

Prof. Dr. Mathias Christmann

Date of birth: October 17, 1972 (Peine)

Faculty of Chemistry, TU Dortmund University, Otto-Hahn-Str. 6, D-44227 Dortmund, Germany; Tel.: +49 231 7557854; Fax: +49 231 7557854; mathias.christmann@tu-dortmund.de



Education

2007 Venia Legendi in Organic Chemistry, RWTH Aachen, Germany
2001 Dr. rer. nat. with Prof. M. Kalesse, Leibniz University Hannover, Germany
1998 Diploma in Chemistry, TU Braunschweig, Germany

Academic Career

since 2008 Associate Professor (W2), TU Dortmund University, Germany
2003-2007 Habilitand, RWTH Aachen, Germany
2001-2002 Postdoctoral Associate at the University of Minnesota with Prof. C. J. Forsyth, Minneapolis, MN, USA

Research Interests

Synthetic chemistry | Natural products synthesis | Organocatalysis and Sustainable Chemistry

Awards

2013 Carl Duisberg Memorial Prize
2012 DECHEMA Young Scientist Award for Natural Products Research
2009 Docent Fellowship of the Fonds der Chemischen Industrie
2003 Liebig Fellowship of the Fonds der Chemischen Industrie

Community Service

Head of the GDCh Section Dortmund (since 2012), Tetrahedron Board of Editors (since 2013)

Five important publications of the last five years:

One-Pot Oxidation/Isomerization of Z-Allylic Alcohols with Oxygen as Stoichiometric Oxidant, D. Könning, W. Hiller, M. Christmann, *Org. Lett.* **2012**, *14*, 5258.

Total Synthesis of the RNA Polymerase Inhibitor Ripostatin B, P. Winter, W. Hiller, M. Christmann, *Angew. Chem. Int. Ed.* **2012**, *51*, 3396.

Total Synthesis and Biological Evaluation of (–)-Englerin A and B: Synthesis of Analogues with Improved Activity Profile, L. Radtke, M. Willot, H. Sun, S. Ziegler, S. Sauerland, C. Strohmman, R. Fröhlich, P. Habenberger, H. Waldmann, M. Christmann, *Angew. Chem. Int. Ed.* **2011**, *50*, 3998.

Total Synthesis and Absolute Configuration of the Guaiane Sesquiterpene Englerin A, M. Willot, L. Radtke, D. Könning, R. Fröhlich, V. H. Gessner, C. Strohmman, M. Christmann, *Angew. Chem. Int. Ed.* **2009**, *48*, 9105.

Amine-Catalyzed Cyclizations of Tethered Unsaturated Carbonyl Compounds, R. M. de Figueiredo, R. Fröhlich, M. Christmann, *Angew. Chem. Int. Ed.* **2008**, *47*, 1450.

Publications (01.01.2013)

For citation metrics, see: <http://www.researcherid.com/rid/C-9648-2010>

(45) "Enantioselective Rauhut-Currier-Type Cyclizations via Dienamine Activation: Scope and Mechanism" E. Marqués-López*, R. P. Herrera, T. Marks, W. C. Jacobs, M. Christmann*, *Synthesis* **2013**, accepted with revision (Manuscript ID: SS-2012-11-0865-FA) (Feature Article).

(44) "One-Pot Oxidation/Isomerization of Z-Allylic Alcohols with Oxygen as Stoichiometric Oxidant", D. Könning, W. Hiller, M. Christmann*, *Org. Lett.* **2012**, *14*, 5258.

(43) "Synthesis of β -Lactones via Catalytic Asymmetric Heterodimerization of Ketenes" E. Marqués-López*, M. Christmann*, *Angew. Chem. Int. Ed.* **2012**, *51*, 8696.

(42) "Enantioselective Tandem Reactions at Elevated Temperatures: One-Pot Hydroformylation/ S_N1 Alkylation" J. Stiller, A. J. Vorholt, K. A. Ostrowski, A. Behr*, M. Christmann*, *Chem. Eur. J.* **2012**, *17*, 9496.

(41) "Asymmetric Dienamine Activation", M. Christmann* in *Asymmetric Synthesis - More Methods and Applications* (Eds.: M. Christmann and S. Bräse), Wiley-VCH, Weinheim, **2012**, 43.

(40) "Applications of Aminocatalysis in Target-Oriented Synthesis" (Section 1.1.9) M. Christmann* in *Science of Synthesis, Asymmetric Organocatalysis 1, Lewis Base and Acid Catalysts* (Ed.: B. List), Thieme, Stuttgart, **2012**, 439.

(39) "Access to Skipped Polyene Macrolides by Ring Closing Metathesis: Total Synthesis of the RNA Polymerase Inhibitor Ripostatin B", P. Winter, W. Hiller, M. Christmann*, *Angew. Chem. Int. Ed.* **2012**, *51*, 3396.

