

Computer-Aided Design of Novel Siderophores: Pyridinochelin

Michael Meyer^{a,*}, Rüdiger Schnurre^b, Rolf Reissbrodt^c and
Wolfram Trowitzsch-Kienast^{b,*}

^a Konrad-Zuse-Zentrum für Informationstechnik Berlin, Takustr. 7, D-14195 Berlin, Germany. Fax: +493084185107.

^b Technische Fachhochschule Berlin, FB II, Luxemburger Str. 10, D-13353 Berlin, Germany. Fax: +493045042011.

^c Robert-Koch-Institut, D-38855 Wernigerode, Germany

* Authors for correspondence and reprint requests

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Pyridinochelin, a novel tetradentate catecholate-type siderophore, has been designed on the basis of the active analog enterobactin and was then synthesized. Growth promotion tests indicate that this synthetic siderophore feeds various pathogenic bacteria most effectively with iron even though it lacks one catecholate group compared to enterobactin. The superposition of the mentioned siderophore structures suggests that the structure of the skeleton connecting the catecholate groups might be an important factor for the iron transport.