

Francisco Javier Ruiz-Dueñas

List of Publications by Year in descending order

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85
papers

8,496
citations

61857

43
h-index

51492

86
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all docs

92
docs citations

92
times ranked

6643
citing authors

#	ARTICLE	IF	CITATIONS
1	The Paleozoic Origin of Enzymatic Lignin Decomposition Reconstructed from 31 Fungal Genomes. <i>Science</i> , 2012, 336, 1715-1719.	6.0	1,424
2	Biodegradation of lignocellulosics: microbial, chemical, and enzymatic aspects of the fungal attack of lignin. <i>International Microbiology</i> , 2005, 8, 195-204.	1.1	673
3	Genome, transcriptome, and secretome analysis of wood decay fungus <i>Postia placenta</i> supports unique mechanisms of lignocellulose conversion. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2009, 106, 1954-1959.	3.3	530
4	Microbial degradation of lignin: how a bulky recalcitrant polymer is efficiently recycled in nature and how we can take advantage of this. <i>Microbial Biotechnology</i> , 2009, 2, 164-177.	2.0	434
5	Description of a Versatile Peroxidase Involved in the Natural Degradation of Lignin That Has Both Manganese Peroxidase and Lignin Peroxidase Substrate Interaction Sites. <i>Journal of Biological Chemistry</i> , 1999, 274, 10324-10330.	1.6	326
6	Purification and Catalytic Properties of Two Manganese Peroxidase Isoenzymes from <i>Pleurotus eryngii</i> . <i>FEBS Journal</i> , 1996, 237, 424-432.	0.2	323
7	Enzymatic delignification of plant cell wall: from nature to mill. <i>Current Opinion in Biotechnology</i> , 2009, 20, 348-357.	3.3	271
8	Comparative genomics of <i>Ceriporiopsis subvermispora</i> and <i>Phanerochaete chrysosporium</i> provide insight into selective ligninolysis. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012, 109, 5458-5463.	3.3	259
9	Versatile Peroxidase Oxidation of High Redox Potential Aromatic Compounds: Site-directed Mutagenesis, Spectroscopic and Crystallographic Investigation of Three Long-range Electron Transfer Pathways. <i>Journal of Molecular Biology</i> , 2005, 354, 385-402.	2.0	248
10	Substrate oxidation sites in versatile peroxidase and other basidiomycete peroxidases. <i>Journal of Experimental Botany</i> , 2009, 60, 441-452.	2.4	237
11	Oxidoreductases on their way to industrial biotransformations. <i>Biotechnology Advances</i> , 2017, 35, 815-831.	6.0	205
12	Molecular characterization of a novel peroxidase isolated from the ligninolytic fungus <i>Pleurotus eryngii</i> . <i>Molecular Microbiology</i> , 1999, 31, 223-235.	1.2	203
13	A study on reducing substrates of manganese-oxidizing peroxidases from <i>Pleurotus eryngii</i> and <i>Bjerkandera adusta</i> . <i>FEBS Letters</i> , 1998, 428, 141-146.	1.3	188
14	Lignin-degrading peroxidases in Polyporales: an evolutionary survey based on 10 sequenced genomes. <i>Mycologia</i> , 2013, 105, 1428-1444.	0.8	134
15	Ligninolytic peroxidase genes in the oyster mushroom genome: heterologous expression, molecular structure, catalytic and stability properties, and lignin-degrading ability. <i>Biotechnology for Biofuels</i> , 2014, 7, 2.	6.2	107
16	Copper Trafficking: the Solution Structure of <i>Bacillus subtilis</i> CopZ. <i>Biochemistry</i> , 2001, 40, 15660-15668.	1.2	106
17	Directed evolution of a temperature-, peroxide- and alkaline pH-tolerant versatile peroxidase. <i>Biochemical Journal</i> , 2012, 441, 487-498.	1.7	98
18	Manganese Oxidation Site in <i>Pleurotus eryngii</i> Versatile Peroxidase: A Site-Directed Mutagenesis, Kinetic, and Crystallographic Study. <i>Biochemistry</i> , 2007, 46, 66-77.	1.2	95

