Francisco Javier Ruiz-Dueas

List of Publications by Citations

84 papers	7,033 citations	39 h-index	83 g-index
91 ext. papers	7,828 ext. citations	5.8 avg, IF	5.4 L-index

#	Paper	IF	Citations
84	The Paleozoic origin of enzymatic lignin decomposition reconstructed from 31 fungal genomes. *Science*, **2012**, 336, 1715-9	33.3	1129
83	Biodegradation of lignocellulosics: microbial, chemical, and enzymatic aspects of the fungal attack of lignin. *International Microbiology*, **2005**, 8, 195-204	3	607
82	Genome, transcriptome, and secretome analysis of wood decay fungus Postia placenta supports unique mechanisms of lignocellulose conversion. *Proceedings of the National Academy of Sciences of the United States of America*, **2009**, 106, 1954-9	11.5	479
81	Microbial degradation of lignin: how a bulky recalcitrant polymer is efficiently recycled in nature and how we can take advantage of this. *Microbial Biotechnology*, **2009**, 2, 164-77	6.3	347
80	Purification and catalytic properties of two manganese peroxidase isoenzymes from Pleurotus eryngii. *FEBS Journal*, **1996**, 237, 424-32		280
79	Description of a versatile peroxidase involved in the natural degradation of lignin that has both manganese peroxidase and lignin peroxidase substrate interaction sites. *Journal of Biological Chemistry*, **1999**, 274, 10324-30	5.4	277
78	Enzymatic delignification of plant cell wall: from nature to mill. *Current Opinion in Biotechnology*, **2009**, 20, 348-57	11.4	244
77	Comparative genomics of Ceriporiopsis subvermispora and Phanerochaete chrysosporium provide insight into selective ligninolysis. *Proceedings of the National Academy of Sciences of the United States of America*, **2012**, 109, 5458-63	11.5	225
76	Versatile peroxidase oxidation of high redox potential aromatic compounds: site-directed mutagenesis, spectroscopic and crystallographic investigation of three long-range electron transfer pathways. *Journal of Molecular Biology*, **2005**, 354, 385-402	6.5	223
75	Substrate oxidation sites in versatile peroxidase and other basidiomycete peroxidases. *Journal of Experimental Botany*, **2009**, 60, 441-52	7	206
74	Molecular characterization of a novel peroxidase isolated from the ligninolytic fungus Pleurotus eryngii. *Molecular Microbiology*, **1999**, 31, 223-35	4.1	189
73	A study on reducing substrates of manganese-oxidizing peroxidases from Pleurotus eryngii and Bjerkandera adusta. *FEBS Letters*, **1998**, 428, 141-6	3.8	171
72	Oxidoreductases on their way to industrial biotransformations. *Biotechnology Advances*, **2017**, 35, 815-831	11.8	150
71	Lignin-degrading peroxidases in Polyporales: an evolutionary survey based on 10 sequenced genomes. *Mycologia*, **2013**, 105, 1428-44	2.4	104
70	Copper trafficking: the solution structure of Bacillus subtilis CopZ. *Biochemistry*, **2001**, 40, 15660-8	3.2	98
69	Directed evolution of a temperature-, peroxide- and alkaline pH-tolerant versatile peroxidase. *Biochemical Journal*, **2012**, 441, 487-98	3.8	89
68	Manganese oxidation site in Pleurotus eryngii versatile peroxidase: a site-directed mutagenesis, kinetic, and crystallographic study. *Biochemistry*, **2007**, 46, 66-77	3.2	85

