

Wendy J Shaw

List of Publications by Year in descending order

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109
papers

6,816
citations

61857

43
h-index

62479

80
g-index

115
all docs

115
docs citations

115
times ranked

5357
citing authors

#	ARTICLE	IF	CITATIONS
1	Molecular Catalysts with Diphosphine Ligands Containing Pendant Amines. <i>Chemical Reviews</i> , 2022, 122, 12427-12474.	23.0	48
2	Introduction to (photo)electrocatalysis for renewable energy. <i>Chemical Communications</i> , 2021, 57, 1540-1542.	2.2	3
3	A protein scaffold enables hydrogen evolution for a Ni-bisdiphosphine complex. <i>Dalton Transactions</i> , 2021, 50, 15754-15759.	1.6	2
4	Using Surface Amide Couplings to Assemble Photocathodes for Solar Fuel Production Applications. <i>ACS Applied Materials & Interfaces</i> , 2020, 12, 4501-4509.	4.0	11
5	Controls of nature: Secondary, tertiary, and quaternary structure of the enamel protein amelogenin in solution and on hydroxyapatite. <i>Journal of Structural Biology</i> , 2020, 212, 107630.	1.3	16
6	A Positive Charge in the Outer Coordination Sphere of an Artificial Enzyme Increases CO ₂ Hydrogenation. <i>Organometallics</i> , 2020, 39, 1532-1544.	1.1	19
7	A Nanotube-Supported Dicopper Complex Enhances Pt-free Molecular H ₂ /Air Fuel Cells. <i>Joule</i> , 2019, 3, 2020-2029.	11.7	28
8	The energetic basis for hydroxyapatite mineralization by amelogenin variants provides insights into the origin of <i>amelogenesis imperfecta</i> . <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019, 116, 13867-13872.	3.3	20
9	Evaluating the impacts of amino acids in the second and outer coordination spheres of Rh-bis(diphosphine) complexes for CO ₂ hydrogenation. <i>Faraday Discussions</i> , 2019, 215, 123-140.	1.6	11
10	Understanding and Design of Bidirectional and Reversible Catalysts of Multielectron, Multistep Reactions. <i>Journal of the American Chemical Society</i> , 2019, 141, 11269-11285.	6.6	51
11	Synthetic approaches to artificial photosynthesis: general discussion. <i>Faraday Discussions</i> , 2019, 215, 242-281.	1.6	5
12	Chicken fat for catalysis: a scaffold is as important for molecular complexes for energy transformations as it is for enzymes in catalytic function. <i>Sustainable Energy and Fuels</i> , 2019, 3, 3260-3278.	2.5	19
13	Chemical Method for Evaluating Catalytic Turnover Frequencies (TOF) of Moderate to Slow H ₂ Oxidation Electrocatalysts. <i>Organometallics</i> , 2019, 38, 1311-1316.	1.1	3
14	Dual properties of a hydrogen oxidation Ni-catalyst entrapped within a polymer promote self-defense against oxygen. <i>Nature Communications</i> , 2018, 9, 864.	5.8	35
15	Solid-State NMR Identification of Intermolecular Interactions in Amelogenin Bound to Hydroxyapatite. <i>Biophysical Journal</i> , 2018, 115, 1666-1672.	0.2	12
16	Designing electrochemically reversible H ₂ oxidation and production catalysts. <i>Nature Reviews Chemistry</i> , 2018, 2, 244-252.	13.8	78
17	Identification of major matrix metalloproteinase-20 proteolytic processing products of murine amelogenin and tyrosine-rich amelogenin peptide using a nuclear magnetic resonance spectroscopy based method. <i>Archives of Oral Biology</i> , 2018, 93, 187-194.	0.8	7
18	Carbon Nanotube-Supported Bio-Inspired Nickel Catalyst and Its Integration in Hybrid Hydrogen/Air Fuel Cells. <i>Angewandte Chemie - International Edition</i> , 2017, 56, 1845-1849.	7.2	87

