

LETTERS TO THE EDITOR

Vitamin B₁₂

SIR.—Our independent isolation of crystalline anti-pernicious anæmia factor from liver was announced^{1,2} within a few weeks of the initial American publication³ on Vitamin B₁₂. The identity of these two red crystalline preparations was presumed at the time, and has since been amply confirmed. We first argued, very tentatively, from determinations made on an ultra-micro scale, that the molecule contained three atoms of phosphorus. We have now known for some time that this was not so; the true value of 2.1 per cent. of phosphorus corresponds with one atom per molecule. We have corrected our original statement in a paper at present awaiting publication: although we did not think the matter worthy of separate record in the present conditions of scientific publications, we mentioned it widely to interested parties. Nevertheless unnecessary confusion may be created by a recent paper⁴ in your journal; its authors have seized upon this one apparent discrepancy to suggest that our material differs from their preparation of vitamin B₁₂.

We have been able to exchange samples with Messrs. Merck and Co. Inc., of Rahway, New Jersey, and we have made a detailed comparison of the materials. Our crystalline anti-pernicious anæmia factor is identical with their vitamin B₁₂ in the following respects:—cobalt and phosphorus* content; microbiological activity; ultraviolet and visible absorption spectra; single crystal X-ray diagrams†; refractive indices‡; polarographic step; behaviour on paper chromatograms; clinical potency.

The B.D.H. workers have thus confirmed our own finding, and that of the Merck workers, that the molecule of B₁₂ contains one atom each of cobalt and phosphorus.

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REFERENCES

1. Lester Smith and Parker, *Biochem. J.*, 1948, **43**, Proc. viii.
2. Lester Smith, *Nature*, 1948, **162**, 144.
3. Rickes, Brink, Koniuszy, Wood and Folkers, *Science*, 1948, **107**, 396.
4. Ellis, Petrow and Snook, *J. Pharm. Pharmacol.*, 1949, **1**, 287.

* Determined by Mr. S. Trippett and Dr. S. F. Macdonald at the University of Cambridge.

† Determined by Dr. D. Hodgkin at the University of Oxford.

‡ Determined by Mr. R. C. Spiller at the University of Oxford.

PHARMACOPŒIAS AND FORMULARIES (*Continued from page 499*)

pharmacopœia, but since the pharmaceutical directions are made fuller than before and there are also included analytical requirements for a large number of preparations, the book is not particularly suitable for the use of medical men. The Pharmacopœia Commission has therefore produced a book specially for doctors. In this book, *Pharmaconomia Danica*, which will be published shortly, the compositions of these preparations of the pharmacopœia which are of use to the doctor are explained, together with the actions, uses and doses.