






Dr. Christoph Winkler


SENIOR SCIENTIST

CONTACT


 University of Graz
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 biocatalysis.uni-graz.at
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SCIENTIFIC IMPACT

 Publications: 36
Patents: 2

 Lectures: 53
Posters: 74


 H-index (Scopus): 18


RESEARCHER ID

 ORCID: 0000-0003-3068-9817
Scopus: 36496042900
Web of Science: V-9796-2019

PLATFORMS

 linkedin.com/in/ckwinkler

 @ck_winkler

 anchor.fm/in-the-active-site

PROFILE

After finishing my education with a PhD in Chemistry I worked as a Quality Manager in industry before my general curiosity about nature and my specific interest for nature's catalysts (enzymes) brought me back to research and academia. I do research at the interface of many disciplines including Organic Chemistry, where I had my initial training, but also Catalysis, Molecular Biology and Microbiology. In the recent years I got fascinated about using light in (bio)chemistry. My current position allows complementing my enthusiasm in research with my passion for teaching. As ongoing science-to-public project I co-host the Podcast "In the Active Site".

MAIN RESEARCH AREAS

BIOCATALYSIS

My main activities in biocatalysis focus on the following enzyme classes: ene-reductases, cytochrome P450s, carboxylate reductases, hydrolases, and several classes of (de)carboxylases. Many of these enzymes utilize carboxylic acids or derivatives as substrates.

PHOTOBIOCATALYSIS

I investigate both main applications of photons in biocatalytic reactions: (i) their use as energy source (e.g. for cofactor recycling), and (ii) their potential use to unlock novel, unprecedented reactivities.

REACTOR DESIGN

The interest in Photobiocatalysis led to the development of a well-characterized open source photobioreactor for the parallel screening of photobiocatalytic reactions under reproducible conditions.

TOP FIVE PUBLICATIONS

- 1) "Power of Biocatalysis for Organic Synthesis"
C. K. Winkler, J. H. Schrittwieser, W. Kroutil,* *ACS Cent. Sci.* **2021**, available as early view. Doi: 10.1021/acscentsci.0c01496 (IF: **12.69**)
- 2) "Shortening Synthetic Routes to Small Molecule Active Pharmaceutical Ingredients Employing Biocatalytic Methods"
S. Simić, E. Zukić, L. Schmermund, K. Faber, **C. K. Winkler**,* and W. Kroutil,* *Chem. Rev.* **2022**, *122*, 1052–1126. Doi: 10.1021/acs.chemrev.1c00574 (IF: **60.62**)
- 3) "Photo-Biocatalysis: Biotransformations in the Presence of Light"
L. Schmermund, V. Jurkaš, F. F. Özgen, G. D. Barone, H. C. Büchenschütz, **C. K. Winkler**, S. Schmidt, R. Kourist, and W. Kroutil,* *ACS Catal.* **2019**, *9*, 565–577. Doi: 10.1021/acscatal.9b00656 (IF: **13.08**)

PERSONAL INFO

DATE OF BIRTH

April 8, 1985

NATIONALITY

Austrian – Swiss

MARITAL STATUS

married, two children

SELECTED AWARDS

ERFINDER DER KARL-FRANZENS UNIVERSITÄT GRAZ

(Inventor of the University of Graz)

University of Graz / 2019 and 2021

FINALIST IN THE AKZO NOBEL RESEARCH CHALLENGE

Akzo Nobel / 2017

PHD STUDIES WITH DISTINCTION

University of Graz / 2013

BEST ORAL PRESENTATION AWARD

Doctoral School of Chemistry,
University of Graz / 2012

PREIS DER DOKTORATSSCHULE CHEMIE

(Award for excellent performance)

Doctoral School of Chemistry,
University of Graz / 2012

INTERNATIONAL YEAR OF CHEMISTRY SCHOLARSHIP

Austrian Chemical Society (GÖCH) /
2011

FÖRDERUNGSPREIS DER GÖCH FÜR DIPLOMARBEITEN

(award for master thesis)

Austrian Chemical Society (GÖCH) /
2011

BIOCAT POSTER AWARD

Biocat conference / 2010

TWO SCHOLARSHIP AWARDS

University of Graz / 2007/08 &
2008/09

TOP FIVE PUBLICATIONS / CONTINUED

4) "Synthesis of Enantiopure Sulfoxides by Concurrent Photocatalytic Oxidation and Biocatalytic Reduction"

S. Bierbaumer, L. Schmermund, A. List, **C. K. Winkler,*** S. M. Glueck,*
W. Kroutil, *Angew. Chem., Int. Ed.* **2022**, e202117103. Doi:
10.1002/anie.202117103 (IF: **15.34**)

5) "Variants of the Acyltransferase from *Mycobacterium smegmatis* Enable Enantioselective Acyl Transfer in Water"

E. Jost, M. Kazemi, V. Mrkonjić, F. Himo,* **C. K. Winkler,*** and W.
Kroutil,* *ACS Catal.* **2020**, *10*, 10500–10507. Doi:
/10.1021/acscatal.0c02981 (IF: **13.08**, Highlighted as "Editors Choice")

PROFESSIONAL EXPERIENCE

SENIOR SCIENTIST

University of Graz / Graz, Austria / since May 2018

My current research as senior scientist in the Biocatalysis group of Prof. Wolfgang Kroutil at the Institute for Chemistry focusses on Photobiocatalysis and cytochrome P450s, hydrolases, ene-reductases and carboxylases/decarboxylases and includes the following activities:

- Teaching in lectures and practical courses.
- Management of research projects, writing of proposals and acquisition of industry projects.
- Support in the management of the working group.
- Support in the organization of research conferences.
- Co-supervision of Bachelor students (2), Master students (2) and PhD-students (5).

RESEARCHER AND PROJECT LEADER

Austrian Centre of Industrial Biotechnology, ACIB GmbH /
Graz, Austria / April 2017 – April 2018

The position focused on the project management of an industry project regarding cytochrome P450s and the development of photobiocatalytic reactions and a photoreactor. Activities:

- Management of research projects.
- Co-supervision of Bachelor students (1), Master students (2) and PhD-students (1).

LECTOR

University of Graz / Graz, Austria / February 2017 – June 2017

Teaching at the University of Graz.

UNIVERSITY ASSISTANT

University of Graz / Graz, Austria / September 2014 – April 2017

The research projects in this position in the group of Prof. Kurt Faber at the Institute of Chemistry focused on ene-reductases, carboxylic acid reductases and cytochrome P450s with the following activities:

- Teaching in lectures and practical courses.
- Management of research projects.
- Co-supervision of Bachelor students (5) and Master students (1) and PhD-students (1).

STUDENTS

CO-SUPERVISION OF STUDENTS:



Bachelor Students: 8
Master Students: 5
PhD Students: 8

CONFERENCES

ORGANIZATION OF INTERNATIONAL CONFERENCES AND SYMPOSIA

Biotrans 2021, Graz

Member of the local organization committee

NextGenBiocat 2021, Graz (online)

NextGenBiocat 2022, Delft

Member of the organization board

DocDays 2011, Graz

Member of the committee

REVIEWER / EDITOR

CHEMBIOCHEM

Guest Editor for the special collection "Next Generation in Biocatalysis"

FRONTIERS IN CATALYSIS

Review Editor

SYMMETRY

Member of the Reviewer Board

REVIEWER FOR JOURNALS

Nature, Appl. Microbiol. Biotechnol.; Biotechnol. Lett.; Biotechnol. Adv.; Biotechnol. Biofuels; Frontiers Catalysis; Catalysts; ChemBioChem; J. Biotechnol.; J. Mol. Catal. A; Life, Molecules; Pharmaceuticals; Processes; RSC Adv.; Sci. Bull.; Symmetry.

