Matt Law

List of Publications by Year
in descending order

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72 papers	21,585 citations	76031 42 h-index	107981 68 g-index
74 all docs	74 docs citations	74 times ranked	23889 citing authors

#	Article	IF	Citations
1	Photobase-Triggered Formation of 3D Epitaxially Fused Quantum Dot Superlattices with High Uniformity and Low Bulk Defect Densities. ACS Nano, 2022, 16, 3239-3250.	7.3	5
2	Uniform Supported Metal Nanocrystal Catalysts Prepared by Slurry Freeze-Drying. Chemistry of Materials, 2021, 33, 256-265.	3.2	5
3	Hierarchical carrier transport simulator for defected nanoparticle solids. Scientific Reports, 2021, 11, 7458.	1.6	2
4	Evaluation of Nanostructured Î²-Mn₂V₂O₇ Thin Films as Photoanodes for Photoelectrochemical Water Oxidation. Chemistry of Materials, 2021, 33, 7743-7754.	3.2	4
5	Collective topo-epitaxy in the self-assembly of a 3D quantum dot superlattice. Nature Materials, 2020, 19, 49-55.	13.3	68
6	Solution-processable integrated CMOS circuits based on colloidal CuInSe2 quantum dots. Nature Communications, 2020, 11, 5280.	5.8	23
7	Structural characterization of a polycrystalline epitaxially-fused colloidal quantum dot superlattice by electron tomography. Journal of Materials Chemistry A, 2020, 8, 18254-18265.	5.2	7
8	Efficient Plasmon-Mediated Energy Funneling to the Surface of Au@Pt Coreâ€“Shell Nanocrystals. ACS Nano, 2020, 14, 5061-5074.	7.3	64
9	Electronic passivation of PbSe quantum dot solids by trimethylaluminum vapor dosing. Applied Surface Science, 2020, 513, 145812.	3.1	10
10	In situ TEM observation of neck formation during oriented attachment of PbSe nanocrystals. Nano Research, 2019, 12, 2549-2553.	5.8	20
11	Reversible Aggregation of Covalently Cross-Linked Gold Nanocrystals by Linker Oxidation. Journal of Physical Chemistry C, 2019, 123, 23643-23654.	1.5	6
12	Dynamic deformability of individual PbSe nanocrystals during superlattice phase transitions. Science Advances, 2019, 5, eaaw5623.	4.7	52
13	Low-frequency electronic noise in superlattice and random-packed thin films of colloidal quantum dots. Nanoscale, 2019, 11, 20171-20178.	2.8	15
14	In Situ TEM Study of the Degradation of PbSe Nanocrystals in Air. Chemistry of Materials, 2019, 31, 190-199.	3.2	18
15	Chemical Generation of Hydroxyl Radical for Oxidative â€˜Footprintingâ€™. Protein and Peptide Letters, 2019, 26, 61-69.	0.4	17
16	Structural and magnetic properties of cobalt iron disulfide (CoxFe1âˆ’xS2) nanocrystals. Scientific Reports, 2018, 8, 4835.	1.6	18
17	Charge-Transport Mechanisms in CuInSe_{<i>x</i>}S_{2â€“<i>x</i>} Quantum-Dot Films. ACS Nano, 2018, 12, 12587-12596.	7.3	21
18	On the Use of Photocurrent Imaging To Determine Carrier Diffusion Lengths in Nanostructured Thin-Film Field-Effect Transistors. Journal of Physical Chemistry C, 2018, 122, 18356-18364.	1.5	12

