Jianbo Wang

List of Publications by Year
in descending order

119 papers	11,723 citations	23567 58 h-index	28297 105 g-index
129 all docs	129 docs citations	129 times ranked	6673 citing authors

#	Article	IF	Citations
1	Biocatalytic Baeyerâ€“Villiger Reactions: Uncovering the Source of Regioselectivity at Each Evolutionary Stage of a Mutant with Scrutiny of Fleeting Chiral Intermediates. ACS Catalysis, 2022, 12, 3669-3680.	11.2	6
2	Making Enzymes Suitable for Organic Chemistry by Rational Protein Design. ChemBioChem, 2022, 23, .	2.6	28
3	Machine Learning Enables Selection of Epistatic Enzyme Mutants for Stability Against Unfolding and Detrimental Aggregation. ChemBioChem, 2021, 22, 904-914.	2.6	22
4	A breakthrough in protein engineering of a glycosyltransferase. Green Synthesis and Catalysis, 2021, 2, 4-5.	6.8	9
5	Pervasive cooperative mutational effects on multiple catalytic enzyme traits emerge via long-range conformational dynamics. Nature Communications, 2021, 12, 1621.	12.8	72
6	The Unexplored Importance of Fleeting Chiral Intermediates in Enzyme-Catalyzed Reactions. Journal of the American Chemical Society, 2021, 143, 14939-14950.	13.7	19
7	<i>n</i>â€Butanol: An Ecologically and Economically Viable Extraction Solvent for Isolating Polar Products from Aqueous Solutions. European Journal of Organic Chemistry, 2021, 2021, 6224-6228.	2.4	5
8	Die zentrale Rolle der Methodenentwicklung in der gerichteten Evolution selektiver Enzyme. Angewandte Chemie, 2020, 132, 13304-13333.	2.0	42
9	The Crucial Role of Methodology Development in Directed Evolution of Selective Enzymes. Angewandte Chemie - International Edition, 2020, 59, 13204-13231.	13.8	278
10	P450-BM3-Catalyzed Sulfoxidation versus Hydroxylation: A Common or Two Different Catalytically Active Species?. Journal of the American Chemical Society, 2020, 142, 2068-2073.	13.7	37
11	Regioâ€•and Stereoselective Steroid Hydroxylation at C7 by Cytochromeâ€…P450 Monooxygenase Mutants. Angewandte Chemie - International Edition, 2020, 59, 12499-12505.	13.8	83
12	Regioâ€•and Stereoselective Steroid Hydroxylation at C7 by Cytochromeâ€…P450 Monooxygenase Mutants. Angewandte Chemie, 2020, 132, 12599-12605.	2.0	19
13	Focused rational iterative site-specific mutagenesis (FRISM). Methods in Enzymology, 2020, 643, 225-242.	1.0	48
14	Statistical Analysis of the Benefits of Focused Saturation Mutagenesis in Directed Evolution Based on Reduced Amino Acid Alphabets. ACS Catalysis, 2019, 9, 7769-7778.	11.2	40
15	Artificial cysteine-lipases with high activity and altered catalytic mechanism created by laboratory evolution. Nature Communications, 2019, 10, 3198.	12.8	66
16	Directed Evolution of Artificial Metalloenzymes: A Universal Means to Tune the Selectivity of Transition Metal Catalysts?. Accounts of Chemical Research, 2019, 52, 336-344.	15.6	92
17	Utility of B-Factors in Protein Science: Interpreting Rigidity, Flexibility, and Internal Motion and Engineering Thermostability. Chemical Reviews, 2019, 119, 1626-1665.	47.7	317
18	Stereodivergent Protein Engineering of a Lipase To Access All Possible Stereoisomers of Chiral Esters with Two Stereocenters. Journal of the American Chemical Society, 2019, 141, 7934-7945.	13.7	106

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19	Can Machine Learning Revolutionize Directed Evolution of Selective Enzymes?. Advanced Synthesis and Catalysis, 2019, 361, 2377-2386.	4.3	87
