

ethanolic solution was concentrated, and the alkaloids were extracted from the aqueous residue with chloroform. The chloroform extract was dried in vacuum to a still residue and was dissolved in 10% sulfuric acid. The acid extract was made alkaline with 25% ammonia, whereupon free lycorine precipitated.

The isolated base was converted by the action of 5% hydrochloric acid into the hydrochloride. Yield 45 g (0.06% on the weight of the raw material). Recrystallization from water in the presence of activated carbon gave 30 g (0.04% on the weight of the raw material) of lycorine hydrochloride satisfying the requirements of Interrepublican Technical Specification 42 No. 3909-70.

Thus, the leaves of *U. tadshicorum* can be recommended as an additional source of raw material for the production of lycorine.

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REDUCTION AND PURIFICATION OF DIHYDROLYCORINE

T. Sadikov and Kh. Allayarov

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Dihydrolycorine hydrochloride possesses a pronounced antiarrhythmic action [1, 2].

The starting material for the production of this drug is lycorine base [3]. To obtain dihydrolycorine hydrochloride, lycorine base (5 g) is dissolved in 10% acetic acid (1:10) and is reduced in the presence of platinum black (0.25 g) in an atmosphere of hydrogen for 5 h. After this, the solution is filtered and made alkaline, and the crystals that deposit are separated off. Yield 4.2 g (84%). The action of 5% hydrochloric acid gives the hydrochloride, which is recrystallized from water (1:3.5). Yield 3.26 g (64.1%). On TLC, the dihydrolycorine hydrochloride obtained in this way gives two spots. Consequently, it contains a certain percentage of lycorine. The presence of lycorine causes vomiting in animals, and therefore we have proposed a method for purifying dihydrolycorine, the essence of which is as follows. A weighed sample of dihydrolycorine hydrochloride (10 g) is dissolved in distilled water (1:50), the solution is made alkaline with 25% ammonia, and the crystals that deposit are separated off, washed with water three times and with acetone and dried. Then the base so isolated is converted by nitric acid into dihydrolycorine nitrate. Yield 10.06 g. Lycorine itself does not give a nitrate.

The precipitate of dihydrolycorine nitrate is separated off, dried, and dissolved in distilled water. Then the solution is made alkaline and the crystals that deposit are separated off, washed with water, and dried. Yield 8.35 g. The action of a 5% solution of hydrochloric acid gives the hydrochloride. The precipitate is separated off, washed with acetone, and recrystallized from water. Yield 7.85 g (78%).

The dihydrolycorine hydrochloride obtained is not contaminated with lycorine. A biological method of analysis confirmed the homogeneity of the preparation.

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