termination of urinary chlorpromazine glucuronides over the entire clinical range, from trace amounts as seen in initial drug therapy, to the substantial daily amounts excreted during chronic drug dosage.

Figure 1 illustrates the determination of chlorpromazine glucuronides in the urine of a patient chronically dosed with 4.8 mg. chlorpromazine per Kg. daily, according to the previously reported procedure (broken line) and the present modification (solid line). Using the background cancellation technique, the proposed modification yields an insignificantly higher reading for absorbance, but a lower background and a sharper maximum. As a rule, differences in absorbance due to the method of determination amounted to less than 5%, and did not exceed ±10% in any specimen examined.

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# Proper Identification of the *n*-Alkane from *Arctostaphylos patula*

*Sir:*

In a recent phytochemical investigation reported in *J. Pharm. Sci.*, an *n*-alkane was isolated from *Arctostaphylos patula* Greene (*Ericaceae*) which was tentatively identified as *n*-nonacosane (1). This identification was made on the basis of solubility characteristics and a sharp melting point of 64° for the isolate. Since this report was published, we have gained additional information on the identity of this subtance, which is the subject of this communication.

In order to obtain an exact molecular weight for the isolate, it was subjected to mass spectral analysis and was found to be a mixture of nine *n*-alkanes.[1] All members of the $C_{25}$–$C_{33}$ series were present with the odd carbon atom compounds being predominant. This finding is in agreement with recent extensive studies on plant *n*-alkanes reported by others (2–4).

Furthermore, the sample was subjected to a gas chromatographic analysis using a Packard FID instrument fitted with a 4 mm. × 2 M. glass column and packed with 3% SE-30 on Shimalite W (80–100 mesh). Argon (60 ml./min.) was the carrier gas, and a flame ionization detector with a sensitivity setting of $1 \times 10^{-7}$ was used. The column temperature was maintained at 230° and the injection port was 235°. Estimation of the concentration of *n*-alkanes in the sample was by planimeter (5).

Under these conditions, it was found that the sample separated into nine distinct peaks, each corresponding to the mass spectral data. These peaks were identified as *n*-pentacosane, $C_{25}H_{52}$ (<1%); *n*-hexacosane, $C_{26}H_{54}$ (<1%); *n*-heptacosane, $C_{27}H_{56}$ (3%); *n*-octacosane, $C_{28}H_{58}$ (4%); *n*-nonacosane, $C_{29}H_{60}$ (17%); *n*-triacontane, $C_{30}H_{62}$ (5%); *n*-hentriacontane, $C_{31}H_{64}$ (60%); and *n*-dotriacontane, $C_{32}H_{66}$ (6%); as well as *n*-tritriacontane, $C_{33}H_{68}$ (5%). No peaks representative of *iso*alkanes were observed. An infrared absorption spectrum (KBr) of the original sample was typical for *n*-alkanes, with no evidence of OH or carbonyl absorption.

The qualitative and relative quantitative distribution of *n*-alkanes in the mixture is consistent with data reported for other ericaceous species (3).

Therefore, on the basis of the data reported at this time, the material reported earlier as "*n*-nonacosane" is a mixture containing *n*-hentriacontane (60%) as the major constituent (1).

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