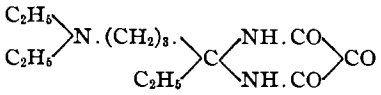

Such was the case with the similiar derivatives which they made.

It might be inferred that the rule formulated by Sternberg, stating that the entrance of negative groups reduces the bitter taste, would apply here also. It very likely does. Noctal (Brompropenyl isopropyl barbituric acid) contains bromine in the side chain and has only a very slight bitter taste.

Inspection of the structure of the barbituric acids seems to offer no explanation of the phenomena exhibited. The inference might be made that the ring structure was responsible for the characteristic taste, but on closer inspection this assumption seems untenable. Bitter taste is a characteristic of a great many organic compounds and is not limited to the type of ring structure found in the barbituric acids. Also, as I have stated above, the correlation of soporific properties and taste has no foundation in fact. Efficiency as a hypnotic agent seems to depend on the water lipoid solubility of the compound, and this solubility is often a function of the complexity of the molecule. But water lipoid solubility does not effect the taste as far as we know. The fact, however, that some compounds of the barbituric series, due to the fact that they are not soluble in water or lipoids, are not hypnotics does not prove by any means that they would not be very effective ones were they able to diffuse into the cell. Therefore all members of the barbituric acid series possessing a bitter taste may be potentially hypnotics, but some may not be able to exhibit the property.

Recently W. Straub[1] has found that the bitter taste of alkali metal salts of diethyl barbituric acid is avoided by addition to them of $Na_2.HPO_4$. The two salts are to be mixed in equal proportions.

BUTLER UNIVERSITY,
INDIANAPOLIS.

TINCTURE OF IODINE ANALYSES.

BY EDWARD S. ROSE.

Very few pharmacists, if any, make Tincture of Iodine U. S. P., since it can be bought for much less than it can be made by them. The large manufacturer uses specially denatured alcohol No. 25 and can sell his product to the pharmacist for about $7.00 a gallon, while the pharmacist who uses tax-paid alcohol knows it would cost approximately $11.00 a gallon, just for the materials.

On several occasions the writer has been told by salesmen that their particular Tincture of Iodine is a superior product and that many tinctures sold in the drug stores were of inferior quality.

While making an auto trip last summer through parts of two mid-western states the writer bought nine bottles of tincture of iodine at drug stores in different towns and cities. In each case one ounce tincture of iodine U. S. P. was asked for. In all cases but one the price was 25 cents. Seven of the tinctures were in glass applicator bottles, one had a dropper and the ninth just a cork stopper. Seven

[1] W. Straub, U. S. 1,488,884 (April 1, 1924).

measured one ounce, one six drams, and the remaining one, four drachms. Four did not state the alcoholic content, one claimed 83 per cent, and the remaining three read 94.9 per cent.

Each tincture was assayed for iodine, potassium iodide and alcohol, by the U. S. P. X methods. Though these tinctures were bought in the summer of 1925 and should comply with the Ninth Revision, it should be said that these two revisions are essentially identical as to formula and methods of analysis. In addition to the pharmacopœial method for potassium iodide, the residue was dissolved in water and subjected to a residual titration with $AgNO_3$ V. S. and KCNS V. S. A freshly prepared tincture of iodine U. S. P. X was made and assayed with the above.

TINCTURE OF IODINE ANALYSES.

Tabulation of Results.

Sample number.	Iodine, grams per 100 cc.	Potassium iodide, grams per 100 cc.		Alcohol.	
		Weighing.	Titration.	Found.	Per cent stated on label.
1	6.880	4.816	4.716	86.90	..
2	6.670	5.052	4.896	81.00	..
3	7.100	5.056	4.896	85.35	..
4	6.340	4.880	4.776	83.00	83.0
5	7.520	5.260	5.188	80.50	94.9
6	6.919	4.776	4.574	87.95	94.9
7	6.200	5.800	5.440	81.70	..
8	7.185	5.600	5.328	...	..
9	6.620	4.880	4.684	88.50	94.9
U. S. P. sample	6.870	4.934	4.821	88.25	..
U. S. P. specifies	6.5–7.5	4.5–5.5	...	82–84	..

COMMENTS.

Most of the tinctures were found to be well within the U. S. P. requirements for iodine and potassium iodide. The titration method for potassium iodide is probably more exact in its results.

One tincture only conformed to the U. S. P. content for alcohol. A peculiar condition exists in that—if a tincture is made according to the U. S. P. formula—the alcoholic content will necessarily be higher than the required amount specified. Just why some of the tinctures were labeled 94.9 p.c. alcohol is difficult to understand.

SERVICE LABORATORY,
IOWA CITY, IOWA.

A NOTE ON THE ASSAY OF SOLUTION OF ARSENOUS AND MERCURIC IODIDE.

BY WILMER H. SCHULZE.

The U. S. P. IX defines Donovan's Solution as an aqueous solution containing not less than 0.95 per cent nor more than 1.05 per cent of As I_3 and not less than 0.95 per cent nor more than 1.05 per cent of Hg I_2. In the U. S. P. X the solution is changed to weight volume basis, containing the same quantity of arsenous and mercuric iodide in 100 cc. instead of 100 grams. The method of assaying the solution is the same in both books. The statement is made that the solution must not be dispensed if darker than a pale yellow.