67	A tryptophan neutral radical in the oxidized state of versatile peroxidase from Pleurotus eryngii: a combined multifrequency EPR and density functional theory study. *Journal of Biological Chemistry*, **2006**, 281, 9517-26	5.4	83
66	Ligninolytic peroxidase genes in the oyster mushroom genome: heterologous expression, molecular structure, catalytic and stability properties, and lignin-degrading ability. *Biotechnology for Biofuels*, **2014**, 7, 2	7.8	82
65	Expression of Pleurotus eryngii versatile peroxidase in Escherichia coli and optimisation of in vitro folding. *Enzyme and Microbial Technology*, **2002**, 30, 518-524	3.8	82
64	Catalytic surface radical in dye-decolorizing peroxidase: a computational, spectroscopic and site-directed mutagenesis study. *Biochemical Journal*, **2015**, 466, 253-62	3.8	68
63	Lignin-degrading peroxidases from genome of selective ligninolytic fungus Ceriporiopsis subvermispora. *Journal of Biological Chemistry*, **2012**, 287, 16903-16	5.4	68
62	Analysis of the Phlebiopsis gigantea genome, transcriptome and secretome provides insight into its pioneer colonization strategies of wood. *PLoS Genetics*, **2014**, 10, e1004759	6	67
61	Solution structure of the N-terminal domain of a potential copper-translocating P-type ATPase from Bacillus subtilis in the apo and Cu(I) loaded states. *Journal of Molecular Biology*, **2002**, 317, 415-29	6.5	63
60	The genome of the white-rot fungus Pycnoporus cinnabarinus: a basidiomycete model with a versatile arsenal for lignocellulosic biomass breakdown. *BMC Genomics*, **2014**, 15, 486	4.5	62
59	Site-directed mutagenesis of the catalytic tryptophan environment in Pleurotus eryngii versatile peroxidase. *Biochemistry*, **2008**, 47, 1685-95	3.2	62
58	A secretomic view of woody and nonwoody lignocellulose degradation by Pleurotus ostreatus. *Biotechnology for Biofuels*, **2016**, 9, 49	7.8	61
57	Novel structural features in the GMC family of oxidoreductases revealed by the crystal structure of fungal aryl-alcohol oxidase. *Acta Crystallographica Section D: Biological Crystallography*, **2009**, 65, 1196-205		60
56	Two oxidation sites for low redox potential substrates: a directed mutagenesis, kinetic, and crystallographic study on Pleurotus eryngii versatile peroxidase. *Journal of Biological Chemistry*, **2012**, 287, 41053-67	5.4	58
55	Basidiomycete DyPs: Genomic diversity, structural-functional aspects, reaction mechanism and environmental significance. *Archives of Biochemistry and Biophysics*, **2015**, 574, 66-74	4.1	56
54	Ligninolytic peroxidase gene expression by Pleurotus ostreatus: differential regulation in lignocellulose medium and effect of temperature and pH. *Fungal Genetics and Biology*, **2014**, 72, 150-161	3.9	54
53	Pleurotus ostreatus heme peroxidases: an in silico analysis from the genome sequence to the enzyme molecular structure. *Comptes Rendus - Biologies*, **2011**, 334, 795-805	1.4	54
52	The cloning of a new peroxidase found in lignocellulose cultures of Pleurotus eryngii and sequence comparison with other fungal peroxidases. *FEMS Microbiology Letters*, **2000**, 191, 37-43	2.9	53
51	Enhanced degradation of softwood versus hardwood by the white-rot fungus Pycnoporus coccineus. *Biotechnology for Biofuels*, **2015**, 8, 216	7.8	52
50	Description of the first fungal dye-decolorizing peroxidase oxidizing manganese(II). *Applied Microbiology and Biotechnology*, **2015**, 99, 8927-42	5.7	51

