

# Wolf-Dieter Fessner

## List of Publications by Year in descending order

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Version: 2024-02-01

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	Transketolase Catalyzed Synthesis of <i>N</i> -Aryl Hydroxamic Acids. <i>Advanced Synthesis and Catalysis</i> , 2022, 364, 612-621.	4.3	3
2	Cleavage of Aliphatic $\beta$ -Hydroxy Ketones by Evolved Transketolase from <i>Geobacillus stearothermophilus</i> . <i>ACS Catalysis</i> , 2022, 12, 3566-3576.	11.2	1
3	Biocatalytic routes to anti-viral agents and their synthetic intermediates. <i>Chemical Society Reviews</i> , 2021, 50, 1968-2009.	38.1	39
4	Engineering the Active Site of an <i>S</i> -Selective Amine Transaminase for Acceptance of Doubly Bulky Primary Amines. <i>Advanced Synthesis and Catalysis</i> , 2020, 362, 812-821.	4.3	22
5	Enzymatic Synthesis of Aliphatic Acylolins Catalyzed by Thermostable Transketolase. <i>ChemCatChem</i> , 2020, 12, 5772-5779.	3.7	10
6	Semi-synthetic Sialic Acid Probes for Challenging the Substrate Promiscuity of Enzymes in the Sialoconjugation Pathway. <i>Advanced Synthesis and Catalysis</i> , 2020, 362, 5485-5495.	4.3	3
7	Winning the numbers game in enzyme evolution – fast screening methods for improved biotechnology proteins. <i>Current Opinion in Structural Biology</i> , 2020, 63, 123-133.	5.7	26
8	An $\alpha$ 2,3-Sialyltransferase from <i>Photobacterium phosphoreum</i> with Broad Substrate Scope: Controlling Hydrolytic Activity by Directed Evolution. <i>Chemistry - A European Journal</i> , 2020, 26, 11614-11624.	3.3	5
9	How to meet the need for speed in protein evolution. <i>Nature Catalysis</i> , 2019, 2, 738-739.	34.4	2
10	Aldolase-Catalyzed Asymmetric Synthesis of <i>N</i> -Heterocycles by Addition of Simple Aliphatic Nucleophiles to Aminoaldehydes. <i>Advanced Synthesis and Catalysis</i> , 2019, 361, 2673-2687.	4.3	19
11	Biocatalysis: Ready to Master Increasing Complexity. <i>Advanced Synthesis and Catalysis</i> , 2019, 361, 2373-2376.	4.3	14
12	Evolved Thermostable Transketolase for Stereoselective Two-Carbon Elongation of Non-Phosphorylated Aldoses to Naturally Rare Ketoses. <i>ACS Catalysis</i> , 2019, 9, 4754-4763.	11.2	14
13	One-Pot Cascade Synthesis of (3 <i>S</i> )-Hydroxyketones Catalyzed by Transketolase via Hydroxypyruvate Generated in Situ from $\alpha$ -Serinyl Amino Acid Oxidase. <i>Advanced Synthesis and Catalysis</i> , 2019, 361, 2550-2557.	4.3	7
14	2-Deoxyribose-5-phosphate aldolase from <i>Thermotoga maritima</i> in the synthesis of a statin side-chain precursor: characterization, modeling and optimization. <i>Journal of Chemical Technology and Biotechnology</i> , 2019, 94, 1832-1842.	3.2	11
15	nanoDSF as screening tool for enzyme libraries and biotechnology development. <i>FEBS Journal</i> , 2019, 286, 184-204.	4.7	89
16	Biocatalytic Aldol Addition of Simple Aliphatic Nucleophiles to Hydroxyaldehydes. <i>ACS Catalysis</i> , 2018, 8, 8804-8809.	11.2	25
17	Complete Switch of Reaction Specificity of an Aldolase by Directed Evolution In Vitro: Synthesis of Generic Aliphatic Aldol Products. <i>Angewandte Chemie - International Edition</i> , 2018, 57, 10153-10157.	13.8	33
18	Complete Switch of Reaction Specificity of an Aldolase by Directed Evolution In Vitro: Synthesis of Generic Aliphatic Aldol Products. <i>Angewandte Chemie</i> , 2018, 130, 10310-10314.	2.0	9

