

# Rudi Fasan

## List of Publications by Year in descending order

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94  
papers

6,204  
citations

66343

42  
h-index

71685

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. <i>ACS Catalysis</i> , 2012, 2, 647-666.	11.2	332
2	Exploiting and engineering hemoproteins for abiological carbene and nitrene transfer reactions. <i>Current Opinion in Biotechnology</i> , 2017, 47, 102-111.	6.6	253
3	Highly Diastereoselective and Enantioselective Olefin Cyclopropanation Using Engineered Myoglobin-Based Catalysts. <i>Angewandte Chemie - International Edition</i> , 2015, 54, 1744-1748.	13.8	242
4	Engineered Alkane-Hydroxylating Cytochrome P450 <sub>BM3</sub> Exhibiting Nativelike Catalytic Properties. <i>Angewandte Chemie - International Edition</i> , 2007, 46, 8414-8418.	13.8	221
5	Molecular basis of RNA recognition by the human alternative splicing factor Fox-1. <i>EMBO Journal</i> , 2006, 25, 163-173.	7.8	215
6	Evolutionary History of a Specialized P450 Propane Monooxygenase. <i>Journal of Molecular Biology</i> , 2008, 383, 1069-1080.	4.2	185
7	P450-Catalyzed Intramolecular $\text{sp}^3\text{C-H}$ Amination with Arylsulfonyl Azide Substrates. <i>ACS Catalysis</i> , 2014, 4, 546-552.	11.2	180
8	Controlled Oxidation of Remote $\text{sp}^3\text{C-H}$ Bonds in Artemisinin via P450 Catalysts with Fine-Tuned Regio- and Stereoselectivity. <i>Journal of the American Chemical Society</i> , 2012, 134, 18695-18704.	13.7	171
9	Using $\alpha^2$ -Hairpin To Mimic $\alpha^1$ -Helix: Cyclic Peptidomimetic Inhibitors of the p53-HDM2 Protein-Protein Interaction. <i>Angewandte Chemie - International Edition</i> , 2004, 43, 2109-2112.	13.8	170
10	Intermolecular carbene $\text{S-H}$ insertion catalysed by engineered myoglobin-based catalysts. <i>Chemical Science</i> , 2015, 6, 2488-2494.	7.4	169
11	Highly Diastereo- and Enantioselective Synthesis of Trifluoromethyl-Substituted Cyclopropanes via Myoglobin-Catalyzed Transfer of Trifluoromethylcarbene. <i>Journal of the American Chemical Society</i> , 2017, 139, 5293-5296.	13.7	165
12	Myoglobin-catalyzed intermolecular carbene $\text{N-H}$ insertion with arylamine substrates. <i>Chemical Communications</i> , 2015, 51, 1532-1534.	4.1	161
13	Enzymatic $\text{C}(\text{sp}^3)\text{-H}$ Amination: P450-Catalyzed Conversion of Carbonazidates into Oxazolidinones. <i>ACS Catalysis</i> , 2015, 5, 1685-1691.	11.2	147
14	Gram-Scale Synthesis of Chiral Cyclopropane-Containing Drugs and Drug Precursors with Engineered Myoglobin Catalysts Featuring Complementary Stereoselectivity. <i>Angewandte Chemie - International Edition</i> , 2016, 55, 16110-16114.	13.8	137
15	Intramolecular $\text{C}(\text{sp}^3)\text{H}$ amination of arylsulfonyl azides with engineered and artificial myoglobin-based catalysts. <i>Bioorganic and Medicinal Chemistry</i> , 2014, 22, 5697-5704.	3.0	128
16	Chemo-enzymatic fluorination of unactivated organic compounds. <i>Nature Chemical Biology</i> , 2009, 5, 26-28.	8.0	125
17	Structure-Activity Studies in a Family of $\alpha^2$ -Hairpin Protein Epitope Mimetic Inhibitors of the p53-HDM2 Protein-Protein Interaction. <i>ChemBioChem</i> , 2006, 7, 515-526.	2.6	124
18	Metal Substitution Modulates the Reactivity and Extends the Reaction Scope of Myoglobin Carbene Transfer Catalysts. <i>Advanced Synthesis and Catalysis</i> , 2017, 359, 2076-2089.	4.3	121

