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Structural and Synthetic Studies on Some Antibiotics

Eiichi YAMAMOTO*

Chemical studies on pentamycin

Pentamycin, an antifungal antibiotic, has been recrystallized from methanol; m. p. 217~218°C (decomp.), $[\alpha]_D$ −178.5 (c 0.25; methanol). Elemental analysis: C 62.00; H 8.97 %. U. V. spectrum of pentamycin showed maxima at 323, 338 and 356 mμ and a shoulder at 311 mμ. It has been found that I. R. spectrum as well as these properties are similar to those of fungichromin, the structure of which was reported by Cope et al. (1962).

Studies on the purification of an antibiotic C-521

Antibiotic C-521 has strong activities against Grampositive bacteria. Purification of the crude product has been studied. The component which is soluble in chloroform, methanol, aceton-isopropyl ether and benzene and insoluble in petroleum ether and carbon tetrachloride has been obtained as a semi-solid and showed 1120 U/mg. against *Mycrobactrium* 607.

Synthetic studies on Kanamycin-mono-O-phosphate

The purpose of this study is to phosphorylate the C-6 hydroxy group of 3-amion-3-deoxyglucose moiety of kanamycin. Tetra-N-carbobenzoxykanamycin was phosphorylated with diphenylphosphorus-chloride to yield tetra-N-carbobenzoxykanamycin-mono-O-diphenylphosphate. After removal of the protecting groups, kanamycin-mono-O-phosphate has been obtained.

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