

# Johann Heider

## List of Articles by Year in descending order

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PR citations

65197

41

PR h-index

59904

81

g-index

118

documents

8541

doc citations

65176

44

h-index

9723

citing authors

#	ARTICLE	IF	CITATIONS
1	Single amino acid exchanges affect the substrate preference of an acetaldehyde dehydrogenase. <i>Applied Microbiology and Biotechnology</i> , 2025, 109, .	4.0	1
2	The aldehyde dehydrogenase superfamilies: correlations and deviations in structure and function. <i>Applied Microbiology and Biotechnology</i> , 2025, 109, .	4.0	6
3	Obligately Tungsten-Dependent Enzymesâ€™Catalytic Mechanisms, Models and Applications. <i>Biochemistry</i> , 2025, 64, 2154-2172.	2.4	5
4	A Synthetic Pathway for the Production of Benzylsuccinate in <i>Escherichia coli</i> . <i>Molecules</i> , 2024, 29, 415.	4.2	0
5	Bacteria at Work â€“ Experimental and Theoretical Studies Reveal the Catalytic Mechanism of Ectoine Synthase. <i>Chemistry - A European Journal</i> , 2024, 30, .	3.4	4
6	A Synthetic Pathway for the Production of Benzylsuccinate in <i>Escherichia coli</i> . <i>Molecules</i> , 2024, 29, 415.	4.2	0
7	Modeling the Initiation Phase of the Catalytic Cycle in the Glycyl-Radical Enzyme Benzylsuccinate Synthase. <i>Journal of Physical Chemistry B</i> , 2024, 128, 5823-5839.	2.7	2
8	A pH-dependent shift of redox cofactor specificity in a benzyl alcohol dehydrogenase of <i>Aromatoleum aromaticum</i> EbN1. <i>Applied Microbiology and Biotechnology</i> , 2024, 108, .	4.0	4
9	An outer membrane porin-lipoprotein complex modulates elongasome movement to establish cell curvature in <i>Rhodospirillum rubrum</i> . <i>Nature Communications</i> , 2024, 15, .	13.7	8
10	Molecular Dynamics Simulations for the Michaelis Complex of Ectoine Synthase (EctC). <i>Catalysts</i> , 2023, 13, 124.	3.7	1
11	Electrocatalytic Aldehyde Oxidation by a Tungsten Dependent Aldehyde Oxidoreductase from <i>Aromatoleum Aromaticum</i> . <i>Chemistry - A European Journal</i> , 2023, 29, .	3.4	12
12	Polymeric Membranes for Vapor-Phase Concentrating Volatile Organic Products from Biomass Processing. <i>Membranes and Membrane Technologies</i> , 2023, 5, 55-67.	1.7	5
13	A bacterial tungsten-containing aldehyde oxidoreductase forms an enzymatic decorated protein nanowire. <i>Science Advances</i> , 2023, 9, .	10.9	15
14	Inactive pseudoenzyme subunits in heterotetrameric BbsCD, a novel shortâ€‘chain alcohol dehydrogenase involved in anaerobic toluene degradation. <i>FEBS Journal</i> , 2022, 289, 1023-1042.	5.4	5
15	<i>Finis tolueni</i> : a new type of thiolase with an integrated Znâ€‘finger subunit catalyzes the final step of anaerobic toluene metabolism. <i>FEBS Journal</i> , 2022, 289, 5599-5616.	5.4	7
16	Tungsten Enzyme Using Hydrogen as an Electron Donor to Reduce Carboxylic Acids and NAD+. <i>ACS Catalysis</i> , 2022, 12, 8707-8717.	12.4	17
17	Structure of the membrane-bound formate hydrogenlyase complex from <i>Escherichia coli</i> . <i>Nature Communications</i> , 2022, 13, .	13.7	42
18	Conversion of Ethanol and Fusel Oils over Auâ€‘M/MFI/Al <sub>2</sub> O <sub>3</sub> Catalysts. <i>Petroleum Chemistry</i> , 2022, 62, 1107-1125.	1.0	2

