Ivelina S Zaharieva

List of Publications by Year
in descending order

77 papers	6,430 citations	76196 40 h-index	76769 74 g-index
83 all docs	83 docs citations	83 times ranked	6909 citing authors

#	Article	IF	Citations
1	Combination of Highly Efficient Electrocatalytic Water Oxidation with Selective Oxygenation of Organic Substrates using Manganese Borophosphates. Advanced Materials, 2021, 33, e2004098.	11.1	52
2	Operando tracking of oxidation-state changes by coupling electrochemistry with time-resolved X-ray absorption spectroscopy demonstrated for water oxidation by a cobalt-based catalyst film. Analytical and Bioanalytical Chemistry, 2021, 413, 5395-5408.	1.9	16
3	Detecting structural transformation of cobalt phosphonate to active bifunctional catalysts for electrochemical water-splitting. Journal of Materials Chemistry A, 2020, 8, 2637-2643.	5.2	80
4	Water-Oxidation Electrocatalysis by Manganese Oxides: Syntheses, Electrode Preparations, Electrolytes and Two Fundamental Questions. Zeitschrift Fur Physikalische Chemie, 2020, 234, 925-978.	1.4	41
5	Light-driven formation of manganese oxide by todayâ€™s photosystem II supports evolutionarily ancient manganese-oxidizing photosynthesis. Nature Communications, 2020, 11, 6110.	5.8	34
6	A soft molecular 2Feâ€“2As precursor approach to the synthesis of nanostructured FeAs for efficient electrocatalytic water oxidation. Chemical Science, 2020, 11, 11834-11842.	3.7	30
7	Operando Raman spectroscopy tracks oxidation-state changes in an amorphous Co oxide material for electrocatalysis of the oxygen evolution reaction. Journal of Chemical Physics, 2020, 152, 194202.	1.2	55
8	A synthetic manganeseâ€“calcium cluster similar to the catalyst of Photosystem II: challenges for biomimetic water oxidation. Dalton Transactions, 2020, 49, 5597-5605.	1.6	13
9	Exploring the Limits of Self-Repair in Cobalt Oxide Films for Electrocatalytic Water Oxidation. ACS Catalysis, 2020, 10, 7990-7999.	5.5	21
10	Water-oxidizing complex in Photosystem II: Its structure and relation to manganese-oxide based catalysts. Coordination Chemistry Reviews, 2020, 409, 213183.	9.5	61
11	Electromodified NiFe Alloys as Electrocatalysts for Water Oxidation: Mechanistic Implications of Timeâ€Resolved UV/Vis Tracking of Oxidation State Changes. ChemSusChem, 2019, 12, 1966-1976.	3.6	33
12	Origin of the heat-induced improvement of catalytic activity and stability of MnO_x electrocatalysts for water oxidation. Journal of Materials Chemistry A, 2019, 7, 17022-17036.	5.2	25
13	Energetics and Kinetics of S-State Transitions Monitored by Delayed Chlorophyll Fluorescence. Frontiers in Plant Science, 2019, 10, 386.	1.7	14
14	Ammonia as a substrate-water analogue in photosynthetic water oxidation: Influence on activation barrier of the O2-formation step. Biochimica Et Biophysica Acta - Bioenergetics, 2019, 1860, 533-540.	0.5	5
15	H/D Isotope Effects Reveal Factors Controlling Catalytic Activity in Co-Based Oxides for Water Oxidation. Journal of the American Chemical Society, 2019, 141, 2938-2948.	6.6	72
16	Helical cobalt borophosphates to master durable overall water-splitting. Energy and Environmental Science, 2019, 12, 988-999.	15.6	179
17	Nickel-iron catalysts for electrochemical water oxidation â€“ redox synergism investigated by <i>in situ</i> X-ray spectroscopy with millisecond time resolution. Sustainable Energy and Fuels, 2018, 2, 1986-1994.	2.5	64
18	KÎ± X-ray Emission Spectroscopy on the Photosynthetic Oxygen-Evolving Complex Supports Manganese Oxidation and Water Binding in the S₃ State. Inorganic Chemistry, 2018, 57, 10424-10430.	1.9	33