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19	A Tryptophan Neutral Radical in the Oxidized State of Versatile Peroxidase from <i>Pleurotus eryngii</i> . <i>Journal of Biological Chemistry</i> , 2006, 281, 9517-9526.	1.6	93
20	The genome of the white-rot fungus <i>Pycnoporus cinnabarinus</i> : a basidiomycete model with a versatile arsenal for lignocellulosic biomass breakdown. <i>BMC Genomics</i> , 2014, 15, 486.	1.2	91
21	Analysis of the <i>Phlebiopsis gigantea</i> Genome, Transcriptome and Secretome Provides Insight into Its Pioneer Colonization Strategies of Wood. <i>PLoS Genetics</i> , 2014, 10, e1004759.	1.5	90
22	Expression of <i>Pleurotus eryngii</i> versatile peroxidase in <i>Escherichia coli</i> and optimisation of in vitro folding. <i>Enzyme and Microbial Technology</i> , 2002, 30, 518-524.	1.6	86
23	A secretomic view of woody and nonwoody lignocellulose degradation by <i>Pleurotus ostreatus</i> . <i>Biotechnology for Biofuels</i> , 2016, 9, 49.	6.2	85
24	Catalytic surface radical in dye-decolorizing peroxidase: a computational, spectroscopic and site-directed mutagenesis study. <i>Biochemical Journal</i> , 2015, 466, 253-262.	1.7	84
25	Lignin-degrading Peroxidases from Genome of Selective Ligninolytic Fungus <i>Ceriporiopsis subvermispora</i> . <i>Journal of Biological Chemistry</i> , 2012, 287, 16903-16916.	1.6	81
26	Genomic Analysis Enlightens Agaricales Lifestyle Evolution and Increasing Peroxidase Diversity. <i>Molecular Biology and Evolution</i> , 2021, 38, 1428-1446.	3.5	72
27	Basidiomycete DyPs: Genomic diversity, structural and functional aspects, reaction mechanism and environmental significance. <i>Archives of Biochemistry and Biophysics</i> , 2015, 574, 66-74.	1.4	71
28	Novel structural features in the GMC family of oxidoreductases revealed by the crystal structure of fungal aryl-alcohol oxidase. <i>Acta Crystallographica Section D: Biological Crystallography</i> , 2009, 65, 1196-1205.	2.5	70
29	Ligninolytic peroxidase gene expression by <i>Pleurotus ostreatus</i> : Differential regulation in lignocellulose medium and effect of temperature and pH. <i>Fungal Genetics and Biology</i> , 2014, 72, 150-161.	0.9	68
30	Solution structure of the N-terminal domain of a potential copper-translocating P-type ATPase from <i>Bacillus subtilis</i> in the apo and Cu(I) loaded states. <i>Journal of Molecular Biology</i> , 2002, 317, 415-429.	2.0	67
31	Enhanced degradation of softwood versus hardwood by the white-rot fungus <i>Pycnoporus coccineus</i> . <i>Biotechnology for Biofuels</i> , 2015, 8, 216.	6.2	67
32	Description of the first fungal dye-decolorizing peroxidase oxidizing manganese(II). <i>Applied Microbiology and Biotechnology</i> , 2015, 99, 8927-8942.	1.7	66
33	Site-Directed Mutagenesis of the Catalytic Tryptophan Environment in <i>Pleurotus eryngii</i> Versatile Peroxidase. <i>Biochemistry</i> , 2008, 47, 1685-1695.	1.2	65
34	Two Oxidation Sites for Low Redox Potential Substrates. <i>Journal of Biological Chemistry</i> , 2012, 287, 41053-41067.	1.6	65
35	Evolutionary convergence in lignin-degrading enzymes. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018, 115, 6428-6433.	3.3	61
36	In vitro activation, purification, and characterization of <i>Escherichia coli</i> expressed aryl-alcohol oxidase, a unique H ₂ O ₂ -producing enzyme. <i>Protein Expression and Purification</i> , 2006, 45, 191-199.	0.6	57

