

# Engineering new catalytic activities in enzymes

Nature Catalysis

3, 203-213

DOI: [10.1038/s41929-019-0385-5](https://doi.org/10.1038/s41929-019-0385-5)

Citation Report

#	ARTICLE	IF	CITATIONS
1	Using engineered 6-O-sulfotransferase to improve the synthesis of anticoagulant heparin. <i>Organic and Biomolecular Chemistry</i> , 2020, 18, 8094-8102.	1.5	7
2	Evolution of strept(avidin)-based artificial metalloenzymes in organometallic catalysis. <i>Chemical Communications</i> , 2020, 56, 14519-14540.	2.2	2
3	Immobilized lipases for biodiesel production: Current and future greening opportunities. <i>Renewable and Sustainable Energy Reviews</i> , 2020, 134, 110355.	8.2	61
4	Ancestral sequence reconstruction produces thermally stable enzymes with mesophilic enzyme-like catalytic properties. <i>Scientific Reports</i> , 2020, 10, 15493.	1.6	34
5	Nature's Machinery, Repurposed: Expanding the Repertoire of Iron-Dependent Oxygenases. <i>ACS Catalysis</i> , 2020, 10, 12239-12255.	5.5	78
6	Ru(II)-diimine complexes and cytochrome P450 working hand-in-hand. <i>Journal of Inorganic Biochemistry</i> , 2020, 213, 111254.	1.5	9
7	Exploiting attractive non-covalent interactions for the enantioselective catalysis of reactions involving radical intermediates. <i>Nature Chemistry</i> , 2020, 12, 990-1004.	6.6	113
8	Addicting <i>Escherichia coli</i> to New-to-Nature Reactions. <i>ACS Chemical Biology</i> , 2020, 15, 3093-3098.	1.6	15
9	Catalysis in Pickering emulsions. <i>Soft Matter</i> , 2020, 16, 10221-10243.	1.2	83
10	High Throughput Screening with SAMDI Mass Spectrometry for Directed Evolution. <i>Journal of the American Chemical Society</i> , 2020, 142, 19804-19808.	6.6	17
11	Enhancing promiscuous chemistries of a Schiff-base forming enzyme by divergent evolution. <i>Methods in Enzymology</i> , 2020, 644, 95-120.	0.4	2
12	Designer metalloenzymes for synthetic biology: Enzyme hybrids for catalysis. <i>Current Opinion in Chemical Biology</i> , 2020, 58, 63-71.	2.8	25
13	Open Gate of <i>Corynebacterium glutamicum</i> Threonine Deaminase for Efficient Synthesis of Bulky $\alpha$ -Keto Acids. <i>ACS Catalysis</i> , 2020, 10, 9994-10004.	5.5	36
14	Scalable biocatalytic C-H oxyfunctionalization reactions. <i>Chemical Society Reviews</i> , 2020, 49, 8137-8155.	18.7	105
15	Photoenzymatic enantioselective intermolecular radical hydroalkylation. <i>Nature</i> , 2020, 584, 69-74.	13.7	171
16	Divergent synthesis of complex diterpenes through a hybrid oxidative approach. <i>Science</i> , 2020, 369, 799-806.	6.0	89
17	The Journey to In Vivo Synthetic Chemistry: From Azaelectrocyclization to Artificial Metalloenzymes. <i>Bulletin of the Chemical Society of Japan</i> , 2020, 93, 1275-1286.	2.0	12
18	Structural Basis of Specificity for Carboxyl-Terminated Acyl Donors in a Bacterial Acyltransferase. <i>Journal of the American Chemical Society</i> , 2020, 142, 16031-16038.	6.6	7

#	ARTICLE	IF	CITATIONS
19	A Selective Sulfide Oxidation Catalyzed by Heterogeneous Artificial Metalloenzymes Iron@NikA. Chemistry - A European Journal, 2020, 26, 16633-16638.	1.7	4
20	Discovery, Design, and Structural Characterization of Alkane-Producing Enzymes across the Ferritin-like Superfamily. Biochemistry, 2020, 59, 3834-3843.	1.2	11
21	Hemin-Catalyzed Oxidative Phenol-Hydrazone [3+3] Cycloaddition Enables Rapid Construction of 1,3,4-Oxadiazines. Organic Letters, 2020, 22, 6911-6916.	2.4	17
22	Recent Advances in Asymmetric Iron Catalysis. Molecules, 2020, 25, 3889.	1.7	37
23	Enzyme-Assisted Nucleic Acid Detection for Infectious Disease Diagnostics: Moving toward the Point-of-Care. ACS Sensors, 2020, 5, 2701-2723.	4.0	56
24	Photoenzymatic Generation of Unstabilized Alkyl Radicals: An Asymmetric Reductive Cyclization. Journal of the American Chemical Society, 2020, 142, 15673-15677.	6.6	76
25	Incorporation of a Cp*Rh(III)-dithiophosphate Cofactor with Latent Activity into a Protein Scaffold Generates a Biohybrid Catalyst Promoting C(sp <sup>2</sup> )â€”H Bond Functionalization. Inorganic Chemistry, 2020, 59, 14457-14463.	1.9	12
26	An Elegant Four-Helical Fold in NOX and STEAP Enzymes Facilitates Electron Transport across Biomembranesâ€”Similar Vehicle, Different Destination. Accounts of Chemical Research, 2020, 53, 1969-1980.	7.6	18
27	Enzymatic Bioreactors: An Electrochemical Perspective. Catalysts, 2020, 10, 1232.	1.6	20
28	Engineered biosynthetic pathways and biocatalytic cascades for sustainable synthesis. Current Opinion in Chemical Biology, 2020, 58, 146-154.	2.8	20
29	Enhancing a <i>de novo</i> enzyme activity by computationally-focused ultra-low-throughput screening. Chemical Science, 2020, 11, 6134-6148.	3.7	24
30	Iron- and cobalt-catalyzed C(sp <sup>3</sup> )â€”H bond functionalization reactions and their application in organic synthesis. Chemical Society Reviews, 2020, 49, 5310-5358.	18.7	119
31	3D-printed xylanase within biocompatible polymers as excellent catalyst for lignocellulose degradation. Chemical Engineering Journal, 2020, 400, 125920.	6.6	21
32	Embracing Natureâ€™s Catalysts: A Viewpoint on the Future of Biocatalysis. ACS Catalysis, 2020, 10, 8418-8427.	5.5	188
33	Engineering Cytochrome P450s for Enantioselective Cyclopropanation of Internal Alkynes. Journal of the American Chemical Society, 2020, 142, 6891-6895.	6.6	63
34	Exploring the Mechanism of Catalysis with the Unified Reaction Valley Approach (URVA)â€”A Review. Catalysts, 2020, 10, 691.	1.6	20
35	Lightâ€”driven catalysis with engineered enzymes and biomimetic systems. Biotechnology and Applied Biochemistry, 2020, 67, 463-483.	1.4	29
36	Exploring the molecular basis for selective Câ€”H functionalization in plant P450s. Synthetic and Systems Biotechnology, 2020, 5, 97-98.	1.8	4