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19	In Situ L-Edge XAS Study of a Manganese Oxide Water Oxidation Catalyst. Journal of Physical Chemistry C, 2017, 121, 12003-12009.	1.5	40
20	Evaporated manganese films as a starting point for the preparation of thin-layer MnO_x water-oxidation anodes. Sustainable Energy and Fuels, 2017, 1, 1162-1170.	2.5	22
21	Photo-assisted water oxidation by high-nuclearity cobalt-oxo cores: tracing the catalyst fate during oxygen evolution turnover. Green Chemistry, 2017, 19, 2416-2426.	4.6	40
22	Inhibitory and Non-Inhibitory NH₃ Binding at the Water-Oxidizing Manganese Complex of Photosystem II Suggests Possible Sites and a Rearrangement Mode of Substrate Water Molecules. Biochemistry, 2017, 56, 6240-6256.	1.2	12
23	Electrosynthesis of Biomimetic Manganeseâ€“Calcium Oxides for Water Oxidation Catalysisâ€"Atomic Structure and Functionality. ChemSusChem, 2016, 9, 379-387.	3.6	33
24	Sequential and Coupled Proton and Electron Transfer Events in the S₂ â†' S₃ Transition of Photosynthetic Water Oxidation Revealed by Time-Resolved X-ray Absorption Spectroscopy. Biochemistry, 2016, 55, 6996-7004.	1.2	54
25	Merging Structural Information from X-ray Crystallography, Quantum Chemistry, and EXAFS Spectra: The Oxygen-Evolving Complex in PSII. Journal of Physical Chemistry B, 2016, 120, 10899-10922.	1.2	16
26	Room-Temperature Energy-Sampling Kî² X-ray Emission Spectroscopy of the Mn₄Ca Complex of Photosynthesis Reveals Three Manganese-Centered Oxidation Steps and Suggests a Coordination Change Prior to O₂ Formation. Biochemistry, 2016, 55, 4197-4211.	1.2	66
27	Treated Nanolayered Mn Oxide by Oxidizable Compounds: A Strategy To Improve the Catalytic Activity toward Water Oxidation. Inorganic Chemistry, 2016, 55, 8827-8832.	1.9	29
28	Water oxidation catalysis â€“ role of redox and structural dynamics in biological photosynthesis and inorganic manganese oxides. Energy and Environmental Science, 2016, 9, 2433-2443.	15.6	99
29	Hydrophobic Nanoreactor Softâ€Templating: A Supramolecular Approach to Yolk@Shell Materials. Advanced Functional Materials, 2015, 25, 6228-6240.	7.8	40
30	Water oxidation by amorphous cobalt-based oxides: in situ tracking of redox transitions and mode of catalysis. Energy and Environmental Science, 2015, 8, 661-674.	15.6	279
31	Heterogeneous Water Oxidation: Surface Activity versus Amorphization Activation in Cobalt Phosphate Catalysts. Angewandte Chemie - International Edition, 2015, 54, 2472-2476.	7.2	152
32	High-Performance Oxygen Redox Catalysis with Multifunctional Cobalt Oxide Nanochains: Morphology-Dependent Activity. ACS Catalysis, 2015, 5, 2017-2027.	5.5	249
33	Heterogeneous Water Oxidation: Surface Activity versus Amorphization Activation in Cobalt Phosphate Catalysts. Angewandte Chemie, 2015, 127, 2502-2506.	1.6	46
34	Atomistic Texture of Amorphous Manganese Oxides for Electrochemical Water Splitting Revealed by Ab Initio Calculations Combined with X-ray Spectroscopy. Journal of the American Chemical Society, 2015, 137, 10254-10267.	6.6	36
35	Iron-Doped Nickel Oxide Nanocrystals as Highly Efficient Electrocatalysts for Alkaline Water Splitting. ACS Nano, 2015, 9, 5180-5188.	7.3	446
36	Biogenic Manganese-Calcium Oxides on the Cell Walls of the AlgaeChara Corallina: Elemental Composition, Atomic Structure, and Water-Oxidation Catalysis. European Journal of Inorganic Chemistry, 2014, 2014, 780-790.	1.0	28

