90.2.13 CRYSTAL STRUCTURE OF ION-RADICAL SALTS OF SEVERAL PHENOTHIAZINE DERIVATIVES. By T.UCHIDA and K.ROZAWA, Department of Industrial and Engineering Chemistry, Faculty of Science and Technology, Science University of Tokyo, Noda, Chiba 278 JAPAN

(1) Phenothiazine cation radical hexachloroantimonate hydrate, C\textsubscript{41}H\textsubscript{36}S\textsubscript{2}SbCl\textsubscript{6}H\textsubscript{2}O, \( M = 551.8, F(000) = 1100. \)

(2) 3,7-Dichlorophenothiazine cation radical hexachloroantimonate, C\textsubscript{12}H\textsubscript{17}S\textsubscript{2}SbCl\textsubscript{6}, \( M = 626.6, F(000) = 578. \)

(3) Phenothiazine cation radical tetrachloroantimonate, C\textsubscript{10}H\textsubscript{9}S\textsubscript{2}SbCl\textsubscript{4}, \( \gamma = 185.6. \)

(4) N-H\textsubscript{3}ethylphenothiazine cation radical tetrachloroantimonate, \( \gamma = 14.069, b = 5.527, c = 15.090A, \beta = 110.66°, Z = 2. \)

It was refined to \( R = 0.035. \)

Ashantin (C\textsubscript{28}H\textsubscript{28}O\textsubscript{8}) was obtained from Piper miquon and belongs to space group P2\textsubscript{1}/c, with unit cell a = 12.187, b = 7.399, c = 25.646A, \( \beta = 90°, \) R-value 0.044.

Yangambin (C\textsubscript{24}H\textsubscript{31}O\textsubscript{8}) was obtained from Artemisia abscissin and belongs to space group P2\textsubscript{1}/c, with unit cell a = 12.556, b = 5.524, c = 31.700A, \( \beta = 90°, \) R-value 0.033.

All three structures were solved by direct methods and not without difficulty. In the case of one ashantin two molecular fragments were recognized in the best solution from MULTAN shifted by half a C-C bond rather than two. For yangambin all E-maps looked too bad to give a recognizable shift, but in one fragment consisting of a phenyl ring with four atoms attached was possible enough to be put into TRIDIR of the DIRDIF program system, which gave the solution.

The molecules appear flat and stretched out, but there are differences around the tetrahydrofurane nucleus.

90.2.14 STRUCTURE OF SOME SESAMIN-TYPE LIGANDS. By Odd Rune Eriksen and Rina Greendale Camel, Chemical Institute, Aarhus University, DK-8000 Aarhus C, Denmark.

Three sesamin-type compounds have been investigated. They have been extracted from the strong tasting plants of Artemisia abscissin (yangelin and epilaphantin) and black pepper (Piper miquon) (ashantin). They have a tetrahydrofurane nucleus. The two arylic groups are substituted by aryl groups, has拆anthen by 3,4,5 methoxy-phenyl group and a (3,4,5 methylenedioxy)phenyl group, yangambin by two 3,4,5 methoxy-phenyl groups.

Ephalatin (C\textsubscript{41}H\textsubscript{28}O\textsubscript{8}) was extracted from Artemisia abscissin roots and crystallized in space group P2\textsubscript{1} with unit cell a = 12.187, b = 7.399, c = 15.090A, \( \beta = 110.66°, Z = 2. \)

It was refined to \( R = 0.035. \)

Ashantin (C\textsubscript{28}H\textsubscript{28}O\textsubscript{8}) obtained from Plner miquon fruits belongs to space group P2\textsubscript{1}/c, with unit cell a = 10.412, b = 7.399, c = 25.646A, \( \beta = 90°, \) R-value 0.044.

Yangambin (C\textsubscript{24}H\textsubscript{31}O\textsubscript{8}) was obtained from Artemisia abscissin and belongs to space group P2\textsubscript{1}/c, with unit cell a = 12.556, b = 5.524, c = 31.700A, \( \beta = 90°, \) R-value 0.033.

All three structures were solved by direct methods but not without difficulty. In the case of one ashantin two molecular fragments were recognized in the best solution from MULTAN shifted by half a C-C bond rather than two. For yangambin all E-maps looked too bad to give a recognizable shift, but in one fragment consisting of a phenyl ring with four atoms attached was possible enough to be put into TRIDIR of the DIRDIF program system, which gave the solution.

The molecules appear flat and stretched out, but there are differences around the tetrahydrofurane nucleus.