

*5-Hydroxy-8-methoxy-3:7:4'-tribenzyloxy-flavone (IV)*

The 5:8-dihydroxy compound (III) (0.8 g.) was dissolved in dry acetone (25 c.c.) and anhydrous potassium carbonate (5.0 g.) and dimethyl sulphate (0.14 c.c., 1 mol.) were added. The mixture was refluxed for 6 hours. The potassium salts were filtered off and washed with hot acetone. The filtrate was concentrated over a water-bath to remove acetone. The solid that remained behind was stirred up with water and filtered. It crystallised from a mixture of alcohol and acetone as pale yellow prismatic needles melting at 113–15° (Found: C, 75.5; H, 5.0;  $C_{37}H_{30}O_7$  requires C, 75.8; H, 5.1%). It gave a green colour with alcoholic ferric chloride and was sparingly soluble in aqueous alkali.

*8-Methoxy-5:7:3:4'-tetrahydroxy-flavone (V) (Tambuletin)*

The above 5-hydroxy compound (0.5 g.) was treated with a mixture of glacial acetic acid (5.0 c.c.) and concentrated hydrochloric acid (2.5 c.c.) and the mixture was heated at 100° over a water-bath for one hour. The solution was cooled and diluted with water. A bright yellow solid separated out. It was filtered and crystallised from glacial acetic acid whereby it was obtained as bright yellow short needles melting at 269–70°. It gave a dull green colour with alcoholic ferric chloride and was readily soluble in aqueous alkali to give a bright yellow solution. It gave an orange-red precipitate with neutral lead acetate in alcohol. The mixed melting point with a sample of tambuletin isolated from the seeds of *Zanthoxylum acanthopodium* was not depressed (Found: C, 60.3; H, 4.0;  $C_{16}H_{12}O_7$  requires C, 60.7; H, 3.8%).

## SUMMARY

The synthesis of tambuletin has been effected. Kæmpferol is first benzylated to the tribenzyl-ether which is subjected to oxidation with alkaline persulphate, partial methylation and debenylation in succession.

## REFERENCES

1. Balakrishna and Seshadri .. *Proc. Ind. Acad. Sci.*, A, 1947, 25, 449.
2. ————— .. *Ibid.*, 1947, 26, 72.
3. Rao, Rao and Seshadri .. *Ibid.*, 1947, 26, 13.

## ERRATUM

In Part III, A, 1947, 26, 216 read (VIII), for (XIII) at the bottom of the page.