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19	Carbonâ€Nanotubeâ€Supported Bioâ€Inspired Nickel Catalyst and Its Integration in Hybrid Hydrogen/Air Fuel Cells. <i>Angewandte Chemie</i> , 2017, 129, 1871-1875.	1.6	17
20	Evaluating the role of acidic, basic, and polar amino acids and dipeptides on a molecular electrocatalyst for H ₂ oxidation. <i>Catalysis Science and Technology</i> , 2017, 7, 1108-1121.	2.1	31
21	Secondary structure and dynamics study of the intrinsically disordered silicaâ€mineralizing peptide P ₅ S ₃ during silicic acid condensation and silica decondensation. <i>Proteins: Structure, Function and Bioinformatics</i> , 2017, 85, 2111-2126.	1.5	2
22	Single-Amino Acid Modifications Reveal Additional Controls on the Proton Pathway of [FeFe]-Hydrogenase. <i>Biochemistry</i> , 2016, 55, 3165-3173.	1.2	29
23	Covalent Attachment of the Waterâ€Insoluble Ni(PCy ₂ NPhe ₂) ₂ Electrocatalyst to Electrodes Showing Reversible Catalysis in Aqueous Solution. <i>Electroanalysis</i> , 2016, 28, 2452-2458.	1.5	12
24	Achieving Reversible H ₂ /H ⁺ Interconversion at Room Temperature with Enzyme-Inspired Molecular Complexes: A Mechanistic Study. <i>ACS Catalysis</i> , 2016, 6, 6037-6049.	5.5	49
25	Investigating the role of chain and linker length on the catalytic activity of an H ₂ production catalyst containing a Î²-hairpin peptide. <i>Journal of Coordination Chemistry</i> , 2016, 69, 1730-1747.	0.8	15
26	Optimizing conditions for utilization of an H ₂ oxidation catalyst with outer coordination sphere functionalities. <i>Dalton Transactions</i> , 2016, 45, 9786-9793.	1.6	26
27	Direct Comparison of the Performance of a Bioâ€Inspired Synthetic Nickel Catalyst and a [NiFe]â€Hydrogenase, Both Covalently Attached to Electrodes. <i>Angewandte Chemie - International Edition</i> , 2015, 54, 12303-12307.	7.2	61
28	The Role of Solvent and the Outer Coordination Sphere on H ₂ Oxidation Using [Ni(PCy ₂ NPyz ₂) ₂] ²⁺ . <i>European Journal of Inorganic Chemistry</i> , 2015, 2015, 5218-5225.	1.0	20
29	Direkter Leistungsvergleich eines bioinspirierten synthetischen Niâ€Katalysators und einer [NiFe]â€Hydrogenase, beide kovalent an eine Elektrode gebunden. <i>Angewandte Chemie</i> , 2015, 127, 12478-12482.	1.6	6
30	Solid-state NMR studies of proteins immobilized on inorganic surfaces. <i>Solid State Nuclear Magnetic Resonance</i> , 2015, 70, 1-14.	1.5	26
31	Sequence-Defined Energetic Shifts Control the Disassembly Kinetics and Microstructure of Amelogenin Adsorbed onto Hydroxyapatite (100). <i>Langmuir</i> , 2015, 31, 10451-10460.	1.6	24
32	The leucine-rich amelogenin protein (LRAP) is primarily monomeric and unstructured in physiological solution. <i>Journal of Structural Biology</i> , 2015, 190, 81-91.	1.3	15
33	Water-assisted proton delivery and removal in bio-inspired hydrogen production catalysts. <i>Dalton Transactions</i> , 2015, 44, 10969-10979.	1.6	28
34	Photoswitching a molecular catalyst to regulate CO ₂ hydrogenation. <i>Dalton Transactions</i> , 2015, 44, 14854-14864.	1.6	17
35	Improved protocol to purify untagged amelogenin â€ Application to murine amelogenin containing the equivalent P70 â† T point mutation observed in human amelogenesis imperfecta. <i>Protein Expression and Purification</i> , 2015, 105, 14-22.	0.6	10
36	The flexible structure of the K24S28 region of Leucine-Rich Amelogenin Protein (LRAP) bound to apatites as a function of surface type, calcium, mutation, and ionic strength. <i>Frontiers in Physiology</i> , 2014, 5, 254.	1.3	11

