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THE DESIGN OF A SIMPLE URANIUM-THORIUM DISCRIMINATOR FOR WEAKLY ACTIVE ORES CONTAINING LESS THAN 1% U_3O_8 EQUIVALENT

Part II.—Design, Use and Testing of Discriminator

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STATISTICAL CONTROL OF LOG BREAKDOWN*

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INVESTIGATIONS ON CAESALPINIA BONDUCELLA

Part II.—Chemical Examination of the Leaves

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Chloroform extraction of the leaves gave a white amorphous bitter principle, $C_{24}H_{32}O_8$, m.p. 119-120°C. in 0.035% yield and a waxy material. Infrared spectra of the bitter shows that it contains hydroxyl and acetoxyl groups and also probably furan ring. The presence of furan ring is further indicated by colour reactions. Saponification of the wax has given myristic acid and a non-crystalline alcohol. The debittered and dewaxed leaves on alcohol extraction gave a highly crystalline sweet product, m.p. 187°C., in about 4% yield ; this compound has been characterised as pinitol. A small proportion of a reducing sugar characterised as glucose has also been detected in the leaves.

STANDARDIZATION OF SOME LOCAL DRUGS

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Five important local drugs, aconite, *Cinnamomum camphora*, colchicum, male fern and rhubarb have been studied. These were analysed and tested according to standard assay methods. All these drugs come up to standard laid down by I. P. Codex, 1953.

BIOCHEMICAL AND NUTRITIONAL STUDIES ON EAST PAKISTAN BANANA

Part I.—Investigation on the Mechanism of Banana Ripening by Evaluation of their Auto-Dehydrogenase Activities

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The autodehydrogenase activity of the banana *M. Dacca, Horan,* locally called 'Amrit Sagar,' was studied on different batches attached to and detatched from the stalk during the process of ripening under storage at ordinary room temperature. Side by side the activity in plantain, i.e. cooking banana (*M. paradiciaca*), which does not ripen easily but takes longer period of storage, has also been studied under the same storage conditions. In the case of 'Amrit Sagar' variety it has been observed that bananas attached to the stalk ripened more quickly and elaborated more dehydrogenase activities than those detached from the stalk. In all the batches whether stalked or destalked, the above enzymes were concentrated more in the peel than in the pulp. Among the different regions of the peel and the pulp, the stylar end elaborated more activities than the stem end portion. The significance of the above findings were discussed in the light of the glycolytic breakdown of starch to sugar and other constituents during the different phases of ripening.

INFRARED ABSORPTION ANALYSIS OF SOME EAST PAKISTANI CLAYS

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Infrared absorption spectroscopic study of Bijaipur clay and Mirpur clay (red and black) samples of East Pakistan has been made by the use of a double beamed infrared spectrophotometer. Clay samples of requisite particle sizes have been prepared. Characteristic absorptions given by all the three clay samples under examination are identical with those of the clay mineral, kaolinite.

CHEMICAL STUDIES ON FUMARIA PARVIFLORA LAMK

Part I.—Nonalkaloidal Constituents of the Plant

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(Received July 31, 1961)

An examination of the leaves and stem of *Fumaria parviflora* Lamk has disclosed the presence of pentatriacontane, glucose, tannin, fumeric acid and sufficient amount of potassium nitrate and potassium chloride.

SHORT COMMUNICATIONS

A NOTE ON THE SYSTEMATIC POSITION OF SANTONIN-CONTAINING ARTEMISIA OF KURRAM

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EFFECT OF VIRIDIN ON THE GROWTH AND INEFECTIVITY OF SCLEROTIUM CEPIVORUM BERK

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NEUTRINO AND THE CHANGING OF CONCEPTS

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