

## Synthesis of 2-Hydroxyhistamine

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For a study of the possible reactivating effect of certain imidazole derivatives on nerve gas inhibited choline esterase, the new compound 2-hydroxyhistamine was needed. The present communication briefly describes its preparation. In the near future detailed reports, also covering pharmacological findings of this substance, will be submitted for publication.

*Experimental.* 30.8 g (0.176 mole) of 1,4-diamino-butan-2-one dihydrochloride<sup>1</sup> were dissolved in 75 ml of water. The pH of the solution was rapidly adjusted to 7.0 (glass electrode) with 2 M NaOH and 14.3 g (0.176 mole) of potassium cyanate were immediately added with rapid stirring. The solution was set aside for 20 h at 20–22°. 60.5 g (0.264 mole) of picric acid were then added and the mixture heated

to boiling, enough water being added to dissolve all the picric acid. The solution was allowed to cool slowly and the precipitated crystals were recrystallized once from water.

The picrate was dissolved in hot water and passed through a column containing about 400 ml of Dowex 1 (Cl<sup>-</sup>), 50-100 mesh, which effectively retains the picric acid, whereas 2-hydroxyhistamine passes through. The effluent was evaporated to dryness in a Rotavapor using a bath temperature of about 50°. The dry, light brown residue was stirred up in 25 ml of methanol, which dissolves the brown impurity. 15.4 g (0.094 mole) of 2-hydroxyhistamine hydrochloride, m.p. 227°, were thus obtained. (Found: C 36.7; H 6.1; N 25.4; Calc. for C<sub>8</sub>H<sub>10</sub>N<sub>2</sub>ClO (163.6): C 36.8; H 6.1; N 25.7.)

Calculated on the amount of 1,4-diamino-butan-2-one used, this corresponds to a yield of 53 %.

1. Pyman, F. L. *J. Chem. Soc.* 1930 98.

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