PROFESSIONAL EXPERIENCE / CONTINUED

RESEARCHER

Austrian Centre of Industrial Biotechnology, ACIB GmbH / Graz, Austria / September 2015 – December 2015

The position focused on the project management of an industry project. Activities:

- Writing of proposals and acquisition of industry projects.
- Representing ACIB at B2B meetings for project acquisition.

QUALITY MANAGER

Genericon Pharma GmbH / Graz, Austria / December 2013 – September 2014

The responsibilities focused in GMP-quality assurance, as enlisted:

- GMP-Trainings
- Computer Validation
- Risk Analysis
- Deviations
- Qualification of API-suppliers

EDUCATION

DOCTORAL STUDIES OF CHEMISTRY

University of Graz / Graz, Austria / October 2010 – September 2013

Thesis for the Doctorate in Chemistry with the title "Nicotinamide Independent Asymmetric C=C Reduction using Ene Reductases" with Prof. Dr. Kurt Faber at the Institute of Chemistry (FWF project: 22722). The thesis was passed with distinction.

STUDIES IN CHEMISTRY

University of Graz and Graz University of Technology / Graz, Austria / October 2004 – September 2010

Thesis for the Magister in natural sciences (Master) with the title "Asymmetric Bioreduction of *N*- and *O*-Substituted Alkenes Using Enoate Reductases" with Prof. Dr. Kurt Faber at the Institute of Chemistry.

TECHNICAL HIGH SCHOOL FOR CHEMISTRY

Technical high school for chemistry / Wels, Austria / September 1999 – July 2004

Students at the technical high school for chemistry in Wels finish with the Austrian Matura and a qualification as chemical engineer.

FURTHER QUALIFICATION

- Reaxys Advisor (since 2021)
- Trainings in Molecular Docking (2019; 2020)
- PostDocPro Module by the University of Graz (2017)
- Training in "Computer Validation and GAMP 5.0" (2014)
- Training in Good Manufacturing Practice: "GMP-Basics and Risk Management" (2014)
- Training by Agilent Technologies „Problem Solving and Tips for GC-MS" (2012)
- Languages: German (native); English (fluent written and spoken)
- Software skills: MS-Windows; good knowledge of MS-Office; programming (Web design; Python); Adobe Photoshop; Chemdraw; MestReNova; Yasara

SCHOLARSHIPS AND AWARDS – FULL LIST

EDITOR'S CHOICE

Journal "ACS Catalysis" / 2020

For the Publication "Variants of the Acyltransferase from *Mycobacterium smegmatis* Enable Enantioselective Acyl Transfer in Water" (Publication 26)

ERFINDER DER KARL-FRANZENS UNIVERSITÄT GRAZ

Inventor of the University of Graz

University of Graz / 2019

FINALIST IN THE AKZO NOBEL RESEARCH CHALLENGE

Akzo Nobel / 2017

YOUNG SCIENTISTS BEST PAPER AWARD

Journal "Monatsh. Chem. – Chem. Month / 2016

For the publication "Trametes versicolor carboxylate reductase uncovered" (Publication 16)

PHD STUDIES WITH DISTINCTION

University of Graz / 2013

BEST ORAL PRESENTATION AWARD

Doctoral School of Chemistry, University of Graz / 2012

PREIS DER DOKTORATSSCHULE CHEMIE

Award for excellent performance during the dissertation

Doctoral School of Chemistry, University of Graz / 2012

HOT ARTICLE

Journal "Catalysis Science & Technology" / 2012

For the Publication "Reductive dehalogenation of β -halo acrylic ester derivatives mediated by ene-reductases" (Publication 9)

INTERNATIONALES JAHR DER CHEMIE TEILSTIPENDIUM

"International year of chemistry" scholarship

Austrian Chemical Society (GÖCH) / 2011

FÖRDERUNGSPREIS DER GÖCH FÜR DIPLOMARBEITEN 2011

Award for the master thesis "Asymmetric Bioreduction of N- and O-Substituted Alkenes Using Enoate Reductases"

Austrian Chemical Society (GÖCH) / 2011

BIOCAT POSTER AWARD

Biocat conference / 2010

(Publication List: poster 7)

TWO SCHOLARSHIP AWARDS

University of Graz / Academic years 2007/08 and 2008/09

PRO SCIENTIA

Member of the scholarship program PRO SCIENTIA / 2009-2013

Dr. Christoph Winkler

Publication List

PUBLICATIONS IN PEER REVIEWED JOURNALS AND BOOKS

1. "Bioreduction of α -Methylcinnamaldehyde Derivatives: Chemo-Enzymatic Asymmetric Synthesis of Lilial™ and Helional™".
C. Stueckler, N. J. Mueller, **C. K. Winkler**, S. M. Glueck, K. Gruber, G. Steinkellner and K. Faber, *Dalton Trans.* **2010**, 39, 8472-8476.
2. "Asymmetric Synthesis of *O*-Protected Acyloins Using Enoate Reductases: Stereochemical Control via Protective-Group Modification".
C. K. Winkler, C. Stueckler, N. J. Mueller, D. Pressnitz and K. Faber, *Eur. J. Org. Chem.* **2010**, 33, 6354-3658.
3. Asymmetric Synthesis of (*R*)-3-Hydroxy-2-methylpropanoate ('Roche Ester') via Biocatalysed C=C Double Bond Reduction".
C. Stueckler, **C. K. Winkler**, M. Bonnekesel and K. Faber, *Adv. Synth. Catal.* **2010**, 352, 2663-2666.
4. "Stereo-Controlled Asymmetric Bioreduction of α,β -Dehydroamino Acid Derivatives".
C. Stueckler, **C. K. Winkler**, M. Hall, B. Hauer, M. Bonnekesel, K. Zangger and K. Faber, *Adv. Synth. Catal.* **2011**, 353, 1169-1173.
5. "Asymmetric Bioreduction of Alkenes Using Ene-Reductases YersER and KYE1, and Effects of Organic Solvents".
Y. Yanto, **C. K. Winkler**, S. Lohr, M. Hall, K. Faber and A. S. Bommarius, *Org. Lett.* **2011**, 10, 2540-2543.
6. "Asymmetric Bioreduction of Activated Alkenes to Industrially Relevant Optically Active Compounds".
C. K. Winkler, G. Tasnádi, D. Clay, M. Hall and K. Faber, *J. Biotechnol.*, **2011**, 162, 381-389.
7. "Asymmetric Bioreduction of Activated Alkenes Using Ene-Reductases from the Old Yellow Enzyme Family".
M. Hall, **C. K. Winkler**, G. Tasnádi and K. Faber, *Practical Aspects: Biocatalysis and Biotransformations 2*, **2012**, (Eds.: J. Whittal, P. Sutton), Wiley-VCH, 87-95.
8. "A Substrate-Based Approach to Determine Reactivities of α,β -Unsaturated Carboxylic Esters Towards Asymmetric Bioreduction".
G. Tasnádi, C.K. Winkler, D. Clay, S. Nargis, W.M. F. Fabian, M. Hall, K. Ditrich and K. Faber, *Chem. Eur. J.*, **2012**, 18, 10362-10367.
9. "Reductive Dehalogenation of β -Haloacrylic Ester Derivatives Mediated by Ene-Reductases".
G. Tasnádi, **C. K. Winkler**, D. Clay, M. Hall, K. Ditrich and K. Faber, *Catal. Sci. Technol.*, **2012**, 2, 1548-1552; (selected as a *Catalysis Science & Technology Hot Article*).
10. "Chemoenzymatic Asymmetric Synthesis of Pregabalin-Precursors via Asymmetric Bioreduction of β -Cyano-Acrylate Esters Using Ene-Reductases".
C. K. Winkler, D. Clay, S. Davies, P. O'Neill, P. McDaid, S. Debarge, J. Steflik, M. Karmilowicz, J. W. Wong and K. Faber, *J. Org. Chem.* **2013**, 78, 1525-1533.

