REFERENCES.

(1) "United States Dispensatory," Wood and LaWall, 21st Edition, 1926, Lippincott.
(2) G. F. H. Markoe, *Am. J. Pharm.*, 57 (1885), 370.
(3) Ruddiman, "Incompatibilities in Prescriptions," 5th Edition, 1925, J. Wiley & Sons, page 127.
(4) Sollman, "Manual of Pharmacology," 3rd Edition, 1928, Saunders, page 173.
(5) Solomon Solis-Cohen, "Pharmaco-therapeutics," 1928, D. Appleton, page 1629.

ALABAMA POLYTECHNIC INSTITUTE,
SCHOOL OF PHARMACY,
AUBURN, ALABAMA.

CHEMICAL STUDIES OF THE FRESH JUICE OF THE MAGUEY PLANT.—(MANSO FINO, KARW).

(Continued from page 356, April number, Jour. A. Ph. A.)

A PRELIMINARY REPORT.

BY HERMAN D. JONES.*

PAPER NO. 2.

METHOD OF OBTAINING THE OILS AND CRYSTALS.

There has been found in the aguamiel an oil which doubtless gives to the maguey its characteristic odor, since on being extracted, the oil has the same odor as the maguey or the fresh juice, except that it is more pronounced. It is present in large quantities in the leaves and in small quantities in the finished syrup.

The dry maguey leaves were powdered and passed through a 40-mesh sieve to remove fibre and to assure good exposure to the solvent or extract the oil. Four kilos of this powder were extracted with sulphuric ether for 24 hours. As the ether became saturated with the oils, they were precipitated in the flask. When extraction was complete, the ether and extract were placed in an 8-liter flask and sufficient ether added to bring all the oils into solution. This was then filtered and this ether solution treated with twice its volume of petroleum ether. A small quantity of a cream-colored compound was precipitated, removed by filtering and set aside for further study. The petroleum ether was next removed by distillation on water-bath under vacuum. The volume was reduced to approximately the same as the original solution, when it was treated with twice its volume of methyl alcohol. Of the three distinct layers which appeared, the thin dark, oily ones at the bottom and top were separated and set aside for further study. The remaining bulky, light layer was placed in a still and the ether and alcohol removed under vacuum until the volume of heavy, oily solution was quite small. This residue was allowed to stand in an evaporating dish without heat for several weeks until no alcohol odor was perceptible. Then on inspection there appeared many white, glistening crystals whose physical properties appear below.

PHYSICAL PROPERTIES.

Color—white. Odor and taste—none.
Structure—crystalline, very thin parallelogram.
Ignition test—burns with smoky flame without residue.

---

* From the Department of Biological Chemistry, Alabama Polytechnic Institute, Auburn, Alabama.

M. p.—237° to 240°; turns brown on melting.

Extinction angle—90°; polarizes light.

Solubility.—Slightly soluble in acetone, ether, cold methyl and ethyl alcohol; easily soluble in hot methyl and ethyl alcohol, hot glacial acetic acid, concentrated H_2SO_4, turning red after standing: insoluble in hot and cold dilute and concentrated alkali, hot and cold dilute and concentrated HCl, and concentrated HNO_3 and in cold H_2O.

Chemical Tests.—Element tests—nitrogen, sulphur, phosphorus and halides negative.

Does not give acid test by titration method with phenolsulphone phthalein as indicator and *N*/50 NaOH.

Does not decolorize bromine water nor Br in CCl_4.

Does not react with $FeCl_3$.

When taken up in hot alcohol and treated with chloroplatinic acid, an amorphous precipitate was obtained, later forming rosette-like crystals.

When taken up in alcohol, does not react with Mayer's nor Wagner's reagent.

Test for Aldehyde Group.—When taken up in hot acetic acid and treated with phenol hydrazine, a precipitate is obtained. A control run at the same time on the acetic acid minus the substance gave no precipitate.

Test with Aldehyde.—Free methyl alcohol and fuchsine solution-positive. Blank test on alcohol also gave faint positive test but showed up less readily than solution containing the substance.

Test with $AgNO_3$ and NH_4OH.—No reduction.

Combustion Analysis.—Found to contain 63.1% C, 9.3% H, 27.6% O, giving empirical formula C_3H_6O, with weight 57.

An effort is now being made to determine the molecular weight and structure of this substance.

THE CHINESE PHARMACOPŒIA.

In preparing this review the *China Medical Journal*, the *Eastern Druggist* and *Japanese Retail Druggist* are drawn upon, and the volume under review, copy of which has been donated to the ASSOCIATION. The volume, contains nearly 700 headings and about 280 are galenical preparations. The official title is given in Chinese; the Latin title, in most instances, is like that of the U. S. P., when it is an official of that standard; the British and German Pharmacopœia are also given recognition; an abbreviated form is also included and the chemical formulas and molecular weights. Many of the tests given are based on the Japanese Pharmacopœia; methods for biological assays are included.

Provisions should be made for the next edition and the plan for revision might follow that of the U. S. Pharmacopœia. China, evidently, has need for a Pharmacopœia and it is safe to say that the present edition will be helpful in correcting the condition of medical and pharmaceutical practice and incidentally the market of non-official drugs and chemicals. In order to carry forward this important work a group of pharmacists is needed who will devote themselves to it with a purpose of improving the materia medica and study the form in which they may be best represented in the pharmaceutical preparations. A forward step has been taken in the production of this Pharmacopœia and the revisions should follow General Principles, formulated by groups who are benefited by the standardization. China, naturally, has problems that differ from those of other countries and in some respects more difficult than ours.

The copy of the "Chinese Pharmacopœia" has been donated by the National Health Administration through the courtesy of our fellow-member, S. Y. Chen.
