RUBROTOXIN FROM PENICILLIUM PURPUROGENUM (STRAIN A 1/4)

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In a study of the causes of the phytotoxic action of the soil fungus Penicillium purpurogenum Stoll (strain A 1/4) grown on Raulin-Thom liquid nutrient medium, by acidifying an ethyl acetate extract of the acidified culture filtrate from this microorganism we isolated a substance responsible for the main phytotoxicity of this filtrate.

The substance (average yield 250 mg/*l* of filtrate) forms colorless crystals with decomp. p. 169–170° C (from glacial acetic acid), $[\alpha]_D^{20}$ +70° (c 4.0, acetone), readily soluble in glacial acetic acid, alcohols, and acetone, sparingly soluble in hydrocarbons, diethyl ether, and water, and soluble in dilute solutions of NaOH and $NaHCO_3$. The investigated compound acetylates under the usual conditions, forming a derivative with mp 186° C.

On the basis of what has been said above and its UV and IR spectra [$\lambda_{min}^{CH_3CN}$ 232 mμ (ε 6250), $\lambda_{max}^{CH_3CN}$ 251 mμ (ε 9420), ν_{max} [paraffin oil), cm^{-1}: 3500 (OH), 1855, 1830, 1777 (cyclic five-membered anhydride of a substituted maleic anhydride type), and 1712 (>CO)], this compound was identified as rubrotoxin B isolated previously from the culture filtrate of Penicillium rubrum Stoll [1] and studied by Moss, Robinson, et al. [2].

REFERENCES

1. R. J. Townsend and M. O. Moss, et al., J. Pharm. Pharmacol., 18, (17), 471, 1966.
2. M. O. Moss and F. V. Robinson, et al., Nature, 220, (5169), 767, 1968.

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