Vanessa C Wood

List of Publications by Year
in descending order

126 papers	8,941 citations	46918 47 h-index	40881 93 g-index
130 all docs	130 docs citations	130 times ranked	11238 citing authors

#	Article	IF	Citations
1	EIS2MOD: A DRT-Based Modeling Framework for Li-Ion Cells. IEEE Transactions on Industry Applications, 2022, 58, 1429-1439.	3.3	10
2	Effect of Positional Disorders on Charge Transport in Nanocrystal Quantum Dot Thin Films. ACS Applied Electronic Materials, 2022, 4, 631-642.	2.0	8
3	Metasurface Colloidal Quantum Dot Photodetectors. ACS Photonics, 2022, 9, 482-492.	3.2	11
4	Ultra-narrow room-temperature emission from single CsPbBr3 perovskite quantum dots. Nature Communications, 2022, 13, 2587.	5.8	66
5	Engineering of Oxide Protected Gold Nanoparticles. Journal of Physical Chemistry Letters, 2022, 13, 5824-5830.	2.1	3
6	Gas-sieving zeolitic membranes fabricated by condensation of precursor nanosheets. Nature Materials, 2021, 20, 362-369.	13.3	86
7	Ultra-high throughput manufacturing method for composite solid-state electrolytes. IScience, 2021, 24, 102055.	1.9	8
8	Phase transitions in germanium telluride nanoparticle phase-change materials studied by temperature-resolved x-ray diffraction. Journal of Applied Physics, 2021, 129, 095102.	1.1	2
9	Dynamic lattice distortions driven by surface trapping in semiconductor nanocrystals. Nature Communications, 2021, 12, 1860.	5.8	19
10	Nanocrystal Quantum Dot Devices: How the Lead Sulfide (PbS) System Teaches Us the Importance of Surfaces. Chimia, 2021, 75, 398.	0.3	13
11	Size- and composition-controlled intermetallic nanocrystals via amalgamation seeded growth. Science Advances, 2021, 7, .	4.7	30
12	In Situ TEM Investigation of the Spontaneous Hollowing of Alloy Anode Nanocrystals. Microscopy and Microanalysis, 2021, 27, 1972-1973.	0.2	0
13	Colloidal quantum dot electronics. Nature Electronics, 2021, 4, 548-558.	13.1	192
14	On the use of electrochemical impedance spectroscopy to characterize and model the aging phenomena of lithium-ion batteries: a critical review. Journal of Power Sources, 2021, 505, 229860.	4.0	114
15	Enabling 6C Fast Charging of Liâ€Ion Batteries with Graphite/Hard Carbon Hybrid Anodes. Advanced Energy Materials, 2021, 11, 2003336.	10.2	116
16	Deep learning-based segmentation of lithium-ion battery microstructures enhanced by artificially generated electrodes. Nature Communications, 2021, 12, 6205.	5.8	44
17	Optical Transitions in Silver Indium Selenide Nanocrystals: Implications for Light-Emitting and Light-Imaging Applications. ACS Applied Nano Materials, 2021, 4, 11239-11248.	2.4	3
18	Recombination Dynamics in PbS Nanocrystal Quantum Dot Solar Cells Studied through Driftâ€"Diffusion Simulations. ACS Applied Electronic Materials, 2021, 3, 4977-4989.	2.0	8