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19	Myoglobinâ€Catalyzed C-H Functionalization of Unprotected Indoles. <i>Angewandte Chemie - International Edition</i> , 2018, 57, 9911-9915.	13.8	113
20	Myoglobinâ€Catalyzed Olefination of Aldehydes. <i>Angewandte Chemie - International Edition</i> , 2016, 55, 2512-2516.	13.8	106
21	Cyclopropanations via Heme Carbenes: Basic Mechanism and Effects of Carbene Substituent, Protein Axial Ligand, and Porphyrin Substitution. <i>Journal of the American Chemical Society</i> , 2018, 140, 1649-1662.	13.7	106
22	Biocatalytic Synthesis of Allylic and Allenyl Sulfides through a Myoglobinâ€Catalyzed Doyleâ€Kirmse Reaction. <i>Angewandte Chemie - International Edition</i> , 2016, 55, 13562-13566.	13.8	97
23	P450 Fingerprinting Method for Rapid Discovery of Terpene Hydroxylating P450 Catalysts with Diversified Regioselectivity. <i>Journal of the American Chemical Society</i> , 2011, 133, 3242-3245.	13.7	96
24	Discovery of Potent Parthenolide-Based Antileukemic Agents Enabled by Late-Stage P450-Mediated C-H Functionalization. <i>ACS Chemical Biology</i> , 2014, 9, 164-173.	3.4	94
25	Protein Ligand Design: From Phage Display to Synthetic Protein Epitope Mimetics in Human Antibody Fc-Binding Peptidomimetics. <i>Journal of the American Chemical Society</i> , 2006, 128, 2726-2732.	13.7	84
26	Stereoselective Olefin Cyclopropanation under Aerobic Conditions with an Artificial Enzyme Incorporating an Iron-Chlorin e6 Cofactor. <i>ACS Catalysis</i> , 2017, 7, 7629-7633.	11.2	81
27	Stereodivergent Intramolecular Cyclopropanation Enabled by Engineered Carbene Transferases. <i>Journal of the American Chemical Society</i> , 2019, 141, 9145-9150.	13.7	81
28	Stereoselective Cyclopropanation of Electron-Deficient Olefins with a Cofactor Redesigned Carbene Transferase Featuring Radical Reactivity. <i>ACS Catalysis</i> , 2019, 9, 9683-9697.	11.2	77
29	Highly Diastereo- and Enantioselective Synthesis of Nitrile-Substituted Cyclopropanes by Myoglobin-Mediated Carbene Transfer Catalysis. <i>Angewandte Chemie - International Edition</i> , 2018, 57, 15852-15856.	13.8	71
30	Enhancing the Efficiency and Regioselectivity of P450 Oxidation Catalysts by Unnatural Amino Acid Mutagenesis. <i>ChemBioChem</i> , 2014, 15, 1001-1010.	2.6	67
31	MOrPH-PhD: An Integrated Phage Display Platform for the Discovery of Functional Genetically Encoded Peptide Macrocycles. <i>ACS Central Science</i> , 2020, 6, 368-381.	11.3	65
32	Chemoselective Cyclopropanation over Carbene Y-H Insertion Catalyzed by an Engineered Carbene Transferase. <i>Journal of Organic Chemistry</i> , 2018, 83, 7480-7490.	3.2	60
33	Biocatalytic Strategy for Highly Diastereo- and Enantioselective Synthesis of 2,3-Dihydrobenzofuran-Based Tricyclic Scaffolds. <i>Angewandte Chemie - International Edition</i> , 2019, 58, 10148-10152.	13.8	57
34	Modular Assembly of Macrocyclic Organo-Peptide Hybrids Using Synthetic and Genetically Encoded Precursors. <i>Angewandte Chemie - International Edition</i> , 2011, 50, 5075-5080.	13.8	56
35	Enzyme stabilization via computationally guided protein stapling. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017, 114, 12472-12477.	7.1	55
36	Origin of High Stereocontrol in Olefin Cyclopropanation Catalyzed by an Engineered Carbene Transferase. <i>ACS Catalysis</i> , 2019, 9, 1514-1524.	11.2	52