PUBLICATIONS IN PEER REVIEWED JOURNALS AND BOOKS / CONTINUED

11. "Overcoming Co-Product Inhibition in the Nicotinamide-Independent Asymmetric Bioreduction of Activated C=C-Bonds using Flavin-Dependent Ene-Reductases".
C. K. Winkler, D. Clay, E. van Heerden and K. Faber, *Biotechnol. Bioeng.* **2013**, *110*, 3085-3092.
12. "Bioreduction and Disproportionation of Cyclohex-2-enone Catalyzed by Ene-Reductase OYE-1 in 'Micro-Aqueous' Organic Solvents".
D. Clay, **C. K. Winkler**, G. Tasnàdi, and K. Faber, *Biotechnol. Lett.* **2014**, *36*, 1329-1333.
13. "NAD(P)H-Independent Asymmetric C=C-Bond Reduction by Ene-Reductases using Artificial Co-Substrates as Hydrogen-Donor".
C. K. Winkler, D. Clay, M. Entner and K. Faber, *Chem. Eur. J.* **2014**, *20*, 1403-1409.
14. "Nitrile as Activating Group in the Asymmetric Bioreduction of β -Cyanoacrylic Acids Catalyzed by Ene-Reductases".
C. K. Winkler, N. G. Turini, D. Clay, H. Lechner, W. Kroutil, S. Davies, S. Debarge, P. O'Neill, J. Steflik, M. Karmilowicz, J. W. Wong, J. W. Wong and K. Faber, *Adv. Synth. Catal.* **2014**, *356*, 1878-1882.
15. "Identification of Promiscuous Ene-reductase Activity by Mining Structural Databases Using Active Site Constellations".
G. Steinkellner, C. Gruber, T. Pavkov-Keller, A. Binter, K. Steiner, **C. K. Winkler**, A. Łyskowski, O. Schwamberger, M. Oberer, H. Schwab, K. Faber, P. Macheroux, and K. Gruber, *Nature Communications.* **2014**, *5*, 4150.
16. "Trametes versicolor Carboxylate Reductase Uncovered".
M. Winkler and **C. K. Winkler**, *Monatsh. Chem. – Chem. Month.* **2016**, *177*, 575-578; (awarded with the "Young Scientists Best Paper Award" from Springer).
17. "Rational Engineering of a Flavoprotein Oxidase for Improved Direct Oxidation of Alcohols to Carboxylic Acids".
M. Pickl, **C. K. Winkler**, S. M. Glueck, M. W. Fraaije and K. Faber, *Molecules* **2017**, *22*, 2205.
18. "Kinetic Resolution of sec-Thiols via Enantioselective Oxidation with Rationally Engineered 5-Hydroxymethylfurfural Oxidase".
M. Pickl, A. Swoboda, E. Romero, **C. K. Winkler**, C. Binda, A. Mattevi, K. Faber, and M. W. Fraaije, *Angew. Chem. Int. Ed.* **2018**, *57*, 2864-2868; (Highlighted in *Synfacts* **2018**, *14*, **05**, **532**).
19. "Biocatalytic Reduction of Activated C=C-Bonds and Beyond: Emerging Trends".
C. K. Winkler, K. Faber and M. Hall, *Curr. Opin. Chem. Biol.* **2018**, *43*, 97-105.
20. "Regio-selective Biocatalytic Hydroxylation of Fatty Acids by Cytochrome P450s".
L. Hammerer, **C. K. Winkler**, W. Kroutil, *Catal. Lett.* **2018**, *148*, 787-812.
21. "Mechanistic Studies of Fatty Acid Activation by CYP152 Peroxygenases Reveal Unexpected Desaturase Activity".
M. Pickl, S. Kurakin, F. G. Cantú Reinhard, P. Schmid, A. Pöcheim, **C. K. Winkler**, W. Kroutil, S. P. de Visser and K. Faber, *ACS Catal.* **2019**, *9*, 565-577.
22. "Photo-Biocatalysis: Biotransformations in the Presence of Light".
L. Schmermund, V. Jurkaš, F. F. Özgen, G. D. Barone, H. C. Büchschütz, **C. K. Winkler**, S. Schmidt, R. K, and W. Kroutil, *ACS Catal.* **2019**, *9*, 565-577.

PUBLICATIONS IN PEER REVIEWED JOURNALS AND BOOKS / CONTINUED

23. "Controlling the Regioselectivity of Fatty Acid Hydroxylation (C10) at α - and β -Position by CYP152A1 (P450Bs β) Variants".
L. Hammerer, M. Friess, J. Cerne, M. Fuchs, G. Steinkellner, K. Gruber, K. Vanhessche, T. Plocek, **C. K. Winkler**, and W. Kroutil, *ChemCatChem* **2019**, *11*, 5642-5649.
24. "Using Deep Eutectic Solvents to Overcome Limited Substrate Solubility in the Enzymatic Decarboxylation of Bio-Based Phenolic Acids".
A. K. Schweiger, N. Ríos-Lombardía, **C. K. Winkler**, S. Schmidt, F. Morís, W. Kroutil, J. González-Sabín, and R. Kourist, *ACS Sustainable Chem. Eng.* **2019**, *7*, 16364-16370.
25. "Stereoselective Biotransformations of Cyclic Imines in Recombinant Cells of *Synechocystis* sp. PCC 6803".
H. C. Büchschütz, V. Vidimce-Risteski, B. Eggbauer, S. Schmidt, **C. K. Winkler**, J. H. Schrittwieser, W. Kroutil, and R. Kourist, *ChemCatChem*. **2019**, *11*, 1-6.
26. "Variants of the Acyltransferase from *Mycobacterium smegmatis* Enable Enantioselective Acyl Transfer in Water".
E. Jost, M. Kazemi, V. Mrkonjić, F. Himo,* **C. K. Winkler**,* and W. Kroutil,* *ACS Catal.* **2020**, *10*, 10500–10507; (**Highlighted as "Editor's Choice"**).
27. "Enzymes Revolutionize the Bioproduction of Value-Added Compounds: From Rnzyme Discovery to Special Applications".
B. Wiltschi, T. Cernava, A. Dennig, M. Galindo Casas, M. Geier, S. Gruber, M. Haberbauer, P. Heidinger, E. Herrero Acero, R. Kratzer, C. Luley-Goedl, C. A. Müller, J. Pitzer, D. Ribitsch, M. Sauer, K. Schmölzer, W. Schnitzhofer, C. W. Sensen, J. Soh, K. Steiner, **C. K. Winkler**, M. Winkler and T. Wriessnegger, *Biotechnol. Adv.* **2020**, *40*, 107520.
28. "Extending the Library of Light-Dependent Protochlorophyllide Oxidoreductases and their Solvent Tolerance, Stability in Light and Cofactor Flexibility".
L. Schmermund, S. Bierbaumer, V. K. Schein, **C. K. Winkler**, S. Kara and W. Kroutil, *ChemCatChem* **2020**, *12*, 4044-4051; (**Featured as Cover**).
29. "Power of Biocatalysis".
C. K. Winkler, J. H. Schrittwieser, W. Kroutil, *ACS Cent. Sci.* **2021**, *7*, 55-71.
30. "Chromoselective Photocatalysis Enables Stereocomplementary Biocatalytic Pathways".
L. Schmermund, S. Reischauer, S. Bierbaumer, **C. K. Winkler**, A. Diaz-Rodriguez, L. J. Edwards, S. Kara, T. Mielke, J. Cartwright, G. Grogan, B. Pieber, W. Kroutil, *Angew. Chem., Int. Ed.* **2021**, *60*, 6965-6969.
31. "Accelerated Reaction Engineering of Photo(bio)catalytic Reactions through Parallelization with an Open-Source Photoreactor".
C. K. Winkler,* S. Simić, V. Jurkaš, S. Bierbaumer, L. Schmermund, S. Poschenrieder, S. A. Berger, E. Kulterer, R. Kourist and W. Kroutil, *ChemPhotoChem* **2021**, *5*, 957–965.

