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## Note

### Separation of isomeric pentacyclic triterpenols by capillary gas chromatography

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During investigations on *Euphorbia latex* triterpenes<sup>1</sup> some problems arose with regard to the identification of the triterpenols present in the saponified extract. In addition to cycloartenol, esters of a triterpene were found which could be either one of the isomers,  $\beta$ -amyrin, or germanicol. Both conventional gas-liquid chromatography (GLC) and thin-layer chromatography (TLC) on silica containing  $\pi$ -complexing metal salt were insufficient to resolve fully a mixture of the two isomers. Nevertheless, by means of mass-fragmentography, the presence of both compounds was demonstrated<sup>1,2</sup>. For further investigations separation of the compounds was necessary and capillary GLC appeared to be one possible way to achieve this aim.

#### EXPERIMENTAL

$\beta$ -Amyrin and  $\alpha$ -amyrin were purchased from C. Roth (Karlsruhe, G.F.R.); germanicol was a gift from Miss W. H. Hui, University of Hong Kong, and lupeol was isolated from the seed coat of *Lupinus luteus*<sup>3</sup>. Separations were carried out on a Packard 427 gas chromatograph with a capillary column, 25 m  $\times$  0.24 mm I.D. coated with SE-30. Temperature was 270° isothermal, carrier gas N<sub>2</sub>, flow through the column 0.5 ml/min, make-up gas 25 ml/min. 5 $\alpha$ -Cholestane was added as internal standard (absolute retention time 14.4 min).

#### RESULTS

In addition to  $\beta$ -amyrin and germanicol two other isomers, lupeol and  $\alpha$ -amyrin, were investigated. The figure shows a chromatogram of a mixture of these four triterpenols. The relative retention times indicate a good separation of three of the four compounds. The separation of germanicol (2.84) and  $\beta$ -amyrin (2.76), which was hitherto very difficult to obtain, was now satisfactorily achieved. However, it did not appear to be possible to separate  $\alpha$ -amyrin (3.03) and lupeol (3.01) in this way, but these compounds can easily be separated by chromatography on silver nitrate-impregnated silica<sup>4</sup>.

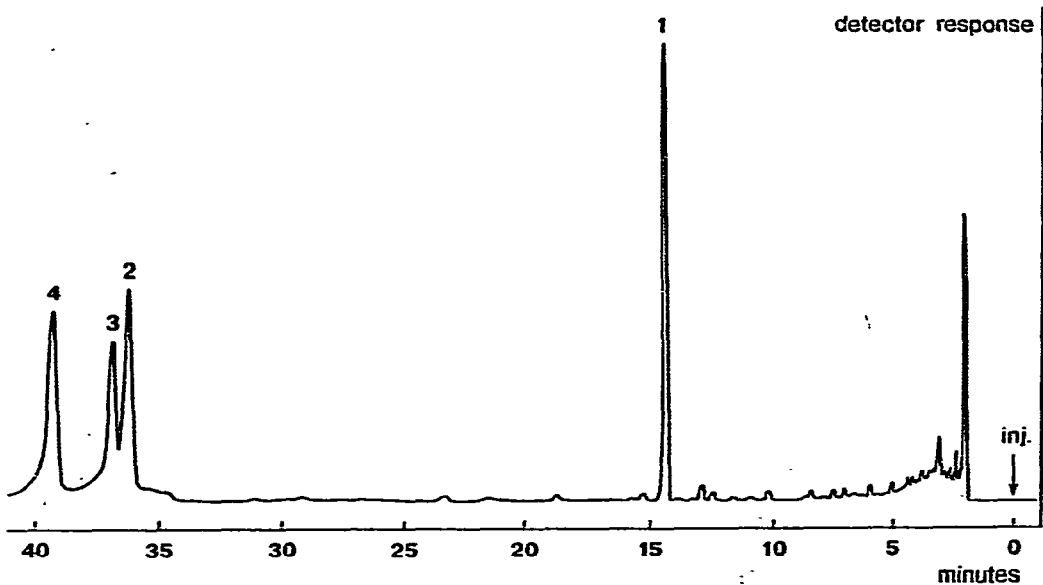


Fig. 1. Separation of pentacyclic triterpenols by capillary gas chromatography. 1 =  $5\alpha$ -Cholestane; 2 =  $\beta$ -amyrin; 3 = germanicol; 4 =  $\alpha$ -amyrin and lupeol.

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