Wolf-Dieter Fessner

List of Publications by Year
in descending order

48 papers	1,603 citations	257450 24 h-index	302126 39 g-index
53 all docs	53 docs citations	53 times ranked	1333 citing authors

#	Article	IF	Citations
1	Recent progress in stereoselective synthesis with aldolases. Current Opinion in Chemical Biology, 2010, 14, 154-167.	6.1	192
2	Biocatalytic synthesis of hydroxylated natural products using aldolases and related enzymes. Current Opinion in Biotechnology, 2001, 12, 574-586.	6.6	152
3	Systems Biocatalysis: Development and engineering of cell-free â€œartificial metabolismsâ€•for preparative multi-enzymatic synthesis. New Biotechnology, 2015, 32, 658-664.	4.4	117
4	nanoDSF as screening tool for enzyme libraries and biotechnology development. FEBS Journal, 2019, 286, 184-204.	4.7	89
5	The Structure of Rhamnose Isomerase from Escherichia coli and its Relation with Xylose Isomerase Illustrates a Change Between Inter and Intra-subunit Complementation During Evolution. Journal of Molecular Biology, 2000, 300, 917-933.	4.2	71
6	Catalytic Action of Fuculose 1-Phosphate Aldolase (Class II) As Derived from Structure-Directed Mutagenesis,. Biochemistry, 2000, 39, 6033-6041.	2.5	66
7	Broadening Deoxysugar Glycodiversity: Natural and Engineered Transaldolases Unlock a Complementary Substrate Space. Chemistry - A European Journal, 2011, 17, 2623-2632.	3.3	55
8	Minimalist Protein Engineering of an Aldolase Provokes Unprecedented Substrate Promiscuity. ACS Catalysis, 2016, 6, 1848-1852.	11.2	48
9	The Transaldolase Family: New Synthetic Opportunities from an Ancient Enzyme Scaffold. ChemBioChem, 2011, 12, 1454-1474.	2.6	44
10	A pHâ€Based Highâ€Throughput Assay for Transketolase: Fingerprinting of Substrate Tolerance and Quantitative Kinetics. ChemBioChem, 2012, 13, 2290-2300.	2.6	42
11	Biocatalytic routes to anti-viral agents and their synthetic intermediates. Chemical Society Reviews, 2021, 50, 1968-2009.	38.1	39
12	Donor Promiscuity of a Thermostable Transketolase by Directed Evolution: Efficient Complementation of 1â€Deoxyâ€‹<scp>d</scp>â€xyluloseâ€5â€phosphate Synthase Activity. Angewandte Chemie - International Edition, 2017, 56, 5358-5362.	13.8	37
13	Thermostable Transketolase from <i>Geobacillus stearothermophilus:</i> Characterization and Catalytic Properties. Advanced Synthesis and Catalysis, 2013, 355, 116-128.	4.3	35
14	A thermostable transketolase evolved for aliphatic aldehyde acceptors. Chemical Communications, 2015, 51, 480-483.	4.1	35
15	Complete Switch of Reaction Specificity of an Aldolase by Directed Evolution In Vitro: Synthesis of Generic Aliphatic Aldol Products. Angewandte Chemie - International Edition, 2018, 57, 10153-10157.	13.8	33
16	Quo vadis photorespiration: A tale of two aldolases. FEBS Letters, 1996, 392, 281-284.	2.8	31
17	CMP-Sialate Synthetase fromNeisseria meningitidisâ˜ Overexpression and Application to the Synthesis of Oligosaccharides Containing Modified Sialic Acids. Advanced Synthesis and Catalysis, 2001, 343, 698-710.	4.3	30
18	Breaking the Dogma of Aldolase Specificity: Simple Aliphatic Ketones and Aldehydes are Nucleophiles for Fructoseâ€6â€phosphate Aldolase. Chemistry - A European Journal, 2017, 23, 5005-5009.	3.3	29

