

Rachel Heath

List of Publications by Year in descending order

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76326

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68
all docs

68
docs citations

68
times ranked

3451
citing authors

#	ARTICLE	IF	CITATIONS
1	Biocatalytic Approaches to the Synthesis of Enantiomerically Pure Chiral Amines. <i>Topics in Catalysis</i> , 2014, 57, 284-300.	2.8	330
2	Constructing Biocatalytic Cascades: In Vitro and in Vivo Approaches to de Novo Multi-Enzyme Pathways. <i>ACS Catalysis</i> , 2017, 7, 710-724.	11.2	322
3	A reductive aminase from <i>Aspergillus oryzae</i> . <i>Nature Chemistry</i> , 2017, 9, 961-969.	13.6	290
4	Extending the application of biocatalysis to meet the challenges of drug development. <i>Nature Reviews Chemistry</i> , 2018, 2, 409-421.	30.2	290
5	A stable electrode for high-potential, electrocatalytic O ₂ reduction based on rational attachment of a blue copper oxidase to a graphite surface. <i>Chemical Communications</i> , 2007, , 1710.	4.1	285
6	Discovery, Engineering, and Synthetic Application of Transaminase Biocatalysts. <i>ACS Catalysis</i> , 2017, 7, 8263-8284.	11.2	261
7	Enantioselective Oxidation of C=O and C=N Bonds Using Oxidases. <i>Chemical Reviews</i> , 2011, 111, 4073-4087.	47.7	204
8	Imine reductases (IREDs). <i>Current Opinion in Chemical Biology</i> , 2017, 37, 19-25.	6.1	202
9	One-Pot Cascade Synthesis of Mono- and Disubstituted Piperidines and Pyrrolidines using Carboxylic Acid Reductase (CAR), α -Transaminase (α -TA), and Imine Reductase (IREd) Biocatalysts. <i>ACS Catalysis</i> , 2016, 6, 3753-3759.	11.2	171
10	Directed Evolution of Galactose Oxidase: Generation of Enantioselective Secondary Alcohol Oxidases. <i>ChemBioChem</i> , 2008, 9, 857-860.	2.6	140
11	RetroBioCat as a computer-aided synthesis planning tool for biocatalytic reactions and cascades. <i>Nature Catalysis</i> , 2021, 4, 98-104.	34.4	131
12	Efficient electrocatalytic oxygen reduction by the β -blue TM copper oxidase, laccase, directly attached to chemically modified carbons. <i>Faraday Discussions</i> , 2008, 140, 319-335.	3.2	128
13	An α -imine Reductase Biocatalyst for the Asymmetric Reduction of Cyclic Imines. <i>ChemCatChem</i> , 2015, 7, 579-583.	3.7	126
14	Directed Evolution of an Amine Oxidase for the Preparative Deracemisation of Cyclic Secondary Amines. <i>ChemBioChem</i> , 2005, 6, 637-639.	2.6	121
15	Screening and characterization of a diverse panel of metagenomic imine reductases for biocatalytic reductive amination. <i>Nature Chemistry</i> , 2021, 13, 140-148.	13.6	100
16	Stereoselectivity and Structural Characterization of an Imine Reductase (IREd) from <i>Amycolatopsis orientalis</i> . <i>ACS Catalysis</i> , 2016, 6, 3880-3889.	11.2	96
17	Biocatalytic N -Alkylation of Amines Using Either Primary Alcohols or Carboxylic Acids via Reductive Aminase Cascades. <i>Journal of the American Chemical Society</i> , 2019, 141, 1201-1206.	13.7	91
18	Structure and Activity of NADPH-Dependent Reductase Q1EQE0 from <i>Streptomyces kanamyceticus</i> , which Catalyses the α -Selective Reduction of an Imine Substrate. <i>ChemBioChem</i> , 2013, 14, 1372-1379.	2.6	90

