

LIST of PUBLICATIONS

Prof. Dr. Bernhard Kräutler

2025

330. Florian J. Widner, Klaus Wurst, Markus Ruetz, Christoph Kieninger, Christoph Kreutz, Michael D. Paxhia, Evelyne Deery, Martin J. Warren and Bernhard Kräutler
B₁₂-Cofactor Inactivation by Cobalt to Rhodium Mutation in Methylrhodibalamine – an Antivitamin B₁₂ and Antibiotic
ChemistryEurope **3** (2025) <https://doi.org/10.1002/ceur.202500157>
329. Michael D. Paxhia, Freya L. Hartshorn, Evelyne Deery, Bernhard Kräutler, Martin J. Warren
Engineering biology and chemical approaches to the construction of vitamin B₁₂ analogues and antivitamin B₁₂ as probes and therapeutic agents
Advances in Microbial Physiology **87**, 257 – 298 (2025)
<https://doi.org/10.1016/bs.ampbs.2025.07.003>
328. Christoph Kieninger, Klaus Wurst, Daniel Leitner, Luis P. Peters, Dennis F. Dinu, Markus Wiedemair, Marc-Kevin Zaretzke, Martin Bröring, Stephan Hohloch, Klaus R. Liedl and Bernhard Kräutler
Encasing the Paramagnetic Copper(II)-Ion by the Ring-Contracted Corrin Ligand of Vitamin B₁₂
Chemical Communications **61**, 10606-10609 (2025)
<http://dx.doi.org/10.1039/D5CC02129D>
Dedicated to the memory of Albert Eschenmoser on the occasion of his 100th birthday
327. Clemens Vergeiner and Bernhard Kräutler
Blue Fluorescent Chlorophyll Catabolites from Banana Leaves Hypermodified with Terpenoidic Groups Related to Absciscic Acid
Helvetica Chimica Acta **108**, e202500042 (2025)
<https://doi.org/10.1002/hlca.202500042>
Dedicated to Professor Peter Chen on the occasion of his 65th birthday
326. Florian J. Widner, Christoph Kieninger and Bernhard Kräutler
Adenosylrhodibinamide and methylrhodibinamide – organometallic rhodium analogues of the natural cobinamides
J. Porphyrins & Phthalocyanines **29**, 408-417 (2025)
<https://doi.org/10.1142/S1088424625500348>
Dedicated to Prof. Karl Kadish on the occasion of his 80th birthday

325. Steffen Jockusch and Bernhard Kräutler
H/D-Isotope sensitive dual fluorescence of the corrin-ligand of vitamin B₁₂
Chemical Communications **61**, 3904-3907 (2025)
<https://doi.org/10.1039/d4cc06373b>