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37	Arginine-Containing Ligands Enhance H ₂ Oxidation Catalyst Performance. <i>Angewandte Chemie - International Edition</i> , 2014, 53, 6487-6491.	7.2	82
38	Molecular dynamics study of the proposed proton transport pathways in [FeFe]-hydrogenase. <i>Biochimica Et Biophysica Acta - Bioenergetics</i> , 2014, 1837, 131-138.	0.5	71
39	Amino acid modified Ni catalyst exhibits reversible H ₂ oxidation/production over a broad pH range at elevated temperatures. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014, 111, 16286-16291.	3.3	112
40	Controlling proton movement: electrocatalytic oxidation of hydrogen by a nickel complex containing proton relays in the second and outer coordination spheres. <i>Dalton Transactions</i> , 2014, 43, 2744-2754.	1.6	35
41	The Influence of the Second and Outer Coordination Spheres on Rh(diphosphine) ₂ CO ₂ Hydrogenation Catalysts. <i>ACS Catalysis</i> , 2014, 4, 3663-3670.	5.5	37
42	A proton channel allows a hydrogen oxidation catalyst to operate at a moderate overpotential with water acting as a base. <i>Chemical Communications</i> , 2014, 50, 792-795.	2.2	32
43	Electrocatalytic H ₂ production with a turnover frequency >10 ⁷ s ⁻¹ : the medium provides an increase in rate but not overpotential. <i>Energy and Environmental Science</i> , 2014, 7, 4013-4017.	15.6	49
44	Enzyme Design from the Bottom Up: An Active Nickel Electrocatalyst with a Structured Peptide Outer Coordination Sphere. <i>Chemistry - A European Journal</i> , 2014, 20, 1510-1514.	1.7	34
45	Beyond the Active Site: The Impact of the Outer Coordination Sphere on Electrocatalysts for Hydrogen Production and Oxidation. <i>Accounts of Chemical Research</i> , 2014, 47, 2621-2630.	7.6	152
46	A solution NMR investigation into the impaired self-assembly properties of two murine amelogenins containing the point mutations T21A or P41A. <i>Archives of Biochemistry and Biophysics</i> , 2013, 537, 217-224.	1.4	14
47	Mineral Association Changes the Secondary Structure and Dynamics of Murine Amelogenin. <i>Journal of Dental Research</i> , 2013, 92, 1000-1004.	2.5	25
48	Minimal Proton Channel Enables H ₂ Oxidation and Production with a Water-Soluble Nickel-Based Catalyst. <i>Journal of the American Chemical Society</i> , 2013, 135, 18490-18496.	6.6	131
49	A modular, energy-based approach to the development of nickel containing molecular electrocatalysts for hydrogen production and oxidation. <i>Biochimica Et Biophysica Acta - Bioenergetics</i> , 2013, 1827, 1123-1139.	0.5	102
50	Structural characterization of the model amphipathic peptide Ac-LKKLLKLLKLLKLLK-NH ₂ in aqueous solution and with 2,2,2-trifluoroethanol and 1,1,1,3,3,3-hexafluoroisopropanol. <i>Canadian Journal of Chemistry</i> , 2013, 91, 406-413.	0.6	10
51	Neutron Reflectometry Studies of the Adsorbed Structure of the Amelogenin, LRAP. <i>Journal of Physical Chemistry B</i> , 2013, 117, 3098-3109.	1.2	28
52	Phosphorylation and Ionic Strength Alter the LRAP-HAP Interface in the N-Terminus. <i>Biochemistry</i> , 2013, 52, 2196-2205.	1.2	21
53	Conformational Dynamics and Proton Relay Positioning in Nickel Catalysts for Hydrogen Production and Oxidation. <i>Organometallics</i> , 2013, 32, 7034-7042.	1.1	36
54	The Role of a Dipeptide Outer Coordination Sphere on H ₂ Production Catalysts: Influence on Catalytic Rates and Electron Transfer. <i>Chemistry - A European Journal</i> , 2013, 19, 1928-1941.	1.7	38

