

Chemical constituents of the roots of *Kirganelia reticulata*

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Chemical investigation of the roots of *Kirganelia reticulata* afforded octacosane, tricosyl alcohol, tetracosyl alcohol, sorghumol acetate, friedelin, epifriedelinol, sorghumol, β -sitosterol, kokoanol, stigmasta-5,6-dihydro-22-en-3 β -ol and triclin.

Kirganelia reticulata (Poir.) Baill. (Fam. Euphorbiaceae) is cultivated throughout tropical India and Andaman Islands. The decoction of the root is given for cough and asthma and stem juice is used for eye washing¹. The literature search revealed the isolation of triterpenoids and sterols from the stem bark². However, no phytochemical work exists on the roots.

Air-dried and powdered roots (2 kg) were exhaustively extracted with 95% ethanol for 8 h (3X). The concentrated ethanolic mass (32 g) was re-extracted with pet. ether (b.p. 60–80°; 9 g) followed by benzene (8.6 g). As both fractions showed similar TLC behavior they were mixed and chromatographed over silica gel column.

Elution of the column with solvents of increasing polarity afforded the following compounds. *Octacosane* : elution with pet. ether gave yellowish solid (150 mg), crystallized as white granules (EtOAc), m.p. 63–64°, C₂₈H₅₈ (M⁺ 394). *Tricosyl alcohol* : elution with pet. ether-benzene (4 : 1) afforded white powder (50 mg) crystallized from EtOAc, m.p. 70–72°, C₂₃H₄₈O (M⁺ 340), the acetate (Ac₂O/Py), m.p. 55°. *Tetracosyl alcohol* : fraction obtained by eluting with pet. ether-benzene (4 : 1) afforded white powder (45 mg) crystallized from EtOAc, m.p. 73–75°, C₂₄H₅₀O (M⁺ 354), the acetate (Ac₂O/Py), m.p. 57°. *Sorghumol acetate* : elution with pet. ether-benzene (3 : 2) afforded yellow solid (110 mg) crystallized as white needles (CHCl₃-Me₂CO), m.p. 270°, C₃₀H₅₂O₂ (M⁺ 468), on hydrolysis with ethanolic KOH afforded white granules of sorghumol, m.p. 277–282°, confirmed by comparative spectral data³. Further fractions eluted with pet. ether-benzene (3 : 2) afforded yellow solid (250 mg), which on rechromatography over deactivated Brockmann neutral alumina afforded *friedelin*, light yellow solid (140 mg) crystallized as white needles (pet. ether), m.p. 258–60°, C₃₀H₅₀O (M⁺ 426) and its oxime, m.p. 290–292°, and confirmed by co-TLC and co-IR with an authen-

tic sample, and *epifriedelinol* : elution with pet. ether-benzene (9 : 1) afforded white powder (50 mg), m.p. 277–278°, C₃₀H₅₂O (M⁺ 428), the acetate (Ac₂O/Py), m.p. 291–294°. *Sorghumol* : elution of column with pet. ether-benzene (3 : 2) afforded yellow solid (55 mg) crystallized as white granules (EtOAc), m.p. 277–282°, C₃₀H₅₀O (M⁺ 426), the acetate (Ac₂O/Py), m.p. 270° and spectral data⁴ comparable. *β -Sitosterol* : elution with pet. ether-benzene (1 : 1) afforded white flakes (200 mg) crystallized from CHCl₃ : MeOH, m.p. 135–136°, C₂₉H₅₀O (M⁺ 414), confirmed by co-TLC, the acetate (Ac₂O/Py), m.p. 125–126°. *Kokoanol* : fraction obtained by eluting with benzene afforded yellowish solid (40 mg) crystallized as white granules (CHCl₃ : pet. ether), m.p. 272°, C₃₀H₅₀O₂ (M⁺ 442), confirmed by its acetate (Ac₂O/Py), m.p. 211–213° and comparison of its spectral data⁵. *Stigmasta-5,6-dihydro-22-en-3 β -ol* : elution with benzene-ethyl acetate (4 : 1) afforded light yellow solid (85 mg), crystallized as white needles (EtOAc), m.p. 192–194°, positive LB test for sterols, structure derived by its mass fragmentation pattern *m/z* 414 (M⁺, C₂₉H₅₀O)⁶ and its acetate, m.p. 120–122°⁷. *Triclin* : elution with benzene-ethyl acetate (3 : 2) afforded yellowish-green solid (50 mg), crystallized as yellow needles (C₆H₆ : EtOAc), m.p. 276–279°, positive Shinoda's test, C₁₇H₁₄O₇ (M⁺ 330), triacetate (Ac₂O/Py), m.p. 249–250°, and confirmed by comparison of spectral data⁸.

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