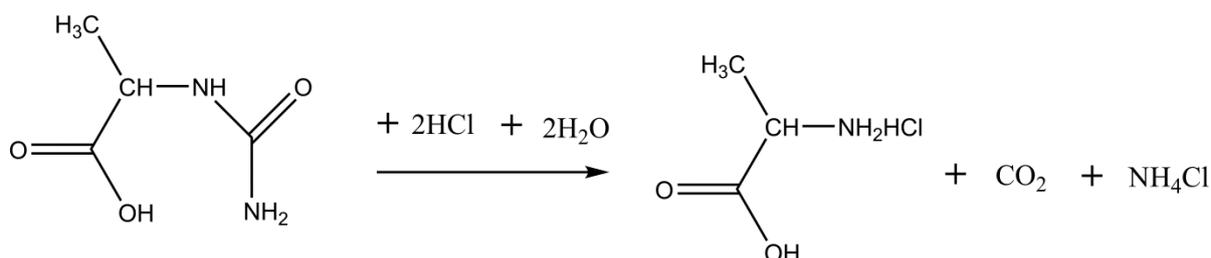


Copper lactyl aminate - Saturating the acid with copper carbonate solution gives a blue liquid, which dries up in the desiccator to an amorphous mass of emerald.

Lead lactyl aminate ($C_4H_7N_2O_3$) $2Pb + 2H_2O$ - The acid - solution was boiled with an excess of lead carbonate and the filtrate saturated eingedunstet slowly. It differed from colorless crusts of the lead salt, which does not require further purification.

Silver lactyl aminate $C_4H_7N_2O_3Ag$ - On mixing a precisely neutralized with soda Lactyl aminoacid with a not too dilute solution of silver nitrate, crystals gradually grew of the silver salt in the shape of double sticks or intergrown tufts of needles, which are free from water of crystallization and not especially difficult to dissolve.

Cleavage of Lactyl aminoacid by hydrochloric acid. There were 0.2664 g of the acid in sealed glass tubes with strong hydrochloric acid heated to $150\text{ }^\circ\text{C}$ for several hours. On opening carbon dioxide was released under pressure. The liquid was evaporated thereon with platinum chloride and the residue extracted with diethyl ether and alcohol. There remained 0.2034 g platinum from the resulting Platinsalmiak, according 11.15 pC nitrogen, almost exactly half of the Gesamtgehaltes the acid. The ethereal-alcoholic extract was mixed with water, freed from hydrogen sulphide platinum, filtered, and evaporated. I got that way very zerftiefsliches muriate (chloride) of alanine, from which alanine was again obtained with its usual properties. The cleavage takes place gemäß therefore the equation.



The calculated amount of nitrogen emitted as ammonia should be 10.61 %. The amount observed was 11.15 %.

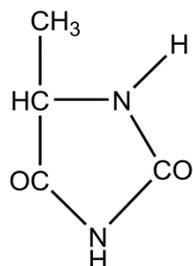
Lactyl aminoacids exposure to elevated temperature.

The Lactyl aminoacids decompose on heating with elimination of water just like the Acetyluraminsäure, by transitioning into the relevant hydantoin.

0.7918 g of compound in a small distillation flask were very gradually heated up to $140\text{ }^\circ\text{C}$ in an oil-bath with fused pipes so long in the dry from time to time pipes still sirte condensing water. Then the flask was cleaned to show a mass loss of 0.1010 g which corresponds to 12.76 %. Water or a molecule of similar mass (13.64 % calculated) must have escaped. Carbonic acid (CO_2) evolution is not observed during the slow heating. It leaves behind a light yellow viscous liquid which crystallises slowly, but instantly when a little water is added to the flask. By recrystallization from water and alcohol, the product is obtained pure as cauliflower-like warts and scabs, which are easily dissolved in alcohol or diethyl ether but do not dissolve in water and melt at $125\text{ }^\circ\text{C}$. The taste is bitter, to litmus, the solution behaves indifferently.

Elemental analysis results shown here

The structure is therefore lactyl urea, the next homologue of hydantoins is:

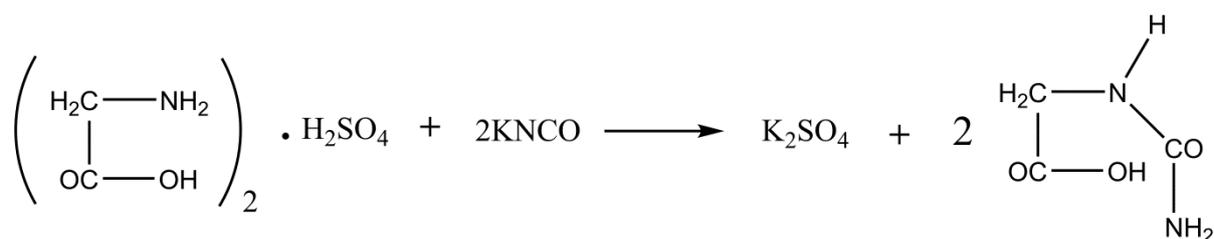


Zurich, July 1872

Supplementary; Hydantoic acid by the action of cyanic acid on nascenter Glycolol (cf. Heintz, this journal, 135, 65). - Dafs also created the Hydantoic acid by the action of potassium cyanate on glycol sulfate, which was easily proven by work done just before this experiment.

I treated the compound shown above with about 2 g of pure glycol sulphate with a slight excess of potassium cyanate. To the heated solution approximately half of the volume of alcohol was then added, followed by the deposited filtrate from potassium sulfate and the liquid then evaporated to dryness. The nearly amorphous residue was dissolved several times in fifty-percent alcohol and the filtrate evaporated. The acid then adopted an indistinct crystalline structure. It was dissolved in an excess of baryta water, the Barytüberschufs removed carbonic acid (CO₂) and the concentrated filtrate precipitated with alcohol. The precipitated barium salt was twice recovered from dissolving in hot aqueous alcohol. It was dried at 100 °C and the solid residue converted by heat and fuming sulfuric acid on the ash in Barium sulfate.

The formation of the Hydantoic acid glycol is therefore represented by the equation:



From himself.

J. Wislicenus.