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19	Ligand Dynamics in Nanocrystal Solids Studied with Quasi-Elastic Neutron Scattering. ACS Nano, 2021, 15, 20517-20526.	7.3	3
20	Self-assembled materials for electrochemical energy storage. MRS Bulletin, 2020, 45, 815-822.	1.7	7
21	Synthesis of small Agâ€“Sbâ€“Te nanocrystals with composition control. Journal of Materials Chemistry C, 2020, 8, 15985-15989.	2.7	5
22	Manipulating Electronic Structure from the Bottom-Up: Colloidal Nanocrystal-Based Semiconductors. Journal of Physical Chemistry Letters, 2020, 11, 9255-9264.	2.1	9
23	Multimodal Nanoscale Tomographic Imaging for Battery Electrodes. Advanced Energy Materials, 2020, 10, 1904119.	10.2	18
24	Optical Properties of Amorphous and Crystalline GeTe Nanoparticle Thin Films: A Phase-Change Material for Tunable Photonics. ACS Applied Nano Materials, 2020, 3, 4314-4320.	2.4	20
25	Spontaneous and reversible hollowing of alloy anode nanocrystals for stable battery cycling. Nature Nanotechnology, 2020, 15, 475-481.	15.6	68
26	Understanding Electrolyte Infilling of Lithium Ion Batteries. Journal of the Electrochemical Society, 2020, 167, 100546.	1.3	51
27	Charge transport in semiconductors assembled from nanocrystal quantum dots. Nature Communications, 2020, 11, 2852.	5.8	51
28	Quantifying Diffusion through Interfaces of Lithium-Ion Battery Active Materials. ACS Applied Materials & Interfaces, 2020, 12, 16243-16249.	4.0	19
29	Nonequilibrium Thermodynamics of Colloidal Gold Nanocrystals Monitored by Ultrafast Electron Diffraction and Optical Scattering Microscopy. ACS Nano, 2020, 14, 4792-4804.	7.3	20
30	Bulk and Nanocrystalline Cesium Lead-Halide Perovskites as Seen by Halide Magnetic Resonance. ACS Central Science, 2020, 6, 1138-1149.	5.3	43
31	Dopants and Traps in Nanocrystal-Based Semiconductor Thin Films: Origins and Measurement of Electronic Midgap States. ACS Applied Electronic Materials, 2020, 2, 398-404.	2.0	13
32	Composition- and Size-Controlled Iâ€“Vâ€“VI Semiconductor Nanocrystals. Chemistry of Materials, 2020, 32, 2078-2085.	3.2	16
33	Phonon-Mediated and Weakly Size-Dependent Electron and Hole Cooling in CsPbBr₃ Nanocrystals Revealed by Atomistic Simulations and Ultrafast Spectroscopy. Nano Letters, 2020, 20, 1819-1829.	4.5	41
34	Compact Mid-Infrared Gas Sensing Enabled by an All-Metamaterial Design. Nano Letters, 2020, 20, 4169-4176.	4.5	83
35	Size, Ligand, and Defect-Dependent Electronâ€“Phonon Coupling in Chalcogenide and Perovskite Nanocrystals and Its Impact on Luminescence Line Widths. ACS Photonics, 2020, 7, 1088-1095.	3.2	31
36	Phonon-engineered solids constructed from nanocrystals. APL Materials, 2019, 7, 081124.	2.2	7

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37	Nanocrystal superlattices as phonon-engineered solids and acoustic metamaterials. Nature Communications, 2019, 10, 4236.	5.8	25
38	Deposition of Organosilicon-Plasma Coating onto Fine Graphite Micropowder with a Downstream Tubular PECVD Reactor. Silicon, 2019, 11, 2185-2192.	1.8	1
39	Surface phonons of lithium ion battery active materials. Sustainable Energy and Fuels, 2019, 3, 508-513.	2.5	18
40	Characterization of contact resistances in ceramic-coated vertically aligned carbon nanotube arrays. RSC Advances, 2019, 9, 7266-7275.	1.7	2
41	Simulating nanocrystal-based solar cells: A lead sulfide case study. Journal of Chemical Physics, 2019, 151, 241104.	1.2	12
42	Characterization and performance evaluation of lithium-ion battery separators. Nature Energy, 2019, 4, 16-25.	19.8	456
43	Tortuosity of Battery Electrodes: Validation of Impedance-Derived Values and Critical Comparison with 3D Tomography. Journal of the Electrochemical Society, 2018, 165, A469-A476.	1.3	114
44	Measuring the Electronic Structure of Nanocrystal Thin Films Using Energy-Resolved Electrochemical Impedance Spectroscopy. Journal of Physical Chemistry Letters, 2018, 9, 1384-1392.	2.1	22
45	Measuring the Vibrational Density of States of Nanocrystal-Based Thin Films with Inelastic X-ray Scattering. Journal of Physical Chemistry Letters, 2018, 9, 1561-1567.	2.1	20
46	Tuning Electronâ€“Phonon Interactions in Nanocrystals through Surface Termination. Nano Letters, 2018, 18, 2233-2242.	4.5	68
47	Quantifying Inhomogeneity of Lithium Ion Battery Electrodes and Its Influence on Electrochemical Performance. Journal of the Electrochemical Society, 2018, 165, A339-A344.	1.3	97
48	Tuning the Composition of Multicomponent Semiconductor Nanocrystals: The Case of Iâ€“IIIâ€“VI Materials. Chemistry of Materials, 2018, 30, 1446-1461.	3.2	155
49	Determining the uncertainty in microstructural parameters extracted from tomographic data. Sustainable Energy and Fuels, 2018, 2, 598-605.	2.5	33
50	Machine Learning for Analysis of Time-Resolved Luminescence Data. ACS Photonics, 2018, 5, 4888-4895.	3.2	29
51	In Situ Measurement and Control of the Fermi Level in Colloidal Nanocrystal Thin Films during Their Fabrication. Journal of Physical Chemistry Letters, 2018, 9, 7165-7172.	2.1	14
52	A â€œtechnology-smartâ€• battery policy strategy for Europe. Science, 2018, 361, 1075-1077.	6.0	24
53	Designing Polyolefin Separators to Minimize the Impact of Local Compressive Stresses on Lithium Ion Battery Performance. Journal of the Electrochemical Society, 2018, 165, A1829-A1836.	1.3	64
54	Probing Solventâ€“Ligand Interactions in Colloidal Nanocrystals by the NMR Line Broadening. Chemistry of Materials, 2018, 30, 5485-5492.	3.2	117

