Bruno BÃ¼hler

List of Publications by Year
in descending order

92 papers	4,011 citations	117453 34 h-index	123241 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. Green Chemistry, 2011, 13, 226-265.	4.6	395
2	Whole-cell biocatalysis for selective and productive Câ€“O functional group introduction and modification. Chemical Society Reviews, 2013, 42, 6346.	18.7	188
3	The use of enzymes in the chemical industry in Europe. Current Opinion in Biotechnology, 2002, 13, 359-366.	3.3	175
4	Heme-iron oxygenases: powerful industrial biocatalysts?. Current Opinion in Chemical Biology, 2008, 12, 177-186.	2.8	158
5	Metabolic response of <i>Pseudomonasâ€ƒputida</i> during redox biocatalysis in the presence of a second octanol phase. FEBS Journal, 2008, 275, 5173-5190.	2.2	135
6	Process implementation aspects for biocatalytic hydrocarbon oxyfunctionalization. Journal of Biotechnology, 2004, 113, 183-210.	1.9	121
7	Direct Terminal Alkylaminoâ€Functionalization <i>via</i> Multistep Biocatalysis in One Recombinant Wholeâ€Cell Catalyst. Advanced Synthesis and Catalysis, 2013, 355, 1693-1697.	2.1	103
8	The efficiency of recombinantEscherichia coli as biocatalyst for stereospecific epoxidation. Biotechnology and Bioengineering, 2006, 95, 501-512.	1.7	102
9	Redox Biocatalysis and Metabolism: Molecular Mechanisms and Metabolic Network Analysis. Antioxidants and Redox Signaling, 2010, 13, 349-394.	2.5	101
10	Engineering the productivity of recombinant <i>Escherichia coli</i> for limonene formation from glycerol in minimal media. Biotechnology Journal, 2014, 9, 1000-1012.	1.8	101
11	Characterization and Application of Xylene Monooxygenase for Multistep Biocatalysis. Applied and Environmental Microbiology, 2002, 68, 560-568.	1.4	100
12	Outer Membrane Protein AlkL Boosts Biocatalytic Oxyfunctionalization of Hydrophobic Substrates in Escherichia coli. Applied and Environmental Microbiology, 2012, 78, 5724-5733.	1.4	100
13	Use of the two-liquid phase concept to exploit kinetically controlled multistep biocatalysis. Biotechnology and Bioengineering, 2003, 81, 683-694.	1.7	99
14	Intensification and economic and ecological assessment of a biocatalytic oxyfunctionalization process. Green Chemistry, 2010, 12, 815.	4.6	91
15	Metabolic capacity estimation of <i>Escherichia coli</i> as a platform for redox biocatalysis: constraintâ€based modeling and experimental verification. Biotechnology and Bioengineering, 2008, 100, 1050-1065.	1.7	84
16	Xylene Monooxygenase Catalyzes the Multistep Oxygenation of Toluene and Pseudocumene to Corresponding Alcohols, Aldehydes, and Acids in Escherichia coli JM101. Journal of Biological Chemistry, 2000, 275, 10085-10092.	1.6	78
17	NADH Availability Limits Asymmetric Biocatalytic Epoxidation in a Growing Recombinant <i>Escherichia coli</i> Strain. Applied and Environmental Microbiology, 2008, 74, 1436-1446.	1.4	74
18	Efficient production of the Nylon 12 monomer Ï‰-aminododecanoic acid methyl ester from renewable dodecanoic acid methyl ester with engineered Escherichia coli. Metabolic Engineering, 2016, 36, 1-9.	3.6	70