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37	Highly Stereoselective Synthesis of Fused Cyclopropane-Î³-Lactams via Biocatalytic Iron-Catalyzed Intramolecular Cyclopropanation. <i>ACS Catalysis</i> , 2020, 10, 2308-2313.	11.2	51
38	Improved productâ€perâ€glucose yields in P450â€dependent propane biotransformations using engineered <i>Escherichia coli</i> . <i>Biotechnology and Bioengineering</i> , 2011, 108, 500-510.	3.3	49
39	Mechanism-Guided Design and Discovery of Efficient Cytochrome P450-Derived Câ€H Amination Biocatalysts. <i>Journal of the American Chemical Society</i> , 2020, 142, 10343-10357.	13.7	47
40	Design and Evolution of a Macrocyclic Peptide Inhibitor of the Sonic Hedgehog/Patched Interaction. <i>Journal of the American Chemical Society</i> , 2017, 139, 12559-12568.	13.7	46
41	A Diverse Library of Chiral Cyclopropane Scaffolds via Chemoenzymatic Assembly and Diversification of Cyclopropyl Ketones. <i>Journal of the American Chemical Society</i> , 2021, 143, 2221-2231.	13.7	45
42	Engineered and artificial metalloenzymes for selective Câ€H functionalization. <i>Current Opinion in Green and Sustainable Chemistry</i> , 2021, 31, 100494.	5.9	41
43	Efficient conversion of primary azides to aldehydes catalyzed by active site variants of myoglobin. <i>Chemical Science</i> , 2016, 7, 234-239.	7.4	40
44	Biocatalytic Strategy for the Highly Stereoselective Synthesis of CHF <sub>2</sub> -Containing Trisubstituted Cyclopropanes. <i>Angewandte Chemie - International Edition</i> , 2021, 60, 7072-7076.	13.8	40
45	An Enzymatic Platform for the Highly Enantioselective and Stereodivergent Construction of Cyclopropylâ€lactones. <i>Angewandte Chemie - International Edition</i> , 2020, 59, 21634-21639.	13.8	39
46	Ribosomal Synthesis of Macrocyclic Peptides <i>in Vitro</i> and <i>in Vivo</i> Mediated by Genetically Encoded Amino-thiol Unnatural Amino Acids. <i>ACS Chemical Biology</i> , 2015, 10, 1805-1816.	3.4	37
47	Enantioselective Synthesis of Î±-Trifluoromethyl Amines via Biocatalytic Nâ€H Bond Insertion with Acceptor-Acceptor Carbene Donors. <i>Journal of the American Chemical Society</i> , 2022, 144, 2590-2602.	13.7	37
48	Bioinspired Strategy for the Ribosomal Synthesis of Thioether-Bridged Macrocyclic Peptides in Bacteria. <i>ACS Chemical Biology</i> , 2014, 9, 2008-2013.	3.4	34
49	Ribosomal Synthesis of Naturalâ€Productâ€Like Bicyclic Peptides in <i>Escherichia coli</i> . <i>ChemBioChem</i> , 2015, 16, 2011-2016.	2.6	34
50	Myoglobinâ€Catalyzed Olefination of Aldehydes. <i>Angewandte Chemie</i> , 2016, 128, 2558-2562.	2.0	34
51	Gramâ€Scale Synthesis of Chiral Cyclopropaneâ€Containing Drugs and Drug Precursors with Engineered Myoglobin Catalysts Featuring Complementary Stereoselectivity. <i>Angewandte Chemie</i> , 2016, 128, 16344-16348.	2.0	34
52	Macrocyclization of Organoâ€Peptide Hybrids through a Dual Bioâ€orthogonal Ligation: Insights from Structureâ€Reactivity Studies. <i>ChemBioChem</i> , 2013, 14, 147-160.	2.6	33
53	Enantioselective Synthesis of Chiral Amines via Biocatalytic Carbene Nâ€H Insertion. <i>ACS Catalysis</i> , 2020, 10, 10967-10977.	11.2	33
54	Design, synthesis, and diversification of ribosomally derived peptide macrocycles. <i>Current Opinion in Structural Biology</i> , 2013, 23, 571-580.	5.7	32

