

University of Groningen

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DOI:
[10.33612/diss.95563902](https://doi.org/10.33612/diss.95563902)

IMPORTANT NOTE: You are advised to consult the publisher's version (publisher's PDF) if you wish to cite from it. Please check the document version below.

Document Version
Publisher's PDF, also known as Version of record

Publication date:
2019

[Link to publication in University of Groningen/UMCG research database](#)

Citation for published version (APA):

Fu, H. (2019). *Biocatalytic asymmetric synthesis of unnatural amino acids using C-N lyases*. [Thesis fully internal (DIV), University of Groningen]. Rijksuniversiteit Groningen. <https://doi.org/10.33612/diss.95563902>

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Propositions

Belonging to the thesis

Biocatalytic Asymmetric Synthesis of Unnatural Amino Acids Using C-N Lyases

by Haigen Fu

1. Biocatalysts are powerful catalysts in organic synthesis.
2. The engineered variant of methylaspartate ammonia lyase (MAL-L384A) is a useful synthetic tool for the asymmetric preparation of valuable C3-substituted aspartic acids that function as potent glutamate transporter inhibitors (Chapter 2-3).
3. Ethylenediamine-*N,N'*-disuccinic acid lyase shows a very broad amine scope, making it an attractive biocatalyst for the asymmetric synthesis of *N*-substituted aspartic acids (Chapter 5-7).
4. Biocatalysts with an expanded substrate scope can be harnessed by medicinal chemists to generate novel lead compounds for drug discovery (Chapter 3).
5. Incorporating an appropriate biocatalyst in the design or refinement of synthetic strategies for target molecules (*i.e.* biocatalytic retrosynthesis) might lead to more efficient and elegant synthesis routes (Chapter 2 and Chapter 5).
6. The transporter function of Glt_{Trk} can be switched on and off reversibly and remotely using a photo-controlled inhibitor and light (Chapter 4).
7. Although ion-exchange resins can simplify the purification procedure of high-polar amino acid products, don't start a purification after 3 pm.
8. To start a research project is easy, but finalizing one is another thing.
9. Be positive, like a proton, and enjoy the sunshine in The Netherlands (when it's there).