cultivation of anaerobes and micro-aerophiles without the use of anaerobe jars, petrolatum seals or chemicals other than those included in the medium itself.

Any good infusion agar containing a satisfactory reducing agent is poured into the usual Petri dish and allowed to harden. Either a pour or streak plate may be made. After the agar has solidified, the Petri dish cover is replaced by the anaerobic lid (Fig. 1), which

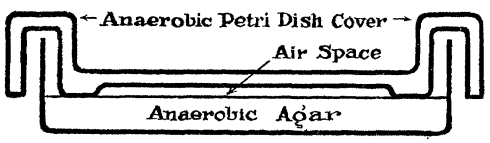

FIG. 1. Cross section showing anaerobic Petri dish cover in use.

is so designed that it touches the agar at the periphery and results in trapping a small amount of air over the surface of the agar. The reducing agent in the medium uses up the oxygen in this small amount of air and an anaerobic condition exists. The glass rim on the lid forms a seal with the moist solidified agar, and no other seal is necessary. If 1 cc of 1:500 methylene blue is added to each liter of agar to act as an indicator, the reduced center of the media in the dish becomes colorless, while the oxygenated periphery for about 5 mm remains blue.

A tentative formula for a suitable agar is as follows:

Infusion agar or blood agar base (containing 1.5 to 2 per cent. agar)	1,000 cc
Sodium Thioglycollate[1]	2 grams
Dextrose	10 grams
Methylene Blue 1 cc of 1:500 solution	
pH 7.5	

This agar should be distributed in about 40 cc amounts if 100 × 15 mm Petri dishes are used and 25 cc amounts if 100 × 10 mm dishes are used. The 40 cc dishes are more satisfactory and may be incubated longer without drying out. The depth of agar in the dish must be sufficient so that the rim of the anaerobic cover rests on the surface of the agar and not on the Petri dish at any point.

We have found that Cl. tetani, Cl. novyi, Cl. septique and Cl. welchii give good surface colonies in 48 to 72 hours and that the plates may be incubated several days longer without drying out. In most cases the growth was much better than that obtained with the same culture in an anaerobe jar. If an unglazed procelain top is used in pouring the plates, better isolation of surface colonies will be obtained. To facilitate opening the dish, the cover should be turned slightly to break the agar seal.

This technique may be used with the usual agar for obtaining partially anaerobic conditions for the cultivation of micro-aerophiles.

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CONTRIBUTION TO THE STEREOCHEMISTRY OF DIPHENYLPOLYENES

IN the series of the diphenylpolyenes, $C_6H_5 \cdot (CH=CH)_n \cdot C_6H_5$, which have been studied especially in the important investigations by Kuhn and Winter-

[1] One gram of sodium formaldehyde sulfoxylate and two grams of sodium thioglycollate seem to give a much quicker reduction.