Vittal K Yachandra

List of Publications by Year
in descending order

129 papers	14,535 citations	20817 60 h-index	18647 119 g-index
132 all docs	132 docs citations	132 times ranked	10918 citing authors

#	Article	IF	Citations
1	Manganese Cluster in Photosynthesis:Â Where Plants Oxidize Water to Dioxygen. Chemical Reviews, 1996, 96, 2927-2950.	47.7	1,020
2	Where Water Is Oxidized to Dioxygen: Structure of the Photosynthetic Mn4Ca Cluster. Science, 2006, 314, 821-825.	12.6	782
3	Structure and Valency of a Cobaltâ^'Phosphate Water Oxidation Catalyst Determined by in Situ X-ray Spectroscopy. Journal of the American Chemical Society, 2010, 132, 13692-13701.	13.7	649
4	Structureâ€“Activity Correlations in a Nickelâ€“Borate Oxygen Evolution Catalyst. Journal of the American Chemical Society, 2012, 134, 6801-6809.	13.7	612
5	X-ray damage to the Mn4Ca complex in single crystals of photosystem II: A case study for metalloprotein crystallography. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 12047-12052.	7.1	585
6	Mn₄Ca Cluster in Photosynthesis: Where and How Water is Oxidized to Dioxygen. Chemical Reviews, 2014, 114, 4175-4205.	47.7	574
7	In Situ X-ray Absorption Spectroscopy Investigation of a Bifunctional Manganese Oxide Catalyst with High Activity for Electrochemical Water Oxidation and Oxygen Reduction. Journal of the American Chemical Society, 2013, 135, 8525-8534.	13.7	478
8	Structures of the intermediates of Kokâ€™s photosynthetic water oxidation clock. Nature, 2018, 563, 421-425.	27.8	386
9	Simultaneous Femtosecond X-ray Spectroscopy and Diffraction of Photosystem II at Room Temperature. Science, 2013, 340, 491-495.	12.6	378
10	Structure of photosystem II and substrate binding at room temperature. Nature, 2016, 540, 453-457.	27.8	323
11	Absence of Mn-Centered Oxidation in the S2â†' S3Transition:Â Implications for the Mechanism of Photosynthetic Water Oxidation. Journal of the American Chemical Society, 2001, 123, 7804-7820.	13.7	295
12	X-ray absorption spectroscopy. Photosynthesis Research, 2009, 102, 241-254.	2.9	285
13	Synthetic model of the asymmetric [Mn ₃ CaO ₄] cubane core of the oxygen-evolving complex of photosystem II. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 2257-2262.	7.1	259
14	Evidence from in Situ X-ray Absorption Spectroscopy for the Involvement of Terminal Disulfide in the Reduction of Protons by an Amorphous Molybdenum Sulfide Electrocatalyst. Journal of the American Chemical Society, 2015, 137, 314-321.	13.7	228
15	Taking snapshots of photosynthetic water oxidation using femtosecond X-ray diffraction and spectroscopy. Nature Communications, 2014, 5, 4371.	12.8	206
16	The S0 State of the Oxygen-Evolving Complex in Photosystem II Is Paramagnetic:â€‰ Detection of an EPR Multiline Signal. Journal of the American Chemical Society, 1997, 119, 11349-11350.	13.7	192
17	High-Resolution Mn EXAFS of the Oxygen-Evolving Complex in Photosystem II:Â Structural Implications for the Mn4Ca Cluster. Journal of the American Chemical Society, 2005, 127, 14974-14975.	13.7	189
18	The Electronic Structure of Mn in Oxides, Coordination Complexes, and the Oxygen-Evolving Complex of Photosystem II Studied by Resonant Inelastic X-ray Scattering. Journal of the American Chemical Society, 2004, 126, 9946-9959.	13.7	177