#	ARTICLE	IF	CITATIONS
19	Textured nanoporous Mo:BiVO₄ photoanodes with high charge transport and charge transfer quantum efficiencies for oxygen evolution. Energy and Environmental Science, 2016, 9, 1412-1429.	15.6	135
20	Protein footprinting by pyrite shrink-wrap laminate. Lab on A Chip, 2015, 15, 1646-1650.	3.1	6
21	Generating Free Charges by Carrier Multiplication in Quantum Dots for Highly Efficient Photovoltaics. Accounts of Chemical Research, 2015, 48, 174-181.	7.6	56
22	Synthesis of Catecholate Ligands with Phosphonate Anchoring Groups. Inorganic Chemistry, 2015, 54, 7571-7578.	1.9	8
23	Atomistic Modeling of Sulfur Vacancy Diffusion Near Iron Pyrite Surfaces. Journal of Physical Chemistry C, 2015, 119, 24859-24864.	1.5	21
24	Imaging interfacial layers and internal fields in nanocrystalline junctions. , 2014, , .		0
25	An inversion layer at the surface of n-type iron pyrite. Energy and Environmental Science, 2014, 7, 1974.	15.6	75
26	Carrier Transport in PbS and PbSe QD Films Measured by Photoluminescence Quenching. Journal of Physical Chemistry C, 2014, 118, 16228-16235.	1.5	50
27	Phonons Do Not Assist Carrier Multiplication in PbSe Quantum Dot Solids. Journal of Physical Chemistry Letters, 2013, 4, 3257-3262.	2.1	13
28	High charge-carrier mobility enables exploitation of carrier multiplication in quantum-dot films. Nature Communications, 2013, 4, 2360.	5.8	73
29	Activating Carrier Multiplication in PbSe Quantum Dot Solids by Infilling with Atomic Layer Deposition. Journal of Physical Chemistry Letters, 2013, 4, 1766-1770.	2.1	49
30	Iron Pyrite Thin Films Synthesized from an Fe(acac)₃ Ink. Journal of the American Chemical Society, 2013, 135, 4412-4424.	6.6	140
31	PbSe Quantum Dot Field-Effect Transistors with Air-Stable Electron Mobilities above 7 cm² V^{â€“1} s^{â€“1}. Nano Letters, 2013, 13, 1578-1587.	4.5	228
32	Gate-Dependent Carrier Diffusion Length in Lead Selenide Quantum Dot Field-Effect Transistors. Nano Letters, 2013, 13, 3463-3469.	4.5	32
33	First-principles studies of the electronic properties of native and substitutional anionic defects in bulk iron pyrite. Physical Review B, 2012, 85, .	1.1	83
34	Increasing the Band Gap of Iron Pyrite by Alloying with Oxygen. Journal of the American Chemical Society, 2012, 134, 13216-13219.	6.6	96
35	Atmosphericâ€Pressure Chemical Vapor Deposition of Iron Pyrite Thin Films. Advanced Energy Materials, 2012, 2, 1124-1135.	10.2	147
36	Colloidal Iron Pyrite (FeS₂) Nanocrystal Inks for Thin-Film Photovoltaics. Journal of the American Chemical Society, 2011, 133, 716-719.	6.6	328

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37	The Photothermal Stability of PbS Quantum Dot Solids. ACS Nano, 2011, 5, 8175-8186.	7.3	130
38	Modeling and simulation of nanocrystal solids with rate equations. Proceedings of SPIE, 2011, , .	0.8	1
39	Robust, Functional Nanocrystal Solids by Infilling with Atomic Layer Deposition. Nano Letters, 2011, 11, 5349-5355.	4.5	142
40	Nanowire dye-sensitized solar cells. , 2010, , 75-79.		3
41	p-Type PbSe and PbS Quantum Dot Solids Prepared with Short-Chain Acids and Diacids. ACS Nano, 2010, 4, 2475-2485.	7.3	242
42	Semiconductor Quantum Dots and Quantum Dot Arrays and Applications of Multiple Exciton Generation to Third-Generation Photovoltaic Solar Cells. Chemical Reviews, 2010, 110, 6873-6890.	23.0	1,118
43	Dependence of Carrier Mobility on Nanocrystal Size and Ligand Length in PbSe Nanocrystal Solids. Nano Letters, 2010, 10, 1960-1969.	4.5	645
44	Solar cells based on colloidal quantum dot solids: Seeking enhanced photocurrent. , 2009, , .		4
45	Variations in the Quantum Efficiency of Multiple Exciton Generation for a Series of Chemically Treated PbSe Nanocrystal Films. Nano Letters, 2009, 9, 836-845.	4.5	219
46	Structural, Optical, and Electrical Properties of Self-Assembled Films of PbSe Nanocrystals Treated with 1,2-Ethanedithiol. ACS Nano, 2008, 2, 271-280.	7.3	693
47	Structural, Optical, and Electrical Properties of PbSe Nanocrystal Solids Treated Thermally or with Simple Amines. Journal of the American Chemical Society, 2008, 130, 5974-5985.	6.6	407
48	Schottky Solar Cells Based on Colloidal Nanocrystal Films. Nano Letters, 2008, 8, 3488-3492.	4.5	882
49	Determining the Internal Quantum Efficiency of PbSe Nanocrystal Solar Cells with the Aid of an Optical Model. Nano Letters, 2008, 8, 3904-3910.	4.5	166
50	Chemical sensing with nanowires using electrical and optical detection. International Journal of Nanotechnology, 2007, 4, 252.	0.1	5
51	Multiple Exciton Generation in Films of Electronically Coupled PbSe Quantum Dots. Nano Letters, 2007, 7, 1779-1784.	4.5	230
52	ZnOâˆ’TiO₂ Coreâˆ’Shell Nanorod/P3HT Solar Cells. Journal of Physical Chemistry C, 2007, 111, 18451-18456.	1.5	433
53	Multifunctional Nanowire Evanescent Wave Optical Sensors. Advanced Materials, 2007, 19, 61-66.	11.1	120
54	ZnOâˆ’Al2O3and ZnOâˆ’TiO2Coreâˆ’Shell Nanowire Dye-Sensitized Solar Cells. Journal of Physical Chemistry B, 2006, 110, 22652-22663.	1.2	686