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19	Direct Alkylation of Amines with Primary and Secondary Alcohols through Biocatalytic Hydrogen Borrowing. <i>Angewandte Chemie - International Edition</i> , 2017, 56, 10491-10494.	13.8	90
20	Identification of Novel Bacterial Members of the Imine Reductase Enzyme Family that Perform Reductive Amination. <i>ChemCatChem</i> , 2018, 10, 510-514.	3.7	86
21	A Mechanism for Reductive Amination Catalyzed by Fungal Reductive Aminases. <i>ACS Catalysis</i> , 2018, 8, 11534-11541.	11.2	78
22	Selenzyme: enzyme selection tool for pathway design. <i>Bioinformatics</i> , 2018, 34, 2153-2154.	4.1	75
23	Adenylation Activity of Carboxylic Acid Reductases Enables the Synthesis of Amides. <i>Angewandte Chemie - International Edition</i> , 2017, 56, 14498-14501.	13.8	74
24	A generic platform for the immobilisation of engineered biocatalysts. <i>Tetrahedron</i> , 2019, 75, 327-334.	1.9	69
25	Combined Imine Reductase and Amine Oxidase Catalyzed Deracemization of Nitrogen Heterocycles. <i>ChemCatChem</i> , 2016, 8, 117-120.	3.7	65
26	Development of an <i>R</i> -selective Amine Oxidase with Broad Substrate Specificity and High Enantioselectivity. <i>ChemCatChem</i> , 2014, 6, 996-1002.	3.7	64
27	Biocatalytic Routes to Enantiomerically Enriched Dibenz[<i>c</i> , <i>e</i>]azepines. <i>Angewandte Chemie - International Edition</i> , 2017, 56, 15589-15593.	13.8	62
28	Electrocatalytic Volleyball: Rapid Nanoconfined Nicotinamide Cycling for Organic Synthesis in Electrode Pores. <i>Angewandte Chemie - International Edition</i> , 2019, 58, 4948-4952.	13.8	60
29	Structure, Activity and Stereoselectivity of NADPH-dependent Oxidoreductases Catalysing the <i>S</i> -selective Reduction of the Imine Substrate 2-methylpyrroline. <i>ChemBioChem</i> , 2015, 16, 1052-1059.	2.6	56
30	An Engineered Alcohol Oxidase for the Oxidation of Primary Alcohols. <i>ChemBioChem</i> , 2019, 20, 276-281.	2.6	50
31	Regio- and Enantioselective Chemoenzymatic Lactonization of Decanoic Acid to (<i>S</i>)-Decalactone. <i>Angewandte Chemie - International Edition</i> , 2019, 58, 5668-5671.	13.8	50
32	Asymmetric synthesis of primary amines catalyzed by thermotolerant fungal reductive aminases. <i>Chemical Science</i> , 2020, 11, 5052-5057.	7.4	49
33	Real-Time Screening of Biocatalysts in Live Bacterial Colonies. <i>Journal of the American Chemical Society</i> , 2017, 139, 1408-1411.	13.7	48
34	Chemoenzymatic Synthesis of Substituted Azepanes by Sequential Biocatalytic Reduction and Organolithium-Mediated Rearrangement. <i>Journal of the American Chemical Society</i> , 2018, 140, 17872-17877.	13.7	48
35	Characterization of imine reductases in reductive amination for the exploration of structure-activity relationships. <i>Science Advances</i> , 2020, 6, eaay9320.	10.3	48
36	Multifunctional biocatalyst for conjugate reduction and reductive amination. <i>Nature</i> , 2022, 604, 86-91.	27.8	48