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19	<p>ϕ-type plasmids carrying genes for antibiotic resistance or for aromatic compound degradation are prevalent in sequenced <i>Aromatoleum</i></p>	3.7	13
20	Determinants for Substrate Recognition in the Glycyl Radical Enzyme Benzylsuccinate Synthase Revealed by Targeted Mutagenesis. <i>ACS Catalysis</i> , 2021, 11, 3361-3370.	12.4	16
21	Benzylmalonyl-CoA dehydrogenase, an enzyme involved in bacterial auxin degradation. <i>Archives of Microbiology</i> , 2021, 203, 4149-4159.	2.4	4
22	Comparison of different approaches to derive classical bonded force-field parameters for a transition metal cofactor: a case study for non-heme iron site of ectoine synthase. <i>Theoretical Chemistry Accounts</i> , 2021, 140, .	1.3	6
23	Characterisation of the redox centers of ethylbenzene dehydrogenase. <i>Journal of Biological Inorganic Chemistry</i> , 2021, 27, 143-154.	2.5	2
24	Tungstoenzymes: Occurrence, Catalytic Diversity and Cofactor Synthesis. <i>Inorganics</i> , 2020, 8, 44.	2.7	43
25	Biocatalytic Asymmetric Reduction of $\beta$ -Keto Esters to Access Optically Active $\beta$ -Aryl- $\beta$ -Butyrolactones. <i>Advanced Synthesis and Catalysis</i> , 2020, 362, 2012-2029.	3.8	25
26	Structural and Functional Characterization of an Electron Transfer Flavoprotein Involved in Toluene Degradation in Strictly Anaerobic Bacteria. <i>Journal of Bacteriology</i> , 2019, 201, .	2.9	20
27	Illuminating the catalytic core of ectoine synthase through structural and biochemical analysis. <i>Scientific Reports</i> , 2019, 9, .	3.4	39
28	Two Different Quinohemoprotein Amine Dehydrogenases Initiate Anaerobic Degradation of Aromatic Amines in <i>Aromatoleum aromaticum</i> EbN1. <i>Journal of Bacteriology</i> , 2019, 201, .	2.9	7
29	Characterization of an Aldehyde Oxidoreductase From the Mesophilic Bacterium <i>Aromatoleum aromaticum</i> EbN1, a Member of a New Subfamily of Tungsten-Containing Enzymes. <i>Frontiers in Microbiology</i> , 2019, 10, .	3.9	33
30	Compatible Solute Synthesis and Import by the Moderate Halophile <i>Spiribacter salinus</i> : Physiology and Genomics. <i>Frontiers in Microbiology</i> , 2018, 9, .	3.9	58
31	Role of the Extremolytes Ectoine and Hydroxyectoine as Stress Protectants and Nutrients: Genetics, Phylogenomics, Biochemistry, and Structural Analysis. <i>Genes</i> , 2018, 9, 177.	2.5	252
32	Type IV CRISPR RNA processing and effector complex formation in <i>Aromatoleum aromaticum</i> . <i>Nature Microbiology</i> , 2018, 4, 89-96.	16.0	83
33	Feeding on compatible solutes: A substrate-induced pathway for uptake and catabolism of ectoines and its genetic control by EnuR. <i>Environmental Microbiology</i> , 2017, 19, 926-946.	3.7	46
34	Structure of the acetophenone carboxylase core complex: prototype of a new class of ATP-dependent carboxylases/hydrolases. <i>Scientific Reports</i> , 2017, 7, .	3.4	26
35	Transcriptional regulation of ectoine catabolism in response to multiple metabolic and environmental cues. <i>Environmental Microbiology</i> , 2017, 19, 4599-4619.	3.7	26
36	A rare polyglycine type II-like helix motif in naturally occurring proteins. <i>Proteins: Structure, Function and Bioinformatics</i> , 2017, 85, 2017-2023.	2.6	22

