Rudi Fasan

List of Publications by Year
in descending order

94 papers	6,204 citations	66234 42 h-index	71532 76 g-index
111 all docs	111 docs citations	111 times ranked	4281 citing authors

#	Article	IF	Citations
1	Tuning P450 Enzymes as Oxidation Catalysts. ACS Catalysis, 2012, 2, 647-666.	5.5	332
2	Exploiting and engineering hemoproteins for abiological carbene and nitrene transfer reactions. Current Opinion in Biotechnology, 2017, 47, 102-111.	3.3	253
3	Highly Diastereoselective and Enantioselective Olefin Cyclopropanation Using Engineered Myoglobinâ€Based Catalysts. Angewandte Chemie - International Edition, 2015, 54, 1744-1748.	7.2	242
4	Engineered Alkaneâ€Hydroxylating Cytochrome P450_{BM3} Exhibiting Nativelike Catalytic Properties. Angewandte Chemie - International Edition, 2007, 46, 8414-8418.	7.2	221
5	Molecular basis of RNA recognition by the human alternative splicing factor Fox-1. EMBO Journal, 2006, 25, 163-173.	3.5	215
6	Evolutionary History of a Specialized P450 Propane Monooxygenase. Journal of Molecular Biology, 2008, 383, 1069-1080.	2.0	185
7	P450-Catalyzed Intramolecular sp³ Câ€“H Amination with Arylsulfonyl Azide Substrates. ACS Catalysis, 2014, 4, 546-552.	5.5	180
8	Controlled Oxidation of Remote sp³ Câ€“H Bonds in Artemisinin via P450 Catalysts with Fine-Tuned Regio- and Stereoselectivity. Journal of the American Chemical Society, 2012, 134, 18695-18704.	6.6	171
9	Using aÎ²-Hairpin To Mimic anÎ±-Helix: Cyclic Peptidomimetic Inhibitors of the p53â€“HDM2 Proteinâ€“Protein Interaction. Angewandte Chemie - International Edition, 2004, 43, 2109-2112.	7.2	170
10	Intermolecular carbene Sâ€“H insertion catalysed by engineered myoglobin-based catalysts. Chemical Science, 2015, 6, 2488-2494.	3.7	169
11	Highly Diastereo- and Enantioselective Synthesis of Trifluoromethyl-Substituted Cyclopropanes via Myoglobin-Catalyzed Transfer of Trifluoromethylcarbene. Journal of the American Chemical Society, 2017, 139, 5293-5296.	6.6	165
12	Myoglobin-catalyzed intermolecular carbene Nâ€“H insertion with arylamine substrates. Chemical Communications, 2015, 51, 1532-1534.	2.2	161
13	Enzymatic C(sp³)-H Amination: P450-Catalyzed Conversion of Carbonazidates into Oxazolidinones. ACS Catalysis, 2015, 5, 1685-1691.	5.5	147
14	Gramâ€Scale Synthesis of Chiral Cyclopropaneâ€Containing Drugs and Drug Precursors with Engineered Myoglobin Catalysts Featuring Complementary Stereoselectivity. Angewandte Chemie - International Edition, 2016, 55, 16110-16114.	7.2	137
15	Intramolecular C(sp3)H amination of arylsulfonyl azides with engineered and artificial myoglobin-based catalysts. Bioorganic and Medicinal Chemistry, 2014, 22, 5697-5704.	1.4	128
16	Chemo-enzymatic fluorination of unactivated organic compounds. Nature Chemical Biology, 2009, 5, 26-28.	3.9	125
17	Structure-Activity Studies in a Family of Î²-Hairpin Protein Epitope Mimetic Inhibitors of the p53-HDM2 Protein-Protein Interaction. ChemBioChem, 2006, 7, 515-526.	1.3	124
18	Metal Substitution Modulates the Reactivity and Extends the Reaction Scope of Myoglobin Carbene Transfer Catalysts. Advanced Synthesis and Catalysis, 2017, 359, 2076-2089.	2.1	121