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324. Markus Ruetz, Romilla Mascarenhas, Florian J. Widner, Christoph Kieninger, Markos Koutmos, Bernhard Kräutler, & Ruma Banerjee
A Noble Metal Substitution Leads to B₁₂ Cofactor Mimicry by a Rhodibalamin.
Biochemistry **63**, 1955–1962 (2024) <https://doi.org/10.1021/acs.biochem.4c00216>
323. Theresia Erhart; Christian Nadegger; Stefan Vergeiner; Christoph Kreutz; Thomas Müller; Bernhard Kräutler
Novel Types of Phyllobilins in a Fern - Molecular Reporters of the Evolution of Chlorophyll Breakdown in the Paleozoic Era
Chem. Eur. J. **30**, e202401288 (2024)
<https://doi.org/10.1002/chem.202401288>
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322. Ricardo Pérez-Castaño, Juan Aranda, Florian J. Widner, Christoph Kieninger, Evelyne Deery, Martin J. Warren, Modesto Orozco, Montserrat Elías-Arnanz, S. Padmanabhan, and Bernhard Kräutler
The Rhodium Analogue of Coenzyme B₁₂ as an Anti-Photoregulatory Ligand Inhibiting Bacterial CarH Photoreceptors
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321. Alexandra Tsybizova, Lukas Fritsche, Larisa Miloglyadova, Bernhard Kräutler and Peter Chen
Cryogenic Ion Vibrational Predissociation (CIVP) Spectroscopy of Aryl Cobinamides in the Gas Phase: How Good Are the Calculations for Vitamin B₁₂ Derivatives?
J. Am. Chem. Soc. **145**, 19561-19570 (2023) <https://doi.org/10.1021/jacs.3c03001>
320. Christoph Kieninger, Evelyne Deery, Andrew D. Lawrence, Martin J. Warren and Bernhard Kräutler
Hydrogenobinamide and Nibinamide - Metal-Free Ligand and Ni(II)-Analogue of the Vitamin B₁₂ Precursor Cobinamide
J. Porphyrins & Phthalocyanines **27**, 627-633 (2023)
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319. Markus Wiedemair, Christoph Kieninger, Klaus Wurst, Maren Podewitz, Evelyne Deery, Martin J. Warren & Bernhard Kräutler
Solution, Crystal and in-Silico Structures of the Organometallic Vitamin B₁₂-Derivative Acetylcobalamin and of its Novel Rhodium-Analogue Acetyl-rhodibalamin
Helv. Chim. Acta **106**, e202200158 (2023) <http://dx.doi.org/10.1002/hlca.202200158>
Dedicated to the memory of Professor Jack D. Dunitz
313. Chengjie Li, Bernhard Kräutler
Facile Retro-Dieckmann Cleavage of a Pink Phyllobilin – New Type of Potential Chemical Downstream Steps of Natural Chlorophyll Breakdown
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311. Bernhard Kräutler
Cobalt Enzymes
in *Bioinorganic Chemistry and Homogeneous Biomimetic Inorganic Catalysis*
Comprehensive Inorganic Chemistry III, Vol. 2, pp 268-301 (2023), Elsevier, Oxford
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Structural Insights into the Very Low Activity of the Homocoenzyme B₁₂
Adenosylmethylcobalamin in Coenzyme B₁₂-Dependent Diol Dehydratase and
Ethanamine Ammonia-Lyase
Chemistry - Europ. J. **28**, e202202196 (2022) <https://doi.org/10.1002/chem.202202196>
317. Cornelia A. Karg, Lucia Parrakova, Dietmar Fuchs, Harald Schennach, Bernhard Kräutler, Simone Moser and Johanna M. Gostner
A Chlorophyll-Derived Phylloxanthobilin is a Potent Antioxidant that Modulates Immunometabolism in Human PBMC
Antioxidants, **11**, 2056 (2022) <https://doi.org/10.3390/antiox11102056>
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Nutrient smuggling: Commensal gut bacteria-derived extracellular vesicles scavenge vitamin B₁₂ and related cobamides for microbe and host acquisition
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Dedicated to Professor Albert Eschenmoser on the occasion of his 97th birthday
314. Markus Ruetz, Markos Koutmos and Bernhard Kräutler
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279. Bernhard Kräutler and Bernhard Jaun
Vitamin B₁₂ and Cofactor F430
in *Porphyrins for the 21st Century* (P. J. Brothers & M. O. Senge, Eds.),
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310. Chengjie Li, Maren Podewitz and Bernhard Kräutler
A Blue Zinc-Complex of a Dioxobilin-Type Pink Chlorophyll Catabolite Exhibiting Bright Chelation-Enhanced Red Fluorescence
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309. Sylvain Aubry, Bastien Christ, Bernhard Kräutler, Enrico Martinoia, Howard Thomas, Cyril Zipfel
An evergreen mind and a heart for the colors of fall (Obituary Stefan Hörtensteiner)
J. Exp. Botany, **72**, 4625–4633 (2021) <https://doi.org/10.1093/jxb/erab162>
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Surprising Homolytic Gas Phase (Co-C)-Bond Dissociation Energies of Organometallic Aryl-Cobinamides Reveal Notable Non-Bonded Intramolecular Interactions
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306. Felix Zelder and Bernhard Kräutler
Vitamin B₁₂ – ein kobalthaltiges molekulares Geschenk aus der Welt der Bakterien
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305. Florian J. Widner, C. Kieninger, K. Wurst, Evelyne Deery, Andrew D. Lawrence, Martin J. Warren and Bernhard Kräutler
Synthesis, Spectral Characterization and Crystal Structure of Chloro-Rhodibalamin – A Synthesis Platform for Rhodium Analogues of Vitamin B₁₂ and for Rh-Based Antivitamins B₁₂
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Antivitamins B₁₂ – Some Inaugural Milestones
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302. Elvin V. Salerno, Nicholas A. Miller, Arkaprabha Konar, Yan Li, Christoph Kieninger, Bernhard Kräutler and Roseanne J. Sension
Ultrafast Excited State Dynamics and Fluorescence from Vitamin B₁₂ and Organometallic [Co]-C=C-R Cobalamins
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300. Christoph Kieninger, Klaus Wurst, Maren Podewitz, Maria Stanley, Evelyne Deery, Andrew Lawrence, Klaus R. Liedl, Martin J Warren and Bernhard Kräutler
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290. Bernhard Kräutler, Thomas Müller and Steffen Jockusch
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