

Short Communication

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OXIDATION OF 2-(4-HYDROXYPHENYL)-3-METHYLINDOLE WITH HYDROGEN PEROXIDE

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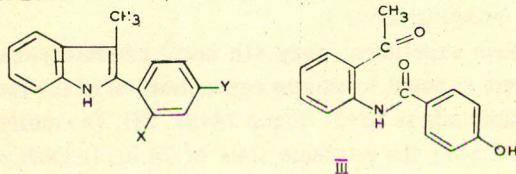
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The autoxidation of 2-(2-hydroxyphenyl)-3-methylindole (I) to yield 3-hydroxy-2-(2-hydroxyphenyl)-3-methyl-3H-indole has already been reported [1-3]. It was also found [1] that 2-(4-hydroxyphenyl)-3-methylindole (II) under the same conditions does not undergo autoxidation. Reaction of compound (II) with hydrogen peroxide has now been studied and it has been found that hydrogen peroxide cleaves the indolic 2,3-bond and affords *N*-(2-acetophenyl-4-hydroxybenzamide) (III). The structure of (III) was supported by its IR spectrum which in particular showed the presence of two carbonyl functions (1655 and 1640 cm^{-1}), and by its mass spectrum which showed *m/e* at 255.



I, when X = - OH, Y = - H; II X = - H, Y = - OH, respectively.

EXPERIMENTAL

M. ps. were recorded on a Kofler hot stage apparatus, UV spectrum in ethanolic solution (95%) on a Perkin-Elmer model 137 spectrophotometer, and mass spectrum with an A.E.I. MS-12 spectrometer. Solutions, were dried over anhydrous magnesium sulphate and evaporations were carried out under reduced pressure (water pump). Solid analytical sample was dried over phosphorus pentoxide at 80°/0.1 mm for 4 hr.

N-(2-Acetophenyl-4-hydroxybenzamide) (III)

2-(4-Hydroxyphenyl)-3-methylindole (II) (0.50 g) was added to hydrogen peroxide solution (6%, 25 ml) and the mixture heated on a steam bath for 12 hr. The white crystalline solid (0.49 g, 89%) was separated by filtration and recrystallised from benzene to afford *N*-(2-acetophenyl-4-hydroxybenzamide) (III) as white needles, m.p. 214-215° (0.24 g, 44%). (Found C 70.8, H 5.0, N, 5.3; *m/e*, 255. $\text{C}_{15}\text{H}_{13}\text{NO}_3$ requires: C 70.6, H 5.1, N 5.5%; mol wt. 255) λ_{max} 218, 248 and 341 nm ($\log \epsilon = 4.48, 4.37$ and 4.03); λ_{infl} 279 nm ($\log \epsilon 4.04$); ν_{max} 3330, 3180 (NH, OH), 1655 and 1640 cm^{-1} (CO, NHCO).

REFERENCES

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2. B. Robinson and M. Zubair Uppal, Tetrahedron, 29, 1429 (1973).
3. R.J.S. Beer, L. McGrath and A. Robertson, J. Chem. Soc., 2118, 3283 (1950).

Erratum

Oxidation of 2-(4-Hydroxyphenyl)-3-methylindole with Hydrogen Peroxide: B. Robinson and M. Uppal Zubair, Pakistan J. Sci. Ind. Res., 21, 62 (1978).

Due to certain printing errors, this paper has been reprinted in Vol. 22, p. 189.