Antonio L De Lacey

List of Publications by Year
in descending order

105 papers	7,317 citations	66315 42 h-index	56687 83 g-index
109 all docs	109 docs citations	109 times ranked	4762 citing authors

#	Article	IF	Citations
1	Crystallographic and FTIR Spectroscopic Evidence of Changes in Fe Coordination Upon Reduction of the Active Site of the Fe-Only Hydrogenase fromDesulfovibriodesulfuricans. Journal of the American Chemical Society, 2001, 123, 1596-1601.	6.6	761
2	Structure of the [NiFe] Hydrogenase Active Site:Â Evidence for Biologically Uncommon Fe LigandsâŠ¥. Journal of the American Chemical Society, 1996, 118, 12989-12996.	6.6	657
3	Activation and Inactivation of Hydrogenase Function and the Catalytic Cycle:â€‰ Spectroelectrochemical Studies. Chemical Reviews, 2007, 107, 4304-4330.	23.0	434
4	Infrared-Spectroelectrochemical Characterization of the [NiFe] Hydrogenase of Desulfovibrio gigas. Journal of the American Chemical Society, 1997, 119, 7181-7189.	6.6	281
5	Bioelectrochemical Haberâ€"Bosch Process: An Ammoniaâ€Producing H₂/N₂ Fuel Cell. Angewandte Chemie - International Edition, 2017, 56, 2680-2683.	7.2	218
6	The active site of the [FeFe]-hydrogenase from Desulfovibrio desulfuricans. II. Redox properties, light sensitivity and CO-ligand exchange as observed by infrared spectroscopy. Journal of Biological Inorganic Chemistry, 2006, 11, 102-118.	1.1	216
7	FTIR Characterization of the Active Site of the Fe-hydrogenase from Desulfovibrio desulfuricans. Journal of the American Chemical Society, 2000, 122, 11232-11233.	6.6	191
8	Gold Nanoparticles as Electronic Bridges for Laccase-Based Biocathodes. Journal of the American Chemical Society, 2012, 134, 17212-17220.	6.6	180
9	Hydrogenase-Coated Carbon Nanotubes for Efficient H2 Oxidation. Nano Letters, 2007, 7, 1603-1608.	4.5	177
10	Laccase electrode for direct electrocatalytic reduction of O2 to H2O with high-operational stability and resistance to chloride inhibition. Biosensors and Bioelectronics, 2008, 24, 531-537.	5.3	151
11	Oriented Immobilization ofDesulfovibriogigasHydrogenase onto Carbon Electrodes by Covalent Bonds for Nonmediated Oxidation of H2. Journal of the American Chemical Society, 2005, 127, 16008-16009.	6.6	149
12	A Glutamate Is the Essential Proton Transfer Gate during the Catalytic Cycle of the [NiFe] Hydrogenase. Journal of Biological Chemistry, 2004, 279, 10508-10513.	1.6	129
13	A membrane-, mediator-, cofactor-less glucose/oxygen biofuel cell. Physical Chemistry Chemical Physics, 2008, 10, 6093.	1.3	118
14	Electrochemical growth of Acidithiobacillus ferrooxidans on a graphite electrode for obtaining a biocathode for direct electrocatalytic reduction of oxygen. Biosensors and Bioelectronics, 2010, 26, 877-880.	5.3	113
15	The Three-Dimensional Structure of [NiFeSe] Hydrogenase from Desulfovibrio vulgaris Hildenborough: A Hydrogenase without a Bridging Ligand in the Active Site in Its Oxidised, â€œas-Isolatedâ€• State. Journal of Molecular Biology, 2010, 396, 893-907.	2.0	110
16	The activation of the [NiFe]-hydrogenase from Allochromatium vinosum. An infrared spectro-electrochemical study. Journal of Biological Inorganic Chemistry, 2004, 9, 743-752.	1.1	109
17	The H2 Sensor of Ralstonia eutropha. Journal of Biological Chemistry, 2001, 276, 15592-15597.	1.6	105
18	Introduction of Methionines in the Gas Channel Makes [NiFe] Hydrogenase Aero-Tolerant. Journal of the American Chemical Society, 2009, 131, 10156-10164.	6.6	105

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19	Understanding and Tuning the Catalytic Bias of Hydrogenase. Journal of the American Chemical Society, 2012, 134, 8368-8371.	6.6	103