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55	Solution-Grown Zinc Oxide Nanowires. Inorganic Chemistry, 2006, 45, 7535-7543.	1.9	647
56	EFTEM Imaging of ZnO-TiO2 Core-Shell Nanowires and TiO2 Nanotubes. Microscopy and Microanalysis, 2006, 12, 474-475.	0.2	1
57	Nanowire dye-sensitized solar cells. Nature Materials, 2005, 4, 455-459.	13.3	5,232
58	Semiconductor Nanowires for Subwavelength Photonics Integration. ChemInform, 2005, 36, no.	0.1	1
59	Thermally Driven Interfacial Dynamics of Metal/Oxide Bilayer Nanoribbons. Small, 2005, 1, 858-865.	5.2	24
60	ZnO Nanowire Transistors. Journal of Physical Chemistry B, 2005, 109, 9-14.	1.2	561
61	Optical routing and sensing with nanowire assemblies. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 7800-7805.	3.3	224
62	General Route to Vertical ZnO Nanowire Arrays Using Textured ZnO Seeds. Nano Letters, 2005, 5, 1231-1236.	4.5	1,382
63	Semiconductor Nanowires for Subwavelength Photonics Integration. Journal of Physical Chemistry B, 2005, 109, 15190-15213.	1.2	276
64	SEMICONDUCTOR NANOWIRES AND NANOTUBES. Annual Review of Materials Research, 2004, 34, 83-122.	4.3	1,304
65	Nanoribbon Waveguides for Subwavelength Photonics Integration. Science, 2004, 305, 1269-1273.	6.0	879
66	Ultrafast Carrier Dynamics in Single ZnO Nanowire and Nanoribbon Lasers. Nano Letters, 2004, 4, 197-204.	4.5	319
67	ZnO Nanoribbon Microcavity Lasers. Advanced Materials, 2003, 15, 1907-1911.	11.1	220
68	Low-Temperature Wafer-Scale Production of ZnO Nanowire Arrays. Angewandte Chemie, 2003, 115, 3139-3142.	1.6	129
69	Low-Temperature Wafer-Scale Production of ZnO Nanowire Arrays.. ChemInform, 2003, 34, no.	0.1	2
70	Low-Temperature Wafer-Scale Production of ZnO Nanowire Arrays. Angewandte Chemie - International Edition, 2003, 42, 3031-3034.	7.2	1,562
71	Photochemical Sensing of NO2 with SnO2 Nanoribbon Nanosensors at Room Temperature This work was supported by the Camille and Henry Dreyfus Foundation, 3M Corporation, the National Science Foundation, and the University of California, Berkeley. P.Y. is an Alfred P. Sloan Research Fellow. Work at the Lawrence Berkeley National Laboratory was supported by the Office of Science, Basic Energy Sciences, Division of Materials Science of the US Department of Energy. We thank the National Center for Electron Microsc. Angewandte Chemie - International Edition, 2002, 41, 2405.	7.2	785
72	Silica Shell Growth on Vitreophobic Gold Nanoparticles Probed by Plasmon Resonance Dynamics. Journal of Physical Chemistry C, 0, , .	1.5	3