49	Protein radicals in fungal versatile peroxidase: catalytic tryptophan radical in both compound I and compound II and studies on W164Y, W164H, and W164S variants. *Journal of Biological Chemistry*, **2009**, 284, 7986-94	5.4	49
48	In vitro activation, purification, and characterization of Escherichia coli expressed aryl-alcohol oxidase, a unique H2O2-producing enzyme. *Protein Expression and Purification*, **2006**, 45, 191-9	2	47
47	Isolation of two laccase genes from the white-rot fungus Pleurotus eryngii and heterologous expression of the pel3 encoded protein. *Journal of Biotechnology*, **2008**, 134, 9-19	3.7	46
46	Crystallographic, kinetic, and spectroscopic study of the first ligninolytic peroxidase presenting a catalytic tyrosine. *Journal of Biological Chemistry*, **2011**, 286, 15525-34	5.4	43
45	Evolutionary convergence in lignin-degrading enzymes. *Proceedings of the National Academy of Sciences of the United States of America*, **2018**, 115, 6428-6433	11.5	38
44	Engineering a fungal peroxidase that degrades lignin at very acidic pH. *Biotechnology for Biofuels*, **2014**, 7, 114	7.8	38
43	Improving the pH-stability of Versatile Peroxidase by Comparative Structural Analysis with a Naturally-Stable Manganese Peroxidase. *PLoS ONE*, **2015**, 10, e0140984	3.7	34
42	Demonstration of Lignin-to-Peroxidase Direct Electron Transfer: A TRANSIENT-STATE KINETICS, DIRECTED MUTAGENESIS, EPR, AND NMR STUDY. *Journal of Biological Chemistry*, **2015**, 290, 23201-13	5.4	30
41	Heterologous expression and physicochemical characterization of a fungal dye-decolorizing peroxidase from Auricularia auricula-judae. *Protein Expression and Purification*, **2014**, 103, 28-37	2	30
40	Role of surface tryptophan for peroxidase oxidation of nonphenolic lignin. *Biotechnology for Biofuels*, **2016**, 9, 198	7.8	29
39	Rational Enzyme Engineering Through Biophysical and Biochemical Modeling. *ACS Catalysis*, **2016**, 6, 1624-1629	13.1	29
38	Experimental recreation of the evolution of lignin-degrading enzymes from the Jurassic to date. *Biotechnology for Biofuels*, **2017**, 10, 67	7.8	28
37	Structural Determinants of Oxidative Stabilization in an Evolved Versatile Peroxidase. *ACS Catalysis* , **2014**, 4, 3891-3901	13.1	28
36	Escherichia coli expression and in vitro activation of a unique ligninolytic peroxidase that has a catalytic tyrosine residue. *Protein Expression and Purification*, **2009**, 68, 208-14	2	28
35	Peroxidase evolution in white-rot fungi follows wood lignin evolution in plants. *Proceedings of the National Academy of Sciences of the United States of America*, **2019**, 116, 17900-17905	11.5	26
34	Improving the oxidative stability of a high redox potential fungal peroxidase by rational design. *PLoS ONE*, **2015**, 10, e0124750	3.7	26
33	EPR parameters of amino acid radicals in P. eryngii versatile peroxidase and its W164Y variant computed at the QM/MM level. *Physical Chemistry Chemical Physics*, **2011**, 13, 5078-98	3.6	26
32	Effect of culture temperature on the heterologous expression of Pleurotus eryngii versatile peroxidase in Aspergillus hosts. *Bioprocess and Biosystems Engineering*, **2009**, 32, 129-34	3.7	25

31	Site-directed mutagenesis of selected residues at the active site of aryl-alcohol oxidase, an H2O2-producing ligninolytic enzyme. *FEBS Journal*, **2006**, 273, 4878-88	5.7	25
30	Effect of pH on the stability of Pleurotus eryngii versatile peroxidase during heterologous production in Emericella nidulans. *Bioprocess and Biosystems Engineering*, **2004**, 26, 287-93	3.7	25
29	Structural implications of the C-terminal tail in the catalytic and stability properties of manganese peroxidases from ligninolytic fungi. *Acta Crystallographica Section D: Biological Crystallography*, **2014**, 70, 3253-65		24
28	Genomic Analysis Enlightens Agaricales Lifestyle Evolution and Increasing Peroxidase Diversity. *Molecular Biology and Evolution*, **2021**, 38, 1428-1446	8.3	22
27	NMR study of manganese(II) binding by a new versatile peroxidase from the white-rot fungus Pleurotus eryngii. *Journal of Biological Inorganic Chemistry*, **2003**, 8, 751-60	3.7	21
26	Formation of a tyrosine adduct involved in lignin degradation by Trametopsis cervina lignin peroxidase: a novel peroxidase activation mechanism. *Biochemical Journal*, **2013**, 452, 575-84	3.8	20
25	Enzymatic Activities of Trametes versicolor and Pleurotus eryngii Implicated in Biocontrol of Fusarium oxysporum f. sp. lycopersici. *Current Microbiology*, **1996**, 32, 151-155	2.4	19
24	Mapping the Long-Range Electron Transfer Route in Ligninolytic Peroxidases. *Journal of Physical Chemistry B*, **2017**, 121, 3946-3954	3.4	18
23	Integrative visual omics of the white-rot fungus exposes the biotechnological potential of its oxidative enzymes for delignifying raw plant biomass. *Biotechnology for Biofuels*, **2018**, 11, 201	7.8	18
22	Alkaline versatile peroxidase by directed evolution. *Catalysis Science and Technology*, **2016**, 6, 6625-6636	5.5	17
21	Structural and Functional Features of Peroxidases with a Potential as Industrial Biocatalysts **2010**, 37-59		17
20	Search, engineering, and applications of new oxidative biocatalysts. *Biofuels, Bioproducts and Biorefining*, **2014**, 8, 819-835	5.3	15
19	Wood and humus decay strategies by white-rot basidiomycetes correlate with two different dye decolorization and enzyme secretion patterns on agar plates. *Fungal Genetics and Biology*, **2014**, 72, 106-114	3.9	15
18	Asymmetric sulfoxidation by engineering the heme pocket of a dye-decolorizing peroxidase. *Catalysis Science and Technology*, **2016**, 6, 6277-6285	5.5	15
17	Delignification of eucalypt kraft pulp with manganese-substituted polyoxometalate assisted by fungal versatile peroxidase. *Bioresource Technology*, **2010**, 101, 5935-40	11	14
16	Increase of Redox Potential during the Evolution of Enzymes Degrading Recalcitrant Lignin. *Chemistry - A European Journal*, **2019**, 25, 2708-2712	4.8	14
15	Conserved white-rot enzymatic mechanism for wood decay in the Basidiomycota genus Pycnoporus. *DNA Research*, **2020**, 27,	4.5	13
14	Redox-Active Sites in Auricularia auricula-judae Dye-Decolorizing Peroxidase and Several Directed Variants: A Multifrequency EPR Study. *Journal of Physical Chemistry B*, **2015**, 119, 13583-92	3.4	11