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19	The Mn Cluster in the S0 State of the Oxygen-Evolving Complex of Photosystem II Studied by EXAFS Spectroscopy:â€‰ Are There Three Di-Î¼-oxo-bridged Mn2 Moieties in the Tetranuclear Mn Complex?. Journal of the American Chemical Society, 2002, 124, 7459-7471.	13.7	175
20	Structural changes in the Mn₄Ca cluster and the mechanism of photosynthetic water splitting. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 1879-1884.	7.1	174
21	Nanoflow electrospinning serial femtosecond crystallography. Acta Crystallographica Section D: Biological Crystallography, 2012, 68, 1584-1587.	2.5	167
22	Mechanistic Evidence for Ligand-Centered Electrocatalytic Oxygen Reduction with the Conductive MOF Ni₃(hexaiminotriphenylene)₂. ACS Catalysis, 2017, 7, 7726-7731.	11.2	164
23	Structural Change of the Mn Cluster during the S2â†'S3 State Transition of the Oxygen-Evolving Complex of Photosystem II. Does It Reflect the Onset of Water/Substrate Oxidation? Determination by Mn X-ray Absorption Spectroscopy. Journal of the American Chemical Society, 2000, 122, 3399-3412.	13.7	162
24	Drop-on-demand sample delivery for studying biocatalysts in action at X-ray free-electron lasers. Nature Methods, 2017, 14, 443-449.	19.0	150
25	Untangling the sequence of events during the S ₂ â†' S ₃ transition in photosystem II and implications for the water oxidation mechanism. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 12624-12635.	7.1	149
26	Fluorous Biphasic Catalysis: Complexation of 1,4,7-[C8F17(CH2)3]3-1,4,7-Triazacyclononane with[M(C8F17(CH2)2CO2)2](M= Mn, Co) To Provide Perfluoroheptane-Soluble Catalysts for Alkane and Alkene Functionalization in the Presence oft-BuOOH and O2. Angewandte Chemie International Edition in English, 1997, 36, 2346-2349.	4.4	148
27	Comparison of the Manganese Oxygen-Evolving Complex in Photosystem II of Spinach and Synechococcus sp. with Multinuclear Manganese Model Compounds by X-ray Absorption Spectroscopy. Journal of the American Chemical Society, 1994, 116, 5239-5249.	13.7	147
28	Structural Changes of the Oxygen-evolving Complex in Photosystem II during the Catalytic Cycle. Journal of Biological Chemistry, 2013, 288, 22607-22620.	3.4	145
29	Room temperature femtosecond X-ray diffraction of photosystem II microcrystals. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 9721-9726.	7.1	144
30	Where Water Is Oxidized to Dioxygen: Structure of the Photosynthetic Mn₄Ca Cluster from X-ray Spectroscopy. Inorganic Chemistry, 2008, 47, 1711-1726.	4.0	143
31	Accurate macromolecular structures using minimal measurements from X-ray free-electron lasers. Nature Methods, 2014, 11, 545-548.	19.0	140
32	X-ray Emission Spectroscopy To Study Ligand Valence Orbitals in Mn Coordination Complexes. Journal of the American Chemical Society, 2009, 131, 13161-13167.	13.7	135
33	X-ray spectroscopy of the photosynthetic oxygen-evolving complex. Coordination Chemistry Reviews, 2008, 252, 318-335.	18.8	133
34	Calcium EXAFS Establishes the Mn-Ca Cluster in the Oxygen-Evolving Complex of Photosystem II. Biochemistry, 2002, 41, 12928-12933.	2.5	131
35	A multi-crystal wavelength dispersive x-ray spectrometer. Review of Scientific Instruments, 2012, 83, 073114.	1.3	130
36	Strontium EXAFS Reveals the Proximity of Calcium to the Manganese Cluster of Oxygen-Evolving Photosystem II. Journal of Physical Chemistry B, 1998, 102, 8248-8256.	2.6	128

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37	Structural Consequences of Ammonia Binding to the Manganese Center of the Photosynthetic Oxygen-Evolving Complex: An X-ray Absorption Spectroscopy Study of Isotropic and Oriented Photosystem II Particles. Biochemistry, 1995, 34, 5274-5287.	2.5	126