PUBLICATIONS IN PEER REVIEWED JOURNALS AND BOOKS / CONTINUED

32. "Expression and activity of heterologous hydroxyisocaproate dehydrogenases in *Synechocystis* sp. PCC 6803 Δ hoxYH"
V. Jurkaš, C. K. Winkler, S. Poschenrieder, P. Oliveira, C. C. Pacheco, E. A. Ferreira, F. Weissensteiner, P. De Santis, S. Kara, R. Kourist, P. Tamagnini, W. Kroutil, *Eng. Microbiol.* **2021**, 2, 100008.
33. "Ene-Reductase Catalyzed Regio- and Stereoselective 1,4-Mono-Reduction of Pseudoionone to Geranylacetone".
I. Oroz-Guinea, **C. K. Winkler**, S. M. Glueck, K. Ditrich, M. Weingarten, M. Breuer, D. Schachtschabel, and W. Kroutil,* *ChemCatChem* **2022**, 14, 14, e202101557.
34. "Shortening Synthetic Routes to Small Molecule Active Pharmaceutical Ingredients Employing Biocatalytic Methods"
S. Simić, E. Zukić, L. Schmermund, K. Faber, **C. K. Winkler,*** and W. Kroutil,* *Chem. Rev.* **2022**, 122, 1052–1126.
35. "Dynamic Kinetic Resolution and Dynamic Kinetic Asymmetric Transformation: Concepts, Classification and Computing Tools" in *Science of Synthesis – Dynamic Kinetic Asymmetric Transformations and Dynamic Kinetic Resolution*, Ed.: J.-E. Bäckvall
C. K. Winkler, K. Faber and W. Kroutil, **2022**, *accepted*.
36. "Synthesis of Enantiopure Sulfoxides by Concurrent Photocatalytic Oxidation and Biocatalytic Reduction"
S. Bierbaumer, L. Schmermund, A. List, **C. K. Winkler,*** S. M. Glueck,* W. Kroutil, *Angew. Chem., Int. Ed.* **2022**, e202117103. Doi: 10.1002/anie.202117103.

PATENTS

1. "Enzyme-Mediated Selective Oxidation of Fatty Acids".

L. Hammerer, **C. Winkler**, W. Kroutil, *provisional patent*, **2018**.

2. "Method for the Shuttling of Photosynthetic Redox Equivalents from Photoautotrophic Organisms to Supply Extracellular Biocatalytic Reductions".

V. Jurkaš, **C. Winkler**, S. Bierbaumer, W. Kroutil; submitted, **2021**.

SCIENCE TO PUBLIC – ARTICLES AND MEDIA

1. As ongoing project since **2020** I co-host the **science-to-public PodCast “In the Active Site”** together with Dr. Mathias Pickl, where we interview top reserachers from our discipline on a bi-monthly basis:

<https://anchor.fm/in-the-active-site>

2. “Biokatalyse zur Synthese von chiralen Aminen”.

C. K. Winkler and G. Tasnàdi, GIT Labor-Fachzeitschrift **2016**, 5, 38-40.

3. “Chiral Amines in total Synthesis - The Biocatalytic Approach”.

C. K. Winkler and G. Tasnàdi, GIT Laboratory Journal **2017**, 9-10, 34-36.

4. “Forscher Profil: Dr. Christoph Winkler ”.

C. K. Winkler, Human Technology Styria – Botenstoff **2019**, 4, 33.

5. “Biokatalytische Methoden in der Produktion von API”.

C. K. Winkler and W. Kroutil, *Pharm. Ind.* **2020**, 82, 1078-1081.

SCIENCE TO PUBLIC - PRESS

1. “An dem Institut stimmt die Chemie - Steirer machen Medikamente "grüner" und günstiger”.

Barbara Winkler about W. Kroutil, S. Simic and **C. K. Winkler**, Kronen Zeitung (Steiermark), **16.12.2019**.

2. “Using the cell as a model”.

Coimbra Group Newsletter about W. Kroutil, S. Simic and **C. K. Winkler**, **01.12.2019**.

3. “Vorbild Zelle”.

Highlight at the Homepage of the University of Grauburg about W. Kroutil, S. Simic and **C. K. Winkler**, **09.12.2019**

4. “Light for our future”.

Wining photo in the #PhotoChimica2020 competition by the Royal Society of Chemistry and European Young Chemists' Network (EYCN) for the 2021 calendar about the custom built photoreactor by L. Schmermund, V. Jurkaš and **C. K. Winkler**, **2020**.

5. “Light for our future”.

Wining photo in the #PhotoChimica2020 competition by the Royal Society of Chemistry and European Young Chemists' Network (EYCN) for the 2021 calendar about the groups photo-incubator by V. Jurkaš, L. Schmermund and **C. K. Winkler**, **2020**.

6. “ BioTrans 2021”.