#	ARTICLE	IF	CITATIONS
37	Enzymatic Lactone-Carbene C-H Insertion to Build Contiguous Chiral Centers. ACS Catalysis, 2020, 10, 5393-5398.	5.5	38
38	Enabling protein-hosted organocatalytic transformations. RSC Advances, 2020, 10, 16147-16161.	1.7	5
39	Biocatalytic Reduction Reactions from a Chemist's Perspective. Angewandte Chemie - International Edition, 2021, 60, 5644-5665.	7.2	118
40	Biokatalytische Reduktionen aus der Sicht eines Chemikers. Angewandte Chemie, 2021, 133, 5706-5727.	1.6	12
41	Biocatalysis: Enzymatic Synthesis for Industrial Applications. Angewandte Chemie - International Edition, 2021, 60, 88-119.	7.2	711
42	Biokatalyse: Enzymatische Synthese für industrielle Anwendungen. Angewandte Chemie, 2021, 133, 89-123.	1.6	89
43	High-throughput screening for high-efficiency small-molecule biosynthesis. Metabolic Engineering, 2021, 63, 102-125.	3.6	24
44	Generation of Oxidoreductases with Dual Alcohol Dehydrogenase and Amine Dehydrogenase Activity. Chemistry - A European Journal, 2021, 27, 3315-3325.	1.7	15
45	Directed Evolution of a Cp*Rh <sup>III</sup> -Linked Biohybrid Catalyst Based on a Screening Platform with Affinity Purification. ChemBioChem, 2021, 22, 679-685.	1.3	10
46	Biocatalysis – Key enabling tools from biocatalytic one-step and multi-step reactions to biocatalytic total synthesis. New Biotechnology, 2021, 60, 113-123.	2.4	31
47	Artificial metalloenzymes: The powerful alliance between protein scaffolds and organometallic catalysts. Current Opinion in Green and Sustainable Chemistry, 2021, 28, 100420.	3.2	9
48	Self-sufficient Cytochrome P450s and their potential applications in biotechnology. Chinese Journal of Chemical Engineering, 2021, 30, 121-135.	1.7	11
49	Arming Yourself for The In Silico Protein Design Revolution. Trends in Biotechnology, 2021, 39, 651-664.	4.9	13
50	Engineering Biofunctional Enzyme-Mimics for Catalytic Therapeutics and Diagnostics. Advanced Functional Materials, 2021, 31, 2007475.	7.8	47
51	Artificial Enzymes for Diels-Alder Reactions. ChemBioChem, 2021, 22, 443-459.	1.3	11
52	Biocatalysis in Flow for Drug Discovery. Topics in Medicinal Chemistry, 2021, , 275-316.	0.4	1
53	Peptide sequence mediated self-assembly of molybdenum blue nanowheel superstructures. Chemical Science, 2021, 12, 2427-2432.	3.7	14
54	Artificial enzymes bringing together computational design and directed evolution. Organic and Biomolecular Chemistry, 2021, 19, 1915-1925.	1.5	20

#	ARTICLE	IF	CITATIONS
55	Engineering Escherichia coli for the utilization of ethylene glycol. Microbial Cell Factories, 2021, 20, 22.	1.9	18
56	Recent advances in (chemo)enzymatic cascades for upgrading bio-based resources. Chemical Communications, 2021, 57, 10661-10674.	2.2	28
57	Navigating the Unnatural Reaction Space: Directed Evolution of Heme Proteins for Selective Carbene and Nitrene Transfer. Accounts of Chemical Research, 2021, 54, 1209-1225.	7.6	161
58	Biocatalysis in Continuous-Flow Microfluidic Reactors. Advances in Biochemical Engineering/Biotechnology, 2021, , 211-246.	0.6	10
59	Biomolecular QM/MM Simulations: What Are Some of the "Burning Issues". Journal of Physical Chemistry B, 2021, 125, 689-702.	1.2	68
60	Histidine orientation in artificial peroxidase regioisomers as determined by paramagnetic NMR shifts. Chemical Communications, 2021, 57, 990-993.	2.2	7
61	Membrane transport inspired hydrolysis of non-activated esters at near physiological pH. Chemical Communications, 2021, 57, 11088-11091.	2.2	2
62	Reshaping the Active Pocket of Promiscuous Lactonases for Degrading Bulky Organophosphate Flame Retardants. Chemical Communications, 2021, 57, 6475-6478.	2.2	4
63	The beauty of biocatalysis: sustainable synthesis of ingredients in cosmetics. Natural Product Reports, 2022, 39, 335-388.	5.2	25
64	Power of Biocatalysis for Organic Synthesis. ACS Central Science, 2021, 7, 55-71.	5.3	186
65	A computational approach to understand the role of metals and axial ligands in artificial heme enzyme catalyzed C-H insertion. Physical Chemistry Chemical Physics, 2021, 23, 9500-9511.	1.3	15
66	Engineering ribose-5-phosphate isomerase B from a central carbon metabolic enzyme to a promising sugar biocatalyst. Applied Microbiology and Biotechnology, 2021, 105, 509-523.	1.7	8
67	Enzymatic strategies for asymmetric synthesis. RSC Chemical Biology, 2021, 2, 958-989.	2.0	34
68	Enzyme promiscuity prediction using hierarchy-informed multi-label classification. Bioinformatics, 2021, 37, 2017-2024.	1.8	18
69	Heme-binding enables allosteric modulation in an ancient TIM-barrel glycosidase. Nature Communications, 2021, 12, 380.	5.8	20
70	Recent trends in biocatalysis. Chemical Society Reviews, 2021, 50, 8003-8049.	18.7	175
71	Applied biocatalysis beyond just buffers " from aqueous to unconventional media. Options and guidelines. Green Chemistry, 2021, 23, 3191-3206.	4.6	81
72	Improving the activity and thermostability of CH <sub>2</sub> Î²-glucuronidases via domain reassembly. Biotechnology and Bioengineering, 2021, 118, 1962-1972.	1.7	2

#	ARTICLE	IF	CITATIONS
73	Computer-aided enzymatic retrosynthesis. <i>Nature Catalysis</i> , 2021, 4, 92-93.	16.1	8
74	Expanding the synthetic scope of biocatalysis by enzyme discovery and protein engineering. <i>Tetrahedron</i> , 2021, 82, 131926.	1.0	29
75	Catalytic Nanozyme for Radiation Protection. <i>Bioconjugate Chemistry</i> , 2021, 32, 411-429.	1.8	23
76	Chemoenzymatic Total Synthesis of Natural Products. <i>Accounts of Chemical Research</i> , 2021, 54, 1374-1384.	7.6	48
77	Molecular biology interventions for activity improvement and production of industrial enzymes. <i>Bioresource Technology</i> , 2021, 324, 124596.	4.8	22
78	Intramolecular Stereoselective Stetter Reaction Catalyzed by Benzaldehyde Lyase. <i>Angewandte Chemie - International Edition</i> , 2021, 60, 9326-9329.	7.2	16
79	Artificial Organelles: Towards Adding or Restoring Intracellular Activity. <i>ChemBioChem</i> , 2021, 22, 2051-2078.	1.3	38
80	Enzymkatalysierte spÄte Modifizierungen: Besser spÄt als nie. <i>Angewandte Chemie</i> , 2021, 133, 16962-16993.	1.6	11
81	Intramolecular Stereoselective Stetter Reaction Catalyzed by Benzaldehyde Lyase. <i>Angewandte Chemie</i> , 2021, 133, 9412-9415.	1.6	5
82	Enzymatic Late-Stage Modifications: Better Late Than Never. <i>Angewandte Chemie - International Edition</i> , 2021, 60, 16824-16855.	7.2	75
83	Activation modes in biocatalytic radical cyclization reactions. <i>Journal of Industrial Microbiology and Biotechnology</i> , 2021, 48, .	1.4	15
84	Biohybrid Systems for Improved Bioinspired, Energy-Relevant Catalysis. <i>ChemBioChem</i> , 2021, 22, 2353-2367.	1.3	4
85	Recent Advances in Biocatalysis with Chemical Modification and Expanded Amino Acid Alphabet. <i>Chemical Reviews</i> , 2021, 121, 6173-6245.	23.0	62
86	A Perspective on Synthetic Biology in Drug Discovery and Development—Current Impact and Future Opportunities. <i>SLAS Discovery</i> , 2021, 26, 581-603.	1.4	10
87	Light-Driven CO <sub>2</sub> Reduction by Co-Cytochrome b562. <i>Frontiers in Molecular Biosciences</i> , 2021, 8, 609654.	1.6	10
88	Exploring mechanism of enzyme catalysis by on-chip transient kinetics coupled with global data analysis and molecular modeling. <i>CheM</i> , 2021, 7, 1066-1079.	5.8	27
89	Fixing nature's carbon inefficiencies. <i>Joule</i> , 2021, 5, 765-767.	11.7	0
90	Revolutionizing enzyme engineering through artificial intelligence and machine learning. <i>Emerging Topics in Life Sciences</i> , 2021, 5, 113-125.	1.1	21