20	Exploiting Designed Oxidaseâ€“Peroxygenase Mutual Benefit System for Asymmetric Cascade Reactions. Journal of the American Chemical Society, 2019, 141, 5655-5658.	13.7	32
21	P450-Catalyzed Regio- and Diastereoselective Steroid Hydroxylation: Efficient Directed Evolution Enabled by Mutability Landscaping. ACS Catalysis, 2018, 8, 3395-3410.	11.2	128
22	P450-Catalyzed Regio- and Stereoselective Oxidative Hydroxylation of 6-Iodotetralone: Preparative-Scale Synthesis of a Key Intermediate for Pd-Catalyzed Transformations. Journal of Organic Chemistry, 2018, 83, 7504-7508.	3.2	20
23	Methodology Development in Directed Evolution: Exploring Options when Applying Tripleâ€Code Saturation Mutagenesis. ChemBioChem, 2018, 19, 239-246.	2.6	19
24	Directed Evolution of Proteins Based on Mutational Scanning. Methods in Molecular Biology, 2018, 1685, 87-128.	0.9	24
25	Beating Bias in the Directed Evolution of Proteins: Combining Highâ€Fidelity onâ€Chip Solidâ€Phase Gene Synthesis with Efficient Gene Assembly for Combinatorial Library Construction. ChemBioChem, 2018, 19, 221-228.	2.6	39
26	Structural and Computational Insight into the Catalytic Mechanism of Limonene Epoxide Hydrolase Mutants in Stereoselective Transformations. Journal of the American Chemical Society, 2018, 140, 310-318.	13.7	44
27	A machine learning approach for reliable prediction of amino acid interactions and its application in the directed evolution of enantioselective enzymes. Scientific Reports, 2018, 8, 16757.	3.3	94
28	Solidâ€Phase Gene Synthesis for Mutant Library Construction: The Future of Directed Evolution?. ChemBioChem, 2018, 19, 2023-2032.	2.6	24
29	Overriding Traditional Electronic Effects in Biocatalytic Baeyerâ€“Villiger Reactions by Directed Evolution. Journal of the American Chemical Society, 2018, 140, 10464-10472.	13.7	43
30	Rapid and Error-Free Site-Directed Mutagenesis by a PCR-Free <i>In Vitro</i> CRISPR/Cas9-Mediated Mutagenic System. ACS Synthetic Biology, 2018, 7, 2236-2244.	3.8	25
31	Hinge-Type Dimerization of Proteins by a Tetracysteine Peptide of High Pairing Specificity. Biochemistry, 2018, 57, 3658-3664.	2.5	18
32	1-Butanol as a Solvent for Efficient Extraction of Polar Compounds from Aqueous Medium: Theoretical and Practical Aspects. Journal of Physical Chemistry B, 2018, 122, 6975-6988.	2.6	24
33	Controlling the Regio- and Stereoselectivity of Cytochrome P450 Monooxygenases by Protein Engineering. 2-Oxoglutarate-Dependent Oxygenases, 2018, , 274-291.	0.8	2
34	One-step combined focused epPCR and saturation mutagenesis for thermostability evolution of a new cold-active xylanase. Enzyme and Microbial Technology, 2017, 100, 60-70.	3.2	35
35	Recent Advances in Directed Evolution of Stereoselective Enzymes. , 2017, , 69-99.		10
36	Cu(I)â€Catalyzed Threeâ€Component Coupling of Trifluoromethyl Ketone<i>N</i>â€Tosylhydrazones, Alkynes and Azides: Synthesis of Difluoromethylene Substituted 1,2,3â€Triazoles. Chinese Journal of Chemistry, 2017, 35, 387-391.	4.9	25

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37	Chemoâ€•and Stereoselective Cytochrome P450â€BM3â€Catalyzed Sulfoxidation of 1â€Thiochromanâ€4â€ones Enabled by Directed Evolution. Advanced Synthesis and Catalysis, 2017, 359, 2056-2060.	4.3	25
38	A redox-mediated Kemp eliminase. Nature Communications, 2017, 8, 14876.	12.8	44
39	Simultaneous engineering of an enzyme's entrance tunnel and active site: the case of monoamine oxidase MAO-N. Chemical Science, 2017, 8, 4093-4099.	7.4	88