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55	Designer macrocyclic organo-peptide hybrids inhibit the interaction between p53 and HDM2/X by accommodating a functional I $\pm$ -helix. <i>Chemical Communications</i> , 2014, 50, 5027-5030.	4.1	32
56	Anticancer activity profiling of parthenolide analogs generated via P450-mediated chemoenzymatic synthesis. <i>Bioorganic and Medicinal Chemistry</i> , 2018, 26, 1365-1373.	3.0	32
57	Diverse organo-peptide macrocycles via a fast and catalyst-free oxime/intein-mediated dual ligation. <i>Chemical Communications</i> , 2012, 48, 1461-1463.	4.1	31
58	Emerging Strategies to Access Peptide Macrocycles from Genetically Encoded Polypeptides. <i>Journal of Organic Chemistry</i> , 2013, 78, 3525-3531.	3.2	31
59	Chemoenzymatic synthesis and antileukemic activity of novel C9- and C14-functionalized parthenolide analogs. <i>Bioorganic and Medicinal Chemistry</i> , 2016, 24, 3876-3886.	3.0	31
60	Effect of proximal ligand substitutions on the carbene and nitrene transferase activity of myoglobin. <i>Tetrahedron</i> , 2019, 75, 2357-2363.	1.9	29
61	Biocatalytic Synthesis of Allylic and Allenyl Sulfides through a Myoglobin-Catalyzed Doyle-Kirmse Reaction. <i>Angewandte Chemie</i> , 2016, 128, 13760-13764.	2.0	27
62	A Continuing Career in Biocatalysis: Frances H. Arnold. <i>ACS Catalysis</i> , 2019, 9, 9775-9788.	11.2	26
63	Two-Tier Screening Platform for Directed Evolution of Aminoacyl-tRNA Synthetases with Enhanced Stop Codon Suppression Efficiency. <i>ChemBioChem</i> , 2017, 18, 1109-1116.	2.6	25
64	C $\alpha$ -H Amination via Nitrene Transfer Catalyzed by Mononuclear Non-Heme Iron-Dependent Enzymes. <i>ChemBioChem</i> , 2020, 21, 1981-1987.	2.6	25
65	Myoglobin-Catalyzed C $\alpha$ -H Functionalization of Unprotected Indoles. <i>Angewandte Chemie</i> , 2018, 130, 10059-10063.	2.0	23
66	Mechanistic Investigation of Biocatalytic Heme Carbenoid Si $\alpha$ -H Insertions. <i>ChemCatChem</i> , 2019, 11, 3101-3108.	3.7	20
67	Stabilization of the Reductase Domain in the Catalytically Self-Sufficient Cytochrome P450 <sub>BM3</sub> by Consensus-Guided Mutagenesis. <i>ChemBioChem</i> , 2018, 19, 622-632.	2.6	19
68	Synthesis of bicyclic organo-peptide hybrids via oxime/intein-mediated macrocyclization followed by disulfide bond formation. <i>Organic and Biomolecular Chemistry</i> , 2014, 12, 1135-1142.	2.8	18
69	Transcriptional coactivator PGC-1 $\pm$ contains a novel CBP80-binding motif that orchestrates efficient target gene expression. <i>Genes and Development</i> , 2018, 32, 555-567.	5.9	18
70	Comprehensive Structure-Activity Profiling of Micheliolide and its Targeted Proteome in Leukemia Cells via Probe-Guided Late-Stage C $\alpha$ -H Functionalization. <i>ACS Central Science</i> , 2021, 7, 841-857.	11.3	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. <i>Journal of Biological Chemistry</i> , 2020, 295, 16470-16486.	3.4	17
72	Blocking SHH/Patched Interaction Triggers Tumor Growth Inhibition through Patched-Induced Apoptosis. <i>Cancer Research</i> , 2020, 80, 1970-1980.	0.9	17