#	ARTICLE	IF	CITATIONS
92	Application of Ketoreductase in Asymmetric Synthesis of Pharmaceuticals and Bioactive Molecules: An Update (2018–2020). <i>Chemical Record</i> , 2021, 21, 1611-1630.	2.9	40
93	Rational Design of a Miniature Photocatalytic CO <sub>2</sub> -Reducing Enzyme. <i>ACS Catalysis</i> , 2021, 11, 5628-5635.	5.5	20
94	Advancements in macromolecular crystallography: from past to present. <i>Emerging Topics in Life Sciences</i> , 2021, 5, 127-149.	1.1	17
95	<i>E. coli</i> Nickel-Iron Hydrogenase 1 Catalyses Non-native Reduction of Flavins: Demonstration for Alkene Hydrogenation by Old Yellow Enzyme $\alpha$ -reductases**. <i>Angewandte Chemie</i> , 2021, 133, 13943-13947.	1.6	0
96	Reversal and Amplification of the Enantioselectivity of Biocatalytic Desymmetrization toward Meso Heterocyclic Dicarboxamides Enabled by Rational Engineering of Amidase. <i>ACS Catalysis</i> , 2021, 11, 6900-6907.	5.5	16
97	Enhancing the Photocatalytic Conversion of Pt(IV) Substrates by Flavoprotein Engineering. <i>Journal of Physical Chemistry Letters</i> , 2021, 12, 4504-4508.	2.1	9
98	Synthetic Biology towards Improved Flavonoid Pharmacokinetics. <i>Biomolecules</i> , 2021, 11, 754.	1.8	29
99	Biocatalytic Transformations of Silicon—the Other Group 14 Element. <i>ACS Central Science</i> , 2021, 7, 944-953.	5.3	28
100	<i>E. coli</i> Nickel-Iron Hydrogenase 1 Catalyses Non-native Reduction of Flavins: Demonstration for Alkene Hydrogenation by Old Yellow Enzyme $\alpha$ -reductases**. <i>Angewandte Chemie - International Edition</i> , 2021, 60, 13824-13828.	7.2	8
102	Prospects of Using Biocatalysis for the Synthesis and Modification of Polymers. <i>Molecules</i> , 2021, 26, 2750.	1.7	16
103	Large-scale production of enzymes for biotechnology uses. <i>Current Opinion in Biotechnology</i> , 2021, 69, 68-76.	3.3	71
105	New-to-nature chemistry from old protein machinery: carbene and nitrene transferases. <i>Current Opinion in Biotechnology</i> , 2021, 69, 43-51.	3.3	57
106	The N-Acetyl Amino Acid Racemases (NAAARs); Native and evolved biocatalysts applied to the synthesis of canonical and non-canonical amino acids. <i>Current Opinion in Biotechnology</i> , 2021, 69, 212-220.	3.3	3
107	Enzymes in biotechnology: Critical platform technologies for bioprocess development. <i>Current Opinion in Biotechnology</i> , 2021, 69, 91-102.	3.3	34
108	An in vivo selection system with tightly regulated gene expression enables directed evolution of highly efficient enzymes. <i>Scientific Reports</i> , 2021, 11, 11669.	1.6	4
109	A dynamic understanding of cytochrome P450 structure and function through solution NMR. <i>Current Opinion in Biotechnology</i> , 2021, 69, 35-42.	3.3	9
110	Recent advancements in enzyme-mediated crosslinkable hydrogels: <i>in vivo</i> -mimicking strategies. <i>APL Bioengineering</i> , 2021, 5, 021502.	3.3	39
111	Biinspired Self-Assembling Materials for Modulating Enzyme Functions. <i>Advanced Functional Materials</i> , 2021, 31, 2104819.	7.8	21

#	ARTICLE	IF	CITATIONS
112	Computational Enzyme Engineering Pipelines for Optimized Production of Renewable Chemicals. <i>Frontiers in Bioengineering and Biotechnology</i> , 2021, 9, 673005.	2.0	14
113	Computer-aided understanding and engineering of enzymatic selectivity. <i>Biotechnology Advances</i> , 2022, 54, 107793.	6.0	25
114	Structural basis of the stereoselective formation of the spirooxindole ring in the biosynthesis of citrinadins. <i>Nature Communications</i> , 2021, 12, 4158.	5.8	17
115	Directed Evolution: Methodologies and Applications. <i>Chemical Reviews</i> , 2021, 121, 12384-12444.	23.0	220
116	Late-stage C-H functionalization offers new opportunities in drug discovery. <i>Nature Reviews Chemistry</i> , 2021, 5, 522-545.	13.8	341
117	Photocatalyst-enzyme hybrid systems for light-driven biotransformation. <i>Biotechnology Advances</i> , 2022, 54, 107808.	6.0	25
118	Modification of the Enantioselectivity of Biocatalytic <i>meso</i> -Desymmetrization for Synthesis of Both Enantiomers of <i>cis</i> -1,2-Disubstituted Cyclohexane by Amidase Engineering. <i>Advanced Synthesis and Catalysis</i> , 2021, 363, 4538-4543.	2.1	7
119	Enantioselective biocatalytic desymmetrization for synthesis of enantiopure <i>cis</i> -3,4-disubstituted pyrrolidines. <i>Green Synthesis and Catalysis</i> , 2021, 2, 324-327.	3.7	10
120	One-Pot Synthesis of Primary and Secondary Aliphatic Amines via Mild and Selective $\text{sp}^3$ C-H Imination. <i>Chemistry - A European Journal</i> , 2021, 27, 17601-17608.	1.7	6
121	Protein Assembly by Design. <i>Chemical Reviews</i> , 2021, 121, 13701-13796.	23.0	123
122	Key mutation sites for improvement of the enantioselectivity of lipases through protein engineering. <i>Biochemical Engineering Journal</i> , 2021, 172, 108047.	1.8	14
123	Catalyst-Controlled Chemoselective Nitrene Transfers. <i>Helvetica Chimica Acta</i> , 2021, 104, e2100140.	1.0	16
125	Design and evolution of chimeric streptavidin for protein-enabled dual gold catalysis. <i>Nature Catalysis</i> , 2021, 4, 643-653.	16.1	32
126	Development of aldolase-based catalysts for the synthesis of organic chemicals. <i>Trends in Biotechnology</i> , 2022, 40, 306-319.	4.9	9
127	Biotechnological applications of S-adenosyl-methionine-dependent methyltransferases for natural products biosynthesis and diversification. <i>Bioresources and Bioprocessing</i> , 2021, 8, .	2.0	16
128	Repurposed and artificial heme enzymes for cyclopropanation reactions. <i>Journal of Inorganic Biochemistry</i> , 2021, 222, 111523.	1.5	11
129	A comprehensive survey upon diverse and prolific applications of chitosan-based catalytic systems in one-pot multi-component synthesis of heterocyclic rings. <i>International Journal of Biological Macromolecules</i> , 2021, 186, 1003-1166.	3.6	30
130	Single-Atom Catalysis: From Simple Reactions to the Synthesis of Complex Molecules. <i>Advanced Materials</i> , 2022, 34, e2103882.	11.1	38



