Author Profile



B. Kräutler

The author presented on this page has recently published his 10th article since 2000 in Angewandte Chemie: "Hypermodified Fluorescent Chlorophyll Catabolites: Source of Blue Luminescence in Senescent Leaves": S. Banala, S. Moser, T. Müller, C. R. Kreutz, A. Holzinger, C. Lütz, B. Kräutler, Angew. Chem. 2010, 122, 5300-5304; Angew. Chem. Int. Ed. 2010, 79, 5174-5177.



B. Kräutler has been featured on the cover of Angewandte Chemie: "Colorless Tetrapyrrolic Chlorophyll Catabolites found in Ripening Fruit Are Effective Antioxidants": T. Müller, M. Ulrich, K.-H. Ongania, B. Kräutler, Angew. Chem. 2007, 119, 8854-8857; Angew. Chem. Int. Ed. 2007, 46, 8699-8702.

Bernhard Kräutler

Date of birth: November 2, 1946

Position. Professor of Organic Chemistry, University of Innsbruck (Austria) **Education:** 1966–1970 Diploma in chemistry, ETH Zürich (Switzerland) 1971-1976 Doctoral thesis with Prof. A. Eschenmoser, ETH Zürich

> 1977 Postdoctoral studies with Prof. A. J. Bard, University of Texas, Austin (USA) 1978 Postdoctoral studies with Prof. N. J. Turro, Columbia University, New York (USA)

1985 Habilitation in Organic Chemistry, ETH Zürich

1985 Visiting Associate Professor, Roger Adams Laboratory, University of Illinois, Urbana

(USA)

1991-Present Professor of Organic Chemistry at the University of Innsbruck

Awards since 2000:

Hobbies:

2001 Erwin Schrödinger Award of the Austrian Academy of Sciences; 2005 Joseph Loschmidt Medal of the Austrian Chemical Society; 2006 Member of the German Academy of Natural

Sciences, Leopoldina; 2009 Member of the Austrian Academy of Sciences.

Current research interests:

The molecular basis of life: At present, our four chemical research areas concentrate on the discovery, analysis, and biogenesis of tetrapyrrolic natural products, as well as on the synthesis

and critical evaluation of bioinspired artificial compounds, designed for a particular function and application in natural life and in technology.

gardening, music, mountain hiking

Three qualities that make a good scientist are ... curiosity, creativity, and a very critical mind.

My favorite subjects at school were ... art and natural sciences.

 M_y favorite piece of research is ... the total synthesis of vitamin B_{12} and the structural rationalization of its (bio)genesis by Albert Eschenmoser.

The most important future applications of my research are ... unforeseeable.

My first chemical experiment was ... recuperating the easily melting metals of paint tubes.

My most exciting discoveries to date have been ... large magnetic (isotope) effects in organic chemical reactions.

n a nutshell, my research involves ... chemistry at the frontiers of life sciences and nanoscience.

The most groundbreaking discoveries in science in the past 100 years have been ... basic experimental contributions to the understanding of human life and the existence of the world.

My greatest achievement has been ... the first elucidation of the structure of a chlorophyll catabolite.

am waiting for the day when someone will discover ... a way to truly generate a form of life.

n my spare time I ... like to explore the world around us.

My favorite food ... comes from my wife's kitchen.

My 5 top papers:

- 1. "On the Enigma of Chlorophyll Degradation: The Constitution of a Secoporphinoid Catabolite": B. Kräutler, B. Jaun, K. Bortlik, M. Schellenberg, P. Matile, Angew. Chem. 1991, 103, 1354-1357; Angew. Chem Int. Ed. 1991, 30, 1315-1318. (The first structure of a chlorophyll catabolite).
- 2. "An Organometallic B₁₂-Rotaxane and a B₁₂-Dimer, Relaxed and Loaded Forms of a Molecular Spring": R. B. Hannak, G. Färber, R. Konrat, B. Kräutler, J. Am. Chem. Soc. 1997, 119, 2313-2314. (A "neat" mechanical effect because of the solvation of a vitamin B₁₂derivative).
- 3. "Breakdown of Chlorophyll: A Nonenzymatic Reaction Accounts for the Formation of the Colorless 'Nonfluorescent' Chlorophyll Catabolites": M. Oberhuber, J. Berghold, K. Breuker, S. Hörtensteiner, B.

- Kräutler, Proc. Natl. Acad. Sci. USA 2003, 100, 6910-6915. (One step of the chlorophyll breakdown is a "simple" chemical reaction).
- 4. "B₁₂-retro-Riboswitches: Constitutional Switching of B₁₂-Coenzymes Induced by Nucleotides": S. Gschösser, K. Gruber, C. Kratky, C. Eichmüller, B. Kräutler, Angew. Chem. 2005, 117, 2324-2328; Angew. Chem Int. Ed. 2005, 44, 2284-2288. (The invention of an (artificial) reversed riboswitch).
- 5. "Fluorescent Chlorophyll Catabolites in Bananas Light Up Blue Halos of Cell Death": S. Moser, T. Müller, A. Holzinger, C. Lütz, S. Jokusch, N. J. Turro, B. Kräutler, Proc. Natl. Acad. Sci. USA 2009, 106, 15538-15542. (Physiological roles of chlorophyll catabolites are reported).

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