38	The S3 state of photosystem II: differences between the structure of the manganese complex in the S2 and S3 states determined by x-ray absorption spectroscopy. Biochemistry, 1990, 29, 471-485.	2.5	121
39	Evidence for the Proximity of Calcium to the Manganese Cluster of Photosystem II: Determination by X-ray Absorption Spectroscopy. Biochemistry, 1995, 34, 10898-10909.	2.5	119
40	Preparation and Properties of a Monomeric High-Spin Mn^Vâ€“Oxo Complex. Journal of the American Chemical Society, 2012, 134, 1996-1999.	13.7	115
41	Energy-dispersive X-ray emission spectroscopy using an X-ray free-electron laser in a shot-by-shot mode. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 19103-19107.	7.1	113
42	The state of manganese in the photosynthetic apparatus. 3. Light-induced changes in X-ray absorption (K-edge) energies of manganese in photosynthetic membranes. Biochimica Et Biophysica Acta - Bioenergetics, 1984, 767, 209-216.	1.0	112
43	A possible evolutionary origin for the Mn4 cluster of the photosynthetic water oxidation complex from natural MnO2 precipitates in the early ocean. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 8631-8636.	7.1	112
44	The S0 state of photosystem II induced by hydroxylamine: differences between the structure of the manganese complex in the S0 and S1 states determined by x-ray absorption spectroscopy. Biochemistry, 1990, 29, 486-496.	2.5	107
45	The state of manganese in the photosynthetic apparatus. Biochimica Et Biophysica Acta - Bioenergetics, 1986, 850, 324-332.	1.0	104
46	Concentric-flow electrokinetic injector enables serial crystallography of ribosome and photosystem II. Nature Methods, 2016, 13, 59-62.	19.0	103
47	Mn K-Edge XANES and KÎ² XES Studies of Two Mnâ“Oxo Binuclear Complexes:Â Investigation of Three Different Oxidation States Relevant to the Oxygen-Evolving Complex of Photosystem II. Journal of the American Chemical Society, 2001, 123, 7031-7039.	13.7	94
48	Structure and Orientation of the Mn4Ca Cluster in Plant Photosystem II Membranes Studied by Polarized Range-extended X-ray Absorption Spectroscopy*. Journal of Biological Chemistry, 2007, 282, 7198-7208.	3.4	91
49	Acoustic Injectors for Drop-On-Demand Serial Femtosecond Crystallography. Structure, 2016, 24, 631-640.	3.3	88
50	Carbon-Centered Free Radicals in Particulate Matter Emissions from Wood and Coal Combustion. Energy & Fuels, 2009, 23, 2523-2526.	5.1	87
51	Comparison of the Manganese Cluster in Oxygen-Evolving Photosystem II with Distorted Cubane Manganese Compounds through X-ray Absorption Spectroscopy. Inorganic Chemistry, 1999, 38, 5988-5998.	4.0	82
52	Orientation of the Oxygen-Evolving Manganese Complex in a Photosystem II Membrane Preparation: An X-ray Absorption Spectroscopy Study. Biochemistry, 1994, 33, 9712-9721.	2.5	79
53	Direct Detection of Oxygen Ligation to the Mn₄Ca Cluster of Photosystem II by Xâ€ray Emission Spectroscopy. Angewandte Chemie - International Edition, 2010, 49, 800-803.	13.8	78
54	Structural Effects of Calcium Depletion on the Manganese Cluster of Photosystem II:â€‰ Determination by X-ray Absorption Spectroscopy. Journal of Physical Chemistry B, 1998, 102, 8257-8265.	2.6	73

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55	Structural dynamics in the water and proton channels of photosystem II during the S2 to S3 transition. Nature Communications, 2021, 12, 6531.	12.8	73