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19	Myoglobinâ€Catalyzed Câ”H Functionalization of Unprotected Indoles. Angewandte Chemie - International Edition, 2018, 57, 9911-9915.	7.2	113
20	Myoglobinâ€Catalyzed Olefination of Aldehydes. Angewandte Chemie - International Edition, 2016, 55, 2512-2516.	7.2	106
21	Cyclopropanations via Heme Carbenes: Basic Mechanism and Effects of Carbene Substituent, Protein Axial Ligand, and Porphyrin Substitution. Journal of the American Chemical Society, 2018, 140, 1649-1662.	6.6	106
22	Biocatalytic Synthesis of Allylic and Allenyl Sulfides through a Myoglobinâ€Catalyzed Doyleâ€“Kirmse Reaction. Angewandte Chemie - International Edition, 2016, 55, 13562-13566.	7.2	97
23	P450 Fingerprinting Method for Rapid Discovery of Terpene Hydroxylating P450 Catalysts with Diversified Regioselectivity. Journal of the American Chemical Society, 2011, 133, 3242-3245.	6.6	96
24	Discovery of Potent Parthenolide-Based Antileukemic Agents Enabled by Late-Stage P450-Mediated Câ”H Functionalization. ACS Chemical Biology, 2014, 9, 164-173.	1.6	94
25	Protein Ligand Design:Â From Phage Display to Synthetic Protein Epitope Mimetics in Human Antibody Fc-Binding Peptidomimetics. Journal of the American Chemical Society, 2006, 128, 2726-2732.	6.6	84
26	Stereoselective Olefin Cyclopropanation under Aerobic Conditions with an Artificial Enzyme Incorporating an Iron-Chlorin e6 Cofactor. ACS Catalysis, 2017, 7, 7629-7633.	5.5	81
27	Stereodivergent Intramolecular Cyclopropanation Enabled by Engineered Carbene Transferases. Journal of the American Chemical Society, 2019, 141, 9145-9150.	6.6	81
28	Stereoselective Cyclopropanation of Electron-Deficient Olefins with a Cofactor Redesigned Carbene Transferase Featuring Radical Reactivity. ACS Catalysis, 2019, 9, 9683-9697.	5.5	77
29	Highly Diastereoâ€•and Enantioselective Synthesis of Nitrileâ€Substituted Cyclopropanes by Myoglobinâ€Mediated Carbene Transfer Catalysis. Angewandte Chemie - International Edition, 2018, 57, 15852-15856.	7.2	71
30	Enhancing the Efficiency and Regioselectivity of P450 Oxidation Catalysts by Unnatural Amino Acid Mutagenesis. ChemBioChem, 2014, 15, 1001-1010.	1.3	67
31	MOrPH-PhD: An Integrated Phage Display Platform for the Discovery of Functional Genetically Encoded Peptide Macrocycles. ACS Central Science, 2020, 6, 368-381.	5.3	65
32	Chemoselective Cyclopropanation over Carbene Yâ€“H Insertion Catalyzed by an Engineered Carbene Transferase. Journal of Organic Chemistry, 2018, 83, 7480-7490.	1.7	60
33	Biocatalytic Strategy for Highly Diastereoâ€•and Enantioselective Synthesis of 2,3â€Dihydrobenzofuranâ€Based Tricyclic Scaffolds. Angewandte Chemie - International Edition, 2019, 58, 10148-10152.	7.2	57
34	Modular Assembly of Macrocyclic Organoâ€“Peptide Hybrids Using Synthetic and Genetically Encoded Precursors. Angewandte Chemie - International Edition, 2011, 50, 5075-5080.	7.2	56
35	Enzyme stabilization via computationally guided protein stapling. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 12472-12477.	3.3	55
36	Origin of High Stereocontrol in Olefin Cyclopropanation Catalyzed by an Engineered Carbene Transferase. ACS Catalysis, 2019, 9, 1514-1524.	5.5	52

