

Long Chain Hydrocarbons from Petroleum Ether Fraction of *Cestrum fasciculatum* (Endl.) Miers. and *Eriogonum tomentosum* Michx.: Spectral Identification of n-Hentriacontane and n-Dotriacontane.

Cestrum fasciculatum (Endl.) Miers. ve *Eriogonum tomentosum* Michx. 'un Petrol Eteri Fraksiyonundan Uzun Zincirli Hidrokarbonlar. : n-Hentriakontan ve n-Dotriakontan'ın Spektral Tanımlanması.

Ningür NOYANALPAN*

In the course of a continuing search for some certain pharmacological activities of plant origin petroleum ether fraction of alcoholic extracts of *Cestrum fasciculatum* (Endl.) Miers. and *Eriogonum tomentosum* Michx. yielded long chain hydrocarbons. Among some others two were found in major quantities. These hydrocarbons were n-Hentriacontane (1,2) and n-Dotriacontane (3,4) n-Hentriacontane has been isolated from petroleum ether fraction of *Cestrum fasciculatum* (Endl.) Miers. by charcoal decolorisation followed by adsorption Chromatography, n-Dotriacontane has been isolated from petroleum ether fraction of *Eriogonum tomentosum* Michx. with the same procedure. The compounds have been identified with their melting points and spectral properties. For the structure elucidation, ir, nmr, mass spectrometry have been used. In mass spectrometry chemical ionisation method has been applied.

The ir spectrometer used in this research was a Perkin Elmer 257, The mass spectrometer was a Hitachi Perkin Elmer RM-U-6E and nmr spectrometer was a Varian HA-100. All nmr spectra have been taken in deuterated chloroform. For melting point determination a Mettler FP-2 hot plate microscope has been used.

Redaksiyona verildiği tarih : 7 Mart 1974

(*) Farmasötik Kimya Kürsüsü, Eczacılık Fakültesi, Ankara Üniversitesi.

EXPERIMENTAL

5 g of petroleum ether fraction of alcoholic extract from *rum fasciculatum* (Endl.) Miers. was put on top of a column of 150 g of Silicagel packed with chloroform. Elution was started with 500 ml of straight chloroform and carried further being mixed with increasing amounts of methanol. After evaporation of solvent from first 400 ml fraction a yellowish residue was obtained (268 mg). This residue was crystallized from ethyl acetate. m.p. 67,50 C. This compound was coded as S-A.

Same procedure starting with 5 g of fraction from *Eriogonum tomentosum* Michx. gave 171 mg yellowish residue after evaporation of first 450 ml column fraction. This has also been crystallised from ethyl acetate. m.p. 70,5°C. This compound has been coded as S-B.

On ir spectra of both S-A and S-B only the bands corresponding to Carbon-Carbon and Carbon-Hydrogen bonds have been detected. No bands corresponding to oxygen or any other hetero element containing functions has been detected. With nmr spectra each compound gave peaks corresponding to terminal methyl groups at δ 1,33. Integration of spectra showed that there are approximately 9,5 times more protons in methylene groups than those in methyl groups for S-A and 10 times more protons for S-B. The mass spectra with direct inlet electron bombardment method gave almost no molecular ions. However showing a very uniform straight chain hydrocarbon fragmentation. Therefore chemical ionisation process has been applied. For S-A, $M^+ - H$ was found to be 435 thus molecular weight 436. For S-B, $M^+ - H$ was found to be 449 thus molecular weight being 450. The fragmentation pattern on both spectra showed peaks having values of 14.

With the information obtained from ir, nmr and mass spectra above mentioned compounds have been identified as S-A corresponding to n-Hentriacontane ($C_{31}H_{64}$) and S-B to n-Dotriacontane ($C_{32}H_{66}$).

Ö Z E T

Belirli bazı farmakolojik aktivitelerin incelenmesi için bitkiden hareketle yapılan bir araştırma sırasında *Cestrum fasciculatum* (Endl.) Miers. ve *Eriogonum tomentosum* Michx. dan hazırlanan etanollü ekstrelerin petrol eteri fraksiyonlarından n-Hentriacontane ve n-Dotriacontane izole edilmiştir. Bu düz zincirli hidrokarbonların yapıları spektral metodlarla aydınlatılmıştır.

S U M M A R Y

In the course of a research for the pursuit of some certain pharmacological activity starting from plant material, n-Hentriacontane and n-Dotriacontane have been isolated from the petroleum ether fractions of ethanolic extracts of *Cestrum fasciculatum* (Endl.) Miers and *Eriogonum tomentosum* Michx. The structures of these straight chain hydrocarbons have been elucidated with spectral methods.

L İ T E R A T Ü R

- 1 — F. Crafft. : *Berichte* **15**, 1711 (1882)
- 2 — T. E. Thorpe, Holmes, J. : *Chem. Zentrbl.* **11**, 395 (1901)
- 3 — A. Ch. Chibnall et al : *Biochem. J.* : **28**, 2189 (1934)
- 4 — H. Mühlemann. : *Chem. Zentrbl.* **1**, 1598 (1939)