

# Bruno BÃ¼hler

## List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/697727/publications.pdf>

Version: 2024-02-01

92  
papers

4,011  
citations

117625

34  
h-index

123424

61  
g-index

105  
all docs

105  
docs citations

105  
times ranked

3194  
citing authors

#	ARTICLE	IF	CITATIONS
1	Enzyme-mediated oxidations for the chemist. <i>Green Chemistry</i> , 2011, 13, 226-265.	9.0	395
2	Whole-cell biocatalysis for selective and productive C=O functional group introduction and modification. <i>Chemical Society Reviews</i> , 2013, 42, 6346.	38.1	188
3	The use of enzymes in the chemical industry in Europe. <i>Current Opinion in Biotechnology</i> , 2002, 13, 359-366.	6.6	175
4	Heme-iron oxygenases: powerful industrial biocatalysts?. <i>Current Opinion in Chemical Biology</i> , 2008, 12, 177-186.	6.1	158
5	Metabolic response of <i>Pseudomonas putida</i> during redox biocatalysis in the presence of a second octanol phase. <i>FEBS Journal</i> , 2008, 275, 5173-5190.	4.7	135
6	Process implementation aspects for biocatalytic hydrocarbon oxyfunctionalization. <i>Journal of Biotechnology</i> , 2004, 113, 183-210.	3.8	121
7	Direct Terminal Alkylamino Functionalization via Multistep Biocatalysis in One Recombinant Whole-Cell Catalyst. <i>Advanced Synthesis and Catalysis</i> , 2013, 355, 1693-1697.	4.3	103
8	The efficiency of recombinant <i>Escherichia coli</i> as biocatalyst for stereospecific epoxidation. <i>Biotechnology and Bioengineering</i> , 2006, 95, 501-512.	3.3	102
9	Redox Biocatalysis and Metabolism: Molecular Mechanisms and Metabolic Network Analysis. <i>Antioxidants and Redox Signaling</i> , 2010, 13, 349-394.	5.4	101
10	Engineering the productivity of recombinant <i>Escherichia coli</i> for limonene formation from glycerol in minimal media. <i>Biotechnology Journal</i> , 2014, 9, 1000-1012.	3.5	101
11	Characterization and Application of Xylene Monooxygenase for Multistep Biocatalysis. <i>Applied and Environmental Microbiology</i> , 2002, 68, 560-568.	3.1	100
12	Outer Membrane Protein AlkL Boosts Biocatalytic Oxyfunctionalization of Hydrophobic Substrates in <i>Escherichia coli</i> . <i>Applied and Environmental Microbiology</i> , 2012, 78, 5724-5733.	3.1	100
13	Use of the two-liquid phase concept to exploit kinetically controlled multistep biocatalysis. <i>Biotechnology and Bioengineering</i> , 2003, 81, 683-694.	3.3	99
14	Intensification and economic and ecological assessment of a biocatalytic oxyfunctionalization process. <i>Green Chemistry</i> , 2010, 12, 815.	9.0	91
15	Metabolic capacity estimation of <i>Escherichia coli</i> as a platform for redox biocatalysis: constraint-based modeling and experimental verification. <i>Biotechnology and Bioengineering</i> , 2008, 100, 1050-1065.	3.3	84
16	Xylene Monooxygenase Catalyzes the Multistep Oxygenation of Toluene and Pseudocumene to Corresponding Alcohols, Aldehydes, and Acids in <i>Escherichia coli</i> JM101. <i>Journal of Biological Chemistry</i> , 2000, 275, 10085-10092.	3.4	78
17	NADH Availability Limits Asymmetric Biocatalytic Epoxidation in a Growing Recombinant <i>Escherichia coli</i> Strain. <i>Applied and Environmental Microbiology</i> , 2008, 74, 1436-1446.	3.1	74
18	Efficient production of the Nylon 12 monomer $\gamma$ -aminododecanoic acid methyl ester from renewable dodecanoic acid methyl ester with engineered <i>Escherichia coli</i> . <i>Metabolic Engineering</i> , 2016, 36, 1-9.	7.0	70