#	ARTICLE	IF	CITATIONS
19	Wholeâ€cellâ€based CYP153A6â€catalyzed (<i>S</i>)â€limonene hydroxylation efficiency depends on host background and profits from monoterpene uptake via AlkL. Biotechnology and Bioengineering, 2013, 110, 1282-1292.	1.7	69
20	Carbon metabolism and product inhibition determine the epoxidation efficiency of solvent-tolerantPseudomonas sp. strain VLB120Î”C. Biotechnology and Bioengineering, 2007, 98, 1219-1229.	1.7	66
21	Resting cells of recombinant <i>E. coli</i> show high epoxidation yields on energy source and high sensitivity to product inhibition. Biotechnology and Bioengineering, 2012, 109, 1109-1119.	1.7	66
22	Engineering of Pseudomonas taiwanensis VLB120 for Constitutive Solvent Tolerance and Increased Specific Styrene Epoxidation Activity. Applied and Environmental Microbiology, 2014, 80, 6539-6548.	1.4	62
23	Mixed-species biofilms for high-cell-density application of Synechocystis sp. PCC 6803 in capillary reactors for continuous cyclohexane oxidation to cyclohexanol. Bioresource Technology, 2019, 282, 171-178.	4.8	62
24	Reaction and catalyst engineering to exploit kinetically controlled wholeâ€cell multistep biocatalysis for terminal FAME oxyfunctionalization. Biotechnology and Bioengineering, 2014, 111, 1820-1830.	1.7	61
25	Overcoming the Gasâ€“Liquid Mass Transfer of Oxygen by Coupling Photosynthetic Water Oxidation with Biocatalytic Oxyfunctionalization. Angewandte Chemie - International Edition, 2017, 56, 15146-15149.	7.2	60
26	Chemical biotechnology for the specific oxyfunctionalization of hydrocarbons on a technical scale. Biotechnology and Bioengineering, 2003, 82, 833-842.	1.7	59
27	The microbial cell â€” functional unit for energy dependent multistep biocatalysis. Current Opinion in Biotechnology, 2014, 30, 178-189.	3.3	57
28	Lightâ€Dependent and Aerationâ€Independent Gramâ€Scale Hydroxylation of Cyclohexane to Cyclohexanol by CYP450 Harboring <i>Synechocystis</i> sp. PCC 6803. Biotechnology Journal, 2019, 14, e1800724.	1.8	55
29	Systems biotechnology â€“ Rational wholeâ€cell biocatalyst and bioprocess design. Engineering in Life Sciences, 2010, 10, 384-397.	2.0	51
30	Kinetic Analysis of Terminal and Unactivated Cï£¿H Bond Oxyfunctionalization in Fatty Acid Methyl Esters by Monooxygenaseâ€Based Wholeâ€Cell Biocatalysis. Advanced Synthesis and Catalysis, 2011, 353, 3485-3495.	2.1	45
31	Accurate Determination of Plasmid Copy Number of Flow-Sorted Cells using Droplet Digital PCR. Analytical Chemistry, 2014, 86, 5969-5976.	3.2	45
32	Steroid biotransformations in biphasic systems with Yarrowia lipolytica expressing human liver cytochrome P450 genes. Microbial Cell Factories, 2012, 11, 106.	1.9	44
33	Production host selection for asymmetric styrene epoxidation: <i>Escherichia coli</i> vs. solvent-tolerant <i>Pseudomonas</i>. Journal of Industrial Microbiology and Biotechnology, 2012, 39, 1125-1133.	1.4	36
34	Subpopulation-proteomics in prokaryotic populations. Current Opinion in Biotechnology, 2013, 24, 79-87.	3.3	35
35	Systematic optimization of a biocatalytic two-liquid phase oxyfunctionalization process guided by ecological and economic assessment. Green Chemistry, 2012, 14, 645.	4.6	34
36	Maximizing the stability of metabolic engineeringâ€derived wholeâ€cell biocatalysts. Biotechnology Journal, 2017, 12, 1600170.	1.8	34