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19	Breaking the Dogma of Aldolase Specificity: Simple Aliphatic Ketones and Aldehydes are Nucleophiles for Fructose-6-phosphate Aldolase. <i>Chemistry - A European Journal</i> , 2017, 23, 5005-5009.	3.3	29
20	Donor-Promiscuity of a Thermostable Transketolase durch gelenkte Evolution – effektive Komplementierung der 1-Desoxy- $\alpha$ -xylulose-5-phosphat-Synthase-Aktivität. <i>Angewandte Chemie</i> , 2017, 129, 5442-5447.		
21	Donor Promiscuity of a Thermostable Transketolase by Directed Evolution: Efficient Complementation of 1-Desoxy- $\alpha$ -xylulose-5-phosphate Synthase Activity. <i>Angewandte Chemie - International Edition</i> , 2017, 56, 5358-5362.	13.8	37
22	Second-Generation Engineering of a Thermostable Transketolase (TK <sub>Gst</sub> ) for Aliphatic Aldehyde Acceptors with Either Improved or Reversed Stereoselectivity. <i>ChemBioChem</i> , 2017, 18, 455-459.	2.6	19
23	Direct Enzymatic Branch-End Extension of Glycocluster-Presented Glycans: An Effective Strategy for Programming Glycan Bioactivity. <i>Chemistry - A European Journal</i> , 2017, 23, 1623-1633.	3.3	17
24	Engineering a thermostable transketolase for arylated substrates. <i>Green Chemistry</i> , 2017, 19, 481-489.	9.0	27
25	One-pot, two-step cascade synthesis of naturally rare-erythro (3S,4S) ketoses by coupling a thermostable transaminase and transketolase. <i>Green Chemistry</i> , 2017, 19, 425-435.	9.0	26
26	Minimalist Protein Engineering of an Aldolase Provokes Unprecedented Substrate Promiscuity. <i>ACS Catalysis</i> , 2016, 6, 1848-1852.	11.2	48
27	Engineering a Thermostable Transketolase for Unnatural Conversion of (2 <i>S</i> )-Hydroxyaldehydes. <i>Advanced Synthesis and Catalysis</i> , 2015, 357, 1715-1720.	4.3	26
28	Systems Biocatalysis: Development and engineering of cell-free –artificial metabolisms– for preparative multi-enzymatic synthesis. <i>New Biotechnology</i> , 2015, 32, 658-664.	4.4	117
29	Engineering Biocatalysts for Synthesis Including Cascade Processes. <i>Advanced Synthesis and Catalysis</i> , 2015, 357, 1565-1566.	4.3	6
30	A thermostable transketolase evolved for aliphatic aldehyde acceptors. <i>Chemical Communications</i> , 2015, 51, 480-483.	4.1	35
31	Thermostable Transketolase from <i>Geobacillus stearothermophilus</i> : Characterization and Catalytic Properties. <i>Advanced Synthesis and Catalysis</i> , 2013, 355, 116-128.	4.3	35
32	Engineering of a Cytidine 5- $\alpha$ -Monophosphate-Sialic Acid Synthetase for Improved Tolerance to Functional Sialic Acids. <i>Advanced Synthesis and Catalysis</i> , 2013, 355, 3597-3612.	4.3	18
33	A pH-Based High-Throughput Assay for Transketolase: Fingerprinting of Substrate Tolerance and Quantitative Kinetics. <i>ChemBioChem</i> , 2012, 13, 2290-2300.	2.6	42
34	Flexibility of Substrate Binding of Cytosine-5- $\alpha$ -Monophosphate-N-Acetylneuraminat Synthetase (CMP-Sialat Synthetase) from <i>Neisseria meningitidis</i> : An Enabling Catalyst for the Synthesis of Neo-sialoconjugates. <i>Advanced Synthesis and Catalysis</i> , 2011, 353, 2384-2398.	4.3	28
35	Broadening Deoxysugar Glycodiversity: Natural and Engineered Transaldolases Unlock a Complementary Substrate Space. <i>Chemistry - A European Journal</i> , 2011, 17, 2623-2632.	3.3	55
36	The Transaldolase Family: New Synthetic Opportunities from an Ancient Enzyme Scaffold. <i>ChemBioChem</i> , 2011, 12, 1454-1474.	2.6	44

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37	Recent progress in stereoselective synthesis with aldolases. <i>Current Opinion in Chemical Biology</i> , 2010, 14, 154-167.	6.1	192
38	One-Pot, Regioselective Synthesis of Substituted Arylglycines for Kinetic Resolution by Penicillin G Acylase. <i>Advanced Synthesis and Catalysis</i> , 2008, 350, 1729-1735.	4.3	18
39	Catalytic Platforms for Biotechnology. <i>Advanced Synthesis and Catalysis</i> , 2007, 349, 1285-1286.	4.3	2
40	What is the Color of YOUR Biocatalysis?. <i>Advanced Synthesis and Catalysis</i> , 2005, 347, 903-904.	4.3	1
41	Are Paradigms Changing in Favor of Biocatalysis?. <i>Advanced Synthesis and Catalysis</i> , 2003, 345, 649-650.	4.3	3
42	Biocatalytic synthesis of hydroxylated natural products using aldolases and related enzymes. <i>Current Opinion in Biotechnology</i> , 2001, 12, 574-586.	6.6	152
43	CMP-Sialate Synthetase from <i>Neisseria meningitidis</i> Overexpression and Application to the Synthesis of Oligosaccharides Containing Modified Sialic Acids. <i>Advanced Synthesis and Catalysis</i> , 2001, 343, 698-710.	4.3	30
44	ThesiaGene involved in capsule polysaccharide biosynthesis of <i>Neisseria meningitidis</i> codes for N-acetylglucosamine-6-phosphate 2-epimerase activity. <i>FEMS Microbiology Letters</i> , 2000, 184, 161-164.	1.8	21
45	The Structure of Rhamnose Isomerase from <i>Escherichia coli</i> and its Relation with Xylose Isomerase Illustrates a Change Between Inter and Intra-subunit Complementation During Evolution. <i>Journal of Molecular Biology</i> , 2000, 300, 917-933.	4.2	71
46	Catalytic Action of Fuculose 1-Phosphate Aldolase (Class II) As Derived from Structure-Directed Mutagenesis. <i>Biochemistry</i> , 2000, 39, 6033-6041.	2.5	66
47	Practical synthesis of 4-hydroxy-3-oxobutylphosphonic acid and its evaluation as a bio-isosteric substrate of DHAP aldolase. <i>Carbohydrate Research</i> , 1997, 305, 313-321.	2.3	27
48	Quo vadis photorespiration: A tale of two aldolases. <i>FEBS Letters</i> , 1996, 392, 281-284.	2.8	31