#	ARTICLE	IF	CITATIONS
19	Whole-cell-based CYP153A6-catalyzed (<i>S</i>)-limonene hydroxylation efficiency depends on host background and profits from monoterpene uptake via AlkL. <i>Biotechnology and Bioengineering</i> , 2013, 110, 1282-1292.	3.3	69
20	Carbon metabolism and product inhibition determine the epoxidation efficiency of solvent-tolerant <i>Pseudomonas</i> sp. strain VLB120. <i>Biotechnology and Bioengineering</i> , 2007, 98, 1219-1229.	3.3	66
21	Resting cells of recombinant <i>E. coli</i> show high epoxidation yields on energy source and high sensitivity to product inhibition. <i>Biotechnology and Bioengineering</i> , 2012, 109, 1109-1119.	3.3	66
22	Engineering of <i>Pseudomonas taiwanensis</i> VLB120 for Constitutive Solvent Tolerance and Increased Specific Styrene Epoxidation Activity. <i>Applied and Environmental Microbiology</i> , 2014, 80, 6539-6548.	3.1	62
23	Mixed-species biofilms for high-cell-density application of <i>Synechocystis</i> sp. PCC 6803 in capillary reactors for continuous cyclohexane oxidation to cyclohexanol. <i>Bioresource Technology</i> , 2019, 282, 171-178.	9.6	62
24	Reaction and catalyst engineering to exploit kinetically controlled whole-cell multistep biocatalysis for terminal FAME oxyfunctionalization. <i>Biotechnology and Bioengineering</i> , 2014, 111, 1820-1830.	3.3	61
25	Overcoming the Gas-Liquid Mass Transfer of Oxygen by Coupling Photosynthetic Water Oxidation with Biocatalytic Oxyfunctionalization. <i>Angewandte Chemie - International Edition</i> , 2017, 56, 15146-15149.	13.8	60
26	Chemical biotechnology for the specific oxyfunctionalization of hydrocarbons on a technical scale. <i>Biotechnology and Bioengineering</i> , 2003, 82, 833-842.	3.3	59
27	The microbial cell as functional unit for energy dependent multistep biocatalysis. <i>Current Opinion in Biotechnology</i> , 2014, 30, 178-189.	6.6	57
28	Light-Dependent and Aeration-Independent Gram-Scale Hydroxylation of Cyclohexane to Cyclohexanol by CYP450 Harboring <i>Synechocystis</i> sp. PCC 6803. <i>Biotechnology Journal</i> , 2019, 14, e1800724.	3.5	55
29	Systems biotechnology as Rational whole-cell biocatalyst and bioprocess design. <i>Engineering in Life Sciences</i> , 2010, 10, 384-397.	3.6	51
30	Kinetic Analysis of Terminal and Unactivated C-H Bond Oxyfunctionalization in Fatty Acid Methyl Esters by Monoxygenase-Based Whole-Cell Biocatalysis. <i>Advanced Synthesis and Catalysis</i> , 2011, 353, 3485-3495.	4.3	45
31	Accurate Determination of Plasmid Copy Number of Flow-Sorted Cells using Droplet Digital PCR. <i>Analytical Chemistry</i> , 2014, 86, 5969-5976.	6.5	45
32	Steroid biotransformations in biphasic systems with <i>Yarrowia lipolytica</i> expressing human liver cytochrome P450 genes. <i>Microbial Cell Factories</i> , 2012, 11, 106.	4.0	44
33	Production host selection for asymmetric styrene epoxidation: <i>Escherichia coli</i> vs. solvent-tolerant <i>Pseudomonas</i> . <i>Journal of Industrial Microbiology and Biotechnology</i> , 2012, 39, 1125-1133.	3.0	36
34	Subpopulation-proteomics in prokaryotic populations. <i>Current Opinion in Biotechnology</i> , 2013, 24, 79-87.	6.6	35
35	Systematic optimization of a biocatalytic two-liquid phase oxyfunctionalization process guided by ecological and economic assessment. <i>Green Chemistry</i> , 2012, 14, 645.	9.0	34
36	Maximizing the stability of metabolic engineering-derived whole-cell biocatalysts. <i>Biotechnology Journal</i> , 2017, 12, 1600170.	3.5	34