#	ARTICLE	IF	CITATIONS
131	Structural model and functional properties of an exo-polygalacturonase from <i>Neosartorya glabra</i> . <i>International Journal of Biological Macromolecules</i> , 2021, 186, 909-918.	3.6	3
133	Tuning enzymatic properties by protein engineering toward catalytic tetrad of carbonyl reductase. <i>Biotechnology and Bioengineering</i> , 2021, 118, 4643-4654.	1.7	2
134	Nitrene transfers mediated by natural and artificial iron enzymes. <i>Journal of Inorganic Biochemistry</i> , 2021, 225, 111613.	1.5	5
135	Engineering a Carbonyl Reductase as a Potential Tool for the Synthesis of Chiral $\beta$ -Tetralinols. <i>ChemCatChem</i> , 2021, 13, 4625-4633.	1.8	2
136	The past, present, and future of enzyme-based therapies. <i>Drug Discovery Today</i> , 2022, 27, 117-133.	3.2	12
137	Rational Redesign of Enzyme via the Combination of Quantum Mechanics/Molecular Mechanics, Molecular Dynamics, and Structural Biology Study. <i>Journal of the American Chemical Society</i> , 2021, 143, 15674-15687.	6.6	32
138	Boosted activity by engineering the enzyme microenvironment in cascade reaction: A molecular understanding. <i>Synthetic and Systems Biotechnology</i> , 2021, 6, 163-172.	1.8	6
139	Biocatalytic Asymmetric Cyclopropanations via Enzyme-Bound Iminium Ion Intermediates. <i>Angewandte Chemie</i> , 2021, 133, 24261-24265.	1.6	10
140	Biocatalytic Asymmetric Cyclopropanations via Enzyme-Bound Iminium Ion Intermediates. <i>Angewandte Chemie - International Edition</i> , 2021, 60, 24059-24063.	7.2	18
141	Systems for <i>in vivo</i> hypermutation: a quest for scale and depth in directed evolution. <i>Current Opinion in Chemical Biology</i> , 2021, 64, 20-26.	2.8	27
142	Hybrid enzyme catalysts synthesized by a <i>de novo</i> approach for expanding biocatalysis. <i>Chinese Journal of Catalysis</i> , 2021, 42, 1625-1633.	6.9	10
143	Bio-based resources, bioprocesses and bioproducts in value creation architectures for bioeconomy markets and beyond – What really matters. <i>EFB Bioeconomy Journal</i> , 2021, 1, 100009.	1.1	7
144	Chemical modification of M13 bacteriophage as nanozyme container for dramatically enhanced sensitivity of colorimetric immunosensor. <i>Sensors and Actuators B: Chemical</i> , 2021, 346, 130368.	4.0	21
145	Rationally engineered chitin deacetylase from <i>Arthrobacter</i> sp. AW19M34-1 with improved catalytic activity toward crystalline chitin. <i>Carbohydrate Polymers</i> , 2021, 274, 118637.	5.1	9
146	Cofactor-free organic nanozyme with assembly-induced catalysis and light-regulated activity. <i>Chemical Engineering Journal</i> , 2021, 426, 130855.	6.6	15
147	Iterative conformational dynamics-guided protein engineering reshapes biocatalyst properties for efficient and cost-effective cytidine 5 <sup>′</sup> -monophosphate production. <i>Chemical Engineering Journal</i> , 2021, 425, 131597.	6.6	12
148	A new-to-nature carboxylation module to improve natural and synthetic CO <sub>2</sub> fixation. <i>Nature Catalysis</i> , 2021, 4, 105-115.	16.1	83
149	Preparation and application of solvent-free liquid proteins with enhanced thermal and anhydrous stabilities. <i>New Journal of Chemistry</i> , 2021, 45, 6577-6585.	1.4	5

#	ARTICLE	IF	CITATIONS
150	Enzyme entrapment, biocatalyst immobilization without covalent attachment. <i>Green Chemistry</i> , 2021, 23, 4980-5005.	4.6	125
151	Enzymatic production of $\beta$ -glucose 1,6-bisphosphate through manipulation of catalytic magnesium coordination. <i>Green Chemistry</i> , 2021, 23, 752-762.	4.6	3
152	Aqueous chemoenzymatic one-pot enantioselective synthesis of tertiary $\beta$ -aryl cycloketones <i>via</i> Pd-catalyzed C=C formation and enzymatic C=C asymmetric hydrogenation. <i>Green Chemistry</i> , 2021, 23, 1960-1964.	4.6	29
153	Solid/Gas Reactivity of Organometallic Species in Confined Spaces. <i>Monographs in Supramolecular Chemistry</i> , 2021, , 282-321.	0.2	0
154	Biosynthesis of chiral cyclic and heterocyclic alcohols <i>via</i> C=O/C=H/C=O asymmetric reactions. <i>Catalysis Science and Technology</i> , 2021, 11, 2637-2651.	2.1	11
155	Engineering aldolases for asymmetric synthesis. <i>Methods in Enzymology</i> , 2020, 644, 149-167.	0.4	5
156	Enzymatic Primary Amination of Benzylic and Allylic C(sp <sup>3</sup> )-H Bonds. <i>Journal of the American Chemical Society</i> , 2020, 142, 10279-10283.	6.6	116
157	Quaternary Charge-Transfer Complex Enables Photoenzymatic Intermolecular Hydroalkylation of Olefins. <i>Journal of the American Chemical Society</i> , 2021, 143, 97-102.	6.6	84
158	Importance learning estimator for the site-averaged turnover frequency of a disordered solid catalyst. <i>Journal of Chemical Physics</i> , 2020, 153, 244120.	1.2	8
159	Ligand Exchange Strategy for Delivery of Ruthenium Complex Unit to Biomolecules Based on Ruthenium-Olefin Specific Interactions. <i>Chemistry Letters</i> , 2020, 49, 1490-1493.	0.7	4
160	Stereo-selective synthesis of non-canonical $\beta$ -hydroxy- $\beta$ -amino acids by enzymatic carbon-carbon bond formation. <i>Catalysis Science and Technology</i> , 2021, 11, 7380-7385.	2.1	2
161	A protein scaffold enables hydrogen evolution for a Ni-bisdiphosphine complex. <i>Dalton Transactions</i> , 2021, 50, 15754-15759.	1.6	2
162	MD simulations and QM/MM calculations reveal the key mechanistic elements which are responsible for the efficient C-H amination reaction performed by a bioengineered P450 enzyme. <i>Chemical Science</i> , 2021, 12, 14507-14518.	3.7	21
163	Promising strategies to control persistent enemies: Some new technologies to combat biofilm in the food industry – A review. <i>Comprehensive Reviews in Food Science and Food Safety</i> , 2021, 20, 5938-5964.	5.9	25
164	Enzymatic synthesis of fluorinated compounds. <i>Applied Microbiology and Biotechnology</i> , 2021, 105, 8033-8058.	1.7	14
165	Dual-function enzyme catalysis for enantioselective carbon-nitrogen bond formation. <i>Nature Chemistry</i> , 2021, 13, 1166-1172.	6.6	48
166	Parallels between enzyme catalysis, electrocatalysis, and photoelectrosynthesis. <i>Chem Catalysis</i> , 2021, 1, 978-996.	2.9	3
167	Controlling Selectivity in the Synthesis of $\beta$ -Unsaturated Amidines by Tuning the N-Sulfonyl Group in a Rhodium(II) Catalyzed 1,2-H Shift. <i>European Journal of Organic Chemistry</i> , 2021, 2021, 5857-5861.	1.2	5

#	ARTICLE	IF	CITATIONS
168	Engineering and emerging applications of artificial metalloenzymes with whole cells. <i>Nature Catalysis</i> , 2021, 4, 814-827.	16.1	38
169	Rational Design of Biocatalytic Deuteration Platform of Aldehydes. <i>ACS Catalysis</i> , 2021, 11, 13348-13354.	5.5	9
174	Research fronts of Chemical Biology. <i>Pure and Applied Chemistry</i> , 2021, 93, 1473-1485.	0.9	0
175	<i>De Novo</i> Design, Solution Characterization, and Crystallographic Structure of an Abiological Mn <sup>IV</sup> -Porphyrin-Binding Protein Capable of Stabilizing a Mn(V) Species. <i>Journal of the American Chemical Society</i> , 2021, 143, 252-259.	6.6	19
176	Enzyme-photo-coupled catalytic systems. <i>Chemical Society Reviews</i> , 2021, 50, 13449-13466.	18.7	61
177	Engineering a Non-Natural Photoenzyme for Improved Photon Efficiency**. <i>Angewandte Chemie - International Edition</i> , 2022, 61, .	7.2	34
178	Biocatalytic Alkylation Chemistry: Building Molecular Complexity with High Selectivity. <i>ChemPlusChem</i> , 2022, 87, .	1.3	10
179	Engineering a Non-Natural Photoenzyme for Improved Photon Efficiency. <i>Angewandte Chemie</i> , 0, , .	1.6	1
180	Cofactor-Assisted Artificial Enzyme with Multiple Li-Bond Networks for Sustainable Polysulfide Conversion in Lithium-Sulfur Batteries. <i>Advanced Science</i> , 2022, 9, e2104205.	5.6	20
181	A chemoenzymatic cascade with the potential to feed the world and allow humans to live in space. <i>Engineering Microbiology</i> , 2022, 2, 100006.	2.2	2
183	Inorganic Nanozymes: Prospects for Disease Treatments and Detection Applications. <i>Frontiers in Chemistry</i> , 2021, 9, 773285.	1.8	11
184	Directed Evolution of Artificial Metalloenzymes in Whole Cells. <i>Angewandte Chemie</i> , 2022, 134, e202110519.	1.6	2
185	Enzyme-mimicking capacities of carbon-dots nanozymes: Properties, catalytic mechanism, and applications – A review. <i>International Journal of Biological Macromolecules</i> , 2022, 194, 676-687.	3.6	72
186	Shortening Synthetic Routes to Small Molecule Active Pharmaceutical Ingredients Employing Biocatalytic Methods. <i>Chemical Reviews</i> , 2022, 122, 1052-1126.	23.0	105
187	Directed Evolution of Artificial Metalloenzymes in Whole Cells. <i>Angewandte Chemie - International Edition</i> , 2022, 61, .	7.2	14
188	Photoenzymatic Synthesis of Î±-Tertiary Amines by Engineered Flavin-Dependent –Reductases. <i>Journal of the American Chemical Society</i> , 2021, 143, 19643-19647.	6.6	45
189	O-Protected NH-free hydroxylamines: emerging electrophilic aminating reagents for organic synthesis. <i>Chemical Communications</i> , 2021, 57, 13495-13505.	2.2	8
190	<i>N</i>-Phenylputrescine (NPP): a natural product inspired amine donor for biocatalysis. <i>Green Chemistry</i> , 2022, 24, 2010-2016.	4.6	11