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37	Proline Availability Regulates Proline-4-Hydroxylase Synthesis and Substrate Uptake in Proline-Hydroxylating Recombinant Escherichia coli. Applied and Environmental Microbiology, 2013, 79, 3091-3100.	1.4	33
38	Process and Catalyst Design Objectives for Specific Redox Biocatalysis. Advances in Applied Microbiology, 2006, 59, 53-91.	1.3	32
39	Analysis of Two-Liquid-Phase Multistep Biooxidation Based on a Process Model:Â Indications for Biological Energy Shortage. Organic Process Research and Development, 2006, 10, 628-643.	1.3	31
40	Efficient hydroxyproline production from glucose in minimal media by <i>Corynebacterium glutamicum</i>. Biotechnology and Bioengineering, 2015, 112, 322-330.	1.7	31
41	Maximization of cell viability rather than biocatalyst activity improves wholeâ€cell Ï‰â€oxyfunctionalization performance. Biotechnology and Bioengineering, 2017, 114, 874-884.	1.7	30
42	An artificial TCA cycle selects for efficient Î±â€ketoglutarate dependent hydroxylase catalysis in engineered <i>Escherichia coli</i>. Biotechnology and Bioengineering, 2017, 114, 1511-1520.	1.7	29
43	Regulatory systems for gene expression control in cyanobacteria. Applied Microbiology and Biotechnology, 2020, 104, 1977-1991.	1.7	28
44	Cell physiology rather than enzyme kinetics can determine the efficiency of cytochrome P450-catalyzed Câ€“H-oxyfunctionalization. Journal of Industrial Microbiology and Biotechnology, 2011, 38, 1359-1370.	1.4	27
45	Construction and characterization of nitrate and nitrite respiring Pseudomonas putida KT2440 strains for anoxic biotechnical applications. Journal of Biotechnology, 2013, 163, 155-165.	1.9	26
46	Subtoxic product levels limit the epoxidation capacity of recombinant E. coli by increasing microbial energy demands. Journal of Biotechnology, 2013, 163, 194-203.	1.9	25
47	Coupling limonene formation and oxyfunctionalization by mixedâ€culture resting cell fermentation. Biotechnology and Bioengineering, 2015, 112, 1738-1750.	1.7	25
48	Metabolic network capacity of Escherichia coli for Krebs cycle-dependent proline hydroxylation. Microbial Cell Factories, 2015, 14, 108.	1.9	25
49	Decoupling production from growth by magnesium sulfate limitation boosts de novo limonene production. Biotechnology and Bioengineering, 2016, 113, 1305-1314.	1.7	25
50	Efficient phase separation and product recovery in organicâ€aqueous bioprocessing using supercritical carbon dioxide. Biotechnology and Bioengineering, 2010, 107, 642-651.	1.7	24
51	In Situ O2Generation for Biocatalytic Oxyfunctionalization Reactions. ChemCatChem, 2018, 10, 5366-5371.	1.8	19
52	Umgehung des Gasâ€flÃ¼ssigâ€Stofftransports von Sauerstoff durch Kopplung der photosynthetischen Wasseroxidation an eine biokatalytische Oxyfunktionalisierung. Angewandte Chemie, 2017, 129, 15343-15346.	1.6	18
53	Electron balancing under different sink conditions reveals positive effects on photon efficiency and metabolic activity of Synechocystis sp. PCC 6803. Biotechnology for Biofuels, 2019, 12, 43.	6.2	18
54	Rational orthologous pathway and biochemical process engineering for adipic acid production using Pseudomonas taiwanensis VLB120. Metabolic Engineering, 2022, 70, 206-217.	3.6	17

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55	Variability in subpopulation formation propagates into biocatalytic variability of engineered Pseudomonas putida strains. Frontiers in Microbiology, 2015, 6, 1042.	1.5	16
56	Stabilization and scaleâ€up of photosynthesisâ€driven Ï‰â€hydroxylation of nonanoic acid methyl ester by twoâ€liquid phase wholeâ€cell biocatalysis. Biotechnology and Bioengineering, 2019, 116, 1887-1900.	1.7	16
57	Constitutively solventâ€tolerant <i>Pseudomonas taiwanensis</i> VLB120â^†<i>C</i>â^†<i>ttgV</i> supports particularly highâ€styrene epoxidation activities when grown under glucose excess conditions. Biotechnology and Bioengineering, 2019, 116, 1089-1101.	1.7	16
58	Rational Engineering of a Multiâ€Step Biocatalytic Cascade for the Conversion of Cyclohexane to Polycaprolactone Monomers in <i>Pseudomonas taiwanensis</i>. Biotechnology Journal, 2020, 15, e2000091.	1.8	16
59	The dynamic influence of cells on the formation of stable emulsions in organicâ€“aqueous biotransformations. Journal of Industrial Microbiology and Biotechnology, 2015, 42, 1011-1026.	1.4	15
60	Guiding bioprocess design by microbial ecology. Current Opinion in Microbiology, 2015, 25, 25-32.	2.3	15
61	The application of constitutively solventâ€tolerant <i>P. taiwanensis</i> VLB120Î”<i>C</i>Î”<i>ttgV</i> for stereospecific epoxidation of toxic styrene alleviates carrier solvent use. Biotechnology Journal, 2017, 12, 1600558.	1.8	15
62	Maximizing Biocatalytic Cyclohexane Hydroxylation by Modulating Cytochrome P450 Monooxygenase Expression in P. taiwanensis VLB120. Frontiers in Bioengineering and Biotechnology, 2020, 8, 140.	2.0	15
63	Generation of Synthetic Shuttle Vectors Enabling Modular Genetic Engineering of Cyanobacteria. ACS Synthetic Biology, 2022, 11, 1758-1771.	1.9	15
64	Making variability less variable: matching expression system and host for oxygenase-based biotransformations. Journal of Industrial Microbiology and Biotechnology, 2015, 42, 851-866.	1.4	14
65	Maximizing Photosynthesis-Driven Baeyerâ€“Villiger Oxidation Efficiency in Recombinant Synechocystis sp. PCC6803. Frontiers in Catalysis, 2022, 1, .	1.8	14
66	Enzymeâ€Catalyzed Laurolactam Synthesis <i>via</i> Intramolecular Amide Bond Formation in Aqueous Solution. Advanced Synthesis and Catalysis, 2011, 353, 2501-2510.	2.1	13
67	Comparison of microbial hosts and expression systems for mammalian CYP1A1 catalysis. Journal of Industrial Microbiology and Biotechnology, 2012, 39, 275-287.	1.4	12
68	Highly Efficient Access to (S)â€Sulfoxides Utilizing a Promiscuous Flavoprotein Monooxygenase in a Wholeâ€Cell Biocatalyst Format. ChemCatChem, 2020, 12, 4664-4671.	1.8	12
69	Rewiring cyanobacterial photosynthesis by the implementation of an oxygen-tolerant hydrogenase. Metabolic Engineering, 2021, 68, 199-209.	3.6	12
70	Conversion of Cyclohexane to 6-Hydroxyhexanoic Acid Using Recombinant Pseudomonas taiwanensis in a Stirred-Tank Bioreactor. Frontiers in Catalysis, 2021, 1, .	1.8	11
71	Mass Balances and Life Cycle Assessment. , 0, , 200-227.		10
72	Hydrolase BioH knockout in E. coli enables efficient fatty acid methyl ester bioprocessing. Journal of Industrial Microbiology and Biotechnology, 2017, 44, 339-351.	1.4	9