56	Structure of the manganese complex in photosystem II: insights from Xâ€“ray spectroscopy. Philosophical Transactions of the Royal Society B: Biological Sciences, 2002, 357, 1347-1358.	4.0	70
57	Calcium in the oxygen-evolving complex: Structural and mechanistic role determined by X-ray spectroscopy. Journal of Photochemistry and Photobiology B: Biology, 2011, 104, 51-59.	3.8	69
58	L-Edge X-ray Absorption Spectroscopy of Dilute Systems Relevant to Metalloproteins Using an X-ray Free-Electron Laser. Journal of Physical Chemistry Letters, 2013, 4, 3641-3647.	4.6	64
59	Resonance Raman spectra of rubredoxin, desulforedoxin, and the synthetic analog Fe(S2-o-xyl)2: conformational effects. Journal of the American Chemical Society, 1983, 105, 6455-6462.	13.7	63
60	X-ray absorption spectra and the coordination number of zinc and cobalt carbonic anhydrase as a function of pH and inhibitor binding. Journal of the American Chemical Society, 1983, 105, 6596-6604.	13.7	62
61	Orientation of Calcium in the Mn4Ca Cluster of the Oxygen-Evolving Complex Determined Using Polarized Strontium EXAFS of Photosystem II Membranesâ€. Biochemistry, 2004, 43, 13271-13282.	2.5	62
62	Experimental and Computational X-ray Emission Spectroscopy as a Direct Probe of Protonation States in Oxo-Bridged Mn^{IV} Dimers Relevant to Redox-Active Metalloproteins. Inorganic Chemistry, 2013, 52, 12915-12922.	4.0	62
63	Perspectives on the structure of the photosynthetic oxygen evolving manganese complex and its relation to the Kok cycle. Photosynthesis Research, 1993, 38, 265-277.	2.9	61
64	Probing the oxidation state of transition metal complexes: a case study on how charge and spin densities determine Mn L-edge X-ray absorption energies. Chemical Science, 2018, 9, 6813-6829.	7.4	60
65	Using X-ray free-electron lasers for spectroscopy of molecular catalysts and metalloenzymes. Nature Reviews Physics, 2021, 3, 264-282.	26.6	60
66	Electronic Structural Changes of Mn in the Oxygen-Evolving Complex of Photosystem II during the Catalytic Cycle. Inorganic Chemistry, 2013, 52, 5642-5644.	4.0	57
67	X-ray spectroscopy of the Mn4Ca cluster in the water-oxidation complex of Photosystem II. Photosynthesis Research, 2005, 85, 73-86.	2.9	55
68	Effect of Al³⁺ Co-doping on the Dopant Local Structure, Optical Properties, and Exciton Dynamics in Cu⁺-Doped ZnSe Nanocrystals. ACS Nano, 2013, 7, 8680-8692.	14.6	55
69	Polarized X-ray Absorption Spectroscopy of Single-Crystal Mn(V) Complexes Relevant to the Oxygen-Evolving Complex of Photosystem II. Journal of the American Chemical Society, 2007, 129, 12989-13000.	13.7	53
70	In situ/Operando studies of electrocatalysts using hard X-ray spectroscopy. Journal of Electron Spectroscopy and Related Phenomena, 2017, 221, 18-27.	1.7	53
71	[26] X-Ray absorption spectroscopy and applications in structural biology. Methods in Enzymology, 1995, 246, 638-675.	1.0	50
72	Fluoride substitution in the Mn cluster from Photosystem II: EPR and X-ray absorption spectroscopy studies. Chemical Physics, 1995, 194, 443-459.	1.9	50

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73	Activation of a water molecule using a mononuclear Mn complex: from Mn-aquo, to Mn-hydroxo, to Mn-oxyl via charge compensation. Energy and Environmental Science, 2010, 3, 924.	30.8	50
