Matthias Boll

List of Publications by Year in descending order

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93 papers	5,171 citations	94433 37 h-index	91884 69 g-index
94 all docs	94 docs citations	94 times ranked	4326 citing authors

#	Article	IF	Citations
1	Degradation of dibutyl phthalate by Paenarthrobacter sp. Shss isolated from Saravan landfill, Hyrcanian Forests, Iran. Biodegradation, 2022, 33, 59-70.	3.0	9
2	Enoyl-Coenzyme A Respiration via Formate Cycling in Syntrophic Bacteria. MBio, 2022, 13, e0374021.	4.1	2
3	Genes and enzymes involved in the biodegradation of the quaternary carbon compound pivalate in the denitrifying Thauera humireducens strain <scp>PIV</scp> â€¦. Environmental Microbiology, 2022, , .	3.8	0
4	Structural Evidence for a [4Feâ€5S] Intermediate in the Nonâ€Redox Desulfuration of Thiouracil. Angewandte Chemie, 2021, 133, 428-435.	2.0	0
5	Structural Evidence for a [4Feâ€5S] Intermediate in the Nonâ€Redox Desulfuration of Thiouracil. Angewandte Chemie - International Edition, 2021, 60, 424-431.	13.8	15
6	Activation of short-chain ketones and isopropanol in sulfate-reducing bacteria. BMC Microbiology, 2021, 21, 50.	3.3	2
7	Functional diversity of prokaryotic HdrA(BC) modules: Role in flavin-based electron bifurcation processes and beyond. Biochimica Et Biophysica Acta - Bioenergetics, 2021, 1862, 148379.	1.0	18
8	Structural Basis of Cyclic 1,3â€Diene Forming Acylâ€Coenzyme A Dehydrogenases. ChemBioChem, 2021, 22, 3173-3177.	2.6	2
9	The missing enzymatic link in syntrophic methane formation from fatty acids. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	7
10	A fully reversible 25-hydroxy steroid kinase involved in oxygen-independent cholesterol side-chain oxidation. Journal of Biological Chemistry, 2021, 297, 101105.	3.4	6
11	Microbial degradation of phthalates: biochemistry and environmental implications. Environmental Microbiology Reports, 2020, 12, 3-15.	2.4	98
12	ATP-dependent hydroxylation of an unactivated primary carbon with water. Nature Communications, 2020, 11, 3906.	12.8	10
13	Tungstoenzymes: Occurrence, Catalytic Diversity and Cofactor Synthesis. Inorganics, 2020, 8, 44.	2.7	29
14	Channeling C1 Metabolism toward S -Adenosylmethionine-Dependent Conversion of Estrogens to Androgens in Estrogen-Degrading Bacteria. MBio, 2020, 11, .	4.1	8
15	Oxygen detoxification by dienoylâ€CoA oxidase involving flavin/disulfide cofactors. Molecular Microbiology, 2020, 114, 17-30.	2.5	1
16	An Aerobic Hybrid Phthalate Degradation Pathway via Phthaloyl-Coenzyme A in Denitrifying Bacteria. Applied and Environmental Microbiology, 2020, 86, .	3.1	5
17	Catabolic Pathways and Enzymes Involved in the Anaerobic Degradation of Monocyclic Aromatic Compounds. , 2020, , 85-133.		5
18	Catabolic Pathways and Enzymes Involved in the Anaerobic Degradation of Polycyclic Aromatic Hydrocarbons. , 2020, , 135-150.		0

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19	The class II benzoylâ€coenzyme A reductase complex from the sulfateâ€reducing Desulfosarcina cetonica. Environmental Microbiology, 2019, 21, 4241-4252.	3.8	10