20	Changing the Ligation of the Distal [4Fe4S] Cluster in NiFe Hydrogenase Impairs Inter- and Intramolecular Electron Transfers. Journal of the American Chemical Society, 2006, 128, 5209-5218.	6.6	98
21	High Redox Potential Cathode Based on Laccase Covalently Attached to Gold Electrode. Journal of Physical Chemistry C, 2011, 115, 13420-13428.	1.5	92
22	Original Design of an Oxygen-Tolerant [NiFe] Hydrogenase: Major Effect of a Valine-to-Cysteine Mutation near the Active Site. Journal of the American Chemical Society, 2011, 133, 986-997.	6.6	91
23	Nickelâ€"Ironâ€"Selenium Hydrogenases â€" An Overview. European Journal of Inorganic Chemistry, 2011, 2011, 948-962.	1.0	86
24	Density functional study of the catalytic cycle of nickelâ€"iron [NiFe] hydrogenases and the involvement of high-spin nickel(II). Journal of Biological Inorganic Chemistry, 2006, 11, 286-306.	1.1	83
25	Enhanced direct electron transfer between laccase and hierarchical carbon microfibers/carbon nanotubes composite electrodes. Comparison of three enzyme immobilization methods. Electrochimica Acta, 2012, 82, 218-223.	2.6	79
26	Blood Tolerant Laccase by Directed Evolution. Chemistry and Biology, 2013, 20, 223-231.	6.2	79
27	IR spectroelectrochemical study of the binding of carbon monoxide to the active site of Desulfovibrio fructosovorans Ni-Fe hydrogenase. Journal of Biological Inorganic Chemistry, 2002, 7, 318-326.	1.1	78
28	The direct role of selenocysteine in [NiFeSe] hydrogenase maturation and catalysis. Nature Chemical Biology, 2017, 13, 544-550.	3.9	76
29	Preferential Use of an Anode as an Electron Acceptor by an Acidophilic Bacterium in the Presence of Oxygen. Applied and Environmental Microbiology, 2008, 74, 4472-4476.	1.4	74
30	Oriented Immobilization of a Membrane-Bound Hydrogenase onto an Electrode for Direct Electron Transfer. Langmuir, 2011, 27, 6449-6457.	1.6	73
31	O2-independent formation of the inactive states of NiFe hydrogenase. Nature Chemical Biology, 2013, 9, 15-17.	3.9	73
32	Density Functional Calculations for Modeling the Active Site of Nickelâˆ'Iron Hydrogenases. 2. Predictions for the Unready and Ready States and the Corresponding Activation Processes. Inorganic Chemistry, 2002, 41, 4424-4434.	1.9	68
33	Native and mutant nickelâ€"iron hydrogenases: Unravelling structure and function. Coordination Chemistry Reviews, 2005, 249, 1596-1608.	9.5	66
34	Self-Powered Wireless Carbohydrate/Oxygen Sensitive Biodevice Based on Radio Signal Transmission. PLoS ONE, 2014, 9, e109104.	1.1	62
35	Enzymatic Anodes for Hydrogen Fuel Cells based on Covalent Attachment of Niâ€Fe Hydrogenases and Direct Electron Transfer to SAMâ€Modified Gold Electrodes. Electroanalysis, 2010, 22, 776-783.	1.5	55
36	Relation between anaerobic inactivation and oxygen tolerance in a large series of NiFe hydrogenase mutants. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 19916-19921.	3.3	54

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37	Spectroscopic and kinetic characterization of active site mutants of Desulfovibrio fructosovorans Ni-Fe hydrogenase. Journal of Biological Inorganic Chemistry, 2003, 8, 129-134.	1.1	53
38	Bioelectrochemical studies of azurin and laccase confined in three-dimensional chips based on gold-modified nano-/microstructured silicon. Biosensors and Bioelectronics, 2010, 25, 1001-1007.	5.3	53
39	Wiring of Photosystemâ€…I and Hydrogenase on an Electrode for Photoelectrochemical H 2 Production by using Redox Polymers for Relatively Positive Onset Potential. ChemElectroChem, 2017, 4, 90-95.	1.7	53
40	Crystallographic studies of [NiFe]-hydrogenase mutants: towards consensus structures for the elusive unready oxidized states. Journal of Biological Inorganic Chemistry, 2015, 20, 11-22.	1.1	52
