

LIST OF PUBLICATIONS FROM THE PROJECT P-33059

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>

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>

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
Angew. Chem. Int. Ed. **2024**, e202401626 <https://doi.org/10.1002/anie.202401626>

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>

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 VitaminB₁₂ Precursor Cobinamide
J. Porphyrins & Phthalocyanines, **27**, 627-633 (2023)
<https://doi.org/10.1142/S1088424623500463>

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 Acetylrhodibalamin
Helv. Chim. Acta **106**, e202200158 (2023) <http://dx.doi.org/10.1002/hlca.202200158>

Karl Gruber, Vanessa Csitkovits, Andrzej Łyskowski, Christoph Kratky & Bernhard Kräutler
Structure-Based Demystification of Radical Catalysis by a Coenzyme B₁₂-dependent Enzyme
– Crystallographic Study of Glutamate Mutase with Cofactor Homologues
Angewandte Chemie Int. Ed. **61**, e202208295 (2022) <https://doi.org/10.1002/anie.202208295>

Markus Ruetz, Markos Koutmos and Bernhard Kräutler
Antivitamins B₁₂ – Synthesis and Application as Inhibitory Ligand of the B₁₂-Tailoring
Enzyme CblC
Coenzyme B₁₂ Enzymes, N.E.Marsh (ed.), *Methods in Enzymology*, vol. 668, pp. 157-178
(2022), Academic Press
<https://www.sciencedirect.com/science/article/pii/S007668792100522X>

Bernhard Kräutler
Antivitamins B₁₂
Vitamins & Hormones, vol. 119, G. Litwack (Ed.), p.221-240 (2022) Academic Press,
<https://doi.org/10.1016/bs.vh.2022.01.003>

Bernhard Kräutler
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Comprehensive Organometallic Chemistry IV, Vol. 15, pp 73-95 (2022), Elsevier,
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Alexandra Tsybizova, Christopher Brenig, Christoph Kieninger, Bernhard Kräutler & Peter
Chen
Surprising Homolytic Gas Phase (Co-C)-Bond Dissociation Energies of Organometallic Aryl-
Cobinamides Reveal Notable Non-Bonded Intramolecular Interactions
Chem.-Europ. J. **27**, 7252-7264 (2021) <http://dx.doi.org/10.1002/chem.202004589>.

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
Synthesis **53**, 332-337 (2021) <https://doi.org/10.1055/s-0040-1707288>

Bernhard Kräutler
Antivitamins B₁₂ – Some Inaugural Milestones
Chem. – Europ. J. **26**, 15438-15445 (2020) <https://doi.org/10.1002/chem.202003788>

Christoph Kieninger, Klaus Wurst, Maren Podewitz, Maria Stanley, Evelyne Deery, Andrew Lawrence, Klaus R. Liedl, Martin J Warren and Bernhard Kräutler

Replacement of the Cobalt-Center of Vitamin B₁₂ by Nickel - Nibalamine and Nibyrinic Acid
Prepared from Metal-Free B₁₂-Ligands Hydrogenobalamine and Hydrogenobyric Acid

Angew. Chem. Int. Ed. **59**, 20129-20136 (2020) <https://doi.org/10.1002/anie.202008407>