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37	Highly Stereoselective Synthesis of Fused Cyclopropane-Î³-Lactams via Biocatalytic Iron-Catalyzed Intramolecular Cyclopropanation. ACS Catalysis, 2020, 10, 2308-2313.	5.5	51
38	Improved productâ€perâ€glucose yields in P450â€dependent propane biotransformations using engineered Escherichia coli. Biotechnology and Bioengineering, 2011, 108, 500-510.	1.7	49
39	Mechanism-Guided Design and Discovery of Efficient Cytochrome P450-Derived Câ€“H Amination Biocatalysts. Journal of the American Chemical Society, 2020, 142, 10343-10357.	6.6	47
40	Design and Evolution of a Macrocyclic Peptide Inhibitor of the Sonic Hedgehog/Patched Interaction. Journal of the American Chemical Society, 2017, 139, 12559-12568.	6.6	46
41	A Diverse Library of Chiral Cyclopropane Scaffolds via Chemoenzymatic Assembly and Diversification of Cyclopropyl Ketones. Journal of the American Chemical Society, 2021, 143, 2221-2231.	6.6	45
42	Engineered and artificial metalloenzymes for selective Câ€“H functionalization. Current Opinion in Green and Sustainable Chemistry, 2021, 31, 100494.	3.2	41
43	Efficient conversion of primary azides to aldehydes catalyzed by active site variants of myoglobin. Chemical Science, 2016, 7, 234-239.	3.7	40
44	Biocatalytic Strategy for the Highly Stereoselective Synthesis of CHF₂â€Containing Trisubstituted Cyclopropanes. Angewandte Chemie - International Edition, 2021, 60, 7072-7076.	7.2	40
45	An Enzymatic Platform for the Highly Enantioselective and Stereodivergent Construction of Cyclopropylâ€Îâ€lactones. Angewandte Chemie - International Edition, 2020, 59, 21634-21639.	7.2	39
46	Ribosomal Synthesis of Macrocyclic Peptides in Vitro and in Vivo Mediated by Genetically Encoded Aminothiol Unnatural Amino Acids. ACS Chemical Biology, 2015, 10, 1805-1816.	1.6	37
47	Enantioselective Synthesis of Î±-Trifluoromethyl Amines via Biocatalytic Nâ€“H Bond Insertion with Acceptor-Acceptor Carbene Donors. Journal of the American Chemical Society, 2022, 144, 2590-2602.	6.6	37
48	Bioinspired Strategy for the Ribosomal Synthesis of Thioether-Bridged Macrocyclic Peptides in Bacteria. ACS Chemical Biology, 2014, 9, 2008-2013.	1.6	34
49	Ribosomal Synthesis of Naturalâ€Productâ€Like Bicyclic Peptides in Escherichia coli. ChemBioChem, 2015, 16, 2011-2016.	1.3	34
50	Myoglobinâ€Catalyzed Olefination of Aldehydes. Angewandte Chemie, 2016, 128, 2558-2562.	1.6	34
51	Gramâ€Scale Synthesis of Chiral Cyclopropaneâ€Containing Drugs and Drug Precursors with Engineered Myoglobin Catalysts Featuring Complementary Stereoselectivity. Angewandte Chemie, 2016, 128, 16344-16348.	1.6	34
52	Macrocyclization of Organoâ€Peptide Hybrids through a Dual Bioâ€orthogonal Ligation: Insights from Structureâ€“Reactivity Studies. ChemBioChem, 2013, 14, 147-160.	1.3	33
53	Enantioselective Synthesis of Chiral Amines via Biocatalytic Carbene Nâ€“H Insertion. ACS Catalysis, 2020, 10, 10967-10977.	5.5	33
54	Design, synthesis, and diversification of ribosomally derived peptide macrocycles. Current Opinion in Structural Biology, 2013, 23, 571-580.	2.6	32

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55	Designer macrocyclic organo-peptide hybrids inhibit the interaction between p53 and HDM2/X by accommodating a functional Î±-helix. Chemical Communications, 2014, 50, 5027-5030.	2.2	32
