Sergey Shleev

List of Publications by Year
in descending order

130 papers	7,712 citations	44069 48 h-index	54911 84 g-index
135 all docs	135 docs citations	135 times ranked	5518 citing authors

#	Article	IF	Citations
1	Direct electron transfer between copper-containing proteins and electrodes. Biosensors and Bioelectronics, 2005, 20, 2517-2554.	10.1	568
2	Laccase-mediator systems and their applications: A review. Applied Biochemistry and Microbiology, 2007, 43, 523-535.	0.9	454
3	â€œBlueâ€•laccases. Biochemistry (Moscow), 2007, 72, 1136-1150.	1.5	318
4	Direct electron transfer based enzymatic fuel cells. Electrochimica Acta, 2012, 82, 191-202.	5.2	222
5	Direct electron transfer reactions of laccases from different origins on carbon electrodes. Bioelectrochemistry, 2005, 67, 115-124.	4.6	212
6	Biofuel cell as a power source for electronic contact lenses. Biosensors and Bioelectronics, 2012, 37, 38-45.	10.1	190
7	Comparison of physico-chemical characteristics of four laccases from different basidiomycetes. Biochimie, 2004, 86, 693-703.	2.6	188
8	Gold Nanoparticles as Electronic Bridges for Laccase-Based Biocathodes. Journal of the American Chemical Society, 2012, 134, 17212-17220.	13.7	180
9	Challenges for successful implantation of biofuel cells. Bioelectrochemistry, 2018, 124, 57-72.	4.6	171
10	Mediatorless sugar/oxygen enzymatic fuel cells based on gold nanoparticle-modified electrodes. Biosensors and Bioelectronics, 2012, 31, 219-225.	10.1	159
11	Electrochemical redox transformations of T1 and T2 copper sites in native Trametes hirsuta laccase at gold electrode. Biochemical Journal, 2005, 385, 745-754.	3.7	155
12	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.	10.1	151
13	Miniature Biofuel Cell as a Potential Power Source for Glucose-Sensing Contact Lenses. Analytical Chemistry, 2013, 85, 6342-6348.	6.5	151
14	Direct electron transfer from graphite and functionalized gold electrodes to T1 and T2/T3 copper centers of bilirubin oxidase. Biochimica Et Biophysica Acta - Bioenergetics, 2008, 1777, 1364-1369.	1.0	140
15	Laccase-catalyzed synthesis of conducting polyaniline. Enzyme and Microbial Technology, 2003, 33, 556-564.	3.2	135
16	Redox potentials of the blue copper sites of bilirubin oxidases. Biochimica Et Biophysica Acta - Bioenergetics, 2006, 1757, 1634-1641.	1.0	132
17	Direct Electron Transfer Between Ligninolytic Redox Enzymes and Electrodes. Electroanalysis, 2004, 16, 1074-1092.	2.9	131
18	Direct heterogeneous electron transfer reactions of bilirubin oxidase at a spectrographic graphite electrode. Electrochemistry Communications, 2004, 6, 934-939.	4.7	126