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37	Adaptations to a Loss-of-Function Mutation in the Betaproteobacterium <i>Aromatoleum aromaticum</i> : Recruitment of Alternative Enzymes for Anaerobic Phenylalanine Degradation. <i>Journal of Bacteriology</i> , 2017, 199, .	2.9	17
38	Modeling of the Reaction Mechanism of Enzymatic Radical C–C Coupling by Benzylsuccinate Synthase. <i>International Journal of Molecular Sciences</i> , 2016, 17, 514.	4.4	23
39	A Fluorescent Bioreporter for Acetophenone and 1-Phenylethanol derived from a Specifically Induced Catabolic Operon. <i>Frontiers in Microbiology</i> , 2016, 6, .	3.9	19
40	Strangers in the archaeal world: osmostress-responsive biosynthesis of ectoine and hydroxyectoine by the marine thaumarchaeon <i>Nitrosopumilus maritimus</i> . <i>Environmental Microbiology</i> , 2016, 18, 1227-1248.	3.7	71
41	Elucidating the Stereochemistry of Enzymatic Benzylsuccinate Synthesis with Chirally Labeled Toluene. <i>Angewandte Chemie - International Edition</i> , 2016, 55, 11664-11667.	14.4	15
42	Stereochemischer Verlauf der enzymatischen Synthese von Benzylsuccinat mit chiral markiertem Toluol. <i>Angewandte Chemie</i> , 2016, 128, 11836-11839.	1.4	0
43	An indoleacetate-CoA ligase and a phenylsuccinyl-CoA transferase involved in anaerobic metabolism of auxin. <i>Environmental Microbiology</i> , 2016, 18, 3120-3132.	3.7	19
44	Biochemistry and Crystal Structure of Ectoine Synthase: A Metal-Containing Member of the Cupin Superfamily. <i>PLoS ONE</i> , 2016, 11, e0151285.	2.3	36
45	Electrocatalytic Hydrocarbon Hydroxylation by Ethylbenzene Dehydrogenase from <i>Aromatoleum aromaticum</i> . <i>Journal of Physical Chemistry B</i> , 2015, 119, 3456-3463.	2.7	17
46	Enzymes of anaerobic ethylbenzene and p-ethylphenol catabolism in <i>Aromatoleum aromaticum</i> <sup>TM</sup> : differentiation and differential induction. <i>Archives of Microbiology</i> , 2015, 197, 1051-1062.	2.4	17
47	Biochemical Properties of Ectoine Hydroxylases from Extremophiles and Their Wider Taxonomic Distribution among Microorganisms. <i>PLoS ONE</i> , 2014, 9, e93809.	2.3	89
48	Suitability of the hydrocarbon-hydroxylating molybdenum-enzyme ethylbenzene dehydrogenase for industrial chiral alcohol production. <i>Journal of Biotechnology</i> , 2014, 192, 400-409.	3.8	15
49	Simultaneous Involvement of a Tungsten-Containing Aldehyde:Ferredoxin Oxidoreductase and a Phenylacetaldehyde Dehydrogenase in Anaerobic Phenylalanine Metabolism. <i>Journal of Bacteriology</i> , 2014, 196, 483-492.	2.9	37
50	Mechanistic basis for the enantioselectivity of the anaerobic hydroxylation of alkylaromatic compounds by ethylbenzene dehydrogenase. <i>Journal of Inorganic Biochemistry</i> , 2014, 139, 9-20.	3.0	41
51	Asymmetric reduction of ketones and $\beta$ -keto esters by (S)-1-phenylethanol dehydrogenase from denitrifying bacterium <i>Aromatoleum aromaticum</i> . <i>Applied Microbiology and Biotechnology</i> , 2014, 99, 5055-5069.	4.0	34
52	The reaction mechanism of chiral hydroxylation of p-OH and p-NH <sub>2</sub> substituted compounds by ethylbenzene dehydrogenase. <i>Canadian Journal of Chemistry</i> , 2013, 91, 775-786.	1.7	15
53	BN/CC Isosteric Compounds as Enzyme Inhibitors: N- and B-Ethyl-1,2-azaborine Inhibit Ethylbenzene Hydroxylation as Nonconvertible Substrate Analogues. <i>Angewandte Chemie - International Edition</i> , 2013, 52, 2599-2601.	14.4	139
54	Evidence for Benzylsuccinate Synthase Subtypes Obtained by Using Stable Isotope Tools. <i>Journal of Bacteriology</i> , 2013, 195, 4660-4667.	2.9	23