#	ARTICLE	IF	CITATIONS
191	High-Throughput Experimentation in Organometallic Chemistry and Catalysis. , 2022, , 502-555.		2
192	Single-Molecule Sampling of Dihydrofolate Reductase Shows Kinetic Pauses and an Endosteric Effect Linked to Catalysis. ACS Catalysis, 2022, 12, 1228-1236.	5.5	5
193	Design for Solubility May Reveal Induction of Amide Hydrogen/Deuterium Exchange by Protein Self-Association. Journal of Molecular Biology, 2022, 434, 167398.	2.0	1
194	Deconvoluting the Directed Evolution Pathway of Engineered Acyltransferase LovD. ChemCatChem, 2022, 14, e202101349.	1.8	7
195	Fragment antigen binding domains (Fabs) as tools to study assembly-line polyketide synthases. Synthetic and Systems Biotechnology, 2022, 7, 506-512.	1.8	3
196	Opportunities for interfacing organometallic catalysts with cellular metabolism. , 2021, , .		0
197	Autonomous Reaction Network Exploration in Homogeneous and Heterogeneous Catalysis. Topics in Catalysis, 2022, 65, 6-39.	1.3	27
198	Synthetic and biosynthetic methods for selective cyclisations of 4,5-epoxy alcohols to tetrahydropyrans. Organic and Biomolecular Chemistry, 2022, 20, 1150-1175.	1.5	14
199	Atomic Chromium Coordinated Graphitic Carbon Nitride for Bioinspired Antibiofouling in Seawater. Advanced Science, 2022, 9, e2105346.	5.6	27
200	Synthetic Applications of Carbene and Nitrene C H Insertion. , 2022, , .		0
201	Ensuring the Sustainability of Biocatalysis. ChemSusChem, 2022, 15, .	3.6	8
202	Biosynthesis of Chiral Amino Alcohols via an Engineered Amine Dehydrogenase in E. coli. Frontiers in Bioengineering and Biotechnology, 2021, 9, 778584.	2.0	7
203	Synthetic prodrug design enables biocatalytic activation in mice to elicit tumor growth suppression. Nature Communications, 2022, 13, 39.	5.8	34
204	Efficient 2-Step Enzymatic Cascade for the Bioconversion of Oleuropein into Hydroxytyrosol. Antioxidants, 2022, 11, 260.	2.2	7
205	Combining chemistry and protein engineering for new-to-nature biocatalysis. , 2022, 1, 18-23.		80
206	Forty years of directed evolution and its continuously evolving technology toolbox: A review of the patent landscape. Biotechnology and Bioengineering, 2022, 119, 693-724.	1.7	4
207	Carbon Nanomaterials (CNMs) and Enzymes: From Nanozymes to CNM-Enzyme Conjugates and Biodegradation. Materials, 2022, 15, 1037.	1.3	13
208	Reaching New Biocatalytic Reactivity Using Continuous Flow Reactors. Chemistry - A European Journal, 2022, 28, .	1.7	18

#	ARTICLE	IF	CITATIONS
209	Engineered Cyclohexylamine Oxidase with Improved Activity and Stereoselectivity for Asymmetric Synthesis of a Bulky Dextromethorphan Precursor and Its Analogues. <i>ChemCatChem</i> , 2022, 14, .	1.8	3
210	Research update of emergent gold nanoclusters: A reinforced approach towards evolution, synthesis mechanism and application. <i>Talanta</i> , 2022, 241, 123228.	2.9	12
211	Development of dual-enhancer biocatalyst with photothermal property for the degradation of cephalosporin. <i>Journal of Hazardous Materials</i> , 2022, 429, 128294.	6.5	13
212	Tailored enzymes as next-generation food-packaging tools. <i>Trends in Biotechnology</i> , 2022, 40, 1004-1017.	4.9	10
213	Tandem Friedel-Crafts Alkylation-Enantioselective-Protonation by Artificial Enzyme Iminium Catalysis. <i>ChemCatChem</i> , 2022, 14, .	1.8	7
214	Local Electric Fields Dictate Function: The Different Product Selectivities Observed for Fatty Acid Oxidation by Two Deceptively Very Similar P450-Peroxygenases OleT and BSI <sup>2</sup> . <i>Journal of Chemical Information and Modeling</i> , 2022, 62, 1025-1035.	2.5	12
215	Hot spots-making directed evolution easier. <i>Biotechnology Advances</i> , 2022, 56, 107926.	6.0	35
216	Nitric oxide producing artificial enzymes based on metalloporphyrins. <i>Materials Today Chemistry</i> , 2022, 23, 100743.	1.7	4
217	The Interplay of Electrostatics and Chemical Positioning in the Evolution of Antibiotic Resistance in TEM $\beta$ -Lactamases. <i>ACS Central Science</i> , 2021, 7, 1996-2008.	5.3	19
218	Stereodivergent atom-transfer radical cyclization by engineered cytochromes P450. <i>Science</i> , 2021, 374, 1612-1616.	6.0	73
219	Chemical Bonding in Homogenous Catalysis “ Seen Through the Eyes of Vibrational Spectroscopy. , 2024, , 622-648.		0
220	Properties and Mechanisms of Flavin-Dependent Monooxygenases and Their Applications in Natural Product Synthesis. <i>International Journal of Molecular Sciences</i> , 2022, 23, 2622.	1.8	11
221	Non-Canonical Amino Acid-Based Engineering of (R)-Amine Transaminase. <i>Frontiers in Chemistry</i> , 2022, 10, 839636.	1.8	9
222	In silico evolution of nucleic acid-binding proteins from a nonfunctional scaffold. <i>Nature Chemical Biology</i> , 2022, 18, 403-411.	3.9	4
223	Rational design of allosteric switchable catalysts. <i>Exploration</i> , 0, , 20210095.	5.4	9
224	Integrating protein engineering into biocatalytic process scale-up. <i>Trends in Chemistry</i> , 2022, 4, 371-373.	4.4	4
225	Computational Design of Homotetrameric Peptide Bundle Variants Spanning a Wide Range of Charge States. <i>Biomacromolecules</i> , 2022, 23, 1652-1661.	2.6	3
226	Photobiocatalysis for Abiological Transformations. <i>Accounts of Chemical Research</i> , 2022, 55, 1087-1096.	7.6	73