W. Kroutil, M. Hall, **C. K. Winkler**, G. Leljaj, *Das Online-Magazin der Uni Graz* **19.07.2021**.

LECTURES AT INTERNATIONAL CONFERENCES

1. "Asymmetric Bioreduction of Cinnamic Aldehyde Derivatives using Ene-Reductases".
C. Stueckler, N.J. Mueller, **C. K. Winkler**, B. Hauer, R. Stuermer, W. Kroutil, P. Macheroux, K. Faber;
Vortrags- und Diskussionstagung „Biokatalyse: Neue Verfahren, neue Produkte“, Bad Schandau, Germany, May 18-20, **2009**.
2. "Asymmetric Bioreduction of Alkenes".
C. Stueckler, **C. K. Winkler**, N. J. Mueller, S. M. Glueck, M. Hall, K. Faber;
11th Eurasia Conference on Chemical Sciences (EuAsC2S-11), Amman, Jordan, October 6-10, **2010**.
3. "Biocatalytic C=C-Bond Reduction".
C. Stueckler, **C. K. Winkler**, S. M. Glueck, K. Faber;
Biocatalysis Zing-Conference, Puerto Morelos, Mexico, December 10-13, **2010**.
4. "Extending the Substrate Scope for the Biocatalytic C=C-Bond Reduction".
C. Stueckler, **C. K. Winkler**, S. M. Glueck, K. Faber;
IBOS Biocatalysis/Chemocatalysis Congress, The Netherlands, May 15-17, **2011**.
5. "Asymmetric Bioreduction of 'Activated' Esters with Ene Reductases: Effect of an additional activating group".
G. Tasnádi, **C. K. Winkler**, D. Clay, M. Hall, K. Faber;
Science Days of the Austrian Centre of Industrial Biotechnology, Alpbach, Austria, April 6-7, **2011**.
6. "Asymmetric Synthesis of Bioactive Compounds via Bioreduction of C=C Bonds".
C. K. Winkler, G. Tasnádi, M. Hall, K. Faber;
European School of Medicinal Chemistry (ESMEC), Urbino, Italy, July 3-8, **2011**.
7. "Identification of Two Enone-Reductases by Database Mining Using 3D Active-Site Templates".
G. Steinkellner, C. C. Gruber, T. Pavkov-Keller, A. Lyskowski, O. Schwamberger, K. Steiner, **C. K. Winkler**, H. Schwab, K. Faber, K. Gruber;
17th Int. Symposium on Flavins & Flavoproteins, Berkeley, USA, July 24-29, **2011**.
8. "An Enzyme-Platform for the Bioreduction of C=C-Bonds".
D. Clay, M. Hall, **C. K. Winkler**, G. Tasnádi, K. Faber;
1st European Congress of Applied Biotechnology (ECAB), Berlin, Germany, September 25-29, **2011**.
9. "Asymmetric Bioreduction of Alkenes".
D. Clay, M. Hall, **C. K. Winkler**, G. Tasnádi, K. Faber;
9th Int. Congress of Young Chemists YoungChem2011, Cracow, Poland, October 12-16, **2011**.
10. "Ene-reductases: a Powerful Toolbox for the Reduction of C=C Bonds".
G. Tasnádi, **C. K. Winkler**, D. Clay, M. Hall, K. Faber;
University of Vienna - Research Seminar, Vienna, Austria, October 12, **2011**.
11. "Biocatalysis: Tools for Stereoselective Synthesis".
M. Hall, C. Stückler, **C. K. Winkler**, B. Überbacher, K. Faber;
3rd Young Investigator's Workshop, Organic Division of EuCheMS, Heraklion, Greece, July 8-9, **2011**.
12. "Asymmetric Synthesis of Industrially Relevant Chiral Compounds using Ene-Reductases".
C.K. Winkler, G. Tasnádi, D. Clay, M. Hall, K. Faber;
GÖCH 14. Austrian Chemistry Days, Linz, Austria, September 26-29, **2011**.

13. "Enzymatic Synthesis of Enantiopure α - and β -Amino Acid Derivatives Using Flavoproteins from the 'Old Yellow Enzyme Family'".

M. Hall, **C. K. Winkler**, C. Stücker, K. Zangger, K. Faber;

4th European Conference on Chemistry for Life Sciences, Budapest, Hungary, August 31-September 3, **2011**.

14. "NAD(P)H-Independent Asymmetric C=C-Bond Reduction by Ene-Reductases: Strategies to Overcome Co-Product Inhibition".

C. K. Winkler, D. Clay, G. Tasnádi, M. Hall, K. Faber;

Catalyzing Bio-Economy - Biocatalysts for Industrial Biotechnology, Annual meeting of the DECHEMA-VAAM-Section Biotransformation, Frankfurt, Germany, April 24-25, **2012**.

15. "NAD(P)H-Independent Asymmetric C=C-Bond Reduction by Ene-Reductases".

C. K. Winkler, D. Clay, G. Tasnádi, M. Hall, K. Faber;

Biocat 2012 - 6th International Congress on Biocatalysis, Hamburg, Germany, September 2-6, **2012**.

16. "Old Yellow Enzymes: Tools for the Asymmetric Bioreduction of Activated Alkenes".

C. K. Winkler, G. Tasnádi, D. Clay, M. Hall, K. Faber;

9th European Symposium on Biochemical Engineering Science (ESBES) and 32nd International Symposium on the Separation of Proteins, Peptides and Polynucleotides (ISPP) at the 15th European Congress on Biotechnology (ECB15), Istanbul, Turkey, September 23-26, **2012**.

17. "Surfing the ω -Transaminase and Ene-Reductase Wave: Biocatalytic Asymmetric Transformations for Preparative Organic Synthesis".

W. Kroutil, K. Faber, D. Clay, M. Hall, G. Tasnádi, **C. K. Winkler**, F. Mutti, R. Simon, C. Fuchs, D. Pressnitz, J.H. Sattler, K. Tauber, M. Fuchs;

Austrian Centre of Industrial Biotechnology (ACIB) Satellite Session "Biotechnology for Industrial Production" at the 15th European Congress on Biotechnology (ECB15), Istanbul, Turkey, September 23, **2012**.

18. "Towards a Systemic Understanding of Stereocontrol in the Asymmetric Bioreduction of Activated Alkenes".

M. Hall, G. Tasnádi, **C. K. Winkler**, D. Clay, K. Faber;

2nd International Conference on Molecular and Functional Catalysis (ICMFC-2), Singapore, Singapore, July 30-31, **2012**.

19. "Ene-Reductases: Biocatalytic Tools for Stereoselective Synthesis".

M. Hall, **C. K. Winkler**, D. Clay, G. Tasnádi, K. Faber;

International Conference of Young Chemists (ICYC), Amman, Jordan, April 8-10, **2012**.

20. "Asymmetric Bioreduction of α,β -Unsaturated Carboxylic Acids and Esters by Ene-Reductases: Control of Reactivities".

G. Tasnadi, **C. K. Winkler**, D. Clay, M. Hall, K. Ditrach, K. Faber;

18th Int. Symposium on Homogeneous Catalysis (ISHC18), Toulouse, France, July 9-13, **2012**.

21. "Asymmetric Bioreduction of Alkenes".

D. Clay, M. Hall, **C. K. Winkler**, G. Tasnadi, K. Faber;

University of Bologna, Bologna, Italy, March 28, **2012**.

LECTURES AT INTERNATIONAL CONFERENCES / CONTINUED

22. "Asymmetric Bioreduction of Activated Alkenes".
D. Clay, **C. K. Winkler**, G. Tasnadi, M. Hall, K. Faber;
X Seminario Brasileiro de Tecnológica Enzimática (ENZITEC 2012), Blumenau, Brazil, October 7-10, **2012**.
23. "Asymmetric Bioreduction of Cinnamic Aldehyde Derivatives Using Ene-Reductases".
G. Tasnadi, **C. K. Winkler**, D. Clay, M. Hall, K. Ditrach, K. Faber;
ACIB Science Days, Wien, Austria, July 2-3, **2012**.
24. "Asymmetric Bioreduction of C=C Bonds Using Ene-Reductases".
C. K. Winkler, D. Clay, G. Tasnadi, M. Hall, K. Faber;
Paul Janssen Invited Lectures Series, Janssen R&D, Beerse, December 3, **2012**.
25. "Asymmetric Enzymatic C=C-Reductions Using Single- & Two-Enzyme Systems".
C. K. Winkler, D. Clay, G. Tasnádi, N. G. Turrini, M. Hall, K. Faber;
University of Amsterdam, Amsterdam, The Netherlands, November 7, **2013**.
26. "Asymmetric Enzymatic C=C-Reductions Using Single- & Two-Enzyme Systems".
C. K. Winkler, D. Clay, G. Tasnádi, N. G. Turrini, M. Hall, K. Faber;
CLIB-Symposium 2013, Düsseldorf, Germany, September 9, **2013**.
27. "Ene-Reductases for Asymmetric C=C-Bond Reductions".
D. Clay, M. Hall, **C. K. Winkler**, G. Tasnadi, K. Faber;
ACIB Science Days, Graz, Austria, September 10-12, **2013**.
28. "Biocatalysis for Sustainable Chemistry".
D. Clay, M. Hall, **C. K. Winkler**, G. Tasnadi, K. Faber;
NAWI-Graz Science Day, Graz, Austria, April 29, **2013**.
29. "Nicotinamide-Independent Asymmetric C=C-Bond Reduction by Ene-Reductases".
C. K. Winkler, D. Clay, M. Entner, M. Plank, G. Tasnadi, K. Faber;
20th Int. Conference on Organic Synthesis (ICOS20), Budapest, Hungary, June 29 – July 4, **2014**.
30. "Structural and biochemical characterization of two novel enzymes with promiscuous ene-reductase activity".
T. Pavkov-Keller, A. Binter, G. Steinkellner, C. Gruber, K. Steiner, **C. K. Winkler**, H. Schwab, K. Faber, P. Macheroux, K. Gruber;
ECB16, Edinburgh, Great Britain, July 13, **2014**.
31. "Enzymatic Dream-Reactions: Carboxylation and C=C-Hydration".
C. K. Winkler, D. Clay, G. Tasnádi, N. G. Turrini, M. Hall, C. Wünsch, S. Glück, J. Gross, T. Reiter, K. Faber;
University of Van, Van, Turkey, July 24, **2014**.
32. "Versatile Chemistry of FMN-Dependent Ene-Reductases: Flexible Hydride Transfer and Redox Neutral Processes".
M. Hall, K. Weitzer, N. G. Turrini, **C. K. Winkler**, K. Faber;
18th International Symposium on Flavins and Flavoproteins, Cha-Am, Thailand, August 27, **2014**.

