

grouping, no further decomposition taking place. A similar experience with hexamethylene-tetra-amine when reacting with HCl is obtainable. The formation of only a disodium salt with  $\text{Na}_2\text{CO}_3$  in the presence of three reactive hydrogen atoms is explained by the existence of only two of these being free in  $-\text{SO}_2-\text{N}-\text{C}$  groups, the third one having been isomerised to  $-\text{SO}_2-\text{N}-\text{C}$  combination and having been stabilised by chelation.

Further work on the suggested chemical structure is in progress.

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#### FRIEDEL-CRAFTS ACYLATION OF METHYL $\beta$ -RESORCYLATE: A NEW AND CONVENIENT SYNTHESIS OF 2-ACETYLRESORCINOL

By Friedel-Crafts acetylation of methyl  $\beta$ -resorcyate with acetic anhydride Desai, *et al.*<sup>1</sup> obtained methyl 2, 4-dihydroxy-5-acetylbenzoate (I) but no  $\gamma$ -isomer, methyl 2, 4-dihydroxy-3-acetylbenzoate (II). It is now found however, that besides (I) and a small quantity of methyl 2, 4-dihydroxy-3, 5-diacetylbenzoate, (II) is formed in considerable quantities (Ca 25% yield). The structure of (II) is established by hydrolysis and decarboxylation to 2-acetylresorcinol: it is quantitatively converted directly to the latter by heating with 10% sodium hydroxide solution on steam-bath for three hours. Similarly 2-propionylresorcinol could be obtained and the reaction thus appears capable of providing convenient syntheses of 2-acylresorcinols which are generally obtained indirectly by the method of Limaye,<sup>2</sup> by the hydrolysis of 7-hydroxy-4-methyl-8-acyl-coumarins.

This formation of (II) is however expected for methyl  $\beta$ -resorcyate

gives 3-formyl derivative in the Gammann reaction according to Shah Laiwalla<sup>3</sup> and the 5-hydroxy-coumarin derivative as the main product in Pechmann reaction as shown by Se Shah and Shah.<sup>4</sup> Extension of this reaction for the syntheses of 2-acylresorcinols in progress and results will shortly be published elsewhere.

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1. Desai and Ekhlal, *Proc. Ind. Acad.* 1938, 8A, 194; Desai and Radha, *Ibid.*, 12A, 46; 2. *Ber.*, 1934, 67, 12; 3. *J.C.S.*, 1828. 4. *Ibid.*, 1938, 228.

#### OCCURRENCE OF FUNGI INSIDE RICE KERNELS

THE study on the nature of action of fungicides "Spergon" and "Phygon" in preventing loss of viability of paddy seeds in storage Ramiah and Padmanabhan (1949) has revealed that even apparently healthy seeds contain an internally borne fungus, which may be cultured artificially. The fungus that occurred most was *Choconis padwickii* Ganguly (Padwick Ganguly,<sup>2</sup> 1945; Ganguly,<sup>3</sup> 1946). The method employed in culturing the seeds and the results obtained are given below.

Four ounces of seeds of five local types T. 90, T. 412, T. 812, T. 1145, and T. 1146 were kept in equilibrium with six different relative humidities in desiccators with phosphoric acid dilutions in the beginning of May, 1949. During the first week of June and the third week of July samples were drawn from the desiccators and tested for the presence of surface-borne and internally borne fungi. No distinction was made between the apparently healthy seeds and the small percentage of visibly spotted seeds.

The seeds were made to stand for 1 hour in 10 c.c. of sterile water in test-tubes washed in a single change of sterile water. They were then surface sterilised in 0.1% mercuric chloride solution (one minute), washed again in four changes of sterile water and sown in thin oat-agar plates. A week after sowing, observation was taken on germination and any fungus, if any, growing from the seed, was identified.