74	Heteronuclear Mnâ€“Ca/Sr complexes, and Ca/Sr EXAFS spectral comparisons with the Oxygen-Evolving Complex of Photosystem II. Chemical Communications, 2007, , 1538-1540.	4.1	49
75	The Protonation States of Oxo-Bridged Mn^{IV} Dimers Resolved by Experimental and Computational Mn K Pre-Edge X-ray Absorption Spectroscopy. Inorganic Chemistry, 2013, 52, 12904-12914.	4.0	48
76	Stimulated X-Ray Emission Spectroscopy in Transition Metal Complexes. Physical Review Letters, 2018, 120, 133203.	7.8	48
77	Resonance Raman spectra of spinach ferredoxin and adrenodoxin and of analog complexes. Journal of the American Chemical Society, 1983, 105, 6462-6469.	13.7	46
78	High-resolution X-ray spectroscopy of rare events: a different look at local structure and chemistry. Journal of Synchrotron Radiation, 2001, 8, 199-203.	2.4	45
79	Simultaneous detection of electronic structure changes from two elements of a bifunctional catalyst using wavelength-dispersive X-ray emission spectroscopy and in situ electrochemistry. Physical Chemistry Chemical Physics, 2015, 17, 8901-8912.	2.8	45
80	High-resolution structure of the photosynthetic Mn₄Ca catalyst from X-ray spectroscopy. Philosophical Transactions of the Royal Society B: Biological Sciences, 2008, 363, 1139-1147.	4.0	42
81	High-Resolution XFEL Structure of the Soluble Methane Monooxygenase Hydroxylase Complex with its Regulatory Component at Ambient Temperature in Two Oxidation States. Journal of the American Chemical Society, 2020, 142, 14249-14266.	13.7	41
82	No observable conformational changes in PSII. Nature, 2016, 533, E1-E2.	27.8	40
83	FTIR Spectra and Normal-Mode Analysis of a Tetranuclear Manganese Adamantane-like Complex in Two Electrochemically Prepared Oxidation States:Â Relevance to the Oxygen-Evolving Complex of Photosystem II. Journal of the American Chemical Society, 2002, 124, 11008-11017.	13.7	39
84	Structural changes correlated with magnetic spin state isomorphism in the S₂ state of the Mn₄CaO₅ cluster in the oxygen-evolving complex of photosystem II. Chemical Science, 2016, 7, 5236-5248.	7.4	39
85	X-ray Emission Spectroscopy as an in Situ Diagnostic Tool for X-ray Crystallography of Metalloproteins Using an X-ray Free-Electron Laser. Biochemistry, 2018, 57, 4629-4637.	2.5	39
86	Oxidation state changes of the Mn4Ca cluster in Photosystem II. Photosynthesis Research, 2007, 92, 289-303.	2.9	38
87	Chlorine K-Edge X-ray Absorption Spectroscopy as a Probe of Chlorineâ"Manganese Bonding:Â Model Systems with Relevance to the Oxygen Evolving Complex in Photosystem IIâ€. Journal of the American Chemical Society, 1997, 119, 4465-4470.	13.7	35
88	Mn oxidation states in tri- and tetra-nuclear Mn compounds structurally relevant to photosystem II: Mn K-edge X-ray absorption and K? X-ray emission spectroscopy studies. Physical Chemistry Chemical Physics, 2004, 6, 4864.	2.8	35
89	Metalloprotein structures at ambient conditions and in real-time: biological crystallography and spectroscopy using X-ray free electron lasers. Current Opinion in Structural Biology, 2015, 34, 87-98.	5.7	34
90	Soft x-ray absorption spectroscopy of metalloproteins and high-valent metal-complexes at room temperature using free-electron lasers. Structural Dynamics, 2017, 4, 054307.	2.3	34

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91	An on-demand, drop-on-drop method for studying enzyme catalysis by serial crystallography. Nature Communications, 2021, 12, 4461.	12.8	34