#	ARTICLE	IF	CITATIONS
37	Proline Availability Regulates Proline-4-Hydroxylase Synthesis and Substrate Uptake in Proline-Hydroxylating Recombinant <i>Escherichia coli</i> . <i>Applied and Environmental Microbiology</i> , 2013, 79, 3091-3100.	3.1	33
38	Process and Catalyst Design Objectives for Specific Redox Biocatalysis. <i>Advances in Applied Microbiology</i> , 2006, 59, 53-91.	2.4	32
39	Analysis of Two-Liquid-Phase Multistep Biooxidation Based on a Process Model: Indications for Biological Energy Shortage. <i>Organic Process Research and Development</i> , 2006, 10, 628-643.	2.7	31
40	Efficient hydroxyproline production from glucose in minimal media by <i>Corynebacterium glutamicum</i> . <i>Biotechnology and Bioengineering</i> , 2015, 112, 322-330.	3.3	31
41	Maximization of cell viability rather than biocatalyst activity improves whole-cell oxyfunctionalization performance. <i>Biotechnology and Bioengineering</i> , 2017, 114, 874-884.	3.3	30
42	An artificial TCA cycle selects for efficient $\alpha$ -ketoglutarate dependent hydroxylase catalysis in engineered <i>Escherichia coli</i> . <i>Biotechnology and Bioengineering</i> , 2017, 114, 1511-1520.	3.3	29
43	Regulatory systems for gene expression control in cyanobacteria. <i>Applied Microbiology and Biotechnology</i> , 2020, 104, 1977-1991.	3.6	28
44	Cell physiology rather than enzyme kinetics can determine the efficiency of cytochrome P450-catalyzed C-H-oxyfunctionalization. <i>Journal of Industrial Microbiology and Biotechnology</i> , 2011, 38, 1359-1370.	3.0	27
45	Construction and characterization of nitrate and nitrite respiring <i>Pseudomonas putida</i> KT2440 strains for anoxic biotechnical applications. <i>Journal of Biotechnology</i> , 2013, 163, 155-165.	3.8	26
46	Subtoxic product levels limit the epoxidation capacity of recombinant <i>E. coli</i> by increasing microbial energy demands. <i>Journal of Biotechnology</i> , 2013, 163, 194-203.	3.8	25
47	Coupling limonene formation and oxyfunctionalization by mixed-culture resting cell fermentation. <i>Biotechnology and Bioengineering</i> , 2015, 112, 1738-1750.	3.3	25
48	Metabolic network capacity of <i>Escherichia coli</i> for Krebs cycle-dependent proline hydroxylation. <i>Microbial Cell Factories</i> , 2015, 14, 108.	4.0	25
49	Decoupling production from growth by magnesium sulfate limitation boosts de novo limonene production. <i>Biotechnology and Bioengineering</i> , 2016, 113, 1305-1314.	3.3	25
50	Efficient phase separation and product recovery in organic-aqueous bioprocessing using supercritical carbon dioxide. <i>Biotechnology and Bioengineering</i> , 2010, 107, 642-651.	3.3	24
51	In Situ O <sub>2</sub> Generation for Biocatalytic Oxyfunctionalization Reactions. <i>ChemCatChem</i> , 2018, 10, 5366-5371.	3.7	19
52	Umgehung des Gasflüssig-Stofftransports von Sauerstoff durch Kopplung der photosynthetischen Wasseroxidation an eine biokatalytische Oxyfunktionalisierung. <i>Angewandte Chemie</i> , 2017, 129, 15343-15346.	2.0	18
53	Electron balancing under different sink conditions reveals positive effects on photon efficiency and metabolic activity of <i>Synechocystis sp.</i> PCC 6803. <i>Biotechnology for Biofuels</i> , 2019, 12, 43.	6.2	18
54	Rational orthologous pathway and biochemical process engineering for adipic acid production using <i>Pseudomonas taiwanensis</i> VLB120. <i>Metabolic Engineering</i> , 2022, 70, 206-217.	7.0	17