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19	A membrane-, mediator-, cofactor-less glucose/oxygen biofuel cell. Physical Chemistry Chemical Physics, 2008, 10, 6093.	2.8	118
20	Tear Based Bioelectronics. Electroanalysis, 2016, 28, 1250-1266.	2.9	107
21	In Vitro Evolution of a Fungal Laccase in High Concentrations of Organic Cosolvents. Chemistry and Biology, 2007, 14, 1052-1064.	6.0	104
22	Direct heterogeneous electron transfer reactions of fungal laccases at bare and thiol-modified gold electrodes. Electrochemistry Communications, 2006, 8, 747-753.	4.7	97
23	Increasing Redox Potential, Redox Mediator Activity, and Stability in a Fungal Laccase by Computer-Guided Mutagenesis and Directed Evolution. ACS Catalysis, 2019, 9, 4561-4572.	11.2	96
24	High Redox Potential Cathode Based on Laccase Covalently Attached to Gold Electrode. Journal of Physical Chemistry C, 2011, 115, 13420-13428.	3.1	92
25	Direct Heterogeneous Electron Transfer Reactions ofTrametes hirsuta Laccase at Bare and Thiol-Modified Gold Electrodes. Electroanalysis, 2006, 18, 1901-1908.	2.9	88
26	Selfâ€Charging Electrochemical Biocapacitor. ChemElectroChem, 2014, 1, 343-346.	3.4	82
27	Biofuel Cells for Biomedical Applications: Colonizing the Animal Kingdom. ChemPhysChem, 2013, 14, 2045-2058.	2.1	80
28	Direct electron transfer of bilirubin oxidase (Myrothecium verrucaria) at an unmodified nanoporous gold biocathode. Electrochemistry Communications, 2012, 16, 92-95.	4.7	79
29	Blood Tolerant Laccase by Directed Evolution. Chemistry and Biology, 2013, 20, 223-231.	6.0	79
30	Oxygen electroreduction catalysed by laccase wired to gold nanoparticles via the trinuclear copper cluster. Energy and Environmental Science, 2017, 10, 498-502.	30.8	72
31	Biofuel Cell Based on Microscale Nanostructured Electrodes with Inductive Coupling to Rat Brain Neurons. Scientific Reports, 2013, 3, 3270.	3.3	68
32	A hybrid electric power device for simultaneous generation and storage of electric energy. Energy and Environmental Science, 2014, 7, 989.	30.8	63
33	Self-Powered Wireless Carbohydrate/Oxygen Sensitive Biodevice Based on Radio Signal Transmission. PLoS ONE, 2014, 9, e109104.	2.5	62
34	Interaction of fungal laccases and laccase-mediator systems with lignin. Enzyme and Microbial Technology, 2006, 39, 841-847.	3.2	61
35	Direct electron transfer of Trametes hirsuta laccase adsorbed at unmodified nanoporous gold electrodes. Bioelectrochemistry, 2013, 91, 15-20.	4.6	60
36	A Direct Electron Transferâ€Based Glucose/Oxygen Biofuel Cell Operating in Human Serum. Fuel Cells, 2010, 10, 9-16.	2.4	59

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37	A Nernstian Biosupercapacitor. Angewandte Chemie - International Edition, 2016, 55, 15434-15438.	13.8	59
38	Fully Enzymatic Membraneless Glucose|Oxygen Fuel Cell That Provides 0.275 mA cm^{â€“2} in 5 mM Glucose, Operates in Human Physiological Solutions, and Powers Transmission of Sensing Data. Analytical Chemistry, 2016, 88, 2156-2163.	6.5	59
39	Altering the laccase functionality by in vivo assembly of mutant libraries with different mutational spectra. Proteins: Structure, Function and Bioinformatics, 2008, 71, 250-260.	2.6	56
40	Laccaseâ€“gold nanoparticle assisted bioelectrocatalytic reduction of oxygen. Electrochemistry Communications, 2010, 12, 933-935.	4.7	56
41	Reorganization Energy for Internal Electron Transfer in Multicopper Oxidases. Journal of Physical Chemistry B, 2011, 115, 13111-13126.	2.6	55
42	Interfacial Behavior and Activity of Laccase and Bilirubin Oxidase on Bare Gold Surfaces. Langmuir, 2014, 30, 2943-2951.	3.5	55
43	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.	10.1	53
44	Supercapacitive Photoâ€Bioanodes and Biosolar Cells: A Novel Approach for Solar Energy Harnessing. Advanced Energy Materials, 2017, 7, 1602285.	19.5	53
45	Hybrid Electric Power Biodevices. ChemElectroChem, 2014, 1, 1798-1807.	3.4	52
46	Direct Electrochemistry of Proteins and Enzymes. Perspectives in Bioanalysis, 2005, , 517-598.	0.3	50
47	Design of a bioelectrocatalytic electrode interface for oxygen reduction in biofuel cells based on a specifically adapted Os-complex containing redox polymer with entrapped Trametes hirsuta laccase. Electrochemistry Communications, 2010, 12, 640-643.	4.7	50
48	On the Possibility of Uphill Intramolecular Electron Transfer in Multicopper Oxidases: Electrochemical and Quantum Chemical Study of Bilirubin Oxidase. Electroanalysis, 2012, 24, 1524-1540.	2.9	49
49	Laccase-catalyzed synthesis of optically active polyaniline. Synthetic Metals, 2007, 157, 684-689.	3.9	48
50	Oxygen biosensor based on bilirubin oxidase immobilized on a nanostructured gold electrode. Bioelectrochemistry, 2013, 94, 69-74.	4.6	48
51	Stable â€˜Floating' Air Diffusion Biocathode Based on Direct Electron Transfer Reactions Between Carbon Particles and High Redox Potential Laccase. Fuel Cells, 2010, 10, 726-733.	2.4	46
52	Optimization of a Membraneless Glucose/Oxygen Enzymatic Fuel Cell Based on a Bioanode with High Coulombic Efficiency and Current Density. ChemPhysChem, 2013, 14, 2260-2269.	2.1	46
53	Quo Vadis, Implanted Fuel Cell?. ChemPlusChem, 2017, 82, 522-539.	2.8	45
54	Biosupercapacitors. Current Opinion in Electrochemistry, 2017, 5, 226-233.	4.8	44