56	Anticancer activity profiling of parthenolide analogs generated via P450-mediated chemoenzymatic synthesis. Bioorganic and Medicinal Chemistry, 2018, 26, 1365-1373.	1.4	32
57	Diverse organo-peptide macrocyclesvia a fast and catalyst-free oxime/intein-mediated dual ligation. Chemical Communications, 2012, 48, 1461-1463.	2.2	31
58	Emerging Strategies to Access Peptide Macrocycles from Genetically Encoded Polypeptides. Journal of Organic Chemistry, 2013, 78, 3525-3531.	1.7	31
59	Chemoenzymatic synthesis and antileukemic activity of novel C9- and C14-functionalized parthenolide analogs. Bioorganic and Medicinal Chemistry, 2016, 24, 3876-3886.	1.4	31
60	Effect of proximal ligand substitutions on the carbene and nitrene transferase activity of myoglobin. Tetrahedron, 2019, 75, 2357-2363.	1.0	29
61	Biocatalytic Synthesis of Allylic and Allenyl Sulfides through a Myoglobinâ€Catalyzed Doyleâ€“Kirmse Reaction. Angewandte Chemie, 2016, 128, 13760-13764.	1.6	27
62	A Continuing Career in Biocatalysis: Frances H. Arnold. ACS Catalysis, 2019, 9, 9775-9788.	5.5	26
63	Twoâ€Tier Screening Platform for Directed Evolution of Aminoacylâ€“tRNA Synthetases with Enhanced Stop Codon Suppression Efficiency. ChemBioChem, 2017, 18, 1109-1116.	1.3	25
64	Câ^'H Amination via Nitrene Transfer Catalyzed by Mononuclear Nonâ€Heme Ironâ€Dependent Enzymes. ChemBioChem, 2020, 21, 1981-1987.	1.3	25
65	Myoglobinâ€Catalyzed Câ^'H Functionalization of Unprotected Indoles. Angewandte Chemie, 2018, 130, 10059-10063.	1.6	23
66	Mechanistic Investigation of Biocatalytic Heme Carbenoid Siâ^'H Insertions. ChemCatChem, 2019, 11, 3101-3108.	1.8	20
67	Stabilization of the Reductase Domain in the Catalytically Selfâ€Sufficient Cytochrome P450_{BM3} by Consensusâ€Guided Mutagenesis. ChemBioChem, 2018, 19, 622-632.	1.3	19
68	Synthesis of bicyclic organo-peptide hybrids via oxime/intein-mediated macrocyclization followed by disulfide bond formation. Organic and Biomolecular Chemistry, 2014, 12, 1135-1142.	1.5	18
69	Transcriptional coactivator PGC-1Î± contains a novel CBP80-binding motif that orchestrates efficient target gene expression. Genes and Development, 2018, 32, 555-567.	2.7	18
70	Comprehensive Structureâ€“Activity Profiling of Micheliolide and its Targeted Proteome in Leukemia Cells via Probe-Guided Late-Stage Câ€“H Functionalization. ACS Central Science, 2021, 7, 841-857.	5.3	18
71	Co-crystal structures of HIV TAR RNA bound to lab-evolved proteins show key roles for arginine relevant to the design of cyclic peptide TAR inhibitors. Journal of Biological Chemistry, 2020, 295, 16470-16486.	1.6	17
72	Blocking SHH/Patched Interaction Triggers Tumor Growth Inhibition through Patched-Induced Apoptosis. Cancer Research, 2020, 80, 1970-1980.	0.4	17

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73	Aldehyde and Ketone Synthesis by P450â€Catalyzed Oxidative Deamination of Alkyl Azides. ChemCatChem, 2016, 8, 2609-2613.	1.8	16
74	Selective Functionalization of Aliphatic Amines via Myoglobin-Catalyzed Carbene Nâ€“H Insertion. Synlett, 2020, 31, 224-229.	1.0	16
