Tetrahedron Letters No.30, pp. 2037-2038, 1964. Pergamon Press Ltd.
Printed in Great Britain.

RELATIVE CONFIGURATION OF CARBON ATOMS 8 AND 9 OF CINCHONA ALKALOIDS

V. Prelog
Organisch-chemisches Laboratorium der Eidg. Techn. Hochschule
Zürich

(Received 30 May 1964)

The recent paper by G.G. Lyle and W. Gaffield (1) on the interpretation of ORD curves of the Cinchona alkaloids cannot be allowed to pass without comment. In particular the paragraph : "That the previous assignement of relative configuration of the cinchona alkaloids was in error seems highly probable on the basis of the available ORD information ...." is wholly unwarranted. Lyle and Gaffield neglect entirely the former results of chemical investigations from our (2) and other (3) laboratories; furthermore the whole matter of the relative configuration of Cinchona alkaloids is settled unambiguously by X-ray structural analysis of quinine sulphate and selenate by H. Mendel (4,5), which confirms the "mesoid" configuration of carbon atoms 8 and 9.

The following wrong statements in the introduction of the paper by Lyle and Gaffield must also be corrected : i. the natural alkaloids are not more but less basic than their 9-epimers (2), and ii. the early interpretation of the steric course of the hydrogenation of quinidone (6) did not lead to the "mesoid" (correct) configuration of carbon atoms 8 and 9 in quinine. These two errors are however not relevant for the principal incorrect conclusion.

REFERENCES

(1) Tetrahedron Letters, No. 21, 1371 (1963).

(2) V. Prelog and O. Häfliger, Helv. Chim. Acta, 33, 2021 (1950).

(3) Z. Földi, T. Földi, and A. Földi, Chem. & Ind., 465 (1955). Acta Chim. Hung., 16, 185 (1958).

(4) Proc. Koninkl. Nederl. Akad. Wetenschappen B, 58, 132 (1955).

(5) H. Mendel, private communication to J.D. Dunitz, confirming and extending results of reference (4).

(6) W.E. Doering, G. Cortes, and L.H. Knox, J.Am.Chem.Soc., 69, 1700 (1947) footnote 6.