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55	Bioelectrochemical Oxidation of Water. Journal of the American Chemical Society, 2014, 136, 5892-5895.	13.7	43
56	Bi-enzyme biosensor based on NAD+- and glutathione-dependent recombinant formaldehyde dehydrogenase and diaphorase for formaldehyde assay. Sensors and Actuators B: Chemical, 2007, 125, 1-9.	7.8	41
57	Properties of native and hydrophobic laccases immobilized in the liquid-crystalline cubic phase on electrodes. Journal of Biological Inorganic Chemistry, 2007, 12, 335-344.	2.6	41
58	Rechargeable, flexible and mediator-free biosupercapacitor based on transparent ITO nanoparticle modified electrodes acting in ÂµM glucose containing buffers. Biosensors and Bioelectronics, 2018, 101, 84-89.	10.1	41
59	Fabrication of high surface area graphene electrodes with high performance towards enzymatic oxygen reduction. Electrochimica Acta, 2016, 191, 500-509.	5.2	40
60	Solar biosupercapacitor. Electrochemistry Communications, 2017, 74, 9-13.	4.7	40
61	Isolation and study of some properties of laccase from the basidiomycetes Cerrena maxima. Biochemistry (Moscow), 2001, 66, 618-622.	1.5	38
62	Characterization of two new multiforms of Trametes pubescens laccase. Bioorganic Chemistry, 2007, 35, 35-49.	4.1	38
63	Miniature Direct Electron Transfer Based Enzymatic Fuel Cell Operating in Human Sweat and Saliva. Fuel Cells, 2014, 14, 1050-1056.	2.4	36
64	Bioelectrocatalytic reduction of oxygen at gold nanoparticles modified with laccase. Bioelectrochemistry, 2014, 95, 1-6.	4.6	36
65	Transparent and flexible, nanostructured and mediatorless glucose/oxygen enzymatic fuel cells. Journal of Power Sources, 2015, 294, 501-506.	7.8	36
66	The influence of nanoparticles on enzymatic bioelectrocatalysis. RSC Advances, 2014, 4, 38164-38168.	3.6	35
67	An Intrinsic Selfâ€Charging Biosupercapacitor Comprised of a Highâ€Potential Bioanode and a Lowâ€Potential Biocathode. ChemPlusChem, 2017, 82, 576-583.	2.8	35
68	Purification and characterization of alcohol oxidase from a genetically constructed over-producing strain of the methylotrophic yeast Hansenula polymorpha. Biochemistry (Moscow), 2006, 71, 245-250.	1.5	34
69	The dynamics of oxidase activity during cultivation of basidiomycetes from the genus Trametes Fr.. Applied Biochemistry and Microbiology, 2006, 42, 558-563.	0.9	33
70	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.	1.1	32
71	Carbon Ceramic Electrodes Modified with Laccase fromTrametes hirsuta: Fabrication, Characterization and Their Use for Phenolic Compounds Detection. Electroanalysis, 2007, 19, 907-917.	2.9	31
72	A chloride resistant high potential oxygen reducing biocathode based on a fungal laccase incorporated into an optimized Os-complex modified redox hydrogel. Electrochemistry Communications, 2011, 13, 474-476.	4.7	31