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37	Pleurotus ostreatus heme peroxidases: An in silico analysis from the genome sequence to the enzyme molecular structure. <i>Comptes Rendus - Biologies</i> , 2011, 334, 795-805.	0.1	56
38	The cloning of a new peroxidase found in lignocellulose cultures of <i>Pleurotus eryngii</i> and sequence comparison with other fungal peroxidases. <i>FEMS Microbiology Letters</i> , 2000, 191, 37-43.	0.7	55
39	Protein Radicals in Fungal Versatile Peroxidase. <i>Journal of Biological Chemistry</i> , 2009, 284, 7986-7994.	1.6	55
40	Isolation of two laccase genes from the white-rot fungus <i>Pleurotus eryngii</i> and heterologous expression of the pel3 encoded protein. <i>Journal of Biotechnology</i> , 2008, 134, 9-19.	1.9	53
41	Crystallographic, Kinetic, and Spectroscopic Study of the First Ligninolytic Peroxidase Presenting a Catalytic Tyrosine. <i>Journal of Biological Chemistry</i> , 2011, 286, 15525-15534.	1.6	52
42	Rational Enzyme Engineering Through Biophysical and Biochemical Modeling. <i>ACS Catalysis</i> , 2016, 6, 1624-1629.	5.5	48
43	Peroxidase evolution in white-rot fungi follows wood lignin evolution in plants. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019, 116, 17900-17905.	3.3	47
44	Engineering a fungal peroxidase that degrades lignin at very acidic pH. <i>Biotechnology for Biofuels</i> , 2014, 7, 114.	6.2	46
45	Integrative visual omics of the white-rot fungus <i>Polyporus brumalis</i> exposes the biotechnological potential of its oxidative enzymes for delignifying raw plant biomass. <i>Biotechnology for Biofuels</i> , 2018, 11, 201.	6.2	45
46	Experimental recreation of the evolution of lignin-degrading enzymes from the Jurassic to date. <i>Biotechnology for Biofuels</i> , 2017, 10, 67.	6.2	41
47	Improving the pH-stability of Versatile Peroxidase by Comparative Structural Analysis with a Naturally-Stable Manganese Peroxidase. <i>PLoS ONE</i> , 2015, 10, e0140984.	1.1	39
48	Role of surface tryptophan for peroxidase oxidation of nonphenolic lignin. <i>Biotechnology for Biofuels</i> , 2016, 9, 198.	6.2	37
49	Improving the Oxidative Stability of a High Redox Potential Fungal Peroxidase by Rational Design. <i>PLoS ONE</i> , 2015, 10, e0124750.	1.1	34
50	Structural implications of the C-terminal tail in the catalytic and stability properties of manganese peroxidases from ligninolytic fungi. <i>Acta Crystallographica Section D: Biological Crystallography</i> , 2014, 70, 3253-3265.	2.5	33
51	Heterologous expression and physicochemical characterization of a fungal dye-decolorizing peroxidase from <i>Auricularia auricula-judae</i> . <i>Protein Expression and Purification</i> , 2014, 103, 28-37.	0.6	33
52	Conserved white-rot enzymatic mechanism for wood decay in the Basidiomycota genus <i>Pycnoporus</i> . <i>DNA Research</i> , 2020, 27, .	1.5	32
53	Structural Determinants of Oxidative Stabilization in an Evolved Versatile Peroxidase. <i>ACS Catalysis</i> , 2014, 4, 3891-3901.	5.5	31
54	<i>Escherichia coli</i> expression and in vitro activation of a unique ligninolytic peroxidase that has a catalytic tyrosine residue. <i>Protein Expression and Purification</i> , 2009, 68, 208-214.	0.6	30

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55	EPR parameters of amino acid radicals in <i>P. eryngii</i> versatile peroxidase and its W164Y variant computed at the QM/MM level. <i>Physical Chemistry Chemical Physics</i> , 2011, 13, 5078.	1.3	30
56	Demonstration of Lignin-to-Peroxidase Direct Electron Transfer. <i>Journal of Biological Chemistry</i> , 2015, 290, 23201-23213.	1.6	30
57	Mapping the Long-Range Electron Transfer Route in Ligninolytic Peroxidases. <i>Journal of Physical Chemistry B</i> , 2017, 121, 3946-3954.	1.2	28
58	Effect of pH on the stability of <i>Pleurotus eryngii</i> versatile peroxidase during heterologous production in <i>Emericella nidulans</i> . <i>Bioprocess and Biosystems Engineering</i> , 2004, 26, 287-293.	1.7	27
59	Effect of culture temperature on the heterologous expression of <i>Pleurotus eryngii</i> versatile peroxidase in <i>Aspergillus</i> hosts. <i>Bioprocess and Biosystems Engineering</i> , 2009, 32, 129-134.	1.7	26
60	Site-directed mutagenesis of selected residues at the active site of aryl-alcohol oxidase, an H ₂ O ₂ -producing ligninolytic enzyme. <i>FEBS Journal</i> , 2006, 273, 4878-4888.	2.2	25
61	Formation of a tyrosine adduct involved in lignin degradation by <i>Trametes cervina</i> lignin peroxidase: a novel peroxidase activation mechanism. <i>Biochemical Journal</i> , 2013, 452, 575-584.	1.7	25
62	NMR study of manganese(II) binding by a new versatile peroxidase from the white-rot fungus <i>Pleurotus eryngii</i> . <i>Journal of Biological Inorganic Chemistry</i> , 2003, 8, 751-760.	1.1	24
63	Alkaline versatile peroxidase by directed evolution. <i>Catalysis Science and Technology</i> , 2016, 6, 6625-6636.	2.1	21
64	Enzymatic Activities of <i>Trametes versicolor</i> and <i>Pleurotus eryngii</i> Implicated in Biocontrol of <i>Fusarium oxysporum</i> f. sp. <i>lycopersici</i> . <i>Current Microbiology</i> , 1996, 32, 151-155.	1.0	20
65	Comparing Ligninolytic Capabilities of Bacterial and Fungal Dye-Decolorizing Peroxidases and Class-II Peroxidase-Catalases. <i>International Journal of Molecular Sciences</i> , 2021, 22, 2629.	1.8	20
66	Delignification of eucalypt kraft pulp with manganese-substituted polyoxometalate assisted by fungal versatile peroxidase. <i>Bioresource Technology</i> , 2010, 101, 5935-5940.	4.8	19
67	Wood and humus decay strategies by white-rot basidiomycetes correlate with two different dye decolorization and enzyme secretion patterns on agar plates. <i>Fungal Genetics and Biology</i> , 2014, 72, 106-114.	0.9	18
68	Asymmetric sulfoxidation by engineering the heme pocket of a dye-decolorizing peroxidase. <i>Catalysis Science and Technology</i> , 2016, 6, 6277-6285.	2.1	17
69	New Insights on Structures Forming the Lignin-Like Fractions of Ancestral Plants. <i>Frontiers in Plant Science</i> , 2021, 12, 740923.	1.7	17
70	Search, engineering, and applications of new oxidative biocatalysts. <i>Biofuels, Bioproducts and Biorefining</i> , 2014, 8, 819-835.	1.9	16
71	Redox-Active Sites in <i>Auricularia auricula-judae</i> Dye-Decolorizing Peroxidase and Several Directed Variants: A Multifrequency EPR Study. <i>Journal of Physical Chemistry B</i> , 2015, 119, 13583-13592.	1.2	16
72	Increase of Redox Potential during the Evolution of Enzymes Degrading Recalcitrant Lignin. <i>Chemistry - A European Journal</i> , 2019, 25, 2708-2712.	1.7	16