LECTURES AT INTERNATIONAL CONFERENCES / CONTINUED

33. "Structural and biochemical characterization of two novel enzymes with promiscuous ene-reductase activity".
T. Pavkov-Keller, A. Binter, G. Steinkellner, C. Gruber, K. Steiner, **C. K. Winkler**, H. Schwab, K. Faber, P. Macheroux, K. Gruber;
Chemistry towards Biology 2014, Krakow, Poland, September 11, **2014**.
34. "Redox Enzyme-Based Synthesis of Enantiopure Drug Precursors: Profens and GABA-Analogs".
M. Hall, H. Lechner, N. G. Turrini, **C. K. Winkler**, J. W. Wong, K. Faber;
Green Chemistry for Pharma Conference, Graz, Austria, September 23-24, **2014**.
35. "Development of Redox Biocatalysts for the Synthesis of Enantiopure Molecules".
M. Hall, H. Lechner, N. G. Turrini, **C. K. Winkler**, K. Faber;
Graduate School of Agriculture, Kyoto University, Kyoto, Japan, December 16, **2014**.
36. "Design of Biocatalytic Cascades for Chemical Biotechnology".
K. Faber, A. Dennig, A. Djordic, M. Fuchs, S. M. Glück, M. Hall, W. Kroutil, M. Pickl, G. Tassadi, E. Tassano, N. Turrini, **C. K. Winkler**;
1st Chemical Biotechnology Conference, Teheran, March 06, **2016**.
37. "Biocatalytic Cascades for the Synthesis of Alkenes, Dienes and Amino Acids from Fatty Acids".
A. Dennig, A. Dordic, S. Gandomkar, T. Haas, M. Hall, M. Kuhn, S. Kurakin, M. Plank, E. Tassano, A. Thiessenhusen, S. Velikogne, **C. K. Winkler**, K. Faber;
9th Workshop on Fats and Oils as Renewable Feedstock for the Chemical Industry, Karlsruhe, Germany, March 20, **2017**.
38. "Flavin-Based Redox-Neutral Biotransformations".
K. Durchschein, S. M. Glueck, M. Hall, T. Pavkov-Keller, S. Payer, G. Steinkellner, N. Turrini, **C. K. Winkler**, C. Wuensch, K. Faber;
19th Int. Symposium on Flavins & Flavoproteins, Groningen, The Netherlands, July 03, **2017**.
39. "Biocatalytic asymmetric amination and C-C bond formation".
W. Kroutil, N. G. Schmidt, S. Payer, L. Hammerer, S. Velikogne, E. Eger, J. Farnberger, M. Fuchs, J. Pletz, J. Schrittwieser, **C. K. Winkler**;
Seminar at Merck, Washington, USA, August 20, **2017**.
40. "Biocatalytic Reactions and Cascades for Organic Synthesis".
W. Kroutil, N. G. Schmidt, L. Hammerer, E. Eger, J. E. Farnberger, S. Velikogne, A. Żądło-Dobrowolska, M. Fuchs, J. Pletz, J. H. Schrittwieser, **C. K. Winkler**;
Seminar at Merck, Rahway, New Jersey USA, August 25, **2017**.
41. "Biocatalytic C-H Oxo-Functionalization: From Renewables to Chemicals".
E. Busto, A. Dennig, A. Dordic, S. Gandomkar, T. Haas, M. Hall, W. Kroutil, M. Kuhn, S. Kurakin, M. Plank, E. Tassano, S. Velikogne, **C. K. Winkler**, K. Faber;
8th World Congress on Oxidation Catalysis, Krakau, Poland, September 4, **2017**.
42. "Biocatalysis for Organic Synthesis".
C. K. Winkler, W. Kroutil;
Partnering Day 2017, Graz, Austria, September 21, **2017**.

LECTURES AT INTERNATIONAL CONFERENCES / CONTINUED

43. "Photobiocatalytic Nicotinamide Recycling".

C. K. Winkler, S. Schmidt, H. C. Büchenschütz, V. Vidimce, R. Kourist, W. Kroutil;
ESIB 2017, European Summit of Industrial Biotechnology, Graz, Austria, November 14-16, 2017.

44. "Exploring Enzyme Promiscuity and Active-Site Design for Biotechnology".

T. Pavkov-Keller, G. Steinkellner, C. Gruber, G. Oberdorfer, A. Reisenbichler, J. Schrittwieser, **C. K. Winkler**, P. Macheroux, K. Faber, K. Gruber;
EMBO Workshop, Pavia, Italy, September 12, 2018.

45. "Biocatalytic access to chiral amines and C-C bond formation".

W. Kroutil, L. Hammerer, S. Velikogne, E. Eger, J. Pletz, J. Schrittwieser, **C. K. Winkler**, A. Żądło-Dobrowolska, S. Gandomkar;
Rideal 2018 Conference, Abingdon, UK, March 26, 2018.

46. "Exploiting biocatalytic (asymmetric) reactions and concepts for organic synthesis".

W. Kroutil, N. G. Schmidt, S. E. Payer, L. Hammerer, S. Velikogne, E. Eger, J. F. Farnberger, M. Fuchs, J. Pletz, J. Schrittwieser, **C. K. Winkler**;
Institute Seminar of the Organic Chemistry - Arrhenius Laboratory, University of Stockholm, Stockholm, Sweden, Feb. 09, 2018.

47. "Multienzyme-Cascades for the Functionalization of Fatty Acids".

A. Dennig, A. Dordic, S. Gandomkar, M. Hall, L. Hammerer, M. Kuhn, S. Kurakin, M. Pickl, E. Tassano, S. Velikogne, **C. K. Winkler**, K. Faber;
4th Multistep Enzyme Catalyzed Processes Congress (MECP18), Trondheim, Sweden, March 19, 2018.

48. "Biocatalytic Cascades for Organic Synthesis: Bio-Cannizzaro, Mitsunobu-Invertase and Functionalization of Fatty Acids".

A. Dennig, S. Gandomkar, M. Hall, L. Hammerer, S. Kurakin, E. Tassano, S. Velikogne, **C. K. Winkler**, K. Faber;
Doctorate School of Organic Chemistry, Universitat de Barcelona, Barcelona, Spain, February 2, 2018.

49. "Biocatalysis as an Alternative Tool for (Asymmetric) Organic Synthesis".