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37	Screenâ€Printed Calciumâ€“Birnessite Electrodes for Water Oxidation at Neutral pH and an â€œElectrochemical Harriman Seriesâ€. ChemSusChem, 2014, 7, 3442-3451.	3.6	61
38	Water oxidation by manganese oxides formed from tetranuclear precursor complexes: the influence of phosphate on structure and activity. Physical Chemistry Chemical Physics, 2014, 16, 11965.	1.3	38
39	Water Oxidation by Amorphous Cobaltâ€Based Oxides: Volume Activity and Proton Transfer to Electrolyte Bases. ChemSusChem, 2014, 7, 1301-1310.	3.6	183
40	Fragments of Layered Manganese Oxide Are the Real Water Oxidation Catalyst after Transformation of Molecular Precursor on Clay. Journal of the American Chemical Society, 2014, 136, 7245-7248.	6.6	127
41	Electrochemical water splitting by layered and 3D cross-linked manganese oxides: correlating structural motifs and catalytic activity. Energy and Environmental Science, 2013, 6, 2745.	15.6	248
42	Cyanamide route to calciumâ€“manganese oxide foams for water oxidation. Dalton Transactions, 2013, 42, 16920.	1.6	29
43	A Highâ€Valent Heterobimetallic [Cu^{III}(Î¼â€O)₂Ni^{III}]²⁺ Core with Nucleophilic Oxo Groups. Angewandte Chemie - International Edition, 2013, 52, 5622-5626.	7.2	41
44	Active Mixedâ€Valent MnO_{<i>x</i>} Water Oxidation Catalysts through Partial Oxidation (Corrosion) of Nanostructured MnO Particles. Angewandte Chemie - International Edition, 2013, 52, 13206-13210.	7.2	267
45	Analysis of Dark Drops, Dark-Induced Changes in Chlorophyll Fluorescence during the Recording of the OJIP Transient. Advanced Topics in Science and Technology in China, 2013, , 179-183.	0.0	1
46	Coordination Changes of Carboxyl Ligands at the QAFeQB Triad in Photosynthetic Reaction Centers Studied by Density-Functional Theory. Advanced Topics in Science and Technology in China, 2013, , 95-101.	0.0	1
47	Water Oxidation in Photosystem II: Energetics and Kinetics of Intermediates Formation in the S2â†'S3 and S3â†'S0 Transitions Monitored by Delayed Chlorophyll Fluorescence. Advanced Topics in Science and Technology in China, 2013, , 234-238.	0.0	2
48	Edge atoms effects on the perpendicular anisotropy of ultrathin magnetic layers. Applied Physics Letters, 2012, 101, 132407.	1.5	5
49	The D1-D61N Mutation in <i>Synechocystis</i> sp. PCC 6803 Allows the Observation of pH-Sensitive Intermediates in the Formation and Release of O₂ from Photosystem II. Biochemistry, 2012, 51, 1079-1091.	1.2	75
50	Electrosynthesis, functional, and structural characterization of a water-oxidizing manganese oxide. Energy and Environmental Science, 2012, 5, 7081.	15.6	407
51	Layered manganese oxides for water-oxidation: alkaline earth cations influence catalytic activity in a photosystem II-like fashion. Chemical Science, 2012, 3, 2330.	3.7	250
52	Water Oxidation by Electrodeposited Cobalt Oxidesâ€"Role of Anions and Redoxâ€Inert Cations in Structure and Function of the Amorphous Catalyst. ChemSusChem, 2012, 5, 542-549.	3.6	149
53	Recent developments in research on water oxidation by photosystem II. Current Opinion in Chemical Biology, 2012, 16, 3-10.	2.8	187
54	Atomic structure of cobalt-oxide nanoparticles active in light-driven catalysis of water oxidation. International Journal of Hydrogen Energy, 2012, 37, 8878-8888.	3.8	42