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55	Topological and network analysis of lithium ion battery components: the importance of pore space connectivity for cell operation. Energy and Environmental Science, 2018, 11, 3194-3200.	15.6	56
56	X-ray tomography for battery research and development. Nature Reviews Materials, 2018, 3, 293-295.	23.3	78
57	Colloidal Phase-Change Materials: Synthesis of Monodisperse GeTe Nanoparticles and Quantification of Their Size-Dependent Crystallization. Chemistry of Materials, 2018, 30, 6134-6143.	3.2	24
58	Quantification and modeling of mechanical degradation in lithium-ion batteries based on nanoscale imaging. Nature Communications, 2018, 9, 2340.	5.8	103
59	X-Ray Tomography for Lithium Ion Battery Research: A Practical Guide. Annual Review of Materials Research, 2017, 47, 451-479.	4.3	156
60	Low temperature hydrothermal synthesis of battery grade lithium iron phosphate. RSC Advances, 2017, 7, 17763-17767.	1.7	21
61	Upscaling Colloidal Nanocrystal Hot-Injection Syntheses via Reactor Underpressure. Chemistry of Materials, 2017, 29, 796-803.	3.2	51
62	In Situ Monitoring of Cation-Exchange Reaction Shell Growth on Nanocrystals. Journal of Physical Chemistry C, 2017, 121, 24345-24351.	1.5	12
63	Mapping the Atomistic Structure of Graded Core/Shell Colloidal Nanocrystals. Scientific Reports, 2017, 7, 11718.	1.6	10
64	Rapid, Non-Invasive Method for Quantifying Particle Orientation Distributions in Graphite Anodes. Journal of the Electrochemical Society, 2017, 164, E348-E351.	1.3	6
65	Transport in Lithium Ion Batteries: Reconciling Impedance and Structural Analysis. ACS Energy Letters, 2017, 2, 2452-2453.	8.8	24
66	Cuâ€“Inâ€“Te and Agâ€“Inâ€“Te colloidal nanocrystals with tunable composition and size. Chemical Communications, 2016, 52, 10878-10881.	2.2	22
67	Improving Ionic Conductivity and Lithium-Ion Transference Number in Lithium-Ion Battery Separators. ACS Applied Materials & Interfaces, 2016, 8, 32637-32642.	4.0	127
68	Combining operando synchrotron X-ray tomographic microscopy and scanning X-ray diffraction to study lithium ion batteries. Scientific Reports, 2016, 6, 27994.	1.6	53
69	Rapid Mapping of Lithiation Dynamics in Transition Metal Oxide Particles with Operando X-ray Absorption Spectroscopy. Scientific Reports, 2016, 6, 21479.	1.6	47
70	Quantifying microstructural dynamics and electrochemical activity of graphite and silicon-graphite lithium ion battery anodes. Nature Communications, 2016, 7, 12909.	5.8	109
71	Applying the Macroscopic Kinetic Approach to Plasma Polymerization to the Plasma Surface Modification of Micropowders: Attempt of Correlating Powder Flowability and Plasma Process Parameters. Plasma Processes and Polymers, 2016, 13, 334-340.	1.6	6
72	Transient Photovoltage Measurements in Nanocrystal-Based Solar Cells. Journal of Physical Chemistry C, 2016, 120, 12900-12908.	1.5	26

