hormone against anoxia, was explained on the ground of posterior pituitary contamination[9].

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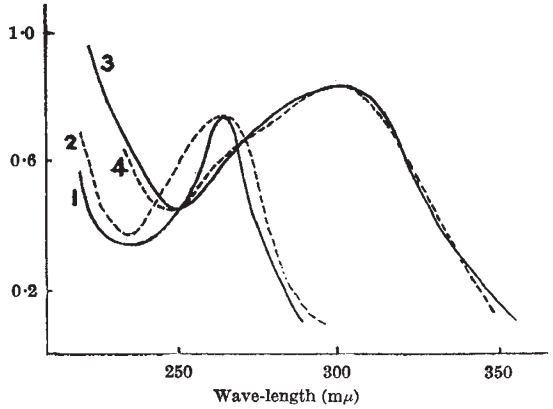
Biological Acetylation of *iso*Nicotinyl Hydrazide

Urine (210 ml.) from a tuberculous patient who received daily 200 mgm. of *iso*nicotinyl hydrazide was concentrated under diminished pressure to a syrup and was desalted by treatment with absolute alcohol. After evaporation of the solvent, the residual syrup was chromatographed on No. 50 Tōyō filter paper with water-saturated *n*-butanol as the solvent system, and the spots or the bands were observed under ultra-violet light (2537 A.). The bands which showed R_F values of 0·65 (*A*) and 0·74 (*B*) (the shadow of *A* was much stronger than that of *B*) were cut out, and the elutes from them were again tested by paper chromatography using several solvent systems as indicated in the accompanying table. This showed that *A* is 1-*iso*nicotinyl-2-acetyl hydrazine whereas *B* is the unchanged *iso*nicotinyl hydrazide. Confirmation was obtained by investigation of the ultra-violet absorption spectra of fraction *A*, which was first purified, by development on filter paper with 1 per cent ammonia – *iso*-propanol and *M*/50 phosphate buffer - saturated *n*-butanol system; fraction



Ultra-violet absorption curve

(1) 1-Nicotinyl-2-acetyl hydrazine: *p*H 1·4; λ(max.) 265; λ(min.) 236.
(2) Fraction *A*: *p*H 1·2; λ(max.) 265; λ(min.) 236.
(3) 1-Nicotinyl-2-acetyl hydrazine: *p*H 11·2; λ(max.) 301; λ(min.) 251.
(4) Fraction *A*: *p*H 11·6; λ(max.) 302; λ(min.) 250

Elute	Solvent systems 1	2	3	4	5
Fraction *A*	0·65	0·73	0·58	0·39	0·62
1-Nicotinyl-2-acetyl hydrazine	0·66	0·73	0·57	0·38	0·62

1: Water-saturated *n*-butanol.
2: 1 per cent Ammonia – *iso*-propanol (3 : 20).
3: *M*/50 Phosphate buffer - saturated *n*-butanol (*p*H 7·4).
4: 1 per cent Ammonia-saturated *n*-butanol.
5: *n*-Butanol – acetic-acid – water (4 : 1 : 5).

A has the same absorption curve as that of an authentic sample of 1-*iso*nicotinyl-2-acetyl hydrazine, as indicated in the accompanying figure.

Using the paper chromatographic technique, we were able to confirm that the whole homogenate of cattle liver can also acetylate the *iso*nicotinyl hydrazide.

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Action of Systemic Insecticides on the Psyllid *Phytolyma lata*

The psyllid *Phytolyma lata* Walk. has been known for many years as a serious pest of the valuable timber tree *Chlorophora excelsa* (also known by the vernacular names iroko, mvule and odum) in tropical Africa. The insect attacks the new shoots on young trees, causing heavy gall formation, suppression of the terminal bud and severe stunting of the tree. Seedlings in nursery beds are very liable to damage, and many succumb to repeated attacks.

Contact insecticides have little effect on these insects owing to their gall-forming habits; but recent work using an insecticide with a systemic action has given promise that a satisfactory control could be developed. Six seedling plants growing in soil in metal pots were treated by watering the soil surface with a dilute solution of 'Hanane' containing 1·0 per cent dimefox (*bis*-dimethylamino fluorophosphine oxide). Application was at the rate of 50 parts per million on the total weight of soil and seedling, each pot receiving approximately 40 mgm. dimefox. Slight yellowing of the leaves was apparent at this level of dosage, but recovery was rapid and no sustained phytotoxicity was observed. A like number of similar plants was used as an untreated control. All the plants had been protected from attack and were entirely free from galls at the commencement of the experiment.

The plants were removed from the greenhouse and placed in close proximity to young *C. excelsa* saplings which bore very heavy galls from which adult psyllids were emerging. The test plants were watered carefully in the absence of rain and examined at weekly intervals.

After four weeks two of the untreated plants were showing gall formation and at five weeks all the untreated plants had developed galls. None of the treated plants showed any sign of damage or galls at the end of eight weeks. At nine weeks, however, small galls were seen on three of the treated trees; but the growth of these galls was stopped by a