13	Unveiling the basis of alkaline stability of an evolved versatile peroxidase. *Biochemical Journal*, **2016**, 473, 1917-28	3.8	11
12	Gene cloning, heterologous expression, in vitro reconstitution and catalytic properties of a versatile peroxidase. *Biocatalysis and Biotransformation*, **2007**, 25, 276-285	2.5	9
11	Comparing Ligninolytic Capabilities of Bacterial and Fungal Dye-Decolorizing Peroxidases and Class-II Peroxidase-Catalases. *International Journal of Molecular Sciences*, **2021**, 22,	6.3	8
10	Genome sequencing of Rigidoporus microporus provides insights on genes important for wood decay, latex tolerance and interspecific fungal interactions. *Scientific Reports*, **2020**, 10, 5250	4.9	7
9	Bioelectrochemical investigations of aryl-alcohol oxidase from Pleurotus eryngii. *Journal of Electroanalytical Chemistry*, **2008**, 618, 83-86	4.1	7
8	Characterization of a Dye-Decolorizing Peroxidase from Expressed in : An Enzyme with Wide Substrate Specificity Able to Transform Lignosulfonates. *Journal of Fungi (Basel, Switzerland)*, **2021**, 7,	5.6	6
7	Different fungal peroxidases oxidize nitrophenols at a surface catalytic tryptophan. *Archives of Biochemistry and Biophysics*, **2019**, 668, 23-28	4.1	5
6	Kinetics of direct and substrate-mediated electron transfer of versatile peroxidase-modified graphite electrodes. *Journal of Electroanalytical Chemistry*, **2005**, 580, 35-40	4.1	3
5	A Multiomic Approach to Understand How Transforms Non-Woody Lignocellulosic Material. *Journal of Fungi (Basel, Switzerland)*, **2021**, 7,	5.6	3
4	Agaricales Mushroom Lignin Peroxidase: From Structure-Function to Degradative Capabilities. *Antioxidants*, **2021**, 10,	7.1	3
3	Lignin-degrading peroxidases from genome of selective ligninolytic fungus Ceriporiopsis subvermispora.. *Journal of Biological Chemistry*, **2012**, 287, 41744	5.4	2
2	Exploring the Diversity of Fungal DyPs in Mangrove Soils to Produce and Characterize Novel Biocatalysts. *Journal of Fungi (Basel, Switzerland)*, **2021**, 7,	5.6	2
1	New Insights on Structures Forming the Lignin-Like Fractions of Ancestral Plants. *Frontiers in Plant Science*, **2021**, 12, 740923	6.2	1