92	Direct Determination of Absolute Absorption Cross Sections at the L-Edge of Dilute Mn Complexes in Solution Using a Transmission Flatjet. Inorganic Chemistry, 2018, 57, 5449-5462.	4.0	32
93	Resonant inelastic X-ray scattering (RIXS) spectroscopy at the Mn K absorption pre-edgeâ€"a direct probe of the 3d orbitals. Journal of Physics and Chemistry of Solids, 2005, 66, 2163-2167.	4.0	31
94	Fluorous biphasic catalysis. 2. Synthesis of fluoroponytailed amine ligands along with fluoroponytailed carboxylate synthons, [M(C8F17(CH2)2CO2)2] (M = Mn2+ or Co2+): Demonstration of a perfluoroheptane soluble precatalyst for alkane and alkene functionalization in the presence of tert-butyl hydroperoxide and oxygen gas. Canadian Journal of Chemistry, 2001, 79, 888-895.	1.1	30
95	Improvements in serial femtosecond crystallography of photosystem II by optimizing crystal uniformity using microseeding procedures. Structural Dynamics, 2015, 2, .	2.3	30
96	Structural isomers of the S₂ state in photosystem II: do they exist at room temperature and are they important for function?. Physiologia Plantarum, 2019, 166, 60-72.	5.2	30
97	Visible Light-Induced Electron Transfer from Di-Î¼-oxo-Bridged Dinuclear Mn Complexes to Cr Centers in Silica Nanopores. Journal of the American Chemical Society, 2008, 130, 11355-11363.	13.7	27
98	Methods development for diffraction and spectroscopy studies of metalloenzymes at X-ray free-electron lasers. Philosophical Transactions of the Royal Society B: Biological Sciences, 2014, 369, 20130590.	4.0	23
99	X-ray-induced sample damage at the Mn L-edge: a case study for soft X-ray spectroscopy of transition metal complexes in solution. Physical Chemistry Chemical Physics, 2018, 20, 16817-16827.	2.8	23
100	X-ray free-electron laser studies reveal correlated motion during isopenicillin N synthase catalysis. Science Advances, 2021, 7, .	10.3	23
101	Single Crystal X- and Q-Band EPR Spectroscopy of a Binuclear Mn2(III,IV) Complex Relevant to the Oxygen-Evolving Complex of Photosystem II. Journal of the American Chemical Society, 2004, 126, 7486-7495.	13.7	21
102	Removal of Ca²⁺ from the Oxygen-Evolving Complex in Photosystem II Has Minimal Effect on the Mn₄O₅ Core Structure: A Polarized Mn X-ray Absorption Spectroscopy Study. Journal of Physical Chemistry B, 2015, 119, 13742-13754.	2.6	21
103	New reflections on hard X-ray photon-in/photon-out spectroscopy. Nanoscale, 2020, 12, 16270-16284.	5.6	21
104	Observation of Seeded Mn KÎ² Stimulated X-Ray Emission Using Two-Color X-Ray Free-Electron Laser Pulses. Physical Review Letters, 2020, 125, 037404.	7.8	20
105	X-ray absorption spectroscopy using a self-seeded soft X-ray free-electron laser. Optics Express, 2016, 24, 22469.	3.4	19
106	Photoreversible interconversion of a phytochrome photosensory module in the crystalline state. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 300-307.	7.1	19
107	Cr L-Edge X-ray Absorption Spectroscopy of Cr^{III}(acac)₃ in Solution with Measured and Calculated Absolute Absorption Cross Sections. Journal of Physical Chemistry B, 2018, 122, 7375-7384.	2.6	18
108	Single-Molecule Magnetism Properties of the First Strontium-Manganese Cluster [SrMn14O11(OMe)3(O2CPh)18(MeCN)2]. Inorganic Chemistry, 2008, 47, 1940-1948.	4.0	17

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109	The Mn ₄ Ca photosynthetic water-oxidation catalyst studied by simultaneous X-ray spectroscopy and crystallography using an X-ray free-electron laser. Philosophical Transactions of the Royal Society B: Biological Sciences, 2014, 369, 20130324.	4.0	17