41	Electroenzymatic CO₂ Fixation Using Redox Polymer/Enzyme-Modified Gas Diffusion Electrodes. ACS Energy Letters, 2020, 5, 321-327.	8.8	52
42	Oxygen biosensor based on bilirubin oxidase immobilized on a nanostructured gold electrode. Bioelectrochemistry, 2013, 94, 69-74.	2.4	48
43	Functional Analysis by Site-Directed Mutagenesis of the NAD + -Reducing Hydrogenase from Ralstonia eutropha. Journal of Bacteriology, 2002, 184, 6280-6288.	1.0	43
44	Bioelectrochemical Oxidation of Water. Journal of the American Chemical Society, 2014, 136, 5892-5895.	6.6	43
45	FTIR spectroelectrochemical study of the activation and inactivation processes of [NiFe] hydrogenases: effects of solvent isotope replacement and site-directed mutagenesis. Journal of Biological Inorganic Chemistry, 2004, 9, 636-642.	1.1	42
46	H₂â€Fueled ATP Synthesis on an Electrode: Mimicking Cellular Respiration. Angewandte Chemie - International Edition, 2016, 55, 6216-6220.	7.2	42
47	Electrochemical determination of berberine at a multi-walled carbon nanotubes-modified glassy carbon electrode. Sensors and Actuators B: Chemical, 2013, 183, 96-101.	4.0	41
48	Structural foundations for the O2 resistance of Desulfomicrobium baculatum [NiFeSe]-hydrogenase. Chemical Communications, 2013, 49, 7061.	2.2	41
49	An improved purification procedure for the soluble [NiFe]-hydrogenase of Ralstonia eutropha: new insights into its (in)stability and spectroscopic properties. Journal of Biological Inorganic Chemistry, 2006, 11, 247-260.	1.1	40
50	Fabrication of high surface area graphene electrodes with high performance towards enzymatic oxygen reduction. Electrochimica Acta, 2016, 191, 500-509.	2.6	40
51	Three-Dimensional Graphene Matrix-Supported and Thylakoid Membrane-Based High-Performance Bioelectrochemical Solar Cell. ACS Applied Energy Materials, 2018, 1, 319-323.	2.5	38
52	Amperometric enzyme electrode for NADP+ based on a ferrodoxin-NADP+ reductase and viologen-modified glassy carbon electrode. Journal of Electroanalytical Chemistry, 1995, 390, 69-76.	1.9	37
53	In Situ Determination of Photobioproduction of H2by In2S3-[NiFeSe] Hydrogenase fromDesulfovibrio vulgarisHildenborough Using Only Visible Light. ACS Catalysis, 2016, 6, 5691-5698.	5.5	37
54	A new mechanistic model for an O2-protected electron-bifurcating hydrogenase, Hnd from Desulfovibrio fructosovorans. Biochimica Et Biophysica Acta - Bioenergetics, 2018, 1859, 1302-1312.	0.5	37

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55	[NiFe] and [FeS] Cofactors in the Membrane-Bound Hydrogenase of <i>Ralstonia eutropha</i> Investigated by X-ray Absorption Spectroscopy: Insights into O₂-Tolerant H₂ Cleavage. Biochemistry, 2011, 50, 5858-5869.	1.2	33
56	Combinatorial Saturation Mutagenesis of the Myceliophthora thermophila Laccase T2 Mutant: the Connection between the C-Terminal Plug and the Conserved VSG Tripeptide. Combinatorial Chemistry and High Throughput Screening, 2008, 11, 807-816.	0.6	32
57	Construction of multicomponent catalytic films based on avidin-biotin technology for the electroenzymatic oxidation of molecular hydrogen. , 2000, 68, 1-10.		31
58	FTIR spectroelectrochemical characterization of the Niâ€“Feâ€“Se hydrogenase from Desulfovibrio vulgaris Hildenborough. Journal of Biological Inorganic Chemistry, 2008, 13, 1315-1320.	1.1	31
59	Synthesis and Characterization of V-Doped Î²-In₂S₃ Thin Films on FTO Substrates. Journal of Physical Chemistry C, 2016, 120, 28753-28761.	1.5	31
60	Enzymatic Electrosynthesis of Alkanes by Bioelectrocatalytic Decarbonylation of Fatty Aldehydes. Angewandte Chemie - International Edition, 2018, 57, 2404-2408.	7.2	30
