

SYNTHESIS OF SOME MOLD METABOLITES, POSSESSING A PYRAZINE RING

Akihiro Ohta, Tokuhiro Watanabe, and Yasuo Akita

Tokyo College of Pharmacy

Hachioji, Tokyo, Japan

Most of the naturally occurring pyrazines are classified into three types; a) hydroxypyrazines, b) 2-hydroxypyrazine-1-oxides, c) 2,5-dihydroxypyrazine-1,4-dioxides. In this work two of the type-a compounds and also two of the type-b compounds are synthesized from the appropriate amino acids.

Valyl-leucyl anhydride was treated with phosphoryl chloride to give a mixture of the chlorinated 2-isopropyl-5-isobutylpyrazines. 2-Chloro-3-isobutyl-5-isopropylpyrazine was separated from this mixture by column chromatography, and converted into deoxymuta-aspergillilic acid and 2-hydroxy-3-isobutyl-6-isopropylpyrazine 1-oxide, isolated from *Aspergillus sojae*, over a few steps.

2-Chloro-3,5-diisobutylpyrazine 1-oxide, derived from leucine anhydride, was heated with acetic anhydride in a sealed tube to give 2-chloro-3-(α -acetoxy)isobutyl-6-isobutylpyrazine, which was converted into 2-chloro-3-isobutyl-6-(α -acetoxy)isobutylpyrazine. Starting from the last compound hydroxyneواسpergillilic acid and a pyrazinol, isolated from *Aspergillus ochraceus*, were prepared.