

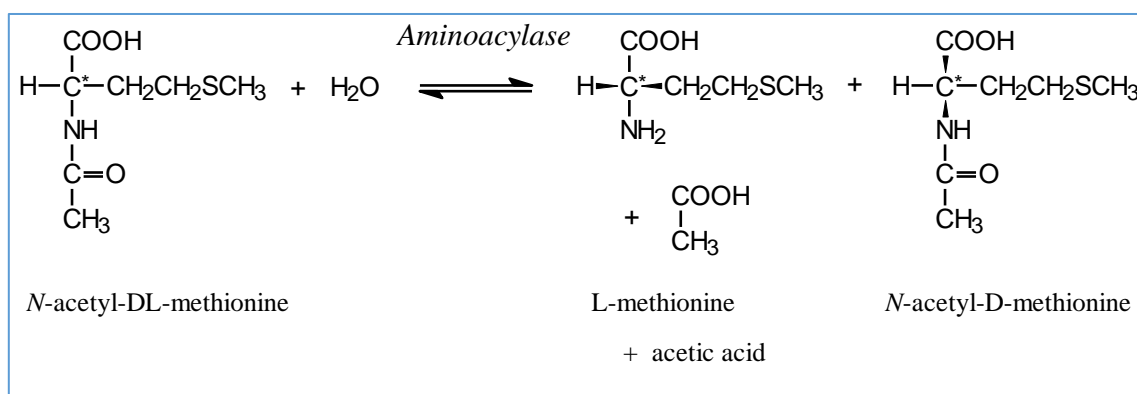
Integration of ion exchange chromatography with an enzymatic reaction

PhD-student: Marcel L. Jansen
Promotor: Prof. Karel Ch.A.M. Luyben
Supervisors: Dr. Adrie J.J. Straathof, Dr. Luuk A.M. van der Wielen
Institute: Delft University of Technology, Department of Biotechnology
Project term: Oct 1990 – Oct 1994
Financed by: DSM

Insert picture

Description

The aim of this work was to develop a chromatographic immobilised-enzyme reactor for the combined enantioselective deacylation of *N*-acetyl-DL-methionine and separation of the reaction products, and to demonstrate that chromatographic reactors can be applied for the enzymatic resolution of charged compounds.



Dissertation

M.L. Jansen, Integration of ion exchange chromatography with an enzymatic reaction. PhD thesis, Delft University of Technology, 1996. <http://resolver.tudelft.nl/uuid:cb2022f4-f2e9-4544-a034-1e38c71fa862>

Publications from the dissertation

1. M.L. Jansen, A.J.J. Straathof, L.A.M. van der Wielen, K.Ch.A.M. Luyben and W.J.J. van den Tweel, Rigorous model for ion exchange equilibria of strong and weak electrolytes, *AIChE J.* **42** (1996) 1911-1924.
2. M.L. Jansen, G.W. Hofland, J. Houwers, A.J.J. Straathof, L.A.M. van der Wielen, K.Ch.A.M. Luyben and W.J.J. van den Tweel, Effect of pH and concentration on column dynamics of weak electrolyte ion exchange, *AIChE J.* **42** (1996) 1925-1937.
3. M.L. Jansen, E. van Zessen, A.J.J. Straathof, L.A.M. van der Wielen, K.Ch.A.M. Luyben and W.J.J. van den Tweel, Immobilization of aminoacylase on an anion exchange column to be used as a chromatographic reactor, *Ann. N.Y. Acad. Sci.* **799** (1996) 533-540.
4. M.L. Jansen, J. Houwers, A.J.J. Straathof, L.A.M. van der Wielen, K.Ch.A.M. Luyben and W.J.J. van den Tweel, Effect of dissociation equilibria on ion-exchange processes of weak electrolytes, *AIChE J.* **43** (1997) 73-82.