40	Enzymatic site-selectivity enabled by structure-guided directed evolution. Chemical Communications, 2017, 53, 3916-3928.	4.1	81
41	Investigating Substrate Scope and Enantioselectivity of a Defluorinase by a Stereochemical Probe. Journal of the American Chemical Society, 2017, 139, 11241-11247.	13.7	25
42	Inducing high activity of a thermophilic enzyme at ambient temperatures by directed evolution. Chemical Communications, 2017, 53, 9454-9457.	4.1	41
43	Manipulating the stereoselectivity of the thermostable Baeyerâ€"Villiger monooxygenase TmCHMO by directed evolution. Organic and Biomolecular Chemistry, 2017, 15, 9824-9829.	2.8	30
44	Rh(I)â€Catalyzed Arylation of <i>Î±</i>â€Diazo Phosphonates with Aryl Boronic Acids: Synthesis of Diarylmethylphosphonates. Chinese Journal of Chemistry, 2017, 35, 621-627.	4.9	11
45	New Concepts for Increasing the Efficiency in Directed Evolution of Stereoselective Enzymes. Chemistry - A European Journal, 2016, 22, 5046-5054.	3.3	74
46	Rh(I)â€Catalyzed Reaction of Trifluoromethylketone <i>N</i>â€Tosylhydrazones and Arylboronates. Chinese Journal of Chemistry, 2016, 34, 473-476.	4.9	30
47	What are the Limitations of Enzymes in Synthetic Organic Chemistry?. Chemical Record, 2016, 16, 2449-2459.	5.8	79
48	Palladiumâ€Catalyzed Cascade Reactions of <i>Î±</i>â€Haloâ€<i>N</i>â€Tosylhydrazones, Indoles, and Aryl Iodides. Asian Journal of Organic Chemistry, 2016, 5, 874-877.	2.7	12
49	Multiparameter Optimization in Directed Evolution: Engineering Thermostability, Enantioselectivity, and Activity of an Epoxide Hydrolase. ACS Catalysis, 2016, 6, 3679-3687.	11.2	65
50	Wholeâ€Cellâ€Catalyzed Multiple Regioâ€•and Stereoselective Functionalizations in Cascade Reactions Enabled by Directed Evolution. Angewandte Chemie - International Edition, 2016, 55, 12026-12029.	13.8	79
51	Comparing Different Strategies in Directed Evolution of Enzyme Stereoselectivity: Singleâ€•versus Doubleâ€Code Saturation Mutagenesis. ChemBioChem, 2016, 17, 1865-1872.	2.6	31
52	Geminal difunctionalization of Î±-diazo arylmethylphosphonates: synthesis of fluorinated phosphonates. Organic and Biomolecular Chemistry, 2016, 14, 10444-10453.	2.8	29
53	Transition-metal-free three-component reaction of cyclopropenes, aldehydes and amines. Chemical Communications, 2016, 52, 13285-13287.	4.1	6
54	Exploring productive sequence space in directed evolution using binary patterning versus conventional mutagenesis strategies. Bioresources and Bioprocessing, 2016, 3, .	4.2	22

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55	Recent advances in transition-metal-catalyzed synthesis of conjugated enynes. Organic and Biomolecular Chemistry, 2016, 14, 6638-6650.	2.8	107
56	Catalytic Asymmetric Reduction of Difficult-to-Reduce Ketones: Triple-Code Saturation Mutagenesis of an Alcohol Dehydrogenase. ACS Catalysis, 2016, 6, 1598-1605.	11.2	121
57	Copper(<scp>i</scp>)-catalyzed olefination of N-sulfonylhydrazones with sulfones. Chemical Communications, 2016, 52, 4478-4480.	4.1	26
58	Economical analysis of saturation mutagenesis experiments. Scientific Reports, 2015, 5, 10654.	3.3	53
59	Copper(I)â€Catalyzed Threeâ€Component Coupling of <i>N</i>â€Tosylhydrazones, Alkynes and Azides: Synthesis of Trisubstituted 1,2,3â€Triazoles. Advanced Synthesis and Catalysis, 2015, 357, 2277-2286.	4.3	62
60	Reshaping an Enzyme Binding Pocket for Enhanced and Inverted Stereoselectivity: Use of Smallest Amino Acid Alphabets in Directed Evolution. Angewandte Chemie - International Edition, 2015, 54, 12410-12415.	13.8	103