61	Orientation and Function of a Membrane-Bound Enzyme Monitored by Electrochemical Surface-Enhanced Infrared Absorption Spectroscopy. Journal of Physical Chemistry Letters, 2013, 4, 2794-2798.	2.1	29
62	Transparent, mediator- and membrane-free enzymatic fuel cell based on nanostructured chemically modified indium tin oxide electrodes. Biosensors and Bioelectronics, 2017, 97, 46-52.	5.3	29
63	Covalent binding of viologen to electrode surfaces coated with poly(acrylic acid) prepared by electropolymerization of acrylate ions. Journal of Electroanalytical Chemistry, 1993, 358, 261-272.	1.9	28
64	Density Functional Calculations for Modeling the Oxidized States of the Active Site of Nickelâ^'Iron Hydrogenases. 1. Verification of the Method with Paramagnetic Ni and Co Complexes. Inorganic Chemistry, 2002, 41, 4417-4423.	1.9	28
65	Bioelectrocatalytic Activity of W-Formate Dehydrogenase Covalently Immobilized on Functionalized Gold and Graphite Electrodes. ACS Applied Materials & Interfaces, 2021, 13, 11891-11900.	4.0	28
66	Covalent binding of viologen to electrode surfaces coated with poly(acrylic acid) formed by electropolymerization of acrylate ions. Journal of Electroanalytical Chemistry, 1993, 358, 247-259.	1.9	27
67	A purple acidophilic di-ferric DNA ligase from <i>Ferroplasma</i>. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 8878-8883.	3.3	27
68	Combined ATR-SEIRAS and EC-STM Study of the Immobilization of Laccase on Chemically Modified Au Electrodes. Journal of Physical Chemistry C, 2012, 116, 16532-16540.	1.5	25
69	Influence of the protein structure surrounding the active site on the catalytic activity of [NiFeSe] hydrogenases. Journal of Biological Inorganic Chemistry, 2013, 18, 419-427.	1.1	23
70	Characterization of the active site of catalytically inactive forms of [NiFe] hydrogenases by density functional theory. Journal of Biological Inorganic Chemistry, 2007, 12, 751-760.	1.1	22
71	Reconstitution of Respiratory Complex I on a Biomimetic Membrane Supported on Gold Electrodes. Langmuir, 2014, 30, 9007-9015.	1.6	22
72	Laccase-modified gold nanorods for electrocatalytic reduction of oxygen. Bioelectrochemistry, 2016, 107, 30-36.	2.4	22

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73	Simple formal kinetics for the reversible uptake of molecular hydrogen by [Ni-Fe] hydrogenase from Desulfovibrio gigas. FEBS Journal, 2000, 267, 6560-6570.	0.2	21
74	Impact of alterations near the [NiFe] active site on the function of the H2sensor fromRalstoniaâ€ƒeutropha. FEBS Journal, 2007, 274, 74-85.	2.2	21
75	Direct electron transfer reactions between human ceruloplasmin and electrodes. Bioelectrochemistry, 2009, 76, 34-41.	2.4	21
76	Interaction of the active site of the Niâ€"Feâ€"Se hydrogenase from Desulfovibrio vulgaris Hildenborough with carbon monoxide and oxygen inhibitors. Journal of Biological Inorganic Chemistry, 2010, 15, 1285-1292.	1.1	21
77	Induction of a Proton Gradient across a Goldâ€Supported Biomimetic Membrane by Electroenzymatic H₂ Oxidation. Angewandte Chemie - International Edition, 2015, 54, 2684-2687.	7.2	20
78	Laccase-Catalyzed Bioelectrochemical Oxidation of Water Assisted with Visible Light. ACS Catalysis, 2017, 7, 4881-4889.	5.5	20
79	Comparing Ligninolytic Capabilities of Bacterial and Fungal Dye-Decolorizing Peroxidases and Class-II Peroxidase-Catalases. International Journal of Molecular Sciences, 2021, 22, 2629.	1.8	20
80	Electricity generation by microorganisms in the sediment-water interface of an extreme acidic microcosm. International Microbiology, 2011, 14, 73-81.	1.1	20
81	[NiFe]-hydrogenases revisited: nickelâ€"carboxamido bond formation in a variant with accrued O₂-tolerance and a tentative re-interpretation of Ni-SI states. Metallomics, 2015, 7, 710-718.	1.0	19
