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LIPIDS OF *Citrus* LEAVES

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Leaves of Satsumo Miyakawa tangarine (*Citrus*, Rutaceae) growing in South Korea were studied. Pigments [1] and triacylglycerols [2] of certain *Citrus* plants and epicuticular waxes of *C. halimii* Stone leaves [3] were previously studied.

Surface lipids (0.38% yield) were extracted by immersing air-dried whole leaves for 1 min in $CHCl_3$. Traces of solvent were evaporated. The leaves were ground in an electric grinder and exhaustively extracted with $CHCl_3$ to recover cell lipids (5.69% yield). The extract was concentrated and saponified with methanolic KOH (10%) with refluxing on a water bath for 6 h. Unsaponified substances (14.6% of the extract mass) were isolated with diethylether.

Surface lipids were separated by preparative TLC using hexane—diethylether (95:5) into eight fractions. Substances in the fractions were identified by qualitative reactions and TLC mobility compared with model compounds. The component content was estimated gravimetrically, % of mass: hydrocarbons, 13.1; triterpenols and fatty acid esters, 3.8; triterpenols acetates, 2.0; unidentified components, 7.2; free triterpenols, 63.9; free sterols and triterpenols, 10.0.

The unsaponified part of cell lipids was separated preparatively using hexane—diethylether (1:1) into eight fractions, the content of which was also estimated gravimetrically. We identified, % of mass: hydrocarbons (saturated paraffins, monoenes, dienes, native and oxidized carotinoids) 20.7; alcohol components: sterols, 16.8; triterpenols, 33.3; isoprenols, 8.0.

Total fatty acids of cell lipids were obtained from the hydrolysate by isolating unsaponified compounds using decomposition with potassium salts and acidifying with HCl (10%). The composition of these was (%, GLC): 12:0, 8.5; 14:0, 6.2; 16:0, 27.1; 18:0, 5.3; 18:1, 11.8; 18:2, 14.2; 18:3, 26.9.

Thus, the principal lipid class of both surface and cell lipids of tangarine leaves is triterpenols. This has been reported in the literature [3] for epicuticular lipids of *C. halimii* Stone leaves.

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