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55	Electrocatalytic Oxidation of Formate with Nickel Diphosphine Dipeptide Complexes: Effect of Ligands Modified with Amino Acids. <i>European Journal of Inorganic Chemistry</i> , 2013, 2013, 5366-5371.	1.0	16
56	Acidic ionic liquid/water solution as both medium and proton source for electrocatalytic H ₂ evolution by [Ni(P ₂ N ₂) ₂] ²⁺ complexes. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012, 109, 15634-15639.	3.3	78
57	Investigating the Role of the Outer-Coordination Sphere in [Ni(P ^{Ph} ₂ N ^{Ph-R} ₂) ₂] ²⁺ Hydrogenase Mimics. <i>Inorganic Chemistry</i> , 2012, 51, 6592-6602.	1.9	35
58	Biologically inspired phosphino platinum complexes. <i>Inorganic Chemistry Communication</i> , 2012, 22, 65-67.	1.8	7
59	The Outer-Coordination Sphere: Incorporating Amino Acids and Peptides as Ligands for Homogeneous Catalysts to Mimic Enzyme Function. <i>Catalysis Reviews - Science and Engineering</i> , 2012, 54, 489-550.	5.7	40
60	Proton Delivery and Removal in [Ni(P ^R ₂ N ^R ₂) ₂] ²⁺ Hydrogen Production and Oxidation Catalysts. <i>Journal of the American Chemical Society</i> , 2012, 134, 19409-19424.	6.6	122
61	Incorporating Amino Acid Esters into Catalysts for Hydrogen Oxidation: Steric and Electronic Effects and the Role of Water as a Base. <i>Organometallics</i> , 2012, 31, 6719-6731.	1.1	33
62	Hydrogen Storage Properties of New Hydrogen-Rich BH ₃ NH ₃ -Metal Hydride (TiH ₂ , ZrH ₂ , MgH ₂ , and/or) <small>Tj ETQq0 0 0 rgBT /Overlock 10</small>	1.5	32
63	Active Hydrogenation Catalyst with a Structured, Peptide-Based Outer-Coordination Sphere. <i>ACS Catalysis</i> , 2012, 2, 2114-2118.	5.5	14
64	Mechanistic Investigation on the Formation and Dehydrogenation of Calcium Amidoborane Ammoniate. <i>ChemSusChem</i> , 2012, 5, 927-931.	3.6	10
65	Partial High-Resolution Structure of Phosphorylated and Non-phosphorylated Leucine-Rich Amelogenin Protein Adsorbed to Hydroxyapatite. <i>Journal of Physical Chemistry C</i> , 2011, 115, 13775-13785.	1.5	42
66	Incorporating Peptides in the Outer-Coordination Sphere of Bioinspired Electrocatalysts for Hydrogen Production. <i>Inorganic Chemistry</i> , 2011, 50, 4073-4085.	1.9	73
67	Moving Protons with Pendant Amines: Proton Mobility in a Nickel Catalyst for Oxidation of Hydrogen. <i>Journal of the American Chemical Society</i> , 2011, 133, 14301-14312.	6.6	151
68	[Ni(P ^{Ph} ₂ N ^{Bn} ₂) ₂](CH ₃ CN)] ²⁺ as an Electrocatalyst for H ₂ Production: Dependence on Acid Strength and Isomer Distribution. <i>ACS Catalysis</i> , 2011, 1, 777-785.	5.5	104
69	High-capacity hydrogen storage in lithium and sodium amidoboranes. , 2010, , 276-279.		0
70	A solution NMR investigation into the murine amelogenin splice-variant LRAP (Leucine-Rich Amelogenin) <small>Tj ETQq0 0 0 rgBT /Overlock 10</small>	1.1	13
71	Characterization of a new phase of ammonia borane. <i>Energy and Environmental Science</i> , 2010, 3, 796.	15.6	48
72	The leucine rich amelogenin protein (LRAP) adsorbs as monomers or dimers onto surfaces. <i>Journal of Structural Biology</i> , 2010, 169, 266-276.	1.3	21

