

LETTERS TO THE EDITOR

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THE BAND SPECTRUM OF CHROMIUM
CHLORIDE

THE band spectrum of Chromium Chloride which is prepared for the purpose, using a pure 'Kahlbaum' specimen of chromium, has been excited in the heavy current generator discharge maintained at 1500v, 1 A., in a specially designed quartz discharge tube. Five prominent groups of bands are obtained in the region λ 6400-5700. The bands are line-like and appear very similar to the system of MnCl, obtained in our laboratory, in the region λ 4000-3600. The bands show a complex intensity distribution, and are assigned to the electronic transition ${}^6\pi-{}^6\Sigma$, involving high multiplicity terms. The average separation between the components of the ${}^6\pi$ level is obtained as 44 cm.^{-1} , and the values of the vibrational frequencies for the lower and the upper states are :

$$\omega_e'' = 291 \text{ cm.}^{-1}$$

$$\omega_e' = 362 \text{ cm.}^{-1}$$

Details will be published shortly.

Andhra University, V. RAMA KRISHNA RAO.
Waltair,
February 18, 1949.

VANADAMETRY—PART I

Volumetric Estimation of Ferrous Salts in
the Presence of Alcohols

Viswanadham and Gopala Rao¹ have shown that the reaction between ferrous salts and chromic acid induces the reaction between oxalic acid and chromic acid; if a solution of potassium dichromate is employed for the volumetric estimation of ferrous salts in the presence of oxalic acid, the amount of dichromate consumed will be found to be too high. Citric acid has also been shown to interfere by a similar induced mechanism. Gopala Rao and Viswanadham² have shown that the estimation of ferrous salts in the presence of oxalic and citric acids can be accurately carried out by titration with a solution of sodium vanadate.

Extensive investigations have now been initiated to demonstrate the wider application of sodium vanadate as a volumetric reagent and to bring out its exclusive features, if any, when compared with other reagents. We have now found that ferrous salts cannot be accurately estimated by potassium dichromate in the presence of alcohols like methyl, ethyl, isopropyl and *n*-butyl alcohols, the values obtained