61	Biocatalytic Route to Chiral Acyloins: P450-Catalyzed Regio- and Enantioselective Î±-Hydroxylation of Ketones. Journal of Organic Chemistry, 2015, 80, 950-956.	3.2	37
62	Expanding the toolbox of organic chemists: directed evolution of P450 monooxygenases as catalysts in regio- and stereoselective oxidative hydroxylation. Chemical Communications, 2015, 51, 2208-2224.	4.1	135
63	Speeding up Directed Evolution: Combining the Advantages of Solid-Phase Combinatorial Gene Synthesis with Statistically Guided Reduction of Screening Effort. ACS Synthetic Biology, 2015, 4, 317-331.	3.8	46
64	Directed Evolution of Artificial Metalloenzymes. Israel Journal of Chemistry, 2015, 55, 51-60.	2.3	40
65	Cytochrome P450 Catalyzed Oxidative Hydroxylation of Achiral Organic Compounds with Simultaneous Creation of Two Chirality Centers in a Single Cï£¿H Activation Step. Angewandte Chemie - International Edition, 2014, 53, 8659-8663.	13.8	63
66	Extreme Synergistic Mutational Effects in the Directed Evolution of a Baeyerâ€"Villiger Monooxygenase as Catalyst for Asymmetric Sulfoxidation. Journal of the American Chemical Society, 2014, 136, 17262-17272.	13.7	66
67	CH-activating oxidative hydroxylation of 1-tetralones and related compounds with high regio- and stereoselectivity. Chemical Communications, 2014, 50, 14310-14313.	4.1	39
68	Directed evolution of stereoselective enzymes based on genetic selection as opposed to screening systems. Journal of Biotechnology, 2014, 191, 3-10.	3.8	56
69	Assembly of Designed Oligonucleotides: A Useful Tool in Synthetic Biology for Creating High-Quality Combinatorial DNA Libraries. Methods in Molecular Biology, 2014, 1179, 189-206.	0.9	27
70	Iterative Saturation Mutagenesis: A Powerful Approach to Engineer Proteins by Systematically Simulating Darwinian Evolution. Methods in Molecular Biology, 2014, 1179, 103-128.	0.9	89
71	Biocatalysis in Organic Chemistry and Biotechnology: Past, Present, and Future. Journal of the American Chemical Society, 2013, 135, 12480-12496.	13.7	646
72	Catalytic Cascade Reactions Involving Metal Carbene Migratory Insertion. ACS Catalysis, 2013, 3, 2586-2598.	11.2	342

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73	Directed Evolution by Using Iterative Saturation Mutagenesis Based on Multiresidue Sites. ChemBioChem, 2013, 14, 2301-2309.	2.6	47
74	Laboratory Evolution of Enantiocomplementary Candida antarctica Lipase B Mutants with Broad Substrate Scope. Journal of the American Chemical Society, 2013, 135, 1872-1881.	13.7	134
75	A New Type of Stereoselectivity in Baeyerâ€"Villiger Reactions: Access to <i>E</i>â€•and <i>Z</i>â€Olefins. Advanced Synthesis and Catalysis, 2013, 355, 99-106.	4.3	30
76	Induced Axial Chirality in Biocatalytic Asymmetric Ketone Reduction. Journal of the American Chemical Society, 2013, 135, 1665-1668.	13.7	75
77	The Importance of Additive and Nonâ€Additive Mutational Effects in Protein Engineering. Angewandte Chemie - International Edition, 2013, 52, 2658-2666.	13.8	155
78	Stereo- and regioselectivity in the P450-catalyzed oxidative tandem difunctionalization of 1-methylcyclohexene. Tetrahedron, 2013, 69, 5306-5311.	1.9	17
79	Quantum Mechanical/Molecular Mechanical Study on the Enantioselectivity of the Enzymatic Baeyerâ€"Villiger Reaction of 4-Hydroxycyclohexanone. Journal of Physical Chemistry B, 2013, 117, 4993-5001.	2.6	31