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73	Communicationâ€"Technique for Visualization and Quantification of Lithium-Ion Battery Separator Microstructure. Journal of the Electrochemical Society, 2016, 163, A992-A994.	1.3	56
74	Soft surfaces of nanomaterials enable strong phonon interactions. Nature, 2016, 531, 618-622.	13.7	133
75	Design and Fabrication of Microspheres with Hierarchical Internal Structure for Tuning Battery Performance. Advanced Science, 2015, 2, 1500078.	5.6	9
76	Battery Performance: Design and Fabrication of Microspheres with Hierarchical Internal Structure for Tuning Battery Performance (Adv. Sci. 6/2015). Advanced Science, 2015, 2, .	5.6	0
77	A quantitative model for charge carrier transport, trapping and recombination in nanocrystal-based solar cells. Nature Communications, 2015, 6, 6180.	5.8	113
78	Influence of Conversion Material Morphology on Electrochemistry Studied with Operando Xâ€Ray Tomography and Diffraction. Advanced Materials, 2015, 27, 1676-1681.	11.1	48
79	Tool for Tortuosity Estimation in Lithium Ion Battery Porous Electrodes. Journal of the Electrochemical Society, 2015, 162, A3064-A3070.	1.3	137
80	Independent Composition and Size Control for Highly Luminescent Indium-Rich Silver Indium Selenide Nanocrystals. ACS Nano, 2015, 9, 11134-11142.	7.3	70
81	Research Update: Comparison of salt- and molecular-based iodine treatments of PbS nanocrystal solids for solar cells. APL Materials, 2015, 3, .	2.2	9
82	Modeling and optimization of atomic layer deposition processes on vertically aligned carbon nanotubes. Beilstein Journal of Nanotechnology, 2014, 5, 234-244.	1.5	27
83	Electrodes: Tortuosity Anisotropy in Lithium-Ion Battery Electrodes (Adv. Energy Mater. 5/2014). Advanced Energy Materials, 2014, 4, .	10.2	4
84	Tortuosity Anisotropy in Lithiumâ€Ion Battery Electrodes. Advanced Energy Materials, 2014, 4, 1301278.	10.2	309
85	Hole Mobility in Nanocrystal Solids as a Function of Constituent Nanocrystal Size. Journal of Physical Chemistry Letters, 2014, 5, 3522-3527.	2.1	41
86	Electrical characterization of nanocrystal solids. Journal of Materials Chemistry C, 2014, 2, 3172-3184.	2.7	22
87	Enhanced Charge Transport Kinetics in Anisotropic, Stratified Photoanodes. ACS Applied Materials & Interfaces, 2014, 6, 1389-1393.	4.0	10
88	Rapid, microwave-assisted synthesis of battery-grade lithium titanate (LTO). RSC Advances, 2013, 3, 15618.	1.7	13
89	Xâ€Ray Tomography of Porous, Transition Metal Oxide Based Lithium Ion Battery Electrodes. Advanced Energy Materials, 2013, 3, 845-850.	10.2	215
90	Highly Luminescent, Size- and Shape-Tunable Copper Indium Selenide Based Colloidal Nanocrystals. Chemistry of Materials, 2013, 25, 3753-3757.	3.2	113