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55	BN/CC-sterische Verbindungen als Enzyminhibitoren: Hemmung der Hydroxylierung von Ethylbenzol durch N- und B-Ethyl-1,2-azaborin als nichtkonvertierbare Substratanaloga. <i>Angewandte Chemie</i> , 2013, 125, 2660-2662.	1.4	44
56	Substrate and Inhibitor Spectra of Ethylbenzene Dehydrogenase: Perspectives on Application Potential and Catalytic Mechanism. <i>Applied and Environmental Microbiology</i> , 2012, 78, 6475-6482.	3.6	24
57	Anaerobic Metabolism of Indoleacetate. <i>Journal of Bacteriology</i> , 2012, 194, 2894-2903.	2.9	40
58	Acetone and Butanone Metabolism of the Denitrifying Bacterium "Aromatoleum aromaticum" Demonstrates Novel Biochemical Properties of an ATP-Dependent Aliphatic Ketone Carboxylase. <i>Journal of Bacteriology</i> , 2012, 194, 131-141.	2.9	39
59	Microbial degradation of aromatic compounds " from one strategy to four. <i>Nature Reviews Microbiology</i> , 2011, 9, 803-816.	83.5	1,158
60	Co-metabolic conversion of toluene in anaerobic n-alkane-degrading bacteria. <i>Environmental Microbiology</i> , 2011, 13, 2576-2586.	3.7	37
61	A Specialized Aspartokinase Enhances the Biosynthesis of the Osmoprotectants Ectoine and Hydroxyectoine in <i>Pseudomonas stutzeri</i> A1501. <i>Journal of Bacteriology</i> , 2011, 193, 4456-4468.	2.9	79
62	Identification of FeS clusters in the glycyl-radical enzyme benzylsuccinate synthase via EPR and Mössbauer spectroscopy. <i>Journal of Biological Inorganic Chemistry</i> , 2011, 17, 49-56.	2.5	23
63	Global transcriptome analysis of spore formation in <i>Myxococcus xanthus</i> reveals a locus necessary for cell differentiation. <i>BMC Genomics</i> , 2010, 11, .	3.3	76
64	ATP-Dependent Carboxylation of Acetophenone by a Novel Type of Carboxylase. <i>Journal of Bacteriology</i> , 2010, 192, 1387-1394.	2.9	54
65	Ab Initio Modeling of Ethylbenzene Dehydrogenase Reaction Mechanism. <i>Journal of the American Chemical Society</i> , 2010, 132, 6014-6024.	15.0	61
66	Quantum chemical modelling of the C-H cleavage mechanism in oxidation of ethylbenzene and its derivatives by ethylbenzene dehydrogenase. <i>Journal of Molecular Catalysis A</i> , 2008, 286, 128-136.	4.2	24
67	Genes encoding the candidate enzyme for anaerobic activation of n-alkanes in the denitrifying bacterium, strain HxN1. <i>Environmental Microbiology</i> , 2008, 10, 376-385.	3.7	127
68	Adding handles to unhandy substrates: anaerobic hydrocarbon activation mechanisms. <i>Current Opinion in Chemical Biology</i> , 2007, 11, 188-194.	5.8	183
69	Kinetics and Mechanism of Oxygen-Independent Hydrocarbon Hydroxylation by Ethylbenzene Dehydrogenase. <i>Biochemistry</i> , 2007, 46, 7637-7646.	2.4	70
70	Crystal Structure and Enzyme Kinetics of the (S)-Specific 1-Phenylethanol Dehydrogenase of the Denitrifying Bacterium Strain EbN1. <i>Biochemistry</i> , 2006, 45, 82-93.	2.4	99
71	Crystal Structure of Ethylbenzene Dehydrogenase from <i>Aromatoleum aromaticum</i> . <i>Structure</i> , 2006, 14, 1377-1388.	3.8	174
72	New glycyl radical enzymes catalysing key metabolic steps in anaerobic bacteria. <i>Biological Chemistry</i> , 2005, 386, .	2.1	120