20	One-megadalton metalloenzyme complex in Geobacter metallireducens involved in benzene ring reduction beyond the biological redox window. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 2259-2264.	7.1	32
21	Low potential enzymatic hydride transfer via highly cooperative and inversely functionalized flavin cofactors. Nature Communications, 2019, 10, 2074.	12.8	14
22	Enzymes involved in phthalate degradation in sulphateâ€reducing bacteria. Environmental Microbiology, 2019, 21, 3601-3612.	3.8	22
23	Evolution of a xenobiotic degradation pathway: formation and capture of the labile phthaloylâ€CoA intermediate during anaerobic phthalate degradation. Molecular Microbiology, 2018, 108, 614-626.	2.5	15
24	Functional Characterization of Three Specific Acyl-Coenzyme A Synthetases Involved in Anaerobic Cholesterol Degradation in Sterolibacterium denitrificans Chol1S. Applied and Environmental Microbiology, 2018, 84, .	3.1	11
25	A catalytically versatile benzoyl-CoA reductase, key enzyme in the degradation of methyl- and halobenzoates in denitrifying bacteria. Journal of Biological Chemistry, 2018, 293, 10264-10274.	3.4	22
26	Enantioselective Enzymatic Naphthoyl Ring Reduction. Chemistry - A European Journal, 2018, 24, 12505-12508.	3.3	15
27	Four Molybdenum-Dependent Steroid C-25 Hydroxylases: Heterologous Overproduction, Role in Steroid Degradation, and Application for 25-Hydroxyvitamin D ₃ Synthesis. MBio, 2018, 9, .	4.1	16
28	Catabolic Pathways and Enzymes Involved in the Anaerobic Degradation of Polycyclic Aromatic Hydrocarbons. , 2018, , 1-17.		2
29	Catabolic Pathways and Enzymes Involved in the Anaerobic Degradation of Monocyclic Aromatic Compounds. , 2018, , 1-50.		2
30	An unusual strategy for the anoxic biodegradation of phthalate. ISME Journal, 2017, 11, 224-236.	9.8	61
31	A patchwork pathway for oxygenaseâ€independent degradation of side chain containing steroids. Environmental Microbiology, 2017, 19, 4684-4699.	3.8	28
32	Breaking Benzene Aromaticityâ€”Computational Insights into the Mechanism of the Tungsten-Containing Benzoyl-CoA Reductase. Journal of the American Chemical Society, 2017, 139, 14488-14500.	13.7	19
33	Phthaloylâ€coenzyme A decarboxylase from Thauera chlorobenzoica: the prenylated flavinâ€, K⁺â€and Fe²⁺â€dependent key enzyme of anaerobic phthalate degradation. Environmental Microbiology, 2017, 19, 3734-3744.	3.8	27
34	Promiscuous Defluorinating Enoyl-CoA Hydratases/Hydrolases Allow for Complete Anaerobic Degradation of 2-Fluorobenzoate. Frontiers in Microbiology, 2017, 8, 2579.	3.5	21
35	ATP-Dependent Câ€“F Bond Cleavage Allows the Complete Degradation of 4-Fluoroaromatics without Oxygen. MBio, 2016, 7, .	4.1	35
36	ATP-Dependent Electron Activation Module of Benzoyl-Coenzyme A Reductase from the Hyperthermophilic Archaeon Ferroglobus placidus. Biochemistry, 2016, 55, 5578-5586.	2.5	11

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37	25â€Hydroxyvitaminâ€...D₃ Synthesis by Enzymatic Steroid Sideâ€Chain Hydroxylation with Water. Angewandte Chemie - International Edition, 2016, 55, 1881-1884.	13.8	20
38	25â€Hydroxyvitaminâ€...D₃ Synthesis by Enzymatic Steroid Sideâ€Chain Hydroxylation with Water. Angewandte Chemie, 2016, 128, 1913-1916.	2.0	2