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19	Flexibility of Substrate Binding of Cytosineâ€5â€²â€Monophosphateâ€<i>N</i>â€Acetylneuraminate Synthetase (CMPâ€Sialate Synthetase) from <i>Neisseria meningitidis</i>: An Enabling Catalyst for the Synthesis of Neoâ€sialoconjugates. Advanced Synthesis and Catalysis, 2011, 353, 2384-2398.	4.3	28
20	Practical synthesis of 4-hydroxy-3-oxobutylphosphonic acid and its evaluation as a bio-isosteric substrate of DHAP aldolase. Carbohydrate Research, 1997, 305, 313-321.	2.3	27
21	Engineering a thermostable transketolase for arylated substrates. Green Chemistry, 2017, 19, 481-489.	9.0	27
22	Engineering a Thermostable Transketolase for Unnatural Conversion of (2<i>S</i>)â€Hydroxyaldehydes. Advanced Synthesis and Catalysis, 2015, 357, 1715-1720.	4.3	26
23	One-pot, two-step cascade synthesis of naturally rare<scp>l</scp>-erythro (3S,4S) ketoses by coupling a thermostable transaminase and transketolase. Green Chemistry, 2017, 19, 425-435.	9.0	26
24	Winning the numbers game in enzyme evolution â€“ fast screening methods for improved biotechnology proteins. Current Opinion in Structural Biology, 2020, 63, 123-133.	5.7	26
25	Biocatalytic Aldol Addition of Simple Aliphatic Nucleophiles to Hydroxyaldehydes. ACS Catalysis, 2018, 8, 8804-8809.	11.2	25
26	Engineering the Active Site of an (<i>S</i>)â€Selective Amine Transaminase for Acceptance of Doubly Bulky Primary Amines. Advanced Synthesis and Catalysis, 2020, 362, 812-821.	4.3	22
27	ThesiaAgene involved in capsule polysaccharide biosynthesis ofNeisseria meningitidisB codes forN-acylglucosamine-6-phosphate 2-epimerase activity. FEMS Microbiology Letters, 2000, 184, 161-164.	1.8	21
28	Secondâ€Generation Engineering of a Thermostable Transketolase (TK_{Gst}) for Aliphatic Aldehyde Acceptors with Either Improved or Reversed Stereoselectivity. ChemBioChem, 2017, 18, 455-459.	2.6	19
29	Aldolaseâ€Catalyzed Asymmetric Synthesis of Nâ€Heterocycles by Addition of Simple Aliphatic Nucleophiles to Aminoaldehydes. Advanced Synthesis and Catalysis, 2019, 361, 2673-2687.	4.3	19
30	Oneâ€Pot, Regioselective Synthesis of Substituted Arylglycines for Kinetic Resolution by Penicillin G Acylase. Advanced Synthesis and Catalysis, 2008, 350, 1729-1735.	4.3	18
31	Engineering of a Cytidine 5â€²â€Monophosphateâ€Sialic Acid Synthetase for Improved Tolerance to Functional Sialic Acids. Advanced Synthesis and Catalysis, 2013, 355, 3597-3612.	4.3	18
32	Direct Enzymatic Branchâ€End Extension of Glycoclusterâ€Presented Glycans: An Effective Strategy for Programming Glycan Bioactivity. Chemistry - A European Journal, 2017, 23, 1623-1633.	3.3	17
33	Biocatalysis: Ready to Master Increasing Complexity. Advanced Synthesis and Catalysis, 2019, 361, 2373-2376.	4.3	14
34	Evolved Thermostable Transketolase for Stereoselective Two-Carbon Elongation of Non-Phosphorylated Aldoses to Naturally Rare Ketoses. ACS Catalysis, 2019, 9, 4754-4763.	11.2	14
35	2â€Deoxyriboseâ€5â€phosphate aldolase from <i>Thermotoga maritima</i> in the synthesis of a statin sideâ€chain precursor: characterization, modeling and optimization. Journal of Chemical Technology and Biotechnology, 2019, 94, 1832-1842.	3.2	11
36	Enzymatic Synthesis of Aliphatic Acyloins Catalyzed by Thermostable Transketolase. ChemCatChem, 2020, 12, 5772-5779.	3.7	10

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37	Complete Switch of Reaction Specificity of an Aldolase by Directed Evolution In Vitro: Synthesis of Generic Aliphatic Aldol Products. Angewandte Chemie, 2018, 130, 10310-10314.	2.0	9
38	Oneâ€Pot Cascade Synthesis of (3S)â€Hydroxyketones Catalyzed by TransketolaseviaHydroxypyruvate Generatedinâ€…Situfromdâ€Serine bydâ€Amino Acid Oxidase. Advanced Synthesis and Catalysis, 2019, 361, 2550.	4.3	7
39	Engineering Biocatalysts for Synthesis Including Cascade Processes. Advanced Synthesis and Catalysis, 2015, 357, 1565-1566.	4.3	6
40	Donorâ€Promiskuitãt einer thermostabilen Transketolase durch gelenkte Evolution â€“ effektive Komplementierung der 1â€Desoxyâ€‹<scp>d</scp>â€xyluloseâ€5â€phosphatâ€Synthaseâ€Aktivitãt. Angewandte Chemie, 2017, 129, 5442-5447.	2.0	6
41	An Î±2,3â€Sialyltransferase from <i>Photobacterium phosphoreum</i> with Broad Substrate Scope: Controlling Hydrolytic Activity by Directed Evolution. Chemistry - A European Journal, 2020, 26, 11614-11624.	3.3	5
42	Are Paradigms Changing in Favor of Biocatalysis?. Advanced Synthesis and Catalysis, 2003, 345, 649-650.	4.3	3
43	Semiâ€Synthetic Sialic Acid Probes for Challenging the Substrate Promiscuity of Enzymes in the Sialoconjugation Pathway. Advanced Synthesis and Catalysis, 2020, 362, 5485-5495.	4.3	3
44	Transketolase Catalyzed Synthesis of <i>N</i>â€Aryl Hydroxamic Acids. Advanced Synthesis and Catalysis, 2022, 364, 612-621.	4.3	3
45	Catalytic Platforms for Biotechnology. Advanced Synthesis and Catalysis, 2007, 349, 1285-1286.	4.3	2
46	How to meet the need for speed in protein evolution. Nature Catalysis, 2019, 2, 738-739.	34.4	2
47	What is the Color ofYOUR Biocatalysis?. Advanced Synthesis and Catalysis, 2005, 347, 903-904.	4.3	1
48	Cleavage of Aliphatic Î±-Hydroxy Ketones by Evolved Transketolase from <i>Geobacillus stearothermophilus</i>. ACS Catalysis, 2022, 12, 3566-3576.	11.2	1