

The full details are available in the author's report to the National Institute of Sciences of India.

J. BHIMASENACHAR.

Dept. of Physics,
Andhra University, Waltair,
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1. Sundara Rao, *Proc. Ind. Acad. Sci.*, 1949, 29, 352.

EFFECT OF ALKALI CHLORIDES ON THE INTENSITY OF THE CYANOGEN BANDS IN CARBON ARC

INTRODUCTION

THE Ga line 4172 Å lies within the region of one of the systems of the CN bands which extends from 4153 Å to 4216 Å. The region is blackened by these bands and hence makes the detection of the Ga lines difficult. An attempt has been made to diminish the intensity of these CN bands by the addition of alkali halides to the arc.

EXPERIMENTAL

A procedure differing from that of Ashton¹ was followed. Carbon electrodes were coated with alkali chlorides by dipping them vertically in saturated solutions and evaporating to dryness. Solid adherents if any were removed by washing. The electrodes were arced for 60 seconds at 6 amperes using 220 volt D.C., through watercooled control. The arc was kept fixed at 4 mm. Pure carbon electrodes were also arced under identical conditions, and all photographs were taken with a grating spectrograph.

Band intensity measurement in the negative was carried out by a photocell and a microammeter. Due to rotational structure of the bands the intensity was averaged over a small range. Measurement of intensity gave an estimate on an arbitrary scale. The results indicate that the suppression is most effective in the case of Cs and least for Li.

Laxminarayan Institute P. S. MENE.
of Technology, D. J. DESHMUKH.
Nagpur,
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1. Ashton, *Jour. Soc. Chem. Industry*, 1949, 5, 185.

A NEW REACTION FOR THE SYNTHESIS OF CHROMONES AND ISOFLAVONES

THE interaction of *o*-hydroxyphenyl benzyl ketones with ethyl orthoformate in boiling pyridine containing a little piperidine gives isoflavones. Thus *a*-naphthaisoflavone is obtained from 2-phenylacetyl-1-naphthol, and 7-hydroxyisoflavone from 2:4-dihydroxyphenyl benzyl ketone in excellent yields. The ethyl orthoformate condensation can also be effected in acetic anhydride and zinc chloride, but under the conditions so far examined, the yields are poor. With 2:4:6-trihydroxyphenyl benzyl ketone, ethyl orthoformate gives deeply coloured, complex condensation products. With 2-acetyl-1-naphthol, the naphthachromone is obtained, together with a bright yellow by-product, m.p. 160°. The constitution of this compound and the mechanism of the reaction are being studied.

V. R. SATHE.

Dept. of Chemical K. VENKATARAMAN.
Technology,
The University, Bombay,
October 13, 1949.

EFFECT OF PENICILLIN ON THE BACTERIAL CONTAMINANTS OF VACCINE LYMPH (CALF LYMPH)

HEAVY bacterial contamination in vaccine lymph (calf lymph) is inevitable during the process of its manufacture. None of the methods in use to bring about the reduction of its bacterial flora is satisfactory. Penicillin has recently been tried for the purpose, with spectacularly encouraging results. Our experience however in this direction has been disappointing. The use of such penicillin-treated lymphs is risky as penicillin not only does not bring about any bacterial reduction, but, what is more, gives extremely deceptive results. Most workers seem to have based their results without taking into consideration the interference of penicillin in the tests.

In one of the author's experiments on penicillin-treated lymphs, there was no growth on agar plates before removal of penicillin but after its complete removal they gave numerous organisms; the organisms are not killed but only inhibited by penicillin. Bactericidal action of penicillin is known to be maximum during the growth