(38) "Transforming Terpene-Derived Aldehydes into 1,2-Epoxides via Asymmetric α -Chlorination: Subsequent Epoxide Opening with Carbon Nucleophiles" P. Winter, J. Swatschek, M. Willot, L. Radtke, T. Olbrisch, A. Schäfer, M. Christmann*, *Chem. Commun.* **2011**, *47*, 12200.

(37) "Chlorinated isomers of nonylphenol differ in estrogenic and androgenic activity" P. G. Cormio*, M. Christmann, A. Rastall, S. Grund, H. Hollert, I. Schuphan, B. Schmidt, *J. Environ. Sci. Health. Part A* **2011**, *46*, 329.

(36) "Total Synthesis and Biological Evaluation of (-)-Englerin A and B: Synthesis of Analogues with Improved Activity Profile" L. Radtke, M. Willot, H. Sun, S. Ziegler, S. Sauerland, C. Strohmann, R. Fröhlich, P. Habenberger, H. Waldmann, M. Christmann*, *Angew. Chem. Int. Ed.* **2011**, *50*, 3998.

(35) "One-Pot Reactions Accelerate the Synthesis of Active Pharmaceutical Ingredients" C. Vaxelaire, P. Winter, M. Christmann*, *Angew. Chem. Int. Ed.* **2011**, *50*, 3605.

(34) "Transforming Terpene Feedstock into Polyketide Architecture" P. Winter, C. Vaxelaire, C. Heinz, M. Christmann*, *Chem. Commun.* **2011**, *47*, 394.

(33) "Total Synthesis of Phorboxazole A via de novo Oxazole Formation: Convergent Total Synthesis" B. Wang, T. Hansen, T. Wang, D. Wu, L. Weyer, Y. Lu, M. Engler, M. Ostroski, C. Leitheiser, M. Christmann, Y. Lu, J. Chen, N. Zunker, R. Cink, F. Ahmed, C.-S. Lee, C. Forsyth*, *J. Am. Chem. Soc.* **2011**, *133*, 1506.

- (32) "Total Synthesis of Phorboxazole A via de novo Oxazole Formation: Strategy and Component Assembly" B. Wang, T. Hansen, T. Wang, D. Wu, L. Weyer, Y. Lu, M. Engler, M. Ostroski, C. Leitheiser, M. Christmann, Y. Lu, J. Chen, N. Zunker, R. Cink, F. Ahmed, C.-S. Lee, C. Forsyth*, *J. Am. Chem. Soc.* **2011**, *133*, 1484.
- (31) "Enantioselective Alkylations of α,β -Unsaturated Aldehydes" J. Stiller, E. Marqués-López, R. P. Herrera,* R. Fröhlich, C. Strohmann, M. Christmann*, *Org. Lett.* **2011**, *13*, 70.
- (30) "Silyl-modified Analogues of 2-Tritylpyrrolidine: Synthesis and Applications in Asymmetric Organocatalysis" J. O. Bauer, J. Stiller, E. Marqués-López, K. Strohfeldt, M. Christmann*, C. Strohmann*, *Chem. Eur. J.* **2010**, *16*, 12553.
- (29) "Towards artificial terpene cyclases" M. Willot, M. Christmann, *Nature Chem.* **2010**, *2*, 519.
- (28) "Otto Wallach: The Father of Terpene Chemistry and Nobel Laureate 1910" M. Christmann*, *Angew. Chem. Int. Ed.* **2010**, *49*, 9580.
- (27) "Asymmetric organocatalysis in total synthesis - a trial by fire" E. Marqués-López, R. P. Herrera, M. Christmann*, *Nat. Prod. Rep.* **2010**, *27*, 1138.
- (26) "Total Synthesis and Absolute Configuration of the Guaiane Sesquiterpene Englerin A" M. Willot, L. Radtke, D. Könnig, R. Fröhlich, V. H. Gessner, C. Strohmann, M. Christmann, *Angew. Chem. Int. Ed.* **2009**, *48*, 9105.
- (25) "Crossed Intramolecular Rauhut-Currier-Type Reactions via Dienamine Activation" E. Marqués-López, R. P. Herrera, T. Marks, W. C. Jacobs, D. Könnig, R. M. de Figueiredo, M. Christmann*, *Org. Lett.* **2009**, *11*, 4116.
- (24) "Selective Oxidation of Aliphatic C-H Bonds in the Synthesis of Complex Molecules" M. Christmann*, *Angew. Chem. Int. Ed.* **2008**, *47*, 2740.
- (23) "Amine-Catalyzed Cyclizations of Tethered Unsaturated Carbonyl Compounds" R. M. de Figueiredo, R. Fröhlich, M. Christmann*, *Angew. Chem. Int. Ed.* **2008**, *47*, 1450.
- (22) "Synthesis of 4-Maleimidobutyric Acid and Related Maleimides" R. M. de Figueiredo, P. Oczipka, M. Christmann*, *Synthesis* **2008**, 1316.
- (21) "Synthesis of Amaminol B", W. C. Jacobs, M. Christmann*, *Synlett* **2008**, 247.
- (20) "Organocatalytic Syntheses of Bioactive Natural Products" M. Christmann*, *Ernst Schering Foundation Symposium Proceedings, Organocatalysis (2008)*, 125-139.
- (19) "Efficient Synthesis and Resolution of Pyrrolizidines" R. M. de Figueiredo, R. Fröhlich, M. Christmann*, *Angew. Chem. Int. Ed.* **2007**, *46*, 2883.
- (18) "Synthesis of a Malimide Analogue of the Telomerase Inhibitor UCS1025A Using a Dianionic Aldol Strategy" R. M. de Figueiredo, M. Voith, R. Fröhlich, M. Christmann*, *Synlett* **2007**, 391.
- (17) "Bidirectional, Organocatalytic Synthesis of Lepidopteran Sex Pheromones" R. M. de Figueiredo, R. Berner, J. Julis, T. Liu, D. Türp, M. Christmann*, *J. Org. Chem.* **2007**, *72*, 640.
- (16) "Organocatalytic Synthesis of Drugs and Bioactive Natural Products" R. M. de Figueiredo, M. Christmann*, *Eur. J. Org. Chem.* **2007**, 2575.