#	ARTICLE	IF	CITATIONS
227	Enhancing Enzyme Activity by the Modulation of Covalent Interactions in the Confined Channels of Covalent Organic Frameworks. <i>Angewandte Chemie</i> , 2022, 134, .	1.6	7
228	Detection of cellular metabolites by redox enzymatic cascades. <i>Biotechnology Journal</i> , 2022, 17, e2100466.	1.8	2
229	Enhancing Enzyme Activity by the Modulation of Covalent Interactions in the Confined Channels of Covalent Organic Frameworks. <i>Angewandte Chemie - International Edition</i> , 2022, 61, .	7.2	48
230	New catalytic reactions by enzyme engineering. <i>Trends in Chemistry</i> , 2022, 4, 363-366.	4.4	9
231	Modulating Electron Transfer in Vanadium-Based Artificial Enzymes for Enhanced ROS-Catalysis and Disinfection. <i>Advanced Materials</i> , 2022, 34, e2108646.	11.1	44
232	Protein-Mediated Biosynthesis of Semiconductor Nanocrystals for Photocatalytic NAD(P)H Regeneration and Chiral Amine Production. <i>Angewandte Chemie - International Edition</i> , 2022, 61, .	7.2	11
233	Dynamic coupling of residues within proteins as a mechanistic foundation of many enigmatic pathogenic missense variants. <i>PLoS Computational Biology</i> , 2022, 18, e1010006.	1.5	16
234	Oxygenating Biocatalysts for Hydroxyl Functionalisation in Drug Discovery and Development. <i>ChemMedChem</i> , 2022, 17, .	1.6	15
235	Protein-Mediated Biosynthesis of Semiconductor Nanocrystals for Photocatalytic NAD(P)H Regeneration and Chiral Amine Production. <i>Angewandte Chemie</i> , 0, , .	1.6	2
236	Biocatalysts used for multi-step reactions in continuous flow. <i>Chemical Engineering Journal</i> , 2022, 437, 135400.	6.6	11
237	Metabolite-based biosensors for natural product discovery and overproduction. <i>Current Opinion in Biotechnology</i> , 2022, 75, 102699.	3.3	12
238	Immobilized fungal enzymes: Innovations and potential applications in biodegradation and biosynthesis. <i>Biotechnology Advances</i> , 2022, 57, 107936.	6.0	23
239	Proteomic analysis of <i>Fusarium</i> sp. NF01 revealed a multi-level regulatory machinery for lignite biodegradation. <i>Energy</i> , 2022, 250, 123763.	4.5	3
240	Compuestos organometálicos y de coordinación: Más que sólo una buena relación de metales de transición y moléculas orgánicas. <i>TECNOCENCIA (MÉxico)</i> , 2021, 15, 261-276.	0.1	0
241	Biocatalytic Site-Selective Hydrogen Isotope Exchange of Unsaturated Fragments with D <sub>2</sub> O. <i>ACS Catalysis</i> , 2022, 12, 783-788.	5.5	6
242	De novo metalloprotein design. <i>Nature Reviews Chemistry</i> , 2022, 6, 31-50.	13.8	44
243	Chemoenzymatic synthesis of natural products using plant biocatalysts. <i>Current Opinion in Green and Sustainable Chemistry</i> , 2022, 35, 100627.	3.2	4
244	Methods for the directed evolution of biomolecular interactions. <i>Trends in Biochemical Sciences</i> , 2022, 47, 403-416.	3.7	3

#	ARTICLE	IF	CITATIONS
245	Yeast Surface Display: New Opportunities for a Time-Tested Protein Engineering System. <i>Methods in Molecular Biology</i> , 2022, 2491, 3-25.	0.4	7
246	Mechanistic Studies on the Epoxidation of Alkenes by Macrocyclic Manganese Porphyrin Catalysts. <i>European Journal of Organic Chemistry</i> , 2022, 2022, .	1.2	2
248	Multiagent Screening Improves Directed Enzyme Evolution by Identifying Epistatic Mutations. <i>ACS Synthetic Biology</i> , 2022, 11, 1971-1983.	1.9	4
249	Photoinduced chemomimetic biocatalysis for enantioselective intermolecular radical conjugate addition. <i>Nature Catalysis</i> , 2022, 5, 586-593.	16.1	50
250	Biocatalytic Enantioselective $\alpha$ -Hydroxylation of Unactivated C-H Bonds in Aliphatic Carboxylic Acids. <i>Angewandte Chemie</i> , 0, , .	1.6	0
251	Biocatalytic Enantioselective $\alpha$ -Hydroxylation of Unactivated C-H Bonds in Aliphatic Carboxylic Acids. <i>Angewandte Chemie - International Edition</i> , 2022, 61, .	7.2	10
252	Rationally engineering santalene synthase to readjust the component ratio of sandalwood oil. <i>Nature Communications</i> , 2022, 13, 2508.	5.8	12
253	Expanding the use of ethanol as a feedstock for cell-free synthetic biochemistry by implementing acetyl-CoA and ATP generating pathways. <i>Scientific Reports</i> , 2022, 12, 7700.	1.6	6
254	New Horizons for Biocatalytic Science. <i>Frontiers in Catalysis</i> , 2022, 2, .	1.8	2
255	Directed evolution of nonheme iron enzymes to access abiological radical-relay C(sp <sup>3</sup> )-H azidation. <i>Science</i> , 2022, 376, 869-874.	6.0	36
257	In vivo hypermutation and continuous evolution. <i>Nature Reviews Methods Primers</i> , 2022, 2, .	11.8	39
259	Enzyme-photo-coupled catalysis in gas-sprayed microdroplets. <i>Chemical Science</i> , 2022, 13, 8341-8348.	3.7	6
260	Combined MD and QM/MM Calculations Reveal Allosterically Driven Promiscuity in Dipeptide Epimerases of Enolase Family. <i>Chemistry - an Asian Journal</i> , 2022, 17, .	1.7	2
261	A chemoenzymatic strategy for site-selective functionalization of native peptides and proteins. <i>Science</i> , 2022, 376, 1321-1327.	6.0	22
262	Catalysis driven by biohybrid nanozyme. , 2022, 1, 100024.		4
263	An Artificial Metalloenzyme Based on a Copper Heteroscorpionate Enables sp <sup>3</sup> C-H Functionalization via Intramolecular Carbene Insertion. <i>Journal of the American Chemical Society</i> , 2022, 144, 11676-11684.	6.6	11
264	Multiconfiguration Pair-Density Functional Theory Calculations of Iron(II) Porphyrin: Effects of Hybrid Pair-Density Functionals and Expanded RAS and DMRG Active Spaces on Spin-State Orderings. <i>Journal of Physical Chemistry A</i> , 2022, 126, 3957-3963.	1.1	10
265	Evolved Biosensor with High Sensitivity and Specificity for Measuring Cadmium in Actual Environmental Samples. <i>Environmental Science &amp; Technology</i> , 2022, 56, 10062-10071.	4.6	16



#	ARTICLE	IF	CITATIONS
266	Deep learning-based kcat prediction enables improved enzyme-constrained model reconstruction. <i>Nature Catalysis</i> , 2022, 5, 662-672.	16.1	98
267	Engineered P450 Atom-Transfer Radical Cyclases are Bifunctional Biocatalysts: Reaction Mechanism and Origin of Enantioselectivity. <i>Journal of the American Chemical Society</i> , 2022, 144, 13344-13355.	6.6	12
268	Biocatalytic Friedel-Crafts Reactions. <i>ChemCatChem</i> , 2022, 14, .	1.8	11
269	Binding of Dual-Function Hybridized Metal-Organic Capsules to Enzymes for Cascade Catalysis. <i>Jacs Au</i> , 0, , .	3.6	2
270	Complexity reduction and opportunities in the design, integration and intensification of biocatalytic processes for metabolite synthesis. <i>Frontiers in Bioengineering and Biotechnology</i> , 0, 10, .	2.0	3
271	Lactulose production from lactose isomerization by chemo-catalysts and enzymes: Current status and future perspectives. <i>Biotechnology Advances</i> , 2022, 60, 108021.	6.0	11
273	Near-Infrared Optical Sensing of Biomacromolecules with Upconversion Nanoplatfoms. <i>Advanced Photonics Research</i> , 2023, 4, .	1.7	0
274	YfeX – A New Platform for Carbene Transferase Development with High Intrinsic Reactivity. <i>Chemistry - A European Journal</i> , 0, , .	1.7	3
275	Engineering a Feruloyl-Coenzyme A Synthase for Bioconversion of Phenylpropanoid Acids into High-Value Aromatic Aldehydes. <i>Journal of Agricultural and Food Chemistry</i> , 2022, 70, 9948-9960.	2.4	10
276	Catalytic Peptides: the Challenge between Simplicity and Functionality. <i>Israel Journal of Chemistry</i> , 2022, 62, .	1.0	6
277	Going Beyond the Local Catalytic Activity Space of Chitinase Using a Simulation-Based Iterative Saturation Mutagenesis Strategy. <i>ACS Catalysis</i> , 2022, 12, 10235-10244.	5.5	8
278	Hydroxylation Regiochemistry Is Robust to Active Site Mutations in Cytochrome P450 <sub>cam</sub> (CYP101A1). <i>Biochemistry</i> , 0, , .	1.2	3
279	Single-atom nanozymes catalytically surpassing naturally occurring enzymes as sustained stitching for brain trauma. <i>Nature Communications</i> , 2022, 13, .	5.8	72
280	Frontiers in the enzymology of thiamin diphosphate-dependent enzymes. <i>Current Opinion in Structural Biology</i> , 2022, 76, 102441.	2.6	11
281	Engineered myoglobin as a catalyst for atom transfer radical cyclisation. <i>Chemical Communications</i> , 2022, 58, 10989-10992.	2.2	6
282	Engineering the activity of amine dehydrogenase in the asymmetric reductive amination of hydroxyl ketones. <i>Catalysis Science and Technology</i> , 2022, 12, 5952-5960.	2.1	5
283	Clean biocatalysis in sponge-like ionic liquids. , 2022, , 155-182.		1
284	Not a Mistake but a Feature: Promiscuous Activity of Enzymes Meeting Mycotoxins. <i>Catalysts</i> , 2022, 12, 1095.	1.6	6