75	Side-chain-to-tail cyclization of ribosomally derived peptides promoted by aryl and alkyl amino-functionalized unnatural amino acids. Organic and Biomolecular Chemistry, 2016, 14, 5803-5812.	1.5	14
76	Highly Diastereoâ€•and Enantioselective Synthesis of Nitrileâ€Substituted Cyclopropanes by Myoglobinâ€Mediated Carbene Transfer Catalysis. Angewandte Chemie, 2018, 130, 16078-16082.	1.6	14
77	New functional twists for P450s. Nature Chemistry, 2017, 9, 609-611.	6.6	13
78	Expanded toolbox for directing the biosynthesis of macrocyclic peptides in bacterial cells. Chemical Science, 2020, 11, 6202-6208.	3.7	13
79	Synergistic catalysis in an artificial enzyme. Nature Catalysis, 2020, 3, 184-185.	16.1	13
80	Ribosomal Synthesis of Thioether-Bridged Bicyclic Peptides. Methods in Molecular Biology, 2017, 1495, 57-76.	0.4	12
81	Organic solvent stability and longâ€term storage of myoglobinâ€based carbene transfer biocatalysts. Biotechnology and Applied Biochemistry, 2020, 67, 516-526.	1.4	11
82	Highly stereoselective and enantiodivergent synthesis of cyclopropylphosphonates with engineered carbene transferases. Chemical Science, 2022, 13, 8550-8556.	3.7	11
83	Tuning Enzyme Thermostability via Computationally Guided Covalent Stapling and Structural Basis of Enhanced Stabilization. Biochemistry, 2022, 61, 1041-1054.	1.2	10
84	Biocatalytic Strategy for Highly Diastereoâ€•and Enantioselective Synthesis of 2,3â€Dihydrobenzofuranâ€Based Tricyclic Scaffolds. Angewandte Chemie, 2019, 131, 10254-10258.	1.6	7
85	Biocatalytic Strategy for the Highly Stereoselective Synthesis of CHF 2 â€Containing Trisubstituted Cyclopropanes. Angewandte Chemie, 2021, 133, 7148-7152.	1.6	7
86	Cyclic peptides with a distinct arginine-fork motif recognize the HIV trans-activation response RNA inÂvitro and in cells. Journal of Biological Chemistry, 2021, 297, 101390.	1.6	6
87	Structure of Sonic Hedgehog protein in complex with zinc(II) and magnesium(II) reveals ion-coordination plasticity relevant to peptide drug design. Acta Crystallographica Section D: Structural Biology, 2019, 75, 969-979.	1.1	3
88	An Enzymatic Platform for the Highly Enantioselective and Stereodivergent Construction of Cyclopropylâ€Îâ€lactones. Angewandte Chemie, 2020, 132, 21818-21823.	1.6	3
89	Synthesis of Macrocyclic Organo-peptide Hybrids from Ribosomal Polypeptide Precursors via CuAAC-/Hydrazide-Mediated Cyclization. Methods in Molecular Biology, 2015, 1248, 23-38.	0.4	3
90	Nanoparticleâ€Mediated Delivery of Micheliolide Analogs to Eliminate Leukemic Stem Cells in the Bone Marrow. Advanced Therapeutics, 2022, 5, 2100100.	1.6	3

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91	InnenrÃ¼cktitelbild: Highly Diastereoselective and Enantioselective Olefin Cyclopropanation Using Engineered Myoglobin-Based Catalysts (Angew. Chem. 6/2015). Angewandte Chemie, 2015, 127, 1997-1997.	1.6	2
92	Strategies for the expression and characterization of artificial myoglobin-based carbene transferases. Methods in Enzymology, 2020, 644, 35-61.	0.4	2
93	Natural, engineered, and artificial biocatalysts for organic synthesis. Bioorganic and Medicinal Chemistry, 2014, 22, 5537-5538.	1.4	1
94	MOrPH-PhD: A System for the Functional Selection of Genetically Encoded. Methods in Molecular Biology, 2022, 2371, 261-286.	0.4	1