Synthese furanoider Zuckeraminosäuren ausgehend von fermentativ gewonnener 2-Oxo-D-gluconsäure

Synthesis of Furanoid Sugar Amino Acids Starting from Fermentatively Produced 2-Oxo-D-gluconic Acid

Stephan Schmidt\textsuperscript{a}, Horst Wilde\textsuperscript{a}, Jens Hunger\textsuperscript{b} und Dieter Sicker\textsuperscript{a}

\textsuperscript{a} Institut für Organische Chemie der Universität Leipzig, Johannisallee 29, D-04103 Leipzig, Germany
\textsuperscript{b} Institut für Anorganische Chemie der Universität Leipzig, Johannisallee 29, D-04103 Leipzig, Germany

Sonderdruckanforderungen an Prof. Dr. D. Sicker. E-mail: sicker@chemie.uni-leipzig.de

Z. Naturforsch. 60b, 1168 – 1174 (2005); eingegangen am 29. August 2005

2-Oxo-D-gluconic acid obtained by fermentation of D-glucose was used as starting material for syntheses of amino acids. We trapped the carbohydrate in its furanoid configuration and synthesized an $\alpha$- and an $\omega$-amino acid. After deprotection of the hydroxyl groups the latter did not isomerize to the substituted piperidine (aza-sugar) as expected, but remained in the furanose form. The starting structure 2 was proven by crystal structure analysis. The conformational identification of the other substances was done by NMR measurements following known rules for furanoses.

\textit{Key words:} 2-Oxo-D-gluconic Acid, Sugar Amino Acids, Furanoses