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73	Genome sequencing of <i>Rigidoporus microporus</i> provides insights on genes important for wood decay, latex tolerance and interspecific fungal interactions. <i>Scientific Reports</i> , 2020, 10, 5250.	1.6	16
74	Characterization of a Dye-Decolorizing Peroxidase from <i>Irpex lacteus</i> Expressed in <i>Escherichia coli</i> : An Enzyme with Wide Substrate Specificity Able to Transform Lignosulfonates. <i>Journal of Fungi (Basel, Switzerland)</i> , 2021, 7, 426.	1.5	9
75	Unveiling the basis of alkaline stability of an evolved versatile peroxidase. <i>Biochemical Journal</i> , 2016, 473, 1917-1928.	1.7	13
76	Agaricales Mushroom Lignin Peroxidase: From Structure to Degradative Capabilities. <i>Antioxidants</i> , 2021, 10, 1446.	2.2	12
77	Gene cloning, heterologous expression, <i>in vitro</i> reconstitution and catalytic properties of a versatile peroxidase. <i>Biocatalysis and Biotransformation</i> , 2007, 25, 276-285.	1.1	9
78	A Multiomic Approach to Understand How <i>Pleurotus eryngii</i> Transforms Non-Woody Lignocellulosic Material. <i>Journal of Fungi (Basel, Switzerland)</i> , 2021, 7, 426.	1.5	9
79	Bioelectrochemical investigations of aryl-alcohol oxidase from <i>Pleurotus eryngii</i> . <i>Journal of Electroanalytical Chemistry</i> , 2008, 618, 83-86.	1.9	8
80	Heterologous Expression, Engineering and Characterization of a Novel Laccase of <i>Agrocybe pediades</i> with Promising Properties as Biocatalyst. <i>Journal of Fungi (Basel, Switzerland)</i> , 2021, 7, 359.	1.5	7
81	Different fungal peroxidases oxidize nitrophenols at a surface catalytic tryptophan. <i>Archives of Biochemistry and Biophysics</i> , 2019, 668, 23-28.	1.4	6
82	Exploring the Diversity of Fungal DyPs in Mangrove Soils to Produce and Characterize Novel Biocatalysts. <i>Journal of Fungi (Basel, Switzerland)</i> , 2021, 7, 321.	1.5	5
83	Kinetics of direct and substrate-mediated electron transfer of versatile peroxidase-modified graphite electrodes. <i>Journal of Electroanalytical Chemistry</i> , 2005, 580, 35-40.	1.9	3
84	Lignin-degrading peroxidases from genome of selective ligninolytic fungus <i>Ceriporiopsis subvermispora</i> . <i>Journal of Biological Chemistry</i> , 2012, 287, 41744.	1.6	2
85	<i>In silico</i> and <i>in vitro</i> analysis of promoter regions of two exopolysaccharide coding genes of <i>Fusarium oxysporum</i> f.sp. <i>radicis lycopersici</i> and regulation in <i>Saccharomyces cerevisiae</i> . , 2009, , .		0