#	ARTICLE	IF	CITATIONS
285	Transformer-based protein generation with regularized latent space optimization. <i>Nature Machine Intelligence</i> , 2022, 4, 840-851.	8.3	24
286	Hydrophilicity-Based Engineering of the Active Pocket of $\alpha$ -Amino Acid Oxidase Leading to Highly Improved Specificity toward $\alpha$ -Glufosinate. <i>Angewandte Chemie - International Edition</i> , 2022, 61, .	7.2	11
287	Hydrophilicity-Based Engineering of the Active Pocket of $\alpha$ -Amino Acid Oxidase Leading to Highly Improved Specificity toward $\alpha$ -Glufosinate. <i>Angewandte Chemie</i> , 0, , .	1.6	0
288	Enantioselective [2+2]-cycloadditions with triplet photoenzymes. <i>Nature</i> , 2022, 611, 715-720.	13.7	54
289	Continuous Flow Biocatalytic Reductive Amination by Co-Entrapping Dehydrogenases with Agarose Gel in a 3D-Printed Mould Reactor. <i>ChemBioChem</i> , 2022, 23, .	1.3	7
290	Enzymes based biocatalysis for the treatment of organic pollutants and bioenergy production. <i>Current Opinion in Green and Sustainable Chemistry</i> , 2022, , 100709.	3.2	2
291	NMR-guided directed evolution. <i>Nature</i> , 2022, 610, 389-393.	13.7	23
292	Near infrared light-induced dynamic modulation of enzymatic activity through polyphenol-functionalized liquid metal nanodroplets. <i>Chinese Chemical Letters</i> , 2023, 34, 107795.	4.8	4
293	Lipase and Its Unique Selectivity: A Mini-Review. <i>Journal of Chemistry</i> , 2022, 2022, 1-11.	0.9	5
294	Nanozyme Based on Porphyrinic Metal-Organic Framework for Electrocatalytic CO <sub>2</sub> Reduction. <i>Small Structures</i> , 2023, 4, .	6.9	2
295	Industrially useful enzymology: Translating biocatalysis from laboratory to process. <i>Chem Catalysis</i> , 2022, 2, 2499-2505.	2.9	5
296	Pickering Emulsions Stabilized by Lignin/Chitosan Nanoparticles for Biphasic Enzyme Catalysis. <i>Langmuir</i> , 2022, 38, 12849-12858.	1.6	11
297	Biocatalytic Thionation of Epoxides for Enantioselective Synthesis of Thiiranes. <i>Angewandte Chemie</i> , 0, , .	1.6	0
298	Design and Characterization of In-One Protease-Esterase PluriZyme. <i>International Journal of Molecular Sciences</i> , 2022, 23, 13337.	1.8	7
299	Biocatalytic Thionation of Epoxides for Enantioselective Synthesis of Thiiranes. <i>Angewandte Chemie - International Edition</i> , 2022, 61, .	7.2	6
300	A versatile artificial metalloenzyme scaffold enabling direct bioelectrocatalysis in solution. <i>Science Advances</i> , 2022, 8, .	4.7	2
301	Artificial multi-enzyme cascades for natural product synthesis. <i>Current Opinion in Biotechnology</i> , 2022, 78, 102831.	3.3	6
302	Cytochromes P450 in biosensing and biosynthesis applications: Recent progress and future perspectives. <i>TrAC - Trends in Analytical Chemistry</i> , 2023, 158, 116791.	5.8	6

#	ARTICLE	IF	CITATIONS
303	Liquid Fluxional Ga Single Atom Catalysts for Efficient Electrochemical CO <sub>2</sub> Reduction. <i>Angewandte Chemie - International Edition</i> , 2023, 62, .	7.2	94
304	Liquid Fluxional Ga Single Atom Catalysts for Efficient Electrochemical CO <sub>2</sub> Reduction. <i>Angewandte Chemie</i> , 2023, 135, .	1.6	13
305	Selection and modification of enzymes prior to immobilization. , 2023, , 17-35.		0
306	Future perspectives in enzyme immobilization. , 2023, , 403-426.		0
307	Genetically Encoded Phosphine Ligand for Metalloprotein Design. <i>Journal of the American Chemical Society</i> , 2022, 144, 22831-22837.	6.6	4
309	Protein trap-engineered metal-organic frameworks for advanced enzyme encapsulation and mimicking. <i>Nano Research</i> , 2023, 16, 3364-3371.	5.8	9
310	A Photoenzymatic Strategy for Radical-Mediated Stereoselective Hydroalkylation with Diazo Compounds. <i>Angewandte Chemie</i> , 0, , .	1.6	0
311	Undirected biocatalytic amination of unactivated C(sp <sup>3</sup> )-H bonds. <i>Chem Catalysis</i> , 2022, 2, 3287-3289.	2.9	0
312	Development of an Integrated System for Highly Selective Photoenzymatic Synthesis of Formic Acid from CO <sub>2</sub> . <i>ChemSusChem</i> , 2023, 16, .	3.6	5
313	A Photoenzymatic Strategy for Radical-Mediated Stereoselective Hydroalkylation with Diazo Compounds. <i>Angewandte Chemie - International Edition</i> , 2023, 62, .	7.2	14
314	Structure-driven protein engineering for production of valuable natural products. <i>Trends in Plant Science</i> , 2023, 28, 460-470.	4.3	3
315	Molecular Complementarity of Proteomimetic Materials for Target-Specific Recognition and Recognition-Mediated Complex Functions. <i>Advanced Materials</i> , 2023, 35, .	11.1	1
316	Engineering approaches for O <sub>2</sub> -dependent enzymes. <i>Current Opinion in Green and Sustainable Chemistry</i> , 2023, 40, 100733.	3.2	3
317	Peptide Variant Detection by a Living Yeast Biosensor via an Epitope-Selective Protease. <i>Biodesign Research</i> , 2023, 5, .	0.8	2
318	Asymmetric C-Alkylation of Nitroalkanes via Enzymatic Photoredox Catalysis. <i>Journal of the American Chemical Society</i> , 2023, 145, 787-793.	6.6	19
319	Alteration of Chain-Length Selectivity and Thermostability of <i>Rhizopus oryzae</i> Lipase via Virtual Saturation Mutagenesis Coupled with Disulfide Bond Design. <i>Applied and Environmental Microbiology</i> , 2023, 89, .	1.4	10
321	Moving towards the Application of Biocatalysis in Food Waste Biorefinery. <i>Fermentation</i> , 2023, 9, 73.	1.4	3
322	Manipulation of IME4 expression, a global regulation strategy for metabolic engineering in <i>Saccharomyces cerevisiae</i> . <i>Acta Pharmaceutica Sinica B</i> , 2023, 13, 2795-2806.	5.7	2