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73	Experimental determination of the effect of the ratio of B/Al on glass dissolution along the nepheline (NaAlSiO ₄)–malinkoite (NaBSiO ₄) join. <i>Geochimica Et Cosmochimica Acta</i> , 2010, 74, 2634-2654.	1.6	85
74	Decomposition Pathway of Ammonia Borane on the Surface of Nano-BN. <i>Journal of Physical Chemistry C</i> , 2010, 114, 13935-13941.	1.5	39
75	Changes in the quaternary structure of amelogenin when adsorbed onto surfaces. <i>Biopolymers</i> , 2009, 91, 103-107.	1.2	41
76	Adsorption of Amelogenin onto Self-Assembled and Fluoroapatite Surfaces. <i>Journal of Physical Chemistry B</i> , 2009, 113, 1833-1842.	1.2	48
77	Mechanistic Insights into Catalytic H ₂ Oxidation by Ni Complexes Containing a Diphosphine Ligand with a Positioned Amine Base. <i>Journal of the American Chemical Society</i> , 2009, 131, 5935-5945.	6.6	161
78	¹ H, ¹³ C, and ¹⁵ N resonance assignments of murine amelogenin, an enamel biomineralization protein. <i>Biomolecular NMR Assignments</i> , 2008, 2, 89-91.	0.4	17
79	In Situ Multinuclear NMR Spectroscopic Studies of the Thermal Decomposition of Ammonia Borane in Solution. <i>Angewandte Chemie - International Edition</i> , 2008, 47, 7493-7496.	7.2	168
80	Structural evolution of a recoverable rhodium hydrogenation catalyst. <i>Journal of Organometallic Chemistry</i> , 2008, 693, 2111-2118.	0.8	8
81	High-capacity hydrogen storage in lithium and sodium amidoboranes. <i>Nature Materials</i> , 2008, 7, 138-141.	13.3	583
82	The Structure and Orientation of the C-Terminus of LRAP. <i>Biophysical Journal</i> , 2008, 94, 3247-3257.	0.2	47
83	An experimental study of the dissolution rates of simulated aluminoborosilicate waste glasses as a function of pH and temperature under dilute conditions. <i>Applied Geochemistry</i> , 2008, 23, 2559-2573.	1.4	75
84	Experimentally determined dissolution kinetics of Na-rich borosilicate glass at far from equilibrium conditions: Implications for Transition State Theory. <i>Geochimica Et Cosmochimica Acta</i> , 2008, 72, 2767-2788.	1.6	59
85	Interaction of lithium hydride and ammonia borane in THF. <i>Chemical Communications</i> , 2008, , 5595.	2.2	70
86	Structure, Orientation, and Dynamics of the C-Terminal Hexapeptide of LRAP Determined Using Solid-State NMR. <i>Journal of Physical Chemistry B</i> , 2008, 112, 16975-16981.	1.2	35
87	Molecular Structure and Dynamics in the Low Temperature (Orthorhombic) Phase of NH ₃ BH ₃ . <i>Journal of Physical Chemistry A</i> , 2008, 112, 4277-4283.	1.1	32
88	A Solution NMR Investigation into the Early Events of Amelogenin Nanosphere Self-Assembly Initiated with Sodium Chloride or Calcium Chloride. <i>Biochemistry</i> , 2008, 47, 13215-13222.	1.2	44
89	In situ solid state ¹¹ B MAS-NMR studies of the thermal decomposition of ammonia borane: mechanistic studies of the hydrogen release pathways from a solid state hydrogen storage material. <i>Physical Chemistry Chemical Physics</i> , 2007, 9, 1831.	1.3	356
90	Spectroscopic Studies of Dehydrogenation of Ammonia Borane in Carbon Cryogel. <i>Journal of Physical Chemistry B</i> , 2007, 111, 14285-14289.	1.2	79

