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VOLATILES PRESENT IN *ARACHIS HYPOGAEA**

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Key Word Index—*Arachis hypogaea*; Leguminosae; peanut; 1-pentene-3-ol; 1-hexanol; linalool; α-terpineol; geraniol.

Many volatile compounds have been identified in both raw[1] and roasted peanuts[2–4] but so far the plant itself has not been studied. An Et_2O extract of the stream distillate of the aerial parts was, therefore, subjected to GC–MS analysis. Twenty-eight peaks were detected and five were identified as 1-pentene-3-ol, 1-hexanol, linalool, α-terpineol, and geraniol which comprised, on the average, 4, 4, 28, 6 and 6% respectively, of the total extract.

Preliminary identification of the MS was accomplished by comparison with published spectra.[5,6] The identity of the five compounds was established by comparing GLC retention times, and MS with chemically pure standards. In addition, co-GLC analyses were performed and confirmed the results. Sufficient linalool was isolated by preparative GLC to permit its identity to be confirmed by IR.

EXPERIMENTAL

Extraction of peanut plants. A procedure similar to that of H. Auda *et al.*[7] was used for the steam distillation of 1500 g of the aerial parts of peanut glants grown near Perkins, Oklahoma and harvested at maturity. 3 l. of distillate were collected in 5 hr, saturated with NaCl and extracted 5 × 500 ml Et_2O. The combined Et_2O extract was dried (Na_2SO_4) and reduced to 100 ml *in vacuo*, then to 5 ml under N_2.

Gas Chromatography. Analytical analyses were performed on a 3·3 m × 6 mm glass column (15% Carbowax 20 M on 80/100 Gas Chrom Q) with a modified hydrogen flame ionization detector[8] programmed 100–200° at 3°/min. The helium carrier gas flow rate was 40 ml/min. Preparative GC was performed using a 5·4 m × 10 mm glass column (15% Carbowax 20 M on 60/80 anakrom ABS). Samples were collected in Et_2O at −72°.

GC–MS. The same analytical column and conditions as described above were used to introduce the volatiles into a LKB 9000 mass spectrometer.[8] MS were taken at 70 eV with the ion source at 250° and the separator at 200°.

IR. Spectra were obtained with samples of 2–5 μl in a cell equipped with AgCl windows.

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