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73	Aldehyde and Ketone Synthesis by P450-Catalyzed Oxidative Deamination of Alkyl Azides. <i>ChemCatChem</i> , 2016, 8, 2609-2613.	3.7	16
74	Selective Functionalization of Aliphatic Amines via Myoglobin-Catalyzed Carbene N-H Insertion. <i>Synlett</i> , 2020, 31, 224-229.	1.8	16
75	Side-chain-to-tail cyclization of ribosomally derived peptides promoted by aryl and alkyl amino-functionalized unnatural amino acids. <i>Organic and Biomolecular Chemistry</i> , 2016, 14, 5803-5812.	2.8	14
76	Highly Diastereo- and Enantioselective Synthesis of Nitrile-Substituted Cyclopropanes by Myoglobin-Mediated Carbene Transfer Catalysis. <i>Angewandte Chemie</i> , 2018, 130, 16078-16082.	2.0	14
77	New functional twists for P450s. <i>Nature Chemistry</i> , 2017, 9, 609-611.	13.6	13
78	Expanded toolbox for directing the biosynthesis of macrocyclic peptides in bacterial cells. <i>Chemical Science</i> , 2020, 11, 6202-6208.	7.4	13
79	Synergistic catalysis in an artificial enzyme. <i>Nature Catalysis</i> , 2020, 3, 184-185.	34.4	13
80	Ribosomal Synthesis of Thioether-Bridged Bicyclic Peptides. <i>Methods in Molecular Biology</i> , 2017, 1495, 57-76.	0.9	12
81	Organic solvent stability and long-term storage of myoglobin-based carbene transfer biocatalysts. <i>Biotechnology and Applied Biochemistry</i> , 2020, 67, 516-526.	3.1	11
82	Highly stereoselective and enantiodivergent synthesis of cyclopropylphosphonates with engineered carbene transferases. <i>Chemical Science</i> , 2022, 13, 8550-8556.	7.4	11
83	Tuning Enzyme Thermostability via Computationally Guided Covalent Stapling and Structural Basis of Enhanced Stabilization. <i>Biochemistry</i> , 2022, 61, 1041-1054.	2.5	10
84	Biocatalytic Strategy for Highly Diastereo- and Enantioselective Synthesis of 2,3-Dihydrobenzofuran-Based Tricyclic Scaffolds. <i>Angewandte Chemie</i> , 2019, 131, 10254-10258.	2.0	7
85	Biocatalytic Strategy for the Highly Stereoselective Synthesis of CHF <sub>2</sub> -Containing Trisubstituted Cyclopropanes. <i>Angewandte Chemie</i> , 2021, 133, 7148-7152.	2.0	7
86	Cyclic peptides with a distinct arginine-fork motif recognize the HIV trans-activation response RNA in vitro and in cells. <i>Journal of Biological Chemistry</i> , 2021, 297, 101390.	3.4	6
87	Structure of Sonic Hedgehog protein in complex with zinc(II) and magnesium(II) reveals ion-coordination plasticity relevant to peptide drug design. <i>Acta Crystallographica Section D: Structural Biology</i> , 2019, 75, 969-979.	2.3	3
88	An Enzymatic Platform for the Highly Enantioselective and Stereodivergent Construction of Cyclopropyl- $\alpha$ -lactones. <i>Angewandte Chemie</i> , 2020, 132, 21818-21823.	2.0	3
89	Synthesis of Macrocyclic Organo-peptide Hybrids from Ribosomal Polypeptide Precursors via CuAAC-/Hydrazide-Mediated Cyclization. <i>Methods in Molecular Biology</i> , 2015, 1248, 23-38.	0.9	3
90	Nanoparticle-Mediated Delivery of Micheliolide Analogs to Eliminate Leukemic Stem Cells in the Bone Marrow. <i>Advanced Therapeutics</i> , 2022, 5, 2100100.	3.2	3

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91	Innenrücktitelbild: Highly Diastereoselective and Enantioselective Olefin Cyclopropanation Using Engineered Myoglobin-Based Catalysts (Angew. Chem. 6/2015). <i>Angewandte Chemie</i> , 2015, 127, 1997-1997.	2.0	2
92	Strategies for the expression and characterization of artificial myoglobin-based carbene transferases. <i>Methods in Enzymology</i> , 2020, 644, 35-61.	1.0	2
93	Natural, engineered, and artificial biocatalysts for organic synthesis. <i>Bioorganic and Medicinal Chemistry</i> , 2014, 22, 5537-5538.	3.0	1
94	MOrPH-PhD: A System for the Functional Selection of Genetically Encoded. <i>Methods in Molecular Biology</i> , 2022, 2371, 261-286.	0.9	1