URSOLIC ACID FROM Hippophae rhamnoides

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We have found ursolic acid in the wastes (oilcake) remaining after the production of oil and juice of Hippophae rhamnoides (sea buckthorn) [1]. For its isolation, the comminuted waste material was extracted with petroleum ether (bp 40°C, to eliminate residual oil) and then with chloroform until decoloration had been achieved. The chloroform solution gave positive reactions for triterpenoids (Salkowski, Lieberman–Burchard). After the chloroform had been driven off, the residue was converted into ursolate with 5% caustic soda in alkali. The ursolate was washed repeatedly with hot water to eliminate impurities, and it was then dissolved in methanol and ursolic acid was precipitated by acidification. The acid was purified with activated carbon in ethanol. This gave a white microgranular powder with mp 274-276°C, $[\alpha]_D^{20}$ −61.9° (c 1.0; chloroform) [2]. UV spectrum: 310 nm in sulfuric acid [3]. The R_f values on Silufol in the 1% benzene in acetic acid, toluene–ethyl acetate–acetic acid (12:4:0.5) and the methanol–acetone–carbon tetrachloride (5:20:75) systems, were 0.81, 0.76, and 0.89, respectively, and were identical with the R_f values of authentic samples.

LITERATURE CITED

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