CAFFEIC ACID AND SCOPOLETIN FROM POTATO TUBERS

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The substances were isolated by the following method: the skin of freeze-dried potato was treated twice with boiling ethanol; further material was extracted from the residue with chloroform; the ethanolic and chloroformic extracts were concentrated and purified on columns containing silica gel L with butyl acetate–acetic acid (10:0.5) as the solvent system. The fractions containing the caffeic acid and scopoletin were concentrated and chromatographed on plates of silica gel H using the same solvent system. In the preparation of the silica gel plates, ascorbic acid was added to prevent the oxidation of the phenols. After separation had taken place, the zones corresponding to caffeic acid and scopoletin were removed from the plate, the substances were extracted with ethanol, and the extracts were filtered and concentrated. On standing, the solutions deposited brownish crystals of caffeic acid and light yellow needles of scopoletin.

When the crystalline preparations were chromatographed in various solvent systems, they appeared precisely at the levels of authentic samples of caffeic acid and scopoletin. Their UV, IR, and mass spectra were also identical.

Consequently, the substances isolated from potato tubers are caffeic acid and scopoletin.

LITERATURE CITED

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