

Reprint from

**10th Cologne Workshop On Dope Analysis
7th to 12th June 1992
- Proceedings -**

M. Donike
H. Geyer
A. Gotzmann
U. Mareck-Engelke
S. Rauth
(Editors)

Sport und Buch Strauß, Köln, 1993

P.J. VAN DER MERWE:
Identification of Ephedrines as their Carbon Disulfide Derivatives
In: M. Donike, H. Geyer, A. Gotzmann, U. Mareck-Engelke, S. Rauth (eds.) 10th Cologne
Workshop On Dope Analysis 7th to 12th June 1992. Sport und Buch Strauß, Köln, (1993) 197

P.J.van der Merwe

Identification of Ephedrines as their Carbon Disulfide Derivatives

Department of Pharmacology, University of the Orange Free State,
Bloemfontein, South Africa

Abstract

A gas chromatographic method for the separation and identification of the diastereoisomers ephedrine and pseudoephedrine and the diastereoisomers norephedrine and norpseudoephedrine is presented. The compounds were derivatised by reaction with carbon disulfide in the presence of alkali. These derivatives and their trifluoroacetic anhydride derivatives were subjected to gas chromatography with nitrogen selective detection as well as mass selective detection.

The results showed that ephedrine and pseudoephedrine can easily be differentiated by gas chromatographic analysis of their carbon disulfide derivatives. Norephedrine and norpseudoephedrine can be differentiated by different chromatographic retention times of their carbon disulfide derivatives and by the fact that norephedrine yielded two products and norpseudoephedrine only one product when they were reacted with carbon disulfide under the same conditions. Trifluoroacetylation of the latter compounds gave a more pronounced differentiation.