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Activity of the Carbonyl Group of 4, 7-Dimethyl Indanone - 1

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A NEUTRAL SIZING MATERIAL FOR INSULATING BOARD (ABSTRACT)

L. K. ARNOLD AND J. B. McLEOD

The usual sizing materials for paper and board are acid in reaction and interfere with certain chemicals useful for flame proofing. A wax sizing material precipitated by the action of calcium chloride produced excellent water resistance in insulating board and did not interfere with the flame proofing chemicals.

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CONDENSATION OF VANILLIN AND SUBSTITUTION PRODUCTS WITH HIPPURIC ACID

(ABSTRACT)

C. H. BUURMAN AND
L. CHAS. RAIFORD

Condensation of vanillin with hippuric acid in presence of acetic anhydride gives *a*-benzoylamino-3-methoxy-4-acetoxycinnamic acid which, under the conditions of the experiment, loses the elements of water to give the related azlactone. This view of the reaction is supported by the fact that when esters of hippuric acid are used in this condensation lactones are not obtained. The ring may be opened by warming the lactone with 3 N caustic alkali solution. More drastic treatment causes further hydrolysis with the loss of benzoic acid and ammonia, and gives the related pyruvic acid. Similar results were obtained by starting with aceturic instead of hippuric acid. Several substitution products of vanillin were tested.

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ACTIVITY OF THE CARBONYL GROUP OF 4, 7-DIMETHYL INDANONE-1

(ABSTRACT)

ROBERT COCROFT

The general rule may be drawn that ketones in which the carbonyl group is directly attached to the ring will not react with the usual reagents (hydroxylamine, phenyl-hydrazine, etc.) if the two ortho positions of the ring are occupied by methyl groups.

Nothing, however, was known about this effect in the indanones substituted in the 7 position. In these ketones free rotation about the bond between the carbonyl group and the ring is prevented and the increased opportunity for resonance might influence the steric effect.

The ketone 4, 7-dimethyl indanone-1, in which one ortho position is occupied by a methyl group and the other by the end of aliphatic ring, was prepared. It readily formed an oxime (m.p. 175.5 - 177.5° C), a semicarbazone (decomposed 215 - 221° C) and a phenyl-hydrazone (m.p. 99- 101° C).

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PYRROLIDINE FROM N-ALKYL-N-CHLOROUREAS

(ABSTRACT)

GEORGE H. COLEMAN AND GLEN ALLIGER

Previous work in this laboratory has shown that when N-n-butyl-N-chloro-p-toluenesulfonamide, N-n-butyl-N-chloroacetamide, or N-n-butyl-N-chloropropionamide is dissolved in sulfuric acid and heated, ring closure occurs with the formation of pyrrolidine in good yields. It was thought that N, N'-di-n-butyl-N, N'-dichlorourea might react in a similar manner. This was found to be the case. When this compound was dissolved in 95 per cent sulfuric acid and heated for a period of one hour at 120-130° C. pyrrolidine was formed in yields of 50 to 55 per cent. Under similar conditions N, N-dimethyl-N'-n-butyl-N'-chlorourea gave pyrrolidine in yields of 5 to 10 per cent.

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AZOYL DERIVATIVES OF SUGARS AND SEPARATION BY CHROMATOGRAPHIC ADSORPTION

(ABSTRACT)

GEORGE H. COLEMAN AND ALFORD G. FARNHAM

Azobenzene-p-benzoyl derivatives of d-d-glucose and B-d-glucose, fructose, galactose, lactose, maltose, sucrose, trehalose, gentiobiose and cellobiose have been prepared. They have been analyzed for per cent of azoyl and their specific rotations in chloroform determined. The chromatographic separation of d-d-glucose and fructose azoates as described by Reich has been repeated using silicic acid as an adsorbent. Using a mixture of "magnesol"