39	Fermentative Cyclohexane Carboxylate Formation in <i>Syntrophus aciditrophicus</i>. Journal of Molecular Microbiology and Biotechnology, 2016, 26, 165-179.	1.0	11
40	Anaerobic Microbial Degradation of Hydrocarbons: From Enzymatic Reactions to the Environment. Journal of Molecular Microbiology and Biotechnology, 2016, 26, 5-28.	1.0	615
41	Ethylbenzene Dehydrogenase and Related Molybdenum Enzymes Involved in Oxygen-Independent Alkyl Chain Hydroxylation. Journal of Molecular Microbiology and Biotechnology, 2016, 26, 45-62.	1.0	50
42	Structure and Function of the Unusual Tungsten Enzymes Acetylene Hydratase and Class II Benzoyl-Coenzyme A Reductase. Journal of Molecular Microbiology and Biotechnology, 2016, 26, 119-137.	1.0	29
43	Anaerobic Degradation of Benzene and Polycyclic Aromatic Hydrocarbons. Journal of Molecular Microbiology and Biotechnology, 2016, 26, 92-118.	1.0	218
44	Functional Gene Markers for Fumarate-Adding and Dearomatizing Key Enzymes in Anaerobic Aromatic Hydrocarbon Degradation in Terrestrial Environments. Journal of Molecular Microbiology and Biotechnology, 2016, 26, 180-194.	1.0	52
45	Two distinct old yellow enzymes are involved in naphthyl ring reduction during anaerobic naphthalene degradation. Molecular Microbiology, 2015, 95, 162-172.	2.5	39
46	Enzymes of the benzoylâ€coenzyme <scp>A</scp> degradation pathway in the hyperthermophilic archaeon <scp>F</scp>erroglobus placidus. Environmental Microbiology, 2015, 17, 3289-3300.	3.8	18
47	Structural basis of enzymatic benzene ring reduction. Nature Chemical Biology, 2015, 11, 586-591.	8.0	52
48	Unraveling the Specific Regulation of the Central Pathway for Anaerobic Degradation of 3-Methylbenzoate. Journal of Biological Chemistry, 2015, 290, 12165-12183.	3.4	13
49	Glutarylâ€coenzyme A dehydrogenase from GeobacterÂmetallireducensÂâ€“Âinteraction with electron transferring flavoprotein and kinetic basis of unidirectional catalysis. FEBS Journal, 2014, 281, 5120-5131.	4.7	6
50	Anaerobic degradation of homocyclic aromatic compounds via arylcarboxylâ€coenzyme <scp>A</scp> esters: organisms, strategies and key enzymes. Environmental Microbiology, 2014, 16, 612-627.	3.8	156
51	A PCR-based assay for the detection of anaerobic naphthalene degradation. FEMS Microbiology Letters, 2014, 354, 55-59.	1.8	18
52	Enzymes Involved in a Novel Anaerobic Cyclohexane Carboxylic Acid Degradation Pathway. Journal of Bacteriology, 2014, 196, 3667-3674.	2.2	26
53	The Benzoylâ€Coenzyme A Reductase and 2â€Hydroxyacylâ€Coenzyme A Dehydratase Radical Enzyme Family. ChemBioChem, 2014, 15, 2188-2194.	2.6	40
54	Characterization of the mbd cluster encoding the anaerobic 3â€methylbenzoylâ€CoA central pathway. Environmental Microbiology, 2013, 15, 148-166.	3.8	37

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55	Identification and characterization of 2â€naphthoylâ€coenzyme A reductase, the prototype of a novel class of dearomatizing reductases. Molecular Microbiology, 2013, 88, 1032-1039.	2.5	52
56	Cyclohexanecarboxyl-Coenzyme A (CoA) and Cyclohex-1-ene-1-Carboxyl-CoA Dehydrogenases, Two Enzymes Involved in the Fermentation of Benzoate and Crotonate in Syntrophus aciditrophicus. Journal of Bacteriology, 2013, 195, 3193-3200.	2.2	27