80	A thermostable variant of P. aeruginosa cold-adapted LipC obtained by rational design and saturation mutagenesis. Process Biochemistry, 2012, 47, 2064-2071.	3.7	40
81	Biophysical characterization of mutants of <i>Bacillus subtilis</i> lipase evolved for thermostability: Factors contributing to increased activity retention. Protein Science, 2012, 21, 487-497.	7.6	49
82	Quantum Mechanical/Molecular Mechanical Study on the Mechanism of the Enzymatic Baeyerâ€"Villiger Reaction. Journal of the American Chemical Society, 2012, 134, 2732-2741.	13.7	90
83	Many Pathways in Laboratory Evolution Can Lead to Improved Enzymes: How to Escape from Local Minima. ChemBioChem, 2012, 13, 1060-1066.	2.6	79
84	Achieving Regioâ€•and Enantioselectivity of P450â€Catalyzed Oxidative CH Activation of Small Functionalized Molecules by Structureâ€Guided Directed Evolution. ChemBioChem, 2012, 13, 1465-1473.	2.6	100
85	Enhancing the Efficiency of Directed Evolution in Focused Enzyme Libraries by the Adaptive Substituent Reordering Algorithm. Chemistry - A European Journal, 2012, 18, 5646-5654.	3.3	46
86	Protein Engineering of Stereoselective Baeyerâ€"Villiger Monooxygenases. Chemistry - A European Journal, 2012, 18, 10160-10172.	3.3	56
87	Regio- and stereoselectivity of P450-catalysed hydroxylation of steroids controlled by laboratory evolution. Nature Chemistry, 2011, 3, 738-743.	13.6	347
88	Laboratory Evolution of Stereoselective Enzymes: A Prolific Source of Catalysts for Asymmetric Reactions. Angewandte Chemie - International Edition, 2011, 50, 138-174.	13.8	484
89	Enhancing the Thermal Robustness of an Enzyme by Directed Evolution: Least Favorable Starting Points and Inferior Mutants Can Map Superior Evolutionary Pathways. ChemBioChem, 2011, 12, 2502-2510.	2.6	58
90	An Artificial Metalloenzyme: Creation of a Designed Copper Binding Site in a Thermostable Protein. Angewandte Chemie - International Edition, 2010, 49, 5151-5155.	13.8	122

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91	Increasing the stability of an enzyme toward hostile organic solvents by directed evolution based on iterative saturation mutagenesis using the B-FIT method. Chemical Communications, 2010, 46, 8657.	4.1	143
92	Iterative Saturation Mutagenesis Accelerates Laboratory Evolution of Enzyme Stereoselectivity: Rigorous Comparison with Traditional Methods. Journal of the American Chemical Society, 2010, 132, 9144-9152.	13.7	204
93	An efficient method for mutant library creation in<i>Pichia pastoris</i>useful in directed evolution. Biocatalysis and Biotransformation, 2010, 28, 122-129.	2.0	10
94	Manipulating the Stereoselectivity of Limonene Epoxide Hydrolase by Directed Evolution Based on Iterative Saturation Mutagenesis. Journal of the American Chemical Society, 2010, 132, 15744-15751.	13.7	90
95	Creation of an Amino Acid Network of Structurally Coupled Residues in the Directed Evolution of a Thermostable Enzyme. Angewandte Chemie - International Edition, 2009, 48, 8268-8272.	13.8	44
96	Knowledgeâ€guided laboratory evolution of protein thermolability. Biotechnology and Bioengineering, 2009, 102, 1712-1717.	3.3	38
97	Directed Evolution of an Enantioselective Epoxide Hydrolase: Uncovering the Source of Enantioselectivity at Each Evolutionary Stage. Journal of the American Chemical Society, 2009, 131, 7334-7343.	13.7	141
98	Shedding light on the efficacy of laboratory evolution based on iterative saturation mutagenesis. Molecular BioSystems, 2009, 5, 115-122.	2.9	69