110	Structural changes in the S3 state of the oxygen evolving complex in photosystem II. Chemical Physics Letters, 2016, 651, 243-250.	2.6	17
111	XANES and EXAFS of dilute solutions of transition metals at XFELs. Journal of Synchrotron Radiation, 2019, 26, 1716-1724.	2.4	16
112	Altered Structure of the Mn4Ca Cluster in the Oxygen-evolving Complex of Photosystem II by a Histidine Ligand Mutation. Journal of Biological Chemistry, 2011, 286, 9257-9267.	3.4	14
113	Light-Dependent Production of Dioxygen in Photosynthesis. Metal Ions in Life Sciences, 2015, 15, 13-43.	2.8	11
114	Room temperature XFEL crystallography reveals asymmetry in the vicinity of the two phylloquinones in photosystem I. Scientific Reports, 2021, 11, 21787.	3.3	11
115	Chloride ligation in inorganic manganese model compounds relevant to Photosystem II studied using X-ray absorption spectroscopy. Journal of Biological Inorganic Chemistry, 2004, 9, 247-255.	2.6	10
116	Effects of x-ray free-electron laser pulse intensity on the Mn KÎ²_{1,3} x-ray emission spectrum in photosystem IIâ€"A case study for metalloprotein crystals and solutions. Structural Dynamics, 2021, 8, 064302.	2.3	10
117	Counting the number of disulfides and thiol groups in proteins and a novel approach for determining the local pKafor cysteine groups in proteinsin vivo. Journal of Synchrotron Radiation, 2001, 8, 1056-1058.	2.4	9
118	Optimizing Crystal Size of Photosystem II by Macroseeding: Toward Neutron Protein Crystallography. Crystal Growth and Design, 2018, 18, 85-94.	3.0	9
119	A simple inâ€hutch mirror assembly for xâ€ray harmonic suppression. Review of Scientific Instruments, 1995, 66, 1843-1845.	1.3	8
120	The Allosteric Regulation of Axial/Rhombic Population in a â€œType 1â€•Copper Site: Multi-Edge X-ray Absorption Spectroscopic and Density Functional Studies of Pseudoazurin. Bulletin of the Chemical Society of Japan, 2015, 88, 1642-1652.	3.2	8
121	Reply to Wang et al.: Clear evidence of binding of Ox to the oxygen-evolving complex of photosystem II is best observed in the omit map. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, e2102342118.	7.1	7
122	X-ray absorption spectroscopy of Mn in the photosynthetic apparatus. Physica B: Condensed Matter, 1989, 158, 78-80.	2.7	6
123	SK- and MoL-edge X-ray absorption spectroscopy to determine metalâ€"ligand charge distribution in molybdenumâ€"sulfur compounds. Journal of Synchrotron Radiation, 2001, 8, 1006-1008.	2.4	6
124	XFEL serial crystallography reveals the room temperature structure of methyl-coenzyme M reductase. Journal of Inorganic Biochemistry, 2022, 230, 111768.	3.5	6
125	Resonant X-ray emission spectroscopy from broadband stochastic pulses at an X-ray free electron laser. Communications Chemistry, 2021, 4, .	4.5	4
126	Generation of intense phase-stable femtosecond hard X-ray pulse pairs. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, e2119616119.	7.1	4

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127	Photosynthesis | Photosystem II: Water Oxidation, Overview. , 2021, , 229-235.		1
128	How ultrafast X-ray pulses can reveal hidden secrets of photosynthesis. Biochemist, 2019, 41, 24-29.	0.5	1
129	Liquid helium cryostat with internal fluorescence detection for x-ray absorption studies in the 2â€“6 keV energy region. Review of Scientific Instruments, 2004, 75, 2056-2060.	1.3	0