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91	Challenges and solutions for high-efficiency quantum dot-based LEDs. MRS Bulletin, 2013, 38, 731-736.	1.7	70
92	Visualization and Quantification of Electrochemical and Mechanical Degradation in Li Ion Batteries. Science, 2013, 342, 716-720.	6.0	571
93	High-Quality Transparent Electrodes Spin-Cast from Preformed Antimony-Doped Tin Oxide Nanocrystals for Thin Film Optoelectronics. Chemistry of Materials, 2013, 25, 4901-4907.	3.2	61
94	Quantification of Deep Traps in Nanocrystal Solids, Their Electronic Properties, and Their Influence on Device Behavior. Nano Letters, 2013, 13, 5284-5288.	4.5	103
95	Origins of Low Quantum Efficiencies in Quantum Dot LEDs. Advanced Functional Materials, 2013, 23, 3024-3029.	7.8	139
96	Deep Level Transient Spectroscopy (DLTS) on Colloidal-Synthesized Nanocrystal Solids. ACS Applied Materials & Interfaces, 2013, 5, 2915-2919.	4.0	41
97	Validity of the Bruggeman relation for porous electrodes. Modelling and Simulation in Materials Science and Engineering, 2013, 21, 074009.	0.8	179
98	Nanophotonic luminescent solar concentrators. Applied Physics Letters, 2013, 103, 131113.	1.5	7
99	Colloidal quantum dot light emitting devices. , 2013, , 148-172.		4
100	Study of field driven electroluminescence in colloidal quantum dot solids. Journal of Applied Physics, 2012, 111, .	1.1	38
101	Electroluminescence from Nanoscale Materials via Field-Driven Ionization. Nano Letters, 2011, 11, 2927-2932.	4.5	51
102	Semiâ€Solid Lithium Rechargeable Flow Battery. Advanced Energy Materials, 2011, 1, 511-516.	10.2	482
103	Flow Batteries: Semiâ€Solid Lithium Rechargeable Flow Battery (Adv. Energy Mater. 4/2011). Advanced Energy Materials, 2011, 1, 458-458.	10.2	3
104	Colloidal quantum dot light-emitting devices. Nano Reviews, 2010, 1, 5202.	3.7	350
105	Tunable Infrared Emission From Printed Colloidal Quantum Dot/Polymer Composite Films on Flexible Substrates. Journal of Display Technology, 2010, 6, 90-93.	1.3	22
106	Measuring charge trap occupation and energy level in CdSe/ZnS quantum dots using a scanning tunneling microscope. Physical Review B, 2010, 81, .	1.1	42
107	Air-Stable Operation of Transparent, Colloidal Quantum Dot Based LEDs with a Unipolar Device Architecture. Nano Letters, 2010, 10, 24-29.	4.5	149
108	Inkjetâ€Printed Quantum Dotâ€"Polymer Composites for Fullâ€Color ACâ€Driven Displays. Advanced Materials, 2009, 21, 2151-2155.	11.1	367

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109	Alternating Current Driven Electroluminescence from ZnSe/ZnS:Mn/ZnS Nanocrystals. Nano Letters, 2009, 9, 2367-2371.	4.5	194
110	Selection of Metal Oxide Charge Transport Layers for Colloidal Quantum Dot LEDs. ACS Nano, 2009, 3, 3581-3586.	7.3	199
111	Colloidal quantum-dot light-emitting diodes with metal-oxide charge transport layers. Nature Photonics, 2008, 2, 247-250.	15.6	855
112	Efficient All-Inorganic Colloidal Quantum Dot LEDs. , 2007, , .		4
113	Spectroscopie pompe-sonde pour la dÃ©tection de bioaÃ©rosols. European Physical Journal Special Topics, 2006, 135, 185-186.	0.2	0
114	Enhanced density of low-lying 0+ states: A corroboration of shape phase transitional behavior. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2006, 638, 44-49.	1.5	52
115	Extensive investigation of0+states in rare earth region nuclei. Physical Review C, 2006, 74, .	1.1	75
116	Femtosecond laser pulses distinguish bacteria from background urban aerosols. Applied Physics Letters, 2005, 87, 063901.	1.5	25
117	Epitaxial growth of Pb(Zr0.2Ti0.8)O3 on Si and its nanoscale piezoelectric properties. Applied Physics Letters, 2001, 78, 2034-2036.	1.5	79
118	Seed Amalgamation Reaction as Generalizable Approach for Size and Composition Uniform Intermetallic Nanocrystals. , 0, , .		0
119	Vibrations and Electron-Phonon Coupling in Lead Halide Perovskite Nanocrystals. , 0, , .		0
120	Phonon-Mediated and Weakly Size-Dependent Electron and Hole Cooling in CsPbBr3 Nanocrystals Revealed by Atomistic Simulations and Ultrafast Spectroscopy. , 0, , .		0
121	TBC. , 0, , .		0
122	Vibrations and Electron-Phonon Coupling in Lead Halide Perovskite Nanocrystals. , 0, , .		0
123	Searching for better X-ray and Î³-ray photodetectors: structureâ€“composition properties of the TlPb₂Br_{5âˆ’<i>x</i>}I_{<i>x</i>} quaternary system. Materials Advances, 0, , .	2.6	3
124	Measuring Electron-Phonon Coupling induced Lattice Reorganization in Lead Halide Perovskite Nanocrystals through Femto-Second Resolved Optical-pump Diffraction-probe experiments. , 0, , .		0
125	Size and Compositon Controlled Intermetallic Nanocrystals via Amalgamation Seeded Growth. , 0, , .		0
126	In Situ Formation of Lithium Polyacrylate Binder for Aqueous Manufacturing and Recycling of Ni-Rich Cathodes. Journal of the Electrochemical Society, 0, , .	1.3	3