#	ARTICLE	IF	CITATIONS
323	The E factor at 30: a passion for pollution prevention. <i>Green Chemistry</i> , 2023, 25, 1704-1728.	4.6	54
324	Activity Regulating Strategies of Nanozymes for Biomedical Applications. <i>Small</i> , 2023, 19, .	5.2	24
325	Synthesis of cyclopenta[ <i>b</i> ]benzofurans via biomimetic oxidative phenol-enamine [3 + 2] cycloaddition. <i>Organic Chemistry Frontiers</i> , 2023, 10, 1213-1218.	2.3	4
329	Antioxidase-Like Nanobiocatalysts with Ultrafast and Reversible Redox-Centers to Secure Stem Cells and Periodontal Tissues. <i>Advanced Functional Materials</i> , 2023, 33, .	7.8	9
330	Coenzyme Engineering of Glucose-6-phosphate Dehydrogenase on a Nicotinamide-Based Biomimic and Its Application as a Glucose Biosensor. <i>ACS Catalysis</i> , 2023, 13, 1983-1998.	5.5	5
331	Expanding the Cation Cage: Squalene-Hopene Cyclase-Mediated Enantioselective Semipinacol Rearrangement. <i>ACS Catalysis</i> , 2023, 13, 1946-1951.	5.5	10
332	Chemodivergent C(sp <sup>3</sup> )-H and C(sp <sup>2</sup> )-H cyanomethylation using engineered carbene transferases. <i>Nature Catalysis</i> , 2023, 6, 152-160.	16.1	6
333	Comparative biochemical characterization of mammalian-derived CYP11A1s with cholesterol side-chain cleavage activities. <i>Journal of Steroid Biochemistry and Molecular Biology</i> , 2023, 229, 106268.	1.2	1
334	An Immobilised Silicon-Carbon Bond-Forming Enzyme for Anaerobic Flow Biocatalysis. <i>ChemCatChem</i> , 2023, 15, .	1.8	1
335	Designing artificial pathways for improving chemical production. <i>Biotechnology Advances</i> , 2023, 64, 108119.	6.0	4
336	Hydrogen Sulfide Gas Amplified ROS Cascade: FeS@GOx Hybrid Nanozyme Designed for Boosting Tumor Chemodynamic Immunotherapy. <i>Advanced Healthcare Materials</i> , 2023, 12, .	3.9	12
337	Biological pretreatment for algal biomass feedstock for biofuel production. <i>Journal of Environmental Chemical Engineering</i> , 2023, 11, 109870.	3.3	19
338	Manganese-Based Antioxidase-Inspired Biocatalysts with Axial Mn <sup>N&lt;sub&gt;5&lt;/sub&gt;</sup> Sites and 2D d-C-Conjugated Networks for Rescuing Stem Cell Fate. <i>Angewandte Chemie - International Edition</i> , 2023, 62, .	7.2	10
339	Asymmetric synthesis of syn-aryl-(2 <i>S</i> ,3 <i>R</i> )-2-chloro-3-hydroxy esters via an engineered ketoreductase-catalyzed dynamic reductive kinetic resolution. <i>Chinese Chemical Letters</i> , 2023, 34, 108178.	4.8	4
341	Reactivity Tuning of Metal-Free Artificial Photoenzymes through Binding Site Specific Bioconjugation. <i>European Journal of Organic Chemistry</i> , 2023, 26, .	1.2	3
342	Expanding the Promiscuity of a Copper-Dependent Oxidase for Enantioselective Cross-Coupling of Indoles. <i>Angewandte Chemie</i> , 2023, 135, .	1.6	0
343	Expanding the Promiscuity of a Copper-Dependent Oxidase for Enantioselective Cross-Coupling of Indoles. <i>Angewandte Chemie - International Edition</i> , 2023, 62, .	7.2	2
344	Engineering Modular and Highly Sensitive Cell-Based Biosensors for Aromatic Contaminant Monitoring and High-Throughput Enzyme Screening. <i>ACS Synthetic Biology</i> , 2023, 12, 877-891.	1.9	2

#	ARTICLE	IF	CITATIONS
346	Evolutionary Engineering of a Cp*Rh(III) Complex-Linked Artificial Metalloenzyme with a Chimeric $\beta$ -Barrel Protein Scaffold. <i>Journal of the American Chemical Society</i> , 0, , .	6.6	1
347	Enzyme Grafting with a Cofactor-Decorated Metal-Organic Capsule for Solar-to-Chemical Conversion. <i>Journal of the American Chemical Society</i> , 2023, 145, 6719-6729.	6.6	6
348	A pharmacophore-based approach to demonstrating the scope of alcohol dehydrogenases. <i>Bioorganic and Medicinal Chemistry</i> , 2023, 83, 117255.	1.4	1
349	AsiteDesign: a Semirational Algorithm for an Automated Enzyme Design. <i>Journal of Physical Chemistry B</i> , 2023, 127, 2661-2670.	1.2	4
350	Therapeutic and Diagnostic Agents Based on Bioactive Endogenous and Exogenous Coordination Compounds. <i>Current Medicinal Chemistry</i> , 2023, 30, .	1.2	0
351	Unnatural activities and mechanistic insights of cytochrome P450 PkC gained from site-specific mutagenesis by non-canonical amino acids. <i>Nature Communications</i> , 2023, 14, .	5.8	4
352	Bioelectrocatalysis with a palladium membrane reactor. <i>Nature Communications</i> , 2023, 14, .	5.8	9
353	Ene Reductase Enabled Intramolecular $\beta$ -C-H Functionalization of Substituted Cyclohexanones for Efficient Synthesis of Bridged Bicyclic Nitrogen Scaffolds. <i>Angewandte Chemie</i> , 0, , .	1.6	0
354	Ene Reductase Enabled Intramolecular $\beta$ -C-H Functionalization of Substituted Cyclohexanones for Efficient Synthesis of Bridged Bicyclic Nitrogen Scaffolds. <i>Angewandte Chemie - International Edition</i> , 0, , .	7.2	1
355	Manganese-Based Antioxidase-Inspired Biocatalysts with Axial Mn-N5 Sites and 2D $\pi$ -Conjugated Networks for Rescuing Stem Cell Fate. <i>Angewandte Chemie</i> , 0, , .	1.6	0
356	Gold(I) N-heterocyclic carbene complexes with tunable electronic properties for sensitive colorimetric detection of glutathione. <i>Materials Chemistry Frontiers</i> , 0, , .	3.2	0
357	Whole-cell-catalyzed hydrogenation/deuteration of aryl halides with a genetically repurposed photodehalogenase. <i>CheM</i> , 2023, 9, 1897-1909.	5.8	4
358	Advances in One-Pot Chiral Amine Synthesis Enabled by Amine Transaminase Cascades: Pushing the Boundaries of Complexity. <i>ACS Catalysis</i> , 2023, 13, 5584-5598.	5.5	5
359	Lignocellulosic biomass valorization via bio-photo/electro hybrid catalytic systems. <i>Biotechnology Advances</i> , 2023, 66, 108157.	6.0	5
360	Aptamer-Modified Homogeneous Catalysts, Heterogenous Nanoparticle Catalysts, and Photocatalysts: Functional $\alpha$ -Nucleopzymes, $\alpha$ -Aptanozymes, and $\alpha$ -Photoaptazymes. <i>Advanced Materials</i> , 2024, 36, .	11.1	4
365	Artificial Metalloenzymes for Enantioselective Catalysis. , 2022, , .		0
373	An Overview of N-Heterocycle Syntheses Involving Nitrene Transfer Reactions. <i>Topics in Heterocyclic Chemistry</i> , 2023, , 313-377.	0.2	1
378	Microbial enzyme bioprocesses in biobleaching of pulp and paper: technological updates. , 2023, , 319-337.		0

#	ARTICLE	IF	CITATIONS
385	Best Practices of Using AI-Based Models in Crystallography and Their Impact in Structural Biology. Journal of Chemical Information and Modeling, 2023, 63, 3637-3646.	2.5	3
394	Catalyst-controlled Stereoselective Carbon-heteroatom Bond Formations by N-Heterocyclic Carbene (NHC) Organocatalysis. Organic Chemistry Frontiers, 0, , .	2.3	1
407	Hydroxynitrile lyase engineering for promiscuous asymmetric Henry reaction with enhanced conversion, enantioselectivity and catalytic efficiency. Chemical Communications, 2023, 59, 12274-12277.	2.2	2
416	P450-catalyzed atom transfer radical cyclization. Methods in Enzymology, 2023, , 31-49.	0.4	0
420	Photoenzymatic Catalysis for Organic Synthesis. , 2023, , .		0
432	A Co(TAML)-based artificial metalloenzyme for asymmetric radical-type oxygen atom transfer catalysis. Chemical Communications, 2023, 59, 14567-14570.	2.2	0
443	Recent Advances in Microbial Production of Terpenoids from Biomass-derived Feedstocks. Chemical Research in Chinese Universities, 2024, 40, 20-28.	1.3	0
446	Novel applications of photobiocatalysts in chemical transformations. RSC Advances, 2024, 14, 2590-2601.	1.7	0