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6,8-O-Dimethylversicolorin A, a New Metabolite from *Aspergillus versicolor*

Sir:

We have reported the isolation and structures of five anthraquinoid pigments, versicolorin A, B, C, versiconol, and norsolorinic acid, from the mycelium of *Aspergillus versicolor* (Vuillemin) Tiraboschi.¹⁾ Further investigation of this mold has resulted in the isolation of a new metabolite, 6,8-O-dimethylversicolorin A (I) the structure of which was established by chemical and spectrometric methods.

The new metabolite forms yellow needles when recrystallized from acetone, mp 285°C (decomp.), $[\alpha]_D^{25} - 320^\circ$ ($c=0.12$, dioxane). *Anal.* Found: C, 65.77; H, 3.86; MS m/e : 366 (M^+). Calcd. for $C_{26}H_{14}O_8$: C, 65.57; H, 3.85%; M.W. 366. UV λ_{max}^{EtOH} $m\mu$ (ϵ): 223 (47,900), 250 (18,200), 282 (46,800), 312 (10,700), 435 (11,200). IR ν_{max}^{KBr} cm^{-1} : 1665, 1640, 1615, 1600. The infrared spectrum of I showed bands at 1665 and 1640 cm^{-1} indicating the presence of non-chelated and chelated anthraquinone carbonyl groups. Acetylation of I gave a monoacetate (II), mp 228°C. *Anal.* Found: C, 64.71; H, 3.93. Calcd. for $C_{22}H_{16}O_8$: C, 64.70; H, 3.95%. The NMR spectrum of II shows singlet resonances at 7.48, 6.05 and 6.04 τ due to the methyl protons of acetyl and two methoxyl groups, respectively. The spectrum of II shows signals at 5.38 τ (1H, triplet of doublets, $J=2.5$ and 7 cps), 4.78 τ (1H, triplet, $J=2.5$ cps), 3.52 τ (1H, triplet, $J=2.5$ cps) and 3.22 τ (1H, doublet,

$J=7$ cps). These signals were assigned to the four protons of the dihydrodifurano ring system, and signals at 3.26 τ (1H, doublet, $J=2.5$ cps), 2.65 τ (1H, doublet, $J=2.5$ cps) and 2.40 τ (1H, singlet) were assigned to aromatic ring system.

Methylation of I gave a methylether, mp 246°C (III). *Anal.* Found: C, 65.88; H, 4.19. Calcd. for $C_{21}H_{16}O_7$: C, 66.31; H, 4.24%. Compound III was established to be O-trimethylversicolorin A by comparison with an authentic sample derived from the methylation of versicolorin A.¹⁾

Oxidation of I with CrO_3 gave crystalline solid, mp 157°C, which was identical with synthetic 3,5-dimethoxyphthalic acid.

Thus, the structure of I is 6,8-O-dimethylversicolorin A.

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