

**Table 1** Antiandrogenic activity (in mg/100 g body wt) of Vicolide B in male rats

Group	Treatment	Seminal Vesicles	Ventral prostate	Lavator ani
1	Control (0.5% CMC)	63.5 ± 14.5	46.0 ± 1.0	33.7 ± 5.0
2	Testosterone 1 mg/rat/day for 7 days	289.5 ± 78.3	87.16 ± 17.49	63.4 ± 14.8
3	Testosterone 1 mg/rat/day for 7 days + Vicolide B 100 mg/kg body weight for 7 days	324.5 ± 66.7	99.9 ± 14.5	73.2 ± 8.1

(Value are Mean ± S. D.)

**Table 2** Weight of genital organs of male rats after treatment with Vicolide B. (dose is expressed in mg/kg body wt, testes in g/100 g body wt and all others in mg/100 g body wt).

Group	Treatment	Dose mg	Testes	Seminal vesicles	Ventral prostate	Vas deferens	Epididymus
1	Control	0.5% CMC	1.325 ± 0.155	114 ± 4.0	86 ± 1.2	69 ± 1.0	334 ± 12.1
2	Vicolide B	100	1.354 ± 0.164	116 ± 3.5	89 ± 1.5	66 ± 8.0	344 ± 12.0

(Values are mean ± S. D.)

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## CHEMICAL CONSTITUENTS OF *CONVOLVULUS MICROPHYLLUS*

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Jodhpur 342001, India.ARID and semi-arid zone plants have long been used for medicinal purposes. *Convolvulus microphyllus*

plant is used as a laxative and also as a brain tonic<sup>1</sup> and is available in abundance in the western Rajasthan region. A critical survey of literature reveals that *Convolvulus* species have received some attention<sup>2-10</sup> but negligible work has been carried out in *Convolvulus microphyllus*<sup>11-13</sup>. The present work was therefore undertaken.

The *C. microphyllus* plant was collected from the University New Campus at Bhagat-ki-Kothi, Jodhpur (India) during the rainy season. The plant material was dried and powdered and then extracted with benzene using Soxhlet extractor. The benzene fraction was concentrated and fed to a column (size 3 × 60 cm) for chromatography. The concentrated extract was adsorbed on silica gel (40 g) and dried under vacuum. The dried material was chromatographed over silica gel (800 g). The column was eluted successively with different solvents and the eluents were taken according to sequence in the order of polarity with petroleum ether and petroleum ether-benzene mixtures. The column was eluted at a speed of 50 ml/hr and each fraction of 40 ml was collected and tested over TLC

plates. Three compounds were isolated. The first was purified by recrystallization with methanol and was identified as *n*-tetracontane (I) (m.p. 70°C). The second was purified by repeated crystallization from acetone-petroleum mixture and identified as *n*-octacosanol (II) (m.p. 81°C). Higher fractions were mixed and eluted with different solvent systems to get pure white compound. Repeated crystallization from benzene and finally from acetone furnished a white compound (m.p. 136°C), which was identified as  $\beta$ -sitosterol (III).

#### Compound (I)

Its non-reactivity with various reagents and the IR spectrum indicates it to be a saturated hydrocarbon. The strong IR peaks at 2910 and 2855  $\text{cm}^{-1}$  are due to symmetric stretching vibrations. The peaks at 1470 and 1380  $\text{cm}^{-1}$  may be attributed to asymmetric and symmetric bending vibrations. The peaks at 735 and 720  $\text{cm}^{-1}$  may be assigned to  $(-\text{CH}_2-)_n$  and rocking vibrations.

The NMR spectrum of compound (I) showed only two peaks one at  $\tau$  9.15 (6H) indicating the presence of two methyl groups and another peak at  $\tau$  8.8 due to methylene protons. The presence of only two methyl groups indicates the absence of any side chain in the molecule. Thus the spectral results show it to be normal straight chain-saturated hydrocarbon.

The molecular ion peak at  $m/e = 562$  was of low intensity. Further fragmentation showed cluster of peaks separated by 14 mass units with increasing intensity towards lower mass fragments. The base peak was observed at  $m/e = 57$  due to  $\text{C}_4\text{H}_9^+$  fragment ion. Other significant peaks at  $m/e$  29;  $m/e$  43 and  $m/e$  71 are respectively due to  $\text{C}_2\text{H}_5^+$ ,  $\text{C}_3\text{H}_7^+$  and  $\text{C}_5\text{H}_{11}^+$  fragment ions. On the basis of above data, compound (I) was characterized as *n*-tetracontane.

#### Compound (II)

The compound (II) gave positive test with ceric ammonium nitrate indicating the presence of an alcoholic hydroxyl group. The presence of one  $-\text{OH}$  group was confirmed by quantitative estimation of  $-\text{OH}$  group by acetylation.

The alcoholic nature of the compound (II) is further supported by the presence of peaks at 3400–3350 (broad) and at 1055  $\text{cm}^{-1}$  (due to hydroxyl groups) in its IR spectrum. Other peaks at 2910, 2850, 1465, 1380, 1300 and at 725  $\text{cm}^{-1}$  indicate a long chain aliphatic compound.

Elemental analysis and molecular ion peak at  $m/e = 410$  in its mass spectrum indicate its molecular

formula to be  $\text{C}_{28}\text{H}_{58}\text{O}$ . The structure of compound (II) was confirmed by m.m.p. and obtaining a superimposable IR spectrum with that of an authentic sample of *n*-octacosanol.

#### Compound (III)

Compound (III) has been characterized as  $\beta$ -sitosterol on the basis of its m.p., m.m.p. and superimposable IR spectrum with an authentic sample of  $\beta$ -sitosterol.

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