57	<scp>ATP</scp>â€dependent/â€independent enzymatic ring reductions involved in the anaerobic catabolism of naphthalene. Environmental Microbiology, 2013, 15, 1832-1841.	3.8	35
58	Identification and Characterization of a Succinyl-Coenzyme A (CoA):Benzoate CoA Transferase in Geobacter metallireducens. Journal of Bacteriology, 2012, 194, 2501-2508.	2.2	25
59	Anaerobic degradation of 4â€methylbenzoate via a specific 4â€methylbenzoylâ€CoA pathway. Environmental Microbiology, 2012, 14, 1118-1132.	3.8	27
60	Microbial degradation of aromatic compounds â€" from one strategy to four. Nature Reviews Microbiology, 2011, 9, 803-816.	28.6	952
61	Occurrence, genes and expression of the W/Seâ€containing class II benzoylâ€coenzyme A reductases in anaerobic bacteria. Environmental Microbiology, 2011, 13, 696-709.	3.8	65
62	Enzymes involved in the anaerobic degradation of metaâ€substituted halobenzoates. Molecular Microbiology, 2011, 82, 758-769.	2.5	39
63	Conversion of a decarboxylating to a non-decarboxylating glutaryl-coenzyme A dehydrogenase by site-directed mutagenesis. FEBS Letters, 2011, 585, 1317-1321.	2.8	11
64	Combined Application of PCR-Based Functional Assays for the Detection of Aromatic-Compound-Degrading Anaerobes. Applied and Environmental Microbiology, 2011, 77, 5056-5061.	3.1	55
65	Reversible Biological Birch Reduction at an Extremely Low Redox Potential. Journal of the American Chemical Society, 2010, 132, 9850-9856.	13.7	85
66	Structural Basis for Promoting and Preventing Decarboxylation in Glutaryl-Coenzyme A Dehydrogenases. Biochemistry, 2010, 49, 5350-5357.	2.5	14
67	Decarboxylating and Nondecarboxylating Glutaryl-Coenzyme A Dehydrogenases in the Aromatic Metabolism of Obligately Anaerobic Bacteria. Journal of Bacteriology, 2009, 191, 4401-4409.	2.2	40
68	Differential Membrane Proteome Analysis Reveals Novel Proteins Involved in the Degradation of Aromatic Compounds in Geobacter metallireducens. Molecular and Cellular Proteomics, 2009, 8, 2159-2169.	3.8	25
69	Identification and characterization of the tungsten-containing class of benzoyl-coenzyme A reductases. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 17687-17692.	7.1	112
70	Purification and Characterization of Active-Site Components of the Putative p -Cresol Methylhydroxylase Membrane Complex from Geobacter metallireducens. Journal of Bacteriology, 2008, 190, 6493-6500.	2.2	25
71	6â€Oxocyclohexâ€1â€eneâ€1â€carbonylâ€coenzyme A hydrolases from obligately anaerobic bacteria: characterization and identification of its gene as a functional marker for aromatic compounds degrading anaerobes. Environmental Microbiology, 2008, 10, 1547-1556.	3.8	99
72	Mechanism of Enzymatic Birch Reduction: Stereochemical Course and Exchange Reactions of Benzoyl-CoA Reductase. Journal of the American Chemical Society, 2008, 130, 14050-14051.	13.7	46

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73	Aromatizing Cyclohexa-1,5-diene-1-carbonyl-Coenzyme A Oxidase. Journal of Biological Chemistry, 2008, 283, 20713-20721.	3.4	30
74	Cyclohexa-1,5-Diene-1-Carbonyl-Coenzyme A (CoA) Hydratases of Geobacter metallireducens and Syntrophus aciditrophicus : Evidence for a Common Benzoyl-CoA Degradation Pathway in Facultative and Strict Anaerobes. Journal of Bacteriology, 2007, 189, 1055-1060.	2.2	64