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91	Thermodynamic Roles of Basic Amino Acids in Statherin Recognition of Hydroxyapatite. <i>Biochemistry</i> , 2007, 46, 4725-4733.	1.2	62
92	The structure, dynamics, and energetics of protein adsorption—lessons learned from adsorption of statherin to hydroxyapatite. <i>Magnetic Resonance in Chemistry</i> , 2007, 45, S32-S47.	1.1	44
93	The nucleation and growth of calcium phosphate by amelogenin. <i>Journal of Crystal Growth</i> , 2007, 304, 407-415.	0.7	82
94	Synthesis and characterization of a recoverable rhodium catalyst with a stimulus sensitive polymer ligand. <i>Inorganic Chemistry Communication</i> , 2005, 8, 894-896.	1.8	13
95	Nanoscaffold Mediates Hydrogen Release and the Reactivity of Ammonia Borane. <i>Angewandte Chemie - International Edition</i> , 2005, 44, 3578-3582.	7.2	751
96	The COOH Terminus of the Amelogenin, LRAP, Is Oriented Next to the Hydroxyapatite Surface. <i>Journal of Biological Chemistry</i> , 2004, 279, 40263-40266.	1.6	131
97	Lanthanide selective sorbents: self-assembled monolayers on mesoporous supports (SAMMS). <i>Journal of Materials Chemistry</i> , 2004, 14, 3356.	6.7	109
98	Spectroscopic Studies of Tributylstannyl Radical. Rates of Formation, Termination, and Abstraction Determined by Transient Absorption Spectroscopy. <i>Organometallics</i> , 2004, 23, 2080-2086.	1.1	10
99	Absolute Rate Constants for Reactions of Tributylstannyl Radicals with Bromoalkanes, Episulfides, and α -Halomethyl-Episulfides, -Cyclopropanes, and -Oxiranes: A New Rate Expressions for Sulfur and Bromine Atom Abstraction. <i>Journal of Organic Chemistry</i> , 2004, 69, 1020-1027.	1.7	9
100	Dynamic π - π Stacked Molecular Assemblies Emit from Green to Red Colors. <i>Nano Letters</i> , 2003, 3, 455-458.	4.5	231
101	STRUCTURAL STUDIES OF BIOMATERIALS USING DOUBLE-QUANTUM SOLID-STATE NMR SPECTROSCOPY. <i>Annual Review of Physical Chemistry</i> , 2003, 54, 531-571.	4.8	68
102	Molecular Recognition at the Protein-Hydroxyapatite Interface. <i>Critical Reviews in Oral Biology and Medicine</i> , 2003, 14, 370-376.	4.4	104
103	Synthesis of carbamoylphosphonate silanes for the selective sequestration of actinides. <i>Chemical Communications</i> , 2002, , 1374-1375.	2.2	39
104	Synthesis of Carbamoylphosphonate Silanes for the Selective Sequestration of Actinides.. <i>ChemInform</i> , 2002, 33, 187-187.	0.1	0
105	Radical and Non-Radical Mechanisms for Alkane Oxidations by Hydrogen Peroxide—Trifluoroacetic Acid. <i>Journal of Organic Chemistry</i> , 2001, 66, 789-795.	1.7	18
106	Structure and Dynamics of Hydrated Statherin on Hydroxyapatite As Determined by Solid-State NMR. <i>Biochemistry</i> , 2001, 40, 15451-15455.	1.2	166
107	Chimeric Peptides of Statherin and Osteopontin That Bind Hydroxyapatite and Mediate Cell Adhesion. <i>Journal of Biological Chemistry</i> , 2000, 275, 16213-16218.	1.6	105
108	A Solid State NMR Study of Dynamics in a Hydrated Salivary Peptide Adsorbed to Hydroxyapatite. <i>Journal of the American Chemical Society</i> , 2000, 122, 7118-7119.	6.6	60

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109	Determination of Statherin N-Terminal Peptide Conformation on Hydroxyapatite Crystals. Journal of the American Chemical Society, 2000, 122, 1709-1716.	6.6	92