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37	Development of Continuous Flow Systems to Access Secondary Amines Through Previously Incompatible Biocatalytic Cascades**. <i>Angewandte Chemie - International Edition</i> , 2021, 60, 18660-18665.	13.8	44
38	One-Pot Biocatalytic Cascade Reduction of Cyclic Enamines for the Preparation of Diastereomerically Enriched <i>N</i> -Heterocycles. <i>Journal of the American Chemical Society</i> , 2019, 141, 19208-19213.	13.7	43
39	Kinetic Resolution and Deracemization of Racemic Amines Using a Reductive Aminase. <i>ChemCatChem</i> , 2018, 10, 515-519.	3.7	42
40	Chemo-Enzymatic Synthesis of Pyrazines and Pyrroles. <i>Angewandte Chemie - International Edition</i> , 2018, 57, 16760-16763.	13.8	42
41	Technical Considerations for Scale-Up of Imine-Reductase-Catalyzed Reductive Amination: A Case Study. <i>Organic Process Research and Development</i> , 2019, 23, 1262-1268.	2.7	41
42	Asymmetric Synthesis of <i>N</i> -Substituted α -Amino Esters from α -Ketoesters via Imine Reductase-Catalyzed Reductive Amination. <i>Angewandte Chemie - International Edition</i> , 2021, 60, 8717-8721.	13.8	40
43	Immobilised whole-cell recombinant monoamine oxidase biocatalysis. <i>Applied Microbiology and Biotechnology</i> , 2015, 99, 1229-1236.	3.6	34
44	A biocatalytic cascade for the amination of unfunctionalised cycloalkanes. <i>Organic and Biomolecular Chemistry</i> , 2017, 15, 9790-9793.	2.8	33
45	Reductive aminations by imine reductases: from milligrams to tons. <i>Chemical Science</i> , 2022, 13, 4697-4713.	7.4	33
46	Imine Reductases, Reductive Aminases, and Amine Oxidases for the Synthesis of Chiral Amines: Discovery, Characterization, and Synthetic Applications. <i>Methods in Enzymology</i> , 2018, 608, 131-149.	1.0	25
47	The beauty of biocatalysis: sustainable synthesis of ingredients in cosmetics. <i>Natural Product Reports</i> , 2022, 39, 335-388.	10.3	25
48	Biocatalytic approaches to a key building block for the anti-thrombotic agent ticagrelor. <i>Organic and Biomolecular Chemistry</i> , 2016, 14, 8064-8067.	2.8	21
49	Electrified Nanoconfined Biocatalysis with Rapid Cofactor Recycling. <i>ChemCatChem</i> , 2019, 11, 5662-5670.	3.7	21
50	Synthesis of Pharmaceutically Relevant 2-Aminotetralin and 3-Aminochroman Derivatives via Enzymatic Reductive Amination. <i>Angewandte Chemie - International Edition</i> , 2021, 60, 24456-24460.	13.8	18
51	One-Step Biocatalytic Synthesis of Sustainable Surfactants by Selective Amide Bond Formation**. <i>Angewandte Chemie - International Edition</i> , 2022, 61, .	13.8	18
52	Enzyme-catalysed enantioselective oxidation of alcohols by air exploiting fast electrochemical nicotinamide cycling in electrode nanopores. <i>Green Chemistry</i> , 2019, 21, 4958-4963.	9.0	17
53	Exploiting Bidirectional Electrocatalysis by a Nanoconfined Enzyme Cascade to Drive and Control Enantioselective Reactions. <i>ACS Catalysis</i> , 2021, 11, 6526-6533.	11.2	17
54	New Trends and Future Opportunities in the Enzymatic Formation of C-C, C-N, and C-O bonds. <i>ChemBioChem</i> , 2022, 23, .	2.6	17

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55	Natural heterogeneous catalysis with immobilised oxidase biocatalysts. RSC Advances, 2020, 10, 19501-19505.	3.6	16
56	Rapid Screening of Diverse Biotransformations for Enzyme Evolution. JACS, 2021, 143, 508-516.	7.9	13
57	Asymmetric Synthesis of N-Substituted α -Amino Esters from α -Ketoesters via Imine Reductase-Catalyzed Reductive Amination. Angewandte Chemie, 2021, 133, 8799-8803.	2.0	10
58	Discovery and Investigation of Mutase-like Activity in a Phenylalanine Ammonia Lyase from <i>Anabaena variabilis</i> . Topics in Catalysis, 2018, 61, 288-295.	2.8	9
59	Enzymatic <i>N</i> -Allylation of Primary and Secondary Amines Using Renewable Cinnamic Acids Enabled by Bacterial Reductive Aminases. ACS Sustainable Chemistry and Engineering, 2022, 10, 6794-6806.	6.7	9
60	Electrocatalytic Volleyball: Rapid Nanoconfined Nicotinamide Cycling for Organic Synthesis in Electrode Pores. Angewandte Chemie, 2019, 131, 5002-5006.	2.0	5
61	An Engineered Cholesterol Oxidase Catalyses Enantioselective Oxidation of Nonsteroidal Secondary Alcohols. ChemBioChem, 2022, 23, .	2.6	5
62	Synthesis of 1,3-Disubstituted Azetidines via a Tandem Ring-Opening Ring-Closing Procedure. Synlett, 2012, 23, 1511-1515.	1.8	4
63	Biocatalytic Conversion of Cinnamic Acids to α -Arylethylamines. ChemCatChem, 2020, 12, 995-998.	3.7	4
64	Redox surrogate methods for sustainable amine N-alkylation. Current Opinion in Chemical Engineering, 2020, 30, 60-68.	7.8	4
65	Development of Continuous Flow Systems to Access Secondary Amines Through Previously Incompatible Biocatalytic Cascades**. Angewandte Chemie, 2021, 133, 18808-18813.	2.0	3
66	Synthesis of pharmaceutically relevant α -aminotetralin and β -aminochroman derivatives via enzymatic reductive amination. Angewandte Chemie, 2021, 133, 24661.	2.0	1
67	One-Step Biocatalytic Synthesis of Sustainable Surfactants by Selective Amide Bond Formation**. Angewandte Chemie, 2022, 134, .	2.0	1