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55	Drought-induced modifications of photosynthetic electron transport in intact leaves: Analysis and use of neural networks as a tool for a rapid non-invasive estimation. Biochimica Et Biophysica Acta - Bioenergetics, 2012, 1817, 1490-1498.	0.5	168
56	Nickel-oxido structure of a water-oxidizing catalyst film. Chemical Communications, 2011, 47, 11912.	2.2	105
57	Thermodynamic Limitations of Photosynthetic Water Oxidation at High Proton Concentrations. Journal of Biological Chemistry, 2011, 286, 18222-18228.	1.6	50
58	Synthetic manganeseâ€"calcium oxides mimic the water-oxidizing complex of photosynthesis functionally and structurally. Energy and Environmental Science, 2011, 4, 2400.	15.6	263
59	Carboxylate Shifts Steer Interquinone Electron Transfer in Photosynthesis. Journal of Biological Chemistry, 2011, 286, 5368-5374.	1.6	32
60	Towards a comprehensive X-ray approach for studying the photosynthetic manganese complexâ€"XANES, KÎ±/KÎ²/KÎ²-satellite emission lines, RIXS, and comparative computational approaches for selected model complexes. Journal of Physics: Conference Series, 2009, 190, 012142.	0.3	14
61	Delayed Chlorophyll Fluorescence as a Monitor for Physiological State of Photosynthetic Apparatus. Biotechnology and Biotechnological Equipment, 2009, 23, 452-457.	0.5	17
62	Delayed fluorescence in photosynthesis. Photosynthesis Research, 2009, 101, 217-232.	1.6	133
63	Principles, Efficiency, and Blueprint Character of Solar-Energy Conversion in Photosynthetic Water Oxidation. Accounts of Chemical Research, 2009, 42, 1861-1870.	7.6	378
64	Cobaltâ^'Oxo Core of a Water-Oxidizing Catalyst Film. Journal of the American Chemical Society, 2009, 131, 6936-6937.	6.6	262
65	Characterisation of a water-oxidizing Co-film by XAFS. Journal of Physics: Conference Series, 2009, 190, 012167.	0.3	19
66	Kinetic Model of Electron-Transport Reactions in Thylakoid Membranes Determining Chlorophyll Fluorescence Transients. Biotechnology and Biotechnological Equipment, 2009, 23, 621-626.	0.5	0
67	Preservation of photosynthetic electron transport from senescence-induced inactivation in primary leaves after decapitation and defoliation of bean plants. Journal of Plant Physiology, 2008, 165, 1954-1963.	1.6	40
68	Photosynthetic water oxidation at elevated dioxygen partial pressure monitored by time-resolved X-ray absorption measurements. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 17384-17389.	3.3	53
69	Modulated Sink-Source Interactions Preserve PSII Electron Transport from Senescence-Induced Inactivation in a Model System with Expanded Life Span Induced by Decapitation of Bean Plants. , 2008, , 675-679.		3
70	Advances on Photosystem II Investigation by Measurement of Delayed Chlorophyll Fluorescence by a Phosphoroscopic MethodÂ¶. Photochemistry and Photobiology, 2007, 77, 292-298.	1.3	0
71	Kinetics of delayed chlorophyll a fluorescence registered in milliseconds time range. Photosynthesis Research, 2005, 84, 209-215.	1.6	61
72	Low Temperature Tolerance of Tobacco Plants Transformed to Accumulate Proline, Fructans, or Glycine Betaine. Variable Chlorophyll Fluorescence Evidence. Photosynthetica, 2004, 42, 179-185.	0.9	44

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73	Simultaneous analysis of prompt and delayed chlorophyll a fluorescence in leaves during the induction period of dark to light adaptation. Journal of Theoretical Biology, 2003, 225, 171-183.	0.8	63
74	Advances on Photosystem II Investigation by Measurement of Delayed Chlorophyll Fluorescence by a Phosphoroscopic MethodÂ¶. Photochemistry and Photobiology, 2003, 77, 292.	1.3	29
75	Effect of Cholesterol and Benzyl Alcohol on Prompt and Delayed Chlorophyll Fluorescence in Thylakoid Membranes. , 1998, , 1827-1830.		5
76	Thylakoid Membrane Fluidity Changes the Response of Isolated Pea Chloroplasts to High Temperature. , 1998, , 1823-1826.		1
77	Artificial Alterations of Fluidity of Pea Thylakoid Membranes and Its Effect on Energy Distribution between Both Photosystems. Zeitschrift Fur Naturforschung - Section C Journal of Biosciences, 1997, 52, 475-480.	0.6	3