

hydrate (in presence of H_2SO_4), two chloralides have been obtained after careful recrystallisations. Thus, *d*-tartaric, racemic and lactic acids have each given two chloralides.

| Chloralides of | Melting Points |
|-------------------------|--|
| <i>d</i> -tartaric acid | ..(i) 162° and (ii) 175° |
| Racemic acid | ..(i) 160° and (ii) 215° |
| Lactic acid | ..(i) 62° and (ii) B. P. 212° (Merck's) |

Lactic acid chloralides are being carefully studied.

This line of investigation will greatly help to remove the discrepancies that are found with regard to the melting points of the chloralides already recorded in literature: some of them may be due to *cis-trans*-isomers.

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The Structure of Singly Ionised Selenium.

IN continuation of the work of the writers on Se III* the analysis of the spectrum of singly ionised selenium has been completed. The source employed was the ordinary discharge tube, wherein pure powdered selenium was heated. The very extreme ultraviolet region, the vacuum spark between aluminium poles tipped with metallic selenium served as a convenient source in addition to the discharge through capillary tubes.

This spectrum was observed to be similar in many respects to the spectrum of As I.† The intervals $5s\ ^4P_1 - ^4P_2$, and $5s\ ^4P_2 - ^4P_3$ are found to be 1483.5 and 1920.9 respectively. Adopting a value of $5s\ ^4P_3 = 76320$ calculated from appropriate series members the absolute values of the various energy states characteristic of Se II could be obtained. Some of these are:

| | |
|-------------|--------|
| $5s\ ^2P_2$ | =73638 |
| $5p\ ^4D_3$ | =58932 |
| $5p\ ^4P_3$ | =56602 |
| $5p\ ^4S_2$ | =55692 |

The intervals of $5p\ ^4D_4$ terms are 412.7, 1356.4 and 1730.6 while the $5p\ ^4P$ term intervals are 3728.1 and 1621.2. A full

* *Curr. Sci.*, 1, June 1932.

† A. S. Rao, *Proc. Phys. Soc.*, 44, 594, 1932.

report of the results obtained will be published shortly in the *Proceedings of the Royal Society of London*.

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Spectrum of Ce III.

MR. DABHOLKAR, in a note published in the February issue of *Current Science*, has made some observations on my work on the regularities in the spectrum of doubly ionised cerium. The error pointed out by him regarding the classification of the line λ 2238.69 is only a case of misprint. If he would be kind enough to look into my paper again, he would notice that the combination A—*k* is to be replaced by $5d^2\ ^3F_2 - k$. The fact that 44655.1 is given as one of the term values should have made the change clear. It may be pointed out here that the frequency differences in my analysis of Ce III lines were mostly found to be correct to within .1 frequency units. The analysis explains practically all the strong lines and there can be no doubt about the genuineness of the terms which have been discovered. The fixing of J and K values of the terms in a spectrum like that of Ce III can, for obvious reasons, hardly be expected to indicate anything more than a personal opinion, and it is therefore needless to enter into a discussion of this aspect of the matter here.

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Oxidising Agents as Fertilisers.

It has been shown in a previous communication¹ that improved growth of seedlings can be obtained by treating soils, manured or otherwise, with different oxidising agents. As the results were of much scientific interest and, at the same time, indicated possibilities of extended practical application, further work was carried out growing different plants in pots as well as plots, and studying the influence of various treatments on general growth and yield of crop.

¹ *Nature*, 132, 1001, 1933.