

ROSACEAE

STEROLS AND TRITERPENES FROM *RUBUS FRUTICOSUS*

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Key Word Index—*Rubus fruticosus*; Rosaceae; 2 α -hydroxy ursolic acid; ursonic acid.

Plant. *Rubus fruticosus* L. *Source.* Western temperate Himalaya altitude 5000 ft. *Uses.* Medicinal.¹ *Previous work.* iso-Citric acid² and cyanidin-3-mono glucoside³ from its fruits, rubitic acid from whole plant⁴ and also on its sister species.⁵⁻⁸

Present work. Air dried whole plant extracted with light petroleum and then with CHCl₃. The petrol extract yielded sitosterol: C₂₉H₅₀O; m.p. 137–138°, [α]_D –37° (CHCl₃), positive L.B. test for sterol; confirmed by IR and co-TLC with authentic specimen. Acetate, m.p. 127°, [α]_D –40°, confirmed by IR and co-TLC with authentic sitosteryl acetate. Stigmasterol C₂₉H₄₈O; m.p. 160–161°, [α]_D –51° (CHCl₃), positive L.B. test for sterol; confirmed by IR and co-TLC with authentic sample. Acetate, m.p. 144–146°, [α]_D –56° confirmed by IR and co-TLC with authentic stigmasteryl acetate. β -Amyrin: C₃₀H₅₀O; m.p. 193–195°, [α]_D +78° (CHCl₃), confirmed, by IR, MS and co-TLC with authentic specimen. Acetate, m.p. 236–238°, [α]_D +76°; Benzoate, m.p. 232–233°, [α]_D +92°.

The chloroform extract gave: Ursonic acid: C₃₀H₄₆O₃, m.p. 283–285° [α]_D +80° pink→violet colouration in L.B. test and positive TNM test for unsaturation, confirmed by IR, MS, co-TLC with authentic specimen and also by conversion to ursolic acid by KBH₄ reduction. Methyl ester, m.p. 191–193°, [α]_D +83° (pyridine), confirmed by MS, IR and co-TLC with authentic methyl ursonate. 2 α -Hydroxyursolic acid: C₃₀H₄₈O₄, m.p. 242–245° (decomp.), [α]_D +41° (pyridine), positive L.B. test for triterpene, confirmed by MS and IR spectrum. Methyl ester, m.p. 212–213°, [α]_D +54° confirmed by comparison of the IR spectra of the methyl ester with that of authentic sample.⁹

The plant was identified at the Institute where a voucher specimen No. RF-1 is kept.

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