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73	Genes involved in the anaerobic degradation of toluene in a denitrifying bacterium, strain EbN1. Archives of Microbiology, 2004, 181, 182-194.	2.4	95
74	The genome sequence of an anaerobic aromatic-degrading denitrifying bacterium, strain EbN1. Archives of Microbiology, 2004, 183, 27-36.	2.4	276
75	Very High-Field EPR Study of Glycyl Radical Enzymes. Journal of the American Chemical Society, 2003, 125, 38-39.	15.0	66
76	Substrate specificities and electron paramagnetic resonance properties of benzylsuccinate synthases in anaerobic toluene and m-xylene metabolism. Archives of Microbiology, 2003, 181, 155-162.	2.4	52
77	Aerobic metabolism of phenylacetic acids in <i>Azoarcus evansii</i> . Archives of Microbiology, 2002, 178, 180-192.	2.4	80
78	(R)-Benzylsuccinyl-CoA dehydrogenase of <i>Thauera aromatica</i> , an enzyme of the anaerobic toluene catabolic pathway. Archives of Microbiology, 2002, 178, 517-524.	2.4	46
79	Anaerobic oxidation of aromatic compounds and hydrocarbons. Current Opinion in Chemical Biology, 2002, 6, 604-611.	5.8	197
80	A new family of CoA-transferases. FEBS Letters, 2001, 509, 345-349.	2.7	130
81	(S)-1-Phenylethanol dehydrogenase of <i>Azoarcus</i> sp. strain EbN1, an enzyme of anaerobic ethylbenzene catabolism. Archives of Microbiology, 2001, 176, 129-135.	2.4	72
82	Ethylbenzene Dehydrogenase, a Novel Hydrocarbon-oxidizing Molybdenum/Iron-Sulfur/Heme Enzyme. Journal of Biological Chemistry, 2001, 276, 21381-21386.	2.2	178
83	Succinyl-CoA:( ) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf 50 352 Td ( R) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf 50 342 Td ( )-Benzylsuccinate Synthase of Denitrifying Bacteria. Journal of Bacteriology, 2001, 183, 4288-4295.	2.9	80
84	Operon structure and expression of the genes for benzylsuccinate synthase in <i>Thauera aromatica</i> strain K172. Archives of Microbiology, 2001, 177, 132-138.	2.4	46
85	Anaerobic Toluene Catabolism of <i>Thauera aromatica</i> : the bbs Operon Codes for Enzymes of $\beta^2$ Oxidation of the Intermediate Benzylsuccinate. Journal of Bacteriology, 2000, 182, 272-277.	2.9	100
86	Phototrophic utilization of toluene under anoxic conditions by a new strain of <i>Blastochloris sulfoviridis</i> . Archives of Microbiology, 1999, 172, 204-212.	2.4	89
87	A two-component system involved in regulation of anaerobic toluene metabolism in <i>Thauera aromatica</i> . FEMS Microbiology Letters, 1998, 166, 35-41.	1.9	54
88	Anaerobic bacterial metabolism of hydrocarbons. FEMS Microbiology Reviews, 1998, 22, 459-473.	10.6	419
89	Differential induction of enzymes involved in anaerobic metabolism of aromatic compounds in the denitrifying bacterium <i>Thauera aromatica</i> . Archives of Microbiology, 1998, 170, 120-131.	2.4	78
90	Initial reactions of anaerobic metabolism of alkylbenzenes in denitrifying and sulfate-reducing bacteria. Archives of Microbiology, 1998, 170, 377-384.	2.4	144

