

Nomenclature Correction of Certain Plant *n*-Alkanes

Sir:

Recently we initiated phytochemical studies on certain *Euphorbia* species because of the reported folkloric use of members of this genus (*E. ingens*, *E. bupleurifolia*, *E. clavarioides*, and *E. gorgonis*) as anticancer remedies (1). Indeed, certain of the euphorbias (*E. amygdaloides*, *E. drummondii*, *E. marginata*, *E. pilulifera*, and *E. resinifera*) have been shown to elicit antitumor activity in laboratory animals (2). During the course of one of our investigations, a considerable amount of waxy material

previously described (8). Of the five samples analyzed, only the *n*-nonacosane from *C. bulbosum* (3) was reasonably pure (about 97%). The *n*-nonacosane from *E. watanabei* (4) was actually 61% *n*-hentriacontane, and the *n*-nonacosane from *A. patula* (5, 8) was 60% *n*-hentriacontane. Samples of *n*-hentriacontane isolated from *E. lathyris* (6) and *P. asiatica* were complex mixtures, but each was more than 50% of the labeled hydrocarbon (Table I).

These studies re-emphasize the need for subjecting all *n*-alkanes isolated from plant sources to a gas chromatographic and/or mass spectrometric analysis before any identification of these compounds can be made, and their presence in plant material reported.

TABLE I—COMPOSITION OF *n*-ALKANES FROM SELECTED PLANTS

<i>n</i> -Alkane Reported	Plant Source	Ref.	<i>n</i> -Alkanes Found ^a									
			C ₂₆	C ₂₈	C ₂₇	C ₂₈	C ₂₉	C ₃₀	C ₃₁	C ₃₂	C ₃₃	C ₃₄
<i>n</i> -Nonacosane	<i>Chaerophyllum bulbosum</i> L.	(3)	...	...	1	2	97	...	...	...	...	...
<i>n</i> -Nonacosane	<i>Euphorbia watanabei</i> Makino	(4)	<1	1	3	4	20	5	61	...	5	...
<i>n</i> -Nonacosane	<i>Arctostaphylos patula</i> Greene	(5)	<1	<1	3	4	17	5	60	6	5	...
<i>n</i> -Hentriacontane	<i>Euphorbia lathyris</i> L.	(6)	...	...	2	2	17	6	53	5	15	...
<i>n</i> -Hentriacontane	<i>Plantago asiatica</i> L.	(7)	<1	1	2	1	16	6	61	6	3	5

^a As determined by gas chromatography (8), expressed to the nearest 1.0%. Estimations were made by planimetry.

was encountered, which readily deposited white plates from the usual crystallizing solvents. These plates gave a sharp melting point, indicative of either *n*-nonacosane or *n*-hentriacontane, and elemental analyses were in agreement with an identification as either of these *n*-alkanes. This prompted us to request samples of these two compounds from other investigators for comparative purposes. Samples of *n*-nonacosane isolated from *Chaerophyllum bulbosum* L. (3), *Euphorbia watanabei* Makino¹ (4), and *Arctostaphylos patula* Greene¹ (5), as well as *n*-hentriacontane from *Euphorbia lathyris* L. (6) and *Plantago asiatica* L. (7) were obtained.

Prior to using these samples for comparative purposes, they were each subjected to a gas chromatographic analysis using the conditions

¹ Tentative identifications, based solely on melting points, were reported in the original papers (4, 5).

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