

SHORT COMMUNICATION

CONSTITUENTS OF *CALOPHYLLUM APETALUM* AND *C. TOMENTOSUM* TRUNK BARK

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Plants; Calophyllum apetalum and C. tomentosum—Guttiferae.

Uses: Medicinal.^{1,2}

Previous work: In continuation of our work on the different species³⁻⁶ of *Calophyllum*, the bark of *C. apetalum* and *C. tomentosum* have been investigated. While the investigation was in progress, friedelin and apetalic acid⁷ were reported from the *C. apetalum* bark.

C. apetalum bark

Extr. EtOH: hexane and ether-soluble fractions: neutral fraction: (i) *friedelin*, C₃₀H₅₀O, m.p., (α)_D, mxd.⁸ m.p., u.v., i.r., Co-TLC; 2:4 DNP deriv., m.p., mxd.⁸ m.p., uv.; reduction to friedelan 3β-ol, mp., (α)_D and i.r. (ii) *β-amyrin*, C₃₀H₅₀O, m.p., (α)_D, mxd.⁹ m.p., i.r., co-TLC; acetate, m.p., (α)_D, mxd.⁹ m.p., co-TLC, i.r.; benzoate, m.p., (α)_D and mxd. m.p.; SeO₂ oxidation of acetate to heteroannular Δ^{11,13(18)}-diene, m.p. and u.v. (iii) *β-sitosterol*, m.p. (α)_D, mxd. m.p. and i.r. *Acidic fraction:* (iv) *betulinic acid*, C₃₀H₄₈O₃, m.p., (α)_D, mxd.¹⁰ m.p.; bromo-deriv., m.p., mxd.¹¹ m.p.; methyl betulinate, m.p., (α)_D, mxd. m.p.; acetyl methyl betulinate, m.p., (α)_D and mxd. m.p.

Xanthone: The mother liquor of methyl betulinate yielded a yellow colouring matter, m.p. 240–250°, λ_{max}^{alc} 245, 268 and 287 nm; ν_{max}^{KBr} 3390, 1475, 1080 (primary hydroxyl), 1640 and 827 cm⁻¹ (xanthone)^{12,13}.

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³ C. R. MITRA, *J. Sci. Ind. Res.* **14B**, 481 (1955).

⁴ C. R. MITRA, *J. Sci. Ind. Res.* **16B**, 120 (1957).

⁵ C. R. MITRA, *J. Sci. Ind. Res.* **16B**, 167 (1957).

⁶ S. K. NIGAM, C. R. MITRA, G. KUNESCH, B. C. DAS and J. POLONSKY, *Tetrahedron Letters* **28**, 2633 (1967).

⁷ T. R. GOVINDACHARI, D. PRAKASH and N. VISHWANATHAN, *Tetrahedron Letters* **42**, 4177 (1967).

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⁹ C. R. MITRA and G. MISRA, *Phytochem.* **4**, 345 (1965).

¹⁰ G. MISRA and C. R. MITRA, *Phytochem.* **6**, 1309 (1967).

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¹² S. KIMOTO, *J. Pharm. Soc. (Japan)* **75**, 763 (1955).

¹³ S. ISEDA, *Bull. Chim. Soc. (Japan)* **30**, 629 (1957).

C. tomentosum bark

Extr. EtOH:Hexane and ether-soluble fractions: (i) *friedelin*, (ii) *friedelan* 3β -ol, $C_{30}H_{52}O$, m.p., $(\alpha)_D$, mxd. m.p., co-TLC and i.r. and acetate, m.p., mxd. m.p., $(\alpha)_D$, i.r. and (iii) β -sitosterol.

C. inophyllum bark

The neutral triterpenoid, m.p. 255° ; $\lambda_{\max}^{\text{cyclo}}$ 288 nm ($\log \epsilon$, 2.11) reported in the past² has since been identified as *friedelin*.

The *C. tomentosum* and *inophyllum* barks did not yield β -amyrin or betulinic acid.

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