#	ARTICLE	IF	CITATIONS
55	Variability in subpopulation formation propagates into biocatalytic variability of engineered <i>Pseudomonas putida</i> strains. <i>Frontiers in Microbiology</i> , 2015, 6, 1042.	3.5	16
56	Stabilization and scale-up of photosynthesis-driven hydroxylation of nonanoic acid methyl ester by two-liquid phase whole-cell biocatalysis. <i>Biotechnology and Bioengineering</i> , 2019, 116, 1887-1900.	3.3	16
57	Constitutively solvent-tolerant <i>Pseudomonas taiwanensis</i> VLB120 supports particularly high styrene epoxidation activities when grown under glucose excess conditions. <i>Biotechnology and Bioengineering</i> , 2019, 116, 1089-1101.	3.3	16
58	Rational Engineering of a Multi-Step Biocatalytic Cascade for the Conversion of Cyclohexane to Polycaprolactone Monomers in <i>Pseudomonas taiwanensis</i> . <i>Biotechnology Journal</i> , 2020, 15, e2000091.	3.5	16
59	The dynamic influence of cells on the formation of stable emulsions in organic-aqueous biotransformations. <i>Journal of Industrial Microbiology and Biotechnology</i> , 2015, 42, 1011-1026.	3.0	15
60	Guiding bioprocess design by microbial ecology. <i>Current Opinion in Microbiology</i> , 2015, 25, 25-32.	5.1	15
61	The application of constitutively solvent-tolerant <i>P. taiwanensis</i> VLB120 for stereospecific epoxidation of toxic styrene alleviates carrier solvent use. <i>Biotechnology Journal</i> , 2017, 12, 1600558.	3.5	15
62	Maximizing Biocatalytic Cyclohexane Hydroxylation by Modulating Cytochrome P450 Monooxygenase Expression in <i>P. taiwanensis</i> VLB120. <i>Frontiers in Bioengineering and Biotechnology</i> , 2020, 8, 140.	4.1	15
63	Generation of Synthetic Shuttle Vectors Enabling Modular Genetic Engineering of Cyanobacteria. <i>ACS Synthetic Biology</i> , 2022, 11, 1758-1771.	3.8	15
64	Making variability less variable: matching expression system and host for oxygenase-based biotransformations. <i>Journal of Industrial Microbiology and Biotechnology</i> , 2015, 42, 851-866.	3.0	14
65	Maximizing Photosynthesis-Driven Baeyer-Villiger Oxidation Efficiency in Recombinant <i>Synechocystis</i> sp. PCC6803. <i>Frontiers in Catalysis</i> , 2022, 1, .	3.9	14
66	Enzyme-Catalyzed Lauroctam Synthesis via Intramolecular Amide Bond Formation in Aqueous Solution. <i>Advanced Synthesis and Catalysis</i> , 2011, 353, 2501-2510.	4.3	13
67	Comparison of microbial hosts and expression systems for mammalian CYP1A1 catalysis. <i>Journal of Industrial Microbiology and Biotechnology</i> , 2012, 39, 275-287.	3.0	12
68	Highly Efficient Access to (S)-Sulfoxides Utilizing a Promiscuous Flavoprotein Monooxygenase in a Whole-Cell Biocatalyst Format. <i>ChemCatChem</i> , 2020, 12, 4664-4671.	3.7	12
69	Rewiring cyanobacterial photosynthesis by the implementation of an oxygen-tolerant hydrogenase. <i>Metabolic Engineering</i> , 2021, 68, 199-209.	7.0	12
70	Conversion of Cyclohexane to 6-Hydroxyhexanoic Acid Using Recombinant <i>Pseudomonas taiwanensis</i> in a Stirred-Tank Bioreactor. <i>Frontiers in Catalysis</i> , 2021, 1, .	3.9	11
71	Mass Balances and Life Cycle Assessment. , 0, , 200-227.		10
72	Hydrolase BioH knockout in <i>E. coli</i> enables efficient fatty acid methyl ester bioprocessing. <i>Journal of Industrial Microbiology and Biotechnology</i> , 2017, 44, 339-351.	3.0	9