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73	Mixed-trophies biofilm cultivation in capillary reactors. MethodsX, 2019, 6, 1822-1831.	0.7	9
74	Regioselective aromatic hydroxylation of quinaldine by water using quinaldine 4-oxidase in recombinant Pseudomonas putida. Journal of Industrial Microbiology and Biotechnology, 2011, 38, 1067-1077.	1.4	8
75	Integrated organicâ€“aqueous biocatalysis and product recovery for quinaldine hydroxylation catalyzed by living recombinant <i>Pseudomonas putida</i>. Journal of Industrial Microbiology and Biotechnology, 2012, 39, 1049-1059.	1.4	8
76	Oneâ€pot synthesis of 6â€aminohexanoic acid from cyclohexane using mixedâ€species cultures. Microbial Biotechnology, 2021, 14, 1011-1025.	2.0	8
77	Characterization of different biocatalyst formats for BVMOâ€catalyzed cyclohexanone oxidation. Biotechnology and Bioengineering, 2021, 118, 2719-2733.	1.7	7
78	Process boundaries of irreversible scCO₂â€assisted phase separation in biphasic wholeâ€cell biocatalysis. Biotechnology and Bioengineering, 2015, 112, 2316-2323.	1.7	6
79	Exploitation of Hetero- and Phototrophic Metabolic Modules for Redox-Intensive Whole-Cell Biocatalysis. Frontiers in Bioengineering and Biotechnology, 2022, 10, 855715.	2.0	6
80	Data on mixed trophies biofilm for continuous cyclohexane oxidation to cyclohexanol using Synechocystis sp. PCC 6803. Data in Brief, 2019, 25, 104059.	0.5	4
81	Direct infusion-SIM as fast and robust method for absolute protein quantification in complex samples. EuPA Open Proteomics, 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. Applied and Environmental Microbiology, 2022, 88, e0006322.	1.4	3
84	Anaerobic Câ€“H Oxyfunctionalization: Coupling of Nitrate Reduction and Quinoline Hydroxylation in Recombinant Pseudomonas putida. Biotechnology Journal, 2019, 14, 1800615.	1.8	1
85	Hydrophobic Outer Membrane Pores Boost Testosterone Hydroxylation by Cytochrome P450 BM3 Containing Cells. Frontiers in Catalysis, 2022, 2, .	1.8	1
86	Ein Vergleich von ruhenden und wachsenden <i>E. coli</i> Zellen fÃ¼r die oxygenasenbasierte Biokatalyse. Chemie-Ingenieur-Technik, 2009, 81, 1312-1313.	0.4	0
87	Modellbasierte Performanceâ€AbschÃ¤tzung von Mikroorganismen fÃ¼r die Redoxbiokatalyse. Chemie-Ingenieur-Technik, 2009, 81, 1244-1244.	0.4	0
88	Biocatalysis Meets Systems Biotechnology. Chemie-Ingenieur-Technik, 2010, 82, 1520-1520.	0.4	0
89	Mikrobielle Prozesse. , 2011, , 477-505.		0
90	Stable Emulsions in Biphasic Whole-Cell Biocatalysis: The Mechanism of scCO2-Assisted Phase Separation. Chemie-Ingenieur-Technik, 2013, 85, 1420-1420.	0.4	0

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91	Cyanobacterial biofilms as lightâ€driven biocatalysts. Chemie-Ingenieur-Technik, 2018, 90, 1261-1261.	0.4	0
92	Molecular and Engineering Aspects of Biocatalysis. Biotechnology Journal, 2020, 15, 2000499.	1.8	0