75	Gene clusters involved in anaerobic benzoate degradation of Geobacter metallireducens. Molecular Microbiology, 2005, 58, 1238-1252.	2.5	147
76	Unusual reactions involved in anaerobic metabolism of phenolic compounds. Biological Chemistry, 2005, 386, 989-997.	2.5	45
77	Key enzymes in the anaerobic aromatic metabolism catalysing Birch-like reductions. Biochimica Et Biophysica Acta - Bioenergetics, 2005, 1707, 34-50.	1.0	76
78	Dearomatizing Benzene Ring Reductases. Journal of Molecular Microbiology and Biotechnology, 2005, 10, 132-142.	1.0	92
79	ThebzdGene Cluster, Coding for Anaerobic Benzoate Catabolism, inAzoarcussp. Strain CIB. Journal of Bacteriology, 2004, 186, 5762-5774.	2.2	111
80	Selenocysteine-Containing Proteins in Anaerobic Benzoate Metabolism of Desulfococcus multivorans. Journal of Bacteriology, 2004, 186, 2156-2163.	2.2	69
81	Structure of a Xanthine Oxidase-Related 4-Hydroxybenzoyl-CoA Reductase with an Additional [4Fe-4S] Cluster and an Inverted Electron Flow. Structure, 2004, 12, 2249-2256.	3.3	62
82	Substrate Binding and Reduction of Benzoyl-CoA Reductase:Â Evidence for Nucleotide-Dependent Conformational Changesâ€. Biochemistry, 2004, 43, 1376-1385.	2.5	20
83	Properties of 2-Oxoglutarate:Ferredoxin Oxidoreductase from Thauera aromatica and Its Role in Enzymatic Reduction of the Aromatic Ring. Journal of Bacteriology, 2002, 184, 3975-3983.	2.2	51
84	A Birch-like Mechanism in Enzymatic Benzoyl-CoA Reduction:â€‰ A Kinetic Study of Substrate Analogues Combined with an ab Initio Model. Biochemistry, 2002, 41, 1752-1758.	2.5	57
85	Single Turnover EPR Studies of Benzoyl-CoA Reductaseâ€,â€¡. Biochemistry, 2001, 40, 7612-7620.	2.5	24
86	Redox Centers of 4-Hydroxybenzoyl-CoA Reductase, a Member of the Xanthine Oxidase Family of Molybdenum-containing Enzymes. Journal of Biological Chemistry, 2001, 276, 47853-47862.	3.4	37
87	Mechanism of ATP-driven electron transfer catalyzed by the benzene ring-reducing enzyme benzoyl-CoA reductase. Proceedings of the National Academy of Sciences of the United States of America, 2001, 98, 13619-13624.	7.1	44
88	EPR and MÃ¶ssbauer Studies of Benzoyl-CoA Reductase. Journal of Biological Chemistry, 2000, 275, 31857-31868.	3.4	38
89	Nonaromatic Products from Anoxic Conversion of Benzoyl-CoA with Benzoyl-CoA Reductase and Cyclohexa-1,5-diene-1-carbonyl-CoA Hydratase. Journal of Biological Chemistry, 2000, 275, 21889-21895.	3.4	56
90	Identification and characterization of the natural electron donor ferredoxin and of FAD as a possible prosthetic group of benzoylâ€CoA reductase (dearomatizing), a key enzyme of anaerobic aromatic metabolism. FEBS Journal, 1998, 251, 946-954.	0.2	58

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91	Genes coding for the benzoylâ€CoA pathway of anaerobic aromatic metabolism in the bacterium Thauera aromatica. FEBS Journal, 1998, 256, 148-154.	0.2	81
92	Benzoylâ€CoA Reductase (Dearomatizing), A Key Enzyme of Anaerobic Aromatic Metabolism. FEBS Journal, 1997, 244, 840-851.	0.2	88
93	Benzoylâ€Coenzyme A Reductase (Dearomatizing), a Key Enzyme of Anaerobic Aromatic Metabolism. FEBS Journal, 1995, 234, 921-933.	0.2	205