#	ARTICLE	IF	CITATIONS
73	Mixed-trophies biofilm cultivation in capillary reactors. <i>MethodsX</i> , 2019, 6, 1822-1831.	1.6	9
74	Regioselective aromatic hydroxylation of quinaldine by water using quinaldine 4-oxidase in recombinant <i>Pseudomonas putida</i> . <i>Journal of Industrial Microbiology and Biotechnology</i> , 2011, 38, 1067-1077.	3.0	8
75	Integrated organic-aqueous biocatalysis and product recovery for quinaldine hydroxylation catalyzed by living recombinant <i>Pseudomonas putida</i> . <i>Journal of Industrial Microbiology and Biotechnology</i> , 2012, 39, 1049-1059.	3.0	8
76	One-pot synthesis of 6-aminohexanoic acid from cyclohexane using mixed-species cultures. <i>Microbial Biotechnology</i> , 2021, 14, 1011-1025.	4.2	8
77	Characterization of different biocatalyst formats for BVMO-catalyzed cyclohexanone oxidation. <i>Biotechnology and Bioengineering</i> , 2021, 118, 2719-2733.	3.3	7
78	Process boundaries of irreversible scCO <sub>2</sub> -assisted phase separation in biphasic whole-cell biocatalysis. <i>Biotechnology and Bioengineering</i> , 2015, 112, 2316-2323.	3.3	6
79	Exploitation of Hetero- and Phototrophic Metabolic Modules for Redox-Intensive Whole-Cell Biocatalysis. <i>Frontiers in Bioengineering and Biotechnology</i> , 2022, 10, 855715.	4.1	6
80	Data on mixed trophies biofilm for continuous cyclohexane oxidation to cyclohexanol using <i>Synechocystis</i> sp. PCC 6803. <i>Data in Brief</i> , 2019, 25, 104059.	1.0	4
81	Direct infusion-SIM as fast and robust method for absolute protein quantification in complex samples. <i>EuPA Open Proteomics</i> , 2015, 7, 20-26.	2.5	3
82	11 Biocatalytic production of white hydrogen from water using cyanobacteria. , 2021, , 279-306.		3
83	Heterologous Lactate Synthesis in <i>Synechocystis</i> sp. Strain PCC 6803 Causes a Growth Condition-Dependent Carbon Sink Effect. <i>Applied and Environmental Microbiology</i> , 2022, 88, e0006322.	3.1	3
84	Anaerobic C-H Oxyfunctionalization: Coupling of Nitrate Reduction and Quinoline Hydroxylation in Recombinant <i>Pseudomonas putida</i> . <i>Biotechnology Journal</i> , 2019, 14, 1800615.	3.5	1
85	Hydrophobic Outer Membrane Pores Boost Testosterone Hydroxylation by Cytochrome P450 BM3 Containing Cells. <i>Frontiers in Catalysis</i> , 2022, 2, .	3.9	1
86	Ein Vergleich von ruhenden und wachsenden <i>E. coli</i> Zellen für die oxygenasenbasierte Biokatalyse. <i>Chemie-Ingenieur-Technik</i> , 2009, 81, 1312-1313.	0.8	0
87	Modellbasierte Performance-Abschätzung von Mikroorganismen für die Redoxbiokatalyse. <i>Chemie-Ingenieur-Technik</i> , 2009, 81, 1244-1244.	0.8	0
88	Biocatalysis Meets Systems Biotechnology. <i>Chemie-Ingenieur-Technik</i> , 2010, 82, 1520-1520.	0.8	0
89	Mikrobielle Prozesse. , 2011, , 477-505.		0
90	Stable Emulsions in Biphasic Whole-Cell Biocatalysis: The Mechanism of scCO <sub>2</sub> -Assisted Phase Separation. <i>Chemie-Ingenieur-Technik</i> , 2013, 85, 1420-1420.	0.8	0

#	ARTICLE	IF	CITATIONS
91	Cyanobacterial biofilms as light-driven biocatalysts. <i>Chemie-Ingenieur-Technik</i> , 2018, 90, 1261-1261.	0.8	0
92	Molecular and Engineering Aspects of Biocatalysis. <i>Biotechnology Journal</i> , 2020, 15, 2000499.	3.5	0