L. Schermund, S. Pompei, C. Grimm, A. Swoboda, W. B. Breukelaar, E. Cigan, J. H. Schrittwieser, I. Oroz-Guinea, **C. K. Winkler**, W. Kroutil;
XXIII Simposio Nacional de Química Orgánica, Córdoba, Argentina, Online-Lecture, November 15-18, 2021.

50. „Licht als Reduktionsmittel: Photoautotrophe Organismen als Antriebsmodul für extrazelluläre Redox-Reaktionen“;

C. K. Winkler, V. Jurkaš, F. Weissensteiner, S. Bierbaumer, G. Faustmann, W. Kroutil, *D-A-CH Algen Summit, WKO, Vienna, Austria, Online-Lecture, October 11-12, 2021.*

51. "Life, Light and Photobiocatalysis";

L. Schermund, V. Jurkas, S. Simić, S. Bierbaumer, P. de Santis, S. Glueck, **C. K. Winkler**, W. Kroutil,
Exploratory Photochemistry: Light Creates Structure (Leopoldina Event), Halle/Saale, Germany, October 7-8, 2021.

LECTURES AT INTERNATIONAL CONFERENCES / CONTINUED

52. "Biocatalysts as alternative tool for organic synthesis";

W. Kroutil, S. Pompei, C. Grimm, W. B. Breukelaar, J. H. Schrittwieser, A. Swoboda, I. Oroz-Guinea, V. Jurkas, **C. K. Winkler**, S. Gandomkar, F. A. Sorgenfrei, *CFF2021 - Chemistry for the Future 2021*, University of Pisa, Italy, Online-Lecture, June 30 - July 2, **2021**.

53. "Exploiting enzymes for organic synthesis";

S. Pompei, C. Grimm, W. B. Breukelaar, N. Polidori, M. Lazzarotto, M. Fuchs, C. K. Winkler, J. H. Schrittwieser, K. Gruber, W. Kroutil, *2021 Webinar Biocatalysis Cycle - Red Temática de Biocatálisis*, Oviedo, Spain, Online-Lecture, February 2, **2021**.

POSTERS AT INTERNATIONAL CONFERENCES

1. "Asymmetric Bioreduction of Cinnamic Aldehyde Derivatives Using Ene-Reductases".
C. Stueckler, N. J. Mueller, **C. K. Winkler**, B. Hauer, R. Stuermer, W. Kroutil, P. Macheroux, K. Faber;
Vortrags- und Diskussionstagung "Biokatalyse: Neue Verfahren, neue Produkte", Bad Schandau, Germany, May 18-20, **2009**.
2. "Biocatalytic Asymmetric C=C-Bond Reduction".
C. Stueckler, N. J. Mueller, **C. K. Winkler**, S. M. Glück, K. Faber;
1. *EMPA Minisymposium on Biocatalysis*, St. Gallen, Switzerland, January 28, **2010**.
3. "Stereo-Controlled Asymmetric Bioreduction of α,β -Dehydroaminoacid Derivatives".
C. Stueckler, **C. K. Winkler**, M. Hall, B. Hauer, M. Bonnekessel, K. Faber;
CBCS — Conference on Biocatalysis for Chemical Synthesis, Graz, Austria, March 18-19, **2010**.
4. "Asymmetric Bioreduction of Cinnamic Aldehyde Derivatives Using Ene-Reductases".
C. Stueckler, **C. K. Winkler**, N. J. Mueller, S. M. Glueck, B. Hauer, R. Stuermer, K. Faber;
CBCS — Conference on Biocatalysis for Chemical Synthesis, Graz, Austria, March 18-19, **2010**.
5. "Asymmetric Synthesis of Acyloins via Bioreduction of Enol Ethers Using Enoate Reductases".
C. K. Winkler, C. Stueckler, N. J. Mueller, D. Pressnitz, K. Durchschein, M. Bonnekessel, K. Faber;
5th International Congress on Biocatalysis, Hamburg, Germany, August 29 – September 2, **2010**.
6. "Asymmetric Synthesis of (*R*)-3-Hydroxy-2-methylpropanoate ('Roche Ester') via Biocatalysed C=C Double Bond Reduction".
C. Stueckler, **C. K. Winkler**, M. Bonnekessel, K. Faber;
5th International Congress on Biocatalysis, Hamburg, Germany, August 29 – September 2, **2010**.
7. "Nicotinamide-Independent Asymmetric Bioreduction of C=C Bonds via Disproportionation of Enones Catalyzed by Enoate Reductases".
C. Stueckler, **C. K. Winkler**, T. Reiter, N. Baudendistel, K. Faber;
5th International Congress on Biocatalysis, Hamburg, Germany, August 29 – September 2, **2010** (Winning poster of the *biocat 2010 poster award* competition).
8. "Effect of Reaction Conditions on Conversion and Stereochemical Outcome in the Bioreduction of Activated Alkenes".
G. Tasnádi, **C. K. Winkler**, D. Clay, M. Hall, K. Faber;
4th European Conference on Chemistry for Life Sciences, Budapest, Hungary, August 31-September 3, **2011**.
9. "Asymmetric Bioreduction of C=C-Bonds for the Production of Chiral Compounds".
C. K. Winkler, D. Clay, G. Tasnádi, M. Hall, K. Faber;
22nd International Symposium: "Synthesis in Organic Chemistry", Cambridge, United Kingdom, July 11-14, **2011**.
10. "Effect of Reaction Conditions on Conversion and Stereochemical Outcome in the Bioreduction of Activated Alkenes".
C. K. Winkler, G. Tasnádi, D. Clay, M. Hall, K. Faber;
GÖCH 14. Austrian Chemistry Days, Linz, Austria, September 26-29, **2011**.

POSTERS AT INTERNATIONAL CONFERENCES / CONTINUED

11. "Asymmetric Bioreduction of 'Activated' Esters".
G. Tásnádi, D. Clay, **C. K. Winkler**, M. Hall, K. Faber;
Biotrans 2011, 10th International Symposium on Biocatalysis, Giardini Naxos, Italy, October 2-6, **2011**.

12. "News From The Old Yellow Enzymes: Access to Enantiopure Amino Acid Derivatives and Protein Stability".
M. Hall, **C. K. Winkler**, C. Stückler, Y. Yanto, S. J. Lohr, A. S. Bommarius, K. Faber;
Biotrans 2011, 10th International Symposium on Biocatalysis, Giardini Naxos, Italy, October 2-6, **2011**.

13. "Nicotinamide-Independent Asymmetric Bioreduction of C=C Bonds via Disproportionation of Enones Catalyzed by Ene-Reductases".
C. K. Winkler, G. Tasnádi, D. Clay, M. Hall, K. Faber;
Biotrans 2011, 10th International Symposium on Biocatalysis, Giardini Naxos, Italy, October 2-6, **2011**.

14. "Catalophore: Mining of Structural Databases using 3D-templates".
G. Steinkellner, C. C. Gruber, T. Pavkov-Keller, A. Łyskowski, O. Schwamberger, K. Steiner, **C. K. Winkler**, H. Schwab, K. Faber, K. Gruber;
Biotrans 2011, 10th International Symposium on Biocatalysis, Giardini Naxos, Italy, October 2-6, **2011**.

15. "Identification of Two Enone-Reductases by Database Mining using 3D Active Site Templates".
G. Steinkellner, C. C. Gruber, T. Pavkov-Keller, A. Łyskowski, O. Schwamberger, K. Steiner, **C. K. Winkler**, H. Schwab, K. Faber, K. Gruber;
17th International Symposium on Flavins & Flavoproteins, USA, **2011**.

