A METHOD FOR THE PREPARATION OF CORCHOROSIDE A

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Corchoroside A is a preparation used in the treatment of cardiovascular insufficiency [1]. Several methods for the isolation of this glycoside directly from the seeds of Corchorus (jute) [2,3] by the hydrolysis of the main glycoside of jute, olitoriside [4], and also from various species of Erysimum [5-7] have been described.

We have developed an enzymatic method for obtaining corchoroside A from residues from the preparation of olitoriside.

To prepare the solution containing the hydrolyzing enzymes, 1 kg of ground jute seeds was covered with 4 l of water cooled to 5° C, and was kept at 5–10° C for 2 hr, and then the viscous aqueous solution was centrifuged. After the isolation of the olitoriside, 200 g (calculated to dry weight) of the noncrystallizing viscous residue was dissolved in 20 l of water, and the solution was mixed with 10 ml of toluene and 3 l of enzyme solution. The mixture was kept in a thermostat at 35–36° C for 48–72 hr. Then the solution was concentrated in vacuum at 45–50° C to a volume of 3 l. The concentrate was extracted with chloroform (5 × 3 l). The chloroformic extract was evaporated to dryness giving 62 g of a yellowish powder. This was dissolved in 250 ml of 50% methanol, and the solution was filtered through 60–70 g of alumina (activity grade II) in a column with a diameter of 20 mm.

Then the column was washed with 100 ml of 50% methanol. The combined methanolic solution was left to crystallize for 20-24 hr. The yield of corchoroside A (mp 163-165°C) was 20% of the weight of the dry substances of the mother solution.

REFERENCES

- 1. A. D. Turova, L. I. Leskov, L. N. Sokolova, and L. M. Loshkarev, USSR patent no. 214029, 1968; Izobr., prom. obraz., tov. znaki, no. 11, 70, 1968.
 - 2. M. Frerejacque and M. Durgeat, C. r., 238, 507, 1954.
 - 3. W. Kreis, Ch. Tamm, and T. Reichstein, Helv. Chim. Acta, 40, 593, 1957.
 - 4. N. K. Abubakirov, V. A. Maslennikova, and M. B. Gorovits, ZhOKh, 28, 2279, 1958; 29, 1235, 1959.
 - 5. Z. Kowalewski, H. Jäger, O. Schindler, and T. Reichstein, Helv. Chim. Acta, 43, 957, 1280, 1960.
 - 6. N. P. Maksyutina, DAN SSSR, 150, 180, 1963.
- 7. M. Lukazhevskii, B. Borkovskii, Z. Kovalevskii, and A. Ozarovskii, USSR patent no. 200120, 1967; Izobr., prom. obraz., tov. znaki, no. 16, 84, 1967.

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