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73	Effect of the L499M mutation of the ascomycetousBotrytis acladalaccase on redox potential and catalytic properties. Acta Crystallographica Section D: Biological Crystallography, 2014, 70, 2913-2923.	2.5	31
74	An Amperometric Biosensor Based on Laccase Immobilized in Polymer Matrices for Determining Phenolic Compounds. Journal of Analytical Chemistry, 2005, 60, 553-557.	0.9	30
75	Laccase-based biosensors for monitoring lignin. Enzyme and Microbial Technology, 2006, 39, 835-840.	3.2	30
76	Ex vivo electric power generation in human blood using an enzymatic fuel cell in a vein replica. RSC Advances, 2016, 6, 70215-70220.	3.6	29
77	Transparent, mediator- and membrane-free enzymatic fuel cell based on nanostructured chemically modified indium tin oxide electrodes. Biosensors and Bioelectronics, 2017, 97, 46-52.	10.1	29
78	Autoreduction andÂaggregation ofÂfungal laccase inÂsolution phase: possible correlation with aÂresting form ofÂlaccase. Biochimie, 2006, 88, 1275-1285.	2.6	28
79	Oxygen Electroreduction versus Bioelectroreduction: Direct Electron Transfer Approach. Electroanalysis, 2016, 28, 2270-2287.	2.9	28
80	Hybrid dual-functioning electrodes for combined ambient energy harvesting and charge storage: Towards self-powered systems. Biosensors and Bioelectronics, 2019, 126, 275-291.	10.1	28
81	A Comparative Study of Biocathodes Based on Multiwall Carbon Nanotube Buckypapers Modified with Three Different Multicopper Oxidases. Electroanalysis, 2013, 25, 1143-1149.	2.9	27
82	Non-Invasive Electrochemical Biosensors Operating in Human Physiological Fluids. Sensors, 2020, 20, 6352.	3.8	27
83	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.	3.1	25
84	Switching from blue to yellow: altering the spectral properties of a high redox potential laccase by directed evolution. Biocatalysis and Biotransformation, 2013, 31, 8-21.	2.0	25
85	Transistorâ€Like Behavior of a Fungal Laccase. Angewandte Chemie - International Edition, 2008, 47, 7270-7274.	13.8	24
86	Powering electronic contact lenses: current achievements, challenges, and perspectives. Expert Review of Ophthalmology, 2014, 9, 269-273.	0.6	24
87	Flexible micro(bio)sensors for quantitative analysis of bioanalytes in a nanovolume of human lachrymal liquid. Analytical and Bioanalytical Chemistry, 2013, 405, 3871-3879.	3.7	23
88	Miniature direct electron transfer based sulphite/oxygen enzymatic fuel cells. Biosensors and Bioelectronics, 2015, 66, 39-42.	10.1	23
89	Novel Laccase Redox Mediators: Spectral, Electrochemical, and Kinetic Properties. Applied Biochemistry and Biotechnology, 2003, 111, 167-184.	2.9	22
90	Electrochemical characterization and application of azurin-modified gold electrodes for detection of superoxide. Biosensors and Bioelectronics, 2006, 22, 213-219.	10.1	22

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91	Mediatorless Carbohydrate/Oxygen Biofuel Cells with Improved Cellobiose Dehydrogenase Based Bioanode. Fuel Cells, 2014, 14, 792-800.	2.4	22
92	Laccase-modified gold nanorods for electrocatalytic reduction of oxygen. Bioelectrochemistry, 2016, 107, 30-36.	4.6	22
93	Direct electron transfer reactions between human ceruloplasmin and electrodes. Bioelectrochemistry, 2009, 76, 34-41.	4.6	21
94	Laccase-Catalyzed Bioelectrochemical Oxidation of Water Assisted with Visible Light. ACS Catalysis, 2017, 7, 4881-4889.	11.2	20
95	Direct Heterogeneous Electron Transfer Reactions of Bacillus halodurans Bacterial Blue Multicopper Oxidase. Electroanalysis, 2008, 20, 963-969.	2.9	18
96	Intact and permeabilized cells of the yeast Hansenula polymorpha as bioselective elements for amperometric assay of formaldehyde. Talanta, 2007, 71, 934-940.	5.5	17
97	Biological fuel cells: Divergence of opinion. Bioelectrochemistry, 2015, 106, 1-2.	4.6	17
98	Comparative Spectroelectrochemical Studies of Lyophilized and Nonlyophilized Laccases fromCerrena unicolor Basidiomycete. Electroanalysis, 2007, 19, 1039-1047.	2.9	16
99	Simultaneous use of electrochemistry and chemiluminescence to detect reactive oxygen species produced by human neutrophils. Cell Biology International, 2008, 32, 1486-1496.	3.0	15
100	Comparison of bioelectrocatalysis at Trichaptum abietinum and Trametes hirsuta laccase modified electrodes. Electrochimica Acta, 2014, 130, 141-147.	5.2	15
101	Performance of enzymatic fuel cell in cell culture. Biosensors and Bioelectronics, 2014, 55, 168-173.	10.1	14
102	Impact of the Gold Support on the Electrocatalytic Oxidation of Sugars at Enzymeâ€Modified Electrodes. Electroanalysis, 2011, 23, 927-930.	2.9	13
103	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.	2.6	13
104	Electrochemistry of a high redox potential laccase obtained by computer-guided mutagenesis combined with directed evolution. Electrochemistry Communications, 2019, 106, 106511.	4.7	13
105	Enzymatic oxidation of manganese ions catalysed by laccase. Bioorganic Chemistry, 2009, 37, 1-5.	4.1	12
106	Amperometric monitoring of redox activity in intact, permeabilised and lyophilised cells of the yeast Hansenula polymorpha. Electrochemistry Communications, 2007, 9, 1480-1485.	4.7	11
107	Laccase cathode approaches to physiological conditions by local pH acidification. Electrochemistry Communications, 2012, 18, 37-40.	4.7	11
108	Third-generation oxygen amperometric biosensor based on Trametes hirsuta laccase covalently bound to graphite electrode. Chemical Papers, 2015, 69, .	2.2	11