16. "Co-Substrate-Engineering for the Nicotinamide-Independent Asymmetric Bioreduction of C=C-Bonds Catalyzed by Ene-Reductases".
D. Clay, **C. K. Winkler**, G. Tasnádi, M. Hall, K. Faber;
Multistep Enzyme-Catalyzed Processes (MECP) 2012, Graz, Austria, April 10-13, **2012**.

17. "Nicotinamide-Independent Asymmetric Bioreduction of C=C-Bonds Catalysed by Ene-Reductases Using Cosolvents for In-situ Product Removal".
D. Clay, **C. K. Winkler**, G. Tasnádi, M. Hall, K. Faber;
Biocat 2012 - 6th International Congress on Biocatalysis, Hamburg, Germany, September 2-6, **2012**.

18. "Reductive Dehalogenation Mediated by Isolated Ene-Reductases".
G. Tasnádi, **C. K. Winkler**, D. Clay, M. Hall, K. Faber;
Multistep Enzyme-Catalyzed Processes (MECP) 2012, Graz, Austria, April 10-13, **2012**.

19. "NAD(P)H-Independent Asymmetric C=C-Bond Reduction by Ene-Reductases: Overcoming Co-Product Inhibition".
C. K. Winkler, D. Clay, G. Tasnádi, M. Hall, K. Faber;
Multistep Enzyme-Catalyzed Processes (MECP) 2012, Graz, Austria, April 10-13, **2012**.

20. "NAD(P)H-Independent Asymmetric C=C-Bond Reduction by Ene-Reductases: Strategies to Overcome Co-Product Inhibition".
C.K. Winkler, D. Clay, G. Tasnádi, M. Hall, K. Faber;
Catalyzing Bio-Economy — Biocatalysts for Industrial Biotechnology (DECHEMA), Frankfurt, Germany, April 24-25, **2012**.

POSTERS AT INTERNATIONAL CONFERENCES / CONTINUED

21. "Biocatalytic Synthesis of Chiral Lactones using Ene-Reductases".
N. Turrini, K. Durchschein, **C. K. Winkler**, D. Clay, M. Hall, K. Faber;
Biocat 2012 - 6th International Congress on Biocatalysis, Hamburg, Germany, September 2-6, **2012**.
22. "Biocatalysis for Sustainable Organic Chemistry".
C. K. Winkler, J. H. Sattler, K. Gruber, P. Macheroux, K. Faber, W. Kroutil;
NaWi Graz Tag 2012, Graz, Austria, October 2, **2012**.
23. "Controlling the reactivity of halogenated acrylic ester derivatives towards asymmetric bioreduction catalysed by Old Yellow Enzymes".
G. Tasnadi, **C. K. Winkler**, D. Clay, M. Hall, K. Faber;
Austrian Centre of Industrial Biotechnology (ACIB) Science Days, Vienna, Austria, July 2-4, **2012**.
24. "Asymmetric Bioreduction of Cinnamic Aldehyde Derivatives Using Ene-Reductases".
G. Tasnadi, **C. K. Winkler**, C. Stückler, D. Clay, M. Hall, K. Ditrich, K. Faber;
Austrian Centre of Industrial Biotechnology (ACIB) Science Days, Vienna, Austria, July 2-4, **2012**.
25. "Chemoenzymatic Asymmetric Synthesis of Pregabalin-Precursors via Asymmetric Bioreduction of β -Cyano-Acrylate Esters using Ene-Reductases".
C. K. Winkler, D. Clay, S. Davies, P. O'Neill, P. McDaid, S. Debarge, J. Steflik, M. Karmilowicz, J.W. Wong, K. Faber;
14th Tetrahedron Symposium, Vienna, Austria, June 25-28, **2013**.
26. "The Activity of Ene-Reductases Towards Activated Alkenes: A Guideline".
G. Tasnadi, **C. K. Winkler**, D. Clay, M. Hall, K. Faber;
14th Tetrahedron Symposium, Vienna, Austria, June 25-28, **2013**.
27. Stereoselective Bioreduction of β -Cyano-Acrylate Esters Using Ene-Reductases for the Asymmetric Synthesis of Pregabalin-Precursors".
C. K. Winkler, D. Clay, S. Davies, P. O'Neill, P. McDaid, S. Debarge, J. Steflik, M. Karmilowicz, J.W. Wong, K. Faber;
Biotrans 2013, 11th International Symposium on Biocatalysis, Manchester, United Kingdom, July 21-25, **2013**.
28. "Co-Substrate-Engineering for the Nicotinamide-Independent Asymmetric Bioreduction of C=C-Bonds Catalyzed by Ene-Reductases".
D. Clay, **C. K. Winkler**, G. Tasnadi, M. Hall, K. Ditrich, K. Faber;
Biotrans 2013, 11th International Symposium on Biocatalysis, Manchester, United Kingdom, July 21-25, **2013**.
29. "Novel Enone-Reductases Identified By Database Mining For Catalytic Promiscuity".
G. Steinkellner, C. Gruber, K. Steiner, **C. K. Winkler**, T. Pavkov-Keller, A. Binter, A. Lyskowski, O. Schwamberger, M. Oberer, H. Schwab, K. Faber, P. Macheroux, K. Gruber;
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C. K. Winkler, E.-M. Fischereder, N. Richter, N. G. Turrini, W. Kroutil, K. Faber;
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35. "Carboxylic Acid Reductases and their Chemo-, Regio-, and Stereoselectivity".
C. K. Winkler, M. Plank, M. Winkler, K. Faber;
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37. "In vivo Photobiocatalysis in Cyanobacteria".
H. C. Büchenschütz, S. Schmidt, V. Vidimce, **C. K. Winkler**, W. Kroutil, R. Kourist;
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M. Pickl, **C. K. Winkler**, S. M. Glueck, M. W. Fraaije, K. Faber;
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V. Jurkaš, S. Poschenrieder, **C. K. Winkler**, P. Oliveira, P. Tamagnini, W. Kroutil;

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50. "Ene-reductase Catalyzed Regioselective 1,4-Reduction of Pseudoionone".

I. Oroz-Guinea, **C. K. Winkler**, S. M. Glück, K. Ditrich, M. Breuer, M. Weingarten, D. Schachtschabel, W. Kroutil;

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L. Schmermund, S. Bierbaumer, **C. K. Winkler**, S. Kara, W. Kroutil;
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59. "Fast Reaction Engineering of Photobiocatalytic Reactions Through Parallelization".
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63. "Decarboxylation of Palmitic Acid Catalyzed by *Chlorella variabilis* Fatty-Acid Photodecarboxylase (CvFAP) in a Custom-Built Photoreactor".
S. Simic, **C. K. Winkler**, W. Kroutil;
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66. "Enzymatic Conversion of Carbon Dioxide Captured from Biogas to Precursors for Bioplastic".
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67. "Light Dependent One-Pot-Process for Sulfoxide Deracemisation".
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NextGenBiocat – An international young investigator symposium, Graz, Austria (online), February 11-12, **2021**.
68. "Photo-Biocatalysis: Chromoselective Oxyfunctionalizations by Combining Carbon Nitrides with AaeUPO".
L. Schmermund, **C. K. Winkler**, S. Reischauer, B. Pieber, S. Kara, W. Kroutil;
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71. "Ene-Reductase Catalyzed Solvent-Free Regio- And Stereoselective 1,4-Mono-Reduction Of Pseudoionone".
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K. Bangert, L. Schmermund, S. Reischauer, S. Bierbaumer, **C. K. Winkler**, A. Diaz-Rodriguez, L. J. Edwards, T. Mielke, J. Cartwright, G. Grogan, B. Pieber and W. Kroutil;

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74. "Screening of reaction conditions in the photobiocatalytic decarboxylation of palmitic acid using a custom-built photoreactor".

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