# A SIMPLE METHOD FOR MAKING MULTIPLE TESTS OF A MICROORGANISM

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In applying different biochemical reactions to microorganisms, considerable time and expense can be saved by the following method, which makes it possible to make at least 16 tests on a single plate of either the primary growth or a transplant of it.

Press sterile glass tubes, 10 mm long and 9 mm O.D., aseptically about 1 mm into the surface of a plate of the selected culture medium, put one or two drops of the appropriately diluted reagents into the resulting cups, and observe any changes.

The method is capable of numerous applications. For example, in determining reactions of staphylococci, the 48 hour growth on staphylococcus medium no. 110 (J. Bact., **51,** 409, 1946) is "cupped," one or two drops of 1:10 of the "indicator" dilution of either chlorphenol red, bromcresol purple, bromthymol blue, or phenol red are added to determine fermentation of mannitol. Reduction can be determined by using triphenyl tetrazolium chloride and observing reduction in about 5 minutes. Gelatinolysis can be determined by putting 20 per cent sulfosalicylic acid into a 22 mm O.D. "cup" around an isolated colony.

# PHOTOHYDROGEN PRODUCTION IN CHROMATIUM[1]

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Previous observations on the photochemical production of molecular hydrogen during metabolism of various species of *Athiorhodaceae* have been extended to *Chromatium* sp., a representative of the *Thiorhodaceae.*

Stab cultures were maintained under constant illumination in media compounded, according to a prescription kindly supplied us by Dr. J. L. Stokes, Indiana University, Bloomington, Indiana, as follows: 100 ml tapwater, 100 mg $NH_4Cl$, 100 mg $KH_2PO_4$, 50 mg $MgCl_2$, 3.0 g NaCl, 100 mg yeast extract (Difco), and 2.0 g agar. After sterilization, 4 ml 5 per cent $NaHCO_3$ and 2 ml 5

[1] This note is the thirteenth in a series of publications dealing with the metabolism of photosynthetic bacteria. For a complete list of references consult Arch. Biochem. and Biophys., *in press,* (1952).

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