82	Kinetic characterization of Desulfovibrio gigas hydrogenase upon selective chemical modification of amino acid groups as a tool for structureâ€"function relationships. BBA - Proteins and Proteomics, 2000, 1481, 371-380.	2.1	18
83	A Threonine Stabilizes the NiC and NiR Catalytic Intermediates of [NiFe]-hydrogenase. Journal of Biological Chemistry, 2015, 290, 8550-8558.	1.6	18
84	Electrochemical Biosensors Based on Membrane-Bound Enzymes in Biomimetic Configurations. Sensors, 2020, 20, 3393.	2.1	18
85	Sulfurâ€Doped Carbons Prepared from Eutectic Mixtures Containing Hydroxymethylthiophene as Metalâ€Free Oxygen Reduction Catalysts. ChemSusChem, 2014, 7, 3347-3355.	3.6	17
86	Bilirubin Oxidaseâ€Based Nanobiocathode Working in Serumâ€Mimic Buffer for Implantable Biofuel Cell. Electroanalysis, 2013, 25, 1359-1362.	1.5	16
87	Increase of Redox Potential during the Evolution of Enzymes Degrading Recalcitrant Lignin. Chemistry - A European Journal, 2019, 25, 2708-2712.	1.7	16
88	Structural differences of oxidized ironâ€"sulfur and nickelâ€"iron cofactors in O 2 -tolerant and O 2 -sensitive hydrogenases studied by X-ray absorption spectroscopy. Biochimica Et Biophysica Acta - Bioenergetics, 2015, 1847, 162-170.	0.5	14
89	Halides inhibition of multicopper oxidases studied by FTIR spectroelectrochemistry using azide as an active infrared probe. Journal of Biological Inorganic Chemistry, 2017, 22, 1179-1186.	1.1	13
90	Catalytic Activity and Proton Translocation of Reconstituted Respiratory Complex I Monitored by Surface-Enhanced Infrared Absorption Spectroscopy. Langmuir, 2018, 34, 5703-5711.	1.6	13

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91	Characterization of the [NiFeSe] hydrogenase from Desulfovibrio vulgaris Hildenborough. Methods in Enzymology, 2018, 613, 169-201.	0.4	12
92	Laccase cathode approaches to physiological conditions by local pH acidification. Electrochemistry Communications, 2012, 18, 37-40.	2.3	11
93	Third-generation oxygen amperometric biosensor based on Trametes hirsuta laccase covalently bound to graphite electrode. Chemical Papers, 2015, 69, .	1.0	11
94	Underpotential Photoelectrooxidation of Water by SnS 2 â˜'Laccase Coâ€•catalysts on Nanostructured Electrodes with Only Visibleâ€•Light Irradiation. ChemElectroChem, 2019, 6, 2755-2761.	1.7	10
95	Electron transfer between viologen derivatives and the flavoprotein ferredoxin-NADP+ reductase. Bioelectrochemistry, 1995, 38, 179-184.	1.0	8
96	pH-dependent redox behaviour of asymmetric viologens. Journal of Electroanalytical Chemistry, 1995, 399, 163-167.	1.9	8
97	Photoelectrocatalytic detection of NADH on n-type silicon semiconductors facilitated by carbon nanotube fibers. Electrochimica Acta, 2021, 377, 138071.	2.6	8
98	The Covalent Linkage of a Viologen to a Flavoprotein Reductase Transforms it into an Oxidase. FEBS Journal, 1995, 233, 593-599.	0.2	7
99	Physicochemical Characterization of <i>Acidiphilium</i> sp. Biofilms. ChemPhysChem, 2013, 14, 1237-1244.	1.0	5
100	Potentiometric detection of ATP based on the transmembrane proton gradient generated by ATPase reconstituted on a gold electrode. Bioelectrochemistry, 2020, 133, 107490.	2.4	5
101	FTIR Spectroscopy of Metalloproteins. Methods in Molecular Biology, 2014, 1122, 95-106.	0.4	5
102	Molecular modulation of NiFe hydrogenase activity. International Journal of Hydrogen Energy, 2008, 33, 1503-1508.	3.8	4
103	Novel Bioelectrocatalytic Strategies Based on Immobilized Redox Metalloenzymes on Tailored Electrodes. ACS Symposium Series, 2020, , 207-229.	0.5	2
104	Biological Production of Hydrogen. , 2021, , 247-273.		2
105	Electrochemical studies of galactose oxidase. Electrochemical Science Advances, 2022, 2, e2100171.	1.2	2