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91	Biochemical and genetic characterization of benzylsuccinate synthase from <i>Thauera aromatica</i> : a new glycyl radical enzyme catalysing the first step in anaerobic toluene metabolism. <i>Molecular Microbiology</i> , 1998, 28, 615-628.	2.5	290
92	Anaerobic Metabolism of Aromatic Compounds. <i>FEBS Journal</i> , 1997, 243, 577-596.	0.2	280
93	Microbial Anaerobic Aromatic Metabolism. <i>Anaerobe</i> , 1997, 3, 1-22.	2.2	117
94	The path of unspecific incorporation of selenium in <i>Escherichia coli</i> . <i>Archives of Microbiology</i> , 1997, 168, 421-427.	2.4	72
95	Evidence That Anaerobic Oxidation of Toluene in the Denitrifying Bacterium <i>Thauera aromatica</i> is Initiated by Formation of Benzylsuccinate from Toluene and Fumarate. <i>FEBS Journal</i> , 1996, 238, 661-668.	0.2	279
96	Interaction of the <i>Escherichia coli</i> fdhF mRNA hairpin promoting selenocysteine incorporation with the ribosome. <i>Nucleic Acids Research</i> , 1996, 24, 3903-3910.	15.5	20
97	Genes coding for the selenocysteine-inserting tRNA species from <i>Desulfomicrobium baculatum</i> and <i>Clostridium thermoaceticum</i> : structural and evolutionary implications. <i>Journal of Bacteriology</i> , 1994, 176, 1268-1274.	2.9	28
98	Interaction of translation factor SELB with the formate dehydrogenase H selenopolypeptide mRNA.. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 1993, 90, 4181-4185.	7.5	99
99	Coding from a distance: dissection of the mRNA determinants required for the incorporation of selenocysteine into protein.. <i>EMBO Journal</i> , 1992, 11, 3759-3766.	7.3	168
100	Selenoprotein synthesis: an expansion of the genetic code. <i>Trends in Biochemical Sciences</i> , 1991, 16, 463-467.	6.7	365
101	Expression and operon structure of the sel genes of <i>Escherichia coli</i> and identification of a third selenium-containing formate dehydrogenase isoenzyme. <i>Journal of Bacteriology</i> , 1991, 173, 4983-4993.	2.9	120
102	Selenocysteine: the 21st amino acid. <i>Molecular Microbiology</i> , 1991, 5, 515-520.	2.5	906
103	Interspecies compatibility of selenoprotein biosynthesis in <i>Enterobacteriaceae</i> . <i>Archives of Microbiology</i> , 1991, 155, 221-228.	2.4	12
104	Features of the formate dehydrogenase mRNA necessary for decoding of the UGA codon as selenocysteine.. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 1990, 87, 4660-4664.	7.5	260
105	Mutagenesis of selC, the gene for the selenocysteine-inserting tRNA-species in <i>E. coli</i> : effects on in vivo function. <i>Nucleic Acids Research</i> , 1990, 18, 6761-6766.	15.5	45
106	Occurrence and functional compatibility within <i>Enterobacteriaceae</i> of a tRNA species which inserts selenocysteine into protein. <i>Nucleic Acids Research</i> , 1989, 17, 2529-2540.	15.5	36
107	Title is missing!., 0, .		0
108	An Iron-Dependent Alcohol Dehydrogenase Is Involved in Ethanol Metabolism of <i>Aromatoleum aromaticum</i> . <i>Reactions</i> , 0, 6, 46.	2.1	0