99	Improved PCR method for the creation of saturation mutagenesis libraries in directed evolution: application to difficult-to-amplify templates. Applied Microbiology and Biotechnology, 2008, 81, 387-397.	3.6	130
100	A Robust Protein Host for Anchoring Chelating Ligands and Organocatalysts. ChemBioChem, 2008, 9, 552-564.	2.6	67
101	Addressing the Numbers Problem in Directed Evolution. ChemBioChem, 2008, 9, 1797-1804.	2.6	374
102	Sequential Copper(I)â€Catalyzed Reaction of Amines with <i>o</i>â€Acetylenylâ€Substituted Phenyldiazoacetates. Advanced Synthesis and Catalysis, 2008, 350, 2359-2364.	4.3	38
103	A Cellâ€Based Adrenaline Assay for Automated Highâ€Throughput Activity Screening of Epoxide Hydrolases. Chemistry - an Asian Journal, 2008, 3, 233-238.	3.3	10
104	Learning from Directed Evolution: Further Lessons from Theoretical Investigations into Cooperative Mutations in Lipase Enantioselectivity. ChemBioChem, 2007, 8, 106-112.	2.6	107
105	Iterative saturation mutagenesis (ISM) for rapid directed evolution of functional enzymes. Nature Protocols, 2007, 2, 891-903.	12.0	686
106	Directed evolution of hybrid enzymes: Evolving enantioselectivity of an achiral Rh-complex anchored to a protein. Chemical Communications, 2006, , 4318.	4.1	169
107	Designing New Baeyerâˆ’Villiger Monooxygenases Using Restricted CASTing. Journal of Organic Chemistry, 2006, 71, 8431-8437.	3.2	104
108	Expanding the Substrate Scope of Enzymes: Combining Mutations Obtained by CASTing. Chemistry - A European Journal, 2006, 12, 6031-6038.	3.3	126

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109	Directed Evolution of Enantioselective Enzymes: Iterative Cycles of CASTing for Probing Protein-Sequence Space. Angewandte Chemie - International Edition, 2006, 45, 1236-1241.	13.8	302
110	Copperâ€“Phthalocyanine Conjugates of Serum Albumins as Enantioselective Catalysts in Dielsâ€“Alder Reactions. Angewandte Chemie - International Edition, 2006, 45, 2416-2419.	13.8	191
111	Iterative Saturation Mutagenesis on the Basis of B Factors as a Strategy for Increasing Protein Thermostability. Angewandte Chemie - International Edition, 2006, 45, 7745-7751.	13.8	423
112	Asymmetric Catalysis Special Feature Part II: Controlling the enantioselectivity of enzymes by directed evolution: Practical and theoretical ramifications. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 5716-5722.	7.1	312
113	Directed Evolution as a Method To Create Enantioselective Cyclohexanone Monooxygenases for Catalysis in Baeyerâ€“Villiger Reactions. Angewandte Chemie - International Edition, 2004, 43, 4075-4078.	13.8	161
114	Learning from Directed Evolution: Theoretical Investigations into Cooperative Mutations in Lipase Enantioselectivity. ChemBioChem, 2004, 5, 214-223.	2.6	88
115	Select Protocols of High-Throughput ee-Screening Systems for Assaying Enantioselective Enzymes. , 2003, 230, 283-290.		9
116	Directed evolution of selective enzymes and hybrid catalysts. Tetrahedron, 2002, 58, 6595-6602.	1.9	127
117	Directed Evolution of an Enantioselective Enzyme through Combinatorial Multiple-Cassette Mutagenesis. Angewandte Chemie - International Edition, 2001, 40, 3589.	13.8	194
118	Enantioselective Enzymes for Organic Synthesis Created by Directed Evolution. Chemistry - A European Journal, 2000, 6, 407-412.	3.3	143
119	Creation of Enantioselective Biocatalysts for Organic Chemistry by In Vitro Evolution. Angewandte Chemie International Edition in English, 1997, 36, 2830-2832.	4.4	359