- (15) "Nucleophilic N-Heterocyclic Carbenes in Asymmetric Organocatalysis" D. Enders*, T. Balensiefer, O. Niemeier, M. Christmann, *Enantioselective Organocatalysis*, edited by Peter I. Dalko, WILEY-VCH, Weinheim, **2007**, 331.
- (14) "N,N'-Carbonyldiimidazole-Mediated Cyclization of Amino Alcohols to Substituted Azetidines and Other N-Heterocycles" R. M. de Figueiredo, R. Fröhlich, M. Christmann*, *J. Org. Chem.* **2006**, *71*, 4147.
- (13) "Asymmetric Synthesis - The Essentials" M. Christmann, S. Bräse (Eds.), WILEY-VCH, Weinheim, **2006**.
- (12) "New Developments in the Asymmetric Stetter Reaction" M. Christmann*, *Angew. Chem. Int. Ed.* **2005**, *44*, 2632.
- (11) "Asymmetric Total Synthesis of Complex Marine Natural Products" J. Hassfeld, T. Stellfeld, M. Kalesse, M. Christmann*, *Adv. Biochem. Engin. Biotechnol.* **2005**, *97*, 133.
- (10) "A Mannich-Cyclization Approach for the Asymmetric Synthesis of Saturated N-Heterocycles" A. Münch, B. Wendt, M. Christmann*, *Synlett* **2004**, 2751.
- (9) "The Chemistry and Biology of the Leptomycin Family" M. Kalesse*, M. Christmann, *Synthesis* **2002**, 981.
- (8) "Preparation of Ratjadone Derivatives for Inhibiting Cell Growth" A. Burzlaff, C. Kasper, T. Scheper, M. Kalesse*, U. Bhatt, K. Chary, E. Claus, M. Christmann, M. Quitschalle, W. Beil, *PCT Int. Appl.* (**2002**), WO2002064587.
- (7) "Rapid Access to Polyketide Scaffolds via Vinylogous Mukaiyama Aldol Reactions" J. Hassfeld, M. Christmann, M. Kalesse, *Org. Lett.* **2001**, *3*, 3561.
- (6) "The Chemistry and Biology of Ratjadone" M. Kalesse*, M. Christmann, U. Bhatt, M. Quitschalle, E. Claus, A. Saeed, A. Burzlaff, C. Kasper, L. O. Haustedt, E. Hofer, T. Scheper, W. Beil, *ChemBioChem* **2001**, *2*, 709.
- (5) "The First Total Synthesis of (+)-Ratjadone" U. Bhatt, M. Christmann, M. Quitschalle, E. Claus, M. Kalesse, *J. Org. Chem.* **2001**, *66*, 1885.
- (4) "Vinylogous Mukaiyama Aldol Reactions with Triarylboranes" M. Quitschalle, M. Christmann, U. Bhatt, M. Kalesse*, *Tetrahedron Lett.* **2001**, *42*, 1269.
- (3) "Synthesis of Unsaturated Lactone Moieties by Asymmetric Hetero-Diels-Alder Reactions with Binaphthol Titanium Complexes" M. Christmann, M. Kalesse*, *Tetrahedron Lett.* **2001**, *42*, 1263.
- (2) "Total Synthesis of (+)-Ratjadone" M. Christmann, U. Bhatt, M. Quitschalle, E. Claus, M. Kalesse*, *Angew. Chem. Int. Ed.* **2000**, *39*, 4364.
- (1) "Synthesis of the C14-C24-Fragment of Ratjadone" M. Christmann, M. Kalesse*, *Tetrahedron Lett.* **1999**, *40*, 7201.