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109	Isolation and Purification of Enzymes from Ligninolytic Complex of the Basidial Fungus Trametes pubescens (Schumach.) Pilat and Study of Their Properties. Biochemistry (Moscow), 2005, 70, 1274-1279.	1.5	10
110	Activity of lactoperoxidase when adsorbed on protein layers. Talanta, 2008, 76, 1159-1164.	5.5	10
111	Underpotential Photoelectrooxidation of Water by SnS 2 â^'Laccase Coâ€catalysts on Nanostructured Electrodes with Only Visibleâ€Light Irradiation. ChemElectroChem, 2019, 6, 2755-2761.	3.4	10
112	Enzymatic synthesis of a conducting complex of polyaniline and poly(2-acrylamido-2-methyl-1-propanesulfonic acid) using palm tree peroxidase and its properties. Applied Biochemistry and Microbiology, 2005, 41, 247-250.	0.9	9
113	A conventional symmetric biosupercapacitor based on rusticyanin modified gold electrodes. Journal of Electroanalytical Chemistry, 2018, 816, 253-258.	3.8	9
114	Transparent and Capacitive Bioanode Based on Specifically Engineered Glucose Oxidase. Electroanalysis, 2016, 28, 1290-1297.	2.9	8
115	Phenylpyrazolones, Novel Oxidoreductase Redox Mediators for Degradation of Xenobiotics. Applied Biochemistry and Microbiology, 2004, 40, 140-145.	0.9	7
116	An electrochemical method for measuring metabolic activity and counting cells. Applied Biochemistry and Microbiology, 2006, 42, 525-533.	0.9	7
117	Scalable, high performance, enzymatic cathodes based on nanoimprint lithography. Beilstein Journal of Nanotechnology, 2015, 6, 1377-1384.	2.8	7
118	Oxygen can be replaced by artificial electron acceptors in reactions catalyzed by alcohol oxidase. Applied Biochemistry and Microbiology, 2007, 43, 15-20.	0.9	6
119	Ein Nernstâ€Biosuperkondensator. Angewandte Chemie, 2016, 128, 15660-15664.	2.0	5
120	Octaheme nitrite reductase: The mechanism of intramolecular electron transfer and kinetics of nitrite bioelectroreduction. Bioelectrochemistry, 2021, 138, 107699.	4.6	5
121	Comparative study of biocatalytic reactions of high and low redox potential fungal and plant laccases in homogeneous and heterogeneous reactions. Moscow University Chemistry Bulletin, 2008, 63, 94-98.	0.6	4
122	Potentially implantable biocathode with the function of charge accumulation based on nanocomposite of polyaniline/carbon nanotubes. Russian Journal of Electrochemistry, 2016, 52, 1166-1171.	0.9	4
123	Wearable Electronic Tongue for Non-Invasive Assessment of Human Sweat. Sensors, 2021, 21, 7311.	3.8	4
124	Determination of Polyphenolic Complex in Wines by Electrochemical Methods and Using the Enzymes Tyrosinase and Laccase. Applied Biochemistry and Microbiology, 2004, 40, 304-309.	0.9	3
125	Title is missing!. Russian Journal of Plant Physiology, 2001, 48, 459-463.	1.1	2
126	Concept for assembling individual nanostructure-based components into complex devices. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2015, 33, .	1.2	1

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127	Photoâ€Biosupercapacitors: Supercapacitive Photoâ€Bioanodes and Biosolar Cells: A Novel Approach for Solar Energy Harnessing (Adv. Energy Mater. 12/2017). Advanced Energy Materials, 2017, 7, .	19.5	1
128	Autotolerant ceruloplasmin based biocathodes for implanted biological power sources. Bioelectrochemistry, 2021, 140, 107794.	4.6	1
129	Photobioanodes based on nanoimprinted electrodes and immobilised chloroplasts. ChemElectroChem, 0, , .	3.4	1
130	11. Wearable bioelectronic devices. , 2019, , 213-236.		0